

# GRADING/SEDIMENT & EROSION CONTROL NOTES

1) SEDIMENT AND EROSION CONTROL SHALL NOT BE LIMITED TO THE MEASURES SHOWN ON THE PLANS. THE CONTRACTOR, WITH THE APPROVAL OF THE CITY INSPECTOR, SHALL UTILIZE BEST MANAGEMENT PRACTICES TO PREVENT SEDIMENT FROM ENTERING ADJACENT PROPERTIES, ROADWAYS, STORM SEWERS, AND DRAINAGEWAYS.

2) ALL FILLED PLACES UNDER PROPOSED STORM AND SANITARY SEWER LINES AND/OR PAVED AREAS INCLUDING TRENCH BACKFILLS WITHIN AND OFF THE ROAD RIGHT-OF-WAY SHALL BE COMPACTED TO 95 PERCENT OF MAXIMUM DENSITY AS DETERMINED BY THE "MODIFIED AASHTO T-180 COMPACTION TEST" (ASTM D-1557). ALL TESTS SHALL BE VERIFIED BY A SOILS ENGINEER CONCURRENT WITH GRADING AND BACKFILLING OPERATIONS. ALL TESTS SHALL BE SUPPLIED TO THE CITY OF O'FALLON IN A TIMELY MANNER.

3) ALL FILLED PLACES IN PROPOSED ROADS (HIGHWAYS) SHALL BE COMPACTED FROM THE BOTTOM OF THE FILL UP TO 95 PERCENT MAXIMUM DENSITY AS DETERMINED BY THE "MODIFIED AASHTO T-180 COMPACTION TEST" (ASTM D-1557). PAVED AREAS IN CUTS SHALL MEET THE SAME COMPACTION REQUIREMENTS. ALL TESTS SHALL BE VERIFIED BY A SOILS ENGINEER CONCURRENT WITH GRADING OPERATIONS. ALL TESTS SHALL BE SUPPLIED TO THE CITY OF O'FALLON IN A TIMELY MANNER.

4) ANY WELLS AND/OR SPRINGS WHICH MAY EXIST ON THIS PROPERTY SHOULD BE LOCATED AND SEALED IN A MANNER ACCEPTABLE TO CITY OF O'FALLON CONSTRUCTION INSPECTION DEPARTMENT.

5) ALL TRASH AND DEBRIS ON-SITE, EITHER EXISTING CONSTRUCTION, MUST BE REMOVED AND PROPERLY DISPOSED OF OFF-SITE.

6) DEBRIS AND FOUNDATION MATERIAL FROM ANY EXISTING ON-SITE BUILDING OR STRUCTURE WHICH IS SCHEDULED TO BE RAZED FOR THIS DEVELOPMENT MUST BE PROPERLY DISPOSED OF OFF-SITE.

7) SOFT SOILS IN THE BOTTOM AND BANKS OF ANY EXISTING OR FORMER POND SITES OR TRIBUTARIES OR ANY SEDIMENT BASINS OR TRAPS SHOULD BE REMOVED, SPREAD OUT AND PERMITTED TO DRY SUFFICIENTLY TO BE USED AS FILL. NONE OF THIS MATERIAL SHOULD BE PLACED IN PROPOSED PUBLIC RIGHT-OF-WAY LOCATIONS OR ON ANY STORM SEWER LOCATION.

8) A PRE-CONSTRUCTION CONFERENCE MUST BE SCHEDULED WITH THE CONSTRUCTION INSPECTION MANAGER PRIOR TO THE START OF EACH CONSTRUCTION PHASE OF LAND DISTURBANCE ACTIVITY. THE PERMITEE WILL BE RESPONSIBLE FOR NOTIFYING ALL CONTRACTORS, UTILITY CREWS, AND OTHER ENTITIES THAT WILL PERFORM WORK AT THE SITE TO BE IN ATTENDANCE.

9) PLEASE NOTIFY THE CITY A MINIMUM OF 48 HOURS PRIOR TO THE COMMENCEMENT OF CLEARING, GRADING, AND/OR PRIOR TO THE COMMENCEMENT OF CONSTRUCTION TO ARRANGE FOR AN INSPECTION OF THE SITE.

