

RAMSEY COUNTY
Department of Public Works

C.S.A.H. 12 (COUNTY ROAD F)

CONSTRUCTION PLAN FOR INTERSECTION AND RAINWATER GARDEN LANDSCAPING

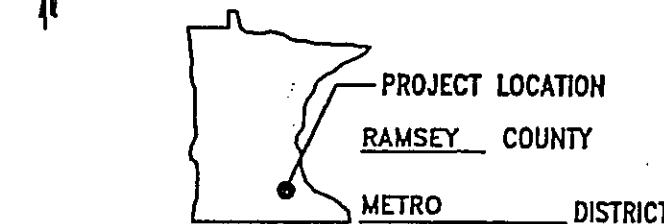
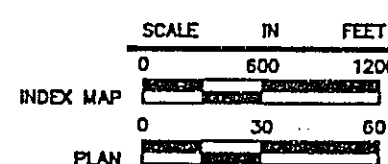
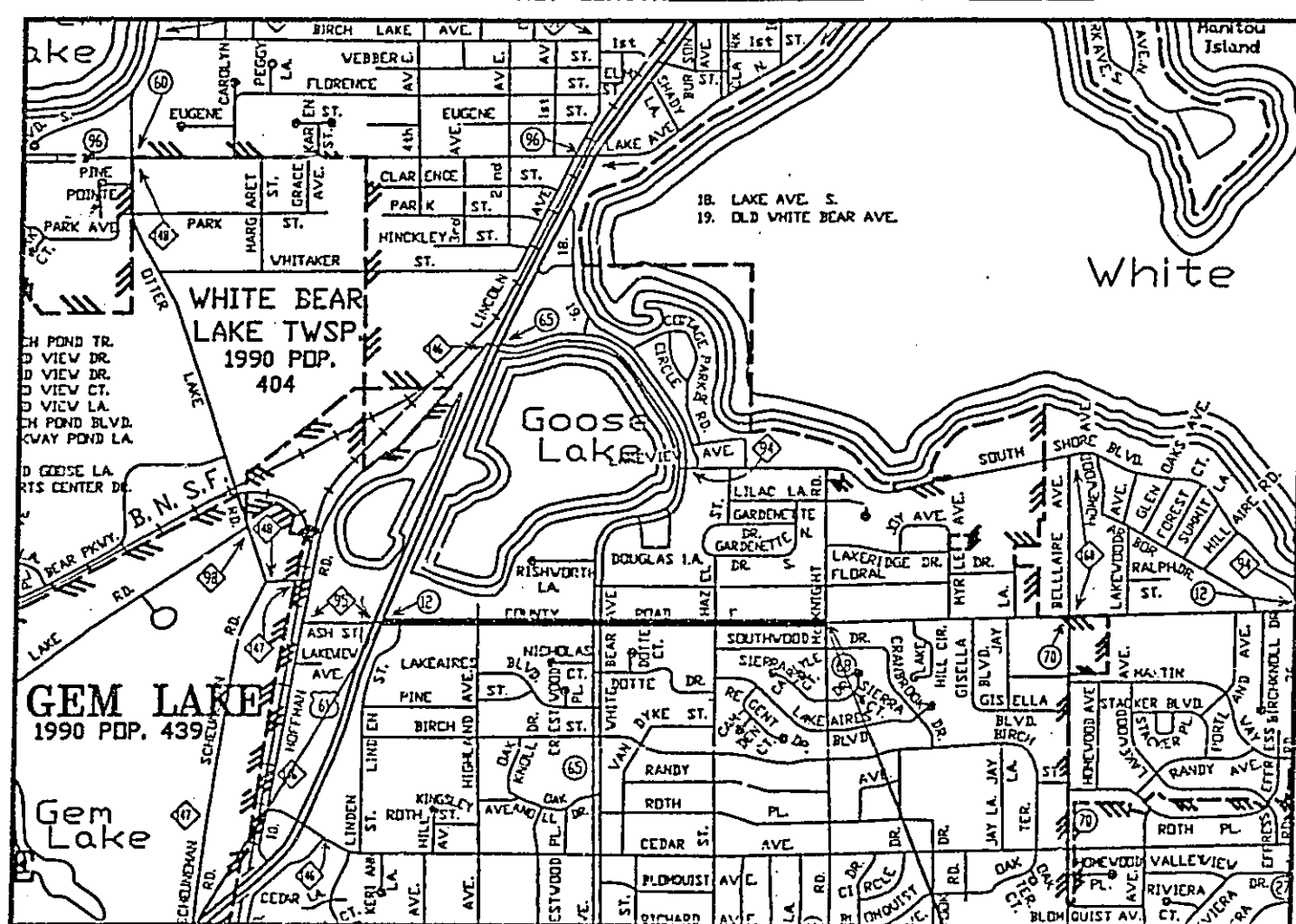
LOCATED ON C.S.A.H. 12 BETWEEN STATE TRUNK HIGHWAY 61 AND McKNIGHT ROAD

TOWNSHIP 30, RANGE 22, SECTION 23, 28

C.S.A.H. 12 (COUNTY ROAD F)

STATE AID PROJ. NO. 62-612-19

GROSS-LENGTH 5043.97 FEET 0.95 MILES
BRIDGE-LENGTH 0 FEET 0 MILES
EXCEPTIONS-LENGTH 0 FEET 0 MILES
NET-LENGTH 5043.97 FEET 0.95 MILES



BEGIN S.A.P. 174-020-20
S.A.P. 62-612-19
STA 0+0000

END S.A.P. 174-020-20
S.A.P. 62-612-19
STA 60+4397

28-202

MINN. PROJ. NO.
MINN. PROJ. NO.

2000 GOVERNING SPECIFICATIONS AS AMENDED

THE 2000 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" AS AMENDED BY THE JAN. 2, 1994 SUPPLEMENTAL SPECIFICATIONS SHALL GOVERN. ALL TRAFFIC CONTROL SIGNALING AND SIGNALS SHALL CONFORM TO THE M.N. NOTES, INCLUDING THE FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS DATED JANUARY 2001.

INDEX

SHEET NO. DESCRIPTION

1 TITLE SHEET
2 ESTIMATED QUANTITIES
3-4 RAINWATER GARDEN PLANTS
5-8 LANDSCAPE PLANTS
9-10 LANDSCAPE DETAILS

THIS PLAN SET CONTAINS 10 SHEETS

ALL APPLICABLE FEDERAL, STATE AND LOCAL LAWS AND WILL ORDINANCES BE COMPLIED WITHIN THE CONSTRUCTION OF THIS PROJECT.

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED 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 3/2/04 LIC. NO. 16159
JAMES T. OLAS

APPROVED [Signature] 3/2/04
CITY OF WHITE BEAR LAKE ENGINEER

APPROVED [Signature] 3/2/04
RAMSEY COUNTY ENGINEER

Recommended For Approval [Signature] 4/9/04
FOR COMPLIANCE WITH STATE-NO. 16159/200

APPROVED FOR STATE AID DIVISION [Signature] 4/9/04
APPROVED FOR STATE AID FUNDING STATE AID DIVISION

I HEREBY CERTIFY THAT THE FINAL FIELD REVISIONS, IF ANY, OF THIS PLAN OR REPORT WAS PREPARED 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

MSAS PROJ. NO. 174-020-20

STATE AID PROJ. NO. 62-612-19 1 OF 10 SHEETS

ESTIMATED QUANTITIES

RAMSEY COUNTY S.A.P. 62-612-19
WHITE BEAR LAKE S.A.P. 174-020-20

CHART	NOTE	ITEM NO.	CONTRACT ITEM	UNIT	TOTAL		LANDSCAPING		LANDSCAPING	
					ESTIMATED QUANTITIES	FINAL QUANTITIES	75%-RAMSEY COUNTY S.A.P. 62-612-19	FINAL QUANTITIES	75%-RAMSEY COUNTY S.A.P. 62-612-19	FINAL QUANTITIES
		2001.501	MOBILIZATION	LUMP SUM	1					
		2571.502	SUGAR MAPLE	TREE	3					
		2571.503	THORNLESS COCKSPUR HAWTHORN	TREE	48					
		2571.602	RAINWATER GARDEN PLANTS	EACH	1036	1036				
		2575.604	GEOTEXTILE, EROSION CONTROL, FABRIC	SQ. YD.	461	461				
		2575.913	MULCH MATERIAL, HARDWOOD TYPE 6 (RAINWATER GARDENS)	CU. YD.	25.5	25.5				

