Evolving Tracks

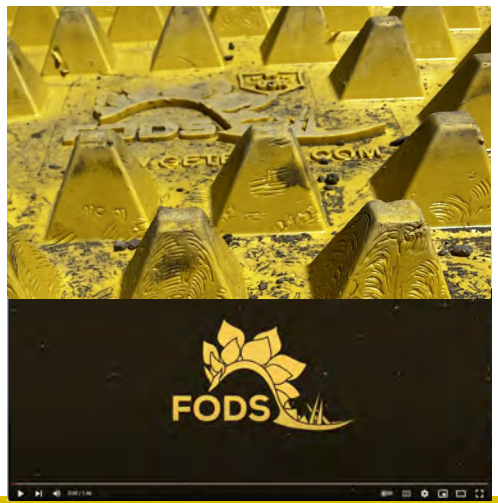
The Monthly Dirt
A monthly newsletter on the California Construction General Permit

In the survival of the fittest, can TC-1 compete with the new comers?

The founders of the Clean Water Act built into the regulation a mechanism to make sure that the storm water industry remains in constant flux. By incorporating the BAT/BCT standard for the selection and implementation of best management practices (BMPs), they set up an environment of evolutionary change for erosion and sediment control measures on construction sites. This evolution has been particularly evident at construction exits. In the storm water world, evolutionary steps do not happen very often, but we want to bring to the attention of our **Monthly Dirt** readers one that is occurring right now.

History of Trackout Controls: If you ask anyone who was working in the construction industry in the 1990's or before what a construction site exit looked like, they will most likely laugh and say "dirt" or maybe some crush aggregate or pea gravel. With the advent of the Construction General Permit (CGP) in 1992, its reissuance in 1999, and then again in 2010, the evolutionary process of construction exits began changing from nothing, to something, to very gradually taking shape of the industry standard TC-1. Most our readers are probably very familiar with TC -1, but to review, it is a Caltrans and California Stormwater Quality Association (CASQA) standard for controlled construction exits. It requires the placement of a minimum of a 12-inch thick layer of 3" – 6" jagged rock on a geotextile. The rock placement at the exit should be at least 15 feet wide, 50 feet long (or four rotations of the largest tire using the exit), and flared at the street end to provide a turning radius for exiting vehicles. It may also be equipped with a steel rumble plate and a sediment trap for settling out solids from water discharges from the trackout device. For most of the last two decades, TC-1 had become the gold-standard for trackout control measures—until recently.

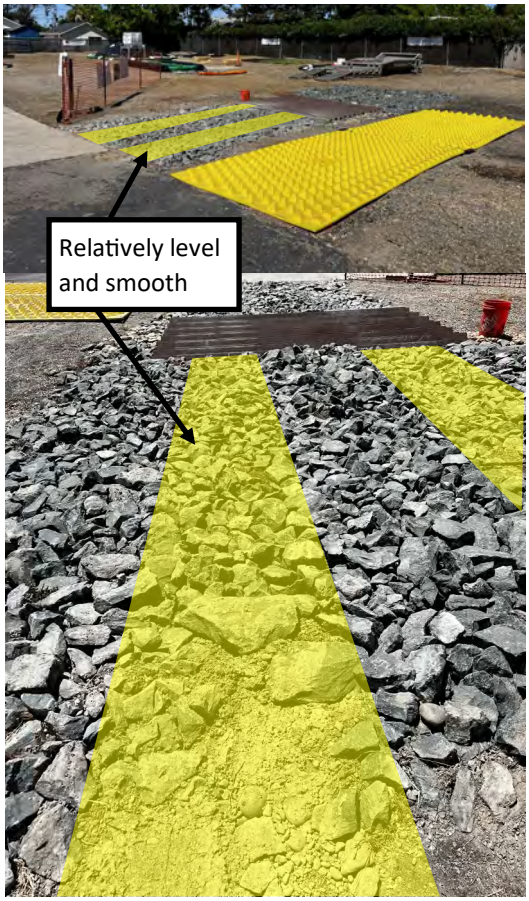
Enter a new species of trackout control: There were no transitionary fossils with this change! All of a sudden, a new species of trackout control measures started showing up at construction sites. Sporting a bright yellow hue, these new exit controls started to replace the familiar jagged rock TC-1. Of course, we are referring to the FODS trackout control mats.



