

**Report to the General Board of Health on a preliminary inquiry into the sewerage, drainage, and supply of water, and the sanitary condition of the inhabitants of the borough of Bodmin, in the county of Cornwall / by George T. Clark, Superintending Inspector.**

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# PUBLIC HEALTH ACT

(11 & 12 Vict., cap. 63).

## R E P O R T

TO THE

## GENERAL BOARD OF HEALTH

ON A

### PRELIMINARY INQUIRY

INTO THE SEWERAGE, DRAINAGE, AND SUPPLY OF  
WATER, AND THE SANITARY CONDITION  
OF THE INHABITANTS,

OF THE BOROUGH OF

## B O D M I N,

IN THE COUNTY OF CORNWALL.

By GEORGE T. CLARK,

SUPERINTENDING INSPECTOR.



L O N D O N :

PRINTED BY WILLIAM CLOWES & SONS, STAMFORD STREET,  
FOR HER MAJESTY'S STATIONERY OFFICE.

1850.

## NOTIFICATION.

THE General Board of Health hereby give notice, in terms of section 9 of the Public Health Act, that on or before the 15th of July next written statements may be forwarded to the Board with respect to any matter contained in or omitted from the accompanying Report on the Sewerage, Drainage, and Supply of Water, and the Sanitary Condition of the Inhabitants, of the Borough of BODMIN, in the County of Cornwall; or with respect to any amendment to be proposed therein.

By order of the Board,

HENRY AUSTIN, *Secretary.*

*Gwydyr House, Whitehall,*

*June 1, 1850.*



## PUBLIC HEALTH ACT (11 & 12 Vict., cap. 63).

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*Report to the General Board of Health on a Preliminary Inquiry into the Sewerage, Drainage, and Supply of Water, and the Sanitary Condition of the Inhabitants, of the Borough of BODMIN, in the County of Cornwall.* By GEO. T. CLARK, Superintending Inspector.

London, 30 January, 1850.

MY LORDS AND GENTLEMEN,

I HAVE the honour to report to you that, in obedience to your instructions, and after notice duly given as required by the Public Health Act, I held public meetings at the Guildhall in Bodmin on the forenoons of the 21st and 22nd of November last, and employed the remainder of those days in the inspection of the borough.

2. Notice of the meeting was advertised in the 'West Briton' and in the 'Royal Cornwall Gazette' newspapers of the 2nd of November, and was also affixed to the church and chapel doors, and the other places in the borough at which public notices are usually exhibited.

3. The inquiry took place upon a petition from "The Inhabitants of the Borough of Bodmin in the County of Cornwall." It was signed by 155 ratepayers, being nearly one-fourth of those resident, and about one-fifth of the whole body, among which signatures were those of the present Mayor, the Vicar, the Curate, the Rev. J. P. Gilbert, Dr. Michell, and the Governor of the county prison. During the inquiry there were present—the mayor, the vicar, the members of the corporate body, and a large number of the influential inhabitants of the place.

4. Since the date of the petition and the cessation of the cholera in England, two memorials have been transmitted to your Board against the application of the Act to Bodmin. In one of these the memorialists, who had signed the previous petition, commence by informing you that they did so without being aware of what they were about; and in the other, to which are attached a great many signatures, they mention various objections to the application of the Act, which are grounded on the assumption that your Board has power to order the execution of such works as may be recommended in this Report.



5. On my arrival I received a third petition or memorial addressed by certain of the inhabitants and burgesses to the mayor, aldermen, and town-council of the borough, requesting that body to use its influence to prevent the application of the Public Health Act to the borough, on the ground that it would throw upon the inhabitants expenses hitherto borne by the corporation, that it would prove a serious tax to the borough, and be injurious to its trade, and that the sanitary condition of the borough is not such as to need the provisions of the Public Health Act. This memorial was respectably signed in point of numbers, but it bore the names of several ratepayers who had also signed the original petition expressing sentiments diametrically opposite.

