

ANNUAL REPORT

OF THE

SUPERINTENDENT

OF THE

UNITED STATES MILITARY ACADEMY.

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GOVERNMENT PRINTING OFFICE.  
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HEADQUARTERS U. S. MILITARY ACADEMY,  
*West Point, N. Y., September 5, 1892.*

GENERAL: As Superintendent of the U. S. Military Academy, I have the honor to submit the following report for the year ending August 31, 1892:

The number of officers and instructors stationed at this post on September 1, 1892, was as follows: Seven professors, 53 commissioned officers (including 1 surgeon and 1 assistant surgeon), 1 swordmaster, and 1 teacher of music.

THE CORPS OF CADETS.

Section 1315, Revised Statutes, provides that the Corps of Cadets shall consist of 1 from each Congressional district, 1 from each Territory, 1 from the District of Columbia, and 10 from the United States at large.

Under the terms of this statute the maximum number of cadets heretofore authorized has been 347; under the apportionment based on the census of 1890 the maximum number after March 3, 1893, will be 371.

The number of cadets at the Academy seldom exceeds 300, and on May 31, 1892, it was only 252, 2 of whom were foreigners receiving instruction by authority of special acts of Congress. Of these 252, 8 were declared deficient at the June examination and were discharged.

It will therefore be observed that on June 1, 1892, the Corps of Cadets lacked 28 per cent of the number authorized by law.

These losses are due to resignations, discharges based upon deficiency, either physically or in studies, and the failure of candidates to pass the preliminary examination required by section 1319 of the Revised Statutes. This last cause often arises from the delay in nominating candidates, the young gentlemen not having sufficient time to prepare themselves for the examination.

As stated in my last annual report, I am satisfied that a further moderate increase of the corps will be advantageous, believing that the plant is amply sufficient to turn out annually a larger number of graduates. Such increase might well be made by restoring to the President of the United States the privilege of appointing 10 cadets each year, of which power he was deprived by the act of June 11, 1878.

On September 1, 1891, there were 287 cadets connected with the Military Academy.

Since that date the loss has been 18 by resignation, 29 by discharge, 2 by death, and 62 by graduation.

The gain has been 114 admitted as new cadets, making at present a total number of 290 belonging to the corps, 5 of whom were admitted September 1, 1892.

This number includes 1 cadet from Switzerland and 1 from Central America, who are receiving instructions at the Academy by authority of joint resolutions of Congress.

#### THE PRELIMINARY EXAMINATION FOR ENTRANCE TO THE ACADEMY.

Section 1319 of the Revised Statutes provides that appointees shall be examined under regulations to be prescribed from time to time by the Secretary of War before they shall be admitted to the Academy, and shall be well versed in reading, writing, and arithmetic and have a knowledge of the elements of English grammar, of descriptive geography, particularly of the United States, and of the history of the United States.

Under the regulations prescribed by the Secretary of War, each candidate is subjected to a very thorough physical examination, and the large percentage of failures to pass these physical examinations appears almost remarkable; of 185 youths who presented themselves before various examining boards throughout the United States on March 1, 1892, 39 (nearly 22 per cent) were declared physically disqualified by the medical officers and were not permitted to appear for mental examination.

Up to September 1, 1891, the preliminary examinations for entrance to the Academy took place at West Point, N. Y.

In my last annual report I urged that these examinations be conducted away from the Academy, giving as my reasons that it would be greatly to the advantage of the candidates, who upon arriving here were always placed at more or less disadvantage on account of their surroundings, their absence from home and being entirely unaccustomed to the rules and methods of discipline to which they are, at once, necessarily subjected; moreover, the unsuccessful candidates would thus be spared the expense of the journey to West Point.

Based upon this recommendation and its approval by the Board of Visitors for 1891, the Hon. Secretary of War ordered boards to be convened on March 1, 1892, at various points throughout the United States, before which candidates were directed to appear for physical and mental examination.

The physical examination was made by surgeons of the U. S. Army in accordance with detailed instructions from the War Department. The mental examination was in writing, the questions having been prepared in advance under the direction of the academic board of the United States Military Academy.

Each candidate was given a number, and the names and numbers were forwarded to the Adjutant-General of the Army. Upon his examination papers each one placed his number (not his name), with the place and date of the examination.

As soon as the examination papers were all completed they were sent from the various examining boards, under seal, to the Superintendent of the Military Academy and by him laid before the academic board. The papers were carefully revised and the board, through the Superintendent of the Academy, notified the War Department of the numbers of the successful candidates; the War Department then informed the

Superintendent of the names corresponding to the numbers of those who had passed and would be admitted to the Academy.

Of the 145 candidates who passed the physical test, 99 passed the mental tests at the March examination.

As there were still many vacancies at the Academy after the result of the March examination was announced, the War Department authorized 85 young gentlemen to report here on June 13, 1892, for examination by the medical department and by the academic board under the old system; of these 85, 17 failed to report and 3 declined, after their arrival, to submit to the examination, leaving only 65 who appeared before the board; of these 65, 11 were declared physically disqualified, 31 failed on the mental examination, and 23 were declared physically and mentally qualified; 2 of those declared physically disqualified, 1 on account of myopia, the other on account of color blindness, were afterwards admitted on probation by direction of the Secretary of War. Of the 65 thus examined in June, 24 had been previously examined in March and had failed; of these, 15 failed a second time.

I most earnestly repeat my recommendation that all of these examinations shall be completed before the candidates report at West Point.

In order that there may be an opportunity for a second examination to fill vacancies caused by failures at the first, I recommend that boards shall be convened on February 15 and May 15, before which candidates may be ordered, and that the mental examination shall precede the physical; the latter can be made while the academic board is revising the papers of the candidates and the reports of the physical and mental examinations will be before the War Department at the same time, probably by March 1 and June 1, and all who have passed their examinations can be promptly admitted and the oath of allegiance administered on June 15 of each year.

I further recommend that alternates who have been declared physically and mentally qualified at the May examination, but whose principals have been admitted, be appointed to fill the vacancies for which no nominations have been made.

It has been suggested that for every vacancy at the Academy 1 principal and 2 alternates should be appointed.

This would be very satisfactory in case these young gentlemen could all be examined at the same time before boards convened at localities near their homes or the schools which they may be attending. It frequently happens that the expense incident to the journey to the place of examination prevents alternates from making the trip when the chances seem to them to favor the success of the principal.

Of the 211 young men authorized to appear before boards on March 1, 139 were principals and 72 alternates; of these 185 reported, 129 of whom were principals and 56 alternates.

Of the 85 young men authorized to appear before the academic board on June 13, 59 were principals and 26 alternates; of these, 68 reported, 50 of whom were principals and 18 alternates.

It is a great disappointment to an alternate to pass and still fail to gain admission, after coming here, because the principal has passed; the disappointment is not so great when the examination takes place near his home and he is not obliged to report at the Academy.

#### THE DEPARTMENTS OF INSTRUCTION.

The departments of instruction of the institution are as follows:  
 The department of philosophy.  
 The department of languages.

The department of drawing.

The department of mathematics.

The department of chemistry, mineralogy, and geology.

The department of history, geography, and ethics.

The department of civil and military engineering.

The department of tactics.

The department of law.

The department of practical military engineering.

The department of ordnance and gunnery.

The reputations of the distinguished gentlemen presiding over these departments render it hardly necessary for me to mention the high state of efficiency to which they have brought their various courses of instruction.

A careful study of their work and frequent visits to their section rooms has fully shown me the wonderful progress in modern education, and that in scientific and military training and in methods of instruction the Academy always maintains the highest standard.

#### THE DEPARTMENTS OF LAW AND OF ORDNANCE AND GUNNERY.

Section 1309 of the Revised Statutes provides for assistant professors in all the academic departments of instruction except those of law and of ordnance and gunnery, while section 1337 of the Revised Statutes provides that each assistant professor shall receive the pay of a captain. The department of languages has two assistant professors, one of French the other of Spanish.

The importance of the departments of law and of ordnance is so fully recognized, that it seems unjust to the first assistants in each that they should not be accorded the same pay now received by officers occupying similar positions in other departments. Attention is respectfully invited to the communication of the instructor in ordnance and gunnery, herewith, in which he urges that his assistant should have the same pay and emoluments as officers occupying like positions in other departments; equally strong reasons can be advanced in favor of granting similar privileges to the senior assistant in the department of law.

I therefore again respectfully recommend that the senior assistants in these two departments shall hereafter be known as the assistant professor of law and assistant instructor of ordnance and gunnery, and that they shall receive the same pay and emoluments now authorized by law for the assistant professors in other academic departments.

#### MASTER OF THE SWORD.

I invite attention to the recommendation submitted in my last annual report and in the reports of the Boards of Visitors in regard to the faithful, efficient, and capable swordmaster, Mr. H. J. Koehler.

It is earnestly recommended that the bill now before Congress giving him the rank of a first lieutenant of infantry shall speedily become a law.

Mr. Koehler, who at present occupies the position of swordmaster, performs also the duties of instructor in gymnastics and swimming. He is faithful, energetic, and remarkably well qualified, both physically and intellectually, for his important work.

During the past seven years he has worked up a system of gymnastics for the Corps of Cadets which by its results has won the admiration of the members of the Boards of Visitors and others who have

witnessed it. His system of calisthenics has been adopted by the War Department for the general use of the Army.

#### THE CADET QUARTERMASTER AND COMMISSARY DEPARTMENT.

I respectfully invite attention to the interesting report (herewith) of Capt. W. F. Spurgin, Twenty-first Infantry, brevet major U. S. Army, now in charge of these departments.

Capt. Spurgin deserves great credit for the energetic, faithful, and efficient manner in which he has discharged the important duties committed to his care.

The improvement in recent years in the character of food furnished the cadets and the method of serving it is very satisfactory, particularly as it has been accomplished at comparatively little increased expense.

I commend Capt. Spurgin for the zeal and ability he has manifested in his work.

#### U. S. MILITARY ACADEMY BAND.

By the act of March 3, 1875, the Military Academy Band consisted of 1 teacher of music and 40 enlisted musicians; of the latter 10 received \$34 per month and the remaining 30 received \$30 per month, with the usual allowances of enlisted men.

By the act of March 3, 1877, the band was reduced to 1 teacher of music and 24 enlisted men, 6 of whom receive \$34 per month, 6, \$20 per month, and the remaining 12, \$17 per month, with the usual allowances of enlisted men.

This is the present status of the band, and I earnestly invite attention to the appeals annually made in the reports of the boards of visitors and by the Superintendent of the Military Academy for its improvement.

It is earnestly hoped that during the coming session of Congress the condition of the band will be improved and in case of its reorganization I recommend that hereafter it shall be constituted as follows:

One teacher of music, who shall have the rank, pay, and emoluments of a second lieutenant so long as he shall remain such teacher of music; 1 drum major, with the rank, pay, and emoluments of a sergeant of engineers; 30 musicians, 15 of whom shall be known as first-class musicians, with pay of \$34 per month, and 15 as second-class musicians, with pay of \$24 per month; all to have the same allowance of clothing, rations, and quarters as now authorized by law.

I commend to the favorable notice of the War Department Mr. A. A. Clappé, the present teacher of music, who has performed his very important duties in an earnest, faithful, and most satisfactory manner.

#### ARTILLERY OF THE POST.

I respectfully invite attention to my reports for the years 1890 and 1891 upon this subject.

When my report for 1891 was rendered the armament of the post was as follows:

*In the seacoast battery.*—Two 15-inch Rodman S. B. guns, three 8-inch converted rifles, one 10-inch Rodman S. B., one 300-pounder Parrott rifle, one 13-inch S. B. mortar.

*In battery Knox.*—One 100-pounder Parrott rifle, one 300-pounder Parrott rifle, one 8-inch converted rifle, four 10-inch Rodman S. B.

It will be observed that there was not a modern high-power steel

gun in either battery; the 10-inch Rodmans and the Parrott rifles are obsolete; the 15-inch Rodmans and the 8-inch converted rifles are retained in service for secondary purposes; the 13-inch mortar is practically obsolete.

*In the siege battery.*—Six 4½-inch rifled cast-iron siege guns; three 10-inch S. B. siege mortars; three 8-inch S. B. siege mortars. Of these the siege guns are obsolete and are never fired, being used only for drill purposes; the mortars are used, but are not modern.

