PERMANENT SEEDING NOTES

1. ENOUGH FINE-GRAINED MATERIAL TO MAINTAIN ADEQUATE MOISTURE AND NUTRIENT SUPPLY.

GRANULAR OR CRUMB-LIKE STRUCTURE IS ALSO FAVORABLE.

5. FREEDOM FROM TOXIC AMOUNTS OF MATERIALS HARMFUL TO PLANT GROWTH.

THESE CHARACTERISTICS.

UNDESIRABLE of FOR VARIOUS SOIL TYPES

SHOULD BEGIN AT 30 DAYS AFTER PLANTING.

OF LIMESTONE SHOULD ALWAYS BE USED.

LABEL (SEE APPENDIX 3.32-a.)

DEPTH SHOULD BE 1 TO 1 INCH DEEP.

WATER MAY BE MORE HARMFUL THAN NO WATER.

SHOULD BE SCARIFIED TO PROMOTE UNIFORM GERMINATION.

SURFACE ROUGHENING, STD. & SPEC. 3.29 - 1992 VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK)

OR MORE, EXCEPT ON SLOPES STEEPER THAN 2:1 WHERE THE ADDITION OF SOIL IS NOT FEASIBLE.

BE LEFT ON SLOPES STEEPER THAN 3:1 IF THEY DO NOT SIGNIFICANTLY IMPEDE GOOD SEED SOIL CONTACT.

MIXED GRASSES AND LEGUMES: 1,000 LBS/ACRE 10-20-10 OR EQUIVALENT NUTRIENTS (23 LBS PER 1,000 SQ. FT).

CONTROL, WHEN APPLYING LIME AND FERTILIZER WITH A HYDROSEEDER, APPLY TO A ROUGH, LOOSE SURFACE.

GRASS STANDS ONLY: 1,000 LBS/ACRE 10-20-10 OR EQUIVALENT NUTRIENTS (23 LBS PER 1,000 SQ. FT).

SHOULD ONLY BE APPLIED ACCORDING TO SOIL TEST.

SURFACE ROUGHENING: IF THE AREA HAS BEEN RECENTLY LOOSENED OR DISTURBED, NO FURTHER ROUGHENING IS REQUIRED. WHEN THE AREA IS COMPACTED, CRUSTED, OR HARDENED, THE SOIL SURFACE SHALL BE LOOSENED BY DISCING, RAKING, HARROWING, OR OTHER ACCEPTABLE MEANS. (SEE

SEEDBED REQUIREMENTS
TO MAINTAIN A GOOD STAND OF VEGETAION, THE SOIL MUST MEET CERTAIN MINIMUM REQUIREMENTS AS A GROWTH MEDIUM. THE EXISTING SOIL MUST HAVE

3. SUFFICIENT DEPTH OF SOIL TO PROVIDE AN ADEQUATE ROOT ZONE. THE DEPTH TO ROCK OR IMPERMEABLE LAYERS SUCH AS HARDPANS SHALL BE 2 INCHES

4. A FAVORABLE pH RANGE FOR PLANT GROWTH, IF THE SOIL IS SO ACIDIC THAT A pH RANGE OF 6.0-7.0 CANNOT BE ATTAINED BY ADDITION OF pH-MODIFYING

MATERIALS, THEN THE SOIL IS CONSIDERED AN UNUSABLE ENVIRONMENT FOR PLANT ROOTS AND FURTHER SOIL MODIFICATION WOULD BE REQUIRED.

ERVICE SOIL TESTING LABORATORY AT VPI&SU, OR BY A REPUTABLE COMMERCIAL LABORATORY. INFORMATION CONCERNING THE STATE SOIL TESTING

COOL SEASON GRASSES SHOULD BEGIN TO BE FERTILIZED 90 DAYS AFTER PLANTING TO ENSURE PROPER STAND AND DENSITY. WARM SEASON FERTILIZATION

LIME
PIEDMONT AND APPALACHIAN REGION: 2 TONS/ACRE PULVERIZED AGRICULTURAL GRADE LIMESTONE (90 LBS PER 1,000 SQ. FT). AN AGRICULTURAL GRADE

LEGUME STANDS ONLY: 1,000 LBS/ACRE 5-20-10 (23 LBS PER 1,000 SQ. FT) IS PREFERRED; HOWEVER 1,000 LBS/ACRE OF 10-20-10 OR EQUIVALENT MAY BE USED.

