

**RSS DESIGN CRITERIA**

THESE SHEETS ARE A GUIDE TO BE USED ON A CASE-BY-CASE BASIS BY MnDOT AND/OR CONSULTANT PROJECT DESIGNER. THE DESIGNS ARE BASED UPON THE FHWA MSEW AND RSS DESIGN AND CONSTRUCTION GUIDELINES (FHWA-NHI-10-024) WITHOUT ANY DEVIATIONS.

LOAD AND RESISTANCE FACTOR DESIGN (LRFD)  
RSS GEOTECHNICAL GLOBAL AND COMPOUND STABILITY MODES ARE ANALYZED AT A SERVICE I LOAD COMBINATION. RSS EXTERNAL AND INTERNAL STABILITY MODES ARE ANALYZED AT STRENGTH I LOAD LIMIT STATE.

A MAXIMUM RESISTANCE FACTOR ( $\phi$ ) OF 0.65 IS USED FOR THE GEOTECHNICAL GLOBAL AND COMPOUND STABILITY MODES.

LOAD FACTORS STRENGTH LIMIT STATE

HORIZONTAL EARTH PRESSURE ( $\gamma_{EH}$ ) = 1.5 FOR EXTERNAL STABILITY  
HORIZONTAL EARTH PRESSURE ( $\gamma_{EH}$ ) = 1.35 FOR INTERNAL STABILITY  
VERTICAL PRESSURE FROM DEAD LOAD OF EARTH FILL ( $\gamma_{EH}$ ) = 1.35 FOR BEARING CAPACITY  
VERTICAL PRESSURE FROM DEAD LOAD OF EARTH FILL ( $\gamma_{EH}$ ) = 1.0 FOR SLIDING AND PULLOUT  
EQUIVALENT EARTH PRESSURE SURCHARGE ( $\gamma_{EH}$ ) = 1.35

RESISTANCE FACTORS STRENGTH LIMIT STATE

BEARING  $\phi_{EH}$  = 0.65  
DIRECT SLIDING  $\phi_{EH}$  = 1.0  
GEOGRID STRENGTH  $\phi$  = 0.9  
GEOGRID BLOCK CONNECTION STRENGTH  $\phi$  = 0.9  
GEOGRID PULLOUT  $\phi$  = 0.9

CAPACITY TO DEMAND RATIO >1.0 FOR ALL STABILITY MODES.

REINFORCED SLOPE FILL CHARACTERISTICS

A. GRANULAR MATERIAL (CASE 1A):  
1. GRANULAR MATERIAL IN ACCORDANCE WITH SPEC. 3149.2B1.  
2. INTERNAL ANGLE OF FRICTION ( $\phi_r$ ) = 30°  
3. COHESION (C) = 0 PSF  
4. MOIST UNIT WEIGHT ( $\gamma_r$ ) = 120 PCF

B. STRUCTURAL BACKFILL (CASE 1B AND CASE 2):  
1. USE STRUCTURAL BACKFILL IN ACCORDANCE WITH SPEC. 3149.2D2.  
2. INTERNAL ANGLE OF FRICTION ( $\phi_r$ ) = 34° MINIMUM  
3. COHESION (C) = 0  
4. MOIST UNIT WEIGHT ( $\gamma_r$ ) = 125 PCF MAXIMUM

RETAINED BACKFILL CHARACTERISTICS:

A. INTERNAL ANGLE OF FRICTION ( $\phi_b$ ) = 30° MINIMUM  
B. COHESION (C) = 0  
C. MOIST UNIT WEIGHT ( $\gamma_b$ ) = 120 PCF MAXIMUM

FOUNDATION SOIL CHARACTERISTICS:

A. INTERNAL ANGLE OF FRICTION ( $\phi_f$ ) = 30° MINIMUM  
B. COHESION (C) = 0  
C. UNIT WEIGHT ( $\gamma_f$ ) = 120 PCF MAXIMUM

SOIL REINFORCEMENT CHARACTERISTICS:

A. SPACING AND STRENGTH SHALL CONFORM TO MINIMUMS IN DESIGN TABLES, FOR APPLICABLE REINFORCED SOIL FILL TYPE AND MAXIMUM SLOPE ANGLE.  
B. REINFORCEMENT COVERAGE SHALL BE 100%.

