



WATER-RIGHT DOCKET

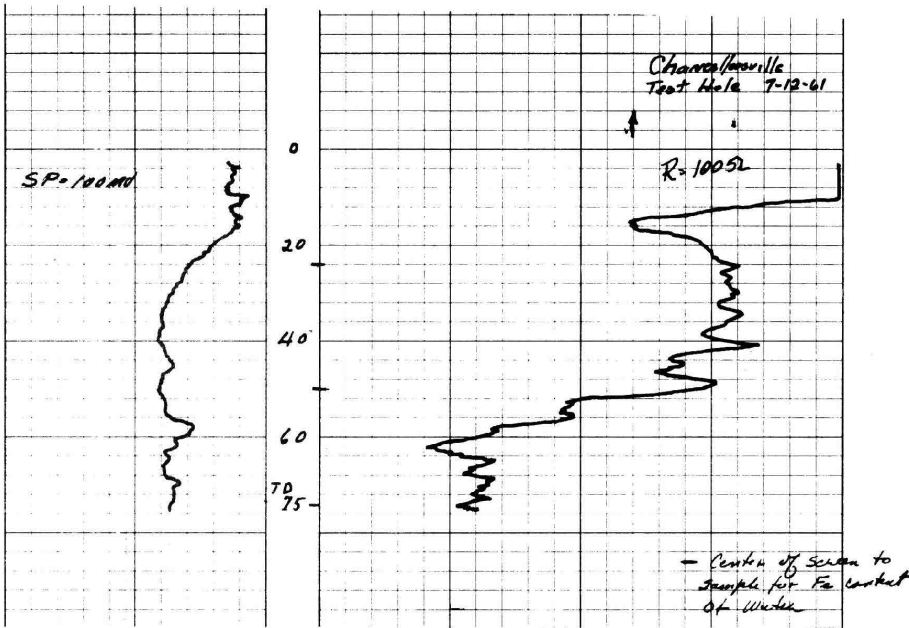
Fredericksburg and Spotsylvania NMP

Docket No: 1

WELL, CHANCELLORSVILLE BATTLEFIELD

Supporting Hydro Data

07-12-1961: test hole data



MINNEAPOLIS-HONEYWELL REG. CO. BROWN INSTRUMENTS DIVISION, PHILADELPHIA, PA.

Other Supporting Information

Fredericksburg National Military Park		Region Southeast	Year Programmed 1961 and 1962
Location in Park Fredericksburg and Chancellorsville Battlefield Areas		State(s) Virginia	PCP No. B-34-1, M-44-2, B-35- B-32-1, U-13&14, B-36- Master Plan No. U-15&24
		County or Counties City of Fredericksburg and County of Spotsylvania	Master Plan Corrected By FNMP:FS 3006A & 3005A
☒ Contract and/or	☒ Day Labor	As Built Drawings By	
Work Order Title Constr.Shelter (Lee Hill), Constr. Utilities (Water&Sewer Systems) Chancellorsville, Constr.Visitor Center (Chancellorsville), Constr.Work Room and Storage (Natl Cemetery), Constr.Employee Residences(3), Constr.Water&Sewer Systems(Employee Residences), and Necessary Alterations to Visitor Center(Fredericksburg).		Date Started August 1961	Date Completed October 1963
(For completion by employee in charge of project)		TOTAL COSTS (For completion by FFO)	
100.6 - Buildings			
Office-Administrative, Building No. 1, Administration and Museum, Visitor Center - Alterations including new fresh air ventilating system, basement water-proofed, audiovisual system improved, acoustical tile ceilings, and new floor covering installed (basement rooms only); also termite treatment.			
Visitor Use - Visitor Center, Chancellorsville, Building No. 40, brick, one story, basement, furnace, air conditioning unit, 7003 Sq. Ft.			
Housing-Housekeeping (3), Building Nos. 41, 42, and 43; Quarters Nos. 4, 5 and 6, single story, 3 bedroom, 1½ baths, carport, 1707 Sq. Ft. each.			
Service - Maintenance and Repair Shop, masonry block building, one story, 880 Sq. Ft., Building No. 44.			
Other - Hose House, brick, 9 Sq. Ft.			
100.30 - Equipment		315,021.00	
100.6 \$201,897.33			
100.8 51,726.23			
100.9 12,663.00			
100.30 2,283.27			
TOTAL		\$ 315,021.00	
THE FIXED ASSET DESCRIBED ABOVE HAS BEEN COMPLETED IN ACCORDANCE WITH APPROVED DRAWINGS, SPECIFICATIONS, AND AUTHORIZED CHANGES			
DISTRIBUTION			
No. To			
1. WACO	Submitted <i>[Signature]</i> Date: 11-8-63		
1. EOC	By: Weldon B. Land Title: Administrative Assistant		
2. SERO	Approved <i>[Signature]</i> Title: Superintendent Date: 11-8-63		
1. Area (Fred N. S.)	By: O. F. Northington, Jr. Title: Superintendent		
COSTS VERIFIED Title: Regional Accountant Date: 5/19/65			
BY <i>[Signature]</i>			

