

#### **HISTORIC REVIEW COMMISSION**

#### Division of Development Administration and Review

City of Pittsburgh, Department of City Planning 200 Ross Street, Third Floor Pittsburgh, Pennsylvania 15219

### INDIVIDUAL PROPERTY HISTORIC NOMINATION FORM

HRC	' Staff Use Only		<u>Fee Schedule</u> Please make check payable to <i>Treasurer</i> , <i>City of Pittsburgh</i>		
Date Received: Parcel No.: Ward: Zoning Classification: Bldg. Inspector: Council District:			Individual Landmark Nomination: \$100.00 District Nomination: \$250.00		
			HISTORIC NAME OF PROPERTY:     Rustic Bridges		
2.	CURRENT NAME Tufa Bridges	OF PROPERTY:			
3.	LOCATION				
	a. Street: Near Schenley Drive and Serpentine Drive				
	b. City, Stat	e, Zip Code: <u>40.4381, -79.45</u>	62 & 40.2602, -79.5608		
	c. Neighbor	hood: Schenley Park			
4.	OWNERSHIP				
	d. Owner(s): City of Pittsburgh or CitiParks				
	e. Street: 512 City County Building, 414 Grant Street				
	f. City, Stat	te, Zip Code: <u>Pittsburgh, PA</u>	15219 Phone: ( 412 ) 255 - 2539		
5.	CLASSIFICATION	AND USE – Check all that appl	y		
	<u>Type</u>	Ownership	<u>Current Use:</u>		
	⊠Structure	Private – home	Trail use for recreation and pedestrian travel.		
	District	Private – other	Pittsburgh Parks Conservancy vehicles have		
	Site	☐ Public – governme	nt <u>also been sited driving on the bridge.</u>		
	Object	☐ Public - other ☐			
		Place of religious v	vorship		

6.	NOMINATED BY:		
	a. Name: Matthew Falcone of Preservation Pittsburgh		
	b. Street: 1501 Reedsdale Street		
c. City, State, Zip: Pittsburgh, PA 15233			
	<b>d.</b> Phone: (_412_) 256 8755_ Email: _alaynajordan4@gmail.com		
7.	DESCRIPTION		
	Provide a narrative description of the structure, district, site, or object. If it has been altered over time indicate the date(s) and nature of the alteration(s). (Attach additional pages as needed If Known:  a. Year Built:  b. Architectural Style:  c. Architect/Builder:    Rustic or Romantic Arch Bridge   George W. Burke   George W.		
	Narrative: See Attached		
8.	HISTORY Provide a history of the structure, district, site, or object. Include a bibliography of sources consulted. (Attac		

h additional pages as needed.) Include copies of relevant source materials with the nomination form (see Number 11).

Narrative: See Attached

#### **9.** Significance

The Pittsburgh Code of Ordinances, Title 11, Historic Preservation, Chapter 1: Historic Structures, Districts, Sites and Objects lists ten criteria, at least one of which must be met for Historic Designation. Describe how the structure, district, site, or object meets one or more of these criteria and complete a narrative discussing in detail each area of significance. (Attach additional pages as needed)

The structure, building, site, district, object is significant because of (check all that apply):

- 1. Its location as a site of a significant historic or prehistoric event or activity;
- 2. Its identification with a person or persons who significantly contributed to the cultural, historic, architectural, archaeological, or related aspects of the development of the City of Pittsburgh, State of Pennsylvania, Mid-Atlantic region, or the United States:
- 3. X Its exemplification of an architectural type, style or design distinguished by innovation, rarity, uniqueness, or overall quality of design, detail, materials, or craftsmanship;
- **4.** Its identification as the work of an architect, designer, engineer, or builder whose individual work is significant in the history or development of the City of Pittsburgh, the State of Pennsylvania, the Mid-Atlantic region, or the United States;
- 5. X Its exemplification of important planning and urban design techniques distinguished by innovation, rarity, uniqueness, or overall quality of design or detail;

**6.** Its location as a site of an important archaeological resource; 7. X Its association with important cultural or social aspects or events in the history of the City of Pittsburgh, the State of Pennsylvania, the Mid-Atlantic region, or the United States; 8. Its exemplification of a pattern of neighborhood development or settlement significant to the cultural history or traditions of the City, whose components may lack individual distinction: 9. X Its representation of a cultural, historic, architectural, archaeological, or related theme expressed through distinctive areas, properties, sites, structures, or objects that may or may not be contiguous; or 10. X Its unique location and distinctive physical appearance or presence representing an established and familiar visual feature of a neighborhood, community, or the City of Pittsburgh. Narrative: See Attached 10. INTEGRITY In addition, the ordinance specifies that "Any area, property, site, structure or object that meets any one or more of the criteria listed above shall also have sufficient integrity of location, design, materials, and workmanship to make it worthy of preservation or restoration". (Attach additional pages as needed)

#### 11. NOTIFICATION/CONSENT OF PROPERTY OWNER(S)

#### 1.3(a)(2) Community information process.

Preceding submission of a nomination form for a District, the Historic Review Commission shall conduct at least one (1) public information meeting within or near the boundaries of the proposed district, which shall include at least one (1) member of the Department of City Planning and one (1) Commission member, to discuss the possible effects of designation. Notice shall be given to the owners of property in the proposed district in accordance with Section 1.3(b) below. The final public information meeting shall be held no more than six months before the nomination form is submitted.

#### 1.3(a)(1)(a) Subsection F.

Narrative: See Attached

In the case of a nomination as a Historic District, by community-based organizations or by any individual, but in either event the nomination shall be accompanied by a petition signed by the owners of record of twenty-five (25) percent of the properties within the boundaries of the proposed District.

- Please attach documentation of your efforts to gain property owner's consent.-
- \*\* The nomination of any religious property shall be accompanied by a signed letter of consent from the property's owner.

- 12. PHOTO LOGS: Please Attach
- 13. BIBLIOGRAPHY: Please Attach
- **14.** Nomination form Prepared by:
  - a. Name: Alayna Jordan
  - b. Street: 1501 Reedsdale Street
  - c. City, State, Zip: Pittsburgh, PA 15233
  - d. Phone: (815) 861-4005 Email: alaynajordan4@gmail.com
  - e. Signature: Mayna Jarda

#### HISTORIC REVIEW COMMISSION

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### **HISTORIC NOMINATION – INSTRUCTIONS**

#### INSTRUCTIONS FOR FILLING OUT THE NOMINATION FORM

- 1. Indicate the original name of the property if it is currently known by a different name; e.g. Union Station.
- **2.** Indicate the current name of the property
- **3.** Indicate the street address for the property. For districts, attach a separate sheet listing the street address of each property included in the nomination and a clear street map of the area showing the boundaries of the proposed district.
- **4.** Indicate the owner of the property and his or her mailing address. For districts, attach a separate sheet listing the owner of each property and his or her mailing address.
- **5.** Check the classification as indicated.
  - a. **"Historic Structure"** means anything constructed or erected, the use of which requires directly or indirectly, a permanent location on the land, including walks, fences, signs, steps and sidewalks at which events that made a significant contribution to national, state or local history occurred or which involved a close association with the lives of people of nations, state or local significance; or an outstanding example of a period, style, architectural movement, or method of construction; or one of the last surviving works of a pioneer architect, builder or designer; or one of the last survivors of a particular style or period of construction.
  - b. **"Historic District"** means a defined territorial division of land which shall include more than one (1) contiguous or related parcels of property, specifically identified by separate resolution, at which events occurred that made a significant contribution to national, state, or local history, or which contains more than one historic structure or historic landmarks, or which contains groups, rows or sets of structures or landmarks, or which contains an aggregate example of a period, style, architectural movements or method of construction, providing distinguishing characteristics of the architectural type or architectural period it represents.
  - c. **"Historic Site"** means the location of a significant event, a prehistoric or historic occupation or activity, or a building or structure whether standing, ruined or vanished, where the location itself maintains historical or archaeological value regardless of the value of any existing structures.
  - d. "Historic Object" means a material thing of historic significance for functional, aesthetic cultural or scientific reasons that may be, by nature or design, moveable yet related to a specific setting or environment.
- **6.** Indicate the person(s) responsible for the nomination. <u>Please note</u>: According to the Historic Preservation Ordinance:

"Nomination of an area, property, site, or object for consideration and designation as a Historic Structure, Historic District, Historic Site, or Historic Object may be submitted to the Historic Review Commission by any of the following:

- a. The Mayor of the City of Pittsburgh
- **b.** A Member of the Historic Review Commission
- c. A Member of the City Planning Commission
- **d.** A Member of the Pittsburgh City Council
- e. The Owner of Record or any person residing in the City of Pittsburgh for at least one year (for the nomination of a Historic Structure, Site or Object)
- f. A signed petition of 25% of the owners of record (for the nomination of a Historic District)
- 7. Write a physical description of the nominated property or district. Include the following information as applicable:

architectural style(s)
arrangement of architectural elements
building materials
method(s) of construction
visual character
street pattern
density
type and arrangement of buildings
topography
history of the development of the area

**8.** Provide a narrative history of the structure, district, site, or object. Include the following information when available:

History of the development of the area;

Circumstances which brought the structure, district, site, or object into being;

Biographical information on architects, builders, developers, artisans, planners, or others who created or contributed to the structure, district, site, or object;

Contextual background on building type(s) and/or style(s);

Importance of the structure, district, site, or object in the larger community over the course of its existence.

Include a bibliography of all sources consulted at the end. Where historical information is uncertain or disputed, reference sources in the text.

- **9.** Listed below are the categories and criteria for historic designation as set forth in the Pittsburgh Historic Preservation Ordinance. Describe in detail how the structure, district, site, or object meets one or more of the criteria. According to that legislation in Section 1.4 of the Pittsburgh Historic Preservation Ordinance, *Criteria for Designation*, a building must meet at least one of the following criteria in order to be designated:
  - 1. Its location as a site of a significant historic or prehistoric event or activity;
  - 2. Its identification with a person or persons who significantly contributed to the cultural, historic, architectural, archaeological, or related aspects of the development of the City of Pittsburgh, State of Pennsylvania, Mid-Atlantic region, or the United States;
  - 3. Its exemplification of an architectural type, style or design distinguished by innovation, rarity, uniqueness, or overall quality of design, detail, materials, or craftsmanship;
  - 4. Its identification as the work of an architect, designer, engineer, or builder whose individual work is significant in the history or development of the City of Pittsburgh, the State of Pennsylvania, the Mid-Atlantic region, or the United States;

- 5. Its exemplification of important planning and urban design techniques distinguished by innovation, rarity, uniqueness, or overall quality of design or detail;
- 6. Its location as a site of an important archaeological resource;
- 7. Its association with important cultural or social aspects or events in the history of the City of Pittsburgh, the State of Pennsylvania, the Mid-Atlantic region, or the United States;
- 8. Its exemplification of a pattern of neighborhood development or settlement significant to the cultural history or traditions of the City, whose components may lack individual distinction;
- 9. Its representation of a cultural, historic, architectural, archaeological, or related theme expressed through distinctive areas, properties, sites, structures, or objects that may or may not be contiguous; or
- 10. Its unique location and distinctive physical appearance or presence representing an established and familiar visual feature of a neighborhood, community, or the City of Pittsburgh.
- 10. In addition, the ordinance specifies that "Any area, property, site, structure or object that meets any one or more of the criteria listed above shall also have sufficient integrity of location, design, materials, and workmanship to make it worthy of preservation or restoration."
- 11. The nomination must be accompanied by evidence that the nominator has made a good-faith effort to communicate his or her interest in the historic designation of this landmark or district to the owner(s) of these properties. Describe how this was done, and attach evidence that the owner(s) of the nominated landmark or of the properties within the nominated district have been informed of the nomination. This may include a copy of a notification letter with a mailing list, a letter confirming phone calls, or a petition signed by affected property owners.
- 12. Clear photographs of the nominated buildings or districts should accompany the nomination form. The applicant shall include photographs of all elevations of an individual building and its setting, or the front elevation of each building in a district. In the case of closely spaced buildings or rowhouses, several buildings may be included in one photograph. Each photograph must be labeled with the street address of the building(s) and the month and year the photograph was taken.
- **13.** Copies of major supporting documents should accompany the nomination form. Such documents may include, but are not limited to:

historic photographs;

historic and contemporary maps;

historic or contemporary texts describing the subject property or district;

historic or contemporary texts describing people, places, or events that comprise the historic context of the subject property or district.

Oversized materials (such as architectural drawings) and materials too fragile to copy may be accepted.

<u>PLEASE NOTE</u>: It is the responsibility of the nominator to provide the Historic Review Commission and its Staff with information sufficient to fairly evaluate the nomination. **Incomplete nomination forms will not be accepted.** Fee must be included. Nominations must be submitted in both electronic and hard-copy format.

#### CHECKLIST: INSERT NAME OF PROPERTY HERE

$\boxtimes$	<b>#1-6 Nomination Form:</b> Address, Ownership, Classification, Nominator Info.
	₩ #8: History
	₩9: Significance
$\boxtimes$	#10 Integrity
$\boxtimes$	#11 Consent of Property Owners
$\boxtimes$	#12 Photographs of Property: numbered and labeled
$\boxtimes$	#13 List of Supporting Documents
$\boxtimes$	Fee
$\boxtimes$	Hard-Copy nomination
$\boxtimes$	Electronic nomination (Word Format for text).

#### Addendum for Tufa Bridges

#### 7. Description

The Tufa Bridges of Schenley Park are large reinforced-concrete bridges with a unique stone facing known as Tufa. Two tufa-stone bridges extend over a gulch to curve and connect the Lower Panther Hollow trail. The gravel-covered trail on the bridges' deck was originally intended as a bridle path for the equestrian communities nearby. They are separated by nearly a mile along the winding trail and differ by arch; the elliptical arched or upper run bridge is located near Schenley Park Visitor's Center over Phipps Run and the semicircular arched or lower run bridge is located near Serpentine Drive and Barlett Playground.<sup>1</sup>

The closed-spandrel arch bridges are imagined in the rustic style to give an organic appearance lacking man-made construction, in the midst of subsoil hillsides and wide variety of prehistoric vegetation. Each barrier end of the bridge is encapsulated by a turret-like structure, measuring close to 3.5 feet. The arches gradually form from massive abutments of tufa-covered concrete in the surrounding hillside. Technically, the arch beneath is called a culvert barrel, which is defined as a structure that allows water to flow under a road, trail, or similar obstruction. Ravines underneath the Tufa bridges are alongside lower bridle paths, as one was reconfigured a year after the completion of the main mile-long bridle path. The Post-Gazette writes a small description of the elliptical arched bridle path as:

"A new curved walk... from the new smaller lake right up the Little Panther ravine [Phipps Run], passing under the picturesque tufa-stone bridge over which the bridle path crosses the gulch. This path leads up to the lily pond, which lies 75 feet higher, just around the bend in the road south of Flagstaff hill."<sup>23</sup>

The upper run bridge is considered the most frequently used given the trails above and below the archway as well as the hollow run trail steps leading to Schenley Park Visitor's Center. The breadth of this elliptical arched bridge stretches 105 feet on the north side of the curve and 101 feet on the south side. The north side of the archway measure 15 feet in height and gradually slopes downward to yield 16.4 feet on the southern side. Near Serpentine Drive, the lower run bridge is larger in length, as the breadth is nearly 130 feet along both sides of the curve. The semicircular archway is about 17 feet tall and 50 feet wide on either side of the curve.

<sup>&</sup>lt;sup>1</sup> In the nomination form and contributing map for Schenley Park Historic District, the author mistakenly notes that three tufa stone bridges are attributed to George W. Burke. There are only two tufa stone bridges and a series of W.P.A. bridges built in 1939. The WPA bridges replaced rustic, wooden bridges created alongside the actual Tufa bridges and bridle path. National Register of Historic Places, Schenley Park, Pittsburgh, Allegheny County, Pennsylvania, National Register #85003506.

<sup>&</sup>lt;sup>2</sup> "Schenley Park Grows," *Pittsburgh Post-Gazette*, June 7, 1909.

<sup>&</sup>lt;sup>3</sup> It is imperative to note that this lily pond described in 1909 is the future site of Westinghouse Memorial, created in 1930. Survey of *Schenley Park Survey Project 1953*, (Pittburgh, PA: PGH Parks, 1953), Part 3 Nature Ravine.

#### 8. History

The stone bridges were the imaginative product of George W. Burke, Superintendent of City Parks for the Department of Public Works, who believed the bridge's utilitarian function could surface as a picturesque feature of the Victorian-era style of Schenley Park. Burke chose the bridge locations for the "deep, shady place... that in a course of a few years' mosses and lichens will cover the stone and make the bridge look very picturesque."

After a \$220,000 bond issue was given for the unemployed by the City of Pittsburgh, the bridle path construction was reported to begin on March 10, 1908. George Burke oversaw the eight-month endeavor to be a new picturesque route for equestriennes and an accessible one for those who could not traverse the Panther Hollow by foot. The location of the Tufa Bridges was necessary in order to extend the bridle path across the steep hillsides and Nature Ravine, or Phipps Run. It is noted in a Pittsburgh Daily Post article that the "rustic bridges spanning the ditches will be torn down and replaced with structures of the same pattern but on a more elaborate scale," indicating that the current Tufa Bridges may have started or finished construction late into 1908 or early spring 1909, after the bridle path was completed.<sup>6</sup> Similarly, a Post-Gazette article from December 1908 stated the "two new rustic bridges will take place of the two old ones." On the contrary, a Post-Gazette article in August 1908 also describes the "ancient-looking" bridge at the upper end of Panther Hollow as a "not yet completely finished" structure.8 Photographs from November 1908 prove that the incomplete structures were likely to be the rustic, wooden bridges within the Lower Panther Hollow, many of which have been replaced by the Works Progress Administration (W.P.A.) bridges in the mid-1930s. By whatever means, the bridges were finished in early 1909 and greeted with immense enthusiasm by local communities, as described in various local newspapers.

<sup>&</sup>lt;sup>4</sup> "Sup't Burke Designs Picturesque Bridge in Schenley Park." Pittsburgh Post-Gazette, August 24, 1908.

<sup>&</sup>lt;sup>5</sup> "Working on the Bridle Path." *The Pittsburgh Press*, March 10, 1908.

<sup>&</sup>lt;sup>6</sup> "Work on Schenley Bridle Path and Rustic Bridges is Rushed," Pittsburgh Daily Post, December 7, 1908.

<sup>&</sup>lt;sup>7</sup> "Much Work Planned in Pittsburgh Parks," *Pittsburgh Post-Gazette*, December 7, 1908.

<sup>&</sup>lt;sup>8</sup> "Sup't Burke Designs Picturesque Bridge in Schenley Park," Pittsburgh Post-Gazette, August 24, 1908.

#### 9. Significance

2. Its identification with a person or persons who significantly contributed to the cultural, historic, architectural, archaeological, or related aspects of the development of the City of Pittsburgh, State of Pennsylvania, Mid-Atlantic region, or the United States;

George Burke is identified as the sole imaginor of the Tufa Bridges and the main contributor to their existence in Schenley Park. As an early superintendent of Pittsburgh Parks and Phipps Conservatory<sup>9</sup>, his role in their development and function is highly significant. From the articles provided below, he is neither an architect, engineer, builder, nor designer by trade, but rather a horticulturist and city official.

George Burke entered employment by the City of Pittsburgh as a park foreman in 1890.<sup>10</sup> He was also appointed superintendent for Highland Park in February 1894 (officially), when he took over the role of park superintendent from Jim McKnight (and temporary successor A. W. Bennett). In the fall of 1901, Bigelow removed Burke from his job in order to consolidate the parks superintendent position and centrally locate it within Schenley Park (William Falconer held that position at that time). There was also a major political shakeup with Magee, Flynn, and Bigelow resulting in Bigelow's removal from office from 1900 to 1903. When Falconer left the position in 1903, Burke was re-hired to take his place.<sup>11</sup> Also, July 1, 1903 marked the date when the parks were set up as a separate bureau of the Department of Public Works.<sup>12</sup> A Pittsburgh native, Burke was born on January 24, 1863 and known to be an avid horticulturist.<sup>13</sup> He was educated in Pittsburgh public schools and his professional demeanor was looked highly upon by Director Bigelow, especially concerning the 1894 appointment as "a man who has been one of us, who has lived among the people for a good term of years, and who knows a thing or two about this place, to take charge of Schenley Park... [we] require a specialist, and a good one, to run the conservatory."<sup>14</sup>

From his appointment as park superintendent, it was Burke's duty to oversee Phipps Conservatory and Schenley Park. He also had high responsibilities within Highland Park Zoo, according to a 1905 article summarizing the securement of another elephant and Burke's oversight with the 1899 financial expenditures for both the park and zoo, totaling \$86,725.94.<sup>15</sup> He seemed to fill his position to the highest standard by "drawing thousands of visitors from

<sup>&</sup>lt;sup>9</sup> Phipps Conservatory is sometimes noted as Schenley Park Conservatory to distinguish the two establishments donated by Henry Phipps. The other conservatory was located in Allegheny Commons, where the National Aviary stands today, and lasted from 1887 to 1930. National Register of Historic Places, Phipps Conservatory, Pittsburgh, Allegheny County, Pennsylvania, National Register #76001598.

<sup>&</sup>lt;sup>10</sup> Howard Stewart, introduction to *Historical Data Pittsburgh Public Parks* (Ann Arbor, MI: Edward Brothers, Inc., 1943), accessed January 2017. <a href="http://digital.library.pitt.edu">http://digital.library.pitt.edu</a>, iv.

<sup>&</sup>lt;sup>11</sup> Frank C. Harper. *Pittsburgh of Today: Its Resources and People* (New York: The American Historical Society, Inc., 1932), accessed February 2017, <a href="http://digital.library.pitt.edu">http://digital.library.pitt.edu</a>, 284-287.

<sup>12</sup> Stewart, iv.

<sup>&</sup>lt;sup>13</sup> "Tributes Paid to Burke and Weible." *Pittsburgh Post-Gazette*. April 6. 1926.

<sup>&</sup>lt;sup>14</sup> "The Bosses Kicked Again," *Pittsburgh Daily Post*, February 10, 1894.

<sup>15 09/11/1905</sup> find\*

<sup>&</sup>lt;sup>16</sup> Annual Report of the Department of Public Works, City of Pittsburgh, for the Year 1899 (Oil City, PA., Derrick Publishing Company, 1900), accessed January 2017, <a href="http://digital.library.pitt.edu">http://digital.library.pitt.edu</a>, 428.

all parts of the country for his flower shows."<sup>17</sup> A Pittsburgh Press article from September 25, 1906, remarks how the upcoming annual Chrysanthemum exhibition would be "one of the finest that the conservatory has ever had" with nearly five thousand Chrysanthemum flowers planted. Many other flower shows, such as the Phipps Easter show and winter exhibition, were regarded with much approval by the press and praised Burke for their well-reception.<sup>18</sup>

Given Burke's well-regarded work, the press published many articles during the turn of the century that was no doubt because of the enthusiastic and success reception of park visitors. Pittsburgh Daily Post published an article entitled "Superintendent Burke Plans Many Improvements to Beautify the City Pleasure Grounds [Phipps Conservatory and Schenley Park] Next Year," that summarizes the floral embellishments Burke plans within Schenley Park. A 1906 Pittsburgh Press article raves about the planted bulbs for the Annual Phipps Easter display as well as the entire renovation of Phipps Conservatory, including the already-finished palm and fern houses "rearranged and the undergrowth replanted." The present-Palm Court and Fern Room are believed to be the product of Burke's renovations from early 1906. The curiosity about these rooms is their natural display imitates the conditions of primitive and botanical plants' place of origin with, for example, large stone and gravel beds that should be organic in texture and well-drained. These large stones throughout the right wing of Phipps Conservatory are also known as Tufa rocks, of which their particular origin is unknown (See Section 9).

