1 On site and offsite highways works including S278 works

1.1 Onsite works

On site a strategy has been devised which incorporates vehicular access by school staff, school coaches, maintenance and fire tenders (to the necessary extent of the building perimeter). The site will be lightly trafficked, particularly at the beginning and end of every school day. At these times a traffic management system will be in place to ensure the safe arrive and departure of pupils and staff.

Swept path (tracking) analysis has been completed on the proposed site access and bus drop-off location point. The site access will be explained in further detail in the offsite works section. Onsite the analysis confirmed that with a few minor alterations to the horizontal alignment, that all vehicles requiring access to the site can safety negotiate the site roads.

1.2 Offsite works

Swept path (tracking) analysis has been completed on the proposed site access. The analysis confirmed that a new junction will be required to cater for school buses to access the site safety.

The existing site access off Carlton Road to the West of the site is to be widened to accommodate the proposed site layout. The new highway junction will be repositioned by approximately 3m to the South to provide better visibility along Cartlon Road. To accommodate the new junction the existing bus stop will also require relocating and the existing school exit will require will be removed. This will be provided by moving the bus stop approximately 3m to the South and by providing a new pedestrian school access in the position of the former exit junction.

The new junction will be subject to an agreement under Section 278 of the Highways Act 1980, known as a Section 278 Agreement. Barnsley Metropolitan Borough Council will be responsible for approving the proposed highway engineering details and will ultimately adopt and maintain the section 278 works after satisfactory completion.

1.3 General Pavement

Preliminary site investigations indicate that an existing ground ' California Bearing Ratio' (CBR) value of 5% should be adopted as a basis for the design of the road pavements and build-up construction thicknesses.

In areas where proposed levels are >300mm above existing ground levels, a lightweight fill material is required beneath the construction thicknesses given below. This is required to reduce the risk of settlement, as a result of loading on the weak sub-strata.

Where the total paving construction thickness is less than 450mm the contractor is to determine the frost susceptibility of the sub grade/formation. If the sub grade/formation is found to be frost susceptible then it is to be replaced with a non frost susceptible material (e.g. Type 1 sub base material) to a minimum depth of 450mm below proposed ground level.

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1.3.1 Slab Pavement – Pedestrians Only

The surface course shall consist of minimum 80mm paving slab to Landscape Architect's specification.

The binder course shall consist of 30mm Mortar laying course – Max. 30N/mm² compressive strength.

The sub-base shall consist of 150mm compacted thickness of 40mm nominal size Type 1 crushed stone material. Material to be evenly spread and thoroughly compacted with a smooth-wheeled roller of 2.0 - 3.0 tonne mass or a vibratory roller of equivalent rating.

1.3.2 Slab Pavement – Vehicular Access

The surface course shall consist of minimum 80mm paving slab to Landscape Architect's specification.

The binder course shall consist of 30mm Mortar laying course – Max. 30N/mm² compressive strength.

The roadbase shall consist of 70mm compacted thickness of 20mm nominal size dense macadam base course, DBM 125, to BS4987: Part 1, Clause 6.5

The sub-base shall consist of 225mm compacted thickness of 40mm nominal size Type 1 crushed stone material. Material to be evenly spread and thoroughly compacted with a smooth-wheeled roller of 2.0 - 3.0 tonne mass or a vibratory roller of equivalent rating.

1.3.3 Standard Pavement – Pedestrians Only

The surface course shall consist of 25mm compacted thickness of 6mm nominal size dense macadam base course, to BS4987: Part 1, Clause 7.5.

The binder course shall consist of 55mm compacted thickness of 20mm nominal size dense macadam base course, DBM 190, to BS4987: Part 1, Clause 6.5

The sub-base shall consist of 150mm compacted thickness of 40mm nominal size Type 1 crushed stone material. Material to be evenly spread and thoroughly compacted with a smooth-wheeled roller of 2.0 - 3.0 tonne mass or a vibratory roller of equivalent rating.

1.3.4 Standard Macadam Pavement – Vehicular Access

The surface course shall consist of 30mm compacted thickness of 6mm nominal size dense macadam base course, to BS4987: Part 1, Clause 7.5.

The binder course shall consist of 50mm compacted thickness of 20mm nominal size dense macadam base course, DBM 125, to BS4987: Part 1, Clause 6.5

The roadbase shall consist of 100mm compacted thickness of 32mm nominal size dense macadam base course, DBM 125, to BS4987: Part 1, Clause 6.5

The sub-base shall consist of 225mm compacted thickness of 40mm nominal size Type 1 crushed stone material. Material to be evenly spread and thoroughly compacted with a smooth-wheeled roller of 2.0 - 3.0 tonne mass or a vibratory roller of equivalent rating.

1.3.5 Grit stone Pavement – Pedestrians Only

The surface course shall consist of 50mm compacted thickness of a suitable grit stone to Landscape Architect's specification.

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The sub-base shall consist of 150mm compacted thickness of 40mm nominal size Type 1 crushed stone material. Material to be evenly spread and thoroughly compacted with a smooth-wheeled roller of 2.0 - 3.0 tonne mass or a vibratory roller of equivalent rating.

1.3.6 Decking Build up – Pedestrians Only

The surface course shall consist of timber decking to Landscape Architect's specification.

Supporting the decking will be 170mm thick PAV2 designated concrete encompassing 1 layer of A393 mesh with 70mm cover to top face. Concrete shall be constructed on 1200 gauge polypropylene sheeting.

The sub-base shall consist of 225mm compacted thickness of 40mm nominal size Type 1 crushed stone material. Material to be evenly spread and thoroughly compacted with a smooth-wheeled roller of 2.0 - 3.0 tonne mass or a vibratory roller of equivalent rating.

1.3.7 Reinforced Grass – Vehicular Access

The topping shall consist of 15mm Netlon R400 or similar approved topping.

A 200mm sand/soil/element bend (Netlon ATS400 or similar approved) will support the topping.

The sub-base shall consist of 300mm compacted thickness of 40mm nominal size Type 1 crushed stone material. Material to be evenly spread and thoroughly compacted with a smooth-wheeled roller of 2.0 - 3.0 tonne mass or a vibratory roller of equivalent rating.

1.4 British Standards and Deign Guides used to support these notes

- Highway Act 1980 (Section 278)
- DMRB – Design Manual For Roads and Bridges
- Manual for Streets

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