Soil Analytical Results - Organics
Bassett Creek Redevelopment
Fremont Avenue Corridor - Minneapolis, Minnesota
Delta Project No. A001-123

Sample ID	Sample Depth (feet below ground surface)	Sample Date	VOCs							
			Benzene	Toluene	Ethyl-benzene	cis-1,2-Dichloro-ethene	Isopropyl-benzene	n-Propyl-benzene	1,3,5-TMB	1,2,4-TMB
SB-1	4.0 - 5.5 ft	08/06/02	**0.4**	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
SB-2	11.5 - 13.0 ft	08/07/02	<0.34	<0.34	<0.34	<0.34	<0.34	<0.34	<0.34	<0.34
SB-3	4.0 - 5.5 ft	08/07/02	<0.29	<0.29	<0.29	<0.29	<0.29	<0.29	<0.29	<0.29
SB-4	4.0 - 5.5 ft	08/06/02	<0.28	<0.28	<0.28		<0.28	<0.28	<0.28	<0.28
SB-5	1.5 - 3.0 ft	08/07/02	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
SB-6	6.5 - 8.0 ft	08/07/02	<0.38	<0.38	<0.38	<0.38	<0.38	<0.38	<0.38	<0.38
SB-7	1.5 - 3.0 ft	08/08/02	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
	4.0 - 5.5 ft	08/08/02	--	--	--	--	--	--	--	--
SB-8	1.5 - 3.0 ft	08/08/02	**0.33**	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
SOIL DUP	SB-8 (1.5-3) DUP	08/08/02	**0.36**	<0.28	<0.28	<0.28	<0.28	<0.28	<0.28	<0.28
SB-9	1.5 - 3.0 ft	08/08/02	**0.35**	<0.28	1.1	<0.28	<0.28	<0.28	0.51	1.8
	16.5 - 18.0 ft	08/08/02	<0.26	<0.26	4.1	<0.26	1.4	6.7	**13**	**40**
SB-10	6.5 - 8.0 ft	08/08/02	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27
	16.5 - 18.0 ft	08/08/02	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	0.4
SB-11	1.5 - 3.0 ft	08/09/02	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26
SOIL DUP #5	SB-11 (1.5-3) DUP	08/09/02	--	--	--	--	--	--	--	--
SB-12	14.5 - 16.0 ft	08/09/02	<0.28	<0.28	<0.28	<0.28	<0.28	<0.28	<0.28	<0.28
SB-13	14.5 - 16.0 ft	08/09/02	<0.35	<0.35	<0.35	**0.39**	<0.35	<0.35	<0.35	<0.35
SB-14	6.5 - 8.0 ft	08/09/02	<0.41	<0.41	<0.41	<0.41	<0.41	<0.41	<0.41	<0.41
SB-15	4.5 - 6.0 ft	08/09/02	<0.53	<0.53	<0.53	<0.53	0.69	1.1	<0.53	<0.53
	9.5 - 11.0 ft	08/09/02	<0.42	<0.42	<0.42	<0.42	<0.42	<0.42	<0.42	<0.42
SB-16	7.5 - 9.0 ft	08/12/02	<0.49	<0.49	<0.49	<0.49	<0.49	<0.49	<0.49	<0.49
SB-17	2.5 - 4.0 ft	08/12/02	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27
SOIL DUP #2	SB-17 (2.5-4) DUP	08/12/02	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25
SB-18	7.5 - 9.0 ft	08/12/02	<0.45	<0.45	<0.45	<0.45	<0.45	<0.45	<0.45	<0.45
SOIL DUP #3	SB-18 (7.5-9) DUP	08/12/02	--	--	--	--	--	--	--	--
SB-19	2.5 - 4.0 ft	08/12/02	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27
	7.5 - 9.0 ft	08/12/02	<0.42	<0.42	<0.42	<0.42	<0.42	<0.42	<0.42	<0.42
SB-20	4.5 - 6.0 ft	08/12/02	<0.57	<0.57	<0.57	<0.57	<0.57	<0.57	<0.57	<0.57
SOIL DUP #4	SB-20 (4.5-6) DUP	08/12/02	--	--	--	--	--	--	--	--
Methanol Blank	--	08/06/02	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25
Methanol Blank	--	08/07/02	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25
MPCA - Tier I Soil Reference Value (SRV) (mg/kg)			1.5	107	200	8	NA	30	4	5
MPCA - Tier I Soil Leaching Value (SLV) (mg/kg)			0.034	6.4	4.7	0.14	18	NA	NA	NA

all analytical results expressed in milligrams per kilogram
< less than the specified reporting limit
10 analytical result at or above the reporting limit
10 analytical result exceeding either the SRV or SLV

RCRA = Resource, Conservation, and Recovery Act
VOCs = Volatile organic compounds
TMB = Trimethylbenzene
MIBK = Methyl isobutyl ketone

FIGURES

APPENDIX A

APPENDIX B

TABLE 3 (continued)

Soil Analytical Results - Organics
Bassett Creek Redevelopment
Fremont Avenue Corridor - Minneapolis, Minnesota
Delta Project No. A001-123

Sample ID	Sample Depth (feet below ground surface)	Sample Date	VOCs - continued								PAHs	
			sec-Butyl-benzene	p-Isopropyl-toluene	n-Butyl-benzene	Naphthalene	MIBK	Trichloro-ethene	Xylenes	Chloroform	Naphthalene	2-Methyl-naphthalene
SB-1	4.0 - 5.5 ft	08/06/02	<0.33	<0.33	<0.33	<0.33	<1.6	<0.33	<0.98	<0.33	<43	<43
SB-2	11.5 - 13.0 ft	08/07/02	<0.34	<0.34	<0.34	<0.34	<1.7	<0.34	<1.30	<0.34	<0.45	<0.45
SB-3	4.0 - 5.5 ft	08/07/02	<0.29	<0.29	<0.29	<0.29	<1.4	<0.29	<8.70	<0.29	<19	<19
SB-4	4.0 - 5.5 ft	08/06/02	<0.28	<0.28	<0.28	<0.28	<1.3	<0.28	<0.56	<0.28	<0.36	<0.36
SB-5	1.5 - 3.0 ft	08/07/02	<0.33	<0.33	<0.33	<0.33	<1.6	<0.33	<0.99	<0.33	<0.44	<0.44
SB-6	6.5 - 8.0 ft	08/07/02	<0.38	<0.38	<0.38	<0.38	<1.8	<0.38	<1.14	<0.38	<0.49	<0.49
SB-7	1.5 - 3.0 ft	08/08/02	<0.33	<0.33	<0.33	<0.33	<1.6	<0.33	<0.99	<0.33	<4.4	<4.4
	4.0 - 5.5 ft	08/08/02	--	--	--	--	--	--	--	--	--	--
SB-8	1.5 - 3.0 ft	08/08/02	<0.30	<0.30	<0.30	<0.30	<1.4	<0.30	<0.89	<0.30	<39	<39
SOIL DUP	SB-8 (1.5-3) DUP	08/08/02	<0.28	<0.28	<0.28	<0.28	<1.3	<0.28	<0.83	<0.28	<36	<36
SB-9	1.5 - 3.0 ft	08/08/02	<0.28	<0.28	<0.28	3.6	<1.4	<0.28	1.43	<0.28	4.4	<3.7
	16.5 - 18.0 ft	08/08/02	1.1	0.82	7.6	2.1	**2.9**	<0.26	17.5	**0.49**	2.7	11.0
SB-10	6.5 - 8.0 ft	08/08/02	<0.27	<0.27	<0.27	<0.27	<1.3	<0.27	<0.81	<0.27	<0.35	<0.35
	16.5 - 18.0 ft	08/08/02	<0.30	<0.30	<0.30	0.36	<1.4	<0.30	<0.90	<0.30	<0.39	<0.39
SB-11	1.5 - 3.0 ft	08/09/02	<0.26	<0.26	<0.26	<0.26	<1.3	<0.26	<0.79	<0.26	<69	<69
SOIL DUP #5	SB-11 (1.5-3) DUP	08/09/02	--	--	--	--	--	--	--	--	--	--
SB-12	14.5 - 16.0 ft	08/09/02	<0.28	<0.28	<0.28	<0.28	<1.3	<0.28	<0.84	<0.28	<0.37	<0.37
SB-13	14.5 - 16.0 ft	08/09/02	<0.35	<0.35	<0.35	<0.35	<1.7	<0.35	<1.40	<0.35	<0.46	<0.46
SB-14	6.5 - 8.0 ft	08/09/02	<0.41	<0.41	<0.41	<0.41	<2.0	<0.41	<1.24	<0.41	<0.54	<0.54
SB-15	4.5 - 6.0 ft	08/09/02	0.95	0.55	1.3	3.7	<2.6	<0.53	<1.63	<0.53	<70	<70
	9.5 - 11.0 ft	08/09/02	<0.42	<0.42	<0.42	<0.42	<2.0	<0.42	<1.26	<0.42	<11	<11
SB-16	7.5 - 9.0 ft	08/12/02	<0.49	<0.49	<0.49	<0.49	<2.3	<0.49	<1.47	<0.49	<32	<32
SB-17	2.5 - 4.0 ft	08/12/02	<0.27	<0.27	<0.27	<0.27	<1.3	<0.27	<0.81	<0.27	<71	<71
SOIL DUP #2	SB-17 (2.5-4) DUP	08/12/02	<0.25	<0.25	<0.25	<0.25	<1.2	<0.25	<0.50	<0.25	--	--
SB-18	7.5 - 9.0 ft	08/12/02	<0.45	<0.45	<0.45	<0.45	<2.1	<0.45	<1.34	<0.45	<0.58	0.64
SOIL DUP #3	SB-18 (7.5-9) DUP	08/12/02	--	--	--	--	--	--	--	--	<0.55	0.85
SB-19	2.5 - 4.0 ft	08/12/02	<0.27	<0.27	<0.27	<0.27	<2.7	<0.27	<0.81	<0.27	<71	<71
	7.5 - 9.0 ft	08/12/02	<0.42	<0.42	<0.42	<0.42	<2.0	<0.42	<1.26	<0.42	<2.7	<2.7
SB-20	4.5 - 6.0 ft	08/12/02	<0.57	<0.57	<0.57	<0.57	<2.8	**0.6**	<1.67	<0.57	<150	<150
SOIL DUP #4	SB-20 (4.5-6) DUP	08/12/02	--	--	--	--	--	--	--	--	--	--
Methanol Blank	--	08/06/02	<0.25	<0.25	<0.25	<0.25	<1.2	<0.25	<0.50	<0.25	--	--
Methanol Blank	--	08/07/02	<0.25	<0.25	<0.25	<0.25	<1.2	<0.25	<0.50	<0.25	--	--
MPCA - Tier I Soil Reference Value (SRV) (mg/kg)			25	NA	30	10	140	29	110	2.5	10	NA
MPCA - Tier I Soil Leaching Value (SLV) (mg/kg)			NA	NA	NA	7.5	0.42	0.14	45	0.17	7.5	NA

all analytical results expressed in milligrams per kilogram
< less than the specified reporting limit
10 analytical result at or above the reporting limit
10 analytical result exceeding either the SRV or SLV

RCRA = Resource, Conservation, and Recovery Act
VOCs = Volatile organic compounds
TMB = Trimethylbenzene
MIBK = Methyl Isobutyl ketone

TABLE 4

Soil Analytical Results - Inorganics
Bassett Creek Redevelopment
Fremont Avenue Corridor - Minneapolis, Minnesota
Delta Project No. A001-123

Sample ID	Sample Depth (feet below ground surface)	Sample Date	RCRA Metals							
			Arsenic	Barium	Cadmium	Chromium	Lead	Selenium	Silver	Mercury
SB-1	4.0 - 5.5 ft	08/06/02	<2.84	91.8	<0.284	13.6	83.0	<4.25	<2.84	<0.795
SB-2	11.5 - 13.0 ft	08/07/02	<3.22	102	0.562	24.0	10.1	<4.83	<3.22	<0.0353
SB-3	4.0 - 5.5 ft	08/07/02	<2.88	55.2	<0.288	14.3	3.54	<4.32	<2.88	0.0283
SB-4	4.0 - 5.5 ft	08/06/02	<2.55	74.8	<0.255	13.0	3.62	<3.82	<2.55	0.0217
SB-5	1.5 - 3.0 ft	08/07/02	--	--	--	--	--	--	--	--
SB-6	6.5 - 8.0 ft	08/07/02	<3.50	134	0.482	33.1	13.7	<5.25	<3.50	0.0445
SB-7	1.5 - 3.0 ft	08/08/02	--	--	--	--	--	--	--	--
	4.0 - 5.5 ft	08/08/02	**13.5**	118	0.645	26.5	13.5	<4.36	<2.91	0.0349
SB-8	1.5 - 3.0 ft	08/08/02	<2.65	95.1	<0.265	20.7	12.1	<3.98	<2.65	0.0396
SOIL DUP	SB-8 (1.5-3) DUP	08/08/02	--	--	--	--	--	--	--	--
SB-9	1.5 - 3.0 ft	08/08/02	<2.63	87.9	<0.263	9.19	7.54	<3.95	<2.63	0.0842
	16.5 - 18.0 ft	08/08/02	<2.23	10.2	<0.223	8.90	4.81	<3.34	<2.23	<0.0190
SB-10	6.5 - 8.0 ft	08/08/02	<2.24	122	<0.224	18.6	5.84	<3.36	<2.24	<0.0202
	16.5 - 18.0 ft	08/08/02	<2.53	9.87	<0.253	4.92	<1.52	<3.80	<2.53	<0.0224
SB-11	1.5 - 3.0 ft	08/09/02	<2.46	31.1	<0.246	7.09	6.04	<3.69	<2.46	<0.0197
SOIL DUP #5	SB-11 (1.5-3) DUP	08/09/02	<2.04	31.3	<0.204	7.21	6.59	<3.06	<2.04	<0.0202
SB-12	14.5 - 16.0 ft	08/09/02	<2.42	37.2	<0.242	11.2	3.16	<3.63	<2.42	<0.0204
SB-13	14.5 - 16.0 ft	08/09/02	<3.26	111	<0.326	29.6	9.47	<4.88	<3.26	0.0276
SB-14	6.5 - 8.0 ft	08/09/02	9.16	265	<0.393	9.63	<2.36	<5.90	<3.93	<0.0292
SB-15	4.5 - 6.0 ft	08/09/02	<4.89	190	<0.489	7.27	58.0	<7.33	<4.89	**1.38**
	9.5 - 11.0 ft	08/09/02	8.17	277	<0.398	11.9	3.17	<5.96	<3.98	<0.0304
SB-16	7.5 - 9.0 ft	08/12/02	--	--	--	--	--	--	--	--
SB-17	2.5 - 4.0 ft	08/12/02	<2.35	41.7	<0.235	14.3	26.2	<3.53	<2.35	0.0215
SOIL DUP #2	SB-17 (2.5-4) DUP	08/12/02	--	--	--	--	--	--	--	--
SB-18	7.5 - 9.0 ft	08/12/02	**17.7**	375	<0.392	4.52	<2.35	<5.88	<3.92	<0.0358
SOIL DUP #3	SB-18 (7.5-9) DUP	08/12/02	--	--	--	--	--	--	--	--
SB-19	2.5 - 4.0 ft	08/12/02	<2.43	57.5	<0.243	11.6	150	<3.65	<2.43	0.0247
	7.5 - 9.0 ft	08/12/02	**10.8**	376	<0.371	6.42	<2.22	<5.56	<3.71	<0.0324
SB-20	4.5 - 6.0 ft	08/12/02	<5.67	185	<0.567	8.53	330	<8.51	<5.67	0.257
SOIL DUP #4	SB-20 (4.5-6) DUP	08/12/02	<5.12	205	0.604	9.42	258	<7.69	<5.12	0.388
Methanol Blank	--	08/06/02	--	--	--	--	--	--	--	--
Methanol Blank	--	08/07/02	--	--	--	--	--	--	--	--
MPCA - Tier I Soil Reference Value (SRV) (mg/kg)			10	1,200	35	III: 34,300 VI: 71	400	170	170	0.7
MPCA - Tier I Soil Leaching Value (SLV) (mg/kg)			14.6	822	3.0	III: 1,000,000 VI: 19.1	525	1.5	2.5	1.0

all analytical results expressed in milligrams per kilogram
< less than the specified reporting limit
10 analytical result at or above the reporting limit
10 analytical result exceeding either the SRV or SLV

RCRA = Resource, Conservation, and Recovery Act
VOCs = Volatile organic compounds
TMB = Trimethylbenzene
MIBK = Methyl Isobutyl ketone

TABLE 5

Ground Water Analytical Results - Organics
Bassett Creek Redevelopment
Fremont Avenue Corridor - Minneapolis, Minnesota
Delta Project No. A001-123

Sample ID	Sample Date	VOCs										
		Benzene	Toluene	Ethylbenzene	1,2-Dichloro-propane	cis-1,2-Dichloro-ethene	Isopropyl-benzene	n-Propyl-benzene	1,3,5-TMB	1,2,4-TMB	p-Isopropyl-toluene	n-Butyl-benzene
SB-1	08/06/02	1.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
SB-4	08/06/02	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
SB-8	08/08/02	7.4	390	**2,600**	1.2	<1.0	83	140	300	1,400	5.7	11
DUPLICATE-1	08/08/02	<20	380	**2,600**	<20	<20	110	160	260	1,200	<20	80
SB-10	08/08/02	<1.0	5.1	200	<1.0	2.2	18	63	140	250	5.3	13.0
SB-17	08/12/02	<1.0	<1.0	<1.0	<1.0	2.8	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Equip Blank-2	08/06/02	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Equip Blank-2	08/08/02	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Trip Blank	08/08/02	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Trip Blank	08/12/02	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MDH Health Risk Limits (HRL) (ug/L)		10	1,000	700	5	70	NA	NA	NA	NA	NA	NA

all analytical results expressed in micrograms per liter
< less than the specified reporting limit
10 analytical result at or above the reporting limit
10 analytical result exceeding either the SRV or SLV
NA no ground water standard established for the specified parameter

RCRA = Resource, Conservation, and Recovery Act
VOCs = Volatile organic compounds
TMB = Trimethylbenzene
PAH = Polynuclear aromatic hydrocarbons
MDH = Minnesota Department of Health

TABLE 5 (continued)

Ground Water Analytical Results - Organics
Bassett Creek Redevelopment
Fremont Avenue Corridor - Minneapolis, Minnesota
Delta Project No. A001-123

Sample ID	Sample Date	VOCs - continued										PAHs
		Naphthalene	Methyl Isobutyl Ketone	Vinyl Chloride	Xylenes	Methylene Chloride	Acetone	Chloroform	Methyl Ethyl Ketone	Bromodichloro-methane	Dibromochloro-methane	Naphthalene
SB-1	08/06/02	<1.0	<5.0	<1.0	<2.0	<1.0	9.0	<1.0	<5.0	<1.0	<1.0	<11
SB-4	08/06/02	<1.0	<5.0	<1.0	<2.0	<1.0	5.3	<1.0	<5.0	<1.0	<1.0	<13
SB-8	08/08/02	200	5.7	<1.0	8,680	**77.0**	34.0	<1.0	7.8	<1.0	<1.0	180
DUPLICATE-1	08/08/02	190	<100	<20	8,360	<20	<100	<20	<100	<20	<20	170
SB-10	08/08/02	190	<5.0	**1.3**	334.2	<1.0	14.0	<1.0	<5.0	<1.0	<1.0	--
SB-17	08/12/02	<1.0	<5.0	<1.0	<2.0	<1.0	<5.0	<1.0	<5.0	<1.0	<1.0	<11
Equip Blank-2	08/06/02	<1.0	<5.0	<1.0	<2.0	<1.0	<5.0	7.8	<5.0	4.9	6.0	<11
Equip Blank-2	08/08/02	<1.0	<5.0	<1.0	<2.0	<1.0	<5.0	8.3	<5.0	4.0	2.6	<11
Trip Blank	08/08/02	<1.0	<5.0	<1.0	<2.0	<1.0	<5.0	<1.0	<5.0	<1.0	<1.0	--
Trip Blank	08/12/02	<1.0	<5.0	<1.0	<2.0	<1.0	<5.0	<1.0	<5.0	<1.0	<1.0	--
MDH Health Risk Limits (HRL) (ug/L)		300	300	0.2	10,000	50	700	NA	60	NA	10	300

all analytical results expressed in micrograms per liter
< less than the specified reporting limit
10 analytical result at or above the reporting limit
10 analytical result exceeding either the SRV or SLV
NA no ground water standard established for the specified parameter

RCRA = Resource, Conservation, and Recovery Act
VOCs = Volatile organic compounds
TMB = Trimethylbenzene
PAH = Polynuclear aromatic hydrocarbons
MDH = Minnesota Department of Health

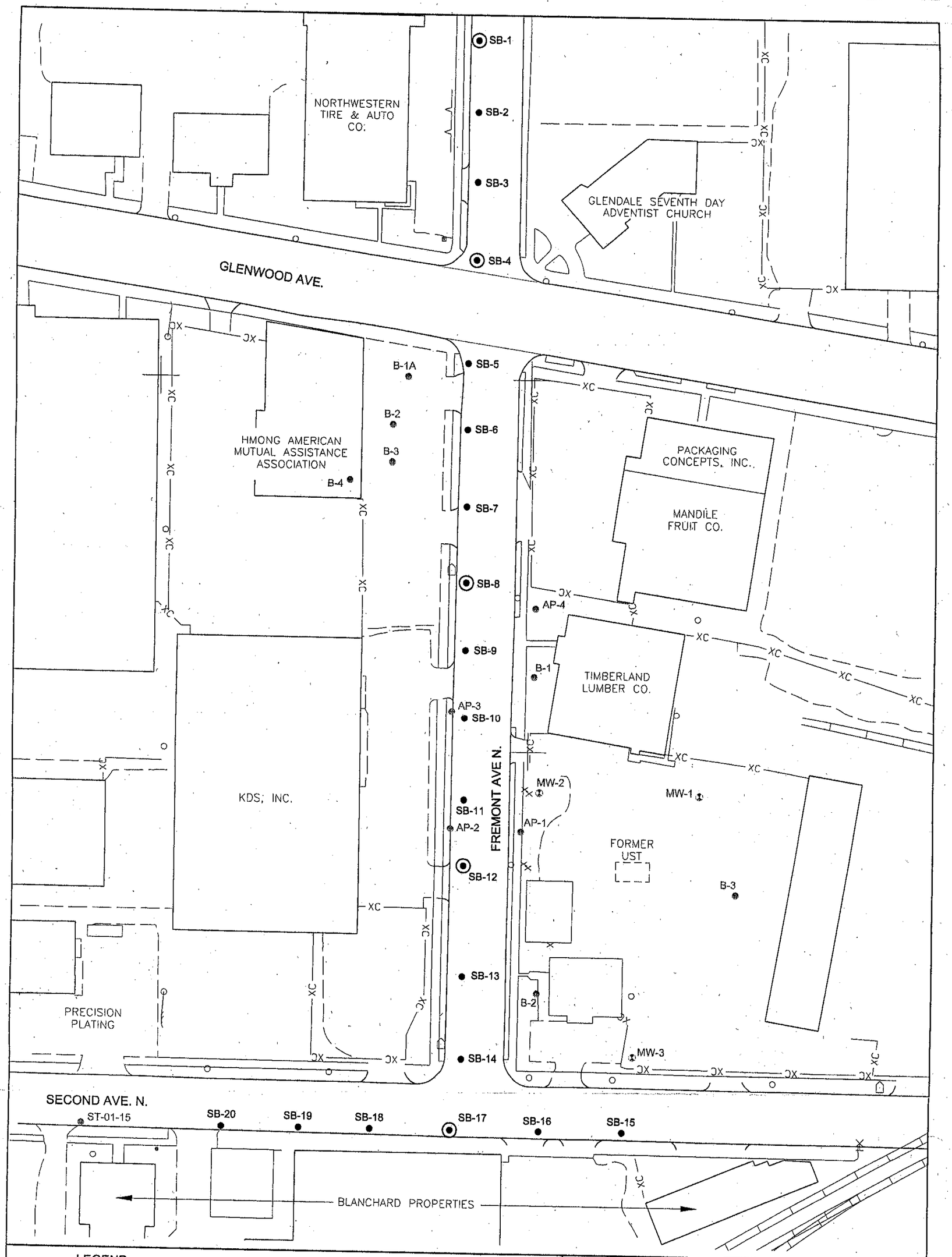
TABLE 6

Ground Water Analytical Results - Inorganics
Bassett Creek Redevelopment
Fremont Avenue Corridor - Minneapolis, Minnesota
Delta Project No. A001-123

Sample ID	Sample Date	RCRA Metals							
		Arsenic	Barium	Cadmium	Chromium	Lead	Selenium	Silver	Mercury
SB-1	08/06/02	40.2	635	<1.00	18.2	5.17	<15.0	<10.0	<0.200
SB-4	08/06/02	182	898	**8.81**	305	166	**137**	<20	0.331
SB-8	08/08/02	69.0	964	3.53	306	293	<30	<20	0.2320
DUPLICATE-1	08/08/02	47.2	953	3.19	301	289	<30	<20	0.2780
SB-10	08/08/02	--	--	--	--	--	--	--	--
SB-17	08/12/02	70.2	**2,660**	**11.7**	431	277	**46.8**	<10	0.566
Equip Blank-2	08/06/02	<10.0	183.0	<1.00	33.9	15.9	<15.0	<10.0	<0.200
Equip Blank-2	08/08/02	<10.0	92.0	<1.00	21.9	9.63	<15.0	<10.0	<0.200
Trip Blank	08/08/02	--	--	--	--	--	--	--	--
Trip Blank	08/12/02	--	--	--	--	--	--	--	--
MDH Health Risk Limits (HRL) (ug/L)		NA	2,000	4	III: 20,000 VI: 100	NA	30	30	NA

all analytical results expressed in micrograms per liter
< less than the specified reporting limit
10 analytical result at or above the reporting limit
10 analytical result exceeding either the SRV or SLV
NA no ground water standard established for the specified parameter

RCRA = Resource, Conservation, and Recovery Act
VOCs = Volatile organic compounds
TMB = Trimethylbenzene
PAH = Polynuclear aromatic hydrocarbons
MDH = Minnesota Department of Health



LEGEND

- 20 FOOT SOIL BORING
- 40 FOOT SOIL BORING
- HISTORICAL MONITORING WELL
- HISTORICAL SOIL BORING

NOTE

BASE MAP DERIVED FROM MAP OBTAINED FROM SRF CONSULTING

North

0 60
SCALE IN FEET

FIGURE 3
SOIL BORING LOCATION MAP
BASSETT CREEK VALLEY REDEVELOPMENT
FREMONT AVENUE CORRIDOR
MINNEAPOLIS, MINNESOTA

PROJECT NO.	PREPARED BY	DRAWN BY
A001-123	KJT	DD
DATE	REVIEWED BY	FILE NAME
9/23/02		BC-4

Delta Environmental Consultants, Inc.

STS Consultants Ltd.
Consulting Engineers

Remedial Investigation and Corrective Action Design

Wunder Klein Donohue Facility
250 Fremont Avenue North
Minneapolis, Minnesota

RECEIVED
MAR 29 1991
MPCA, HAZARDOUS WASTE DIVISION

Wunder Klein Donohue Company

PROPOSAL

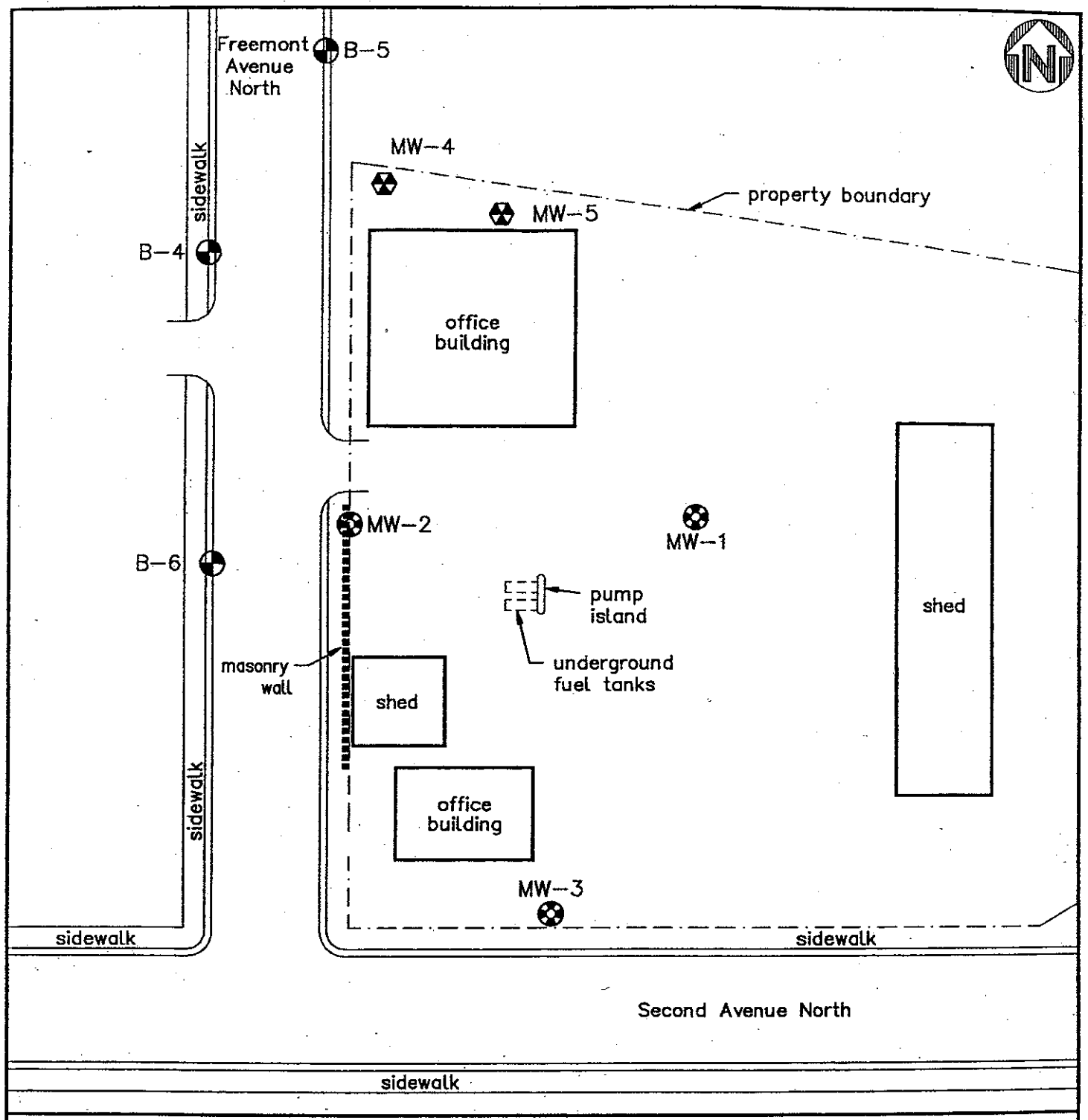
TABLE 2
Summary of Groundwater Chemical Analysis
Samples Obtained on November 28, 1990

Parameter	MW-1	MW-2	MW-3	MW-4	MW-5	Ratio Concen-tration RAL (MW-2)
Benzene (ppb)	7.3	10,000	70	83	1,800	1.000
Ethylbenzene (ppb)	<0.42	500	3.9	18	540	0.77
Toluene (ppb)	4.7	7,600	3.6	5.9	65	7.6
Xylene (ppb)	3.6	8,600	10	7.6	970	0.86
TPH as Gasoline (ppb)	51	98,000	320	1,800	14,000	

Sum of Additive RAL = 1009.17

< = less than
ppb = parts per billion
RAL = Recommended Allowable Limit. Drinking water standard set by the Minnesota Department of Health.

