

CHESAPEAKE & OHIO CANAL, BIG SLACKWATER TOWPATH  
Chesapeake & Ohio Canal National Historical Park  
Milepost 85.62, Guard Lock No. 4 to Milepost 88.10, McMahon's Mill  
Williamsport vicinity  
Washington County  
Maryland

HAER MD-183  
*HAER MD-183*

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN ENGINEERING RECORD  
National Park Service  
U.S. Department of the Interior  
1849 C Street NW  
Washington, DC 20240-0001

## HISTORIC AMERICAN ENGINEERING RECORD

### CHESAPEAKE & OHIO CANAL, BIG SLACKWATER TOWPATH

#### HAER No. MD-183

**Location:** Maryland side of the Potomac River from Milepost 85.62, Guard Lock No. 4 to Milepost 88.10, McMahon's Mill, Williamsport vicinity, Washington County, Maryland.

The Big Slackwater Towpath is located at latitude: 39.529753, longitude: -77.82383674. Its location was converted from UTM coordinates provided by the contractor. The point represents the north end of the section of the towpath documented. There is no restriction on its release to the public.

**Significance:** "Big Slackwater" is one of only two places on the 184.5-mile-long Chesapeake & Ohio Canal where canal boats traveled on the Potomac River instead of on an artificial waterway. "Big Slackwater" is the impoundment behind Dam No. 4, which was built by the canal company to supply water to the canal system from that point down to Harper's Ferry. To avoid excavating through or around the massive limestone cliffs that rise directly from the river in this area, canal boats were routed out of the manmade canal into the relatively still water behind the dam, and the towpath was built directly along the riverbank during 1836-1839.

**Description:** The subject of this study is the lower, or downstream, portion of the former towpath that runs along the Maryland side of the Potomac River beside the impoundment known as Big Slackwater. Slightly under 3 miles long, this towpath segment includes a section of approximately 1 mile built on floodplain, an approximately 2-mile section following the base of the limestone formation known as Galloway's Cliffs, and a short (perhaps ¼-mile) section along a break in the cliffs in which is located the mill variously known as Charles, Galloway's, and McMahon's Mill.<sup>1</sup> The lowest (floodplain) section of towpath is in relatively good condition, having been partially rebuilt in 1970-1971. The section along the cliffs is extremely deteriorated, to the point that in some areas the towpath has completely disappeared. A short section of towpath immediately below Galloway's Mill was completely rebuilt in the 1970s.

The floodplain section begins just above the upper end of Guard Lock No. 4, where westbound canal boats originally entered the river. From the filled area at the head of the lock, the path descends gently to an elevation of about 8 feet above the water. The towpath embankment is

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<sup>1</sup> This geological feature is called "Galloway Mills Cliff" in an undated 1830s towpath specification. National Park Service reports refer to the formation as "Galloway's Cliffs," as does Davies. See John F. Luzader, *Historic Structures Survey, Towpath, Chesapeake and Ohio Canal*, n.d., typescript report on file, Chesapeake & Ohio Canal National Historical Park, Hagerstown, Maryland (hereafter cited as CHOH-Hagerstown); Harlan D. Unrau, *Historic Structure Report, the Canal Prism, Including Towpath with Canal Berm and River Revetments, Historical Data, Chesapeake and Ohio National Historical Park* (Denver Service Center, National Park Service, 1974); and William E. Davies, *The Geology and Engineering Structures of the Chesapeake and Ohio Canal: An Engineering Geologist's Description and Drawings* (C&O Canal Association, Glen Echo, Maryland, 1999), copy of typescript on file, CHOH-Hagerstown.

approximately 10' wide at the top. The steep outboard (river) slope of the embankment retains substantial traces of the stone riprap placed in 1970-1971, but the upper portion is heavily eroded and crowded with vegetation. The inboard slope, also heavily overgrown, inclines gradually down toward the low-lying area from which water from the impoundment once entered Feeder Canal No. 4. The inlet to the feeder is an opening in the embankment spanned by a reinforced concrete slab bridge carried on large stone abutments (see HAER MD-183-A). Remains of a timber trash rack on the outboard side of the inlet prevented debris from entering the feeder.

