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## A Recap of Recent Undertaking

### Maccaferri HEA Panel

HEA panel is a special steel mesh made from weaving 8 - 10 mm galvanized or galfan steel cable into a net of 250 – 400 mm aperture with a proprietary unraveled interlock knob at every cable join. Standard panel of 3m x 6m can be shackled together and anchored to soil nails. It finds good applications to mask and secure loosen rocks on natural terrain, limiting the rock debris mobility. 🌴



*Rock stability at Sai Kung, GE/2015/07*

**Silt Curtain** - 24 spans (480 m) of fully prefabricated silt curtain at 7 m depth were installed at Kai Tak West reclamation, section of Central Kowloon Route. All spans and floats were pre-assembled and connected into a long span on barge. The entire length was lifted into the water, towed to position and shackled to the anchor before the curtain body was released into the water. Prefabricated unit is user-friendly. It took less than 2 days to put the silt curtains into operation. 🌴



*Silt Curtain trained to position, HY/2014/07*



**CCM Coir Geotextile** - Biodegradable erosion mat made from woven coir (coconut husk) is very common for slope protection, at the same time encouraging the takeoff of vegetation and eventually nursing the grass when it degrades. CCM700 mat, with weight of 740 gsm, was installed in early January 2019 and grass established well two months later. 🌴



*January 2019*



*March 2019*

*Road improvement at She Shan Road, Kam Tin, HY/2014/13*

### GSE HDPE Geomembrane

Contaminated soil found on site can be treated by aeration, before the soil can be reused or disposed. Geomembrane is an ideal liner for fabricating biopile which is basically a water and air tight pillow. 1.0 mm thick HDPE geomembrane can be tailored and welded into this confinement in which the soil is stored, interacted with nutrient and air circulated thoroughly by pipe and blower system with control of moisture and odor exhaust. Contamination can be tamed effectively over a short designed period. 🌴



*Biopile at King Lam Street*

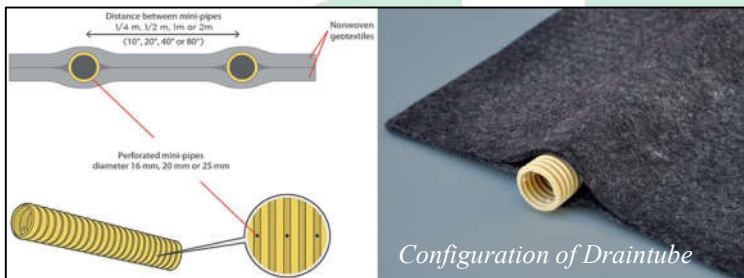
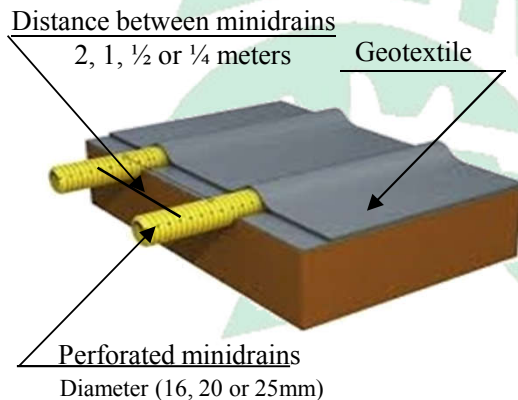


## New Product / Application

### Draintube

Draintube is a new geocomposite consists of two laminated layers of non-woven geotextile with perforated corrugated pipe in between. It combines both performance of geotextile filtration and protection characteristics with high drainage, transmissivity and hydrostatic pressure relief capacity. Various grade of geotextile, sizes of pipe and pipe spacing of up to 4 pipes per meter width are available to match discharge requirement.

Applications are to divert groundwater from wall and foundation, to collect bio-gas and to replace traditional granular drainage layer up to 900 mm. It comes in 3.98 m width x 75 m length roll, with connection accessory, very simple to deploy. Information available from [ivan@g-and-e.com](mailto:ivan@g-and-e.com).



## Technical Note

### Design Software

Local reinforced fill construction design follows GEO' Geoguide 6, based on which, we have developed an internal stability analysis spread sheet with the use of Tenax's geogrid (under GEO Endorsement Certification) as a default reinforcement. With 12 years of maturity, the calculation is simple to optimize the configuration of geogrid in the reinforced geometry. This gives a quick indication of preliminary design and construction budget as feasibility study. Get in touch with Gary for an introduction or a free copy at [info@g-and-e.com](mailto:info@g-and-e.com).