Also included with this report are laboratory test results of previous groundwater sampling and analysis. Groundwater samples were obtained from MW-1, MW-2 and MW-3 on August 30, 1989 and September 29, 1989. A copy of the complete laboratory test results from the August 30, 1989 and September 29, 1989 sampling round, is included in Appendix 12.



LEGEND

- soil boring
- monitoring well
- fuel tank

0' SCALE: 1"=40' 80'

SOIL BORING LOCATION DIAGRAM

Project: Remedial Investigation Client: Wunder Klein Donohue Location: 250 N. Freemont Ave. Minneapolis, Minnesota		AutoCAD File: 94864LOC STS Project No: 94864-XF Client Proj. No:
AutoCAD Operator: MSH	Plot Date: 03_06_1991	Revision No:
Checked by: PG 3/12/91	Approved by: RLD 3-17-91	Figure: 2

Ms. Marcella Klein

REPORT

Annual Report

Former Wunder Klein Donohue Company Property
Minneapolis, Minnesota

STS Consultants Ltd.
Consulting Engineers

TABLE 5

BETX & GRO/TPH COMPOUNDS
WUNDER KLEIN DONOHUE, MINNEAPOLIS, MN
(CONC. IN UG/L)

PARAMETER	DATE	MW-1	MW-2	MW-3	MW-4	MW-5	RAL
BENZENE	9/29/89	<1.0	17,000	<1.0	-	-	10.0
BENZENE	11/28/90	7.3	10,000	70	83	1,800	10.0
BENZENE	2/16/92	<1.0	17,000	<1.0	<1.0	1.2	10.0
BENZENE	7/14/92	8.9	14,000	5.6	35	7.7	10.0
BENZENE	10/27/92	<1.0	18,000	2.0	101	15	10.0
BENZENE	1/15/93	26	13,000	<1.0	16	26	10.0
BENZENE	5/20/93	<1.0	5,200	<1.0	20	13	10.0
BENZENE	9/28/93	<1.0	3,200	<1.0	30	39	10.0
BENZENE	2/16/94	<1.0	1,300	<1.0	20	23	10.0
BENZENE	6/1/94	--	1,200	--	--	--	10.0
BENZENE	10/27/94	--	1,600	--	--	--	10.0
BENZENE	2/23/95	<1.0	1,400	<1.0	82	52	10.0
TOLUENE	9/29/89	<1.0	16,000	<1.0	-	-	1,000.0
TOLUENE	11/28/90	4.7	7,600	3.6	5.9	65	1,000.0
TOLUENE	2/16/92	<1.0	16,000	<1.0	<1.0	<1.0	1,000.0
TOLUENE	7/14/92	<1.0	11,000	<1.0	1.3	<1.0	1,000.0
TOLUENE	10/27/92	3.5	11,000	<1.0	5.5	2.2	1,000.0
TOLUENE	1/15/93	1.5	23,000	<1.0	1.1	<1.0	1,000.0
TOLUENE	5/20/93	<1.0	18,000	<1.0	<1.0	<1.0	1,000.0
TOLUENE	9/28/93	<1.0	16,000	<1.0	3.2	1.9	1,000.0
TOLUENE	2/16/94	<1.0	10,000	<1.0	<1.0	<1.0	1,000.0
TOLUENE	6/1/94	--	9,300	--	--	--	1,000.0
TOLUENE	10/27/94	--	2,100	--	--	--	1,000.0
TOLUENE	2/23/95	<1.0	8,800	<1.0	14	1.7	1,000.0
ETHYLBENZENE	9/29/89	<1.0	2,800	<1.0	-	-	700.00
ETHYLBENZENE	11/2/8/90	<0.42	500	3.9	18	540	700.00
ETHYLBENZENE	2/16/92	<1.0	2,300	<1.0	<1.0	<1.0	700.00
ETHYLBENZENE	7/14/92	<1.0	2,600	<1.0	<1.0	<1.0	700.00
ETHYLBENZENE	10/27/92	1.2	3,000	<1.0	<1.0	3.2	700.00
ETHYLBENZENE	1/15/93	3.1	3,200	<1.0	<1.0	<1.0	700.00
ETHYLBENZENE	5/20/93	<1.0	3,500	<1.0	<1.0	<1.0	700.00
ETHYLBENZENE	9/28/93	<1.0	2,800	<1.0	<1.0	2.3	700.00
ETHYLBENZENE	2/16/94	<1.0	3,100	<1.0	<1.0	<1.0	700.00
ETHYLBENZENE	6/1/94	--	2,600	--	--	--	700.00
ETHYLBENZENE	10/27/94	--	370	--	--	--	700.00
ETHYLBENZENE	2/23/95	<1.0	3,300	<1.0	3.2	1.5	700.00

Table 5 cont'd

PARAMETER	DATE	MW-1	MW-2	MW-3	MW-4	MW-5	RAL
XYLENES, TOTAL	9/29/89	-	-	-	-	-	10,000
XYLENES, TOTAL	11/28/90	3.6	8,600	10	7.6	970	10,000
XYLENES, TOTAL	2/16/92	<2.0	24,000	<2.0	<2.0	<2.0	10,000
XYLENES, TOTAL	7/14/92	<2.0	21,000	<2.0	<2.0	<2.0	10,000
XYLENES, TOTAL	10/27/92	2.3	28,000	<2.0	8.4	<2.0	10,000
XYLENES, TOTAL	1/15/93	2.5	21,000	<2.0	<2.0	<2.0	10,000
XYLENES, TOTAL	5/20/93	<2.0	20,000	<2.0	<2.0	<2.0	10,000
XYLENES, TOTAL	9/28/93	<2.0	23,000	<2.0	<2.0	2.1	10,000
XYLENES, TOTAL	2/16/94	<2.0	21,000	<2.0	16	<2.0	10,000
XYLENES, TOTAL	6/1/94	--	16,000	--	--	--	10,000
XYLENES, TOTAL	10/27/94	--	2,200	--	--	--	10,000
XYLENES, TOTAL	2/23/95	<2.0	19,000	<2.0	3.6	<2.0	10,000
TPH AS GASOLINE	9/29/89	<10	1,600,000	<10	-	-	--
TPH AS GASOLINE	11/28/90	51	98,000	320	1,800	14,000	--
TPH AS GASOLINE	2/16/92	<10	300,000	<10	120	230	--
TPH AS GASOLINE	7/14/92	39	220,000	29	270	220	--
GRO	10/27/92	<10	140,000	<10	540	400	--
GRO	1/15/93	111	100,000	<50	610	410	--
GRO	5/20/93	<50	70,000	<50	790	300	--
GRO	9/28/93	<50	67,000	<50	1,000	590	--
GRO	2/16/94	<50	62,000	<50	1,500	270	--
GRO	6/1/94	--	49,000	--	--	--	--
TPH AS GASOLINE	10/27/94	--	32,000	--	--	--	--
GRO	2/23/95	<50	47,000	<50	2,700	460	--

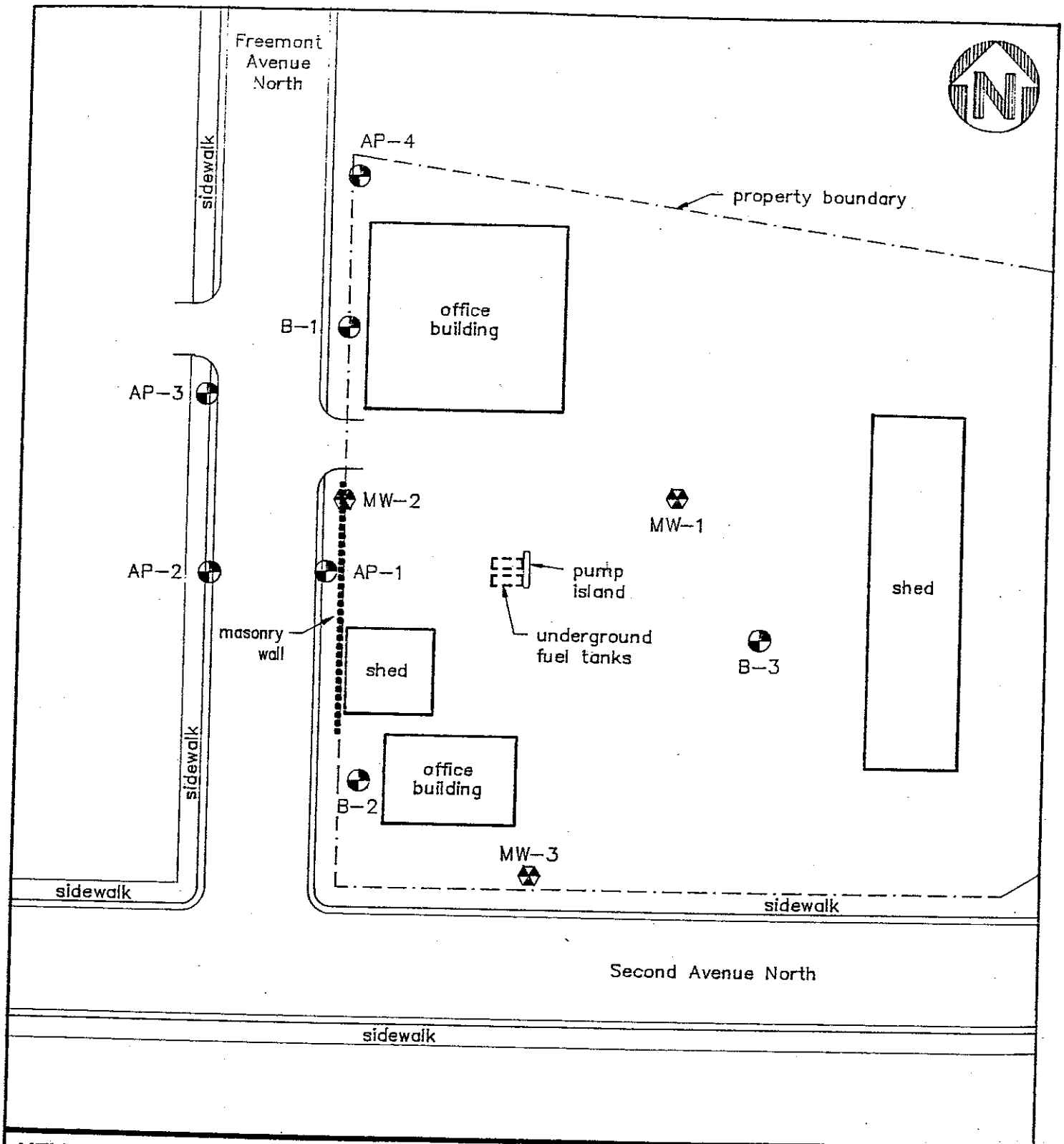
STS Consultants Ltd.
Consulting Engineers

Site Observation and Exploration

Wunder Klein Donohue Company
250 Fremont Avenue North
Minneapolis, Minnesota

Marcella Klein

REPORT



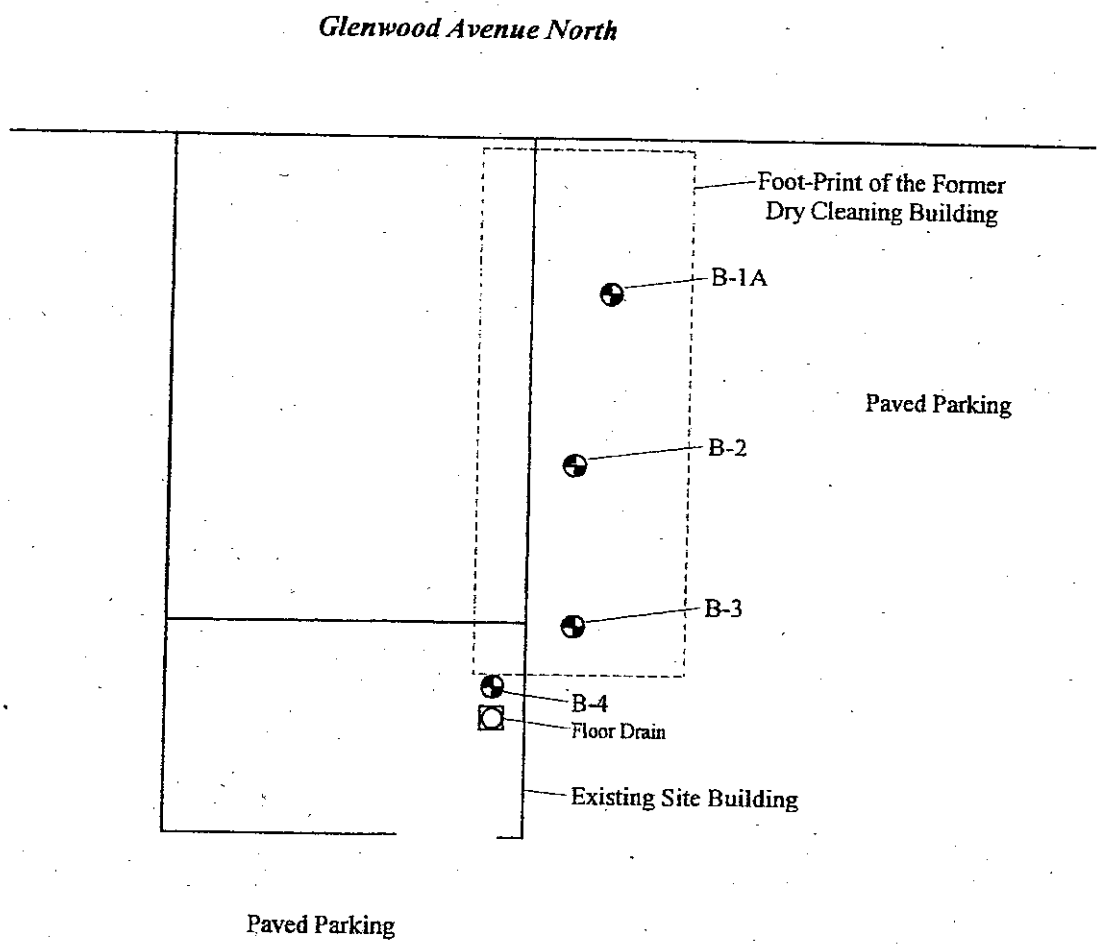
KEY:

- soil boring
- monitoring well
- fuel tank

0' SCALE: 1" = 40' 100'

SOIL BORING LOCATION DIAGRAM

Client:	Location:	PG 9-22-89
Wunder Klein Donohue	250 N. Freemont Ave. Minneapolis, Minnesota	AN 94864-XF
		FIGURE 2



PROTEC ENVIRONMENTAL CONSULTANTS, INC.	**1209 Glenwood Avenue North Minneapolis, Minnesota**	Date: May 3, 2000
		Project Number: P200-051
		Scale: 1" = 20'

TABLE 1

Historical Assessment
Soil and Ground Water Analytical Results
Bassett Creek Redevelopment
Fremont Avenue Corridor - Minneapolis, Minnesota
Delta Project No. A001-123

Property address/ Owner/ Consultant name	Sample location ID	Sample depth (feet below ground surface)	Sample collection date	RCRA Metals							
				arsenic	barium	cadmium	chromium	lead	selenium	silver	mercury
1209 Glenwood Ave./ HAMAA/ ProTec Environmental	B-1A (soil)	8	04/01/00								
	B-1A (soil)	20	04/01/00								
	B-2 (water)	30	04/01/00								
	B-3 (soil)	20	04/01/00								
	B-4 (soil)	4	04/01/00	6	100	<0.50	15	49	0.90	<0.50	4.6
	B-4 (water)	18	04/01/00	<10	170	<10	16	15	<10	<10	<0.20
	trip blank		04/01/00								
	method blank (soil)		04/01/00	<0.50	<2.0	<0.50	<1.0	<2.0	<0.50	<0.50	<0.050
	methanol trip blank		04/01/00								
	method blank (water)		04/01/00	<10	<40	<10	<10	<3.0	<10	<10	<0.20
250 N. Fremont Ave./ Wunder Klein Donohue/ STS Consultants	B-1										
	B-2										
	B-3										
	AP-1										
	AP-2										
	AP-3										
	AP-4										
	MW-1 (water)		11/28/90								
	MW-1 (water)		02/23/95								
	MW-2 (water)		11/28/90								
	MW-2 (water)		10/27/94								
	MW-2 (water)		02/23/95								
	MW-3 (water)		11/28/90								
	MW-3 (water)		02/23/95								
	MW-4 (water)		11/28/90								
	MW-4 (water)		02/23/95								
	MW-5 (water)		11/28/90								
	MW-5 (water)		02/23/95								
Bassett Creek Valley Area/Braun Intertec	ST-01-15	45	01/31/01	<6.4	66	<1.0	15	4	<12	<1.0	<0.030
	ST-01-15 (water)	30	01/31/01	<100	190	<10	<10	<40	<190	<20	<0.4
MPCA - Tier I Soil Reference Value (mg/kg)				10	1,200	35	III: 34,300 VI: 71	400	170	170	0.7
MPCA - Tier I Soil Leaching Value (mg/kg)				14.6	822	3.0	III: 1,000,000 VI: 19.1	525	1.5	2.5	1.0
Health Risk Limits (ug/l)				NA	2,000	4	III: 20,000 VI: 100	NA	30	30	NA

all soil analytical results expressed in milligrams per kilogram
all ground water analytical results expressed in micrograms per liter
< less than the specified reporting limit
10 analytical result at or above the reporting limit
10 analytical result exceeding either the SRV or SLV
NA no soil standard established for specified parameter

RCRA = Resource, Conservation, and Recovery Act
VOCs = Volatile organic compounds
GRO = Gasoline range organics
DRO = Diesel range organics
PAH = Polynuclear aromatic hydrocarbons
MPCA = Minnesota Pollution Control Agency

TABLE 1 (continued)

Historical Assessment
Soil and Ground Water Analytical Results
Bassett Creek Redevelopment
Fremont Avenue Corridor - Minneapolis, Minnesota
Delta Project No. A001-123

Property address/ Owner/ Consultant name	Sample location ID	Sample depth (feet below ground surface)	Sample collection date	GRO	DRO	VOCs								PAHs
						benzene	toluene	ethylbenzene	cis-1,2-dichloroethene	1,2-dichloroethane	trichloroethene	xylenes	methylene chloride	naphthalene
1209 Glenwood Ave./ HAMAA/ ProTec Environmental	B-1A (soil)	8	04/01/00		85	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.50	<1.5	<0.25
	B-1A (soil)	20	04/01/00		<8.0	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.50	<1.5	<0.25
	B-2 (water)	30	04/01/00		600	<0.30	<0.30	<0.50	0.32	<0.50	<0.30	<1.20	<5.0	<0.40
	B-3 (soil)	20	04/01/00	ND	<8.0	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.50	**2.0**	<0.25
	B-4 (soil)	4	04/01/00	<5.0	<8.0	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.50	**1.9**	<0.25
	B-4 (water)	18	04/01/00	<100	<100	<0.30	<0.30	<0.50	0.30	**6.1**	<0.30	<1.20	<5.0	<4.0
	trip blank		04/01/00	<100		<0.30	<0.30	<0.50	<0.30	<0.50	<0.30	<1.20	<5.0	<0.40
	method blank (soil)		04/01/00	<5.0	<8.0	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.50	<1.5	<0.25
	methanol trip blank		04/01/00	<5.0	<8.0	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.50	<1.5	<0.25
	method blank (water)		04/01/00	<100	<100	<0.30	<0.30	<0.50	<0.30	<0.50	<0.30	<1.20	<5.0	<0.40
250 N. Fremont Ave./ Wunder Klein Donohue/ STS Consultants	B-1													
	B-2													
	B-3													
	AP-1													
	AP-2													
	AP-3													
	AP-4													
	MW-1 (water)		11/28/90	51		7.3	4.7	<0.42				3.6		
	MW-1 (water)		02/23/95	ND		ND	ND	ND				ND		
	MW-2 (water)		11/28/90	98,000		**10,000**	**7,600**	500				8,600		
	MW-2 (water)		10/27/94	32,000		**1,600**	**2,100**	370				2,200		
	MW-2 (water)		02/23/95	47,000		**1,400**	**8,800**	**3,300**				**19,000**		
	MW-3 (water)		11/28/90	320		70	3.6	3.9				10		
	MW-3 (water)		02/23/95	ND		ND	ND	ND				ND		
	MW-4 (water)		11/28/90	1,800		**83**	5.9	18				7.6		
	MW-4 (water)		02/23/95	2,700		**82**	14	3.2				3.6		
	MW-5 (water)		11/28/90	14,000		**1,800**	65	540				970		
	MW-5 (water)		02/23/95	460		**52**	1.7	1.5				ND		
Bassett Creek Valley Area/Braun Intertec	ST-01-15	45	01/31/01	33	<10	<0.05	<0.05	<0.05	1.1	<0.05	120	<0.10	<0.25	<1.0
	ST-01-15 (water)	30	01/31/01	<100	<100	<1	1.4	<1.0	**70**	<1.0	<1.0	<2.0	<2.0	2.7
MPCA - Tier I Soil Reference Value (mg/kg)				NA	NA	1.5	107	200	8	4	29	110	97	10
MPCA - Tier I Soil Leaching Value (mg/kg)				NA	NA	0.034	6.4	4.7	0.14	0.01	0.14	45	0.07	7.5
Health Risk Limits (ug/l)				NA	NA	10	1,000	700	70	4	30	10,000	50	300

all soil analytical results expressed in milligrams per kilogram
all ground water analytical results expressed in micrograms per liter
< less than the specified reporting limit
10 analytical result at or above the reporting limit
10 analytical result exceeding either the SRV or SLV
NA no soil standard established for specified parameter

RCRA = Resource, Conservation, and Recovery Act
VOCs = Volatile organic compounds
GRO = Gasoline range organics
DRO = Diesel range organics
PAH = Polynuclear aromatic hydrocarbons
MPCA = Minnesota Pollution Control Agency

DRAFT

PHASE II ENVIRONMENTAL ASSESSMENT

BASSETT CREEK VALLEY REDEVELOPMENT
SCRAP METALS PROCESSORS PROPERTIES
MINNEAPOLIS, MINNESOTA
DELTA PROJECT NO. A001-123

Prepared for:

Minnesota Pollution Control Agency

Prepared by:

Delta Environmental Consultants, Inc.
5910 Rice Creek Parkway
Suite 100
Shoreview, Minnesota 55126
(651) 639-9449

June 30, 2003

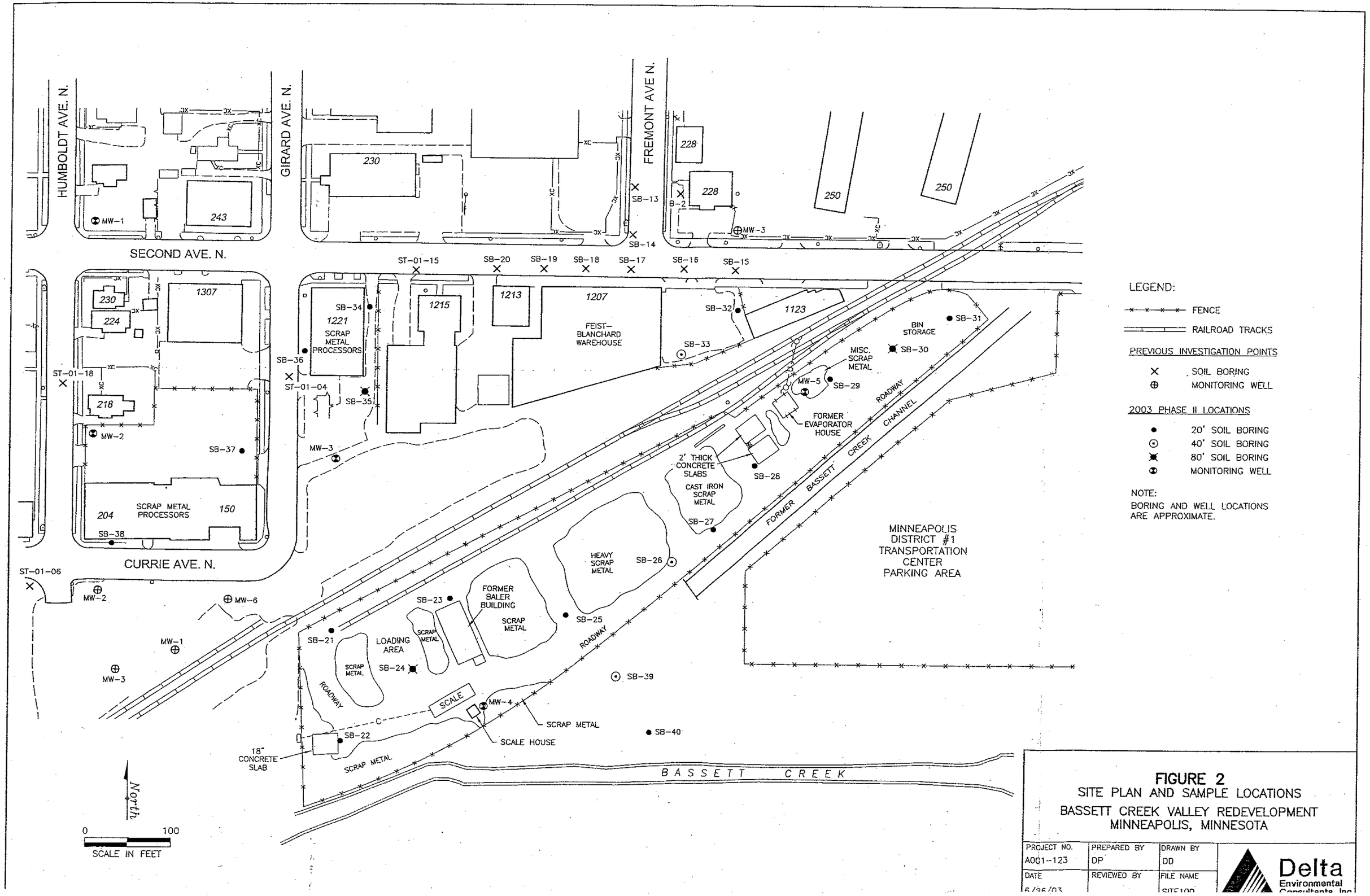


FIGURE 2
SITE PLAN AND SAMPLE LOCATIONS
BASSETT CREEK VALLEY REDEVELOPMENT
MINNEAPOLIS, MINNESOTA

PROJECT NO.	PREPARED BY	DRAWN BY
A001-123	DP	DD
DATE	REVIEWED BY	FILE NAME
6/26/03		SITE100

Delta Environmental Consultants, Inc.

Table 4
Soil Analytical Results - VOCs and GRO
Bassett Creek Redevelopment - Minneapolis, MN
Delta Project No. A001-123

Sample ID	Sample Depth (ft bgs)	Sample Date	Volatile Organic Compounds (micrograms per kilogram - µg/kg)							
			Acetone	Chloroform	Benzene	Toluene	Ethyl-benzene	Xylenes	Isopropyl-benzene	n-Propyl-benzene
SB-21	1	4/29/03	540	<290	<290	<290	<290	<290	<290	<290
SB-22	2.5	4/29/03	<3,100	<3,100	**15,000**	**32,000**	**13,000**	40,000	<3,100	3,500
SB-23	5	4/29/03	380	<360	<360	<360	<360	<1,100	<360	<360
SB-24	1	4/30/03	**1,500**	<1,100	<1,100	2,500	3,700	21,000	<1,100	2,500
SB-24	25	4/30/03	**730**	<580	<580	<580	<580	<1,700	<580	<580
SB-25	5	5/2/03	<270	**1,000**	**730**	<270	<270	<820	<270	<270
SB-26	5	5/2/03	<320	<320	<320	<320	<320	<950	<320	<320
SB-26	15	5/2/03	<410	<410	<410	<410	<410	<1,200	<410	<410
SB-27	2.5	4/29/03	<1,200	<1,200	**1,300**	<1,200	4,000	9,900	8,400	12,000
D-1	dup: SB-27 (2.5)	4/29/03	<2,900	<2,900	<2,900	<2,900	**4,800**	11,000	8,600	13,000
SB-28	5	5/2/03	**2,500**	<1,200	<1,200	<1,200	<1,200	<3,600	<1,200	<1,200
SB-29	2.5	5/1/03	<290	<290	<290	<290	<290	<880	<290	<290
SB-30	5	5/1/03	<270	<270	<270	<270	<270	<820	<270	<270
D-2B	dup: SB-30 (5)	5/1/03	<280	<280	<280	<280	<280	<840	<280	<280
SB-30	17.5	5/1/03	<530	<530	<530	<530	<530	<1,600	<530	<530
SB-31	1	4/30/03	310	<270	<270	<270	<270	<810	<270	<270
SB-32	1	5/6/03	<29,000	<29,000	<29,000	**33,000**	<29,000	**300,000**	<29,000	<29,000
D-4AB	dup: SB-32 (1)	5/6/03	<29,000	<29,000	<29,000	**31,000**	<29,000	**280,000**	<29,000	<29,000
SB-33	2.5	5/6/03	<630	<630	<630	<630	<630	<1,900	<630	840
SB-33	15	5/6/03	<580	<580	<580	<580	<580	<1,700	<580	<580
SB-34	5	5/7/03	<350	<350	<350	<350	<350	<1,000	<350	<350
SB-35	7.5	5/5/03	<1,200	<1,200	<1,200	<1,200	<1,200	<3,600	<1,200	<1,200
D-3B	dup: SB-35 (7.5)	5/5/03	<3,500	<3,500	<3,500	<3,500	<3,500	<11,000	<3,500	<3,500
SB-35	15	5/5/03	<500	<500	<500	<500	<500	<1,500	<500	<500
SB-36	2.5	5/6/03	<310	<310	<310	360	<310	<920	<310	<310
SB-37	5	5/6/03	<310	<310	<310	<310	<310	<940	<310	<310
SB-38	2.5	5/7/03	<330	<330	<330	<330	<330	<980	<330	<330
SB-39	1	5/7/03	<350	<350	<350	<350	<350	<1,000	<350	<350
SB-39	12.5	5/7/03	<330	<330	<330	<330	<330	<1,000	<330	<330
SB-40	5	5/7/03	<350	<350	<350	<350	<350	<1,100	<350	<350
MW-1	5	5/8/03	<280	<280	<280	<280	<280	<840	<280	<280
MW-2	2.5	5/8/03	<290	<290	<290	<290	<290	<870	<290	<290
MW-3	5	5/8/03	<290	<290	<290	<290	<290	<880	<290	<290
MW-4	1	5/9/03	<290	<290	<290	<290	890	3,100	330	1,100
Methanol Blank		5/1/03	<250	<250	<250	<250	<250	<750	<250	<250
Methanol Blank		5/6/03	<250	<250	<250	<250	<250	<750	<250	<250
Methanol Blank		5/7/03	<250	<250	<250	<250	<250	<750	<250	<250
MEOH Blank		5/9/03	<250	<250	<250	<250	<250	<750	<250	<250
MPCA Tier I SRV			320,000	2,500	1,500	107,000	200,000	110,000	NS	30,000
MPCA Tier I SLV			700	170	34	6,400	4,700	45,000	18,000	NS

Notes:
-- = parameter not analyzed.
SRV = Soil Reference Value.
SLV = Soil Leaching Value.
Compounds which were detected in at least one sample are shown on table.

NS = MPCA soil standard not established.
Underlined values indicate concentration exceeds SRV.
Bold values indicate concentration exceeds SLV.