*Field guns.*—Six 3.2-inch B. L. field guns, with steel carriages, limbers and caissons complete. Twelve 3-inch wrought-iron M. L. field guns, with carriages, limbers, and caissons complete.

There were also a few modern machine and rapid-fire guns.

During the present year changes have been made as follows:

*Seacoast battery.*—One 12-inch B. L. mortar, cast iron, steel hooped, has been received and is waiting the arrival of its carriage, when it will be mounted; meanwhile it is used in the practical instruction of cadets.

Two 8-inch front pintle barbette carriages of the latest pattern, for the 8-inch converted rifles, have been received and mounted in the battery, replacing two carriages, one of which was out of repair and the other of an old pattern.

Two 8-inch converted rifles have been received to replace the 10-inch S. B. Rodman and the 300-pounder Parrott; the latter is believed to be unsafe and has not been fired for many years; new carriages will be provided for all the 8-inch converted rifles as soon as an appropriation can be obtained for constructing new emplacements.

The present platforms are center pintle; the Ordnance Department no longer furnishes center pintle carriages for 8-inch converted rifles and hence the changes necessary in the emplacements. An estimate is submitted for new platforms and the Chief of Ordnance will furnish the carriages as soon as the new emplacements are ready.

*Siege battery.*—Three 10-inch S. B. mortars have been substituted for the three 8-inch mortars, and the embrasures have been arranged so as to admit firing the 3.2-inch field guns at a distant target.

The same old 4½-inch muzzle-loading guns remain in position, and I earnestly hope that the time is not far distant when this battery will be supplied with modern steel guns.

*Field batteries.*—Six 3.2-inch field guns have been received and temporarily mounted on the old wooden carriages for the 3-inch guns; this was done in order to furnish 3.2-inch guns for instruction in the manual of the piece, and thus allow the mounted drill to go on at the same time with the regular 3.2-inch battery.

It is hoped and expected that during the coming year we will receive for the seacoast battery an Easton & Anderson carriage for the 12-inch B. L. mortar and an 8-inch steel B. L. rifle with barbette carriage complete; this will provide us with a modern B. L. mortar and a modern steel high-power gun for instruction.

In the siege battery we have asked that the old 4½-inch M. L. rifles be replaced with four new 5-inch steel B. L. siege guns and two 7-inch steel B. L. howitzers, with their carriages; it is believed that the guns and howitzers will be ready during the year, but it is doubtful whether the carriages will be completed.

In the field batteries we hope to be supplied with new caissons and limbers for the battery used at mounted drill, and to replace with steel carriages the wooden ones temporarily arranged for instruction in the manual of the piece.

The Chief of Ordnance has responded most favorably, so far as was in his power, to our efforts to improve the batteries, and I feel quite sure that, with the necessary appropriations for emplacements at our disposal, we will eventually have an armament which will be a credit to the institution.

#### MEN AND HORSES FOR LIGHT BATTERY.

I repeat the recommendations made in my previous reports that the light battery be placed upon an independent footing; that a detachment of not less than 30 artillery soldiers be ordered here for duty with the batteries, and that 50 strong draft horses be supplied for this particular purpose, relieving the light cavalry horses from the duty, which utterly unfits them for their legitimate work.

This subject has received the attention of various boards of visitors, and there appears to be but little difference of opinion as to the impropriety of using light cavalry horses for hauling artillery.

When not employed on artillery duty the men could be engaged upon other important work and the horses used for teaming and for preliminary cavalry instruction of cadets.

#### COMPANY E, BATTALION OF ENGINEERS.

This company maintains the same excellent character for drill, discipline and instruction heretofore accorded it. Under its energetic and efficient officers it has been instructed not only in the duties of sappers, miners, and pontonniers, but also in all the varied and important duties of other troops of the line.

The company has charge of the repair and preservation of all the batteries, and in accordance with the terms of section 1157, Revised Statutes, assists in the instruction of the Corps of Cadets in practical military engineering and signaling.

The officers are indefatigable in their efforts to improve the welfare, drill, and discipline of the company.

The buildings occupied as quarters and for shops and storehouses are models of neatness.

#### THE CAVALRY DETACHMENT.

The cavalry detachment consists of 68 men, with a troop organization, and assists in the instruction of the cadets in cavalry and light artillery drill. It is fully armed and equipped and is regularly drilled on foot and on horseback.

During the past year the detachment has been moved into its new barracks, which is a marvel of neatness and comfort.

As a rule the men are faithful and diligent in the discharge of their duties.

I can only repeat the statements made in my previous reports that there should be separate detachments of horses for artillery and cavalry drill, the cavalry horses being too light for hauling the heavy field pieces and caissons.

#### THE DETACHMENT OF ARMY SERVICE MEN IN THE QUARTERMASTER'S DEPARTMENT.

For many years the Superintendent of the United States Military Academy had under his command at this post a detachment of 185 en-

listed men, 117 of whom were known as the United States Military Academy Detachment of Artillery and 68 as the United States Military Academy Detachment of Cavalry. These men were a part of the line of the Army and subject to military duty of any kind, here or elsewhere.

The Superintendent of the Academy had the power to transfer the men from one detachment to the other and to increase one at the expense of the other whenever he saw fit.

The artillery detachment performed the duties of clerks, mechanics, janitors, watchmen, and laborers at the Military Academy and the post of West Point, and the cavalry detachment had charge of the stables and horses and assisted in the instruction of cadets in cavalry and artillery drill, performing also stable guard duty.

By authority of the Secretary of War, dated January 21, 1889, upon the application of the Superintendent the latter was authorized to place the post quartermaster in command of the detachment of artillery in order that he might more directly give orders to these men in connection with the various duties appertaining to his department.

By the terms of the act of Congress approved June 20, 1890, it was provided—

That the enlisted men known as the artillery detachment at West Point shall be mustered out of service as artillerymen and immediately reenlisted as Army Service men in the Quartermaster's Department, continuing to perform the same duties and to have the same pay, allowances, rights, and privileges and subject to the rules, regulations, and laws in the same manner as if their service had been continuous in the artillery, and their said service shall be considered and declared to be continuous in the Army.

It was assumed at once that the Superintendent no longer had power to transfer from one detachment to the other, as heretofore, and further decided that a soldier whose application to serve in the Army Service detachment was approved by the War Department, must first be discharged from the branch of service to which he belonged and then enlisted in the Army Service.

The men of the detachment are not soldiers in the ordinary acceptation of the term, and are neither armed, equipped, nor drilled; they have a company organization, but are seldom called together, except at monthly musters, as their duties as clerks, messengers, janitors, overseers, mechanics, watchmen, and laborers require their presence at different places on the post.

The married men occupy quarters with their families while the single men are quartered in barracks, where they mess together, and are regularly inspected once a week.

While the majority of these men are zealous and faithful in the discharge of their duties, I regret to say that there are some who, by their conduct, fail to reflect credit upon the organization. This is shown by the fact that there were forty-nine cases of men of the detachment tried by a summary court between August 1, 1891, and August 1, 1892.

I prefer to wait another year before pronouncing this experiment a success and recommending that it be extended to the Army generally.

#### NEW BUILDINGS.

During the past year the following buildings have been completed: The new gymnasium (almost), the new cavalry barracks, the new hospital for enlisted men, the five new sets of quarters for officers, and twenty new sets of quarters for married enlisted men.

The cadet quartermaster store has been enlarged by the erection of an addition on the north side and the building used as quarters for the employés of the cadet mess has been raised one story.

There has been considerable delay and annoyance in connection with the construction of the new gymnasium.

The work was commenced in June, 1890, under contract with Mr. John Sheehan. Slow progress was made, and on August 14, 1891, Mr. Sheehan, after completing the walls and placing a portion of the iron roof-trusses in position, abandoned his contract.

By authority of the Secretary of War the contract was declared forfeited, proposals were invited for completing the building, and on September 25, 1891, a new contract was made with Mr. John Moore, of Syracuse, N. Y., with the understanding that the work would be completed by January 1, 1892.

It appeared to be a somewhat difficult task to gather up the loose ends of an abandoned contract, and Mr. Moore soon found that it was impossible to complete the job within the time he had suggested. Extensions were granted until April 1, again until May 18, again until July 15, and finally until August 31, when the building was almost finished. A photograph taken in August is submitted herewith.

The work has been thoroughly done. The plans were prepared by that eminent architect Mr. Richard M. Hunt, of New York, and the structure is one of which the Academy may well be proud.

#### THE NEW ACADEMIC BUILDING.

The plans and specifications for this building were prepared by Mr. Richard M. Hunt, of New York, and the contract for its erection was made May 18, 1891, with Messrs. J. E. and A. L. Pennock, of Philadelphia, Pa.

The Messrs. Pennock commenced work upon the demolition of the old structure in the latter part of June, 1891, and have pushed forward their operations with skill and as rapidly as they could possibly obtain stone from the Hudson and Chester Granite Company, of Chester, Mass., by which company the granite is furnished.

While the contractors are somewhat behindhand on account of lack of stone, I desire to commend them for their energy and efforts to do the very best character of work.

The walls of the south wing are above window heads of the third story, while those of the middle and north sections are at an average height of the first-story window sills.

It was hoped and expected that the south wing would be ready for occupancy by the close of the present calendar year. This is now very doubtful, but I believe that both the south and middle sections will be completed by the opening of the academic year, September 1, 1893, and that the whole building will be finished by the close of December, 1893.

A photograph of the east and south elevations of the building as it will appear when completed is submitted herewith.

#### THE LIBRARY BUILDING.

This building was used both as a library and an observatory until the construction of the tunnel of the West Shore road under West Point rendered it necessary to abandon it for observatory purposes.

It is still used for purposes of instruction by the departments of philosophy, law, and history.

The library proper now contains 36,000 bound volumes, together with a large number of pamphlets, and is increasing at the rate of 1,000 volumes per annum.

The entire renovation and reconstruction, except the walls, is necessary.

As soon as the new academic building is sufficiently completed to admit of occupancy, the departments of instruction should be moved into it and the entire structure devoted to library purposes only.

The roof trusses and rafters are of wood and the slate covering is in bad condition. The roof should be made fireproof.

The stone piers in the mural circle, transit, and equatorial towers should be removed and the space thus obtained can be arranged for rooms for study and reference; the covering of the transit and mural-circle towers must be entirely replaced and that of the equatorial tower might be made of glass to throw light from above.

All the interior fittings of the library should be fireproof, similar to those used in modern constructions.

The cost of this work is estimated to be about \$40,000, and I earnestly recommend that this appropriation may be made at once, or that at least \$2,500 may be made available for the employment of a skilled architect to prepare plans, specifications, and estimates for the complete renovation of the interior of the building.

#### THE WEST POINT CEMETERY.

The West Point Cemetery contains an area of about 14 acres, more than one-half of which is still only partially improved.

The old cemetery, which contains the remains of officers, cadets, soldiers, and resident civilians who have died in past years, is also honored with being the final resting place on earth of some of the most distinguished soldiers of the Republic.

As the cemetery was being rapidly filled, I extended its limits in 1890 so as to take in the adjacent ground, occupied in years past as a cadet garden. This new addition is now being laid out to correspond with the beauty of the remainder of the cemetery.

I had hoped that we might obtain the sum of \$1,500, for which I asked in my last annual report, to continue the improvement of this home of the illustrious dead, but it was deemed best to reduce the estimate to \$250, hardly sufficient to maintain the beauty and good order of the completed portion.

I shall continue my efforts to beautify this spot, hallowed to the memory of the heroes who have devoted their lives to their country, and I earnestly beg that the sum of \$1,500 be allowed this year for continuing this work of respect for the dead.

#### SEWERAGE AND PLUMBING.

With the funds appropriated by the act of March 2, 1891, a vast improvement was made in the plumbing in a number of the buildings on the post, and it is believed that the appropriation made by the act of July 14, 1892, will go very far towards the completion of the existing project.

A large portion of the new appropriation will be devoted to the plumbing connected with the buildings occupied as barracks by the enlisted men.

WATER SUPPLY.

The source of the water supply of the post of West Point is the rainfall on the hills and valleys surrounding the reservoirs.

There are five reservoirs, with capacity as follows:

	Gallons.
(1) Round Pond .....	48,000,000
(2) Delafield Pond .....	9,000,000
(3) Sinclair Pond .....	1,300,000
(4) Crownest Pond .....	300,000
(5) Cascades Dam Pond .....	500

Only the second, fourth, and fifth are ordinarily used, the other two being held in reserve for emergencies, as they can not be made available without filtering, and even then are not very satisfactory.

