D-3

IN STORAGE

HISTORIC STRUCTURES REPORT

PART I (PORTION)

ON

PIERCE MILL - WATER-WHEEL

Rock Creek Park

Prepared by
Blaine E. Cliver
Architect
February 1967

for

United States Department of the Interior, National Park Service

ON MICROFILM

PLEASE RETURN TO:
TECHNICAL INFORMATION CENTER
DENVER SERVICE CENTER
NATIONAL PARK SERVICE

A. Documents

1. a. Pierce Mill Historical Report, by Ruth Butler
February 1935 (N.C.R. file)

b. Alteration Report, by Ruth Butler

c. Work Report, by T. T. Waterman

PIERCE MILL REPORT - WATER WHEEL

CONTENTS

		pages
1.	Preface	
2.	Summary of evidence	1-5
3.	Existing conditions	6
4.	Recommendations	7-8
5.	Documentary evidence	
	a. Memorandum: Subject: Pierce Mill (Butler Report)	
	b. Memorandum to Mr. Chatelain: Subject: Changes and alterations in Pierce Mill.	
	c. Report on the status of the work at Pierce Mill.	
	d. Letters	
6.	Cartographic evidence	
	a. Boschke Map	
	b. Abbot and Vaughan Map	
	c. Environs of Washington	
	d. Geodetic Survey Map	
	e. 5 sewer construction drawings	
	f. Map after 1935 restoration	
7.	Drawings of water wheel from 1935 restoration	
8.	Photographs	
9.	Estimate letter from Mr. Campbell	

PIERCE MILL REPORT - WATER WHEEL

PREFACE

In 1934 the National Park Service began the restoration of Pierce Mill which was substantially completed the following year. At the time the work began nothing of the older mill-races or water-wheel remained visable and no report has been found that would cover the evidence from which the reconstruction was taken. Recent evidence now points to a somewhat different historical situation than the one to which the mill was restored. Such evidence will be presented in the following report.

Historically speaking, the "hay day" of water-operated mills along Rock Creek was during the middle of the nineteenth century. Four prominent mills show on the maps of this period, the last of which to cease operations was the Pierce Mill. If restored to this period, 1850's and 60's, Pierce Mill would be representative of a past industry that once was the ambience of the Rock Creek area.

SUMMARY OF EVIDENCE

REPORT FOR THE RESTORATION OF PIERCE MILL - WATER WHEEL

The restoration of Pierce Mill that took place in 1935, has all but obliterated any of the remains of both raceway and forebay that were uncovered during the excavation at that time. At this point in our research no archaeological or architectural report has been forthcoming and the original tracings for the restoration, drawn by the architect, have been lost. Without going into new archaeological work, it is almost impossible at this point to know what the existing conditions were at the time of restoration in 1935.

The first question that confronts us is, how authentic was the 1935 restoration of the water wheel?

The restored wheel is of the pitch-back type, a cross between the undershot and overshot types. A historical report written in February of 1935, by a Ruth E. Butler, mentions that the original water wheel was an undershot one, "supplanted by an overshot one" in 1840. (This information is not indicated as to source.) The report goes on to say that the overshot wheel was replaced in 1878 by a "forth-inch Loeffel (?) Turbine." Almost without exception the water wheels on mills in the Washington area were of the overshot type, judging from photographs in The Library of Congress.

This fact seems to have been realized originally by the architect in 1935. A letter dated January 17, 1935, from Charles E. Peterson to the Architect, T. T. Waterman, asks if he "might be interested in four

pictures of Muncaster Grist Mill, which structure we have been studying in relation to the Pierce Mill restoration. The two mills were built about the same time and contain some similar features." The Muncaster Mill, (see illustration) according to these photographs in The Library of Congress, had a small overshot wheel probably about eight feet in radius and a width of five or six feet. Also, in the collection of photographs that are now in the Pierce Mill N. C. P. file is one of the Estes Mill near Sperryville, Virginia. This same photograph is also in The Library of Congress collection along with another taken by the Architect, T. T. Waterman. The Estes Mill used an overshot wheel.

In the collection of photographs in The Library of Congress are two pictures of the timber-crib dam near the Pierce Mill taken around the turn of the century (see illustrations). Reference to this and earlier dams is made in the before mentioned Butler report.

> "The original dam, so Mr. Shoemaker says, was above the site of the present concrete one, at a point near where the bend of the creek now is. This dam crossed the creek at an angle. It was washed away during a period of high water in 1876, and since that time there have been three or four dams built between the site of the original and the present one. As late as 1904 there was a wooden dam across Rock Creek near this point."

If we are to believe Mr. Shoemaker then the dam shown in the photos must be the one washed out in 1904 and replaced by the present concrete one. The head of water that this "wooden dam" supplied would have, of course, been used for the turbine and not a water wheel.

During the course of excavation of the mill race, it was determined that the latter portion of the race, before the wheel, was constructed

of wooden trunking as mentioned in a letter dated March 2, 1935, "portions of the mill race that are lined with stone have been substantially completed and one section of the trunking built, following exactly the fragments of the original." Such wooden construction would indicate a race run above ground. This, though, is later changed. In a letter by the Architect dated May 18, 1935, he states, "Our consultant, Mr. Fitz, believes that the stone mill race continued from the present termination at the South, up to the building itself. We will act on his advice and abandon the use of trunking at this location." This is the present state of the mill race.

In a report on "Changes and Alterations in Pierce Mill" dated February 21, 1935, by Ruth Butler it is stated that the officer in charge of Rock Creek Park was criticized for "filling in the old mill race (1914) with dirt and broken rock from a sewer trench being dug in the park." (see drawings of sewer). This report also notes that in April of 1917, a trench was dug "for placing water in mill." At this time, as gathered from the same report, the old mill building was used as a tea-room and it might be concluded that the trench was for water pipes, but the building had been used as a tea-room before this and would most likely have required water at an earlier date. In any event, various diggings have taken place in the vicinity of the mill.

The general evidence would indicate support for the Butler historical report of an 1840 overshot wheel. But, if this is so then the level of the present mill race (which supposedly copied the original mill race)

is far too low. A higher bottom and changes in the ground level would have necessitated wooden trunking above the ground, partially or completely. The possibility that the 1878 turbine required a greater volume of water and therefore a deeper race might be considered as an answer to the stone remains which formed the basis for the present mill-race. Without the existance of some detailed report written on the excavation, little can be said that is not conjectural.

The present mill-race begins at a point in the stream just above what seems to the the stone remains of an earlier dam. The letters of 1935, in the Pierce Mill file, speak of building a new dam at the site of the original. Accoring to these letters this was never done at that time, for a justification for building such a dam is dated later, July 12, 1940. Possibly these stones are the remains of some attempt to hold a better head of water after 1940.

A higher head of water could also have been obtained by extending the mill-race farther upstream, giving enough head for an overshot wheel. Two maps in The Library of Congress map collection and one in the Archives confirm this idea. One published in 1861 by A. Boschke shows four mills along Rock Creek including their dams and race-ways (see illustration). The Pierce Mill dam would seem to be near where the present entrance to the race-way is, but the race-way on the map extends far above this point much nearer to where the present bridge is for Broad Branch Road.

The second map made in 1859-1860 (see illustration), shows this same situation. It might be concluded that the dam was built to serve the original undershot wheel and rather than build the dam higher to gain a higher head of water for the 1840 overshot wheel, the race-way was extended farther upstream and the dam just remained as was. In any case, the dam being so far down stream from the race-way, entrance could be of little value to the mill operation.

The map in the Archives collection (see illustration) is similar to the earlier Boschke map and dates from 1864. It was probably made to show the military forts which encircled Washington and may have been superimposed upon the Boschke map. Pierce Mill appears the same on both maps.

Apparently, from an 1884 Geodetic Survey (sheet #33), there occurred a change in the situation (see illustration). This map shows a dam in approximately the same location as the earlier maps do, and a race-way near the same as the present 1935 race-way, entering just behind the dam. The Butler historical report states that the original dam was washed out in 1876 (see above) and the overshot wheel was replaced by a turbine in 1878. This would explain the change in race-way and the apparent rebuilding of the dam. Thus it would seem that the race-way uncovered by the 1934 excavation was the one built around 1878 to operate the turbine and is not necessarily an extension of the earlier longer race-way.

EXISTING CONDITIONS:

Water-wheel - The water-wheel and shaft have undergone extreme decay since its reconstruction in 1935 and are now both unusable. The present construction of the wheel shows evidence of having been repaired in a manner completely incompatible with its original construction. Nails (wire type) have been used extensively where no nails ever should be used and much of the wood seems to be of the softer varieties, pine or fir.

A side or by-pass sluice has been constructed after the 1935 reconstruction which tends to divert water over the main bearing of the wheel. The wheel itself seems to be built too close to the forebay allowing the easy possibility of jamming due to stones or ice.

Race-way - The race-way of the 1935 reconstruction is stone-lined and extends about 300 feet from the bend in the creek just above the present dam down to the mill. At a point about 50 feet from the mill, there is a sluice which runs down to the creek. This would seem to be a run-off.

Interior gearing - This for the most part is wooden construction with some belt driven wheels. The general condition is good except for the main drive wheel in the basement which has several teeth which need replacing. If the wheel is restored to an overshot type then some of the interior gears will have to be reversed in order to compensate for the reversal of the wheel.

RECOMMENDATIONS:

On January 14th and 15th, a consultant, Mr. J. B. Campbell, his assistant and myself reviewed the present situation at the Pierce Mill. This work involved the surveying of levels along the creek from the bridge at Broad Branch Road to just below Tilden Street. From this we obtained comparative elevations for various salient points along the creek and on the wheel as follows:

water level at entrance point of original race-way ------- 12.16

water level in tail race ---------- 1.12

center of present shaft ---------- 6.87

top of present wheel ---------- 12.12

Based on this information and the historical evidence so far uncovered, the following procedure is recommended:

1. Archaeology - Dig two cross trenches to locate the earlier race-way which is indicated on the 1860 maps; one just above the present race-way and the other farther upstream near where the entrance would be. Once the earlier race-way is located, work should begin on its reconstruction.

2. Water-wheel - This should be reconstructed as an overshot wheel. Since the upstream water level is close to that of the top of the wheel, the diameter of the wheel might be reduced from 10' 6" to 10' 0". Although there was no dam at the race-way entrance on the old maps, it would be a good idea to use some of the available stone in the creek to create rapids, not only to raise the water level somewhat but to help hold some water during the dry season and divert it into the race-way.

3. Dam - Since 1884 the stream bed around the vicinity of the original dam has changed. Due to this fact and that we cannot be sure of the type of dam that was originally there, beside the fact that the dam is unnecessary, it would not seem wise at this time to rebuild the dam. The change in the stream bed means we could never accurately achieve the restoration in the first place because of the close dependency of the dam on the stream. At a later date, with more funds available, this item might be reconsidered in light of realtering the stream, rebuilding the dam, and eliminating the present concrete dam of 1905.

4. Race-way and gates - The consultant, Mr. Campbell, feels that the race-way would not have been lined with stone although some stone may have been used at points for shoring purposes.* The gates and all parts which are now concrete should be rebuilt in a manner compatible with the restoration.

5. An alternative to the above recommendations would be to restore the existing wheel from the 1935 reconstruction. It is felt though, that this would not be wise. Apart from being historically incorrect, the existing wheel never seems to have operated affectively, and in order to operate it with good effect a new dam would be required at the race entrance. As can be seen from Mr. Campbell's letter, this would be an expensive proposition.

*Part of what seems to be the race-way of the Blagden Mill can be seen at the site of the mill about a mile upstream from Pierce Mill. This might be excavated for construction information.

46a/R.C.Pk.-90-40

File

Sent to File, Feb. 21, 1935 3-16-44

Memorandum:

Subject: Pierce Mill

Pierce Mill in Rock Creek Park is situated on a tract of land which included portions of three early English land patents. One of these, known as "Re-Survey on New Seat" was patented to George Read in 1747. Another, known as "The Gift", patented to Samuel Beall in 1762, passed to William Deakins, a prominent Revolutionary patriot, who conveyed it by deed to Isaac Pierce in 1794. The third patent included in the immediate parcel of land surrounding the Pierce Mill was one patented to James White on March 18, 1772, and known as "Mill Seat". The southern extermity of this tract was included in the land deeded by William Deakins to Isaac Pierce in 1794.

The patent for Mill Seat is to be found in the Land Office of Maryland, is herewith quoted for whatever historic interest it may have:

"Copy Patent Mill Seat, 151 Acres."

"Mr. James White his Patent, 151 Mill Seat."

Frederick, etc.

