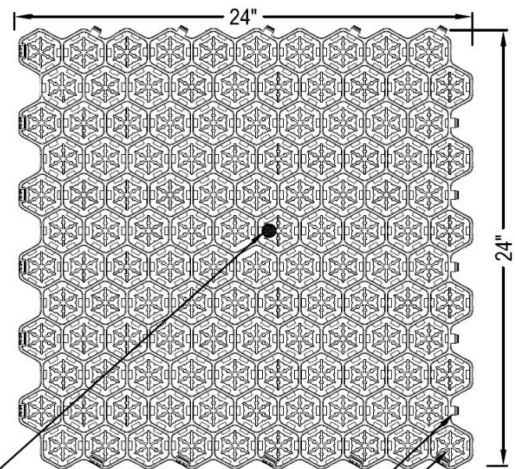




TUFF TRACK™

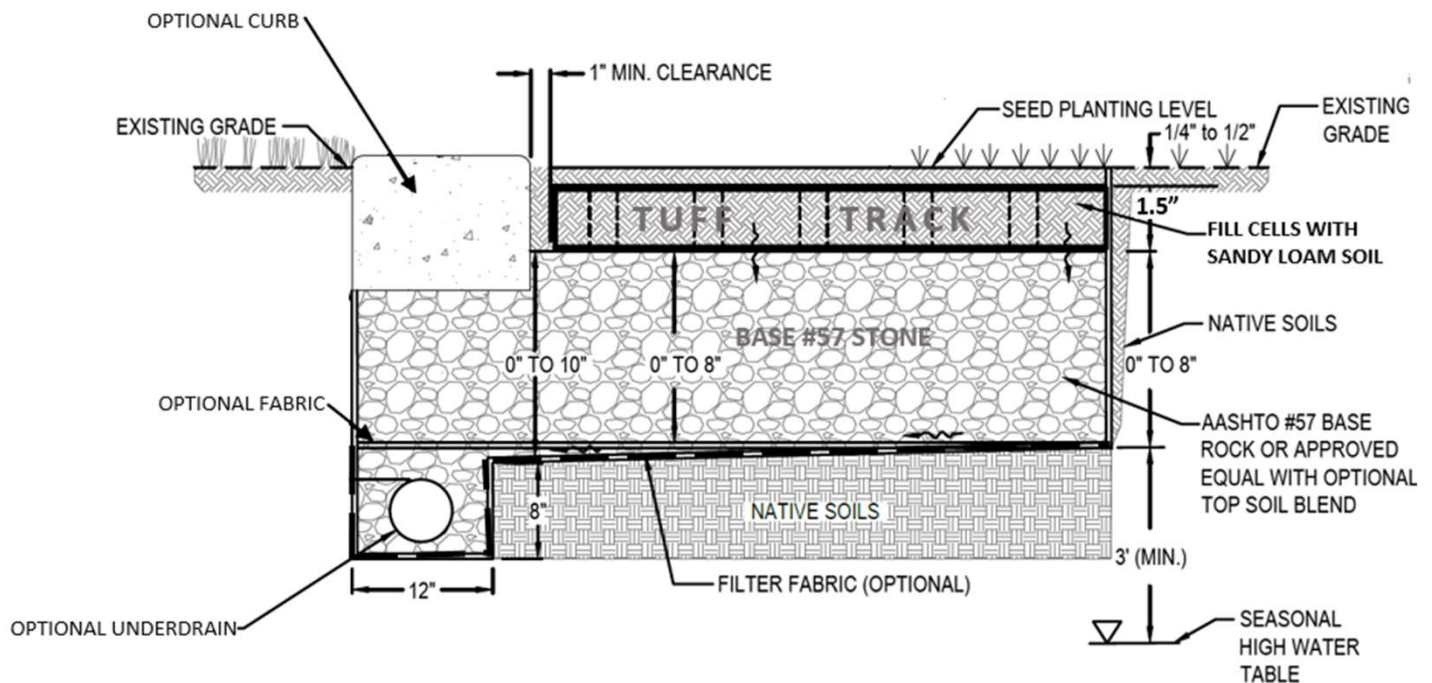
ENGINEERED DRIVABLE GRASS SURFACE

- ROADWAY SHOULDERS
- OVERFLOW PARKING AREA
- RV AND BOAT ACCESS
- FIRE LANE
- EMERGENCY VEHICLE ACCESS
- SERVICE VEHICLE ACCESS
- CONSULT NDS DESIGN WORX DURING DESIGN PHASE FOR SPECIFIC APPLICATION DESIGN ASSISTANCE.