NOTE: TRAFFIC CONTROL SHALL BE INCIDENTAL TO THIS PROJECT

STATION	LOCATION		TYPE	SUGAR MAPLE	THORNLESS COCKSPUR HAWTHORN
	LEFT	RIGHT			
9+49 - 10+05		25'			4
11+15 - 12+69	24'				7
10+91 - 11+48		25'			3
22+50 - 22+79		27'			3
22+95 - 23+09	28'				2
29+37		28'	1		
34+10 - 35+57	24'				4
36+10 - 36+83		25'			5
37+61 - 38+19		25'			5
37+87 - 38+38	24'				3
46+87		28'	1		
49+18		28'	1		
49+45 - 50+00	24'				5
49+45 - 50+00		29'			5
TOTAL			3		48

28-202

DESIGN FILE:

DESIGN BY:	DESIGN BY:	DATE:	REVISIONS DESCRIPTION:	I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
CHKD BY:	CHKD BY:	DATE:		

DATE: 3/17/04 LIC. NO. 16159

RAMSEY COUNTY

CITY PROJECT

COUNTY PROJECT

MSAS 174-020-20

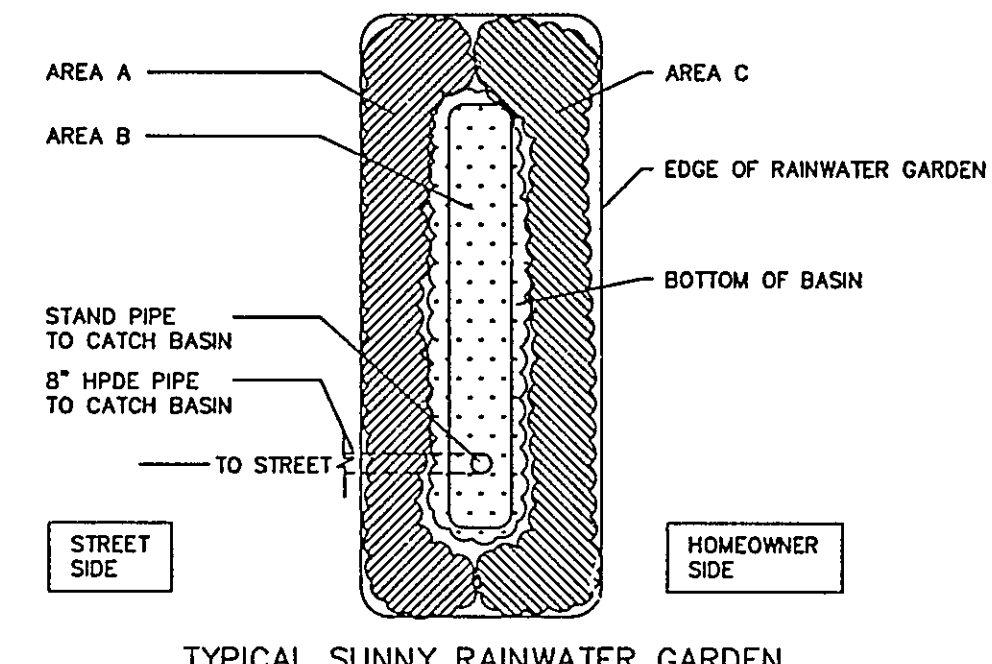
S.A.P. 62-612-19

28-202

PLANT SCHEDULE - RAIN WATER GARDEN #3 - SUNNY					
AREA	QTY.	COMMON NAME	BOTANICAL NAME	NATURE SIZE	COLOR
NEAR STREET	A 22	BLACK EYED SUSAN	RUSSCOEA FLAVIDA 'GOLDSTROM'	24-30"	YELLOW
A	18	BALTIMORE ORCHID DAISY	HEPEROCALIS WALTERE ORIBL	18"	RED
A 23		GENTLE SHEPHERD DAISY	HEPEROCALIS GENTLE SHEPHERD	28"	WHITE
A	17	LITTLE BLUESTEM	SODACHAETUM SOPORUM	18-24"	---
A 22		HEAVY BLADING STAR	LANTIES LIGULATILES	24-48"	PURPLE
A	18	SPY BLUE ASTER	ASTER ORONTIACENSIS	24-36"	BLUE
MIDDLE AREA	B 10	BLUE FLAG IRIS	IRIS VERTICILLUM	18-36"	BLUE
B	9	FOX SERGE	CAREX VULPINEA	18-36"	---
B	7	MARSH HULVER	ASCELOPIA INCARNATA	36-48"	LAVENDER
B	9	PRINCE BLADING STAR	LANTIES PHLOEMICHTA	20-30"	PURPLE
B	12	SOFT RUSH	JANUS EFFUSUS	24-48"	---
NEAR HOUSE	C 22	BOTTLE BRUSH GRASS	ELYNUS HYSTER	36-48"	---
C 22		ORIENTAL PLANT	PHYSTOTEGIA VIRGINIANA	24-36"	PINK
C	18	PRINCE BLADING STAR	LANTIES PHLOEMICHTA	20-30"	PURPLE
C	18	SILVER IRIS	IRIS SIBERICA 'CAESAR'S BROTHER'	20-30"	VIOLET
C 23		SPICEVORT	TRANSICANTIE DRENCHIS	24-48"	BLUE

PLANT SCHEDULE - RAIN WATER GARDEN #6 - SUNNY					
AREA	QTY.	COMMON NAME	BOTANICAL NAME	NATURE SIZE	COLOR
NEAR STREET	A 17	BLACK EYED SUSAN	RUSSCOEA FLAVIDA 'GOLDSTROM'	24-30"	YELLOW
A 18		BALTIMORE ORCHID DAISY	HEPEROCALIS WALTERE ORIBL	18"	RED
A 17		GENTLE SHEPHERD DAISY	HEPEROCALIS GENTLE SHEPHERD	28"	WHITE
A	17	LITTLE BLUESTEM	SODACHAETUM SOPORUM	18-24"	---
A	18	HEAVY BLADING STAR	LANTIES LIGULATILES	24-48"	PURPLE
A	18	SPY BLUE ASTER	ASTER ORONTIACENSIS	24-36"	BLUE
MIDDLE AREA	B 7	BLUE FLAG IRIS	IRIS VERTICILLUM	18-36"	BLUE
B	7	FOX SERGE	CAREX VULPINEA	18-36"	---
B	7	MARSH HULVER	ASCELOPIA INCARNATA	36-48"	LAVENDER
B	9	PRINCE BLADING STAR	LANTIES PHLOEMICHTA	20-30"	PURPLE
B	12	SOFT RUSH	JANUS EFFUSUS	24-48"	---
NEAR HOUSE	C 17	BOTTLE BRUSH GRASS	ELYNUS HYSTER	36-48"	---
C	17	ORIENTAL PLANT	PHYSTOTEGIA VIRGINIANA	24-36"	PINK
C	18	PRINCE BLADING STAR	LANTIES PHLOEMICHTA	20-30"	PURPLE
C	17	SILVER IRIS	IRIS SIBERICA 'CAESAR'S BROTHER'	20-30"	VIOLET
C	17	SPICEVORT	TRANSICANTIE DRENCHIS	24-48"	BLUE

PLANT SCHEDULE - RAIN WATER GARDEN #5 - SUNNY					
AREA	QTY.	COMMON NAME	BOTANICAL NAME	NATURE SIZE	COLOR
NEAR STREET	A 27	BLACK EYED SUSAN	RUSSCOEA FLAVIDA 'GOLDSTROM'	24-30"	YELLOW
A	18	BALTIMORE ORCHID DAISY	HEPEROCALIS WALTERE ORIBL	18"	RED
A 27		GENTLE SHEPHERD DAISY	HEPEROCALIS GENTLE SHEPHERD	28"	WHITE
A	17	LITTLE BLUESTEM	SODACHAETUM SOPORUM	18-24"	---
A	18	HEAVY BLADING STAR	LANTIES LIGULATILES	24-48"	PURPLE
A	18	SPY BLUE ASTER	ASTER ORONTIACENSIS	24-36"	BLUE
MIDDLE AREA	B 10	BLUE FLAG IRIS	IRIS VERTICILLUM	18-36"	BLUE
B	9	FOX SERGE	CAREX VULPINEA	18-36"	---
B 10		MARSH HULVER	ASCELOPIA INCARNATA	36-48"	LAVENDER
B	10	PRINCE BLADING STAR	LANTIES PHLOEMICHTA	20-30"	PURPLE
B	12	SOFT RUSH	JANUS EFFUSUS	24-48"	---
NEAR HOUSE	C 27	BOTTLE BRUSH GRASS	ELYNUS HYSTER	36-48"	---
C	27	ORIENTAL PLANT	PHYSTOTEGIA VIRGINIANA	24-36"	PINK
C	18	PRINCE BLADING STAR	LANTIES PHLOEMICHTA	20-30"	PURPLE
C	18	SILVER IRIS	IRIS SIBERICA 'CAESAR'S BROTHER'	20-30"	VIOLET
C	18	SPICEVORT	TRANSICANTIE DRENCHIS	24-48"	BLUE