Know ye, That whereas James White of Prince George's County by his

---

1. Parcel No. 75 on the map prepared by the Commission for the selection of land in Rock Creek Park, filed in the Chief Surveyor's Office of The District Building, Washington, D. C.
2. Recorded January 7, 1795, in Liber B2, folio 156, of land records of the District of Columbia.
3. Liber B.C. and C.S., No. 42, folio 255; quoted from pp.161-163 of Record Case No. 15,167, Supreme Court of the United States, October Term, No. 1197.

humble petition to our Agent for Management of land affairs within this province did set forth that he was seized in fee of and in six hundred and sixty-one acres part of a tract or parcel of land called Mill Seat lying and being partly in Prince George and partly in Frederick County, originally on the twenty-ninth day of August Anno Domini seventeen hundred and sixty granted unto the petitioner for six hundred and eighty-one acres under new Rent Contiguous to which the petitioner had discovered some vacant land, all being desirous to add the same humbly prayed a special warrant to resurvey his part of the aforesaid tract for that intent and purpose and that on return of a Certificate of such Resurvey he making good rights to the Vacancy added and complying with all other requisites usual in such cases might have our grant of Confirmation issued unto him thereon which was granted him and accordingly a Warrant on the twenty-eighth day of February seventeen hundred and sixty-nine unto him for that Purpose did issue but the said warrant not being executed within the time therein limited it was on the Seventeenth day of July Seventeen hundred and sixty-nine renewed and continued in force for six months longer from that date in pursuance whereof it is certified into our Land Office that the aforesaid tract or parcel of land is resurveyed by which it appears the same contains clear of Elder surveys no more than the quantity of five hundred and sixty-one acres, so there appears to be a deficiency of one hundred acres, and that there is a quantity of one hundred and seventy-six acres of vacant land added, one hundred acres part thereof is applied to make good the deficiency aforesaid, and for the seventy-six acres the remaining quantity he has paid and satisfied unto John Morton Jordan, Esquire, our then Agent and Receiver-General for our use as well the sum of three pounds sixteen shillings sterling, caution as the sum of eight shillings sterling for some improvements to be made thereon which said land lyes in two separate and distinct parts, the first part whereof contains the quantity of one hundred and fifty-one acres, and the second part whereof contains the quantity of five hundred and eighty-six acres according to Charles Lord Baron of Baltimore, our Great Grandfather of noble memory his Instructions to Charles Carroll, Esquire, his then agent bearing date at London the twelfth day of September Seventeen hundred and twelve and registered in our secretary's Office of our said province together with a paragraph from our dear Father's Instructions to Charles Carroll, Esquire, his then agent bearing date at London the fifteenth day of December Seventeen hundred and thirty-eight and registered in our Land Office. We do therefore Hereby Grant and Confirm unto him the said James White the first part of the aforesaid tract or parcel of land now resurveyed with the vacancy added, reduced into one entire tract and called Mill Seat, beginning at the end of the eight line of a tract of land called Arguile Cowell and Lorne, granted Randall Blake about the year one thousand seven hundred and twenty-two and running thence North thirty-three degrees East thirty-four perches North fifty-five degrees East twenty-four perches North twenty degrees East forth perches north fifty degrees East one hundred and thirty-two perches North ten degrees East twenty perches North forth degrees East twenty perches North fifty-eight degrees East twenty perches North East one hundred and forty perches to the original reversed North West by North four perches to the end of the fourth line of the original still with the original South West one hundred and thirty-three perches North one degree and a half degree West ninety-one perches and a half perch then West forty-four North eleven

degrees East ninety-three perches to a stone marker "Z. W. 1759" it being the original beginning then North sixteen perches East twenty-three perches and a half North one degree and a half West twenty-six perches North North West sixty perches North seventy-five degrees West eleven perches South thirty-three degrees and a half degree East eleven perches South South East fifty-five perches North sixty-five degrees West forty-eight perches South eighteen degrees East seventy-four perches South thirty-three degrees West one hundred and seventy-three perches South ten degrees East ninety perches South eighty-five degrees West forty four perches South nineteen degrees East forty perches than with a straight line to the place of beginning containing one hundred and fifty-one acres according to the Certificate of Survey thereof taken and returned into our Land Office bearing date the thirteenth day of November Seventeen hundred and sixty-nine and there remaining together with all rights profits, benefits, and privileges thereunto belonging (Royal Mines excepted.)

To have and to hold the same unto him the said James White, his heirs, and assigns forever, to be holden of us and our heirs as of our Manor of Monocacy in free and common socage by Fealty only for all manner Services Yielding and Paying therefor yearly unto us and our heirs at our receipt at the city of Saint Marys at the two most usual feasts in the year, viz; the feast of the Annunciation of the Blessed Virgin Mary and Sait Michael the Arch Angel by even and equal portion the rent of six shillings and one-half penny sterling in Silver or Gold, and for a fine upon every alienation of the said land or any part or parcel thereof one whole year's rent in Silver or Gold or the full value thereof in such commodities as we and our heirs or such officer or officers as shall be appointed by us and our heirs from time to time to collect and receive the same shall accept in discharge thereof at the choice of us and our heirs or such officer or officers aforesaid provided that if the said sum for a fine for alienation shall not be paid unto us and our heirs or such officer or officers aforesaid before such alienation and the said alienation entered upon Record either in the provincial Court or the County Court where the said parcel of land lyeth within one month next after such alienation then said alienation shall be void and of no effect. And provided also and it is the true intent and meaning of these presents that the same is subject and liable to the following express conditions (that is to say) That the said James White his heirs and assigns shall well and truly pay or cause to be paid the rent herein reserved according to the tenor of these presents by the space of thirty days next after it shall become due and after demand made thereof by the farmer or other person to be appointed by us and our heirs from time to time to collect and receive the same.

Given under our Great Seal of our said province of Maryland this eighteenth day of March Anno Domini Seventeen hundred and seventy-two.

Witness our brother Robert Eden, Esquire, Governor and Commander-in-Chief and over our said province of Maryland Chancellor and Keeper of the Great Seal thereof. -

ROBERT EDEN.

(Great Seal)

Isaac Pierce (the name was originally spelled "Pearce" and later "Peirce") was the pioneer of that family in the District of Columbia. He was descended from George Pearce of Somerset County, England, who, with his wife, Ann Gainer, settled in Chester County, Pennsylvania, in 1684. George Pearce was of Quaker stock, his name first appearing at the Chicester Friends Meeting in 1686. He was a considerable land-owner and a substantial member of the community, representing Chester County in the Provincial Assembly of 1706.

His second son, Joshua Peirce, was born in England in 1684. He married (first Ann Mercer of Westtown, Pennsylvania, and (second) Rachel Gilpin, of Birmingham, of that state. The latter was descended from Richard de Guylpin, who came into possession of the Manor of Kentmore in 1206, during the reign of King John.

Isaac Peirce was born in Chester County, Pennsylvania, on April 9, 1756. He was a son of Joshua and Rachel Peirce, and although the date of his arrival in the region about Georgetown is not definitely known, it must have been prior to 1790, as his name figures in the census for Maryland at that time. Mr. Francis D. Shoemaker, his great-grandson, believes that he came to the District in 1785.

Isaac Pierce married Betsy Cloud, daughter of Abner and Amy (Pyle) Cloud. Abner was a pioneer miller in upper Maryland and his mill was known as Eads or Edes Mill. It is said that Isaac was employed in Abner Cloud's grist mill before his marriage to Betsy. This mill was located

---

1. For genealogy of the Pierce and Shoemaker families, see: Spencer, R. H., Genealogical and Memorial Encyclopedia of the State of Maryland, American Historical Society, 1919; Shoemaker, B. H., Genealogy of Shoemaker Family, J. B. Lippincott Co., Philadelphia, 1903.

between the canal and the Potomac River, about half a mile east of Chain Bridge. Isaac Peirce and his wife had nine children. Amy, their first child, was born in 1780. Job, born in 1781, married Sarah Harvey. Anne, born in 1783, married Samuel Simonton who became one of the founders of Elkhart, Maryland. She died in 1841. Abner, born on July 24, 1785, later inherited his father's estate. The fifth child, Hannah, was born in 1789 and died about 1875. She married Hayes Speakman. There were two other daughters, Mary (born 1791) and Betsy (1793-1846).

The eighth child, Joshua Peirce, was born in Philadelphia in 1795. He became a well-known figure in Washington. In 1820 he married Susan Coates, daughter of Jacob Coates of Philadelphia, [redacted]
In 1823 Joshua received a tract of land from his father, upon which he built a stone house, which he called "Linnean Hill" in honor of Carl Von Linne, the Swedish botahist. Joshua was a successful nurseryman and soon gained a national reputation as a horticulturist. The grounds about his estate were plated with ornamental trees and shrubs and exotic flowers, and his gardens supplied to a great extent the parks and reservations of the growing city of Washington. Joshua Pierce made a specialty of cultivating the highly prized camelia which had recently been introduced into this country and which sold at that time for $1.00 and $2.00 per blossom.

Joshua died in 1869 and his estate was bequeathed to J. Pierce Klingle, nephew of Mrs. Pierce.

Abigail, the last of the children to Isaac and Betsy Cloud, was born in 1797. She married David Shoemaker, an officer of the United States Navy who was born within the ten-mile square, before the creation of the District of Columbia. They had two children, Pierce and Abner C. Pierce.

---

1. By deed under date of October 10, 1823. Recorded October 17, 1823.

Pierce Shoemaker was well known in the District of Columbia for many years. He was born in Washington in 1816 and later attended Georgetown College. In 1855 he married Martha Carberry, daughter of Lewis Carberry who was for many years mayor of Washington and a member of the prominent old southern Maryland and District family of that name. Martha Carberry died June 12, 1866. Their children were: Louis Pierce Shoemaker, Caroline M. Shoemaker, Francis D. Shoemaker, Clara Artemesa Shoemaker, Abegail C. Shoemaker, Julius Speakman Shoemaker, and Abner Cloud Pierce Shoemaker.

When Isaac Pierce first settled in what is now Rock Creek Park, he found a two-story frame mill very near the site of the present stone construction. This mill had an undershot waterwheel, and contained two "runner" wheels.

Newspaper clippings from the files of the Public Library in Washington, D. C., show that Georgetown and the vicinity around Washington was formerly quite active as a milling center. From a newspaper slipping dated September 19, 1871, seven mills are listed in Georgetown. They ranged from two burrs to eleven burrs, with a daily output ranging from 120 barrels to 800 barrels.

Formerly there was a string of old mills along Rock Creek, which must have been somewhat more important as a watercourse than than it is now. Mrs. William Thornton intimates the former maghitude of the Creek in the following entry in her diary for August 9, 1800: "Four horses drowned in Rock Creek."

---

1. Duhamel, James F., "Tiber Creek", Records of the Columbia Historical Society, Vol. 48, p. 204.

Among the most important of the eight or more mills along the creek during the early part of the 19th century was the Patterson Paper Mill. The Lyon's Flour Mill, farther up, was advertised for sale in December, 1873, as a "large merchant mill in good order...with the whole water power of Rock Creek." The John Quincy Adams Mill was situated within the present confines of the zoo. A description of it appeared in the National Intelligencer for August 5, 1867: "The mill is driven by an overshot wheel of twelve feet diameter, the water being conducted over the wheel by a canal from the dam up the creek. The mill, with three runs of stones, when in full work, makes two hundred barrels of flour daily. It has been this season turning out daily some hundred and fifty barrels." The Blagden and Pierce Mills were farther up stream.

By 1794 Isaac and Betsy Pierce were established in what was then Prince George's County and later Montgomery County, Maryland. By 1800 he had acquired from 1,600 to 2,000 acres of land stretching from Chevy Chase to the Zoo, broken only by about forty-nine acres of land belonging to the Blagden Mill property.

In 1801 he built a spring house which is still standing today. Here the milk and butter were kept cool. An old stone jutting out from the side of this spring house often served as a seat, so Mr. Francis Shoemaker states. The spring is a good one, but the government has put in drains connecting it with the sewage system and when heavy rains occur there is a back flow from the sewer into the spring, so I have been told. If this still maintains, it could be corrected by opening the pipes and supplying them with air vents.

Southwest of the springhouse is a modern dwelling which occupied the former site of Isaac Pierce's home. This was an old house of hewn

oak, with wrought iron nails and wooden pegs, which Isaac had found at the time of his arrival in this section and improved in 1810. This was torn down by Pierce Shoemaker who erected on the site a stone house in 1876. In 1910 Mr. E. G. Newman remodeled this dwelling, so that there is now nothing left of the original old picturesque home of the Pierce family. The history of these changes can be read on the western gable of the house, where a plaque contains these initials and dates:

B	P. S.	E. S. N.
I P	1876	1910
1810		

Behind the family dwelling was a house in which the slaves were quartered, according to Mr. Francis Shoemaker. The house now owned by Dr. H. H. Kerr (diagonally across from the mill, on Tilden Street) was built in 1811 and was intended for a distillery. Fine peach brandy is reported to have been made there and it was commonly known as the "Still house." Cider was also stored there. In 1878, however, after one of the principal barns on the estate had burned down, this building was used as a barn. On the north gable of this house is to be found the following inscription: "B I P 1811."