**NOTES TO CONTRACTOR:**

APPROVED SOIL REINFORCEMENT PRODUCTS LIST, WITH TYPE NOTED, IS HELD AND MAINTAINED BY THE FOUNDATIONS UNIT, (GEOTECHNICAL ENGINEERING SECTION) AND CURRENTLY POSTED AT <https://www.dot.state.mn> ONLY APPROVED PRODUCTS MAY BE USED IN STANDARD DESIGNS.

PROVIDE DETAILED DRAWINGS FOR CONSTRUCTION CONTAINING:

- ELEVATION VIEW WITH REINFORCEMENT PLACEMENT REQUIREMENTS, SOIL SLOPE LAYOUT, AND GEOMETRIC INFORMATION.
- CROSS SECTIONS DETAILING SLOPE FACE ANGLE, REINFORCEMENT, VERTICAL SPACING, REINFORCEMENT LENGTHS, SUBSURFACE DRAINAGE, SURFACE DRAINAGE, AND SLOPE FACE EROSION PROTECTION.
- PROVIDE SHOP DRAWING DETAILS FOR 45 DEGREE TO 70 DEGREE SLOPE TRANSITIONS.
- DETAIL ALL REINFORCED FILL PENETRATIONS AND RSS FACE PENETRATIONS. DETAIL REINFORCEMENT AND EROSION PROTECTION PLACEMENT AROUND PENETRATIONS.
- LIST INFORMATION ON APPROVED GEOSYNTHETIC REINFORCEMENT, INCLUDING MnDOT CLASSIFICATION CODE, PROPERTIES FOR FIELD IDENTIFICATION, AND INSTALLATION INSTRUCTIONS. LIST PRODUCT AND INSTALLATION INFORMATION ON WELDED WIRE MESH FACING FORMS IF USED.
- CERTIFICATION BY MN PROFESSIONAL ENGINEER EXPERIENCED IN RSS DESIGN THAT THE CONSTRUCTION LAYOUT MEETS THE REQUIREMENTS OF PLANS AND MnDOT RSS STANDARDS.
- DEVIATION FROM STANDARD DESIGN TABLES BY VALUE ENGINEERING SUBMITTAL ONLY ON SLOPES OVER 5000 SQUARE FEET AND SLOPES WHICH DO NOT MEET THE REQUIREMENTS OF BASIS OF DESIGN.
- CONTRACTOR MUST PROVIDE AN RSS SUBMITTAL THAT DETAILS EROSION PREVENTION AND PERMANENT PLANT STABILIZATION. THE SUBMITTAL MUST ALSO MEET THE REQUIREMENTS OF SPEC. 1717.2.

| DEFINITION OF TERMS          |   |
|------------------------------|---|
| RSS                          | = REINFORCED SOIL SLOPE   |
| WWM                          | = WELDED WIRE MESH  |
| H                            | = SLOPE HEIGHT  |
| S                            | = VERTICAL REINFORCEMENT SPACING  |
| PRIMARY REINFORCEMENT        | = REINFORCEMENT USED ACROSS WIDTH OF REINFORCED FILL                                |
| SECONDARY REINFORCEMENT      | = REINFORCEMENT AT FACE PLACED BETWEEN PRIMARY LAYERS                               |
| REINFORCEMENT COVERAGE RATIO | = WIDTH OF SOIL REINFORCEMENTS TO HORIZONTAL SPACING (100% COVERAGE RATIO REQUIRED) |
| W.I.N.                       | = WATER INSOLUBLE NITROGEN  |

**BASIS OF DESIGN:**

REFERENCE STANDARD PLATES AND PROVIDE DETAILS FOR TRAFFIC BARRIERS, CURB AND GUTTER, HANDRAILS AND FENCING AS REQUIRED BY PROJECT CONDITIONS. SEE AASHTO AND MnDOT DESIGN MANUALS, STANDARD PLATES, AND DETAILS FOR REQUIREMENTS.

DETAIL LINES AND GRADES OF THE INTERNAL DRAINAGE COLLECTION PIPE. DETAIL AND NOTE THE DESTINATION OF INTERNAL DRAINS AS WELL AS THE METHOD OF TERMINATION (DAYLIGHT END OF PIPE OR CONNECTION INTO ADJACENT HYDRAULIC STRUCTURE).

DEFINE REINFORCED SOIL SLOPE ANGLE AND DEFINE CONSTRUCTION LIMITS ON THE PLAN VIEW BASED ON THIS ANGLE. STANDARD SLOPE ANGLES ARE 45° AND 70°.