T. J. RAER

11360

☐ Contract and/or ☐ Day Labor	As Built Drawings By
Work Order Title	Date Started
	Date Completed
DESCRIPTION OF FIXED ASSETS <i>(For completion by employee in charge of project)</i>	TOTAL COSTS <i>(For completion by FFO)</i>
100.8 - Utilities Water System (1) consisting of a 321 foot drilled well, submersible pump located in well; pumphouse, cinder block with concrete roof, 87 Sq. Ft; elevated storage tank and tower (25,000 gallons); 1755 lin. ft. of 4" water line (asbestos cement) and 173 lin. ft. of 1" copper water line. Sewer System (2) Chancellorsville Visitor Center Sewerage Disposal System consisting of a 4,000 gallon septic tank and sand filter drain field. Residence Sewerage Disposal System consisting of three sewer lines emptying into a manhole, then into a 1,700 gallon septic tank, and into an absorption trench drain field. Electric Sys tem Service Maintenance and Repair Shop - Aerial service from existing lodge building into shop. Chancellorsville Visitor Center - Underground cable	
(Continued)	TOTAL \$

DISTRIBUTION	THE FIXED ASSET DESCRIBED ABOVE HAS BEEN COMPLETED IN ACCORDANCE WITH APPROVED DRAWINGS, SPECIFICATIONS, AND AUTHORIZED CHANGES		
No.	To	Submitted	Title: Date:
		By: _____	
		Approved	Title: Date:
		By: _____	
		COSTS VERIFIED	Title: Date:
		BY _____	



IN REPLY REFER TO:

L54

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

Southeast Region
Richmond, Virginia 23240

9/9/63

Memorandum

To: Director

From: Acting Assistant Regional Director, Resource Planning, Southeast Region

Subject: Transmittal of water dockets

Enclosed are six water dockets for the following parks:

- | | |
|---|-----------|
| 1. Pea Ridge National Military Park | Docket #1 |
| 2. Russell Cave National Monument | Docket #1 |
| 3. <u>Fredericksburg and Spotsylvania County Battlefields</u> | Docket #1 |
| 4. Fredericksburg and Spotsylvania County Battlefields | Docket #2 |
| 5. Fort Frederica National Monument | Docket #1 |
| 6. Mammoth Cave National Park | Docket #1 |

Maps of the individual water systems, memoranda and other forms of statements describing progressive stages of the water development in these Parks will eventually be included in the dockets as a part of the historical background of the water claims.

Copies of the subject dockets are being sent to the Superintendents of each respective Park as well as to EODC.

Robert C. Squier

Enclosures (6)

cc:
Chief, EODC (2), w/encs.
Superintendents, as listed above, w/encs.

Ground Water Branch
Box 2857
Raleigh, North Carolina

REGION ONE

OCT 2 1961

Reg. Director
Asst. Reg. Dir.
Ch. ~~Prothonotary~~
Ch. Ranger Act.
Ch. Int-pretation
Ch. Adm.
Ch. Rec. Res. Pl.

257 15

X Kichen

P. M. Brown
District Geologist

UNPUBLISHED RECORDS
79418
SUBJECT TO REVISION

Kiener 9/20
Smith 9/20

Region One
Richmond 20, Virginia

D5039

SEP 21 1961

Memorandum

To: Chief, EODC
From: Regional Chief of Operations
Subject: Chancellorsville Well

The following preliminary data is furnished for your use in connection with equipping the subject well. A complete chemical analysis and test results will be furnished by the U.S.G.S. later.