LIME AND FERTILIZER SHALL BE INCORPORATED INTO THE TOP 4-6 INCHES OF THE SOIL BY DISCING OR OTHER MEANS WHENEVER POSSIBLE. FOR EROSION

WARM SEASON GRASSES 4-5 LBS. PER NITROGEN (N) BETWEEN MAY 1 AND AUGUST 15TH (PER 1,000 SQ. FT PER YEAR), PHOSPHORUS (P) AND POTASH (K)

CERTIFIED SEED WILL BE USED FOR ALL PERMANENT SEEDING WHENEVER POSSIBLE. CERTIFIED SEED IS INSPECTED BY THE VIRGINIA CROP IMPROVEMENT

3. LEGUME SEED SHOULD BE INOCULATED WITH THE INOCULANT APPROPRIATE TO THE SPECIES. SEED OF THE LESPEDEZAS, THE CLOVERS AND CROWNVETCH

2. SEED SHALL BE EVENLY APPLIED WITH A BROADCAST SEEDER, DRILL, CULTIPACKER SEEDER OR HYDROSEEDER ON A FIRM, FRIABLE SEEDBED. SEEDING

ASSOCIATION OR THE CERTIFYING AGENCY IN OTHER STATES. THE SEED MUST MEET PUBLISHED STATE STANDARDS AND BEAR AN OFFICIAL "CERTIFIED SEED"

APPLY MAINTENANCE LEVELS OF FERTILIZER AS DETERMINED BY SOIL TEST. IN THE ABSENCE OF A SOIL TEST, FERTILIZATION SHOULD BE AS FOLLOWS:

COOL SEASON GRASSES 4 LBS. NITROGEN (N), 1 LB. PHOSPHORUS (P), AND 2 LBS. POTASH (K) (ALL FIGURES ARE PER 1,000 SQ. FT PER YEAR)

LABORATORY IS AVAILABLE FROM COUNTY EXTENSION AGENTS. REFERENCE APPENDIX 3.32-d FOR LIMING APPLICATIONS (IN LBS.) NEEDED TO CORRECT

UNDER UNUSUAL CONDITIONS WHERE IT IS NOT POSSIBLE TO OBTAIN A SOIL TEST, THE FOLLOWING SOIL AMENDMENTS WILL BE APPLIED:

6. FREEDOM FROM EXCESSIVE QUANTITIES OF ROOTS, BRANCHES, LARGE STONES, LARGE CLODS OF EARTH, OR TRASH OF ANY KIND, CLODS AND STONES MAY

LIME AND FERTILIZER: LIME AND FERTILIZER NEEDS SHOULD BE DETERMINED BY SOIL TESTS. SOIL TESTS MAY BE PERFORMED BY THE COOPERATIVE EXTENSION

2. SUFFICIENT PORE SPACE TO PERMIT ROOT PENETRATION, A BULK DENSITY OF 1.2 TO 1.5 INDICATES THAT SUFFICIENT PORE SPACE IS PRESENT. A FINE

THE ECH OMING STANDARDS ARE TO BE REQUIRED OR ADDRESSED ON EVERY DEVELOPMENT EXCEEDING KOODS EIN AREA OF DISTHURANCE THESE STANDARDS ARE

