

National Aeronautics and Space Administration
Headquarters
Washington, DC 20546-001



March 14, 2016

Reply to Attn of: Office of Diversity and Equal Opportunity

Certified, Return Receipt Requested

Dr. Kirsten M. Ellenbogen
President and Chief Executive Officer
Great Lakes Science Center
601 Erieside Ave.
Cleveland, OH 44114

Dear Dr. Ellenbogen:

The National Aeronautics and Space Administration (NASA) has completed its compliance review of the Great Lakes Science Center (GLSC). The review was conducted pursuant to Section 504 of the Rehabilitation Act of 1973 (Section 504), and its implementing regulations at 14 C.F.R. Part 1251, which prohibit discrimination on the basis of disability in programs receiving financial assistance through NASA. A copy of the report of our compliance review and NASA's Section 504 regulations are enclosed.

NASA has determined that GLSC is in substantial, but not full, compliance with the Agency's Section 504 regulations. This determination is based on an evaluation of data provided by GLSC, on-site interviews and an architectural accessibility review. While the compliance review revealed that GLSC offers accessible programs, services and facilities, as required under the Section 504 regulations, NASA found several compliance issues. In order to be in full compliance with NASA's Section 504 regulations, GLSC must take the recommended corrective actions with respect to a number of outstanding accessibility issues identified in the compliance report.

NASA requests that GLSC provide a written compliance plan to rectify outstanding compliance issues no later than June 30, 2016. This plan must incorporate timelines for resolution of these issues. NASA stands ready to assist GLSC in the development and implementation of this plan and staff will contact GLSC to follow up on progress made. To the extent that progress is deemed insufficient, we may require GLSC to take further action.

We also wish to inform you that, on January 22, 2016, NASA published notification in the Federal Register as a Final Rule that it has revised its Section 504 regulations. The revised Section 504 regulations took effect on February 22, 2016. A copy of this Final Rule is enclosed for your reference. NASA will send GLSC the revised Section 504 regulations once they are published.

For additional civil rights technical assistance, GLSC may also wish to visit our MissionSTEM website at <http://missionstem.nasa.gov/>. The MissionSTEM Web site is designed to assist NASA grant recipients in meeting their compliance obligations under NASA's equal opportunity laws and regulations. To this end, the site provides a host of information and resources on compliance requirements as well as promising practices of our grant recipients.

Be advised that in the interest of transparency, ODEO may post completed Section 504 compliance reports on our public Web site. The report and related records may also be requested through the Freedom of Information Act. However, the reports are written, to the extent possible, without revealing personal information that could result in an unwarranted invasion of privacy.

NASA wishes to thank GLSC for its cooperation during this review. If you have any questions regarding this correspondence, please contact Mr. Robert Cosgrove, External Compliance Manager, Program Planning and Evaluation Division, at 202-358-0446 or robert.cosgrove@nasa.gov.

Sincerely,

A handwritten signature in black ink that reads "Brenda R. Manuel". The signature is written in a cursive style with a long, sweeping underline.

Brenda R. Manuel
Associate Administrator for
Diversity and Equal Opportunity

Enclosures

National Aeronautics and Space Administration



SECTION 504 COMPLIANCE REVIEW REPORT



Great Lakes Science Center

Cleveland, Ohio

Office of Diversity and Equal Opportunity

March 2016

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Executive Summary

This report reviews how effectively the Great Lakes Science Center (“Center” or “GLSC”) is complying with Section 504 of the Rehabilitation Act of 1973 (“Section 504”), which prohibits discrimination against qualified individuals with disabilities by Federal funding recipients. As a Federal fund recipient, the Center must comply with these requirements in each program, service, or activity receiving Federal funds. NASA’s grants directly affect public exhibit and educational spaces central to the Center.

Based on the information detailed in this report, NASA has determined that the Center is in substantial compliance with NASA’s Section 504 regulations.¹ In order to be in full compliance with NASA’s Section 504 regulations, GLSC needs to address a number of issues identified in this report, which addresses accessibility at the Center from a number of perspectives.

On January 22, 2016, NASA published notification² in the Federal Register that it has revised its Section 504 regulations. The revised Section 504 regulations took effect on February 22, 2016. In the revised regulations, NASA adopted the 2010 ADA Standards for Accessible Design (2010 Standards) as the sole accessibility standard for new construction and alterations to buildings and facilities that receive Federal financial assistance from NASA. However, the 2010 Standards will not take effect as the sole accessibility standard until January 23, 2017. This means that between February 22, 2016 and January 22, 2017, GLSC may choose between the 2010 Standards and the Uniform Federal Accessibility Standards (UFAS) as the standards for new construction and alterations, in the manner prescribed in the revised Section 504 regulation. NASA notes that the NASA Section 504 regulations cited and regulatory text quoted throughout this report are from the original, unrevised version of Section 504 that existed prior to its revision on January 22, 2016. On January 22, 2016 NASA notified GLSC of the revised regulation. NASA expects GLSC to comply with all requirements of the revised Section 504 regulation going forward. NASA’s monitoring of GLSC’s efforts to meet the compliance requirements and implement recommendations listed below will be evaluated according the revised Section 504 regulations.

The following summarizes: 1) **Compliance Requirements:** Required actions to correct policies, procedures, practices, facilities that do not currently meet Section 504 compliance standards; 2) **Recommendations:** Suggested actions to enhance or strengthen policies, procedures, practices, and facilities that have achieved basic Section 504 compliance, that have been or will be addressed; and 3) **Promising Practices:** Actions that demonstrate both an advanced level of Section 504 compliance and informal education program delivery that can be shared with and emulated by other science museums:

¹ 14 C.F.R. 1251, Nondiscrimination on the Basis of Handicap.

² The Final Rule, the revised regulations and a discussion of each revision can be accessed through this link. <https://www.federalregister.gov/articles/2016/01/22/2016-00610/discrimination-on-the-basis-of-disability-in-federally-assisted-and-federally-conducted-programs-and>

- **Compliance Requirements (Program/Facility Accessibility)**

1. **Architectural Accessibility.** Despite being relatively young for a science center (built in 1996), there are a number of physical barriers for program participants with disabilities. These are discussed in the *Architectural Accessibility* section and must be addressed very quickly.
2. **Effective Communication.** The Center must inform the public of the existence of auxiliary aids for those with visual and hearing impairments. The Center must adopt and implement procedures to ensure that interested individuals, including individuals with vision or hearing disabilities, can obtain information as to the existence and location of services, activities, and facilities that are accessible to and usable by individuals with. In addition, the Center needs to install assistive listening systems in its auditoriums.
3. **Website Accessibility.** The Center needs to take steps to ensure that its newly redesigned website conforms to the World Wide Web (W3C) Web Content Accessibility Guidelines 2.0 level AA (WCAG 2.0 AA).
4. **Signage.** The revised Section 504 regulation requires that recipients shall provide signs at a primary entrance to each of its inaccessible facilities, directing users to an accessible facility or a location at which they can obtain information about accessible facilities. The international symbol for accessibility shall be used at each accessible entrance to a facility. GLSC needs to review its current signage to ensure that it meets this requirement.

- **Compliance Requirements (Procedural Requirements)**

1. **Section 504 Coordinator.** The Center must inform visitors and its program participants of the name, office address, telephone number and email of the Section 504 Coordinator.
2. **Grievance Process.** The grievance process needs to be augmented. It also needs to be publicized for staff and the public. Also, the Center needs to create additional feedback and tracking mechanisms.
3. **Non-Discrimination Policy.** GLSC must develop a written non-discrimination policy for visitors, participants and patrons that includes individuals with disabilities. This statement must be published in a variety of publically-disseminated media, including the GLSC website, GLSC social media, brochures, pamphlets, and other publications.

- **Compliance Recommendations**

1. **Guides for Users with Disabilities.** The Center should explore different ways of informing users with disabilities how to independently access the Center's programs, services, and activities, such as developing a page for its public website that lists and describes the availability auxiliary aids, accommodations and other accessibility features offered by GLSC.
2. **Training.** The Center should explore training specific to people with disabilities. Few of the staff at the Center have any training regarding accessibility.

3. **Section 504 Coordinator.** The Center should provide the Section 504 Coordinator with better training and resources to be effective in her responsibilities. In addition, her role needs to be clear to Center's employees, volunteers, and the public.
 4. **Self-Evaluation.** While the Center has developed a Self-Evaluation Tool as a result of this review, a more thorough self-evaluation should be conducted as soon as possible.
- **Promising Practices/Exceeds Compliance Requirements**
 1. **Outreach to Autism and Blind Communities.** The Center has done an admirable job in reaching out to and partnering with disability groups in the Cleveland area—thus, creating new opportunities for people with disabilities. At the same time, the Center should encourage these communities help the entire Center to address the deficiencies identified above.
 2. **Security Training Specific to People with Disabilities.** The Center does an excellent job at incorporating the needs of people with disabilities in its annual security training.
 3. **Use of Social Media.** The Center understands how important social media is in modern life and has done a great job at regularly reviewing different social media outlets and incorporating it into their feedback mechanism.

Background

The Center

The Great Lakes Science Center (the "Center") is a not-for-profit 501(c)(3) science center serving the greater Cleveland area. As a science center, it provides a wealth of science educational opportunities and programs to the community. In addition to having exhibits that demonstrate important scientific principles, the Center also has year-round camps focusing on specific areas of science, highly-popular traveling exhibits, and IMAX movies. The Center is overseen by a Board of Directors of approximately³ 54 people. In 2012, the Center had 47 full-time employees and 119 part-time employees. The Center also relies heavily on volunteers, who contributed approximately 21,000 volunteer hours in 2013. In 2012, the Center attracted 296,817 visitors.

The Center was built in the early-mid 1990s and opened in July 1996, and occupies 102,646 square feet. The facilities are owned outright by the Center, which does not carry a mortgage. It occupies 7.48 acres, which are owned by the City of Cleveland and leased to the Center. The submerged lands adjoining the Center, including the area occupied by the Mather steamship, are owned by the State of Ohio, which leases it to the Center. While most of the Center is program space, a 12,588 square foot section is rented by the Cleveland Metropolitan School District for a high school STEM program (see below). This portion is only occasionally used by the Center for camp classrooms, but is otherwise not used as program space.

The annual budget of the Center is approximately \$7.5 million, with 70% as earned income and 30% as contributed income.⁴ The Center earns most of its revenue through ticket sales, educational programs, events and associated revenues (store sales and parking). The Center also receives financial assistance from individuals, foundations, corporations, and local government donors.

Accessibility changes may or may not be included in yearly capital planning depending on the scale of required changes. Each October, the Center creates a Strategic Plan and then an operating plan. Disability access may be part of that plan. Capital improvements make up a substantial portion of the budget and includes upkeep of the Center's building and the Mather steamship (both are substantial because the Center is on the lake shore). Currently, there is no budget item set for accessibility changes,

³ The number of board of director members varies slightly over time. Interview with Kirsten Ellenbogen (Nov. 12, 2013).

⁴ Interview with Kirsten Ellenbogen (Nov. 12, 2013). The full budget of the building is larger because contractors for parking, cafeteria, and other services take funds directly and only pay a portion to the Center. From the gift shop, food sales, and parking, the Center earns approximately \$1 million annually. Interview with Bill Morgan and Don Patterson (Nov. 12, 2013).

but that can change if it is included in the budget on the next cycle. If substantial accessibility changes are needed, the Center may have to undertake fundraising for the project.⁵

Federal Grants

The Center has received a number of Federal grants. Specifically, the Center has received two grants: one in 2012 (expired in July 2014) for \$782,620 and another grant in August 2014 (expiring in October 2017) for \$799,478. With the first grant, NASA's Glenn Research Center (GRC) and GLSC developed the NASA Glenn Visitor Center (the Visitor Center) and its content— a 9,000 square foot gallery located on the first floor of the facility. In addition, NASA also funded half of the "Discovery Area," which occupies approximately 2,500 square feet. The second grant will fund a digital experience called "Mission to STEM", which will create digital and interactive content to enhance important GRC artifacts on display in the GLSC's Glenn Visitor Center. In addition to receiving grants from NASA, the Center also receives a substantial Science Education Partnership Award (SEPA) grant from the National Institutes of Health (NIH) for the Center's "Biomedtech: STEM" (Students Translating and Exploring Medicine) program, which focuses on diabetes, obesity, and cardiovascular disease education and awareness.

Overview of Compliance Review

On April 13, 2013, NASA informed the Center that it had been selected for an on-site compliance review and issued its first information request to the Center. On June 6, the Center provided its response to this information request, which it supplemented on September 11. NASA conducted its site review on November 12-13, 2013. The site review included interviews of the following staff members:

- Whitney Owens (Vice-President of Education)
- Ian Roberts (Director of Youth and Family Engagement)
- Audrey Wilson (Manager of Youth and Family Engagement)
- Dante Centuori (Director of Creative Productions)
- Margaret Aiken (Director of Visitor and School Engagement)
- Valence (Val) Davillier (Vice-President of Exhibits)
- Nina Arrowood (Marketing Director)
- Kirsten Ellenbogen (President and CEO)
- Gordon Milne (Director of Facilities and Security)
- Don Patterson (Chief Financial Officer — Retiring)
- Bill Morgan (Chief Financial Officer — Incoming)
- Amanda Taunt (Guest Services Manager)
- Sonja Jenkins (Education Services Coordinator)

⁵ Interview with Kirsten Ellenbogen (Nov. 12, 2013). More specifically, any newly-identified accessibility changes that cost more than approximately \$100,000 would likely become a candidate for development. Interview with Bill Morgan and Don Patterson (Nov. 12, 2013).

