

MINNESOTA DEPARTMENT OF TRANSPORTATION

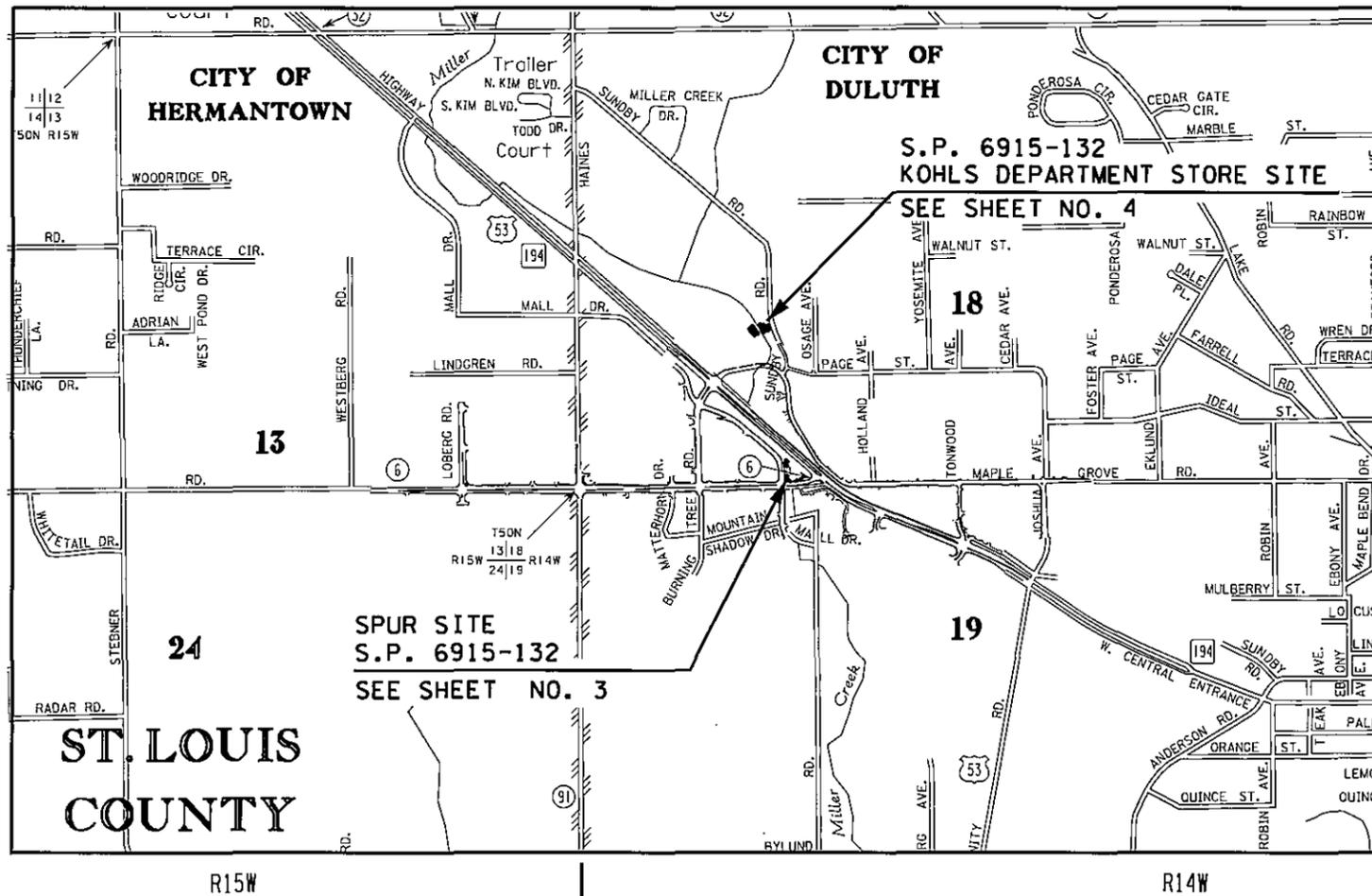
CONSTRUCTION PLAN FOR LANDSCAPING
 LOCATED ON T.H. 53 AT MAPLE GROVE ROAD
 LOCATED ON SUNDBY ROAD AT PAGE STREET

STATE PROJ. NO. 6915-132
 GROSS LENGTH..... FEET..... MILES
 BRIDGES-LENGTH..... FEET..... MILES
 EXCEPTIONS-LENGTH..... FEET..... MILES
 NET LENGTH..... FEET..... MILES
 REF. POINT 005+00.639 TO REF. POINT 006+00.610
 NOTE: LENGTH AND DESCRIPTION BASED ON N.B. T.H. 53 ALIGNMENT



SCALES

INDEX MAP 1000'



PROJECT LOCATION
 COUNTY: ST. LOUIS
 DISTRICT 1

FOR PLANS AND UTILITIES SYMBOLS SEE TECHNICAL MANUAL

PROJ. NO. 6915-132 CHARGE IDENTIFIER 107

PLAN REVISIONS		
DATE	SHEET NO.	APPROVED BY

FED. PROJ. NO. STATE FUNDS

GOVERNING SPECIFICATIONS

THE 2005 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATION FOR CONSTRUCTION" SHALL GOVERN.

INDEX

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	STATEMENT OF ESTIMATED QUANTITIES
3-4	LANDSCAPE PLAN
5-6	PLANTING DETAILS

THIS PLAN CONTAINS 6 SHEETS



I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL LANDSCAPE ARCHITECT UNDER THE LAWS OF THE STATE OF MINNESOTA.

CERTIFIED BY: Brett C. Blumer LIC. NO. 42944
 PRINTED NAME BRETT C. BLUMER DATE 1/21/2010

I HEREBY CERTIFY THAT THE FINAL FIELD REVISIONS, IF ANY, OF THIS PLAN WERE MADE BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

DATE REG. NO.

