

Minnesota Department of Transportation Anoka County City of Coon Rapids MAIN STREET/T.H. 242

ATTENTION:
THIS IS A
METRIC PLAN.

MINN. PROJ. NO. STATE FUNDS
MINN. PROJ. NO.

GOVERNING SPECIFICATIONS AS AMENDED
THE 2000 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION
"STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN.
ALL TRAFFIC CONTROL SIGNING AND DEVICES SHALL
CONFORM TO THE MMUTCD, INCLUDING THE FIELD MANUAL FOR TEMPORARY
TRAFFIC CONTROL ZONE LAYOUTS DATED JANUARY 2001.

CONSTRUCTION PLAN FOR GRADING, AGGREGATE BASE, BITUMINOUS SURFACING, LANDSCAPING, UTILITY IMPROVEMENTS, AND BRIDGE #02015

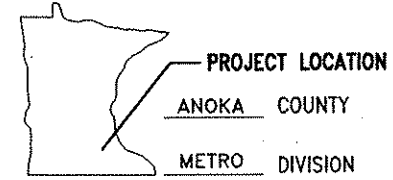
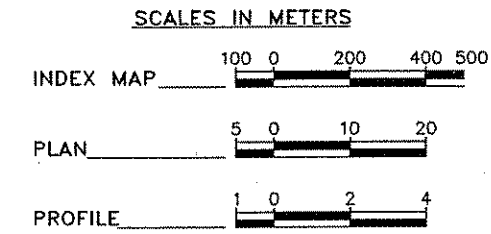
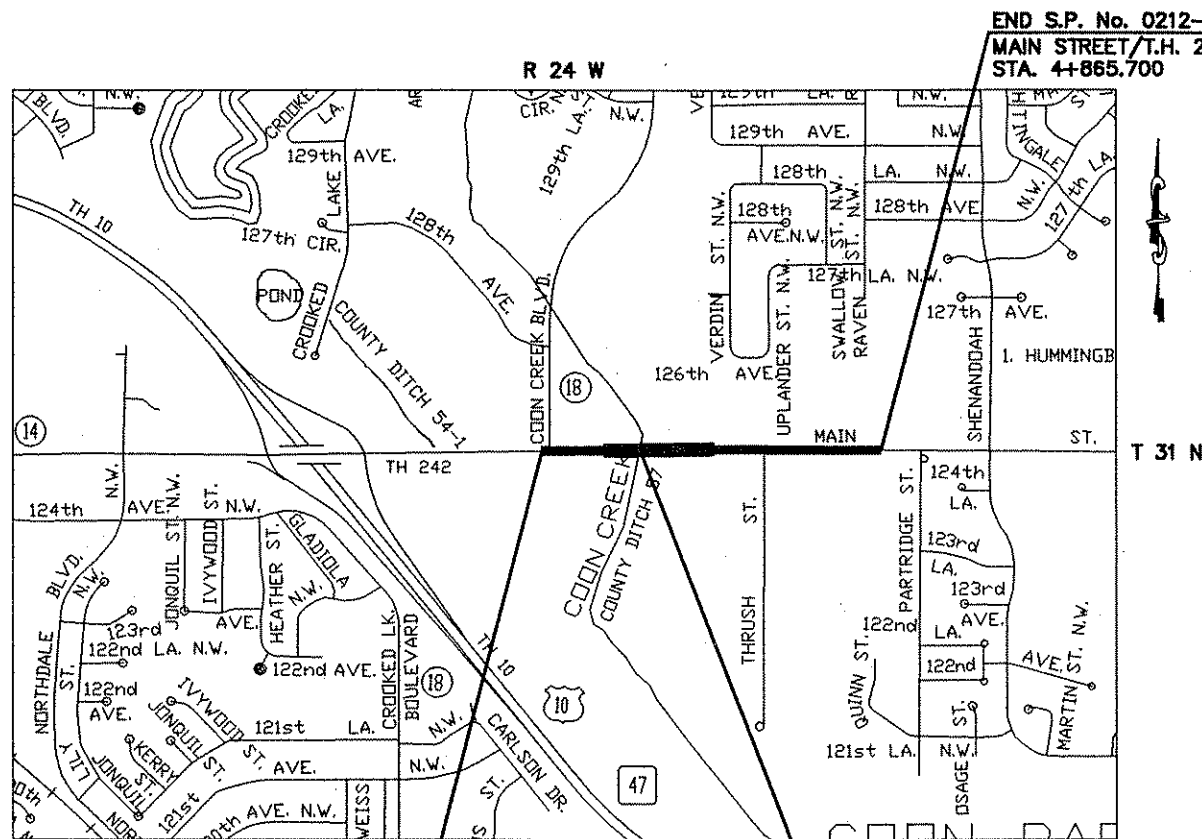
LOCATED ON: MAIN STREET/T.H. 242 from COON CREEK BOULEVARD to SHENANDOAH BOULEVARD

MINN. PROJ. No. 0212-41

GROSS LENGTH 883.7 m
BRIDGE-LENGTH 293.3 m
EXCEPTIONS-LENGTH 0 m
NET-LENGTH 883.7 m
REF. PT. BEGIN SP 0212-41, MN-242 @ STA. 3+982.000=REF. PT. 2+00.957
TO REF. PT. END @ STA. 4+865.700=REF. PT. 3+00.489

NOTE: LENGTH AND DESCRIPTION BASED ON THE MAIN STREET B/L ALIGNMENT

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Thresher Square
700 Third Street South
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BRW, Inc.

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

DATE 4/14/02 REG. No. 23211
KEVIN P. KIELB
ENGINEER Kevin P. Kielb
DESIGN SQUAD KPK, JUL, BJK, IKR

Approved Kevin P. Kielb 20 02
CITY OF COON RAPIDS ENGINEER

Recommended for Approval Glen C. Ellis 4/5/02
METRO DIVISION TRANSPORTATION ENGINEER

Recommended for Approval William S. ... 4/5/02
METRO DIVISION MATERIALS ENGINEER

Recommended for Approval Donna ... 4/5/02
METRO DIVISION WATER RESOURCES ENGINEER

Recommended for Approval ... 4/5/02
METRO DIVISION TRAFFIC ENGINEER

Recommended for Approval Janet Black 5/24/02
STATE PRE-LETTING ENGINEER

Office of Land Management Approval ... 5-29-02
DIRECTOR, LAND MANAGEMENT

Approved Robert W. ... 5-29-02
STATE DESIGN ENGINEER

PLAN REVISIONS		
DATE	SHEET NO.	APPROVED BY

ALL QUANTITIES AND DIMENSIONS ON THIS PLAN ARE IN METRIC UNITS.

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

DATE _____ REG. NO. _____

- LEGEND**
- EXISTING GATE VALVE
 - EXISTING HYDRANT
 - EXISTING CURB BOX
 - EXISTING MANHOLE, FOR STORM AND SANITARY SEWER
 - EXISTING CATCH BASIN
 - EXISTING POWER POLE
 - EXISTING SANITARY SEWER
 - EXISTING STORM SEWER
 - EXISTING WATERMAIN
 - EXISTING CURB AND GUTTER
 - EXISTING UNDERGROUND GAS MAIN
 - EXISTING UNDERGROUND TELEPHONE LINE
 - EXISTING UNDERGROUND POWER
 - EXISTING OVERHEAD POWER
 - EXISTING FENCE
 - EXISTING TREE
 - EXISTING TREE LINE
 - EXISTING STREET SIGN
 - EXISTING CONTOUR
 - PROPOSED CONTOUR
 - PIN NUMBER
 - PROPOSED REDUCER
 - PROPOSED TEE
 - PROPOSED GATE VALVE
 - PROPOSED HYDRANT
 - PROPOSED MANHOLE, FOR STORM AND SANITARY SEWER
 - PROPOSED CATCH BASIN
 - PROPOSED WATERMAIN
 - PROPOSED SANITARY SEWER
 - PROPOSED STORM SEWER
 - PROPOSED CURB AND GUTTER

BEGIN S.P. No. 0212-41 (TH242)
MAIN STREET/T.H. 242
STA. 3+982.000

PROPOSED BRIDGE No. 02015
MAIN STREET/T.H. 242
STA. 4+143.290 TO STA. 4+436.632

DESIGN DESIGNATION: MAIN STREET/TH 242 - (S.P. No. 0212-41)
STA. 3+982.000 TO STA. 4+640.000

Functional Classification: PRINCIPAL ARTERIAL

No. of Traffic Lanes : 4 No. of Parking Lanes = 0

ADT (Current Yr.) 2000 : 18,500 Design Speed 100 km/h

ADT (Future Yr.) 2020 : 37,000 Based on STOPPING Sight Distance

DHV (Design Hr. Vol.) : N.A. Height of eye 1070 mm Height of Object 150 mm

D (Directional Distr.) : 50 % Design Speed not achieved at N.A.

T (Heavy Commercial) : 5.9 % STA. N.A. TO STA. N.A. km/h N.A.

R-Value 60 20 YR ESALS 5,153,000 Design Load 9.1 metric ton

DESIGN DESIGNATION: MAIN STREET/TH 242 - (S.P. No. 0212-41)
STA. 4+640.000 TO STA. 4+865.700

Functional Classification: PRINCIPAL ARTERIAL

No. of Traffic Lanes : 4 No. of Parking Lanes = 0

ADT (Current Yr.) 2000 : 18,500 Design Speed 90 km/h

ADT (Future Yr.) 2020 : 37,000 Based on STOPPING Sight Distance

DHV (Design Hr. Vol.) : N.A. Height of eye 1070 mm Height of Object 150 mm

D (Directional Distr.) : 50 % Design Speed not achieved at N.A.

T (Heavy Commercial) : 5.9 % STA. N.A. TO STA. N.A. km/h N.A.

R-Value 60 20 YR ESALS 5,153,000 Design Load 9.1 metric ton

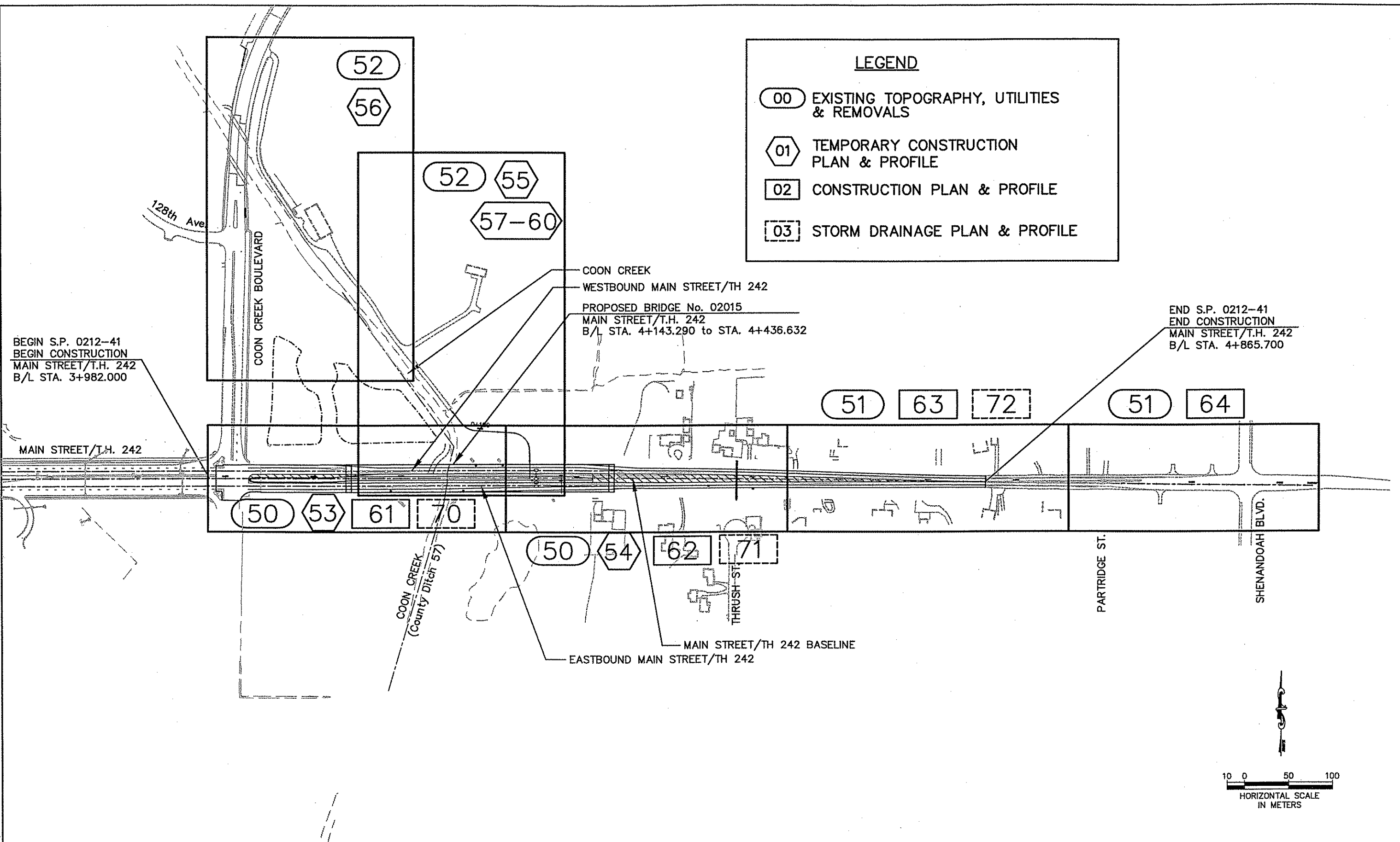
PLOT DATE: Apr 03, 2002 6:33am DISK FILE NAME: (15.05) R:\33889\33889028\33889B\PLAN_SHT\Engring\LB-t101.dwg

LBALNXT
 LB2001GM
 LB2001UT
 LBSAPBOX
 SEHPLAN
 242MHETO
 242PLN2A
 -PLN
 IN
 GENLO

PLOT DATE: May 20, 2002 10:10am DISK FILE NAME: (15.05) R:\338899\33889028\338899\PLAN_SHT\Engring\LB-glo01.dwg

LEGEND

- 00 EXISTING TOPOGRAPHY, UTILITIES & REMOVALS
- 01 TEMPORARY CONSTRUCTION PLAN & PROFILE
- 02 CONSTRUCTION PLAN & PROFILE
- 03 STORM DRAINAGE PLAN & PROFILE



REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	IKR	05/22/02	REVISED FOR LAWRENCE DRIVEWAY PER MNDOT COMMENTS

DESIGN FILE: 33889028 5001	
DRAWN BY: IKR	DESIGN BY: KPK/JJL
CHKD. BY: KPK	DWG. NAME: LB-glo01
DATE: MARCH 29, 2002	

ALL QUANTITIES AND DIMENSIONS ON THIS PLAN ARE IN METRIC UNITS.

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Kevin P. Kielb
KEVIN P. KIELB

DATE: 03/29/02 MN LIC. NO. 23211

MAIN STREET/T.H. 242 RECONSTRUCTION
MAIN STREET/T.H. 242
 GENERAL LAYOUT PLAN
 CITY PROJECT 02-05

S.P. 0212-41

SHEET NO.
2
171

PLOT DATE: May 23, 2002 2:00pm DISK FILE NAME: (15.05) R:\33889\33889028\PLAN_SHT\TABS\LB-seq01.dwg

STATEMENT OF ESTIMATED QUANTITIES

TAB / PAGE #	NOTE	ITEM NO.	ITEM	UNITS	MAIN STREET (T.H. 242) (S.P. 0212-41)	
					ESTIMATED QUANTITIES	FINAL QUANTITIES
		2021.501	MOBILIZATION	LUMP SUM	1	
		2031.501	FIELD OFFICE TYPE D-MODIFIED	EACH	1	
		2031.503	FIELD LABORATORY TYPE DX	EACH	1	
A / 11		2101.501	CLEARING	ha	0.1	
A / 11		2101.502	CLEARING	TREE	54	
A / 11		2101.506	GRUBBING	ha	0.1	
A / 11		2101.507	GRUBBING	TREE	54	
AA / 91		2102.501	PAVEMENT MARKING REMOVAL - PERMANENT	m2	3	
AA / 91		2102.502	PAVEMENT MARKING REMOVAL - PERMANENT	m	1028	
AA / 91		2102.502	PAVEMENT MARKING REMOVAL - TEMPORARY	m	1548	
C / 11		2104.501	REMOVE WOOD FENCE	m	69	
C / 11		2104.501	REMOVE BARBED WIRE FENCE	m	24	
F / 11		2104.501	REMOVE PIPE CULVERTS	m	301	
H / 11		2104.501	REMOVE CURB AND GUTTER	m	30	
J / 12	B	2104.503	REMOVE BITUMINOUS DRIVEWAY PAVEMENT	m2	876	
J / 12	B, 10	2104.503	REMOVE BITUMINOUS PAVEMENT	m2	14613	
H / 11		2104.503	REMOVE CONCRETE DRIVEWAY PAVEMENT	m2	44	
H / 11		2104.503	REMOVE CONCRETE WALK	m2	48	
W / 126		2104.509	REMOVE MARKER	EACH	8	
V1 / 126		2104.509	REMOVE SIGN TYPE C	EACH	6	
K / 12		2104.511	SAWING CONCRETE PAVEMENT (FULL DEPTH)	m	7	
K / 12		2104.513	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	m	431	
D / 11		2104.521	SALVAGE GUARD RAIL - PLATE BEAM	m	79	
I / 11		2104.521	SALVAGE OVERHEAD LIGHT CABLE	m	435	
D / 11	11	2104.523	SALVAGE ECCENTRIC LOADER BCT	EACH	2	
D / 11	11, 19	2104.523	SALVAGE ENERGY ABSORBING TERMINAL	EACH	1	
V1 / 126		2104.523	SALVAGE SIGN TYPE C	EACH	3	
V2 / 126		2104.523	SALVAGE SIGN TYPE D	EACH	2	
I / 11		2104.523	SALVAGE LIGHTING UNIT	EACH	8	
I / 11		2104.523	SALVAGE STEEL LIGHT BASE	EACH	8	
CC / 11		2104.523	SALVAGE PERMANENT BARRICADE	EACH	5	
	4	2104.601	HAUL SALVAGED MATERIAL	LUMP SUM	1	
P / 7-9	17	2105.501	COMMON EXCAVATION (P)	m3	11665	
P / 7-9		2105.505	MUCK EXCAVATION	m3	22775	
P / 7-9		2105.507	SUBGRADE EXCAVATION (P)	m3	25139	
	5	2105.511	COMMON CHANNEL EXCAVATION	m3	200	
P / 7-9	9, 13	2105.521	GRANULAR BORROW (LV)	m3	15602	
P / 7-9		2105.522	SELECT GRANULAR BORROW (CV) (P)	m3	4042	
P / 8-9	13	2105.522	SELECT GRANULAR BORROW (LV)	m3	9218	
P / 7-9		2105.522	SELECT GRANULAR BORROW MOD 5% (LV)	m3	76385	
	13	2105.602	SETTLEMENT PLATE	EACH	10	
	13	2105.603	WICK DRAIN	m	5470	
	913	2105.604	GEOTEXTILE FABRIC TYPE V	m2	4710	
P / 8-9	13	2105.607	WOOD CHIPS (LV)	m3	1313	
N / 12		2118.501	AGGREGATE SURFACING, CL 5	t	93	
N / 12	9	2211.501	AGGREGATE BASE CLASS 5	t	560	
N,U / 12,12		2211.503	AGGREGATE BASE (CV) CLASS 5 (P)	m3	3429	
N / 12		2211.607	CRUSHED BITUMINOUS (CV)	m3	289	
J / 12		2232.501	MILL BITUMINOUS SURFACE (50 mm)	m2	1375	
N / 12		2350.501	TYPE LV 3 WEARING COURSE MIXTURE (B)	t	241	
N / 12		2350.501	TYPE LV 2 WEARING COURSE MIXTURE (B)	t	971	
N / 12		2350.502	TYPE LV 3 NON WEARING COURSE MIXTURE (B)	t	180	

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	JL	05/02/02	REVISIONS PER CENTRAL OFFICE COMMENTS

DESIGN FILE: 33889028 5001	
DRAWN BY: IKR	DESIGN BY: JL
CHKD. BY: KPK	DWG. NAME: LB-SEQ01
DATE: MARCH 29, 2002	



ALL QUANTITIES AND DIMENSIONS ON THIS PLAN ARE IN METRIC UNITS.



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

Kevin P. Kiehl
KEVIN P. KIEHL
DATE: 03/29/02 MN LIC. NO. 23211

MAIN STREET/T.H. 242 RECONSTRUCTION

STATEMENT OF ESTIMATED QUANTITIES

CITY PROJECT 02-05

S.P. 0212-41

1 OF 3

SHEET NO.
3
171

PLOT DATE: May 21, 2002 4:04pm DISK FILE NAME: (15.05) R:\33889\33889028\PLAN_SHT\TABS\LB-seq02.dwg

STATEMENT OF ESTIMATED QUANTITIES

TAB / PAGE #	NOTE	ITEM NO.	ITEM	UNITS	MAIN STREET (T.H. 242) (S.P. 0212-41)	
					ESTIMATED QUANTITIES	FINAL QUANTITIES
N / 12		2357.502	BITUMINOUS MATERIAL FOR TACK COAT	L	4395	
N / 12		2360.501	TYPE SP 12.5 WEARING COURSE MIX (4,F)	t	2244	
N / 12		2360.502	TYPE SP 19.0 NON WEAR COURSE MIX (4,B)	t	1090	
DD / 67-68		2411.604	MODULAR BLOCK RETAINING WALL	m2	112	
H / 11		2433.506	REMOVE BRIDGE SLAB, CURB AND RAIL	m	9	
		2451.607	TRENCH STABILIZATION MATERIAL (CV)	m3	43	
	9	2451.607	CONTROLLED DENSITY HYDRIC BCKFL	m3	35	
R / 14		2501.511	375 mm CS PIPE CULVERT	m	163	
R / 14		2501.511	450 mm CS PIPE CULVERT	m	54	
R / 14		2501.511	525 mm CS PIPE CULVERT	m	64	
R / 14	9	2501.511	600 mm CS PIPE CULVERT	m	16	
L / 74		2501.515	375 mm RC PIPE APRON	EACH	1	
L / 74		2501.515	600 mm RC PIPE APRON	EACH	1	
R / 14	9	2501.521	2100 mm SPAN CS PIPE - ARCH CULVERT	m	32	
R / 14	9	2501.525	2100 mm SPAN GS PIPE - ARCH APRON	EACH	2	
L / 74		2501.569	600 mm RC SAFETY APRON	EACH	1	
L / 74		2501.569	900 mm RC SAFETY APRON	EACH	1	
R / 14		2501.569	375 mm CS SAFETY APRON	EACH	16	
R / 14		2501.569	450 mm CS SAFETY APRON	EACH	6	
R / 14		2501.569	525 mm CS SAFETY APRON	EACH	4	
R / 14	9	2501.569	600 mm CS SAFETY APRON	EACH	2	
L / 74		2501.602	SAFETY GRATE FOR 375 mm RC APRON	EACH	1	
L / 74		2501.602	SAFETY GRATE FOR 600 mm RC APRON	EACH	2	
L / 74		2501.602	SAFETY GRATE FOR 900 mm RC APRON	EACH	1	
L / 74		2502.501	150 mm PRECAST CONCRETE HEADWALL	EACH	4	
L / 74		2503.511	150 mm DUCTILE IRON PIPE SEWER CL 52	m	26	
G / 14	15	2503.511	400 mm DUCTILE IRON PIPE SEWER CL 52	m	40	
L / 74		2503.511	450 mm DUCTILE IRON PIPE SEWER CL 52	m	1	
L / 74	1	2503.541	375 mm RC PIPE SEWER DES 3006 CL V	m	136	
L / 74	1	2503.541	600 mm RC PIPE SEWER DES 3006 CL III	m	39	
L / 74	1	2503.541	750 mm RC PIPE SEWER DES 3006 CL III	m	69	
L / 74	1	2503.541	900 mm RC PIPE SEWER DES 3006 CL III	m	9	
L / 74		2503.602	CONNECT TO EXISTING STORM SEWER	EACH	5	
G / 14		2503.602	400 mm PIPE PLUG	EACH	2	
O / 15		2504.602	CONNECT TO EXISTING WATER MAIN	EACH	1	
O / 15		2504.602	300 mm PIPE PLUG	EACH	1	
L / 74		2504.602	150 mm BEND 45 DEGREE	EACH	4	
O / 15	15	2504.603	300 mm WATERMAIN DUCTILE IRON CL 52	m	45	
O / 15		2504.603	600 mm STEEL CASING PIPE	m	41	
L / 74		2506.501	CONST. DRAINAGE STRUCTURE DES 1200 mm 4020	m	7.7	
L / 74		2506.501	CONST. DRAINAGE STRUCTURE DES 1500 mm 4020	m	3.1	
G / 14	3	2506.503	RECONSTRUCT DRAINAGE STRUCTURE	m	0.9	
Q / 74		2506.516	CASTING ASSEMBLY	EACH	8	
G / 14		2506.521	INSTALL CASTING	EACH	1	
G / 14		2506.522	ADJUST FRAME AND RING CASTING	EACH	1	
L / 74		2511.501	RANDOM RIPRAP CLASS II	m3	9	
R / 14		2511.501	RANDOM RIPRAP CLASS III	m3	59	
R / 14		2511.501	RANDOM RIPRAP CLASS IV	m3	34	
L / 74		2511.507	GROUTED RIPRAP	m3	12	
L / 74		2511.515	GEOTEXTILE FILTER TYPE IV	m2	55	
U / 12		2521.501	100 mm CONCRETE WALK	m2	479	
U / 12		2531.501	CONCRETE CURB AND GUTTER DESIGN B424 (MOD)	m	223	

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	JL	05/22/02	REVISIONS PER CENTRAL OFFICE COMMENTS

DESIGN FILE:
33889028 50D1

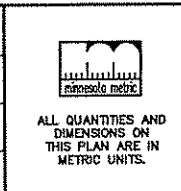
DRAWN BY:
IKR

DESIGN BY:
JUL

CHKD. BY:
KPK

DWG. NAME:
LB-SEQ02

DATE:
MARCH 29, 2002



URS
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Kevin P. Kiehl
KEVIN P. KIEHL

DATE: 03/29/02 MN LIC. NO. 23211

MAIN STREET/T.H. 242 RECONSTRUCTION

STATEMENT OF ESTIMATED QUANTITIES

CITY PROJECT 02-05

S.P. 0212-41

SHEET NO.
4
171

STATEMENT OF ESTIMATED QUANTITIES

TAB / PAGE #	NOTE	ITEM NO.	ITEM	UNITS	MAIN STREET (T.H. 242) (S.P. 0212-41)	
					ESTIMATED QUANTITIES	FINAL QUANTITIES
U / 12		2531.507	150 mm CONCRETE DRIVEWAY PVMT	m2	46	
AA / 91	12	2533.504	CONCRETE MEDIAN BARRIER DESIGN 8337	m	508	
AA / 91		2533.603	RELOCATE CONCRETE MEDIAN BARRIER	m	109	
B / 11		2540.602	RELOCATE MAIL BOX	EACH	15	
L / 74		2554.509	GUIDE POST - TYPE B	EACH	8	
	7	2554.523	END TREATMENT - ENERGY ABSORBING TERMINAL	EACH	2	
AA / 91		2554.602	IMPACT ATTENUATOR BARRELS	EACH	39	
AA / 91		2554.602	RELOCATE IMPACT ATTENUATOR BARRELS	EACH	13	
CC / 11		2554.602	INSTALL PERMANENT BARRICADE	EACH	5	
AA / 91		2563.601	TRAFFIC CONTROL	LUMP SUM	1	
AA / 91		2563.602	MEDIAN BARRIER DELINEATOR	EACH	56	
AA / 91		2563.602	RAISED PAVEMENT MARKER - TEMPORARY	EACH	384	
AA / 91		2563.604	CONSTRUCTION SIGNS-SPECIAL	m2	92	
X / 126		2564.531	SIGN PANELS TYPE C	m2	9	
V1 / 126		2564.537	INSTALL SIGN TYPE C	EACH	3	
V2 / 126		2564.537	INSTALL SIGN TYPE D	EACH	2	
Y / 126		2564.552	HAZARD MARKER X4-2	EACH	1	
Y / 126		2564.553	CLEARANCE MARKER X4-4	EACH	1	
	14	2564.602	RELOCATE SIGN TYPE SPECIAL	EACH	5	
Z / 126		2564.602	PAVEMENT MESSAGE (RT ARROW) POLY PREFORM	EACH	2	
G,O/14,15		2564.602	INSTALL MARKER	EACH	3	
AA / 91		2564.603	100 mm SOLID LINE WHITE - PAINT	m	1107	
Z / 126		2564.603	100 mm SOLID LINE WHITE - EPOXY	m	2051	
Z / 126		2564.603	100 mm BROKEN LINE WHITE - POLY PREFORMED	m	44	
Z / 126		2564.603	100 mm BROKEN LINE WHITE - EPOXY	m	70	
AA / 91		2564.603	100 mm SOLID LINE YELLOW - PAINT	m	30	
Z / 126		2564.603	100 mm SOLID LINE YELLOW - EPOXY	m	599	
AA / 91		2564.603	100 mm DOUBLE SOLID LINE YELLOW - PAINT	m	620	
Z / 126		2564.603	100 mm DOUBLE SOLID LINE YELLOW - EPOXY	m	894	
Z / 126		2564.603	600 mm SOLID LINE YELLOW - EPOXY	m	510	
AA / 91		2564.603	200 mm DOTTED LINE WHITE-PAINT	m	8	
Z / 126		2564.604	ZEBRA CROSSWALK - WHITE POLY PREFORMED	m2	100	
		2565.616	REVISE SIGNAL SYSTEM	SYSTEM	1	
EE / 87		2571.501	CONIFEROUS TREE 1.8 m HT B&B	TREE	27	
EE / 87		2571.502	DECIDUOUS TREE 60 mm CAL B&B	TREE	9	
S / 13		2573.502	SILT FENCE, TYPE MACHINE SLICED	m	1210	
S / 13	16	2573.505	FLOTATION SILT CURTAIN, TYPE MOVING WATER	m	24	
S / 13	2	2573.512	TEMPORARY DITCH CHECK, TYPE 3	m	162	
	18	2573.602	TEMPORARY ROCK CONSTRUCTION ENTRANCE	EACH	2	
T / 13		2575.501	SEEDING (P)	ha	1.4	
T / 13		2575.502	SEED MIXTURE 28B	kg	16	
T / 13		2575.502	SEED MIXTURE 60B	kg	116	
T / 13		2575.505	SODDING TYPE SALT RESISTANT	m2	13093	
T / 13		2575.511	MULCH MATERIAL, TYPE 3	t	6.2	
T / 13		2575.519	DISC ANCHORING (P)	ha	1.4	
T / 13	9	2575.523	EROSION CONTROL BLANKETS CATEGORY 3	m2	2905	
T / 13		2575.523	EROSION CONTROL BLANKETS CATEGORY 4	m3	3594	
T / 13	6	2575.532	COMMERCIAL FERTILIZER 22-05-10	kg	609	
		2580.603	INTERIM PAVEMENT MARKING	m	125	
AA / 91		2581.501	REMOVABLE PREFORMED PLASTIC MARKING	m	1251	
AA / 91		2581.603	REMOVABLE PREFORMED PLASTIC MASK (BLACK)	m	234	

NOTES:

- PIPE CLASS SHOWN IS MINIMUM ALLOWABLE. HIGHER CLASS OF PIPE MAY BE SUBSTITUTED FOR CLASS SHOWN.
- BIOROLL, 300 mm DIAMETER
- ITEM USED FOR RECONSTRUCTION OF EXISTING SANITARY MANHOLE
- INCLUDES HAULING OF SALVAGED LIGHTING UNITS
- FOR PLACEMENT OF TEMPORARY CULVERTS AND RIP RAP ADJACENT TO EXISTING BRIDGE
- SLOW RELEASE TYPE
- QUADGUARD SYSTEM OR EQUAL
- FOR ALL BITUMINOUS PAVEMENT REGARDLESS OF DEPTH
- FOR TEMPORARY SHOULDER CONSTRUCTION
- VARIES FROM 50 mm TO 250 mm (APPROX.)
- INCLUDES REMOVING CONCRETE BLOCK
- CONTRACTOR OWNED. TO REMAIN THE PROPERTY OF THE CONTRACTOR
- FOR CONSTRUCTION OF THE COMMERCIAL DRIVEWAY SURCHARGE
- FOR EXISTING BUSINESS SIGNS. EACH TO BE RELOCATED TWICE DURING CONSTRUCTION EXCEPT ROCKET TURF & NURSERY SIGN. ROCKET TURF & NURSERY SIGN TO BE RELOCATED ONCE ADJACENT TO COMMERCIAL DRIVEWAY ENTRANCE AT COON CREEK BOULEVARD.
- RESTRAINED JOINT
- 1.0 m DEPTH
- THIS IS A PARTIAL (P) QUANTITY AND INCLUDES 3973 m3 FOR COMMERCIAL DRIVEWAY SURCHARGE AND A (P) QUANTITY OF 7692 m3 (P) FOR ROADWAY CONSTRUCTION.
- TO BE PLACED AT THE BEGINNING AND END OF THE PROJECT LIMITS AS DIRECTED BY THE ENGINEER.
- ET-2000

PLOT DATE: May 23, 2002 1:59pm DISK FILE NAME: (1.05) R:\33889\33889028\PLAN_SHT\TABS\LB-seq03.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	JL	05/02/02	REVISIONS PER CENTRAL OFFICE COMMENTS

DESIGN FILE: 33889028 5001	
DRAWN BY: IKR	DESIGN BY: JUL
CHKD. BY: KPK	DWG. NAME: LB-SEQ03
DATE: MARCH 29, 2002	

ALL QUANTITIES AND DIMENSIONS ON THIS PLAN ARE IN METRIC UNITS.



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

Kevin P. Kiehl
KEVIN P. KIELB
DATE: 03/29/02 MN LIC. NO. 23211

MAIN STREET/T.H. 242 RECONSTRUCTION

STATEMENT OF ESTIMATED QUANTITIES

CITY PROJECT 02-05

S.P. 0212-41

SHEET NO.
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THE FOLLOWING STANDARD PLATES, AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION, SHALL APPLY ON THIS PROJECT

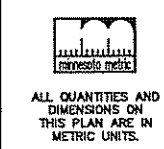
STANDARD PLATES	
PLATE NO.	DESCRIPTION
M3000L	REINFORCED CONCRETE PIPE (5 SHEETS)
M3006G	GASKET JOINT FR R.C. PIPE (2 SHEETS)
M3007C	SHEAR REINFORCEMENT FOR PRECAST DRAINAGE STRUCTURES
M3022C	PRECAST CONCRETE SAFETY APRON (3 SHEETS)
M3040F	CORRUGATED METAL PIPE CULVERT
M3100G	CONCRETE APRON FOR REINFORCED CONCRETE PIPE
M3122K	METAL APRON FOR C.M. PIPE-ARCH CULVERT
M3124B	METAL APRON CONNECTION
M3128H	METAL SAFETY APRON & GRATE
M3131C	PRECAST CONCRETE HEADWALL FOR SUBSURFACE DRAINS
M3133C	RIPRAP AT RCP OUTLETS
M3145E	CONCRETE PIPE TIES
M4005L	MANHOLE OR CATCH BASIN (TYPE A & B)
M4006L	MANHOLE OF CATCH BASIN (PRECAST)
M4007C	PRECAST MECHANICAL JOINT SEWER MANHOLE
M4010H	CONCRETE SHORT CONE & ADJUSTING RING (SECTIONAL CONCRETE)
M4011E	PRECAST CONCRETE BASE
M4018A	MANHOLE OR CATCH BASIN REDUCER CONE SECTION
M4020I	MANHOLE OR CATCH BASIN COVER
M4101D	RING CASTING FOR MANHOLE OR CATCH BASIN
M4110F	COVER CASTING FOR MANHOLE
M4126F	CATCH BASIN FRAME CASTING
M4149C	GRATE CASTING FOR CATCH BASIN
M4161F	CURB BOX CASTING FOR CATCH BASIN
M4180J	MANHOLE OR CATCH BASIN STEP
M7111J	INSTALLATION OF CATCH BASIN CASTINGS
M7113A	CONCRETE APPROACH NOSE DETAIL
M8000I	STANDARD BARRICADES
M8002G	PERMANENT BARRICADE
M8114A	PVC HANDHOLE / PULLBOX
M8150B	INSTALLATION OF CULVERT MARKERS

INDEX OF TABULATION CHARTS		
SHEET No.	CHART No.	DESCRIPTION
11	A	CLEARING AND GRUBBING
11	B	RELOCATE MAIL BOX
11	C	FENCE REMOVAL
11	D	GUARDRAIL SALVAGE
16	E	EXISTING UTILITIES
11	F	CULVERT REMOVALS
14	G	SANITARY SEWER TABULATION
11	H	CONCRETE REMOVAL
11	I	LIGHTING SALVAGE
12	J	BITUMINOUS REMOVAL
12	K	SAWCUT
74	L	DRAINAGE TABULATION
49	M	ALIGNMENT TABULATION
12	N	BITUMINOUS AND AGGREGATE SUMMARY
15	O	WATER MAIN TABULATION
7-9	P	EARTHWORK TABULATIONS AND SUMMARY
74	Q	FURNISH AND INSTALL CASTINGS AND ASSEMBLIES
14	R	CULVERT TABULATION
13	S	TEMPORARY EROSION CONTROL
13	T	TURF ESTABLISHMENT
12	U	MISCELLANEOUS CONCRETE ITEMS
126	V1	REMOVE, SALVAGE & INSTALL SIGNS TYPE C
126	V2	SALVAGE & INSTALL SIGNS TYPE D
126	W	REMOVE MARKERS
126	X	SIGN PANELS TYPE C
126	Y	DELINEATORS AND MARKERS
126	Z	PERMANENT PAVEMENT MARKINGS
91	AA	TRAFFIC CONTROL SUMMARY
92	BB	TRAFFIC CONTROL SIGN TABULATION
11	CC	SALVAGE AND INSTALL PERMANENT BARRICADES
67-68	DD	RETAINING WALL TABULATIONS
87	EE	PLANT SCHEDULE

PLOT DATE: May 23, 2002 1:12pm DISK FILE NAME: (15.05) R:\33889\33889028\33889B\PLAN_SHT\TABS\LB-tab01.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	IKR	05/22/02	REVISIONS PER MNDOT COMMENTS

DESIGN FILE: 33889028	DRAWN BY: IKR	DESIGN BY: JLJ/BJK
CHKD. BY: KPK	DWG. NAME: LB-TAB01	DATE: MARCH 29, 2002



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

Kevin P. Kielb
KEVIN P. KIELB
DATE: 03/29/02 MN LIC. NO. 23211

MAIN STREET/T.H. 242 RECONSTRUCTION

TABULATED QUANTITIES
STANDARD PLATES AND INDEX OF TABULATION CHARTS

CITY PROJECT 02-05

S.P. 0212-41

1 OF 1


SHEET NO.
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PLOT DATE: May 20, 2002 2:33pm DISK FILE NAME: (15.05) R:\33889\33889028\PLAN_SHT\TABS\LB-tab10.dwg

EARTHWORK TABULATION											P
STATION TO STATION	EXCAVATION VOLUMES m3 (EV)					EMBANKMENT VOLUMES m3 (CV)					
	TOPSOIL STRIPPING (1)	COMMON EXCAVATION (2)	SUBGRADE EXCAVATION (3)	MUCK EXCAVATION (4)	TOTAL EXCAVATION	TOPSOIL PLACED (5)	SELECT GRADING	SELECT GRANULAR	SELECT GRANULAR MOD.	GRANULAR BORROW	TOTAL EMBANKMENT
	m3	m3	m3	m3	m3	m3	m3	m3	m3	m3	m3
SP 0212-41 TH 242 / MAIN STREET											
3989.405	-	-	-	-	-	-	-	-	-	-	-
4005.120	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4026.000	13.6	0.0	0.0	0.0	13.6	23.0	0.0	0.0	0.0	0.0	23.0
4040.000	46.2	0.0	14.0	0.0	60.2	42.0	28.0	0.0	21.0	0.0	91.0
4045.416	30.9	11.1	191.2	271.3	504.5	21.9	59.8	0.0	444.4	0.0	526.1
4060.000	92.6	61.3	988.1	2160.6	3302.6	65.6	377.7	0.0	2942.3	0.0	3385.6
4080.000	132.0	77.0	1287.0	3733.0	5229.0	94.0	639.0	0.0	4721.0	0.0	5454.0
4100.000	132.0	64.0	1193.0	3359.0	4748.0	94.0	574.0	0.0	4463.0	0.0	5131.0
4120.000	138.0	63.0	1122.0	2991.0	4314.0	95.0	526.0	0.0	4204.0	0.0	4825.0
4137.190	134.1	58.4	905.1	2280.3	3377.9	82.5	423.7	0.0	3436.3	0.0	3942.5
4140.000	23.7	9.8	141.2	347.2	521.9	13.6	66.9	0.0	548.2	0.0	628.7
4143.290	28.0	11.5	162.7	397.1	599.3	16.0	77.3	0.0	617.2	0.0	710.5
4160.000	143.7	63.5	784.5	2108.0	3099.7	81.9	408.6	0.0	3146.5	0.0	3637.0
4180.000	169.0	66.0	970.0	1331.0	2536.0	96.0	498.0	0.0	2723.0	0.0	3317.0
4200.000	172.0	58.0	979.0	0.0	1209.0	93.0	513.0	0.0	1535.0	0.0	2141.0
4220.000	183.0	84.0	908.0	0.0	1175.0	96.0	555.0	0.0	1538.0	0.0	2189.0
4240.000	188.0	82.0	892.0	0.0	1162.0	96.0	583.0	0.0	1537.0	0.0	2216.0
4253.610	102.8	52.4	524.0	0.0	679.2	48.3	303.5	0.0	954.7	0.0	1306.5
4260.000	37.4	26.2	226.8	0.0	290.4	20.4	97.1	0.0	431.0	0.0	548.5
4280.000	116.0	70.0	728.0	0.0	914.0	80.0	340.0	0.0	1470.0	0.0	1890.0
4300.000	110.0	56.0	582.0	0.0	748.0	77.0	411.0	0.0	1509.0	0.0	1997.0
4320.000	116.0	46.0	452.0	0.0	614.0	72.0	427.0	0.0	1504.0	0.0	2003.0
4340.000	120.0	39.0	436.0	0.0	595.0	57.0	390.0	0.0	1519.0	0.0	1966.0
4347.150	37.9	11.8	170.2	0.0	219.9	15.7	128.7	0.0	548.4	0.0	692.8
4360.000	66.8	18.0	312.3	0.0	397.1	34.7	205.0	0.0	985.6	0.0	1225.3
4380.000	121.0	10.0	550.0	0.0	681.0	69.0	335.0	0.0	1534.0	0.0	1938.0
4400.000	122.0	4.0	845.0	0.0	971.0	72.0	342.0	0.0	1537.0	0.0	1951.0
4420.000	100.0	4.0	1230.0	0.0	1334.0	55.0	279.0	0.0	1545.0	0.0	1879.0
4426.877	18.6	0.3	520.2	0.0	539.1	11.0	81.8	0.0	532.3	0.0	625.1
4436.632	27.3	0.5	753.6	0.0	781.4	16.1	112.2	0.0	784.3	0.0	912.6
4440.000	16.2	1.7	253.3	0.0	271.2	8.1	37.0	0.0	281.2	0.0	326.3
4442.732	14.5	3.6	133.0	0.0	151.1	7.5	20.8	21.4	114.1	19.0	182.8
4452.932	54.1	44.4	187.2	0.0	285.7	30.6	38.3	145.4	0.0	130.1	344.4
4460.000	38.2	97.9	101.8	0.0	237.9	26.5	14.5	86.6	0.0	80.6	208.2
4469.732	53.0	207.8	120.2	0.0	381.0	40.9	7.8	113.9	0.0	108.5	271.1
4480.000	53.9	230.0	118.1	0.0	402.0	42.6	2.6	118.6	0.0	112.9	276.7
4481.732	9.0	38.8	19.3	0.0	67.1	7.3	0.2	19.7	0.0	18.9	46.1
4490.000	43.0	163.3	98.8	0.0	305.1	34.3	0.4	95.1	0.0	91.4	221.2
4500.000	51.0	188.0	135.0	0.0	374.0	40.5	0.0	115.5	0.0	111.5	267.5
4510.532	51.6	196.9	165.9	0.0	414.4	41.1	0.0	121.1	0.0	116.9	279.1
4518.881	20.0	76.8	144.9	0.0	241.7	15.9	11.7	89.8	0.0	81.4	198.8
4520.000	0.0	1.2	19.4	0.0	20.6	0.0	3.1	11.2	0.0	9.4	23.7
4520.857	0.0	0.8	14.6	0.0	15.4	0.0	2.5	8.6	0.0	7.2	18.3
4540.000	46.9	97.6	371.4	0.0	515.9	36.4	46.9	202.9	0.0	186.6	472.8
4545.152	16.5	52.0	117.2	0.0	185.7	19.3	8.8	57.2	0.0	56.7	142.0
4557.938	30.0	110.0	276.8	0.0	416.8	36.4	35.2	136.2	0.0	129.8	337.6
4560.000	9.2	12.4	40.4	0.0	62.0	4.1	12.0	21.2	0.0	19.3	56.6
4580.000	116.0	112.0	386.0	0.0	614.0	55.0	85.0	210.0	0.0	197.0	547.0
4596.197	72.9	52.6	283.4	0.0	408.9	43.7	31.6	166.0	0.0	157.1	398.4
4600.000	18.1	2.5	58.8	0.0	79.4	10.6	13.1	38.6	0.0	36.5	98.8
4620.000	125.0	54.0	313.0	0.0	492.0	72.0	47.0	207.0	0.0	202.0	528.0
4640.000	88.0	82.0	334.0	0.0	504.0	51.0	14.0	195.0	0.0	185.0	445.0
4640.756	2.1	2.6	13.0	0.0	17.7	1.2	0.3	7.0	0.0	6.4	14.9
4648.952	23.8	36.5	140.2	0.0	200.5	13.9	3.7	75.4	0.0	68.8	161.8
4660.000	49.7	137.0	186.2	0.0	372.9	29.3	9.4	103.9	0.0	98.3	240.9
4680.000	93.0	300.0	324.0	0.0	717.0	56.0	12.0	185.0	0.0	176.0	429.0

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	IKR	05/22/02	REVISIONS FOR LAWRENCE D/W PER MNDOT COMMENTS

DESIGN FILE: 33889028	DRAWN BY: IKR	DESIGN BY: JUL
CHKD. BY: KPK	DWG. NAME: LB-tab10	DATE: MARCH 29, 2002



ALL QUANTITIES AND DIMENSIONS ON THIS PLAN ARE IN METRIC UNITS.



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

Kevin P. Kiehl
KEVIN P. KIEHL
DATE: 03/29/02 MN LIC. NO. 23211

MAIN STREET/T.H. 242 RECONSTRUCTION

TABULATED QUANTITIES
EARTHWORK TABULATION

CITY PROJECT 02-05

S.P. 0212-41

1 OF 3

SHEET NO.
7
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EARTHWORK TABULATION											P
STATION TO STATION	EXCAVATION VOLUMES m3 (EV)					EMBANKMENT VOLUMES m3 (CV)					
	TOPSOIL STRIPPING (1)	COMMON EXCAVATION (2)	SUBGRADE EXCAVATION (3)	MUCK EXCAVATION (4)	TOTAL EXCAVATION	TOPSOIL PLACED (5)	SELECT GRADING	SELECT GRANULAR	SELECT GRANULAR MOD.	GRANULAR BORROW	TOTAL EMBANKMENT
	m3	m3	m3	m3	m3	m3	m3	m3	m3	m3	m3
SP 0212-41 TH 242 / MAIN STREET											
4680.988	3.1	10.0	16.0	0.0	29.1	1.9	0.1	8.7	0.0	8.0	18.7
4689.600	25.4	69.8	140.4	0.0	235.6	15.9	3.0	74.9	0.0	68.9	162.7
4700.000	39.5	39.0	151.8	0.0	230.3	24.4	9.4	92.6	0.0	91.5	217.9
4720.000	105.0	12.0	258.0	0.0	375.0	57.0	96.0	181.0	0.0	185.0	519.0
4740.000	99.0	4.0	253.0	0.0	356.0	54.0	105.0	176.0	0.0	176.0	511.0
4755.594	53.8	52.2	209.7	0.0	315.7	34.3	21.8	128.7	0.0	124.0	308.8
4760.000	18.9	42.5	66.8	0.0	128.2	12.8	10.8	34.6	0.0	32.6	90.8
4780.000	121.0	370.0	327.0	0.0	818.0	83.0	55.0	161.0	0.0	159.0	458.0
4790.166	47.3	211.5	168.2	0.0	427.0	32.5	12.2	79.3	0.0	77.3	201.3
4800.000	45.2	196.7	171.6	0.0	413.5	31.5	11.8	75.2	0.0	73.3	191.8
4811.697	54.4	181.9	212.9	0.0	449.2	38.0	7.0	87.7	0.0	85.4	218.1
4820.000	39.9	117.1	145.7	0.0	302.7	27.8	11.2	58.5	0.0	54.4	151.9
4840.000	128.0	422.0	349.0	0.0	899.0	92.0	37.0	145.0	0.0	142.0	416.0
4860.000	126.0	430.0	357.0	0.0	913.0	92.0	19.0	149.0	0.0	153.0	413.0
4865.000	30.5	99.5	88.0	0.0	218.0	22.3	4.5	37.0	0.0	38.0	101.8
SUBTOTAL	4755.3	5608.4	25138.9	18978.5	54481.1	2982.3	9644.0	4041.5	47126.5	3875.7	67670.0

- NOTES:
 (1) 200 mm TOPSOIL STRIPPING ASSUMED
 (2) COMMON EXCAVATION DOES NOT INCLUDE TOPSOIL STRIPPING
 (3) MATERIAL BETWEEN GRADING GRADE AND SUBCUT LIMITS OR TOP OF MUCK LAYER
 (4) MATERIAL BELOW SUBGRADE EXCAVATION TO THE BOTTOM OF THE MUCK LAYER
 (5) 150 mm TOPSOIL PLACEMENT REQUIRED

BERM EARTHWORK TABULATION									P
STATION TO STATION	EXCAVATION VOLUMES m3 (EV)			EMBANKMENT VOLUMES m3 (CV)					
	TOPSOIL STRIPPING (1)	COMMON EXCAVATION (2)	TOTAL EXCAVATION	TOPSOIL (3)	WOOD CHIPS	SELECT GRANULAR	GRANULAR BORROW	TOTAL EMBANKMENT	
	m3	m3	m3	m3	m3	m3	m3	m3	
SP 0212-41 TH 242 / MAIN STREET									
4253.610	-	-	-	-	-	-	-	-	
4260.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
4280.000	76.0	0.0	76.0	47.0	0.0	0.0	532.0	579.0	
4300.000	148.0	0.0	148.0	92.0	0.0	0.0	1221.0	1313.0	
4320.000	145.0	0.0	145.0	89.0	0.0	0.0	1445.0	1534.0	
4340.000	144.0	0.0	144.0	54.0	0.0	0.0	1189.0	1243.0	
4347.150	47.9	0.0	47.9	9.3	0.0	0.0	299.9	309.2	
4360.000	68.7	0.0	68.7	31.5	0.0	0.0	610.4	641.9	
4380.000	89.0	0.0	89.0	67.0	0.0	0.0	1174.0	1241.0	
4400.000	88.0	0.0	88.0	66.0	0.0	0.0	1224.0	1290.0	
4420.000	84.0	0.0	84.0	63.0	0.0	0.0	896.0	959.0	
4426.877	22.0	0.0	22.0	16.5	0.0	0.0	116.2	132.7	
4436.632	11.2	0.0	11.2	8.3	0.0	0.0	17.6	25.9	
SURCHARGE (4)	0.0	3973.0	3973.0	0.0	875.0	6145.0	0.0	7020.0	
SUBTOTAL	923.8	3973.0	4896.8	543.6	875.0	6145.0	8725.1	16288.7	

- NOTES:
 (1) 200 mm TOPSOIL STRIPPING ASSUMED
 (2) COMMON EXCAVATION DOES NOT INCLUDE TOPSOIL STRIPPING
 (3) 150 mm TOPSOIL PLACEMENT REQUIRED
 (4) SURCHARGE VOLUMES ARE APPROXIMATE TOTALS FOR CONSTRUCTION OF ALL FOUR PHASES OF THE DRIVEWAY SURCHARGE

TEMPORARY SHOULDER - EARTHWORK TABULATION						P
STATION TO STATION	EXCAVATION VOLUMES m3 (EV)			EMBANKMENT VOLUMES m3 (CV)		
	TOPSOIL STRIPPING (1)	COMMON EXCAVATION (2)	TOTAL EXCAVATION	GRANULAR	TOTAL EMBANKMENT	
	m3	m3	m3	m3	m3	
SP 0212-41 TH 242 / MAIN STREET						
24225.141	-	-	-	-	-	
24240.000	14.9	0.0	14.9	4.5	4.5	
24253.610	28.6	0.0	28.6	177.6	177.6	
24260.000	23.0	0.0	23.0	157.8	157.8	
24280.000	77.0	30.0	107.0	304.0	304.0	
24300.000	65.0	49.0	114.0	134.0	134.0	
24320.000	55.0	23.0	78.0	118.0	118.0	
24340.000	46.0	4.0	50.0	83.0	83.0	
24347.150	22.5	0.0	22.5	46.8	46.8	
24360.000	38.6	0.0	38.6	82.9	82.9	
24380.000	37.0	0.0	37.0	68.0	68.0	
24400.000	46.0	0.0	46.0	107.0	107.0	
24420.000	48.0	1.0	49.0	110.0	110.0	
24440.000	43.0	8.0	51.0	65.0	65.0	
24450.000	22.0	11.0	33.0	13.0	13.0	
24460.000	22.5	16.5	39.0	14.0	14.0	
24480.000	45.0	35.0	80.0	46.0	46.0	
24500.000	43.0	32.0	75.0	33.0	33.0	
24520.000	21.0	23.0	44.0	14.0	14.0	
24540.000	15.0	8.0	23.0	28.0	28.0	
24558.000	13.5	0.0	13.5	34.2	34.2	
24560.000	1.4	0.0	1.4	3.0	3.0	
24574.000	19.6	0.0	19.6	32.2	32.2	
SUBTOTAL	747.6	240.5	988.1	1676.0	1676.0	

- NOTES:
 (1) 200 mm TOPSOIL STRIPPING ASSUMED
 (2) COMMON EXCAVATION DOES NOT INCLUDE TOPSOIL STRIPPING

PLOT DATE: May 20, 2002 3:36pm DISK FILE NAME: (15.05) R:\33889\33889028\33889B\PLAN_SHT\TABS\LB-tab11.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	IKR	05/22/02	REVISIONS FOR LAWRENCE D/W PER MNDOT COMMENTS

DESIGN FILE: 33889028	DRAWN BY: IKR	DESIGN BY: JUL
CHKD. BY: KPK	DWG. NAME: LB-tab11	DATE: MARCH 29, 2002

ALL QUANTITIES AND DIMENSIONS ON THIS PLAN ARE IN METRIC UNITS.



URS
BRW, Inc.

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

Kevin P. Kielb
KEVIN P. KIELB
DATE: 03/29/02 MN LIC. NO. 23211

MAIN STREET/T.H. 242 RECONSTRUCTION

TABULATED QUANTITIES
EARTHWORK TABULATION

CITY PROJECT 02-05

S.P. 0212-41

2 OF 3

SHEET NO.
8

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PLOT DATE: May 20, 2002 3:37pm DISK FILE NAME: (15.05) R:\33889\33889028\33889B\PLAN_SHT\TABS\LB-tab12.dwg

EARTHWORK SUMMARY (NEAT VOLUMES BASES ON CROSS SECTIONS)				TABLE 1
NOTES	ITEM	UNIT	TH 242 SP 0212-41	PROJECT TOTALS
1	EXCAVATION			
	COMMON EXCAVATION (TOPSOIL) (EV)	m3	6427	6427
3	COMMON EXCAVATION (REGULAR) (EV)	m3	5849	5849
4	COMMON EXCAVATION (REGULAR) (EV)	m3	3973	3973
	SUBGRADE EXCAVATION (EV)	m3	25139	25139
	MUCK EXCAVATION (EV)	m3	18979	18979
1	EMBANKMENT			
5	GRANULAR BORROW (CV)	m3	3876	3876
2	GRANULAR BORROW (CV)	m3	10401	10401
3	SELECT GRANULAR BORROW (CV)	m3	4042	4042
4	SELECT GRANULAR BORROW (CV)	m3	6145	6145
	SELECT GRAN BORROW MOD 5% (CV)	m3	47127	47127
4	WOOD CHIPS (CV)	m3	875	875
	SELECTED GRADING (CV)	m3	9644	9644
	TOPSOIL REQUIRED (CV)	m3	3526	3526

- TABLE 1 NOTES:
- EARTHWORK AREAS FROM CROSS-SECTIONS
 - INCLUDES 1 676 m3 (CV) FOR TEMPORARY SHOULDER CONSTRUCTION AND 8 725 m3 (CV) FOR CONSTRUCTION OF PRIVACY BERMS
 - FOR ROADWAY CONSTRUCTION
 - FOR CONSTRUCTION OF THE COMMERCIAL DRIVEWAY SURCHARGE
 - FOR ROADWAY CONSTRUCTION BELOW SELECT GRANULAR BORROW

EARTHWORK BALANCE				TABLE 2
NOTES	ITEM	UNIT	TH 242 SP 0212-41	PROJECT TOTALS
1	TOPSOIL REQUIRED (EV)	m3	4584	4584
2	TOPSOIL MATERIAL GENERATED (EV)	m3	6427	6427
9	COMMON EXCAVATION (REGULAR) (EV)	m3	5849	5849
10	COMMON EXCAVATION (REGULAR) (EV)	m3	3973	3973
	SUBGRADE EXCAVATION (EV)	m3	25139	25139
3	ON-SITE MATERIAL AVAILABLE FOR EMBANKMENT (EV)	m3	34961	34961
4	EMBANKMENT MATERIAL REQUIRED (EV)	m3	11573	11573
5	GRANULAR BORROW (CV)	m3	3876	3876
11	GRANULAR BORROW (CV)	m3	10401	10401
9	SELECT GRANULAR BORROW (CV)	m3	4042	4042
10	SELECT GRANULAR BORROW (CV)	m3	6145	6145
10	WOOD CHIPS (CV)	m3	875	875
8	GRANULAR MATERIAL REQUIRED (CV)	m3	0	0
11	GRANULAR BORROW REQUIRED (CV)	m3	10401	10401
	MUCK EXCAVATION AREA			
6	MUCK EXCAVATION (EV)	m3	22775	22775
7	SELECT GRANULAR BORROW MOD 5% (CV)	m3	50923	50923

- TABLE 2 NOTES:
- 150 mm TOPSOIL PLACEMENT WITH A SHRINKAGE FACTOR OF 1.3 FROM CV TO EV
 - ASSUMES UPPER 200 mm OF ON-SITE MATERIAL IS SUITABLE FOR TOPSOIL STRIPPING
 - INCLUDES COMMON EXCAVATION (REGULAR) AND SUBGRADE EXCAVATION
 - INCLUDES FACTOR OF 1.2 FROM CV TO EV
 - UTILIZE BELOW SELECT GRANULAR BORROW FOR ROADWAY CONSTRUCTION
 - INCLUDES A FACTOR OF 1.2 TO ACCOUNT FOR SLOUGHING (RESULTS IN ADDITIONAL 3 796 m3 EV)
 - SAND HAVING LESS THAN 5% BY WEIGHT PASSING THE 0.075 mm SIEVE. INCLUDES ADDITIONAL 3 796 m3 (CV) TO ACCOUNT FOR SUBSIDENCE AND SLOUGHING OF MUCK EXCAVATION.
 - EQUAL TO GRANULAR MATERIAL REQUIRED LESS FILL MATERIAL AVAILABLE, WHERE FILL MATERIAL AVAILABLE = 34 961 m3 (EV) - 11 573 m3 (EV) = 23 388 m3 (EV) / 1.2 = 19 490 m3 (CV), AND GRANULAR BORROW REQUIRED = 3 876 m3 (CV) - 19 490 m3 (CV) = -15 694 m3 (CV) (EXCESS EMBANKMENT MATERIAL AVAILABLE ON SITE)
 - FOR ROADWAY CONSTRUCTION
 - FOR CONSTRUCTION OF COMMERCIAL DRIVEWAY SURCHARGE.
 - FOR PRIVACY BERMS AND TEMPORARY SHOULDER CONSTRUCTION.

EARTHWORK QUANTITIES				TABLE 3
NOTES	ITEM	UNIT	TH 242 SP 0212-41	PROJECT TOTALS
1,4,5	COMMON EXCAVATION (EV) (P)	m3	11665	11665
	MUCK EXCAVATION (EV)	m3	22775	22775
	SUBGRADE EXCAVATION (EV) (P)	m3	25139	25139
2,4,5	GRANULAR BORROW (LV)	m3	15602	15602
	SELECT GRANULAR BORROW (CV) (P)	m3	4042	4042
2,5	SELECT GRANULAR BORROW (LV)	m3	9218	9218
2	SELECT GRAN BORROW MOD 5% (LV)	m3	76385	76385
2,5	WOOD CHIPS (LV)	m3	1313	1313

- TABLE 3 NOTES:
- INCLUDES REGULAR COMMON EXC. PLUS EXCESS TOPSOIL MATERIAL PLUS COMMON EXC. FOR TEMPORARY SHOULDER CONSTRUCTION FOR A TOTAL PLAN QUANTITY OF (5 849 + 6 427 - 4 584 = 7 692 m3 (EV). ALSO INCLUDES A NON-PLAN QUANTITY OF 3 973 m3 (EV) FOR CONSTRUCTION OF THE COMMERCIAL DRIVEWAY SURCHARGE.
 - INCLUDES SHRINKAGE FACTOR OF 1.5 FROM LV TO CV
 - INCLUDES SHRINKAGE FACTOR OF 1.3 FROM EV TO CV
 - FOR CONSTRUCTION OF TEMPORARY SHOULDER
 - FOR CONSTRUCTION OF COMMERCIAL DRIVEWAY SURCHARGE

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	IKR	05/22/02	REVISIONS FOR LAWRENCE D/W PER MNDOT COMMENTS

DESIGN FILE: 33889028	DRAWN BY: IKR	DESIGN BY: JUL
DATE: MARCH 29, 2002	CHKD. BY: KPK	DWG. NAME: LB-tab12

ALL QUANTITIES AND DIMENSIONS ON THIS PLAN ARE IN METRIC UNITS.



URS
BRW, Inc.

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

Kevin P. Kiehl
KEVIN P. KIEHL
DATE: 03/29/02 MN LIC. NO. 23211

MAIN STREET/T.H. 242 RECONSTRUCTION

TABULATED QUANTITIES
EARTHWORK TABULATION SUMMARY

CITY PROJECT 02-05

S.P. 0212-41



3 OF 3

SHEET NO.
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SOILS & CONSTRUCTION NOTES

1. GRADING GRADE IS DEFINED AS THE BOTTOM OF THE CLASS 5 AGGREGATE BASE (OR THE BOTTOM OF THE BRIDGE DECK).
2. SELECTED GRADING MATERIAL ON THIS PROJECT SHALL CONSIST OF ALL SOILS ENCOUNTERED WITH THE EXCEPTION OF TOPSOIL, DEBRIS, ORGANIC MATERIALS AND OTHER UNSTABLE MATERIAL.
3. GRANULAR MATERIAL SHALL MEET THE REQUIREMENTS OF MN/DOT SPEC. 3149.2B1.
4. SELECT GRANULAR MATERIAL, REGARDLESS OF SOURCE, SHALL MEET THE REQUIREMENTS OF MN/DOT SPEC. 3149.2B2.
5. MODIFIED SELECT GRANULAR IS DEFINED AS SELECT GRANULAR MATERIAL HAVING LESS THAN 5% BY WEIGHT PASSING THE #200 SIEVE. MATERIAL SHALL BE PLACED AS SHOWN ON THE DRAWINGS. MATERIAL SHALL NOT BE PLACED IN STANDING WATER.
6. UNSUITABLE SOILS IS DEFINED AS SOILS WHICH DO NOT MEET OR ARE NOT MANUFACTURED TO MEET ANY OF THE ABOVE DEFINED CATEGORIES, AND ARE THEREFORE NOT REUSABLE.
7. DISPOSITION OF EXCESS EXCAVATED MATERIAL SHALL BE IN ACCORDANCE WITH MN/DOT SPEC. 2105.3D WITH NO DIRECT COMPENSATION MADE THEREFORE.
8. OBTAIN COMPACTION ON THE GRADING AND AGGREGATE BASE PORTIONS OF THE CONSTRUCTION IN ACCORDANCE WITH THE "SPECIFIED DENSITY METHOD" REQUIREMENTS, EXCEPT IF CLASS 7 IS SUBSTITUTED FOR ANOTHER CLASS OF AGGREGATE, THEN DENSIFICATION SHALL BE OBTAINED BY THE PENETRATION INDEX METHOD.
9. STABILIZING AGGREGATE SHALL BE INCORPORATED INTO THE SUBGRADE TO ACHIEVE SATISFACTORY SURFACE STABILITY, IF DEEMED NECESSARY BY THE ENGINEER, IN ACCORDANCE WITH SPEC. 2105.3G. USE AN APPLICATION RATE OF 110 + kg PER SQUARE METER. STABILIZING MATERIAL SHALL BE AT THE CONTRACTOR'S EXPENSE WHEN MATERIAL NEEDING STABILIZATION IS FURNISHED AS A BORROW ITEM.
10. STRIP ALL TOPSOIL AND INPLACE SLOPE DRESSING WHERE PRESENT IN AREAS TO BE DISTURBED BY CONSTRUCTION AND REUSE SLOPE DRESSING. SLOPE DRESSING ON THIS PROJECT IS DEFINED AS THE TOPSOIL OR OTHER "A" HORIZON SOIL WHICH HAS BEEN PLACED DURING PREVIOUS CONSTRUCTION TO PROVIDE A MEDIUM FOR ESTABLISHING TURF. THE AVERAGE DEPTH OF TOPSOIL LAYER IS ASSUMED TO BE 200 mm.
11. UNLESS OTHERWISE SPECIFICALLY ALLOWED OR REQUIRED BY THE CONTRACT, BITUMINOUS AND CONCRETE ITEMS DISTURBED BY CONSTRUCTION SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE RECYCLED TO THE EXTENT ALLOWED IN BASE AND SURFACING ITEMS OR DISPOSED OF OUTSIDE THE RIGHT-OF-WAY IN ACCORDANCE WITH SPEC. 2104.3C3.
12. DISPOSITION OF CONCRETE AND BITUMINOUS REMOVALS SHALL BE IN ACCORDANCE WITH MN/DOT SPEC. 2104.3C3, WITH NO DIRECT COMPENSATION MADE THEREFORE.
13. WHERE CONNECTING NEW SURFACE TO EXISTING SURFACE, THE EXCAVATION SHALL BE BACKFILLED AS SOON AS PRACTICAL. WHERE CONNECTING TO EXISTING SURFACE AT THE TERMINI OF PROPOSED SURFACING, CUT VERTICALLY TO THE BOTTOM OF THE EXISTING SURFACING OR THE NEW SURFACING WHICHEVER IS DEEPER, THEN AT 1(V) TO 20(H) TO THE BOTTOM OF THE RECOMMENDED SUBGRADE EXCAVATION. WHERE MATCHING ADJACENT TO EXISTING SURFACING, CUT AT A 1(V) TO 4(H) TO THE BOTTOM OF THE SUBCUT.
14. UNLESS OTHERWISE REQUIRED, ADD 1(V) TO 20(H) TAPERS TO THE FULL DEPTH STATION LIMITS OF ALL SUB GRADE EXCAVATIONS. PROVIDE 1(V) TO 20(H) TRANSITION TAPERS BETWEEN CHANGES IN SUBGRADE EXCAVATION DEPTH LONGITUDINALLY.
15. THE TOP OF BACKSLOPES AND THE TOE OF FILL SLOPES SHALL BE ROUNDED.
16. THE LOCATIONS OF THE EXISTING UTILITIES SHOWN ON THE PLANS ARE APPROXIMATE. THE CONTRACTOR SHALL VERIFY UTILITY LOCATIONS AND DEPTHS AS REQUIRED BEFORE EXCAVATION. EXCAVATIONS TO LOCATE UTILITIES SHALL BE INCIDENTAL. THE CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE WITH THE UTILITY COMPANIES AND CALL THE "GOPHER STATE ONE CALL" (1-800-252-1166) AT LEAST 48 HOURS PRIOR TO EXCAVATION/CONSTRUCTION.
17. USE TACK COAT BETWEEN ALL BITUMINOUS MIXTURES AND PRIOR TO PLACING BITUMINOUS MIXTURES ON EXISTING CONCRETE OR BITUMINOUS SURFACES. THE BITUMINOUS TACK COAT MATERIAL SHALL BE APPLIED AT UNIFORM RATE OF 0.23 L/m² BETWEEN BITUMINOUS LAYERS. THE APPLICATION RATES ARE FOR UNDILUTED EMULSION (AS SUPPLIED FROM THE REFINERY); ASPHALT EMULSION MAY BE FURTHER DILUTED IN THE FIELD IN ACCORDANCE WITH SPEC. 2357.
18. AS A PRECAUTIONARY MEASURE FROM A SOILS STANDPOINT, TRAFFIC LANES TO BE USED DURING CONSTRUCTION MUST BE DELINEATED TO KEEP VEHICLES A SAFE DISTANCE AWAY FROM THE ADJACENT EXCAVATION. THE DELINEATION SHOULD COINCIDE WITH POINTS ESTABLISHED BY PROJECTING 1(V) TO 2(H) OR GREATER (FLATTER) SLOPE BETWEEN THE EDGE OF THE TRAFFIC SURFACE AND THE BOTTOM OF THE EXCAVATION.
19. ON GRADING SLOPES STEEPER THAN 1(V) TO 4(H), CONSTRUCT STEPS IN SLOPE PER MN/DOT SPEC. 2105.38 WHEN CONSTRUCTING AN EMBANKMENT.
20. UNLESS OTHERWISE RECOMMENDED, PROVIDE FOR SUBGRADE EXCAVATION AND BACKFILL ACCORDINGLY THROUGHOUT THE ENTIRE PROJECT AS DETAILED ON SHEET NO. 20.
21. THE CONSTRUCTION LIMITS AS SHOWN IN THE PLANS REPRESENT THE POINT OF INTERSECTION BETWEEN THE REQUIRED FILL OR CUT SLOPE AND THE EXISTING GROUND LINE AS DEPICTED ON THE CROSS SECTIONS. THE CONSTRUCTION LIMITS DO NOT INCLUDE AREAS REQUIRED FOR SLOPE ROUNDING.
22. ANY DEBRIS WHICH MAY BE ENCOUNTERED DURING GRADING SHALL BE DISPOSED OF BY THE CONTRACTOR OFF THE PROJECT RIGHT-OF-WAY IN A SUITABLE DISPOSAL AREA AS APPROVED BY THE ENGINEER.
23. BITUMINOUS REMOVAL QUANTITY BASED ON SQUARE METER REMOVED REGARDLESS OF PAVEMENT DEPTH. CONTRACTOR SHALL INVESTIGATE AND MAKE OWN DETERMINATION OF ACTUAL PAVEMENT DEPTH.
24. PIPE SEWERS CONNECTING MANHOLES AND CATCH BASINS SHALL BE IN ACCORDANCE WITH SPEC. 2503. BEDDING AND BACKFILL SHALL CONSIST OF UNIFORM SELECTED GRADING MATERIAL MATCHING ADJACENT SOILS UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
25. THE ENGINEER SHALL SEE THAT THE TERMINI OF ALL PORTABLE CONCRETE MEDIAN BARRIER LOCATIONS FOR ONCOMING TRAFFIC ARE EITHER SET BACK AT LEAST 9 m FROM THE EDGE OF THE TRAVELED LANE OR WHATEVER DISTANCE DEEMED APPROPRIATE FOR THE SITUATION OR PROTECTED BY EXISTING GUARDRAIL OR SOME OTHER ATTENUATION DEVICE.
26. WHENEVER THE WORD "INCIDENTAL" IS USED IN THIS PLAN, IT WILL MEAN THIS WORK WILL BE INCIDENTAL FOR WHICH NO DIRECT COMPENSATION WILL BE MADE.
27. PLACE MINIMUM 150 mm TOPSOIL OR SLOPE DRESSING ON ALL AREAS DISTURBED BY CONSTRUCTION AND SCHEDULED FOR PERMANENT TURF ESTABLISHMENT. TOPSOIL BORROW TO BE UTILIZED AT THE DIRECTION OF THE ENGINEER IN THE FIELD. FERTILIZE WITH COMMERCIAL FERTILIZER ANALYSIS 22-5-10 AT RATE OF 225 kg/ha IN AREAS BEING SEEDING AND SODDED.
28. REFER TO RESTORATION PLANS FOR SEED MIXTURE AND MUCH APPLICATION AREAS.
29. SOD ALL MAINTAINED LAWNS DISTURBED BY CONSTRUCTION.
30. ALL SOD UTILIZED WITHIN THE PROJECT LIMITS SHALL MEET THE REQUIREMENTS OF SPEC. 3878.2C (SALT RESISTANCY).
31. ORGANIC AND NONGRANULAR EXCAVATED MATERIAL MAY BE USED IN EMBANKMENT CONSTRUCTION IN AREAS OUTSIDE OF 1:1½ SLOPE FROM THE BACK OF CURB OR SHOULDER GRADING P.I..
32. UNSTABLE SOILS SHALL BE UTILIZED FOR BERM CONSTRUCTION AND FOR BACKFILL ADJACENT TO THE BRIDGE AS DEPICTED IN THE TYPICAL SECTIONS TO THE EXTENT PRACTICAL. ALL OTHER EXCESS UNSTABLE SOILS SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND REMOVED FROM THE PROJECT AND DISPOSED OF IN ACCORDANCE WITH MN/DOT SPEC. 2105.3D.
33. ALL SILT FENCING SHOWN IN THE PLANS SHALL BE IN PLACE PRIOR TO THE COMMENCEMENT OF GRADING OPERATIONS.
34. TEMPORARY DITCH CHECKS TYPE 3 (BIOROLL) SHALL BE INSTALLED ALONG DITCH RUNS FOR EROSION CONTROL AS SHOWN IN THE PLANS OR AS DIRECTED BY THE ENGINEER IN THE FIELD.
35. SALVAGED SIGNS SHALL BE STORED ON-SITE AT A LOCATION DESIGNATED BY THE ENGINEER. SIGNS SHALL BE SORTED TO PREVENT DAMAGE UNTIL THEY ARE RETRIEVED BY LOCAL COUNTY OR STATE FORCES.

PLOT DATE: May 20, 2002 12:15pm DISK FILE NAME: (15.05) R:\33889\33889028\33889028\PLAN_SHT\Engring\LB-soil.dwg

<table border="1"> <thead> <tr> <th>REV. NO.</th> <th>BY</th> <th>DATE</th> <th>REVISIONS DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>JL</td> <td>05/22/02</td> <td>REVISIONS PER MNDOT C.O. COMMENTS</td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>		REV. NO.	BY	DATE	REVISIONS DESCRIPTION	1	JL	05/22/02	REVISIONS PER MNDOT C.O. COMMENTS																	DESIGN FILE: 33889028 5001 DRAWN BY: PMJ DESIGN BY: JJJ CHKED. BY: KPK DWS. NAME: LBSOIL DATE: MARCH 29, 2002		 URS BRW, Inc.		I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.  KEVIN P. KIEHL DATE: 03/29/02 MN LIC. NO. 23211		MAIN STREET/T.H. 242 RECONSTRUCTION SOILS AND CONSTRUCTION NOTES CITY PROJECT 02-05		SHEET NO. 10 S.P. 0212-41 171	
REV. NO.	BY	DATE	REVISIONS DESCRIPTION																																
1	JL	05/22/02	REVISIONS PER MNDOT C.O. COMMENTS																																

PLOT DATE: May 23, 2002 1:16pm DISK FILE NAME: (15.05) R:\33889\33889028\33889\PLAN_SHT\TABS\LB-tab02a.dwg

CLEARING AND GRUBBING					A	
STATION TO STATION	LOCATION	2101		2101		
		CLEARING		GRUBBING		
		TREE	ha	TREE	ha	
SP 0212-41						
MAIN STREET/TH 242						
3+982.000 - 4+253.610	RT					
3+982.000 - 4+253.610	LT					
4+253.610 - 4+865.700	RT	25	0.02	25	0.02	
4+253.610 - 4+865.700	LT	29	0.04	29	0.04	
PROJECT TOTAL =		54	0.06	54	0.06	

GUARDRAIL SALVAGE					D
STATION TO STATION	LOCATION	2104		2104	
		SALVAGE		SALVAGE	
		PLATE-BEAM	ENERGY (6)	ABS. TERMINAL	BCT
		m	EACH	EACH	EACH
SP 0212-41					
MAIN STREET/TH 242					
4+225.1 - 4+248.8	LT	24			1
4+225.2 - 4+248.6	RT	23			1
4+257.1 - 4+264.9	LT	12 (4)			
4+257.0 - 4+276.8	RT	20		1	
PROJECT TOTAL =		79		1	2

CONCRETE REMOVAL					H
STATION TO STATION	LOCATION	2104		2104	
		CURB & GUTTER		DRIVEWAY PAVEMENT	
		m	m2	m2	2433
				REMOVE BRIDGE SLAB, CURB & RAIL	
				m	
SP 0212-41					
MAIN STREET/TH 242					
3+982 - 3+984	LT	2			
4+026 - 4+040	LT-RT	28		48	
4+248 - 4+257	LT				9
4+649, D/W	LT		44		
PROJECT TOTAL =		30	44	48	9

RELOCATE MAIL BOX		B
STATION AND LOCATION	2540	
	RELOCATE MAIL BOX (3)	
	EACH	
SP 0212-41		
MAIN STREET/TH 242		
4+278, LT.		1
4+435, RT.		1
4+516, LT.		1
4+523, RT.		1
4+548, LT.		1
4+589, LT.		1
4+641, LT.		1
4+650, RT.		1
4+675, RT.		2
4+693, LT.		1
4+754, RT.		1
4+795, RT.		1
4+822, LT.		1
4+869, LT.		1
PROJECT TOTAL =		15

NOTE:
3) RELOCATE WITH NEW MAILBOX SUPPORT. SEE DETAIL FOR MAILBOX SUPPORT.

