GEOSYSTEMS

GEOWEB®

FAST BUILT SAND ROADS

FREE
Project Evaluation

Building roads when the only available material is sand…..

Road construction in any desert or sandy soil area can be a formidable undertaking especially if the site is remote with no acceptable fill material. A method for confining the sand and making it stable, allowing repeated passes by heavy, loaded vehicles was successfully provided with the **GEOWEB® cellular confinement system.**

EARLY PERFORMANCE TESTING

Both the U.S. Army Corps of Engineers (USACE) and U.S. Desert Storm forces found a solution for building fast access roads across sand with the GEOWEB System. By utilizing the principle of soil confinement to enhance soil strength, **the GEOWEB System turns sand into a load supporting composite structure that can support heavy loaded vehicles under repeated load cycles.**

Building sand roads with the GEOWEB system was well proven through a U.S. military exercise known as **JLOTS II (Joint Logistics Over-The-Shore)** conducted by the USACE, Waterways Experiment Station. This military exercise constructed sand roads using the GEOWEB system and applied thousands of traffic cycles by 100 rubber tired military vehicles of various wheel loads.

A dozer leveled the sand to prepare the roadbase. Each 8' x 20' x 8" GEOWEB section was expanded and held in place with sand in perimeter cells, then adjoining sections connected.

A front-end loader filled the Geoweb cells with the desert sand and used the infilled sections as a platform to fill adjoining sections. Rubber tired construction equipment and trucks were used to compact the sand infill, keeping installation time to a minimum.

ALGERIAN SAHARA DESERT:

An American oil company wanted to access four drilling sites located 800 KM south of the Mediterranean Sea coast and 160 KM from the nearest village. Transporting both construction equipment and suitable building materials would be difficult and expensive. Asphalt roads were unacceptable because of the high costs associated with mobilization to these remote locations and local rates of installation. In the desert sand, rubber tired vehicles became bogged since the sand alone offered little support. Considering the task, the oil company decided to build a test road with the sand filled Geoweb system.

Testing Performance

After the GEOWEB system was installed and filled with the local sand using a front-end loader, the system was tested using 40 ton and 80 ton gross weight trucks. The first 4000 passes of traffic were applied by a 40 ton Haliburton truck. The road performed very well with sustained traffic speeds of 35 mph. This was excellent considering the conditions.

One-thousand additional traffic passes were made using 80 ton trucks. Total traffic count was 5,000 passes with no deterioration in the performance of the road. **Following the test, additional Geoweb sections were ordered to build a 15 KM road to access the first drilling site.**

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CANADIAN OIL SANDS REGION:

Sand Access Roads and Drilling Pads

Canadian oil producers employ the GEOWEB® system on their access roads and drilling pads to reduce expensive aggregate and operational maintenance requirements.

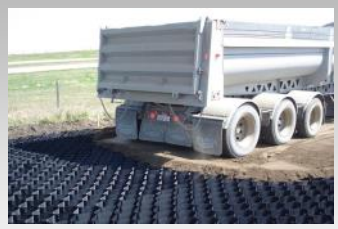
Overcoming Challenges

Design and construction challenges include supporting heavy loads exceeding 125,000 lbs. (15,000 lbs. wheel loads) over very soft subgrades of muskeg and saturated clay. The road solution needs to be constructible in sub-zero temperatures and hold up to heavy rig and truck traffic even during the spring thaw, which completely degrades what little strength these subgrades have.

Proven Performance

Numerous roadways and drilling pads have been built utilizing the Presto GEOWEB® system. All are performing to expectations and the GEOWEB® system reduces typical cross section from 5 ft. (1.5 m) to less than 12 in. (300 mm), saving the customers significant cost and conserving local resources by utilizing local sand for infill.

Building sand roads over extremely soft, saturated soils…..

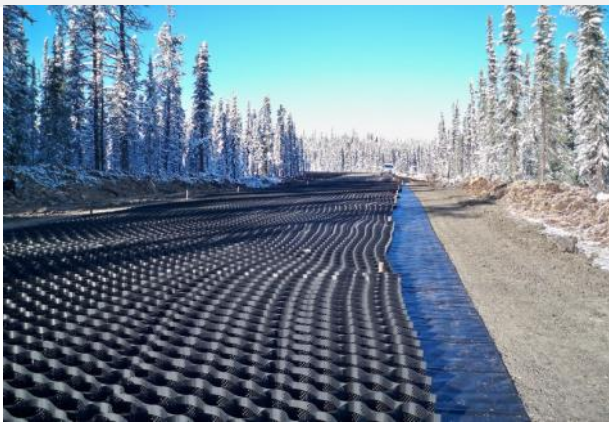


Sand infill in the GEOWEB cellular network remains confined and stable.

PERMAFROST REGIONS:

The GEOWEB system is weather-resistant and can be installed in virtually any weather condition, even when the ground is frozen or the rain is falling.

The GEOWEB solution is fast to deploy and install, helping to keep costs down even in the most difficult site conditions.



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