

**National Park Service  
Chesapeake & Ohio Canal National Historical Park  
Accessibility Review of Exhibits  
September 5-6, 2007  
U. S. Fish and Wildlife Service  
National Conservation Training Center**

**Improving Exhibits for Visitors with Disabilities  
Harpers Ferry Center Initiative to  
Enhance Programmatic Accessibility in Museum Exhibits**

**November 2007**

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**Executive Summary**

**Introduction:**

Harpers Ferry Center (HFC) was approached by the Superintendent of the Chesapeake & Ohio (C&O) Canal, requesting the Center evaluate, for enhanced accessibility, the final exhibit designs of two visitor centers, Great Falls Tavern and Georgetown Visitor Center.

The goal of this project was for Harpers Ferry Center to enhance accessibility in existing final exhibit designs and serve as a resource for parks wanting to enhance accessibility in existing exhibits. *(For the purposes of this initiative, “accessibility” refers to accommodations for visitors with hearing, sight and physical impairments.*

The objective was to be accomplished by inviting accessibility specialists to participate in a focus group to evaluate and recommend alternatives for these two projects along with review of a new wayside panel and large print park folder. Accommodations were provided for this group by using assistive listening devices for the panelists with sight impairments along with two sign language interpreters for the panelist with hearing impairments.

The workshop was held at the U. S. Fish and Wildlife Service, National Conservation Training Center on September 5 and 6. Thirty-seven individuals were invited to attend which included the five Accessibility Specialists, C & O Canal representatives, Harpers Ferry Center staff, regional representatives, two sign language interpreters and a facilitator. The design contractor for the Great Falls Tavern and Georgetown Visitor Center, EDX, represented by David Edquist and Charles Davis, presented their designs for the two exhibit projects.

**Great Fall Tavern Presentation by EDX**

EDX introduced the session reviewing the Principles of Universal Design which served as the foundation for evaluating both exhibit designs. EDX presented the Great Falls design including themes, visitor experiences, design characteristics and design requirements for the historic, nineteenth century building. After the presentation by EDX, the panelists were invited to give their reactions to the individual designs with the intent to improve the designs for programmatic accessibility. Following are some specific reactions from the Accessibility Specialists to the Tavern design.

## **Great Falls Tavern:**

### **Ray Bloomer** (Accessibility Specialist)

Low vision visitors require special fonts and sizes. There must be some level of audio description. There must be hands-free use because of touchable models. Tactile models should reflect formations, topography. Look at all information to ensure everything is communicated through touch.

### **Marsha Mazz** (Accessibility Specialist)

A lot of visitors will have macular degeneration (age-related loss of vision, etc.). We need to commit to conveying all the detail on these panels for those who are unable to read. There needs to be a hands-free option for those who learn through touch. Details are lost if they are too small or too complicated. Fragility and security issues are concerns when it comes to touchable exhibits. Back lighting does not help. Lighting issues include walking from pools of darkness to light. Task lighting is for common person not for those with impairments. Audio delivery mechanism should be relatively passive, hands-free, transparent, should not require any visual aspects. No numeric systems.

### **Bill Morgan** (Accessibility Specialist)

Lower the heights for table top displays and at an angle for children in wheelchairs. People may not visit displays in the same order or manner. Persons (including children) with other disabilities like Autism need texture. Actual clothing that can be felt or touch could be more effective. Olfactory experience is important. MP3 or Nano can be good examples of audio delivery.

### **Patricia Beech** (Accessibility Specialist)

Open captioning should be provided. Provide DVD or video for sale that has closed captioning. Position panels for reading accessibility for all (short and tall people).

### **Beth Ziebarth** (Accessibility Specialist)

Provide multi-sensory experiences (universal design). Need to provide audio and context for exhibits. Delivery should be provided without the need of assistance (interpreters, etc). Talking signs would be effective.

EDX noted the comments and recommendations from the Accessibility Specialists and the participants and incorporated them into the specific elements of the design. EDX generated drawings to illustrate their solutions to the specific programmatic concerns voiced by the group. They presented the revised design the following day and were well received.

## **Costs to execute these design and fabrication enhancements to improve accessibility:**

Original Planning and Design	\$110,000
Adjusted Planning and Design	18,905
New Total Cost	\$128,905
Original Fabrication Costs	\$330,000
Adjusted Fabrication Costs	48,204

New Total Cost	\$378,204
Additional Park Design Revisions	\$ 1,005

**These costs are specific to this project and the operational environment of the site.**

**Georgetown Visitor Center Presentation by EDX**

EDX then presented the designs for the Georgetown Visitor Center (VC), a small townhouse located in the historic district of Georgetown in Washington, DC> During the feedback session, it was noted by both the Accessibility Specialists and the participants that program accessibility, in the small facility, was a real problem. The park recommended reducing the scope and functions of the space and requested EDX to offer alternative ways to redesign. Three different alternatives were generated by EDX and presented to group. The park will select an alternative at later date. (See details of the three alternatives and cost estimates in the Accessibility Review Report.)

**Conclusion for Programmatic Accessibility Review**

Upon completion of the two reviews, the group concluded that the Principles of Universal Design are important to achieve programmatic accessibility. EDX had enhanced the use of these principles in preparing the revised designs for the Great falls Tavern and the Georgetown VC.

The group learned that attention to accessibility is part of the process and not an afterthought. Programmatic accessibility should be included at the front-end of planning and integrated into the building, lighting, and signage of the plan. Exhibits should be multi-sensory: provide information in numerous ways; appeal to different learning styles, abilities and interests; and be redundant. It was clearly noted that accessibility needs to be rooted in the “core message” and be part of the “meat” not the “fluff.”

The group also learned that visitors with sight impairments typically travel to parks with a companion, however both want to enjoy their own individual experience. Visitors with sight limitations do not wish to place the interpretive burden on their companion. Multi-sensory, redundant exhibits, with hand-free devices that allow for the tactile experience, could solve this concern and also enhance accessibility to all visitors, emphasizing the importance of using the Principles of Universal Design.

**Next Steps**

It was acknowledged that the workshop was a first-of-its-kind review for programmatic accessibility in the Service. A discussion on evaluation of the results of this workshop and how to share this information to other offices and parks resulted in the following action items:

- Publish results in HFC OnMedia
- Use process as template for the future
- EDX will take revisions and do cost estimates to present to park
- A detailed report with graphics will be placed on line
- Report will be linked to HFC Accessibility Guidelines

- HFC hopes to have redesign of both spaces done by the summer of 2007
- Recommended that all designers including IDIQ contract planners and designers attend accessibility training; could be a condition of the contract

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**Improving Exhibits for Visitors with Disabilities  
Harpers Ferry Center Initiative to  
Enhance Programmatic Accessibility in Museum Exhibits**

**Introduction:** The goal of this review was for Harpers Ferry Center (HFC) to enhance accessibility for two existing final exhibit designs and serve as a resource for parks wanting to enhance accessibility in existing exhibits. *(For the purposes of this initiative, “accessibility” refers to accommodations for visitors with hearing, sight and physical impairments).*

The objective was to investigate opportunities for enhanced accessibility in existing exhibits by inviting accessibility experts to participate in a focus group to evaluate and recommend alternatives for two museum exhibit final designs.

**This initial, first of its kind, accessibility workshop produced specific outcomes and there may be aspects of these outcomes that can be broadly applied as HFC obtains more data.**

**Background:** HFC was approached by the Superintendent of the Chesapeake & Ohio (C&O) Canal, requesting the Center to evaluate, for enhanced accessibility, the final exhibit designs of two visitor centers, Great Falls Tavern and Georgetown Visitor Center. Since these facilities are located in the Washington D.C. area, offer high visibility, and have final exhibit designs, the opportunity to analyze for enhanced accessibility, make recommendations for supplementary components, and conduct summative evaluations was identified as beneficial to both park and HFC. A decision to initiate a focus group to engage in a discussion on this issue was made on May 11, 2007.

**Implementation:** Using the C&O Georgetown Visitor Center (VC) and Great Falls Tavern as case studies, HFC convened a focus group to review the final exhibit plans and make detailed recommendations, citing deficiencies, in an attempt to enhance exhibit accessibility. General participants observed and learned from the focus group. A facilitator served as meeting manager with a recorder documenting the sessions of the accessibility review. (See Attachment 1 for complete agenda).

Five individuals were invited to serve as members of an Accessibility Specialists Panel to provide feedback and ideas for both of these projects. Accommodations were provided for this group by using assistive listening devices with simultaneous audio description for the panelists with visual impairments along with two sign language interpreters for the panelists with hearing impairments.

Participants at the accessibility review included the following three groups:

**Accessibility Specialists:** This panel was selected based on their professional and personal experiences with disabilities.

Beth Ziebarth, Director, Smithsonian Institution Accessibility Program

Bill Morgan, the League for People with Disabilities Inc., Camp Greentop, Catoctin Mountain Park

Marsha K. Mazz, Technical Assistance Coordinator, U.S. Access Board

Patricia Beech, Former President of Veditz Chapter of American Sign Language Teachers Association

Ray Bloomer, Director of Education and Technical Assistance, WASO Accessibility Office

**Contractors:** Edquist Davis Design (EDX) was selected because they had prepared the original designs and are an IDIQ contract with HFC. EDX has worked with HFC for nine years and have completed projects including Arches National Park, Wrangell-St. Elias National Park and Preserve; John Muir National Historic Site, Bandelier National Monument, Big Bend National Park, and others.

David Edquist, EDX

Charles Davis, EDX

### **Participants:**

This group included NPS professionals from throughout the Service with an interest in accessibility in exhibits and current involvement in facility improvements. (See Attachment 2 for a complete list).

### **Process for Accessibility Review**

The process used to obtain the outcomes desired, centered on the review, feedback and recommendations offered by the panel of Accessibility Specialists. (Information, including design layouts for both projects, was provided to the Accessibility Specialists prior to the workshop.) The process included the contractor, EDX, introducing the Universal Design principles, presenting the two exhibits projects, followed by a panel discussion by the Accessibility Specialists, who would provide their individual comments and suggestions to improve accessibility. This was to be followed by a general discussion by all participants.

Three questions were developed for the Accessibility Specialists to frame their responses:

**1.** As planners and designers, we strive to incorporate universal design principals into our projects rather than creating "separate or special" exhibits. Based on your personal experiences at parks and museums and your professional expertise:

- How successful are the C&O exhibits in providing effective communication?
- What specific recommendations can you suggest for improving them?