SNAP LATCHING SYSTEM
TUFFTRACK GRASS ROAD PAVER

3/8" x 12" LANDSCAPE STAKE AT CENTER REQUIRED FOR GRADE CHANGE, OTHERWISE OPTIONAL.



COMPRESSIVE STRENGTH:

EMPTY PAVER: = 86,563 LBS / 601 PSI

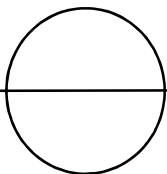
FILLED PAVER: = 400,000 LBS

POROSITY OF AASHTO #57 AGGREGATE = 0.4

MANUFACTURED IN LINDSAY, CA

100% RECYCLED HDPE

(50% PRE-CONSUMER / 50% POST-CONSUMER)



TT24 - TUFF TRACK PERMEABLE GRASS PAVERS

24" TT24 ENGINEERED DRIVABLE GRASS PANEL, H2O, FIRELANE

**ENGINEERING PROPERTIES:**

1. COMPRESSIVE STRENGTH OF TT24 PAVER:
EMPTY PAVER: ULTIMATE LOAD = 86,563 LBS / 601 PSI
FILLED PAVER: ULTIMATE LOAD = 400,000 LBS
2. POROSITY OF AASHTO #57 AGGREGATE = 0.4

TOP SOIL FILL:

3. NDS RECOMMENDS NATIVE TOP SOIL FOR BACKFILL INSIDE THE PAVERS.
4. EXTEND TOP SOIL INSIDE PAVER AN ADDITIONAL ¼ TO ½ INCH ABOVE PAVER SURFACE AND MATCH SURROUNDING GRADE. PROPOSED FINISHED GRADE SLOPE PER PROJECT GRADING PLAN. PROTECT PAVER AREA UNTIL GRASS IS SUFFICIENTLY ESTABLISHED TO HANDLE TRAFFIC. PROVIDE 1" (MIN.) CLEARANCE BETWEEN ANY CONCRETE EDGE AND PAVER.
5. GRASS PAVERS ARE TO BE USED FOR AREAS OF PEDESTRIAN USE AND OCCASIONAL VEHICULAR TRAFFIC USE (E.G., OVERFLOW PARKING AND EMERGENCY VEHICLE/FIRE LANES).

AASHTO #57 BASE ROCK:

6. GRADATION OF AASHTO #57 COARSE BASE ROCK: 100% PASSING 1 ½" SCREEN, 95-100% PASSING 1", 25-60% PASSING ½", AND 0-10% PASSING #8 SCREEN.
OPTIONAL: ADD PULVERIZED NATIVE TOP SOIL EQUAL TO 15% OF TOTAL VOLUME. BLEND TO OBTAIN HOMOGENEOUS MIXTURE PRIOR TO PLACEMENT.
7. THICKNESS OF AGGREGATE LAYER IS AS FOLLOWS: NO BASE REQUIRED FOR EROSION CONTROL AND PEDESTRIAN-ONLY LOADS (COMPACTION OF NATIVE SOIL RECOMMENDED FOR SLOPES UP TO 3%); 4 INCHES FOR LIGHT LOADS (GOLF CARTS); 6 INCHES FOR MEDIUM LOADS (CARS AND PICKUP TRUCKS); 8 INCHES FOR HEAVY LOADS (FIRE TRUCKS).
8. COMPACT WITH ONE TO THREE PASSES OF 5-TON STEEL WHEEL ROLLER. SINCE IT IS DIFFICULT TO MEASURE DENSITY OF COARSE AGGREGATE, APPROACH OF REQUIRING A FIXED DENSITY IS NOT APPLICABLE.