Table 4
Soil Analytical Results - VOCs and GRO
Bassett Creek Redevelopment - Minneapolis, MN
Delta Project No. A001-123

Sample ID	Sample Depth (ft bgs)	Sample Date	Volatile Organic Compounds (micrograms per kilogram - µg/kg)							GRO (mg/kg)
			1,3,5-TMB	1,2,4-TMB	sec-Butyl-benzene	p-Isopropyl-toluene	n-Butyl-benzene	Naph-thalene	MIBK	
SB-21	1	4/29/03	<290	1,300	<290	<290	290	880	<290	47
SB-22	2.5	4/29/03	6,700	15,000	<3,100	<3,100	<3,100	5,300	<3,100	680
SB-23	5	4/29/03	<360	800	<360	<360	360	1,300	<360	65
SB-24	1	4/30/03	6,900	21,000	<1,100	<1,100	3,100	3,200	<1,100	160
SB-24	25	4/30/03	<580	<580	<580	<580	<580	<580	<580	114
SB-25	5	5/2/03	<270	<270	<270	<270	<270	<270	<270	150
SB-26	5	5/2/03	<320	<320	<320	<320	<320	<320	<320	<6.4
SB-26	15	5/2/03	<410	<410	<410	<410	<410	<410	<410	<8.2
SB-27	2.5	4/29/03	<1,200	3,800	7,900	2,500	5,200	14,000	<1,200	1,300
D-1	dup: SB-27 (2.5)	4/29/03	<2,900	4,700	7,300	<2,900	5,100	16,000	<2,900	1,800
SB-28	5	5/2/03	<1,200	1,500	<1,200	<1,200	<1,200	1,700	<1,200	400
SB-29	2.5	5/1/03	<290	<290	<290	<290	<290	<290	<290	190
SB-30	5	5/1/03	<270	520	<270	<270	<270	<270	<270	100
D-2B	dup: SB-30 (5)	5/1/03	<280	<280	<280	<280	310	<280	<280	32
SB-30	17.5	5/1/03	<530	<530	<530	<530	<530	<530	<530	<11
SB-31	1	4/30/03	<270	<270	<270	<270	<270	370	<270	<5.5
SB-32	1	5/6/03	220,000	580,000	<29,000	<29,000	46,000	77,000	44,000	4,000
D-4AB	dup: SB-32 (1)	5/6/03	190,000	500,000	<29,000	<29,000	41,000	73,000	<29,000	3,900
SB-33	2.5	5/6/03	<630	<630	680	<630	1000	870	<630	27
SB-33	15	5/6/03	<580	<580	<580	<580	<580	<580	<580	<12
SB-34	5	5/7/03	<350	<350	<350	<350	<350	44,000	<350	44
SB-35	7.5	5/5/03	<1,200	<1,200	<1,200	<1,200	<1,200	1,200	<1,200	130
D-3B	dup: SB-35 (7.5)	5/5/03	<3,500	<3,500	<3,500	<3,500	<3,500	<3,500	<3,500	270
SB-35	15	5/5/03	<500	<500	<500	<500	<500	<500	<500	<10
SB-36	2.5	5/6/03	<310	<310	<310	<310	<310	<310	<310	<6.1
SB-37	5	5/6/03	<310	<310	<310	<310	<310	<310	<310	<6.3
SB-38	2.5	5/7/03	<330	<330	<330	<330	<330	<330	<330	<6.5
SB-39	1	5/7/03	<350	<350	<350	<350	<350	<350	<350	<6.9
SB-39	12.5	5/7/03	<330	<330	<330	<330	<330	<330	<330	<6.7
SB-40	5	5/7/03	<350	<350	<350	<350	<350	<350	<350	<7.1
MW-1	5	5/8/03	<280	<280	<280	<280	<280	<280	<280	<5.7
MW-2	2.5	5/8/03	<290	<290	<290	<290	<290	<290	<290	<5.8
MW-3	5	5/8/03	<290	<290	<290	<290	<290	<290	<290	<5.8
MW-4	1	5/9/03	1,300	5,900	<290	<290	<290	880	<290	32
Methanol Blank		5/1/03	<250	<250	<250	<250	<250	<250	<250	--
Methanol Blank		5/6/03	<250	<250	<250	<250	<250	<250	<250	--
Methanol Blank		5/7/03	<250	<250	<250	<250	<250	<250	<250	--
MEOH Blank		5/9/03	<250	<250	<250	<250	<250	<250	<250	--
MPCA Tier I SRV			4,000	5,000	25,000	NS	30,000	10,000	140,000	NS
MPCA Tier I SLV			NS	NS	NS	NS	NS	7,500	420	NS

Notes:
TMB = trimethylbenzene.
MIBK = methyl isobutyl ketone.
GRO = gasoline range organics.
-- = parameter not analyzed.
Compounds which were detected in at least one sample are shown on table.

SRV = Soil Reference Value.
SLV = Soil Leaching Value.
NS = MPCA soil standard not established.
Underlined values indicate concentration exceeds SRV.
Bold values indicate concentration exceeds SLV.

Table 5
Soil Analytical Results - SVOCs, DRO, and PCBs
Bassett Creek Redevelopment - Minneapolis, MN
Delta Project No. A001-123

Sample ID	Sample Depth (ft bgs)	Sample Date	Semi-Volatile Organic Compounds (micrograms per kilogram - µg/kg)									
			Naphthalene	2-Methyl-naphthalene	Pyrene	bis (2-ethylhexyl) phthalate	Fluoranthene	Benzo (b) flouranthene	Benzo (k) flouranthene	Acenaph-thylene	Acenaph-thene	Dibenzo-furan
SB-21	1	4/29/03	<56,000	<56,000	<56,000	<56,000	<56,000	<56,000	<56,000	<56,000	<56,000	<56,000
SB-22	2.5	4/29/03	<81,000	<81,000	<81,000	<81,000	<81,000	<81,000	<81,000	<81,000	<81,000	<81,000
SB-23	5	4/29/03	<23,000	<23,000	<23,000	<23,000	<23,000	<23,000	<23,000	<23,000	<23,000	<23,000
SB-24	1	4/30/03	<37,000	<37,000	<37,000	<37,000	<37,000	<37,000	<37,000	<37,000	<37,000	<37,000
SB-24	25	4/30/03	--	--	--	--	--	--	--	--	--	--
SB-24	30	4/30/03	<740	<740	<740	<740	<740	<740	<740	<740	<740	<740
SB-25	5	5/2/03	<18,000	<18,000	<18,000	<18,000	<18,000	<18,000	<18,000	<18,000	<18,000	<18,000
SB-26	5	5/2/03	<4,100	<4,100	<4,100	<4,100	<4,100	<4,100	<4,100	<4,100	<4,100	<4,100
SB-26	15	5/2/03	<530	<530	<530	<530	<530	<530	<530	<530	<530	<530
SB-27	2.5	4/29/03	**22,000**	80,000	<19,000	<19,000	<19,000	<19,000	<19,000	<19,000	<19,000	<19,000
D-1	dup: SB-27 (2.5)	4/29/03	**22,000**	86,000	<19,000	<19,000	<19,000	<19,000	<19,000	<19,000	<19,000	<19,000
SB-28	5	5/2/03	<19,000	<19,000	<19,000	<19,000	<19,000	<19,000	<19,000	<19,000	<19,000	<19,000
SB-29	2.5	5/1/03	--	--	--	--	--	--	--	--	--	--
SB-30	5	5/1/03	<36,000	<36,000	<36,000	<36,000	<36,000	<36,000	<36,000	<36,000	<36,000	<36,000
D-2B	dup: SB-30 (5)	5/1/03	<3,600	<3,600	<3,600	<3,600	<3,600	<3,600	<3,600	<3,600	<3,600	<3,600
SB-30	17.5	5/1/03	<690	<690	<690	<690	<690	<690	<690	<690	<690	<690
SB-31	1	4/30/03	<8,900	<8,900	14,000	<8,900	16,000	11,000	<8,900	<8,900	<8,900	<8,900
SB-32	1	5/6/03	**62,000**	130,000	<19,000	<19,000	<19,000	<19,000	<19,000	<19,000	<19,000	<19,000
D-4AB	dup: SB-32 (1)	5/6/03	**71,000**	150,000	<19,000	<19,000	<19,000	<19,000	<19,000	<19,000	<19,000	<19,000
SB-33	2.5	5/6/03	<4,200	<4,200	24,000	<4,200	26,000	4,900	<4,200	<4,200	10,000	8,300
SB-33	15	5/6/03	<750	<750	<750	<750	<750	<750	<750	<750	<750	<750
SB-34	5	5/7/03	**180,000**	96,000	**660,000**	<22,000	**710,000**	**340,000**	**150,000**	39,000	**170,000**	130,000
SB-35	7.5	5/5/03	<20,000	<20,000	<20,000	<20,000	<20,000	<20,000	<20,000	<20,000	<20,000	<20,000
D-3B	dup: SB-35 (7.5)	5/5/03	<23,000	<23,000	<23,000	<23,000	<23,000	<23,000	<23,000	<23,000	<23,000	<23,000
SB-35	15	5/5/03	<660	<660	<660	<660	<660	<660	<660	<660	<660	<660
SB-36	2.5	5/6/03	<4,000	<4,000	<4,000	<4,000	<4,000	<4,000	<4,000	<4,000	<4,000	<4,000
SB-37	5	5/6/03	<4,100	<4,100	<4,100	<4,100	<4,100	<4,100	<4,100	<4,100	<4,100	<4,100
SB-38	2.5	5/7/03	<4,300	<4,300	<4,300	<4,300	<4,300	<4,300	<4,300	<4,300	<4,300	<4,300
SB-39	1	5/7/03	<23,000	<23,000	<23,000	<23,000	<23,000	<23,000	<23,000	<23,000	<23,000	<23,000
SB-39	12.5	5/7/03	<4,400	<4,400	<4,400	<4,400	<4,400	<4,400	<4,400	<4,400	<4,400	<4,400
SB-40	5	5/7/03	<4,600	<4,600	<4,600	<4,600	<4,600	<4,600	<4,600	<4,600	<4,600	<4,600
MW-1	5	5/8/03	<360	<360	510	500	<360	<360	<360	<360	<360	<360
MW-2	2.5	5/8/03	<380	<380	<380	<380	<380	<380	<380	<380	<380	<380
MW-3	5	5/8/03	<19,000	<19,000	<19,000	<19,000	<19,000	<19,000	<19,000	<19,000	<19,000	<19,000
MW-4	1	5/9/03	<19,000	<19,000	<19,000	<19,000	<19,000	<19,000	<19,000	<19,000	<19,000	<19,000
MPCA Tier I SRV			10,000	NS	890,000	NS	1,080,000	NS	NS	NS	1,200,000	104,000
MPCA Tier I SLV			7,500	NS	272,000	NS	295,000	550	1,900	NS	50,000	NS

Notes:
-- = parameter not analyzed.
SRV = Soil Reference Value.
SLV = Soil Leaching Value.
Compounds which were detected in at least one sample are shown on table.

NS = MPCA soil standard not established.
Underlined values indicate concentration exceeds SRV.
Bold values indicate concentration exceeds SLV.

Table 5
Soil Analytical Results - SVOCs, DRO, and PCBs
Bassett Creek Redevelopment - Minneapolis, MN
Delta Project No. A001-123

Sample ID	Sample Depth (ft bgs)	Sample Date	Semi-Volatile Organic Compounds (micrograms per kilogram - µg/kg)								DRO (mg/kg)	PCBs, total (mg/kg)
			Fluorene	Phenan-threne	Anthracene	Benzo (a) anthracene	Chrysene	Benzo (a) pyrene	Indeno-(1,2,3-cd)-pyrene	Benzo (g,h,i) perylene		
SB-21	1	4/29/03	<56,000	<56,000	<56,000	<56,000	<56,000	<56,000	<56,000	<56,000	790	1.03
SB-22	2.5	4/29/03	<81,000	<81,000	<81,000	<81,000	<81,000	<81,000	<81,000	<81,000	810	<0.037
SB-23	5	4/29/03	<23,000	<23,000	<23,000	<23,000	<23,000	<23,000	<23,000	<23,000	1,700	0.13
SB-24	1	4/30/03	<37,000	<37,000	<37,000	<37,000	<37,000	<37,000	<37,000	<37,000	13,000	0.89
SB-24	25	4/30/03	--	--	--	--	--	--	--	--	37	--
SB-24	30	4/30/03	<740	<740	<740	<740	<740	<740	<740	<740	--	<0.070
SB-25	5	5/2/03	<18,000	<18,000	<18,000	<18,000	<18,000	<18,000	<18,000	<18,000	1,800	1.09
SB-26	5	5/2/03	<4,100	<4,100	<4,100	<4,100	<4,100	<4,100	<4,100	<4,100	59	<0.041
SB-26	15	5/2/03	<530	<530	<530	<530	<530	<530	<530	<530	<15	<0.054
SB-27	2.5	4/29/03	<19,000	<19,000	<19,000	<19,000	<19,000	<19,000	<19,000	<19,000	9,100	0.12
D-1	dup: SB-27 (2.5)	4/29/03	<19,000	<19,000	<19,000	<19,000	<19,000	<19,000	<19,000	<19,000	1,700	0.14
SB-28	5	5/2/03	<19,000	<19,000	<19,000	<19,000	<19,000	<19,000	<19,000	<19,000	1,600	4.1
SB-29	2.5	5/1/03	--	--	--	--	--	--	--	--	1,800	--
SB-30	5	5/1/03	<36,000	<36,000	<36,000	<36,000	<36,000	<36,000	<36,000	<36,000	290	0.43
D-2B	dup: SB-30 (5)	5/1/03	<3,600	<3,600	<3,600	<3,600	<3,600	<3,600	<3,600	<3,600	330	2.4
SB-30	17.5	5/1/03	<690	<690	<690	<690	<690	<690	<690	<690	17	<0.07
SB-31	1	4/30/03	<8,900	<8,900	<8,900	<8,900	<8,900	<8,900	<8,900	<8,900	160.	0.196
SB-32	1	5/6/03	<19,000	<19,000	<19,000	<19,000	<19,000	<19,000	<19,000	<19,000	4,100	--
D-4AB	dup: SB-32 (1)	5/6/03	<19,000	<19,000	<19,000	<19,000	<19,000	<19,000	<19,000	<19,000	4,500	--
SB-33	2.5	5/6/03	<4,200	44,000	**12,000**	**6,900**	**5,600**	**4,500**	<4,200	<4,200	11,000	--
SB-33	15	5/6/03	<750	<750	<750	<750	<750	<750	<750	<750	22	--
SB-34	5	5/7/03	**200,000**	680,000	**300,000**	**350,000**	**310,000**	**360,000**	170,000	140,000	3,300	--
SB-35	7.5	5/5/03	<20,000	<20,000	<20,000	<20,000	<20,000	<20,000	<20,000	<20,000	4,100	--
D-3B	dup: SB-35 (7.5)	5/5/03	<23,000	<23,000	<23,000	<23,000	<23,000	<23,000	<23,000	<23,000	7,000	--
SB-35	15	5/5/03	<660	<660	<660	<660	<660	<660	<660	<660	29	<0.066
SB-36	2.5	5/6/03	<4,000	<4,000	<4,000	<4,000	<4,000	<4,000	<4,000	<4,000	14	--
SB-37	5	5/6/03	<4,100	<4,100	<4,100	<4,100	<4,100	<4,100	<4,100	<4,100	29	--
SB-38	2.5	5/7/03	<4,300	<4,300	<4,300	<4,300	<4,300	<4,300	<4,300	<4,300	58	--
SB-39	1	5/7/03	<23,000	<23,000	<23,000	<23,000	<23,000	<23,000	<23,000	<23,000	130	--
SB-39	12.5	5/7/03	<4,400	<4,400	<4,400	<4,400	<4,400	<4,400	<4,400	<4,400	35	--
SB-40	5	5/7/03	<4,600	<4,600	<4,600	<4,600	<4,600	<4,600	<4,600	<4,600	32	--
MW-1	5	5/8/03	<360	<360	<360	<360	<360	<360	<360	<360	21	--
MW-2	2.5	5/8/03	<380	<380	<380	<380	<380	<380.	<380	<380	11	--
MW-3	5	5/8/03	<19,000	<19,000	<19,000	<19,000	<19,000	<19,000	<19,000	<19,000	110	--
MW-4	1	5/9/03	<19,000	<19,000	<19,000	<19,000	<19,000	<19,000	<19,000	<19,000	1,100	0.23
MPCA Tier I SRV			1,140,000	NS	7,880	NS	NS	NS	NS	NS	NS	1.2
MPCA Tier I SLV			47,000	NS	360	360	190	1,000	NS	NS	NS	1.2

Notes:
-- = parameter not analyzed.
DRO = diesel range organics.
SRV = Soil Reference Value.
SLV = Soil Leaching Value.
Compounds which were detected in at least one sample are shown on table.

NS = MPCA soil standard not established.
Underlined values indicate concentration exceeds SRV.
Bold values indicate concentration exceeds SLV.

Table 6
Soil Analytical Results - Priority Metals and Cyanide
Bassett Creek Redevelopment - Minneapolis, MN
Delta Project No. A001-123

Sample ID	Sample Depth (ft bgs)	Sample Date	Priority Metals (milligrams per kilogram - mg/kg)													Cyanide (mg/kg)
			Antimony	Arsenic	Beryllium	Cadmium	Chromium	Copper	Lead	Nickel	Selenium	Silver	Thallium	Zinc	Mercury	
SB-21	1	4/29/03	3.1	4.94	1.66	1.5	29.4	416	805	125	<4.05	<2.70	<5.40	405	0.304	<1.30
SB-22	1	4/29/03	3.19	8.29	<1.3	2.17	192	157	388	161	<3.89	<2.59	<5.19	652	0.11	<1.19
SB-23	1	4/29/03	<2.81	7.83	2.54	1.39	24.1	57	140	115	<4.21	<2.81	7.36	119	0.05	<1.47
SB-24	1	4/30/03	4.78	<2.63	2.42	3.31	34.3	75	235	255	<3.95	<2.63	6.04	256	0.144	2.36
D-1A	dup: SB-24 (1)	4/30/03	2.69	7.37	2.31	0.470	29.9	60.2	134	246	<3.93	<2.62	<5.25	178	<0.0214	<1.25
SB-24	30	4/30/03	8.57	<5.35	<2.68	<0.535	8.00	9.52	<3.21	<10.7	8.21	<5.35	11.2	27.3	0.576	<2.68
SB-25	1	5/2/03	18.3	13.6	1.87	17.4	4,870	2,950	1,270	2,750	<4.19	5.34	<5.59	4,850	4.67	<1.47
SB-26	1	5/2/03	15.4	8.29	1.58	14.1	267	3,730	1,030	256	<4.63	3.74	<6.17	2,910	3.17	1.76
SB-26	15	5/2/03	<3.91	<3.91	<1.95	<0.391	9.4	8.95	3.32	9.1	<5.86	<3.91	<7.82	23.9	<0.0299	2.53
SB-27	1	4/29/03	28.9	<10.6	<5.28	1.73	91.1	56,100	413	80.3	<15.8	<10.6	93.3	455	<0.02	<1.31
SB-28	1	5/2/03	6.05	7.82	<1.27	2.19	92.2	219	292	58.9	<3.80	<2.53	<5.07	650	0.664	<1.31
SB-29	1	5/1/03	<10.9	14.5	<5.45	6.19	4,820	998	559	2,460	<16.4	<10.9	<21.8	1,180	3.5	<1.24
SB-30	1	5/1/03	3.31	2.97	<1.23	0.697	31.5	90.1	79.1	35	<3.7	<2.47	<4.93	186	0.249	<1.40
D-2A	dup: SB-30 (1)	5/1/03	3.91	3.73	<1.3	1.2	35.8	120	106	37.1	<3.91	<2.61	<5.21	259	0.217	<1.29
SB-30	17.5	5/1/03	10.2	<4.53	<2.26	<0.453	<4.53	8.28	<2.72	<9.06	15.9	<4.53	12	11.9	<0.0374	<2.52
SB-31	1	4/30/03	6.61	<2.58	<1.29	0.339	22.3	53.9	116	30.2	<3.87	<2.58	<5.17	84.8	0.2	<1.23
SB-32	1	5/6/03	<2.6	14	<1.3	0.815	11.1	79.7	389	18	<3.9	<2.6	<5.2	385	0.727	<1.47
D-4AB	dup: SB-32 (1)	5/6/03	3.44	14	<1.27	1.93	13.5	172	499	19.6	<3.80	2.92	<5.07	946	1.04	<1.40
SB-33	1	5/6/03	<2.89	29.1	1.87	1.06	31.2	88.5	1,480	21	<4.33	<2.89	<5.77	272	0.641	<1.58
SB-33	15	5/6/03	8.61	<4.20	<2.10	<0.420	5.82	9.45	<2.52	<8.40	10.7	<4.20	9.55	26.5	<0.046	<2.88
SB-34	1	5/7/03	3.5	5.03	<1.35	0.764	15.5	24.6	55.3	23.3	<4.05	<2.7	<5.4	204	0.0531	<1.38
SB-35	1	5/5/03	<2.27	2.49	<1.13	<0.227	10.6	10.6	36.5	10.1	<3.40	<2.27	<4.53	98.6	0.0213	<1.35
D-3A	dup: SB-35 (1)	5/5/03	<2.44	4.24	<1.22	<0.244	12.2	13.6	61.3	11.8	<3.66	<2.44	<4.88	127	0.0273	<1.32
SB-35	15	5/5/03	8.76	<4.84	<2.42	<0.484	6.04	9.03	<2.90	<9.68	12.1	<4.84	10	18.2	<0.0362	<2.43
SB-36	1	5/6/03	<2.46	3.93	<1.23	<0.246	7.14	14.2	34.6	8.94	<3.70	<2.46	<4.93	45.9	0.0955	<1.36
SB-37	1	5/6/03	4.16	<2.52	<1.26	1.08	628	92.2	70.6	15.5	<3.78	3.31	<5.04	168	0.138	<1.33
SB-38	1	5/7/03	<2.93	6.1	<1.47	<.293	25.5	22.6	49	23.7	<4.40	<2.93	<5.86	85.1	0.0551	<1.55
SB-39	1	5/7/03	5.94	13.1	<1.55	2.83	21.9	94.5	329	23.6	<4.66	<3.11	<6.22	521	0.598	<1.68
SB-39	12.5	5/7/03	4.87	<3.13	<1.57	0.744	5.96	13.4	18.9	6.99	<4.70	<3.13	<6.26	121	0.0362	<1.58
SB-40	1	5/7/03	9.24	39.2	<1.60	9.57	69.7	406	1,530	97.1	<4.81	<3.20	<6.41	1,480	2.51	13.9
MW-1	1	5/8/03	2.74	3.73	<1.29	0.619	12.3	14.4	196	13.9	<3.86	<2.57	<5.14	179	0.0957	<1.40
MW-2	1	5/8/03	<2.66	3.75	<1.33	<0.266	20.2	18.8	22.4	16.8	<3.99	<2.66	<5.32	59.9	0.039	<1.38
MW-3	1	5/8/03	3.18	5.2	<1.27	2.55	40.6	53.6	425	19.4	<3.80	<2.53	<5.07	398	0.236	<1.38
MW-4	1	5/9/03	3.01	7.03	<1.22	1.26	23.1	334	158	47.6	<3.66	<2.44	<4.89	353	0.254	<1.42
MPCA Tier I SRV			14	10	1,200	35	III: 34,300 VI: 71	100	400	520	170	170	3	8,700	0.7	62
MPCA Tier I SLV			2.7	14.6	NS	3.0	III: 1E+06 VI: 19.1	NS	525	65	1.5	2.5	0.4	1,242	1.0	1.0

Notes:
SRV = Soil Reference Value.
SLV = Soil Leaching Value.
NS = MPCA soil standard not established.
Underlined values indicate concentration exceeds SRV.
Bold values indicate concentration exceeds SLV.
Compounds which were detected in at least one sample are shown on table.

Table 7
Ground Water Analytical Results - VOCs and GRO
Bassett Creek Redevelopment - Minneapolis, MN
Delta Project No. A001-123

Sample ID	Sample Date	VOCs (micrograms per liter - µg/L)									
		Chloro-ethane	2-Butanone (MEK)	Methyl-tert-butyl ether	Chloroform	Benzene	Toluene	Ethyl-benzene	Xylenes	Isopropyl-benzene	n-Propyl-benzene
SB-21	4/29/03	<1	<5	<1	<1	1.7	<1	<1	<3	<1	<1
SB-22	4/29/03	<1	<5	15	<1	5.9	17	14	69	<1	3
SB-23	4/29/03	<1	<5	1.4	<1	2.1	<1	<1	3.2	<1	<1
SB-24	4/30/03	29	<5	6	<1	1.8	1.8	<1	5.6	<1	<1
D-5 (SB-24)	4/30/03	36	<5	5.3	<1	1.7	1.7	<1	5.1	<1	<1
SB-26	5/2/03	<1	<5	1.0	<1	<1	<1	<1	<3	<1	<1
D-6 (SB-26)	5/2/03	<1	<5	1.0	<1	<1	<1	<1	<3	<1	<1
SB-27	4/29/03	<1	<5	<1	<1	2.4	1.4	1.7	2.8	25	23
SB-28	5/2/03	<1	6.2	<1	2.9	18	6.5	12	39.4	26	28
SB-30	5/1/03	<1	<5	<1	<1	<1	<1	<1	<3	<1	<1
SB-31	4/30/03	<1	<5	<1	<1	<1	<1	<1	<3	<1	<1
SB-33	5/6/03	<2	<10	<2	<2	71	<2	<2	<6	7.1	11
SB-34	5/7/03	<1	<5	<1	<1	<1	<1	<1	<3	<1	<1
SB-35	5/5/03	<1	<5	<1	<1	<1	<1	<1	<3	<1	<1
SB-36	5/6/03	<1	<5	<1	<1	<1	<1	<1	<3	<1	<1
SB-37	5/6/03	<1	<5	<1	<1	<1	<1	<1	<3	<1	<1
SB-39	5/7/03	<1	<5	<1	<1	<1	<1	<1	<3	<1	<1
MW-1	5/12/03	<1	<5	<1	<1	<1	<1	<1	<3	<1	<1
MW-2	5/12/03	<1	<5	<1	<1	<1	<1	<1	<3	<1	<1
MW-3	5/12/03	<1	<5	<1	<1	<1	<1	<1	<3	<1	<1
D-7 (MW-3)	5/12/03	<1	<5	<1	<1	<1	<1	<1	<3	<1	<1
MW-4	5/12/03	<1	<5	4.6	<1	<1	<1	<1	<3	<1	<1
MW-5	5/12/03	<1	<5	<1	<1	<1	<1	<1	4	<1	<1
TB-1	5/1/03	<1	<5	<1	<1	<1	<1	<1	<3	<1	<1
TB-2	5/2/03	<1	<5	<1	<1	<1	<1	<1	<3	<1	<1
TB-3	5/6/03	<1	<5	<1	<1	<1	<1	<1	<3	<1	<1
Trip Blank	5/7/03	<1	<5	<1	<1	<1	<1	<1	<3	<1	<1
Trip Blank	5/12/03	<1	<5	<1	<1	<1	<1	<1	<3	<1	<1
FB-1	5/1/03	<1	<5	<1	<1	<1	<1	<1	<3	<1	<1
FB-2	5/2/03	<1	<5	<1	<1	<1	<1	<1	<3	<1	<1
FB-3	5/7/03	<1	<5	<1	<1	<1	<1	<1	<3	<1	<1
FB-4	5/9/03	<1	<5	<1	<1	<1	<1	<1	<3	<1	<1
MDH HRLs		NS	4,000	NS	60	10	1,000	700	10,000	NS	NS

Notes:
-- = parameter not analyzed.
TMB = trimethylbenzene.
GRO = gasoline range organics.
MDH HRLs = Minnesota Department of Health, Health Risk Limits.
NS = HRL not established for parameter.
Bold values indicate concentrations exceeding HRLs.
FB-1 through FB-4 are field blanks collected from split spoon rinse water.
TB-1 through TB-3 are trip blanks.
Compounds which were detected in at least one sample are shown on table.

Table 7
Ground Water Analytical Results - VOCs and GRO
Bassett Creek Redevelopment - Minneapolis, MN
Delta Project No. A001-123

Sample ID	Sample Date	VOCs (micrograms per liter - µg/L)								GRO (µg/L)
		1,3,5-TMB	tert-Butyl benzene	1,2,4-TMB	sec-Butyl-benzene	p-Isopropyl-toluene	n-Butyl-benzene	Naph-thalene	Acetone	
SB-21	4/29/03	<1	<1	2.9	<1	<1	<1	220	<5	--
SB-22	4/29/03	9	<1	23	<1	<1	<1	5.5	<5	270
SB-23	4/29/03	<1	<1	2	<1	<1	<1	5.4	<5	120
SB-24	4/30/03	<1	<1	2.9	<1	<1	<1	12	<5	<100
D-5 (SB-24)	4/30/03	1	<1	3	<1	<1	<1	7.7	19	<100
SB-26	5/2/03	<1	<1	<1	<1	<1	<1	<1	<5	<100
D-6 (SB-26)	5/2/03	<1	<1	<1	<1	<1	<1	25	<5	<100
SB-27	4/29/03	<1	<1	<1	<1	<1	5.7	95	<5	260
SB-28	5/2/03	5.4	1.4	27	9.1	8.1	7.7	48	150	1,800
SB-30	5/1/03	<1	<1	<1	<1	<1	<1	<1	<5	<100
SB-31	4/30/03	<1	<1	<1	<1	<1	<1	<1	<5	128
SB-33	5/6/03	<2	<2	<2	10	<2	17	22	<10	460
SB-34	5/7/03	<1	<1	<1	<1	<1	<1	<1	13	--
SB-35	5/5/03	<1	<1	<1	<1	<1	<1	4.8	8	<100
SB-36	5/6/03	<1	<1	<1	<1	<1	<1	<1	<5	<100
SB-37	5/6/03	<1	<1	<1	<1	<1	<1	<1	<5	<100
SB-39	5/7/03	<1	<1	<1	<1	<1	<1	<1	<5	<100
MW-1	5/12/03	<1	<1	<1	<1	<1	<1	<1	<5	<100
MW-2	5/12/03	<1	<1	<1	<1	<1	<1	<1	<5	<100
MW-3	5/12/03	<1	<1	<1	<1	<1	<1	<1	<5	<100
D-7 (MW-3)	5/12/03	<1	<1	<1	<1	<1	<1	<1	<5	<100
MW-4	5/12/03	<1	<1	<1	<1	<1	<1	<1	<5	<100
MW-5	5/12/03	1.3	<1	3.3	<1	<1	<1	<1	<5	<100
TB-1	5/1/03	<1	<1	<1	<1	<1	<1	<1	<5	--
TB-2	5/2/03	<1	<1	<1	<1	<1	<1	<1	<5	--
TB-3	5/6/03	<1	<1	<1	<1	<1	<1	<1	<5	--
Trip Blank	5/7/03	<1	<1	<1	<1	<1	<1	<1	<5	--
Trip Blank	5/12/03	<1	<1	<1	<1	<1	<1	<1	<5	--
FB-1	5/1/03	<1	<1	<1	<1	<1	<1	<1	<5	<100
FB-2	5/2/03	<1	<1	<1	<1	<1	<1	<1	<5	<100
FB-3	5/7/03	<1	<1	<1	<1	<1	<1	<1	<5	<100
FB-4	5/9/03	<1	<1	<1	<1	<1	<1	<1	<5	<100
MDH HRLs		NS	NS	NS	NS	NS	NS	300	700	NS

Notes:
-- = parameter not analyzed.
TMB = trimethylbenzene.
GRO = gasoline range organics.
MDH HRLs = Minnesota Department of Health, Health Risk Limits.
NS = HRL not established for parameter.
Bold values indicate concentrations exceeding HRLs.
FB-1 through FB-4 are field blanks collected from split spoon rinse water.
TB-1 through TB-3 are trip blanks.
Compounds which were detected in at least one sample are shown on table.