2. Accommodating the needs of visitors who are blind or visually impaired is one of the biggest challenges to exhibit design.

- In general, what are some of the best ways to design exhibits to serve individuals who are blind?
- What specific recommendations can you suggest for improving the experience of people who are blind at the C&O Canal exhibits?

3. Recognizing that people who are blind are very different from those with various degrees of visual loss.

- In general, what are some of the best ways to design exhibits to serve individuals who have various degrees of visual limitations?
- What specific recommendations can you suggest for offering the intended interpretive experience to this audience in the C&O Canal exhibits?

### **Universal Design Principles**

These design principles were used as the framework for evaluating the two exhibit designs.

Universal Design principles help ensure that products and environments to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design. These guidelines were established to guide a wide range of design disciplines including environments, products, and communications. The seven principles may be applied to evaluate existing designs, guide the design process, or educate both designers and consumers about the characteristics of more usable products and environments.

The seven principles are: (For more details see Attachment 3)

1. Equitable Use
2. Flexibility in Use
3. Simple and Intuitive
4. Perceptible Information
5. Tolerance for Error
6. Low Physical Effort
7. Size and Space for Approach and Use

## **Great Falls Tavern Presentation by EDX**

EDX provided a description of the site and historic structure. The building was constructed in three sections over the course of many years and housed exhibits in the three rooms on the first level. For the benefit of educating the participants, EDX gave a brief overview of the visitor experience, themes and type of visitors to the site:

### **Visitor experience:**

- See the gracious architecture of the Tavern
- Visit the nearby Great Falls Rapids
- Come to learn about canal and operations
- Learn about C&O Canal
- Participate in recreation activities

### **Primary audience:**

- Incidental visitors
- Recreationists
- Great Falls natural visitors, interested in history

### **Themes:**

- Construction and operation provided hope and opportunity for people shaping their lives and the landscape.
- Provides exceptional historical, natural and recreational resources for people to enjoy

### **Key Topics:**

- Life on the Canal and Potomac
- Natural Features of the Potomac Gorge
- Engineering and construction
- Flooding
- Creating a Park: the National Park Service and citizen-cased effort
- Orientation to Great Falls and the park

## **Design Requirements for Creating Original Exhibits at Great Falls Tavern**

After presenting the goals and themes for the new exhibits, EDX then reviewed their requirements for creating the exhibits. The Accessibility Specialists and participants listened to those requirements for the new exhibits and were to react once the presentation concluded. These requirements included:

- Exhibits must be portable
- Must be able to pack and ready to move within 6 -12 hours due to potential flood hazards
- Must fit through door
- Must fit in back of pick-up truck
- Size and weight should be restricted so that it can be moved by 2 people
- Period-inspired pieces placed throughout

## **Characteristics of Tavern Original Design**

### **Tavern Room design included:**

Existing conditions of Tavern: It is undergoing renovations. All doors but one will be accessible.

- Exhibits- there is a lot that is touchable
- Tactile/touchable model and boat. Tables are easily moved in case of a flood.
- Series of models on table
- Replicated bar and information desk
- Structures mounted on panels for dimension
- Period-inspired furniture – chairs, desk, hat rack

### **Center room design included:**

- Life on the canal
- Six sculptures that are monochromatic, touchable, all clothed
- Objects that have sculptures are in color
- Paintings

### **Natural History Exhibit Room:**

- Large model in middle of room is a tactile topographic model of the gorge
- Interpretive panels
- Topographic model exhibit with panels around mounted on cable system not on wall
- Chairs set up like an audio room
- Lighting

## **Individual Responses from Accessibility Specialists on the Great Falls Tavern Original Exhibit Presentation by EDX:**

After the presentation by EDX, the panelists were invited to present their reactions to the individual designs with the intent to try and improve the original designs for programmatic accessibility. Following are some specific reactions from individuals on the panel:

### **Ray Bloomer:**

Low vision visitors require special fonts and sizes. There must be some level of audio description. There must be hands-free use because of touchable models. Sizes of models – are they designed and textured for persons with low vision (in addition to audio description)? One of the models is textured the other is not. Enhance map for entire canal. Look at all types of information and utilize map or design another map (is the information being effectively communicated through touch?). Tactile models should reflect formations, topography. Look at all information to ensure everything is communicated through touch. All dimensions need to be reachable. Maps may be too big to maintain perspective (children). Lighting is problematic. Natural lighting is a real problem (open windows). Glare will be an issue. Contrast and size should all be taken into consideration.

### **Marsha Mazz:**

A lot of visitors will have macular degeneration (age-related loss of vision, etc.). All the graphic panels have a “sea of words”. How can words be conveyed? Should there be a large print brochure? We need to commit to conveying all the detail on these panels for those who unable to read. If not, it omits the whole story. Cell phone technology to delivery message or tell story

can be costly to user in minutes and would deplete battery. There needs to be a tactile element to accommodate those who learn through touch. Context is important for any museum exhibit. Details are lost if they are too small or too complicated. Exhibit and building lighting must be integrated. Fragility and security issues are concerns when it comes to touchable exhibits. Back lighting does not help. Lighting issues include walking from pools of darkness to light. Task lighting is for common person not for those with impairments. Audio delivery mechanism should be relatively passive, hands-free, transparent, should not require any visual aspects. No numeric systems.

**Bill Morgan:**

Lower the heights for table top displays and at an angle for children in wheelchairs. People may not visit displays in the same order or manner. How do you work around that? Persons (including children) with other disabilities like Autism need texture. Shorten 12 minute movie for those with short attention span. Actual clothing that can be felt or touch could be more effective. Olfactory experience is important. MP3 or Nano can be good examples of audio delivery.

**Patricia Beech:**

Open captioning should be provided. Provide DVD or video for sale that has closed captioning. Position panels for reading accessibility for all (short and tall people).

**Beth Ziebarth:**

Provide multi-sensory experiences (universal design). Need to provide audio and context for exhibits. Delivery should be provided without the need of assistance (interpreters, etc.). Some people would like to go alone. Evaluate the pros and cons of each type of audio delivery. Talking signs would be effective.

**General Responses to the Original Tavern Exhibit Plan from the Accessibility Specialists Included:**

- Video without sound track needs signage label for explanation
- Open captioning on all video
- Readability of graphics is difficult on flat surface
- Convey tiny details for those with low vision or blind
- Joe Weddel at University of Maryland does map making for the blind
- Lighthouse for the Blind in New York is good resource
- Topographic map to be tactilely accessible
- Canal boat models must be tactile
- Tell visitors about issues impacting visitor center i.e. flooding
- Back lighting does not help with reading small text – need larger text
- Need audio version of panel text
- Provide context for tactile displays through audio description
- Consider using docents for information
- The 4' x 6' map may be too large for a child
- Uniformity in lighting
- Sunlight can affect those with low vision, prefer low lighting

- Good universal design reaches broader groups of people
- Provide olfactory senses – smell like a tavern
- Audio – indicate where each exhibit stop is at, a one track system
- Videos open captioned and provide audio description
- Signage should be provided for those who are hearing impaired
- Impressed with care and consideration of team for universal design and delivery providing very effective communication
- Good at providing touchable materials

After the panelists concluded, a general discussion by all participants followed. Below are the comments and suggestions to enhance the exhibits:

- Chairs do not have any arms. Hard to get out of for amputees, those with canes, etc.
- Braille is not widely used. Most low vision people were educated with audio materials not Braille. Therefore, those people have trouble with spelling, sentence structure. Braille is the most efficient and provides people with a lot of independence. Easier for those who need audio assistance.
- Map heights – Is there a min/max limit? 48”- 60” suggested.
- Multi-lingual audio descriptions
- Are there certain colors that enhance/diminish? Red is not an optimum color choice. High contrast is good most of the time.
- We don’t want to talk down to people with an intellectual disability. Provide layers of information. Start out with basics, and then go more specific. That works well with multi-lingual information, too.
- Redundancy is key as far as text and audio. Something may not be able to be redundant (example: whale sounds), but we need to let the audience know that
- Audio loops can be created for sound sticks
- Primary consideration must be 504 regulations
- Possible audio interference from multiple systems
- If all displays are on second floor will they be accessible to everyone
- How do visitors determine if an exhibit is touchable without sounding any alarms
- Communicate themes tactilely

### **Great Falls Tavern: Presentation of Revised Sketches by EDX**

EDX took the comments and recommendations from the Accessibility Specialists and the participants and incorporated them into the specific exhibit elements. EDX adjusted those design elements to enhance programmatic accessibility. They generated drawings to illustrate their responses to specific concerns. (These drawings are identified as attachments to this report).

**Main points and revisions: (Comments in red are the responses by EDX to suggested changes)**

- Provide signage for silent video. “no audio”
- Provide open-captioning and audio description. (given)
- Text oriented to seated visitor
- Exhibit 10 - no change; lock model touchable boat and mule provides context (Attachment 4)
- Exhibit 11 – Large boat model open on one side – touchable from both, labels on both (Attachment 4)
- Exhibit 12 – Included tactile models (Attachment 4)
- Exhibit 17 – Label repeated on each side. One recipe with lift door to smell experience (cider, ginger). (Attachment 5)
- Exhibit 18 – Text split in two, opposing.
- Exhibit 19 – Text shortened, brought to bottom panel facing.
- Hands free audio. To be determined.
- Olfactory experience but not ambient (Attachment 5)
- 50% of chairs should have arms and backs. Yes.
- Table top displays are reachable by those with limited mobility – Maximum reach of 18”. (Attachment 5)
- Tactile models should reflect park story and utilize texture and dimension. Three tactile models one of the 184 mile park, one of Great Falls site (buildings, falls, parking lot) one of tavern. Tavern model shows exhibit elements to assist visitors with sight impairments to navigate through the exhibit. Above is a motion-activated sound cone that describes the three models. A barge becomes the scale. (Attachment 6)
- Titles and text at eye level. Will relook at text
- Convey text and detail through touch. See previous examples.
- Lighting must be coordinated. Agree but not in scope of project.
- Canal boat model needs to be tactile. Smaller model would be the whole. Larger model used to gather detail.
- Tactile model connected to audio description. Relief model of Potomac watershed. Touch-activated audio interpretation of recreation and natural history stories related to relief model. Reading rails on floods and geologic zones. Recessed river provide key to model. Zones with different textures. (Attachment 7)
- Short videos for those with low attention span. “1917 Thomas Edison movie of barges on canal. No audio”.
- Field of vision for text. Reading zone currently 36-72”. Will look at rewrites and graphic design to emphasize intro paragraph in 48-60” zone.
- Provide multi-sensory experience for each major idea. Add audio experience. See above.
- Map needs to be narrowed. Currently 3’-10”x5’0”. Narrowing it to 3’ wide with graphics at ends.
- Integrate an audio description tour. Which audio approach will be determined.

