

REPORTS OF THE
DEPARTMENT OF CONSERVATION AND DEVELOPMENT
STATE OF NEW JERSEY

Division of Geology and Waters
HENRY B. KÜMMEL, *State Geologist*

BULLETIN 19
(Geologic Series)

Additional Bench Marks in Burlington,
Camden, Mercer, Middlesex and
Monmouth Counties

By
C. C. VERMEULE
Consulting Engineer

Published August, 1918.



Union Hill, N. J.
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Contents.

	PAGE
Introduction	4
Report of C. C. Vermeule.....	5
Changes in original bench marks in Atlantic County.....	7
Changes in original bench marks in Cape May County.....	7
List of Bench Marks	9
Burlington County	9
Camden County	14
Mercer County	15
Middlesex County	17
Monmouth County	21

Introduction.

A list of bench marks in New Jersey was published in 1888 in Volume I of the Final Report Series of the State Geologist. With passing years many of these have been lost by the destruction or removal of the buildings on which they were placed. In 1916 a revised and enlarged list for northern New Jersey was printed as Bulletin 17 of the publications of this Department. The present list gives additional marks for several counties in the central part of the State. Its publication has been delayed a year in the hope that additional funds would be available to continue this work, particularly in Camden County and counties farther south. As this seems impracticable in the near future it is best to avoid further delay, in order that these results may reach engineers and others who wish to use them as soon as possible.

HENRY B. KÜMMEL,

State Geologist.

Report of C. C. Vermeule, Consulting Engineer.

Dr. H. B. Kummel,
State Geologist,
Trenton, N. J.

Sir:

I have to report as follows concerning the further prosecution of the work of revising primary levels and bench marks, which was undertaken in accordance with your instructions in September, 1916.

The following lines of levels were run:

1. From Perth Amboy through Hightstown, Bordentown, Burlington and Mt. Holly to Moorestown and Camden.
2. From Burlington to Camden.
3. From Monmouth Junction through Freehold to Sea Girt, and thence along the sea shore to Highlands.
4. From Keyport to Freehold.

In addition to these continuous lines, the bench marks of the U. S. Coast and Geodetic Survey were examined and new bench marks established from Sandy Hook to Keyport, and at Red Bank.

The results of the checks are given herewith: The line from Perth Amboy through Jamesburg to Monmouth Junction, 20.5 miles, checked within $+ .10$ ft. From Perth Amboy through Jamesburg and Burlington to Mt. Holly, 50.2 miles, checked with a difference of $- .46$ ft. The line from Perth Amboy through Burlington and Mt. Holly to Merchantville, 64.2 miles, checked within $+ .13$ ft. The line from Monmouth Junction through Freehold to Keyport, 30.5 miles, checked with a difference of $+ .02$ ft. The line from Monmouth Junction through Freehold to Asbury Park, 39 miles, checked with a difference of $+ .03$ ft. The line from Monmouth Junction through Sea Girt to Highlands, 51.4 miles, checked with a difference of $+ .32$ ft. The line from Keyport to Freehold, 13.5 miles, checked with a difference of $+ .075$ ft. The line from Keyport through Freehold and Sea Girt to Highlands, 47.9 miles, checked with a difference of $+ .33$ ft. The line from Keyport through Freehold and Sea Girt and Asbury Park, 39 miles, checked with a difference of $+ .01$ ft.

The lines leveled over aggregated 152.6 miles, but there were many short runs between bench marks which would add largely to this distance. The leveling was done by Mr. Loren P. Plummer, Jr.

Within the territory covered, the original bench marks numbered 43. Of these, 22 were recovered and verified, and 21 were found missing. The recovered bench marks, together with new bench marks established, afford a total of 291 effective bench marks within the territory, as the result of the recent work, as against 22 old bench marks found intact.

From Sandy Hook to Perth Amboy, the U. S. Coast and Geodetic Survey has run in all three lines of primary levels. The adopted elevation in the attached list varies slightly from these several elevations for the reason that it was decided not to change the datum which was used in our original system of primary levels. The differences are small, but I include herewith a list of the various elevations for convenient reference. In this list the number in the first column is the same as the number attached to the bench mark in question in the final list. In the last column is given the elevations adopted in the final list, and the other columns show the various elevations given in the several reports of the Coast and Geodetic Survey.

No. of Bench Mark.	Location.	Date of Levels.			Adopted Elevation.
		1881.	1886.	1914.	
1.	Atlantic Highlands.....			13.658	13.77
2.	Highlands			13.596	13.77
3.	Highlands	202.485			202.41
4.	Highlands	207.602			207.53
5.	Keyport			36.411	36.30
6.	Keyport		22.91	23.022	22.91
7.	Keyport			42.254	42.15
8.	Lorillard			13.576	13.55
9.	Port Monmouth			14.078	14.11
10.	Sandy Hook			8.383	8.56
11.	Sandy Hook	19.532		19.357	19.532
12.	Sandy Hook			12.277	12.45
13.	Sandy Hook		10.76		10.76
14.	Water Witch			9.249	9.39
15.	Morgan			9.813	9.71
16.	Morgan			6.093	5.98

Certain bench marks along the sea shore have been changed since the publication of our original list of primary bench marks, and it seems best that the results of these changes should be noted herewith. They are as follows:

ATLANTIC COUNTY.

SOMERS POINT.

Eleva. 26.16 ft.

Elevation of underground mark, 21.535 feet. This monument (No. 11) is placed on the brow of the hill in front of the old Somers homestead, a brick building on the shore road, just south of the highway bridge over the railroad, at Somers Point. It is set in the center line of the road which runs to the west and is in the produced line of the curb along the northerly side of the street running down to the railroad depot. In 1887, the bearing to the southeast corner of Somers homestead was north 5° west, and the distance 75 feet; the distance northerly, measured along the shore road to the center of the railroad track was about 160.5 feet. (Note:—In changing the grade of the road in 1916, the stone was slightly disturbed laterally, but the above elevation applies to its new position. The monument is now 75 feet 2 inches from the southeast corner of Somers homestead; 69 feet measured northerly from the corner of the most westerly brick fence post of the Hayday property, and 43 feet 3 inches from the most westerly post of porch of house at the northeast corner of the forks.) The top of the monument is close to the new surface of the road.

SOMERS POINT.

Eleva. 25.11 ft.

A cross on the outer corner, and at the base of a square red brick post, on the northwest end of the sixth step above the sidewalk, at the entrance on Station Avenue to the Hayday dwelling. The house is on the south side of the avenue at its junction with Main Street or Shore Road, and the property is diagonally opposite the old Somers homestead.

SOMERS POINT.

Eleva. 26.63 ft.

A cross on the outer corner at the south end of east abutment of George Street bridge over the railroad, near the old Somers homestead at Main Street and Station Avenue. The cross is 2.6 feet below the bridge floor and about 1.5 feet south of south truss.

SOMERS POINT.

Eleva. 35.30 ft.

A cross on the outer corner at the northeast end of blue stone door sill of front entrance to the City Hall on Main Street or Shore Road.

SOMERS POINT.

Eleva. 34.30 ft.

A cross immediately below the hinge of the northerly door at the northeast end of cement step of double door entrance on the east face, and at the northeast corner of Somers Point public school. The door enters the lower portion of the building which is located on the northwest corner of First Street and New York Avenue.

CAPE MAY COUNTY.

The granite bench mark established in 1885 at the Sea Isle light house was moved in 1893. Elevations of the re-located monument and also of some other points near, are given below.

SEA ISLE CITY.

Eleva. 9.151 ft.

This granite monument is set 14.92 feet northeast from the easterly corner of the oil house which stands northwest of the light house.

SEA ISLE CITY.

Eleva. 9.616 ft.

A cross cut on the southwest or left end of granite door sill of oil house, which stands at northwest side of the light house.

SEA ISLE CITY.**Eleva. 10.503 ft.**

A mark on foundation at northeast side, 4 feet northwest of easternmost corner of light house.

I submit herewith a list of the bench marks verified, and the new bench marks established.

Respectfully submitted,

C. C. VERMEULE,
Consulting Engineer.

February 14, 1917.

List of Bench Marks.

BURLINGTON COUNTY.