Table 8
Ground Water Analytical Results - SVOCs, DRO, and PCBs
Bassett Creek Redevelopment - Minneapolis, MN
Delta Project No. A001-123

Sample ID	Sample Date	Semi-Volatile Organic Compounds (micrograms per liter - µg/L)										DRO (mg/L)	PCBs, total (µg/L)
		Naphthalene	2-Methyl-naphthalene	Pyrene	Flouranthene	Acenaph-thene	Dibenzo-furan	Flourene	Phenan-threne	Anthracene	Benzo (a) anthracene		
SB-21	4/29/03	280	41	<14	<14	42	18	18	25	<14	<14	1.90	<0.12
SB-22	4/29/03	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	0.65	<0.11
SB-23	4/29/03	<110	<110	<110	<110	<110	<110	<110	<110	<110	<110	8.80	<0.11
SB-24	4/30/03	<120	<120	<120	<120	<120	<120	<120	<120	<120	<120	2.80	<0.14
D-5 (SB-24)	4/30/03	<130	<130	<130	<130	<130	<130	<130	<130	<130	<130	2.50	<0.14
SB-26	5/2/03	45	<14	<14	<14	<14	<14	<14	22	<14	<14	1.60	--
D-6 (SB-26)	5/2/03	24	<12	15	17	<12	<12	<12	25	<12	<12	1.30	--
SB-27	4/29/03	86	84	38	45	43	17	42	100	20	12	5.40	<0.15
SB-28	5/2/03	39	34	12	<12	<12	<12	<12	<12	<12	<12	7.80	--
SB-30	5/1/03	<14	<14	<14	<14	<14	<14	<14	<14	<14	<14	0.16	<0.14
SB-31	4/30/03	<13	<13	<13	<13	<13	<13	<13	<13	<13	<13	0.18	<0.14
SB-33	5/6/03	24	150	24	28	<12	17	<12	61	<12	<12	0.12	--
SB-35	5/5/03	<11	<11	<11	<11	<11	<11	<11	<11	<11	<11	2.80	--
SB-36	5/6/03	<11	<11	<11	<11	<11	<11	<11	<11	<11	<11	0.34	--
SB-37	5/6/03	<14	<14	<14	<14	<14	<14	<14	<14	<14	<14	0.28	--
SB-39	5/7/03	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	1.00	--
MW-1	5/12/03	<11	<11	<11	<11	<11	<11	<11	<11	<11	<11	0.21	--
MW-2	5/12/03	<11	<11	<11	<11	<11	<11	<11	<11	<11	<11	0.14	--
MW-3	5/12/03	<11	<11	<11	<11	<11	<11	<11	<11	<11	<11	0.45	--
D-7 (MW-3)	5/12/03	<11	<11	<11	<11	<11	<11	<11	<11	<11	<11	0.46	--
MW-4	5/12/03	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	1.40	--
MW-5	5/12/03	<11	<11	<11	<11	<11	<11	<11	<11	<11	<11	1.10	--
FB-1	5/1/03	<11	<11	<11	<11	<11	<11	<11	<11	<11	<11	<0.11	<0.11
FB-2	5/2/03	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	0.30	--
FB-3	5/7/03	<11	<11	<11	<11	<11	<11	<11	<11	<11	<11	<0.11	--
FB-4	5/9/03	<11	<11	<11	<11	<11	<11	<11	<11	<11	<11	<0.11	--
MDH HRLs		300	NS	200	300	400	NS	300	NS	2,000	NS	NS	0.04

Notes:
-- = parameter not analyzed.
TMB = trimethylbenzene.
DRO = diesel range organics (concentrations are in milligrams per liter).
MDH HRLs = Minnesota Department of Health, Health Risk Limits.
NS = HRL not established for parameter.
Bold values indicate concentrations exceeding HRLs.
FB-1 through FB-4 are field blanks collected from split spoon rinse water.
Compounds which were detected in at least one sample are shown on table.

Table 9
Ground Water Analytical Results - Priority Metals and Cyanide
Bassett Creek Redevelopment - Minneapolis, MN
Delta Project No. A001-123

Sample ID	Sample Date	Priority Metals (micrograms per liter - µg/L)													Cyanide (µg/L)
		Antimony	Arsenic	Beryllium	Cadmium	Chromium	Copper	Lead	Nickel	Selenium	Silver	Thallium	Zinc	Mercury	
SB-21	4/29/03	<10	<10	<5	<1	<10	<10	<3	<20	<15	<10	<15	<20	<0.2	<0.01
SB-22	4/29/03	<10	<10	<5	<1	<10	<10	6.16	<20	<15	<10	<15	<24.1	<0.2	<0.01
SB-23	4/29/03	**20**	<10	<5	<1	<10	13.9	18.7	<20	<15	<10	**16.6**	356	<0.2	<0.01
SB-24	4/30/03	<10	<10	<5	<1	<10	<10	<3	<20	<15	<10	<15	<20	<0.2	<0.01
D-5 (SB-24)	4/30/03	<10	<10	<5	<1	<10	<10	<3	<20	<15	<10	<15	<20	<0.2	0.127
SB-26	5/2/03	**22.3**	15.9	<5	1.16	<10	25.9	41.8	<20	<15	<10	<15	156	<0.2	<0.01
D-6 (SB-26)	5/2/03	**13.7**	14.8	<5	1.05	<10	23.2	37.9	<20	<15	<10	<15	138	<0.2	<0.01
SB-27	4/29/03	<10	<10	<5	<1	<10	<10	<3	<20	<15	<10	<15	<20	<0.2	<0.01
SB-28	5/2/03	**19.8**	<10	<5	1.74	<10	32.3	129	<20	<15	<10	<15	550	0.589	<0.01
SB-30	5/1/03	**19.3**	25.9	<5	2.48	123	171	158	**116**	21.5	<10	**31.9**	448	3.37	<0.01
SB-31	4/30/03	**11.3**	<10	<5	<1	<10	<10	<3	<20	<15	<10	<15	<20	<0.2	--
SB-33	5/6/03	**12.7**	<10	<5	<1	<10	<10	<3	<20	<15	<10	<15	<20	<0.2	<0.01
SB-35	5/5/03	**17.9**	<10	<5	<1	<10	<10	6.19	40.5	<15	<10	<15	<20	<0.2	<0.01
SB-36	5/6/03	**11.4**	<10	<5	<1	<10	<10	<3	<20	<15	<10	<15	24.1	<0.2	<0.01
SB-37	5/6/03	<10	<10	<5	<1	<10	<10	<3	<20	<15	<10	<15	<20	<0.2	<0.01
SB-39	5/7/03	**16.4**	<10	<5	<1	<10	93.8	171	<20	<15	<10	<15	157	0.488	<0.01
MW-1	5/12/03	<10	<10	<5	<1	<10	10.8	<3	21.8	<15	<10	<15	<20	<0.2	<0.01
MW-2	5/12/03	**11.5**	10.5	<5	<1	15.3	27.3	12.4	20.8	<15	<10	<15	67.9	<0.2	<0.01
MW-3	5/12/03	**11.5**	<10	<5	<1	<10	<10	<3	21.8	<15	<10	<15	<20	<0.2	<0.01
D-7 (MW-3)	5/12/03	**11.3**	<10	<5	<1	<10	<10	<3	23	<15	<10	<15	<20	<0.2	<0.01
MW-4	5/12/03	**26.6**	<10	<5	<1	<10	22.4	97.5	<20	<15	<10	<15	140	<0.2	0.0125
MW-5	5/12/03	**14.4**	<10	<5	<1	<10	48.1	42.5	<20	<15	<10	<15	133	<0.2	<0.01
FB-2	5/2/03	**13.4**	17.2	<5	2.68	26.7	130	42.4	<20	<15	<10	<15	180	0.208	<0.01
FB-3	5/7/03	**10.4**	<10	<5	<1	<10	24	10.7	<20	<15	<10	<15	41.9	<0.2	<0.01
FB-4	5/9/03	<10	<10	<5	<1	<10	<10	<3	<20	<15	<10	<15	<20	<0.2	<0.01
MDH HRLs		6	NS	0.08	4	III: 20,000 VI: 100	NS	NS	100	30	30	0.60	2,000	NS	100

Notes:
-- = parameter not analyzed.
FB-1 through FB-4 are field blanks collected from split spoon rinse water.
MDH HRLs = Minnesota Department of Health, Health Risk Limits.
NS = HRL not established for parameter.
Bold values indicate concentrations exceeding HRLs.
All samples were field filtered.

Appendix C

Preliminary Design Plans

CITY OF MINNEAPOLIS
DEPARTMENT OF PUBLIC WORKS

CONSTRUCTION PLAN FOR EMBANKMENT SURCHARGE, VERTICAL DRAINS, GRADING, AGGREGATE BASE, AND BITUMINOUS PAVEMENT

LOCATED ON: VAN WHITE MEMORIAL BLVD. FROM: 200' N. OF LINDEN AVE. TO: 350' S. OF 2ND AVE. N.

MINN. PROJ. NO.: DE MN64(103)

GOVERNING SPECIFICATIONS

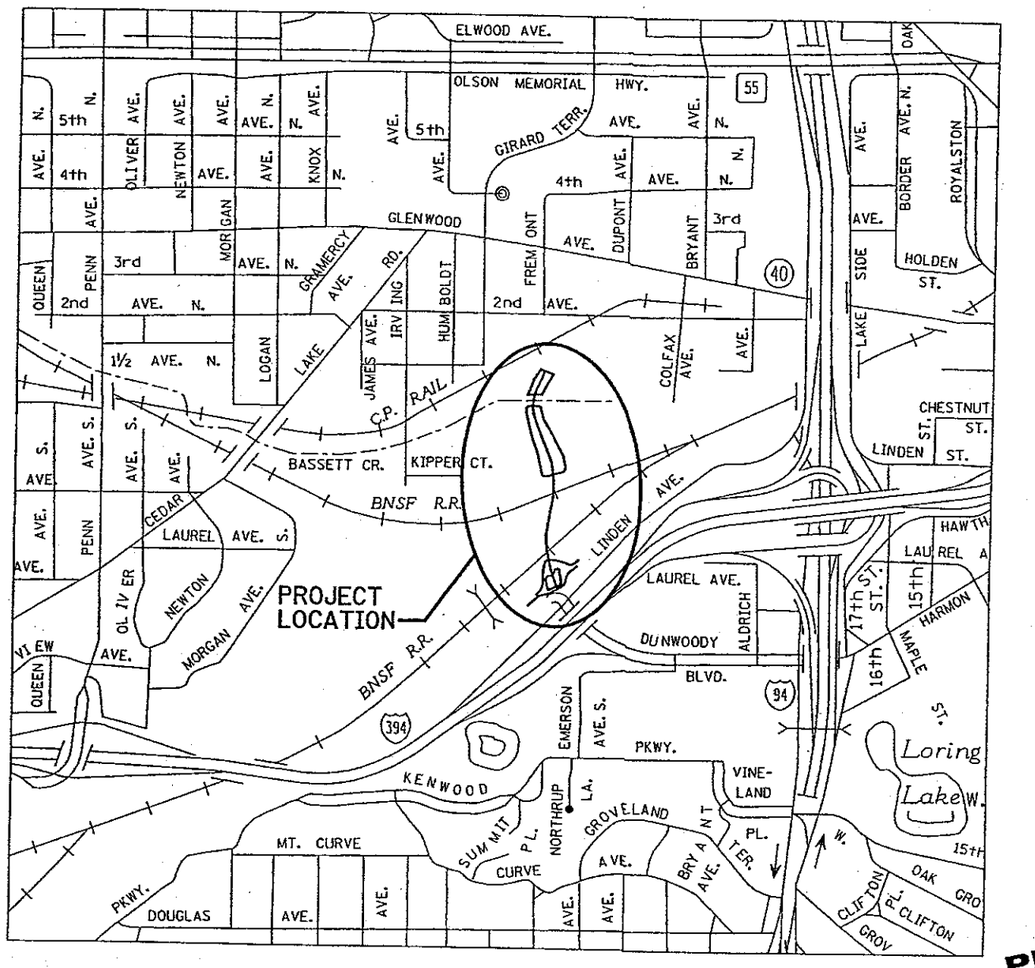
THE 2000 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN.

PLAN SYMBOLS

STATE LINE
COUNTY LINE
TOWNSHIP OR RANGE LINE
SECTION LINE
QUARTER LINE
SIXTEENTH LINE
RIGHT-OF-WAY LINE
SLOPE EASEMENT
PRESENT RIGHT-OF-WAY
CONTROL OF ACCESS LINE
PROPERTY LINES (EXCEPT LAND LINES)
VACATED PLATTED PROPERTY
CORPORATE OR CITY LIMITS
TRUNK HIGHWAY CENTER LINE
RETAINING WALL
RAILROAD
RAILROAD RIGHT-OF-WAY
RIVER OR CREEK
DRY RUN
DRAINAGE DITCH
DRAIN TILE
CULVERT
DROP INLET
GUARD RAIL
BARBED WIRE FENCE
WOVEN WIRE FENCE
CHAIN LINK FENCE
RAILROAD SNOW FENCE
STONE WALL OR FENCE
HEDGE
RAILROAD CROSSING SIGN
RAILROAD CROSSING BELL
ELECTRIC WARNING SIGN
CROSSING GATE
MEANDER CORNER
SPRINGS
MARSH
TIMBER
ORCHARD
BRUSH
NURSERY
CATCH BASIN
FIRE HYDRANT
CATTLE GUARD
OVERPASS (HIGHWAY OVER)
UNDERPASS (HIGHWAY UNDER)
BRIDGE
BUILDING (ONE STORY FRAME)
F - FRAME C - CONCRETE
S - STONE T - TILE
B - BRICK ST - STUCCO
IRON ROD OR PIPE
MONUMENT (STONE, CONCRETE, OR METAL)
WOODEN HUB
GRAVEL PIT
SAND PIT
BORROW PIT
ROCK QUARRY

UTILITY SYMBOLS

POWER POLE LINE
TELEPHONE OR TELEGRAPH POLE LINE
JOINT TELEPHONE AND POWER
ON POWER POLE
ON TELEPHONE POLES
ANCHOR
STREET LIGHT
PEDESTAL (TELEPHONE CABLE TERMINAL)
GAS MAIN
WATER MAIN
CONDUIT
TELEPHONE CABLE IN CONDUIT
ELECTRIC CABLE IN CONDUIT
TELEPHONE MANHOLE
ELECTRIC MANHOLE
BURIED TELEPHONE CABLE
BURIED ELECTRIC CABLE
AERIAL TELEPHONE CABLE
SEWER (STORM)
SEWER (SANITARY)
SEWER MANHOLE



PRELIMINARY
SUBJECT TO CHANGE
MARCH 22, 2005

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

TRAFFIC CONTROL NOTE:
ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE INSTALLED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD) AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS

PROJECT LOCATION

STATE: MINNESOTA
COUNTY: HENNEPIN
DIVISION: METRO
CITY: MINNESOTA

SHEET INDEX

SHEET NO.	SHEET DESCRIPTION
1	TITLE SHEET
2	GENERAL LAYOUT
3	ESTIMATED QUANTITIES
4	TYPICAL SECTIONS
5-6	MISCELLANEOUS DETAILS
7	STANDARD PLANS
8	ALIGNMENT PLAN AND TABULATION
9-11	EXISTING CONDITIONS & REMOVALS
12-14	CONSTRUCTION PLANS
15-17	PROFILES
18-19	EROSION CONTROL DETAILS
20-22	EROSION CONTROL & TURF ESTABLISHMENT
23-32	CROSS SECTIONS

THIS PLAN CONTAINS 32 SHEETS.

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.

SIGNATURE: _____

PRINTED NAME: _____

DATE: _____ LIC. NO. _____

TKDA
ENGINEERS·ARCHITECTS·PLANNERS

APPROVED: _____ 20____
CITY OF MINNEAPOLIS PUBLIC SERVICE DIRECTOR

APPROVED: _____ 20____
HENNEPIN COUNTY ENGINEER

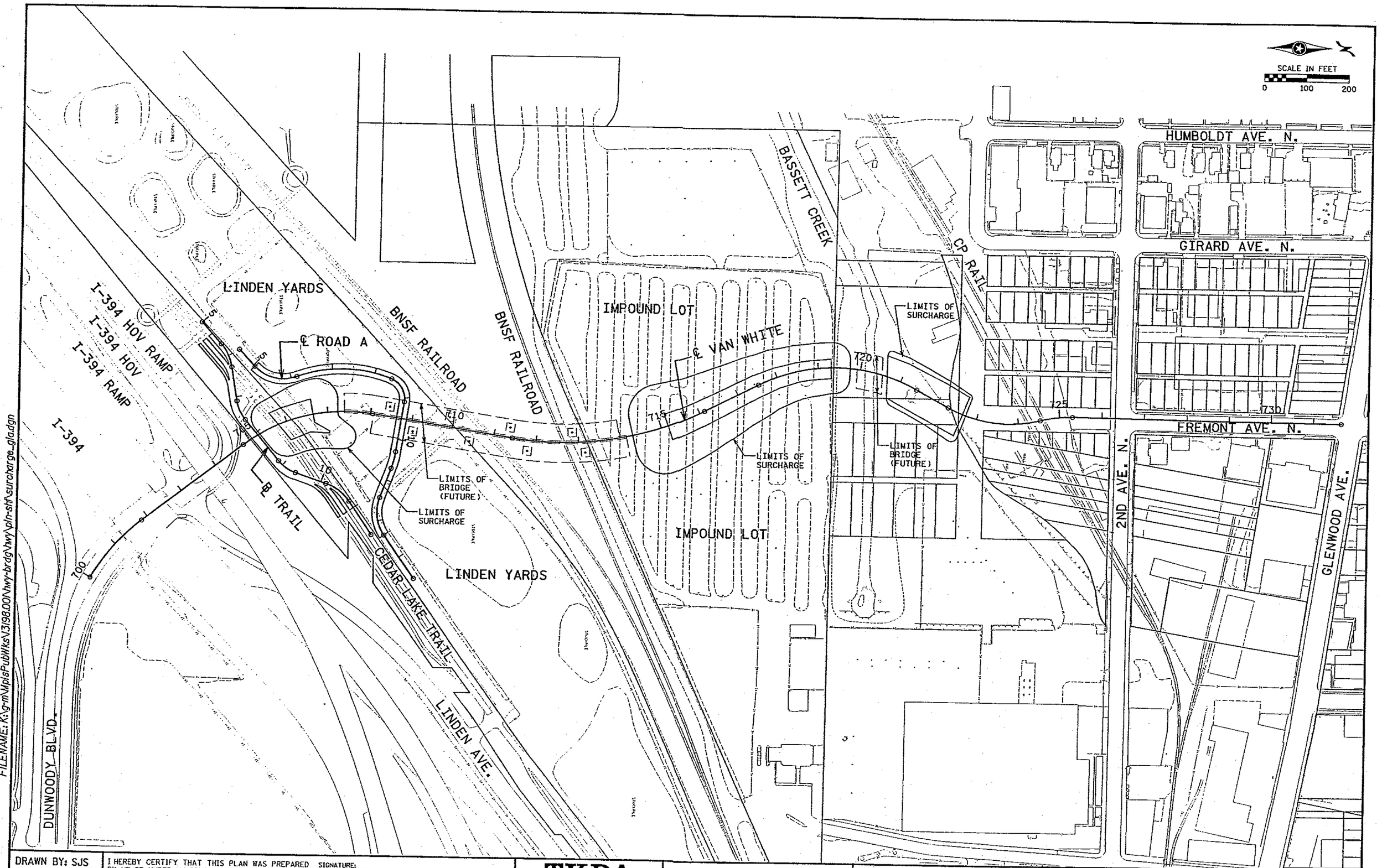
RECOMMENDED FOR APPROVAL: _____ 20____
METRO-ASSISTANT DIVISION ENGINEER-STATE AID; REVIEWED FOR COMPLIANCE WITH FEDERAL-AID RULES/POLICY

APPROVED FOR FEDERAL-AID FUNDING: _____ 20____
STATE-AID ENGINEER

PLAN REVISIONS		
DATE	SHEET NO.	APPROVED BY

S.P. 141-080-34 | SHEET NO. 1 OF 32 SHEETS

DATE: 3/21/2005 TIME: 3:28:39 PM
FILENAME: K:\g-m\MplsPubWks\3198.00\hwy-brdg\hwy\plr-sht\surcharge_cov.dgn

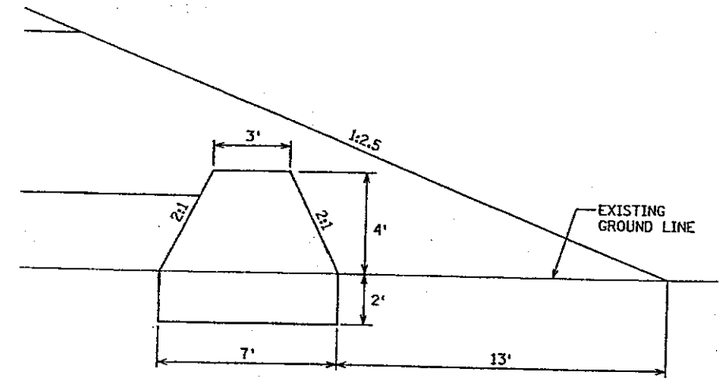


DATE: 3/21/2005 TIME: 3:28:45 PM
FILENAME: K:\g-m\MplsPubWks\13198.00\hwy-brdg\hwy\pln-sht\surcharge_gl.dgn

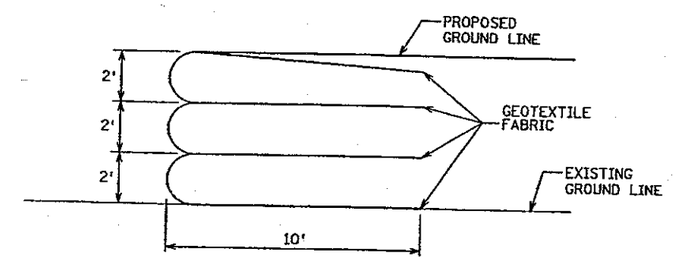
DRAWN BY: SJS	I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.	SIGNATURE:	TKDA ENGINEERS · ARCHITECTS · PLANNERS	CITY OF MINNEAPOLIS VAN WHITE MEMORIAL BLVD.	GENERAL LAYOUT
CHECKED BY: JJB		PRINTED NAME: DATE: LIC. NO.			S.P. 141-080-34 Sheet No. 2 of Sheets

ESTIMATED QUANTITIES

ITEM NUMBER	ITEM	NOTE NO.	UNIT	QUANTITY
2015.602	INCLINOMETER		EACH	
2021.501	MOBILIZATION		LUMP SUM	
2101.511	CLEARING AND GRUBBING		LUMP SUM	
2104.501	REMOVE CHAIN LINK FENCE		LIN FT	
2104.501	REMOVE RETAINING WALL		LIN FT	
2104.509	REMOVE MISCELLANEOUS STRUCTURES		EACH	
2104.513	SAWING BIT PAVEMENT (FULL DEPTH)		LIN FT	
2104.521	SALVAGE CHAIN LINK FENCE		LIN FT	
2105.501	COMMON EXCAVATION		CU YD	
2105.521	GRANULAR BORROW (CV)		CU YD	
2105.522	SELECT GRANULAR BORROW (CV)		CU YD	
2105.523	COMMON BORROW (CV)		CU YD	
2105.602	PIEZOMETER		EACH	
2105.602	SETTLEMENT PLATES		EACH	
2105.603	WICK DRAIN		LIN FT	
2105.604	GEOTEXTILE FABRIC		SQ YD	
2105.607	COMMON BORROW SPECIAL (CV)		CU YD	
2211.503	AGGREGATE BASE (CV) CLASS 5		CU YD	
2211.607	CRUSHED CONCRETE		CU YD	
2357.502	BITUMINOUS MATERIAL FOR TACK COAT		GALLON	
2350.503	TYPE LV 3 WEAR CRS MIX (B) 3.0" THICK		SQ YD	
2350.503	TYPE MV 3 WEAR CRS MIX (B) 2.0" THICK		SQ YD	
2350.503	TYPE MV 3 NON WR CRS MIX(B) 2.0" THICK		SQ YD	
2557.517	VEHICULAR GATE-DOUBLE		EACH	
2557.603	INSTALL CHAIN LINK FENCE		LIN FT	
2563.601	TRAFFIC CONTROL		LUMP SUM	
2564.603	4" SOLID LINE WHITE-PAINT		LIN FT	
2564.603	4" BROKEN LINE YELLOW-PAINT		LIN FT	
2572.501	TEMPORARY FENCE		LIN FT	
2575.525	EROSION STABILIZATION MAT CLASS 1		SQ YD	
2575.555	TURF ESTABLISHMENT		LUMP SUM	
2575.601	EROSION CONTROL		LUMP SUM	



CLAY DAM DETAIL



SOIL WRAPPED FACE DETAIL

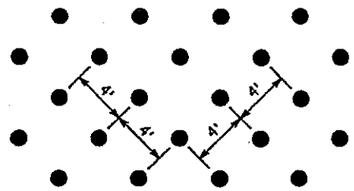
DATE: 3/21/2005 TIME: 3:29:03 PM
FILENAME: K:\g-m\MplsPubWks\V3\198.00\hwy-brdg\hwy\pln-sth\surcharge_dta.dgn

DRAWN BY: RRC	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.	SIGNATURE:	TKDA ENGINEERS·ARCHITECTS·PLANNERS	CITY OF MINNEAPOLIS VAN WHITE MEMORIAL BLVD.
CHECKED BY: JJB		PRINTED NAME: DATE: LIC. NO.		

MISCELLANEOUS DETAILS

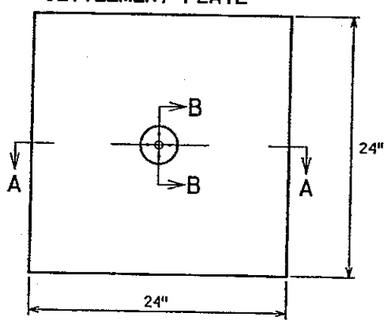
S.P. 141-080-34

Sheet No. 5 of Sheets



WICK DRAIN SPACING DETAIL

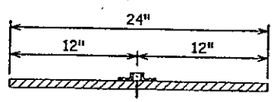
SETTLEMENT PLATE



PLAN VIEW

SETTLEMENT PLATE SHALL BE CONSTRUCTED OF ¾" PLYWOOD (EXTERIOR).

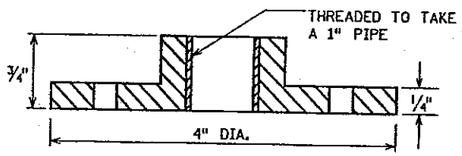
SECTION A-A



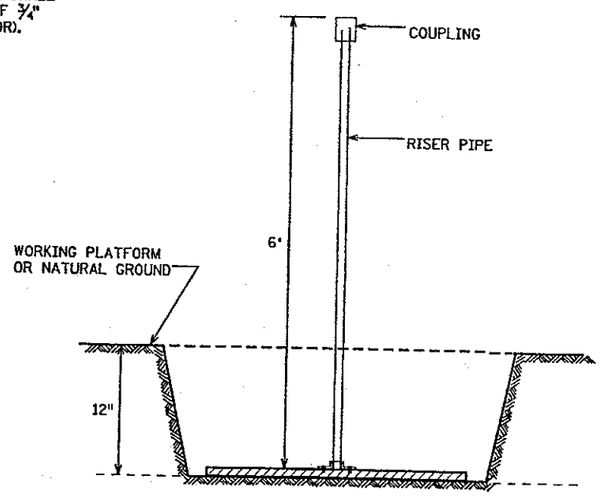
FLOOR FLANGE SHALL BE BOLTED TO THE PLATE WITH A MINIMUM OF THREE ¼" BY 1-1/2" BOLTS

SECTION B-B

STANDARD BLACK ¾" FLOOR FLANGE

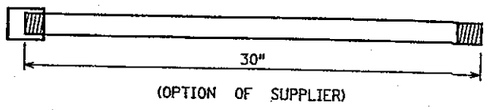


SETTLEMENT PLATE INSTALLATION



IN SEATING THE PLATE, THE 12" TRENCH SHALL BE BACKFILLED WITH GRANULAR BORROW (Mn/DOT Spec. 3149.2A) AND COMPACTED WITH ORDINARY COMPACTION (Mn/DOT Spec. 2105.3F2)

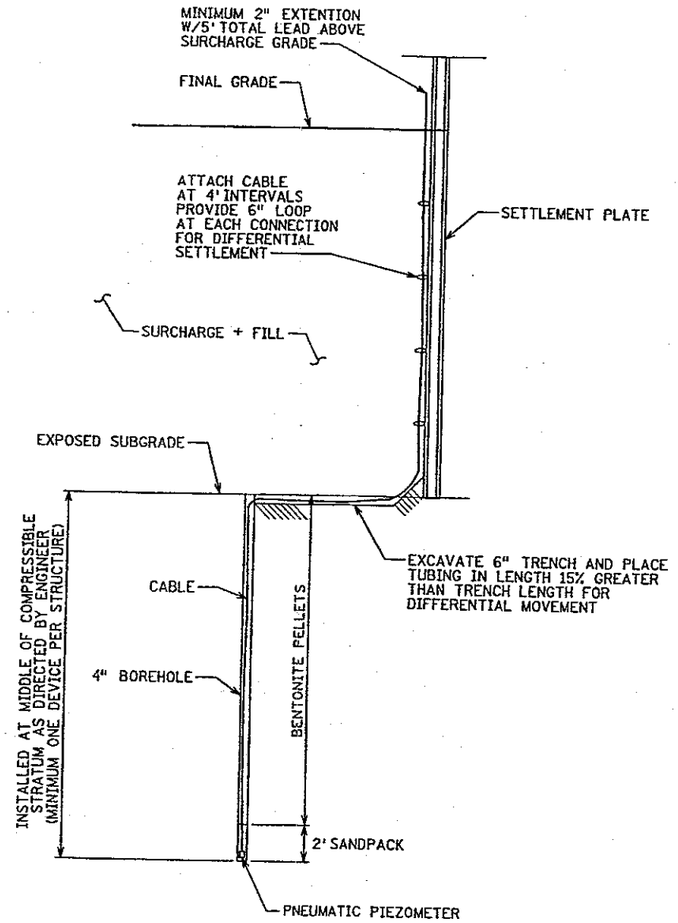
RISER PIPE & COUPLING



(OPTION OF SUPPLIER)

RISER PIPE SHALL BE A 1" STANDARD WEIGHT BLACK STEEL PIPE (ASTM A120)

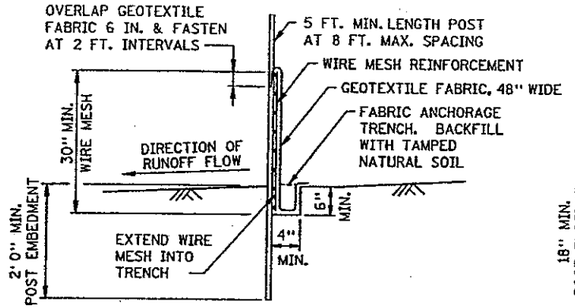
SETTLEMENT PLATE DETAILS



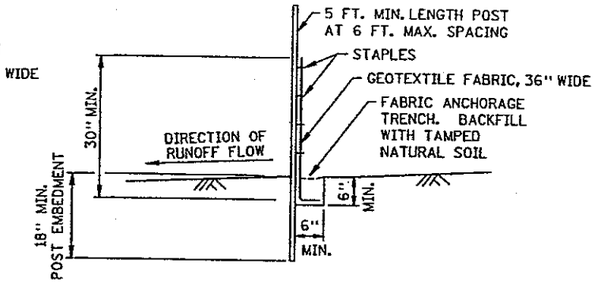
PNEUMATIC PIEZOMETER CONSTRUCTION

DATE: 3/21/2005 TIME: 3:29:09 PM
FILENAME: K:\g-mMplsPubWks\J3198.00\hwy-brdg\hwy\pln-sht\surcharge_dtb.dgn