From the inlet bridge to Galloway's Cliffs, the towpath follows a natural terrace. Geomorphological investigations conducted in 2005 suggest that at least portions of the towpath in this area were constructed on floodplain, using fill taken from the adjacent terrace.<sup>2</sup> Repeated high river flows overtopping the path have resulted in silt/sand accumulations up to 3' thick.<sup>3</sup> Although the path itself is clear, the edges and the embankment slope to the river are overgrown. Small-stone riprap is evident along the water's edge. Above the riprap can be seen portions of the embankment's stone fill, heavily silted. At one location a spiral corrugated pipe culvert drains water from a low-lying area inboard of the path out to the river (see HAER MD-183-B). The embankment is eroded back to reveal several feet of this culvert. Further upstream, the relatively small stone of the riprap gives way abruptly to noticeably larger rubble; this appears to mark the terminus of the 1970-1971 repairs.

The complete washout of sections of towpath along Galloway's Cliffs led to the entire path's closure after two major flood events in 1996. Persistent hikers have worn a noticeable trace around boulders and through saplings the length of this natural formation, but there is no evidence of the prepared surface of the original towpath.

Much of this section was built from rubble blasted or pried out of the cliffs, held in place along the base of the cliffs by massive vertical or slope walls of dry-laid stone.<sup>4</sup> These walls appear to have employed both coursed and uncoursed (random) rubble. Coursed rubble segments are laid with the natural bedding planes of the limestone oriented horizontally. Both coursed and uncoursed segments evidence extensive deformation by flooding and pressure from tree roots. The wall varies from essentially vertical to noticeably sloped. The wall has deteriorated extensively above the water level, and it is therefore difficult to determine whether the slopes were by design or the result of subsequent natural forces.<sup>5</sup>

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<sup>2</sup> Daniel P. Wagner, *Geoarchaeological Interpretation of Landscapes and Deposit Types Adjacent to Big Slackwater in Chesapeake & Ohio Canal National Historical Park in Washington County, Maryland*, submitted to The Louis Berger Group, Inc., Washington, D.C., 2006.

<sup>3</sup> The Louis Berger Group, Inc., *Archeological Survey of the Big Slackwater Towpath, Chesapeake and Ohio Canal National Historical Park, Washington, County, Maryland*, prepared for the National Park Service, Denver Service Center, 2006; Dewberry & Davis, *Towpath/Detour Options for the Big Slackwater, Chesapeake and Ohio Canal National Historical Park*, 1998, copy on file at CHOH-Hagerstown.

<sup>4</sup> The Chesapeake and Ohio Canal National Historical Park refers to these retaining structures as "armor walls" and the stone used in their construction as "armament." Engineers of the Canal Company commonly used the terms *slope wall* and *vertical wall*.

<sup>5</sup> This description is confined to that part of the towpath structure that was visible above the water line at the time of the field photography in early November 2005 when the river level was at normal stage.

Numerous locations exhibit segments of wall right next to sections where the walling above the water level has completely fallen away, leaving the smaller rubble of the embankment fill exposed.

Variations in the character and condition of the retaining wall are best appreciated in the short segments where the variations occur close together. For example, at the location about halfway along the towpath, mapped for this study as Waypoint 049, the cliff recedes and the relatively horizontal line of the path can be clearly seen from the water. The upper courses of the retaining wall have fallen away, exposing the embankment to siltation, vegetation, and erosion. Below the exposed slope, a stretch of coursed rubble ends abruptly at a gap where an upper stone has collapsed into the void left by the washout of rock below it. A short section of uncoursed (or deformed) rubble follows immediately upstream, only to terminate in a scree of small stone that is exposed fill.

Another good example occurs at the point where a small, unnamed watercourse emerges out of a swale in the cliff (see HAER MD-183-C). The short section of wall over which the water falls into the river evidences past repairs, in the form of moss-covered mortar and chinking between the coursed upper stones. A few feet upstream, a gap in the wall reveals the small rubble of the embankment fill. On the other side of this gap, the coursing is still evident but the stones are noticeably more irregular in shape.

Very near the upper end of Galloway's Cliffs, only a sloping jumble of rock lies between the cliff and the water's edge. At two locations on the cliff face, the linear grooves of a stonecutter's drill can be seen, enduring evidence that a portion of the cliff was cut or blasted away. As the cliff recedes, retaining wall repaired by the National Park Service (NPS) begins.