6. With this document the mayor put into my hands the following official statement of the proceedings of the town-council upon the reception of the memorial, which runs as follows :—

Borough of } At a Meeting of the Council of the borough of Bodmin.  
Bodmin. } called by a circular from the Mayor, (there not being sufficient time between the presentation of the petition and the time appointed for commencing the inquiry by the Inspector for convening a meeting in conformity with the provisions of the Municipal Act, holden at the Guildhall the 20th day of November, 1849,—

John Basset Collins, Esq., Mayor, in the Chair,—

The Council, having considered the Memorial of certain inhabitants and burgesses of the borough, in reference to the town being placed under the provisions of the Public Health Act,—

Resolved (unanimously)—“That it is the opinion of the Council that the town requires sanitary improvement.

“That the Council is of opinion that it does not at present possess sufficient legal powers for effecting such improvement.

“That the Mayor be requested to submit to the Inspector the Memorial of the inhabitants, together with the foregoing resolutions.”

JOHN BASSET COLLINS, Mayor.

*Note.*—It was moved by Thomas Mudge, Esq., but not seconded “That the Town-Council have sufficient power for carrying out every necessary sanitary improvement.”

7. These documents, passing between the town-council and the inhabitants, do not appear to demand any special notice from me. I forward them for the inspection of your Board only observing that the memorial is drawn up under a very partial view of the circumstances of the borough and the effect of the application of the Act, and in which the town-council of the borough, possessing superior knowledge on the subject, did not participate.

8. GENERAL DESCRIPTION.—Bodmin, the county and assize town of Cornwall, is placed along the bottom and some way up



BODMIN.



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the sides of a deep valley lying between the Beacon-hill on the south and the high land of Cooksland on the north; the former 515, and the latter 575 feet above the level of the sea. Down the valley from east to west runs the Town-brook, a rapid stream, tributary to the Camel about 2 miles distant. The sides of the valley are steep, and the inclination of the brook is at the rate of about 132 feet in a mile.

9. The hills, especially on the north, are copious in springs, several of which are perennial, rising out of the shale and schist of the Devonian group of rocks, of which the whole of this district is composed. It appears from observations taken at S. Breock, near Wadebridge, about 7 miles from Bodmin, that the annual rainfall of the last 7 years has averaged 40.25 inches, and there is little doubt that it is considerably greater in Bodmin.

10. The principal thoroughfare, under the names of Fore-street and Bore-street, runs nearly east and west, rising steeply towards the latter. Most of the subordinate streets branch from the main street. The church, reputed to be the largest and most handsome in Cornwall, and particularly celebrated for its fine interior, stands at the entrance to the town from Plymouth, and a little removed from the main street is a substantial modern assize-hall. The union-house and the county gaol are conspicuous buildings on the northern edge of the town, as is the lunatic asylum on its western suburb.

11. Bodmin is wholly an agricultural town. It is connected with Padstow and the sea by a railway, worked by locomotive engines, of 7 miles in length, to Wadebridge, and thence by a navigable river about the same distance. There is also an extension towards Camelford, so that the whole length of railway amounts to  $14\frac{1}{2}$  miles.

12. BOUNDARIES, GOVERNMENT, and LOCAL ACTS.—Bodmin is both a parliamentary and municipal borough, and returns two members to Parliament. The parliamentary borough includes the parishes of Bodmin, Lanivet, Lanhydrock, and Helland. The municipal area of 2785 acres is contained within the parliamentary borough, the eastern limits of the two being identical. Bodmin is the largest municipal borough in Cornwall, and is 10 miles in circuit. It is also co-extensive with one of the two divisions of the parish, which, though under one vicar, appoint distinct officers and levy distinct rates. The whole parish contains 6191 acres. The two churchwardens possess common jurisdiction, one being appointed by the vicar and one by the mayor.