- BEVERLY.** Eleva. 35.71 ft.
A cross on the outer corner at the north end of door sill of entrance, on the west face of Beverly Presbyterian Church on Warren Street near Farnum.
- BEVERLY.** Eleva. 32.65 ft.
A cross on the outer edge at the northerly end of blue stone door sill of Cooper Street entrance to Mechanics National Bank. The cross is immediately below the hinge of the left door.
- BEVERLY.** Eleva. 36.22 ft.
A cross on the south end of door sill of the most southerly entrance on the east face of the public school, a red brick building on Laurel Street near Oak.
- BORDENTOWN.** Eleva. 65.78 ft.
A cross at the foot of the stairway and at the galvanized iron newel post, on the concrete base of water tower, about one mile northeast of the Pennsylvania Railroad station, along the Camden and Amboy branch.
- BORDENTOWN.** Eleva. 46.77 ft.
A cross on the north end of the most northerly basement window sill of window on the west face of a red brick structure in the yard of the Bordentown Military Academy. The building is the most westerly one on the grounds.
- BORDENTOWN.** Eleva. 24.17 ft.
A triangle cut on coping stone at the east end of the south abutment of railroad bridge over roadway, just north of Bordentown station.
- BORDENTOWN.** Eleva. 17.00 ft.
A cross on the outer corner at the north end of northeast concrete abutment of P. R. R. bridge over stream near, and southwest of the station. The cross is on the girder seat and is 15 ft. from the girder.
- BORDENTOWN.** Eleva. 57.52 ft.
A cross on the inner corner, at the north end of brown stone door sill of the most northerly entrance, on the east face of Episcopal Church on the west side of Prince Street just north of Church Street. The door enters a wing of the building, and is back from the street.
- BORDENTOWN.** Eleva. 57.11 ft.
A cross on the outer edge at the north end of door sill of most southerly entrance, on the west face of First Baptist Church on the corner of Church and Prince Streets.
- BURLINGTON.** Eleva. 12.12 ft.
A cross on the outer edge at the east end of second granite step from bottom of the most easterly entrance, on the Broad Street face of Baptist Church, at the corner of Broad and Stacey Streets.
- BURLINGTON.** Eleva. 13.62 ft.
A cross on the base course of and on the left as you enter the Mechanics National Bank, opposite the P. R. R. station. The cross is directly under a bronze tablet reading "Mechanics National Bank."

BURLINGTON.

Eleva. 16.67 ft.

On the white sandstone water table, and 4.3 feet east of east edge of Broad Street entrance to the Post Office. The point is on the outer edge and directly below west edge of window.

BURLINGTON.

Eleva. 16.90 ft.

A cross on the outer corner at the north end of door sill of most northerly (rear) entrance on the east face of Episcopal Church on Broad Street.

DEACON.

Eleva. 61.64 ft.

A cross on the center of cement cap of east parapet of red brick arch highway bridge, over a small stream about one mile southeast of the P. R. R. station, and on the easterly side of the track.

DEACON.

Eleva. 80.45 ft.

On the water-table at southwest corner of brick school house, on east side of turnpike, three-eighths of a mile southeast of Deacon station.

DEACON.

Eleva. 57.77 ft.

A copper bolt in marble slab on the northerly end of easterly parapet of P. R. R. culvert, about one mile southeast of Deacon station.

DEACON.

Eleva. 76.67 ft.

A cross on the center of concrete cap of west parapet of red brick arch highway culvert about 300 yards southerly from the P. R. R. station and east of the track.

DELANCO.

Eleva. 15.27 ft.

A cross on the south end of the southernmost basement window sill of window on the east face of brick school house at the corner of Hickory and Walnut Streets.

DELANCO.

Eleva. 8.57 ft.

A cross on the southeast corner of a large stone on the east end of north stone pier of P. R. R. draw-bridge over Rancocas Creek. The cross is 6.5 ft. from the rail, and is on the seat supporting the draw.

EDGEWATER PARK.

Eleva. 26.99 ft.

A cross on the northwest corner of a large stone and on the level of the girder seat at the north end of west abutment of P. R. R. bridge over highway at the station. The cross is 8 ft. from the rail, and immediately at the face of a stone retaining wall.

EDGEWATER PARK.

Eleva. 28.81 ft.

A cross on the outer edge at the east end of bottom concrete step of three steps at the southwest corner of the P. R. R. station. Measured northerly, the cross is 5½ feet from the corner of the building.

FIELDSBOROUGH.

Eleva. 10.56 ft.

Top of metal cap on which are marked the letters: U. S. E. D. &c., on the westerly side of and near the P. R. R. track, about 200 yards below mile post 26-35, and south of the station.

FIELDSBOROUGH.

Eleva. 6.05 ft.

A cross on the outer corner of a large stone at the northwest end of easterly abutment of P. R. R. bridge, about one mile below the station. The cross is on the level of the girder seat, and is 12½ ft. from the girder.

FLORENCE.

Eleva. 51.82 ft.

A cross on the northwest corner of concrete base of a hand signal post, a few feet above the P. R. R. station.

FLORENCE.

Eleva. 51.67 ft.

A cross on the southeast corner of concrete base of a signal at the crossing and on the westerly side of the P. R. R. tracks, about 200 feet below the station.

HAINESPORT. **Eleva. 9.89 ft.**

A cross on the northwest corner of stone on which rests the east end of the north truss of highway bridge over the "South Branch of Rancocas" at J. D. Johnson Company's factory.

HAINESPORT. **Eleva. 12.11 ft.**

A cross on a cap stone of the northeast wing wall of east abutment of highway bridge over the "South Branch of Rancocas." The cross is immediately at the southwest corner of a brick building of the J. D. Johnson works.

HAINESPORT. **Eleva. 30.53 ft.**

A cross on the east edge at the south end of a cement sidewalk, on the east side of highway just east of the P. R. R. station. The cross is immediately below the southwest corner of a rough stone fence post, and is about 25 feet, measured northerly, from the railroad tracks.

HARTFORD. **Eleva. 68.60 ft.**

A cross on the southwest corner of a large stone on the southerly end of east abutment of P. R. R. bridge over Mt. Holly Pike, about $\frac{3}{4}$ mile west of station. The cross is on the level of the girder seat.

HARTFORD. **Eleva. 26.83 ft.**

A cross on the southwest corner of the fourth stone step from the top of a number of steps forming the wing wall at the south end of east abutment of P. R. R. bridge over Parkers Creek, about one-half mile east of station. The cross is on the layer of stones that forms the girder seat.

KINKORA. **Eleva. 9.74 ft.**

A cross on the southwest corner of concrete base of signal on the northerly side of P. R. R. tracks and 250 feet westerly from the station.

KINKORA. **Eleva. 11.53 ft.**

A cross on the southwest corner at the south end of east stone abutment of P. R. R. bridge, over stream about one-half mile west of station. The cross is on the girder seat and 8 feet from the girder.

MAPLE SHADE. **Eleva. 21.51 ft.**

A cross on the southeast corner of the top stone step on the wing wall at the south end of west abutment of P. R. R. stone arch bridge over "South Branch of Pensauken Creek," about one-half mile west of station.

MAPLE SHADE. **Eleva. 40.57 ft.**

A cross on the south end of door sill of entrance, on the east face, to brick school building, about 200 yards south of the railroad track, just east of the P. R. R. station.

MAPLE SHADE. **Eleva. 23.20 ft.**

A cross on the southwest corner at the west end of north concrete parapet of P. R. R. bridge over "North Branch of Pensauken," about one mile east of station (or $\frac{1}{4}$ mile west of Lenola station). The cross is slightly above and 6 feet from the rail.

MASONVILLE. **Eleva. 46.10 ft.**

A cross on the northwest corner of concrete base of signal, about 100 yards west of P. R. R. station, and on the north side of the track.

MASONVILLE. **Eleva. 19.46 ft.**

A cross on the southwest corner of large stone and on the level of the girder seat, at the south end of east abutment of P. R. R. bridge over Mason's Creek, about $\frac{3}{4}$ mile east of station.

MOORESTOWN. **Eleva. 62.63 ft.**

A copper bolt on the west end of brown stone door sill of the entrance to waiting room, on the north face of West Moorestown station.

MOORESTOWN. Eleva. 71.40 ft.

A cross on the outer corner at the westerly end of door sill of boys' entrance on the northerly face of High School. The building is on North Church Street, about 200 yards southerly from the West Moorestown railroad station. The cross is the same elevation as the stone base course of the structure.

MOORESTOWN. Eleva. 75.45 ft.

A cross on the white sandstone water-table, 3.2 ft. above the ground, and in the center of the front of "Relief Fire Engine" house, on the west side of Chester Avenue, about 200 feet southerly from the P. R. R. tracks.

MOORESTOWN. Eleva. 79.44 ft.

A copper bolt on the west end of door sill of the waiting room entrance to Stanwick Avenue station.

MOUNT HOLLY. Eleva. 12.74 ft.

A cross on the outer edge at the east end of door sill of most westerly entrance to "Union Fire House No. 2," on the south side of Mill Street.

MOUNT HOLLY. Eleva. 16.89 ft.

On northwest corner of door sill of National Bank, on northeast corner of Main and Mill Streets.