SOFT SOILS AND/OR HIGH WATER ARE CONDITIONS (DEFINED AS GROUNDWATER WITHIN A DEPTH EQUAL TO THE SLOPE HEIGHT (H) ARE NOT SUITABLE FOR APPLICATION OF THESE STANDARD DESIGNS AND REQUIRES SPECIAL CONSIDERATION BY THE RSS CONSULTANT DESIGNER AND/OR THE MnDOT FOUNDATIONS UNIT.

STANDARD DESIGNS ARE NOT APPLICABLE FOR PROJECTS WITH LARGE QUANTITY OF VERTICAL FACE AREA WHERE PROJECT SPECIFIC DESIGNS ARE RECOMMENDED, AS DEFINED IN MnDOT ROAD DESIGN MANUAL OR FACILITY DESIGN GUIDE.

THESE STANDARD DESIGNS ARE BASED ON A LEVEL TOP OF SLOPE, ZERO TOE SLOPE AND A SURCHARGE AT THE TOP OF THE SLOPE. SLOPES ABOVE OR BELOW THE REINFORCED SOIL SLOPE ARE NOT SUITABLE FOR APPLICATION OF STANDARD DESIGNS AND REQUIRE SPECIAL CONSIDERATION BY AN RSS CONSULTANT DESIGNER OR THE MnDOT FOUNDATIONS UNIT.

USE CASE 1A AND 1B FOR SOIL SLOPES BETWEEN 1:2 (26.5°) AND 1:1 (45°) MAXIMUM.  
USE CASE 2 FOR SOIL SLOPES GREATER THAN 1:1 (45°) AND UP TO 2.75:1 (70°) MAXIMUM.

IF USING CONCRETE RAILING, INCLUDE STANDARD BRIDGE DETAIL "CONCRETE RAILING (TYPE F)" IN PLAN SET.

PERFORM GEOTECHNICAL INVESTIGATION FOR ALL RSS APPLICATIONS.

| SAMPLE ESTIMATED QUANTITIES FOR REINFORCED SOIL SLOPES <sup>②</sup> |         |          |
|---|---------|----------|
|   | UNIT    | QUANTITY |
| STRUCTURE EXCAVATION CLASS ---                                      | CU. YD. |          |
| GRANULAR MATERIAL (CV)  | CU. YD. |          |
| STRUCTURAL BACKFILL (CV)  | CU. YD. |          |
| REINFORCED SOIL SLOPE <sup>①</sup>                                  | SQ. YD. |          |

<sup>①</sup> VERTICAL FACE AREA OF SLOPE AS MEASURED FROM PLAN BOTTOM TO PLAN TOP OF SLOPE ELEVATION.  
<sup>②</sup> REFER TO TABULATIONS / ESTIMATE SHEETS FOR QUANTITIES.

**GENERAL NOTES:**

UTILITIES:  
EXISTING AND PROPOSED UTILITIES SHALL BE ON THE GRADING PLANS. THE CONTRACTOR SHALL VERIFY THE LOCATION OF EXISTING FACILITIES AND SHALL EXERCISE CARE IN ADJACENT CONSTRUCTION.

EXCAVATION AND EARTHWORK:  
ALL EXCAVATION AND EMBANKMENT WORK SHALL CONFORM TO SPEC. 2451.

CONSTRUCTION:  
CONSTRUCTION SHALL BE IN ACCORDANCE WITH SPEC. 2411, EXCEPT AS NOTED.

COMPACTION REQUIREMENTS:  
COMPACT REINFORCED FILL IN ACCORDANCE WITH SPEC. 2106.3G UNLESS OTHERWISE SPECIFIED BY THE PROJECT DESIGNER AND ACCEPTED BY THE FOUNDATION UNIT.




ENGINEER DEFINITIONS:  
RSS DESIGNER- MN PROF. ENGINEER RETAINED BY CONTRACTOR.  
PROJECT DESIGNER- MnDOT OR CONSULTANT ENGINEER  
FOUNDATIONS UNIT- MnDOT  
ENGINEER- MnDOT

|  |  |                                  |   |                                    |               |
|--|--|----------------------------------|---|------------------------------------|---------------|
| <b>LEAD EXPERT OFFICE</b><br>AMBER BLANCHARD<br>ACTING DIRECTOR<br>OFFICE OF MATERIALS & ROAD RESEARCH | <b>REINFORCED SOIL SLOPE<br/>GENERAL NOTES</b> | APPROVED: 03-29-2023<br>REVISED: | <br>THOMAS STYRBICKI<br>STATE DESIGN ENGINEER | <b>STANDARD PLAN<br/>5-297.646</b> | <b>1 OF 2</b> |
|  | <b>STANDARD PLAN</b>                           | STATE PROJ. NO.                  | SHEET NO.                                     | TRUNK HWY.                         | TOTAL SHEETS  |