By contrast, small changes for accessibility are part of the normal course of business as ongoing capital improvements.

- Jaimie Wroten (Guest Services Supervisor)
- Alyssa Henning (Manager of Special Events)

In addition, the NASA team also interviewed several contractors who provide additional services for the Center:

- Brett Arrowood (Bana Creative Services — current website developers)
- Patty Ross (Adcom — New Website Developers)
- Dan Kregge (Trend — IT services)
- Adam Frick (Trend — IT services)

The NASA on-site review also included a detailed architectural review of the facility. After this on-site review, the NASA team also interviewed Jamie Simoneau (Chief Operating Officer) by telephone and conducted a very brief review of GLSC's new website.⁶ Throughout this review process, the Center has been welcoming and forthcoming. The Center has been interested in full compliance with Section 504 and promoting the best possible experience for program participants with disabilities. This report addresses the current status of the Center and upcoming projects, discusses any deficiencies, and highlights promising practices identified during the review process.

It should be noted at the outset that, in addition to its Section 504 responsibilities, the Center also has obligations under the Americans with Disabilities Act (ADA). Because the Center is a private entity and not owned by a state or local government, it is subject to Title III of the ADA.⁷ The Center's obligations under Title III are roughly similar (but not identical) to its obligations under Section 504. This report is limited to the Center's Section 504 obligations, but occasionally points out areas where ADA Title III has slightly different responsibilities.

Analysis

The remainder of this report comprises a summary of the information gathered during the course of this investigation, an analysis of our findings, and a review of the Center's compliance or areas for improvement. It also highlights promising practices where the Center has demonstrated practices that may extend beyond the requirements of Section 504 and may serve as useful models for other Section 504 recipients.

This section is broken down into three parts:

- **Program Access.** This section discusses the accessibility of the programs, services, and activities offered by the Center.

⁶ Ms. Simoneau left GLSC in Winter 2014

⁷ 42 U.S.C. § 12181 et seq. (2008).

- **Procedural Deficiencies.** This portion of the report addresses certain specific procedural requirements that the Center acknowledges that it had not undertaken within the required time frames prior to this review.
- **Architectural Accessibility.** This area focuses on the physical features of the Center and areas that may create barriers for users with disabilities.

Program Access

Section 504 prohibits discrimination on the basis of disability. Specifically, Section 504 requires that,

No otherwise qualified individual with a disability ... shall, solely by reason of her or his disability, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance....⁸

This “program access” requirement has been adopted by the NASA nondiscrimination regulations,⁹ which itemize specific prohibitions against forms of discriminatory conduct. While program access is a very broad and general concept, this section of the report is divided into the following six categories:

1. **Camps and Educational Programs.** This section discusses the various camps and educational programs offered by the Center. In general, we found no evidence of any deficiencies. Instead, we found promising practices in the Center’s outreach to the autism community that can serve as a model for other science centers.
2. **Exhibit Design.** This section addresses the design of exhibits, modalities of learning, and barriers in the exhibit space. Here we found that while the exhibits themselves were well-planned, their placement sometimes created physical barriers for people with disabilities. In particular, we noted a large number of architectural barriers in the design and construction of these exhibits, which the Center should make a focus for correcting. These barriers are discussed in the *Architectural Accessibility* section, below.
3. **Effective Communication.** This portion of the report considers how the Center is meeting the needs of people with hearing and sensory disabilities. While there have been no complaints to date, the Center needs to develop clearer policies that are well-understood by program participants. In addition, the Center needs to install assistive listening systems in its auditoriums.
4. **Website Accessibility.** Closely related to *Effective Communication*, this section of the report addresses the importance of web accessibility and recommends that the Center ensures that its new website conform to the W3C’s Web Content Accessibility Guidelines (WCAG) 2.0 AA by working with its contractor and including independent testing against these guidelines.

⁸ 29 U.S.C. § 794(a) (2008).

⁹ 14 C.F.R. § 1251.103 (2008).

5. **Volunteer Programs and Outreach.** This section focuses on the Center’s promising practices in serving the needs of the blind and autism communities in the Cleveland area through its volunteer programs.
6. **Other Recommendations.** This section recommends other policies and practices that the Center should consider implementing or strengthening in order to meet its program access obligation. Specifically, this includes guides for visitors with disabilities and more complete training in the area of disabilities.

Camps and Educational Opportunities

The Center operates a number of camps and other educational programs. For instance, it has a variety of day programs that focus on different scientific and technical topics (e.g., chemistry, biology, and more specific technologies such as 3D printing). It also offers sleepovers and camps year round.

In general, the Center has not experienced problems accommodating the needs of children with disabilities in its camps and programs. Because parents have to first complete detailed forms and applications, the Center can identify disabilities early on. GLSC can then identify resources and work with parents to ensure that they can successfully accommodate students well in advance of a child’s arrival. For instance, programs may be relocated to accessible space (although almost every portion of the facility is relatively accessible). The Center also lets parents know that certain outdoor activities (e.g. backpacking, caving, and white water rafting) can’t be made accessible—and alternative activities can be worked in to the child’s program. NASA also found that the Center is successful at providing instant accommodations without notice.¹⁰ For instance, if an autistic child starts to act out, Center staff will talk with the parent to identify specific calming strategies (e.g., a favorite stuffed animal) to quickly remedy the problem.

The Center works with the Cleveland Center for Autism (part of the Cleveland Children’s Clinic) to provide science camps for students with autism. In addition, the Center is currently working with the Autism Society of Greater Cleveland to identify programming to meet the needs of families with children on the autism spectrum. For instance, their work with the Center for Autism has led them to develop a program that allows children with autism to have one-on-one adult supervision while also being a regular group participant alongside other children attending programs at the Center.¹¹ The Center hopes to extend this work with a prospective grant from the O’Neill Foundation, an organization focused on the bolstering the roles of families (including those with children with disabilities) in the community.

¹⁰ Interview with Whitney Owens, Ian Roberts, Audrey Wilson, Dante Centuori, and Margaret Aiken (Nov. 12, 2013).

¹¹ Interview with Whitney Owens, Ian Roberts, Audrey Wilson, Dante Centuori, and Margaret Aiken (Nov. 12, 2013); Interview with Amanda Taunt, Sonja Jenkins, and Jamie Wroten (Nov. 13, 2013).

Our review identified only one complaint involving the Center's camps.¹² In this case, a child on the autism spectrum attended a week-long camp focused on the science used at amusement parks. This camp required four days in the Center building and a one-day trip to the Cedar Point Amusement Park in Sandusky, Ohio, which is 50 miles from Cleveland. The parents, however, did not initially inform the GLSC after enrollment in the camp that the child was on the autism spectrum and required accommodations. GLSC education staff informed NASA that the child had frequent outbursts in the camp setting, which resulted in the camp staff making adjustments to help calm the child by taking camp counselors away from their regular duties to attend to the child, bringing in additional staff, and readjusting camp staff duties. During the course of the camp, the child's outbursts increased and the Center was unclear if they could manage the fifth-day field trip without the assistance of the child's parents. Ultimately, the Center asked the parents to attend the field trip to the amusement park and the parents requested reimbursement for their expenses to make the trip to Cedar Point with their child. Center staff informed NASA that the Center reimbursed the parents' travel expenses.

NASA has determined that the Center's actions with respect to this complaint comply with Section 504 and do not violate the specific non-discrimination provisions at 1251.103. The parents did not provide the Center adequate notice that their child may require special assistance for a disability. Once the child was participating and Center staff recognized that the child required individualized and special attention, the Center took the actions detailed above to accommodate the child's disability to assist full participation in the camp to the extent feasible. Furthermore, there is no evidence suggesting that the Center is failing to meet its Section 504 obligations in the operation of its camps and educational programs. The Center provides an avenue for parents of children with disabilities and other special needs to inform the Center of the need for accommodations well in advance of the week of camp participation, and the Center is able to identify and accommodate program participants with disabilities when necessary.

Exhibit Design

NASA found that the Center considers the needs of persons with disabilities in the design and construction of its own exhibits.¹³ In general, the Center practice is to incorporate accessible design and ADA compliance into everything that they build. For instance, during the construction of the visitor center, the Center worked with an architectural firm that was highly cognizant of the requirements for accessible design— and they focused on details such as the placement of buttons and monitor locations. The Center ensures that accessibility is incorporated in all exhibit features from table heights to font sizes of exhibit signage as well as modalities of communication (i.e, touch, and vision).¹⁴ The Center

¹² Interview with Whitney Owens, Ian Roberts, Audrey Wilson, Dante Centuori, and Margaret Aiken (Nov. 12, 2013); Interview with Amanda Taunt, Sonja Jenkins, and Jamie Wroten (Nov. 13, 2013).

¹³ Interview with Valence Davillier (Nov. 12, 2013).

¹⁴ Interview with Valence Davillier (Nov. 12, 2013).

relies on its own staff to ensure that its exhibits are as inclusive and accessible as possible. Center staff stated that it did reach out to the Cleveland Sight Center to solicit feedback.¹⁵

While the Center believes that it can make its own exhibits accessible, private temporary exhibits can be more problematic.¹⁶ Before an exhibit goes in at the Center, the Center staff will review it at a different museum. If they decide to rent the exhibit, they will pay for any changes to the vendor (including accessibility changes).

The information gathered during the course of this review indicates that the Center generally focuses on meeting Section 504's program access requirement in the design of its exhibits. Focusing on multiple modalities of learning through multiple senses is a critical element to creating compelling and highly interactive designs, but it also makes exhibits simultaneously more accessible for visitors with disabilities.

Accessibility, however, does not end with the fundamental design of exhibits. Specifically, NASA found that there are two areas that require better focus by the Center in terms of the accessibility of its exhibits:

1. **Exhibit Placement.** Accessibility also extends into how exhibits are placed. In this regard, the exhibits at the Center present a number of accessibility barriers. These will be discussed below in the *Architectural Accessibility* section.
2. **Traveling or Temporary Exhibits.** In addition, the Center needs to ensure that traveling or temporary exhibits are accessible. This report does not identify all of the accessibility barriers in the temporary *Titanic* exhibit that was on display during our site visit, but a brief visual inspection revealed a number of accessibility barriers. While these temporary exhibits are on loan to the Center, they are as much a part of the Center's programs as its permanent exhibits and need to be held to the same level of program access.

Effective Communication

A key component to effective program access is ensuring effective communication with program participants. The NASA regulations provide that:

- *Recipients shall take appropriate steps to ensure that no handicapped individual is denied the benefits of, excluded from participation in, or otherwise subjected to discrimination in any program or activity receiving Federal financial assistance because of the absence of auxiliary aids for individuals with impaired sensory, manual, or speaking skills.*¹⁷

¹⁵ Interview with Valence Davillier (Nov. 12, 2013).

¹⁶ Interview with Kirsten Ellenbogen (Nov. 12, 2013).

¹⁷ 14 C.F.R. § 1251.103(b)(3).

- *Recipients shall take appropriate steps to ensure that communications with their applicants, employees and beneficiaries are available to persons with impaired vision and hearing.*¹⁸
- *The recipient shall adopt and implement procedures to ensure that interested persons, including persons with impaired vision or hearing, can obtain information as to the existence and location of services, activities, and facilities that are accessible to and usable by (individuals with disabilities).*¹⁹

This “effective communication” requirement means that Federal fund recipients must take steps to ensure that people with disabilities are not excluded based on disabilities that affect communication. This requirement may include providing sign language interpreters, transcripts, or braille or audio information.²⁰ Accordingly, the provision of effective communications is essential for meeting the Center’s overall program access requirements under Section 504.

NASA found that the Center provides captioning for most of the videos found in exhibits. The Center staff stated that it has never had a request for a sign language interpreter in its camps and educational programs. If it receives such a request in its educational programs, Center staff indicated that they would likely seek out local resources or the parents to offer assistance.²¹ They also provide scripts for people with hearing impairments.²²

While the Center has never received a complaint or request for a sign language interpreter, NASA found that program participants do not have an established means by which they can make a request for this type of accommodation. While not specifically required by NASA’s Section 504 regulation as of the date

¹⁸ 14 C.F.R. § 1251.103(b)(8).

¹⁹ 14 C.F.R. § 1251.301(e).

²⁰ The term “auxiliary aids” is not currently specifically defined in the NASA Section 504 definitions, though such a definition will be provided in NASA’s updated Section 504 regulation. 14 C.F.R. § 1251.102. The Department of Justice Section 504 regulation, which agency regulations must conform with, defines “auxiliary aid” as:

Auxiliary aids means services or devices that enable persons with impaired sensory, manual, or speaking skills to have an equal opportunity to participate in, and enjoy the benefits of, programs or activities conducted by the agency. For example, auxiliary aids useful for persons with impaired vision include readers, Brailled materials, audio recordings, telecommunications devices and other similar services and devices. Auxiliary aids useful for persons with impaired hearing include telephone handset amplifiers, telephones compatible with hearing aids, telecommunication devices for deaf persons (TDD’s), interpreters, notetakers, written materials, and other similar services and devices.