MOUNT HOLLY. Eleva. 32.11 ft.

A cross on the outer corner at the easterly end of a large brown stone window sill, on the north face of the Post Office. The building is of brown stone construction, and the window is the first from the northwest corner of the structure.

MOUNT HOLLY. Eleva. 35.60 ft.

A point on the outer edge at the northerly end of marble door sill of Main Street entrance to Mt. Holly National Bank, near the "Friends Meeting House." The point is on the higher portion of the sill next to wooden casing.

MOUNT HOLLY. Eleva. 39.78 ft.

A point on the outer corner at the extreme southerly end of blue stone door sill of Main Street entrance to "New Washington Hotel" near the Court House.

MOUNT HOLLY. Eleva. 42.96 ft.

On the northwest corner of marble door sill of main entrance to Burlington County Court House.

MOUNT HOLLY. Eleva. 64.24 ft.

A copper bolt on the north end of east pier holding frame support of bridge over Burlington Branch of P. R. R. at Fair Grounds in the northern part of the city.

PALMYRA. Eleva. 19.79 ft.

A cross on the outer edge at the extreme westerly end of door sill of Fifth Street entrance to "Sunday School Temple" of "Epworth M. E. Church" on the corner of Fifth Street and Morgan Avenue. The entrance is about 100 feet westerly from Morgan Avenue.

PALMYRA. Eleva. 21.71 ft.

A cross on the outer corner at the easterly end of door sill of baggage room entrance on south face of P. R. R. station. The building is on the westerly side of the tracks.

PALMYRA. Eleva. 23.81 ft.

A cross on the outer corner at the southerly end of the door sill of third entrance from the northwest corner, on the southwest face of "P. O. S. A. Hall," opposite the P. R. R. station.

PALMYRA.

Eleva. 23.44 ft.

A cross on the westerly end of brown stone window sill of the most westerly basement window on the north face of Palmyra Public School. The structure is of red brick and is at the forks of the road, about 200 yards southerly from the P. R. R. station.

PALMYRA.

Eleva. 14.10 ft.

A cross on the southeast corner of a large stone on the southerly end of northeast abutment of P. R. R. bridge over Pensauken Creek, about one mile westerly from the station. The cross is on the level of the girder seat and is 4 feet from the girder.

RIVERSIDE.

Eleva. 22.70 ft.

On the outer corner at the westerly end of door sill of the main entrance to the offices of the Keystone Watch Case Co. The building is just above the P. R. R. station on the westerly side of the track.

RIVERSIDE.

Eleva. 24.60 ft.

A cross on the outer corner at the easterly end of door sill of Scott Street entrance to Riverside National Bank, about 200 ft. westerly from Pavilion Avenue.

RIVERSIDE.

Eleva. 25.05 ft.

A cross on the outer corner at the westerly end of door sill of Scott Street entrance to Riverside Turncemeinde, a red brick building about 100 yards westerly from Pavilion Avenue.

RIVERSIDE.

Eleva. 19.78 ft.

A cross on the outer corner at the easterly end of brown stone door sill of corner entrance on Scott Street to W. F. Taubel, Inc. Co.'s knitting mill and offices. The structure built of yellow brick, is on the southerly side of the railroad track at the east corner of Scott Street and Fairview Avenue.

RIVERTON.

Eleva. 7.49 ft.

A cross on the northeast corner of concrete block at the southerly end of westerly abutment of P. R. R. bridge over stream about $\frac{1}{4}$ mile northeast of station. The cross is about $4\frac{1}{2}$ feet below the rail.

RIVERTON.

Eleva. 21.14 ft.

A cross on the outer corner at the northeast end of cement door sill of rear entrance, on the northwest face of store of J. S. Collins & Son, Inc., opposite the P. R. R. station and on the southerly side of the track.

RIVERTON.

Eleva. 15.34 ft.

A cross on the outer edge at the southwest end of granite door sill of Fourth Street entrance to Public School, a brick building on the north corner of Howard Avenue and Fourth Street.

RIVERTON.

Eleva. 16.83 ft.

A cross on the northerly end of door sill of tower entrance on Main Street to Christ Church, at the north corner of Fourth and Main Streets.

ROEBLING.

Eleva. 27.77 ft.

A cross on the step and at the base of an iron post at the corner entrance to the M. W. Stern building at the P. R. R. station. The cross is a trifle above the sidewalk and the building is but a few feet southerly from the railroad track.

ROEBLING.

Eleva. 50.85 ft.

A cross on the outer corner, at the southerly end of white sandstone step of entrance on the westerly face of Greek Catholic Church. The building is about 200 yards westerly from the P. R. R. station and about 100 yards southeast of the track, facing the trolley line.

ROEBLING. **Eleva. 45.70 ft.**

A cross on the outer corner at the north end of door sill of entrance, on the east face of Roebling Public School, on the south side of the Roebling-Florence highway.

STEVENS. **Eleva. 23.97 ft.**

A cross on the southwest corner of concrete base of signal, about 200 yards easterly from the P. R. R. station and on the north side of the track.

CAMDEN COUNTY.

CAMDEN. **Eleva. 20.22 ft.**

A cross on the northeast end of basement window sill and near the stone bearing date of 1912, at the northwest corner of N. G. N. J. armory on Wright Avenue, about 400 yards northeast of the City Hall.

CAMDEN. **Eleva. 30.44 ft.**

A cross on the outer corner at the northerly end of granite door sill, Haddon Avenue entrance to City Hall.

CAMDEN. **Eleva. 24.75 ft.**

A cross on the outer corner at the north end of sandstone door sill of most northerly entrance on 6th Street to the First M. E. Church, opposite Cooper Hospital.

CAMDEN. **Eleva. 19.09 ft.**

A cross on the outer edge and six inches above sidewalk at the north end of granite step of entrance to P. R. R. station and outbound electric trains, on Broadway.

CAMDEN. **Eleva. 28.42 ft.**

A cross on granite base supporting columns and on the extreme right of Federal Street entrance to Y. M. C. A. near Broadway. The cross is 3 feet above the sidewalk and on the face of the building.

CAMDEN. **Eleva. 29.90 ft.**

A cross on outer corner, at the west end of large stone slab and door sill of most westerly entrance on Federal Street to Court House.

CAMDEN. **Eleva. 29.94 ft.**

A cross on the south end of westerly bridge pier supporting concrete columns of overhead highway bridge at Pavonia station of Penn. R. R. The cross is at the outer corner of beveled end of pier, and measures 1.2 feet from face of nearest column.

CAMDEN. **Eleva. 24.40 ft.**

A square cut on the base course at the southeast corner of boiler house of the P. R. R. shops at Pavonia station. The square is about one foot below the present surface of the ground.

CAMDEN. **Eleva. 21.96 ft.**

A square cut on the base course at the southeast corner of planing mill of P. R. R. shops at Pavonia station.

DELAIR. **Eleva. 25.40 ft.**

A cross on the northwest corner of bottom stone step of wing wall at the northerly end of east abutment of Delaware River R. R. bridge over Camden and Amboy R. R., just below Delair station of the Amboy Division.

DELAIR. **Eleva. 7.29 ft.**

A cross on the southeast end of granite door sill of entrance, on the southwest face of electric pump room of the Camden Water Works Auxiliary station. The building is northwest of the P. R. R. station and near the railroad bridge over the Delaware River.

FISH HOUSE.

Eleva. 15.97 ft.

A cross on the level of the girder seat and on the southeast corner of large stone on the east end of north abutment of P. R. R. bridge over roadway just below the station. The cross is 7 feet from the girder.

MERCHANTVILLE.

Eleva. 37.44 ft.

A cross on the northwest corner of concrete base of signal at crossing about one-half mile west of Wellwood station, and on the southerly side of the P. R. R. track.

MERCHANTVILLE.

Eleva. 80.50 ft.

A copper bolt at the west end of marble door sill, main entrance to ladies' waiting room of P. R. R. station.

MERCHANTVILLE.

Eleva. 80.46 ft.

On the west end of marble door sill (close by corner of brick work) of the east front door of railroad station.

MERCHANTVILLE.

Eleva. 90.56 ft.

A cross on the outer edge at the south end of cement door sill of the most southerly entrance to public school on Center Street, about three blocks south of the P. R. R. station.

MERCHANTVILLE.

Eleva. 94.07 ft.

A cross on the outer corner at the east end of door sill of most westerly entrance on West Maple Avenue to Trinity M. E. Church at Chapel Avenue.

MERCHANTVILLE.

Eleva. 76.61 ft.

A cross on the southeast corner of granite stone and on the level of the girder seat, at the south end of west abutment of P. R. R. bridge over the Delaware River R. R., about one-half mile east of station.

