



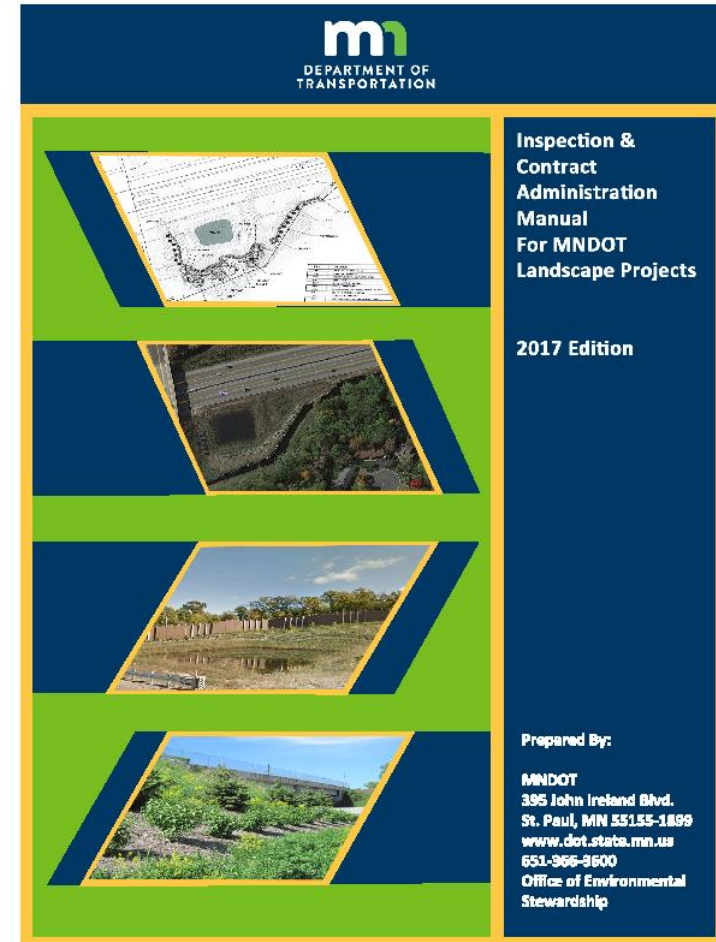
MnDOT's Landscaping Specification

Tina Markeson | Roadside Vegetation
Management Unit Supervisor

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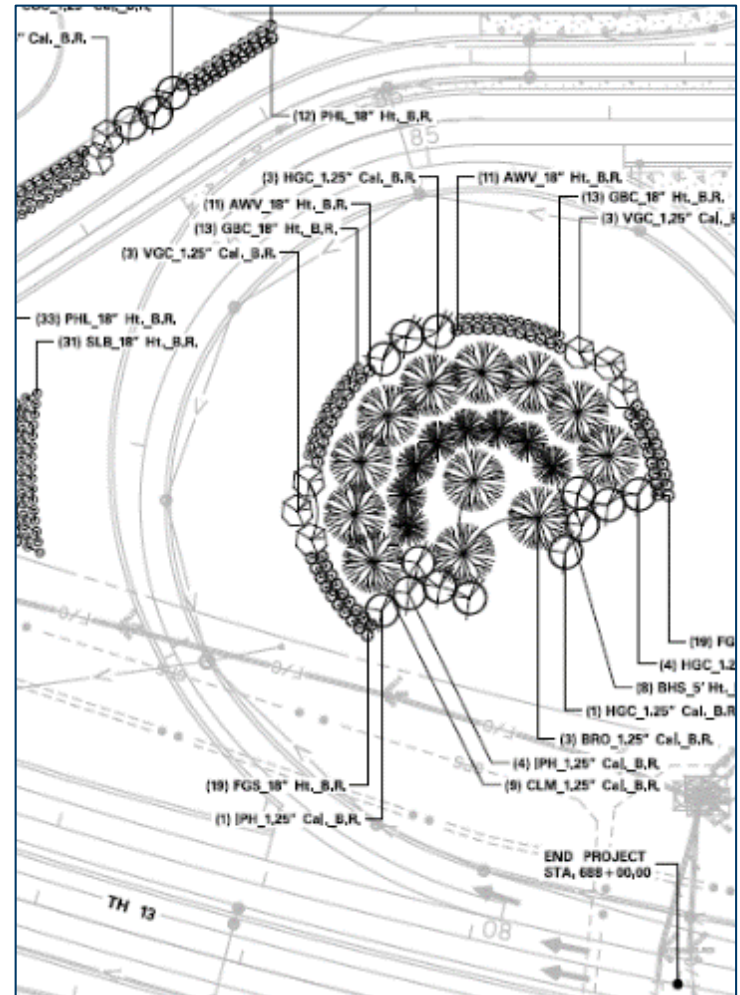
Landscape Specification