During the summer and early autumn of 1891 the supply of water became dangerously low and at one time it seemed as if it would be necessary to cut it off from certain portions of the post. Round Pond was drawn upon the latter part of June, 1891, and the post was dependent upon it until October, its level during that period being reduced nearly 10 feet and probably nearly two-thirds of its contents used. Had winter set in without the usual heavy autumn rains the result would have been disastrous, as our boilers for heating cadet barracks, mess hall, hospital, etc., and our gas plant are dependent upon the water supply.

As new buildings are being erected and modern sanitary plumbing is demanding a large supply of water, I directed Capt. George McC. Derby, Corps of Engineers, the officer in immediate charge of the water supply, to make a careful study of the subject and to submit a plan and estimate for an additional reservoir, which, with the aid of those already established, would assure the post against a water famine during the driest seasons.

Capt. Derby has performed this work in a most satisfactory manner, and I invite attention to his report, submitted herewith.

I concur in his views and after a personal examination of the site have adopted the plan for a reservoir south of Fort Putnam and submit an estimate of the cost thereof, as follows:

Excavation for foundation, 650 cubic yards, at 25 cents per yard .....	\$162.50
Excavation of drain .....	100.00
Excavation of 20,000 cubic yards mud, at 25 cents per yard .....	5,000.00
6,000 cubic yards earthen dam, at 50 cents per yard .....	3,000.00
3,000 feet 6-inch pipe, at \$1.50 per foot .....	4,500.00
Laying 3,000 feet pipe, at 50 cents per foot .....	1,500.00
Contingencies .....	1,737.50
Total .....	16,000.00

The new reservoir will cover an area of about 10 acres and will hold 50,000,000 gallons of water. It will be 1,175 feet long and 525 feet wide, The dam at the south end will be 164 feet long and 22 feet high.

It is earnestly recommended that an appropriation shall at once be made for this necessary and important work.

ENLARGEMENT OF HEATING PLANT OF THE ACADEMY.

The erection of the new gymnasium and the anticipated completion within the next year of the new academic building necessitates additional boiler power for heating purposes.

By my direction First Lieut. J. E. Kuhn, Corps of Engineers, has made a careful study of this subject and I invite attention to his interesting report, submitted herewith.

The new academic building alone will require boiler power equivalent to 150 horse power. The present plant consists of four horizontal tubular boilers rated at 80 horse power each. During very cold weather all four boilers are worked to their full capacity, and it will therefore be necessary to increase the plant at least 200 horse power. It is therefore recommended that two additional boilers of 100 horse power each be placed in position.

The estimated cost of this work is as follows:

Two 100 horse-power water-tube boilers, complete.....	\$5,300
127 cubic yards masonry, at \$12 per yard .....	1,524
New roof to boiler house .....	750
200 feet 10-inch steam pipe, at \$5 .....	1,000
Contingencies .....	926
<b>Total .....</b>	<b>9,500</b>

If ordinary horizontal tubular boilers are used this estimate can be reduced \$2,500. It is believed that the water-tube boilers would soon pay the difference in cost by their greater coal economy.

#### THE BATTLE MONUMENT.

A sketch of the proposed battle monument is submitted herewith.

The monument was designed by Messrs. McKim, Mead & White, of New York, and the bronze figure of Victory which will surmount it was modeled by Mr. Frederick W. MacMonnies of that city.

The description of the design, as given by the architect, is as follows:

In preparing the design we have most carefully considered the object of the monument and the site which it is to occupy. We believe the monument should be first and foremost a martial one, distinctive in its character and impressive in its design.

The beauty of its site and the surroundings seem to us to preclude any bulky or massive treatment, and to suggest rather a treatment where the impression should be produced by height supported by a base which should not interfere with graceful and artistic treatment.

For this reason we have adopted as the feature of our design a single monolithic shaft, treated in the shape of a memorial column or column of victory.

This form seems to us to be more distinctively martial than any other, and in this form we believe it is possible to obtain impressiveness and dignity without a sacrifice of grace and at the same time preserving a distinctively architectural and monumental character.

We lay great stress upon these two points, viz, the necessity of giving the monument a martial design and the relation of the monument to its site.

The shaft is a monolith, 41 feet 6 inches high and 5 feet 8 inches in diameter. It is proposed to surmount it with a figure of Victory.

The shaft rests upon a circular base, surrounded by flights of steps, giving the greatest breadth and dignity possible to the base.

The materials are most enduring—granite and bronze.

On July 28, 1891, a contract was made with the firm of Norcross Brothers, of Worcester, Mass., for the granite work and the necessary labor of placing the bronzes in position.

The height of the monument when completed will be 78 feet.

The cut stone is finished with the exception of the big main shaft, four of the polished balls, and the capital. The shaft has been gotten out from the quarry, blocked up, the cast-iron trimmings bolted to the ends, and everything is ready to go on with the work whenever the present strike in the quarries is settled.

Arrangements for constructing the foundation were commenced in August, 1892, and by the close of the month the work was well under way.

It is hoped that the great shaft may be completed in time to be hauled to the site during the coming winter and that the monument will be finished by the summer of 1893.

The site selected is on the plain north of Execution Hollow and about 100 yards east of Trophy Point, thus rendering the monument visible from the river north of West Point.

I am under many obligations to the Adjutant-General's Department of the Army for the earnest assistance afforded me in procuring the names of all enlisted men of the regular Army who were killed in action or died of wounds received in action during the war of the rebellion. It is hoped to have every such name appear upon the monument.

#### THE CULLUM MEMORIAL HALL.

By the death of that noble soldier, that distinguished scientist, that accomplished gentleman, the late Maj. Gen. George W. Cullum, of the Corps of Engineers, U. S. Army, the U. S. Military Academy has fallen heir to a magnificent bequest amounting to \$300,000, which is to be devoted to the erection of a memorial hall, the purchase of statues, busts, portraits of distinguished deceased officers and graduates, and to the continuation of the publication of Gen. Cullum's biographical register of graduates.

Congress has already accepted this munificent bequest in accordance with the terms of the will and has provided a board of trustees, which has met and organized, electing the Superintendent of the United States Military Academy as its president and Prof. James Mercur, United States Military Academy, as its secretary.

The board fully realizes the importance of the trust imposed upon it, and it is believed that under its supervision a structure will be erected which, as a memorial hall, will be a lasting monument to the memory of the noble soldier and Christian gentleman to whom the Academy is so greatly indebted.

#### THE HEALTH OF THE COMMAND.

Attention is invited to the interesting report of Maj. Henry McElderry, surgeon, U. S. Army, submitted herewith.

The general health of the command during the year has been very good. There has been no epidemic of any kind and but few serious cases of illness.

The Corps of Cadets has been called upon to lament the death of Cadets George Henderson Myer and Arnold Akester, most estimable youths of high character. The former died of rheumatic fever and endocarditis on May 14, 1892, and the latter died very suddenly on the morning of August 29, 1892, from "formation of heart-clot."

Once more it is my pleasure to express my deep appreciation of the earnest, faithful, and intelligent assistance I have received in the discharge of my official duties from every professor and other officer connected with the Academy, and my gratification at being again able to report the Corps of Cadets in excellent condition as regards health, drill, discipline, and instruction.

In conclusion I trust that my love for my *alma mater*, my pride in its development, my admiration for its work, and my full belief in its continued success will be a sufficient excuse for quoting the following eloquent tribute to the Military Academy from the address made by Gen. Francis A. Walker, of Boston, at the convocation of the University of the State of New York at Albany on July 9, 1891:

There is one school in the United States mainly devoted to the application of scientific principles to a professional art, which is so well known to all our people, and whose work in the development of mind and manhood has been so severely tested in the sight of the country and of the whole world, that I can not forbear to allude to it here. I mean the Military Academy at West Point.

There is no reason to believe that for the thirty years preceding the civil war the young men who went to that school were in any degree superior to those who entered Yale or Harvard.

Indeed, there was at that time, at least throughout the North, a certain disinclination on the part of the more generous and ambitious of our youth to adopt the career of arms.

Yet, when the war broke out, what a wealth of intellect and character was displayed by the graduates of that one small school during the terrific trial to which they were instantly and without preparation subjected.

Think how many men from that single academy, which had fewer living graduates than either Amherst or Williams, led army corps and armies with distinction on the one side or the other in what was perhaps the greatest war of modern history.

I said "of intellect and character," for it is character even more than intellect which enables the commander to bear the tremendous cares, responsibilities, and burdens of his office.

Gen. Walker then asks what it was which, out of these small classes of raw lads, developed the great soldiers of the war, and closes by saying:

Doubtless in some part it was the romance and the highly stimulating influences of the military career. Doubtless in part, also, it was the special inspiration of the tremendous occasion, fraught as that was with the destinies of a continent.

But I believe it in still greater part to have been the perfectly natural effect of the application of perhaps not extraordinary powers to the thorough, patient, unremitting study of scientific principles, directed straight upon a worthy profession, under the tuition and guidance of renowned masters of that art, and under the constant influence of professional ideas, professional sentiments, and great professional examples.

I am, sir, very respectfully, your obedient servant,

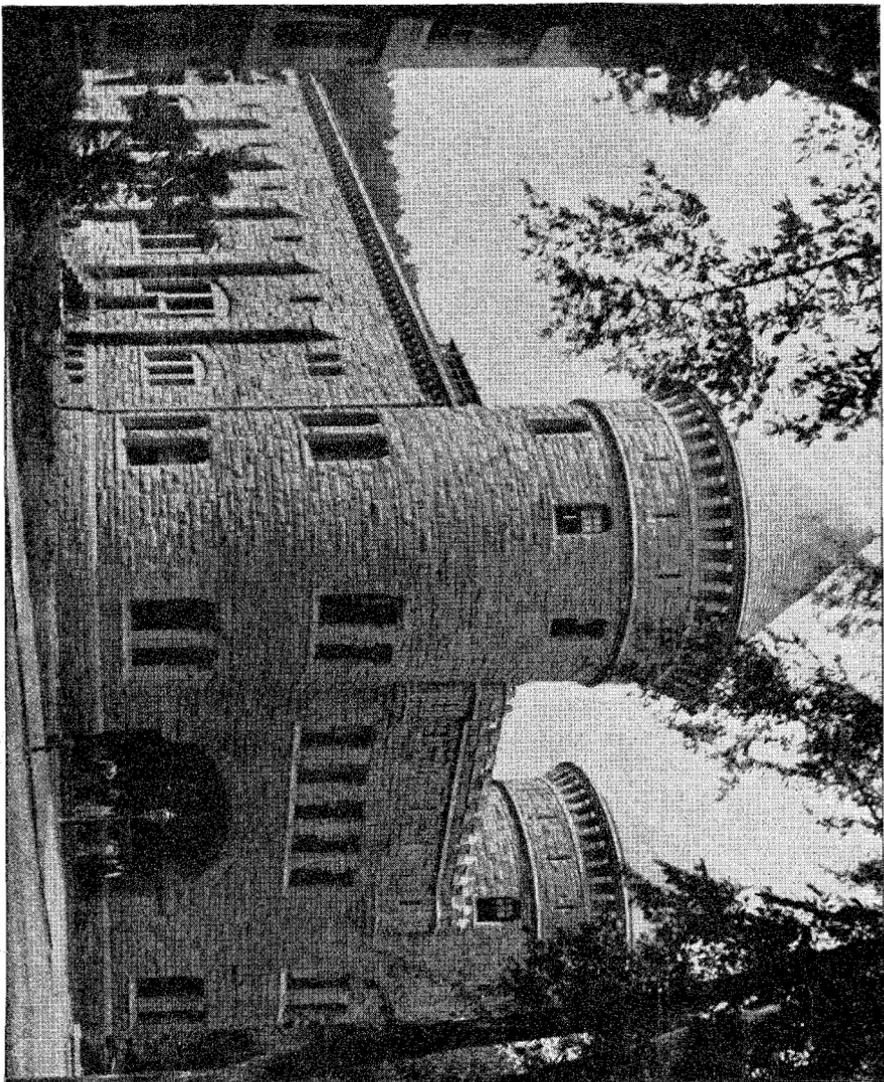
JOHN M. WILSON,

*Colonel of Engineers,*

*Superintendent United States Military Academy.*

The ADJUTANT-GENERAL U. S. ARMY,

*Washington, D. C.*



NEW GYMNASIUM, WEST POINT, N.Y.