MORRIS.

Eleva. 8.36 ft.

A cross on the outer corner at the southerly end of door sill of entrance to boiler room on the easterly face of Camden water works.

MERCER COUNTY.

HIGHTSTOWN.

Eleva. 89.67 ft.

A cross on the outer corner and on the level of the girder seat, at the westerly end of southerly concrete abutment of P. R. R. bridge over Millstone River about one mile northeast of station. The cross is 13 feet from the girder.

HIGHTSTOWN.

Eleva. 97.11 ft.

A copper bolt surrounded by a square cut on the south end of east abutment of P. R. R. bridge over Main Street. The bolt is about 3 feet below the rail and 4 feet from the girder.

HIGHTSTOWN.

Eleva. 92.00 ft.

A cross on the outer corner and on the layer of stones forming the girder seat at the south end of west abutment of P. R. R. bridge over Main Street. The cross is 18 feet from the girder.

HIGHTSTOWN.

Eleva. 112.13 ft.

A cross on the east end of door sill of most westerly entrance on Stockton Street to First Methodist Church at the corner of Church Street.

HIGHTSTOWN.

Eleva. 87.78 ft.

A cross on the south end of brown stone door sill of corner entrance to Cunningham's drug store on the southwest corner of Main and Stockton Streets.

HIGHTSTOWN.

Eleva. 86.36 ft.

A cross on the outer corner at the south end of granite door sill of Main Street entrance to First National Bank, on the west side of Main, about 100 feet north of Stockton Street.

HIGHTSTOWN.

Eleva. 116.87 ft.

A cross on the southerly end of basement window sill of the third window from the southwest corner on the westerly face of public school. The structure is about 350 yards southwest of the P. R. R. station, on the Hightstown-Windsor road.

HIGHTSTOWN.

Eleva. 118.10 ft.

A cross on the southwest corner of concrete base of water supply pipe for engines, at the junction of Amboy Division of P. R. R. and the Pemberton-Hightstown R. R., about one mile southwest of the station. The structure is between the tracks, and about 50 yards below the tower house.

ROBBINSVILLE.

Eleva. 87.34 ft.

A cross on the outer corner of the second stone step of four steps forming the southerly end of west wall of P. R. R. arch culvert over Miry Run, about $\frac{3}{4}$ mile northeast of the station. The cross is about eleven feet below the rail.

ROBBINSVILLE.

Eleva. 91.89 ft.

A cross on the center of cap of southerly parapet of concrete highway bridge over Miry Run, about $\frac{3}{4}$ mile northeast of the station and near the P. R. R. track. The cross is directly over the center of opening for the stream.

ROBBINSVILLE.

Eleva. 125.24 ft.

A cross on the outer edge at the northerly end of bottom cement step of the most northerly entrance on the northeast face of hotel, opposite the P. R. R. station. The building is on the westerly side of Robbinsville-Hamilton Square highway.

ROBBINSVILLE.

Eleva. 125.47 ft.

A cross on the inner corner at the northwest end, and directly below the edge of a window, of top concrete step at entrance to office of the Lumber Co. at the railroad station. The building is on the westerly side of the Robbinsville-Allentown highway.

WINDSOR.

Eleva. 102.01 ft.

Top of bell, at the southerly end of 72 inch cast iron pipe culvert under the railroad, about $\frac{3}{4}$ mile northeast of the station. The point is about $4\frac{1}{2}$ feet below and 18 feet from the rail.

WINDSOR.

Eleva. 98.54 ft.

A cross on the outer corner at the southerly end of white sandstone door sill of most northerly entrance on the west face of Washington Township public school. The structure is about 200 yards southeast of the P. R. R. station and sets back easterly from the Windsor-Carson's Mills highway.

WINDSOR.

Eleva. 111.57 ft.

A cross on the outer corner at the northerly end of brown stone door sill of entrance to Methodist Church. The building was constructed in 1839, and is about 325 yards northwest of the railroad station along the Windsor-Edinburgh highway.

WINDSOR.

Eleva. 88.36 ft.

A cross 9 feet from and .5 foot below the rail, at the southeast end of easterly concrete abutment of P. R. R. bridge, over Assanpink Creek, about $\frac{1}{2}$ mile southwest of the station.

YARDVILLE. Eleva. 56.88 ft.
A cross .5 foot below the rail and one foot from the southeast end of easterly concrete abutment of P. R. R. bridge over Back Creek, about 1¼ miles northeast of the station.

YARDVILLE. Eleva. 59.15 ft.
A cross on the outer corner and at the base of a wooden post, on the southerly end of cement floor of porch of Anderson Bros.' building. The structure is of wood and is on the westerly side of the Yardville-Crosswicks road about 75 yards southerly from the P. R. R. crossing.

YARDVILLE. Eleva. 56.59 ft.
A cross on the outer edge at the northerly end of door sill of upstairs and office entrance, on the northeast face of Zee Zee Rubber Co.'s building. The structure is on the southwest side of the Yardville-Crosswicks highway, and sets back about 200 feet southwest of the road.

YARDVILLE. Eleva. 35.33 ft.
A cross on the outer edge of the girder seat and 4½ feet from the girder, on the west end of south concrete abutment of Penn. R. R. bridge over Crosswicks Creek, about ½ mile southwest of station.

MIDDLESEX COUNTY.

CRANBURY. Eleva. 98.39 ft.
A cross on the outer corner and on the level of the girder seat, at the east end of south abutment of P. R. R. bridge over Cranbury Brook, about ½ mile northeast of the station.

CRANBURY. Eleva. 118.80 ft.
A cross on the northwest corner of concrete base of iron pole opposite the P. R. R. station, and on the easterly side of the track.

CRANBURY. Eleva. 120.56 ft.
A cross at the face of the building and on the northerly end of first step at the entrance on easterly face of a small stucco building about 200 yards southerly from the P. R. R. station and 200 feet west of the track.

DAYTON. Eleva. 101.88 ft.
A cross on the northwest corner of the most westerly concrete pier supporting an iron column at the southerly end of the Trenton and New Brunswick Electric Railroad bridge over the P. R. R., about one mile west of the station.

DAYTON. Eleva. 112.12 ft.
A cross on the northerly end of cement door sill of main entrance to school house on the easterly side of the Dayton-Deans highway, about ¼ mile northerly from the P. R. R. station. The building is of concrete block and frame construction.

DAYTON. Eleva. 104.87 ft.
A cross on the southwest corner of concrete base of signal west of the crossing and on the south side of the P. R. R. tracks at the station.

DAYTON. Eleva. 127.44 ft.
A cross on the northwest corner of concrete base of iron pole on the south side of the P. R. R. track and west of an overhead highway bridge about two miles easterly from the station.

ERNSTON. Eleva. 93.58 ft.
A cross on the girder seat and 10 feet west of west rail at the westerly end of southerly concrete abutment of P. R. R. bridge over highway at the station.

ERNSTON.

Eleva. 49.08 ft.

A cross on the outer corner of a large stone, and on the level of bed plate of girder at the easterly end of southerly abutment of P. R. R. bridge over highway, about $1\frac{1}{2}$ miles southwest of station, or at Brown's station.

HELMETTA.

Eleva. 44.07 ft.

A cross on the center of window sill of the first window on the left of entrance on the northerly face of Helmetta public school. The sill is 2.3 feet above the ground, and the building is in the northeast section of the city, near and on the southerly side of the P. R. R. tracks.

HELMETTA.

Eleva. 40.39 ft.

A cross on the northerly end of window sill of window on the easterly face and at the northeast corner of boiler house of Geo. W. Helme Co.'s plant, east of the P. R. R. station. The structure is south of the track and highway.

HELMETTA.

Eleva. 41.62 ft.

A square cut on the door sill of brick store on the southerly side of highway at Geo. W. Helme Co.'s plant, near the P. R. R. station. This is a railroad bench mark.

HELMETTA.

Eleva. 41.93 ft.

A cross on the westerly end of basement window sill of window on the southerly face, and at the southwest corner of Catholic Church, about 200 yards southerly from the P. R. R. station and east of the track and highway.

HOFFMAN.

Eleva. 62.81 ft.

A copper bolt, on the top stone step at the west end of north abutment of P. R. R. bridge, over Manalapan Brook about $\frac{3}{4}$ mile northwest of the station. The bridge is about 100 yards south of a crossing.

HOFFMAN.

Eleva. 81.33 ft.

A cross on the southwest corner of concrete base of hand signal, near the crossing and south of the P. R. R. track at Hoffman station.

JAMESBURG.

Eleva. 115.66 ft.