13. The corporation is composed of 4 aldermen and 12 councillors, who elect annually a mayor out of their body.

14. The parochial officers within the borough division are



2 overseers and 2 surveyors of highways. The borough maintains its own poor.

15. The corporation employ one chief constable or street-keeper, and two ordinary constables.

16. The only LOCAL ACTS are for a market, turnpike, and railway.

17. FINANCE.—The corporation levy no borough-rate, but as inspectors for lighting they levy in the borough a lighting-rate of  $4\frac{1}{2}d.$  in the pound on houses, and  $1\frac{1}{4}d.$  on land, which yields about 125*l.*

18. There is no church-rate. The other rates are, for the poor 2*s.* 8*d.* in the pound, producing about 1100*l.*, and a highway-rate of 2*d.* in the pound, producing 79*l.* These rates are levied over the whole municipal borough, the rated rental of which is 7816*l.* per annum; the gross estimated rental 9808*l.* 7*s.* 7*d.*

19. The following is a statement of the finances of the corporation:—

AVERAGE Income and Expenditure of the Bodmin Corporate Funds.

INCOME.				EXPENDITURE.			
	£.	s.	d.		£.	s.	d.
Rents of lands . . . .	245	0	0	Interest of mortgage debt			
New meat market. . . .	178	0	0	on lands and tolls for			
Tolls of markets and fairs	75	0	0	5000 <i>l.</i> . . . . .	195	0	0
Tithe hay . . . . .	50	0	0	Municipal expenses, in-			
				cluding constables . .	70	0	0
				Rents, rates, and taxes .	45	0	0
				Repairs of public buildings	35	0	0
				Street repairs . . . . .	25	0	0
				Pumps . . . . .	15	0	0
				Church . . . . .	100	0	0
				Markets, gas, &c. . . . .	35	0	0
				Fire-engines . . . . .	3	10	0
				Stationery and printing .	20	0	0
				Vagrants . . . . .	3	0	0
				Interest and instalment of			
Deficit . . . . .	38	0	0	debt of 200 <i>l.</i> incurred			
				by lighting the town .	25	0	0
				Sundries, law costs, &c. .	15	0	0
Total . . . . .	586	0	0	Total . . . . .	586	0	0

MEM.—The deficit is generally met by adding occasionally another life as one drops on the leasehold property of the borough.

20. The following analysis of the rate-book, put into my hands by the assistant-overseer, shows the circumstances of the town:—



				Amount of Rate.		
<i>Houses and Lands occupied.</i>				£.	s.	d.
344	Houses	£3 and under	.	641	7	0
72	"	5 "	.	272	19	0
151	"	10 "	.	1135	15	0
60	"	15 "	.	738	6	0
30	"	20 "	.	529	3	0
9	"	25 "	.	194	16	0
11	"	30 "	.	300	9	6
8	"	above £30	.	435	12	0
Gas-works and tithes				285	12	0
Lands and tithes				2472	19	0
43	Houses and lands	.	.	809	11	4
728*				£7816	9	10

<i>Houses unoccupied.</i>						
55	Houses	£3 and under	.	98	19	0
21	"	5 "	.	84	17	0
7	"	10 "	.	47	0	0
4	"	15 "	.	33	5	0
1	"	20 "	.	18	0	0
4	"	25 "	.	89	15	0
	"	30 "	.			
2	"	30 and above	.	89	4	0
94				£461	0	0

## 21. POPULATION :—

	Population.							Houses.		
	1801	1811	1821	1831	1841			1841		
					Males.	Fem.	Total.	Inhabited.	Void.	Total.
Bodmin :—										
Municipal Borough	1951	2050	2902	3375	2002	2203	4205	719	64	783
Parish . . . . .	348	333	376	407	225	213	438	85	8	93

22. The *entire* parish of Bodmin, including 195 persons in the county gaol, 165 in the county lunatic asylum, and 94 in the Bodmin union workhouse, contained, in 1841, 4643 inhabitants and 6191 acres. The present population of the parish is computed at 4402, that of the municipal borough at 4060. The population of the town of Bodmin in 1841 was 3857; at present it is about 3742, residing in 700 houses. The town contains 15 public-houses, 2 beer-shops, and 6 low lodging-houses.

