

MMLC Area/Standard/ Practice	ME Master Logger Program (Goal/ Responsibility/Standard)	WI Master Logger Program (Area/Standard/Practice)	MN Voluntary Site Level FMGs (Revised)	SFI	FSC	AFF (American Tree Farm System)
Area One: Protection of Water Quality and Soils						
<i>FMG Practices :</i>						
I-A.1: Minimizing skid trails	2.1a	I-A.1	F.R. 9	PM 2.3 I.7	6.5	Standard 5 , PM 5.1
I-A.2: Skid trail location outside RMZs & filter strips	2.1c	I-B.3; I-B.4	F.R. 13	PM 3.2	6.5, 6.5a, 6.5b	Standard 5 , PM 5.1
I-A.3: Consideration of topography in skid trail layout.	2.2e	I-A.2	T.H. 26	Obj. 3	6.5, 6.5a, 6.5b	Standard 5 , PM 5.1
I-A.4: Minimizing rutting & erosion in soft, wet, or steep areas	2.2c	I-A.3	T.H. 28; T.H. 7	PM 2.3	6.5, 6.5a, 6.5b	Standard 5 , PM 5.1
I-A.5: Installation of water diversion structures	2.2d	I-A.4	T.H. 31	Obj 3	6.5, 6.5a, 6.5b	Standard 5 , PM 5.1
I-A.6: Location of slash outside of drainage areas	2.4k	I-A.6	T.H. 28	Obj 3	6.5, 6.5a, 6.5b	Standard 5 , PM 5.1
I-A.7: Skidding traffic is planned consistent with silvicultural objectives	3.1e	III-C.4	F.R. 12	PM 2.3 I.2	6.5, 6.5a, 6.5b	Standard 5 , PM 5.1
I-A.8: Use of low ground pressure equipment	3.1b	---	G.G. 20; T.H. 7	PM 2.3 I 2	6.5, 6.5a, 6.5b	Standard 5 , PM 5.1
I-A.9: Retention of leave snags, decayed, and cavity trees	4.1a; 4.3b	---	G.G. 75-78; T.H. 33	PM 2.3 I 4	6.5, 6.5a, 6.5b	Standard 5 , PM 5.1
<i>Add. Practices:</i>						
I-A.1: Consideration of predominant lean of stand in skid trail layout	2.2f	I-A.5	---	PM 2.3 I 2, 7	6.5, 6.5a, 6.5b	Standard 5
I-A.2: Plans to address wet weather events exist	1.2g; 2.3c	---	---	Pm 3.1 I 3	6.5, 6.5a, 6.5b	Standard 5

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<i>FMG Practices:</i>						
I-B.1: Establishment of RMZs on harvest site	1.2d; 2.3a; 4.1b	I-B.1	G.G. 29-67	PM 3.2	6.5.a & b	Standard 5
I-B.2: Distribution of longer-lived trees in RMZ	4.1a	I-B.2	G.G. 35	PM 2.3 I .5	6.5.a & b	Standard 5
I-B.3: Location of roads outside of RMZ	2.1c	I-B.4	F.R. 13	Obj 3	6.5.a & b	Standard 5
I-B.4: Location of landings and fueling/maintenance areas outside RMZ	2.5b	I-B.5	G.G. 39	Obj 3	6.5.a & b	Standard 5
I-B.5: No deposition of slash in filter strips, RMZs, lakes, or streams	2.4k	I-B.6	T.H. 28	Obj 3	6.5.a & b	Standard 5
I-B.6: Establishment of filter strips on all streams, lakes, and wetlands	2.5d; 3.2a	---	G.G. 24	PM 3.2	6.5.a & b	Standard 5
I-B.7: Logging residue kept out of all water wetlands, except where prescribed	---	I-B.7	T.H. 28	Obj 3	6.5.a & b	Standard 5
I-B.8: Logging residue is kept out of all seasonal ponds and wetlands	---	I-B.7	T.H. 28	Obj 3	6.5.a & b	Standard 5
I-B.9: Soil exposure, rutting, and compaction minimized in RMZs, filter strips, and wetlands	2.3e; 2.4j	I-B.8; I-C.3	G.G. 15	Obj 3	6.5.a & b	Standard 5
I-B.10: Harvesting in wetlands done in frozen ground conditions when necessary	2.2c; 3.1c	I-B.9	G.G 17-18; T.H. 31	Obj 3	6.5.a & b	Standard 5
I-B.11: Borrow pits outside of filter strips and RMZs	---	I-B.10	F.R. 13	Obj 3	6.5.a & b	Standard 5
I-B.12: Coarse woody debris in RMZs consistent with FMGs	4.5b	---	G.G. 79	Obj 3	6.5.a & b	Standard 5
<i>Add. Practices:</i>						
I-B.1: Restricted equipment operation zones established where appropriate in RMZs	1.2d	I-B.3	---	Obj 3	6.5.a & b	Standard 5