*To accompany annual report for 1874  
of the Superintendent of the U.S. Military  
Academy -*

**BATTLE MONUMENT**  
at  
**WEST POINT, N.Y.**

In Memory of the Officers and Enlisted Men of the U.S. Regular Army,  
who were killed, or died of wounds received in action, during the  
War of the Rebellion.



HEADQUARTERS UNITED STATES CORPS OF CADETS,  
West Point, N. Y., July 11, 1892.

The ADJUTANT UNITED STATES MILITARY ACADEMY,  
West Point, N. Y.:

SIR: I have the honor to report that during the preceding twelve months instruction has been given in the drill of the three arms; in target practice with small arms, new breech-loading field guns, seacoast guns, and mortars; in mechanical manœuvres with field, siege, and seacoast guns; in fencing with small sword and bayonet; in gymnastics and swimming; in military police and discipline, and in quartermaster, subsistence, and company administration.

Many changes having been introduced in the new infantry drill regulations, the available time during the spring was taken up entirely, so that there was no opportunity for practical instruction in minor tactics, such as was given last year.

The officers detailed as assistants in the tactical department have been most earnest in their efforts to maintain the excellent reputation of the Corps of Cadets, and its gratifying condition as to discipline and high honor is an attest of their tact and judgment.

Very respectfully,

H. S. HAWKINS,  
Lieutenant-Colonel, Twenty-third Infantry, Commandant of Cadets.

UNITED STATES MILITARY ACADEMY,  
OFFICE OF INSTRUCTOR OF ORDNANCE AND GUNNERY,  
West Point, N. Y., July 11, 1892.

The ADJUTANT UNITED STATES MILITARY ACADEMY:

SIR: I have the honor to forward herewith the annual estimate for the fiscal year ending June 30, 1893, for the department of ordnance and gunnery.

I would respectfully recommend that an additional item be introduced into the Military Academy appropriation bill giving to the senior assistant instructor in the department of ordnance and gunnery the pay of captain mounted.

This has been recommended by several boards of visitors and by the Superintendent of the Military Academy.

The department of ordnance and gunnery is practically the only one of the academic departments whose principal assistant does not receive this additional pay. His duties extend through the academic year from September to June, and in addition to his academic duties there are others connected with the batteries and armament of the post which require his attention.

For these reasons I would respectfully recommend that this additional pay be allowed him.

Very respectfully, your obedient servant,

LAWRENCE L. BRUFF,  
Captain, Ordnance Department U. S. A.,  
Instructor of Ordnance and Gunnery.

WEST POINT, N. Y., October 24, 1891.

The ADJUTANT UNITED STATES MILITARY ACADEMY:

SIR: In compliance with the requirements of your letter of September 19, directing me to submit a plan and estimate for increasing the water supply of the post so as to afford all water necessary for the new buildings recently erected and those now in process of erection, during all seasons of the year, I have the honor to submit the following report:

The present water supply of the post is derived from the mountain streams feeding the small reservoirs at Delafield Pond, Crownest, and the Cascades, and during protracted droughts from Sinclair Pond and the reserve supply at Round Pond. Recent measurements during the month of August show the consumption of water on the post to amount to about 277,000 gallons per diem. Allowing for the new buildings and probable growth of the post for the next ten years, I should estimate the requirements of the post at about 110,000,000 gallons per annum.

The available rainfall on the reservation is far more than ample to supply this amount of water of excellent quality, the only difficulty with the present system

being that it lacks sufficient storage capacity. During the past year every reservoir on the post was overflowing for upward of one hundred and twenty-eight days. Of the reservoirs mentioned above, Round Pond, with an available capacity of 48,000,000 gallons, is the only storage reservoir, the others being all too small to serve as anything but service reservoirs.

A storage of 48,000,000 gallons is too small for an annual consumption of 110,000,000 gallons derived from streams that are commonly dry in summer. We should have in store, at the lowest possible estimate, six months' supply or 55,000,000 gallons; and in the light of the present condition of the supply I should say that 75,000,000 would be none too much to avoid the anxiety incident to getting very close to the limit during dry seasons, particularly as it must be borne in mind that there is some doubt as to whether Round Pond can be relied upon to refill itself from one season to the next.

The most available sites for storage reservoirs on the reservation are at the lower end of the public meadow and on the back road between Fort Putnam and the observatory. The first was examined and surveyed by Lieut. Biddle, under the direction of Capt. Price, in 1888; the second has been recently surveyed by Lieut. McKinstry.

Tracings of both maps are submitted herewith.

A reservoir in the public meadow would receive its supply from the stream that flows through the meadow into Sinclair Pond and the overflow from the Cascades could readily be turned into it. The supply would be most ample, and with proper treatment of the reservoir site and catchment basin I consider that there could be little doubt of the satisfactory quality of the water, in spite of the fact that that collected in Sinclair Pond at present is very poor.

A reservoir on the site near Fort Putnam would receive its supply from the basin that naturally drains into it and from the large brook that now flows through the Kinsley orchard, which can be turned into this basin at a point on the mountain side at nominal expense.

This supply would be ample, being in itself greater than the entire consumption of the post.

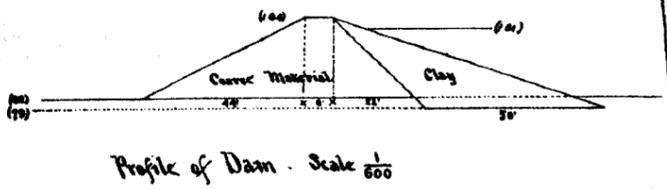
The area draining into the reservoir would, with this addition, amount to about 175 acres.

The rainfall, as given by the Weather Bureau from observations taken at the old cadet hospital at this post, is 47 inches; the observations taken at the new hospital for six years past average 51.6 inches; those taken at Round Pond for six years average 53.8 inches, and the general average for the State of New York, as given by the Weather Bureau, is 42 inches.

The available rainfall, after deducting for evaporation and infiltration, is given by Rankine as from 80 to 100 per cent for steep granite slopes, as 60 to 80 per cent for hilly pasture, and 40 to 60 per cent for open farm land. From the conformation of the basin under discussion, its dense growth of wood, and its impermeable soil, as evidenced by the fact wherever the drainage is checked on the hillside a swamp is formed, I think that it would be conservative to estimate the available rainfall at 66 per cent of the total. If we assume the latter at 42 inches, the lowest of the figures given above, we would again be on the safe side, and the result would be a supply of about 135,000,000 gallons, considerably more than the entire consumption of the post. I feel justified in concluding that the supply of this reservoir would be most abundant. As to quality, it should be exceptionally fine, with all the characteristics of Crownest water, as the entire basin is uninhabited and unused, all rocky woodland, almost entirely on the reservation, and hence subject to control.

If necessary or desirable the surplus water from the Cascades and Crownest can be piped to the Fort Putnam site at nominal expense, using the pipe line provided for distributing purposes.

As regards the supply, then, I consider that the advantage is rather with the Fort Putnam site, though either site would be satisfactory.



# CONTOUR MAP

OF PROPOSED

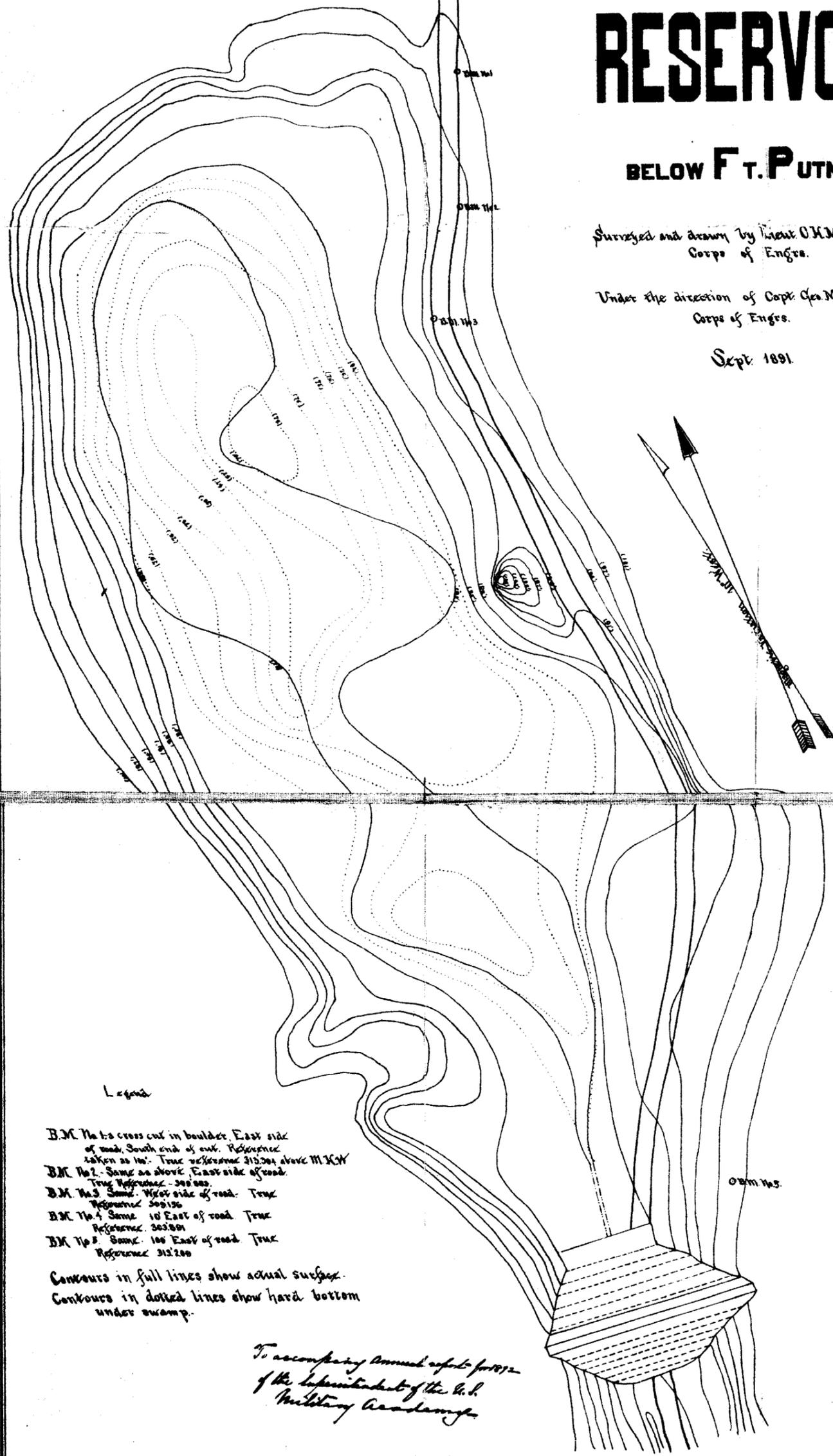
# RESERVOIR

BELOW **F. T. PUTNAM.**

Surveyed and drawn by **Lieut. O. M. Finney,**  
Corps of Engrs.

Under the direction of **Capt. Geo. M. C. Dobby,**  
Corps of Engrs.

Sept. 1891.



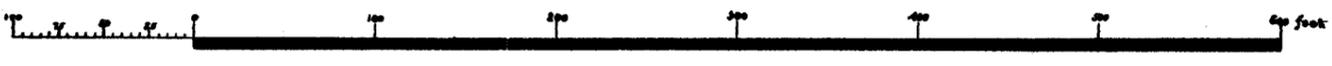
**Legend**

- B.M. No. 1. Cross cut in boulder. East side of road. South end of cut. Reference taken as 10'. True reference 315.504 above M.K.W.
- B.M. No. 2. Same as above. East side of road. True reference 300.000.
- B.M. No. 3. Same. West side of road. True reference 300.120.
- B.M. No. 4. Same. 10' East of road. True reference 303.801.
- B.M. No. 5. Same. 100' East of road. True reference 315.200.

Contours in full lines show actual surface.  
Contours in dotted lines show hard bottom under swamp.