#	CRITERIA, TECHNIQUE OR METHOD	PRACTICES PROVIDED
	PERMANENT OR TEMPORARY SOIL STABILIZATION SHALL BE APPLIED TO DENUDED AREAS WITHIN SEVEN DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE. TEMPORARY SOIL STABILIZATION SHALL BE APPLIED WITHIN SEVEN DAYS TO DENUDED AREAS THAT MAY NOT BE AT FINAL GRADE BUT WILL REMAIN DORMANT FOR LONGER THAN 14 DAYS, PERMANENT STABILIZATION SHALL BE APPLIED TO AREAS THAT ARE TO BE LEFT DORMANT FOR MORE THAN ONE YEAR.	(TS) (PS)
2.	DURING CONSTRUCTION OF THE PROJECT, SOIL STOCKPILES AND BORROW AREAS SHALL BE STABILIZED OR PROTECTED WITH SEDIMENT TRAPPING MEASURES. THE APPLICANT IS RESPONSIBLE FOR THE TEMPORARY PROTECTION AND PERMANENT STABILIZATION OF ALL SOIL STOCKPILES ON SITE AS WELL AS BORROW AREAS AND SOIL INTENTIONALLY TRANSPORTED FROM THE PROJECT SITE.	(TS) (PS)
3.	A PERMANENT VEGETATIVE COVER SHALL BE ESTABLISHED ON DENUDED AREAS NOT OTHERWISE PERMANENTLY STABILIZED. PERMANENT VEGETATION SHALL NOT BE CONSIDERED ESTABLISHED UNTIL A GROUND COVER IS ACHIEVED THAT IS UNIFORM, MATURE ENOUGH TO SURVIVE AND WILL INHIBIT EROSION.	(TS) (PS)
1.	SEDIMENT BASINS AND TRAPS, PERIMETER DIKES, SEDIMENT BARRIERS AND OTHER MEASURES INTENDED TO TRAP SEDIMENT SHALL BE CONSTRUCTED AS A FIRST STEP IN ANY LAND-DISTURBING ACTIVITY AND SHALL BE MADE FUNCTIONAL BEFORE UPSLOPE LAND DISTURBANCE TAKES PLACE.	OD SF SAP CW ST
5.	STABILIZATION MEASURES SHALL BE APPLIED TO EARTHEN STRUCTURES SUCH AS DAMS, DIKES AND DIVERSIONS IMMEDIATELY AFTER INSTALLATION.	(TS) (PS)
6.	SEDIMENT TRAPS AND SEDIMENT BASINS SHALL BE DESIGNED AND CONSTRUCTED BASED UPON THE TOTAL DRAINAGE AREA TO BE SERVED BY THE TRAP OR BASIN.	(ST) (SAP)
7.	CUT AND FILL SLOPES SHALL BE DESIGNED AND CONSTRUCTED IN A MANNER THAT WILL MINIMIZE EROSION. SLOPES THAT ARE FOUND TO BE ERODING EXCESSIVELY WITHIN ONE YEAR OF PERMANENT STABILIZATION SHALL BE PROVIDED WITH ADDITIONAL SLOPE STABILIZING MEASURES UNTIL THE PROBLEM IS CORRECTED.	(TS) (PS)
8.	CONCENTRATED RUNOFF SHALL NOT FLOW DOWN CUT OR FILL SLOPES UNLESS CONTAINED WITHIN AN ADEQUATE TEMPORARY OR PERMANENT CHANNEL, FLUME OR SLOPE DRAIN STRUCTURE.	NOT APPLICABLE
€.	WHENEVER WATER SEEPS FROM A SLOPE FACE, ADEQUATE DRAINAGE OR OTHER PROTECTION SHALL BE PROVIDED.	IF SEEPS SHOULD OCCUR IN ANY EXISTING OR NEW CUT OR F SLOPE, THE CONTRACTOR SHALL FIRST ENSURE THAT THER ARE NOT AREAS OF PONDED WATER AT THE TOPS OF THE SLOPES, AND THEN SHALL CONTACT BOTH THE DESIGN ENGINEER AND THE PROJECT GEOTECHNICAL ENGINEER FO ON-SITE EVALUATION OF THE AREAS OF SEEPAGE.
10.	ALL STORM SEWER INLETS THAT ARE MADE OPERABLE DURING CONSTRUCTION SHALL BE PROTECTED SO THAT SEDIMENT-LADEN WATER CANNOT ENTER THE CONVEYANCE SYSTEM WITHOUT FIRST BEING FILTERED OR OTHERWISE TREATED TO REMOVE SEDIMENT.	
11.	BEFORE NEWLY CONSTRUCTED STORMWATER CONVEYANCE CHANNELS OR PIPES ARE MADE OPERATIONAL, ADEQUATE OUTLET PROTECTION AND ANY REQUIRED TEMPORARY OR PERMANENT CHANNEL LINING SHALL BE INSTALLED IN BOTH THE CONVEYANCE CHANNEL AND RECEIVING CHANNEL.	NOT APPLICABLE