STATE PROJ. NO. 6915-132 (T.H. 53 = 106)

SHEET NO. 1 OF 6 SHEETS

STATEMENT OF ESTIMATED QUANTITIES					
CHART	SHEET NO.	ITEM NO.	ITEM DESCRIPTION	UNIT	S.P. 6915-132
					EST. QUANT.
A	4	2571.501	CONIFEROUS TREE 6' HT B&B	TREE	12
A	4	2571.502	DECIDUOUS TREE 6' HT B&B	TREE	6
A	3,4	2571.502	DECIDUOUS TREE 2" CAL B&B	TREE	41
A	3,4	2571.505	DECIDUOUS SHRUB 18" HT B&B	SHRUB	35

GENERAL NOTES

MULCH, COMPOST, AND TOPSOIL USED TO MEET THE PLANTING DETAILS ON SHEETS NO. 5 & 6 IS INCIDENTAL.

OPERATE TILLING EQUIPMENT A MINIMUM OF 10' CLEAR OF EXISTING TREES, UNLESS AUTHORIZED BY THE ENGINEER.

COMPLETE ALL TILLING USING A SPADE TYPE TILLER.

SEE THE PLANT STOCK TABULATION TABLE FOR INDIVIDUAL PLANT QUANTITIES.

RESTORE ALL DAMAGED TURF AT THE CONTRACTOR'S EXPENSE, TO PRE-LANDSCAPE INSTALLATION CONDITIONS AS DIRECTED BY THE ENGINEER.

FOR PLANTS TO BE PLACED ADJACENT TO PONDS, MEASURE PLANT LOCATIONS FROM TYPICAL WATER LEVEL ELEVATION. FINAL LOCATIONS MUST BE APPROVED BY MN/DOT.

THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D. THIS UTILITY QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF DI/ASCE 38-02, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA."

NO UTILITIES WILL BE AFFECTED BY THIS PROJECT.

STORM WATER POLLUTION PREVENTION PLAN

POND CORNERS MAY NOT BE DRIVEN ON BY VEHICLES. IF DISTURBED, POND CORNERS MUST BE RESTORED TO PRE-EXISTING CONDITIONS WITHIN 24 HOURS.

STORM WATER POLLUTION PREVENTION PLAN (SWPPP) NOTES:

CONTRACTOR MAY NOT DRIVE ANY EQUIPMENT IN POND BOTTOMS.

ANY RUTS OR DAMAGED TURF THAT COULD CREATE SEDIMENT DISCHARGE TO POND BOTTOMS MUST BE REPAIRED WITHIN 24 HOURS.

TILLING FOR BEDS OR TREE HOLES ON SLOPES OF 1 TO 3 OR GREATER MUST BE PLANTED AND MULCHED WITH WOODCHIP WITHIN 7 DAYS OR STRAW MULCHED UNTIL PLANTING OPERATIONS CAN BE COMPLETED.

INLET DIAPERS WILL BE USED, AS NEEDED, TO PROTECT INLETS.

SWEEPING OF ALL PAVED SURFACED WILL ALSO BE REQUIRED, AS NECESSARY TO KEEP EXCESS MUD, DIRT, OR ROCK FROM LEAVING THE SITE.

ANY POND CORNERS OPENED DUE TO TILLING FOR TREE HOLES OR SHRUB BEDS MUST BE PLANTED AND MULCHED WITH WOODCHIP WITHIN 24 HOURS OR STRAW MULCHED UNTIL PLANTING OPERATIONS CAN BE COMPLETED.

DITCH GRADES MUST BE PROTECTED. ANY DITCH BOTTOMS DISTURBED DURING LANDSCAPE OPERATIONS MUST BE RESTORED TO PRE-EXISTING CONDITIONS WITHIN 3 DAYS.

CATCH BASINS WILL BE PROTECTED FROM SEDIMENT USING COMPOST FILTER LOGS, ROCK LOG OR SEDIMENT INLET BAGS.

BIOLOGS WILL BE INSTALLED, AS NEEDED, TO TRAP SEDIMENT ON LOWER EDGE OF BEDS OR TREE HOLES. TYPICALLY THIS WILL BE NECESSARY WHEN PLANT INSTALLATIONS ARE ON SLOPES OR ABOVE WATERS OF THE STATE. BIOROLLS WILL BE LEFT TO PHOTO DEGRADE.

CHEMICAL SPILLS OF ANY KIND (OIL, FUEL, FERTILIZER, ETC.) IN THE MILLER CREEK AREA MUST BE CLEANED UP AND REMOVED FROM THE SITE IMMEDIATELY. THE CONTRACTOR MUST HAVE A SPILL KIT ON SITE AT ALL TIMES.

UTILITIES TABULATION

COMPANY	TYPE
CITY OF DULUTH	GAS, SIGNALS, SEWER & WATER
MINNESOTA POWER	POWER
ST. LOUIS COUNTY	SIGNALS
MN/DOT	SIGNALS
CHARTER COMMUNICATIONS	TELEVISION
QWEST CORPORATION	TELEPHONE
ENVENTIS TELECOM	TELEPHONE

DESIGN TEAM				
DRAWN BY: PRM				
DESIGNER: JCK				
CHECKED BY: VAA				
NO.	BY	DATE	REVISIONS	

I hereby certify this plan sheet was prepared by me or under my direct supervision and that I am a duly Licensed Professional Landscape Architect under the laws of the State of Minnesota.
 Certified By: *Brett G. Blumer* Lic. No. 42944
 Licensed Professional Landscape Architect
 Printed Name: BRETT G. BLUMER Date: 1/21/2010



MINNESOTA DEPARTMENT OF TRANSPORTATION
 STATE PROJECT NO. 6915-132 (T.H. 53)

STATEMENT OF ESTIMATED QUANTITIES

FILE NO.	2
MNDOT0426	
SEQ1	
OF SEQ1	6

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LEGEND

- SUGAR MAPLE
- QUAKING ASPEN
- COMMON HACKBERRY
- AMERICAN HAZELNUT
- SERVICEBERRY
- SPECKLED ALDER
- RED-OSIER DOGWOOD
- PLANT CODE/PLANT QUANTITY

NOTES:
FINAL PLACEMENT OF
TREES AND SHRUBS
DETERMINED BY ENGINEER.

☉ MALL DR.



