

BMP 12.00. Plastic Covering

DESIGN CONSIDERATIONS

Objectives

Plastic covering is used to temporarily protect soils, slopes, and stockpiles from erosion by wind or water.

Description

Plastic sheeting covers surfaces that are susceptible to erosion to provide temporary protection from the elements. The sheeting is keyed in at the top, overlapped at seams, and fastened or weighted down in a grid pattern.

Other Names

Visqueen, plastic sheeting.

Applicability

The applicability of plastic sheeting is limited to covering stockpiles or very small graded areas for urgent, short-term protective treatment (such as through one imminent storm event or for overwintering disturbed slopes) until alternative measures, such as seeding and mulching, can be installed. It is not recommended as cover for seeded slopes for more than two days. This temporary measure should only be used in conjunction with a sediment control (perimeter control) BMP.

Selection Considerations

Select plastic sheeting based on the expected functional longevity required to protect the stockpile or soil. Evaluate given the following limitations:

- Plastic sheeting is easily vandalized and torn, is subject to photo degradation, and must be disposed of in a landfill.
- Freezing temperatures weaken the sheeting and make it prone to tearing.
- Plastic sheeting results in 100% runoff, which may cause serious erosion problems in the areas receiving the runoff.
- Plastic prevents infiltration and soil saturation.

Relationship to Other ESC Measures

Plastic sheeting may be used temporarily before other stabilization measures, such as hydraulic

erosion control products (HECPs) or rolled erosion control products (RECPs).

Common Failures or Misuses

- Improper installation is a common problem with plastic sheeting. Plastic sheeting must be keyed in at the top of the slope to prevent undercutting.
- Installation upslope of steep and/or unstable slopes can lead to adverse effects from concentrated runoff.
- Allowing it to remain in place longer than its useful life. Plastic becomes brittle over time due to photo degradation and develops holes and tears.
- Improper weighting or too-wide spacing between weights can cause it to be blown off in the wind.