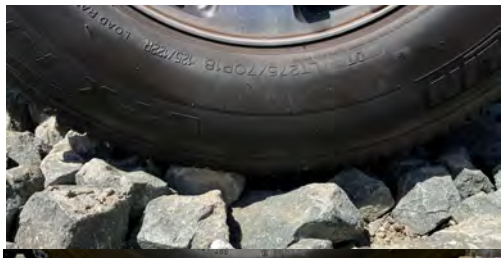
Why all the hype? Just to be clear, this is not an infomercial newsletter. The Monthly Dirt does not receive money to advertise, promote, or endorse any products—and this is true about FODS. But we can recognize a jump in BAT/BCT levels when we see one in our industry. We predict that very soon TC-1, as we know it, will become a fossil—a thing of the past. Why? Here are a few significant reasons we believe this:

Effectiveness: During our recent BMP Roundup event held at WGR's Lodi Construction Sandbox, we provided the attendees with a side-by-side comparison of TC-1 and FODS. The observations we made during that event were the impetus for this article. In our sandbox, we have a somewhat smaller version of TC-1 with a jagged rock and a steel rumble plate that has seen relatively limited traffic over its lifetime. We have featured it in perhaps a dozen events and it has seen no more than 50 passes of a pickup truck. We placed next to it two FODS mats (also greatly scaled down for what you would typically have at a construction site.) We then passed vehicles with muddy tires over both of the trackout control devices and onto an

adjoining paved parking lot and measured the tracked out sediment paths on the asphalt. But this is where we made our first big observation. Although our TC-1, at first appearance (especially by itself), looked pretty good, when compared to the adjacent FODS mats, we noticed something we had not detected before.



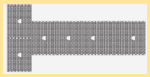
Although there was plenty of jagged rock that was relatively sediment free, the traveled surfaces on the TC-1 had become relatively flat. Even in our very limited use of the control measure the rock had been pushed down to form a fairly level travel path. Our first clue was the difference in the amount of rocking and rolling while transiting across the two trackout systems. This made us look closer at the TC-1 path and what it was doing to the tires (or not doing.)



It became immediately apparent which system was applying more pressure points on the tire. Of course the rumble plate was doing a pretty good job of applying pressure, but for a much shorter distance than the FODS.

Maintenance: Anyone who has tried to remove sediment build up from a TC-1 knows how difficult the task is. Trying to "fluff" up a TC-1 with a piece of equipment can end up destroying it. The main way to remove sediment is to use a fire hose to wash out the sediment from the rock layer pushing it into the sediment trap where it can settle out. But this is very labor intensive, it can result in a copious amount of dirty non-storm water, and is not effective for clayey soils. Because FODS mats can be easily turned over with a piece of equipment, it makes cleaning them so much easier. They can also be washed down with water into an adjacent sediment trap or for light dry accumulations, they can be manually cleaned using a shovel (especially designed for them), a broom, or even with a backpack blower (assuming you are not creating a non-compliant dust cloud.)

Cost: But the number one reason why we believe TC-1 will go the *way of the dinosaur* is because of cost. The Monthly Dirt priced out the installation and removal of both systems for a 42' long exit that was at least 12' feet wide. For this estimate, we obtained a quote for the materials and we used the rates specified in the 2024 Caltrans Labor Surcharge and Equipment Rates and the California Department of Industrial Relations 2023 General Prevailing Wage Determination.