*To accompany Annual report for 1892  
of the Superintendent of the U. S.  
Military Academy*

**SCALE**  $\frac{1}{1200}$





In other respects the two sites compare as follows:

	Fort Putnam.	Public meadow.
1	Length of dam, 164 feet .....	650 feet; auxiliary low dam, 250 feet.
2	Height of dam above present site, 22 feet.....	21 feet; auxiliary dam, 4 feet.
3	Height of dam above foundations, 25 feet.....	Uncertain; upwards of 24 feet.
4	Area submerged, 452,000 square feet .....	332,600 square feet; Round Pond is 495,000; Delafield is 83,000.
5	Contents of reservoir, 50,260,000 gallons.....	15,500,000.
6	A available contents, 40,000,000 gallons .....	12,700,000.
7	Length of pond formed, 1,175 feet .....	812 feet.
8	Greatest width of pond formed, 525 feet.....	700 feet.
9	Depth sufficient to prevent growth of objectionable algae.	Depth insufficient.
10	Obstructs bek. road to Highland Falls.....	Obstructs road to Cornwall.
11	Site for dam very favorable as to foundation.....	Unfavorable as to foundation, springs, and large boulders.
12	Leakage should be slight with so short a dam....	Leakage likely to be greater (long dams).
13	Material for construction abundant and near.....	Material for construction abundant and near.
14	A available as ice pond .....	Not available as ice pond.
15	Site now worthless .....	Site needed as pasture (very scarce on the post).
16	20,000 cubic yards of mud excavated in cleaning can be syphoned out and distributed by hydraulic process over flat near railroad, converting same into a meadow.	Mud excavated not available on account of distance.
17	Lake instead of present swamp; improvement of the post.	Not so great an improvement in this particular.
18	Storage capacity can readily be increased 33 per cent by raising proposed dam 5 feet and constructing dam 50 feet long at upper end.	Does not readily admit of increase by raising dam, as auxiliary dam 400 feet long would be required.
19	Would furnish ample pressure at south end of post.	No improvement in this respect.
20	Would require 3,000 feet pipe line to connect with present system.	Would require 2,000 feet of pipe line to connect with present system.
21	Estimated cost:	Estimated cost:
	Excavation for foundations, 650 cubic yards, at 20 cents..... \$130.00	1,550 cubic yards, at 20 cents.... \$310.00
	Excavation of drain for same..... 50.00	1,550 cubic yards, at 20 cents.... 200.00
	Excavation 20,000 cubic yards mud cleaning, at 10 cents..... 2,000.00	5,000 cubic yards, at 10 cents.... 500.00
	6,000 cubic yards earthen dam, at 40 cts 2,400.00	20,000 cubic yards, at 40 cents.... 8,000.00
	3,000 feet 6-inch pipe to water-house, at \$1.50..... 4,500.00	2,000 feet 6-inch pipe, at \$1.50.... 3,000.00
	Laying same, at 50 cents..... 1,500.00	Laying same, at 50 cents..... 1,000.00
	Contingencies, 15 per cent..... 1,537.00	Contingencies, 15 per cent..... 1,952.00
	Total.....12,167.00	14,962.00

Round pond and pipe line cost \$40,000.

For the reasons above outlined I would respectfully submit, as the best plan for increasing the water supply of the post, the deflection of the brook in the Kinsley orchard and the construction of a storage reservoir on the site near Fort Putnam, at an estimated cost of \$12,167.

Very respectfully, your obedient servant,

GEO. MCC. DERBY,  
*Captain of Engineers, in charge of Water Supply.*

HEADQUARTERS UNITED STATES MILITARY ACADEMY,  
OFFICE TREASURER, QUARTERMASTER, AND COMMISSARY CADETS,  
*West Point, N. Y., July 13, 1892.*

The ADJUTANT OF THE UNITED STATES MILITARY ACADEMY,  
*West Point, N. Y.:*

SIR: In obedience to your communication of the 6th instant, I have the honor to submit the following relative to my duties as treasurer of the Military Academy, quartermaster and commissary of cadets for the fiscal year ending June 30, 1892, referring to each duty under its proper heading, namely:

TREASURER OF THE MILITARY ACADEMY.

In January last the treasurer's office was moved from the headquarters United States Military Academy building to the cadet quartermaster's department building. This change has been of great practical advantage, since the treasurer's office, cadet store, the cloth cutters', tailor, and shoe-repairing shops, being now all under one roof near the cadet barracks, the transaction of business with cadets and others is facilitated and expedited.

The business of the treasurer's office during the year necessitated twenty-six separate accounts, namely:

- |   |  |
|---|--|
| <ol style="list-style-type: none"> <li>1. Assistant treasurer of the United States, New York.</li> <li>2. Balances paid.</li> <li>3. Barber.</li> <li>4. Cadet cash.</li> <li>5. Cadet hospital.</li> <li>6. Cadet laundry.</li> <li>7. Cadet quartermaster's department.</li> <li>8. Cadet subsistence department.</li> <li>9. Confectioner.</li> <li>10. Corps of Cadets.</li> <li>11. Damages, ordnance, and stoppages.</li> <li>12. Dancing.</li> <li>13. Dentist.</li> </ol> | <ol style="list-style-type: none"> <li>14. Deposits.</li> <li>15. Dialectic Society.</li> <li>16. Equipment fund.</li> <li>17. Expressage.</li> <li>18. Gas fund.</li> <li>19. Hops and german.</li> <li>20. Miscellaneous fund.</li> <li>21. Miscellaneous items.</li> <li>22. Oaths.</li> <li>23. Paymaster.</li> <li>24. Periodicals.</li> <li>25. Photographer.</li> <li>26. Policing barracks.</li> </ol> |
|---|--|

The statement of the treasurer U. S. Military Academy, dated May 19, 1891, which was the last made prior to the expiration of the fiscal year 1890-91, was as follows:

*Statement No. 1.*

	Amount.		Amount.
<b>ASSETS.</b>		<b>LIABILITIES.</b>	
Deposited with the assistant treasurer United States, New York.....	\$29,715.84	Cadet hospital.....	\$8.38
Due from paymaster.....	90.00	Cadet laundry.....	5,541.23
Invested in United States bonds.....	20,000.00	Cadet quartermaster's department.....	1,898.64
Cash on hand.....	1,799.23	Cadet subsistence department.....	687.82
		Corps of Cadets.....	11,571.51
		Deposits.....	190.00
		Dialectic society.....	18.75
		Equipment fund.....	31,644.00
		Miscellaneous fund.....	4.02
		Miscellaneous items.....	6.32
		Policing barracks.....	34.40
<b>Total.....</b>	<b>51,605.07</b>	<b>Total.....</b>	<b>51,605.07</b>

The following statement of receipts and disbursements under each account exhibits the totals of such receipts and disbursements between May 19, 1891, the date of Statement No. 1, and May 16, 1892, the date of the last statement prepared in this office, six bimonthly statements having been made during the year, namely:

*Statement No. 2.*

		Receipts.	Disbursements.
1	Assistant treasurer—checks drawn.....	\$152,280.24	\$153,398.77
2	Balances paid.....	18,759.10	18,759.10
3	Barber.....	540.25	540.25
4	Cadet cash.....	12,238.56	12,238.56
5	Cadet hospital.....	1,920.23	1,928.61
6	Cadet laundry.....	8,362.37	9,384.21
7	Cadet quartermaster's department.....	69,868.86	65,053.44
8	Cadet subsistence department.....	53,845.95	52,589.00
9	Confectioner.....	316.00	316.00
10	Corps of Cadets.....	178,527.69	177,923.16
11	Damages, ordnance, and stoppages.....	508.23	508.23
12	Dancing.....	602.00	602.00
13	Dentist.....	954.00	954.00
14	Deposits.....	17,208.42	17,173.42
15	Dialectic Society.....	430.70	445.10
16	Equipment fund.....	12,304.00	15,198.00
17	Expressage.....	44.20	44.20
18	Gas fund.....	1,255.90	1,255.90
19	Hops and german.....	1,641.17	1,641.17
20	Miscellaneous fund.....	41.95	28.00
21	Miscellaneous items.....	715.40	762.51
22	Oaths.....	24.00	24.00
23	Paymaster.....	149,544.27	149,454.27
24	Periodicals.....	92.00	92.00
25	Photographer.....	54.00	54.00
26	Policing barracks.....	5,832.00	5,866.63
	<b>Total.....</b>	<b>687,931.72</b>	<b>686,234.53</b>

It will be observed that accounts Nos. 2, 3, 4, 5, 6, 9, 11, 12, 13, 17, 18, 19, 22, 23, 24, and 25 appear and disappear in the above Statement No. 2, no balances being carried. From this statement it will be observed that cadets expended for—

Hair-cutting, etc.....	\$540.20
Support of the cadet hospital.....	1,928.61
Confectioner.....	316.00
Dentistry.....	954.00
Expressage.....	44.20
Gas and gas fixtures.....	1,255.90
Hops and german.....	1,641.17
Oaths.....	24.00
Periodicals.....	92.00
Photographs.....	54.00
Policing barracks, etc.....	5,866.63

The cost of waste paper used in cadet sinks, candles consumed in camp, blacking, brushes, and matches being included in the sum charged against policing barracks. The service pay roll of the men employed in policing barracks was, for the year, \$4,950.

The receipts of the laundry accrued principally from cadets. The expenditures for the laundry being greater than the receipts, it is to be accounted for by the fact that certain expenditures for repairs and machinery were charged against the laundry fund. This fund under the present system of charges for laundry work will never increase, but will diminish, as it is subjected to necessary expenditures which are unprovided for by Congressional appropriations.

The following is the statement of the treasurer at date of the last settlement and inspection of his accounts, May 16, 1892:

*Statement No. 3.*

	Amount.		Amount.
<b>ASSETS.</b>		<b>LIABILITIES.</b>	
Deposited with the Assistant Treasurer United States, New York.....	\$30,834.37	Cadet laundry.....	\$4,519.39
Miscellaneous items to be charged.....	40.75	Cadet quartermaster's department.....	6,714.06
Invested in United States bonds.....	20,000.00	Cadet subsistence department.....	1,944.77
Cash on hand in office safe.....	3,496.42	Corps of Cadets.....	12,176.04
		Deposits.....	225.00
		Dialectic Society.....	24.35
		Equipment fund.....	28,750.00
		Miscellaneous fund.....	17.97
<b>Total.....</b>	<b>54,371.58</b>	<b>Total.....</b>	<b>54,371.58</b>

The amount of the equipment fund, as given above, was reduced to \$16,810 when settlement was made in June with this year's graduating class.

The subcommittee of the Board of Visitors for this year inspected the books and systems of accounts of the treasurer's office, and left the impression that it was well pleased.

**CADET QUARTERMASTER'S DEPARTMENT.**

The capacity of the cadet quartermaster's department building was doubled on the completion, in January last, of the addition erected by contract, and paid for by a Congressional appropriation, and it is now ample for the business necessary, should any increase in the corps, not exceeding 50 per cent, be made.

The arrangement of offices, workshops, and storerooms gives great satisfaction. The two rooms occupied by the treasurer are the rooms on the main floor, old part, which formerly were the storerooms.

On this same floor two neatly but plainly furnished rooms have been set apart as dressing rooms for cadets trying on clothing. The store occupies the basement and main floor of the new part and cadets are now served over a counter instead of through a window as formerly.

The workshops are on the second floor, old and new part, and are well arranged for their purposes. Every garment issued to cadets is inspected by an officer of the tactical department whose acceptance or rejection of the article determines the question of acceptance between the department and the person making the garment, as well, in case of acceptance, of any question which might subsequently arise as to

the fit of the garment. By such an inspection perfect uniformity in all articles of clothing is obtained and the commandant of cadets becomes responsible for the appearance of his command. Facilities for marking all articles of furniture and bedding, and for stamping their names on the visor of forage caps and dress hats are at the convenience of all cadets. The plan inaugurated this year of preparing the blouses, flannel and white trousers, shoes, caps, helmets, and dress hats for new cadets prior to their reporting from measurements furnished by them in March last, after passing the preliminary examination and the issuing of such articles immediately upon their reporting in June, was eminently successful. The experience gained this year in this matter will render the work less difficult hereafter. It is expected that by August 1 the new cadets will be completely equipped. During the year ending June 30 last the department manufactured 194 dress coats, 116 overcoats, 450 gray blouses, 72 white jackets, 551 gray trousers, 971 white trousers, 77 flannel trousers, 58 tennis trousers, 50 officers' trousers, 84 civilian trousers for officers, graduates and furloughmen, 85 civilian coats, 80 civilian vests, 24 officers' blouses, 6 officers' dress coats, 9 officers' overcoats, 9 officers' capes, 58 riding trousers, and 35 waiter jackets. There was repaired during the year 355 dress coats, 270 overcoats, 595 gray blouses, 85 civilian suits, 477 pairs gloves, 2,439 pairs socks (repaired and tags sewed on) 338 pairs chevrons sewed on, 2,218 pairs trousers, and 1,471 pairs shoes.