Depth	304' (Surface to rock - 71')
Diameter	5"
Static level	21' (from surface)
Specific capacity	0.53 GPM per ft. of drawdown
Max. pumpage	28.3 " (limited by size of pump used)
Iron	1.0 ppm
pH	6.3

(signed)]

H. Reese Smith
Regional Chief of Operations

Copy to: Mr. Paul Henderson

TBK:ener:mr

General

Daybook

7 red.



UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
Ground Water Branch
Box 2857
Raleigh, North Carolina

IN REPLY REFER TO:

REGION ONE	
AUG 16 1961	
Reg. Director	
Asst. Reg. Dir.	
Ch. Operations	PT-14
Ch. Ranger Asst.	
Ch. Interpretation	
Ch. Adm.	
Ch. Rec. Mgmt.	

August 15, 1961

Mr. Alfred Vick, III
Regional Water Resources Engineer
Region I, National Park Service
Richmond 20, Virginia

Dear Mr. Vick:

After our discussion on August 4th of the Park Service test-well program at Chancellorsville, Spotsylvania County, Virginia, I have reviewed the data available to us from that area. I believe that the electric log of the test hole gives sufficient indication of water-bearing zones between 34 and 54 feet to develop a gravel-packed well between those depths. The specifications which you have already written for such a well should cover the construction and testing.

As you are aware, the electric log is the only reliable data collected from the test hole. Little of the work on that hole was done according to the general specifications. For example, Section 7 required the contractor to collect geologic samples of material from 5-foot intervals during drilling. Neither the driller nor any of his crew did this. Section 8 required the use of a screen in the collection of water samples. This was required so that the material in the well would collapse around the casing and screen and seal off water from zones above and below the screen. This was not done properly and the water samples are not representative of water from the screened depths. The drillers log required of the contractor by Section 9 was, of course, lost in a fire before it was delivered to the Park Service. Thus, the only data from this hole of any value is the electric log.

Fred

Mr. Alfred Vick, III

- 2 -

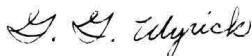
August 15, 1961

It is probably unnecessary to go into the contractors attempt to connect the test hole to a production well by effectively sealing off the water-bearing zones with a pit casing and then screening and gravel packing in the inside of the pit casing. I believe you were exactly right in declaring the hole abandoned before the pit casing could be extended completely through the water-bearing zones.

From the above it appears that you have two courses open in the construction of a production well. Using the data from the electric log and your set of specifications, a gravel-packed well may be constructed as previously described. The alternative would be to drill another test hole 250 to 300 feet deep and to convert it to an open-end rock well if sufficient quantities of water are obtained during the test drilling. The conversion would require no additional construction.

If either of these types of wells are constructed we will be happy to work with you on the project.

Sincerely,



G. G. Wyrick *(by mail)*
Geologist

For P. M. Brown
District Geologist

Acting Chief, EODC

May 24, 1961

Supervisory Engineer, EODC

Supervisory Civil Engineer Cummings

Field Trip to Fredericksburg-Spotsylvania and Manassas
Accompanied by Assistant Sanitary Engineer Bass

A5427-E. The objectives of this trip were the investigations of the various areas at Fredericksburg-Spotsylvania, where developments are proposed in the near future, to secure information relative to water, sewage, electrical and telephone utilities, and to check the water and sewage utilities for the Manassas Utility Building.

We arrived at Fredericksburg-Spotsylvania about noon of May 4. Acting Superintendent Land accompanied us to the Chancellorsville area where we met Line Superintendent Mr. E. A. Cooper and Office Manager Mr. Charley Robbins of the Virginia Electric Co-operative, Bowling Green, Virginia. Line Superintendent Cooper advised that single phase power was available at the private residences about 1200 feet to the west of the area but 120/208-3 phase-Y service would be furnished to the Park Service at the transformer pole to be located about 300 feet from the Visitor Center. Underground service would, however, have to be constructed by the Park Service. The current transformer for 3 phase service would be installed free by the power co-operative. Single phase line would be constructed to the residences and pump-house-utility area and service drops provided. The power co-operative would furnish meter bases for all single phase service but the Government would have to install meter loop, including weatherhead. If electrical installations meet all requirements of the National Electrical Code, they will be acceptable to the power co-operative. Conduit is required for the road crossing, however, direct burial wire would be acceptable for the balance of run providing it was buried 24 inches and protected with a strike board.