²⁸ C.F.R. § 39.103.

²¹ Interview with Whitney Owens, Ian Roberts, Audrey Wilson, Dante Centuori, and Margaret Aiken (Nov. 12, 2013); Interview with Amanda Taunt, Sonja Jenkins, and Jamie Wroten (Nov. 13, 2013).

²² Interview with Amanda Taunt, Sonja Jenkins, and Jamie Wroten (Nov. 13, 2013).

of this report, a written procedure for the provision of auxiliary aids and other accommodation can assist the Center in providing these aids in an expeditious and efficient manner. NASA also found that the Center does not provide program participants notice that they can request a sign language interpreter or other auxiliary aid or service. However, Section 504 at 14 CFR 1251 requires that recipients provide notice of the availability of accommodations for visually and hearing impaired individuals. Other grantees commonly provide a notice in all public announcements indicating that a sign language interpreter or other auxiliary aid or service may be provided if requested within a specific period (e.g. 5 business days) before events if they contact the organization's Section 504 Coordinator (and provide email address at a minimum).

Section 504 requires, at a minimum, that rooms or spaces accommodating 50 or more individuals have assistive listening systems.²³ This reports recommends, however, that the Center provides assistive listening systems in all auditoriums. Because the Center is also an ADA Title III "place of public accommodation," it must abide by the ADA Standards for Accessible Design— and the 2010 version of the ADA Standards removes the 50 person limitation.²⁴ In addition, on January 22, 2016, NASA published revisions to Section 504 as a Final Rule in the Federal Register. In the revised Section 504 regulations, which go into effect on February 22, 2016, NASA adopted the 2010 ADA Standards as the sole accessibility standard, which takes effect on January 22, 2017. Lastly, the 2010 Standards are a valid substitute for the older Federal standards in fully meeting the requirements of Section 504.²⁵

The Center currently provides assistive listening systems in its OmniMax IMAX Theater. The Center does not, however, provide assistive listening systems in either the Reinberger Auditorium or the Great Lake Situation Room Auditorium. Both of these spaces need assistive listening systems to be installed.

Website Accessibility

An organization's website is quickly becoming a primary (and increasingly exclusive) way of providing access to basic information about its programs and services. Within the last decade, we have witnessed a societal change in which having a robust website has become a critical factor for any organization. While neither the Rehabilitation Act nor the Americans with Disabilities Act currently require organizations to follow specific design standards in *all* cases, website accessibility may be required for program access in *some* cases. Where an organization provides information to program participants, it is required to make that information available in a usable accessible format (e.g. large-print, braille, etc.) and this may *require* that web versions of that content are accessible.²⁶ In addition, there is a

²³ Uniform Federal Accessibility Standards §§ 3.5, 4.1.2(18)(b)(1984).

²⁴ ADA Standards for Accessible Design § 3.5 (2010)

²⁵ Memorandum from Thomas E. Perez to Federal Agency Civil Rights Directors and General Counsels (Mar. 29, 2011), available at http://www.ada.gov/504_memo_standards.htm.

²⁶ See, e.g., *Martin v. MARTA*, 225 F. Supp.2d 1362 (N.D. Ga. 2002); U.S. Department of Justice, *Accessibility of State and Local Government Websites* (available at <http://www.ada.gov/publicat.htm#anchor-website>). In *Martin*, the court held that program access was violated when a public transit authority failed to provide schedule information in an accessible format, including an

substantial body of legal precedent suggesting that the Center is required to make its website accessible because of Title III of the ADA.²⁷

The Center has recently redesigned its website. The redesign was motivated by a need for improved navigation and search functionality and, most importantly, the need for a content management system (CMS), which will enable the Center's marketing team to make changes directly on the website.²⁸ The contract for this work was initially signed in 2009, but not started in earnest until 2013 when funding was finally sealed for the project.²⁹ The coding and development for the new CMS system is based on Umbraco, an open-source ASP.NET framework, but being customized by Adcom, an outside contractor.³⁰ In discussions with Adcom, while the new site does not include highly-customized content or technologies that are difficult to make accessible, some of the standard elements of Umbraco that the Center uses may rely on technologies that are inaccessible without proper customization.³¹

The primary benefit of moving to a new website was CMS functionality. Previously, changes to the Center's website was an arduous process.³² The Center's marketing department sent change requests to its contractor, which created a design on a development server and, once it was approved, the changed pages were uploaded to the live server. If it was relatively small change, however, changes could be made directly to the live server by the contractor. In either case, any changes required submitting those changes to its outside contractor before they could become live. By contrast, a CMS system allows the Center's staff to log into a site, make changes directly on a standard template, preview those changes, and then approve them so they become available to the public immediately. This change greatly improves the efficiency of the Center's website and enables the Center to provide more content that is always up-to-date. Thus, efficiency rather than accessibility is the prime motivator

inaccessible website. While *Martin* is an ADA Title II case, the program access requirements for ADA Title II entities are virtually identical to those for Section 504 recipients.

²⁷ Most notable is the *National Federation of the Blind v. Target Corporation* suit in which a popular retailer agreed to make its website accessible and pay \$6 million in damages. See <http://www.w3.org/WAI/bcase/target-case-study>. The U.S. Department of Justice, which oversees Title III implementation, has also stated its opinion that the ADA applies to the web based activities of private businesses. See, e.g., Department of Justice brief in *Hooks v. OKBridge*, 232 F.3d 208 (5th Cir. 2000), available at http://www.usdoj.gov/crt/app/briefs_disright.htm.

²⁸ Interview with Nina Arrowood (Nov. 12, 2013).

²⁹ Interview with Nina Arrowood (Nov. 12, 2013).

³⁰ Interview with Patty Ross (Nov. 12, 2013).

³¹ Specifically, the Center's contractor noted that the new site will leverage some HTML 5 (hypertext markup language, version 5) and CSS (cascading style sheets) coding. Interview with Patty Ross (Nov. 12, 2013). While these technologies can be made very accessible, they can also present barriers to persons with disabilities. Unfortunately, neither the Center nor its contractor has performed testing to determine if the new site will be accessible. Interview with Patty Ross (Nov. 12, 2013).

³² Interview with Brett Arrowood (Nov. 13, 2013).

in the website redesign.³³ The Center's outside contractor indicated that, as far as he knew, the previous website provided relatively good accessibility.³⁴

In addition to its main website, several departments at the Center have entirely different, third-party web services integrating into the new website. For instance, the Center's Science Store has an eCommerce site that links from the Center's main website to handle credit card transactions and sales of merchandise sold to customers online. Other functions within the Center may or may not have third-party integrations, such as online reservation for camps and online ticket sales. These third-party systems have not been tested for accessibility and the accessibility of these functions is not being considered under this contract.³⁵

The Center's contract with its outside vendor purportedly has provisions requiring it to be accessible³⁶, however, it is not clear if accessibility is a focus because of fiscal constraints facing this project.³⁷

While laws and policies around the world are rapidly changing, there is a consistent trend towards following the World Wide Web (W3C) Consortium's Web Content Accessibility Guidelines 2.0 level AA ("WCAG 2.0 AA"). Compliance with WCAG 2.0 AA has also become a standard term in settlement agreements when blind advocacy groups in the United States sue organizations for their inaccessible websites. Lastly, the U.S. Access Board, a small independent Federal agency responsible for developing accessibility standards, has publicly stated on many occasions that its revision of the Section 508 accessibility standards will harmonize with WCAG 2.0 AA.³⁸ These and other factors suggest that WCAG 2.0 AA is a good practice of any web development effort in order to fully meet the needs of program participants. Given the relatively small size of the redesign, the Center should strongly consider having its website tested for accessibility. A careful site review (using both manual and automated technologies) should cost no more than \$6-7,000 and include competent manual testing using a popular screen reader (e.g. JAWS by Freedom Scientific) and should provide a detailed report against the WCAG 2.0 AA guidelines.

³³ Interview with Brett Arrowood (Nov. 13, 2013).

³⁴ Interview with Brett Arrowood (Nov. 13, 2013).

³⁵ Interview with Patty Ross (Nov. 12, 2013).

³⁶ Interview with Kirsten Ellenbogen (Nov. 12, 2013).

³⁷ Interview with Kirsten Ellenbogen (Nov. 12, 2013).

³⁸ Section 508 of the Rehabilitation Act, 29 U.S.C. §794(d), requires Federal agencies to make their electronic and information technologies (EIT) accessible to people with disabilities, primarily through the procurement process. Unlike Section 504, Section 508 imposes no obligations directly on Federal grantees. Section 508 tasks the Access Board with developing EIT standards. 29 U.S.C. §794(d)(a)(2). The current standards, available at 36 C.F.R. § 1194, are being refreshed by the Access Board. See <http://www.access-board.gov/guidelines-and-standards/communications-and-it/about-the-ict-refresh>.

During the preparation of this report, the NASA team very briefly examined the Center's new website and quickly identified several issues that would immediately block access for users with disabilities. For instance, there were a number of areas where alternative text was not provided for images—thus making content unreadable and confusing to blind users with screen readers. In addition, there were several areas where there was insufficient contrast for low-vision users. The Center's landing page also includes a highly-graphical rotating "carousel" control that cannot be read, stopped, or activated by JAWS, the screen reader used by over 70% of blind users. While the Center's site was not completely inaccessible, our very brief review immediately identified areas where further improvement would be needed. In addition, by having a website review undertaken quickly, the Center can educate its developers in accessible web design principles and avoid unnecessary risks and problems.

Volunteer Programs and Outreach

Each of the departments at the Center uses volunteers. The Center uses a relatively formal recruitment and application process for hiring its volunteers. All volunteers at the Center go through a basic background check, orientation, and then more specialized training depending on the departments to which they are assigned.³⁹ Volunteers who are not public-facing do not go through any kind of customer relations or disability training. For instance, the exhibits department has three volunteers who help with cleaning and electronic/mechanical maintenance. While these personnel may be given training specific to their functions within the Center, they do not undergo accessibility training.⁴⁰ Volunteers who are public facing, however, go through basic training.⁴¹

The Center works with the Cleveland Sight Center to provide volunteer opportunities for visually impaired individuals. For instance, during the summer of 2013, the Center had 20 volunteers from the Cleveland Sight Center.⁴² For instance, one of the actors in the Titanic Exhibit (which was at the Center during the NASA site visit) is visually impaired and works at the Sight Center.⁴³ This partnership will be augmented by the work of the Center's president and CEO (Kirsten Ellenbogen), who has previously worked with organizations for sight-impaired individuals to ensure that exhibits at the Minnesota Science Center fully met the needs of people with vision impairments. In addition, of the 60 to 80 active volunteers, approximately 5% of the volunteers, function on the autism spectrum. A significant positive outcome of this outreach is that volunteers have provided invaluable input on how to accommodate visitors who function on the autism spectrum.⁴⁴

³⁹ Interview with Whitney Owens, Ian Roberts, Audrey Wilson, Dante Centuori, and Margaret Aiken (Nov. 12, 2013).

⁴⁰ Interview with Valence Davillier (Nov. 12, 2013).

⁴¹ Interview with Kirsten Ellenbogen (Nov. 12, 2013).

⁴² Interview with Amanda Taunt, Sonja Jenkins, and Jamie Wroten (Nov. 13, 2013).

⁴³ Interview with Whitney Owens, Ian Roberts, Audrey Wilson, Dante Centuori, and Margaret Aiken (Nov. 12, 2013).

⁴⁴ Interview with Amanda Taunt, Sonja Jenkins, and Jamie Wroten (Nov. 13, 2013).

Both of these outreach programs have yielded promising practices at the Center. Like several other NASA grantees, the Center has demonstrated that partnering with local disability-related groups offers positive benefits for both the Center and people with disabilities. People with disabilities gain valuable work experience and independence while also contributing to the Center's awareness of specific disabilities and ability to seamlessly accommodate those disabilities. This helps disability-related organizations fulfill their mission. It also helps organizations like the Center go beyond basic compliance with Section 504 and become leaders in best practices for disabilities.⁴⁵

Availability of Information Regarding Accessible Services

NASA's regulations require that its recipients notify beneficiaries of the existence and location of services, activities, and facilities that are accessible to and usable by individuals with disabilities⁴⁶. The Center offers no guides or suggestions specific to assisting visitors with disabilities.⁴⁷ While the Center does provide a notice about the inaccessibility of the Mather Steamship, it does not have a map that charts out accessible routes within the Center. It also has no guides published specifically for the needs of people with disabilities. Instead, the Center relies on their staff to provide this information on an ad hoc basis.⁴⁸ It should be noted that the revised Section 504 regulation will require on and after February 22, 2016 that NASA grant recipients provide signs at a primary entrance to each of its inaccessible facilities, directing users to an accessible facility or a location at which they can obtain information about accessible facilities. The international symbol for accessibility shall be used at each accessible entrance to a facility.

Guides to assist visitors with disabilities help program participants plan their trips better and facilitate greater use and enjoyment. In reviewing other facilities, we have come across different practices that the Center may consider exploring.

