CONCEPTUAL DRAWINGS
PREPARED FOR

PAVED ROAD DESIGN

CITY

PROVINCE

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CONSTRUCTION REQUIREMENTS FOR TENSAR SPECTRA ROADWAY IMPROVEMENT SYSTEM

2.0 PROJECT INTRODUCTION

1.1 The Spectra-Roadway Improvement System is a mechanically stabilized earth pavement structure. The drawings and associated data here are prepared by NILEX INC-TENSAR INTERNATIONAL CORPORATION (herein collectively referred to as TIC).

2.0 MATERIALS

2.1 FILLING MATERIALS

2.1.1 Granular materials and composted soils shall be free of excess moisture, rocks, block, glass, shingles, plastics, organic mat and other deleterious materials. Snow falling which does not meet these criteria shall be considered waste and shall be removed.

2.1.2 Granular materials and composted soil shall meet the requirements of the project specifications.

2.1.3 At least 8% by mass of material retained on the 8 mm sieve must have 2% or more fractured faces material. To be approved prior to construction.

2.1.4 Granular materials may be laid under winter conditions subject to approval prior to construction.

2.2 SOIL REINFORCEMENT

Geosynthetic reinforcement shall be Tensar T-H1 geogrid manufactured by the TENSAR CORPORATION, Morrow, Georgia, USA.

2.3 DESIGN RESPONSIBILITY

TIC reserves the right to change the Spectra-Roadway Improvement System to meet applicable standards for similar construction applications. Design methods employed by TIC are proprietary. Relevant parameters to the TIC design were provided by others and are listed in Section 4.3. TIC has expressed no right to claim the design methods employed by others.

3.0 FOUNDATION

3.1 Bases shall be placed in accordance with the project specifications and shall be stable and uniform in thickness.

3.2 Subgrades

3.2.1 TIC reports its physical and strength requirements of the basefill. The geotechnical engineer of record for the project should be consulted for any unknown characteristics of the subgrade. Basefill testing methods and frequency are to be performed by the geotechnical engineer.

4.0 DESIGN PARAMETERS

4.1 Design of the Spectra-Roadway Improvement System is based on proprietary methods. The following parameters control the design:

4.2 Subgrade Unconfined Shear Strength

4.3 Geosynthetic properties are reported in the material property data sheets.

4.4 Loadings

4.4.1 Loadclassification

4.5 Hydrostatic Parameters

4.6 Grout/monomer assumed to be at surface.

5.0 CONSTRUCTION

5.1 A complete set of approved construction drawings and contract specifications shall be on file at all times during construction. The Spectra-Roadway Improvement System is an integrated work package. TIC reserves the right to incorporate any changes to the sketches and drawings provided in the Spectra installation guide provided by TIC.

5.2 Foundation preparation

Recommendations for foundation preparation and testing should be provided by the project geotechnical engineer of record.

5.3 Geosynthetic placement

5.3.1 The client or contractor is responsible to provide survey controls and determine the extents of the Spectra-Roadway Improvement System. Geosynthetic shall be employed in a minimum of 2 courses.

5.3.2 Geosynthetics shall be installed at the locations shown on the designer’s detail. Changes to Geosynthetic layout are not permissible without the express written consent of TIC.

5.3.3 Upper geosynthetic reinforcement shall be overlapped a minimum of 50 mm on all sides and at the ends of each layer. Geosynthetic shall be overlapped as shown in the sketches and drawings provided in the Spectra installation guide provided by TIC.

5.3.4 Tracked construction equipment shall not be operated directly on the geosynthetic reinforcement. A minimum overlap, thickeness of 150 mm is required for operation on the geosynthetic reinforcement. Tracked vehicles that exceed the recommended overlap shall be deflated to 8 psi or less and operation is permitted. Worst case scenario is that the geosynthetic reinforcement, rubber tires vehicles may pass over the geosynthetic reinforcement at speeds less than 15 mph, sudden braking and sharp turns shall be observed.

5.4 Backfill placement

5.4.1 Granular backfill shall be placed in horizontal lifts not exceeding 25 cm in thickness. The first 25 cm of common fill over backfill shall be 80% placed within one day.

5.4.2 Granular backfill shall be placed and compacted to a minimum of 95% of maximum theoretical dry density as determined in accordance with AASHTO T-99 as directed by the geotechnical engineer.

6.0 SPECIAL PROVISIONS

6.1 The design presented herein is only valid for the Spectra-Roadway Improvement System. The design in backfill parameters, foundation conditions, grout/monomer conditions and loadings, TIC assumes no liability for interpretation or verification of subsurface conditions for suitability of role design parameters. The geotechnical engineer of record for the project should consult with engineers and geotechnical conditions and parameters. The actual project conditions may differ from those assumed herein. Any alleged damages caused by failure to observe the specifications and conditions are the responsibility of the owner or contractor.

6.2 The client is responsible for providing quality assurance and quality control programs that ensure construction of the site conditions are within the requirements and the contract plans and specifications.

6.3 The client shall immediately report any changes to TIC at 403-305-3434.

6.4 TIC is not responsible for providing a written contract signed by TIC. Any exceptions to this contract shall be written in good faith.

7.0 REFERENCÉ DOCUMENTS

7.1 The construction drawings prepared by TIC are based upon the periodic communications with the client.