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<i>FMG Practices:</i>						
I-C.1: Stream crossing permits in place and followed	2.3a	I-C.1	F.R. 17	PM 3.1	6.5.a & b	Standard 2 & 5
I-C.2: Number of stream crossings is minimized	2.4b	I-C.2	F.R. 17	Obj 3	6.5.a & b	Standard 5
I-C.3: Stabilization practices used to minimize erosion into streams	2.4i	I-C.3	F.R. 32	Obj 3	6.5.a & b	Standard 5
I-C.4: Stream crossings installed appropriately	2.4a; 2.4d	I-C.5	F.R. 17	Obj 3	6.5.a & b	Standard 5
I-C.5: Water flow in wetland or water bodies undisturbed following harvest	2.1j; 2.4e	I-C.4	F.R. 18	Obj 3	6.5.a & b	Standard 5
I-C.6: Appropriate culvert diameter and length for stream size and road width	2.1h; 2.1k	I-C.7	F.R. 18	Obj 3	6.5.a & b	Standard 5
I-C.7: Culverts installed with appropriate fill and riprap	---	I-C.8	F.R. 18	Obj 3	6.5.a & b	Standard 5
I-C.8: Road drainage diverted into filter strip	2.1f	I-C.9	F.R. 31	Obj 3	6.5.a & b	Standard 5
I-C.9: Stream crossings stabilized and minimize sedimentation	2.4a; 2.4h	I-C.10	F.R.17	Obj 3	6.5.a & b	Standard 5
I-C.10: Temporary crossing structures anchored to prevent washouts	2.4h	I-C.11	F.R. 18	Obj 3	6.5.a & b	Standard 5
I-C.11: Temporary crossings removed after use	---	I-C.12	F.R. 18	Obj 3	6.5.a & b	Standard 5
I-C.12: Natural fords have low stream banks and firm base	2.4a	I-C.13	F.R. 18; T.H. 30	Obj 3	6.5.a & b	Standard 5
I-C.13: Equipment avoids stream banks for all non-frozen intermittent and perennial streams	2.3e	---	F.R. 18	Obj 3	6.5.a & b	Standard 5