The power co-operative requires a 20' clearing on each side of the center line of the power line. The exact location of the lines to be agreed upon between the power co-operative and the Park Superintendent. A tentative location of the transformer pole near the Visitor Center site was selected as a basis for figuring amount of underground line required.

Since approximately 6 miles of line have to be rebuilt by the power co-operative, they were interested in "how soon" the service was required. I told them it would be about six months before 3 phase service was required, however, single phase 120/208 would possibly

be required by the Contractor in a month or so. I was advised that the power co-operative would build the new section of line on Park property, practically immediately after being advised of the acceptable location, and could furnish the single phase service at once. The rebuilding of their line to furnish 3 phase service in six months could then be worked into their schedule satisfactorily. The power co-operative requested that an estimate of the power needs for the Visitor Center be furnished them noting seasonal use and use for heating, lighting and air-conditioning so they could properly design the installation. Acting Superintendent Land was shown the proposed location of the elevated storage tank. It was explained that the tree growth would hide any tank that was put up.

The building site of the proposed utility building at the cemetery and the basement of the museum offices were looked at, as requested by Architect Lukens. The old utility building is still standing. Mr. Land advised that the Superintendent would like to include the demolishing of the building in the contract, however, if the price for demolishing the old building was bid too high, they would then like to strike that item from the bid and do it themselves. The type of floor covering and extent of floor covering required in the museum-office basement was discussed with Mr. Land and this information and information regarding utility building site were furnished to Architect Lukens on my return to this office.

Mr. A. R. Pemberton, Jr., Manager of Fredericksburg and Wilderness Telephone Company of Chancellor, Virginia, was contacted by phone regarding possible phone service to the Chancellorsville area. He advised that they would underbuild their line on power co-operative poles and would lay their underground cable in the trench, at no cost, if notified when underground installation of electrical service was installed. A 3/4" metal conduit underroad and through the building wall is required.

Mr. Minor P. Martin, a local well driller, was contacted regarding possible water supply in the area. He advised that the shallow wells up to 150' deep usually produced good water. Most shallow wells in the area were between 35 - 60 feet deep. These wells are usually constructed by boring a 36" diameter hole, placing a 36" I.D. concrete lining in the hole and placing 4 bags of washed gravel on the outside of the casing. The average cost of this type of well is \$6.00 per foot. If this type well does not produce enough water, a 6" well is then drilled and cased from the bottom of the original well. A great many of the deeper wells contain an excess of iron and acid.

The morning of May 5, the City Engineer was contacted regarding the availability of water, if required, for the Lee Hill shelter. We were

advised that water was available on the highway J road shoulder, adjacent to park land but the line would have to be brought in over Government land.

We drove to Manassas, where we contacted Superintendent Wilshin and Administrative Assistant Vaughn, who accompanied us to the utility area to check into the possible locations of water line connections and sewage disposal system.

A test hole was dug at the only available location for a leaching field in the area. Suitable gravel and broken rock was encountered at a two foot depth. However, the ground in the area was completely saturated with water due to the excessive moisture this past winter and spring.

The existing pump pit and underground hydropneumatic tank installation were observed. The tank was evidently waterlogged as the tank pressure would drop 20 lbs. or more when only 2 gallons of water were drawn and the pump would run again. It was suggested to Mr. Vaughn that if the tank was completely drained and then gradually filled, again, this trouble would probably be temporarily eliminated.

Superintendent Wilshin discussed the possibility of a boundary survey so they would know where all their property lines were located. I was unable to advise him on this but promised to look into this and have him advised.

We drove back home in the afternoon.

~~Signature~~

C. G. Cummings
Supervisory Civil Engineer

Copy to: Supt. - Fredericksburg-Spotylvania
Supt. - Manassas
Chief of Operations, Region One—

APPROVED FOR DISTRIBUTION:

(Sgd.) Eugene R. DeSilets

Eugene R. DeSilets
Acting Chief

CUMMINGS:cfo
General
Engineer
Daybook
Plans & Project



UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

IN REPLY REFER TO

95839

JUL 29 1960

July 27, 1960

Memorandum

To: Regional Director, Region One
From: Superintendent, Fredericksburg National Military Park
Subject: Water

The scarcity of this essential commodity grows more serious each year. I explained at some length to Mr. Kiener yesterday. There are two shallow dug wells at Jackson Shrine. One furnished water for the Chandler family before the Civil War. It went dry last summer for the first time in the memory of persons living in the community. The other had already played out. The same threat is developing again.