**REINFORCED SOIL SLOPES (RSS) STORMWATER MANAGEMENT AND VEGETATION ESTABLISHMENT NOTES**

THE FOLLOWING MUST BE ADDRESSED IN DESIGN AND INCORPORATED INTO THE PLAN SUBMITTALS:

1. STORMWATER MANAGEMENT OF OVERLAND AND SLOPE TOE DRAINAGE AND STORMWATER FLOWS  
 INCLUDE IN WALL PACKAGE SUBMITTAL (INCIDENTAL) THAT DETAILS HOW OVERLAND AND TOE OF SLOPE FLOWS WILL BE MANAGED AROUND AND THROUGH DURING ALL PHASES OF WALL CONSTRUCTION. INCLUDE THE FOLLOWING:
  - A. DESCRIBE EROSION PREVENTION BMPs, AND METHODS FOR APPROPRIATE INSTALLATION
  - B. DETAIL HOW TEMPORARY OR PERMANENT STABILIZATION WILL BE INCORPORATED INTO THE WORK.
  - C. DETAIL HOW SLOPE TOE WILL BE DEFENDED FROM SEDIMENT LOSS DURING ALL PHASES OF WALL CONSTRUCTION, INCLUDING CONTINGENCY PROGRAM FOR SEDIMENT RECOVERY OUTSIDE OF CONSTRUCTION LIMITS.
  - D. DETAIL HOW FINAL UP- AND DOWNGRADE STORMWATER DRAINAGE INTERACTS WITH FINISHED WALL SYSTEM. ENSURE FINAL DRAINAGE DOES NOT DAMAGE THE RSS SYSTEM.
2. TOPSOIL DESIGN
  - A. RSS FACE TOPSOIL. INCLUDE IN WALL PACKAGE FOR A DESIGN OF SCREENED AND PULVERIZED SANDY CLAY LOAM SOIL FOR MAXIMIZING EROSION STABILITY (COHESION), APPROPRIATE COMPACTION FOR FACE RETENTION, WATER RETENTION (INTERIOR DRAINAGE), AND VEGETATIVE ESTABLISHMENT (FERTILITY AND MICROORGANISMS). APPLY TO FACE TO THE DIMENSION DEFINED IN THE PLAN.
    1. ENSURE TOPSOIL HAS SUFFICIENT MIXED ORGANIC MATTER TO SUPPORT OPTIMUM PLANT ESTABLISHMENT AND PERSISTENCE (GENERALLY BETWEEN 4 AND 7 PERCENT).
    2. OBTAIN SOIL FERTILITY TEST RESULTS OF PROPOSED TOPSOIL. BASE FERTILIZER RATE OF MIXED APPLICATION RECOMMENDATION FROM TEST RESULTS.
    3. DEFINE ADDITIONAL SOIL MIXED AMENDMENTS TO MAXIMIZE VEGETATIVE GROWTH.
  - B. TOP AND TOE OF SLOPE TOPSOIL. INCLUDE IN WALL PACKAGE FOR A DESIGN OF LOAM SOIL FOR MAXIMIZING EROSION STABILITY (COHESION), WATER RETENTION (INTERIOR DRAINAGE), AND VEGETATIVE ESTABLISHMENT (FERTILITY AND MICROORGANISMS).
    1. MINIMUM TOPSOIL DEPTH OF SIX (6) INCHES.
    2. FOLLOW ADDITIONAL REQUIREMENTS LISTED ABOVE.
3. FACE WALL STABILIZATION DESIGN AND IMPLEMENTATION  
 INCLUDE IN THE WALL PACKAGE SUBMITTAL A PROGRAM FOR IMMEDIATE STABILIZATION OF FACE WALL IN STAGED INCREMENTS, NOT TO EXCEED SEVEN (7) FOOT OF FACE, OR TO CLOSEST COMPLETED LIFT. ENSURE PROPOSED ANCHORING STABILIZATION SYSTEM FACE HAS SUFFICIENT BONDED ANCHORED DEPTH.
  - A. DEFINE EROSION STABILIZATION BMPs WHERE FUNCTIONAL LONGEVITY OF INSTALLED MATERIAL EXCEEDS THE EXPECTED TIME FRAME OF ACHIEVING PERMANENT PERENNIAL VEGETATION. IF THE PLAN IS SILENT, APPLY ONE OF THE FOLLOWING:
    1. FOR SLOPES UP TO 45 DEGREES, INSTALL 3885 CATEGORY 25, ELSE