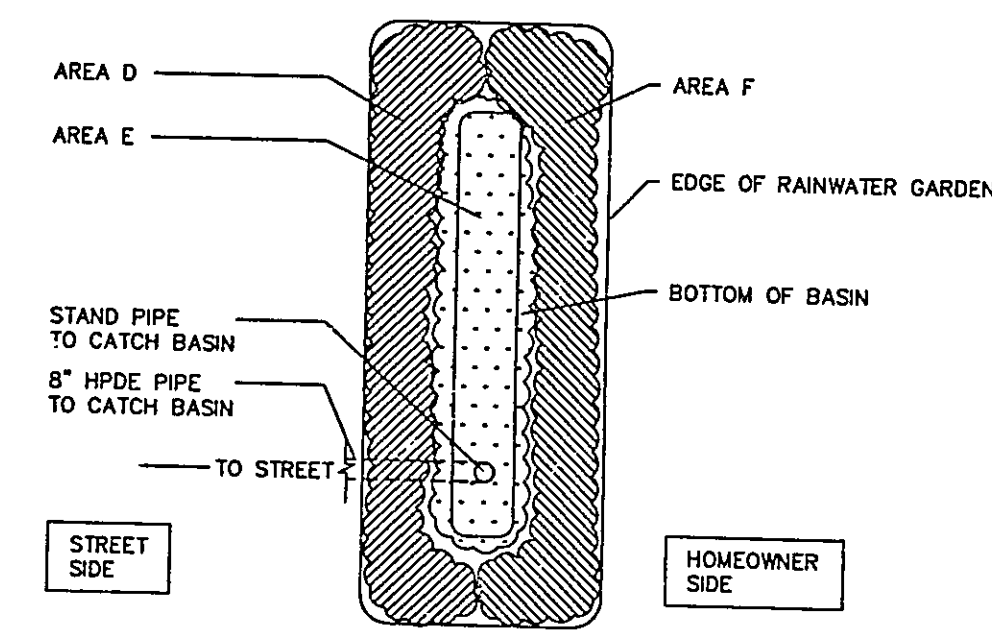
- NOTE:
- PLANTS TO BE ON 2' CENTERS (1 PLANT PER 4 SQUARE FEET).
 - PLANTS FOR EACH AREA ARE RECOMMENDED DUE TO WATER DEPTH AND PLANT HEIGHT.
 - SELECT A MINIMUM OF THREE SPECIES FROM EACH AREA TO BE PLANTED WITHIN THAT AREA.

28-202

PLANT SCHEDULE - RAIN WATER GARDEN #1 - SHADY					
AREA	QTY.	COMMON NAME	BOTANICAL NAME	NATURE SIZE	COLOR
NEAR STREET	D 24	ALBO WINDMILL HESTIA	HESTA FETTERE 'ALBO WINDMILL'	24"	GREEN
D	24	BLEEDING HEART	DIENENTIA SPECTABILIS	24"	PINK
D	24	BLEEDING HEART LUMINANT	DIENENTIA SPECTABILIS	15"	RED
D	24	WINDMILL HESTIA	HESTA FETTERE 'WINDMILL'	24-30"	WHITE
D	24	25G-DAG GOLDENROD	SOLIDAGO FLORESCENS	24"	YELLOW
MIDDLE AREA	E 10	BLUE LONELIA	LOBELIA SPURTIACIA	20-30"	BLUE
E	10	CARDINAL FLOWER	LOBELIA CARDINALIS 'QUEEN VICTORY'	24-36"	RED
E	10	FOX SERGE	CAREX VULPINEA	18-36"	---
E	10	PORTULACA	PORTULACA	24-48"	---
E	10	TURTLEDOVE	CELOPHE GLABRA	24-36"	WHITE
NEAR HOUSE	F 24	BOTTLE BRUSH GRASS	ELYNUS HYSTER	36-48"	---
F	24	BLUE WINDMILL HESTIA	HESTA FETTERE 'WINDMILL'	24"	GREEN
F	24	HONEY BELLS HESTIA	HESTA FETTERE 'HONEY BELLS'	36"	LAVENDER
F	24	LAST FERN	ATHELIUM FETTERE	30-36"	---
F	24	OTHELLO LILACARIA	LIGULARIA BOYDII 'OTHELLO'	36-48"	ORANGE

PLANT SCHEDULE - RAIN WATER GARDEN #4 - SHADY					
AREA	QTY.	COMMON NAME	BOTANICAL NAME	NATURE SIZE	COLOR
NEAR STREET	D 22	ALBO WINDMILL HESTIA	HESTA FETTERE 'ALBO WINDMILL'	24"	GREEN
D	22	BLEEDING HEART	DIENENTIA SPECTABILIS	24"	PINK
D	22	BLEEDING HEART LUMINANT	DIENENTIA SPECTABILIS	15"	RED
D	22	WINDMILL HESTIA	HESTA FETTERE 'WINDMILL'	24-30"	WHITE
D	22	25G-DAG GOLDENROD	SOLIDAGO FLORESCENS	24"	YELLOW
MIDDLE AREA	E 10	BLUE LONELIA	LOBELIA SPURTIACIA	20-30"	BLUE
E	10	CARDINAL FLOWER	LOBELIA CARDINALIS 'QUEEN VICTORY'	24-36"	RED
E	10	FOX SERGE	CAREX VULPINEA	18-36"	---
E	10	PORTULACA	PORTULACA	24-48"	---
E	10	TURTLEDOVE	CELOPHE GLABRA	24-36"	WHITE
NEAR HOUSE	F 24	BOTTLE BRUSH GRASS	ELYNUS HYSTER	36-48"	---
F	24	BLUE WINDMILL HESTIA	HESTA FETTERE 'WINDMILL'	24"	GREEN
F	24	HONEY BELLS HESTIA	HESTA FETTERE 'HONEY BELLS'	36"	LAVENDER
F	24	LAST FERN	ATHELIUM FETTERE	30-36"	---
F	24	OTHELLO LILACARIA	LIGULARIA BOYDII 'OTHELLO'	36-48"	ORANGE

PLANT SCHEDULE - RAIN WATER GARDEN #2 - SHADY					
AREA	QTY.	COMMON NAME	BOTANICAL NAME	NATURE SIZE	COLOR
NEAR STREET	D 29	ALBO WINDMILL HESTIA	HESTA FETTERE 'ALBO WINDMILL'	24"	GREEN
D	29	BLEEDING HEART	DIENENTIA SPECTABILIS	24"	PINK
D	29	BLEEDING HEART LUMINANT	DIENENTIA SPECTABILIS	15"	RED
D	29	WINDMILL HESTIA	HESTA FETTERE 'WINDMILL'	24-30"	WHITE
D	29	25G-DAG GOLDENROD	SOLIDAGO FLORESCENS	24"	YELLOW
MIDDLE AREA	E 13	BLUE LONELIA	LOBELIA SPURTIACIA	20-30"	BLUE
E	13	CARDINAL FLOWER	LOBELIA CARDINALIS 'QUEEN VICTORY'	24-36"	RED
E	13	FOX SERGE	CAREX VULPINEA	18-36"	---
E	13	PORTULACA	PORTULACA	24-48"	---
E	13	TURTLEDOVE	CELOPHE GLABRA	24-36"	WHITE
NEAR HOUSE	F 29	BOTTLE BRUSH GRASS	ELYNUS HYSTER	36-48"	---
F	29	BLUE WINDMILL HESTIA	HESTA FETTERE 'WINDMILL'	24"	GREEN
F	29	HONEY BELLS HESTIA	HESTA FETTERE 'HONEY BELLS'	36"	LAVENDER
F	29	LAST FERN	ATHELIUM FETTERE	30-36"	---
F	29	OTHELLO LILACARIA	LIGULARIA BOYDII 'OTHELLO'	36-48"	ORANGE



- NOTE:
- PLANTS TO BE ON 2' CENTERS (1 PLANT PER 4 SQUARE FEET).
 - PLANTS FOR EACH AREA ARE RECOMMENDED DUE TO WATER DEPTH AND PLANT HEIGHT.
 - SELECT A MINIMUM OF THREE SPECIES FROM EACH AREA TO BE PLANTED WITHIN THAT AREA.