The supply at the Superintendent's residence has never permitted any other than most niggardly consumption in the summer. There has been no water for lawn, flowers and shrubs and rationing for other use has been the rule.

I should appreciate technical and financial help in remedying what appears to be a worsening situation.

O. F. Northington, Jr.
O. F. Northington, Jr.
Superintendent



UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
Region One
Richmond 20, Virginia

05039

JUN 1 1967

Memorandum

To: Chief, Eastern Office, Division of Design and Construction
From: Regional Chief of Operations
Subject: Chancellorsville Water Service - Fredericksburg National Military Park

We have recently investigated the old CCC well at Chancellorsville in connection with the proposed 1961 development there and regret that the results are very disappointing. We had hoped we had the solution to the water problem. There is attached a partial chemical analysis of a sample taken at the close of a 24 hour pumping test. The analysis was made by the Virginia State Department of Health.

As you may note, the water is loaded with iron, is low in alkalinity and pH and has considerable free carbon dioxide. The State people advise that this is typical of well water in the Chancellorsville area and will require extensive treatment.

Our pumping test indicates that when the static water level is 20 feet below the surface of the ground, a 10 gpm draft will pull it down to 123 feet below the surface and a 15 gpm draft to 135 feet below the surface. The well is 6 inches in diameter and 223 feet deep. The length of casing is unknown.

The above data is sent along for your information and consideration.

(S-6-12)

H. Reese Smith
Regional Chief of Operations

Attachment

TBK:ener:mr

Copy to: U.S.P.H.S. w/attachment
Supt., Fredericksburg NMP w/attachment

General

Daybook

Commonwealth of Virginia

State Department of Health

WATER ANALYSIS

Lab. No. 369

Sample: Source and Ownership

National Park ServiceChancellorville, VirginiaRequested
Collected by:W.H. ShewbridgeDate Collected 5-11-59Received 5-11-59Completed 6-5-59

Turbidity

Color

Odor

DETERMINATIONS MADE: (Parts per Million)

Dissolved Solids
at 103°C.

Calcium: Ca

Loss on Ignition

Magnesium: Mg

Fixed residue

Sodium and Potas-
sium as Na $\text{Fe}_2\text{O}_3 + \text{Al}_2\text{O}_3$ Sulphate: SO_4 Iron: ~~0.17~~
dissolved
~~total~~
~~0.17~~, Fe0.17Nitrate: NO_3 .035 as N; .156 as NO_3

Manganese: Mn

0.05

Fluoride: F

0.45Insoluble residue
+ SiO_2

Calculated Hardness

Alkalinity as CaCO_3 By ~~Soap titration~~
Titration20.16

Methyl Orange

23.0

Phenolphthalein

Free Carbon Dioxide: CO_2 5.5(In sample ⁵⁻¹⁵⁻⁵⁹ as received at lab.)Free Carbon Dioxide: CO_2 27.0(Field test by ?)

Hydrogen Ion: pH

7.1(In sample ⁵⁻¹⁵⁻⁵⁹ as received at lab.)

Hydrogen Ion: pH

6.0(Field test by ?)Remarks: Fluoride analysis reported on a distilled sample.Analysis by: R.T. Hill

COMMONWEALTH OF VIRGINIA



LANHOLTZ, M. D.
COMMISSIONER

DEPARTMENT OF HEALTH
RICHMOND 19

SUBJECT: SPOTSYLVANIA COUNTY
Water-- National Park Service
Chancellorville, Va.

12 June 1959

Mr. Kinnear
National Park Service
900 North Lombardy Street,
Richmond, Virginia

Dear Mr. Kinnear:

This is a follow up of my telephone conversation with you today concerning a partial chemical analysis of sample which was furnished us by your organization, the sample having been collected from a well in the Chancellorsville area. The well is proposed to be used for several homes in addition to some service buildings in the park area.

I attach copy of the partial analysis and you will readily observe that the water is low in alkalinity; also at the time of collection of the sample there was considerable free carbon dioxide and the pH also at the time of collection showed 6.0. This sample when delivered to the office contained considerable floating and settleable material, as well as being discolored.

It will also be noted that the iron concentration of the sample is way in excess of the desirable limits of .3 ppm. and, of course, to overcome this objection some treatment facility is in order. Also because of its aggressive factor, provisions should be included for correcting this condition.