Burke's career was respected through the credited and well-received improvements to Schenley Park and Phipps Conservatory. The author, Howard Stewart, best summarizes Burke's work:

"During Burke's administration, there were many new parks acquired and many improvements made in the existing parks. Picnic shelters, tennis courts, a golf course, new roads, trails, bridles paths, walks and walls were constructed. As a matter of fact, everything that we had in the parks until 1934 was completed under Burke as Superintendent."<sup>21</sup>

Sadly, his career came to end on March 25, 1926 when Burke committed suicide by gun in his office at Phipps Conservatory in the early hours of the morning. He was found by a fellow colleague, A. J. Stevens, who reported hearing the gunshot and finding Mr. Burke with revolver in hand and a small wound in the side of his skull. His suicide is attributed to a nervous breakdown the year before in October 1925, from what exactly is unknown. He died at the age of 64 and was survived by his wife Alice Harper Burke and two sisters.<sup>22</sup>

<sup>&</sup>lt;sup>17</sup> "Tributes Paid to Burke and Weible," *Pittsburgh Post-Gazette*, April 6, 1926.

<sup>&</sup>lt;sup>18</sup> "Great 'Mum Show Assured," *The Pittsburgh Press*, September 11, 1906.

<sup>&</sup>lt;sup>19</sup> "Superintendent Burke Plans Many Improvements to Beautify City Pleasure Grounds Next Year," *Pittsburgh Daily Post*, July 20, 1903.

<sup>&</sup>lt;sup>20</sup> "Flowers in Full Array," The Pittsburgh Press, April 9, 1906.

<sup>21</sup> Stewart, iv.

<sup>&</sup>lt;sup>22</sup> "George W. Burke City Park Supt., Suicide in Office," *Pittsburgh Post-Gazette, March* 26, 1926.

3. Its exemplification of an architectural type, style or design distinguished by innovation, rarity, uniqueness, or overall quality of design, detail, materials, or craftsmanship;

#### Construction

The tufa bridges are significant in their construction, given the practices of the time period. An article from the Pittsburgh Post-Gazette contains the best description of how both bridges were made:

"The main body of the bridge is composed of concrete, reinforced with steel rods. Before the concrete was poured, a frame was erected and the tufa was built up, not being visible from the outside, as it was covered with the broad frame. The tufa supported by the frame formed one side of a mold into which to pour between the two. Another frame was put up, and the concrete was poured between the two attaching itself firmly to the back of the tufa. After the concrete had hardened the boards were taken down and the tufa facing left exposed. It is believed to be the only bridge of this kind in the world."<sup>23</sup>

This description is typical of reinforced concrete arch bridge construction during the early twentieth century. As the author noted, a bridge of this type would be cast in place. First, the abutments, or ends of the bridge, would be cast simultaneously, then a falsework or frame would be constructed followed by the placement of steel bars. Within the falsework, the tufa would be carefully assembled to form the exterior of the bridge. The tufa would become an integral to the bridge when the concrete combined with the structure. The structure would dry and the falsework would be removed in order to appear as it does today.

While most American engineers were familiar with concrete reinforcement by about 1870, it took another thirty years of experimentation before engineers and builders had a thorough understanding of its capabilities and versatility in construction. By 1905, the standard term for most types of reinforcement systems became known as reinforced concrete.<sup>24</sup> This standardization was due in part to a number of publications using the aforementioned term. An example of one such publication would be the detailed work by concrete specialists and civil engineers, Albert Wells Buel, and C.S. Hill. Meant for those within the construction industry, this book became a widespread success to the engineering community, following the American practice and utilizing convenient classification.<sup>25</sup> Buel's expertise surfaced in a local engineering project from 1911: Sewickley Bridge. The current bridge is the second to occupy the site as of October 21, 1981.<sup>26</sup> During the construction of the first bridge, according the Historic American Engineering Record, Buel was "hired as a private consultant especially for this work, and

<sup>&</sup>lt;sup>23</sup> "Sup't Burke Designs Picturesque Bridge in Schenley Park," Pittsburgh Post-Gazette, August 24, 1908.

<sup>&</sup>lt;sup>24</sup> "Reinforced Concrete Bridges," Delaware Department of Transportation: Archeology and Historic Preservation, accessed February 2017.

https://www.deldot.gov/archaeology/historic\_pres/delaware\_bridge\_book/pdf/reinfor\_conc\_150-185.pdf.

<sup>&</sup>lt;sup>25</sup> Albert Wells Buel and C.S. Hill, preface to *Reinforced Concrete*, (New York: The Engineering News Publishing Company, 1906), iv-vi.

<sup>&</sup>lt;sup>26</sup> "Sewickley Bridge," pghbridges.com, last modified November 30, 2000, accessed February 2016, http://pghbridges.com/ambridge/0568-4487/sewickley1981.htm.

afterward retained, as a consulting engineer."<sup>27</sup> His association with Allegheny County and renowned expertise was prevalent by the work expressed by the bureau of construction, led by N.S. Sprague (see Section 5).

Once engineers grasped the capabilities of reinforced concrete, bridge technology experienced a renaissance of arch construction within the United States. The variety of arch types is exemplified by the designs of Daniel B. Luten, whose patented bridges were built throughout the eastern and Midwestern United States. The new material allowed arch bridges to be constructed with ease financially and physically. The load-bearing capacity of the form remained the same with lesser material triumphing over additional mass. It is curious to note that the renaissance of the arch bridge coincided with the City Beautiful movement, a turn-of-the-century urban planning initiative to construct municipal structures that were aesthetic pleasing yet still functional. Gracefully curved arches and ornamented concrete parapets also reflected the early twentieth century promotion of City Beautiful ideas and goals among urban planners and engineers. The efforts of George W. Burke and other municipal idols within Pittsburgh parks during that time would be considered proponents of the City Beautiful movement.<sup>28</sup>

#### Material

Tufa is a calcium carbonate precipitate occurring near fresh, ambient water. The chemical composition is abundantly CaCO<sub>3</sub> (chemical formula for calcium carbonate) and can contain a small percentage of either magnesium carbonate (MgCO<sub>3</sub>) or iron.<sup>29</sup> This particular type of carbonate deposit is related to travertine, limestone, and marl layers. In Ohio, tufa is frequently associated with marl and can be used interchangeably to describe each other. The actual etymology of the name tufa derives from a similar type of rock used in Roman architecture called tuff. Yet, both rocks are actually quite different in origin and formation.<sup>30</sup>

Newly quarried tufa is nearly white with an open porous texture, analogous in form to volcanic pumice. The fragile stone can easily weather throughout time to form a rustic appearance among a conglomeration of microtubules and nodules. Sometimes the rock can be encrusted with twigs, small pebbles, or wetland plants depending on the origin of formation.<sup>31</sup> According to the Ohio Geological Survey, calcareous tufa differs from most ancient sedimentary and bedrock sites because it is actively being formed from supersaturated groundwater. In fact, the tufa bridges feature small and nearly inconsequential mounds of minerals formed by the slow, constant drip of rainwater through the stone cladding. These mineral deposits appear as cavern stalactites (formed from suspended soluble materials) and stalagmites (formed from floor

<sup>&</sup>lt;sup>27</sup> Historic American Engineering Record, Sewickley Bridge, Spanning Ohio River, Sewickley, Allegheny County, Pennsylvania, HAER PA-53.

<sup>&</sup>lt;sup>28</sup> "Concrete Arch Bridges," Maryland Department of Transportation, accessed February 2017, https://www.roads.maryland.gov/OPPEN/IX-CABr.pdf, 141-142.

<sup>&</sup>lt;sup>29</sup> "GeoFacts," Ohio Department of Natural Resources: Division of Geological Survey, accessed February 2018, https://geosurvey.ohiodnr.gov/portals/geosurvey/PDFs/GeoFacts/geof25.pdf.

<sup>30 &</sup>quot;Materials," Colloseum.net, accessed March 2017, http://www.the-colosseum.net/architecture/materials\_en.htm.
31 Wilbur Stout, "Marl, Tufa Rock, Travertine, and Bog Ore in Ohio," Geological Survey of Ohio, Fourth Series Bulletin 41 (1940): 9-10.

accumulations of soluble material), but technically are named travertine. This meteogene or weather-formed travertine derives from ambient water rather than hot spring or thermogene travertine.

The tufa bridges have weathered in time from nutrient-voracious plants as Burke expected, however, most of the stone cladding is unnaturally black. Mike Angle, a geologist from Ohio familiar with tufa, concurs in the belief that Pittsburgh's problem with coal dust in the mid-twentieth century resulted in an abnormal absorption. Moss and lichens thoroughly covering the uppermost part of the bridges also result in darkening of the stone. Another plausible theory from Angle is that the stone's composition results from a chemical change over time. Such as the reddish brown appearance of stones results from iron oxidation, a black appearance may result from manganese oxidation.<sup>32</sup> Minor quantities of manganese are present in most sedimentary rocks in Ohio.<sup>33</sup>

The porous, lightweight, and substantially pure calcite precipitate is considered fairly unique to other limestone derivatives in Ohio. Horticulturalists and geo-enthusiasts have picked up on the water retentive qualities of tufa as a dependable feature of rock gardening. The overabundance of calcium carbonate (90 to 99 percent) is substantial to alkali and lime-loving plants. Although tufa is found in other parts of the world, such as west coast America and Europe, Ohio is rather important for geological sites nearly pure in calcium carbonate.<sup>34</sup>

4. Its identification as the work of an architect, designer, engineer, or builder whose individual work is significant in the history or development of the City of Pittsburgh, the State of Pennsylvania, the Mid-Atlantic region, or the United States;

See Section 2.

5. Its exemplification of important planning and urban design techniques distinguished by innovation, rarity, uniqueness, or overall quality of design or detail;

The formation of a bridle path in Panther Hollow was a fundamental urban planning feat taken on by many government figures and fully supported by the City of Pittsburgh. Before 1908, Schenley Park did not include manicured paths to traverse the area resulting in the lack of use by many Pittsburghers due to its inaccessibility, despite its creation nearly 20 years before. The original bridle path is still accessible today, although different intersections and routes have been blocked or renamed. The present-day path extends from Flagstaff Hill, passing Westinghouse Memorial and Bob O'Connor Golf Course, then crossing Panther Hollow Road to surround Overlook Drive. There are various loops of the bridle path within Panther Hollow, indicated by the upper and lower Hollow Run trails.

<sup>&</sup>lt;sup>32</sup> Mike Angle, Phone Interview, March 3, 2017.

<sup>&</sup>lt;sup>33</sup> Wilbur Stout, "Marl, Tufa Rock, Travertine, and Bog Ore in Ohio," Geological Survey of Ohio, Fourth Series Bulletin 41 (1940): 12

<sup>&</sup>lt;sup>34</sup> "GeoFacts," Ohio Department of Natural Resources: Division of Geological Survey, accessed February 2018, https://geosurvey.ohiodnr.gov/portals/geosurvey/PDFs/GeoFacts/geof25.pdf.

<sup>&</sup>lt;sup>35</sup> "Build A New Bridle Path," *Pittsburgh Post-Gazette*, February 27, 1908.

The year 1908 was known as a depression year after the Panic of 1907, the worst of financial crises from 1814 to 1914. Major market downturns in 1906 and the devastating San Francisco earthquake concluded with all stock to fall about 37%. The crisis was relatively brief, but the repercussions proved influential in establishing a central bank within the Federal Reserve System. The crisis hit everyday lives by causing unemployment to rise to 8% from under 3%. The councils responded to this unemployment epidemic an emergency bond issue of \$220,000 on February 7, 1908. Funds were allocated to give two month's steady labor to an estimated 1,500 men for the improvement of highways, sewers, street cleaning, and construction of the bridle path that Burke proposed. The cost for the bridle path was estimated to be about \$100,000, an amount shy of \$2.5 million today. A week later, Pittsburgh Press noted that hundreds of men were employed for landscape work in Pittsburgh parks, with an estimate of about 200 reporting to Highland Park and over 300 reporting to the preparing the way for the Panther Hollow Bridle path.

Besides the parks department, the former bureau of construction of the department of public works also took part in the formation of the bridle path.<sup>40</sup> This former department was led by Superintendent N. S. Sprague, a name associated with a variety of early 20<sup>th</sup>-century infrastructure projects within Allegheny County. He is credited as a consulting or lead engineer for the 1912 Larimer Bridge, 1914 Hell's Run Bridge, and the 1921 major street plan proposal.<sup>41</sup> Nearly two weeks after the bond issue, 196 men reported for work in Schenley Park in order to survey and level Panther Hollow and fill in around the race track. A short Pittsburgh Press article notes that "four engineers also were detailed to make a survey for a bridle path in the hollow. This ought to be finished in about a week, when a large force of laborers will be put to work on its construction."<sup>42</sup> These four engineers remain nameless, although one is most likely Superintendent N.S. Sprague.

The proposed route was set and aligned with stakes "in readiness for the first spade of dirt to be turned" by the end of February 1908. More than 150 men were supervised by Burke to soil and clear the proposed path, and from then on, the number was expected to increase during the macadamizing of the roadbed.<sup>43</sup> Macadam is a type of road construction in which crushed stone layers are pounded on a steam rolled and elevated road bed of natural earth. Depending on the thickness of the macadam and road bed elevation, the road could effectively drain water and cut through frost. This technique was considered an efficient method of road

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<sup>&</sup>lt;sup>36</sup> Robert F. Bruner and Sean D. Carr, "The Panic of 1907: Lessons Learned from the Market's Perfect Storm." (Hoboken, New Jersey: John Wiley & Sons, 1907), 1-2.

<sup>&</sup>lt;sup>37</sup> "Councils To Do Their Part for Idle Workmen." Pittsburgh Daily Post, February 7, 1908.

<sup>&</sup>lt;sup>38</sup> "Build A New Bridle Path," Pittsburgh Post-Gazette, February 27, 1908.

<sup>&</sup>lt;sup>39</sup> "More Men Get Work at Schenley Park," *The Pittsburgh Press,* February 14, 1908.

<sup>&</sup>lt;sup>40</sup> Also credited as the former bureau of engineering. Neither department solely exists today. Department of Public Works, accessed January 2017, www.pittsburghpa.gov/dpw/.

<sup>&</sup>lt;sup>41</sup> Foreword to *Major Street Plan for Pittsburgh: A Part of the Pittsburgh Plan,* (Pittsburgh, PA: Citizens Committee on City Plan of Pittsburgh, September 1921), accessed February 2017, <a href="http://digital.library.pitt.edu">http://digital.library.pitt.edu</a>, 7-9.

<sup>&</sup>lt;sup>42</sup> "City Employs More Idle Men," The Pittsburgh Press, February 17, 1908.

<sup>&</sup>lt;sup>43</sup> "Build A New Bridle Path," Pittsburgh Post-Gazette, February 27, 1908.

construction by highway engineers, especially with the increase of motor vehicles in the early 1900s.<sup>44</sup>

Besides the bridle path and stone-faced bridges, December 1, 1908 marks the day that a special bond issue of \$150,000 was issued for further work of nearly 1,000 men in the parks, such as the enlargement of the lake in Panther Hollow, which will cover about three and a half acres, for aquatic pastimes. Other work included landscaping and irrigating Mt. Bigelow drive [trail] from Lake Carnegie in Highland Park, Bluff Park overlooking the Monongahela, and planting of numerous other trees and shrubs on the North Side, South Side, McKinley and Schenley Park. The Panic of 1907 was reported to have a lengthy economic contraction between May 1907 and June 1908. Therefore, the issue of this special bond for the parks nearly six months after the financial crisis and vast media coverage indicates that these improvements were well-received with eagerness and enthusiasm for the people's leisure and enjoyment.

7. Its association with important cultural or social aspects or events in the history of the City of Pittsburgh, the State of Pennsylvania, the Mid-Atlantic region, or the United States;

#### **Northwest Ohio**

Various sources have indicated that the tufa comes from a distributor in Ohio.<sup>48</sup> The distributor is unknown, but geologist Mike Angle predicts that any exported tufa-stone in nearby states may have originated from a large deposit associated with the marl beds in Castalia or Sandusky County, most likely deposited from local spring overflows and streams.<sup>49</sup> According to a distribution map provided by Angle, tufa is most concentrated in the northwestern region of Ohio, overlapping Sandusky and Erie County. Besides Resthaven Wildlife Area, Ohio tufa-stone can be found in White's Landing and Castalia's Blue Hole.

An article published by the Sandusky Register also mentions the history and value of tufa to Erie County gardeners. The author notes that the large tufa deposit at Resthaven Wildlife Area used to cover nearly 3,500 acres averaging six feet deep. In the early 1900s, Portland Cement Company of Sandusky mined that area extensively for use in their cement product. Mike Angle concurred with these facts and further explained that Portland Cement Company highly valued tufa because of its heavy lime content. The former mine at Resthaven Wildlife Area was closed in 1942 after the land purchase by the Ohio Division of Wildlife. At that point, more than half of the purchased area had been strip mined for marl (Ohio nomenclature for

<sup>&</sup>lt;sup>44</sup>Arthur Newell Johnson, *Specification & Notes on Macadam Road Construction*, (Journal of Western Society of Engineers, December 1908), Google books, 3-10.

<sup>&</sup>lt;sup>45</sup> "Much Work Planned in Pittsburgh Parks," Pittsburgh Post-Gazette, December 7, 1908.

<sup>&</sup>lt;sup>46</sup> "Work for Idle in Parks Begins This Morning; Improvements to be Made," Pittsburgh Daily Post, December 1, 1908.

<sup>&</sup>lt;sup>47</sup> "US Business Cycle Expansions and Contractions," The National Bureau of Economic Research, accessed February 2017. http://www.nber.org/cycles/cyclesmain.html.

<sup>&</sup>lt;sup>48</sup> "Sup't Burke Designs Picturesque Bridge in Schenley Park," Pittsburgh Post-Gazette, August 24, 1908.

<sup>&</sup>lt;sup>49</sup> Mike Angle, Phone Interview, March 3, 2017.

<sup>&</sup>lt;sup>50</sup> Connie Jackson, "Got Tufa?" Sandusky Register, August, 30 2015.

tufa), resulting in a very rough surface. The area is now a public hunting and fishing ground with diversified habitat types and wildlife species.<sup>51</sup>

As described in section 3, tufa is essentially a deposit of calcium carbonate formed when water filters through stone with heavy lime content, leaving evaporated mineral deposits. The tufa would then appear near springs or streams supersaturated with calcium. The best source area for tufa would be the Columbus Limestone formation, known for its breadth and purity. Further, the nearby counties of Erie and Sandusky are directly downstream from the formation and observed candidates of tufa discharge near almost any area with natural water sources. This bedrock unit has a wide distribution in northern and eastern Ohio, especially near Columbus, and contains a chemical composition of about 90% calcium carbonate. Over one hundred feet in height, the surface portion of the sedimentary rock consists of gray, crystalline, and highly fossiliferous limestone. Columbus Limestone quarries produce stone used primarily as aggregate for concrete, although there have been more specialized purposes in the past. According to the Ohio Department of Natural Resources, Pittsburgh Plate Glass Company operated a Columbus Limestone mine in Summit County from 1942 to 1976. The coarse limestone greater than 7/8 of an inch in diameter was found to be suitable for the manufacture of heavy chemicals and glass manufacturing. Smaller stones less than 7/8 of an inch in diameter were better suited for manufacturing Portland cement.<sup>52</sup> Without doubt, tufa was best suited for cement production due to the ability to be quarried in small quantities.

White's Landing and Castalia in Ohio contain many tufa rock houses and structures built between the 1920s and 1930s. Tufa houses in White's Landing are considered tourist spots and honeymoon destinations for Ohioans. An article from 1946 notes a couple will "be at home in one of the tufa rock cottages at White's Landing" after a local wedding ceremony in Milan, Ohio.<sup>53</sup> The Sandusky Register published a White's Landing home ad in 1946 for the "immediate possession of this furnished 4-rm tufa rock cottage; stove heat, stone fireplace.... reduced to \$4,000 with \$2,250 down."<sup>54</sup> Tufa rock porches and other exterior aesthetics can be seen in Huron's Rye Beach neighborhood and in the Catawba Cliffs area. The church vestibule at St. Mary's in Sandusky, Ohio contains a tufa grotto surrounding the Blessed Virgin Mary.<sup>55</sup>

The Blue Hole is located north of Castalia and three miles from the Erie-Sandusky county line. Once famed for its beauty and scenery, the Blue Hole destination was a remarkable area surrounding a spring rising out of a small hill with a central discharge of water. <sup>56</sup> In Ohio, Blue Holes are the common term for natural springs, especially many found in Castalia. This spring in particular has a glacial, geological, and historical significance to the area, dating back to the French and Indian War. The village of Castalia is located on the Columbus Limestone

<sup>&</sup>lt;sup>51</sup> "Resthaven Wildlife Area," Ohio Department of Natural Resources: Division of Wildlife, accessed February 2017, http://wildlife.ohiodnr.gov/Portals/wildlife/Maps/Wildlife%20Area%20Maps/PDFs/resthaven.pdf.

<sup>&</sup>lt;sup>52</sup> "GeoFacts," Ohio Department of Natural Resources: Division of Geological Survey, accessed February 2018, https://geosurvey.ohiodnr.gov/portals/geosurvey/PDFs/GeoFacts/geof25.pdf.

<sup>53 &</sup>quot;Miss Dawn Wild is Married in St. Stephen's Church," The Sandusky Register, August 9, 1946.

<sup>&</sup>lt;sup>54</sup> "Advertisement: White's Landing," *The Sandusky Register*, December 13, 1946.

<sup>55 &</sup>quot;Got Tufa?" The Sandusky Register, August 30, 2015.