- MnDOT's Standard Specification 2571
- MnDOT's Inspection & Contract Administration Manual for MnDOT Landscape Projects



Landscape Projects

- Contract length is usually 2 ½ years
- Part 1:
 - Preconstruction Paperwork
 - Site Prep
- Part 2
 - Initial Planting Operations
- Part 3
 - Plant Establishment



Landscape Specification

- MnDOT's Standard Specification 2571
 - Materials
 - Certified Landscape Specialist Requirement
 - Site Prep
 - Soil Amendments
 - Delivery / Storage of Plants
 - Planting Procedures
 - Plant Establishment Expectations
 - Replacements of Missing/Dead Plants
 - Payment Structure

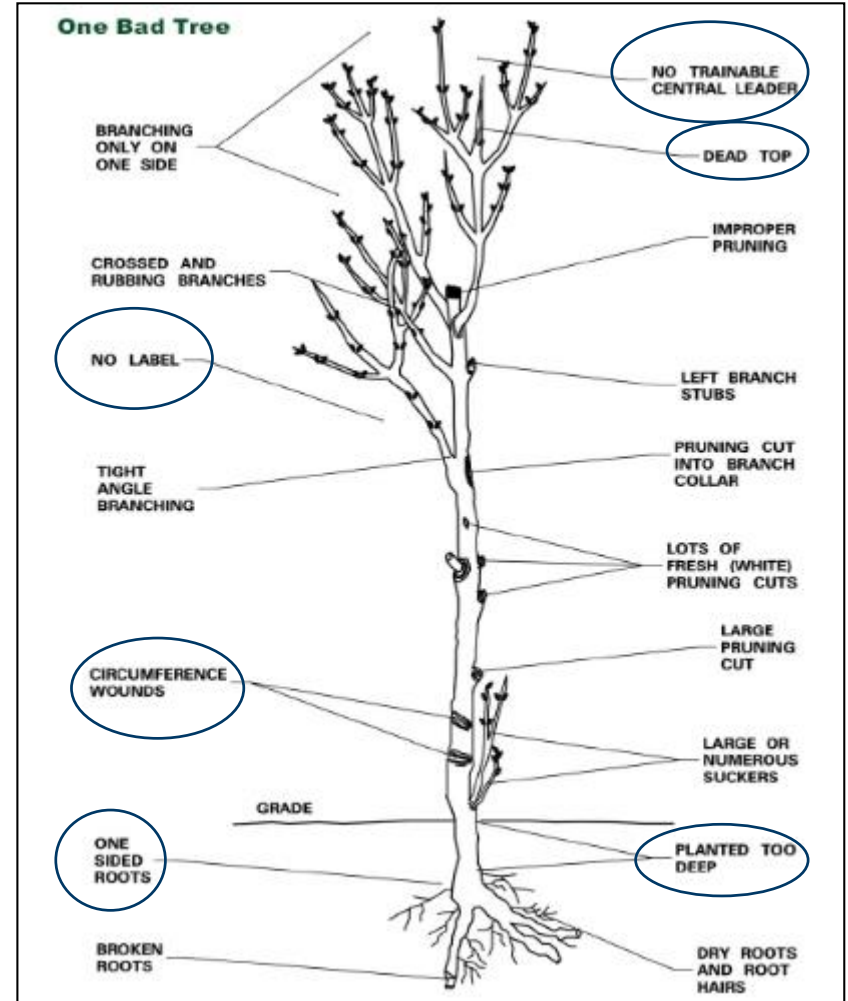
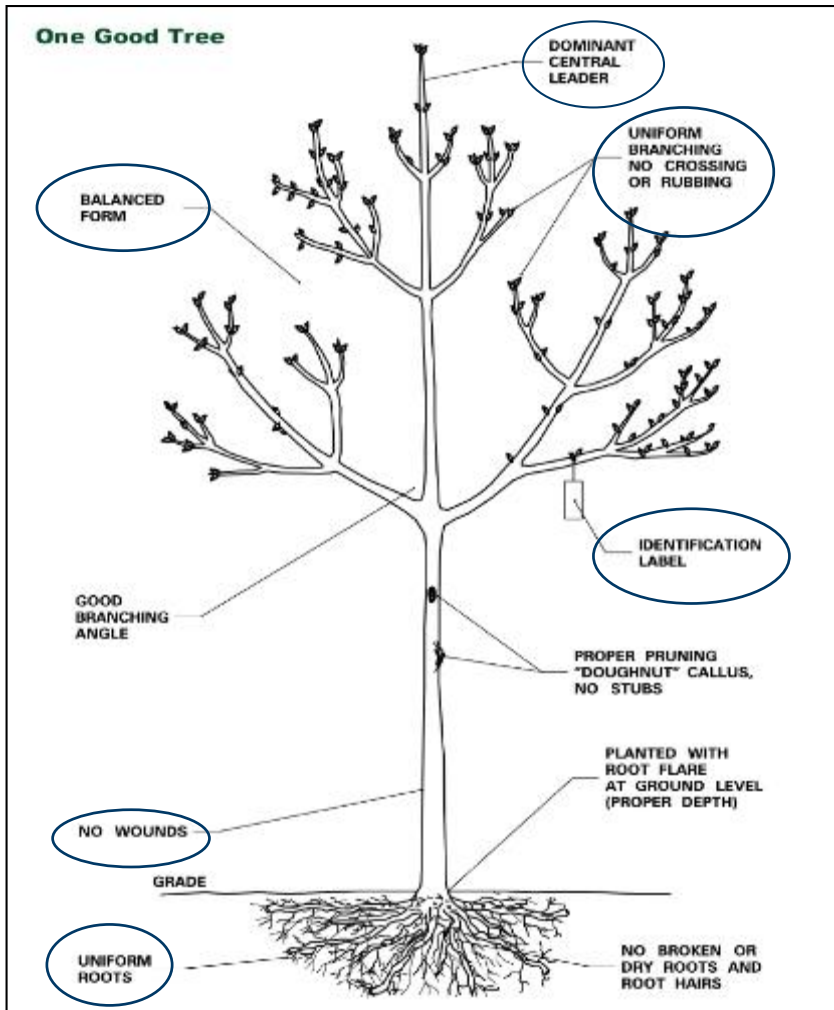


Landscape Manual

- MnDOT's Landscape Manual
 - How we expect the specification to be done
 - Green technical language to help inspectors
 - Plain language
 - Images/Tables/Checklists/Forms



