Update Condition Assessment, Treatment Recommendations, and Class C Construction Estimate for Birthplace House and Visitor Center, and Develop Site Drainage Concept

Site Visit November 2 and 3, 2021

Final Submittal December 27, 2021

William Jefferson Clinton Birthplace National Historic Site
Hope, Arkansas

Contract # 140P6020D0004
Task Order # 140P6021F0078
PMIS 131181



Prepared by STRATA Architecture Inc.

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SITE TRIP NOTES
& CONCEPTUAL PLAN

WORK SESSION MEETING AND SITE TRIP NOTES

This submittal includes the combined Work Session Meeting Notes and Site Trip Notes for the 'Update Condition Assessment, Treatment Recommendations, and Class C Construction Estimate for Birthplace House and Visitor Center, and Develop Site Drainage Concept' project at the William Jefferson Clinton Birthplace National Historic Site in Hope, Arkansas. The A/E Team, led by STRATA Architecture Inc. was onsite to Tuesday and Wednesday, November 2 and 3, 2021. The team included STRATA Architecture Inc., Structural Engineering Associates, Inc. (SEA), Henderson Engineers, and SK Design Group (SKDG).

Previous studies, including a 2013 Historic Structures Report and a 2014 Cultural Landscape Report served as the basis for the assessment work. These reports included the history and development of the site and buildings, documented existing conditions, included as-built drawings, and provided treatment recommendations and cost estimates for proposed work.

The team gathered information and assessed the existing conditions to provide updated treatment recommendations and Class C construction cost estimates for the Birthplace House and the Visitor Center. The Comfort Station was not included in this scope of work; however, some items were noted to be addressed in the electrical survey, and those are included in the recommendations. Work also included analysis and development of a conceptual treatment recommendation with costs for site improvements to alleviate poor drainage, which is a contributing factor in the advanced deterioration of foundations of both of the houses.

Assessment included walking the site and noting existing conditions on drawings of the buildings and site, taking photographs, and noting accessibility issues and other factors that may affect the visitor experience and park staff. In the afternoon of the second day onsite, the A/E team held a Work Session Meeting with park staff and the NPS regional historical architect/project manager, to listen to the park's issues and future needs, to review the conditions that had been discovered, and discuss potential direction.

Deliverables for this project include:

- Work Session Meeting Notes and Site Trip Notes
- Conditions Assessment / Treatment Recommendations Tables for Each Structure and Site
- Cost Estimates per Recommended Phase of Work for Each Structure and Site
- Existing Conditions Photographs in electronic .jpeg format

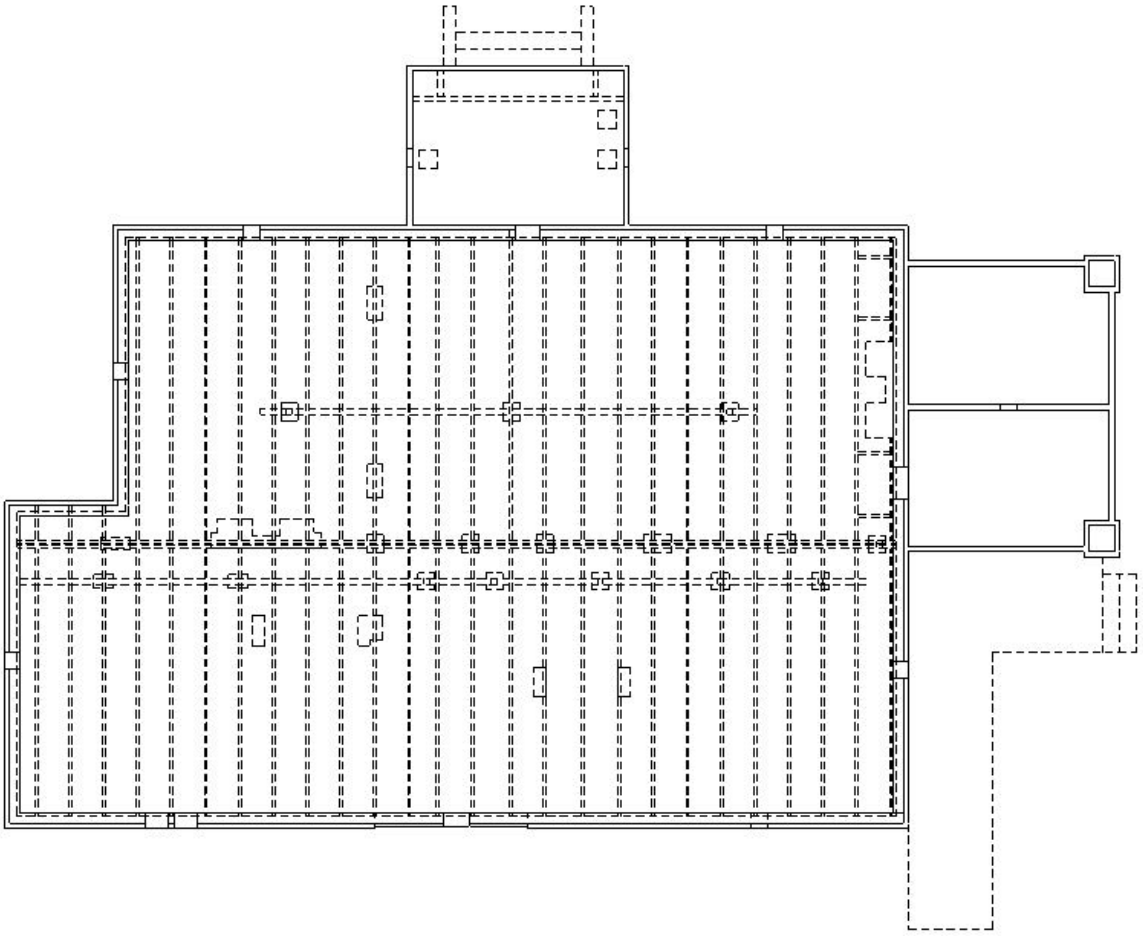
Those present for the Work Session Meeting included:

Gregory Hauburger, Superintendent
Evan Weber, Facility Manager
Jennifer Ledbetter, Facilities
John Rosemurgy, Historical Architect and Project Manager, MWR Cultural Resources (Virtual Attendee)
Kelly Korenoski, Regional Project Manager, MWR Facilities Planning and Infrastructure (Virtual Attendee)
Angie Gaebler and Claire Ashbrook, STRATA Architecture – Historical Architect/Project Manager
Philip Steet, Structural Engineering Associates, Inc. – Structural Engineer
Nick Gordon, Henderson Engineers – Engineer
Gary Urkevich, SK Design Group – Civil Engineer

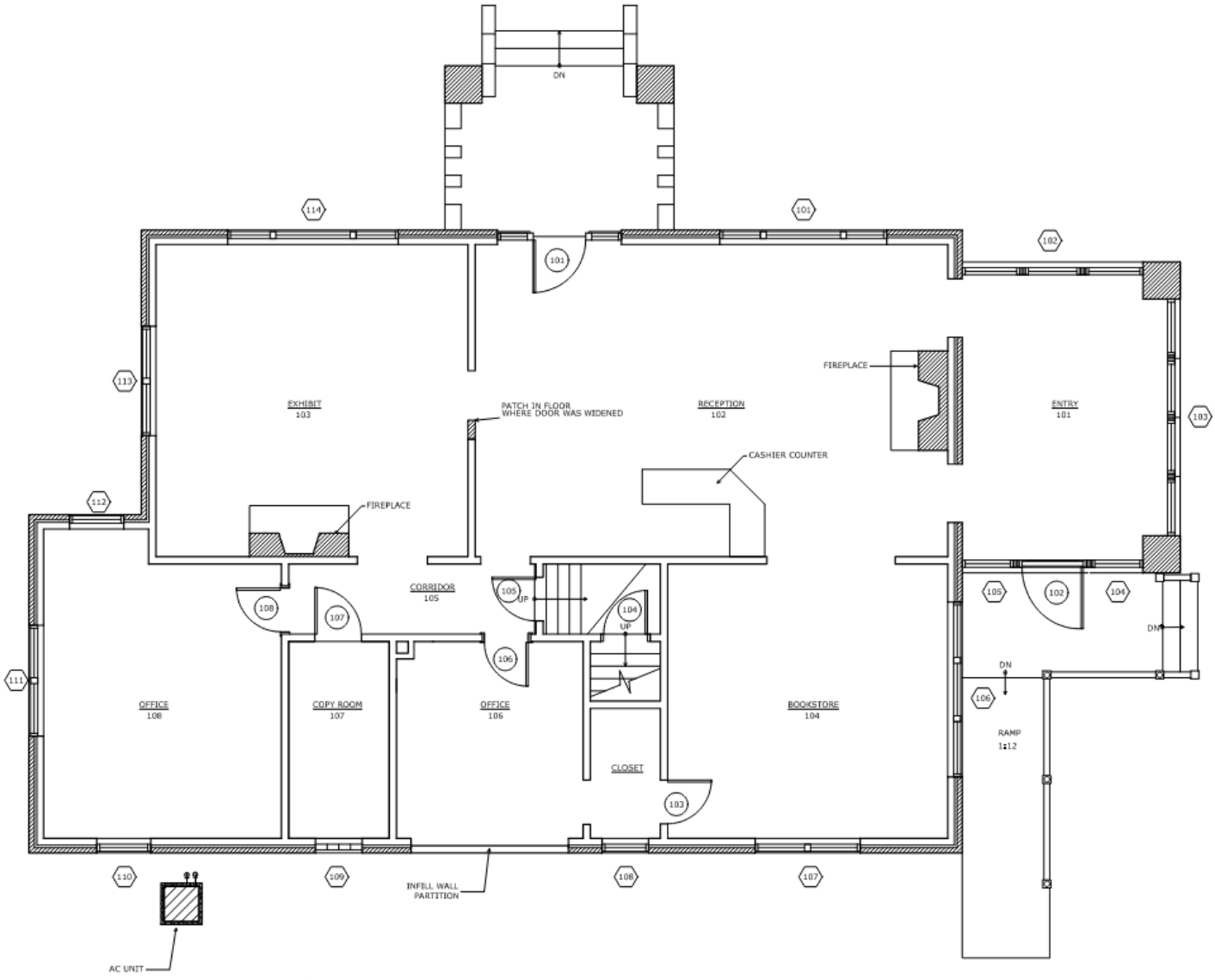
1. The team reviewed the overall scope of work for the project and discussed the current goals for this updated assessment and cost estimate work.
2. The Park wants to be certain that recommendations made during this project will not preclude them from building a new Visitor Center in the future.
3. The Park has begun the process of acquiring adjacent land from the City. This includes the large parking lot in the SE corner of the block, as well as most of the empty lot between the parking lot and the Cassidy House, part of which was the site for Clinton's boyhood friend, Vincent Foster Jr.. The City will retain a parcel of land in the SW corner for a memorial park. The acquisition of this substantial property was not anticipated as part of the 2013 HSR and 2014 CLR reports, and therefore, these properties are not included in the long-term planning efforts for the park. The 2014 CLR notes the need for a new Visitor Center and provided examples for building massing and location. It was proposed to be constructed on the site of the existing memorial garden and that the garden would be relocated to behind the existing Visitor Center.
4. Acquisition of this additional property open up opportunities to explore potential development of the empty lot behind the Cassidy House for a new Visitor Center, rather than where it had previously been studied.
5. With the acquisition of this additional property, some immediate improvements might include removal of non-historic wood and metal fencing between the existing Visitor Center lot, the Cassidy House, and the empty lot. This would need to be closely coordinated with the City, who still owns the abandoned alley that runs east/west through the approximately 7/8 of the block. The fencing identifies the north and south boundaries of the alley through the National Historic Site. These are not contributing features to the landscape and their removal would improve the viewsheds.
6. The City has recently re-paved the parking lot and will stripe the lot this coming week. This new lot will provide much-needed accessible parking stalls. The City is also planning to make improvements to the sidewalk between the lot, the alley, and the Comfort Station. They will return to make these needed improvements.
7. The Park and Region are okay with moving away from some of the HSR and CLR recommendations, due to the time lapse since the initial recommendations, changing conditions, and acquisition of the new property, especially concerning low-impact items. The Park is most interested in addressing 'maintenance and function.' Examples may include recommending the installation of gutters and downspouts, although the houses did not originally have these, and providing accessible concrete walkways for the garden paths.
8. Geothermal: The team discussed the HSR recommendations of installing geothermal systems for heating and cooling for the Cassidy House. This would require deep excavations and is invasive to the site. The NPS and the park are no longer in favor of that option. A traditional HVAC system is likely more affordable and easier to maintain.
9. The HSR recommended bringing in new electrical service and transformer just for the NHS. They have not had any issues at this time. If a new Visitor Center is constructed in the future, that additional electrical needs will be addressed as part of that project.
10. There was a life-safety issue found in the crawlspace of the Cassidy House. The section of floor joists surrounding the return air floor vent in the Living Room is deteriorated. Philip said the joists are crumbling when you touch them. This could lead to failure of the floor in this area and should be shored immediately.

11. One wood sample was taken from the Cassidy House first floor joist for species identification. It was found to be in the 'Southern Yellow Pine' group, which would match 'Mixed Southern Pine' for structural calculations.
12. Two test pits were dug adjacent to the buildings to see if the team could verify the presence of, the depth, and the materiality of the footings.
    - At the Visitor Center, the test pit was dug just to the east of the crawlspace opening on the south side of the house. The hole was approximately 12" diameter at the top and narrowed to about 14" in depth. It was dug with a shovel, and very carefully worked around the existing irrigation line that was within inches of the foundation wall. This made the excavation of the hole difficult. Therefore, the top of the footing was exposed, but the depth was not able to be determined in the small area available. To find the depth and materiality of the footing, a much larger hole would have had to be dug outside of the irrigation line.
    - The test pit at the Cassidy ran into the same issues with the irrigation line being in the way of the test pit. This pit was dug just west of the central foundation vent on the south side of the house. The foundation footing was located approximately 1" below grade.
13. The Visitor Center should be treated as historic with compliance reviews for proposed work until a final determination has been made. John has recommended further discussion with Region about a Determination of Eligibility for the house. The HSR does not address the historic nature of the Visitor Center, but the CLR recognizes it as part of the historic setting. This subject matter will be continued.

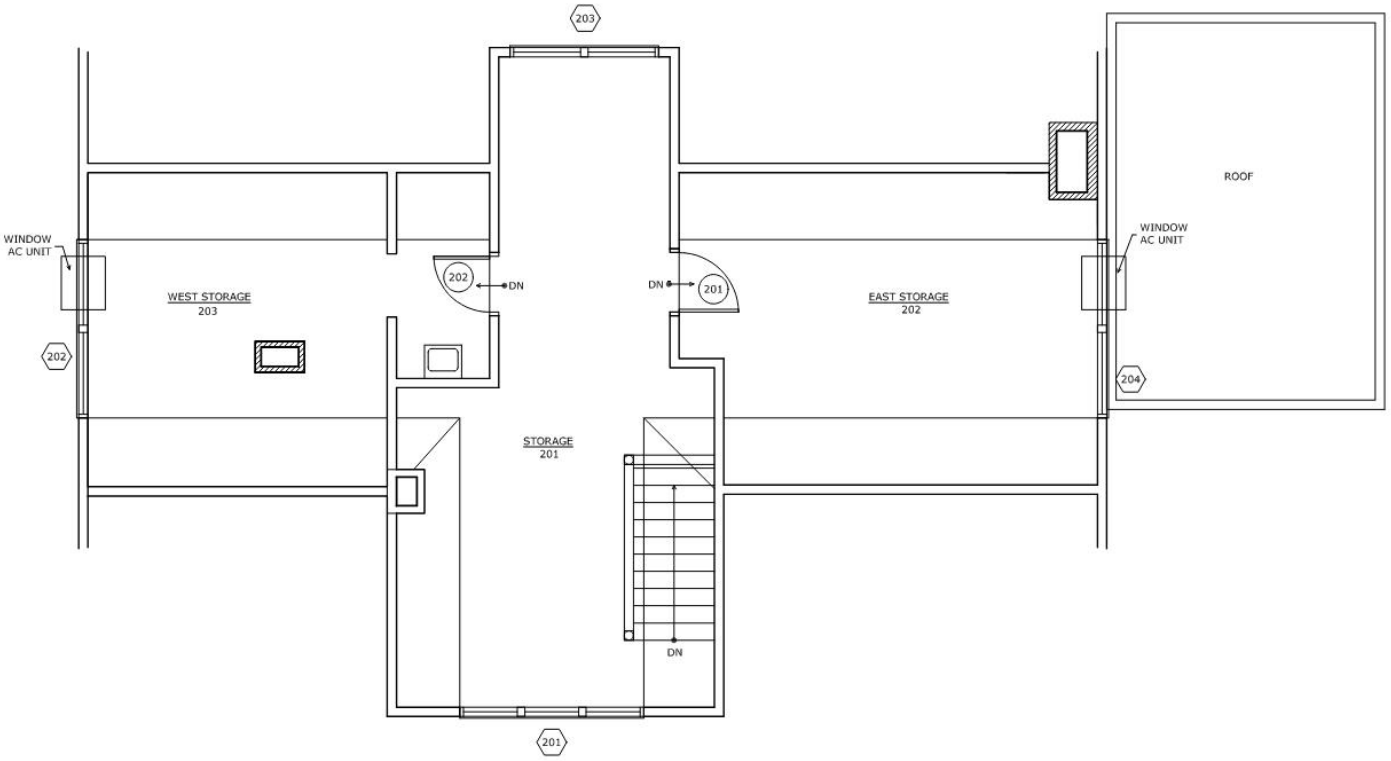
REFERENCE FLOOR PLANS



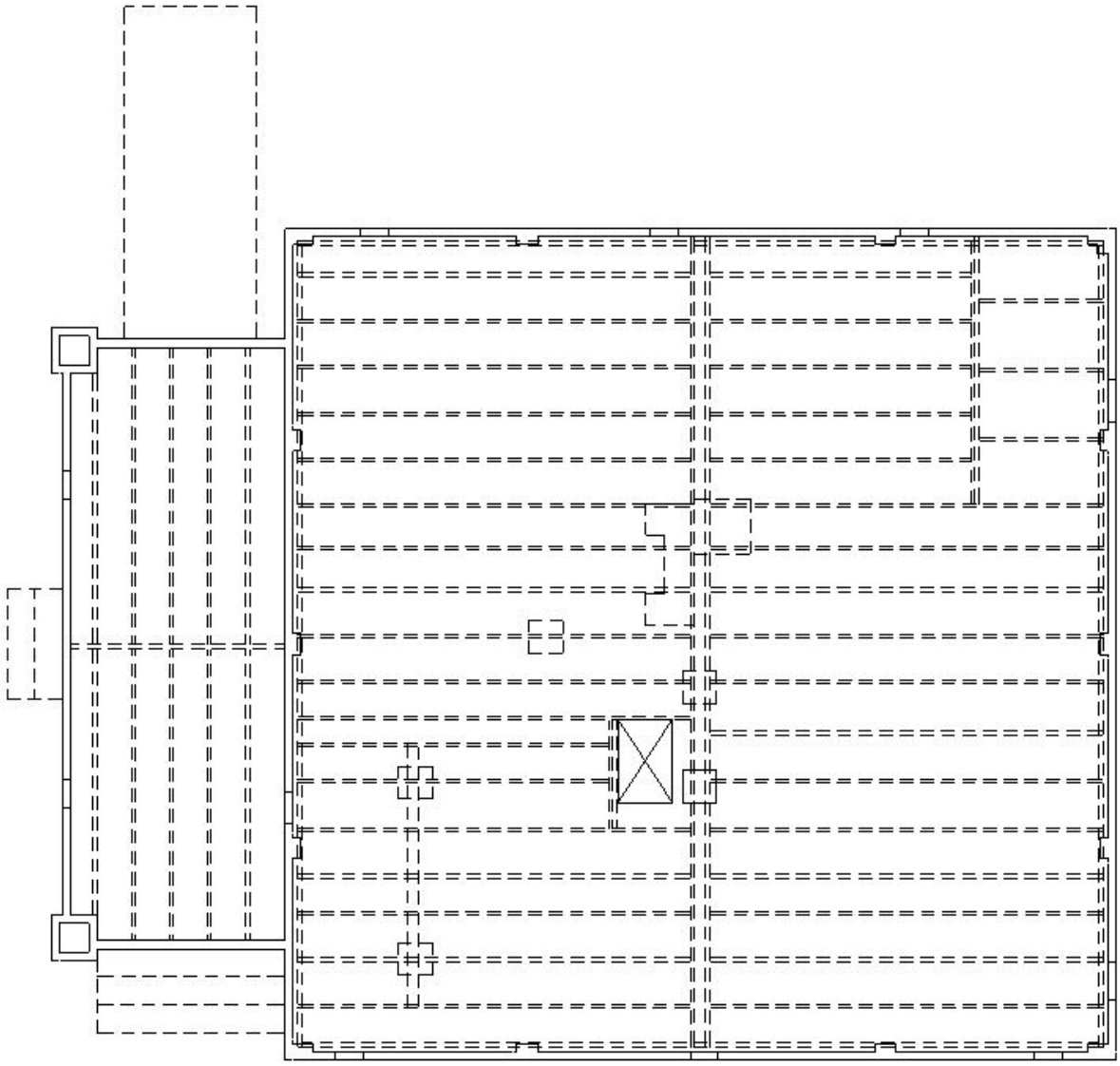
Visitor Center Crawlspace Plan



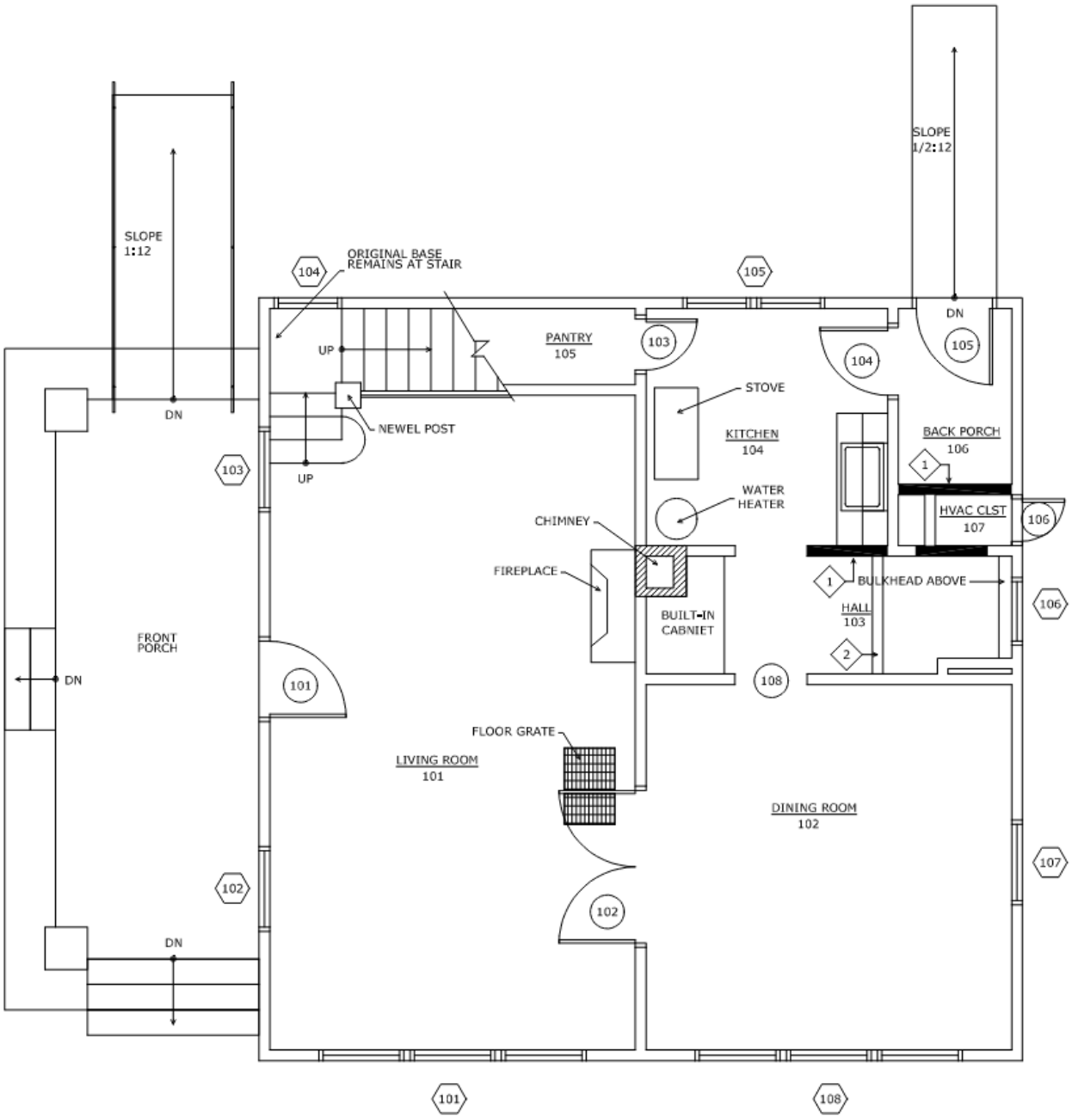
Visitor Center First Floor Plan



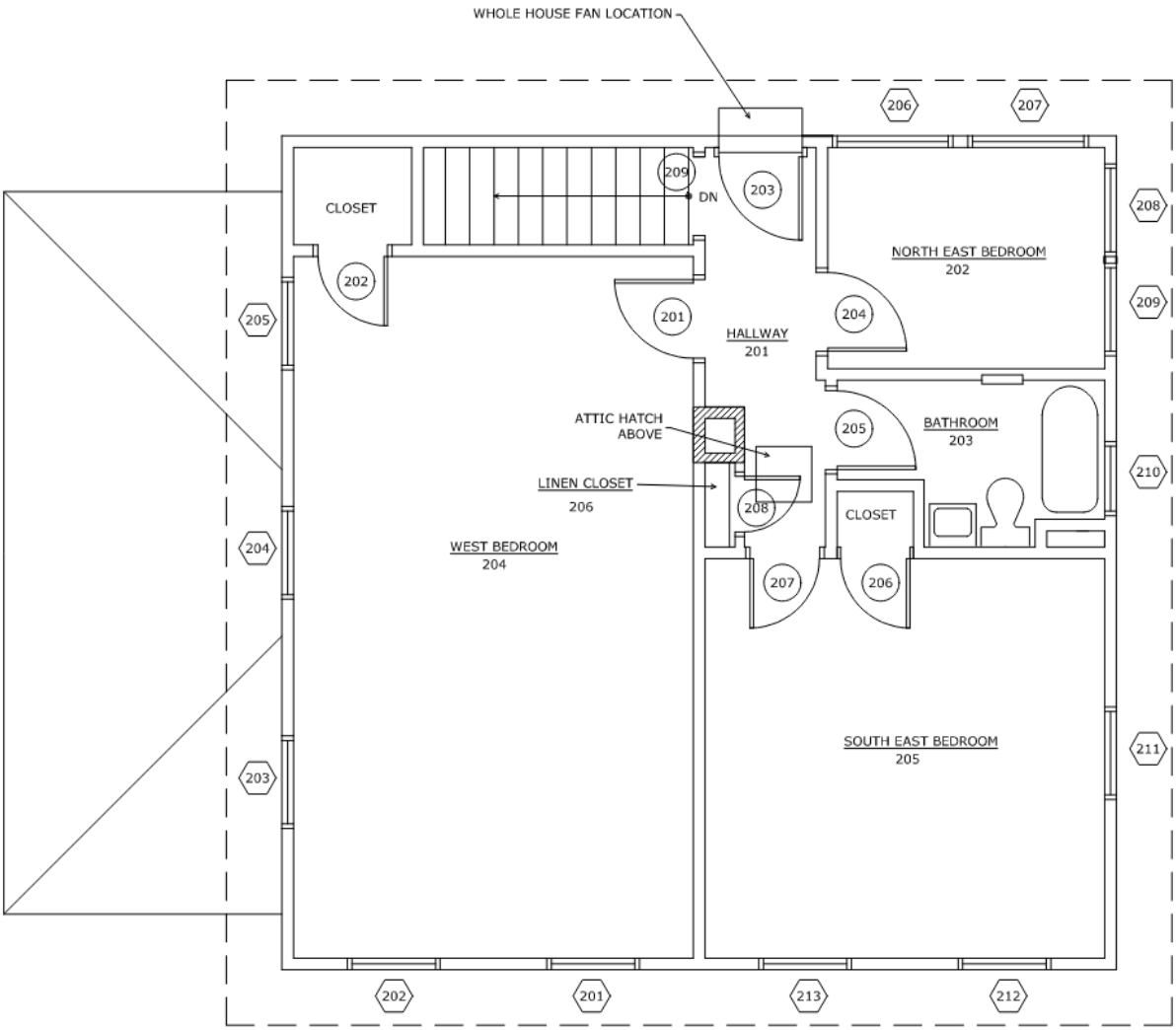
Visitor Center Second Floor Plan



Cassidy House Second Crawlspace Plan



Cassidy House First Floor Plan



Cassidy House Second Floor Plan

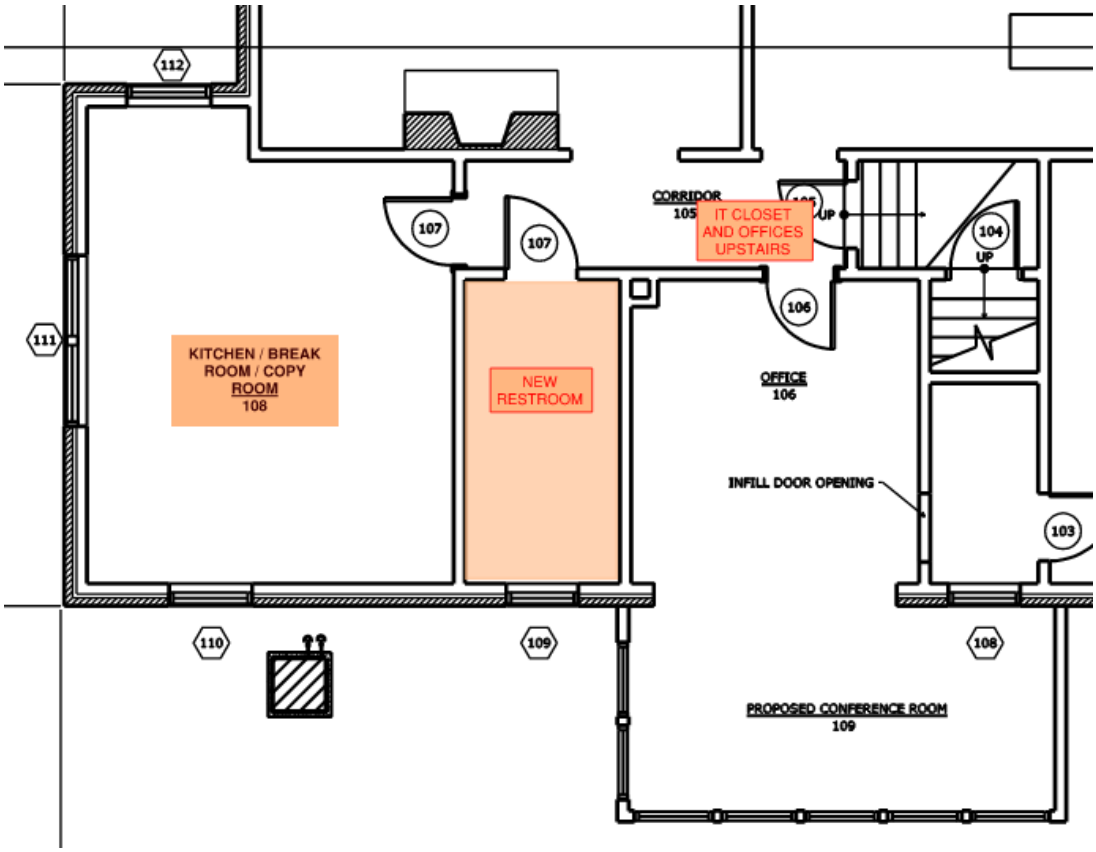
Visitor Center Assessment

Existing Plans for Reference are attached.

The following items were observed during our site visit.

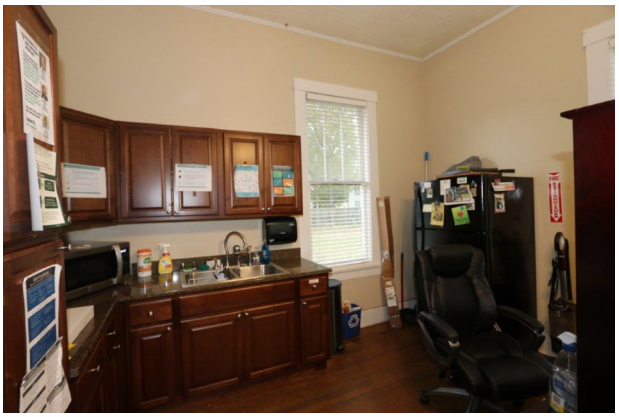
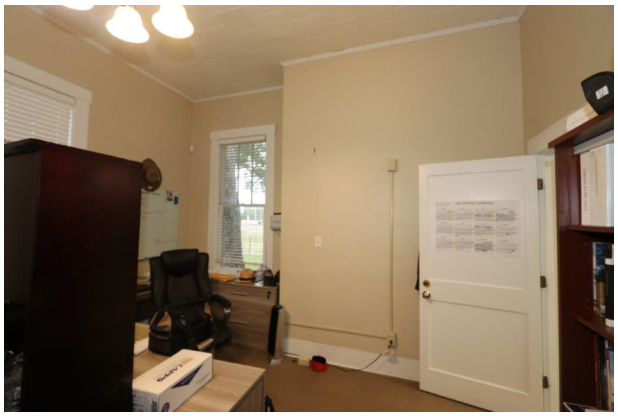
1. Historic Integrity:
    a. The Visitor Center has a high level of historic integrity throughout. Much of the original materials, including the wood trim, windows, and doors appear to be original. Room layouts appear to be close to original with the exception of the non-extant breakfast room/south porch room that was previously demolished.
    b. A majority of the previous renovation work that was done on this historic site was done in the mid-1990s by the William Clinton Birthplace Foundation.

2. Programming for Interior Space:
    a. A new programming effort should be undertaken to assess the park's current and future needs for office area, visitor services, and function/layout of the entire first and second floor of the Visitor Center. Efforts should begin with the HSR recommendations and should update the recommendations for current needs.
    b. Items to explore may include:
        i. Visitor Greeting at Entry / South Porch Door – Consider relocating cubicle
        ii. Consider what staff need to be on first floor.
        iii. How many cubicles or private offices would be located upstairs?
        iv. Where is the best place for the Superintendent's Office? Second Floor? What are privacy requirements? Do other staff require privacy?
        v. If the missing Breakfast Room addition was to be reconstructed, how would this space be utilized in conjunction with the existing Office 106 area? HSR plans show this as conferencing space, but how would that work if there were cubicles in 106?
        vi. If Offices mostly move upstairs, would Exhibit 103 be returned to visitor services? Is this space needed?
        vii. Consider adding an ABA-accessible 'Convenience' Restroom for staff use within the first floor of the building. This could be partitioned in Office 108 area with a small, reconstructed kitchenette sharing the other portion of the space. Or, a restroom could be installed in Copy Room 107.
        viii. See plan option for restroom below. In this scenario, the IT closet would move upstairs, and the existing IT/Copy Room 107 would be renovated into a single-toilet accessible convenience restroom. The existing kitchen/office 108 would be used as a kitchen/breakroom/copy room. Two or three desks or 2 small cubicles could be located in Office 106 and a small conference table for staff. All other offices would be upstairs. Photographs of these spaces are below.





Room 107 – Currently the copy room, originally a bathroom. May be suitable for an accessible restroom. Ceiling is lowered in front of old window. Window is glass blocks.

Room 108 – Currently the staff kitchenette and 2 cubicles for staff. Originally, this was likely a bedroom. Proposed plan keeps the kitchenette here as a break room and also copy room functions.

3. Hazardous Materials: Provide an updated comprehensive hazardous materials survey of the entire building, including concealed areas and crawlspace.

4. Foundation:
   Existing Conditions:
   a. The perimeter foundation walls are triple-wythe brick with the exterior wythe being the veneer and no visible header bricks. A concrete parging is visible at the base of the perimeter foundation walls with a beveled top edge. The parging is approximately 1" thick. It is unknown if this parging is an original treatment, or if it was added during a later renovation.
   b. The team excavated a test hole in the center of the south foundation wall. Unfortunately, the irrigation lines are installed below grade very close to the foundation wall, which did not allow for a full-depth excavation, as anticipated. A footing appears to exist approximately 14" below the exterior grade. It could not be completely uncovered to discover the depth or condition of the footing.
   c. Interior piers supporting the first floor are brick and are constructed on a combination of brick and concrete footings.
   d. An interior brick foundation wall runs east/west below the mid-span of the sunporch.
   e. The foundation appears to be settling unevenly throughout the structure exterior walls and interior piers. In some areas, the house has sunk several inches since the 1990s renovation. Sections of flooring in the first and second levels of the house have noticeably settled with high and low spots where support varies.



Photographs of the exterior and interior of the brick foundation walls.

Treatment Recommendations:

f. A Geotechnical report with (2) or (3) borings to a 20' depth is recommended prior to beginning the design for the foundation repairs.
g. Due to the condition of the existing foundations, it is recommended to dismantle the existing brick foundations and veneer (discussed in detail below) and install a foundation designed for the expansive soils. This may include a wider footing with void cartons and underpinning with helical piers. (Void cartons are also referred to as void forms and are used to create space between concrete structure and expansive soils to isolate the concrete from the swelling ground). Inside the crawlspace, it would be difficult to install helical piers, so a reinforced concrete spread pier footing is recommended with adjustable galvanized columns with spread bases. These columns can be adjusted if the interior piers move drastically different from the fixed (underpinned) exterior foundation walls. This scope of work for this project will need to be carefully investigated and detailed. Access throughout the crawlspace is difficult with tight spaces. Access will need to be provided in order to design for foundation and underpinning at the wall between the Reception 102 and Entry (Sunporch) 101 and to assess and design interior piers and their attachment to the wood framing.
    i. Foundation work would include
        1. Shoring
        2. Excavations and removal of irrigation system surrounding foundation

3. Existing Foundation and interior pier removal
4. Salvaging brick foundation and wall veneer units – clean and palletize
5. Installing new reinforced concrete grade beam around perimeter of the house. Recommend grade beam to incorporate 6" void carton to allow for expansive soil.
6. Underpinning new grade beams – estimated 20 piers to a depth of 15 feet (to be confirmed by geotechnical report). Recommend helical piers.
7. Install new reinforced and grouted concrete masonry unit (CMU) foundation wall on grade beam to support perimeter of house. Reinstall salvaged brick for veneer.
8. Install new interior pier spread concrete pads. Install new galvanized adjustable columns with spread base. System may require supplemental galvanized I-beams be installed to spread the support if the wood beams and existing joist layout do not spread the support evenly.
9. Underpin (4) existing piers at corners of north and east porches. Void carton would not be required for individual piers.

5. Crawlspace and First Floor Framing: The crawlspace was accessed through an opening in the south wall where the breakfast room addition was previously removed.
   Existing Conditions:
   a. The crawlspace was partially accessible and not able to be measured completely due to ductwork, pipes, and high grade.
   b. The floor is dirt with debris throughout.
   c. Moisture is present around the perimeter of the foundation.
   d. Many of the wood floor joists have been repaired. It also appears that the outer rim joist was replaced. It is unclear how the rim was installed without removing the brick veneer, which is supporting the outer walls. The existing 2x10 joists were cut short of the replaced rim joist and then they were partially sistered with 2x6s and toe-nailed into the new rim joist. This work to the joists and rim joist occurred during the last renovation project.
   e. At the center beam, there are issues with the previous framing repairs where 2x4s were added to re-connect larger joists to the beam. There are improper connections in many places.
   f. There is evidence of termite damage to joists and the subfloor throughout. The HSR recommended 500 SF. This may not be enough, once the full inspection is completed. This could easily grow to include a much larger area and spot areas throughout the first floor. Once that occurs, it may be easier to replace subfloor and wood flooring throughout an entire room, rather than spot replacement. Cost for full replacement should be covered by the design contingency allowance in the cost estimate at this phase of design.



Typical existing, unconventional first floor framing conditions in the crawlspace.

Treatment Recommendations:

g. The crawlspace dirt should be hand-dug and removed prior to the next renovation to allow for access throughout for maintenance and repairs. The dirt should be approximately level with the exterior of the house.
h. A priority repair would be the repair the joist to beam connections in the area below Corridor 105. Estimated (10) connections using metal joist hangers (Simpson or similar) and (1) 2 x 8 x 4'-0" supplemental framing.
i. As the foundation work occurs, probe all existing joists for deterioration and joists cut for piping. Sister existing damaged/deteriorated joists in crawlspace. Estimated (15) total sister joists, approximately 2 x 10 x 18'-0". Install galvanized metal joist hangers (Simpson or similar) to existing joists. Estimated (60) joists with (2) hangers for each joist.

6. Brick Veneer and Exterior Walls:
   a. Exterior brick is single-wythe veneer over an unknown substrate.
   b. A hole in one area shows wood sheathing that was deteriorated and perhaps termite or other pest damaged.
   c. It is unknown if there is also building paper over the sheathing.
   d. Areas of the brick veneer have shifted, settled, cracked, and bowed throughout the exterior of the house. The foundations have settled, creating undulations in the

plumbness and have caused bowing of the wood frame structure. In areas that exhibit movement, the bricks may be detached from the wall sheathing, allowing for masonry settlement separate from the wood frame wall. This uneven settling and masonry dis-attachment effects the cast concrete sills, wood trim, wood windows, and creates out-of-plumb conditions at doors and window openings.

e. The only area of the house that the brick veneer appears to be sound is the exterior exposed brick masonry wall area within the sunporch that is covered with the roof. Here, the masonry is well protected and the ground does not get saturated with water. The large masonry fireplace mass does not appear to have settled, and the entire masonry wall system in this area appears to be fairly intact and in good condition.
f. The cracks and offsets in the brick veneer allow water to further infiltrate the wall system, which can accelerate deterioration of the wood wall system and brick veneer.
g. There are a lot of spiders and pests living in the holes of the masonry mortar joints.
h. Foundation vents are rusted. A future design phase should calculate the volume of the crawlspace and the size and allowable air flow of the foundation vents to ensure they provide adequate air flow to meet current code.
i. The condition of the wood-framed exterior walls was not able to be observed. However, there were areas where the sheathing was exposed and is in poor condition (noted above). Also, the rim joist that supports the wood wall and brick veneer was replaced. This may also indicated there is potential for deterioration of the wall sill plate. This could not be observed.












Examples of brick veneer that has shifted, settled, cracked, and bowed throughout the exterior of the house.

7. Front (North) Porch:
    a. The front porch is constructed of a reinforced suspended concrete slab. The detailing and support of the perimeter of the slab is not visible and was not able to be determined. There is cracking at the perimeter and cracking and delamination at the top tread.
    b. Brick piers on spread footings at grade are inset from the exterior foundation walls. These can be seen through the foundation vents and from the interior crawlspace.
    c. The porch floor and concrete steps are painted, creating a slick condition.
    d. The porch floor slopes 1” in 4’ towards the house, which can funnel water into the wall.
    e. The east cast concrete rail cap is cracked.
    f. There are no railings at the front porch steps.
    g. Recommendation - The porch will likely need to be partially deconstructed to replace the building foundation. At that time, the porch construction and supports will need to be further investigated and designed for replacement. Porch will need to be reconstructed to have a positive slope away from the house. It is unclear if the house will be jacked or straightened to account for the settled dimension at the porch/door area.
8. Historic Windows:
    a. Historic wood windows (sashes, frames, trim, and sills) are in overall poor condition and require complete restoration. Some of the sills have been affected by the shifting brick veneer/cast concrete sills and are now sloping back towards the house, instead of down and outwards.
    b. Windows are currently not covered with storm windows.
    c. HSR recommends interior storm windows. We would reconsider this recommendation and recommend exterior storm windows be installed to protect the newly-restored windows with a low-e glass to provide some energy efficiency.
    d. Lintels at Windows 101, 106, and 114 have settled in the centers by nearly 1.5-inches or more and appear to be undersized. Even though the weight of the masonry above is not substantial, they are failing. While the brick wall veneer is removed, the lintels should be replaced in these locations. Lintels at other windows should be inspected for

deterioration when the brick veneer is down-stacked, and they should be replaced accordingly.

e. Window sills are cast concrete and are painted. The paint is in poor condition, traps moisture in the concrete, and is difficult to maintain. Consider stripping paint and installing concrete sealer to preserve the sills. Research as to the historic condition of the sills (painted or natural) may reveal a preferred treatment.
f. Exterior glass block window was in a restroom and should be restored to a wood double-hung, unless historic documentation suggests this was historically a glass block window opening.






Examples of exterior windows and deterioration.

9. Historic Front Door and Surround:

a. The historic wood front door, sidelights, and transom are in overall poor condition with peeling paint and deteriorated putty. The door frame is racked slightly from the foundation settlement. The door is not fully weatherstripped. Hardware does not meet ADA. The cast concrete sill is painted on the exterior. The threshold does not meet ADA.



Front Door and Surround.

10. Sunporch/Entry 101:
    a. Sunporch infill wood framing and windows are in overall poor condition.
    b. Wood rot is prevalent near the base of the wall.
    c. Water infiltrates this wood-framed wall and window system when it rains, resulting in puddles on the interior of the building.
    d. Some of the insulated glazing seals have failed, resulting in foggy windows.
    e. The detailing of the wood framing at the windows is not designed to shed water, instead, the detail allows for water to infiltrate the system. We recommend this entire wood framing system to be re-designed to correctly shed water with new insulated windows.
    f. The concrete floor in the sunporch is painted. The paint does not appear to have been previously tested. The paint is in overall poor condition and makes the floor slick. This should be tested and removed. And a concrete floor cleaned, polished, and sealed.
    g. The reinforced suspended concrete floor slab is in fair condition. Some corrosion and exposed reinforcing is visible at the underside of the slab. The slab is partially supported by an east/west brick wall at mid-span.
    h. Recommendation: Reconstruct infill walls and glazing. Prior to redesigning the wood framing and infill, research for the original design of this porch area is recommended through historic photographs and contacting previous owners, etc.




Examples of Sunporch wood window and trim deterioration.

11. Exterior Painting:
    a. It is assumed that all exterior paint contains lead. The paint is in overall poor conditions and is peeling throughout.
    b. It is recommended to strip all exterior paint from wood trim and stucco to get to a sound surface and repair all wood exterior components.
    c. All of the exterior requires stripping, sanding, caulking, prepping, and final painting.
    d. Wood deterioration is noted below.

12. Exterior wood trim deterioration (Excludes sun porch):
    a. Exterior wood trim is painted and is peeling throughout.
    b. Wood rot was seen from grade in the following locations:
        i. North Elevation:
            1. Dormer – epoxy repair and consolidate wood center bracket
            2. Dormer – all wood that is exposed needs to be stripped and have a wood consolidant/preservative installed
            3. Rafter/outlookers on both sides of porch roof need to be replaced. They have been partially sistered previously.
        ii. East Elevation:
            1. Wood trim in the gable that divides the stucco bays is in overall poor condition and required replacement in several locations.

2. The center (south) bracket is deteriorated and requires significant repairs or replacement.
3. Replace window sill, apron, and vertical batten at second floor window.
4. Repair/replaced section of fascia boards at gable peak.
5. Replace wood soffit and barge board to be replaced at sun porch.
6. Replace barge board near north side (may be replaced due to brick down-stacking anyway).

iii. South Elevation:
1. Replace deteriorated east bracket at dormer.
2. 9th rafter tail from the east is deteriorated – replace in kind.

iv. West Elevation:
1. Replace approximately 36" of corner board at dormer
2. Replace entire length of bottom board at roofline at dormer
3. Replace sections of barge board
4. Epoxy repair and consolidate southern-most bracket



Example photographs of wood deterioration and peeling paint.

13. Ramp and South Porch Steps:
    a. Existing Ramp
        i. The wood ramp, porch, and steps are not historic and was likely constructed in the mid 1990s.
        ii. The ramp is constructed with wood decking with turned wood painted railings. The ramp and steps are in overall poor condition.
        iii. The park has closed the steps, due to broken treads. The ramp railing is unstable, missing balusters, and is generally in poor condition.
        iv. The ramp, porch, and steps are slick when it is wet. One of the metal anti-slip plates is missing on the ramp.
        v. The ramp is constructed against the east wall of the house, making maintenance in this area of the masonry structure difficult.
        vi. The threshold at the entrance door does not meet ADA height requirements.
        vii. The ramp slope is about 5 degrees with a 5/8" lip at the bottom. The slope meets requirements, but the lip at the bottom is too high.

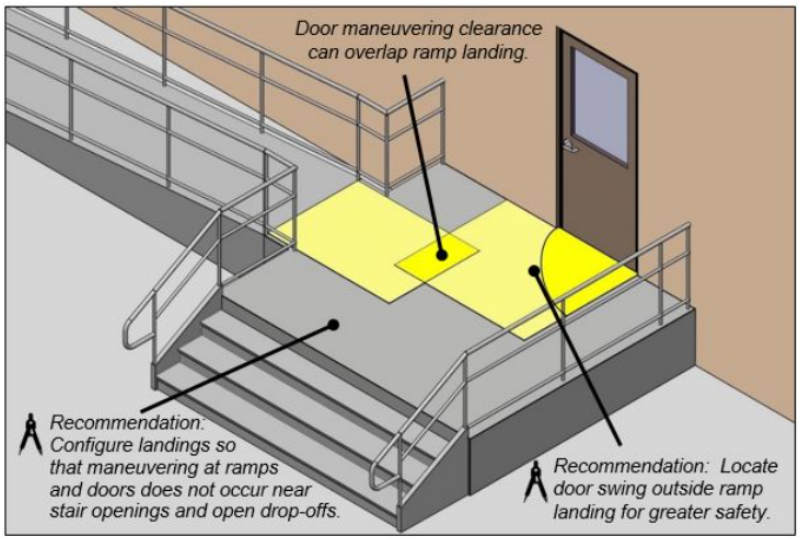
viii. Railings/handrails are not ABA-compliant on the ramp or steps.
ix. Door hardware is not ABA-compliant.
x. No power-assisted door opener (NPS requirement for main entrances)

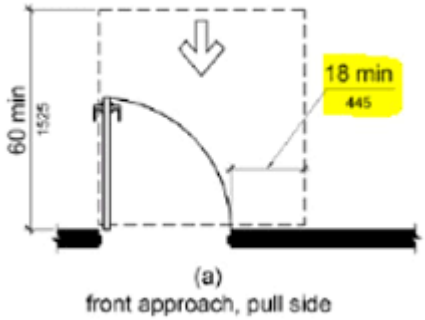




Photographs of the deteriorated accessible ramp and steps at the south entrance.

b. Replacement Ramp
   i. A replacement porch and ramp are recommended to be constructed away from the wall. The Superintendent has a plan that appears to function well in this manner. However, moving the ramp to the east will require replacement of the entrance door. Also refer to #15 Accessibility below. It is also recommended to post signage to indicate the location of the accessible entrance and also to install an automatic door opener, if possible.
   ii. For proper ramp layout and clearances, refer to one of the following guides:

1. https://www.access-board.gov/aba/guides/chapter-4-entrances-doors-and-gates/
2. 

3. 

14. Grade:
    a. Grade slopes towards the house along the north side of the house.
    b. The lack of gutters has led to a depressed area in the grade surrounding the house, which does not allow for proper runoff during rains. This can also create ponding around the house and result in a damp crawlspace and uneven settlement of the foundation.

15. Accessibility:
    a. Exterior - South Ramp Entrance: See #13 Above
    b. Exterior - Front Entrance (North Porch):
        i. There are no railings at the front steps.
        ii. The painted porch floor and steps are painted, making them very slick and dangerous when wet.
        iii. There is a step up at the front door and a tall threshold.
        iv. Door hardware is not ABA-compliant



Photograph of the front porch.

c. Interior – First Floor:
    i. Back Hall (Corridor 105):
        1. The back hall (Corridor 105) is around 45-inches wide, which is close to the minimum 42-inches required for ABA-compliant access to door openings in the hallway.
        2. In their current configuration, the doors from the Corridor 105 are not all accessible.
            a. Door 106 into Office 106 is too narrow and cannot be converted into an accessible opening without widening the door. (Widen door or use Door opening 103 as a cased opening without a door installed)
            b. Door 107 into Copy 107 swings into the hallway, which does not meet ABA-clearance requirements for operation and approach (minimum 54” or 60” depending on direction of traffic). If the door is reversed to swing into the room, it is still not wide enough to meet the required 32” width if there is a door installed. If the door is uninstalled and only the cased opening remains, the door will meet ABA requirements at 33”. (Solution: remove door and leave jamb)
            c. Door 108 into Office 108 does not meet door approach requirements. If a door is installed, it does not meet width requirements. If a door is removed and not installed, the width between the jamb stops is 33” and meets requirements. (Solution: remove door and leave jamb)
        3. It is unlikely without major renovations that the rear portion of the first floor could potentially house more than a single restroom.
        4. The existing lay-in acoustical suspended ceiling is not compatible with the historic nature of the house. The original volume of the hall ceiling could be restored with new lighting.



Photograph of the narrow back hall (Corridor 105).

ii. The fireplace hearths in the Reception Room and the Exhibit Room were installed to be flush with the wood floors. Over time, the hearths have settled, and the bricks have shifted and now project above the finished surrounding wood floors, creating a tripping hazard.



Brick Hearth in Exhibit Room that is uneven and a tripping hazard.

iii. Door hardware throughout the house is historic or contemporary replacement and is not ABA compliant.

d. Interior – First Floor:
   i. Copy Room 107 has a lowered hard ceiling that intersects the top of the window. Explore why this has occurred. Raise ceiling if possible in renovation, or provide window pocket to allow for full height of window to show inside the room.
   ii. The main electrical panel is in Copy Room 107.
   iii. Office 108: Acoustical ceiling tiles direct-applied to the ceiling are not in keeping with the character of the historic house. Lighting in this space is residential in nature and does not provide enough light for office space. Exposed conduit in the room should be removed when the house is re-wired. Irrigation system controls are installed on the north wall in this space, near the window. This room is partially carpeted and partially wood flooring.





(Left) Photograph of the first floor copy room with a lowered ceiling and a glass block window. (Right) Photograph of incompatible acoustic direct-applied ceiling tiles in the kitchen 108 room.

e. Interior – Second Floor:
    i. Staircase:
        1. The winding staircase to the second floor does not meet commercial code. The treads and risers to not meet current IBC commercial code.
        2. There are two door openings on staircase that are not code compliant, as they swing out over the stairs and into the path of traffic.
        3. Hand railings do not meet ABA accessibility requirements with regard to continuity and extensions at the top and bottom. These would be difficult to upgrade with the existing door frames in place.
        4. This staircase can be 'grandfathered' in with some safety upgrades, since the second floor switching from S1 (storage) to B (business) occupancy is an equivalent hazard group.
        5. Recommendations – remove both doors from the cased openings. Remove the cased opening at the landing altogether to allow for a continuous handrail along the outer wall. Install ABA-compliant tread nosings to assist with slip resistance. Install new and adequate lighting at the stairs.



(Left) A photograph of the bottom portion of the wood winding staircase to the second floor with a narrow door opening at the bottom tread. (Right) A photograph of the upper, straight portion of the wood staircase to the second floor with a narrow door opening at the bottom tread before the winding portion of the staircase.

ii. Second Floor Offices:
    1. The span of the second floor joists in Rooms 202 and 203 are greater than previously reported and calculated in the HSR. The joists span from the north to south walls, not from the knee walls, and likely span to a central beam. Therefore, the capacity of the second floor joists is lower than reported. They are also very likely not connected, which may contribute to outward thrust, as they are not restrained.
    2. Rafters do not align with the joists. Load path for outward thrust must transfer through sill plates, which is not ideal.
    3. Gable end framing is not supported by the exterior brick veneer. Lateral pieces cantilever over the stud wall to support the end gables. This is why there is framing that is taller near the end walls.
    4. Construct new offices on the second floor in Rooms 202 and 203.
        a. Remove all insulation board and attachments. Remove all other insulation and debris.
        b. Remove existing sink and all related plumbing in 203.
        c. Widen wall opening in 203 between existing entry/closet and larger room.
        d. Remove existing knee walls for access to floor joists.
        e. Remove existing floor sheathing from rooms 202 and 203. Install new 2 x 10 joists between existing 2 x 6 joists (16” spacing). Estimated (48) 2 x 10 x 18’-0,”as required for office loading.

f. New joists shall be connected together over central beam support and connect to rafters and sill plates at exterior walls (where rafters are not already connected to existing joists).
g. Install sound attenuation batt insulation between floor joists to assist with sound transfer to the first floor. Reinstall existing floor sheathing and supplement with new sheathing, where required. Install new carpet tiles.
h. Reconstruct knee walls and frame for new access doors.
i. Provide flush, painted steel, lockable and insulated knee wall access doors on each side of the knee walls (4 total).
j. Insulate knee walls and ceiling. Re-wire second floor. Install new gypsum board walls, painted, and new painted trim.

5. Renovate existing office space Room 201 in the center of the second floor.
    a. Remove wall paneling. Install new gypsum board painted walls.
    b. Refinish existing historic wood flooring
    c. Add raised railing at stair railing to bring height to 42" code requirement.
6. Throughout Second Floor:
    a. Install new lighting, electrical receptacles, and data throughout. Install new HVAC (refer to mechanical and electrical).
    b. Paint all rooms (walls, trim, ceilings) on second floor.
    c. Repair paneled wood Door 201 and provide new hardware.
    d. Repair paneled wood Door 202 and provide new hardware.

16. Chimneys:
    a. There are three chimneys that were constructed of the same brick as the exterior veneer that once pierced the roof – one on the far east side, another near the center of the west roof, and a third, smaller chimney just west of the back dormer. These were removed to below the roof line, but the chimney bases are still intact.
17. Roof:
    a. The existing roof structure shows signs of minor deflection and sagging.
    b. The existing asphalt shingle roof is in overall fair condition. It was last replaced in November 2011 and will be due for replacement during the timeframe of this proposed project.
    c. The turbine-style roof vents are old and squeak, which is audible outside and inside the second floor.
    d. The roof vents provide exhaust only. There do not appear to be any intake vents. When the second floor east and west rooms were open and not insulated, this condition was okay, but since the rooms are more finished now, intake air should be provided for proper ventilation.
    e. Existing roof framing is not visible. Once the rigid insulation board is removed, inspect all roof rafters and sister existing roof rafters framing or add supplemental framing as needed. Unknown quantity. Estimate 12 – 2x6 x 20'-0".



Existing Roof at the Visitor Center.

18. Restrooms:
    a. There are no restrooms in the Visitor Center. There is a free-standing comfort station just south of the center. Employees must leave the VC to use the restrooms. Code allows for restroom facilities to be within 500 feet. It does not specifically state if they have to be within the building.
    b. There are no NPS staffing requirements regarding restroom beyond the building codes.
    c. From a practical standpoint, related to health and safety, as well as convenience for the park administration and Visitor Center function, it is prudent and represents best practices for human comfort and hygiene to have restrooms within the Visitor Center building.




Photographs of the Comfort Station, Southwest of the Visitor Center.

SITE ASSESSMENT

1. Assessment of the site is difficult without an updated topographic map and site plan. The existing plan is over 25 years old and pre-dates the memorial garden and site improvements. Future projects will require a new, updated site plan with detailed topography and utilities to be produced.
2. Front steps at north side of Visitor Center from the sidewalk do not have compliant handrails or handrail extensions.
3. City sidewalk at the perimeter of the property (north sidewalk and wrapping around the west side) is not compliant with offsets in paving. In addition to the offsets in the walkways, the sidewalk has sunken in many places, lower than the curb, creating a tripping hazard. The sidewalk is too steep to be considered to be ABA accessible.
4. Sidewalks around the site have offsets between sections that make accessibility difficult and create tripping hazards.
5. The walkway north of the Cassidy House was constructed atop remnants of the old asphalt alley. This makes the sidewalk high and above grade, essentially creating a dam for water between the walkway and the house.
6. Drainage around the Visitor Center and the Cassidy House is poor. The lack of gutters and downspouts has led to depressions around the houses that hold water. At both houses, there are areas where the grade surrounding the homes slopes towards the building and not away.
7. The site is essentially flat with poor drainage all around. The site is always soggy and does not drain well, as there is not enough slope to sheet drain. The park would like area drains. The closest storm drain appears to be at the NW corner of the property in the street
8. Future plans need to protect the historic trees that were identified in the CLR.
9. Visitor Center Stairs to Road: The railings on the concrete stairs to the road are not ABA-compliant. This was noted in the HSR.
10. Cassidy: The flumes at the Cassidy house are not taking on water, and the south flume with the fence across it is very dangerous.
11. Cassidy: The retaining wall at the street is cracked and offset. The drains at the base of the wall are dry, indicating the lack of drainage tile or they are clogged. The end of the retaining wall near the south edge of the porch makes circulation around the front porch tight.
12. The irrigation system is currently not functioning. It is not taking on water. An entire replacement may be required in the future.
13. Memorial Garden: The brick plazas have settled unevenly creating tripping hazards. These need to be re-set. Walkways into and from the garden to the Visitor Center were gravel and have all but disappeared. The park would like to add concrete walkways through the garden to make the garden accessible. The park would also like to pour a concrete walkway where the existing S-shaped path leads from the garden to the front of the Visitor Center. The new walkway could be lined with the original brick edging. The park may also do something different with the urn in the north plaza. It's original use or intention is not clear.
14. Fencing: The park would like to keep the black fencing at the perimeter of the site. It has recently been painted.



North (primary) entrance into the Visitor Center.



North and West sides of the Cassidy House and site, looking southwest.



South and West sides of the Cassidy House and site, looking north.



Photograph from behind the Visitor Center, looking toward the back of the Cassidy House, facing west.



Photograph looking north at the west side of the Visitor Center towards the memorial garden.



Photograph looking south at the Visitor Center on the left and the memorial garden on the right. The Cassidy House is in the back right background.



Offset bricks that are a tripping hazard at the memorial garden.

A conceptual level site plan is attached that outlines the proposed site work, including:

- Re-grading to provide positive drainage away from the buildings and to site drains;
- installation of underground foundation drains and site drains;
- replacement of walkways and ramps to improve accessibility;
- replacement of the retaining wall at the Cassidy house and removal of flumes;
- removal of concrete driveways;
- adjustments and new handrails at in-grade steps;
- potential for relocating Cassidy house condensing units;
- fencing work;
- other related work.

In order for a new design to proceed, a new, detailed site survey must be done as part of the project. The entire site would benefit from an updated Cultural Landscape Report to direct replacement materials, fencing; handling of site features, and landscaping.

CASSIDY HOUSE

The following items were observed during our site visit.

1. Historic Integrity:
    a. The Cassidy House has a combination of historic and contemporary finishes and materials on the interior. Interior room layouts appear to be close to original with a few exceptions noted in the HSR. Most of the historic exterior finishes and materials, including the exterior wood siding, soffits, trim, windows, porch, and exterior doors, were replaced during a mid-1990s renovation project.

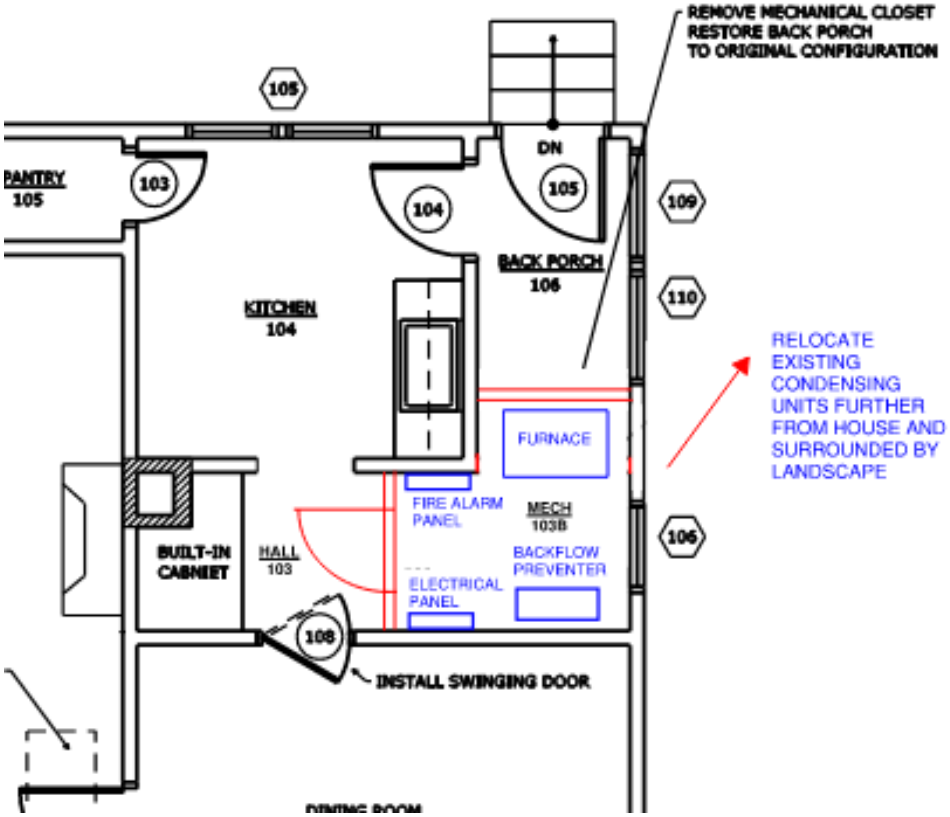
2. Programming for Interior Space:
    a. Our team suggests revisiting the previous HSR programming effort to assess the park's current and future needs for the Cassidy House, visitor services, and function/layout of the mechanical, fire suppression, electrical, and security systems.
        i. The HSR recommendations included reconstruction/restoration of the infilled NE back porch; however, the HSR did not go into detail about potential alternate layouts for alarm and mechanical systems that are now housed in that porch space.
        ii. Restoration of the NE infilled porch may take further research and review of the previous work and photographs to get the detailing and dimensions for the overall project to be historically accurate.
        iii. In order to restore the NE porch, the existing mechanical room with the exterior door on the east side of the house, would need to be removed. This is proposed in the HSR, but an alternate location for this equipment is not shown. Additional items that will need to be relocated include the electrical panel.
        iv. Other proposed new systems for the future house rehabilitation include: security system/panel; fire protection/notification panel; potential fire suppression pump (depending on municipal water pressure) and equipment, including a backflow preventer; relocation of the electrical panel; and relocation of the furnace.
        v. With limited space on the first floor to house the required equipment listed above, further study needs to be done to find locations for this equipment either in the building or remote. As part of a quick study by our team, one suggestion may include the following:
            1. Restore/reconstruct the NE porch to match historic photographs, as recommended in the HSR.
                a. Foreshorten the south interior side of the restored open porch by moving the wall slightly to the north to allow for some space for equipment in a new interior room.
            2. Infill the east side of the hallway for a new mechanical room to house some or all of the required equipment. This would require full MEP design to verify layouts.



Photographs of the existing Hall 103. This back hall was reconstructed during the previous renovation, but there was little evidence of the original configuration, as noted in the HSR.



Photographs of the existing Back Porch 106. This was reconstructed during the previous renovation, but the original screened openings in the east wall were not installed, as noted in the HSR



vi. Further design of a new, comprehensive furnace/mechanical system is required. The HSR recommended a ground source heat pump. The NPS has expressed that they would prefer a more traditional approach without the pipes in the ground that are required with the GSHP installation. This house originally had small wall heaters and a working fireplace and no forced air. The new design should more closely look at locations for supply and return air grilles that will be less visible than the current design.

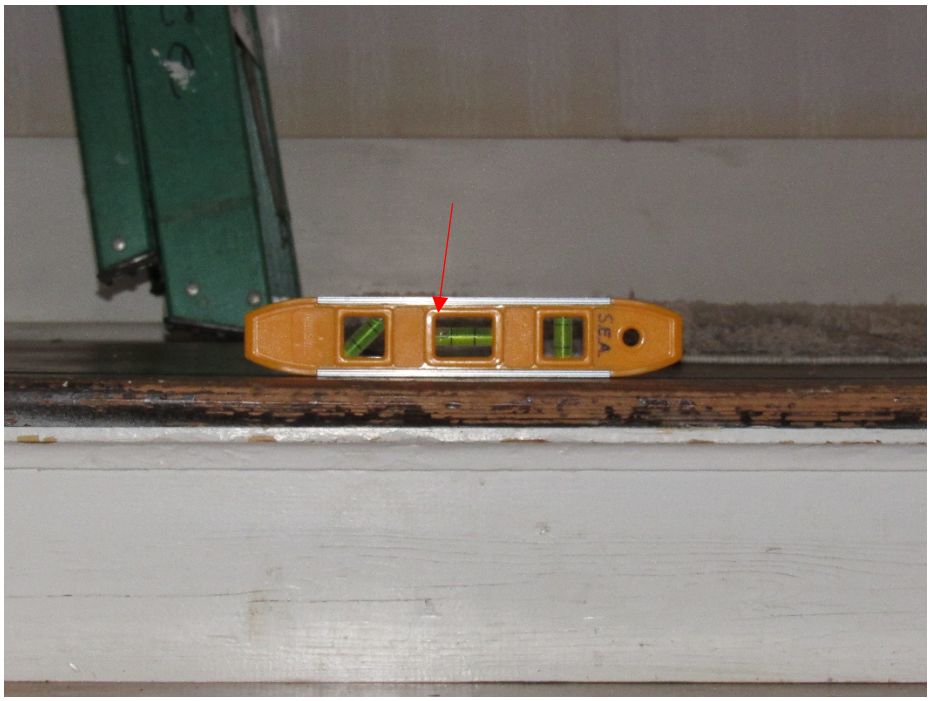
vii. Restrooms: Consider the need for a functioning restroom on the second floor.

1. NPS Regional staff have suggested that at a minimum, a sink with running water would be necessary for basic housekeeping. They also mentioned that a functioning restroom might be good to keep for emergencies. However, with the restroom on the second floor instead of the first floor, this may not be as convenient for staff or visitors during tours.
2. Park staff states that the working exterior hose bibb meets current housekeeping needs. MWR Museum Program Lead concurs that this could be adequate. No other plumbing fixtures need to be in working condition in the house. This may warrant further discussion about how to treat drains, in case someone were to pour liquids down a sink, the toilet, or tub in the future.

3. House Settling: The house has settled since the mid-1990s renovation project. This is evident throughout the exterior and in many places on the interior of the building, as well.
    a. The front (west) porch slopes towards the house.
    b. The house bows in the middle along the north and south sides significantly – as much as 1.5” in 8’. Overall, there is a drop of several inches in the center of the building that is evident.
    c. Floors inside the house undulate.
    d. The top of the stair landing at the second floor has a drop of several inches from the north to the south side of the stairs, making a very uneven walking surface. Likewise, the upper hall is sloped.
    e. Cracks in the gypsum board drywall show cracks throughout the house, as well, signifying areas where the house has shifted or settled unevenly.
    f. Siding on the outside of the house is split at the seams (close at the top of seams, and wider joints at the bottom of the seams).
    g. Windows and associated trim on all four sides of the house are racked so far out of plumb, they do not shut properly. This leaves an open air gap at the outside corners of the windows as much as ½-inch in height, allowing weather and pests into the house interior. Many of these are wide open.



Example of settling in the house with racked windows as seen in the gaps at the bottom right corners of two adjacent windows. Note, that the windows cannot close properly.



Floor level at top landing of second floor stairs to show how much the floor slopes in the hallway. The red arrow points to the bubble all the way to the left side of the level.

4. Foundations: The foundations have settled unevenly since the mid-1990s renovation project. The HSR mentions they had planned to underpin the building, but for some reason, this scope was removed from the project and only the visible portions of the foundation above grade were rebuilt. The foundation appears to be settling unevenly throughout the structure exterior walls and interior piers. In some areas, the house has sunk several inches since the 1990s renovation. Sections of flooring in the first and second levels of the house have noticeably settled with high and low spots where support varies.
    a. The team excavated a test hole near the center of the south foundation wall. Unfortunately, the irrigation lines are installed below grade very close to the foundation wall, which did not allow for a full-depth excavation, as anticipated. A footing appears to exist approximately 12” below the exterior grade. It could not be completely uncovered to discover the depth or condition of the footing.
    b. A Geotechnical report with (2) or (3) borings to a 20’ depth is recommended prior to beginning the design for the foundation repairs.
    c. Due to the condition of the existing foundations, it is recommended to dismantle the existing brick foundations and veneer (discussed in detail below) and install a foundation designed for the expansive soils. This may include a wider footing with void cartons and underpinning with helical piers. Inside the crawlspace, it would be difficult to install helical piers, so a reinforced concrete spread pier footing is recommended with adjustable galvanized columns with spread bases. These columns can be adjusted if the interior piers move drastically different from the fixed (underpinned) exterior foundation walls. This project will need to be carefully investigated and detailed in order to access difficult and tight spaces and how to address interior piers and their attachment to the wood framing.

i. Foundation work would include
    1. Shoring
    2. Excavations and removal of irrigation system surrounding foundation
    3. Temporary relocation of the condensing units.
    4. Demolition of the west porch floor structure and portions of the foundation will be required.
    5. Existing Foundation and interior pier removal
    6. Salvaging brick foundation and wall veneer units – clean and palletize
    7. Installing new reinforced concrete grade beam around perimeter of the house. Recommend grade beam to incorporate 6” void carton to allow for expansive soil.
    8. Underpinning new grade beams – estimated 12 piers to a depth of 15 feet (to be confirmed by geotechnical report). Recommend helical piers.
    9. Install new reinforced and grouted concrete masonry unit (CMU) foundation wall on grade beam to support perimeter of house. Reinstall salvaged brick for veneer.
    10. Install new interior pier spread concrete pads. Install new galvanized adjustable columns with spread base. System may require supplemental galvanized I-beams be installed to spread the support if the wood beams and existing joist layout do not spread the support evenly.
    11. Underpin (2) new piers at west porch. Void carton would not be required for individual piers.

d. While the foundation work is ongoing, it is recommended to attempt to jack up portions of the house to level some of the interior settlement issues.



Interior brick pier with shallow footing.

5. Crawlspace: The crawlspace is accessed through two small openings in the east foundation wall. The southern-most opening allows access to a majority of the crawlspace under the first floor. The northern-most opening is not accessible except for viewing the area under the infilled back porch.
    a. The crawlspace is only partially accessible due to grade and ductwork throughout.
    b. There are severely deteriorated floor joists visible in the area around the return air grille and ductwork under the Living Room 101. This is in the direct path of visitors and

required immediate stabilization/repair. This is a priority repair. Install sister joists or build temporary support piers for (3) joists adjacent to and west of the return air floor grate.

c. The rim joist is not continuous on the north our south sides between piers in the center of the walls and appears to be supported by veneer.
d. The north/south beam that is under the first floor north/south wall is rotted at bearing and shims are crushed.
e. Recommendation – Excavate crawl space.
f. Recommendation – Install concrete mud slab over a heavy-duty vapor barrier throughout crawl space with 2 floor drains and sump to laylight. The concrete slab and vapor barrier will provide some level of protection from rising humidity in the space. The slab will also allow for easier maintenance and access for adjusting interior column supports if needed.



Photograph of shallow crawlspace.







(Upper Left) Photograph of center beam over vent and discontinuous framing support. (Upper Right) Unsupported and deteriorated floor joist at mechanical grille in living room floor. (Lower Left) Deteriorated floor joist near mechanical grill in living room.

6. Exterior Deterioration: Wood rot throughout the exterior is prevalent on the siding, trim, and especially at the wood replacement windows. The quality of the wood used during the 1990s renovation does not appear to be a high-grade exterior wood.
    a. Once the foundation is replaced and the house is as level as it will be for the final work, the siding, corner boards, trim, windows and doors should be replaced in their entirety. Deteriorated sheathing should be replaced, and new breathable building wrap installed. The new siding and trim should closely replicate the historic millwork shown in the historic photographs. This would include reconstructing the west porch columns with siding, as well, to match the historic condition.
    b. Prep, prime, and paint the entire house.





(Left) Photograph of a deteriorated wood window and deteriorated wood siding at the east side of the house. (Middle) Deteriorated corner board, deteriorated siding, and the front porch wood flooring sloping into the front of the house. (Right) Deteriorated siding, Trim, and Window.

7. Roofing and Drainage: Prior to our team being onsite, the park had a high wind event, which had blown shingles off the north side of the front porch. The roof is close to its useful life and should be replaced as part of this project.
    a. Roofing replacement would include roofing, underlayment, and flashings.
    b. Reconstruction of the missing brick chimney should occur as part of the overall roofing replacement.
    c. Recommendation - Gutters and downspout were on visible in the historic photographs of the house. Installing gutters and downspouts would assist in moving a large amount of water from around the home.

8. Drainage: The house sits in a depressed/low area of the yard. Water can accumulate around the foundation. The grade along the north side of the property slopes toward the house, and the sidewalk is raised above grade (poured atop old asphalt in the original alley), which also will impede water flow.



North side of the Cassidy house with poor grading and a high sidewalk that can hold ponding water against the house foundation.

9. Explore options for remote location of the mechanical condensing units. Once the park owns the property to the east, it may be possible to install the condensing lines in an underground trench and locate the units further from the house and potentially masked with landscaping.



Photograph of the 2 condensing units and wood fencing directly behind the east side of the Cassidy House.

10. Remove fence behind house along the east side to match the historic condition of open.

11. Second Floor Framing:
    a. Differential movement is visible at the top landing where the stairs slope towards the south. The stair wall is likely only supported by a single joist. There is visible cracking in the wallpaper in this area.
    b. Differential movement is visible within the corner of the West Bedroom 204 closet.
    c. Our team attempted to view the second floor joist bearing at a hole in the floor in the NE corner of the SE Bedroom 205. This was inconclusive.
    d. The nailing pattern of the flooring visible in the West Bedroom 204 shows joists are approximately 20” center to center.

TREATMENT RECOMMENDATIONS AND PROPOSED PHASING

Proposed phasing for the work to the two buildings and the site includes the following for both buildings. Site work is included in Phase 1B. Phase 1A is to address life safety improvements quickly. Phase 1B would include a majority of the work to the two buildings and site. Phase 1B for the VC and the House can be done independently of one another. Phase 2 represents longer term recommendations made in the 2013 HSR and 2014 CLR.

- Phase 1A – Life-Safety Improvements (Immediate Work)
- Phase 1B – Cassidy House and Visitor Center Foundation Repairs and Exterior Shell and Sitework
- Phase 2 – Longer Term Recommendations for Interior Renovations and Non-Critical Work

Update Condition Assessment, Treatment Recommendations, and Class C Construction Estimate for Birthplace House and Visitor Center, and Develop Site Drainage Concept

Site Visit November 2 and 3, 2021

Final Submittal December 27, 2021

William Jefferson Clinton Birthplace National Historic Site
Hope, Arkansas

Contract # 140P6020D0004
Task Order # 140P6021F0078
PMIS 131181



Prepared by STRATA Architecture Inc.

Contents of Submittal

1. **Work Session Meeting Notes and Site Trip Notes**
   - Conceptual Phasing Plan
2. **Cassidy House – Assessment and Treatment Checklist & Cost Estimate**
   - Phase 1A
   - Phase 1B
   - Phase 2
3. **Visitor Center – Assessment and Treatment Checklist & Cost Estimate**
   - Phase 1A
   - Phase 1B
   - Phase 2
4. **Site – Assessment and Treatment Checklist & Cost Estimate**
   - Conceptual Site Plan
5. **Comfort Station Treatment Checklist**
6. **Wood Species Testing**
7. **Updated Partial Crawlspace Drawings for Visitor Center and Cassidy House**

WORK SESSION MEETING AND SITE TRIP NOTES

This submittal includes the combined Work Session Meeting Notes and Site Trip Notes for the 'Update Condition Assessment, Treatment Recommendations, and Class C Construction Estimate for Birthplace House and Visitor Center, and Develop Site Drainage Concept' project at the William Jefferson Clinton Birthplace National Historic Site in Hope, Arkansas. The A/E Team, led by STRATA Architecture Inc. was onsite to Tuesday and Wednesday, November 2 and 3, 2021. The team included STRATA Architecture Inc., Structural Engineering Associates, Inc. (SEA), Henderson Engineers, and SK Design Group (SKDG).

Previous studies, including a 2013 Historic Structures Report and a 2014 Cultural Landscape Report served as the basis for the assessment work. These reports included the history and development of the site and buildings, documented existing conditions, included as-built drawings, and provided treatment recommendations and cost estimates for proposed work.

The team gathered information and assessed the existing conditions to provide updated treatment recommendations and Class C construction cost estimates for the Birthplace House and the Visitor Center. The Comfort Station was not included in this scope of work; however, some items were noted to be addressed in the electrical survey, and those are included in the recommendations. Work also included analysis and development of a conceptual treatment recommendation with costs for site improvements to alleviate poor drainage, which is a contributing factor in the advanced deterioration of foundations of both of the houses.

Assessment included walking the site and noting existing conditions on drawings of the buildings and site, taking photographs, and noting accessibility issues and other factors that may affect the visitor experience and park staff. In the afternoon of the second day onsite, the A/E team held a Work Session Meeting with park staff and the NPS regional historical architect/project manager, to listen to the park's issues and future needs, to review the conditions that had been discovered, and discuss potential direction.