<sup>&</sup>lt;sup>56</sup> Karl Ver Steeg and George Yunck, "The Blue Hole of Castalia," *The Ohio Journal of Science: Volume 32, Issue 5* (September, 1932): 425-435, accessed February 2017, <a href="http://kb.osu.edu/dspace/handle/1811/2587">http://kb.osu.edu/dspace/handle/1811/2587</a>.

formation described in the previous paragraphs. Characteristic of limestone regions, there are streams disappearing beneath the ground surface of the Castalia region and reappearing as a huge spring, such as the local Blue Hole. The vivid blue water appears limitless at the surface, dropping nearly forty-five feet deep. After a series of cave-ins with nearby rivers and ponds, the Blue Hole became a tourist destination from 1914 to the late 1940s. Popularity of the geological quirk attracted over 165,000 visitors a year to the "bottomless" pond and charming small town. A large, ornate tufa-stone gateway was erected near Route 269 especially for the tourist attraction. After another sinkhole and a dwindling tourist count, the Blue Hole destination was closed in 1990. The area is maintained by the Castalia Trout Club, a private fishing that has owned the land since 1898. The Ohio Division of Wildlife has since collaborated with the fishing group in order to create the Castalia Fish Hatchery and maintain the nearby estuary or transition zone between river and maritime environments.<sup>57</sup>

Nearby the Blue Hole and Route 269 exists the Tufa Rock Gardens. The property owner, Charles Eggert, and a man named Julian Miller distributed many tons of tufa-stone for gardening décor and building projects all over the country in the late 1920s. The historic Boy and Boot Fountain in downtown Sandusky, Ohio contains a landscape of tufa distributed from the village of Castalia, even after the statue and fountain dismantlement in 1991. Eggert also sculpted many decorative items for tourists and community, some of which still adorn home gardens and yards. His lasting creation would be the 1935 ornate Blue Hole entrance, still stands today after the destination closure. The tufa-stone facing flourishes abutments of the main and flanking archways. Presently, the structure contains the original tufa-stone facing and metal banner, but the Blue Hole nameplate has since been removed.

#### **Pittsburgh Equestrienne Community**

The oldest record of an equestrienne community near Schenley Park is an 1891 Pittsburgh Press article describing the well to-do ladies and young girls taking riding classes at the newly-formed Schenley Park Riding Academy. "Since the opening of the Schenley Park Riding Academy riding has received a fresh impetus and at present is the latest fad. In fact, among the fashionable set a young lady's education is considered very deficient unless she can ride." A year later, the Pittsburgh Dispatch wrote about the new pastime popular among Pittsburgh's fashionable men and women, derived from the "New York stage of horsiness" common in Central Park and Long Island. Schenley Park was considered the best riding arena for its proximity near the riding academy and the "wide, smooth ponds" patrons and riding parties loved to admire along the trail. The horsemanship in New York was immensely fashionable and attractive to equestrienne's in the Pittsburgh Community. For example, an 1897 Pittsburgh Daily Post article boasted a horse exhibition and benefit to be "just like New York's big show."

<sup>&</sup>lt;sup>57</sup> David Powers. "Castalia Sings the Blues." Cleveland Sings the Blues. May 27, 1999.

<sup>&</sup>lt;sup>58</sup> "Boy and the Boot," Roadside America, accessed February 2017, http://www.roadsideamerica.com/story/7824.

<sup>&</sup>lt;sup>59</sup> Glenn C. Kuebeler, Castalia, Cold Creek, and the Blue Hole, (Arcadia Publishing, 2007), Google books, 88-91.

<sup>60 &</sup>quot;Our Good Riders." The Pittsburgh Press. July 12, 1891.

<sup>61 &</sup>quot;Beauty in Saddles." Pittsburgh Dispatch. June 26, 1892.

<sup>62 &</sup>quot;Horse Show Comes Next." Pittsburgh Daily Post. February 22, 1897.

The former riding academy, once located at 47f0 Bayard Street, lasted over seventy years and frequently utilized the trails and bridle path within Schenley Park. At the time, the location at Bayard Street was an easy access point to the park space, before the development of apartment complexes and Central Catholic High School. A 1916 description from *Pittsburgh*, How to See It states that it is best "to ride through the romantic winding bridle paths of Schenley Park, and it is recommended to those who love [the] horse."63 The academy has changed hands many times over its lifetime, once around 1908 and another in 1942. During the bridle path's construction, Louis Schulenberg replaced Mr. Herbert Smith to reopen the old riding academy, closed since sometime after 1897.64 Schulenberg was an assistant to Smith in early 1892 and promoter of the academy's "exclusive principles as a society affair." <sup>65</sup> In 1942, Ralph Seaman and his wife, Helen, began to manage the academy operating classes "three evenings a week and on Saturday."66 Seaman owned more than fifty horses and boarded about fifteen private horses in a long barn on site. Riding trips with parties "wend their way through the [Schenley] park under two of its bridges and go down to Panther Hollow Lake." At that point in 1966, the riding academy became a recreational pastime for anyone over the age of fourteen, growing past a society fad.67

Before the Schenley Oval became a sportsplex, it was best known for a horse racingtrack and grandstand. The horse racing-track was gifted by Mary Schenley in 1895 for the "horsey crowd" and municipal business, housing the city police and public works horses. 68 In 1904, the Schenley Matinee Club bought the track hosting races during the weekdays.<sup>69</sup> The subsequently built stables added another moniker: the City Stables. They were destroyed by a raging fire in 1971, killing several horses, and never reopened. Today, tennis courts occupy the former City Stables and the horse racing track has been rehabilitated to become a running track.

Once completed in spring 1909, the tufa bridges and bridle path were well-received in with local newspapers printing articles about the enjoyed experiences from local equestriennes. Entitled "New Bridle Path in Schenley Park Is Popular With Lovers of Horseback Riding," notes the renewed interest of horseback riders and their density observed by the "number of fine horses owned in the city."<sup>70</sup> One article from the Post-Gazette describes the new crooked path:

"It is no longer necessary to cross the Panther hollow bridge to reach the bridle path. A turn to the right after crossing the Junction hollow bridge will bring one the new road, west of the conservatory. It passes underneath the arch of the Panther hollow bridge

<sup>63</sup> Pittsburgh, How to See It pg. 245

 <sup>&</sup>lt;sup>64</sup> "Horse Back Riding." *Pittsburgh Post-Gazette*. April 26, 1908.
 <sup>65</sup> "Beauty in Saddles." *Pittsburgh Dispatch*. June 26, 1892.

<sup>66 &</sup>quot;Truant from Riding School: Horse Joins Golfers on Green Occasionally." Pittsburgh Post-Gazette. November 29,

<sup>67 &</sup>quot;Save Your Time for 'Reiny' Day, Horse on Riding Trails." The Pittsburgh Press. September 10, 1966.

<sup>68</sup> Ron Ieraci, "Schenley Park-Now You See It, Now You Don't-," Friends of Panther Hollow Lake Blog, Apirl 9, 2015. http://friendsofpantherhollowlake.blogspot.com/2015/04/schenley-park-now-you-see-it-now-you.html.

<sup>69 &</sup>quot;Stuff That's Gone: Schenley Park Edition." Pittsburgh Parks Conservancy. January 26, 2011.

<sup>&</sup>lt;sup>70</sup> "New Bridle Path in Schenley Park is Popular with Lovers of Horseback Riding." *Pittsburgh Daily Post.* April 19, 1909.

and makes a horseshoe bend at the head of Little Panther hollow, over a rustic bridge, built of concrete and tufa stone... he and she might imagine themselves 100 miles away from the city, for forest trees and a thick undergrowth obscure the view 10 feet off the path."<sup>71</sup>

9. Its representation of a cultural, historic, architectural, archaeological, or related theme expressed through distinctive areas, properties, sites, structures, or objects, that may or may not be contiguous; or

The most vital aspect of the tufa bridges is represented and expressed in the cases described below. Many examples are assumed to be related by coincidental connections explained and referenced by photographs and/or secondary sources.

#### Horticulture

Due to the avid horticultural community, tufa-stone was a valued feature in rock gardens, terrariums, landscape work, and foot-pad bridges. A Pittsburgh Press article from 1942 boasts about tufa's everlasting qualities from the natural adaptation to moisture to the addition of "charm, beauty, and elegance to lawns and gardens as in various interesting sizes and shapes." A 2014 article by the Pittsburgh Post- Gazette gives insights into the pleasures of rock gardening and still-prevalent use of tufa-rock, as its porous textures is conducive to growing healthy plants. Further input by geologist Mike Angle noted the water retention and lime content of tufa, desirable qualities for growing a wide variety of alkali or lime-loving plants. To further, another article from the Pittsburgh Press in 1938 contains a rather lengthy description of importance of rock gardening in landscape design, deemed as a horticultural art from. The design plan should use a large number of satisfactory stones, preferably those native to the area:

"Suppose you are going to build a rock garden. What type of rocks would you use? Porous and absorbent rocks "weather" and tone down into collaboration with the flowers. Sandstone and limestone are good for these soft effects, tufa rocks come next, and boulders last because of their hard lines. Native stone, in layers like rock walls, if carefully placed, give a natural effect."

Pieces of natural tufa have become rather expensive to buy, especially large stones essential for rock gardening. Horticulturalists and botanists have become accustomed to using hypertufa, a cheap and readily made substitute with the same water retentive and lime qualities as natural tufa. Some experts from the Alpine Garden Society have recommended following a

<sup>&</sup>lt;sup>71</sup> "New Bridle Path's Popularity Grows." *Pittsburgh Post-Gazette*. May 31, 1909.

<sup>&</sup>lt;sup>72</sup> "Tufa Rock Adapts Itself to Moisture," *The Pittsburgh Press*, May 31, 1942.

<sup>&</sup>lt;sup>73</sup> "Some insights into the pleasures of rock gardening," *Pittsburgh Post-Gazette*, May 2, 2014.

<sup>&</sup>lt;sup>74</sup> Mike Angle, Phone Interview, March 3, 2017.

<sup>&</sup>lt;sup>75</sup> Diana Parks, "Rock Gardening Important for Landscape Design," *The Pittsburgh Press,* April 24, 1938. Google News.

hypertufa recipe of limestone, sandstone, and natural tufa to imitate the porous rock, but reduce vulnerability to frost.<sup>76</sup>

#### **Phipps Conservatory**

The cultural identity of tufa-stone is noted by a variety of locations within the City of Pittsburgh and surrounding regions. As described in section 2, Burke was well-known for horticultural improvements within Phipps Conservatory and the Pittsburgh parks system. Pittsburgh Daily Post's article is an indicator that the present-Palm Court and Fern Room are believed to be the product of Burke's renovations from early 1906.<sup>77</sup> The overabundance of tufa-stone and gravel beds indicate his familiarity towards the material. Other articles from 1920 and 1946 establish their existence as a natural part of Phipps Conservatory. Visitors of Phipps Conservatory might note the overlapping loop through a miniature tufa bridge in the Stove Room.<sup>78</sup> There is no record that this miniature bridge was a part of Burke's renovations from 1906, but given the natural display and placement, it would be a plausible guess that Burke had some part in its erection.

The horticultural awakening in the Pittsburgh community sought for the scientific and artistic organization of plan collections in the early days of Phipps Conservatory. If the renovation is the true, the original rooms of Phipps were designed in order to instigate a type of botanical garden known as an alpine garden. Collections of plants are placed in large stone and gravel beds to try to imitate the conditions of the plant's place of origins. Alpine plants are fairly hard to nurture unless environments are recreated in a controlled greenhouse. The soil needs to be sandy, but extremely well-drained. For instance, the massive ferns of the Palm Court need both moist and well-drained soil in order to thrive. The surrounding tufa rocks retain water and introduce an agricultural lime as a soil additive. Calcium carbonate makes up about 90% of agricultural lime, with the remaining percentage being a mixture of chemicals such as calcium or magnesium. The soil additive has been known to reduce acidity, provide minerals, improve water retention and nitrogen, potassium, and phosphorus uptake essential for plant growth.

#### **Catahecassa Monument**

Near the lower run bridge is the winding Serpentine Drive leading to the golf course. Along the drive is the Neil Log House, managed by Pittsburgh History and Landmarks Foundation, and the Catahecassa Monument. The stele set back in small, stone alcove once

<sup>&</sup>lt;sup>76</sup> "Easy Ways with Hypertufa," Alpine Garden Society, accessed February 2017, http://www.alpinegardensociety.net/pdf files/publication/AGS-Hypertufa Leaflet.pdf.

<sup>&</sup>lt;sup>77</sup> "Superintendent Burke Plans Many Improvements to Beautify the City Pleasure Grounds Next Year." *Pittsburgh Daily Post*, July, 20, 1903.

<sup>&</sup>lt;sup>78</sup> Walter Kidney, *Pittsburgh's Bridges: Architecture and Engineering* (Pittsburgh, PA: Pittsburgh History and Landmarks Foundation, 1999), 200.

<sup>&</sup>lt;sup>79</sup> "Easy Alpines," Alpine Garden Society, accessed February 2017, http://www.alpinegardensociety.net/publications/Easy-Leaflets/.

<sup>&</sup>lt;sup>80</sup> "Growing Ferns Successfully Indoors," University of Vermont Extension: Department of Plant and Soil Science, http://www.uvm.edu/pss/ppp/articles/fernsin.html.

<sup>&</sup>lt;sup>81</sup>J.A. H. Oates, *Lime and Limestone: Chemistry and Technology, Production and Uses*, (Derbyshire, England: Wiley-VCH, 1998), Google books, 110-115.

contained a fountain more commonly known as Snyder's Spring. The monument has been altered since its erection in the early 20<sup>th</sup> century, including the removal of fountain features and original landscape. When completed on May 28<sup>th</sup>, 1907, the rectangular structure was surrounded with tufa-stone rock, noted by the white, lumpy, and porous texture.<sup>82</sup> The landscape has since been removed, with a 1922 picture by the Pittsburgh City Photographer as the last known record. Elements of this original landscape might exist behind the monument, since the site has remained relatively underdeveloped since the creation of the Schenley Park.<sup>83</sup> Coincidentally, the use of tufa would have already been utilized within Phipps Conservatory by the time of the monument's erection in 1907. Since tufa-stone is created in mineral springs, this setting is remarkably suited to the landscape in function and aesthetic. It would be plausible that the surrounding landscape design and Burke's horticultural expertise may have crossed paths, despite no known record.

#### **Port Royal Tufa**

Pittsburgh's familiarity with tufa-stone is not limited to home gardens, but nearby in Westmoreland County. Along the Great Allegheny Passage Trail lies the Port Royal Tufa cliff-side formation, a small geological site characterized by naturally-occurring calcium carbonate discharged from a nearby spring. This unique rock formation is described as an outdoor stalactite due to the tapering calcite structure formed by percolating spring water. Westmoreland County contains only a few of these geological sites since they depend on a healthy and heavily calcium dependent ecosystem upstream to survive. Port Royal Tufa is a popular landmark among trailblazers and nearly forty miles southeast of Pittsburgh.<sup>84</sup>

#### Lourdes Grotto at St. Peter's Catholic Church

Since the mid-nineteenth century, the spring water at the Sanctuary of Our Lady of Lourdes in France has been known for alleged healing properties. A young girl, St. Bernadette, reportedly saw the Virgin Mary eighteen times near a grotto, or small picturesque cave, outside of town that instructed her to drink from the spring near the grotto, build a chapel, and have a procession of people come to worship. These instructions in particular were pivotal to the development of the shrine and holy oversight by the Roman Catholic Church. Today, the pilgrimage site contains a Madonna figurine in a niche above the main cavity of the grotto. Every aspect of the stark cave is deemed as a symbol of God and his teachings, from the natural occurring rock to the simple pedestal and figurine. Public interest in this shrine grew from the curious visitors drawn by the compelling stories of apparitions and miracles. Because of this interest and far-away homelands, many devote Catholics replicated or constructed a similar grotto honoring the Sanctuary of Our Lady of Lourdes for their nearby communities. A number

<sup>82 &</sup>quot;Drinking Fountain in the Park will Recall Indian Days." Pittsburgh Post-Gazette. September 23, 1906.

<sup>&</sup>lt;sup>83</sup> National Register of Historic Places, Phipps Conservatory, Pittsburgh, Allegheny County, Pennsylvania, National Register #76001598.

<sup>&</sup>lt;sup>84</sup> Bill Metzger, *The Great Allegheny Passage Companion*, (Local History Co, 2003).

<sup>&</sup>lt;sup>85</sup> "The Signs of Lourdes," Sanctuaire Notre-Dame De Lourdes, accessed February 2017, http://fr.lourdes-france.org/approfondir/textes-fondamentaux.

of Our Lady of Lourdes grottos appeared in the last century throughout several continents and countries, especially the United States.

In 1945, Franciscan priests devised a plan to construct an Our Lady of Lourdes grotto between St. Peter's Catholic Church and the Parish School on Fernando Street in Pittsburgh's hill district. The outdoor shrine reportedly weighed 100 tons and stretched nearly 100 feet high. Led by stone mason and artist Frank Socci, the structure took four years to build using hand labor and utilized an overwhelming abundance of Ohio tufa rock. The original site was an open courtyard with a narrow strip of brick and concrete connecting St. Peter's and the old Pittsburgh Free Dispensary (then Parish School). Soaring walls of tufa was built from the ground up to cover the courtyard walls and resemble a stony apse of a Cathedral. A running water pool, 12-foot white Madonna figurine, and manicured bushes all demonstrated a fine reproduction of the real Lourdes grotto in France. By the time the shrine was dedicated on September 11, 1949, hundreds of donors and parishioners were ecstatic to finally attend regular devotions for the ill and afflicted throughout the world. The parish School of the world. The parish School of the world afflicted throughout the world.

In 1950 and 1951, over ninety acres in Pittsburgh's Hill District was slated for redevelopment as a blighted area. The Urban Development Authority submitted the proposal, with plan, to the City Council and on July 6, 1955, the council approved the project by ordinance.<sup>88</sup> In order to effectively execute the redevelopment plan, the proposal called for the razing of St. Peter's Catholic Church on Fernando Street. Demolition of this church and 80 blocks within the Lower Hill District took place in May 1956 and continued through 1960. This urban renewal initiative forcibly relocated over 400 businesses and 8000 mostly black residents.<sup>89</sup>

The parishioners, patrons, and members of St. Peter's Catholic Church expressed their resilience to the demolition by the law suit and eventual Pennsylvania Supreme Court case against the Urban Redevelopment Authority, the City of Pittsburgh, and the Bishop of the Diocese of Pittsburgh. Argued on November 19, 1958, the suit claimed that the appellees ordered a bond and agreement without the consent of parish. The plaintiff argued that the parish and congregation had no standing to sue based on ownership. The bishop of the diocese of Pittsburgh was the rightful property owner and could dispose of the church for any valid reason. Consequentially, the complaint was dismissed in court, based on that reasoning and relevant Supreme Court cases before it. 90 Both concurring justices agreed that the destruction of St. Peter's was outrageous in relation to the exempted Epiphany Church and distance from the

<sup>&</sup>lt;sup>86</sup> "Last Look at His Masterpiece by 'Michelangelo of the Hill,'" The Pittsburgh Press, December 23, 1956.

<sup>87 &</sup>quot;Catholic Outdoor Shrine is Finished," Warren Times Mirror, August 17, 1949.

<sup>&</sup>lt;sup>88</sup> "St. Peter's v. Urban Redevelopment Authority of Pittsburgh," Supreme Court of Pennsylvania, Pennsylvania Case Law, Pennsylvania Law, 1958, From Justia US Law, <a href="http://law.justia.com/cases/pennsylvania/supreme-court/1958/394-pa-194-0.html">http://law.justia.com/cases/pennsylvania/supreme-court/1958/394-pa-194-0.html</a>.

<sup>&</sup>lt;sup>89</sup>Sue Morris, "Things that aren't there any more: Lower Hill District and Civic Arena," *The Historical Dilettante Blog*, August 2, 2012, http://historicaldilettante.blogspot.com/2012/08/things-that-arent-there-any-more-lower.html.

<sup>90</sup> Canovaro vs. Brothers of The Order of Hermits of St. Augustine was resolved case from 1937 that concluded there is no property right in church membership. "CANOVARO ET AL. V. BROS. OF H. OF ST. AUG," Supreme Court of Pennsylvania, Pennsylvania Case Law, Pennsylvania Law, 1937, From CaseText, <a href="https://casetext.com/case/canovaro-et-al-v-bros-of-h-of-st-aug">https://casetext.com/case/canovaro-et-al-v-bros-of-h-of-st-aug</a>.

affirmed blighted area. Justice Musmanno furthers his remorse through a very concise and warming description:

"St. Peter's Church [is] an ecclesiastical monument of rare and priceless beauty. Architecturally and artistically, it is breathtaking in its ampleness, sweep, harmony of lines and classical symmetry. It stands in the very midst of the metropolis of Pittsburgh, a blessed sanctuary of marble and precious stone, flanked by a grotto of heartwarming radiance a Lourdes Memorial Shrine to which through the years tens of thousands have made holy pilgrimage.." <sup>91</sup>

Before the church demolition in 1956, an article was published by the Pittsburgh Press entitled "Last Look at His Masterpiece By 'Michelangelo of the Hill,' " describing a heartfelt goodbye to the replicated Lourdes grotto dedicated only seven years before. By the end of its lifetime, the grotto became a refuge for Hill families and a pilgrimage site for thousands of visitors. The shrine "blossoms like a garden-quiet, beautiful, and best of all, sealed off from the rest of the world." Frank Socci, the interviewee, believed that he played a vital role by giving the Hill district a garden, an associated aspect of utilizing tufa rock. "I wore out three pairs of gloves a week chiseling and settling the tufa in the walls of the shine, "Socci said. The article quickly summarizes the tufa as "porous, petrified vegetation hacked out of the swamps of eastern Ohio."

The City of Pittsburgh still contains a Lourdes grotto, although there is no known connection to the grotto of St. Peter's Catholic Church. Duquesne University, a Catholic institution less than a mile away from the site of the former grotto, contains a small spiritual enclosure overlooking the Monongahela River. Then university president Reverend Vernon Gallagher had a vision of beautifying the campus and bringing students together by building Lourdes Grotto in 1954. The Edward O'Toole Company was responsible for assisting Rev. Gallagher's plan by providing materials and building instructions. Limestone and Carrara marble are used in the semi-circular structure, not tufa-rock.<sup>93</sup>

<sup>&</sup>lt;sup>91</sup> "St. Peter's v. Urban Redevelopment Authority of Pittsburgh," Supreme Court of Pennsylvania, Pennsylvania Case Law, Pennsylvania Law, 1958, From Justia US Law, <a href="http://law.justia.com/cases/pennsylvania/supreme-court/1958/394-pa-194-0.html">http://law.justia.com/cases/pennsylvania/supreme-court/1958/394-pa-194-0.html</a>, 6.

<sup>&</sup>lt;sup>92</sup> "Last Look at His Masterpiece By 'Michelangelo of the Hill," *Pittsburgh Press,* December 23, 1956. <sup>93</sup> Sydney McCabe, "French Connections: Lourdes Grotto," *The Duquesne Duke,* accessed January 2017, http://www.duqsm.com/french-connections-the-lourdes-grotto/.

10. Its unique location and distinctive physical appearance or presence representing an established and familiar visual feature of a neighborhood, community, or the City of Pittsburgh.

The importance of the tufa bridges derives the local Pittsburgh and student community. Blogs heighten the visual record and media channels have expansively reported it as distinctive feature of Schenley Park. He park itself is known as Pittsburgh's civic park, a daily destination for university students, business-people, and outdoor enthusiasts. The land is nearly 456 acres of rolling trails, woods, and attractions, most notably the historic bridges. Although the equestrienne community is no longer a vital component of Pittsburgh, the bridle path remains essential for various cyclists and athletes.