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DESIGN FILE:

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CHKD BY:	CHKD BY:	DATE:		

DATE: 3/17/04 LIC. NO. 16159

RAMSEY COUNTY

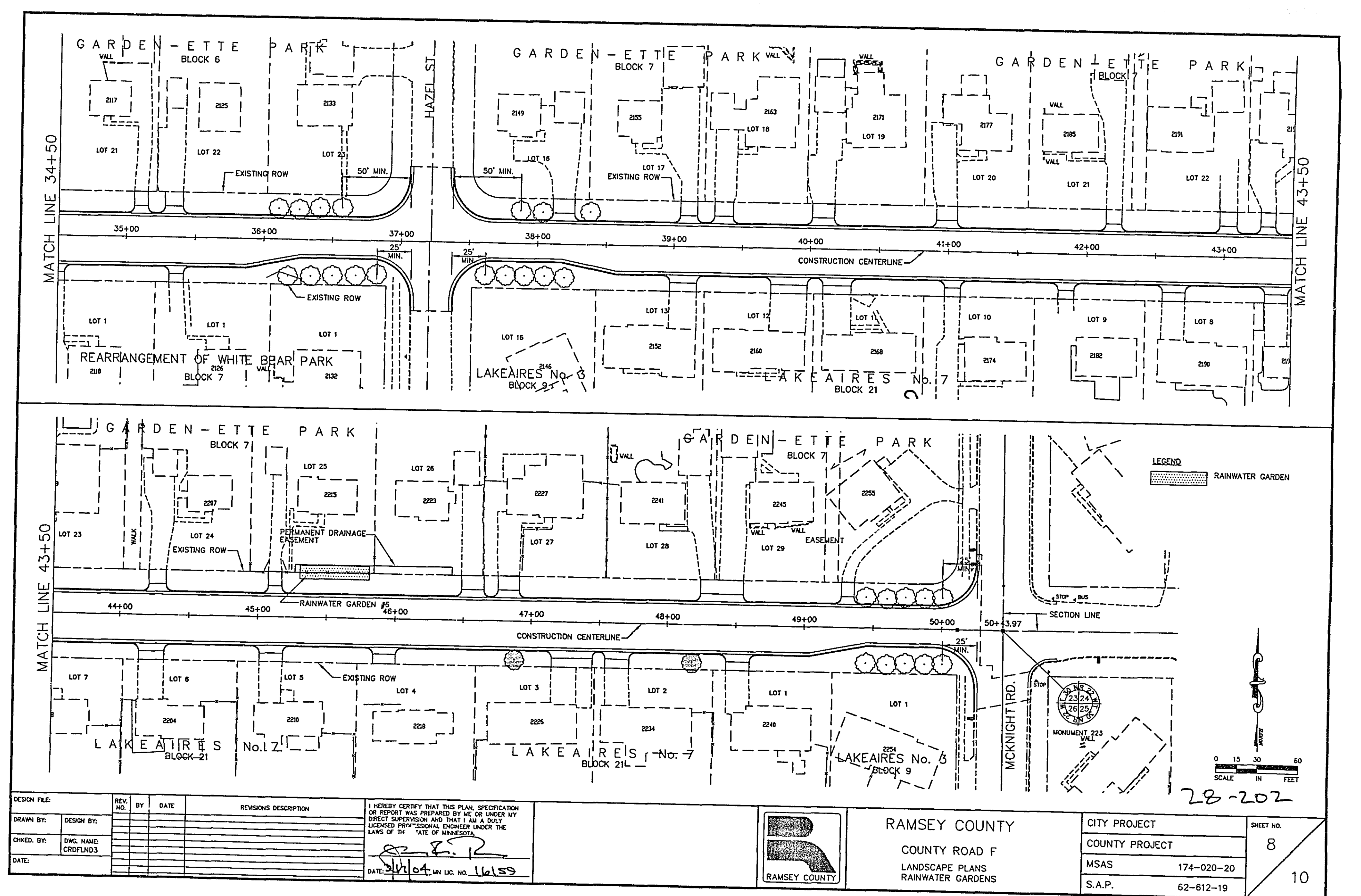
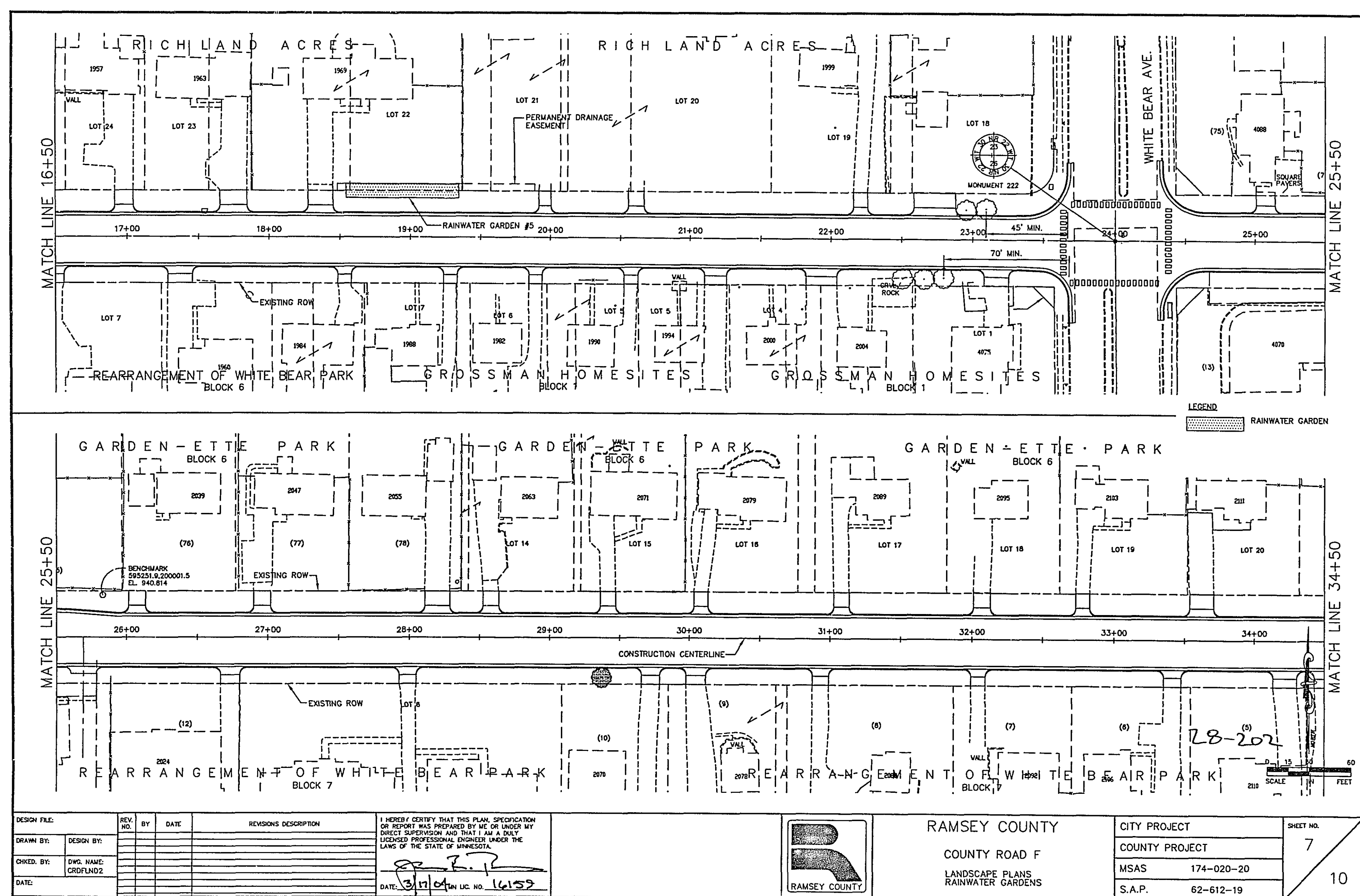
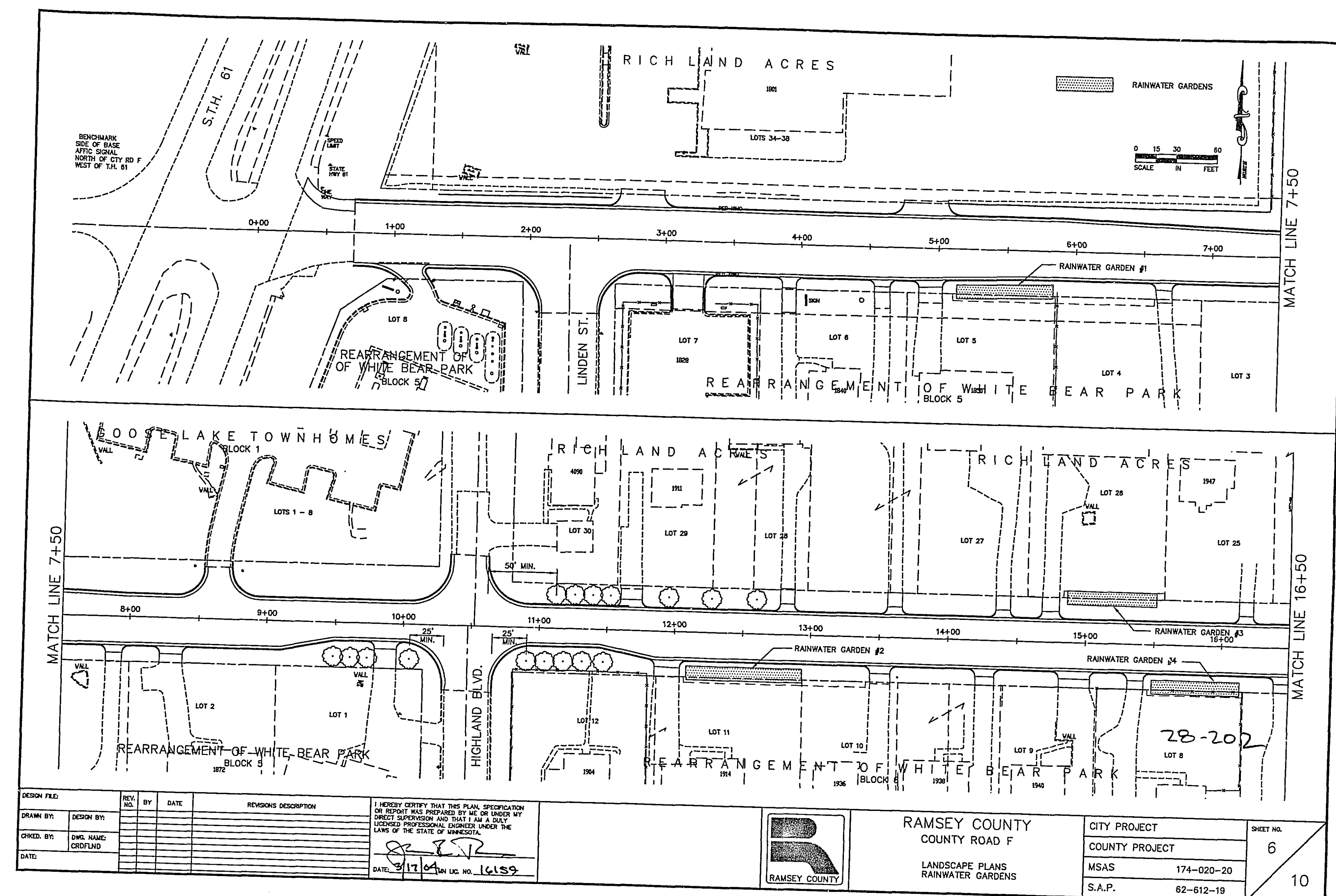
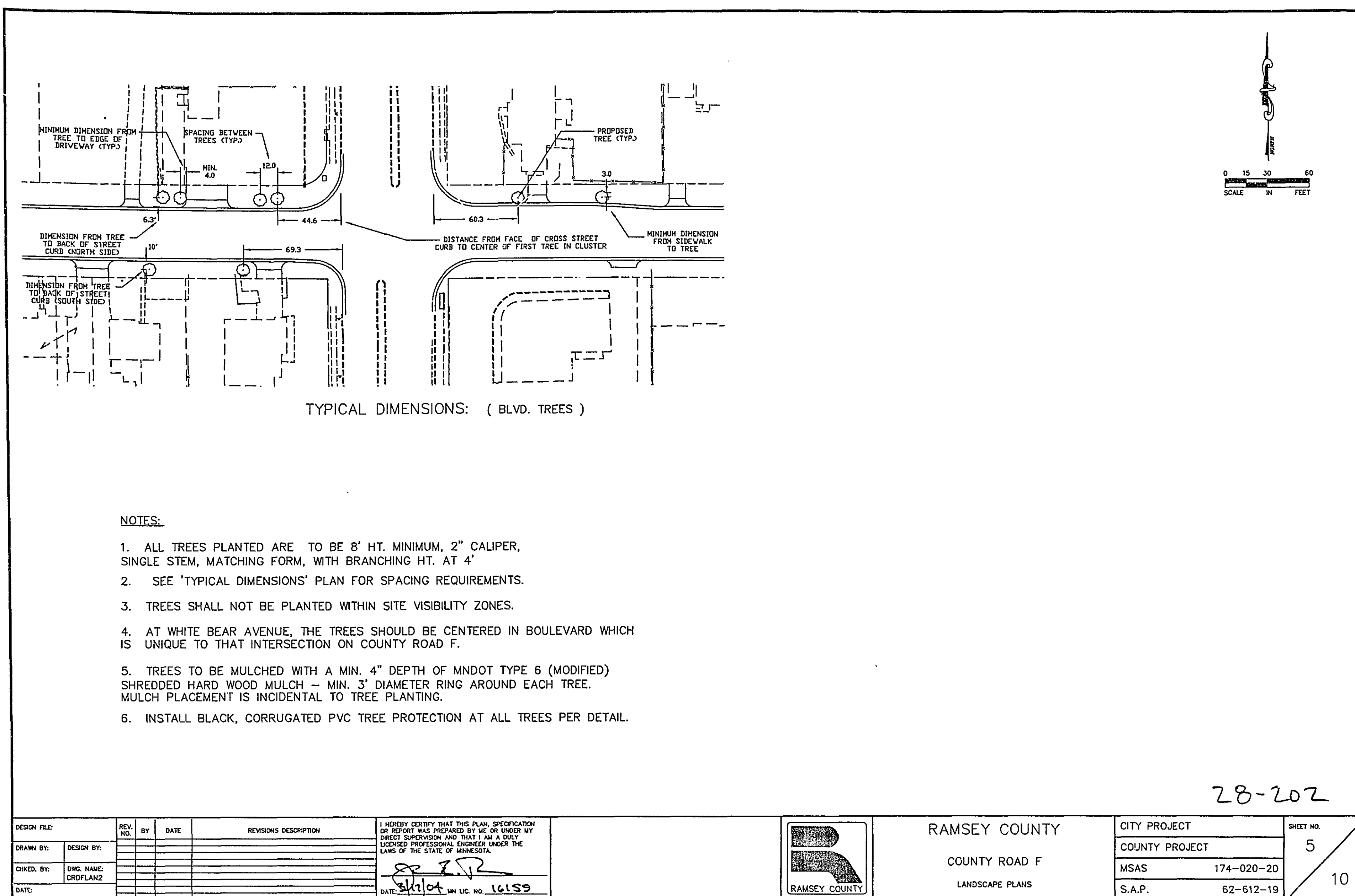
CITY PROJECT