10) ALL EXCAVATIONS, GRADING OR FILLING SHALL HAVE FINISHED GRADE NOT TO EXCEED A 3:1 SLOPE, OR AS APPROVED BY THE SOILS ENGINEER.

11) TEMPORARY SILTATION CONTROL MEASURES (STRUCTURAL) SHALL BE MAINTAINED UNTIL VEGETATIVE COVER IS ESTABLISHED AT A SUFFICIENT DENSITY TO PROVIDE EROSION CONTROL ON THE SITE.

11) UPON COMPLETION OF STORM SEWERS, SILTATION CONTROL SHALL BE PROVIDED AROUND ALL OPEN SEWER INLETS AND SHALL REMAIN UNTIL THE DISTRIBUTED DRAINAGE AREAS HAVE BEEN PROPERLY STABILIZED.

12) WHERE NATURAL VEGETATION IS REMOVED DURING GRADING, VEGETATION SHALL BE REESTABLISHED IN SUCH A DENSITY AS TO PREVENT EROSION.

13) WHEN MECHANIZED LAND CLEARING ACTIVITIES ARE COMPLETED OR SUSPENDED FOR MORE THAN 2 WEEKS, EITHER TEMPORARY VEGETATION MUST BE ESTABLISHED OR TEMPORARY SILTATION CONTROL MEASURES MUST BE PUT IN PLACE WITH THE REVIEW AND APPROVAL OF THE CITY ENGINEER.

14) WHEN GRADING OPERATIONS ARE COMPLETED OR SUSPENDED FOR MORE THAN 2 WEEKS, PERMANENT GRASS MUST BE ESTABLISHED AT SUFFICIENT DENSITY TO PROVIDE EROSION CONTROL ON THE SITE. BETWEEN PERMANENT GRASS SEEDING PERIODS, TEMPORARY COVER SHALL BE PROVIDED ACCORDING TO THE RECOMMENDATION OF THE CITY ENGINEER.

15) ALL FINISHED GRADES (AREAS NOT TO BE DISTURBED BY FUTURE IMPROVEMENT) IN EXCESS OF 20% SLOPES (5:1) SHALL BE MULCHED AND TACKED AT THE RATE OF 100 POUNDS PER 1,000 SQUARE FEET WHEN SEEDED.

16) ALL LOTS SHALL BE SEEDED AND MULCHED AT THE MINIMUM RATES DEFINED IN THE ST. CHARLES COUNTY SOIL AND WATER CONSERVATION DISTRICT GUIDELINES, OR SOODED, BEFORE AN OCCUPANCY PERMIT MAY BE ISSUED, EXCEPT THAT A TEMPORARY OCCUPANCY PERMIT MAY BE ISSUED BY THE BUILDING DEPARTMENT IN CASES OF UNDUCE HARDSHIP BECAUSE OF UNFAVORABLE GROUND CONDITIONS.

17) THE PERMITEE SHALL ASSUME COMPLETE RESPONSIBILITY FOR CONTROLLING ALL SILTATION AND EROSION OF THE PROJECT AREA. THE PERMITEE SHALL USE WHATEVER MEANS NECESSARY TO CONTROL EROSION AND SILTATION INCLUDING, BUT NOT LIMITED TO, STAKED STRAW BALES AND/OR SILTATION FABRIC FENCES (POSSIBLE METHODS OF CONTROL ARE DETAILED IN THE PLAN.) CONTROL SHALL COMMENCE WITH CLEARING OPERATIONS AND BE MAINTAINED THROUGHOUT THE PROJECT UNTIL ACCEPTANCE OF THE WORK BY THE CITY OF O'FALLON AND AS NECESSARY BY MODOT. THE PERMITEE'S RESPONSIBILITIES SHALL INCLUDE ALL DESIGN AND IMPLEMENTATION AS REQUIRED TO PREVENT EROSION AND THE DEPOSITING OF SILT. THE CITY OF O'FALLON AND AS REQUIRED BY MODOT MAY AT THEIR OPTION DIRECT THE PERMITEE IN HIS METHODS AS DEEMED FIT TO PROTECT PROPERTY AND IMPROVEMENTS. ANY DEPOSITING OF SILT OR MUD ON NEW OR EXISTING PAVEMENT SHALL BE REMOVED IMMEDIATELY. ANY DEPOSITING OF SILTS OR MUD IN NEW OR EXISTING STORM SEWERS OR SWALES SHALL BE REMOVED AFTER EACH RAIN AND AFFECTED AREAS CLEANED TO THE SATISFACTION OF THE CITY OF O'FALLON AND AS REQUIRED BY MODOT.