The repaired wall offers a level walking surface for the first time in over a mile, although its width is irregular and it is quite narrow in some places. Uncoursed, or very roughly coursed, the wall to Galloway's Mill is nearly vertical, and the rather small stone of the reconstructed upper courses is held in place with mortar.

**History:** The Chesapeake & Ohio Canal had its origins in 1784, when the Virginia Assembly passed an act incorporating the Patowmack Company. The charter was affirmed by the Maryland Assembly in November of that year. Between 1785 and 1802, the Patowmack Company proceeded to develop a series of slackwaters where the river was navigable, and artificial waterways where the fall of the Potomac made the river unusable.

After completion of locks at Great Falls, Virginia, in 1802, lack of financing from either the federal government or the adjacent states forced the Patowmack Company to delay new construction for over twenty years. By the mid-1820s, however, renewed interest in inland navigation resulted in reformation of the company as the Chesapeake and Ohio Canal Company, incorporated by the Virginia Act of January 27, 1824. Within the next two years the company's charter was validated by the legislatures of Maryland and Pennsylvania, and by the U.S. Congress.

The C&O Canal was conceived as a completely artificial waterway connecting the upper Potomac River to either the Monongahela or Youghiogheny River, both tributaries to the Ohio River. The canal employed a system of lift locks to raise and lower commercial barges moving up and down a route that began in the mountains and ended in estuary waters near Georgetown. Although ground was broken with much fanfare on July 4, 1828, the enormous scale of the project brought the Chesapeake and Ohio Canal Company to the brink of failure on multiple occasions. Construction quickly fell behind schedule and ran over budget, as almost everything associated with building the canal took longer and cost more than the company had anticipated. At first progress was fair. The canal had reached Seneca by 1830 and Harper's Ferry by 1833, but then construction bogged down. Money ran out, and a long, costly legal battle with the Baltimore & Ohio Railroad caused further delays. Ultimately, only the canal section between Georgetown and Cumberland was completed.

The Baltimore & Ohio Railroad began construction on the same day as the canal company. The B&O started slowly, taking more than two years to reach Ellicott's Mills, just 13 miles west of Baltimore, but then proceeded swiftly. By 1836 it had passed the canal, and in 1842 the railroad reached Cumberland, eight years before the canal finally arrived there. Much of the freight that the canal's planners had hoped would ride in their boats instead rode the rails, especially the coal that was already being mined by the hundreds of tons. The race to connect Chesapeake Bay with the Ohio valley was won by the railroad, and the canal never really recovered. It did have a long history of hauling grain, coal, and other goods down to the docks in Georgetown, and also of providing water power for mills, but it disappointed both the financial aspirations of its inventors and the expectations of the federal and state governments that had approved its creation.

Irretrievably bankrupt, the C&O Canal ceased operations in 1924. The federal government acquired the canal as a public works project in 1938. In 1961 President Dwight D. Eisenhower designated that portion of the canal between Seneca and Cumberland as a National Monument, thereby formally making that portion part of the national park system. In 1971, President Richard M. Nixon signed into law a bill creating the C&O Canal National Historical Park, incorporating both the upper National Monument and the lower portion of the canal down to Georgetown.<sup>6</sup>

Within a few years after establishment of the Chesapeake & Ohio Canal National Monument, the National Park Service initiated studies of various features of the canal. The resulting documents were basically reports of research into the records of the canal company and did not include any descriptions of the features (among them Dam No. 4, Guard Lock No. 4, and the towpath) as they existed in the early 1960s when the studies were done.<sup>7</sup> Apparently as part of the same project, Guard Lock No. 4 (erroneously titled "feeder lock") was recorded in 1961 in a measured drawing for the Historic American Buildings Survey (see HABS MD-222), but the towpath upstream from the lock was not. The initial NPS reports were subsequently used by Unrau in his

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<sup>6</sup> Barry Mackintosh, *C&O Canal: The Making of a Park* (History Division, National Park Service, United States Department of the Interior, 1991), 19-20, 90, 100-101.