1316

NEW R/W

EXISTING R/W

☉ S.B. T.H. 53

MILLER CREEK

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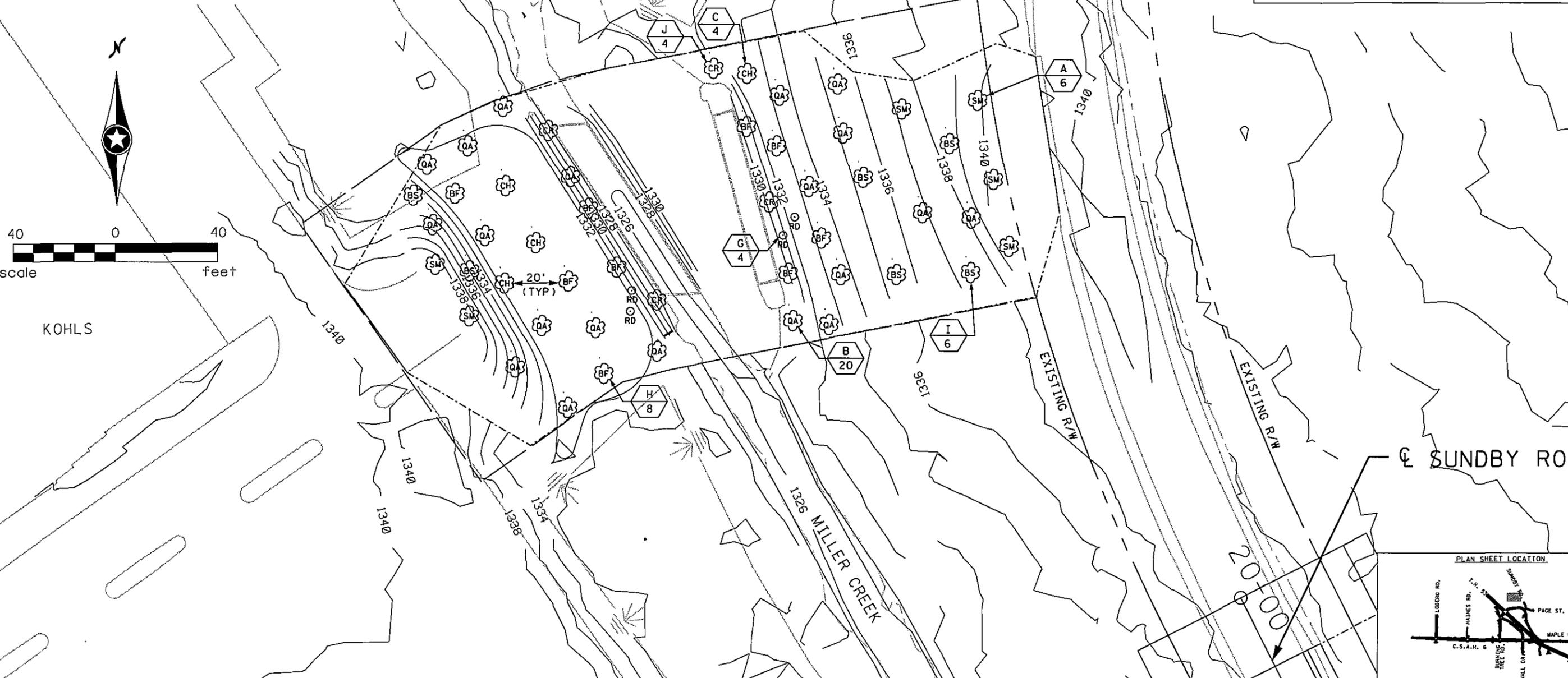
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A PLANT SCHEDULE

CODE	QTY	COMMON NAME/LATIN NAME	SIZE	ROOT	REMARKS
A	6	SUGAR MAPLE/ACER SACCHARINUM	2" CAL	B&B	
B	20	QUAKING ASPEN/POPULUS TREMULOIDES	2" CAL	B&B	
C	4	COMMON HACKBERRY/CELTIS OCCIDENTALIS	2" CAL	B&B	
H	8	BALSAM FIR/ABIES BALSAMEA	6' HT	B&B	
I	6	BASSWOOD/TILIA AMERICANA	6' HT	B&B	
J	4	CEDAR/THUJA OCCIDENTALIS	6' HT	B&B	
G	4	RED OSIER DOGWOOD/CORNUS STOLONIFERA	18" HT	B&B	

NOTES:
FINAL PLACEMENT OF
TREES AND SHRUBS
DETERMINED BY ENGINEER.

LEGEND	
	SUGAR MAPLE
	QUAKING ASPEN
	COMMON HACKBERRY
	BASSWOOD
	BALSAM FIR
	CEDAR
	RED-OSIER DOGWOOD
	PLANT CODE/PLANT QUANTITY



DESIGN TEAM			
DRAWN BY:	PRM		
DESIGNER:	DAC		
CHECKED BY:	VAA		
NO.	BY	DATE	REVISIONS

I hereby certify this plan sheet was prepared by me or under my direct supervision and that I am a duly Licensed Professional Landscape Architect under the laws of the State of Minnesota.
 Certified By: *Brett G. Blumer* Lic. No. 42944
 Licensed Professional Landscape Architect
 Printed Name: BRETT G. BLUMER Date: 1/21/2010

SEH
 PHONE: 218.279.3000
 418 W. SUPERIOR ST.
 SUITE 200
 DULUTH, MN 55805

MINNESOTA DEPARTMENT OF TRANSPORTATION
 STATE PROJECT NO. 6915-132 (T.H. 53)

LANDSCAPE PLAN
 MILLER CREEK NORTH OF MAPLE GROVE ROAD

FILE NO.	4
MNDOT0425	
LS2	
OF LS2	6

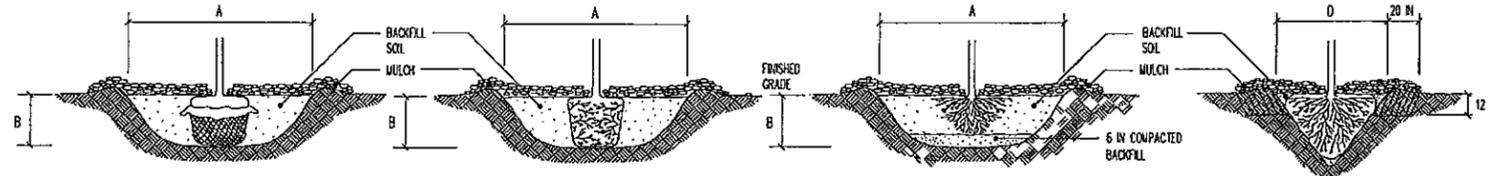
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PLANTING HOLE DIMENSIONS
(MINIMUM WIDTH DOES NOT APPLY IN MASS PLANTING BEDS)