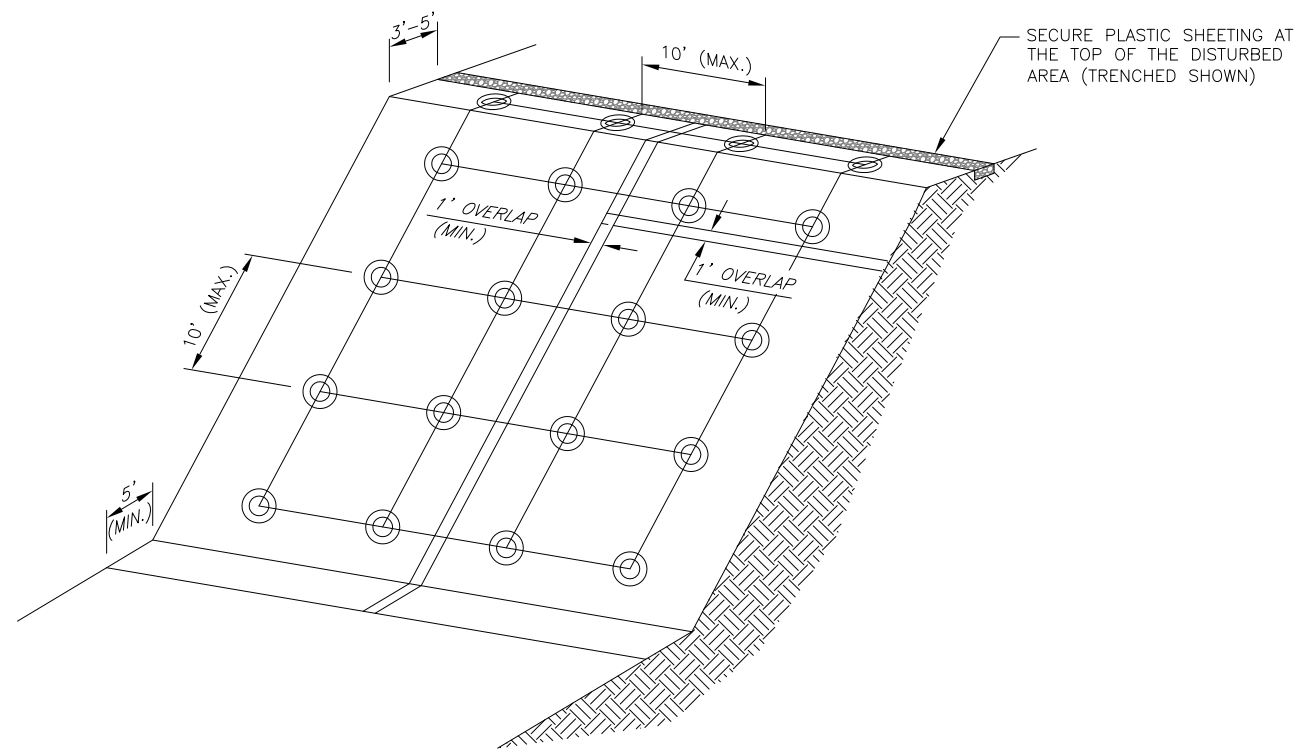
SPECIFICATIONS

Standard Specification

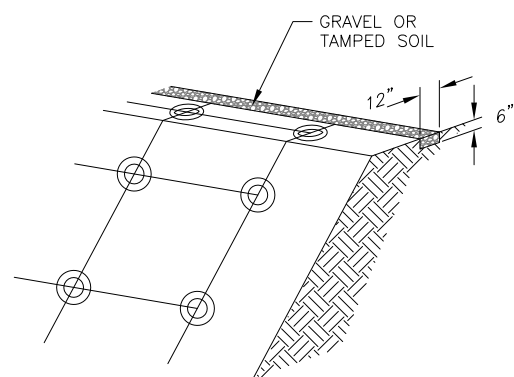
- 674 – Plastic Covering

Drawing

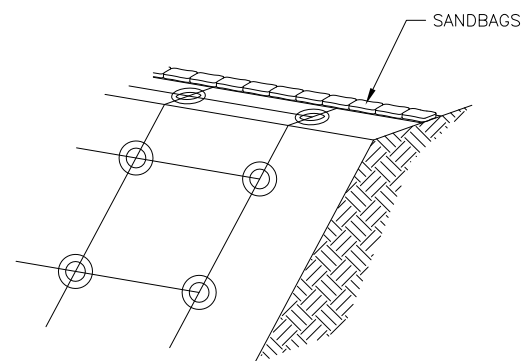
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PERSPECTIVE



TRENCHED DETAIL



WEIGHTED DETAIL

PLASTIC COVERING
NOT TO SCALE

PLASTIC COVERING NOTES:

MATERIALS

PLASTIC COVERING: PLASTIC COVERING SHALL MEET THE REQUIREMENTS OF ASTM D 4397 FOR POLYETHYLENE SHEETING HAVING A MINIMUM THICKNESS OF 6 MIL.

FASTENERS OR WEIGHTS: FASTENERS OR WEIGHTING OBJECTS, SUCH AS SANDBAGS, TIRES, OR OTHER SIMILAR MATERIALS.

INSTALLATION

1. INSTALL PLASTIC PARALLEL WITH THE SLOPE, NOT PERPENDICULAR. PLASTIC MAY BE INSTALLED PERPENDICULAR TO A SLOPE IF THE SLOPE LENGTH IS LESS THAN 10 FEET. OVERLAP UPHILL SHEET OVER DOWNHILL SHEET A MINIMUM OF 1-FOOT.
2. SECURE THE PLASTIC SHEETING AT THE TOP OF THE SLOPE BY KEYING INTO A TRENCH OR WEIGHT WITH A CONTINUOUS LINE OF SANDBAGS SO THAT NO WATER CAN FLOW UNDERNEATH.
3. INSTALL WEIGHTS ON ROPES OR FASTENERS IN A 10-FOOT MAXIMUM GRID, TO SECURE THE PLASTIC TIGHTLY AGAINST THE SOIL.
4. INSPECT WEIGHTS TO MAKE SURE THEY ARE STILL IN PLACE, REPLACE AS NEEDED OR ADD ADDITIONAL WEIGHT IF THERE IS NOT A SUFFICIENT AMOUNT ON THE SLOPE.
5. TAPE, FASTEN, OR WEIGHT SEAMS ALONG THEIR ENTIRE LENGTH WITH A MINIMUM OF 1-FOOT OF OVERLAP AT ALL SEAMS.
6. SECURE EDGES TO PREVENT WATER FROM ERODING GROUND UNDERNEATH AND WIND FROM LIFTING THE COVER.

INSPECTION

1. INSPECT SHEETING AFTER INSTALLATION AND ACCORDING TO ESTABLISHED SCHEDULES.
2. CHECK FOR EROSION, UNDERMINING, ANCHORAGE (KEYING AND EMBEDDING) FAILURE, TORN SHEETS, AND DETERIORATION.

MAINTENANCE

1. REPAIR FAILURES AS SOON AS PRACTICABLE.
2. IF WASHOUT OR BREAKAGES OCCUR, REPAIR DAMAGE TO THE SLOPE AND REINSTALL THE MATERIAL AS SOON AS PRACTICABLE.

REMOVAL

1. REMOVE PLASTIC SHEETING AND WEIGHTS PRIOR TO STABILIZING THE AREA OR WHEN CONSTRUCTION ACTIVITY IS COMPLETED.
2. AFTER REMOVAL, FILL TRENCHES TO BLEND WITH THE ADJACENT GROUND AND REVEGETATE, AS NECESSARY.

REVISIONS		
Date	Description	By

State of Alaska DOT&PF

PLASTIC COVERING

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Date 12/2015 X/XX/XX