- Passive audio device. **Motion detectors on touchable relief models. Overall system to be discussed.**
- Give graphics a detailed review. **See above.**
- Audio in middle room. **Three options:**
  - **Ambient**
  - **Audio from each mannequin**
  - **Individual sound wands accompanying each unit providing summary of interpretive information**

During the presentation of the revisions to Great Falls Tavern by EDX, the panelists and participants reacted most favorably. Following are some general comments:

- Angled tables work better for wheelchair users
- Revised tables give sense of story exploration
- Middle room - place tactile instruction on map to pick up sound wand

EDX had enhanced the exhibit elements and were now charged with making the revisions to the final drawings.

### **Costs**

Costs were developed to make the programmatic adjustment to the designs:

Original Planning and Design	\$110,000
Adjusted Planning and Design (from review)	18,905
New Total Cost for Planning and Design	\$128,905
Original Fabrication Costs	\$330,000
Adjusted Fabrication Costs (from review)	48,204
New Total Cost for Fabrication	\$378,204

**NOTE: THESE COSTS ARE SPECIFIC TO THIS PROJECT AND THE OPERATIONAL ENVIRONMENT OF THE SITE.**

### **Accessibility Specialist and Participant Discussion on Great Falls Tavern Audio**

The group had a discussion directed at ideas and solutions for improved audio for use by persons with disabilities:

The question was asked: What is the nature of audio for an interpretive experience? Potential solutions included:

- sound scapes
- orientation for visually impaired visitors
- Cone over map triggered by ranger or by map. (Can lead to problems. People may think either is not working.) Alyssa would like to see them able to run at the same time. They are far enough away from each other. Shut off map only when a ranger is in the room to explain.

- Build in multiple ways to deliver information in small spaces
- Sound with tactile motion activated continuous loop
- Assistive listening system, trip system when coming through door
- Written meanings need to be conveyed in other ways to different user groups i.e. Deaf or hearing impaired
- All content available through multiple delivery systems, the user chooses system to use
- Hard surfaces reflect ambient audio
- Audio devices (sound sticks, etc.) have cost and maintenance issues
- Use ambient sound on mannequins
- Map must have audio, could be cone over map or activated by ranger
- Map dome and video audio need to run at same time
- Sound dome for orientation map
- Two additional sound devices at engineering and economic story
- Ambient track for “life on the Canal”
- Speaker in Natural History Room with map tripped tactilely
- Concepts need to be covered for all stories that need to be told

Some audio delivery options that were offered as solutions included:

- Sound Sticks
- Ambient audio in center room with speakers
- Sennheiser system (Guideport)
- Induction loops
- Talking signs
- Dome for orientation map. (tripped)
- Sound sticks for Economic and Engineering room
- Ambient sound for mannequin area. (needs to be tripped)
- Natural history room: speaker system with map tripped tactilely
- Sound system for video minimizing interference with map

## **Georgetown Visitor Center Presentation by EDX**

For the benefit of educating the participants, EDX gave a brief overview of the visitor experience, themes and type of visitors to the site:

It is a very small building and located in the historic district of Georgetown in Washington, D.C. The exhibit space is about 350 sq. ft.; the lobby about 100 sq. ft.

### **Primary audiences:**

- Families
- Couples
- Individuals
- School groups

### **Main park themes:**

- Major eastern corridor and crossroads.
- Historical, natural treasure.

### **Exhibit themes:**

- Place for trade
- Georgetown's evolution
- Life on the canal
- Canal construction
- Place of beauty

## **Design Requirements for Creating Original Exhibit Plan for Georgetown VC**

After presenting the goals and themes for the new exhibits, EDX reviewed their requirements for creating the exhibits. The Accessibility Specialists and participants listened to these requirements for the new exhibits and reacted once the presentation concluded. The requirements were:

### **Characteristics of Georgetown VC Original Exhibit Plan**

#### **First floor:**

Very narrow width. Public area and visitor's desk can not both be wheelchair accessible. It had to be one or the other. Public area is accessible. Desk is accessible from visitor's side, not by staff members that are wheelchair bound.

**Corridor:** A lot of graphics, flip panels. No room for 3-D objects because of wheelchair lift. Largely, a graphic exhibit.

**Second floor:** Video with short films. Hands-on displays. Lock design and operation. A hall tree (a 19<sup>th</sup> century device to hold clothes usually with a mirror, place to sit.)

**General:** Most all tactile experience is in one area. Includes replica of hatch cover, clothed mannequin (fabric clothing in period). Replica of posts for boat docking with a rope, mule

collar, coal, wood, a barrel, and a model of canal boat. Exhibit panel of canal boat. There is a series of panels that float at different heights.

### **Responses from Accessibility Specialists and Participants to Georgetown VC Original Exhibit Plan**

After the presentation by EDX, both the Accessibility Specialists and participants reacted to the design. Following are their comments and suggestions to enhance exhibits:

- Bring accessibility specialists on board during design process
- Horse collar needs relevancy
- Assumptions in all exhibits that everyone is familiar with all items: boat=mule=canal
- Project captioned movie on outside wall with an interpreter
- Layer content of information
- Displays on second floor need to be accessible
- How do we determine if exhibit is touchable
- Tangible objects need relevance and context
- Walk through the story
- Use larger photos, less text on panels
- Use of confined space to help deliver message
- Provide outside lobby exhibits of mule and people
- Consider period ticket office that walks people through the story
- Outside audio of story
- Interpreter in the building to help tell the story
- In the long, low room use long, low exhibits i.e. canal or boat
- Redesign first floor with fewer topics
- Focus topics using universal design
- Use Bas relief objects on map
- Wheelchair lift blocks traffic would discourage wheelchair use of 2<sup>nd</sup> floor
- Limit first floor themes and have a general store
- Beauty and refuge are the themes for outside
- Canal boat theme outside
- Long narrow space on first floor could be used as sensory immersion
- Is second floor worth the effort

### **Georgetown VC: Presentation of Revised Sketches by EDX**

EDX took the comments and reactions from the Accessibility Specialists and participants and incorporated them into the specific exhibit elements. EDX adjusted those exhibit elements to enhance programmatic accessibility. They followed the comments that were generated through the discussion and also added drawings to illustrate responses to concerns. (These drawings are identified as attachments to this report).

## Main Points and Concerns

Some specific required changes included simplifying the topics to be interpreted in the small facility to two: Life on the Canal and Why Georgetown.

Since the facility was so small, EDX had to take the following issues into consideration as they adjusted the designs.

1. Hallway too narrow to accommodate exhibits, restroom access, wheelchair accessibility, exhibit view range
2. Entry area too small for ticket sales line, visitor contract, bookstore sales
3. Unfriendly wheelchair access to upstairs: "I would not take my children up there".
4. Wheelchair lift blocks hallway, extends into upstairs mini-theatre when in use.
5. Opportunity for redesign with Universal Design approach.

EDX reviewed the overall site plan of the Georgetown Visitor Center (Attachment 8) and presented options to address programmatic accessibility in the limited facility:

**Alternative A:** Uses 2 Floors, Temporary Shelter (ticket sales outside), reduced ranger mini desk, "Why Georgetown?" becomes bas relief map; video experience on upper wall on 2<sup>nd</sup> floor, tactile experiences populates whole room. (Attachment 9)

**Alternative B:** Entrance on lower floor, store is here, reconfigured mini desk area, bas relief take in 2 themes, Why Georgetown and Life on the Canal, mural experience, you don't go upstairs. (Attachment 10)

**Alternative C:** Clear out area to create multi-media experience with tactile model, flat screen video, universal design experience, no 2<sup>nd</sup> floor, exterior shelter/kiosk (rolling do to seasonality) – orientation/canal interpretive panels. (Attachment 11)

**Alternative D:** 2 Floors, 2 Entrances, Desk expands to entire area, mural (1<sup>st</sup> floor), 2<sup>nd</sup> floor becomes entire store and visitor experience, make stairwell public, ranger desk is public accessible, exterior shelter. (Attachment 12)

After the presentation of the options, the participants expressed many concerns and reactions. Some specific thoughts are captured below followed by overall reactions.

### **Kevin Brandt** (Superintendent)

Suggested a hybrid of Option 2 and 3. Maybe have the flat screen outside that can be rolled away at end of day or before boat takes off. It could be viewed while people are waiting for boats. Place the mural inside.

### **Bill Justice** (Chief of Interpretation)

Suggested a hybrid of Option 1 and 4. Access from Thomas Jefferson Street is impossible. We shouldn't encourage lingering in the hallway. Minimize store and do a single theme upstairs. Tactile mural downstairs.

**Pat Beech** (Accessibility Specialist)

Be sure there is a text version of audio for the deaf community.

**Bill Morgan** (Accessibility Specialist)

Narrow the focus to be successful. Questions if weather will be a factor for outside exhibits.

**Marsha Mazz** (Accessibility Specialist)

Eliminate some content. Options 1 and 2 look to be the most probable solutions. Visitor center may detract from boat experience. It's like they are competing with each other.

**Ray Bloomer** (Accessibility Specialist)

Narrow content, using two floors is most likely.

**Beth Ziebarth** (Accessibility Specialist)

Agrees, focus on visitor experience (due to cramped space and waiting for boat ride). Outdoor temporary pavilion or covered shelter due to weather conditions (example: school groups waiting in the rain). Most likely to be combination of options 1-4.

**General Comments:**

- Put flat screens outside keyed to boat arrival, wheel in at end of day – Superintendent Brandt
- Option 2 with mobile monitor kiosk – Superintendent Brandt
- Consider a hybrid of 1 and 4 – Bill Justice
- Minimize hallway clutter, place tactile model in front, minimize store
- Consider single theme on 2<sup>nd</sup> floor
- Consider using podcasts or waysides to tell the story
- Ticket sales placed downstairs, exhibits to tell the story on 2<sup>nd</sup> floor
- Roving interpretation is a good idea but there is no funding
- All audio must have equivalent text version
- Move everything to first floor and narrow focus
- Question impacts by weather if monitors are placed outside
- Option 1 and 2 have more space for wheelchair users
- Roving interpretation – good
- Pare down content, focus on the visitor experience for waiting boat passengers
- Construct pavilion for school groups waiting
- Persons with canes will have difficulty with stairs
- Wheelchair lift creates havoc for other visitors

**Costs**

Costs were developed to make the programmatic adjustment to the designs. They are:

Original Planning and Design	\$ 25,000
Optional Schematic Design Documentation	\$ 3,690
New Total	\$ 28,690

After the accessibility review, park staff met with EDX and asked to combine some of the options which generated cost estimates for three alternatives. The park will review the alternatives to make decisions.