Mill

Mr. Francis Shoemaker and various writers maintain that the present mill was built in 1820. However, there is to be found on the south gable of the mill a plaque bearing this inscription: "B I P 1829". It is possible that this date was added to the gable at a later time, when some change was made in the mill. What strengthens this theory is the fact that the south gable is constructed of stone whereas the north gable is made of wood. B I P" is thought by members of the Pierce-Shoemaker

families to mean "Betsy and Isaac Pierce" (Isaac having married Elizabeth Cloud), but some writers think it stands for "Built by Isaac Pierce."

The mill is well-preserved, well-proportioned structure of blue granite. This stone was taken from a Quarry on the Broad Branch Road, according to Mr. Francis Shoemaker. This quarry, he says, was on the left side of Broad Branch Road not far from the stream of that same name, which is the first stream above Pierce Mill.

In 1840 the original undershot water wheel was supplanted by an overshot one. This in turn was changed in 1878 to a "forth-inch Loeffel (?) turbine" wheel which, as Mr. Shoemaker states, "sucked in the water and carried it into the mill."

There are two mill stones at Pierce Mill today. One of these was bought in 1880 by Mr. Francis D. Shoemaker from a firm in Georgetown for $75.00. This was an imported stone intended for grinding wheat and flour. The other stone used in the mill at the time that Mr. Shoemaker purchased the aforementioned one was of flint, intended for grinding corn, and had been there for some time.

The original dam, so Mr. Shoemaker says, was above the site of the present concrete one, at a point near where the bend of the Creek now is. This dam crossed the creek at an angle. It was washed away during a period of high water in 1876, and since that time there have been three or four dams built between the site of the original and the present one. As late as 1904 there was a wooden dam across Rock Creek near this point. At that time the annual report of the committee on Parks and Reservations of the Washington Board of Trade gave this statement: "The old wooden dam at Pierce Mill having been washed out, a new dam of concrete has been built. It produces a waterfall about seven feet high."

Contrary to popular opinion, Mr. Isaac Pierce never "ran" the mill. He was a millwright, not a miller. Nor did his heirs ever run it: Mr. Abner Pierce was a stone mason, and Mr. Pierce Shoemaker was a jeweller. Mr. Isaac Pierce had a considerable number of slaves to work on his estate and millers were hired to do the actual running of the mill.

The miller occupied a small frame house across the road from Pierce Mill below the property now belonging to Dr. Kerr. The various millers who occupied it were, to quote Mr. Shoemaker: "Donale, Tennyson, Gaskins, Flockker, Donald Again, Gaskins, again and the White Brothers. The latter were at the Mill as late as 1917., under government administration, but they did'nt pay the government." There is an old desk in the mill today which has stood in the mill for many years, and whose legs have been cut off" so as to make it modern". Upon this desk is carved the following inscription: White & Bro. 1876 96 '7". Mr. A. P. White gave the following account of the last time Pierce Mill functioned as a mill. This was in 1897.

"I was grinding a load of rye for a neighbor when the main shaft of the mill broke. I was about half through with the work, and the neighbor had to haul his unground rye away, and I guess he never got it ground. This was the last time the mill was operated. I have been told that I might make some arrangements with the park authorities to fix up and run the mill again, but after putting it to work again the government might want to change things around, and I would be taking too big a chance. A water mill grinding wheat and corn in the capitol of the United States would be a strange sight to most of the city bred people of Washington."

Adjoining and in connection with the flour mill was a saw mill. This was situated below Pierce Mill Road where the stream from Linnean Hill joins Rock Creek. The race for this saw mill came down in front of the door of Pierce Mill. Both Isaac Pierce and Pierce Shoemaker had saw mills, but in neither case were they found to be profitable.

Business at Pierce Mill flourished particularly between 1860 and

1870. This was considered the "boom" period in the history of the mill. Large quantities of corn, wheat and rye were hauled by teams from all the surrounding towns and villages - from Georgetown, Rockville, Bladensburg, and Falls Church. Saturdays presented a scene of great activity in the vicinity of the old mill. The horses and teams were so many around the mill door that it was difficult to get by. The mill did much business on ordinary days, too, it being a daily occurrence to see from ten to twelve teams and a number of boys on horseback from the sorrounding country with grist.

Ownership of Pierce Mill

1. Isaac Pierce held the mill from the time of his arrival in Rock Creek Park to the time of his death in 1841.

2. Isaac Pierce died in 1841, leaving his estate to his son Abner C. Pierce.

3. Abner Pierce died in 1851 and he devised the mill property to his wife's nephew, Pierce Shoemaker.

4. Pierce Shormaker held the Pierce Mill property until it was purchased by the United States Government in 1892, through condemnation proceedings. At that time the Government condemned 450 acres of land in Rock Creek Park for inclusion at a price of $450,000. Parcel 75, upon which pierce Mill stands (15.612 acres in all), was bought by the Government for only $16,306.00. Today it is worth probably nine or ten times that much.

Ruth E. Butler,
Historical Assistant

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
WASHINGTON

File

February 21, 1935.

emorandum to Mr. Chatelain:

Subject: Changes and Alterations in Pierce Mill

The Pierce Mill in Rock Creek Park has been administered by three ifferent organizations:

1) the Board of Control of Rock Creek Park, consisting of the Commissioners of the District of Columbia and the Chief of Engineers, United States Army (December 13, 1894-September, 1918),
2) the Office of Public Buildings and Grounds (September, 1918-1926), and
3) the Welfare and Recreation Association of the Public Buildings and Grounds (1926 to the present time).

All the correspondence pertaining to the administration of Pierce Mill es to have been turned over to the Welfare and Recreation Association nd is to be found in Room 1604 of the Navy Building.

An examination of the files gives very little information of a specific ature as to the alterations made in the Mill over a period of years. Not ntil 1917 was a systematic attempt made to report changes in the property. rior to 1909 and until 1926, concessions were made to private individuals r to organizations for the maintenance of a tea room in the Mill, and ny changes made by the concessionaires must have received only verbal uthorization, if any.

Under the Board of Control, the administration of the Mill seems to ave been quite casual. In 1909 Miss F. Todd had enjoyed the privilege f operating the tea room for several years without the payment of rental nd without any formal or written permission. From 1910 until 1917 Miss ary Louise Noble operated the tea room for six months each year under ond of $200.00, but without paying rent. No rent was exacted until 1918 hen Mrs. Florence Ingraham Blake leased the Mill for $60.00 per month, rom June 5, 1918 until October 31, 1919.

What changes were made in the mill during this unbusiness-like administration is a matter of conjecture. The attitude of the officer in charge of ock Creek Park, the Assistant Engineer, is apparent in his answer to a letter riticising him for filling in the old mill race (1914) with dirt and broken rock rom a sewer trench being dug in the park. In defense of his action, he ex- ined that he had wished to make the grounds accessible to picnic parties and

had failed to report his intention of filling in the mill race for approval of the Board, thinking it a matter of minor importance. "I think it is a mistake", he continued, "to assume that the building known as Pierce Mill should be perpetually kept in all respects as it was found when the park was purchased."

In 1917 and 1918 monthly reports of the Assistant Engineer, Rock Creek Park, showed that the following changes had been made in Pierce Mill:

November, 1917---Basement cleaned and whitewashed.
June, 1917-------New roof put on; conduit for telephone installed.
April, 1917------Trench dug for placing water in mill.
June, 1918-------Windows and doors repaired; stone work pointed.

Under the Office of Public Buildings and Grounds, the Girl Scouts had a concession to operate a tea house at Pierce Mill from November 2, 1921, to January 1, 1926. According to the articles of agreement, all additions and alterations to the building were to be subject to the approval of the officer in charge of Public Buildings and Grounds. It was not stipulated that this approval should be written, however, and no authorization for changes in the Mill are to be found in the files, although in 1922 a fireplace and a "pipeless furnace" were installed. These are the only two references in the files pertaining to alterations of the Mill during the administration of the Office of Public Buildings and Grounds.

The majority of changes seem to have been made under the Welfare and Recreation Association. In 1931 a staircase was cut in the northeast corner of the mill from the first floor to the basement, a gas heater was installed, and new window sills were added. Closets for supplies and for clothes were constructed on the third floor, the partition which had been made for the kitchen was extended, and the porch was added to the north side of the house where the mill wheel had formerly been. Rest rooms were built on the second floor, and the stone chimney in the southwest corner of the first floor was apparently built at this time, also. In the basement (where formerly there had been just a dirt floor, with a board walk running in front of the cockpit which connected the original staircase with the door on the east side of the mill) a portion of the floor was cemented. The remainder of the floor was cemented in 1932.

Conclusion

Nowhere in the files of the District Building, the Corps of Engineers, or in the Welfare and Recreation Association can detailed information concerning alterations in the mill be found. The various early concessionaires of the mill doubtless made many minor changes to serve their particular needs [illegible] made to summarize

operations in Rock Creek Park, and mention was made in several monthly reports of work done at the Mill. The details of this work were not described, the labor being supplied for the most part by the Superintendent of the Park. Mr. Waterman's suggestion that Mr. Quinn, Foreman of the Park, might remember certain early changes proved to be unfruitful, as was also an interview with Miss Anna Joyce, whose father was foreman of the Park for many years, and who spent her childhood at Linnaean Hill.

Submitted by:

Historical Division
Branch of Research and Education

Ruth E. Butler

DEC 1 11 57 AM '60
HISTORIC SITES SECTION
NATIONAL PARK SERVICE

1101/392

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
EASTERN DIVISION, BRANCH OF PLANS AND DESIGN
WASHINGTON

June 6, 1935.

Report on the Status of the Work at Pierce Mill.

The repair of the mill building is fairly complete. The exterior stone walls have been repointed where necessary, the chimney flue repaired and a new stack built on the lines of the old. Various apertures made in the stonework of the basement wall, when the turbine was installed, have been stopped up, and the openings made under the windows above for the introduction of doors to the porch have been reconstructed and the porch and porch piers removed. The West second story window has been reopened. The cement window stools have all been removed and stone ones rebuilt. The steps to the South door have yet to be built.

All the window frames are being repaired and are 90 per cent complete. Two new ones have been built for the North first floor windows, the originals being missing. The sash are being constructed and are expected on the job Monday. A set of sashes for the building were rejected on account of inferior workmanship, thus delaying the installation.

The roof has been entirely relayed with hand split cedar shingles and the roof frame repaired.

The new basement door to replace the present stock door has been completed and the frame is 90 per cent repaired. Old hardware for this door, the front door and for those to the Miller's Room and Attic, has been located and will be approved for purchase tomorrow together with a stove dated about 1820 for the Miller's Room.

The paint has been removed from the front door and from some of the window frames and the work is continuing. Beginning Monday painters will be on the job painting the sash and doors, and whitewashing the interior of the first floor.

All structural repairs to the building have been completed, except for the area over the husk frame in the northeast corner of the building. The timbers for this work were not on the job today. The floors have all been repaired except this same area. These two items have been difficult owing to the unusual construction and requirements for repairing same. The concrete floor in the basement is to remain for the present, pending further research concerning the original material.

Report on the Status of the Work at Pierce Mill, June 6, 1935.

The stair from first to second floor has been built and the sheathing done except for the underside of the carriage, which remains to be completed together with the sheathed partition for the Miller's Room. Stock for both these elements seems to be on the job and can be quickly erected. The doors to the Miller's Room and to the Attic are on the job.

The painted areas on the walls and ceiling of the second floor have been cleaned of nearly all paint with steam and oakite. This has been a very difficult job and the result is more satisfactory than could have been expected.

Outside of the building a great deal of grading has been done to restore the original character of the terrain. This includes the removal of the parking area behind the mill and lowering the grade. Aside from the finished landscape work that remains to be done there are also several sections of second-class road surface to be removed, that formed the drive around the building.

The largest single item in the restoration work has been the rebuilding of the mill race, and this is rapidly nearing completion. All of the stonework and excavation for this is complete except for a small section about fifty feet long, and this is 50 per cent complete. The work still to be done includes the building of the wall around the wheel pit and under the forebay, the removal of the dike at the end of the race (which has to remain for the present as a causeway for trucks to use to the area between the creek and race) and the construction of the head gate, sluice gate and forebay. It is anticipated all of this work on the race, except the removal of the dike, will be complete by June 16th.

(no mention of wheel)

Thomas T. Waterman

Thomas T. Waterman.

TTW:JD

cc-Mr. Demaray
Mr. Finnan
Mr. Kirkpatrick
Mr. Castella

12

Full Dress

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
EASTERN DIVISION, BRANCH OF PLANS AND DESIGN
WASHINGTON

January 17, 1935.

Memorandum for Mr. Commerer:

I thought you might be interested in four pictures of Muncaster Orist Mill, which structure we have been studying in relation to the Pierce Mill restoration. The two mills were built about the same time and contain some similar features.