NOTE:
(4) INCLUDES ANCHORAGE ASSEMBLY (INCIDENTAL)
(6) ET-2000

CULVERT REMOVALS				F
STATION AND LOCATION	ITEM INPLACE	2104		NOTES
		PIPE [1]		
		CULVERT		
		m		
SP 0212-41				
MAIN STREET/TH 242				
4+254, LT.	2100 mm CMPA	18.0		[2]
4+255, LT.	2100 mm CMPA	18.0		[2]
4+273, D/W LT.	450 mm CMP	19.0		
4+282, D/W RT.	450 mm CMP	16.0		
4+339 D/W LT.	450 mm CMP	18.0		[2]
4+428, D/W RT.	600 mm CMP	18.0		
4+450, F.E. LT.	375 mm CMP	14.0		
4+450, RT.	600 mm CMP	18.0		[2]
4+519, D/W RT.	450 mm CMP	13.0		
4+521, D/W LT.	375 mm CMP	17.0		
4+545, D/W RT.	450 mm CMP	14.0		
4+596, D/W LT.	375 mm CMP	7.0		
4+641, D/W RT.	450 mm CMP	15.0		
4+649, D/W LT.	375 mm CMP	11.0		
4+681, D/W RT.	375 mm CMP	12.0		
4+690, D/W LT.	300 mm CMP	14.0		
4+749, D/W RT.	375 mm CMP	20.0		
4+764, (FIELD ENT.) LT.	300 mm CMP	12.0		
4+790, D/W RT.	300 mm CMP	15.0		
4+811, D/W LT.	300 mm CMP	12.0		
PROJECT TOTAL =		301.0		

NOTES:
(1) APRON REMOVAL INCLUDED IN PIPE CULVERT REMOVAL LENGTH AND SHALL BE PAID FOR UNDER THIS ITEM.
(2) TEMPORARY CULVERTS INSTALLED DURING TEMPORARY CONSTRUCTION.

LIGHTING SALVAGE					I
STATION	LOCATION	2104		2104	
		SALVAGE OVERHEAD LIGHT CABLE		SALVAGE LIGHTING UNIT	
		m	EACH	EACH	SALVAGE STEEL LIGHT BASE
				EACH	
SP 0212-41					
MAIN STREET/TH 242					
4+060	RT	105		1	1
4+060	LT	90		1	1
4+120	RT	60		1	1
4+120	LT	60		1	1
4+180	RT	60		1	1
4+180	LT	60		1	1
4+240	RT			1	1
4+240	LT			1	1
PROJECT TOTAL =		435	8	8	

FENCE REMOVAL				C
STATION TO STATION	LOCATION	2104		
		REMOVE WOODEN FENCE		
		REMOVE BARBED WIRE FENCE		
		m		
SP 0212-41				
MAIN STREET/TH 242				
4+256.700 - 4+280.700	RT			24
4+406.800 - 4+422.400	RT	17		
4+484.200 - 4+518.400	RT	37		
4+816.700 - 4+831.500	RT	15		
PROJECT TOTAL =		69		24

SALVAGE AND INSTALL PERMANENT BARRICADES					CC
NOTES	LOCATION [1] (INPLACE)	2104		2554	
		SALVAGE PERMANENT BARRICADE		INSTALL PERMANENT BARRICADE	
		EACH		EACH	
SIGN LEGEND					
SP 0212-41					
MAIN STREET / TH 242					
[5]	3+999.2, 21.4 m RT	1		1	PERMANENT BARRICADE, TYPE III
[5]	4+002.8, 21.4 m RT	1		1	PERMANENT BARRICADE, TYPE III
[5]	4+006.5, 21.4 m RT	1		1	PERMANENT BARRICADE, TYPE III
[5]	4+010.1, 21.4 m RT	1		1	PERMANENT BARRICADE, TYPE III
[5]	4+013.8, 21.4 m RT	1		1	PERMANENT BARRICADE, TYPE III
PROJECT TOTAL =		5		5	

[5] INSTALL BARRICADES IN SAME LOCATION UPON COMPLETION OF BITUMINOUS OVERLAY

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	IKR	05/22/02	REVISIONS PER MNDOT C.O. COMMENTS

DESIGN FILE: 33889028	DESIGN BY: JUL/BJK
DRAWN BY: IKR	DWG. NAME: LB-tab02A
CHKD. BY: KPK	DATE: MARCH 29, 2002



700 Third Street South
Minneapolis, MN 55416
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Kevin P. Kiehl
KEVIN P. KIEHL
DATE: 03/29/02 MN LIC. NO. 23211

MAIN STREET/T.H. 242 RECONSTRUCTION
TABULATED QUANTITIES REMOVALS
CITY PROJECT 02-05

S.P. 0212-41

1 OF 5
SHEET NO. 11
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BITUMINOUS REMOVAL				J
STATION TO STATION	LOCATION	2104		2232
		PAVEMENT (1), (2)	DRIVEWAY (1)	MILL BITUMINOUS SURFACE (50 mm)
		m2	m2	m2
SP 0212-41				
MAIN STREET/TH 242				
3+982.000 - 4+026.000	LT-RT			1366
4+026.000 - 4+253.610 (2)	LT-RT	5458		
4+253.610 - 4+865.000 (3)	LT-RT	9155		
4+865.000 - 4+865.700	LT-RT			9
2+270.000 D/W	LT		38	
4+282.400 D/W	RT		20	
4+427.000 D/W	RT		37	
4+522.700 D/W	LT		224	
4+545.300 D/W	RT		34	
4+558.000 D/W	LT		143	
4+596.000 D/W	LT		65	
4+641.000 D/W	RT		87	
4+649.000 D/W	LT		30	
4+681.200 D/W	RT		10	
4+689.600 D/W	LT		10	
4+755.800 D/W	RT		105	
4+811.700 D/W	LT		73	
PROJECT TOTAL =		14613	876	1375

NOTES:
 (1) FOR ALL BITUMINOUS PAVEMENT REGARDLESS OF DEPTH
 (2) INCLUDES 110 m2 FOR TEMPORARY PAVEMENT REMOVAL
 (3) INCLUDES 990 m2 FOR TEMPORARY PAVEMENT REMOVAL

MISCELLANEOUS CONCRETE ITEMS					U
STATION TO STATION	LOCATION	2521	2211	2531	2531
		100 mm CONCRETE WALK (4)	AGGREGATE BASE CLASS 5	B424 (MOD) CURB & GUTTER	150 mm DRIVEWAY PAVEMENT
		m2	m3	m	m2
SP 0212-41					
MAIN STREET/TH 242					
4+026.268 - 4+137.190	LT	85	9	109	
4+026.268 - 4+137.190	RT	394	39	114	
4+648.952 D/W	LT		7		46
PROJECT TOTAL =		479	55	223	46

NOTE:
 (4) FOR USE IN MEDIAN

SAWCUT			K
STATION TO STATION	LOCATION	2104	2104
		SAWCUT CONCRETE	SAWCUT BITUMINOUS
		m	m
SP 0212-41			
MAIN STREET/TH 242			
3+982 - 3+984	LT	2	3
3+989.405 - 4+026	LT-RT		35
4+026	LT-RT		7
4+428 D/W	RT		15
4+521 D/W	LT		4
4+596 D/W	LT		5
4+641 D/W	RT		6
4+649 D/W	LT	5	13
4+811 D/W	LT		6
4+865	LT-RT		13
4+865.0 - 4+865.7	LT-RT		
STAGE 1, PHASE 1			
4+225	LT		3
4+225 - 4+248	LT		23
4+257 - 4+574	LT		317
PROJECT TOTAL =		7	431

BITUMINOUS AND AGGREGATE SUMMARY												N
STATION TO STATION	LOC.	INSET	2118	2211	2211	2211	2360	2360	2350	2350	2350	2357
			AGGREGATE SURFACING CLASS 5	AGGREGATE BASE CLASS 5	AGG. BASE CLASS 5 (CV) (P)	CRUSHED BITUMINOUS (CV)	TYPE SP 12.5 (SPWEB440F) INSET 1	TYPE SP 19.0 (SPNWC430B) INSET 1	TYPE LV 3 WEAR (LVWE35030B) INSET 6, 7	TYPE LV 2 WEAR (LVWE25030B) INSET 2,10,11	TYPE LV 3 NON WEAR (LVNW35030B) INSET 6, 7	BIT.TACK COAT
			t	t	m3	m3	t	t	t	t	t	L
SP 0212-41												
MAIN STREET/TH 242												
3+982.000 - 4+137.190	W.B.	18		457		474	210					867
3+982.000 - 4+137.190	E.B.	18		498		423	168					771
4+225.000 - 4+574.000	W.B.	67	560					241		180		267
4+442.732 - 4+865.700	W.B.	12		1024		683	361			169		1262
4+442.732 - 4+865.700	E.B.	12		1009		664	351			170		1228
RESIDENTIAL DRIVEWAYS	E.B., W.B.	459	93	213						184		448
COMMERCIAL DRIVEWAY 4+347.150	W.B.	1011		173	289					448		
PROJECT TOTAL =			93	560	3374	289	2244	1090	241	971	180	4395

NOTE :
 ALLOWABLE TOLERANCE OF 6 mm FOR TOP AND BOTTOM BITUMINOUS LIFTS INCLUDED IN QUANTITY CALCULATIONS.

BASIS FOR ESTIMATED QUANTITIES
 BITUMINOUS MIXTURE:
 BASE = 2.35 kg/m2/mm
 BINDER = 2.35 kg/m2/mm
 WEAR = 2.35 kg/m2/mm
 TACK COAT: 0.23 L / m2 PER LIFT APPLIED

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	IKR	05/22/02	REVISIONS PER MNDOT C.O. COMMENTS

DESIGN FILE: 33889028 5001
DRAWN BY: JUL/BJK
CHKD. BY: KPK
DATE: MARCH 29, 2002



Thresher Square
 700 Third Street South
 Minneapolis, MN 55415
 612.370.0700 Tel
 612.370.1378 Fax

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Kevin P. Kiehl
 KEVIN P. KIELB
 DATE: 03/29/02 MN LIC. NO. 23211

MAIN STREET/T.H. 242 RECONSTRUCTION
 TABULATED QUANTITIES
 MISCELLANEOUS
 CITY PROJECT 02-05

S.P. 0212-41

SHEET NO.
 12
 171

PLOT DATE: May 21, 2002 11:31am DISK FILE NAME: (15.05) R:\33889\33889028\33889\PLAN_SHT\TABS\LB-tab03.dwg

PLOT DATE: May 21, 2002 11:46am DISK FILE NAME: (15.05) R:\35889\33889028\33889028\PLAN_SHT\TABS\LB-tab07.dwg

TEMPORARY EROSION CONTROL				S
STATION TO STATION	LOCATION	2573	2573	2573
		FLOATATION SILT CURTAIN, TYPE MOVING WATER m	TEMPORARY DITCH CHECK, TYPE 3 [1] m	SILT FENCE, TYPE MACHINE SLICED m
SP 0212-41				
MAIN STREET/TH 242				
4+023 - 4+253	LT			250
4+046	RT		6	
4+145	RT		6	
4+234	RT		6	
4+234 - 4+247	RT			29
4+240	RT	8		
4+245	RT	8		
4+250	LT	8		
4+258 - 4+263	LT			36
4+258 - 4+262	RT			25
4+259 - 4+269	LT			21
4+263	RT		6	
4+277 - 4+470	LT			219
4+279	LT		6	
4+354	LT		6	
4+362 - 4+422	RT			62
4+379	RT		6	
4+457	LT		6	
4+465	RT		6	
4+470	LT		6	
4+530	RT		6	
4+531 - 4+554	LT			26
4+535	LT		6	
4+560	RT		6	
4+563 - 4+595	LT			32
4+572	LT		6	
4+589	RT		6	
4+599 - 4+616	LT			18
4+608	LT		6	
4+619	RT		6	
4+655	RT		6	
4+663	LT		6	
4+693	RT		6	
4+701	LT		6	
4+722	RT		6	
4+736	LT		6	
4+767	RT		6	
4+770	LT		6	
4+805	RT		6	
4+829	LT		6	
LAWRENCE DRIVEWAY	WEST SIDE			492
PROJECT TOTAL =		24	162	1210

NOTES:
(1) BIOROLL, 300 mm DIAMETER

TURF ESTABLISHMENT										T
STATION TO STATION	LOCATION	2575	2575	2575	2575	2575	2575	2575	2575	2575
		SEEDING AREA ha	SEED MIXTURE TYPE 28B kg	SEED MIXTURE TYPE 60B kg	SODDING, TYPE SALT RESISTANT m2	MULCH MATERIAL TYPE 3 mton	DISK ANCHORING ha	EROSION CONTROL BLANKETS, CATEGORY 3 m2	EROSION CONTROL BLANKETS, CATEGORY 4 m2	COMMERCIAL FERTILIZER ANALYSIS 22-5-10 kg
SP 0212-41										
MAIN STREET/TH 242										
WESTBOUND										
4+017 - 4+254	LT	0.2		21	415	0.8	0.2			52
4+254 - 4+347	LT	0.3	2	26	129	1.2	0.3		364	63
4+347.150 CULVERT	LT				15					0
4+347 - 4+521	LT	0.3	1	27	1257	1.2	0.3		323	91
4+521 - 4+558	LT				365					8
4+558 - 4+596	LT				386					9
4+596 - 4+649	LT				504					11
4+649 - 4+690	LT				490					11
4+690 - 4+812	LT				1592					36
4+812 - 4+871	LT				836					19
24+225 - 24+574	LT							2905		
EASTBOUND										
4+017 - 4+254	RT	0.4	8	28	408	1.9	0.4		1698	103
4+254 - 4+427	RT	0.2	5	14	445	1.1	0.2		1209	65
4+427 - 4+519	RT				1257					28
4+519 - 4+641	RT				1489					34
4+641 - 4+681	RT				457					10
4+681 - 4+756	RT				764					17
4+756 - 4+790	RT				413					9
4+790 - 4+866	RT				1135					26
LAWRENCE DRIVEWAY	LT-RT				737					17
PROJECT TOTAL =		1.4	16	116	13093	6.2	1.4	2905	3594	609

BASIS FOR ESTIMATED QUANTITIES
 SEED MIX 28B: 45 kg/ha
 SEED MIX 60B: 112 kg/ha
 TYPE 3 MULCH: 4.5 mtons/ha
 COMMERCIAL FERTILIZER ANALYSIS 22-5-10: 225 kg/ha (SLOW RELEASE),

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	IKR	05/22/02	REVISED PER MNDOT C.O. COMMENTS

DESIGN FILE:
33889028

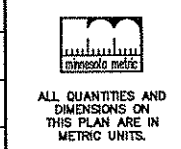
DRAWN BY:
IKR

DESIGN BY:
JUL/BJK

CHKD. BY:
KPK

DWG. NAME:
LB-TAB07

DATE:
MARCH 29, 2002



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Kevin P. Kielb
KEVIN P. KIELB
DATE: 03/29/02 MN LIC. NO. 23211

MAIN STREET/T.H. 242 RECONSTRUCTION

TABULATED QUANTITIES
MISCELLANEOUS

CITY PROJECT 02-05

S.P. 0212-41

3 OF 5

SHEET NO.
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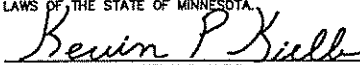
SANITARY SEWER TABULATION													G	
NOTES	STRUCTURE						DRAINS TO							
	STRUCTURE NUMBER	STATION	OFFSET [1]	EXIST RIM ELEV. m	PROP RIM ELEV. m	2506 RECONSTRUCT DRAINAGE STRUCTURE m	2506 INSTALL CASTING EACH	2506 ADJUST FRAME & RING CASTING EACH	STRUCTURE NUMBER	INVERT ELEV. m	SLOPE %	2503	2503	2564
												400 mm PIPE PLUG m	400 mm DIP CL 52 [2] m	INSTALL MARKER [3] EACH
SP 0212-41														
MAIN STREET/TH 242														
	MH 14	4+426.625	23.388 LT	261.222	262.100	0.878	1.0		MH 13	--	--			
	MH 13	4+419.627	21.247 RT	261.933	261.900	--		1.0						
	STUB 1	4+418.825	20.000 LT		--	--			STUB 2	261.250	3.00	1.0	40.2	1.0
	STUB 2	4+412.556	19.700 RT		--	--				260.044		1.0		1.0
	SUBTOTAL=					0.878	1.0	1.0				2.0	40.2	2.0

NOTES:
 [1] OFFSETS ARE TO CENTER OF STRUCTURE FOR ALL MANHOLES AND ARE BASED UPON THE BASELINE ALIGNMENT
 [2] SHALL BE RESTRAINED JOINT DIP
 [3] INSTALL MARKER TO MARK LOCATION OF STUBS IMMEDIATELY UPON BACKFILLING OF THE CASING

CULVERT TABULATION																	R	
NOTES	CULVERT NUMBER	DRIVEWAY CENTERLINE STATION	CENTERLINE OFFSET m	INLET ELEVATION m	OUTLET ELEVATION m	SLOPE %	2501		2501		2501		2501		2501		2511	2511
							375 mm CS PIPE CULVERT [5]		450 mm CS PIPE CULVERT [5]		525 mm CS PIPE CULVERT [5]		600 mm CS PIPE CULVERT [5]		2100 mm CS PIPE ARCH CULVERT [5]		RIP RAP CL III	RIP RAP CL IV [7]
							LENGTH m	SAFETY APRON [4] each	LENGTH m	SAFETY APRON [4] each	LENGTH m	SAFETY APRON [4] each	LENGTH m	SAFETY APRON [4] each	LENGTH m	GS SPAN APRON [4] each	m3	m3
SP 0212-41 MAIN STREET/T.H. 242																		
	202-201	4+347.145	24.07 LT	261.445	261.307	0.50	24.4	2										
	204-203	4+518.881	18.15 RT	261.475	261.349	0.55					18.3	2						
	206-205	4+520.857	18.24 LT	261.485	261.355	0.55				19.6	2							
	210-209	4+557.938	17.87 LT	261.959	261.637	1.60				15.9	2							
	212-211	4+596.197	17.30 LT	262.669	262.347	2.30	11.0	2										
	214-213	4+640.756	16.36 RT	263.808	263.290	2.30				18.4	2							
	216-215	4+648.952	16.46 LT	263.967	263.505	2.30	17.1	2										
	218-217	4+680.988	15.79 RT	264.753	264.221	2.30	20.2	2										
	220-219	4+689.600	15.81 LT	264.943	264.425	2.30	19.6	2										
	222-221	4+755.594	14.69 RT	266.370	265.942	1.90	19.6	2										
	224-223	4+790.166	14.18 RT	266.916	266.532	1.40	24.4	2										
	226-225	4+811.697	13.87 LT	267.126	266.828	1.00	26.9	2										
[7]		4+240	33.0 RT															20.0
[7]		4+255	31.0 RT															14.0
TEMPORARY CULVERTS																		
[6]		4+254	LT												16.0	1		29.5
[6]		4+255	LT											16.0	1			29.5
[6]		4+347	LT							45.7	2							
[6]		4+450	RT										16.0	2				
	TOTALS						163.1	16	53.8	6	64.0	4	16.0	2	32.0	2	59.0	34.0

NOTES:
 [4] INSTALL SAFETY APRON - REFER TO MNDOT STANDARD PLATE M3128
 [5] CULVERT LENGTHS DO NOT INCLUDE APRON LENGTHS
 [6] MATCH EXISTING DITCH GRADES FOR TEMPORARY CULVERTS
 [7] FOR RIP RAP BASINS IN DITCH ADJACENT TO COON CREEK
 [8] INSTALL METAL APRON - REFER TO MNDOT STANDARD PLATE M3122

PLOT DATE: May 21, 2002 1:11pm DISK FILE NAME: (15.05) R:\338899\338899028\338899\PLAN_SHT\TABS\LB-tab06.dwg


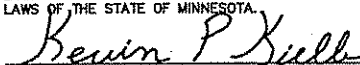
<table border="1"> <tr> <th>REV. NO.</th> <th>BY</th> <th>DATE</th> <th>REVISIONS DESCRIPTION</th> </tr> <tr> <td>1</td> <td>JUL</td> <td>05/22/02</td> <td>REVISIONS PER MNDOT C.O. COMMENTS</td> </tr> </table>	REV. NO.	BY	DATE	REVISIONS DESCRIPTION	1	JUL	05/22/02	REVISIONS PER MNDOT C.O. COMMENTS	DESIGN FILE: 33889028 5001 DRAWN BY: IKR CHECKED BY: KPK DATE: MARCH 29, 2002	 URS BRW, Inc.	I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.  KEVIN P. KIEHL DATE: 03/29/02 MN LIC. NO. 23211	MAIN STREET/T.H. 242 RECONSTRUCTION TABULATED QUANTITIES SANITARY SEWER & CULVERT CITY PROJECT 02-05	4 OF 5 SHEET NO. 14 171
REV. NO.	BY	DATE	REVISIONS DESCRIPTION										
1	JUL	05/22/02	REVISIONS PER MNDOT C.O. COMMENTS										

S.P. 0212-41

(15.05) R:\33889\33889028\33889B\PLAN_SHT\TABS\LB-tab09.dwg
May 21, 2002 12:04pm

WATER MAIN TABULATION							0
NOTES	STATION [1]	OFFSET [1]	2504	2504	2504	2504	2564
			CONNECT TO EXISTING WATER MAIN EACH	300 mm PIPE PLUG [4] EACH	300 mm WATER MAIN DIP CL 52 [2] m	600 mm STEEL CASING PIPE m	INSTALL MARKER [3] EACH
SP 0212-41							
MAIN STREET/TH 242							
	4+582.226	24.51, RT	1.0		44.5		
	4+582.232	22.87, RT				40.9	
	4+582.389	20.00, LT		1.0			1.0
SUBTOTAL=			1.0	1.0	44.5	40.9	1.0

NOTES:
 [1] STATIONS AND OFFSETS ARE BASED UPON THE BASELINE ALIGNMENT
 [2] SHALL BE RESTRAINED JOINT DIP
 [3] INSTALL MARKER TO MARK LOCATION OF STUB IMMEDIATELY UPON BACKFILLING OF THE WATER MAIN.
 [4] CONCRETE THRUST BLOCK IS INCIDENTAL TO 300 mm DIP PIPE PLUG

<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>REV. NO.</th> <th>BY</th> <th>DATE</th> <th>REVISIONS DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>JUL</td> <td>05/22/02</td> <td>REVISIONS PER MNDOT C.O. COMMENTS</td> </tr> </tbody> </table>	REV. NO.	BY	DATE	REVISIONS DESCRIPTION	1	JUL	05/22/02	REVISIONS PER MNDOT C.O. COMMENTS	DESIGN FILE: 33889028 DRAWN BY: IKR DESIGN BY: JUL CHKD. BY: KPK/JUL DWG. NAME: LB-TAB09 DATE: MARCH 29, 2002	 ALL QUANTITIES AND DIMENSIONS ON THIS PLAN ARE IN METRIC UNITS.	Thresher Square 700 Third Street South Minneapolis, MN 55415 612.370.0700 Tel 612.370.1378 Fax	I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.  KEVIN P. KIEHL DATE: 03/29/02 MN LIC. NO. 23211	MAIN STREET/T.H. 242 RECONSTRUCTION TABULATED QUANTITIES MISCELLANEOUS CITY PROJECT 02-05	SHEET NO. 15 171	S.P. 0212-41
REV. NO.	BY	DATE	REVISIONS DESCRIPTION												
1	JUL	05/22/02	REVISIONS PER MNDOT C.O. COMMENTS												

GAS (RELIANT ENERGY - MINNEGASCO)					E
STATION TO STATION	LOCATION	OFFSET m	ITEM INPLACE	REMARKS	
SP 0212-41 MAIN STREET/TH 242					
4+284.000	LT	14.2	100 mm PLUG	PROTECT	
4+284.000	RT	16.4	50 mm PLUG	PROTECT	
4+284.000 - 5+024.000	LT	11.8-14.2	100 mm BURIED	PROTECT	
4+284.000 - 4+991.000	RT	16.4-20.4	50 mm BURIED	PROTECT	
4+577.300	RT	19.6	TEE	PROTECT	
4+979.140	LT-RT	CROSSING	BURIED	PROTECT	

TELEPHONE (QWEST)					E
STATION TO STATION	LOCATION	OFFSET m	ITEM INPLACE	REMARKS	
SP 0212-41 MAIN STREET/TH 242					
4+000.000 - 4+143.000	RT	30.2-26.0	BURIED	PROTECT	
4+143.000	RT-LT	CROSSING	BURIED	RELOCATE	
4+278.000	RT-LT	CROSSING	BURIED	RELOCATE	
4+278.000	LT	9.4	TELEPHONE MH	RELOCATE	
4+278.000 - 4+340.000	RT	20.0-18.6	BURIED	PROTECT	
4+340.000	RT	18.6	TELEPHONE MH	RELOCATE	
4+340.000 - 4+539.000	RT	18.6-18.8	BURIED	PROTECT	
4+539.000	RT-LT	CROSSING	BURIED	RELOCATE	
4+539.000 - 4+836.000	RT	18.8-18.4	BURIED	PROTECT	
4+836.000	RT-LT	CROSSING	BURIED	RELOCATE	
4+836.000	LT	14.9	TELEPHONE MH	RELOCATE	
4+836.000 - 5+024.000	RT	18.4	BURIED	PROTECT	

CABLE TV (MEDIA ONE CABLE)					E
STATION TO STATION	LOCATION	OFFSET m	ITEM INPLACE	REMARKS	
SP 0212-41 MAIN STREET/TH 242					
4+000.000 - 4+571.000	RT	27.4-20.4	OVERHEAD	RELOCATE	
4+540.100	LT	9.8	CA-TV MH	RELOCATE	
4+540.100 - 4+590.500	LT	9.8-10.5	BURIED	RELOCATE	
4+571.000	RT-LT	CROSSING	BURIED	RELOCATE	
4+571.000 - 4+659.000	RT	20.4-21.0	OVERHEAD	RELOCATE	
4+590.500	LT	10.5	CA-TV MH	RELOCATE	
4+590.500 - 4+673.000	LT	10.5-9.8	BURIED	RELOCATE	
4+659.000	RT-LT	CROSSING	BURIED	RELOCATE	
4+659.000 - 4+832.000	RT	21.0	OVERHEAD	RELOCATE	
4+673.000	LT	9.8	CA-TV MH	RELOCATE	
4+673.000 - 4+832.000	LT	10.5-9.8	BURIED	RELOCATE	
4+832.000	RT-LT	CROSSING	BURIED	RELOCATE	
4+832.000	LT	9.6	CA-TV MH	RELOCATE	
4+832.000 - 4+992.000	LT	9.6-12.2	BURIED	RELOCATE	
4+832.000 - 4+992.000	RT	21.0	OVERHEAD	RELOCATE	
4+992.000	RT-LT	CROSSING	BURIED	RELOCATE	
4+992.000	LT	9.6	CA-TV MH	RELOCATE	
4+992.000 - 5+010.000	RT	12.5	BURIED	RELOCATE	
5+010.000	LT	12.5	CA-TV MH	RELOCATE	
4+992.000 - 5+025.000	RT	21.0	OVERHEAD	RELOCATE	

POWER (CONNEXUS ENERGY)					E
STATION TO STATION	LOCATION	OFFSET m	ITEM INPLACE	REMARKS	
SP 0212-41 MAIN STREET/TH 242					
4+000.000 - 5+025.000	RT	30.2-20.3	OVERHEAD	RELOCATE	
4+039.000	RT-LT	CROSSING	OVERHEAD	RELOCATE	
4+060.000	RT	18.9	LIGHTING UNIT	SALVAGE (1)	
4+060.000	LT	19.7	LIGHTING UNIT	SALVAGE (1)	
4+120.000	RT	16.1	LIGHTING UNIT	SALVAGE (1)	
4+120.000	LT	14.1	LIGHTING UNIT	SALVAGE (1)	
4+180.000	RT	13.8	LIGHTING UNIT	SALVAGE (1)	
4+180.000	LT	10.0	LIGHTING UNIT	SALVAGE (1)	
4+240.000	RT	8.0	LIGHTING UNIT	SALVAGE (1)	
4+240.000	LT	9.5	LIGHTING UNIT	SALVAGE (1)	
4+480.800	RT-LT	CROSSING	OVERHEAD	RELOCATE	
4+577.800	RT-LT	CROSSING	OVERHEAD	RELOCATE	
4+670.800	RT-LT	CROSSING	OVERHEAD	RELOCATE	
4+832.700	RT-LT	CROSSING	OVERHEAD	RELOCATE	
4+992.800	RT-LT	CROSSING	OVERHEAD	RELOCATE	

SANITARY SEWER (MCES)					E
STATION TO STATION	LOCATION	OFFSET m	ITEM INPLACE	REMARKS	
SP 0212-41 MAIN STREET/TH 242					
4+418.189	RT	89.991	MANHOLE	LEAVE AS IS	
4+419.320	RT	21.873	MANHOLE	ADJUST	
4+419.320 - 4+426.403	RT-LT	CROSSING	1050 mm RCP	LEAVE AS IS	
4+421.335 - 4+423.963	RT-LT	CROSSING	1065 mm RCP (CASING)	LEAVE AS IS	
4+426.403	LT	23.604	MANHOLE	RECONSTRUCT	
4+429.323	LT	135.732	MANHOLE	LEAVE AS IS	

GENERAL NOTES:

THE REMARKS COLUMN IS BASED UPON THE BEST INFORMATION AVAILABLE AND MAY NOT REFLECT THE ACTUAL EFFECTS ON THE UTILITIES BY CONSTRUCTION. ACTUAL DETERMINATION WILL BE MADE IN THE FIELD DURING CONSTRUCTION.

ALL UTILITY WORK SHOWN SHALL BE DONE BY OTHERS UNLESS NOTED.

UTILITIES ARE SHOWN AT APPROXIMATE LOCATIONS. THE CONTRACTOR SHALL DETERMINE THE ACTUAL LOCATION OF ALL UTILITIES IN THE FIELD.

FOR TRAFFIC MANAGEMENT SYSTEMS MODIFICATIONS, PLEASE REFER TO THE TRAFFIC MANAGEMENT SYSTEM PLANS AND TABULATIONS.

NOTES:
(1) SALVAGE OF SCREW IN ANCHOR BASE AND OVERHEAD LIGHT CABLE SHALL BE INCIDENTAL TO SALVAGE LIGHTING UNIT.

WATER MAIN (CITY OF COON RAPIDS)					E
STATION TO STATION	LOCATION	OFFSET m	ITEM INPLACE	REMARKS	
SP 0212-41 MAIN STREET/TH 242					
4+582.2	RT	24.5	300 mm STUB	TIE INTO EXISTING	
4+686.0	LT	19.0	WELL HEAD	PROTECT	

PRIVATE UTILITY OWNERS			
CITY OF COON RAPIDS 11155 ROBINSON DRIVE COON RAPIDS, MN 55433-5397 CONTACT: DOUG VIERZBA CITY ENGINEER TEL: (763) 767-6465	QWEST COMMUNICATIONS 9700 SCHMIDT LAKE ROAD ROOM 155 PLYMOUTH, MN 55442 CONTACT: JIM KLOSTERMAN TEL: (612) 531-6385	AT&T BROADBAND 1238 GREY FOX ROAD ARDEN HILLS, MN 55112 CONTACT: DOUG ZAHN TEL: (651) 493-5316	MN/DOT ELECTRICAL SERVICES SECTION 600 MINNEHAHA AVENUE FT. SNELLING, MN 55111 CONTACT: MARLIN REINARDY TEL: (612) 725-2309
RELIANT ENERGY - MINNEGASCO (GAS) 700 WEST LINDEN AVENUE P.O. BOX 1165 MINNEAPOLIS, MN 55440-1165 CONTACT: RICK PILON TEL: (612) 321-5426	CONNEXUS ENERGY (POWER) 14601 RAMSEY BLVD. RAMSEY, MN 55303 CONTACT: STEVE ZIMMERMAN TEL: (612) 323-2766	METROPOLITAN COUNCIL ENVIRONMENTAL SERVICES REGIONAL MAINTENANCE CENTER 3565 KENNEBEC DRIVE EAGAN, MN 55122 CONTACT: BILL MOELLER ASSISTANT GENERAL MANAGER-INTERCEPTOR SERVICES TEL: (651) 602-4500	

PLOT DATE: May 20, 2002 11:23am DISK FILE NAME: (15.05) R:\33889\33889028\PLAN_SHT\TABS\Bautab.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	JL	05/03/02	REVISIONS PER MNDDT C.O. COMMENTS

DESIGN FILE: 33889028 50D1	DRAWN BY: IKR	DESIGN BY: JL/BJK
CHKD. BY: KPK	DWG. NAME: LBEUTAB	
DATE: MARCH 29, 2002		



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Kevin P. Kielb
KEVIN P. KIELB
DATE: 03/29/02 MN LIC. NO. 23211

MAIN STREET/T.H. 242 RECONSTRUCTION

TABULATED QUANTITIES
EXISTING UTILITIES

CITY PROJECT 02-05

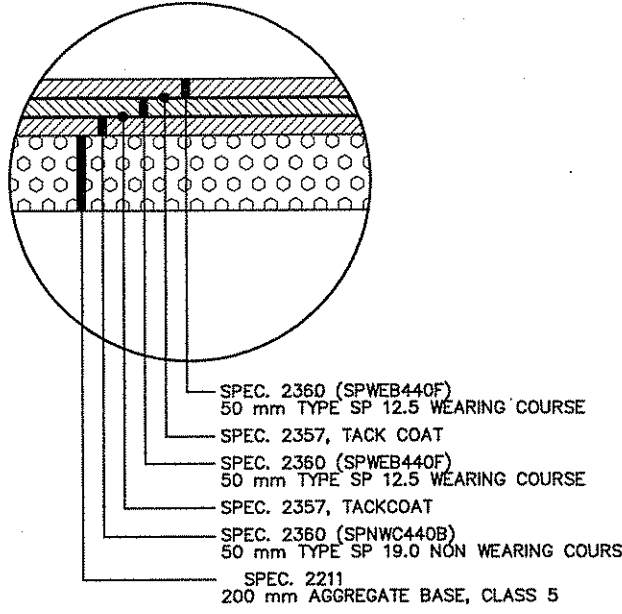
S.P. 0212-41

1 OF 1

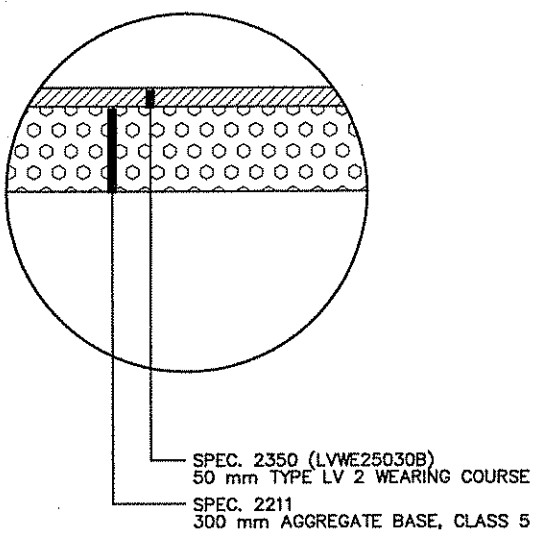
SHEET NO.
16

171

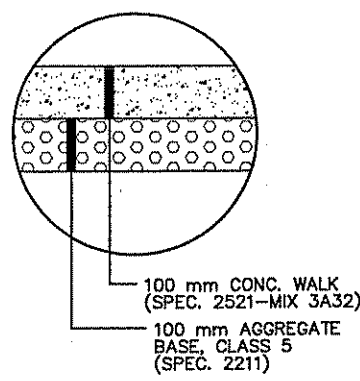
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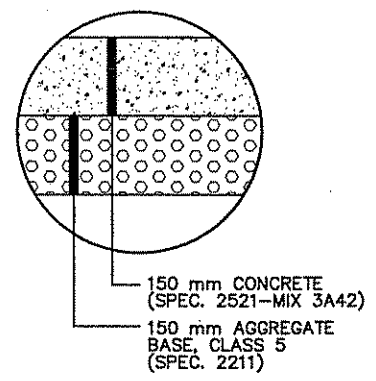
BITUMINOUS PAVEMENT for TH 242 INSET 1



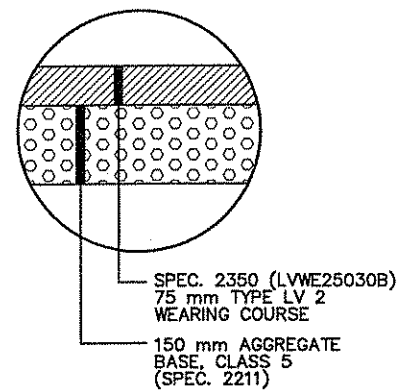
BITUMINOUS SHOULDERS for TH 242 INSET 2



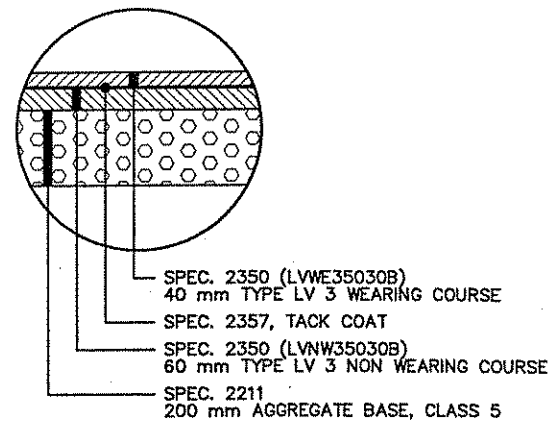
100 mm CONCRETE WALK (MEDIAN) INSET 3



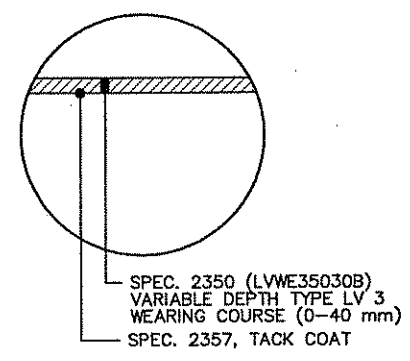
CONCRETE PAVEMENT for RESIDENTIAL DRIVEWAYS INSET 4



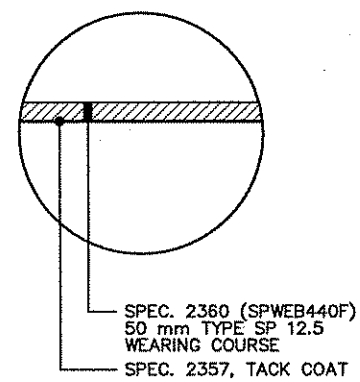
BITUMINOUS PAVEMENT for RESIDENTIAL DRIVEWAYS INSET 5



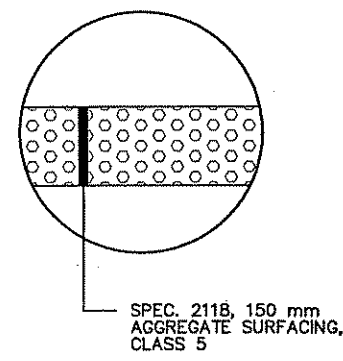
TEMPORARY BITUMINOUS PAVEMENT for TH 242 SHOULDERS INSET 6



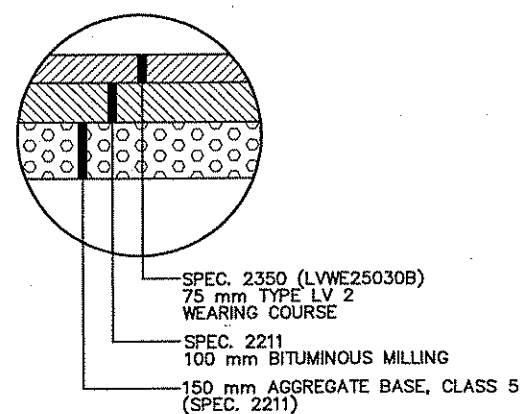
LEVELING COURSE for TEMPORARY BITUMINOUS PAVEMENT INSET 7



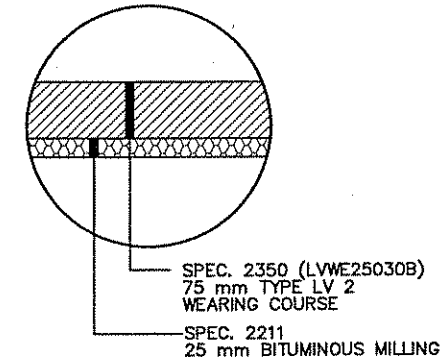
BITUMINOUS OVERLAY for TH 242 INSET 8



AGGREGATE for TEMPORARY RESIDENTIAL DRIVEWAYS INSET 9



PAVEMENT for PERMANENT COMMERCIAL DRIVEWAYS INSET 10



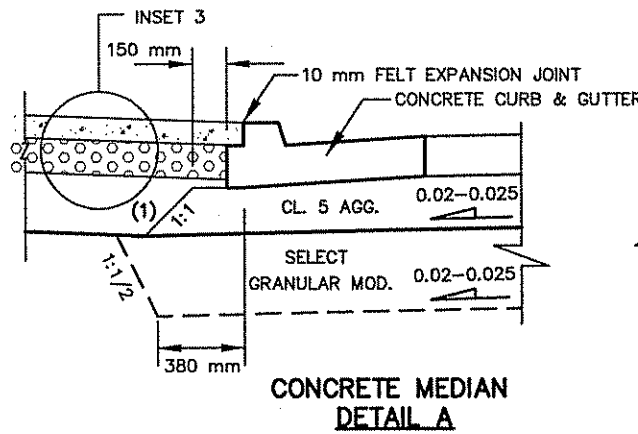
PAVEMENT for PERMANENT COMMERCIAL DRIVEWAYS INSET 11

GENERAL NOTES:

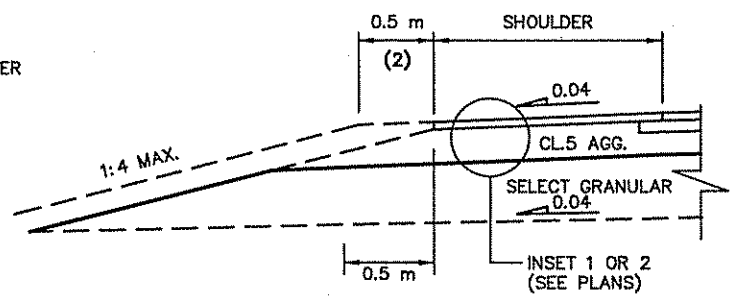
- DIMENSIONS ARE IN METERS UNLESS OTHERWISE NOTED.
- ALL CROSS SLOPES ARE IN METER PER METER.
- UNLESS OTHERWISE SPECIFIED, THE GRADING GRADE CROSS SLOPES WILL BE THE SAME AS THE FINISHED GRADE.
- USE 150 mm STEPPING ON BITUMINOUS LIFTS.
- FOR CLARITY, THE BOTTOM OF THE WEARING COURSE AND BINDER COURSE ARE NOT SHOWN ON THE TYPICAL SECTIONS.
- REFER TO THE PLANNED CONSTRUCTION AND LANDSCAPE PLAN SHEETS FOR CONCRETE AREAS.

NOTES:

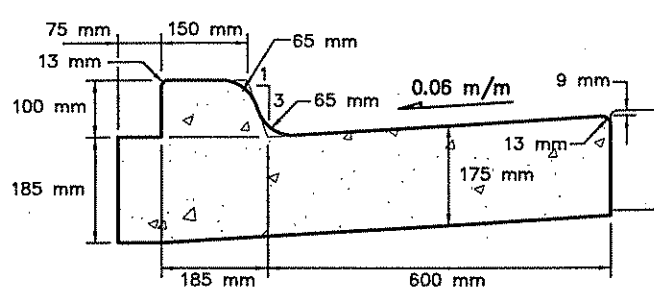
- (1) BACKFILL WITH APPROVED GRADING MATERIAL.
- (2) PLACE A MINIMUM OF 2 ROLLS (1.2 m) OF SOD BEHIND ALL CURBS AND SHOULDERS UNLESS OTHERWISE NOTED IN THE PLANS.



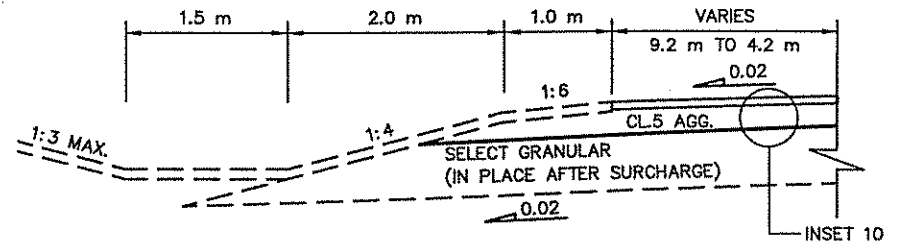
CONCRETE MEDIAN DETAIL A



TYPICAL SHOULDER DETAIL for RURAL SECTION DETAIL B



B424 MODIFIED CURB & GUTTER DETAIL C



TYPICAL DETAIL for COMMERCIAL DRIVEWAY DETAIL B

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	JUL	05/22/02	ADDED INSET 11 FOR LAWRENCE DRIVEWAY
2	IKR	05/22/02	REVISED PER MNDOT C.O. COMMENTS

DESIGN FILE: 33889028 5001	DRAWN BY: IKR	DESIGN BY: JUL
CHKD. BY: KPK	DWG. NAME: LB-TYP01	
DATE: MARCH 29, 2002		



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Kevin P. Kielb
KEVIN P. KIELB
DATE: 03/29/02 MN LIC. NO. 23211

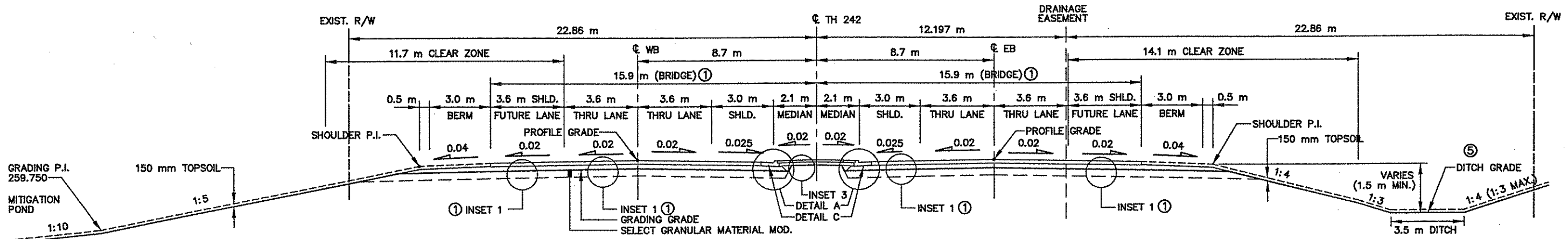
MAIN STREET/T.H. 242 RECONSTRUCTION
TYPICAL SECTIONS
PAVEMENT INSETS, DETAILS and NOTES
CITY PROJECT 02-05

S.P. 0212-41

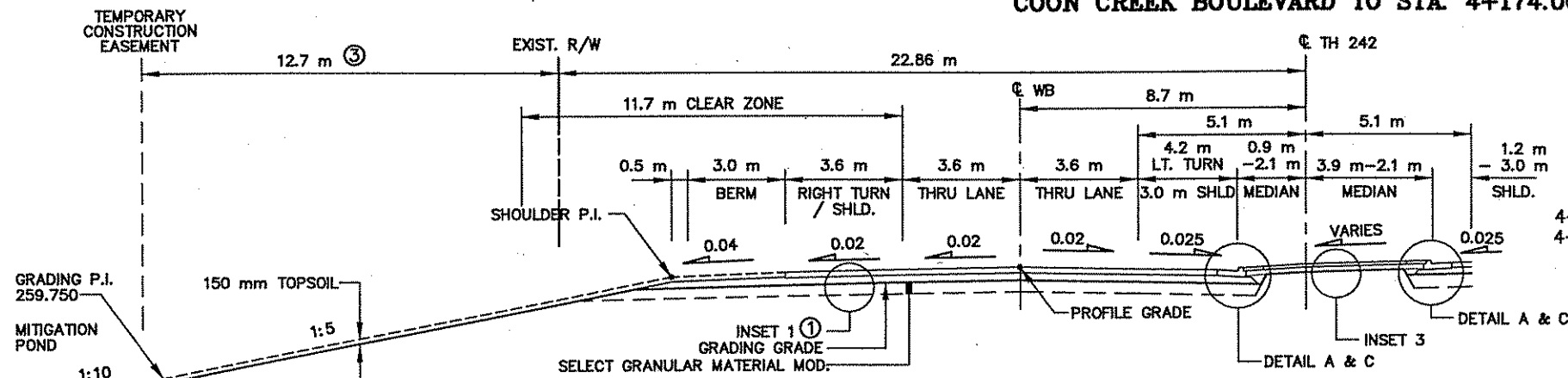
1 OF 5
SHEET NO. 17
171

PROPOSED TYPICAL SECTION TH 242
STA. 3+989.405 TO STA. 4+253.610 (COON CREEK C)

NOTE:
NOT ALL EASEMENTS ARE SHOWN ON PLAN VIEW FOR CLARITY.
ALL EASEMENTS ARE SHOWN ON TYPICAL SECTIONS AND ON CROSS SECTIONS.



WEST BOUND LEFT AND RIGHT TURN LANES
COON CREEK BOULEVARD TO STA. 4+174.000



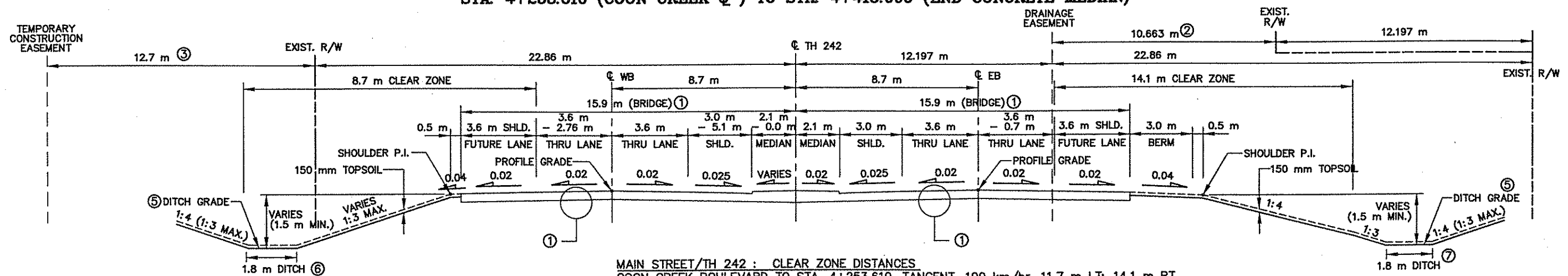
STATIONS

4+040.000 TO 4+173.980, LT. TURN
4+040.000 TO 4+174.000, RT. TURN

TYPICAL NOTES:

- ① STA. 4+137.190 TO STA. 4+143.290
CONSTRUCT CONCRETE APPROACH PANEL
STA. 4+143.290 TO STA. 4+436.632
SEE BRIDGE PLAN FOR SURFACING MATERIAL
- ② EXIST. R/W TRANSITIONS AT STA. 4+394.856
- ③ T.C.E. FROM STA. 4+297.359 TO STA. 4+426.705
- ④ DELETED
- ⑤ SEE CROSS-SECTION AND DRAINAGE PLAN SHEETS
FOR SPECIAL DITCH GRADES
- ⑥ BEGIN DITCH SECTION (LEFT) AT STA. 4+253.610
- ⑦ DITCH WIDTH 3.5 m FROM STA. 4+040.000 TO
STA. 4+253.610 (WEST OF COON CREEK)

PROPOSED TYPICAL RURAL SECTION TH 242
STA. 4+253.610 (COON CREEK C) TO STA. 4+418.000 (END CONCRETE MEDIAN)



MAIN STREET/TH 242 : CLEAR ZONE DISTANCES
COON CREEK BOULEVARD TO STA. 4+253.610, TANGENT, 100 km/hr, 11.7 m LT; 14.1 m RT
STA. 4+253.610 TO STA. 4+442.732, TANGENT, 100km/hr, 14.1 m
STA. 4+442.732 TO STA. 4+460.000, TANGENT, 100km/hr, 11.9 m
STA. 4+640.000 TO STA. 4+865.700, TANGENT, 90km/hr, 11.0 m

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1	JL	05/22/02	REVISIONS PER MNDOT C.O. COMMENTS

DESIGN FILE: 33889028 5001	
DRAWN BY: IKR	DESIGN BY: JL
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Kevin P. Kielb
KEVIN P. KIELB
DATE: 03/29/02 MN LIC. NO. 23211

MAIN STREET/T.H. 242 RECONSTRUCTION

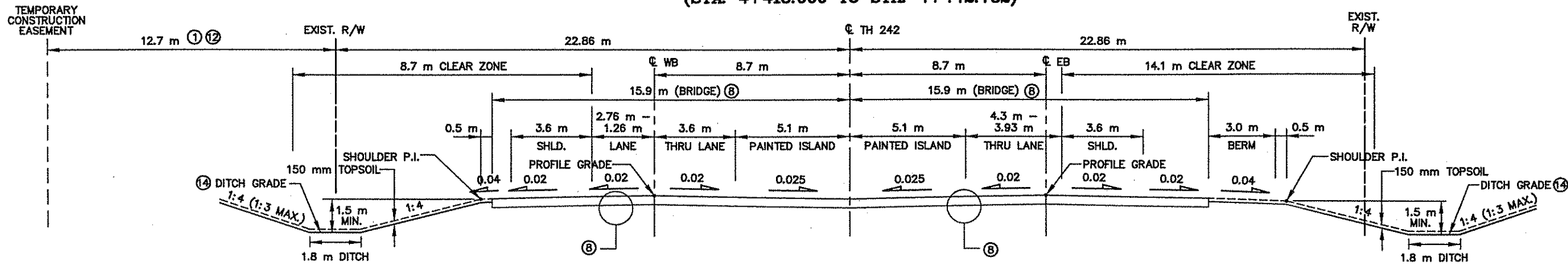
TYPICAL SECTIONS
COON CREEK BOULEVARD TO END CONCRETE MEDIAN

CITY PROJECT 02-05

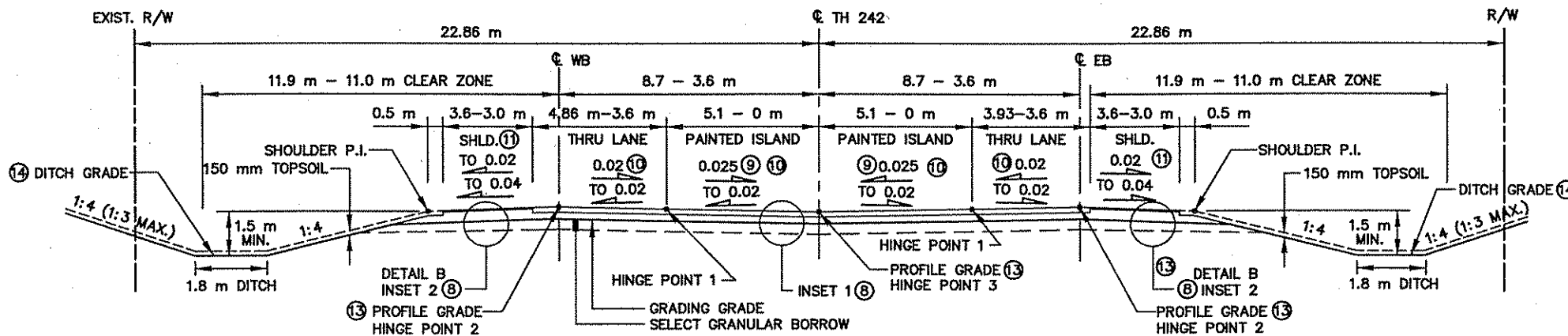
S.P. 0212-41

PROPOSED TYPICAL RURAL SECTION TH 242
END CONCRETE MEDIAN TO END OF APPROACH PANEL
(STA. 4+418.000 TO STA. 4+442.732)

NOTE:
NOT ALL EASEMENTS ARE SHOWN ON PLAN VIEW FOR CLARITY.
ALL EASEMENTS ARE SHOWN ON TYPICAL SECTIONS AND ON CROSS SECTIONS.



PROPOSED TYPICAL RURAL SECTION TH 242
END OF APPROACH PANEL TO END CONSTRUCTION
(STA. 4+442.732 TO STA. 4+865.700)



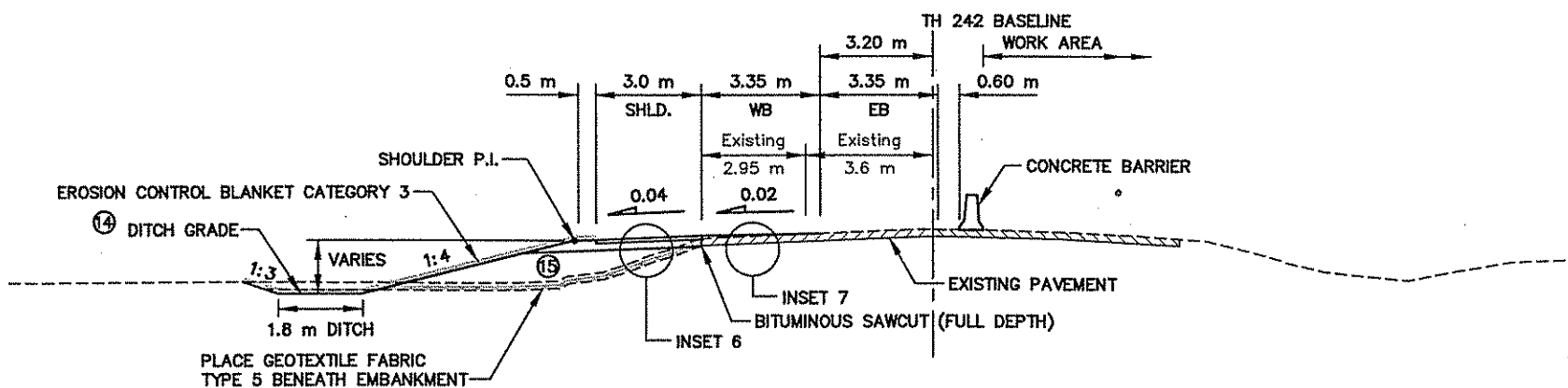
TYPICAL NOTES:

- Ⓒ STA. 4+143.290 TO STA. 4+436.632
SEE BRIDGE PLAN FOR SURFACING MATERIAL
STA. 4+436.632 TO STA. 4+442.732
CONSTRUCT CONCRETE APPROACH PANEL (SEE BRIDGE PLAN)
LONGITUDINAL SLOPE TRANSITION RATE 1:400 (ABOUT SHLD.)

PAVEMENT TRANSITION RATES TABLE

BEGIN STATION	END STATION	TRANSITION SECTION	HINGE POINT	TRANSITION RATE TO HINGE	BEGIN SLOPE	END SLOPE
Ⓒ 4+442.732	4+452.932	MEDIAN	(1)	1:400	-0.025	-0.02
Ⓓ 4+452.932	4+481.732	LANE/MEDIAN	(2)	1:400	-0.02	-0.00
Ⓔ 4+481.732	4+510.732	LANE/MEDIAN	(3)	1:400	0.00	0.02
Ⓕ 4+469.732	4+481.732	SHOULDER	(2)	1:200	0.02	0.04

TH 242 TEMPORARY BYPASS
(STA. 4+225 TO STA. 4+574)



- Ⓖ T.C.E. FROM STA. 4+297.359 TO STA. 4+426.705
- Ⓕ PROFILE GRADE TRANSITIONS TO Ⓒ MAIN STREET
STA. 4+481.732 TO STA. 4+865.000
- Ⓖ SEE TEMPORARY CONSTRUCTION PLAN & PROFILE AND TEMPORARY CONSTRUCTION CROSS SECTION SHEETS FOR SPECIAL DITCH GRADES
- Ⓖ BACKFILL WITH GRANULAR BORROW

MAIN STREET/TH 242 : CLEAR ZONE DISTANCES
COON CREEK BOULEVARD TO STA. 4+253.610, TANGENT, 100 km/hr, 11.7 m
STA. 4+253.610 TO STA. 4+442.732, TANGENT, 100km/hr, 14.1 m
STA. 4+442.732 TO STA. 4+460.000, TANGENT, 100km/hr, 11.9 m
STA. 4+640.000 TO STA. 4+865.700, TANGENT, 90km/hr, 11.0 m

PLOT DATE: May 20, 2002 12:50pm DISK FILE NAME: (15.05) R:\33889\33889028\PLAN_SHT\Engring\lb-typ03.dwg

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Kevin P. Kiehl
KEVIN P. KIEHL
DATE: 03/29/02 MN LIC. NO. 23211

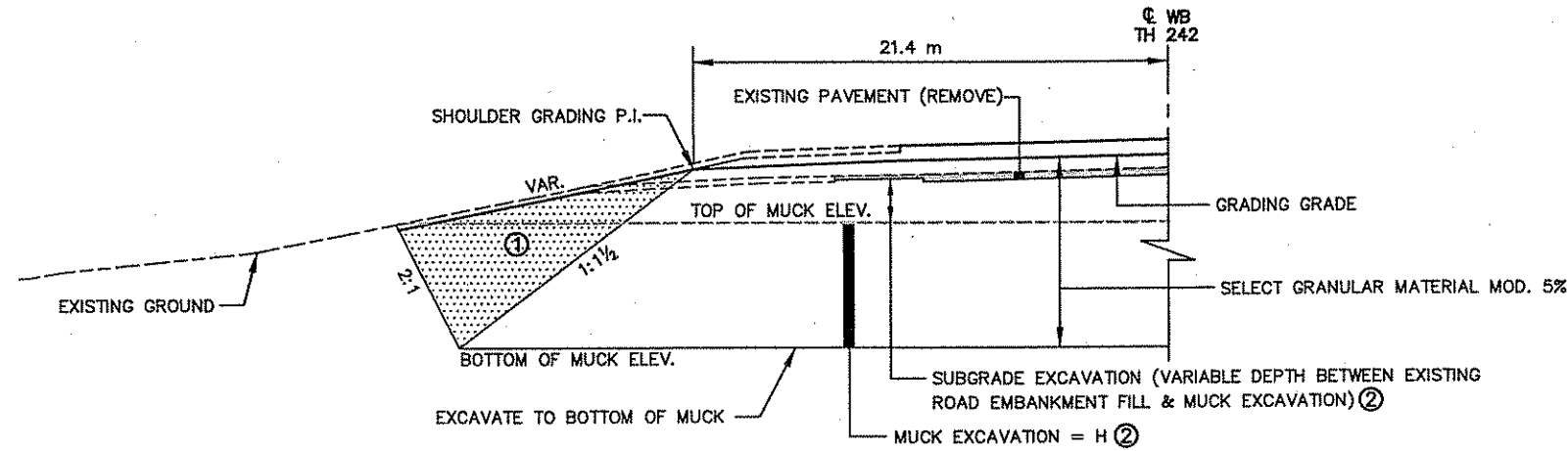
MAIN STREET/T.H. 242 RECONSTRUCTION
TYPICAL SECTIONS
END CONCRETE MEDIAN TO END CONSTRUCTION
CITY PROJECT 02-05

S.P. 0212-41

NOTE:

EASEMENTS AND ROW ARE SHOWN ON THE TYPICAL SECTIONS AND CROSS SECTIONS FOR CLARITY.

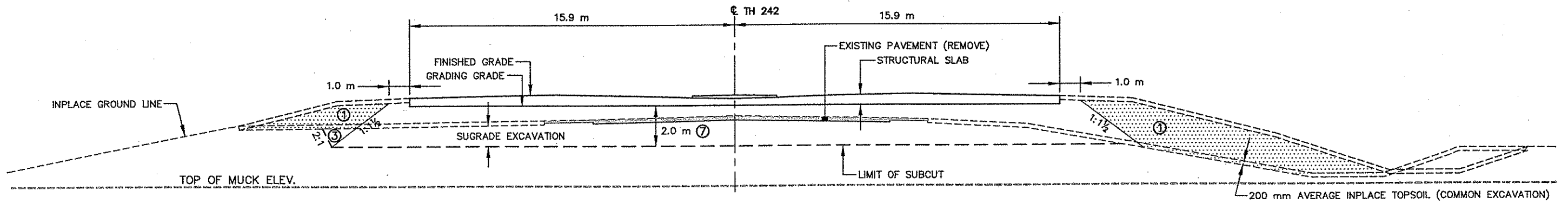
MUCK EXCAVATION DETAIL
(STA. 4+040.000 TO STA. 4+160.000)



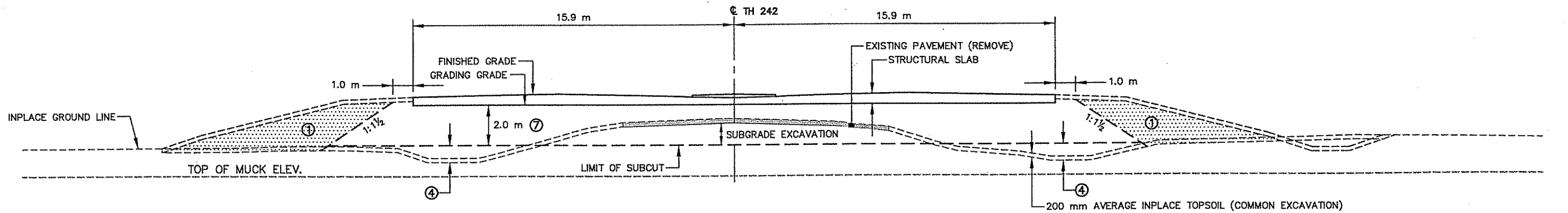
EXCAVATION/EMBANKMENT NOTES:

- ① SELECTED GRADING OR EXCESS MUCK EXCAVATION AND TOPSOIL DISPOSAL AREA AS DIRECTED BY THE ENGINEER
- ② SEE PROFILES AND CROSS SECTIONS FOR MUCK AND SUBGRADE EXCAVATION DEPTH
- ③ BACKFILL WITH SELECT GRANULAR MATERIAL MODIFIED 5%
- ④ BACKFILL WITH SELECT GRANULAR MATERIAL MOD. 5% (4+143.290 - 4+160.000)
BACKFILL WITH SELECTED GRADING MATERIAL (4+160.000 - 4+436.632)
- ⑤ BACKFILL WITH SELECTED GRADING MATERIAL
- ⑥ BACKFILL WITH GRANULAR MATERIAL OF WHICH THE UPPER 0.41 m SHALL BE SELECT GRANULAR MATERIAL
- ⑦ SELECT GRANULAR MATERIAL MODIFIED 5% PLACED BY THE CONTRACTOR PRIOR TO BRIDGE AND PILE CONSTRUCTION TO CREATE A WORK PLATFORM. THE SELECT GRANULAR MATERIAL MODIFIED MATERIAL SHALL COMPLY WITH SPEC. 3149.2B MODIFIED TO 5% PASSING THE NUMBER 200 SIEVE

LANDBRIDGE SUBGRADE TREATMENT - EXCAVATION
(STA. 4+143.290 TO STA. 4+436.632)



LANDBRIDGE SUBGRADE TREATMENT - EMBANKMENT
(STA. 4+143.290 TO STA. 4+436.632)



PLOT DATE: May 21, 2002 1:33pm DISK FILE NAME: (15.05) R:\33889\33889028\PLAN_SHT\Engring\lb-tp04.dwg

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1	JUL	05/22/02	REVISIONS PER MNDDT C.O. COMMENTS

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33889028
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DESIGN BY:
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CHKD. BY:
JJL
DWG. NAME:
LB-tp04
DATE:
MARCH 29, 2002



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612.370.1376 Fax

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Kevin P. Kielb
KEVIN P. KIELB
DATE: 03/29/02 MN LIC. NO. 23211

MAIN STREET/T.H. 242 RECONSTRUCTION
TYPICAL SECTIONS
MUCK EXCAVATION
SUBGRADE TREATMENT - EXCAVATION/EMBANKMENT
CITY PROJECT 02-05

S.P. 0212-41

4 OF 5
SHEET NO.
20
171

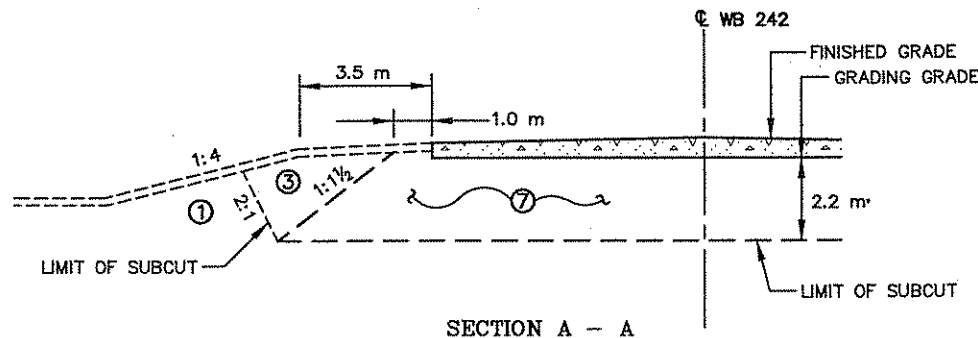
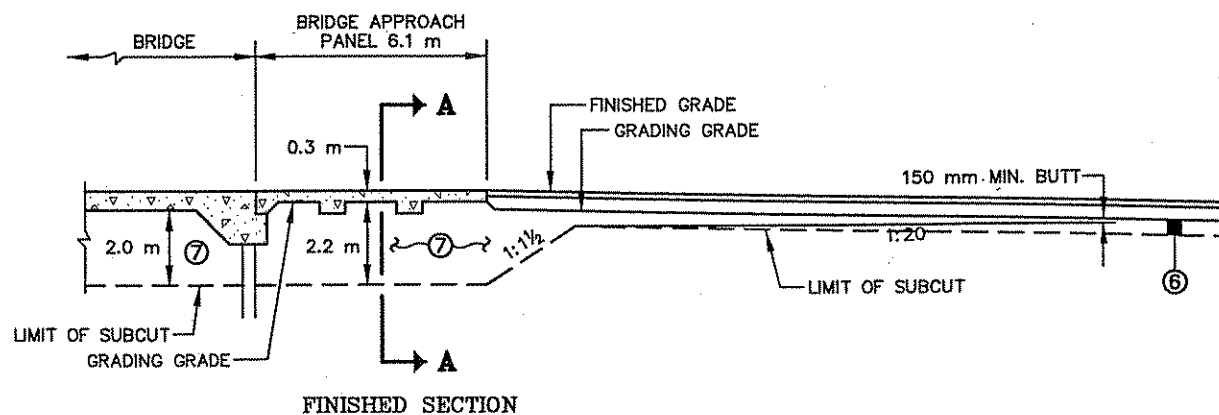
NOTE:

EASEMENTS AND ROW ARE SHOWN ON THE TYPICAL SECTIONS AND CROSS SECTIONS FOR CLARITY.

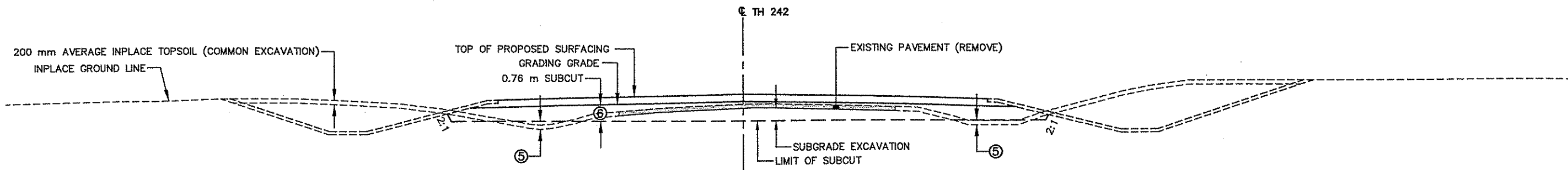
EXCAVATION/EMBANKMENT NOTES:

- ① SELECTED GRADING OR EXCESS MUCK EXCAVATION AND TOPSOIL DISPOSAL AREA AS DIRECTED BY THE ENGINEER
- ② SEE PROFILES AND CROSS SECTIONS FOR MUCK AND SUBGRADE EXCAVATION DEPTH
- ③ BACKFILL WITH SELECT GRANULAR MATERIAL MODIFIED 5%
- ④ BACKFILL WITH SELECT GRANULAR MATERIAL MOD. 5% (4+143.290 - 4+160.000) BACKFILL WITH SELECTED GRADING MATERIAL (4+160.000 - 4+436.632)
- ⑤ BACKFILL WITH SELECTED GRADING MATERIAL
- ⑥ BACKFILL WITH GRANULAR MATERIAL OF WHICH THE UPPER 0.41 m SHALL BE SELECT GRANULAR MATERIAL
- ⑦ SELECT GRANULAR MATERIAL MODIFIED 5% PLACED BY THE CONTRACTOR PRIOR TO BRIDGE AND PILE CONSTRUCTION TO CREATE A WORK PLATFORM. THE SELECT GRANULAR MATERIAL MODIFIED MATERIAL SHALL COMPLY WITH SPEC. 3149.2B MODIFIED TO 5% PASSING THE NUMBER 200 SIEVE

**SUBGRADE TREATMENT FOR APPROACH PANEL
(STA. 4+436.632 TO STA. 4+442.732)**



**STANDARD SUBGRADE TREATMENT TYPICAL - EXCAVATION/EMBANKMENT
(STA. 4+442.732 TO STA. 4+865.700)**



PLOT DATE: May 21, 2002 1:32pm DISK FILE NAME: (15.05) R:\33889\33889028\PLAN_SHT\Engring\lb-tp05.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	J.J.	05/22/02	REVISIONS PER MNDDOT C.O. COMMENTS

DESIGN FILE: 33889028	
DRAWN BY: IKR	DESIGN BY: KPK/JUL
CHKD. BY: J.J.L	DWG. NAME: LB-tp05
DATE: MARCH 29, 2002	



ALL QUANTITIES AND DIMENSIONS ON THIS PLAN ARE IN METRIC UNITS.



Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.3378 Fax

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Kevin P. Kielb
KEVIN P. KIELB
DATE: 03/29/02 MN LIC. NO. 23211

MAIN STREET/T.H. 242 RECONSTRUCTION

TYPICAL SECTIONS
SUBGRADE TREATMENTS

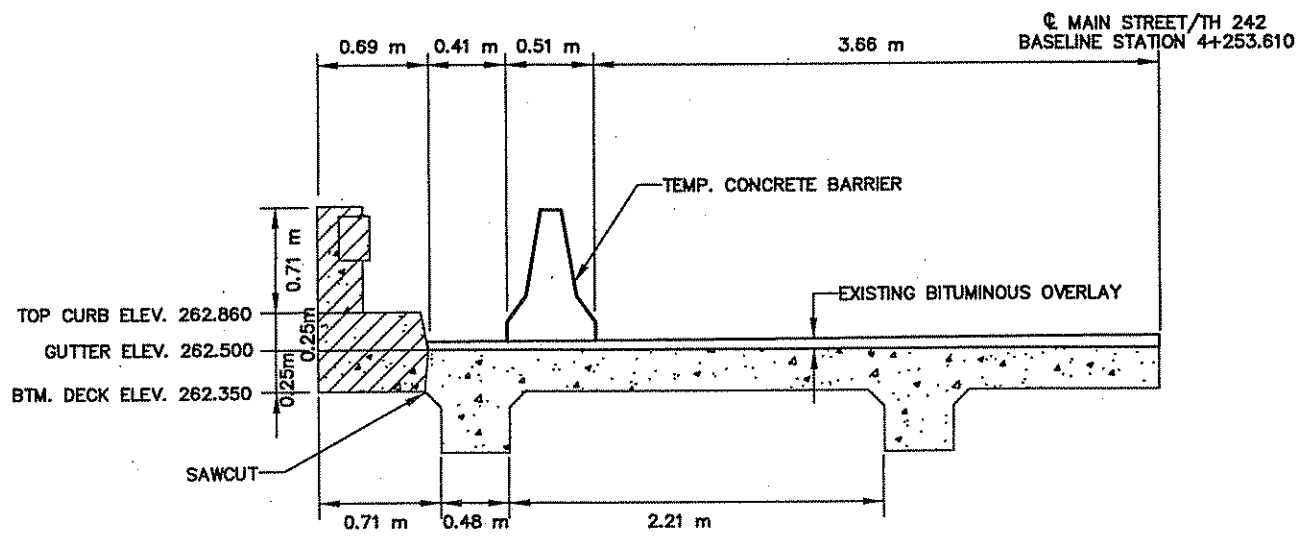
CITY PROJECT 02-05

5 OF 5

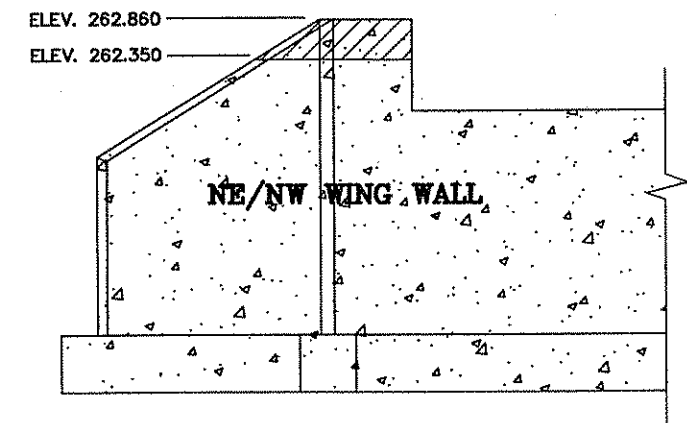
SHEET NO.
21

S.P. 0212-41

171

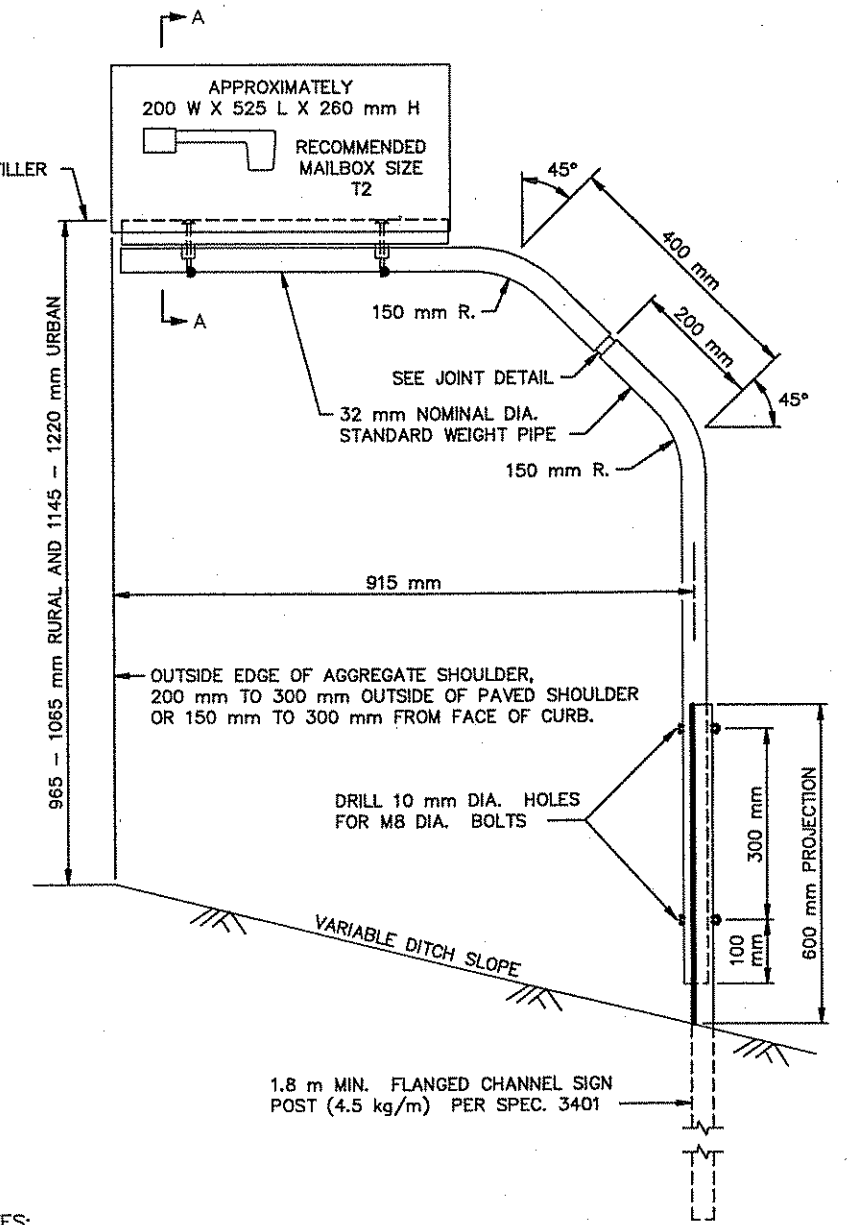
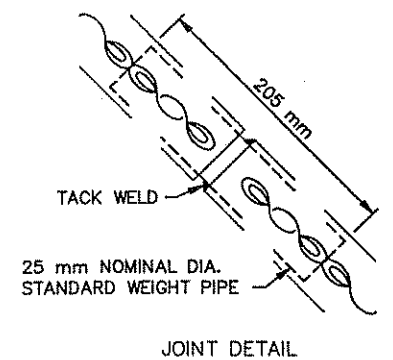
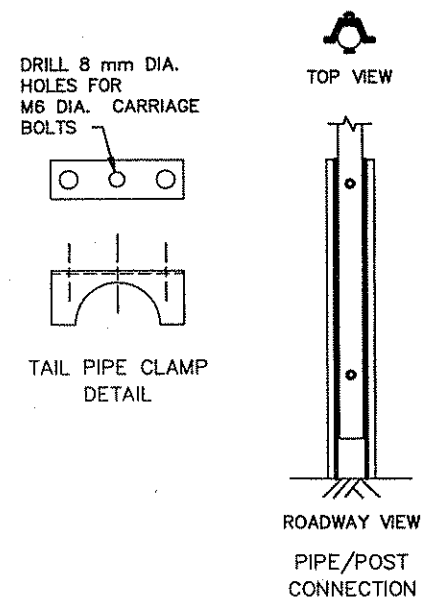
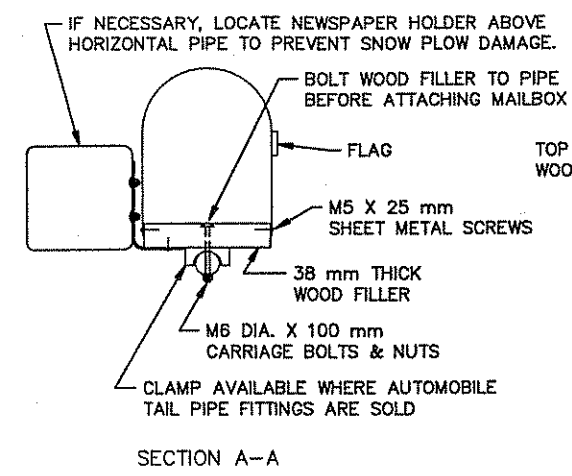


NORTH SIDE OF DECK



STAGE 1, PHASE 1 BRIDGE #3656 - PARTIAL REMOVAL

REMOVE CONCRETE RAILING, CURB, DECK, NORTHEAST AND NORTHWEST WINGWALL TO ELEVATION 262.35. TO BE PAID FOR AS 2433 REMOVE BRIDGE, SLAB, AND RAIL



NOTES:
 NO MORE THAN THREE MAILBOXES SPACED 760 mm CENTER TO CENTER ARE TO BE USED IN ONE LOCATION.
 PIPE SHALL CONFORM TO SPEC. 3362
 ALL FASTENERS SHALL CONFORM TO SPEC. 3391
 PIPES AND POST SHALL BE GALVANIZED PER SPEC. 3392
 MAILBOX LOCATIONS SHOULD BE STAKED BEFORE INSTALLATION FOR PROPER HEIGHT AND DISTANCE FROM THE ROADWAY. ONCE STAKED, THE INSTALLER MUST NOTIFY THE ENGINEER AND THE POST OFFICE. THE ENGINEER AND POSTMASTER/MAILCARRIER WILL BE ALLOWED 48 HOURS TO REVIEW AND MODIFY THE STAKED LOCATIONS PRIOR TO FINAL INSTALLATION.
 OTHER MAILBOX SUPPORT DESIGNS MAY BE USED. THE CONTRACTOR SHALL SEND THE PROJECT ENGINEER SHOP DRAWINGS FOR APPROVAL. FOR QUESTIONS, REGARDING DESIGN ELEMENTS AND BREAKAWAY FEATURES, CONTACT THE DESIGN STANDARDS UNIT.
 ALL MAILBOX SUPPORTS MUST BE CRASHWORTHY AND MEET MINNESOTA RULES, 8818, U.S. POST OFFICE AND FEDERAL HIGHWAY ADMINISTRATION (FHWA) STANDARDS AND RECOMMENDATIONS.
 FOR MAILBOX SUPPORTS SUBMITTED FOR APPROVAL THE BASIC DESIGN DIMENSIONS SHALL BE AS SHOWN ON THIS DETAIL DRAWING

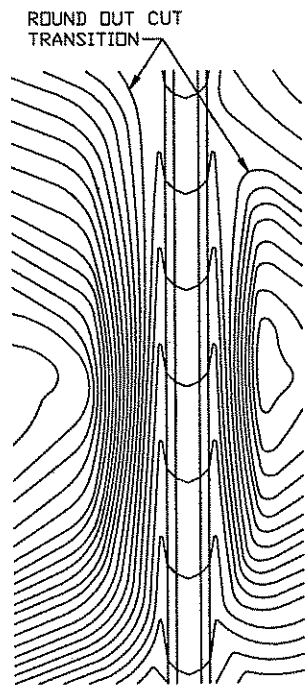
NOTE: UNITS ON THIS SHEET ARE IN ENGLISH

**MAILBOX SUPPORT
 STEEL PIPE WITH FITTINGS AND STEEL FENCE POST**

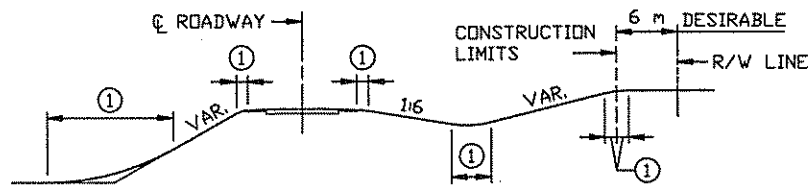
REV. NO.	BY	DATE	REVISIONS DESCRIPTION	DESIGN FILE:	33889028	 URS BRW, Inc.	I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. KEVIN P. KIELB DATE: 03/29/02 MN LIC. NO. 23211	MAIN STREET/T.H. 242 RECONSTRUCTION MISCELLANEOUS DETAILS CITY PROJECT 02-05	SHEET NO. 22 171
				DRAWN BY: JUL					

PLOT DATE: May 23, 2002 1:15pm DISK FILE NAME: (15.05) R:\33889\33889028\33889028\PLAN_SHT\Engring\misc-det.dwg

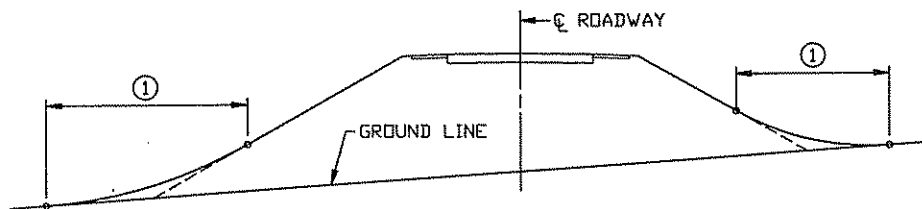
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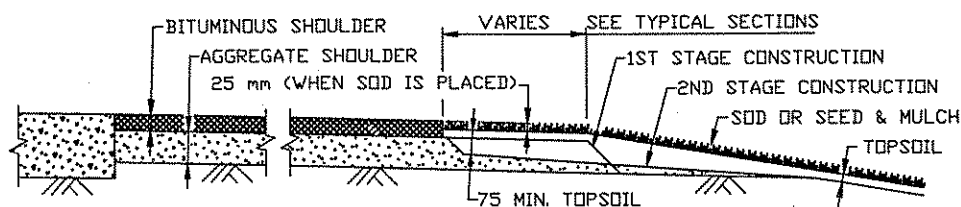
CONTOURING ROAD CUTS



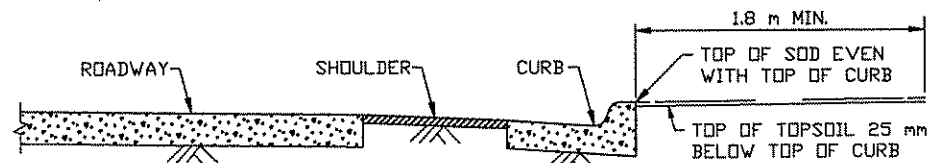
ROUNDING SHOULDERS AND BACKSLOPES



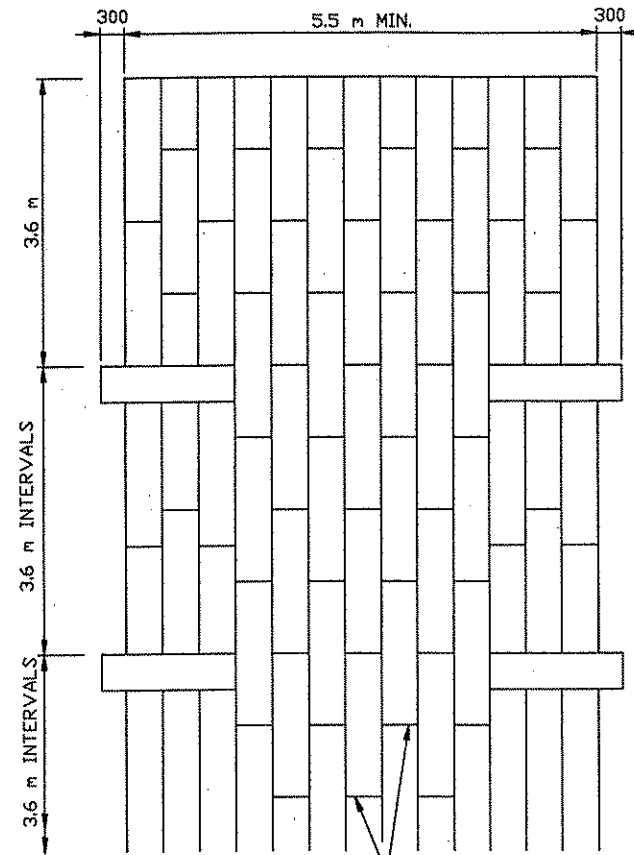
SHAPING FOR DRAINAGE ALONG THE TOE OF FILL SLOPES



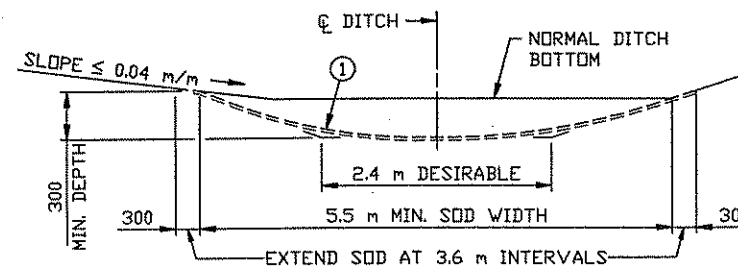
SHAPING AND TOPSOILING INSLOPES



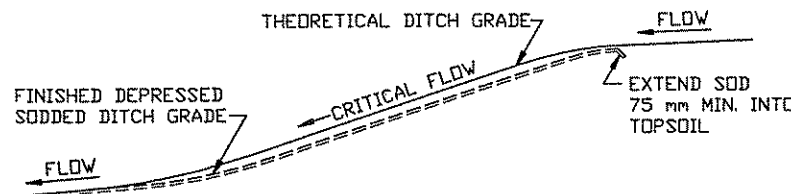
SHAPING ADJACENT TO CURBS WHEN SOD IS PLACED



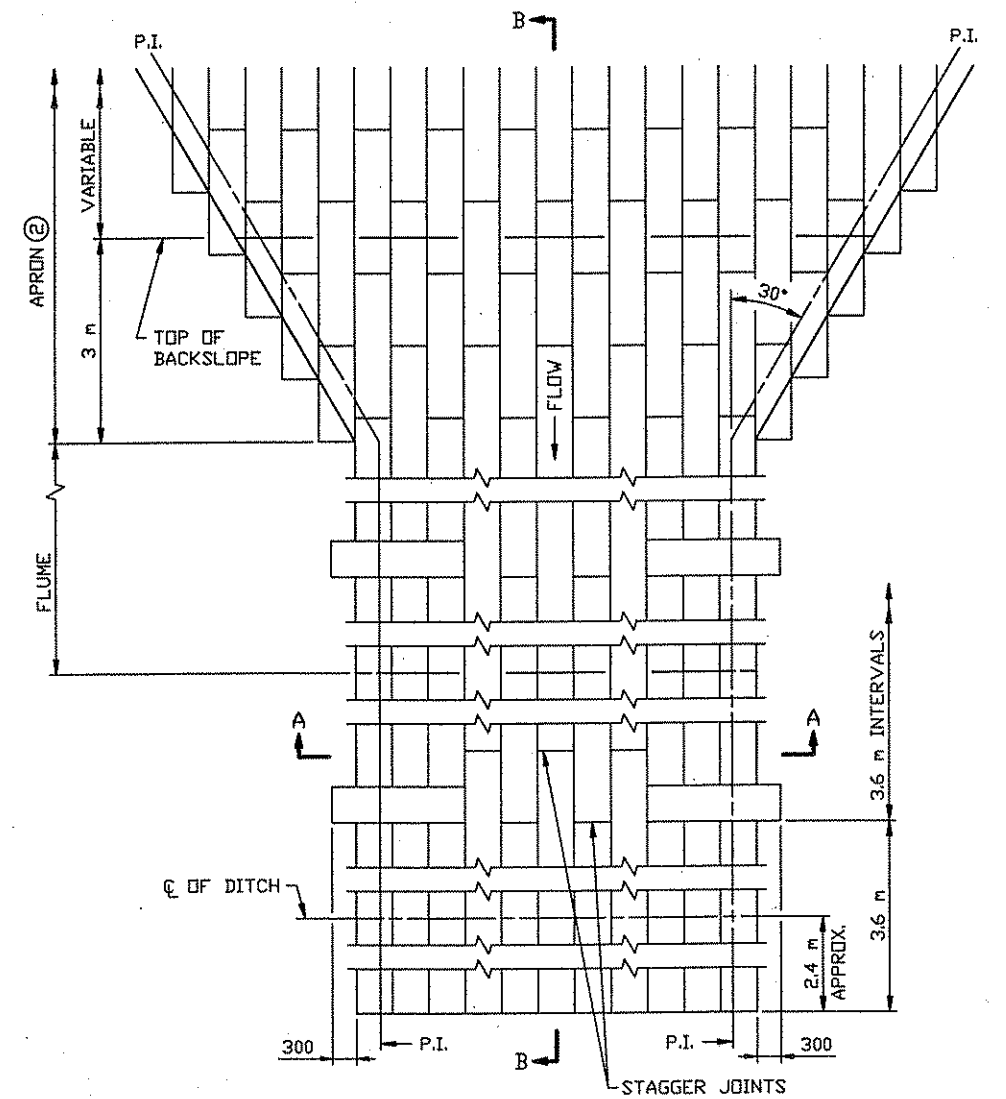
PLAN VIEW



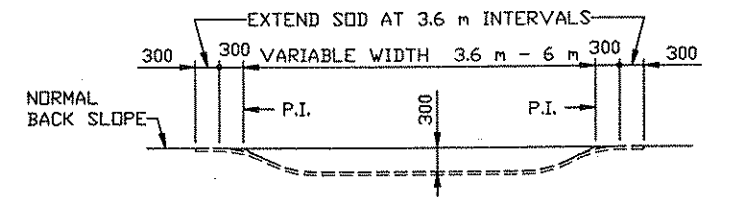
SODDED DITCH CROSS SECTION
WHERE FRONT OR BACK SLOPE IS FLAT (LESS THAN 0.04 m/m),
FIRST NOTCH DITCH AND THEN PROVIDE ROUNDING.



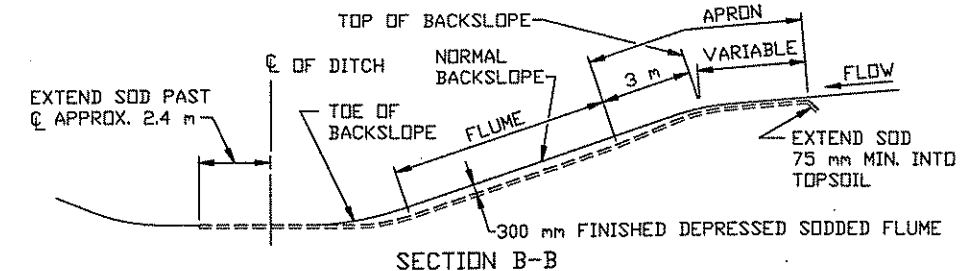
DITCH PROFILE
SODDED DITCH DETAILS



PLAN VIEW



SECTION A-A

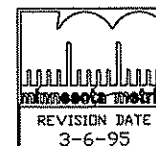


SECTION B-B
SODDED FLUME DETAILS

NOTE: ALL DIMENSIONS ARE IN MILLIMETERS, EXCEPT AS NOTED.

NOTES:

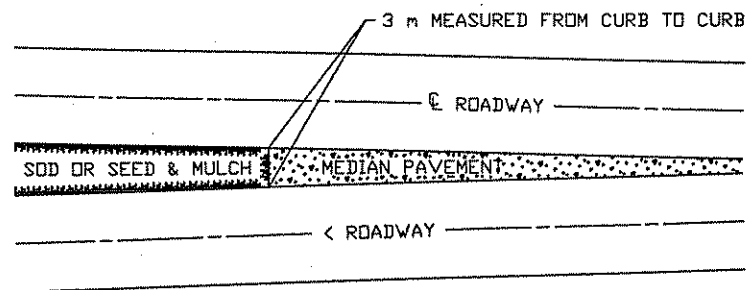
- SEE SPEC. 2575.3 FOR ADDITIONAL INFORMATION.
- ① FOR ROUNDING, SEE ROAD DESIGN MANUAL.
- ② CONSTRUCT TAPER AS DIRECTED BY THE ENGINEER.



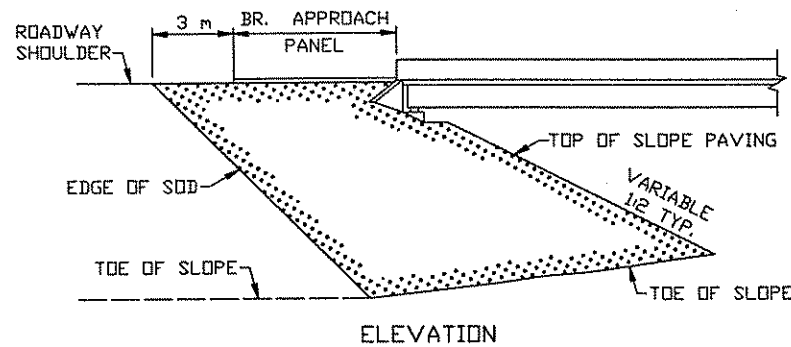
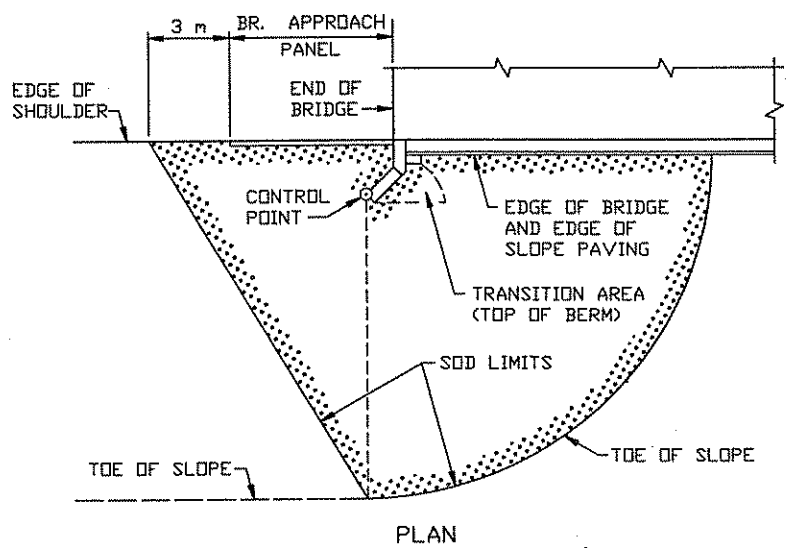
STANDARD SHEET NO.
5-297.404M
STANDARD APPROVED
DECEMBER 19, 1990
REVISION DATE
3-6-95

TITLE:
PERMANENT EROSION CONTROL
ALONG ROADWAYS, DITCHES AND FLUMES
CITY PROJECT 02-05
STATE PROJ. NO. 0212-41 (TH 242) SHEET NO. 23 OF 171 SHEETS

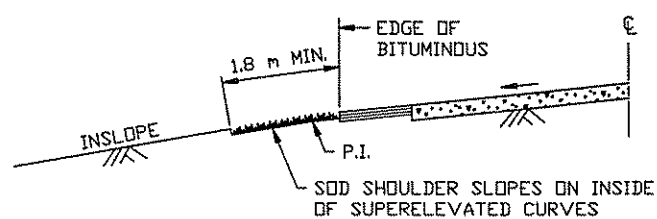
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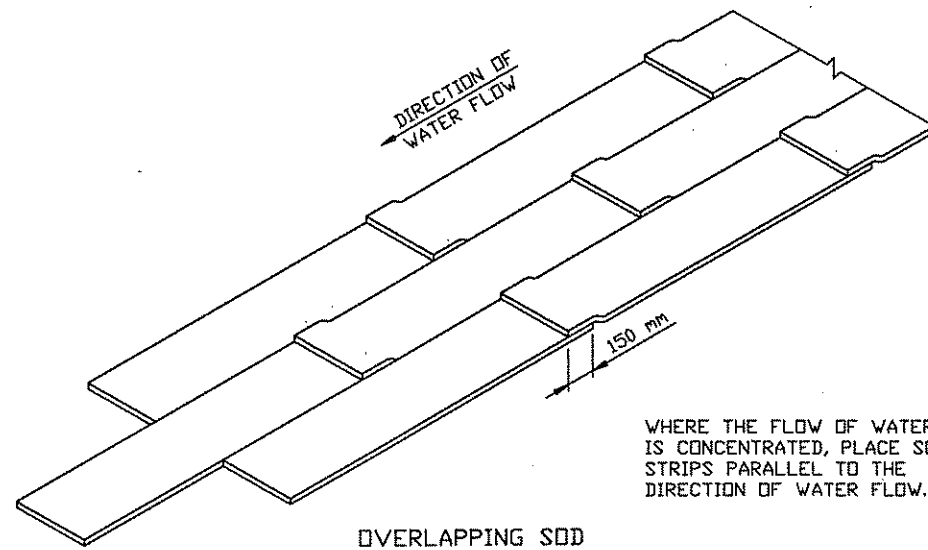
SODDING LIMITS AT GORE AREA



SODDING LIMITS AT BRIDGE APPROACH FILLS

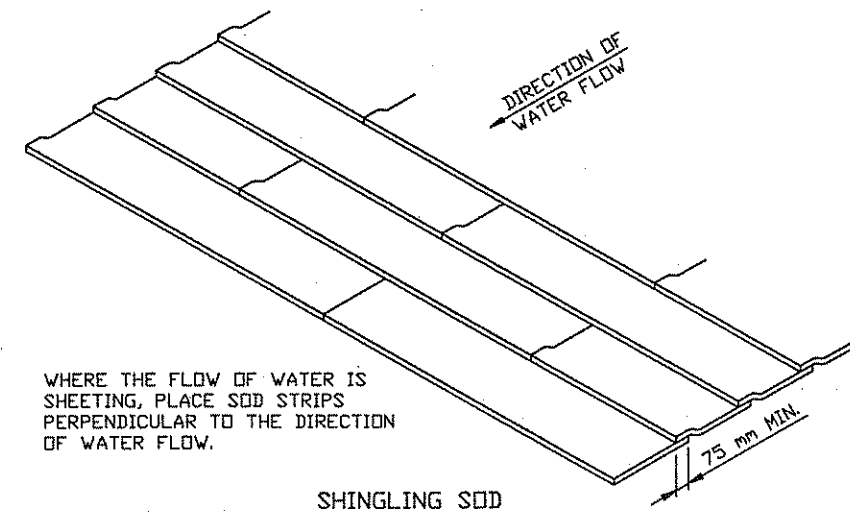


SODDING INSLOPES OF SUPERELEVATED CURVES



OVERLAPPING SOD

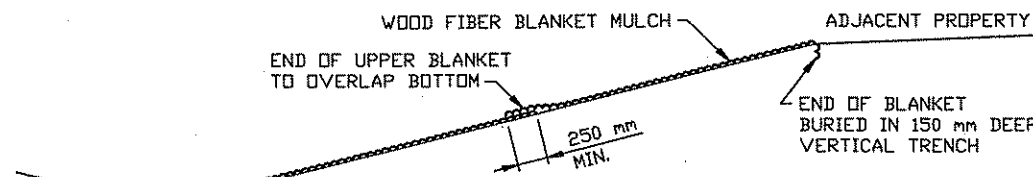
WHERE THE FLOW OF WATER IS CONCENTRATED, PLACE SOD STRIPS PARALLEL TO THE DIRECTION OF WATER FLOW.



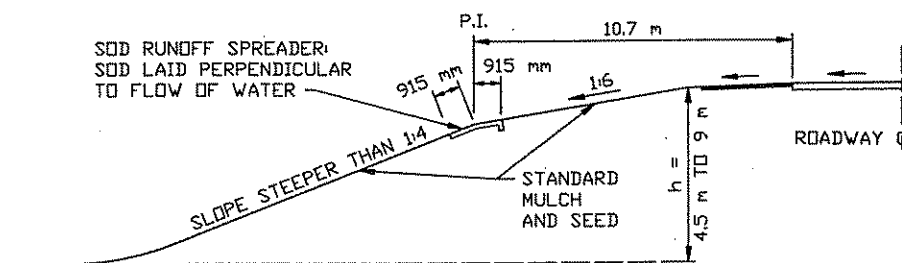
SHINGLING SOD

WHERE THE FLOW OF WATER IS SHEETING, PLACE SOD STRIPS PERPENDICULAR TO THE DIRECTION OF WATER FLOW.

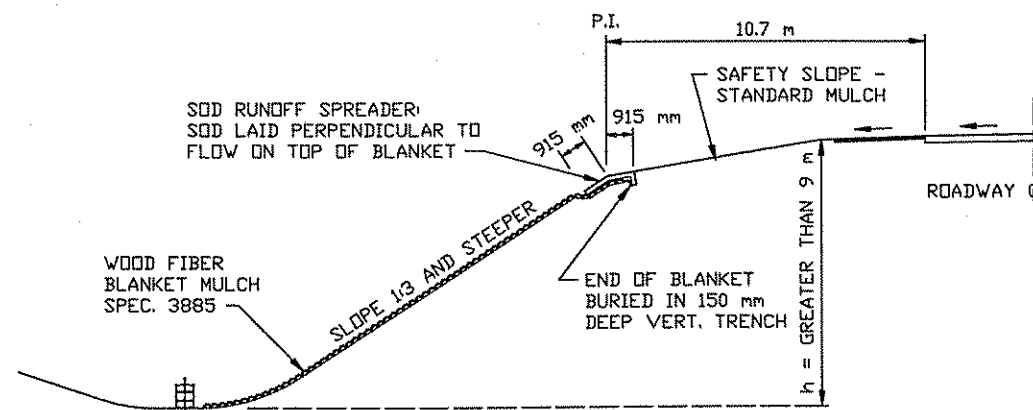
SPECIAL SOD PLACEMENT TECHNIQUES



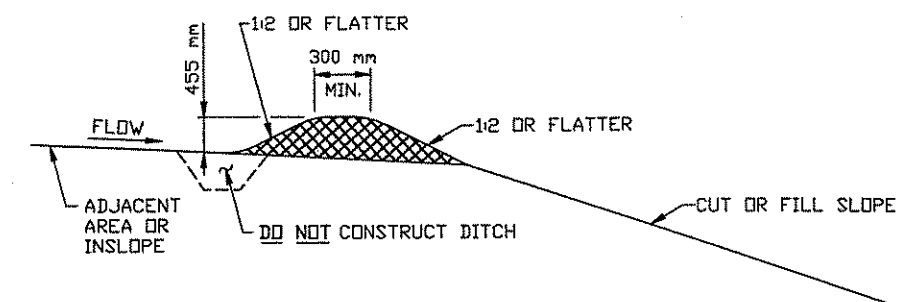
WOOD FIBER BLANKET INSTALLATION ON A CUT SLOPE



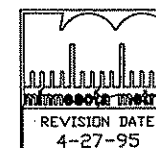
BROKEN-BACK SAFETY FILL SLOPE



**WOOD FIBER BLANKET INSTALLATION ON AN INSLOPE
(WHEN REQUIRED)**



PERMANENT SLOPE PROTECTION DIKE

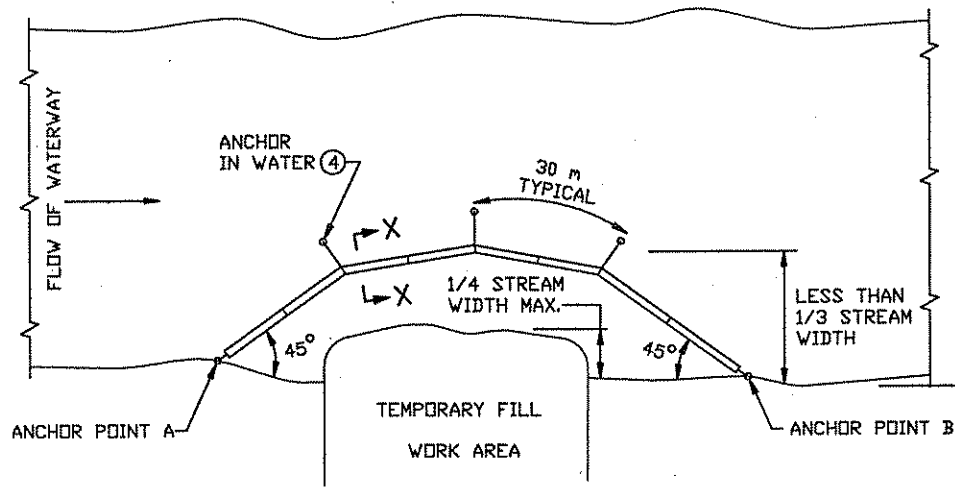


STANDARD SHEET NO.
5-297.406M
STANDARD APPROVED:
JANUARY 31, 1985
REVISION DATE
4-27-95

TITLE:
PERMANENT EROSION CONTROL
ALONG ROADWAYS AND AT GORE AREAS & BRIDGE APPROACH FILLS
STATE PROJ. NO. 0212-41 (TH 242) SHEET NO. 24 OF 171 SHEETS

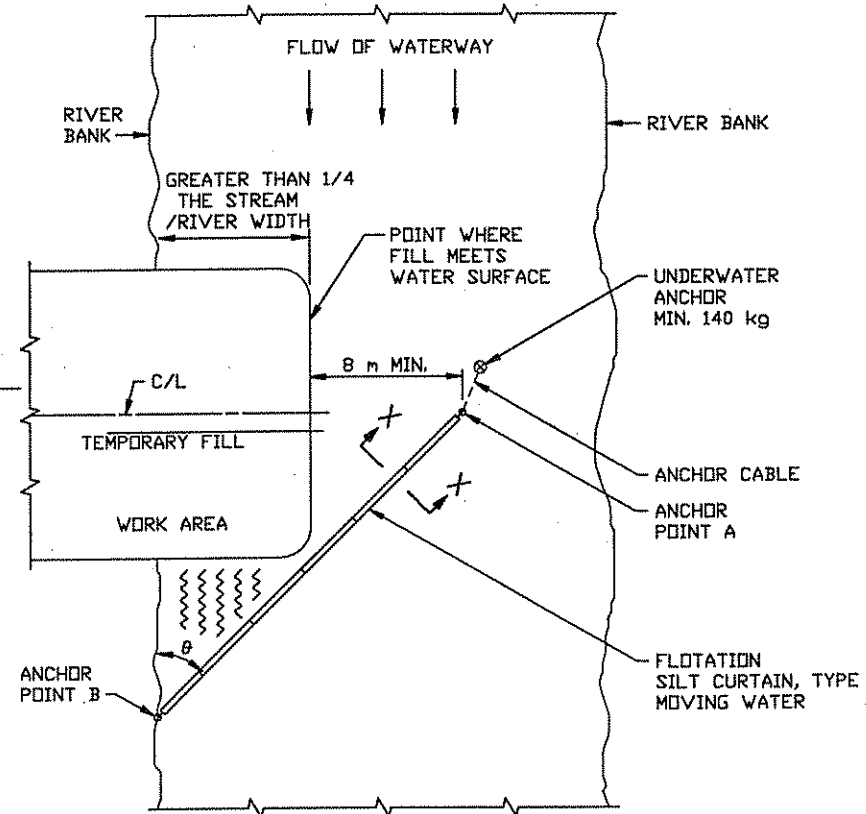
CITY PROJECT 02-05

PLOT DATE: May 21, 2002 12:14pm DISK FILE NAME: (15.05) R:\33889\33889028\33889B\StdPlans\SM4051G01.dwg
 FILE NAME: SM4051G01.SPN



PLAN VIEW
FLOTATION SILT CURTAIN - TYPE WORK AREA
 (SPEC. 3887)
 FOR CONTAINING OVERFLOWS FROM WEIRS, STANDPIPES, SETTLING PONDS

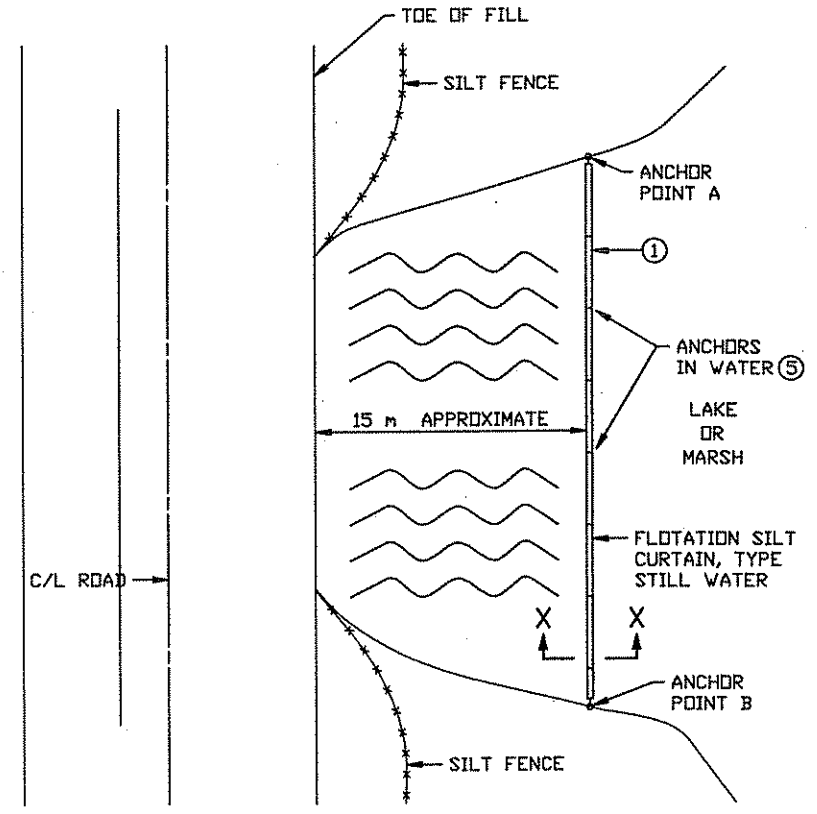
DESIGN GUIDELINES:
 WHEN TEMPORARY FILL ENCRDACHES LESS THAN 1/4 OF THE WIDTH OF STREAM.
 MAXIMUM WATER VELOCITY: 1.5 m/s
 MAXIMUM WATER DEPTH: 3.3 m



$\angle \theta$	RIVER VELOCITY
45°	SLOW, LESS THAN 0.9 m/s
35°	MODERATE, 0.9 m - 1.5 m/s

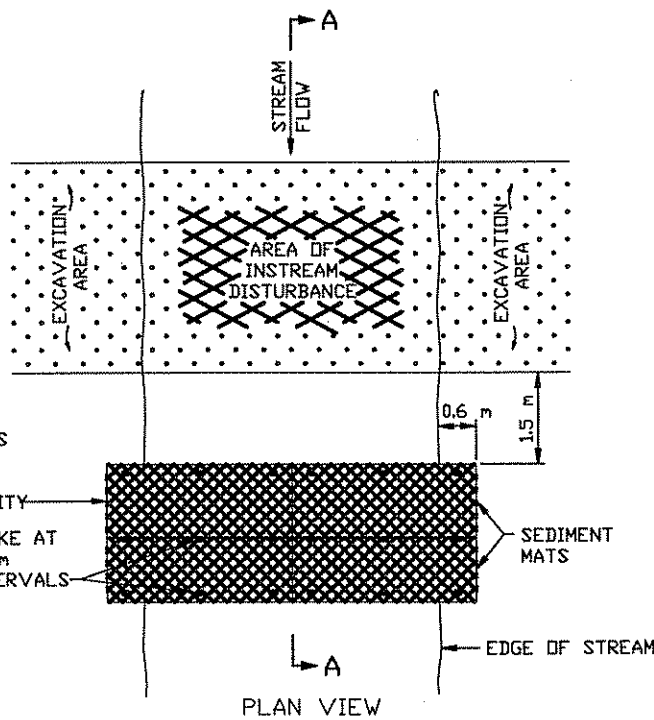
PLAN VIEW
FLOTATION SILT CURTAIN - TYPE MOVING WATER
 (SPEC. 3887)

DESIGN GUIDELINES:
 WHEN TEMPORARY FILL ENCRDACHES MORE THAN 1/4 BUT LESS THAN 1/3 WIDTH OF THE STREAM.
 MAXIMUM WATER DEPTH: 3.3 m ①
 MINIMUM WATER DEPTH: 1 m
 MAXIMUM WATER VELOCITY: 1.5 m/s



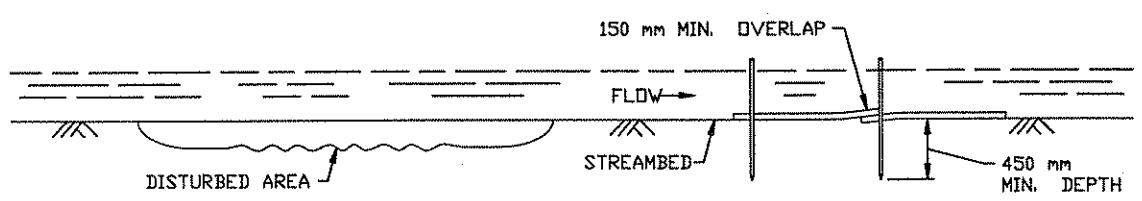
PLAN VIEW
FLOTATION SILT CURTAIN - TYPE STILL WATER
 (SPEC. 3887)

DESIGN GUIDELINES:
 MAXIMUM WATER DEPTH: 3.3 m ①
 MINIMUM WATER DEPTH: 1 m



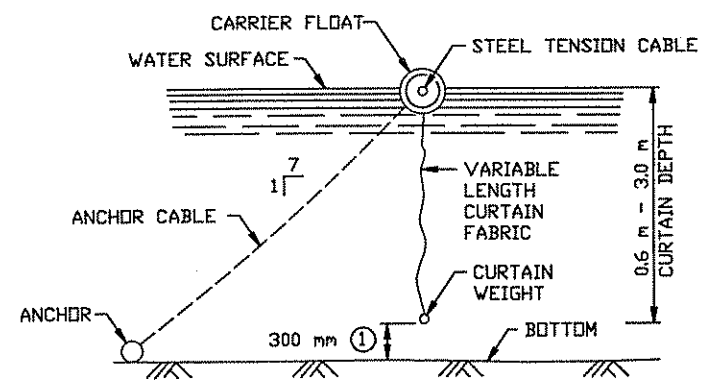
1.2 m MIN. DOWNSTREAM COVERAGE OF SEDIMENT MATS FOR EACH 0.3 m/s OF WATER VELOCITY

PLAN VIEW

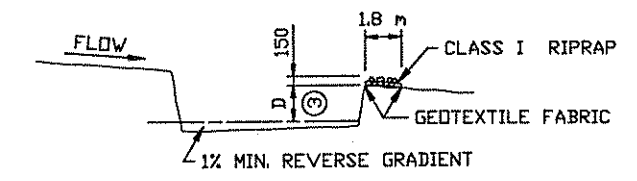
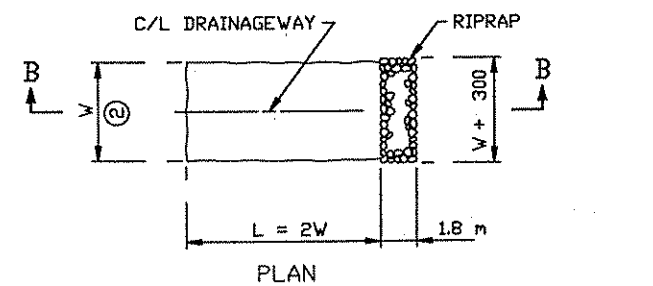


SECTION A-A
SEDIMENT MAT
 (SPEC. 3894)
 TYPICAL STREAMBED INSTALLATION

DESIGN GUIDELINES:
 MAXIMUM FLOW VELOCITY: 1.5 m/s
 MAXIMUM FLOW DEPTH: 0.6 m



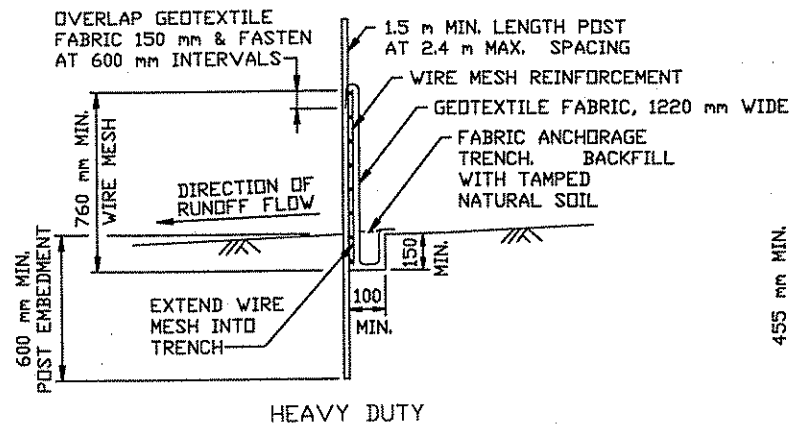
SECTION X-X
FLOTATION SILT CURTAINS
 (SPEC. 3887)



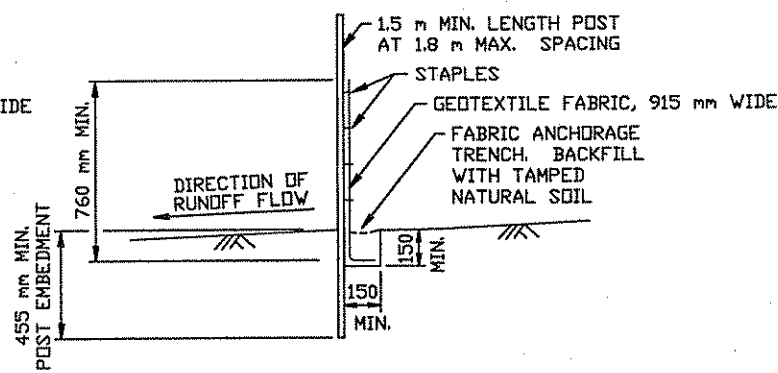
SECTION B-B
SEDIMENT TRAP DETAIL
 (SPEC. 2573)

- NOTES:**
 SEE SPECS. 2573, 3887 & 3894.
- ① CURTAIN 300 mm FROM BOTTOM.
 - ② W = 3 m MIN., 6 m MAX.
 - ③ D = 600 mm.
 - ④ 30 m MAX. SPACING BETWEEN ANCHORS, MIN. 18 kg.
 - ⑤ USE ENOUGH ANCHORS TO HOLD SILT CURTAIN IN PLACE.

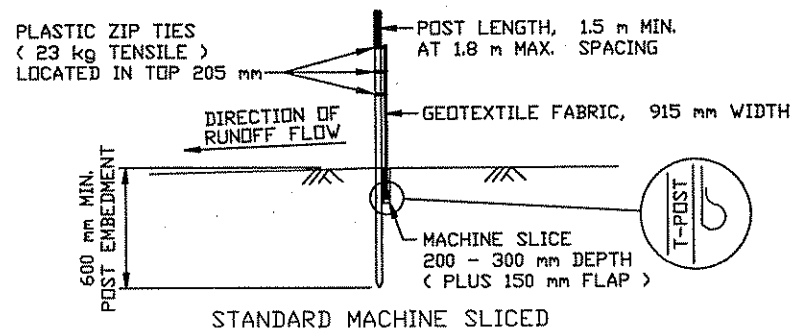
NOTE: ALL DIMENSIONS ARE IN MILLIMETERS, EXCEPT AS NOTED.



HEAVY DUTY



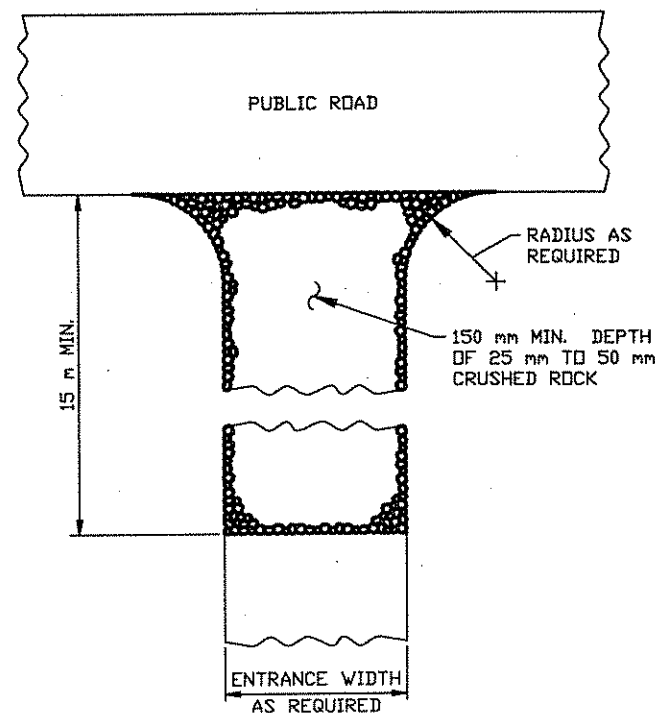
PREASSEMBLED



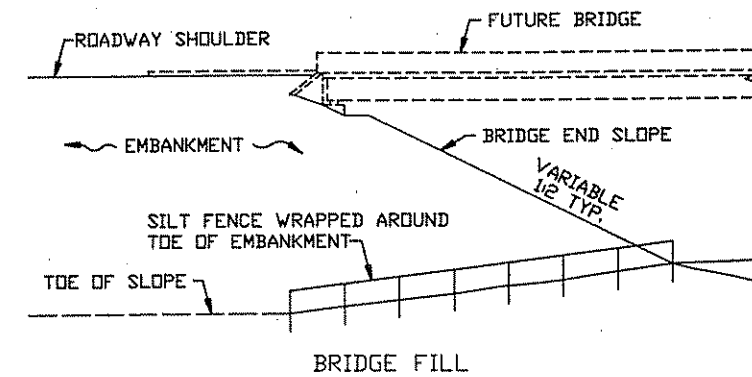
STANDARD MACHINE SLICED

DESIGN GUIDELINES:
MAXIMUM CONTRIBUTING AREA: 1.2 ha

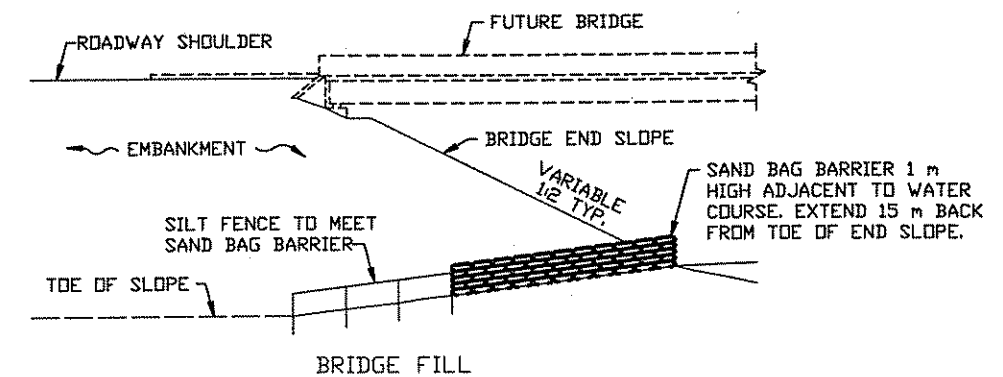
SILT FENCE DETAILS
TO PROTECT AREAS FROM SHEET FLOW
(SEE SPEC. 3886)



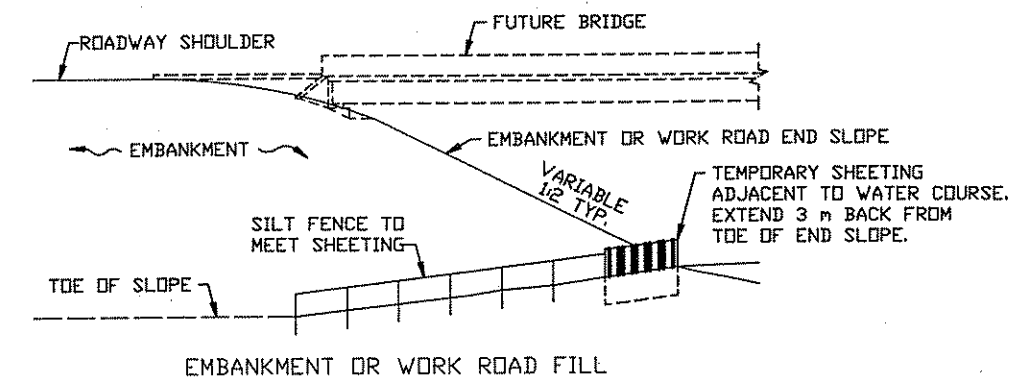
ROCK CONSTRUCTION ENTRANCE ①



DESIGN GUIDELINES:
WATER COURSE FLOW VELOCITY: STAGNANT
CONTRIBUTING SLOPE AREA: 0.2 ha



DESIGN GUIDELINES:
MAX. WATER COURSE FLOW VELOCITY: 2 m/s
CONTRIBUTING SLOPE AREA: 0.4 ha



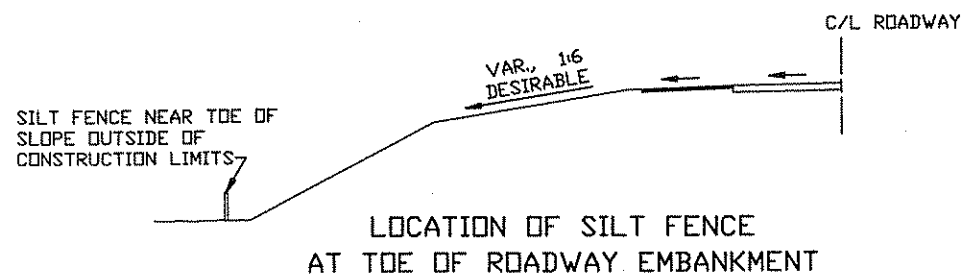
DESIGN GUIDELINES:
MAX. WATER COURSE FLOW VELOCITY: 4.5 m/s
CONTRIBUTING SLOPE AREA: 1.2 ha

SILT FENCE AT BRIDGE EMBANKMENT

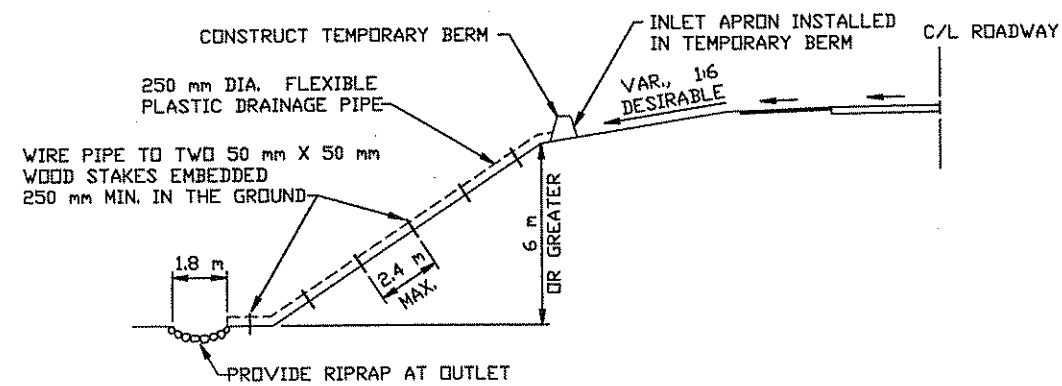
NOTES:
SEE SPECS. 2573 & 3886.

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.

NOTE: ALL DIMENSIONS ARE IN MILLIMETERS, EXCEPT AS NOTED.

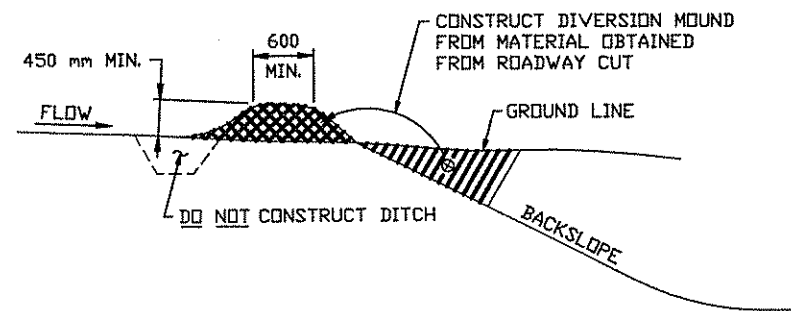


LOCATION OF SILT FENCE
AT TOE OF ROADWAY EMBANKMENT



TEMPORARY DRAIN ON FILL SLOPE

DESIGN GUIDELINES:
STORM FREQUENCY: 2 YEAR - 24 HOUR
MAXIMUM DRAINAGE AREA: 1.2 ha



DIVERSION MOUND

DESIGN GUIDELINES:
STORM FREQUENCY: 10 YEAR - 24 HOUR
MAXIMUM DRAINAGE AREA: 2 ha
MAXIMUM DIVERSION: GRADE 5%

PLOT DATE: May 20, 2002
DISK FILE NAME: (15.05) R:\33889\33889028\33889B\StdPlans\SM4052G01.dwg
5:05pm
FILE NAME: SM4052G01.SPN



STANDARD SHEET NO.
5-297.405M (2 OF 4)
STANDARD APPROVED:
JULY 30, 2001

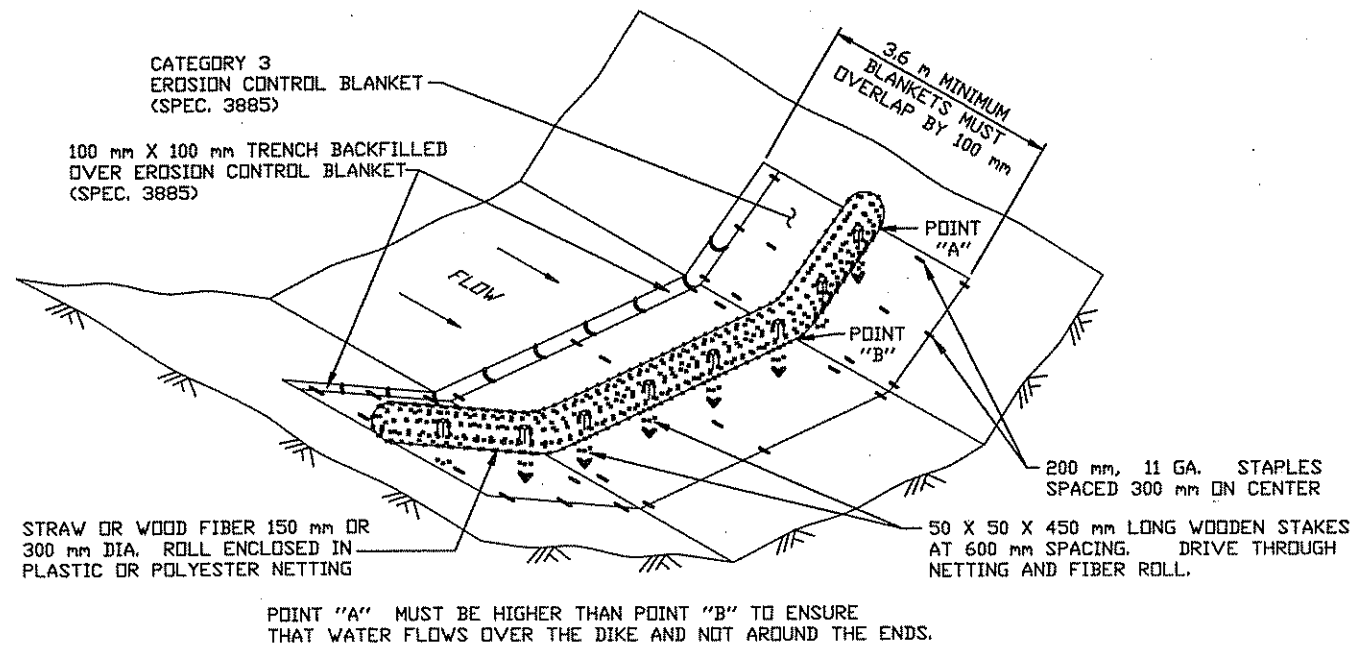
TITLE:
TEMPORARY EROSION CONTROL

CITY PROJECT 02-05

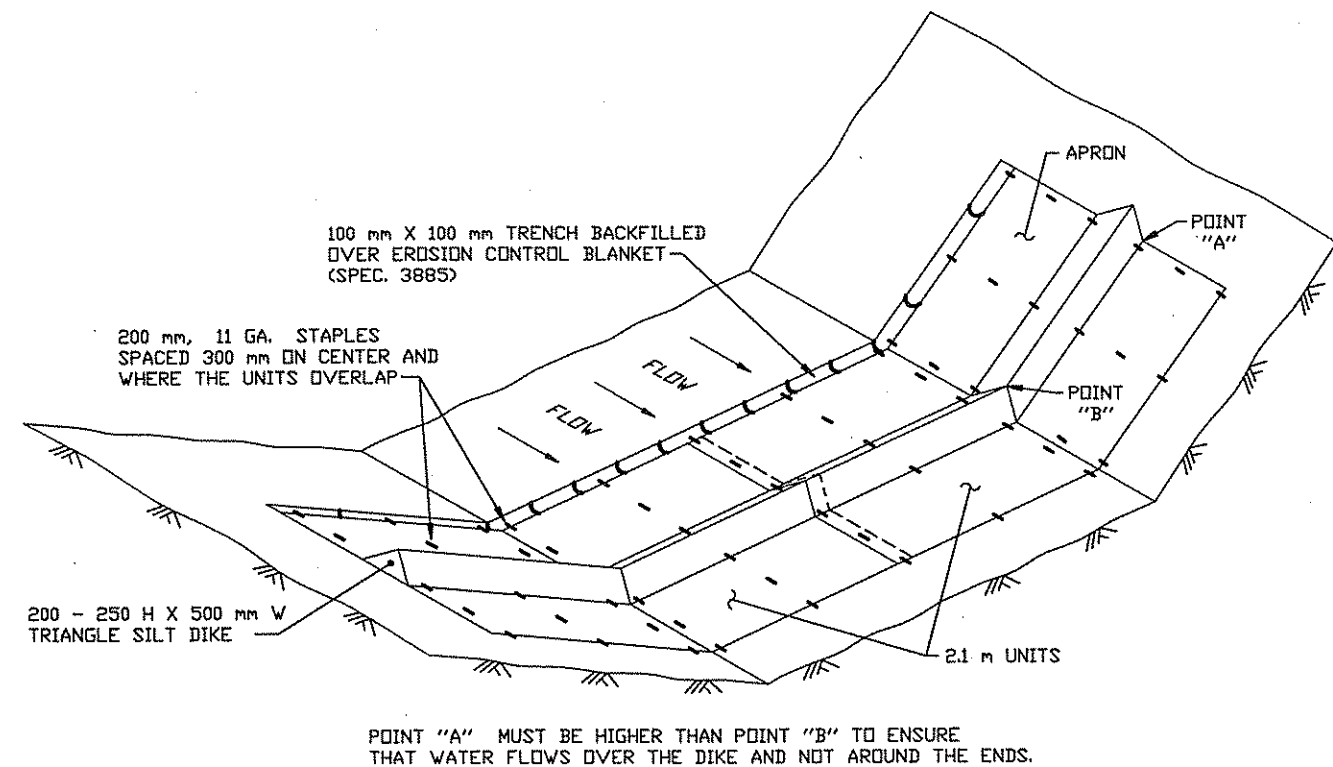
STATE PROJ. NO. 0212-41 (TH 242)

SHEET NO. 26 OF 171 SHEETS

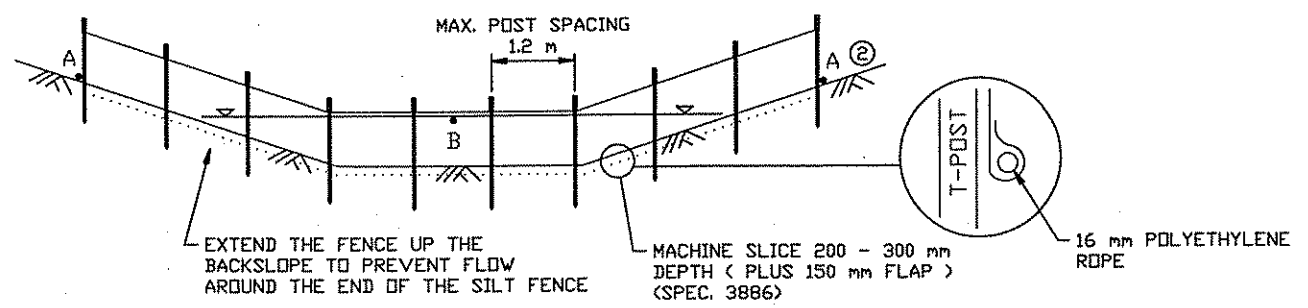
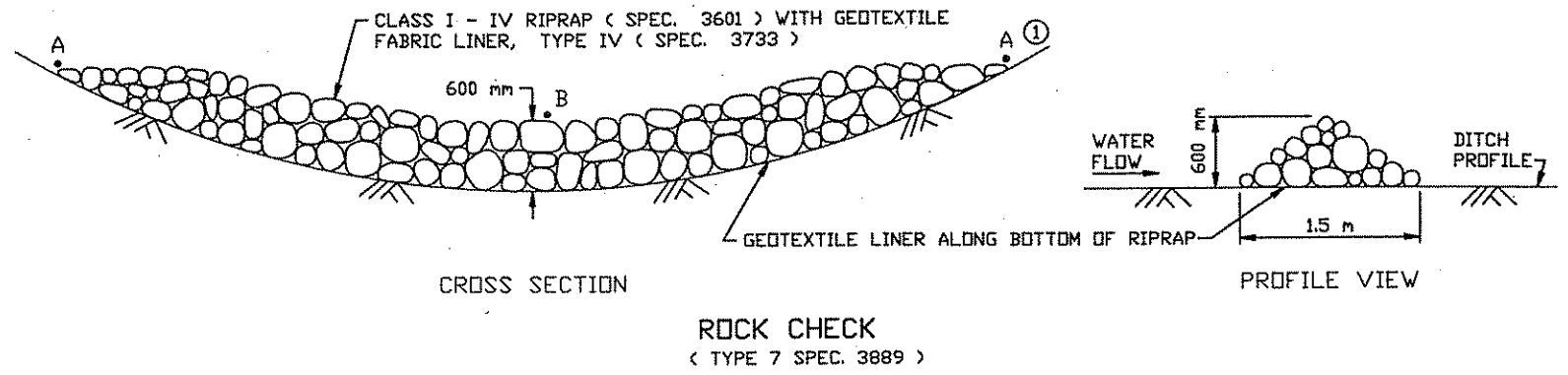
PLOT DATE: May 20, 2002 5:13pm DISK FILE NAME: (15.05) R:\33889\33889028\33889B\StdPlans\SM4053G01.dwg
 FILE NAME: SM4053G01.SPN



BIDROLL BLANKET SYSTEM
(TYPE 3 SPEC. 3889)



GEOTEXTILE TRIANGULAR DIKE
(TYPE 6 SPEC. 3889)



DESIGN GUIDELINES	
STORM FREQUENCY	2 YR.- 24 HR.
MAX. DITCH GRADE	5%
MAX. DRAINAGE AREA	0.40 ha

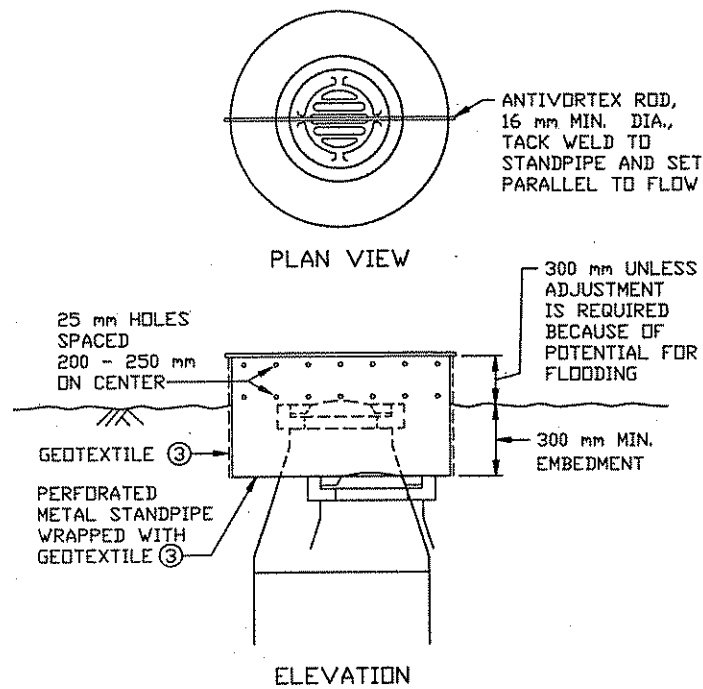
NOTE:
WHEN SEDIMENT BUILD UP REACHES 460 mm, THE SILT SHOULD BE REMOVED OR A SECOND SILT FENCE BUILT UPSTREAM FROM THE EXISTING ONE AT A SUITABLE DISTANCE.

MACHINE SLICED
(TYPE 1 SPEC. 3889)

- NOTES:**
 SEE SPECS. 2573, 3885, 3886 & 3889.
 SPACING OF DITCH CHECKS IS DEPENDENT ON DRAINAGE AREA AND GRADES. SEE DISTRICT HYDRAULICS ENGINEER FOR RECOMMENDATIONS.
 ① POINT A MUST BE 0.8 m MIN. HIGHER THAN POINT B.
 ② POINT A MUST BE 0.6 m MIN. HIGHER THAN POINT B.

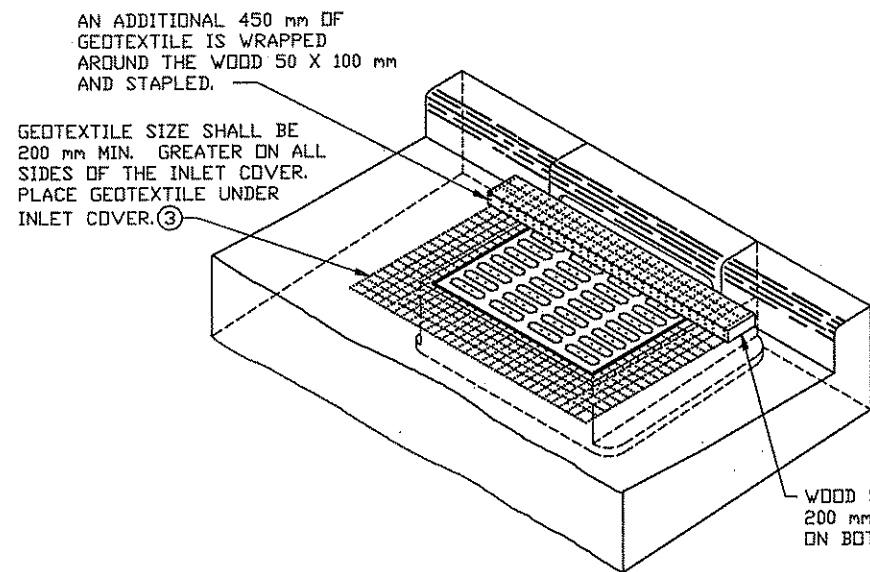
	STANDARD SHEET NO. 5-297.405M (3 OF 4)	TITLE:
	STANDARD APPROVED JULY 30, 2001	TEMPORARY EROSION CONTROL DITCH CHECKS
STATE PROJ. NO. 0212-41 (TH 242)		SHEET NO. 27 OF 171 SHEETS

PLOT DATE: May 20, 2002 5:21pm
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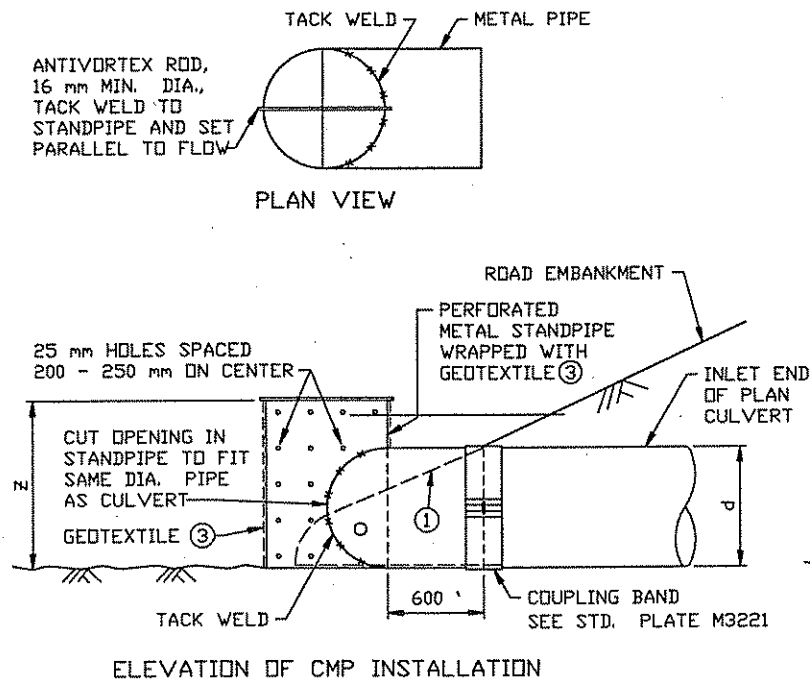


RISER STANDPIPE
TO PROTECT DROP INLET
(TYPE A SPEC. 3891)

DESIGN GUIDELINES:
STORM FREQUENCY: 10 YEAR. - 24 HOUR.



SILT FENCE BOX TO PROTECT DROP INLETS
(TYPE A SPEC. 3891)

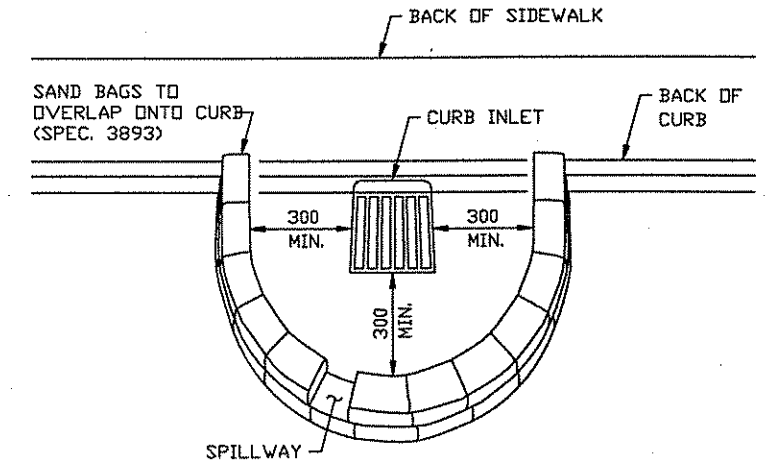
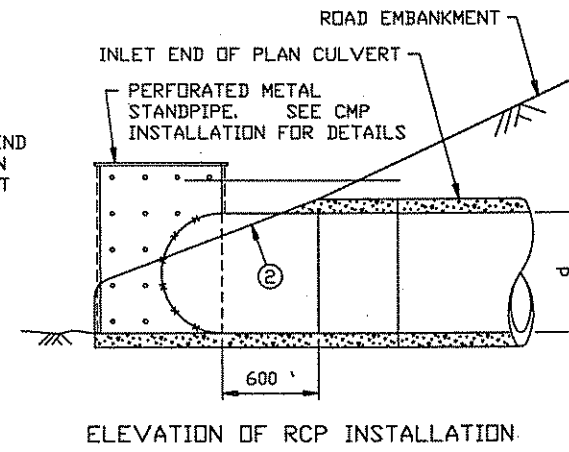


RISER STANDPIPE

FOR SEDIMENT CONTROL ON CULVERT INLET
(TYPE D SPEC. 3891)

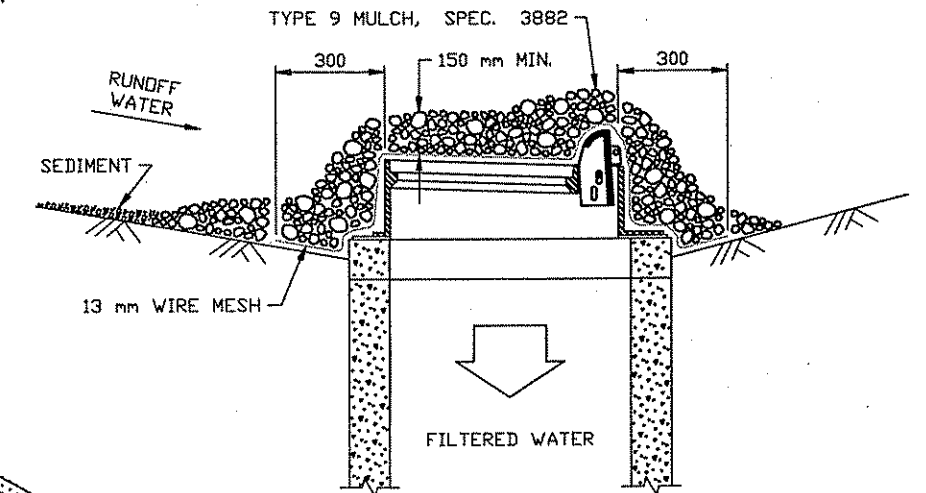
d = DIA. OF STANDPIPE EQUAL TO DIA. OF PLAN CULVERT
 z = LENGTH OF PERFORATED STANDPIPE $d(+ 300 \text{ mm})$

DESIGN GUIDELINES:
CULVERT SIZE: 300 - 900 mm
STORM FREQUENCY: 10 YR. - 24 HR.



CURB INLET SAND BAG BARRIER

THIS INLET PROTECTION IS USED DURING ROUGH GRADING ONLY. USE BEFORE ROAD IS OPEN TO TRAFFIC OR IS PAVED.
(TYPE B OR C SPEC. 3891)

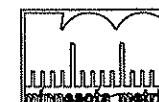


AGGREGATE FILTER AT CURB INLET
(TYPE B OR C SPEC. 3891)

NOTES:

- SEE SPECS. 2573, 3891 & 3893.
MANUFACTURED ALTERNATIVES LISTED ON Mn/DOT'S APPROVED PRODUCTS LIST MAY BE SUBSTITUTED.
- ① FOR CMP, REMOVE TEMPORARY STANDPIPE AND INSTALL CULVERT APRON AFTER VEGETATION IS ESTABLISHED.
 - ② FOR RCP, INSTALL CULVERT APRON AND SLIDE TEMPORARY STANDPIPE INTO RCP. AFTER VEGETATION IS ESTABLISHED REMOVE TEMPORARY STANDPIPE.
 - ③ ALL GEOTEXTILE USED FOR INLET PROTECTION SHALL BE MOND/MOND, MEETING SPEC. 3886 FOR MACHINE SLICED.