There are several types of treatment works that may be provided for rendering the water as satisfactory without being heavily loaded with iron and being corrosive. One method would be to provide for aeration, followed by the

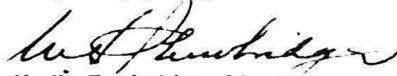
Page 2.

addition of chlorine, settling of the aerated water, this to be followed by filtration which may be accomplished in a closed or pressure type of filter unit. It is possible also that maybe the addition of lime to the aerated water would aid in coagulation, at the same time increase alkalinity, reduce any carbon dioxide that might remain, making the water non-corrosive. Such an installation, of course, would involve some considerable expenditure, particularly for small usage.

There is also on the market equipment manufactured by several companies. This would be in the form of Zeolite units for removal of iron. The water then to pass through a neutralizing unit or calcite filter. It might be desirable that this latter treatment be investigated and ascertain cost and in this instance, assuming that the bacteriological quality of the water is satisfactory, sterilization would not be necessary. I believe you will find all ground waters in the Spotsylvania area to have typical results as are shown by the chemical examination made on the sample which was obtained from the particular well in the Park area.

If we can be of any further service regarding the particular installation, we will be glad to assist.

Very truly yours,



W. H. Shawbridge, Director
Bureau of Sanitary Engineering

Enclosure



UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

Reference D 5039

November 3, 1958

REGION ONE	
NOV 4 1958	
Reg. Dir.	☒
Asst. Dir.	☒
Ch. Insp.	☒
Ch. Ranger	☒
Ch. In.	☒
Ch. S.	☒
Ch. R.	☒

HX *[Signature]* 11/10

Memorandum

To: Regional Director, Region One

From: Superintendent, Fredericksburg National Military Park

Subject: Chancellorsville Water Supply

The well at the site of the Chancellorsville CCC camp is six inches in diameter and approximately 150 ft. deep. One hundred and fifty feet of 3-inch innerpipe and 150 ft. of wooden shaft have been removed.

The foot valve appears to be in excellent condition. There are approximately 120 feet of water in the well. The underground storage tank measures 4 ft. x 15 ft. and apparently is in good condition.

As you know, our B & U balance cannot stand the expense of running a test.

What do you recommend?

O. F. Northington, Jr.
O. F. Northington, Jr.
Superintendent

In reply refer to:
D5039

AUG 18 1958

200 1 1

To: Superintendent, Fredericksburg National Military Park
Regional
Acting Chief of Operations, Region One
Subject: Chancellorsville Water Supply

Thank you for your memorandum of August 13 furnishing information on the character of the well waters in the vicinity of Chancellorsville. I have checked it with the State Health Department who state that the well water in that area is one of the worst possible waters to work with in Virginia, and will require extensive and costly treatment before it can be used.

This alone would dictate the use of a single system for the entire development, as we would not advise furnishing the prospective residents the untreated water, and separate treatment plants would be poor planning.

I believe you informed me some time ago that there were no surface streams available which might be impounded and used. The extent to which it will be necessary to treat the well water makes it feasible to investigate the cost of a surface supply even at some distance, if some stream answering our needs could be found. Funds are set up in Washington for acquiring water rights and related property.

One thing which we would like to have is some figures on the visitation at Chancellorsville if any are available. Mr. Bursley would like to study the record by months over the last several years, if you have any separated out for Chancellorsville or can furnish the basic data from which your estimates were derived.

I am sending a copy of this memorandum to EODC to alert them that the design of the Chancellorsville water system (when they get to it) will involve a problem of treatment no matter what the source.

(SIGNED)

Tyler B. Kiener
Acting Regional Chief of Operations

Copy to: Chief, EODC

TEKiener:mmf
General
Daybook



UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

August 13, 1958

Reference: 1003

REGION ONE	
AUG 15 1958	
Reg. Director	
Asst. Reg. Dir.	
Ch. of Region	
Ch. of Park	
Ch. of Act.	
Ch. of Int.	
Ch. of A.	
Ch. of R.	

Memorandum.

To: Regional Director, Region One
From: Superintendent, Fredericksburg National Military Park
Subject: Chancellorsville Water Supply

One of the best, if not the best, well men in this part of the country is Mr. John T. Ellington. He has this to say about the situation.