    2. FOR SLOPES UP TO 70 DEGREES, INSTALL 3885 CATEGORY 35.
    3. FOR SLOPES GREATER THAN 70 DEGREES, CONTACT OES EROSION AND STORMWATER MANAGEMENT UNIT.
  - B. PROVIDE CALCULATIONS THAT DETERMINE ANCHORING DEPTH TO RETAIN TEMPORARY OR PERMANENT FACE STABILIZATION MATERIALS.
  - C. INCLUDE STANDARD INSTALLATION BMP DETAILS THAT FOLLOW MNDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION (LATEST EDITION) OR NATIONWIDE GENERAL INDUSTRY PRACTICE.
  - D. DEFINE THE SEED MIXTURES APPROPRIATE TO SOLAR ASPECT, REGION, ADJACENT PERENNIAL COVER TYPES, AND EXPECTED MAINTENANCE PROTOCOLS. IF THE PLAN IS SILENT, PROVIDE THE FOLLOWING COMBINATION DEFAULT SEED MIXTURE AT TIME OF PLACEMENT:
    1. 30 POUNDS PER ACRE OF 25-141, PLUS
    2. 11.5 POUNDS PER ACRE OF 35-241, NATIVE PLS SEED ONLY (NO COVER CROP SEED)
 NOTE SEED APPLICATION METHOD DEPLOYED MUST BE CAPABLE OF REMAINING IN PLACE. IF HYDROSEEDING, A STICKING AGENT/TACKIFIER IS RECOMMENDED.
  - E. USE CRITICAL PATH PLANNING FOR OPTIMUM SEEDING DATE INCORPORATION INTO THE WORK WHEN FEASIBLE.
4. TOP AND END WALL STABILIZATION  
 INCLUDE IN WALL PACKAGE SUBMITTAL ESTIMATED QUANTITIES, PRECISE BEST PRACTICES FOR EXPOSED SOIL STABILIZATION FOR ALL PHASES OF CONSTRUCTION, INCLUDING HOW THE WALL END TRANSITIONS INTO EXISTING OR PROPOSED SOILS OR STRUCTURES. DETAIL TIME FRAMES FOR INTERIM AND CONCURRENT STABILIZATION MEASURES, ALONG WITH STANDARD INSTALLATION DETAILS THAT FOLLOW MNDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION (LATEST EDITION) OR NATIONWIDE GENERAL INDUSTRY PRACTICE. USE 1:4 SLOPE STEEPNESS TO DIFFERENTIATE BETWEEN RELATIVELY FLAT (E.G. ANCHORED STRAW AND HYDROMULCH) AND CRITICAL SLOPE STEEPNESS (ROLLED EROSION PREVENTION PRODUCTS) FOR DETERMINING APPROPRIATE SLOPE COVERS THAT PREVENT EROSION DURING THE VEGETATIVE ESTABLISHMENT PHASE. INCLUDE THE FOLLOWING:
  - A. DEFINE THE SEED MIXTURES APPROPRIATE TO SOLAR ASPECT, REGION, ADJACENT PERENNIAL COVER TYPES, AND EXPECTED MAINTENANCE PROTOCOLS. IF THE PLAN IS SILENT FOR TOP AND END WALL STABILIZATION, PROVIDE THE FOLLOWING COMBINATION DEFAULT SEED MIXTURE AT TIME OF PLACEMENT:
    1. 30 POUNDS PER ACRE OF 25-141, PLUS
    2. 11.5 POUNDS PER ACRE OF 35-241, NATIVE PLS SEED ONLY (NO COVER CROP SEED)
  - B. USE CRITICAL PATH PLANNING FOR OPTIMUM SEEDING DATE INCORPORATION INTO THE WORK.
5. TOE OF WALL STABILIZATION  
 INCLUDE ITEMS ABOVE IN WALL PACKAGE SUBMITTAL FOR EXPOSED SOIL STABILIZATION, WITH ADDITIONAL STABILIZATION PROGRAM DELIVERY IF CONVEYANCE FLOW OR SATURATED SOIL CONDITION IS ALSO PRESENT. USE SEED AND STABILIZATION MEASURES SHOWN IN THE PLAN OR DEFINED IN EARLIER SECTIONS OF THIS NOTE SHEET.