**Alternative A**

The first floor design desk and sales area require design revisions. This option also includes the addition of a long tactile wall mural for the north wall. The second floor design remains similar to the existing design with design revisions and additions to tactile and audio elements in the eastern gallery. The second floor western gallery contains the four-part video and associated graphics already contemplated for the space. Copy alterations may be required reducing the amount of copy and adding tactile elements as appropriate in this gallery.

Estimated Design Fees and Expenses for Detailing	\$ 46,136
Class C Estimate (468 sq. ft. x \$250 per sq. ft.)	\$117,000
Total	\$163,136

**Alternative B**

The first floor design desk and sales area require design revisions. This option also includes the addition of a long tactile wall mural for the north wall. The second floor desk design describes “Life on the Canal” using content material developed in the original design on the first floor. Accessible tactile and audio components will be numerous. Both the eastern and western galleries will interpret the “Life on the Canal” story.

Estimated Design Fees and Expenses for Detailing	\$ 46,096
Class C Estimate (468 sq. ft. x \$325 per sq. ft.)	152,000
Total	\$198,096

**Alternative C**

**In alternative C the second floor will be closed to visitor access.** The first floor will require revisions to the design desk and sales area. This option also includes the addition of a long tactile wall mural for the north wall.

Estimated Design Fees and Expenses for Detailing	\$ 36,451
Estimated Media Production Budget (220 sq. ft. x \$250 per sq. ft.)	\$ 55,000
Total	\$ 91,451

**Option 1**

Create a portable audio visual unit that can be moved to the exterior of the center. Includes two interpretive videos.

Estimated Design Fees (treatments, drawings and specifications for detailing)	\$ 7,920
Class C Estimate (hardware only, does not include film Production)	\$ 20,000
Total	\$ 27,920

## **Option 2**

Refit the second floor with a classroom including visual and tactile displays to support school group activities. Some furniture designed or specified.

Estimated Design Fees	\$ 14,540
Class C Estimate (127 sq. ft. x \$325 per sq. ft.)	\$ 41,600
Total	\$ 56,140

**NOTE: THESE COSTS ARE SPECIFIC TO THIS PROJECT AND THE OPERATIONAL ENVIRONMENT OF THE SITE.**

### **Conclusion of Programmatic Accessibility Review**

Upon completion of the two reviews, participants concluded that the principles of universal design are important to achieve programmatic accessibility. It is a good practice and a fundamental approach to good planning and design. EDX had used these principles in preparing their revised designs for Great Falls Tavern and the Georgetown Visitor Center.

We learned that attention to accessibility is part of the process, not an add on. Programmatic accessibility should be included at the front end of planning and integrated into the building site, lighting and signage of the plan. Exhibits should be multi-sensory; providing information in numerous ways, appeal to numerous learning styles, abilities and interests and be redundant. We learned also that accessibility needs to be rooted in the “core message” and becomes the “meat” not “fluff”.

We also learned that visitors with sight limitations typically travel to parks with a companion, however, both want their own individual experience. Visitors with sight limitations do not wish to place the interpretive burden on their companion. Multi-sensory exhibits can solve this concern.

### **Show and Tell Session on New Media Accessible Products**

In addition to the reviews of Great Falls Tavern and Georgetown Visitor Center, a show and tell session on two new accessible media products were presented. They included the C & O Canal large print folder and a tactile wayside exhibit panel from Gulf Islands National Seashore. The following comments were made on these products:

#### **C&O Canal Large Print Folder**

##### **Marsha Mazz:**

One of few documents she can read without magnifier. She can read with both hands. More usable, more special. Map definitely gives context and sense of where you are. Likes that it is color, not just black and white. Text is in columns which makes it much easier to read. Don't combine Braille and large print in brochures. It would be fine on plastics. A Braille user won't benefit from the graphics.

**Ray Bloomer:**

It is not just a reprint (enlarged). It is equal to what everyone else looks at, which makes it even better.

General comments from the participants included:

- Good contrast, line spacing and font
- Columns allow it to be folded and read
- Good context on map
- Never combine large print and Braille in one document
- Beautiful folder, it will be in demand by other parks

**Gulf Islands Wayside Exhibit Panel****Ray Bloomer:**

Context is better because the Barrier Island and mainland is on there. Lets you know where the water is. Chose materials appropriate for the environment (extreme heat or cold).

**Marsha Mazz:**

She can make out the grid. Don't need to capitalize words for Braille unless it is a proper noun because it takes up so much room (ex. Oliver North). Most blind people assume capitalization on labels.

**Beth Ziebarth:**

Test outdoors for the glare.

General comments from the participants included:

- Braille readers read vertical. Anytime your hand goes below your waist, it wants to rotate. Tactiles should be at 48-60". Don't put Braille copy below the waist, unless it is for children. Think about your primary audience, then adjust height
- Fabulous work. It is uncluttered. It gives someone who hasn't read the map a sense of relationship of the land to the water. Low vision persons should be able to read the copy. Don't super impose print over an image, it distorts the text
- Showing barrier island and mainland in relief gave it context
- Reading Braille on vertical below the waist rotates the hand, place text 48-60 inches for tactile signs
- The scale was difficult to figure out
- Low vision persons need to be able to read the copy and see the graphic
- People with autism respond well to tactile surfaces
- Test surface outdoors for glare factor
- Landscape format is better when using Braille

At the end of the accessibility review Superintendent Brandt made the following comments: He was pleased to see the responses from everyone to meet the needs of all people. “Time and effort was well spent. Issues were raised here that he will always think about for future interpretations. Thank you to everyone”.

### **Next Steps**

It was acknowledged that this is the first park to go through this level of programmatic accessibility review. Lessons learned will be covered in next steps. They include:

- Publish results in HFC OnMedia
- Use process as template for the future
- EDX will take revisions and do cost estimates to present to park
- Detailed report with graphics will be placed on line
- Report will be linked to HFC Accessibility Guidelines
- HFC hopes to have redesign of both spaces done by summer of 2008
- Recommended that all designers including IDIQ contract planners and designers attend accessibility training; could be a condition of the contract

## **Attachment 1 – Agenda**

An agenda was developed and participants selected to include a panel of Accessibility Specialists, EDX the contractor who designed the original exhibits for the two projects, and representatives from Harpers Ferry Center and other NPS offices Servicewide.

### **Wednesday September 5<sup>th</sup>**

- 8:30 Purpose & Introductions
  - Don Kodak, Director, Harpers Ferry Center
  - Kevin Brandt, Superintendent, C&O Canal
  - Michael Paskowsky and Winnie Frost introduce Accessibility Specialists
- 9:00 EDX Presentation of Great Falls Tavern Exhibit Plan
- 9:45 Break
- 10:00 Response from Accessibility Specialists
- 11:00 Group Discussion, including NPS observers
- 11:45 Lunch
- 12:45 Summary of Recommendations for Great Falls Tavern
- 1:00 EDX presentation of Georgetown Contact Station Exhibit Plan
- 2:30 Break
- 2:45 Group Discussion, including NPS observers
- 3:30 Summary & Marching Order to designers
- 5:00 Conclusion

### **Thursday September 6<sup>th</sup>**

- 9:30 General discussion & show & tell (Paskowsky)
- 10:30 EDX Presentation of Great Falls Tavern and Georgetown Visitor Center Revised sketches
- 11:15 Group Discussion, including NPS observers
- 12:00 Lunch
- 1:00 Audio Discussion
- 1:30 Response from Accessibility Specialists to both plans
- 2:00 Group Discussion, including NPS observers
- 2:30 Break
- 2:45 Summary
- 3:15 Programmatic Access – Universal Design PowerPoint (Paskowsky)
- 3:30 Next Steps (Frost)
- 4:00 Conclusion

## **Attachment 2 – Participants**

Participants were selected based on their interest in accessibility in exhibit design and for their current involvement with these facility improvements. The group was made up of park staff, National Capital Region and Pacific West representatives and HFC staff involved in media development.

Stan Briscoe, Chief of Professional Services, NCR  
Kevin Brandt, Superintendent, C&O Canal  
Cindy Darr, Associate Manager, Workflow, HFC)  
Tara Edwards, Administrative Technician, HFC  
Winnie Frost, Project Manager, HFC  
Jan Gauthier, Facilitator  
Dave Gilbert, Webmaster, HFC  
Magaly Green, Acting Chief, Human Resources, HFC  
Debbie Haarman, Project Specialist,  
Sue Hansen, Chief of Interpretation, NCR  
Michele Hartley, AV Producer, HFC  
Bill Justice, Chief of Interpretation, CHOH  
Don Kodak, Director, HFC  
Paul Koehler, Exhibit Producer, HFC  
Krista Kovach, Exhibit Planner, HFC  
Michael Lacome, Exhibit Designer, HFC  
Susan Little, Accessibility Specialist, U.S. Access Board  
Caitlin McQuade, Exhibit Planner, HFC  
Shandra Montague, Sign Language Interpreter  
Lynne Nakata, Interpretive Planner, PWRO  
Dave Park, WASO, Accessibility Coordinator  
Michael Paskowsky, Project Manager, HFC  
Theresa Posthuma, Sign Language Interpreter  
Justin Radford, Project Manager, HFC  
Lori Simmons, HFC Accessibility Coordinator ( Sept. 5 only)  
Anita Smith, Exhibit Producer, HFC  
Sandy Weber, Park Ranger, WASO  
Janice Wheeler, Deputy Assoc. Manager, Design and Cartography Products

## **Attachment 3 – Universal Design**

### **UNIVERSAL DESIGN**

The design of products and environments to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design. These guidelines were established to guide a wide range of design disciplines including environments, products, and communications. The seven principles may be applied to evaluate existing designs, guide the design process, or educate both designers and consumers about the characteristics of more usable products and environments.

#### **Principle One: Equitable Use**

The design is useful and marketable to people with diverse abilities.

##### **Guidelines:**

Provide the same means of use for all users: identical whenever possible; equivalent when not. Avoid segregating or stigmatizing any users. Provisions for privacy, security, and safety should be equally available to all users. Make the design appealing to all users.

