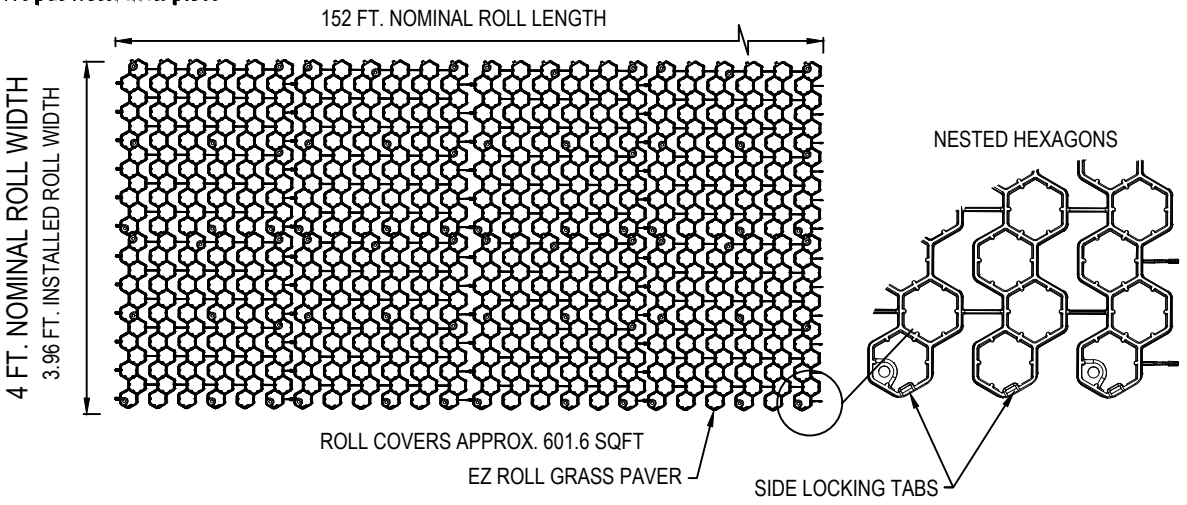
PROJECT NAME:		FILE #	ID_EZROLL GRASS

INSTALLATION DETAIL



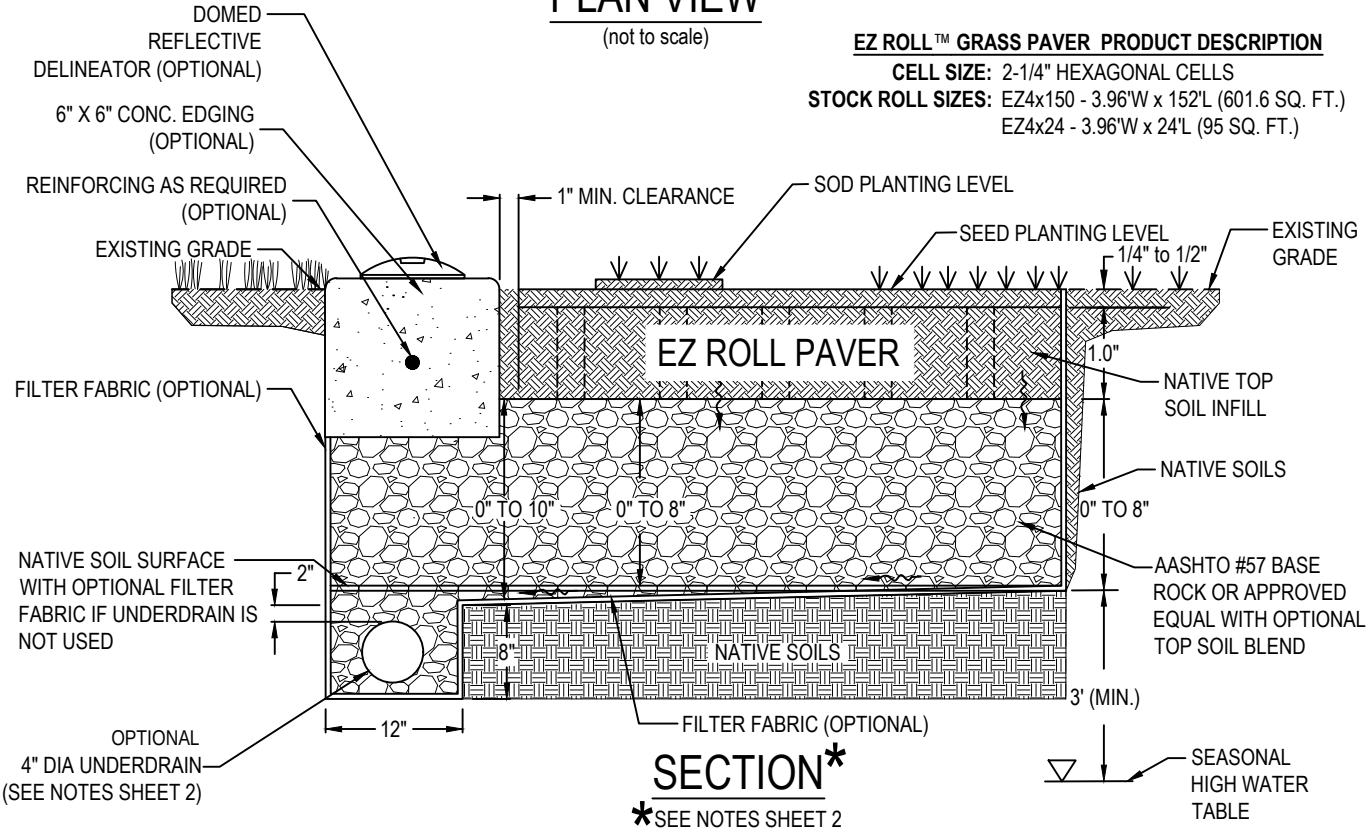
PLAN VIEW

(not to scale)

EZ ROLL™ GRASS PAVER PRODUCT DESCRIPTION

CELL SIZE: 2-1/4" HEXAGONAL CELLS

STOCK ROLL SIZES: EZ4x150 - 3.96'W x 152'L (601.6 SQ. FT.)
EZ4x24 - 3.96'W x 24'L (95 SQ. FT.)



SECTION*

*SEE NOTES SHEET 2

MANUFACTURED FROM 100% RECYCLED HDPE, CONTAINS UV INHIBITORS. (50% pre / 50% post consumer)
EMPTY PAVER TEST: ULTIMATE LOAD = 53,683 LBS, COMPRESSIVE STRENGTH OF 373 PSI (12" PLATE)
FILLED PAVER TEST : EXCEEDS H20/HS20 LOAD = 400,000 LBS / 2,778 PSI (12" PLATE) 11,111 PSI (6" PLATE)
20' FIRE LANE CONFIGURATION. USE 5 ROLLS x 3.96' WIDE = 19.8' NET TOTAL, ADD 1.2" MARGIN

EZ-ROLL PERMEABLE GRASS PAVER

GRASS PAVING SYSTEM - ASHTO H-20 LOADING / FIRE LANES / PARKING

FOR PRODUCT ASSISTANCE, CONTACT NDS TECHNICAL SERVICE AT techservice@ndspro.com, DESIGN ASSISTANCE- designworx@ndspro.com
851 N. HARVARD AVE. LINDSAY, CA 93247 WWW.NDSPRO.COM 1-800-726-1994

Rev 03/05/24

PROJECT NAME:		DATE:		PAGE:	