Landscape Manual



Landscape Manual-Scouting

Inspection & Contract Administration Manual for MnDOT Landscape Projects

MnDOT Landscape Contractor Scouting Report April through October		
Project Number _____ CH _____ Engineer's Name _____		
Scouting Date _____ Date of Scouting _____		
Firm Name _____ Location on Plan Sheet Number(s) _____		
Signature of Certified L.S. Scout Project Supervisor _____ Phone Number _____		
Weather Conditions: Temp: _____ °F Precipitation since last report: _____ " Wind _____ mph		
Plant Establishment Task	Conditions Found - Work Performed	Date
Maintain adequate soil moisture: _____ Gallons of water applied and soil moisture with soil recovery probe; (check one) soil is moist and _____ and number _____		
Repairs, adjust or reestablish non-guying Bamboo from Project at end of first year.		
Repairs, adjust or reestablish retention structures.		
Maintain potted plants.		
Repairs, adjust or reestablish seeding chutes.		
Repair tree banks to test board benches, as needed.		
Maintain min. 3" depth mulch (_____ measured); _____ cubic yards of mulch applied to _____ depth.		
Inspect for harmful insects and diseases, treat as needed.		
Maintain mulched planting areas free of weeds by hand pulling tops and roots: • Do not tangle inside mulch with soil. • Remove all wood parts from Project. • Weeds pulled or granular herbicides must be applied according to Manufacturer's label.	<input type="checkbox"/> Pesticide Application Record Form	
Remove State and County listed noxious weeds to at least 6' beyond mulch lines.		
Maintain turf between 4" and 6" to a distance 6' beyond all mulch lines. Remove all weeds per MnDOT Project.		
Maintain contractor-installed turf between 6" and 18" Ht.		
Prune dead, diseased, broken and crossing branches using the Shigo method. Remove debris.		
Plants missing due to theft, animal damage, etc.		
Repairs or acceptable parts and addition items as per initial planting requirements.		
Maintain erosion control devices. Remove synthetic erosion control devices at end of Contract and remove from Project.		
Remove dead plants from Project. (Do not tamper with mulch with soil)		
Owner Comments _____		



Landscaping Manual-Checklists

Regulation and Contract Administration Manual for WisDOT Landscaping Projects
APPENDIX B CHECKLISTS AND FORMS

PRECONSTRUCTION CONFERENCE (2571.3B)

Contractor responsibility

Provide copies of the following:
 • Plan - including SWPPP (1905, 1400, 1504)
 • Proposal & special provisions (1232, 1235, 1238, 1210)
 • Current standard specifications for Construction
 • Addendum, if any
 • Minnesota Manual on Uniform Traffic Control Devices (MUTCD)
 • Current Inspection & Control Administration Manual for WisDOT Landscaping Projects

Provide the following documentation:
 • NPDES permit (or proof of approval) submitted by prime contractor
 • Preliminary WisDOT Certificate of Compliance for Plant Establishment Materials, if applicable
 • Written documentation if proposed materials and methods are not available or not approved
 • Contract, notes, & seed lists or approved sources or soil test
 • Check current WisDOT Tech Call Memo and Approved Construction Materials
<http://www.mn.gov/dhs/contractors>
<http://www.wis.gov/contractors>
 • Copy of a valid nursery state/industry registration certificate for nurseries used
 • Herbicide application license

Name _____
 License # _____
 Expiration Date _____
 Primary registrant cert. # _____
 Plant Establishment PE cert. # _____
 Certified Landscape Specialist Name _____ Exp. _____

This is part of Preconstruction (2571.3A1)
 *Partial initial payment. No suggested payment percentages are complete.

PREPARATION OF PLANTING HOLES & BEDS (2571.3C & D)