COUNTY PROJECT

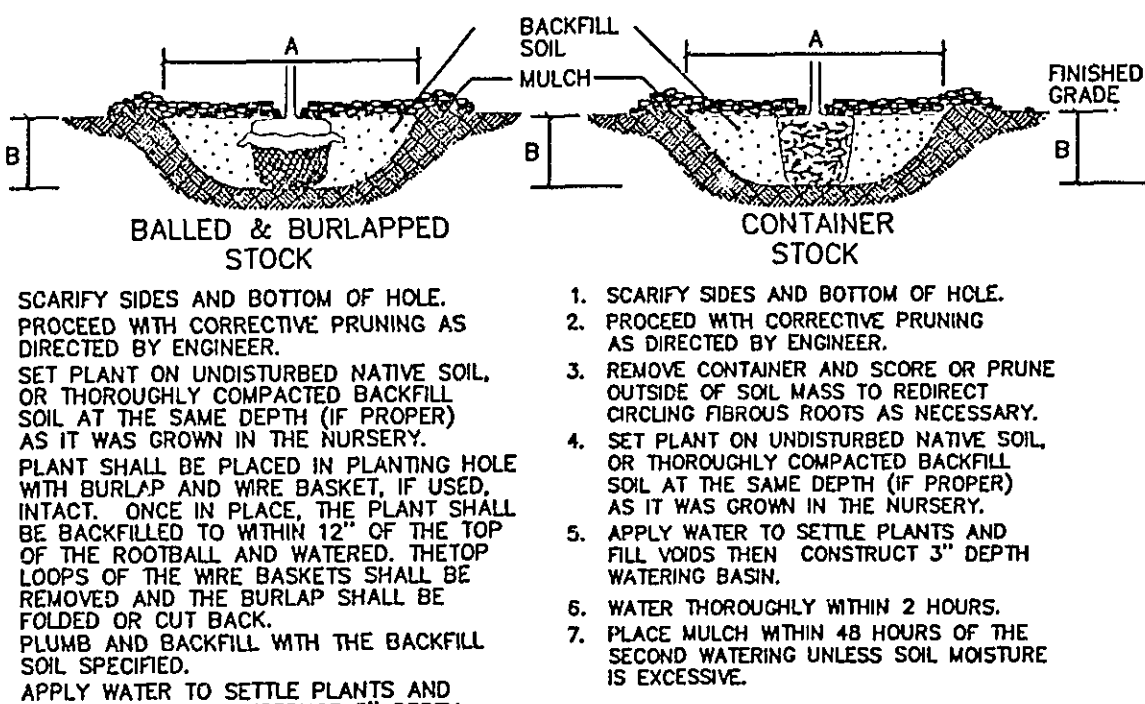
MSAS 174-020-20

S.A.P. 62-612-19

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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)	
SHADE & FLOWERING TREES	1" B.R.	54	14	
	1 1/4" B.R.	60	14	
	1 1/2" B.R.	66	15	
	1 3/4" B.R.	72	16	
	2" B.R.	84	19	
	2 1/2" B.B.	72	16	
DECIDUOUS SHRUBS	2 1/2" B.B.	84	19	
	3" B.B.	96	20	
	3 1/2" B.B.	114	23	
	4" B.B.	126	25	
	18" B.R.	30	8	
	2" B.R.	33	9	
CONTAINER GROWN PLANTS	3" B.R.	42	11	
	4" B.R.	48	12	
	5" B.R.	54	14	
	6" B.R.	60	14	
	18" B.B.	27	7	
	2" B.B.	30	8	
	3" B.B.	36	9	
	4" B.B.	42	11	
	5" B.B.	48	12	
	6" B.B.	54	14	
	Cellpacks	6	2.5	
	2.25" cont.	7	3	
	3.5" cont.	10	3	
	4.0" cont.	11	4	
	4.5" cont.	13	4	
	1 Quart cont.	15	5.5	
	#1 cont.	18	6	
	#2 cont.	23	7.5	
	#3 cont.	29	8.5	
	#5 cont.	30	11	
	#7 cont.	37	11	
	#10 cont.	44	14	
	#15 cont.	45	15	
	#20 cont.	60	17	
	#25 cont.	72	16	



1. SCARIFY SIDES AND BOTTOM OF HOLE.
2. PROCEED WITH CORRECTIVE PRUNING AS DIRECTED BY ENGINEER.
3. SET PLANT ON UNDISTURBED NATIVE SOIL, OR THOROUGHLY COMPACTED BACKFILL SOIL AT THE SAME DEPTH (IF PROPER) AS IT WAS GROWN IN THE NURSERY.
4. 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" 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.
5. PLUMB AND BACKFILL WITH THE BACKFILL SOIL SPECIFIED.
6. APPLY WATER TO SETTLE PLANTS AND FILL VOIDS THEN CONSTRUCT 3" DEPTH WATERING BASIN.
7. WATER THOROUGHLY WITHIN 2 HOURS.
8. PLACE MULCH WITHIN 48 HOURS OF THE SECOND WATERING UNLESS SOIL MOISTURE IS EXCESSIVE.
9. 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.

PLANTING DETAILS FOR ISOLATED PLANTING LOCATIONS

GENERAL NOTES - SEE SPECIAL PROVISIONS FOR SPECIFIC PROJECT REQUIREMENTS

PLANTING HOLE & BED PLANTING BEDS SHALL BE CULTIVATED BY TILLING TO A MINIMUM DEPTH OF 10". 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" DIA.

FERTILIZER: NONE
X Mn/DOT 3881

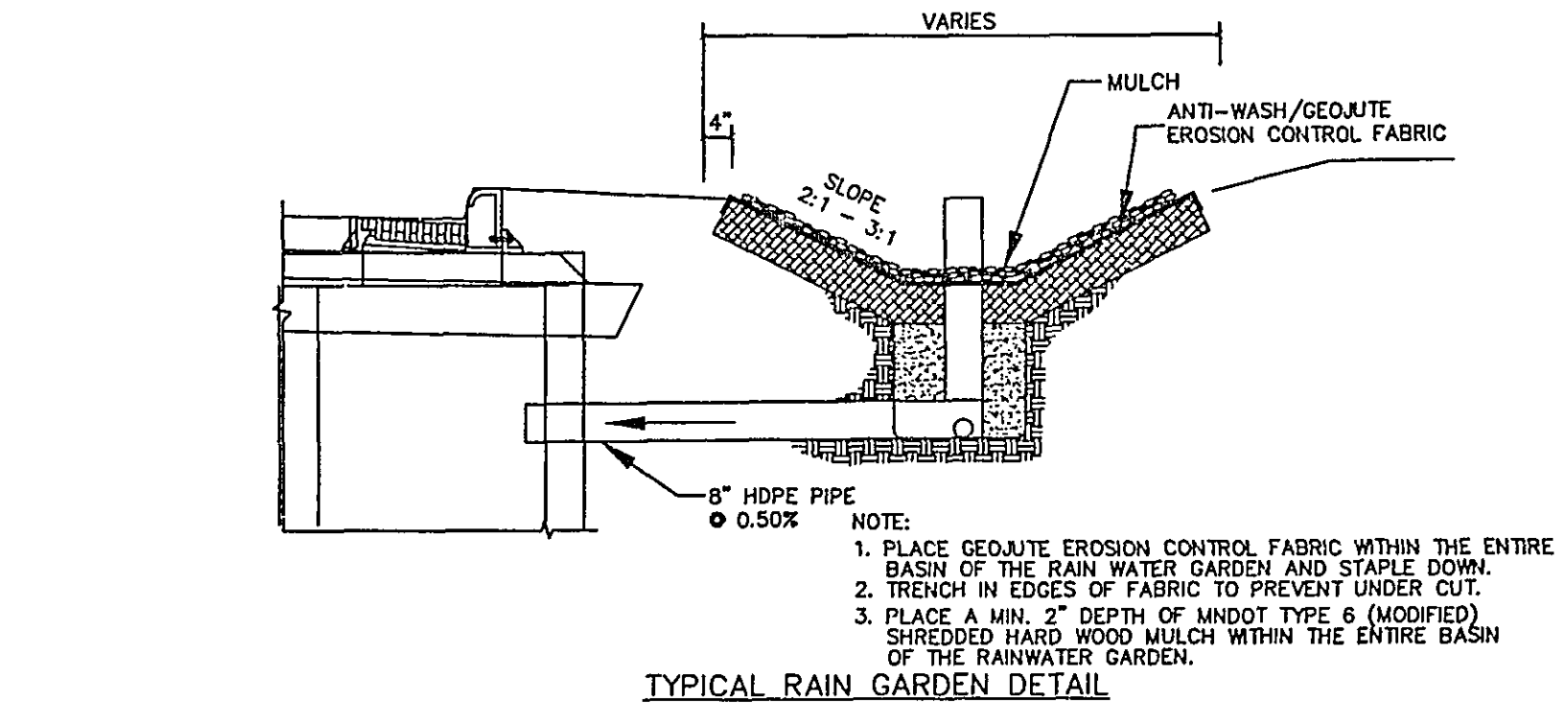
COMPOST: NONE
X Mn/DOT 3890

MULCH MATERIAL: Mn/DOT 3882 TYPE 6, MODIFIED.