According to the Baltimore Sun this mill was destroyed by fire on the night of January 14 (see clipping on the reverse of photo mount). I suppose that our photographs are the only good ones existing of the mill. Don't you think this would make a good news release for the Rock Creek Project?

I am enclosing four mounted photographs of the mill taken by Junior Landscape Architect Burns. These are from our files and we would appreciate having them back.

Charles E. Peterson.

Inclosure 513940

CEP:JD
cc Mr. Finnan ✓
Miss Story

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
EASTERN DIVISION, BRANCH OF PLANS AND DESIGN
WASHINGTON

Files
DM

March 2, 1935.

Mr. J. S. Fitz,
Hanover,
Pennsylvania.

Dear Mr. Fitz:

Now that the formalities have been completed connected with your contract for designing the installation of the Pierce Mill machinery, we would be glad if you would advise us regarding the penstock. Since your visit the portions of the mill race that are lined with stone have been substantially completed and one section of the trunking built, following exactly the fragments of the original. We would like to complete our layout for the forebay and penstock, and if you will advise us of the width of the wheel and give us any further details you wish followed we will be obliged.

Will you be in Washington soon or will you complete your layout before coming down?

Sincerely yours,

Charles E. Peterson,
Deputy Chief Architect.

By Thomas T. Waterman
Assistant Architect.

TTW:JD

cc-Mr. Clark
Mr. Castella
Mr. Kirkpatrick
Mr. Finnan ✓
Mr. Thrower

COPY - JWD - 3/28/35

THE FITZ WATER WHEEL COMPANY

Hanover, Pa., U. S. A.

March 28, 1935.

Mr. Thomas T. Waterman, Assistant Architect,
United States Department of the Interior,
National Park Service,
Washington, D. C.

Dear Mr. Waterman:-

In your letter of November 23rd, 1934, you gave us the following information in regard to the survey that your Engineers had just completed in the Pierce Mill Area:-

"Elevation of water level at head of race 61.80.
(This can be raised about 2'-0" we expect).

Bottom of the race 59.44.

Center line of main shaft 62.05.

Elevation of water level at end of tail race 53.76.
(This can be lowered to some extent)."

Can you tell us at this time whether any final decision has been reached in regard to raising the elevation of the water level at the head of the race by about 2', or whether you have decided to lower the tail race to any extent?

Thanking you in advance for any information that you can give us on these points, we remain

JSF.M.

Very truly yours,

FITZ WATER WHEEL COMPANY,

Per (Sig) J. S. Fitz

100/392

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
EASTERN DIVISION, BRANCH OF PLANS AND DESIGN
WASHINGTON

May 18, 1935.

Memorandum for
MR. CLARK:

Re: Pierce Mill.

Our consultant, Mr. Fitz, believes that the stone mill race continued from the present termination at the South, up to the building itself. We will act on his advice and abandon the use of trunking at this location. This will leave the head-gate and forebay alone to be constructed of wood. If it is too late to cancel the contract for this stock please inform us what credit can be allowed.

Thomas T. Waterman.

TTW:JD

Mr. Finnan ✓ - Room 1052. Navy Bldg.
Mr. Kirkpatrick
Mr. Castella
Mr. Amonette

File

392

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
WASHINGTON

National Capital Parks

May 23, 1935.

Memorandum for Mr. Waterman
through Superintendent Finnan.

Re: Pierce Mill

In reply to your memorandum of May 18, 1935 regarding the building of a stone mill race instead of trunking at Pierce Mill, I am rehiring stonemasons to start on it. However, there are two points I would like to have cleared up.

1. The stone wall was built with a 3" batter while the walls of the trunking were built vertical. On the understanding that trunking was to be built for the last part of the mill race, the stone wall was tapered from a 3" batter to a vertical slope. This means that a portion of the wall will have to be torn down and rebuilt to carry a 3" batter throughout.

2. What provision do you intend to make to strengthen the stone wall where the saw mill used to be? I do not believe a wall by itself will hold up.

In regard to the lumber ordered for the trunking, part has arrived and the balance will be in shortly, so, the contract can not be cancelled. However, I believe it can be transferred to Parks with proper credit to this job.

One other point, the prints call for the number of lights in the lower window sash to be twelve and those in the upper to be eight. I understand you have verbally instructed Mr. Kincheloe, my Carpenter foreman, to have only eight in the lower sash and twelve in the upper. I would like to know whether you wish us to follow the approved blueprint or your verbal orders.

George [illegible] Clark,
Assistant Superintendent.

C
O
P
Y

July 7, 1936.

Memorandum for Mr. Vint:

Referring to Mr. Gable's memorandum of June 26, I would say that the head of water required to operate Pierce's Mill was carefully considered. At the time, it was decided that the present dam would have to be raised 2 feet, or a new dam built to run the mill at full efficiency; funds were not available for either operation and thematter was put over for later consideration.

The consensus of opinion in this branch, was that the dam should be rebuilt on the site of the old one near the head gate and in conformance with the design of the original, washed out about 1899. We have two fine photographs of this original dam, which was a timber crib with stone fill. There is no doubt in my mind that this is the dam that should be rebuilt. The present one is in the "boulder" style and is not in harmony with the stone work of Pierce Mill or with traditional mill dams. A timber crib would be not only extremely interesting, but in perfect harmony with the building and surroundings.

Thomas T. Waterman.

M & C Div
11-4-36
1:30 PM

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
EASTERN DIVISION, BRANCH OF ENGINEERING
WASHINGTON

October 29, 1936.

Memorandum to
MR. FINNAN:

Subject: Pierce Mill Restoration.

Inspection of Pierce Mill and the mill race leading to the wheel indicates that the mill race has from six inches to one foot of silt in the bottom which prevents the free flow of water.

It was also observed that there is a leak at one of the spillways of the mill race which is undermining the walls and the spillway gate. It is recommended that measures be taken immediately to correct this leak before some serious damage is caused to the wall of the mill race which would prevent the operation of the mill.

While at the mill there were at least ten visitors who showed intense interest in all phases of the restoration, and it is believed that as soon as the mill is put in operation for the grinding of corn and wheat that it will be one of the most popular points of interest in Rock Creek Park.

F. F. Gillen,
Chief, Construction Section.

/42 - DC
/Rock Creek Park
-90
)/Rock Creek Park-
-90-40
-70

July 12, 1940.

JUSTIFICATION FOR CONSTRUCTION OF A NEW DAM AT PIERCE MILL

The operation of Pierce Mill depends upon the restoration of the water level upstream to the elevation it had when the mill was in operation. Impounding to this ele ation with the present dam, which was not designed with this elevation in mind, has resulted in the destruction of an extensive area of valley floor that formerly was both beautiful and usable. The area now is inundated frequently, leaving behind silt deposits which destroy vegetation, and render the area completely unusable. In addition, the channel is rapidly becoming silt filled and the overflow conditions aggravated thereby. A new dam, designed to provide the necessary head for mill operation and, at the same time, capable of being opened to the original stream bed elevation so as to prevent overflow and to scour silt deposits from the upstream bed is necessary.

The existing dam cannot be modified to meet the requirements, and a completely new structure is necessary. Such a structure, including the restoration of the presently destroyed area, is estimated to cost $25,000.

CROSS REFERENCE - SEE 1030-20/42 D.C.