Contractor responsibility	Date	MWDOT responsibility
<input type="checkbox"/> Provide 24-hour notice or to beginning work or when changing operations (2571.3A3). Notify the Engineer immediately if plans change.	_____	Date of first 24-hour notice. NOTE: Work performed without note unauthorized (2571.3A3).
<input type="checkbox"/> Layout and stake planting beds and isolated plant locations (2571.3A2). Review staking for conflicts with: <ul style="list-style-type: none"> • Overhead lines • Sight cones, & sign visibility • Wet, newly drained, or low spots. Contact Technical Advisor on <u>Contractor logbook</u> .	_____	Plants located outside of right of way, clear zone, & utility is Y ___ N ___ Approved staking Y ___ N ___ Contact Technical Advisor with questions.
<input type="checkbox"/> Weed Control & Soil Cultivation (2571.3D) Soil moisture must be at field capacity or drier before working. If too wet, cultivation will destroy the soil structure. Steps: 1. Mow one week prior to herbicide application. 2. Submit labels & copy of valid pesticide applicator license to Engineer 3 days prior to herbicide application. 3. Mow and kill all turf & weeds in specified areas. 4. Complete successful competency test in one planting bed and one low planting area. 5. Cultivate and rake to a 12" depth. 6. Incorporate 4" of compost and other specified soil additives to a depth of 12". 7. Measure compaction levels, not to exceed 328 psi to a depth of 10". 8. Measure porosity rate if necessary to verify adequate drainage. 9. Install temporary erosion control measures.	_____	Date herbicide label submitted. Applicator is licensed for types: Agricultural Y ___ N ___ Weather conditions are suitable & spraying date Y ___ N ___ Verify competence in cultivating & incorporating soil additives (2571.3D2 step 4). Required depth: 10" including 4" of compost plus any other additives. Planting hole competency test acceptable. Planting bed competency test acceptable. Soil moisture at or below field capacity. Y ___ N ___ Compaction tester available. Y ___ N ___ Soil Reading _____ Composted Soil. Y ___ N ___
<input type="checkbox"/> Comply with NPDES Permit Part 4 (Construction Activity Requirements)	_____	NOTE: Notify Contractor in writing of non-compliance NPDES work. Deduct \$486/day if Contractor does not respond within 24 hours (1603.01).
Date _____	Inspector _____	Engineer _____

*Partial initial payment. Maximum eligible percentage/amount. Pay up to this amount if work is a suggested payment percentages are guidelines and do not obligate MWDOT to provide interim payments (2571.3C)

Regulation and Contract Administration Manual for WisDOT Landscaping Projects
APPENDIX B CHECKLISTS AND FORMS

INITIAL PLANTING OPERATIONS (2571.3F)

Contractor responsibility

Provide Initial Watering and Backfill (2571.3F)
 Watering equipment and forces must be available on the Project until initial plant establishment operations have been accepted.

Initial watering: thoroughly water each plant within 2 hours of installation in both soil and fill voids.

Mutch plants (2571.3H)
 Plants received within 2-7 days after plant installation, unless delays are authorized due to excessive soil moisture.
 • Permanent depth 2" - 4"
 • All others depth 4" - 6"

*EXCEPTION: On slopes steeper than 3:1 across slope. Watering mulch placement must occur within 3 days of spacing soil.

Protect plants (2571.3J)
 Install rodent guards, paint, staking & jacking, & tree shelters, as specified.

Clean up the Site (2571.2J)
 Remove all debris (limbs, unsorted mulch, sticks, poles, staking, nails, labels, etc.) from Project.
 Sweep tracked soil from adjacent paved surfaces.

Restore/Repair the Site (2571.3L(1))
 • Restore any eroded soil.
 • Repair all rutbed/cracked turf with the specified or in-place seed mix(es).

Date _____

Inspector _____

Engineer _____

*Partial initial payment. Maximum eligible percentage/amount. Pay up to this amount if work is a suggested payment percentages are guidelines and do not obligate MWDOT to provide interim payments (2571.3F)

Regulation and Contract Administration Manual for WisDOT Landscaping Projects
APPENDIX B CHECKLISTS AND FORMS

FINAL INSPECTION (2571.5L4(a))

Contractor responsibility

As a condition for terminating the Plant Establishment Period and conducting the final inspection, the Engineer may require the Contractor to address deficiencies. On or about the date on which the Plant Establishment Period is terminated, the Engineer will make a final inspection of the Project. The Engineer will make a determination as to which plants may be accepted for payment at the contract unit prices, at a reduced payment, or at no payment. Upon final acceptance the Contractor will not be required to provide any further care for the plantings.

Final Watering:
 Mow, but do not exceed in moisture.

Protection:
 Adjust rodent guards to meet initial planting requirements.
 Apply fresh latex paint on specified bases, as needed.
 Remove all staking & jacking.
 Adjust staking tree shelters to meet initial set up requirements.

Mulching:
 Maintain a minimum depth of 3" at specified widths.
 • Deciduous trees (up side - 2' radius from plant center)
 • Evergreen trees (2' from plant center)
 • Deciduous shrubs (3' from edge of low radius)
 • Evergreen shrubs (3' from edge of low radius).
 • Mow (2' wide x 10' long)
 Mow is not contaminated with soil or weeds.