PLANT TYPE	PLANT SIZE (UP TO AND INCLUDING)	MINIMUM HOLE WIDTH (INCHES)	APPROXIMATE HOLE DEPTH (INCHES)
		A	B
EVERGREEN TREES	36 IN B.B.	42	11
	48 IN B.B.	51	13
	60 IN B.B.	60	13
	72 IN B.B.	66	15
	84 IN B.B.	72	16
	96 IN B.B.	81	18
	108 IN B.B.	90	20
SHADE & FLOWERING TREES	11 IN B.B.	54	14
	1 1/4 IN B.B.	60	14
	1 1/2 IN B.B.	66	15
	1 3/4 IN B.B.	72	16
	2 IN B.B.	84	19
	2 1/2 IN B.B.	84	19
	3 IN B.B.	96	20
EVERGREEN SHRUBS (UPRIGHT)	24 IN B.B.	30	9
	36 IN B.B.	48	12
	48 IN B.B.	63	14
	EVERGREEN SHRUBS (SPREADING)	16 IN SPREAD B.B.	30
24 IN SPREAD B.B.		36	9
32 IN SPREAD B.B.		42	11
36 IN SPREAD B.B.		48	12
DECIDUOUS SHRUBS	16 IN B.B.	30	8
	24 IN B.B.	33	9
	36 IN B.B.	42	11
	48 IN B.B.	48	12
	60 IN B.B.	54	14
	72 IN B.B.	60	14
	16 IN B.B.	26	7
	24 IN B.B.	30	8
CONTAINER GROWN PLANTS	2 1/4 IN CONT	6	3
	3 1/2 IN CONT	7	3
	4 IN CONT	10	4
	4 1/3 IN CONT	11	4 3/4
	0.25 GAL CONT	13	5 1/2
	1 GAL CONT	18	6
	2 GAL CONT	23	7 1/2
	3 GAL CONT	29	8 1/2
CONTAINER GROWN PLANTS	5.25 GAL CONT	30	11
	6.5 GAL CONT	37	11
	10.5 GAL CONT	44	14
	14.5 GAL CONT	45	15
	20 GAL CONT	60	17
	26.5 GAL CONT	72	16



BALLED & BURLAPPED STOCK

- SCARIFY SIDES AND BOTTOM OF HOLE.
- PROCEED WITH CORRECTIVE PRUNING AS DIRECTED BY ENGINEER.
- SET PLANT ON UNDISTURBED NATIVE SOIL, OR THOROUGHLY COMPACTED BACKFILL SOIL AT THE SAME DEPTH (IF PROPER) AS IT WAS GROWN IN THE NURSERY.
- PLANT SHALL BE PLACED IN PLANTING HOLE WITH BURLAP AND WIRE BASKET, IF USED, INTACT. ONCE IN PLACE, THE PLANT SHALL BE BACKFILLED TO WITHIN 12 IN OF THE TOP OF THE ROOTBALL AND WATERED. THE TOP LOOPS OF THE WIRE BASKETS SHALL BE REMOVED AND THE BURLAP SHALL BE FOLDED OR CUT BACK.
- PLUMB AND BACKFILL WITH THE BACKFILL SOIL SPECIFIED.
- APPLY WATER TO SETTLE PLANTS AND FILL VOIDS THEN CONSTRUCT 3 IN DEPTH WATERING BASH.
- WATER THOROUGHLY WITHIN 2 HOURS.
- PLACE MULCH WITHIN 48 HOURS OF THE SECOND WATERING UNLESS SOIL MOISTURE IS EXCESSIVE.
- BIODEGRADABLE TWINE MAY BE LEFT ON AS SUPPORT BETWEEN THE ROOT BALL AND ROOT COLLAR UNTIL THE END OF THE PLANT ESTABLISHMENT PERIOD AT WHICH TIME IT MUST BE CUT AND TOTALLY REMOVED FROM THE ROOT COLLAR. THE TWINE MUST BE TIED OR RETIED TO MID-LEVEL LOOPS OR POINTS ON THE BASKET. USE OF NONBIODEGRADABLE TWINE SHALL NOT BE PERMITTED.

CONTAINER STOCK

- SCARIFY SIDES AND BOTTOM OF HOLE.
- PROCEED WITH CORRECTIVE PRUNING AS DIRECTED BY ENGINEER.
- REMOVE CONTAINER AND SCORE OR PRUNE OUTSIDE OF SOIL MASS TO REDIRECT CIRCLING FIBROUS ROOTS AS NECESSARY.
- SET PLANT ON UNDISTURBED NATIVE SOIL, OR THOROUGHLY COMPACTED BACKFILL SOIL AT THE SAME DEPTH (IF PROPER) AS IT WAS GROWN IN THE NURSERY.
- APPLY WATER TO SETTLE PLANTS AND FILL VOIDS THEN CONSTRUCT 3 IN DEPTH WATERING BASH.
- WATER THOROUGHLY WITHIN 2 HOURS.
- PLACE MULCH WITHIN 48 HOURS OF THE SECOND WATERING UNLESS SOIL MOISTURE IS EXCESSIVE.

BARE ROOT STOCK

- SOAK ROOTS IN WATER FOR AT LEAST ONE HOUR PRIOR TO PLANTING.
- SCARIFY SIDES AND BOTTOM OF HOLE.
- PROCEED WITH CORRECTIVE PRUNING AS DIRECTED BY ENGINEER.
- TRANSFER PLANT DIRECTLY FROM WATER TO HOLE. SET PLANT AT SAME DEPTH (IF PROPER) AS IT WAS GROWN IN THE NURSERY. PLUMB AND IMMEDIATELY BACKFILL WITH THE BACKFILL SOIL SPECIFIED.
- APPLY WATER TO SETTLE PLANTS AND FILL VOIDS THEN CONSTRUCT 3 IN DEPTH WATERING BASH.
- WATER THOROUGHLY WITHIN 2 HOURS.
- PLACE MULCH WITHIN 48 HOURS OF THE SECOND WATERING UNLESS SOIL MOISTURE IS EXCESSIVE.