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<i>FMG Practices:</i>						
I-D.1: Appropriate granular soils used for backfill in wetland crossing construction	---	---	F.R. 38-39	Obj 3	6.5.a & b	Standard 5
I-D.2: Sufficient size culverts and ditches installed to minimize disruption of water flow across landscape	2.1e	I-D.9	F.R. 25-26; F.R. 38-39	Obj 3	6.5.a & b	Standard 5
I-D.3: Geotextile fabrics, special embankment structures, and underlying peat layers utilized in deep peat wetland crossings	---	---	F.R. 40-43	Obj 3	6.5.a & b	Standard 5
I-D.4: Winter wetland crossings select shortest routes, avoid open water wetlands, avoid soil fill, and do not block normal water flow	---	---	F.R. 43	Obj 3	6.5.a & b	Standard 5
I-D.5: Winter wetland crossings removed after management activities	---	---	F.R. 45	Obj 3	6.5.a & b	Standard 5
<i>FMG Practices:</i>						
I-E.1: The number and size of roads and landings are kept to the minimum required	3.1e	I-D.1	T.H. 22	PM 2.3	6.5b	Standard 5 & 9
I-E.2: Road locations allow for drainage away from the road	2.1a	I-D.2	F.R. 8	PM 2.3	6.5b	Standard 5 & 9
I-E.3: Roads located in well drained soil	3.1f	I-D.3	F.R. 9	PM 2.3	6.5b	Standard 5 & 9
I-E.4: Road grades do not exceed 10%, grade lengths minimized, and drainage structures used	---	I-D.4	F.R. 14	PM 2.3	6.5b	Standard 5 & 9
I-E.5: Roads follow natural contours, minimize and balance cut/fills	2.1g	I-D.5	F.R. 8-9; T.H. 17	PM 2.3	6.5b	Standard 5 & 9

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I-E.6: Road surfaces crowned, outsloped, or insloped to provide adequate drainage	2.1g	I-D.6	F.R. 8	PM 2.3	6.5b	Standard 5 & 9
I-E.7: Debris for road construction deposited outside filter strips	---	---	F.R. 21	PM 2.3	6.5b	Standard 5 & 9
I-E.8: Cut/fill slopes are stable and will revegetate easily	2.1d	I-D.7	F.R. 32	PM 2.3	6.5b	Standard 5 & 9
I-E.9: Steep grades and erodible soils surfaced to minimize erosion	2.1g	I-D.8	F.R. 8	PM 2.3	6.5b	Standard 5 & 9
I-E.10: Ditches and cross drains constructed to handle water runoff entering onto or adjacent to road	2.1e	I-D.9	F.R. 28	PM 2.3	6.5b	Standard 5 & 9
I-E.11: Culverts are properly sized and installed correctly	2.1h	I-D.10	F.R. 26	PM 2.3	6.5b	Standard 5 & 9
I-E.12: Culvert base and fill is appropriate	2.4f	I-D.11	F.R. 18	PM 2.3	6.5b	Standard 5 & 9
I-E.13: Water diversion structures installed properly	2.1e; 2.2d	I-D.12	F.R. 28-31	PM 2.3	6.5b	Standard 5 & 9
I-E.14: Landings located and constructed to promote efficient drainage	2.5b	I-D.13	T.H. 22	PM 2.3	6.5b	Standard 5 & 9
I-E.15: Cleared or excavated materials for landings deposited in stable locations	---	I-D.14	F.R. 23	PM 2.3	6.5b	Standard 5 & 9
I-E.16: Landings and roads are seeded to prevent erosion	2.5e; 5.3a	I-D.15	G.G. 81	PM 2.3	6.5b	Standard 5 & 9
<i>FMG Practices:</i>						
I-F.1: Specified area used to drain lubricants from equipment	---	---	G.G. 70	PM 2.3	6.7	Standard 2 & 5
I-F.2: Maintenance vehicles available to collect and store lubricants	---	---	G.G. 70	Obj 3 & 11	6.7.b	Standard 2 & 5
I-F.3: Solid waste material are recycled and disposed of properly	6.3f	---	G.G. 70	Obj 3 & 11	6.7	Standard 2 & 5