Weed Control:
 Control weeds (top growth and roots) by hand pulling in all mulched areas. No chemical application is allowed within 2 weeks of final inspection.
 Control State and County-listed noxious weeds within 2' of mulched areas.

Mowing:
 Mow to 3" height the mulch line if taller than 9".
 Mow all turf establishment/repair areas, if taller than 18".
 Plants are free from harmful insects and diseases.

Form:
 Prune trees.
 Well-balanced and full branching.
 Establish central leaders on trees.

Pruning:
 Employ the Shigo method. Details in the Plan.
 Harvest dead, diseased, broken, or crossing branches.

Weeds are vigorous:
 New turf growth averages 4".
 Turf is in green.
 Leaf blade size is average size and healthy color.
 Rooting around crown.
 Roots spread closely.

Cleanup and Restoration (2575)
 Restore turf with appropriate seed mix.
 Properly dispose of weeds/planting debris off site.
 Restore depth of weeds/planting debris off site.
 Remove debris and unwanted roots/debris from Project site.

Inspector _____

Engineer _____

Landscape Manual-Detail Sheets

GENERAL NOTES

SEE SPEC
REFER TO CONTRACT GENERAL
COMPLETION
THE CON
OPERATIO
THE CON
OPERATIO
RODENT
PROTECT
FERTILIZ
COMPOST
MULCH
MATERIAL
WASS
PLANTING
BEDS
TREE
PLANTING
PROST
CRACK
PREVENT
PLANTING IN
DIMENSION
MAINTENANCE
SCHEDULES (MnDOT 2572.3A.1)

STEPS TO PRUNING WITH PRUNING SAW

- CUT PART WAY THROUGH THE BRANCH AT POINT A.
- CUT COMPLETELY THROUGH BRANCH FROM POINT B TO A.
- AT BRANCH COLLAR CUT FROM POINT C TO D.

INCORRECT CUT FROM POINT C TO X (TOO CLOSE) WILL RESULT IN DISCONTINUOUS CALLUS FORMATION AFTER ONE SEASON OF GROWTH.

CORRECT CUT FROM POINT C TO D (LEAVING BRANCH COLLAR BUT NOT THE STUB FROM POINT B TO A) WILL RESULT IN CONTINUOUS DOUGHNUT SHAPED CALLUS FORMATION AFTER ONE SEASON OF GROWTH.

BRANCHES PRUNED AT TRUNK (BICO METHOD)

BRANCHES PRUNED TO LIVE BUD

PRUNING NOTES:

- PRUNE USING CLEAN AND SHARP SCISSOR-TYPE PRUNER OR PRUNING SAW.
- THE BEST TIME TO PRUNE IS LATE DORMANT SEASON OR EARLY SPRING.
- AVOID PRUNING OAKS IN APRIL, MAY, JUNE OR JULY.
- IF PRUNING IS NECESSARY OR IF WOUNDS OCCUR TO OAK TREES IN APRIL, MAY, JUNE OR JULY, IMMEDIATELY PAINT CUT SURFACE OR WOUND WITH LATEX PAINT OR SHELLAC.

TEMPORARY FENCE

- FURNISH AND INSTALL TEMPORARY FENCE AT THE TREE'S DRIP LINE OR CONSTRUCTION LIMITS AS SPECIFIED, PRIOR TO ANY CONSTRUCTION.
- WHEN POSSIBLE PLACE FENCE 25 FEET BEYOND THE DRIP LINE.
- PLACE TREE PROTECTION SIGNS ALONG FENCE AT 50' INTERVALS.