\* The gaol, not being rated, is not included. It contained, in 1841, 195 persons; and in 1848, 212 persons.







26. *Fore-street* is the main street of the town. On its south side the land drains upon the street, and on the north falls from it towards the brook. Very few of the houses have drains, and the privies commonly discharge into cesspools, often very imperfectly closed. *Bell-lane* has recently been improved, and has a good slate gutter; but at its lower end is a large open dung depôt, and near this is a large piggery attached to the principal hotel. At the back of the King's Arms and the Bell inns are also piggeries and dirty yards. In *Still Meadow* the houses are low and damp, and at the back is a yard with several dirty ashpits. Here 8 cottages have but one privy. Below these, and near the brook, is a very offensive privy beneath a dwelling-house.

27. The *Meat-market*, lately built, is spacious and airy, well built, very clean, and quite dry. *Market-street*, a steep, narrow lane, has some very filthy yards on one side. In many cases the back outlets and privies of the upper houses drain upon the premises below, and produce a very filthy state of things. Others of these houses are without back premises at all, and all the refuse is thrown into the open street or road.

28. On the upper side of *Fore-street* the Red Lion yard drains upon the house, and at the highest point is a large open pit, and above it the house-privies, all in a very objectionable condition. *Downing-street* is lately built. It is on a steep slope, but its drainage arrangements have been neglected, and the filth from the upper houses finds its way into those below, and is complained of as most offensive.

29. In *Bore-street* and *Bore-lane* the cottages, being on the hill-side, are rendered damp. The back premises in this neighbourhood are very dirty, ill-paved, and undrained; and there is a deficiency of privies. In parts of *Bore-street* the main road is objectionably high.

30. The houses about *Turf* and *Honey streets*, at the lower end of the town, are very much crowded together; either they have no back premises, or these are narrow and confined. The ground here is very wet, and there is no regular drainage. On one side the ground drains upon the houses. *Mr. Hockens'* house has a privy and sink under a first-floor, which is a most objectionable arrangement. The *London inn* stables have a damp, dirty, and badly-paved yard, the drainage of which passes under several houses. The *Globe-yard*, opposite, has pigsties, and is badly pitched.

31. In the adjacent angle of *Fore-street* the houses are closely packed, with crowded and ill-drained back premises, very intricate, and with privies built over offensive cesspools. Some of the tenements near *Mount Folly* have no back outlet at all. In *Mr. Pascoe's court* is an open dunghill piled up with



ordure. Above the Judges' lodging, is a dirty, low yard. The lodgings themselves are particularly neat and clean. At the back of *Lady Huntingdon's Chapel* is a very filthy yard; ill-paved, wet, and with only an open gutter-drain.

32. On *Castle-hill* are *Windsor-cottages*, without any back windows, and only a yard at one end, common to all. The back premises of the cottages on *Tower-hill* are ill-arranged and dirty. Below these is a fellmongery and skin-yard upon the town brook, which is dammed up for the purposes of the manufacture. This is an evil of very ancient date.

33. In *Crockwell-lane* are several back premises and courts, most of which are damp, with open ashpits. Many of the houses are without privies. *Sleeman's-yard* has a piggery and a dungheap, and is badly paved. Here is a well containing very dirty water. The back yard of the Cornish Arms is badly paved.

34. There are three considerable establishments on the margin of the town: the Union-house, the County Gaol, and the Lunatic Asylum. In the union there are at present about 170 inmates. It drains into cesspools which have an overflow into an adjacent road. The gaol, with occasionally as many as 240 prisoners, has its drains flushed by a running stream, which carries their contents into a sort of marsh near the railway, in this respect an objectionable arrangement.