851 N. HARVARD
LINDSAY, CA 93247

EZ4X150 GRASS PAVER

20’ FIRE LANE CONFIGURATION. USE 5 ROLLS x 3.96’ WIDE = 19.8’ NET TOTAL, ADD 1.2” MARGIN

ENGINEERING NOTES:

PAVER LAYER:

1. USE WELL DRAINING SANDY LOAM TOPSOIL, SIMILAR TO BIO-SWALE, FOR SEED OR SOD WHEN BACKFILLING SYSTEM.
2. GRASS
   - ❑ HYDROSEED WITH MIX OF FAST GROWING AND DROUGHT RESISTANT GRASSES LIKE RYE AND FESCUE.
   - ❑ SOD INSTALLATION ON TOP DRESSED PAVER IN ALTERNATING PATTERN, OR MAY BE ROLLED INTO EMPTY CELLS.
3. WATER GENEROUSLY DURING ESTABLISHMENT PERIOD, IRRIGATION TO BE CONSIDERED FOR BEST RESULTS.
4. PROTECT AREA FROM USE UNTIL SUFFICIENTLY ESTABLISHED; 4-6 WEEKS.
5. ERROSION PREVENTION MAY BE NECESSARY TO PREVENT DAMMAGE DURING ESTABLISHMENT OF GRASS.
6. STAKING OF EZ ROLL GRASS IS NOT TYPICAL ON LEVEL GRADE. STAKING EYELETS ARE PROVIDED TO USE AS OPTION (ORDER NDS # GPSTAKE)
7. PROVIDE 1" (MIN.) CLEARANCE BETWEEN ANY CONCRETE EDGE AND PAVER FOR EXPANTION.
8. GRASS SURFACE IS FOR EMERGENCY AND OCCASIONAL VEHICULAR TRAFFIC. OVERUSE WILL AFFECT APPEARANCE AND HEALTH OF GRASS.