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I-F.4: Fueling and maintenance areas located away from open water and outside filter strips and RMZs	---	---	G.G. 70	Obj 3 & 11	6.7.d	Standard 2 & 5
I-F.5: Waste containers present in maintenance areas to collect and store hydraulic products	6.3h	---	G.G. 70	Obj 3 & 11	6.7	Standard 2 & 5
I-F.6: Spills less than five gallons thin spread <i>Add. Practices:</i>	---	I.E.3	G.G. 70	Obj 3 & 11	6.7.a	Standard 2 & 5
I-F.1: Equipment does not have excessive fluid leaks	---	I-E.2	---	Obj 3 & 11	6.7	Standard 2 & 5
I-F.2: Spill kit and spill plan are maintained, complete, and on logging site	6.3e	I-E.1	---	Obj 3 & 11	6.7	Standard 2 & 5
I-F.3: Spills greater than five gallons are handled according to spill plan	---	I.E.3	---	Obj 3 & 11	6.7	Standard 2 & 5
Area 2: Management of Visual Quality						
<i>FMG Practice:</i>						
II-A.1: Slash height does not exceed 24 inches for most sensitive sites	---	V-A.1	T.H. 29	PM 5.1	6.5.b	Standard 7
<i>Add. Practice:</i>						
II-A.1: Rock and geologic landforms protected	5.2a; 5.2d	V-A.2	---	Obj 6	6.5.b	Standard 7
<i>Add. Practice:</i>						
II-B.1: Landowner's aesthetic concerns or goals discussed and incorporated into sale design	5.1b; 5.2a	V-B.1	---	PM 5.1	6.5.b	Standard 7
II-B.2: Aesthetic guidelines made clear to all employees	5.3	V-B.2	---	PM 5.1	6.5.b	Standard 7

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<i>FMG Practice:</i>						
II-C.1: Irregular boundaries, feathered edges, leave trees, and other applications used	5.3c	V-C.1	T.H. 17	P.M. 5.2	6.5.b	Standard 7
II-C.2: Disturbed areas, borrow pits, and landings are cleaned up, stabilized, leveled and seeded	5.3a	V-C.3	G.G. 81; T.H. 41	Obj 2	6.5.b	Standard 7
II-C.3: Slash is reduced to 24 inches in areas classified as most to moderately sensitive	---	V-C.7	T.H. 29	Obj 5	6.5.b	Standard 7
II-C.4: Muddy road exits are cleaned up	---	V-C.4	F.R. 15	Obj. 5	6.5.b	Standard 7
<i>Add. Practice:</i>						
II-C.1: Land boundary markers are not damaged	5.2c	V-C.6	---	Obj 5	6.5.b	Standard 7
II-C.2: Stump heights less than ½ of stump diameter and do not exceed 18 inches	---	V-C.5	---		6.5.b	Standard 7
II-C.3: Root wads, slash piles, hanging tops, and broken trees not present	---	V-C.2	T.H. 24	Obj 5	6.5.b	Standard 7
Area 3: Conformance with Acceptable Silvicultural, Operational and Utilization Standards						
<i>Practice:</i>						
III-A.1: Acceptable cutting system was used for the timber type in question	1.2f; 3.1b	III-A.1	G.G. 20	P.M. 7.1	7.1.c	---
III-A.2: For final harvests, regeneration was planned for	4.5	III-A.2	REF. 6	Obj 2	6.3.a	Standard 4
III-A.3: For thinnings and selective harvests, residual Bas are within acceptable ranges	4.5d	III-A.3	---	Obj 2	---	Standard 5