UTILITY CONSTRUCTION

- WHEN DESIGNATED IN THE PLAN OR DIRECTED BY THE ENGINEER, PRIOR TO EXCAVATION, ALL TREE ROOTS WILL BE CLEANLY CUT BY A VIBRATORY PLOW OR OTHER APPROVED ROOT CUTTER.
- THE TREE ROOTS WILL BE CUT CLEANLY TO THE MINIMUM DEPTH NECESSARY FOR CONSTRUCTION.
- IMMEDIATELY AND CLEANLY CUT DAMAGED AND EXPOSED ROOTS.
- ROOT ENDS EXPOSED BY EXCAVATION ACTIVITIES SHALL BE IMMEDIATELY COVERED WITH A 6" LAYER OF ADJACENT SOIL.
- EXPOSED CUT OAK ROOTS SHALL BE IMMEDIATELY WITHIN 5 MINUTES TREATED WITH A WOUND DRESSING MATERIAL CONSISTING OF LATEX PAINT OR SHELLAC.

WITH
USIONS
AS TREES
US TREES
LIVE BUDS
OR
SILYDOPHYLLEN OR
SILYDOPHYLLEN 40 WEL
RICK AND 12" WIDE
WRAPS ATTACH WITH
#4 WIRE.

FEEL PORTS TO BE NOTCHED & BRIDGED TO RETAIN SOIL
WELL. PLACE OUTSIDE OF
DOT BALL. DRILL PLUMB
RADIOUS OF GROUND
JOINT.
CONSIDER TO SUBSTITUTE
UNDER ROSE AND WIRE
LIVING SYSTEMS WILL NOT
BE APPROVED.
IF STAIRS IS NOT
REQUIRED UNLESS SPECIFIC
IS NECESSARY TO MAINTAIN
OR IN A PLUMB CONDI
WHERE VERTICALITY, SLOPE,
OR WIND CONDITIONS ARE A
PROBLEM OR AS DIRECTED
BY THE ENGINEER.
SHOWS WITHIN ONE YEAR.

T SIZING				
TW	A	B	C	D
2E	7.0"	5.4"	4.0"	3.0"
3E	10.4"	5.4"	4.0"	3.0"

(MnDOT 2571.3T)

TREE PROTECTION ZONE

A	B	C
< 2"	2'	2'
2-4"	4'	2.5'
> 4-9"	6'	2.5'
> 9-14"	10'	3'
> 14-19"	12'	3.25'
> 19"	15'	4'

NOTE:

- (A) IS THE DIAMETER OF TREES MEASURED 4'-6" FEET ABOVE THE GROUND AND IS TERMED THE "DIAMETER AT BREAST HEIGHT," (DBH).
- USING A TREE DIAMETER TAPE, WRAP THE TAPE AROUND THE GIRTH OF THE TREE AT THE DBH, BEING CAREFUL NOT TO TWIST THE TAPE.

OTHER VEGETATION PROTECTION MEASURES
(MnDOT 2572.3A.12)

CLEAN ROOT CUTTING
(MnDOT 2572.3A.2)

ROOTING TOPSOIL BORROW
(MnDOT 2572.3A.4)

SLOPE ROUNDING

- PLACE THE TEMPORARY FENCE.
- REDUCE SLOPE ROUNDING WHERE ROOT ZONES ARE DISTURBED BY NORMAL SLOPE ROUNDING.
- VERIFY BACKSLOPE STEEPNESS TO AVOID TREE LOSS OR UNNECESSARY ROOT DAMAGE.

REVISION

APPROVED: DECEMBER 11, 2015

[Signature]

027 OPERATIONAL 973D

MINNESOTA HIGHWAY AND TRANSPORTATION DEPARTMENT

[Signature]

STATIC DESIGN ENGINEER

APPROVED: 12-11-2015

TRANSPORTATION & INFRASTRUCTURE
575 N. WASHINGTON ST., SUITE 1000
ST. PAUL, MINNESOTA 55101-2000

PROTECTION AND RESTORATION OF VEGETATION

STANDARD PLAN 5-297.302

1 OF 1

Landscape Manual-Training

- Certified Landscape Specialist Training
 - Offered in-person twice per year (Jan. & Feb)
 - Online Recertification and Provisional Certification
 - All certification and recertification require an online test
 - Certification is valid for 3 years

Thank you again!

Tina Markeson

Tina.markeson@state.mn.us

651-366-3619