BASE AGGREGATE LAYER:

8. *AASHTO #57 COURSE AGREGATE (100% PASSING 1 1/2" SCREEN, 95-100% PASSING 1“, 25-60%, PASSING 1/2", 0-10% PASSING #4, AND 0-5% PASSING #8).
   **INCREASE ROOT ZONE, #57 STONE MAY BE BLENDED UP TO 15% SANDY/LOAM SOIL IN HOMOGONOUS MIXTURE.
9. COMPACT WITH 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.
10. THICKNESS OF AGGREGATE LAYER IS AS FOLLOWS:

- ❑ PEDESTRIAN: NO BASE IS REQUIRED (SLOPES UP TO 3%)
- ❑ GOLF CARTS / LIGHT LOADS: MIN. 4 INCHES OF BASE RECOMMENDED
- ❑ CARS / PICKUP TRUCKS / MEDIUM LOADS: MIN. 6 INCHES OF BASE RECOMMENDED. 10% MAX GRADE (CONSULT NDS FOR STAKING)
- ❑ FIRE TRUCK / **H20** / HEAVY LOADS: MIN. 8 INCHES OF BASE RECOMMENDED. 6% MAX GRADE, (CONSULT NDS FOR STAKING)

EMPTY PAVER TEST: ULTIMATE LOAD = 53,683 LBS / 373 PSI*
FILLED PAVER TEST : ULTIMATE LOAD = 400,000 LBS / 2,778 PSI (12” PLATE) 11,111 PSI (6” PLATE)

FILTER FABRIC (OPTIONAL):

11. FILTER FABRIC MAY BE USED TO PREVENT MIGRATION OF FINES FROM SURROUNDING NATIVE SOILS INTO COARSE AGGREGATE LAYER AND MAY EXTEND SYSTEM USEFUL LIFE. USE NON-WOVEN NEEDLE-PUNCHED GEOTEXTILE. WOVEN GEOTEXTILES SHOULD NOT BE USED.
12. 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 (OPTIONAL):

13. NDS RECOMMENDS AN UNDERDRAIN TO COLLECT PERCOLATED WATER AND CONVEY TO PROJECT STORMWATER FACILITY FOR NATIVE SOIL THAT IS NRCS HYDROLOGIC SOIL GROUP C OR D (LOW PERCOLATION RATE). UNDERDRAIN IS OPTIONAL FOR SOIL GROUP B (MODERATE INFILTRATION) AND CAN BE ELIMINATED FOR SOIL GROUP A (GOOD INFILTRATION)
14. 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.
15. UNDERDRAIN TO DAYLIGHT INTO PROJECT STORMWATER FACILITY (CATCH BASIN / OPEN CHANNEL / BASIN).
16. INVERT OF PIPE RECOMMENDED TO BE ABOVE PROJECT HIGH WATER LEVEL TO PREVENT BACKING-UP OF WATER INTO PAVER SYSTEM.

SUBGRADE NATIVE SOIL:

17. COMPACT SUBGRADE NATIVE SOILS 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.
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.

EZ-ROLL PERMEABLE GRASS PAVER

GRASS PAVING SYSTEM-AASHTO H20 LOADING / FIRE LANES / PARKING

PROJECT NAME:		DATE:		PAGE:	

