TERRA-TRACK (USING TERRA-3000)
PRODUCTION ESTIMATOR - USING GUIDE
Version 1.01 - Released October 2019

The mission of the Production Estimator is to accurately estimate the throughput (or production) of variously configured TERRA-TRACK units, stabilising at various treatment depths using TERRA-3000 amine compound soil stabiliser (electro-physical).

What is TERRA-TRACK?

TERRA-TRACK features the world's most powerful saddle back tractor with integrated water cart delivering precise dosing and injection of diluted TERRA-3000. The TERRA-TRACK features an industry leading stabiliser platform for rock crushing, milling and mixing of soils during treatment with TERRA-3000.

Using the Production Estimator

The Production Estimator is designed to assist those considering stabilisation with TERRA-3000 using the TERRA-TRACK platform plan project timelines.

There are mandatory and optional considerations. There are fixed and variable elements.

The Production Estimator is pictured below:

Specifying Projects

Project Name user enters a project name.

The Project Specification section (once set) contains fixed elements.

Project Specification | Area | Unit: (m^2) | user enters the estimated treatment area in square metres or enters individual estimates for length and width below.

Or

Projection Specification | Length | Unit (m) | user enters the estimated length of the treated area in metres; and

Project Specification | Width | Unit (m) | user enters the estimated width of the treated area in metres.

Project Specification | Treatment Depth | Unit (mm) | based on the user's pavement design the user selects the depth of treatment.

Project Specification | Pavement Type | Options (Sealed/Unsealed) | based on inspection of your site, the user will select sealed if treating an existing sealed road, or alternatively unsealed for currently unsealed or greenfield sites.

The Labour section contains flexible elements that can be altered to increase or decrease production.

Labour | Shift Duration | Unit (decimal hours per shift) | user selects the typical number of hours in a shift.

Labour | Shift Breaks | Unit (decimal hours per shift) | user selects the typical number of break hours in a shift.

Labour | Shifts | Unit (number) | given the shift duration, user selects from the possible number of shifts per day.

The Plant section contains flexible elements that can be altered to increase or decrease production.

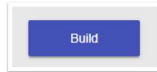Plant | Terra-Track | Units (number) | user selects the desired number of TERRA-TRACK units to be used in the project.

Plant | Configuration | Options (FAE MTH-200 (2.08 m) / FAE MTH-225 (2.32 m) | user selects between FAE-MTH models with the notable different being the width of treatment (noting the FAE MTH-225 model is a higher performing and therefore more expensive configuration than the FAE MTH-200).

The Miscellaneous Productivity Factors section contains a single flexible element that:

- if set to 0% has no impact on production;
- of set between 1-100% decrease production by the selected percentage:

Miscellaneous Productivity Factors (allow for a reduction in optimal efficiency based on site specific or seasonal factors such as weather, terrain, remoteness, serviceability of equipment and workforce considerations. User considers how these factors may impact the execution of the project and reduces efficiency between 0-100 percent.
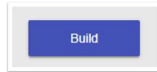
Once you have configured all options, press [Build] to recalculate the model.

Project Schedule

The Project Schedule operates independently to the sections used to specify the project.

The Project Schedule captures the client's expectation of the time allocated to the specified section of the project. In other words, this is the client's estimate of the time allowed for the stabilisation tasks specified.

Set the start and end dates, and indicate whether weekends should be included in the calculation of productive days as pictured below:
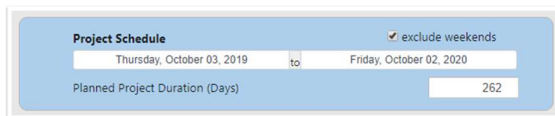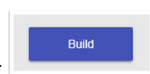

The Project Schedule is used to compare client expectations (as detailed in the project schedule) and estimated production (or estimated days to completion), pictured here:

Increase or decrease project resources (flexible elements) to complete your project on or before time.

Green indicators pictured below indicate on time or better performance. The calendar will indicate the number of days saved against the client's Project Schedule.
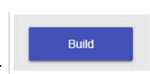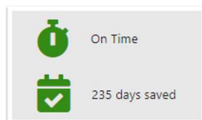
Upon clicking [Build], you may receive the warning pictured below. This will indicate you have not committed enough resources to complete the project on time. Simple, increase project resources or ease the percentage reduction in efficiency to increase production.

EVERY TIME

🔔 Tip: to deliver your project on time increase the level of resources by altering shift hours, shifts per day, the number or configuration of TERRA-TRACK machines or by easing the reduction in efficiency due to productivity factors.

☑ exclude weekends

to Monday, October 28, 2019

18

Build

27

Estimated Days
To Completion

⏱ Late

📅 9 days lost

Production Rates:

The Production Rates table is pictured below:

Production Rates

depth (mm)	m / hr	m² / hr	m² / shift	m² / per day	m² / total
100	665	1,543	10,800	21,599	43,198
150	627	1,455	10,182	20,365	40,730
200	589	1,366	9,565	19,131	38,261
250	551	1,278	8,948	17,896	35,793
300	513	1,190	8,331	16,662	33,324
350	475	1,102	7,714	15,428	30,856
400	437	1,014	7,097	14,194	28,388
450	323	749	5,246	10,491	20,982
500	285	661	4,628	9,257	18,514

Estimate only, model based on specifications provided by original equipment manufacturers and client specifications.

The Production Rates table displays the following information based on user selected input:

Column 1 | Treatment Depth | Unit (mm) | the user selected treatment depth is highlighted in the table.

Column 2 | Length Treated, Per Hour | Unit (m/hr) |

Calculation withheld.

Column 3 | Area Treated, Per Hour | Unit (m²/hr) |

Calculated as: Length Treated Per Hour x Working Width (refer TERRA-TRACK configuration)

Column 4 | Area Treated, Per Shift | Unit (m²/shift) |

Calculated as: Area Treated Per Hour x (Shift Duration – Shift Breaks)

Column 5 | Area Treated, Per Day, Per TERRA-TRACK | Unit (m²/per day/per TERRA-TRACK)

Calculated as: Area Treated Per Shift x Shifts Per Day

Column 6 | Total Area Treated, Per Day | Unit (m²/per day)

Calculated as: Total Area Treated Per Day x # of TERRA-TRACKS

Disclaimer:

The Production Estimator Model is based on estimates provided by original equipment manufacturers and specifications provided by clients. Terra System provides no warranty or guarantee that actual performance will reflect that of the model.

The Production Estimator Model is refreshed regularly, with the latest version published at:

https://www.terrasystem.com.au/Terra-Track/

You may be challenged to enter a guest password, which is currently: track

The password is subject to change from time to time. Please contact support@terrasystem.com.au, if you require the updated password.