<sup>7</sup> Archie W. Franzen, *Historic Structures Report Part I, Architectural Data Section on Dam Number Four, C&O Canal National Monument* (United States Department of the Interior, National Park Service Eastern Office, Design and Construction, 1964); Luzader, *Historic Structures Survey, Towpath*; and John F. Luzader, *Historic Structure Report-Historic Data, Dam No. 4*, n.d., typescript report on file, CHOH-Hagerstown.

historic structures report, completed after establishment of the Chesapeake & Ohio Canal National Historical Park in 1971, on the “canal prism, including towpath with canal berm and river revetments.”<sup>8</sup>

*Towpath on Big Slackwater*

In 1832, four years after groundbreaking, the Chesapeake and Ohio Canal Company was running low on funds while at the same time facing expiration of the five-year period specified in its charter for building the first 100 miles of the waterway. Contracts had been let for the stretch between Point of Rocks and Harper’s Ferry, but a route above Harper’s Ferry to Williamsport had not yet been determined. In April of that year, the company directed engineer William Purcell to conduct a reconnaissance to locate a route for the canal between those towns, and while so doing to “minutely examine and survey the localities and character of the river, its bed, its margins and tributaries, as adapted for slackwater navigation.”<sup>9</sup> A month later the company appears to have curtailed its plans for this segment, redirecting the engineer to go “immediately” to Licking Creek and locate the canal from the feeder there down only to the “head of the still water formed by Dam No. 4.”<sup>10</sup> The savings—in terms of both cost and time—to be realized by substitution of slackwater navigation in this area were potentially considerable, given that an entirely artificial waterway would otherwise have to be excavated through or around Galloway’s Cliffs, which are great limestone formations running down to the river from heights of over 100 feet.<sup>11</sup>

Despite the potential benefits of using the impounded Potomac for slackwater navigation, the canal company did not immediately decide on a course of action. Twice in the spring of 1833, the company ordered Purcell to prepare estimates for a towpath: “on the margin of the pool formed by Dam No. 4,” and “on the Maryland shore of the river from Dam No. 4 to the site of the proposed lock on Section 165.”<sup>12</sup>

Two months later, Purcell produced the desired specifications “for a towpath on the river from Section 157 to 165”; the board of directors adopted them and ordered a contract “to be made” for the work.<sup>13</sup>

Engineer Purcell apparently did as ordered, and a contract for construction of a towpath along the Potomac River above Dam No. 4 was awarded to Medler Rodemal and Company.<sup>14</sup> This firm

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<sup>8</sup> Unrau, *Historic Structure Report, the Canal Prism*.

<sup>9</sup> Chesapeake and Ohio Canal Company, *Proceedings of the Meetings of the President and Directors, Volume I, 1828-1846*, 30 April 1832, JC f 131-132, in Record Group 79, Entry 183, National Archives and Records Administration-College Park, Maryland (hereafter cited as NARA-College Park).

<sup>10</sup> Chesapeake and Ohio Canal Company, *Proceedings*, 15 May 1832, JC f 139.

<sup>11</sup> The cost per mile of an artificial waterway along such formations was estimated at over \$65,000, and construction of a towpath in the same environment was estimated to be at least \$30,000. See Unrau, *Historic Structure Report, the Canal Prism*, 43, 45.

<sup>12</sup> Chesapeake and Ohio Canal Company, *Proceedings*, 4 May 1833, JC f 335, and 14 June 1833, JC f 386.

<sup>13</sup> Chesapeake and Ohio Canal Company, *Proceedings*, 20 August 1833, JC f 419.

<sup>14</sup> Luzader, *Historic Structures Survey, Towpath*.

appears to have made some initial progress (see below), but for a reason yet unknown it abandoned the project before the year was out.

Some 86 miles of waterway up to Dam No. 4 were completed in June 1834, largely with the help of financing from the State of Maryland. Questions still persisted about the sections immediately above this dam. In December of that year, engineer Purcell submitted more estimates, this time for a “temporary towpath from Section No. 157 to 165” (emphasis added).<sup>15</sup> The board of directors laid Purcell’s offering “on the table,” where it remained for over two years; it was not “taken up and filed” until February 8, 1837.<sup>16</sup>

Over the following year and several months, the canal company proceeded with work on other sections while considering the possibility of employing steam navigation, rather than continuous mule power, on the impoundment above Dam No. 4.<sup>17</sup> Eventually disposing of this idea, the board of directors in April 1836 accepted a report by engineer Charles B. Fisk (who appears to have succeeded Purcell following the latter’s resignation on March 4, 1836) regarding slackwater navigation between Dam No. 4 and Lock 41. The board adopted the “plan of a Towpath as recommended by the engineer” and ordered Fisk to “present a specification for the work.”<sup>18</sup> Fisk prepared specifications and estimates in June. In July the canal company accepted the proposal of Joseph Hollman (at that time also under contract to build Dam No. 4) for construction of a towpath from Guard Lock No. 4 to Lock No. 41, provided that the proposal was “modified as suggested by Charles B. Fisk.”<sup>19</sup>