Deliverables for this project include:

- Work Session Meeting Notes and Site Trip Notes
- Conditions Assessment / Treatment Recommendations Tables for Each Structure and Site
- Cost Estimates per Recommended Phase of Work for Each Structure and Site
- Existing Conditions Photographs in electronic .jpeg format

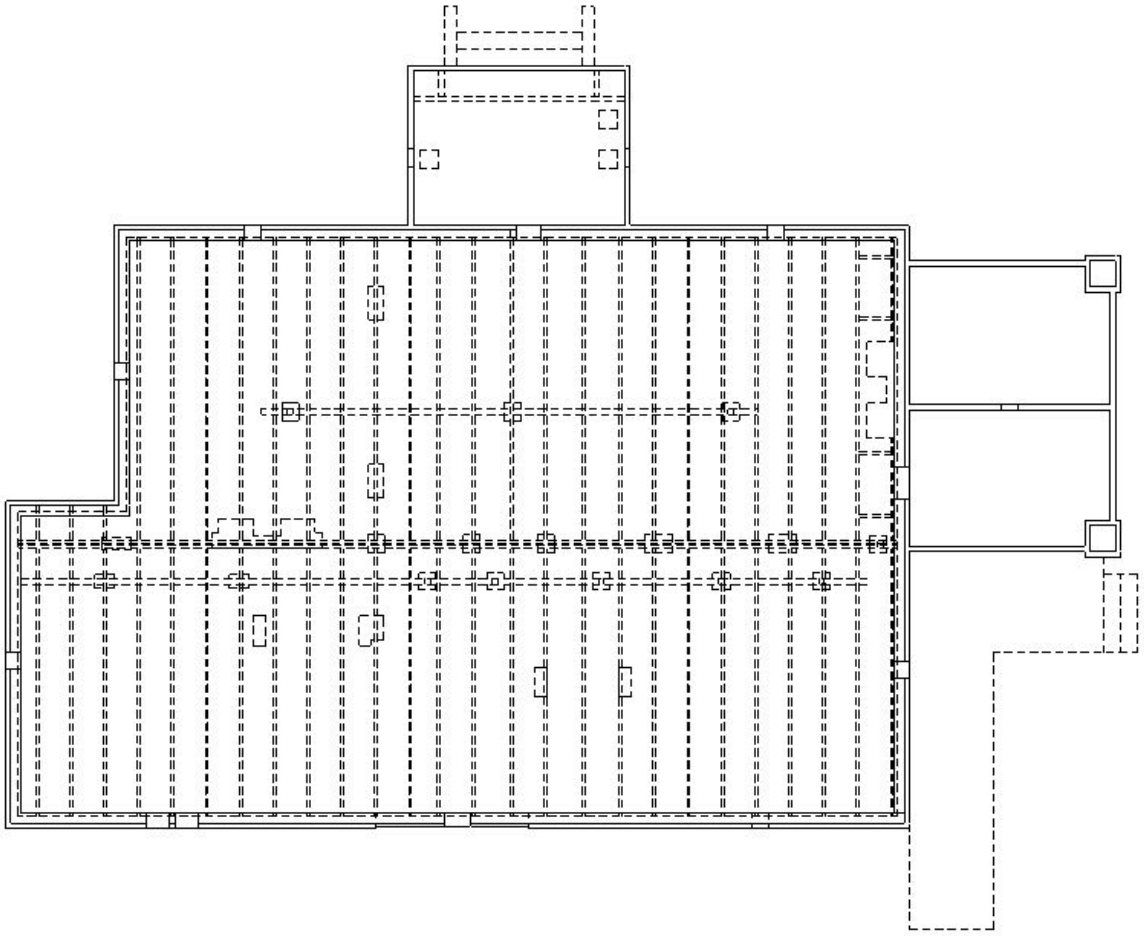
Those present for the Work Session Meeting included:

Gregory Hauburger, Superintendent
Evan Weber, Facility Manager
Jennifer Ledbetter, Facilities
John Rosemurgy, Historical Architect and Project Manager, MWR Cultural Resources (Virtual Attendee)
Kelly Korenoski, Regional Project Manager, MWR Facilities Planning and Infrastructure (Virtual Attendee)
Angie Gaebler and Claire Ashbrook, STRATA Architecture – Historical Architect/Project Manager
Philip Steet, Structural Engineering Associates, Inc. – Structural Engineer
Nick Gordon, Henderson Engineers – Engineer
Gary Urkevich, SK Design Group – Civil Engineer

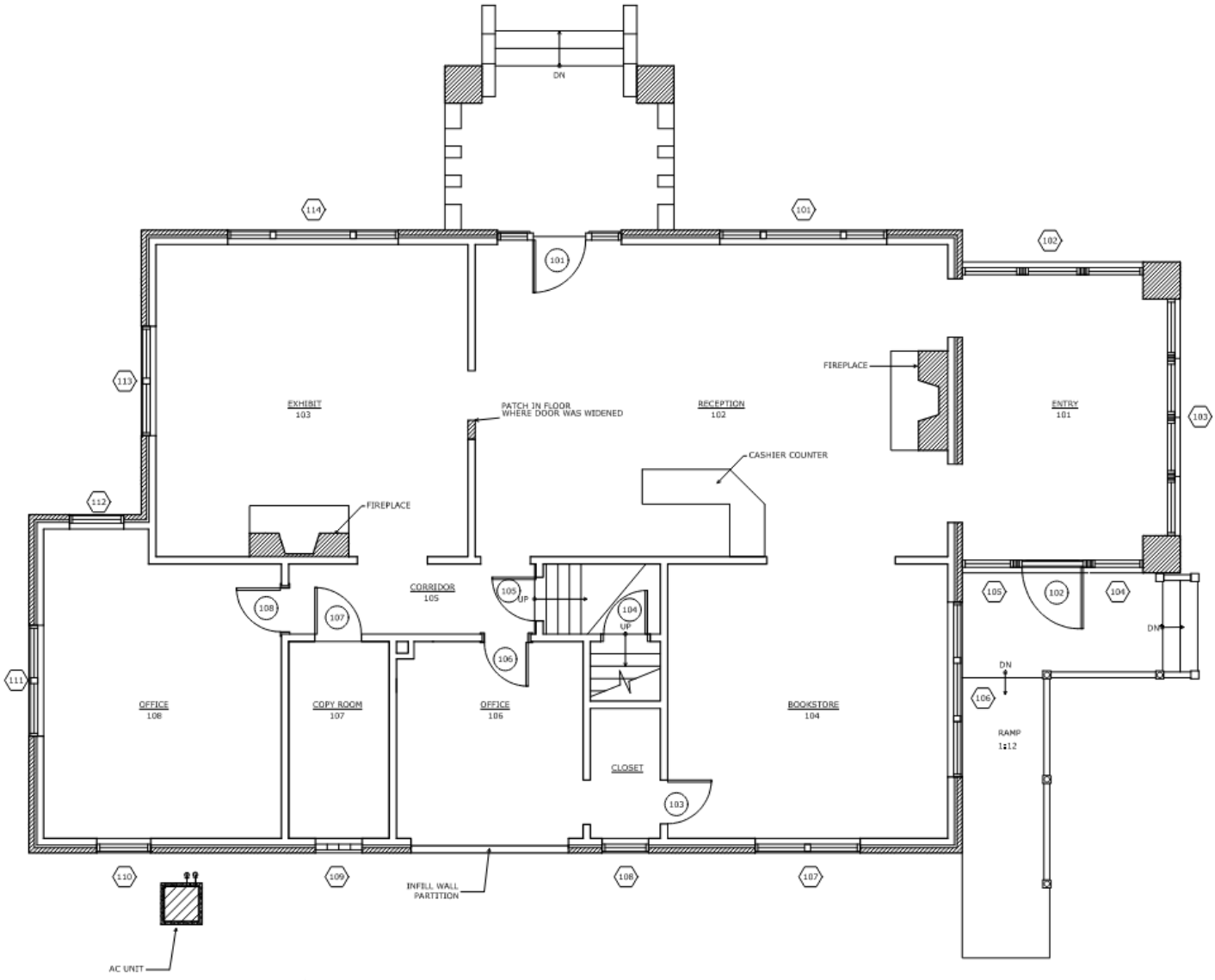
1. The team reviewed the overall scope of work for the project and discussed the current goals for this updated assessment and cost estimate work.
2. The Park wants to be certain that recommendations made during this project will not preclude them from building a new Visitor Center in the future.
3. The Park has begun the process of acquiring adjacent land from the City. This includes the large parking lot in the SE corner of the block, as well as most of the empty lot between the parking lot and the Cassidy House, part of which was the site for Clinton's boyhood friend, Vincent Foster Jr.. The City will retain a parcel of land in the SW corner for a memorial park. The acquisition of this substantial property was not anticipated as part of the 2013 HSR and 2014 CLR reports, and therefore, these properties are not included in the long-term planning efforts for the park. The 2014 CLR notes the need for a new Visitor Center and provided examples for building massing and location. It was proposed to be constructed on the site of the existing memorial garden and that the garden would be relocated to behind the existing Visitor Center.
4. Acquisition of this additional property open up opportunities to explore potential development of the empty lot behind the Cassidy House for a new Visitor Center, rather than where it had previously been studied.
5. With the acquisition of this additional property, some immediate improvements might include removal of non-historic wood and metal fencing between the existing Visitor Center lot, the Cassidy House, and the empty lot. This would need to be closely coordinated with the City, who still owns the abandoned alley that runs east/west through the approximately 7/8 of the block. The fencing identifies the north and south boundaries of the alley through the National Historic Site. These are not contributing features to the landscape and their removal would improve the viewsheds.
6. The City has recently re-paved the parking lot and will stripe the lot this coming week. This new lot will provide much-needed accessible parking stalls. The City is also planning to make improvements to the sidewalk between the lot, the alley, and the Comfort Station. They will return to make these needed improvements.
7. The Park and Region are okay with moving away from some of the HSR and CLR recommendations, due to the time lapse since the initial recommendations, changing conditions, and acquisition of the new property, especially concerning low-impact items. The Park is most interested in addressing 'maintenance and function.' Examples may include recommending the installation of gutters and downspouts, although the houses did not originally have these, and providing accessible concrete walkways for the garden paths.
8. Geothermal: The team discussed the HSR recommendations of installing geothermal systems for heating and cooling for the Cassidy House. This would require deep excavations and is invasive to the site. The NPS and the park are no longer in favor of that option. A traditional HVAC system is likely more affordable and easier to maintain.
9. The HSR recommended bringing in new electrical service and transformer just for the NHS. They have not had any issues at this time. If a new Visitor Center is constructed in the future, that additional electrical needs will be addressed as part of that project.
10. There was a life-safety issue found in the crawlspace of the Cassidy House. The section of floor joists surrounding the return air floor vent in the Living Room is deteriorated. Philip said the joists are crumbling when you touch them. This could lead to failure of the floor in this area and should be shored immediately.

11. One wood sample was taken from the Cassidy House first floor joist for species identification. It was found to be in the 'Southern Yellow Pine' group, which would match 'Mixed Southern Pine' for structural calculations.
12. Two test pits were dug adjacent to the buildings to see if the team could verify the presence of, the depth, and the materiality of the footings.
    - At the Visitor Center, the test pit was dug just to the east of the crawlspace opening on the south side of the house. The hole was approximately 12" diameter at the top and narrowed to about 14" in depth. It was dug with a shovel, and very carefully worked around the existing irrigation line that was within inches of the foundation wall. This made the excavation of the hole difficult. Therefore, the top of the footing was exposed, but the depth was not able to be determined in the small area available. To find the depth and materiality of the footing, a much larger hole would have had to be dug outside of the irrigation line.
    - The test pit at the Cassidy ran into the same issues with the irrigation line being in the way of the test pit. This pit was dug just west of the central foundation vent on the south side of the house. The foundation footing was located approximately 1" below grade.
13. The Visitor Center should be treated as historic with compliance reviews for proposed work until a final determination has been made. John has recommended further discussion with Region about a Determination of Eligibility for the house. The HSR does not address the historic nature of the Visitor Center, but the CLR recognizes it as part of the historic setting. This subject matter will be continued.

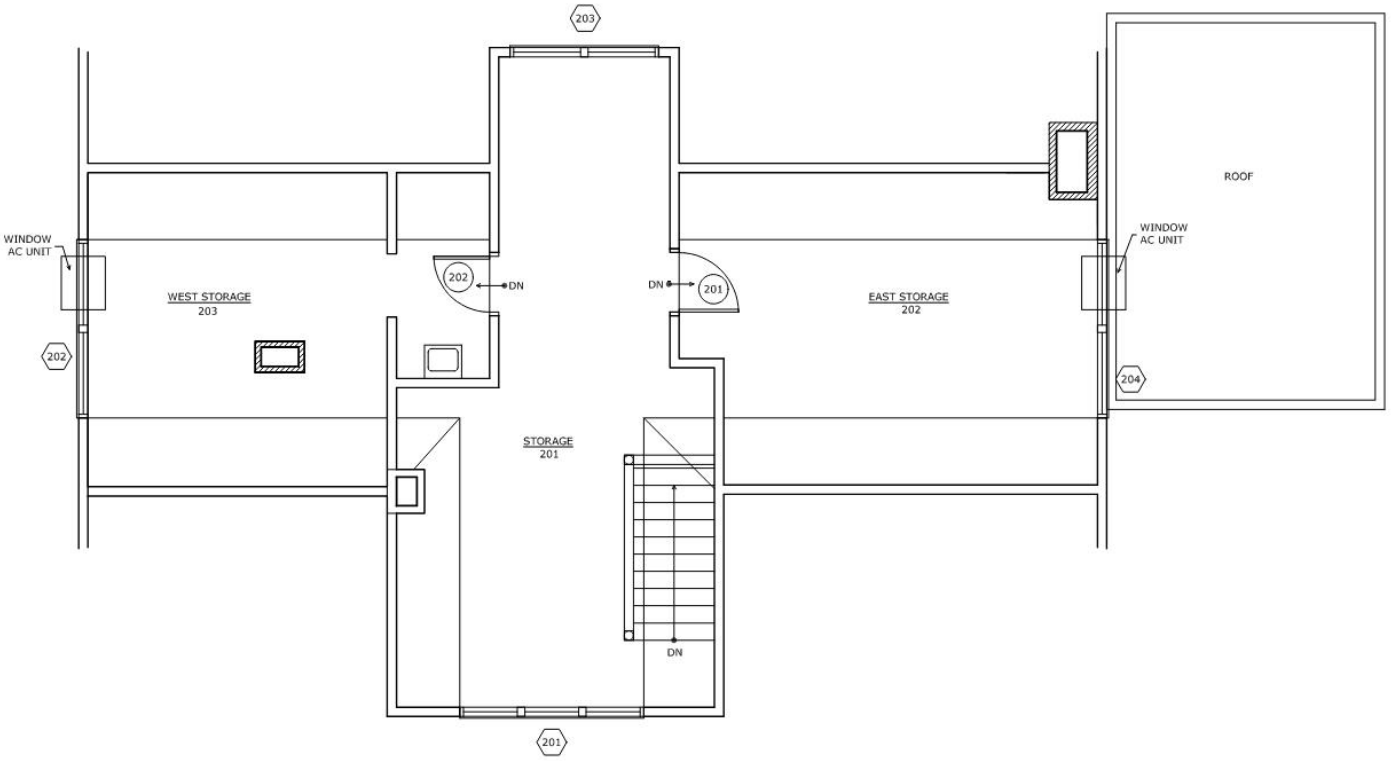
REFERENCE FLOOR PLANS



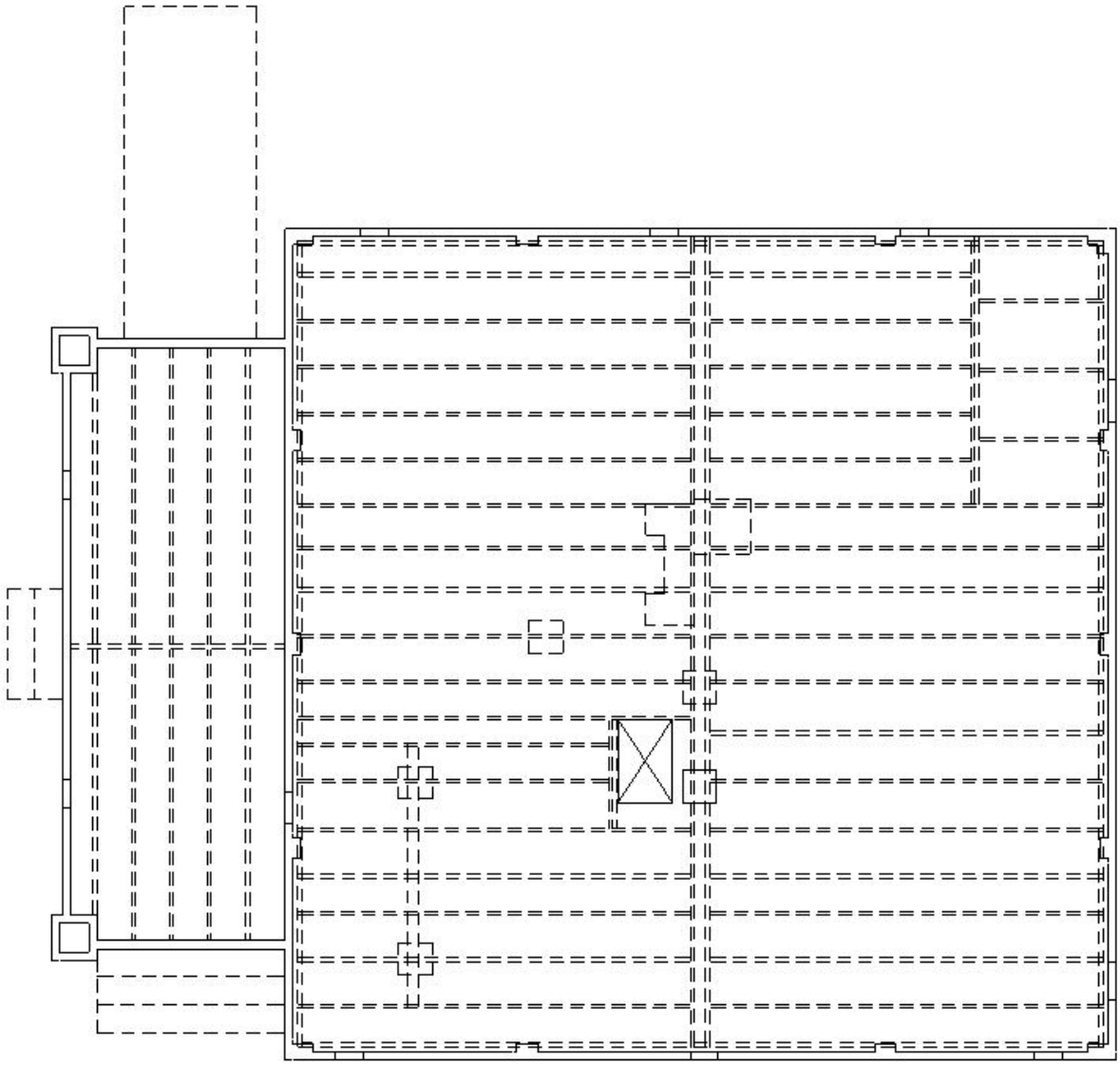
Visitor Center Crawlspace Plan



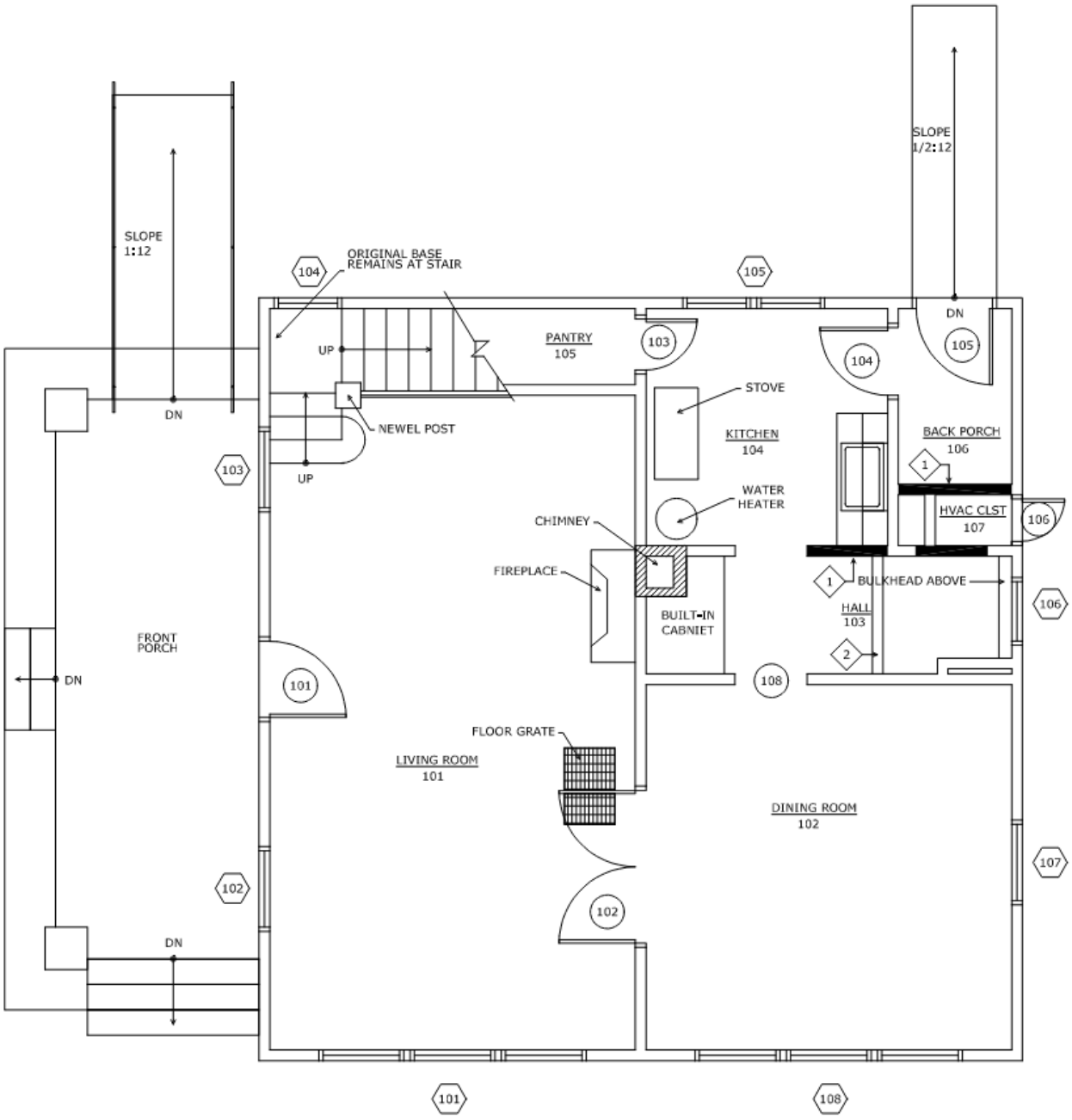
Visitor Center First Floor Plan



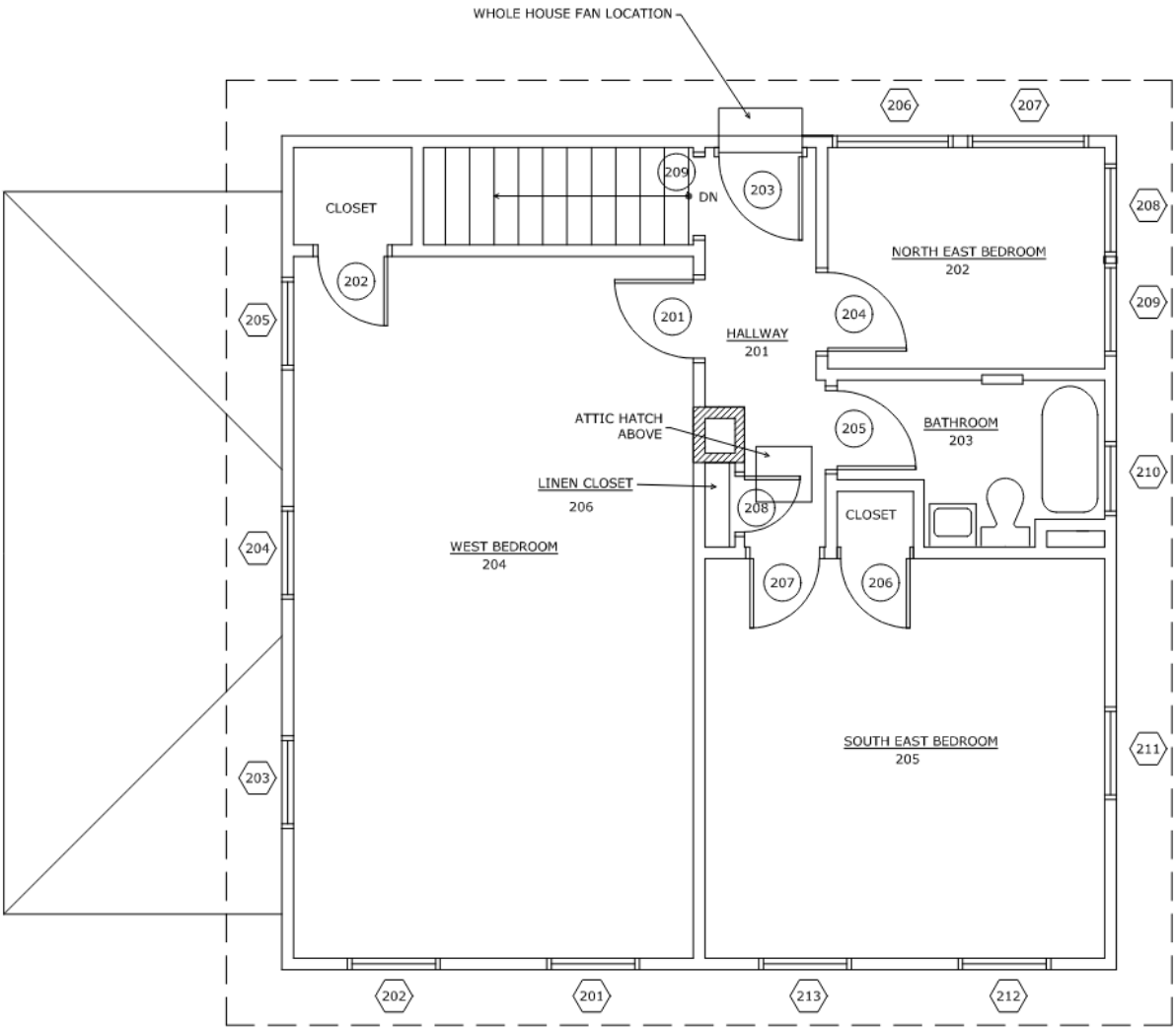
Visitor Center Second Floor Plan



Cassidy House Second Crawlspace Plan



Cassidy House First Floor Plan



Cassidy House Second Floor Plan

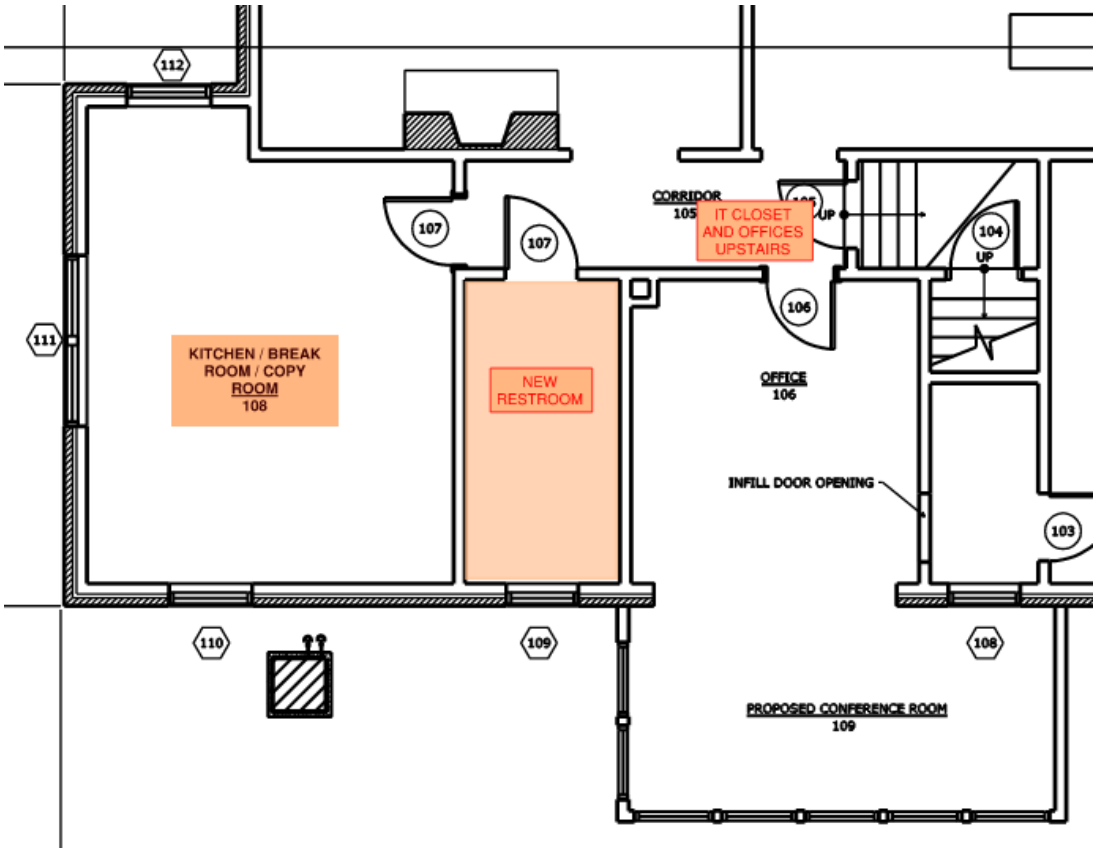
Visitor Center Assessment

Existing Plans for Reference are attached.

The following items were observed during our site visit.

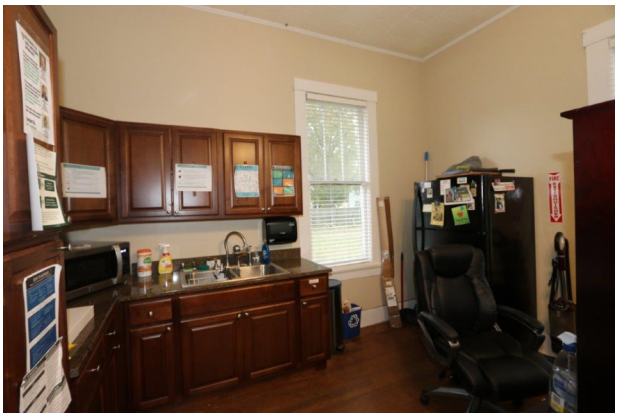
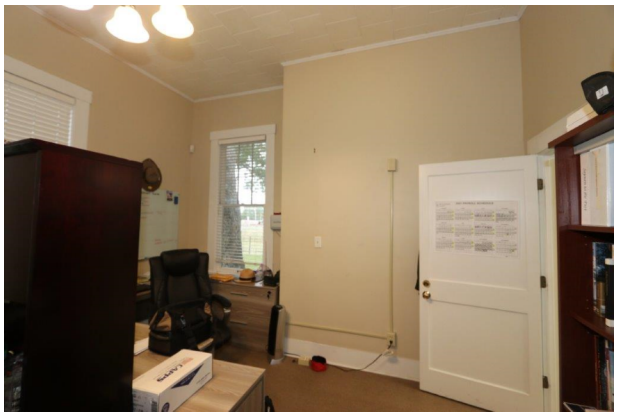
1. Historic Integrity:
    a. The Visitor Center has a high level of historic integrity throughout. Much of the original materials, including the wood trim, windows, and doors appear to be original. Room layouts appear to be close to original with the exception of the non-extant breakfast room/south porch room that was previously demolished.
    b. A majority of the previous renovation work that was done on this historic site was done in the mid-1990s by the William Clinton Birthplace Foundation.

2. Programming for Interior Space:
    a. A new programming effort should be undertaken to assess the park's current and future needs for office area, visitor services, and function/layout of the entire first and second floor of the Visitor Center. Efforts should begin with the HSR recommendations and should update the recommendations for current needs.
    b. Items to explore may include:
        i. Visitor Greeting at Entry / South Porch Door – Consider relocating cubicle
        ii. Consider what staff need to be on first floor.
        iii. How many cubicles or private offices would be located upstairs?
        iv. Where is the best place for the Superintendent's Office? Second Floor? What are privacy requirements? Do other staff require privacy?
        v. If the missing Breakfast Room addition was to be reconstructed, how would this space be utilized in conjunction with the existing Office 106 area? HSR plans show this as conferencing space, but how would that work if there were cubicles in 106?
        vi. If Offices mostly move upstairs, would Exhibit 103 be returned to visitor services? Is this space needed?
        vii. Consider adding an ABA-accessible 'Convenience' Restroom for staff use within the first floor of the building. This could be partitioned in Office 108 area with a small, reconstructed kitchenette sharing the other portion of the space. Or, a restroom could be installed in Copy Room 107.
        viii. See plan option for restroom below. In this scenario, the IT closet would move upstairs, and the existing IT/Copy Room 107 would be renovated into a single-toilet accessible convenience restroom. The existing kitchen/office 108 would be used as a kitchen/breakroom/copy room. Two or three desks or 2 small cubicles could be located in Office 106 and a small conference table for staff. All other offices would be upstairs. Photographs of these spaces are below.





Room 107 – Currently the copy room, originally a bathroom. May be suitable for an accessible restroom. Ceiling is lowered in front of old window. Window is glass blocks.

Room 108 – Currently the staff kitchenette and 2 cubicles for staff. Originally, this was likely a bedroom. Proposed plan keeps the kitchenette here as a break room and also copy room functions.

3. Hazardous Materials: Provide an updated comprehensive hazardous materials survey of the entire building, including concealed areas and crawlspace.

4. Foundation:
   Existing Conditions:
   a. The perimeter foundation walls are triple-wythe brick with the exterior wythe being the veneer and no visible header bricks. A concrete parging is visible at the base of the perimeter foundation walls with a beveled top edge. The parging is approximately 1" thick. It is unknown if this parging is an original treatment, or if it was added during a later renovation.
   b. The team excavated a test hole in the center of the south foundation wall. Unfortunately, the irrigation lines are installed below grade very close to the foundation wall, which did not allow for a full-depth excavation, as anticipated. A footing appears to exist approximately 14" below the exterior grade. It could not be completely uncovered to discover the depth or condition of the footing.
   c. Interior piers supporting the first floor are brick and are constructed on a combination of brick and concrete footings.
   d. An interior brick foundation wall runs east/west below the mid-span of the sunporch.
   e. The foundation appears to be settling unevenly throughout the structure exterior walls and interior piers. In some areas, the house has sunk several inches since the 1990s renovation. Sections of flooring in the first and second levels of the house have noticeably settled with high and low spots where support varies.



Photographs of the exterior and interior of the brick foundation walls.

Treatment Recommendations:

f. A Geotechnical report with (2) or (3) borings to a 20' depth is recommended prior to beginning the design for the foundation repairs.
g. Due to the condition of the existing foundations, it is recommended to dismantle the existing brick foundations and veneer (discussed in detail below) and install a foundation designed for the expansive soils. This may include a wider footing with void cartons and underpinning with helical piers. (Void cartons are also referred to as void forms and are used to create space between concrete structure and expansive soils to isolate the concrete from the swelling ground). Inside the crawlspace, it would be difficult to install helical piers, so a reinforced concrete spread pier footing is recommended with adjustable galvanized columns with spread bases. These columns can be adjusted if the interior piers move drastically different from the fixed (underpinned) exterior foundation walls. This scope of work for this project will need to be carefully investigated and detailed. Access throughout the crawlspace is difficult with tight spaces. Access will need to be provided in order to design for foundation and underpinning at the wall between the Reception 102 and Entry (Sunporch) 101 and to assess and design interior piers and their attachment to the wood framing.
    i. Foundation work would include
        1. Shoring
        2. Excavations and removal of irrigation system surrounding foundation

3. Existing Foundation and interior pier removal
4. Salvaging brick foundation and wall veneer units – clean and palletize
5. Installing new reinforced concrete grade beam around perimeter of the house. Recommend grade beam to incorporate 6" void carton to allow for expansive soil.
6. Underpinning new grade beams – estimated 20 piers to a depth of 15 feet (to be confirmed by geotechnical report). Recommend helical piers.
7. Install new reinforced and grouted concrete masonry unit (CMU) foundation wall on grade beam to support perimeter of house. Reinstall salvaged brick for veneer.
8. Install new interior pier spread concrete pads. Install new galvanized adjustable columns with spread base. System may require supplemental galvanized I-beams be installed to spread the support if the wood beams and existing joist layout do not spread the support evenly.
9. Underpin (4) existing piers at corners of north and east porches. Void carton would not be required for individual piers.

5. Crawlspace and First Floor Framing: The crawlspace was accessed through an opening in the south wall where the breakfast room addition was previously removed.
   Existing Conditions:
   a. The crawlspace was partially accessible and not able to be measured completely due to ductwork, pipes, and high grade.
   b. The floor is dirt with debris throughout.
   c. Moisture is present around the perimeter of the foundation.
   d. Many of the wood floor joists have been repaired. It also appears that the outer rim joist was replaced. It is unclear how the rim was installed without removing the brick veneer, which is supporting the outer walls. The existing 2x10 joists were cut short of the replaced rim joist and then they were partially sistered with 2x6s and toe-nailed into the new rim joist. This work to the joists and rim joist occurred during the last renovation project.
   e. At the center beam, there are issues with the previous framing repairs where 2x4s were added to re-connect larger joists to the beam. There are improper connections in many places.
   f. There is evidence of termite damage to joists and the subfloor throughout. The HSR recommended 500 SF. This may not be enough, once the full inspection is completed. This could easily grow to include a much larger area and spot areas throughout the first floor. Once that occurs, it may be easier to replace subfloor and wood flooring throughout an entire room, rather than spot replacement. Cost for full replacement should be covered by the design contingency allowance in the cost estimate at this phase of design.



Typical existing, unconventional first floor framing conditions in the crawlspace.

Treatment Recommendations:

g. The crawlspace dirt should be hand-dug and removed prior to the next renovation to allow for access throughout for maintenance and repairs. The dirt should be approximately level with the exterior of the house.
h. A priority repair would be the repair the joist to beam connections in the area below Corridor 105. Estimated (10) connections using metal joist hangers (Simpson or similar) and (1) 2 x 8 x 4'-0" supplemental framing.
i. As the foundation work occurs, probe all existing joists for deterioration and joists cut for piping. Sister existing damaged/deteriorated joists in crawlspace. Estimated (15) total sister joists, approximately 2 x 10 x 18'-0". Install galvanized metal joist hangers (Simpson or similar) to existing joists. Estimated (60) joists with (2) hangers for each joist.

6. Brick Veneer and Exterior Walls:
   a. Exterior brick is single-wythe veneer over an unknown substrate.
   b. A hole in one area shows wood sheathing that was deteriorated and perhaps termite or other pest damaged.
   c. It is unknown if there is also building paper over the sheathing.
   d. Areas of the brick veneer have shifted, settled, cracked, and bowed throughout the exterior of the house. The foundations have settled, creating undulations in the

plumbness and have caused bowing of the wood frame structure. In areas that exhibit movement, the bricks may be detached from the wall sheathing, allowing for masonry settlement separate from the wood frame wall. This uneven settling and masonry dis-attachment effects the cast concrete sills, wood trim, wood windows, and creates out-of-plumb conditions at doors and window openings.

e. The only area of the house that the brick veneer appears to be sound is the exterior exposed brick masonry wall area within the sunporch that is covered with the roof. Here, the masonry is well protected and the ground does not get saturated with water. The large masonry fireplace mass does not appear to have settled, and the entire masonry wall system in this area appears to be fairly intact and in good condition.
f. The cracks and offsets in the brick veneer allow water to further infiltrate the wall system, which can accelerate deterioration of the wood wall system and brick veneer.
g. There are a lot of spiders and pests living in the holes of the masonry mortar joints.
h. Foundation vents are rusted. A future design phase should calculate the volume of the crawlspace and the size and allowable air flow of the foundation vents to ensure they provide adequate air flow to meet current code.
i. The condition of the wood-framed exterior walls was not able to be observed. However, there were areas where the sheathing was exposed and is in poor condition (noted above). Also, the rim joist that supports the wood wall and brick veneer was replaced. This may also indicated there is potential for deterioration of the wall sill plate. This could not be observed.












Examples of brick veneer that has shifted, settled, cracked, and bowed throughout the exterior of the house.

7. Front (North) Porch:
    a. The front porch is constructed of a reinforced suspended concrete slab. The detailing and support of the perimeter of the slab is not visible and was not able to be determined. There is cracking at the perimeter and cracking and delamination at the top tread.
    b. Brick piers on spread footings at grade are inset from the exterior foundation walls. These can be seen through the foundation vents and from the interior crawlspace.
    c. The porch floor and concrete steps are painted, creating a slick condition.
    d. The porch floor slopes 1” in 4’ towards the house, which can funnel water into the wall.
    e. The east cast concrete rail cap is cracked.
    f. There are no railings at the front porch steps.
    g. Recommendation - The porch will likely need to be partially deconstructed to replace the building foundation. At that time, the porch construction and supports will need to be further investigated and designed for replacement. Porch will need to be reconstructed to have a positive slope away from the house. It is unclear if the house will be jacked or straightened to account for the settled dimension at the porch/door area.
8. Historic Windows:
    a. Historic wood windows (sashes, frames, trim, and sills) are in overall poor condition and require complete restoration. Some of the sills have been affected by the shifting brick veneer/cast concrete sills and are now sloping back towards the house, instead of down and outwards.
    b. Windows are currently not covered with storm windows.
    c. HSR recommends interior storm windows. We would reconsider this recommendation and recommend exterior storm windows be installed to protect the newly-restored windows with a low-e glass to provide some energy efficiency.
    d. Lintels at Windows 101, 106, and 114 have settled in the centers by nearly 1.5-inches or more and appear to be undersized. Even though the weight of the masonry above is not substantial, they are failing. While the brick wall veneer is removed, the lintels should be replaced in these locations. Lintels at other windows should be inspected for

deterioration when the brick veneer is down-stacked, and they should be replaced accordingly.

e. Window sills are cast concrete and are painted. The paint is in poor condition, traps moisture in the concrete, and is difficult to maintain. Consider stripping paint and installing concrete sealer to preserve the sills. Research as to the historic condition of the sills (painted or natural) may reveal a preferred treatment.
f. Exterior glass block window was in a restroom and should be restored to a wood double-hung, unless historic documentation suggests this was historically a glass block window opening.






Examples of exterior windows and deterioration.

9. Historic Front Door and Surround:

a. The historic wood front door, sidelights, and transom are in overall poor condition with peeling paint and deteriorated putty. The door frame is racked slightly from the foundation settlement. The door is not fully weatherstripped. Hardware does not meet ADA. The cast concrete sill is painted on the exterior. The threshold does not meet ADA.



Front Door and Surround.

10. Sunporch/Entry 101:
    a. Sunporch infill wood framing and windows are in overall poor condition.
    b. Wood rot is prevalent near the base of the wall.
    c. Water infiltrates this wood-framed wall and window system when it rains, resulting in puddles on the interior of the building.
    d. Some of the insulated glazing seals have failed, resulting in foggy windows.
    e. The detailing of the wood framing at the windows is not designed to shed water, instead, the detail allows for water to infiltrate the system. We recommend this entire wood framing system to be re-designed to correctly shed water with new insulated windows.
    f. The concrete floor in the sunporch is painted. The paint does not appear to have been previously tested. The paint is in overall poor condition and makes the floor slick. This should be tested and removed. And a concrete floor cleaned, polished, and sealed.
    g. The reinforced suspended concrete floor slab is in fair condition. Some corrosion and exposed reinforcing is visible at the underside of the slab. The slab is partially supported by an east/west brick wall at mid-span.
    h. Recommendation: Reconstruct infill walls and glazing. Prior to redesigning the wood framing and infill, research for the original design of this porch area is recommended through historic photographs and contacting previous owners, etc.




Examples of Sunporch wood window and trim deterioration.

11. Exterior Painting:
    a. It is assumed that all exterior paint contains lead. The paint is in overall poor conditions and is peeling throughout.
    b. It is recommended to strip all exterior paint from wood trim and stucco to get to a sound surface and repair all wood exterior components.
    c. All of the exterior requires stripping, sanding, caulking, prepping, and final painting.
    d. Wood deterioration is noted below.

12. Exterior wood trim deterioration (Excludes sun porch):
    a. Exterior wood trim is painted and is peeling throughout.
    b. Wood rot was seen from grade in the following locations:
        i. North Elevation:
            1. Dormer – epoxy repair and consolidate wood center bracket
            2. Dormer – all wood that is exposed needs to be stripped and have a wood consolidant/preservative installed
            3. Rafter/outlookers on both sides of porch roof need to be replaced. They have been partially sistered previously.
        ii. East Elevation:
            1. Wood trim in the gable that divides the stucco bays is in overall poor condition and required replacement in several locations.

2. The center (south) bracket is deteriorated and requires significant repairs or replacement.
3. Replace window sill, apron, and vertical batten at second floor window.
4. Repair/replaced section of fascia boards at gable peak.
5. Replace wood soffit and barge board to be replaced at sun porch.
6. Replace barge board near north side (may be replaced due to brick down-stacking anyway).

iii. South Elevation:
1. Replace deteriorated east bracket at dormer.
2. 9th rafter tail from the east is deteriorated – replace in kind.

iv. West Elevation:
1. Replace approximately 36" of corner board at dormer
2. Replace entire length of bottom board at roofline at dormer
3. Replace sections of barge board
4. Epoxy repair and consolidate southern-most bracket



Example photographs of wood deterioration and peeling paint.

13. Ramp and South Porch Steps:
    a. Existing Ramp
        i. The wood ramp, porch, and steps are not historic and was likely constructed in the mid 1990s.
        ii. The ramp is constructed with wood decking with turned wood painted railings. The ramp and steps are in overall poor condition.
        iii. The park has closed the steps, due to broken treads. The ramp railing is unstable, missing balusters, and is generally in poor condition.
        iv. The ramp, porch, and steps are slick when it is wet. One of the metal anti-slip plates is missing on the ramp.
        v. The ramp is constructed against the east wall of the house, making maintenance in this area of the masonry structure difficult.
        vi. The threshold at the entrance door does not meet ADA height requirements.
        vii. The ramp slope is about 5 degrees with a 5/8" lip at the bottom. The slope meets requirements, but the lip at the bottom is too high.

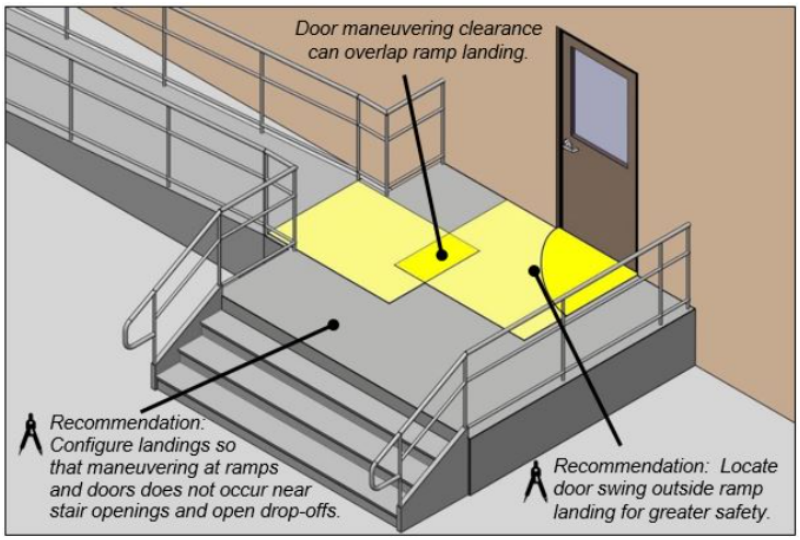
viii. Railings/handrails are not ABA-compliant on the ramp or steps.
ix. Door hardware is not ABA-compliant.
x. No power-assisted door opener (NPS requirement for main entrances)

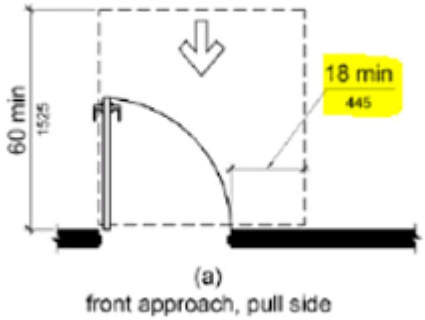




Photographs of the deteriorated accessible ramp and steps at the south entrance.

b. Replacement Ramp
   i. A replacement porch and ramp are recommended to be constructed away from the wall. The Superintendent has a plan that appears to function well in this manner. However, moving the ramp to the east will require replacement of the entrance door. Also refer to #15 Accessibility below. It is also recommended to post signage to indicate the location of the accessible entrance and also to install an automatic door opener, if possible.
   ii. For proper ramp layout and clearances, refer to one of the following guides:

1. https://www.access-board.gov/aba/guides/chapter-4-entrances-doors-and-gates/
2. 

3. 

14. Grade:
    a. Grade slopes towards the house along the north side of the house.
    b. The lack of gutters has led to a depressed area in the grade surrounding the house, which does not allow for proper runoff during rains. This can also create ponding around the house and result in a damp crawlspace and uneven settlement of the foundation.

15. Accessibility:
    a. Exterior - South Ramp Entrance: See #13 Above
    b. Exterior - Front Entrance (North Porch):
        i. There are no railings at the front steps.
        ii. The painted porch floor and steps are painted, making them very slick and dangerous when wet.
        iii. There is a step up at the front door and a tall threshold.
        iv. Door hardware is not ABA-compliant



Photograph of the front porch.

c. Interior – First Floor:
    i. Back Hall (Corridor 105):
        1. The back hall (Corridor 105) is around 45-inches wide, which is close to the minimum 42-inches required for ABA-compliant access to door openings in the hallway.
        2. In their current configuration, the doors from the Corridor 105 are not all accessible.
            a. Door 106 into Office 106 is too narrow and cannot be converted into an accessible opening without widening the door. (Widen door or use Door opening 103 as a cased opening without a door installed)
            b. Door 107 into Copy 107 swings into the hallway, which does not meet ABA-clearance requirements for operation and approach (minimum 54” or 60” depending on direction of traffic). If the door is reversed to swing into the room, it is still not wide enough to meet the required 32” width if there is a door installed. If the door is uninstalled and only the cased opening remains, the door will meet ABA requirements at 33”. (Solution: remove door and leave jamb)
            c. Door 108 into Office 108 does not meet door approach requirements. If a door is installed, it does not meet width requirements. If a door is removed and not installed, the width between the jamb stops is 33” and meets requirements. (Solution: remove door and leave jamb)
        3. It is unlikely without major renovations that the rear portion of the first floor could potentially house more than a single restroom.
        4. The existing lay-in acoustical suspended ceiling is not compatible with the historic nature of the house. The original volume of the hall ceiling could be restored with new lighting.



Photograph of the narrow back hall (Corridor 105).

ii. The fireplace hearths in the Reception Room and the Exhibit Room were installed to be flush with the wood floors. Over time, the hearths have settled, and the bricks have shifted and now project above the finished surrounding wood floors, creating a tripping hazard.



Brick Hearth in Exhibit Room that is uneven and a tripping hazard.

iii. Door hardware throughout the house is historic or contemporary replacement and is not ABA compliant.

d. Interior – First Floor:
   i. Copy Room 107 has a lowered hard ceiling that intersects the top of the window. Explore why this has occurred. Raise ceiling if possible in renovation, or provide window pocket to allow for full height of window to show inside the room.
   ii. The main electrical panel is in Copy Room 107.
   iii. Office 108: Acoustical ceiling tiles direct-applied to the ceiling are not in keeping with the character of the historic house. Lighting in this space is residential in nature and does not provide enough light for office space. Exposed conduit in the room should be removed when the house is re-wired. Irrigation system controls are installed on the north wall in this space, near the window. This room is partially carpeted and partially wood flooring.





(Left) Photograph of the first floor copy room with a lowered ceiling and a glass block window. (Right) Photograph of incompatible acoustic direct-applied ceiling tiles in the kitchen 108 room.

e. Interior – Second Floor:
    i. Staircase:
        1. The winding staircase to the second floor does not meet commercial code. The treads and risers to not meet current IBC commercial code.
        2. There are two door openings on staircase that are not code compliant, as they swing out over the stairs and into the path of traffic.
        3. Hand railings do not meet ABA accessibility requirements with regard to continuity and extensions at the top and bottom. These would be difficult to upgrade with the existing door frames in place.
        4. This staircase can be 'grandfathered' in with some safety upgrades, since the second floor switching from S1 (storage) to B (business) occupancy is an equivalent hazard group.
        5. Recommendations – remove both doors from the cased openings. Remove the cased opening at the landing altogether to allow for a continuous handrail along the outer wall. Install ABA-compliant tread nosings to assist with slip resistance. Install new and adequate lighting at the stairs.



(Left) A photograph of the bottom portion of the wood winding staircase to the second floor with a narrow door opening at the bottom tread. (Right) A photograph of the upper, straight portion of the wood staircase to the second floor with a narrow door opening at the bottom tread before the winding portion of the staircase.

ii. Second Floor Offices:
    1. The span of the second floor joists in Rooms 202 and 203 are greater than previously reported and calculated in the HSR. The joists span from the north to south walls, not from the knee walls, and likely span to a central beam. Therefore, the capacity of the second floor joists is lower than reported. They are also very likely not connected, which may contribute to outward thrust, as they are not restrained.
    2. Rafters do not align with the joists. Load path for outward thrust must transfer through sill plates, which is not ideal.
    3. Gable end framing is not supported by the exterior brick veneer. Lateral pieces cantilever over the stud wall to support the end gables. This is why there is framing that is taller near the end walls.
    4. Construct new offices on the second floor in Rooms 202 and 203.
        a. Remove all insulation board and attachments. Remove all other insulation and debris.
        b. Remove existing sink and all related plumbing in 203.
        c. Widen wall opening in 203 between existing entry/closet and larger room.
        d. Remove existing knee walls for access to floor joists.
        e. Remove existing floor sheathing from rooms 202 and 203. Install new 2 x 10 joists between existing 2 x 6 joists (16” spacing). Estimated (48) 2 x 10 x 18’-0,”as required for office loading.

f. New joists shall be connected together over central beam support and connect to rafters and sill plates at exterior walls (where rafters are not already connected to existing joists).
g. Install sound attenuation batt insulation between floor joists to assist with sound transfer to the first floor. Reinstall existing floor sheathing and supplement with new sheathing, where required. Install new carpet tiles.
h. Reconstruct knee walls and frame for new access doors.
i. Provide flush, painted steel, lockable and insulated knee wall access doors on each side of the knee walls (4 total).
j. Insulate knee walls and ceiling. Re-wire second floor. Install new gypsum board walls, painted, and new painted trim.

5. Renovate existing office space Room 201 in the center of the second floor.
    a. Remove wall paneling. Install new gypsum board painted walls.
    b. Refinish existing historic wood flooring
    c. Add raised railing at stair railing to bring height to 42" code requirement.
6. Throughout Second Floor:
    a. Install new lighting, electrical receptacles, and data throughout. Install new HVAC (refer to mechanical and electrical).
    b. Paint all rooms (walls, trim, ceilings) on second floor.
    c. Repair paneled wood Door 201 and provide new hardware.
    d. Repair paneled wood Door 202 and provide new hardware.

16. Chimneys:
    a. There are three chimneys that were constructed of the same brick as the exterior veneer that once pierced the roof – one on the far east side, another near the center of the west roof, and a third, smaller chimney just west of the back dormer. These were removed to below the roof line, but the chimney bases are still intact.
17. Roof:
    a. The existing roof structure shows signs of minor deflection and sagging.
    b. The existing asphalt shingle roof is in overall fair condition. It was last replaced in November 2011 and will be due for replacement during the timeframe of this proposed project.
    c. The turbine-style roof vents are old and squeak, which is audible outside and inside the second floor.
    d. The roof vents provide exhaust only. There do not appear to be any intake vents. When the second floor east and west rooms were open and not insulated, this condition was okay, but since the rooms are more finished now, intake air should be provided for proper ventilation.
    e. Existing roof framing is not visible. Once the rigid insulation board is removed, inspect all roof rafters and sister existing roof rafters framing or add supplemental framing as needed. Unknown quantity. Estimate 12 – 2x6 x 20'-0".



Existing Roof at the Visitor Center.

18. Restrooms:
    a. There are no restrooms in the Visitor Center. There is a free-standing comfort station just south of the center. Employees must leave the VC to use the restrooms. Code allows for restroom facilities to be within 500 feet. It does not specifically state if they have to be within the building.
    b. There are no NPS staffing requirements regarding restroom beyond the building codes.
    c. From a practical standpoint, related to health and safety, as well as convenience for the park administration and Visitor Center function, it is prudent and represents best practices for human comfort and hygiene to have restrooms within the Visitor Center building.




Photographs of the Comfort Station, Southwest of the Visitor Center.

SITE ASSESSMENT

1. Assessment of the site is difficult without an updated topographic map and site plan. The existing plan is over 25 years old and pre-dates the memorial garden and site improvements. Future projects will require a new, updated site plan with detailed topography and utilities to be produced.
2. Front steps at north side of Visitor Center from the sidewalk do not have compliant handrails or handrail extensions.
3. City sidewalk at the perimeter of the property (north sidewalk and wrapping around the west side) is not compliant with offsets in paving. In addition to the offsets in the walkways, the sidewalk has sunken in many places, lower than the curb, creating a tripping hazard. The sidewalk is too steep to be considered to be ABA accessible.
4. Sidewalks around the site have offsets between sections that make accessibility difficult and create tripping hazards.
5. The walkway north of the Cassidy House was constructed atop remnants of the old asphalt alley. This makes the sidewalk high and above grade, essentially creating a dam for water between the walkway and the house.
6. Drainage around the Visitor Center and the Cassidy House is poor. The lack of gutters and downspouts has led to depressions around the houses that hold water. At both houses, there are areas where the grade surrounding the homes slopes towards the building and not away.
7. The site is essentially flat with poor drainage all around. The site is always soggy and does not drain well, as there is not enough slope to sheet drain. The park would like area drains. The closest storm drain appears to be at the NW corner of the property in the street
8. Future plans need to protect the historic trees that were identified in the CLR.
9. Visitor Center Stairs to Road: The railings on the concrete stairs to the road are not ABA-compliant. This was noted in the HSR.
10. Cassidy: The flumes at the Cassidy house are not taking on water, and the south flume with the fence across it is very dangerous.
11. Cassidy: The retaining wall at the street is cracked and offset. The drains at the base of the wall are dry, indicating the lack of drainage tile or they are clogged. The end of the retaining wall near the south edge of the porch makes circulation around the front porch tight.
12. The irrigation system is currently not functioning. It is not taking on water. An entire replacement may be required in the future.
13. Memorial Garden: The brick plazas have settled unevenly creating tripping hazards. These need to be re-set. Walkways into and from the garden to the Visitor Center were gravel and have all but disappeared. The park would like to add concrete walkways through the garden to make the garden accessible. The park would also like to pour a concrete walkway where the existing S-shaped path leads from the garden to the front of the Visitor Center. The new walkway could be lined with the original brick edging. The park may also do something different with the urn in the north plaza. It's original use or intention is not clear.
14. Fencing: The park would like to keep the black fencing at the perimeter of the site. It has recently been painted.



North (primary) entrance into the Visitor Center.



North and West sides of the Cassidy House and site, looking southwest.



South and West sides of the Cassidy House and site, looking north.



Photograph from behind the Visitor Center, looking toward the back of the Cassidy House, facing west.



Photograph looking north at the west side of the Visitor Center towards the memorial garden.



Photograph looking south at the Visitor Center on the left and the memorial garden on the right. The Cassidy House is in the back right background.



Offset bricks that are a tripping hazard at the memorial garden.

A conceptual level site plan is attached that outlines the proposed site work, including:

- Re-grading to provide positive drainage away from the buildings and to site drains;
- installation of underground foundation drains and site drains;
- replacement of walkways and ramps to improve accessibility;
- replacement of the retaining wall at the Cassidy house and removal of flumes;
- removal of concrete driveways;
- adjustments and new handrails at in-grade steps;
- potential for relocating Cassidy house condensing units;
- fencing work;
- other related work.

In order for a new design to proceed, a new, detailed site survey must be done as part of the project. The entire site would benefit from an updated Cultural Landscape Report to direct replacement materials, fencing; handling of site features, and landscaping.

CASSIDY HOUSE

The following items were observed during our site visit.

1. Historic Integrity:
    a. The Cassidy House has a combination of historic and contemporary finishes and materials on the interior. Interior room layouts appear to be close to original with a few exceptions noted in the HSR. Most of the historic exterior finishes and materials, including the exterior wood siding, soffits, trim, windows, porch, and exterior doors, were replaced during a mid-1990s renovation project.

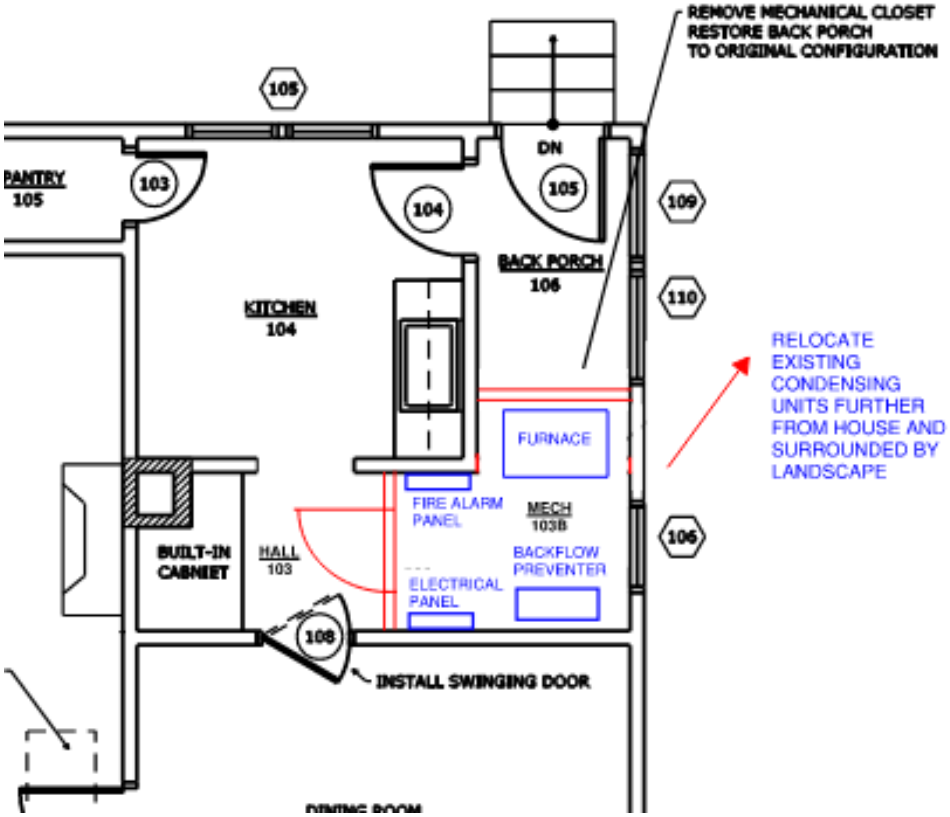
2. Programming for Interior Space:
    a. Our team suggests revisiting the previous HSR programming effort to assess the park's current and future needs for the Cassidy House, visitor services, and function/layout of the mechanical, fire suppression, electrical, and security systems.
        i. The HSR recommendations included reconstruction/restoration of the infilled NE back porch; however, the HSR did not go into detail about potential alternate layouts for alarm and mechanical systems that are now housed in that porch space.
        ii. Restoration of the NE infilled porch may take further research and review of the previous work and photographs to get the detailing and dimensions for the overall project to be historically accurate.
        iii. In order to restore the NE porch, the existing mechanical room with the exterior door on the east side of the house, would need to be removed. This is proposed in the HSR, but an alternate location for this equipment is not shown. Additional items that will need to be relocated include the electrical panel.
        iv. Other proposed new systems for the future house rehabilitation include: security system/panel; fire protection/notification panel; potential fire suppression pump (depending on municipal water pressure) and equipment, including a backflow preventer; relocation of the electrical panel; and relocation of the furnace.
        v. With limited space on the first floor to house the required equipment listed above, further study needs to be done to find locations for this equipment either in the building or remote. As part of a quick study by our team, one suggestion may include the following:
            1. Restore/reconstruct the NE porch to match historic photographs, as recommended in the HSR.
                a. Foreshorten the south interior side of the restored open porch by moving the wall slightly to the north to allow for some space for equipment in a new interior room.
            2. Infill the east side of the hallway for a new mechanical room to house some or all of the required equipment. This would require full MEP design to verify layouts.



Photographs of the existing Hall 103. This back hall was reconstructed during the previous renovation, but there was little evidence of the original configuration, as noted in the HSR.



Photographs of the existing Back Porch 106. This was reconstructed during the previous renovation, but the original screened openings in the east wall were not installed, as noted in the HSR



vi. Further design of a new, comprehensive furnace/mechanical system is required. The HSR recommended a ground source heat pump. The NPS has expressed that they would prefer a more traditional approach without the pipes in the ground that are required with the GSHP installation. This house originally had small wall heaters and a working fireplace and no forced air. The new design should more closely look at locations for supply and return air grilles that will be less visible than the current design.

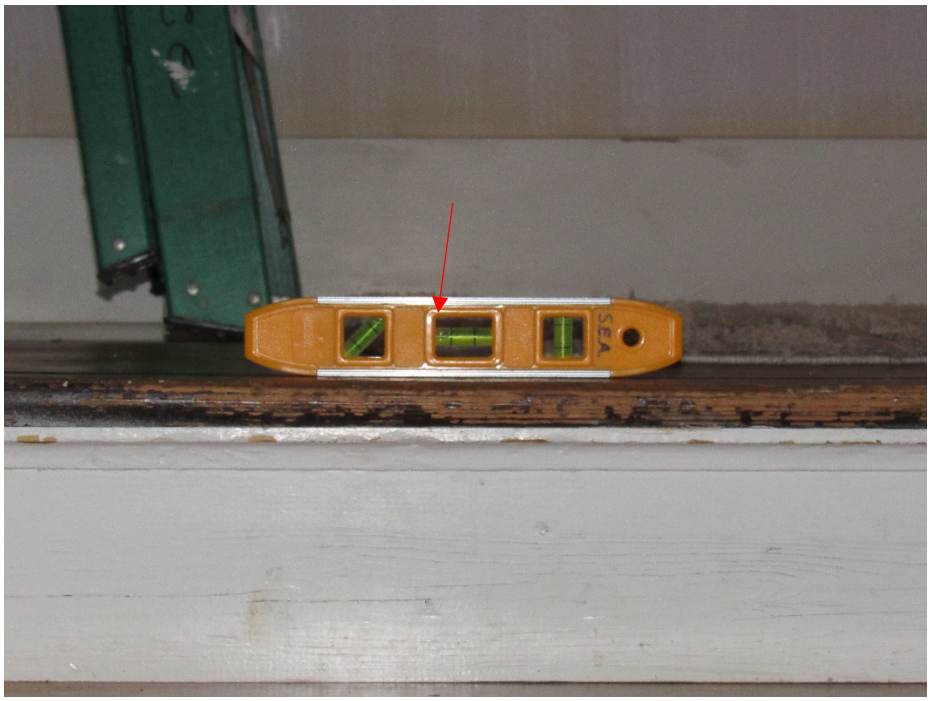
vii. Restrooms: Consider the need for a functioning restroom on the second floor.

1. NPS Regional staff have suggested that at a minimum, a sink with running water would be necessary for basic housekeeping. They also mentioned that a functioning restroom might be good to keep for emergencies. However, with the restroom on the second floor instead of the first floor, this may not be as convenient for staff or visitors during tours.
2. Park staff states that the working exterior hose bibb meets current housekeeping needs. MWR Museum Program Lead concurs that this could be adequate. No other plumbing fixtures need to be in working condition in the house. This may warrant further discussion about how to treat drains, in case someone were to pour liquids down a sink, the toilet, or tub in the future.

3. House Settling: The house has settled since the mid-1990s renovation project. This is evident throughout the exterior and in many places on the interior of the building, as well.
    a. The front (west) porch slopes towards the house.
    b. The house bows in the middle along the north and south sides significantly – as much as 1.5” in 8’. Overall, there is a drop of several inches in the center of the building that is evident.
    c. Floors inside the house undulate.
    d. The top of the stair landing at the second floor has a drop of several inches from the north to the south side of the stairs, making a very uneven walking surface. Likewise, the upper hall is sloped.
    e. Cracks in the gypsum board drywall show cracks throughout the house, as well, signifying areas where the house has shifted or settled unevenly.
    f. Siding on the outside of the house is split at the seams (close at the top of seams, and wider joints at the bottom of the seams).
    g. Windows and associated trim on all four sides of the house are racked so far out of plumb, they do not shut properly. This leaves an open air gap at the outside corners of the windows as much as ½-inch in height, allowing weather and pests into the house interior. Many of these are wide open.



Example of settling in the house with racked windows as seen in the gaps at the bottom right corners of two adjacent windows. Note, that the windows cannot close properly.



Floor level at top landing of second floor stairs to show how much the floor slopes in the hallway. The red arrow points to the bubble all the way to the left side of the level.

4. Foundations: The foundations have settled unevenly since the mid-1990s renovation project. The HSR mentions they had planned to underpin the building, but for some reason, this scope was removed from the project and only the visible portions of the foundation above grade were rebuilt. The foundation appears to be settling unevenly throughout the structure exterior walls and interior piers. In some areas, the house has sunk several inches since the 1990s renovation. Sections of flooring in the first and second levels of the house have noticeably settled with high and low spots where support varies.
    a. The team excavated a test hole near the center of the south foundation wall. Unfortunately, the irrigation lines are installed below grade very close to the foundation wall, which did not allow for a full-depth excavation, as anticipated. A footing appears to exist approximately 12” below the exterior grade. It could not be completely uncovered to discover the depth or condition of the footing.
    b. A Geotechnical report with (2) or (3) borings to a 20’ depth is recommended prior to beginning the design for the foundation repairs.
    c. Due to the condition of the existing foundations, it is recommended to dismantle the existing brick foundations and veneer (discussed in detail below) and install a foundation designed for the expansive soils. This may include a wider footing with void cartons and underpinning with helical piers. Inside the crawlspace, it would be difficult to install helical piers, so a reinforced concrete spread pier footing is recommended with adjustable galvanized columns with spread bases. These columns can be adjusted if the interior piers move drastically different from the fixed (underpinned) exterior foundation walls. This project will need to be carefully investigated and detailed in order to access difficult and tight spaces and how to address interior piers and their attachment to the wood framing.

i. Foundation work would include
    1. Shoring
    2. Excavations and removal of irrigation system surrounding foundation
    3. Temporary relocation of the condensing units.
    4. Demolition of the west porch floor structure and portions of the foundation will be required.
    5. Existing Foundation and interior pier removal
    6. Salvaging brick foundation and wall veneer units – clean and palletize
    7. Installing new reinforced concrete grade beam around perimeter of the house. Recommend grade beam to incorporate 6” void carton to allow for expansive soil.
    8. Underpinning new grade beams – estimated 12 piers to a depth of 15 feet (to be confirmed by geotechnical report). Recommend helical piers.
    9. Install new reinforced and grouted concrete masonry unit (CMU) foundation wall on grade beam to support perimeter of house. Reinstall salvaged brick for veneer.
    10. Install new interior pier spread concrete pads. Install new galvanized adjustable columns with spread base. System may require supplemental galvanized I-beams be installed to spread the support if the wood beams and existing joist layout do not spread the support evenly.
    11. Underpin (2) new piers at west porch. Void carton would not be required for individual piers.

d. While the foundation work is ongoing, it is recommended to attempt to jack up portions of the house to level some of the interior settlement issues.



Interior brick pier with shallow footing.

5. Crawlspace: The crawlspace is accessed through two small openings in the east foundation wall. The southern-most opening allows access to a majority of the crawlspace under the first floor. The northern-most opening is not accessible except for viewing the area under the infilled back porch.
    a. The crawlspace is only partially accessible due to grade and ductwork throughout.
    b. There are severely deteriorated floor joists visible in the area around the return air grille and ductwork under the Living Room 101. This is in the direct path of visitors and

required immediate stabilization/repair. This is a priority repair. Install sister joists or build temporary support piers for (3) joists adjacent to and west of the return air floor grate.

c. The rim joist is not continuous on the north our south sides between piers in the center of the walls and appears to be supported by veneer.
d. The north/south beam that is under the first floor north/south wall is rotted at bearing and shims are crushed.
e. Recommendation – Excavate crawl space.
f. Recommendation – Install concrete mud slab over a heavy-duty vapor barrier throughout crawl space with 2 floor drains and sump to laylight. The concrete slab and vapor barrier will provide some level of protection from rising humidity in the space. The slab will also allow for easier maintenance and access for adjusting interior column supports if needed.



Photograph of shallow crawlspace.







(Upper Left) Photograph of center beam over vent and discontinuous framing support. (Upper Right) Unsupported and deteriorated floor joist at mechanical grille in living room floor. (Lower Left) Deteriorated floor joist near mechanical grill in living room.

6. Exterior Deterioration: Wood rot throughout the exterior is prevalent on the siding, trim, and especially at the wood replacement windows. The quality of the wood used during the 1990s renovation does not appear to be a high-grade exterior wood.
    a. Once the foundation is replaced and the house is as level as it will be for the final work, the siding, corner boards, trim, windows and doors should be replaced in their entirety. Deteriorated sheathing should be replaced, and new breathable building wrap installed. The new siding and trim should closely replicate the historic millwork shown in the historic photographs. This would include reconstructing the west porch columns with siding, as well, to match the historic condition.
    b. Prep, prime, and paint the entire house.





(Left) Photograph of a deteriorated wood window and deteriorated wood siding at the east side of the house. (Middle) Deteriorated corner board, deteriorated siding, and the front porch wood flooring sloping into the front of the house. (Right) Deteriorated siding, Trim, and Window.

7. Roofing and Drainage: Prior to our team being onsite, the park had a high wind event, which had blown shingles off the north side of the front porch. The roof is close to its useful life and should be replaced as part of this project.
    a. Roofing replacement would include roofing, underlayment, and flashings.
    b. Reconstruction of the missing brick chimney should occur as part of the overall roofing replacement.
    c. Recommendation - Gutters and downspout were on visible in the historic photographs of the house. Installing gutters and downspouts would assist in moving a large amount of water from around the home.

8. Drainage: The house sits in a depressed/low area of the yard. Water can accumulate around the foundation. The grade along the north side of the property slopes toward the house, and the sidewalk is raised above grade (poured atop old asphalt in the original alley), which also will impede water flow.



North side of the Cassidy house with poor grading and a high sidewalk that can hold ponding water against the house foundation.

9. Explore options for remote location of the mechanical condensing units. Once the park owns the property to the east, it may be possible to install the condensing lines in an underground trench and locate the units further from the house and potentially masked with landscaping.



Photograph of the 2 condensing units and wood fencing directly behind the east side of the Cassidy House.

10. Remove fence behind house along the east side to match the historic condition of open.

11. Second Floor Framing:
    a. Differential movement is visible at the top landing where the stairs slope towards the south. The stair wall is likely only supported by a single joist. There is visible cracking in the wallpaper in this area.
    b. Differential movement is visible within the corner of the West Bedroom 204 closet.
    c. Our team attempted to view the second floor joist bearing at a hole in the floor in the NE corner of the SE Bedroom 205. This was inconclusive.
    d. The nailing pattern of the flooring visible in the West Bedroom 204 shows joists are approximately 20” center to center.

TREATMENT RECOMMENDATIONS AND PROPOSED PHASING

Proposed phasing for the work to the two buildings and the site includes the following for both buildings. Site work is included in Phase 1B. Phase 1A is to address life safety improvements quickly. Phase 1B would include a majority of the work to the two buildings and site. Phase 1B for the VC and the House can be done independently of one another. Phase 2 represents longer term recommendations made in the 2013 HSR and 2014 CLR.

- Phase 1A – Life-Safety Improvements (Immediate Work)
- Phase 1B – Cassidy House and Visitor Center Foundation Repairs and Exterior Shell and Sitework
- Phase 2 – Longer Term Recommendations for Interior Renovations and Non-Critical Work

Update Condition Assessment, Treatment Recommendations, and Class C Construction Estimate for Birthplace House and Visitor Center, and Develop Site Drainage Concept

Site Visit November 2 and 3, 2021

Final Submittal December 27, 2021

William Jefferson Clinton Birthplace National Historic Site
Hope, Arkansas

Contract # 140P6020D0004
Task Order # 140P6021F0078
PMIS 131181



Prepared by STRATA Architecture Inc.

Contents of Submittal

1. **Work Session Meeting Notes and Site Trip Notes**
   - Conceptual Phasing Plan
2. **Cassidy House – Assessment and Treatment Checklist & Cost Estimate**
   - Phase 1A
   - Phase 1B
   - Phase 2
3. **Visitor Center – Assessment and Treatment Checklist & Cost Estimate**
   - Phase 1A
   - Phase 1B
   - Phase 2
4. **Site – Assessment and Treatment Checklist & Cost Estimate**
   - Conceptual Site Plan
5. **Comfort Station Treatment Checklist**
6. **Wood Species Testing**
7. **Updated Partial Crawlspace Drawings for Visitor Center and Cassidy House**

WORK SESSION MEETING AND SITE TRIP NOTES

This submittal includes the combined Work Session Meeting Notes and Site Trip Notes for the 'Update Condition Assessment, Treatment Recommendations, and Class C Construction Estimate for Birthplace House and Visitor Center, and Develop Site Drainage Concept' project at the William Jefferson Clinton Birthplace National Historic Site in Hope, Arkansas. The A/E Team, led by STRATA Architecture Inc. was onsite to Tuesday and Wednesday, November 2 and 3, 2021. The team included STRATA Architecture Inc., Structural Engineering Associates, Inc. (SEA), Henderson Engineers, and SK Design Group (SKDG).

Previous studies, including a 2013 Historic Structures Report and a 2014 Cultural Landscape Report served as the basis for the assessment work. These reports included the history and development of the site and buildings, documented existing conditions, included as-built drawings, and provided treatment recommendations and cost estimates for proposed work.

The team gathered information and assessed the existing conditions to provide updated treatment recommendations and Class C construction cost estimates for the Birthplace House and the Visitor Center. The Comfort Station was not included in this scope of work; however, some items were noted to be addressed in the electrical survey, and those are included in the recommendations. Work also included analysis and development of a conceptual treatment recommendation with costs for site improvements to alleviate poor drainage, which is a contributing factor in the advanced deterioration of foundations of both of the houses.

Assessment included walking the site and noting existing conditions on drawings of the buildings and site, taking photographs, and noting accessibility issues and other factors that may affect the visitor experience and park staff. In the afternoon of the second day onsite, the A/E team held a Work Session Meeting with park staff and the NPS regional historical architect/project manager, to listen to the park's issues and future needs, to review the conditions that had been discovered, and discuss potential direction.

Deliverables for this project include:

- Work Session Meeting Notes and Site Trip Notes
- Conditions Assessment / Treatment Recommendations Tables for Each Structure and Site
- Cost Estimates per Recommended Phase of Work for Each Structure and Site
- Existing Conditions Photographs in electronic .jpeg format

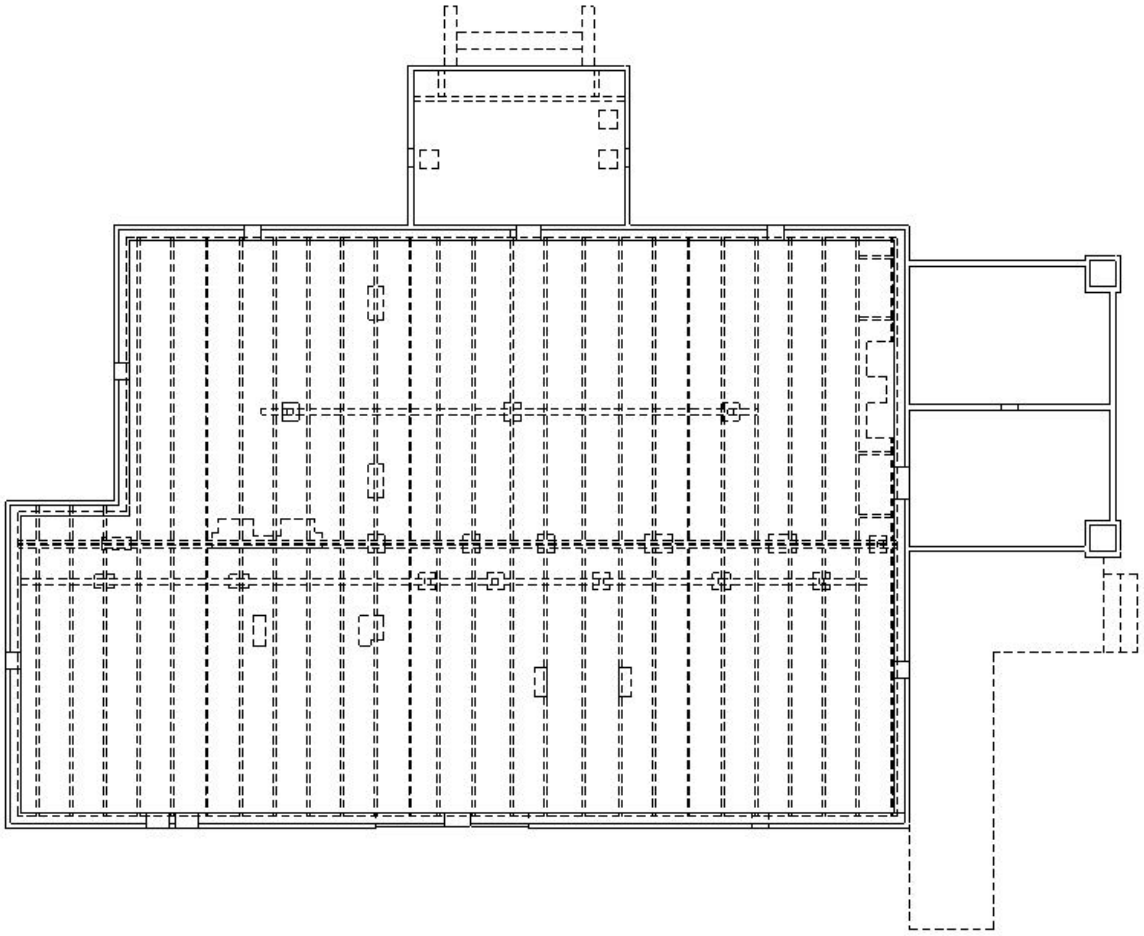
Those present for the Work Session Meeting included:

Gregory Hauburger, Superintendent
Evan Weber, Facility Manager
Jennifer Ledbetter, Facilities
John Rosemurgy, Historical Architect and Project Manager, MWR Cultural Resources (Virtual Attendee)
Kelly Korenoski, Regional Project Manager, MWR Facilities Planning and Infrastructure (Virtual Attendee)
Angie Gaebler and Claire Ashbrook, STRATA Architecture – Historical Architect/Project Manager
Philip Steet, Structural Engineering Associates, Inc. – Structural Engineer
Nick Gordon, Henderson Engineers – Engineer
Gary Urkevich, SK Design Group – Civil Engineer

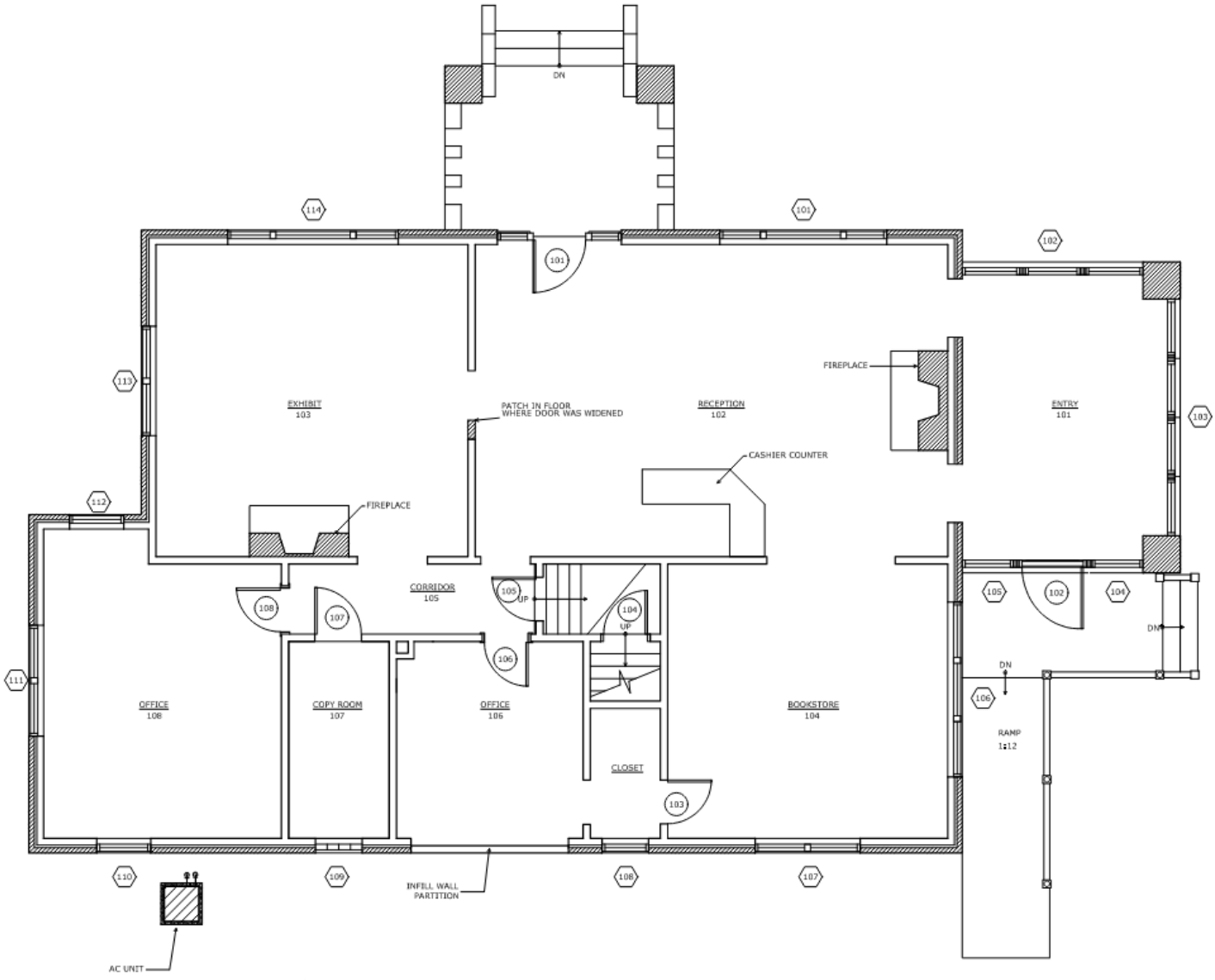
1. The team reviewed the overall scope of work for the project and discussed the current goals for this updated assessment and cost estimate work.
2. The Park wants to be certain that recommendations made during this project will not preclude them from building a new Visitor Center in the future.
3. The Park has begun the process of acquiring adjacent land from the City. This includes the large parking lot in the SE corner of the block, as well as most of the empty lot between the parking lot and the Cassidy House, part of which was the site for Clinton's boyhood friend, Vincent Foster Jr.. The City will retain a parcel of land in the SW corner for a memorial park. The acquisition of this substantial property was not anticipated as part of the 2013 HSR and 2014 CLR reports, and therefore, these properties are not included in the long-term planning efforts for the park. The 2014 CLR notes the need for a new Visitor Center and provided examples for building massing and location. It was proposed to be constructed on the site of the existing memorial garden and that the garden would be relocated to behind the existing Visitor Center.
4. Acquisition of this additional property open up opportunities to explore potential development of the empty lot behind the Cassidy House for a new Visitor Center, rather than where it had previously been studied.
5. With the acquisition of this additional property, some immediate improvements might include removal of non-historic wood and metal fencing between the existing Visitor Center lot, the Cassidy House, and the empty lot. This would need to be closely coordinated with the City, who still owns the abandoned alley that runs east/west through the approximately 7/8 of the block. The fencing identifies the north and south boundaries of the alley through the National Historic Site. These are not contributing features to the landscape and their removal would improve the viewsheds.
6. The City has recently re-paved the parking lot and will stripe the lot this coming week. This new lot will provide much-needed accessible parking stalls. The City is also planning to make improvements to the sidewalk between the lot, the alley, and the Comfort Station. They will return to make these needed improvements.
7. The Park and Region are okay with moving away from some of the HSR and CLR recommendations, due to the time lapse since the initial recommendations, changing conditions, and acquisition of the new property, especially concerning low-impact items. The Park is most interested in addressing 'maintenance and function.' Examples may include recommending the installation of gutters and downspouts, although the houses did not originally have these, and providing accessible concrete walkways for the garden paths.
8. Geothermal: The team discussed the HSR recommendations of installing geothermal systems for heating and cooling for the Cassidy House. This would require deep excavations and is invasive to the site. The NPS and the park are no longer in favor of that option. A traditional HVAC system is likely more affordable and easier to maintain.
9. The HSR recommended bringing in new electrical service and transformer just for the NHS. They have not had any issues at this time. If a new Visitor Center is constructed in the future, that additional electrical needs will be addressed as part of that project.
10. There was a life-safety issue found in the crawlspace of the Cassidy House. The section of floor joists surrounding the return air floor vent in the Living Room is deteriorated. Philip said the joists are crumbling when you touch them. This could lead to failure of the floor in this area and should be shored immediately.