MACHINE-TRANSPLANT STOCK (TREE SPADE)

- SCARIFY SIDES AND BOTTOM OF HOLE.
- SET PLANT ON UNDISTURBED NATIVE SOIL AT SAME DEPTH AS IT WAS PREVIOUSLY GROWN.
- PLUMB AND BACKFILL WITH THE BACKFILL SOIL SPECIFIED, FILLING ALL VOIDS AND ACCOMPLISHING SETTLEMENT BY WATERING.
- AFTER PLANTING, THE SOIL IMMEDIATELY ADJACENT TO THE SPADE MOVED SOIL, FOR A MINIMUM DISTANCE OF 18 IN SHALL BE TURNED OVER AND/OR ROTOTILLED TO A MINIMUM DEPTH OF 12 IN.
- CONSTRUCT 3 IN DEPTH WATERING BASH.
- WATER THOROUGHLY WITHIN 2 HOURS.
- PLACE MULCH WITHIN 48 HOURS OF THE SECOND WATERING UNLESS SOIL MOISTURE IS EXCESSIVE.

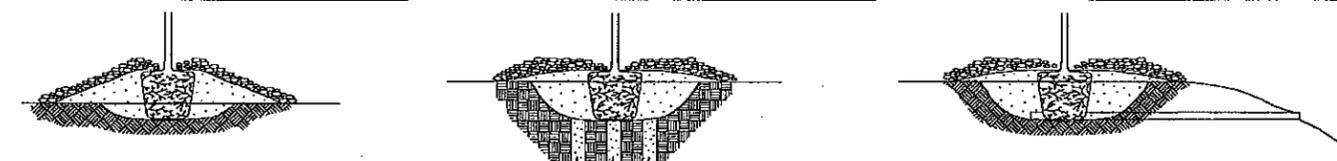
NOTES:

- THE PLANTING DETAILS REPRESENT ADEQUATELY DRAINED SOIL CONDITIONS. THE CONTRACTOR SHOULD EXERCISE DISCRETION IN SETTING PLANTS 1 IN - 3 IN HIGHER IN POORLY DRAINED SOILS.
- ON 1:2 SLOPES OR GREATER, DO NOT CONSTRUCT THE UPHILL HALF OF THE WATERING BASH.
- ON NET, POORLY DRAINED SOILS, DO NOT CONSTRUCT WATERING BASH.
- THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ADEQUATE DRAINAGE IN HEAVY POORLY DRAINED OR IMPERVIOUS SOILS.
- PLANTS SHOULD BE SET AT THE PROPER DEPTH WHEREBY THE BEGINNING TAPER OF THE ROOT FLARE IS AT THE SAME ELEVATION AS THE FINISHED SOIL GRADE. THIS SHOULD BE THE SAME DEPTH AS THE PLANTS WERE GROWN AT IN THE NURSERY. NOTE THAT THE ROOTS OF BALLED AND BURLAPPED PLANTS ARE UNACCEPTABLE WHEN THEY ARE COVERED BY MORE THAN 3 IN OF SOIL IN THE TOP OF THE BALL.
- DELAY MULCH PLACEMENT IF NECESSARY TO ALLOW MORE TIME FOR EXCESS SOIL MOISTURE TO EVAPORATE FROM PLANTING AREAS BEFORE PLACING MULCH.

MINIMUM TREE SPADE SIZE REQUIREMENTS

SPADE SIZE (DIA.)	OAK TREES (CALIPER)	DECIDUOUS/ ORNAMENTAL TREES (CALIPER)	EVERGREEN TREES (HEIGHT)
3.5 FT	1 IN TO 1.5 IN	2 IN TO 3 IN	5 FT TO 7 FT
5 FT	1.5 IN TO 2.5 IN	3 IN TO 4 IN	7 FT TO 9 FT
6.5 FT	2.5 IN TO 3.5 IN	4 IN TO 6 IN	9 FT TO 14 FT
7 FT	3.5 IN TO 5 IN	6 IN TO 8 IN	14 FT TO 18 FT

PLANTING DETAILS FOR ISOLATED PLANTING LOCATIONS



INSTALL MINI-BERM

- EXCAVATE HOLE OR BED 1/4 THE DEPTH OF THE ROOT MASS.
- SET ROOT MASS IN HOLE.
- CONSTRUCT BERM WITH SANDY LOAM TOPSOIL EXTENDING THE BERM BASE TO A WIDTH 3 TIMES THE HEIGHT OF THE BERM.
- COMPLETE PLANTING ACCORDING TO PLANTING DETAILS ABOVE AS APPLICABLE.

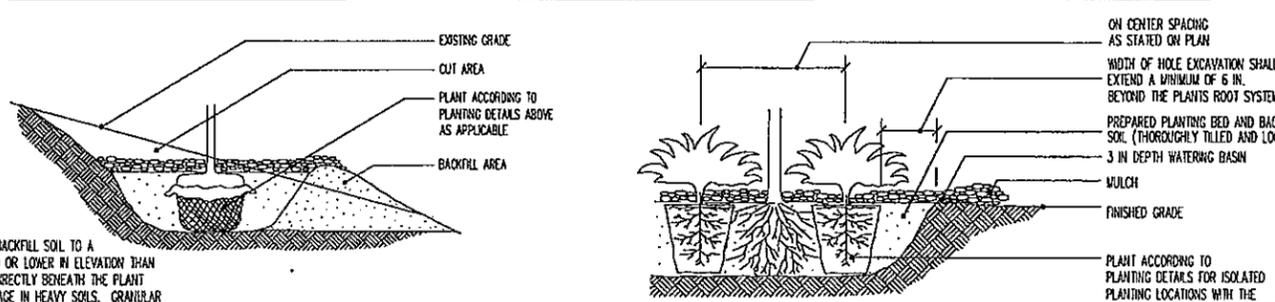
INSTALL GRANULAR FILTER

- EXCAVATE HOLE OR BED TO ALLOW PLACING TOP OF ROOT MASS 1 IN - 3 IN HIGHER THAN FINISHED GRADE.
- AUGER 8 IN DIAMETER HOLES ENTIRELY THROUGH IMPERVIOUS OR POORLY DRAINED HARD PAN SOIL LAYER TO ADEQUATELY DRAINED SUBSOIL.
- BACKFILL AUGER HOLES WITH A THOROUGHLY INCORPORATED MIXTURE OF 50% SAND AND 50% REPLACE SOIL.
- COMPLETE PLANTING ACCORDING TO PLANTING DETAILS ABOVE AS APPLICABLE.