The park declined in the late twentieth century due to lack of maintenance and use. Luckily, the Pittsburgh Parks Conservatory initiated the first steps in a restoration over 10 years ago, creating this common description of Schenley Park:

"Visitors to Schenley Park can spend a morning at the remarkable Phipps Conservatory, enjoy lunch and a concert at the Schenley Park Café and Visitor Center, relax on Flagstaff Hill, play a round at the Bob O'Connor Golf Course, head to the Schenley Oval Sportsplex for ice skating or summer sports, or take a dip in the swimming pool. And of course, the trails offer a refreshing and convenient escape from the city." 95

While the Panther Hollow Bridge is older than the tufa bridges by ten years, the steel and masonry structure brought needed attention to the city park and started the embellishment of the park spaces. By 1910, the Oakland district nearby became reputed as "Pittsburgh's richest district," due major developments such as University of Pittsburgh, Schenley Hotel, and the already monumental Schenley Park. Edward Bigelow, proclaimed 'Father of Pittsburgh's Parks,' is revered for his determination to create a park as monumental and glorious as Central Park in New York City. <sup>96</sup> As a major urban park, the Pittsburgh's major urban planning initiative, sparked by a bond issue, created a landscape design similar in thought and formation to the gothic-inspired Central Park. Burke's rustic bridges are a symbol of an idyllic conception to develop much-need bridle path and lake for recreational use.

Many aspects of turn-of-the-century Schenley Park has disappeared over time, such as the Panther Hollow Lake Boathouse, City Stables, Bellefield Bridge, and Schenley Park Zoo. The tufa bridges are one of the last and important representations of that time period, when art and engineering could recreate nature.<sup>97</sup>

<sup>&</sup>lt;sup>94</sup> Dr. Boli, "Tufa Bridge in Schenley Park," *Father Pitt: Why Should Beautiful Die? Blog*, July 10, 2012, https://fatherpitt.wordpress.com/2012/07/10/tufa-bridge-in-schenley-park/.

<sup>&</sup>lt;sup>95</sup> "Schenley Park," Pittsburgh Parks Conservancy, http://www.pittsburghparks.org/schenley-park.

<sup>&</sup>lt;sup>96</sup> William Bradford Company, Schenley Park: A Place for All Ages (Pittsburgh, PA: Citiparks, 1989).

<sup>&</sup>lt;sup>97</sup>Ron Ieraci, "Schenley Park-Now You See It, Now You Don't-," *Friends of Panther Hollow Lake Blog*, Apirl 9, 2015, http://friendsofpantherhollowlake.blogspot.com/2015/04/schenley-park-now-you-see-it-now-you.html.

#### 10. Integrity

The Tufa Bridges remain in the same location as they did in 1908, with minor alterations. Today, the Schenley Park improvements and Tufa Bridges still create a place that seems far removed from city life, as described by many park enthusiasts. This idea of returning to nature is integral to the original intentions of George W. Burke.

The last noted field check of the Tufa Bridges was recorded October 1, 2000.<sup>98</sup> In February 2010, an article entitled "Rebuild the Walls," featured on the Pittsburgh Parks website, elaborated on the collapse of a historic wall behind Schenley Visitor Center after the then-recent rainstorm. Pittsburgh Parks subsequently tackled a repair project given the \$3.02 million grant for the improvement of trails in all parks after years of rain and erosion of the subsoil hillsides.<sup>99</sup> Since it is quoted that Venture Outdoors and other recreational group frequently use the trails and bridges, they required the maintenance of those affected by rain and erosion.

The Tufa Bridges were given special consideration in February 2010 by Allison Park Contractors, who were hired to order new tufa to replace some lost or damaged pieces. Some pieces were also inspected by the sounding of rock by a rubber mallet to ensure the rock is stable and does not need to be re-adhered. The new tufa would be cleaned to match the old material and hopefully start to weather over time for fluid visual character. The Areas of deteriorated tufa-stone were located on the barriers, abutments, and archway underneath. In addition, an August 2010 article noted that the Phipps Run stream channel underneath the upper run bridge would be redirected to handle a large catch of water towards the lake, another site of work amongst the Tufa Bridge.

As described, the Tufa Bridges of Schenley Park have had some minor repairs to the stone facing in the past. The unstable stone facing was replaced with new Tufa imported from the British Columbia territory in Canada, rather than the original Ohio deposits. The replacement stone is visible by the white color and the surrounding repointed mortar. Few parts of the bridge are missing the Tufa stone altogether, leaving the concrete or mortar backing exposed. There is no evidence of structural damage or future structural repair work planned, given the safe and sound integrity of the bridges. There is some minor defacement to the concrete abutment of the lower run bridge, which is starting to wash away.

<sup>&</sup>lt;sup>98</sup> "Tufa Bridge in Panther Hollow," pghbridges.com, last modified November 1, 2000, accessed September 2016, http://pghbridges.com/pittsburghE/0589-4476/tufapanther.htm.

<sup>99 &</sup>quot;Trail in City Parks to receive \$3 million in Improvements," Pittsburgh Post-Gazette, Jan 29 2010.

<sup>&</sup>lt;sup>100</sup> Joseph Zottola of Allison Park Contractors, "SP 9000-0020 Tufa Rock Sounding," email correspondence, December 5, 2016.

<sup>&</sup>lt;sup>101</sup> "Rebuilding the Walls," *Pittsburgh Parks Conservancy,* February 3, 2010.

<sup>&</sup>lt;sup>102</sup> "\$1 Million for Panther Hollow," *Pittsburgh Parks Conservancy,* August 31, 2010.

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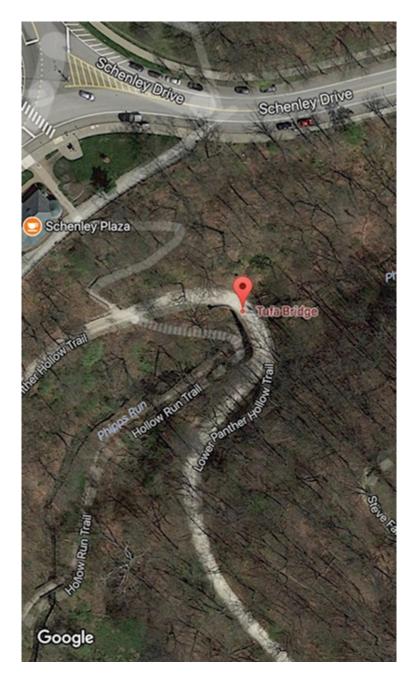
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# Tufa Bridges Historic Nomination Form Photo Logs

## Tufa Bridge I (Hemispherical Arch) Site Map



## Tufa Bridge I (Hemispherical Arch) Site Map with Photo Key Overlay

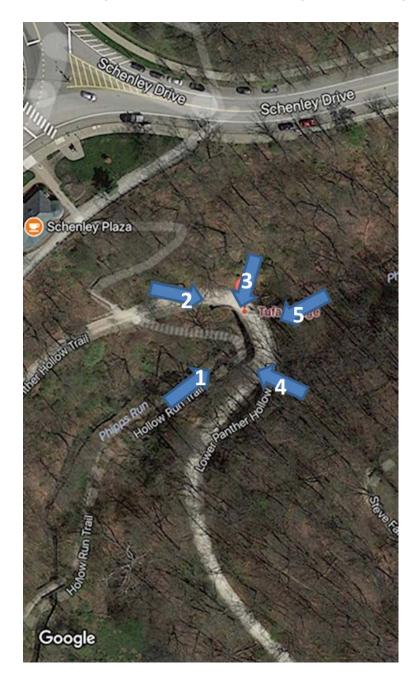




Photo. 1. *Tufa Bridge I (Hemispherical Arch), Schenley Park*, June 2, 2017. Source: Matthew W.C. Falcone.



Photo. 2. *Tufa Bridge I (Hemispherical Arch), Schenley Park,* June 2, 2017. Source: Matthew W.C. Falcone.



Photo. 3. *Tufa Bridge I (Hemispherical Arch), Schenley Park*, June 2, 2017. Source: Matthew W.C. Falcone.



Photo. 4. *Tufa Bridge I (Hemispherical Arch), Schenley Park*, June 2, 2017. Source: Matthew W.C. Falcone.



Photo. 5. *Tufa Bridge I (Hemispherical Arch), Schenley Park*, June 2, 2017. Source: Matthew W.C. Falcone.

# Tufa Bridge II (Elliptical Arch) Site Map



## Tufa Bridge II (Elliptical Arch) Site Map with Photo Key Overlay





Photo. 1. *Tufa Bridge II (Hemispherical Arch), Schenley Park*, June 2, 2017. Source: Matthew W.C. Falcone.



Photo. 2. *Tufa Bridge II (Elliptical Arch), Schenley Park,* June 2, 2017. Source: Matthew W.C. Falcone.



Photo. 3. Tufa Bridge II (Elliptical Arch), Schenley Park, June 2, 2017. Source: Matthew W.C. Falcone.



Photo. 4. Tufa Bridge II (Elliptical Arch), Schenley Park, June 2, 2017. Source: Matthew W.C. Falcone.



Photo. 5. *Tufa Bridge II (Elliptical Arch), Schenley Park*, June 2, 2017. Source: Matthew W.C. Falcone.



Photo. 6. Tufa Bridge II (Elliptical Arch), Schenley Park, June 2, 2017. Source: Matthew W.C. Falcone.

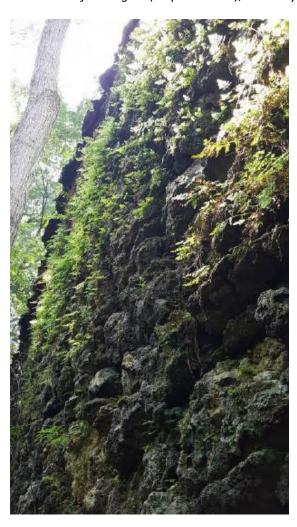


Photo 7. Tufa Bridge II (Elliptical Arch), Schenley Park, June 2, 2017. Source: Matthew W.C. Falcone.



Photo 8. *Tufa Bridge II (Elliptical Arch). Schenley Park*, June 2, 2017. Source: Matthew W.C. Falcone.



Fig. 1. Upper Run Tufa Bridge, September 10, 2016, Source: Alayna Jordan.



Fig. 2. Lower Run Tufa Bridge, September 10, 2016, Source: Alayna Jordan.

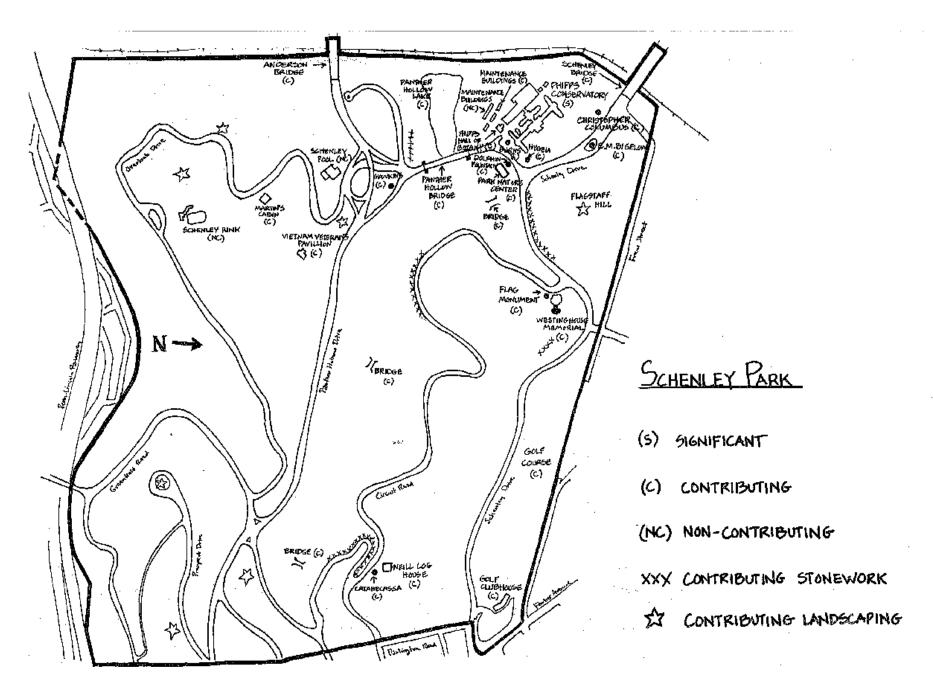


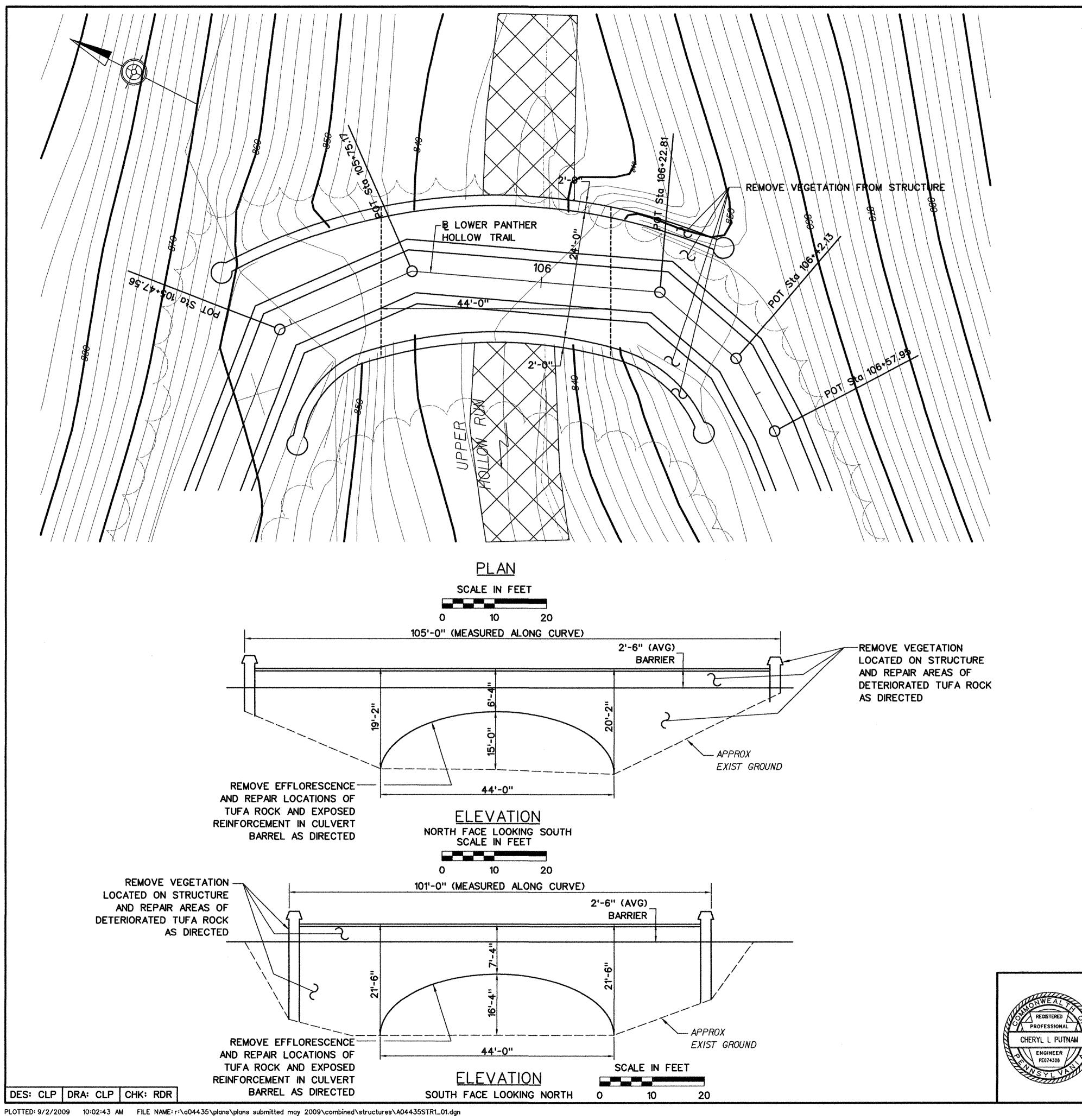
Fig. 3. Schenley Park Map, Source: National Register Nomination #85003506.



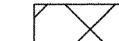
Fig. 4. Turret, September 10, 2016, Source: Alayna Jordan.



Fig. 5. Ravine – Rustic Bridge, September 14, 1908, Source: Pittsburgh City Photographer. <a href="http://histpitt.library.pitt.edu/islandora/object/pitt%3A715.087748.CP">http://histpitt.library.pitt.edu/islandora/object/pitt%3A715.087748.CP</a>.







PROPOSED IMPACT AREA (1232 SQ.FT.)

#### NOTES:

PREPARED BY:

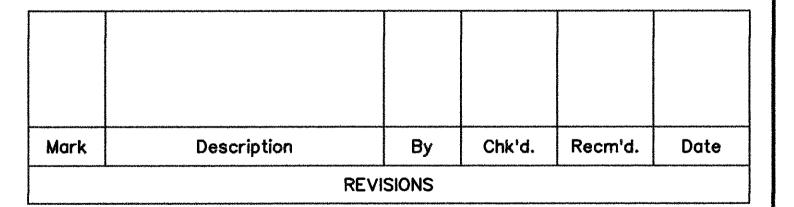
400 TECHNOLOGY DRIVE, SUITE 100

CANONSBURG, PA 15317

LOCATION AND DIMENSIONS OF CULVERT ARE APPROXIMATE.

INSPECT ALL AREAS OF TUFA ROCK INSTALLATION AND IDENTIFY AREAS FOR REPAIR OR REPLACEMENT.

REMOVE DEBRIS, FALLEN TREE LIMBS, BRANCHES, LEAVES, LITTER ETC. FROM CULVERT AREA AND FROM STREAM BED FOR 50' UPSTREAM AND FOR 50' DOWNSTREAM FROM CULVERT.



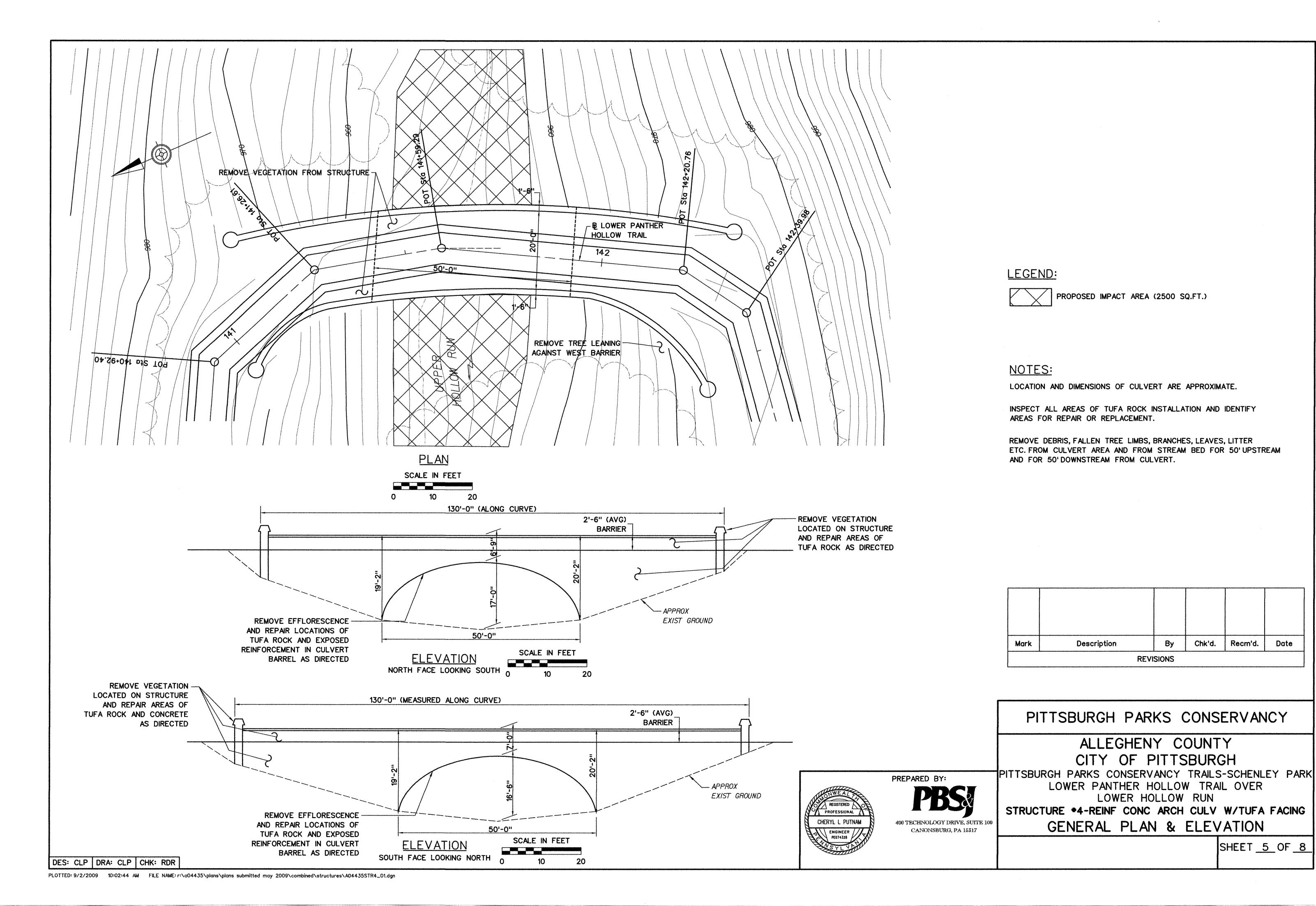
## PITTSBURGH PARKS CONSERVANCY

## ALLEGHENY COUNTY CITY OF PITTSBURGH

PITTSBURGH PARKS CONSERVANCY TRAILS-SCHENLEY PARK LOWER PANTHER HOLLOW TRAIL OVER UPPER HOLLOW RUN & HOLLOW RUN TRAIL

STRUCTURE \*1-REINF CONC ARCH CULV W/TUFA FACING GENERAL PLAN & ELEVATION

SHEET 2 OF 8



Chk'd. Recm'd.

Date

SHEET <u>5</u> OF <u>8</u>



Fig. 8. Rustic Bridge 1, November 18, 1908, Source: Pittsburgh City Photographer. <a href="http://histpitt.library.pitt.edu/islandora/object/pitt%3A715.087750.CP">http://histpitt.library.pitt.edu/islandora/object/pitt%3A715.087750.CP</a>.



Fig. 9. Rustic Bridge 2, November 18, 1908, Source: Pittsburgh City Photographer. <a href="http://histpitt.library.pitt.edu/islandora/object/pitt%3A715.087750.CP">http://histpitt.library.pitt.edu/islandora/object/pitt%3A715.087750.CP</a>.



Fig. 10. Rustic bridge in Panther Hollow 1, Date Unknown, Source: Postcard, (Published by I. Robbins & Sons, Pittsburgh, Pa.), <a href="http://www.brooklineconnection.com/history/Facts/SchenleyPark.html">http://www.brooklineconnection.com/history/Facts/SchenleyPark.html</a>.