The work of the department goes smoothly on to the satisfaction, I have reason to believe, of the cadets for whom we labor. Much satisfaction was expressed by the president and members of the Board of Visitors of the working of the department when the Board as a body visited the same in June last.

#### CADET SUBSISTENCE DEPARTMENT.

All supplies are purchased in open market as they are needed. Meats, butter, and groceries are ordered weekly. Flour is purchased in quantities sufficient to last two months. Fruits and other perishable articles when required. All supplies are received and cared for by a commissary-sergeant, U. S. Army, detailed for duty in the cadet subsistence department. A return of provisions, furniture, etc., received, issued, and remaining on hand is made out every two months. This return shows everything that has been received, when received, from whom purchased, and cost thereof; everything expended, all sales of bread to officers and others living at the Academy, sales of scrap food, soap grease, etc.

The period covered by a return is termed a settlement. A settlement covers the period embraced in two calendar months, and always in that period for which the corps is mustered, and which is the same as the muster of troops, occurring at end of February, April, June, August, October, and December.

Thus there are six settlements per year.

The subvouchers for this return are: (1) The original invoice of supplies purchased. (2) Daily issues of provisions at the cadet mess. (3) Daily issues of contingent property, etc. (4) Daily issues to the cadet hospital. (5) Statement of sales (handed in daily to office). The reverse side of this blank exhibits all stores received during the previous day to that on which it is handed in. As invoices are kept in the office, receipts of stores can be, and are, compared with them. (6) Pay roll of employés.

When a return is made up, a board of officers, denominated the board of audit, consisting of the commandant of cadets and the senior and junior tactical officers, convenes according to regulations, and examines vouchers and approves or disapproves of same, and determines, upon consultation with the commissary of cadets, the amount for board each cadet shall be charged for the two months.

When the corps is large and the cost is proportionally small, cadets are usually charged slightly more than the actual cost of board, and the overcharge is placed to the credit of the mess fund. Again, when the corps is small and the cost of board proportionately large, which is usually the case after the January examination and until the arrival of the new cadets in June, the amount usually charged each cadet is slightly less than the actual cost, and the difference is charged against the mess fund.

During the year the amount charged varies from the actual cost but slightly, whilst the cadet is charged settlement after settlement about the same price for subsistence, enabling him to calculate closely upon certain proportions of his pay which will be available for other needs. The board of audit having acted upon the return, and having signed their proceedings, which then becomes part of the return, it is submitted to the Superintendent of the Academy for his action.

The return having received the approval of the Superintendent, the treasurer settles all accounts by check on the assistant treasurer of the United States, New York, taking a receipt therefor on the face of the voucher showing the purchases.

The labor of the department is divided as follows :

(1) All clerical labor appertaining to invoices, vouchers therefor, return, etc., is performed in this office (treasurer's).

(2) The commissary sergeant keeps record of supplies received, expended, and remaining on hand, taking an inventory at end of each month, or oftener if desirable, and has charge of all supplies except the fresh meats, milk, and other supplies which necessarily are kept in the refrigerator.

(3) One chief baker and one assistant bake all breads, cakes, and pies.

(4) One "chef," with one assistant, one scullion, and one scrubbing girl, prepares and cooks all meats, vegetables, soups, side dishes—in fact, everything except the bread, as above noted, and coffee and tea. He carves all meats in the kitchen before sending them to the table, places the same on platters, giving to each platter, when roast beef is served, such proportions of rare or well-done meats as the waiters, who, knowing the wants of their tables, ask for. Such carving diminishes waste, since the "chef" properly cares for all odds and ends, bones, etc. He keeps the soup-stock boiler in constant operation, placing therein all suitable bones, scrap meats, unconsumed drippings, etc. He renders all beef-kidney fat; the cracklings therefrom are deposited with the soap fat, while the rendered fat is placed in empty butter tubs, and stored for future use in cooking French fried potatoes and the many other articles which require to be fried in beef fat. This rendered beef fat (tallow), being pure, can be used in a great variety of ways in cooking as a substitute for lard or butter.

The fresh meats are all State killed. Each quarter of beef has a tag attached showing date of killing, etc. Four different brands of flour are used in each batch of bread and in all bakings. One brand possesses strength, another sweetness, another body, and another color, or some other quality different from the other brands.

From such a combination the most satisfactory results are obtained. A menu, the result of a consultation betwixt the "chef" and commissary, is made in the afternoon daily for dinner and supper the following day and for breakfast, second morning following.

This plan affords the "chef" ample time to make his arrangements ahead and to enable the commissary to vary the menu daily and to keep well informed as to expenditures. Formerly it was considered the correct plan to have a menu prepared which would for an indefinite future inform cadets of the articles of diet at each meal every day of the week, week in and week out. As they always knew before going to the hall what they would have, after getting there their appetites were impaired by such knowledge. Under the present plan they never know previous to entering the hall what they will have, and their appetites are good, not having been killed by the disgust engendered from long fore knowledge of certain and perhaps disliked dishes which they would encounter at specified meals. The commissary has no regular times for making inspections. He is certain to be at the mess at meal times, and liable to drop in at any time. Visitors are admitted at all times and into every part of the establishment; their presence is an assistance, inasmuch as it causes the employés to always have the place in perfect order, ready for inspection. Thorough and complete cleanliness in every place, visible and invisible, is insisted upon. Only the best of provisions are purchased. Coffee, which is half Java and half Mocha, is used. The Eureka tea and coffee urns are used in making tea and coffee. These are conveniently located near the hall, and are under the especial charge of the head waiter.

When the tea and coffee are ready for the tables, urns holding sufficient of each to supply tables seating ten men each are filled and placed upon the table. In cold weather and when necessary lighted spirit lamps are placed under the urns on the tables.

The crockery used is the white American hotel china, which costs about the same as the best white English earthen or stone ware. The food is served in three courses: First, soup; second, meats and vegetables; third, dessert. All food not consumed in the hall is carried out and turned over to the "chef," who disposes of it by serving it out to the employés and by placing surplus in the refrigerator.

The scraps of food which are left on the plates (an inconsiderable quantity) are taken care of by the head waiter and sold to indigent persons, who gladly seek it daily.

No employé has any perquisite outside of his wages and board. Liberal wages are paid, to the end that employés will have the interest of the department at heart, and, by practicing economy, insure the continuance of their positions and wages.

The cadet mess hall, its kitchens, bakery, and dormitories, are all in good condition. As heretofore, an effort is constantly made to furnish the cadets with wholesome, well-cooked food in variety such as the New York market affords, the cost on the average, including all expenses for service and transportation, not to exceed \$15 to \$15.50 per cadet per month.

The following exhibits, per settlement, the number of cadets subsisted during the year, the actual cost of board, the sum charged each cadet as recommended by the Board of Audit, the total cost per cadet for the year, and the cost per cadet per month and per day:

Settlement of—	Average number of cadets present.	Actual cost.	Amount charged.
1891.			
July and August.....	226.65	\$33.00	\$33.00
September and October.....	284.57	29.76	31.00
November and December.....	279.54	30.01	30.00
1892.			
January and February.....	255.68	28.41	28.00
March and April.....	248.54	29.81	30.00
May and June.....	236.10	30.04	29.03
Total cost for the year, etc.....		181.03	181.03
Cost per cadet per month.....		15.08	15.08
Cost per cadet per day (365 days to the year).....		49.6	49.6

The prospects are promising that the cadet garden will yield this year an excellent crop of vegetables.

#### CADET LAUNDRY.

The laundry building is in excellent condition. The machinery is in good order, and is serviceable, though two of the washing machines are much worn. The working force during the winter consists of 12 persons, namely: 1 superintendent and engineer; 1 fireman, driver of delivery wagon, etc.; 1 wringer, who operates the two wringing machines; 1 matron, who operates the washing machines; 1 chief mangler; 2 assistant manglers; 1 collar and cuff ironer; 4 laundresses.

The working force during the summer consists of the above and 20 laundresses additional. The expenses of operating the laundry is divided proportionally among all cadets present. This manner of defraying the expenses commenced with the January and February settlement 1892, for which settlement each cadet was charged \$1.95 per month.

For the March and April settlement the charge was \$1.65 per cadet per month. For the May and June settlement the charge was \$3.25 per cadet per month.

I inclose herewith a copy of the regulations governing the laundry employes.

During the year ending June 30, 1892, the following articles were laundered, namely:

Articles.	Number.	Articles.	Number.
Clothes bags.....	4, 182	Cuffs, pairs.....	39, 895
Sheets.....	19, 852	Collars.....	78, 490
Pillowcases.....	12, 228	Shoulder belts.....	15, 245
White shirts.....	15, 767	Waist belts.....	15, 182
Night shirts.....	10, 964	Sword belts.....	2, 393
Undershirts.....	33, 508	Gray trousers.....	284
Drawers.....	30, 741	Gray jackets.....	81
White trousers.....	36, 288	Blankets, single.....	334
White jackets.....	2, 141	Spreads.....	69
Towels.....	56, 213	Bathing suits.....	71
Socks, pairs.....	34, 701	Vests.....	2
Gloves, pairs.....	36, 699		
Handkerchiefs.....	62, 835	Total.....	508, 165

Very respectfully, your obedient servant,

WM. F. SPURGIN,  
*Captain, Twenty-first Infantry, Treasurer of the Military Academy,  
 Quartermaster and Commissary of Cadets.*

*Employés of the cadet laundry and their duties.*

WINTER ARRANGEMENT.

No.	Designation.	Duties.
1	Superintendent and engineer ...	Who will be responsible for the proper working of the laundry in every respect, and the strict enforcement of all regulations.
2	Fireman, driver, etc.....	Who will be responsible for the fires in the boiler room and irons heating room; for the prompt collection and delivery of cadets' clothing and mess linen; for the proper care of the horse, wagon, and harness connected with the laundry, and for such other work as may be required of him by the superintendent of the laundry.
3	Matron .....	Who will operate the washing machines, and will be responsible for the prompt and proper washing, rinsing, and blueing of all articles; for the cleanliness of the machines and their surroundings and for the condition of the wash tubs. When not busy at the machines or tubs, she will assist in assorting soiled clothing, in hanging up washed articles, or in doing anything else at hand requiring to be done, or as the superintendent may direct.
4	Wringer .....	Who will operate the wringers, wringing out all articles as soon as they are removed from the washers and conveying them to the starcher, mangle, or drying room, according to their destination. When delivered at the drying room to hang them up therein. When at the mangle, to shake them out and prepare them for the mangle. His attention will be given first to the wringers, next to hanging up, next to the preparation of articles for the mangle. When not employed as above stated, he will be available for folding or any other work ordered by the superintendent.
5	Chief mangler .....	Who will operate the steam mangle, be responsible for its cleanliness and care, and that it is kept running as long as there is any work for it to perform. She with her assistants will collect articles from the drying room, mangle them, and convey them to the distributing room. When the mangle is not running, she and her assistants will distribute articles in the delivery room, or do any other work required by the superintendent.
6	Assistant mangler.....	Will assist the chief mangler, and will perform such other work as may be required by the superintendent.
7	.....do .....	The same as No. 6.
8	Collars and cuffs ironer.....	Will operate the collars and cuffs dampener, the collars and cuffs ironer, and the collars and cuffs shaper, and will in addition perform any other work required of her by the superintendent.
9 10 11 12	} Laundresses .....	The laundresses will assist in assorting soiled clothing, will make the starch as directed by the superintendent, will do all of the starching, will hang up in the drying room all starched articles, will do all of the ironing required by hand, will daily police the entire building, and will perform such other work as may be required of them by the superintendent.

All employés will be promptly on hand, ready to commence work when the whistle blows. Only such employés as give active, honest, and intelligent efforts in return for the liberal wages paid them will be retained. It must be distinctly understood that all persons employed at the laundry will be required to perform at any time any duty necessitating their assistance.