	TC-1	FODS
Configuration	42' long, 14' wide 	42' long, 12' wide 
Material Cost:	39 tons of rock delivered approx. $2,350 Geotextile $150 8'x10' Steel rumble plate $3,900 Total materials: $6,400	Seven 7'x12' Mats @ $2,500/mat (connecting hardware included) Total materials: $17,500
Installation Costs:	4 laborers at $55/hr. for 4 hrs. 1 backhoe at $55/hr. for 4 hrs. Total: $1,100	2 laborers at $55/hr. for 2 hrs. 1 forklift at $55/hr. for 2 hrs. Total: $330
Removal Costs:	4 laborers at $55/hr. for 4 hrs. 1 backhoe at $55/hr. for 4 hrs. 1 dump truck at $85/hr. x 4 hrs. Disposal of rock 39 tons at $80/ton Total: $4,560	2 laborers at $55/hr. for 2 hrs. 1 forklift at $55/hr. for 2 hrs. Total : $330
Total cost per project:	$12,060 first project $12,060 each subsequent project	$18,160 first project $660 each subsequent project
Special Considerations:	• Construction traffic has to adapt to the track out control measure. • Difficult to maintain. • Removal and disposal of rock.	• The mats can be easily relocated to other locations on the project and adapt to construction traffic. • Can be demobilized and used on other projects. • Can be placed on a paved surface. • Mats can be stacked and stored.

The Monthly Dirt wants to hear from you! Are you observing this evolutionary change? Send us photos of this or other new species of trackout control that you are seeing on your job sites and provide comments concerning the effectiveness of the newcomers.

Please contact us if you have any questions ...

The Monthly Dirt

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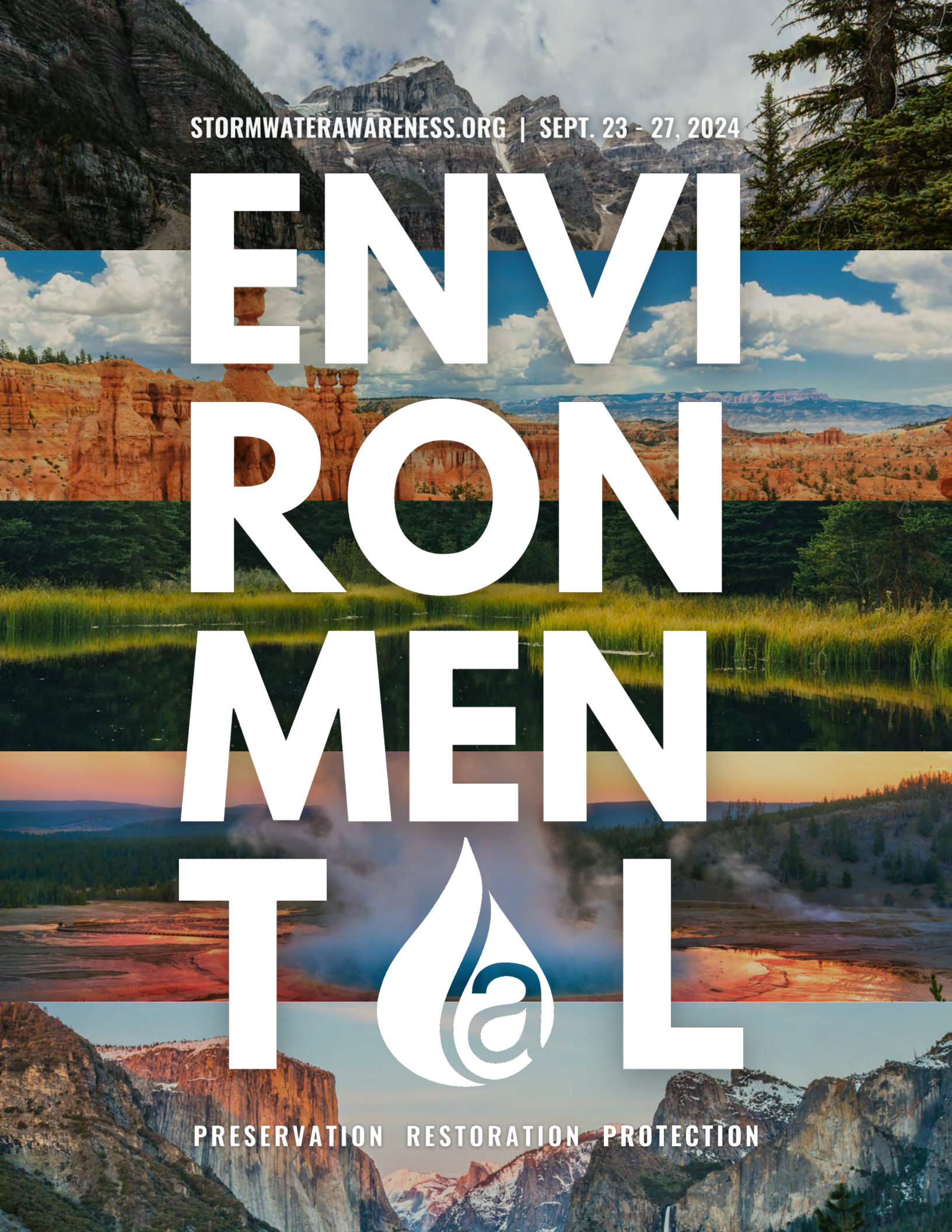
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5 REASONS WHY YOU SHOULD HOST A WORKSHOP