A cross of 0.5 foot below and $5\frac{1}{2}$ feet south of the rail, on the south end of west abutment of P. R. R. bridge over highway about $\frac{3}{4}$ mile west of Jamesburg Junction toward Monmouth Junction.

JAMESBURG.

Eleva. 77.55 ft.

A cross on the outer corner and on the level of the girder seat, $8\frac{1}{2}$ feet from the iron railing, at the northerly end of easterly abutment of P. R. R. bridge (Amboy Division) over highway, at the station.

JAMESBURG.

Eleva. 72.00 ft.

A cross on the northeast corner of the square marble stone under the northeast corner post of the Jamesburg Hotel, at the P. R. R. station.

JAMESBURG.

Eleva. 80.75 ft.

A square cut at the northeast corner of the P. R. R. engine house near the station. This is a railroad bench mark.

JAMESBURG.

Eleva. 46.61 ft.

A cross on the level of the girder seat at the easterly end of northerly abutment of P. R. R. bridge over Manalapan Brook, below the dam, about 125 yards northwest of Lower Jamesburg railroad station.

JAMESBURG.

Eleva. 52.03 ft.

A cross 1.8 feet above the crest of overflow and on the southeast corner of concrete block at the easterly end of spillway of dam and waste gates of the lake, at the crossing just west of the Lower Jamesburg railroad station.

JAMESBURG.

Eleva. 50.94 ft.

A cross cut on the west end of the stone door sill of the First National Bank.

JAMESBURG.

Eleva. 53.09 ft.

A cross on the level of the girder seat, 6½ feet from the bridge railing and on the outer corner at the east end of south abutment of P. R. R. bridge over Manalapan Brook, about ¼ mile southeast of Lower Jamesburg station.

MORGAN. U. S. C. S. -15.

Eleva. 9.71 ft.

A square cut on the top of the southwestern pier of the Central Railroad of New Jersey drawbridge over Cheesequake Creek. The cut is not deep and is in the concrete between the wooden beams.

MORGAN. U. S. C. S. -16.

Eleva. 5.98 ft.

A square cut on the top of the northeastern pier of the Central Railroad of New Jersey drawbridge over Cheesequake Creek. It is a railroad bench mark, and is cut deep into the lower pier. There is one of these cuts on each pier of this bridge.

OLD BRIDGE.

Eleva. 6.90 ft.

A cross on the level of the girder seat, 8 feet from the rail and on the outer corner of a large stone at the southerly end of easterly abutment of P. R. R. bridge over stream, about 300 yards southwest of Runyon station, or 1½ miles northeast of Old Bridge.

OLD BRIDGE.

Eleva. 5.63 ft.

A cross on the level of the girder seat and at the northwest end of southerly concrete abutment of P. R. R. bridge over Deep Run, about ¼ mile northeast of the station.

OLD BRIDGE.

Eleva. 12.29 ft.

A cross on the northwest end of cement door sill of entrance to boiler room on the southerly face and at the southeast corner of Old Bridge Brick and Tile Co.'s building, on the northerly side of the P. R. R. tracks and northeast of the station.

OLD BRIDGE.

Eleva. 7.54 ft.

A cross on the level of the girder, 12 feet from the rail and on the outer edge near the northwest end of southerly abutment of concrete bridge carrying P. R. R. over South River, northeast of station.

OLD BRIDGE.

Eleva. 13.51 ft.

On the left hand side of the corner entrance and on the level of the cement floor of porch of stucco dwelling immediately back of the P. R. R. station on the main street.

OLD BRIDGE.

Eleva. 18.97 ft.

A cross on the cement walk, 12 feet out from the northeast corner and 37 feet measured along the face from the southeast corner of Old Bridge Hotel, at the forks of the road southwest of the Railroad station and north of the track.

PROSPECT PLAINS.

Eleva. 112.02 ft.

Top and at the west end of 48 inch cast iron pipe culvert under railroad and highway, about 350 yards northeast of the railroad station. The point is 2.3 feet below a wall built around the pipe and at the side of the road. The pipe projects 2 feet beyond the wall.

PROSPECT PLAINS.

Eleva. 125.69 ft.

A cross 7 feet from the west end and 38 feet east of east rail of railroad track on the cement curb in front of hotel at the crossing near the station.

PROSPECT PLAINS.

Eleva. 124.11 ft.

A cross on the southerly end of cement door sill of entrance, on the west face of the Oakland garage, on the easterly side of railroad track, between the crossing and the station.

PROSPECT PLAINS.

Eleva. 126.71 ft.

A square cut in a brown stone monument 20 feet southwest of the railroad station and 13 feet from the rail. This is a railroad bench mark.

SOUTH AMBOY.

Eleva. 19.82 ft.

A cross on the northeast corner of cap stone on the wall at the east end of south abutment of Central Railroad bridge over Raritan Bay. The cross is slightly below the rail and 7 feet east.

SOUTH AMBOY.

Eleva. 28.11 ft.

A cross on the southerly end of door sill of entrance to waiting room, on the westerly face of station at the junction of the Camden and Amboy Division of Pennsylvania and Central Railroads.

SOUTH AMBOY.

Eleva. 29.91 ft.

A cross on the level of the girder seat and on the outer corner at the southerly end of easterly concrete abutment of P. R. R. bridge over highway, about 200 yards west of the P. R. R. station.

SOUTH AMBOY.

Eleva. 27.86 ft.

A cross on the northeast corner of concrete cap at the northerly end of bridge pier carrying the P. R. R. yard tracks over the Central Railroad, about 300 yards southerly from the Pennsylvania station. The cross is 3 feet below the yard tracks.

SOUTH AMBOY.

Eleva. 81.33 ft.

A square cut on a slight ledge on the east face of west stone abutment of bridge carrying the Raritan River R. R. over the P. R. R., about one mile southwest of the Pennsylvania station. The ledge is 2½ feet above the Pennsylvania tracks and 21 feet from the northerly end of the abutment. "B. M. No. 64" is cut on the stone above the projection.

SPOTSWOOD.

Eleva 27.32 ft.

A cross on the northwest corner of concrete base of bell signal on the westerly side of the Pennsylvania Railroad track at the crossing, about 100 yards southwest of East Spotswood station, or about 1¼ miles northeast of Spotswood.

SPOTSWOOD.

Eleva. 28.21 ft.

A cross on the northwest corner of concrete base of signal about 100 yards northeast of Pennsylvania Railroad station.

SPOTSWOOD.

Eleva. 27.58 ft.

A brown stone monument in and at the level of the sidewalk, evidently marking the southwest corner of the hotel property, and on the line of the railroad property, east of the Pennsylvania Railroad station. It is about 100 yards, measured easterly along the highway, from the crossing.

SPOTSWOOD.

Eleva. 25.04 ft.

A cross on the west end of cement floor of porch of Edward D. Underhill's store on the south side of the main road, at the fork about 300 yards east of the railroad station.

SPOTSWOOD.

Eleva. 27.04 ft.

A cross on the south end of blue stone window sill of the fourth basement window from the rear, on the west face of public school. The building is on the main street, about 400 yards east of the railroad station, opposite the burial grounds.

SPOTSWOOD.

Eleva. 27.34 ft.

A square cut in a brown stone monument 20 feet westerly from the railroad station and 20 feet southeast of the rail. This is a railroad bench mark.

TRACEY.

Eleva. 83.69 ft.

A cross on the southwest corner of concrete base, supporting pivot for a switch-rod angle on the southerly side of the Pennsylvania Railroad track, 150 feet easterly from the station and at the signal tower. The elevation of the rail at the station is 84.3 feet.

MONMOUTH COUNTY.

ALLAIRE.

Eleva. 63.21 ft.

A cross .7 foot out from the building, on the easterly edge of cement walk leading to concrete switch-house on the north side of the railroad track, about 200 yards west of the station.

ALLAIRE.

Eleva. 48.73 ft.

A cross on the outer corner, at the easterly end of southwest parapet of arch culvert under the railroad just west of the station.

ALLAIRE.

Eleva. 52.00 ft.

Top of marble monument projecting $1\frac{1}{2}$ feet above the ground, and marking a property corner on the easterly side of the raceway, about 25 yards in front of and southwest of the railroad station.

ALLENHURST.

Eleva. 14.06 ft.

A cross on the south end of door sill of most northerly entrance, on the west face of the Atlantic Coast Electric Co.'s car barn, at the southeast corner of Main Street and Elberon Avenue. The entrance is a single door and is near the northwest corner of the building.

ALLENHURST.

Eleva. 17.85 ft.

A cross on the south end of door sill of most southerly entrance, on the west face of the railroad station. The structure is east of the track and the door enters the express company's office.

ALLENWOOD.

Eleva. 63.70 ft.