35. The Lunatic Asylum, containing 230 inmates, is drained into covered cesspools close to the house. These are about to be removed, when the drains will be led to a distance from the house and discharged into the fields. In the lower side of the churchyard is a very copious and clear spring, much resorted to by the neighbourhood; and excavated in the retaining wall of the churchyard is a sort of cellar, supplied by a rill from the spring, and used as a place for washing tripe, and complained of as a nuisance. Ordinarily this water is pure, but it is said now and then to be offensive, though this is thought to be from neglect in cleansing the basin and conduit.

36. WATER SUPPLY.—The supply of Bodmin is derived from public and private wells, and springs, and from rain-water collected in cisterns made of slate from the celebrated Delabole quarries on the north coast.

37. There are 12 public wells or fountains, and 173 private pumps or wells. There are also 244 houses in the town without either pumps or wells. Captain Liddell gauged all the public springs in September last, when they were very low, and he found their supply to be,



*Public Springs.*

Churchstile . . .	27,360	} 4°·4 of hardness.
Tripe-house . . .	5,040	
Brewery pipe . . .	5,040	
Cockwell . . .	4,500	} 17°·0 of hardness.
Bore-well . . .	4,500	
Bree-shoot . . .	7,000	
—————		53,440 gallons in 24 hours.

*Public Pumps.*

Crockwell-lane.  
 St. Nicholas-street.  
 Apud-le-Bore.  
 Blue Beard's.

Although particular parts of the town suffer, without doubt, occasionally, from want of water, the town is, as far as spring-water goes, tolerably well supplied.

38. The cost of a slate rain-water tank is, for small tanks 3½*d.* to 4*d.* a gallon, for larger tanks 2½*d.* to 3*d.* The ordinary cottage tank contains about 200 or 300 gallons; they are clamped with iron. These are found attached to many of the better class of cottages, but where the back premises are small they occupy an inconvenient quantity of space, and in dry seasons their contents are insufficient. The water-supply in the cottages is not employed to cleanse the privies.

39. The following statement has been drawn up by Mr. Hicks, Superintendent-Registrar, and Domestic Superintendent of the Asylum, at my request, on the subject of the water-supply to the Lunatic Asylum:—

“The water for the use of the Asylum is raised by 2 pumps from wells 76 feet deep. Horse-power has lately been applied to these pumps. The quantity raised is about 4000 gallons per day, but this is found to be barely sufficient for the wants of the 230 persons within the walls.

One pump raises  $\frac{7}{8}$  of a gallon per stroke.

The other about  $\frac{3}{8}$  ” ”

The ordinary number of strokes is about 16 per minute.

“The power employed is called a horse and a quarter, and the cost of working the pumps is about 25*l.* per annum. There is an ample supply of water for about ten months in the year.”

40. SEWERAGE.—Bodmin may be said to be without sewerage. Parts of three or four streets are provided with shallow covered drains, whose presence is indicated by certain large open gutter-grates, found to be a great nuisance, and in some instances replaced recently by trapped grates. The town brook



is the general receptacle for the filth of the place. Many of the privies and all the gutters discharge there, and into it the inhabitants of the adjacent cottages cast all their house refuse.

41. Close above the town, in the Priory grounds, this brook passes through and causes an objectionable marsh. In the town its waters are dammed back at the fellmongery, and other places. Near the gaol it runs near a marshy hollow, into which the gaol sewage is discharged, and which is said to be fouled by the gas-works; and below this, upon the brook, is a considerable pool, employed to drive a mill, and represented as being in summer very offensive. Much of the soil on which the town is built is charged with water, and needs land drainage.