#### **Principle Two: Flexibility in Use**

The design accommodates a wide range of individual preferences and abilities.

##### **Guidelines:**

Provide choice in methods of use. Accommodate right- or left handed access and use. Facilitate the user's accuracy and precision. Provide adaptability to the user's pace.

#### **Principle Three: Simple and Intuitive Use**

Use of the design is easy to understand, regardless of the user's experience, knowledge, language skills, or current concentration level.

##### **Guidelines:**

Eliminate unnecessary complexity. Be consistent with user expectations and intuition. Accommodate a wide range of literacy and language skills. Arrange information consistent with its importance. Provide effective prompting and feedback during and after task completion.

#### **Principle Four: Perceptible Information**

The design communicates necessary information effectively to the user, regardless of ambient conditions or the user's sensory abilities.

**Guidelines:**

Use different modes (pictorial, verbal, tactile) for redundant presentation of essential information. Provide adequate contrast between essential information and its surroundings. Maximize “legibility” of essential information. Differentiate elements in ways that can be described (i.e., make it easy to give instructions or directions). Provide compatibility with a variety of techniques or devices used by people with sensory limitations.

**Principle Five: Tolerance for Error**

The design minimizes hazards and the adverse consequences of accidental or unintended actions.

**Guidelines:**

Arrange elements to minimize hazards and errors: most used elements, most accessible; hazardous elements eliminated, isolated, or shielded. Provide warnings of hazards and errors. Provide fail safe features. Discourage unconscious action in tasks that require vigilance.

**Principle Six: Low Physical Effort**

The design can be used efficiently and comfortably and with a minimum of fatigue.

**Guidelines:**

Allow user to maintain a neutral body position. Use reasonable operating forces. Minimize repetitive actions. Minimize sustained physical effort.

**Principle Seven: Size and Space for Approach and Use**

Appropriate size and space is provided for approach, reach, manipulation, and use regardless of user’s body size, posture, or mobility.

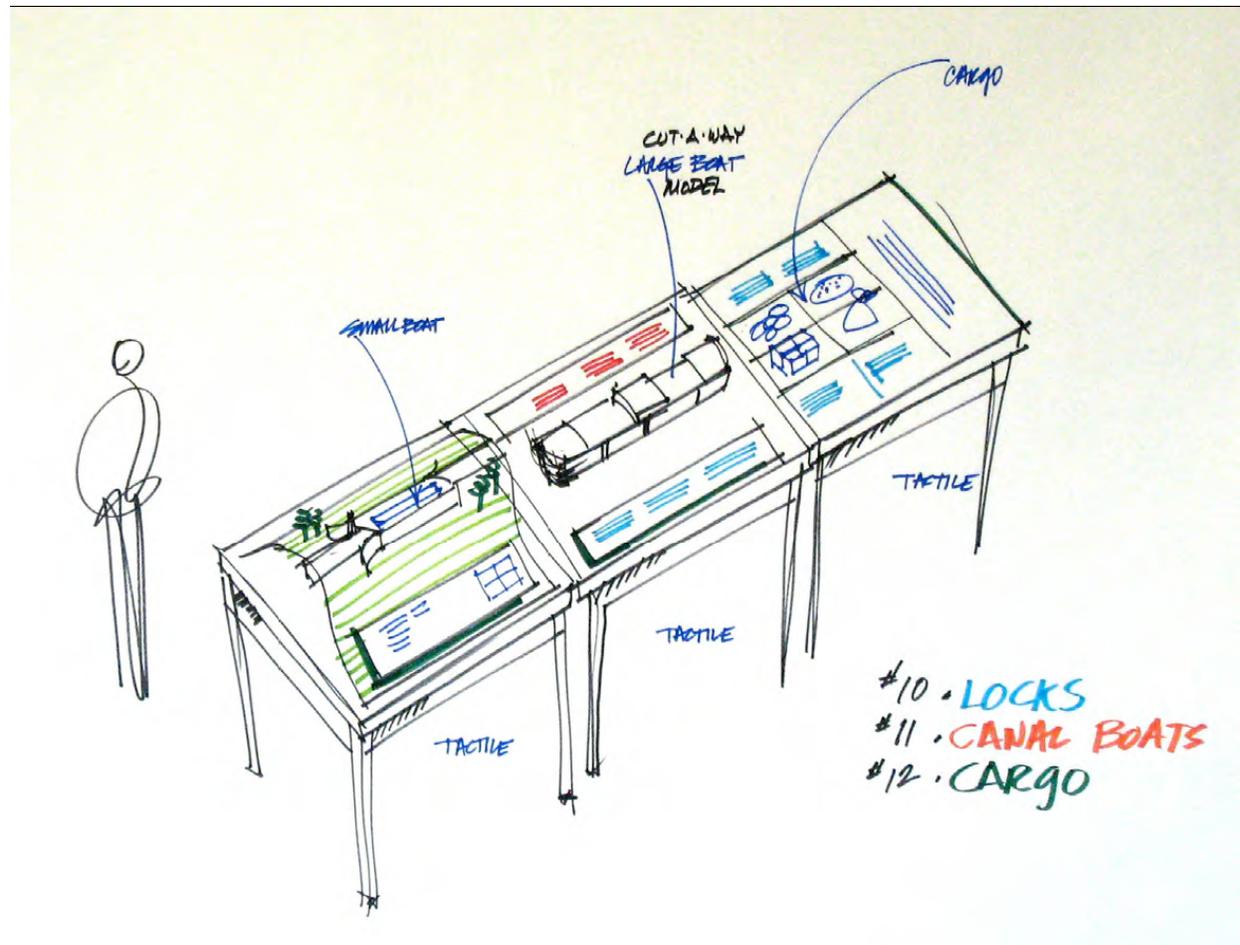
**Guidelines:**

Provide a clear line of sight to important elements for any seated or standing user. Make reach to all components comfortable for any seated or standing user. Accommodate variations in hand and grip size. Provide adequate space for the use of assistive devices or personal assistance.

Please note that the Principles of Universal Design address only universally usable design, while the practice of design involves more than consideration for usability. Designers must also incorporate other considerations such as economic, engineering, cultural, gender, and environmental concerns in their design processes. These Principles offer designers guidance to better integrate features that meet the needs of as many users as possible.

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## Attachment 4 - Great Falls Tavern Visitor Center Tactile Components



Exhibits 10, 11 and 12 – These three exhibits were redesigned to improve existing tactile components. An audio broadcast from an overhead sound-cone will add more content for sight-impaired visitors.

Exhibit 10. How a Lock Works – more tactile features including models of mule teams will be added to the design specifications. The exhibit already includes a small model of a canal boat “locking through”.

Exhibit 11. Carrying the Load – the cutaway 3’ model of a canal boat will be touchable from both sides. One side will reveal the cabins below deck and the other side will model the exterior surfaces of the boat. Text panels will be altered to describe both sides of the boat model.

Exhibit 12. Cargo and Competition – no alterations were planned for this exhibit as It already includes tactile models of C&O cargo (wheat, coal, lumber and flour).

