

THE MUNICIPAL WORLD.

properly grading up the boulevards and filling in any portion of the roadbed which is beneath the grade line on the proposed improvement, and the surplus earth is to be teamed from one point of the street to another as may be required in making the said boulevards, where there is not sufficient earth, or in raising the elevation of lots adjacent to the street. All earth in excess of that required on the street, stones, posts, stumps, other obstacles or rubbish shall remain the property of the town, to be removed by the contractor to such point or points as the engineer may direct; if not hauled for a distance exceeding one-half mile from the street, such removal to be without extra charge.

LEVELS, STAKES AND BENCH MARKS.

4. The curbing, grading, draining, macadamizing and all work connected herewith shall be completed to the lines and levels given by the engineer. No stakes or bench-marks placed for this purpose by the engineer shall be moved or effaced by the contractor without the permission of the engineer so to do.

TILE DRAINAGE.

5. The contractor is to furnish the tile and construct a four-inch filled tile drain along the inside or roadside of the curb line on each side of the street, as shown upon the plan on file at the office of the clerk of the town of—. The tile are to be placed in an eight-inch trench, the bottom of the trench to be at least eighteen inches below the subgrade of the roadway; and the tile shall be uniformly and evenly laid with a fall of not less than three inches in one hundred feet to a proper outlet. Where it is found necessary by the engineer in reaching a suitable outlet, to carry the line of tile beyond the street allowance, the contractor shall receive the sum of sixty cents for each rod so laid beyond the limits of the street allowance. Tile drains for carrying surface and other water through or under the street or roadway shall be laid as indicated upon the aforesaid plans and profile. All tile used shall be of the best quality of clay, manufactured expressly for drain purposes, in lengths not less than one foot, and of uniform diameter throughout. All earth excavated in the laying of these drains shall be returned to the trench, being thoroughly rammed and pounded in layers not exceeding one foot in thickness, and rendered perfectly firm and solid, to the satisfaction of the engineer. When sewer pipe is required in place of common tile, such pipe shall be furnished to the contractor by the engineer, and shall be laid in all respects to the satisfaction of the engineer.

CONCRETE CURBS.

6. The contractor is to construct upon each side of the roadway throughout the whole length of the street a concrete curb as shown upon the plans and profiles hereinbefore mentioned, such curb to be perfectly true to the line and levels given

by the engineer. At each street, lane, alley, private way, etc., the curbing shall, unless otherwise directed, be returned to the sidewalk, the returns to be placed at an angle of thirty degrees with the line of the curbing. The earth at the back of the curbing is to be thoroughly rammed so as to ensure stability of the curbing. The material and workmanship used must be in conformity with the specifications and plans for curbing hereto attached, to the satisfaction of the engineer, or other person in charge of the work.

BOULEVARDS TO BE LEVELLED AND TREES PRESERVED.

7. The boulevard between the curb line and the sidewalk is to be regularly levelled off from the grade line at the top of the sidewalk to the top of the curb. The boulevard between the sidewalk and the street limit is to be regularly and evenly graded by cutting down or filling in, as may be required, so as to conform to the grade of the sidewalk, except where otherwise directed by the engineer, in order to conform to the elevation of the lawns along the said street. The boulevards are to be left smooth by raking or otherwise levelling to the satisfaction of the engineer or other person in charge of the work. The contractor, in doing the work, must excavate or fill in around trees on the said street in a careful manner so as not to bark or injure the said trees.

WATER GULLIES, MANHOLES, STANDPIPES.

8. Returns and off-sets, if necessary, must be made in the line of the curb around any of the water gullies on the street. The levelling of the top of the sewer gullies, manholes, etc., and the building up or lowering of all waterworks standpipes in such manner as the engineer may direct, to suit the grade and crown of the roadbed, will be done by the contractor.

LANE AND STREET INTERSECTIONS.

9. All intersections of private lanes are to be properly made and graded in the boulevard by the contractor at a gradual slope from the line of the street allowance to the bottom of the gutter, and all street intersections are to be graded to conform to the finished grade of the street.

BROKEN STONE SURFACE AND QUALITY OF STONE.

10. The surface of the roadway over the said roads is to be covered with crushed stone to the depth of — inches in the centre, and — inches at the curb, to be regularly and perfectly spread over the whole of the road bed to a depth to conform to the cross section shown on the drawings, and proportionate to that specified for the centre and curb. The crushed stone is to be furnished by the contractor and shall be durable limestone, granite or field stone, of such quality and broken to such dimensions as may be approved by the engineer, and authorized by the council of the town of —, and shall be equal to the sample

to be seen at the office of the clerk of the town of—. All stone used must be free from clay, loam, or earthy material. Quarry strippings will not be accepted.

PLACING STONE ON THE ROADWAY.

11. The broken stone is to be placed on the roadway in the following manner:

(a) Crushed stone of a size to pass through a three-inch ring is to be placed over the whole of the surface of the subgrade to a depth after consolidation of — inches at the centre and — inches at the curb. Upon this shall be spread a one inch coating of fine screenings, to be worked into the interstices of the stone, and the layer shall then be harrowed, saturated with water and thoroughly rolled.

(b) Upon this shall be spread a layer of crushed stone such as will pass through an inch and one-half ring to a depth of — inches at the centre, and — inches at the curb, after consolidation, this to be coated with a one-inch coating of screenings, harrowed, saturated with water, and thoroughly rolled.

(c) Upon this shall be spread a sufficient quantity of crushed stone such as will pass through a one-inch ring, to bring the roadway to the line of the finished grade, this to be coated with a one inch layer of screenings, harrowed, thoroughly saturated and rolled.

SCREENINGS TO FILL VOIDS.

12. Special care must be taken to work each coating of fine screenings down into the interstices or voids in the mass of stone beneath, by thoroughly saturating and flooding with water, and by passing a harrow over the surface of the whole mass and rolling until the engineer is satisfied that the interstices are sufficiently filled.

MANNER OF ROLLING AND WETTING ROADWAY.

13. Rolling shall be commenced at the edges or curb of the road, working towards the centre, and shall be continued until the earth sub-grade and each layer is firmly set, to the satisfaction of the engineer, and ceases to further consolidate under the weight of the roller. The final rolling must be continued until the roadbed is perfectly consolidated and unyielding, to the satisfaction of the engineer. During the whole of the rolling herein specified, a sprinkling cart is to pass immediately in front of the roller so that at all times the surface of the road will be saturated with water. The water is to be obtained from the street hydrants for which a charge of one cent per lineal foot must be paid by the contractor to the water commissioners.

STEAM ROLLER PROVIDED.

14. A steam road roller will be provided by the town of —, together with a man to operate it, also oil and waste, for which the contractor will pay the said town of — the sum of ten dollars for each and every day the roller is in use, the contractor to supply the necessary fuel, water, or other material necessary for its proper operation.