To date, research in canal company records has unearthed only one specification for the towpath above Dam No. 4. This hand-written document, titled “specifications of the manner of constructing the towing [path] to be made for the use of the Chesapeake & Ohio Canal, following the margin of the Potomac River from Section 157 to Section 165 of said Canal,” is neither signed nor dated, and therefore it cannot be reliably attributed either to William Purcell in 1833 or to Charles Fisk in 1836.<sup>20</sup> Nor could it be determined to what specification(s) the towpath was actually built. Research for this study did, however, locate a draft of a letter from

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<sup>15</sup> Chesapeake and Ohio Canal Company, *Proceedings*, 17 December 1834, JD f 202.

<sup>16</sup> Chesapeake and Ohio Canal Company, *Proceedings*, 8 February 1837, JE f 203.

<sup>17</sup> Luzader, *Historic Structures Survey, Towpath*.

<sup>18</sup> Chesapeake and Ohio Canal Company, *Proceedings*, 14 April 1836, JE f 41.

<sup>19</sup> Chesapeake and Ohio Canal Company, *Proceedings*, 29 June 1836, JE f 84, and 29 July 1836, JE f 115.

<sup>20</sup> The specifications called for the towpath to be at least 12' wide, and no less than 8' and no more than 12' above the “top of the dam [No. 4] when finished,” i.e., above full pool level. For its entire length, the towpath was to be faced with a stone wall, the base of which was to rest on bedrock at least 6' below the crest of the dam (which was to be 20' high, according to specifications for this structure). From Guard Lock No. 4 (where boats would enter the river from the canal) to Galloway’s Cliffs, the wall would consist of “pavement or slope wall”; above this section, the engineer was to use his discretion as to whether slope wall or vertical wall would be used.

The specifications for “pavement or slope wall” downstream from Galloway’s Cliffs simply required that the wall be at least a foot thick and cover the full height of the embankment, essentially corresponding to modern-day riprap. Along Galloway’s Cliffs, any “slope wall” was to be 3' thick at the base, at least 2' thick at the top, and lie at a 45-degree angle (thus having a batter of 1 foot for every foot of rise). Vertical walls were to be 3.5' thick at the top, with a batter of 3" for every foot of height. Behind the wall, however constructed, the fill was to be “small stone and sprawls”; the specifications were adamant that “in no case shall clay or other earth be put next to the wall,” perhaps

Fisk to the canal company's president and directors dated June 11, 1836, that offers some information on how the towpath was then to be built and also indicates that some previous contractor (possibly Medler Rodemal and Company in 1833) had already accomplished some work:

The whole distance is a little upwards of 3 ¼ miles. The lower mile runs along a river bottom and will cost comparatively little...in part it was once nearly finished.

The remaining two miles and upwards passes [sic] along the base of rocky cliffs points of which project out boldly and nearly perpendicularly into deep water. Between these points the towpath has in many places been once commenced—wherever it has been and it was raised above the low water surface of the pool we propose building upon it the wall that will restrain and protect the towpath.

Wherever we have not this old work to commence upon and the slope of the cliff is such as to allow it we shall blast into the rock near water surface sufficiently to obtain a base for a 3 or 4 inch battered wall that we shall raise up 6 or 8 feet at which level we shall blast in still more if necessary to obtain width for a towpath—

There are other parts however where the cliffs present themselves perpendicularly to the river that we shall be forced to form a base for the towpath by boating earth around the points, that shall be of sufficient width at water surface to allow of our raising a wall of dimensions and height similar to the one we last mentioned. The foundation of the wall in this case we shall sink below water surface into the made embankment and its base and in fact the whole face of the embankment below water level we shall aim to secure by material sufficiently coarse to withstand the current of high freshets...<sup>21</sup>