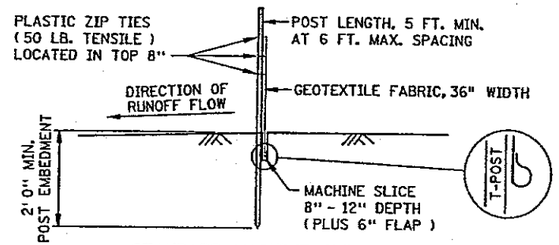
DRAWN BY: RRC	I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.	SIGNATURE:	TKDA ENGINEERS·ARCHITECTS·PLANNERS	CITY OF MINNEAPOLIS VAN WHITE MEMORIAL BLVD.	MISCELLANEOUS DETAILS	S.P. 141-080-34
CHECKED BY: JJB		PRINTED NAME: DATE: LIC. NO.				Sheet No. 6 of Sheets



HEAVY DUTY



PREASSEMBLED

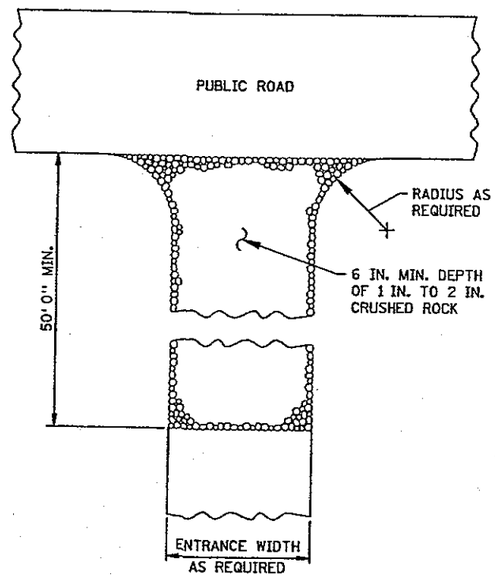


STANDARD MACHINE SLICED

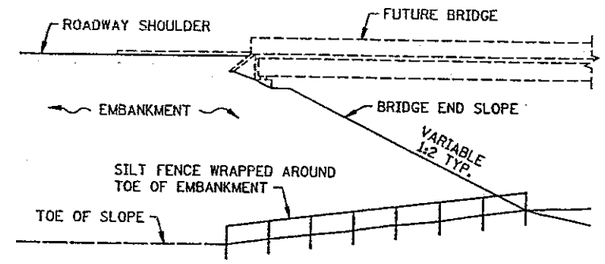
DESIGN GUIDELINES:
MAXIMUM CONTRIBUTING AREA: 3 ACRES

SILT FENCE DETAILS

TO PROTECT AREAS FROM SHEET FLOW
(SEE SPEC. 3886)

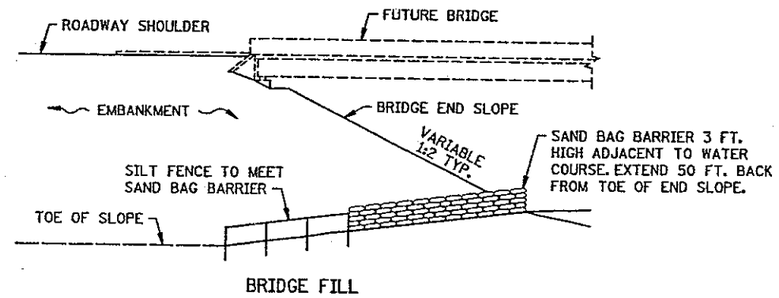


ROCK CONSTRUCTION ENTRANCE ①



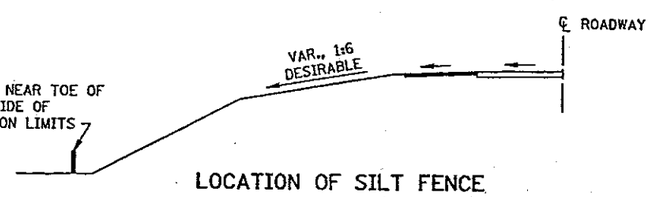
BRIDGE FILL

DESIGN GUIDELINES:
WATER COURSE FLOW VELOCITY: STAGNANT
CONTRIBUTING SLOPE AREA: 1/2 ACRE

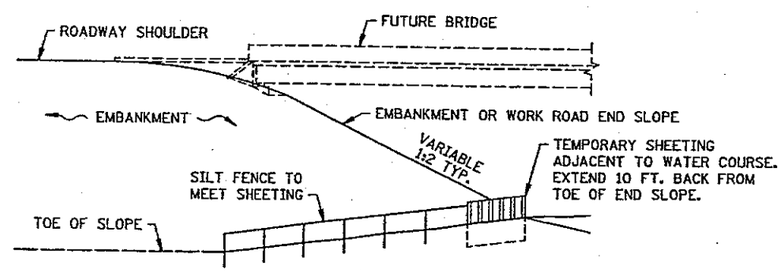


BRIDGE FILL

DESIGN GUIDELINES:
MAX. WATER COURSE FLOW VELOCITY: 7 FT./SEC.
CONTRIBUTING SLOPE AREA: 1 ACRE



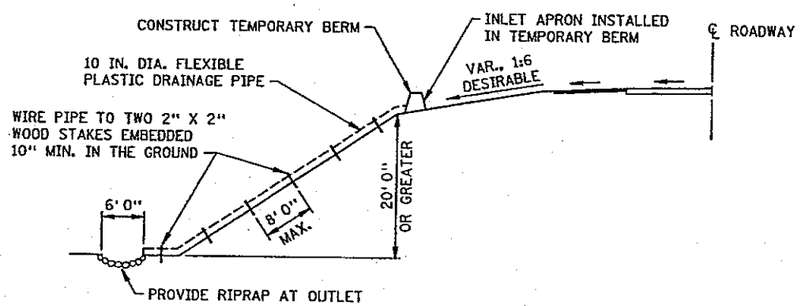
LOCATION OF SILT FENCE
AT TOE OF ROADWAY EMBANKMENT



EMBANKMENT OR WORK ROAD FILL

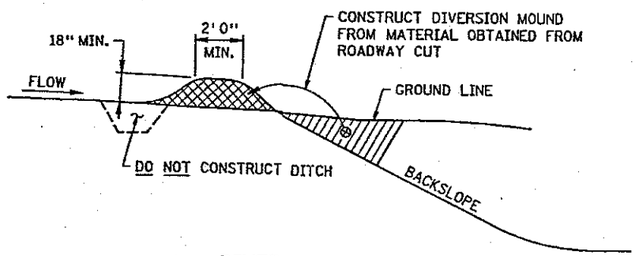
DESIGN GUIDELINES:
MAX. WATER COURSE FLOW VELOCITY: 15 FT./SEC.
CONTRIBUTING SLOPE AREA: 3 ACRES

SILT FENCE AT BRIDGE EMBANKMENT



TEMPORARY DRAIN ON FILL SLOPE

DESIGN GUIDELINES:
STORM FREQUENCY: 2 YEAR - 24 HOUR
MAXIMUM DRAINAGE AREA: 3 ACRES



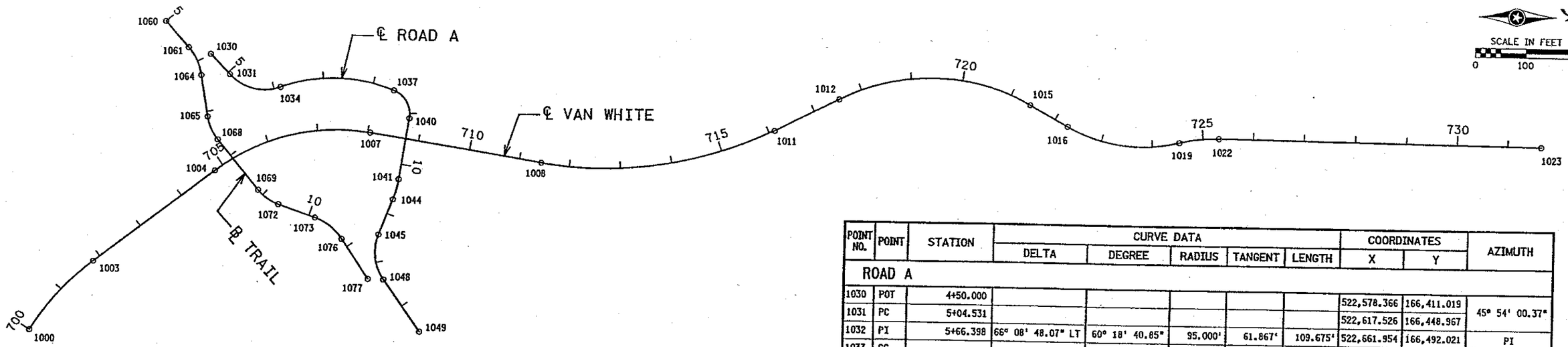
DIVERSION MOUND

DESIGN GUIDELINES:
STORM FREQUENCY: 10 YEAR - 24 HOUR
MAXIMUM DRAINAGE AREA: 5 ACRES
MAXIMUM DIVERSION: GRADE 5%

NOTES:
SEE SPECS. 2573 & 3886.
① ROCKS AT ENTRANCE CLEAN WORKSITE MUD OFF OF TRUCK TIRES BEFORE DRIVING ON MAIN ROAD. THIS WILL PREVENT AUTO DAMAGE. WE NEED TO KEEP CONSTRUCTION SEDIMENT OUT OF DRAINAGE SYSTEMS AND WETLANDS.

STANDARD SHEET NO. 5-297.405 (2 OF 4)	TITLE: TEMPORARY EROSION CONTROL
STANDARD APPROVED: JULY 30, 2001	
2005 SURCHARGE PLANS	SHEET NO. 7 OF SHEETS

DATE: 3/21/2005 TIME: 3:29:15 PM
FILENAME: K:\g-m\MplsPubWks\3198.00\hwy-brdg\hwy\plrt-sft\surcharge_spa.dgn



POINT NO.	POINT	STATION	CURVE DATA DELTA	DEGREE	RADIUS	TANGENT	LENGTH	COORDINATES X	Y	AZIMUTH
VAN WHITE										
1000	PC	700+00.000						523,122.265	166,065.602	301° 01' 45.09"
1001	PI	700+93.000	21° 29' 35.80" RT	11° 41' 34.86"	490.000'	93.000'	183.813'	523,042.573	166,113.541	PI
1002	CC							523,374.847	166,485.485	
1003	PT	701+83.813						522,985.987	166,187.345	322° 31' 20.89"
1004	PC	704+81.650						522,804.769	166,423.705	
1005	PI	706+52.728	46° 18' 44.78" RT	14° 19' 26.20"	400.000'	171.079'	323.322'	522,700.676	166,559.472	PI
1006	CC							523,122.205	166,667.086	
1007	PT	708+04.971						522,726.951	166,728.521	8° 50' 05.67"
1008	PC	711+43.497						522,778.945	167,063.029	
1009	PI	713+85.991	35° 50' 05.15" LT	7° 38' 21.97"	750.000'	242.495'	469.076'	522,816.189	167,302.647	PI
1010	CC							522,037.844	167,178.220	
1011	PT	716+12.572						522,706.099	167,518.711	333° 00' 00.52"
1012	PC	717+53.835						522,641.968	167,644.578	
1013	PI	719+65.178	55° 41' 59.77" RT	14° 19' 26.20"	400.000'	211.342'	388.859'	522,546.021	167,832.885	PI
1014	CC							522,998.371	167,826.173	
1015	PT	721+42.694						522,647.512	168,018.263	28° 42' 00.29"
1016	PC	722+28.009						522,688.483	168,093.097	
1017	PI	723+45.902	42° 54' 25.50" LT	19° 05' 54.94"	300.000'	117.892'	224.661'	522,745.098	168,196.505	PI
1018	CC							522,425.339	168,237.164	
1019	PRC	724+52.670						522,716.164	168,310.792	345° 47' 34.78"
1020	PI	724+91.968	14° 55' 32.31" RT	19° 05' 54.94"	300.000'	39.298'	78.150'	522,706.519	168,348.888	PI
1021	CC							523,006.988	168,384.419	
1022	PT	725+30.821						522,707.012	168,388.182	0° 43' 07.10"
1023	POT	731+65.442						522,714.972	169,022.754	

POINT NO.	POINT	STATION	CURVE DATA DELTA	DEGREE	RADIUS	TANGENT	LENGTH	COORDINATES X	Y	AZIMUTH
ROAD A										
1030	POT	4+50.000						522,578.366	166,411.019	
1031	PC	5+04.531						522,617.526	166,448.967	45° 54' 00.37"
1032	PI	5+66.398	66° 08' 48.07" LT	60° 18' 40.85"	95.000'	61.867'	109.675'	522,661.954	166,492.021	PI
1033	CC							522,551.415	166,517.190	
1034	PRC	6+14.206						522,640.545	166,550.065	339° 45' 12.30"
1035	PI	7+33.520	42° 06' 06.57" RT	18° 28' 57.03"	310.000'	119.314'	227.793'	522,599.255	166,662.007	PI
1036	CC							522,931.390	166,657.344	
1037	PCC	8+41.999						522,643.671	166,772.746	21° 51' 18.87"
1038	PI	8+81.757	76° 58' 46.80" RT	114° 35' 29.61"	50.000'	39.757'	67.177'	522,658.471	166,809.646	PI
1039	CC							522,690.077	166,754.133	
1040	PT	9+09.177						522,697.757	166,803.539	98° 50' 05.67"
1041	PC	10+29.611						522,816.762	166,785.042	
1042	PI	10+49.980	11° 37' 49.48" RT	28° 38' 52.40"	200.000'	20.369'	40.598'	522,836.889	166,781.914	PI
1043	CC							522,786.044	166,587.415	
1044	PT	10+70.209						522,855.973	166,774.792	110° 27' 55.15"
1045	PC	11+44.184						522,925.279	166,748.927	
1046	PI	11+94.497	55° 48' 45.24" LT	60° 18' 40.85"	95.000'	50.313'	92.541'	522,972.416	166,731.336	PI
1047	CC							522,958.494	166,837.931	
1048	PT	12+36.725						523,013.455	166,760.443	54° 39' 09.91"
1049	POT	13+60.802						523,114.660	166,832.226	
TRAIL										
1060	POT	5+00.000						522,515.395	166,322.253	
1061	PC	5+68.146						522,566.273	166,367.588	48° 17' 50.17"
1062	PI	5+99.186	32° 04' 14.45" RT	53° 03' 05.93"	108.000'	31.041'	60.452'	522,589.448	166,388.239	PI
1063	CC							522,638.122	166,286.955	
1064	PT	6+28.598						522,620.051	166,393.432	80° 22' 04.62"
1065	PC	7+10.183						522,700.486	166,407.083	
1066	PI	7+35.336	30° 34' 56.47" LT	62° 16' 40.88"	92.000'	25.153'	49.106'	522,725.284	166,411.292	PI
1067	CC							522,685.092	166,497.786	
1068	PT	7+59.289						522,744.492	166,427.532	49° 47' 08.14"
1069	PC	8+86.189						522,841.397	166,509.465	
1070	PI	9+11.616	30° 53' 58.23" LT	62° 16' 40.88"	92.000'	25.427'	49.615'	522,860.814	166,525.882	PI
1071	CC							522,781.997	166,579.719	
1072	PT	9+35.804						522,869.044	166,549.940	18° 53' 09.91"
1073	PC	10+12.484						522,893.865	166,622.491	
1074	PI	10+48.273	36° 40' 07.00" RT	53° 03' 05.93"	108.000'	35.789'	69.119'	522,905.449	166,656.354	PI
1075	CC							522,996.050	166,587.533	
1076	PT	10+81.602						522,934.963	166,676.597	55° 33' 16.92"
1077	POT	11+76.000						523,012.810	166,729.990	

DATE: 3/21/2005 TIME: 3:29:21 PM
FILENAME: K:\g-mMplsPubWks\3\98.00\hwy-brdg\hwy\pln-sht\surcharge_ala.dgn

DRAWN BY: SJS
CHECKED BY: JJB

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.

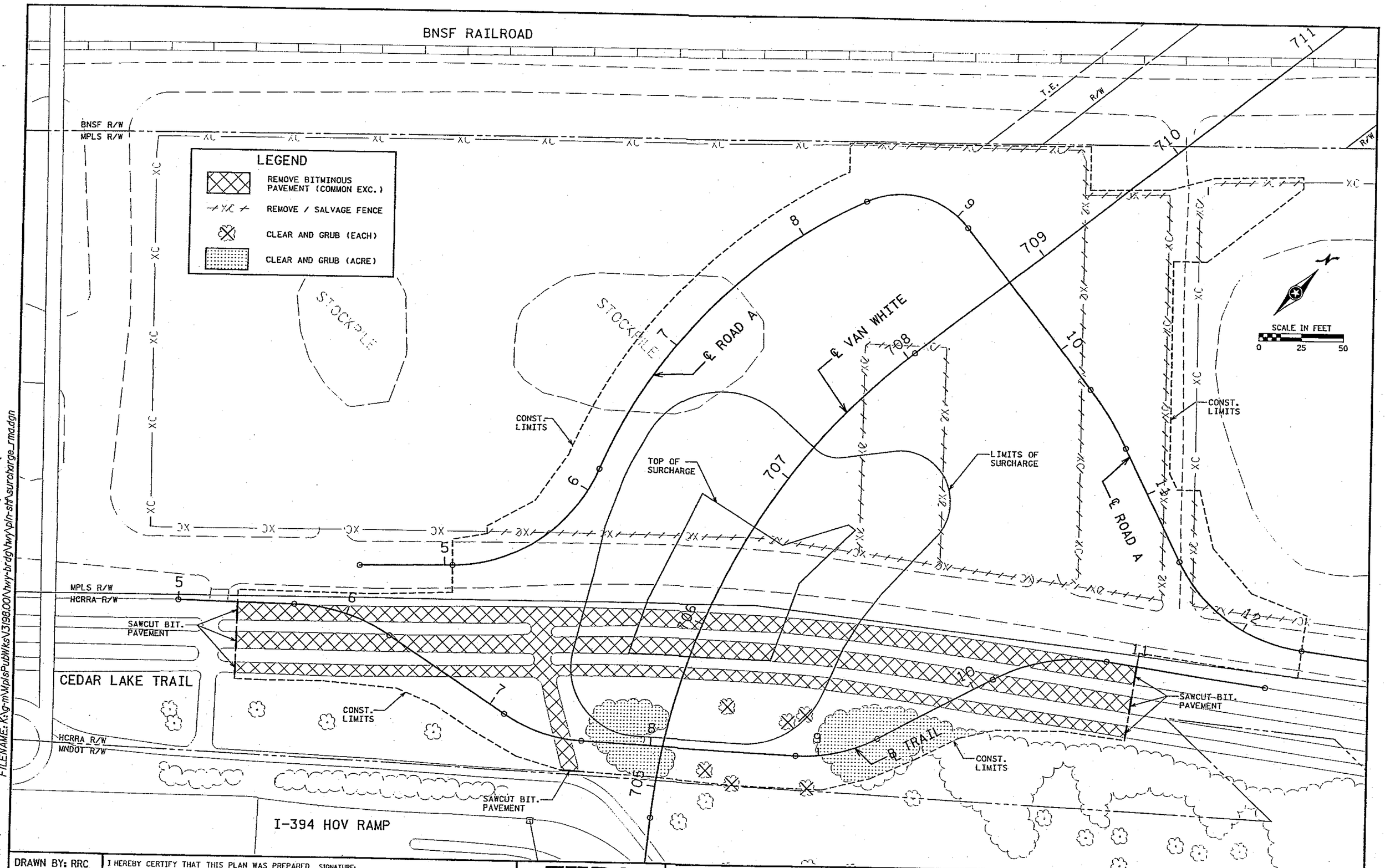
SIGNATURE: _____
PRINTED NAME: _____
DATE: _____ LIC. NO. _____

TKDA
ENGINEERS · ARCHITECTS · PLANNERS

CITY OF MINNEAPOLIS
VAN WHITE MEMORIAL BLVD.

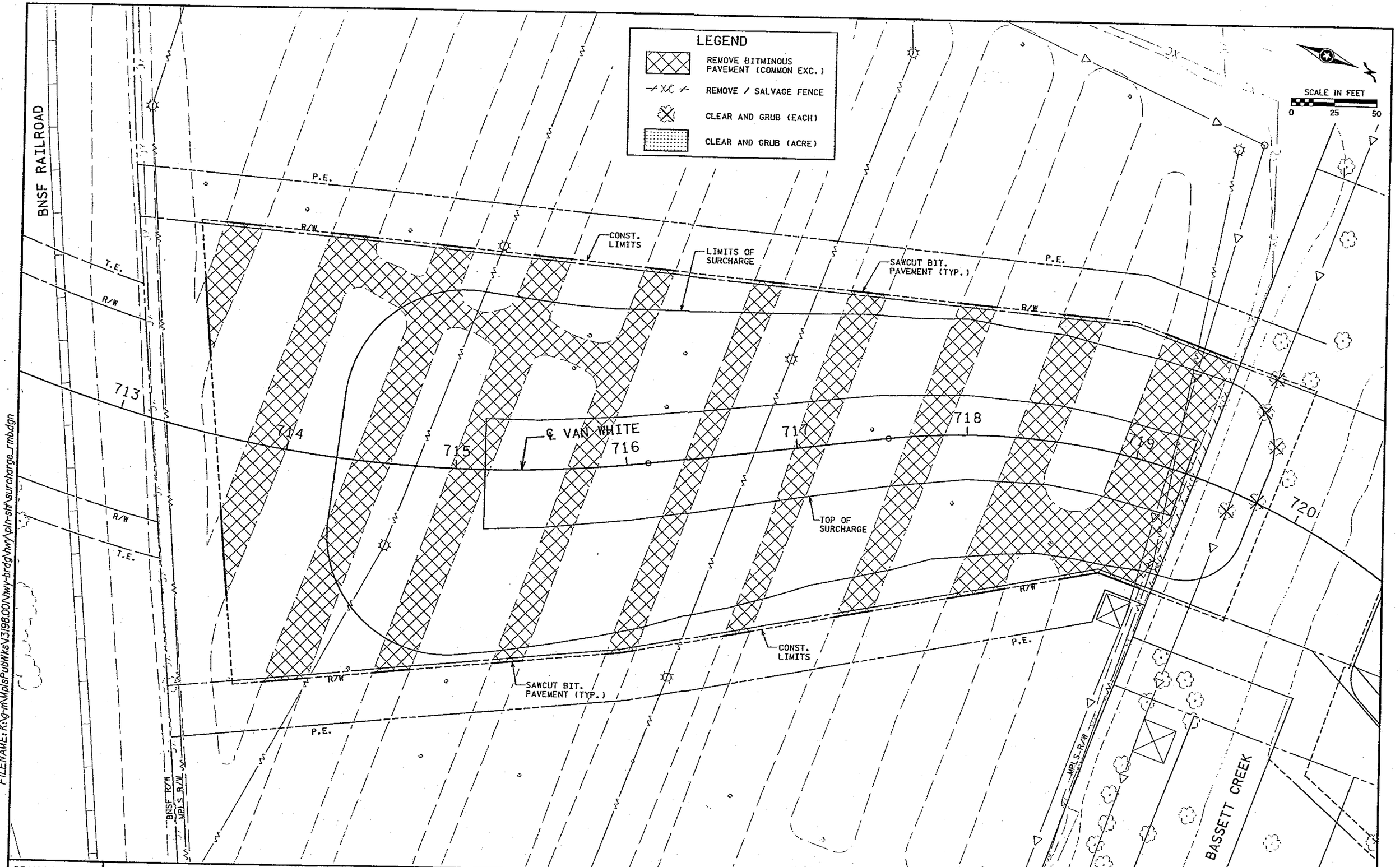
ALIGNMENT PLAN AND TABULATION
VAN WHITE, ROAD A, TRAIL

S.P. 141-080-34
Sheet No. 8 of Sheets



DATE: 3/21/2005 TIME: 3:29:28 PM
FILENAME: K:\g-m\MplsPubWks\3198.00\hwy-brdg\hwy\plr-sht\surcharge_rma.dgn

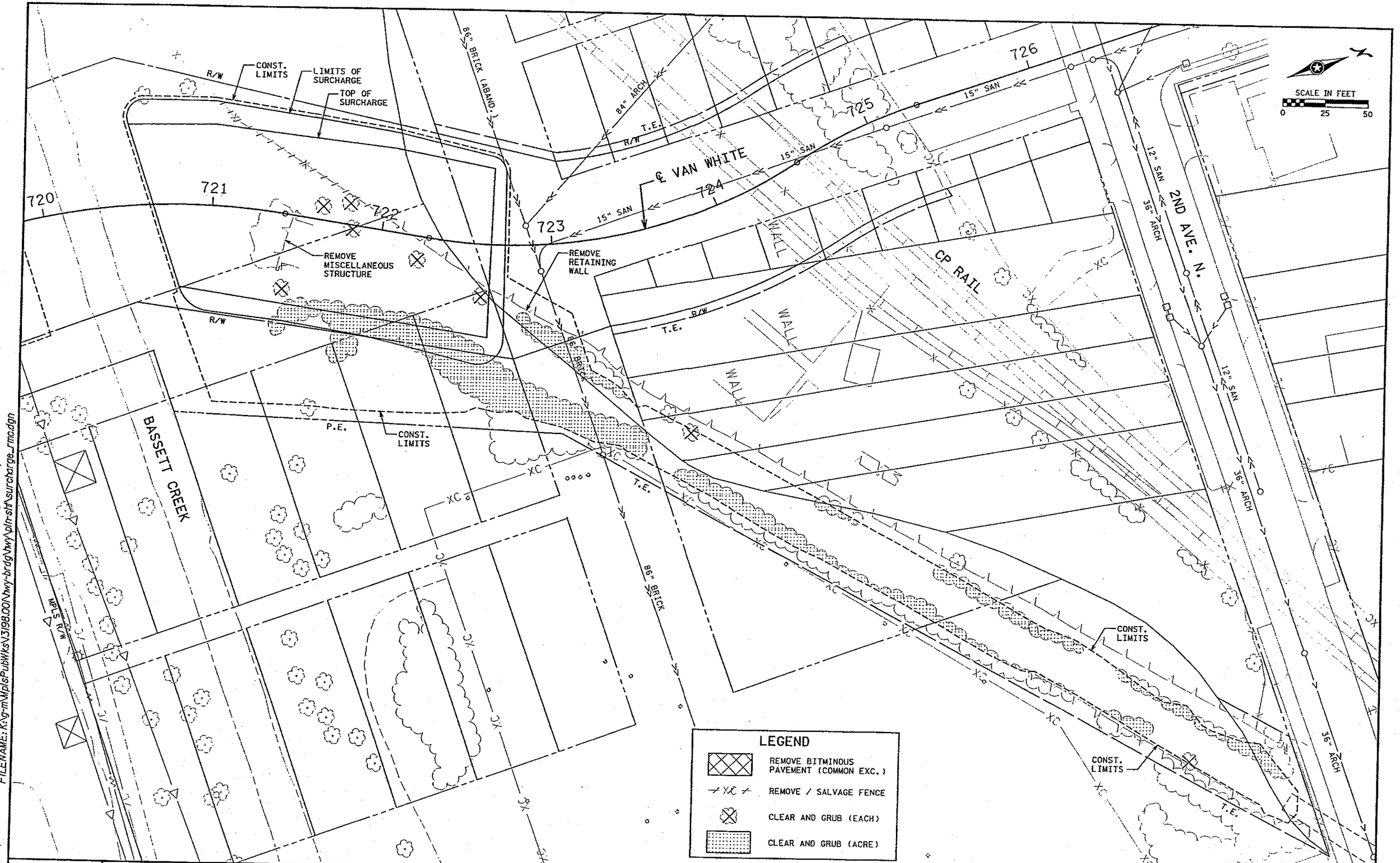
DRAWN BY: RRC	I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.	SIGNATURE:	TKDA ENGINEERS·ARCHITECTS·PLANNERS	CITY OF MINNEAPOLIS VAN WHITE MEMORIAL BLVD.	EXISTING CONDITIONS & REMOVALS VAN WHITE STA. 704+60 TO STA. 711+00
CHECKED BY: JJB		PRINTED NAME:			S.P. 141-080-34
		DATE: LIC. NO.			Sheet No. 9 of Sheets



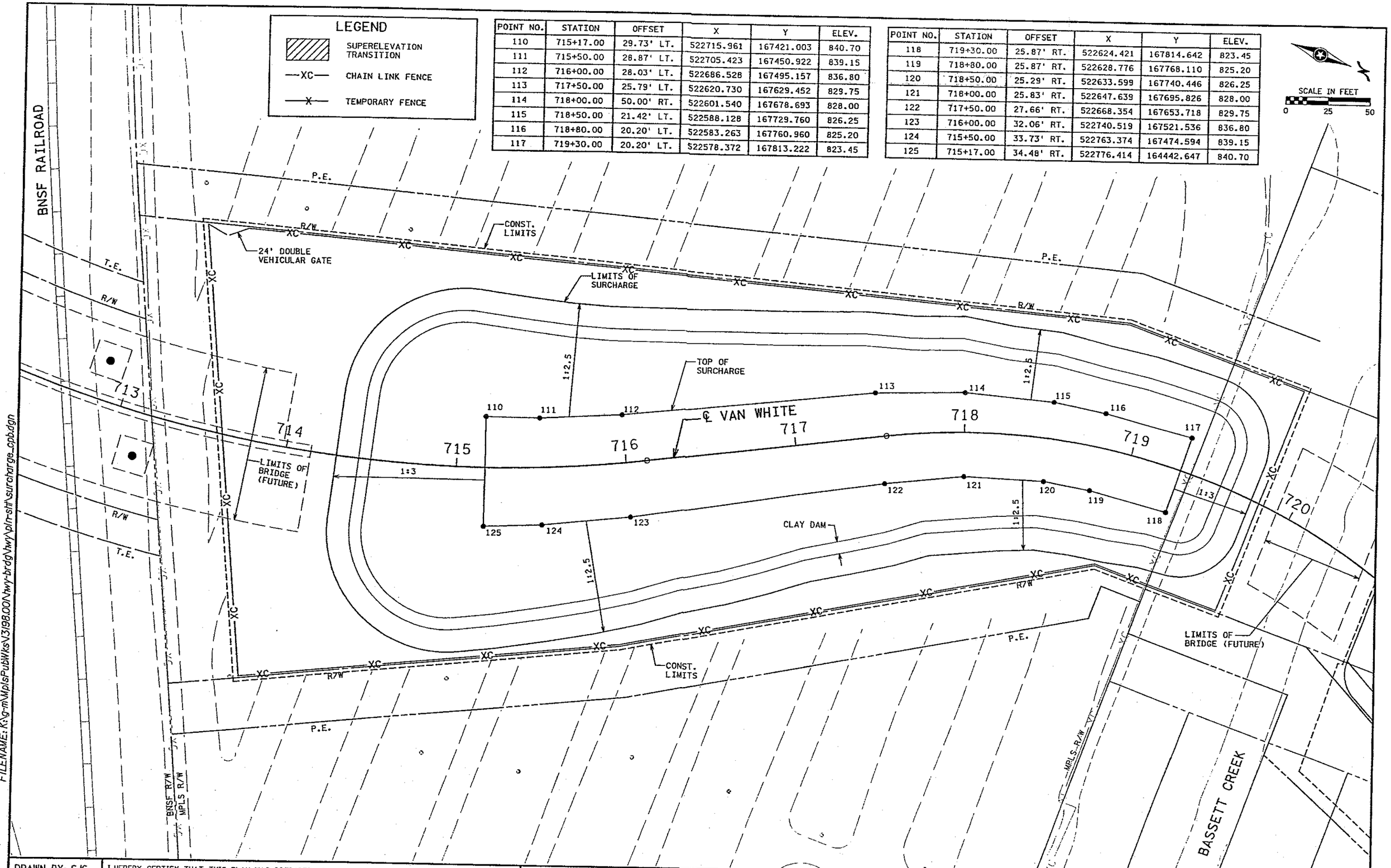
DATE: 3/21/2005 TIME: 3:29:35 PM
FILENAME: K:\g-mMplsPubWks\3198.00\hwy-brdg\hwy\pln-sht\surcharge_rmb.dgn

DRAWN BY: RRC	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.	SIGNATURE:	TKDA ENGINEERS·ARCHITECTS·PLANNERS	CITY OF MINNEAPOLIS VAN WHITE MEMORIAL BLVD.	EXISTING CONDITIONS & REMOVALS VAN WHITE STA. 712+50 TO STA. 720+50
CHECKED BY: JJB		PRINTED NAME: DATE: LIC. NO.			S.P. 141-080-34 Sheet No. 10 of Sheets

DATE: 3/21/2005 TIME: 3:29:42 PM
FILENAME: K:\g-m\MplsPubWks\3198.00\hwy-brdg\hwy\pln-sht\surcharge_rmo.dgn



DRAWN BY: RRC	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.	SIGNATURE:	TKDA ENGINEERS·ARCHITECTS·PLANNERS	CITY OF MINNEAPOLIS VAN WHITE MEMORIAL BLVD.	EXISTING CONDITIONS & REMOVALS VAN WHITE STA. 720+00 TO STA. 726+50
CHECKED BY: JJB		PRINTED NAME: DATE: LIC. NO.			S.P. 141-080-34 Sheet No. 11 of Sheets



POINT NO.	STATION	OFFSET	X	Y	ELEV.
110	715+17.00	29.73' LT.	522715.961	167421.003	840.70
111	715+50.00	28.87' LT.	522705.423	167450.922	839.15
112	716+00.00	28.03' LT.	522686.528	167495.157	836.80
113	717+50.00	25.79' LT.	522620.730	167629.452	829.75
114	718+00.00	50.00' RT.	522601.540	167678.693	828.00
115	718+50.00	21.42' LT.	522588.128	167729.760	826.25
116	718+80.00	20.20' LT.	522583.263	167760.960	825.20
117	719+30.00	20.20' LT.	522578.372	167813.222	823.45

POINT NO.	STATION	OFFSET	X	Y	ELEV.
118	719+30.00	25.87' RT.	522624.421	167814.642	823.45
119	718+80.00	25.87' RT.	522628.776	167768.110	825.20
120	718+50.00	25.29' RT.	522633.599	167740.446	826.25
121	718+00.00	25.83' RT.	522647.639	167695.826	828.00
122	717+50.00	27.66' RT.	522668.354	167653.718	829.75
123	716+00.00	32.06' RT.	522740.519	167521.536	836.80
124	715+50.00	33.73' RT.	522763.374	167474.594	839.15
125	715+17.00	34.48' RT.	522776.414	164442.647	840.70

DATE: 3/21/2005 TIME: 3:29:56 PM
FILENAME: K:\g-m\MplsPubWks\V3198.001\hwy-brdg\hwy\pln-sht\surcharge_cpb.dgn

DRAWN BY: SJS
CHECKED BY: JJB

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.