INSTALL TILE DRAINAGE

- EXCAVATE HOLE OR BED TO ALLOW PLACEMENT OF THE TOP OF THE ROOT MASS 1 IN - 3 IN HIGHER THAN FINISHED GRADE.
- INSTALL 4 IN MINIMUM DIAMETER DRAIN TILE DAYLIGHTING AT A LOWER GRADE AS APPROVED BY THE ENGINEER.
- COMPLETE PLANTING ACCORDING TO PLANTING DETAILS ABOVE AS APPLICABLE.

ALTERNATIVE PLANTING DETAILS IN POORLY DRAINED SOIL



- NOTE:**
- EXTENDED EXCAVATION AND BACKFILL SOIL TO A POINT DOWNSLOPE EQUAL TO OR LOWER IN ELEVATION THAN THE BOTTOM OF THE HOLE DIRECTLY BENEATH THE PLANT TO INSURE ADEQUATE DRAINAGE IN HEAVY SOILS. GRANULAR SOIL MUST BE ADDED AS BACKFILL IN AREAS OF POOR DRAINAGE.

PLANTING DETAIL FOR STEEP SLOPES

PLANTING DETAIL FOR MASS PLANTING BEDS

GENERAL NOTES - SEE SPECIAL PROVISIONS FOR SPECIFIC PROJECT REQUIREMENTS

- PLANTING HOLE AND BED CULTIVATION:** ALL ISOLATED TREE PLANTING LOCATIONS AND PLANTING BEDS SHALL BE CULTIVATED BY TILLING TO A MINIMUM DEPTH OF 10 IN. SOIL AMENDMENTS SHALL BE APPLIED DURING CULTIVATION.
- BACKFILL SOIL:** USE CULTIVATED AND AMENDED SOIL EXCAVATED FROM PLANTING HOLES. REMOVE ALL DEBRIS INCLUDING ROCKS LARGER THAN 3 IN DIA.
- COMPOST:** NONE
Mn/DOT 3890
- MULCH MATERIAL:** Mn/DOT 3882 TYPE 6, UNLESS OTHERWISE SPECIFIED.
- TREE STAKING:** TREE STAKING (ALL SIZES) WILL NOT BE REQUIRED UNLESS SPECIFIED OR NECESSARY TO MAINTAIN TREES IN A PLUMB CONDITION WHERE VANDALISM, SOIL, OR WIND CONDITIONS ARE A PROBLEM OR AS REQUESTED BY THE ENGINEER.
- RODENT PROTECTION:** AT CONTRACTOR'S OPTION, THE CONTRACTOR SHALL BE LIABLE FOR RODENT DAMAGE UNDER THE WARRANTY.
- MASS PLANTINGS:** PLANT SPACING OF 6 FT OR LESS SHALL BE MASS CULTIVATED BY TILLING. PLANT IN STAGGERED ROWS ON THE PERIMETER FIRST, THEN UNIFORMLY FILL IN WITH REMAINING QUANTITY USING TRIANGULAR SPACING, UNLESS SPECIFIED OTHERWISE. PROVIDE 5 FT RADIUS CLEAR OF SHRUBS AROUND EACH DECIDUOUS TREE AND 8 FT RADIUS AROUND EACH EVERGREEN TREE. THIS RADIUS (CLEARANCE) SHALL BE MEASURED FROM THE CENTER OF THE TREE TO THE CENTER OF THE SHRUB. NOTIFY ENGINEER OF GROSS PLANT QUANTITY SURPLUS OR DEFICIENCY IMMEDIATELY. PLANT SPACINGS OF 16 FT OR LESS SHALL BE MASS MULCHED.
- PLANTING PLAN:** RESPECT STATED DIMENSIONS BEFORE SCALING FROM PLAN.

WATERING GUIDELINES:

PLANT TYPE	AVERAGE AMOUNT OF WATER PER APPLICATION (GALLONS)
MACHINE TRANSPLANTED TREES (3 IN CALIPER)	50-100
BALLED & BURLAPPED TREES	20L
BARE ROOT TREES	15L
BALLED & BURLAPPED SHRUBS	10L
BARE ROOT OR CONTAINER SHRUBS	7L
WOODY SEEDLINGS	4L
HERBACEOUS GROUNDCOVERS AND WINES	3L

- THE WATERING GUIDELINES ASSUME A SOIL CONDITION WITH ADEQUATE BUT NOT EXCESSIVE OR POOR DRAINAGE. WATERING INTERVALS AND AMOUNT OF APPLICATION MUST BE VARIED CONSIDERING PREVAILING SOIL MOISTURE AND WEATHER CONDITIONS THROUGHOUT THE GROWING SEASON. ADEQUATE BUT NOT EXCESSIVE SOIL MOISTURE IN THE ROOT ZONE OF NEW PLANTINGS MUST BE MAINTAINED AT ALL TIMES THROUGHOUT THE GROWING SEASON FOR THE FIRST TWO YEARS FOLLOWING PLANTING. WATERING MAY BE REQUIRED WEEKLY OR INFREQUENTLY. THIS DETERMINATION SHALL BE MADE BY THE CONTRACTOR.
- THE CONTRACTOR IS ADVISED THAT THE WATERING GUIDELINES ARE NOT REQUIREMENTS OF THE CONTRACT ALTHOUGH FAILURE TO CORRECT WATER DEFICITS BY SUPPLEMENTAL WATERING OR FAILURE TO COMPENSATE FOR EXCESSIVE SOIL MOISTURE AND DRAINAGE PROBLEMS MAY RESULT IN UNACCEPTABLE PLANTS LEADING TO REDUCED OR NO PAYMENT.