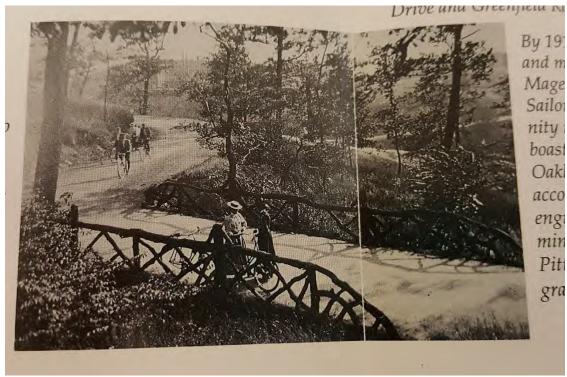


Fig. 11. Rustic Bridge in Panther Hollow, Date Unknown, Source: CitiParks' Schenley Park Centennial.



Fig. 12. George W. Burke, March 26, 1926, Source: Pittsburgh Post-Gazette.



Fig. 13. Phipps Conservatory, November 6, 1907, Source: Pittsburgh City Photographer. <a href="http://images.library.pitt.edu/cgi-bin/i/image/image-idx?rgn1=ic\_all;xc=1;g=imls;sort=dc\_da;q1=phipps;size=20;c=hpicasc;c=hpicchatham;c=hpiccma;c=hpiccmnh;c=hpic hswp;c=hpicmonroeville;c=hpicnpl;c=hpicoakmont;c=hpicphlf;c=hpicpitcairn;c=hpicpointpark;c=hpicpso;c=hpicusc;back=back1484010978;subview=detail;resnum=6;view=entry;lastview=thumbnail;cc=hpicasc;entryid=x-715.077739.cp;viewid=20090407-CP-0002.TIF.

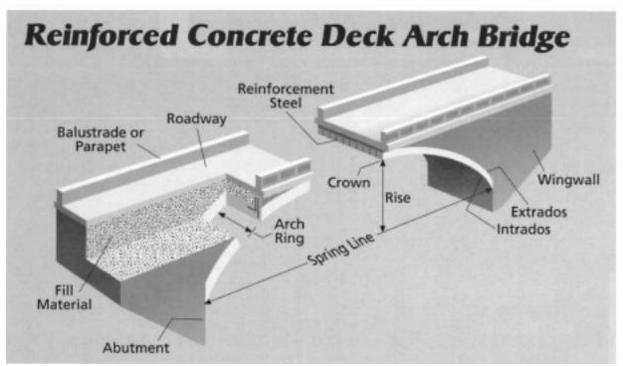


Fig. 14. Anatomy of a Reinforced Concrete Deck Arch Bridge, Source: Delaware Department of Transportation: Archeology and Historic Preservation.

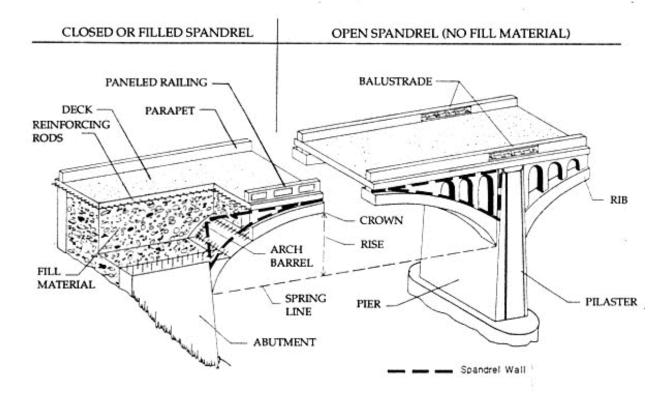


Fig. 15. Closed Versus Open Spantdrel Arch, Source: Conneticut's Historic Highway Bridges

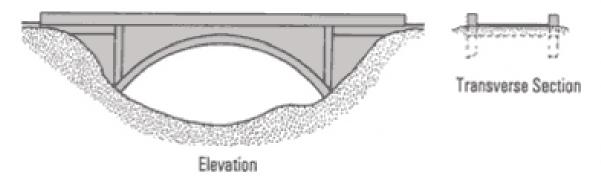


Fig. 16. Closed Spandrel Arch, Source: Historic Bridge Foundation



Fig. 17. Heth's Run Bridge Plaque, Source: Pittsburgh's Bridges: Architecture and Engineering

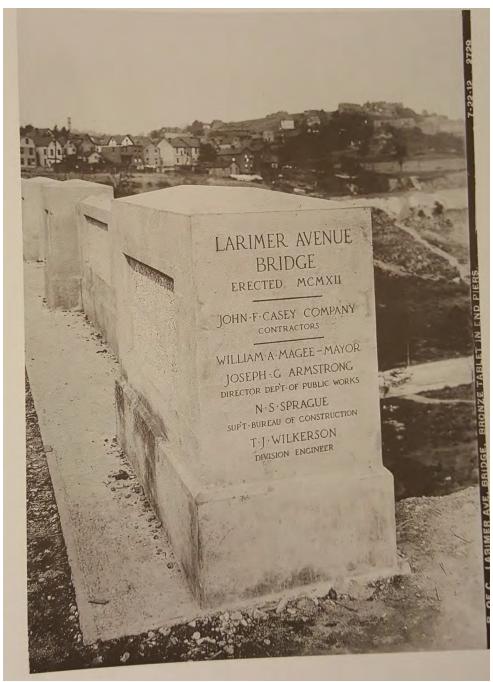


Fig. 18. Larimer Avenue Bridge, Source: Pittsburgh's Bridges: Architecture and Engineering



Fig. 19. Sewage Plant Bridge – Lunten Bridge Company, Source: Highways Through History



Fig. 20. Calcareous Tufa from Castalia, Erie County, Ohio, Source: mindat.org



Fig. 21. New tufa stone, January 12, 2017, Source: Alayna Jordan.



Fig. 22. Travertine Mineral Found below Upper Run Bridge, September 10, 2016, Source: Alayna Jordan



Fig. 23. Close up of travertine mineral mound below Upper Run Bridge, September 10, 2016, Source: Alayna Jordan.

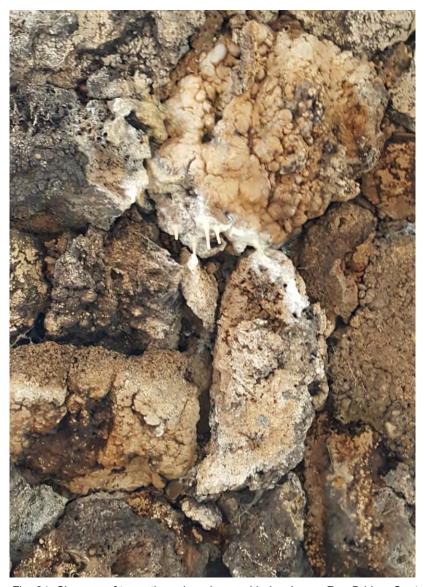


Fig. 24. Close up of travertine mineral mound below Lower Run Bridge, September 10, 2016, Source: Alayna Jordan.



Fig. 25. Black underside of Upper Run Bridge, September 10, 2016, Source: Alayna Jordan.

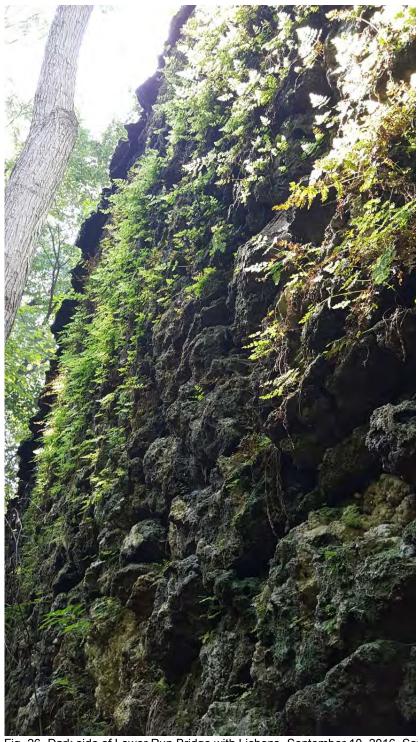


Fig. 26. Dark side of Lower Run Bridge with Lichens, September 10, 2016, Source: Alayna Jordan.



Fig. 27. Mismatched black surface of tufa-stone, September 10, 2016, Source: Alayna Jordan.



Fig. 28. Tufa Columns at Mono Lake, California, Source: Monolake.org

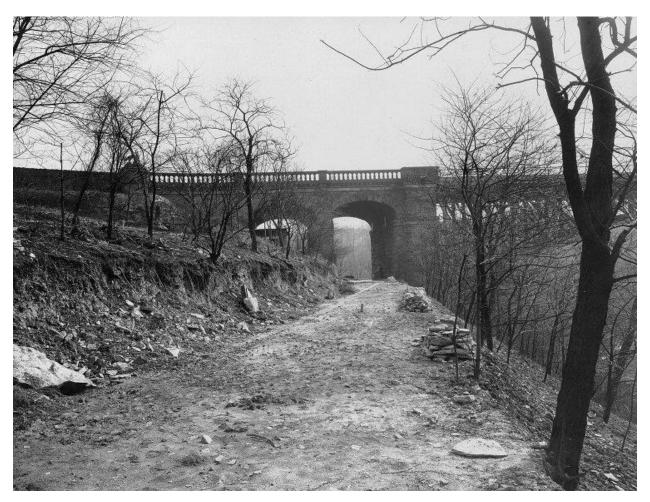


Fig. 28. Bridle Path in Panther Hollow, March 21, 1908, Source: Pittsburgh City Photographer <a href="http://images.library.pitt.edu/cgi-bin/i/image/image-idx?rgn1=ic all;xc=1;g=imls;sort=dc da;c=hpicasc;c=hpicchatham;c=hpiccma;c=hpiccmnh;c=hpichswp;c=hpicmonroeville;c=hpicnpl;c=hpicoakmont;c=hpicpiff;c=hpicpitcaim;c=hpicpointpark;c=hpicpso;c=hpicrsc;c=hpicusc;back=back 1489303289;resnum=3;view=entry;lastview=thumbnail;cc=hpicasc;entryid=x-715.08702.cp;viewid=20090313-CP-0077.TIF;start=1;q1=bridle%20path;chaperone=S-HPICASC-X-715.08702.CP%2020090313-CP-0077.TIF;np=next;evl=full-image.

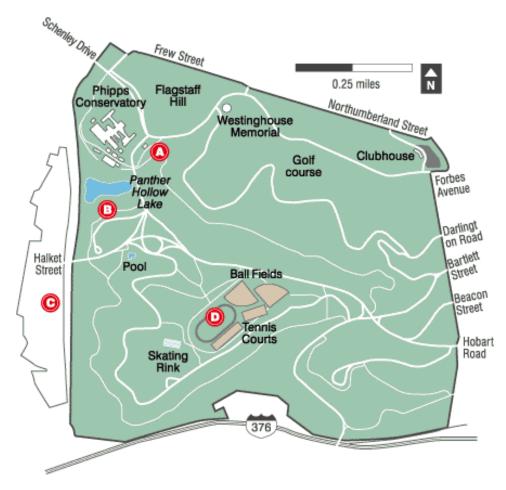


Fig. 29. Schenley Park Map, Source: Pittsburgh Post-Gazette <a href="http://old.post-gazette.com/neigh\_city/20000718schenleymap9.asp">http://old.post-gazette.com/neigh\_city/20000718schenleymap9.asp</a>.



Fig. 30. Bridle Path in Panther Hollow, March 21, 1908, Source: City Photographer <a href="http://images.library.pitt.edu/cgi-bin/i/image/image-idx?rgn1=ic\_all;xc=1;g=imls;sort=dc\_da;q1=bridle%20path;size=20;c=hpicasc;c=hpicchatham;c=hpiccma;c=hpiccmnh;c=hpichswp;c=hpicmonroeville;c=hpicnpl;c=hpicoakmont;c=hpicphlf;c=hpicpitcairn;c=hpicpointpark;c=hpicpso;c=hpicrsc;c=hpicusc;back=back1489303289;subview=detail;resnum=3;view=entry;lastview=thumbnail;cc=hpicasc;entryid=x-715.08702.cp;viewid=20090313-CP-0077.TIF.



Fig. 31. Panther Hollow Run, March 21, 1908, Source: Pittsburgh City Photographer, <a href="http://images.library.pitt.edu/cgi-bin/i/image/image-idx?rgn1=ic\_all;xc=1;g=imls;sort=dc\_da;q1=bridle%20path;size=20;c=hpicasc;c=hpicchatham;c=hpiccma;c=hpiccmnh;c=hpichswp;c=hpicmonroeville;c=hpicnpl;c=hpicoakmont;c=hpicphlf;c=hpicpitcairn;c=hpicpointpark;c=hpicpso;c=hpicrsc;c=hpicusc;back=back1489303289;subview=detail;resnum=6;view=entry;lastview=thumbnail;cc=hpicasc;entryid=x-715.08701.cp;viewid=20090313-CP-0076.TIF.

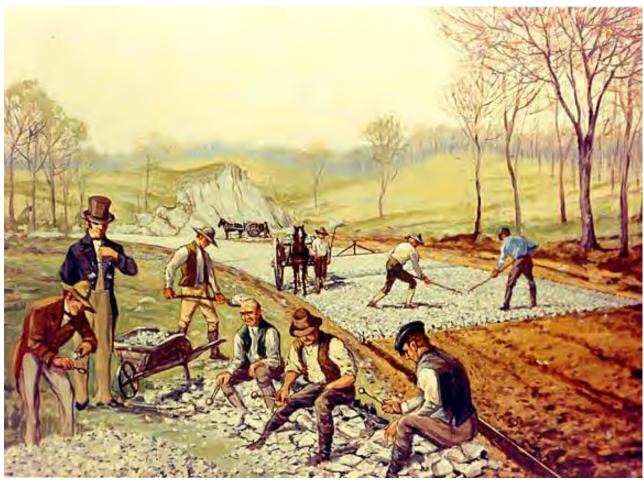


Fig. 32. First American Macadam Road by Carl Rakeman, 1823, Source: U.S. Department of Transportation: Federal Highway Administration

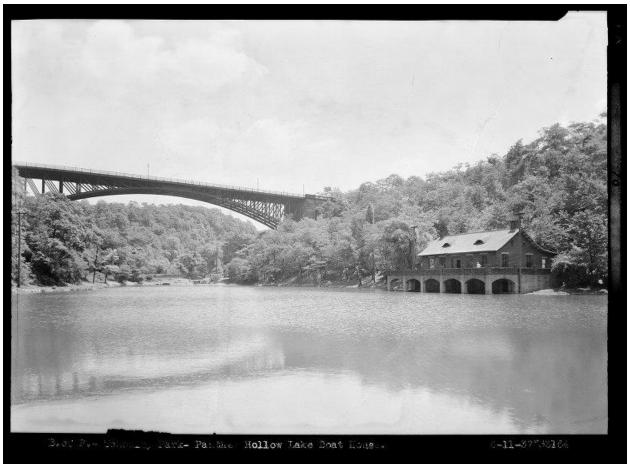


Fig. 33. Panther Hollow Lake Boathouse, June 11, 1937, Source: Pittsburgh City Photographer <a href="http://images.library.pitt.edu/cgi-bin/i/image/image-idx?rgn1=ic\_all;xc=1;g=imls;sort=dc\_da;q1=panther%20hollow;size=20;c=hpicasc;c=hpicchatham;c=hpiccma;c=hpiccmnh;c=hpichswp;c=hpicmonroeville;c=hpicnpl;c=hpicoakmont;c=hpicphlf;c=hpicpitcairn;c=hpicpointpark;c=hpicpso;c=hpicrsc;c=hpicusc;back=back1489303994;subview=detail;resnum=17;view=entry;lastview=thumbnail;cc=hpicasc;entryid=x-715.3733164.cp;viewid=3733164CP.TIF.



Fig. 34. Carnegie Lake in Highland Park, July 7, 1937, Source: Pittsburgh City Photographer <a href="http://images.library.pitt.edu/cgi-bin/i/image/image-idx?rgn1=ic">http://images.library.pitt.edu/cgi-bin/i/image/image-idx?rgn1=ic</a> all;xc=1;g=imls;sort=dc da;q1=lake%20carnegie;size=20;c=hpicasc;c=hpicchatham;c=hpiccma;c=hpiccmnh;c=hpichswp;c=hpicmonroeville;c=hpicnpl;c=hpicoakmont;c=hpicphlf;c=hpicpitcairn;c=hpicpointpark;c=hpicpso;c=hpicrsc;c=hpicusc;back=back1489304134;subview=detail;resnum=17;view=entry;lastview=thumbnail;cc=hpicasc;entryid=x-715.3733446.cp;viewid=3733446CP.TIF.

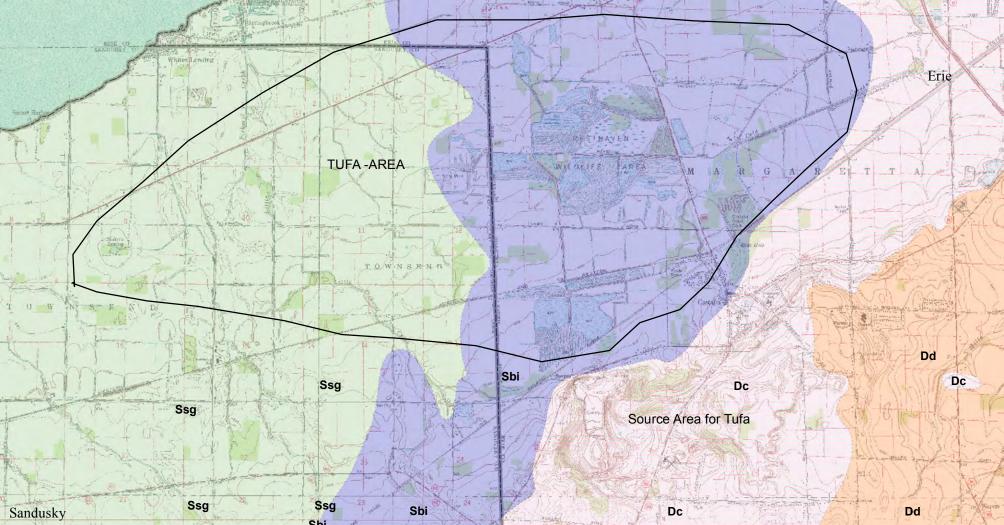




Fig. 36. Tufa Rock House, Source: Historical Research Partners <a href="http://historicalresearchpartners.blogspot.com/2011/03/tufa%ADrock%ADhouses.html">http://historicalresearchpartners.blogspot.com/2011/03/tufa%ADrock%ADhouses.html</a>.

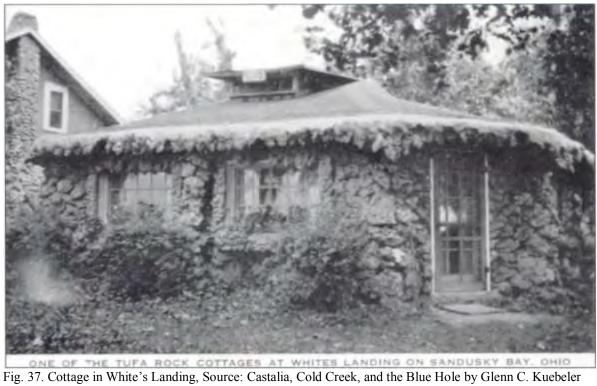




Fig. 38. Entrance to Blue Hole, Date Unknown, Source: Postcard



Fig. 39. Castalia Blue Hole, Date Unknown, Source: Postcard

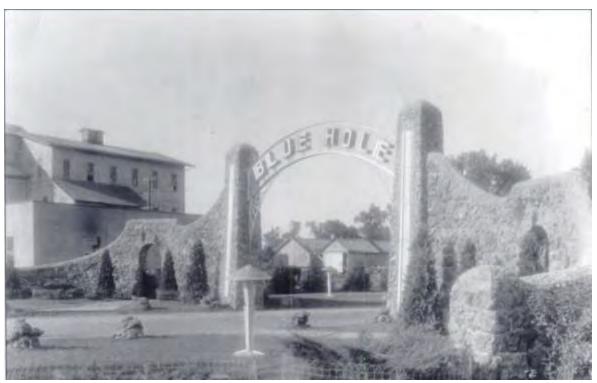


Fig. 40. Blue Hole Entrance, circa 1935, Source: Castalia, Cold Creek, and the Blue Hole by Glenn C. Kuebeler



Fig. 41. Boy and Boot Fountain, Source: Castalia, Cold Creek, and the Blue Hole by Glenn C. Kuebeler





Fig. 43. Tufa Rock Gardens, Source: Castalia, Cold Creek, and the Blue Hole by Glenn C. Kuebeler

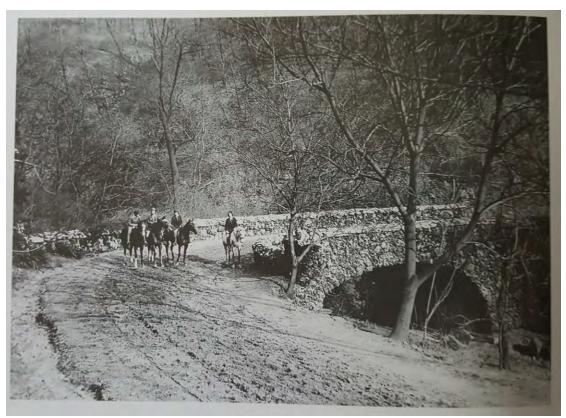


Fig. 44. Riding group at Upper Run Tufa Bridge, Source: Pittsburgh's Bridges: Architecture and Engineering by Walter Kidney



Fig. 45. City Stables in Schenley Park, 1927, Source: Pittsburgh City Photographers Collection



Fig. 46. Path in Phipps Conservancy, November 6, 1907, Source: Pittsburgh City Photographer, <a href="http://images.library.pitt.edu/cgi-bin/i/image/image-i

idx?rgn1=ic\_all&xc=1&g=imls&sort=dc\_da&c=hpicasc&c=hpicchatham&c=hpiccma&c=hpiccmnh&c=hpichswp &c=hpicmonroeville&c=hpicnpl&c=hpicoakmont&c=hpicphlf&c=hpicpitcairn&c=hpicpointpark&c=hpicpso&c=hpicrsc&c=hpicusc&back=back1484008735&q1=phipps&chaperone=S-HPICASC-X-715.077441.CP+20090227-CP-0169.TIF&ox=-

 $\frac{6\&oy=1318\&lastres=1\&res=1\&width=750\&height=594\&maxw=3000\&maxh=2377\&subview=getsid\&view=entry}{\&viewid=20090227-CP-0169.TIF\&entryid=x-715.077441.cp\&cc=hpicasc\&quality=m800\&resnum=1\&evl=full-image\&image.x=354\&image.y=300}.$ 



Fig. 47. Path Through Fern Room, January 3, 2016, Source: Alayna Jordan.



Fig. 48. Path Through Phipps, January 3, 2016, Source: Alayna Jordan.



Fig. 49. Moss covered tufa stone in Phipps. January 3, 2016, Source: Alayna Jordan.





Fig. 51. Beneath miniature tufa bridge in Phipps, January 3, 2016, Source: Alayna Jordan.