11. One wood sample was taken from the Cassidy House first floor joist for species identification. It was found to be in the 'Southern Yellow Pine' group, which would match 'Mixed Southern Pine' for structural calculations.
12. Two test pits were dug adjacent to the buildings to see if the team could verify the presence of, the depth, and the materiality of the footings.
    - At the Visitor Center, the test pit was dug just to the east of the crawlspace opening on the south side of the house. The hole was approximately 12" diameter at the top and narrowed to about 14" in depth. It was dug with a shovel, and very carefully worked around the existing irrigation line that was within inches of the foundation wall. This made the excavation of the hole difficult. Therefore, the top of the footing was exposed, but the depth was not able to be determined in the small area available. To find the depth and materiality of the footing, a much larger hole would have had to be dug outside of the irrigation line.
    - The test pit at the Cassidy ran into the same issues with the irrigation line being in the way of the test pit. This pit was dug just west of the central foundation vent on the south side of the house. The foundation footing was located approximately 1" below grade.
13. The Visitor Center should be treated as historic with compliance reviews for proposed work until a final determination has been made. John has recommended further discussion with Region about a Determination of Eligibility for the house. The HSR does not address the historic nature of the Visitor Center, but the CLR recognizes it as part of the historic setting. This subject matter will be continued.

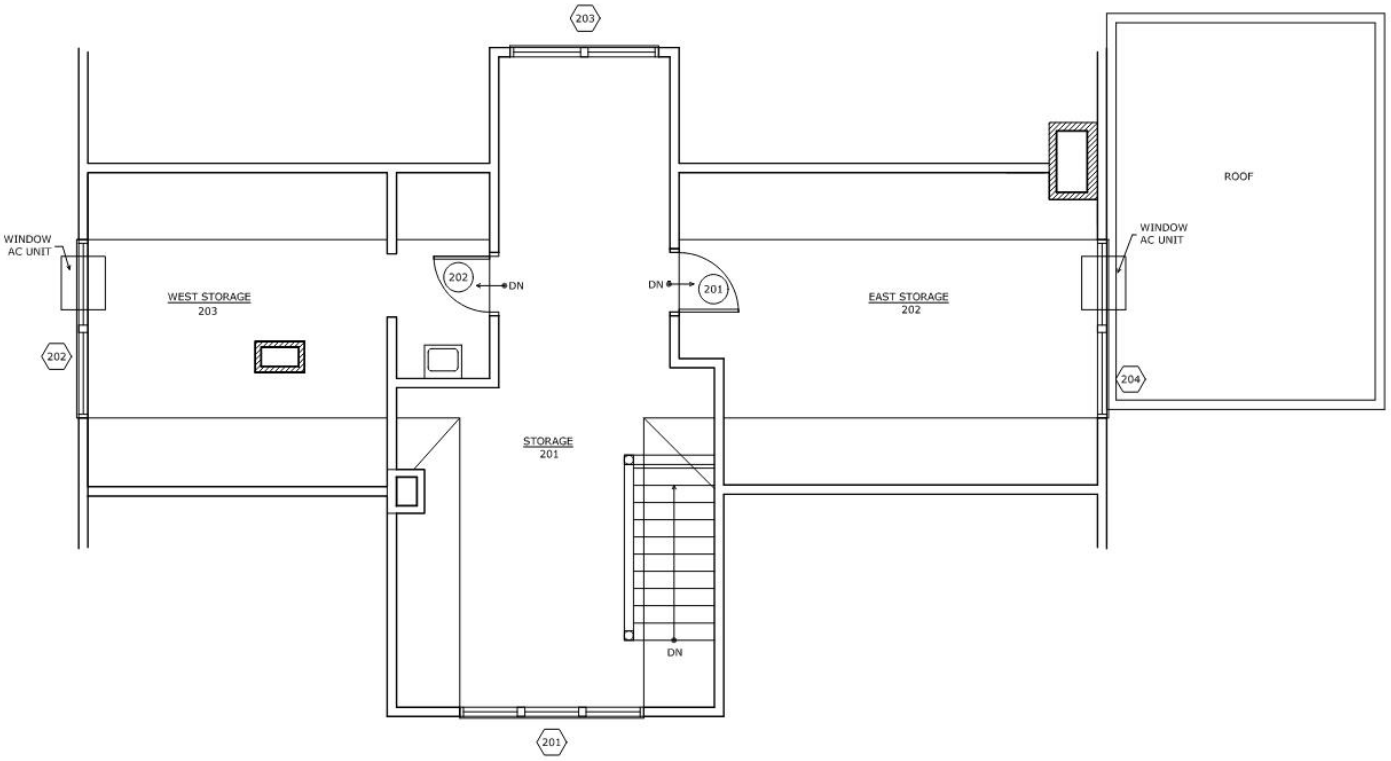
REFERENCE FLOOR PLANS



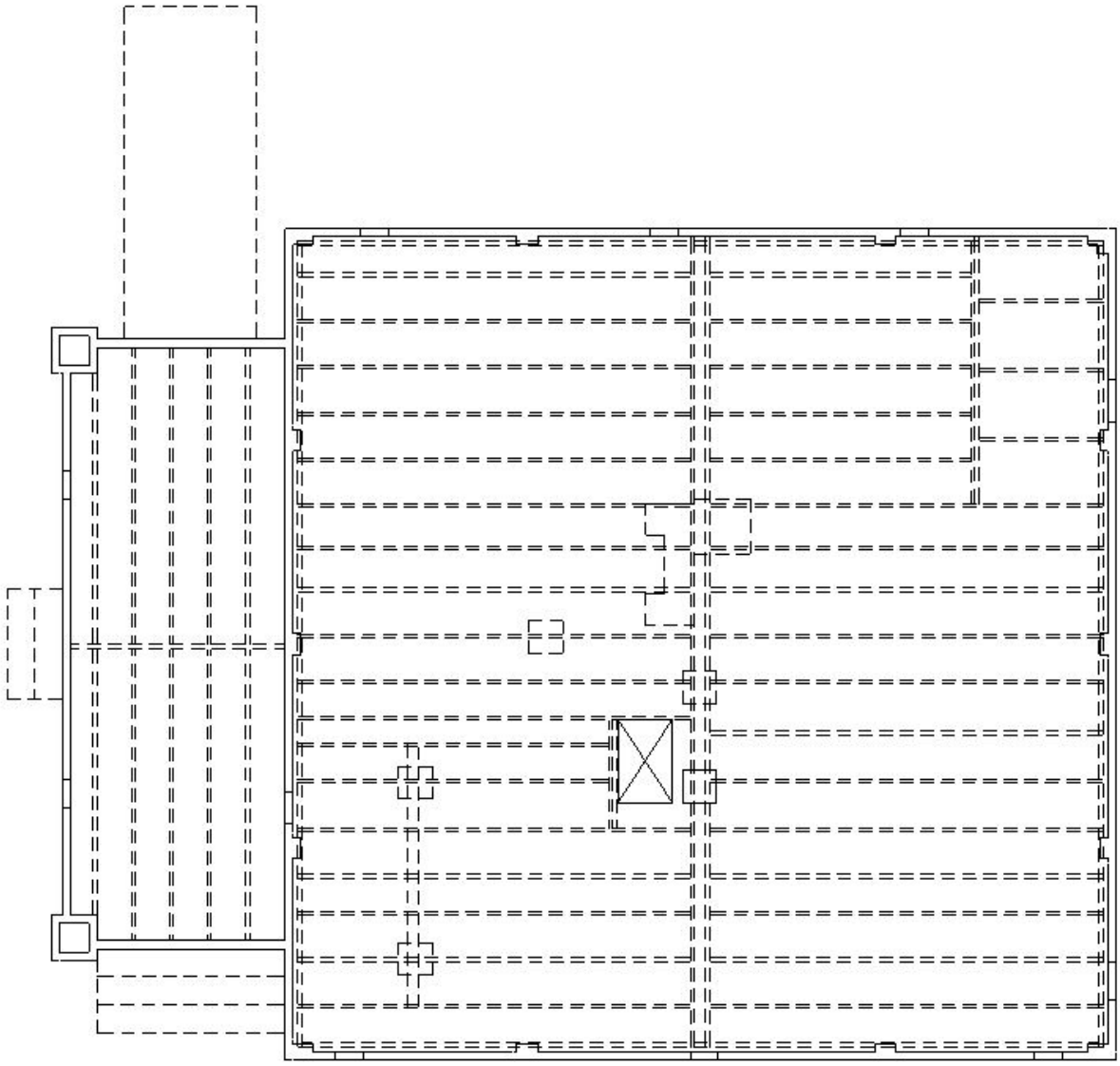
Visitor Center Crawlspace Plan



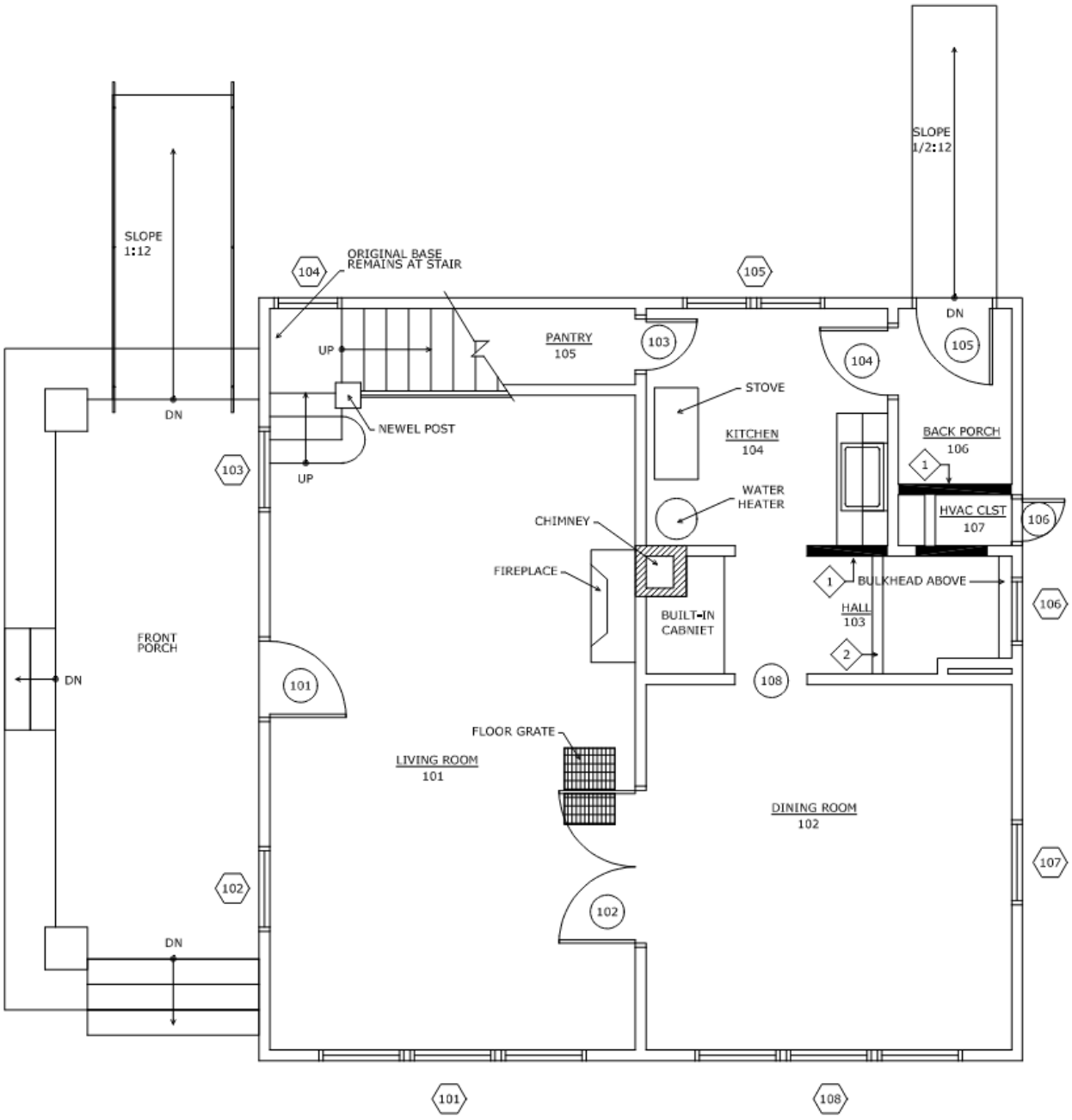
Visitor Center First Floor Plan



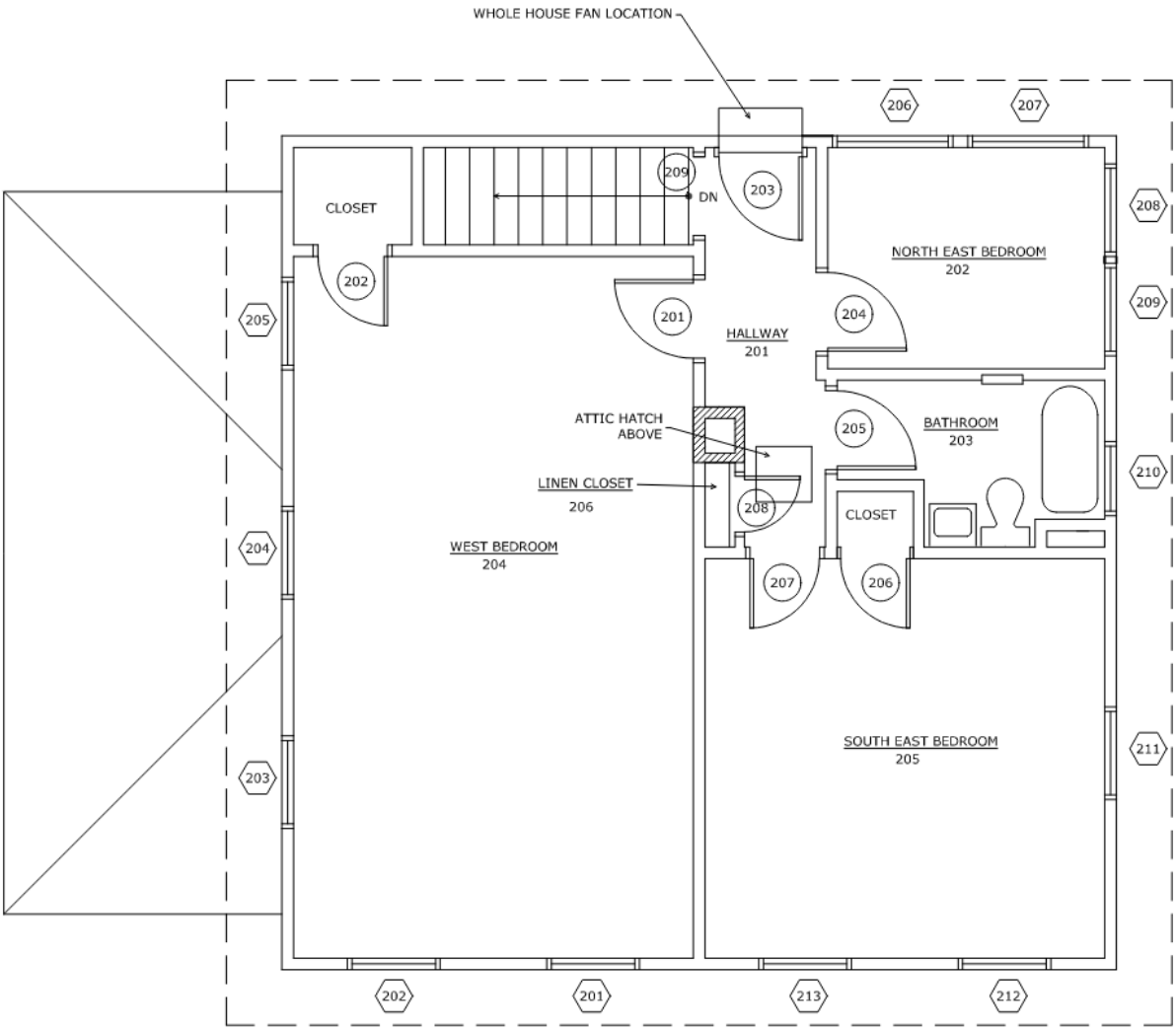
Visitor Center Second Floor Plan



Cassidy House Second Crawlspace Plan



Cassidy House First Floor Plan



Cassidy House Second Floor Plan

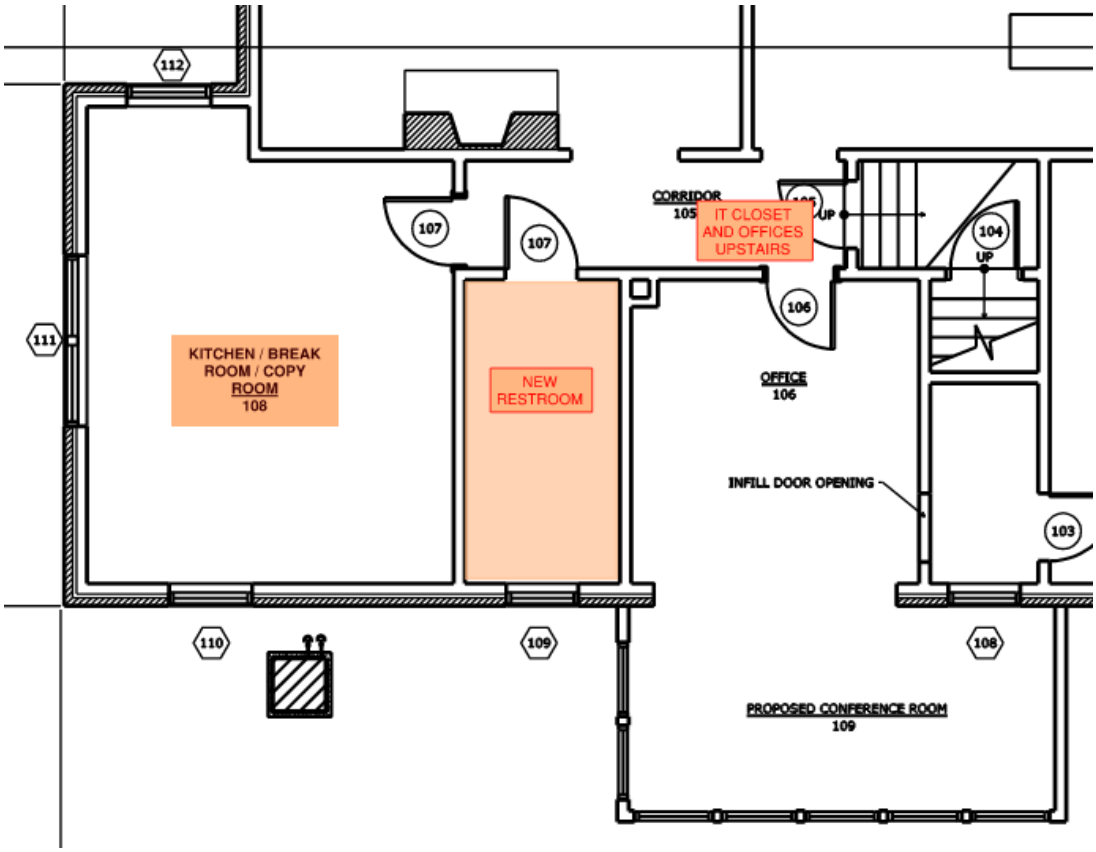
Visitor Center Assessment

Existing Plans for Reference are attached.

The following items were observed during our site visit.

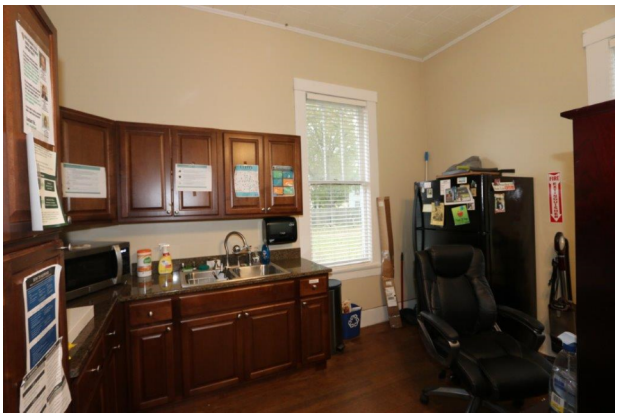
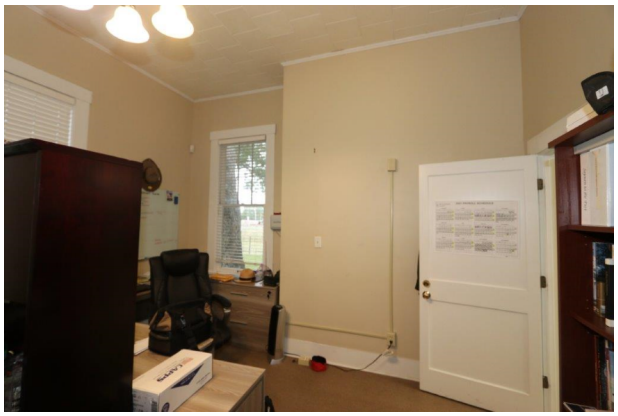
1. Historic Integrity:
    a. The Visitor Center has a high level of historic integrity throughout. Much of the original materials, including the wood trim, windows, and doors appear to be original. Room layouts appear to be close to original with the exception of the non-extant breakfast room/south porch room that was previously demolished.
    b. A majority of the previous renovation work that was done on this historic site was done in the mid-1990s by the William Clinton Birthplace Foundation.

2. Programming for Interior Space:
    a. A new programming effort should be undertaken to assess the park's current and future needs for office area, visitor services, and function/layout of the entire first and second floor of the Visitor Center. Efforts should begin with the HSR recommendations and should update the recommendations for current needs.
    b. Items to explore may include:
        i. Visitor Greeting at Entry / South Porch Door – Consider relocating cubicle
        ii. Consider what staff need to be on first floor.
        iii. How many cubicles or private offices would be located upstairs?
        iv. Where is the best place for the Superintendent's Office? Second Floor? What are privacy requirements? Do other staff require privacy?
        v. If the missing Breakfast Room addition was to be reconstructed, how would this space be utilized in conjunction with the existing Office 106 area? HSR plans show this as conferencing space, but how would that work if there were cubicles in 106?
        vi. If Offices mostly move upstairs, would Exhibit 103 be returned to visitor services? Is this space needed?
        vii. Consider adding an ABA-accessible 'Convenience' Restroom for staff use within the first floor of the building. This could be partitioned in Office 108 area with a small, reconstructed kitchenette sharing the other portion of the space. Or, a restroom could be installed in Copy Room 107.
        viii. See plan option for restroom below. In this scenario, the IT closet would move upstairs, and the existing IT/Copy Room 107 would be renovated into a single-toilet accessible convenience restroom. The existing kitchen/office 108 would be used as a kitchen/breakroom/copy room. Two or three desks or 2 small cubicles could be located in Office 106 and a small conference table for staff. All other offices would be upstairs. Photographs of these spaces are below.





Room 107 – Currently the copy room, originally a bathroom. May be suitable for an accessible restroom. Ceiling is lowered in front of old window. Window is glass blocks.

Room 108 – Currently the staff kitchenette and 2 cubicles for staff. Originally, this was likely a bedroom. Proposed plan keeps the kitchenette here as a break room and also copy room functions.

3. Hazardous Materials: Provide an updated comprehensive hazardous materials survey of the entire building, including concealed areas and crawlspace.

4. Foundation:
   Existing Conditions:
   a. The perimeter foundation walls are triple-wythe brick with the exterior wythe being the veneer and no visible header bricks. A concrete parging is visible at the base of the perimeter foundation walls with a beveled top edge. The parging is approximately 1" thick. It is unknown if this parging is an original treatment, or if it was added during a later renovation.
   b. The team excavated a test hole in the center of the south foundation wall. Unfortunately, the irrigation lines are installed below grade very close to the foundation wall, which did not allow for a full-depth excavation, as anticipated. A footing appears to exist approximately 14" below the exterior grade. It could not be completely uncovered to discover the depth or condition of the footing.
   c. Interior piers supporting the first floor are brick and are constructed on a combination of brick and concrete footings.
   d. An interior brick foundation wall runs east/west below the mid-span of the sunporch.
   e. The foundation appears to be settling unevenly throughout the structure exterior walls and interior piers. In some areas, the house has sunk several inches since the 1990s renovation. Sections of flooring in the first and second levels of the house have noticeably settled with high and low spots where support varies.



Photographs of the exterior and interior of the brick foundation walls.

Treatment Recommendations:

f. A Geotechnical report with (2) or (3) borings to a 20' depth is recommended prior to beginning the design for the foundation repairs.
g. Due to the condition of the existing foundations, it is recommended to dismantle the existing brick foundations and veneer (discussed in detail below) and install a foundation designed for the expansive soils. This may include a wider footing with void cartons and underpinning with helical piers. (Void cartons are also referred to as void forms and are used to create space between concrete structure and expansive soils to isolate the concrete from the swelling ground). Inside the crawlspace, it would be difficult to install helical piers, so a reinforced concrete spread pier footing is recommended with adjustable galvanized columns with spread bases. These columns can be adjusted if the interior piers move drastically different from the fixed (underpinned) exterior foundation walls. This scope of work for this project will need to be carefully investigated and detailed. Access throughout the crawlspace is difficult with tight spaces. Access will need to be provided in order to design for foundation and underpinning at the wall between the Reception 102 and Entry (Sunporch) 101 and to assess and design interior piers and their attachment to the wood framing.
    i. Foundation work would include
        1. Shoring
        2. Excavations and removal of irrigation system surrounding foundation

3. Existing Foundation and interior pier removal
4. Salvaging brick foundation and wall veneer units – clean and palletize
5. Installing new reinforced concrete grade beam around perimeter of the house. Recommend grade beam to incorporate 6" void carton to allow for expansive soil.
6. Underpinning new grade beams – estimated 20 piers to a depth of 15 feet (to be confirmed by geotechnical report). Recommend helical piers.
7. Install new reinforced and grouted concrete masonry unit (CMU) foundation wall on grade beam to support perimeter of house. Reinstall salvaged brick for veneer.
8. Install new interior pier spread concrete pads. Install new galvanized adjustable columns with spread base. System may require supplemental galvanized I-beams be installed to spread the support if the wood beams and existing joist layout do not spread the support evenly.
9. Underpin (4) existing piers at corners of north and east porches. Void carton would not be required for individual piers.

5. Crawlspace and First Floor Framing: The crawlspace was accessed through an opening in the south wall where the breakfast room addition was previously removed.
   Existing Conditions:
   a. The crawlspace was partially accessible and not able to be measured completely due to ductwork, pipes, and high grade.
   b. The floor is dirt with debris throughout.
   c. Moisture is present around the perimeter of the foundation.
   d. Many of the wood floor joists have been repaired. It also appears that the outer rim joist was replaced. It is unclear how the rim was installed without removing the brick veneer, which is supporting the outer walls. The existing 2x10 joists were cut short of the replaced rim joist and then they were partially sistered with 2x6s and toe-nailed into the new rim joist. This work to the joists and rim joist occurred during the last renovation project.
   e. At the center beam, there are issues with the previous framing repairs where 2x4s were added to re-connect larger joists to the beam. There are improper connections in many places.
   f. There is evidence of termite damage to joists and the subfloor throughout. The HSR recommended 500 SF. This may not be enough, once the full inspection is completed. This could easily grow to include a much larger area and spot areas throughout the first floor. Once that occurs, it may be easier to replace subfloor and wood flooring throughout an entire room, rather than spot replacement. Cost for full replacement should be covered by the design contingency allowance in the cost estimate at this phase of design.



Typical existing, unconventional first floor framing conditions in the crawlspace.

Treatment Recommendations:

g. The crawlspace dirt should be hand-dug and removed prior to the next renovation to allow for access throughout for maintenance and repairs. The dirt should be approximately level with the exterior of the house.
h. A priority repair would be the repair the joist to beam connections in the area below Corridor 105. Estimated (10) connections using metal joist hangers (Simpson or similar) and (1) 2 x 8 x 4'-0" supplemental framing.
i. As the foundation work occurs, probe all existing joists for deterioration and joists cut for piping. Sister existing damaged/deteriorated joists in crawlspace. Estimated (15) total sister joists, approximately 2 x 10 x 18'-0". Install galvanized metal joist hangers (Simpson or similar) to existing joists. Estimated (60) joists with (2) hangers for each joist.

6. Brick Veneer and Exterior Walls:
   a. Exterior brick is single-wythe veneer over an unknown substrate.
   b. A hole in one area shows wood sheathing that was deteriorated and perhaps termite or other pest damaged.
   c. It is unknown if there is also building paper over the sheathing.
   d. Areas of the brick veneer have shifted, settled, cracked, and bowed throughout the exterior of the house. The foundations have settled, creating undulations in the

plumbness and have caused bowing of the wood frame structure. In areas that exhibit movement, the bricks may be detached from the wall sheathing, allowing for masonry settlement separate from the wood frame wall. This uneven settling and masonry dis-attachment effects the cast concrete sills, wood trim, wood windows, and creates out-of-plumb conditions at doors and window openings.

e. The only area of the house that the brick veneer appears to be sound is the exterior exposed brick masonry wall area within the sunporch that is covered with the roof. Here, the masonry is well protected and the ground does not get saturated with water. The large masonry fireplace mass does not appear to have settled, and the entire masonry wall system in this area appears to be fairly intact and in good condition.
f. The cracks and offsets in the brick veneer allow water to further infiltrate the wall system, which can accelerate deterioration of the wood wall system and brick veneer.
g. There are a lot of spiders and pests living in the holes of the masonry mortar joints.
h. Foundation vents are rusted. A future design phase should calculate the volume of the crawlspace and the size and allowable air flow of the foundation vents to ensure they provide adequate air flow to meet current code.
i. The condition of the wood-framed exterior walls was not able to be observed. However, there were areas where the sheathing was exposed and is in poor condition (noted above). Also, the rim joist that supports the wood wall and brick veneer was replaced. This may also indicated there is potential for deterioration of the wall sill plate. This could not be observed.












Examples of brick veneer that has shifted, settled, cracked, and bowed throughout the exterior of the house.

7. Front (North) Porch:
    a. The front porch is constructed of a reinforced suspended concrete slab. The detailing and support of the perimeter of the slab is not visible and was not able to be determined. There is cracking at the perimeter and cracking and delamination at the top tread.
    b. Brick piers on spread footings at grade are inset from the exterior foundation walls. These can be seen through the foundation vents and from the interior crawlspace.
    c. The porch floor and concrete steps are painted, creating a slick condition.
    d. The porch floor slopes 1” in 4’ towards the house, which can funnel water into the wall.
    e. The east cast concrete rail cap is cracked.
    f. There are no railings at the front porch steps.
    g. Recommendation - The porch will likely need to be partially deconstructed to replace the building foundation. At that time, the porch construction and supports will need to be further investigated and designed for replacement. Porch will need to be reconstructed to have a positive slope away from the house. It is unclear if the house will be jacked or straightened to account for the settled dimension at the porch/door area.
8. Historic Windows:
    a. Historic wood windows (sashes, frames, trim, and sills) are in overall poor condition and require complete restoration. Some of the sills have been affected by the shifting brick veneer/cast concrete sills and are now sloping back towards the house, instead of down and outwards.
    b. Windows are currently not covered with storm windows.
    c. HSR recommends interior storm windows. We would reconsider this recommendation and recommend exterior storm windows be installed to protect the newly-restored windows with a low-e glass to provide some energy efficiency.
    d. Lintels at Windows 101, 106, and 114 have settled in the centers by nearly 1.5-inches or more and appear to be undersized. Even though the weight of the masonry above is not substantial, they are failing. While the brick wall veneer is removed, the lintels should be replaced in these locations. Lintels at other windows should be inspected for

deterioration when the brick veneer is down-stacked, and they should be replaced accordingly.

e. Window sills are cast concrete and are painted. The paint is in poor condition, traps moisture in the concrete, and is difficult to maintain. Consider stripping paint and installing concrete sealer to preserve the sills. Research as to the historic condition of the sills (painted or natural) may reveal a preferred treatment.
f. Exterior glass block window was in a restroom and should be restored to a wood double-hung, unless historic documentation suggests this was historically a glass block window opening.






Examples of exterior windows and deterioration.

9. Historic Front Door and Surround:

a. The historic wood front door, sidelights, and transom are in overall poor condition with peeling paint and deteriorated putty. The door frame is racked slightly from the foundation settlement. The door is not fully weatherstripped. Hardware does not meet ADA. The cast concrete sill is painted on the exterior. The threshold does not meet ADA.



Front Door and Surround.

10. Sunporch/Entry 101:
    a. Sunporch infill wood framing and windows are in overall poor condition.
    b. Wood rot is prevalent near the base of the wall.
    c. Water infiltrates this wood-framed wall and window system when it rains, resulting in puddles on the interior of the building.
    d. Some of the insulated glazing seals have failed, resulting in foggy windows.
    e. The detailing of the wood framing at the windows is not designed to shed water, instead, the detail allows for water to infiltrate the system. We recommend this entire wood framing system to be re-designed to correctly shed water with new insulated windows.
    f. The concrete floor in the sunporch is painted. The paint does not appear to have been previously tested. The paint is in overall poor condition and makes the floor slick. This should be tested and removed. And a concrete floor cleaned, polished, and sealed.
    g. The reinforced suspended concrete floor slab is in fair condition. Some corrosion and exposed reinforcing is visible at the underside of the slab. The slab is partially supported by an east/west brick wall at mid-span.
    h. Recommendation: Reconstruct infill walls and glazing. Prior to redesigning the wood framing and infill, research for the original design of this porch area is recommended through historic photographs and contacting previous owners, etc.




Examples of Sunporch wood window and trim deterioration.

11. Exterior Painting:
    a. It is assumed that all exterior paint contains lead. The paint is in overall poor conditions and is peeling throughout.
    b. It is recommended to strip all exterior paint from wood trim and stucco to get to a sound surface and repair all wood exterior components.
    c. All of the exterior requires stripping, sanding, caulking, prepping, and final painting.
    d. Wood deterioration is noted below.

12. Exterior wood trim deterioration (Excludes sun porch):
    a. Exterior wood trim is painted and is peeling throughout.
    b. Wood rot was seen from grade in the following locations:
        i. North Elevation:
            1. Dormer – epoxy repair and consolidate wood center bracket
            2. Dormer – all wood that is exposed needs to be stripped and have a wood consolidant/preservative installed
            3. Rafter/outlookers on both sides of porch roof need to be replaced. They have been partially sistered previously.
        ii. East Elevation:
            1. Wood trim in the gable that divides the stucco bays is in overall poor condition and required replacement in several locations.

2. The center (south) bracket is deteriorated and requires significant repairs or replacement.
3. Replace window sill, apron, and vertical batten at second floor window.
4. Repair/replaced section of fascia boards at gable peak.
5. Replace wood soffit and barge board to be replaced at sun porch.
6. Replace barge board near north side (may be replaced due to brick down-stacking anyway).

iii. South Elevation:
1. Replace deteriorated east bracket at dormer.
2. 9th rafter tail from the east is deteriorated – replace in kind.

iv. West Elevation:
1. Replace approximately 36" of corner board at dormer
2. Replace entire length of bottom board at roofline at dormer
3. Replace sections of barge board
4. Epoxy repair and consolidate southern-most bracket



Example photographs of wood deterioration and peeling paint.

13. Ramp and South Porch Steps:
    a. Existing Ramp
        i. The wood ramp, porch, and steps are not historic and was likely constructed in the mid 1990s.
        ii. The ramp is constructed with wood decking with turned wood painted railings. The ramp and steps are in overall poor condition.
        iii. The park has closed the steps, due to broken treads. The ramp railing is unstable, missing balusters, and is generally in poor condition.
        iv. The ramp, porch, and steps are slick when it is wet. One of the metal anti-slip plates is missing on the ramp.
        v. The ramp is constructed against the east wall of the house, making maintenance in this area of the masonry structure difficult.
        vi. The threshold at the entrance door does not meet ADA height requirements.
        vii. The ramp slope is about 5 degrees with a 5/8" lip at the bottom. The slope meets requirements, but the lip at the bottom is too high.

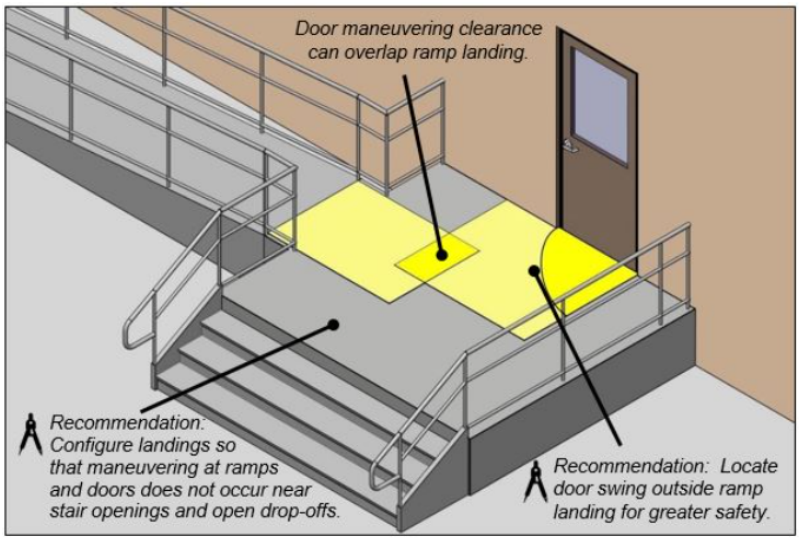
viii. Railings/handrails are not ABA-compliant on the ramp or steps.
ix. Door hardware is not ABA-compliant.
x. No power-assisted door opener (NPS requirement for main entrances)

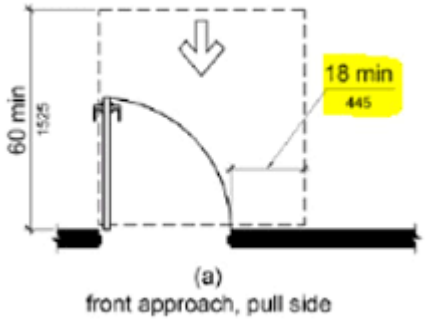




Photographs of the deteriorated accessible ramp and steps at the south entrance.

b. Replacement Ramp
   i. A replacement porch and ramp are recommended to be constructed away from the wall. The Superintendent has a plan that appears to function well in this manner. However, moving the ramp to the east will require replacement of the entrance door. Also refer to #15 Accessibility below. It is also recommended to post signage to indicate the location of the accessible entrance and also to install an automatic door opener, if possible.
   ii. For proper ramp layout and clearances, refer to one of the following guides:

1. https://www.access-board.gov/aba/guides/chapter-4-entrances-doors-and-gates/
2. 

3. 

14. Grade:
    a. Grade slopes towards the house along the north side of the house.
    b. The lack of gutters has led to a depressed area in the grade surrounding the house, which does not allow for proper runoff during rains. This can also create ponding around the house and result in a damp crawlspace and uneven settlement of the foundation.

15. Accessibility:
    a. Exterior - South Ramp Entrance: See #13 Above
    b. Exterior - Front Entrance (North Porch):
        i. There are no railings at the front steps.
        ii. The painted porch floor and steps are painted, making them very slick and dangerous when wet.
        iii. There is a step up at the front door and a tall threshold.
        iv. Door hardware is not ABA-compliant



Photograph of the front porch.

c. Interior – First Floor:
    i. Back Hall (Corridor 105):
        1. The back hall (Corridor 105) is around 45-inches wide, which is close to the minimum 42-inches required for ABA-compliant access to door openings in the hallway.
        2. In their current configuration, the doors from the Corridor 105 are not all accessible.
            a. Door 106 into Office 106 is too narrow and cannot be converted into an accessible opening without widening the door. (Widen door or use Door opening 103 as a cased opening without a door installed)
            b. Door 107 into Copy 107 swings into the hallway, which does not meet ABA-clearance requirements for operation and approach (minimum 54” or 60” depending on direction of traffic). If the door is reversed to swing into the room, it is still not wide enough to meet the required 32” width if there is a door installed. If the door is uninstalled and only the cased opening remains, the door will meet ABA requirements at 33”. (Solution: remove door and leave jamb)
            c. Door 108 into Office 108 does not meet door approach requirements. If a door is installed, it does not meet width requirements. If a door is removed and not installed, the width between the jamb stops is 33” and meets requirements. (Solution: remove door and leave jamb)
        3. It is unlikely without major renovations that the rear portion of the first floor could potentially house more than a single restroom.
        4. The existing lay-in acoustical suspended ceiling is not compatible with the historic nature of the house. The original volume of the hall ceiling could be restored with new lighting.



Photograph of the narrow back hall (Corridor 105).

ii. The fireplace hearths in the Reception Room and the Exhibit Room were installed to be flush with the wood floors. Over time, the hearths have settled, and the bricks have shifted and now project above the finished surrounding wood floors, creating a tripping hazard.



Brick Hearth in Exhibit Room that is uneven and a tripping hazard.

iii. Door hardware throughout the house is historic or contemporary replacement and is not ABA compliant.

d. Interior – First Floor:
   i. Copy Room 107 has a lowered hard ceiling that intersects the top of the window. Explore why this has occurred. Raise ceiling if possible in renovation, or provide window pocket to allow for full height of window to show inside the room.
   ii. The main electrical panel is in Copy Room 107.
   iii. Office 108: Acoustical ceiling tiles direct-applied to the ceiling are not in keeping with the character of the historic house. Lighting in this space is residential in nature and does not provide enough light for office space. Exposed conduit in the room should be removed when the house is re-wired. Irrigation system controls are installed on the north wall in this space, near the window. This room is partially carpeted and partially wood flooring.





(Left) Photograph of the first floor copy room with a lowered ceiling and a glass block window. (Right) Photograph of incompatible acoustic direct-applied ceiling tiles in the kitchen 108 room.

e. Interior – Second Floor:
    i. Staircase:
        1. The winding staircase to the second floor does not meet commercial code. The treads and risers to not meet current IBC commercial code.
        2. There are two door openings on staircase that are not code compliant, as they swing out over the stairs and into the path of traffic.
        3. Hand railings do not meet ABA accessibility requirements with regard to continuity and extensions at the top and bottom. These would be difficult to upgrade with the existing door frames in place.
        4. This staircase can be 'grandfathered' in with some safety upgrades, since the second floor switching from S1 (storage) to B (business) occupancy is an equivalent hazard group.
        5. Recommendations – remove both doors from the cased openings. Remove the cased opening at the landing altogether to allow for a continuous handrail along the outer wall. Install ABA-compliant tread nosings to assist with slip resistance. Install new and adequate lighting at the stairs.



(Left) A photograph of the bottom portion of the wood winding staircase to the second floor with a narrow door opening at the bottom tread. (Right) A photograph of the upper, straight portion of the wood staircase to the second floor with a narrow door opening at the bottom tread before the winding portion of the staircase.

ii. Second Floor Offices:
    1. The span of the second floor joists in Rooms 202 and 203 are greater than previously reported and calculated in the HSR. The joists span from the north to south walls, not from the knee walls, and likely span to a central beam. Therefore, the capacity of the second floor joists is lower than reported. They are also very likely not connected, which may contribute to outward thrust, as they are not restrained.
    2. Rafters do not align with the joists. Load path for outward thrust must transfer through sill plates, which is not ideal.
    3. Gable end framing is not supported by the exterior brick veneer. Lateral pieces cantilever over the stud wall to support the end gables. This is why there is framing that is taller near the end walls.
    4. Construct new offices on the second floor in Rooms 202 and 203.
        a. Remove all insulation board and attachments. Remove all other insulation and debris.
        b. Remove existing sink and all related plumbing in 203.
        c. Widen wall opening in 203 between existing entry/closet and larger room.
        d. Remove existing knee walls for access to floor joists.
        e. Remove existing floor sheathing from rooms 202 and 203. Install new 2 x 10 joists between existing 2 x 6 joists (16” spacing). Estimated (48) 2 x 10 x 18’-0,”as required for office loading.

f. New joists shall be connected together over central beam support and connect to rafters and sill plates at exterior walls (where rafters are not already connected to existing joists).
g. Install sound attenuation batt insulation between floor joists to assist with sound transfer to the first floor. Reinstall existing floor sheathing and supplement with new sheathing, where required. Install new carpet tiles.
h. Reconstruct knee walls and frame for new access doors.
i. Provide flush, painted steel, lockable and insulated knee wall access doors on each side of the knee walls (4 total).
j. Insulate knee walls and ceiling. Re-wire second floor. Install new gypsum board walls, painted, and new painted trim.

5. Renovate existing office space Room 201 in the center of the second floor.
    a. Remove wall paneling. Install new gypsum board painted walls.
    b. Refinish existing historic wood flooring
    c. Add raised railing at stair railing to bring height to 42" code requirement.
6. Throughout Second Floor:
    a. Install new lighting, electrical receptacles, and data throughout. Install new HVAC (refer to mechanical and electrical).
    b. Paint all rooms (walls, trim, ceilings) on second floor.
    c. Repair paneled wood Door 201 and provide new hardware.
    d. Repair paneled wood Door 202 and provide new hardware.

16. Chimneys:
    a. There are three chimneys that were constructed of the same brick as the exterior veneer that once pierced the roof – one on the far east side, another near the center of the west roof, and a third, smaller chimney just west of the back dormer. These were removed to below the roof line, but the chimney bases are still intact.
17. Roof:
    a. The existing roof structure shows signs of minor deflection and sagging.
    b. The existing asphalt shingle roof is in overall fair condition. It was last replaced in November 2011 and will be due for replacement during the timeframe of this proposed project.
    c. The turbine-style roof vents are old and squeak, which is audible outside and inside the second floor.
    d. The roof vents provide exhaust only. There do not appear to be any intake vents. When the second floor east and west rooms were open and not insulated, this condition was okay, but since the rooms are more finished now, intake air should be provided for proper ventilation.
    e. Existing roof framing is not visible. Once the rigid insulation board is removed, inspect all roof rafters and sister existing roof rafters framing or add supplemental framing as needed. Unknown quantity. Estimate 12 – 2x6 x 20'-0".



Existing Roof at the Visitor Center.

18. Restrooms:
    a. There are no restrooms in the Visitor Center. There is a free-standing comfort station just south of the center. Employees must leave the VC to use the restrooms. Code allows for restroom facilities to be within 500 feet. It does not specifically state if they have to be within the building.
    b. There are no NPS staffing requirements regarding restroom beyond the building codes.
    c. From a practical standpoint, related to health and safety, as well as convenience for the park administration and Visitor Center function, it is prudent and represents best practices for human comfort and hygiene to have restrooms within the Visitor Center building.




Photographs of the Comfort Station, Southwest of the Visitor Center.

SITE ASSESSMENT

1. Assessment of the site is difficult without an updated topographic map and site plan. The existing plan is over 25 years old and pre-dates the memorial garden and site improvements. Future projects will require a new, updated site plan with detailed topography and utilities to be produced.
2. Front steps at north side of Visitor Center from the sidewalk do not have compliant handrails or handrail extensions.
3. City sidewalk at the perimeter of the property (north sidewalk and wrapping around the west side) is not compliant with offsets in paving. In addition to the offsets in the walkways, the sidewalk has sunken in many places, lower than the curb, creating a tripping hazard. The sidewalk is too steep to be considered to be ABA accessible.
4. Sidewalks around the site have offsets between sections that make accessibility difficult and create tripping hazards.
5. The walkway north of the Cassidy House was constructed atop remnants of the old asphalt alley. This makes the sidewalk high and above grade, essentially creating a dam for water between the walkway and the house.
6. Drainage around the Visitor Center and the Cassidy House is poor. The lack of gutters and downspouts has led to depressions around the houses that hold water. At both houses, there are areas where the grade surrounding the homes slopes towards the building and not away.
7. The site is essentially flat with poor drainage all around. The site is always soggy and does not drain well, as there is not enough slope to sheet drain. The park would like area drains. The closest storm drain appears to be at the NW corner of the property in the street
8. Future plans need to protect the historic trees that were identified in the CLR.
9. Visitor Center Stairs to Road: The railings on the concrete stairs to the road are not ABA-compliant. This was noted in the HSR.
10. Cassidy: The flumes at the Cassidy house are not taking on water, and the south flume with the fence across it is very dangerous.
11. Cassidy: The retaining wall at the street is cracked and offset. The drains at the base of the wall are dry, indicating the lack of drainage tile or they are clogged. The end of the retaining wall near the south edge of the porch makes circulation around the front porch tight.
12. The irrigation system is currently not functioning. It is not taking on water. An entire replacement may be required in the future.
13. Memorial Garden: The brick plazas have settled unevenly creating tripping hazards. These need to be re-set. Walkways into and from the garden to the Visitor Center were gravel and have all but disappeared. The park would like to add concrete walkways through the garden to make the garden accessible. The park would also like to pour a concrete walkway where the existing S-shaped path leads from the garden to the front of the Visitor Center. The new walkway could be lined with the original brick edging. The park may also do something different with the urn in the north plaza. It's original use or intention is not clear.
14. Fencing: The park would like to keep the black fencing at the perimeter of the site. It has recently been painted.



North (primary) entrance into the Visitor Center.



North and West sides of the Cassidy House and site, looking southwest.



South and West sides of the Cassidy House and site, looking north.



Photograph from behind the Visitor Center, looking toward the back of the Cassidy House, facing west.



Photograph looking north at the west side of the Visitor Center towards the memorial garden.



Photograph looking south at the Visitor Center on the left and the memorial garden on the right. The Cassidy House is in the back right background.



Offset bricks that are a tripping hazard at the memorial garden.

A conceptual level site plan is attached that outlines the proposed site work, including:

- Re-grading to provide positive drainage away from the buildings and to site drains;
- installation of underground foundation drains and site drains;
- replacement of walkways and ramps to improve accessibility;
- replacement of the retaining wall at the Cassidy house and removal of flumes;
- removal of concrete driveways;
- adjustments and new handrails at in-grade steps;
- potential for relocating Cassidy house condensing units;
- fencing work;
- other related work.

In order for a new design to proceed, a new, detailed site survey must be done as part of the project. The entire site would benefit from an updated Cultural Landscape Report to direct replacement materials, fencing; handling of site features, and landscaping.

CASSIDY HOUSE

The following items were observed during our site visit.

1. Historic Integrity:
    a. The Cassidy House has a combination of historic and contemporary finishes and materials on the interior. Interior room layouts appear to be close to original with a few exceptions noted in the HSR. Most of the historic exterior finishes and materials, including the exterior wood siding, soffits, trim, windows, porch, and exterior doors, were replaced during a mid-1990s renovation project.

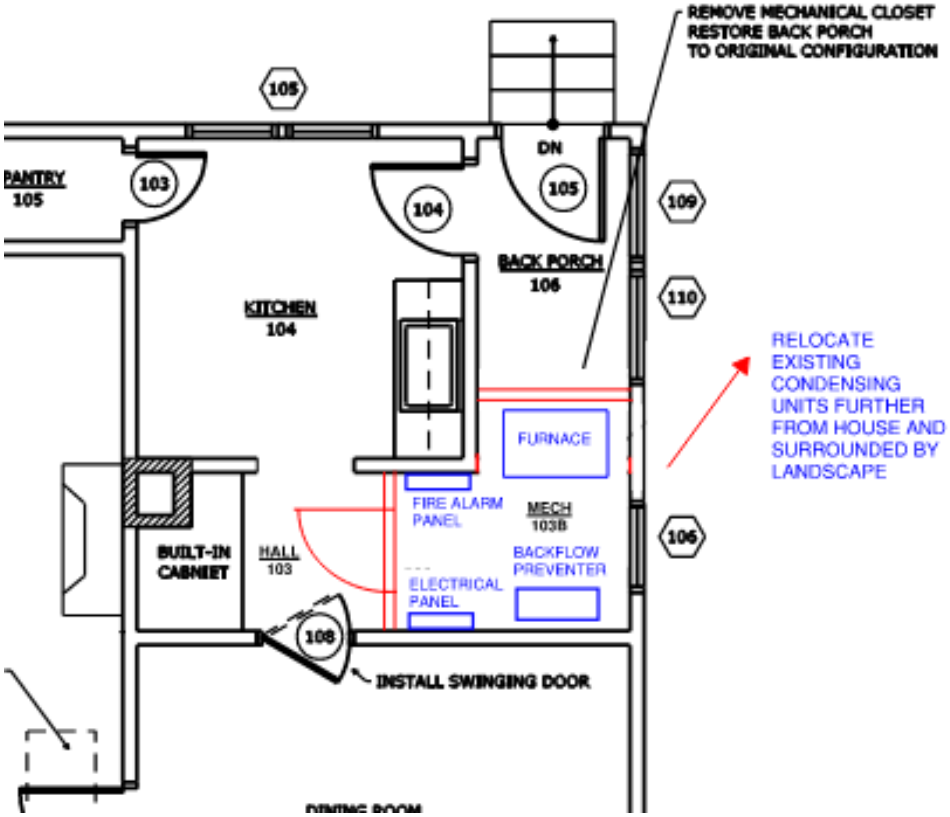
2. Programming for Interior Space:
    a. Our team suggests revisiting the previous HSR programming effort to assess the park's current and future needs for the Cassidy House, visitor services, and function/layout of the mechanical, fire suppression, electrical, and security systems.
        i. The HSR recommendations included reconstruction/restoration of the infilled NE back porch; however, the HSR did not go into detail about potential alternate layouts for alarm and mechanical systems that are now housed in that porch space.
        ii. Restoration of the NE infilled porch may take further research and review of the previous work and photographs to get the detailing and dimensions for the overall project to be historically accurate.
        iii. In order to restore the NE porch, the existing mechanical room with the exterior door on the east side of the house, would need to be removed. This is proposed in the HSR, but an alternate location for this equipment is not shown. Additional items that will need to be relocated include the electrical panel.
        iv. Other proposed new systems for the future house rehabilitation include: security system/panel; fire protection/notification panel; potential fire suppression pump (depending on municipal water pressure) and equipment, including a backflow preventer; relocation of the electrical panel; and relocation of the furnace.
        v. With limited space on the first floor to house the required equipment listed above, further study needs to be done to find locations for this equipment either in the building or remote. As part of a quick study by our team, one suggestion may include the following:
            1. Restore/reconstruct the NE porch to match historic photographs, as recommended in the HSR.
                a. Foreshorten the south interior side of the restored open porch by moving the wall slightly to the north to allow for some space for equipment in a new interior room.
            2. Infill the east side of the hallway for a new mechanical room to house some or all of the required equipment. This would require full MEP design to verify layouts.



Photographs of the existing Hall 103. This back hall was reconstructed during the previous renovation, but there was little evidence of the original configuration, as noted in the HSR.



Photographs of the existing Back Porch 106. This was reconstructed during the previous renovation, but the original screened openings in the east wall were not installed, as noted in the HSR



vi. Further design of a new, comprehensive furnace/mechanical system is required. The HSR recommended a ground source heat pump. The NPS has expressed that they would prefer a more traditional approach without the pipes in the ground that are required with the GSHP installation. This house originally had small wall heaters and a working fireplace and no forced air. The new design should more closely look at locations for supply and return air grilles that will be less visible than the current design.

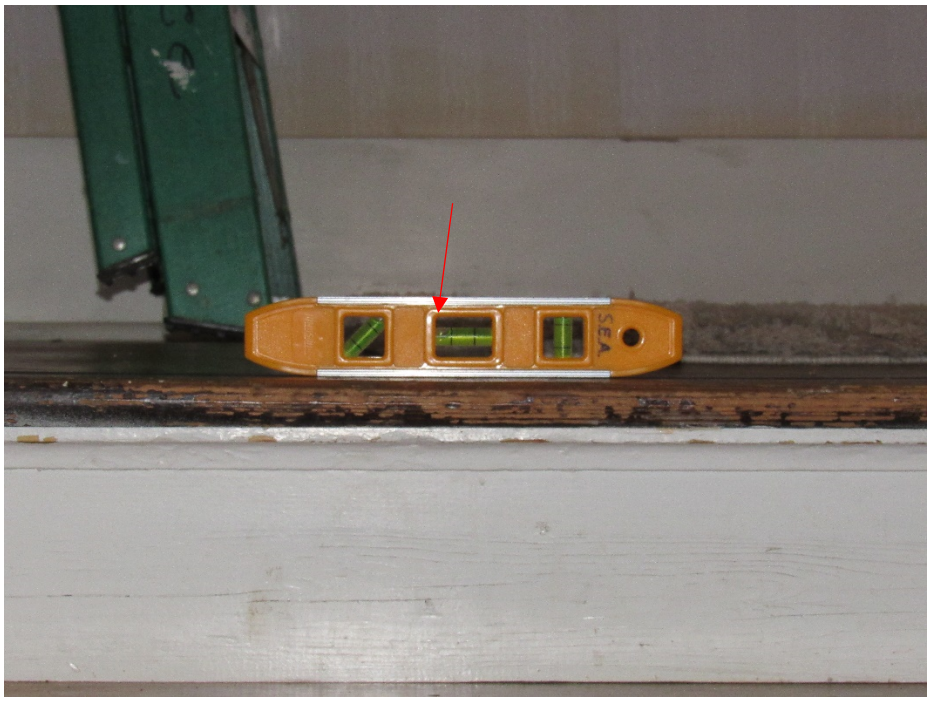
vii. Restrooms: Consider the need for a functioning restroom on the second floor.

1. NPS Regional staff have suggested that at a minimum, a sink with running water would be necessary for basic housekeeping. They also mentioned that a functioning restroom might be good to keep for emergencies. However, with the restroom on the second floor instead of the first floor, this may not be as convenient for staff or visitors during tours.
2. Park staff states that the working exterior hose bibb meets current housekeeping needs. MWR Museum Program Lead concurs that this could be adequate. No other plumbing fixtures need to be in working condition in the house. This may warrant further discussion about how to treat drains, in case someone were to pour liquids down a sink, the toilet, or tub in the future.

3. House Settling: The house has settled since the mid-1990s renovation project. This is evident throughout the exterior and in many places on the interior of the building, as well.
    a. The front (west) porch slopes towards the house.
    b. The house bows in the middle along the north and south sides significantly – as much as 1.5” in 8’. Overall, there is a drop of several inches in the center of the building that is evident.
    c. Floors inside the house undulate.
    d. The top of the stair landing at the second floor has a drop of several inches from the north to the south side of the stairs, making a very uneven walking surface. Likewise, the upper hall is sloped.
    e. Cracks in the gypsum board drywall show cracks throughout the house, as well, signifying areas where the house has shifted or settled unevenly.
    f. Siding on the outside of the house is split at the seams (close at the top of seams, and wider joints at the bottom of the seams).
    g. Windows and associated trim on all four sides of the house are racked so far out of plumb, they do not shut properly. This leaves an open air gap at the outside corners of the windows as much as ½-inch in height, allowing weather and pests into the house interior. Many of these are wide open.



Example of settling in the house with racked windows as seen in the gaps at the bottom right corners of two adjacent windows. Note, that the windows cannot close properly.



Floor level at top landing of second floor stairs to show how much the floor slopes in the hallway. The red arrow points to the bubble all the way to the left side of the level.

4. Foundations: The foundations have settled unevenly since the mid-1990s renovation project. The HSR mentions they had planned to underpin the building, but for some reason, this scope was removed from the project and only the visible portions of the foundation above grade were rebuilt. The foundation appears to be settling unevenly throughout the structure exterior walls and interior piers. In some areas, the house has sunk several inches since the 1990s renovation. Sections of flooring in the first and second levels of the house have noticeably settled with high and low spots where support varies.
    a. The team excavated a test hole near the center of the south foundation wall. Unfortunately, the irrigation lines are installed below grade very close to the foundation wall, which did not allow for a full-depth excavation, as anticipated. A footing appears to exist approximately 12” below the exterior grade. It could not be completely uncovered to discover the depth or condition of the footing.
    b. A Geotechnical report with (2) or (3) borings to a 20’ depth is recommended prior to beginning the design for the foundation repairs.
    c. Due to the condition of the existing foundations, it is recommended to dismantle the existing brick foundations and veneer (discussed in detail below) and install a foundation designed for the expansive soils. This may include a wider footing with void cartons and underpinning with helical piers. Inside the crawlspace, it would be difficult to install helical piers, so a reinforced concrete spread pier footing is recommended with adjustable galvanized columns with spread bases. These columns can be adjusted if the interior piers move drastically different from the fixed (underpinned) exterior foundation walls. This project will need to be carefully investigated and detailed in order to access difficult and tight spaces and how to address interior piers and their attachment to the wood framing.

i. Foundation work would include
    1. Shoring
    2. Excavations and removal of irrigation system surrounding foundation
    3. Temporary relocation of the condensing units.
    4. Demolition of the west porch floor structure and portions of the foundation will be required.
    5. Existing Foundation and interior pier removal
    6. Salvaging brick foundation and wall veneer units – clean and palletize
    7. Installing new reinforced concrete grade beam around perimeter of the house. Recommend grade beam to incorporate 6” void carton to allow for expansive soil.
    8. Underpinning new grade beams – estimated 12 piers to a depth of 15 feet (to be confirmed by geotechnical report). Recommend helical piers.
    9. Install new reinforced and grouted concrete masonry unit (CMU) foundation wall on grade beam to support perimeter of house. Reinstall salvaged brick for veneer.
    10. Install new interior pier spread concrete pads. Install new galvanized adjustable columns with spread base. System may require supplemental galvanized I-beams be installed to spread the support if the wood beams and existing joist layout do not spread the support evenly.
    11. Underpin (2) new piers at west porch. Void carton would not be required for individual piers.

d. While the foundation work is ongoing, it is recommended to attempt to jack up portions of the house to level some of the interior settlement issues.



Interior brick pier with shallow footing.

5. Crawlspace: The crawlspace is accessed through two small openings in the east foundation wall. The southern-most opening allows access to a majority of the crawlspace under the first floor. The northern-most opening is not accessible except for viewing the area under the infilled back porch.
    a. The crawlspace is only partially accessible due to grade and ductwork throughout.
    b. There are severely deteriorated floor joists visible in the area around the return air grille and ductwork under the Living Room 101. This is in the direct path of visitors and

required immediate stabilization/repair. This is a priority repair. Install sister joists or build temporary support piers for (3) joists adjacent to and west of the return air floor grate.

c. The rim joist is not continuous on the north our south sides between piers in the center of the walls and appears to be supported by veneer.
d. The north/south beam that is under the first floor north/south wall is rotted at bearing and shims are crushed.
e. Recommendation – Excavate crawl space.
f. Recommendation – Install concrete mud slab over a heavy-duty vapor barrier throughout crawl space with 2 floor drains and sump to laylight. The concrete slab and vapor barrier will provide some level of protection from rising humidity in the space. The slab will also allow for easier maintenance and access for adjusting interior column supports if needed.



Photograph of shallow crawlspace.







(Upper Left) Photograph of center beam over vent and discontinuous framing support. (Upper Right) Unsupported and deteriorated floor joist at mechanical grille in living room floor. (Lower Left) Deteriorated floor joist near mechanical grill in living room.

6. Exterior Deterioration: Wood rot throughout the exterior is prevalent on the siding, trim, and especially at the wood replacement windows. The quality of the wood used during the 1990s renovation does not appear to be a high-grade exterior wood.
    a. Once the foundation is replaced and the house is as level as it will be for the final work, the siding, corner boards, trim, windows and doors should be replaced in their entirety. Deteriorated sheathing should be replaced, and new breathable building wrap installed. The new siding and trim should closely replicate the historic millwork shown in the historic photographs. This would include reconstructing the west porch columns with siding, as well, to match the historic condition.
    b. Prep, prime, and paint the entire house.





(Left) Photograph of a deteriorated wood window and deteriorated wood siding at the east side of the house. (Middle) Deteriorated corner board, deteriorated siding, and the front porch wood flooring sloping into the front of the house. (Right) Deteriorated siding, Trim, and Window.

7. Roofing and Drainage: Prior to our team being onsite, the park had a high wind event, which had blown shingles off the north side of the front porch. The roof is close to its useful life and should be replaced as part of this project.
    a. Roofing replacement would include roofing, underlayment, and flashings.
    b. Reconstruction of the missing brick chimney should occur as part of the overall roofing replacement.
    c. Recommendation - Gutters and downspout were on visible in the historic photographs of the house. Installing gutters and downspouts would assist in moving a large amount of water from around the home.

8. Drainage: The house sits in a depressed/low area of the yard. Water can accumulate around the foundation. The grade along the north side of the property slopes toward the house, and the sidewalk is raised above grade (poured atop old asphalt in the original alley), which also will impede water flow.



North side of the Cassidy house with poor grading and a high sidewalk that can hold ponding water against the house foundation.

9. Explore options for remote location of the mechanical condensing units. Once the park owns the property to the east, it may be possible to install the condensing lines in an underground trench and locate the units further from the house and potentially masked with landscaping.



Photograph of the 2 condensing units and wood fencing directly behind the east side of the Cassidy House.

10. Remove fence behind house along the east side to match the historic condition of open.

11. Second Floor Framing:
    a. Differential movement is visible at the top landing where the stairs slope towards the south. The stair wall is likely only supported by a single joist. There is visible cracking in the wallpaper in this area.
    b. Differential movement is visible within the corner of the West Bedroom 204 closet.
    c. Our team attempted to view the second floor joist bearing at a hole in the floor in the NE corner of the SE Bedroom 205. This was inconclusive.
    d. The nailing pattern of the flooring visible in the West Bedroom 204 shows joists are approximately 20” center to center.

TREATMENT RECOMMENDATIONS AND PROPOSED PHASING

Proposed phasing for the work to the two buildings and the site includes the following for both buildings. Site work is included in Phase 1B. Phase 1A is to address life safety improvements quickly. Phase 1B would include a majority of the work to the two buildings and site. Phase 1B for the VC and the House can be done independently of one another. Phase 2 represents longer term recommendations made in the 2013 HSR and 2014 CLR.

- Phase 1A – Life-Safety Improvements (Immediate Work)
- Phase 1B – Cassidy House and Visitor Center Foundation Repairs and Exterior Shell and Sitework
- Phase 2 – Longer Term Recommendations for Interior Renovations and Non-Critical Work

Update Condition Assessment, Treatment Recommendations, and Class C Construction Estimate for Birthplace House and Visitor Center, and Develop Site Drainage Concept

Site Visit November 2 and 3, 2021

Final Submittal December 27, 2021

William Jefferson Clinton Birthplace National Historic Site
Hope, Arkansas

Contract # 140P6020D0004
Task Order # 140P6021F0078
PMIS 131181



Prepared by STRATA Architecture Inc.

Contents of Submittal

1. **Work Session Meeting Notes and Site Trip Notes**
   - Conceptual Phasing Plan
2. **Cassidy House – Assessment and Treatment Checklist & Cost Estimate**
   - Phase 1A
   - Phase 1B
   - Phase 2
3. **Visitor Center – Assessment and Treatment Checklist & Cost Estimate**
   - Phase 1A
   - Phase 1B
   - Phase 2
4. **Site – Assessment and Treatment Checklist & Cost Estimate**
   - Conceptual Site Plan
5. **Comfort Station Treatment Checklist**
6. **Wood Species Testing**
7. **Updated Partial Crawlspace Drawings for Visitor Center and Cassidy House**

WORK SESSION MEETING AND SITE TRIP NOTES

This submittal includes the combined Work Session Meeting Notes and Site Trip Notes for the 'Update Condition Assessment, Treatment Recommendations, and Class C Construction Estimate for Birthplace House and Visitor Center, and Develop Site Drainage Concept' project at the William Jefferson Clinton Birthplace National Historic Site in Hope, Arkansas. The A/E Team, led by STRATA Architecture Inc. was onsite to Tuesday and Wednesday, November 2 and 3, 2021. The team included STRATA Architecture Inc., Structural Engineering Associates, Inc. (SEA), Henderson Engineers, and SK Design Group (SKDG).

Previous studies, including a 2013 Historic Structures Report and a 2014 Cultural Landscape Report served as the basis for the assessment work. These reports included the history and development of the site and buildings, documented existing conditions, included as-built drawings, and provided treatment recommendations and cost estimates for proposed work.

The team gathered information and assessed the existing conditions to provide updated treatment recommendations and Class C construction cost estimates for the Birthplace House and the Visitor Center. The Comfort Station was not included in this scope of work; however, some items were noted to be addressed in the electrical survey, and those are included in the recommendations. Work also included analysis and development of a conceptual treatment recommendation with costs for site improvements to alleviate poor drainage, which is a contributing factor in the advanced deterioration of foundations of both of the houses.

Assessment included walking the site and noting existing conditions on drawings of the buildings and site, taking photographs, and noting accessibility issues and other factors that may affect the visitor experience and park staff. In the afternoon of the second day onsite, the A/E team held a Work Session Meeting with park staff and the NPS regional historical architect/project manager, to listen to the park's issues and future needs, to review the conditions that had been discovered, and discuss potential direction.

Deliverables for this project include:

- Work Session Meeting Notes and Site Trip Notes
- Conditions Assessment / Treatment Recommendations Tables for Each Structure and Site
- Cost Estimates per Recommended Phase of Work for Each Structure and Site
- Existing Conditions Photographs in electronic .jpeg format

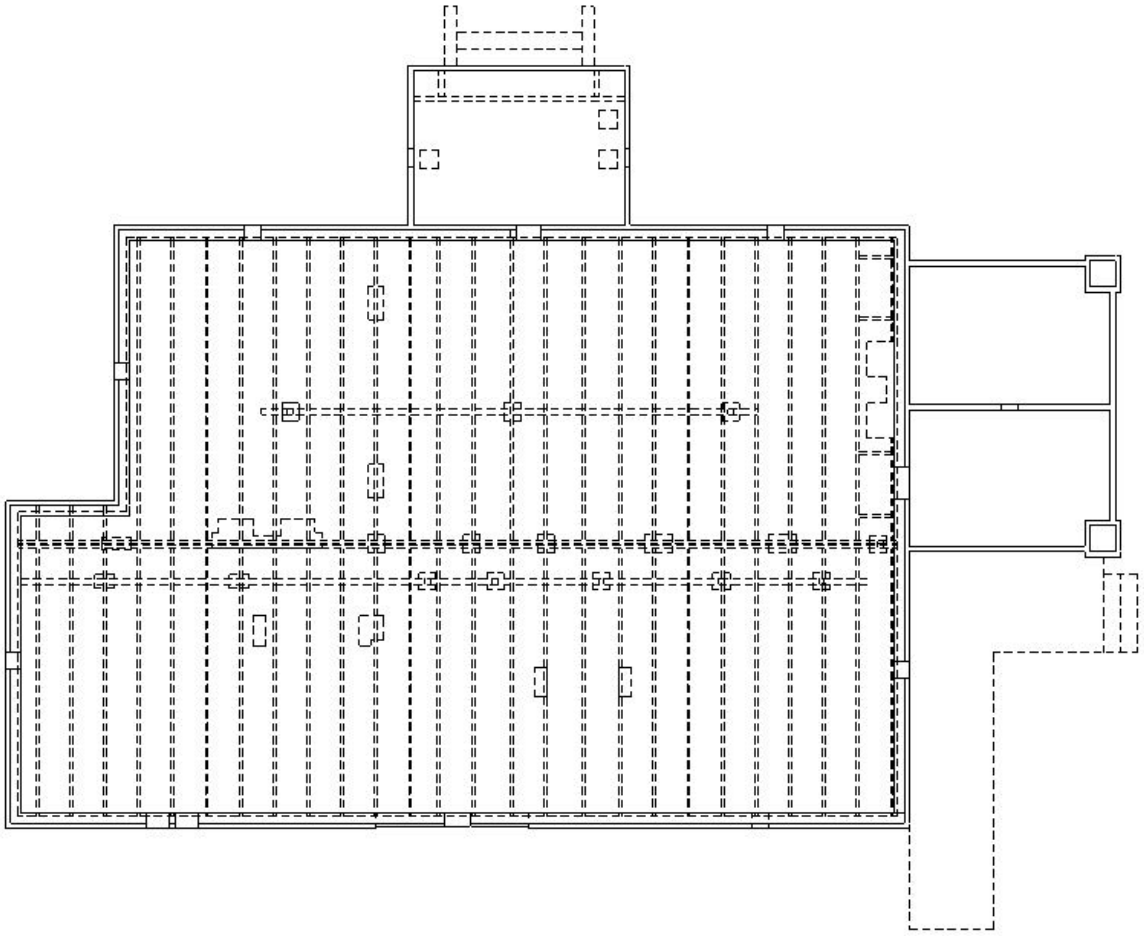
Those present for the Work Session Meeting included:

Gregory Hauburger, Superintendent
Evan Weber, Facility Manager
Jennifer Ledbetter, Facilities
John Rosemurgy, Historical Architect and Project Manager, MWR Cultural Resources (Virtual Attendee)
Kelly Korenoski, Regional Project Manager, MWR Facilities Planning and Infrastructure (Virtual Attendee)
Angie Gaebler and Claire Ashbrook, STRATA Architecture – Historical Architect/Project Manager
Philip Steet, Structural Engineering Associates, Inc. – Structural Engineer
Nick Gordon, Henderson Engineers – Engineer
Gary Urkevich, SK Design Group – Civil Engineer

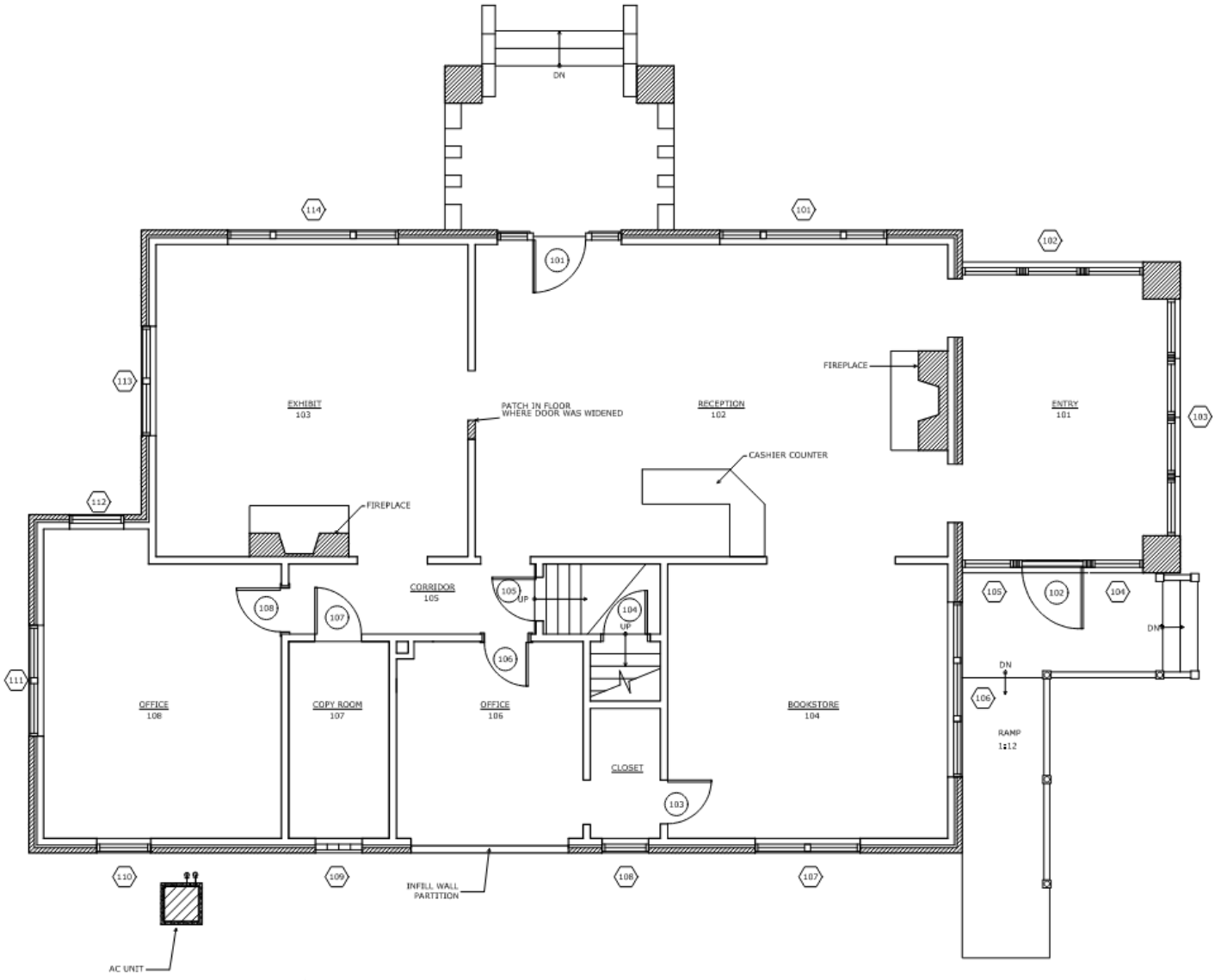
1. The team reviewed the overall scope of work for the project and discussed the current goals for this updated assessment and cost estimate work.
2. The Park wants to be certain that recommendations made during this project will not preclude them from building a new Visitor Center in the future.
3. The Park has begun the process of acquiring adjacent land from the City. This includes the large parking lot in the SE corner of the block, as well as most of the empty lot between the parking lot and the Cassidy House, part of which was the site for Clinton's boyhood friend, Vincent Foster Jr.. The City will retain a parcel of land in the SW corner for a memorial park. The acquisition of this substantial property was not anticipated as part of the 2013 HSR and 2014 CLR reports, and therefore, these properties are not included in the long-term planning efforts for the park. The 2014 CLR notes the need for a new Visitor Center and provided examples for building massing and location. It was proposed to be constructed on the site of the existing memorial garden and that the garden would be relocated to behind the existing Visitor Center.
4. Acquisition of this additional property open up opportunities to explore potential development of the empty lot behind the Cassidy House for a new Visitor Center, rather than where it had previously been studied.
5. With the acquisition of this additional property, some immediate improvements might include removal of non-historic wood and metal fencing between the existing Visitor Center lot, the Cassidy House, and the empty lot. This would need to be closely coordinated with the City, who still owns the abandoned alley that runs east/west through the approximately 7/8 of the block. The fencing identifies the north and south boundaries of the alley through the National Historic Site. These are not contributing features to the landscape and their removal would improve the viewsheds.
6. The City has recently re-paved the parking lot and will stripe the lot this coming week. This new lot will provide much-needed accessible parking stalls. The City is also planning to make improvements to the sidewalk between the lot, the alley, and the Comfort Station. They will return to make these needed improvements.
7. The Park and Region are okay with moving away from some of the HSR and CLR recommendations, due to the time lapse since the initial recommendations, changing conditions, and acquisition of the new property, especially concerning low-impact items. The Park is most interested in addressing 'maintenance and function.' Examples may include recommending the installation of gutters and downspouts, although the houses did not originally have these, and providing accessible concrete walkways for the garden paths.
8. Geothermal: The team discussed the HSR recommendations of installing geothermal systems for heating and cooling for the Cassidy House. This would require deep excavations and is invasive to the site. The NPS and the park are no longer in favor of that option. A traditional HVAC system is likely more affordable and easier to maintain.
9. The HSR recommended bringing in new electrical service and transformer just for the NHS. They have not had any issues at this time. If a new Visitor Center is constructed in the future, that additional electrical needs will be addressed as part of that project.
10. There was a life-safety issue found in the crawlspace of the Cassidy House. The section of floor joists surrounding the return air floor vent in the Living Room is deteriorated. Philip said the joists are crumbling when you touch them. This could lead to failure of the floor in this area and should be shored immediately.

11. One wood sample was taken from the Cassidy House first floor joist for species identification. It was found to be in the 'Southern Yellow Pine' group, which would match 'Mixed Southern Pine' for structural calculations.
12. Two test pits were dug adjacent to the buildings to see if the team could verify the presence of, the depth, and the materiality of the footings.
    - At the Visitor Center, the test pit was dug just to the east of the crawlspace opening on the south side of the house. The hole was approximately 12" diameter at the top and narrowed to about 14" in depth. It was dug with a shovel, and very carefully worked around the existing irrigation line that was within inches of the foundation wall. This made the excavation of the hole difficult. Therefore, the top of the footing was exposed, but the depth was not able to be determined in the small area available. To find the depth and materiality of the footing, a much larger hole would have had to be dug outside of the irrigation line.
    - The test pit at the Cassidy ran into the same issues with the irrigation line being in the way of the test pit. This pit was dug just west of the central foundation vent on the south side of the house. The foundation footing was located approximately 1" below grade.
13. The Visitor Center should be treated as historic with compliance reviews for proposed work until a final determination has been made. John has recommended further discussion with Region about a Determination of Eligibility for the house. The HSR does not address the historic nature of the Visitor Center, but the CLR recognizes it as part of the historic setting. This subject matter will be continued.