A cross 6 inches from the building, on the westerly edge of cement walk leading to concrete switch-house, at the crossing, just west of the railroad station.

ALLENWOOD.

Eleva. 68.93 ft.

A cross on the westerly end of blue stone window sill of window on the southerly face and at the southwest corner of brick store building, at the forks of the road, near and west of the railroad station. The sill is 5 feet above the ground.

ALLENWOOD.

Eleva. 63.72 ft.

A cross near the westerly end of cement door sill of easternmost double door entrance, on the southwest face of the blacksmith shop, a red brick structure at the forks of the road, easterly from the railroad station. The floor of building is the same level.

ALLENWOOD.

Eleva. 65.00 ft.

A cross on the northeast corner of concrete base of bell signal, at the crossing, easterly from the railroad station.

ALLENWOOD.

Eleva. 80.43 ft.

A cross on the northeast corner of concrete base of signal on the north side of the railroad, about $1\frac{1}{2}$ miles east of the station. The signal is just east of mile post 31-2.

ASBURY PARK.

Eleva. 25.26 ft.

A cross on the outer corner at the east end of top step at the girls' entrance to school building on Main Street, near Wesley Lake, in Ocean Grove.

ASBURY PARK.

Eleva. 19.64 ft.

A cross on the west end of door sill of main entrance on Lake Avenue to Armory of Company H, 3rd Regiment, N. G. N. J.

ASBURY PARK.

Eleva. 24.34 ft.

A cross on the outer corner, at the west end of brown stone door sill of entrance to Sea Coast Building, on the corner of Bond Street and Mattison Avenue.

ASBURY PARK.

Eleva. 25.05 ft.

A cross on the outer corner at the west end of cement floor of alcove at the boys' entrance to public school, corner of Somerfield Avenue and Bond Street. The entrance is on the south face of the building.

ASBURY PARK.

Eleva. 24.58 ft.

A cross on the outer corner at the east end of blue stone door sill of rear entrance, on the southerly face of the First M. E. Church, corner of First and Grand Avenues.

ASBURY PARK.

Eleva. 24.69 ft.

A cross on the outer corner at the south end of first step below the door sill of Grand Avenue entrance to Trinity P. E. Church on the corner of Grand and Asbury Avenues.

ASBURY PARK.

Eleva. 25.90 ft.

A cross on the outer corner at the extreme east end of top granite step of entrance to alcove of Post Office, corner of Somerfield Avenue and Main Street. The cross is immediately below the southwest corner of marble base supporting column of easternmost arch.

ASBURY PARK.

Eleva. 21.53 ft.

A cross on the extreme outer corner at the north end of granite sill of entrance on Main Street to the Asbury Park and Ocean Grove Bank, opposite the railroad station. The cross is immediately below the southwest corner of the base-stone of column on the left as you enter the building.

ATLANTIC HIGHLANDS. U. S. C. S. -1.

Eleva. 13.77 ft.

A red metal disc in the stone door step on the north side of Antonides drug store, a brick building just south of the railroad station.

AVON BY THE SEA.

Eleva. 17.48 ft.

A cross on the south end of bluestone door sill of rear entrance on the west face of the public school, a brick structure about 200 yards directly east of the railroad station. The entrance is at the northwest corner of the higher portion of the building.

AVON BY THE SEA.

Eleva. 19.79 ft.

On the outer edge, and at the face of the building, of second step from the top step or slab of front entrance to St. Elizabeth's Church, two blocks directly east of the railroad station.

BELMAR.

Eleva. 21.70 ft.

A cross on the east end of bluestone door sill of entrance, on the south face of office of the Coast Gas Co., a brick building on 16th Avenue, just west of the railroad track.

BELMAR.

Eleva. 18.34 ft.

A cross on the outer edge, at the west end of door sill of entrance to boiler room on the south face of the Belmar water works on 12th Avenue, west of the railroad tracks.

BELMAR.

Eleva. 23.57 ft.

A cross next to the door jamb, at the south end of a large brown sandstone step at the main entrance to school building, on the corner of F Street and 12th Avenue.

BELMAR.

Eleva. 17.24 ft.

A cross on the outer edge at the south end of door sill of entrance, on the west face of the railroad station.

BELMAR.

Eleva. 20.12 ft.

A cross on the outer edge at the east end of top granite step and sill of entrance to the Coast Gas Co.'s Building on 9th Avenue, about 100 yards east of the railroad.

BELMAR.

Eleva. 16.86 ft.

A cross on the southwest end of door sill of corner entrance to the First National Bank on the southeast corner of F Street and 9th Avenue.

BRADVELT.

Eleva. 162.77 ft.

A cross on the level of the truss-seat and on the northeast corner at the north end of west concrete abutment of steel highway bridge over railroad just south of the station.

BRADVELT.

Eleva. 161.93 ft.

A cross on the east end of brownstone door sill and step of the most westerly entrance on the south face of the Reformed Dutch Church.

BRADLEY BEACH.

Eleva. 26.12 ft.

A cross 5 inches from the east edge and near the center of bluestone cap, on the south pier supporting iron post of roof over driveway, at entrance, on the east face of the railroad station.

BRADLEY BEACH.

Eleva. 24.81 ft.

A cross on the west end of door sill of most westerly entrance, on the south face of Borough Hall, a brick structure on north side of the park at the railroad station.

BRADLEY BEACH.

Eleva. 23.61 ft.

A cross on the extreme right and on the level of the bottom step, at the base of brick support of arch of Bringley Avenue entrance to public school, east of the railroad station. The cross measures 7.5 feet from a point projected below the keystone of the arch.

BRADLEY BEACH.

Eleva. 23.59 ft.

A cross at the face of the building and on the south end of granite sill and step of tower entrance, on the west face of Catholic Church, 2 blocks east of the railroad station on Bringley Avenue.

DEAL BEACH.

Eleva. 32.68 ft.

A cross on the north end of door sill of northerly entrance, on the west face of the railroad station, east of the track.

DEAL BEACH.

Eleva. 30.33 ft.

A cross on the center of cement window sill of most westerly window on the north face of the N. J. Water and Light Co.'s power house on the east side of the railroad, about $\frac{1}{4}$ mile north of the station.

ELBERON.

Eleva. 37.39 ft.

A cross on the north end of door sill of most southerly entrance on the west face of the railroad station, east of the track.

ENGLISHTOWN.

Eleva. 71.64 ft.

A cross on the corner at the westerly end of southerly concrete wall of small highway bridge over brook about 200 feet northeast of the railroad track on the Englishtown-Bergen Mills road. The highway crosses the track about $\frac{1}{4}$ mile northwest of the station.

- ENGLISHTOWN.** Eleva. 71.86 ft.
A cross 2.6 feet above the crest of the spillway and one foot out from the post of bridge railing, at the easterly end of southerly concrete abutment of steel highway bridge over stream, at the old mill on Main Street. The overflow of a lake is at the bridge.
- ENGLISHTOWN.** Eleva. 72.97 ft.
A cross on the outer corner at the north end of concrete slab forming the top step of 3 steps at the main entrance to Sanford Memorial M. E. Church, on the west side of Main Street.
- ENGLISHTOWN.** Eleva. 72.67 ft.
A cross on the outer edge at the southerly end of door sill of corner entrance to First National Bank on the southwest corner of Main and Water Streets.
- ENGLISHTOWN.** Eleva. 72.43 ft.
A cross on the extreme outer corner at the south end of top step of Main Street entrance to W. E. Mount Co.'s store opposite Water Street.
- ENGLISHTOWN.** Eleva. 79.72 ft.
A cross on the southeast corner of concrete base of signal, north of the track and on the west side of the crossing at the railroad station.
- FAIRFIELD.** Eleva. 117.77 ft.
A cross on the northeast corner of concrete base of bell signal for trains at the railroad station. The cross is 6½ feet southerly from the rail and the signal is about 50 feet southeast of the station. The elevation of the rail at the crossing is 118.1.
- FARMINGDALE.** Eleva. 74.32 ft.
A cross on the southeast corner of concrete base of railroad signal, on the southerly side of the track and 200 ft. southeast of a crossing, about ¼ mile northwest of the station along the P. R. R.
- FARMINGDALE.** Eleva. 71.77 ft.
A cross on the level of the girder seat and on the outer corner at the northerly end of southeast concrete abutment of P. R. R. bridge over Marsh Bog Brook, about ¾ mile northwest of the station.
- FARMINGDALE.** Eleva. 74.15 ft.
A cross on the southeast edge of cement walk leading to concrete switch-house, at the crossing, about ¼ mile northwest of the station along the Pennsylvania Railroad. The cross is at the entrance and 6 inches below the sill.
- FARMINGDALE.** Eleva. 74.29 ft.
A cross 6 inches from the north end of cement sill of entrance on the west face of baggage room at the railroad station. The cross is immediately under the sliding door and the entrance faces the N. J. Central tracks.
- FARMINGDALE.** Eleva. 75.88 ft.
A cross on the northwest corner of cement block anchor of guy wire of stack at A. C. Soper Co.'s plant, about 200 yards north of the railroad station. The anchor is on the west side of the highway and west of the Central R. R. tracks.
- FARMINGDALE.** Eleva. 79.49 ft.
A cross on the outer corner at the northerly end of cement door sill of single door entrance to the engine house of the Fire Department, a brick and shingle structure built in 1911, on Main Street.
- FARMINGDALE.** Eleva. 81.44 ft.
Top edge of marble corner stone at the south corner of the Fire Department building on Main Street. The date on the stone is 1911.