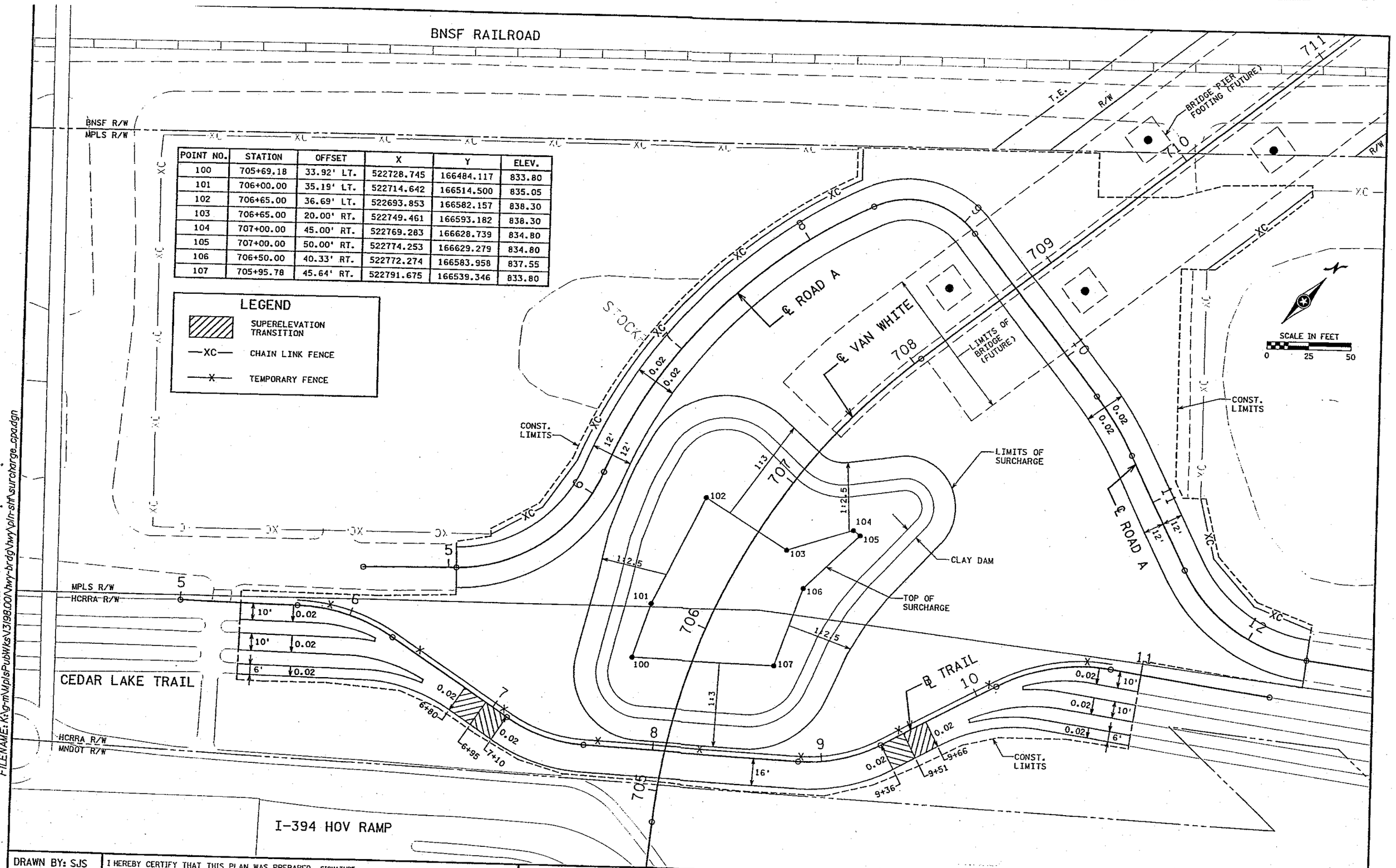
SIGNATURE:
PRINTED NAME:
DATE: LIC. NO.

TKDA
ENGINEERS · ARCHITECTS · PLANNERS

CITY OF MINNEAPOLIS
VAN WHITE MEMORIAL BLVD.

CONSTRUCTION PLANS
VAN WHITE STA. 712+50 TO STA. 720+50

S.P. 141-080-34
Sheet No. 13 of Sheets



POINT NO.	STATION	OFFSET	X	Y	ELEV.
100	705+69.18	33.92' LT.	522728.745	166484.117	833.80
101	706+00.00	35.19' LT.	522714.642	166514.500	835.05
102	706+65.00	36.69' LT.	522693.853	166582.157	838.30
103	706+65.00	20.00' RT.	522749.461	166593.182	838.30
104	707+00.00	45.00' RT.	522769.283	166628.739	834.80
105	707+00.00	50.00' RT.	522774.253	166629.279	834.80
106	706+50.00	40.33' RT.	522772.274	166583.958	837.55
107	705+95.78	45.64' RT.	522791.675	166539.346	833.80

LEGEND

- SUPERELEVATION TRANSITION
- —XC— CHAIN LINK FENCE
- —X— TEMPORARY FENCE

DRAWN BY: SJS

CHECKED BY: JJB

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.

SIGNATURE: _____

PRINTED NAME: _____

DATE: _____ LIC. NO. _____

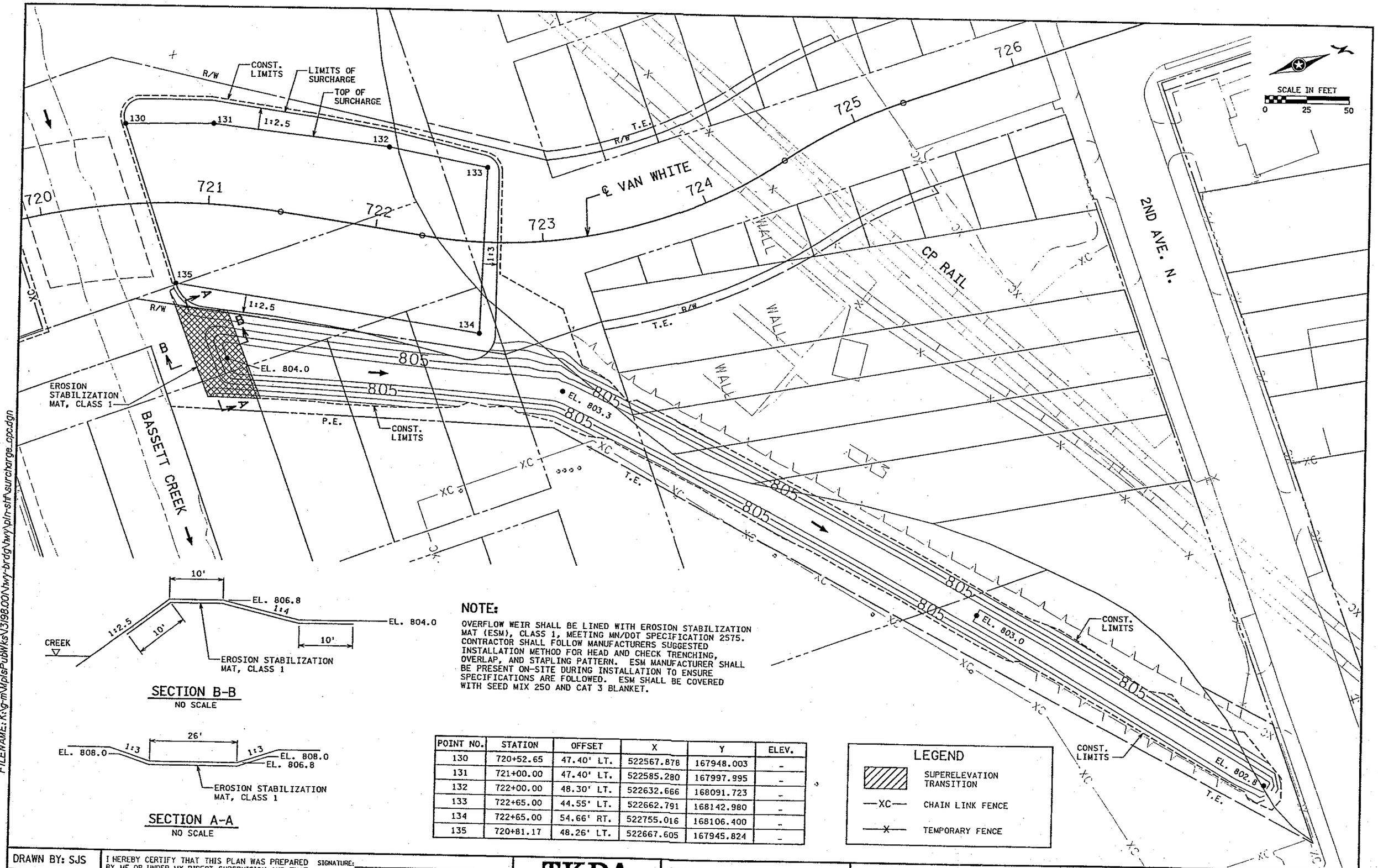
TKDA
ENGINEERS · ARCHITECTS · PLANNERS

CITY OF MINNEAPOLIS
VAN WHITE MEMORIAL BLVD.

CONSTRUCTION PLANS
VAN WHITE STA. 704+60 TO STA. 711+00

S.P. 141-080-34

Sheet No. 12 of Sheets



NOTE:

OVERFLOW WEIR SHALL BE LINED WITH EROSION STABILIZATION MAT (ESM), CLASS 1, MEETING MN/DOT SPECIFICATION 2575. CONTRACTOR SHALL FOLLOW MANUFACTURERS SUGGESTED INSTALLATION METHOD FOR HEAD AND CHECK TRENCHING, OVERLAP, AND STAPLING PATTERN. ESM MANUFACTURER SHALL BE PRESENT ON-SITE DURING INSTALLATION TO ENSURE SPECIFICATIONS ARE FOLLOWED. ESM SHALL BE COVERED WITH SEED MIX 250 AND CAT 3 BLANKET.

POINT NO.	STATION	OFFSET	X	Y	ELEV.
130	720+52.65	47.40' LT.	522567.878	167948.003	-
131	721+00.00	47.40' LT.	522585.280	167997.995	-
132	722+00.00	48.30' LT.	522632.666	168091.723	-
133	722+65.00	44.55' LT.	522662.791	168142.980	-
134	722+65.00	54.66' RT.	522755.016	168106.400	-
135	720+81.17	48.26' LT.	522667.605	167945.824	-

LEGEND

- SUPERELEVATION TRANSITION
- —XC— CHAIN LINK FENCE
- —X— TEMPORARY FENCE

DATE: 3/21/2005 TIME: 3:30:03 PM
FILENAME: K:\g-m\MplsPubWks\3198.001\hwy-brdg\hwy\pln-sht\surcharge_cpc.dgn

DRAWN BY: SJS
CHECKED BY: JJB

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.

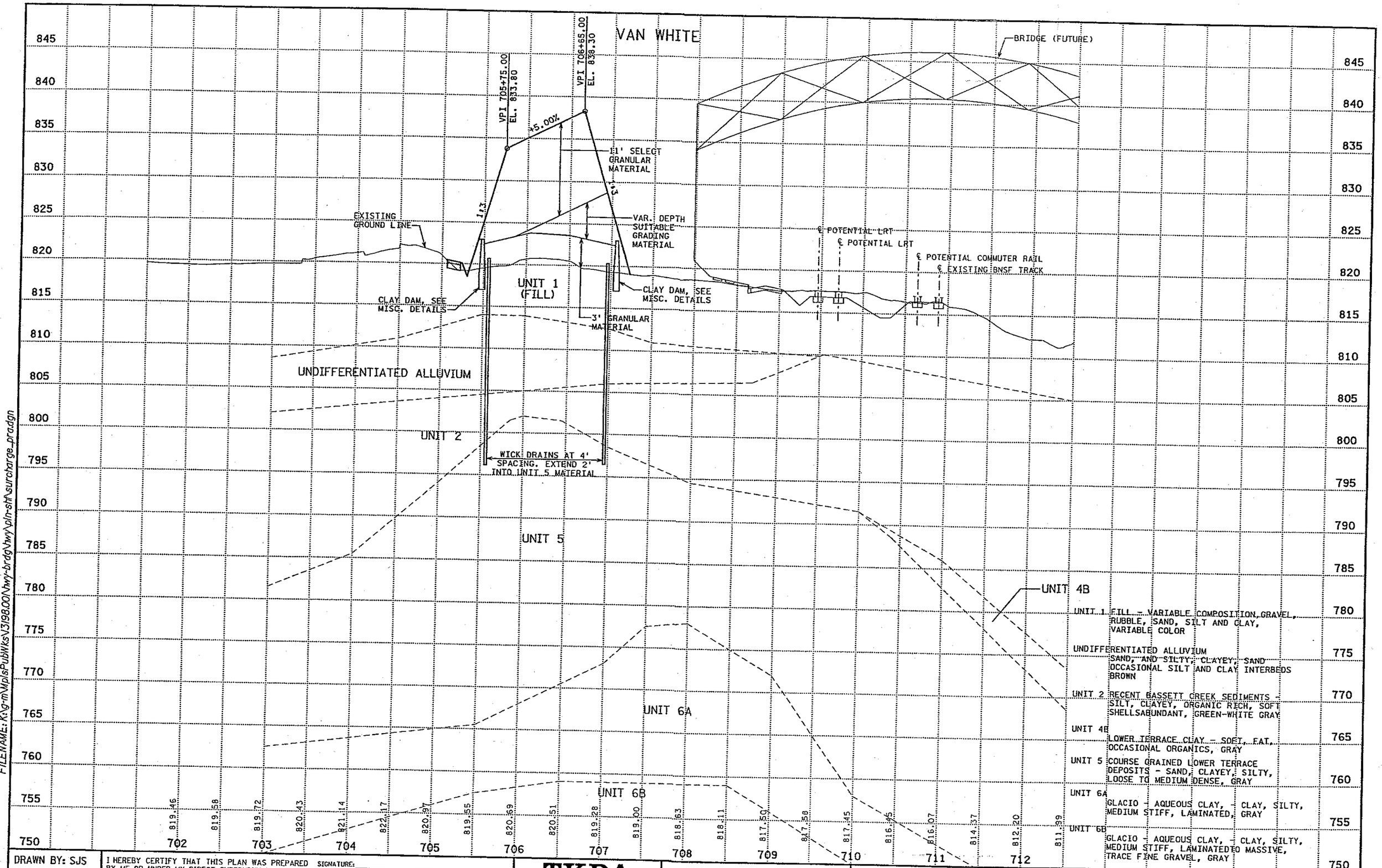
SIGNATURE:
PRINTED NAME:
DATE: LIC. NO.

TKDA
ENGINEERS · ARCHITECTS · PLANNERS

CITY OF MINNEAPOLIS
VAN WHITE MEMORIAL BLVD.

CONSTRUCTION PLANS
VAN WHITE STA. 720+00 TO STA. 726+50

S.P. 141-080-34
Sheet No. 14 of Sheets



UNIT 1 FILL - VARIABLE COMPOSITION, GRAVEL, RUBBLE, SAND, SILT AND CLAY, VARIABLE COLOR

UNDIFFERENTIATED ALLUVIUM
SAND, AND SILTY, CLAYEY, SAND
OCCASIONAL SILT AND CLAY INTERBEDS
BROWN

UNIT 2 RECENT BASSETT CREEK SEDIMENTS - SILT, CLAYEY, ORGANIC RICH, SOFT SHELLSABUNDANT, GREEN-WHITE GRAY

UNIT 4B
LOWER TERRACE CLAY - SOFT, FAT, OCCASIONAL ORGANICS, GRAY

UNIT 5 COURSE GRAINED LOWER TERRACE DEPOSITS - SAND, CLAYEY, SILTY, LOOSE TO MEDIUM DENSE, GRAY

UNIT 6A
GLACIO - AQUEOUS CLAY, - CLAY, SILTY, MEDIUM STIFF, LAMINATED, GRAY

UNIT 6B
GLACIO - AQUEOUS CLAY, - CLAY, SILTY, MEDIUM STIFF, LAMINATEDTO MASSIVE, TRACE FINE GRAVEL, GRAY

DATE: 3/21/2005 TIME: 3:30:08 PM
FILENAME: K:\g-m\MplsPubWks\V3\98.00\hwy-brdg\hwy\pln-sht\surcharge_pra.dgn

DRAWN BY: SJS	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.	SIGNATURE:	
CHECKED BY: JJB		PRINTED NAME:	
		DATE: LIC. NO.	

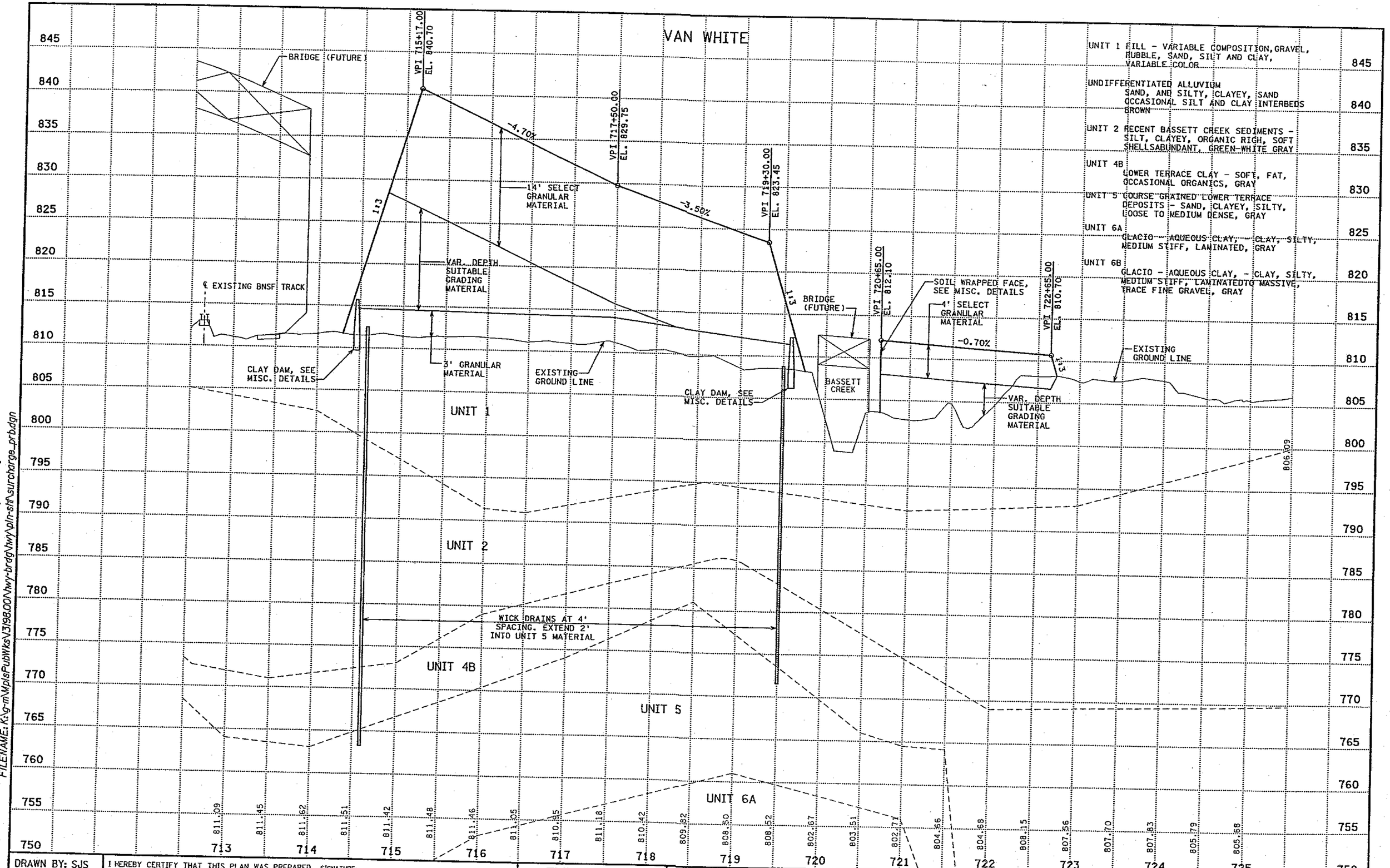
TKDA
ENGINEERS · ARCHITECTS · PLANNERS

CITY OF MINNEAPOLIS
VAN WHITE MEMORIAL BLVD.

PROFILES
VAN WHITE

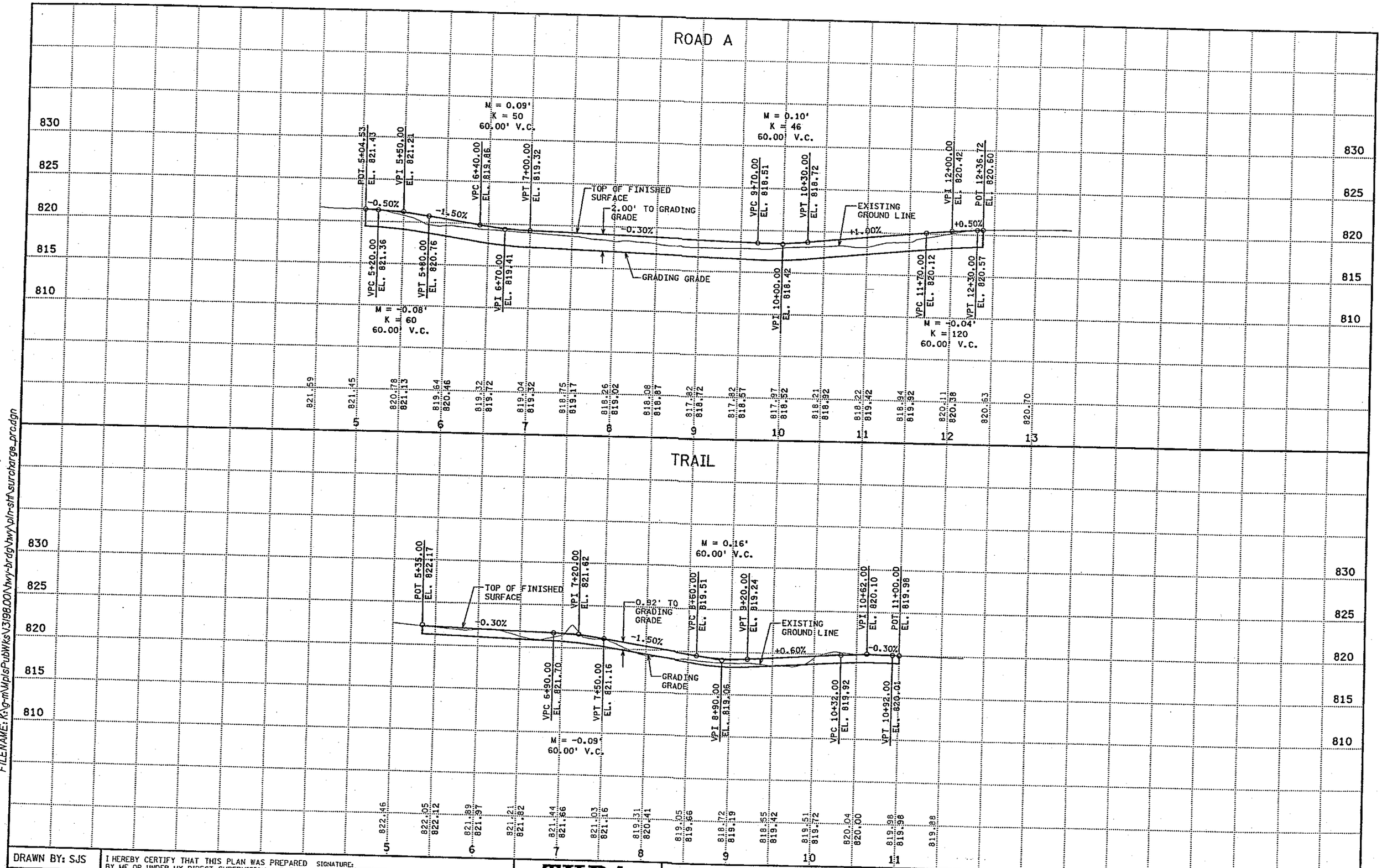
S.P. 141-080-34

Sheet No. 15 of Sheets



DATE: 3/21/2005 TIME: 3:30:17 PM
FILENAME: K:\g-m\Mpls\PubWks\3198.00\hwy-brdg\hwy\pln-sht\surcharge_prb.dgn

DRAWN BY: SJS	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.	SIGNATURE:	TKDA ENGINEERS·ARCHITECTS·PLANNERS	CITY OF MINNEAPOLIS VAN WHITE MEMORIAL BLVD.	PROFILES VAN WHITE
CHECKED BY: JJB		PRINTED NAME: DATE: LIC. NO.			S.P. 141-080-34 Sheet No. 16 of Sheets

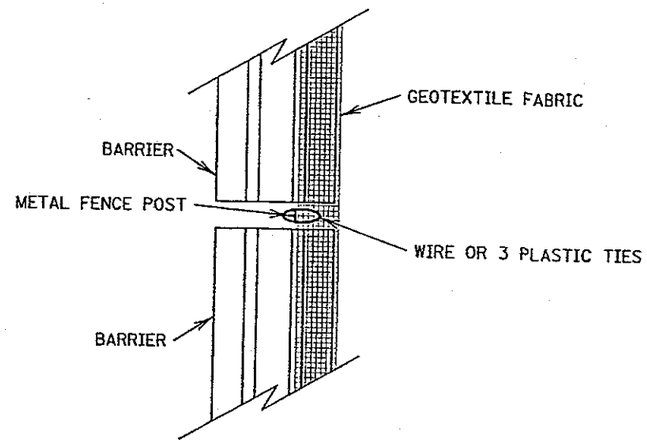


DATE: 3/21/2005 TIME: 3:30:26 PM
FILENAME: K:\g-m\MplsPubWks\13198.00\hwy-brdg\hwy\pln-sht\surcharge_prc.dgn

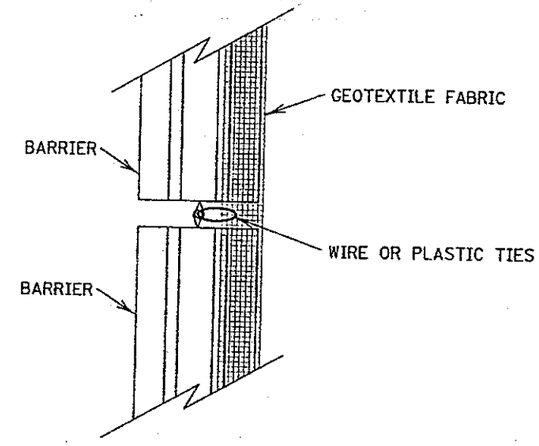
DRAWN BY: SJS CHECKED BY: JJB	I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.	SIGNATURE: PRINTED NAME: DATE: LIC. NO.	TKDA ENGINEERS·ARCHITECTS·PLANNERS	CITY OF MINNEAPOLIS VAN WHITE MEMORIAL BLVD.	PROFILES ROAD A, TRAIL