Fig. 52. Catahecassa Spring, August 10, 1922, Source: Pittsburgh City Photographer Collection: http://images.library.pitt.edu/cgi-

bin/i/image/imageidx?rgn1=ic\_all;xc=1;g=imls;sort=dc\_da;q1=catahecassa;c=hpicasc;c=hpicchatham;c=hpiccma;c=hpiccmn

h;c=hpichswp;c=hpicmonroeville;c=hpicnpl;c=hpicoakmont;c=hpicphlf;c=hpicpitcairn;c=hpicpointpark;c=hpicpso;c=hpicrsc;c=hpicusc;back=back1468524351;size=20;subview=detail;resnum=1;view=entry;lastview=thumbnail;cc=hpicasc;entryid=x-715.221907.cp;viewid=20100929-HPICASC-0165.TI.



Fig. 53. Indian Springs (Catahecassa Fountain), Schenley Park, Pittsburgh, Pa., Postmark Date: August 25, 1913, Source: Postcard (the Leighton & Valentine Co., N.Y. City).



Fig. 54. Port Royal Tufa, Source: Google Maps Panoramio. <a href="http://www.panoramio.com/photo/72910879">http://www.panoramio.com/photo/72910879</a>.



Fig. 55. Lourdes Grotto in Lourdes, France, Source: Sanctuaire Notre-Dame De Lourdes, <a href="http://fr.lourdes-france.org/">http://fr.lourdes-france.org/</a>.



Fig. 56. Dedication day for Lourdes Grotto at St. Peter's, September 12, 1949, Source: The Pittsburgh Press.

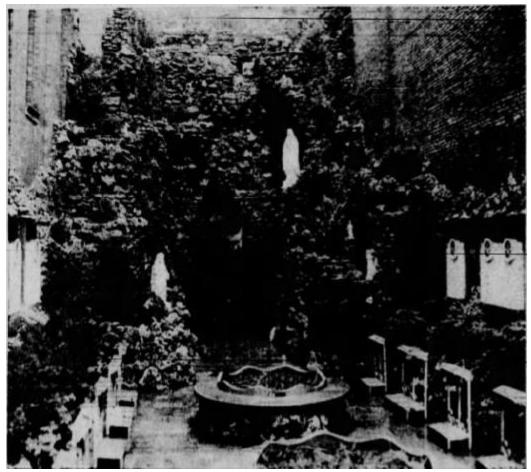


Fig. 57. Lourdes Grotto at St. Peter's, December 23, 1956, Source: The Pittsburgh Press.





Fig. 59. Lourdes Grotto at Duquesne University, Source: The Duquesne Duke.



Fig. 60. Lower Panther Hollow Run, Source: Joe Serkock for Pittsburgh Parks Conservancy <a href="http://www.pittsburghparks.org/schenley-park">http://www.pittsburghparks.org/schenley-park</a>

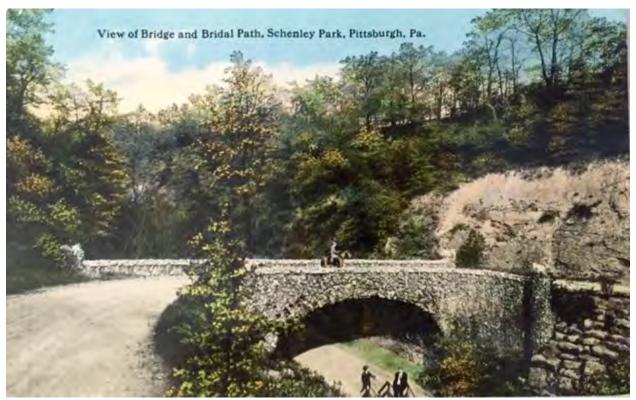


Fig. 61. View of Bridge and Bridal Path, Schenley Park, Pittsburgh, Pa., Date Unknown, Source: Postcard (Published by I. Robbins & Sons, Pittsburgh, Pa.).

NPS Form 10-900-a (3-82) OMB No. 1024-0018 Expires 10-31-87

## **United States Department of the Interior**National Park Service

### National Register of Historic Places Inventory—Nomination Form

SCHENLEY PARK

Continuation sheet HISTORIC DISTRICT

Item number 8



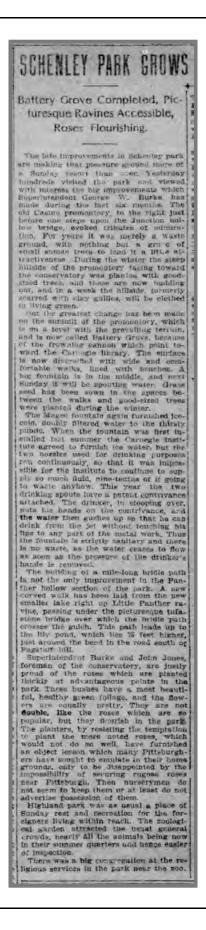
Page 1

architect was paid by the Public Works Department for the first time in 1891, but it is not known how influential, or even who, he was. The present system of roads remains very largely what was built in the early 1890s. Bigelow's concept--never fully realized--was to create a scenic boulevard running from downtown Pittsburgh to Schenley Park, through it, and east to Highland Park, then the city's only other major park, though at that time it was about half the size of Schenley Park. "Pittsburgh will then have a great arterial driveway beginning in the heart of the city and extending to its furthest park, and offering to the eye at every turn scenes of unsurpassed beauty,"3 said Bigelow. The park's main drive, therefore, traversed the park from west to east in a more or less straight path with only slight undulations. Three other major branch roads are more circuitous, befitting their purpose not to traverse the park but to provide scenic access to its more distant parts. Serpentine Drive, the park's most dramatic roadworks, was completed in 1894, linking the main drive with the upper branch road. By 1896, Bigelow declared in his Annual Report, "The main roads in the park have all been completed."4 There were 6 1/5 miles of 40 foot-wide roads and over 1 3/5 miles of 20 foot-wide bridle paths in the park at the time.

Because the park is separated from the surrounding neighborhood on the northwest, west, and south and is bisected by a ravine, bridge construction was undertaken early. The Panther Hollow and Schenley Bridges, completed in 1897 and 1898 respectively, are handsome stone and steel deck truss structures and are among the oldest of Pittsburgh's major bridges. Panther Hollow Bridge has the added distinction of Guiseppe Moretti's bronze panthers topping its abuttments. Within Panther Hollow, the three tufa stone bridges built in 1908 add a rustic touch to the area. Their design is attributed to George Burke, Park Superintendent from 1903-1926.

The years 1896-1898 saw a massive program of tree and shrub planting in the park, overseen by William Falconer, Park Superintendent from 1896-1903 and the only known landscape architect to administer the park in its formative years. Falconer was a personal friend of Bigelow's from New York; Bigelow, having laid out the roads, may have felt that a professional was now needed to enhance the scenery visible from them. That Falconer succeeded in this is certain. "Great progress was made in every way toward transforming what we acquired simply as vacant land into all that is expressed in the name of a park," Bigelow declared in his annual report of 1898. Over 23,000 trees and shrubs were planted that year. These came from the park's own nursery, which in 1896--Falconer's first year as superintendent--had contained 73,771 trees and shrubs and 34,530 hardy perennials. Some were distributed in both Schenley and Highland Parks-the great majority going to Schenley--each year, according to their size, until they were all planted. Careful thought was given to the plants' distribution, speed of growth, short and long term appearance, and even their ability to tolerate pollution. Regarding his decision to plant evergreens in the center of the park, Falconer said, "These trees are planted with the full knowledge that they do not thrive in a smoky atmosphere, but as they must be represented in the park and this is the most distant place from the smoke available, we have taken advantage of it, and should the evergreens fail, they can be interplanted with deciduous trees in a way that will not break the landscape effect. Besides our city won't be smoky all the time."6

Newspapers



dielicans

## VI. Panther Hollow

The area studied comprises the upper wooded part of Panther Hollow, beginning at the stone bridge on the bridle path at the western end and extending down the hollow in a southeasterly direction. The section is bisected by an old road, on the southern side of which is a sloping hillside and on the northern side, a low valley traversed by a run.

the more weedy plants grow there now.

The Nature Ravine, once the home of many mosses, growing on decaying logs and on wet rocks, is now inhabitated by two species only. The forest cover remains, but the steep sides of the Ravine are badly eroded and trampled, so that there is nothing but bare subsoil in many places.

The ten species of spring wild flowers noted here were sparsely scattered and definitely on the wane. Although this ravine is the type locality for Impatiens pallida form speciosa Jennings (Ohio Journal of Science, 20: 204, 1920), collected by O. E. Jennings on August 27, 1919, it is either absent now or was not in bloom this season.

Since the Westinghouse Fool, the Golf Course, and the Meadow are chiefly man made, the vegetation in these areas consists principally of weeds of a type often referred to as camp followers; <u>i.e.</u>, those that have traveled with man for many centuries in his conquest of the world.



## Working on Bridle Path.

The first work on the new bridle path in Schenley park was started this morning, 30 men being put to work clearing the underbrush away. It is said that the work on the path will take three months, and the total cost will be about \$100,000 Over 500 men are at work this morning in the various parks in the city.

"Working on Bridle Path." Pittsburgh Press 10 Mar. 1908: 11. Google News. Web. 9 Jan. 2017.

**Newspapers** 

## Work on Schenley Bridle Path and Rustic Bridges Is Rushed.

Equestrians whose pleasure it is to canter and gallop along the drives of Schenley park will be agreeably surprised next spring, at which time the new bridle path, now in the course of construction, will have been completed. A large force of men is now at work on the new path, as well as making some improvements in the old one. The rustic bridges spanning the ditches will be torn down and replaced with structures of the same pattern but on a more elaborate scale.

A force of 100 men is at work enlarging the lake in Panther hollow, which, when completed, will cover about three and one-half acres. A number of new boats will be put into commission, thus affording ample facilities for all inclined to aquatic pastimes.

Superintendent Burke has for the past week been busy with the planting of trees and shrubs, to say nothing of the 100,000 bulbs, consisting of tulips, hyacinths, crocus and other varieties.

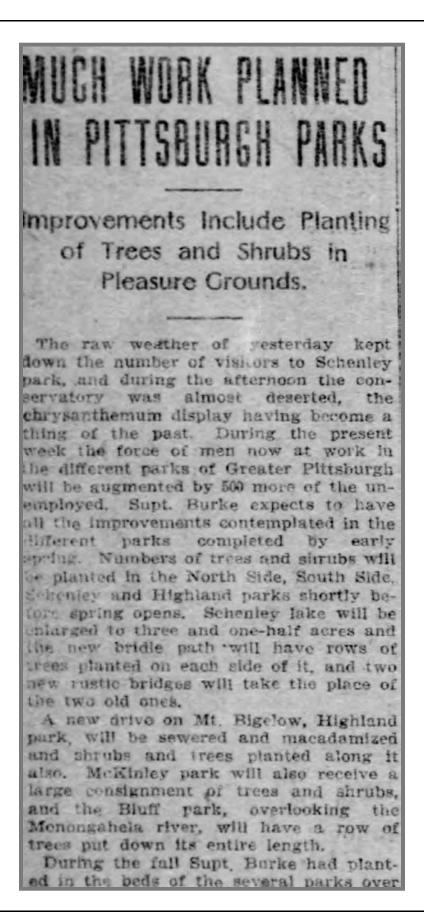
A new driveway on Mount Bigelow, in Highland park, will be started in a few days and it calls for the employment of about 400 additional men. New sewers and macadamized roads will also be constructed.

Superintendent Tretow, of the zoo, has ordered a llama from the agent of Carl Hagenbeck in Cincinnati to keep company with the one recently added to the zoo. An appropriation is expected from the city, which will be used for replenishing the stock and furnishing new specimens.

Preparations have also been made for the Easter display at the Phipps conservatories, Florist Jones having at present 30,000 bulbs and plants. These include besides the regular lilles, hyacinths and tulips, many other plants and flowers which form an almost endless variety.

McKinley park, on the Southside, will also take on a new appearance next spring, numerous trees and shrubs having been placed there and along the entire bluff.





#### PERIOD

#### AREAS OF SIGNIFICANCE -- CHECK AND JUSTIFY BELOW

PREHISTORIC			
1400-1499			

\_\_ARCHEOLOGY-PREHISTORIC

\_\_COMMUNITY PLANNING

\_LANDSCAPE ARCHITECTURE

\_\_RELIGION

\_1500-1599

\_\_ARCHEOLOGY-HISTORIC
XAGRICULTURE

\_\_CONSERVATION \_\_LAW \_ECONOMICS

X.SCIENCE

\_\_1600-1699

**XARCHITECTURE** 

\_\_LITERATURE

\_\_SCULPTURE

\_\_1700-1799

# EDUCATION

...MILITARY \_\_MUSIC

\_SOCIAL/HUMANITARIAN

\_\_ART

\_\_ENGINEERING

\_\_PHILOSOPHY

\_\_THEATER \_TRANSPORTATION

1899-1899 لکت X1900\_\_COMMERCE \_\_COMMUNICATIONS \_EXPLORATION/SETTLEMENT \_INDUSTRY

INVENTION

\_\_POLITICS/GOVERNMENT -

\_OTHER (SPECIFY)

SPECIFIC DATES

Open to public 1893 Constructed 1892

BUILDER/ARCHITECT

#### STATEMENT OF SIGNIFICANCE

Phipps is one of the few remaining conservatories built in the grand style of the late 19th centity. It was completed in August, 1893, and although it has experienced several additions and one demolition along the way (see description), it still functions as a vital cultural and educational center for the city of Pittsburgh. Thipps is a muscum of flowers where botanical experts study and of research. It is also a cultural center and gathering spot for Pittsburghers, who come by the tens of thousands to the splendid fall and spring flower shows, which have been a tradition at Phipps since the 1890's.

Henry Phipps, the donor of this conservatory, grew up in the City of Allegheny (now Pittsburgh's North Side), next door to the Carnegie brothers, Andrew and Thomas. He went to Allegheny's First Ward School with Tom Carnegie and there they met the sons of a well known harness maker, the Olivers.

After Phipps left school he entered the employ of the firm of J.J. Cillespie, and later he became bookeeper for Dilworth & Bidwell, where he finally became a partner, until the firm of Kioman & Phipps, he engineered what has been described as the first important steel merger in history. Andrew and Thomas Carnegie were then operating the Cyclops Iron Works, and Fhipps suggested that the two firms merge as the Union Iron Mills. The firm underwent many changes in name, culminating in the Elgar Thompson Works.

Henry Phipps was successively a partner in Carnegie Brothers & Company, Ltd.; Carnegie, Phipps and Company; and Carnegie Steel Company, Ltd. Phipps contribution to the partnership consisted of a masterly capacity for detail, and he was chiefly useful in seeing that the books belanced. as a friend said, "Phipps took in the pennies at the gate and kept the payroll down." He noticed the smallest waste or extravagance; he was plodding; he was energetic. As second in command of the Carnegie Company he ammased a steel fortune of a hundred million dollars. After 1901, when the Carnegie Company was absorbed into the United States Steel Corporation, Phipps retired to devote time to his minor business interests and his philanthropies.

Phipps Conservatory was the second given to the city by Henry Phipps. The first was Iccated in Alleghany Commons hear his home in Allegheny City. It was constructed in 1387 and stood until 1930 when it was demolished to make room for an aviary. A story is told in Focal lore that Andrew Carlegie told Henry Phipps that he would look after the establishment of local libraNewspapers



George W. Burke Appointed Superintendent of Parks by Director E. M. Bigelow.

Director E. M. Bigelow yesterday filled the vacancies in the bureaus of parks and highways and sewers. George W. Burke, superintendent of Highland park two years ago, was appointed superintendent of parks to fill the the place made vacent by the resignation of William Falconer. The position pays \$8,000 a year. E. G. Niecewarder, acting superintendent of highways and sewers, was given the place permanently.

Burke was formerly a resident of the Twentieth ward. Niecewarner was formerly an assistant engineer in the bureau of construction. Director Bigelow stated that neither was a political appointment.



## TRIBUTES PAID TO **BURKE AND WEIBLE**

Council yesterday passed resolutions expressing tributes to Charles F. Weible, deputy city controller and clerk to Council's Finance Committee, and of George W. Burke, superintendent of the bureau of parks, who have lately died.

The Weible memorial reads:

With great sorrow the members of Council learned of the death of Charles F. Weible, Deputy City Con-troller, which occurred on March 2, last

Charles F. Weible was a faithful city employe for the past 34 years. having entered the public service in the former City of Allegheny in 1892, and coming over to the Greater City with the consolidation in 1907. As the Clerk of the Finance Committee, he came in close contact with the members of Council and endeared himself to them by the cheerfulness and capability he displayed in the discharge of the duties assigned him. His knowledge of the finances of the City made his assistance invaluable to the committee in its deliberations;

discharge of the duties assigned him. His knowledge of the finances of the City made his assistance invaluable to the committee in its deliberations; Therefore, be it

Resolved, by the Members of Council and the Mayor, That, in the death of Charles F. Weible, we have lost a true and faithful friend, and the City of Pittsburgh, an efficient, trustworthy and conscientious employe; And, be it further

Resolved, That a copy of these resolutions be spread in full upon the minutes of Council, and that an engrossed copy be sent to the family. The tribute to Mr. Burke reads:

Resolved, By the Council and the Mayor of the City of Pittsburgh, that, in the death of George W. Burke, Superintendent of the Bureau of Parks, which occurred on March 25, this city has lost not only a capable employe, but also an official of great executive ability, and a citizen whose genial presence will be missed by his host of ffiends.

George W. Burke entered the employe of the City 26 years ago as a foreman in the parks; in 1892 he became Superintendent and continued in that position until 1901, when he left the City's employe. He returned to the position of Superintendent in 1903, in which he served continuously until his death.

How efficiently he filled his position can best be judged by a survey of

until his death.

How efficiently he filled his position can best be judged by a survey of the park system of this City. As a horticulturist, George W. Burke occupied a high position; the flower shows in Schenley Park drawing thousands of visitors from all parts of the country; be it futher

Resolved, That in the passing of George W. Burke, Pittsburgh has lost a conscientious and efficient official, and the members of Council a true friend; be it further

Resolved, That these resolutions be made a part of the records of Council, and that an engrossed copy be sent to the family.



https://www.newspapers.com/image/86382062

THE BOSSES KICKED AGAIN. Mr. Bennett's Second Park Job Is Badly Wanted Now. OEO, BURKE MAY BE SUPERINTENDENT. Two of McKuight's Men Raturned to Their Old Places, W. H. M'CLUARY WILL NOT BE AFFORTED The councilmante investigating combets and gardeners, said to have been hired by Superintendent Bennett in the Phipps conservatory, has not succeeded in doing anything yet. One thing it has done ef-lectually, however. He appointment has stirred the Republican bosses into a state of assperation which nothing can see the except Mr. Bennett's official scalp. There is no longer may doubt that this is coming and is postly well advanced on the way. luside sources of information place the ealent of his term as superistendens of Schanley park at one more week, but the houses have raised such a how! that there will be a new superintendent by election only at least. If not, samething is likely no "doop" in the Fourteenth ward, and the Republican vote may not materially in at large and enthusiastic quantities as The bosses are no longer using the long-distance relepisons to express their dis-salished ion. A group of them gathered to an office in city half yesterday after-nors, and among them were some gentlemen who are accustomed to press the but im, and see their wishes compiled with, "How do you stand on the Bennett matter," one of them asked of a prom-iment individual, who had been listening "Now do you stand on the Bennett matter," one of them asked of a prominent individual, who had been listanting attentively to the others.

"Why, I'm for Pittsburgh every time. If things come to each a misis here that we can also lived among the people for a good term of yours, and who knews a thing or twombout the place, to take charge of thehenicy pack, then I think it it time to pull in the ahingia and since up shop. But the woods are full of compount men. It doesn't require a specialist to take charge of the park. It less require a specialist, and a good one, to run the conservatory, and I think bennet is all right there, but the park superintendency by all right belongs to a Pittsburgher, and there'll be one in the place before long."

Among the other gentlemen there was the same opinion. In the party were seven councilmen, tour of whom are in common council.

It also came from the bast of sources again in city hall yesterday that Mr. Bennet's appointment was only temporary. It had been to theeded to make bim the permanent superintendent, but the ture has been called. Already the talk of his successor is gotting lively. Ex-Sheriff William McCleary was mentioned yesterday, but Director Figelow said emphasically Mr. McCleary would not be the man, the did not name anyone, but nexters are pointing very strongly to George Burke, at present auperintendent of Highland park. He is said to be the choice of all the bosses, and will scothe the McKnight people he fired. Charles Turbett, the old ex-letter carrier who was one of the watchmen, has been given his old place again. Henry Reamer is also on the rolls again.

# A GREAT 'MUM SHOW ASSURED

Five Thousand Chrysanthemums to Be Displayed at Phipps Conservatory

VARIETIES. SEVERAL NEW

ACTIVE PREPARATIONS ARE BEING MADE FOR EVENT.

#### DATE DEPENDS ON WEATHER.

Active preparations are being made by Superintendent George W. Burke, of the bureau of parks, for the annual chrysanthemum show in Phipps consertatory. Schenley Park, in November. This years exhibition will be one of the finest that the conservatory has ever had. Five

thousand plants are to be displayed
At present the plants are just beginning to bud. They are still in the propagating houses, where they are being staked and "fed" fertilizer in order that the blossoms

"fed" fertilizer in order that the blossoms may be as large as possible.

The date for the opening of the show cannot be set until it can be ascertained when the flowers will be at their best. This depends on the weather. The show usually opens on the third Sunday of November and lasts three weeks. If the weather this fall is of the warm, suisning kind, known as Indian summer, the exhibition may be opened a week earlier; while, if the days are dark and cold, the opening may be delayed a week or 10 days.

"A Great 'Mum Show Assured." Pittsburgh Press 25 Sept. 1906: 7. Google News. Web. 9 Jan. 2017.

Downloaded on Jan 3, 2017



Superintendent Burke Plans Many Improvements to Beautify City Pleasure Grounds Next Year.

#### CROWDS AT TRACTION RESORTS.

Thousands sought the parks yesterday for a "mouth full of fresh air" and to saunter about, enjoying visions of the bright, cleanly-washed foliage, and rich green of the lawns, which are rarely attractive this year because of frequent rains. The sun shone benignly and the atmosphere had a freshness and invigorating quality, in consequence of the brisk winds of Saturday, that made it highly enjoyable and refreshing, until late in the afternoon, when a light shower of rain fell.

A large number of excursionists from along the Baltimore & Ohio railroad appeared quite early in the day for admission to the art galleries and museum in Schenley park, and after visiting those places they sauntered over the park and went through the conservatory, afterward going to Highland park and the soo. At the latter place the fawn traded by Mayor W. B. Hays for a "setting" of pheasants' eggs was the particular attraction, and the delight of the little folk in observing and petting it was pleasing to behold. This animal promises to become a great pet, if it shall live.

George Burke, the new superintendent of parks, visited both of the city's big pleasure grounds during the day and made a casual survey of improvements that are under way. At the same time he made a few mental notes of improvements he hopes to be able to carry out next year. It is Mr. Burke's idea to give Schenley park a more elaborate flora! embellishment than it has yet had, foilowing out the ideas he introduced at Highland park some years ago. He also hopes that the city will come into possession of various plots of ground around the main entrance, so that it can be improved and made more attractive than at present. He deplored that the city had not purchased some years ago, when the cost would have been comparatively small, all the property lying between the present westward entrance on Forbes street and Boquet street, taking in the hollow down to below Joncaire street. This, he said, would round out the park property, and avert the construction of tenements and other structures that deface the view from the entrance. Yesterday afternoon and last evening,

# FLOWER SHOWS IN FULL ARRAY

Public and Private Hot Houses Will Be Open to the Public

HEAD GARDENERS ARE BUSY.