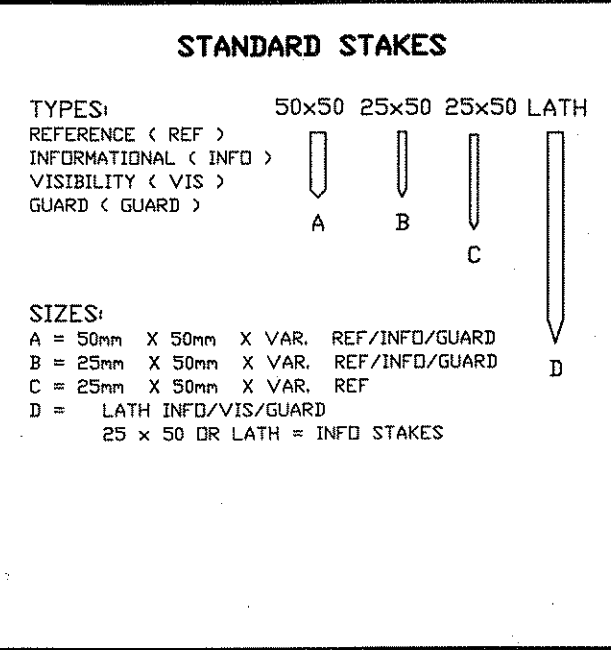
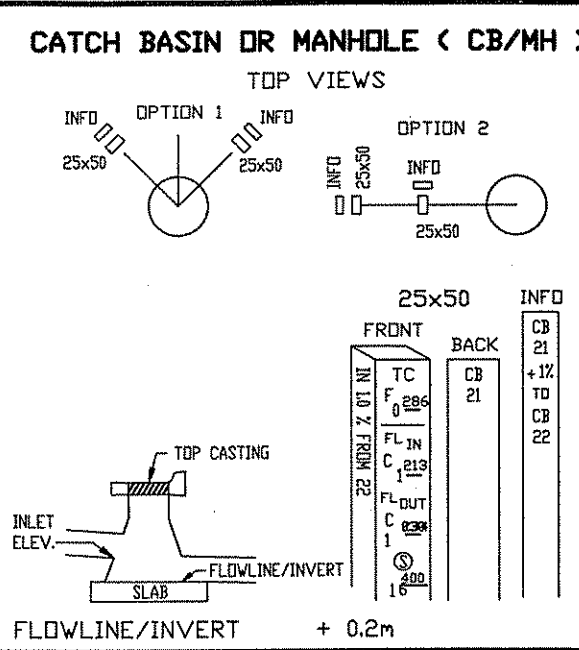
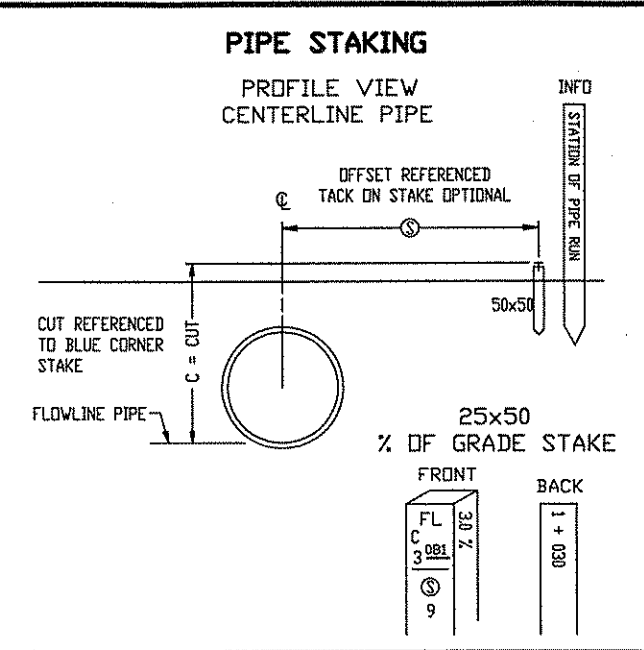
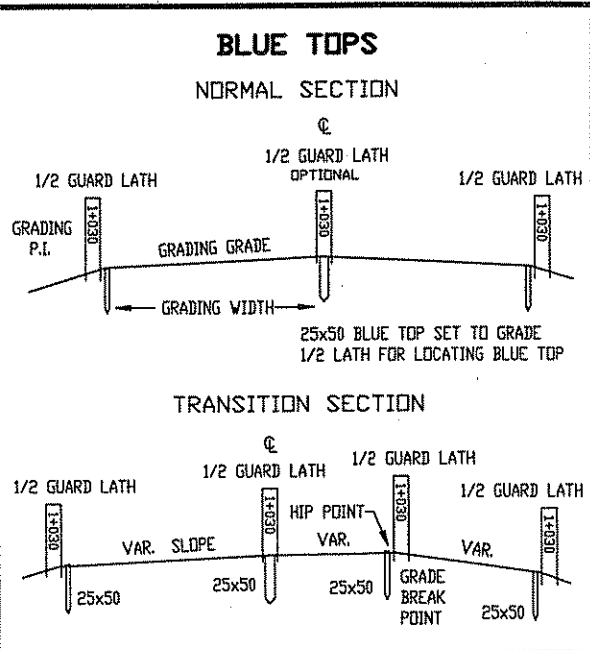
NOTE: ALL DIMENSIONS ARE IN MILLIMETERS, EXCEPT AS NOTED.



STANDARD SHEET NO.
5-297.405M (4 OF 4)
STANDARD APPROVED
JULY 30, 2001

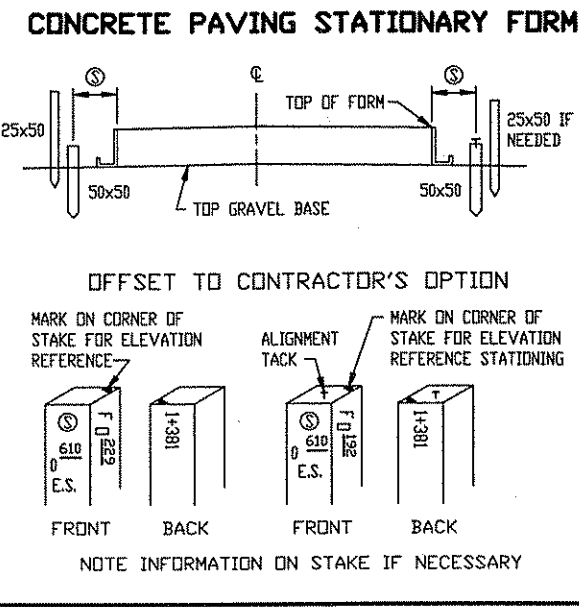
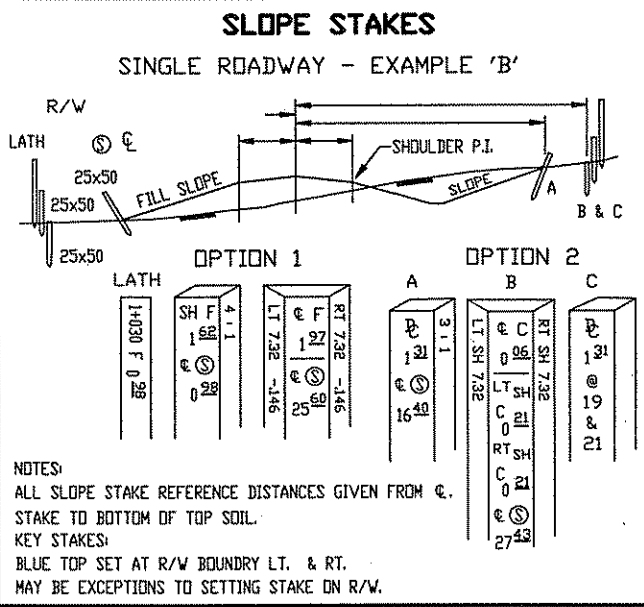
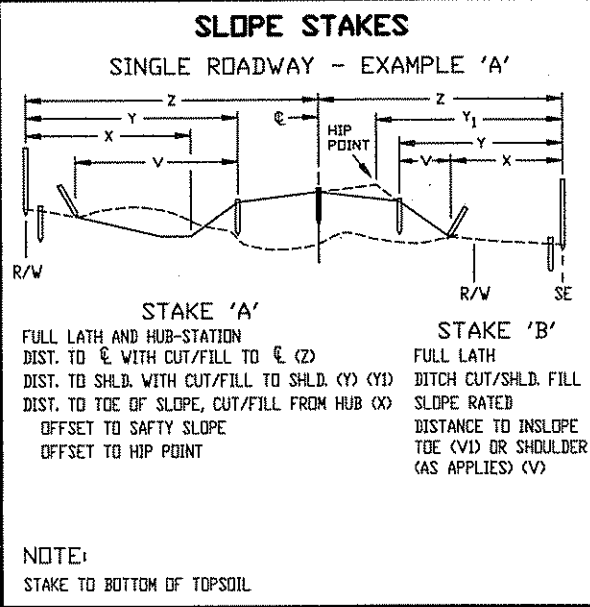
TITLE:
TEMPORARY EROSION CONTROL
TEMPORARY INLET PROTECTION

PLOT DATE: May 20, 2002 2:22pm DISK FILE NAME: (15.05) R:\33869\33869028\33869B\StdPlans\sm115194.dwg



ABBREVIATIONS

BBL = BARREL (PIPE)	HH = HANDHOLE
B.C. = BACK CURB	HP = HIP POINT
C & G = CURB & GUTTER	LT = LEFT
C = CUT	MH = MANHOLE
CAP = CORR. ALUM. PIPE	NB = NORTHBOUND
CB = CATCH BASIN	⊙ = OFFSET
⊕ = CENTERLINE	PAR = PARCEL
CL & GR = CLEAR & GRUB	% = PERCENT GRADE
CMP = CORR. METAL PIPE	P.E. = PERM. EASEMENT
CDR = CORNER	RAD = RADIUS POINT
CR = CROWN	RCP = REINF. CONC. PIPE
CSP = CORR. STEEL PIPE	RP = REFERENCE POINT
⊖ = DITCH CUT	RSC = REINF. SECT. CONC.
D.E. = DRAINAGE EASEMENT	RT = RIGHT
DI = DROP INLET	R/W = RIGHT OF WAY
EB = EASTBOUND	SB = SOUTHBOUND
E.M. = EDGE BITUMINOUS MAT	SCP = SECT. CONC. PIPE
E.S. = EDGE CONCRETE SLAB	SH = SHOULDER
F = FILL	TC = TOP CASTING
FF = FRONT FACE	OR TOP CURB
FL = FLOW LINE	T.E. = TEMP. EASEMENT
FL IN = FLOWLINE INLET	3:1 = SLOPE (EXAMPLE)
FL OUT = FLOWLINE OUTLET	WB = WESTBOUND
GR = GRADE	WP = WORKING POINTS
GW = GRADING WIDTH	



RECOMMENDED STAKING INTERVALS

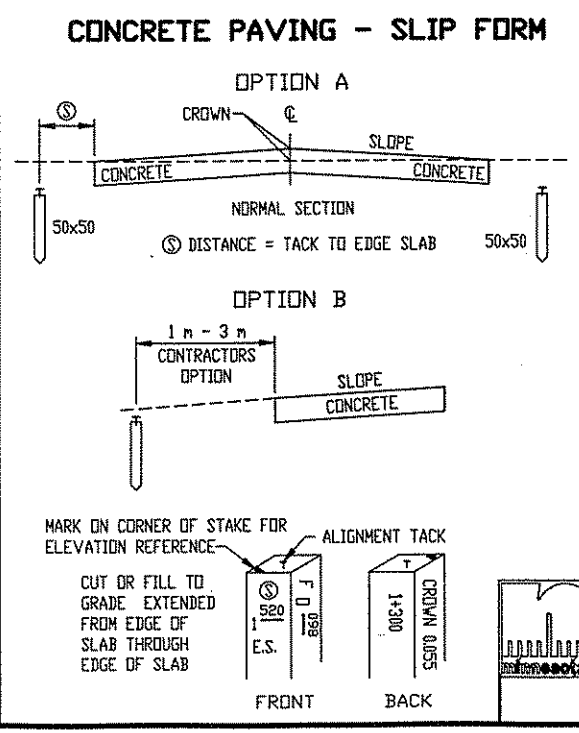
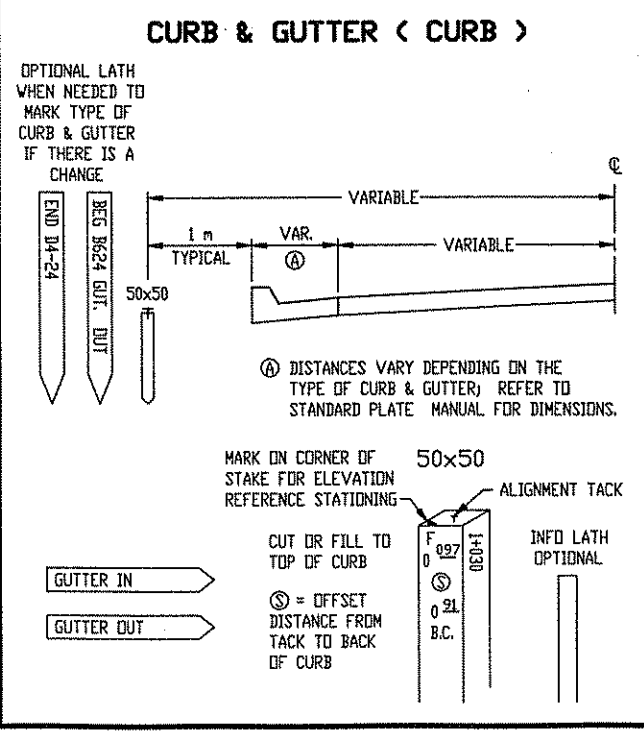
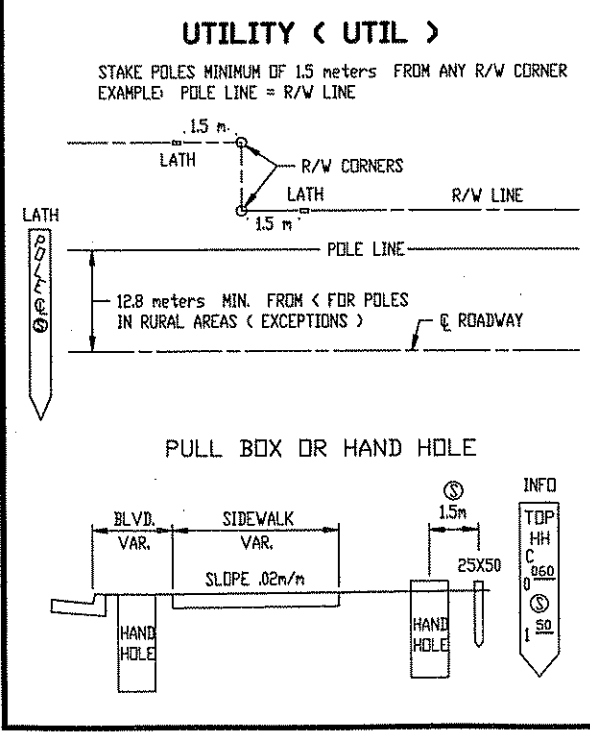
FIGURE A

	SLOPE STAKES	SUB GRADE B.T.	CLASS MATERIAL B.T.	CONC PAVT	CL & GR LIMITS	MUCK EXC.	R/W	TEMP. EASE.
TANGENT	30	30	30	15	15	ALL CORNERS	100	ALL CORNERS
HORIZ. CURVE						ALL CORNERS		ALL CORNERS
0-580 m	30	30	30	15	15	ALL CORNERS	30	ALL CORNERS
OVER 580 m	30	15	15	7.5	7.5	ALL CORNERS	30	ALL CORNERS
VERT. CURVE								
'M' 30m	30	30	30	15	15			
CHORD 0-748								
'M' OVER 748	30	15	15	7.5	7.5			
TRAN.		15	15					

STAKING TOLERANCES (meters)

	HORIZONTAL	VERTICAL
CONSTRUCTION LIMITS	± 0.5	
CLEARING & GRUBBING	0.6	
SLOPES STAKES	0.6	± 0.1
KEY STAKES	0.06	0.01
DRAINAGE STAKES	0.015	0.015
CURB & GUTTER	0.02	0.01
PAVING	0.015	0.01
ALIGNMENT	0.02	
UTILITY	0.03	0.015
STRUCTURAL	0.005	0.005
GUARD RAIL	0.15	
BUILDINGS	0.01	0.005
G.H. SIGNS	0.015	0.015
MUCK EXCAVATION LIMITS	0.6	
R/W B-POINTS	0.03	
NOISE WALLS	0.3	0.15

THE TOLERANCES ARE RELATIVE TO PROJECT DATUM



DISCLAIMER

THESE STAKING INFORMATION SHEETS ARE FOR INFORMATION PURPOSES ONLY. STAKING PROCEDURES VARY AND MAY BE SUBJECT TO CHANGE DURING CONSTRUCTION BY CIRCUMSTANCES AND/OR AGREEMENTS BETWEEN SURVEY CREW AND CONTRACTOR.

CITY PROJECT 02-05

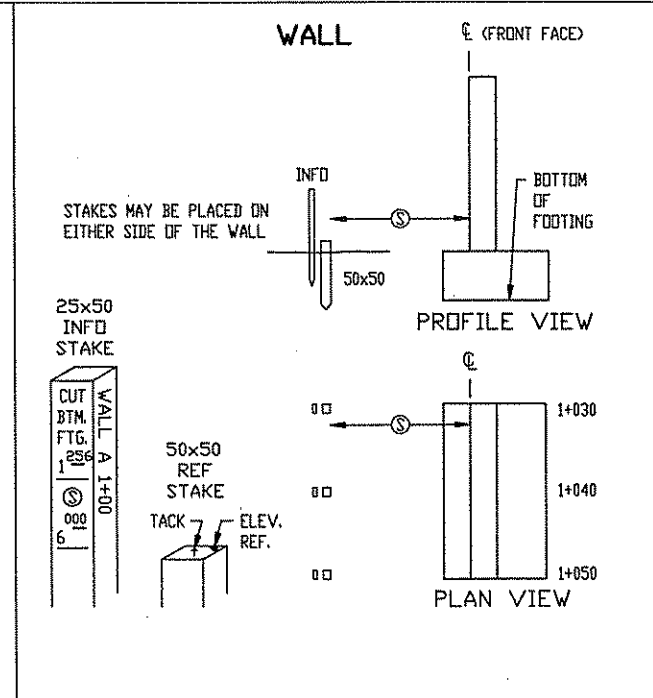
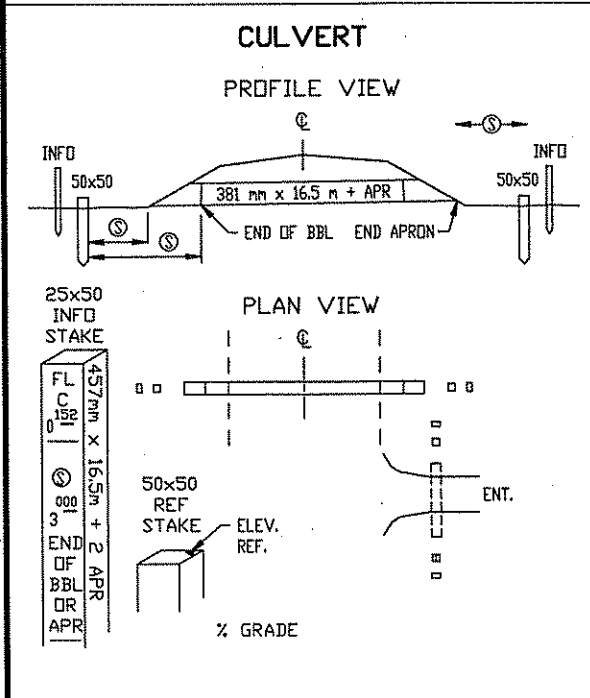
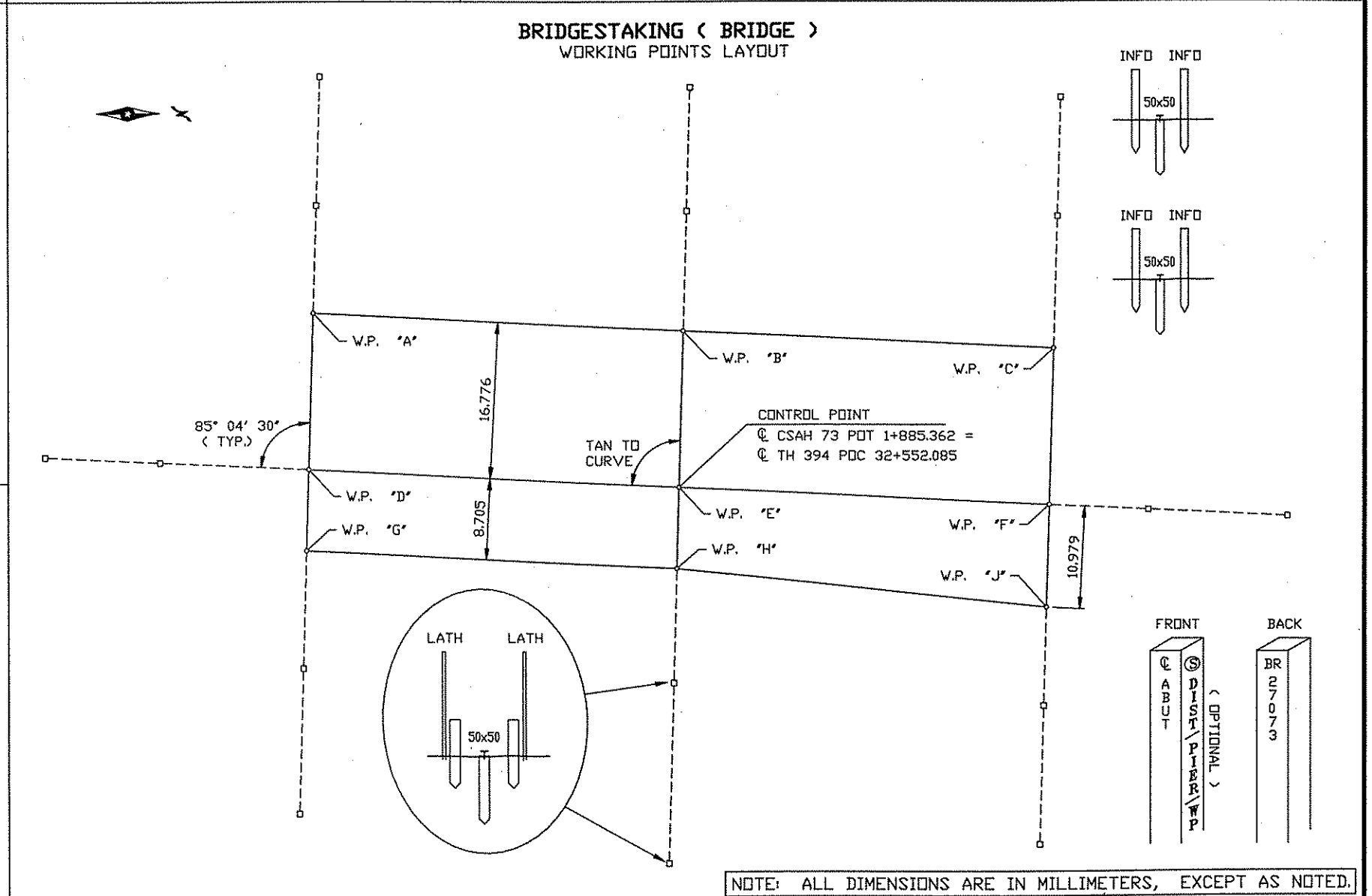
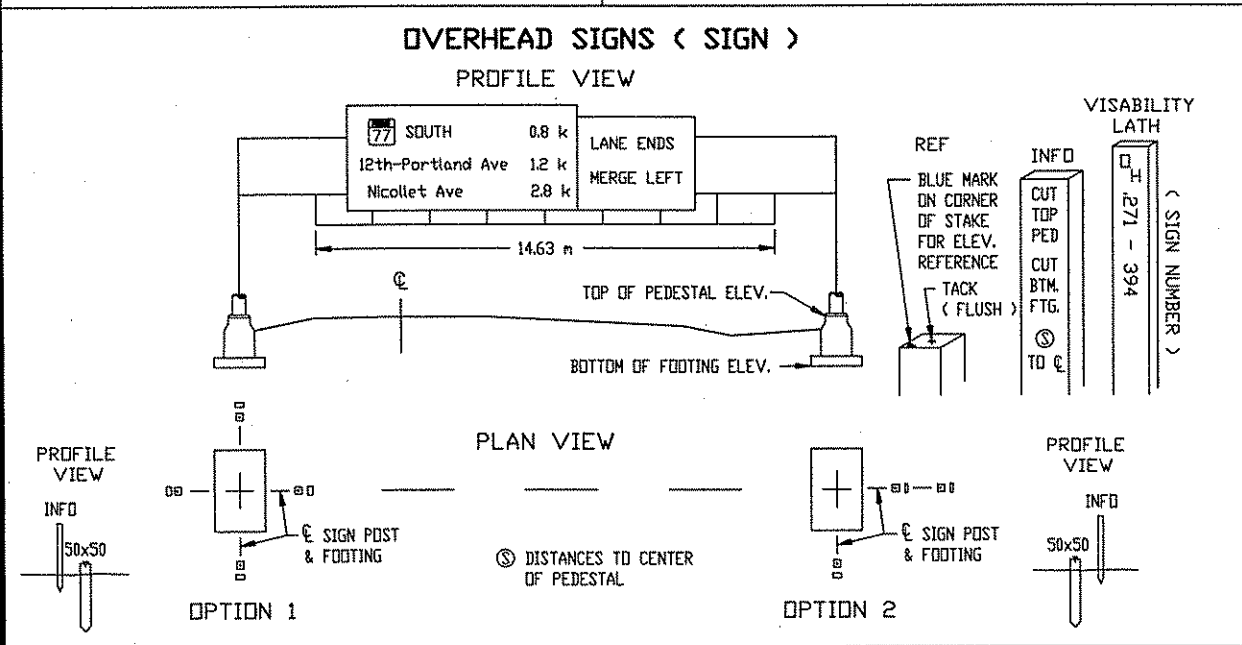
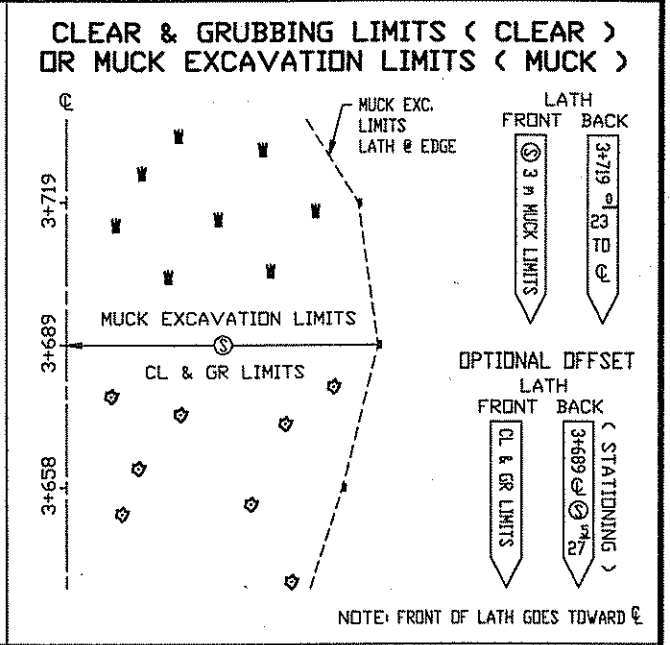
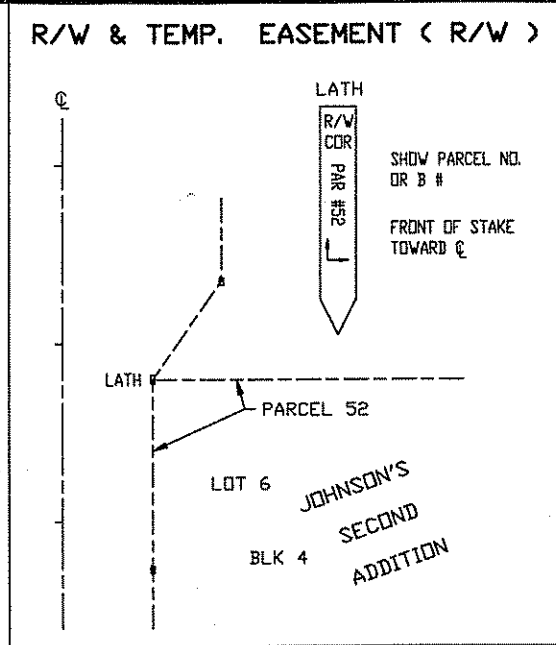
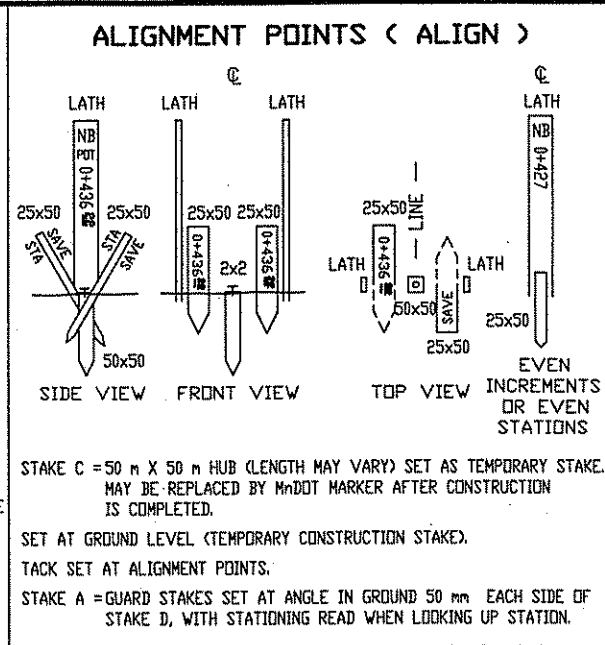
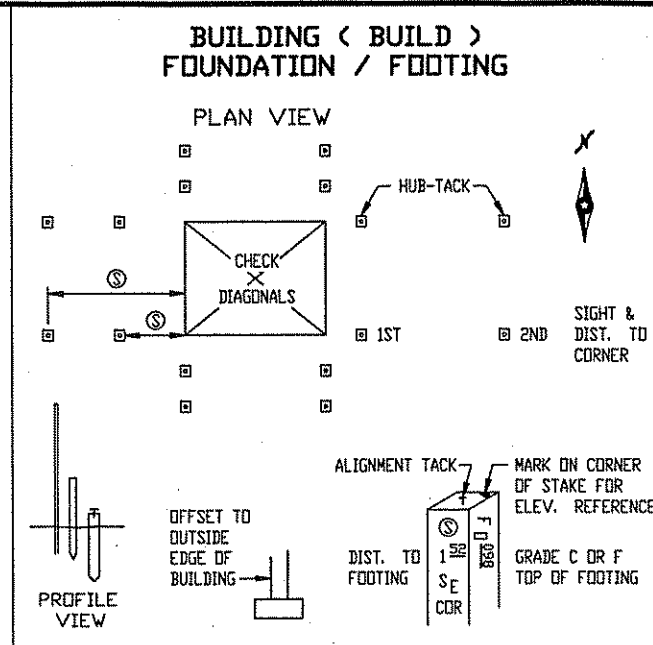
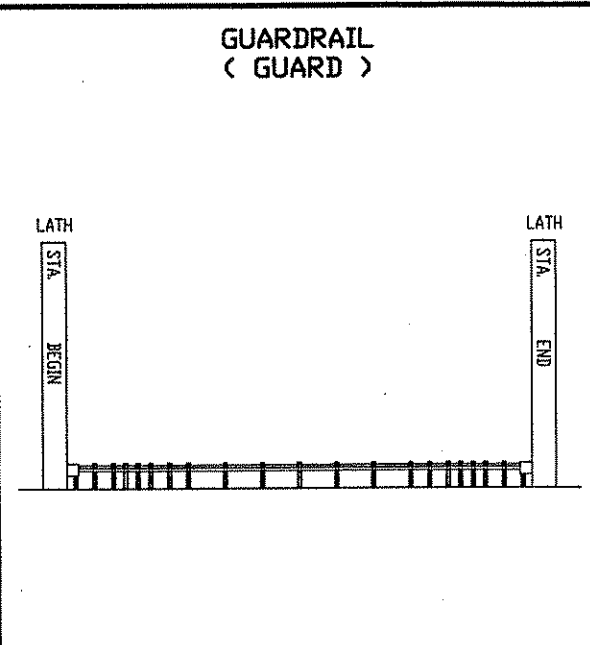
NOTE: ALL DIMENSIONS ARE IN MILLIMETERS, EXCEPT AS NOTED.

STANDARD SHEET NO. 5-297.115M (1 OF 2)

STANDARD APPROVED: DECEMBER 21, 1994

STATE PROJ NO 0212-41 (TH 242) SHEET NO. 29 OF 171 SHEETS

PLOT DATE: May 20, 2002 2:22pm DISK FILE NAME: (15.05) R:\33889\33889028\33889B\StdPlans\sm1152194.dwg

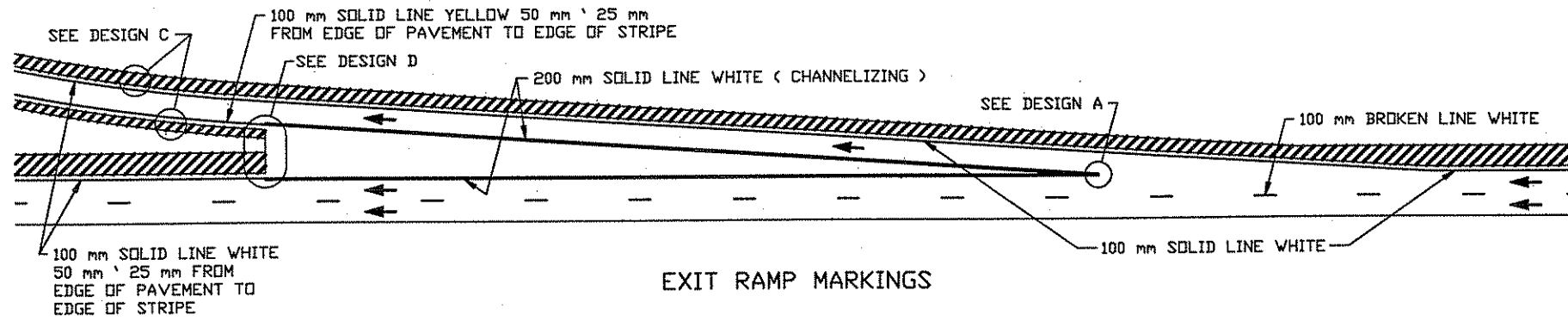


NOTE: ALL DIMENSIONS ARE IN MILLIMETERS, EXCEPT AS NOTED.

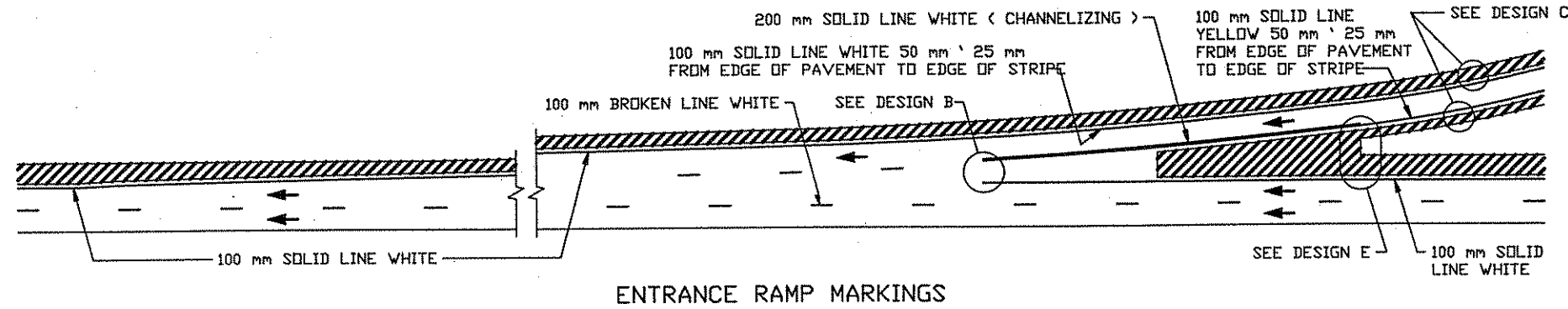
STANDARD SHEET NO. 5-297.115M (2 OF 2)	TITLE: STAKING INFORMATION SHEET
STANDARD APPROVED: DECEMBER 21, 1994	

CITY PROJECT 02-05 STATE PROJ NO 0212-41 (TH 242) SHEET NO. 30 OF 171 SHEETS

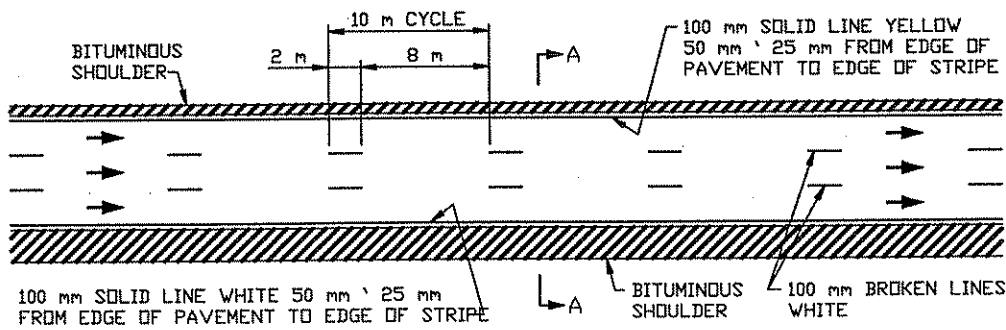
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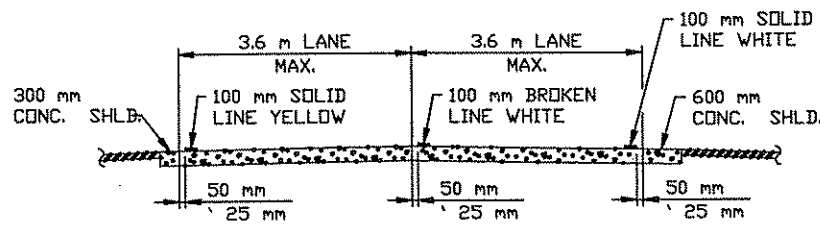
EXIT RAMP MARKINGS



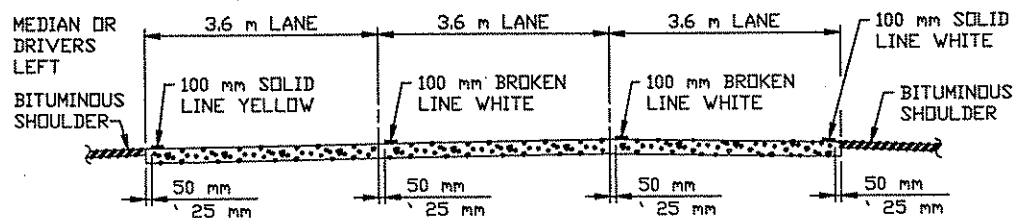
ENTRANCE RAMP MARKINGS



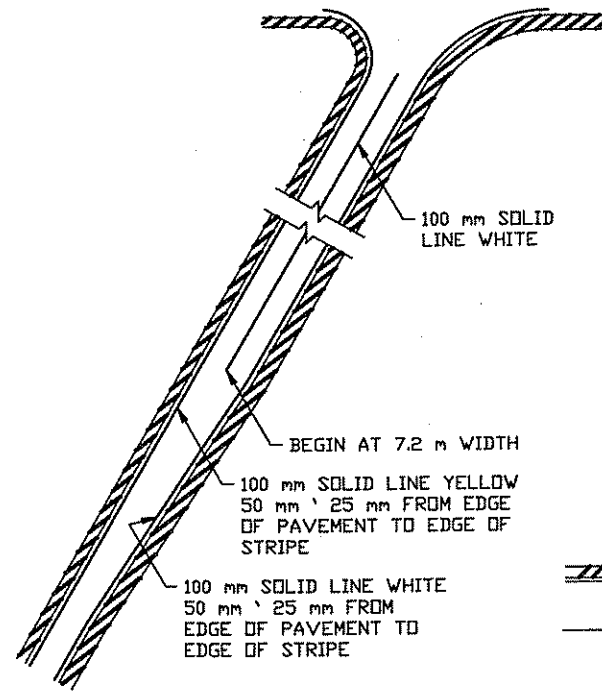
THROUGH LANE MARKINGS



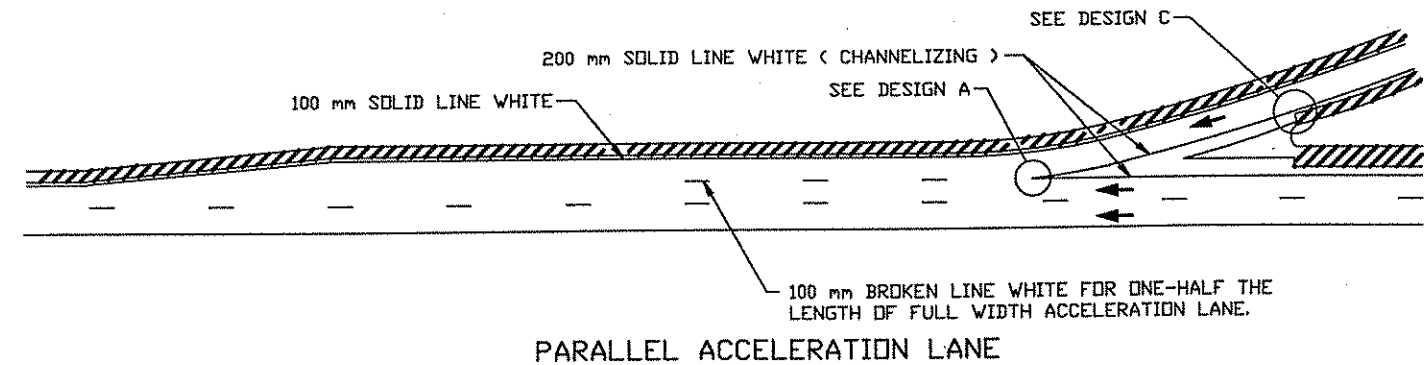
SECTION A-A
(TWO LANES)



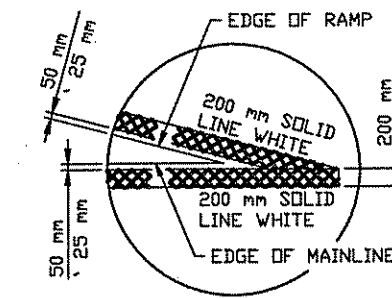
SECTION A-A
(THREE LANES)



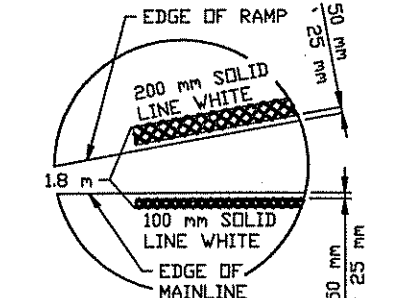
RAMP MARKINGS



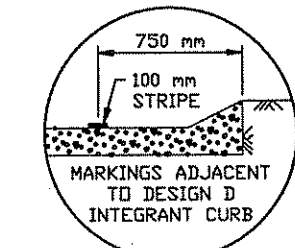
PARALLEL ACCELERATION LANE



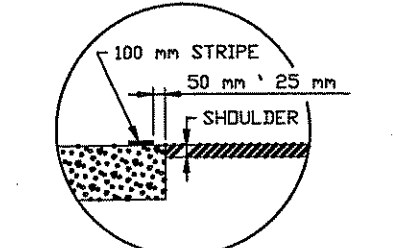
DESIGN A



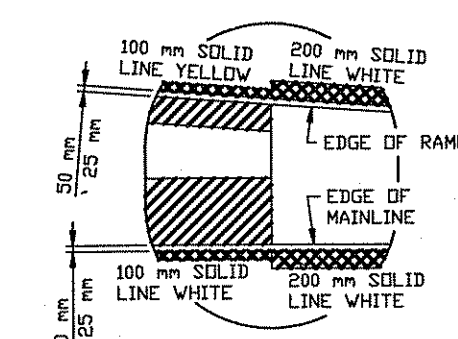
DESIGN B



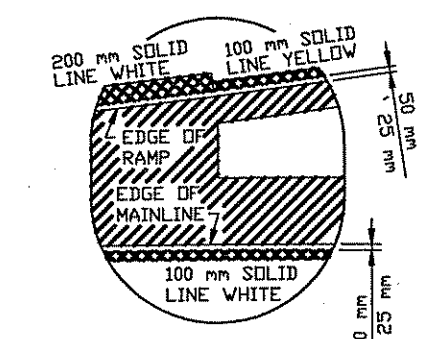
DESIGN C
URBAN



DESIGN C
RURAL



DESIGN D
RURAL

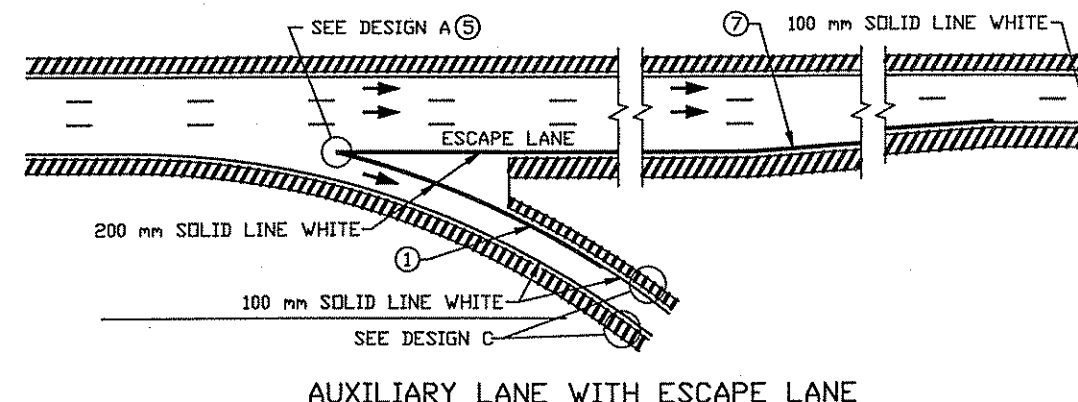
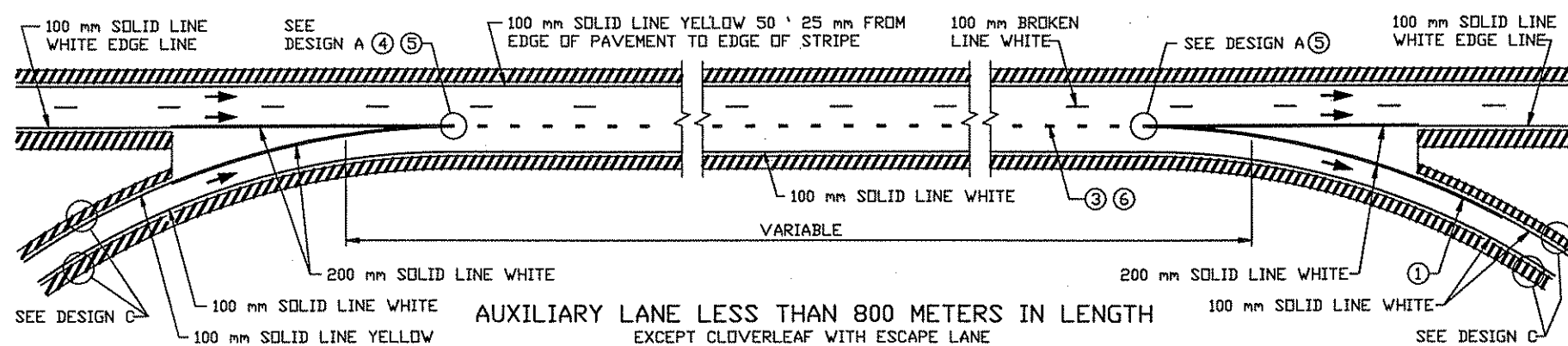
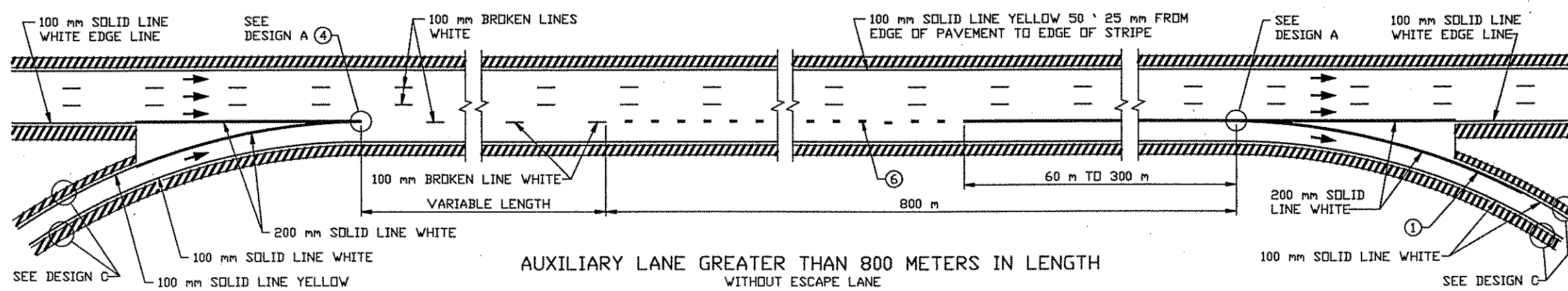
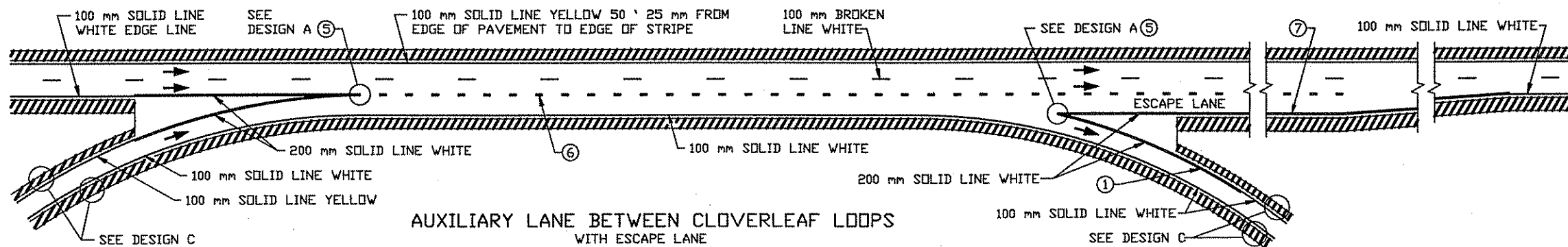
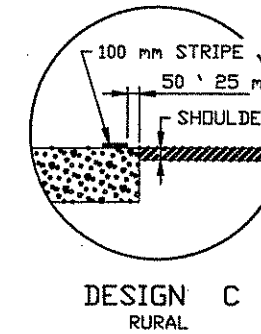
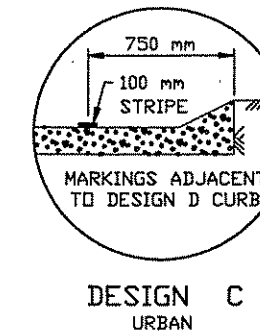
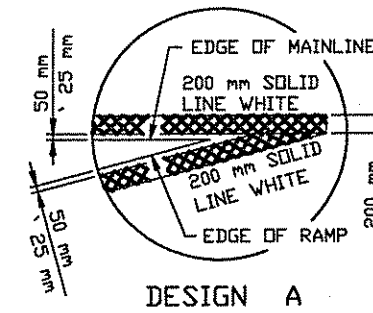
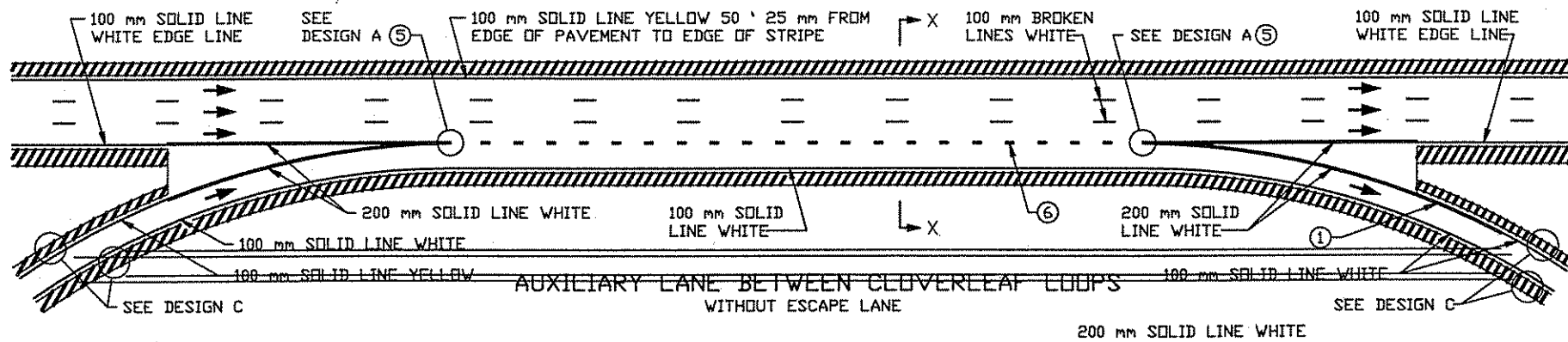


DESIGN E
RURAL

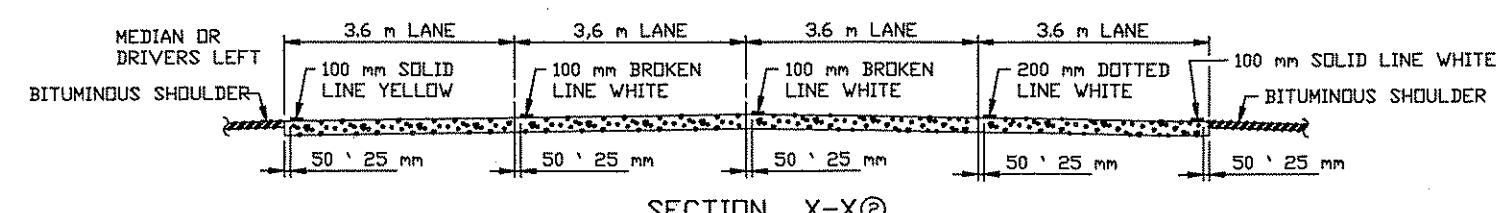
- NOTES:
- DENOTES SHOULDER AREA.
 - DENOTES PAVEMENT MARKINGS.

	STANDARD SHEET NO. 5-297.341M	TITLE
	STANDARD APPROVED MARCH 12, 1998	PAVEMENT MARKING DETAILS
STATE PROJ NO 0212-41 (TH 242)		SHEET NO 31 OF 171 SHEETS

PLOT DATE: May 20, 2002 4:36pm DISK FILE NAME: (15.05) R:\33889\33889028\33889B\StdPlans\SM342098.dwg FILE NAME: SM342098.SPN



- NOTES:
- ① EXTEND 200 mm SOLID LINE WHITE 15 m MIN. BEYOND GORE AREA TO COMPENSATE FOR SHARP CURVATURE.
 - ② ON PAVEMENTS OVER 7.2 m WIDE (I.E. 8.2 m) EDGE LINES WILL BE PLACED SO LANES ARE A MAX. OF 3.6 m WIDE.
 - ③ OMIT BROKEN LINE WHITE WHEN AUXILIARY LANE IS LESS THAN 300 m LONG. EXTEND 200 mm SOLID LINE WHITE UP TO 60 m, IF DEEMED NECESSARY FOR BETTER DELINEATION, AT THE DISCRETION OF THE DISTRICT TRAFFIC ENGINEER.
 - ④ EXTEND 200 mm SOLID LINE WHITE FOR 60 m TO 90 m, ON CURVATURE OR FOR OTHER SITUATIONS WHERE NEEDED FOR BETTER DELINEATION, AT THE DISCRETION OF THE DISTRICT TRAFFIC ENGINEER.
 - ⑤ WHEN THE DISTANCE BETWEEN DESIGN A DETAILS EXCEEDS 300 m, START 200 mm SOLID LINE WHITE 30 m BEFORE RIGHT SIDE DESIGN A DETAIL AND PLACE STANDARD 100 mm BROKEN LINE WHITE (2 m-8 m) BETWEEN THE SOLID LINES.
 - ⑥ 200 mm DOTTED LINE WHITE, 1.0 m LONG WITH A 4.0 m GAP, AS DETAILED IN FIGURE 3-41 OF THE MMUTCD. THIS TYPE STRIPING SHOULD BE USED WHENEVER A LANE IS DROPPED.
 - ⑦ EXTEND 200 mm SOLID LINE WHITE THE ENTIRE LENGTH OF THE ESCAPE LANE AND TO THE END OF THE TAPER. PICK UP THE NORMAL 100 mm SOLID LINE WHITE BEYOND TAPER. TAPER MUST BE AT LEAST 50:1.
- ▨ DENOTES SHOULDER AREA.

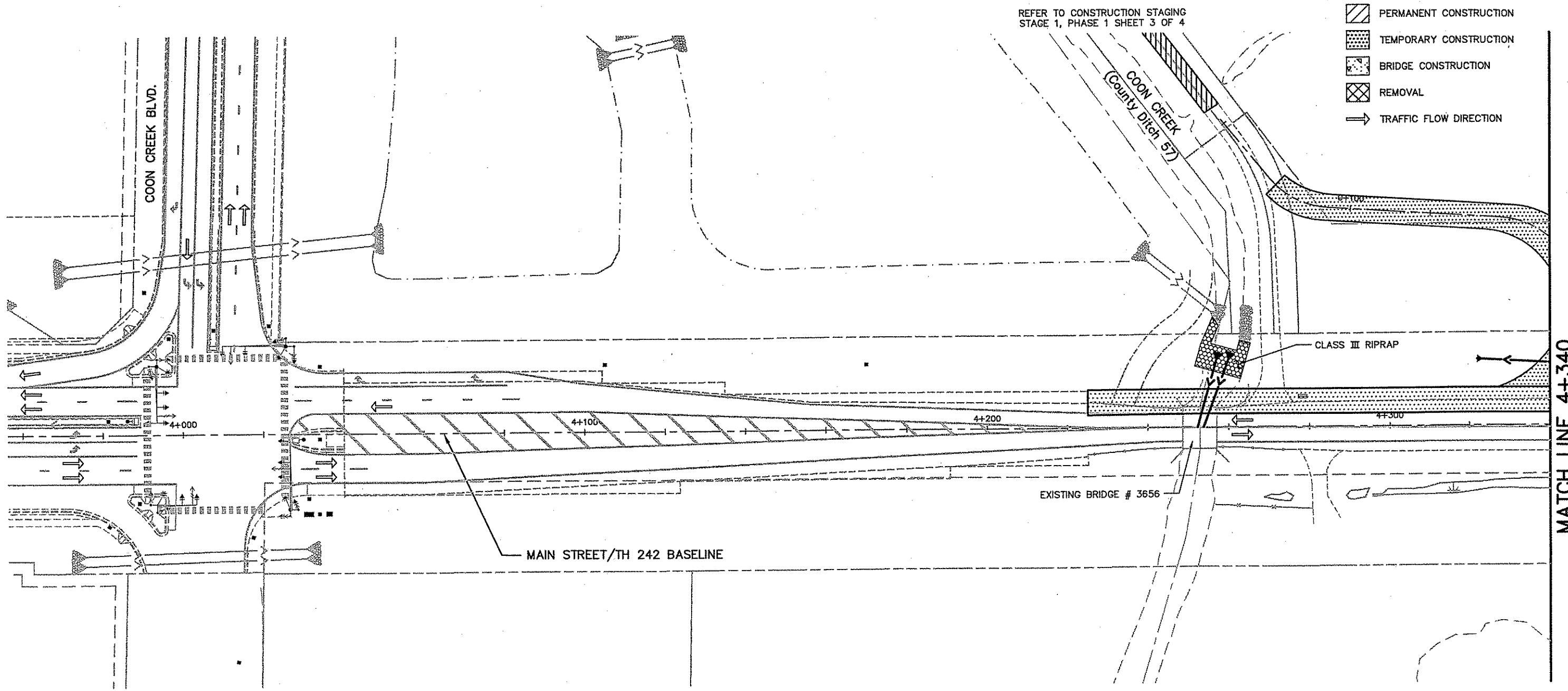


	STANDARD SHEET NO. 5-297.342M	TITLE:
	STANDARD APPROVED MARCH 12, 1998	PAVEMENT MARKING DETAILS
STATE PROJ. NO. 0212-41 (TH 242)		SHEET NO. 32 OF 171 SHEETS

CITY PROJECT 02-05

STIPHI_pvrnt
 LB_exstipe
 Sehplan
 Ealgbase_mod
 -phosp-pond
 242e_drm
 242pin2a
 242mheko
 -plan
 -PBOX
 ALN
 242-ESUM
 242-EUT

PLOT DATE: May 21, 2002 1:59pm DISK FILE NAME: (15.05) R:\33889\33889028\PLAN_SHT\Staging\LB-CNSTO1.dwg



LEGEND

- PERMANENT CONSTRUCTION
- TEMPORARY CONSTRUCTION
- BRIDGE CONSTRUCTION
- REMOVAL
- TRAFFIC FLOW DIRECTION

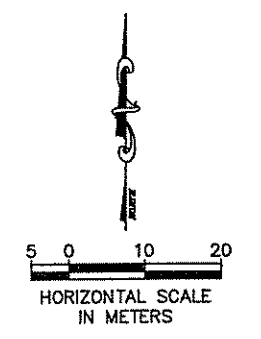
REFER TO CONSTRUCTION STAGING
 STAGE 1, PHASE 1 SHEET 3 OF 4

STAGE 1 PHASE 1 TRAFFIC:

- CLOSE SHOULDER WB T.H. 242 STA. 4+200 TO STA. 4+680
- CLOSE SHOULDER EB T.H. 242 STA. 4+320 TO STA. 4+460

STAGE 1 PHASE 1 CONSTRUCTION:

- CONSTRUCT TEMPORARY DRIVEWAY AT STA. 4+450, RT.
- INSTALL TEMPORARY CULVERT IN COON CREEK AT STA. 4+252, LT.
- REMOVE RAILING AND CURB NORTH SIDE OF EXISTING BRIDGE No. 3656 STA. 4+252, LT.
- OVERLAY EXISTING SHOULDER AND CONSTRUCT TEMPORARY WIDENING FROM STA. 4+225 TO STA. 4+574, LT.
- OVERLAY COMMERCIAL DRIVEWAY OFF COON CREEK BOULEVARD WITH BITUMINOUS MILLINGS
- BEGIN SURCHARGE OF COMMERCIAL DRIVEWAY ENTRANCE AT STA. 4+347, LT.



MATCH LINE 4+340

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	IKR	05/22/02	REVISED D/W (4+347.150, LT) PER MNDOT COMMENTS

DESIGN FILE: 33889028 5001	
DRAWN BY: IKR	DESIGN BY: JRM
CHKD. BY: JRM	DWG. NAME: LB-CNSTO1
DATE: MARCH 29, 2002	



Thresher Square
 700 Third Street South
 Minneapolis, MN 55415
 612.370.0700 Tel
 612.370.1378 Fax

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Kevin P. Kiehl
 KEVIN P. KIELB
 DATE: 03/29/02 MN LIC. NO. 23211

MAIN STREET/T.H. 242 RECONSTRUCTION

CONSTRUCTION STAGING PLAN
 STAGE 1, PHASE 1

CITY PROJECT 02-05

S.P. 0212-41

1 OF 4

SHEET NO.
33

171

PHI_pvrnt
B_exstripe
242mhto
LBSAPBOX
LB_ALN
242-ESUM
EUT

STAGE 1 PHASE 1 TRAFFIC:

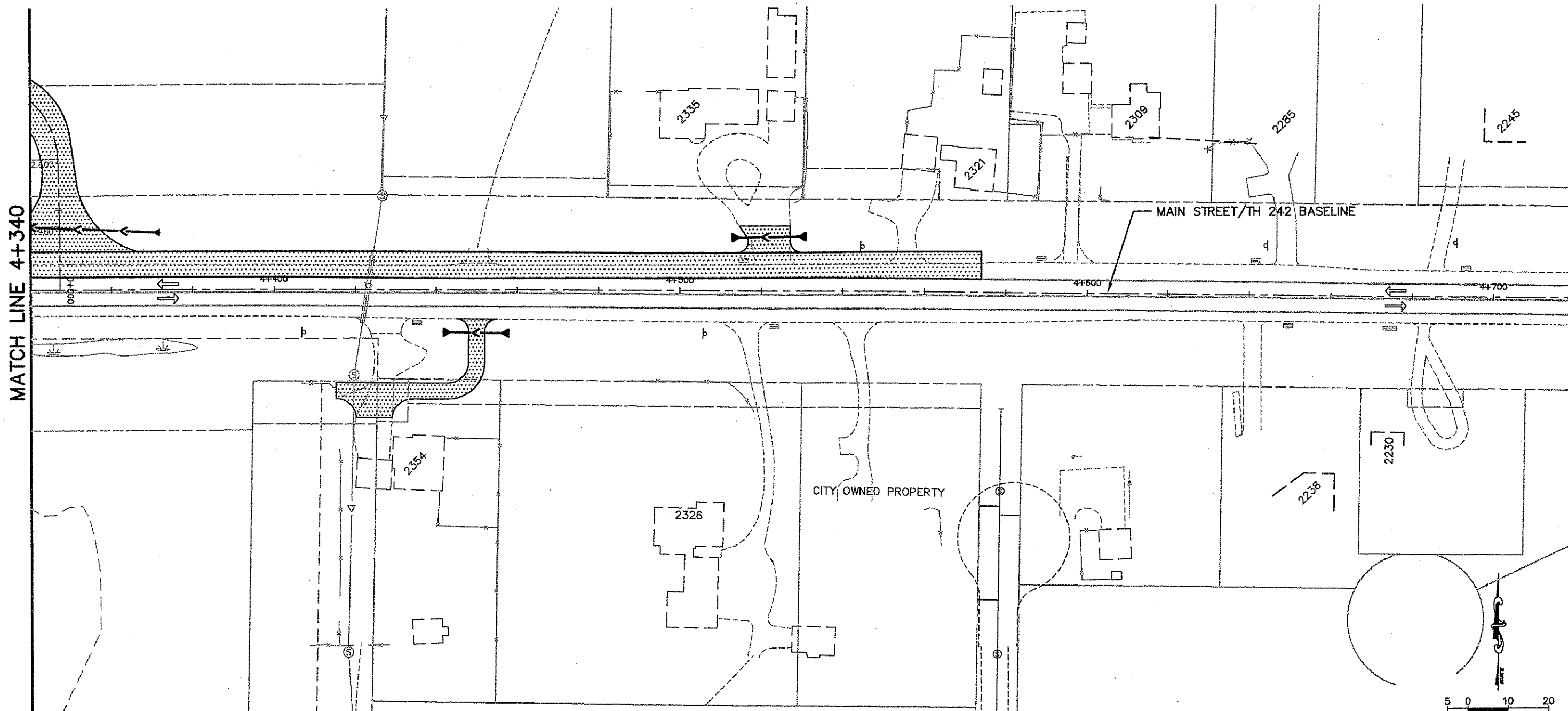
- CLOSE SHOULDER WB T.H. 242 STA. 4+200 TO STA. 4+680
- CLOSE SHOULDER EB T.H. 242 STA. 4+320 TO STA. 4+460

STAGE 1 PHASE 1 CONSTRUCTION:

- CONSTRUCT TEMPORARY DRIVEWAY AT STA. 4+450, RT.
- INSTALL TEMPORARY CULVERT IN COON CREEK AT STA. 4+255, LT.
- REMOVE RAILING AND CURB NORTH SIDE OF EXISTING BRIDGE No. 3656 STA. 4+252, LT.
- OVERLAY EXISTING SHOULDER AND CONSTRUCT TEMPORARY WIDENING FROM STA. 4+225 TO STA. 4+574, LT.
- OVERLAY COMMERCIAL DRIVEWAY OFF COON CREEK BOULEVARD WITH BITUMINOUS MILLINGS
- BEGIN SURCHARGE OF COMMERCIAL DRIVEWAY ENTRANCE AT STA. 4+347, LT.

LEGEND

- PERMANENT CONSTRUCTION
- TEMPORARY CONSTRUCTION
- BRIDGE CONSTRUCTION
- REMOVAL
- TRAFFIC FLOW DIRECTION



PLOT DATE: May 21, 2002 1:55pm DISK FILE NAME: (15.05) R:\33889\33889028\33889B\PLAN_SHT\Staging\LB-CNST02.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	JKR	05/22/02	REVISED D/W (4+347.150, LT.) PER MNDOT COMMENTS

DESIGN FILE: 33889028 5001	
DRAWN BY: JKR	DESIGN BY: JRM
CHKD. BY: JRM	DWG. NAME: LB-CNST02
DATE: MARCH 29, 2002	



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700 Third Street South
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Kevin P. Kielb
KEVIN P. KIELB
DATE: 03/29/02 MN LIC. NO. 23211

MAIN STREET/T.H. 242 RECONSTRUCTION

CONSTRUCTION STAGING PLAN
STAGE 1, PHASE 1

CITY PROJECT 02-05

S.P. 0212-41

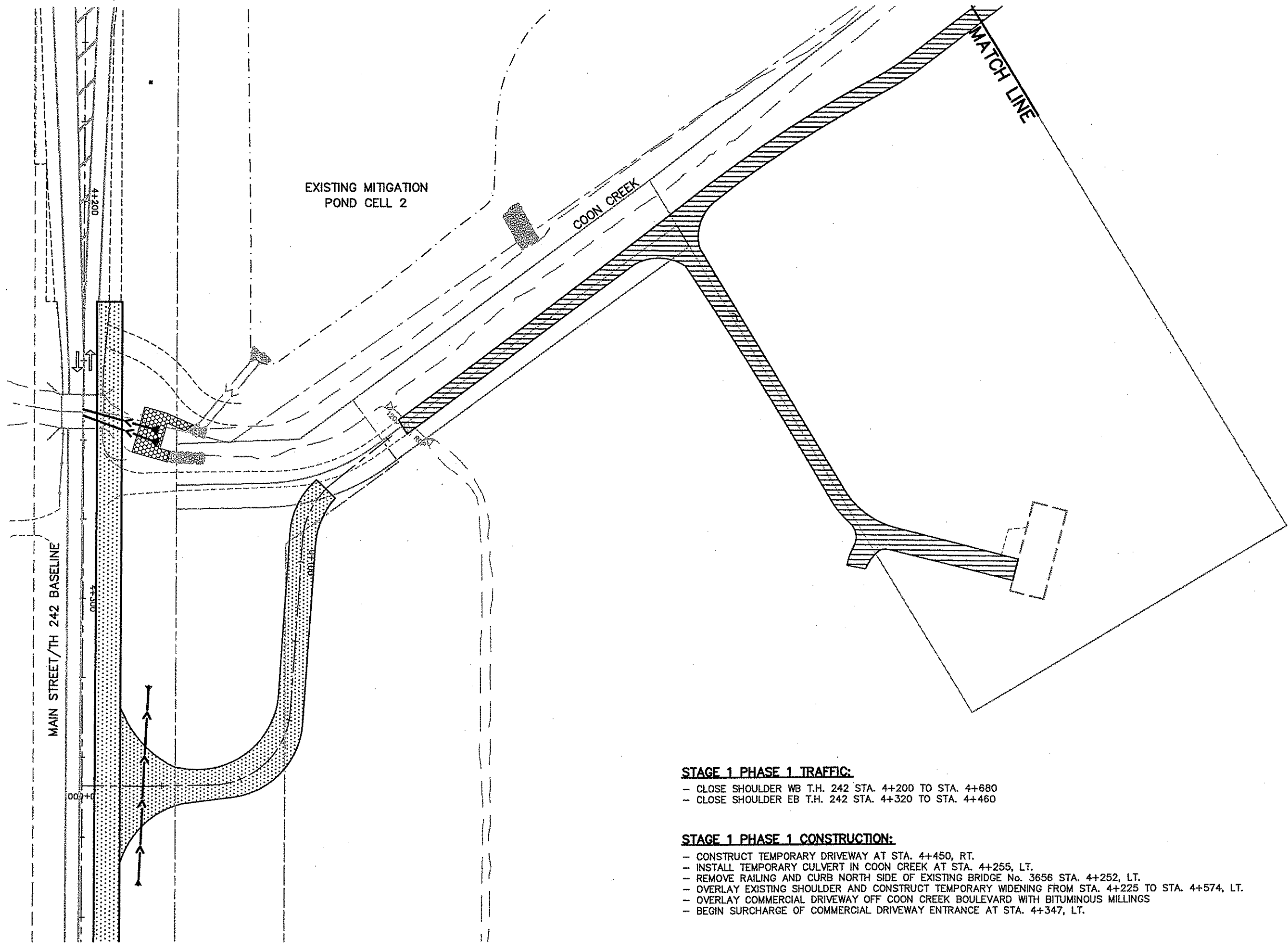
2 OF 4

SHEET NO.
34

171

PHI_pvrnt
 Sepplan
 B_exstipe
 base_mod
 242pin2a
 _easement
 242e-pln
 pond
 _drn
 _dln
 LBSAPBOX
 242-ESUM
 242-EUT
 242MHETO

PLOT DATE: May 21, 2002 2:20pm DISK FILE NAME: (15.05) R:\33889\33889028\33889E\PLAN_SHT\Staging\LB-CNST14.dwg



LEGEND

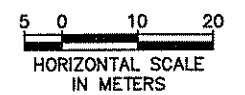
	PERMANENT CONSTRUCTION
	TEMPORARY CONSTRUCTION
	BRIDGE CONSTRUCTION
	REMOVAL
	TRAFFIC FLOW DIRECTION

STAGE 1 PHASE 1 TRAFFIC:

- CLOSE SHOULDER WB T.H. 242 STA. 4+200 TO STA. 4+680
- CLOSE SHOULDER EB T.H. 242 STA. 4+320 TO STA. 4+460

STAGE 1 PHASE 1 CONSTRUCTION:

- CONSTRUCT TEMPORARY DRIVEWAY AT STA. 4+450, RT.
- INSTALL TEMPORARY CULVERT IN COON CREEK AT STA. 4+255, LT.
- REMOVE RAILING AND CURB NORTH SIDE OF EXISTING BRIDGE No. 3656 STA. 4+252, LT.
- OVERLAY EXISTING SHOULDER AND CONSTRUCT TEMPORARY WIDENING FROM STA. 4+225 TO STA. 4+574, LT.
- OVERLAY COMMERCIAL DRIVEWAY OFF COON CREEK BOULEVARD WITH BITUMINOUS MILLINGS
- BEGIN SURCHARGE OF COMMERCIAL DRIVEWAY ENTRANCE AT STA. 4+347, LT.



REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	JJL	05/22/02	NEW PLAN SHEET FOR LAWRENCE DRIVEWAY

DESIGN FILE: 33889028 5001	
DRAWN BY: JJL	DESIGN BY: JJL
CHKD. BY: KPK	DWG. NAME: LB-CNST01
DATE: MARCH 29, 2002	



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Kevin P. Kielb
 KEVIN P. KIELB
 DATE: 03/29/02 MN LIC. NO. 23211

MAIN STREET/T.H. 242 RECONSTRUCTION

CONSTRUCTION STAGING PLAN
 STAGE 1, PHASE 1

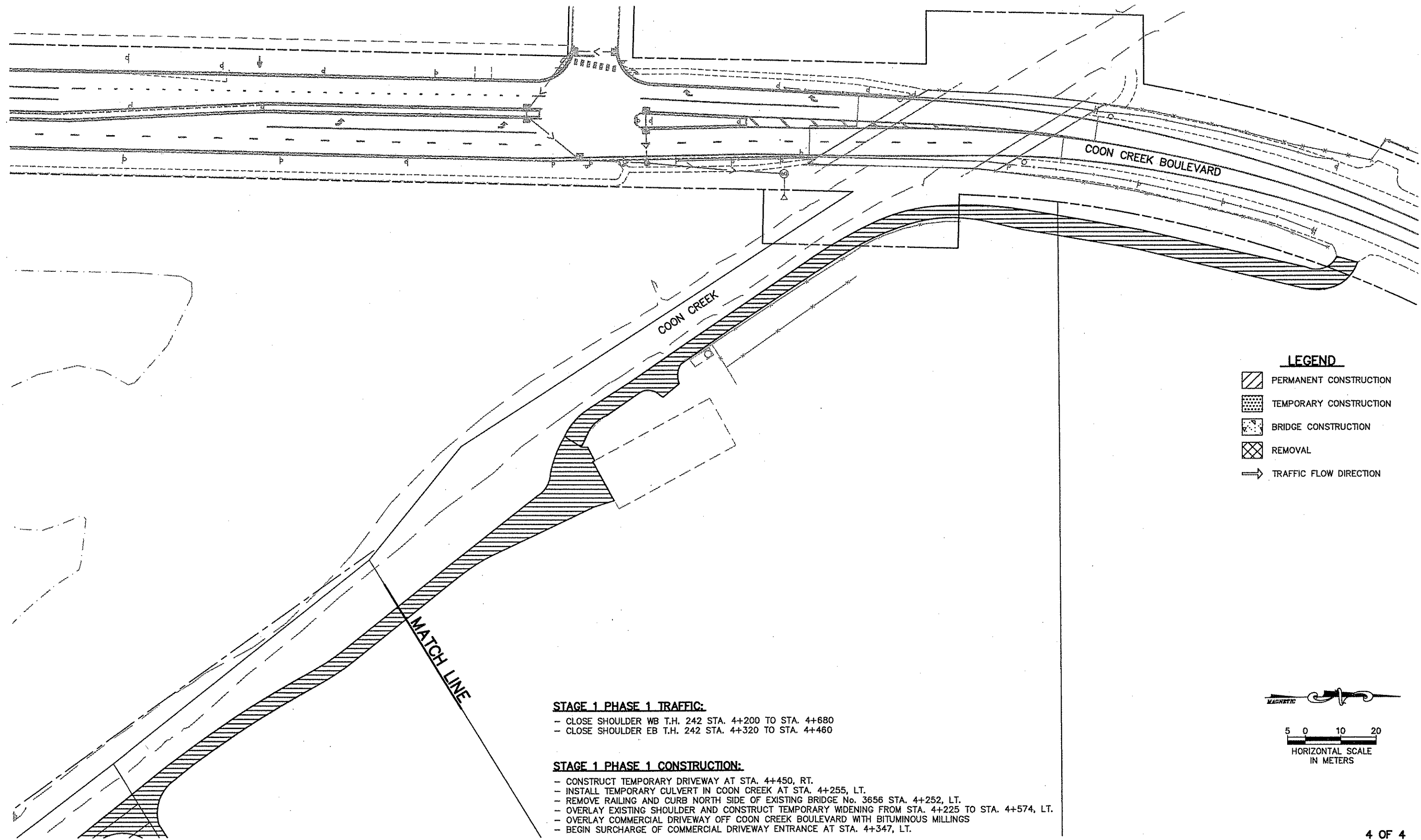
CITY PROJECT 02-05

S.P. 0212-41

SHEET NO.
 35
 171

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 B_exstripe
 base_mod
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 easement
 242e-pin
 pond
 _drn
 lb_dln
 LBSAPBOX
 242-ESUM
 242-EUT
 242MHETO

PLOT DATE: May 21, 2002 2:21pm DISK FILE NAME: (15.05) R:\33889\33889028\338899\PLAN_SHT\Staging\LB-CNST15.dwg



- LEGEND**
- PERMANENT CONSTRUCTION
 - TEMPORARY CONSTRUCTION
 - BRIDGE CONSTRUCTION
 - REMOVAL
 - TRAFFIC FLOW DIRECTION

STAGE 1 PHASE 1 TRAFFIC:
 - CLOSE SHOULDER WB T.H. 242 STA. 4+200 TO STA. 4+680
 - CLOSE SHOULDER EB T.H. 242 STA. 4+320 TO STA. 4+460

STAGE 1 PHASE 1 CONSTRUCTION:
 - CONSTRUCT TEMPORARY DRIVEWAY AT STA. 4+450, RT.
 - INSTALL TEMPORARY CULVERT IN COON CREEK AT STA. 4+255, LT.
 - REMOVE RAILING AND CURB NORTH SIDE OF EXISTING BRIDGE No. 3656 STA. 4+252, LT.
 - OVERLAY EXISTING SHOULDER AND CONSTRUCT TEMPORARY WIDENING FROM STA. 4+225 TO STA. 4+574, LT.
 - OVERLAY COMMERCIAL DRIVEWAY OFF COON CREEK BOULEVARD WITH BITUMINOUS MILLINGS
 - BEGIN SURCHARGE OF COMMERCIAL DRIVEWAY ENTRANCE AT STA. 4+347, LT.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	JJL	05/22/02	NEW PLAN SHEET FOR LAWRENCE DRIVEWAY

DESIGN FILE:
 33889028 5001

DRAWN BY: JJL DESIGN BY: JJL

CHKD. BY: KPK DWG. NAME: LB-CNST15

DATE: MARCH 29, 2002

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Kevin P. Kielb
 KEVIN P. KIELB
 DATE: 03/29/02 MN LIC. NO. 23211

MAIN STREET/T.H. 242 RECONSTRUCTION

CONSTRUCTION STAGING PLAN
 STAGE 1, PHASE 1

CITY PROJECT 02-05






S.P. 0212-41

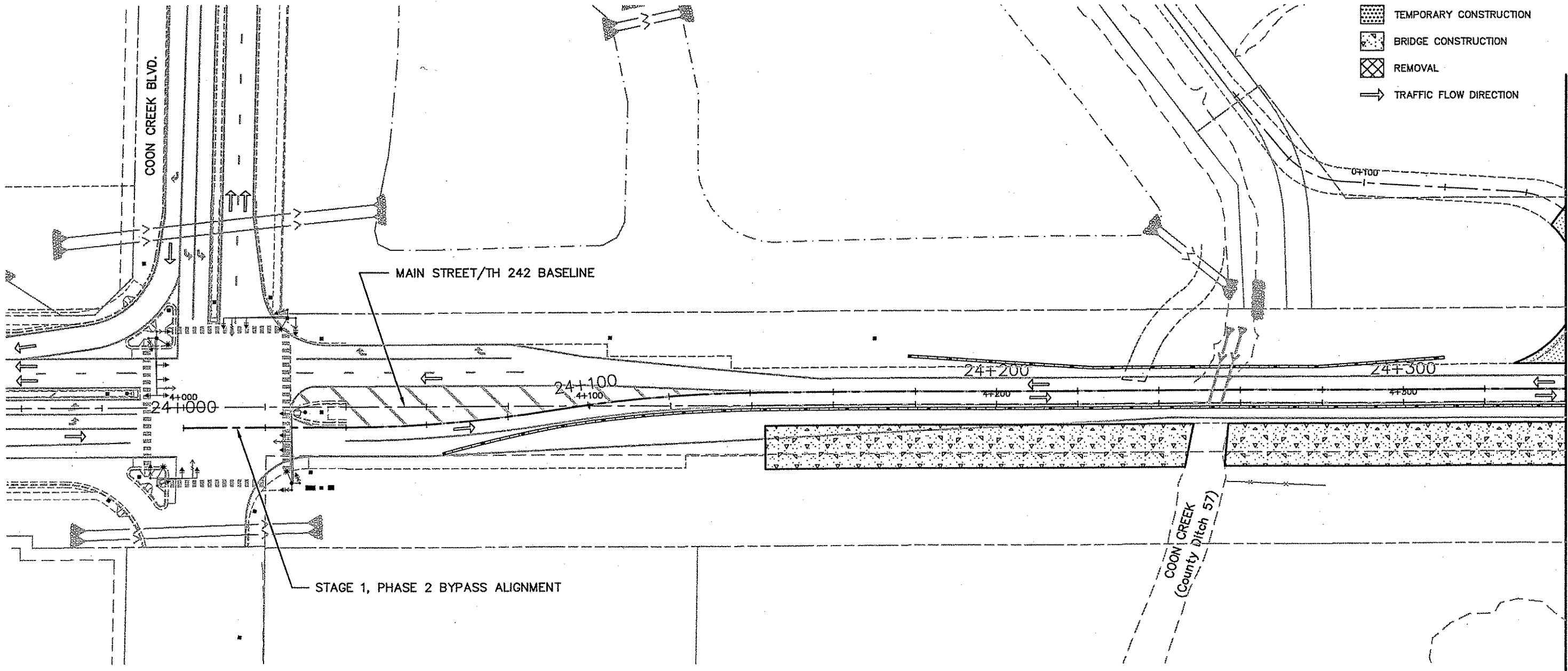
4 OF 4

SHEET NO.
 36
 171

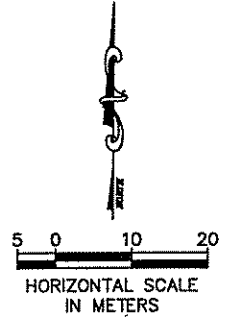
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n_STIPH2
jbase_mod
nosp_pond
242a_drn
neto
_pln
LBSAPBOX
LB_ALN
242-ESUM
242-EUT

LEGEND

	PERMANENT CONSTRUCTION
	TEMPORARY CONSTRUCTION
	BRIDGE CONSTRUCTION
	REMOVAL
	TRAFFIC FLOW DIRECTION



- STAGE 1 PHASE 2 TRAFFIC:**
- CLOSE RIGHT LANE EB T.H.242 WEST OF COON CREEK BOULEVARD
 - SHIFT EB/WB T.H.242 TRAFFIC ONTO BYPASS FROM STA. 4+040 TO STA. 4+613
- STAGE 1 PHASE 2 CONSTRUCTION:**
- CONSTRUCT EMBANKMENT FOR BRIDGE No. 02015 FROM STA. 4+143 TO STA. 4+414, RT.
 - CONSTRUCT THE SOUTHERLY ONE-THIRD OF BRIDGE No. 02015 FROM BENT No. 1 THROUGH BENT No. 36 (STA. 4+143 TO STA. 4+414, RT.)
 - CONTINUE COMMERCIAL DRIVEWAY SURCHARGE EMBANKMENT



PLOT DATE: May 21, 2002 1:54pm DISK FILE NAME: (15.05) R:\33889\33889028\33889B\PLAN_SHT\Staging_Lb-CNST03.dwg

MATCH LINE 4+340

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	IKR	05/22/02	REVISED D/W (4+347.150, LT.) PER MNDOT COMMENTS

DESIGN FILE: 33889028 5001	
DRAWN BY: IKR	DESIGN BY: JRM
CHKD. BY: JRM	DWG. NAME: LB-CNST03
DATE: MARCH 29, 2002	

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Kevin P. Kielb
KEVIN P. KIELB
DATE: 03/29/02 MN LIC. NO. 23211

MAIN STREET/T.H. 242 RECONSTRUCTION

CONSTRUCTION STAGING PLAN
STAGE 1, PHASE 2

CITY PROJECT 02-05

S.P. 0212-41

1 OF 2

SHEET NO.
37

171

stripe_mod
PH2_pvmt
n_ST1PH2
242mhto
LBSAPBOX
LB_ALN
ESUM
-EUT

STAGE 1 PHASE 2 TRAFFIC:

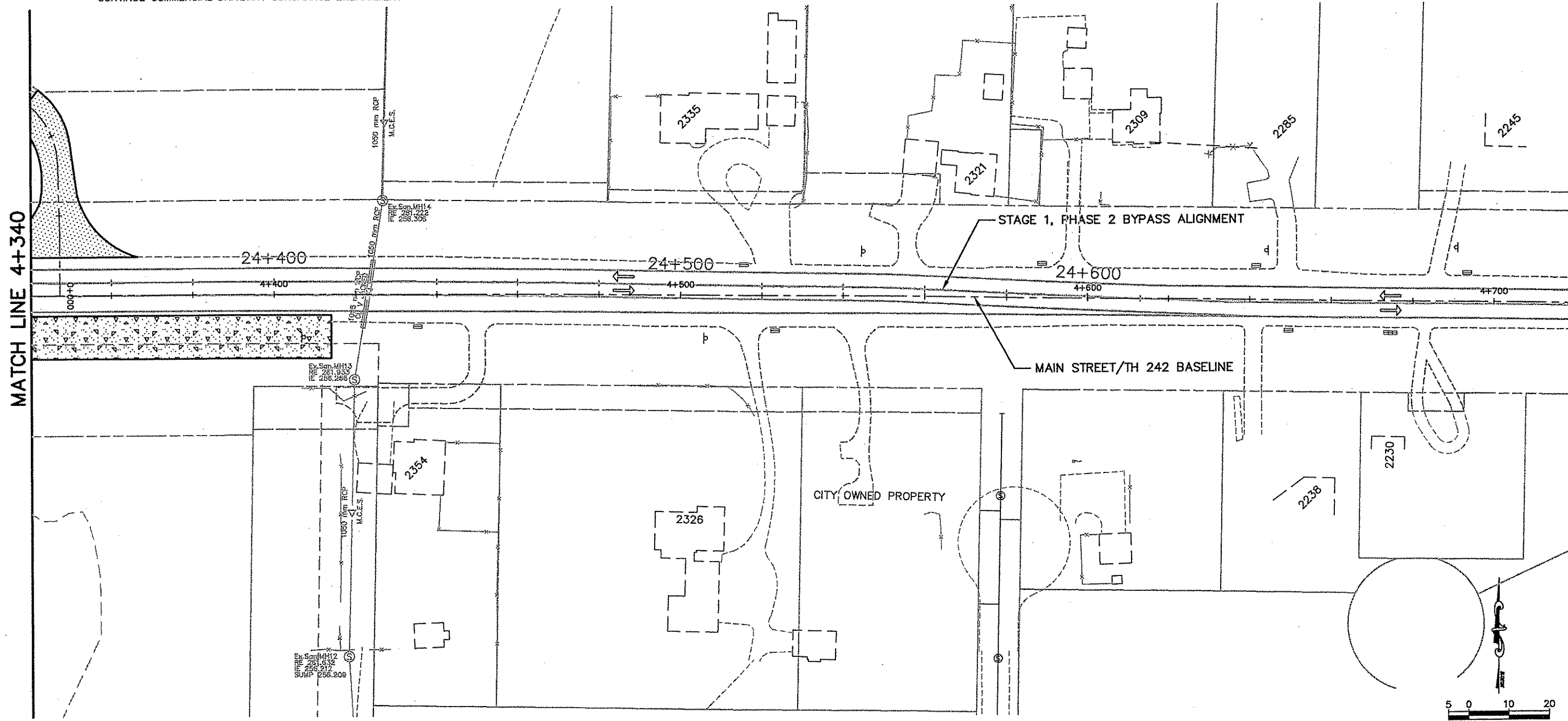
- CLOSE RIGHT LANE EB T.H.242 WEST OF COON CREEK BOULEVARD
- SHIFT EB/WB T.H.242 TRAFFIC ONTO BYPASS FROM STA. 4+040 TO STA. 4+613

STAGE 1 PHASE 2 CONSTRUCTION:

- CONSTRUCT EMBANKMENT FOR BRIDGE No. 02015 FROM STA. 4+143 TO STA. 4+414, RT.
- CONSTRUCT THE SOUTHERLY ONE-THIRD OF BRIDGE No. 02015 FROM BENT No. 1 THROUGH BENT No. 36 (STA. 4+143 TO STA. 4+414, RT.)
- CONTINUE COMMERCIAL DRIVEWAY SURCHARGE EMBANKMENT

LEGEND

- PERMANENT CONSTRUCTION
- TEMPORARY CONSTRUCTION
- BRIDGE CONSTRUCTION
- REMOVAL
- TRAFFIC FLOW DIRECTION



PLOT DATE: May 21, 2002 1:52pm DISK FILE NAME: (15.05) R: \33889\33889028\33889B\PLAN_SHT\Staging\LB-CNST04.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	IKR	05/22/02	REVISED D/W (4+347.150, LT.) PER MNDOT COMMENTS

DESIGN FILE:
33889028 5001

DRAWN BY: JRM
DESIGN BY: JRM

CHKD. BY: JRM
DWG. NAME: LB-CNST04

DATE:
MARCH 29, 2002



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Kevin P. Kiehl
KEVIN P. KIEHL
DATE: 03/29/02 MN LIC. NO. 23211

MAIN STREET/T.H. 242 RECONSTRUCTION

CONSTRUCTION STAGING PLAN
STAGE 1, PHASE 2

CITY PROJECT 02-05

S.P. 0212-41






2 OF 2

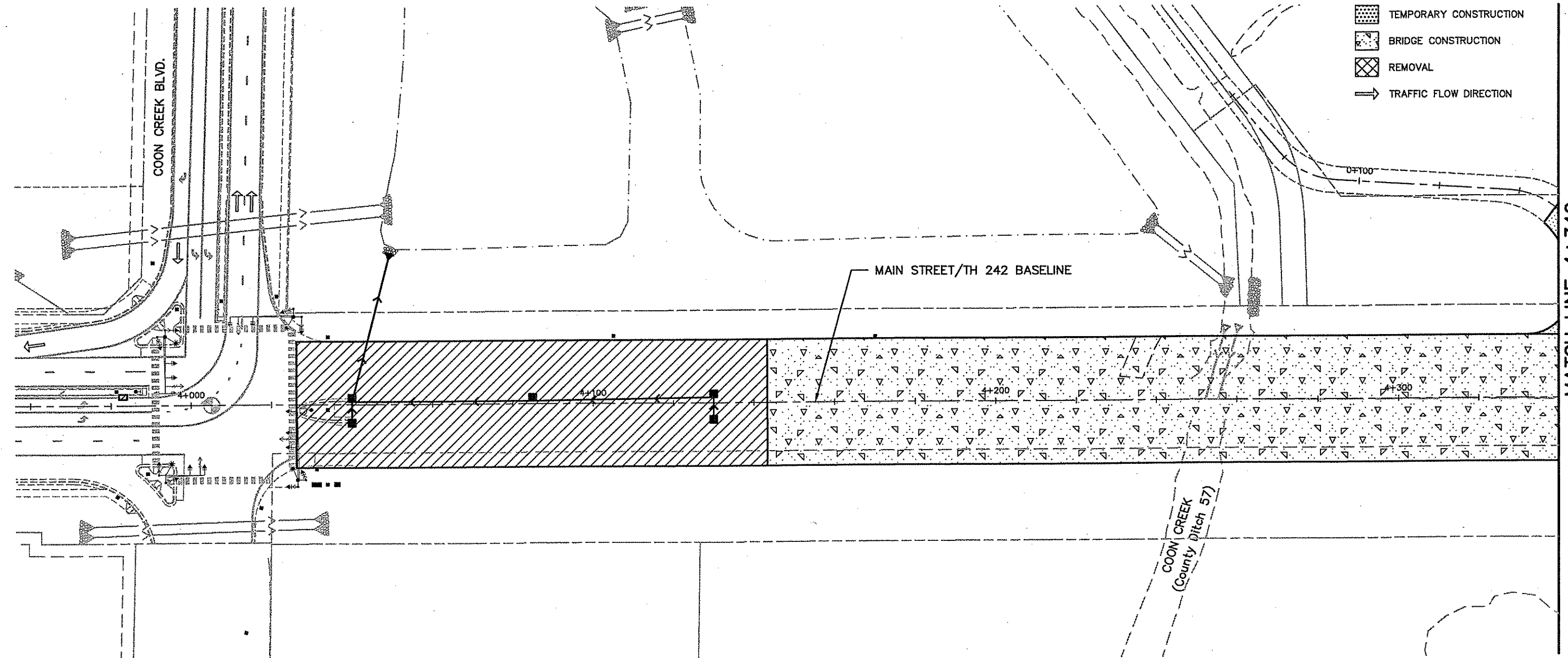
SHEET NO.
38

171

PH2_pvmt
 trmp_pvmt
 STIPH2
 STIPH2
 base_mod
 osp_pond
 drn
 n2a
 neto
 242e-pln
 BSAPBOX
 LB_ALN
 242-ESUM
 242-EUT

LEGEND

-  PERMANENT CONSTRUCTION
-  TEMPORARY CONSTRUCTION
-  BRIDGE CONSTRUCTION
-  REMOVAL
-  TRAFFIC FLOW DIRECTION

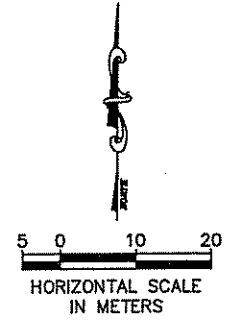


STAGE 2 PHASE 1 TRAFFIC:

- CLOSE T.H. 242 FROM COON CREEK BOULEVARD TO HANSON BOULEVARD
 A DETOUR WILL BE PROVIDED
- T.H. 242 CLOSED TO THRU TRAFFIC FROM SHENANDOAH BOULEVARD TO 1/2 MILE WEST

STAGE 2 PHASE 1 CONSTRUCTION:

- REMOVE EXISTING BRIDGE No. 3656 AT STA. 4+253, LT/RT
- CONSTRUCT EMBANKMENT FOR BRIDGE No. 02015, STA. 4+143 TO STA. 4+437, LT. AND STA. 4+414 TO STA. 4+437, RT.
- CONSTRUCT BRIDGE No. 02015, BENT No. 37 THRU BENT No. 39, AND THE REMAINING PORTION OF BENT No. 1 THRU BENT No. 36
- CONSTRUCT BRIDGE No. 02015 STRUCTURAL SLAB
- CONSTRUCT T.H. 242 ROADWAY STA. 4+026 TO STA. 4+143
- CONSTRUCT SOUTH 1/2 OF T.H. 242 ROADWAY STA. 4+437 TO STA. 4+865, RT
- CONTINUE COMMERCIAL DRIVEWAY SURCHARGE EMBANKMENT



PLOT DATE: May 21, 2002 1:50pm DISK FILE NAME: (15.05) R:\33889\33889028\PLAN_SHT\Staging\LB-CNST05.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	IKR	05/22/02	REVISED D/W (4+347.150, LT.) PER MNDOT COMMENTS

DESIGN FILE: 33889028 5001	
DRAWN BY: IKR	DESIGN BY: JRM
CHKD. BY: JRM	DWG. NAME: LB-CNST05
DATE: MARCH 29, 2002	


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Kevin P. Kiehl
 KEVIN P. KIEHL
 DATE: 03/29/02 MN LIC. NO. 23211

MAIN STREET/T.H. 242 RECONSTRUCTION

CONSTRUCTION STAGING PLAN
 STAGE 2, PHASE 1

CITY PROJECT 02-05

S.P. 0212-41

1 OF 3

SHEET NO.
 39

171

stripe_mod
PHI_pvmt
242mhto
LBSAPBOX
LB_ALN
242-ESUM
242-EUT

STAGE 2 PHASE 1 TRAFFIC:

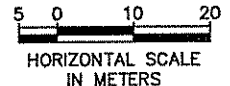
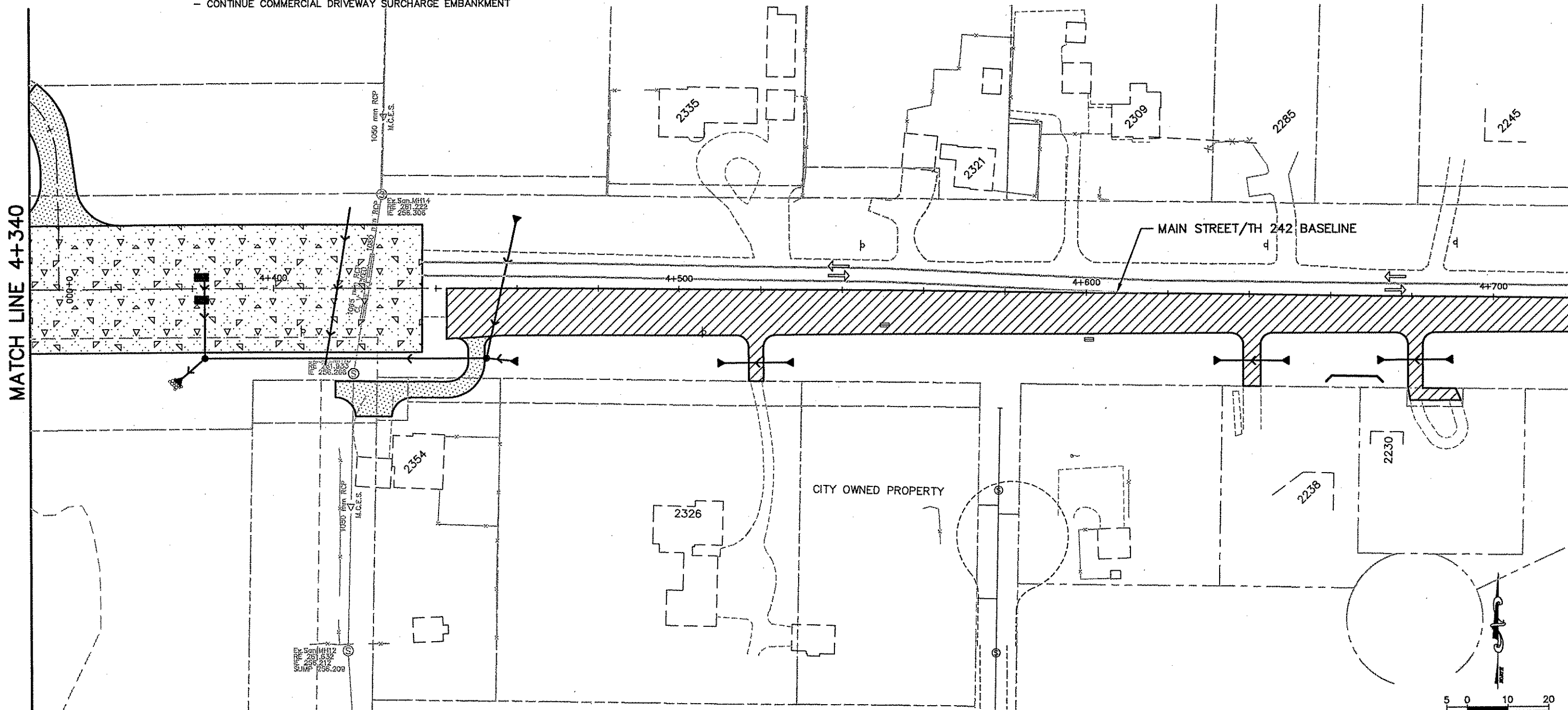
- CLOSE T.H. 242 FROM COON CREEK BOULEVARD TO HANSON BOULEVARD
A DETOUR WILL BE PROVIDED
- T.H. 242 CLOSED TO THRU TRAFFIC FROM SHENANDOAH BOULEVARD TO 1/2 MILE WEST

STAGE 2 PHASE 1 CONSTRUCTION:

- REMOVE EXISTING BRIDGE No. 3656 AT STA. 4+253, LT/RT
- CONSTRUCT EMBANKMENT FOR BRIDGE No. 02015, STA. 4+143 TO STA. 4+437, LT. AND STA. 4+414 TO STA. 4+437, RT.
- CONSTRUCT BRIDGE No. 02015, BENT No. 37 THRU BENT No. 39, AND THE REMAINING PORTION OF BENT No. 1 THRU BENT No. 36
- CONSTRUCT BRIDGE No. 02015 STRUCTURAL SLAB
- CONSTRUCT T.H. 242 ROADWAY STA. 4+026 TO STA. 4+143
- CONSTRUCT SOUTH 1/2 OF T.H. 242 ROADWAY STA. 4+437 TO STA. 4+865, RT
- CONTINUE COMMERCIAL DRIVEWAY SURCHARGE EMBANKMENT

LEGEND

- PERMANENT CONSTRUCTION
- TEMPORARY CONSTRUCTION
- BRIDGE CONSTRUCTION
- REMOVAL
- TRAFFIC FLOW DIRECTION



PLOT DATE: May 21, 2002 1:48pm DISK FILE NAME: (15.05) R:\33889\33889028\33889B\PLAN_SHT\Staging_Lb-CNST06.dwg

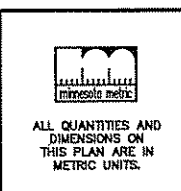
REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	IKR	05/22/02	REVISED D/W (4+347.150, LT.) PER MNDOT COMMENTS

DESIGN FILE:
33889028 5001

DRAWN BY: IKR DESIGN BY: JRM

CHKD. BY: JRM DWG. NAME: LB-CNST06

DATE:
MARCH 29, 2002



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BRW, Inc.

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Minneapolis, MN 55415
612.370.0700 Tel
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Kevin P. Kiehl
KEVIN P. KIEHL
DATE: 03/29/02 MN LIC. NO. 23211

MAIN STREET/T.H. 242 RECONSTRUCTION

CONSTRUCTION STAGING PLAN
STAGE 2, PHASE 1

CITY PROJECT 02-05

S.P. 0212-41

2 OF 3

SHEET NO.
40

171

PH1_pvmt
 itripe_mod
 Sehplan
 242e_drn
 242pln2a
 242rheto
 242pln
 BOX
 ALN
 242-ESUM

STAGE 2 PHASE 1 TRAFFIC:

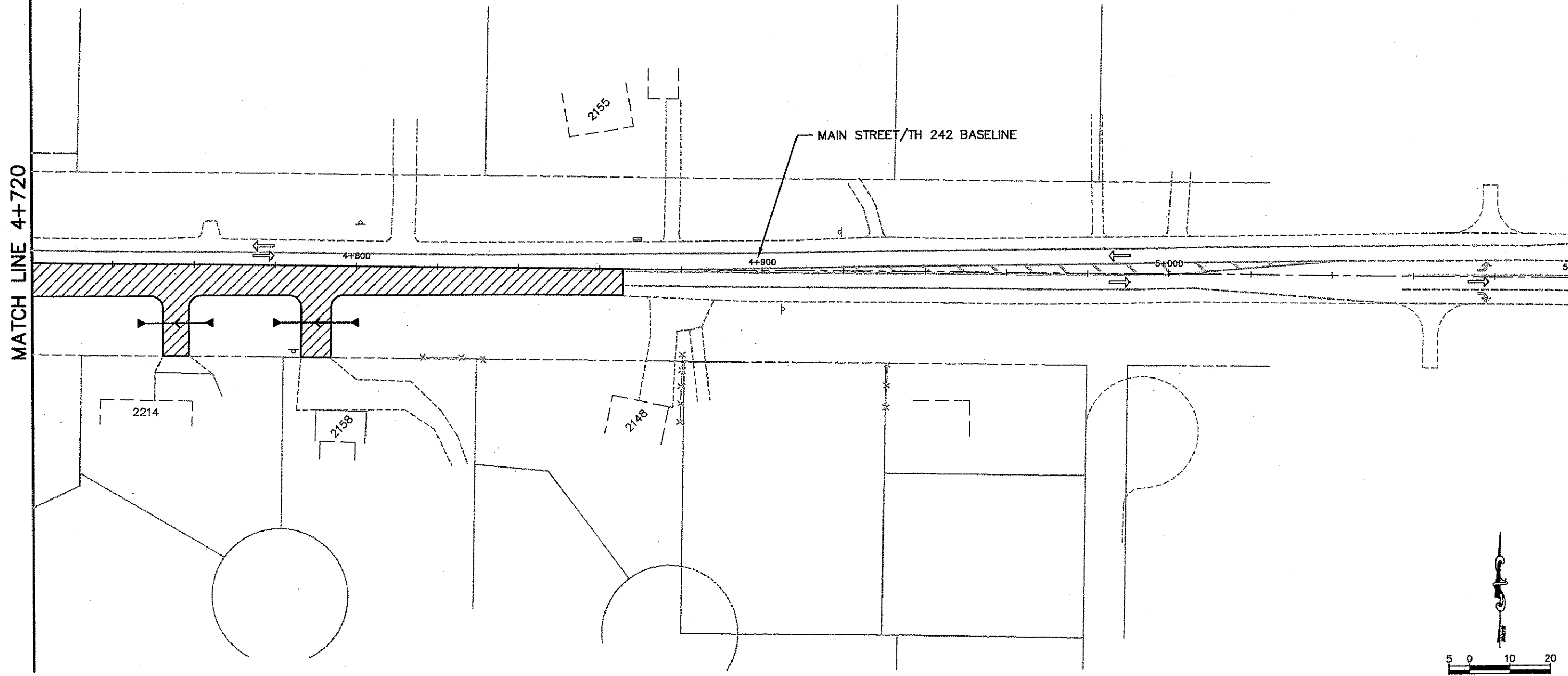
- CLOSE T.H. 242 FROM COON CREEK BOULEVARD TO HANSON BOULEVARD
 A DETOUR WILL BE PROVIDED
- T.H. 242 CLOSED TO THRU TRAFFIC FROM SHENANDOAH BOULEVARD TO 1/2 MILE WEST

STAGE 2 PHASE 1 CONSTRUCTION:

- REMOVE EXISTING BRIDGE No. 3656 AT STA. 4+253, LT/RT
- CONSTRUCT EMBANKMENT FOR BRIDGE No. 02015, STA. 4+143 TO STA. 4+437, LT. AND STA. 4+414 TO STA. 4+437, RT.
- CONSTRUCT BRIDGE No. 02015, BENT No. 37 THRU BENT No. 39, AND THE REMAINING PORTION OF BENT No. 1 THRU BENT No. 36
- CONSTRUCT BRIDGE No. 02015 STRUCTURAL SLAB
- CONSTRUCT T.H. 242 ROADWAY STA. 4+026 TO STA. 4+143
- CONSTRUCT SOUTH 1/2 OF T.H. 242 ROADWAY STA. 4+437 TO STA. 4+865, RT
- CONTINUE COMMERCIAL DRIVEWAY SURCHARGE EMBANKMENT

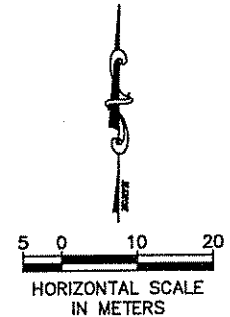
LEGEND

- PERMANENT CONSTRUCTION
- TEMPORARY CONSTRUCTION
- BRIDGE CONSTRUCTION
- REMOVAL
- TRAFFIC FLOW DIRECTION



MATCH LINE 4+720

PLOT DATE: May 21, 2002 1:47pm DISK FILE NAME: (15.05) R:\33889\33889028\33889B\PLAN_SHT\Staging\LB--CNST07.dwg



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889028 5001	
DRAWN BY: IKR	DESIGN BY: JRM
CHKD. BY: JRM	DWG. NAME: LB--CNST07
DATE: MARCH 29, 2002	

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Kevin P. Kiehl
 KEVIN P. KIEHL
 DATE: 03/29/02 MN LIC. NO. 23211

MAIN STREET/T.H. 242 RECONSTRUCTION

CONSTRUCTION STAGING PLAN
 STAGE 2, PHASE 1

CITY PROJECT 02-05

S.P. 0212-41






3 OF 3

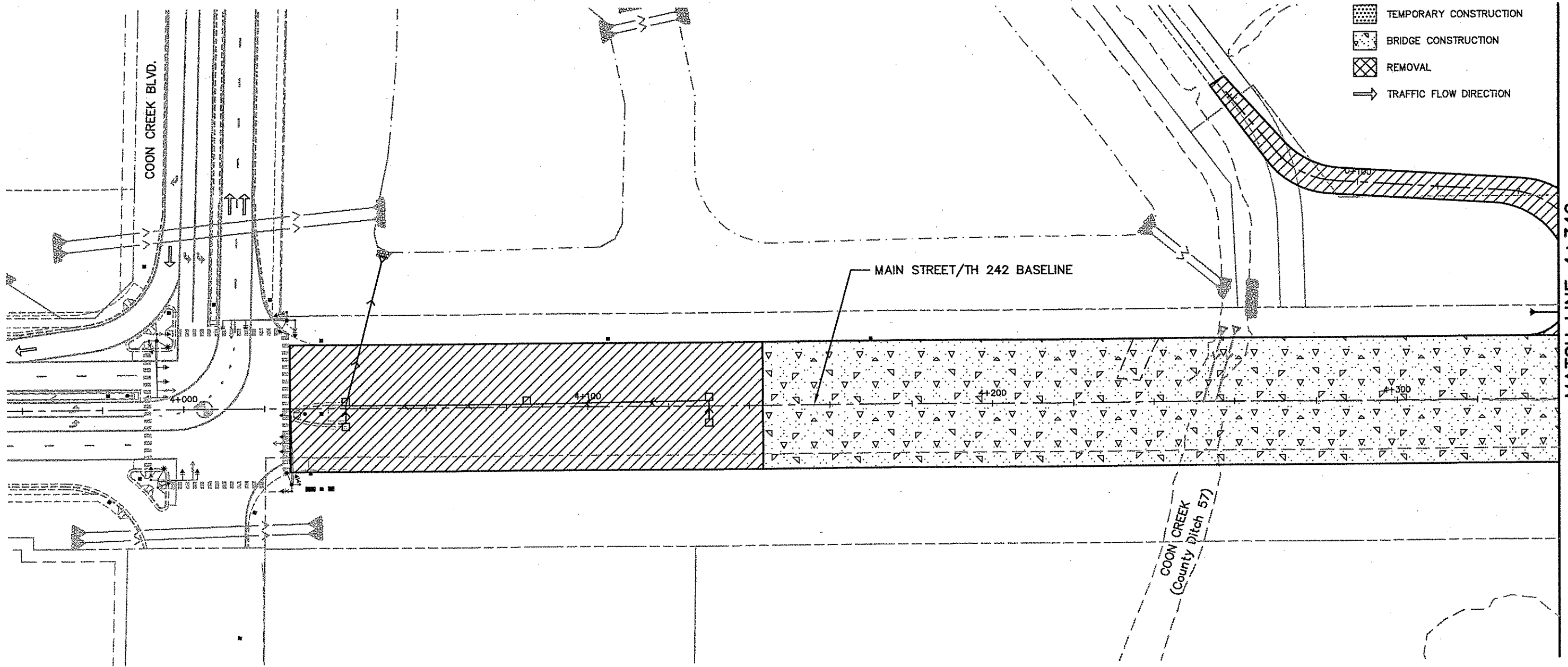
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PLOT DATE: May 20, 2002 3:14pm DISK FILE NAME: (15.05) R:\33889\33889028\PLAN_SHIT\Staging\lb-CNST08.dwg

LEGEND

-  PERMANENT CONSTRUCTION
-  TEMPORARY CONSTRUCTION
-  BRIDGE CONSTRUCTION
-  REMOVAL
-  TRAFFIC FLOW DIRECTION



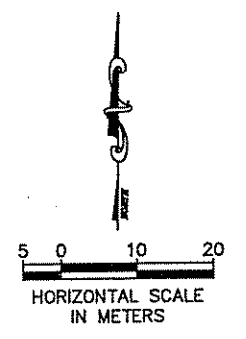
MATCH LINE 4+340

STAGE 2 PHASE 2 TRAFFIC:

- T.H. 242 FROM COON CREEK BOULEVARD TO HANSON BOULEVARD REMAINS CLOSED
A DETOUR HAS BEEN PROVIDED
- T.H. 242 CLOSED TO THRU TRAFFIC FROM SHENANDOAH BOULEVARD TO 1/2 MILE WEST

STAGE 2 PHASE 2 CONSTRUCTION:

- CONSTRUCT BRIDGE No. 02015 STRUCTURAL SLAB, RAILINGS, CURBS, AND CONCRETE WEAR COURSE.
- CONSTRUCT T.H. 242 ROADWAY STA. 4+026 TO STA. 4+143
- CONSTRUCT NORTH 1/2 OF T.H. 242 ROADWAY STA. 4+437 TO STA. 4+865, LT.
- MILL AND OVERLAY T.H. 242 ROADWAY STA. 3+989.405 TO STA. 4+026
- CONSTRUCT BITUMINOUS WEAR COURSE T.H. 242 ROADWAY STA. 4+026 TO STA. 4+134, AND STA. 4+445 TO STA. 4+865
- CONSTRUCT PERMANENT DRIVEWAY STA. 4+347, LT AND STA. 4+429, RT AND REGRADE PRIVACY BERMS



REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	IKR	05/22/02	REVISED D/W (4+347.150, LT.) PER MNDOT COMMENTS

DESIGN FILE: 33889028 5001	
DRAWN BY: IKR	DESIGN BY: JRM
CHKD. BY: JRM	DWG. NAME: LB-CNST08
DATE: MARCH 29, 2002	



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Kevin P. Kielb
 KEVIN P. KIELB
 DATE: 03/29/02 MN LIC. NO. 23211

MAIN STREET/T.H. 242 RECONSTRUCTION

CONSTRUCTION STAGING PLAN
 STAGE 2, PHASE 2

CITY PROJECT 02-05

S.P. 0212-41

1 OF 3

SHEET NO.
42

171

PH2_pvmt
 stripe_mod
 242mhto
 LBSAPBOX
 LB_ALN
 242-ESUM
 -EUT

STAGE 2 PHASE 2 TRAFFIC:

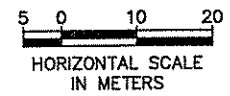
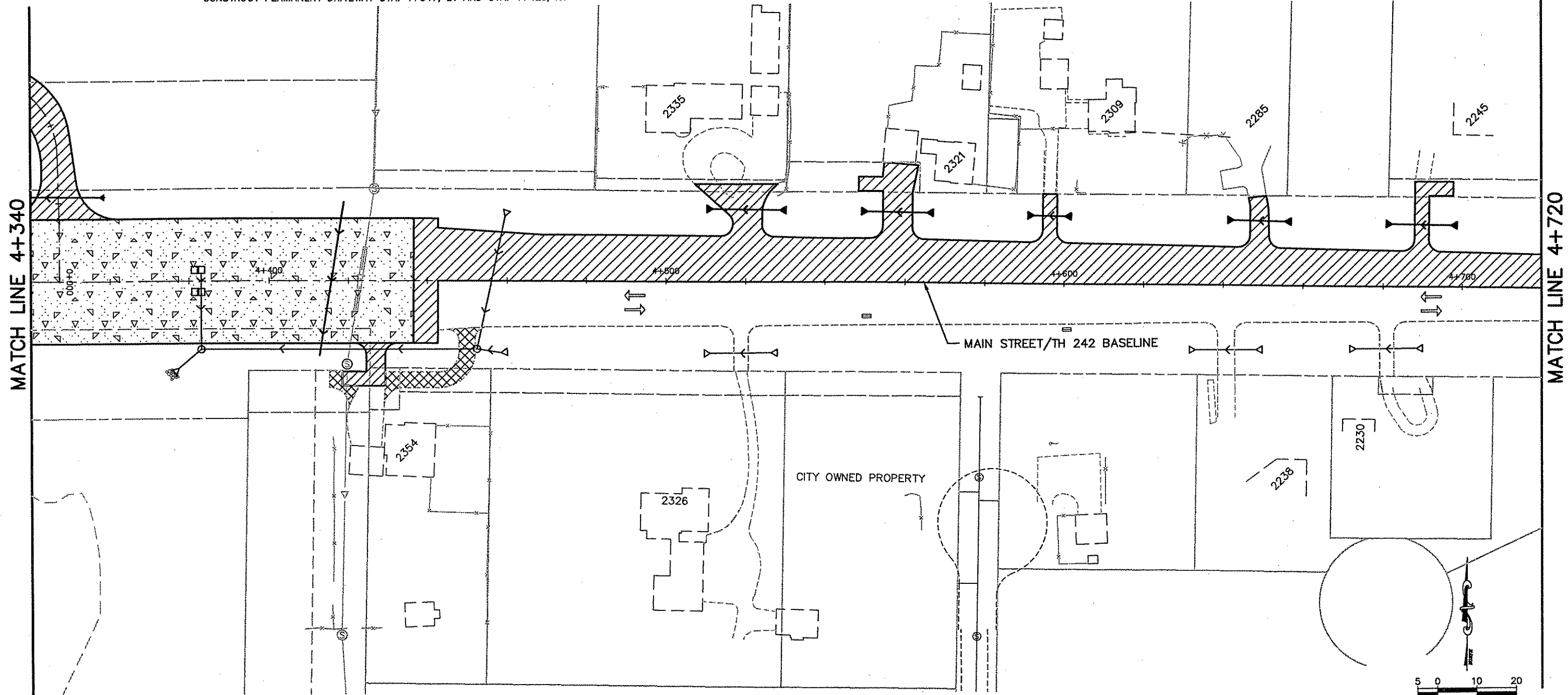
- T.H. 242 FROM COON CREEK BOULEVARD TO HANSON BOULEVARD REMAINS CLOSED
 A DETOUR HAS BEEN PROVIDED
- T.H. 242 CLOSED TO THRU TRAFFIC FROM SHENANDOAH BOULEVARD TO 1/2 MILE WEST

STAGE 2 PHASE 2 CONSTRUCTION:

- CONSTRUCT BRIDGE No. 02015 STRUCTURAL SLAB, RAILINGS, CURBS, AND CONCRETE WEAR COURSE.
- CONSTRUCT T.H. 242 ROADWAY STA. 4+026 TO STA. 4+143
- CONSTRUCT NORTH 1/2 OF T.H. 242 ROADWAY STA. 4+437 TO STA. 4+865, LT.
- MILL AND OVERLAY T.H. 242 ROADWAY STA. 3+989 TO STA. 4+026
- CONSTRUCT BITUMINOUS WEAR COURSE T.H. 242 ROADWAY STA. 4+026 TO STA. 4+134, AND STA. 4+445 TO STA. 4+865
- CONSTRUCT PERMANENT DRIVEWAY STA. 4+347, LT AND STA. 4+429, RT

LEGEND

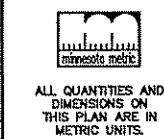
- PERMANENT CONSTRUCTION
- TEMPORARY CONSTRUCTION
- BRIDGE CONSTRUCTION
- REMOVAL
- TRAFFIC FLOW DIRECTION



PLOT DATE: May 21, 2002 1:45pm DISK FILE NAME: (15.05) R:\33889\33889028\33889B\PLAN_SHT\Staging\LB-CNST09.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	IKR	05/22/02	REVISED D/W (4+347,150, LT.) PER MNDOT COMMENTS

DESIGN FILE: 33889028 5001	
DRAWN BY: IKR	DESIGN BY: JRM
CHKD. BY: JRM	DWG. NAME: LB-CNST09
DATE: MARCH 29, 2002	



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Kevin P. Kiehl
 KEVIN P. KIELS
 DATE: 03/29/02 MN LIC. NO. 23211

MAIN STREET/T.H. 242 RECONSTRUCTION

CONSTRUCTION STAGING PLAN
 STAGE 2, PHASE 2

CITY PROJECT 02-05

S.P. 0212-41

2 OF 3

SHEET NO.
43

171

sement
PH2_pvmt
tripe_mod
Shplan
242mhto
_BSAPBOX
P
SUM

STAGE 2 PHASE 2 TRAFFIC:

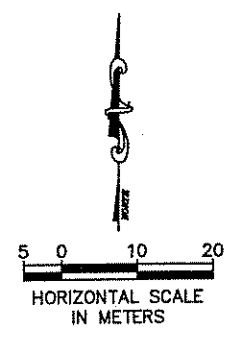
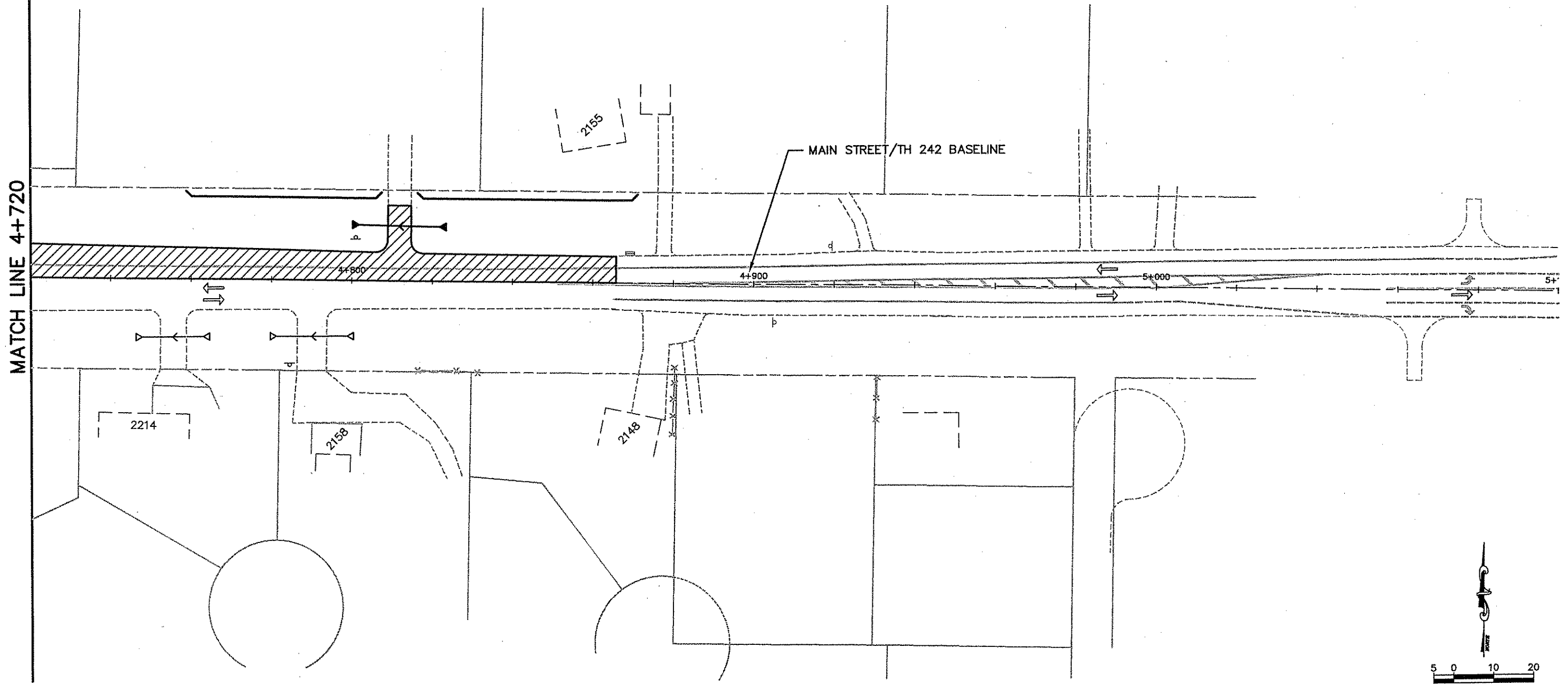
- T.H. 242 FROM COON CREEK BOULEVARD TO HANSON BOULEVARD REMAINS CLOSED
- A DETOUR HAS BEEN PROVIDED
- T.H. 242 CLOSED TO THRU TRAFFIC FROM SHENANDOAH BOULEVARD TO 1/2 MILE WEST

STAGE 2 PHASE 2 CONSTRUCTION:

- CONSTRUCT BRIDGE No. 02015 STRUCTURAL SLAB, RAILINGS, CURBS, AND CONCRETE WEAR COURSE.
- CONSTRUCT T.H. 242 ROADWAY STA. 4+040 TO STA. 4+143
- CONSTRUCT NORTH 1/2 OF T.H. 242 ROADWAY STA. 4+437 TO STA. 4+865, LT.
- MILL AND OVERLAY T.H. 242 ROADWAY STA. 3+989 TO STA. 4+026
- CONSTRUCT BITUMINOUS WEAR COURSE T.H. 242 ROADWAY STA. 4+026 TO STA. 4+134, AND STA. 4+445 TO STA. 4+865
- CONSTRUCT PERMANENT DRIVEWAY STA. 4+347, LT AND STA. 4+429, RT

LEGEND

- PERMANENT CONSTRUCTION
- TEMPORARY CONSTRUCTION
- BRIDGE CONSTRUCTION
- REMOVAL
- TRAFFIC FLOW DIRECTION



PLOT DATE: May 21, 2002 1:44pm DISK FILE NAME: (15.05) R:\33889\33889028\33889B\PLAN_SHT\Staging\LB-CNST10.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
33889028 5001

DRAWN BY: IKR DESIGN BY: JRM

CHKD. BY: JRM DWG. NAME: LB-CNST10

DATE:
MARCH 29, 2002

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Kevin P. Kielb
KEVIN P. KIELB

DATE: 03/29/02 MN LIC. NO. 23211

MAIN STREET/T.H. 242 RECONSTRUCTION

CONSTRUCTION STAGING PLAN
STAGE 2, PHASE 2

CITY PROJECT 02-05

S.P. 0212-41

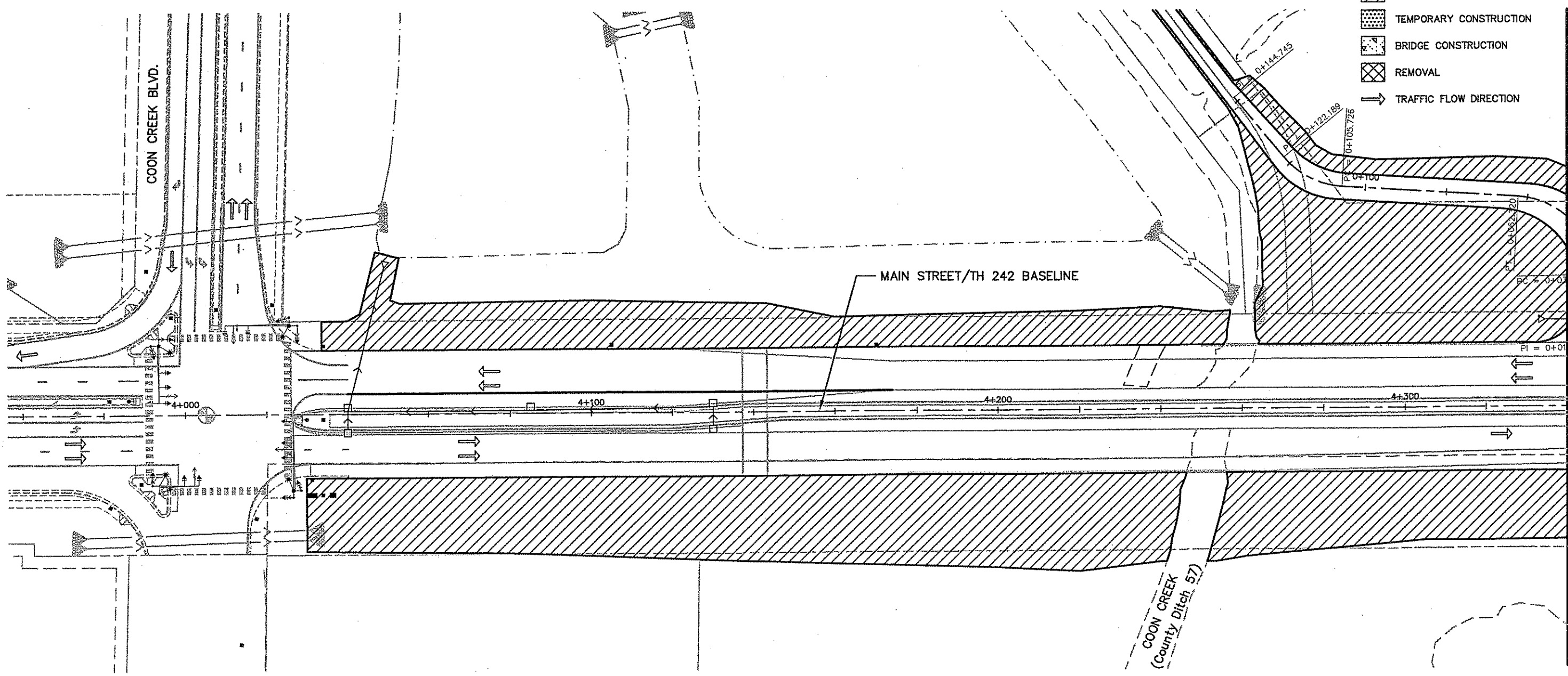
3 OF 3

SHEET NO.
44

171

easement
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 base_mod
 osp-pond
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 heto
 pln
 LBSAPBOX
 LB_ALN
 242-ESUM
 242-EUT

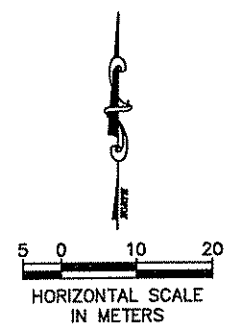
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- LEGEND**
- PERMANENT CONSTRUCTION
 - TEMPORARY CONSTRUCTION
 - BRIDGE CONSTRUCTION
 - REMOVAL
 - TRAFFIC FLOW DIRECTION

STAGE 2 PHASE 3 TRAFFIC:
 - T.H. 242 FROM COON CREEK BOULEVARD TO HANSON BOULEVARD OPEN TO TRAFFIC

STAGE 2 PHASE 3 CONSTRUCTION:
 - COMPLETE TURF ESTABLISHMENT OF T.H. 242 FROM STA. 4+026 TO STA. 4+865, LT & RT



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
 33889028 5001
 DRAWN BY: IKR
 DESIGN BY: JRM
 CHKD. BY: JRM
 DWG. NAME: LB-CNST11
 DATE: MARCH 29, 2002

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 KEVIN P. KIELBASO
 DATE: 03/29/02 MN LIC. NO. 23211

MAIN STREET/T.H. 242 RECONSTRUCTION
 CONSTRUCTION STAGING PLAN
 STAGE 2, PHASE 3
 CITY PROJECT 02-05

S.P. 0212-41

1 OF 3
 SHEET NO.
 45
 171






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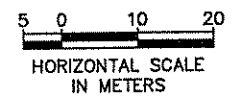
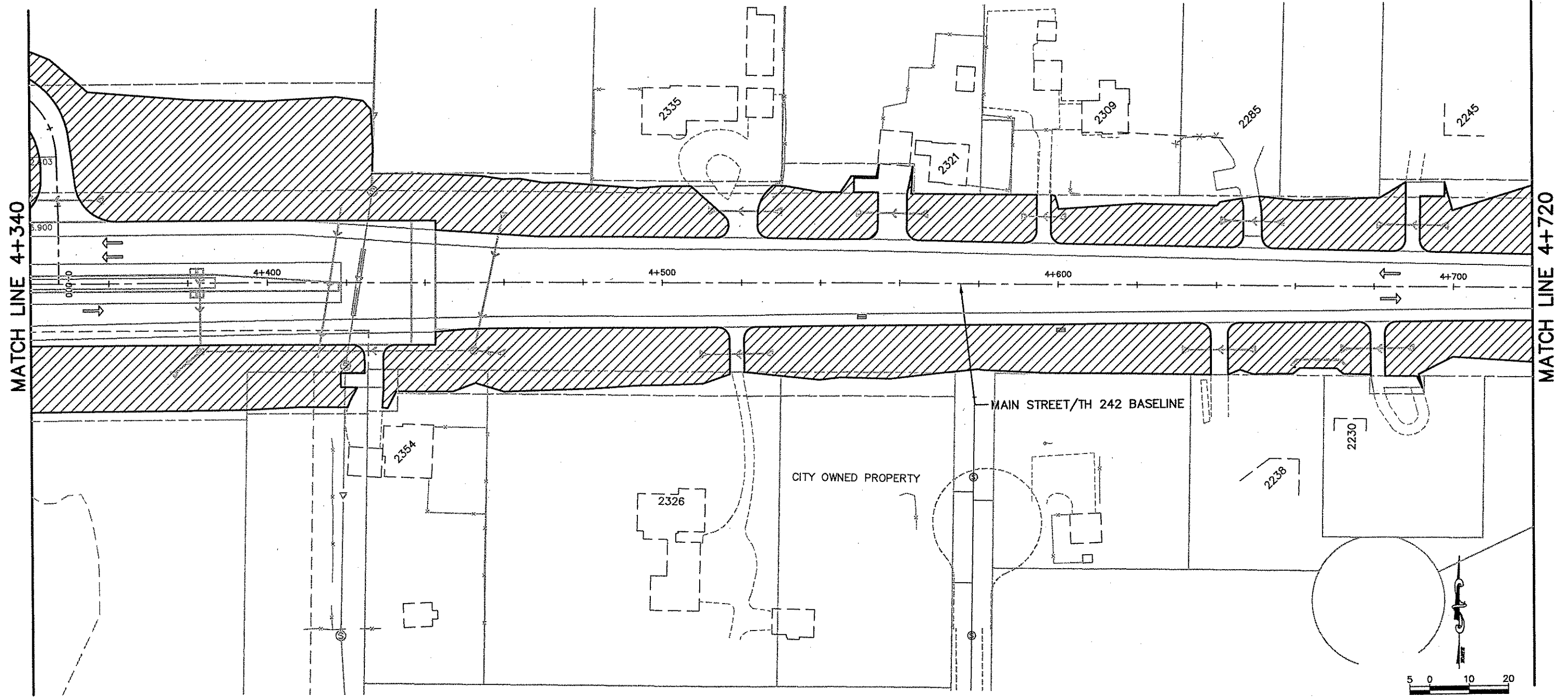
STAGE 2 PHASE 3 TRAFFIC:

- T.H. 242 FROM COON CREEK BOULEVARD TO HANSON BOULEVARD OPEN TO TRAFFIC

STAGE 2 PHASE 3 CONSTRUCTION:

- COMPLETE TURF ESTABLISHMENT OF T.H. 242 FROM STA. 4+026 TO STA. 4+865, LT & RT

- LEGEND**
-  PERMANENT CONSTRUCTION
 -  TEMPORARY CONSTRUCTION
 -  BRIDGE CONSTRUCTION
 -  REMOVAL
 -  TRAFFIC FLOW DIRECTION



PLOT DATE: May 21, 2002 1:43pm DISK FILE NAME: (15.05) R: \33889\33889028\33889B\PLAN_SHT\Staging\LB-CNST12.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
33889028 5001

DRAWN BY: IKR DESIGN BY: JRM

CHKD. BY: JRM DWG. NAME: LB-CNST12

DATE:
MARCH 29, 2002



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Kevin P. Kielb
KEVIN P. KIELB
DATE: 03/29/02 MN LIC. NO. 23211

MAIN STREET/T.H. 242 RECONSTRUCTION

CONSTRUCTION STAGING PLAN
STAGE 2, PHASE 3

CITY PROJECT 02-05

S.P. 0212-41

2 OF 3

SHEET NO.
46

171






_leasement
 stripe_mod
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 Sehplan
 242mhto
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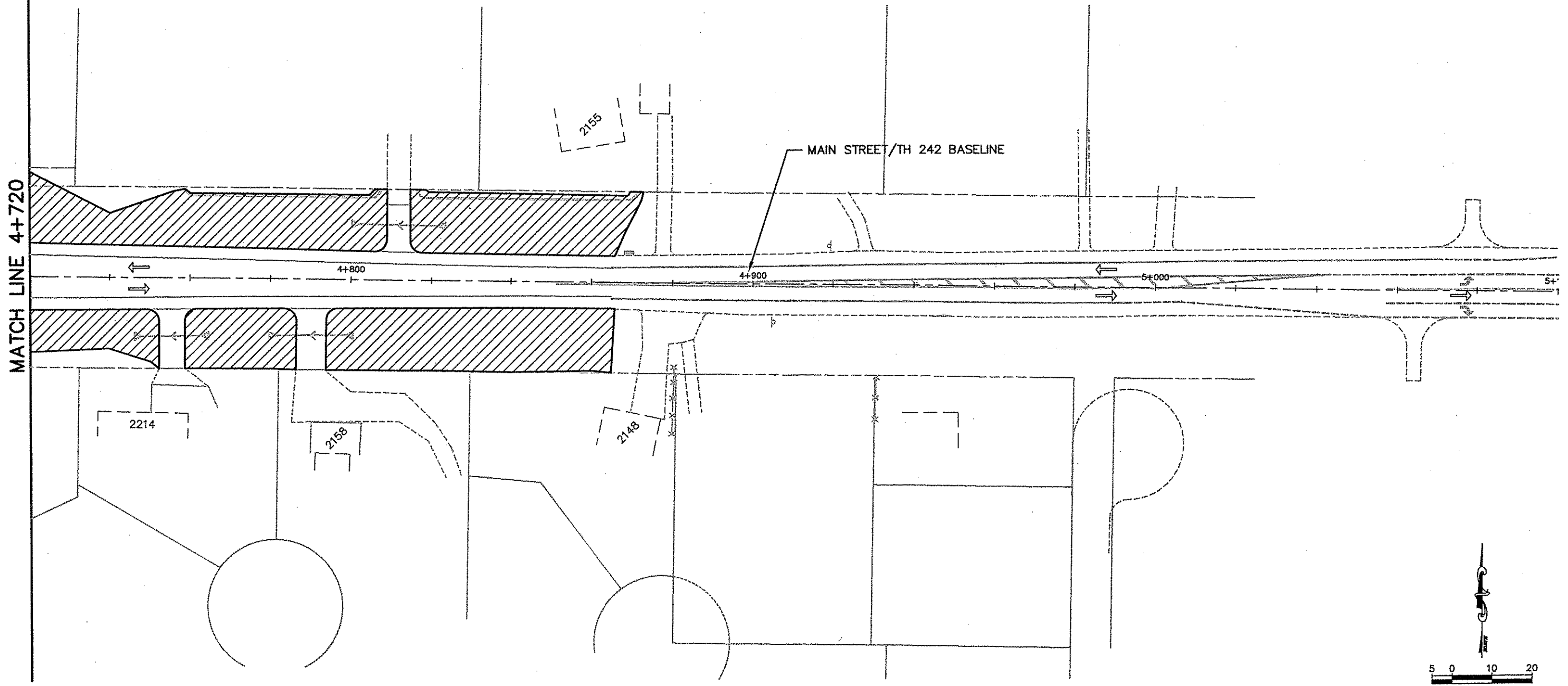
STAGE 2 PHASE 3 TRAFFIC:

- T.H. 242 FROM COON CREEK BOULEVARD TO HANSON BOULEVARD OPEN TO TRAFFIC

STAGE 2 PHASE 3 CONSTRUCTION:

- COMPLETE TURF ESTABLISHMENT OF T.H. 242 FROM STA. 4+026 TO STA. 4+865, LT & RT

- LEGEND**
-  PERMANENT CONSTRUCTION
 -  TEMPORARY CONSTRUCTION
 -  BRIDGE CONSTRUCTION
 -  REMOVAL
 -  TRAFFIC FLOW DIRECTION



PLOT DATE: May 21, 2002 1:42pm DISK FILE NAME: (15.05) R:\33889\33889028\PLAN_SHT\Staging\LB-CNST13.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
 33889028 5001
 DRAWN BY: IKR
 DESIGN BY: JRM
 CHKD. BY: JRM
 DWG. NAME: LB-CNST13
 DATE: MARCH 29, 2002



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Kevin P. Kiehl
 KEVIN P. KIEHL
 DATE: 03/29/02 MN LIC. NO. 23211

MAIN STREET/T.H. 242 RECONSTRUCTION
 CONSTRUCTION STAGING PLAN
 STAGE 2, PHASE 3
 CITY PROJECT 02-05

S.P. 0212-41

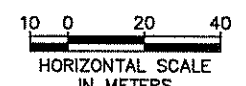
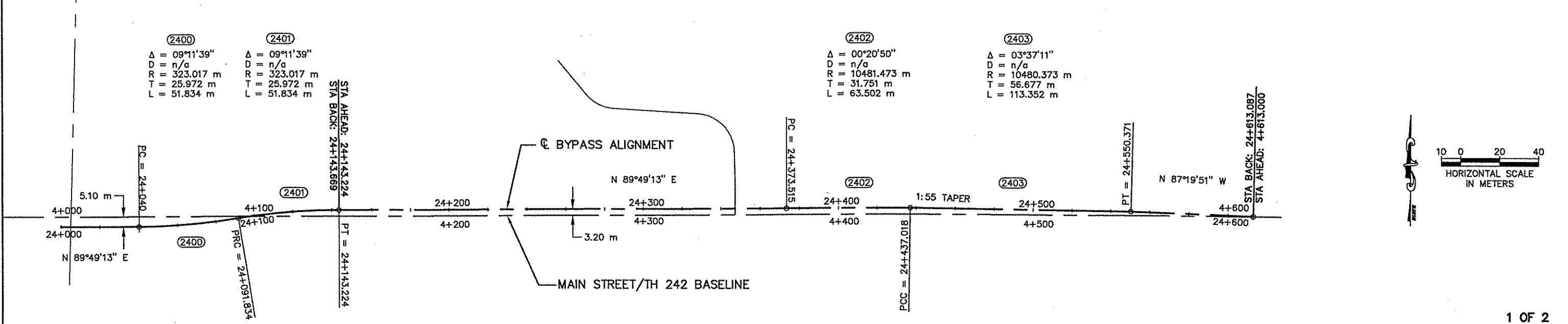
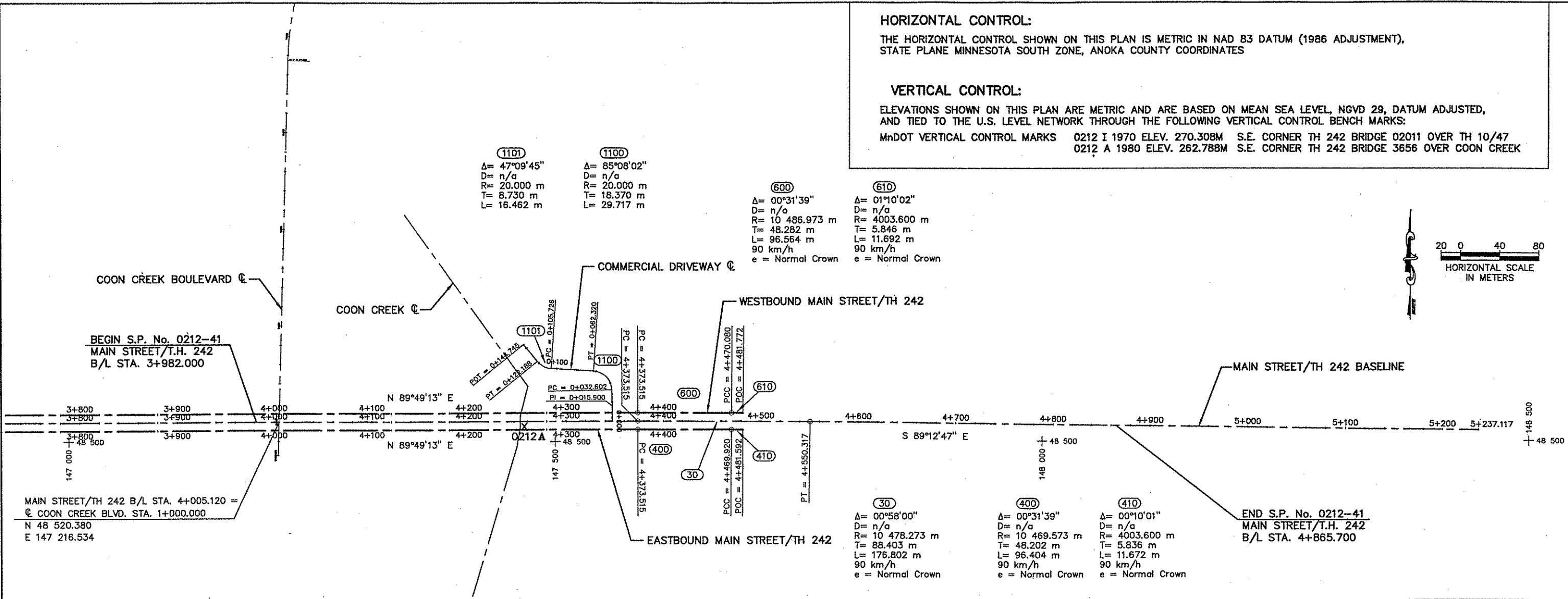
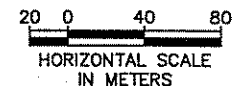
3 OF 3
 SHEET NO.
 47
 171

lb_aln
 In_ST1PH2
 LBALNTXT
 LBSAPBOX
 242_GR1D

HORIZONTAL CONTROL:
 THE HORIZONTAL CONTROL SHOWN ON THIS PLAN IS METRIC IN NAD 83 DATUM (1986 ADJUSTMENT), STATE PLANE MINNESOTA SOUTH ZONE, ANOKA COUNTY COORDINATES

VERTICAL CONTROL:
 ELEVATIONS SHOWN ON THIS PLAN ARE METRIC AND ARE BASED ON MEAN SEA LEVEL, NGVD 29, DATUM ADJUSTED, AND TIED TO THE U.S. LEVEL NETWORK THROUGH THE FOLLOWING VERTICAL CONTROL BENCH MARKS:
 MnDOT VERTICAL CONTROL MARKS 0212 I 1970 ELEV. 270.308M S.E. CORNER TH 242 BRIDGE 02011 OVER TH 10/47
 0212 A 1980 ELEV. 262.788M S.E. CORNER TH 242 BRIDGE 3656 OVER COON CREEK

(1101)	(1100)	(600)	(610)
Δ = 47°09'45"	Δ = 85°08'02"	Δ = 00°31'39"	Δ = 01°10'02"
D = n/a	D = n/a	D = n/a	D = n/a
R = 20.000 m	R = 20.000 m	R = 10 486.973 m	R = 4003.600 m
T = 8.730 m	T = 18.370 m	T = 48.282 m	T = 5.846 m
L = 16.462 m	L = 29.717 m	L = 96.564 m	L = 11.692 m
		90 km/h	90 km/h
		e = Normal Crown	e = Normal Crown



PLOT DATE: May 20, 2002 9:22am DISK FILE NAME: (15.05) R:\33889\33889028\33889B\PLAN_SHT_TABS\LB-aln01.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	IKR	05/22/02	REVISED FOR LAWRENCE D/W PER MNDOT COMMENTS

DESIGN FILE:
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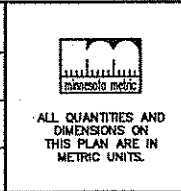
DRAWN BY:
 IKR

DESIGN BY:
 KPK/JJL

CHECKED BY:
 KPK

DWG. NAME:
 LB-ALN01

DATE:
 MARCH 29, 2002



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 BRW, Inc.

Thresher Square
 700 Third Street South
 Minneapolis, MN 55415
 612.370.0700 Tel
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Kevin P. Kielb
 KEVIN P. KIELB

DATE: 03/29/02 MN LIC. NO. 23211

MAIN STREET/T.H. 242 RECONSTRUCTION

ALIGNMENT
 ALIGNMENT PLAN

CITY PROJECT 02-05

S.P. 0212-41

SHEET NO.
 48
 171

PLOT DATE: May 20, 2002 9:23am DISK FILE NAME: (15.05) R: \33889\33889028\33889B\PLAN_SHT\TABS\LB-din02.DWG

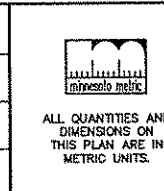
ALIGNMENT TABULATION

M

CURVE NO.	POINT NO.	POINT TYPE	STATION (km)	NOTES	CURVE DATA				COORDINATES		AZIMUTH
					DELTA	R (m)	T (m)	L (m)	NORTH	EAST	
MAIN STREET (C.S.A.H. 14 / T.H. 242) BASELINE											
	30	PI	2+007.965	= C/L CSAH No. 9 (ROUND LAKE BOULEVARD)					48 514.876	145 219.370	89-52-48
	31	PI	2+808.446						48 516.553	146 019.849	89-48-37
	32	PI	3+227.577						48 517.940	146 438.978	89-49-13
(30)	33	PI	4+461.918						48 521.814	147 673.313	
	34	PC	4+373.515		00°58'00"	10 478.273	88.403	176.802	48 521.536	147 584.910	89-49-13
	35	CC							38 043.314	147 617.796	
	36	PT	4+550.317						48 520.600	147 761.708	90-47-13
	37	PI	5+237.117						48 511.167	148 448.443	
EASTBOUND MAIN STREET (C.S.A.H. 14 / T.H. 242)											
	400	PI	2+007.864						48 506.176	145 219.288	89-52-48
	401	PI	2+808.440						48 507.853	146 019.872	89-48-37
	402	PI	3+227.578	BACK: 2+808.4510 = AHEAD: 2+808.4405					48 509.240	146 439.006	89-49-13
(400)	403	PI	4+421.718	BACK: 3+227.5868 = AHEAD: 3+227.5778					48 512.988	147 633.140	
	404	PC	4+373.515		00°31'39"	10 489.573	48.202	96.404	48 512.836	147 584.938	89-49-13
	405	CC							38 043.314	147 617.796	
	406	PT	4+469.920						48 512.695	147 681.342	90-10-51
(410)	407	PI	4+475.756						48 512.660	147 687.178	
	408	PC	4+469.920		00°10'01"	4003.600	5.836	11.672	48 512.695	147 681.342	90-10-51
	409	CC							52 516.221	147 705.642	
	410	POC	4+481.592	= A PT. 8.676 m RT. OF BASELINE STA. 4+481.682					48 512.641	147 693.014	
WESTBOUND MAIN STREET (C.S.A.H. 14 / T.H. 242)											
	600	PI	2+008.194						48 523.576	145 219.581	89-52-48
	601	PI	2+808.451						48 525.253	146 019.825	89-48-37
	602	PI	3+227.576	BACK: 2+808.4404 = AHEAD: 2+808.4510					48 526.640	146 438.950	89-49-13
(600)	603	PI	4+421.798	BACK: 3+227.5672 = AHEAD: 3+227.5763					48 530.388	147 633.166	
	604	PC	4+373.515		00°31'39"	10 486.973	48.282	96.564	48 530.236	147 584.863	89-49-13
	605	CC							38 043.314	147 617.796	
	606	PT	4+470.080						48 530.094	147 681.447	90-30-54
(610)	607	PI	4+475.926						48 530.059	147 687.293	
	608	PC	4+470.080		01°10'02"	4003.600	5.846	11.692	48 530.094	147 681.447	90-30-54
	609	CC							44 526.568	147 657.147	
	610	POC	4+481.772	= A PT. 8.689 m LT. OF BASELINE STA. 4+481.682					48 530.006	147 693.139	
COMMERCIAL DRIVEWAY											
	1100	PI	0+000	= A PT. 0.0 m LT. OF BASELINE STA. 4+347.182					48 521.454	147 558.578	179-55-29
(1100)	1101	PI	0+015.900						48 537.354	147 558.557	178-37-24
	1102	PI	0+050.972						48 572.416	147 557.714	93-29-21
	1103	PC	0+032.603		85°08'02"	20.000	18.370	29.717	48 554.051	147 558.156	
	1104	CC							48 553.570	147 538.162	
(110)	1105	PT	0+062.320						48 573.534	147 539.378	
	1106	PI	0+114.456						48 576.706	147 487.339	140-39-06
	1107	PC	0+105.726		47°09'45"	20.000	8.730	16.462	48 576.176	147 496.053	
	1108	CC							48 596.138	147 497.270	
	1109	PT	0+122.189						48 583.458	147 481.804	
	1110	PI	0+141.313						48 598.247	147 469.678	140-39-06
CONSTRUCTION STAGING BYPASS ALIGNMENT											
(2400)	2400	PI	24+000	= A PT. 5.10 m RT. OF BASELINE STA. 4+000.000					48 515.264	147 211.413	89-49-13
	2401	PI	24+085.973						48 515.471	147 277.386	80-37-33
	2402	PC	24+040		09°11'39"	323.017	25.972	51.834	48 515.390	147 251.412	
(2401)	2403	PT	24+091.834						48 519.702	147 303.012	
	2404	PI	24+117.807						48 523.932	147 328.638	89-49-13
	2405	PC	24+091.834		09°11'39"	323.017	25.972	51.834	48 519.702	147 303.012	
	2406	PT	24+143.224	BACK: 24+143.6687 = AHEAD: 24+143.2244					48 524.014	147 354.610	
(2402)	2407	PI	24+405.266	= A PT. 3.20 m LT. OF BASELINE STA. 4+143.224					48 524.836	147 616.652	90-10-02
	2408	PC	24+373.515		00°20'50"	10 481.473	31.751	63.502	48 524.738	147 584.900	
	2409	PT	24+437.018	= A PT. 3.20 m LT. OF BASELINE STA. 4+436.998					48 524.743	147 648.402	
(2403)	2410	PI	24+437.018						48 524.743	147 648.402	90-44-37
	2411	PI	24+493.694						48 524.008	147 705.075	91-21-48
	2412	PC	24+437.018		00°37'11"	10 480.373	56.677	113.352	48 524.743	147 648.402	
	2413	PT	24+550.370						48 522.660	147 761.736	
	2414	PI	24+550.370						48 522.660	147 761.736	92-40-09
	2415	PI	24+613.087	= A PT. 0.0 m LT. OF BASELINE STA. 4+613.000					48 519.738	147 824.384	

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	IKR	05/22/02	REVISED LAWRENCE D/W PER MNDOT COMMENTS

DESIGN FILE: 33889028 5001
DRAWN BY: IKR
DESIGN BY: KPK/JJL
CHKD. BY: KPK
DWG. NAME: LB-ALN02
DATE: MARCH 29, 2002



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700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1278 Fax

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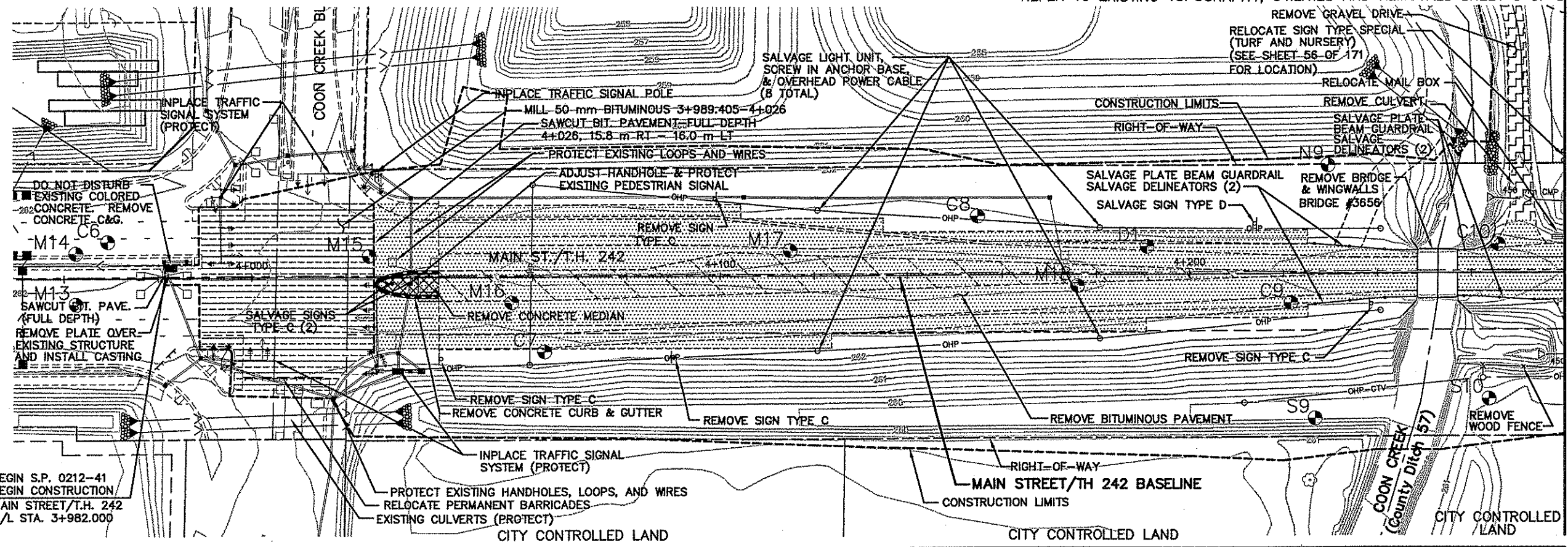
Kevin P. Kielb
KEVIN P. KIELB
DATE: 03/29/02 MN LIC. NO. 23211

MAIN STREET/T.H. 242 RECONSTRUCTION
MAIN STREET/T.H. 242
ALIGNMENT
ALIGNMENT TABULATION
CITY PROJECT 02-05

S.P. 0212-41

2 OF 2
SHEET NO.
49
171

_easement
base_mod
242e_drn
242-bor
E-SIGNS
LBEXCTN
LP_REML
11CL
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242PLN2A
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LB_ALN
242MHVEG
242_GRID
242-ESUM
242-EUT
242MHETO



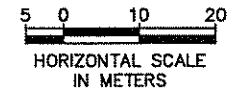
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BEGIN CONSTRUCTION
MAIN STREET/T.H. 242
B/L STA. 3+982.000

MATCH LINE 4+280

MATCH LINE 4+600

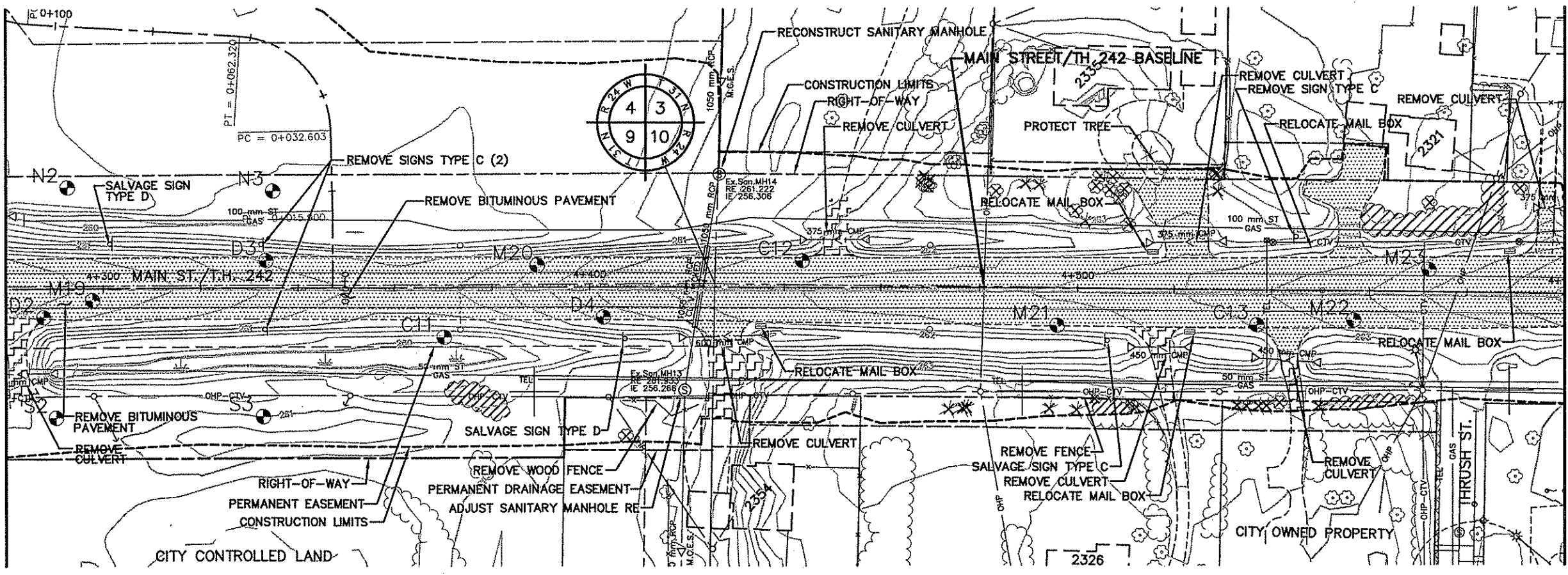
LEGEND

- BITUMINOUS PAVEMENT REMOVAL
- MILL & OVERLAY
- CONCRETE REMOVAL
- TREE REMOVAL
- GRAVEL REMOVAL
- CONSTRUCTION LIMITS
- SILT FENCE
- SOIL BORINGS



REMOVAL NOTES:

- THE CONTRACTOR SHALL PERFORM ALL CLEARING AND GRUBBING AS DIRECTED AND MARKED IN THE FIELD BY THE ENGINEER. THE CONTRACTOR SHALL OTHERWISE PROTECT ALL EXISTING TREES NOT SPECIFICALLY MARKED FOR REMOVAL.
- THE CONTRACTOR SHALL INSTALL AND MAINTAIN SILT FENCE AND BIOROLL AS SHOWN AND DIRECTED BY THE ENGINEER IN FIELD.
- THE CONTRACTOR SHALL CONSTRUCT WASHED GRAVEL ENTRANCES AT POINTS OF EXIT FROM THE WORK AREA ONTO EXISTING BITUMINOUS PAVEMENT AS DIRECTED BY THE ENGINEER.
- ALL PRIVATE UTILITIES TO BE RELOCATED BY OTHERS AS REQUIRED.
- ALL MAILBOXES TO BE MAINTAINED DURING CONSTRUCTION AS DIRECTED BY THE ENGINEER IN FIELD. INCIDENTAL TO "RELOCATE MAILBOX" BID ITEM.
- THE CONTRACTOR SHALL REMOVE APRONS ON CULVERT PIPE INDICATED FOR REMOVAL (INCLUDED IN PIPE REMOVAL LENGTH.)