DESIGN TEAM			NO.	BY	DATE	REVISIONS
DRAWN BY:	PRM					
DESIGNER:	JCK					
CHECKED BY:	VAA					

I hereby certify this plan sheet was prepared by me or under my direct supervision and that I am a duly Licensed Professional Landscape Architect under the laws of the State of Minnesota.

Certified By: *Brett G. Blumer* Lic. No. 42944
Landscape Professional Landscape Architect

Printed Name: BRETT G. BLUMER Date: 1/12/2010

SEH
PHONE: 218.279.3000
418 W. SUPERIOR ST.
SUITE 200
DULUTH, MN 55805

MINNESOTA DEPARTMENT OF TRANSPORTATION
STATE PROJECT NO. 6915-132 (T.H. 53)

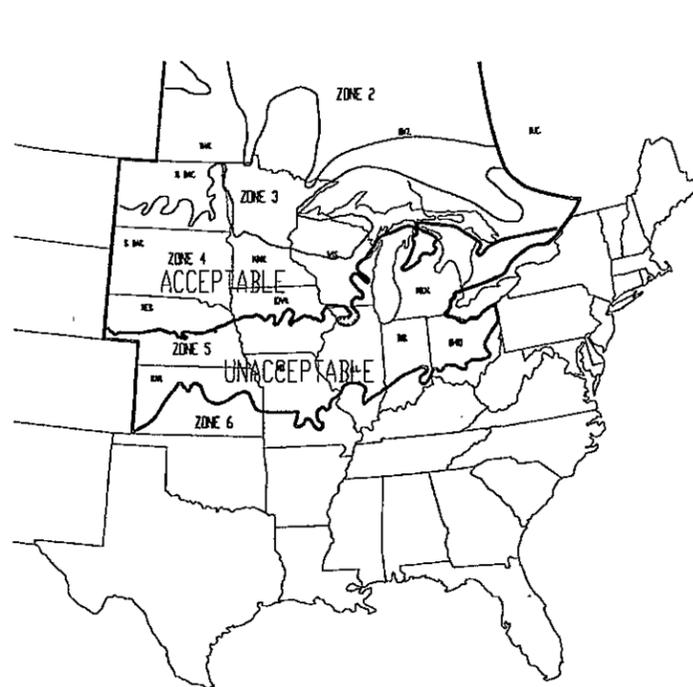
PLANTING DETAIL

FILE NO. **5**
MNDOT0426
LD1
OF LD2 **6**

12:45:08 PM

1/12/2010

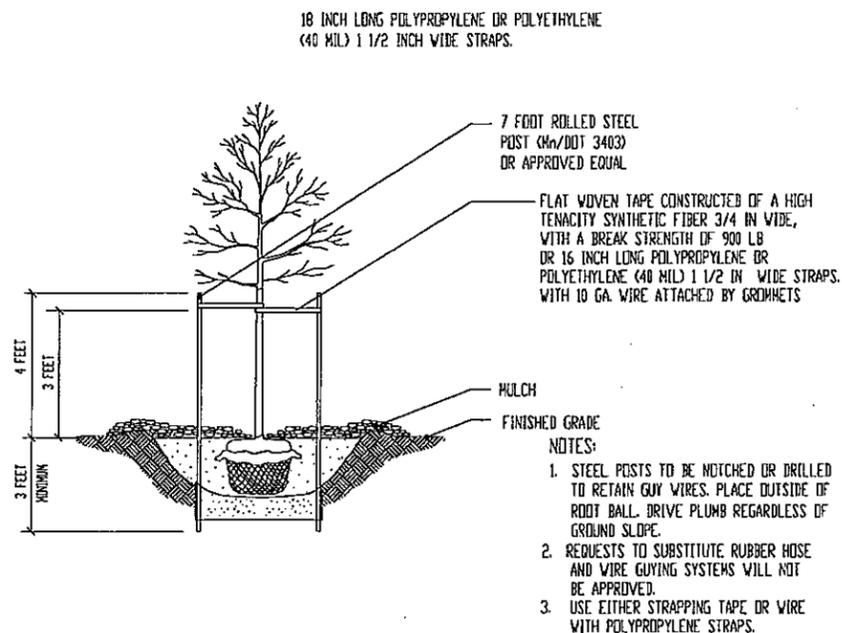
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- ZONE 1 BELOW -50° F
- ZONE 2 -50° to -45°
- ZONE 3 -40° to -30°
- ZONE 4 -30° to -20°

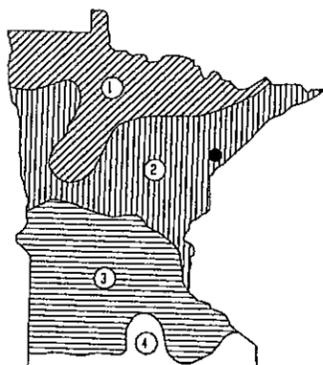
STATE INSPECTED PLANTS GROWN WITHIN ZONES 1-4

ACCEPTABLE GROWING RANGE FOR MIDWEST AND NORTHERN GROWN PLANT STOCK



STANDARD TREE STAKING / GUYING AND PAINTING DETAIL

SOURCE: U.S.D.A. PLANT HARDINESS ZONE MAP

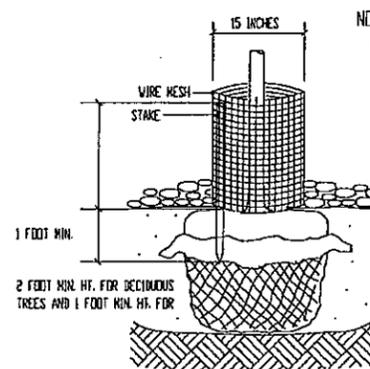


	SPRING			FALL	
	SEEDLING	DECIDUOUS	EVERGREEN	DECIDUOUS	EVERGREEN
1	APRIL 15 TO MAY 15	APRIL 21 TO JUNE 1	APRIL 21 TO JUNE 1	OCT. 1 TO NOV. 1	AUG. 25 TO SEPT. 15
2	APRIL 7 TO MAY 15	APRIL 14 TO JUNE 1	APRIL 14 TO MAY 24	OCT. 1 TO NOV. 6	AUG. 25 TO SEPT. 15 PINE TREES
3	APRIL 1 TO MAY 15	APRIL 7 TO JUNE 1	APRIL 7 TO MAY 17	OCT. 10 TO NOV. 15	AUG. 25 TO SEPT. 15
4	APRIL 1 TO MAY 15	APRIL 1 TO MAY 25	APRIL 1 TO MAY 15	OCT. 15 TO NOV. 20	SEPT. 5 TO OCT. 1