- **Website Content.** The simplest strategy is to develop a portion of the Center's website specific to the needs of visitors with disabilities. This may include recommended accessible routes for visitors with mobility impairments, identified inaccessible elements (and their accessible alternatives), recommendations for seeking additional assistance, and information on how to file comments or complaints. It can also highlight special areas that are particularly appealing to users with disabilities because of their unusual sensory experiences (e.g. touch exhibits).

⁴⁵ The Center's partnership with the autism and visually-impaired communities within Cleveland developed within different sections of the Center. Interview with Jamie Simoneau (Mar. 4, 2014). For instance, the Education department developed the connection with the Autism community independent of the rest of the Center. Segmenting expertise with different disability groups among different departments of the Center may mean that the Center does not gain this expertise as a whole. This "stove-piping" approach can be offset by having an effective Section 504 Coordinator, as discussed below.

⁴⁶ See footnote #17 and pages 11-12

⁴⁷ Interview with Nina Arrowood (Nov. 12, 2013).

⁴⁸ Interview with Amanda Taunt, Sonja Jenkins, and Jamie Wroten (Nov. 13, 2013)

- **Brochures.** Another strategy is to publish brochures with this same key information, except in printed form (and alternate formats). This would help ensure that visitors with disabilities have the best overall experience possible.
- **Wayfinding Strategies.** Other grantees have had success with simple and more complex wayfinding technologies. For instance, one grantee leveraged text messaging to make exhibits more accessible. At each exhibit, a small label would provide a code to include in a text message using the visitor’s cell phone and a service would respond with a brief description of the display and basic directions to the next exhibit. This simple kind of technology would allow, for instance, a blind visitor to independently navigate the Center and experience exhibits that focus on rich, non-visual content. Other technologies, such as Bluetooth, NFC (near field communication), QR (quick response) codes, and even simple barcodes can be easily read with cellphones. Because smartphones have become almost ubiquitous with today’s visitors, these technologies open exciting opportunities for users with disabilities because they rely on the user’s choice of technologies that work best for them—blind users can rely on the speech output from their smartphone, deaf users may have better success with the text displayed on their phone, and users with low vision may choose either voice output or screen magnification to access the same information. In addition, commercially available solutions are currently available to fit the needs of organizations like the GLSC. For instance, while each of the following companies offer tactilely-discernable maps to assist blind visitors, they also offer several unique wayfinding technologies.

Training

While training of a recipient’s staff is *not* specifically required by either Section 504 or NASA’s Section 504 implementing regulations, we have found that a key element for achieving program access is training. NASA found that the Center offers no training specific to disabilities, with the exception of its yearly safety awareness training. Few Center staff have had disability training of any kind while employed or volunteering at the Center. Instead, training on how to provide accommodations for people with disabilities is usually considered part of “on the job” training.⁴⁹ The Center’s CEO has experience and training specific to disabilities and hopes to develop more training related to disabilities in the near future.⁵⁰

Specifically, every employee gets basic on boarding training, which includes policies (such as dress code) and emergency access training (from the Director of Facilities and Security). All of the staff currently undergo training through the *Destination Cleveland* program, which is provided by the Cleveland Convention and Visitors Bureau to staff of Cleveland’s tourist attractions.⁵¹ This training focuses on ensuring that Cleveland is given a positive image, but also includes basic diversity and sensitivity

⁴⁹ Interview with Amanda Taunt, Sonja Jenkins, and Jamie Wroten (Nov. 13, 2013).

⁵⁰ Interview with Kirsten Ellenbogen (Nov. 12, 2013).

⁵¹ Interview with Kirsten Ellenbogen (Nov. 12, 2013). This program was known as “Positively Cleveland” until October 2014

training.⁵² However, the *Destination Cleveland* training does not include anything relating to accessibility and does not include sensitivity training specific to disabilities.⁵³ The Center does conduct its own inclusiveness and diversity training about three times a year.⁵⁴ With regard to training, employees and volunteers are treated the same.⁵⁵ The Center also does not provide refresher training.⁵⁶ Staff does bring up issues at quarterly meetings— and these suggestions may lead to new policies— but formal refresher training does not exist, other than in its safety training module.

NASA examined the Center’s yearly safety training. NASA found that it includes training specific to the safety needs of persons with disabilities. For example, training includes identifying Areas of Refuge (where people with mobility impairments can safely stay while awaiting the arrival of emergency response personnel), understanding how to safely ensure that people with mobility impairments can access Areas of Refuge, effectively communicating with people with hearing impairments, and other ways of assisting people with disabilities. This safety plan is constantly being modified and a daily security plan (based on available staff) is created each day. This thoughtful inclusion of disability issues in safety training is a model for other organizations.

The need for training is highlighted by the Center’s awareness of the need for training with other protected classes (notably gender discrimination) and the almost complete lack of training with disability issues. The Center does conduct mandatory, all-staff sexual harassment training on an annual (or biannual) basis. It also folds its policies about gender discrimination into its employee handbook and grievance procedures.⁵⁷ As discussed below, however, the Center’s non-discrimination policies, grievance processes, and other requirements with respect to disabilities are almost non-existent or were rapidly constructed as an afterthought. By contrast, the Center’s attention to detail with respect to one protected class (gender) suggests that the Center knows how to follow the requirements of Federal law under Title VII and Title IX when it is aware of the importance of the issue. It is this lack of awareness of the importance of Section 504 on an institution-wide basis that strongly suggests that regular and effective training on the ADA, Section 504, and other disability-related issues is strongly needed.

⁵² The *Positively Cleveland* training comprises different levels of training and all public-facing staff members at the Center (even volunteers and temporary summer staff) undergo the basic level of training. Interview with Kirsten Ellenbogen (Nov. 12, 2013).

⁵³ Interview with Amanda Taunt, Sonja Jenkins, and Jamie Wroten (Nov. 13, 2013).

⁵⁴ Interview with Whitney Owens, Ian Roberts, Audrey Wilson, Dante Centuori, and Margaret Aiken (Nov. 12, 2013).

⁵⁵ Interview with Amanda Taunt, Sonja Jenkins, and Jamie Wroten (Nov. 13, 2013).

⁵⁶ Interview with Amanda Taunt, Sonja Jenkins, and Jamie Wroten (Nov. 13, 2013). On the other hand, the Center does apparently have mandatory, all-staff training on gender-based discrimination every year or two. Interview with Jaime Simoneau (Mar. 4, 2014).

⁵⁷ Interview with Jaime Simoneau (Mar. 4, 2014).

The Center has indicated that its human resource responsibilities have been recently shifted to its new Chief Financial Officer.⁵⁸ One of the key foci of the new CFO will be on formalizing the on-boarding procedures and standardizing training. We expect that this report will give him strong impetus for ensuring that the new training include elements that make up for the considerable voids in the Center's current awareness of disability issues.

Some options for a regular training program include:

- **In-Person Training Courses,**
- **Online Training Courses,**
- **Disability Panel Presentations, and**
- **Disability Awareness Training.**

Procedural Deficiencies

In addition to the general program access requirements, the NASA regulations identify specific procedures under Section 504 that must be undertaken by its grantees simultaneously with or shortly after the receipt of Federal funding. Almost all Federal agencies have virtually identical requirements.⁵⁹ The Center admits that these steps were previously overlooked and is actively taking steps to implement them. These deficiencies are:

- **Section 504 Coordinator.** The Center only recently designated Amanda Taunt as its Section 504 Coordinator. This role needs to be better known within the Center and additional support needs to be provided to bolster her ability to fulfill the duties of this position.
- **Self-Evaluation.** The Center does not appear to have conducted a self-evaluation, as required by Section 504 within one year of becoming a grantee.
- **Grievance Process.** There does not appear to have been a grievance process in place at the Center until May 2013. This was required at the time that the Center received Federal funds.
- **Non-Discrimination Policy.** Lastly, the Center does not have a non-discrimination policy that includes program participants with disabilities. This policy needs to be developed, and it should be published in all material made available to program participants.

Section 504 Coordinator

The NASA Section 504 regulations require grantees to designate a responsible employee for coordinating their compliance with Section 504.

⁵⁸ Interview with Jaime Simoneau (Mar. 4, 2014).

⁵⁹ Specifically, HHS has virtually identical (and in some cases, more stringent) requirements for its grantees under Section 504. NASA's Section 504 regulations are available at 24 C.F.R. pt 1251. HHS's Section 504 regulations are available at 45 C.F.R. pt 84.

(a) Designation of responsible employee. A recipient that employs 15 or more persons shall designate at least one person to coordinate its efforts to comply with this part.⁶⁰

Until receiving NASA's notice that the Center had been selected for a site review in May 2013, the Center had no Section 504 Coordinator.⁶¹ Apart from being a technical requirement, having an active Section 504 Coordinator is invaluable to serving the needs of people with disabilities because it focuses knowledge, expertise, and the availability of key resources for the Center. Only after being advised of the site review did the Center designate Amanda Taunt as its Section 504 Coordinator. Amanda has served as the Manager of Guest Services for the last 1-1/2 years and at the time of the onsite visit, she reported directly to the Chief Operating Officer for the Center.⁶² The Center informed NASA that Amanda Taunt was selected as the Section 504 Coordinator based on her on-the-job experience in accommodating visitors with disabilities and from her work with both the Autism Center and the Cleveland Sight Center.

Few of the current staff members know that Amanda Taunt is their Section 504 Coordinator. The Center maintains that, while staff members might not know that Amanda Taunt is the Section 504 Coordinator, any issues relating to accessibility based on visitor needs and feedback go to her anyway because she is the manager of guest services.⁶³ Also, events trickle up to Amanda through the Center's "manager on duty" (MOD) practice. Every day, the Center identifies an employee to serve as MOD. The MOD is available on the floor and handles visitor issues. This position rotates between the Center's senior staff, but it is handled Tuesday through Saturday by Amanda Taunt. In general, the staff knows to send any ad hoc complaint (regarding accessibility or otherwise) to the manager on duty.⁶⁴ While it may be true that immediate guest issues involving disabilities would naturally gravitate towards the director of guest services or MOD, this approach ignores the fact that many accessibility issues do not present themselves as guest issues. For instance, if the marketing department is developing new content for its website, they may have questions regarding its accessibility for people with disabilities— or even whether the new content will be seen as inappropriate by people with disabilities. These issues require an expertise in accessibility and an awareness of disability culture. Staff members should know that any issues that may impinge on people with disabilities should be funneled through a single point of contact— the organization's Section 504 Coordinator.

Not having a single point-of-contact for disability issues also makes it harder for staff members to quickly and effectively manage requests for accommodations. For instance, if a sign language interpreter was requested, several staff members indicated that they understood that the Center would have to

⁶⁰ 14 C.F.R. § 1251.106(a).

⁶¹ Interview with Amanda Taunt, Sonja Jenkins, and Jamie Wroten (Nov. 13, 2013).

⁶² Interview with Amanda Taunt, Sonja Jenkins, and Jamie Wroten (Nov. 13, 2013).

⁶³ Interview with Amanda Taunt, Sonja Jenkins, and Jamie Wroten (Nov. 13, 2013).

⁶⁴ Interview with Whitney Owens, Ian Roberts, Audrey Wilson, Dante Centuori, and Margaret Aiken (Nov. 12, 2013).

provide an interpreter. When one staff member was pressed on how that would occur, she indicated that she would likely seek out several people because there was no formal process for raising accessibility requests at the Center.⁶⁵ Instead, a Section 504 Coordinator should have a list of available interpreter services and can coordinate the request much more quickly and efficiently than having staff research their availability each time a request is made.

Lastly, while NASA's Section 504 regulations do not provide for specific qualifications for the role of Section 504 Coordinator, it is also important that the Section 504 Coordinator has requisite skills needed to perform duties of the position. NASA encourages its grant recipients to identify as DRE's those individuals who can adequately perform the following core competencies of the Section 504 Coordinator positions:

- In-depth knowledge of Section 504 and general related knowledge of Federal and state non-discrimination laws,
- Knowledge of the recipient's grievance procedures and personnel policies/practices, and
- Ability to prepare reports on compliance activities, make recommendations to appropriate decision makers, diagnose and mediate differences of opinion,

While it may be true that Amanda Taunt is the best qualified person on the Center's current staff to be its Section 504 Coordinator, the Center needs to do more to ensure that she can be effective in that role, given her limited experience in disability access issues. We expect that the Center will ensure that she is provided adequate training opportunities so that she can fully understand the requirements of Section 504, the ADA, and other disability-related laws and regulations. NASA also recommends that the Center further support Ms. Taut in this role by taking a "multi-disciplinary" role with respect to Section 504 compliance by forming an ad-hoc "accessibility committee" drawn from Center staff who have subject matter expertise in critical areas of Section 504 compliance that Ms. Taut may not possess (physical accessibility). This committee can meet regularly to address issues, assist Ms. Taut in developing and implementing the Section 504 self-evaluation and serve as a ready resource if situations arise.

With respect to the Section 504 Coordinator, NASA recommends: 1) that Center staff are aware of the position's existence, even in collateral duty form, and that Amanda Taut is the DRE for Section 504; 2) the Center develop a policy and procedure within its Section 504 self-evaluation to select a Section 504 Coordinator; 3) develop a policy and procedure to establish an Accessibility Committee to assist the DRE; and 4) identify and provide Ms. Taut and future designees with appropriate and relevant training opportunities to be successful as the Center's Section 504 Coordinator.