42. HIGHWAYS.—A part of the main road, including Bore-street and St. Nicholas-street, Brewery and Little Berry lanes (belonging to the turnpike trust), Castle-street, Gaol-lane, Chapel-lane, and some other small portions of road, are repaired by the waywardens, who thus expend about 78*l.* per annum. The remainder of the highways are repaired by the corporation, at an expense of about 25*l.* per annum. The corporation employ one scavenger, called a tythingman, at 6*s.* a week, besides the manure.

43. LIGHTING.—Bodmin is lighted with gas by a private company under contract with the borough. There are 411 public lamps, lighted for seven months in the year from dusk till half an hour after midnight—eight nights about each full moon being excepted. For each of these lamps, not including its repairs, is paid annually 2*l.* 12*s.* 6*d.* The gas-rate, as already stated, is 125*l.* per annum.

44. The private consumers pay the high price of 10*s.* per 1000 cubic feet. The price of coal delivered is about 18*s.* a ton.

45. BURIAL-GROUNDS.—With the exception of a small Wesleyan ground just opened, and containing only 7 graves, the burial-ground attached to the parish church is the only one actually within the town. The area of this, exclusive of the church and the walks, is three-quarters of an acre, and the burials for the seven years 1842-8 have been 707, or 101 per annum.

46. This ground is very neatly kept, but it is very full indeed; is within and above a part of the town, and the vicarage and several other houses abut upon it, and others are separated from it only by a road. The mayor, who resides in one of them, complains of the occasional offensive smells.

47. The vicar has not for more than 20 years past allowed interments to take place in this quarter of the churchyard, and there are none within the church. Recently an old and



disused burial-ground, surrounding a bell-tower known as the Berry Tower, the only remaining part of the church of the Holy Cross, has been reopened. This ground contains 1 rood 16 poles. About 70 interments have been made here since the 20th September, 1848. This ground is quite out of the town, in an excellent position, and admits of being extended.

48. I have received from the mayor the following statement on the subject of the churchyard:—

“*Castle-street, Bodmin, November 21, 1849.*

“SIR,—I beg to inform you that the burial-ground situate within the borough of Bodmin is in such a state as to be injurious to the health of myself and the other persons living in the neighbourhood thereof, by reason of the over-crowding of the graves, and the surcharged state of such graves. And that sufficient means of interment exist within a convenient distance from such burial-ground.

“I have therefore to request that you will be pleased, in the course of your inquiry as to the sanitary condition of this borough, to direct your attention to the state of the burial-ground.

“I am, Sir, your obedient servant,

“JOHN BASSET COLLINS,

“A rated inhabitant of the borough of Bodmin.

“*Geo. T. Clark, Esq.*”

49. REMARKS.—The most obvious want of Bodmin is a proper system of sewerage and house-drainage. The houses near the centre of the town are a good deal crowded together, and many of them are either without back premises at all, or they are narrow, crowded, and damp; and although pretty well supplied with pumps, there are no efficient means of drainage. Like most towns on hilly ground, the houses are rendered damp by the land-water from above; and being built one above another, each is annoyed by the filth from the house above. There is a deficiency of privies, and such as there are discharge commonly into cesspools, and are without drains. Pigsties are numerous, and in most objectionable situations, and there are several slaughter-houses. There are many open dungpits; and the yards, being roughly pitched, are seldom swept clean. The means of repairing these deficiencies will be found in the following section.

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## REMEDIES.

50. The natural advantages of Bodmin for a proper sewerage and water-supply are very considerable. A water-supply, though this will be less generally admitted, is the more



important want of the two, since without it no economical and efficient system of sewerage can be laid down. To render a system of drainage efficient it must be combined with a regular water-supply, and *this water-supply must enter, not as usual by the main drains, but from the upper ends of the house drains.* In this way only can the house-drains be kept clean and efficiently trapped, and by the same process the main drains will also be kept clean. No distinct flushing of the main drains need be provided if the house drains be thus kept clean.

51. The house accommodation throughout, as regards the cottages, is miserably defective. Privies or cheap water-closets are needed; the cesspools should be filled up, proper dust-bins provided, the yards paved, and water-service pipes and stoneware house-drains laid down. The public scavenging and removal of house refuse should be let by contract.