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III-A.4: Remaining crop and wildlife trees are acceptable for the management system used <i>FMG Practice:</i>	4.5	III-A.4	---	PM 2.3 I .5	---	Standard 6
III-B.1: All merchantable timber utilized within road clearing <i>Add. Practice:</i>	---	---	F.R. 22	Obj 7	5.3	---
III-B.1: Cooperation with mill managers for better utilization	---	---	---	Obj 7	5.3 & 5.2	---
III-B.2: Merchandizing of harvested material to ensure use for most beneficial purpose	---	---	---	Obj 7	5.3	---
III-B.3: Stump pull and split logs minimal	---	III-B.2	---	---	5.3	---
III-B.4: All merchantable wood is utilized to contract specifications	---	III-B.3	---	Obj 7	5.3	---
III-B.5: All cut wood products are forwarded to the landings	---	III-B.4	---	---	5.3	---
III-B.6: Cut wood products are hauled from the landings	5.3b	III-B.5	---	---	5.3	---
III-B.7: Operations within prescribed boundaries	---	---	---	---	2.1b	---
III-B.8: Marked or designated trees are harvested <i>FMG Practice:</i>	1.1d	III-B.1	---	---	---	---
III-C.1: Felling and skidding damage to residual trees is minimized	4.5e	III-C.1	T.H. 26	Obj 2	5.3.c	Standard 4
III-C.2: Protection of advanced natural regeneration during harvest <i>Add. Practice:</i>	4.5c	III-C.2	T.H. 39	Obj 2	6.5.b	Standard 4
III-C.1: Feller places cut products where skidder can load without rutting or damage to residual timber	3.1a; 4.5e	III-C.3	---	---	---	---

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III-C.2: Forest health issues identified in harvest plan are followed if no approved variances <i>FMG Practice:</i>	4.4a; 1.2e; 1.3a	III-C.5	---	PM 2.4	---	---
III-D.1: Harvest operations disperse slash on site where appropriate	---	---	T.H. 28	Obj 5	6.5.b	Standard 7
III-D.2: Equipment used to move slash minimizes soil disturbance	3.1b	III-C.4	T.H. 28	PM 2.3	6.5b	Standard 5
III-D.3: Landings left clean with little waste	2.5a	V-C.3	T.H. 24	Obj 7	6.5b	Standard 7
Area 4: Compliance with Government Regulations Applicable to Logging Operations						
<i>Practice:</i>						
IV-A.1: Continuously identify wood from the stump to the primary processor	7.3a; 7.3c	---	---	Obj 11	1.1.b	Standard 2
IV-A.2: Check with county to ensure property taxes have been paid	1.1a	---	---	Obj 11	---	Standard 2
IV-A.3: File necessary notices and secure permits before logging	2.6d	II-A.1	F.R. 34; G.G. 10	Obj 11	---	PM 9.2
IV-A.4: Federal and state laws concerning cultural resources are followed	1.2d	II-C.6	G.G. 10	Obj 11	7.1.h.1	Standard 8
IV-A.5: Awareness of responsibilities under the U.S. E.S.A. and Minnesota's threatened and endangered species statutes	1.2d; 2.6c; 2.6g	VI-A.3	G.G. 10-11	Obj 11	7.1.g	6.1.1
<i>Practice:</i>						
IV-B.1: Employee training is documented to comply with OSHA regulations	6.2a	II-C.1	---	Obj 8 & 11	4.2	---

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IV-B.2: OSHA regulations implemented on the job site	6.1b	II-C.2	---	---	---	---
IV-B.3: Annual meetings of OSHA safety requirements are conducted	6.1b	II-C.3	---	---	---	---
IV-B.4: Company's written safety plan is on file and present on job site	6.1c	II-C.4	---	---	---	---
IV-B.5: LogSafe safety practices implemented on job site	6.3b	II-C.5	---	---	---	---
IV-B.6: Monthly safety meetings comply with logging standard	6.2a	IV-B.1	---	---	---	---
IV-B.7: Pesticides used for their intended uses in accordance with label requirements	---	---	---	PM 2.2	6.7	PM 5.2.3
<i>Practice:</i> IV-C.1: Worker's compensation insurance policy is in place for all employees	---	VII-B.1	---	PM 11.2	4.1.f	I.9.2.2
Area 5: Adherence to Site Specific Harvest Plan						
<i>Practice:</i>						
V-A.1: Harvest plan is required for properties with less than 100 contiguous acres	---	---	---	Obj 1	Principle 7	Standard 3
V-A.2: Harvest plan and management plan are required for properties with 100-499 contiguous acres	---	---	---	Obj 1	Principle 7	Standard 3
V-A.3: For properties with 500 contiguous acres or more, the land must be certified	---	---	---	Obj 1	Principle 7	Standard 3
V-A.4: Plan includes landowner objectives for the harvest	1.1c	VI-A.1	G.G. 7; G.G. 15-17	---	7.1.a	Indicator 3.1.2
V-A.5: Landowner receives information on Minnesota's Forest Management Guidelines	---	---	---	---	---	---