12.	WHEN WORK IN A LIVE WATERCOURSE IS PERFORMED, PRECAUTIONS SHALL BE TAKEN TO MINIMIZE ENCROACHMENT, CONTROL SEDIMENT TRANSPORT AND STABILIZE THE WORK AREA TO THE GREATEST EXTENT POSSIBLE DURING CONSTRUCTION. NONERODIBLE MATERIAL SHALL BE USED FOR THE CONSTRUCTION OF CAUSEWAYS AND COFFERDAMS. EARTHEN FILL MAY BE USED FOR THESE STRUCTURES IF ARMORED BY NONERODIBLE COVER MATERIALS.	not applicable
13.	WHEN A LIVE WATERCOURSE MUST BE CROSSED BY CONSTRUCTION VEHICLES MORE THAN TWICE IN ANY SIX-MONTH PERIOD, A TEMPORARY VEHICULAR STREAM CROSSING CONSTRUCTED OF NONERODIBLE MATERIAL SHALL BE PROVIDED.	NOT APPLICABLE
4.	ALL APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS PERTAINING TO WORKING IN OR CROSSING LIVE WATERCOURSES SHALL BE MET.	NOT APPLICABLE
5.	THE BED AND BANKS OF A WATERCOURSE SHALL BE STABILIZED IMMEDIATELY AFTER WORK IN THE WATERCOURSE IS COMPLETED.	NOT APPLICABLE
16.	UNDERGROUND UTILITY LINES SHALL BE INSTALLED IN ACCORDANCE WITH THE FOLLOWING STANDARDS IN ADDITION TO OTHER APPLICABLE CRITERIA: A. NO MORE THAN 500 LINEAR FEET OF TRENCH MAY BE OPENED AT ONE TIME. B) EXCAVATED MATERIAL SHALL BE PLACED ON THE UPHILL SIDE OF TRENCHES. C) EFFLUENT FROM DEWATERING OPERATIONS SHALL BE FILTERED OR PASSED THROUGH AN APPROVED SEDIMENT TRAPPING DEVICE, OR BOTH, AND DISCHARGED IN A MANNER THAT DOES NOT ADVERSELY AFFECT FLOWING STREAMS OR OFF-SITE PROPERTY. D) MATERIAL USED FOR BACKFILLING TRENCHES SHALL BE PROPERLY COMPACTED IN ORDER TO MINIMIZE EROSION AND PROMOTE STABILIZATION. E) RESTABILIZATION SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THESE REGULATIONS. F) APPLICABLE SAFETY REGULATIONS SHALL BE COMPLIED WITH.	SF REFER TO SHEET C1.2, C1.3, C1.4, & C1.5 FOR ADDITIONAL REQUIREMENTS.
17.	WHERE CONSTRUCTION VEHICLE ACCESS ROUTES INTERSECT PAVED OR PUBLIC ROADS, PROVISIONS SHALL BE MADE TO MINIMIZE THE TRANSPORT OF SEDIMENT BY VEHICULAR TRACKING ONTO THE PAVED SURFACE. WHERE SEDIMENT IS TRANSPORTED ONTO A PAVED OR PUBLIC ROAD SURFACE, THE ROAD SURFACE SHALL BE CLEANED THOROUGHLY AT THE END OF EACH DAY. SEDIMENT SHALL BE REMOVED FROM THE ROADS BY SHOVELING OR SWEEPING AND TRANSPORTED TO A SEDIMENT CONTROL DISPOSAL AREA. STREET WASHING SHALL BE ALLOWED ONLY AFTER SEDIMENT IS REMOVED IN THIS MANNER.	(CE) FOR ALL POINTS OF INGRESS/EGRESS
8.	ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION OR AFTER THE TEMPORARY MEASURES ARE NO LONGER NEEDED, UNLESS OTHERWISE AUTHORIZED BY THE LOCAL PROGRAM AUTHORITY. TRAPPED SEDIMENT AND THE DISTURBED SOIL AREAS RESULTING FROM THE DISPOSITION OF TEMPORARY MEASURES SHALL BE PERMANENTLY STABILIZED TO PREVENT FURTHER EROSION AND SEDIMENTATION.	(TS) (PS)
9.	PROPERTIES AND WATERWAYS DOWNSTREAM FROM DEVELOPMENT SITES SHALL BE PROTECTED FROM SEDIMENT DEPOSITION, EROSION AND DAMAGE DUE TO INCREASES IN VOLUME, VELOCITY AND PEAK FLOW RATE OF STORMWATER RUNOFF FOR THE STATED FREQUENCY STORM OF 24-HOUR DURATION IN ACCORDANCE WITH THE FOLLOWING STANDARDS AND CRITERIA.	NOT APPLICABLE