- NOTES:
1. SEEDLING INCLUDES DECIDUOUS AND EVERGREEN STOCK.
2. ACTUAL DATES MAY CHANGE DEPENDING UPON SEASONAL CONDITIONS AS DETERMINED BY THE ENGINEER.
3. FALL PLANTING MAY NOT BE RECOMMENDED OR ALLOWED. SEE SPECIAL PROVISIONS FOR SPECIFIC PROJECT REQUIREMENTS. THE FOLLOWING PLANTS ARE NOT RECOMMENDED FOR FALL INSTALLATION: HAWTHORNE, RUSSIAN OLIVE, DOGWOOD, POPLAR, HACKBERRY, LINDEN, IRONWOOD, HONEYLOCUST, BIRCH, MOUNTAIN ASH, MAPLE, WILLOW, CRABAPPLE, PLUM/CHERRY, OAKS, SUMAC.

● - INDICATES PROJECT LOCATION

OPTIMUM PLANTING DATE ZONES IN MINNESOTA

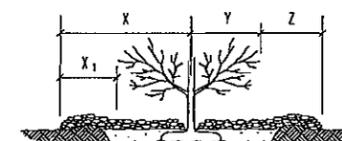


NOTE:
OPTIONAL PROTECTION: CONTRACTOR IS LIABLE FOR RODENT DAMAGE UNDER WARRANTY.

USE 1/4 IN GRID GALVANIZED AND WELDED WIRE MESH (HARDWARE CLOTH) TO FORM A DOUBLE LAYERED CYLINDER WITH A 2 IN OVERLAP OF THE CUT ENDS. IMBED A 1 IN X 1 IN WHITE OAK STAKE INTO THE GROUND AT A RADIUS POINT OF 7 INCHES FROM THE CENTER OF THE TREE STEM. SECURE THE MESH CYLINDER TO THE OUTSIDE OF THE STAKE USING GALVANIZED 1/8 IN DIAM. X 3/4 IN LONG ROUND HEAD SCREWS WITH WASHERS SPACED APPROXIMATELY 4 INCHES ON CENTER ALONG THE OVERLAP. THE LOWER EDGE OF THE MESH CYLINDER SHALL BE IMBEDDED 1 INCH BELOW THE SURFACE OF THE SOIL WITHOUT DISTURBING THE TREE ROOTS. CUT EDGES WILL NOT BE PERMITTED AT THE TOP OF THE CYLINDER. THE STAKE SHALL BE CUT OFF FLUSH WITH THE TOP OF THE CYLINDER. MULCH WITHIN THE CYLINDER SHALL NOT EXCEED 3 INCHES DEPTH.

NOTE:
THE BOTTOM WHORL OF BRANCHES MAY HAVE TO BE REMOVED TO PERMIT INSTALLATION OF 1 FOOT MIN. HT. RODENT GUARDS ON PINE TREES.

RODENT PROTECTION DETAIL (OPTIONAL)



SUBSIDENCE OR DETERIORATION OF MULCH THROUGHOUT THE CONTRACT IS ACCEPTABLE TO THE EXTENT THAT THE MULCH DEPTH IS MAINTAINED AT A MINIMUM DEPTH OF 3 INCHES AT ALL TIMES AND UPON FINAL ACCEPTANCE. REPLACEMENT MULCH SHALL BE REQUIRED TO PROVIDE THE MINIMUM MULCH DEPTH SPECIFIED WHEN SUBSIDENCE OR LOSS IS EXCESSIVE OR WHEN THE CONTRACTOR'S OPERATIONS HAVE CONTAMINATED THE MULCH WITH SOIL.

TYPE OF PLANT	X CENTER OF PLANT TO MULCH LINE	X ₁ EDGE OF BRANCHING TO MULCH LINE	Y DEPTH OF MULCH (OD MIN. MAX.)	Z DEPTH OF MULCH (OD MIN. MAX.)
EVERGREEN TREES	VARIABLES	3 FT MIN.	4 6	4 6
DECIDUOUS TREES	3 FT MIN.	N/A	4 6	4 6
EVERGREEN SHRUBS	VARIABLES	3 FT MIN.	3 4	4 6
DECIDUOUS SHRUBS	3 FT MIN.	N/A	4 6	4 6
VINES	2 FT MIN.	N/A	4 6	4 6
GROUNDCOVERS	VARIABLES	2 FT MIN.	3 4	3 4
MACHINE-TRANSPLANTED TREES	1 FOOT FROM EDGE OF HOLE		4 6	4 6

NOTE:
REMOVE MULCH PLACED TO A DEPTH GREATER THAN THAT SPECIFIED WHEN DIRECTED BY THE ENGINEER.

MULCH PLACEMENT DETAIL

DESIGN TEAM			
DRAWN BY:	PRM		
DESIGNER:	JCK		
CHECKED BY:	VAA		
NO.	BY	DATE	REVISIONS

I hereby certify this plan sheet was prepared by me or under my direct supervision and that I am a duly Licensed Professional Landscape Architect under the laws of the State of Minnesota.
Certified By: *Brett G. Blumer* Lic. No. 42944
Printed Name: BRETT G. BLUMER Date: 1/12/2010

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SUITE 200
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MINNESOTA DEPARTMENT OF TRANSPORTATION
STATE PROJECT NO. 6915-132 (T.H. 53)

PLANTING DETAIL
FILE NO. MNDOT0426
LD2 OF LD2
6
6