⁶⁵ Interview with Alyssa Henning (Nov. 13, 2013).

Self-Evaluation

NASA's Section 504 regulations require fund recipients to conduct a self-evaluation within one year of becoming a recipient.⁶⁶ Further, these Section 504 regulations also require fund recipients to create a transition plan for taking the necessary steps for ensuring program access.⁶⁷

Unfortunately, until being notified of NASA's on-site review, the Center had never conducted a self-evaluation as required by Section 504. Shortly after receiving NASA's information request in May 2013, the Center formed a committee to review the Center's compliance with the Section 504 requirements. This effort was being led by Jamie Simoneau (Chief Operating Officer at the time of the onsite review) and included the following:

- Val Davillier (Vice President of Exhibits)
- Gordon Milne (Director of Facilities and Security)
- Renee Jones (Human Resources Director)
- Sue Branca (Controller)
- Amanda Taunt (Guest Services Manager)

This effort also included other Center staff members. The work of this committee led to the formation of the Center's Section 504 Grievance Procedure and the following recommendations:

- Developing an accessible website,
- Making large-print materials for sale,
- Providing braille exhibit labels,
- Providing free admission for chaperones and assistants for guests requiring assistance,
- Developing a pamphlet outlining the Center's Section 504 policies, and
- Installing an accessible door on the harbor-side exit of the Center

In addition, the Self-Evaluation Team is considering ways to incorporate community feedback and revision of the employee handbook.⁶⁸ To accomplish these tasks, the Center indicated that these tasks would become folded into the Center's yearly planning in which its President, Board of Directors and senior leadership would update the Center's strategic plan and operational plans.⁶⁹ These plans would be developed initially by the senior management in each of the Center's departments and, once approved, each vice-president within the Center would be responsible for implementing their responsibilities under the plan.

⁶⁶ 14 C.F.R. § 1251.105(c).

⁶⁷ 14 C.F.R. § 1251.301(d).

⁶⁸ Interview with Kirsten Ellenbogen (Nov. 12, 2013).

⁶⁹ Email from Jamie Simoneau to Bob Cosgrove (Sept. 12, 2013).

These are useful first steps in conducting a self-evaluation. While the Center was required to perform this self-evaluation some time ago, it remains a valuable exercise that will enable the Center to identify where program access may be lacking. While many sources and guides exist for performing a Section 504 self-evaluation, a highly useful guide is the National Endowment of the Arts Section 504 Self-Evaluation Workbook, which is geared towards museum and art organizations.

It is unclear if the Center intends to continue with its self-evaluation.⁷⁰ Ironically, the Center does not appear to have leveraged its partnership with the autism and visually-impaired communities to assist in its self-evaluation.⁷¹ This is particularly striking considering that none of the staff have had any training specific to disabilities—yet the Center felt qualified to independently assess its conformance with highly technical disability-related laws and regulations. Based on the shortcomings identified in this report, we hope that the Center will give serious consideration to conducting a more in-depth evaluation of its compliance with Section 504 by perusing existing resources to develop self-evaluations and consulting Autism Center, the Cleveland Sight Center and similar entities in its development. Furthermore, NASA recommends that the Center develop an “Accessibility Committee” from its self-evaluation plan working group to assist the Section 504 Coordinator in that role and meet regularly to discuss disability access issues and assist the Section 504 Coordinator in the implementation of any necessary actions to achieve program access.

Grievance Process

Until being informed of the NASA site review, the Center did not have a formal Section 504 grievance process.⁷² After being informed of the NASA review, Amanda Taunt, the Center’s Manager of Guest Services, drafted a basic Section 504 grievance process, basing her work mostly on recommendations from the Department of Health and Human Services. After she created it, the process was reviewed by Jamie Simoneau (Former Chief Operating Officer), Sue Branca (Controller), and possibly also by the Center’s counsel.⁷³ Unfortunately, the grievance process is neither widely-circulated nor well-known at the Center.⁷⁴ It is also not available in print or on the Center’s website.⁷⁵ During our interviews, we found that the complaint process appeared different with camp and educational program complaints. For these activities, the Center has a form for intaking the complaints, which then go to Ian Roberts⁷⁶,

⁷⁰ Interview with Jaime Simoneau (Mar. 4, 2014).

⁷¹ Interview with Jaime Simoneau (Mar. 4, 2014).

⁷² Interview with Amanda Taunt, Sonja Jenkins, and Jamie Wroten (Nov. 13, 2013). While the Center maintains that there was an existing complaint processing procedure, no one has been able to provide us with a copy.

⁷³ Interview with Amanda Taunt, Sonja Jenkins, and Jamie Wroten (Nov. 13, 2013)

⁷⁴ Interview with Amanda Taunt, Sonja Jenkins, and Jamie Wroten (Nov. 13, 2013).

⁷⁵ Interview with Amanda Taunt, Sonja Jenkins, and Jamie Wroten (Nov. 13, 2013).

⁷⁶ Interview with Whitney Owens, Ian Roberts, Audrey Wilson, Dante Centuori, and Margaret Aiken (Nov. 12, 2013).

the Center's Youth and Family Engagement Director. Ian will then try to resolve the issue and, if unsuccessful, will bring in Whitney Owens, the Center's Vice-President of Education.

The NASA Section 504 regulation also requires grantees to develop adequate grievance procedures.

(b) Adoption of grievance procedures. A recipient that employs 15 or more persons shall adopt grievance procedures that incorporate appropriate due process standards and that provide for the prompt and equitable resolution of complaints alleging any action prohibited by this part. Such procedures need not be established with respect to complaints from applicants for employment or from applicants for admission to postsecondary educational institutions.

These regulations are based on the Department of Justice Section 504 regulations. These regulations and accompanying materials provide only general details about the requirements for a grievance procedure. The Department's Title IX enforcement manual merely states, "Title IX regulations do not specify a structure or format for the grievance procedures. Instead, each recipient must develop grievance procedures that most effectively provide for prompt and equitable resolution of complaints."⁷⁷ Again, the Department of Education's Title IX technical assistance material provides more useful benchmarks for an adequate grievance procedure.⁷⁸ While recognizing that institutions may be required to adopt unique grievance procedures, the Department of Education material does outline information the basic information sought in a complaint process:⁷⁹

- the name, address, and signature of the complainant;
- a sufficient description of the alleged discrimination to let the organization know what occurred;
- the identity of the injured party;
- the name and address of the institution alleged to have discriminated;
- the approximate date(s) on which the alleged discrimination took place; and
- sufficient background information to permit the organization to commence an investigation.

The Center's grievance process is provided in *Appendix A*. Comparing this grievance process to the Department of Education recommendations, there are two shortcomings. First, the grievance process fails to encourage complainants to provide sufficient background information to permit the investigation to proceed. Additional information is critical in these situations because days, or sometimes weeks, can pass between the time an incident occurs and the time it is investigated. Second, the grievance process fails to identify other Federal agencies where complaints may be filed with regard to disability complaints. In addition to HHS, NASA's Office of Diversity and Equal Opportunity (ODEO) will also

⁷⁷ *Questions and Answers Regarding Title IX Procedural Requirements*, available at <http://www.usdoj.gov/crt/cor/coord/TitleIXQandA.htm>.

⁷⁸ Department of Education (Office of Civil Rights), *Title IX Grievance Procedures: An Introductory Manual* (2d ed. 1987).

⁷⁹ *Id.* at p. 16.

receive Section 504 complaints and the Department of Justice's Disability Rights Section will receive ADA Title III complaints. Rewording paragraph 7 will avoid any confusion that complaints cannot be filed with either the Department of Justice or NASA.

Once developed, this procedure needs to be widely known and should encourage participants to provide sufficient meaningful information to enable the Center to take steps to ensure program access for participants with disabilities. Failing to provide these mechanisms makes it impossible to accurately and objectively meet program participant needs.

During our interviews, we discussed other feedback and complaint mechanisms in use at the Center. In general, the Center has no formal mechanisms for soliciting feedback from its visitors.⁸⁰ For instance, if a visitor asks for something, they are typically accommodated on the spot. But failing to have formal mechanisms in place to encourage and capture this information means that the needs of program participants may go unidentified, thus defeating program access at the Center.

Starting in 2013,⁸¹ the Center started tracking the comments and complaints it did receive in a spreadsheet.⁸² This new "system" tracked comments and complaints made through a variety of avenues, including phone calls, comment cards, email, written letters, and feedback left on social media sites (e.g. TripAdvisor and Facebook). While the Center's practice of keeping a centralized log of complaints is commendable, the spreadsheet used does not parse data in a meaningful way. Instead, it tracks based on date and whether the complaint has been successfully resolved. While this may certainly help the Center from a customer service perspective, it fails to promote program access for people with disabilities.

Instead the Center should categorize complaints and comments with greater specificity. This can include factors, such as:

- responsible department (e.g. exhibits, camps, theaters, special events, website, etc.)
- tone (positive, negative, neutral, etc)
- affected community (e.g. disability, gender, race, etc)
- whether changes were needed and/or implemented

By tracking complaints and comments in this way, they can be quickly sorted and categorized. This process would enable the Center to spot trends and patterns in the feedback and enable the Center to

⁸⁰ Interview with Valence Davillier (Nov. 12, 2013).

⁸¹ Before adopting this spreadsheet system in 2013, the Center received a verbal complaint that its website was inaccessible to screen reader users. Interview with Amanda Taunt, Sonja Jenkins, and Jamie Wroten (Nov. 13, 2013). During this time, it also received a complaint that providing a transcript for a movie failed to provide effective communication.

⁸² Interview with Amanda Taunt, Sonja Jenkins, and Jamie Wroten (Nov. 13, 2013).

immediately identify weak areas that require more attention or strong areas that deserve special commendation. From a program access perspective, this kind of information is invaluable.

While the Center's grievance and comment processes can be bolstered, its focus on social media sites is a promising practice. The Center's Guest Services Team and Marketing Team each regularly review social media sites like Facebook and TripAdvisor to look for comments and complaints.⁸³ This is a commendable practice. Apart from its value as a public relations tool, however, social media is also a well-understood way for the public to comment on the successes or failures of an organization, since few feedback mechanisms are as well-known to the public as social media sites. Other organizations can learn from the Center's use of social media.

Non-Discrimination Policy

The Center does not have a non-discrimination policy,⁸⁴ which violates NASA's Section 504 regulation. To further ensure program access, NASA's Section 504 regulations include a requirement to provide notice of its nondiscrimination policies. Specifically,

(a) A recipient that employs 15 or more persons shall take appropriate initial and continuing steps to notify participants, beneficiaries, applicants, and employees, ... that it does not discriminate on the basis of handicap in violation of section 504 and this part. The notification shall state, where appropriate, that the recipient does not discriminate in admission or access to, or treatment or employment in, its programs and activities. The notification shall also include an identification of the responsible employee designated pursuant to §1251.106(a)...⁸⁵

To correct this deficiency, the Center must develop a non-discrimination policy as soon as possible—and ensure that this policy is publicized broadly and well-known to both staff members and program participants.

The Center stated, however, that it does have a non-discrimination policy, which is set forth as the first two sentences of its grievance procedure.⁸⁶ These two sentences read,

It is the policy of Great Lakes Science Center not to discriminate on the basis of disability. Section 504 of the Rehabilitation Act of 1973 prohibits discrimination on the basis of disability in any program or activity receiving Federal financial assistance.

⁸³ Interview with Amanda Taunt, Sonja Jenkins, and Jamie Wroten (Nov. 13, 2013).

⁸⁴ Interview with Amanda Taunt, Sonja Jenkins, and Jamie Wroten (Nov. 13, 2013).

⁸⁵ 14 C.F.R. § 1251.107.

⁸⁶ Interview with Jaime Simoneau (Mar. 4, 2014).

Folding a non-discrimination policy into a grievance procedure is not acceptable since the purpose of a Section 504 non-discrimination policy is to provide *notice to program participants* of their rights under Section 504 vis-à-vis grant recipients, and that this notice is to be published in its publicly-disseminated publications and other media (i.e., website).

Architectural Accessibility

The NASA Section 504 regulations distinguish between existing facilities and newly constructed or altered facilities. Newly constructed⁸⁷ facilities and alterations⁸⁸ must be “readily accessible to and usable by” people with disabilities.⁸⁹ In general, this means that such facilities and alterations must meet the stringent Uniform Federal Accessibility Standards (UFAS), the Section 504 accessibility standard effective at the time of the onsite visit and during the timeframe of this compliance review.⁹⁰ By contrast, for existing facilities, NASA fund recipients must ensure that their programs or activities are accessible “when viewed in their entirety” by relocating programs, making services available through alternate means, or other methods that ensure that programs, services, or activities are accessible to people with disabilities.⁹¹ Often, however, these methods include making architectural changes to existing facilities. As previously noted in the Executive Summary, NASA has recently adopted the 2010 Standards, which will go into effect on January 23, 2017, as the only Section 504 accessibility standard to be used for new construction and alterations to facilities of NASA grantees. Between the date of this report and January 22, 2017, NASA grantees such as GLSC can choose between the 2010 Standards and UFAS in new construction and alterations to its facilities.