SUMMER ARRANGEMENT.

The summer arrangement will be the same as the winter arrangement, necessary additional laundresses being temporarily employed during the white clothing season.

WORKING PLAN, WINTER.

The mess linen will be washed and mangled the first thing each morning and will be delivered at mess by 12 o'clock meridian each day.

All employés will assist in assorting cadets' soiled clothing as soon as the same is received at the laundry on designated days.

Articles will be washed in the following order, viz: mess linen, collars, cuffs, handkerchiefs, belts, gloves, white shirts, night shirts, socks, drawers, undershirts, pillowcases, sheets, towels, spreads, flannels, blankets, and gray trousers.

As soon as the mess linen is washed No. 4 will put it through the wringer and deliver it at the mangle. Nos. 5, 6, and 7 will mangle and fold it, assisted in folding by No. 4 or some other available person, preferably by No. 4.

The collars, cuffs, handkerchiefs, belts, and white shirts, having been washed, rinsed, blueed, and wrung out, will be disposed of as follows: The shirts will be hung up in the drying room by No. 1. Nos. 8, 9, 10, 11, and 12 will starch the collars, cuffs, and belts, and will hang them up in the drying room, and will then commence the ironing of the shirts and other articles.

As fast as articles are finished they will be placed on the tables in the distributing room. Nos. 5, 6, and 7, when not running the mangle, will distribute laundried articles to their proper boxes. When all articles have been distributed, all employes not otherwise engaged under the superintendent's orders, will assist in making up the bundles ready for shipment to the barracks.

At fifteen minutes before cessation of work each day, Nos. 8, 9, 10, 11, and 12 will police the laundry and place it in complete order.

The laundry will run from 8 a. m. until 4:30 p. m. daily, with one hour's cessation from work from 12 to 1 at noon, during which time the washing machines will be kept in operation if there are articles to be washed.

All work will be completed and delivered by noon on Saturday, at which time the laundry will be shut down for the week.

#### WORKING PLAN, SUMMER.

The same as above, the white clothing to be washed immediately after the mess linen, in numbers sufficient to keep the starchers and ironers employed, and not to interfere with the preparation of work for the mangle.

The working hours in summer will be increased to meet the necessities of the season and the closing of the laundry at noon on Saturdays.

WM. F. SPURGIN,  
*Captain, Twenty-first Infantry, Treasurer U. S. Military Academy,  
Quartermaster and Commissary of Cadets.*

Approved:

JOHN M. WILSON,  
*Colonel of Engineers,  
Superintendent.*

#### CADET HOSPITAL, U. S. MILITARY ACADEMY, *West Point, N. Y., August 20, 1892.*

#### The Post ADJUTANT:

SIR: In compliance with instructions from your office I have the honor to submit the following annual report concerning the condition and work of the medical department of the United States Military Academy and post of West Point for the fiscal year ending June 30, 1892.

The following medical officers were on duty at the post during the year for the periods set opposite their respective names, viz:

(1) Maj. Henry McElderry, surgeon, U. S. Army, July 1, 1891, to June 30, 1892; absent on detached duty during the month of October, 1891, as member of Army medical examining board, New York City (S. O. No. 206, A. G. O., c. s. 1891).

(2) Capt. William Fitzhugh Carter, assistant surgeon, U. S. Army, July 1, 1891, to January 23, 1892. (Relieved, S. O. No. 10, A. G. O., c. s., 1892.)

(3) Acting Asst. Surg. Wm. Penn Compton, U. S. Army, July 1, 1891, to November 1, 1891 (contract annulled by letter from Surgeon General's Office dated October 16, 1891).

(4) Capt. H. S. Kilbourne, assistant surgeon, U. S. Army, January 23, 1892, to June 30, 1892. (S. O. No. 10, A. G. O. c. s. 1892); absent on detached duty as member of Army medical examining board, New York City, from April 1 to 27, 1892. (S. O. No. 56, A. G. O., c. s. 1892.)

(5) Capt. C. N. Berkeley Macauley, assistant surgeon, U. S. Army, March 31, 1892, to April 30, 1892, during absence of Capt. Kilbourne. (S. O. No. 56, A. G. O. c. s. 1892.)

Dr. G. Herbert Brown, of Highland Falls, N. Y., was employed to take charge of the soldiers' hospital from January 13 to 22, 1892, both dates inclusive, during the absence on leave of Capt. William Fitzhugh Carter, assistant surgeon, per authority of indorsement dated Surgeon-General's Office, Washington, November 13, 1891, and by verbal authority and permission of the Superintendent under paragraph 1636, Army Regulations.

The duties of the medical officers have been divided during the year generally as follows:

The post surgeon has charge of the cadet hospital and cadet sick call, of the general administrative affairs of the medical department of the Academy and post. He also has the professional charge and care of such officers and their families as may call on him for professional advice and treatment.

A large part of his time is necessarily taken up with the examination of the eyes of those cadets who have refractive and muscular errors, and who suffer in consequence from eyestrain—for the purpose of fitting them with suitable glasses for studying.

The assistant surgeon has charge of the soldiers' hospital, of enlisted men sick in quarters, and of their families, of civilian employes, and of such officers and their families as may call on him for professional advice and treatment.

He also has charge of the physical examination of recruits and of men for reënlistment for the engineer company, and for the various detachments at the post, and of the weekly drill and instruction of members of the Hospital Corps.

The monthly sanitary inspections of the post required by paragraph 1642, Army Regulations, are divided each month between the two senior medical officers, the

post surgeon having sanitary supervision of the officers' quarters, cadet barracks, etc., on the plain, and the assistant surgeon of the soldiers' barracks and of that part of the post occupied by the enlisted men and their families.

The following statement shows the average daily strength of the command for the year:

Officers .....	52.67
Cadets.....	272.50
Enlisted men .....	348.08
Total command .....	673.25
Civilians (officers and soldiers' families, employes and their families): males, 60; females, 302; children, 311.....	673.00
Grand total for the post .....	1,346.25

The following statement shows the number of cases treated during the year:

Officers: Injuries, 0; diseases, 27.....	27
Cadets in hospital: Injuries, 73; diseases, 395.....	468
Cadets treated in quarters and excused from some duty.....	3,075
Cadets treated in quarters and excused from no duty.....	1,118
Enlisted men treated in hospital and quarters: Injuries, 88; diseases, 339.....	427
Civilians living on reservation (officers and soldiers' families and employes and their families): Injuries, 29; diseases, 972.....	1,001
Grand total for post.....	6,116

The appended tables, marked A, B, C, D, E, and F, show the character of the diseases treated on the post during the year—among officers (A); cadets in hospital (B); enlisted men (C), and civilians (D and E).

Table F is a recapitulation of specific febrile and acute infectious diseases and malarial fevers treated on the post of West Point during the fiscal year. There was 1 death among the Corps of Cadets during the year, that of Cadet George H. Myer, fourth class, on May 14, 1892, from acute inflammation of the heart (endocarditis), complicating acute articular rheumatism.

There was 1 death among the enlisted men during the year, that of Private James B. Rogers, cavalry detachment, age, 19 $\frac{2}{3}$  years; American; "accidentally drowned in Hudson River about January 24, 1892, opposite West Point, N. Y.; while skating broke through ice; body not recovered."

There were 10 deaths from diseases among civilians living on the reservation during the year, as shown in appended tables marked D and E.

While none of these deaths are reported as directly due to influenza, it is probable that the depressing effects of this disease, which has prevailed at the post during the year, have had a very marked influence on the increased death rate of this post for the past fiscal year, as it undoubtedly has had on that of the country at large.

Besides the deaths reported on appended tables there was a civilian died at the soldiers' hospital about 5:15 a. m., May 8, 1892, from fracture of the base of the skull and consequent cerebral hemorrhage, due to an accidental fall on his head from a fast-moving West Shore passenger railroad train just above the post. The man was found lying unconscious on a truck on the platform of the West Shore depot and was admitted to hospital 7:45 p. m., May 7, 1892, as an act of humanity by authority of the Superintendent upon the recommendation of the post surgeon. His friends accompanying him gave his name as Mr. Rudolf W. Saermandt, No. 86 Quincy street, Brooklyn, N. Y.

Twenty births are recorded as having taken place on the post during the year, 7 being in officers' families and the remaining 13 among soldiers' families.

Four thousand one hundred and sixty-one prescriptions were put up at the cadet hospital during the year and 2,895 at the soldiers' hospital for the same period, being 7,056 for the post.

One hundred and ninety-four men were examined during the year by the medical officer in charge of the soldiers' hospital as to their physical qualifications for enlistment as recruits or for reenlistment. One hundred and forty-nine vaccinations and 125 revaccinations were performed at the post during the year, the entire fourth class Corps of Cadets being critically examined as to their vaccination marks, and all those not having recent marks being vaccinated or revaccinated.

Estimates have been prepared and forwarded during the year for the annual repairs to cadet hospital (\$970.99); for additions to and for improvement of grounds of the new soldiers' hospital (\$1,995.50), and for construction of a set of hospital steward's quarters near the new soldiers' hospital (\$2,645.20).

Since the annulment of the contract of Acting Assist. Surg. Compton on November 1, 1891, two medical officers only have been on duty at the post.

Shortly after the annulment of Dr. Compton's contract an official application was

forwarded, through the regular military channels, by the present post surgeon, requesting that another medical officer might be assigned to duty at the post to take Dr. Compton's place.

Nothing having been heard from this application, a communication was recently addressed to the Superintendent requesting that he take such measures as might be deemed by him most expedient and suitable to insure the assignment of an additional medical officer at the post before the commencement of the coming academic year, when the busy season for the medical department will again recommence at West Point.

Owing to the amount and special character of the work required of and properly pertaining to the medical department at West Point, the services of at least three medical officers of the Army are needed at the post during the entire year, except possibly during a few weeks in summer, when most of the officers and many of the cadets are away on leave.

It is therefore earnestly hoped that proper steps may be taken to insure the permanent assignment of the additional medical officer asked for and much needed at the post.

There is another measure pertaining to the medical department of the U. S. Military Academy and post of West Point which the post surgeon considers it his duty, in justice to his own department, to recommend in this report, and which he fully believes only needs mentioning to commend itself to the impartial sense of justice and fairness of the present Superintendent. This recommendation is as follows: That owing to the increased amount of work and the specialized character of the duties devolving upon the medical officer occupying the position of post surgeon at West Point, he should, while on such detail, receive the increased rank and pay of a lieutenant-colonel.

It is believed that every argument which was used for bestowing an additional grade and pay upon the Superintendent, commandant of cadets, cadet quartermaster, etc., and assistant instructors at West Point would, in common justice and fair play to the medical department, also entitle the senior medical officer in that department on duty at the post to such additional grade and emolument.

The dispensing of medicines, clerical work, nursing, and cooking at the cadet and soldier's hospitals have been well and satisfactorily performed during the year by members of the hospital corps on duty at the post.

The post surgeon takes this opportunity to express his thanks to his assistants for the intelligent and satisfactory manner in which they have performed their duties during the year.

The post surgeon also desires to again express his indebtedness to the Superintendent for his uniform courtesy and cordial support of the recommendations of himself and his assistants during the year tending to the improvement of the sanitary condition of the post.

Very respectfully, your obedient servant,

HENRY McELDERRY,  
Major and Surgeon, U. S. Army, Post Surgeon.

A.—Summary of diseases and injuries treated among officers at West Point, N. Y., during the fiscal year ending June 30, 1892.

Diseases.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Total.
Influenza .....						4	8	1	2	2		1	18
Neuralgia .....								1					1
Acute tonsillitis .....									1				1
Boils .....									1				1
Diphtheria, acute .....										1			1
Intermittent fever .....										1			1
Insomnia .....										1			1
Septic fever .....										1			1
Remittent fever .....											1		1
Myalgia—muscular rheumatism .....											1		1
Total .....						4	8	2	4	6	2	1	27

No deaths.

I certify that the above is a correct and true summary as shown by the records of this hospital.

HENRY McELDERRY,  
Major and Surgeon, U. S. Army, Post Surgeon.

CADET HOSPITAL, U. S. MILITARY ACADEMY,  
West Point, N. Y., July 20, 1892.

B.—Summary of diseases, wounds, and injuries occurring among the Corps of Cadets, United States Military Academy, and treated in hospital at West Point, N. Y., during the fiscal year ending June 30, 1892.