TEMPORARY SEEDING NOTES

SURFACE ROUGHENING: IF THE AREA HAS BEEN RECENTLY LOOSENED OR DISTURBED, NO FURTHER ROUGHENING IS REQUIRED. WHEN THE AREA IS COMPACTED, CRUSTED, OR HARDENED, THE SOIL SURFACE SHALL BE LOOSENED BY DISCING, RAKING, HARROWING, OR OTHER ACCEPTABLE MEANS. (SEE SURFACE ROUGHENING, STD. & SPEC, 3.29 - 1992 VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK)

FERTILIZER REQUIREMENTS: FERTILIZER SHALL BE APPLIED AS 600 LBS/AC OR 10-20-10 (14 LBS/1,0000 SQ. FT) OR EQUIVALENT NUTRIENTS. LIME AND FERTILIZER SHALL BE INCORPORATED INTO THE TOP 2-4 INCHES OF THE SOIL IF POSSIBLE

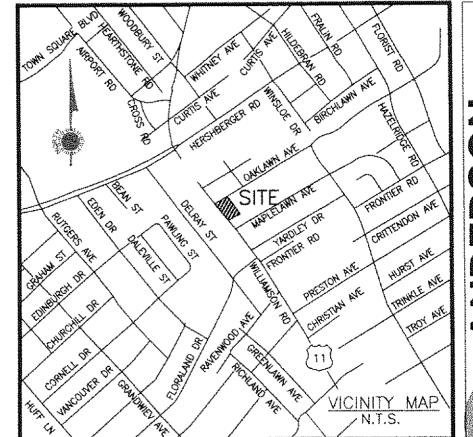
SEEDING: SEED SHALL BE EVENLY APPLIED WITH A BROADCAST SEEDER, DRILL, CULTIPACKER SEEDER OR HYDROSEEDER. SMALL GRAINS SHALL BE PLANTED NO MORE THAN 1 1 INCHES DEEP, SMALL SEEDS, SUCH AS KENTUCKY BLUEGRASS, SHOULD BE PLANTED NO MORE THAN I INCH DEEP. OTHER GRASSES AND LEGUMES SHOULD BE PLANTED 1 TO 1 INCH DEEP.

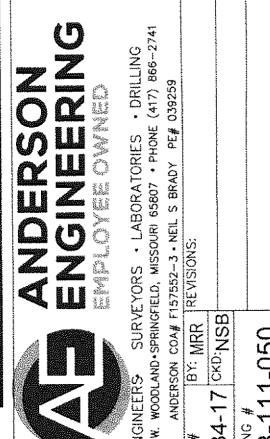
SEEDINGS MADE IN FALL FOR WINTER COVER AND DURING HOT AND DRY SUMMER MONTHS SHALL BE MULCHED ACCORDING TO MULCHING, STD, & SPEC. 3.35, EXCEPT THAT HYDROMULCHES (FIBER MULCHES) WILL NOT BE

CONSIDERED ADEQUATE, STRAW MULCH SHOULD BE USED DURING THESE PERIODS. TEMPORARY SEEDINGS MADE UNDER FAVORABLE SOIL AND SITE CONDITIONS DURING OPTIMUM SPRING AND FALL SEEDING DATES MAY NOT REQUIRE MULCH.

RATES (LBS/ACRE) PLANTING DATES 50/50 MIX OF ANNUAL RYEGRASS (LOLIUM MULTI-FLORUM) SEPT 1 - FEB 15 CEREAL (WINTER) RYE (SECALE CERALE)

FEB 16 - APRIL 30 ANNUAL RYEGRASS (LOLIUM MULTI-FLORUM) MAY 1 - AUGUST 31 GERMAN MILLET (SETARIA ITALICA)



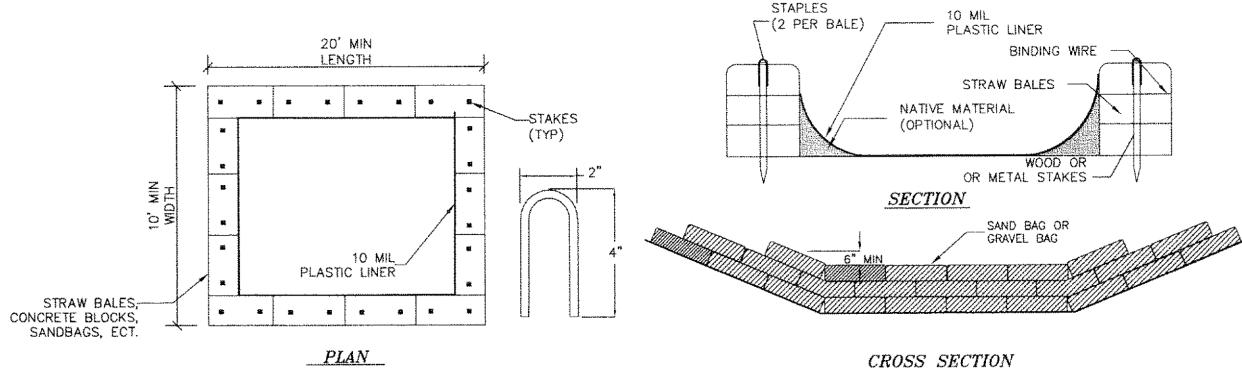


DEVELOPER INFO:

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PROJECT ADMINISTRATOR: TOM MITCHELL FAX: (417) 874-7112