DESIGN OF REINFORCED FILL SLOPE

Slope name: \_\_\_\_\_ Name of the slope: \_\_\_\_\_

Height: \_\_\_\_\_m

Preferred Material: Layer 1 to Layer 12 Material TT 045 SAMP

Layer to Layer Material

Layer to Layer Material

Summary of Analysis

No. of layers	Depth (m)	Length (m)	Tensile Strength Required per		Tensile Strength Provided per		FOS for Rupture	FOS for Pullout	FOS for Wedge Stability (Not Applicable)
			Layer (kN/m)	Material	layer (kN/m)	Material			
1	0.5	30	2.02	TT 045 SAMP	13.04	13.04	6.76	62.83	
2	1	30	2.02	TT 045 SAMP	13.04	13.04	6.76	166.94	11.82
3	1.5	30	2.45	TT 045 SAMP	13.04	13.04	5.58	208.13	4.91
4	2	30	3.50	TT 045 SAMP	13.04	13.04	3.80	166.58	3.84
5	2.5	30	4.23	TT 045 SAMP	13.04	13.04	3.22	203.40	3.08
6	3	30	4.88	TT 045 SAMP	13.04	13.04	2.80	213.49	2.70
7	3.5	30	5.52	TT 045 SAMP	13.04	13.04	2.47	221.70	2.41
8	4	30	6.17	TT 045 SAMP	13.04	13.04	2.21	228.02	2.17
9	4.5	30	6.81	TT 045 SAMP	13.04	13.04	2.00	234.61	1.87
10	5	30	7.45	TT 045 SAMP	13.04	13.04	1.83	239.93	1.81
11	5.5	30	8.10	TT 045 SAMP	13.04	13.04	1.68	244.72	1.67
12	6	30	8.74	TT 045 SAMP	13.04	13.04	1.55	249.10	1.55

## Opinion Column

### Obsession with Project References

Project reference is often sought with material approval assessment. Such default request is common or has been assumed, regardless of any PS requirement or necessity. Precedent certainly provides the comfort, a mindset of the more a material has been used, the better it should be. However, the integrity of a material or application is often not justified by past histories, sometimes there may not be any relevance after all.

In this regard, new product will never see their debut, market becomes monopolized by only what has been accepted, open & fair competition will not take place and engineering advancement would just stagnate.

While no one may want to venture the unfamiliarity, an open mind and assessment mechanism has to be brought up to alleviate the fear, paranoia, liability and conflict of commercial interest. Gary wants to hear from you [gary@g-and-e.com](mailto:gary@g-and-e.com). 🌴



## For Your Information

### Consolidation of Solmax and GSE

Solmax acquired GSE in December 2017 and Solmax-GSE became the world's leading geomembrane manufacturer. Following a year of successful integration and from February 2019, GSE will be a company of Solmax, the label Solmax will be a single strong global entity. Solmax inherits half a century of experience from the early Schlegel in 1972, to Gundle, to the merge of Gundle & Schlegel into GSE. The management, production, quality control, technical support, specification and logistics are strengthened to another level. We will continue to deliver the best of the best. 🌴



### Geosynthetics 2019 Conference: Houston, USA, 10 – 13 February 2019

Geosynthetics conferences are held regularly to gather practitioners so that researches are shared, new products are brought forward, trade is conducted. Every four years, since 1977, there is one such event in USA, Europe, Asia, Middle East, Africa and South America. The latest GeoMEast 2018 at Cairo in November 2018 and Geosynthetics 2019 at Houston last month showcased some interesting ideas, geomembrane repair under water, biodegradable PVD, PVC sheet pile, simple in-situ testing equipment, geotextile incorporated with drain pipe, new leak detection technology, wind defender etc. Gary has more, [gary@g-and-e.com](mailto:gary@g-and-e.com). 🌴



### New Year | New Faces

We have new talents Ivan Tang, engineer in sales and marketing and Marjorie Fung in administration joining our Year of the Pig dinner. Some new faces and helping hands will bring about better support and optimize service. In addition, we have expanded our warehousing to carry a larger inventory. All to better service our clients. 🌴





**Special 35<sup>th</sup> Anniversary Supplement**

# Celebrating 35 Years

1984-2019

**A Word from General Manager**

2019 is special to us. We step into our 35<sup>th</sup> year of business. While this is a humble milestone, we have been working with a few generations of engineers, participated in a great many infrastructures, struggled in horrendous weather and excelled through painful mistakes. All the harsh experience and marvelous achievements only inspire our devotion to advance our service to the next level of excellence.

In the coming years, we are looking for support to develop a local chapter of International Geosynthetics Society (IGS), a half a decade old organization dedicated to the evolution of geosynthetics, application, design, production, testing and education. It is hoped that of a group of devotee would bring more worldwide expertise and knowledge to support local engineering, eventually to bring the once every four years international conference to Hong Kong.

We would also like to see if the consolidation and perfection of particular specification would help project design and management to stay away from inappropriate applications, inconsistent engineering parameter and proprietary monopoly.

As we prosper, we think it is time to payback. We are too small to care about corporate responsibility, but contribution to educating the young has always been beneficial. In this regard, IGS sponsors program in educating the-educator, who mentor their the students. We endeavor to bring this here. Talk to Gary at [gary@g-and-e.com](mailto:gary@g-and-e.com). 🌴

**Some Thoughts from Us**

We have made some memento to compliment the commemoration of our 35<sup>th</sup> years in business. We hope you will not be offended with a small token as our dedication and commitment to attend to our client after all these years. 🌴



Baseball cap



USB



Chocolate



Ball Pen



Memo Pad

**Reader's Response**

Let us hear from you. Write to us at [newsletter@g-and-e.com](mailto:newsletter@g-and-e.com). For back issue, please write to [nannette@g-and-e.com](mailto:nannette@g-and-e.com) or visit our website at [www.g-and-e.com](http://www.g-and-e.com).

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