MATCH LINE 4+280

MATCH LINE 4+600

PLOT DATE: May 23, 2002 3:42pm DISK FILE NAME: (15.05) R:\33889\33889028\PLAN_SHT\Engring\LB-rem01.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	JJL	05/02/02	REVISIONS PER CENTRAL OFFICE COMMENTS
2	IKR	05/22/02	REVISIONS PER MNDDT COMMENTS

DESIGN FILE:
33889028 5001

DRAWN BY: IKR DESIGN BY: JJL

CHKD. BY: KPK DWG. NAME: LB-REM01

DATE: MARCH 29, 2002

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Kevin P. Kiehl
KEVIN P. KIEHL
DATE: 03/29/02 MN LIC. NO. 23211

MAIN STREET/T.H. 242 RECONSTRUCTION

EXISTING TOPOGRAPHY, UTILITIES AND REMOVALS
STATION 3+982.000 TO STATION 4+600.000

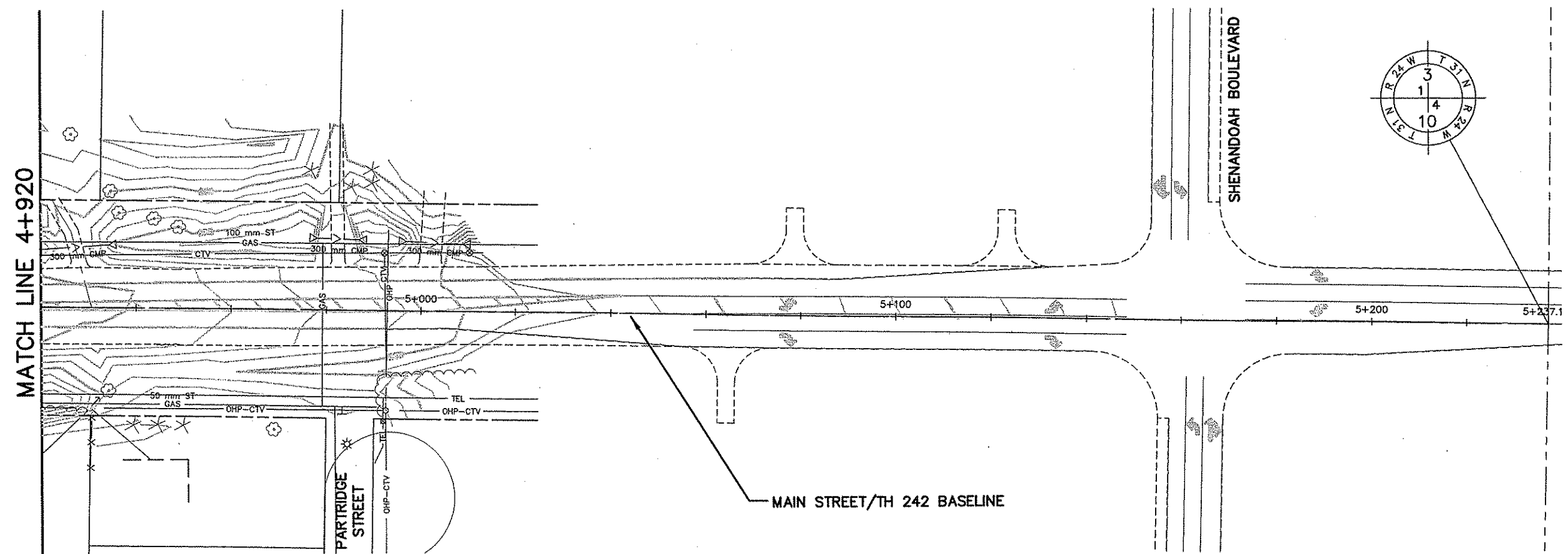
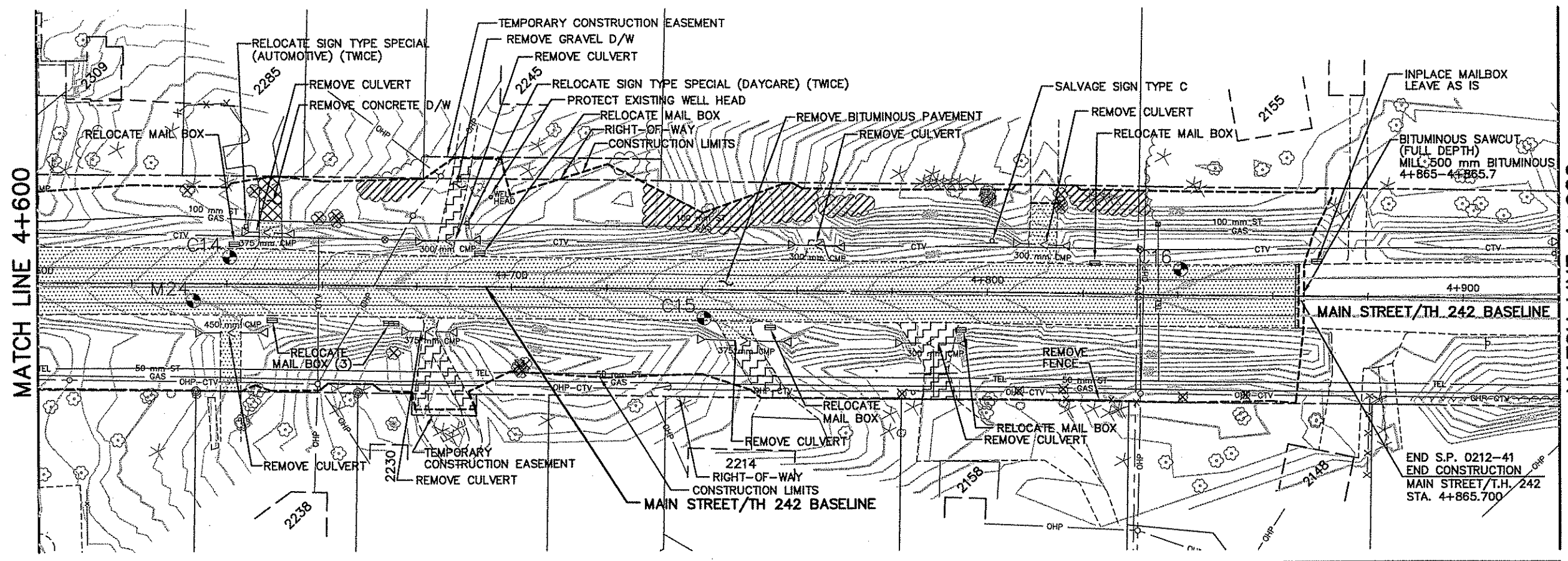
CITY PROJECT 02-05

S.P. 0212-41

SHEET NO.
50
171

Leasement
242-bor
LBEXCTN
LB_REML
LB2001CL
SEHPLAN
LAPBOX
LN
HVEG
242-GRID
242-ESUM
242-EUT
242MHETO

PLOT DATE: May 20, 2002 10:19am DISK FILE NAME: (15.05) R:\33889\33889028\33889B\PLAN_SHT\Engring\LB-reMO2.dwg



LEGEND

- BITUMINOUS PAVEMENT REMOVAL
- MILL & OVERLAY
- CONCRETE REMOVAL
- TREE REMOVAL
- GRAVEL REMOVAL
- CONSTRUCTION LIMITS
- SILT FENCE
- SOIL BORINGS

5 0 10 20
HORIZONTAL SCALE IN METERS

- REMOVAL NOTES:**
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 - THE CONTRACTOR SHALL REMOVE APRONS ON CULVERT PIPE INDICATED FOR REMOVAL (INCLUDED IN PIPE REMOVAL LENGTH.)

2 OF 3

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	JUL	05/02/02	REVISIONS PER CENTRAL OFFICE COMMENTS
2	IKR	05/22/02	REVISIONS PER MNDOT COMMENTS

DESIGN FILE:
33889028 5001

DRAWN BY:
IKR

DESIGN BY:
JUL

CHKD. BY:
KPK

DWG. NAME:
LB-REMO2

DATE:
MARCH 29, 2002

ALL QUANTITIES AND DIMENSIONS ON THIS PLAN ARE IN METRIC UNITS.

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Kevin P. Kielb
KEVIN P. KIELB
DATE: 03/29/02 MN LIC. NO. 23211

MAIN STREET/T.H. 242 RECONSTRUCTION

EXISTING TOPOGRAPHY, UTILITIES AND REMOVALS
STATION 4+600.000 TO STATION 5+237.117

CITY PROJECT 02-05

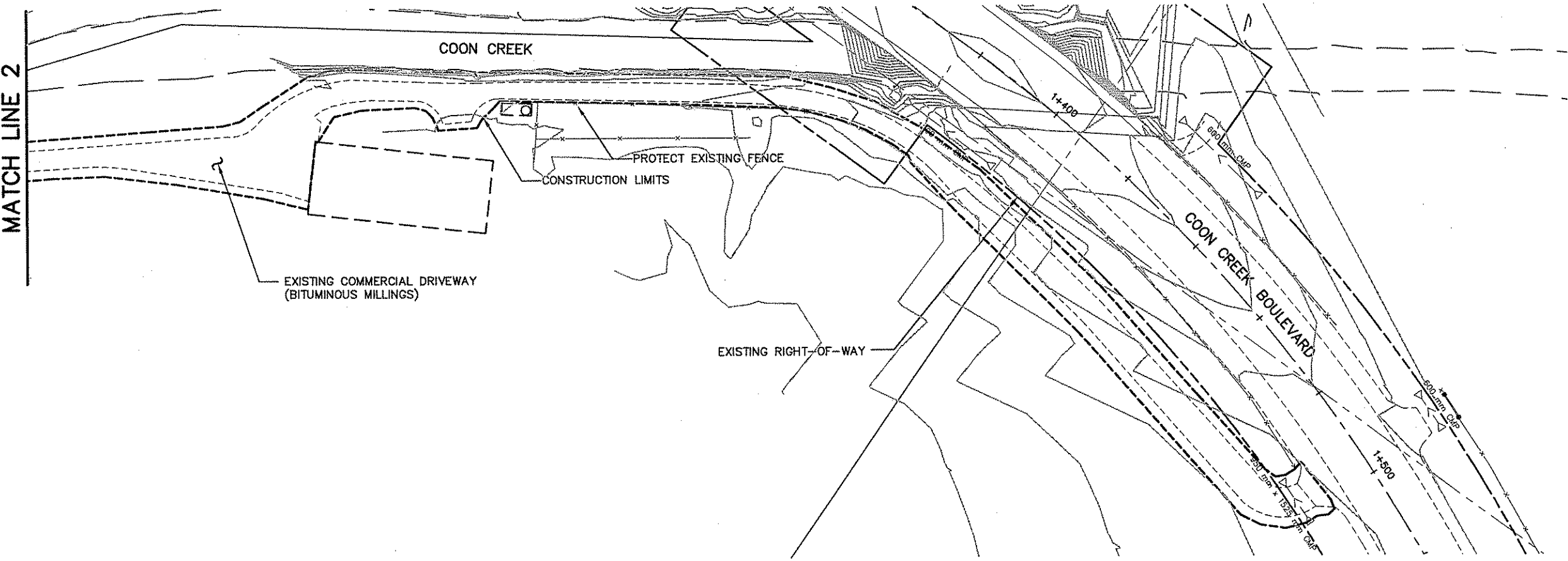
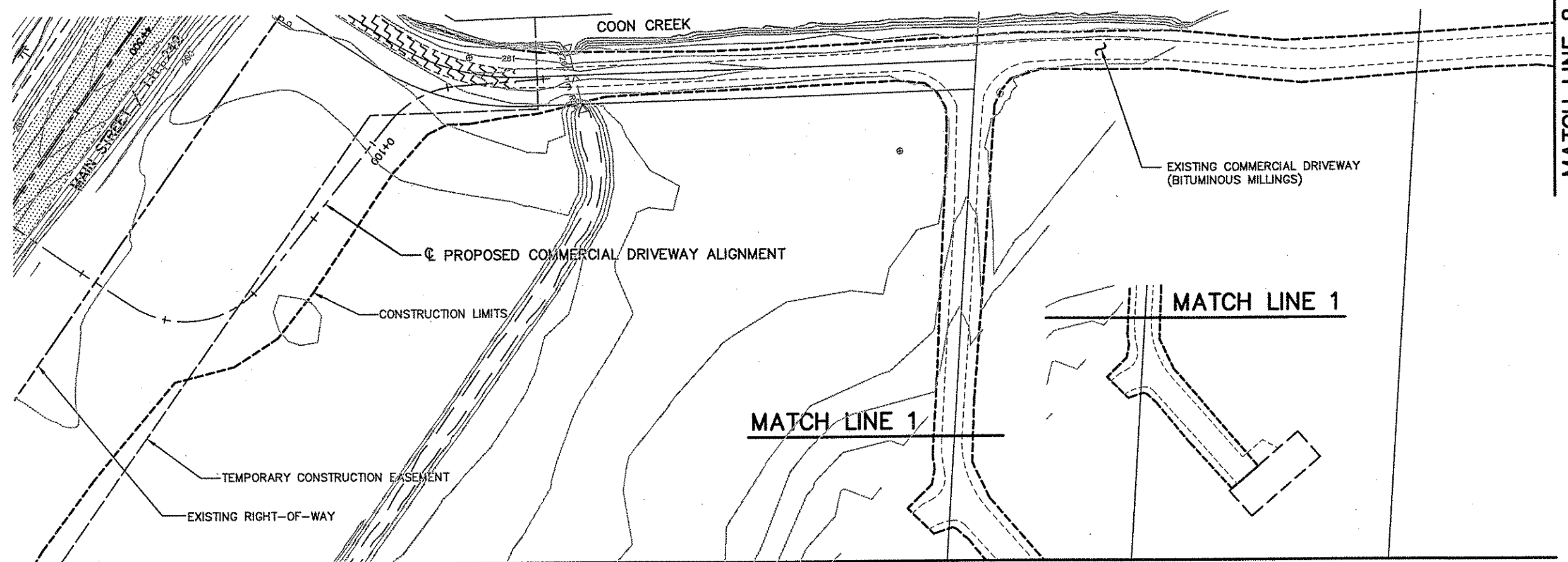
S.P. 0212-41

SHEET NO.
51

171

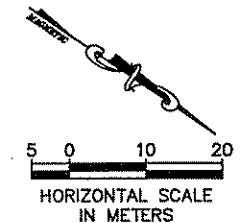
Lb_remi
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242E-PLN
1BSAPBOX
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SUM
24ZMHETO

PLOT DATE: May 21, 2002 12:34pm DISK FILE NAME: (15.05) R:\33889\33889028\33889B\PLAN_SHT\Engring\Lb-rem03.dwg



LEGEND

- BITUMINOUS PAVEMENT REMOVAL
- MILL & OVERLAY
- CONCRETE REMOVAL
- TREE REMOVAL
- GRAVEL REMOVAL
- CONSTRUCTION LIMITS
- SILT FENCE
- M12 SOIL BORINGS



REMOVAL NOTES:

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3 OF 3

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	IKR	05/22/02	NEW PLAN SHEET FOR LAWRENCE D/W PER MNDOT COMMENTS

DESIGN FILE: 33889028 5001	
DRAWN BY: IKR	DESIGN BY: JUL
CHKD. BY: KPK	DWG. NAME: LB-REMO3
DATE: MARCH 29, 2002	

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612.370.0700 Tel
612.370.1378 Fax

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Kevin P. Kiehl
KEVIN P. KIEHL
DATE: 03/29/02 MN LIC. NO. 23211

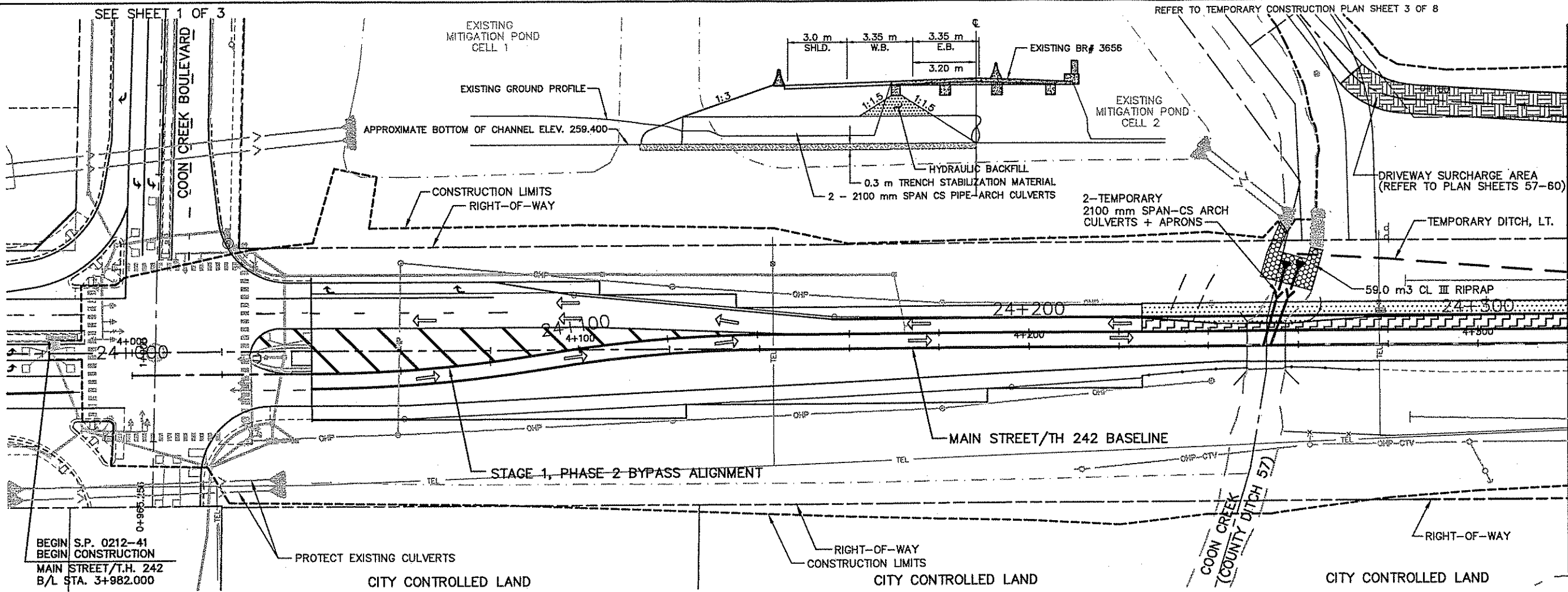
MAIN STREET/T.H. 242 RECONSTRUCTION
EXISTING TOPOGRAPHY, UTILITIES AND REMOVALS
COMMERCIAL DRIVEWAY
CITY PROJECT 02-05

S.P. 0212-41

SHEET NO.
52
171

easement
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 hosp-pond
 242e_drn
 itrne_mod
 in2a
 PH2
 jbose_mod
 lb_ahn
 LB2001CL
 242E-PLN
 LBSAPBOX
 242-ESUM
 242-EUT
 242MHETO

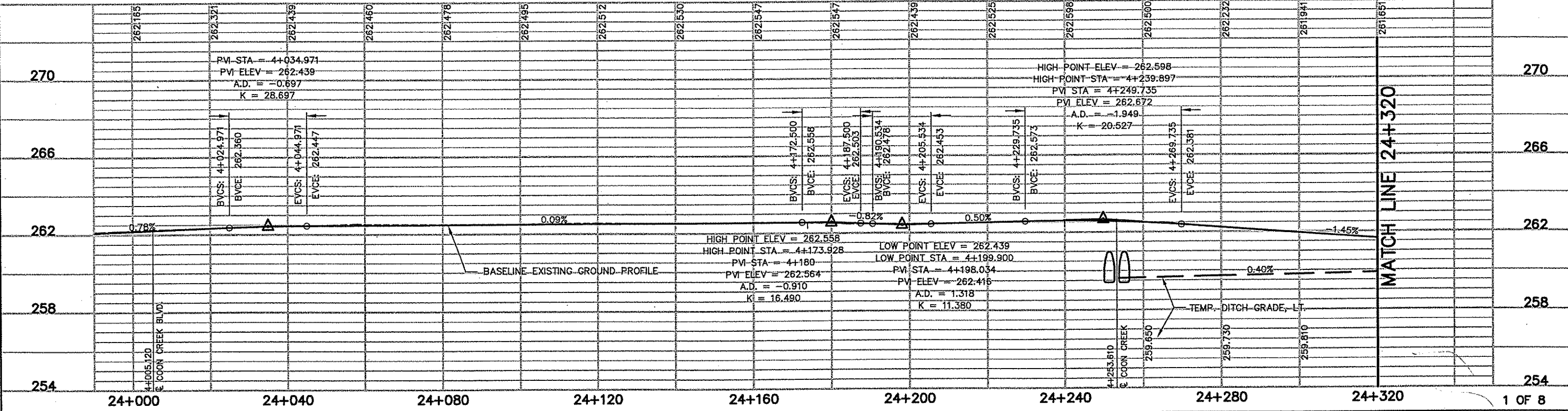
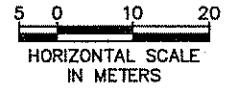
PLOT DATE: May 21, 2002 12:40pm DISK FILE NAME: (15.05) R:\33889\33889028\33889B\PLAN_SHT\Engring\LB--temp01.dwg



CONSTRUCTION NOTES:

- TEMP. PAVEMENT SHOULDER (INSET 6)
- TEMP. PAVEMENT LEVELING (INSET 7)

NOTES:
 REFER TO STAGE 1 PHASE 1 TRAFFIC CONTROL PLAN SHEETS FOR CONCRETE BARRIER AND IMPACT ATTENUATOR PLACEMENT ADJACENT TO COON CREEK



REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	IKR	05/22/02	REVISIONS FOR LAWRENCE D/W PER MINDOT COMMENTS

DESIGN FILE:
 33889028 5001
 DRAWN BY: JJJ
 DESIGN BY: JJJ/JLM
 CHKD. BY: KPK
 DWG. NAME: LB--TEMPPP01
 DATE: MARCH 29, 2002



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Kevin P. Kielb
 KEVIN P. KIELB
 DATE: 03/29/02 MN LIC. NO. 23211

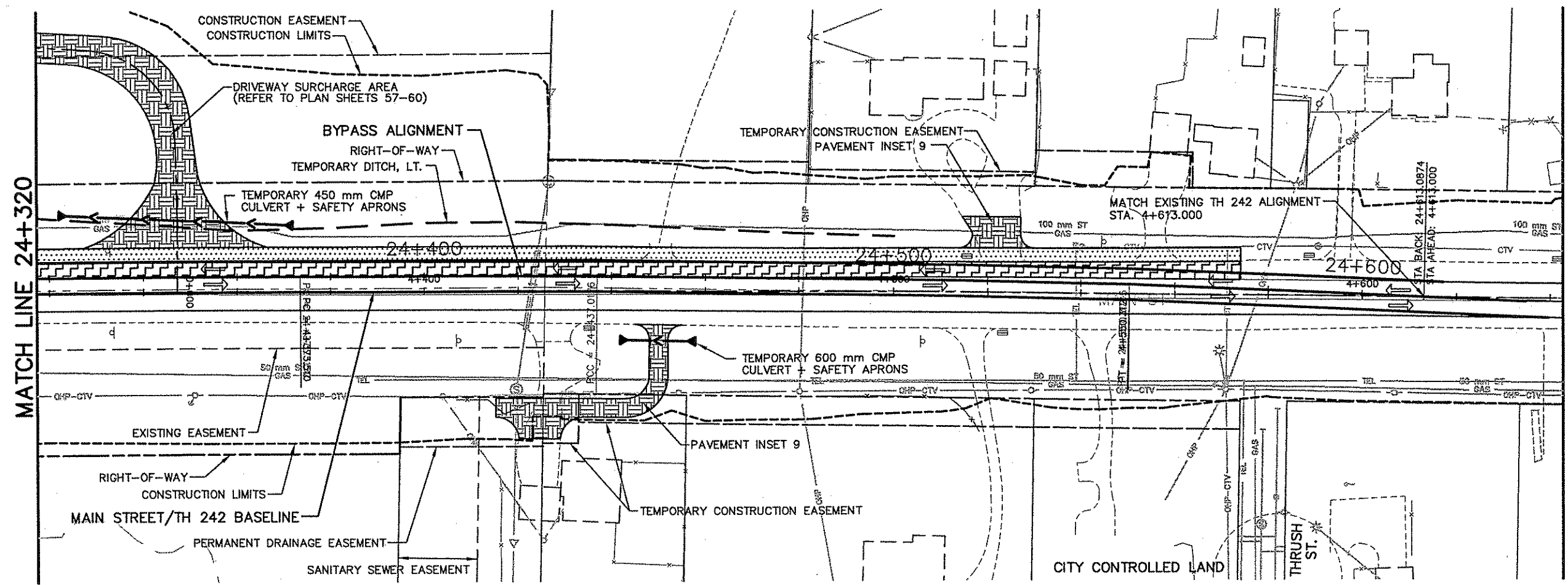
MAIN STREET/T.H. 242 RECONSTRUCTION
 TEMPORARY CONSTRUCTION
 PLAN AND PROFILE
 STATION 23+982.000 TO STATION 24+320.000
 CITY PROJECT 02-05

S.P. 0212-41

SHEET NO.
53
 171

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 stripe_mod
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 LPPAPBOX
 LN
 ESUM
 242-EUT
 242MHETO

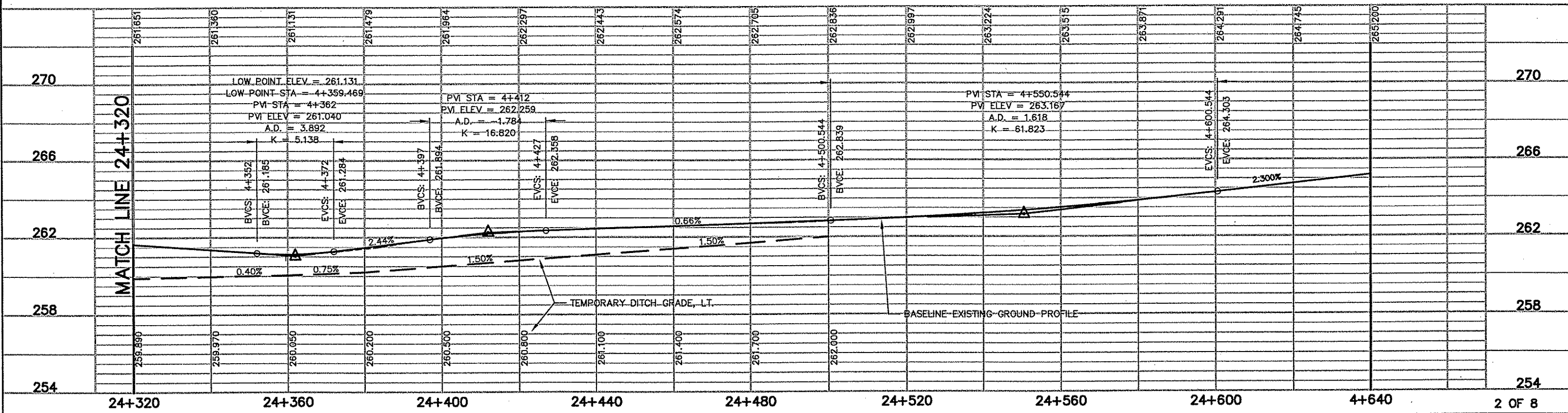
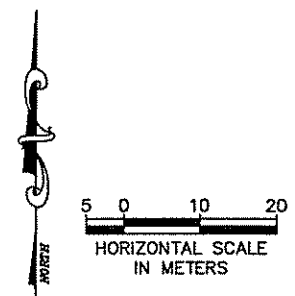
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CONSTRUCTION NOTES:

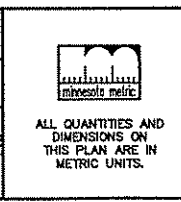
- TEMP. PAVEMENT SHOULDER (INSET 6)
- TEMP. PAVEMENT LEVELING (INSET 7)

NOTES:
 REFER TO STAGE 1 PHASE 1 TRAFFIC CONTROL PLAN SHEETS FOR CONCRETE BARRIER AND IMPACT ATTENUATOR PLACEMENT ADJACENT TO COON CREEK



REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	IKR	05/22/02	REVISIONS FOR LAWRENCE D/W PER MNDOT COMMENTS

DESIGN FILE:
 33889028 5001
 DRAWN BY:
 JUL
 DESIGN BY:
 JUL/KPK
 CHKD. BY:
 KPK
 DWG. NAME:
 LB-TEMPPP02
 DATE:
 MARCH 29, 2002



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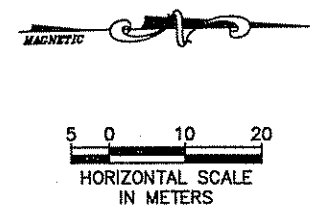
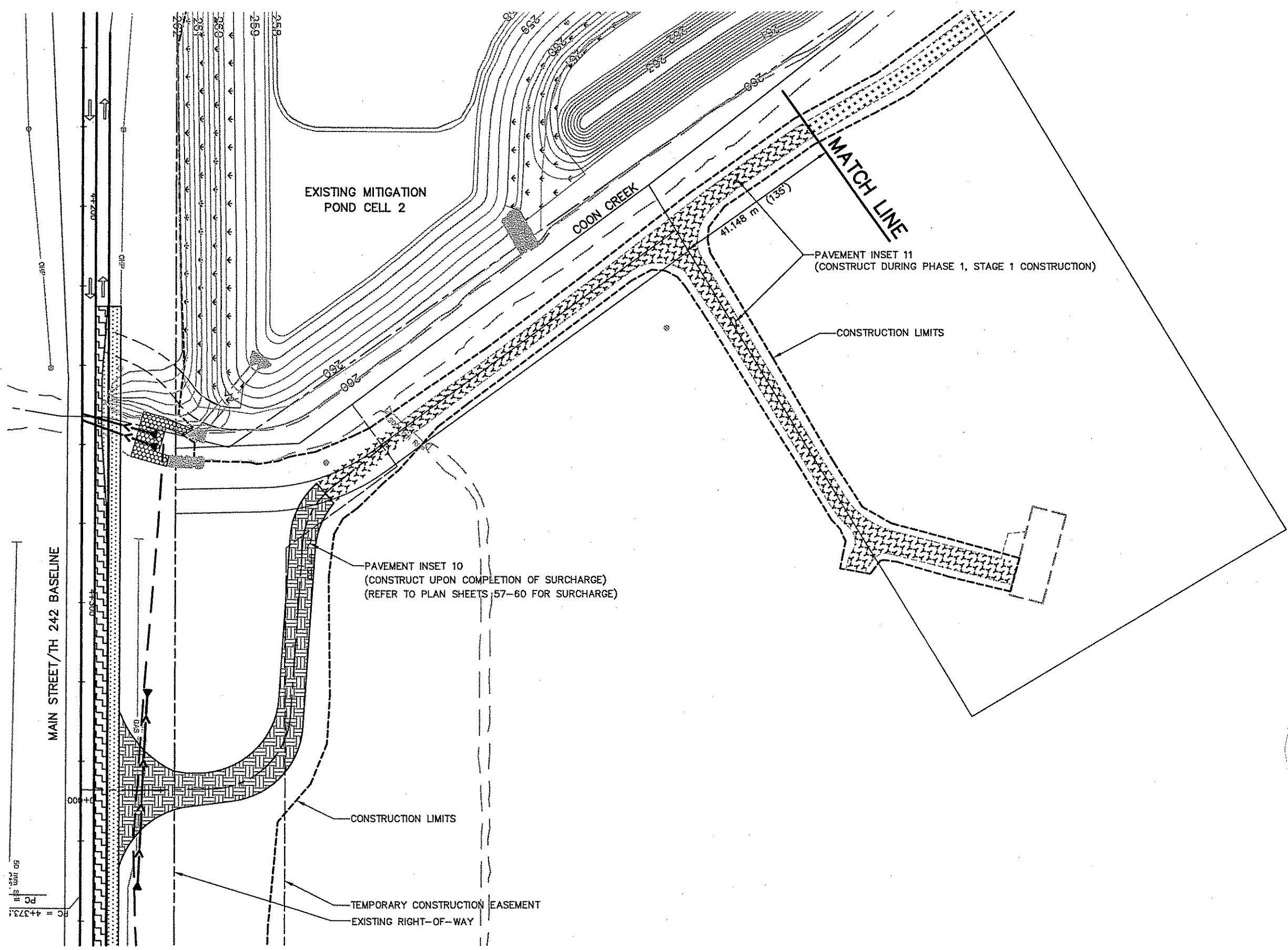
Kevin P. Kielb
 KEVIN P. KIELB
 DATE: 03/29/02 MN LIC. NO. 23211

MAIN STREET/T.H. 242 RECONSTRUCTION
TEMPORARY CONSTRUCTION
PLAN AND PROFILE
STATION 24+320.000 TO STATION 4+640.000
CITY PROJECT 02-05

SHEET NO.
54
S.P. 0212-41
171

easement
 242e-pln
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 hosp-pond
 242e_drn
 stripe_mod
 lb_aln
 LB-TEMP01.CL
 BOX
 ESUM
 242-EUT
 242MHETO

PLOT DATE: May 20, 2002 4:04pm DISK FILE NAME: (15.05) R:\33889\33889028\PLAN_SHT\Engring\LB-temp03.dwg



REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	JUL	05/22/02	NEW PLAN SHEET FOR LAWRENCE DRIVEWAY

DESIGN FILE:
 33889028 5001
 DRAWN BY: J.J.L. DESIGN BY: J.J.L.
 CHKD. BY: K.P.K. DWG. NAME: LB-TEMP03
 DATE: MARCH 29, 2002

URS
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 Thrasher Square
 700 Third Street South
 Minneapolis, MN 55415
 612.370.0700 Tel
 612.370.3378 Fax

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Kevin P. Kiehl
 KEVIN P. KIEHL
 DATE: 03/29/02 MN LIC. NO. 23211

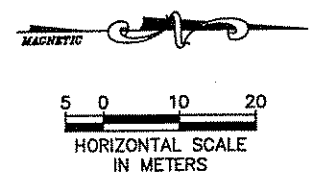
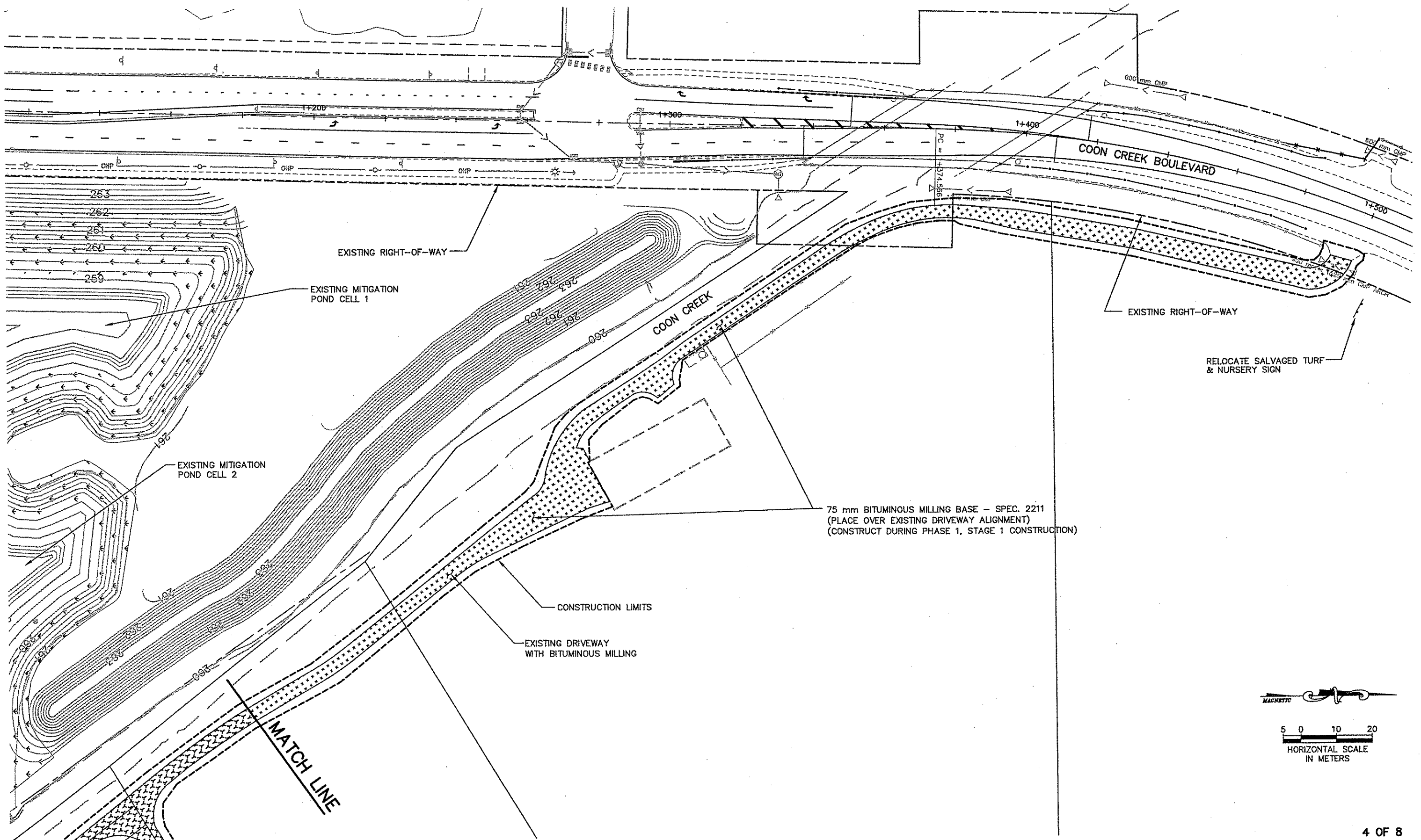
MAIN STREET/T.H. 242 RECONSTRUCTION
 TEMPORARY CONSTRUCTION PLAN
 TEMPORARY COMMERCIAL DRIVEWAY ACCESS
 CITY PROJECT 02-05

S.P. 0212-41

3 OF 8
 SHEET NO. 55
 171

easement
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 osp-pond
 242e_drn
 tripe_mod
 _din
 IICL
 Lb...PBOX
 242-ESUM
 242-EUT
 242MHETO

PLOT DATE: May 21, 2002 3:26pm DISK FILE NAME: (15.05) R:\33889\33889028\33889B\PLAN_SHT\Engring\LB--temppp04.dwg



REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	JUL	05/22/02	NEW PLAN SHEET FOR LAWRENCE DRIVEWAY

DESIGN FILE: 33889028 5001	
DRAWN BY: JUL	DESIGN BY: JUL
CHKD. BY: KPK	DWG. NAME: LB-TEMPPPO4
DATE: MARCH 29, 2002	



Thresher Square
 700 Third Street South
 Minneapolis, MN 55415
 612.370.0700 Tel
 612.370.1376 Fax

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Kevin P. Kielbaso
 KEVIN P. KIELBASO
 DATE: 03/29/02 MN LIC. NO. 23211

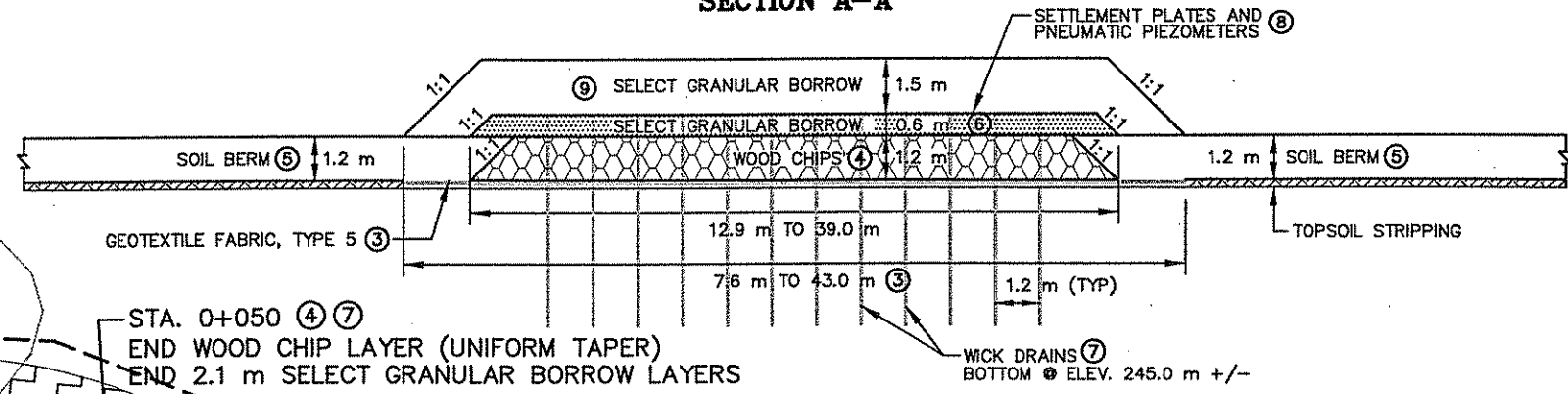
MAIN STREET/T.H. 242 RECONSTRUCTION
 TEMPORARY CONSTRUCTION PLAN
 TEMPORARY COMMERCIAL DRIVEWAY ACCESS
 CITY PROJECT 02-05

S.P. 0212-41

4 OF 8
 SHEET NO.
56
 171

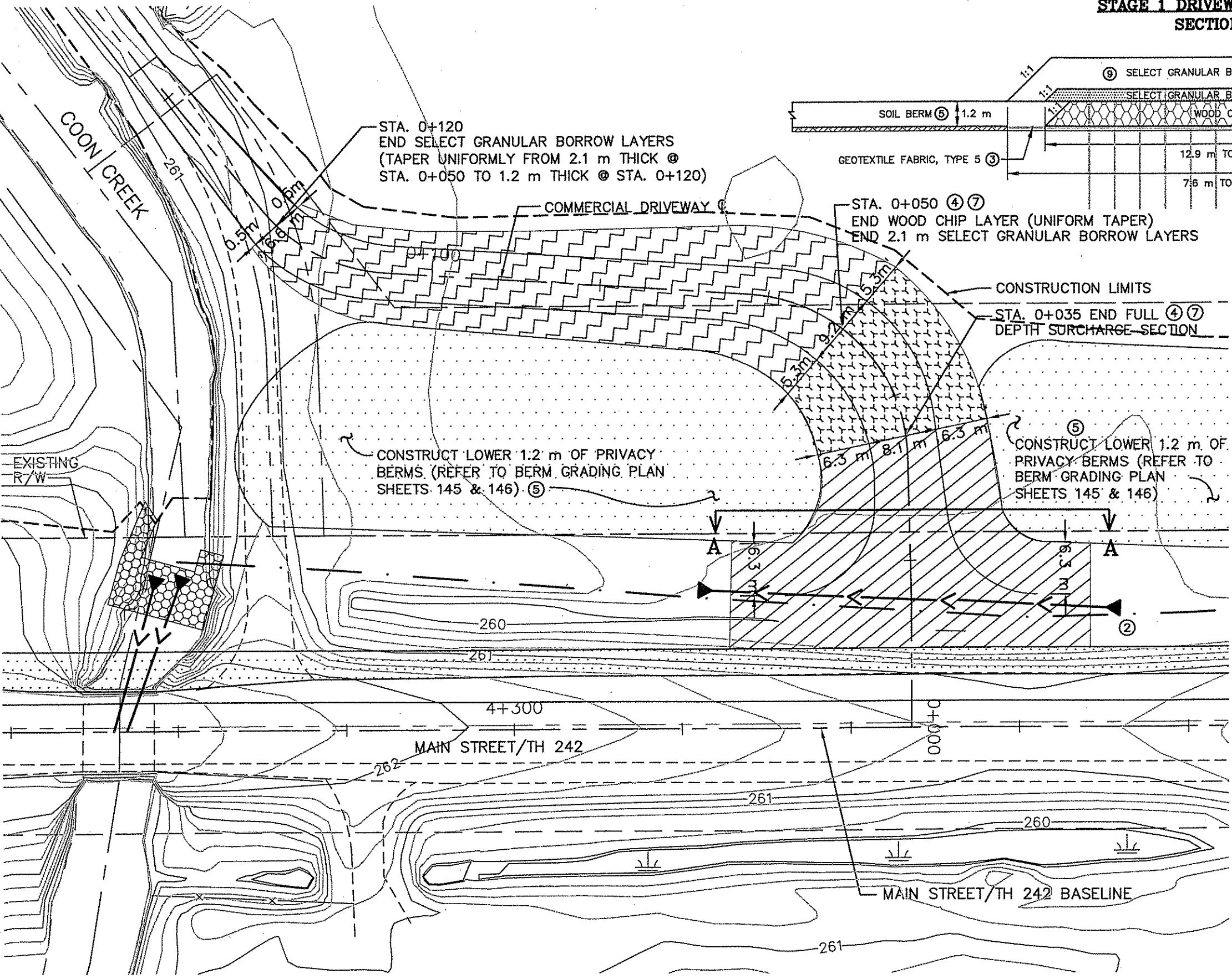
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 242mhto
 71CL
 ssum
 Lb>APBOX
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**STAGE 1 DRIVEWAY SURCHARGE
 SECTION A-A**

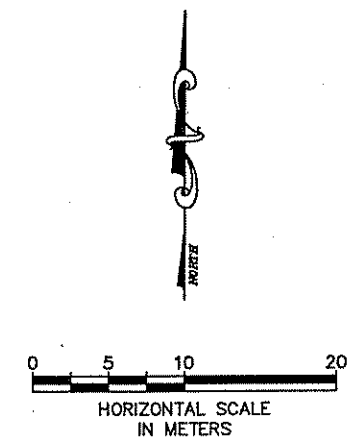


STA. 0+120
 END SELECT GRANULAR BORROW LAYERS
 (TAPER UNIFORMLY FROM 2.1 m THICK @
 STA. 0+050 TO 1.2 m THICK @ STA. 0+120)

STA. 0+050 (4) (7)
 END WOOD CHIP LAYER (UNIFORM TAPER)
 END 2.1 m SELECT GRANULAR BORROW LAYERS



- NOTES AND SEQUENCING:
- 1 EXCAVATE TOPSOIL MATERIAL BELOW ALL EMBANKMENT AREAS.
 - 2 INSTALL TEMPORARY CULVERT.
 - 3 PLACE GEOTEXTILE FABRIC, TYPE 5 BELOW DRIVEWAY SURCHARGE AREAS. SEW SEAMS BETWEEN PANELS.
 - 4 PLACE 1.2 m OF WOOD CHIPS OVER GEOTEXTILE FABRIC (FROM STA. 0+010 TO STA. 0+035). TAPER WOOD CHIPS FROM 1.2 m TO 0.0 m (FROM STA. 0+035 TO STA. 0+050).
 - 5 CONSTRUCT LOWER 1.2 m OF SOIL BERMS WITH GRANULAR BORROW.
 - 6 PLACE 0.6 m LAYER OF SELECT GRANULAR BORROW OVER WOOD CHIPS.
 - 7 INSTALL WICK DRAINS IN A SQUARE GRID PATTERN OVER SELECT GRANULAR BORROW.
 - 1.2 m SQUARE GRID PATTERN: STA. 0+010 TO STA. 0+035
 - 2.4 m SQUARE GRID PATTERN: STA. 0+035 TO STA. 0+040
 - 3.6 m SQUARE GRID PATTERN: STA. 0+040 TO STA. 0+045
 - 8 INSTALL SETTLEMENT PLATES AND PNEUMATIC PIEZOMETERS AS DIRECTED BY THE ENGINEER IN THE FIELD.
 - 9 PLACE 1.5 m OF SELECT GRANULAR BORROW IN 0.15 m LIFTS ON TOP OF THE 0.6 m SELECT GRANULAR BORROW LAYER AND SETTLEMENT PLATES. COMPACT TO 100% MAXIMUM DENSITY.



REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	JJL	05/22/02	REVISED D/W ALIGNMENT PER MNDOT COMMENTS

DESIGN FILE: 33889028 5001	
DRAWN BY: JKR	DESIGN BY: JJL
CHKD. BY: KPK	DWG. NAME: LB-DW01
DATE: MARCH 29, 2002	



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 700 Third Street South
 Minneapolis, MN 55415
 612.370.0700 Tel
 612.370.1378 Fax

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Kevin P. Kielb
 KEVIN P. KIELB
 DATE: 03/29/02 MN LIC. NO. 23211

MAIN STREET/T.H. 242 RECONSTRUCTION

TEMPORARY CONSTRUCTION PLAN
 COMMERCIAL DRIVEWAY SURCHARGE
 STAGE 1

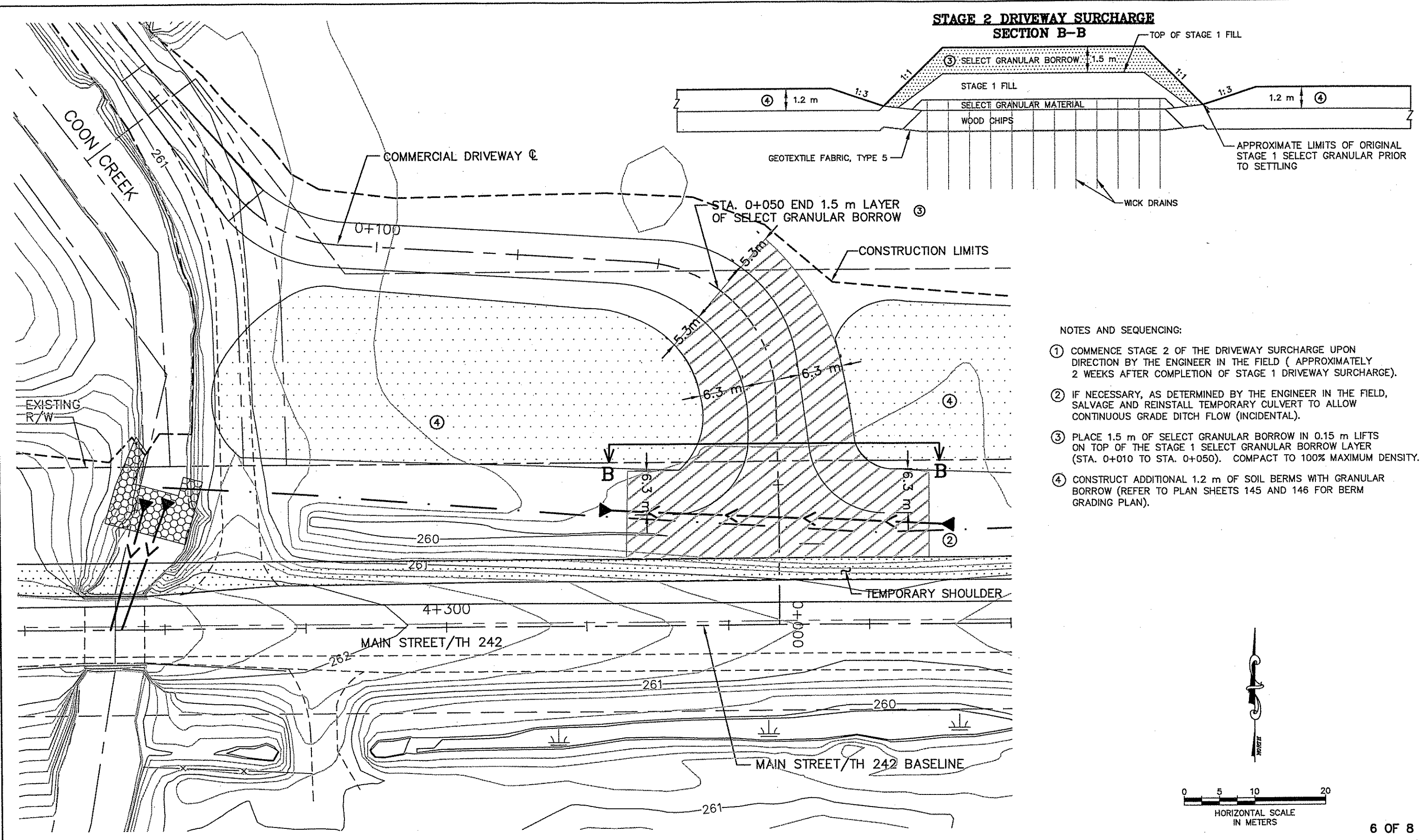
CITY PROJECT 02-05

S.P. 0212-41

SHEET NO.
 57
 171

PLOT DATE: May 20, 2002 7:11pm DISK FILE NAME: (15.05) R: \33889\33889028\33889028\PLAN_SHT\Engring\LB-DW01.dwg

PLOT DATE: May 20, 2002 7:06pm DISK FILE NAME: (15.05) R:\33889\33889028\33889B\PLAN_SHT\Engring\LB-DW02.dwg



- NOTES AND SEQUENCING:
- ① COMMENCE STAGE 2 OF THE DRIVEWAY SURCHARGE UPON DIRECTION BY THE ENGINEER IN THE FIELD (APPROXIMATELY 2 WEEKS AFTER COMPLETION OF STAGE 1 DRIVEWAY SURCHARGE).
 - ② IF NECESSARY, AS DETERMINED BY THE ENGINEER IN THE FIELD, SALVAGE AND REINSTALL TEMPORARY CULVERT TO ALLOW CONTINUOUS GRADE DITCH FLOW (INCIDENTAL).
 - ③ PLACE 1.5 m OF SELECT GRANULAR BORROW IN 0.15 m LIFTS ON TOP OF THE STAGE 1 SELECT GRANULAR BORROW LAYER (STA. 0+010 TO STA. 0+050). COMPACT TO 100% MAXIMUM DENSITY.
 - ④ CONSTRUCT ADDITIONAL 1.2 m OF SOIL BERMS WITH GRANULAR BORROW (REFER TO PLAN SHEETS 145 AND 146 FOR BERM GRADING PLAN).

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	JUL	05/22/02	REVISED D/W ALIGNMENT PER MNDOT COMMENTS

DESIGN FILE: 33889028 5001	
DRAWN BY: IKR	DESIGN BY: JUL
CHKD. BY: KPK	DWG. NAME: LB-DW02
DATE: MARCH 29, 2002	



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612.370.0700 Tel
612.370.1370 Fax

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Kevin P. Kielb
KEVIN P. KIELB
DATE: 03/29/02 MN LIC. NO. 23211

MAIN STREET/T.H. 242 RECONSTRUCTION

TEMPORARY CONSTRUCTION PLAN
COMMERCIAL DRIVEWAY SURCHARGE
STAGE 2

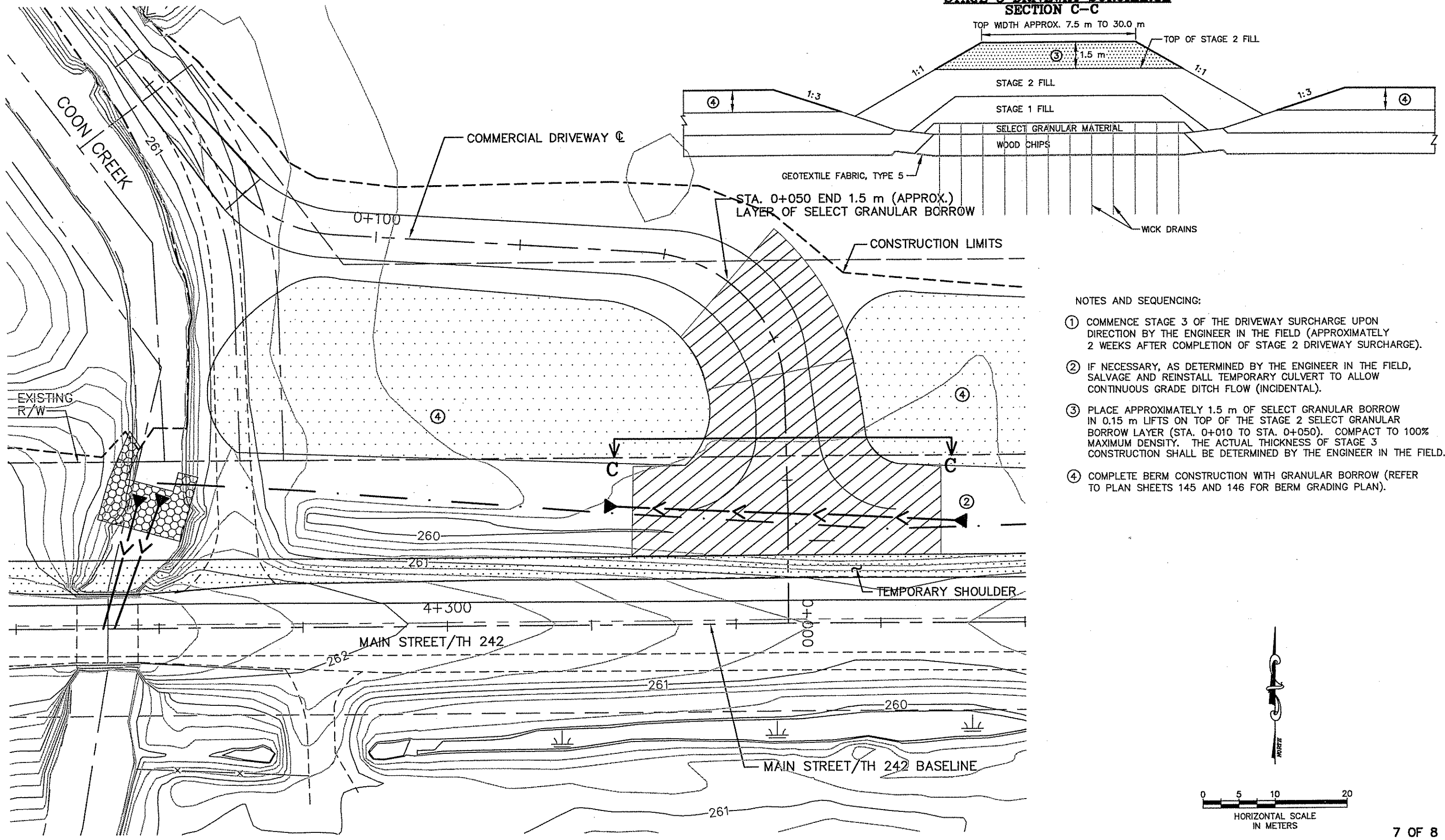
CITY PROJECT 02-05

S.P. 0212-41

SHEET NO.
58
171

REF DRAWINGS
 RCHARGE3
 mp_const
 rm040102
 LBxctn
 easement
 242mhto
 ICL
 sum
 BOX
 B_ALN

**STAGE 3 DRIVEWAY SURCHARGE
 SECTION C-C**



- NOTES AND SEQUENCING:
- ① COMMENCE STAGE 3 OF THE DRIVEWAY SURCHARGE UPON DIRECTION BY THE ENGINEER IN THE FIELD (APPROXIMATELY 2 WEEKS AFTER COMPLETION OF STAGE 2 DRIVEWAY SURCHARGE).
 - ② IF NECESSARY, AS DETERMINED BY THE ENGINEER IN THE FIELD, SALVAGE AND REINSTALL TEMPORARY CULVERT TO ALLOW CONTINUOUS GRADE DITCH FLOW (INCIDENTAL).
 - ③ PLACE APPROXIMATELY 1.5 m OF SELECT GRANULAR BORROW IN 0.15 m LIFTS ON TOP OF THE STAGE 2 SELECT GRANULAR BORROW LAYER (STA. 0+010 TO STA. 0+050). COMPACT TO 100% MAXIMUM DENSITY. THE ACTUAL THICKNESS OF STAGE 3 CONSTRUCTION SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.
 - ④ COMPLETE BERM CONSTRUCTION WITH GRANULAR BORROW (REFER TO PLAN SHEETS 145 AND 146 FOR BERM GRADING PLAN).

PLOT DATE: May 20, 2002 7:13pm DISK FILE NAME: (15.05) R:\33889\33889028\338899\PLAN_SHT\Engring\LB-DW03.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
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DESIGN FILE: 33889028 5001	
DRAWN BY: JKR	DESIGN BY: JJL
CHKD. BY: KPK	DWG. NAME: LB-DW03
DATE: MARCH 29, 2002	

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Kevin P. Kielb
KEVIN P. KIELB

DATE: 03/29/02 MN LIC. NO. 23211

MAIN STREET/T.H. 242 RECONSTRUCTION

TEMPORARY CONSTRUCTION PLAN
COMMERCIAL DRIVEWAY SURCHARGE
STAGE 3

CITY PROJECT 02-05

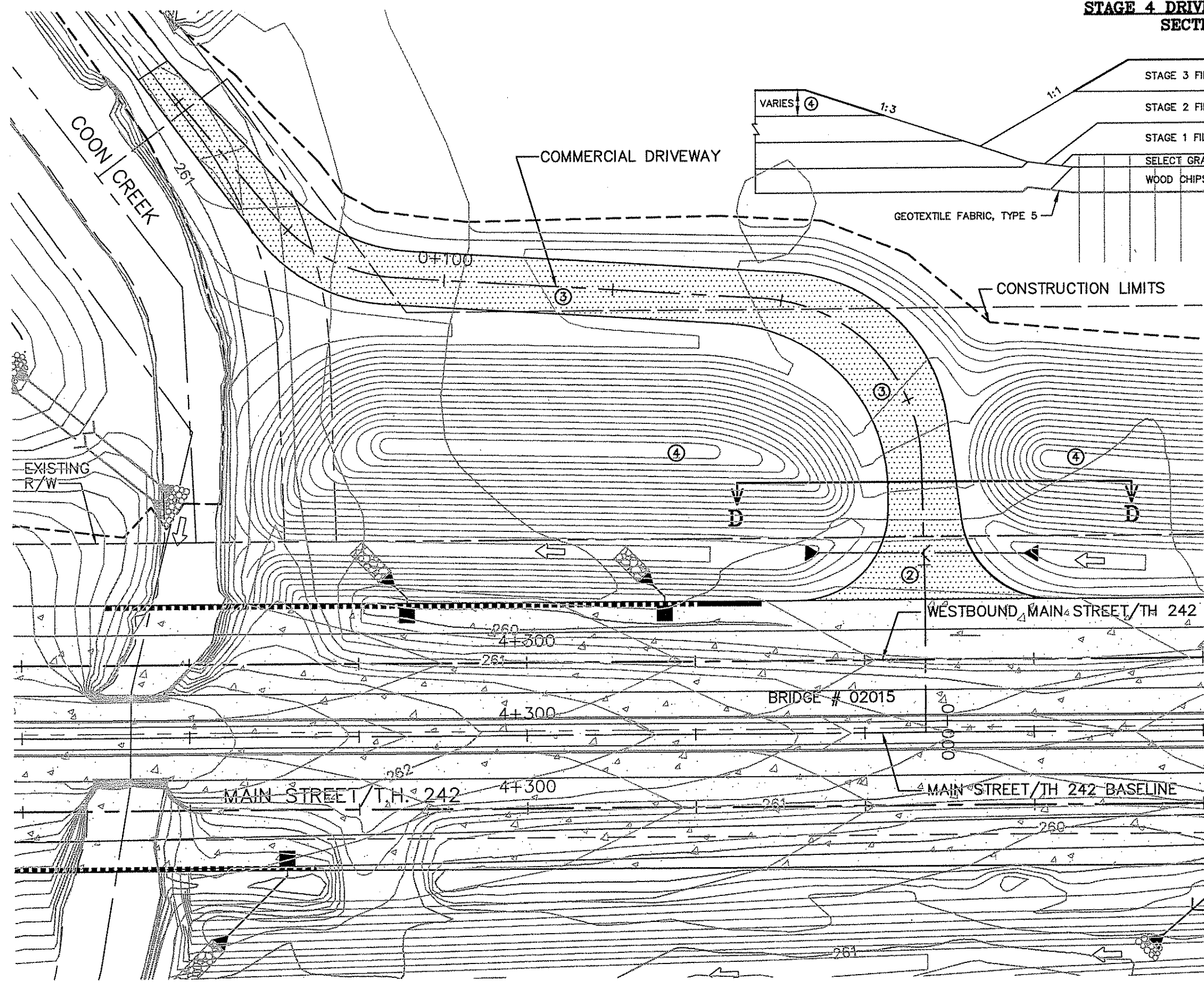
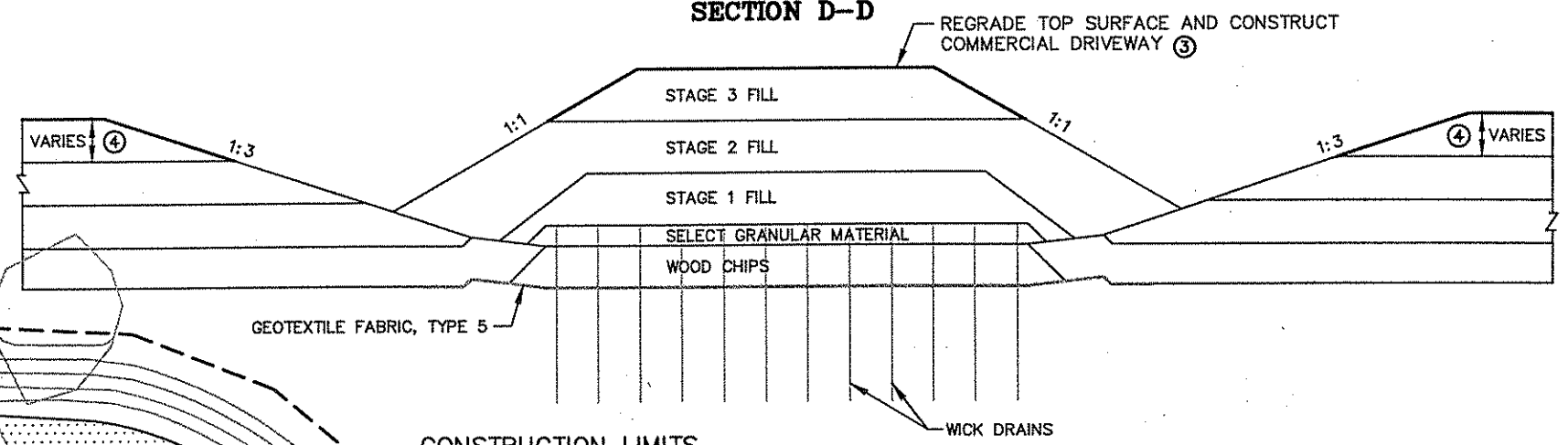
S.P. 0212-41

SHEET NO.
59
171

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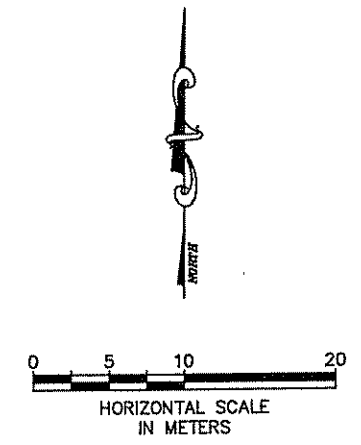
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**STAGE 4 DRIVEWAY SURCHARGE
 SECTION D-D**



NOTES:

- ① BEGIN STAGE 4 OF THE DRIVEWAY SURCHARGE APPROXIMATELY 4 TO 6 MONTHS AFTER COMPLETION OF STAGE 3 DRIVEWAY SURCHARGE AND UPON DIRECTION BY THE ENGINEER IN THE FIELD.
- ② REMOVE TEMPORARY CULVERT AND INSTALL PERMANENT CULVERT BENEATH DRIVEWAY.
- ③ REMOVE EXCESS SURCHARGE FILL MATERIAL OVER THE DRIVEWAY. COMPACT THE SUBGRADE TO 100% MAXIMUM DENSITY. CONSTRUCT THE DRIVEWAY PAVEMENT SECTION (INSET 10). (REFER TO PLAN SHEETS 61 AND 62 FOR DRIVEWAY CONSTRUCTION.)
- ④ REGRADE BERMS TO MATCH BERM GRADING PLAN SHEETS. (REFER TO PLAN SHEETS 145 AND 146 FOR BERM GRADING PLAN.)



REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	JUL	05/22/02	REVISED D/W ALIGNMENT PER MNDOT COMMENTS

DESIGN FILE: 33889028 5001	
DRAWN BY: IKR	DESIGN BY: JUL
CHKD. BY: KPK	DWG. NAME: LB-DW04
DATE: MARCH 29, 2002	

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Kevin P. Kielb
 KEVIN P. KIELB
 DATE: 03/29/02 MN LIC. NO. 23211

MAIN STREET/T.H. 242 RECONSTRUCTION

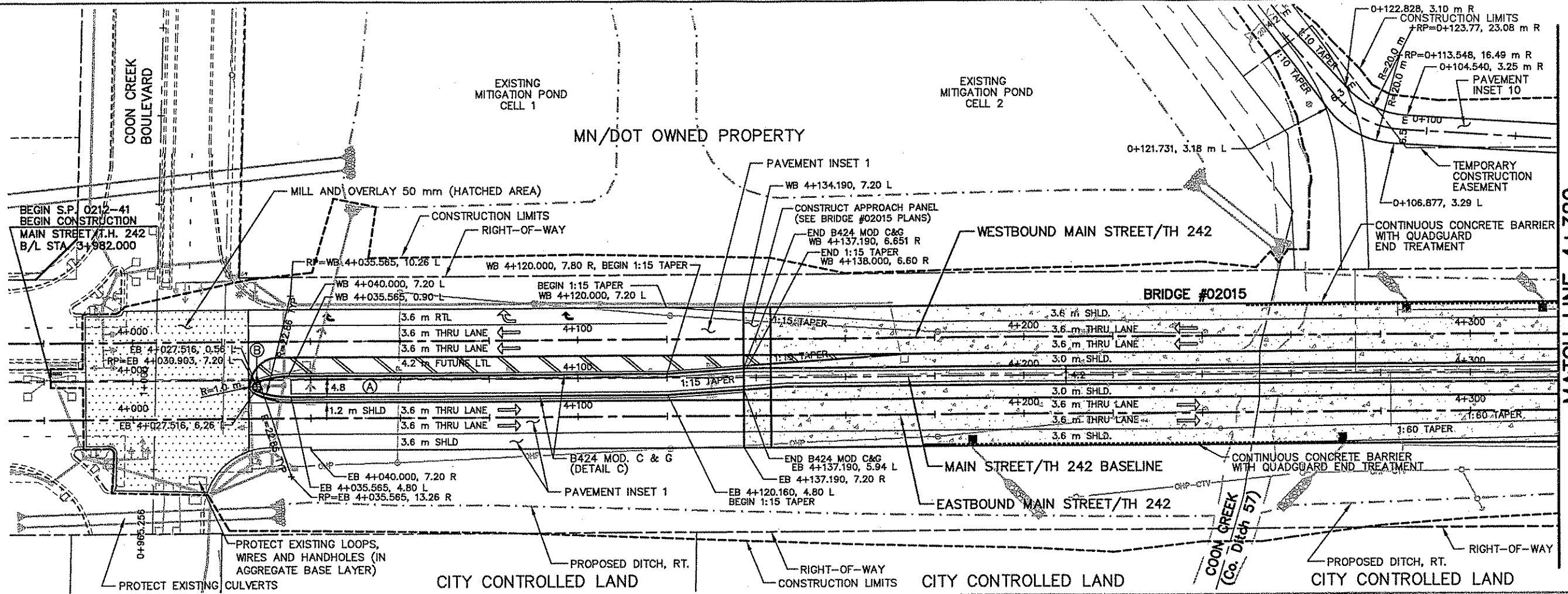
TEMPORARY CONSTRUCTION PLAN
 COMMERCIAL DRIVEWAY SURCHARGE
 STAGE 4

CITY PROJECT 02-05

S.P. 0212-41

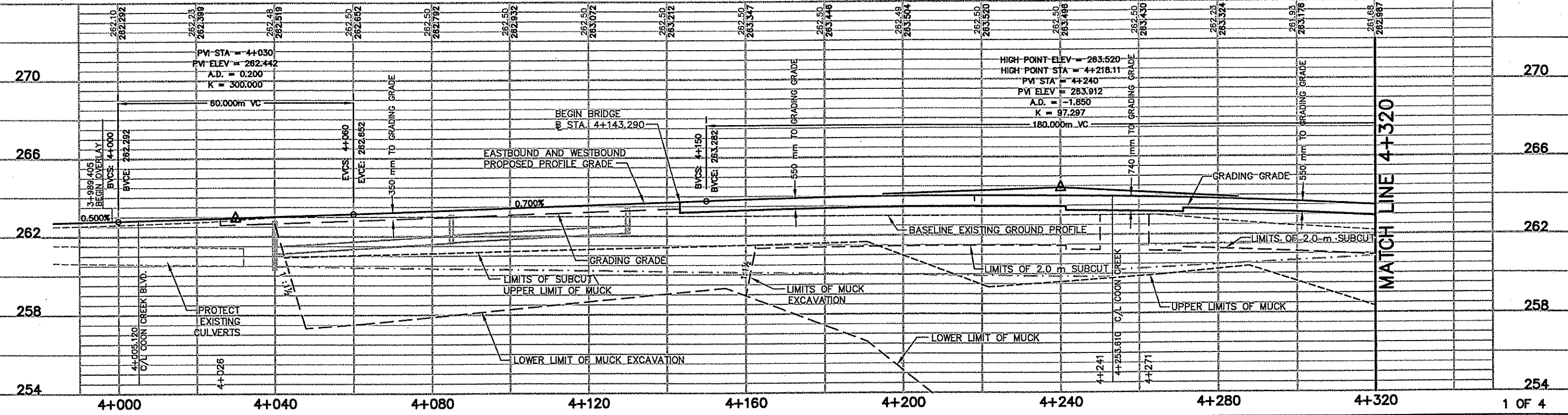
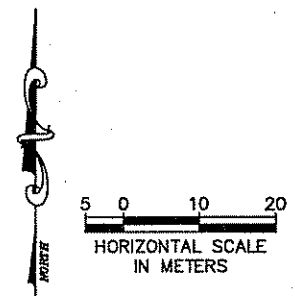
SHEET NO.
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)IUT
)XT
 LBSAPBOX
 LB_PROF
 242-ESUM
 242-EUT
 242MHETO



CONSTRUCTION NOTES:
 (A) CONCRETE WALK (DETAIL A & INSET 3)
 (B) CONCRETE APPROACH NOSE (STD. PLATE 7113)
 ALL DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED

MATCH LINE 4+320



MATCH LINE 4+320

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	IKR	05/22/02	REVISIONS FOR LAWRENCE D/W PER MNDOT COMMENTS
2	IKR	05/22/02	REVISIONS PER MNDOT COMMENTS

DESIGN FILE:
 33889028 5001
 DRAWN BY: IKR
 DESIGN BY: JIL/KPK
 CHECKED BY: KPK
 DWG. NAME: LB-PP01
 DATE: MARCH 29, 2002

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Kevin P. Kiehl
 KEVIN P. KIEHL
 DATE: 03/29/02 MN LIC. NO. 23211

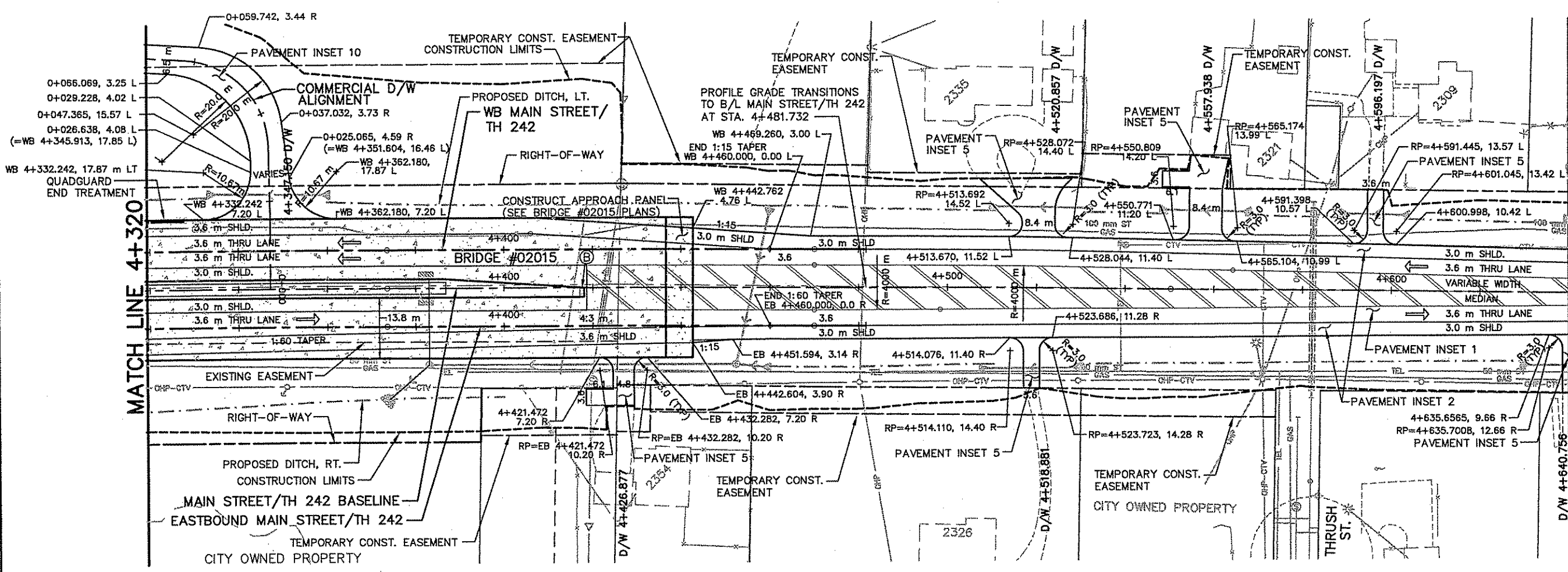
MAIN STREET/T.H. 242 RECONSTRUCTION
 CONSTRUCTION PLAN AND PROFILE
 STATION 3+982.000 TO STATION 4+320.000
 CITY PROJECT 02-05

SHEET NO. 61
 S.P. 0212-41
 171

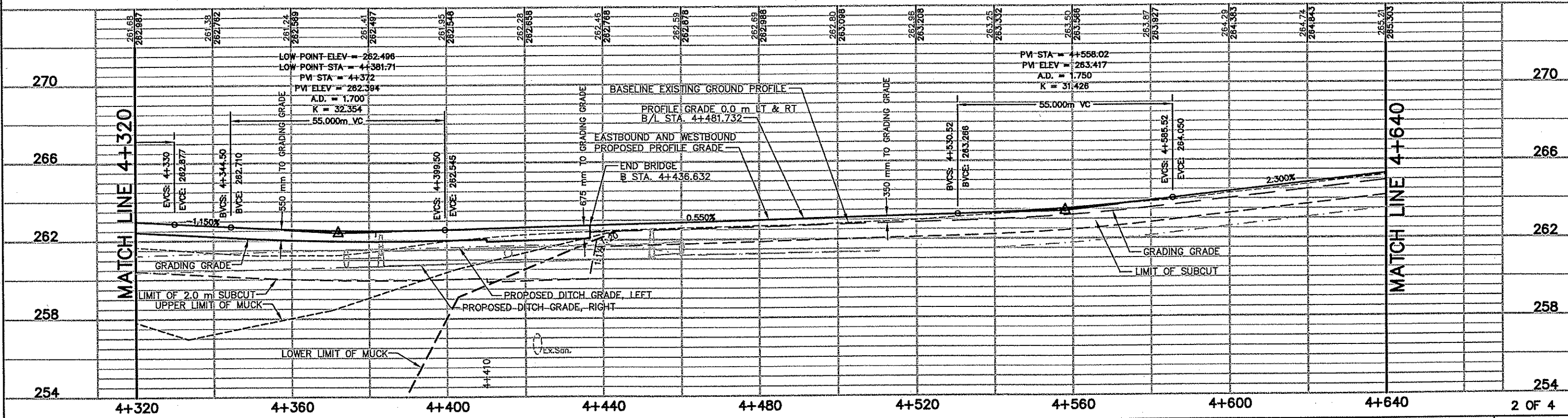
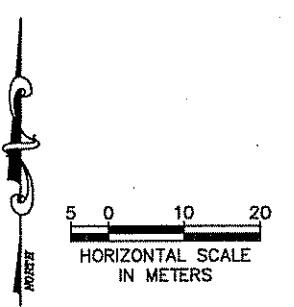
PLOT DATE: May 23, 2002 4:45pm DISK FILE NAME: (15.05) R:\33889\33889028\33889B\PLAN_SHT\Engring\LB-pp01.dwg

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PLOT DATE: May 23, 2002 4:39pm DISK FILE NAME: (15.05) R:\33889\33889028\33889B\PLAN_SHT\Engring\LB-pp02.dwg



CONSTRUCTION NOTES:
 (A) CONCRETE WALK (DETAIL A & INSET 3)
 (B) CONCRETE APPROACH NOSE (STD. PLATE 7113)
 ALL DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED



REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	IKR	05/22/02	REVISIONS FOR LAWRENCE D/W PER MNDOT COMMENTS
2	IKR	05/22/02	REVISIONS PER MNDOT COMMENTS

DESIGN FILE:
 33889028 5001
 DRAWN BY: IKR
 DESIGN BY: JUL/KPK
 CHKD. BY: KPK
 DWG. NAME: LB-PP02
 DATE: MARCH 29, 2002

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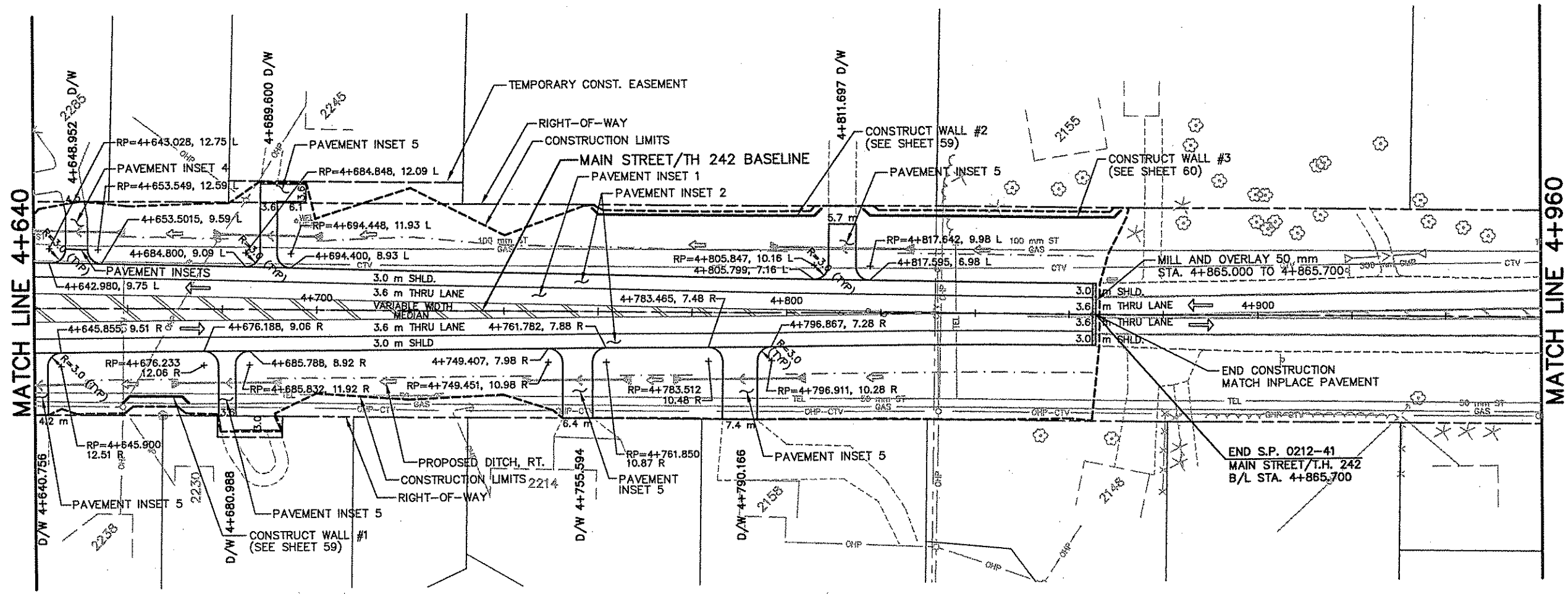
Kevin P. Kielb
 KEVIN P. KIELB
 DATE: 03/29/02 MN LIC. NO. 23211

MAIN STREET/T.H. 242 RECONSTRUCTION
 CONSTRUCTION PLAN AND PROFILE
 STATION 4+320.000 TO STATION 4+640.000
 CITY PROJECT 02-05

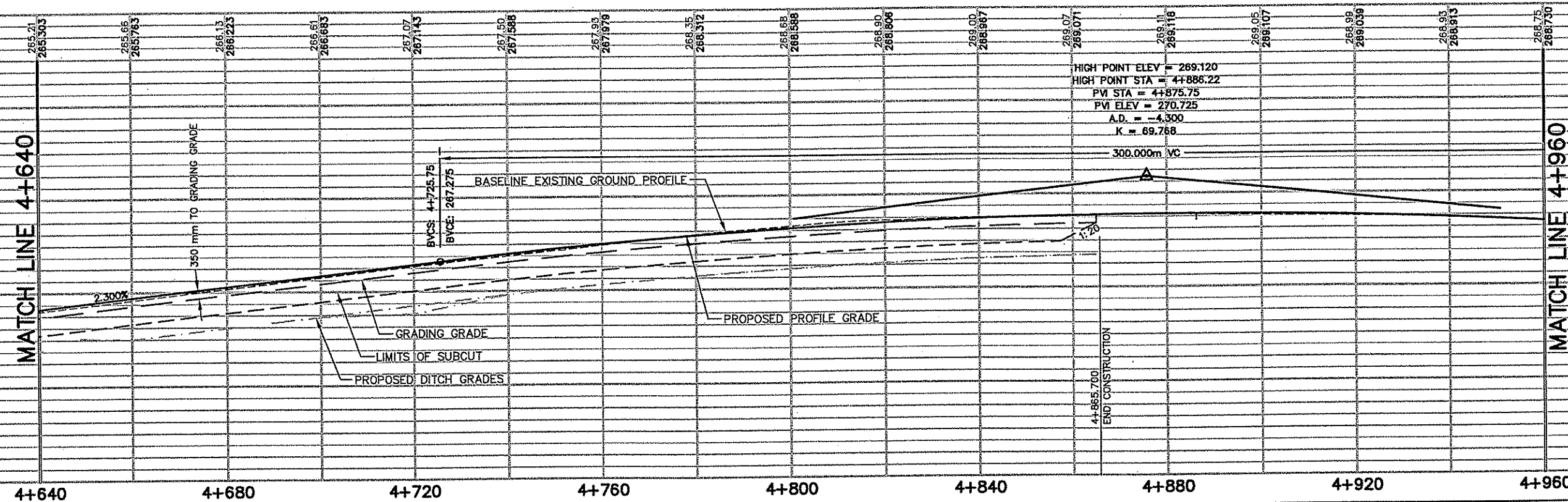
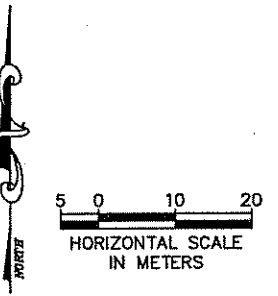
SHEET NO. 62
 S.P. 0212-41
 171

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PLOT DATE: May 20, 2002 12:34pm DISK FILE NAME: (15.05) R:\33889\33889028\PLAN_SHT\Engring\LB-pp03.dwg



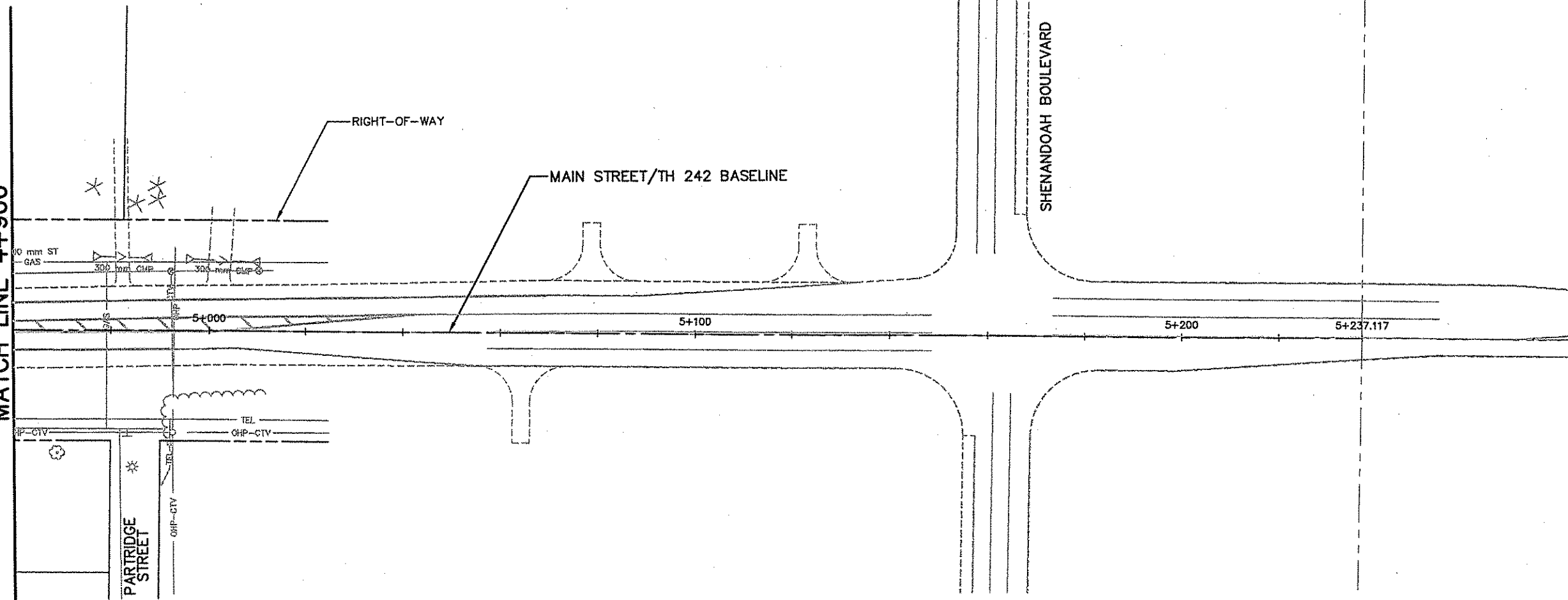
CONSTRUCTION NOTES:
 (A) CONCRETE WALK (DETAIL A & INSET 3)
 (B) CONCRETE APPROACH NOSE (STD. PLATE 7113)
 ALL DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED



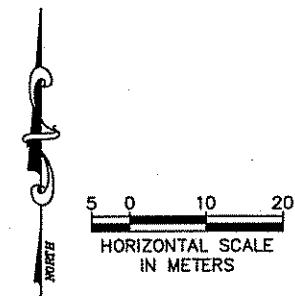
REV. NO. 1 BY IKR DATE 05/22/02 REVISIONS PER MNDOT COMMENTS		DESIGN FILE: 33889028 5001 DRAWN BY: JKL/KPK DESIGN BY: JKL/KPK CHKD. BY: KPK DWG. NAME: LB-PP03 DATE: MARCH 29, 2002		 URS BRW, Inc.		I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. KEVIN P. KIELB DATE: 03/29/02 MN LIC. NO. 23211		MAIN STREET/T.H. 242 RECONSTRUCTION CONSTRUCTION PLAN AND PROFILE STATION 4+640.000 TO STATION 4+960.000 CITY PROJECT 02-05		SHEET NO. 63 171	
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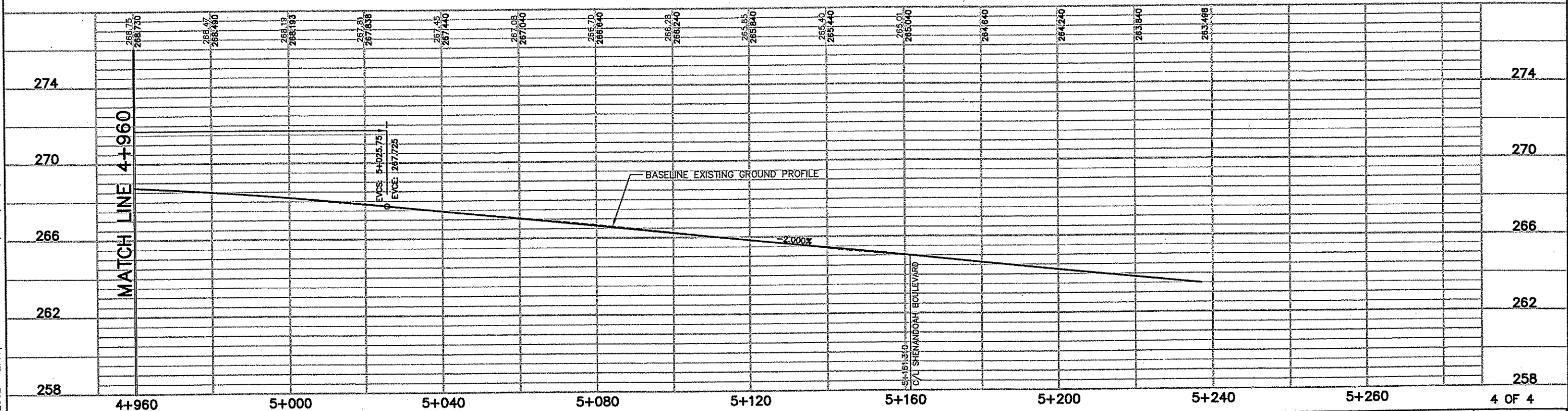
MATCH LINE 4+960



CONSTRUCTION NOTES:
 (A) CONCRETE WALK (DETAIL A & INSET 3)
 (B) CONCRETE APPROACH NOSE (STD. PLATE 7113)
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PLOT DATE: May 20, 2002 12:37pm DISK FILE NAME: (15.05) R:\33889\33889028\33889B\PLAN_SHT\Engring\LB-pp04.dwg

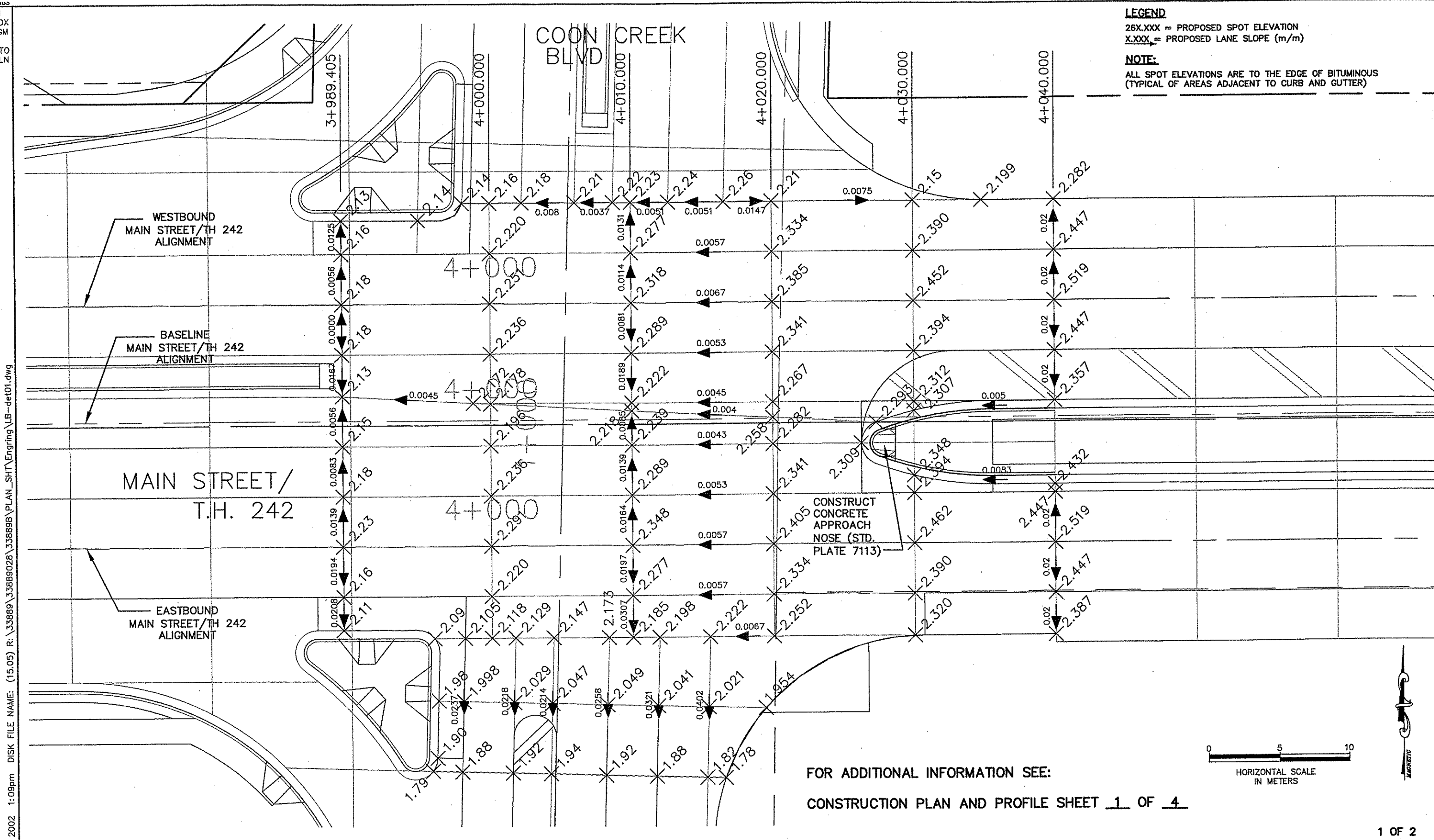


REV. NO. BY DATE REVISIONS DESCRIPTION 1 IKR 05/22/02 REVISIONS PER MNDOT COMMENTS		DESIGN FILE: 33889028 5001 DRAWN BY: JLL/KPK CHKD. BY: KPK DATE: MARCH 29, 2002		 URS BRW, Inc. <small>ALL QUANTITIES AND DIMENSIONS ON THIS PLAN ARE IN METRIC UNITS.</small>		<small>Thrasher Square 700 Third Street South Minneapolis, MN 55415 612.370.0700 Tel 612.370.1378 Fax</small> I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. KEVIN P. KIELB DATE: 03/29/02 MN LIC. NO. 23211		MAIN STREET/T.H. 242 RECONSTRUCTION CONSTRUCTION PLAN AND PROFILE STATION 4+960.000 TO STATION 5+237.117 CITY PROJECT 02-05		SHEET NO. 64 171	
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det_grid
LBSAPBOX
LB2001GM
LB_ALN
242MHETO
242E-PLN

LEGEND
26X.XXX = PROPOSED SPOT ELEVATION
X.XXX = PROPOSED LANE SLOPE (m/m)

NOTE:
ALL SPOT ELEVATIONS ARE TO THE EDGE OF BITUMINOUS
(TYPICAL OF AREAS ADJACENT TO CURB AND GUTTER)



FOR ADDITIONAL INFORMATION SEE:
CONSTRUCTION PLAN AND PROFILE SHEET 1 OF 4

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	IKR	05/22/02	REVISIONS PER MNDOT C.O. COMMENTS

DESIGN FILE:
33889028 5001

DRAWN BY: IKR DESIGN BY: KPK

CHKD. BY: KPK/PBD DWG. NAME: LB-DET01

DATE: MARCH 29, 2002

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Kevin P. Kiehl
KEVIN P. KIEHL

DATE: 03/29/02 MN LIC. NO. 23211

MAIN STREET/T.H. 242 RECONSTRUCTION
CONSTRUCTION PLAN DETAILS
INTERSECTION DETAIL
TH 242 / COON CREEK BOULEVARD

CITY PROJECT 02-05

SHEET NO. 65

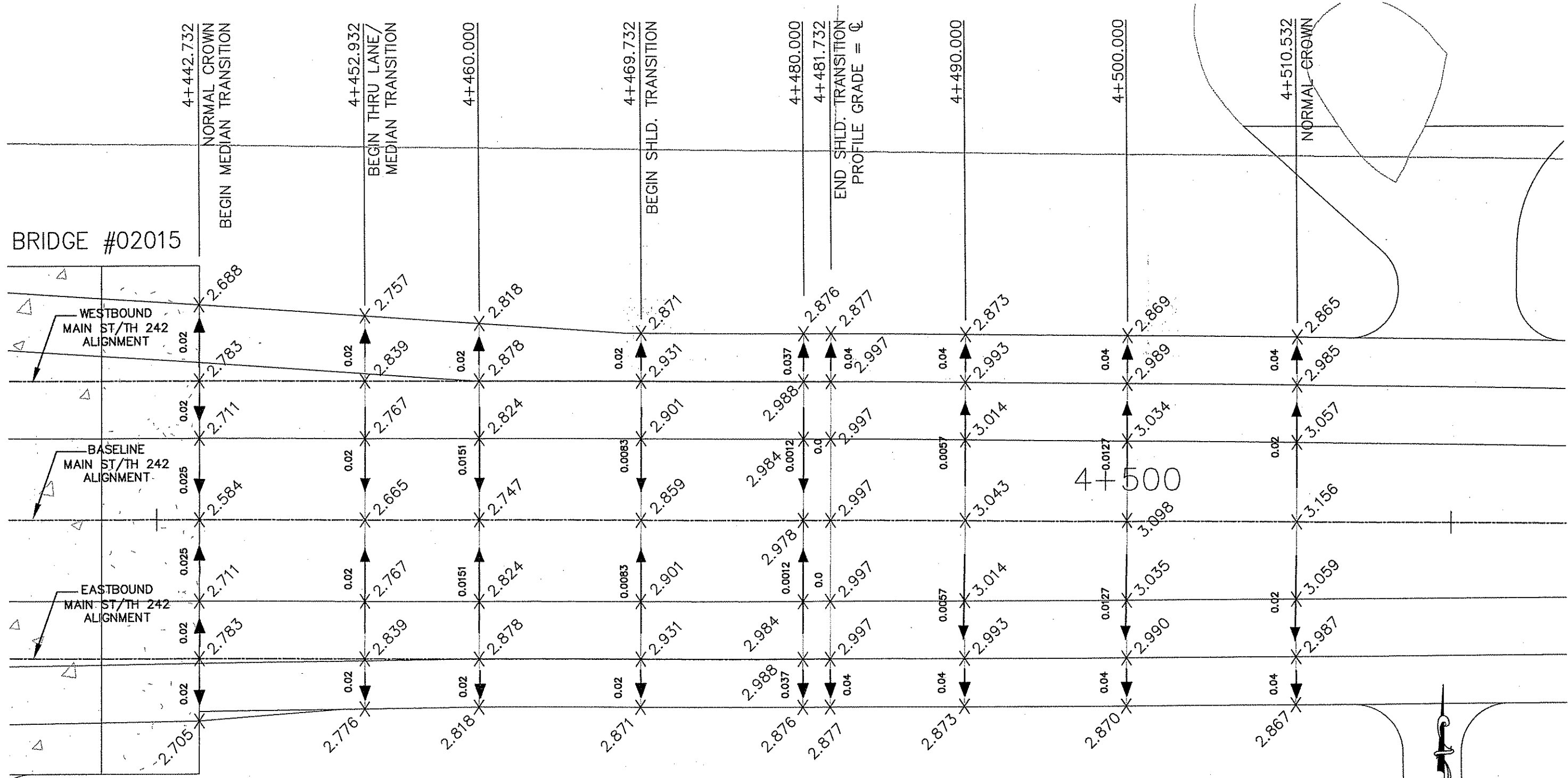
S.P. 0212-41

171

1 OF 2

PLOT DATE: May 20, 2002 1:09pm DISK FILE NAME: (15.05) R:\33889\33889028\33889028\PLAN_SHT\Engring\LB-det01.dwg

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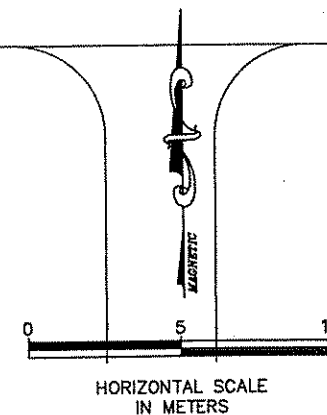
FOR ADDITIONAL INFORMATION SEE:
 CONSTRUCTION PLAN AND PROFILE SHEET 2 OF 4
 & TYPICAL SECTIONS SHEET 3 OF 5

LEGEND

26X.XXX = PROPOSED SPOT ELEVATION
 X.XXX = PROPOSED LANE SLOPE (m/m)

NOTE:

ALL SPOT ELEVATIONS ARE TO THE EDGE OF BITUMINOUS (TYPICAL OF AREAS ADJACENT TO CURB AND GUTTER)



REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	IKR	05/22/02	REVISIONS PER MNDOT COMMENTS

DESIGN FILE: 33889028 5001	
DRAWN BY: IKR	DESIGN BY: JJL
CHKD. BY: KPK	DWG. NAME: LB-DET02
DATE: MARCH 29, 2002	



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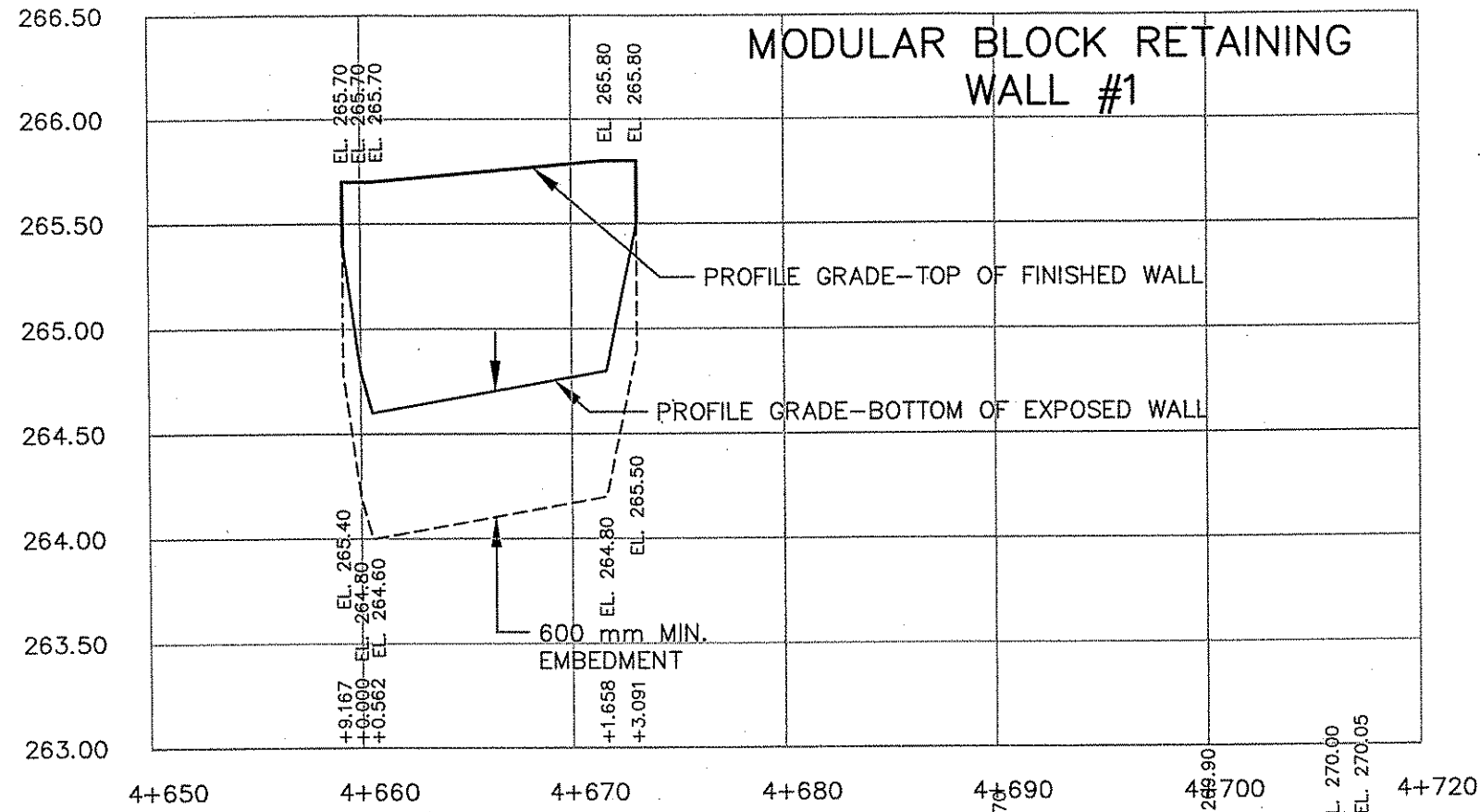
Kevin P. Kielb
 KEVIN P. KIELB
 DATE: 03/29/02 MN LIC. NO. 23211

MAIN STREET/T.H. 242 RECONSTRUCTION
 CONSTRUCTION PLAN DETAILS
 PAVEMENT TRANSITION DETAIL
 CITY PROJECT 02-05

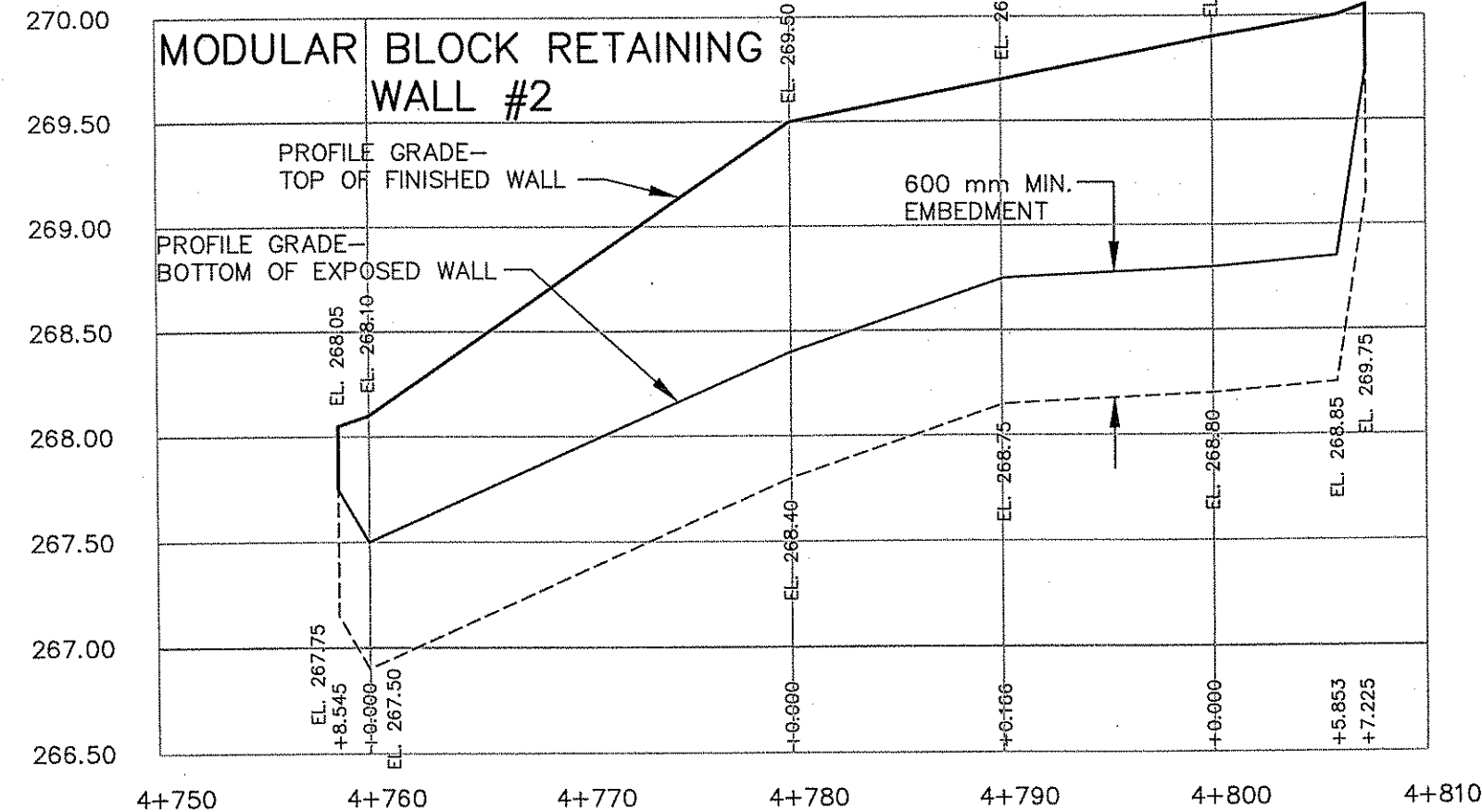
S.P. 0212-41

2 OF 2
 SHEET NO.
 66
 171

PLOT DATE: May 20, 2002 3:09pm DISK FILE NAME: (15.05) R:\33889\33889028\33889B\PLAN_SHT\Engring\LB-retwall02.dwg



RETAINING WALL #1			DD
STATION	DISTANCE (m)	HEIGHT (m)	EXPOSED AREA (m2)
4659.167		0.30	
4660.000	0.83	0.90	0.75
4660.562	0.56	1.10	0.62
4671.658	11.66	1.00	11.66
4673.091	1.43	0.30	0.43
TOTAL			13.46



RETAINING WALL #2			DD
STATION	DISTANCE (m)	HEIGHT (m)	EXPOSED AREA (m2)
4758.545		0.30	
4760.000	1.45	0.60	0.87
4780.000	20.00	1.10	22.00
4790.166	10.17	0.95	9.66
4800.000	9.83	1.10	10.81
4805.853	5.85	1.15	6.73
4807.225	1.37	0.30	0.41
TOTAL			50.48

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	JLL	05/22/02	REVISIONS PER MNDOT C.O. COMMENTS

DESIGN FILE:
33889028

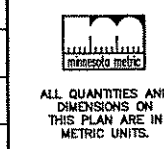
DRAWN BY:
JRL

DESIGN BY:
JUL/KPK

CHKD. BY:
MKM

DWG. NAME:
LB-retwall02

DATE:
MARCH 29, 2002



Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.270.0700 Tel
612.270.1378 Fax

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Mark K. Maves
MARK K. MAVES
DATE: 5/2/02 MN LIC. NO. 20496

MAIN STREET/T.H. 242 RECONSTRUCTION

RETAINING WALL PROFILES

CITY PROJECT 02-05

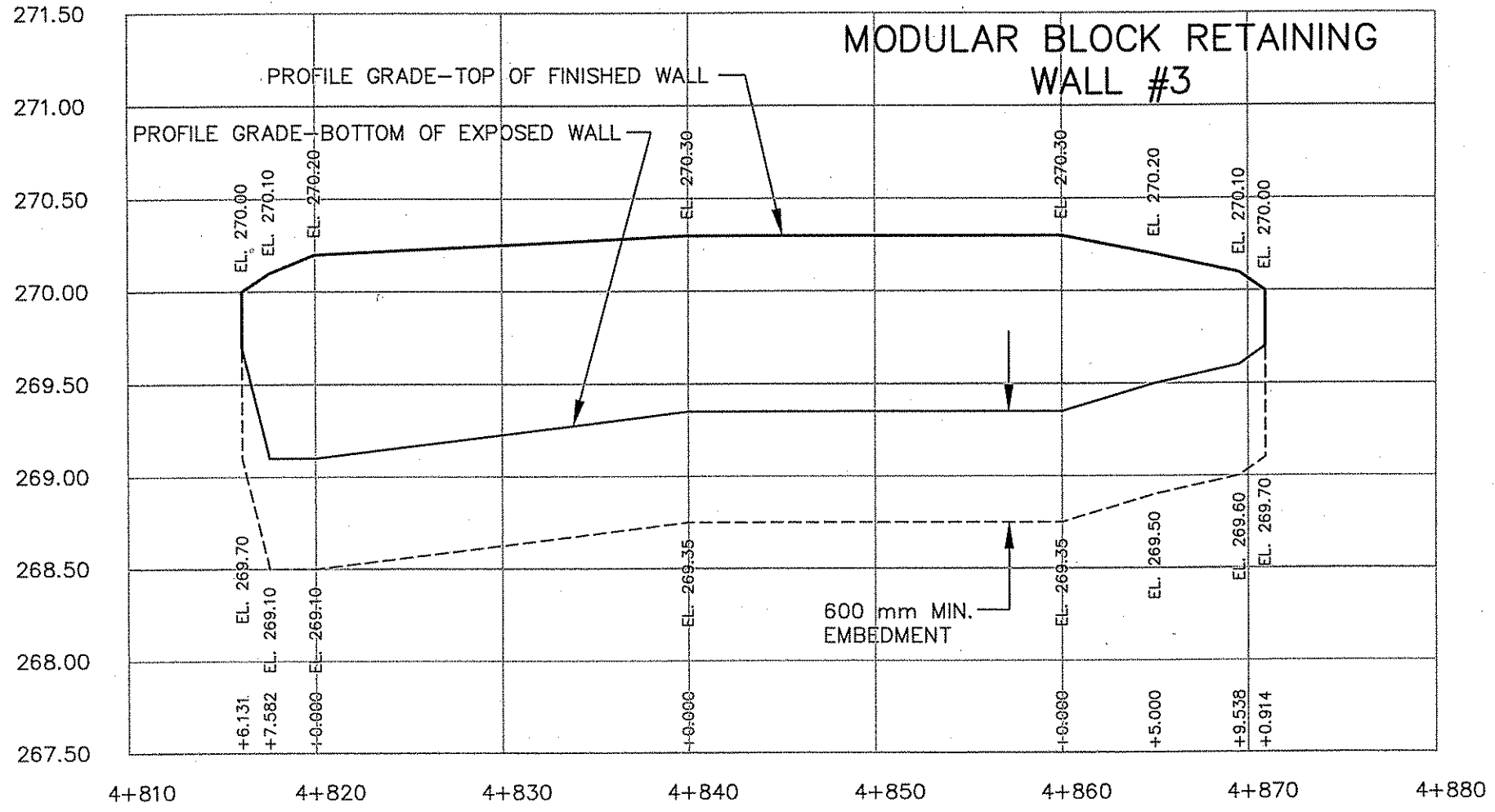
S.P. 0212-41

1 OF 2

SHEET NO.
67

171

PLOT DATE: May 20, 2002 3:10pm DISK FILE NAME: (15.05) R:\33889\33889028\PLAN_SHT\Engring\LB-retwall03.dwg



RETAINING WALL #3			DD
STATION	DISTANCE (m)	HEIGHT (m)	EXPOSED AREA (m ²)
4816.131		0.30	
4817.582	1.45	1.00	1.45
4820.000	2.42	1.10	2.66
4840.000	20.00	0.95	19.00
4860.000	20.00	0.95	19.00
4865.000	5.00	0.70	3.50
4869.538	4.54	0.50	2.27
4870.914	1.38	0.30	0.41
TOTAL			48.29

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	JL	05/22/02	REVISIONS PER MNDOT C.O. COMMENTS

DESIGN FILE: 33889028	
DRAWN BY: JRL	DESIGN BY: JUL/KPK
CHKD. BY: MKM	DWG. NAME: LB-retwall03
DATE: MARCH 29, 2002	



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Thresher Square
700 Third Street South
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Mark K. Maves
MARK K. MAVES
DATE: 5/21/02 MN LIC. NO. 20496

MAIN STREET/T.H. 242 RECONSTRUCTION

RETAINING WALL PROFILES

CITY PROJECT 02-05

S.P. 0212-41

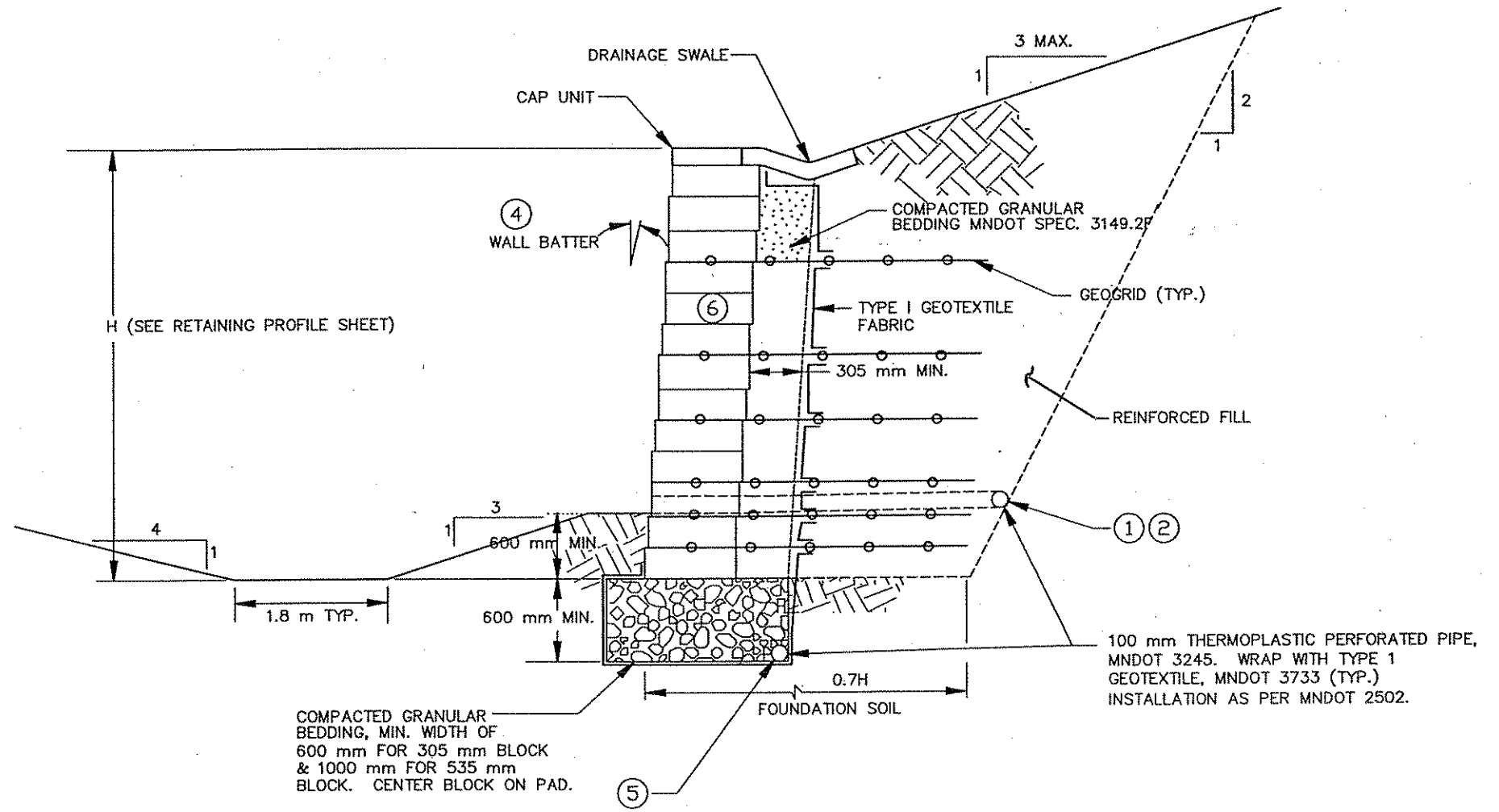
2 OF 2

SHEET NO.
68

171

NOTES:

- ① INSPECT EXCAVATION SLOPES FOR ACTIVE SEEPAGE AND PLACE ADDITIONAL DRAINS WHERE SEEPAGE OCCURS AS DIRECTED BY THE ENGINEER.
- ② PLACE DRAIN AT BOTTOM OF REINFORCED SOIL IF PIPE CAN BE SLOPED TO OUTLET. DO NOT OUTLET ONTO A SIDEWALK OR TRAIL.
- ③ BLOCK & GEOTEXTILE REINFORCEMENT TO BE DESIGNED BY CONTRACTOR AND APPROVED BY ENGINEER.
- ④ WALL BATTER TO BE DESIGNED BY CONTRACTOR AND APPROVED BY ENGINEER.
- ⑤ DRAIN - DELETE IF PIPE AT THIS ELEVATION CANNOT BE SLOPED TO DRAIN, AS APPROVED BY ENGINEER.
- ⑥ BLOCK SHALL BE 40 MPa MINIMUM W/SEALER.



MODULAR BLOCK WALL TYPICAL SECTION ③

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	JL	05/22/02	REVISIONS PER MNDOT C.O. COMMENTS

DESIGN FILE: 33889028	
DRAWN BY: JRL	DESIGN BY: JL/KPK
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DATE: MARCH 29, 2002	

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Mark K. Maves
MARK K. MAVES
DATE: 5/21/02 MN LIC. NO. 20496

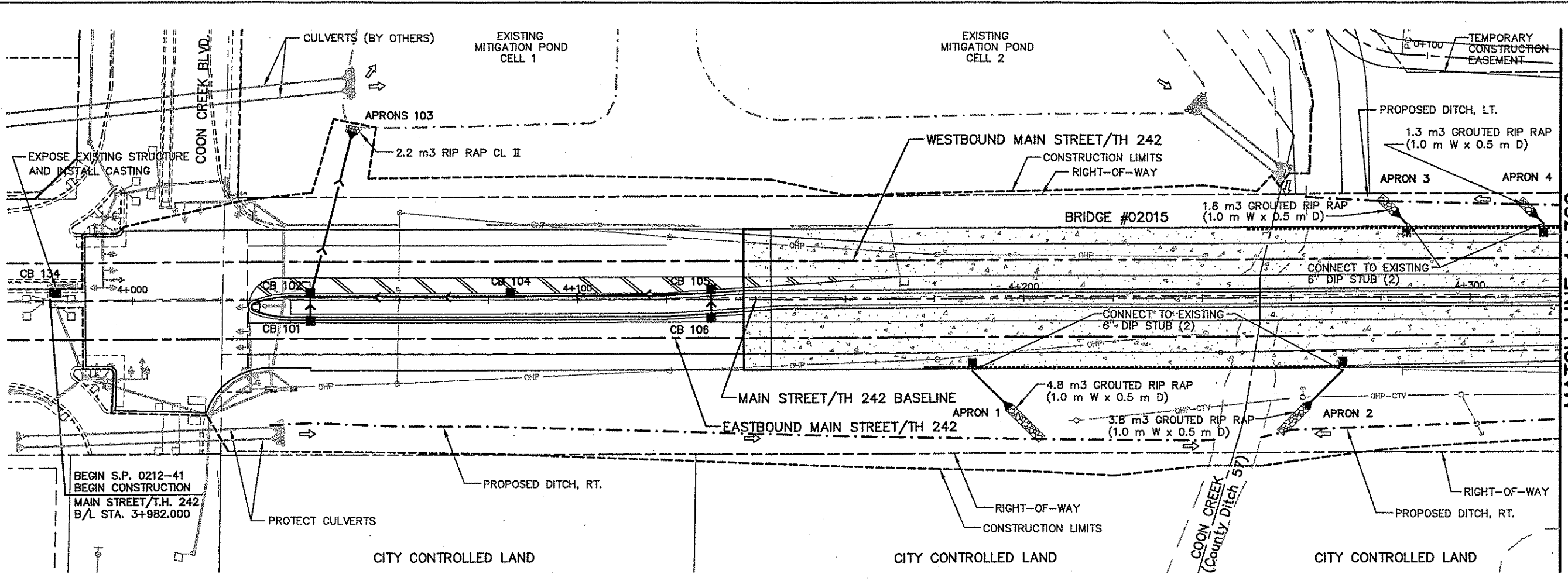
MAIN STREET/T.H. 242 RECONSTRUCTION
RETAINING WALL DETAILS
CITY PROJECT 02-05

S.P. 0212-41

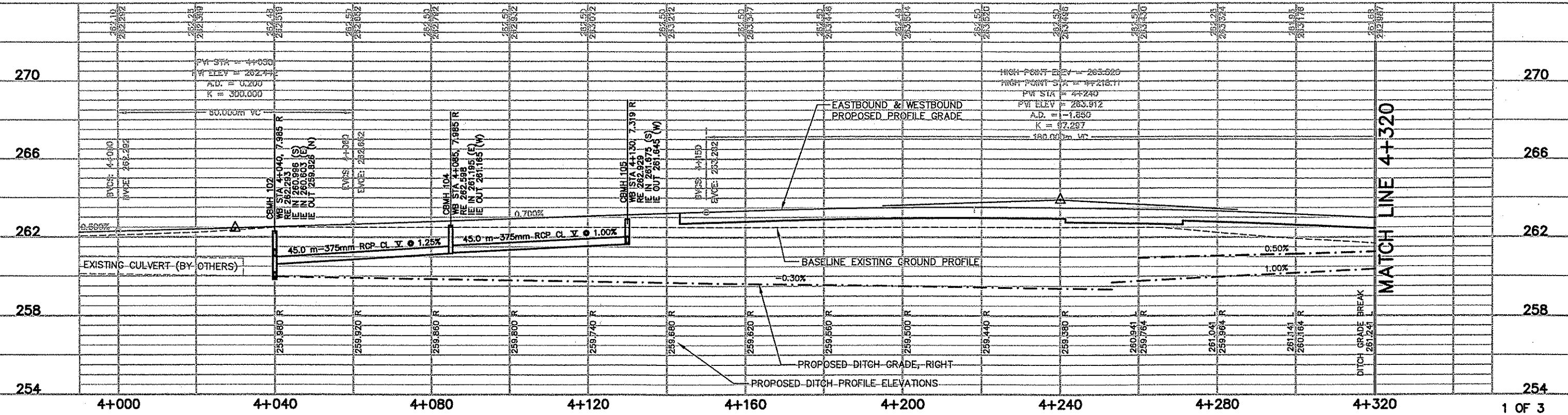
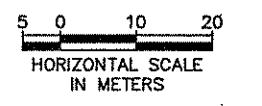
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Plot DATE: May 20, 2002 3:28pm DISK FILE NAME: (15.05) R:\33889\33889028\PLAN_SHT\Engring\LB-drm01.dwg

License
 242E-PLN
 LB2001CL
 LB2001GM
 LB2001UT
 LPAPBOX
 ROF
 LN
 242-ESUM
 242-EUT
 242MHETO



NOTE:
 STORM SEWER STRUCTURE
 OFFSET DISTANCES SHOWN
 ARE BASED UPON WESTBOUND
 AND EASTBOUND ALIGNMENTS
 AND ARE TO THE BACK OF
 THE CURB.



DESIGN FILE:
 33889028 5001
 DRAWN BY: IKR
 DESIGN BY: BJL/JLL
 CHKD. BY: KPK
 DWG. NAME: LB-DRN01
 DATE: MARCH 29, 2002

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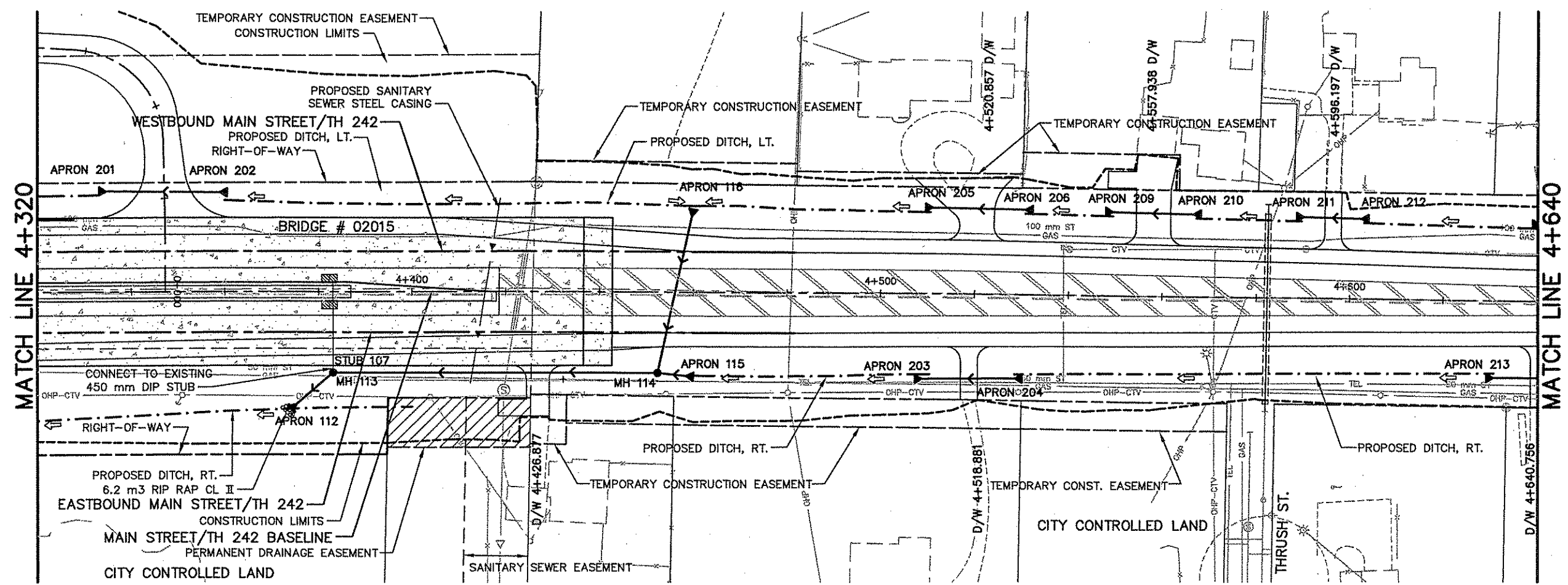
I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Kevin P. Kielb
 KEVIN P. KIELB
 DATE: 03/29/02 MN LIC. NO. 23211

MAIN STREET/T.H. 242 RECONSTRUCTION
 STORM DRAINAGE PLAN AND PROFILE
 STATION 3+982.000 TO STATION 4+320.000
 CITY PROJECT 02-05

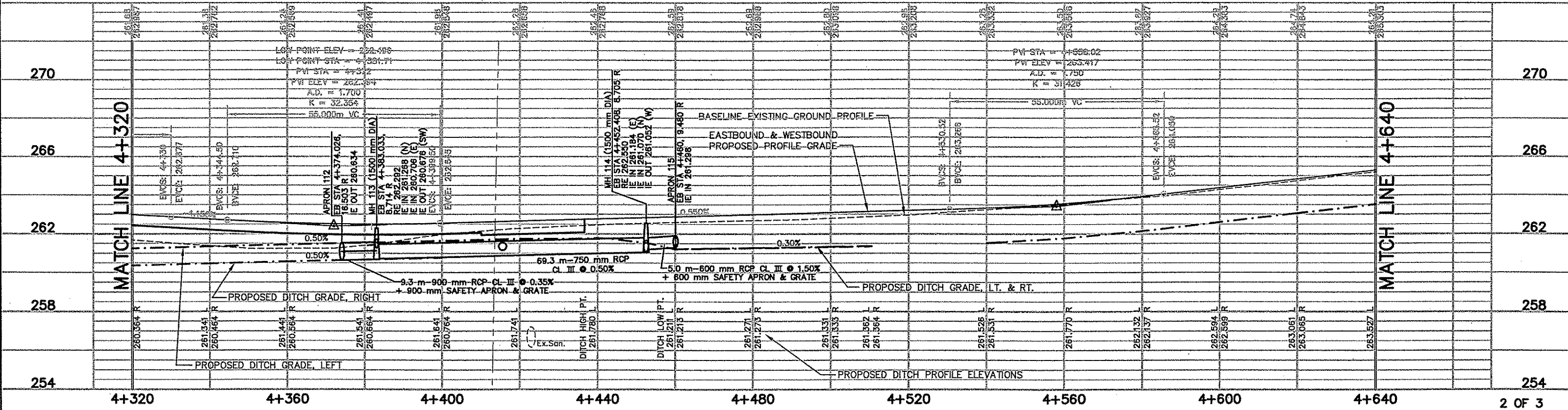
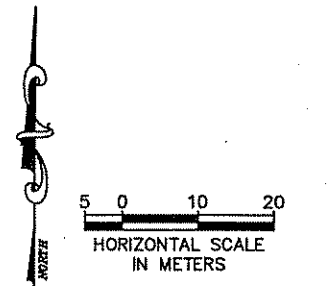
SHEET NO. 70
 171
 S.P. 0212-41

leasement
LB200 ICL
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LB200 IUT
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LB_PROF
LP ALN
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242MHETO

PLOT DATE: May 20, 2002 3:28pm DISK FILE NAME: (15.05) R:\33889\33889028\33889\PLAN_SHT\Engring\LB-drn02.dwg



NOTE:
STORM SEWER STRUCTURE
OFFSET DISTANCES SHOWN
ARE BASED UPON WESTBOUND
AND EASTBOUND ALIGNMENTS
AND ARE TO THE BACK OF
THE CURB.



REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	JL	05/22/02	REVISIONS FOR LAWRENCE DRIVEWAY

DESIGN FILE:
33889028 5001
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DESIGN BY: BJK/JUL
CHKD. BY: KPK
DWG. NAME: LB-DRN02
DATE: MARCH 29, 2002

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METRIC UNITS.



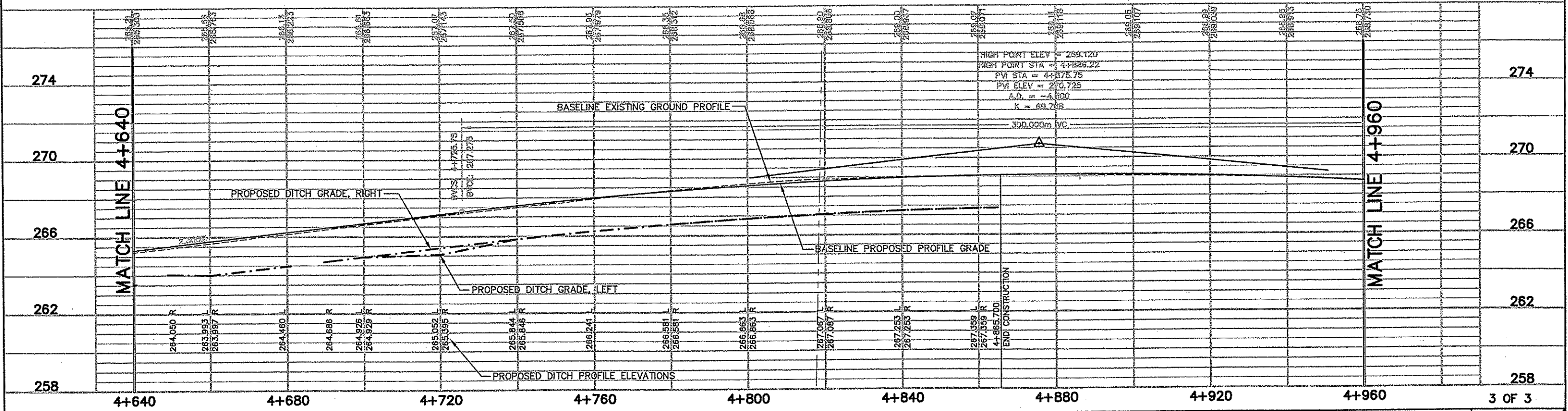
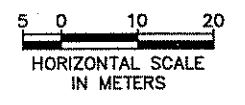
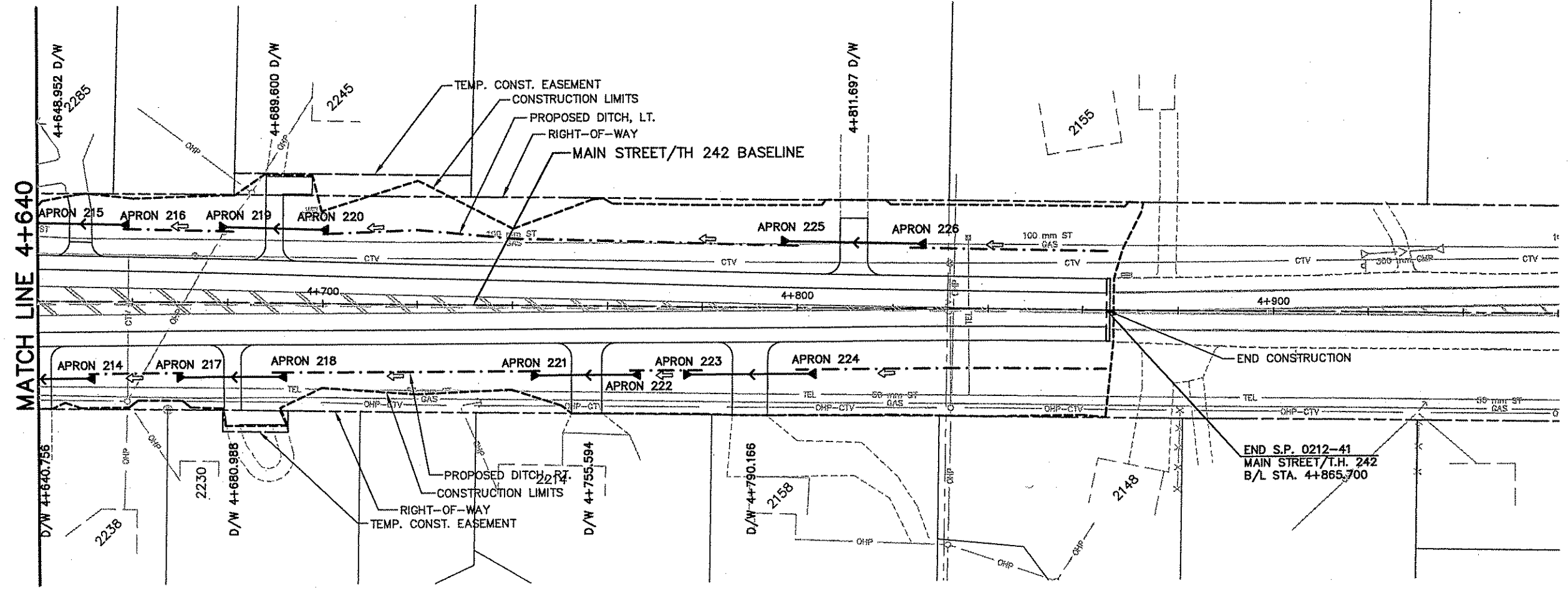
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Kevin P. Kiehl
KEVIN P. KIEHL
DATE: 03/29/02 MN LIC. NO. 23211

MAIN STREET/T.H. 242 RECONSTRUCTION
STORM DRAINAGE PLAN AND PROFILE
STATION 4+320.000 TO STATION 4+640.000
CITY PROJECT 02-05

SHEET NO. 71
S.P. 0212-41
171

easement
 LB200 I CL
 LB200 I GM
 LB200 I UT
 LBSAPBOX
 LB_PROF
 LP ALN
 ESUM
 EUT
 242MHETO

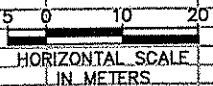
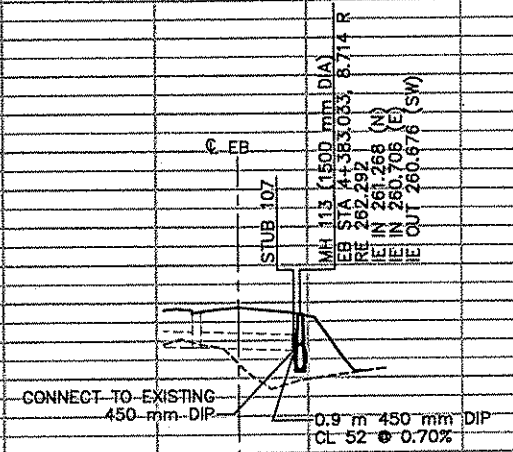
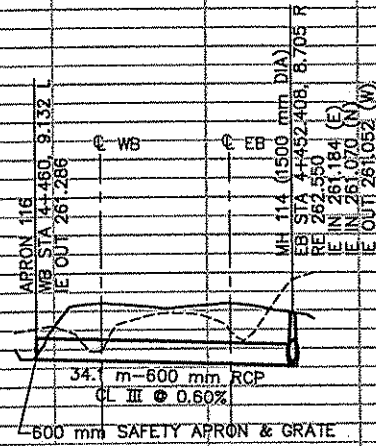
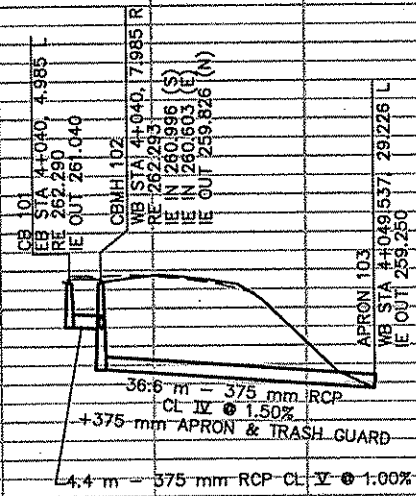
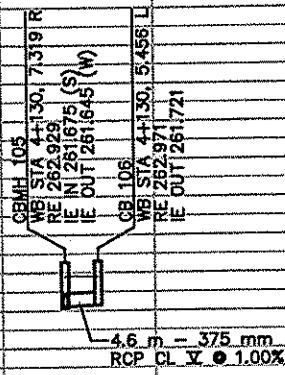
NOTE:
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PLOT DATE: May 20, 2002 3:24pm DISK FILE NAME: (15.05) R:\33889\33889028\33889\PLAN_SHT\Enging\LB-dm03.dwg

REV. NO. 1 BY JLL DATE 05/22/02 REVISIONS DESCRIPTION REVISIONS PER MNDOT C.O. COMMENTS	DESIGN FILE: 33889028 5001 DRAWN BY: IKR DESIGN BY: BJK/JLL CHKD. BY: KPK DWG. NAME: LB-DRN03 DATE: MARCH 29, 2002	 URS BRW, Inc. ALL QUANTITIES AND DIMENSIONS ON THIS PLAN ARE IN METRIC UNITS.	I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. KEVIN P. KIEL DATE: 03/29/02 MN LIC. NO. 23211	MAIN STREET/T.H. 242 RECONSTRUCTION STORM DRAINAGE PLAN AND PROFILE STATION 4+640.000 TO STATION 4+865.700 CITY PROJECT 02-05	SHEET NO. 72 171
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PLOT DATE: May 20, 2002 3:33pm DISK FILE NAME: (15.05) R:\33889\33889028\33889B\PLAN_SHT\Engring\LB-drX01.dwg



1 OF 1

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	JL	05/22/02	REVISIONS PER MNDOT C.O. COMMENTS

DESIGN FILE:
33889028 5001
DRAWN BY:
IKR
DESIGN BY:
JL/BJK
CHKD. BY:
PBD/KPK
DWG. NAME:
LB-DRX01
DATE:
MARCH 29, 2002



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Kevin P. Kiehl
KEVIN P. KIEHL
DATE: 03/28/02 MN LIC. NO. 23211

MAIN STREET/T.H. 242 RECONSTRUCTION
STORM SEWER LATERAL PROFILES
CITY PROJECT 08-05

S.P. 0212-41

SHEET NO.
73
171

DRAINAGE TABULATION

NOTES	STRUCTURE											DRAINS TO			FURNISH & INSTALL										L
	STRUCT. NO.	STATION [1]	OFFSET [1]	STRUCT. DESIGN 4020	RIM ELEV.	LOW STRUCT. ELEV. m	2506		STRUCT. NO.	INVERT IN m	SLOPE %	DESIGN 3006													
							PAY HEIGHT m	F& CAST ASSY [2,3] EACH				2502	2503	2503	2503	2503	2503	2503	2504	RCP APRON [5] EACH	CONNECT TO EXISTING STORM SEWER [11] EACH	2511 RIPRAP CL II m3	2511 GROUDED RIP RAP m3	2511 FILTER FABRIC TYPE IV m2	
												PRECAST CONCRETE HEADWALL [4,5] EACH	150 mm DIP CL 52 m	450 mm DIP CL 52 m	375 mm RCP CL V m	600 mm RCP CL III m	750 mm RCP CL III m	900 mm RCP CL III m	150 mm BEND 45 DEG. [6] EACH						
MAIN STREET / TH 242																									
	CB 134	3+983.000	2.885 LT	--	261.884	--	--	B-1	--	--	--														
	CB 101	EB 4+040.000	4.985 LT	1200	262.290	261.040	1.250	B-1	CBMH 102	260.996	1.00														
	CB 106	EB 4+130.000	5.456 LT	1200	262.971	261.721	1.250	B-1	CBMH 105	261.675	1.00														
	CBMH 105	WB 4+130.000	7.319 RT	1200	262.929	261.645	1.284	B-1	CBMH 104	261.195	1.00														
	CBMH 104	WB 4+085.000	7.985 RT	1200	262.598	261.165	1.433	B-1	CBMH 102	260.603	1.25														
	CBMH 102	WB 4+040.000	7.985 RT	1200	262.293	259.826	2.467	B-1	APRON 103	259.250	1.50														
[12]	APRON 103	WB 4+049.537	29.226 LT	--	--	259.250	--	--	--	--	--							375		2.2	8.1				
	STUB 1	EB 4+188.490	7.800 RT	--	--	262.599	--	--	APRON 1	261.794	7.00														
	APRON 1	EB 4+196.622	15.932 RT	--	--	261.794	--	--	--	--	--	1.0		10.5							1.0				
	STUB 2	EB 4+271.435	7.800 RT	--	--	262.497	--	--	APRON 2	261.685	7.00														
	APRON 2	EB 4+263.231	16.002 RT	--	--	261.685	--	--	--	--	--	1.0		10.6							1.0				
	STUB 3	WB 4+285.833	7.800 LT	--	--	262.409	--	--	APRON 3	262.150	7.00														
	APRON 3	WB 4+283.217	10.416 LT	--	--	262.150	--	--	--	--	--	1.0		2.7							1.0				
	STUB 4	WB 4+316.433	7.800 LT	--	--	262.149	--	--	APRON 4	261.904	7.00														
	APRON 4	WB 4+313.958	12.001 LT	--	--	261.904	--	--	--	--	--	1.0		2.5							1.0				
	STUB 107	EB 4+383.033	7.800 RT	--	--	261.274	--	--	MH 113	261.268	0.70										1.0				
[8]	APRON 116	WB 4+460.000	9.132 LT	--	--	261.286	--	--	MH 114	261.070	0.60										600				
[7]	APRON 115	EB 4+460.000	9.480 RT	--	--	261.298	--	--	MH 114	261.184	1.50										600				
	MH 114	EB 4+452.408	8.705 RT	1500	262.550	261.052	1.498	A-4	MH 113	260.706	0.50										69.3				
	MH 113	EB 4+383.033	8.714 RT	1500	262.292	260.676	1.616	A-4	APRON 112	260.634	0.35										9.3				
[9]	APRON 112	EB 4+374.026	16.503 RT	--	--	260.634	--	--	--	--	--										900				
TOTALS							8.0					4.0		26.3		0.9		135.6		39.1		69.3			
																					9.3	4.0			
																					4.0	5.0			
																					8.4	11.7			
																					54.6				