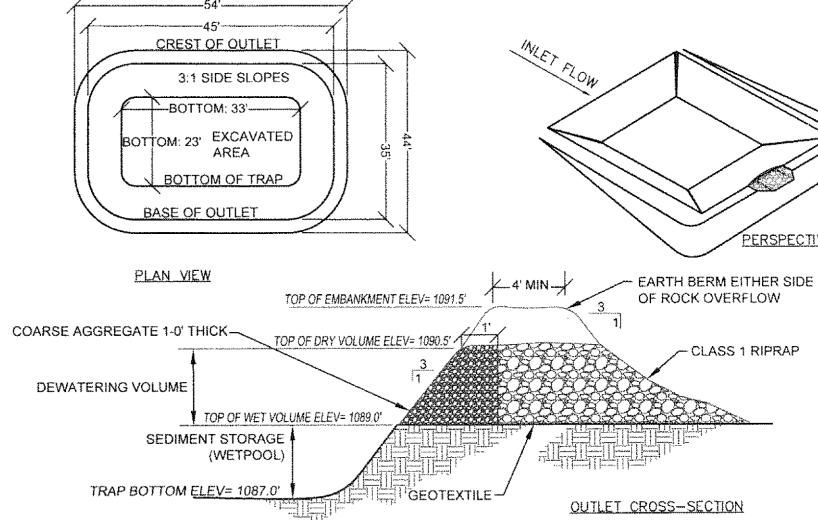
SPECIAL NOTE: 2013 DEQ VMP SPECS ARE TO BE USED ON THIS PROJECT.



ACTUAL LAYOUT DETERMINED IN FIELD 2. THE CONCRETE WASHOUT SIGN SHALL BE INSTALLED WITHIN 30 FT. OF THE TEMPORARY CONCRETE WASHOUT FACILITY

CONCRETE WASHOUT

SCALE: NOT TO SCALE



SEDIMENT TRAP SPECIFICATIONS

- 1. WORK SHALL CONSIST OF THE INSTALLATION, MAINTENANCE AND REMOVAL OF ALL SEDIMENT TRAPS AT THE LOCATIONS DESIGNATED 2. SEDIMENT TRAPS SHALL BE CONSTRUCTED TO THE DIMENSIONS SPECIFIED ON THE DRAWINGS AND OPERATIONAL PRIOR TO UPSLOPE
- LAND DISTURBANCE. 3. THE AREA BENEATH THE EMBANKMENT SHALL BE CLEARED, GRUBBED AND STRIPPED OF VEGETATION TO A MINIMUM DEPTH OF SIX (6) INCHES. THE POOL SHALL BE CLEARED AS NEEDED TO FACILITATE SEDIMENT CLEANOUT. 4. FILL USED FOR THE EMBANKMENT SHALL BE EVALUATED TO ASSURE ITS SUITABILITY AND IT MUST BE FREE OF ROOTS OR OTHER WOODY
- EITHER THE EARTHFILL OR COMPACTION SURFACE IS FROZEN. 5. THE MAXIMUM HEIGHT OF EMBANKMENT SHALL BE FIVE (5) FEET. ALL CUT AND FILL SLOPES SHALL BE 2:1 (H:V) OR FLATTER. 6. A MINIMUM STORAGE VOLUME BELOW THE CREST OF THE OUTLET OF 67 YDs. FOR EVERY ACRE OF CONTRIBUTING DRAINAGE AREA
- SHALL BE ACHIEVED AT EACH LOCATION NOTED ON THE DRAWINGS WITH ADDITIONAL SEDIMENT STORAGE VOLUME PROVIDED BELOW THIS ELEVATION.
- 8. THE OUTLET FOR THE SEDIMENT TRAP STRUCTURE SHALL BE CONSTRUCTED TO THE DIMENSIONS SHOWN ON THE DRAWINGS. 9. THE OUTLET SHALL BE CONSTRUCTED USING THE MATERIALS SPECIFIED ON THE DRAWINGS. WHERE GEOTEXTILE IS USED, ALL OVERLAPS SHALL BE A MINIMUM OF TWO (2) FEET OR AS SPECIFIED BY THE MANUFACTURER, WHICHEVER IS GREATER. ALL OVERLAPS SHALL BE MADE WITH THE UPPER MOST LAYER PLACED LAST, GEOTEXTILE SHALL BE KEYED IN AT LEAST 6" ON THE UPSTREAM SIDE OF