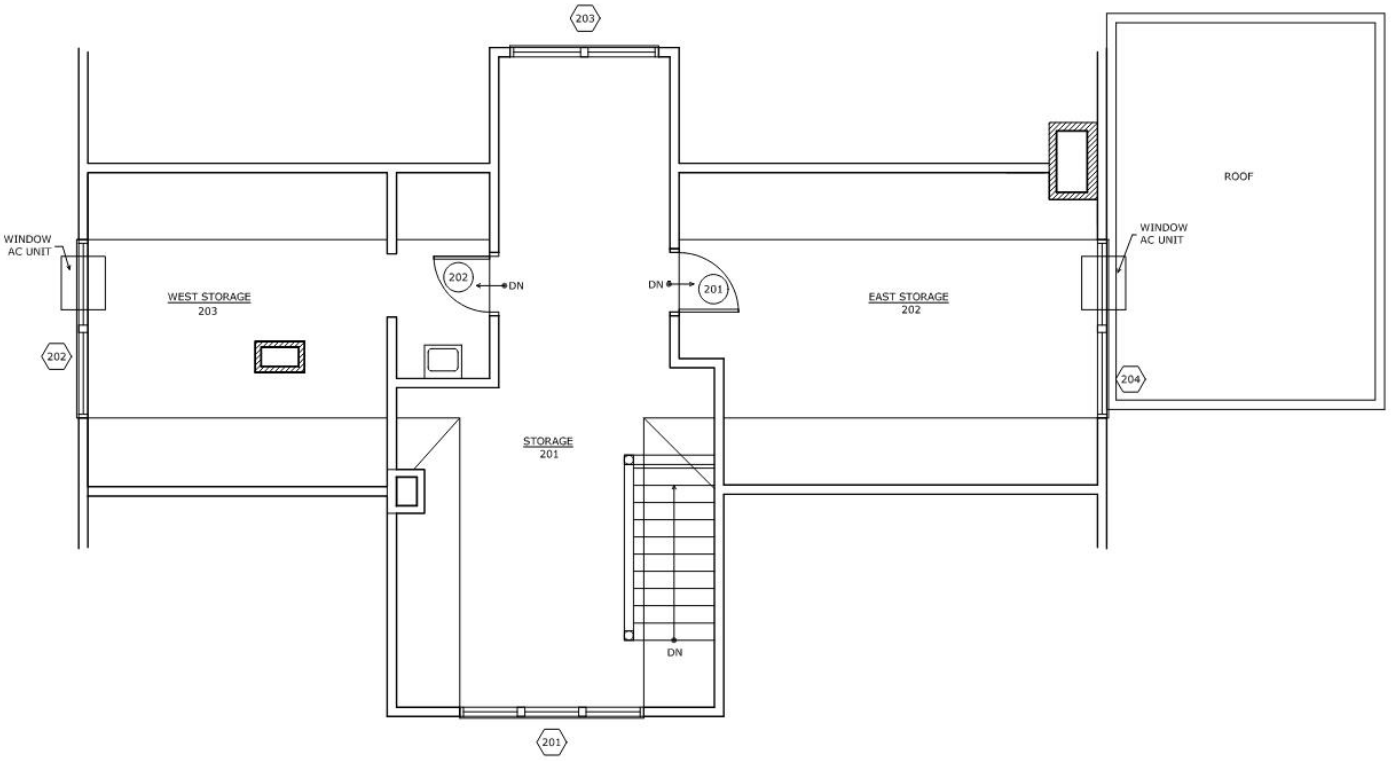
REFERENCE FLOOR PLANS



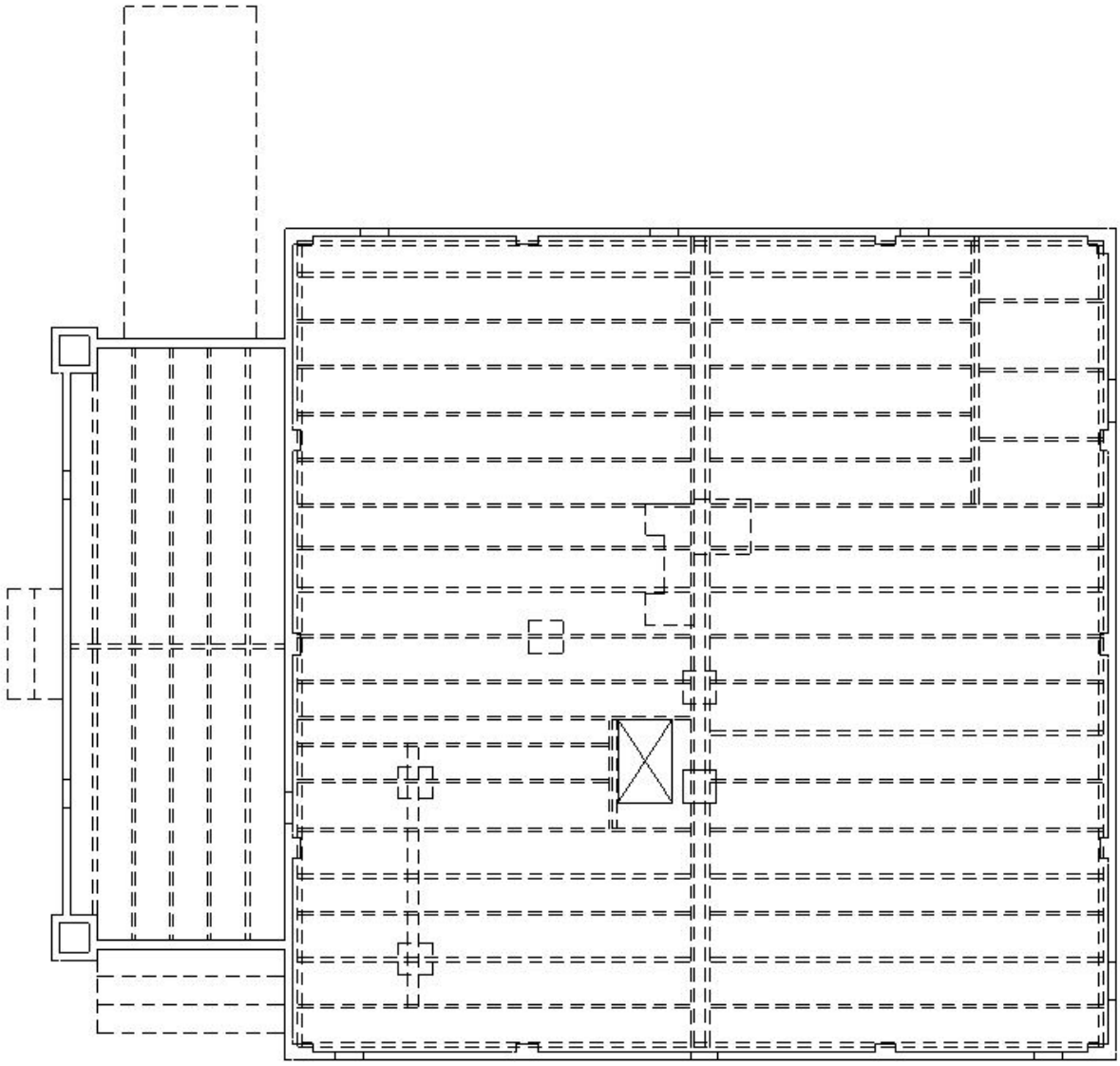
Visitor Center Crawlspace Plan



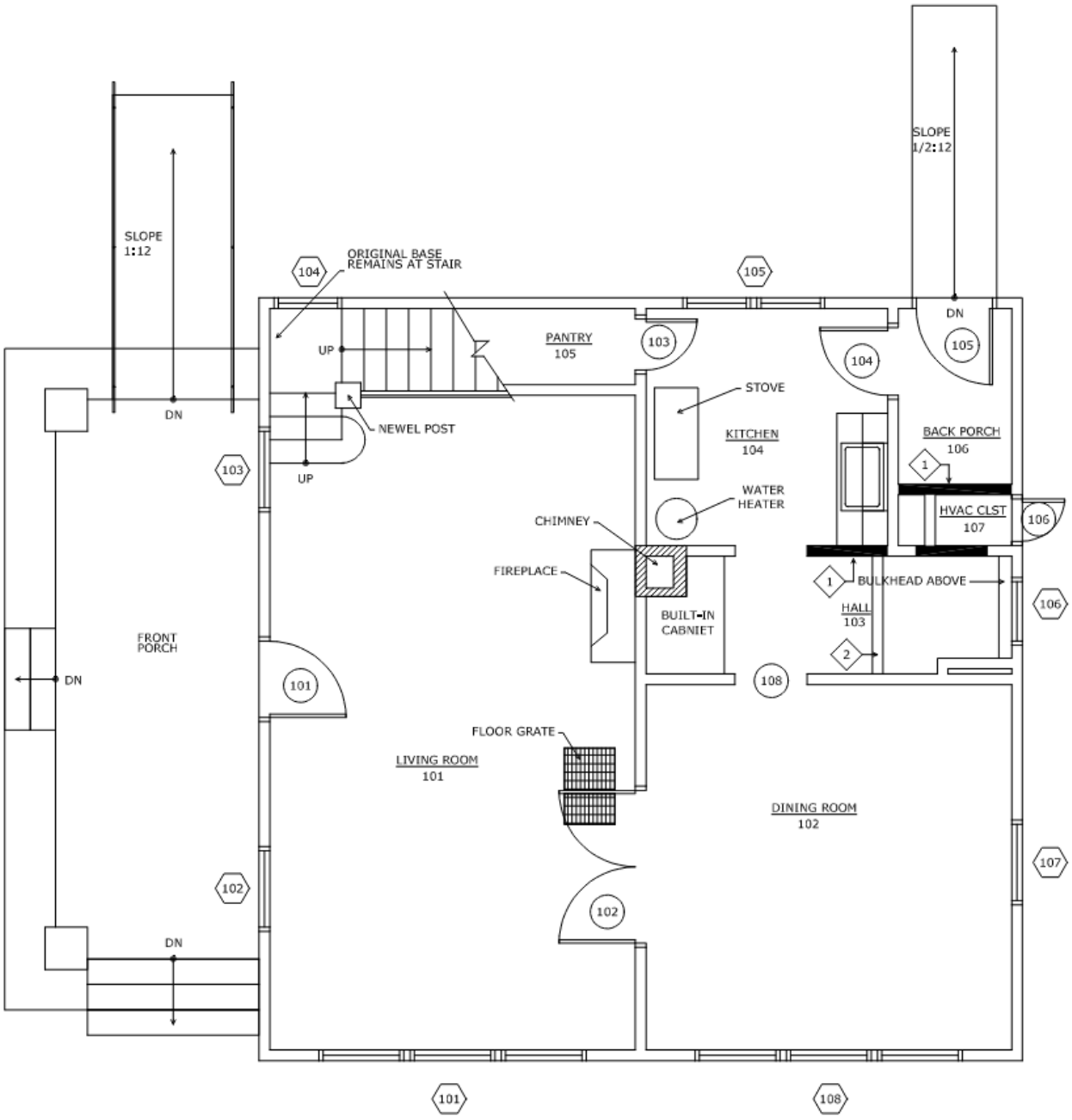
Visitor Center First Floor Plan



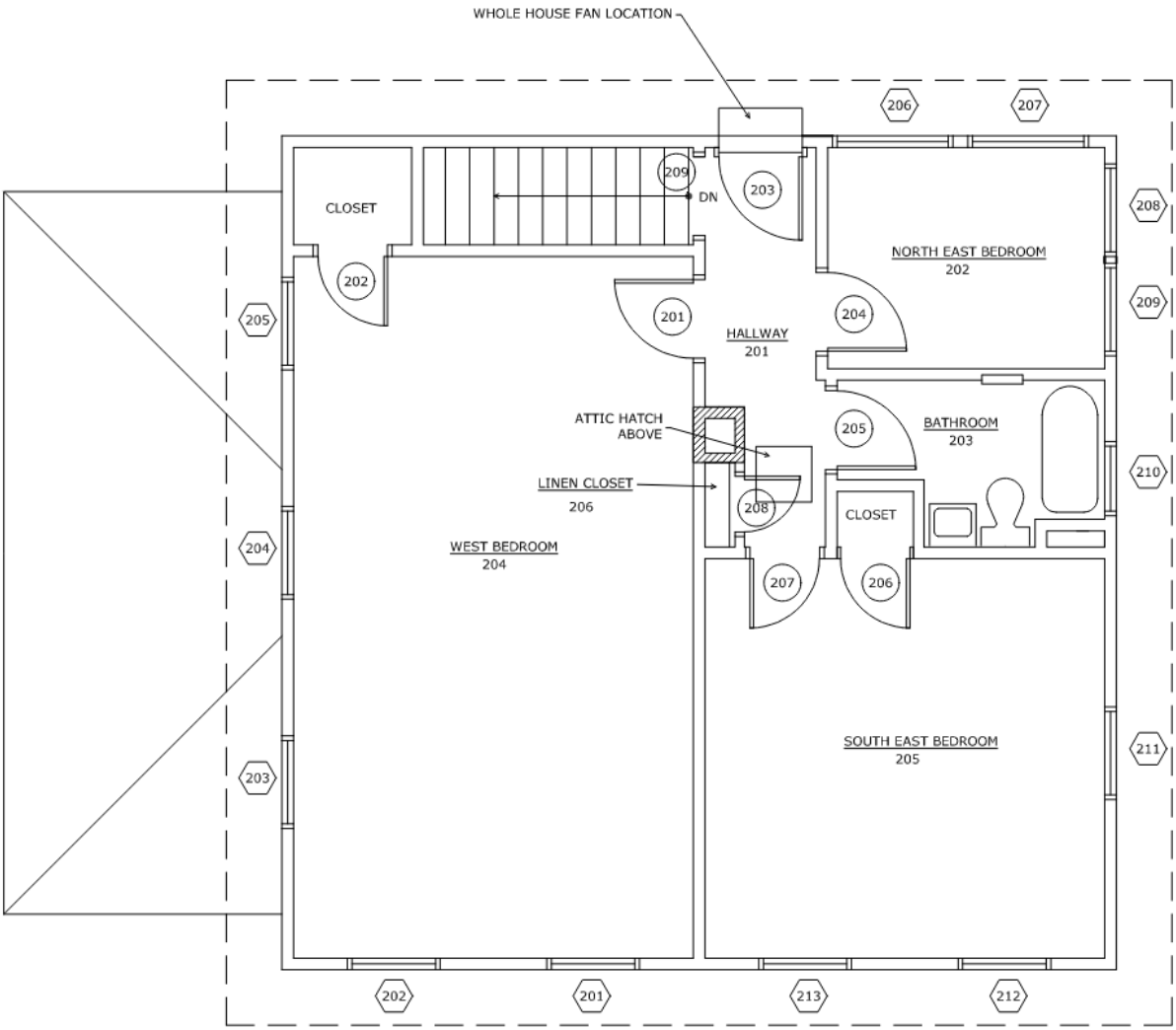
Visitor Center Second Floor Plan



Cassidy House Second Crawlspace Plan



Cassidy House First Floor Plan



Cassidy House Second Floor Plan

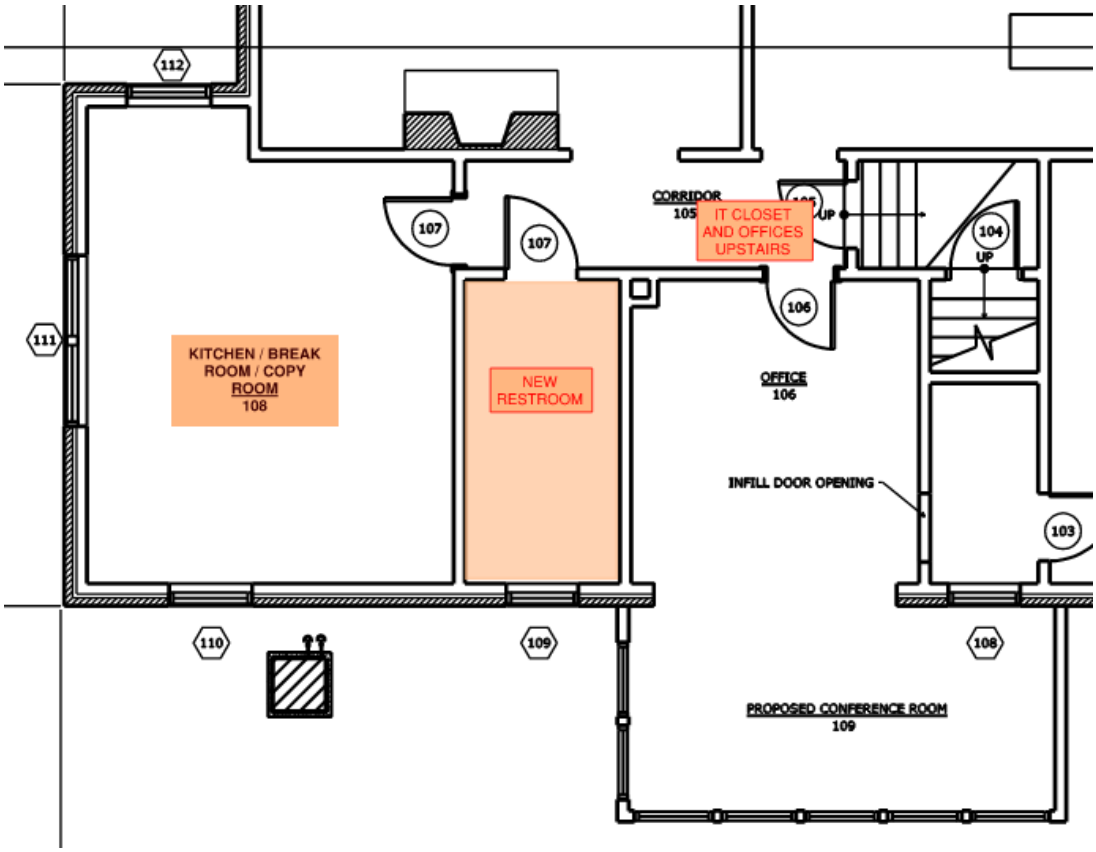
Visitor Center Assessment

Existing Plans for Reference are attached.

The following items were observed during our site visit.

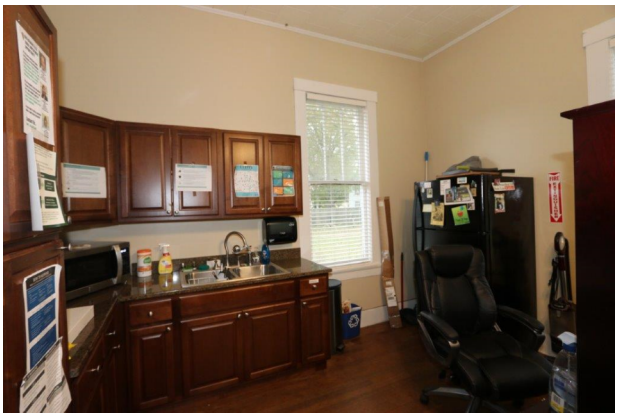
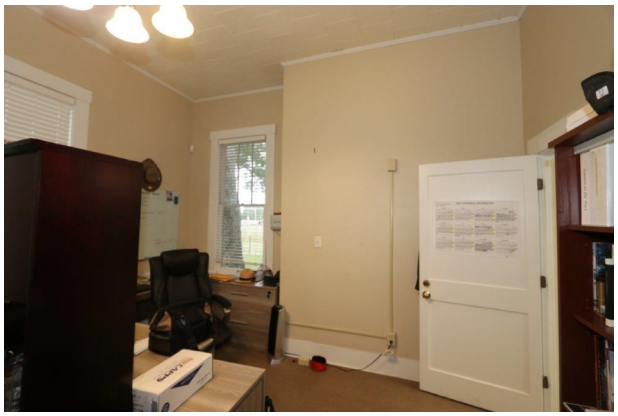
1. Historic Integrity:
    a. The Visitor Center has a high level of historic integrity throughout. Much of the original materials, including the wood trim, windows, and doors appear to be original. Room layouts appear to be close to original with the exception of the non-extant breakfast room/south porch room that was previously demolished.
    b. A majority of the previous renovation work that was done on this historic site was done in the mid-1990s by the William Clinton Birthplace Foundation.

2. Programming for Interior Space:
    a. A new programming effort should be undertaken to assess the park's current and future needs for office area, visitor services, and function/layout of the entire first and second floor of the Visitor Center. Efforts should begin with the HSR recommendations and should update the recommendations for current needs.
    b. Items to explore may include:
        i. Visitor Greeting at Entry / South Porch Door – Consider relocating cubicle
        ii. Consider what staff need to be on first floor.
        iii. How many cubicles or private offices would be located upstairs?
        iv. Where is the best place for the Superintendent's Office? Second Floor? What are privacy requirements? Do other staff require privacy?
        v. If the missing Breakfast Room addition was to be reconstructed, how would this space be utilized in conjunction with the existing Office 106 area? HSR plans show this as conferencing space, but how would that work if there were cubicles in 106?
        vi. If Offices mostly move upstairs, would Exhibit 103 be returned to visitor services? Is this space needed?
        vii. Consider adding an ABA-accessible 'Convenience' Restroom for staff use within the first floor of the building. This could be partitioned in Office 108 area with a small, reconstructed kitchenette sharing the other portion of the space. Or, a restroom could be installed in Copy Room 107.
        viii. See plan option for restroom below. In this scenario, the IT closet would move upstairs, and the existing IT/Copy Room 107 would be renovated into a single-toilet accessible convenience restroom. The existing kitchen/office 108 would be used as a kitchen/breakroom/copy room. Two or three desks or 2 small cubicles could be located in Office 106 and a small conference table for staff. All other offices would be upstairs. Photographs of these spaces are below.





Room 107 – Currently the copy room, originally a bathroom. May be suitable for an accessible restroom. Ceiling is lowered in front of old window. Window is glass blocks.

Room 108 – Currently the staff kitchenette and 2 cubicles for staff. Originally, this was likely a bedroom. Proposed plan keeps the kitchenette here as a break room and also copy room functions.

3. Hazardous Materials: Provide an updated comprehensive hazardous materials survey of the entire building, including concealed areas and crawlspace.

4. Foundation:
   Existing Conditions:
   a. The perimeter foundation walls are triple-wythe brick with the exterior wythe being the veneer and no visible header bricks. A concrete parging is visible at the base of the perimeter foundation walls with a beveled top edge. The parging is approximately 1" thick. It is unknown if this parging is an original treatment, or if it was added during a later renovation.
   b. The team excavated a test hole in the center of the south foundation wall. Unfortunately, the irrigation lines are installed below grade very close to the foundation wall, which did not allow for a full-depth excavation, as anticipated. A footing appears to exist approximately 14" below the exterior grade. It could not be completely uncovered to discover the depth or condition of the footing.
   c. Interior piers supporting the first floor are brick and are constructed on a combination of brick and concrete footings.
   d. An interior brick foundation wall runs east/west below the mid-span of the sunporch.
   e. The foundation appears to be settling unevenly throughout the structure exterior walls and interior piers. In some areas, the house has sunk several inches since the 1990s renovation. Sections of flooring in the first and second levels of the house have noticeably settled with high and low spots where support varies.



Photographs of the exterior and interior of the brick foundation walls.

Treatment Recommendations:

f. A Geotechnical report with (2) or (3) borings to a 20' depth is recommended prior to beginning the design for the foundation repairs.
g. Due to the condition of the existing foundations, it is recommended to dismantle the existing brick foundations and veneer (discussed in detail below) and install a foundation designed for the expansive soils. This may include a wider footing with void cartons and underpinning with helical piers. (Void cartons are also referred to as void forms and are used to create space between concrete structure and expansive soils to isolate the concrete from the swelling ground). Inside the crawlspace, it would be difficult to install helical piers, so a reinforced concrete spread pier footing is recommended with adjustable galvanized columns with spread bases. These columns can be adjusted if the interior piers move drastically different from the fixed (underpinned) exterior foundation walls. This scope of work for this project will need to be carefully investigated and detailed. Access throughout the crawlspace is difficult with tight spaces. Access will need to be provided in order to design for foundation and underpinning at the wall between the Reception 102 and Entry (Sunporch) 101 and to assess and design interior piers and their attachment to the wood framing.
    i. Foundation work would include
        1. Shoring
        2. Excavations and removal of irrigation system surrounding foundation

3. Existing Foundation and interior pier removal
4. Salvaging brick foundation and wall veneer units – clean and palletize
5. Installing new reinforced concrete grade beam around perimeter of the house. Recommend grade beam to incorporate 6" void carton to allow for expansive soil.
6. Underpinning new grade beams – estimated 20 piers to a depth of 15 feet (to be confirmed by geotechnical report). Recommend helical piers.
7. Install new reinforced and grouted concrete masonry unit (CMU) foundation wall on grade beam to support perimeter of house. Reinstall salvaged brick for veneer.
8. Install new interior pier spread concrete pads. Install new galvanized adjustable columns with spread base. System may require supplemental galvanized I-beams be installed to spread the support if the wood beams and existing joist layout do not spread the support evenly.
9. Underpin (4) existing piers at corners of north and east porches. Void carton would not be required for individual piers.

5. Crawlspace and First Floor Framing: The crawlspace was accessed through an opening in the south wall where the breakfast room addition was previously removed.
   Existing Conditions:
   a. The crawlspace was partially accessible and not able to be measured completely due to ductwork, pipes, and high grade.
   b. The floor is dirt with debris throughout.
   c. Moisture is present around the perimeter of the foundation.
   d. Many of the wood floor joists have been repaired. It also appears that the outer rim joist was replaced. It is unclear how the rim was installed without removing the brick veneer, which is supporting the outer walls. The existing 2x10 joists were cut short of the replaced rim joist and then they were partially sistered with 2x6s and toe-nailed into the new rim joist. This work to the joists and rim joist occurred during the last renovation project.
   e. At the center beam, there are issues with the previous framing repairs where 2x4s were added to re-connect larger joists to the beam. There are improper connections in many places.
   f. There is evidence of termite damage to joists and the subfloor throughout. The HSR recommended 500 SF. This may not be enough, once the full inspection is completed. This could easily grow to include a much larger area and spot areas throughout the first floor. Once that occurs, it may be easier to replace subfloor and wood flooring throughout an entire room, rather than spot replacement. Cost for full replacement should be covered by the design contingency allowance in the cost estimate at this phase of design.



Typical existing, unconventional first floor framing conditions in the crawlspace.

Treatment Recommendations:

g. The crawlspace dirt should be hand-dug and removed prior to the next renovation to allow for access throughout for maintenance and repairs. The dirt should be approximately level with the exterior of the house.
h. A priority repair would be the repair the joist to beam connections in the area below Corridor 105. Estimated (10) connections using metal joist hangers (Simpson or similar) and (1) 2 x 8 x 4'-0" supplemental framing.
i. As the foundation work occurs, probe all existing joists for deterioration and joists cut for piping. Sister existing damaged/deteriorated joists in crawlspace. Estimated (15) total sister joists, approximately 2 x 10 x 18'-0". Install galvanized metal joist hangers (Simpson or similar) to existing joists. Estimated (60) joists with (2) hangers for each joist.

6. Brick Veneer and Exterior Walls:
   a. Exterior brick is single-wythe veneer over an unknown substrate.
   b. A hole in one area shows wood sheathing that was deteriorated and perhaps termite or other pest damaged.
   c. It is unknown if there is also building paper over the sheathing.
   d. Areas of the brick veneer have shifted, settled, cracked, and bowed throughout the exterior of the house. The foundations have settled, creating undulations in the

plumbness and have caused bowing of the wood frame structure. In areas that exhibit movement, the bricks may be detached from the wall sheathing, allowing for masonry settlement separate from the wood frame wall. This uneven settling and masonry dis-attachment effects the cast concrete sills, wood trim, wood windows, and creates out-of-plumb conditions at doors and window openings.

e. The only area of the house that the brick veneer appears to be sound is the exterior exposed brick masonry wall area within the sunporch that is covered with the roof. Here, the masonry is well protected and the ground does not get saturated with water. The large masonry fireplace mass does not appear to have settled, and the entire masonry wall system in this area appears to be fairly intact and in good condition.
f. The cracks and offsets in the brick veneer allow water to further infiltrate the wall system, which can accelerate deterioration of the wood wall system and brick veneer.
g. There are a lot of spiders and pests living in the holes of the masonry mortar joints.
h. Foundation vents are rusted. A future design phase should calculate the volume of the crawlspace and the size and allowable air flow of the foundation vents to ensure they provide adequate air flow to meet current code.
i. The condition of the wood-framed exterior walls was not able to be observed. However, there were areas where the sheathing was exposed and is in poor condition (noted above). Also, the rim joist that supports the wood wall and brick veneer was replaced. This may also indicated there is potential for deterioration of the wall sill plate. This could not be observed.












Examples of brick veneer that has shifted, settled, cracked, and bowed throughout the exterior of the house.

7. Front (North) Porch:
    a. The front porch is constructed of a reinforced suspended concrete slab. The detailing and support of the perimeter of the slab is not visible and was not able to be determined. There is cracking at the perimeter and cracking and delamination at the top tread.
    b. Brick piers on spread footings at grade are inset from the exterior foundation walls. These can be seen through the foundation vents and from the interior crawlspace.
    c. The porch floor and concrete steps are painted, creating a slick condition.
    d. The porch floor slopes 1” in 4’ towards the house, which can funnel water into the wall.
    e. The east cast concrete rail cap is cracked.
    f. There are no railings at the front porch steps.
    g. Recommendation - The porch will likely need to be partially deconstructed to replace the building foundation. At that time, the porch construction and supports will need to be further investigated and designed for replacement. Porch will need to be reconstructed to have a positive slope away from the house. It is unclear if the house will be jacked or straightened to account for the settled dimension at the porch/door area.
8. Historic Windows:
    a. Historic wood windows (sashes, frames, trim, and sills) are in overall poor condition and require complete restoration. Some of the sills have been affected by the shifting brick veneer/cast concrete sills and are now sloping back towards the house, instead of down and outwards.
    b. Windows are currently not covered with storm windows.
    c. HSR recommends interior storm windows. We would reconsider this recommendation and recommend exterior storm windows be installed to protect the newly-restored windows with a low-e glass to provide some energy efficiency.
    d. Lintels at Windows 101, 106, and 114 have settled in the centers by nearly 1.5-inches or more and appear to be undersized. Even though the weight of the masonry above is not substantial, they are failing. While the brick wall veneer is removed, the lintels should be replaced in these locations. Lintels at other windows should be inspected for

deterioration when the brick veneer is down-stacked, and they should be replaced accordingly.

e. Window sills are cast concrete and are painted. The paint is in poor condition, traps moisture in the concrete, and is difficult to maintain. Consider stripping paint and installing concrete sealer to preserve the sills. Research as to the historic condition of the sills (painted or natural) may reveal a preferred treatment.
f. Exterior glass block window was in a restroom and should be restored to a wood double-hung, unless historic documentation suggests this was historically a glass block window opening.






Examples of exterior windows and deterioration.

9. Historic Front Door and Surround:

a. The historic wood front door, sidelights, and transom are in overall poor condition with peeling paint and deteriorated putty. The door frame is racked slightly from the foundation settlement. The door is not fully weatherstripped. Hardware does not meet ADA. The cast concrete sill is painted on the exterior. The threshold does not meet ADA.



Front Door and Surround.

10. Sunporch/Entry 101:
    a. Sunporch infill wood framing and windows are in overall poor condition.
    b. Wood rot is prevalent near the base of the wall.
    c. Water infiltrates this wood-framed wall and window system when it rains, resulting in puddles on the interior of the building.
    d. Some of the insulated glazing seals have failed, resulting in foggy windows.
    e. The detailing of the wood framing at the windows is not designed to shed water, instead, the detail allows for water to infiltrate the system. We recommend this entire wood framing system to be re-designed to correctly shed water with new insulated windows.
    f. The concrete floor in the sunporch is painted. The paint does not appear to have been previously tested. The paint is in overall poor condition and makes the floor slick. This should be tested and removed. And a concrete floor cleaned, polished, and sealed.
    g. The reinforced suspended concrete floor slab is in fair condition. Some corrosion and exposed reinforcing is visible at the underside of the slab. The slab is partially supported by an east/west brick wall at mid-span.
    h. Recommendation: Reconstruct infill walls and glazing. Prior to redesigning the wood framing and infill, research for the original design of this porch area is recommended through historic photographs and contacting previous owners, etc.




Examples of Sunporch wood window and trim deterioration.

11. Exterior Painting:
    a. It is assumed that all exterior paint contains lead. The paint is in overall poor conditions and is peeling throughout.
    b. It is recommended to strip all exterior paint from wood trim and stucco to get to a sound surface and repair all wood exterior components.
    c. All of the exterior requires stripping, sanding, caulking, prepping, and final painting.
    d. Wood deterioration is noted below.

12. Exterior wood trim deterioration (Excludes sun porch):
    a. Exterior wood trim is painted and is peeling throughout.
    b. Wood rot was seen from grade in the following locations:
        i. North Elevation:
            1. Dormer – epoxy repair and consolidate wood center bracket
            2. Dormer – all wood that is exposed needs to be stripped and have a wood consolidant/preservative installed
            3. Rafter/outlookers on both sides of porch roof need to be replaced. They have been partially sistered previously.
        ii. East Elevation:
            1. Wood trim in the gable that divides the stucco bays is in overall poor condition and required replacement in several locations.

2. The center (south) bracket is deteriorated and requires significant repairs or replacement.
3. Replace window sill, apron, and vertical batten at second floor window.
4. Repair/replaced section of fascia boards at gable peak.
5. Replace wood soffit and barge board to be replaced at sun porch.
6. Replace barge board near north side (may be replaced due to brick down-stacking anyway).

iii. South Elevation:
1. Replace deteriorated east bracket at dormer.
2. 9th rafter tail from the east is deteriorated – replace in kind.

iv. West Elevation:
1. Replace approximately 36" of corner board at dormer
2. Replace entire length of bottom board at roofline at dormer
3. Replace sections of barge board
4. Epoxy repair and consolidate southern-most bracket



Example photographs of wood deterioration and peeling paint.

13. Ramp and South Porch Steps:
    a. Existing Ramp
        i. The wood ramp, porch, and steps are not historic and was likely constructed in the mid 1990s.
        ii. The ramp is constructed with wood decking with turned wood painted railings. The ramp and steps are in overall poor condition.
        iii. The park has closed the steps, due to broken treads. The ramp railing is unstable, missing balusters, and is generally in poor condition.
        iv. The ramp, porch, and steps are slick when it is wet. One of the metal anti-slip plates is missing on the ramp.
        v. The ramp is constructed against the east wall of the house, making maintenance in this area of the masonry structure difficult.
        vi. The threshold at the entrance door does not meet ADA height requirements.
        vii. The ramp slope is about 5 degrees with a 5/8" lip at the bottom. The slope meets requirements, but the lip at the bottom is too high.

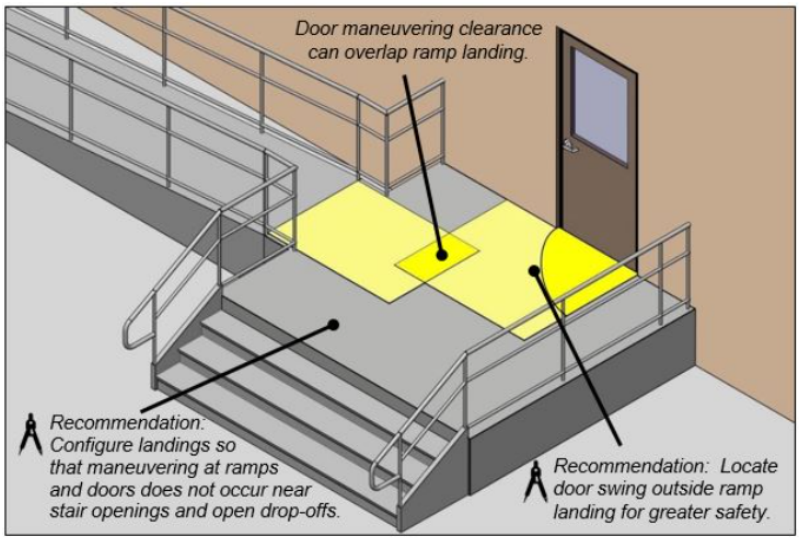
viii. Railings/handrails are not ABA-compliant on the ramp or steps.
ix. Door hardware is not ABA-compliant.
x. No power-assisted door opener (NPS requirement for main entrances)

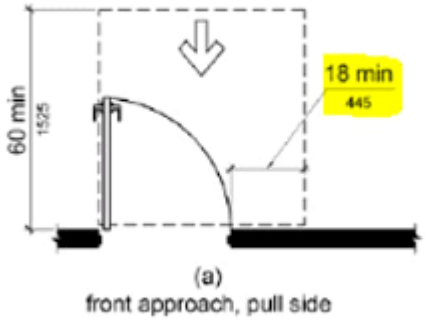




Photographs of the deteriorated accessible ramp and steps at the south entrance.

b. Replacement Ramp
   i. A replacement porch and ramp are recommended to be constructed away from the wall. The Superintendent has a plan that appears to function well in this manner. However, moving the ramp to the east will require replacement of the entrance door. Also refer to #15 Accessibility below. It is also recommended to post signage to indicate the location of the accessible entrance and also to install an automatic door opener, if possible.
   ii. For proper ramp layout and clearances, refer to one of the following guides:

1. https://www.access-board.gov/aba/guides/chapter-4-entrances-doors-and-gates/
2. 

3. 

14. Grade:
    a. Grade slopes towards the house along the north side of the house.
    b. The lack of gutters has led to a depressed area in the grade surrounding the house, which does not allow for proper runoff during rains. This can also create ponding around the house and result in a damp crawlspace and uneven settlement of the foundation.

15. Accessibility:
    a. Exterior - South Ramp Entrance: See #13 Above
    b. Exterior - Front Entrance (North Porch):
        i. There are no railings at the front steps.
        ii. The painted porch floor and steps are painted, making them very slick and dangerous when wet.
        iii. There is a step up at the front door and a tall threshold.
        iv. Door hardware is not ABA-compliant



Photograph of the front porch.

c. Interior – First Floor:
    i. Back Hall (Corridor 105):
        1. The back hall (Corridor 105) is around 45-inches wide, which is close to the minimum 42-inches required for ABA-compliant access to door openings in the hallway.
        2. In their current configuration, the doors from the Corridor 105 are not all accessible.
            a. Door 106 into Office 106 is too narrow and cannot be converted into an accessible opening without widening the door. (Widen door or use Door opening 103 as a cased opening without a door installed)
            b. Door 107 into Copy 107 swings into the hallway, which does not meet ABA-clearance requirements for operation and approach (minimum 54” or 60” depending on direction of traffic). If the door is reversed to swing into the room, it is still not wide enough to meet the required 32” width if there is a door installed. If the door is uninstalled and only the cased opening remains, the door will meet ABA requirements at 33”. (Solution: remove door and leave jamb)
            c. Door 108 into Office 108 does not meet door approach requirements. If a door is installed, it does not meet width requirements. If a door is removed and not installed, the width between the jamb stops is 33” and meets requirements. (Solution: remove door and leave jamb)
        3. It is unlikely without major renovations that the rear portion of the first floor could potentially house more than a single restroom.
        4. The existing lay-in acoustical suspended ceiling is not compatible with the historic nature of the house. The original volume of the hall ceiling could be restored with new lighting.



Photograph of the narrow back hall (Corridor 105).

ii. The fireplace hearths in the Reception Room and the Exhibit Room were installed to be flush with the wood floors. Over time, the hearths have settled, and the bricks have shifted and now project above the finished surrounding wood floors, creating a tripping hazard.



Brick Hearth in Exhibit Room that is uneven and a tripping hazard.

iii. Door hardware throughout the house is historic or contemporary replacement and is not ABA compliant.

d. Interior – First Floor:
   i. Copy Room 107 has a lowered hard ceiling that intersects the top of the window. Explore why this has occurred. Raise ceiling if possible in renovation, or provide window pocket to allow for full height of window to show inside the room.
   ii. The main electrical panel is in Copy Room 107.
   iii. Office 108: Acoustical ceiling tiles direct-applied to the ceiling are not in keeping with the character of the historic house. Lighting in this space is residential in nature and does not provide enough light for office space. Exposed conduit in the room should be removed when the house is re-wired. Irrigation system controls are installed on the north wall in this space, near the window. This room is partially carpeted and partially wood flooring.





(Left) Photograph of the first floor copy room with a lowered ceiling and a glass block window. (Right) Photograph of incompatible acoustic direct-applied ceiling tiles in the kitchen 108 room.

e. Interior – Second Floor:
    i. Staircase:
        1. The winding staircase to the second floor does not meet commercial code. The treads and risers to not meet current IBC commercial code.
        2. There are two door openings on staircase that are not code compliant, as they swing out over the stairs and into the path of traffic.
        3. Hand railings do not meet ABA accessibility requirements with regard to continuity and extensions at the top and bottom. These would be difficult to upgrade with the existing door frames in place.
        4. This staircase can be 'grandfathered' in with some safety upgrades, since the second floor switching from S1 (storage) to B (business) occupancy is an equivalent hazard group.
        5. Recommendations – remove both doors from the cased openings. Remove the cased opening at the landing altogether to allow for a continuous handrail along the outer wall. Install ABA-compliant tread nosings to assist with slip resistance. Install new and adequate lighting at the stairs.



(Left) A photograph of the bottom portion of the wood winding staircase to the second floor with a narrow door opening at the bottom tread. (Right) A photograph of the upper, straight portion of the wood staircase to the second floor with a narrow door opening at the bottom tread before the winding portion of the staircase.

ii. Second Floor Offices:
    1. The span of the second floor joists in Rooms 202 and 203 are greater than previously reported and calculated in the HSR. The joists span from the north to south walls, not from the knee walls, and likely span to a central beam. Therefore, the capacity of the second floor joists is lower than reported. They are also very likely not connected, which may contribute to outward thrust, as they are not restrained.
    2. Rafters do not align with the joists. Load path for outward thrust must transfer through sill plates, which is not ideal.
    3. Gable end framing is not supported by the exterior brick veneer. Lateral pieces cantilever over the stud wall to support the end gables. This is why there is framing that is taller near the end walls.
    4. Construct new offices on the second floor in Rooms 202 and 203.
        a. Remove all insulation board and attachments. Remove all other insulation and debris.
        b. Remove existing sink and all related plumbing in 203.
        c. Widen wall opening in 203 between existing entry/closet and larger room.
        d. Remove existing knee walls for access to floor joists.
        e. Remove existing floor sheathing from rooms 202 and 203. Install new 2 x 10 joists between existing 2 x 6 joists (16” spacing). Estimated (48) 2 x 10 x 18’-0,”as required for office loading.

f. New joists shall be connected together over central beam support and connect to rafters and sill plates at exterior walls (where rafters are not already connected to existing joists).
g. Install sound attenuation batt insulation between floor joists to assist with sound transfer to the first floor. Reinstall existing floor sheathing and supplement with new sheathing, where required. Install new carpet tiles.
h. Reconstruct knee walls and frame for new access doors.
i. Provide flush, painted steel, lockable and insulated knee wall access doors on each side of the knee walls (4 total).
j. Insulate knee walls and ceiling. Re-wire second floor. Install new gypsum board walls, painted, and new painted trim.

5. Renovate existing office space Room 201 in the center of the second floor.
    a. Remove wall paneling. Install new gypsum board painted walls.
    b. Refinish existing historic wood flooring
    c. Add raised railing at stair railing to bring height to 42" code requirement.
6. Throughout Second Floor:
    a. Install new lighting, electrical receptacles, and data throughout. Install new HVAC (refer to mechanical and electrical).
    b. Paint all rooms (walls, trim, ceilings) on second floor.
    c. Repair paneled wood Door 201 and provide new hardware.
    d. Repair paneled wood Door 202 and provide new hardware.

16. Chimneys:
    a. There are three chimneys that were constructed of the same brick as the exterior veneer that once pierced the roof – one on the far east side, another near the center of the west roof, and a third, smaller chimney just west of the back dormer. These were removed to below the roof line, but the chimney bases are still intact.
17. Roof:
    a. The existing roof structure shows signs of minor deflection and sagging.
    b. The existing asphalt shingle roof is in overall fair condition. It was last replaced in November 2011 and will be due for replacement during the timeframe of this proposed project.
    c. The turbine-style roof vents are old and squeak, which is audible outside and inside the second floor.
    d. The roof vents provide exhaust only. There do not appear to be any intake vents. When the second floor east and west rooms were open and not insulated, this condition was okay, but since the rooms are more finished now, intake air should be provided for proper ventilation.
    e. Existing roof framing is not visible. Once the rigid insulation board is removed, inspect all roof rafters and sister existing roof rafters framing or add supplemental framing as needed. Unknown quantity. Estimate 12 – 2x6 x 20'-0".



Existing Roof at the Visitor Center.

18. Restrooms:
    a. There are no restrooms in the Visitor Center. There is a free-standing comfort station just south of the center. Employees must leave the VC to use the restrooms. Code allows for restroom facilities to be within 500 feet. It does not specifically state if they have to be within the building.
    b. There are no NPS staffing requirements regarding restroom beyond the building codes.
    c. From a practical standpoint, related to health and safety, as well as convenience for the park administration and Visitor Center function, it is prudent and represents best practices for human comfort and hygiene to have restrooms within the Visitor Center building.




Photographs of the Comfort Station, Southwest of the Visitor Center.

SITE ASSESSMENT

1. Assessment of the site is difficult without an updated topographic map and site plan. The existing plan is over 25 years old and pre-dates the memorial garden and site improvements. Future projects will require a new, updated site plan with detailed topography and utilities to be produced.
2. Front steps at north side of Visitor Center from the sidewalk do not have compliant handrails or handrail extensions.
3. City sidewalk at the perimeter of the property (north sidewalk and wrapping around the west side) is not compliant with offsets in paving. In addition to the offsets in the walkways, the sidewalk has sunken in many places, lower than the curb, creating a tripping hazard. The sidewalk is too steep to be considered to be ABA accessible.
4. Sidewalks around the site have offsets between sections that make accessibility difficult and create tripping hazards.
5. The walkway north of the Cassidy House was constructed atop remnants of the old asphalt alley. This makes the sidewalk high and above grade, essentially creating a dam for water between the walkway and the house.
6. Drainage around the Visitor Center and the Cassidy House is poor. The lack of gutters and downspouts has led to depressions around the houses that hold water. At both houses, there are areas where the grade surrounding the homes slopes towards the building and not away.
7. The site is essentially flat with poor drainage all around. The site is always soggy and does not drain well, as there is not enough slope to sheet drain. The park would like area drains. The closest storm drain appears to be at the NW corner of the property in the street
8. Future plans need to protect the historic trees that were identified in the CLR.
9. Visitor Center Stairs to Road: The railings on the concrete stairs to the road are not ABA-compliant. This was noted in the HSR.
10. Cassidy: The flumes at the Cassidy house are not taking on water, and the south flume with the fence across it is very dangerous.
11. Cassidy: The retaining wall at the street is cracked and offset. The drains at the base of the wall are dry, indicating the lack of drainage tile or they are clogged. The end of the retaining wall near the south edge of the porch makes circulation around the front porch tight.
12. The irrigation system is currently not functioning. It is not taking on water. An entire replacement may be required in the future.
13. Memorial Garden: The brick plazas have settled unevenly creating tripping hazards. These need to be re-set. Walkways into and from the garden to the Visitor Center were gravel and have all but disappeared. The park would like to add concrete walkways through the garden to make the garden accessible. The park would also like to pour a concrete walkway where the existing S-shaped path leads from the garden to the front of the Visitor Center. The new walkway could be lined with the original brick edging. The park may also do something different with the urn in the north plaza. It's original use or intention is not clear.
14. Fencing: The park would like to keep the black fencing at the perimeter of the site. It has recently been painted.



North (primary) entrance into the Visitor Center.



North and West sides of the Cassidy House and site, looking southwest.



South and West sides of the Cassidy House and site, looking north.



Photograph from behind the Visitor Center, looking toward the back of the Cassidy House, facing west.



Photograph looking north at the west side of the Visitor Center towards the memorial garden.



Photograph looking south at the Visitor Center on the left and the memorial garden on the right. The Cassidy House is in the back right background.



Offset bricks that are a tripping hazard at the memorial garden.

A conceptual level site plan is attached that outlines the proposed site work, including:

- Re-grading to provide positive drainage away from the buildings and to site drains;
- installation of underground foundation drains and site drains;
- replacement of walkways and ramps to improve accessibility;
- replacement of the retaining wall at the Cassidy house and removal of flumes;
- removal of concrete driveways;
- adjustments and new handrails at in-grade steps;
- potential for relocating Cassidy house condensing units;
- fencing work;
- other related work.

In order for a new design to proceed, a new, detailed site survey must be done as part of the project. The entire site would benefit from an updated Cultural Landscape Report to direct replacement materials, fencing; handling of site features, and landscaping.

CASSIDY HOUSE

The following items were observed during our site visit.

1. Historic Integrity:
    a. The Cassidy House has a combination of historic and contemporary finishes and materials on the interior. Interior room layouts appear to be close to original with a few exceptions noted in the HSR. Most of the historic exterior finishes and materials, including the exterior wood siding, soffits, trim, windows, porch, and exterior doors, were replaced during a mid-1990s renovation project.

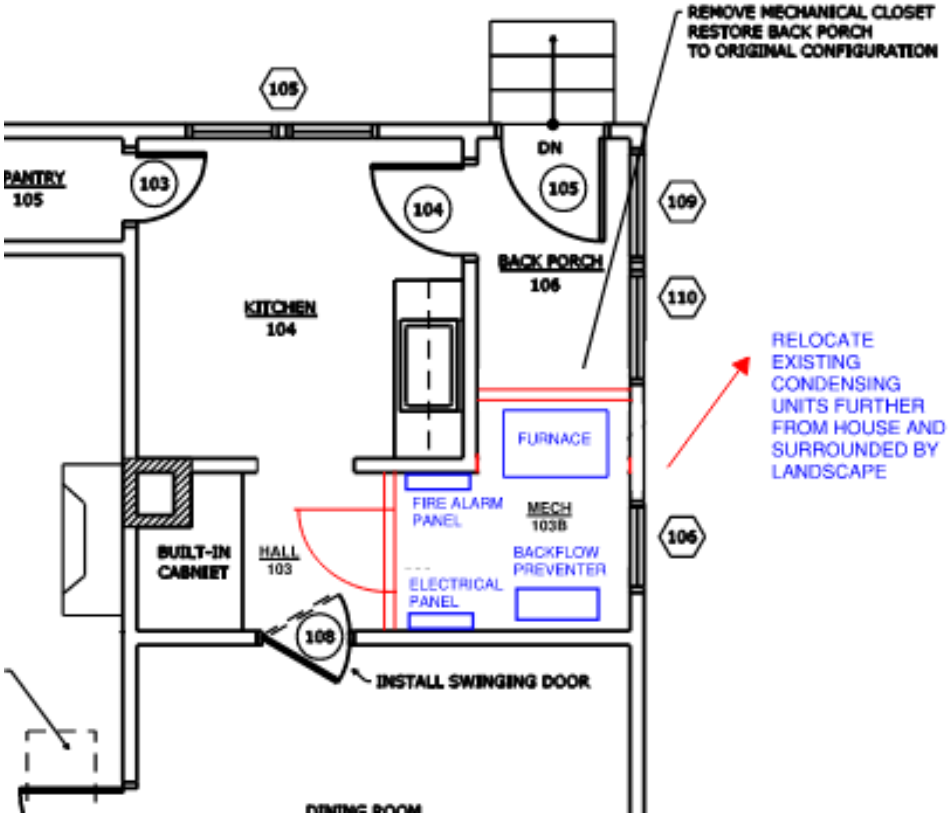
2. Programming for Interior Space:
    a. Our team suggests revisiting the previous HSR programming effort to assess the park's current and future needs for the Cassidy House, visitor services, and function/layout of the mechanical, fire suppression, electrical, and security systems.
        i. The HSR recommendations included reconstruction/restoration of the infilled NE back porch; however, the HSR did not go into detail about potential alternate layouts for alarm and mechanical systems that are now housed in that porch space.
        ii. Restoration of the NE infilled porch may take further research and review of the previous work and photographs to get the detailing and dimensions for the overall project to be historically accurate.
        iii. In order to restore the NE porch, the existing mechanical room with the exterior door on the east side of the house, would need to be removed. This is proposed in the HSR, but an alternate location for this equipment is not shown. Additional items that will need to be relocated include the electrical panel.
        iv. Other proposed new systems for the future house rehabilitation include: security system/panel; fire protection/notification panel; potential fire suppression pump (depending on municipal water pressure) and equipment, including a backflow preventer; relocation of the electrical panel; and relocation of the furnace.
        v. With limited space on the first floor to house the required equipment listed above, further study needs to be done to find locations for this equipment either in the building or remote. As part of a quick study by our team, one suggestion may include the following:
            1. Restore/reconstruct the NE porch to match historic photographs, as recommended in the HSR.
                a. Foreshorten the south interior side of the restored open porch by moving the wall slightly to the north to allow for some space for equipment in a new interior room.
            2. Infill the east side of the hallway for a new mechanical room to house some or all of the required equipment. This would require full MEP design to verify layouts.



Photographs of the existing Hall 103. This back hall was reconstructed during the previous renovation, but there was little evidence of the original configuration, as noted in the HSR.



Photographs of the existing Back Porch 106. This was reconstructed during the previous renovation, but the original screened openings in the east wall were not installed, as noted in the HSR



vi. Further design of a new, comprehensive furnace/mechanical system is required. The HSR recommended a ground source heat pump. The NPS has expressed that they would prefer a more traditional approach without the pipes in the ground that are required with the GSHP installation. This house originally had small wall heaters and a working fireplace and no forced air. The new design should more closely look at locations for supply and return air grilles that will be less visible than the current design.

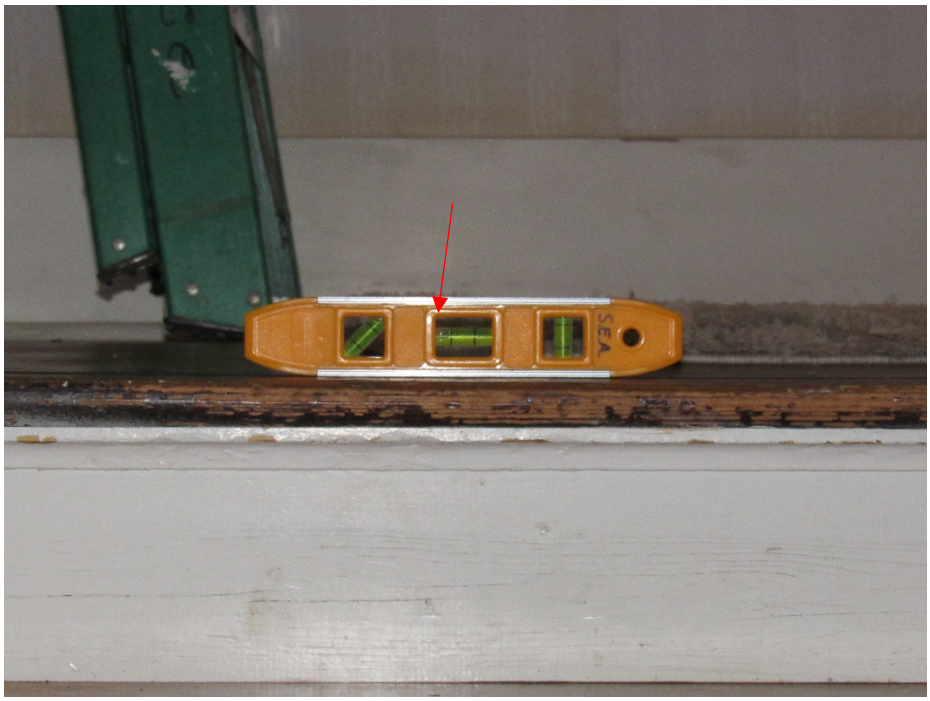
vii. Restrooms: Consider the need for a functioning restroom on the second floor.

1. NPS Regional staff have suggested that at a minimum, a sink with running water would be necessary for basic housekeeping. They also mentioned that a functioning restroom might be good to keep for emergencies. However, with the restroom on the second floor instead of the first floor, this may not be as convenient for staff or visitors during tours.
2. Park staff states that the working exterior hose bibb meets current housekeeping needs. MWR Museum Program Lead concurs that this could be adequate. No other plumbing fixtures need to be in working condition in the house. This may warrant further discussion about how to treat drains, in case someone were to pour liquids down a sink, the toilet, or tub in the future.

3. House Settling: The house has settled since the mid-1990s renovation project. This is evident throughout the exterior and in many places on the interior of the building, as well.
    a. The front (west) porch slopes towards the house.
    b. The house bows in the middle along the north and south sides significantly – as much as 1.5" in 8'. Overall, there is a drop of several inches in the center of the building that is evident.
    c. Floors inside the house undulate.
    d. The top of the stair landing at the second floor has a drop of several inches from the north to the south side of the stairs, making a very uneven walking surface. Likewise, the upper hall is sloped.
    e. Cracks in the gypsum board drywall show cracks throughout the house, as well, signifying areas where the house has shifted or settled unevenly.
    f. Siding on the outside of the house is split at the seams (close at the top of seams, and wider joints at the bottom of the seams).
    g. Windows and associated trim on all four sides of the house are racked so far out of plumb, they do not shut properly. This leaves an open air gap at the outside corners of the windows as much as ½-inch in height, allowing weather and pests into the house interior. Many of these are wide open.



Example of settling in the house with racked windows as seen in the gaps at the bottom right corners of two adjacent windows. Note, that the windows cannot close properly.



Floor level at top landing of second floor stairs to show how much the floor slopes in the hallway. The red arrow points to the bubble all the way to the left side of the level.

4. Foundations: The foundations have settled unevenly since the mid-1990s renovation project. The HSR mentions they had planned to underpin the building, but for some reason, this scope was removed from the project and only the visible portions of the foundation above grade were rebuilt. The foundation appears to be settling unevenly throughout the structure exterior walls and interior piers. In some areas, the house has sunk several inches since the 1990s renovation. Sections of flooring in the first and second levels of the house have noticeably settled with high and low spots where support varies.
    a. The team excavated a test hole near the center of the south foundation wall. Unfortunately, the irrigation lines are installed below grade very close to the foundation wall, which did not allow for a full-depth excavation, as anticipated. A footing appears to exist approximately 12” below the exterior grade. It could not be completely uncovered to discover the depth or condition of the footing.
    b. A Geotechnical report with (2) or (3) borings to a 20’ depth is recommended prior to beginning the design for the foundation repairs.
    c. Due to the condition of the existing foundations, it is recommended to dismantle the existing brick foundations and veneer (discussed in detail below) and install a foundation designed for the expansive soils. This may include a wider footing with void cartons and underpinning with helical piers. Inside the crawlspace, it would be difficult to install helical piers, so a reinforced concrete spread pier footing is recommended with adjustable galvanized columns with spread bases. These columns can be adjusted if the interior piers move drastically different from the fixed (underpinned) exterior foundation walls. This project will need to be carefully investigated and detailed in order to access difficult and tight spaces and how to address interior piers and their attachment to the wood framing.

i. Foundation work would include
    1. Shoring
    2. Excavations and removal of irrigation system surrounding foundation
    3. Temporary relocation of the condensing units.
    4. Demolition of the west porch floor structure and portions of the foundation will be required.
    5. Existing Foundation and interior pier removal
    6. Salvaging brick foundation and wall veneer units – clean and palletize
    7. Installing new reinforced concrete grade beam around perimeter of the house. Recommend grade beam to incorporate 6” void carton to allow for expansive soil.
    8. Underpinning new grade beams – estimated 12 piers to a depth of 15 feet (to be confirmed by geotechnical report). Recommend helical piers.
    9. Install new reinforced and grouted concrete masonry unit (CMU) foundation wall on grade beam to support perimeter of house. Reinstall salvaged brick for veneer.
    10. Install new interior pier spread concrete pads. Install new galvanized adjustable columns with spread base. System may require supplemental galvanized I-beams be installed to spread the support if the wood beams and existing joist layout do not spread the support evenly.
    11. Underpin (2) new piers at west porch. Void carton would not be required for individual piers.

d. While the foundation work is ongoing, it is recommended to attempt to jack up portions of the house to level some of the interior settlement issues.



Interior brick pier with shallow footing.

5. Crawlspace: The crawlspace is accessed through two small openings in the east foundation wall. The southern-most opening allows access to a majority of the crawlspace under the first floor. The northern-most opening is not accessible except for viewing the area under the infilled back porch.
    a. The crawlspace is only partially accessible due to grade and ductwork throughout.
    b. There are severely deteriorated floor joists visible in the area around the return air grille and ductwork under the Living Room 101. This is in the direct path of visitors and

required immediate stabilization/repair. This is a priority repair. Install sister joists or build temporary support piers for (3) joists adjacent to and west of the return air floor grate.

c. The rim joist is not continuous on the north our south sides between piers in the center of the walls and appears to be supported by veneer.
d. The north/south beam that is under the first floor north/south wall is rotted at bearing and shims are crushed.
e. Recommendation – Excavate crawl space.
f. Recommendation – Install concrete mud slab over a heavy-duty vapor barrier throughout crawl space with 2 floor drains and sump to laylight. The concrete slab and vapor barrier will provide some level of protection from rising humidity in the space. The slab will also allow for easier maintenance and access for adjusting interior column supports if needed.



Photograph of shallow crawlspace.







(Upper Left) Photograph of center beam over vent and discontinuous framing support. (Upper Right) Unsupported and deteriorated floor joist at mechanical grille in living room floor. (Lower Left) Deteriorated floor joist near mechanical grill in living room.

6. Exterior Deterioration: Wood rot throughout the exterior is prevalent on the siding, trim, and especially at the wood replacement windows. The quality of the wood used during the 1990s renovation does not appear to be a high-grade exterior wood.
    a. Once the foundation is replaced and the house is as level as it will be for the final work, the siding, corner boards, trim, windows and doors should be replaced in their entirety. Deteriorated sheathing should be replaced, and new breathable building wrap installed. The new siding and trim should closely replicate the historic millwork shown in the historic photographs. This would include reconstructing the west porch columns with siding, as well, to match the historic condition.
    b. Prep, prime, and paint the entire house.





(Left) Photograph of a deteriorated wood window and deteriorated wood siding at the east side of the house. (Middle) Deteriorated corner board, deteriorated siding, and the front porch wood flooring sloping into the front of the house. (Right) Deteriorated siding, Trim, and Window.

7. Roofing and Drainage: Prior to our team being onsite, the park had a high wind event, which had blown shingles off the north side of the front porch. The roof is close to its useful life and should be replaced as part of this project.
    a. Roofing replacement would include roofing, underlayment, and flashings.
    b. Reconstruction of the missing brick chimney should occur as part of the overall roofing replacement.
    c. Recommendation - Gutters and downspout were on visible in the historic photographs of the house. Installing gutters and downspouts would assist in moving a large amount of water from around the home.

8. Drainage: The house sits in a depressed/low area of the yard. Water can accumulate around the foundation. The grade along the north side of the property slopes toward the house, and the sidewalk is raised above grade (poured atop old asphalt in the original alley), which also will impede water flow.



North side of the Cassidy house with poor grading and a high sidewalk that can hold ponding water against the house foundation.

9. Explore options for remote location of the mechanical condensing units. Once the park owns the property to the east, it may be possible to install the condensing lines in an underground trench and locate the units further from the house and potentially masked with landscaping.



Photograph of the 2 condensing units and wood fencing directly behind the east side of the Cassidy House.

10. Remove fence behind house along the east side to match the historic condition of open.

11. Second Floor Framing:
    a. Differential movement is visible at the top landing where the stairs slope towards the south. The stair wall is likely only supported by a single joist. There is visible cracking in the wallpaper in this area.
    b. Differential movement is visible within the corner of the West Bedroom 204 closet.
    c. Our team attempted to view the second floor joist bearing at a hole in the floor in the NE corner of the SE Bedroom 205. This was inconclusive.
    d. The nailing pattern of the flooring visible in the West Bedroom 204 shows joists are approximately 20” center to center.

TREATMENT RECOMMENDATIONS AND PROPOSED PHASING

Proposed phasing for the work to the two buildings and the site includes the following for both buildings. Site work is included in Phase 1B. Phase 1A is to address life safety improvements quickly. Phase 1B would include a majority of the work to the two buildings and site. Phase 1B for the VC and the House can be done independently of one another. Phase 2 represents longer term recommendations made in the 2013 HSR and 2014 CLR.

- Phase 1A – Life-Safety Improvements (Immediate Work)
- Phase 1B – Cassidy House and Visitor Center Foundation Repairs and Exterior Shell and Sitework
- Phase 2 – Longer Term Recommendations for Interior Renovations and Non-Critical Work

Update Condition Assessment, Treatment Recommendations, and Class C Construction Estimate for Birthplace House and Visitor Center, and Develop Site Drainage Concept

Site Visit November 2 and 3, 2021

Final Submittal December 27, 2021

William Jefferson Clinton Birthplace National Historic Site
Hope, Arkansas

Contract # 140P6020D0004
Task Order # 140P6021F0078
PMIS 131181



Prepared by STRATA Architecture Inc.

Contents of Submittal

1. **Work Session Meeting Notes and Site Trip Notes**
   - Conceptual Phasing Plan
2. **Cassidy House – Assessment and Treatment Checklist & Cost Estimate**
   - Phase 1A
   - Phase 1B
   - Phase 2
3. **Visitor Center – Assessment and Treatment Checklist & Cost Estimate**
   - Phase 1A
   - Phase 1B
   - Phase 2
4. **Site – Assessment and Treatment Checklist & Cost Estimate**
   - Conceptual Site Plan
5. **Comfort Station Treatment Checklist**
6. **Wood Species Testing**
7. **Updated Partial Crawlspace Drawings for Visitor Center and Cassidy House**

WORK SESSION MEETING AND SITE TRIP NOTES

This submittal includes the combined Work Session Meeting Notes and Site Trip Notes for the 'Update Condition Assessment, Treatment Recommendations, and Class C Construction Estimate for Birthplace House and Visitor Center, and Develop Site Drainage Concept' project at the William Jefferson Clinton Birthplace National Historic Site in Hope, Arkansas. The A/E Team, led by STRATA Architecture Inc. was onsite to Tuesday and Wednesday, November 2 and 3, 2021. The team included STRATA Architecture Inc., Structural Engineering Associates, Inc. (SEA), Henderson Engineers, and SK Design Group (SKDG).

Previous studies, including a 2013 Historic Structures Report and a 2014 Cultural Landscape Report served as the basis for the assessment work. These reports included the history and development of the site and buildings, documented existing conditions, included as-built drawings, and provided treatment recommendations and cost estimates for proposed work.

The team gathered information and assessed the existing conditions to provide updated treatment recommendations and Class C construction cost estimates for the Birthplace House and the Visitor Center. The Comfort Station was not included in this scope of work; however, some items were noted to be addressed in the electrical survey, and those are included in the recommendations. Work also included analysis and development of a conceptual treatment recommendation with costs for site improvements to alleviate poor drainage, which is a contributing factor in the advanced deterioration of foundations of both of the houses.

Assessment included walking the site and noting existing conditions on drawings of the buildings and site, taking photographs, and noting accessibility issues and other factors that may affect the visitor experience and park staff. In the afternoon of the second day onsite, the A/E team held a Work Session Meeting with park staff and the NPS regional historical architect/project manager, to listen to the park's issues and future needs, to review the conditions that had been discovered, and discuss potential direction.

Deliverables for this project include:

- Work Session Meeting Notes and Site Trip Notes
- Conditions Assessment / Treatment Recommendations Tables for Each Structure and Site
- Cost Estimates per Recommended Phase of Work for Each Structure and Site
- Existing Conditions Photographs in electronic .jpeg format

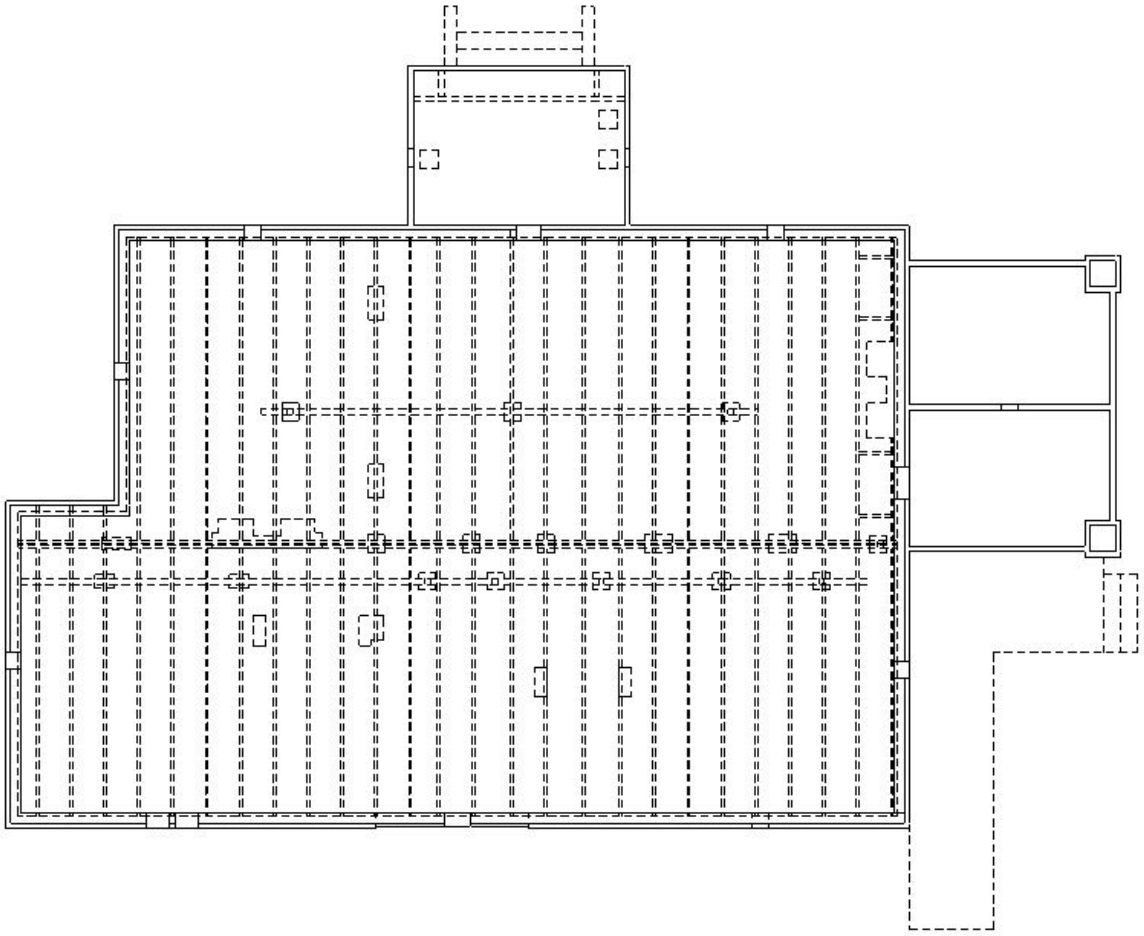
Those present for the Work Session Meeting included:

Gregory Hauburger, Superintendent
Evan Weber, Facility Manager
Jennifer Ledbetter, Facilities
John Rosemurgy, Historical Architect and Project Manager, MWR Cultural Resources (Virtual Attendee)
Kelly Korenoski, Regional Project Manager, MWR Facilities Planning and Infrastructure (Virtual Attendee)
Angie Gaebler and Claire Ashbrook, STRATA Architecture – Historical Architect/Project Manager
Philip Steet, Structural Engineering Associates, Inc. – Structural Engineer
Nick Gordon, Henderson Engineers – Engineer
Gary Urkevich, SK Design Group – Civil Engineer

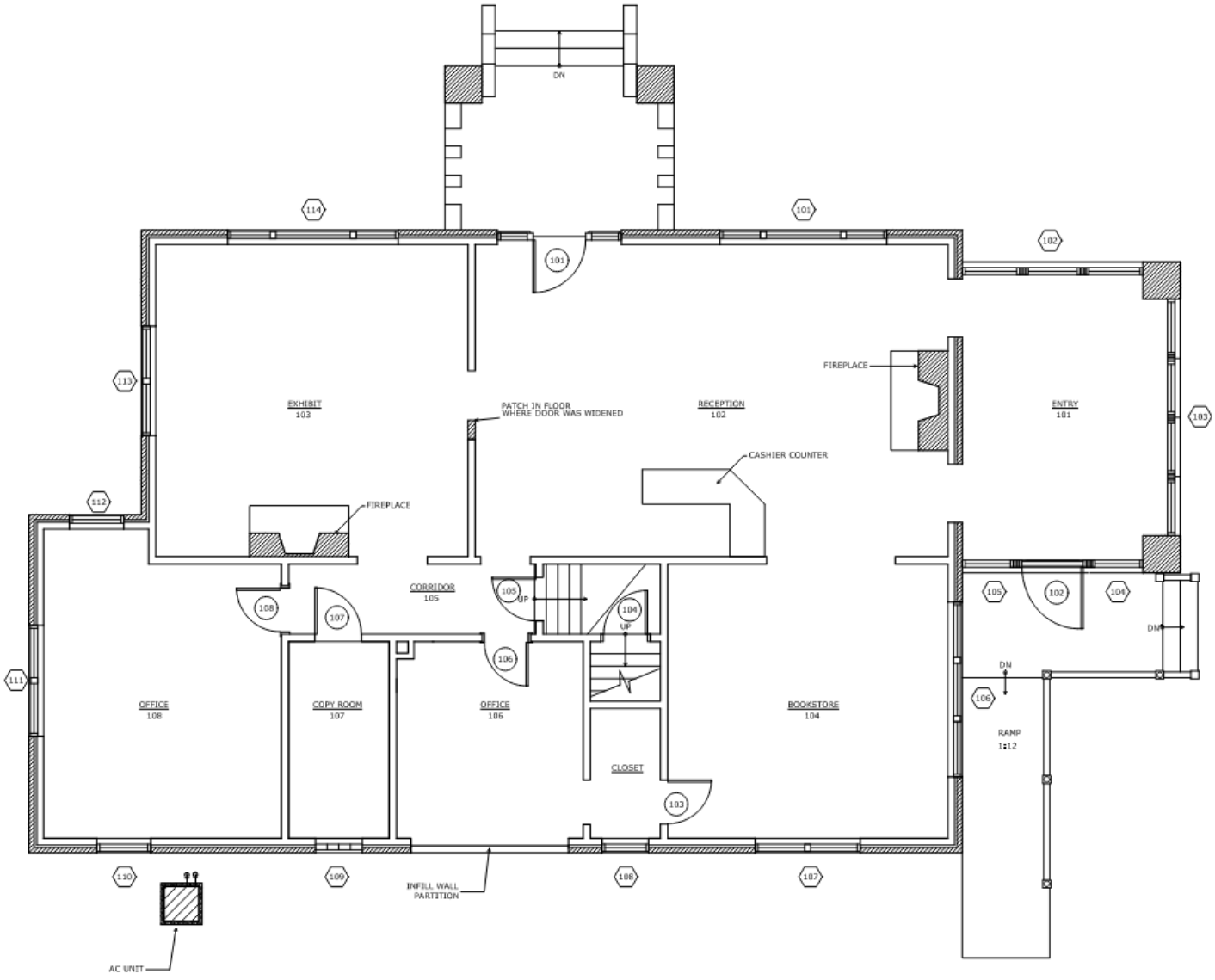
1. The team reviewed the overall scope of work for the project and discussed the current goals for this updated assessment and cost estimate work.
2. The Park wants to be certain that recommendations made during this project will not preclude them from building a new Visitor Center in the future.
3. The Park has begun the process of acquiring adjacent land from the City. This includes the large parking lot in the SE corner of the block, as well as most of the empty lot between the parking lot and the Cassidy House, part of which was the site for Clinton's boyhood friend, Vincent Foster Jr.. The City will retain a parcel of land in the SW corner for a memorial park. The acquisition of this substantial property was not anticipated as part of the 2013 HSR and 2014 CLR reports, and therefore, these properties are not included in the long-term planning efforts for the park. The 2014 CLR notes the need for a new Visitor Center and provided examples for building massing and location. It was proposed to be constructed on the site of the existing memorial garden and that the garden would be relocated to behind the existing Visitor Center.
4. Acquisition of this additional property open up opportunities to explore potential development of the empty lot behind the Cassidy House for a new Visitor Center, rather than where it had previously been studied.
5. With the acquisition of this additional property, some immediate improvements might include removal of non-historic wood and metal fencing between the existing Visitor Center lot, the Cassidy House, and the empty lot. This would need to be closely coordinated with the City, who still owns the abandoned alley that runs east/west through the approximately 7/8 of the block. The fencing identifies the north and south boundaries of the alley through the National Historic Site. These are not contributing features to the landscape and their removal would improve the viewsheds.
6. The City has recently re-paved the parking lot and will stripe the lot this coming week. This new lot will provide much-needed accessible parking stalls. The City is also planning to make improvements to the sidewalk between the lot, the alley, and the Comfort Station. They will return to make these needed improvements.
7. The Park and Region are okay with moving away from some of the HSR and CLR recommendations, due to the time lapse since the initial recommendations, changing conditions, and acquisition of the new property, especially concerning low-impact items. The Park is most interested in addressing 'maintenance and function.' Examples may include recommending the installation of gutters and downspouts, although the houses did not originally have these, and providing accessible concrete walkways for the garden paths.
8. Geothermal: The team discussed the HSR recommendations of installing geothermal systems for heating and cooling for the Cassidy House. This would require deep excavations and is invasive to the site. The NPS and the park are no longer in favor of that option. A traditional HVAC system is likely more affordable and easier to maintain.
9. The HSR recommended bringing in new electrical service and transformer just for the NHS. They have not had any issues at this time. If a new Visitor Center is constructed in the future, that additional electrical needs will be addressed as part of that project.
10. There was a life-safety issue found in the crawlspace of the Cassidy House. The section of floor joists surrounding the return air floor vent in the Living Room is deteriorated. Philip said the joists are crumbling when you touch them. This could lead to failure of the floor in this area and should be shored immediately.

11. One wood sample was taken from the Cassidy House first floor joist for species identification. It was found to be in the 'Southern Yellow Pine' group, which would match 'Mixed Southern Pine' for structural calculations.
12. Two test pits were dug adjacent to the buildings to see if the team could verify the presence of, the depth, and the materiality of the footings.
    - At the Visitor Center, the test pit was dug just to the east of the crawlspace opening on the south side of the house. The hole was approximately 12" diameter at the top and narrowed to about 14" in depth. It was dug with a shovel, and very carefully worked around the existing irrigation line that was within inches of the foundation wall. This made the excavation of the hole difficult. Therefore, the top of the footing was exposed, but the depth was not able to be determined in the small area available. To find the depth and materiality of the footing, a much larger hole would have had to be dug outside of the irrigation line.
    - The test pit at the Cassidy ran into the same issues with the irrigation line being in the way of the test pit. This pit was dug just west of the central foundation vent on the south side of the house. The foundation footing was located approximately 1" below grade.
13. The Visitor Center should be treated as historic with compliance reviews for proposed work until a final determination has been made. John has recommended further discussion with Region about a Determination of Eligibility for the house. The HSR does not address the historic nature of the Visitor Center, but the CLR recognizes it as part of the historic setting. This subject matter will be continued.

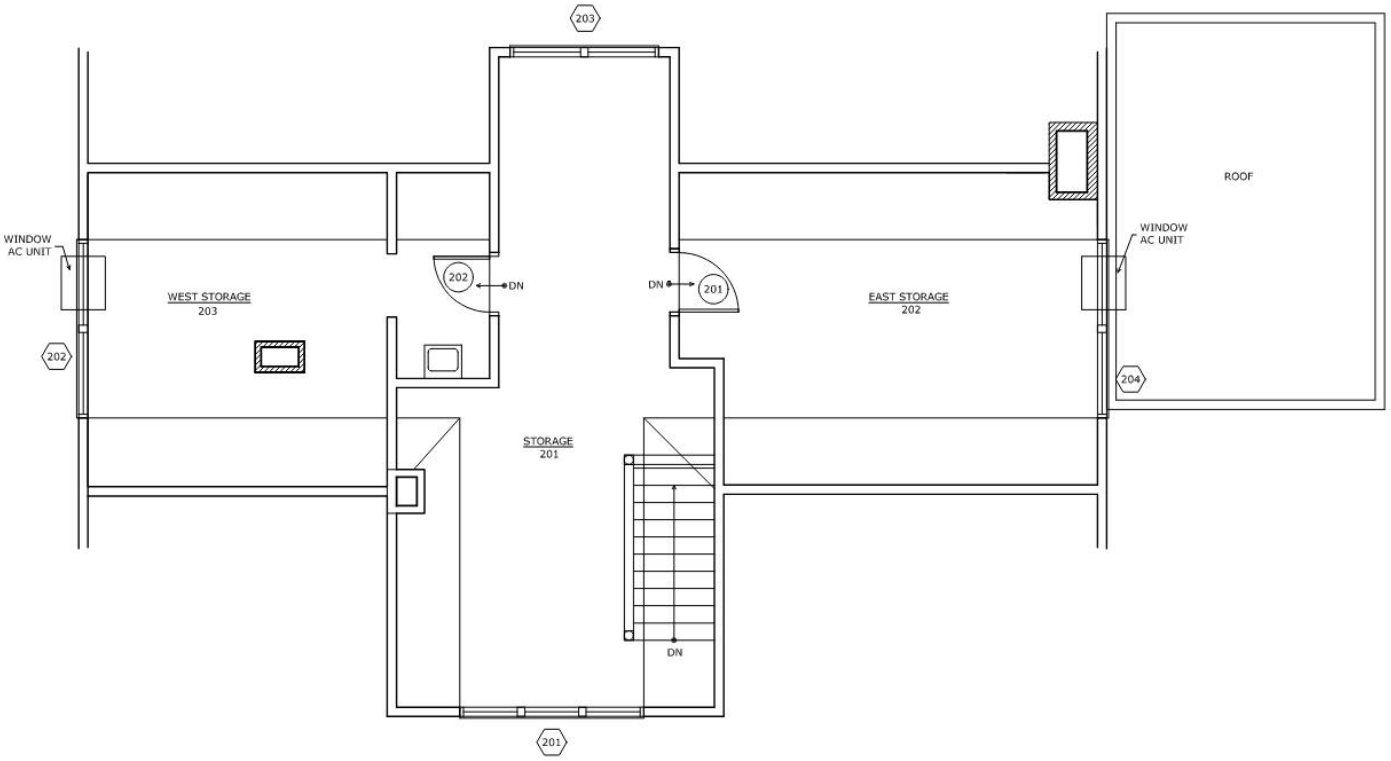
REFERENCE FLOOR PLANS



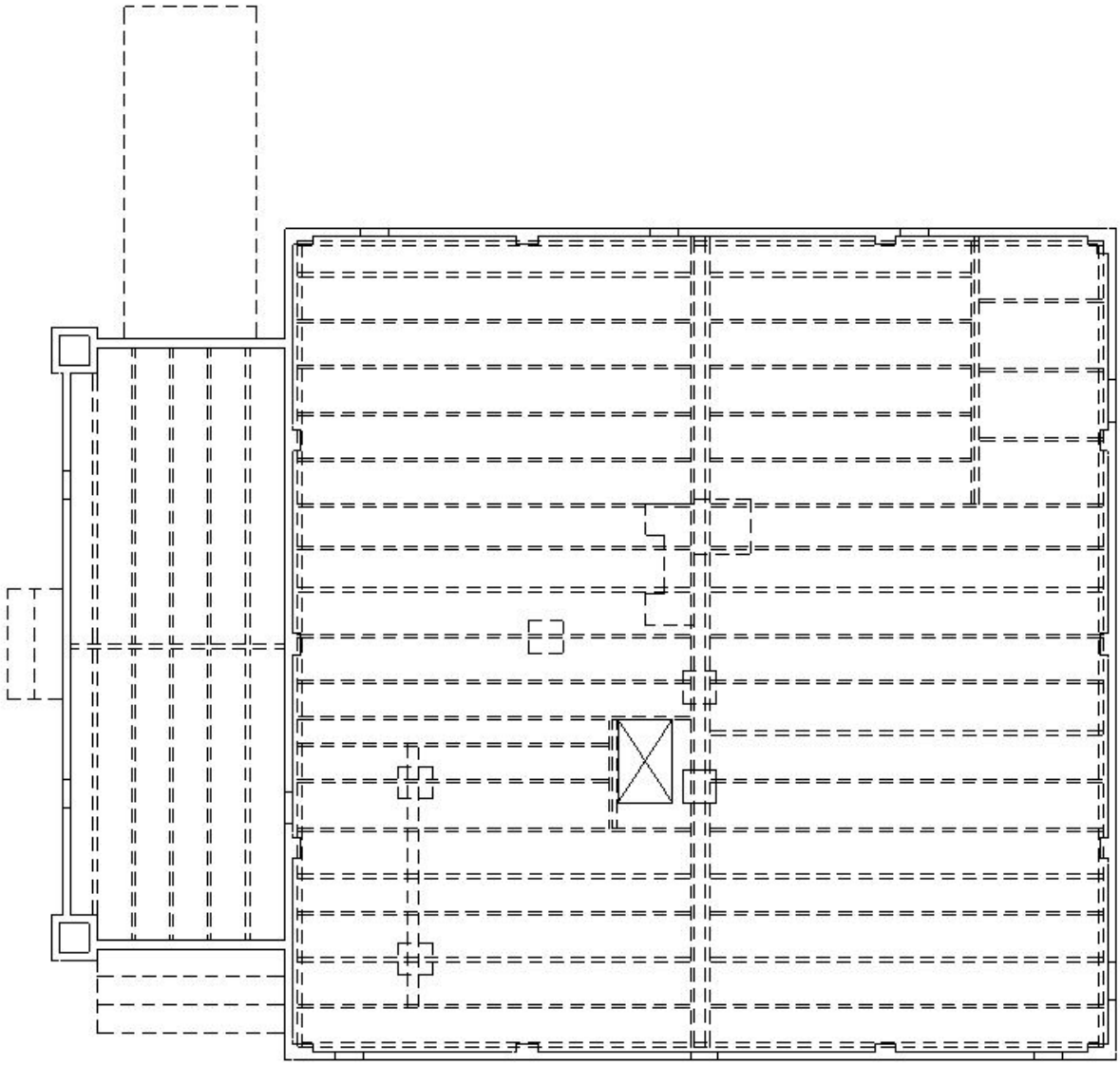
Visitor Center Crawlspace Plan



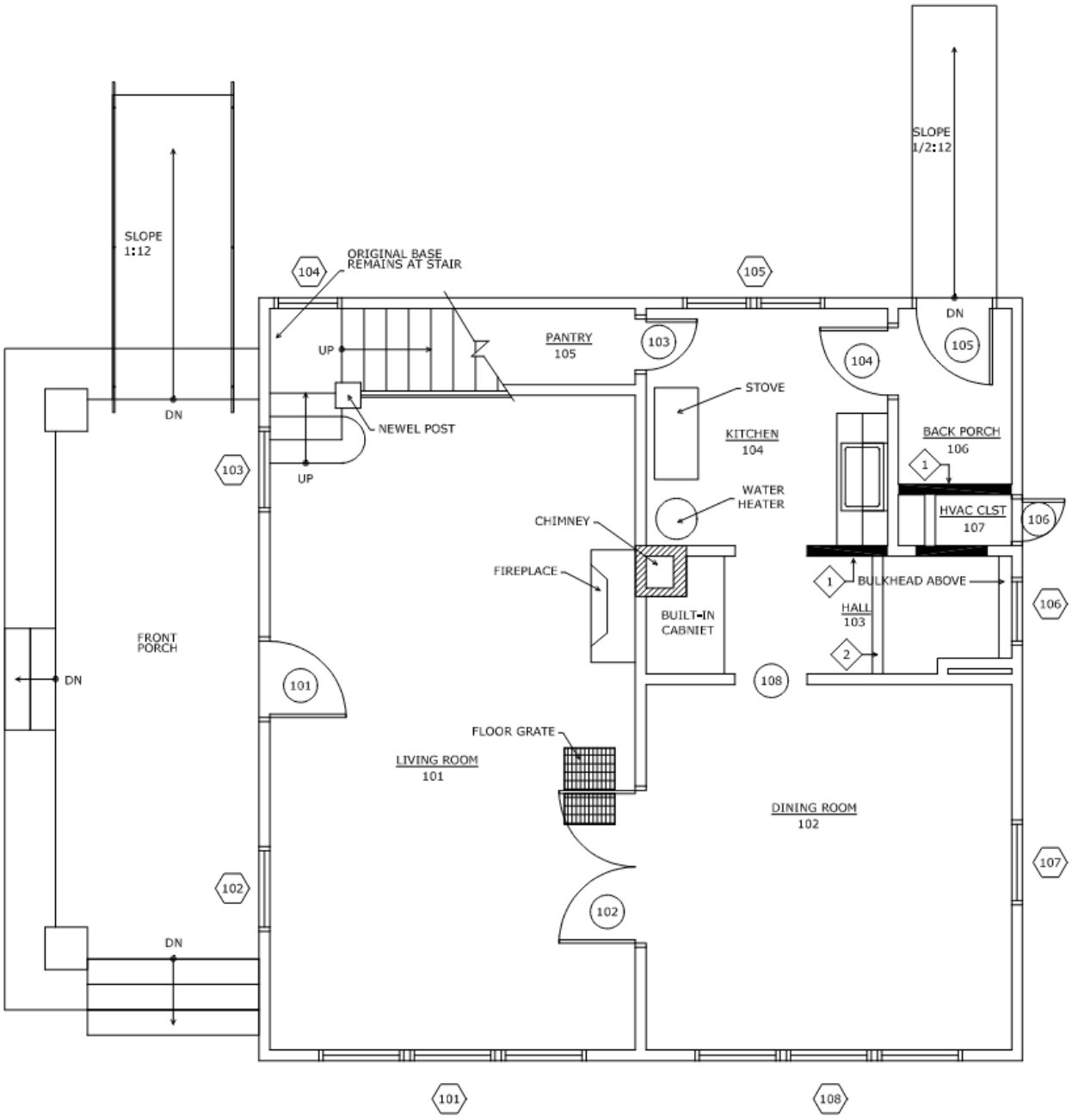
Visitor Center First Floor Plan



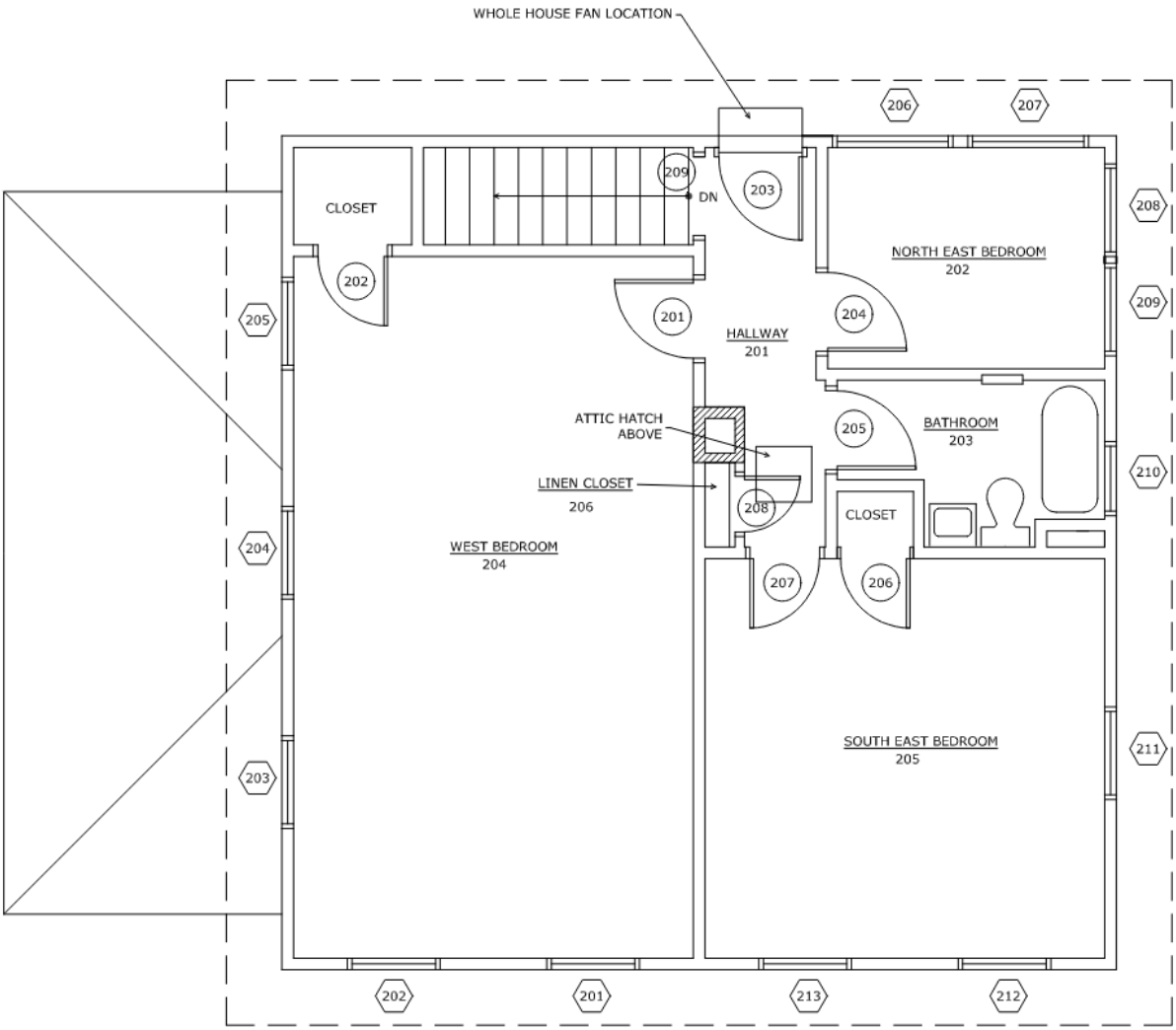
Visitor Center Second Floor Plan



Cassidy House Second Crawlspace Plan



Cassidy House First Floor Plan



Cassidy House Second Floor Plan

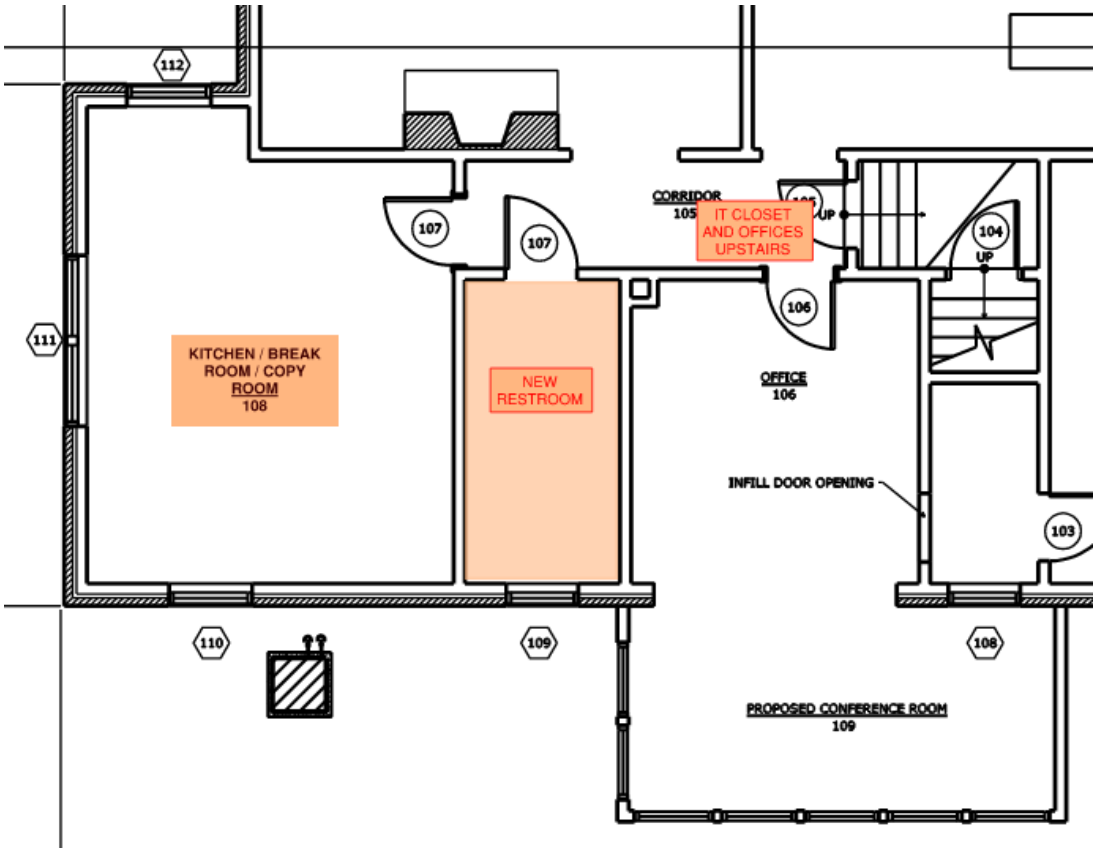
Visitor Center Assessment

Existing Plans for Reference are attached.

