

**GENERAL SPECIFICATION FOR
CIVIL ENGINEERING WORKS
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1.0 INTRODUCTION

- 1.1 This specification has been prepared to cover the general civil engineering works and is to be read in conjunction with Shear Design's drawings.
- 1.2 This specification must also be read in conjunction with the relevant British Standards/European Codes of Practice, Part H of the Current Building Regulations, The Specification for Highway Works and the Design Manual for Roads and Bridges.
- 1.3 Where specialist manufacturers and their systems are noted on the drawings the Contractor must refer to the relevant specification and installation guides and gain the necessary technical advice and inspections defined by said product. The Contractor must proceed in a manner that allows the manufacturer to provide the Client with the benefit of the product or system warranty.
- 1.4 Any element of the design that is affected by the Contractor's chosen phasing for construction must be notified to Shear Design to ensure that it will not be averse to the design or compromise the specified materials.
- 1.5 Any change to specified materials/components shown on Shear Design's drawings are to be approved by Shear Design in advance. Such proposals should also have written confirmation from the supplier that the alternative meets the same standard as the previously specified product.
- 1.6 The Contractor is responsible for assessing the temporary works required to achieve the finished article. The Contractor must also consider the phasing of their works and its effects on temporary works. All temporary works are the design responsibility of the Contractor.
- 1.7 The Contractor is responsible for the waterproofing of all penetrations through the structure, especially in basements and must obtain a specialist waterproofing Contractor's post installation warranty.
- 1.7 This specification covers the following General Civil Engineering Work for:
 - Drainage
 - Public Highway Works
 - External Works

2.0 Public Highway Works

- 2.1 All Public Highway construction should be constructed in full accordance with the local authority specifications and the specification for Highway Works, Design Manual for Roads and Bridges, British and European Standards.
- 2.2 All works in a Public Highway must be carried out by a licensed and Local Authority approved contractor. No works are to commence until all necessary notices have been served and the Local Authority has approved the traffic management scheme. This may also apply to scaffolding on public footpaths.
- 2.4 The Contractor shall be responsible for placing the orders for all necessary service diversions and new connections. These designs may be subject to fees from the statutory undertakers. The Contractor will need to verify the lead in times for each utility and advise the client of any likely adverse effects in relation to procurement timescales for both diversions and/or new supplies.
- 2.5 The interface between existing and proposed surfacing works must be 'feathered' in as per Local Authorities standard details and specifications.
- 2.6 All signage and road markings are to be in accordance with the Department of Transport specifications and regulations. These must be installed by a Local Authority approved contractor. Where old road markings are to be replaced by new, they must be fully removed - 'burnt off', not just painted over.
- 2.7 The contractor is responsible for managing site works so that to prevent arisings being deposited onto the highway.

3.0 EXTERNAL WORKS

- 3.1 All external works are to be constructed in accordance with material specifications and tolerances defined in Specification for Highway Works and relevant British/European Standards and Approved Codes of Practice.
- 3.2 The minimum construction depth for all vehicular trafficked areas is to be 450mm subject to the frost susceptibility of the strata. This construction depth is also subject to CBR values. Should there be no CBR test(s) provided within the geotechnical report, the contractor will be required to provide and report insitu CBR tests at formation prior to start.
- 3.3 CBR tests will define the provision of any capping layer and its necessary depth. These depths are as defined on Shear Design's drawings and are a minimum. Use of specialist geotextile/geogrid reinforcement can be used to reduce the capping material depths but this must be at the direction of the specialist manufacturers' design and specification.
- 3.4 Should a specialist geotextile/geogrid be used it must be installed as per the manufacturer's standards including all necessary laps etc. Where subsequent excavations penetrate the geotextile/geogrid for trenching etc. the Contractor must ensure that the geotextile/geogrid is clearly cut and replaced including laps to either side of the cuts.
- 3.5 The Contractor must refer to all relevant Mechanical and Electrical drawings for locations of all service routes and entry points to buildings plus any external mains for watering points/external lighting etc.

- 3.6** The Contractor must peg out the legal boundary defined on the Architect's setting out drawing and advise accordingly of any possible issues with encroachment by third parties. The Contractor must also review the scheme proposals in relation to kerbing, fencing, barriers, lighting etc. that may encroach on third party land.
- 3.7** Where noted on Shear Design's drawings the Contractor will provide additional survey levels to boundaries to allow correct tie in of design levels. These levels are to be provided prior to start on site of the main works.
- 3.8** The Contractor must review all Ecological reports prior to start of any vegetative strip on site to assess any potential time constraints to their start on site. Should an area of dense vegetation be stripped then additional levels are to be provided by the Contractor to Shear Design.
- 3.9** Prior to start on site, the Contractor must review all services data and clearly define the routes of any known services crossing the site. These services are to be located by use of CAT and hand dug trial pits, and then surveyed for location, diameter and depth. These works must be co-ordinated with the relevant undertaker and be to their approvals. The findings of the survey are to be issued to Shear Design prior to start on site. Where loading restrictions are defined by the statutory undertaker, they are to remain pegged out during the works.
- 3.10** The Contractor shall be responsible for placing the orders for all necessary service diversions and new connections. These designs may be subject to fees from the statutory undertakers. The Contractor will need to verify the lead in times for each utility and advise the client of any likely adverse effects in relation to procurement timescales for both diversions and/or new supplies.
- 3.11** The Contractor will be responsible for completing all excavations, back filling and reinstatement to all service routes plus provision of all specialist bases for meters/governors/sub stations etc. in accordance with the utilities' standards, specifications and inspections.
- 3.12** The Contractor shall provide the surfacing to the levels defined on Shear Design's drawings and in accordance with tolerances defined in the Specification for Highway Works.
- 3.13** The maximum step to the face of the road kerb type HB2 is 150mm down to a minimum of 100mm. Where falls along the channel in front of the kerb face are less than 1 in 80, the Contractor shall provide kerb channels between gullies. Where the gradients are less than 1 in 125 an alternative method of drainage should be used such as a proprietary drainage channel or kerb system.
- 3.14** Use of dropped kerbs at pedestrian crossing points shall not have an upstand greater than 6mm.
- 3.15** All transitions between different kerb types must be done using proprietary kerb transitions where possible.
- 3.16** All barrier systems are to be installed in accordance with the specialist manufacturer's design.
- 3.17** Contractor is responsible for planning, sequencing of all works to ensure stability of neighbouring boundaries and any partially removed/excavated areas of the existing site. The contractor shall provide their method statements and temporary works proposals prior to commencing on site.
- 3.18** The contractor shall be responsible for managing all rainwater drainage within the works and ensuring that there is no pollution/contamination into the sewers or watercourse.

3.19 The contractor is responsible for storing and removing all arisings carefully for disposal off site and/or for reuse.