01

GIVE BACK TO THE COMMUNITY

- Instead of making storm water a cut throat industry, take a moment of your time to give back to the community. We've actually seen a lot of competitors become collaborators because of this event.

02

PROFESSIONAL DEVELOPMENT HOURS

- EnviroCert has accepted Storm Water Awareness Week for approved PDHs. If you present a workshop, specifically on a topic you haven't presented on before, it qualifies as PDHs for you!

03

NETWORKING OPPORTUNITY

- Ever been to a storm water conference where you are running into people and trying to network with people who are in your same position? Storm Water Awareness Week is catered to the people who need the education and not just other vendors and consultants.

04

INVEST IN THE FUTURE

- By hosting a Storm Water Awareness Week workshop you are investing in the future of storm water. Providing education to those who are actively involved in keeping water from their sites clean. Time well spent in our opinion.

05

IT'S FUN

- Who says education has to be boring? Get as creative as you want with your presentation! Take a field trip. Make a video. Do experiments. Try out products. Install BMPs. The sky is the limit.

FODS

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REUSABLE CONSTRUCTION ENTRANCE

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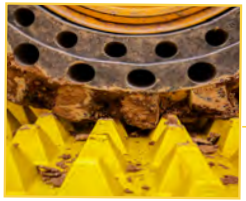
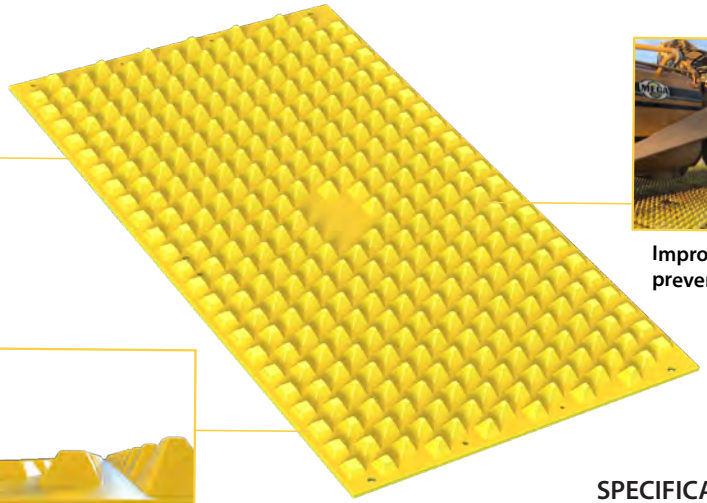
PERFORMANCE & BENEFITS

FODS Reusable Construction Entrances outperform traditional rock and geofabric stabilized construction entrances, and can be installed in under 30 minutes and configured to any entrance detail.