The following items were observed during our site visit.

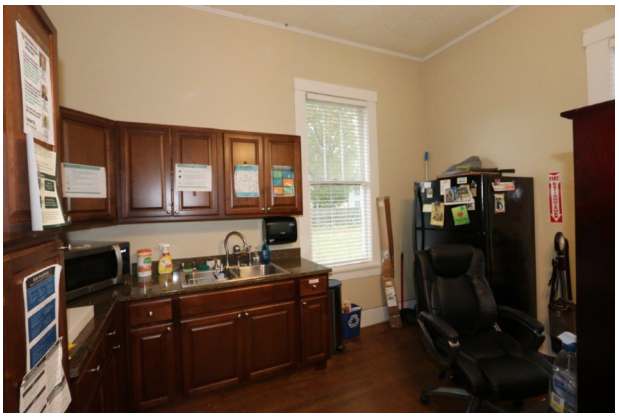
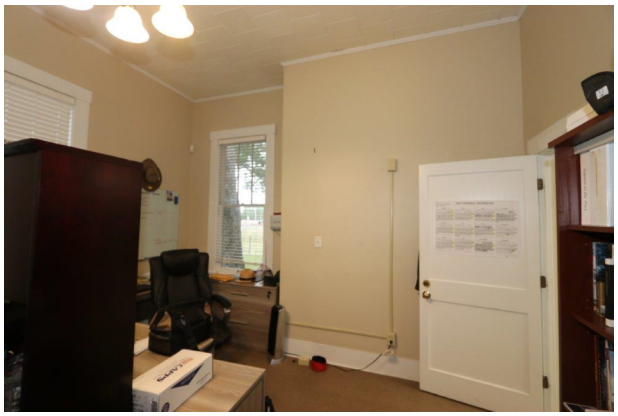
1. Historic Integrity:
    a. The Visitor Center has a high level of historic integrity throughout. Much of the original materials, including the wood trim, windows, and doors appear to be original. Room layouts appear to be close to original with the exception of the non-extant breakfast room/south porch room that was previously demolished.
    b. A majority of the previous renovation work that was done on this historic site was done in the mid-1990s by the William Clinton Birthplace Foundation.

2. Programming for Interior Space:
    a. A new programming effort should be undertaken to assess the park's current and future needs for office area, visitor services, and function/layout of the entire first and second floor of the Visitor Center. Efforts should begin with the HSR recommendations and should update the recommendations for current needs.
    b. Items to explore may include:
        i. Visitor Greeting at Entry / South Porch Door – Consider relocating cubicle
        ii. Consider what staff need to be on first floor.
        iii. How many cubicles or private offices would be located upstairs?
        iv. Where is the best place for the Superintendent's Office? Second Floor? What are privacy requirements? Do other staff require privacy?
        v. If the missing Breakfast Room addition was to be reconstructed, how would this space be utilized in conjunction with the existing Office 106 area? HSR plans show this as conferencing space, but how would that work if there were cubicles in 106?
        vi. If Offices mostly move upstairs, would Exhibit 103 be returned to visitor services? Is this space needed?
        vii. Consider adding an ABA-accessible 'Convenience' Restroom for staff use within the first floor of the building. This could be partitioned in Office 108 area with a small, reconstructed kitchenette sharing the other portion of the space. Or, a restroom could be installed in Copy Room 107.
        viii. See plan option for restroom below. In this scenario, the IT closet would move upstairs, and the existing IT/Copy Room 107 would be renovated into a single-toilet accessible convenience restroom. The existing kitchen/office 108 would be used as a kitchen/breakroom/copy room. Two or three desks or 2 small cubicles could be located in Office 106 and a small conference table for staff. All other offices would be upstairs. Photographs of these spaces are below.





Room 107 – Currently the copy room, originally a bathroom. May be suitable for an accessible restroom. Ceiling is lowered in front of old window. Window is glass blocks.

Room 108 – Currently the staff kitchenette and 2 cubicles for staff. Originally, this was likely a bedroom. Proposed plan keeps the kitchenette here as a break room and also copy room functions.

3. Hazardous Materials: Provide an updated comprehensive hazardous materials survey of the entire building, including concealed areas and crawlspace.

4. Foundation:
   Existing Conditions:
   a. The perimeter foundation walls are triple-wythe brick with the exterior wythe being the veneer and no visible header bricks. A concrete parging is visible at the base of the perimeter foundation walls with a beveled top edge. The parging is approximately 1" thick. It is unknown if this parging is an original treatment, or if it was added during a later renovation.
   b. The team excavated a test hole in the center of the south foundation wall. Unfortunately, the irrigation lines are installed below grade very close to the foundation wall, which did not allow for a full-depth excavation, as anticipated. A footing appears to exist approximately 14" below the exterior grade. It could not be completely uncovered to discover the depth or condition of the footing.
   c. Interior piers supporting the first floor are brick and are constructed on a combination of brick and concrete footings.
   d. An interior brick foundation wall runs east/west below the mid-span of the sunporch.
   e. The foundation appears to be settling unevenly throughout the structure exterior walls and interior piers. In some areas, the house has sunk several inches since the 1990s renovation. Sections of flooring in the first and second levels of the house have noticeably settled with high and low spots where support varies.



Photographs of the exterior and interior of the brick foundation walls.

Treatment Recommendations:

f. A Geotechnical report with (2) or (3) borings to a 20' depth is recommended prior to beginning the design for the foundation repairs.
g. Due to the condition of the existing foundations, it is recommended to dismantle the existing brick foundations and veneer (discussed in detail below) and install a foundation designed for the expansive soils. This may include a wider footing with void cartons and underpinning with helical piers. (Void cartons are also referred to as void forms and are used to create space between concrete structure and expansive soils to isolate the concrete from the swelling ground). Inside the crawlspace, it would be difficult to install helical piers, so a reinforced concrete spread pier footing is recommended with adjustable galvanized columns with spread bases. These columns can be adjusted if the interior piers move drastically different from the fixed (underpinned) exterior foundation walls. This scope of work for this project will need to be carefully investigated and detailed. Access throughout the crawlspace is difficult with tight spaces. Access will need to be provided in order to design for foundation and underpinning at the wall between the Reception 102 and Entry (Sunporch) 101 and to assess and design interior piers and their attachment to the wood framing.
    i. Foundation work would include
        1. Shoring
        2. Excavations and removal of irrigation system surrounding foundation

3. Existing Foundation and interior pier removal
4. Salvaging brick foundation and wall veneer units – clean and palletize
5. Installing new reinforced concrete grade beam around perimeter of the house. Recommend grade beam to incorporate 6" void carton to allow for expansive soil.
6. Underpinning new grade beams – estimated 20 piers to a depth of 15 feet (to be confirmed by geotechnical report). Recommend helical piers.
7. Install new reinforced and grouted concrete masonry unit (CMU) foundation wall on grade beam to support perimeter of house. Reinstall salvaged brick for veneer.
8. Install new interior pier spread concrete pads. Install new galvanized adjustable columns with spread base. System may require supplemental galvanized I-beams be installed to spread the support if the wood beams and existing joist layout do not spread the support evenly.
9. Underpin (4) existing piers at corners of north and east porches. Void carton would not be required for individual piers.

5. Crawlspace and First Floor Framing: The crawlspace was accessed through an opening in the south wall where the breakfast room addition was previously removed.
   Existing Conditions:
   a. The crawlspace was partially accessible and not able to be measured completely due to ductwork, pipes, and high grade.
   b. The floor is dirt with debris throughout.
   c. Moisture is present around the perimeter of the foundation.
   d. Many of the wood floor joists have been repaired. It also appears that the outer rim joist was replaced. It is unclear how the rim was installed without removing the brick veneer, which is supporting the outer walls. The existing 2x10 joists were cut short of the replaced rim joist and then they were partially sistered with 2x6s and toe-nailed into the new rim joist. This work to the joists and rim joist occurred during the last renovation project.
   e. At the center beam, there are issues with the previous framing repairs where 2x4s were added to re-connect larger joists to the beam. There are improper connections in many places.
   f. There is evidence of termite damage to joists and the subfloor throughout. The HSR recommended 500 SF. This may not be enough, once the full inspection is completed. This could easily grow to include a much larger area and spot areas throughout the first floor. Once that occurs, it may be easier to replace subfloor and wood flooring throughout an entire room, rather than spot replacement. Cost for full replacement should be covered by the design contingency allowance in the cost estimate at this phase of design.



Typical existing, unconventional first floor framing conditions in the crawlspace.

Treatment Recommendations:

g. The crawlspace dirt should be hand-dug and removed prior to the next renovation to allow for access throughout for maintenance and repairs. The dirt should be approximately level with the exterior of the house.
h. A priority repair would be the repair the joist to beam connections in the area below Corridor 105. Estimated (10) connections using metal joist hangers (Simpson or similar) and (1) 2 x 8 x 4'-0" supplemental framing.
i. As the foundation work occurs, probe all existing joists for deterioration and joists cut for piping. Sister existing damaged/deteriorated joists in crawlspace. Estimated (15) total sister joists, approximately 2 x 10 x 18'-0". Install galvanized metal joist hangers (Simpson or similar) to existing joists. Estimated (60) joists with (2) hangers for each joist.

6. Brick Veneer and Exterior Walls:
   a. Exterior brick is single-wythe veneer over an unknown substrate.
   b. A hole in one area shows wood sheathing that was deteriorated and perhaps termite or other pest damaged.
   c. It is unknown if there is also building paper over the sheathing.
   d. Areas of the brick veneer have shifted, settled, cracked, and bowed throughout the exterior of the house. The foundations have settled, creating undulations in the

plumbness and have caused bowing of the wood frame structure. In areas that exhibit movement, the bricks may be detached from the wall sheathing, allowing for masonry settlement separate from the wood frame wall. This uneven settling and masonry dis-attachment effects the cast concrete sills, wood trim, wood windows, and creates out-of-plumb conditions at doors and window openings.

e. The only area of the house that the brick veneer appears to be sound is the exterior exposed brick masonry wall area within the sunporch that is covered with the roof. Here, the masonry is well protected and the ground does not get saturated with water. The large masonry fireplace mass does not appear to have settled, and the entire masonry wall system in this area appears to be fairly intact and in good condition.
f. The cracks and offsets in the brick veneer allow water to further infiltrate the wall system, which can accelerate deterioration of the wood wall system and brick veneer.
g. There are a lot of spiders and pests living in the holes of the masonry mortar joints.
h. Foundation vents are rusted. A future design phase should calculate the volume of the crawlspace and the size and allowable air flow of the foundation vents to ensure they provide adequate air flow to meet current code.
i. The condition of the wood-framed exterior walls was not able to be observed. However, there were areas where the sheathing was exposed and is in poor condition (noted above). Also, the rim joist that supports the wood wall and brick veneer was replaced. This may also indicated there is potential for deterioration of the wall sill plate. This could not be observed.












Examples of brick veneer that has shifted, settled, cracked, and bowed throughout the exterior of the house.

7. Front (North) Porch:
    a. The front porch is constructed of a reinforced suspended concrete slab. The detailing and support of the perimeter of the slab is not visible and was not able to be determined. There is cracking at the perimeter and cracking and delamination at the top tread.
    b. Brick piers on spread footings at grade are inset from the exterior foundation walls. These can be seen through the foundation vents and from the interior crawlspace.
    c. The porch floor and concrete steps are painted, creating a slick condition.
    d. The porch floor slopes 1” in 4’ towards the house, which can funnel water into the wall.
    e. The east cast concrete rail cap is cracked.
    f. There are no railings at the front porch steps.
    g. Recommendation - The porch will likely need to be partially deconstructed to replace the building foundation. At that time, the porch construction and supports will need to be further investigated and designed for replacement. Porch will need to be reconstructed to have a positive slope away from the house. It is unclear if the house will be jacked or straightened to account for the settled dimension at the porch/door area.
8. Historic Windows:
    a. Historic wood windows (sashes, frames, trim, and sills) are in overall poor condition and require complete restoration. Some of the sills have been affected by the shifting brick veneer/cast concrete sills and are now sloping back towards the house, instead of down and outwards.
    b. Windows are currently not covered with storm windows.
    c. HSR recommends interior storm windows. We would reconsider this recommendation and recommend exterior storm windows be installed to protect the newly-restored windows with a low-e glass to provide some energy efficiency.
    d. Lintels at Windows 101, 106, and 114 have settled in the centers by nearly 1.5-inches or more and appear to be undersized. Even though the weight of the masonry above is not substantial, they are failing. While the brick wall veneer is removed, the lintels should be replaced in these locations. Lintels at other windows should be inspected for

deterioration when the brick veneer is down-stacked, and they should be replaced accordingly.

e. Window sills are cast concrete and are painted. The paint is in poor condition, traps moisture in the concrete, and is difficult to maintain. Consider stripping paint and installing concrete sealer to preserve the sills. Research as to the historic condition of the sills (painted or natural) may reveal a preferred treatment.
f. Exterior glass block window was in a restroom and should be restored to a wood double-hung, unless historic documentation suggests this was historically a glass block window opening.






Examples of exterior windows and deterioration.

9. Historic Front Door and Surround:

a. The historic wood front door, sidelights, and transom are in overall poor condition with peeling paint and deteriorated putty. The door frame is racked slightly from the foundation settlement. The door is not fully weatherstripped. Hardware does not meet ADA. The cast concrete sill is painted on the exterior. The threshold does not meet ADA.



Front Door and Surround.

10. Sunporch/Entry 101:
    a. Sunporch infill wood framing and windows are in overall poor condition.
    b. Wood rot is prevalent near the base of the wall.
    c. Water infiltrates this wood-framed wall and window system when it rains, resulting in puddles on the interior of the building.
    d. Some of the insulated glazing seals have failed, resulting in foggy windows.
    e. The detailing of the wood framing at the windows is not designed to shed water, instead, the detail allows for water to infiltrate the system. We recommend this entire wood framing system to be re-designed to correctly shed water with new insulated windows.
    f. The concrete floor in the sunporch is painted. The paint does not appear to have been previously tested. The paint is in overall poor condition and makes the floor slick. This should be tested and removed. And a concrete floor cleaned, polished, and sealed.
    g. The reinforced suspended concrete floor slab is in fair condition. Some corrosion and exposed reinforcing is visible at the underside of the slab. The slab is partially supported by an east/west brick wall at mid-span.
    h. Recommendation: Reconstruct infill walls and glazing. Prior to redesigning the wood framing and infill, research for the original design of this porch area is recommended through historic photographs and contacting previous owners, etc.




Examples of Sunporch wood window and trim deterioration.

11. Exterior Painting:
    a. It is assumed that all exterior paint contains lead. The paint is in overall poor conditions and is peeling throughout.
    b. It is recommended to strip all exterior paint from wood trim and stucco to get to a sound surface and repair all wood exterior components.
    c. All of the exterior requires stripping, sanding, caulking, prepping, and final painting.
    d. Wood deterioration is noted below.

12. Exterior wood trim deterioration (Excludes sun porch):
    a. Exterior wood trim is painted and is peeling throughout.
    b. Wood rot was seen from grade in the following locations:
        i. North Elevation:
            1. Dormer – epoxy repair and consolidate wood center bracket
            2. Dormer – all wood that is exposed needs to be stripped and have a wood consolidant/preservative installed
            3. Rafter/outlookers on both sides of porch roof need to be replaced. They have been partially sistered previously.
        ii. East Elevation:
            1. Wood trim in the gable that divides the stucco bays is in overall poor condition and required replacement in several locations.

2. The center (south) bracket is deteriorated and requires significant repairs or replacement.
3. Replace window sill, apron, and vertical batten at second floor window.
4. Repair/replaced section of fascia boards at gable peak.
5. Replace wood soffit and barge board to be replaced at sun porch.
6. Replace barge board near north side (may be replaced due to brick down-stacking anyway).

iii. South Elevation:
1. Replace deteriorated east bracket at dormer.
2. 9th rafter tail from the east is deteriorated – replace in kind.

iv. West Elevation:
1. Replace approximately 36" of corner board at dormer
2. Replace entire length of bottom board at roofline at dormer
3. Replace sections of barge board
4. Epoxy repair and consolidate southern-most bracket



Example photographs of wood deterioration and peeling paint.

13. Ramp and South Porch Steps:
    a. Existing Ramp
        i. The wood ramp, porch, and steps are not historic and was likely constructed in the mid 1990s.
        ii. The ramp is constructed with wood decking with turned wood painted railings. The ramp and steps are in overall poor condition.
        iii. The park has closed the steps, due to broken treads. The ramp railing is unstable, missing balusters, and is generally in poor condition.
        iv. The ramp, porch, and steps are slick when it is wet. One of the metal anti-slip plates is missing on the ramp.
        v. The ramp is constructed against the east wall of the house, making maintenance in this area of the masonry structure difficult.
        vi. The threshold at the entrance door does not meet ADA height requirements.
        vii. The ramp slope is about 5 degrees with a 5/8" lip at the bottom. The slope meets requirements, but the lip at the bottom is too high.

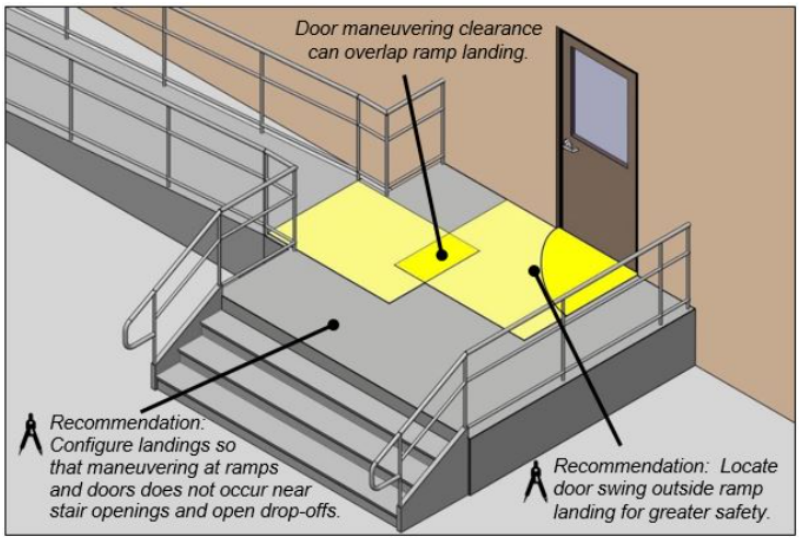
viii. Railings/handrails are not ABA-compliant on the ramp or steps.
ix. Door hardware is not ABA-compliant.
x. No power-assisted door opener (NPS requirement for main entrances)

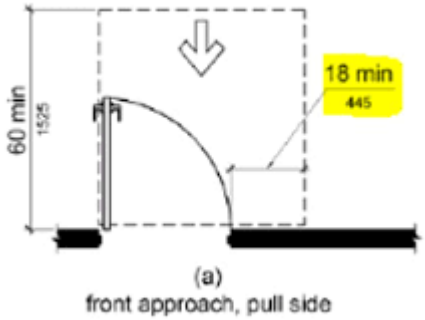




Photographs of the deteriorated accessible ramp and steps at the south entrance.

b. Replacement Ramp
   i. A replacement porch and ramp are recommended to be constructed away from the wall. The Superintendent has a plan that appears to function well in this manner. However, moving the ramp to the east will require replacement of the entrance door. Also refer to #15 Accessibility below. It is also recommended to post signage to indicate the location of the accessible entrance and also to install an automatic door opener, if possible.
   ii. For proper ramp layout and clearances, refer to one of the following guides:

1. https://www.access-board.gov/aba/guides/chapter-4-entrances-doors-and-gates/
2. 

3. 

14. Grade:
    a. Grade slopes towards the house along the north side of the house.
    b. The lack of gutters has led to a depressed area in the grade surrounding the house, which does not allow for proper runoff during rains. This can also create ponding around the house and result in a damp crawlspace and uneven settlement of the foundation.

15. Accessibility:
    a. Exterior - South Ramp Entrance: See #13 Above
    b. Exterior - Front Entrance (North Porch):
        i. There are no railings at the front steps.
        ii. The painted porch floor and steps are painted, making them very slick and dangerous when wet.
        iii. There is a step up at the front door and a tall threshold.
        iv. Door hardware is not ABA-compliant



Photograph of the front porch.

c. Interior – First Floor:
    i. Back Hall (Corridor 105):
        1. The back hall (Corridor 105) is around 45-inches wide, which is close to the minimum 42-inches required for ABA-compliant access to door openings in the hallway.
        2. In their current configuration, the doors from the Corridor 105 are not all accessible.
            a. Door 106 into Office 106 is too narrow and cannot be converted into an accessible opening without widening the door. (Widen door or use Door opening 103 as a cased opening without a door installed)
            b. Door 107 into Copy 107 swings into the hallway, which does not meet ABA-clearance requirements for operation and approach (minimum 54” or 60” depending on direction of traffic). If the door is reversed to swing into the room, it is still not wide enough to meet the required 32” width if there is a door installed. If the door is uninstalled and only the cased opening remains, the door will meet ABA requirements at 33”. (Solution: remove door and leave jamb)
            c. Door 108 into Office 108 does not meet door approach requirements. If a door is installed, it does not meet width requirements. If a door is removed and not installed, the width between the jamb stops is 33” and meets requirements. (Solution: remove door and leave jamb)
        3. It is unlikely without major renovations that the rear portion of the first floor could potentially house more than a single restroom.
        4. The existing lay-in acoustical suspended ceiling is not compatible with the historic nature of the house. The original volume of the hall ceiling could be restored with new lighting.



Photograph of the narrow back hall (Corridor 105).

ii. The fireplace hearths in the Reception Room and the Exhibit Room were installed to be flush with the wood floors. Over time, the hearths have settled, and the bricks have shifted and now project above the finished surrounding wood floors, creating a tripping hazard.



Brick Hearth in Exhibit Room that is uneven and a tripping hazard.

iii. Door hardware throughout the house is historic or contemporary replacement and is not ABA compliant.

d. Interior – First Floor:
   i. Copy Room 107 has a lowered hard ceiling that intersects the top of the window. Explore why this has occurred. Raise ceiling if possible in renovation, or provide window pocket to allow for full height of window to show inside the room.
   ii. The main electrical panel is in Copy Room 107.
   iii. Office 108: Acoustical ceiling tiles direct-applied to the ceiling are not in keeping with the character of the historic house. Lighting in this space is residential in nature and does not provide enough light for office space. Exposed conduit in the room should be removed when the house is re-wired. Irrigation system controls are installed on the north wall in this space, near the window. This room is partially carpeted and partially wood flooring.





(Left) Photograph of the first floor copy room with a lowered ceiling and a glass block window. (Right) Photograph of incompatible acoustic direct-applied ceiling tiles in the kitchen 108 room.

e. Interior – Second Floor:
    i. Staircase:
        1. The winding staircase to the second floor does not meet commercial code. The treads and risers to not meet current IBC commercial code.
        2. There are two door openings on staircase that are not code compliant, as they swing out over the stairs and into the path of traffic.
        3. Hand railings do not meet ABA accessibility requirements with regard to continuity and extensions at the top and bottom. These would be difficult to upgrade with the existing door frames in place.
        4. This staircase can be 'grandfathered' in with some safety upgrades, since the second floor switching from S1 (storage) to B (business) occupancy is an equivalent hazard group.
        5. Recommendations – remove both doors from the cased openings. Remove the cased opening at the landing altogether to allow for a continuous handrail along the outer wall. Install ABA-compliant tread nosings to assist with slip resistance. Install new and adequate lighting at the stairs.



(Left) A photograph of the bottom portion of the wood winding staircase to the second floor with a narrow door opening at the bottom tread. (Right) A photograph of the upper, straight portion of the wood staircase to the second floor with a narrow door opening at the bottom tread before the winding portion of the staircase.

ii. Second Floor Offices:
    1. The span of the second floor joists in Rooms 202 and 203 are greater than previously reported and calculated in the HSR. The joists span from the north to south walls, not from the knee walls, and likely span to a central beam. Therefore, the capacity of the second floor joists is lower than reported. They are also very likely not connected, which may contribute to outward thrust, as they are not restrained.
    2. Rafters do not align with the joists. Load path for outward thrust must transfer through sill plates, which is not ideal.
    3. Gable end framing is not supported by the exterior brick veneer. Lateral pieces cantilever over the stud wall to support the end gables. This is why there is framing that is taller near the end walls.
    4. Construct new offices on the second floor in Rooms 202 and 203.
        a. Remove all insulation board and attachments. Remove all other insulation and debris.
        b. Remove existing sink and all related plumbing in 203.
        c. Widen wall opening in 203 between existing entry/closet and larger room.
        d. Remove existing knee walls for access to floor joists.
        e. Remove existing floor sheathing from rooms 202 and 203. Install new 2 x 10 joists between existing 2 x 6 joists (16” spacing). Estimated (48) 2 x 10 x 18’-0,”as required for office loading.

f. New joists shall be connected together over central beam support and connect to rafters and sill plates at exterior walls (where rafters are not already connected to existing joists).
g. Install sound attenuation batt insulation between floor joists to assist with sound transfer to the first floor. Reinstall existing floor sheathing and supplement with new sheathing, where required. Install new carpet tiles.
h. Reconstruct knee walls and frame for new access doors.
i. Provide flush, painted steel, lockable and insulated knee wall access doors on each side of the knee walls (4 total).
j. Insulate knee walls and ceiling. Re-wire second floor. Install new gypsum board walls, painted, and new painted trim.

5. Renovate existing office space Room 201 in the center of the second floor.
    a. Remove wall paneling. Install new gypsum board painted walls.
    b. Refinish existing historic wood flooring
    c. Add raised railing at stair railing to bring height to 42" code requirement.
6. Throughout Second Floor:
    a. Install new lighting, electrical receptacles, and data throughout. Install new HVAC (refer to mechanical and electrical).
    b. Paint all rooms (walls, trim, ceilings) on second floor.
    c. Repair paneled wood Door 201 and provide new hardware.
    d. Repair paneled wood Door 202 and provide new hardware.

16. Chimneys:
    a. There are three chimneys that were constructed of the same brick as the exterior veneer that once pierced the roof – one on the far east side, another near the center of the west roof, and a third, smaller chimney just west of the back dormer. These were removed to below the roof line, but the chimney bases are still intact.
17. Roof:
    a. The existing roof structure shows signs of minor deflection and sagging.
    b. The existing asphalt shingle roof is in overall fair condition. It was last replaced in November 2011 and will be due for replacement during the timeframe of this proposed project.
    c. The turbine-style roof vents are old and squeak, which is audible outside and inside the second floor.
    d. The roof vents provide exhaust only. There do not appear to be any intake vents. When the second floor east and west rooms were open and not insulated, this condition was okay, but since the rooms are more finished now, intake air should be provided for proper ventilation.
    e. Existing roof framing is not visible. Once the rigid insulation board is removed, inspect all roof rafters and sister existing roof rafters framing or add supplemental framing as needed. Unknown quantity. Estimate 12 – 2x6 x 20'-0".



Existing Roof at the Visitor Center.

18. Restrooms:
    a. There are no restrooms in the Visitor Center. There is a free-standing comfort station just south of the center. Employees must leave the VC to use the restrooms. Code allows for restroom facilities to be within 500 feet. It does not specifically state if they have to be within the building.
    b. There are no NPS staffing requirements regarding restroom beyond the building codes.
    c. From a practical standpoint, related to health and safety, as well as convenience for the park administration and Visitor Center function, it is prudent and represents best practices for human comfort and hygiene to have restrooms within the Visitor Center building.




Photographs of the Comfort Station, Southwest of the Visitor Center.

SITE ASSESSMENT

1. Assessment of the site is difficult without an updated topographic map and site plan. The existing plan is over 25 years old and pre-dates the memorial garden and site improvements. Future projects will require a new, updated site plan with detailed topography and utilities to be produced.
2. Front steps at north side of Visitor Center from the sidewalk do not have compliant handrails or handrail extensions.
3. City sidewalk at the perimeter of the property (north sidewalk and wrapping around the west side) is not compliant with offsets in paving. In addition to the offsets in the walkways, the sidewalk has sunken in many places, lower than the curb, creating a tripping hazard. The sidewalk is too steep to be considered to be ABA accessible.
4. Sidewalks around the site have offsets between sections that make accessibility difficult and create tripping hazards.
5. The walkway north of the Cassidy House was constructed atop remnants of the old asphalt alley. This makes the sidewalk high and above grade, essentially creating a dam for water between the walkway and the house.
6. Drainage around the Visitor Center and the Cassidy House is poor. The lack of gutters and downspouts has led to depressions around the houses that hold water. At both houses, there are areas where the grade surrounding the homes slopes towards the building and not away.
7. The site is essentially flat with poor drainage all around. The site is always soggy and does not drain well, as there is not enough slope to sheet drain. The park would like area drains. The closest storm drain appears to be at the NW corner of the property in the street
8. Future plans need to protect the historic trees that were identified in the CLR.
9. Visitor Center Stairs to Road: The railings on the concrete stairs to the road are not ABA-compliant. This was noted in the HSR.
10. Cassidy: The flumes at the Cassidy house are not taking on water, and the south flume with the fence across it is very dangerous.
11. Cassidy: The retaining wall at the street is cracked and offset. The drains at the base of the wall are dry, indicating the lack of drainage tile or they are clogged. The end of the retaining wall near the south edge of the porch makes circulation around the front porch tight.
12. The irrigation system is currently not functioning. It is not taking on water. An entire replacement may be required in the future.
13. Memorial Garden: The brick plazas have settled unevenly creating tripping hazards. These need to be re-set. Walkways into and from the garden to the Visitor Center were gravel and have all but disappeared. The park would like to add concrete walkways through the garden to make the garden accessible. The park would also like to pour a concrete walkway where the existing S-shaped path leads from the garden to the front of the Visitor Center. The new walkway could be lined with the original brick edging. The park may also do something different with the urn in the north plaza. It's original use or intention is not clear.
14. Fencing: The park would like to keep the black fencing at the perimeter of the site. It has recently been painted.



North (primary) entrance into the Visitor Center.



North and West sides of the Cassidy House and site, looking southwest.



South and West sides of the Cassidy House and site, looking north.



Photograph from behind the Visitor Center, looking toward the back of the Cassidy House, facing west.



Photograph looking north at the west side of the Visitor Center towards the memorial garden.



Photograph looking south at the Visitor Center on the left and the memorial garden on the right. The Cassidy House is in the back right background.



Offset bricks that are a tripping hazard at the memorial garden.

A conceptual level site plan is attached that outlines the proposed site work, including:

- Re-grading to provide positive drainage away from the buildings and to site drains;
- installation of underground foundation drains and site drains;
- replacement of walkways and ramps to improve accessibility;
- replacement of the retaining wall at the Cassidy house and removal of flumes;
- removal of concrete driveways;
- adjustments and new handrails at in-grade steps;
- potential for relocating Cassidy house condensing units;
- fencing work;
- other related work.

In order for a new design to proceed, a new, detailed site survey must be done as part of the project. The entire site would benefit from an updated Cultural Landscape Report to direct replacement materials, fencing; handling of site features, and landscaping.

CASSIDY HOUSE

The following items were observed during our site visit.

1. Historic Integrity:
    a. The Cassidy House has a combination of historic and contemporary finishes and materials on the interior. Interior room layouts appear to be close to original with a few exceptions noted in the HSR. Most of the historic exterior finishes and materials, including the exterior wood siding, soffits, trim, windows, porch, and exterior doors, were replaced during a mid-1990s renovation project.

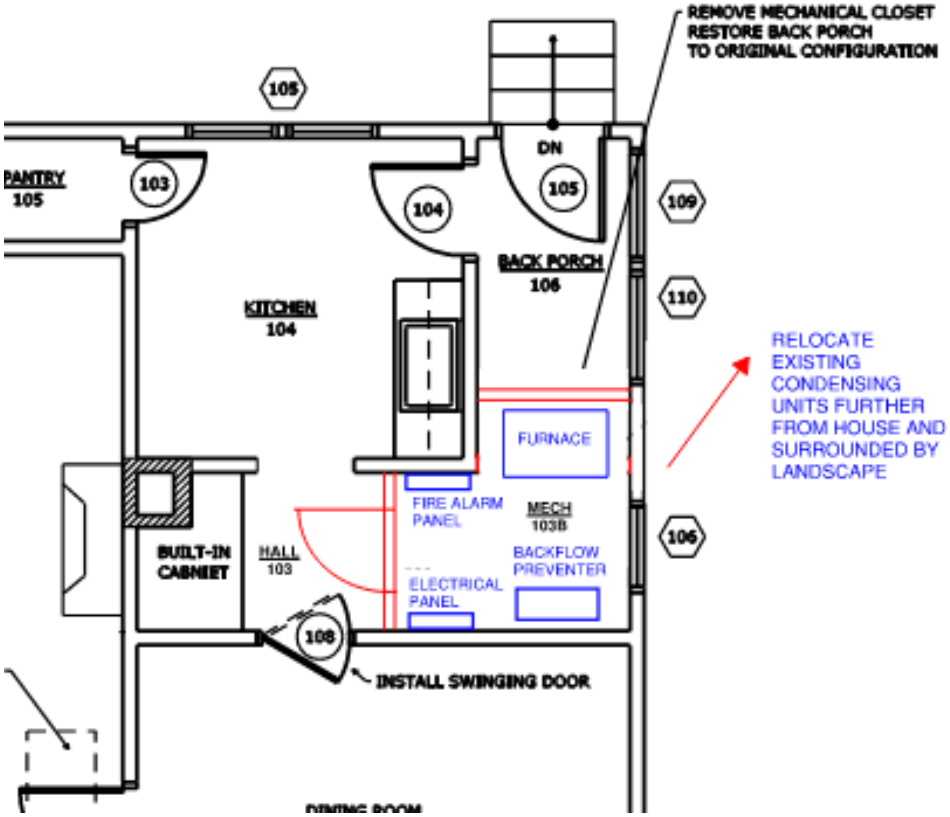
2. Programming for Interior Space:
    a. Our team suggests revisiting the previous HSR programming effort to assess the park's current and future needs for the Cassidy House, visitor services, and function/layout of the mechanical, fire suppression, electrical, and security systems.
        i. The HSR recommendations included reconstruction/restoration of the infilled NE back porch; however, the HSR did not go into detail about potential alternate layouts for alarm and mechanical systems that are now housed in that porch space.
        ii. Restoration of the NE infilled porch may take further research and review of the previous work and photographs to get the detailing and dimensions for the overall project to be historically accurate.
        iii. In order to restore the NE porch, the existing mechanical room with the exterior door on the east side of the house, would need to be removed. This is proposed in the HSR, but an alternate location for this equipment is not shown. Additional items that will need to be relocated include the electrical panel.
        iv. Other proposed new systems for the future house rehabilitation include: security system/panel; fire protection/notification panel; potential fire suppression pump (depending on municipal water pressure) and equipment, including a backflow preventer; relocation of the electrical panel; and relocation of the furnace.
        v. With limited space on the first floor to house the required equipment listed above, further study needs to be done to find locations for this equipment either in the building or remote. As part of a quick study by our team, one suggestion may include the following:
            1. Restore/reconstruct the NE porch to match historic photographs, as recommended in the HSR.
                a. Foreshorten the south interior side of the restored open porch by moving the wall slightly to the north to allow for some space for equipment in a new interior room.
            2. Infill the east side of the hallway for a new mechanical room to house some or all of the required equipment. This would require full MEP design to verify layouts.



Photographs of the existing Hall 103. This back hall was reconstructed during the previous renovation, but there was little evidence of the original configuration, as noted in the HSR.



Photographs of the existing Back Porch 106. This was reconstructed during the previous renovation, but the original screened openings in the east wall were not installed, as noted in the HSR



vi. Further design of a new, comprehensive furnace/mechanical system is required. The HSR recommended a ground source heat pump. The NPS has expressed that they would prefer a more traditional approach without the pipes in the ground that are required with the GSHP installation. This house originally had small wall heaters and a working fireplace and no forced air. The new design should more closely look at locations for supply and return air grilles that will be less visible than the current design.

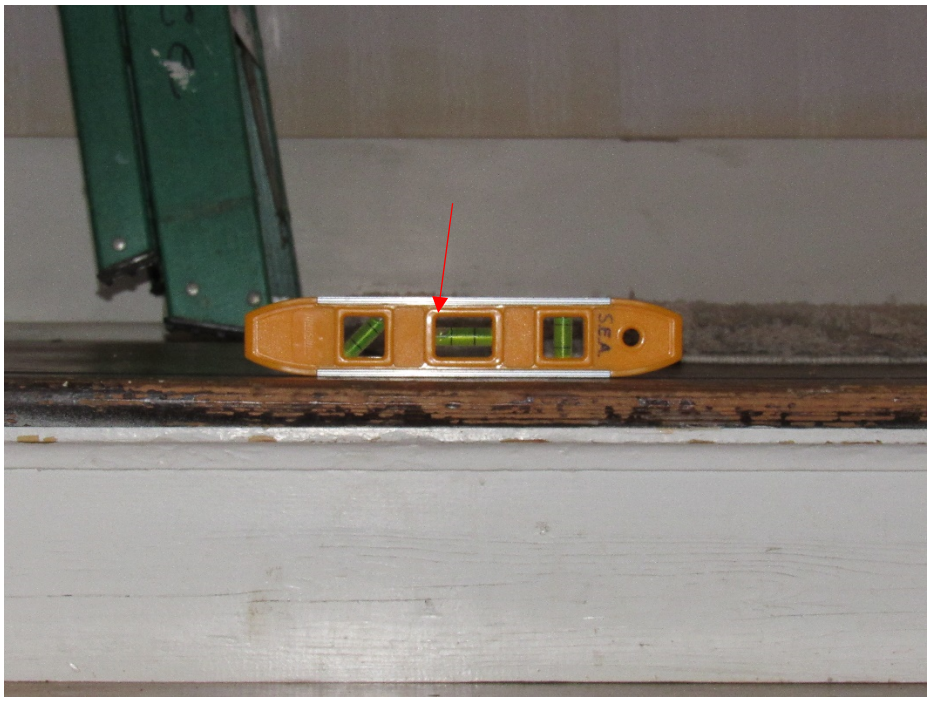
vii. Restrooms: Consider the need for a functioning restroom on the second floor.

1. NPS Regional staff have suggested that at a minimum, a sink with running water would be necessary for basic housekeeping. They also mentioned that a functioning restroom might be good to keep for emergencies. However, with the restroom on the second floor instead of the first floor, this may not be as convenient for staff or visitors during tours.
2. Park staff states that the working exterior hose bibb meets current housekeeping needs. MWR Museum Program Lead concurs that this could be adequate. No other plumbing fixtures need to be in working condition in the house. This may warrant further discussion about how to treat drains, in case someone were to pour liquids down a sink, the toilet, or tub in the future.

3. House Settling: The house has settled since the mid-1990s renovation project. This is evident throughout the exterior and in many places on the interior of the building, as well.
    a. The front (west) porch slopes towards the house.
    b. The house bows in the middle along the north and south sides significantly – as much as 1.5" in 8'. Overall, there is a drop of several inches in the center of the building that is evident.
    c. Floors inside the house undulate.
    d. The top of the stair landing at the second floor has a drop of several inches from the north to the south side of the stairs, making a very uneven walking surface. Likewise, the upper hall is sloped.
    e. Cracks in the gypsum board drywall show cracks throughout the house, as well, signifying areas where the house has shifted or settled unevenly.
    f. Siding on the outside of the house is split at the seams (close at the top of seams, and wider joints at the bottom of the seams).
    g. Windows and associated trim on all four sides of the house are racked so far out of plumb, they do not shut properly. This leaves an open air gap at the outside corners of the windows as much as ½-inch in height, allowing weather and pests into the house interior. Many of these are wide open.



Example of settling in the house with racked windows as seen in the gaps at the bottom right corners of two adjacent windows. Note, that the windows cannot close properly.



Floor level at top landing of second floor stairs to show how much the floor slopes in the hallway. The red arrow points to the bubble all the way to the left side of the level.

4. Foundations: The foundations have settled unevenly since the mid-1990s renovation project. The HSR mentions they had planned to underpin the building, but for some reason, this scope was removed from the project and only the visible portions of the foundation above grade were rebuilt. The foundation appears to be settling unevenly throughout the structure exterior walls and interior piers. In some areas, the house has sunk several inches since the 1990s renovation. Sections of flooring in the first and second levels of the house have noticeably settled with high and low spots where support varies.
    a. The team excavated a test hole near the center of the south foundation wall. Unfortunately, the irrigation lines are installed below grade very close to the foundation wall, which did not allow for a full-depth excavation, as anticipated. A footing appears to exist approximately 12” below the exterior grade. It could not be completely uncovered to discover the depth or condition of the footing.
    b. A Geotechnical report with (2) or (3) borings to a 20’ depth is recommended prior to beginning the design for the foundation repairs.
    c. Due to the condition of the existing foundations, it is recommended to dismantle the existing brick foundations and veneer (discussed in detail below) and install a foundation designed for the expansive soils. This may include a wider footing with void cartons and underpinning with helical piers. Inside the crawlspace, it would be difficult to install helical piers, so a reinforced concrete spread pier footing is recommended with adjustable galvanized columns with spread bases. These columns can be adjusted if the interior piers move drastically different from the fixed (underpinned) exterior foundation walls. This project will need to be carefully investigated and detailed in order to access difficult and tight spaces and how to address interior piers and their attachment to the wood framing.

i. Foundation work would include
    1. Shoring
    2. Excavations and removal of irrigation system surrounding foundation
    3. Temporary relocation of the condensing units.
    4. Demolition of the west porch floor structure and portions of the foundation will be required.
    5. Existing Foundation and interior pier removal
    6. Salvaging brick foundation and wall veneer units – clean and palletize
    7. Installing new reinforced concrete grade beam around perimeter of the house. Recommend grade beam to incorporate 6” void carton to allow for expansive soil.
    8. Underpinning new grade beams – estimated 12 piers to a depth of 15 feet (to be confirmed by geotechnical report). Recommend helical piers.
    9. Install new reinforced and grouted concrete masonry unit (CMU) foundation wall on grade beam to support perimeter of house. Reinstall salvaged brick for veneer.
    10. Install new interior pier spread concrete pads. Install new galvanized adjustable columns with spread base. System may require supplemental galvanized I-beams be installed to spread the support if the wood beams and existing joist layout do not spread the support evenly.
    11. Underpin (2) new piers at west porch. Void carton would not be required for individual piers.

d. While the foundation work is ongoing, it is recommended to attempt to jack up portions of the house to level some of the interior settlement issues.



Interior brick pier with shallow footing.

5. Crawlspace: The crawlspace is accessed through two small openings in the east foundation wall. The southern-most opening allows access to a majority of the crawlspace under the first floor. The northern-most opening is not accessible except for viewing the area under the infilled back porch.
    a. The crawlspace is only partially accessible due to grade and ductwork throughout.
    b. There are severely deteriorated floor joists visible in the area around the return air grille and ductwork under the Living Room 101. This is in the direct path of visitors and

required immediate stabilization/repair. This is a priority repair. Install sister joists or build temporary support piers for (3) joists adjacent to and west of the return air floor grate.

c. The rim joist is not continuous on the north our south sides between piers in the center of the walls and appears to be supported by veneer.
d. The north/south beam that is under the first floor north/south wall is rotted at bearing and shims are crushed.
e. Recommendation – Excavate crawl space.
f. Recommendation – Install concrete mud slab over a heavy-duty vapor barrier throughout crawl space with 2 floor drains and sump to laylight. The concrete slab and vapor barrier will provide some level of protection from rising humidity in the space. The slab will also allow for easier maintenance and access for adjusting interior column supports if needed.



Photograph of shallow crawlspace.







(Upper Left) Photograph of center beam over vent and discontinuous framing support. (Upper Right) Unsupported and deteriorated floor joist at mechanical grille in living room floor. (Lower Left) Deteriorated floor joist near mechanical grill in living room.

6. Exterior Deterioration: Wood rot throughout the exterior is prevalent on the siding, trim, and especially at the wood replacement windows. The quality of the wood used during the 1990s renovation does not appear to be a high-grade exterior wood.
    a. Once the foundation is replaced and the house is as level as it will be for the final work, the siding, corner boards, trim, windows and doors should be replaced in their entirety. Deteriorated sheathing should be replaced, and new breathable building wrap installed. The new siding and trim should closely replicate the historic millwork shown in the historic photographs. This would include reconstructing the west porch columns with siding, as well, to match the historic condition.
    b. Prep, prime, and paint the entire house.





(Left) Photograph of a deteriorated wood window and deteriorated wood siding at the east side of the house. (Middle) Deteriorated corner board, deteriorated siding, and the front porch wood flooring sloping into the front of the house. (Right) Deteriorated siding, Trim, and Window.

7. Roofing and Drainage: Prior to our team being onsite, the park had a high wind event, which had blown shingles off the north side of the front porch. The roof is close to its useful life and should be replaced as part of this project.
    a. Roofing replacement would include roofing, underlayment, and flashings.
    b. Reconstruction of the missing brick chimney should occur as part of the overall roofing replacement.
    c. Recommendation - Gutters and downspout were on visible in the historic photographs of the house. Installing gutters and downspouts would assist in moving a large amount of water from around the home.

8. Drainage: The house sits in a depressed/low area of the yard. Water can accumulate around the foundation. The grade along the north side of the property slopes toward the house, and the sidewalk is raised above grade (poured atop old asphalt in the original alley), which also will impede water flow.



North side of the Cassidy house with poor grading and a high sidewalk that can hold ponding water against the house foundation.

9. Explore options for remote location of the mechanical condensing units. Once the park owns the property to the east, it may be possible to install the condensing lines in an underground trench and locate the units further from the house and potentially masked with landscaping.



Photograph of the 2 condensing units and wood fencing directly behind the east side of the Cassidy House.

10. Remove fence behind house along the east side to match the historic condition of open.

11. Second Floor Framing:
    a. Differential movement is visible at the top landing where the stairs slope towards the south. The stair wall is likely only supported by a single joist. There is visible cracking in the wallpaper in this area.
    b. Differential movement is visible within the corner of the West Bedroom 204 closet.
    c. Our team attempted to view the second floor joist bearing at a hole in the floor in the NE corner of the SE Bedroom 205. This was inconclusive.
    d. The nailing pattern of the flooring visible in the West Bedroom 204 shows joists are approximately 20” center to center.

TREATMENT RECOMMENDATIONS AND PROPOSED PHASING

Proposed phasing for the work to the two buildings and the site includes the following for both buildings. Site work is included in Phase 1B. Phase 1A is to address life safety improvements quickly. Phase 1B would include a majority of the work to the two buildings and site. Phase 1B for the VC and the House can be done independently of one another. Phase 2 represents longer term recommendations made in the 2013 HSR and 2014 CLR.

- Phase 1A – Life-Safety Improvements (Immediate Work)
- Phase 1B – Cassidy House and Visitor Center Foundation Repairs and Exterior Shell and Sitework
- Phase 2 – Longer Term Recommendations for Interior Renovations and Non-Critical Work

Update Condition Assessment, Treatment Recommendations, and Class C Construction Estimate for Birthplace House and Visitor Center, and Develop Site Drainage Concept

Site Visit November 2 and 3, 2021

Final Submittal December 27, 2021

William Jefferson Clinton Birthplace National Historic Site
Hope, Arkansas

Contract # 140P6020D0004
Task Order # 140P6021F0078
PMIS 131181



Prepared by STRATA Architecture Inc.

Contents of Submittal

1. **Work Session Meeting Notes and Site Trip Notes**
   - Conceptual Phasing Plan
2. **Cassidy House – Assessment and Treatment Checklist & Cost Estimate**
   - Phase 1A
   - Phase 1B
   - Phase 2
3. **Visitor Center – Assessment and Treatment Checklist & Cost Estimate**
   - Phase 1A
   - Phase 1B
   - Phase 2
4. **Site – Assessment and Treatment Checklist & Cost Estimate**
   - Conceptual Site Plan
5. **Comfort Station Treatment Checklist**
6. **Wood Species Testing**
7. **Updated Partial Crawlspace Drawings for Visitor Center and Cassidy House**

WORK SESSION MEETING AND SITE TRIP NOTES

This submittal includes the combined Work Session Meeting Notes and Site Trip Notes for the 'Update Condition Assessment, Treatment Recommendations, and Class C Construction Estimate for Birthplace House and Visitor Center, and Develop Site Drainage Concept' project at the William Jefferson Clinton Birthplace National Historic Site in Hope, Arkansas. The A/E Team, led by STRATA Architecture Inc. was onsite to Tuesday and Wednesday, November 2 and 3, 2021. The team included STRATA Architecture Inc., Structural Engineering Associates, Inc. (SEA), Henderson Engineers, and SK Design Group (SKDG).

Previous studies, including a 2013 Historic Structures Report and a 2014 Cultural Landscape Report served as the basis for the assessment work. These reports included the history and development of the site and buildings, documented existing conditions, included as-built drawings, and provided treatment recommendations and cost estimates for proposed work.

The team gathered information and assessed the existing conditions to provide updated treatment recommendations and Class C construction cost estimates for the Birthplace House and the Visitor Center. The Comfort Station was not included in this scope of work; however, some items were noted to be addressed in the electrical survey, and those are included in the recommendations. Work also included analysis and development of a conceptual treatment recommendation with costs for site improvements to alleviate poor drainage, which is a contributing factor in the advanced deterioration of foundations of both of the houses.

Assessment included walking the site and noting existing conditions on drawings of the buildings and site, taking photographs, and noting accessibility issues and other factors that may affect the visitor experience and park staff. In the afternoon of the second day onsite, the A/E team held a Work Session Meeting with park staff and the NPS regional historical architect/project manager, to listen to the park's issues and future needs, to review the conditions that had been discovered, and discuss potential direction.

Deliverables for this project include:

- Work Session Meeting Notes and Site Trip Notes
- Conditions Assessment / Treatment Recommendations Tables for Each Structure and Site
- Cost Estimates per Recommended Phase of Work for Each Structure and Site
- Existing Conditions Photographs in electronic .jpeg format

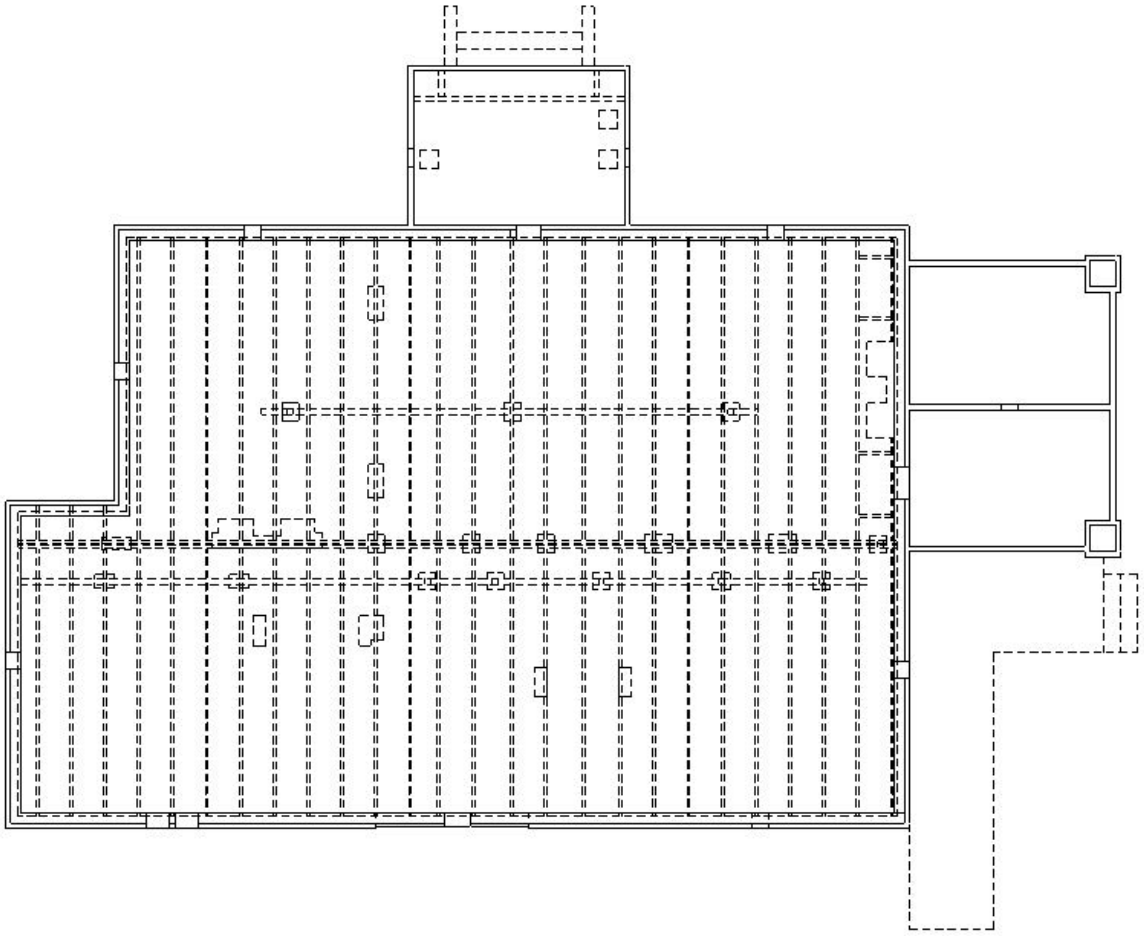
Those present for the Work Session Meeting included:

Gregory Hauburger, Superintendent
Evan Weber, Facility Manager
Jennifer Ledbetter, Facilities
John Rosemurgy, Historical Architect and Project Manager, MWR Cultural Resources (Virtual Attendee)
Kelly Korenoski, Regional Project Manager, MWR Facilities Planning and Infrastructure (Virtual Attendee)
Angie Gaebler and Claire Ashbrook, STRATA Architecture – Historical Architect/Project Manager
Philip Steet, Structural Engineering Associates, Inc. – Structural Engineer
Nick Gordon, Henderson Engineers – Engineer
Gary Urkevich, SK Design Group – Civil Engineer

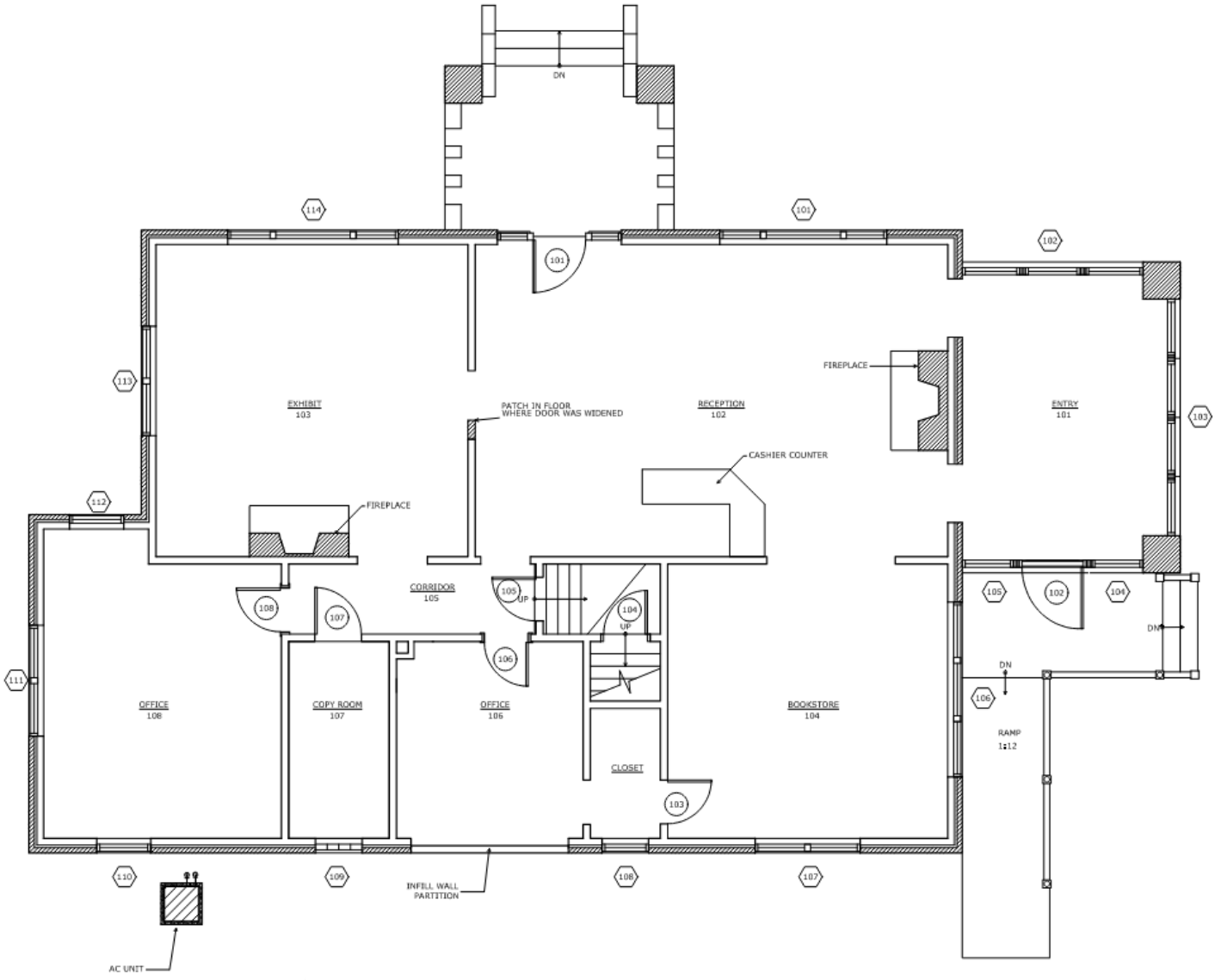
1. The team reviewed the overall scope of work for the project and discussed the current goals for this updated assessment and cost estimate work.
2. The Park wants to be certain that recommendations made during this project will not preclude them from building a new Visitor Center in the future.
3. The Park has begun the process of acquiring adjacent land from the City. This includes the large parking lot in the SE corner of the block, as well as most of the empty lot between the parking lot and the Cassidy House, part of which was the site for Clinton's boyhood friend, Vincent Foster Jr.. The City will retain a parcel of land in the SW corner for a memorial park. The acquisition of this substantial property was not anticipated as part of the 2013 HSR and 2014 CLR reports, and therefore, these properties are not included in the long-term planning efforts for the park. The 2014 CLR notes the need for a new Visitor Center and provided examples for building massing and location. It was proposed to be constructed on the site of the existing memorial garden and that the garden would be relocated to behind the existing Visitor Center.
4. Acquisition of this additional property open up opportunities to explore potential development of the empty lot behind the Cassidy House for a new Visitor Center, rather than where it had previously been studied.
5. With the acquisition of this additional property, some immediate improvements might include removal of non-historic wood and metal fencing between the existing Visitor Center lot, the Cassidy House, and the empty lot. This would need to be closely coordinated with the City, who still owns the abandoned alley that runs east/west through the approximately 7/8 of the block. The fencing identifies the north and south boundaries of the alley through the National Historic Site. These are not contributing features to the landscape and their removal would improve the viewsheds.
6. The City has recently re-paved the parking lot and will stripe the lot this coming week. This new lot will provide much-needed accessible parking stalls. The City is also planning to make improvements to the sidewalk between the lot, the alley, and the Comfort Station. They will return to make these needed improvements.
7. The Park and Region are okay with moving away from some of the HSR and CLR recommendations, due to the time lapse since the initial recommendations, changing conditions, and acquisition of the new property, especially concerning low-impact items. The Park is most interested in addressing 'maintenance and function.' Examples may include recommending the installation of gutters and downspouts, although the houses did not originally have these, and providing accessible concrete walkways for the garden paths.
8. Geothermal: The team discussed the HSR recommendations of installing geothermal systems for heating and cooling for the Cassidy House. This would require deep excavations and is invasive to the site. The NPS and the park are no longer in favor of that option. A traditional HVAC system is likely more affordable and easier to maintain.
9. The HSR recommended bringing in new electrical service and transformer just for the NHS. They have not had any issues at this time. If a new Visitor Center is constructed in the future, that additional electrical needs will be addressed as part of that project.
10. There was a life-safety issue found in the crawlspace of the Cassidy House. The section of floor joists surrounding the return air floor vent in the Living Room is deteriorated. Philip said the joists are crumbling when you touch them. This could lead to failure of the floor in this area and should be shored immediately.

11. One wood sample was taken from the Cassidy House first floor joist for species identification. It was found to be in the 'Southern Yellow Pine' group, which would match 'Mixed Southern Pine' for structural calculations.
12. Two test pits were dug adjacent to the buildings to see if the team could verify the presence of, the depth, and the materiality of the footings.
    - At the Visitor Center, the test pit was dug just to the east of the crawlspace opening on the south side of the house. The hole was approximately 12" diameter at the top and narrowed to about 14" in depth. It was dug with a shovel, and very carefully worked around the existing irrigation line that was within inches of the foundation wall. This made the excavation of the hole difficult. Therefore, the top of the footing was exposed, but the depth was not able to be determined in the small area available. To find the depth and materiality of the footing, a much larger hole would have had to be dug outside of the irrigation line.
    - The test pit at the Cassidy ran into the same issues with the irrigation line being in the way of the test pit. This pit was dug just west of the central foundation vent on the south side of the house. The foundation footing was located approximately 1" below grade.
13. The Visitor Center should be treated as historic with compliance reviews for proposed work until a final determination has been made. John has recommended further discussion with Region about a Determination of Eligibility for the house. The HSR does not address the historic nature of the Visitor Center, but the CLR recognizes it as part of the historic setting. This subject matter will be continued.

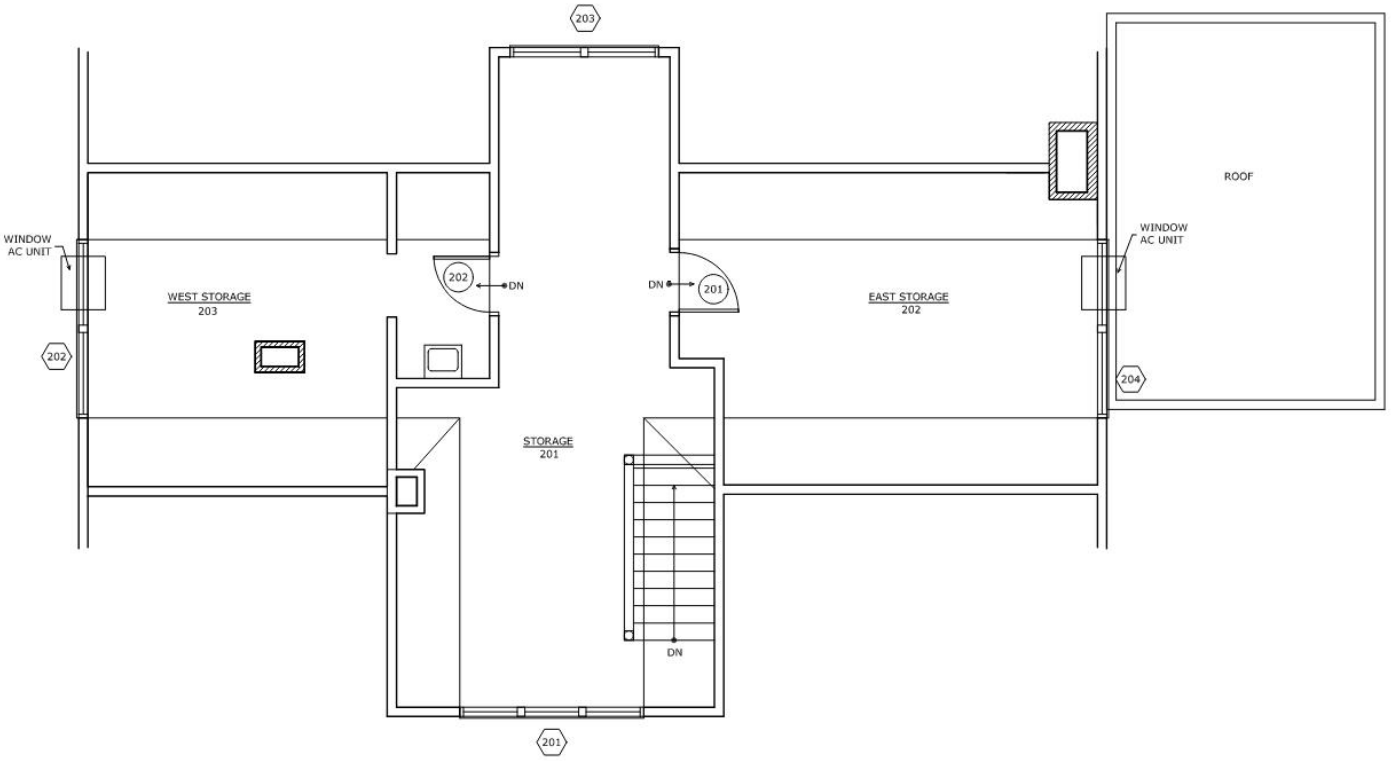
REFERENCE FLOOR PLANS



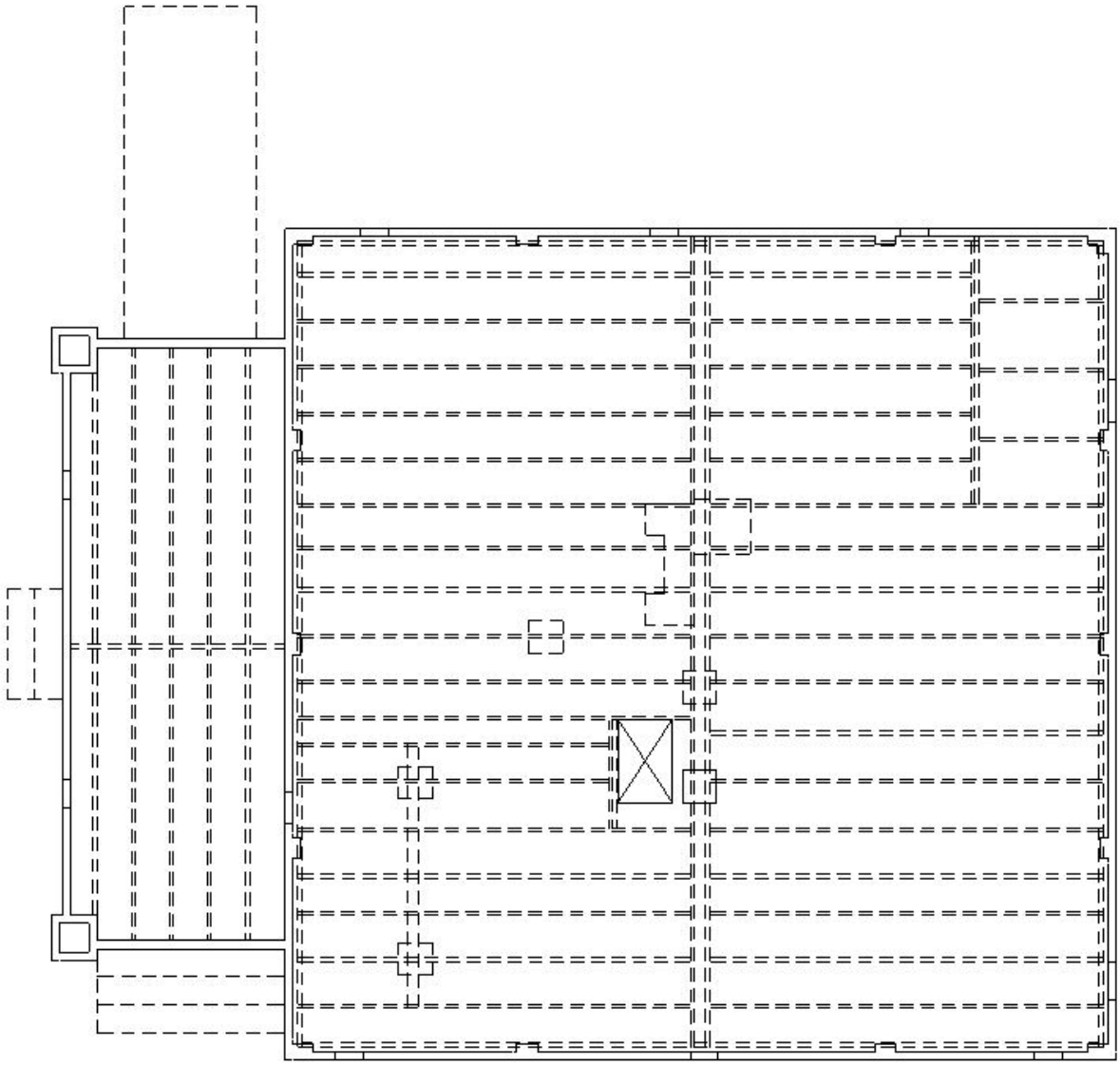
Visitor Center Crawlspace Plan



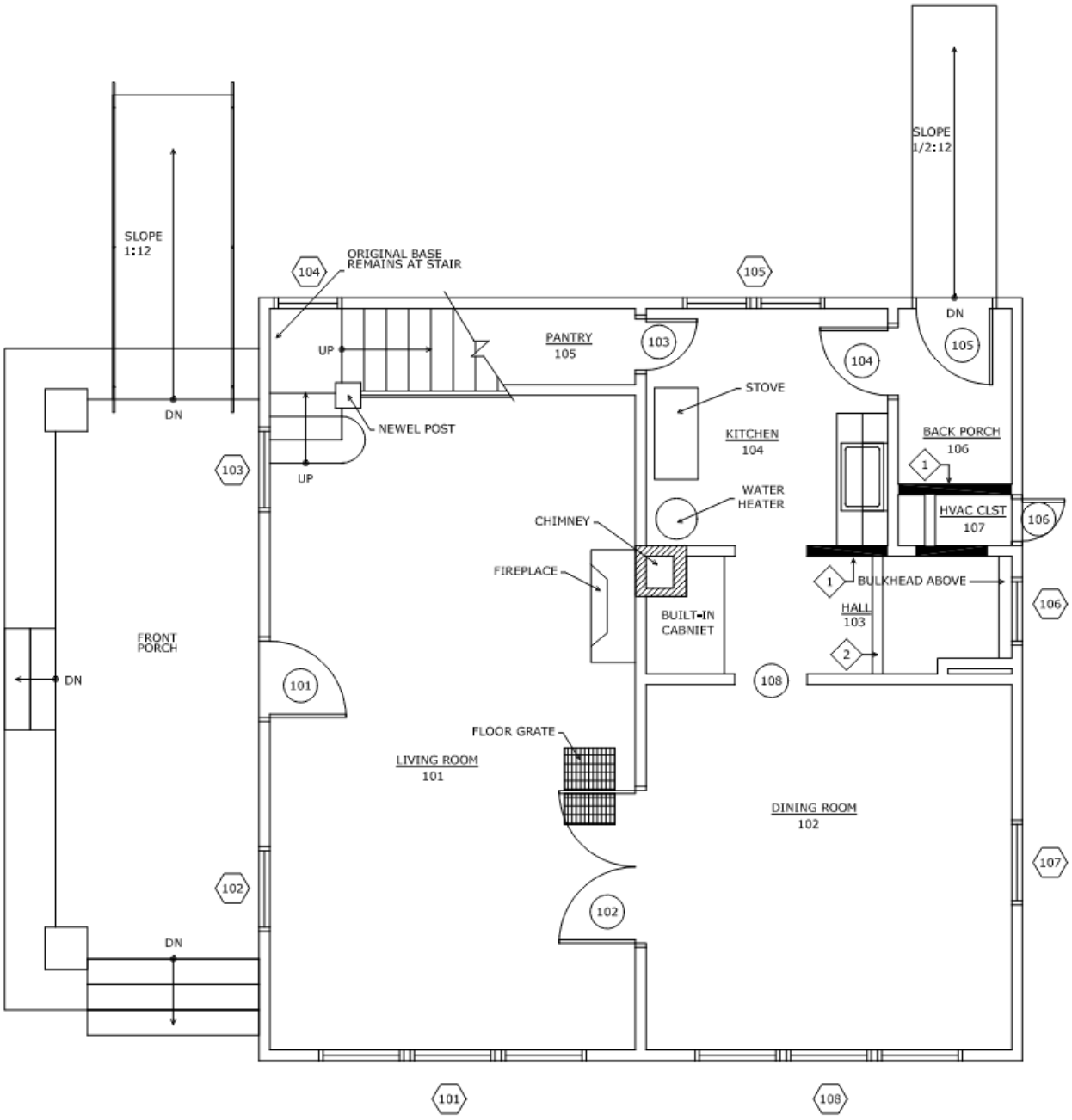
Visitor Center First Floor Plan



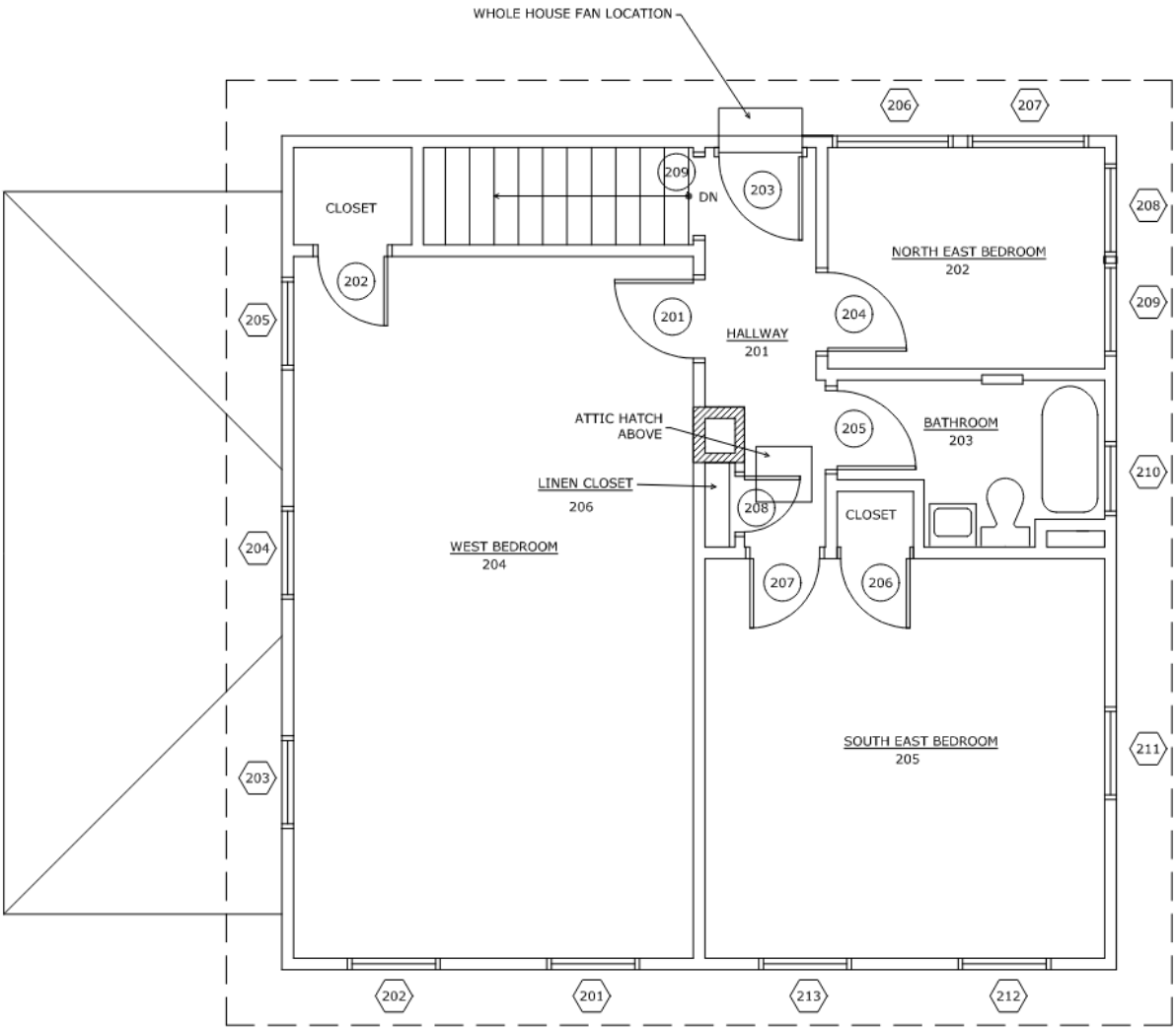
Visitor Center Second Floor Plan



Cassidy House Second Crawlspace Plan



Cassidy House First Floor Plan



Cassidy House Second Floor Plan

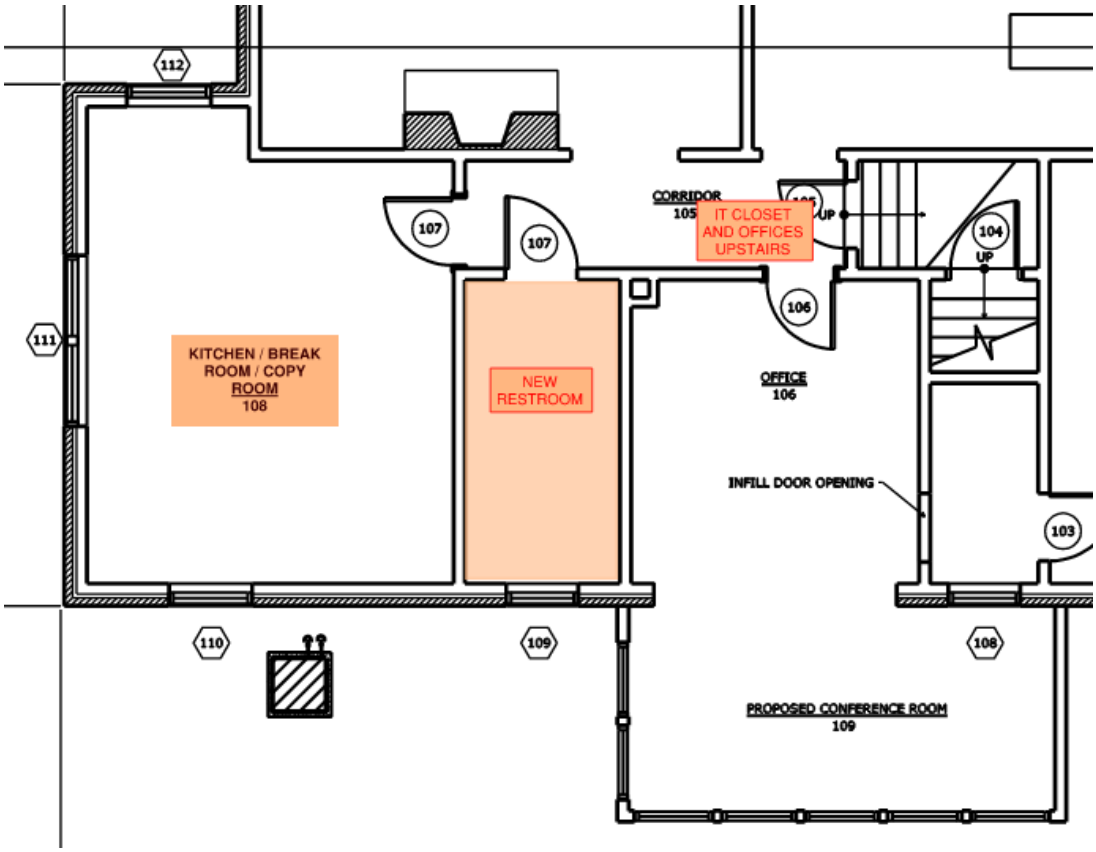
Visitor Center Assessment

Existing Plans for Reference are attached.

The following items were observed during our site visit.