**Attachment 5 – Great Falls Tavern Visitor Center Tabletop with Aroma Chambers**

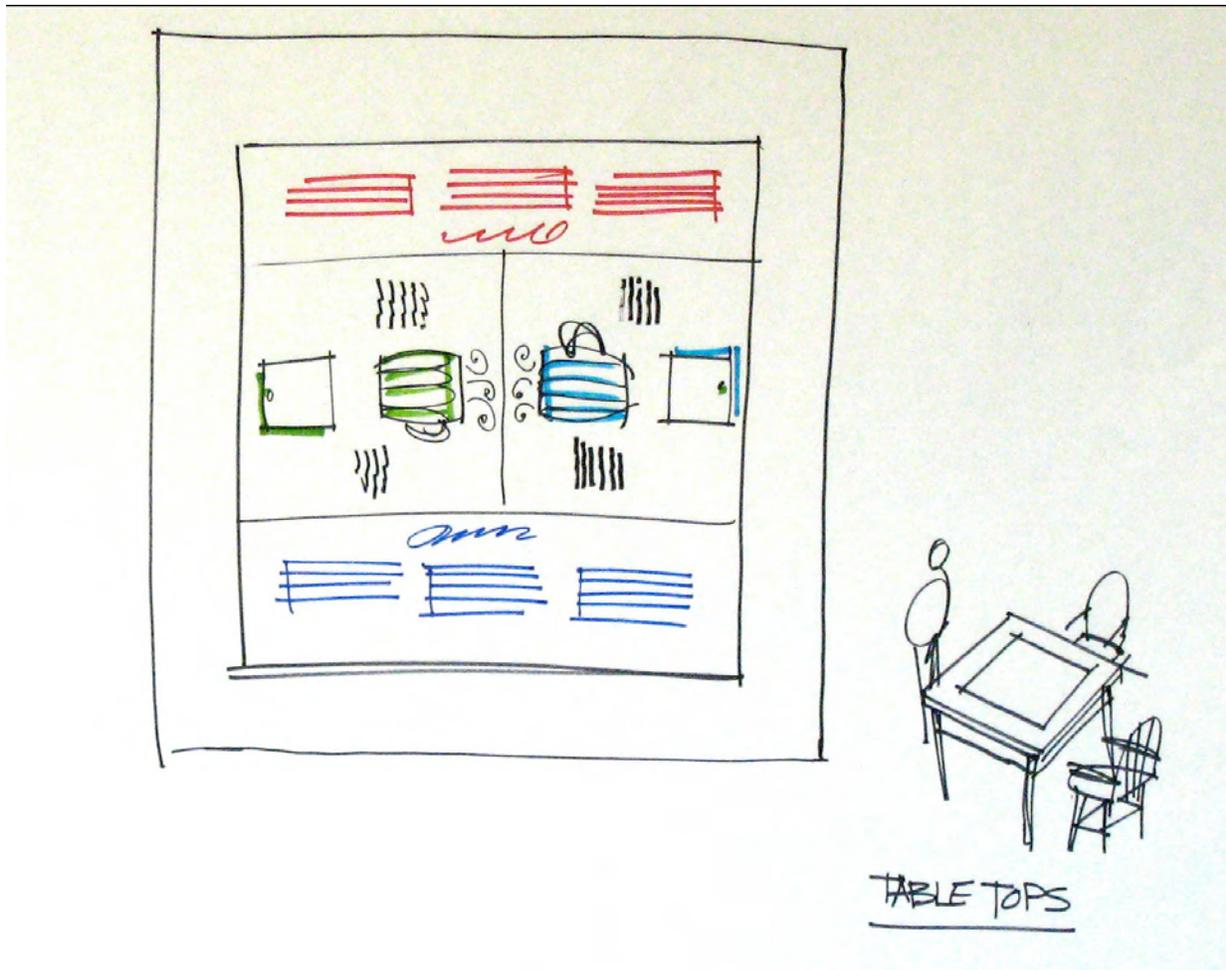
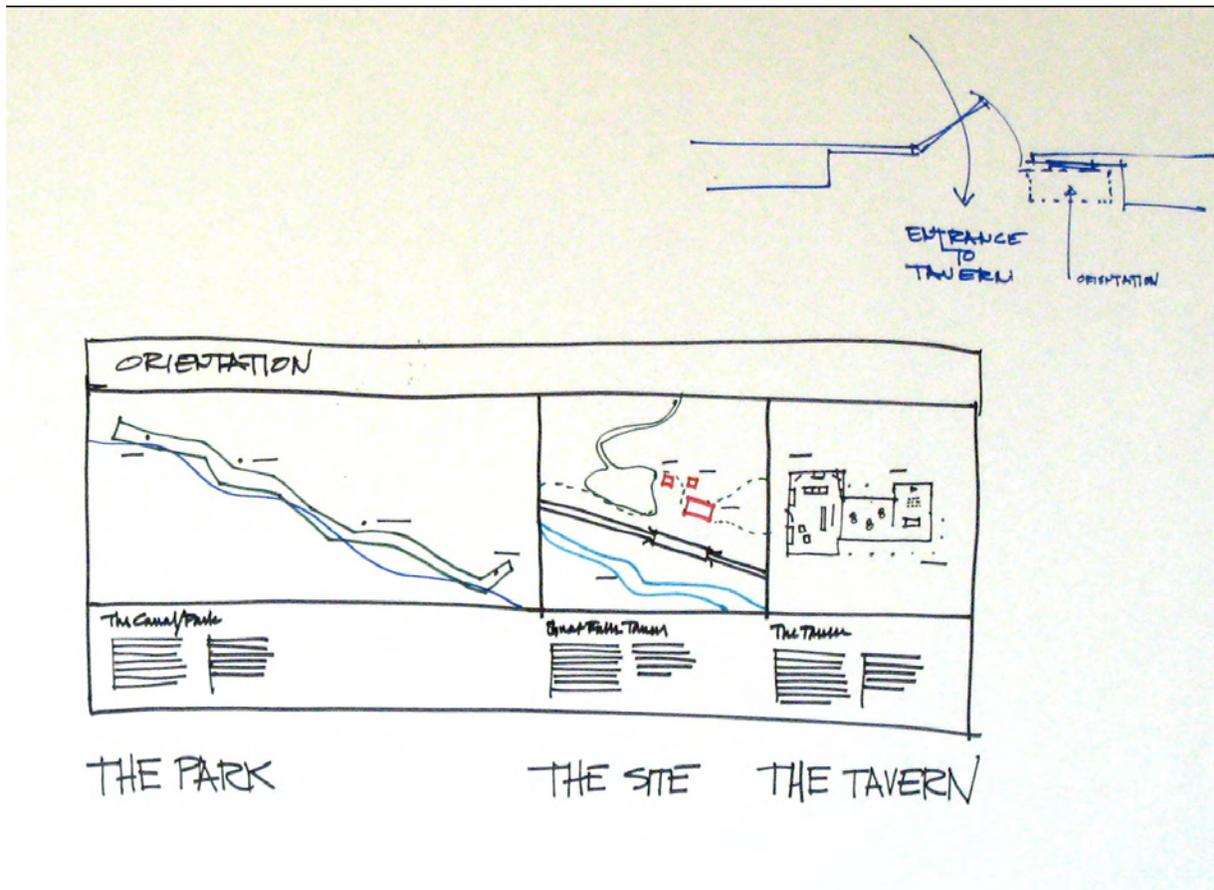


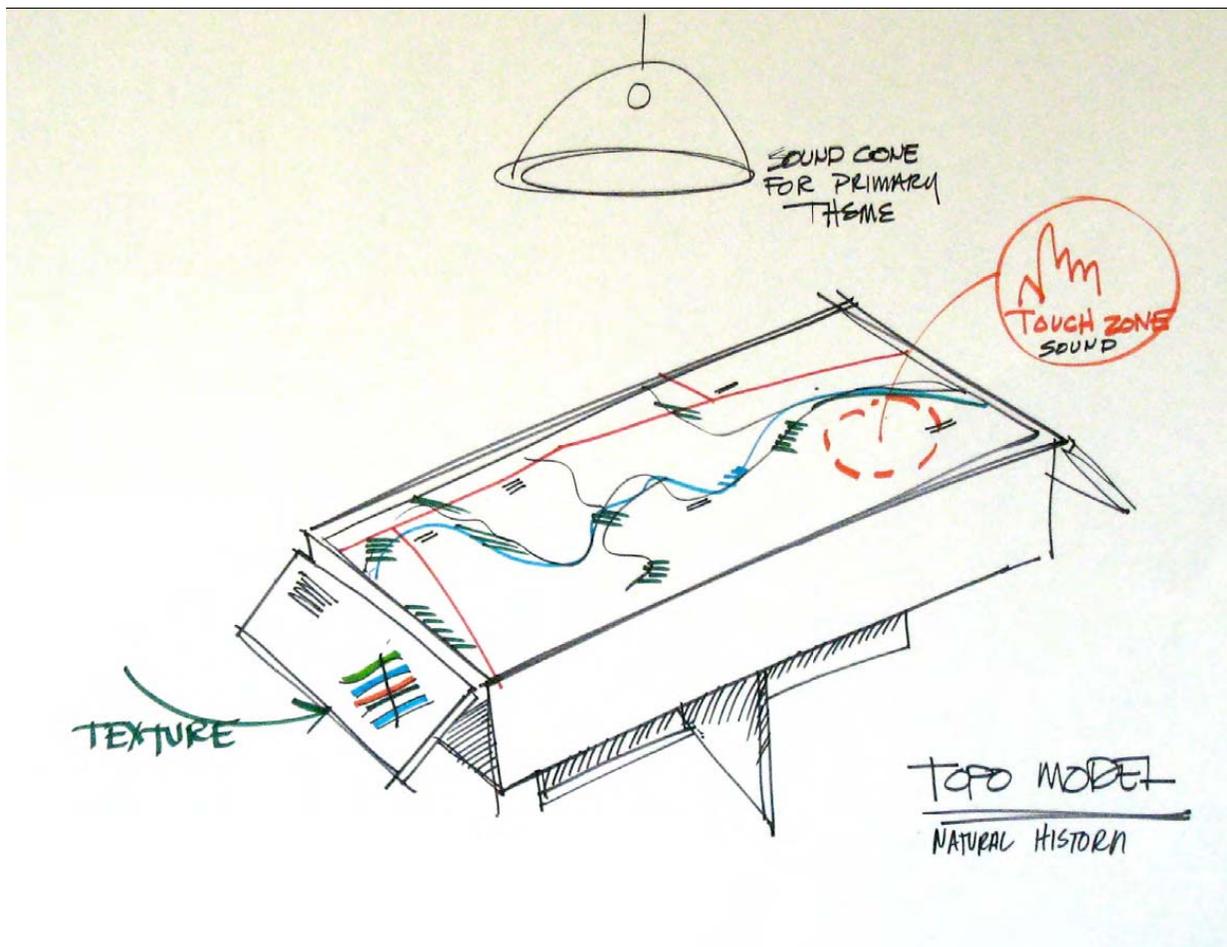
Exhibit 17 – EDX suggested redesigning “Dry Spell for the Tavern”, one of the tabletop exhibits to include aroma chambers. Lift doors set in the table surface and positioned next to graphics describing drink recipes can be raised to expose the aromas of non-alcoholic beverages served at Great Falls Tavern.

## Attachment 6 – Great Falls Tavern Visitor Center Orientation



New Exhibit (15) – EDX suggested a tactile orientation exhibit positioned near the entrance counter. This table top display would include three maps, one of the entire C&O Canal NHP, one of the Great Falls Tavern site including the locks, buildings and falls, and one of the interior of the visitor center. The visitor center map would include tactile representations of the three rooms and exhibits, and act as an initial guide to the space for both sighted and sight-impaired visitors. An audio program (sound cone) will be installed to describe what the visitor is touching. A miniature barge becomes the scale.

## Attachment 7 – Great Falls Tavern Potomac Watershed Model



**Exhibits 37** – To improve the Potomac Watershed Topographic Model, EDX suggested that the size of the model be reduced so a sight-impaired visitor could easily touch all parts of the model from one position. Either motion sensor or touch-sensitive technology will be added to the model. This technology will activate an audio program (overhead sound cone) that describes features on the model. It has yet to be determined if only one message or several messages, keyed to parts of the model, will be activated by visitor motion or touch. Maps on the two flanking reading rails will be made tactile.

**Exhibits 21 to 26 Life on the Canal** – Workshop participants recommended adding an audio feature to the central gallery of the center. In this gallery six full sized figures (touchable sculptures) represent individuals who lived and worked on the canal. An audio system that was either ambient and filled the entire space with one track or a set of six individual audio programs keyed to specific sculptures were discussed.

## Attachment 8 – Georgetown Visitor Center

During the accessibility workshop it was determined that a reduction in the amount of content and redesign of content juxtaposition would be beneficial. Many participants were concerned with the overall square footage available to the center. 1<sup>st</sup> floor (ground) has 220 square feet, 2<sup>nd</sup> floor has 248 square feet. In addition, questions as to the user-friendliness of the existing chairlift were raised. EDX developed several preliminary design alternatives to meet these and other criteria discussed on the first day of the workshop.