FARMINGDALE.

Eleva. 44.04 ft.

A cross on the level of the girder seat and on the southeast corner of a large stone at the southerly end of westerly abutment of P. R. R. bridge over a stream about one mile southeast of the station. The cross is 8 feet from the girder.

FREEHOLD.

Eleva. 186.23 ft.

A cross cut 2½ inches south of the intersection of the three joints formed by the three most southerly stones in the south corner of the large triangular base of the Monmouth Battle Field Monument. The cross is 2½ inches south of the north apex of the stone which abuts on its south sides against the octagonal gun pedestal, which is built at the south corner of the triangular base.

FREEHOLD.

Eleva. 181.69 ft.

A square cut on the northwest end of brownstone door sill of entrance to ladies' waiting room, on the northeast face of the P. R. R. station.

FREEHOLD.

Eleva. 176.70 ft.

A cross 8 feet from the southwest corner, on the base stone of the Laird building. The structure is on the northerly side of West Main Street, about 100 yards northeast of the P. R. R., and the cross is on the left of the center entrance.

FREEHOLD.

Eleva. 178.49 ft.

A cross on the westerly end of brownstone door sill of entrance to First National Bank, on the northerly side of West Main Street, about 125 yards northeast of the P. R. R. crossing.

FREEHOLD.

Eleva. 177.74 ft.

A cross cut on the east end of stone door sill of the Sheriff's office, being the most easterly of two doors in the middle of the front of Monmouth County Court House.

FREEHOLD.

Eleva. 146.17 ft.

A cross on the southwest corner of fourth stone step below the girder seat at the southerly end of easterly abutment of P. R. R. bridge over roadway, about ½ mile easterly from the station. The date 1890 is on the face of the stone.

FREEHOLD.

Eleva. 127.20 ft.

A copper bolt in the stone cap at the westerly end of southerly parapet of P. R. R. stone arch bridge over stream, about 1¼ miles southeast of the station. The bridge is about 150 yards easterly from a highway crossing.

GALILEE. (SEE MONMOUTH BEACH.)**HIGHLANDS. U. S. C. S. -2.**

Eleva. 13.77 ft.

A red metal disc in the top of the eastern pier of the railroad draw-bridge.

(Note: This bench mark is on the southeast wing wall at the east end of bridge, near Highland Beach Station.)

HIGHLANDS. U. S. C. S. -3.

Eleva. 202.41 ft.

This bench mark is a mark on top surface of a heavy granite post near Navesink light house. The post is deeply imbedded and its top projects about 1½ feet above the surface of the ground. It is 13 meters (42.6 feet) south of the southernmost tower of Navesink Highlands light house.

HIGHLANDS. U. S. C. S. -4. (Primary mark D.)

Eleva. 207.53 ft.

This bench mark is the bottom surface of a square cavity (about one inch square) cut on a sloping ledge at southeast corner of base of southernmost light house tower at Navesink Highlands light.

28 BENCH MARKS, CENTRAL NEW JERSEY.

MATAWAN.

Eleva. 63.91 ft.

A cross on the northeast end of the northeasternmost basement window sill on the southeast face of the Matawan High School, a brick building on the southwest side of Jackson Street, corner of Broad.

MONMOUTH BEACH.

Eleva. 9.17 ft.

A cross on the south end of door sill of the most southerly entrance, on the west face of Monmouth Beach station of the New Jersey Central Railroad.

MONMOUTH BEACH.

Eleva. 8.04 ft.

A cross on the southwest corner of concrete pier supporting the southwest wooden post of roof over platform at the Galilee station of the New Jersey Central Railroad. The pier is 24 feet from the south face of the station building.

MORGANVILLE.

Eleva. 98.52 ft.

Top of iron pipe at the northwest end of culvert under highway about $\frac{3}{8}$ mile southwest of the railroad station. The road crosses the track at the station.

MORGANVILLE.

Eleva. 102.30 ft.

A cross on the topmost point and center of cement cap of the northernmost brick parapet of iron pipe culvert under highway, about $\frac{3}{8}$ mile southwest of the railroad station. The road crosses the track at the station.

MORGANVILLE.

Eleva. 110.94 ft.

A cross 7 feet above ground on the east end of cement door sill of most westerly entrance, on the north face of the R. V. C. Co.'s factory, on the easterly side of the track about $\frac{1}{4}$ mile north of the railroad station. The building is of red brick and is the largest of the plant.

MORGANVILLE.

Eleva. 136.27 ft.

A cross on a foundation stone projecting beyond the east face of the west brick pier supporting frame of overhead highway bridge over railroad, $\frac{1}{2}$ mile south of the station. The cross is 3.3 feet below the top and 2 feet from the north end of the pier.

NEW MONMOUTH. (NORTH LONG BRANCH.)

Eleva. 14.82 ft.

A cross on the south end of door sill of the second entrance from the northwest corner and on the west face of the New Jersey Central Railroad station on Atlantic Avenue and east of the tracks.

NEW MONMOUTH. (NORTH LONG BRANCH.)

Eleva. 19.42 ft.

A cross on the west end of brownstone door sill of tower entrance on Atlantic Avenue to Asbury M. E. Church on the northeast corner of Church St. and Atlantic Avenue.

NORTH ASBURY PARK.

Eleva. 14.84 ft.

On the outer corner at the east end of door sill of the upstairs entrance to a white brick structure on the south side of Fifth Avenue, at the railroad. The building is the first east of the tracks, and the entrance is about 25 feet from the west face.

NORTH ASBURY PARK.

Eleva. 14.14 ft.

A cross on the outer corner at the south end of door sill of entrance to the waiting room, on the west face of the railroad station, east of the tracks.

NORTH ASBURY PARK.

Eleva. 10.37 ft.

A cross $3\frac{1}{2}$ feet from the girder and on the northeast corner of the girder seat, at the east end of south concrete abutment of railroad bridge over Deal Lake, just north of the station. The bridge is the most southerly of two.

OCEAN GROVE. (SEE ASBURY PARK.)**PORT MONMOUTH. U. S. C. S. -9. Eleva. 14.11 ft.**

A red metal disc set in the brick wall of a house which is south of the track and on the east side of the road crossing the track near the station. The bench mark is in the northwest corner of the cellar wall.

RED BANK. Eleva. 45.77 ft.

A cross cut on the south end of front door sill of the old First National Bank Building on Broad Street.

RED BANK. Eleva. 44.25 ft.

A cross on the outer edge at the north end of door step and sill of entrance to No. 40 Broad Street, occupied by the Red Bank Register. The building is on the west side of Broad, about 50 feet north of White Street.

RED BANK. Eleva. 43.73 ft.

On the extreme outer corner at the south end of granite step of Broad Street entrance to the Red Bank Trust Co., a marble structure on the east side of Broad Street, just north of Monmouth Avenue. The point is 6 feet south of the south door hinge and .6 feet above the sidewalk.

RED BANK. Eleva. 43.09 ft.

A cross cut on northeast corner of lower stone step of Monmouth Avenue entrance of M. E. Church, on the corner of Broad Street.

RED BANK. Eleva. 41.08 ft.

On the outer corner at the west end of bluestone door sill of upstairs entrance to Navesink Lodge No. 39, I. O. O. F., a yellow brick structure of three stories on the north side of Monmouth Avenue, about 200 feet west of Broad Street.

RED BANK. Eleva. 40.80 ft.

On the outer corner, at the extreme west end, and 6 feet west of the center of entrance, of marble base stone of Patterson Building, a one-story structure used as the Post Office. The building is on the north side of Monmouth Avenue, about 100 yards west of Broad Street.

RED BANK. Eleva. 43.56 ft.

A cross on the west end of bluestone door sill of driveway entrance, at the northeast corner of St. James Catholic Church, on Broad Street south of Monmouth Avenue. The entrance is under the porch, which extends across the driveway.