851 N. HARVARD
LINDSAY, CA 93247

EZ-ROLL PERMEABLE GRASS PAVER

INSTALLING

1. The installation of EZ Roll™ Grass Pavers is generally done at the same time as other grass installation on the site and after the completion major area construction.
2. Ensure that the paver is installed right-side-up with the open cells facing up. Warranties are voided for pavers installed face down.
3. Roll out the first section of pavers where there is an available straight border or where there is the longest available single run.
4. Roll out additional rolls of pavers as needed to cover large areas and securely connect the lateral snap locks to create an integral paver mat.
5. Smaller areas can be filled in by attaching single sections of pavers (detached from another roll) to the already laid out paver mat.
6. Be sure to leave the recommended 1" clearance between the paver mat and any preinstalled fixed objects or surface structures.
7. The paver can be trimmed to fit any fixed object using garden shears, a hand saw, PVC pipe cutter, utility cutter, or appropriate power saw. Be sure to follow all manufacture's operation and safety recommendations.
8. For side-to-side clips, thread the clips from one panel to the slots in the adjacent panel, apply pressure until they snap in place.
9. For end-to-end clips, push down on butterfly tabs of clip with your thumb until clip snaps into receiving slot of the next panel.
10. After assembling the paver network, re-examine all paver fittings around surface utilities and bordering structures to assure 1" clearance. Do this prior to soil fill or planting.

PLANTING

1. All EZ Roll™ Grass Pavers should be filled with soil and planted within 30 days.
2. Sandy loam, loam soil or soil specified by a soils engineer should be used to fill the empty grass paver cells. The selection of fill material should be made based upon the soil requirements of the turf selected for the project and local conditions.
3. Select a turf variety well suited to the anticipated traffic frequency and local growing conditions. Resistance to thatch build-up, drought and disease resistance should also be considered.
4. Seeded or sodded areas should be protected from non-emergency traffic for 4-6 weeks or until the grass is sufficiently established to handle traffic.
5. Grass paved areas must have irrigation systems sufficient to maintain healthy turf year round.
6. When planting trees nearby, it is advisable to install a root barrier around the root ball to prevent shallow roots from interfering with surface integrity or the road base.
7. When pavers are installed bisecting a large lawn or field to provide a service road, it is recommended to plant shrubs, trees, or EZ Marker™ to mark the ends and edges of the paved strip to guide the vehicle along the paved strip.

Sod, Seed, Hydroseeding

1. Sod

   a. The paver grid is filled with soil or sandy loam, leveled with rake to top of cell walls and watered moderately. If the fill settles below the top of the paver after watering, additional fill should be added until the cells are completely full. The soil is ready to have sod laid in a staggering pattern.

2. Seeding and HydroSeeding

   a. The paver grid is filled with soil or sandy loam, leveled with rake to top of cell walls and watered moderately. If the fill settles below the top of the paver after watering, additional fill should be added until the cells are completely full. The surface is now ready for seed and fertilizer to be broadcast or hydroseeded over the paver grid work.

PROJECT NAME:		DATE:		PAGE:	

851 N. HARVARD
LINDSAY, CA 93247

PERMEABILITY / RUNOFF COEFICIENT

NDS EZ Roll™ Paver system is a valuable tool to reduce stormwater runoff, providing a lower runoff coefficient than traditional paving and promoting groundwater recharge.

The EZ Roll™ Paver system has greater than 90% permeable surface area. As per Technical Release # 55, US Dept. of Agriculture, Soil and Conservation Service, the evaluation of storm water management objective is done by the following method:

1. Calculate the existing (pre-construction) runoff volumes and time of concentration factors.
2. Next calculate area and runoff volumes, which will be generated by new hard surface areas.
3. Runoff reduction can be calculated and compared when using the below Chart 1, which lists runoff percentages from various soils based on “meadow” type cover and a 24-hour rainfall.

When used over a rock and sand base with sandy loam soil (CN30), EZ Roll™ will promote a situation unlikely to generate surface runoff in an average rainstorm (less than 6" in 24 hours).

% RUNOFF IN 24 HRS. SAND ——— SOIL TYPE ——— CLAY

Rainfall Inches	CN 30	CN 58	CN 71	CN 78
1	0	0	0.01	0.06
1.2	0	0	0.03	0.1
1.4	0	0	0.05	0.14
1.6	0	0	0.08	0.18
1.8	0	0.01	0.11	0.21
2	0	0.02	0.13	0.24
2.5	0	0.05	0.2	0.32
3	0	0.09	0.25	0.38
4	0	0.17	0.35	0.47
5	0	0.23	0.42	0.54
6	0.01	0.29	0.48	0.6
7	0.03	0.34	0.53	0.64
8	0.05	0.39	0.57	0.67
9	0.08	0.43	0.61	0.7
10	0.1	0.46	0.64	0.73
11	0.12	0.49	0.66	0.75
12	0.15	0.52	0.68	0.76