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V-A.6: Plan provides for regeneration of the stand	4.5a	VI-A.2	---	Obj 2	7.1	Standard 4
V-A.7: Plan identifies and protects known important habitat elements for wildlife and cultural resources	1.2d	VI-A.3	---	PM 4.2	7.1.g	---
V-A.8: Logger and employees are familiar with the plan	1.1c	VI-A.4	---	---	7.1.c.2	---
V-A.9: Leave trees and clumps are retained in representative habitats consistent with harvest plan	---	---	---	PM 4.1	7.1	P.M. 6.2
V-A.2: Plans consider the visual sensitivity resources identified for protection	---	---	---	Obj 5	7.1	P.M. 7.1
<i>Practice:</i>						
V-B.1: Contract or agreement is signed by both seller and purchaser	1.2b	VI-B.1	---	---	1.5	---
V-B.2: Contract includes the basic categories of an acceptable timber sale contract	1.2	VI-B.2	---	---	---	---
V-B.3: Harvest plan/contract includes sale map, cutting specifications, and pertinent operation requirements	1.2	VI-B.3	---	---	---	---
V-B.4: Harvest contract includes landowner verification of legal ownership of property and timber	1.1a; 1.1e	VI-B.4	---	---	---	---
<i>Practice:</i>						
V-C.1: A pre-harvest meeting is held on-site with landowner or landowner representative	1.1	VI-C.1	---	---	7.3	---
V-C.2: All contract provisions are met or exceeded	1.3c	VI-C.2	---	---	7.3.b	---

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Area 6: Sound Business Management and Practices						
<i>Practice:</i>						
VI-A.1: Landowner contracts are honored and payments are timely	1.2f; 1.3c	VII-A.1	---	---	---	---
VI-A.2: Subcontractor contracts are honored and payments are timely	1.3c	VII-A.2	---	---	---	---
<i>Practice:</i>						
VI-B.1: General liability insurance is in place	---	VII-B.1	---	Obj 11	4.5.b	---
VI-B.2: Workers compensation insurance is in place for all employees	---	VII-B.2	---	PM 11.2	4.1.f	I 9.2.2
<i>Practice:</i>						
VI-C.1: Minnesota Master Logger Certification designation is marketed and promoted to end users and consumers	8.3b	VII-C.1	---	Obj 10	---	I 9.2.1
VI-C.2: Membership in professional trade association is encouraged	8.3c	VII-C.2	---	---	4.1	---
VI-C.3: Career opportunities are developed for young men and women interested in the wood harvesting industry	8.3d	VII-C.3	---	---	---	---
Area 7: Participation in a Continuing Logger Education and Training Program						
<i>Practice:</i>						
VII-A.1: Membership training requirements are maintained	8.3c	IV-A.1	---	Obj 10	---	---

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Area 8: Continuous MMLC Program Improvement						
<i>Practice:</i>						
VIII-A.1: New or modified practices are recommended by the Minnesota Logger Certification Board and approved by the MLEP Board of Directors	7.1c	IV-D.1	---	Obj 13	---	---
VIII-A.2: Minnesota Certified Master Loggers will implement new standards within one year after approval	7.1a	IV-D.2	---	Obj 13	---	---
VIII-A.3: Logger responsive to Minnesota Forest Resources Council Public Concerns Registration Process and to logging audits required for certification	8.1d	---	---	Obj 13	---	---