Although not covered by this report, the Center as a private entity has additional accessibility obligations under the Americans with Disabilities Act (ADA)—including the requirement to remove architectural and communications barriers that are “readily achievable” to remove and the requirement to make “path of travel” changes related to alterations under Title III of the ADA.⁹²

⁸⁷ 14 C.F.R. § 1251.302(a).

⁸⁸ 14 C.F.R. § 1251.302(b).

⁸⁹ 14 C.F.R. § 1251.302(a)-(b).

⁹⁰ 14 C.F.R. § 1251.302(c). UFAS is available at <http://www.access-board.gov/ufas/ufas-html/ufas.htm>. Specifically, the GLSC must ensure that all new construction or alterations after the latter of the GLSC’s first receipt of Federal funding and the effective date of UFAS (August 1984) fully complies with UFAS. Note that the ADA has similar new construction and alterations requirements, 28 C.F.R. §36.401-06, that apply to any new construction or alterations after January 26, 1993.

⁹¹ 14 C.F.R. § 1251.301.

⁹² The ADA’s path of travel obligation is a detailed requirement set forth in the Department of Justice’s Title III regulation, 28 C.F.R. § 36.403 (2010); see also, 42 U.S.C. §12183(b). This provision requires places of public accommodation, like the GLSC, to make accessibility upgrades to its existing facility when those upgrades serve primary function areas being directly altered. Furthermore, places of public accommodation like the GLSC are required to spend up to 20% of the total cost of the alteration in making these upgrades before they are considered “disproportionate” to the cost of the alteration.

The GLSC has undergone relatively few significant architectural changes since its opening in July 1996, but because the date of first occupancy was after the effective date for new construction by NASA regulations, all areas of this facility must comply with UFAS provisions.

Summary of Architectural Issues

Given its relatively young age, the GLSC has a surprisingly large number of architectural barriers. Many of these barriers occur along accessible routes, such as parking spaces, access routes, entrances, doorways, and ramps. In some cases, fixing accessibility issues may be as simple as placing a planter below a protruding object or buying stanchions with more than one tape. In other cases, fixing these issues may involve identifying specific accessible routes and incorporating signage that directs users with disabilities to these routes. In still other cases, solving problems may be more costly, such as correcting non-compliant parking spaces designated for users with disabilities (which are required to be located at the shortest distance to entrances).

The Center needs to quickly correct all of the architectural barriers identified in this section of the report. While Section 504 permits some flexibility in providing program access in existing facilities (such as relocating services to accessible locations), Section 504 is very strict with regard to new construction and alterations. In addition, as a private science center, the GLSC is subject to Title III of the ADA, which also permits no deviations from the ADA Accessibility Guidelines for any building constructed after 1992 (except in the rare case of "technical infeasibility" during the original construction). While the GLSC may have been unaware of these barriers and relied on the expertise of its architects and contractors, a good faith reliance is not a defense.

New Construction and Program Access Barriers "Punch List"

The following "Punch List" of accessibility barriers is based on the UFAS requirements for new construction associated with the actual spaces and elements physically built into facilities. Additionally, barriers associated with movable or non-fixed elements of the facilities, such as tables, chairs, stanchions, barricades, movable display elements, etc., are covered by the program accessibility provisions of Section 504 regulations. The UFAS standards for accessibility have been used as a guide to analyze what is accessible and usable for individuals with disabilities under the program accessibility provisions for this facility.

Main Front Entrance Approach Issues

- 1. Accessible Parking in Drop-off Driveway** - The three designated accessible parallel parking spaces along the circular driveway lack access aisles required to allow mobility impaired visitors to have adequate space to transfer to/from their vehicles. The inaccessible curb ramp at these designated accessible parking spaces extends from the gutter to the back of the approach walk in a manner that creates cross slopes exceeding (at approx. 6.6%) the maximum 2% allowed under UFAS 4.3.7 (see **Figure 1**).



Figure 1 - Designated Accessible Parking in Drop-Off Driveway

Additionally, the concrete approach walk which extends from the back end of the designated accessible parallel parking space closest to the front entrance to the solar panel support post closest to the front entrance has an inaccessible cross slope exceeding (at up to 3.3%) the maximum 2% allowed under UFAS 4.3.7 (see **Figure 2**).



Figure 2 - Inaccessible Cross Slope from Accessible Parking to Front Entrance

- 2. Pedestrian Approaches from Erieside Avenue** - The two pedestrian crosswalks at each end of the circular drive serving the front entrance and accessible passenger drop-off area have inaccessible curb ramps which extend from the gutter to the back of the approach walk in a manner that creates cross slopes exceeding (at approx. 8%) the maximum 2% allowed under UFAS 4.3.7. The concrete approach walk from the freeway side of Erieside Avenue (south for this report) to the front entrance has an inaccessible cross slope exceeding (at up to 3.8%) the maximum 2% allowed under UFAS 4.3.7 - the steep section is located along the walk adjacent to the 7 solar panel support posts closest to Erieside Avenue on the south side of the facility (see **Figure 3**).



Figure 3 - Excessive Cross Slope along Route from Erieside Avenue

3. **Access to Garage Rooftop Garden** - The ramp leading from the walkway along the circular drive at the front entrance to the garden on top of the rooftop of the garage lacks required edge protection (UFAS 4.8.7) and the lower ramp run has a running slope steeper (at 9.1%) than the maximum 8.3% allowed per UFAS 4.8.2. Additionally, the intermediate landing is not level, sloping 2.8% toward the circular driveway in violation of UFAS 4.8.4.

Parking Garage Approach Issues

1. **Pedestrian Approach from Erieside Avenue into Garage** - The approach walk (see **Figure 4**) that connects the western pedestrian entrance to the garage from the public sidewalk along Erieside Avenue is steeper (at 11.1%) than the maximum allowable 8.3% and lacks ramp features such as accessible handrails, accessible landings and edge protection (UFAS 4.8). The pedestrian entrance door is also inaccessible with round knob hardware (UFAS 4.13.9) and inadequate level door maneuvering clearance. The exterior side of this door lacks (at only 4") the minimum required 18" latch side, pull side maneuvering space and the interior side of this door lacks (at only 6"+/-) the minimum required 12" latch side, push side maneuvering space for this door with a latch and closer, as well as having a 3.9% running slope on the interior side (UFAS 3.13.6).



Figure 4 - Steep Approach and Limited Door Clearances

2. **Accessible Parking Area in Garage** - This parking garage has 493 parking spaces (221 first level - 272 second level) with the UFAS compliant number (nine) of designated accessible parking spaces provided (see **Figure 5**). For this analysis, we will refer to these designated accessible parking spaces a 1 - 9 in a counter clockwise direction, with space 1 being adjacent to the garage stair and space 9 located nearest the garage payment booth.
 - a. The following designated accessible vehicle spaces were not level and had slope or cross slopes exceeding the 2% maximum per UFAS 4.6.3:
 - i. Space 3 (running slope at 2.5%)
 - ii. Space 6 (running slope at 3.1%)
 - iii. Space 7 (running slope at 3.9%)



Figure 5 - Main Entry from Garage and Accessible Parking

- iv. Space 8 (running slope at 2.8% & cross slope at 3.8%)
 - v. Space 9 (cross slope at 4.1%)
- b. The following designated accessible parking space access aisles were not level and had slope or cross slopes exceeding the 2% maximum per UFAS 4.6.3:
- i. Space 1 (running slope at 3.8% and it was less (at 39") than the minimum 60" wide)
 - ii. Space 6 (running slope at 3.2% and it was less (at 48") than the minimum 60" wide)
 - iii. Space 8 (running slope at 4.0% & cross slope at 5.3%)
 - iv. Space 9 (cross slope at 2.6%)
- c. The following designated accessible parking spaces were not at least 96" wide between the center of parking space lines flanking the spaces per UFAS 4.6.4.6.3 & Fig. 9:
- i. Space 1 (94" width)
 - ii. Space 7 (94 1/2" width)
- d. Designated accessible parking space 5 lacks a wall/post mounted sign that will not be obscured by a vehicle parked in the space per UFAS 4.6.4.

3. Approach Route from Accessible Parking Area to Lower Level Facility Entrance - Many visitors arrive at the GLSC in their own vehicle and enter the facility from the parking garage on the lower level. The following UFAS violations were found on the route from the designated accessible parking space access aisles to the lower level facility entrance to the GLSC:



Figure 6 - Wood Barricades Block Access Aisles

- a. The wood barricades located at the front of designated accessible parking spaces (see Figure 6) reduce the clear width of the route from the access aisles of Spaces 1, 2 & 3 to less (at 18"-29") than the minimum 36" allowed per UFAS 4.3.3.
- b. The pavement surfaces in the following locations have cross slope greater than the 2% maximum required by UFAS 4.3.7:
 - i. 3.0% cross slope in front of Space 1
 - ii. 4.1% cross slope in front of Space 2 & 6.9% cross slope in front of adjacent access aisle
 - iii. 5.6% cross slope in front of Space 3
 - iv. 6.4% cross slope in front of Space 4 & 7.1% cross slope in front of adjacent access aisle
 - v. 3.4% cross slope in front of Space 6
 - vi. 3.7% cross slope in front of the access aisle serving Space 7

4. Protruding Objects within Parking Garage - The following examples of elements that are not cane detectable to blind or visually impaired visitors in violation of UFAS 4.4:

- a. The underside of the concrete stairs in the northwest corner of the garage on the lower level is unprotected and has a head height less than the minimum specified 80".
- b. The underside of the hanging stand pipe (at 34" AFF⁹³) at the end of the wall separating the designated accessible parking space 1 from the garage stairwell is not cane detectable to blind or visually impaired visitors in violation of UFAS 4.4:
- c. Wall and post mounted fire extinguisher boxes in the Garage that adjoin a circulation route project more than 4" with the underside mounted between 27"-80" AFF.

Lakeside Entrances & Approach Issues

1. **Lakeside Entrance Issues** - There are two entrances along the lakeside approach to the facility which would allow wheelchair users to enter (i.e., pairs of swinging doors) and an inaccessible revolving door. The revolving door must include a small sign directing visitors to either of the two accessible lakeside entrance options to the right and left and those doors must include a small sign with the International Symbol of Accessibility (ISA) per UFAS 4.1.1(7). The exterior entrance to the Cafe is accessible. The exterior entrance to the Lower Level Lakeside Lobby has a 5/8" high lip at the exterior side of the metal threshold (see Figure 7) which is not beveled per UFAS 4.13.8 & 4.5.2.



Figure 7 - Lower Level Lakeside Lobby Entrance Threshold Lip

2. **Lakeside Picnic Tables** - None of the 5 concrete picnic tables located outside the Cafe entrance door includes accessible knee space per UFAS 4.32.

Lower Level Accessibility Issues

1. **Lakeside Lobby Issues** -
 - a. All stanchion mounted tape barriers in this lobby, with only one retractable tape used as aids for queuing visitors, create a protruding object for blind and visually impaired guests prohibited by UFAS 4.4.1. The use of tape barrier systems with two parallel retractable tapes including one at or below 27" will correct this problem.
 - b. The 42" high service counter under the escalator lacks a lowered portion (28"-34") to accommodate wheelchair users per UFAS 7.2.

⁹³ Above Finished Floor.

- c. Two of the four display kiosks in this lobby are not cane detectable because the underside of the central display panel is higher (at 32") than 27" in violation of UFAS 4.4. An additional horizontal rail at 27" AFF would correct this problem.
- d. The sign (UFAS 4.1.1(7)) outside the entrance door from the parking garage which states "If connector is closed, take Plaza stairs up..." does not offer an alternative accessible route for those with disabilities who cannot use the stairs to get to the front entrance on the street level above. A policy to always have this entrance open when the main street level entrance is open would solve this problem.

2. **Reinberger Auditorium** - The ramp at the stage lacks edge protection, has a 1/2" high un-beveled lip at the bottom and is steeper (at 12.3%) than the maximum allowable running slope of 8.3% per UFAS 4.8 (see **Figure 8**). Additionally, there is no assisted listening system (UFAS 4.1.2(18)(b)) for this assembly area with an audio amplification system.



Figure 8 - Inaccessible Ramp at Reinberger Auditorium Stage

3. **Titanic Exhibit Approach** - All stanchion mounted tape barriers, with only one retractable tape used as aids for queuing visitors in this temporary exhibit ticketing area, create a protruding object for blind and visually impaired guests prohibited by UFAS 4.4.1. The use of tape barrier systems with two parallel retractable tapes including one at or below 27" will correct this problem.

4. **Great Lake Situation Room Auditorium** - The wheelchair seating spaces on the floor at the front of this stadium style seating auditorium and two wheelchair spaces on a bridge at the street level are not integrated into the fixed seating plan and will not provide lines of sight comparable to those for all viewer areas as required by UFAS 4.33.3 (see **Figure 9**). The front wheelchair seating options offer great (even "front row") seating for lab demonstrations, but have very steep sight lines to the screen used for videos/films. The rear wheelchair seating options have sight lines limited by the positioning of the desk enclosures located below and between the demonstration table and these wheelchair locations. Additionally, there is no assisted listening system (UFAS 4.1.2(18)(b)) for this



Figure 9 - Poor Sight Lines in Great Lakes Situation Room Auditorium

assembly area with an audio amplification system.