SANDY HOOK. U. S. C. S. -10. Eleva. 8.56 ft.

A bench mark of the Ordnance Department near the office building of the Sandy Hook proving grounds and about 60 meters (197 feet) northwest of a small water tank which is north of and across the railroad tracks from the office building. The bench mark is a copper bolt in the top of a granite post set in the ground and surrounded by cement.

SANDY HOOK. U. S. C. S. -11. Eleva. 19.53 ft.

This bench mark is a cross on the head of a copper bolt driven into the wall of the main light house, at Sandy Hook. The main light house is an octagonal tower, resting upon a circular foundation of unhewn stones. This foundation projects on all sides about 8 inches, beyond the base of the tower, so as to form a sloping ledge. The copper bolt is a few inches westward of the northwest angle, and $9\frac{1}{4}$ inches above the ledge.

SANDY HOOK. -12. Eleva. 12.45 ft.

A cross cut in the top of an iron bolt set in cement about 3 meters (10 feet) northeast of the northeast corner of the Army Engineer building near the wharf.

(This is a U. S. E. bench mark.)

SANDY HOOK. U. S. C. S. -13.

Eleva. 10.76 ft.

A marble post about 4 feet long, the upper part dressed and the letters U. S. C. S. carved in the upper surface; in the center of the face there is a small cavity, about half an inch in dimensions. This mark is on the western slope of the high ridge at Sandy Hook, just east of the New Jersey Southern Railroad wharf. It is below the crest of the ridge, sheltered by vegetation, and 375 feet west of the western corner of the round house of the railroad.

SEA BRIGHT.

Eleva. 9.93 ft.

A cross on the outer corner at the south end of top step at the most southerly entrance, on the east face of M. E. Church on the corner of Ocean Avenue and Church Street. The cross is at the entrance to alcove.

SEA BRIGHT.

Eleva. 6.31 ft.

A cross on the outer edge and six inches from the north end of brown stone step at entrance to alcove of First National Bank on the west side of Ocean Avenue, two doors north of River Street.

SEA BRIGHT.

Eleva. 7.89 ft.

A cross on the outer edge at the north end of bluestone door sill of entrance, on the west face of the railroad station on the west side of the tracks, near the east end of the bridge over the Shrewsbury River.

SEA BRIGHT.

Eleva. 7.09 ft.

A cross on the center and topmost point of the southeast concrete base supporting metal frame flag pole at L. S. S. No. 99, on the west side of the railroad tracks about one mile north of Sea Bright Railroad station.

SEA GIRT.

Eleva. 20.36 ft.

A cross on the northeast corner of southeast concrete pier supporting automatic signal frame at the crossing just below the railroad station. The pier is east of the tracks.

SEA GIRT.

Eleva. 19.49 ft.

A cross on a small ledge of stone chimney at the north end of Governor's cottage, near the railroad station. The cross is about .7 foot below the water-table of building and .4 foot from the west edge of the chimney.

SEA GIRT.

Eleva. 26.98 ft.

A cross on the southwest corner of the southwest concrete pier supporting frame of water tank west of the railroad tracks and about 300 yards north of the station.

SEA GIRT.

Eleva. 10.52 ft.

A cross, 3.3 feet from the girder and 3.5 feet above the girder seat, on the northeast corner at the east end of south concrete abutment of railroad bridge over Wreck Pond, about $\frac{3}{4}$ mile north of the station.

SPRING LAKE BEACH.

Eleva. 12.97 ft.

A cross on the center of cement cap of west parapet of railroad culvert over North Branch of Wreck Pond, about $\frac{1}{2}$ mile south of the station.

SPRING LAKE BEACH.

Eleva. 17.48 ft.

A cross on the east end of cement door sill of front entrance to Spring Lake water works pumping station, east of the railroad track about 300 yards south of the station.

SPRING LAKE BEACH.

Eleva. 22.72 ft.

A cross on the outer corner at the north end of white sand stone door sill of the south entrance, on the west face of the railroad station, east of the tracks.

SPRING LAKE BEACH.

Eleva. 28.16 ft.

A cross on the north end of bluestone door sill on the west face and at the northwest corner of brick school building at 5th and Warren Avenues. The structure is diagonally across the park from the railroad station.

SPRING LAKE BEACH.

Eleva. 18.35 ft.

Elevation of underground mark 13.98.

A stone monument on the east side of Ocean Avenue about 20 paces south of and at right angles to the south curb line prolonged, of Washington Avenue, and about 30 paces east of the west curb line of Ocean Avenue as it is put down in front of Life Saving Station No. 8 (old number). The bearing from the stone to the nearest corner of the station, which is now on the northwest corner of Washington and Ocean Avenues, is about 20° northwest and the distance about 60 paces. The monument projects a little above the surrounding surface. The bench mark is known as No. 4, as recorded in N. J. Geological Survey Report of 1888.

TENNENT.

Eleva. 76.65 ft.

A cross on the level of the girder seat and on the outer corner at the northerly end of easterly concrete abutment of P. R. R. bridge, over Wemrock Brook, about $\frac{3}{4}$ mile northwest of the station. The cross is 15½ feet from the bridge railing.

TENNENT.

Eleva. 90.59 ft.

A cross on the easterly end of cement door sill of entrance to waiting room on the southwest face of the railroad station.

TENNENT.

Eleva. 89.13 ft.

A cross on the outer corner at the northeast end of cement door sill of double door entrance, on the westerly face of factory of the Tennent Products Company, on the southeast side of, and back 150 feet from Main Street, 325 yards northeast of the railroad station.

TENNENT.

Eleva. 121.75 ft.

A cross on the level of the girder seat and on the southwest corner of a large stone on the south end of east abutment of railroad bridge over a highway, about one mile east of the station.

TENNENT.

Eleva. 140.07 ft.

A cross on the level of the girder seat and on the southwest corner of a large stone at the south end of east abutment of railroad bridge over highway, about 1¼ miles east of the station. The bridge is about 100 feet southerly from the Freehold-Tennent highway.

WATER WITCH. U. S. C. S. -14.

Eleva. 9.39 ft.

A red metal disc in the concrete base of a signal pole about 0.9 mile west of the railroad station. The signal pole is north of the railroad track and close to the rip rap sea wall.

WEST END. (HOLLYWOOD.)

Eleva. 24.71 ft.

A cross on the southeast corner of the stone on which the north end of east girder rests at the east end of north abutment of railroad bridge over a roadway near Lake Takanassee, about $\frac{1}{4}$ mile south of the West End-Hollywood station.

WEST END. (HOLLYWOOD.)

Eleva. 12.26 ft.

Elevation of underground mark 7.57 feet.

A stone monument on the lot of the Life Saving Station No. 5 (old number), 10 feet measured perpendicularly from the middle of the west end of old station building, which is along the lake and south of the new station. The line of face of north abutment of the new Ocean Avenue bridge over Lake Takanassee passes 6 feet to the south of center

of monument, and the stone is 229.5 feet east of the east curb of Ocean Avenue. The top of the monument is about .5 foot below the surface of the ground. (This is monument No. 3, N. J. G. S., Report of 1888.)

WEST END. (HOLLYWOOD.) Eleva. 26.33 ft.

A cross on the northeast corner of cement pier supporting iron column of roof at the southeast corner of the railroad station building on the west side of the tracks. The cross is about .75 foot above the cement platform.

WEST END. (HOLLYWOOD.) Eleva. 23.93 ft.

A cross on the east end of bluestone door sill of center entrance on Brighton Avenue to the Henry Hotel on the corner of Palmer Street about one block east of the railroad station.

WICKATUNK. Eleva. 116.88 ft.

A cross on the outer edge at the center of east parapet of concrete culvert under the railroad about 300 yards north of the station. The cross is considerably below the track.

WICKATUNK. Eleva. 147.83 ft.

Bottom of water table at the northeast corner of William Smock's residence, west of the track, directly opposite the railroad station.

WICKATUNK. Eleva. 159.52 ft.

A cross on the southeast corner of a red brick on the southeast corner, at the south end of west pier supporting frame of overhead highway bridge over the railroad, just south of the station.

YELLOW BROOK. Eleva. 82.10 ft.

A cross on the southeast corner of fourth stone step from the girder seat at the southerly end of westerly abutment of P. R. R. bridge over stream about $\frac{1}{2}$ mile westerly from the station.

YELLOW BROOK. Eleva. 88.46 ft.

A cross on the northwest corner of concrete base of bell signal on the southerly side of the railroad track at crossing, by the station.

YELLOW BROOK. Eleva. 88.89 ft.

An iron hub at the center point between the rails and marking the P. C. of a curve to the right, at mile post 10-23, just east of the station. There is a large cross in the top of the iron post.