18) ALL EROSION CONTROL SYSTEMS ARE INSPECTED AND CORRECTED WEEKLY, ESPECIALLY WITHIN 48 HOURS OF ANY RAINSTORM RESULTING IN ONE-HALF INCH OF RAIN OR MORE. ANY SILT OR DEBRIS LEAVING THE SITE AND AFFECTING PUBLIC RIGHTS-OF-WAYS OR STORM WATER DRAINAGE FACILITIES SHALL BE CLEANED UP WITHIN 24 HOURS AFTER THE END OF THE STORM.

# SILTATION CONTROL SPECIFICATIONS

## SILTATION CONTROL GENERAL NOTES

- INSTALLATION OF ALL PERIMETER SEDIMENT CONTROL SHALL BE IMPLEMENTED PRIOR TO CLEARING, GRUBBING, OR GRADING.
- INSPECTION OF SILTATION CONTROL DEVICES SHALL TAKE PLACE ONCE EVERY SEVEN DAYS AND WITHIN 24 HOURS OF ANY RAIN EVENT. ANY SILTATION CONTROL IN NEED OF REPAIR SHALL BE ADDRESSED A COPY OF THE INSPECTION REPORT SHALL BE KEPT ON THE CONSTRUCTION SITE.
- ALL SWALES OR DRAINAGE CHANNELS, WITHIN 60 DAYS OF ESTABLISHMENT, SHALL BE SOODED 12" ABOVE 100-YR STORM EVENT OR OVERFLOW ELEVATION. WITHIN AN ADDITIONAL SEVEN (7) DAYS, THE REMAINDER OF THE SITE SHALL BE SEEDED AND MULCHED PER SPECIFICATIONS.
- INLET PROTECTION SHALL BE INSTALLED AROUND EACH OPEN STORM SEWER AS SOON AS STRUCTURE CONSTRUCTION IS COMPLETED AND AS DIRECTED BY CITY OF O'FALLON.
- ALL SILTATION CONTROL DEVICES SHALL REMAIN IN PLACE UNTIL UPSLOPE AREAS HAVE BEEN PERMANENTLY STABILIZED WITH VEGETATION.

## SILTATION CONTROL SCHEDULE IMPLEMENTATION

- CONTRACTOR SHALL INSTALL PERIMETER SILTATION CONTROL DEVICES AS SHOWN ON THE PLAN, PER ATTACHED SPECIFICATIONS.
- AFTER ALL CLEARING, GRUBBING, AND EROSION CONTROL MEASURES ARE IN PLACE, GRADING AND UTILITY INSTALLATION CAN BEGIN.
- CONTRACTOR SHALL INSTALL INLET PROTECTION, AS IDENTIFIED IN THE PLANS, AROUND EACH STORM SEWER STRUCTURE AS IT IS COMPLETED.
- AREAS THAT ARE TO BE PERMANENTLY SEEDED SHALL RECEIVE STABILIZATION WITHIN 48 HOURS OF REACHING FINAL GRADE.
- SEDIMENT SHALL BE REMOVED FROM THE DETENTION BASINS WHEN APPROXIMATELY ONE-HALF OF THE STORAGE VOLUME HAS BEEN FILLED, BUT IN NO CASE LESS THAN ONCE EVERY WEEK.
- SEDIMENT SHALL BE REMOVED FROM BEHIND SEDIMENT CONTROL DEVICES WHEN THE DEPTH OF SEDIMENT REACHES HALF THE HEIGHT OF THE SILTATION CONTROL DEVICE OR 12", WHICHEVER IS LESS, AS MEASURED FROM THE NATURAL GROUND. THE SEDIMENT CONTROL DEVICES SHALL BE REPAIRED, AS REQUIRED.