- Cafe Issues** - There are 65 seating positions in the Cafe (54 movable chairs plus 11 booth seats) and it includes only two accessible seating locations at the booths with 32"x60" tables (see **Figure 10**). All other tables have inaccessible base supports and do not allow adequate toe/knee space required by UFAS 5.1 & 4.32. UFAS requires a minimum of 5% of the seats to be accessible and that will require an additional two accessible tables to be added to the dining room. The coffee thermos dispenser handle is too high (at 57") due to its placement on a stainless steel pedestal (UFAS 5.3). The shelf (see **Figure 11**) under the Coke dispenser (13" out at 30 1/2") and both shelves (see **Figure 12**) at the Pizza/Hot Dog serving area (13" out at 31") are not cane detectable to blind and visually impaired visitors as required by UFAS 4.4.



Figure 10 - Inadequate Accessible Tables in Cafe



Figure 11 - Shelf Below Soda Dispenser is not Cane Detectable



Figure 12 - Lowered Counters Not Cane Detectable

Main (street-level) Level Accessibility Issues

1. **Main Entrance Lobby Issues** - The Omnimax Theater Concessions area included the following UFAS violations:

- a. The 42" high concessions counter (at the cash register) lacks a lowered portion for transacting sales as required by UFAS 7.2. While there is a lowered 30" high section, it is not near the cash register (see Figure 13).
- b. The photo booth opposite the concessions stand has a roof-like element that projects 9" into the circulation route (at the corners) at 73 5/8" AFF and is not cane detectable per UFAS 4.4.
- c. The Freshwater Fury Booth opposite the concessions stand has a wing-like payment element that projects 6 1/2" into the circulation route (at the corners) at 34" AFF and is not cane detectable per UFAS 4.4.



Figure 13 - Omnimax Concessions Counter Not Lowered at Cash Register

2. **Omnimax IMAX Theater Issues** - This stadium style IMAX theater has 324 seats plus six designated accessible seating locations which requires an escort to take disabled visitors who can't use the steps up to the upper level (via elevator) near the Box Lunch Dining Area and up a ramp to the wheelchair seating spaces. These wheelchair seating spaces offer good lines of sight and are integrated well into the fixed seating plan.
 - a. UFAS 4.1.2(18) requires a minimum of eight wheelchair seating locations, so the GLSC does not include an adequate number of wheelchair seating spaces.
 - b. The six wheelchair seating locations are divided into right and left platforms, each served by a different accessible ramp. Unfortunately, neither of these two platforms (at 96" wide between posts) has the 99" minimum width specified by UFAS 4.33.2 because of the placement of the guardrail support posts.
 - c. The wheelchair seating locations closest to the adjoining fixed theater seats in each of these two platforms are not on an accessible route as required by UFAS 4.33.3 & 4.3.3. This is because the angled steps serving higher seats behind these wheelchair seating locations encroach (at 28") into the minimum required 36" wide accessible approach route behind these wheelchair seating locations (see Figure 14).



Figure 14 - Wheelchair Seating (Right Side) Area of Omnimax IMAX Theater has Posts and Stairs Encroaching

- d. There are eight FM-type headsets available at the Box Office and these headsets amplify the audio presentation via an assisted listening system compliant with UFAS. A prominent sign with the appropriate symbol for ALS system headsets would be helpful at the Box Office.
- e. In the main level lobby area of the Omnimax Theater there are ten stainless steel leaning rails used to corral waiting patrons. Each of these leaning rails (with a leading edge at 34") is not cane detectable as required by UFAS 4.4, but could easily be modified by the installation of a lower horizontal rail below 27" AFF (see Figure 15).
- f. All stanchion mounted tape barriers, with only one retractable tape used as aids for queuing visitors in this area, create a protruding object for blind and visually impaired guests prohibited by UFAS 4.4.1. The use of tape barrier systems with two parallel retractable tapes including one at or below 27" will correct this problem.



Figure 15 - Leaning Rails and Stanchions are not Cane Detectable

- 3. **Box Office Issues** - The box office sales counter does have two lowered accessible sales windows to accommodate disabled visitors - confirm that one of these two accessible windows will be open at all times the box office is open.



Figure 16 - Box Office Counter not Cane Detectable

- a. The curved counter design projects more than 4" into the circulation route along the front of the sales counter area at 42" AFF in violation of UFAS 4.4 (see Figure 16).
- b. All stanchion mounted tape barriers, with only one retractable tape used as aids for queuing visitors in this area, create a protruding object for blind and visually impaired guests prohibited by UFAS 4.4.1. The use of tape barrier systems with two parallel retractable tapes including one at or below 27" will correct this problem.

4. **Information Desk Issues** - The 42" high service counter which acts as the central Information Desk lacks a lowered portion (28"-34") to accommodate wheelchair users per UFAS 7.2. Additionally, stanchion mounted tape barriers, with only one retractable tape used screen off rental wheelchairs in this area, create a protruding object for blind and visually impaired guests prohibited by UFAS 4.4.1. The use of tape barrier systems with two parallel retractable tapes including one at or below 27" will correct this problem (see Figure 17).



Figure 17 - Information Counter has no Lowered Accessible Portion

5. **Bio-Med Tech Exhibit Issues** -
 - a. The underside of the CRT positioned below the main area sign wall is not (at 12" out at 30") cane detectable per UFAS 4.4.
 - b. The outside corner of the "Be a Stem Cell Researcher" kiosk projects further than 4" into the circulation route at 30" high in violation of UFAS 4.4.
6. **Central Exhibit Area Issues** - The double doors leading from this exhibit area to the "Volunteer Area" lack a single leaf which will allow the minimum 32" clear passage width required by UFAS 4.13.4.

7. **NASA's John Glenn Visitor Center** -
 - a. The overhanging counters at the Action-Reaction Kiosk (see Figure 18) to the right of the Discovery Stage projects further (at 16") than 4" into the circulation route at 29 1/4" high in violation of UFAS 4.4.
 - b. The overhanging counters at the Shape Floating Kiosk near the Discovery Stage projects further (at 6 1/2") than 4" into the circulation route at 29 5/8" high in violation of UFAS 4.4.
 - c. The Remote Exploration CRT projects further (at 7 3/4") than 4" into the circulation route at 44 1/2" high in violation of UFAS 4.4.



Figure 18 - Action/Reaction Counter not Cane Detectable in Glenn Visitor Center

8. **Gift Shop Issues** -
 - a. The 39" high checkout counter at the Science Store gift shop lacked a lower portion for wheelchair users per UFAS 7.2.

- b. The wood shelf holding Cosmic Observation Projectors is not cane detectable per UFAS 4.4 and projects into the circulation route further (at 13 1/2") than 4" at 41 1/2". This is easily corrected by installing another shelf below this shelf at or below 27" AFF.
9. **Outdoor Exhibition Deck** - The single door located to the right of the Discovery Stage which leads out to the exterior exhibition/activities deck lacks (at approx. 6") the minimum required 18" latch side, pull side maneuvering clearance per UFAS 4.13.6 due to the position of the baseboard heater. This issue is moot if the pair of doors that also lead out to the deck are accessible per UFAS, but we were not able to confirm this during our site visit.

Upper Level Accessibility Issues

1. **Science Phenomena Exhibits** - The following exhibits have elements that project further than 4" into the circulation route between 27"-80" high in violation of UFAS 4.4:
- The retractable tape barriers (37" AFF);
 - "Visual Effects" table (30" AFF);
 - "Delayed Speech" table (30" AFF);
 - "Digital Countdown" table (30" AFF);
 - "MIDI" keyboard (31" AFF);
 - "CB Mic" table (30" AFF);
 - "Pipes of Pan" exhibit (30" AFF);
 - "Headphones" table (30" AFF);
 - "Cloud Rings" overhang (32 1/2" AFF) (see **Figure 19**);
 - "Confused Sea" rim (78" AFF);
 - "Stained Glass Tree" table (30" AFF);
 - "Falling Feather" circular sides (27"+ AFF);
 - "Polariscope" table (30" AFF);
 - "Spinning Table" overhang (28 1/2" AFF);
 - "Gravity Well" (28 1/4" AFF); "Cylinder" table (30" AFF) (see **Figure 20**);
 - "Giant Lenses" display sides only (30" AFF) (see **Figure 21**);
 - "Square Pyramid" table (30" AFF);
 - "Chaotic Pendulum" circular sides (27"+ AFF);
 - "Gears" table (28 1/2" AFF);
 - "Bernoulli Suction" table (30" AFF);
 - "Looking Into Infinity" box mounted on the column (38 1/2" AFF);
 - "Spectra" table (30" AFF);
 - Light Island" table (30" AFF);
 - Triangular Windows" display (40 1/2" AFF);



Figure 19 - Cloud Rings Rim and Confused Sea Rim not Cane Detectable in Science Phenomena Exhibit Area

- "Conductor Grips" display table (30" AFF);
- "Critical Angle" table (30" AFF);
- "Night Scope" table (30" AFF);
- "Laser Pinball" table (30" AFF);
- "Blue Sky" table (30" AFF);
- "Angled Mirror" table (30" AFF);
- "Laser Communicator" table (30" AFF);
- Post mounted "Traffic Lights" display (35" AFF);
- "Domed Traffic Light Display" table (30" AFF);
- Piezo Electricity" table (30" AFF);
- "Bridge of Fire" overhanging top beyond the base cabinets;
- "Board Circuits" table (30" AFF);
- "Jacobs Ladder" table (30" AFF);
- "Energy vs. Power" table (30" AFF);
- the two display tables in front of Demonstration Lab C (30" AFF).

Note - The steps at the "Bridge of Fire" exhibit (see Figure 22) and the large coiling pipe display used to demonstrate sound across space are both inaccessible, but are unique educational displays for which the modification for accessibility would "fundamentally alter" the nature of the scientific experience and Section 504 regulations allow for such exceptions, therefore these displays may remain unchanged provided that alternative information (e.g. a video or other demonstration) is provided in an accessible location.



Figure 20 - Cylinder Exhibit Table not Cane Detectable in Science Phenomena Exhibit Area



Figure 21 - Giant Lenses Display not Cane Detectable in Science Phenomena Exhibit Area



Figure 22 - Steps at Bridge of Fire Display Acceptable under Section 504 Fundamental Alteration Exception

2. Demonstration Labs -

- a. The double doors leading from this exhibit area to Demonstration Lab B (see **Figure 23**) lack a single leaf (at 27 3/8" passage width) which will allow the minimum 32" clear passage width required by UFAS 4.13.4.
- b. The sink in Demonstration Lab A lacks accessible knee space underneath and is set higher (at 36") than the maximum allowable 34" per UFAS 4.24.
- c. The lab counter used for demonstrations in Demonstration Lab B has no lowered accessible portion or auxiliary accessible counter as required by UFAS 4.32.
- d. The audible fire alarm system that serves Demonstration Labs A & C lacks the visual strobe component required by UFAS 4.28.2 to accommodate deaf visitors.
- e. The display tables outside Demonstration Lab C reduce (at approx. 6") the minimum required 18" latch side, pull side maneuvering clearance per UFAS 4.13.6.

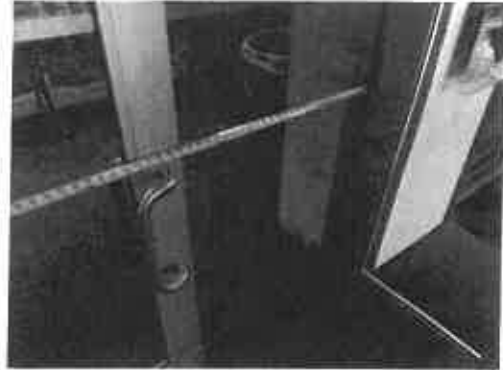


Figure 23 - Narrow Doors to Demonstration Lab B

3. Birthday Party Room - No barriers identified.

4. Polymer Funhouse Area -

- a. The drinking fountain located between the two single-user restrooms which serve this play area is not cane detectable per UFAS 4.4. This is also a barrier related to the accessible egress required from the Polymer Funhouse rear exit door.
- b. There are curved wooden platforms (see **Figure 24**) that reduce (at 28") the minimum 48" width of the push side, latch side maneuvering clearance required by UFAS 4.13.6 at the Polymer Funhouse rear exit door. This door is not only used as part of a required accessible exit route, but is also part of the designated route to the restrooms serving this play area. This exit door also lacks (at 6 1/2") the minimum 18" wide latch side, pull side maneuvering clearance on the opposite side (see **Figure 25**).
- c. The exit door located immediately adjacent to the back door to the Birthday Party Room lacks (at 6") the minimum 12" wide latch side, push side maneuvering clearance for this door with a latch and closer (UFAS 4.13.6).



Figure 24 - Curved Wooden Platforms Block Access to Exit Doors in Polymer Funhouse Area

5. Port Polymer Exterior Deck Tot Lot -

- a. The out-swinging entrance gate to this tot lot area from the designated accessible double doors leading from the Science Phenomena Exhibit space lacks (at approx. 4") the minimum 18" wide latch side, pull side maneuvering clearance required by UFAS 4.13.6.



Figure 25 - Limited Maneuvering Space on Pull Side of Exit Door in Polymer Funhouse Area

- b. The out-swinging entrance gate to this tot lot area appears to have inaccessible "bolt" style hardware without a u-shaped pull per 4.13.9.