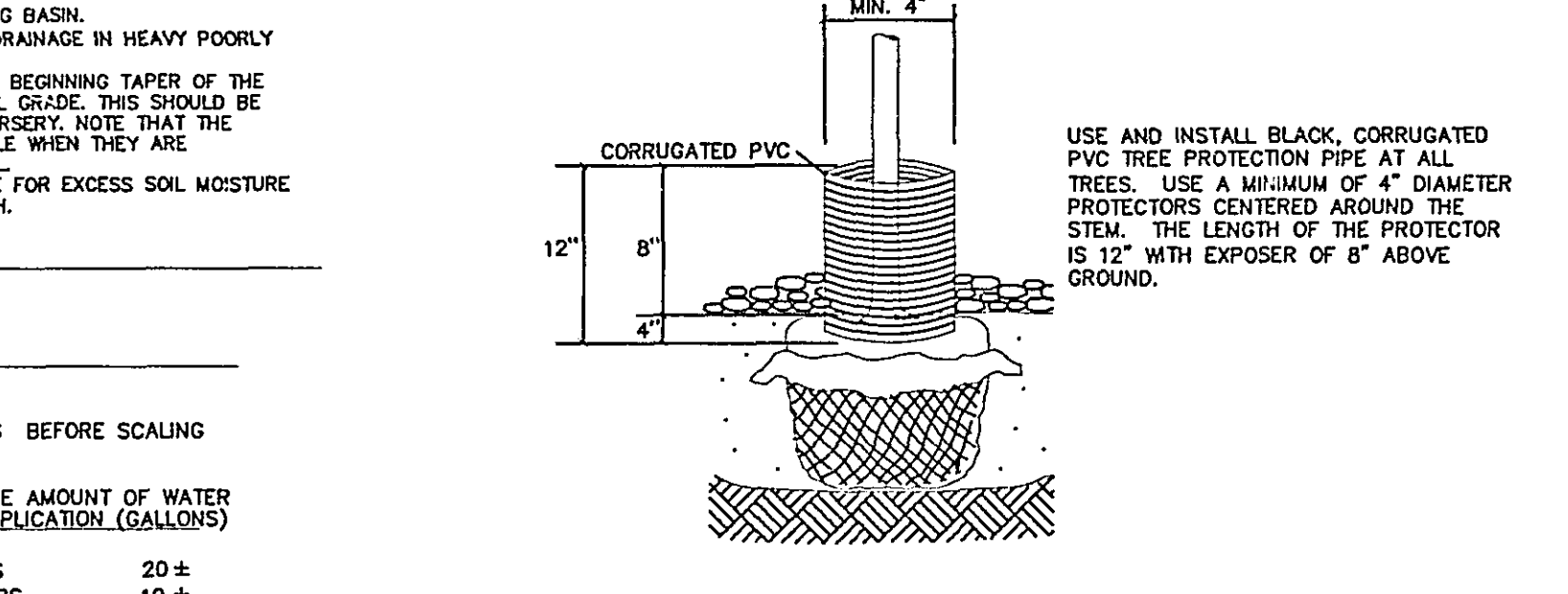
TREE STAKING: TREE STAKING (ALL SIZES) IS NOT ANTICIPATED, BUT MAY BE NECESSARY TO MAINTAIN TREES IN A PLUMB CONDITION WHERE VANDALISM, SOIL, OR WIND CONDITIONS ARE A PROBLEM OR AS REQUESTED BY THE ENGINEER.

TREE WRAPPING: WRAP OAKS, LINDENS, LOCUSTS, MAPLES, CRABAPPLES, AND MOUNTAIN ASHES PER SPECIAL PROVISIONS.

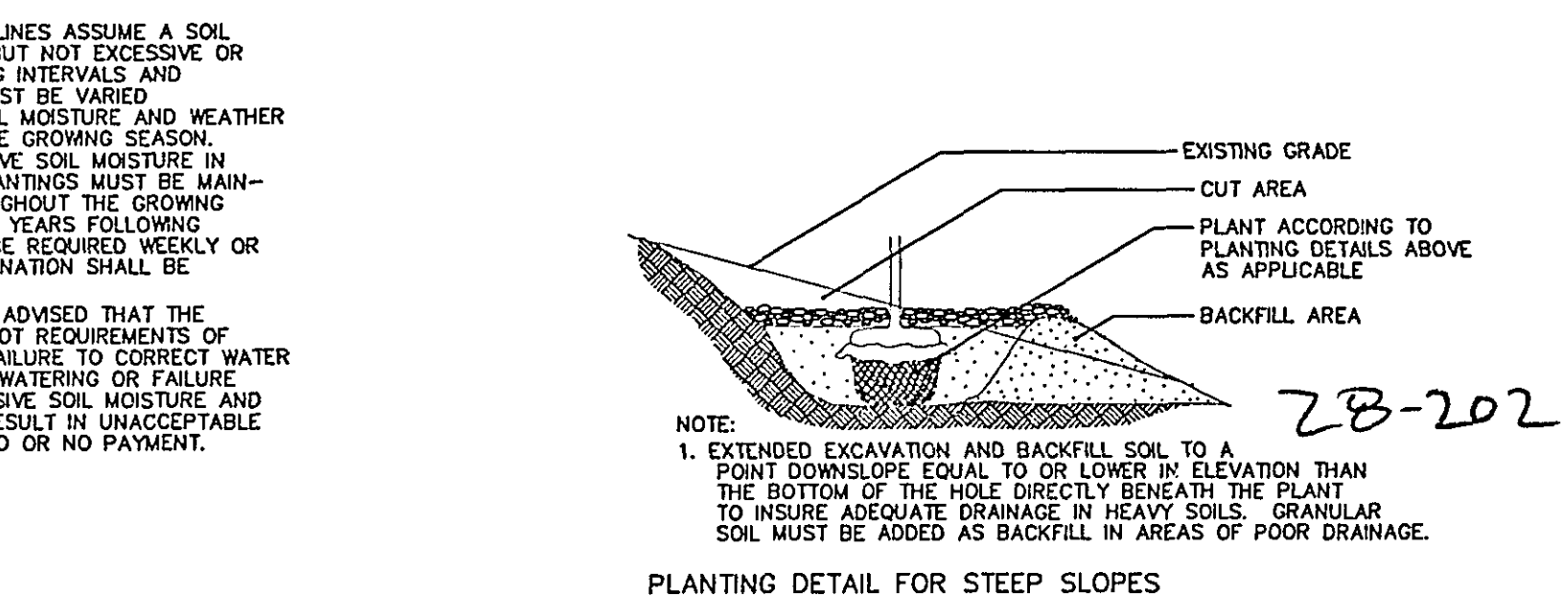
MASS PLANTINGS: PLANT SPACING OF 8" OR LESS SHALL BE MASS CULTIVATED BY TILLING. PLANT IN STAGGERED ROWS ON THE PERIMETER FIRST, THEN UNIFORM FILL IN WITH REMAINING QUANTITY USING TRIANGULAR SPACING. UNLESS SPECIFIED OTHERWISE, PROVIDE 5' RADIUS CLEAR OF SHRUBS AROUND EACH DECIDUOUS TREE AND 8' RADIUS 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 8" OR LESS SHALL BE MASS MULCHED.