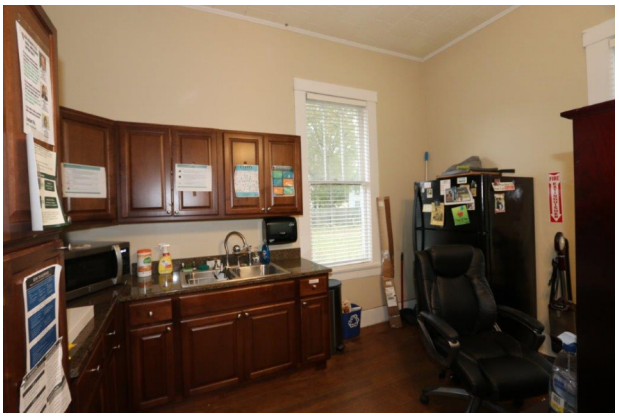
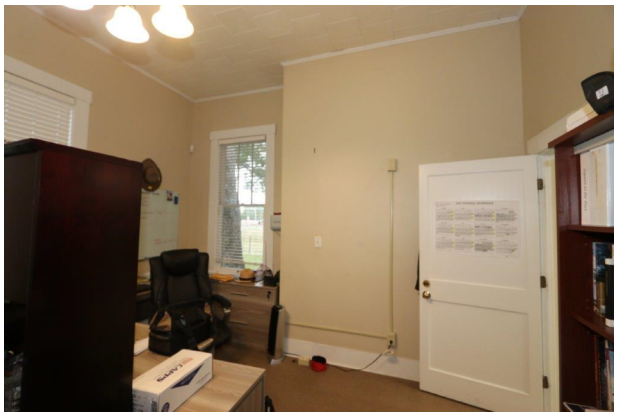
1. Historic Integrity:
    a. The Visitor Center has a high level of historic integrity throughout. Much of the original materials, including the wood trim, windows, and doors appear to be original. Room layouts appear to be close to original with the exception of the non-extant breakfast room/south porch room that was previously demolished.
    b. A majority of the previous renovation work that was done on this historic site was done in the mid-1990s by the William Clinton Birthplace Foundation.

2. Programming for Interior Space:
    a. A new programming effort should be undertaken to assess the park's current and future needs for office area, visitor services, and function/layout of the entire first and second floor of the Visitor Center. Efforts should begin with the HSR recommendations and should update the recommendations for current needs.
    b. Items to explore may include:
        i. Visitor Greeting at Entry / South Porch Door – Consider relocating cubicle
        ii. Consider what staff need to be on first floor.
        iii. How many cubicles or private offices would be located upstairs?
        iv. Where is the best place for the Superintendent's Office? Second Floor? What are privacy requirements? Do other staff require privacy?
        v. If the missing Breakfast Room addition was to be reconstructed, how would this space be utilized in conjunction with the existing Office 106 area? HSR plans show this as conferencing space, but how would that work if there were cubicles in 106?
        vi. If Offices mostly move upstairs, would Exhibit 103 be returned to visitor services? Is this space needed?
        vii. Consider adding an ABA-accessible 'Convenience' Restroom for staff use within the first floor of the building. This could be partitioned in Office 108 area with a small, reconstructed kitchenette sharing the other portion of the space. Or, a restroom could be installed in Copy Room 107.
        viii. See plan option for restroom below. In this scenario, the IT closet would move upstairs, and the existing IT/Copy Room 107 would be renovated into a single-toilet accessible convenience restroom. The existing kitchen/office 108 would be used as a kitchen/breakroom/copy room. Two or three desks or 2 small cubicles could be located in Office 106 and a small conference table for staff. All other offices would be upstairs. Photographs of these spaces are below.





Room 107 – Currently the copy room, originally a bathroom. May be suitable for an accessible restroom. Ceiling is lowered in front of old window. Window is glass blocks.

Room 108 – Currently the staff kitchenette and 2 cubicles for staff. Originally, this was likely a bedroom. Proposed plan keeps the kitchenette here as a break room and also copy room functions.

3. Hazardous Materials: Provide an updated comprehensive hazardous materials survey of the entire building, including concealed areas and crawlspace.

4. Foundation:
   Existing Conditions:
   a. The perimeter foundation walls are triple-wythe brick with the exterior wythe being the veneer and no visible header bricks. A concrete parging is visible at the base of the perimeter foundation walls with a beveled top edge. The parging is approximately 1" thick. It is unknown if this parging is an original treatment, or if it was added during a later renovation.
   b. The team excavated a test hole in the center of the south foundation wall. Unfortunately, the irrigation lines are installed below grade very close to the foundation wall, which did not allow for a full-depth excavation, as anticipated. A footing appears to exist approximately 14" below the exterior grade. It could not be completely uncovered to discover the depth or condition of the footing.
   c. Interior piers supporting the first floor are brick and are constructed on a combination of brick and concrete footings.
   d. An interior brick foundation wall runs east/west below the mid-span of the sunporch.
   e. The foundation appears to be settling unevenly throughout the structure exterior walls and interior piers. In some areas, the house has sunk several inches since the 1990s renovation. Sections of flooring in the first and second levels of the house have noticeably settled with high and low spots where support varies.



Photographs of the exterior and interior of the brick foundation walls.

Treatment Recommendations:

f. A Geotechnical report with (2) or (3) borings to a 20' depth is recommended prior to beginning the design for the foundation repairs.
g. Due to the condition of the existing foundations, it is recommended to dismantle the existing brick foundations and veneer (discussed in detail below) and install a foundation designed for the expansive soils. This may include a wider footing with void cartons and underpinning with helical piers. (Void cartons are also referred to as void forms and are used to create space between concrete structure and expansive soils to isolate the concrete from the swelling ground). Inside the crawlspace, it would be difficult to install helical piers, so a reinforced concrete spread pier footing is recommended with adjustable galvanized columns with spread bases. These columns can be adjusted if the interior piers move drastically different from the fixed (underpinned) exterior foundation walls. This scope of work for this project will need to be carefully investigated and detailed. Access throughout the crawlspace is difficult with tight spaces. Access will need to be provided in order to design for foundation and underpinning at the wall between the Reception 102 and Entry (Sunporch) 101 and to assess and design interior piers and their attachment to the wood framing.
    i. Foundation work would include
        1. Shoring
        2. Excavations and removal of irrigation system surrounding foundation

3. Existing Foundation and interior pier removal
4. Salvaging brick foundation and wall veneer units – clean and palletize
5. Installing new reinforced concrete grade beam around perimeter of the house. Recommend grade beam to incorporate 6" void carton to allow for expansive soil.
6. Underpinning new grade beams – estimated 20 piers to a depth of 15 feet (to be confirmed by geotechnical report). Recommend helical piers.
7. Install new reinforced and grouted concrete masonry unit (CMU) foundation wall on grade beam to support perimeter of house. Reinstall salvaged brick for veneer.
8. Install new interior pier spread concrete pads. Install new galvanized adjustable columns with spread base. System may require supplemental galvanized I-beams be installed to spread the support if the wood beams and existing joist layout do not spread the support evenly.
9. Underpin (4) existing piers at corners of north and east porches. Void carton would not be required for individual piers.

5. Crawlspace and First Floor Framing: The crawlspace was accessed through an opening in the south wall where the breakfast room addition was previously removed.
   Existing Conditions:
   a. The crawlspace was partially accessible and not able to be measured completely due to ductwork, pipes, and high grade.
   b. The floor is dirt with debris throughout.
   c. Moisture is present around the perimeter of the foundation.
   d. Many of the wood floor joists have been repaired. It also appears that the outer rim joist was replaced. It is unclear how the rim was installed without removing the brick veneer, which is supporting the outer walls. The existing 2x10 joists were cut short of the replaced rim joist and then they were partially sistered with 2x6s and toe-nailed into the new rim joist. This work to the joists and rim joist occurred during the last renovation project.
   e. At the center beam, there are issues with the previous framing repairs where 2x4s were added to re-connect larger joists to the beam. There are improper connections in many places.
   f. There is evidence of termite damage to joists and the subfloor throughout. The HSR recommended 500 SF. This may not be enough, once the full inspection is completed. This could easily grow to include a much larger area and spot areas throughout the first floor. Once that occurs, it may be easier to replace subfloor and wood flooring throughout an entire room, rather than spot replacement. Cost for full replacement should be covered by the design contingency allowance in the cost estimate at this phase of design.



Typical existing, unconventional first floor framing conditions in the crawlspace.

Treatment Recommendations:

g. The crawlspace dirt should be hand-dug and removed prior to the next renovation to allow for access throughout for maintenance and repairs. The dirt should be approximately level with the exterior of the house.
h. A priority repair would be the repair the joist to beam connections in the area below Corridor 105. Estimated (10) connections using metal joist hangers (Simpson or similar) and (1) 2 x 8 x 4'-0" supplemental framing.
i. As the foundation work occurs, probe all existing joists for deterioration and joists cut for piping. Sister existing damaged/deteriorated joists in crawlspace. Estimated (15) total sister joists, approximately 2 x 10 x 18'-0". Install galvanized metal joist hangers (Simpson or similar) to existing joists. Estimated (60) joists with (2) hangers for each joist.

6. Brick Veneer and Exterior Walls:
   a. Exterior brick is single-wythe veneer over an unknown substrate.
   b. A hole in one area shows wood sheathing that was deteriorated and perhaps termite or other pest damaged.
   c. It is unknown if there is also building paper over the sheathing.
   d. Areas of the brick veneer have shifted, settled, cracked, and bowed throughout the exterior of the house. The foundations have settled, creating undulations in the

plumbness and have caused bowing of the wood frame structure. In areas that exhibit movement, the bricks may be detached from the wall sheathing, allowing for masonry settlement separate from the wood frame wall. This uneven settling and masonry dis-attachment effects the cast concrete sills, wood trim, wood windows, and creates out-of-plumb conditions at doors and window openings.

e. The only area of the house that the brick veneer appears to be sound is the exterior exposed brick masonry wall area within the sunporch that is covered with the roof. Here, the masonry is well protected and the ground does not get saturated with water. The large masonry fireplace mass does not appear to have settled, and the entire masonry wall system in this area appears to be fairly intact and in good condition.
f. The cracks and offsets in the brick veneer allow water to further infiltrate the wall system, which can accelerate deterioration of the wood wall system and brick veneer.
g. There are a lot of spiders and pests living in the holes of the masonry mortar joints.
h. Foundation vents are rusted. A future design phase should calculate the volume of the crawlspace and the size and allowable air flow of the foundation vents to ensure they provide adequate air flow to meet current code.
i. The condition of the wood-framed exterior walls was not able to be observed. However, there were areas where the sheathing was exposed and is in poor condition (noted above). Also, the rim joist that supports the wood wall and brick veneer was replaced. This may also indicated there is potential for deterioration of the wall sill plate. This could not be observed.












Examples of brick veneer that has shifted, settled, cracked, and bowed throughout the exterior of the house.

7. Front (North) Porch:
    a. The front porch is constructed of a reinforced suspended concrete slab. The detailing and support of the perimeter of the slab is not visible and was not able to be determined. There is cracking at the perimeter and cracking and delamination at the top tread.
    b. Brick piers on spread footings at grade are inset from the exterior foundation walls. These can be seen through the foundation vents and from the interior crawlspace.
    c. The porch floor and concrete steps are painted, creating a slick condition.
    d. The porch floor slopes 1” in 4’ towards the house, which can funnel water into the wall.
    e. The east cast concrete rail cap is cracked.
    f. There are no railings at the front porch steps.
    g. Recommendation - The porch will likely need to be partially deconstructed to replace the building foundation. At that time, the porch construction and supports will need to be further investigated and designed for replacement. Porch will need to be reconstructed to have a positive slope away from the house. It is unclear if the house will be jacked or straightened to account for the settled dimension at the porch/door area.
8. Historic Windows:
    a. Historic wood windows (sashes, frames, trim, and sills) are in overall poor condition and require complete restoration. Some of the sills have been affected by the shifting brick veneer/cast concrete sills and are now sloping back towards the house, instead of down and outwards.
    b. Windows are currently not covered with storm windows.
    c. HSR recommends interior storm windows. We would reconsider this recommendation and recommend exterior storm windows be installed to protect the newly-restored windows with a low-e glass to provide some energy efficiency.
    d. Lintels at Windows 101, 106, and 114 have settled in the centers by nearly 1.5-inches or more and appear to be undersized. Even though the weight of the masonry above is not substantial, they are failing. While the brick wall veneer is removed, the lintels should be replaced in these locations. Lintels at other windows should be inspected for

deterioration when the brick veneer is down-stacked, and they should be replaced accordingly.

e. Window sills are cast concrete and are painted. The paint is in poor condition, traps moisture in the concrete, and is difficult to maintain. Consider stripping paint and installing concrete sealer to preserve the sills. Research as to the historic condition of the sills (painted or natural) may reveal a preferred treatment.
f. Exterior glass block window was in a restroom and should be restored to a wood double-hung, unless historic documentation suggests this was historically a glass block window opening.






Examples of exterior windows and deterioration.

9. Historic Front Door and Surround:

a. The historic wood front door, sidelights, and transom are in overall poor condition with peeling paint and deteriorated putty. The door frame is racked slightly from the foundation settlement. The door is not fully weatherstripped. Hardware does not meet ADA. The cast concrete sill is painted on the exterior. The threshold does not meet ADA.



Front Door and Surround.

10. Sunporch/Entry 101:
    a. Sunporch infill wood framing and windows are in overall poor condition.
    b. Wood rot is prevalent near the base of the wall.
    c. Water infiltrates this wood-framed wall and window system when it rains, resulting in puddles on the interior of the building.
    d. Some of the insulated glazing seals have failed, resulting in foggy windows.
    e. The detailing of the wood framing at the windows is not designed to shed water, instead, the detail allows for water to infiltrate the system. We recommend this entire wood framing system to be re-designed to correctly shed water with new insulated windows.
    f. The concrete floor in the sunporch is painted. The paint does not appear to have been previously tested. The paint is in overall poor condition and makes the floor slick. This should be tested and removed. And a concrete floor cleaned, polished, and sealed.
    g. The reinforced suspended concrete floor slab is in fair condition. Some corrosion and exposed reinforcing is visible at the underside of the slab. The slab is partially supported by an east/west brick wall at mid-span.
    h. Recommendation: Reconstruct infill walls and glazing. Prior to redesigning the wood framing and infill, research for the original design of this porch area is recommended through historic photographs and contacting previous owners, etc.




Examples of Sunporch wood window and trim deterioration.

11. Exterior Painting:
    a. It is assumed that all exterior paint contains lead. The paint is in overall poor conditions and is peeling throughout.
    b. It is recommended to strip all exterior paint from wood trim and stucco to get to a sound surface and repair all wood exterior components.
    c. All of the exterior requires stripping, sanding, caulking, prepping, and final painting.
    d. Wood deterioration is noted below.

12. Exterior wood trim deterioration (Excludes sun porch):
    a. Exterior wood trim is painted and is peeling throughout.
    b. Wood rot was seen from grade in the following locations:
        i. North Elevation:
            1. Dormer – epoxy repair and consolidate wood center bracket
            2. Dormer – all wood that is exposed needs to be stripped and have a wood consolidant/preservative installed
            3. Rafter/outlookers on both sides of porch roof need to be replaced. They have been partially sistered previously.
        ii. East Elevation:
            1. Wood trim in the gable that divides the stucco bays is in overall poor condition and required replacement in several locations.

2. The center (south) bracket is deteriorated and requires significant repairs or replacement.
3. Replace window sill, apron, and vertical batten at second floor window.
4. Repair/replaced section of fascia boards at gable peak.
5. Replace wood soffit and barge board to be replaced at sun porch.
6. Replace barge board near north side (may be replaced due to brick down-stacking anyway).

iii. South Elevation:
1. Replace deteriorated east bracket at dormer.
2. 9th rafter tail from the east is deteriorated – replace in kind.

iv. West Elevation:
1. Replace approximately 36" of corner board at dormer
2. Replace entire length of bottom board at roofline at dormer
3. Replace sections of barge board
4. Epoxy repair and consolidate southern-most bracket



Example photographs of wood deterioration and peeling paint.

13. Ramp and South Porch Steps:
    a. Existing Ramp
        i. The wood ramp, porch, and steps are not historic and was likely constructed in the mid 1990s.
        ii. The ramp is constructed with wood decking with turned wood painted railings. The ramp and steps are in overall poor condition.
        iii. The park has closed the steps, due to broken treads. The ramp railing is unstable, missing balusters, and is generally in poor condition.
        iv. The ramp, porch, and steps are slick when it is wet. One of the metal anti-slip plates is missing on the ramp.
        v. The ramp is constructed against the east wall of the house, making maintenance in this area of the masonry structure difficult.
        vi. The threshold at the entrance door does not meet ADA height requirements.
        vii. The ramp slope is about 5 degrees with a 5/8" lip at the bottom. The slope meets requirements, but the lip at the bottom is too high.

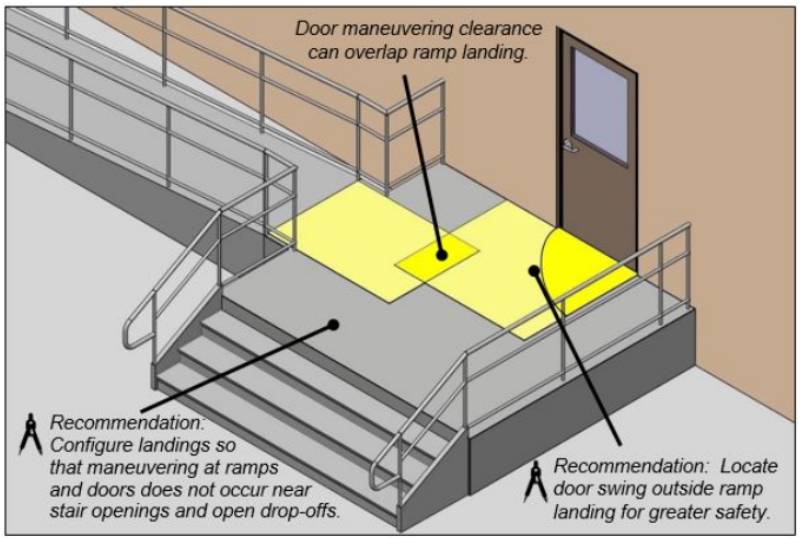
viii. Railings/handrails are not ABA-compliant on the ramp or steps.
ix. Door hardware is not ABA-compliant.
x. No power-assisted door opener (NPS requirement for main entrances)

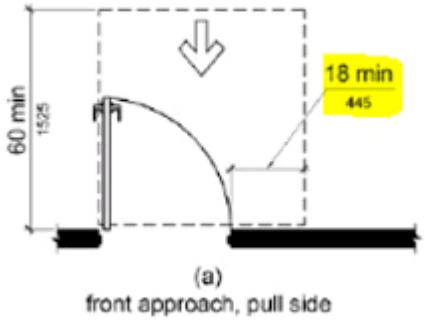




Photographs of the deteriorated accessible ramp and steps at the south entrance.

b. Replacement Ramp
   i. A replacement porch and ramp are recommended to be constructed away from the wall. The Superintendent has a plan that appears to function well in this manner. However, moving the ramp to the east will require replacement of the entrance door. Also refer to #15 Accessibility below. It is also recommended to post signage to indicate the location of the accessible entrance and also to install an automatic door opener, if possible.
   ii. For proper ramp layout and clearances, refer to one of the following guides:

1. https://www.access-board.gov/aba/guides/chapter-4-entrances-doors-and-gates/
2. 

3. 

14. Grade:
    a. Grade slopes towards the house along the north side of the house.
    b. The lack of gutters has led to a depressed area in the grade surrounding the house, which does not allow for proper runoff during rains. This can also create ponding around the house and result in a damp crawlspace and uneven settlement of the foundation.

15. Accessibility:
    a. Exterior - South Ramp Entrance: See #13 Above
    b. Exterior - Front Entrance (North Porch):
        i. There are no railings at the front steps.
        ii. The painted porch floor and steps are painted, making them very slick and dangerous when wet.
        iii. There is a step up at the front door and a tall threshold.
        iv. Door hardware is not ABA-compliant



Photograph of the front porch.

c. Interior – First Floor:
    i. Back Hall (Corridor 105):
        1. The back hall (Corridor 105) is around 45-inches wide, which is close to the minimum 42-inches required for ABA-compliant access to door openings in the hallway.
        2. In their current configuration, the doors from the Corridor 105 are not all accessible.
            a. Door 106 into Office 106 is too narrow and cannot be converted into an accessible opening without widening the door. (Widen door or use Door opening 103 as a cased opening without a door installed)
            b. Door 107 into Copy 107 swings into the hallway, which does not meet ABA-clearance requirements for operation and approach (minimum 54” or 60” depending on direction of traffic). If the door is reversed to swing into the room, it is still not wide enough to meet the required 32” width if there is a door installed. If the door is uninstalled and only the cased opening remains, the door will meet ABA requirements at 33”. (Solution: remove door and leave jamb)
            c. Door 108 into Office 108 does not meet door approach requirements. If a door is installed, it does not meet width requirements. If a door is removed and not installed, the width between the jamb stops is 33” and meets requirements. (Solution: remove door and leave jamb)
        3. It is unlikely without major renovations that the rear portion of the first floor could potentially house more than a single restroom.
        4. The existing lay-in acoustical suspended ceiling is not compatible with the historic nature of the house. The original volume of the hall ceiling could be restored with new lighting.



Photograph of the narrow back hall (Corridor 105).

ii. The fireplace hearths in the Reception Room and the Exhibit Room were installed to be flush with the wood floors. Over time, the hearths have settled, and the bricks have shifted and now project above the finished surrounding wood floors, creating a tripping hazard.



Brick Hearth in Exhibit Room that is uneven and a tripping hazard.

iii. Door hardware throughout the house is historic or contemporary replacement and is not ABA compliant.

d. Interior – First Floor:
   i. Copy Room 107 has a lowered hard ceiling that intersects the top of the window. Explore why this has occurred. Raise ceiling if possible in renovation, or provide window pocket to allow for full height of window to show inside the room.
   ii. The main electrical panel is in Copy Room 107.
   iii. Office 108: Acoustical ceiling tiles direct-applied to the ceiling are not in keeping with the character of the historic house. Lighting in this space is residential in nature and does not provide enough light for office space. Exposed conduit in the room should be removed when the house is re-wired. Irrigation system controls are installed on the north wall in this space, near the window. This room is partially carpeted and partially wood flooring.





(Left) Photograph of the first floor copy room with a lowered ceiling and a glass block window. (Right) Photograph of incompatible acoustic direct-applied ceiling tiles in the kitchen 108 room.

e. Interior – Second Floor:
    i. Staircase:
        1. The winding staircase to the second floor does not meet commercial code. The treads and risers to not meet current IBC commercial code.
        2. There are two door openings on staircase that are not code compliant, as they swing out over the stairs and into the path of traffic.
        3. Hand railings do not meet ABA accessibility requirements with regard to continuity and extensions at the top and bottom. These would be difficult to upgrade with the existing door frames in place.
        4. This staircase can be 'grandfathered' in with some safety upgrades, since the second floor switching from S1 (storage) to B (business) occupancy is an equivalent hazard group.
        5. Recommendations – remove both doors from the cased openings. Remove the cased opening at the landing altogether to allow for a continuous handrail along the outer wall. Install ABA-compliant tread nosings to assist with slip resistance. Install new and adequate lighting at the stairs.



(Left) A photograph of the bottom portion of the wood winding staircase to the second floor with a narrow door opening at the bottom tread. (Right) A photograph of the upper, straight portion of the wood staircase to the second floor with a narrow door opening at the bottom tread before the winding portion of the staircase.

ii. Second Floor Offices:
    1. The span of the second floor joists in Rooms 202 and 203 are greater than previously reported and calculated in the HSR. The joists span from the north to south walls, not from the knee walls, and likely span to a central beam. Therefore, the capacity of the second floor joists is lower than reported. They are also very likely not connected, which may contribute to outward thrust, as they are not restrained.
    2. Rafters do not align with the joists. Load path for outward thrust must transfer through sill plates, which is not ideal.
    3. Gable end framing is not supported by the exterior brick veneer. Lateral pieces cantilever over the stud wall to support the end gables. This is why there is framing that is taller near the end walls.
    4. Construct new offices on the second floor in Rooms 202 and 203.
        a. Remove all insulation board and attachments. Remove all other insulation and debris.
        b. Remove existing sink and all related plumbing in 203.
        c. Widen wall opening in 203 between existing entry/closet and larger room.
        d. Remove existing knee walls for access to floor joists.
        e. Remove existing floor sheathing from rooms 202 and 203. Install new 2 x 10 joists between existing 2 x 6 joists (16” spacing). Estimated (48) 2 x 10 x 18’-0,”as required for office loading.

f. New joists shall be connected together over central beam support and connect to rafters and sill plates at exterior walls (where rafters are not already connected to existing joists).
g. Install sound attenuation batt insulation between floor joists to assist with sound transfer to the first floor. Reinstall existing floor sheathing and supplement with new sheathing, where required. Install new carpet tiles.
h. Reconstruct knee walls and frame for new access doors.
i. Provide flush, painted steel, lockable and insulated knee wall access doors on each side of the knee walls (4 total).
j. Insulate knee walls and ceiling. Re-wire second floor. Install new gypsum board walls, painted, and new painted trim.

5. Renovate existing office space Room 201 in the center of the second floor.
    a. Remove wall paneling. Install new gypsum board painted walls.
    b. Refinish existing historic wood flooring
    c. Add raised railing at stair railing to bring height to 42" code requirement.
6. Throughout Second Floor:
    a. Install new lighting, electrical receptacles, and data throughout. Install new HVAC (refer to mechanical and electrical).
    b. Paint all rooms (walls, trim, ceilings) on second floor.
    c. Repair paneled wood Door 201 and provide new hardware.
    d. Repair paneled wood Door 202 and provide new hardware.

16. Chimneys:
    a. There are three chimneys that were constructed of the same brick as the exterior veneer that once pierced the roof – one on the far east side, another near the center of the west roof, and a third, smaller chimney just west of the back dormer. These were removed to below the roof line, but the chimney bases are still intact.
17. Roof:
    a. The existing roof structure shows signs of minor deflection and sagging.
    b. The existing asphalt shingle roof is in overall fair condition. It was last replaced in November 2011 and will be due for replacement during the timeframe of this proposed project.
    c. The turbine-style roof vents are old and squeak, which is audible outside and inside the second floor.
    d. The roof vents provide exhaust only. There do not appear to be any intake vents. When the second floor east and west rooms were open and not insulated, this condition was okay, but since the rooms are more finished now, intake air should be provided for proper ventilation.
    e. Existing roof framing is not visible. Once the rigid insulation board is removed, inspect all roof rafters and sister existing roof rafters framing or add supplemental framing as needed. Unknown quantity. Estimate 12 – 2x6 x 20'-0".



Existing Roof at the Visitor Center.

18. Restrooms:
    a. There are no restrooms in the Visitor Center. There is a free-standing comfort station just south of the center. Employees must leave the VC to use the restrooms. Code allows for restroom facilities to be within 500 feet. It does not specifically state if they have to be within the building.
    b. There are no NPS staffing requirements regarding restroom beyond the building codes.
    c. From a practical standpoint, related to health and safety, as well as convenience for the park administration and Visitor Center function, it is prudent and represents best practices for human comfort and hygiene to have restrooms within the Visitor Center building.




Photographs of the Comfort Station, Southwest of the Visitor Center.

SITE ASSESSMENT

1. Assessment of the site is difficult without an updated topographic map and site plan. The existing plan is over 25 years old and pre-dates the memorial garden and site improvements. Future projects will require a new, updated site plan with detailed topography and utilities to be produced.
2. Front steps at north side of Visitor Center from the sidewalk do not have compliant handrails or handrail extensions.
3. City sidewalk at the perimeter of the property (north sidewalk and wrapping around the west side) is not compliant with offsets in paving. In addition to the offsets in the walkways, the sidewalk has sunken in many places, lower than the curb, creating a tripping hazard. The sidewalk is too steep to be considered to be ABA accessible.
4. Sidewalks around the site have offsets between sections that make accessibility difficult and create tripping hazards.
5. The walkway north of the Cassidy House was constructed atop remnants of the old asphalt alley. This makes the sidewalk high and above grade, essentially creating a dam for water between the walkway and the house.
6. Drainage around the Visitor Center and the Cassidy House is poor. The lack of gutters and downspouts has led to depressions around the houses that hold water. At both houses, there are areas where the grade surrounding the homes slopes towards the building and not away.
7. The site is essentially flat with poor drainage all around. The site is always soggy and does not drain well, as there is not enough slope to sheet drain. The park would like area drains. The closest storm drain appears to be at the NW corner of the property in the street
8. Future plans need to protect the historic trees that were identified in the CLR.
9. Visitor Center Stairs to Road: The railings on the concrete stairs to the road are not ABA-compliant. This was noted in the HSR.
10. Cassidy: The flumes at the Cassidy house are not taking on water, and the south flume with the fence across it is very dangerous.
11. Cassidy: The retaining wall at the street is cracked and offset. The drains at the base of the wall are dry, indicating the lack of drainage tile or they are clogged. The end of the retaining wall near the south edge of the porch makes circulation around the front porch tight.
12. The irrigation system is currently not functioning. It is not taking on water. An entire replacement may be required in the future.
13. Memorial Garden: The brick plazas have settled unevenly creating tripping hazards. These need to be re-set. Walkways into and from the garden to the Visitor Center were gravel and have all but disappeared. The park would like to add concrete walkways through the garden to make the garden accessible. The park would also like to pour a concrete walkway where the existing S-shaped path leads from the garden to the front of the Visitor Center. The new walkway could be lined with the original brick edging. The park may also do something different with the urn in the north plaza. It's original use or intention is not clear.
14. Fencing: The park would like to keep the black fencing at the perimeter of the site. It has recently been painted.



North (primary) entrance into the Visitor Center.



North and West sides of the Cassidy House and site, looking southwest.



South and West sides of the Cassidy House and site, looking north.



Photograph from behind the Visitor Center, looking toward the back of the Cassidy House, facing west.



Photograph looking north at the west side of the Visitor Center towards the memorial garden.



Photograph looking south at the Visitor Center on the left and the memorial garden on the right. The Cassidy House is in the back right background.



Offset bricks that are a tripping hazard at the memorial garden.

A conceptual level site plan is attached that outlines the proposed site work, including:

- Re-grading to provide positive drainage away from the buildings and to site drains;
- installation of underground foundation drains and site drains;
- replacement of walkways and ramps to improve accessibility;
- replacement of the retaining wall at the Cassidy house and removal of flumes;
- removal of concrete driveways;
- adjustments and new handrails at in-grade steps;
- potential for relocating Cassidy house condensing units;
- fencing work;
- other related work.

In order for a new design to proceed, a new, detailed site survey must be done as part of the project. The entire site would benefit from an updated Cultural Landscape Report to direct replacement materials, fencing; handling of site features, and landscaping.

CASSIDY HOUSE

The following items were observed during our site visit.

1. Historic Integrity:
    a. The Cassidy House has a combination of historic and contemporary finishes and materials on the interior. Interior room layouts appear to be close to original with a few exceptions noted in the HSR. Most of the historic exterior finishes and materials, including the exterior wood siding, soffits, trim, windows, porch, and exterior doors, were replaced during a mid-1990s renovation project.

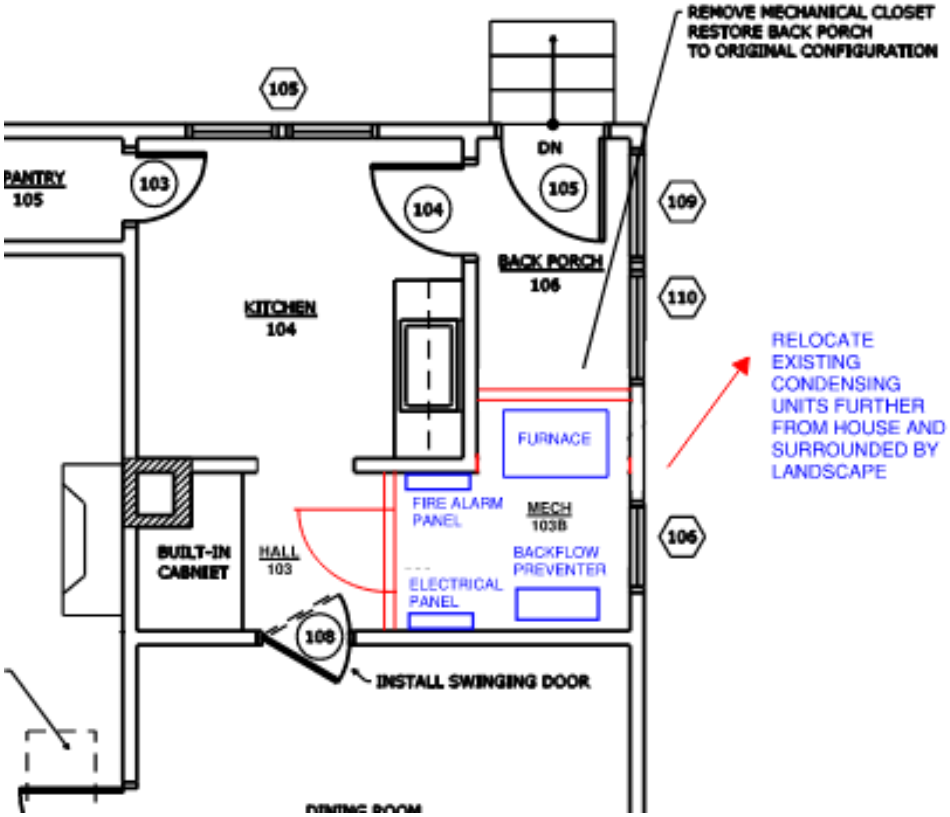
2. Programming for Interior Space:
    a. Our team suggests revisiting the previous HSR programming effort to assess the park's current and future needs for the Cassidy House, visitor services, and function/layout of the mechanical, fire suppression, electrical, and security systems.
        i. The HSR recommendations included reconstruction/restoration of the infilled NE back porch; however, the HSR did not go into detail about potential alternate layouts for alarm and mechanical systems that are now housed in that porch space.
        ii. Restoration of the NE infilled porch may take further research and review of the previous work and photographs to get the detailing and dimensions for the overall project to be historically accurate.
        iii. In order to restore the NE porch, the existing mechanical room with the exterior door on the east side of the house, would need to be removed. This is proposed in the HSR, but an alternate location for this equipment is not shown. Additional items that will need to be relocated include the electrical panel.
        iv. Other proposed new systems for the future house rehabilitation include: security system/panel; fire protection/notification panel; potential fire suppression pump (depending on municipal water pressure) and equipment, including a backflow preventer; relocation of the electrical panel; and relocation of the furnace.
        v. With limited space on the first floor to house the required equipment listed above, further study needs to be done to find locations for this equipment either in the building or remote. As part of a quick study by our team, one suggestion may include the following:
            1. Restore/reconstruct the NE porch to match historic photographs, as recommended in the HSR.
                a. Foreshorten the south interior side of the restored open porch by moving the wall slightly to the north to allow for some space for equipment in a new interior room.
            2. Infill the east side of the hallway for a new mechanical room to house some or all of the required equipment. This would require full MEP design to verify layouts.



Photographs of the existing Hall 103. This back hall was reconstructed during the previous renovation, but there was little evidence of the original configuration, as noted in the HSR.



Photographs of the existing Back Porch 106. This was reconstructed during the previous renovation, but the original screened openings in the east wall were not installed, as noted in the HSR



vi. Further design of a new, comprehensive furnace/mechanical system is required. The HSR recommended a ground source heat pump. The NPS has expressed that they would prefer a more traditional approach without the pipes in the ground that are required with the GSHP installation. This house originally had small wall heaters and a working fireplace and no forced air. The new design should more closely look at locations for supply and return air grilles that will be less visible than the current design.

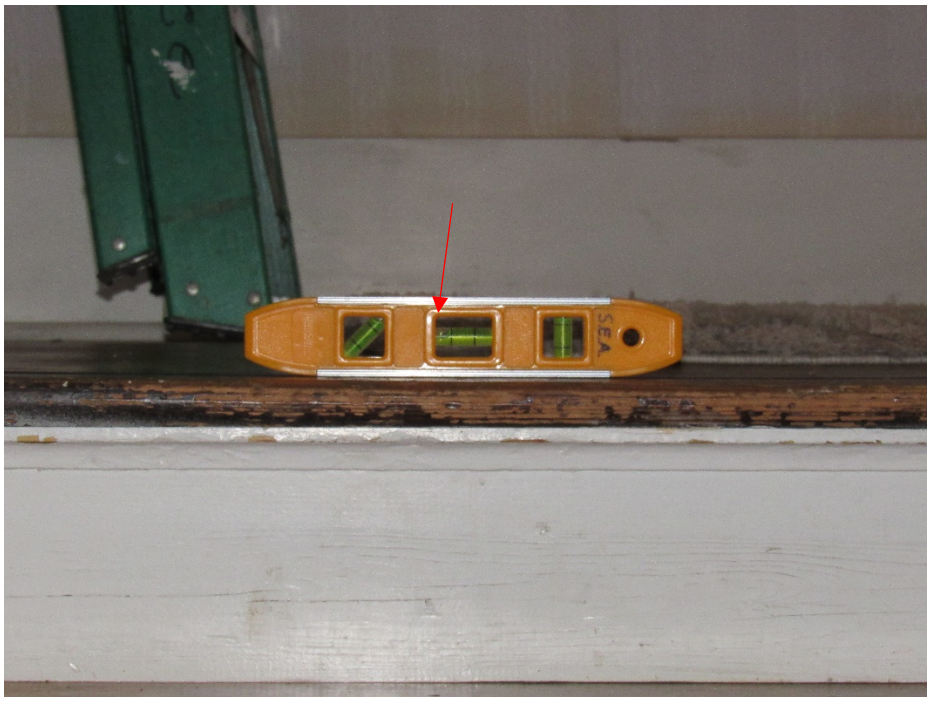
vii. Restrooms: Consider the need for a functioning restroom on the second floor.

1. NPS Regional staff have suggested that at a minimum, a sink with running water would be necessary for basic housekeeping. They also mentioned that a functioning restroom might be good to keep for emergencies. However, with the restroom on the second floor instead of the first floor, this may not be as convenient for staff or visitors during tours.
2. Park staff states that the working exterior hose bibb meets current housekeeping needs. MWR Museum Program Lead concurs that this could be adequate. No other plumbing fixtures need to be in working condition in the house. This may warrant further discussion about how to treat drains, in case someone were to pour liquids down a sink, the toilet, or tub in the future.

3. House Settling: The house has settled since the mid-1990s renovation project. This is evident throughout the exterior and in many places on the interior of the building, as well.
    a. The front (west) porch slopes towards the house.
    b. The house bows in the middle along the north and south sides significantly – as much as 1.5" in 8'. Overall, there is a drop of several inches in the center of the building that is evident.
    c. Floors inside the house undulate.
    d. The top of the stair landing at the second floor has a drop of several inches from the north to the south side of the stairs, making a very uneven walking surface. Likewise, the upper hall is sloped.
    e. Cracks in the gypsum board drywall show cracks throughout the house, as well, signifying areas where the house has shifted or settled unevenly.
    f. Siding on the outside of the house is split at the seams (close at the top of seams, and wider joints at the bottom of the seams).
    g. Windows and associated trim on all four sides of the house are racked so far out of plumb, they do not shut properly. This leaves an open air gap at the outside corners of the windows as much as ½-inch in height, allowing weather and pests into the house interior. Many of these are wide open.



Example of settling in the house with racked windows as seen in the gaps at the bottom right corners of two adjacent windows. Note, that the windows cannot close properly.



Floor level at top landing of second floor stairs to show how much the floor slopes in the hallway. The red arrow points to the bubble all the way to the left side of the level.

4. Foundations: The foundations have settled unevenly since the mid-1990s renovation project. The HSR mentions they had planned to underpin the building, but for some reason, this scope was removed from the project and only the visible portions of the foundation above grade were rebuilt. The foundation appears to be settling unevenly throughout the structure exterior walls and interior piers. In some areas, the house has sunk several inches since the 1990s renovation. Sections of flooring in the first and second levels of the house have noticeably settled with high and low spots where support varies.
    a. The team excavated a test hole near the center of the south foundation wall. Unfortunately, the irrigation lines are installed below grade very close to the foundation wall, which did not allow for a full-depth excavation, as anticipated. A footing appears to exist approximately 12” below the exterior grade. It could not be completely uncovered to discover the depth or condition of the footing.
    b. A Geotechnical report with (2) or (3) borings to a 20’ depth is recommended prior to beginning the design for the foundation repairs.
    c. Due to the condition of the existing foundations, it is recommended to dismantle the existing brick foundations and veneer (discussed in detail below) and install a foundation designed for the expansive soils. This may include a wider footing with void cartons and underpinning with helical piers. Inside the crawlspace, it would be difficult to install helical piers, so a reinforced concrete spread pier footing is recommended with adjustable galvanized columns with spread bases. These columns can be adjusted if the interior piers move drastically different from the fixed (underpinned) exterior foundation walls. This project will need to be carefully investigated and detailed in order to access difficult and tight spaces and how to address interior piers and their attachment to the wood framing.

i. Foundation work would include
    1. Shoring
    2. Excavations and removal of irrigation system surrounding foundation
    3. Temporary relocation of the condensing units.
    4. Demolition of the west porch floor structure and portions of the foundation will be required.
    5. Existing Foundation and interior pier removal
    6. Salvaging brick foundation and wall veneer units – clean and palletize
    7. Installing new reinforced concrete grade beam around perimeter of the house. Recommend grade beam to incorporate 6” void carton to allow for expansive soil.
    8. Underpinning new grade beams – estimated 12 piers to a depth of 15 feet (to be confirmed by geotechnical report). Recommend helical piers.
    9. Install new reinforced and grouted concrete masonry unit (CMU) foundation wall on grade beam to support perimeter of house. Reinstall salvaged brick for veneer.
    10. Install new interior pier spread concrete pads. Install new galvanized adjustable columns with spread base. System may require supplemental galvanized I-beams be installed to spread the support if the wood beams and existing joist layout do not spread the support evenly.
    11. Underpin (2) new piers at west porch. Void carton would not be required for individual piers.

d. While the foundation work is ongoing, it is recommended to attempt to jack up portions of the house to level some of the interior settlement issues.



Interior brick pier with shallow footing.

5. Crawlspace: The crawlspace is accessed through two small openings in the east foundation wall. The southern-most opening allows access to a majority of the crawlspace under the first floor. The northern-most opening is not accessible except for viewing the area under the infilled back porch.
    a. The crawlspace is only partially accessible due to grade and ductwork throughout.
    b. There are severely deteriorated floor joists visible in the area around the return air grille and ductwork under the Living Room 101. This is in the direct path of visitors and

required immediate stabilization/repair. This is a priority repair. Install sister joists or build temporary support piers for (3) joists adjacent to and west of the return air floor grate.

c. The rim joist is not continuous on the north our south sides between piers in the center of the walls and appears to be supported by veneer.
d. The north/south beam that is under the first floor north/south wall is rotted at bearing and shims are crushed.
e. Recommendation – Excavate crawl space.
f. Recommendation – Install concrete mud slab over a heavy-duty vapor barrier throughout crawl space with 2 floor drains and sump to laylight. The concrete slab and vapor barrier will provide some level of protection from rising humidity in the space. The slab will also allow for easier maintenance and access for adjusting interior column supports if needed.



Photograph of shallow crawlspace.







(Upper Left) Photograph of center beam over vent and discontinuous framing support. (Upper Right) Unsupported and deteriorated floor joist at mechanical grille in living room floor. (Lower Left) Deteriorated floor joist near mechanical grill in living room.

6. Exterior Deterioration: Wood rot throughout the exterior is prevalent on the siding, trim, and especially at the wood replacement windows. The quality of the wood used during the 1990s renovation does not appear to be a high-grade exterior wood.
    a. Once the foundation is replaced and the house is as level as it will be for the final work, the siding, corner boards, trim, windows and doors should be replaced in their entirety. Deteriorated sheathing should be replaced, and new breathable building wrap installed. The new siding and trim should closely replicate the historic millwork shown in the historic photographs. This would include reconstructing the west porch columns with siding, as well, to match the historic condition.
    b. Prep, prime, and paint the entire house.





(Left) Photograph of a deteriorated wood window and deteriorated wood siding at the east side of the house. (Middle) Deteriorated corner board, deteriorated siding, and the front porch wood flooring sloping into the front of the house. (Right) Deteriorated siding, Trim, and Window.

7. Roofing and Drainage: Prior to our team being onsite, the park had a high wind event, which had blown shingles off the north side of the front porch. The roof is close to its useful life and should be replaced as part of this project.
    a. Roofing replacement would include roofing, underlayment, and flashings.
    b. Reconstruction of the missing brick chimney should occur as part of the overall roofing replacement.
    c. Recommendation - Gutters and downspout were on visible in the historic photographs of the house. Installing gutters and downspouts would assist in moving a large amount of water from around the home.

8. Drainage: The house sits in a depressed/low area of the yard. Water can accumulate around the foundation. The grade along the north side of the property slopes toward the house, and the sidewalk is raised above grade (poured atop old asphalt in the original alley), which also will impede water flow.



North side of the Cassidy house with poor grading and a high sidewalk that can hold ponding water against the house foundation.

9. Explore options for remote location of the mechanical condensing units. Once the park owns the property to the east, it may be possible to install the condensing lines in an underground trench and locate the units further from the house and potentially masked with landscaping.



Photograph of the 2 condensing units and wood fencing directly behind the east side of the Cassidy House.

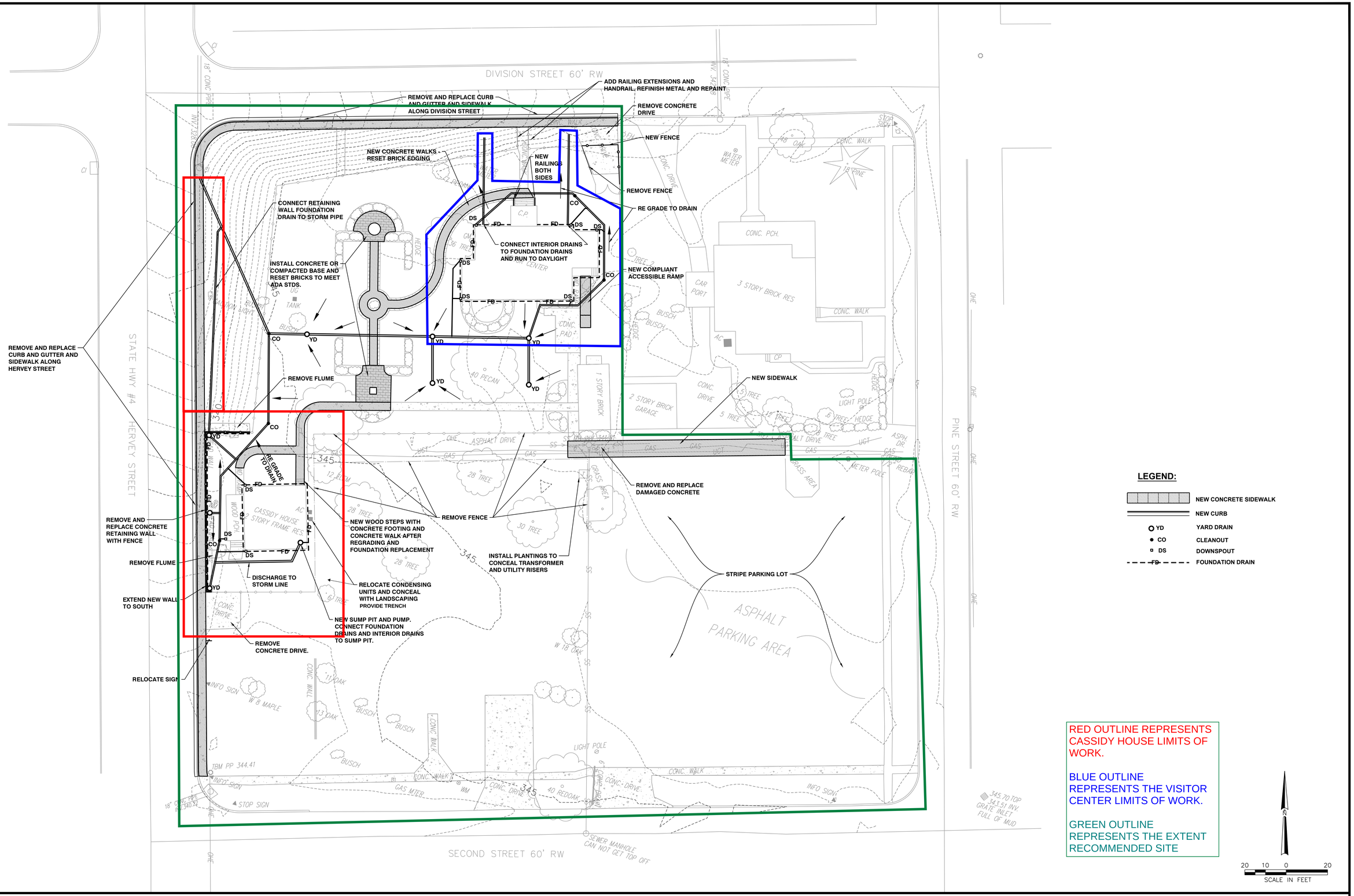
10. Remove fence behind house along the east side to match the historic condition of open.

11. Second Floor Framing:
    a. Differential movement is visible at the top landing where the stairs slope towards the south. The stair wall is likely only supported by a single joist. There is visible cracking in the wallpaper in this area.
    b. Differential movement is visible within the corner of the West Bedroom 204 closet.
    c. Our team attempted to view the second floor joist bearing at a hole in the floor in the NE corner of the SE Bedroom 205. This was inconclusive.
    d. The nailing pattern of the flooring visible in the West Bedroom 204 shows joists are approximately 20” center to center.

TREATMENT RECOMMENDATIONS AND PROPOSED PHASING

Proposed phasing for the work to the two buildings and the site includes the following for both buildings. Site work is included in Phase 1B. Phase 1A is to address life safety improvements quickly. Phase 1B would include a majority of the work to the two buildings and site. Phase 1B for the VC and the House can be done independently of one another. Phase 2 represents longer term recommendations made in the 2013 HSR and 2014 CLR.

- Phase 1A – Life-Safety Improvements (Immediate Work)
- Phase 1B – Cassidy House and Visitor Center Foundation Repairs and Exterior Shell and Sitework
- Phase 2 – Longer Term Recommendations for Interior Renovations and Non-Critical Work



LEGEND:

- NEW CONCRETE SIDEWALK
- NEW CURB
- YD — YARD DRAIN
- CO — CLEANOUT
- DS — DOWNSPOUT
- FD — FOUNDATION DRAIN

RED OUTLINE REPRESENTS CASSIDY HOUSE LIMITS OF WORK.

BLUE OUTLINE REPRESENTS THE VISITOR CENTER LIMITS OF WORK.

GREEN OUTLINE REPRESENTS THE EXTENT RECOMMENDED SITE

20 10 0 20
SCALE IN FEET

CONCEPTUAL PHASING

SK Design Group, Inc.

U:\2021\21-154\2021-11-11- CONCEPTUAL SITE SKETCH\CONCEPTUAL SITE PLAN.DWG

CASSIDY HOUSE TREATMENT & COSTS

CASSIDY HOUSE

Phase IA
- Treatment Checklist
- Cost Estimate

Phase IB
- Treatment Checklist
- Cost Estimate

Phase IC
- Treatment Checklist
- Cost Estimate

Deficiency Ratings (Critical, Serious, Minor)
Condition Ratings (Good, Fair, Poor)

Cassidy House Assessment and Treatment Checklist –

PHASE IA – Critical First Floor Framing Repairs

Uni-format WBC Code	Deficiency Rating	Condition Rating	Treatment	Qty	Unit	Labor	Materials	Equip	Total Cost
B1010	Critical	Poor	First Floor Framing: Install sister joists or build temporary support piers for (3) joists adjacent to and west of the return air grate under Living Room 101.	3	EA				

United States Department of the Interior
National Park Service
Class C Construction Cost Estimate

BASIS OF ESTIMATE

PROJECT INFORMATION

Project:	Cassidy House - Phase 1A - Update Condition Assessment Treatment Recommendations and Construction Estimate
Park:	William Jefferson Clinton Birthplace Home NHS
Park Apha:	WICL
PMIS:	131181
Estimate Date:	12/22/2021
Prepared By:	Michael Orel
Company:	CMR
Address:	11006 Parallel Parkway, Suite 200
City, State Zip:	Kansas City KS 66109
Phone:	913-262-6715

BACKGROUND SUPPORTING MATERIAL (Scope of Work):

Estimate based on 2021 AE team site visit to review current conditions. Revised treatment recommendations based on current conditions and 2013 Historic Structure Report and 2014 Cultural Landscape Report. Drawings provided from previous report.

SOURCE OF COST DATA:

Costs were based on a combination of RS means data and the estimators past estimating experience.

ESTIMATE ASSUMPTIONS:

Estimate based on pre-design consulting and previous study drawings

MAJOR CHANGES FROM PREVIOUS ESTIMATE:

N/A

United States Department of the Interior
National Park Service
Class C Construction Cost Estimate

BASIS OF ESTIMATE

PROJECT INFORMATION

Project:	Cassidy House - Phase 1A - Update Condition Assessment Treatment Recommendations and Construction Estimate
Park:	William Jefferson Clinton Birthplace Home NHS
Park Apha:	WICL
PMIS:	131181
Estimate Date:	12/22/2021

DESCRIPTION OF MARK-UP & ADD-ONS:

Design Contingency:	10.00%	pre-design effort with limited drawings and research
Standard. General Conditions:	10.00%	Contractor direct job costs
Government General Conditions:	5.00%	Government oversight
Contractor Overhead:	18.00%	Contractor indirect job costs and includes bods and permits
Contractor Profit:	10.00%	profit reasonable for a project of this size
Contracting Method Adjustment:	15.00%	contracting method unknown
Annual Inflation Escalation Factor:	6.00%	Projected annual inflation rate.
Time Until Project Midpoint (Months)	12	Number of months from estimate (or data) date until the projects midpoint of construction.

OTHER COMMENTS:

Project requested Class C cost estimate with material/labor/equipment breakout. To achieve this contract requirement the AE team chose to use the Class A Template.

United States Department of the Interior
National Park Service
Class C Construction Cost Estimate

BID ITEM COST SUMMARY

Project: Cassidy House - Phase 1A - Update Condition Assessment Treatment Recommendations and Construction Estimate
Park: William Jefferson Clinton Birthplace Home NHS
Park Alpha: WICL
PMIS Number: 131181

Estimate By: Michael Orel
Date: 12/22/21
Reviewed By:
Date:

Bid Item Number	Asset / Project Element / Description	Size/Count	Units
BID ITEM 1	PHASE IA – Critical First Floor Framing Repairs	1	LS

Item No.	WBS	Description	Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Direct Cost/Unit	Total Direct Costs	NET Cost/Unit	Total NET Costs
1	A10	Foundations	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2	A20	Basement Construction	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
3	B10	Superstructure	$ 150.00	$ 150	$ 1,350.00	$ 1,350.00	$ 750.00	$ 750.00	$ 2,250	$ 2,250	$ 4,441.06	$ 4,441
4	B20	Exterior Enclosure	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
5	B30	Roofing	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
6	C10	Interior Construction	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
7	C20	Stairs	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
8	C30	Interior Finishes	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
9	D10	Conveying Systems	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
10	D20	Plumbing Systems	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
11	D30	HVAC	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
12	D40	Fire Protection	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
13	D50	Electrical	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
14	E10	Equipment	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
15	E20	Furnishings	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
16	F10	Special Construction	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
17	F20	Selective Building Demolition	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
18	G10	Site Preparation	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
19	G20	Site Improvements	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
20	G30	Site Mechanical Utilities	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
21	G40	Site Electrical Utilities	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
22	G50	Other Site Construction	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
23	XX	Special Use - 1	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
24	XX	Special Use - 2	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
25	XX	Special Use - 3	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
		Subtotal Direct Construction Costs	**$ 150.00**	**$ 150**	**$ 1,350.00**	**$ 1,350.00**	**$ 750.00**	**$ 750.00**	**$ 2,250**	**$2,250**	**$ 4,441.06**	**$4,441**
		Total Value of Government Furnished Property (GFP) Inc. in Direct Cost		**$0.00**		**$ -**		**$ -**	**$ -**	**$0**	**In most cases GFP is normally zero - see footnote-**	
		Direct Cost Subtotal without GFP		$ 150		$ 1,350.00		$ 750.00		**$2,250**		
		Design Contingency	10.00%							$225		
		Total Direct Construction Costs								**$2,475**		
		Standard General Conditions	10.00%	Applied to Total Direct Construction Cost less GFP						$248		
		Government General Conditions	5.00%	Applied to Total Direct Construction Cost less GFP						$124		
		Subtotal NET Construction Cost								**$2,846**		
		Overhead	18.00%							$512		
		Profit	10.00%							$285		
		Estimated NET Construction Cost								**$3,643**		
		Contracting Method Adjustment	15.00%							$546		
		Inflation Escalation	12	Months	Annual Rate =	6.00%			Inc. Bonds & CMA	$251		
		Total Estimated NET Cost of Construction								**$4,441**		

GFP costs only apply when the Government pre-purchases items, or provides other materials out of Government inventory, to be installed by contractor. Adjustments and Markup on GFP only include Inflation Escalation; No other adjustment factors or O&P markup have been applied.

United States Department of the Interior
National Park Service
Class C Construction Cost Estimate

LINE ITEM COST SUMMARY

Project: Cassidy House - Phase 1A - Update Condition Assessment Treatment Recommendations and Construction Estimate
Park: William Jefferson Clinton Birthplace Home NHS
Park Alpha: WICL
PMIS: 131181

Estimate By: Michael Orel
Date: 12/22/21
Reviewed By:
Date:

Summary Item: B10 Superstructure **Total Cost:** $2,250

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
B1010	FLOOR CONSTRUCTION										
	Install sister joists	3	EA	$ 50.00	$150	$ 450.00	$1,350	$ 250.00	$750	$ 750.00	$2,250
SUBTOTAL	FLOOR CONSTRUCTION	1000	LS	$ 0.15	$150	$ 1.35	$1,350	$ 0.75	$750	$ 2.25	$2,250

Summary Item: B10 Superstructure

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
B10	Superstructure	1	LS	$ 150.00	$150	$ 1,350.00	$1,350	$ 750.00	$750	$ 2,250.00	$2,250

Deficiency Ratings (Critical, Serious, Minor)
Condition Ratings (Good, Fair, Poor)

Cassidy House Assessment and Treatment Checklist –

PHASE IB – Foundation Repairs and Exterior Shell

Uni-format WBC Code	Deficiency Rating	Condition Rating	Treatment	Qty	Unit	Labor	Materials	Equip	Total Cost
G1010	Critical	Poor	Provide new Geotechnical report with (2) or (3) borings to 20' depth to inform foundation design.	1	LS				4,000
	Critical	Poor	Foundation: Replace foundation at perimeter of house with new reinforced concrete foundation wall and footings and new foundation vents. Provide shelf for brick veneer. Coordinate with brick veneer removal/replacement and first floor framing repairs.						
A1010	N/A	N/A	Utilities: Temporarily disconnect utilities and HVAC ducts during foundation work. Reconnect upon completion of work.	1	LS				
G2050	N/A	N/A	Irrigation: Sprinkler lawn irrigation is installed within inches of the perimeter of the foundation walls and will not be salvageable. The irrigation system must be disconnected and replaced.						Costs include repair work only around the house. Not full system replacement.
A1010	Serious	Poor	Foundation/Crawlspace: Excavate crawlspace to be flush with exterior grade and to allow for maneuvering and work in crawlspace.	67	CY				
A1010			Crawlspace: Haul away soil and debris						
G1010	N/A	N/A	Provide Archeological Investigations during excavations	1	LS				$17,000
A1010	Critical	N/A	Foundation: Shore entire house for foundation replacement	900	SF				
A1010	Critical		Foundation: Excavate perimeter for work	160	CY				

A1010	Critical	Poor	Foundation Demo: Excavate and remove existing perimeter brick piers and veneer (unknown depth – top of footing is approximately 12" below grade plus footings). Carefully document, down-stack, and palletize existing brick foundation walls and interior brick piers. Haul-off debris (House and Porch).	160	LF				
G2030	Serious	Poor	West Porch Demo: Remove and haul-off west wooden west porch front steps and wood porch flooring and framing for access to foundation.	185	SF				
G2030	Serious	Poor	West Porch Demo: Carefully Salvage and temporarily relocate historic west porch concrete steps.	1	EA				
G2030	Serious	Poor	West Porch Demo: Carefully shore the west porch roof structure. Demolish columns and salvage/clean/palletize bricks.	2 1	EA PIERS EA SHORE				
G2030	Serious	Fair	West Porch Ramp Demo: Demolish existing ramp to the west porch, including all footings and attachments.	80	SF				
G2030	Critical	N/A	North Entrance Demo: Remove and replace sections of concrete walkway and steps at north entrance for access to foundation work.	1	EA				
A1010	Critical	Poor	Foundation: Install reinforced concrete grade beam around perimeter of house. New grade beam to incorporate 6" void carton to allow for expansive soil.	160	L.F.				
A1010	Critical	Poor	Foundation: Underpin new grade beams. Estimated 12 piers at 15 feet depth (to be confirmed with geotechnical report). Recommend using helical piers.	12	EA.				
A1010	Critical	Poor	Foundation: Install CMU foundation wall on grade beam to support perimeter of house. Install copper termite shield at perimeter. Reinstall salvaged brick for veneer.	360	SF				
A1010	Critical	Poor	Foundation Interior Piers: Replace interior piers in crawlspace. Estimated 7 piers. Install new 2-foot square x 1-foot deep precast concrete footings min. 12-inches below grade or as deep as possible. Install new galvanized adjustable posts with spread base plate.	7	EA.				
A1010 G2030	Serious	Poor	West Porch: Reconstruct West Porch piers and foundation walls to proper elevation with new footings. Utilize salvaged brick and concrete cap at piers. Reconstruct two wood columns and prepare for lap siding.	2	EA.				
G2030			West Porch Reconstruction: Reconstruct wood porch framing and flooring.	185	SF				
A1010	Serious	Poor	Foundation at Porch: Underpin 2 piers at west porch. Void carton would not be required for individual piers.	2	EA.				
G2030	Serious	Poor	West Porch: Install new concrete footing south of porch and reinstall historic concrete steps. Install concrete landing at the base of the steps. Install handrails at porch and in concrete landing. Do not attached to historic steps. Clean concrete steps and patch/repair, as	1 12	EA FOOTING LF				

			required.						
G2030	Serious	Poor	West Porch Ramp: Reconstruct west porch ABA-accessible ramp. Coordinate with re-grading and new sidewalks. The new ramp may be longer than the existing ramp.	100 40	SF LF				
G2030	Critical	N/A	North Entrance: Replace sections of concrete walkway and steps at north entrance (NE Porch). Install railings.	1	EA				
B1010	Serious	Poor	First Floor Joists: Probe all existing joists for deterioration and joists cut for piping and ductwork. Sister existing damaged/deteriorated joists in crawlspace. Est. 18 total sister joists, approximately 2x8x15'-0"	18	15'-0" EA.				
B1010	Serious	Poor	Install galvanized metal joist hangers (Simpson or similar) to existing joists. Estimated 36 joists with 2 hangers each joist.	72	EA.				
B1010	Serious	Poor	Remove damaged/deteriorated portions of central beam and splice new beam in place. Estimated (10) feet of 4 x 10 beam repair.	10	L.F. 4X10 Beam				
A1010	Minor	N/A	Crawlspace: Once work in Crawlspace is completed on the foundation and first floor framing, install new heavy-duty vapor barrier and wrap up walls and seal. Overlap and tape all joints.	900	SF				
A1010 D5010			Crawlspace OPTION: Consider installing a thin concrete mud slab with WWF throughout the crawlspace to provide improved access for crawlspace maintenance, provide ease of housekeeping, and to decrease the amount of moisture infiltration in the house. If a mud slab is installed, it would be recommended to install at least one or two floor drains to a new sump pit near the access doors. Crawlspace: Install interior footing drain at perimeter of new foundation. Drain to new sump pit.	900 2 1	SF DRAINS SUMP				
B1010	Minor	Poor	Crawlspace: Install batt insulation between floor joists. Install breathable building wrap below insulation to prevent pests from entering joist spaces. Overlap and tape all joints.	900	SF				
A1010			Backfill foundation	160	CY				
A1010	Critical	Poor	Site Drainage: Install exterior foundation drain system at perimeter of house as part of foundation replacement. Drain to daylight.	200	LF				
G1030 G2050	Critical	Poor	Regrading within 30' of house and sod	400	SY				
B1020	Serious	Poor	Roof Framing: Sister existing hip rafters and remove knee wall. 5 total	5x20	LF				
B2010	Serious	Poor	Demo: Remove and haul-off exterior horizontal shiplap siding.	2,409	SF				

B2010	Serious	Poor	Demo: Remove and haul-off wood trim at all sides of exterior windows.	500	LF				
B2010	Serious	Poor	Demo: Remove existing corner boards.	4	EA				
B2020	Critical	Poor	Demo: Remove and haul-off exterior windows. Protect Openings.	27	EA				
B2010	Minor	Poor	Demo: Remove and haul-off exterior mechanical room door.	1	EA				
B2010	Minor	Fair	Demo: Remove and haul-off exterior wall for NE screened porch.	50	LF				
B2010	Serious	Poor	Exterior Walls: Install new exterior horizontal painted wood siding - 6-3/4 wide with mitered corners. Repair any deteriorated sheathing and install new breathable building wrap. Install exterior horizontal painted wood siding with mitered corners on west porch columns.	2409	SF				
B2010	N/A	N/A	Exterior Walls Option: Consider installing blown-in insulation in stud bays while siding is removed. This could also be done during the Phase II interior work.	2409	SF				
B2020	Serious	Poos	Exterior Walls: Replace – New replica wood trim at exterior windows:	2409	SF				
			Sills.	110	LF				
			Jambs.	280	LF				
			Heads.	110	LF				
B2010	Serious	Poor	Exterior Walls: Replace exterior skirt board at exterior walls.	120	LF				
B2020	Critical	Poor	Exterior Walls: Install new Exterior wood double hung windows thermally broke - +/- 20 S.F. each.	27	EA				
B2020	N/A	N/A	Exterior Walls: Install new exterior window screens at NE porch with removable storm windows - +/- 20 S.F. each.	2	EA				
B2010	N/A	N/A	NE Screened Porch: Install new exterior wood framed wall with wood siding and interior wood beaded board and trim.	40	SF				
B2010	N/A	N/A	Exterior Walls: Infill exterior mechanical room door with siding and interior bead board on stud wall.	25	SF				
B2030	Serious	Fair	Exterior Doors: Replace exterior front door with new reproduction 15 lite French door, frame, threshold, weatherstripping, and hardware.	1	EA				
B2010	Minor	N/A	West Porch: Install new exterior wood screened wall / trim at west main entrance porch (3 sides)	380	SF				
B2030	Minor	N/A	Exterior Doors: Exterior screen doors, frame and hardware at west porch (south historic entry and north accessible entrance) and new door at NE screened porch.	3	EA				
B2010	Serious	Poor	Exterior Walls: Miscellaneous exterior patching and finishing allowance.	1	LS				

B2010	Serious	Poor	Exterior: Paint entire exterior. Soffits, fascia, etc.		SF				
B3010	Serious	Poor	Roof: Remove existing and install new asphalt shingle roof at main house and west porch, flashings, and roof ventilation. Coordinate with reconstruction of chimney above roof line (if included in scope of work).						
B3010	Minor	N/A	Roof: Reconstruct exterior brick chimney at roof.	30	SF				
B3010	Critical	Poor	Drainage: Consider Installing Gutters and Downspouts to drain to boots below grade to daylight.		LF				
B2010	Minor	N/A	Reconstruct / install exterior whole house fan with damper - 20 S.F. (Not electrified)	1	EA				
B2010	Minor	Fair	Demolish and haul-off mechanical closet in Back Porch 106	1	LS				
	N/A	N/A	NE First Floor: With the reconstruction of the NE Porch and removal of the existing Mechanical Closet, a revised approach for the relocated furnace needs to be accommodated by providing space for the equipment, including the furnace, fire alarm panel, fire suppression equipment, backflow preventer, security alarm panel, and the main electrical panel. There are two options for this work.	1	LS				
C1010 C1020 D3010 D5010 D5030	N/A	N/A	OPTION 1: Construct new mechanical room in east portion of back hall, including a new wall and Door 107. Relocate existing furnace, electrical panel, and alarm panel.						
	N/A	N/A	OPTION 2: Construct new mechanical room within infilled back porch by infilling the screens on the interior and installing a solid door inset from the screened door. Door 107 to remain in its location shown in the HSR. Minor adjustments to existing furnace, electrical panel, and alarm panel.						
D3040	Serious	Poor	Remove existing and install new attic fan	1	EA				
D5020			Salvage and reinstall exterior lighting						

United States Department of the Interior
National Park Service
Class C Construction Cost Estimate

BASIS OF ESTIMATE

PROJECT INFORMATION

Project:	Cassidy House Phase 1B - Update Condition Assessment Treatment Recommendations and Construction Estimate
Park:	William Jefferson Clinton Birthplace Home NHS
Park Apha:	WICL
PMIS:	131181
Estimate Date:	12/22/2021
Prepared By:	Michael Orel
Company:	CMR
Address:	11006 Parallel Parkway, Suite 200
City, State Zip:	Kansas City KS 66109
Phone:	913-262-6715

BACKGROUND SUPPORTING MATERIAL (Scope of Work):

Estimate based on 2021 AE team site visit to review current conditions. Revised treatment recommendations based on current conditions and 2013 Historic Structure Report and 2014 Cultural Landscape Report. Drawings provided from previous report.

SOURCE OF COST DATA:

Costs were based on a combination of RS means data and the estimators past estimating experience.

ESTIMATE ASSUMPTIONS:

Estimate based on pre-design consulting and previous study drawings

MAJOR CHANGES FROM PREVIOUS ESTIMATE:

N/A

United States Department of the Interior
National Park Service
Class C Construction Cost Estimate

BASIS OF ESTIMATE

PROJECT INFORMATION

Project:	Cassidy House Phase 1B - Update Condition Assessment Treatment Recommendations and Construction Estimate
Park:	William Jefferson Clinton Birthplace Home NHS
Park Apha:	WICL
PMIS:	131181
Estimate Date:	12/22/2021

DESCRIPTION OF MARK-UP & ADD-ONS:

Design Contingency:	10.00%	pre-design effort with limited drawings and research
Standard. General Conditions:	10.00%	Contractor direct job costs
Government General Conditions:	5.00%	Government oversight
Contractor Overhead:	18.00%	Contractor indirect job costs and includes bods and permits
Contractor Profit:	10.00%	profit reasonable for a project of this size
Contracting Method Adjustment:	15.00%	contracting method unknown
Annual Inflation Escalation Factor:	6.00%	Projected annual inflation rate.
Time Until Project Midpoint (Months)	12	Number of months from estimate (or data) date until the projects midpoint of construction.

OTHER COMMENTS:

Project requested Class C cost estimate with material/labor/equipment breakout. To achieve this contract requirement the AE team chose to use the Class A Template.

United States Department of the Interior
National Park Service
Class C Construction Cost Estimate

BID ITEM COST SUMMARY

Project: Cassidy House Phase 1B - Update Condition Assessment Treatment Recommendations and Construction Estimate
Park: William Jefferson Clinton Birthplace Home NHS
Park Alpha: WICL
PMIS Number: 131181

Estimate By: Michael Orel
Date: 12/22/21
Reviewed By:
Date:

Bid Item Number	Asset / Project Element / Description	Size/Count	Units
BID ITEM 1	PHASE 1B – Foundation Repairs and Exterior Shell	1	LS

Item No.	WBS	Description	Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Direct Cost/Unit	Total Direct Costs	NET Cost/Unit	Total NET Costs
1	A10	Foundations	$ 29,852.22	$ 29,852	$ 78,762.96	$ 78,762.96	$ 19,795.74	$ 19,795.74	$ 128,411	$ 128,411	$ 253,458.10	$ 253,458
2	A20	Basement Construction	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
3	B10	Superstructure	$ 3,294.00	$ 3,294	$ 19,070.00	$ 19,070.00	$ 5,575.00	$ 5,575.00	$ 27,939	$ 27,939	$ 55,146.13	$ 55,146
4	B20	Exterior Enclosure	$ 248,910.28	$ 248,910	$ 110,510.61	$ 110,510.61	$ 30,169.63	$ 30,169.63	$ 389,591	$ 389,591	$ 768,975.64	$ 768,976
5	B30	Roofing	$ 17,827.36	$ 17,827	$ 17,252.36	$ 17,252.36	$ 4,830.59	$ 4,830.59	$ 39,910	$ 39,910	$ 78,775.16	$ 78,775
6	C10	Interior Construction	$ 5,200.00	$ 5,200	$ 2,200.00	$ 2,200.00	$ -	$ -	$ 7,400	$ 7,400	$ 14,606.16	$ 14,606
7	C20	Stairs	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
8	C30	Interior Finishes	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
9	D10	Conveying Systems	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
10	D20	Plumbing Systems	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
11	D30	HVAC	$ 1,250.00	$ 1,250	$ 2,000.00	$ 2,000.00	$ -	$ -	$ 3,250	$ 3,250	$ 6,414.87	$ 6,415
12	D40	Fire Protection	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
13	D50	Electrical	$ 1,500.00	$ 1,500	$ 2,740.00	$ 2,740.00	$ -	$ -	$ 4,240	$ 4,240	$ 8,368.93	$ 8,369
14	E10	Equipment	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
15	E20	Furnishings	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
16	F10	Special Construction	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
17	F20	Selective Building Demolition	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
18	G10	Site Preparation	$ -	$ -	$ 23,000.00	$ 23,000.00	$ 2,000.00	$ 2,000.00	$ 25,000	$ 25,000	$ 49,345.12	$ 49,345
19	G20	Site Improvements	$ 16,380.00	$ 16,380	$ 22,570.00	$ 22,570.00	$ 5,378.00	$ 5,378.00	$ 44,328	$ 44,328	$ 87,494.82	$ 87,495
20	G30	Site Mechanical Utilities	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
21	G40	Site Electrical Utilities	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
22	G50	Other Site Construction	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
23	XX	Special Use - 1	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
24	XX	Special Use - 2	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
25	XX	Special Use - 3	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
		Subtotal Direct Construction Costs	**$ 324,213.86**	**$ 324,214**	**$ 278,105.93**	**$ 278,105.93**	**$ 67,748.96**	**$ 67,748.96**	**$ 670,069**	**$670,069**	**$ 1,322,584.92**	**$1,322,585**
		Total Value of Government Furnished Property (GFP) Inc. in Direct Cost		**$0.00**		**$ -**		**$ -**	**$ -**	**$0**	**In most cases GFP is normally zero - see footnote-**	
		Direct Cost Subtotal without GFP		$ 324,214		$ 278,105.93		$ 67,748.96		**$670,069**		
		Design Contingency	10.00%							$67,007		
		Total Direct Construction Costs								**$737,076**		
		Standard General Conditions	10.00%	Applied to Total Direct Construction Cost less GFP						$73,708		
		Government General Conditions	5.00%	Applied to Total Direct Construction Cost less GFP						$36,854		
		Subtotal NET Construction Cost								**$847,637**		
		Overhead	18.00%							$152,575		
		Profit	10.00%							$84,764		
		Estimated NET Construction Cost								**$1,084,975**		
		Contracting Method Adjustment	15.00%							$162,746		
		Inflation Escalation	12	Months	Annual Rate =	6.00%			Inc. Bonds & CMA	$74,863		
		Total Estimated NET Cost of Construction								**$1,322,585**		

GFP costs only apply when the Government pre-purchases items, or provides other materials out of Government inventory, to be installed by contractor. Adjustments and Markup on GFP only include Inflation Escalation; No other adjustment factors or O&P markup have been applied.