FRICK AND PEACOCK PRIVATE CONSERVATORIES PREPARING.

#### A GREAT VARIETY OF PLANTS.

Lovers of flowers will enjoy a great treat this year in the Easter displays at the public and more important pri-vate conservatories. Some of the exhibitions will be more magnificent than ever before, and none will be inferior.

Ambitious gardeners are working hard to have their green houses ready for the Easter visitors, and premise great things. They have been aided by the weather which has been of the right kind during the last week, so far as flowers are concerned and has not made ! il necessary for them to keep a con-stant watch on the temperature of the conservatories. The flowers have been blooming with regularity and everything has conduced to make the coming exhibitions successful.

Three of the houses in the Phipps con-servatories in Schenley Park are ready for the visitors, and the other houses will be prepared this week

#### BULB HOUSE FILLED.

One room which will be a delightful surprise to many is the bulb house, which is to be filled with the lovely Irutch plants—the fragrant hyacinths, stately tulips, modest crocuses and grace-ful narcessi. It will be a riot of colors and scents.

The Victoria house will have Easter lilies and crimson rambier roses. In the economic house will be a collection of flowers, the very names of which will call up leasant memories, especially to those who have lived in the country. There will be likes, bleeding hearts, azaleas, hydrangeas, rhododendrons and an old-fashioned garden.

Head Gardener John Jones and his competent corps of assistants will be very busy this week getting the show ready, under the supervision of Superin-tendent George W buthe of the bareau of parks. 7. centire points paim and

fern houses have been rearranged and

the undergrowth replanted. In the Allegheny Phipps Conservatory the work of setting up the flowers for the Easter display will start. Wednesday under the supervision of Head Gardener James Moore. More flowers will be exhibited these every before hibited than ever before.

#### NUMBER OF VARIETIES.

The principal show will be in the aquatic house, where there will be a col-lection of genistas, Easter liles, calla liles, spiraes, cinerarias, Dutch bulb hites, spirace, cinerarias, Dutch bulb flowers, amaryllis, hydrangeas and prim-

One of the beautiful features will be One of the beautiful reatures will be the display of begonias, which will contain over 20 varieties of this lovely flower. One variety which will attract much attention is the "Glorle de Lortaine." This room will also have such rare exotics as the fancy-leaved caladium from Brazil, chlorgemas and isolo-mas. The exhibition of orchids and blub plants will also be especially fine.

David Fraser, head gardener of the private conservatories attached to H. C. Frick's residence at Pen and Home-

C. Prick's residence at Pen and Homewood aveloues, promises that the Easter display there will be equal to, if not better, than any held previously. It will be open to the public on Easter.

The flowers have all been arranged for the Easter show at Alexander R. Peacock's conservatories on North Highland avenue, and may be seen today, if desired, although they will be at their best on Easter. Head Gardener Thomas Jenkinson said that he had more flowers on exhibition than ever before, and that there were many varieties of heautiful blooms. Mr. Peacock's green houses are open to the public the year round.



tion and construction of the superstructure, it was necessary to review the design in detail and from a practical standpoint to determine how it could be best adapted to their methods of operation in the drawing room, fabricating plant and in the field.

They first proceeded with careful reviews and some revisions of the estimated weights and dead loads and then made graphical analyses of the stresses and reactions (Figures 2 and 3, Pages 64 and 65). At that time a special squad of their own engineers and draftsmen was assigned to devote full time and attention to this particular job under the supervision of Mr. A. W. Buel, a private consultant especially hired for this work, and afterward retained, during construction, as Consulting Engineer.

From the results of the graphical check analyses and other considerations, it seemed that the weight of that part of the anchor piers directly over the anchorage might possibly not have a sufficient margin of safety, and, if the greater part of the mass of masonry above the elevation of the anchorage could



OHIO DEPARTMENT OF NATURAL RESOURCES • DIVISION OF GEOLOGICAL SURVEY

#### HIGH-CALCIUM LIMESTONES IN OHIO

Limestone and dolomite have so many applications that they have been described as the "duct tape" of geologically derived materials. Deposits of high-calcium limestones in Ohio have been used since the mid-1800s to produce cement and lime, which continue to be essential items for a growing industrial economy. Cement has various uses in the construction industry. Lime, both magnesium-rich and high-calcium varieties, has a multitude of uses in the chemical, glass, paper, and steel industries, as well as in agriculture and water treatment.

A high-calcium limestone is a carbonate rock containing mostly calcium carbonate (CaCO<sub>3</sub>) and less than 5% of magnesium carbonate (MgCO<sub>3</sub>); however, the majority of available carbonate resources in Ohio are dolomitic limestone, which contains 20% or more of MgCO<sub>3</sub>. In addition, many of the easily accessible, highly calcareous limestone deposits in Ohio have either been depleted or are currently being mined. It is important to understand the areal extent and chemical composition of potential high-calcium limestone resources remaining in Ohio, so that informed decisions can be made about their future development.

#### GEOLOGY OF HIGH CALCIUM LIMESTONES IN OHIO

#### PUTNAM HILL LIMESTONE

The Putnam Hill Limestone is part of the lower portion of the Pennsylvanian-age Allegheny Group. The Putnam Hill is located in portions of Muskingum, Perry, Licking, Coshocton, Holmes, Wayne, Tuscarawas, and Stark Counties. The Putnam Hill is a medium-gray, massive, finely crystalline limestone that contains abundant fossils and has zones of chert and flint scattered throughout it. The Putnam Hill averages 3 feet thick but can range up to 10 feet thick.

The Diamond Portland Cement Company quarried 10 feet of high-calcium Putnam Hill Limestone for a cement plant at Middlebranch, Stark County that operated from 1892 to 1977. The Putnam Hill Limestone at Middlebranch has a carbonate content of 94.7% CaCO<sub>3</sub> and 1.5% MgCO<sub>3</sub>.

#### VANPORT LIMESTONE

The Pennsylvanian-age Vanport Limestone is located in portions of southern Ohio (Vinton, Jackson, Lawrence, and Scioto Counties) and northeastern Ohio (Tuscarawas, Stark, and Mahoning Counties). The Vanport Limestone is up to 20 feet thick in Mahoning County, where it is brown, dense, and fossiliferous. The ESSROC Cement Corporation guarried the Vanport Limestone in southeastern Mahoning County during 2006 to supply a Portland Cement plant in nearby Bessemer, Pennsylvania. The average chemical composition from 3 samples was 94% CaCO<sub>3</sub> and 1.3% MgCO<sub>3</sub>.

The Vanport Limestone was mined at several locations in Lawrence County. In the Hanging Rock Region, it was used as a flux in iron furnaces in the late 1800s; later, it was used to support a thriving cement industry. The Superior Portland Cement Company mined the Vanport underground at Pedro, Elizabeth Township from the turn of the century until 1954. The Vanport Limestone is 7 feet, 10 inches thick at Pedro. It was used to produce cement that was used extensively in the construction of locks and dams in the Ohio River.

#### MAXVILLE LIMESTONE

The Maxville Limestone is Upper Mississippian in age. The Maxville outcrops in areas of Perry, Muskingum, Hocking, Vinton, Jackson, and Scioto Counties. The Maxville is up to 40 feet thick along Jonathan Creek in Muskingum County. The lower zone

of the Maxville is a massive blue-gray limestone that weathers to light brown and is approximately 25 feet thick. A 3-foot-thick middle "nodular" zone consists of interbedded limestone and shale that is fossiliferous. The approximately 12-foot-thick upper zone is thin- to medium-bedded, dense, blue-gray limestone. The Maxville has a disconformable contact with the overlying Pennsylvanian-age sediments. The upper Maxville is often removed by erosion, which creates challenges with stratigraphic correlation.

The Pittsburgh Plate Glass Company, Columbia Chemical Division, operated a Portland cement plant at East Fultonham, Muskingum County beginning in the 1920s. Chemical analyses of Maxville Limestone samples from East Fultonham indicate an average of 94% CaCO<sub>3</sub> and 1.4% MgCO<sub>3</sub>. The East Fultonham underground mine was abandoned in 1984 and the entire operation closed in 1987. Maxville Limestone greater than 50 feet thick occurs in the subsurface over a wide area of southeastern Ohio. Depth to the top of the Maxville varies from 110 feet in Morgan County to greater than 1,900 feet in Monroe County.

Chemical analyses from the subsurface Maxville in southern Ohio vary from 81%-98% CaCO<sub>3</sub> and 0.1%-5.6% MgCO<sub>3</sub>. The Alpha Portland Cement Company mined the Maxville north of Ironton, Lawrence County from 1913 until it closed in 1970. Depth to the top of the Maxville Limestone is approximately 475 feet. The Maxville in the Alpha mine is 97 feet thick, of which 43 feet was mined. The Maxville at Alpha is gray to brown, regularbedded, dense, sparsely fossiliferous limestone.

#### COLUMBUS LIMESTONE

The Devonian-age Columbus Limestone has a wide distribution in northern and central Ohio and a chemical composition that approaches or surpasses 90% CaCO3 in many places. The typical Columbus exposure consists of a lower portion of brown, massive, dolomitic limestone that contains chert and rare fossils. The average thickness of the lower portion of Columbus Limestone is 40 feet. The upper 65 feet of Columbus Limestone consists of gray, crystalline, highly fossiliferous limestone.

Active Columbus Limestone quarries produce stone used primarily as aggregate for the construction industry, but the Columbus has been utilized for more specialized purposes in the past. For example, the Pittsburgh Plate Glass Company began operating an underground Columbus Limestone mine in Barberton, Summit County during 1942, which operated until 1976. The upper 51 feet of the Columbus Limestone had been identified as suitable for the manufacture of heavy chemicals, so two 16 x 7-foot shafts were sunk to a depth of 2,300 feet. The coarse stone (greater than 7/8 of an inch in diameter) was used by the chemical plant and the smaller stone (less than 7/8 of an inch in diameter) was used to manufacture Portland cement.

#### DUNDEE LIMESTONE

The Devonian-age Dundee Limestone is exposed in several quarries in northwestern Ohio and is present in the subsurface at depths of less than 900 feet. The lower Dundee is light gray to light brown, sucrosic, sandy dolomite and limestone rock with abundant chert. The upper Dundee is a medium-to coarse-grained fossiliferous limestone. The basal portion of the upper Dundee is often sublithographic to lithographic and pelletal in part. Thickness of the lithographic limestone facies ranges from less than 20 feet to greater than 60 feet. The insoluble magnesium oxide content of the Dundee averages less than 0.5% in chemical analyses.

The Lafarge Corporation, Great Lakes Region, operates a Portland cement plant in Paulding County. In 2006, Lafarge continued

produced more than 800,000 tons of Dundee Limestone from the Paulding quarry to manufacture Portland cement. Lafarge also produced more than 140,000 tons of the overlying Silica Shale to be used in the cement manufacturing process.

#### BRASSFIELD LIMESTONE

The lithology of the Silurian-age Brassfield Formation is heterogeneous, consisting of limestone, dolomite, and shale. The Brassfield outcrops in portions of eight counties in southwestern Ohio. Its total thickness in southwestern Ohio is 11–50 feet. In Greene, Montgomery, Miami, and Preble Counties, the lower portion of the Brassfield is composed of light-gray to white limestone with green clay or shale partings and interbedded dolomite. The upper portion is a pink to gray, medium- to coarse-grained, fossiliferous limestone. From central Highland County to the Ohio River, the Brassfield member of the Drowning Creek Formation is relatively less bioclastic and contains abundant chert.

Chemical analyses of more than 1,000 samples of the Brassfield in Ohio reveal several locations with limestone intervals that are greater than 10 feet thick and contain more than 95% CaCO<sub>3</sub>. Many areas containing the Brassfield in southern Preble County, western Montgomery County, southwestern Miami County, and western Greene County contain less than 3% MgCO<sub>3</sub>. CEMEX operates a Portland cement plant southeast of Fairborn in Greene County. In 2006, CEMEX produced approximately 1 million tons of Brassfield Limestone from quarries in Greene and Montgomery Counties to manufacture Portland cement, which is the most common type of cement used in concrete production.

#### BLACK RIVER GROUP

The Ordovician-age Black River Group is found in Ohio's subsurface. Depths to the top of the Black River in southwestern Ohio range from approximately 700 feet (in counties adjacent to the Ohio, Little Miami, and Great Miami Rivers) to greater than 2,000 feet in Champaign County. The Black River consists of 400–500 feet of micritic and pelletal limestone with some dolomitic and argillaceous zones. There are several potential high-carbonate zones within the Black River, but the "Carntown" unit in the lower portion of the Black River is the most consistent high-calcium zone.

In 2006, the Carntown unit was mined along the Ohio River at a lime plant in Carntown, Kentucky. An analysis of a 34-foot section of the unit indicates a chemical composition of 95.1% CaCO<sub>3</sub> and 3.8% MgCO<sub>3</sub>. Chemical analyses of the Carntown unit in Ohio revealed several areas of mineable thickness with 97–98 % total carbonate and less than 2% insoluble oxides.

## FUTURE DEVELOPMENT OF HIGH-CALCIUM LIMESTONES IN OHIO

Annual cement production in Ohio is less than 25% of the state's cement consumption. The cost of transporting cement is significantly high for industries that use cement, which suggests there is a demand to increase cement production within the state. There is also a growing secondary market for high-calcium limestone used for flue-gas desulfurization at Ohio coal-burning power plants complying with federal Clean Air Act regulations.

Relatively inexpensive water transport may be key to the economic success of any new high-calcium limestone production facility. Near the Ohio River, in portions of Lawrence and Gallia Counties, Maxville Limestone is more than 100 feet thick at potentially mineable depths of less than 1,000 feet. The "Carntown" unit of the subsurface Black River Group found along the Ohio River near Cincinnati and the Dundee Limestone at shallow depths near Lake Erie also contain deposits of high-calcium limestone that warrant further geologic evaluation for their production suitability.

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Vanport Limestone (Pennsylvanian)

Maxville Limestone (Mississippian)
SUBSURFACE WHERE DASHED
Columbus Limestone (Devonian)

Current cement plants (2008)

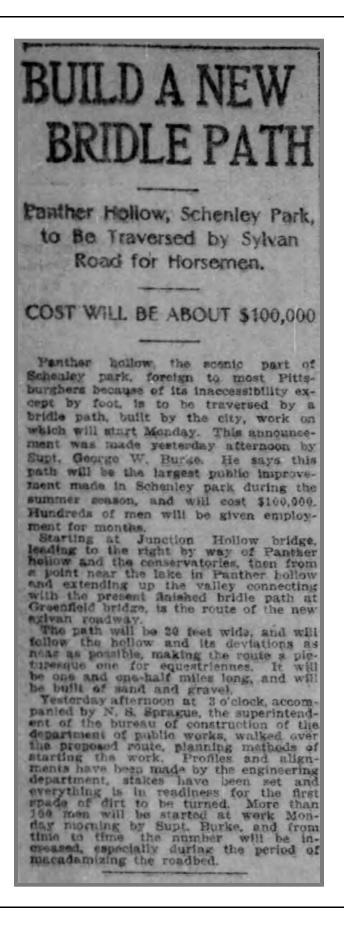
Abandoned PPG Industries limestone mine

Abandoned cement plants

Surface or near-surface geologic units that contain potentially mineable highcalcium limestone.



https://www.newspapers.com/image/89391729



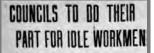
## CITY EMPLOYS MORE IDLE MEN

At Schenley Park, this morning, 196 men reported for work and were detailed to level Panther Hollow, and also to fill in around the grand stand on the race track. Four engineers also were detailed to make a survey for a bridle path in the hollow. This ought to be finished in about a week, when a large force of laborers will be put to work on its construction. Of the 150 men summoned to work at Highland Park, 119 reported this morning and were assigned to landscaping near the entrance. This morning 75 cards were sent by mail for men to report Wednesday morning, at the Central Park, Bedford avenue.

"City Employs More Idle Men." Pittsburgh Press 17 Feb. 1908: 11. Google News. Web. 9 Jan. 2017.



https://www.newspapers.com/image/86546612



Will Pass \$220,000 Bond Issue for Park Improvements at To-Night's Sessions,

WORK WILL BEGIN MONDAY.

Supt. J. F. O'Toole Helps Situation by Hiring 500 Extra Men to Clean the Streets.

With the passage by councils to-night of the 123,000 bond issue proposition to provide immediate work in the parks for the intemployed, and 500 extra men already employed by the city to clean the sireste, the incor struction looks a shade brighter. The force which has been put to work by Superintendent John F. O'Toole, of the highways and sewers business, while the park improvements will give two months' steady labor to 1,500 men.

Besides 500 extra men in addition to the

1500 men. Besides 500 extra men in addition to the same number of "wallewings" on the regular force, about 20 teams have been lired other than those owned by the breau. By Saturday night the streets in every part of the city will be in ship shape. The men lired are receiving \$1.75 a day and will be paid off to-marrow night.

the hall was recorded again yesterday this work-hunters who besieged (he ofce of the civil survice commission prophleation blanks, about 2,900 blanks ore given out, brights the folial to bout 4,000 for the present week. About the commission of a like number are got to do not be.

#### No More Application Blanks.

signed and returned to the commission and a like number are yet to come in and a like number are yet to come in After a conformer with Mayor Guthris yesterday, members of the commission blanks. As the suther number of applicants could not be furnished employment by the city at present, it was thought cants could not be furnished employment by the city at present, it was thought chicken to the commission of the commission o

disress now that could then be seen that the disress now that could then be seen. "In those days soup houses were exhibitioned to keep people from staving and it was not infrequent that persons would fall while walking along the street on account of their weakened condition due to lack of food."

Mayor W. H. Coleman, of McKesepert, is taking steps to provide work for the unemployed in that town. A bend issue will be put before the people at the February election. If the proposition carries, work will be put a once.

Hoboca of the professional type are conspicuous by their absence, in the crowd which gathers for shelter such night at the Salvetton Army handquarters, Seventh street and Penn avenue, Cver 20 homeless men have been sleep-transfents here in coarch of work, But few are Pittshorghers out of simpleyment.

# MORE MEN GET WORK AT SCHENLEY PARK

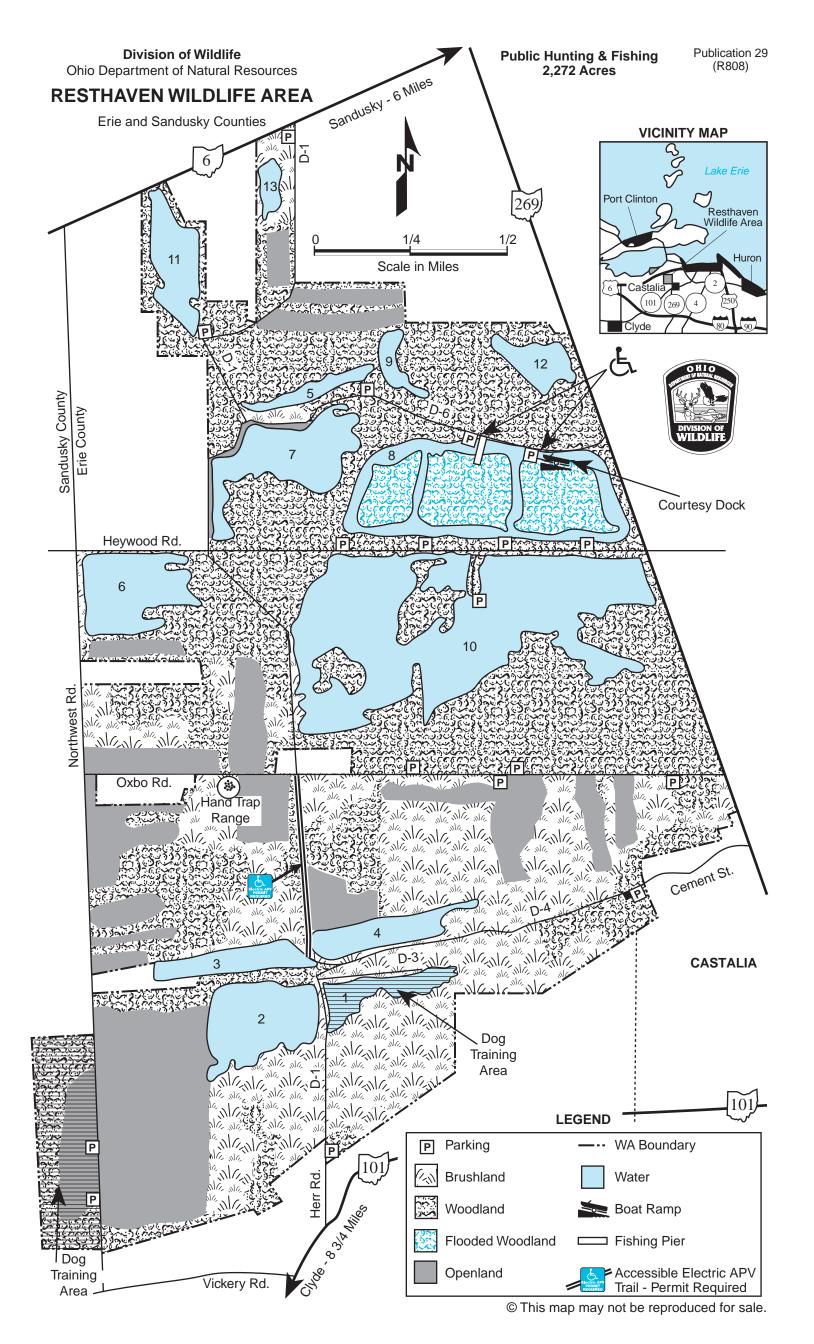
At Schenley Park this morning 130 out | morning, but of these only 181 put in an of the 138 men who had been given work appearance.

This forenoon 175 additional cards were yesterday returned. The absent eight in-

yesterday returned. The absent eight informed Superintendent George W. Burke that the day's work had been too hard for their unaccustomed hands, and they were given a leave of absence until Monday morning.

Cards had been sent out notifying 250 additional men to report for work this low, Schenley Park.

"More Men Get Work at Schenley Park." Pittsburgh Press 14 Feb. 1908: 7. Google News. Web. 9 Jan. 2017.





## RESTHAVEN WILDLIFE AREA

Erie and Sandusky Counties

## DISTANCE FROM MAJOR POPULATION CENTERS

6 miles from Sandusky 43 miles from Toledo 60 miles from Cleveland 33 miles from Lorain 16 miles from Norwalk

#### LOCATION AND DESCRIPTION

The Resthaven Wildlife Area is at the northern edge of Castalia on the west side of State Route 269. Totaling 2,272 acres, the area includes 444 acres of water. Most of the land is in woodland and shrubby cover. Approximately 90 acres is in crop rotation. Sixteen percent of the land is grassland. More than half the area had been strip mined for marl (a deposit of calcium carbonate or dolomite) prior to purchase by the Division of Wildlife. This mining left a very rough surface which has reverted to woody vegetation and cattails.