- 6. Brown Bag Lunch Area -** There are 16 inaccessible 10 person tables in this Brown Bag dining area (160 total seats) and none of these tables allows adequate 27" knee height (all have supports underneath that allow only 25 1/2" knee height) per 4.32. UFAS 5.1 requires a minimum of 5% or 8 wheelchair accessible seating locations. A simple fix for this problem would be to swap four of the accessible round plywood-top tables from the mezzanine dining area above to the Brown Bag Lunch Area or fabricate new support blocks for the legs of four of the existing inaccessible plastic-top tables so the underside of each of the four tables is 27" high (see Figure 26).



Figure 26 - No Accessible Tables in Brown Bag Lunch Area

7. **Brown Bag Lunch Area Exterior Deck -** There is an inaccessible 5/8" high unbeveled lip (UFAS 4.13.8) on the exterior side of the metal threshold of the entrance door.
8. **Mezzanine Dining Area -** The portable coat rack has ends that project into the circulation routes around it in a manner that is not cane detectable per UFAS 4.4.
9. **Administration Offices -** The only accessibility issue with this secure administrative area is that only a single elevator serves this level, but given that one must be escorted to this area by a staff person having an electronic key to operate the accessible elevator, the remediation can continue to be an operational accommodation and there is no further correction required.

10. **Typical Exit Stair Issues** - Each of the exit stairs includes fire sprinkler stand pipes (see **Figure 27**) that are not cane detectable for blind and visually impaired guests as required by UFAS 4.4. At the lowest level of each of the stair towers, the underside of the metal stairs are not cane detectable for blind and visually impaired guests as required by UFAS 4.4.



Figure 27 - Sprinkler Stand Pipe Valves are not Cane Detectable in Exit Stairs

Public Restroom Accessibility Issues

1. **Room Identification Signage Issues** - With the exception of the Men's and Women's restrooms serving the Administration Offices, all restroom signs lack raised letters required by UFAS 4.30.4. For the restrooms serving the Lower Level lobby, the signs are not mounted on the wall to the latch side of the door as specified in UFAS 4.30.6 (see **Figure 28**).
2. **Restroom Entry Door Issues** -
- a. At the following restrooms the wall-mounted drinking fountains were not cane detectable and would be a barrier for blind and visually impaired visitors in violation of UFAS 4.4:
 - Lower Level Restrooms by the Situation Room;
 - Upper Level Restrooms by the Exhibits;
 - Brown Bag Lunch Area Restrooms on the Upper Level;
 - Birthday Room Restrooms on the Upper Level.



Figure 28 - Typical Restroom Signs Lack Raised Letters as Required by UFAS

Note that the Lower Level and Main Level restroom drinking fountains are set within an alcove which exempts them from being protruding objects per UFAS Fig. 8(e).

- b. At the Men's and Women's Restrooms on the Upper Level Exhibit Area, the two drinking fountains encroach 25" into the minimum 48" wide push side, latch side maneuvering clearance specified by UFAS 4.13.6 (see Figure 29).
 - c. The entry door to the Upper Level Exhibits Women's Restroom lacks (at 17") the minimum required 18" pull side, latch side maneuvering clearance specified in UFAS 4.13.6.
 - d. The interior vestibule entry door to the Upper Level Women's Restroom in the Administration Office lacks (at 13") the minimum required 18" pull side, latch side maneuvering clearance specified in UFAS 4.13.6 (see Figure 30).
3. **Lavatory Insulation Issues** - The following restrooms lacked insulation on drain and hot water supply pipes as required by UFAS 4.19.4:
- a. Lower Level Lobby Men's and Women's Restrooms
 - b. Lower Level Situation Room Women's Restroom
 - c. Main Level Exhibits Men's and Women's Restrooms (see Figure 31)
 - d. Upper Level Birthday Room Men's Restroom



Figure 29 - Drinking Fountains Block Access to Restroom Doors at Upper Level Exhibits Area



Figure 30 - Interior Vestibule Door Lacks 18" Pull Side Clearance at Women's Restroom in Administration Suite

- e. Upper Level Exhibit Men's Restroom
- f. Upper Level Brown Bag Lunch Men's Restroom
- g. Upper Level Administration Women's Restroom



Figure 31 - Typical Hot Water and Drain Pipes without Insulation (Men's Room on Main Level Exhibits Area)

4. **Feminine Napkin Dispensers** - All of the Women's restrooms had feminine napkin dispensers having round knob hardware requiring tight pinching to operate and the coin slot was mounted above the maximum 54" reach range of wheelchair users in violation of UFAS 4.27.
5. **Protruding Objects in Restrooms** - All of the Women's restrooms included feminine napkin dispensers that were not cane detectable and projected 5" into the circulation route above 27" in violation of UFAS 4.4. Other protruding object barriers were found in the following restrooms:
 - a. Lower Level Situation Room Men's & Women's Restrooms - Hand dryer 7" out at 37" AFF
6. **Urinal Access issues** - The urinal screens in the following Men's restrooms lacked the minimum required width per UFAS 4.18.3 & 4.2.4.2:
 - a. Lower Level Situation Room Men's Restroom with 30 3/4" width
 - b. Upper Level Administration Men's Restroom with 29 1/2" width
7. **Accessible Toilet Stall Issues** -
 - a. All accessible toilet stall doors lacked accessible pull hardware on the interior side of out-swinging stall doors as required by UFAS 4.17.5.
 - b. The stall door coat hook in the following restrooms was mounted higher than 54" per 4.22.7:
 - Lower Level Situation Room Men's Restroom;
 - Upper Level Birthday Room Men's Restroom;
 - Upper Level Birthday Room Women's Restroom.
 - c. The 57 1/2" width of the accessible toilet stall in the Main Level Exhibits Women's Restroom is less than the minimum required 60" width specified by UFAS 4.17.3 (see Figure 32).
 - d. The accessible toilet stall door has a door stop that hits the adjacent baseboard heater in a manner that allows less (at 26 1/4") than the minimum 32"



Figure 32 - Accessible Stall too Narrow (57-1/2") in Women's Main Level Exhibit Area

clear passage width into the stall as specified by UFAS 4.17.5.

- e. The front end of the side grab bar in the accessible stall of the Men's Restroom on the Upper Level Exhibit Area is positioned closer to the back wall (at 46") than the minimum 54" required by UFAS 4.17.6.
- f. The center of the toilet in the accessible stall of the Women's Restroom on the Upper Level Exhibit Area is positioned further (at 19 1/2") than the 18" specified by UFAS 4.17.3.
- g. The center of the toilet in the accessible stall of the Women's Restroom on the Upper Level Administration Area is positioned further (at 19 3/8") than the 18" specified by UFAS 4.17.3.
- h. The configuration of the accessible toilet stall in the Women's Restroom on the Upper Level near the Brown Bag Lunch Room is inaccessible because the door is not diagonally opposite the toilet position as specified in UFAS 4.17.3. This is due to the angled wall created by the adjacent Omnimax Theater layout and can easily be corrected by reconfiguring the placement of the stall door so the partition into which the door is set is perpendicular to the Theater wall (see Figure 33).

- 8. Baby Changing Stations** - In each restroom having a baby changing station, the height of the work surface when the table is folded down is higher (typically 37") than the 28"-34" range specified in UFAS 4.32. Note that when considering relocation options for these inaccessible stations, the 2010 ADA Standards do not allow these stations to be included within the clear floor space of accessible toilets.



Figure 33 - Stall Door Not Diagonally Opposite Toilet Due to Angled Omnimax Wall

9. **Paper Towel Dispenser Issues** - The handle for the paper towel dispenser in the Lower Level Situation Room Men's and Women's Restrooms is mounted higher (at 58") than the maximum 54" reach range allowed by UFAS 4.22.7.
10. **Mirror Height Issues** - The bottom of the reflecting surface of the mirror in the Women's Restroom serving the Birthday Party Room is higher (at 41 5/8") than the maximum 40" specified by UFAS 4.19.6.

Steamship William G. Mather Accessibility Issues

The unique quality of a museum within an antique steamship (see **Figure 34**) makes the matter of accessibility at this facility very challenging. While access is limited to one main display area and the service counter located up a ramp from the adjacent dock, there is little else that can be done to physically improve the accessibility of this ship. The Center operates guided and self-guided tours of the steamship during temperate months.⁹⁴ In addition, they also provide seating on the deck of the ship for air shows and fireworks displays.



Figure 34 - Limited Accessibility Provided at the Steamship William G. Mather

While the Center has some information about the ship in its bookstore and on its website,⁹⁵ the Center needs to do more to provide alternative access for people with disabilities. An interpretive video with open captions and other alternative format materials that can explain the history and nature of the ship to those with disabilities who cannot use the steps necessary to tour most of the spaces would be an acceptable approach to providing program accessibility under Section 504. In addition, balcony seating in the Center's building should be made available to people with disabilities as an accessible alternative to deck seating during air shows and fireworks displays.

Currently, the Center does not publicly display a video describing the interior of the ship, although one may have been made in the past.⁹⁶ During our site visit, several staff members saw no reason why the Center could not provide an informational video kiosk that included a description of the inaccessible areas of the ship.⁹⁷

⁹⁴ Interview with Amanda Taunt, Sonja Jenkins, and Jamie Wroten (Nov. 13, 2013).

⁹⁵ Interview with Amanda Taunt, Sonja Jenkins, and Jamie Wroten (Nov. 13, 2013)

⁹⁶ Interview with Gordon Milne (Nov. 12, 2013).

⁹⁷ Interview with Gordon Milne (Nov. 12, 2013); Interview with Amanda Taunt, Sonja Jenkins, and Jamie Wroten (Nov. 13, 2013).

Promising Practices

There are two key "promising practices" related to architectural accessibility evident at the Great Lakes Science Center.

- First, the primary entrance doors at the front entrance and the entrance from the garage (see **Figure 35**) include automatic door openers to aid individuals with mobility impairments with entering the spaces.
- Second, additional accessible parking is provided at the passenger drop-off near the main front entrance.



Figure 35 - Automatic Doors

Upcoming Changes by the City of Cleveland

The City of Cleveland has an RFP to develop the lakefront property adjoining the Center. These changes would likely impinge on the Center's operations and may create both opportunities and challenges for accessibility.⁹⁸ For instance, over the next 2-3 years, likely projects will include construction of a pedestrian covered bridge and the development of the space adjoining the Mather steamship (approximately 20 acres of space). The Center needs to be particularly mindful that these changes may trigger obligations under Section 504 and the ADA, as they will be considered new construction and alterations. In addition, they may also trigger "path of travel" obligations if they affect primary function areas in the Center.

⁹⁸ Interview with Kirsten Ellenbogen (Nov. 12, 2013).

Appendix A: Grievance Process

The grievance process developed by Amanda Taunt states:

Procedure: GLSC Grievance Procedure for Section 504 Program Beneficiaries

Procedure Number:

Revised: May 2013 – Draft

It is the policy of Great Lakes Science Center not to discriminate on the basis of disability. Section 504 of the Rehabilitation Act of 1973 prohibits discrimination on the basis of disability in any program or activity receiving Federal financial assistance. Great Lakes Science Center has an internal grievance procedure providing for prompt and equitable resolution of complaints alleging any act prohibited by Section 504 of the Rehabilitation Act of 1973 (U.S. C. 794) of the U.S. Department of Health and Human Services regulations implementing the act.

1. A grievance is a written complaint by a museum visitor that Great Lakes Science Center has violated Section 504 of the Rehabilitation Act.
2. All grievances must be submitted in writing to Guest Services Manager, Amanda Taunt, within seven (7) days of the date of the alleged discriminatory action.
3. All grievances must:
 - a. Include the name and address of the person filing it
 - b. Identify the affected individuals
 - c. Describe the problem or action alleged to be discriminatory
 - d. Identify the date of the alleged violation
 - e. Include a description of the remedy requested
4. Guest Services Manager, Amanda Taunt, will conduct an internal investigation of the complaint. The investigation may be informal but will be thorough and include the following:
 - a. The complaint will be documented in the organization's Guest Feedback log.
 - b. The complaint will be brought to all related departments.
 - c. All interested departments will be provided an opportunity to submit evidence relevant to the complaint.
 - d. All records of investigation will be maintained.
5. Amanda Taunt, Guest Services Manager, will issue a written decision on the grievance and requested remedy no later than thirty (30) days after its filing.
6. The person filing the grievance may appeal the decision by writing Dr. Kirsten Ellenbogen, President & CEO, within fifteen (15) days of receiving the decision. Dr. Kirsten Ellenbogen will issue a written decision in response to the appeal no later than thirty (30) days after filing of the appeal.
7. The availability and use of this grievance procedure does not prevent a person from filing a complaint of discrimination on the basis of disability with the U.S. Department of Health and Human Services, Office of Civil Rights.

Great Lakes Science Center will make appropriate arrangements to ensure that disabled persons are provided other accommodations, if needed, to participate in this grievance process. Accommodations may include, but are not limited to assuring a barrier free location to submit a grievance, providing written material or interpreters for the deaf, or providing audio recordings of the material for the blind. Amanda Taunt, Guest Services Manager, will be responsible for such arrangements.