United States Department of the Interior
National Park Service
Class C Construction Cost Estimate

LINE ITEM COST SUMMARY

Project: Cassidy House Phase 1B - Update Condition Assessment Treatment Recommendations and Construction Estimate
Park: William Jefferson Clinton Birthplace Home NHS
Park Alpha: WICL
PMIS: 131181

Estimate By: Michael Orel
Date: 12/22/21
Reviewed By:
Date:

Summary Item: A10 Foundations **Total Cost:** $128,411

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
A1010	STANDARD FOUNDATIONS										
	Excavate around Perimeter	160	CY	$ -	$0	$ 10.00	$1,600	$ 10.00	$1,600	$ 20.00	$3,200
	Excavate below building	67	CY	$ -	$0	$ 50.00	$3,333	$ 25.00	$1,667	$ 75.00	$5,000
	Haul Off Soil and Debris	102	CY	$ -	$0	$ 30.00	$3,067	$ 10.00	$1,022	$ 40.00	$4,089
	Shore Building	900	SF	$ 2.50	$2,250	$ 2.50	$2,250	$ 2.50	$2,250	$ 7.50	$6,750
	Vapor Barrier and mud slab @ Crawl Space	1125	SF	$ 10.00	$11,250	$ 10.00	$11,250	$ 2.00	$2,250	$ 22.00	$24,750
	Sump Pit	1	EA	$ 150.00	$150	$ 300.00	$300	$ -	$0	$ 450.00	$450
	Floor Drains and piping	2	EA	$ 200.00	$400	$ 260.00	$520	$ -	$0	$ 460.00	$920
	Demo Foundation (in sections)	160	LF	$ -	$0	$ 25.00	$4,000	$ 5.00	$800	$ 30.00	$4,800
	Salvage Brick @ Foundation	160	LF	$ -	$0	$ 50.00	$8,000	$ 2.00	$320	$ 52.00	$8,320
	New Foundation Grade Beam on void form	15	CY	$ 150.00	$2,222	$ 200.00	$2,963	$ 125.00	$1,852	$ 475.00	$7,037
	New Termite Shield	160	LF	$ 15.00	$2,400	$ 3.00	$480		$0	$ 18.00	$2,880
	Perimeter Drain	200	LF	$ 5.00	$1,000	$ 10.00	$2,000		$0	$ 15.00	$3,000
	Helical Piers	12	EA	$ 150.00	$1,800	$ 1,750.00	$21,000	$ 350.00	$4,200	$ 2,250.00	$27,000
	Interior Piers	7	EA	$ 350.00	$2,450	$ 200.00	$1,400	$ 25.00	$175	$ 575.00	$4,025
	Porch Footings	2	EA	$ 550.00	$1,100	$ 2,250.00	$4,500	$ 350.00	$700	$ 3,150.00	$6,300
	New Foundation CMU Wall	360	SF	$ 12.00	$4,320	$ 10.00	$3,600	$ 1.50	$540	$ 23.50	$8,460
	Install Salvaged brick @ Foundation	360	SF	$ 1.00	$360	$ 15.00	$5,400	$ 2.00	$720	$ 18.00	$6,480
	Backfill	160	CY	$ -	$0	$ 10.00	$1,600	$ 10.00	$1,600	$ 20.00	$3,200
	Disconnect and reconnect utilities	1	LS	$ 150.00	$150	$ 1,500.00	$1,500	$ 100.00	$100	$ 1,750.00	$1,750
	STANDARD FOUNDATIONS	**160**	**LF**	**$ 186.58**	**$29,852**	**$ 492.27**	**$78,763**	**$ 123.72**	**$19,796**	**$ 802.57**	**$128,411**

Summary Item: A10 Foundations

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
A10	**Foundations**	**1**	**LS**	**$ 29,852.22**	**$29,852**	**$ 78,762.96**	**$78,763**	**$ 19,795.74**	**$19,796**	**$ 128,410.93**	**$128,411**

United States Department of the Interior
National Park Service
Class C Construction Cost Estimate

LINE ITEM COST SUMMARY

Project: Cassidy House Phase 1B - Update Condition Assessment Treatment Recommendations and Construction Estimate
Park: William Jefferson Clinton Birthplace Home NHS
Park Alpha: WICL
PMIS: 131181

Estimate By: Michael Orel
Date: 12/22/21
Reviewed By:
Date:

Summary Item: B10 Superstructure **Total Cost:** $27,939

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
B1010	FLOOR CONSTRUCTION										
	Sister Joists 2x10x18'	18	EA	$ 50.00	$900	$ 150.00	$2,700	$ 25.00	$450	$ 225.00	$4,050
	New Floor Joists Hangers	72	EA	$ 2.00	$144	$ 35.00	$2,520	$ -	$0	$ 37.00	$2,664
	Batt Insulation @ Floor Joists	900	SF	$ 1.50	$1,350	$ 3.00	$2,700	$ -	$0	$ 4.50	$4,050
	Repair central beam	10	LF	$ 65.00	$650	$ 1,040.00	$10,400	$ 500.00	$5,000	$ 1,605.00	$16,050
SUBTOTAL	**FLOOR CONSTRUCTION**	**900**	**SF**	**$ 3.38**	**$3,044**	**$ 20.36**	**$18,320**	**$ 6.06**	**$5,450**	**$ 29.79**	**$26,814**

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
B1020	ROOF CONSTRUCTION										
	Sister west rafters	5	EA	$ 50.00	$250	$ 150.00	$750	$ 25.00	$125	$ 225.00	$1,125
SUBTOTAL	**ROOF CONSTRUCTION**	**1**	**LS**	**$ 250.00**	**$250**	**$ 750.00**	**$750**	**$ 125.00**	**$125**	**$ 1,125.00**	**$1,125**

Summary Item: B10 Superstructure

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
B10	**Superstructure**	**1**	**LS**	**$ 3,294.00**	**$3,294**	**$ 19,070.00**	**$19,070**	**$ 5,575.00**	**$5,575**	**$ 27,939.00**	**$27,939**

United States Department of the Interior
National Park Service
Class C Construction Cost Estimate

LINE ITEM COST SUMMARY

Project: Cassidy House Phase 1B - Update Condition Assessment Treatment Recommendations and Construction Estimate
Park: William Jefferson Clinton Birthplace Home NHS
Park Alpha: WICL
PMIS: 131181

Estimate By: Michael Orel
Date: 12/22/21
Reviewed By:
Date:

Summary Item: B20 Exterior Enclosure

OP
Total Cost: $389,591

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
B2010	EXTERIOR WALLS										
	Demo Siding/Trim	2409	SF	$ -	$0	$ 5.00	$12,047	$ 2.00	$4,819	$ 7.00	$16,866
	New Siding and Trim	2409	SF	$ 25.00	$60,235	$ 10.00	$24,094	$ 3.00	$7,228	$ 38.00	$91,557
	Paint Entire House	2849	SF	$ 2.00	$5,699	$ 5.00	$14,247	$ 2.00	$5,699	$ 9.00	$25,645
	Walls Sheathing Repair	361	SF	$ 15.00	$5,421	$ 10.00	$3,614	$ -	$0	$ 25.00	$9,035
	New Building Wrap	2409	SF	$ 0.15	$361	$ 0.15	$361	$ -	$0	$ 0.30	$723
	Insulate Walls	2409	SF	$ 2.00	$4,819	$ 5.00	$12,047	$ 2.00	$4,819	$ 9.00	$21,685
	Demo and frame new openings for NE porch	60	SF	$ 15.00	$900	$ 10.00	$600	$ -	$0	$ 25.00	$1,500
	New wall finishes at NE porch	135	SF	$ 5.00	$675	$ 10.00	$1,350	$ -	$0	$ 15.00	$2,025
	Demo mechanical closet and infill wall	1	LS	$ 850.00	$850	$ 1,500.00	$1,500	$ -	$0	$ 2,350.00	$2,350
	Wood framed/painted and screened wall	380	SF	$ 10.00	$3,800	$ 5.00	$1,900	$ 1.00	$380	$ 16.00	$6,080
	Reconstruct whole house fan	1	LS	$ 2,500.00	$2,500	$ 1,500.00	$1,500	$ -	$0	$ 4,000.00	$4,000
	Haul Off	1	LS	$ -	$0	$ -	$0	$ 2,500.00	$2,500	$ 2,500.00	$2,500
SUBTOTAL	EXTERIOR WALLS	1760	SF	$ 48.44	$85,260	$ 41.63	$73,261	$ 14.46	$25,445	$ 104.53	$183,966

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
B2020	EXTERIOR WINDOWS										
	Demo window and protect opening	27	EA	$ 150.00	$4,050	$ 100.00	$2,700	$ 75.00	$2,025	$ 325.00	$8,775
	New Windows and trim and storm windows	27	EA	$ 5,500.00	$148,500	$ 1,200.00	$32,400	$ 100.00	$2,700	$ 6,800.00	$183,600
	Screen Windows at NE Porch	2	EA	$ 800.00	$1,600	$ 650.00	$1,300	$ -	$0	$ 1,450.00	$2,900
SUBTOTAL	EXTERIOR WINDOWS	27	EA	$ 5,709.26	$154,150	$ 1,348.15	$36,400	$ 175.00	$4,725	$ 7,232.41	$195,275

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
B2030	EXTERIOR DOORS										
	New Front Door	1	EA	$ 6,500.00	$6,500	$ 250.00	$250	$ -	$0	$ 6,750.00	$6,750
	Screen Doors	3	EA	$ 1,000.00	$3,000	$ 200.00	$600	$ -	$0	$ 1,200.00	$3,600
SUBTOTAL	EXTERIOR DOORS	1	LS	$ 9,500.00	$9,500	$ 850.00	$850	$ -	$0	$ 10,350.00	$10,350

United States Department of the Interior
National Park Service
Class C Construction Cost Estimate

LINE ITEM COST SUMMARY

Project: Cassidy House Phase 1B - Update Condition Assessment Treatment Recommendations and Construction Estimate
Park: William Jefferson Clinton Birthplace Home NHS
Park Alpha: WICL
PMIS: 131181

Estimate By: Michael Orel
Date: 12/22/21
Reviewed By:
Date:

OP
Summary Item: B20 Exterior Enclosure **Total Cost:** $389,591

Summary Item: B20 Exterior Enclosure

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
B20	**Exterior Enclosure**	**1**	**LS**	**$ 248,910.28**	**$248,910**	**$ 110,510.61**	**$110,511**	**$ 30,169.63**	**$30,170**	**$ 389,590.52**	**$389,591**

United States Department of the Interior
National Park Service
Class C Construction Cost Estimate

LINE ITEM COST SUMMARY

Project: Cassidy House Phase 1B - Update Condition Assessment Treatment Recommendations and Construction Estimate
Park: William Jefferson Clinton Birthplace Home NHS
Park Alpha: WICL
PMIS: 131181

Estimate By: Michael Orel
Date: 12/22/21
Reviewed By:
Date:

Summary Item: B30 Roofing **Total Cost:** $39,910

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
B3010	ROOF COVERINGS										
	Demo Roofing	1665	SF	$ -	$0	$ 2.00	$3,331	$ 2.00	$3,331	$ 4.00	$6,661
	New Roofing and Felt	1665	SF	$ 8.00	$13,322	$ 6.00	$9,992	$ -	$0	$ 14.00	$23,314
	New Flashings	213	LF	$ 5.00	$1,065	$ 2.00	$426	$ -	$0	$ 7.00	$1,491
	Reconstruct brick chimney	1	EA	$ 1,200.00	$1,200	$ 2,000.00	$2,000	$ 1,500.00	$1,500	$ 4,700.00	$4,700
	Gutters	128	LF	$ 10.00	$1,280	$ 8.00	$1,024	$ -	$0	$ 18.00	$2,304
	Downspouts	4	EA	$ 240.00	$960	$ 120.00	$480	$ -	$0	$ 360.00	$1,440
SUBTOTAL	**ROOF COVERINGS**	**1665**	**SF**	**$ 10.71**	**$17,827**	**$ 10.36**	**$17,252**	**$ 2.90**	**$4,831**	**$ 23.97**	**$39,910**

Summary Item: B30 Roofing

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
B30	**Roofing**	**1**	**LS**	**$ 17,827.36**	**$17,827**	**$ 17,252.36**	**$17,252**	**$ 4,830.59**	**$4,831**	**$ 39,910.31**	**$39,910**

United States Department of the Interior
National Park Service
Class C Construction Cost Estimate

LINE ITEM COST SUMMARY

Project: Cassidy House Phase 1B - Update Condition Assessment Treatment Recommendations and Construction Estimate
Park: William Jefferson Clinton Birthplace Home NHS
Park Alpha: WICL
PMIS: 131181

Estimate By: Michael Orel
Date: 12/22/21
Reviewed By:
Date:

Summary Item: C10 Interior Construction **Total Cost:** $7,400

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
C1010	INTERIOR PARTITIONS										
	New walls for new mechanical room	120	SF	$ 10.00	$1,200	$ 10.00	$1,200	$ -	$0	$ 20.00	$2,400
SUBTOTAL	INTERIOR PARTITIONS	1	LS	$ 1,200.00	$1,200	$ 1,200.00	$1,200	$ -	$0	$ 2,400.00	$2,400

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
C1020	INTERIOR DOORS										
	new doors for mechanical room	2	EA	$ 2,000.00	$4,000	$ 500.00	$1,000	$ -	$0	$ 2,500.00	$5,000
SUBTOTAL	INTERIOR DOORS	1	LS	$ 4,000.00	$4,000	$ 1,000.00	$1,000	$ -	$0	$ 5,000.00	$5,000

Summary Item: C10 Interior Construction

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
C10	Interior Construction	1	LS	$ 5,200.00	$5,200	$ 2,200.00	$2,200	$ -	$0	$ 7,400.00	$7,400

United States Department of the Interior
National Park Service
Class C Construction Cost Estimate

LINE ITEM COST SUMMARY

Project: Cassidy House Phase 1B - Update Condition Assessment Treatment Recommendations and Construction Estimate
Park: William Jefferson Clinton Birthplace Home NHS
Park Alpha: WICL
PMIS: 131181

Estimate By: Michael Orel
Date: 12/22/21
Reviewed By:
Date:

Summary Item: D30 HVAC **Total Cost:** $3,250

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
D3010	ENERGY SUPPLY										
	Relocate furnace	1	EA	$ 500.00	$500	$ 1,500.00	$1,500	$ -	$0	$ 2,000.00	$2,000
SUBTOTAL	ENERGY SUPPLY	1	LS	$ 500.00	$500	$ 1,500.00	$1,500	$ -	$0	$ 2,000.00	$2,000

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
D3040	DISTRIBUTION SYSTEMS (HVAC)										
MF-2004 Code	Remove and install new attic exhaust fan	1	EA	$ 750.00	$750	$ 500.00	$500	$ -	$0	$ 1,250.00	$1,250
SUBTOTAL	DISTRIBUTION SYSTEMS (HVAC)	1	LS	$ 750.00	$750	$ 500.00	$500	$ -	$0	$ 1,250.00	$1,250

Summary Item: D30 HVAC

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
D30	HVAC	1	LS	$ 1,250.00	$1,250	$ 2,000.00	$2,000	0	$0	$ 3,250.00	$3,250

United States Department of the Interior
National Park Service
Class C Construction Cost Estimate

LINE ITEM COST SUMMARY

Project: Cassidy House Phase 1B - Update Condition Assessment Treatment Recommendations and Construction Estimate
Park: William Jefferson Clinton Birthplace Home NHS
Park Alpha: WICL
PMIS: 131181

Estimate By: Michael Orel
Date: 12/22/21
Reviewed By:
Date:

Summary Item: D50 Electrical **Total Cost:** $4,240

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
D5010	ELECTRICAL SERVICE & DISTRIBUTION										
	Electrical for sump	1	EA	$ 150.00	$150	$ 200.00	$200	$ -	$0	$ 350.00	$350
	Electrical for new mechanical room	1	LS	$ 500.00	$500	$ 500.00	$500	$ -	$0	$ 1,000.00	$1,000
	Relocate electrical panel	1	eEA	$ 350.00	$350	$ 500.00	$500	$ -	$0	$ 850.00	$850
SUBTOTAL	ELECTRICAL SERVICE & DISTRIBUTION	1	LS	$ 1,000.00	$1,000	$ 1,200.00	$1,200	$ -	$0	$ 2,200.00	$2,200

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
D5020	LIGHTING & BRANCH WIRING										
	Salvage and reinstall exterior lighting	1	LS	$ 150.00	$150	$ 1,040.00	$1,040	$ -	$0	$ 1,190.00	$1,190
SUBTOTAL	LIGHTING & BRANCH WIRING	1	LS	$ 150.00	$150	$ 1,040.00	$1,040	$ -	$0	$ 1,190.00	$1,190

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
D5030	COMMUNICATIONS & SECURITY										
	Relocate security alarm panel	1	EA	$ 350.00	$350	$ 500.00	$500	$ -	$0	$ 850.00	$850
SUBTOTAL	COMMUNICATIONS & SECURITY	1	LS	$ 350.00	$350	$ 500.00	$500	$ -	$0	$ 850.00	$850

Summary Item: D50 Electrical

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
D50	Electrical	1	LS	$ 1,500.00	$1,500	$ 2,740.00	$2,740	$ -	$0	$ 4,240.00	$4,240

United States Department of the Interior
National Park Service
Class C Construction Cost Estimate

LINE ITEM COST SUMMARY

Project: Cassidy House Phase 1B - Update Condition Assessment Treatment Recommendations and Construction Estimate
Park: William Jefferson Clinton Birthplace Home NHS
Park Alpha: WICL
PMIS: 131181

Estimate By: Michael Orel
Date: 12/22/21
Reviewed By:
Date:

Summary Item: G10 Site Preparation **Total Cost:** $25,000

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
G1010	SITE CLEARING										
	Provide new Geotechnical report with (2) or (3) borings to 20' depth to inform foundation design.	1	EA	$ -	$0	$ 4,000.00	$4,000	$ -	$0	$ 4,000.00	$4,000
	Archeological Monitoring Allowance	1	LS	$ -	$0	$ 17,000.00	$17,000	$ -	$0	$ 17,000.00	$17,000
SUBTOTAL	SITE CLEARING	1	LS	$ -	$0	$ 21,000.00	$21,000	$ -	$0	$ 21,000.00	$21,000

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
G1030	SITE EARTHWORK										
	Finish and Grade Site	400	SY	$ -	$0	$ 5.00	$2,000	$ 5.00	$2,000	$ 10.00	$4,000
SUBTOTAL	SITE EARTHWORK	1	LS	$ -	$0	$ 2,000.00	$2,000	$ 2,000.00	$2,000	$ 4,000.00	$4,000

Summary Item: G10 Site Preparation

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
G10	Site Preparation	1	LS	$ -	$0	$ 23,000.00	$23,000	$ 2,000.00	$2,000	$ 25,000.00	$25,000

United States Department of the Interior
National Park Service
Class C Construction Cost Estimate

LINE ITEM COST SUMMARY

Project: Cassidy House Phase 1B - Update Condition Assessment Treatment Recommendations and Construction Estimate
Park: William Jefferson Clinton Birthplace Home NHS
Park Alpha: WICL
PMIS: 131181

Estimate By: Michael Orel
Date: 12/22/21
Reviewed By:
Date:

Summary Item: G20 Site Improvements **Total Cost:** $44,328

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
G2030	PEDESTRIAN PAVING										
	Demo West Porch/Ramp, Wood Steps	185	SF	$ -	$0	$ 15.00	$2,775	$ 5.00	$925	$ 20.00	$3,700
	New West Porch	185	Unit	$ 8.00	$1,480	$ 25.00	$4,625	$ -	$0	$ 33.00	$6,105
	Build back west porch columns	2	EA	$ 1,500.00	$3,000	$ 2,600.00	$5,200	$ 500.00	$1,000	$ 4,600.00	$9,200
	Salvage and reinstall Concrete steps	1	LS	$ -	$0	$ 500.00	$500	$ 1,500.00	$1,500	$ 2,000.00	$2,000
	New Concrete Foundation for steps	1	EA	$ 500.00	$500	$ 1,200.00	$1,200	$ -	$0	$ 1,700.00	$1,700
	New Ramp	100	SF	$ 8.00	$800	$ 25.00	$2,500	$ 2.00	$200	$ 35.00	$3,500
	New Railing	40	LF	$ 125.00	$5,000	$ 10.00	$400	$ -	$0	$ 135.00	$5,400
	Shore West Porch Roof	1	EA	$ 500.00	$500	$ 500.00	$500	$ 500.00	$500	$ 1,500.00	$1,500
	Demo NE Porch steps and Walkway	1	EA	$ -	$0	$ 500.00	$500	$ -	$0	$ 500.00	$500
	New NE Porch Steps and walkway and Railing	1	EA	$ 650.00	$650	$ 2,080.00	$2,080	$ 100.00	$100	$ 2,830.00	$2,830
	New Railing @ West Porch Steps	12	LF	$ 125.00	$1,500	$ 25.00	$300	$ -	$0	$ 150.00	$1,800
	Clean and repair Concrete Steps	1	EA	$ 150.00	$150	$ 390.00	$390	$ 753.00	$753	$ 1,293.00	$1,293
SUBTOTAL	PEDESTRIAN PAVING	1	LS	$ 13,580.00	$13,580	$ 20,970.00	$20,970	$ 4,978.00	$4,978	$ 39,528.00	$39,528

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
G2050	LANDSCAPING										
	Description	0	Unit	$ -	$0	$ -	$0	$ -	$0	$ -	$0
	Sod	400	SY	$ 5.00	$2,000	$ 2.00	$800	$ -	$0	$ 7.00	$2,800
	Irrigation System	400	SY	$ 2.00	$800	$ 2.00	$800	$ 1.00	$400	$ 5.00	$2,000
SUBTOTAL	LANDSCAPING	1	LS	$ 2,800.00	$2,800	$ 1,600.00	$1,600	$ 400.00	$400	$ 4,800.00	$4,800

Summary Item: G20 Site Improvements

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
G20	Site Improvements	1	LS	$ 16,380.00	$16,380	$ 22,570.00	$22,570	$ 5,378.00	$5,378	$ 44,328.00	$44,328

Deficiency Ratings (Critical, Serious, Minor)
Condition Ratings (Good, Fair, Poor)

Cassidy House Assessment and Treatment Checklist –

PHASE 2 – Cassidy House Interior Rehabilitation

Uni-format WBC Code	Deficiency Rating	Condition Rating	Treatment	Qty	Unit	Labor	Materials	Equip	Total Cost
GENERAL HOUSE INTERIOR OVERALL									
F2020	Critical	Poor	Provide updated comprehensive hazardous materials survey (lead, asbestos, etc.)	1	LS				
F2020	Critical	Poor	Abate lead paint throughout house (allowance)	1	LS				
C30	N/A	N/A	Take multiple paint sample of all historic finishes prior to lead paint abatement. One sample for analysis and matching and the other for archival record storage by NPS.	1	LS				$5,500
C3020	Serious	Poor	Repair partial interior termite-damaged flooring at first and second floors - 1,800 S.F. x 30% =	540	S.F.				
B1010	Minor	Good	Carefully remove boards from first floor ceiling to expose second floor joists for inspection, sistering, and to install new metal joist hangers.						
B1010	Serious	Poor	Second Floor Framing: Probe all existing joists for deterioration. Estimate 18 total sister joists, approximately 2 x 8 x 15’	18	EA. 15’-0” L.F.				
B1010	Serious	Poor	Second Floor Framing: Install galvanized metal joist hangers (Simpson or similar) to existing joists. Estimated 36 joists with 2 hangers for each joist. If joists are resting on ledger and not on a top plate, structural to provide new detail for attachment.	72	EA.				
C1010	Minor	Good	Remove and haul-off interior gyp board at walls and second floor ceilings except at Room 202. Salvage boards. - 170 L.F. x 10' x 2 sides = 3,400 S.F. + 200' x	3712	SF				

			10' = 2,000 + 550 SF						
C1010	N/A	N/A	New cotton fabric with period-appropriate wallpaper at walls / ceiling (except for 205 and Living Room)	3712	SF				
C3010	N/A	N/A	Replicate wallpaper in Living Room from photo and 205 Closet in video	1,750	SF				
C3010	N/A	N/A	Replica wallpaper throughout (allowance)	1962	SF				
C3030	N/A	N/A	Paint Ceilings	1600	SF				
C3020	Minor	Good	Living Room: Fill-in interior floor grate with new flooring to match.	10	SF				
C3020	Minor	Fair	Refinish wood flooring in areas where wood floors were patched or repaired (first and second floors) - ALLO	1080	SF				
C3010	N/A	N/A	Remove and haul-off wood trim interior doors and interior of exterior windows	1,000	LF				
C3010	N/A	N/A	New paint grade wood trim interior doors and interior of exterior windows with 1 x 6 and 1 x 8 with 1/4 round.	1,000	LF				
C3010	N/A	N/A	New paint grade replica baseboards and quarter-round	227	LF				
C3010	N/A	N/A	Remove and haul-off interior wood block cornice at top of walls / ceiling.	227	LF				
C3010	N/A	N/A	New Interior wood cove molding at top of walls / ceiling.	227	LF				
	Serious	Fair	Strip lead paint from historic doors, repair, and repaint. Strip lead paint from all other exposed surfaces.						In abatement costs
C1020	Minor	Fair	Clean / repair / remove paint at interior door hardware - 50% x 18 =	9	Sets				
C1010	N/A	N/A	Miscellaneous interior patching and finishing allowance for fire protection, electrical, security alarm, and plumbing work. Costs included in demo/repair overall.	600	SF				
C3010	N/A	N/A	Misc. Interior Painting						
	N/A	N/A	Abate Water Heater Used for Interpretation or Replace – No cost included.						Cost not included. Not property of NPS
C1020	N/A	N/A	Install replica new swinging Door 106 a Dining Room/Hall	1	EA				
C1020	N/A	N/A	Reinstall Door 107 to Back Porch.	1	EA				
C1020	N/A	N/A	Reinstall Door 209 at top of stairs in fixed open position	1	EA				
Mechanical, Electrical, Fire Prevention									
D4010	Critical	Poor	Install new dry-pipe fire sprinkler system (including fire utility line to structure). Confirm available pressure with Hope Water & Light.	1800	SF				
G3010			Allowance for new water line for fire suppression	90	LF				
G3010	N/A	N/A	Provide Archeological Investigations water line excavation	1	LS				4000

G4010	Minor	Fair	Remove existing feeder to load center and refeed from new panelboard in comfort station.	190	LF				
In 1B	N/A	N/A	Relocate 100A load center if back porch is restored.	1	EA.				
D5010	Serious	Fair	Remove existing and install new conductors and conduit throughout the building. MC cable will be permitted.	825	SF				
D5010	Serious	Fair	Remove existing and install new interior grounding	1	EA				
D5020			Remove/salvage existing and reinstall. Install new lighting and devices where required. Clean salvaged lighting.	1600	SF				
D5030	Critical	Poor	Remove existing alarm system and stand-alone battery powered smoke detectors and install new fire alarm/intrusion alarm system, including hard-wired detection, smoke, and heat devices throughout the house	1800	SF				
D5040	Minor	Fair	Relocate existing security alarm panel to new location is back porch is restored.	1	EA				
D3010	Minor	Good	Relocate existing condensing units further away from the structure. Include trenching.	2	EA				
D5010	N/A	N/A	Electrical to support relocation of condensing units.	1	EA				
D3010	N/A	N/A	Excavation and design/construction sub-grade trench for condensing lines	1	EA				
D3040	Critical	Poor	Replace damaged insulation and insulate uninsulated ductwork located in crawl space and provide appropriate supports for ductwork to keep it elevated above grade.	200	SF				
D5020	Minor	Poor	Replace light fixture (verify if bulb replacement needed) located in built in cabinet in hall adjacent to kitchen.	1	EA				
D3040	Minor	Poor	Remove 2nd floor bathroom exhaust fan. Do not reinstall.	1	EA				
D3040	Minor	Fair	HVAC 1st Floor – design new distribution and return air system.	900	SF				

United States Department of the Interior
National Park Service
Class C Construction Cost Estimate

BASIS OF ESTIMATE

PROJECT INFORMATION

Project:	Cassidy House Phase 2 - Update Condition Assessment Treatment Recommendations and Construction estimate
Park:	William Jefferson Clinton Birthplace Home NHS
Park Apha:	WICL
PMIS:	131181
Estimate Date:	12/22/2021
Prepared By:	Michael Orel
Company:	CMR
Address:	11006 Parallel Parkway, Suite 200
City, State Zip:	Kansas City KS 66109
Phone:	913-262-6715

BACKGROUND SUPPORTING MATERIAL (Scope of Work):

Estimate based on 2021 AE team site visit to review current conditions. Revised treatment recommendations based on current conditions and 2013 Historic Structure Report and 2014 Cultural Landscape Report. Drawings provided from previous report.

SOURCE OF COST DATA:

Costs were based on a combination of RS means data and the estimators past estimating experience.

ESTIMATE ASSUMPTIONS:

Estimate based on pre-design consulting and previous study drawings

MAJOR CHANGES FROM PREVIOUS ESTIMATE:

N/A

United States Department of the Interior
National Park Service
Class C Construction Cost Estimate

BASIS OF ESTIMATE

PROJECT INFORMATION

Project:	Cassidy House Phase 2 - Update Condition Assessment Treatment Recommendations and Construction estimate
Park:	William Jefferson Clinton Birthplace Home NHS
Park Apha:	WICL
PMIS:	131181
Estimate Date:	12/22/2021

DESCRIPTION OF MARK-UP & ADD-ONS:

Design Contingency:	10.00%	pre-design effort with limited drawings and research
Standard. General Conditions:	10.00%	Contractor direct job costs
Government General Conditions:	5.00%	Government oversight
Contractor Overhead:	18.00%	Contractor indirect job costs and includes bods and permits
Contractor Profit:	10.00%	profit reasonable for a project of this size
Contracting Method Adjustment:	15.00%	contracting method unknown
Annual Inflation Escalation Factor:	6.00%	Projected annual inflation rate.
Time Until Project Midpoint (Months)	12	Number of months from estimate (or data) date until the projects midpoint of construction.

OTHER COMMENTS:

Project requested Class C cost estimate with material/labor/equipment breakout. To achieve this contract requirement the AE team chose to use the Class A Template.

United States Department of the Interior
National Park Service
Class C Construction Cost Estimate

BID ITEM COST SUMMARY

Project: Cassidy House Phase 2 - Update Condition Assessment Treatment Recommendations and Construction estimate
Park: William Jefferson Clinton Birthplace Home NHS
Park Alpha: WICL
PMIS Number: 131181

Estimate By: Michael Orel
Date: 12/22/21
Reviewed By:
Date:

Bid Item Number	Asset / Project Element / Description	Size/Count	Units
BID ITEM 1	PHASE 2 – Cassidy House Interior Rehabilitation	1	LS

Item No.	WBS	Description	Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Direct Cost/Unit	Total Direct Costs	NET Cost/Unit	Total NET Costs
1	A10	Foundations	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2	A20	Basement Construction	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
3	B10	Superstructure	$ 2,266.80	$ 2,267	$ 20,157.67	$ 20,157.67	$ 1,545.61	$ 1,545.61	$ 23,970	$ 23,970	$ 47,312.27	$ 47,312
4	B20	Exterior Enclosure	$ 13,500.00	$ 13,500	$ 13,500.00	$ 13,500.00	$ -	$ -	$ 27,000	$ 27,000	$ 53,292.73	$ 53,293
5	B30	Roofing	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
6	C10	Interior Construction	$ 40,572.08	$ 40,572	$ 65,857.54	$ 65,857.54	$ 7,424.42	$ 7,424.42	$ 113,854	$ 113,854	$ 224,725.63	$ 224,726
7	C20	Stairs	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
8	C30	Interior Finishes	$ 152,778.13	$ 152,778	$ 103,263.64	$ 103,263.64	$ 7,592.21	$ 7,592.21	$ 263,634	$ 263,634	$ 520,362.00	$ 520,362
9	D10	Conveying Systems	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
10	D20	Plumbing Systems	$ 500.00	$ 500	$ 1,440.00	$ 1,440.00	$ -	$ -	$ 1,940	$ 1,940	$ 3,829.18	$ 3,829
11	D30	HVAC	$ 9,900.00	$ 9,900	$ 15,210.00	$ 15,210.00	$ 1,950.00	$ 1,950.00	$ 27,060	$ 27,060	$ 53,411.16	$ 53,411
12	D40	Fire Protection	$ 9,000.00	$ 9,000	$ 9,000.00	$ 9,000.00	$ -	$ -	$ 18,000	$ 18,000	$ 35,528.49	$ 35,528
13	D50	Electrical	$ 22.00	$ 35,200	$ 19.50	$ 31,200.00	$ 4.00	$ 6,400.00	$ 46	$ 72,800	$ 89.81	$ 143,693
14	E10	Equipment	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
15	E20	Furnishings	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
16	F10	Special Construction	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
17	F20	Selective Building Demolition	$ -	$ -	$ 34,000.00	$ 34,000.00	$ -	$ -	$ 34,000	$ 34,000	$ 67,109.36	$ 67,109
18	G10	Site Preparation	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
19	G20	Site Improvements	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
20	G30	Site Mechanical Utilities	$ 1,350.00	$ 1,350	$ 6,250.00	$ 6,250.00	$ 1,800.00	$ 1,800.00	$ 9,400	$ 9,400	$ 18,553.77	$ 18,554
21	G40	Site Electrical Utilities	$ 6,250.00	$ 6,250	$ 11,000.00	$ 11,000.00	$ -	$ -	$ 17,250	$ 17,250	$ 34,048.13	$ 34,048
22	G50	Other Site Construction	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
23	XX	Special Use - 1	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
24	XX	Special Use - 2	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
25	XX	Special Use - 3	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
		Subtotal Direct Construction Costs	**$ 236,139.01**	**$ 271,317**	**$ 279,698.35**	**$ 310,878.85**	**$ 20,316.23**	**$ 26,712.23**	**$ 536,154**	**$608,908**	**$ 1,058,262.53**	**$1,201,866**
		Total Value of Government Furnished Property (GFP) Inc. in Direct Cost		**$0.00**		**$ -**		**$ -**	**$ -**	**$0**		**In most cases GFP is normally zero - see footnote-**
		Direct Cost Subtotal without GFP		$ 271,317		$ 310,878.85		$ 26,712.23		**$608,908**		
		Design Contingency	10.00%							$60,891		
		Total Direct Construction Costs								**$669,799**		
		Standard General Conditions	10.00%	Applied to Total Direct Construction Cost less GFP						$66,980		
		Government General Conditions	5.00%	Applied to Total Direct Construction Cost less GFP						$33,490		
		Subtotal NET Construction Cost								**$770,269**		
		Overhead	18.00%							$138,648		
		Profit	10.00%							$77,027		
		Estimated NET Construction Cost								**$985,944**		
		Contracting Method Adjustment	15.00%							$147,892		
		Inflation Escalation	12	Months	Annual Rate =	6.00%		Inc. Bonds & CMA		$68,030		
		Total Estimated NET Cost of Construction								**$1,201,866**		

GFP costs only apply when the Government pre-purchases items, or provides other materials out of Government inventory, to be installed by contractor. Adjustments and Markup on GFP only include Inflation Escalation; No other adjustment factors or O&P markup have been applied.

United States Department of the Interior
National Park Service
Class C Construction Cost Estimate

LINE ITEM COST SUMMARY

Project: Cassidy House Phase 2 - Update Condition Assessment Treatment Recommendations and Construction estimate
Park: William Jefferson Clinton Birthplace Home NHS
Park Alpha: WICL
PMIS: 131181

Estimate By: Michael Orel
Date: 12/22/21
Reviewed By:
Date:

Summary Item: B10 Superstructure **Total Cost:** $23,970

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
B1010	FLOOR CONSTRUCTION										
MF-2004 Code	Demo 1st floor ceilng (drywall)	773	SF	$ -	$0	$ 2.00	$1,546	$ -	$0	$ 2.00	$1,546
MF-2004 Code	Salvage and re-install 1st floor ceiing wood boards	773	SF	$ 1.00	$773	$ 15.00	$11,592	$ 2.00	$1,546	$ 18.00	$13,910
MF-2004 Code	Sister 2nd floor joists allwance	18	EA	$ 75.00	$1,350	$ 250.00	$4,500	$ -	$0	$ 325.00	$5,850
MF-2004 Code	Joist Hangars at 2nd floor	72	EA	$ 2.00	$144	$ 35.00	$2,520	$ -	$0	$ 37.00	$2,664
SUBTOTAL	FLOOR CONSTRUCTION	18	SF	$ 125.93	$2,267	$ 1,119.87	$20,158	$ 85.87	$1,546	$ 1,331.67	$23,970

Summary Item: B10 Superstructure

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
B10	Superstructure	1	LS	$ 2,266.80	$2,267	$ 20,157.67	$20,158	$ 1,545.61	$1,546	$ 23,970.09	$23,970

United States Department of the Interior
National Park Service
Class C Construction Cost Estimate

LINE ITEM COST SUMMARY

Project: Cassidy House Phase 2 - Update Condition Assessment Treatment Recommendations and Construction estimate
Park: William Jefferson Clinton Birthplace Home NHS
Park Alpha: WICL
PMIS: 131181

Estimate By: Michael Orel
Date: 12/22/21
Reviewed By:
Date:

OP
Total Cost: $27,000

Summary Item: B20 Exterior Enclosure

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
B2020	EXTERIOR WINDOWS										
	Windows	9	EA	$ 1,500.00	$13,500	$ 1,500.00	$13,500	$ -	$0	$ 3,000.00	$27,000
SUBTOTAL	EXTERIOR WINDOWS	9	EA	$ 1,500.00	$13,500	$ 1,500.00	$13,500	$ -	$0	$ 3,000.00	$27,000

Summary Item: B20 Exterior Enclosure

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
B20	Exterior Enclosure	1	LS	$ 13,500.00	$13,500	$ 13,500.00	$13,500	$ -	$0	$ 27,000.00	$27,000

United States Department of the Interior
National Park Service
Class C Construction Cost Estimate

LINE ITEM COST SUMMARY

Project: Cassidy House Phase 2 - Update Condition Assessment Treatment Recommendations and Construction estimate
Park: William Jefferson Clinton Birthplace Home NHS
Park Alpha: WICL
PMIS: 131181

Estimate By: Michael Orel
Date: 12/22/21
Reviewed By:
Date:

Summary Item: C10 **Interior Construction** **Total Cost:** $113,854

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
C1010	INTERIOR PARTITIONS										
	Demo Gyp board and partially demo board walls and 2nd floor ceilings	3712	SF	$ -	$0	$ 5.00	$18,561	$ 1.00	$3,712	$ 6.00	$22,273
	New cotton fabric wall/ceiling paper	3712	SF	$ 10.00	$37,122	$ 12.00	$44,546	$ 1.00	$3,712	$ 23.00	$85,381
SUBTOTAL	INTERIOR PARTITIONS	1	LS	$ 37,122.08	$37,122	$ 63,107.54	$63,108	$ 7,424.42	$7,424	$ 107,654.03	$107,654

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
C1020	INTERIOR DOORS										
	Door hardware restoration	9	EA	$ 150.00	$1,350	$ 200.00	$1,800	$ -	$0	$ 350.00	$3,150
	New door and hardware (door 106)	1	EA	$ 1,800.00	$1,800	$ 350.00	$350	$ -	$0	$ 2,150.00	$2,150
	Reinstall Door 107 to Back Porch.	1	EA	$ 150.00	$150	$ 300.00	$300	$ -	$0	$ 450.00	$450
	Reinstall Door 209 at top of stairs in fixed open position	1	EA	$ 150.00	$150	$ 300.00	$300	$ -	$0	$ 450.00	$450
SUBTOTAL	INTERIOR DOORS	1	LS	$ 3,450.00	$3,450	$ 2,750.00	$2,750	$ -	$0	$ 6,200.00	$6,200

Summary Item: C10 **Interior Construction**

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
C10	Interior Construction	1	LS	$ 40,572.08	$40,572	$ 65,857.54	$65,858	$ 7,424.42	$7,424	$ 113,854.03	$113,854

United States Department of the Interior
National Park Service
Class C Construction Cost Estimate

LINE ITEM COST SUMMARY

Project: Cassidy House Phase 2 - Update Condition Assessment Treatment Recommendations and Construction estimate
Park: William Jefferson Clinton Birthplace Home NHS
Park Alpha: WICL
PMIS: 131181

Estimate By: Michael Orel
Date: 12/22/21
Reviewed By:
Date:

Summary Item: C30 Interior Finishes **Total Cost:** $263,634

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
C3010	WALL FINISHES										
	Reproduction Wallpaper at living room and 205	1750	SF	$ 28.00	$49,000	$ 15.00	$26,250	$ 1.00	$1,750	$ 44.00	$77,000
	Period Wall paper throughout	1962	SF	$ 28.00	$54,942	$ 15.00	$29,433	$ 1.00	$1,962	$ 44.00	$86,337
	Misc Interior painting	1	LS	$ 1,500.00	$1,500	$ 3,500.00	$3,500	$ 100.00	$100	$ 5,100.00	$5,100
	Replace interior Trim ALLOWANCE	1000	LF	$ 25.00	$25,000	$ 15.00	$15,000	$ 1.00	$1,000	$ 41.00	$41,000
	New baseboard	227	LF	$ 15.00	$3,398	$ 10.00	$2,265	$ -	$0	$ 25.00	$5,663
	New Crown Moulding	227	LF	$ 35.00	$7,928	$ 10.00	$2,265	$ -	$0	$ 45.00	$10,194
SUBTOTAL	WALL FINISHES	1	LS	$ 141,768.13	$141,768	$ 78,713.64	$78,714	$ 4,812.21	$4,812	$ 225,293.97	$225,294

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
C3020	FLOOR FINISHES										
	Repair termite damaged flooring	540	SF	$ 10.00	$5,400	$ 10.00	$5,400	$ -	$0	$ 20.00	$10,800
	Infill floor at Return air grate	10	SF	$ 25.00	$250	$ 25.00	$250	$ 10.00	$100	$ 60.00	$600
	Refinish wood floors ALLOW	1080	SF	$ 2.00	$2,160	$ 5.00	$5,400	$ 1.00	$1,080	$ 8.00	$8,640
SUBTOTAL	FLOOR FINISHES	1	LS	$ 7,810.00	$7,810	$ 11,050.00	$11,050	$ 1,180.00	$1,180	$ 20,040.00	$20,040

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
C3030	CEILING FINISHES										
	Paint Ceiling	1600	sf	$ 2.00	$3,200	$ 5.00	$8,000	$ 1.00	$1,600	$ 8.00	$12,800
SUBTOTAL	CEILING FINISHES	1	LS	$ 3,200.00	$3,200	$ 8,000.00	$8,000	$ 1,600.00	$1,600	$ 12,800.00	$12,800

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
BASE CODE	Testing										
	Historic paint sampling and analysis	1	LS	$ -	$0	$ 5,500.00	$5,500	$ -	$0	$ 5,500.00	$5,500
SUBTOTAL	Testing	1	LS	$ -	$0	$ 5,500.00	$5,500	$ -	$0	$ 5,500.00	$5,500

United States Department of the Interior
National Park Service
Class C Construction Cost Estimate

LINE ITEM COST SUMMARY

Project: Cassidy House Phase 2 - Update Condition Assessment Treatment Recommendations and Construction estimate
Park: William Jefferson Clinton Birthplace Home NHS
Park Alpha: WICL
PMIS: 131181

Estimate By: Michael Orel
Date: 12/22/21
Reviewed By:
Date:

Summary Item: C30 Interior Finishes **Total Cost:** $263,634

Summary Item: C30 Interior Finishes

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
C30	Interior Finishes	1	LS	$ 152,778.13	$152,778	$ 103,263.64	$103,264	$ 7,592.21	$7,592	$ 263,633.97	$263,634

United States Department of the Interior
National Park Service
Class C Construction Cost Estimate

LINE ITEM COST SUMMARY

Project: Cassidy House Phase 2 - Update Condition Assessment Treatment Recommendations and Construction estimate
Park: William Jefferson Clinton Birthplace Home NHS
Park Alpha: WICL
PMIS: ####

Estimate By: Michael Orel
Date: 12/22/21
Reviewed By:
Date:

Summary Item: D20 Plumbing Systems **Total Cost:** $1,940

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
D2010	PLUMBING FIXTURES										
	Drain water from all fixture and disconnect supply	1	EA	$ 150.00	$150	$ 1,040.00	$1,040	$ -	$0	$ 1,190.00	$1,190
SUBTOTAL	PLUMBING FIXTURES	1	LS	$ 150.00	$150	$ 1,040.00	$1,040	$ -	$0	$ 1,190.00	$1,190

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
D2020	DOMESTIC WATER DISTRIBUTION										
	Install exterior hose bibb	1	EA	$ 350.00	$350	$ 400.00	$400	$ -	$0	$ 750.00	$750
SUBTOTAL	DOMESTIC WATER DISTRIBUTION	1	LS	$ 350.00	$350	$ 400.00	$400	$ -	$0	$ 750.00	$750

Summary Item: D20 Plumbing Systems

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
D20	Plumbing Systems	1	LS	$ 500.00	$500	$ 1,440.00	$1,440	$ -	$0	$ 1,940.00	$1,940

United States Department of the Interior
National Park Service
Class C Construction Cost Estimate

LINE ITEM COST SUMMARY

Project: Cassidy House Phase 2 - Update Condition Assessment Treatment Recommendations and Construction estimate
Park: William Jefferson Clinton Birthplace Home NHS
Park Alpha: WICL
PMIS: 131181

Estimate By: Michael Orel
Date: 12/22/21
Reviewed By:
Date:

Summary Item: D30 HVAC **Total Cost:** $27,060

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
D3010	ENERGY SUPPLY										
	Relocate Conensing Units	2	EA	$ 500.00	$1,000	$ 600.00	$1,200	$ 150.00	$300	$ 1,250.00	$2,500
	Trenching for condensing unit lines	50	LF	$ 12.00	$600	$ 15.00	$750	$ 15.00	$750	$ 42.00	$2,100
SUBTOTAL	ENERGY SUPPLY	52	SF	$ 30.77	$1,600	$ 37.50	$1,950	$ 20.19	$1,050	$ 88.46	$4,600

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
D3040	DISTRIBUTION SYSTEMS (HVAC)										
	Insulate and support ductwork in crawl space	1	LS	$ 800.00	$800	$ 2,500.00	$2,500	$ 400.00	$400	$ 3,700.00	$3,700
	Remove restroom exhaust fan, swithc, and wiring	1	EA	$ -	$0	$ 260.00	$260	$ -	$0	$ 260.00	$260
	Relocate supply and return air at 1st floor	1	LS	$ 7,500.00	$7,500	$ 10,500.00	$10,500	$ 500.00	$500	$ 18,500.00	$18,500
SUBTOTAL	DISTRIBUTION SYSTEMS (HVAC)	1	LS	$ 8,300.00	$8,300	$ 13,260.00	$13,260	$ 900.00	$900	$ 22,460.00	$22,460

Summary Item: D30 HVAC

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
D30	HVAC	1	LS	$ 9,900.00	$9,900	$ 15,210.00	$15,210	1950	$1,950	$ 27,060.00	$27,060

United States Department of the Interior
National Park Service
Class C Construction Cost Estimate

LINE ITEM COST SUMMARY

Project: Cassidy House Phase 2 - Update Condition Assessment Treatment Recommendations and Construction estimate
Park: William Jefferson Clinton Birthplace Home NHS
Park Alpha: WICL
PMIS: 131181

Estimate By: Michael Orel
Date: 12/22/21
Reviewed By:
Date:

Summary Item: D40 Fire Protection **Total Cost:** $18,000

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
D4010	FIRE PROTECTION SPRINKLERS SYSTEMS										
	New Sprinkler Ssytem	1800	SF	$ 5.00	$9,000	$ 5.00	$9,000	$ -	$0	$ 10.00	$18,000
SUBTOTAL	SYSTEMS	1	LS	$ 9,000.00	$9,000	$ 9,000.00	$9,000	$ -	$0	$ 18,000.00	$18,000

Summary Item: D40 Fire Protection

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
D40	Fire Protection	1	LS	$ 9,000.00	$9,000	$ 9,000.00	$9,000	$ -	$0	$ 18,000.00	$18,000

United States Department of the Interior
National Park Service
Class C Construction Cost Estimate

LINE ITEM COST SUMMARY

Project: Cassidy House Phase 2 - Update Condition Assessment Treatment Recommendations and Construction estimate
Park: William Jefferson Clinton Birthplace Home NHS
Park Alpha: WICL
PMIS: 131181

Estimate By: Michael Orel
Date: 12/22/21
Reviewed By:
Date:

Summary Item: D50 Electrical **Total Cost:** $72,800

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
D5010	ELECTRICAL SERVICE & DISTRIBUTION										
	Entire House	1600	SF	$ 2.00	$3,200	$ 2.00	$3,200	$ 1.00	$1,600	$ 5.00	$8,000
SUBTOTAL	ELECTRICAL SERVICE & DISTRIBUTION	1600	SF	$ 2.00	$3,200	$ 2.00	$3,200	$ 1.00	$1,600	$ 5.00	$8,000

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
D5020	LIGHTING & BRANCH WIRING										
	Entire House	1600	SF	$ 15.00	$24,000	$ 5.00	$8,000	$ 1.00	$1,600	$ 21.00	$33,600
	Slavage and reinstall historic Lighting	1600	SF	$ 2.00	$3,200	$ 10.00	$16,000	$ -	$0	$ 12.00	$19,200
SUBTOTAL	LIGHTING & BRANCH WIRING	1600	SF	$ 17.00	$27,200	$ 15.00	$24,000	$ 1.00	$1,600	$ 33.00	$52,800

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
D5030	COMMUNICATIONS & SECURITY & FIRE ALARM										
	Entire House	1600	SF	$ 2.00	$3,200	$ 1.50	$2,400	$ 1.00	$1,600	$ 4.50	$7,200
SUBTOTAL	ALARM	1600	LS	$ 2.00	$3,200	$ 1.50	$2,400	$ 1.00	$1,600	$ 4.50	$7,200

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
D5040	SPECIAL ELECTRICAL SYSTEMS										
	Entire House	1600	SF	$ 1.00	$1,600	$ 1.00	$1,600	$ 1.00	$1,600	$ 3.00	$4,800
SUBTOTAL	SPECIAL ELECTRICAL SYSTEMS	1	LS	$ 1,600.00	$1,600	$ 1,600.00	$1,600	$ 1,600.00	$1,600	$ 4,800.00	$4,800

Summary Item: D50 Electrical

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
D50	Electrical	1600	SF	$ 22.00	$35,200	$ 19.50	$31,200	$ 4.00	$6,400	$ 45.50	$72,800

United States Department of the Interior
National Park Service
Class C Construction Cost Estimate

LINE ITEM COST SUMMARY

Project: Cassidy House Phase 2 - Update Condition Assessment Treatment Recommendations and Construction estimate
Park: William Jefferson Clinton Birthplace Home NHS
Park Alpha: WICL
PMIS: 131181

Estimate By: Michael Orel
Date: 12/22/21
Reviewed By:
Date:

Summary Item: F20 Selective Building Demolition **Total Cost:** $34,000

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
F2020	HAZARDOUS COMPONENTS ABATEMENT										
	Haz-Mat Testing	1	LS	$ -	$0	$ 4,000.00	$4,000	$ -	$0	$ 4,000.00	$4,000
	Abatement ALLOWANCE	1	LS	$ -	$0	$ 30,000.00	$30,000	$ -	$0	$ 30,000.00	$30,000
SUBTOTAL	ABATEMENT	1	LS	$ -	$0	$ 34,000.00	$34,000	$ -	$0	$ 34,000.00	$34,000

Summary Item: F20 Selective Building Demolition

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
F20	Selective Building Demolition	1	LS	$ -	$0	$ 34,000.00	$34,000	$ -	$0	$ 34,000.00	$34,000

United States Department of the Interior
National Park Service
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LINE ITEM COST SUMMARY

Project: Cassidy House Phase 2 - Update Condition Assessment Treatment Recommendations and Construction estimate
Park: William Jefferson Clinton Birthplace Home NHS
Park Alpha: WICL
PMIS: 131181

Estimate By: Michael Orel
Date: 12/22/21
Reviewed By:
Date:

Summary Item: G30 Site Mechanical Utilities **Total Cost:** $9,400

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
G3010	WATER SUPPLY										
	New Waterline for Fire ALLOWANCE	90	LF	$ 15.00	$1,350	$ 25.00	$2,250	$ 20.00	$1,800	$ 60.00	$5,400
	Archeological Monitoring	1	LS	$ -	$0	$ 4,000.00	$4,000	$ -	$0	$ 4,000.00	$4,000
SUBTOTAL	WATER SUPPLY	1	LS	$ 1,350.00	$1,350	$ 6,250.00	$6,250	$ 1,800.00	$1,800	$ 9,400.00	$9,400

Summary Item: G30 Site Mechanical Utilities

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
G30	Site Mechanical Utilities	1	LS	$ 1,350.00	$1,350	$ 6,250.00	$6,250	1800	$1,800	$ 9,400.00	$9,400

United States Department of the Interior
National Park Service
Class C Construction Cost Estimate

LINE ITEM COST SUMMARY

Project: Cassidy House Phase 2 - Update Condition Assessment Treatment Recommendations and Construction estimate
Park: William Jefferson Clinton Birthplace Home NHS
Park Alpha: WICL
PMIS: 131181

Estimate By: Michael Orel
Date: 12/22/21
Reviewed By:
Date:

Summary Item: G40 Site Electrical Utilities **Total Cost:** $17,250

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
G4010	ELECTRICAL DISTRIBUTION										
	New panel in Comfort station	1	EA	$ 1,500.00	$1,500	$ 1,500.00	$1,500	$ -	$0	$ 3,000.00	$3,000
	New Feeder from Comfort Station	190	LF	$ 25.00	$4,750	$ 50.00	$9,500	$ -	$0	$ 75.00	$14,250
SUBTOTAL	ELECTRICAL DISTRIBUTION	1	LS	$ 6,250.00	$6,250	$ 11,000.00	$11,000	$ -	$0	$ 17,250.00	$17,250

Summary Item: G40 Site Electrical Utilities

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
G40	Site Electrical Utilities	1	LS	$ 6,250.00	$6,250	$ 11,000.00	$11,000	$ -	$0	$ 17,250.00	$17,250

VISITOR CENTER TREATMENT & COSTS

VISITOR CENTER

Phase IA
- Treatment Checklist
- Cost Estimate

Phase IB
- Treatment Checklist
- Cost Estimate

Phase IC
- Treatment Checklist
- Cost Estimate

Deficiency Ratings (Critical, Serious, Minor)
Condition Ratings (Good, Fair, Poor)

Visitor Center Assessment and Treatment Checklist

PHASE IA – Critical Framing and South Porch/Ramp Replacement and Accessibility Improvement

Uni-format WBC Code	Deficiency Rating	Condition Rating	Treatment	Qty	Unit	Labor	Materials	Equip	Total Cost
G2040	Critical	Poor	South Porch and Ramp: Remove existing deteriorated porch, steps, and ramp in their entirety. Install new wood ramp and steps. New design to be more maintenance-friendly and constructed to not attach to the side of the house. This will require new footings, railings, and a new entrance door and ABA-compliant hardware, since moving the ramp will reverse the swing of the entrance door. May require new piers and archeological monitoring. Install automatic ADA door operator.	1	EA				
C3020	Critical	Poor	Accessibility: Re-lay brick hearths to be flush with floor or install beveled edge to meet ABA requirements for floor level change at perimeter of hearths	2	EA				
B1010	Critical	Poor	Install new joist to beam wood connections in area below Corridor 105. Estimated (10) connections using metal joist hangers (Simpson or similar) …CONTINUED BELOW	10	EA Hangers				
B1010			And 2 x 8 x 4'-0" supplemental framing.	10	40 LF Framing				
G2040			Archeological Monitoring Allowance	1	LS				

	Critical	Poor	Infill openings in windows that will not close properly to prevent weather and pests from entering						No Costs included – by park maintenance staff

United States Department of the Interior
National Park Service
Class C Construction Cost Estimate

BASIS OF ESTIMATE

PROJECT INFORMATION

Project:	Visitor Center Phase 1A - Update Condition Assessment Treatment Recommendations and Construction Estimate
Park:	William Jefferson Clinton Birthplace Home NHS
Park Apha:	WICL
PMIS:	131181
Estimate Date:	12/22/2021
Prepared By:	Michael Orel
Company:	CMR
Address:	11006 Parallel Parkway, Suite 200
City, State Zip:	Kansas City KS 66109
Phone:	913-262-6715

BACKGROUND SUPPORTING MATERIAL (Scope of Work):

Estimate based on 2021 AE team site visit to review current conditions. Revised treatment recommendations based on current conditions and 2013 Historic Structure Report and 2014 Cultural Landscape Report. Drawings provided from previous report.

SOURCE OF COST DATA:

Costs were based on a combination of RS means data and the estimators past estimating experience.

ESTIMATE ASSUMPTIONS:

Estimate based on pre-design consulting and previous study drawings

MAJOR CHANGES FROM PREVIOUS ESTIMATE:

N/A

United States Department of the Interior
National Park Service
Class C Construction Cost Estimate

BASIS OF ESTIMATE

PROJECT INFORMATION

Project:	Visitor Center Phase 1A - Update Condition Assessment Treatment Recommendations and Construction Estimate
Park:	William Jefferson Clinton Birthplace Home NHS
Park Apha:	WICL
PMIS:	131181
Estimate Date:	12/22/2021

DESCRIPTION OF MARK-UP & ADD-ONS:

Design Contingency:	10.00%	pre-design effort with limited drawings and research
Standard. General Conditions:	10.00%	Contractor direct job costs
Government General Conditions:	5.00%	Government oversight
Contractor Overhead:	18.00%	Contractor indirect job costs and includes bods and permits
Contractor Profit:	10.00%	profit reasonable for a project of this size
Contracting Method Adjustment:	15.00%	contracting method unknown
Annual Inflation Escalation Factor:	6.00%	Projected annual inflation rate.
Time Until Project Midpoint (Months)	12	Number of months from estimate (or data) date until the projects midpoint of construction.

OTHER COMMENTS:

Project requested Class C cost estimate with material/labor/equipment breakout. To achieve this contract requirement the AE team chose to use the Class A Template.

United States Department of the Interior
National Park Service
Class C Construction Cost Estimate

BID ITEM COST SUMMARY

Project: Visitor Center Phase 1A - Update Condition Assessment Treatment Recommendations and Construction Estimate
Park: William Jefferson Clinton Birthplace Home NHS
Park Alpha: WICL
PMIS Number: 131181

Estimate By: Michael Orel
Date: 12/22/21
Reviewed By:
Date:

Bid Item Number	Asset / Project Element / Description	Size/Count	Units
BID ITEM 1	PHASE IA – Critical Framing and South Porch/Ramp Replacement and Accessibility Improvement	1	LS

Item No.	WBS	Description	Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Direct Cost/Unit	Total Direct Costs	NET Cost/Unit	Total NET Costs
1	A10	Foundations	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2	A20	Basement Construction	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
3	B10	Superstructure	$ 250.00	$ 250	$ 4,250.00	$ 4,250.00	$ 200.00	$ 200.00	$ 4,700	$ 4,700	$ 9,276.88	$ 9,277
4	B20	Exterior Enclosure	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
5	B30	Roofing	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
6	C10	Interior Construction	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
7	C20	Stairs	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
8	C30	Interior Finishes	$ 360.00	$ 360	$ 1,080.00	$ 1,080.00	$ 6.00	$ 6.00	$ 1,446	$ 1,446	$ 2,854.12	$ 2,854
9	D10	Conveying Systems	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
10	D20	Plumbing Systems	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
11	D30	HVAC	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
12	D40	Fire Protection	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
13	D50	Electrical	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
14	E10	Equipment	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
15	E20	Furnishings	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
16	F10	Special Construction	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
17	F20	Selective Building Demolition	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
18	G10	Site Preparation	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
19	G20	Site Improvements	$ 12,043.31	$ 12,043	$ 5,411.65	$ 5,411.65	$ 388.11	$ 388.11	$ 17,843	$ 17,843	$ 35,218.74	$ 35,219
20	G30	Site Mechanical Utilities	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
21	G40	Site Electrical Utilities	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
22	G50	Other Site Construction	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
23	XX	Special Use - 1	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
24	XX	Special Use - 2	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
25	XX	Special Use - 3	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
		Subtotal Direct Construction Costs	**$ 12,653.31**	**$ 12,653**	**$ 10,741.65**	**$ 10,741.65**	**$ 594.11**	**$ 594.11**	**$ 23,989**	**$23,989**	**$ 47,349.74**	**$47,350**
		Total Value of Government Furnished Property (GFP) Inc. in Direct Cost		**$0.00**		**$ -**		**$ -**	**$ -**	**$0**	**In most cases GFP is normally zero - see footnote-**	
		Direct Cost Subtotal without GFP		$ 12,653		$ 10,741.65		$ 594.11		**$23,989**		
		Design Contingency	10.00%							$2,399		
		Total Direct Construction Costs								**$26,388**		
		Standard General Conditions	10.00%	Applied to Total Direct Construction Cost less GFP						$2,639		
		Government General Conditions	5.00%	Applied to Total Direct Construction Cost less GFP						$1,319		
		Subtotal NET Construction Cost								**$30,346**		
		Overhead	18.00%							$5,462		
		Profit	10.00%							$3,035		
		Estimated NET Construction Cost								**$38,843**		
		Contracting Method Adjustment	15.00%							$5,826		
		Inflation Escalation	12	Months	Annual Rate =	6.00%			Inc. Bonds & CMA	$2,680		
		Total Estimated NET Cost of Construction								**$47,350**		

GFP costs only apply when the Government pre-purchases items, or provides other materials out of Government inventory, to be installed by contractor. Adjustments and Markup on GFP only include Inflation Escalation; No other adjustment factors or O&P markup have been applied.

United States Department of the Interior
National Park Service
Class C Construction Cost Estimate

LINE ITEM COST SUMMARY

Project: Visitor Center Phase 1A - Update Condition Assessment Treatment Recommendations and Construction Estimate
Park: William Jefferson Clinton Birthplace Home NHS
Park Alpha: WICL
PMIS: 131181

Estimate By: Michael Orel
Date: 12/22/21
Reviewed By:
Date:

Summary Item: B10 Superstructure **Total Cost:** $4,700

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
B1010	FLOOR CONSTRUCTION										
	Hangers	10	EA	$ 1.00	$10	$ 65.00	$650	$ -	$0	$ 66.00	$660
	Framing 2x8	40	LF	$ 6.00	$240	$ 90.00	$3,600	$ 5.00	$200	$ 101.00	$4,040
SUBTOTAL	**FLOOR CONSTRUCTION**	**1000**	**LS**	**$ 0.25**	**$250**	**$ 4.25**	**$4,250**	**$ 0.20**	**$200**	**$ 4.70**	**$4,700**

Summary Item: B10 Superstructure

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
B10	**Superstructure**	**1**	**LS**	**$ 250.00**	**$250**	**$ 4,250.00**	**$4,250**	**$ 200.00**	**$200**	**$ 4,700.00**	**$4,700**

United States Department of the Interior
National Park Service
Class C Construction Cost Estimate

LINE ITEM COST SUMMARY

Project: Visitor Center Phase 1A - Update Condition Assessment Treatment Recommendations and Construction Estimate
Park: William Jefferson Clinton Birthplace Home NHS
Park Alpha: WICL
PMIS: 131181

Estimate By: Michael Orel
Date: 12/22/21
Reviewed By:
Date:

Summary Item: C30 Interior Finishes **Total Cost:** $1,446

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
C3020	FLOOR FINISHES										
	Oak Bevel	24	LF	$ 15.00	$360	$ 45.00	$1,080	$ 0.25	$6	$ 60.25	$1,446
SUBTOTAL	FLOOR FINISHES	1	LS	$ 360.00	$360	$ 1,080.00	$1,080	$ 6.00	$6	$ 1,446.00	$1,446

Summary Item: C30 Interior Finishes

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
C30	Interior Finishes	1	LS	$ 360.00	$360	$ 1,080.00	$1,080	$ 6.00	$6	$ 1,446.00	$1,446

United States Department of the Interior
National Park Service
Class C Construction Cost Estimate

LINE ITEM COST SUMMARY

Project: Visitor Center Phase 1A - Update Condition Assessment Treatment Recommendations and Construction Estimate
Park: William Jefferson Clinton Birthplace Home NHS
Park Alpha: WICL
PMIS: 131181

Estimate By: Michael Orel
Date: 12/22/21
Reviewed By:
Date:

Summary Item: G20 Site Improvements **Total Cost:** $17,843

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
G2040	SITE DEVELOPMENT										
	South Porch and Ramp: Remove existing deteriorated porch, steps, and ramp in their entirety. Install new wood ramp and steps	188	SF	$ 30.00	$5,643	$ 15.00	$2,822	$ 1.00	$188	$ 46.00	$8,653
	Foundation ALLOW	4	Unit	$ 100.00	$400	$ 200.00	$800	$ 50.00	$200	$ 350.00	$1,400
	Archeological Monitoring ALLOW	12	Hrs	$ -	$0	$ 95.00	$1,140	$ -	$0	$ 95.00	$1,140
	New Wood/Glass Door at Ramp	1	EA	$ 2,500.00	$2,500	$ 150.00	$150	$ -	$0	$ 2,650.00	$2,650
	Electronic ADA Closer	1	EA	$ 3,500.00	$3,500	$ 500.00	$500	$ -	$0	$ 4,000.00	$4,000
SUBTOTAL	**SITE DEVELOPMENT**	**1**	**LS**	**$ 12,043.31**	**$12,043**	**$ 5,411.65**	**$5,412**	**$ 388.11**	**$388**	**$ 17,843.07**	**$17,843**

Summary Item: G20 Site Improvements

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
G20	**Site Improvements**	**1**	**LS**	**$ 12,043.31**	**$12,043**	**$ 5,411.65**	**$5,412**	**$ 388.11**	**$388**	**$ 17,843.07**	**$17,843**

Deficiency Ratings (Critical, Serious, Minor)
Condition Ratings (Good, Fair, Poor)

Visitor Center Assessment and Treatment Checklist

PHASE 1B – Foundation Repairs and Exterior Shell

Uni-format WBC Code	Deficiency Rating	Condition Rating	Treatment	Qty	Unit	Labor	Materials	Equip	Total Cost
G1010	Critical	Poor	Provide new Geotechnical report with (2) or (3) borings to 20' depth to inform foundation design.	1	LS	$4,000			
	Critical	Poor	Foundation: Replace foundation at perimeter of house with new reinforced concrete foundation wall and footings and new foundation vents. Provide shelf for brick veneer. Coordinate with brick veneer removal/replacement and first floor framing repairs. Explore requirements for installation of new interior piers in crawlspace.						
A1010	N/A	N/A	Utilities: Temporarily disconnect utilities and HVAC ducts during foundation work. Reconnect upon completion of work.	1	LS				
A1010	N/A	N/A	Utilities: Temporarily disconnect exterior air handling unit and ductwork for foundation work. Reinstall upon completion.	1	EA				
G2050	N/A	N/A	Irrigation: Sprinkler lawn irrigation is installed within inches of the perimeter of the foundation walls and will not be salvageable. The irrigation system must be disconnected and replaced.	307	SY				Costs include repair work only around the house. Not full system replacement
A1010	Serious	Poor	Foundation/Crawlspace: Excavate crawlspace to be flush with exterior grade and to allow for maneuvering and work in crawlspace.	148	CY				
A1010			Haul-Off Soil and Debris	199	CY				

A1010	Critical	Poor	Foundation: Excavate around perimeter for foundation access and backfill	307	CY				
G2050			Sod after backfill and grading	207	SY				
G1010			Provide Archeological Monitoring during excavations						$17,000
A1010	Critical	N/A	Foundation: Shore entire house for foundation replacement	1997	SF				
A1010	Critical	Poor	Foundation Demo: Excavate and remove existing perimeter brick piers and veneer (unknown depth – top of footing is approximately 14" below grade plus footings). Carefully document, down-stack, and palletize existing brick foundation veneer. Haul-off debris.	230	LF				
B2010	Critical	Poor	Brick Veneer at Exterior Walls: Carefully document, down-stack, and palletize existing brick veneer. Clean bricks of mortar, dirt, and paint, and prepare for reinstallation. Store in secured area to prevent theft. Remove building paper. Repair damaged, deteriorated, or termite-damaged wall sheathing, in kind. Install new breathable building wrap. Reinstall bricks after steel lintel and foundation replacement. Match historic mortar color, aggregate, hardness, and tooling. – 160' x 12' = 1,920 S.F. -160 S.F. Confirm installation for all cast concrete window sills as part of brick veneer removal. Sills may require support to secure in place during work.	1,760	SF				
A1010	Critical	Poor	Foundation: Install reinforced concrete grade beam around perimeter of house. New grade beam to incorporate 6" void carton to allow for expansive soil.	33	CY				
A1010	Critical	Poor	Foundation: Underpin new grade beams. Estimated 20 piers at 15 feet depth (to be confirmed with geotechnical report). Recommend using helical piers.	20	EA				
A1010	Critical	Poor	Foundation: Install CMU foundation wall on grade beam to support perimeter of house. Install copper termite shield at perimeter. Reinstall salvaged brick for veneer.	690	SF				
A1010	Critical	Poor	Foundation Interior Piers: Replace interior piers in crawlspace. Estimated 18 piers. Install new 2-foot square x 1-foot deep precast concrete footings min. 14-inches below grade or as deep as possible. Install new galvanized adjustable posts with spread base plate.	18	EA				
A1010	Critical	Poor	Foundation at Porches: Underpin 4 existing piers at corners of north and east porches. Void carton would not be required for individual piers. Recommend helical piers.	4	EA				
B1010	Serious	Poor	First Floor Joists: Probe all existing joists for deterioration and joists cut for piping and ductwork. Sister existing damaged/deteriorated joists in crawlspace. Est. 15 total sister joists, approximately	15	18 LF EA				

			2x10x18'-0"						
B1010	Serious	Poor	Install galvanized metal joist hangers (Simpson or similar) to existing joists. Estimated 60 joists with 2 hangers each joist.	120	EA				
A1010	Minor	N/A	Crawlspace: Once work in Crawlspace is completed on the foundation and first floor framing, install new heavy-duty vapor barrier and wrap up walls and seal. Overlap and tape all joints.	1997	SF				
B1010	Minor	Poor	Crawlspace: Install batt insulation between floor joists. Install breathable building wrap below insulation to prevent pests from entering joist spaces. Overlap and tape all joints.	1997	SF				
A1010	Critical	Poor	Site Drainage: Install exterior foundation drain system at perimeter of house as part of foundation replacement. Drain to daylight.	288	LF				
B2010	Minor	Poor	Exterior Walls: Consider installation of blown-in insulation into each stud bay while the brick veneer is removed. This would increase energy efficiency of the house.	1760	SF				
B2010	Critical	Good	Brick Veneer: Clean all bricks to remain (within the sunporch). Spot repoint as required. – 14' x 12' = 160 S.F.	160	SF				
B2010	Serious	Poor	Lintels: Replace steel lintels at Windows 101, 106, 114. Consider replacement of additional lintels upon inspection.	3	EA				
G2040	Critical	Poor	Front Porch: Shore porch roof and walls. Remove front porch reinforced structural concrete slab for foundation access. After foundation is replaced, reconstruct reinforced concrete structural slab at front porch and top tread (delaminating and cracked). Explore requirements for support at perimeter and in center of slab during demolition.	98	SF				
B2010	Serious	Poor	Front Porch: Clean/repoint/repair masonry on porch walls and columns. Prime and paint foundation vents.	287 2	SF EA				
B2010	Minor	Fair	Sunporch: Clean/repoint/repair masonry on sunporch columns.	447	SF				
G2040	Minor	Poor	Front Porch: Epoxy repair cracked concrete porch wall cap (east side)	1	EA				
G2040	Minor	Poor	Front Porch: Strip paint from front steps	1	LS				
G2040	Critical	N/A	Front Porch: Install hand railings at front steps	10	LF				
B2020	Critical	Poor	Windows: Restore existing exterior windows in main house (excludes sunporch) – sashes, jambs, and sills. Strip all paint, repair or replace deteriorated sash and	27	EA				

			jamb/trim components, re-putty, replace broken glass, install weatherstripping and new sash ropes, replace missing sash lifts and sash locks.						
B2020	Minor	Poor	Sills: Strip paint from all cast concrete window sills. Repair, as required. Repair Window 106 sill delamination. Install cast concrete sealer to assist in preserving sills.	28	EA				
B2020	Minor	N/A	Storm Windows: Provide and install new storm windows at existing exterior windows. Consider exterior storm windows in lieu of interior storm windows to protect the restored historic wood windows. (Does not include sun porch).	28	EA				
B2020	Minor	N/A	Glass Block Window: Replace exterior glass block window with double hung window to match existing at south elevation.	1	EA				
B2010	Serious	Poor	Sunporch: Reconstruct all sunporch wall framing and insulated glazing infill. Water infiltrates wall and insulated glazing seals are beginning to fail. Current details to not have sills at glazing, which allow water to infiltrate framing and do not deflect water away from the wall. Research historic photographs for accurate design. Include replacement of ADA-compliant entry door and hardware, threshold, and transom above.	334	SF				
B2010	Minor	N/A	Window AC Units: Remove exterior window AC units on second floor	3	EA				
B2030	Serious	Poor	Front Door: Restore front entrance Door 101, sidelights, and transom. Strip all paint, repair or replace deteriorated door/sash and jamb/trim components, re-putty, replace broken glass, install weatherstripping, restore hardware. Strip paint from exterior cast concrete threshold. Install cast concrete sealer.	1	EA				
B3010	Minor	Fair – Close to replacement need	Roof: Remove existing and install new asphalt shingle roof, flashings, and roof ventilation. Coordinate with reconstruction of chimneys above roof line (if included in scope of work).	1402	SF				
B3010	Critical	N/A	Roof Drainage: Install pre-finished half-round gutters and round downspouts. Connect to below-grade drainage system.	98	LF				
B20	Serious	Poor	Exterior Paint: Strip and repaint all exterior stucco, including delaminations and cracks	500	SF				
B20	Serious	Poor	Exterior Paint: Strip paint from all exterior woodwork. Repair/replace deteriorated wood trim, outlookers, and brackets. All horizontal barge boards and caps between brick wall veneer and upper gables will be replaced when brick veneer is reinstalled. Install liquid wood consolidant/preservative at areas with high exposure on						

			the dormers.						
			- Strip/abate all paint from exterior woodwork	1677	SF				
			- Install penetrating wood preservative or consolidant to exposed wood, where in highly-exposed areas	800	SF				
			- Epoxy repair and consolidate wood center bracket at north dormer	1	EA.				
			- Replace main house rafter tail/outlookers on either side of porch roof (previously sistered)	2	EA.				
			- Replace wood trim in east gable	16	L.F.				
			- Repair or replace south bracket in east gable	1	EA.				
			- Replace window sill, apron, and vertical batten at 2nd floor window, east gable	18	L.F.				
			- Replace section of fascia at east gable peak	6	L.F.				
			- Replace wood soffit and barge board at east side sun porch	24	L.F.				
			- Replace deteriorated east bracket at dormer on south elevation	1	EA.				
			- Replace 9th rafter tail/outlooker from east on south elevation	1	EA.				
			- Replace section of corner board at dormer (north dormer, west corner)	3	L.F.				
			- Replace entire bottom board at roofline (north dormer, west side)	10	L.F.				
			- Replace barge board (perimeter of house where brick is removed)		L.F.				
			- Epoxy repair and consolidate southern-most bracket on the west elevation	1	EA.				
B20	Serious	Poor	Exterior Paint: Prep, sand, caulk, and paint entire exterior of house						
G1030	Critical	Poor	Site Drainage: Site Regrading at perimeter of house	767	SY				
B20	Minor	N/A	Reconstruct 3 chimneys above the roof line. Install cast concrete caps.	3	EA.				

United States Department of the Interior
National Park Service
Class C Construction Cost Estimate

BASIS OF ESTIMATE

PROJECT INFORMATION

Project:	Visitor Center Phase 1B - Update Condition Assessment Treatment Recommendations and Construction estimate
Park:	William Jefferson Clinton Birthplace Home NHS
Park Apha:	WICL
PMIS:	131181
Estimate Date:	12/22/2021
Prepared By:	Michael Orel
Company:	CMR
Address:	11006 Parallel Parkway, Suite 200
City, State Zip:	Kansas City KS 66109
Phone:	913-262-6715

BACKGROUND SUPPORTING MATERIAL (Scope of Work):

Estimate based on 2021 AE team site visit to review current conditions. Revised treatment recommendations based on current conditions and 2013 Historic Structure Report and 2014 Cultural Landscape Report. Drawings provided from previous report.

SOURCE OF COST DATA:

Costs were based on a combination of RS means data and the estimators past estimating experience.

ESTIMATE ASSUMPTIONS:

Estimate based on pre-design consulting and previous study drawings

MAJOR CHANGES FROM PREVIOUS ESTIMATE:

N/A

United States Department of the Interior
National Park Service
Class C Construction Cost Estimate

BASIS OF ESTIMATE

PROJECT INFORMATION

Project:	Visitor Center Phase 1B - Update Condition Assessment Treatment Recommendations and Construction estimate
Park:	William Jefferson Clinton Birthplace Home NHS
Park Apha:	WICL
PMIS:	131181
Estimate Date:	12/22/2021

DESCRIPTION OF MARK-UP & ADD-ONS:

Design Contingency:	10.00%	pre-design effort with limited drawings and research
Standard. General Conditions:	10.00%	Contractor direct job costs
Government General Conditions:	5.00%	Government oversight
Contractor Overhead:	18.00%	Contractor indirect job costs and includes bods and permits
Contractor Profit:	10.00%	profit reasonable for a project of this size
Contracting Method Adjustment:	15.00%	contracting method unknown
Annual Inflation Escalation Factor:	6.00%	Projected annual inflation rate.
Time Until Project Midpoint (Months)	12	Number of months from estimate (or data) date until the projects midpoint of construction.

OTHER COMMENTS:

Project requested Class C cost estimate with material/labor/equipment breakout. To achieve this contract requirement the AE team chose to use the Class A Template.

United States Department of the Interior
National Park Service
Class C Construction Cost Estimate

BID ITEM COST SUMMARY

Project: Visitor Center Phase 1B - Update Condition Assessment Treatment Recommendations and Construction estimate
Park: William Jefferson Clinton Birthplace Home NHS
Park Alpha: WICL
PMIS Number: 131181

Estimate By: Michael Orel
Date: 12/22/21
Reviewed By:
Date:

Bid Item Number	Asset / Project Element / Description	Size/Count	Units
BID ITEM 1	PHASE 1B – Foundation Repairs and Exterior Shell	1	LS

Item No.	WBS	Description	Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Direct Cost/Unit	Total Direct Costs	NET Cost/Unit	Total NET Costs
1	A10	Foundations	$ 33,442.57	$ 33,443	$ 100,378.82	$ 100,378.82	$ 33,060.01	$ 33,060.01	$ 166,881	$ 166,881	$ 329,391.31	$ 329,391
2	A20	Basement Construction	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
3	B10	Superstructure	$ 3,986.15	$ 3,986	$ 12,442.30	$ 12,442.30	$ 375.00	$ 375.00	$ 16,803	$ 16,803	$ 33,166.74	$ 33,167
4	B20	Exterior Enclosure	$ 92,086.72	$ 92,087	$ 194,125.89	$ 194,125.89	$ 38,392.54	$ 38,392.54	$ 324,605	$ 324,605	$ 640,707.20	$ 640,707
5	B30	Roofing	$ 10,203.47	$ 10,203	$ 15,846.27	$ 15,846.27	$ 2,804.05	$ 2,804.05	$ 28,854	$ 28,854	$ 56,951.76	$ 56,952
6	C10	Interior Construction	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
7	C20	Stairs	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
8	C30	Interior Finishes	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
9	D10	Conveying Systems	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
10	D20	Plumbing Systems	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
11	D30	HVAC	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
12	D40	Fire Protection	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
13	D50	Electrical	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
14	E10	Equipment	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
15	E20	Furnishings	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
16	F10	Special Construction	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
17	F20	Selective Building Demolition	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
18	G10	Site Preparation	$ -	$ -	$ 24,833.33	$ 24,833.33	$ 3,833.33	$ 3,833.33	$ 28,667	$ 28,667	$ 56,582.40	$ 56,582
19	G20	Site Improvements	$ 7,661.89	$ 7,662	$ 6,128.85	$ 6,128.85	$ 1,732.76	$ 1,732.76	$ 15,523	$ 15,523	$ 30,640.36	$ 30,640
20	G30	Site Mechanical Utilities	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
21	G40	Site Electrical Utilities	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
22	G50	Other Site Construction	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
23	XX	Special Use - 1	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
24	XX	Special Use - 2	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
25	XX	Special Use - 3	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
		Subtotal Direct Construction Costs	**$ 147,380.81**	**$ 147,381**	**$ 353,755.46**	**$ 353,755.46**	**$ 80,197.69**	**$ 80,197.69**	**$ 581,334**	**$581,334**	**$ 1,147,439.77**	**$1,147,440**
		Total Value of Government Furnished Property (GFP) Inc. in Direct Cost		**$0.00**		**$ -**		**$ -**	**$ -**	**$0**		
		Direct Cost Subtotal without GFP	$ 147,381		$ 353,755.46		$ 80,197.69			**$581,334**		
		Design Contingency	10.00%							$58,133		
		Total Direct Construction Costs								**$639,467**		
		Standard General Conditions	10.00%	Applied to Total Direct Construction Cost less GFP						$63,947		
		Government General Conditions	5.00%	Applied to Total Direct Construction Cost less GFP						$31,973		
		Subtotal NET Construction Cost								**$735,387**		
		Overhead	18.00%							$132,370		
		Profit	10.00%							$73,539		
		Estimated NET Construction Cost								**$941,296**		
		Contracting Method Adjustment	15.00%							$141,194		
		Inflation Escalation	12	Months	Annual Rate =	6.00%			Inc. Bonds & CMA	$64,949		
		Total Estimated NET Cost of Construction								**$1,147,440**		

In most cases GFP is normally zero - see footnote-

GFP costs only apply when the Government pre-purchases items, or provides other materials out of Government inventory, to be installed by contractor. Adjustments and Markup on GFP only include Inflation Escalation; No other adjustment factors or O&P markup have been applied.

United States Department of the Interior
National Park Service
Class C Construction Cost Estimate

LINE ITEM COST SUMMARY

Project: Visitor Center Phase 1B - Update Condition Assessment Treatment Recommendations and Construction estimate
Park: William Jefferson Clinton Birthplace Home NHS
Park Alpha: WICL
PMIS: 131181

Estimate By: Michael Orel
Date: 12/22/21
Reviewed By:
Date:

Summary Item: A10 Foundations **Total Cost:** $166,881

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
A1010	STANDARD FOUNDATIONS										
	Excavate around Perimeter	307	CY	$ -	$0	$ 10.00	$3,067	$ 10.00	$3,067	$ 20.00	$6,133
	Excavate below building	148	CY	$ -	$0	$ 50.00	$7,398	$ 25.00	$3,699	$ 75.00	$11,097
	Haul Off Soil and Debris	199	CY	$ -	$0	$ 30.00	$5,972	$ 10.00	$1,991	$ 40.00	$7,963
	Shore Building	1997	SF	$ 2.50	$4,994	$ 2.50	$4,994	$ 2.50	$4,994	$ 7.50	$14,981
	Vapor Barrier @ Crawl Space	1997	SF	$ 0.15	$300	$ 3.00	$5,991	$ 0.50	$999	$ 3.65	$7,289
	Demo Foundation (in sections)	230	LF	$ -	$0	$ 25.00	$5,750	$ 5.00	$1,150	$ 30.00	$6,900
	New Foundation Grade Beam on void form	33	CY	$ 150.00	$4,932	$ 200.00	$6,576	$ 125.00	$4,110	$ 475.00	$15,618
	New Termite Shield	230	LF	$ 15.00	$3,450	$ 3.00	$690		$0	$ 18.00	$4,140
	Perimeter Drain	288	LF	$ 5.00	$1,438	$ 10.00	$2,875		$0	$ 15.00	$4,313
	Helical Piers	20	EA	$ 150.00	$3,000	$ 1,750.00	$35,000	$ 350.00	$7,000	$ 2,250.00	$45,000
	Interior Piers	18	EA	$ 350.00	$6,300	$ 200.00	$3,600	$ 25.00	$450	$ 575.00	$10,350
	Porch Footings	4	EA	$ 150.00	$600	$ 1,750.00	$7,000	$ 350.00	$1,400	$ 2,250.00	$9,000
	New Foundation CMU Wall	690	SF	$ 12.00	$8,280	$ 10.00	$6,900	$ 1.50	$1,035	$ 23.50	$16,215
	Backfill	307	CY	$ -	$0	$ 10.00	$3,067	$ 10.00	$3,067	$ 20.00	$6,133
	Disconnect and reconnect utilities	1	LS	$ 150.00	$150	$ 1,500.00	$1,500	$ 100.00	$100	$ 1,750.00	$1,750
	STANDARD FOUNDATIONS	**230**	**LF**	**$ 145.40**	**$33,443**	**$ 436.43**	**$100,379**	**$ 143.74**	**$33,060**	**$ 725.57**	**$166,881**

Summary Item: A10 Foundations

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
A10	**Foundations**	**1**	**LS**	**$ 33,442.57**	**$33,443**	**$ 100,378.82**	**$100,379**	**$ 33,060.01**	**$33,060**	**$ 166,881.40**	**$166,881**

United States Department of the Interior
National Park Service
Class C Construction Cost Estimate

LINE ITEM COST SUMMARY

Project: Visitor Center Phase 1B - Update Condition Assessment Treatment Recommendations and Construction estimate
Park: William Jefferson Clinton Birthplace Home NHS
Park Alpha: WICL
PMIS: 131181

Estimate By: Michael Orel
Date: 12/22/21
Reviewed By:
Date:

Summary Item: B10 Superstructure **Total Cost:** $16,803

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
B1010	FLOOR CONSTRUCTION										
	Sister Joists 2x10x18'	15	EA	$ 50.00	$750	$ 150.00	$2,250	$ 25.00	$375	$ 225.00	$3,375
	New Floor Joists Hangers	120	EA	$ 2.00	$240	$ 35.00	$4,200	$ -	$0	$ 37.00	$4,440
	Batt Insulation @ Floor Joists	1997	SF	$ 1.50	$2,996	$ 3.00	$5,992	$ -	$0	$ 4.50	$8,988
SUBTOTAL	**FLOOR CONSTRUCTION**	**1997**	**SF**	**$ 2.00**	**$3,986**	**$ 6.23**	**$12,442**	**$ 0.19**	**$375**	**$ 8.41**	**$16,803**

Summary Item: B10 Superstructure

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
B10	**Superstructure**	**1**	**LS**	**$ 3,986.15**	**$3,986**	**$ 12,442.30**	**$12,442**	**$ 375.00**	**$375**	**$ 16,803.45**	**$16,803**

United States Department of the Interior
National Park Service
Class C Construction Cost Estimate

LINE ITEM COST SUMMARY

Project: Visitor Center Phase 1B - Update Condition Assessment Treatment Recommendations and Construction estimate
Park: William Jefferson Clinton Birthplace Home NHS
Park Alpha: WICL
PMIS: 131181

Estimate By: Michael Orel
Date: 12/22/21
Reviewed By:
Date:

OP
Total Cost: $324,605

Summary Item: B20 Exterior Enclosure

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
B2010	EXTERIOR WALLS										
	Salvage Brick Veneer	1760	SF	$ -	$0	$ 15.00	$26,400	$ 5.00	$8,800	$ 20.00	$35,200
	Re-Install Salvaged Brick	1760	SF	$ 5.00	$8,800	$ 20.00	$35,200	$ 2.00	$3,520	$ 27.00	$47,520
	Window Sill Support	85	LF	$ 5.00	$425	$ 5.00	$425	$ -	$0	$ 10.00	$850
	Blown In Insulation	1760	SF	$ 1.00	$1,760	$ 2.00	$3,520	$ 1.00	$1,760	$ 4.00	$7,040
	Tyvek	1760	SF	$ 0.15	$264	$ 0.10	$176		$0	$ 0.25	$440
	Replace Sheathing ALLOWANCE	264	SF	$ 3.00	$792	$ 3.00	$792	$ 1.00	$264	$ 7.00	$1,848
	Clean and Spot repoint Brik at Sun porch	447	SF	$ 1.00	$447	$ 6.50	$2,903	$ -	$0	$ 7.50	$3,350
	Clean and Spot repoint and Repair Masonry on Front Porch Columns and Walls.	287	SF	$ 15.00	$4,299	$ 15.00	$4,299	$ -	$0	$ 30.00	$8,599
	Prime and paint foundation vents	2	EA	$ 5.00	$10	$ 100.00	$200	$ -	$0	$ 105.00	$210
	Replace Window Lintels	3	EA	$ 300.00	$900	$ 75.00	$225	$ -	$0	$ 375.00	$1,125
	Reconstruct sunporch walls	334	SF	$ 45.00	$15,010	$ 15.00	$5,003	$ -	$0	$ 60.00	$20,013
	Remove Window A/C	3	EA	$ -	$0	$ 75.00	$225	$ -	$0	$ 75.00	$225
SUBTOTAL	EXTERIOR WALLS	1760	SF	$ 18.58	$32,707	$ 45.10	$79,369	$ 8.15	$14,344	$ 71.83	$126,419

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
B2020	EXTERIOR WINDOWS										
	Restore Windows	27	EA	$ 1,500.00	$40,500	$ 1,500.00	$40,500	$ 5.00	$135	$ 3,005.00	$81,135
	Strip Paint and Repair Window Sills	28	EA	$ 25.00	$700	$ 500.00	$14,000	$ -	$0	$ 525.00	$14,700
	New Storm Windows	28	EA	$ 150.00	$4,200	$ 200.00	$5,600	$ -	$0	$ 350.00	$9,800
	Replace Glass Block Window	1	EA	$ 200.00	$200	$ 300.00	$300	$ -	$0	$ 500.00	$500
SUBTOTAL	EXTERIOR WINDOWS	27	EA	$ 1,688.89	$45,600	$ 2,237.04	$60,400	$ 5.00	$135	$ 3,930.93	$106,135

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
B2030	EXTERIOR DOORS										
	Restore Front Entrance Door	1	EA	$ 1,500.00	$1,500	$ 3,000.00	$3,000	$ -	$0	$ 4,500.00	$4,500
SUBTOTAL	EXTERIOR DOORS	1	LS	$ 1,500.00	$1,500	$ 3,000.00	$3,000	$ -	$0	$ 4,500.00	$4,500

United States Department of the Interior
National Park Service
Class C Construction Cost Estimate

LINE ITEM COST SUMMARY

Project: Visitor Center Phase 1B - Update Condition Assessment Treatment Recommendations and Construction estimate
Park: William Jefferson Clinton Birthplace Home NHS
Park Alpha: WICL
PMIS: 131181

Estimate By: Michael Orel
Date: 12/22/21
Reviewed By:
Date:
OP
Total Cost: $324,605

Summary Item: B20 Exterior Enclosure

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
BASE CODE	Exterior Wall Finish										
	Exterior Paint: Strip, Repair all exterior stucco	500	SF	$ 1.50	$750	$ 12.00	$6,000	$ 6.00	$3,000	$ 19.50	$9,750
	Exterior Paint: Strip paint from all exterior woodwork. Repair/replace deteriorated wood trim	1677	SF	$ 2.00	$3,353	$ 14.00	$23,474	$ 6.00	$10,060	$ 22.00	$36,887
	Trim and exterior Wood Element Repairs	1	LS	$ 1,500.00	$1,500	$ 3,500.00	$3,500	$ 500.00	$500	$ 5,500.00	$5,500
	Paint Exterior	2177	SF	$ 1.00	$2,177	$ 5.00	$10,883	$ 2.00	$4,353	$ 8.00	$17,414
SUBTOTAL	Exterior Wall Finish	1	LS	$ 7,780.08	$7,780	$ 43,857.15	$43,857	$ 17,913.54	$17,914	$ 69,550.77	$69,551

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
BASE CODE	Chimney										
	Reconstruct Chimney and Install Cap	3	EA	$ 1,500.00	$4,500	$ 2,500.00	$7,500	$ 2,000.00	$6,000	$ 6,000.00	$18,000
SUBTOTAL	Chimney	1	LS	$ 4,500.00	$4,500	$ 7,500.00	$7,500	$ 6,000.00	$6,000	$ 18,000.00	$18,000

Summary Item: B20 Exterior Enclosure

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
B20	Exterior Enclosure	1	LS	$ 92,086.72	$92,087	$ 194,125.89	$194,126	$ 38,392.54	$38,393	$ 324,605.15	$324,605

United States Department of the Interior
National Park Service
Class C Construction Cost Estimate

LINE ITEM COST SUMMARY

Project: Visitor Center Phase 1B - Update Condition Assessment Treatment Recommendations and Construction estimate
Park: William Jefferson Clinton Birthplace Home NHS
Park Alpha: WICL
PMIS: 131181

Estimate By: Michael Orel
Date: 12/22/21
Reviewed By:
Date:

Summary Item: B30 Roofing **Total Cost:** $28,854

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
B3010	ROOF COVERINGS										
	Demo Roofing	1402	SF	$ -	$0	$ 5.00	$7,010	$ 1.00	$1,402	$ 6.00	$8,412
	New Roofing and Flashings	1402	SF	$ 5.00	$7,010	$ 5.00	$7,010	$ 1.00	$1,402	$ 11.00	$15,422
	New Gutters	92	LF	$ 25.00	$2,293	$ 15.00	$1,376	$ -	$0	$ 40.00	$3,669
	New Downspouts	6	EA	$ 150.00	$900	$ 75.00	$450	$ -	$0	$ 225.00	$1,350
SUBTOTAL	ROOF COVERINGS	1402	SF	$ 7.28	$10,203	$ 11.30	$15,846	$ 2.00	$2,804	$ 20.58	$28,854

Summary Item: B30 Roofing

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
B30	Roofing	1	LS	$ 10,203.47	$10,203	$ 15,846.27	$15,846	$ 2,804.05	$2,804	$ 28,853.80	$28,854

United States Department of the Interior
National Park Service
Class C Construction Cost Estimate

LINE ITEM COST SUMMARY

Project: Visitor Center Phase 1B - Update Condition Assessment Treatment Recommendations and Construction estimate
Park: William Jefferson Clinton Birthplace Home NHS
Park Alpha: WICL
PMIS: 131181

Estimate By: Michael Orel
Date: 12/22/21
Reviewed By:
Date:

Summary Item: G10 Site Preparation **Total Cost:** $28,667

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
G1010	SITE CLEARING										
	Provide new Geotechnical report with (2) or (3) borings to 20' depth to inform foundation design.	1	EA	$ -	$0	$ 4,000.00	$4,000	$ -	$0	$ 4,000.00	$4,000
	Archeological Monitoring Allowance	1	LS	$ -	$0	$ 17,000.00	$17,000	$ -	$0	$ 17,000.00	$17,000
SUBTOTAL	SITE CLEARING	1	LS	$ -	$0	$ 21,000.00	$21,000	$ -	$0	$ 21,000.00	$21,000

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
G1030	SITE EARTHWORK										
	Finish and Grade Site	767	SY	$ -	$0	$ 5.00	$3,833	$ 5.00	$3,833	$ 10.00	$7,667
SUBTOTAL	SITE EARTHWORK	1	LS	$ -	$0	$ 3,833.33	$3,833	$ 3,833.33	$3,833	$ 7,666.67	$7,667

Summary Item: G10 Site Preparation

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
G10	Site Preparation	1	LS	$ -	$0	$ 24,833.33	$24,833	$ 3,833.33	$3,833	$ 28,666.67	$28,667

United States Department of the Interior
National Park Service
Class C Construction Cost Estimate

LINE ITEM COST SUMMARY

Project: Visitor Center Phase 1B - Update Condition Assessment Treatment Recommendations and Construction estimate
Park: William Jefferson Clinton Birthplace Home NHS
Park Alpha: WICL
PMIS: 131181

Estimate By: Michael Orel
Date: 12/22/21
Reviewed By:
Date:

Summary Item: G20 Site Improvements **Total Cost:** $15,523

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
G2040	SITE DEVELOPMENT										
	Shore Front Porch Roof	1	LS	$ 500.00	$500	$ 1,500.00	$1,500	$ -	$0	$ 2,000.00	$2,000
	Demo Front Porch	143	SF	$ -	$0	$ 5.00	$713	$ 5.00	$713	$ 10.00	$1,426
	New Concrete porch and Steps	143	SF	$ 25.00	$3,565	$ 15.00	$2,139	$ 5.00	$713	$ 45.00	$6,417
	Handrails @ Front Porch	10	LF	$ 125.00	$1,250	$ 25.00	$250	$ -	$0	$ 150.00	$1,500
	Patch Concrete Cap at porch	1	LS	$ 150.00	$150	$ 150.00	$150	$ -	$0	$ 300.00	$300
	Strip Paint @ Porch Steps	1	LS	$ 50.00	$50	$ 150.00	$150	$ -	$0	$ 200.00	$200
SUBTOTAL	**SITE DEVELOPMENT**	**1**	**LS**	**$ 5,515.23**	**$5,515**	**$ 4,902.18**	**$4,902**	**$ 1,426.09**	**$1,426**	**$ 11,843.50**	**$11,843**

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
G2050	LANDSCAPING										
	Sod	307	SY	$ 5.00	$1,533	$ 2.00	$613	$ -	$0	$ 7.00	$2,147
	Irrigation System	307	SY	$ 2.00	$613	$ 2.00	$613	$ 1.00	$307	$ 5.00	$1,533
SUBTOTAL	**LANDSCAPING**	**1**	**LS**	**$ 2,146.67**	**$2,147**	**$ 1,226.67**	**$1,227**	**$ 306.67**	**$307**	**$ 3,680.00**	**$3,680**

Summary Item: G20 Site Improvements

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
G20	**Site Improvements**	**1**	**LS**	**$ 7,661.89**	**$7,662**	**$ 6,128.85**	**$6,129**	**$ 1,732.76**	**$1,733**	**$ 15,523.50**	**$15,523**

Deficiency Ratings (Critical, Serious, Minor)
Condition Ratings (Good, Fair, Poor)

Visitor Center Assessment and Treatment Checklist

PHASE 2 – Breakfast Room Reconstruction and Interior Renovations

Uni-format WBC Code	Deficiency Rating	Condition Rating	Treatment	Qty	Unit	Labor	Materials	Equip	Total Cost
GENERAL HOUSE INTERIOR OVERALL									
F2020			Provide lead paint testing throughout house to understand of lead paint.	1	LS				
F2020			Abate lead paint	1	LS				
Included Below			Rewire house – Provide new receptacles in existing locations, and install new, where required by code or needed for exhibits or office functions.	2873	SF				
C3010			Patch and repair all ceilings and walls after foundation replacement fire suppression system installed. Paint all ceilings, walls, trim.	2873	SF				
			Relocate electrical panel, if needed for new restroom relocation.						
C1020			Restore and repair interior doors as needed (201, 202, 103). Replace panel in 201.	3	EA				
FIRST FLOOR									
A1010 B1010 B1020 B2010 B2020 B3010	N/A	N/A	Breakfast Room Reconstruction: Reconstruct original kitchen porch/breakfast room per HSR plans for a new conference room – exterior walls 160 S.F. and roof 200 S.F. Construction of this missing element will alleviate replacing the non-compatible wall infill where porch was connected to the house.	1	LS				

C3020 C3030 D3010 D5010 D5020 D5030 D5040									
C3020	Minor	Fair	Flooring: Repair interior hardwood floor at widened door opening into Exhibit 103.	1	EA				
C3020	Minor	Fair	Flooring: Refinish wood flooring throughout first floor	1740	SF				
C3020	Critical	Poor	Paint: Test paint on sunporch floor (Entry 101). Strip paint, repair cracks, clean, polish, and seal concrete floor.	190	SF				
C1020	Serious	N/A	Hardware: Install ABA-compliant hardware on interior doors	2	EA				
C10	Serious	N/A	Restroom Facility: Install new ABA-compliant 'Convenience Restroom' on First Floor in Copy Room 107 or in south portion of Office 108. Widen door opening and reverse Door 107. This would include new threshold, flooring, base, wall finishes, and reconstructing the dropped hard ceiling to the original height or construct setback/soffited area at window to allow for full view of the window and trim.	1	EA				
	N/A	N/A	As part of the potential renovation of Office 108 (unless restroom is installed in 107), the kitchenette may need to be moved to the north end of Office 108.						Not Costed
C1020	Serious	N/A	Doors: Widen Door 106 into Office 106 and Conference Room. Install similar door trim.	1	EA				
C1020	Serious	Good	Doors: Remove Door 108 from jamb to make Kitchen/Office 108 fully accessible. (current door configuration and width make this room not accessible). Label and store door.	1	EA				
	Minor	Good	Lighting: If offices move to second floor, install new exhibit lighting in Exhibit 103 and return to visitor use.	1	EA				Costs included in overall electrical
			Lighting: Install new lighting in Entry 101, Reception 102, and Bookstore 104.						Costs included in overall electrical
C3010	Minor	Good	Back Hall (Corridor 105) Ceiling: Remove existing	57	SF				Costs

C3030			suspended ceiling and lighting and restore ceiling to original height. Install new drywall and lighting.						included in overall electrical
C3020	Minor	Fair	Flooring: Replace flooring (carpet or hardwood) Office 108, Copy 107, Office 106, Corridor 105. Replace damaged subfloor, as required.	510	SF				Included in flooring repair/refinish costs
C3020	Serious	Poor	Flooring: Replace wood flooring with termite damage throughout first floor. (Not visible from above, but visible from crawlspace at subfloor). Will require further inspection. The HSR recommended 500 SF. This may not be enough, once the full inspection is completed. This could easily grow to include a much larger area and spot areas throughout the first floor. Once that occurs, it may be easier to replace subfloor and wood flooring in entire rooms instead of spot replacement. This cost should be covered by a contingency.	500	SF				
SECOND FLOOR									
F2010	Minor	N/A	Demo: Remove existing sink and all related plumbing from the west Storage Room 203	1	EA				
C1020	Minor	N/A	Demo: Widen door opening between entry into Room 203 and larger room.	1	EA				
F2010	Minor	Fair	Demo: Remove interior rigid insulation, Rooms 202 and 203. 240+ 230 + plus ceilings 272 s.f.	750	SF				
C3020	Minor	Fair	Flooring: Repair / refinish second floor hardwood flooring in Room 201	380	SF				
C10	Serious	N/A	Stairs: Install supplemental rail at stair guardrail to increase height to 42”	13	LF				
C3020	Minor	Fair	Stairs: Repair and refinish stair treads and risers, railings and newel posts and paint. Install new, continuous railing.	1	LS				
C1010 F2010			Structure: Remove existing knee wall framing in Rooms 202 and 203 for second floor joist access. Install new knee wall framing. Frame for new access doors.	1	LS				
B1010 F2010	Serious	N/A	Structure: Remove existing subfloor and salvage for reinstallation. Install new 2x10 floor joists between existing floor joists (estimated 48 - 2 x 10 x 18’-0”). New joists shall be connected together over central beam support and connect to rafters and sill plates at	470 48 joists	SF 18’-0” EA				

			exterior walls (where rafters are not already connected to existing joists). Install acoustical batt insulation. Reinstall subfloor. Install replacement subfloor to match, in kind, where required.						
C1020			Remove door jamb at mid-stair and repair walls	1	LS				
C3020	Minor	N/A	Flooring: Install new carpet tile flooring at interior of unfinished second floor Rooms 202 and 203	470	SF				
B2010 C3030	Minor	N/A	Insulation/Drywall: Insulate knee walls and ceilings with batt insulation and install gyp board in Rooms 202 and 203 (painting in overall cost above). Insulate joists in knee wall crawlspace area, as well. R-30.	750	SF				
C1020	Minor	N/A	Install flush, painted steel, lockable, and insulated access door in knee walls.	4	EA				
F2010	Minor	N/A	Remove interior wood veneer wall finish at Room 201 and install gyp board (painting in overall cost above) – 100' x 8'	800	SF				
B1020	Serious	N/A	Roof Framing: After interior finishes are removed, inspect roof framing. Sister existing roof rafter framing or add supplemental framing as needed. Unknown quantity. Estimate (12) 2 x 6 x 20'-0"	12	20'-0" EA				
Hazardous Materials Abatement									
			Provide updated comprehensive hazardous materials survey (lead, asbestos, etc.)	1	LS				
			Hazardous Materials Abatement Allowance (lead)						
Mechanical, Electrical, Fire Prevention									
			OPTION 1						
D3010	Serious	Poor	Second Floor HVAC Option 1 – Ductless split system (provide 3 systems, one per individual room, with all sharing a single exterior heat pump condensing unit).	865	SF				
	Serious	Poor	Electrical to support HVAC Option 1 equipment	865	SF				
			OPTION 2						
D3010	Serious	Poor	Section Floor HVAC Option 2 – Gas-Fired Furnace / Condensing Unit (incl. 1-furnace system to serve 2nd floor rooms). *Locate furnace in attic/knee wall crawl space adjacent to existing space or provide new closet. Ductwork to be routed through adjacent attic/knee wall crawl space where possible.*	865	SF				
	Serious	Poor	Electrical to support HVAC Option 2 equipment	865	SF				
D3010	Critical	Poor	Install new mini-split system for IT room cooling. Remove existing floor grille and associated ductwork currently serving room.	1	EA				

	Critical	Poor	Electrical to support HVAC equipment for IT room cooling	1	EA				
D4010	Critical	N/A	Install new dry-pipe fire sprinkler system (including fire utility line to structure). Confirm available pressure with Hope Water & Light.	2873	SF				
G3010			Install new water line for fire suppression system	1	LS				
G3010			Provide archeological monitoring for new water line for excavations fire suppression system.	1	LS				
D2020	Serious	Fair	Remove existing and install new instantaneous electric water heater under break room sink.	1	EA				
D5010	Serious	Fair	Electrical to support water heater replacement.	1	EA				
G4010	Critical	Poor	Remove existing feeder to load center and refeed from new panelboard in comfort station.	75	LF				
D5010	Serious	Poor	Remove existing and install new conductors and conduit throughout the building.	2873	SF				
D5010	Serious	Fair	Install new grounding system.	2873	SF				
D5020	Critical	Poor	Install new emergency lighting throughout.	2873	SF				
D5030	Serious	Fair	Replace existing first floor exit signs with new internally lit LED exit signs with battery backup.	4	EA				
D5030	Critical	Poor	Provide new internally lit LED exit signs with battery backup for second floor office space.	2	EA				
D5020	Serious	Poor	Install new LED lighting throughout second floor to support new office functions.	865	SF				
D5020	Minor	Poor	Install ceiling mounted occupancy sensors in all office and back of house spaces to provide automatic shutoff of lighting.	7	EA				
D5010	Minor	Good	Install new receptacles and data outlets as required to support new office functions on second floor.	865	SF				
D5020	Serious	Poor	Replace exterior lights with new LED light fixtures.	3	EA				
Incl. In Addition	Minor	Good	Install new receptacles and data outlets as required to support new conference room addition.	125	SF				
Incl. In Addition	Minor	Good	Install new LED lighting as required to support new conference room addition.	125	SF				
D5030	Minor	Good	Remove existing battery powered stand-alone smoke detectors and install new fire alarm/intrusion detection alarm system and hard-wired devices throughout.	2835	SF				
D3010	Minor	Good	Replace damaged insulation on ductwork located in crawl space and provide appropriate supports for ductwork to keep it elevated above grade.	100	LF				

United States Department of the Interior
National Park Service
Class C Construction Cost Estimate

BASIS OF ESTIMATE

PROJECT INFORMATION

Project:	Visitor Center Phase 2 - Update Condition Assessment Treatment Recommendations and Construction estimate
Park:	William Jefferson Clinton Birthplace Home NHS
Park Apha:	WICL
PMIS:	131181
Estimate Date:	12/22/2021
Prepared By:	Michael Orel
Company:	CMR
Address:	11006 Parallel Parkway, Suite 200
City, State Zip:	Kansas City KS 66109
Phone:	913-262-6715

BACKGROUND SUPPORTING MATERIAL (Scope of Work):

Estimate based on 2021 AE team site visit to review current conditions. Revised treatment recommendations based on current conditions and 2013 Historic Structure Report and 2014 Cultural Landscape Report. Drawings provided from previous report.