	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Total.
<i>Diseases.</i>													
Enteric (typhoid) fever.....			1										1
Influenza.....						16	69	47	12	2			146
Malarial fever.....		1	3	2	2					2	11	6	27
Diarrhoea, acute.....	1	8	2										11
Diseases of the genito-urinary apparatus.....	1	1											2
Vaccina.....									7				7
Acute articular rheumatism.....										1			1
Muscular rheumatism (myalgia).....	1						1						2
Headache and neuralgia.....	1	1	3			4		1	3	1	1		15
Other diseases of the nervous system.....	1											2	4
Diseases of the eye.....	5	5	14		4	3	2	5	9	19	6	1	73
Diseases of the ear.....	2												2
Catarrh and common colds.....	1		2		1	2	1		3	2	2		14
Bronchitis, acute and subacute.....								1		1			2
Pneumonia.....		1											1
Other diseases of the respiratory system.....	1		1										2
Diseases of the circulatory system.....		1											1
Tonsillitis, acute and subacute.....	2	1	2		2	2	6	4		11		1	31
Dyspepsia, colic and constipation.....	1	6		2	1	1	2	1	4	5	3		26
Diseases of the integumentary system.....	2	1	2			1	1	1		1	1		10
Hemorrhoids.....							1						1
Heat exhaustion.....		12										3	16
Total diseases.....	19	38	30	4	10	29	83	60	39	45	25	13	395
<i>Wounds and injuries.</i>													
Sprains.....	1	3	1		3	2	2	4		1	6	1	24
Boils.....	5	1	2	1	2	5	3	1		3	2		25
Concussion of the brain and spine.....	1	1		1						1			4
Contusions.....	1	2	1		5		1	2		2			16
Lacerated wounds.....	1												1
Simple fractures.....					1		1		1				3
Total wounds and injuries.....	9	7	4	2	11	7	7	7	1	7	10	1	73
Total diseases, wounds, and injuries.....	28	45	34	6	21	36	90	67	40	52	35	14	468

Deaths, 1. Cadet George H. Myer, May 14, 1892, from acute inflammation of the heart, complicating acute articular rheumatism.

I certify that the above is a correct and true summary as shown by the records of this hospital.

HENRY McELDERRY,  
Major and Surgeon, U. S. Army, Post Surgeon.

CADET HOSPITAL, U. S. MILITARY ACADEMY,  
West Point, N. Y., July 20, 1892.



C.—Summary of diseases and injuries treated among civilians (soldiers' families, civilian employes and their families) during the fiscal year ending June 30, 1892, with deaths—Cont'd.

Months.....	July.		Aug.		Sept.		Oct.		Nov.		Dec.		Jan.		Feb.		Mar.		Apr.		May.		June.		Total.							
	Adult males.	Adult females.	Children.																													
Retroversion .....						1																			1							
Rheumatism .....							3			2	3		2								2				12							
Rhus poisoning .....			1																						4							
Septicæmia .....						1																		1	1							
Simple fever .....																									1							
Skin disease .....										1	2		2			1								1	6							
Tender nipples .....										2															2							
Threatened antepartum .....																																
Threatened eclampsia .....																									1							
Tinea capitis .....																									2							
Tonsilitis .....						1		3		5		2	1	1		1		1						1	15							
Toothache .....						1		4	1	1															9							
Typhoid fever .....	1							1	1																1							
Typho-malarial fever .....									1							1									1							
Ulcer .....						1				1															2							
Ulcerated womb .....												1													1							
Uterine hemorrhage .....		2														2									4							
Vaccina .....																							1		1							
Total diseases .....	5	35	32	4	25	14	25	40	11	34	25	56	1	23	31	1	29	53	1	23	19	15	13	1	11	14	1	14	17	16	9	598
Total wounds and injuries .....		5	3		1	1				1		5		1	2					1											21	
Total diseases, wounds, and injuries .....	5	40	35	4	26	15	25	40	11	35	25	61	1	24	33	1	29	54	1	23	19	15	14	1	11	14	1	14	17	16	9	619
Deaths * .....		1										1		1											2	1	1	1	8			

\*Private James B. Rogers, U. S. Military Academy Detachment Cavalry, accidentally drowned in Hudson River, about January 24, 1892.

I certify that the above is a correct summary from the records of this hospital.  
 H. S. KILBOURNE,  
 Captain and Assistant Surgeon, U. S. Army,  
 In charge of Soldiers' Hospital.  
 SOLDIERS' HOSPITAL, U. S. MILITARY ACADEMY,  
 West Point, N. Y., July 20, 1892.

D.—*Summary of diseases, wounds, and injuries treated among civilians (officers' families, men, women, and children) at West Point, N. Y., during the fiscal year ending June 30, 1892, taken from the records of the cadet hospital.*

	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Total.
Malarial diseases .....		5	3		3					2	1	6	20
Enthetic diseases .....					2	18	11	13	7				51
Constitutional diseases .....		2	1	1	1		1	4	3	3	3	2	21
Developmental diseases .....			1		1			4	2	1	1		9
Cancer of the breast .....								1					1
Nervous diseases .....	1	7		1	2	4	2	8	1	4	1	5	36
Diseases of the eye .....	1	3				1	1						9
Diseases of the ear .....										1			1
Diseases of the nose .....							1		1				2
Respiratory diseases .....	2	2	1	6	3	1		4	5		4		28
Diseases of the circulatory system .....	1	1		1	2	1	5			2	2		15
Diseases of the digestive system .....	11	16	2	12	16	14	8	12	15	8	7	6	127
Diseases of the lymphatic system .....													
Diseases of the genito-urinary system .....	1	1	1			1	1	2	2		4		13
Diseases of the locomotor system .....													
Diseases of the integumentary system .....		4	3	1	1	2	1	2	2	3	5	2	26
Results of injuries .....		2			2	1			2		1		8
Childbirth and diseases incidental thereto .....	1	2			3	2	5		1	1			15
Total .....	18	45	12	22	35	45	36	50	41	27	29	22	382

Deaths: Pneumonia .....	1
Bright's disease .....	1
Total .....	2

I certify that the above is a correct and true summary as shown by the records of this hospital.

HENRY McELDERRY,  
Major and Surgeon, U. S. Army, Post Surgeon.

CADET HOSPITAL, U. S. MILITARY ACADEMY,  
West Point, N. Y., July 20, 1892.

E.—*Summary of diseases and injuries treated among civilians (soldiers' families, civilian employes, and their families), at West Point, N. Y., during the fiscal year ending June 30, 1892, with deaths, taken from the records of the soldiers' hospital.*

	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Total.
Malarial diseases .....	9	9	6	4	5	7	1						41
Influenza .....					7	18	17	1	2				45
Dietic diseases .....	2	1	1	3	5	2		2	2	2			17
Other enthetic diseases .....					2		5	3					13
Childbirth and its results .....	2	1	2		3	4	4	2		2	3	1	24
Constitutional diseases .....						3	2		2	1	1	2	11
Developmental diseases .....		4											4
Parasitic diseases .....		4			5	2	3		1	2		1	18
Nervous diseases .....	10	2	9	20	9	5	8	6	2	2	1	4	78
Diseases of the eye .....				1	1		1	1	1				5
Diseases of the ear .....				1	1								4
Diseases of the nose .....	1	1			11			1			1		15
Respiratory diseases .....	6		5	5	9	1	26	15	9	10	11	2	99
Diseases of the circulatory system .....					1						1	1	3
Diseases of the digestive system .....	40	21	29	10	16	10	14	11	6	5	11	7	180
Vaccina .....											1		1
Diseases of the genito-urinary system .....		1	1						1	1	1	2	6
Diseases of the integumentary system .....	2	3	7	1	7	3	2	2	2	1	1	3	34
Total diseases .....	72	43	65	45	81	55	83	43	28	26	32	25	598
Total wounds and injuries .....	8	2		1	5	7	1		1				21
Total diseases, wounds, and injuries .....	80	45	65	46	86	62	84	43	29	26	32	25	619

E.—Summary of diseases and injuries treated among civilians, etc.—Continued.

DEATHS.

Aphyxia.....	1
Cholera infantum.....	1
Colic, infantile.....	1
Convulsions.....	2
Heart failure.....	1
Pneumonia.....	1
Septicæmia.....	1
Total.....	8

ENTHETIC DISEASES.

Chickenpox.....	1
Erysipelas.....	1
Measles.....	10
Typhoid fever.....	1
Total.....	13

PARASITIC DISEASES.

Intestinal worms.....	16
Capitis xinea.....	2
Total.....	18

I certify that the above tabulated statement is correct.

HENRY MCELDERRY,

Major and Surgeon, U. S. Army, Post Surgeon.

CADET HOSPITAL, U. S. MILITARY ACADEMY,  
West Point, N. Y., July 20, 1892.

F.—Specific febrile and acute infectious diseases occurring among civilians (officers and soldiers' families, employes and their families, men, women, and children) at West Point, N. Y., during the fiscal ending June 30, 1892.

Diseases.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Total.
Typhoid fever.....			1		1								2
Influenza.....					11	90	129	63	31	6		1	331
Erysipelas.....					1								1
Diphtheria, acute.....						1				1			2
Measles.....							14	4	2				20
Chicken pox.....			1										1
Tonsilitis.....	2	3	5	6	10	10	9	12	13	20	2	3	95
Malarial diseases.....	9	15	13	7	10	7	1			6	13	12	93
Typho-malarial fever.....		1			1								2
Total.....	11	19	20	13	34	108	153	79	46	33	15	16	547

No deaths from these diseases reported.

I certify that the above is a correct and true summary, as shown by the records of this and the soldiers' hospital.

HENRY MCELDERRY,

Major and Surgeon, U. S. Army, Post Surgeon.

CADET HOSPITAL, U. S. MILITARY ACADEMY,  
West Point, N. Y., July 20, 1892.

UNITED STATES MILITARY ACADEMY,  
West Point, N. Y., June 13, 1892.

Col. JOHN M. WILSON,  
Corps of Engineers, U. S. Army:

SIR: In obedience to your verbal instructions of April 20, directing me to prepare estimate of additional boiler power required for new academic building and cost of same, I have the honor to submit the following:

The architect's specifications call for 21,075 square feet of radiating surface, which requires boiler power equivalent to 150 horse power.

The present boiler plant comprises four horizontal tubular boilers rated at 80 H. P. each. I am informed by the engineer in charge of the plant that in very cold weather all four boilers are worked to their full capacity, and that there is no surplus power. It will therefore be necessary to increase the present plant by at least 150 H. P. In view of the desirability of having a little reserve power to provide for the contingency of any accidental breakdown of a boiler I would respectfully recommend the addition to the present plant of two boilers, each of 100 H. P. Their first cost will be but a trifle more than that of an 80 H. P., whereas their installation will cost practically the same.

To install these two additional boilers will necessitate an extension of the boiler house, as the present plant completely fills it. This extension may be made either to the east or to the west. The arrangement of the boiler house and coal shed as at present existing is both inconvenient and expensive. To remedy these defects thoroughly would demand radical and expensive alterations. Assuming, however, that no such changes are contemplated, and that due economy is desired, I herewith submit a plan for an extension of the boiler house to the west sufficient to cover the two additional boilers and to provide a 6-foot passage way whereby the coal may be wheeled to the fires under cover. The roof is supported upon cast-iron columns rising from the floor and from the brickwork between the boilers. This plan assumes that the cadet sink immediately in rear of the boiler house will be removed and the ashes carried off by the road in rear.

The estimated cost of the foregoing plan is as follows:

Two 100-H. P. boilers, complete .....	\$3,000.00
127 cubic yards, rough pointed masonry, at \$12 .....	1,524.00
New roof for boiler house.....	750.00
200 feet 10-inch steam pipe, at \$5.....	1,000.00
<b>Total .....</b>	<b>6,274.00</b>

The boilers considered in the foregoing estimate are of the ordinary horizontal tubular pattern similar to those in place. If two water tube boilers of equal power be put in, their cost will be about \$5,300, the other items remaining the same. This type of boiler is in every way superior to the horizontal tubular pattern except in first cost, which would soon be paid for by their greater coal economy. If desired the extension of the boiler house may be made to the eastward with equal facility and at about the same cost.

Very respectfully, your obedient servant,

JOSEPH E. KUHN,  
First Lieutenant, Corps of Engineers.