## INLET PROTECTION

- INLET PROTECTION SHALL CONSIST OF FURNISHING, PLACING, MAINTAINING, AND REMOVING THE GUTTERBUDDY SEDIMENT CONTROL DEVICE OR APPROVED EQUAL AS DIRECTED BY THE ENGINEER AND AS SHOWN ON THE GRADING/SWPPP DRAWINGS.
- THE GUTTERBUDDY SHALL BE SYNTHETIC FILTER MATERIAL MANUFACTURED FROM RECYCLED SYNTHETIC FIBERS.
- THE GUTTERBUDDY WILL BE MANUFACTURED TO BE 9" IN DIAMETER AND ARE AVAILABLE IN 4', 6', 8', 10', 12', 14', AND 16' LENGTHS AND A MINIMUM OF 24 INCHES LONGER THAN THE CURB INLET OPENING. THIS WILL ALLOW FOR SUFFICIENT LENGTH TO COVER THE INLET WITH 12 INCHES BEYOND THE INLET ON BOTH ENDS.
- INSTALL THE GUTTERBUDDY IN FRONT OF THE CURB INLET OPENING. EACH END OF THE GUTTERBUDDY SHOULD OVERLAP THE CURB INLET APPROXIMATELY 12".
- THE GUTTERBUDDY SHOULD BE CLEANED IF A VISUAL INSPECTION SHOWS SILT AND DEBRIS BUILD UP AROUND THE GUTTERBUDDY.

## TEMPORARY ACCESS ROADS AND PARKING AREAS SPECIFICATIONS

- TEMPORARY ROADS SHALL FOLLOW THE CONTOUR OF THE NATURAL TERRAIN TO THE EXTENT POSSIBLE. SLOPES SHOULD NOT EXCEED 10 PERCENT.
- PARKING AREA GRADES SHOULD BE SUFFICIENT TO PROVIDE DRAINAGE, BUT SHOULD NOT EXCEED 4 PERCENT.
- ROADBEDS SHALL BE AT LEAST 14 FEET WIDE FOR ONE-WAY TRAFFIC AND 24 FEET WIDE FOR TWO-WAY TRAFFIC. TWO-WAY TRAFFIC WIDTHS SHALL BE INCREASED A MINIMUM OF 4 FEET FOR TRAILER TRAFFIC. DEPENDING ON THE TYPE OF VEHICLES OR EQUIPMENT, SPEED, LOADS, CLIMATIC, AND OTHER CONDITIONS UNDER WHICH VEHICLES AND EQUIPMENT OPERATE AN INCREASE IN THE MINIMUM WIDTH MAY BE REQUIRED BY CITY OF O'FALLON.
- ALL CUTS AND FILLS SHALL BE 3:1 OR FLATTER TO THE EXTENT POSSIBLE.
- DRAINAGE DITCHES SHALL BE PROVIDED AS NEEDED.
- THE ROADBED OR PARKING SURFACE SHALL BE CLEARED OF ALL VEGETATION, ROOTS AND OTHER OBJECTIONABLE MATERIAL.

## MAINTENANCE

SEEDED AREAS ADJACENT TO THE ROADS AND PARKING AREAS SHOULD BE CHECKED PERIODICALLY TO ENSURE THAT A VIGOROUS STAND OF VEGETATION IS MAINTAINED. ROADSIDE DITCHES SHALL BE SOODED AND OTHER DRAINAGE STRUCTURES SHOULD BE CHECKED REGULARLY TO ENSURE THAT THEY DO NOT BECOME CLOGGED WITH SILT OR OTHER DEBRIS.