6. DRAIN TILE OUTLETS  
 INCLUDE IN WALL PACKAGE SUBMITTAL IMMEDIATE STABILIZATION PROGRAM INCLUDING BMPs FOR DRAIN TILE OUTLET OR WALL OPENINGS OR PENETRATIONS.
7. CONCRETE WASTE/EXCESS MATERIAL MANAGEMENT  
 INCLUDE IN WALL PACKAGE SUBMITTAL A MATERIAL MANAGEMENT PROGRAM THAT ADDRESSES CONCRETE WASTE GROUND CONTACT PREVENTION, SPILL MANAGEMENT, AND EXCESS MATERIAL DISPOSAL.
8. VEGETATION MANAGEMENT PROGRAM (INCIDENTAL)
  - A. PREVENT EROSION. SUBMIT A CONTINGENCY PLAN FOR EXTREME WEATHER GREATER THAN A 2 YEAR TYPE STORM AND EROSION CONDITIONS. IMMEDIATELY IMPLEMENT THE CONTINGENCY PLAN WHEN DAMAGE IS DETECTED.
  - B. ESTABLISH VEGETATION. SUBMIT A VEGETATION ESTABLISHMENT MONITORING PROGRAM THAT WEEKLY OR MORE OFTEN DETERMINES PLANT HEALTH AND DEVELOPMENT. DEVELOP A CORRECTIVE ACTION PLAN WHEN VEGETATION IS NOT DEVELOPING ADEQUATE COVER DENSITY OR SPECIES DIVERSITY BASED ON SEED MIX DEFINED IN THE WALL SUBMITTAL.
  - C. PROVIDE AUTOMATED TEMPORARY IRRIGATION SYSTEM UNTIL PERENNIAL SEEDED OR SOD COMPONENTS ARE A MINIMUM OF 6 INCHES OF VEGETATIVE COVER HEIGHT (TEMPORARY CROP COVERS NOT APPLICABLE). APPLY WATER AT A RATE OF 1 INCH PER WEEK, EVENLY AND UNIFORMLY APPLIED EACH DAY TO MAINTAIN A UNIFORM AND MOIST CONDITION. AUTOMATED TEMPORARY IRRIGATION IS NOT NECESSARY ON RAIN DAYS. ENSURE APPROPRIATE SPECIES DENSITY HAS OCCURRED THAT MEETS CONTRACT REQUIREMENTS AND ENVIRONMENTAL COMMITMENTS.
  - D. CONTROL ANNUAL WEEDS THAT LIMIT PERENNIAL VEGETATIVE COVER BY MECHANICAL METHODS THAT PRESERVE PERENNIAL COVER.
  - E. CONTROL ALL NOXIOUS STATE LISTED WEEDS BY MECHANICAL OR PRECISION HERBICIDE METHODS THAT PRESERVE PERENNIAL COVER.
9. LIST AND PROVIDE TEMPORARY AND PERMANENT STABILIZATION ESTIMATED QUANTITY ITEMS AND TABULATIONS IN WALL SUBMITTAL PACKAGE. THE TABULATION OF ESTIMATED QUANTITIES SHOULD INCLUDE ITEMS LIKE TOPSOIL BORROW, FERTILIZER TYPES, TEMPORARY EROSION PREVENTION ITEMS, PERMANENT EROSION PREVENTION ITEMS, SEED MIXTURE TYPES, SEDIMENT CONTROL BMP TYPES, AND IRRIGATION.

|   |   |   |                                  |  |                            |        |
|---|---|---|----------------------------------|--|----------------------------|--------|
| LEAD EXPERT OFFICE<br>AMBER BLANCHARD<br>ACTING DIRECTOR<br>OFFICE OF MATERIALS & ROAD RESEARCH |  | REINFORCED SOIL SLOPE<br>STORMWATER MANAGEMENT AND VEGETATION NOTES | APPROVED: 03-29-2023<br>REVISED: | <br>THOMAS STYRBICKI<br>STATE DESIGN ENGINEER | STANDARD PLAN<br>5-297.646 | 2 OF 2 |
|              |   | STANDARD PLAN   | STATE PROJ. NO.<br>TRUNK HWY.    | SHEET NO.<br>TOTAL SHEETS  |                            |        |