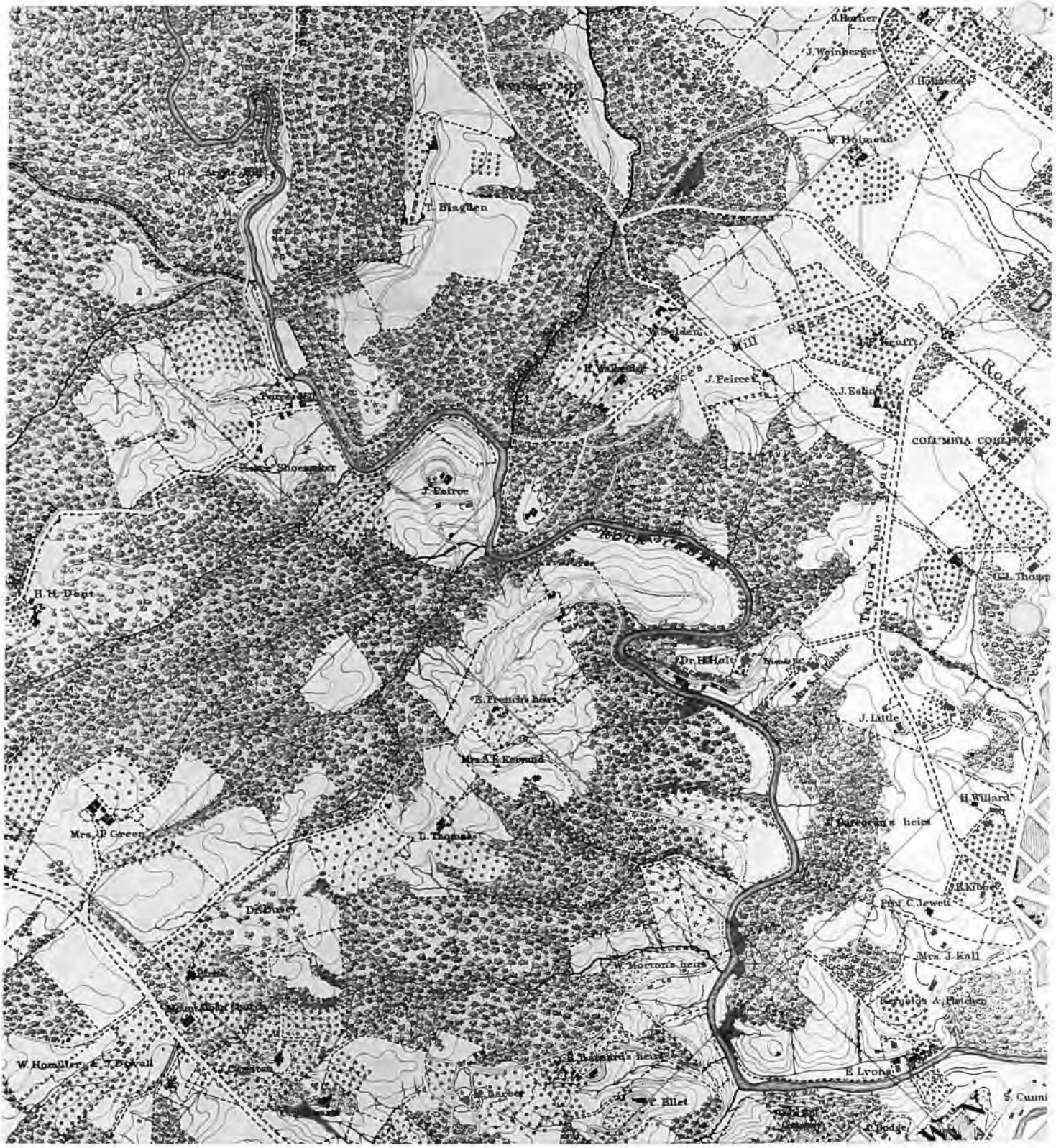
B. Cartographic

1. Topographical Map (part of), District of Columbia surveyed 1856, '57, '58, '59

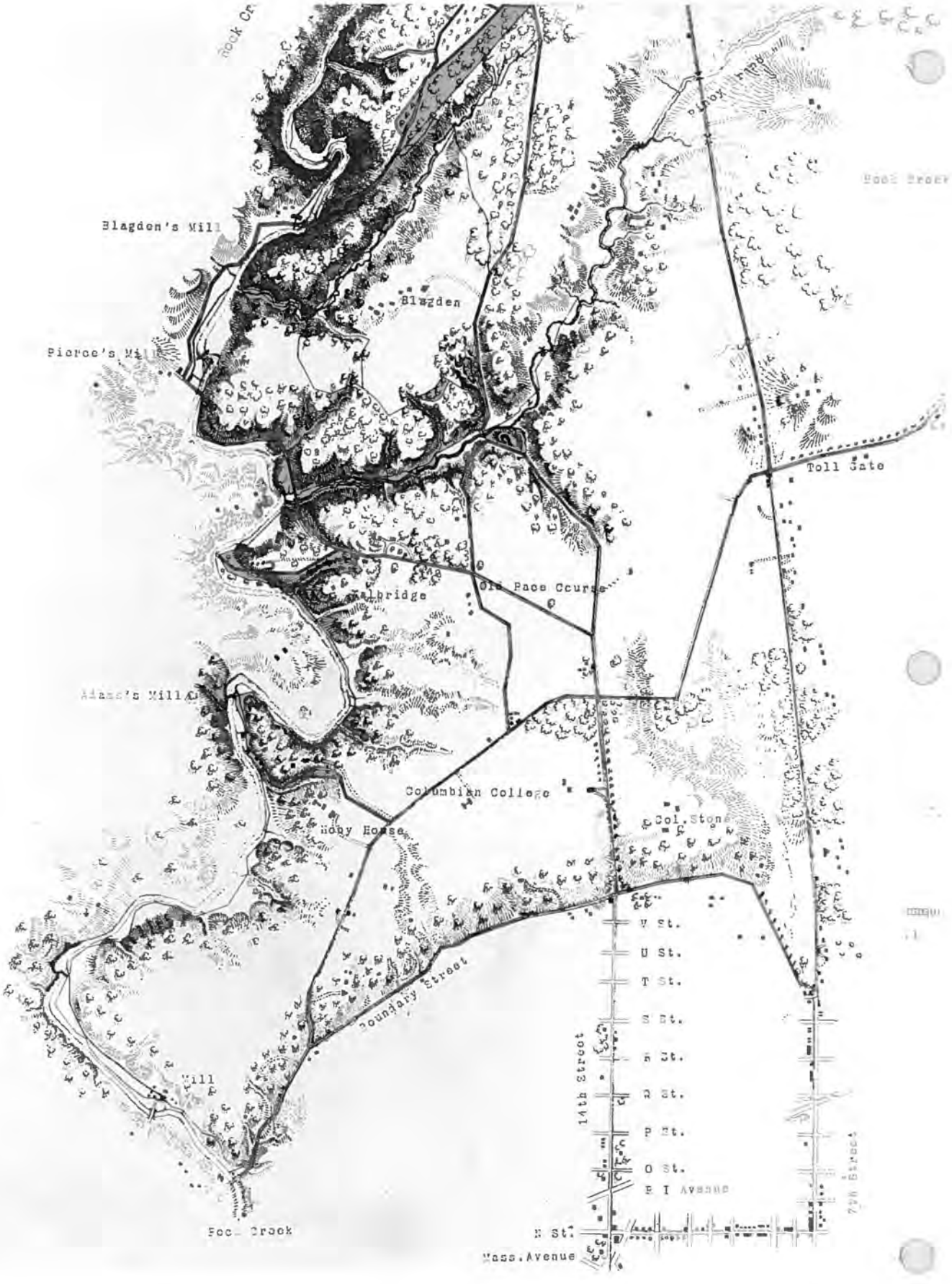
A. Boschke

Published in 1861

Library of Congress Collection


J. Weinberger
W. Holmeade
T. Blagden
Fourteenth Street Road
Mill Race
J. Peirce's
J. Eaton
COLUMBIA COLLEGE
Baker Shoemaker
J. Petrow
ROCK CREEK
H. H. Dent
Taylor Lane Road
Dr. H. Holy
Mrs. M. Hobbie
E. French's heirs
J. Little
Mrs. A. E. Kennard
H. Willard
Mrs. P. Green
D. Thomas
Dr. Busey
W. Morton's heirs
Mrs. J. Kall
W. Hamilton & J. Duvall
E. Lyons
C. Billet
C. Dodge

2. Map of District north of Washington, D. C.
(part of) made in 1859-60
by H. L. Abbot and F. W. Vaughan
Library of Congress Collection


Blagden's Mill
Blagden
Toll Gate
Old Race Course
Columbian College
Holy House
Col. Stone
Boundary Street
14th Street
Mass. Avenue
V St.
U St.
T St.
S St.
R St.
Q St.
P St.
O St.
N St.

3. Environs of Washington - 1864

prepared from original Surveys in the

Engineer Department

6 inches to 1 mile - 20 feet contour inter.

National Archives

Record group No. 77

Map F 99, sheet 2 (part of)


Blaydens
Road
Argyle Mill
Piney Branch Road
T. Blayden
Piney Branch
Pierce's Mill Road
J. Peirce
77°03'
77°02'

4. Coast and Geodetic Survey (2 sheets)

No. 33, 23

surveyed in 1884

published in 1892

Published by the Coast and Geodetic Survey.
District of Columbia, Sheet No. 33 Scale 1:4800.
The contour interval is 5 feet; the datum plane is 0.623 feet above halfside level of the Potomac River.
No. 3123 Price 15 cents.



Published by the Coast and Geodetic Survey, District of Columbia, Sheet No. 33 Scale 1-4800. The contour interval is 5 feet; the datum plane is 0.623 feet above half-tide level of the Potomac River.

No. 3133 Price 15 cents



5. District of Columbia, sewer construction drawings.

(District Engineers Office)

1915 (2 sheets)

1964 (~~3~~ 2 sheets)

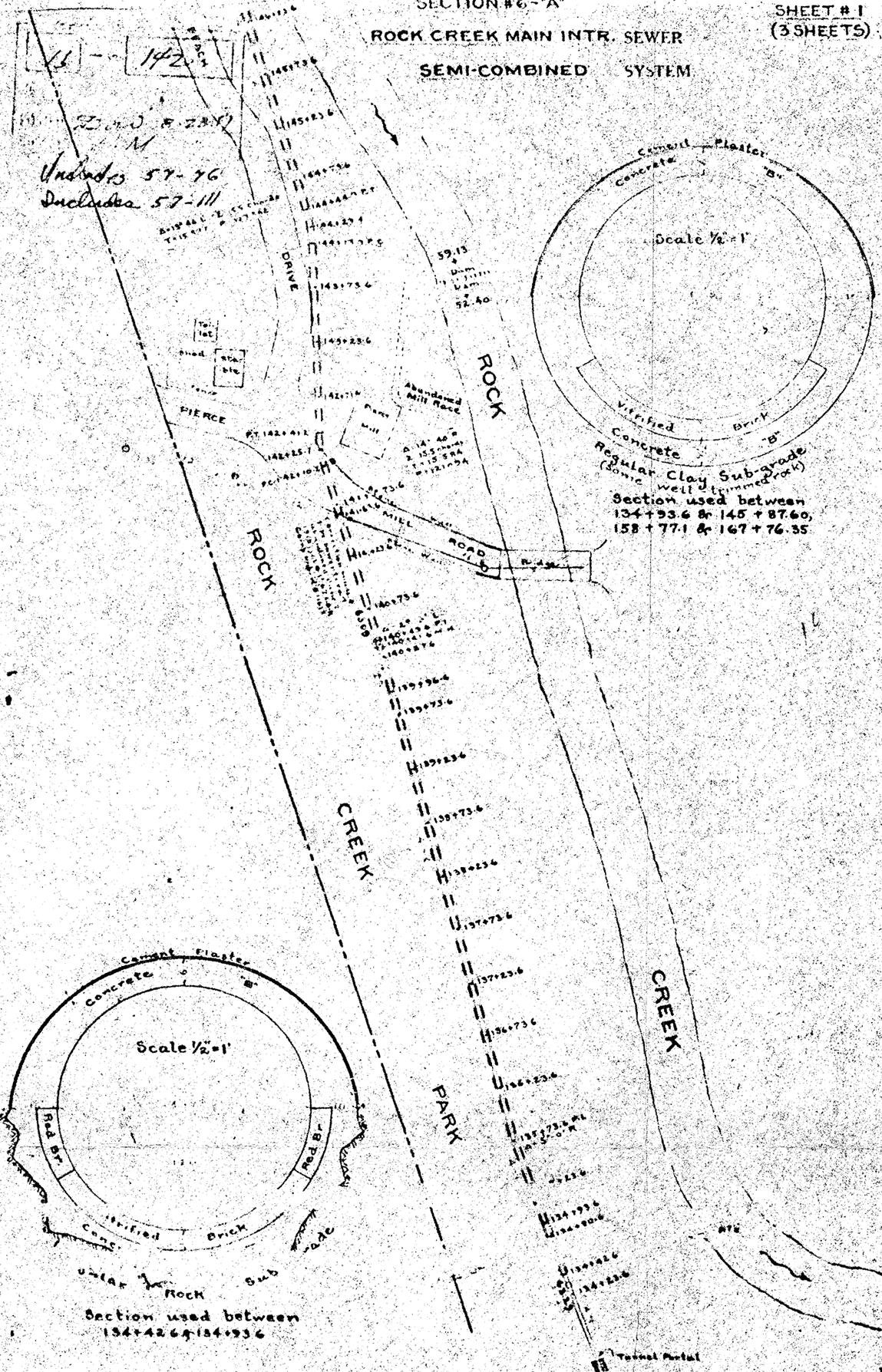
1964 (1 sheet) water main

SECTION #6 - "A"

SHEET # 1
(3 SHEETS)

ROCK CREEK MAIN INTR. SEWER

SEMI-COMBINED SYSTEM



Regular Clay Sub-grade
(Some well trimmed rock)

Section used between
134+93.6 & 145+87.60,
158+77.1 & 167+76.35

Section used between
134+42.6 & 134+93.6

SCALE 1"=100'

Sewer Division

Engineer Department, D.C.

RECORD SHEET SEWER CONSTRUCTION

Index

Location ROCK CREEK VALLEY, WEST SIDE, COLEMAN PARK to BOULDER BRIDGE

Contractor The Warren F. Brenizer Co. Inspectors (C.C. Baden, Robert H. Lamb, J. L. Ford, R.V. Roberts) Contract # 5657.

Location Title Appropriation (Sewage Disposal System, D.C., Rock Creek Main Interceptor - 1913.

Work Begun Sept 8th, 1914
Work Completed March 26th, 1915 Field Book #54-1914 - P. 7-37 File

STATION	In & Up	Out	Grade	Cut	REMARKS
B. M.	5.55	71.71			Extreme westmost edge of square cap stone on north wall of coping leading to bridge S. of Pierce Mill.
T. P.	77-76				
	0.73				
	65.62	12 3.7 64.89			
134+23.6		2 0.8 63.54		12.27	For line & grade only
+42.6					Begin Sewer.
+63.6		6.71 58.91		7.56	
+68.6		11 5.5 54.07		2.72	
+80.6		11 5.5 54.07		2.63	
+93.6		5.23 60.39		8.99	
135+23.6		7.81 57.81		5.27	
P.I. 173.6 Δ=5°0 R.		5.81 59.81		5.56	
	7.42				
	67.23				
136+23.6		8.34 58.91		4.37	
+73.6		7.53 59.70		5.07	
137+23.6		5.51 61.72		7.00	
+73.6		4.28 62.95		8.14	
138+23.6		3.51 63.72		8.82	
+73.6		3.49 63.74		8.75	
[illegible]		3.5[illegible] 23		8.21	
+13.6		4.39 62.84		7.67	
	5.26				
	68.10				
+96.6		5.61 62.49		7.28	
140+27.6		5.18 62.92		7.65	
+41.6					Build manhole
P.I. +43.6 Δ=2°3' L.		4.77 63.33		8.03	
+73.6		3.91 64.19		8.84	
141+23.6		1.67 66.43		10.99	
	7.71				
	74.14				
+63.6					In line of ℄ of stone wall (produced) on south side of road leading to bridge over Rock Creek & of Pierce Mill & to nearest edge of square pillar
+73.6		4.89 69.25		13.72	
P.C. 142+10.2 Δ=14°40' R.		5.42 68.72		13.12	
+25.7 2-15.5 Chords		5.88 68.26		18.63	
P.T. +41.2 T=15.584	R=121.094	6.73 67.41		11.75	
+73.6		7.85 66.29		10.57	
143+23.6		6.24 67.90		12.09	
+73.6		6.36 67.78		11.89	
	2.06				
	69.83				
P.C. 144+13.7 Δ=13°44' L.		3.14 66.69		10.73	
+29.4 2-15.3 chords	T=15.577	4.22 65.61		9.62	
P.T. +44.9	R=119.382	3.52 66.31		10.29	
+73.6		3.29 66.54		10.47	
145+23.6		4.19 65.64		9.48	
	4.09				
	69.73				
+73.6		5.80 63.93		7.68	
146+23.6		5.55 64.18		7.84	
+73.6		6.50 63.23		6.80	
147+23.6		6.62 63.11		6.59	
	5.15				
	68.26				

FINAL MEASUREMENT on SHEET #3

Land Side

Water Side

SEWER DIVISION,
ENGINEER DEPARTMENT, D.C.
JUN 7 - 1915

L.R.C.
Date May 22 1915

Assistant Engineer

Approved

SECTION #6~"A"

ROCK CREEK MAIN INTR. SEWER

SEMI-COMBINED SYSTEM

SHEET #2 (3 SHEETS)

Sewer Division — SEWAGE DISPOSAL SYSTEM — Engineer Department D.C.

RECORD SHEET SEWER CONSTRUCTION

Index

Location ROCK CREEK VALLEY, WEST SIDE, COLEMAN PARK to BOULDER BRIDGE.