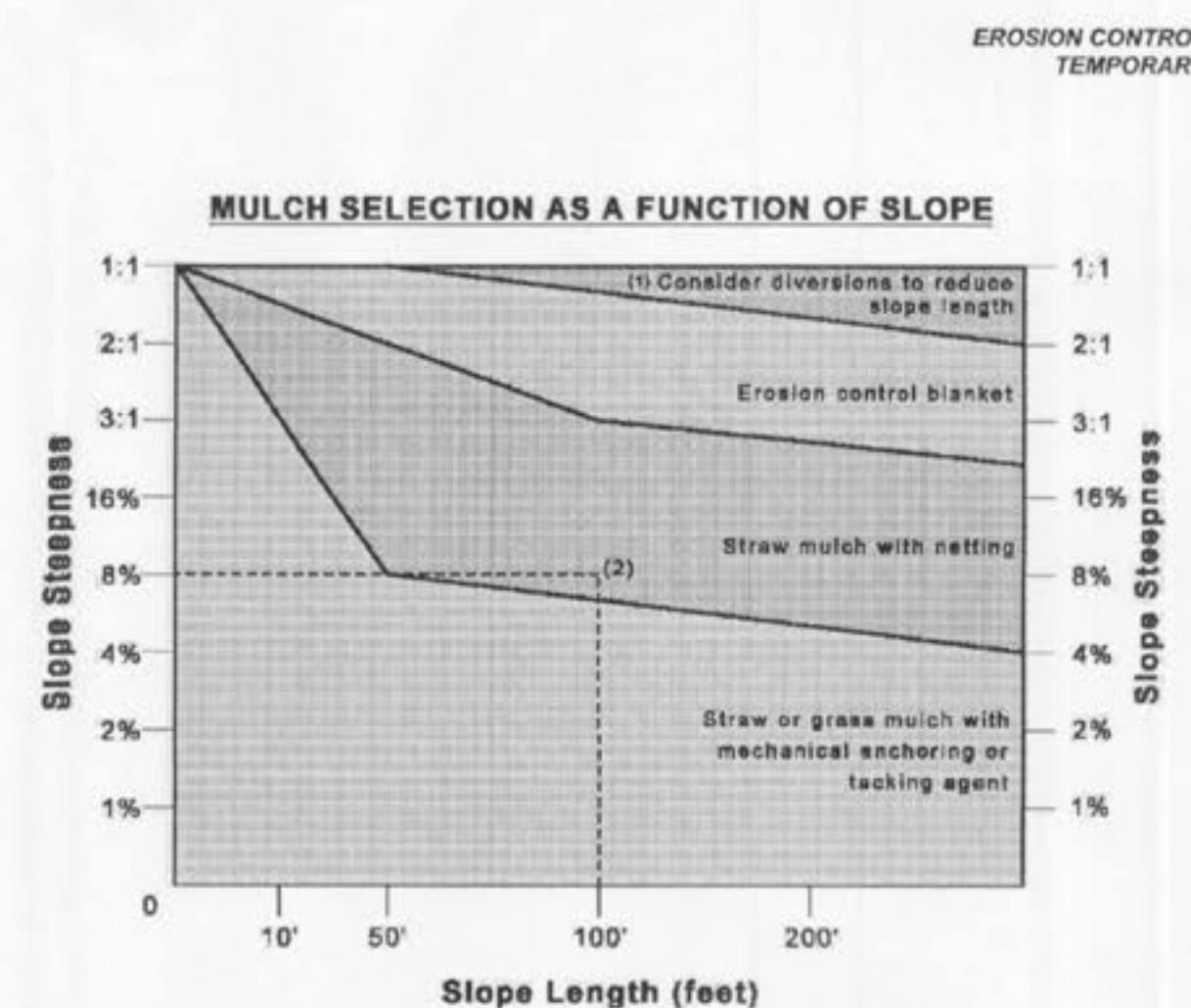
## CHANNEL FLOW APPLICATIONS:

- CHECK DAMS ARE TO BE CONSTRUCTED OF ROCK, SAND BAGS, OR GRAVEL BAGS.
- THE TOP OF THE DOWNSTREAM CHECK DAM SHOULD BE LEVEL WITH THE BASE OF THE UPSTREAM CHECK DAM.
- CONSTRUCT CHECK DAMS IN ACCORDANCE WITH THE DETAILS PROVIDED AND CITY OF O'FALLON REQUIREMENTS.