52. Although Bodmin possesses a local government, yet the consolidation and increase of powers which, under the Public Health Act, will be vested in the Town-Council, will be a very considerable advantage to the town. The discretion of rating for all purposes, save the support of the poor, will then be in the Town-Council, and that body will possess also a power very much needed, of calling upon the owners of cottage property to provide the requisite accommodations; or, in the event of their refusal, of directing the execution of the works, charging the cost, distributed over thirty years, upon the property thus benefited.

53. WATER-SUPPLY.—There are two eligible sources of water, which, combined, would yield a sufficient supply of water to the town of Bodmin by natural pressure. These are upon the Cooksland and the Beacon hills, one on each side of and close above the town.

54. The Cooksland or Wellspring issues from a field reported to be 88 feet above the lunatic asylum, and commanding the roof of every building in the town. It is stated that during a part of the summer this spring is in some seasons very low. Its ordinary yield appears to be about 40,000 gallons in twenty-four hours, excepting during two or three dry summer months, when it is less; but during rain—seldom long absent from Bodmin—it is very much greater. Also, this spring admits of being materially reinforced by combining with it the surface-drainage of a large extent of high ground behind it. This spring is 6°·4 of hardness: the ground near its issue is tolerably well suited for the formation of a moderate reservoir.

55. The springs on the Beacon hill are far less considerable, but the furrowed condition of the surface of the hill corroborates



rates the evidence of the rain-gauge as to the quantity of rain which falls on this high and extensive down, and which appears to be thrown off at once from the surface; the supply from hence, if husbanded, would amply supply any deficiencies, should such occur, in the Cooksland source; the elevation is quite sufficient.

56. The population of Bodmin town may be stated, in round numbers, at 4000. There are no manufactories or persons likely to be great consumers of the water, so that 15 gallons a head daily will probably prove a sufficient allowance. This amounts to 60,000 gallons daily, to ensure which it would be prudent to be prepared to contemplate two reservoirs: one just below the source of the Cooksland spring, containing a forty days' supply, or about a million and a half of gallons; the other, upon the Beacon hill-side, to be formed only if required, and of such capacity as circumstances may then indicate. In the event of these two reservoirs being constructed, they should be connected by a common main, whence the town supply would be drawn by means of pipes in the usual way.

57. Those who consider on the spot the practicability of the measures recommended, should bear in mind that I have been provided neither with surveys nor sections, nor with the means of making them, and that I only lay claim to such general correctness as is necessary in a preliminary Report. I recommend the general outline of measures for water-supply and main sewerage. Detailed estimates can only be made upon careful surveys and sections, which, upon the application of the Act, should at once be set on foot.

58. SEWERAGE.—The disposition and levels of the ground decide, within narrow limits, the general plan of the sewers of the town. It is desirable that the brook should be employed only for the removal of surface-waters. On each side of it should be laid a main sewer, into which should be led the subordinate street sewers, which, formed of stoneware tubes, should be laid, where practicable, at the backs of the houses. As most of the streets are short and steep, much of the surface-water of the streets might be allowed to flow down the open gutters to the brook; the main sewers could, if necessary, be united below the town, and made to terminate in a manure tank, the waste of which should fall into the brook below the gaol pool.

59. HOUSE IMPROVEMENTS.—Under this term are included laying on of water, the drainings of the yard, the conversion of the privy into a water-closet, supplying it with water and a proper drain, filling up the cesspool, and erecting a dustbin. In Bodmin the principal part of the cost, that of building the



privy, will in many cases be saved, and many of the additions may be made cheaply, owing to the low price of materials.

