

CASE STUDY

ODOT 260095 - SR 510 MINOR RECONSTRUCTION

Clyde, Ohio



PROJECT OVERVIEW

LOCATION:

Clyde, Ohio

OWNER:

Ohio Department of
Transportation

PRODUCT / SOLUTIONS:

- Geocell
- Nonwoven Geotextile

OHIO DOT'S FIRST FULL-SCALE GEOCELL DEPLOYMENT FOR ROADWAY BASE REINFORCEMENT EXCEEDED EXPECTATIONS, HELPING THE CONTRACTOR FINISH DAY 1 APPROXIMATELY 40% AHEAD OF SCHEDULE WHILE ACHIEVING OVER 98% COMPACTION IN THE REINFORCED SECTION.

PROJECT OVERVIEW

The Ohio Department of Transportation completed its first full-scale geocell deployment for roadway base reinforcement, installing approximately 14 miles of geocell as part of a state test section project. While the application presented a strong opportunity to evaluate geocell as a large-scale base reinforcement solution, the contractor had limited experience with geosynthetics, including geocells, geogrids, and geotextiles. This created early concerns around installation methods, production speed, and the ability to meet daily construction targets. Ferguson GeoStorm supported the project from planning through installation, helping the contractor understand how the geocell system worked, how it should be deployed, and how installation sequencing could be optimized in the field.

WHAT CHALLENGE DID THE CONTRACTOR FACE, AND HOW DID FERGUSON GEOSTORM SUPPORT THE INSTALLATION?

Because this was the contractor's first time working with geocell and other geosynthetic materials, there was early hesitation around installation methods, production speed, and meeting daily project targets. Ferguson GeoStorm team members worked directly with the contractor before construction to explain how the geocell system functions, how it should be deployed, and what crews should expect in the field. Ferguson also remained on-site for two full days during installation, providing technical guidance and real-time support from initial deployment through aggregate placement and compaction.

WHY WERE CUSTOM-SIZED GEOCELL PANELS USED, AND HOW DID THEY IMPROVE FIELD EFFICIENCY?

Through upfront coordination with the contractor, Ferguson identified an opportunity to improve installation efficiency by using custom-sized geocell panels tailored to the project dimensions. Ferguson partnered with Industrial Fabrics to manufacture the custom panels, helping reduce material waste, minimize unnecessary labor, and support faster deployment in the field.

HOW WAS THE GEOCELL SYSTEM INSTALLED, AND HOW DOES IT REINFORCE THE ROADWAY BASE?

The system included an 8 oz nonwoven geotextile placed beneath the 4" depth geocell structure. Once deployed, aggregate was placed using a spreader box to help ensure proper distribution and infill. The geocell confines aggregate within each cell, helping reduce lateral movement, improve load distribution, and create a more stable reinforced base layer capable of supporting roadway construction and long-term performance.

WHAT WERE THE RESULTS OF APPLYING THE GEOCELL SYSTEM?

Despite early concerns about meeting production goals, the contractor finished the first day approximately 40% ahead of schedule. By the end of the first installation section, the crew was confident that production rates would continue improving as they became more familiar with the system.

Field performance also exceeded expectations. After aggregate placement and compaction, the reinforced section achieved over 98% compaction, surpassing the state's target requirements. The successful installation generated strong feedback from both the contractor and Ohio DOT, validating geocell as a viable large-scale roadway base reinforcement solution for future applications across the state.

WHY FERGUSON WATERWORKS?

Ferguson Waterworks helps contractors, engineers, and public agencies move from product selection to successful field installation with confidence. For this project, Ferguson GeoStorm provided more than material supply — the team delivered upfront education, custom panel coordination, installation guidance, and on-site technical support. By combining geosynthetic expertise, manufacturing partnerships, and field-level support, Ferguson helped reduce risk, improve installation efficiency, and support a successful first full-scale geocell deployment for Ohio DOT.