TYPICAL RAIN GARDEN DETAIL

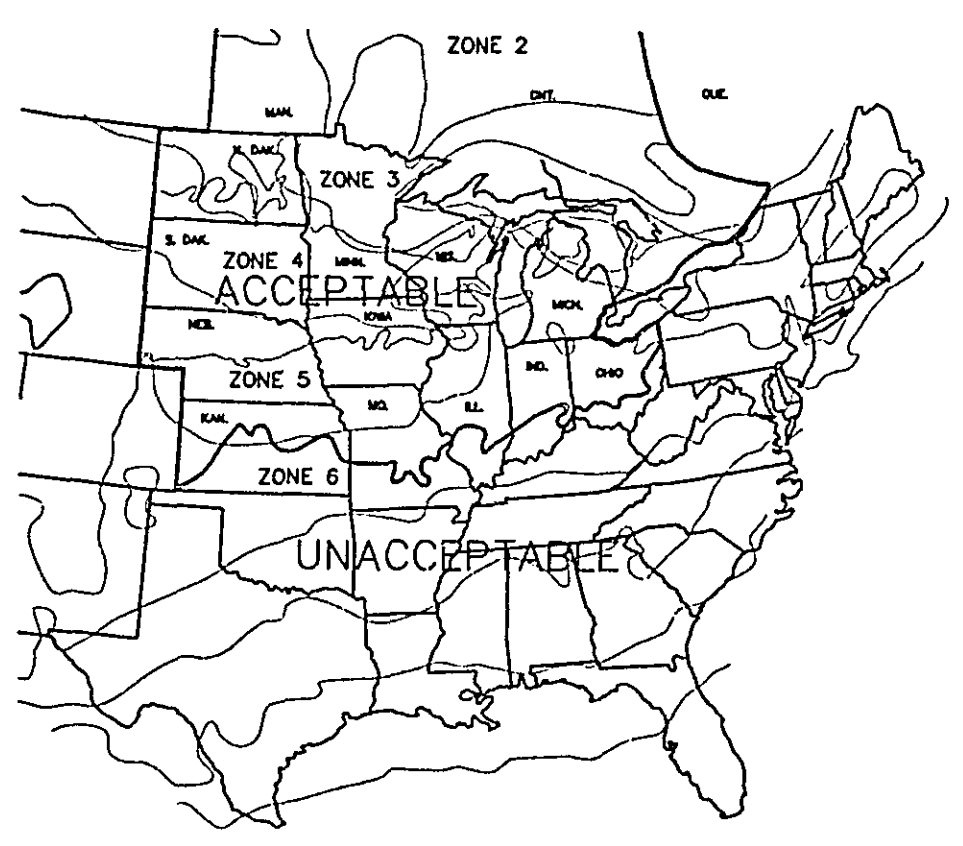


TRUNK PROTECTION DETAIL



PLANTING DETAIL FOR STEEP SLOPES

DESIGN FILE:	REV. NO.	BY	DATE	REVISIONS DESCRIPTION	I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.	RAMSEY COUNTY	CITY PROJECT	SHEET NO.
DRAWN BY: DESIGN BY:						COUNTY ROAD F	COUNTY PROJECT	9
CHKD. BY: DWG. NAME: CRDFLDT2						LANDSCAPE DETAILS	MSAS 174-020-20	10
DATE:							S.A.P. 62-612-19	



ACCEPTABLE GROWING RANGE FOR MIDWEST AND NORTHERN GROWN PLANT STOCK
SOURCE: U.S.D.A. PLANT HARDINESS ZONE MAP

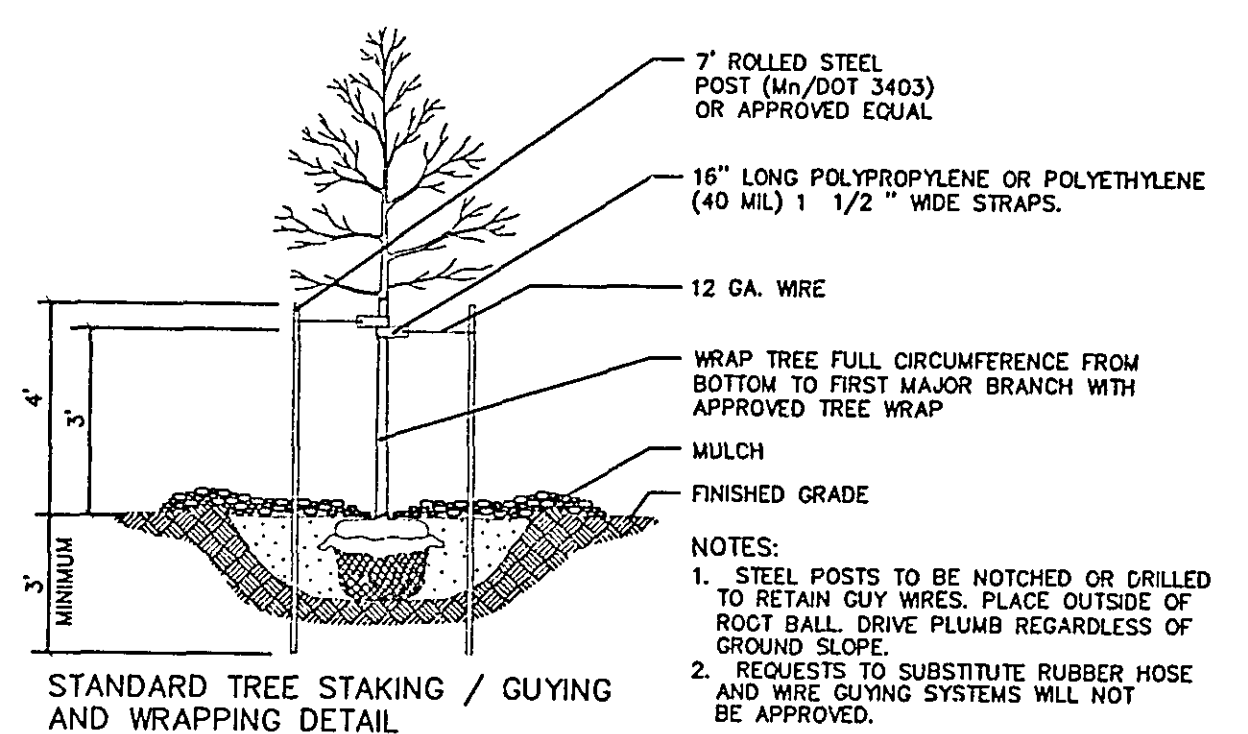
ZONE 1 BELOW -50 F
ZONE 2 -50 to -40
ZONE 3 -40 to -30
ZONE 4 -30 to -20

STATE INSPECTED PLANTS GROWN WITHIN ZONES 1-4 AND THE ACCEPTABLE GROWING RANGE FOR A MINIMUM OF 2 YEARS MAY BE USED ON ALL PROJECTS UNLESS OTHERWISE SPECIFIED.

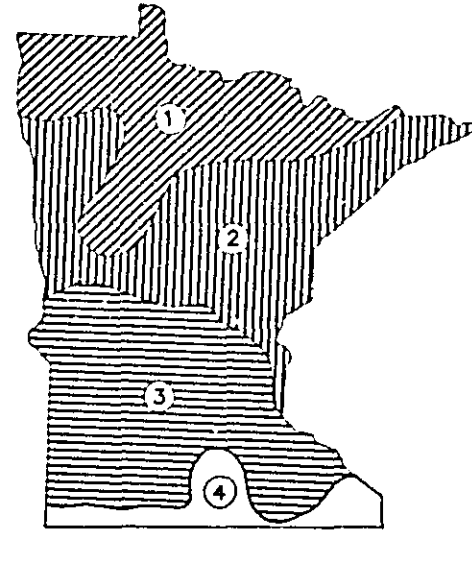
ZONE 5 -20 to -10

STATE INSPECTED PLANTS GROWN WITHIN ZONE 5 AND THE ACCEPTABLE GROWING RANGE FOR A MINIMUM OF 2 YEARS ARE ALLOWED ONLY ON PROJECTS WITHIN ZONE 4 IN MINNESOTA. UNLESS CERTIFIED AS MINNESOTA ZONE HARDY IN ZONES 3 AND 2.

PLANT STOCK NOT GROWN WITHIN THE ACCEPTABLE ZONES AND GROWING RANGE FOR A MINIMUM OF 2 YEARS MAY BE ACCEPTED IF THE SEED SOURCE OR ROOTS OF GRAFT STOCK IS CERTIFIED AND DOCUMENTED AS MIDWEST AND NORTHERN GROWN AND MINNESOTA ZONE HARDY.



STANDARD TREE STAKING / GUYING AND WRAPPING DETAIL



OPTIMUM PLANTING DATE ZONES IN MINNESOTA

	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
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 IS NOT 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.

TYPE OF PLANT	X		Y		Z	
	CENTER OF PLANT TO MULCH LINE	EDGE OF BRANCHING TO MULCH LINE	DEPTH OF MULCH MIN.	DEPTH OF MULCH MAX.	DEPTH OF MULCH MIN.	DEPTH OF MULCH MAX.
DECIDUOUS TREES	6"-1' MIN.	N/A	4"	6"	4"	6"

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

MULCH PLACEMENT DETAIL

DESIGN FILE:	REV. NO.	BY	DATE	REVISIONS DESCRIPTION	I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.	RAMSEY COUNTY	CITY PROJECT	SHEET NO.
DRAWN BY: DESIGN BY:						COUNTY ROAD F	COUNTY PROJECT	10
CHKD. BY: DWG. NAME: CRDFLDT1						LANDSCAPE DETAILS	MSAS 174-020-20	10
DATE:							S.A.P. 62-612-19	