#### HISTORY AND PURPOSE

Resthaven Wildlife Area lies centered in what was originally a wet marl prairie, known by the early settlers as the "Castalia Prairie." Early accounts record an extensive wet prairie reaching from the present city of Sandusky to Port Clinton. These accounts relate that the grass grew up to seven feet tall and was so thick as to make progress almost impossible.

Land purchase by the state of Ohio began in 1942. The overall objective is to provide public hunting and fishing by managing for species best suited to the land capabilities of the area. The area will be maintained in diversified cover types consisting of cropland interspersed among areas of permanent grass and low shrubs. Present woodlots will be maintained.

#### **HUNTING AND FISHING**

The area is popular for rabbit and pheasant hunting. Rails, snipe, woodcock, and a few gallinules also offer hunting opportunities. Waterfowl hunting is usually best early in the season and during periods of rough, windy weather that forces waterfowl inland from Lake Erie and Sandusky Bay. During this rough weather a good spread of decoys is helpful.

Ponds on the area offer fishing for largemouth bass, bluegill and red ear sunfish, crappie, and channel catfish. The most popular fishing ponds are 6, 7, 8, 10, and 11. Pond 8 has a boat ramp and a handicapped accessible fishing pier off SR 269 on road D6. Car top or small trailered boats may be used on the other ponds where anglers can get them to the water. Gasoline motors up to 9.9 horsepower may be used on any of the area ponds; please use good judgment and go slow. All of the area ponds are open to fishing year around, including ice fishing.

#### WILDLIFE WATCHING

The diversity of habitat types and proximity to Sandusky Bay make Resthaven Wildlife Area an ideal location for viewing and enjoying wildlife. Habitat types include woodland, brushland, wetlands, cropfields, open water, and remnants of the "Castalia Prairie." Wildlife species occupying these habitats range from resident to transient. Bird species ranging from the large wading birds to warblers and mammals common to this region of the state can be found at Resthaven. Moth and butterfly populations on this wildlife area also attract special attention. Service roads and dike systems provide ample foot trails for use in wildlife viewing.

#### UNUSUAL FEATURES

Unusual prairie plants such as big bluestem, little bluestem, Indiangrass, and prairie dock can be found here. Resthaven is the site of Ohio's largest prairie remnant. This area harbors a number of rare plants and animals.

#### PUBLIC USE FACILITIES

Access roads and parking areas are situated throughout the area. The interior access roads are closed from the opening of the upland game season until after the spring thaw, as a safety measure and to prevent undue damage to the roads in early spring. A fishing pier accessible to people with disabilities is located near the northwest parking lot on Pond 8. Also, a handicapped accessible boat ramp and a courtesy dock are located at the northeast parking lot on Pond 8. A handicapped access lane is located on the south side of Oxbo Road to provide wildlife recreation opportunities for the mobility impaired.

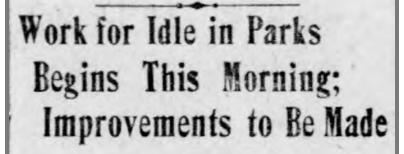
#### ADDITIONAL INFORMATION

Additional information may be obtained from the Resthaven Wildlife Area Manager, Box 155, Castalia, Ohio 44824, phone (419) 684-5049; or Wildlife District Two Office, 952 Lima Avenue, Findlay, Ohio 45840, phone (419) 424-5000.

#### TURN IN A POACHER

Ohio's TIP, "Turn In a Poacher," program is helping to curtail poaching throughout the state. TIP is designed to involve the public in reporting wildlife violations. Citizens who observe wildlife violations should call the TIP toll-free hotline, 1-800-POACHER.

**Newspapers** 



Plan to Employ One Thousand

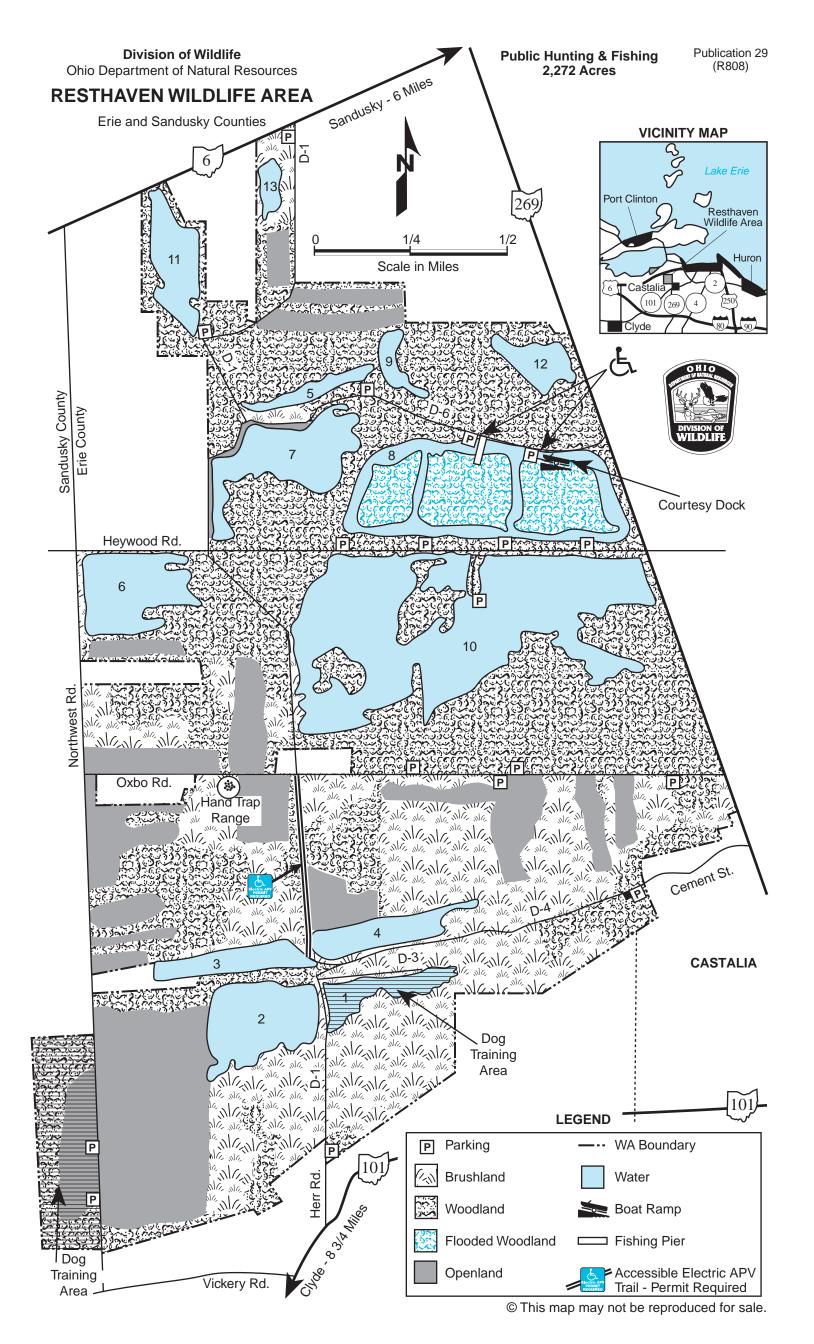
Men by End of the

Week.

Work for the unemployed in the parks under the special bond issue of \$150,000 will begin this morning. One hundred men will report at Schenley park and start on the improvement of the lake in Panther hollow. To-morrow 75 men will be put on at each of Highland and Arsenal parks, and the next day laborers will go to work at parks on the Southside and the Northside. The number employed will be increased as the work progresses and by the end of this week 1,000 men will be on the payroll.

Superintendent George W. Burke, of the bureau of parks, has general supervision over the workmen and the improvements to be made. The laborers will get \$1.50 a day and will be paid weekly. They will be employed in shifts so as to give as many workmen as possible an opportunity to obtain employment for two weeks at least. Mr. Burke said there are as many after positions now as there were last spring, when the \$220,000 bond issue was made.

Among improvements contemplated are the building of a new drive from Lake Carnegie, Highland pask, to Butler street; laying out new walks in all the parks, planting shrubbery, trees, etc.; completion of the bridle path in Schenley park and improvement of Panther hollow lake.





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# Miss Dawn Wild Is St. Stephen's Chur

Miss Dawn Wild, daughter of Mr. and Mrs. Newton Wild, 1307 Milan\_rd became the bride of Harold Stierhoff, son of Mr. and Mrs. George Stierhoff of Milan in a ceremony performed by the Rev. H. E. Pheiffer at St. Stephens Evangelical and Reformed Churchi For the single ring August 3. ceremony which took place at 5 p. m., the bride wore an afternoon dress of yellow gabardine. accessories were brown. completed with a corsage of white gardenias.

Mrs. Fred Seward, sister of the bridegroom, as the only attendant for the bride, wore a dress of pink with black accessories. corsage was also a gardenia arrangement.

- Fred Seward was best man.
- A wedding supper was served at the home of the bride's parents for relatives and close friends. four-tiered cake decorated the bridal table.
- After Saturday, the couple will be at home in one of the tufa rock cottages at Whites Landing. The bridegroom, who is employed at the Apex Electrical Mfg. Co.,



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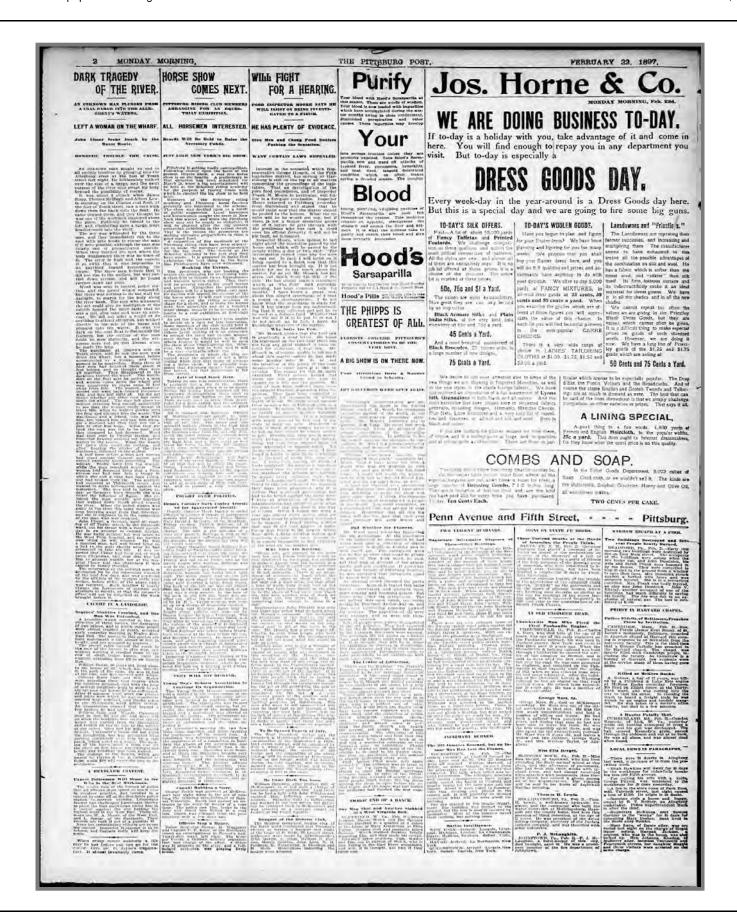
white's Landing—Immediate possession on this furnished 4-rm tufa rock cottage; stove heat, stone fire-place, big garage, extra lot; reduced to \$4,000 with \$2,250 down, balance easy.

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## HORSE BACK RIDING.

Revival in Pittsburgh by Devotees of the Saddle.

Riding has taken a fresh impetus in Pittsburgh this spring and one sees in the saddle daily more riders than before the advent of the automobile. When the bridle paths in the park are ready for use there will be more riders in Pittsburgh than ever.

Opening the old riding academy has brought many to the saddle again. Louis Schulenberg has taken the establishment formerly used by the riding club and known as the riding academy. Every day girls and young ladles are taking lessons. It looks as if the school will develop some very expert devotees of the saddle.

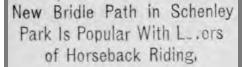
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**Newspapers** 



Under a blue sky flecked with baby clouds, in the warm sunshine of a summerlike day, old and young, rich and poor. Americans and all the many races comprising Pittsburgh's cosmopolitan population, spent the hours between church services yesterday in the open air. A small ratto found delight in motoring and driving, but street cars and waiking were open to all.

Trees bursting into leaf and blossom, flowers just emerging from bud vato bloom, the new grass showing ribbons of dual shades of green where mowing machines had cut for the first time, joined in making parks a resort of delight after long months of winter. Through Schenley, Highland, Riverview and the smaller breathing spots, happy groups dotted the grass, basked on benches or passed laughing along the winding paths.

It was the warmest day of the year,

It was the warmest day of the year, the temperature hovering at the 80-degree mark all afternoon, 80.3 degrees being the highest registered at the weather bureau. Furs, overcoats and wraps were gladly cast aside, and vests and hats followed. Many young men and girls secured a first coat of tan. The temperature was the highest on the date in 13 years. Only once before this year has a touch of tropical weather been felt, when on Monday, April 5, the mercury reached 77 degrees.

#### Thunderstorms for To-Day.

Thunderstorms will bring an abrupt end to beautiful weather conditions to-day, according to predictions. Forecaster Henry Pennywitt his sighted no cold wave in the wake of the expected storm.

Flower shows were ready in Phipps conservatory and other public green-houses rivaling those of Easter, but the day was too hot and outdoors too attractive to make the majority willing to spend much time inside. In spite of the fact, the entrance to Phipps conservatory was frequently blocked by the walting line. Warm weather has blighted hopes of George W. Burke, superintendent of parks, that the exhibit would last for several weeks. The hyacinth display was exquisitely beautiful, far surpassing that of the week before.

Forsythia shrubs were massed in a

Forsythia shrubs were massed in a glow of golden radiance on each bank of the bridge between Carnegle institute and the greenhouses. Peach trees, magnolia bushes and the Judas tree were a mass of bloom. Beds of scarlet tulips and yellow jonquits made splashes of color on the greensward.

#### Many Ride Horseback in Park.

Scores of horsemen and horsewomenparticularly in the morning hours, renewed their acquaintance with park roads and explored the windings of the new bridle path in Panther hollow, with its pretty bridges of Tuffa stone. Evidence was afforded of the number of fine horses owned in the city.



# NEW BRIDLE PATH'S POPULARITY GROWS

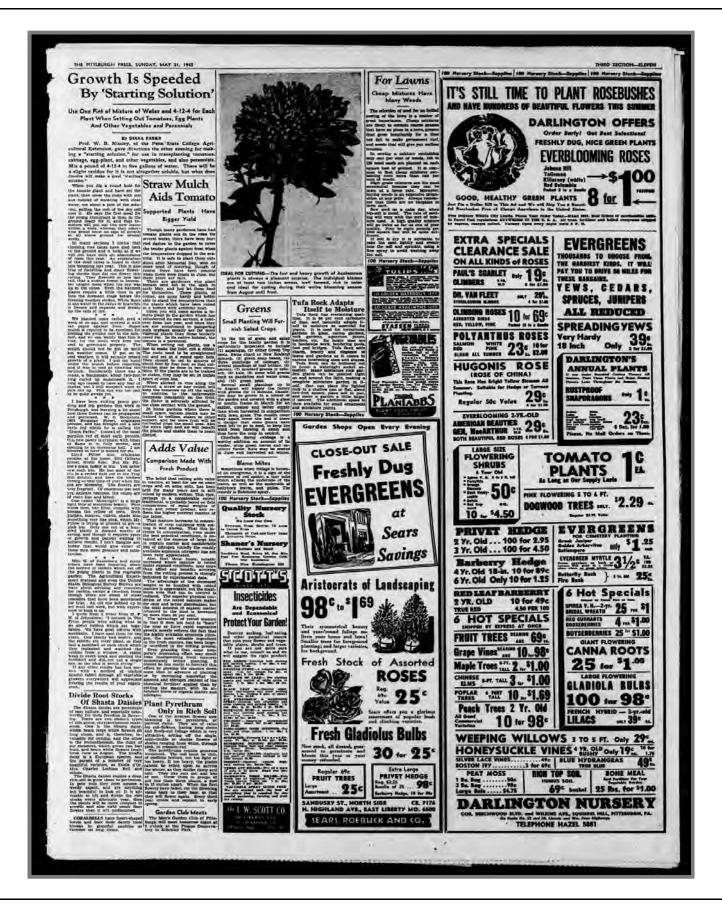
Drivers and Horseback Riders Enjoy the Sylvan Scenes Along the Crooked Trail.

The possibilities of the new bridle path in Schenier park seem to have suddenly dawned on the horseback riders of Pittsburgh, for for the first time yesterday since the path was improved, numerous riders turned out on it and scores of rigs traversed the crooked trail. The bridle path is 20 feet wide so that many horses can travel abreast and vehicles can turn out without danger of falling down the bank, but it makes many turns.

It is no longer necessary to cross the Panther hollow bridge to reach the bridle path. A turn to the right after crossing the Junction hollow bridge will bring one to the new road, west of the conservatory. It passes underneath the arch of the Panther hollow bridge and makes a horseshoe bend at the head of Little Panther hollow, over a rustle bridge, built of concrete and tura stone. In its course the path crosses other bridges. Passing the bridge the rider finds himself in a thick woods. But for the shouts of the children playing in Panther hollow he and she might imagine themselves 100 miles away from the city, for forest trees and a thick undergrowth obscure the view 10 feet off the path. The trail keeps on the north side of Panther hollow and continues on to the old zoological garden, where it meets the broad park road.

The new lakes in Panther hollow are still in course of construction. The lower and bigger lake will be four feet deep and the upper and smaller one is to be two feet deep, for the little children to splash about it. The ponds will soon be finished. Just now Superintendent George W. Burke is supervising the building of the foundation for a boathouse.

Mr. Hurke is much pleased with the increase of the squirrels in the park. The little animals have grown prodigiously in number during the past three years, but they are still racher shy, and instead of coming forward to meet the children they run from them. It is expected, however, that as the rodents increase still more they will become tamer and will play with the children, as they do in Central park, New York, and the Capitol park in Harrisburg. Along the bridle path the animals are less wiid.







**Newspapers** 



Pittsburgh, Aug. 17—(AP)— Four Franciscan priests have finished four years of hard work, and given the hill district the finest Catholic outdoor shrine in the area.

The 100-ton memorial, built in honor of our Lady of Lourdes, is to be dedicated Sept. 11. The shrine was built from Ohio tufa rock.

Constructed almost entirely by hand labor the shrine is 50 feet high and has an 800-name honor roll. It is located between St. Peter's Catholic church and the Parish school on Fernando street.

The RFev. Aloysius Costa, O. F. The Rev. Aloysius Costa, O. F. will enable regular devotions to the patron saint of the ill and afflicted throughout the world.

The shrine resembles a mountain grotto and has running water in a pool beneath a 12-foot gleaming white statue of the madonna.

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Superintendent Burke Plans Many Improvements to Beautify City Pleasure Grounds Next Year.

#### CROWDS AT TRACTION RESORTS.

Thousands sought the parks yesterday for a "mouth full of fresh air" and to saunter about, enjoying visions of the bright, cleanly-washed foliage, and rich green of the lawns, which are rarely attractive this year because of frequent rains. The sun shone benignly and the atmosphere had a freshness and invigorating quality, in consequence of the brisk winds of Saturday, that made it highly enjoyable and refreshing, until late in the afternoon, when a light shower of rain fell.

A large number of excursionists from along the Baltimore & Ohio railroad appeared quite early in the day for admission to the art galleries and museum in Schenley park, and after visiting those places they sauntered over the park and went through the conservatory, afterward going to Highland park and the soo. At the latter place the fawn traded by Mayor W. B. Hays for a "setting" of pheasants' eggs was the particular attraction, and the delight of the little folk in observing and petting it was pleasing to behold. This animal promises to become a great pet, if it shall live.

George Burke, the new superintendent of parks, visited both of the city's big pleasure grounds during the day and made a casual survey of improvements that are under way. At the same time he made a few mental notes of improvements he hopes to be able to carry out next year. It is Mr. Burke's idea to give Schenley park a more elaborate flora! embellishment than it has yet had, foilowing out the ideas he introduced at Highland park some years ago. He also hopes that the city will come into possession of various plots of ground around the main entrance, so that it can be improved and made more attractive than at present. He deplored that the city had not purchased some years ago, when the cost would have been comparatively small, all the property lying between the present westward entrance on Forbes street and Boquet street, taking in the hollow down to below Joncaire street. This, he said, would round out the park property, and avert the construction of tenements and other structures that deface the view from the entrance.







**Newspapers** 



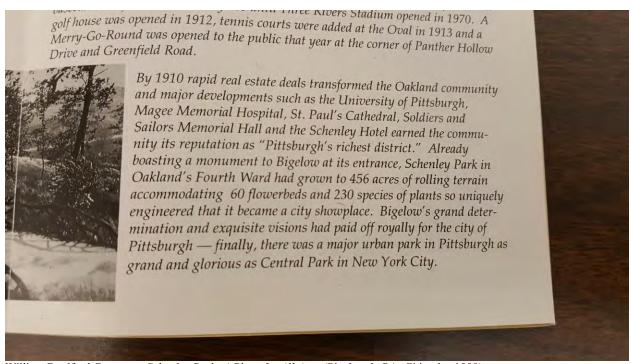
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William Bradford Company, Schenley Park: A Place for All Ages (Pittsburgh, PA: Citiparks, 1989).

### SP 9000-0020 TUFA ROCK SOUNDING

#### PART 1 - GENERAL

#### 1.01 SUMMARY

A. This work is the repair and rehabilitation of the Tufa rock facing used on culvert structures as indicated on the Structure Drawings for City of Pittsburgh Trails contract drawings and as directed.

Inspection to be completed in accordance with PENNDOT Stone Arch Bridge Maintenance manual dated October 2007. Specifically, inspection to be completed in accordance with Section 2.4.6 "Inspection Procedures for Stone Masonry and Mortar."

#### PART 2 - PRODUCTS

#### 2.01 Materials

#### A. N/A

The joints must be carefully inspected for cracks, loose or missing mortar, vegetation, water seepage and other forms of mortar deterioration. The stones should be carefully inspected for cracks, crushing, missing, bulging, and misalignment. Masonry arches or masonry-faced concrete arches should be checked for mortar cracks, vegetation, water seepage through cracks, loose or missing stones or blocks, weathering, and spalled or split blocks and stones. Sounding to be performed by use of rubber mallet to protect scoured rock.

#### PART 3 - EXECUTION

#### 3.01 Construction

A. General. Qualified and approved contractor to inspect and identify areas of Tufa rock wall that need replaced, patched or repaired.

#### PART 4 - MEASUREMENT AND PAYMENT

#### 4.01 MEASUREMENT AND PAYMENT

A. Tufa rock sounding is paid per Square Yard of wall face.

#### **END OF SECTION**

Phil,	
a lot of their is a "visual inspection";	
lightly top with a rubber mallet, so as	
rat to damage rock. If rock is loose	
and sheeds to be re-adhere they should be able to tall.	
be able to tall.	