Contractor The Warren F. Brezinger Company — Inspectors C.C. Baden, Robert H. Lamb, J.J. Ford, R.Y. Roberts — Contract #5657

Foreman — Job — Appropriation Sewage Disposal System, P.C., Rock Creek Main Interceptor ~ 1915

Work Began Sept. 8th., 1914

Work Completed March 26th., 1915 Field Book #54~1914~P.7-37 File

Park line runs straight northward to Rock Creek Park stone #67, which is 298' from M.H. at station 156+38.60

15 143

Ex Inv 825 ()

Includes 57-74

Includes 57-111

ROCK CREEK PARK

BEACH

ROCK CREEK

Rock Creek Park stone #61

180.30'

This point on top of sewer produced is 2.82' S. of C of M.H. at 149+23.6

P.C. 147+74.1 H

147+58.6

P.C. 147+43.1

147+23.6

146+73.6

146+23.6

145+73.6

145+23.6

P.C. 145+23.6

89.20

Drive

Scale 1/2"=1'

Concrete 6" — Vitrified Brick 6" — Red Br. — Pad — 1" Plank — 1" Plank

Broken stone about 4" thick

T.C. sub-drain

Section used between
145+87.60 to 158+10.97
158+47.36 " 158+77.10

SCALE 1" = 100'

STATION	D. & In.	I	P.	Grade	C.	REMARKS
P.C. 68.26						
147+43.1 Δ=17°06' R		5.05	63.21			6.46
+58.6 R=153 chords		5.00	63.26			6.48
P.T. +74.1 R=103.91'		5.03	63.21			6.60
148+23.6		5.23	63.03			6.33
+73.6		4.90	63.36			6.57
149+23.6		4.83	63.43			6.55 Build manhole.
+73.6		4.88	63.38			6.41
150+23.6		4.96	63.30			6.24
+73.6		5.02	63.24			6.09
151+23.6		4.82	63.44			6.20
+73.6		4.40	63.86			6.53
152+23.6	4.96	4.56	63.70			6.28
	63.66					
+73.6		4.75	63.91			6.40
153+23.6		4.71	63.95			6.35
+73.6		4.[illegible]	64.04			6.37
[illegible]		[illegible]	64.03			6.25
+73.6		5.05	63.61			5.74
155+23.6		4.13	64.53			6.57
+73.6		3.50	65.16			7.11
156+23.6	9.16	3.38	65.28			7.14
	74.44					
+38.6						Build manhole.
P.C. +40.2 Δ=18°30' L		9.03	65.41			7.24
+55.7 R=135 chords		8.95	65.49			7.29
P.T. +71.2 R=96.11		8.73	65.71			7.48
+73.6		8.68	65.76			7.53
157+23.6		6.83	67.61			9.29
P.C. +48.8 Δ=48°0' R		5.88	68.56			10.20
+56.3 5-7½ chords		5.73	68.71			10.33
+63.8 T=19.95		7.50	66.94			8.54
+71.3 R=44.81		7.67	66.77			8.34
+78.8		7.64	66.80			8.35
P.T. +86.3		7.65	66.79			8.32
158+[illegible]6		8.46	65.98			7.46
+10.97					58.55	Cast iron pipe begins.
					58.72	
+47.36					[illegible]	Cast iron pipe ends.
+53.6	10.90	9.07	65.37		56.4	6.63
	76.17					
P.C. +62.1 Δ=28°28' L		10.28	65.89		58.17	7.12
+69.6 3-7½ chords		9.88	66.29		57.77	7.50
+77.1 T=11.40'		9.87	66.30		57.82	7.48
P.T. +84.6 R=45.29'		9.39	66.78		58.35	7.83
159+08.6		4.76	71.41		59.37	12.04
+23.6		4.73	71.44		59.63	11.81
P.C. +34.4 Δ=32°09' R		5.18	70.99		59.82	11.17
+41.9 3-7½ chords		5.75	70.42		59.95	10.47
+49.4 T=11.57'		5.82	70.35		[illegible]	2.7
PT +56.9 R=44.[illegible]		[illegible]	[illegible]19		[illegible]	2.27

4'-6" brick con. — 4'-6" cast iron

CONTINUED MEASUREMENT on SHEET #3

Date May 22 1918

Assistant Engineer

SEWER DIVISION,
ENGINEER DEPARTMENT, D. C.
JUN [illegible] 1915

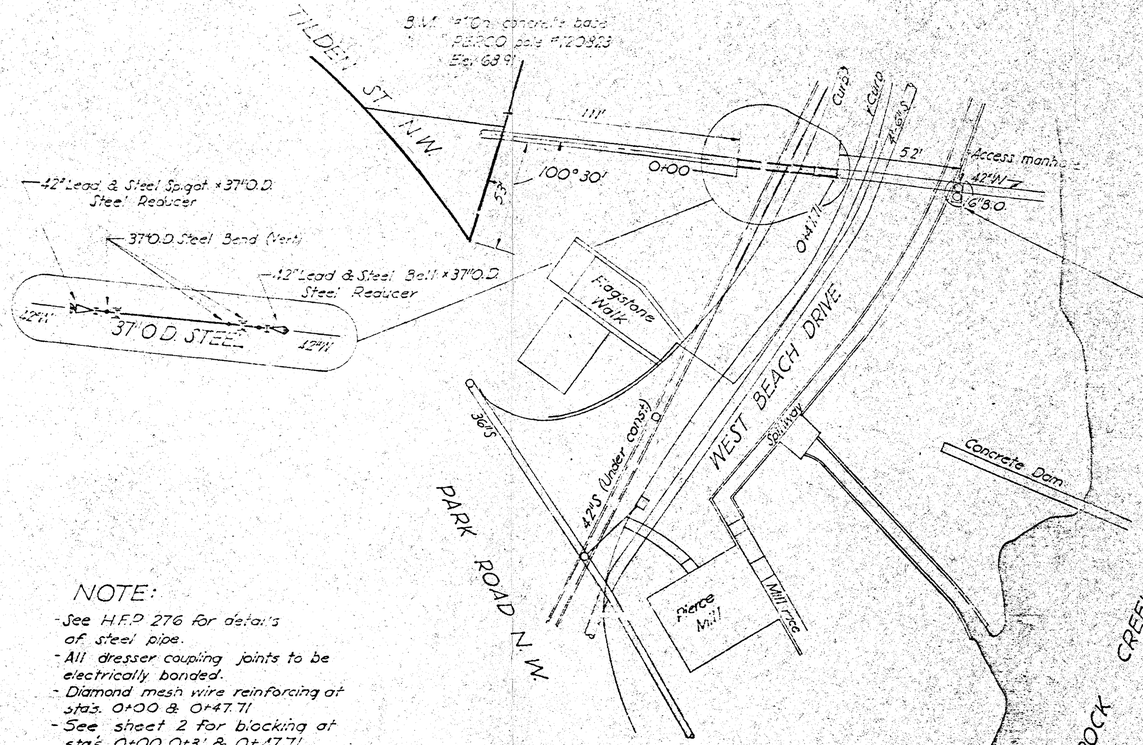
Approved

Superintendent

SHEET OF 2

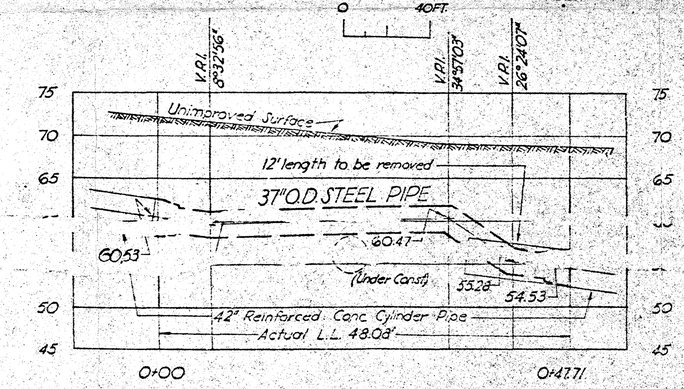
JOB NO
BEGUN
COMPLETED
Suspended 3-4 - 3-5
CONTRACT NO.
CONTRACTOR
FOREMAN-INSP. Shirley
ENGINEER
FIELD BOOK PAGE 71

NOTES-CHARACTER OF CUT ETC.
Rock & Fill



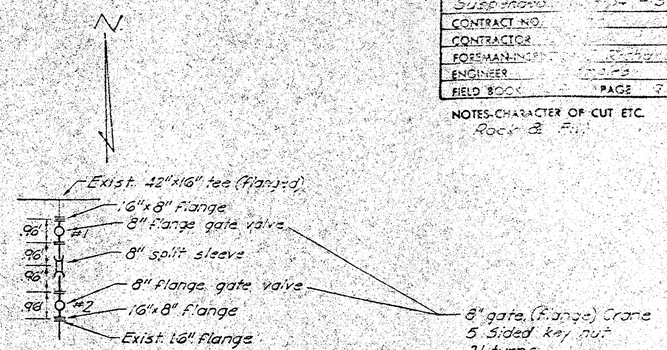
PLAN

Scale: 1"=40'
0 40 FT.



SECTION

Scale
Hor. 1"=10' Vert. 1"=10'
0 10 FT.



WORK SUMMARY

45 LIN. FT. 37" O.D. STEEL PIPE
1 42" LEAD & STEEL SPIGOT x 37" O.D. STEEL REDUCER
1 " " " " BELL " " " "

NOTE:

- See H.F.D 276 for details of steel pipe.
- All dresser coupling joints to be electrically bonded.
- Diamond mesh wire reinforcing at stas. 0+00 & 0+47.71
- See sheet 2 for blocking at stas. 0+00, 0+31 & 0+47.71.

AS BUILT
CH'D CH'D

C			
B			
A			
DATE	REVISION	BY	
6/17/64	AS BUILT	B.L.G.	

DISTRICT OF COLUMBIA
OFFICE OF PLANNING, DESIGN AND ENGINEERING
DEPARTMENT OF SANITARY ENGINEERING
DAVID V. AULD, DIRECTOR

2ND HIGH TRUNK WATERMAIN
VIC. WEST BEACH DRIVE & TILDEN ST. N.W.
REPLACE
42" CONC. WITH 37" O.D. STEEL PIPE

SCALE As Shown | DRAWN B.L.G.
INTERCEPTOR | CHK'D
SYSTEM | CHK'D
SURVEYED
DATE | APPROVED
DRAWING NO.

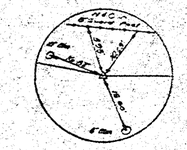
Revised 2-10-64 B.L.G.

DESIGNED 9-5-63
DRAWN 9-3-63
CHECKED 7-5-63
CONTRACT NO. 19779
CONTRACTOR SEARS CONSTRUCTION CO.
INSPECTOR PHARES
ENGINEER C. SAMPLES
FIELD BOOK 909 PAGE 1-35

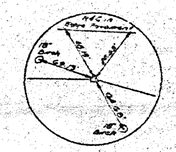
NOTES-CHARACTER OF CUT, ETC.
ROCK - CLAY - ROTTEN ROCK - SAND & CLAY



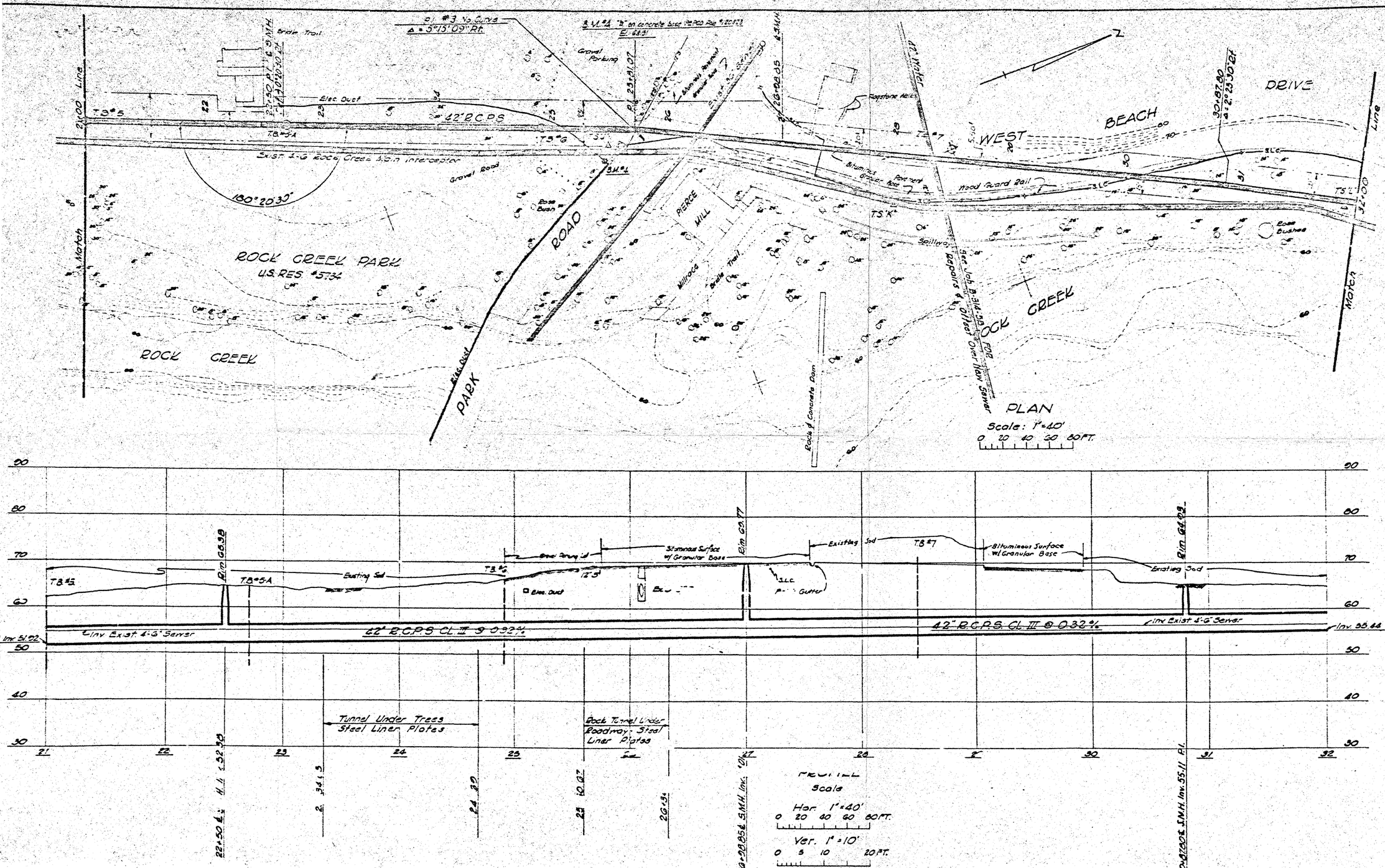
Traverse Station "J"



Traverse Station "K"



Traverse Station "L"



AS BUILT

C			
B			
A	6-14-63	Revised Alignment	J.W.T.
DATE		REVISION	BY
10-3-63		AS BUILT	J.W.T.