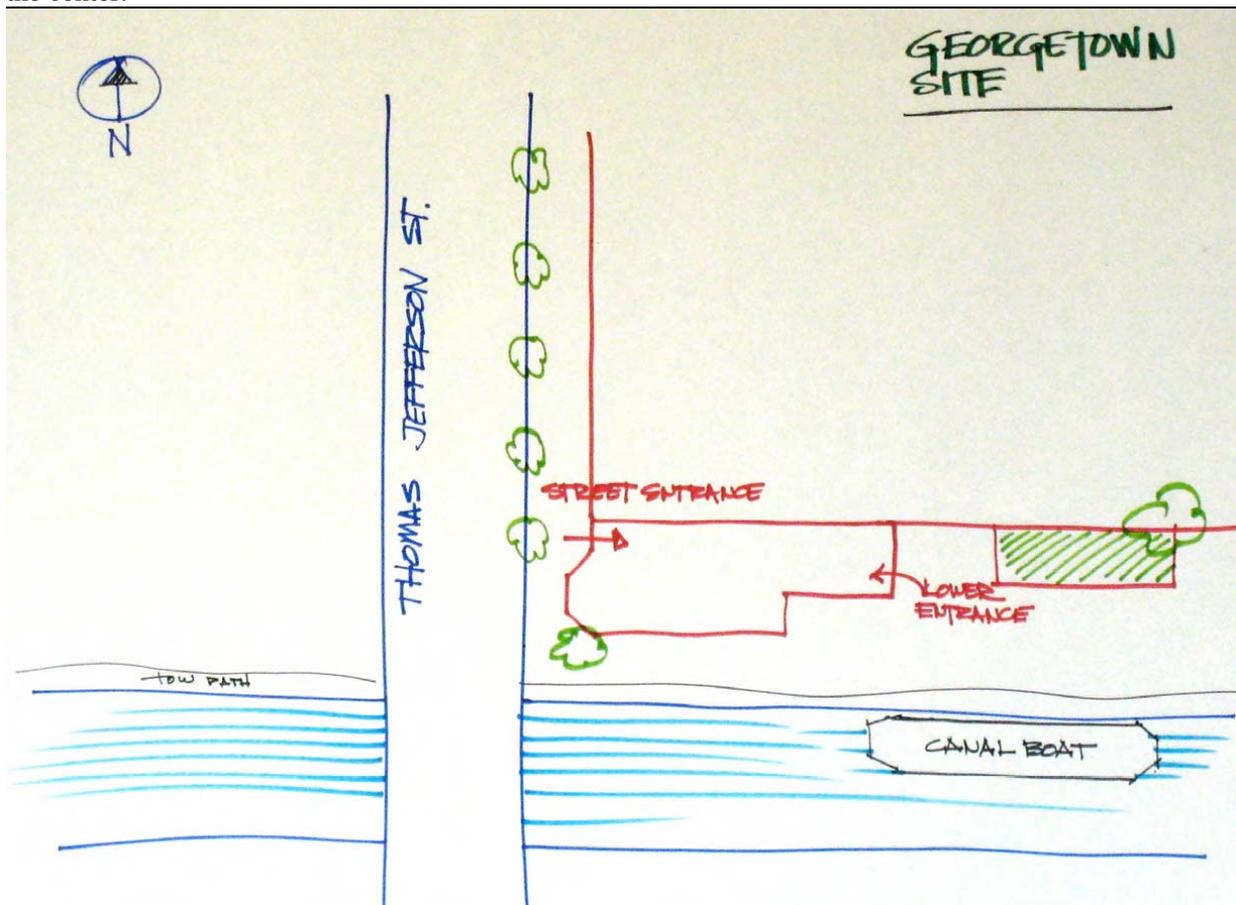
### Simplified Topics for Georgetown:

- Life on the Canal
- Why in Georgetown?

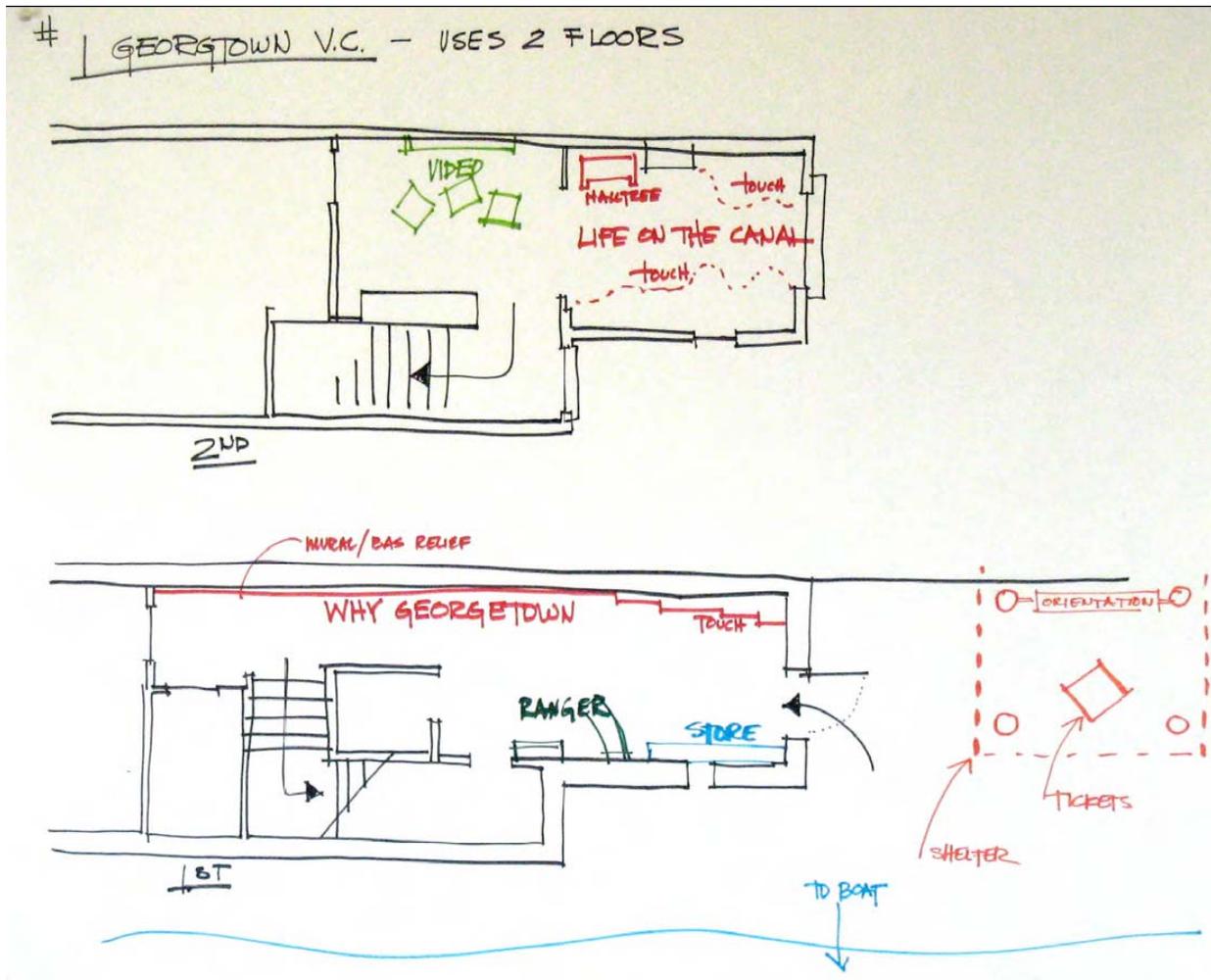
### Georgetown Design Issues:

- Hallway too narrow to accommodate exhibits, restroom access, wheelchair accessibility, exhibit view range.
- Entry area is too small for ticket sales line, visitor contact, bookstore sales
- Unfriendly wheelchair access to upstairs: “I would not take my children up there”.
- Wheelchair lift blocks hallway, extends into upstairs mini-theatre when in use.
- Opportunity for redesign with Universal Design approach.

The Georgetown Visitor Center is located in a period (1800s) town home at the corner of Thomas Jefferson Street and the C&O Canal in Georgetown. Canal boat tours are a significant resource offered at the center.

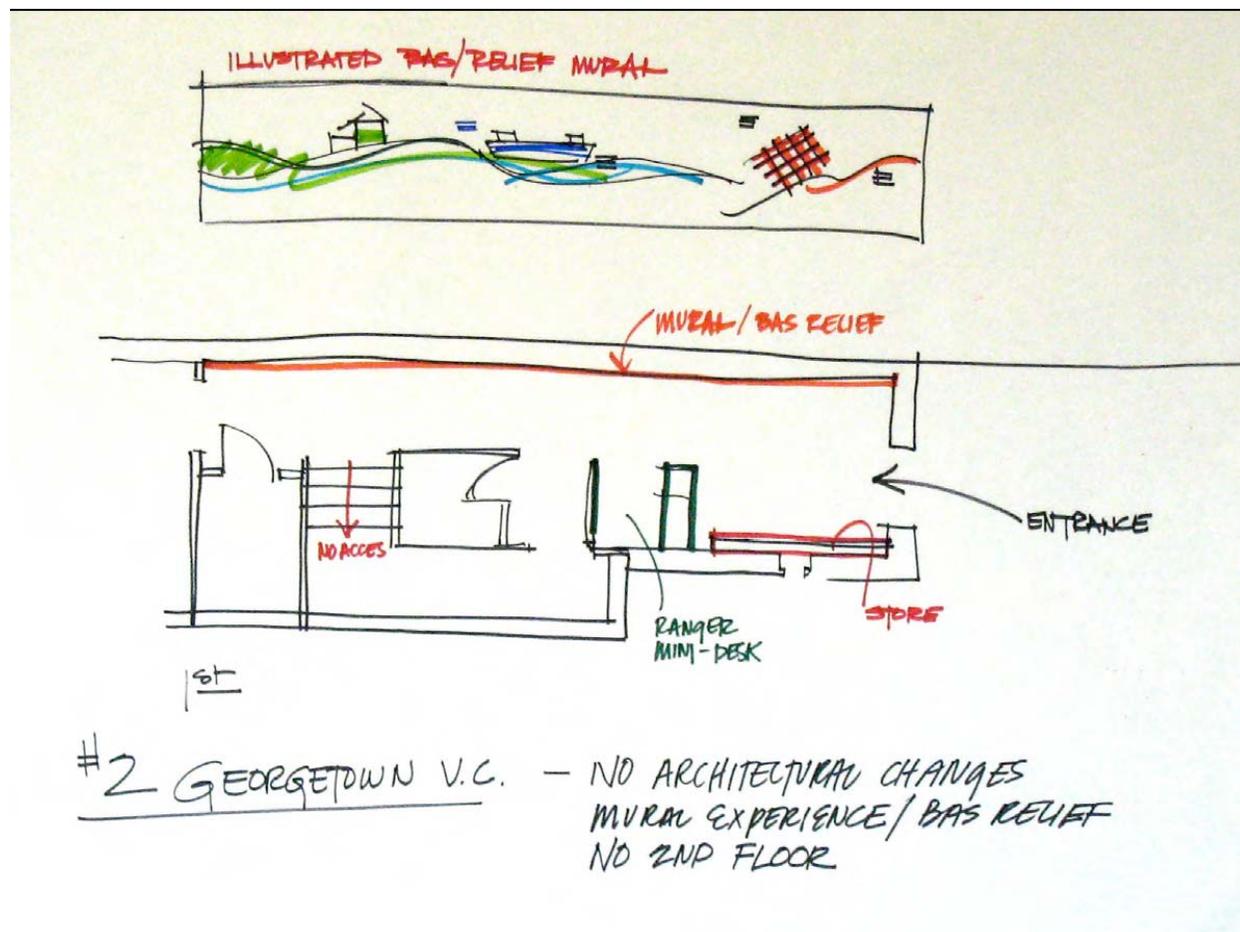


## Attachment 9 – Georgetown Visitor Center Design Alternative A



In Alternative A the first floor design desk and sales area require design revisions. This option also includes the addition of a long tactile wall mural for the north wall. The second floor design remains similar to the existing design and projects additions to tactile and audio elements in the eastern gallery. The second floor western gallery contains the four-part video and associated graphics already contemplated for the space. Copy alterations may be required reducing the amount of copy and adding tactile elements as appropriate on the 2<sup>nd</sup> floor.