S.P. 141-080-34

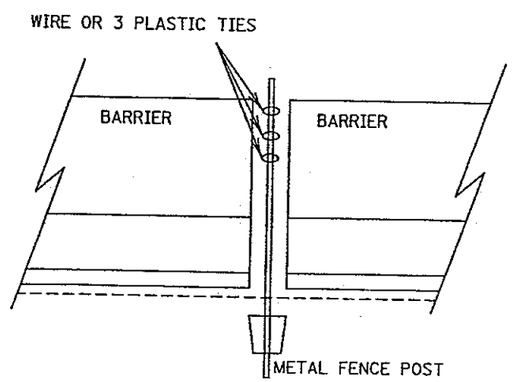
Sheet No. 17 of Sheets



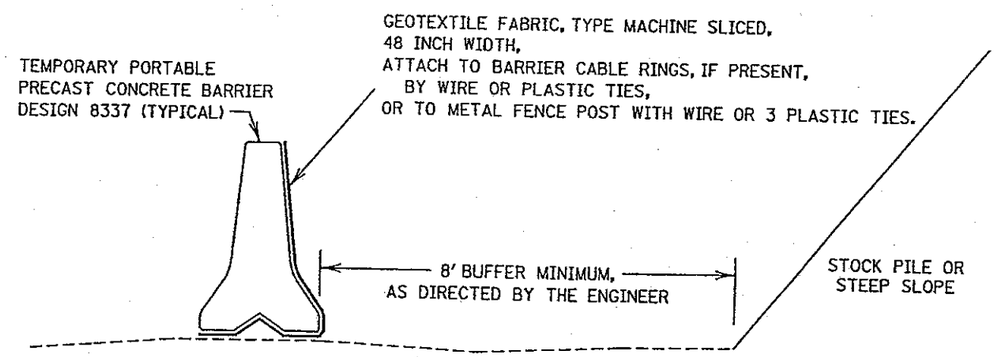
BARRIER WITHOUT CABLE RINGS
TOP VIEW



BARRIER WITH CABLE RINGS
TOP VIEW



BARRIER WITHOUT CABLE RINGS
SIDE VIEW



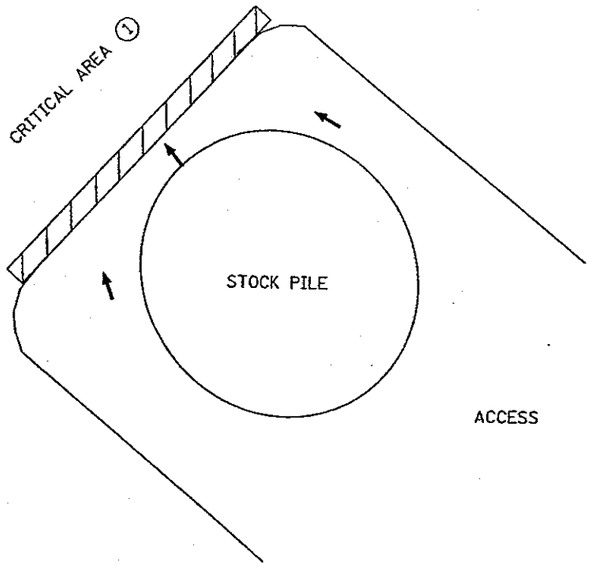
SILT FENCE, SUPER DUTY

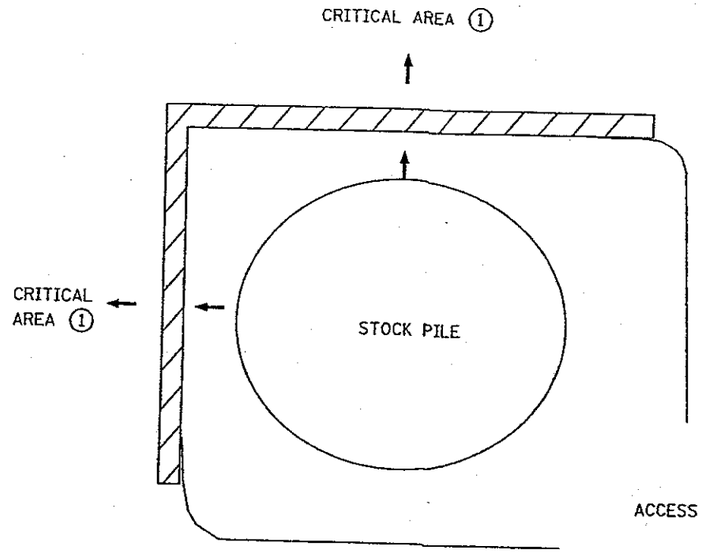
PAID FOR AS CONCRETE MEDIAN BARRIER, DESIGN 8337
AND SILT FENCE, TYPE MACHINE SLICED

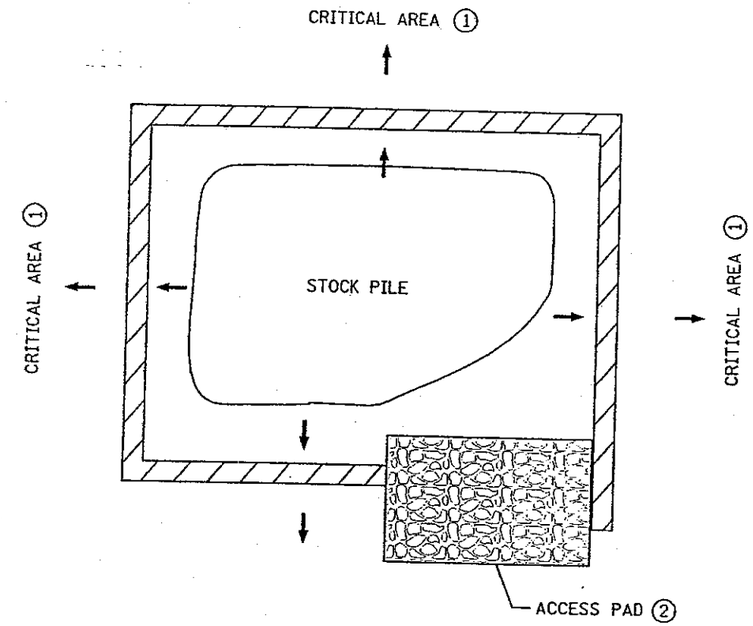
DATE: 3/21/2005 TIME: 3:30:35 PM
FILENAME: K:\g-m\MplsPubWks\13198.00\hwy-brdg\hwy\pln-sht\surcharge_edd.dgn

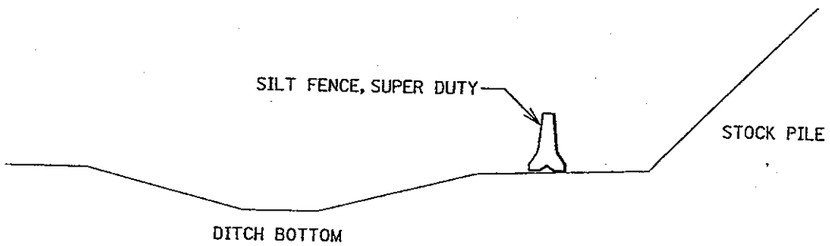
DRAWN BY: SJS CHECKED BY: JJB	I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.	SIGNATURE: PRINTED NAME: DATE: LIC. NO.	TKDA ENGINEERS · ARCHITECTS · PLANNERS	CITY OF MINNEAPOLIS VAN WHITE MEMORIAL BLVD.	EROSION CONTROL DETAILS SILT FENCE TYPE SUPER DUTY

S.P. 141-080-34

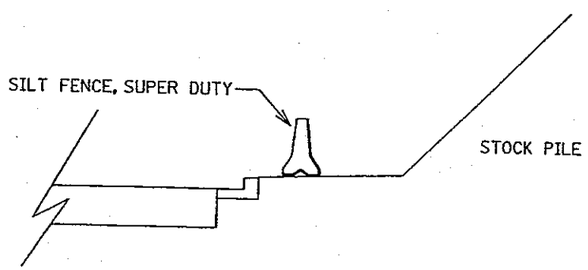








SILT FENCE, SUPER DUTY – DITCH PROTECTION SYSTEM



SILT FENCE, SUPER DUTY – CURB AND GUTTER PROTECTION SYSTEM

LEGEND

SILT FENCE, SUPER DUTY

MACHINE SLICED SILT FENCE

NOTES:

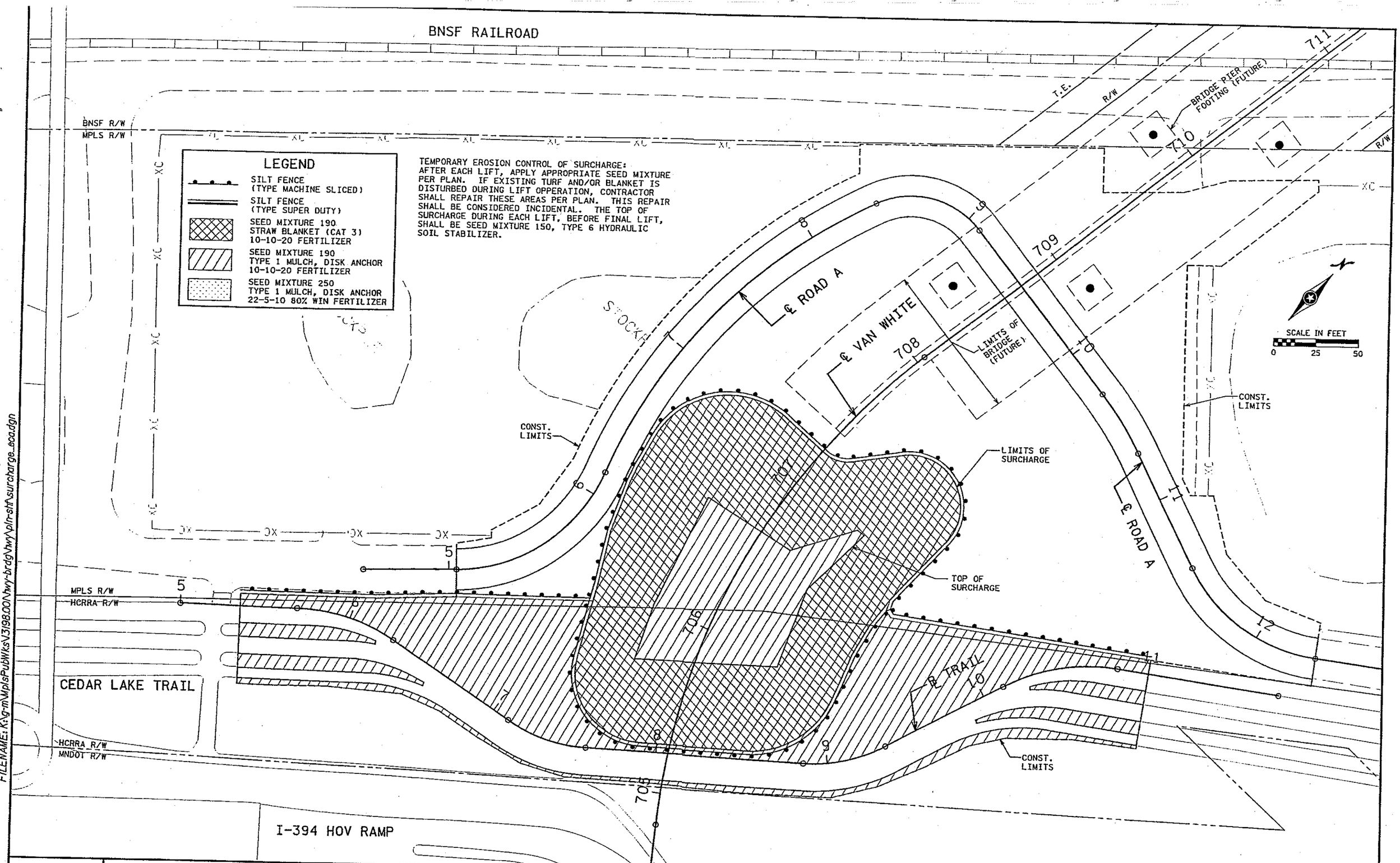
- IT IS NOT RECOMMENDED TO PLACE STOCK PILES NEXT TO A CRITICAL AREA. WHEN THERE ARE NO FEASIBLE ALTERNATIVE, THE SUPER DUTY SILT FENCE IS TO BE USED AS SHOWN OR DIRECTED BY THE PROJECT ENGINEER.
- SILT FENCE, SUPER DUTY MAY BE USED IN CONJUNCTION WITH SEDIMENT TRAPS AT INLETS OR OUTLETS TO PONDS AND DITCHES SIMILAR TO ROCK WEEPERS AS SHOWN ON SHEET NO. 1219. SEE TEMPORARY DRAINAGE, EROSION CONTROL, AND TURF ESTABLISHMENT PLAN LAYOUTS FOR LOCATIONS OR USE AS DIRECTED BY THE EROSION CONTROL SUPERVISOR OR THE PROJECT ENGINEER.

① CRITICAL AREAS INCLUDE WETLANDS, JUDICIAL DITCHES, STREAMS, WATER BODIES AND OTHER AREAS IMPORTANT TO PROTECT.

② ACCESS PAD SHALL BE 6 INCHES HIGH BY A MINIMUM 20' LONG AND SHALL CONSIST OF MULCH MATERIAL TYPE 6. THE MULCH MATERIAL SHALL BE SLASH MULCH, NOT WOOD CHIP MULCH.

DATE: 3/21/2005 TIME: 3:30:40 PM
FILENAME: K:\g-m\MplsPubWks\V3\98.00\hwy-brdg\hwy\plr-sht\surcharge_edb.dgn

DRAWN BY: SJS	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.	SIGNATURE:	TKDA ENGINEERS·ARCHITECTS·PLANNERS	CITY OF MINNEAPOLIS VAN WHITE MEMORIAL BLVD.	EROSION CONTROL DETAILS SILT FENCE TYPE SUPER DUTY	S.P. 141-080-34
CHECKED BY: JJB		PRINTED NAME: DATE: LIC. NO.				Sheet No. 19 of Sheets



DATE: 3/21/2005 TIME: 3:30:47 PM
FILENAME: K:\g-m\MplsPubWks\3198.00\hwy-brdg\hwy\pln-sht\surcharge_eca.dgn

DRAWN BY: SJS CHECKED BY: JJB	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. SIGNATURE: PRINTED NAME: DATE: LIC. NO.	TKDA ENGINEERS · ARCHITECTS · PLANNERS	CITY OF MINNEAPOLIS VAN WHITE MEMORIAL BLVD.	EROSION CONTROL & TURF ESTABLISHMENT VAN WHITE STA. 704+60 TO STA. 711+00	S.P. 141-080-34 Sheet No. 20 of Sheets

TEMPORARY EROSION CONTROL OF SURCHARGE:
AFTER EACH LIFT, APPLY APPROPRIATE SEED MIXTURE PER PLAN. IF EXISTING TURF AND/OR BLANKET IS DISTURBED DURING LIFT OPPERATION, CONTRACTOR SHALL REPAIR THESE AREAS PER PLAN. THIS REPAIR SHALL BE CONSIDERED INCIDENTAL. THE TOP OF SURCHARGE DURING EACH LIFT, BEFORE FINAL LIFT, SHALL BE SEED MIXTURE 150, TYPE 6 HYDRAULIC SOIL STABILIZER.

LEGEND

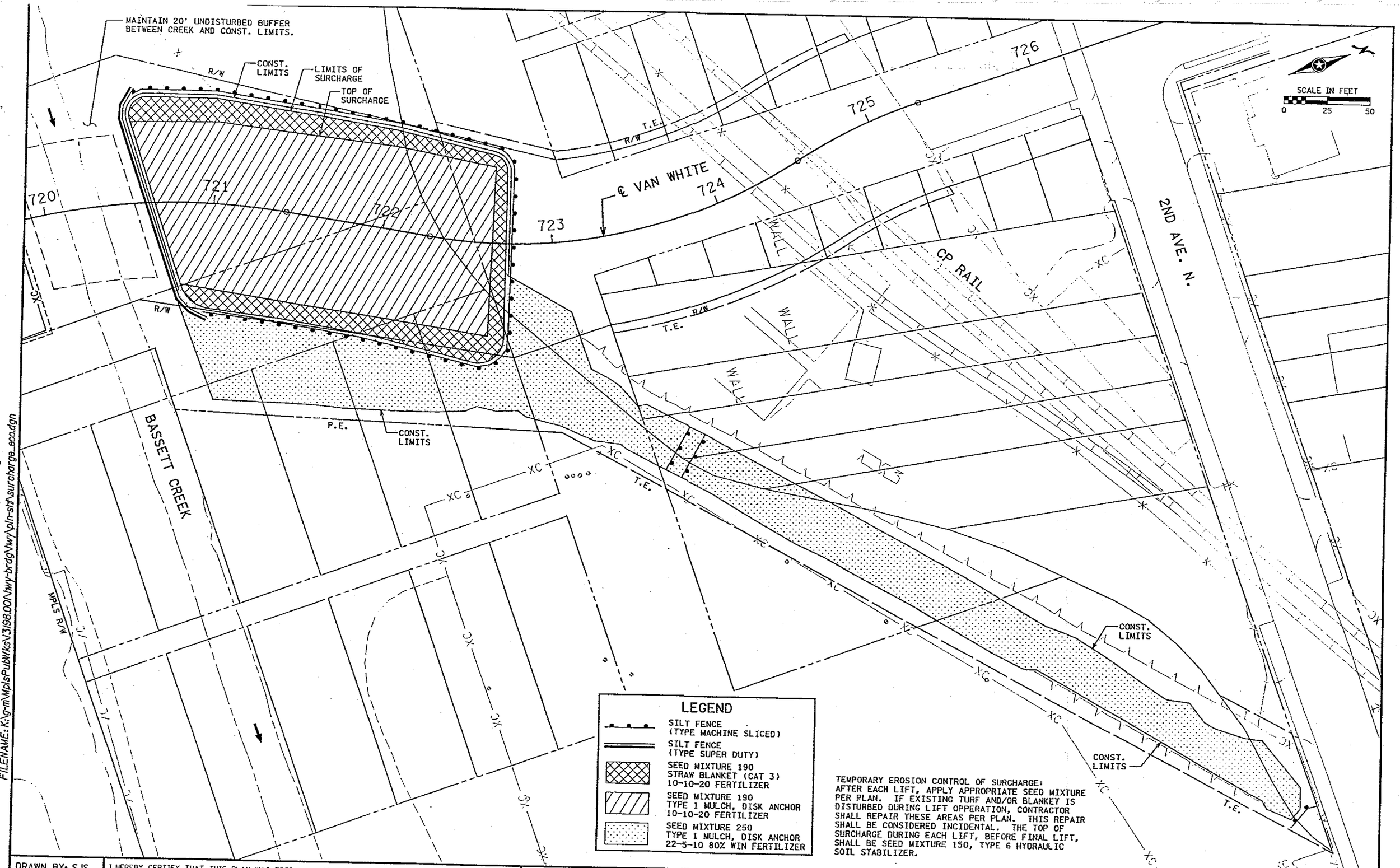
- SILT FENCE (TYPE MACHINE SLICED)
- SILT FENCE (TYPE SUPER DUTY)
- SEED MIXTURE 190 STRAW BLANKET (CAT 3) 10-10-20 FERTILIZER
- SEED MIXTURE 190 TYPE 1 MULCH, DISK ANCHOR 10-10-20 FERTILIZER
- SEED MIXTURE 250 TYPE 1 MULCH, DISK ANCHOR 22-5-10 80% WIN FERTILIZER

SCALE IN FEET
0 25 50

BNSF RAILROAD
P.E.
R/W
CONST. LIMITS
T.E.
LIMITS OF SURCHARGE
TOP OF SURCHARGE
713
714
715
716
717
718
719
720
℄ VAN WHITE
LIMITS OF BRIDGE (FUTURE)
BNSF R/W
MPLS R/W
MPLS R/W
BASSETT CREEK

DATE: 3/21/2005 TIME: 3:30:54 PM
FILENAME: K:\g-mMplsPubWks\3198.00\hwy-brdg\hwy\pln-shf\surcharge_eob.dgn

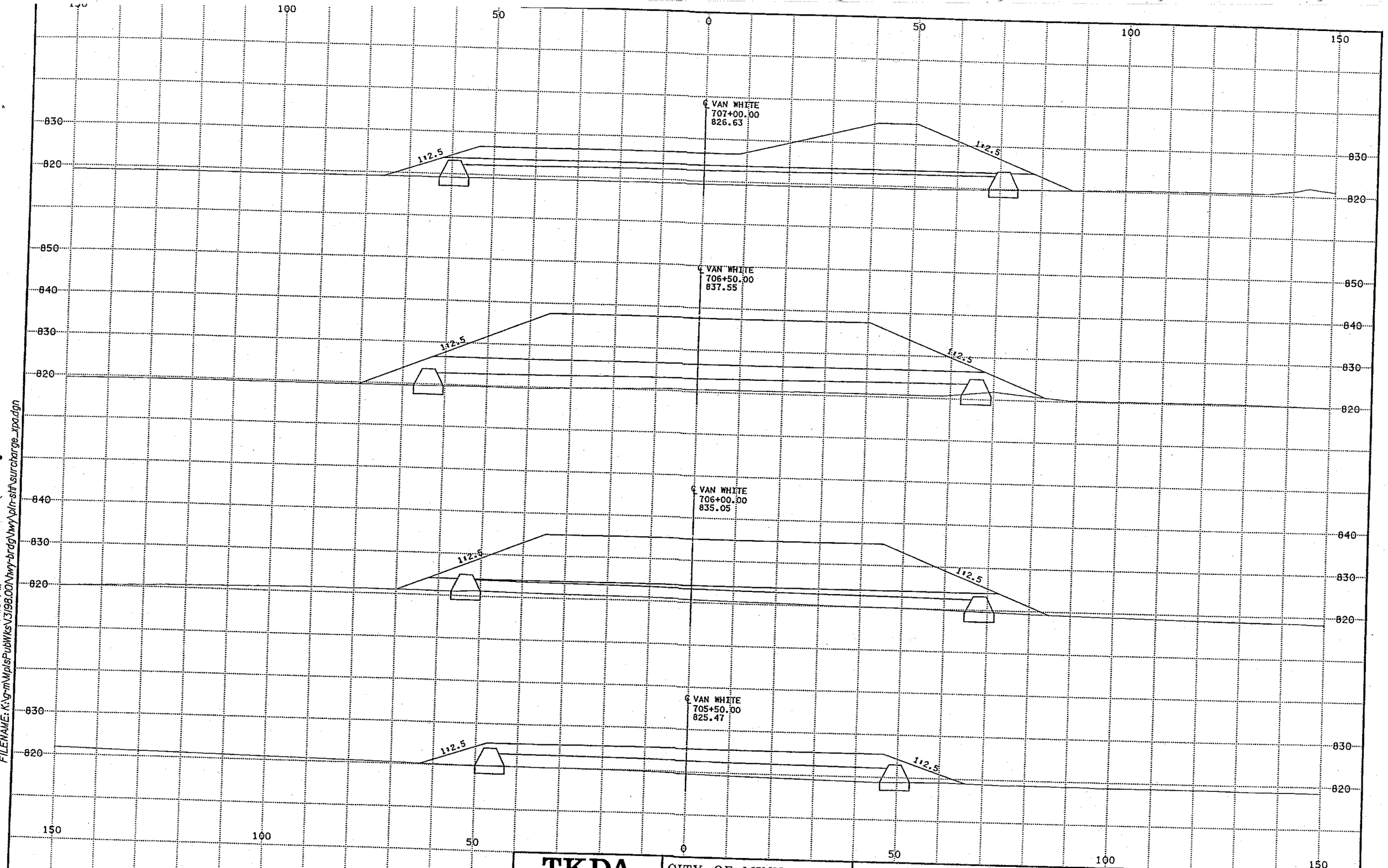
DRAWN BY: SJS	I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.	SIGNATURE:	TKDA ENGINEERS · ARCHITECTS · PLANNERS	CITY OF MINNEAPOLIS VAN WHITE MEMORIAL BLVD.	EROSION CONTROL & TURF ESTABLISHMENT VAN WHITE STA. 712+50 TO STA. 720+50
CHECKED BY: JJB		PRINTED NAME: DATE: LIC. NO.			S.P. 141-080-34 Sheet No. 21 of Sheets



TEMPORARY EROSION CONTROL OF SURCHARGE: AFTER EACH LIFT, APPLY APPROPRIATE SEED MIXTURE PER PLAN. IF EXISTING TURF AND/OR BLANKET IS DISTURBED DURING LIFT OPPERATION, CONTRACTOR SHALL REPAIR THESE AREAS PER PLAN. THIS REPAIR SHALL BE CONSIDERED INCIDENTAL. THE TOP OF SURCHARGE DURING EACH LIFT, BEFORE FINAL LIFT, SHALL BE SEED MIXTURE 150, TYPE 6 HYDRAULIC SOIL STABILIZER.

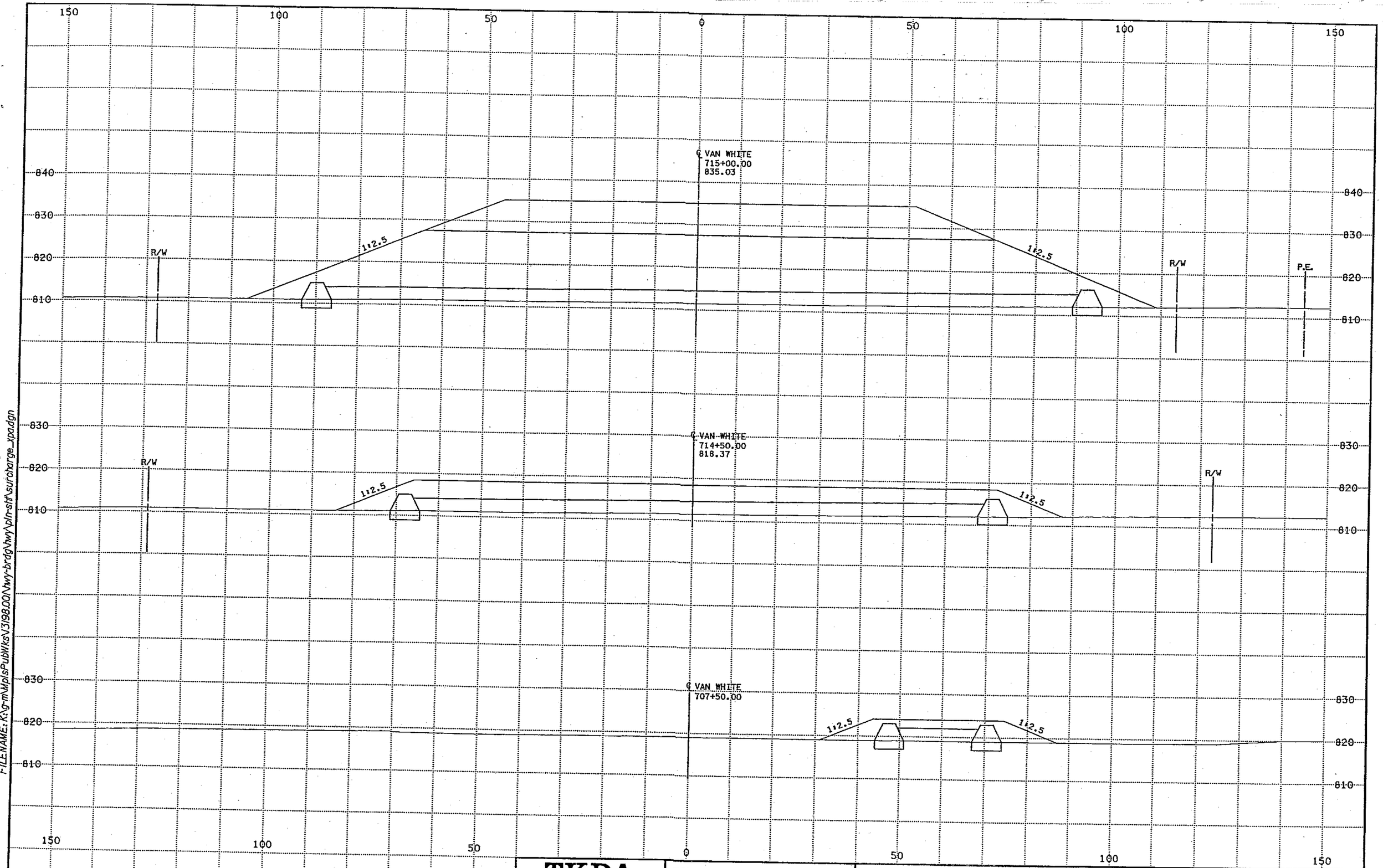
DATE: 3/21/2005 TIME: 3:31:04 PM
FILENAME: K:\g-m\MplsPubWks\V3198.001\hwy-brdg\hwy\pln-sht\surcharge_ecc.dgn

DRAWN BY: SJS CHECKED BY: JJB	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. SIGNATURE: PRINTED NAME: DATE: LIC. NO.	TKDA ENGINEERS·ARCHITECTS·PLANNERS	CITY OF MINNEAPOLIS VAN WHITE MEMORIAL BLVD.	EROSION CONTROL & TURF ESTABLISHMENT VAN WHITE STA. 720+00 TO STA. 726+50	S.P. 141-080-34 Sheet No. 22 of Sheets



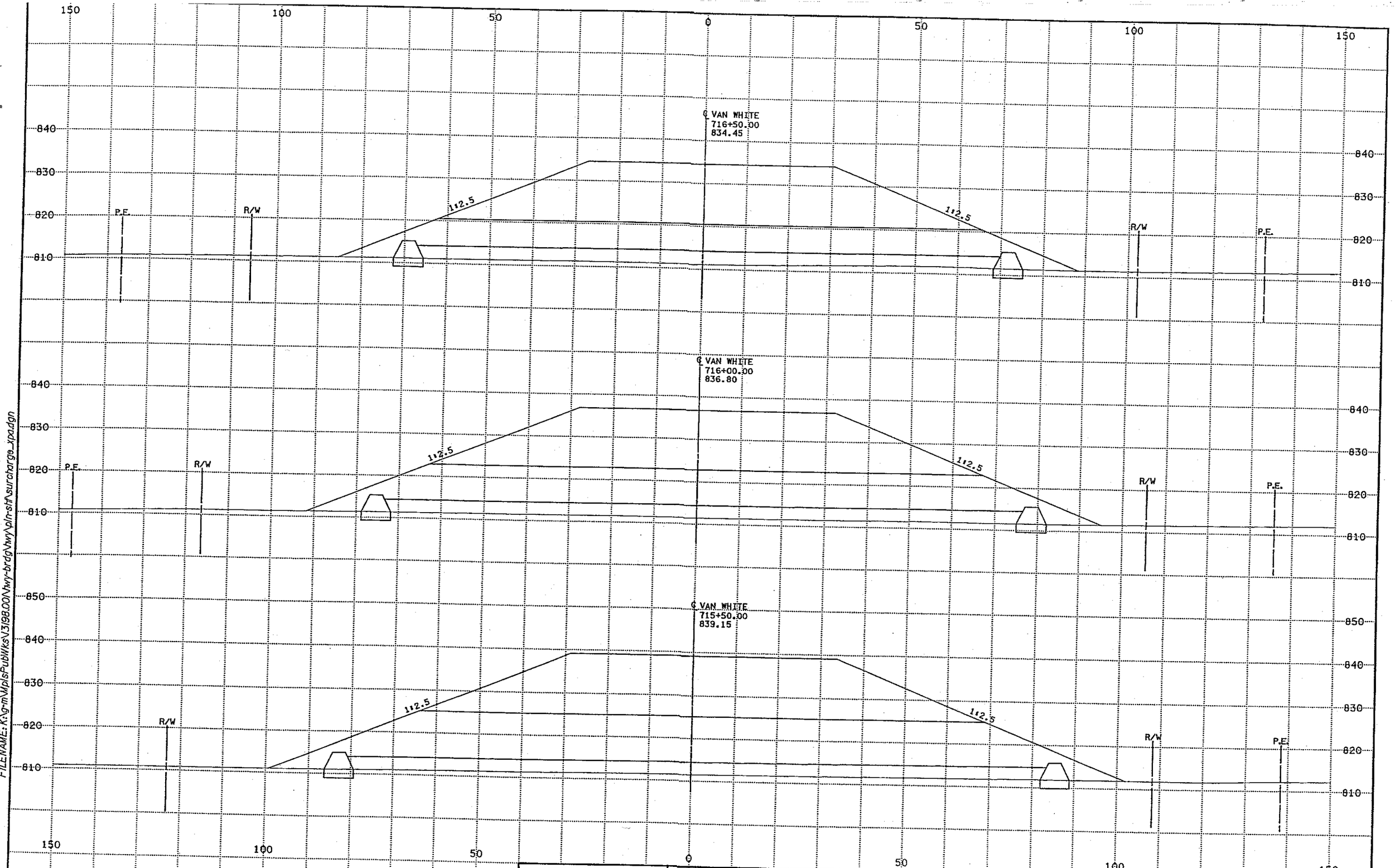
DATE: 3/21/2005 TIME: 3:31:10 PM
FILENAME: K:\g-m\MplsPubWks\V3198.00\hwy-brdg\hwy\pln-sht\surcharge_xpadgn