60. SEWAGE DISTRIBUTION.—The fall of the valley below the proposed outlet of the main sewer is rapid, and therefore admits of the distribution of the sewage over the fields as manure by natural pressure. I may here notice an elaborate calculation on this subject, recently published by Mr. E. O. Tregelles, when employed upon the survey of Liskeard; from which also it appears that the experience of the not very far distant town of Ashburton may be cited as a proof of the profitable account to which this manure may be turned. Certainly the mechanical circumstances attending its employment are, in the present case, extremely favourable.

61. CHARGES.—The absence of the levels upon which alone a detailed estimate could be formed has already been pointed out. I have, however, framed an estimate upon such general data as were to be procured. The remedies of water-supply, sewerage, and house improvements proposed to be applied will be paid for by three distinct rates. Of these the water-rate will be chargeable upon those houses only which are supplied with water. The sewer or general district rate is a general rate, and chargeable upon all houses and lands within the area, but upon the latter in the proportion of one-fourth only of the former. The charge upon each average house would be rather under 2*d.* per week, which will cover the whole expense of water-supply and sewerage.

62. The private improvement rate is a *private rate*, paid only by those owners of house property whose tenements need the remedies already pointed out, and only in the proportion in which they may be supplied to each; this will amount to an average charge of about 1*d.* weekly on each house. A large part of the expenses of the requisite works would be incurred in manual labour, quite within the power of the ordinary labourers of the district.

63. OBSERVATIONS.—I may here express a hope that the statements contained in this Report, both of the actual condition of the cottage property in Bodmin, and the cost at which efficient remedies may be applied, will, in some degree, remove the opposition which, since the subsidence of the apprehension of cholera, the Public Health Act has there encountered. I believe that several of those who accompanied me through the town became aware of many points in its condition of which they were before ignorant; and I think that no one who witnessed the whole will gainsay the general correctness of my description. Should your Board direct



the application of the Public Health Act to Bodmin, it will become the duty of the local government to exercise the powers placed in their hands. It will be their business not merely to take charge of the roads and streets, the public sewerage, and the water-supply of the town, but to exercise the more difficult, but far more important, duty of compelling the owners of cottage property to provide proper house accommodation for their tenants, and to remove those causes of discomfort and disease which, on such property, are almost everywhere to be found. It is true that, even were all nuisances removed, and the abodes of the poor everywhere rendered dry, airy, and wholesome, and habits of cleanliness adopted, many circumstances would still remain inseparable from poverty tending to produce or aggravate disease; but this is only an additional reason why the people of Bodmin should insist upon affording to their poor such assistance as is in their power; and they may rest assured that it is to these practical measures, economically but firmly carried out, that they should look to support the credit and prosperity of their town, and to reduce the poor-rates of which they complain.

64. SUMMARY.—It appears—

1. That the mortality of Bodmin town has not been recorded, but that of the borough, when its three establishments of gaol, asylum, and union-house are deducted, is probably under 14 in the 1000 annually.
2. That the town is without sewerage or house-drainage; that the back premises generally are in a damp and dirty state, containing many offensive cesspools; and that, although a part of the town is tolerably well supplied with pumps, there is no water-supply such as would extinguish fire or keep in operation a proper system of house-drainage.
3. That a constant and copious water-supply by natural pressure, and a complete street sewerage, may be given for a weekly charge upon each average house of rather less than 2*d.*, or 8*s.* 8*d.* per annum; and that the service-pipes may be carried into, and the drains out of, each house, and other house improvements effected, for about another penny.
4. That no revenue is at present derived from the sale of sewage; but that under the proposed system the facilities for the economical employment of this manure upon the lands below the town, by natural pressure, will be very considerable.

65. RECOMMENDATIONS.—I have, therefore, to recommend the application of the Public Health Act, with the exception



of clauses 50 and 96, to the area laid down on the accompanying map, being a part of, and wholly contained within, the petitioning municipal borough of Bodmin.

I have the honour to be,

My Lords and Gentlemen,

Your obedient servant,

GEO. T. CLARK.

*The General Board of Health,*

&c.      &c.      &c.