FILTER FABRIC (OPTIONAL):

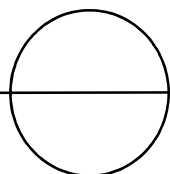
9. FILTER FABRIC MAY BE USED TO PREVENT MIGRATION OF FINES FROM SURROUNDING NATIVE SOILS INTO COARSE AGGREGATE LAYER. THE FABRIC PREVENTS CLOGGING OF AGGREGATE LAYER AND EXTENDS ITS USEFUL LIFE. USE OF FILTER FABRIC IS STRONGLY RECOMMENDED AROUND EDGE DRAIN.
10. NDS RECOMMENDS NON-WOVEN NEEDLE-PUNCHED GEOTEXTILE. WOVEN GEOTEXTILES SHOULD NOT BE USED.
11. USE FILTER FABRIC WITH AOS <0.60 MM FOR NATIVE SOILS WITH 50% OR LESS PARTICLES BY WEIGHT PASSING NO.200 SIEVE. USE FILTER FABRIC WITH AOS <0.30MM FOR NATIVE SOILS WITH 50% OR GREATER PARTICLES BY WEIGHT PASSING THE NO.200 SIEVE.

UNDERDRAIN:

12. NDS RECOMMENDS UNDERDRAIN TO COLLECT PERCOLATED WATER AND CONVEY TO PROJECT STORMWATER FACILITY FOR NATIVE SOIL THAT IS NRCS HYDROLOGIC SOIL GROUP C OR D (LOW INFILTRATION RATES). UNDERDRAIN IS OPTIONAL FOR SOIL GROUP B (MODERATE INFILTRATION) AND CAN BE ELIMINATED FOR SOIL GROUP A (GOOD INFILTRATION).
13. USE MINIMUM 4-INCH DIA PERFORATED PVC OR POLYETHYLENE PIPE AT 250-FT CENTERS; MINIMUM ONE PIPE. PIPE TO BE INSTALLED AT MINIMUM 0.5% SLOPE. RECOMMENDED 2 SQ. INCHES OF OPENING / LINEAR FOOT.
14. UNDERDRAIN TO DAYLIGHT INTO PROJECT STORMWATER FACILITY (CATCH BASIN / OPEN CHANNEL / BASIN).
15. INVERT OF PIPE RECOMMENDED TO BE ABOVE PROJECT HIGH WATER LEVEL TO PREVENT BACKING-UP OF WATER INTO PAVER SYSTEM.
16. UNDERDRAIN TO BE SURROUNDED BY 4" OF AASHTO #57 COARSE AGGREGATE, WITH MIN. 2" BEDDING.

SUBGRADE NATIVE SOIL:

17. COMPACT SUBGRADE NATIVE SOILS 90 TO 95% STANDARD PROCTOR DENSITY PER ASTM D696 FOR SOILS WITH CALIFORNIA BEARING RATIO >20%, R VALUE >30, AASHTO A-1, A-2, AND A-3 SOILS. LOWER COMPACTION LEVELS PROMOTE INFILTRATION THROUGH SOIL.
18. NDS RECOMMENDS THAT ENGINEER-OF-RECORD CONSIDER HIGHER LEVEL OF COMPACTION FOR CBR 5 TO 20%, R-VALUE 10 TO 30, AASHTO A-4 SOILS FOR HEAVY LOADS WHERE INFILTRATION INTO NATIVE SOILS IS NOT A REQUIREMENT.
19. NDS RECOMMENDS THAT ENGINEER-OF-RECORD CONSULT WITH PROJECT GEOTECHNICAL ENGINEER FOR POTENTIAL SOIL MODIFICATION (E.G., LIME TREATMENT) AND COMPACTION LEVEL FOR CBR <5% AND R-VALUE <10, AASHTO A-5, A-6, AND A-7 SOILS.

**TT24 - TUFF TRACK PERMEABLE GRASS PAVERS**

24" TT24 ENGINEERED PANEL DRIVABLE GRASS, H2O, FIRELANE USE