SCALE: NOT TO SCALE

VEGETATION, LARGE ROCKS, ORGANICS OR OTHER OBJECTIONABLE MATERIALS, FILL MATERIAL SHALL BE PLACED IN SIX (6) INCH LIFTS AND SHALL BE COMPACTED BY TRAVERSING WITH A SHEEPSFOOT OR OTHER APPROVED COMPACTION EQUIPMENT. FILL HEIGHT SHALL BE INCREASED FIVE (5) PERCENT TO ALLOW FOR STRUCTURE/FOUNDATION SETTLEMENT. CONSTRUCTION SHALL NOT BE PERMITTED IF

7. TEMPORARY SEEDING SHALL BE ESTABLISHED AND MAINTAINED OVER THE USEFUL LIFE OF THE PRACTICE.

10. AFTER ALL SEDIMENT-PRODUCING AREAS HAVE BEEN PERMANENTLY STABILIZED, THE STRUCTURE AND ALL ASSOCIATED SEDIMENT SHALL BE REMOVED. STABILE EARTH MATERIALS SHALL BE PLACED IN THE SEDIMENT TRAP AREA AND COMPACTED. THE AREA SHALL BE GRADED TO BLEND IN WITH ADJOINING LAND SURFACES AND HAVE POSITIVE DRAINAGE. THE AREA SHALL BE IMMEDIATELY SEEDED.

STD. & SPEC 3.13

SEDIMENT TRAP CALCULATIONS:

 SEDIMENT TRAP INITIAL STORAGE VOLUME REQUIREMENT INITIAL STORAGE VOLUME OF 134 CUYD PER ACRE SITE = 1.20 ACRES Vtot = (134 CUYD/ACRES)*(1.20 ACRES)

Vtot = 160.8 CUYD WET STORAGE REQUIREMENT WET STORAGE PROVIDED MUST BE 50% OF INITIAL REQUIRED STORAGE Vwetreg = 160.8 CUYD * 0.50

Vwetreg = 80.4 CUYD WET STORAGE PROVIDED WET STORAGE PROVIDED IS CALCULATED USING THE FOLLOWING EQUATION:

V1 = 0.85 * A1 * D1 A1 = SURFACE AREA OF FLOODED AREA AT BASE OF OUTLET A1 = 1505 SOFT

D1 = MAXIMUM DEPTH FROM BOTTOM OF TRAP TO BASE OF OUTLET D1 = 2.0 FT

V1 = 0.85 * 1505 SQFT * 2.0 FT V1 = 2559 CUFT V1 = (2559 CUFT) * (0.037 CUYD/CUFT) V1 = 95 CUYD > 80.4 CUYD

THE WET STORAGE IS PROVIDED BETWEEN THE ELEVATIONS 1087.0' AND 1089.0' WITH THE CROSS-SECTIONAL AREAS OF 23' X 33' AND 35' X 45' 4. DRY STORAGE REQUIREMENT

DRY STORAGE PROVIDED MUST BE 50% OF INITIAL REQUIRED STORAGE Vdryreq = 160.8 CUYD * 0.50

Vdryreg = 80.4 CUYD DRY STORAGE PROVIDED

DRY STORAGE PROVIDED IS CALCULATED USING THE FOLLOWING EQUATION: V1 = [(A1+A2)/2]*D2A1 = SURFACE AREA OF FLOODED AREA AT BASE OF OUTLET

A1 = 1505 SQFT A2 = SURFACE AREA OF FLOODED AREA AT CREST OF OUTLET A2 = 2220 SQFT

D2 = MAXIMUM DEPTH FROM BASE OF OUTLET TO CREST OF OUTLET D2 = 1.5 FT

V1 = [(1505 CUFT + 2220 CUFT)/2] * (1.5 FT)V1 = 2794 CUFT

V1 = (2794 CUFT) * (0.037 CUYD/CUFT) V1 = 103 CUYD > 80.4 CUYD THE DRY STORAGE IS PROVIDED BETWEEN

THE ELEVATIONS 1089.0' AND 1090.5' WITH THE CROSS-SECTIONAL AREAS OF 35' X 45' AND 44' X 54'

City of Roanoke Planning, Building, & Development COMPREHENSIVE DEVELOPMENT PLAN **APPROVED**

by Ken Richardson 01/13/2020

6

OHLES OHLES

15 STO

COMM # 4120 10-10-18 DATE: REVISION

Know what's below. Call before you dig.