SOURCE OF COST DATA:

Costs were based on a combination of RS means data and the estimators past estimating experience.

ESTIMATE ASSUMPTIONS:

Estimate based on pre-design consulting and previous study drawings

MAJOR CHANGES FROM PREVIOUS ESTIMATE:

N/A

United States Department of the Interior
National Park Service
Class C Construction Cost Estimate

BASIS OF ESTIMATE

PROJECT INFORMATION

Project:	Visitor Center Phase 2 - Update Condition Assessment Treatment Recommendations and Construction estimate
Park:	William Jefferson Clinton Birthplace Home NHS
Park Apha:	WICL
PMIS:	131181
Estimate Date:	12/22/2021

DESCRIPTION OF MARK-UP & ADD-ONS:

Design Contingency:	10.00%	pre-design effort with limited drawings and research
Standard. General Conditions:	10.00%	Contractor direct job costs
Government General Conditions:	5.00%	Government oversight
Contractor Overhead:	18.00%	Contractor indirect job costs and includes bods and permits
Contractor Profit:	10.00%	profit reasonable for a project of this size
Contracting Method Adjustment:	15.00%	contracting method unknown
Annual Inflation Escalation Factor:	6.00%	Projected annual inflation rate.
Time Until Project Midpoint (Months)	12	Number of months from estimate (or data) date until the projects midpoint of construction.

OTHER COMMENTS:

Project requested Class C cost estimate with material/labor/equipment breakout. To achieve this contract requirement the AE team chose to use the Class A Template.

United States Department of the Interior
National Park Service
Class C Construction Cost Estimate

BID ITEM COST SUMMARY

Project: Visitor Center Phase 2 - Update Condition Assessment Treatment Recommendations and Construction estimate
Park: William Jefferson Clinton Birthplace Home NHS
Park Alpha: WICL
PMIS Number: 131181

Estimate By: Michael Orel
Date: 12/22/21
Reviewed By:
Date:

Bid Item Number	Asset / Project Element / Description	Size/Count	Units
BID ITEM 1	PHASE 2 – Breakfast Room Reconstruction and Interior Renovations	1	LS

Item No.	WBS	Description	Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Direct Cost/Unit	Total Direct Costs	NET Cost/Unit	Total NET Costs
1	A10	Foundations	$ 2,263.04	$ 2,263	$ 2,429.87	$ 2,429.87	$ 1,053.55	$ 1,053.55	$ 5,746	$ 5,746	$ 11,342.38	$ 11,342
2	A20	Basement Construction	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
3	B10	Superstructure	$ 9,760.00	$ 9,760	$ 36,850.00	$ 36,850.00	$ -	$ -	$ 46,610	$ 46,610	$ 91,999.04	$ 91,999
4	B20	Exterior Enclosure	$ 17,204.28	$ 17,204	$ 19,112.64	$ 19,112.64	$ -	$ -	$ 36,317	$ 36,317	$ 71,682.51	$ 71,683
5	B30	Roofing	$ 1,040.00	$ 1,040	$ 1,040.00	$ 1,040.00	$ 208.00	$ 208.00	$ 2,288	$ 2,288	$ 4,516.07	$ 4,516
6	C10	Interior Construction	$ 28,111.12	$ 28,111	$ 26,211.67	$ 26,211.67	$ 2,050.00	$ 2,050.00	$ 56,373	$ 56,373	$ 111,268.87	$ 111,269
7	C20	Stairs	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
8	C30	Interior Finishes	$ 34,582.81	$ 34,583	$ 84,706.68	$ 84,706.68	$ 1,637.33	$ 1,637.33	$ 120,927	$ 120,927	$ 238,685.93	$ 238,686
9	D10	Conveying Systems	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
10	D20	Plumbing Systems	$ 1,750.00	$ 1,750	$ 500.00	$ 500.00	$ -	$ -	$ 2,250	$ 2,250	$ 4,441.06	$ 4,441
11	D30	HVAC	$ 13,650.00	$ 13,650	$ 20,425.00	$ 20,425.00	$ 3,025.00	$ 3,025.00	$ 37,100	$ 37,100	$ 73,228.16	$ 73,228
12	D40	Fire Protection	$ 15,166.58	$ 15,167	$ 15,166.58	$ 15,166.58	$ -	$ -	$ 30,333	$ 30,333	$ 59,871.73	$ 59,872
13	D50	Electrical	$ 20.00	$ 60,666	$ 9.50	$ 28,816.50	$ 4.00	$ 12,133.26	$ 34	$ 101,616	$ 66.12	$ 200,570
14	E10	Equipment	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
15	E20	Furnishings	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
16	F10	Special Construction	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
17	F20	Selective Building Demolition	$ 1,600.00	$ 1,600	$ 54,228.82	$ 54,228.82	$ -	$ -	$ 55,829	$ 55,829	$ 110,195.20	$ 110,195
18	G10	Site Preparation	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
19	G20	Site Improvements	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
20	G30	Site Mechanical Utilities	$ 1,725.00	$ 1,725	$ 6,875.00	$ 6,875.00	$ 2,300.00	$ 2,300.00	$ 10,900	$ 10,900	$ 21,514.47	$ 21,514
21	G40	Site Electrical Utilities	$ 3,375.00	$ 3,375	$ 5,250.00	$ 5,250.00	$ -	$ -	$ 8,625	$ 8,625	$ 17,024.07	$ 17,024
22	G50	Other Site Construction	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
23	XX	Special Use - 1	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
24	XX	Special Use - 2	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
25	XX	Special Use - 3	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
		Subtotal Direct Construction Costs	**$ 130,247.82**	**$ 190,894**	**$ 272,805.75**	**$ 301,612.75**	**$ 10,277.88**	**$ 22,407.14**	**$ 413,331**	**$514,914**	**$ 815,835.60**	**$1,016,340**
		Total Value of Government Furnished Property (GFP) Inc. in Direct Cost		**$0.00**		**$ -**		**$ -**	**$ -**	**$0**		
		Direct Cost Subtotal without GFP	$ 190,894		$ 301,612.75			$ 22,407.14		**$514,914**		
		Design Contingency	10.00%							$51,491		
		Total Direct Construction Costs								**$566,405**		
		Standard General Conditions	10.00%	Applied to Total Direct Construction Cost less GFP						$56,641		
		Government General Conditions	5.00%	Applied to Total Direct Construction Cost less GFP						$28,320		
		Subtotal NET Construction Cost								**$651,366**		
		Overhead	18.00%							$117,246		
		Profit	10.00%							$65,137		
		Estimated NET Construction Cost								**$833,749**		
		Contracting Method Adjustment	15.00%							$125,062		
		Inflation Escalation	12	Months	Annual Rate =	6.00%		Inc. Bonds & CMA		$57,529		
		Total Estimated NET Cost of Construction								**$1,016,340**		

In most cases GFP is normally zero - see footnote-

GFP costs only apply when the Government pre-purchases items, or provides other materials out of Government inventory, to be installed by contractor. Adjustments and Markup on GFP only include Inflation Escalation; No other adjustment factors or O&P markup have been applied.

United States Department of the Interior
National Park Service
Class C Construction Cost Estimate

LINE ITEM COST SUMMARY

Project: Visitor Center Phase 2 - Update Condition Assessment Treatment Recommendations and Construction estimate
Park: William Jefferson Clinton Birthplace Home NHS
Park Alpha: WICL
PMIS: 131181

Estimate By: Michael Orel
Date: 12/22/21
Reviewed By:
Date:

Summary Item: A10 Foundations **Total Cost:** $5,746

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
A1010	STANDARD FOUNDATIONS										
	New Foundation Grade Beam on void form	7	CY	$ 150.00	$1,088	$ 200.00	$1,451	$ 125.00	$907	$ 475.00	$3,445
	New Foundation CMU Wall	98	SF	$ 12.00	$1,175	$ 10.00	$979	$ 1.50	$147	$ 23.50	$2,301
	STANDARD FOUNDATIONS	**230**	**LF**	**$ 9.84**	**$2,263**	**$ 10.56**	**$2,430**	**$ 4.58**	**$1,054**	**$ 24.98**	**$5,746**

Summary Item: A10 Foundations

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
A10	**Foundations**	**1**	**LS**	**$ 2,263.04**	**$2,263**	**$ 2,429.87**	**$2,430**	**$ 1,053.55**	**$1,054**	**$ 5,746.45**	**$5,746**

United States Department of the Interior
National Park Service
Class C Construction Cost Estimate

LINE ITEM COST SUMMARY

Project: Visitor Center Phase 2 - Update Condition Assessment Treatment Recommendations and Construction estimate
Park: William Jefferson Clinton Birthplace Home NHS
Park Alpha: WICL
PMIS: 131181

Estimate By: Michael Orel
Date: 12/22/21
Reviewed By:
Date:

Summary Item: B10 Superstructure **Total Cost:** $46,610

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
B1010	FLOOR CONSTRUCTION										
	Floor Structure for Breakfast Room	160	SF	$ 10.00	$1,600	$ 10.00	$1,600	$ -	$0	$ 20.00	$3,200
	Floor Joists @ 2nd floor	48	EA	$ 50.00	$2,400	$ 500.00	$24,000	$ -	$0	$ 550.00	$26,400
	Sublfoor at 202 and 203	470	SF	$ 6.00	$2,820	$ 15.00	$7,050	$ -	$0	$ 21.00	$9,870
SUBTOTAL	FLOOR CONSTRUCTION	470	SF	$ 14.51	$6,820	$ 69.47	$32,650	$ -	$0	$ 83.98	$39,470

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
B1020	ROOF CONSTRUCTION										
	Roof Construction at addition	160	SF	$ 15.00	$2,400	$ 15.00	$2,400	$ -	$0	$ 30.00	$4,800
	Sister Roof Joists 2x6x20	12	EA	$ 45.00	$540	$ 150.00	$1,800	$ -	$0	$ 195.00	$2,340
SUBTOTAL	ROOF CONSTRUCTION	1	LS	$ 2,940.00	$2,940	$ 4,200.00	$4,200	$ -	$0	$ 7,140.00	$7,140

Summary Item: B10 Superstructure

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
B10	Superstructure	1	LS	$ 9,760.00	$9,760	$ 36,850.00	$36,850	$ -	$0	$ 46,610.00	$46,610

United States Department of the Interior
National Park Service
Class C Construction Cost Estimate

LINE ITEM COST SUMMARY

Project: Visitor Center Phase 2 - Update Condition Assessment Treatment Recommendations and Construction estimate
Park: William Jefferson Clinton Birthplace Home NHS
Park Alpha: WICL
PMIS: 131181

Estimate By: Michael Orel
Date: 12/22/21
Reviewed By:
Date:
OP

Summary Item: B20 Exterior Enclosure

Total Cost: $36,317

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
B2010	EXTERIOR WALLS										
	Exterior Walls @ Breakfast Room	294	SF	$ 6.00	$1,763	$ 6.00	$1,763	$ -	$0	$ 12.00	$3,525
	Facebrick at Addition	131	SF	$ 12.00	$1,567	$ 18.00	$2,350	$ -	$0	$ 30.00	$3,917
	Insulation at rooms 202 and 203	750	SF	$ 0.50	$375	$ 2.00	$1,500	$ -	$0	$ 2.50	$1,875
SUBTOTAL	**EXTERIOR WALLS**	**1760**	**SF**	**$ 2.10**	**$3,704**	**$ 3.19**	**$5,613**	**$ -**	**$0**	**$ 5.29**	**$9,317**

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
B2020	EXTERIOR WINDOWS										
	Windows	9	EA	$ 1,500.00	$13,500	$ 1,500.00	$13,500	$ -	$0	$ 3,000.00	$27,000
SUBTOTAL	**EXTERIOR WINDOWS**	**27**	**EA**	**$ 500.00**	**$13,500**	**$ 500.00**	**$13,500**	**$ -**	**$0**	**$ 1,000.00**	**$27,000**

Summary Item: B20 Exterior Enclosure

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
B20	**Exterior Enclosure**	**1**	**LS**	**$ 17,204.28**	**$17,204**	**$ 19,112.64**	**$19,113**	**$ -**	**$0**	**$ 36,316.92**	**$36,317**

United States Department of the Interior
National Park Service
Class C Construction Cost Estimate

LINE ITEM COST SUMMARY

Project: Visitor Center Phase 2 - Update Condition Assessment Treatment Recommendations and Construction estimate
Park: William Jefferson Clinton Birthplace Home NHS
Park Alpha: WICL
PMIS: 131181

Estimate By: Michael Orel
Date: 12/22/21
Reviewed By:
Date:

Summary Item: B30 Roofing **Total Cost:** $2,288

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
B3010	ROOF COVERINGS										
	New Roofing and Flashiings @ Addition	208	SF	$ 5.00	$1,040	$ 5.00	$1,040	$ 1.00	$208	$ 11.00	$2,288
SUBTOTAL	ROOF COVERINGS	1402	SF	$ 0.74	$1,040	$ 0.74	$1,040	$ 0.15	$208	$ 1.63	$2,288

Summary Item: B30 Roofing

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
B30	Roofing	1	LS	$ 1,040.00	$1,040	$ 1,040.00	$1,040	$ 208.00	$208	$ 2,288.00	$2,288

United States Department of the Interior
National Park Service
Class C Construction Cost Estimate

LINE ITEM COST SUMMARY

Project: Visitor Center Phase 2 - Update Condition Assessment Treatment Recommendations and Construction estimate
Park: William Jefferson Clinton Birthplace Home NHS
Park Alpha: WICL
PMIS: 131181

Estimate By: Michael Orel
Date: 12/22/21
Reviewed By:
Date:

Summary Item: C10 Interior Construction **Total Cost:** $56,373

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
C1010	INTERIOR PARTITIONS										
	Knee Walls at 202 and 203	67	LF	$ 40.00	$2,686	$ 24.00	$1,612	$ -	$0	$ 64.00	$4,298
SUBTOTAL	INTERIOR PARTITIONS	1	LS	$ 2,686.12	$2,686	$ 1,611.67	$1,612	$ -	$0	$ 4,297.78	$4,298

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
C1020	INTERIOR DOORS										
	Restore Historic Doors	3	EA	$ 300.00	$900	$ 400.00	$1,200	$ -	$0	$ 700.00	$2,100
	Insta ABA -Compliant Hardware on existing doors	2	EA	$ 850.00	$1,700	$ 200.00	$400	$ -	$0	$ 1,050.00	$2,100
	Widen Door 106, 203	2	EA	$ 2,250.00	$4,500	$ 850.00	$1,700	$ 100.00	$200	$ 3,200.00	$6,400
	Slavage and store door 108	1	EA	$ -	$0	$ 75.00	$75	$ -	$0	$ 75.00	$75
	Remove door jamb and repair walls	1	EA	$ 150.00	$150	$ 1,400.00	$1,400	$ 100.00	$100	$ 1,650.00	$1,650
	Access doors at knee walls	4	EA	$ 800.00	$3,200	$ 500.00	$2,000	$ -	$0	$ 1,300.00	$5,200
SUBTOTAL	INTERIOR DOORS	1	LS	$ 10,450.00	$10,450	$ 6,775.00	$6,775	$ 300.00	$300	$ 17,525.00	$17,525

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
BASE CODE	Misc Work										
	Convert Room 107 to Restroom	70	SF	$ 200.00	$14,000	$ 250.00	$17,500	$ 25.00	$1,750	$ 475.00	$33,250
	Add supplemental guardrail at 2nd floor	13	LF	$ 75.00	$975	$ 25.00	$325	$ -	$0	$ 100.00	$1,300
SUBTOTAL	Misc Work	70	SF	$ 213.93	$14,975	$ 254.64	$17,825	$ 25.00	$1,750	$ 493.57	$34,550

Summary Item: C10 Interior Construction

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
C10	Interior Construction	1	LS	$ 28,111.12	$28,111	$ 26,211.67	$26,212	$ 2,050.00	$2,050	$ 56,372.78	$56,373

United States Department of the Interior
National Park Service
Class C Construction Cost Estimate

LINE ITEM COST SUMMARY

Project: Visitor Center Phase 2 - Update Condition Assessment Treatment Recommendations and Construction estimate
Park: William Jefferson Clinton Birthplace Home NHS
Park Alpha: WICL
PMIS: 131181

Estimate By: Michael Orel
Date: 12/22/21
Reviewed By:
Date:

Summary Item: C30 Interior Finishes **Total Cost:** $120,927

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
C3010	WALL FINISHES										
	Patch/Paint Walls and Ceilng ALLOWANCE	2873	SF	$ 4.00	$11,493	$ 16.00	$45,973	$ -	$0	$ 20.00	$57,466
	Demo suspended ceiing and Repair walls at 105	1	LS	$ 350.00	$350	$ 1,250.00	$1,250	$ -	$0	$ 1,600.00	$1,600
SUBTOTAL	WALL FINISHES	1	LS	$ 11,843.26	$11,843	$ 47,223.05	$47,223	$ -	$0	$ 59,066.31	$59,066

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
C3020	FLOOR FINISHES										
	Flooring @ Addition	160	SF	$ 6.00	$960	$ 5.00	$800	$ -	$0	$ 11.00	$1,760
	Repair Floor @ Opening 103	1	EA	$ 150.00	$150	$ 520.00	$520	$ -	$0	$ 670.00	$670
	Remove Carpet/Repair/Refinish Wood Flooing @ 1st Floor	1740	SF	$ 2.00	$3,480	$ 6.00	$10,439	$ 0.75	$1,305	$ 8.75	$15,223
	Strip, repair and seal floor at Entry 101	190	SF	$ 1.00	$190	$ 2.00	$380	$ 0.25	$48	$ 3.25	$618
	Repair Floor @ Termite Damage	500	SF	$ 20.00	$10,000	$ 15.00	$7,500	$ -	$0	$ 35.00	$17,500
	Underlayment and carpet at 202 and 203	470	SF	$ 5.00	$2,350	$ 4.00	$1,880	$ -	$0	$ 9.00	$4,230
	Repair/Refinish Wood Flooing @ 2nd floor	380	sf	$ 2.00	$760	$ 6.00	$2,280	$ 0.75	$285	$ 8.75	$3,325
	Repair and refinish stair treads and risers, railings and newel posts and paint	1	FL	$ 750.00	$750	$ 7,800.00	$7,800	$ -	$0	$ 8,550.00	$8,550
SUBTOTAL	FLOOR FINISHES	1	LS	$ 18,639.54	$18,640	$ 31,598.63	$31,599	$ 1,637.33	$1,637	$ 51,875.50	$51,876

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
C3030	CEILING FINISHES										
	Ceilng @ Addition	160	SF	$ 8.00	$1,280	$ 8.00	$1,280	$ -	$0	$ 16.00	$2,560
	Restore ceiling in room 105	57	SF	$ 10.00	$570	$ 15.00	$855	$ -	$0	$ 25.00	$1,425
	Drywall and Paint at ceiling and knee walls @ 202 and 203	750	SF	$ 3.00	$2,250	$ 5.00	$3,750	$ -	$0	$ 8.00	$6,000
SUBTOTAL	CEILING FINISHES	1	LS	$ 4,100.00	$4,100	$ 5,885.00	$5,885	$ -	$0	$ 9,985.00	$9,985

United States Department of the Interior
National Park Service
Class C Construction Cost Estimate

LINE ITEM COST SUMMARY

Project: Visitor Center Phase 2 - Update Condition Assessment Treatment Recommendations and Construction estimate
Park: William Jefferson Clinton Birthplace Home NHS
Park Alpha: WICL
PMIS: 131181

Estimate By: Michael Orel
Date: 12/22/21
Reviewed By:
Date:

Summary Item: C30 Interior Finishes **Total Cost:** $120,927

Summary Item: C30 Interior Finishes

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
C30	Interior Finishes	1	LS	$ 34,582.81	$34,583	$ 84,706.68	$84,707	$ 1,637.33	$1,637	$ 120,926.81	$120,927

United States Department of the Interior
National Park Service
Class C Construction Cost Estimate

LINE ITEM COST SUMMARY

Project: Visitor Center Phase 2 - Update Condition Assessment Treatment Recommendations and Construction estimate
Park: William Jefferson Clinton Birthplace Home NHS
Park Alpha: WICL
PMIS: 131181

Estimate By: Michael Orel
Date: 12/22/21
Reviewed By:
Date:

Summary Item: D20 Plumbing Systems

Total Cost: $2,250

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
D2020	DOMESTIC WATER DISTRIBUTION										
	Hot water Heater	1	EA	$ 1,750.00	$1,750	$ 500.00	$500	$ -	$0	$ 2,250.00	$2,250
SUBTOTAL	DOMESTIC WATER DISTRIBUTION	1	LS	$ 1,750.00	$1,750	$ 500.00	$500	$ -	$0	$ 2,250.00	$2,250

Summary Item: D20 Plumbing Systems

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
D20	Plumbing Systems	1	LS	$ 1,750.00	$1,750	$ 500.00	$500	$ -	$0	$ 2,250.00	$2,250

United States Department of the Interior
National Park Service
Class C Construction Cost Estimate

LINE ITEM COST SUMMARY

Project: Visitor Center Phase 2 - Update Condition Assessment Treatment Recommendations and Construction estimate
Park: William Jefferson Clinton Birthplace Home NHS
Park Alpha: WICL
PMIS: 131181

Estimate By: Michael Orel
Date: 12/22/21
Reviewed By:
Date:

Summary Item: D30 HVAC **Total Cost:** $37,100

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
D3010	ENERGY SUPPLY										
	HVAC For addtiion	160	SF	$ 10.00	$1,600	$ 10.00	$1,600	$ -	$0	$ 20.00	$3,200
	HVAC fo 2nd Floor	865	SF	$ 10.00	$8,650	$ 15.00	$12,975	$ 3.00	$2,595	$ 28.00	$24,220
	Ductwork Insulation and Support Repairs in Crawlspace	10	LF	$ 10.00	$100	$ 85.00	$850	$ 3.00	$30	$ 98.00	$980
	Mini-Split at IT Room	1	EA	$ 2,500.00	$2,500	$ 2,500.00	$2,500	$ -	$0	$ 5,000.00	$5,000
SUBTOTAL	**ENERGY SUPPLY**	**1025**	**SF**	**$ 12.54**	**$12,850**	**$ 17.49**	**$17,925**	**$ 2.56**	**$2,625**	**$ 32.59**	**$33,400**

Summary Item: D30 HVAC

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
D30	**HVAC**	**1**	**LS**	**$ 13,650.00**	**$13,650**	**$ 20,425.00**	**$20,425**	**3025**	**$3,025**	**$ 37,100.00**	**$37,100**

United States Department of the Interior
National Park Service
Class C Construction Cost Estimate

LINE ITEM COST SUMMARY

Project: Visitor Center Phase 2 - Update Condition Assessment Treatment Recommendations and Construction estimate
Park: William Jefferson Clinton Birthplace Home NHS
Park Alpha: WICL
PMIS: 131181

Estimate By: Michael Orel
Date: 12/22/21
Reviewed By:
Date:

Summary Item: D40 Fire Protection **Total Cost:** $30,333

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
D4010	FIRE PROTECTION SPRINKLERS SYSTEMS										
	New Sprinkler Ssytem	2873	SF	$ 5.00	$14,367	$ 5.00	$14,367	$ -	$0	$ 10.00	$28,733
	New Sprinkler Ssytem at Addtion	160	SF	$ 5.00	$800	$ 5.00	$800	$ -	$0	$ 10.00	$1,600
SUBTOTAL	**SYSTEMS**	**1**	**LS**	**$ 15,166.58**	**$15,167**	**$ 15,166.58**	**$15,167**	**$ -**	**$0**	**$ 30,333.16**	**$30,333**

Summary Item: D40 Fire Protection

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
D40	**Fire Protection**	**1**	**LS**	**$ 15,166.58**	**$15,167**	**$ 15,166.58**	**$15,167**	**$ -**	**$0**	**$ 30,333.16**	**$30,333**

United States Department of the Interior
National Park Service
Class C Construction Cost Estimate

LINE ITEM COST SUMMARY

Project: Visitor Center Phase 2 - Update Condition Assessment Treatment Recommendations and Construction estimate
Park: William Jefferson Clinton Birthplace Home NHS
Park Alpha: WICL
PMIS: 131181

Estimate By: Michael Orel
Date: 12/22/21
Reviewed By:
Date:

Summary Item: D50 Electrical **Total Cost:** $101,616

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
D5010	ELECTRICAL SERVICE & DISTRIBUTION										
	Entire House	2873	SF	$ 2.00	$5,747	$ 2.00	$5,747	$ 1.00	$2,873	$ 5.00	$14,367
	Electrical for Addition	160	SF	$ 2.00	$320	$ 2.00	$320	$ 1.00	$160	$ 5.00	$800
SUBTOTAL	DISTRIBUTION	3033	SF	$ 2.00	$6,067	$ 2.00	$6,067	$ 1.00	$3,033	$ 5.00	$15,167

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
D5020	LIGHTING & BRANCH WIRING										
	Entire House	2873	SF	$ 15.00	$43,100	$ 5.00	$14,367	$ 1.00	$2,873	$ 21.00	$60,340
	Electrical for Addition	160	SF	$ 15.00	$2,400	$ 5.00	$800	$ 1.00	$160	$ 21.00	$3,360
SUBTOTAL	LIGHTING & BRANCH WIRING	3033	SF	$ 15.00	$45,500	$ 5.00	$15,167	$ 1.00	$3,033	$ 21.00	$63,700

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
D5030	COMMUNICATIONS & SECURITY & FIRE ALARM										
	Entire House	2873	SF	$ 2.00	$5,747	$ 1.50	$4,310	$ 1.00	$2,873	$ 4.50	$12,930
	Electrical for Addition	160	SF	$ 2.00	$320	$ 1.50	$240	$ 1.00	$160	$ 4.50	$720
SUBTOTAL	FIRE ALARM	3033	LS	$ 2.00	$6,067	$ 1.50	$4,550	$ 1.00	$3,033	$ 4.50	$13,650

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
D5040	SPECIAL ELECTRICAL SYSTEMS										
	Entire House	2873	SF	$ 1.00	$2,873	$ 1.00	$2,873	$ 1.00	$2,873	$ 3.00	$8,620
	Electrical for Addition	160	SF	$ 1.00	$160	$ 1.00	$160	$ 1.00	$160	$ 3.00	$480
SUBTOTAL	SPECIAL ELECTRICAL SYSTEMS	1	LS	$ 3,033.32	$3,033	$ 3,033.32	$3,033	$ 3,033.32	$3,033	$ 9,099.95	$9,100

United States Department of the Interior
National Park Service
Class C Construction Cost Estimate

LINE ITEM COST SUMMARY

Project: Visitor Center Phase 2 - Update Condition Assessment Treatment Recommendations and Construction estimate
Park: William Jefferson Clinton Birthplace Home NHS
Park Alpha: WICL
PMIS: 131181

Estimate By: Michael Orel
Date: 12/22/21
Reviewed By:
Date:

Summary Item: D50 Electrical **Total Cost:** $101,616

Summary Item: D50 Electrical

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
D50	Electrical	3033	SF	$ 20.00	$60,666	$ 9.50	$28,816	$ 4.00	$12,133	$ 33.50	$101,616

United States Department of the Interior
National Park Service
Class C Construction Cost Estimate

LINE ITEM COST SUMMARY

Project: Visitor Center Phase 2 - Update Condition Assessment Treatment Recommendations and Construction estimate
Park: William Jefferson Clinton Birthplace Home NHS
Park Alpha: WICL
PMIS: 131181

Estimate By: Michael Orel
Date: 12/22/21
Reviewed By:
Date:

Summary Item: F20 Selective Building Demolition **Total Cost:** $55,829

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
F2010	BUILDING ELEMENTS DEMOLITION										
	Demo sink at room 203	1	EA	$ -	$0	$ 500.00	$500	$ -	$0	$ 500.00	$500
	Remove Rigid Insulation	750	SF	$ -	$0	$ 1.00	$750	$ -	$0	$ 1.00	$750
	Remove Subfloor at 202 and 203	470	SF	$ -	$0	$ 20.00	$9,400	$ -	$0	$ 20.00	$9,400
	Demo Knee Walls	67	LF	$ -	$0	$ 25.00	$1,679	$ -	$0	$ 25.00	$1,679
	Remove paneling and repair plaster walls	800	SF	$ 2.00	$1,600	$ 3.00	$2,400	$ -	$0	$ 5.00	$4,000
SUBTOTAL	BUILDING ELEMENTS DEMOLITION	1	LS	$ 1,600.00	$1,600	$ 14,728.82	$14,729	$ -	$0	$ 16,328.82	$16,329

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
F2020	HAZARDOUS COMPONENTS ABATEMENT										
	Lead Based Paint Testing	1	LS	$ -	$0	$ 3,500.00	$3,500	$ -	$0	$ 3,500.00	$3,500
	Lead Based Paint Abatement	1	LS	$ -	$0	$ 36,000.00	$36,000	$ -	$0	$ 36,000.00	$36,000
SUBTOTAL	ABATEMENT	1	LS	$ -	$0	$ 39,500.00	$39,500	$ -	$0	$ 39,500.00	$39,500

Summary Item: F20 Selective Building Demolition

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
F20	Selective Building Demolition	1	LS	$ 1,600.00	$1,600	$ 54,228.82	$54,229	$ -	$0	$ 55,828.82	$55,829

United States Department of the Interior
National Park Service
Class C Construction Cost Estimate

LINE ITEM COST SUMMARY

Project: Visitor Center Phase 2 - Update Condition Assessment Treatment Recommendations and Construction estimate
Park: William Jefferson Clinton Birthplace Home NHS
Park Alpha: WICL
PMIS: 131181

Estimate By: Michael Orel
Date: 12/22/21
Reviewed By:
Date:

Summary Item: G30 Site Mechanical Utilities **Total Cost:** $10,900

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
G3010	WATER SUPPLY										
	New Waterline for Fire ALLOWANCE	115	LF	$ 15.00	$1,725	$ 25.00	$2,875	$ 20.00	$2,300	$ 60.00	$6,900
	Archeological Monitoring	1	LS	$ -	$0	$ 4,000.00	$4,000	$ -	$0	$ 4,000.00	$4,000
SUBTOTAL	WATER SUPPLY	1	LS	$ 1,725.00	$1,725	$ 6,875.00	$6,875	$ 2,300.00	$2,300	$ 10,900.00	$10,900

Summary Item: G30 Site Mechanical Utilities

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
G30	Site Mechanical Utilities	1	LS	$ 1,725.00	$1,725	$ 6,875.00	$6,875	2300	$2,300	$ 10,900.00	$10,900

United States Department of the Interior
National Park Service
Class C Construction Cost Estimate

LINE ITEM COST SUMMARY

Project: Visitor Center Phase 2 - Update Condition Assessment Treatment Recommendations and Construction estimate
Park: William Jefferson Clinton Birthplace Home NHS
Park Alpha: WICL
PMIS: 131181

Estimate By: Michael Orel
Date: 12/22/21
Reviewed By:
Date:

Summary Item: G40 Site Electrical Utilities **Total Cost:** $8,625

Uniformat II WBS Code		Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
G4010	ELECTRICAL DISTRIBUTION										
	New panel in Comfort station	1	EA	$ 1,500.00	$1,500	$ 1,500.00	$1,500	$ -	$0	$ 3,000.00	$3,000
	New Feeder from Comfort Station	75	LF	$ 25.00	$1,875	$ 50.00	$3,750	$ -	$0	$ 75.00	$5,625
SUBTOTAL	ELECTRICAL DISTRIBUTION	1	LS	$ 3,375.00	$3,375	$ 5,250.00	$5,250	$ -	$0	$ 8,625.00	$8,625

Summary Item: G40 Site Electrical Utilities

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
G40	Site Electrical Utilities	1	LS	$ 3,375.00	$3,375	$ 5,250.00	$5,250	$ -	$0	$ 8,625.00	$8,625

SITE TREATMENT & COSTS

Deficiency Ratings (Critical, Serious, Minor)
Condition Ratings (Good, Fair, Poor)

Site Drainage and Accessibility Improvements

Uni-format WBC Code	Deficiency Rating	Condition Rating	Treatment	Qty	Unit	Labor	Materials	Equip	Total Cost
G5090			Provide Updated Comprehensive Site Survey						$24,000
	Serious	Poor	Provide drainage for structure roof runoff – provide gutters and downspouts and direct away from structures.						Costs included in Building Work
			Gutter	320	LF				
			Downspouts	9	EA				
			4”-6” Discharge pipe	220	LF				
G1030	Serious	Poor	Provide drainage away from structures – regrade areas around structures and yard area to drain away from structure.	1595	SY				
	Serious	Poor	Provide drainage away from structures – provide yard inlets and pipe to public storm sewer system.						
G3030			Yard drains	8	EA				
G3030			6”-8” pipe	400	LF				
G1020	Minor	Fair	Remove concrete flumes in front of Cassidy House.	20	SY				
G2050	N/A	N/A	Sod all disturbed areas	1700	SY				
	Critical	Poor	Provide compliant accessible ramp to Visitor Center.	20	LF				Cost in VC Estimate
G1020	Minor	Fair	Remove site sidewalk at street	1090	SF				
G2030	N/A	N/A	New site sidewalks	2020	SF				
G2030	Minor	Poor	Reset brick edging at spline sidewalk from garden to VC						
G1020	Minor	Fair	Remove street curb.	520	LF				

G2030			Replace street curb.	520	LF				
G1020	Minor	Fair	Remove street sidewalk.	2100	SF				
G2030			Replace street sidewalk.	2100	SF				
G1020	Minor	Good	Remove concrete drive.	700	SF				
G1020	Minor	Good	Remove fencing.	450	LF				
G1020			Haul-off						
G2050			New fence	140	LF				
G2050	Minor	Good	Brick paver base and reset at plaza	480	SF				
	Serious	Poor	Foundation drains	450	LF				Cost in buildings
G3030	Serious	Poor	4” Foundation drain discharge pipe	220	LF				
G2050	Minor	Good	Paint Remaining Black Iron Fencing	370	LF				
G2050	N/A	N/A	Relocate Street Sign	1	EA				
G2050	N/A	N/A	Miscellaneous landscaping costs	1	LS				
G2050	Serious	Poor	New railings on site stairs at VC	28	LF				
G1020 G2040	Minor	Poor	Retaining Wall Replacement and new drain pipe to storm	406	SF				
G1030	N/A	N/A	Erosion Control	1	LS				
G1030	Critical	N/A	Historic Tree protection	1	LS				
G3030			Archeological monitoring during excavations Allow	1	LS				$6,000
	Minor	Poor	Irrigation						Costs Not Included at this Time

United States Department of the Interior
National Park Service
Class C Construction Cost Estimate

BASIS OF ESTIMATE

PROJECT INFORMATION

Project:	Site Work Phase 1B - Update Condition Assessment Treatment Recommendations and Construction Estimate
Park:	William Jefferson Clinton Birthplace Home NHS
Park Apha:	WICL
PMIS:	131181
Estimate Date:	12/22/2021
Prepared By:	Michael Orel
Company:	CMR
Address:	11006 Parallel Parkway, Suite 200
City, State Zip:	Kansas City KS 66109
Phone:	913-262-6715

BACKGROUND SUPPORTING MATERIAL (Scope of Work):

Estimate based on 2021 AE team site visit to review current conditions. Revised treatment recommendations based on current conditions and 2013 Historic Structure Report and 2014 Cultural Landscape Report. Drawings provided from previous report.

SOURCE OF COST DATA:

Costs were based on a combination of RS means data and the estimators past estimating experience.

ESTIMATE ASSUMPTIONS:

Estimate based on pre-design consulting and previous study drawings

MAJOR CHANGES FROM PREVIOUS ESTIMATE:

N/A

United States Department of the Interior
National Park Service
Class C Construction Cost Estimate

BASIS OF ESTIMATE

PROJECT INFORMATION

Project:	Site Work Phase 1B - Update Condition Assessment Treatment Recommendations and Construction Estimate
Park:	William Jefferson Clinton Birthplace Home NHS
Park Apha:	WICL
PMIS:	131181
Estimate Date:	12/22/2021

DESCRIPTION OF MARK-UP & ADD-ONS:

Design Contingency:	10.00%	pre-design effort with limited drawings and research
Standard. General Conditions:	10.00%	Contractor direct job costs
Government General Conditions:	5.00%	Government oversight
Contractor Overhead:	18.00%	Contractor indirect job costs and includes bods and permits
Contractor Profit:	10.00%	profit reasonable for a project of this size
Contracting Method Adjustment:	15.00%	contracting method unknown
Annual Inflation Escalation Factor:	6.00%	Projected annual inflation rate.
Time Until Project Midpoint (Months)	12	Number of months from estimate (or data) date until the projects midpoint of construction.

OTHER COMMENTS:

Project requested Class C cost estimate with material/labor/equipment breakout. To achieve this contract requirement the AE team chose to use the Class A Template.

United States Department of the Interior
National Park Service
Class C Construction Cost Estimate

BID ITEM COST SUMMARY

Project: Site Work Phase 1B - Update Condition Assessment Treatment Recommendations and Construction Estimate
Park: William Jefferson Clinton Birthplace Home NHS
Park Alpha: WICL
PMIS Number: 131181

Estimate By: Michael Orel
Date: 12/22/21
Reviewed By:
Date:

Bid Item Number	Asset / Project Element / Description	Size/Count	Units
BID ITEM 1	Sitework	1	LS

Item No.	WBS	Description	Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Direct Cost/Unit	Total Direct Costs	NET Cost/Unit	Total NET Costs
1	A10	Foundations	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2	A20	Basement Construction	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
3	B10	Superstructure	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
4	B20	Exterior Enclosure	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
5	B30	Roofing	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
6	C10	Interior Construction	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
7	C20	Stairs	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
8	C30	Interior Finishes	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
9	D10	Conveying Systems	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
10	D20	Plumbing Systems	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
11	D30	HVAC	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
12	D40	Fire Protection	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
13	D50	Electrical	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
14	E10	Equipment	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
15	E20	Furnishings	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
16	F10	Special Construction	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
17	F20	Selective Building Demolition	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
18	G10	Site Preparation	$ 8,723.93	$ 8,724	$ 37,043.58	$ 37,043.58	$ 13,510.00	$ 13,510.00	$ 63,778	$ 63,778	$ 125,884.34	$ 125,884
19	G20	Site Improvements	$ 70,617.51	$ 70,618	$ 81,880.68	$ 81,880.68	$ 7,338.11	$ 7,338.11	$ 159,836	$ 159,836	$ 315,485.65	$ 315,486
20	G30	Site Mechanical Utilities	$ 27,000.00	$ 27,000	$ 20,200.00	$ 20,200.00	$ 6,000.00	$ 6,000.00	$ 53,200	$ 53,200	$ 105,006.42	$ 105,006
21	G40	Site Electrical Utilities	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
22	G50	Other Site Construction	$ -	$ -	$ 24,000.00	$ 24,000.00	$ -	$ -	$ 24,000	$ 24,000	$ 47,371.32	$ 47,371
23	XX	Special Use - 1	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
24	XX	Special Use - 2	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
25	XX	Special Use - 3	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
		Subtotal Direct Construction Costs	**$ 106,341.43**	**$ 106,341**	**$ 163,124.26**	**$ 163,124.26**	**$ 26,848.11**	**$ 26,848.11**	**$ 300,814**	**$300,814**	**$ 593,747.73**	**$593,748**
		Total Value of Government Furnished Property (GFP) Inc. in Direct Cost		**$0.00**		**$ -**		**$ -**	**$ -**	**$0**	**In most cases GFP is normally zero - see footnote-**	
		Direct Cost Subtotal without GFP		$ 106,341		$ 163,124.26		$ 26,848.11		**$300,814**		
		Design Contingency	10.00%							$30,081		
		Total Direct Construction Costs								**$330,895**		
		Standard General Conditions	10.00%	Applied to Total Direct Construction Cost less GFP						$33,090		
		Government General Conditions	5.00%	Applied to Total Direct Construction Cost less GFP						$16,545		
		Subtotal NET Construction Cost								**$380,529**		
		Overhead	18.00%							$68,495		
		Profit	10.00%							$38,053		
		Estimated NET Construction Cost								**$487,078**		
		Contracting Method Adjustment	15.00%							$73,062		
		Inflation Escalation	12	Months	Annual Rate =	6.00%			Inc. Bonds & CMA	$33,608		
		Total Estimated NET Cost of Construction								**$593,748**		

GFP costs only apply when the Government pre-purchases items, or provides other materials out of Government inventory, to be installed by contractor. Adjustments and Markup on GFP only include Inflation Escalation; No other adjustment factors or O&P markup have been applied.

United States Department of the Interior
National Park Service
Class C Construction Cost Estimate

LINE ITEM COST SUMMARY

Project: Site Work Phase 1B - Update Condition Assessment Treatment Recommendations and Construction Estimate
Park: William Jefferson Clinton Birthplace Home NHS
Park Alpha: WICL
PMIS: 131181

Estimate By: Michael Orel
Date: 12/22/21
Reviewed By:
Date:

Summary Item: G10 Site Preparation **Total Cost:** $63,778

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
G1020	SITE DEMOLITION & RELOCATIONS										
	Demo Concrete Flumes	20	SY	$ -	$0	$ 65.00	$1,300	$ 15.00	$300	$ 80.00	$1,600
	Demo Sidewalk	1090	SF	$ -	$0	$ 5.00	$5,450	$ 3.00	$3,270	$ 8.00	$8,720
	Demo Curb & Gutter	520	LF	$ -	$0	$ 3.00	$1,560	$ 2.00	$1,040	$ 5.00	$2,600
	Demo Street Sidewalk	2100	SF	$ -	$0	$ 5.00	$10,500	$ 3.00	$6,300	$ 8.00	$16,800
	Demo Concrete Drive	700	SF	$ -	$0	$ 5.00	$3,500	$ 3.00	$2,100	$ 8.00	$5,600
	Demo Fence	450	LF	$ -	$0	$ 5.00	$2,250	$ -	$0	$ 5.00	$2,250
	Demo Retaining Wall	80	LF	$ -	$0	$ 35.00	$2,810	$ -	$0	$ 35.00	$2,810
	Haul-off	1	LS	$ -	$0	$ -	$0	$ -	$0	$ 4,500.00	$4,500
SUBTOTAL	SITE DEMOLITION & RELOCATIONS	1	LS	$ -	$0	$ 27,369.65	$27,370	$ 13,010.00	$13,010	$ 44,879.65	$44,880

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
G1030	SITE EARTHWORK										
	Finish Grading	1595	SY	$ 5.00	$7,974	$ 5.00	$7,974	$ -	$0	$ 10.00	$15,948
	Erosion Control	1	LS	$ 500.00	$500	$ 1,500.00	$1,500	$ 500.00	$500	$ 2,500.00	$2,500
	Tree Protection	1	LS	$ 250.00	$250	$ 200.00	$200	$ -	$0	$ 450.00	$450
SUBTOTAL	SITE EARTHWORK	1	LS	$ 8,723.93	$8,724	$ 9,673.93	$9,674	$ 500.00	$500	$ 18,897.85	$18,898

Summary Item: G10 Site Preparation

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
G10	Site Preparation	1	LS	$ 8,723.93	$8,724	$ 37,043.58	$37,044	$ 13,510.00	$13,510	$ 63,777.50	$63,778

United States Department of the Interior
National Park Service
Class C Construction Cost Estimate

LINE ITEM COST SUMMARY

Project: Site Work Phase 1B - Update Condition Assessment Treatment Recommendations and Construction Estimate
Park: William Jefferson Clinton Birthplace Home NHS
Park Alpha: WICL
PMIS: 131181

Estimate By: Michael Orel
Date: 12/22/21
Reviewed By:
Date:

Summary Item: G20 Site Improvements **Total Cost:** $159,836

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
G2030	PEDESTRIAN PAVING										
	Sidewalk	2020	SF	$ 5.00	$10,100	$ 5.00	$10,100	$ -	$0	$ 10.00	$20,200
	Curb & Gutter	520	LF	$ 15.00	$7,800	$ 10.00	$5,200	$ -	$0	$ 25.00	$13,000
	Street Sidewalk	2100	Unit	$ 5.00	$10,500	$ 5.00	$10,500	$ -	$0	$ 10.00	$21,000
	Brick Edging @ Sidewalk	303	LF	$ 15.00	$4,547	$ 10.00	$3,031	$ -	$0	$ 25.00	$7,578
SUBTOTAL	PEDESTRIAN PAVING	1	LS	$ 32,946.77	$32,947	$ 28,831.18	$28,831	$ -	$0	$ 61,777.95	$61,778

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
G2040	SITE DEVELOPMENT										
	New Retaining Wall	406	SF	$ 25.00	$10,151	$ 25.00	$10,151	$ 10.00	$4,060	$ 60.00	$24,363
SUBTOTAL	SITE DEVELOPMENT	1	LS	$ 10,151.05	$10,151	$ 30,151.05	$30,151	$ 4,060.42	$4,060	$ 44,362.51	$44,363

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
G2050	LANDSCAPING										
	Sod	1700	SY	$ 5.00	$8,500	$ 2.00	$3,400	$ 1.00	$1,700	$ 8.00	$13,600
	New Fence	140	LF	$ 65.00	$9,100	$ 75.00	$10,500	$ 5.00	$700	$ 145.00	$20,300
	Brick Paver base and reset	480	SF	$ 5.00	$2,400	$ 10.00	$4,800	$ 1.00	$480	$ 16.00	$7,680
	Maintenance and paiinting of black iron fence	370	LF	$ 1.00	$370	$ 5.00	$1,848	$ 1.00	$370	$ 7.00	$2,588
	Railing @ Stairs	28	lf	$ 125.00	$3,500	$ 25.00	$700	$ 1.00	$28	$ 151.00	$4,228
	Relocate Street Sign	1	EA	$ 150.00	$150	$ 150.00	$150	$ -	$0	$ 300.00	$300
	Landsaping ALLOWANCE	1	LS	$ 3,500.00	$3,500	$ 1,500.00	$1,500	$ -	$0	$ 5,000.00	$5,000
SUBTOTAL	LANDSCAPING	1	LS	$ 27,519.69	$27,520	$ 22,898.45	$22,898	$ 3,277.69	$3,278	$ 53,695.84	$53,696

Summary Item: G20 Site Improvements

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
G20	Site Improvements	1	LS	$ 70,617.51	$70,618	$ 81,880.68	$81,881	$ 7,338.11	$7,338	$ 159,836.30	$159,836

United States Department of the Interior
National Park Service
Class C Construction Cost Estimate

LINE ITEM COST SUMMARY

Project: Site Work Phase 1B - Update Condition Assessment Treatment Recommendations and Construction Estimate
Park: William Jefferson Clinton Birthplace Home NHS
Park Alpha: WICL
PMIS: 131181

Estimate By: Michael Orel
Date: 12/22/21
Reviewed By:
Date:

Summary Item: G30 Site Mechanical Utilities **Total Cost:** $53,200

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
G3030	STORM SEWER										
MF-2004 Code	Yard Drains	8	EA	$ 1,500.00	$12,000	$ 650.00	$5,200	$ -	$0	$ 2,150.00	$17,200
MF-2004 Code	Storm Pipe	600	LF	$ 25.00	$15,000	$ 15.00	$9,000	$ 10.00	$6,000	$ 50.00	$30,000
MF-2004 Code	Irrigation			$ -	$0	$ -	$0	$ -	$0	$ -	$0
MF-2004 Code	Archelogical Monitoring	1	LS	$ -	$0	$ 6,000.00	$6,000	$ -	$0	$ 6,000.00	$6,000
SUBTOTAL	**STORM SEWER**	**1**	**LS**	**$ 27,000.00**	**$27,000**	**$ 20,200.00**	**$20,200**	**$ 6,000.00**	**$6,000**	**$ 53,200.00**	**$53,200**

Summary Item: G30 Site Mechanical Utilities

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
G30	**Site Mechanical Utilities**	**1**	**LS**	**$ 27,000.00**	**$27,000**	**$ 20,200.00**	**$20,200**	**6000**	**$6,000**	**$ 53,200.00**	**$53,200**

United States Department of the Interior
National Park Service
Class A Construction Cost Estimate

LINE ITEM COST SUMMARY

Project: Site Work Phase 1B - Update Condition Assessment Treatment Recommendations and Construction Estimate
Park: William Jefferson Clinton Birthplace Home NHS
Park Alpha: WICL
PMIS: 131181

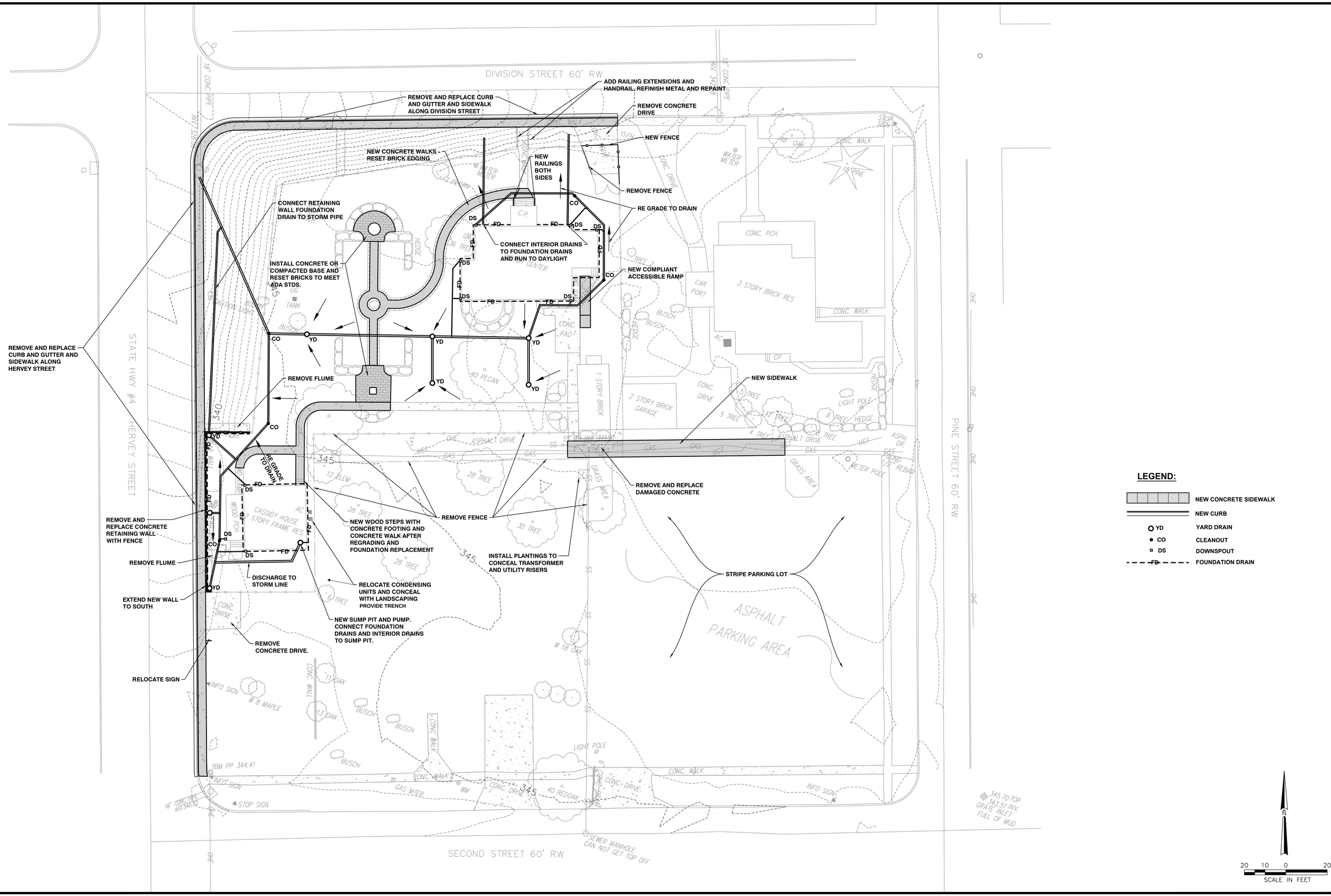
Estimate By: Michael Orel
Date: 12/22/21
Reviewed By:
Date:

Summary Item: G50 Other Site Construction **Total Cost:** $24,000

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
G5090	Special Inspections										
	Site Survey	1	LS	$ -	$0	$ 24,000.00	$24,000	$ -	$0	$ 24,000.00	$24,000
SUBTOTAL	Special Inspections	1	LS	$ -	$0	$ 24,000.00	$24,000	$ -	$0	$ 24,000.00	$24,000

Summary Item: G50 Other Site Construction

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		TOTALS	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Total Cost/Unit	Total Cost
G50	Other Site Construction	1	LS	$ -	$0	$ 24,000.00	$24,000	$ -	$0	$ 24,000.00	$24,000



SK Design Group, Inc.

CONCEPTUAL SITE SKETCH

U:\2021\21-154\2021-11-11- CONCEPTUAL SITE SKETCH\CONCEPTUAL SITE PLAN.DWG

COMFORT STATION TREATMENT

Deficiency Ratings (Critical, Serious, Minor)
Condition Ratings (Good, Fair, Poor)

Comfort Station Treatment – Mechanical, Electrical, Plumbing, Fire Protection

Item #	Deficiency Rating	Condition Rating	Treatment	Qty	Unit	Labor	Materials	Equip	Total Cost
1	Critical	Poor	New 400A, 120/240V panelboard in comfort station with • (1) 200A/2P CB for Visitor Center panel • (1) 100A/2P CB for Cassidy House panel • (2) 40A/1P CBs for water heaters • (1) 30A/2P CB for CS AC Unit • (1) 40A/2P CB for CS Heater • (10) 20A/1P CB for CS receptacles, lights, door operators, and spares.	1	EA.				Costs included VC and Cassidy House only at this time.
2	Critical	Poor	Install new grounding system.	1	EA.				
3a	Serious	Poor	Remove existing and install new conduit & conductors throughout the building.	485	S.F.				Not Costed
3b	Critical	Poor	Option (if not replacing all with new) – Repair/replace damaged ENT pathways and fittings.		.				Not Costed
4a	Minor	Fair	Remove existing and install new LED lighting throughout toilet rooms (two with integral 90 min. emergency battery – one per toilet room).	8	EA.				Not Costed
4b	Serious	Poor	Option (if not replacing all interior lighting) – Provide emergency lighting units (“bug eyes”) to provide 90 min emergency egress illumination in case of loss of power.	2	EA.				Not Costed
5	Serious	Poor	Remove existing and install new LED light fixture at exterior overhang outside of toilet rooms.	1	EA.				Not Costed
6	Minor	Fair	Remove existing and install new LED lighting in storage/maintenance room.	2	EA.				Not Costed
7	Critical	Poor	Replace exterior GFCI receptacles with weather resistant GFCI receptacles and replace covers with weatherproof in-use covers.	2	EA.				Not Costed
8	Minor	Fair	Provide ceiling mounted dual technology occupancy sensor for automatic off control of lighting in each toilet room.	2	EA.				Not Costed
9	Minor	Fair	Provide exterior occupancy sensor or photocell for automatic on/off control of exterior light fixture.	1	EA.				Not Costed
10	Serious	Poor	Provide ADA compliant insulation kit (protector) for exposed sanitary piping below lavatories in toilet rooms.	2	EA.				Not Costed
11	Minor	Poor	Add GFCI type receptacles in storage/maintenance room.	2	EA.				Not Costed

WOOD SPECIES TESTING

Regis B. Miller, PhD
EIN: 20-5521373

Information Specialist
Wood Identification and Tropical Woods
23 Mountain Ash Trail
Madison, Wisconsin 53717-1508
Phone: (608) 213-3217
Email: rmiller1@wisc.edu

December 19, 2021

Philip D. Steed, PE
Structural Engineering Associates, INC.
1000 Walnut, Suite 1750
Kansas City, MO 64106

Dear Mr. Steed,

I received your letter and wood specimen removed from a first floor framing joist in the southeast corner of the Cassidy House at the William Jefferson Clinton Birthplace Home National Historic Site located in Hope, Arkansas. The specimen is a species in the southern yellow pine group (*Pinus*). Species of southern pine is found under "Mixed Southern Pine" of your attachment from the National Design Specifications for Wood Construction.

To make the identification, I examined the wood with my naked eye and then made a smooth cut with a utility knife on the transverse surface. With a 14X hand lens I examine the transverse surface. I then made thin sections of the radial surface and examined them under a light microscope. I observed axial resin ducts, abrupt transition between the early and latewood, dentate ray tracheids, and 3-5 pinoid pits per cross-field. Based on these and other features, I made the identification using my naked eye, a 14X hand lens, and a light microscope.

The specimen shows fungal decay and insect damage. If you have any additional questions, you can email me at rmiller1@wisc.edu or call me on my mobile at 608-213-3217.

Best regards.

/s/ *Regis B. Miller*

Regis B. Miller, Ph.D.

STRUCTURAL ENGINEERING ASSOCIATES, INC.
Est. 1909

December 3, 2021

Regis B. Miller, Ph.D.
Wood Identification & Information Specialist
23 Mountain Ash Trail
Madison, WI 53717-1508

Re: William Jefferson Clinton Birthplace Home NHS
Hope, AR

Dr. Miller,

Please find the enclosed wood sample for identification. This sample was removed from a first floor framing joist in the southeast corner of the Cassidy House at the William Jefferson Clinton Birthplace Home National Historic Site located in Hope, Arkansas, in the course of a project for the National Park Service. The house was constructed in 1917 and the joists are 2" by 8" (actual), approximately 14'-0" long and spaced at approximately 20".

We need to identify the species of this sample in order to perform structural calculations on the floor framing.

Please provide a letter report on the sample species including the methods used for identification, any other notable observations, such as insect or other damage, and your results. The letter form that you have submitted for previous projects will be sufficient. I have also included an attachment from the National Design Specification for Wood Construction. Please review this table and provide, if possible, an analogous species that would be appropriate for use in calculations. We request this level of information so that we may include it with our report to the National Park Service.

Let me know if the samples are of adequate size. If you have any questions, you can reach me by phone at (816) 719-9973 or by email at psteed@seassociates.com.

Sincerely,

Philip D. Steed, PE

ATTACHMENT - NDS 2012 SUPPLEMENT, TABLE 2.1, PAGE 1 of 4

2.1 List of Sawn Lumber Species Combinations

Species or Species Combination	Species That May Be Included in Combination	Grading Rules Agencies	Design Values Provided in Tables
Alaska Cedar		WCLIB	4A
Alaska Hemlock		WWPA	4A
Alaska Spruce	Alaska Sitka Spruce Alaska White Spruce	WWPA	4A
Alaska Yellow Cedar		WCLIB, WWPA	4A
Aspen	Big Tooth Aspen Quaking Aspen	NELMA NSLB WWPA	4A
Baldcypress		SPIB	4A, 4D
Balsam Fir		NELMA NSLB	4D, 4E
Beech-Birch-Hickory	American Beech Bitternut Hickory Mockernut Hickory Nutmeg Hickory Pecan Hickory Pignut Hickory Shagbark Hickory Shellbark Hickory Sweet Birch Water Hickory Yellow Birch	NELMA	4A, 4D
Coast Sitka Spruce		NLGA	4A, 4D, 4E
Coast Species	Amabilis Fir Coast Sitka Spruce Douglas Fir Western Hemlock Western Larch	NLGA	4E
Cottonwood		NSLB	4A
Douglas Fir-Larch	Douglas Fir Western Larch	WCLIB WWPA	4A, 4C, 4D, 4E
Douglas Fir-Larch (North)	Douglas Fir Western Larch	NLGA	4A, 4C, 4D, 4E
Douglas Fir-South		WWPA	4A, 4C, 4D, 4E
Eastern Hemlock		NELMA NSLB	4D
Eastern Hemlock-Balsam Fir	Balsam Fir Eastern Hemlock Tamarack	NELMA	4A
Eastern Hemlock-Tamarack	Eastern Hemlock Tamarack	NELMA NSLB	4A, 4D, 4E
Eastern Hemlock-Tamarack (North)	Eastern Hemlock Tamarack	NLGA	4D, 4E

ATTACHMENT - NDS 2012 SUPPLEMENT, TABLE 2.1, PAGE 2 of 4

2.1 List of Sawn Lumber Species Combinations (Cont.)

Species or Species Combination	Species That May Be Included in Combination	Grading Rules Agencies	Design Values Provided in Tables
Eastern Softwoods	Balsam Fir Black Spruce Eastern Hemlock Eastern White Pine Jack Pine Norway (Red) Pine Pitch Pine Red Spruce Tamarack White Spruce	NELMA NSLB	4A
Eastern Spruce	Black Spruce Red Spruce White Spruce	NELMA NSLB	4D, 4E
Eastern White Pine		NELMA NSLB	4A, 4D, 4E
Eastern White Pine (North)		NLGA	4E
Hem-Fir	California Red Fir Grand Fir Noble Fir Pacific Silver Fir Western Hemlock White Fir	WCLIB WWPA	4A, 4C, 4D, 4E
Hem-Fir (North)	Amabilis Fir Western Hemlock	NLGA	4A, 4C, 4D, 4E
Mixed Maple	Black Maple Red Maple Silver Maple Sugar Maple	NELMA	4A, 4D
Mixed Oak	All Oak Species graded under NELMA rules	NELMA	4A, 4D
Mixed Southern Pine	Any species in the Southern Pine species combination, plus either or both of the following: Pond Pine Virginia Pine	SPIB	4B, 4C, 4D
Mountain Hemlock		WWPA, WCLIB	4D
Northern Pine	Jack Pine Norway (Red) Pine Pitch Pine	NELMA NSLB	4D, 4E
Northern Red Oak	Black Oak Northern Red Oak Pin Oak Scarlet Oak	NELMA	4A, 4D
Northern Species	Any species graded under NLGA rules except Red Alder, White Birch, and Norway Spruce	NLGA	4A, 4C, 4E
Northern White Cedar		NELMA	4A, 4D, 4E
Ponderosa Pine		NLGA	4D, 4E

ATTACHMENT - NDS 2012 SUPPLEMENT, TABLE 2.1, PAGE 3 of 4

2.1 List of Sawn Lumber Species Combinations (Cont.)

Species or Species Combination	Species That May Be Included in Combination	Grading Rules Agencies	Design Values Provided in Tables
Red Maple		NELMA	4A, 4D
Red Oak	Black Oak Cherrybark Oak Laurel Oak Northern Red Oak Pin Oak Scarlet Oak Southern Red Oak Water Oak Willow Oak	NELMA	4A, 4D
Red Pine		NLGA	4D, 4E
Redwood		RIS	4A, 4D, 4E
Sitka Spruce		WWPA, WCLIB	4D, 4E
Southern Pine	Loblolly Pine Longleaf Pine Shortleaf Pine Slash Pine	SPIB	4B, 4C, 4D, 4E
Spruce-Pine-Fir	Alpine Fir Balsam Fir Black Spruce Engelmann Spruce Jack Pine Lodgepole Pine Red Spruce White Spruce	NLGA	4A, 4C, 4D, 4E
Spruce-Pine-Fir (South)	Balsam Fir Black Spruce Engelmann Spruce Jack Pine Lodgepole Pine Norway (Red) Pine Red Spruce Sitka Spruce White Spruce	NELMA NSLB WCLIB WWPA	4A, 4C, 4D, 4E
Western Cedars	Alaska Cedar Incense Cedar Port Orford Cedar Western Red Cedar	WCLIB WWPA	4A, 4C, 4D, 4E
Western Cedars (North)	Pacific Coast Yellow Cedar Western Red Cedar	NLGA	4D, 4E
Western Hemlock		WWPA, WCLIB	4D, 4E
Western Hemlock (North)		NLGA	4D, 4E
Western White Pine		NLGA	4D, 4E

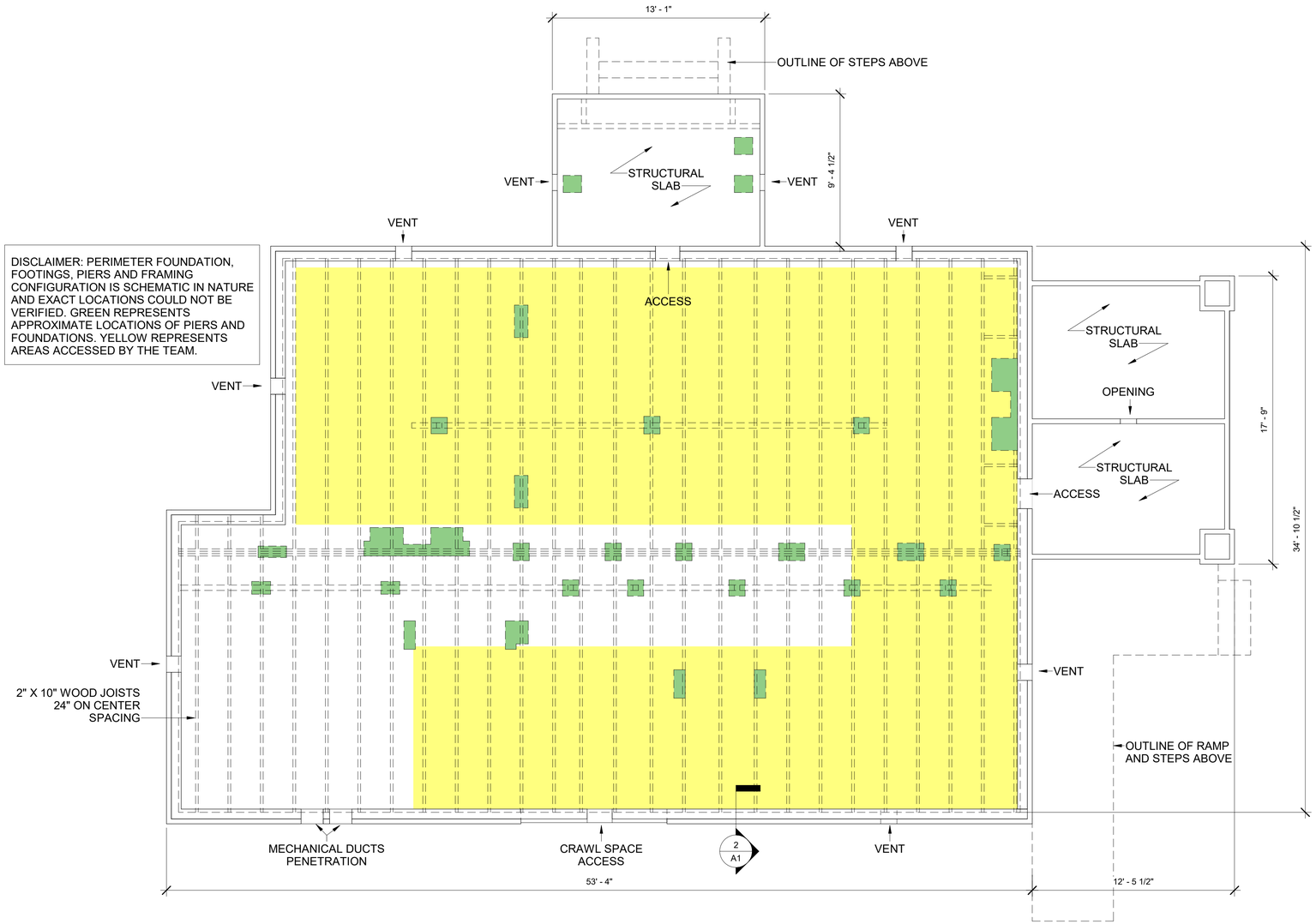
ATTACHMENT - NDS 2012 SUPPLEMENT, TABLE 2.1, PAGE 4 of 4

2.1 List of Sawn Lumber Species Combinations (Cont.)

Species or Species Combination	Species That May Be Included in Combination	Grading Rules Agencies	Design Values Provided in Tables
Western Woods	Any species in the Douglas Fir-Larch, Douglas Fir-South, Hem-Fir, and Spruce-Pine-Fir (South) species combinations, plus any or all of the following: Alpine Fir Idaho White Pine Mountain Hemlock Ponderosa Pine Sugar Pine	WCLIB WWPA	4A, 4C, 4D, 4E
White Oak	Bur Oak Chestnut Oak Live Oak Overcup Oak Post Oak Swamp Chestnut Oak Swamp White Oak White Oak	NELMA	4A, 4D
Yellow Cedar		NLGA	4A
Yellow Poplar		NSLB	4A

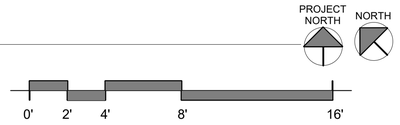
Crawlspace
Drawings

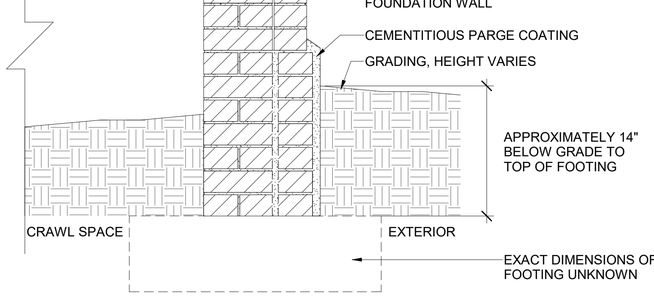
CRAWLSPACE DRAWINGS



1 VISITOR CENTER CRAWL SPACE EXISTING PLAN

1/4" = 1'-0"





2 VISITOR CENTER FOUNDATION EXISTING SECTION

1 1/2" = 1'-0"

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DESIGNED: CA
CADD: CA
TECH. REVIEW: AG
DATE: 12.27.2021

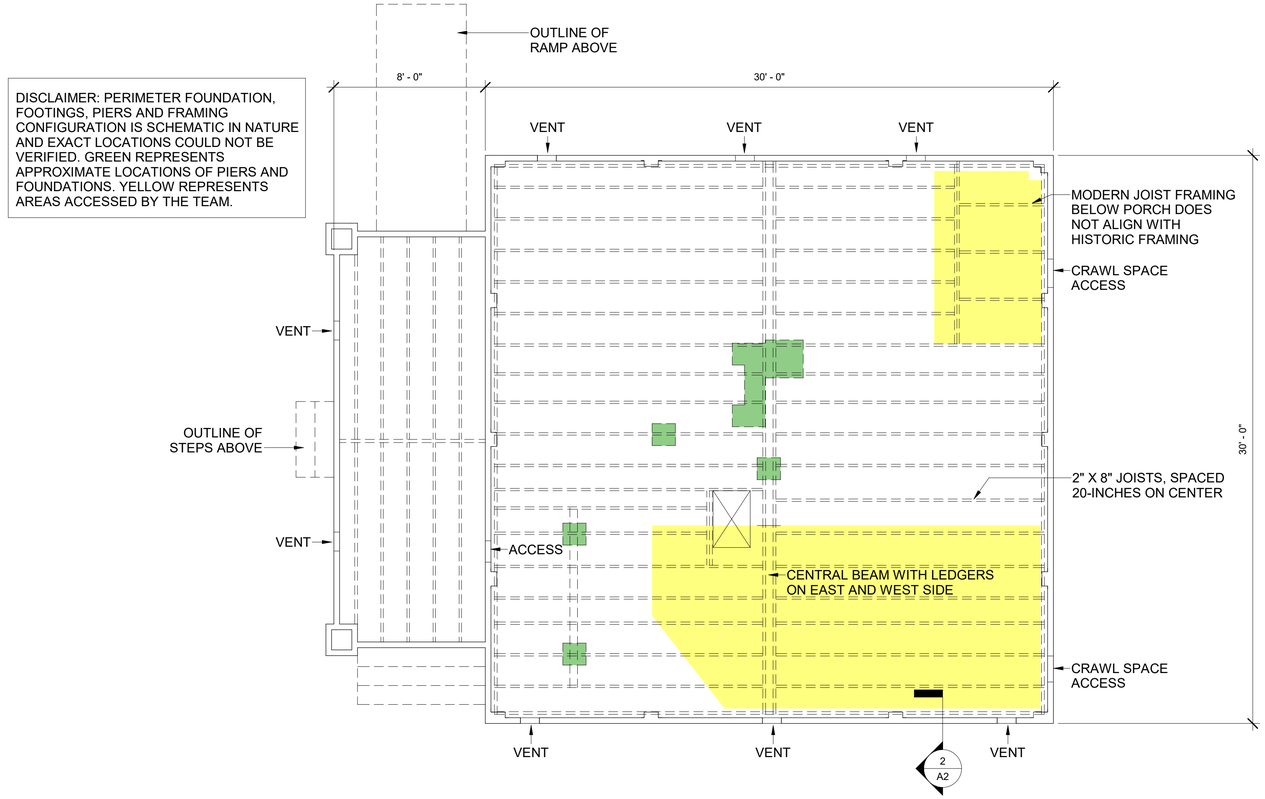
SUB SHEET NO. A1

TITLE OF SHEET
EXISTING CONDITION DRAWINGS
VISITOR CENTER

PRESIDENT WILLIAM JEFFERSON CLINTON BIRTHPLACE HOME
NATIONAL HISTORIC SITE
HOPE, ARKANSAS

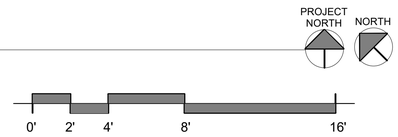
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SHEET 1 OF 2

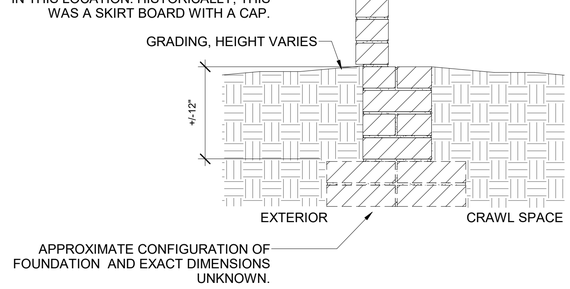
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1 CASSIDY HOUSE CRAWL SPACE EXISTING PLAN

1/4" = 1'-0"





2 CASSIDY HOUSE FOUNDATION EXISTING SECTION

1 1/2" = 1'-0"

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TECH. REVIEW: AG
DATE: 12.27.2021

SUB SHEET NO. A2

TITLE OF SHEET
EXISTING CONDITION DRAWINGS
CASSIDY HOUSE
PRESIDENT WILLIAM JEFFERSON CLINTON BIRTHPLACE HOME
NATIONAL HISTORIC SITE
HOPE, ARKANSAS

DRAWING NO. XXX / XXXXX
PMIS/PKG NO. 131181
SHEET 2 OF 2