Our Trackout Control Mats were engineered to deform tires as vehicles pass over, without damage to the tire. Rows of staggered pyramids effectively dislodge sediment, stone and debris. The debris is collected into the base of each mat and will not come in contact with the tires of subsequent vehicles. As a rockless system, it mitigates the hazards of aggregate being lodged in vehicle tires and transported into traffic. FODS improves environmental compliance by reducing construction site track out onto roadways.



Pyramids effectively clean tires through compression and stretching without damage to the tire



Improves compliance, prevents road hazards

Built-in ramp for gradual transition onto and off of mats

SPECIFICATIONS
Mat Size: 12'(w) x 7'(l) x 3 3/4"(h)
Pyramid Size: 2 7/8"(h)
Mat Weight: 420 lbs.
Lifespan: 10+ years

FODS VS TRADITIONAL SCE

FODS Reusable Construction Entrances:
- ✓ Avoid labor and time intensive processes for each project
- ✓ Mats are engineered for reusability and ease of use
- ✓ Mats handle over 1,000,000 passes of an 80,000 lb vehicle
- ✓ Mats have a lifespan of 10+ years

Traditional Construction Entrances:
- x Require 80-100 tons of rock to build
- x Entrance fills with mud and must be refreshed by hauling in additional stone
- x All contaminated waste must be sent to a landfill afterwards

2 16+

NUMBER OF TRUCKS USED
PER ENTRANCE
INSTALLATION & REMOVAL

Passenger vehicles easily traverse the FODS System

Mats are simple to stack and transport from worksite to worksite

Mats can be installed and anchored to any substrate

Harris County Field Trial

"With our experience with the system (FODS) we observed that it cut the amount of street sweeping we had to perform by half on rainy and dry days. All in all, Challenger had a very positive experience using FODS and would definitely recommend them to other contractors.

- Zach Parker, Challenger Texas

60%
Reduction in construction site trackout

89%
Reduction in maintenance of construction site entrance

MADE IN THE USA

Mats are Made In the USA with 100% USA Sourced Materials

INSTALL IN
30
MINUTES

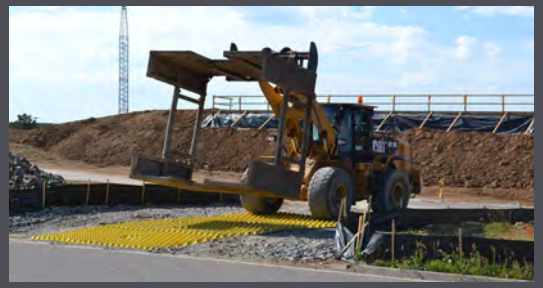
CRUSH RATING
2.8
MILLION IBS.