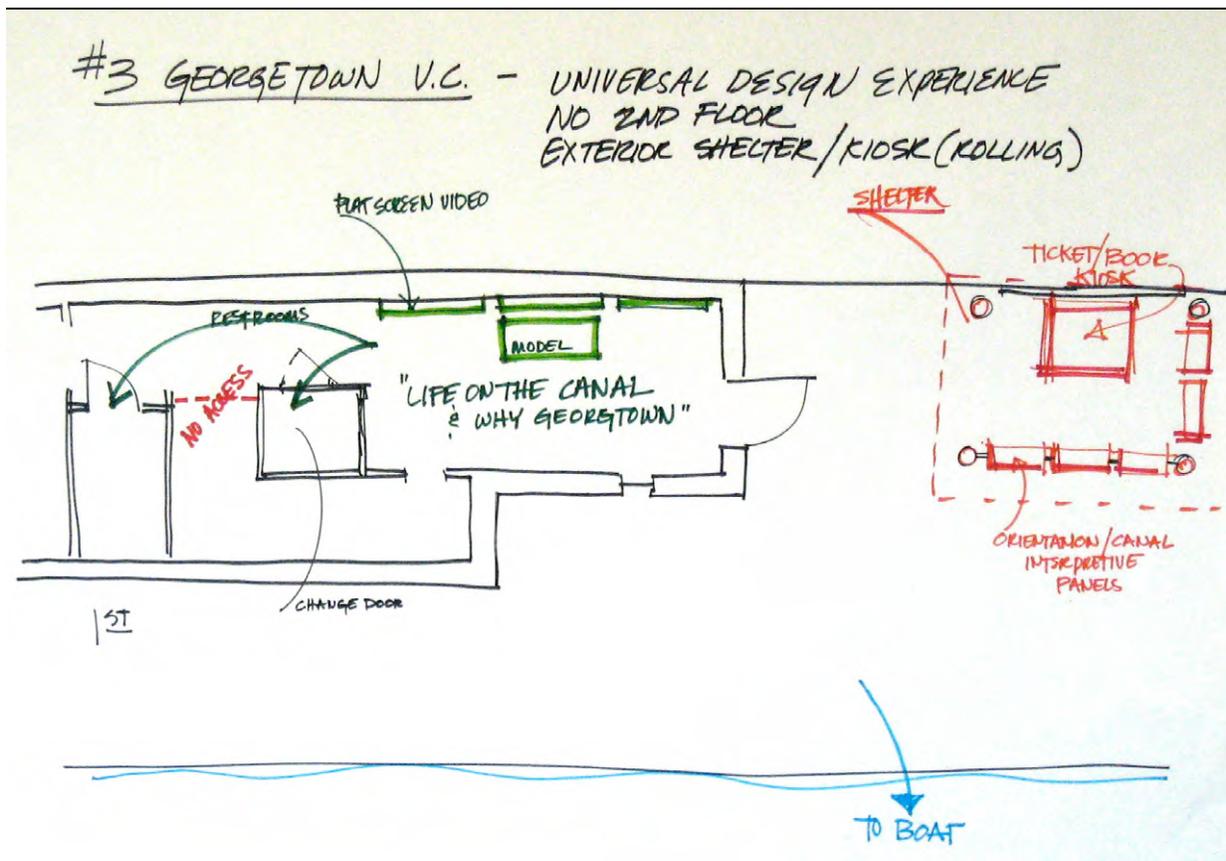
## Attachment 10 – Georgetown Visitor Center Alternative B



In Alternative B the first floor design desk and sales area require design revisions. This option also includes the addition of a long tactile wall mural for the north wall. The 2<sup>nd</sup> floor design describes “Life on the Canal” using content material developed in the original design on the 1<sup>st</sup> floor. Accessible tactile and audio components will be numerous. Not shown in the drawing above, this alternative differs in that both galleries of the 2<sup>nd</sup> floor will interpret the “Life on the Canal” story.

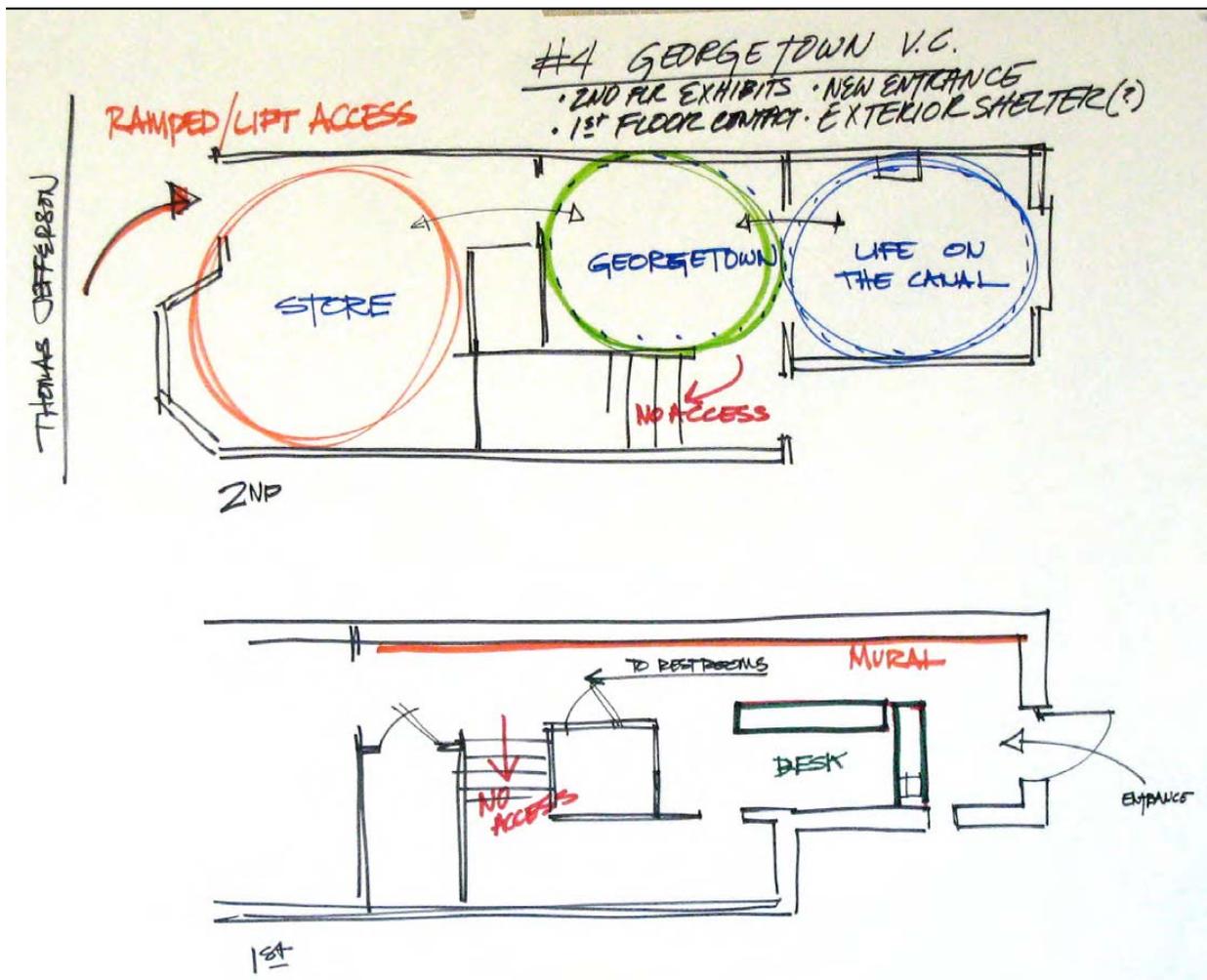
Both alternatives also imagined a ticket sales and/or book sales kiosk that could be moved to the exterior of the building under a covered canopy and rolled in after hours.

## Attachment 11- Georgetown Visitor Center Alternative C



**In Alternative C the 2<sup>nd</sup> floor will be closed to visitor access.** The 1<sup>st</sup> floor will require revisions to the design desk and sales area. This option also includes the addition of a long tactile wall mural for the north wall. Alternative C also imagined a ticket sales and/or book sales kiosk that could be moved to the exterior of the building under a covered canopy and rolled in after hours.

## Attachment 12 – Georgetown Visitor Center Alternative D



**Not selected for further review.** This alternative moved the book sales aspect of the center to the Thomas Jefferson Street entrance, positioned all interpretive exhibits on the 2<sup>nd</sup> floor and used the 1<sup>st</sup> floor only as a Visitor Contact Center.

Additional Options:

Option 1

Create a portable A/V unit that can be moved to the exterior of the center. Includes two interpretive videos.

Option 2

Refit the second floor with a classroom including visual and tactile displays to support school group activities. Some furniture may be designed or specified. This option replaces the “Life on the Canal” exhibits and videos currently envisioned in Alternatives A and B.

Attachment 13

Effective Communication Through Universal Design  
Workshop Evaluation

Did the workshop provide you information or insight into applying universal design principals in your work?

Are focused workshops like this an effective way to expand your skills and knowledge?

Is there any feedback you can provide to improve workshops like this in the future?