Hollman began work on the towpath August 9, 1836. Shortly thereafter, the canal company approved Hollman's request to bring on John D. Grove as an associate. It also ordered the contractor to complete the towpath as far up the river as Galloway's Mill by the first of April 1837, and to finish the entire path up to Lock 41 by January 1, 1838.<sup>22</sup>

As frequently happened throughout construction of the C&O Canal, the work of building the slackwater towpath was accomplished with financial difficulty and delay. In September 1836, a month into the project, engineer Fisk reported that additional land was required for the lower section between Guard Lock No. 4 and Galloway's Cliffs, to have room for "a ditch to protect the towpath," and that the landowner, Joshua Gove, was asking \$100/acre for his "good bottom

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because soils so placed would be highly susceptible to erosion given the permeability of the dry-laid stonemasonry. These specifications are reproduced in full in Luzader, *Historic Structures Survey, Towpath*, and Unrau, *Historic Structure Report, the Canal Prism*. No useful documentary or photographic information about the towpath "as built" has been located to date, and so little remains of the towpath itself that its original elevations and many other characteristics cannot be verified from existing physical evidence.

<sup>21</sup> Drafts of Letters Sent by the Chief Engineer (folder 3), 1836-1976, in Record Group 79, Entry 201, NARA-College Park.

<sup>22</sup> Chesapeake and Ohio Canal Company, *Proceedings*, 17 August 1836, JE f 122-123.

land.”<sup>23</sup> In November contractor Hollman sought payment, saying he had been on the project since August 9, and had “worked at an avg of 56 ¼ hands per day, 200 hundred kegs of powder with coal [stell—word is illegible in the hand-written manuscript]” and had spent “not more than \$5000.”<sup>24</sup> A letter from Hollman to the canal company directors dated a year later (November 11, 1837) suggests that armoring of the towpath along the bottomland above Guard Lock No. 4 was not decided on until well into the project: “I understand there will be a riprap wall along the bottom from the guard lock up to the bluff of rocks...I have engaged with Mr. Fisk to put the timber or railing to protect the wall I could as well attend to the other in connection and do it all together.”<sup>25</sup>

Sometime in 1838 (the month is illegible in the original document), the towpath was finished nearly to Galloway’s Mill, over a year later than the canal company had originally specified. The entire contract was completed in mid-1839, and the canal company’s board of directors approved the final estimate on January 9, 1840.<sup>26</sup>

Previous research appears to have located little, if any, specific information about the use or fate of the slackwater towpath subsequent to its completion. The original, timber-crib Dam No. 4, its abutment banks and structure repeatedly breached by Potomac floodwater, was replaced in a nine-year effort (1857-1866) with a new stonemasonry structure directly downstream.<sup>27</sup> According to Luzader, the feeder or “flume” around Guard Lock No. 4 was constructed prior to 1889, possibly during the 1870s, “when the heavy traffic using the guard lock made an increase in the supply of water below the lock necessary.”<sup>28</sup> To supply the feeder from the Dam No. 4 impoundment, the towpath embankment along the river was breached to create an inlet, from which water flowed down to a large stone culvert fitted with a gate or gates to control flow into the feeder itself and thence into the canal proper below the guard lock. There was presumably some sort of bridge, perhaps of timber, to carry the path over the inlet.

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<sup>23</sup> Letters Received by the President and Directors, Volume 1, 1828-1845, 29 September 1836, in Record Group 79, Entry 192, VI, Box 13, NARA-College Park.

<sup>24</sup> Letters Received by the President and Directors, 10 November 1836.

<sup>25</sup> Letters Received by the Chief Engineer, 1835-1852, in Record Group 79, Entry 207, NARA-College Park.

<sup>26</sup> Luzader, *Historic Structures Survey, Towpath*.

<sup>27</sup> The original (1830s) Dam No. 4 was to be 20 feet high, according to Luzader, *Historic Structure Report-Historic Data, Dam No. 4*. Whether that dam was in fact 20' high is unknown; for example, Davies, in *Geology and Engineering Structures*, gives the height as 15'. The specifications for the 1850s replacement dam did not specify the total height of the new structure; however, it was presumably higher than the original timber dam, as the latter was subsequently submerged in the pool behind the new dam. The 1850s dam specifications did call for the finished top surface of the dam (including a course of 12" timber capped with 3" yellow pine boards) to be 6.5' above canal bottom, with ice guards mounted on this top surface. According to Shaffer, Potomac Edison replaced the timber ice guards with which the stone dam had originally been equipped with a concrete cap in 1936 (see Donald R. Shaffer, “*We are again in the midst of trouble.*” *Flooding on the Potomac River and the Struggle for the Sustainability of the Chesapeake and Ohio Canal, 1823-1996*, 1957, typescript in Harlan D. Unrau Manuscript Collection, National Park Service, United States Department of the Interior, Washington, D.C.). Whether the concrete cap raised the height of the spillway (and therefore the level of the pool behind the dam) is not known. Both the Bureau of Reclamation’s Dam Safety Office and Davies state that the structural height of the dam as it currently exists is 20'.