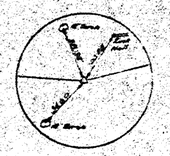
DISTRICT OF COLUMBIA
OFFICE OF PLANNING, DESIGN AND ENGINEERING
DEPARTMENT OF SANITARY ENGINEERING
DAVID V. ALLD, DIRECTOR

ROCK CREEK MAIN INTERCEPTOR RELIEF
FROM NATIONAL ZOOLOGICAL PARK TO
BROAD BRANCH ROAD
SECTION II

SCALE As Noted	DRAWN RJ
INTERCEPTOR R.C.M.	CHECKED A.T.J.
SYSTEM SANITARY	SUBMITTED
SURVEYED	
DATE June 1963	RECOMMENDED
DRAWING NO. B-314-5	

JOB NO	B-514-5
BEGUN	9-3-63
COMPLETED	7/3/64
CONTRACT NO.	19379
CONTRACTOR	SEWER CONST. & TUNNEL CO.
INSPECTOR	PHARES
ENGINEER	C. SAMUELS
FIELD BOOK	909 PAGE 93

NOTES-CHARACTER OF CUT, ETC.
ROCK, CLAY, ROTTEN ROCK, SAND & CLAY



Traverse Station "M"

P.I. #1
Δ = 5°33'11" Rt.
P.I. No Curve

Curve #5
Δ = 8°11'00" Rt.
R = 1100'
T = 78.6'
L = 157.0'
2-8' Joints
Drop = 3.5'

Curve #6
Δ = 30°23'30" Rt.
R = 73.32'
T = 19.01'
L = 38.88'
6-8' Joints
Drop = 4.1'

Match Line

WEST BEACH DRIVE

Bituminous Pavement Granular Base

BROAD BRANCH ROAD

ROCK CREEK PARK

U.S. RES. #5732

Existing G.G. Rock Creek Main Interceptor

Junction Chamber "B" See Sh. 6

Bridle Trail

Existing GG Sewer

Existing 5'0" Sewer

Abandoned

B.M. #5 "a" Chiseled in N.E. Corner of Concrete Base at Sewer Gaging Station E. 65.73

B.M. #6 "a" Chiseled on top of Rock Nail El. 69.13

BROAD BRANCH RUN

BEACH DRIVE

Existing G.G. Rock Creek Main Interceptor

PLAN
Scale: 1"=40'
0 20 40 60 80 FT.

Existing Sod
Unfinished Surface w/ Granular Base
T.B. #8
T.B. #9
S.L.C.
Inv. Existing 4'-0" Sewer 42" R.C.P.S. Cl. III @ 0.32%
42" R.C.P.S. Cl. III @ 0.32%
For Top Elev. See Chamber Detail on Sheet #6
Junction Chamber "B" See Detail Sheet 6
Existing GG Rock Creek Main
Inv. 33.44
Sta. 32+00
Sta. 35+20.8 S.M.H.
Sta. 37+09.01 P.I. Curve #6
Sta. 37+24.91 P.T.
Sta. 38+29.69 P.I. Curve #6
Sta. 39+40.87 End Project
Inv. 39.27.50 to S.M.H. by 36 G.T.
Inv. 39.27.64 Begin Structure "B"
Inv. 39.40.87 End Project
Inv. 57.03

PROFILE
Scale
Hor. 1"=40'
0 20 40 60 80 FT.
Ver. 1"=10'
0 5 10 20 FT.

AS BUILT

C			
B			
A			
DATE	REVISION		BY
10-16-68	AS BUILT		W.G.T.

DISTRICT OF COLUMBIA
OFFICE OF PLANNING, DESIGN AND ENGINEERING
DEPARTMENT OF SANITARY ENGINEERING
DAVID V. AULD, DIRECTOR

ROCK CREEK MAIN INTERCEPTOR RELIEF
FROM NATIONAL ZOOLOGICAL PARK TO
BROAD BRANCH ROAD
SECTION II

SCALE As Shown	DRAWN R.J.
INTERCEPTOR R.C.M.	CHECKED H.T.A.
SYSTEM SANITARY	SUBMITTED
SURVEYED	
DATE JUNE 1969	RECOMMENDED
DRAWING NO. B-514-5	

6. N.C.R. Map - 1937

Proposed changes in parking area (shows raceway layout after restoration)

1 foot contour interval

ROCK CREEK

PROPOSED BRIDLE TRAIL BRIDGE

RELOCATION OF BRIDLE TRAIL

DAM SPILLWAY

PROPOSED BRIDLE TRAIL BRIDGE

RETAINING WALL

BRIDLE TRAIL UNDERPASS

TUNNEL

PARKING AREA

OLD PIERCE MILL

MILL YARD

COBBLESTONE PAVING

LAT.

BARN

WOODEN GARAGE

COBBLESTONES

BRIDLE PATH TO BE OBLITERATED

STONE RETAINING WALL

SHELTER CABIN (TO BE REMOVED)

RELOCATION OF BRIDLE PATH

PLAY AR

Recommended
Chief Ar
Cleared for
Engineering
Chief, E
Concurred:
Approved:

C. 1. Drawings. (3 sheets)-1935

drawings made by Fitz Water Wheel Company

for the restoration of the wheel

(N.C.R. file)

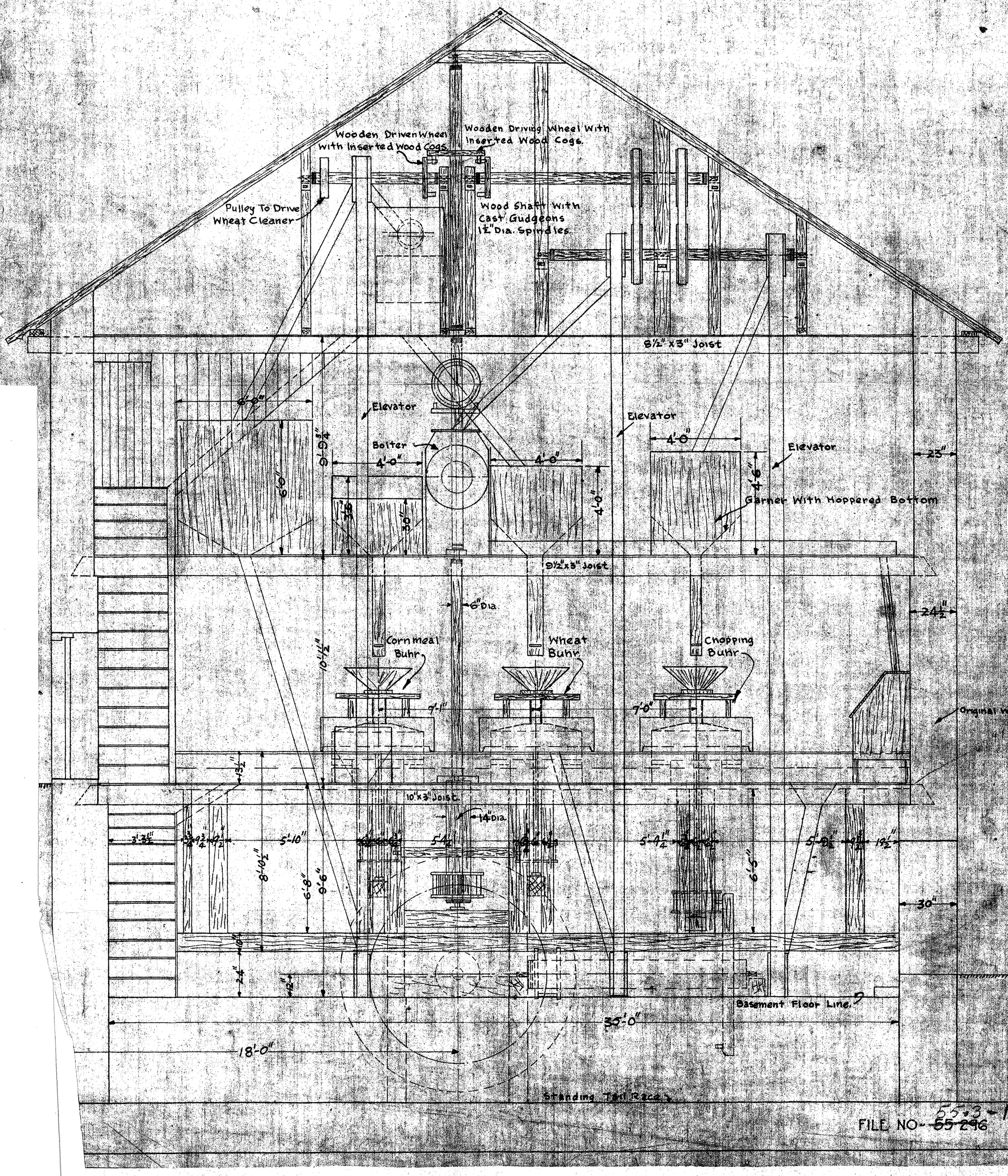
U. S. DEPARTMENT OF INTERIOR, NATIONAL PARK SERVICE.

PLANS FOR RESTORATION OF OLD PIERCE MILL IN ROCK CREEK PARK, WASHINGTON, D.C.

BY FITZ WATER WHEEL CO., HANOVER, PA.

SHEET No 1

Revised 5-14-35
" 6-3-35



FILE NO- ~~55-296~~ 55-3-18

U.S. DEPARTMENT OF INTERIOR, NATIONAL PARK SERVICE.

PLANS FOR RESTORATION OF OLD PIERCE MILL IN ROCK CREEK PARK, WASHINGTON, D.C.

BY FITZ WATER WHEEL CO., HANOVER, PA.

SHEET Nº 2.

Revised 5-13-35

All Wood Gears To Be Provided To Drive Elevator Shafts And Cleaning Machines As Shown In Sheet Nº 1.

Wood Gears To Drive To Bolting Reels And Cask Hoist

Bolting Chest To Set As Shown On Sheet Nº 3

64" Spur Mortise Gear And Pinions To Drive Corn And Wheat Buhrs, Both Separately And Together

Master Gear 8'-2" P. Dia. With 69 Hard Hickory Cogs. Wheel To Be Made of Best Clear White Oak Carefully Framed Mortised. Supply Trundle And Wallower To Correspond.