TABLE 3.32-C SITE SPECIFIC SEEDING MIXTURES FOR APPALACHIAN / MOUNTAIN AREA MINIMUM CARE LAWN TOTAL LBS PER ACRE COMMERCIAL OR RESIDENTIAL 200-250 LBS KENTUCKY 31 OR TURF-TYPE TALL FESCUE 90-100% IMPROVED PERENNIAL RYEGRASS* 0-10% KENTUCKY BLUEGRASS 0-10% MINIMUM OF THREE (3) UP TO FIVE (5) VARIETIES OF BLUEGRASS FROM APPROVED LIST FOR USE IN VIRGINIA 125 LBS GENERAL SLOPE (3;1 OR LESS) KENTUCKY 31 FESCUE 128 LBS RED TOP GRASS 2 LBS SEASONAL NURSE CROP ** 20 LBS

150 LBS LOW MAINTENANCE SLOPE (STEEPER THAN 3:1) KENTUCKY 31 FESCUE 108 LBS RED TOP GRASS 2 LBS SEASONAL NURSE CROP ** 20 LBS

CROWNVETCH *** 20 LBS 150 LBS *PERENNIAL RYEGRASS WILL GERMINATE FASTER AND AT LOWER SOIL

TEMPERATURES THAN FESCUE, THEREBY PROVIDING COVER AND EROSION RESISTANCE FOR SEEDBED.

4. TO AVOID POOR GERMINATION RATES AS A RESULT OF SEED DAMAGE DURING HYDROSEEDING, IT IS RECOMMENDED THAT IF A MACHINERY BREAKDOWN OF 30 MINUTES TO 2 HOURS OCCURS, 50% MORE SEED BE ADDED TO THE TANK, BASED ON THE PROPORTION OF THE SLURRY REMAINING IN THE TANK. BEYOND 2 HOURS, A FULL RATE OF NEW SEED MAY BE NECESSARY.

SEVENTY-FIVE PERCENT OF THE TOTAL REQUIREMENTS SHOULD BE APPLIED BETWEEN SEPTEMBER 1 AND DECEMBER 31ST. THE BALANCE

SHOULD BE APPLIED DURING THE REMAINDER OF THE YEAR. MORE THAN 1 LB. OF SQLUBLE NITROGEN PER 1,000 SQ. FT SHOULD NOT BE

5. LEGUME INOCULANTS SHOULD BE APPLIED AT FIVE TIMES THE RECOMMENDED RATE WHEN INOCULANT IS INCLUDED IN THE HYDROSEEDER FLURRY.

MULCH REQUIREMENTS: ALL PERMANENT SEEDING MUST BE MULCHED IMMEDIATELY UPON COMPLETION OF SEED APPLICATION ACCORDING TO MULCHING, STD. IRRIGATION: NEW SEEDINGS SHOULD BE SUPPLIED WITH ADEQUATE MOISTURE. SUPPLY WATER AS NEEDED, ESPECIALLY LATE IN THE SEASON, IN ABNORMALLY

HOT OR DRY WEATHER, OR ON ADVERSE SITES. WATER APPLICATION RATES SHOULD BE CONTROLLED PREVENT EXCESSIVE RUNOFF, INADEQUATE AMOUNTS OF

RE-SEEDING: INSPECT SEEDED AREAS FOR FAILURE AND MAKE NECESSARY REPAIRS AND RE-SEEDINGS WITHIN THE SAME SEASON, IF POSSIBLE a. IF VEGETATIVE COVER IS INADEQUATE TO PREVENT RILL EROSION, OVER-SEED AND FERTILIZE IN ACCORDANCE WITH SOIL TEST RESULTS.

IF A STAND HAS LESS THAN 40% COVER, RE-EVALUATE CHOICE OF PLANT MATERIALS AND QUANTITIES OF LIME AND FERTILIZER. THE SOIL MUST BE TESTED TO DETERMINE IF ACIDITY OR NUTRIENT IMBALANCES ARE RESPONSIBLE. RE-ESTABLISH THE STAND FOLLOWING SEEDBED PREPARATION AND SEEDING RECOMMENDATIONS

USE SEASONAL NURSE CROP IN ACCORDANCE WITH SEEDING DATES AS STATED MAY 16TH THROUGH AUGUST 15TH FOXTAIL MILLET AUGUST 16TH THROUGH SEPTEMBER, OCTOBER ANNUAL RYE NOVEMBER THROUGH FEBRUARY WINTER RYE * IF FLATPEA IS USED, INCREASE TO 30 LBS/ACRE. ALL LEGUME SEED MUST BE PROPERLY INOCULATED. WEEPING LOVEGRASS MAY ALSO BE INCLUDED IN ANY SLOPE OR LOW-MAINTENANCE MIXTURE DURING WARMER SEEDING PERIODS; ADD 10-20 LBS/ACRE IN MIXES.