LIFE SPAN
10+
YEARS

INDUSTRIES

Energy & Natural Resources

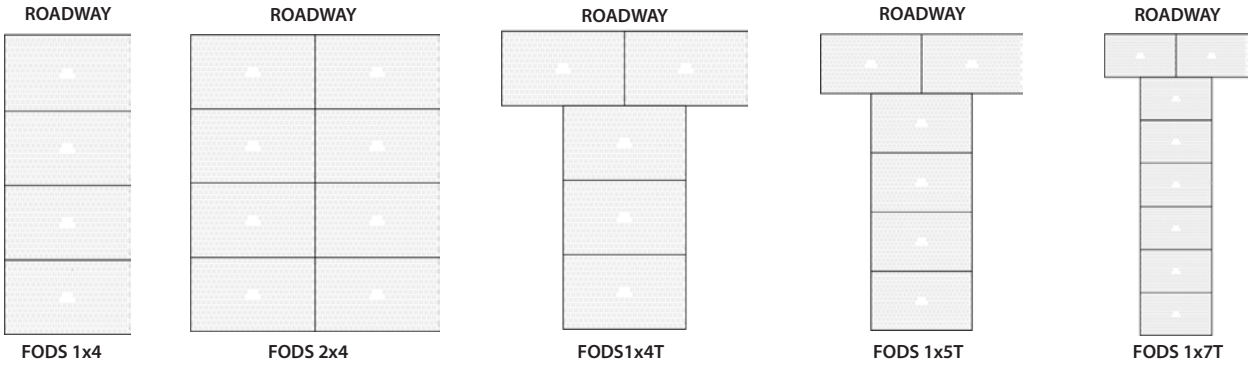
Residential & Mixed Use



Highway, Bridge & Heavy Civil

Aviation & FOD Prevention

VERSATILE MAT LAYOUTS



CLEANING & MAINTENANCE

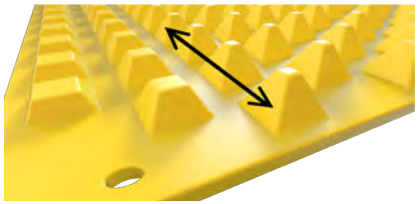
To ensure maximum system performance, FODS mats should be inspected and maintained as necessary. Mats should be cleaned once voids between the pyramids fill up with 2.5 inches of sediment above the base of the mat. Cleaning methods vary depending on soil type and available equipment.

Cleaning Methods:

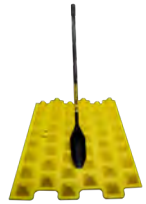
- FODS Shovel
- Skid-Steer Broom Attachment (enclosed broom for dust control)
- Street Sweeper (requires adjustable bristle head)
- Pressure Washer (must have ability to contain water)
- Water Truck (must have ability to contain water)

Buildup Before

After Cleaning



Cleaning Direction



FODS Shovel

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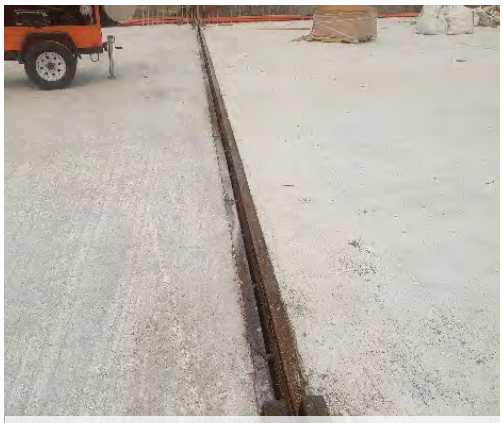

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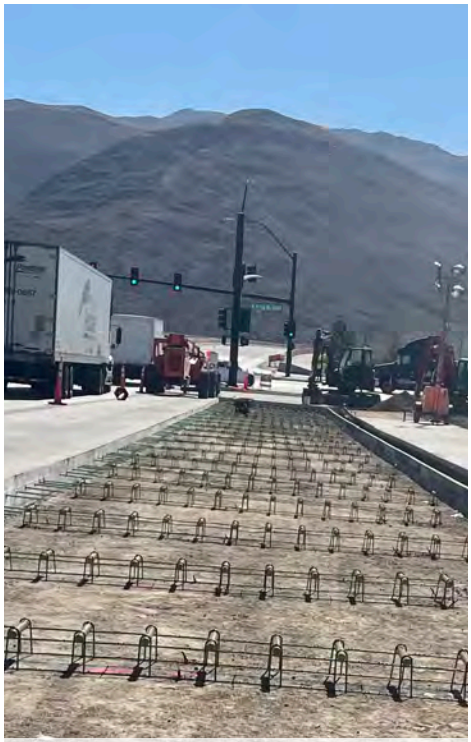

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Specifications:
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- Most efficient, reliable and cost-effective track out system

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California DOT (Caltrans) Specification Number 13-7.03

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- Traditional track out plate design

Specifications:
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- 8' x 10' Steel Plate based units, closed bottom best for asphalt / concrete surfaces.

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Custom yellow paint design for added safety

Description:
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Stabilized Entry for TC-1 Requirements
Government Mandated on All One Acre+ JobSites

Specifications:
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- (3"-) or (6"-) Aggregate / Rock
- Install Track Out Units and set

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