

STARTRACK[®]

Installation Guide



Oldcastle Infrastructure[™]
A CRH COMPANY

SCOPE AND PROCEDURE

Installation instructions provide general information useful for installation of StarTrack® products. This guide cannot anticipate all situations that could develop in the field. Rather, it presents information applicable to common installation conditions.

1.0 PRELIMINARY SUBSURFACE INVESTIGATION (OPTIONAL)

Prior to removal of ties and ballast, soil samples shall be taken by a recognized soil testing laboratory and through laboratory analysis, sufficient data is collected to evaluate the depth of excavation and thickness of base required.

2.0 SUBGRADE PREPARATION

2.0.1 When replacing an existing crossing structure, rails, ties, asphalt, ballast, and sub ballast will be removed from an area comprising the length of the crossing plus 15' minimum on each end and 10' wide minimum (13' wide for HD) to a minimum depth of 12" below precast modules, or as determined above. If any areas of pumping or other indications of instability are encountered, they shall be undercut as required and backfilled with compacted base course material.

2.0.2 The resulting subgrade shall be scarified and compacted to 95% of its peak dry density. Drainage tile shall then be installed in a trench area, surrounded by open graded stone or filter fabric.

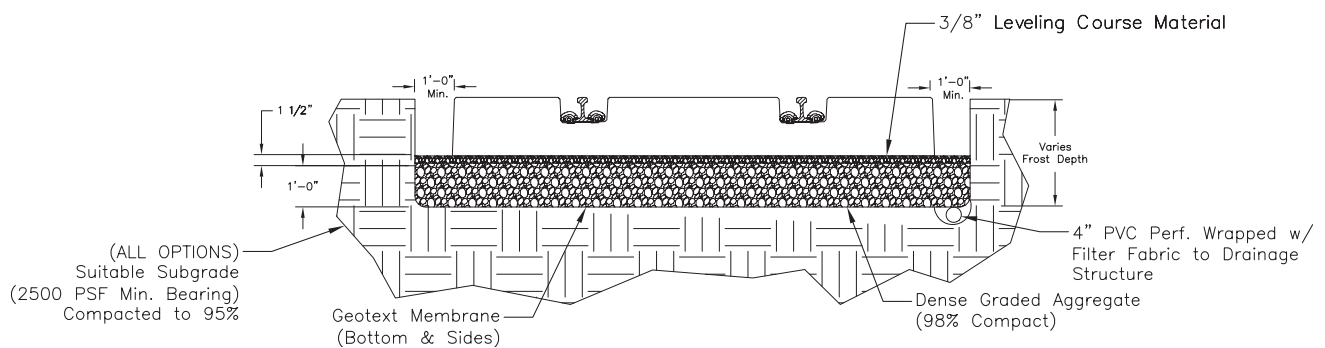
2.0.3 The entire excavated area and sides shall be lined with an approved fabric equal in performance characteristics to "TYPAR" style 3401.

2.0.4 The base course material shall be applied in 4" lifts compacted to 98% of peak dry density if using dense graded aggregate. The leveling course shall be installed at a maximum of 1.5" thickness, a minimum of 1" thickness and shall consist of 3/8" crushed stone or 3/8" minus aggregate. This leveling course shall be carefully screeded to the grade shown on the plans using a straight edge and screed boards or an appropriate machine. The leveling course shall remain uncompacted and shall stay within 1/4" +/- of the grade shown..