## SHEET FLOW APPLICATIONS:

- SILT FENCES SHALL BE USED ON ALL SHEET FLOW CONDITIONS.
- SILT FENCE TO BE WOVEN GEOTEXTILE FABRIC MIRAFI 100X OR EQUAL OVER 9 GAUGE, 6"x6" WIRE MESH.
- FABRIC TO BE SUPPORTED 2"x2" CONSTRUCTION GRADE LUMBER, 4' LONG, ON 10' CENTERS.
- FABRIC SHALL BE ENTRENCHED AND BACKFILLED. A TRENCH SHALL BE EXCAVATED A MINIMUM OF 6 INCHES DEEP FOR THE LENGTH OF THE FENCE. THE EXCAVATED SOIL SHALL BE BACKFILLED AGAINST THE FENCE.
- FENCE HEIGHT SHALL BE A MINIMUM OF 2 FEET IN HEIGHT, WITH THE FABRIC INSTALLED ON THE FENCE ON THE UPSTREAM SIDE.

TABLE 1: VEGETATION/SEEDING RATES AND MIXTURES



(1) For slopes steeper than 1:1, consider building a diversion above slope to divert water.  
(2) Example: An 8% slope, 100 feet long, requires straw mulch with netting.

## GENERAL MULCH RECOMMENDATIONS TO PROTECT FROM SPLASH AND SHEET FLOW

Material	Rate Per Acre	Requirements	Notes
Straw	2 to 2.5 tons	Dry, unchopped unweathered; avoid weeds.	Spread by hand or machine; must be tacked or tied down.
Wood Fiber or Wood Cellulose	0.5 to 1 ton		Use with hydro seeder; may be used to tack straw. Do not use in hot, dry weather.
Wood Chips	5 to 8 tons	Air dry. Add nitrogen fertilizer at 12 lb per ton.	Apply with blower, chip handler, or by hand. Not for fine turf areas.
Bank	36 cu. yds.	Air dry, shredded, or hammermilled, or chips.	Apply with mulch blower, chip handler or by hand. Do not use asphalt tack.

TABLE 2: MULCH SCHEDULE

Seeding Requirements	Dates for Seeding											
	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Permanent Seeding												
Tall Fescue												
Smooth Brome												
Fescue & Brome												
Fescue, Rye & Bluegrass	A	A	O	O	O	P	P	O	O	P	P	A
Temporary Seeding												
Rye or Sudan	A	A	O	O	O	O	O	O	O	O	A	A
Oats												

O = Optimum seeding dates  
A = Acceptable seeding dates  
P = Permitted seeding dates with reseeding 2 months later - initially use 50% of seed and 75% of fertilizer. Reseed with additional 75% seed and remaining fertilizer.

Permanent Seeding*	Minimum Fertilizer and Seeding Rates	
	Pounds per acre	Pounds Per 1000 sq. ft.
Tall Fescue	300	7.0
Smooth Brome	200	4.6
Mixture #1	250	5.7
Mixture #2	210	4.8

Mixture #1 = Tall Fescue @ 150 pounds per acre and Brome @ 100 pounds per acre.  
Mixture #2 = Tall Fescue @ 100 pounds per acre; Perennial Rye grass @ 100 pounds per acre; and Kentucky Bluegrass @ 10 pounds per acre.  
\* Seeding rate for slopes in excess of 20% (5:1), shall be 10 pounds per 1000 sq. ft.

Temporary Seeding	Pounds per acre	Pounds Per 1000 sq. ft.
Rye or Sudan	150	3.5
Oats	200	2.5

Fertilizer	Permanent Seeding	Temporary Seeding
	(pounds per acre)	(pounds per acre)
Nitrogen	45	30
Phosphorus	65	30
Potassium	65	30
Lime-EMM	600	600

EMM = Effective neutralizing material per State evaluation of quarried rock.

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DEVELOPER/OWNER:  
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THE PROFESSIONAL ENGINEER'S SEAL AND PERSONAL SIGNATURE ARE REQUIRED FOR ALL OTHER PLANS. THIS SEAL IS VALID FOR THE STATE OF MISSOURI ONLY. IT IS THE RESPONSIBILITY OF THE ENGINEER TO OBTAIN THE NECESSARY PERMITS AND TO BE SEEALED BY THE UNDERWRITER PROFESSIONAL RELIANCE FUND, OR INTENDED TO BE USED FOR ANY PART OF THE PROJECT TO WHICH THIS PAGE REFERS.

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PRESTON WOODS - PHASE 5  
MASS GRADING PLANS  
PRESTON WOODS LANE  
O'FALLON, MO. 63366

SPECIFICATION SHEET

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