<sup>28</sup> Luzader, *Historic Structure Report, Guard Lock Number 4, Chesapeake and Ohio Canal. Part I Historic [sic] Data Section*, n.d., typescript report on file, CHOH-Hagerstown.

The present concrete slab bridge over the inlet to the feeder was installed sometime in 1970-1971 as part of a NPS effort to reconstruct the towpath along the impoundment. In 1966 the administrative units of the canal National Monument and the Antietam National Battlefield were combined into one organization called the Antietam-C&O Canal Group. Under Monument Superintendent W. Dean McClanahan, this group installed a boat ramp in the parking lot between Dam No. 4 and Guard Lock No. 4, and initiated reconstruction of approximately 1 mile of towpath beginning at Milepost 85.6. A Draft Environmental Statement prepared in 1972 notes that “to reconstruct the towpath rubble rock was dumped and laid along the river bank to stabilize and protect the towpath,” and that the path was to be covered with clay-bank shale ranging in depth from 12" at the center to 18" at the edges of the path, and between 8' and 10' wide. The statement indicated that the work was not yet completed, noting that “for the final towpath surface of 6 feet width crusher run gravel will be used.” The intent of this statement appears to have been to describe environmental impacts of proposed (future) work on the towpath up to Milepost 89.0 “at Dam 41 [sic]”; however, NPS records have not revealed any indication that this work was ever funded or pursued beyond that begun in 1970-1971.<sup>29</sup>

One possible reason that these repairs were not finished or further pursued at the time was the uncertainty of who actually owned portions of the towpath above Guard Lock No. 4. Canal company records apparently contained no deeds or other documents to prove that the company had legally acquired the land for the towpath; as of the early 1970s, William McMahan and Jacob Berkson claimed title to lands along the impoundment. Berkson, who claimed to own nearly 2,200 linear feet of the towpath, complained about increased noise from motorboats (presumably resulting from installation of the boat ramp), and also that the towpath repair work was not being done in compliance with environmental and historic preservation law. Under threat of lawsuit, NPS “agreed to stop work and review the matter.”<sup>30</sup>

The ownership issue was not resolved until 1986, when Berkson agreed to donate river frontage containing the still unrepaired towpath to NPS. The agency developed a plan for repairs in 1992, but lack of funding apparently prevented the work from proceeding. Following closure of the towpath in 1996, and the establishment of a 4.6-mile inland detour along narrow roads to connect the path from McMahan’s Mill to Guard Lock No. 4, NPS considered a range of alternatives “to improve the condition along Big Slackwater,” below McMahan’s Mill and retention of the existing 4.6-mile detour.<sup>31</sup>

**Sources of Information:**

Antietam-C&O Canal Group. Draft of Environmental Statement, Towpath Repairs near Dam 4. 1972. Typescript on file, Chesapeake & Ohio Canal National Historical Park, Hagerstown, Maryland.

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<sup>29</sup> Antietam-C&O Canal Group, Draft of Environmental Statement, Towpath Repairs Near Dam 4, 1972, typescript on file, CHOH-Hagerstown.

<sup>30</sup> Mackintosh, *C&O Canal*, 140.

<sup>31</sup> Dewberry & Davis, *Towpath/Detour Options*.

Chesapeake and Ohio Canal Company. Record Group (RG) 79 (RG 79.12.2, Records of the Chesapeake and Ohio Canal Company). National Archives and Records Administration, College Park, Maryland.

Textual records consulted:

*Proceedings of Meetings of the President and Board of Directors, Volume 1 [Proceedings], 1828-1846* (RG 79, Entry 183).

Letters Received by the Office of the President and Directors, Volume 1, 1828-1845 (RG 79, Entry 192).