A well drilled by him within approximately two miles of the proposed development site has a flow of 16 gallons per minute. It is 229' deep. Another within approximately one and one-half miles has a 43-gallon flow. It is 189' deep. A third within one-half mile has a 12-gallon flow. It is 40' deep. Another, which he didn't drill, within one mile has a flow of 11 gallons. It is 225' deep.

He estimates that it will cost around \$400, we have no funds to spare, to run the test on the old well at the CCC camp site, and believes, in view of the data cited above, that we would be throwing money away. The old well is about one mile distant from the proposed one.

He recommends:

1. One system for the Visitor Center and Maintenance Area. This should consist of a well with a 30-gallon flow per minute, a pump, and a 2,000-gallon storage tank.
2. A separate system for each residence to consist of shallow well, pump, and 40-gallon tank.
3. That each system be connected with the other by a 2" line so that in periods of shortage or intensively heavy use one can help the other.

The 30-gallon per minute flow should be reached at 350' or a little less. The price would be \$7 per foot with a guarantee. His experience dictates that there will be approximately six parts iron per one million and that the PH will be around 5.5 which should be neutralized to 7.0.

If this disposes of the need to run a test on the old well, I suggest that we proceed to a conclusion as to number and types of systems desired.

O. F. Northington, Jr.
O. F. Northington, Jr.
Superintendent

C O P Y

(From Master Plan Development Outline, Fredericksburg
and Spotsylvania National Military Park)

Unknown Date

UTILITIES

1. WATER SYSTEMS (4)

Detail
A metered water supply for the Administration Building and garage is obtained from the City of Fredericksburg's state approved municipal supply. The building is connected to a 6 inch city main by 90 feet of 2-1/2 inch galvanized steel pipe. The average monthly consumption during peak months is about 10,000 gallons.

The National Cemetery is served from the same source but the supply is unmetered. A 3/4 inch steel pipe 75 feet long taps the City's 6 inch main to bring the water in. About 1200 gallons per month is used during peak periods.

Detail
The Superintendent's Residence is served from a government-owned shallow well about 20 feet deep, and cased with 30 inch diameter concrete pipe. It is located near the residence garage to which the small cinder block pump house is annexed. The water is corrosive and shows minor contamination on occasions, but has proven adequate in quantity for the dwellings it serves. The service is not metered. A shallow well pump (Deming "Marvel" with 1/6 HP electric motor) picks up water from the well thru 30 feet of 1 inch steel pipe and discharges it at 4-1/2 g.p.m. thru 2 feet of 3/4 inch pipe into a 300 gallon steel pressure tank. The pump is operated by a pressure switch on the tank between 20 and 42 p.s.i. A small solution feeder (Proportioneer) is available to sterilize the water with chlorine

on the discharge side of the pump. Water leaving the pressure tank to the residence passes thru a Permutit OCN-20 neutralizer which raises the pH value and removes a portion of the iron. The residence is served by a 1-1/4 inch steel pipe 75 feet long. During peak periods the average monthly usage is about 1200 gallons.

Doc 3

The Jackson Shrine area is supplied by 2 government-owned shallow wells. The first is in the rear of the Shrine cased with stone masonry, 36 inches in diameter, and 25 feet deep. A concrete pit located a short distance away contains a Deming shallow well pump (Marvel) and a 42 gallon pressure tank. The electric pump motor is 1/6 HP. About 20 feet of 1 inch steel suction pipe connects the pump to the well and 4 feet of 3/4 inch steel pipe forms the discharge to the tank. The pump starts and stops on tank pressures of 20 and 42 p.s.i. respectively. The pumping rate is about 4-1/2 g.p.m. A 400 foot long steel pipe, 1 inch in diameter runs between the tank and the caretaker's residence, but the supply is used only for standby purposes, having been replaced with the following system.

The second Jackson Shrine well is located directly behind the caretaker's residence, is 18 feet deep, and cased with 30-inch diameter concrete pipe. A shallow well Deming pump (Marvelette) with an electric motor drive is located in the basement of the residence together with a 30-gallon steel pressure tank. The pump is actuated between 20 and

42 p.s.i. by a pressure switch on the tank. Twenty-eight feet of 1/2 inch copper tubing is used for the suction lift and the discharge connects directly to the tank. No treatment is required. Usage in peak months is about 1200 gallons monthly. The pump delivers about 4 g.p.m. Supply is adequate.

Docket Information

Number of Documents in Docket 23

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