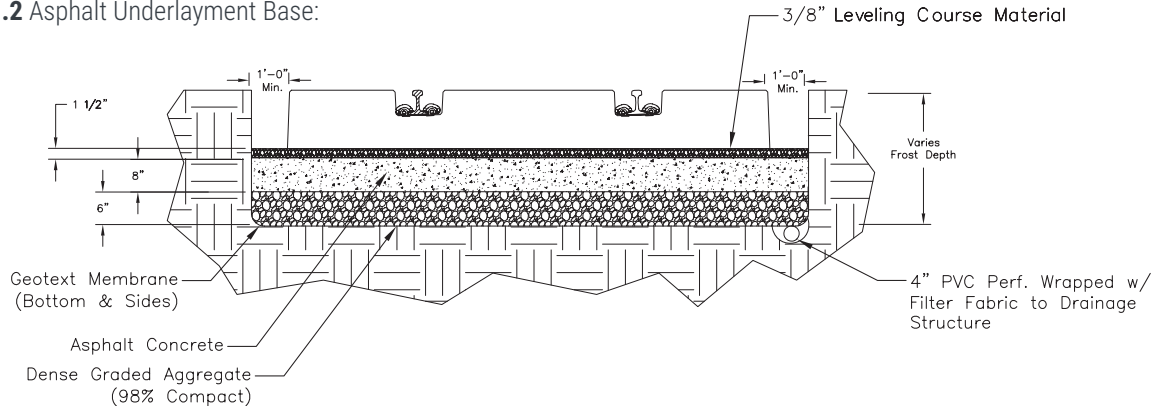
2.1 TYPICAL BASE OPTIONS

Typical base options for other subgrade preparations.

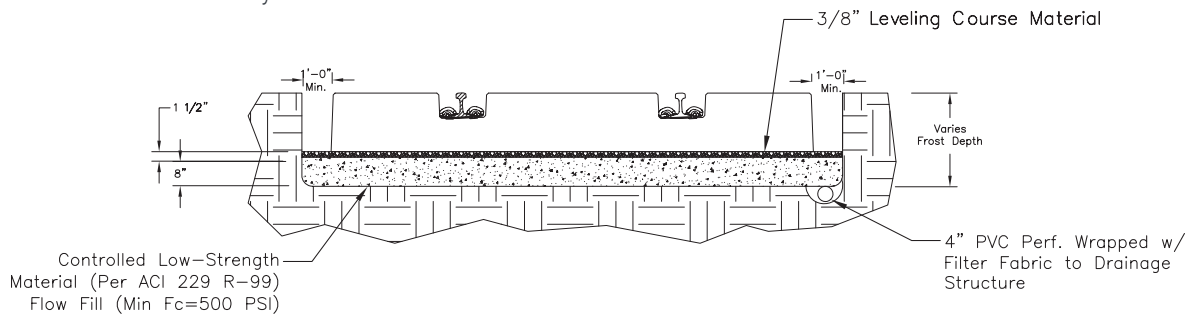
2.1.1 Aggregate Base:



2.1.2 Asphalt Underlayment Base:



2.1.3 Controlled Density Fill Base:



3.0 MODULE PLACEMENT

Using the 4 each lifting anchors embedded in each section, modules shall be set on the resulting base snug to one another and to within +/- 1/4" in alignment. Should any screeded surface irregularity become evident during placement of modules, the module shall be removed and the surface corrected. Conseal butyl rubber sealant shall be installed in joint below rail as shown on drawing details.

4.0 PLACING AND FASTENING OF RAIL

Polyethylene abrasion strips shall be placed in rail trough between Pandrol Shoulders. Rail shall then be pulled along StarTrack® modules on dunnage then set between Pandrol shoulders. After rail is centered between rail shoulders, nylon insulators and E-clip fasteners shall be installed with the Pandrol puller or other acceptable methods. Repeat this process throughout the crossing. Tie in rail to approach track by normal methods. If necessary, adjust final alignment by moving modules with rail jacks or backhoe.

5.0 PLACING OF RAIL GROOVE FILLER & JOINT T-STRIPS

Rubber rail groove filler sections shall be fastened together and placed on field and gauge side of rail per rubber layout drawing details. Polyurethane-based sealant and a caulk backer rod shall be applied in joints as shown on the drawing details.

6.0 APPROACHES & FINAL COMPLETION

Surface the adjacent track construction with new 10' switch ties in the transition area per railroads requirements. Install signal wiring in conduit if required. Clean all debris from excavation, compact and pave alongside, up to and flush with module per pavement design. Apply asphalt at ends of crossing to provide a 5' transition from tie surface to module surface (optional). Remove all construction debris from site and leave completed crossing in a clean and safe condition.



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