TKDA ENGINEERS·ARCHITECTS·PLANNERS	CITY OF MINNEAPOLIS VAN WHITE MEMORIAL BLVD.	CROSS SECTIONS VAN WHITE STA. 705+50 TO STA. 707+00	S.P. 141-080-34 Sheet No. 23 of Sheets



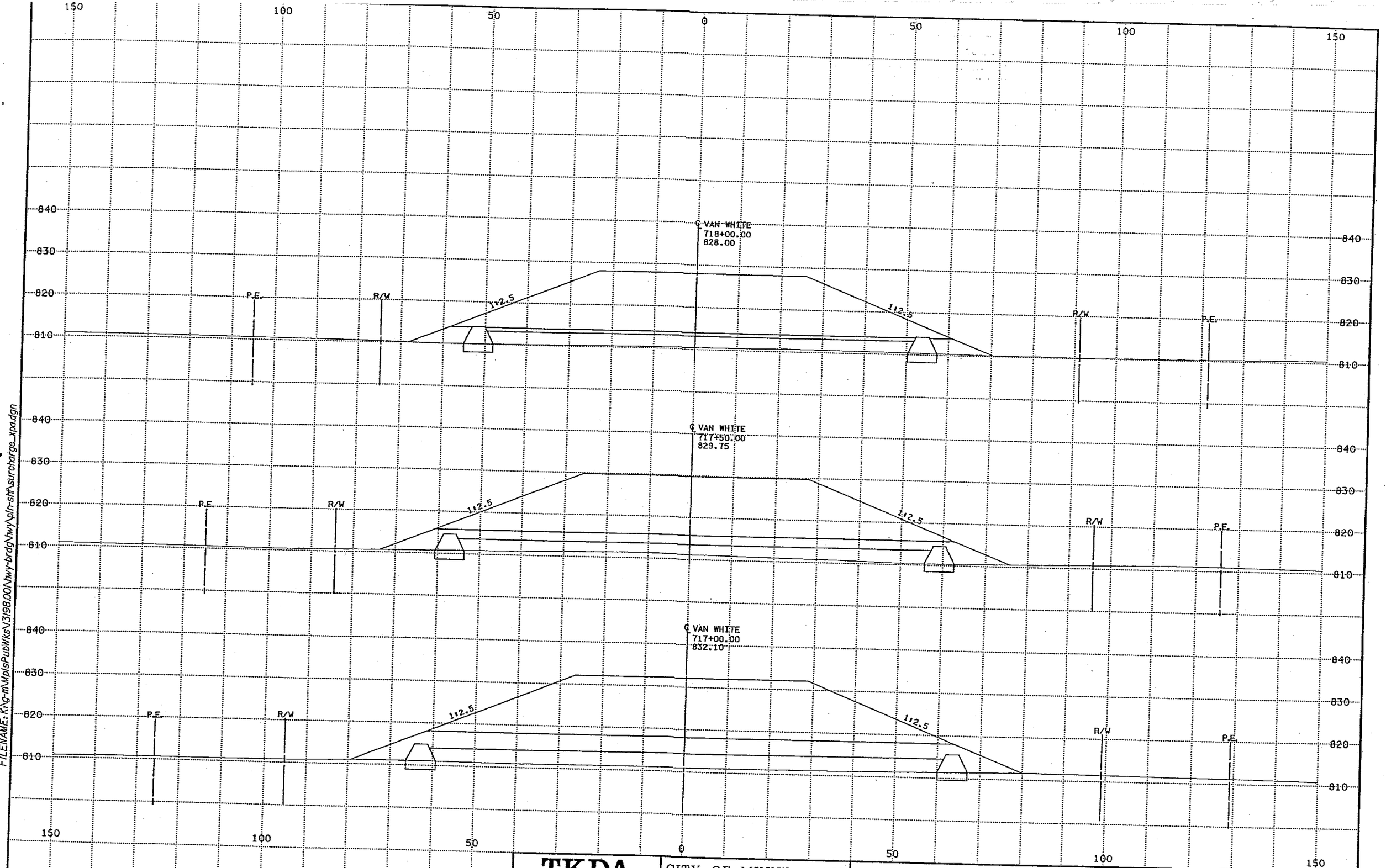
DATE: 3/21/2005 TIME: 3:31:15 PM
FILENAME: K:\g-m\MplsPubWks\3198.00\hwy-brdg\hwy\pln-sht\surcharge_xpa.dgn

TKDA ENGINEERS·ARCHITECTS·PLANNERS	CITY OF MINNEAPOLIS VAN WHITE MEMORIAL BLVD.	CROSS SECTIONS VAN WHITE STA. 707+50 TO STA. 715+00	S.P. 141-080-34 Sheet No. 24 of Sheets



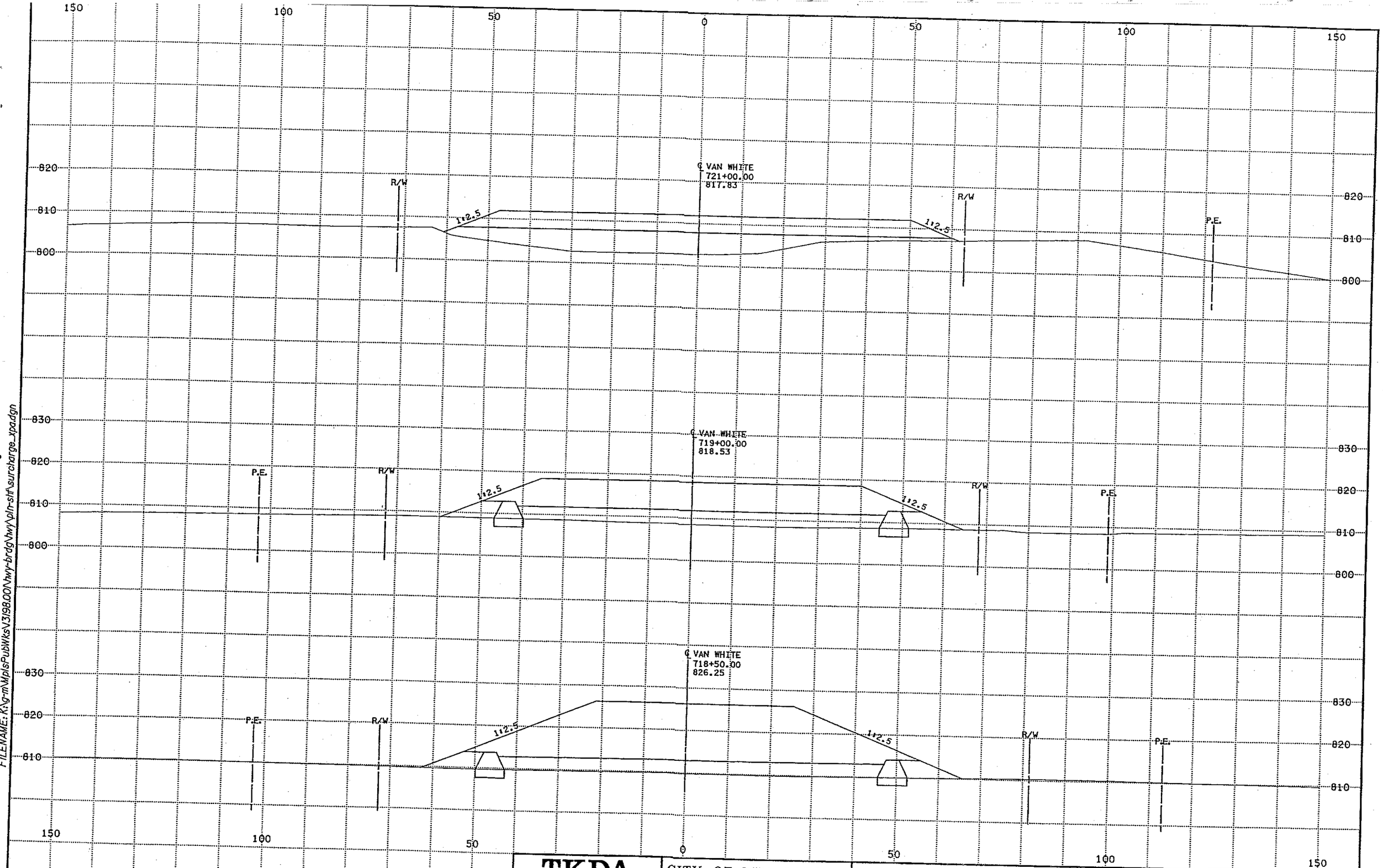
DATE: 3/21/2005 TIME: 3:31:21 PM
FILENAME: K:\g-m\MplsPubWks\V3\98.00\hwy-brdg\hwy\pln-sht\surcharge_xpa.dgn

TKDA ENGINEERS·ARCHITECTS·PLANNERS	CITY OF MINNEAPOLIS VAN WHITE MEMORIAL BLVD.	CROSS SECTIONS VAN WHITE STA. 715+50 TO STA. 716+50	S.P. 141-080-34 Sheet No. 25 of Sheets



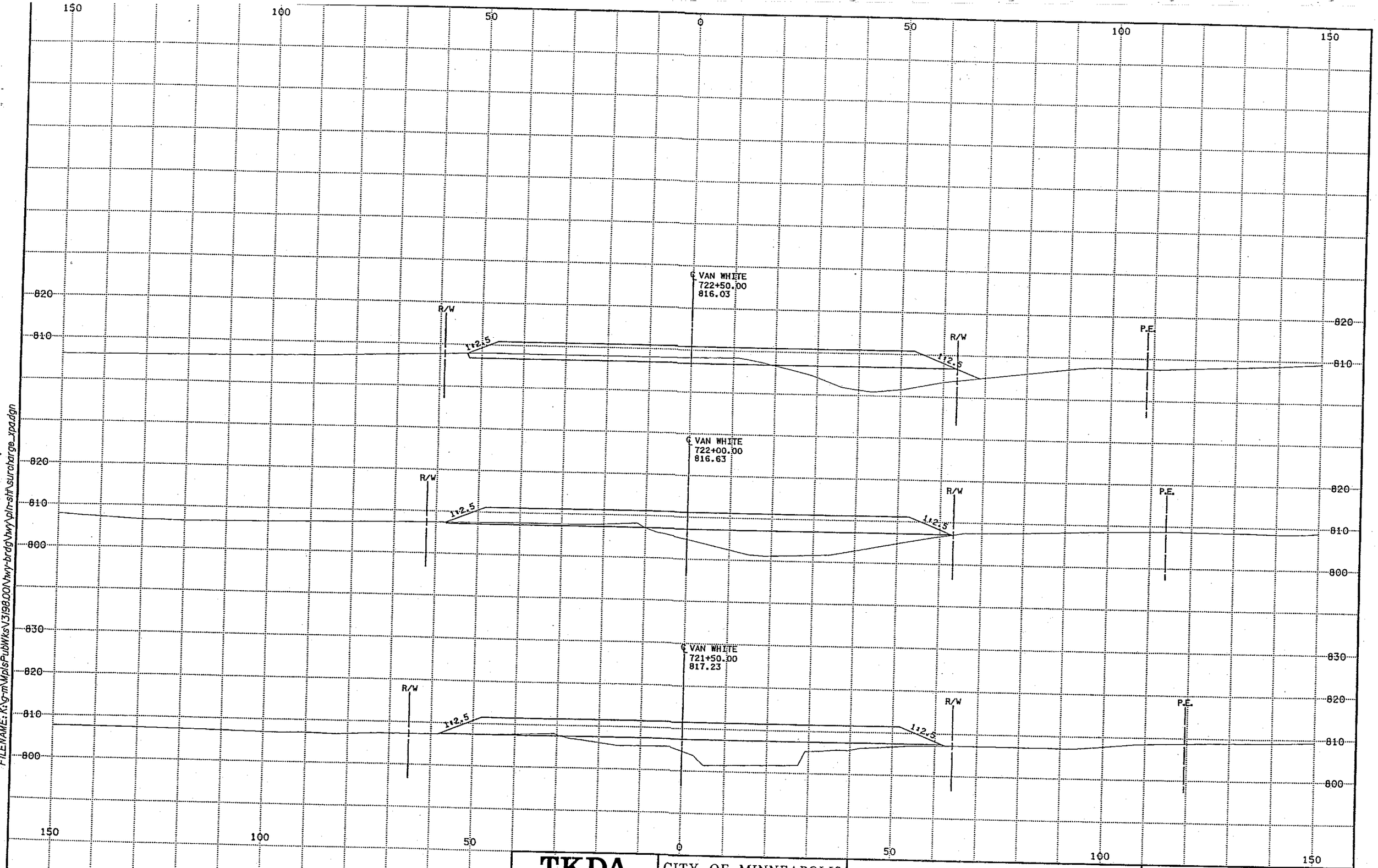
DATE: 3/21/2005 TIME: 3:31:26 PM
FILENAME: K:\g-m\MplsPubWks\V3\98.00\hwy-brdg\hwy\pln-sht\surcharge_xpa.dgn

TKDA ENGINEERS·ARCHITECTS·PLANNERS	CITY OF MINNEAPOLIS VAN WHITE MEMORIAL BLVD.	CROSS SECTIONS VAN WHITE STA. 717+00 TO STA. 718+00	S.P. 141-080-34 Sheet No. 26 of Sheets



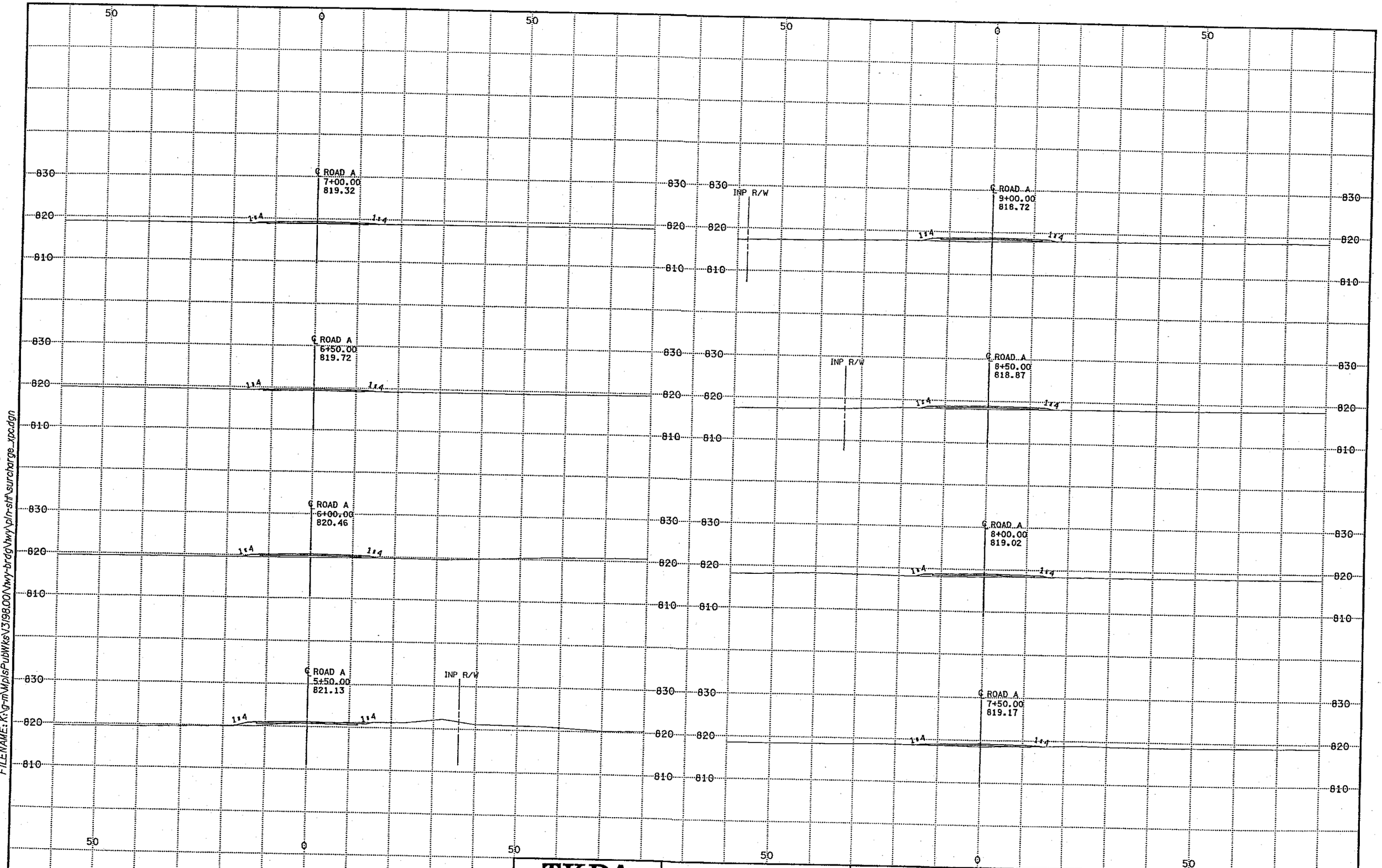
DATE: 3/21/2005 TIME: 3:31:31 PM
FILENAME: K:\g-m\MplsPubWks\V3198.00\hwy-brdg\hwy\pln-stf\surcharge_xpa.dgn

TKDA ENGINEERS·ARCHITECTS·PLANNERS	CITY OF MINNEAPOLIS VAN WHITE MEMORIAL BLVD.	CROSS SECTIONS VAN WHITE STA. 718+50 TO STA. 721+00	S.P. 141-080-34 Sheet No. 27 of Sheets



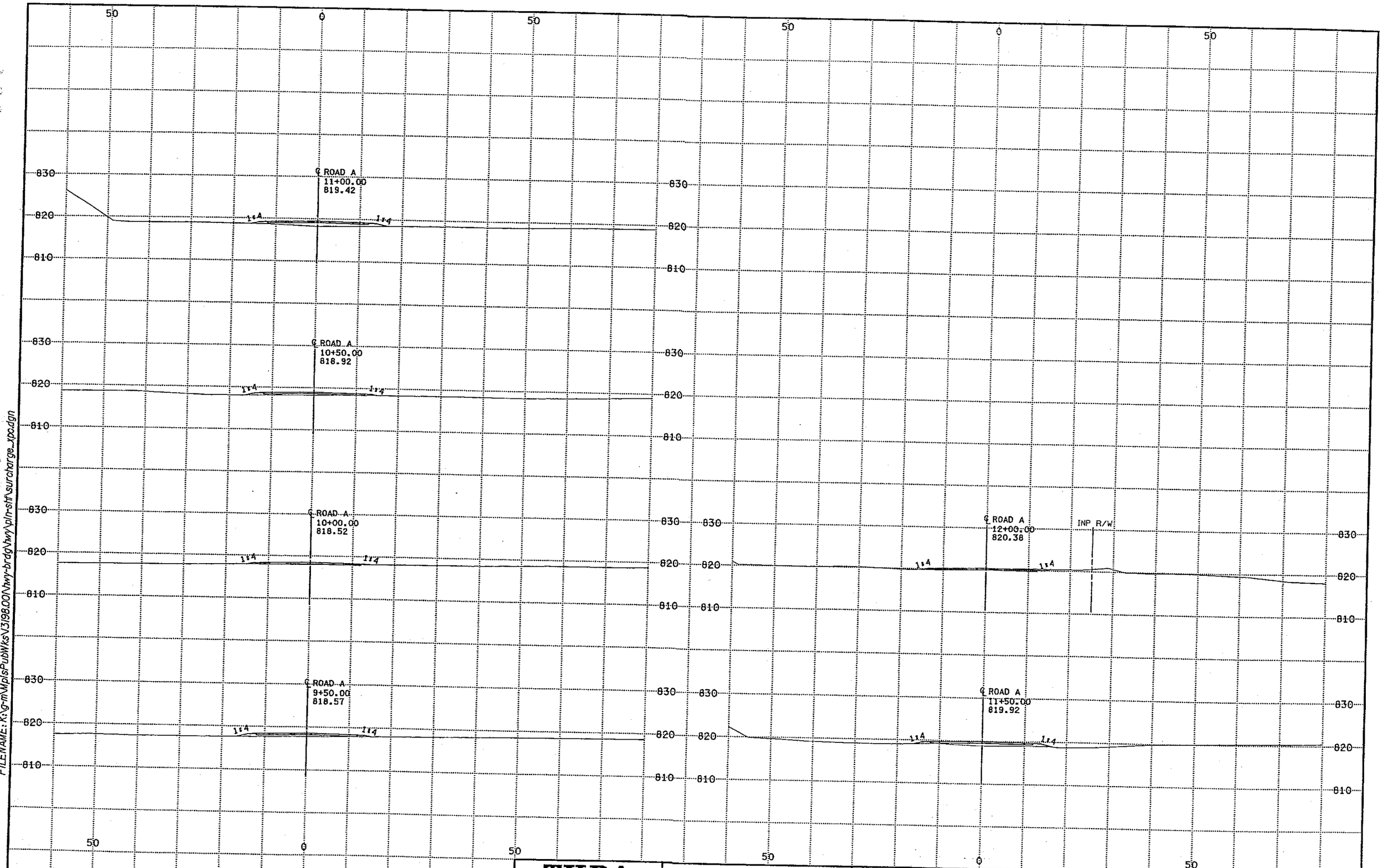
DATE: 3/21/2005 TIME: 3:31:37 PM
FILENAME: K:\g-m\MplsPubWks\V3\98.00\hwy-brdg\hwy\pln-sht\surcharge_xpa.dgn

TKDA ENGINEERS·ARCHITECTS·PLANNERS	CITY OF MINNEAPOLIS VAN WHITE MEMORIAL BLVD.	CROSS SECTIONS VAN WHITE STA. 721+50 TO STA. 722+50	S.P. 141-080-34 Sheet No. 28 of Sheets



DATE: 3/21/2005 TIME: 3:31:45 PM
FILENAME: K:\g-m\Mpls\PubWks\13198.00\hwy-brdg\hwy\plr-sht\surcharge_xpo.dgn

TKDA ENGINEERS · ARCHITECTS · PLANNERS	CITY OF MINNEAPOLIS VAN WHITE MEMORIAL BLVD.	CROSS SECTIONS ROAD A STA. 5+50 TO STA. 9+00	S.P. 141-080-34 Sheet No. 29 of Sheets



DATE: 3/21/2005 TIME: 3:31:50 PM
FILENAME: K:\grmMplsPubWks\V3\98.00\hwy-brdg\hwy\pln-sft\surcharge_xpo.dgn

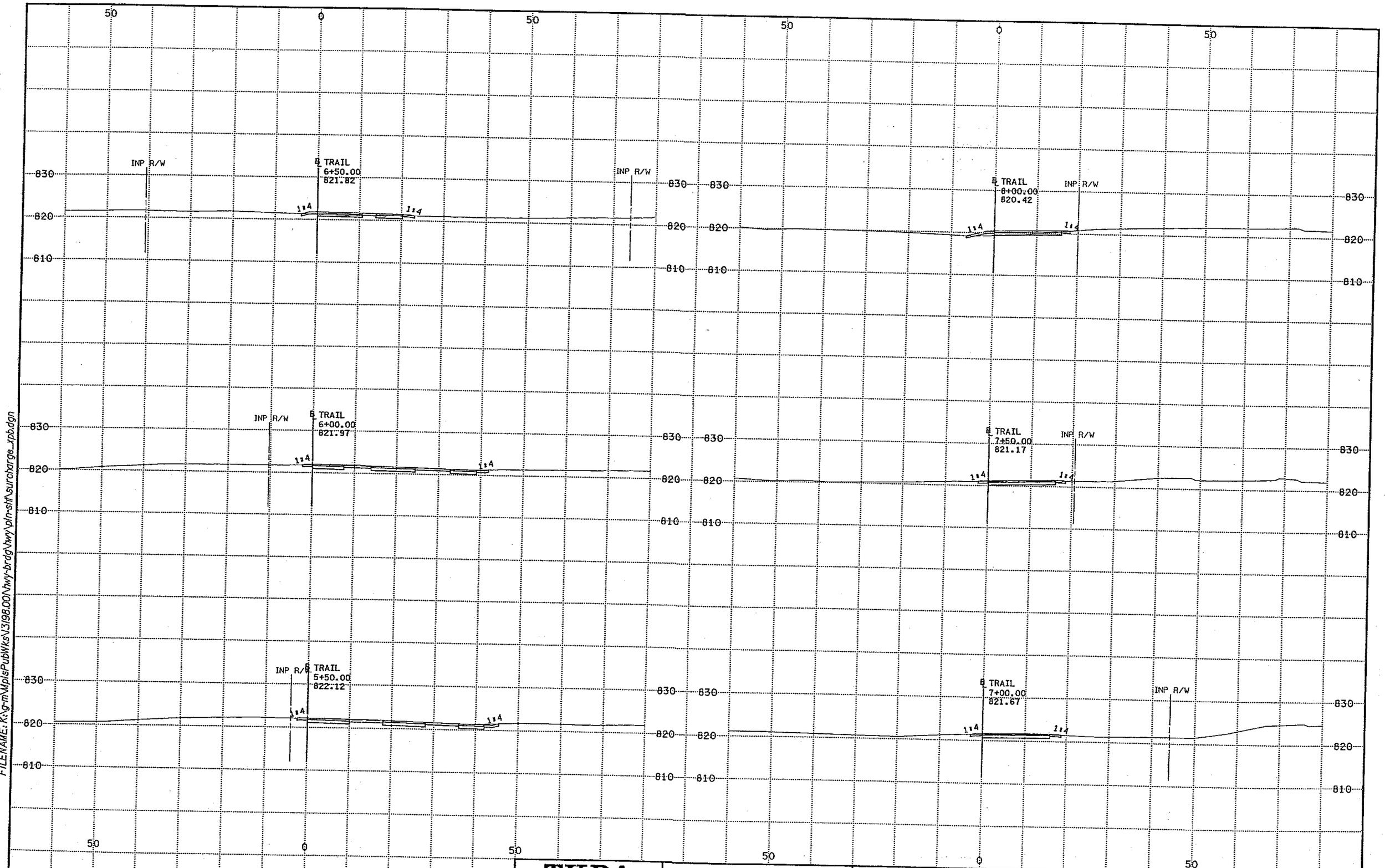
TKDA
ENGINEERS · ARCHITECTS · PLANNERS

CITY OF MINNEAPOLIS
VAN WHITE MEMORIAL BLVD.

CROSS SECTIONS
ROAD A STA. 9+50 TO STA. 12+00

S.P. 141-080-34

Sheet No. 30 of Sheets



DATE: 3/21/2005 TIME: 3:31:59 PM
FILENAME: K:\g-m\MplsPubWks\V3198.00\hwy-brdg\hwy\pln-stl\surcharge_xpb.dgn

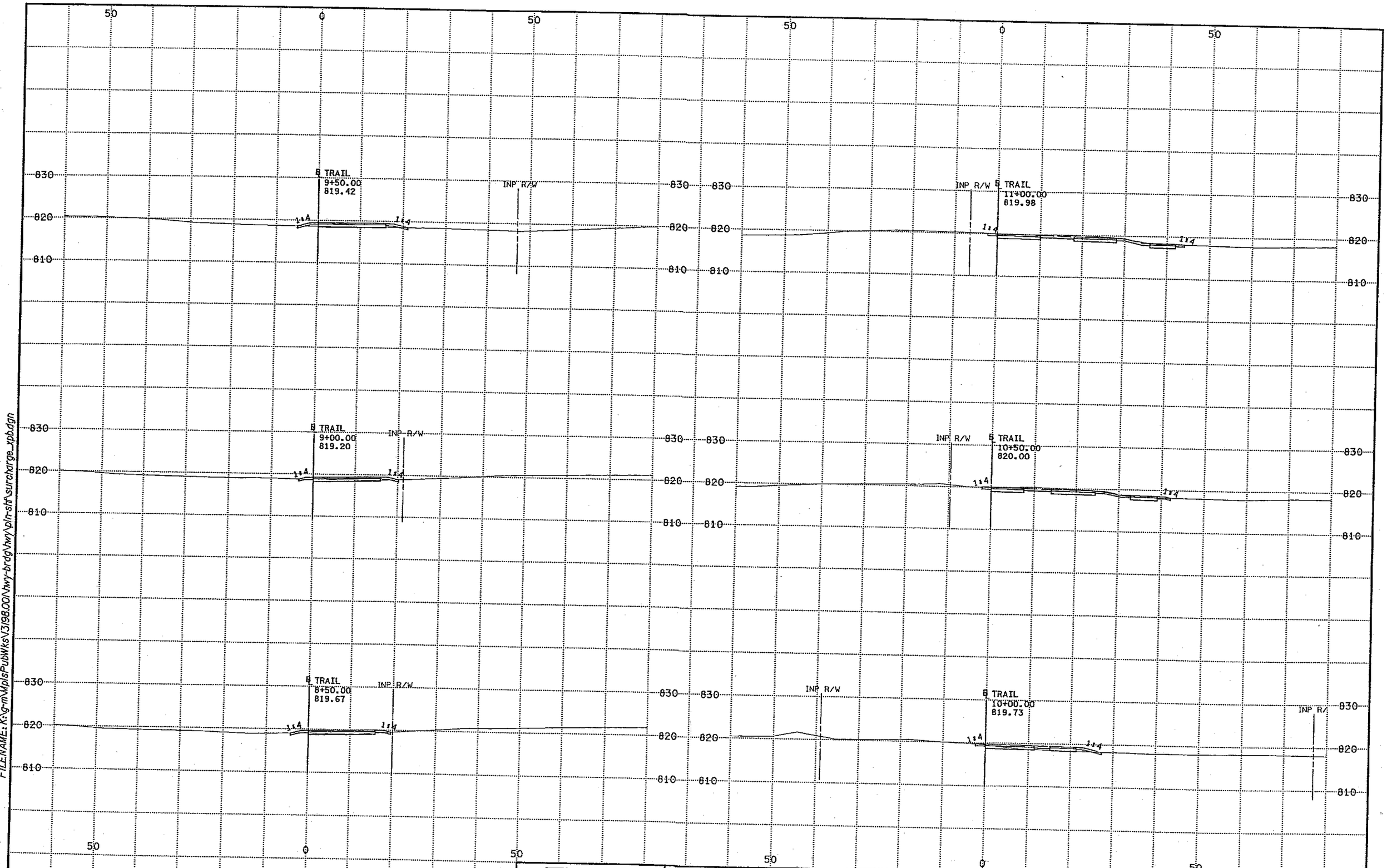
TKDA
ENGINEERS · ARCHITECTS · PLANNERS

CITY OF MINNEAPOLIS
VAN WHITE MEMORIAL BLVD.

CROSS SECTIONS
TRAIL STA. 5+50 TO STA. 8+00

S.P. 141-080-34

Sheet No. 31 of Sheets



DATE: 3/21/2005 TIME: 3:32:04 PM
FILENAME: K:\g-m\MplsPubWks\V3\98.00\hwy-brdg\hwy\plr-sht\surcharge_xpb.dgn

TKDA
ENGINEERS · ARCHITECTS · PLANNERS

CITY OF MINNEAPOLIS
VAN WHITE MEMORIAL BLVD.

CROSS SECTIONS
TRAIL STA. 8+50 TO STA. 11+00

S.P. 141-080-34

Sheet No. 32 of Sheets