FILE NO. 55-297

U. S. Department of Interior, National Park Service.

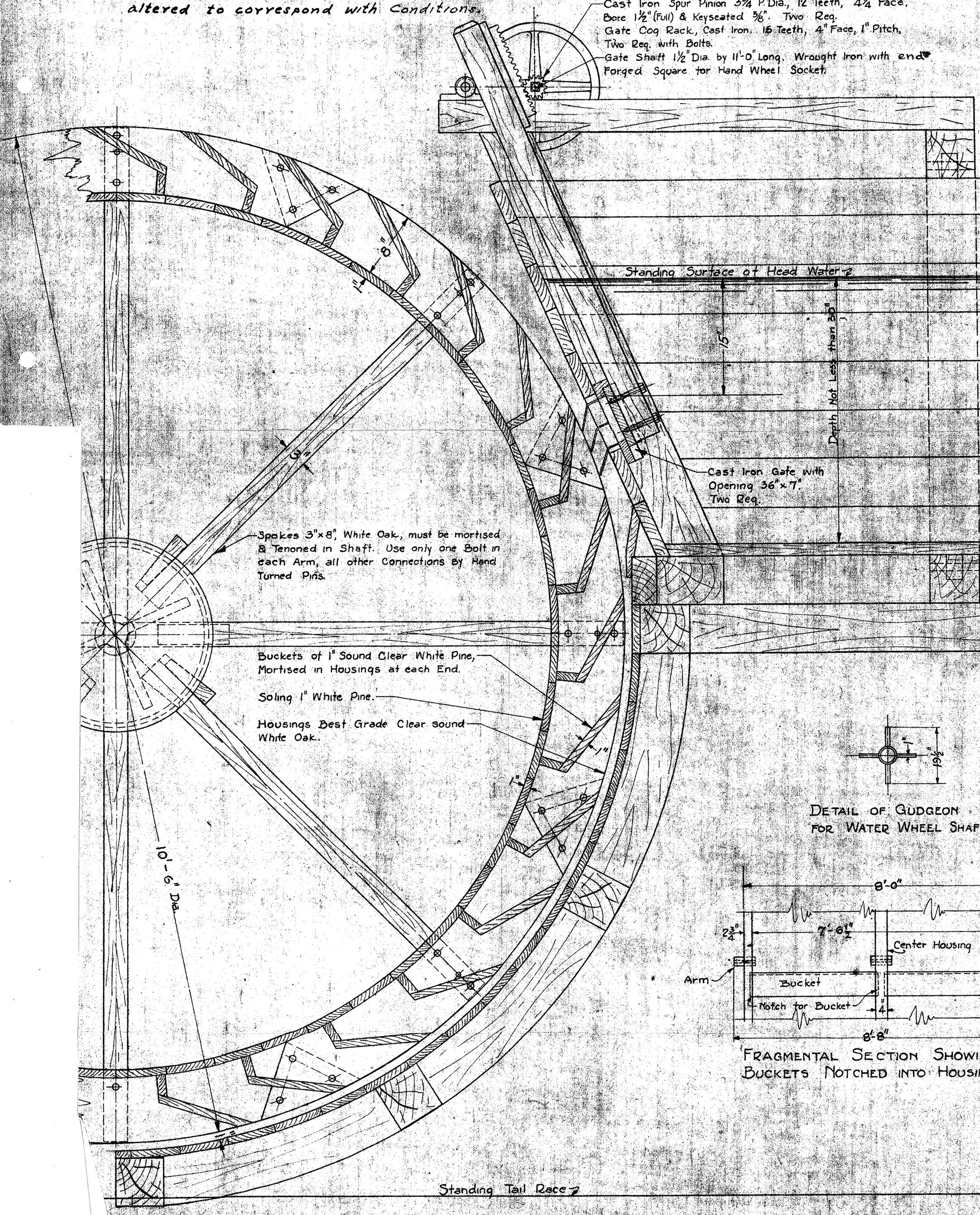
Plans for Restoration of Old Pierce Mill in Rock Creek Park, Washington, D. C.

by Fitz Water Wheel Co., Hanover, Pa.

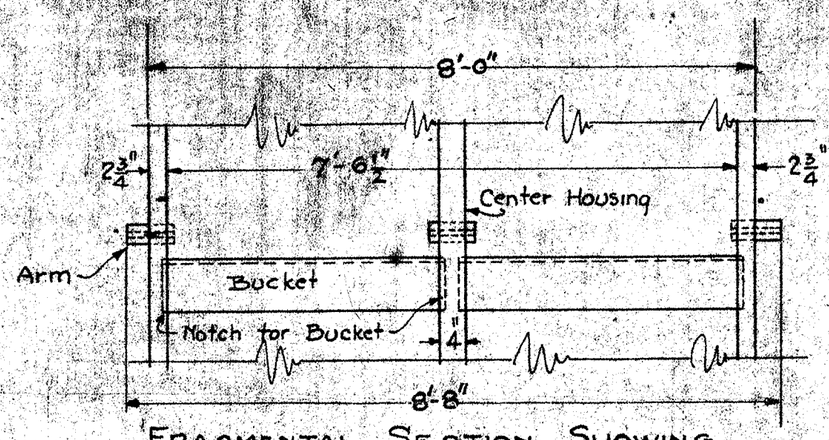
Sheet No 4

Revised 5-13-35

NOTE. *Total Working Head may be 24" lower than indicated. In that case, Forebay must be lowered 24" and design of Front end altered to correspond with Conditions.*



DETAIL OF GUDGEON FOR WATER WHEEL SHAFT.



FRAGMENTAL SECTION SHOWING BUCKETS NOTCHED INTO HOUSINGS

N.C.P. 55.3-21

55.3-21
FILE NO. ~~55-299~~

Photograph 15

Muncaster Mill

1934-35

MD 16 Gaith v.

Photograph 14

Water-wheel - as reconstructed (1935)

*note - no by-pass sluice

D. C. Wash. 109-14

Photograph 13

Pierce Mill, south side, from across

Rock Creek (1935)

D. C. Wash. 109-11

Photograph 12

Pierce Mill, northeast corner - completed restoration (1935)

D. C. Wash. 109-10

Photograph 11

Reconstructed mill-race and wooden run off gate (1935)

D. C. Wash. 109-18

Photograph 10

Pierce Mill, south elevation - completed restoration (1935)

D. C. Wash. 109-12

Photograph 9

Pierce Mill, northwest corner - before new wheel was installed (1935)

D. C. Wash. 109-6

Photograph 8

Pierce Mill, new forebay - construction in progress, note centering of newly completed arched opening for wheel shaft. (1935)

D. C. Wash. 109-13

Photograph 7

Pierce Mill, east elevation - construction in progress (1935)

D. C. Wash. 109-7

Photograph 6

Excavation of mill-race - remains of a wooden gate in foreground. (1934-35)

D. C. Wash. 109-16

Photograph 5

Excavated mill-race - shows remains of a wooden gate or trunking (1934-35)

D. C. Wash. 109-15

Photograph 4

Excavation of mill-race - showing stone fill removed.

(1934-35)

D. C. Wash. 109-17

Photograph 3

Dam across Rock Creek near Pierce Mill,

taken about 1900.

D. C. Wash. 109 A-2

Photograph 2

Dam across Rock Creek near Pierce Mill,

taken about 1900.

D. C. Wash. 109 A-1

D. Photographs (Library of Congress)

1. Pierce Mill from across the creek,

taken about 1900.

D. C. Wash. 109-2

Muncaster Mill
Gaithersburg
Montgomery County
Maryland

HABS No. MD 94

MD
[illegible]
1-2



MUNCASTER MILL

Historic American Buildings Survey
Albert S. Burns, Photographer
c. 1934-35

Photograph 16

Muncaster Mill - water-wheel

1934-35

MD 16 Gaith v.

Muncaster Mill
Gaithersburg
Montgomery County
Maryland

HABS No. MD 94

MD
16-GAIT
1-4



C. 1934-1935

Historic American Buildings Survey
Albert S. Burns, Photographer

DETAIL OF WHEEL

CAMPBELL WATER WHEEL CO.

TELEPHONES
WALNUT 3-1234

TRADE MARK

NIGHTS AND HOLIDAYS
EVERGREEN 6-9799

BOURSE BUILDING
21 SOUTH 5TH STREET
PHILADELPHIA, PA. U.S.A. 19106

January 19, 1967

United States
Department of the Interior
National Park Service
Washington Planning and Service Center
1730 North Lynn Street
Arlington, Virginia 22209

ATT: Mr. Henry A. Judd
Acting Chief Architect
Historic Structures and HABS

My dear Mr. Judd: PIERCE MILL

I was pleased to work with Mr. Cliver at Pierce Mill on January 14th and 15th and to see and talk with you on January 16th.

In order to restore the Dam and Mill Race and Flume and Water Wheel to what they were originally I feel it is necessary to go back and plan them just like I believe the original Old Millwright planned them. These Old Millwrights were clever men. In my opinion, first they selected a Mill Site where they could get the maximum fall and then they selected the site of the Mill and laid out the Head Race and Tail Race and Dam. I feel that both economic conditions and the availability of a Mill Site determined where the Mill would be.

I feel that the original Dam was at the upper end of the valley near the two bridges where the two streams come together. The site of the Mill was selected near the lower road that crossed the valley or a road was built there to give easy access to the Grist Mill and the Saw Mill. In the early days a Grist Mill and a Saw Mill went together. Both furnished necessary products. I feel that the original site of the Grist Mill is just where it has always been. In my opinion, the Damwas placed as high up the valley as possible where the two streams come together and the Mill Race was dug on the west side of the Stream which is a natural location for it. Thus the Millwright got the maximum fall and the maximum power at the least expense.



my return to Philadelphia I found a Topographic Map of Washington which shows "Pierce Mill" and "Pierce Mill Road" but does not show the Dam or the Mill Race. It also shows roads on both sides of Rock Creek just as they are today except the road on the west side of Rock Creek has been made into a Bridal Path.

The fact that the road beside the Mill is called "Pierce Mill Road" may indicate that the road was built to provide access to the Grist Mill and the Saw Mill.

In my opinion, the logical location for the Saw Mill was across "Pierce Mill Road" from the Grist Mill and the only way to get power to it was to run the Mill Race behind the Grist Mill and install a second Water Wheel on the other side of "Pierce Mill Road" or to run a shaft under the road thru a stone culvert and drive the Saw Mill by the Grist Mill Water Wheel. I have seen it done both ways in Old Mills.

I might mention that in 1820 when Pierce Mill was built the country which Rock Creek drained was probably heavily wooded and these woods let the water down to the stream gradually and there was a better and more dependable flow of water and not the heavy floods that rush down Rock Creek today.

Locating the Dam up near the two bridges not only allowed the Millwright to get all the water possible to drive the Water Wheel or Water Wheels but it gave him the maximum head to install the largest possible Water Wheels and, due to the natural lay of the land, it enabled him to construct the Mill Race at the minimum cost, and to provide a long Mill Race that would give the maximum storage in dry times. Often Mills were operated by the storage of water in the Mill Race alone until the grist of grain was ground. As a boy I have seen it done many a time. Often a Mill Pond was made somewhere along the Mill Race to store water when the Mill was not being run.

Therefore, in my judgement, from studying the lay of the land and from knowing what the Old Millwrights did, I would say the Dam was placed up near the two bridges, the Mill Race was dug almost level along the west bank of Rock Creek, and an Overshot Water Wheel of the maximum diameter was installed at the Mill.

Building a low Dam up near the bridges would cost far less money than building a higher Dam down near the Mill and it would be far more advantageous

Mr. Cliver has asked me to give costs on:

(1) Dam
(2) Mill Race
(3) Flume
(4) Water Wheel

In order to give accurate costs it is going to require some investigating and possibly a month of my time. So, I have thought that I would give estimated costs first and then these might guide you in what you would like to do.

DAM

A Dam built at the upper end of the valley near the two bridges should be 2 feet high and 150 feet long. Mr. Cliver has specified a Log Dam but I think it should have some hidden features to prevent water getting underneath or around it. Tests will have to be made to determine how far down rock or other impervious material is at the site. Provision should be made to keep flood waters from getting around the Dam. The longer the Dam the better because then the flood waters will not rise so high over it.

I estimate that the Dam will cost approximately $50,000.00.

A Dam, only 2 feet high, made of stone and clay can be built much cheaper. This type of Dam is what may have been built originally. It is essentially a Diversion Dam, to divert the water into the Mill Race. Since you are not going to run the Mill to capacity, this type of Dam might be all right. Many Dams for Mills were built in this manner. You might build a Diversion Dam until you are in a position to build an authentic Log Dam. It would get the Mill started.

MILL RACE

The Mill Race I estimate to cost approximately $7,500.00.

Here again some investigation should be made especially to determine if a Sewer Line and a Water Line have not been laid down along the Creek. These should not interfere with the construction of the Mill Race but the Mill Race will have to avoid them.

FLUME

I have planned for a Cypress Wooden Flume from the Mill Race to the Water Wheel.

The cost I estimate at approximately $7,500.00.

WATER WHEEL

The Water Wheel should be approximately 10 feet in diameter and 8 feet wide. It should be made of Cypress except for the shaft which should be White Oak.

The cost of the Water Wheel I estimate at $10,000.00.

Maybe, from some Old Deeds or Old Maps, you can find more about the original Dam and Mill Race. Generally "Water Rights" were conveyed in a Deed. They are like "Property Rights". I have searched the Public Library here for Old Maps but have not been able to find anything of importance.

Please let me know anything I can do to help you.

Sincerely,

J. B. Campbell

J. B. Campbell