Letters Received by the Chief Engineer, 1835-1852 (RG 79, Entry 207).

Letters Sent by the Chief Engineer, 1836-38, 1846-52 (RG 79, Entry 209).

Drafts of Letters Sent by the Chief Engineer, 1836-38, 1846-52 (RG 79, Entry 210).

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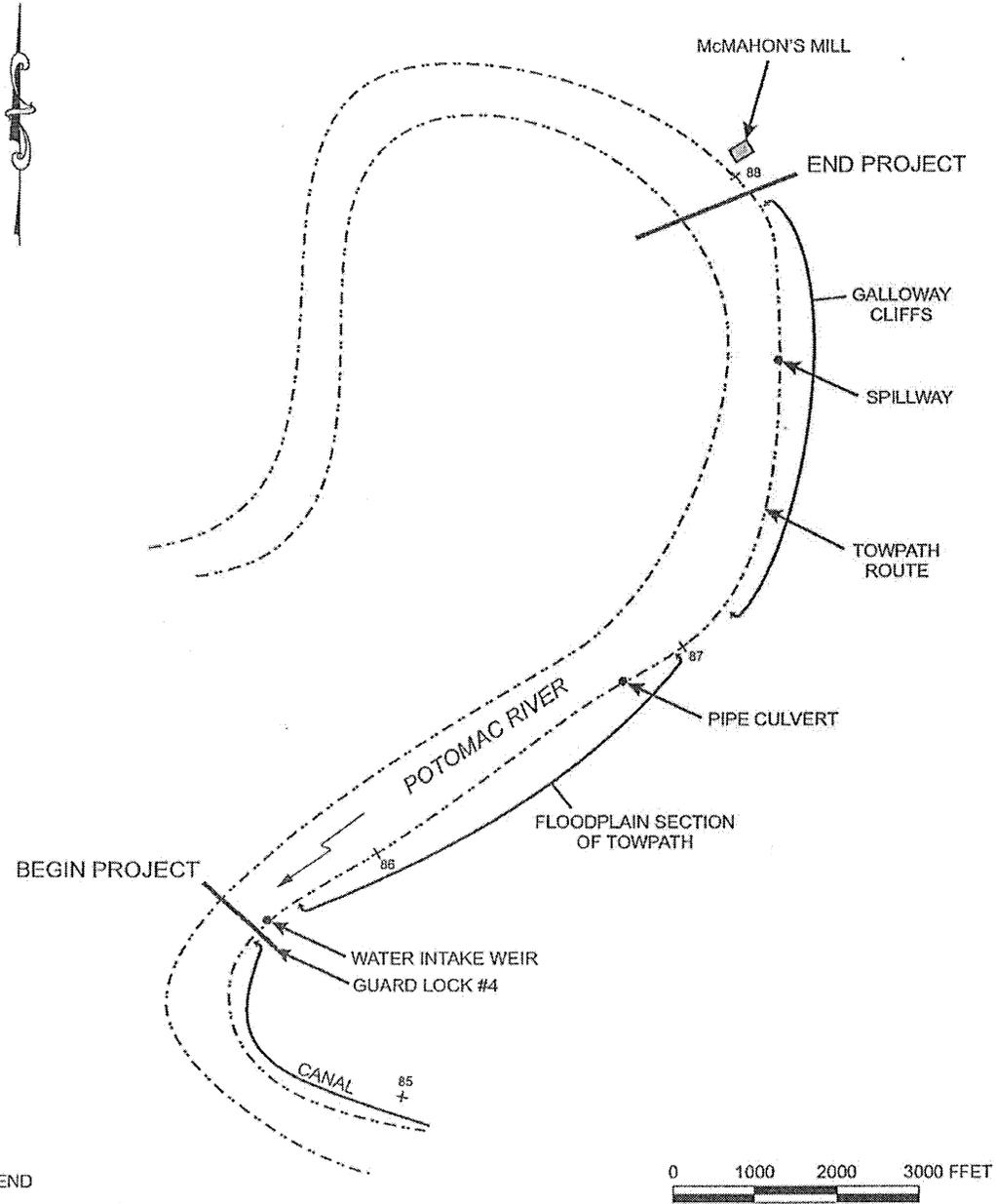
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LEGEND  
 + # CANAL MILE MARKERS

Towpath Route and Recorded Features