- NOTE:
- [1] LOCATIONS AND OFFSETS ARE TO BACK OF CURB FOR ALL CATCH BASINS AND TO CENTER OF STRUCTURE FOR ALL MANHOLES
 - [2] B-1 REFERS TO MNDOT STANDARD PLATES M4126 FOR RING OR FRAME CASTING NO. 801 AND M4149 FOR GRATE CASTING NO. 810
 - [3] A-4 REFERS TO MNDOT STANDARD PLATES M4101 FOR RING CASTING NO. 700-4 AND M4110 FOR COVER CASTING NO. 716
 - [4] FURNISH AND INSTALL PRECAST CONCRETE HEADWALL FOR SUBSURFACE DRAINS (M3131)
 - [5] FURNISH AND INSTALL GUIDE POST TYPE B AT EACH APRON
 - [6] RESTRAINED JOINT
 - [7] FURNISH AND INSTALL SAFETY APRON (M3022 - DESIGN OPTION 1) WITH SAFETY GRATE - REFER TO SAFETY GRATES FOR SAFETY APRONS DETAIL ON STORM DRAINAGE DETAILS PLAN SHEET
 - [8] FURNISH AND INSTALL APRON (M3100) WITH SAFETY GRATE - REFER TO SAFETY GRATES FOR REINFORCED CONCRETE PIPES DETAIL ON STORM DRAINAGE DETAILS PLAN SHEET
 - [9] FURNISH AND INSTALL SAFETY APRON (M3022 - 1:4 SLOPE OPTION) WITH SAFETY GRATE - REFER TO SAFETY GRATE DETAILS FOR SAFETY APRONS ON STORM DRAINAGE DETAILS PLAN SHEET
 - [10] TIE THE LAST 4 JOINTS ADJACENT TO STORM SEWER APRONS (INCIDENTAL).
 - [11] FURNISH AND INSTALL MECHANICAL COUPLER (INCIDENTAL)
 - [12] FURNISH AND INSTALL APRON (M3100) WITH SAFETY GRATE

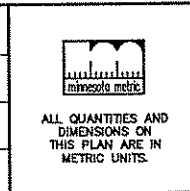
FURNISH AND INSTALL CASTINGS AND ASSEMBLIES		Q
	2506 CASTING ASSEMBLY EACH	NOTES
SP 0212-41		
MAIN STREET/TH 242		
	2 (A-4)	[13]
	6 (B-1)	[14]
PROJECT TOTAL =	8	

- NOTES:
- [13] A-4 REFERS TO MNDOT STANDARD PLATES M4101 FOR RING CASTING NO. 700-4 AND M4110 FOR COVER CASTING NO. 716
 - [14] B-1 REFERS TO MNDOT STANDARD PLATES M4126 FOR RING OR FRAME CASTING NO. 801, M4149 FOR GRATE CASTING NO. 810, AND M4161 FOR CURB BOX NO. 821-B (WHERE APPLICABLE)

PLOT DATE: May 20, 2002 4:59pm DISK FILE NAME: (15.05) R:\33889\33889028\33889B\PLAN_SHT\TABS\LB-tab05.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	JL	05/22/02	REVISIONS PER MNDOT C.O. COMMENTS

DESIGN FILE: 33889028 5001
DRAWN BY: IKR
DESIGN BY: BJK/JJL
CHKD. BY: KPK
DWG. NAME: LB-tab05
DATE: MARCH 29, 2002



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Kevin P. Kiehl
KEVIN P. KIEHL
DATE: 03/29/02 MN LIC. NO. 23211

MAIN STREET/T.H. 242 RECONSTRUCTION

STORM DRAINAGE TABULATIONS

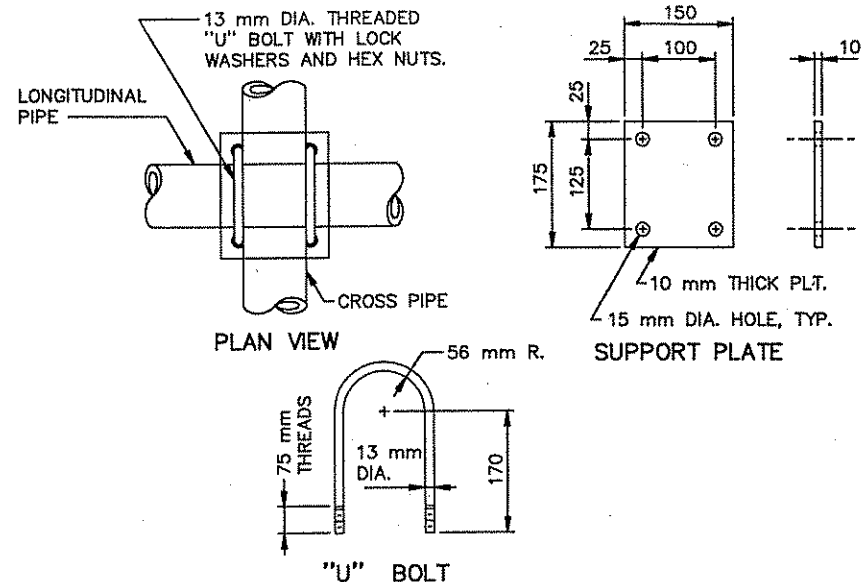
CITY PROJECT 02-05

S.P. 0212-41

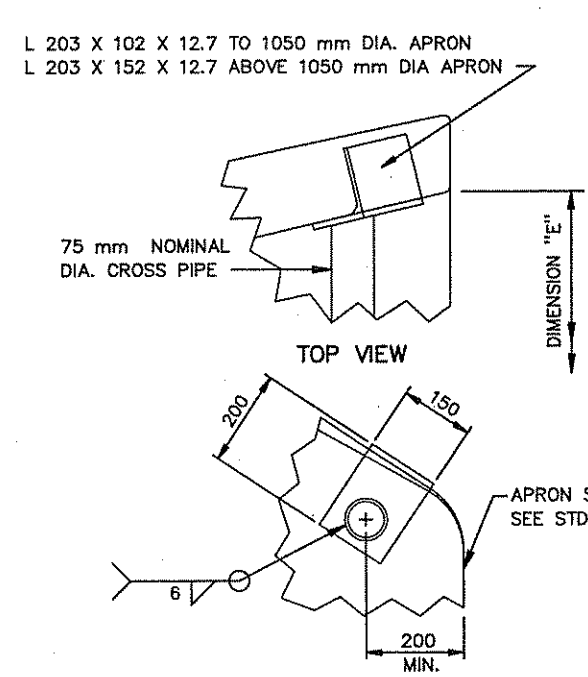
1 OF 1

SHEET NO.
74

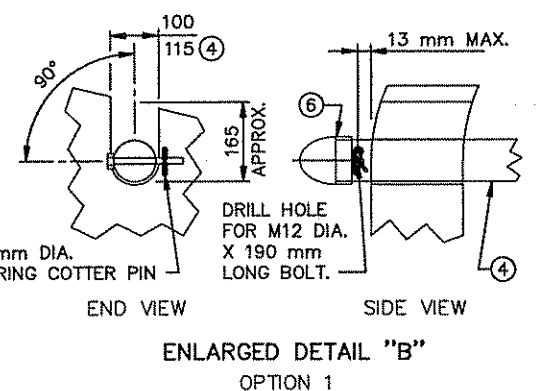
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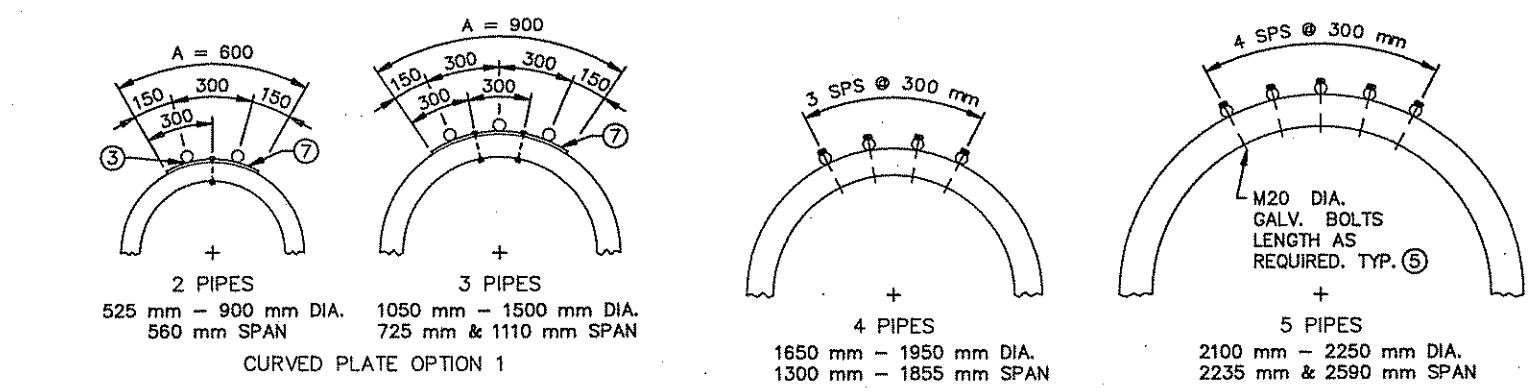
PIPE CLAMP DETAILS (GALVANIZE AS PER SPEC. 3392)



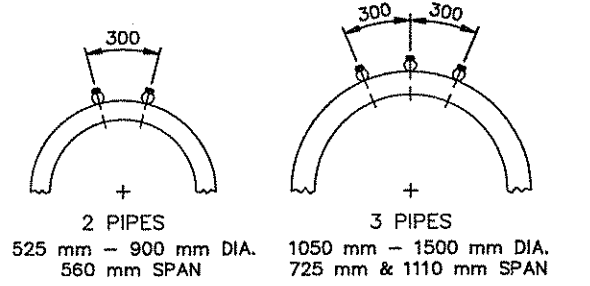
CROSS PIPE FOR FLARED APRONS OPTION 2



ENLARGED DETAIL "B" OPTION 1



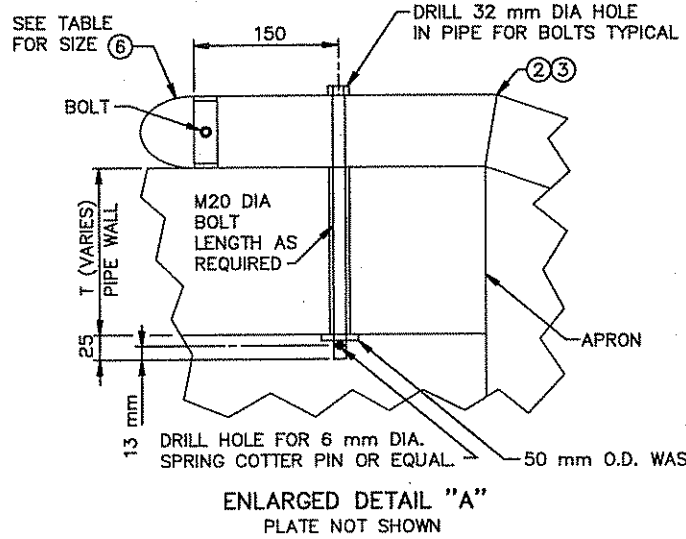
CURVED PLATE OPTION 1



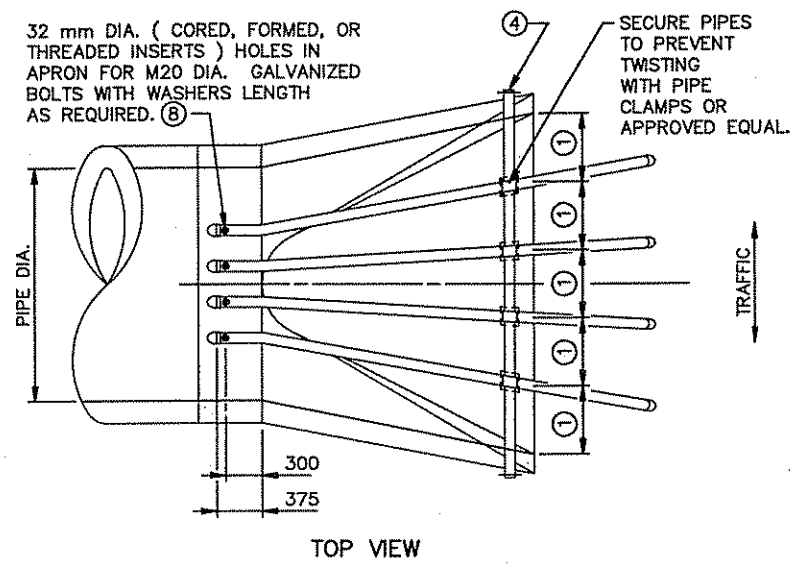
END VIEW OF TOP OF PIPE (ROUND PIPE SHOWN) BOLT OPTION 2

LONGITUDINAL PIPE TABLE		
RD. DIA.(mm)	SPAN (mm)	PIPE SIZES
	560	50 mm DIA. - 5.4 kg/m
525		50 mm DIA. - 5.4 kg/m
600-1200	725-1485	65 mm DIA. - 8.6 kg/m
1350-2250	1650-2920	80 mm DIA. - 11.3 kg/m

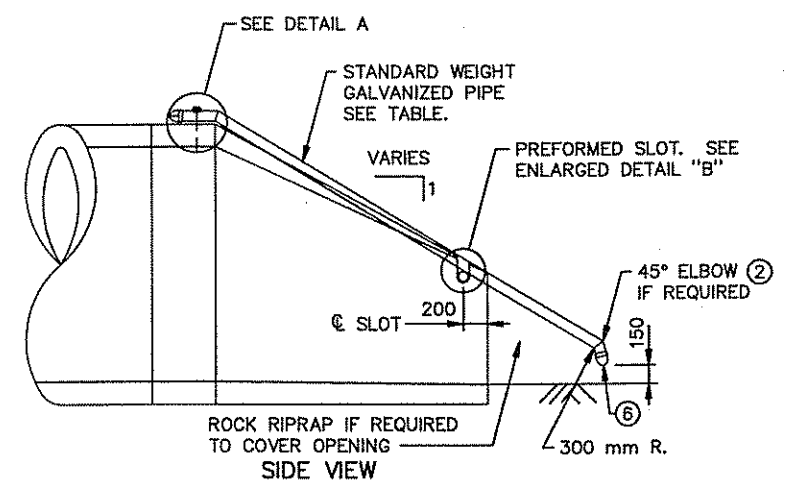
- NOTES:
- SEE STD. PLATE M3100 AND M3110 FOR APRON DETAILS.
 - IF A GRATE IS USED ON AN OUTLET OF A STRUCTURE, A SIMILAR SAFETY GRATE SHOULD BE PLACED ON THE INLET TO PREVENT PLUGGING OF THE PIPE.
 - ALL PIPE IS SCHEDULE 40 GALVANIZED PIPE AS PER SPEC. 3362.
 - GALVANIZE ALL HARDWARE AFTER FABRICATION AS PER SPEC. 2471.3L.
 - GALVANIZE FASTENERS AS PER SPEC. 3392.
 - EQUAL SPACING OF LONGITUDINAL PIPE, NOT TO EXCEED 600 mm.
 - BEND PIPE OR APPROVED SPLICES MAY BE USED.
 - WELDING AS PER SPEC. 2471 MAY BE USED AT ALL PIPE CONNECTIONS.
 - CROSS PIPE: 80 mm NOMINAL DIA. X 11.3 kg/m EXCEPT, 90 mm NOMINAL DIA. X 13.6 kg/m PIPE FOR 2590 mm SPAN.
 - OTHER METHODS OF SUPPORTING GRATES WHICH ARE EQUAL IN STRENGTH MAY BE USED IF APPROVED BY THE ENGINEER IN FIELD.
 - CAP ENDS OF ALL PIPE IN FIELD WITH PRESSED STEEL GALVANIZED PIPE CAPS. SECURE WITH SELF TAPPING BOLT.
 - CURVED PLATE CAN BE USED ON ANY SIZE APRONS. 10 mm THICK X 300 mm WIDE X LENGTH REQUIRED GALVANIZED STEEL PLATE. FORM OR CORED HOLES IN APRON FOR ATTACHING CURVED PLATE WITH 20 mm DIA. BOLTS AND WASHERS. SEE DETAIL "A" FOR BOLT DETAILS.
 - ELIMINATING COMPOUND BEND ON THE OUTSIDE PIPES IS A OPTION, NEW HOLE LOCATION IS FABRICATORS RESPONSIBILITY.



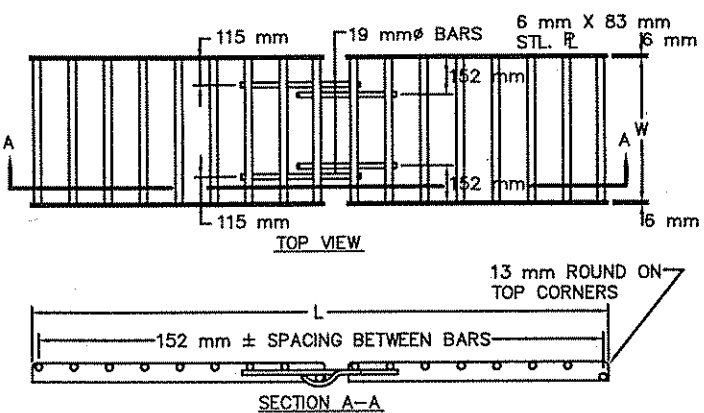
ENLARGED DETAIL "A" PLATE NOT SHOWN



TOP VIEW



SAFETY GRATES FOR REINFORCED CONCRETE PIPES



SAFETY GRATES FOR SAFETY APRONS

APRON SIZE	SLOPE	LENGTH OF GRATE	WIDTH OF GRATE	NUMBER OF BARS	CROSS BAR DIAMETER	PIECES PER GRATE	WEIGHT kg
600 mm	1:4	2.18 m	0.79 m	15	32 mm	2	100
750 mm	1:4	2.18 m	0.97 m	15	32 mm	2	100
300 mm	1:6	1.60 m	0.48 m	11	32 mm	2	45
375 mm	1:6	2.49 m	0.64 m	17	32 mm	2	90
450 mm	1:6	2.49 m	0.64 m	17	32 mm	2	90
600 mm	1:6	3.40 m	0.79 m	23	32 mm	2	145

Notes:
Paint grates with two coats of rust resistant paint after fabrication. Paint shall be a high zinc dust content paint conforming to the requirements of Federal Spec. TT-P-641, Type 3.
Structural steel as per MnDOT Spec. 3306 shall be used. Welded construction.

PLOT DATE: May 20, 2002 1:52pm DISK FILE NAME: (15.05) R:\33889\33889028\PLAN_SHT\Engring\LB-dm04.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	JL	05/22/02	REVISIONS PER MnDOT C.O. COMMENTS

DESIGN FILE: 33889028 5001	
DRAWN BY: PMJ	DESIGN BY: JUL
CHKD. BY: KPK	DWG. NAME: LB-DRN04
DATE: MARCH 29, 2002	

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700 Third Street South
Minneapolis, MN 55416
612.370.0700 Tel
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Kevin P. Kiehl
KEVIN P. KIEHL
DATE: 03/29/02 MN LIC. NO. 23211

MAIN STREET/T.H. 242 RECONSTRUCTION

STORM DRAINAGE DETAILS

CITY PROJECT 02-05

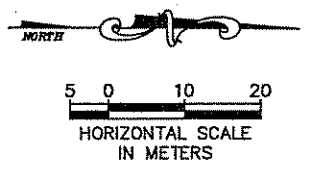
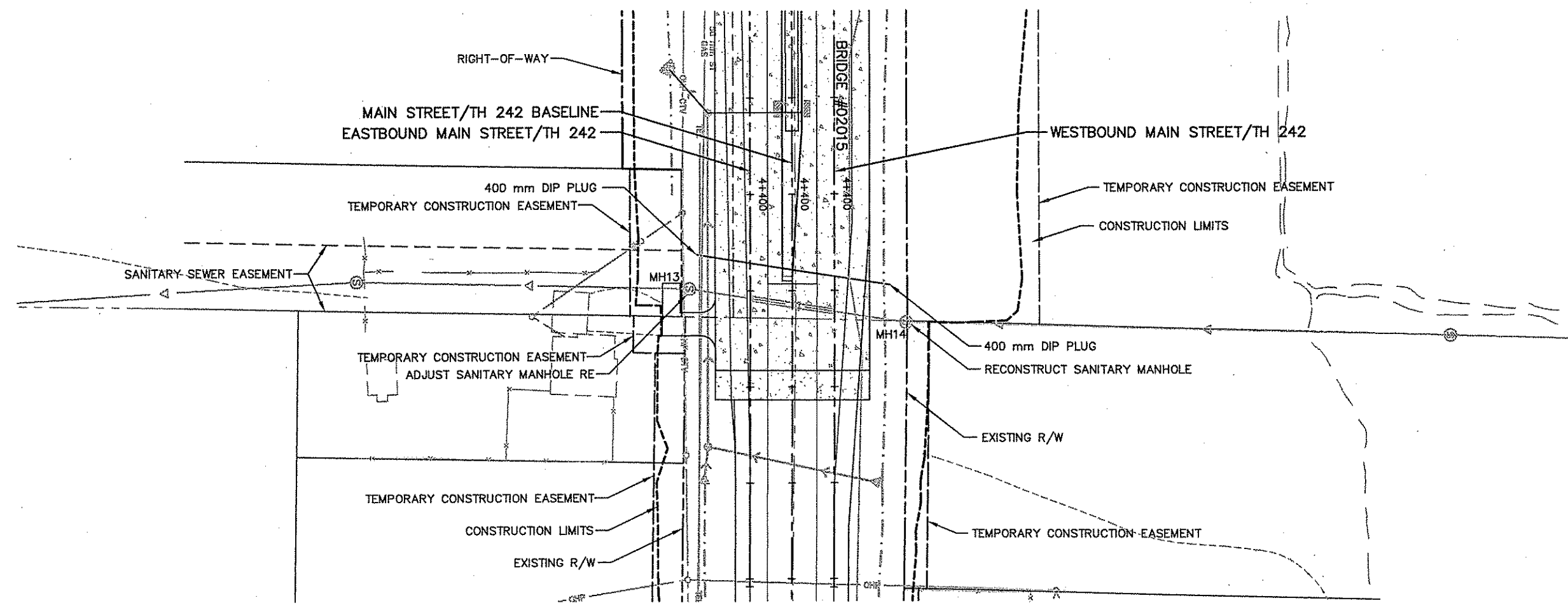
SHEET NO.
75

S.P. 0212-41

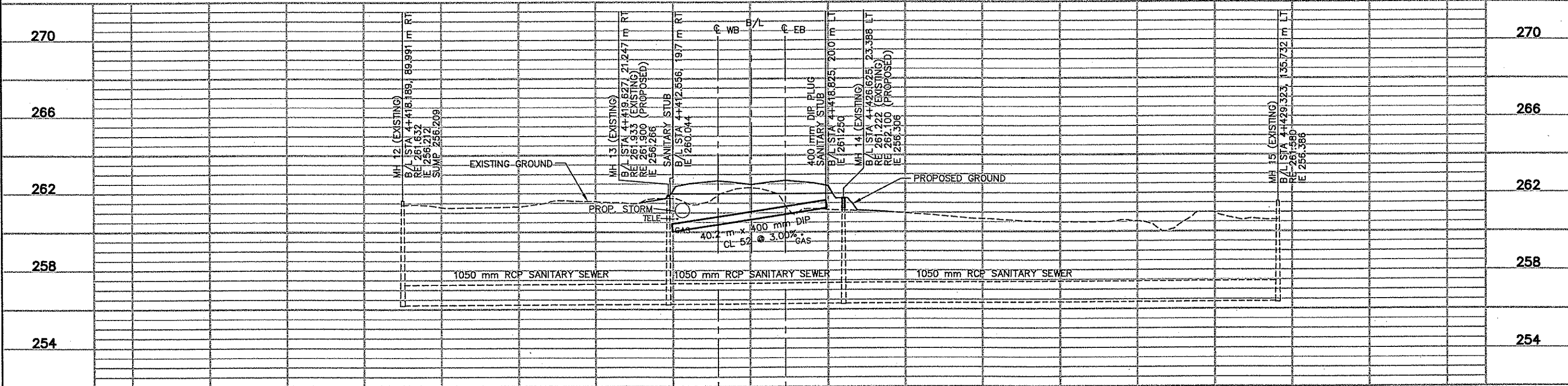
171

1 OF 1

easement
 LB200 | CL
 LB200 | GM
 LB200 | UT
 LBSAPBOX
 LB_PROF
 LP | LN
 SUM
 EUT
 242MHETO




PLOT DATE: May 20, 2002 4:09pm DISK FILE NAME: (15.05) R:\33889\33889028\PLAN_SHT\Engring\LB-SAN01.dwg

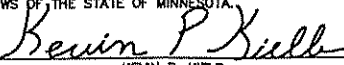


REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	JUL	05/22/02	REVISIONS PER MNDOT C.O. COMMENTS

DESIGN FILE:
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 DRAWN BY: IKR
 DESIGN BY: JUL/KPK
 CHKED. BY: KPK
 DWG. NAME: LB-SAN01
 DATE: MARCH 29, 2002


 ALL QUANTITIES AND DIMENSIONS ON THIS PLAN ARE IN METRIC UNITS.

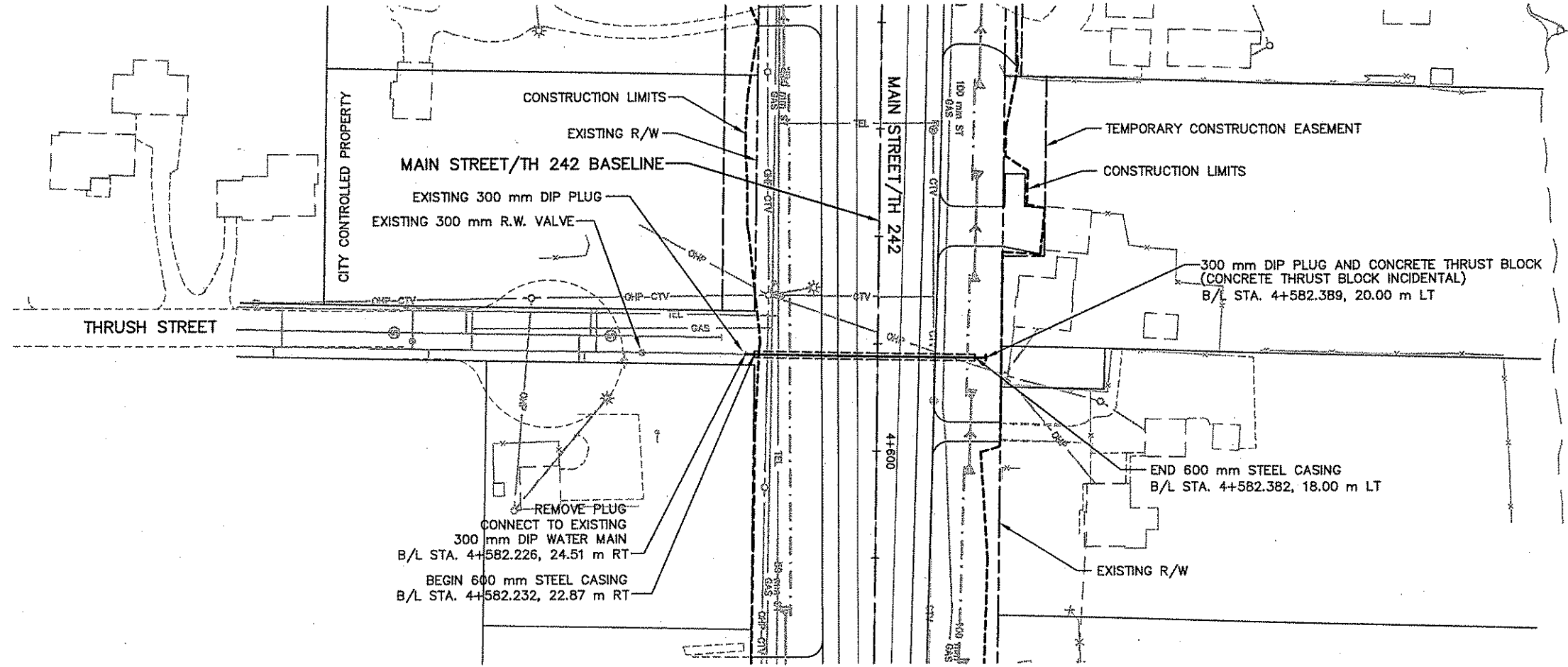

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 700 Third Street South
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 KEVIN P. KIEHL
 DATE: 03/29/02 MN LIC. NO. 23211

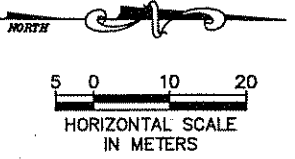
MAIN STREET/T.H. 242 RECONSTRUCTION
 SANITARY SEWER PLAN AND PROFILE
 T.H. 242 B/L STATION 4+415.670, LT. & RT.
 CITY PROJECT 02-05

1 OF 1
 SHEET NO. 76
 S.P. 0212-41
 171

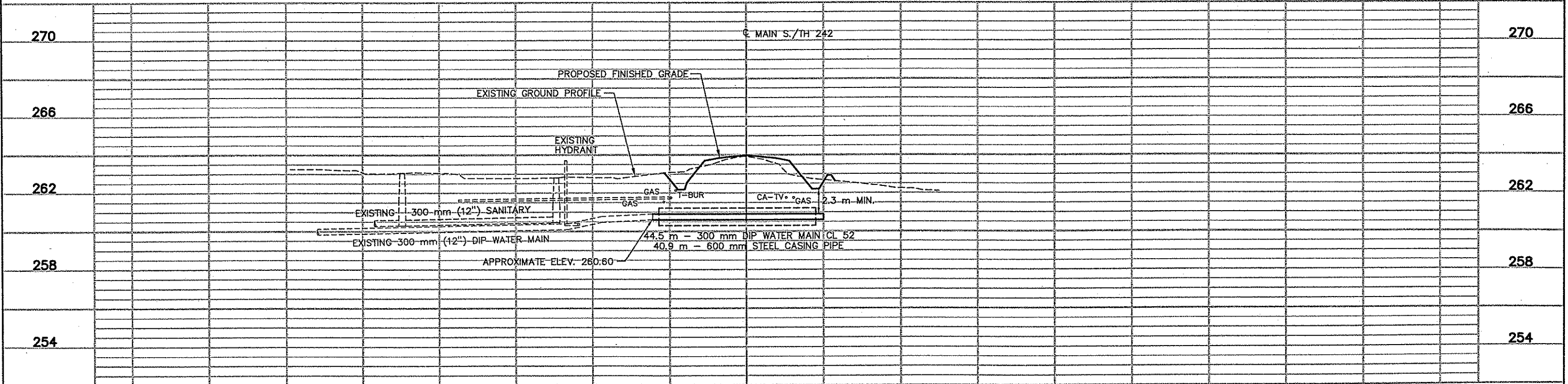
easement
 LB2001CL
 LB2001GM
 LB2001UT
 LBSAPBOX
 LB_PROF
 ALN
 ESUM
 EUT
 242MHETO



- NOTES:**
- 1.) TRENCH BOX OR SHEETING WILL BE REQUIRED TO CONNECT TO EXISTING WATER MAIN AND TO INSTALL PLUG WITHIN THE EXISTING RIGHT OF WAY.
 - 2.) CONTRACTOR TO INSTALL 1" TAP, CORP STOP, CURB BOX, AND REQUIRED COPPER PIPE WITHIN ONE METER OF PIPE END FOR TESTING AND DISINFECTING THE WATER MAIN. THIS SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT AND SHALL REMAIN INPLACE AFTER CONSTRUCTION.




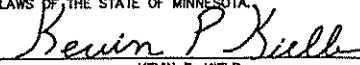
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REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	JUL	05/22/02	REVISIONS PER MNDOT C.O. COMMENTS

DESIGN FILE:
 33889028 5001
 DRAWN BY: IKR
 DESIGN BY: JUL/KPK
 CHKD. BY: KPK
 DWG. NAME: LB-WMPP01
 DATE: MARCH 29, 2002


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 KEVIN P. KIEHL
 DATE: 03/29/02 MN LIC. NO. 23211

MAIN STREET/T.H. 242 RECONSTRUCTION
 WATER MAIN PLAN AND PROFILE
 T.H. 242 / THRUSH STREET
 CITY PROJECT 02-05

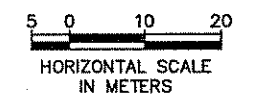
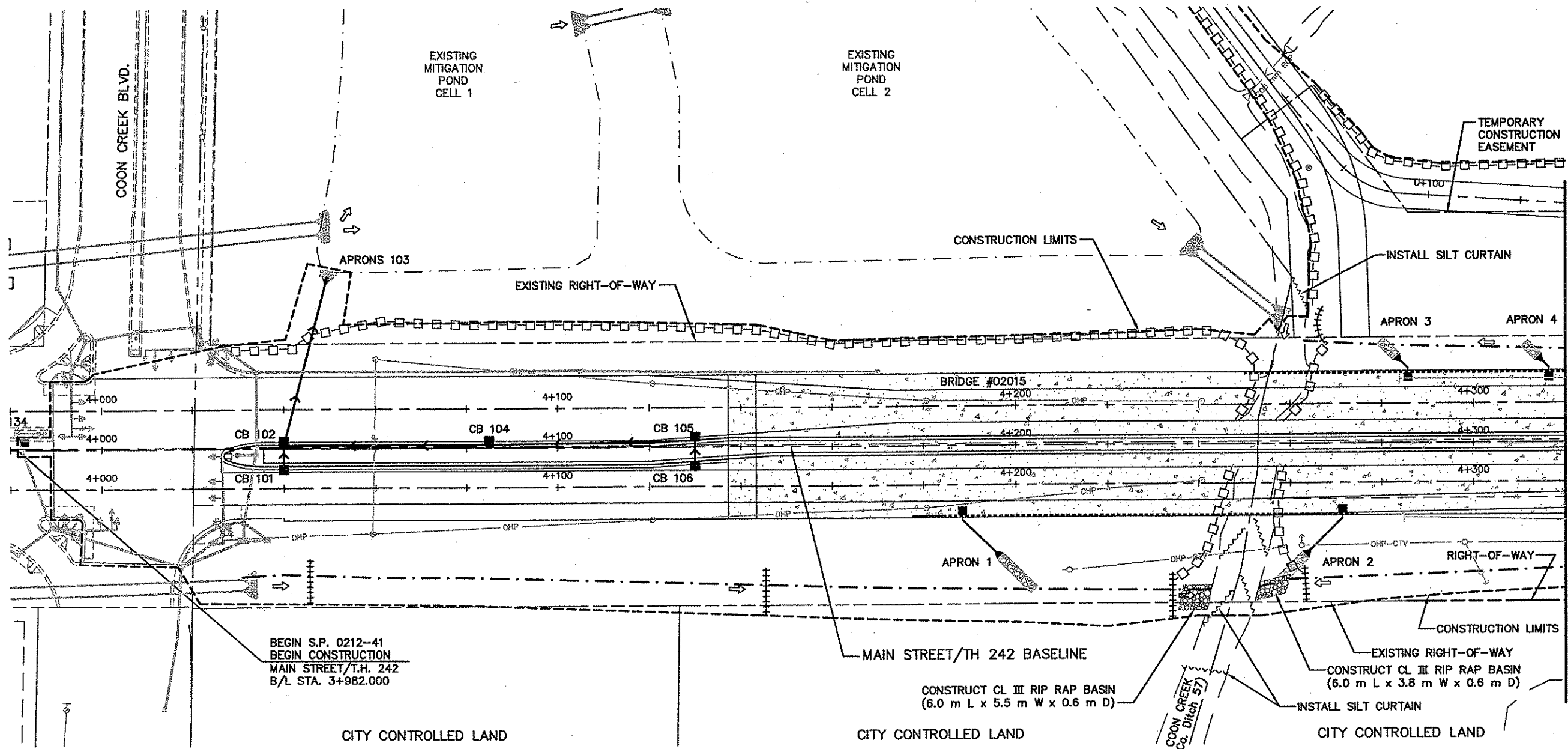
1 OF 1
 SHEET NO. 77
 S.P. 0212-41
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_easement
 base_mod
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 Lb2001ec
 242-EUT
 LB2001UT
 LB2001GM
 PLN
 L/BOX
 LB_ALN
 242-ESUM
 242MHETO

GENERAL NOTES:

1. THE CONTRACTOR SHALL PROVIDE APPROPRIATE EROSION CONTROL DEVICES FOR STOCKPILE AREAS.
2. SILT FENCE SHALL FOLLOW, AS CLOSE AS POSSIBLE, A SINGLE CONTOUR LINE.
3. IF SEDIMENT DEPOSITS IN WATERS OF THE STATE, THE MATERIAL MUST BE REMOVED WITHIN SEVEN DAYS. SEE NPDES PERMIT SECTION 1EC.

REFER TO EROSION CONTROL PLAN SHEET 4 OF 5



LEGEND

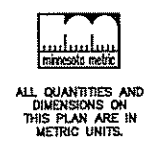
- CONSTRUCTION LIMITS
- STRUCTURE NUMBER
- CATCH BASIN
- APRON
- INPLACE APRON
- SEWER (STORM)
- CULVERT
- SILT FENCE (MACHINE-SLICED)
- SILT CURTAIN
- BIOROLL DITCH CHECKS
- RIPRAP CLASS III / ROCK CONSTRUCTION ENTRANCE
- SURFACE FLOW DIRECTION

LAND FEATURE CHANGES (IN HECTARES)	BEFORE CONSTRUCTION	AFTER CONSTRUCTION
TOTAL PROJECT AREA:	5.75 ha	5.75 ha
TOTAL IMPERVIOUS SURFACE AREA OF PROJECT:	1.94 ha	2.75 ha
TOTAL PERVIOUS AREA OF PROJECT:	3.81 ha	3.00 ha
TOTAL ESTIMATED AREA OF ULTIMATE DEVELOPMENT:	5.68 ha	5.68 ha
TOTAL ESTIMATED IMPERVIOUS SURFACE AREA OF ULTIMATE DELVELOPMENT:	2.43 ha	3.27 ha
TOTAL ESTIMATED PERVIOUS AREA OF ULTIMATE DEVELOPMENT:	3.25 ha	2.41 ha

PLOT DATE: May 20, 2002 11:08am DISK FILE NAME: (15.05) R:\33889\33889028\33889B\PLAN_SHT\Engring\LB-ec01.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	IKR	05/22/02	REVISED FOR LAWRENCE D/W PER MNDOT COMMENTS

DESIGN FILE: 33889028 5001	
DRAWN BY: IKR	DESIGN BY: JUL
CHKD. BY: KPK	DWG. NAME: LB-EC01
DATE: MARCH 29, 2002	



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 KEVIN P. KIEHL
 DATE: 03/29/02 MN LIC. NO. 23211

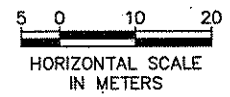
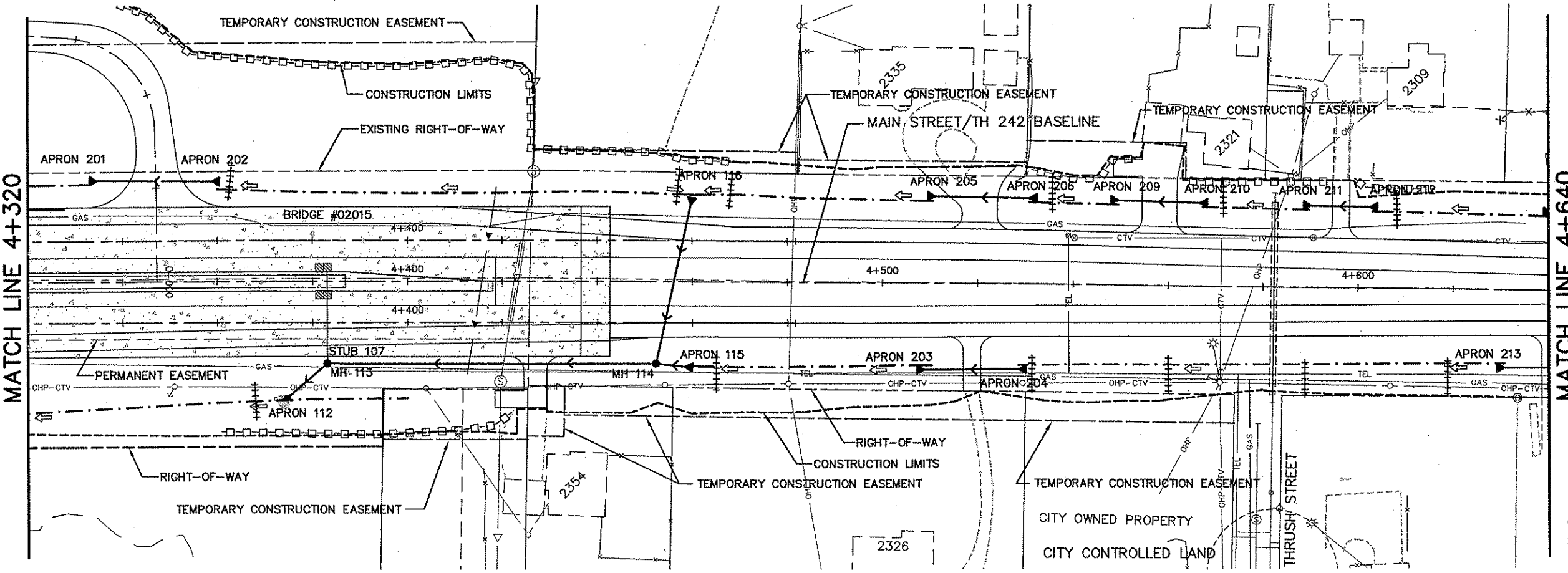
MAIN STREET/T.H. 242 RECONSTRUCTION
 EROSION CONTROL PLAN
 STATION 3+998.364 TO STATION 4+320.000
 CITY PROJECT 02-05

S.P. 0212-41

1 OF 5
 SHEET NO.
78
 171

easement
 LB2001CL
 Lb2001ec
 242-EUT
 LB2001UT
 LB2001GM
 Lb2001APBOX
 _ALN
 _ESUM
 242MHETO

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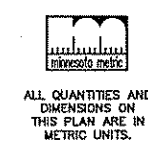


LEGEND

- CONSTRUCTION LIMITS
- STRUCTURE NUMBER CB 12
- CATCH BASIN
- APRON
- INPLACE APRON
- SEWER (STORM)
- CULVERT
- SILT FENCE (MACHINE-SLICED)
- SILT CURTAIN
- BIOROLL DITCH CHECKS
- RIPRAP CLASS III / ROCK CONSTRUCTION ENTRANCE
- SURFACE FLOW DIRECTION

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	IKR	05/22/02	REVISED FOR LAWRENCE D/W PER MNDOT COMMENTS

DESIGN FILE:
 3388902B 5001
 DRAWN BY: IKR
 DESIGN BY: JUL
 CHKD. BY: KPK/PBD
 DWG. NAME: LB-ECO2
 DATE: MARCH 29, 2002



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 KEVIN P. KIELB
 DATE: 03/29/02 MN LIC. NO. 23211

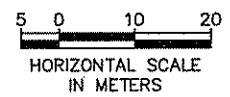
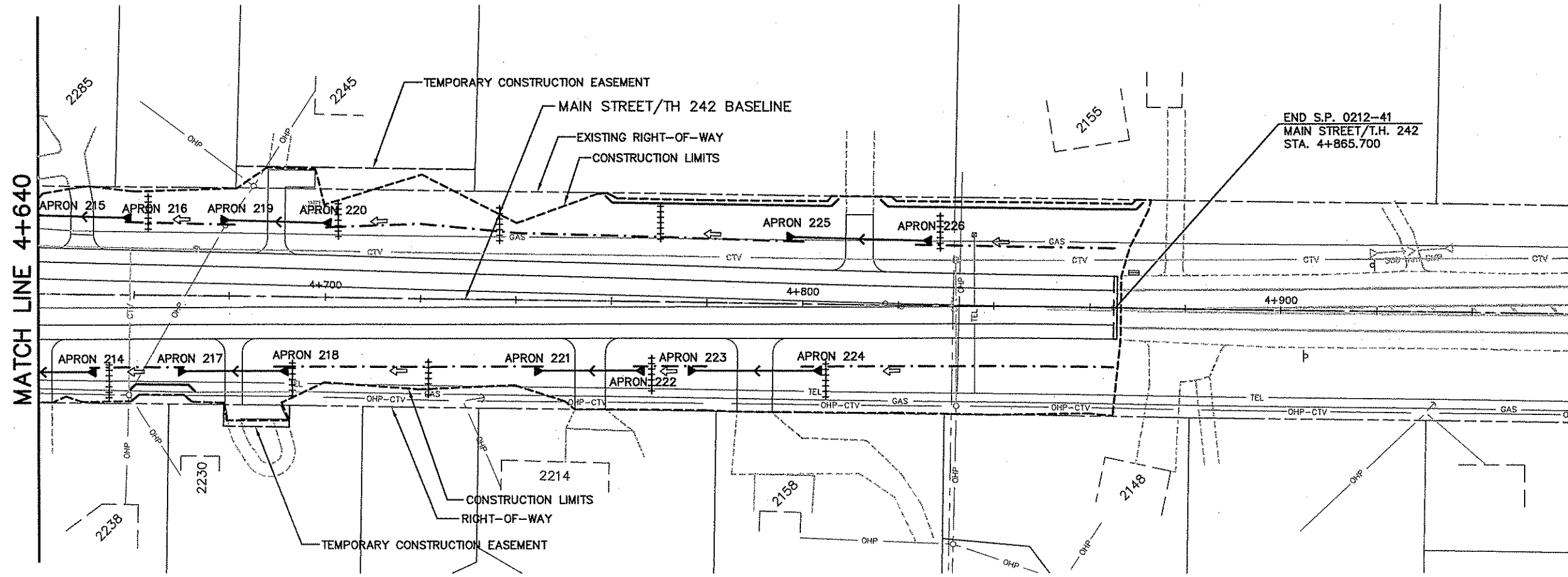
MAIN STREET/T.H. 242 RECONSTRUCTION
 EROSION CONTROL PLAN
 STATION 4+320.000 TO STATION 4+640.000
 CITY PROJECT 02-05

S.P. 0212-41

2 OF 5
 SHEET NO.
 79
 171

easement
 LB2001CL
 Lb2001ec
 LB2001UT
 242-EUT
 LB2001GM
 PLAN
 PBOX
 ALN
 242-ESUM
 242MHETO

PLOT DATE: May 20, 2002 7:22am DISK FILE NAME: (15.05) R:\33889\33889028\33889B\PLAN_SHT\Engring\Lb-ec03.dwg




LEGEND

- CONSTRUCTION LIMITS ---
- STRUCTURE NUMBER CB 12
- CATCH BASIN ■
- APRON ▲
- INPLACE APRON ▽
- SEWER (STORM) CULVERT →→→
- SILT FENCE (MACHINE-SLICED) □-□-□-□-□
- SILT CURTAIN ~~~~~
- BIOROLL DITCH CHECKS +++++
- RIPRAP CLASS III / ROCK CONSTRUCTION ENTRANCE ■
- SURFACE FLOW DIRECTION →


3 OF 5

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
 33889028 5001
 DRAWN BY: IKR DESIGN BY: KPK
 CHKD. BY: KPK/PBD DWG. NAME: LB-ECO3
 DATE: MARCH 29, 2002


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 KEVIN P. KIELB
 DATE: 03/29/02 MN LIC. NO. 23211

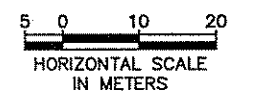
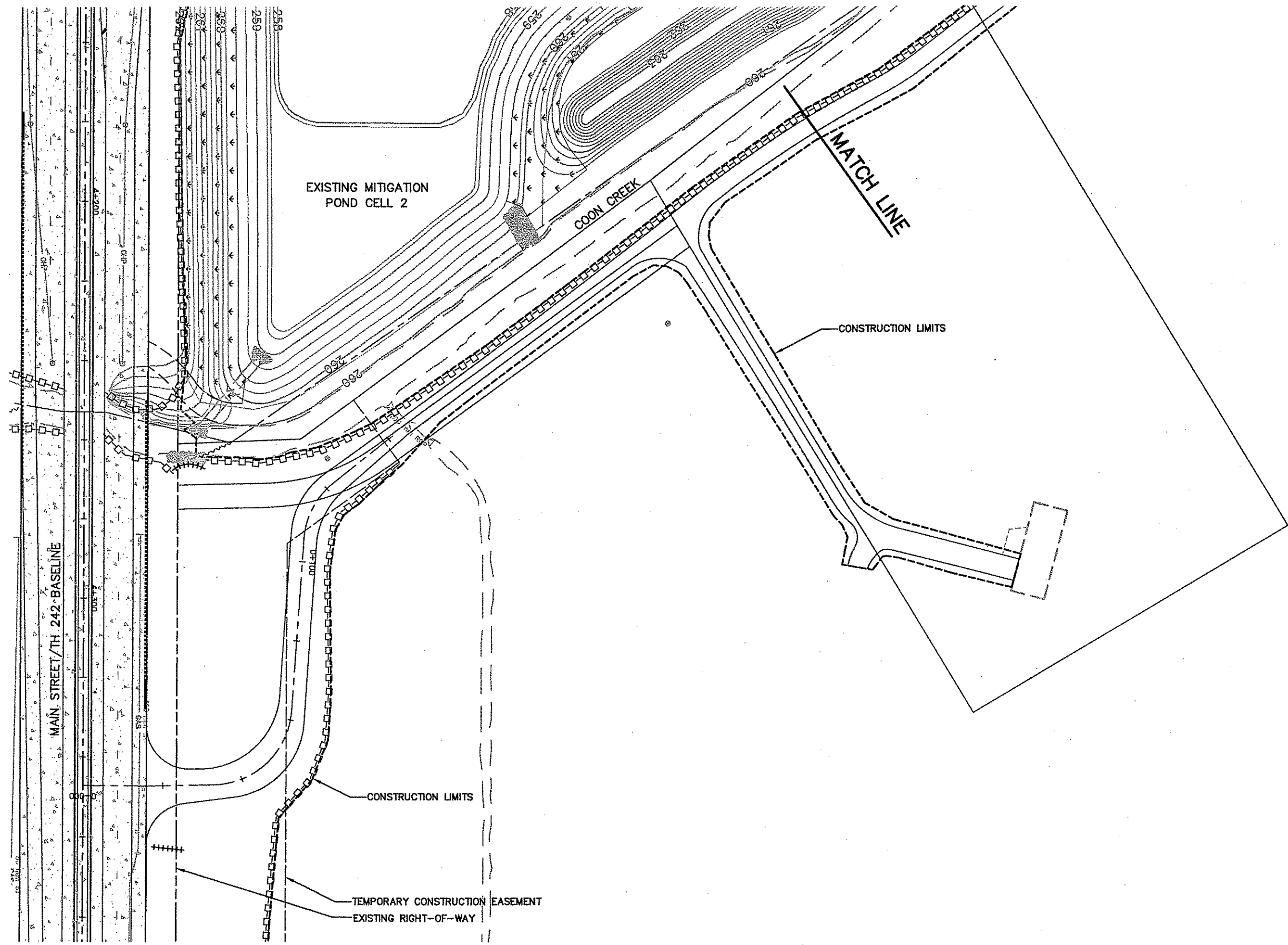
MAIN STREET/T.H. 242 RECONSTRUCTION
 EROSION CONTROL PLAN
 STATION 4+640.000 TO STATION 4+960.000
 CITY PROJECT 02-05

S.P. 0212-41

SHEET NO.
80
 171

lbstripe
 LB2001gm
 Lb2001ec
 _easement
 242e-pin
 1osp-pnd
 2..._drn
 ...J01CL
 LBSAPBOX
 242-ESUM
 242-EUT
 242MHETO

PLOT DATE: May 21, 2002 1:21pm DISK FILE NAME: (15.05) R:\33889\33889028\33889B\PLAN_SHT\Enging\Lb-ec04.dwg



LEGEND

- CONSTRUCTION LIMITS
- STRUCTURE NUMBER CB 12
- CATCH BASIN
- APRON
- INPLACE APRON
- SEWER (STORM)
- CULVERT
- SILT FENCE (MACHINE-SLICED)
- SILT CURTAIN
- BIOROLL DITCH CHECKS
- RIPRAP CLASS III / ROCK CONSTRUCTION ENTRANCE
- SURFACE FLOW DIRECTION

4 OF 5

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	KR	05/22/02	NEW SHEET FOR LAWRENCE D/W PER MNDOT COMMENTS

DESIGN FILE: 33889028 5001	
DRAWN BY: JJL	DESIGN BY: JJL
CHKD. BY: KPK	DWG. NAME: LB-EC04
DATE: MARCH 29, 2002	

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Kevin P. Kielb
 KEVIN P. KIELB
 DATE: 03/29/02 MN LIC. NO. 23211

MAIN STREET/T.H. 242 RECONSTRUCTION

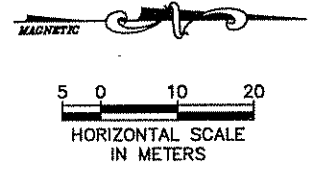
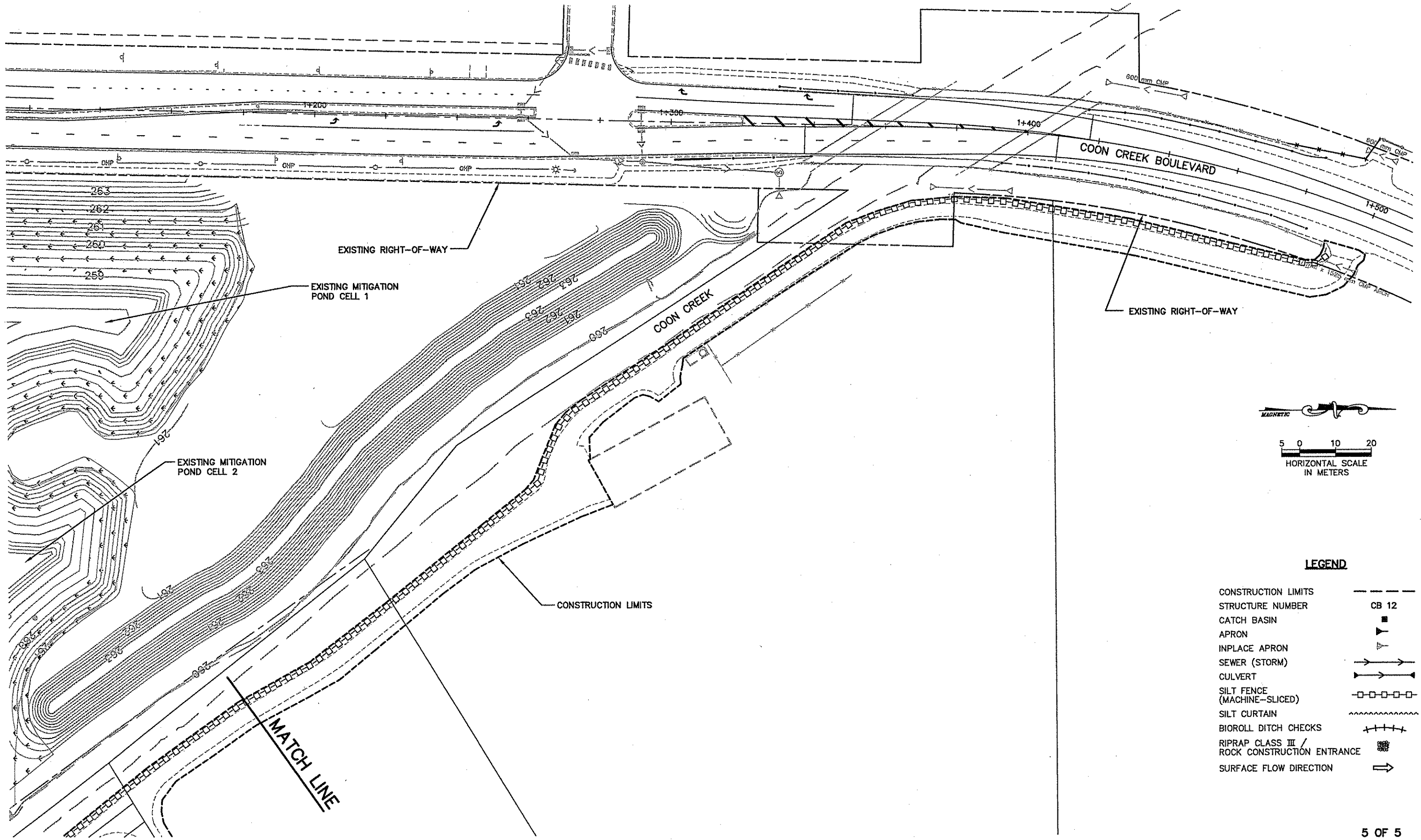
EROSION CONTROL PLAN
 LAWRENCE DRIVEWAY ACCESS

CITY PROJECT 02-05

S.P. 0212-41

SHEET NO.
 81
 171

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 Lb2001ec
 easement
 242e-pln
 hosp-pond
 242e_drn
 h_aln
 DICL
 PBOX
 242-ESUM
 242-EUT
 242MHETO



LEGEND

- CONSTRUCTION LIMITS
- STRUCTURE NUMBER CB 12
- CATCH BASIN
- APRON
- INPLACE APRON
- SEWER (STORM)
- CULVERT
- SILT FENCE (MACHINE-SLICED)
- SILT CURTAIN
- BIOROLL DITCH CHECKS
- RIPRAP CLASS III / ROCK CONSTRUCTION ENTRANCE
- SURFACE FLOW DIRECTION

5 OF 5

PLOT DATE: May 21, 2002 1:22pm DISK FILE NAME: (15.05) R: \33889\33889028\33889B\PLAN_SHT\Engring\LB-ec05.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	KR	05/22/02	NEW SHEET FOR LAWRENCE D/W PER MNDOT COMMENTS

DESIGN FILE: 33889028 5001	
DRAWN BY: JJL	DESIGN BY: JJL
CHKD. BY: KPK	DWG. NAME: LB-EC05
DATE: MARCH 29, 2002	



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Kevin P. Kiehl
 KEVIN P. KIEHL
 DATE: 03/29/02 MN LIC. NO. 23211

MAIN STREET/T.H. 242 RECONSTRUCTION

EROSION CONTROL PLAN
 LAWRENCE DRIVEWAY ACCESS

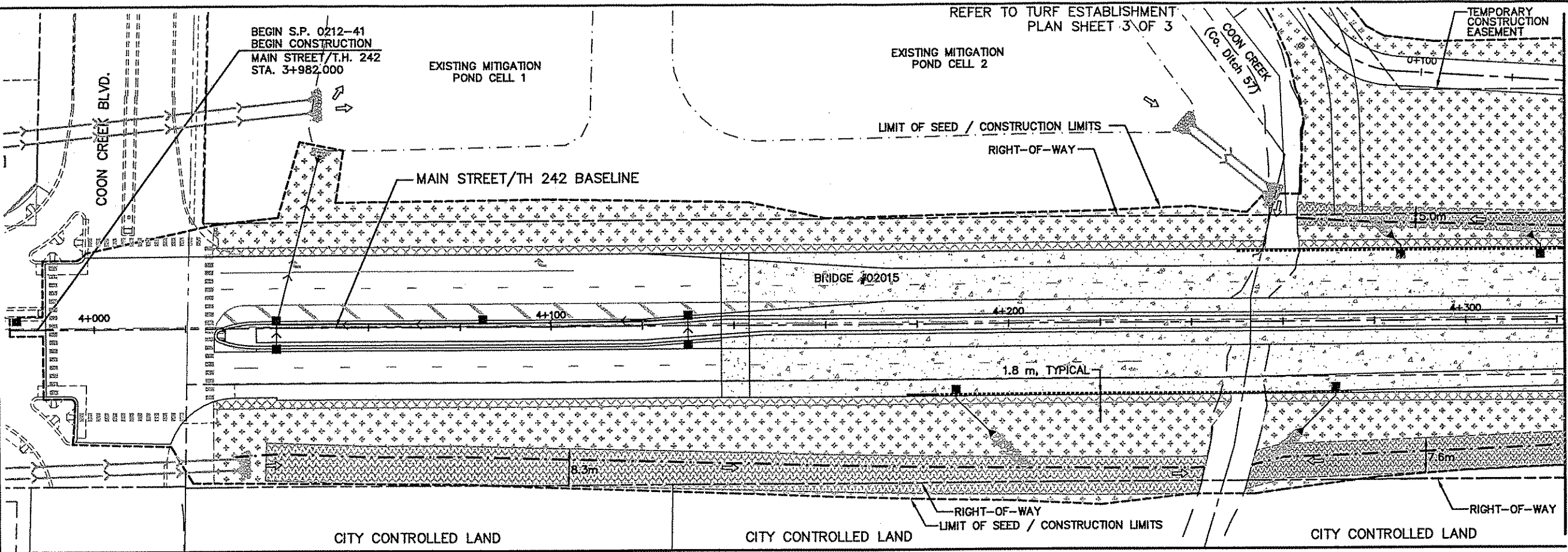
CITY PROJECT 02-05

S.P. 0212-41

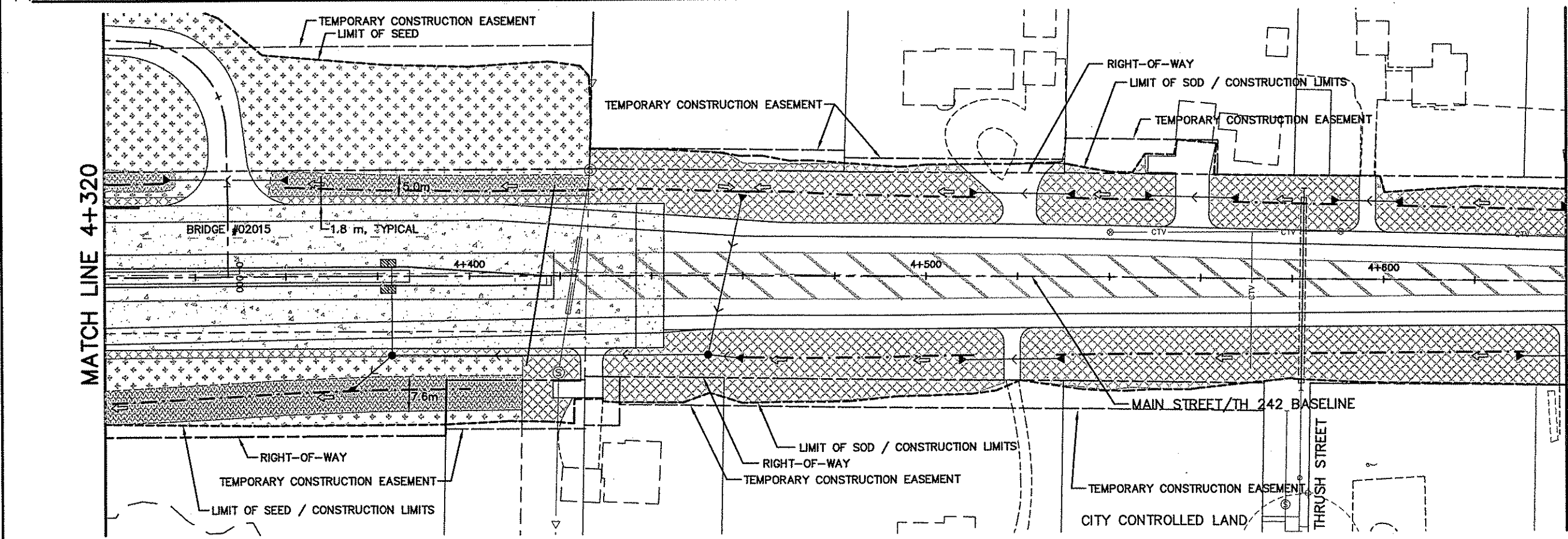
SHEET NO.
 82
 171

242-eut
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 LB_turf
 LB2001CL
 11GM
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 LB_SAPBOX
 LB_ALN
 242-ESUM
 242MHETO

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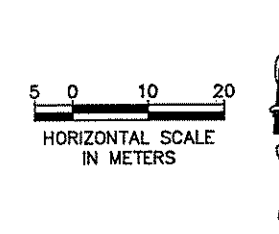
MATCH LINE 4+320



MATCH LINE 4+640

NOTE:
 - LIMIT OF SOD OR SEED IS EQUAL TO THE CONSTRUCTION LIMITS UNLESS OTHERWISE NOTED.

- LEGEND**
- SOD, TYPE SALT RESISTANT
 - SEED MIXTURE 28B WITH CATEGORY 4 EROSION CONTROL BLANKET
 - SEED MIXTURE 60B



REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	IKR	05/22/02	REVISED FOR LAWRENCE D/W PER MNDOT COMMENTS

DESIGN FILE:
 33889028 5001
 DRAWN BY: IKR
 DESIGN BY: JUL
 CHKD. BY: KPK
 DWG. NAME: LB-TURF1
 DATE: MARCH 29, 2002

ALL QUANTITIES AND DIMENSIONS ON THIS PLAN ARE IN METRIC UNITS.

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Thresher Square
 700 Third Street South
 Minneapolis, MN 55415
 612.370.0700 Tel
 612.370.1378 Fax

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Kevin P. Kiehl
 KEVIN P. KIEHL
 DATE: 03/29/02 MN LIC. NO. 23211

MAIN STREET/T.H. 242 RECONSTRUCTION
 TURF ESTABLISHMENT PLAN
 STATION 3+998.364 TO STATION 4+640.000
 CITY PROJECT 02-05

S.P. 0212-41

1 OF 3
 SHEET NO. 83
 171

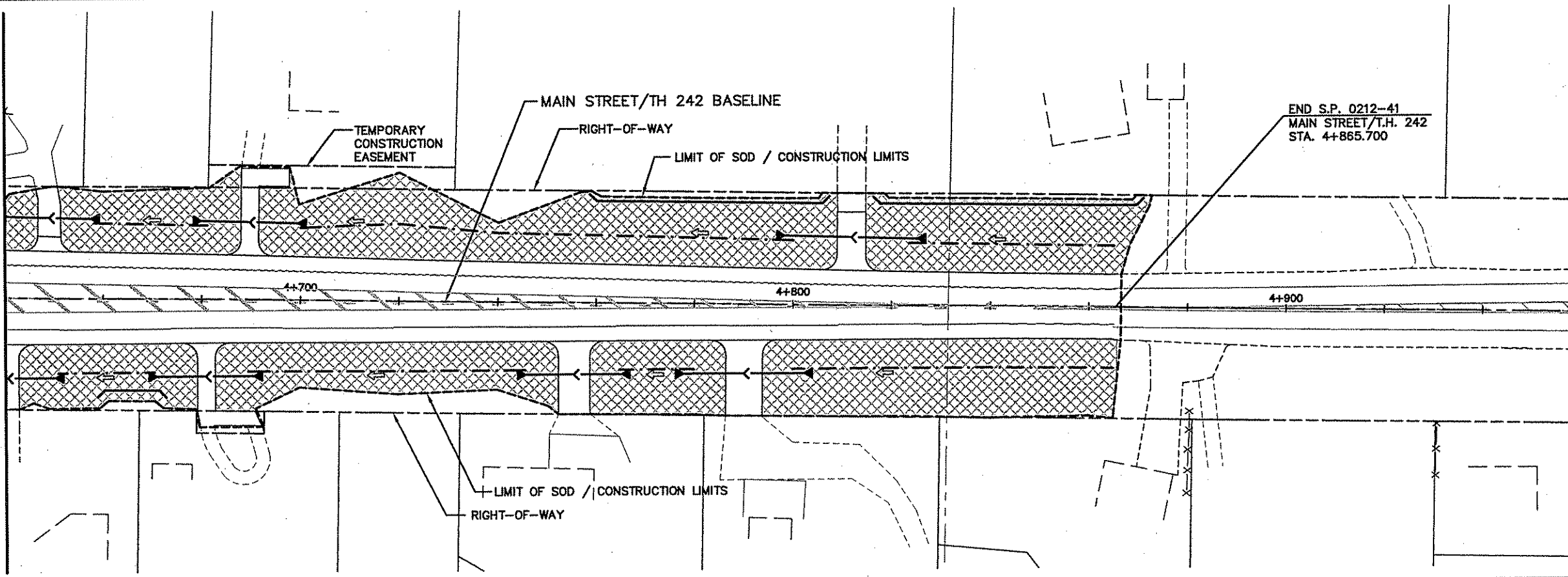
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 _B2001CL
 _B2001GM
 SEHPLAN
 _BSAPBOX
 _B_ALN
 24" SUM
 2 ETO

PLOT DATE: May 21, 2002 1:28pm DISK FILE NAME: (15.05) R:\33889\33889028\33889B\PLAN_SHT\Engring\LB-turf2.dwg




NOTE:
 - LIMIT OF SOD OR SEED IS EQUAL TO THE CONSTRUCTION LIMITS UNLESS OTHERWISE NOTED.

MATCH LINE 4+640

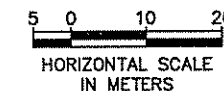
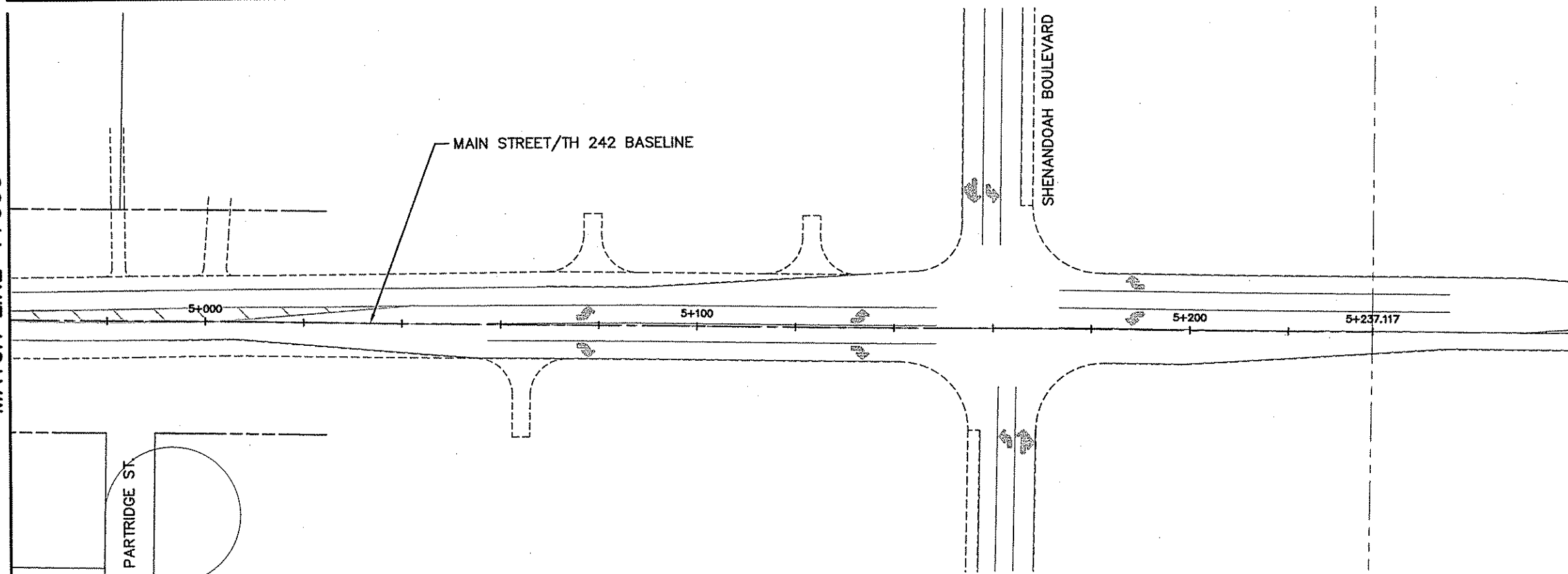
MATCH LINE 4+960



LEGEND

-  SOD, TYPE SALT RESISTANT
-  SEED MIXTURE 28B WITH CATEGORY 4 EROSION CONTROL BLANKET
-  SEED MIXTURE 60B


MATCH LINE 4+960



2 OF 3

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	IKR	05/22/02	REVISED PER MNDOT COMMENTS

DESIGN FILE: 33889028 5001	
DRAWN BY: IKR	DESIGN BY: JJL
CHKD. BY: KPK	DWG. NAME: LB-TURF2
DATE: MARCH 29, 2002	


 ALL QUANTITIES AND DIMENSIONS ON THIS PLAN ARE IN METRIC UNITS.

URS
 BRW, Inc.

Thresher Square
 700 Third Street South
 Minneapolis, MN 55415
 612.370.0700 Tel
 612.370.1378 Fax

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Kevin P. Kiehl
 KEVIN P. KIEHL
 DATE: 03/28/02 MN LIC. NO. 23211

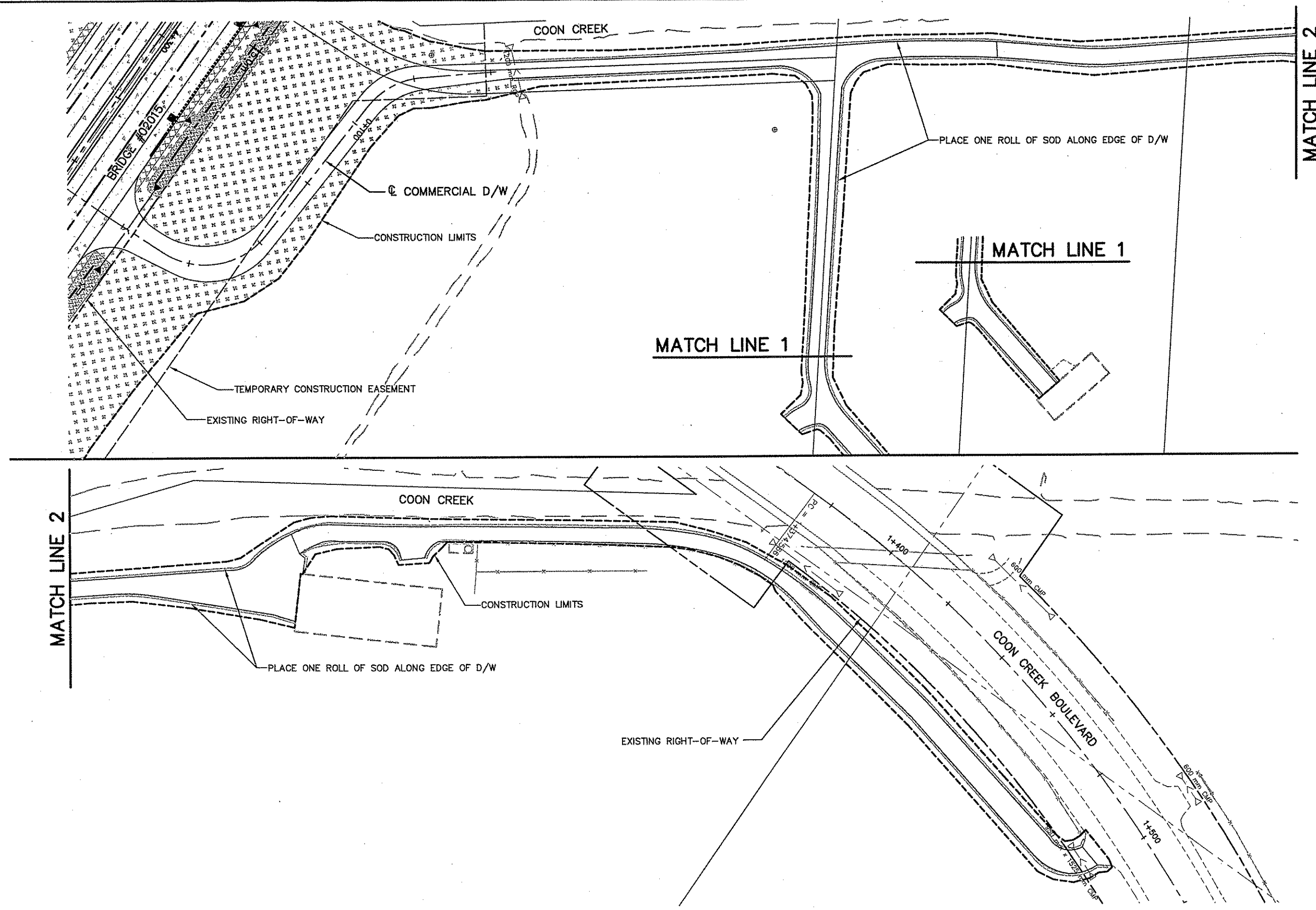
MAIN STREET/T.H. 242 RECONSTRUCTION
 TURF ESTABLISHMENT PLAN
 STATION 4+640.000 TO STATION 5+237.117
 CITY PROJECT 02-05

S.P. 0212-41




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 84
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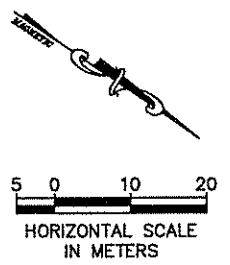
242-eut
 easement
 LB2001ut
 lbstripe
 LB_turf
 LB2001CL
 1/2"=10' IGM
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 LB_ALN
 242-ESUM
 242MHETO

PLOT DATE: May 21, 2002 1:29pm DISK FILE NAME: (15.05) R:\33889\33889028\PLAN_SHT\Enging\lb-turf3.dwg



NOTE:
 - LIMIT OF SOD OR SEED IS EQUAL TO THE CONSTRUCTION LIMITS UNLESS OTHERWISE NOTED.

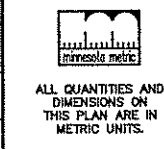
- LEGEND**
-  SOD, TYPE SALT RESISTANT
 -  SEED MIXTURE 28B WITH CATEGORY 4 EROSION CONTROL BLANKET
 -  SEED MIXTURE 60B



3 OF 3

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	IKR	05/22/02	NEW PLAN SHEET FOR LAWRENCE D/W

DESIGN FILE: 33889028 5001	
DRAWN BY: IKR	DESIGN BY: JUL
CHKD. BY: KPK	DWG. NAME: LB-TURF3
DATE: MARCH 29, 2002	



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Kevin P. Kiehl
 KEVIN P. KIEHL
 DATE: 03/29/02 MN LIC. NO. 23211

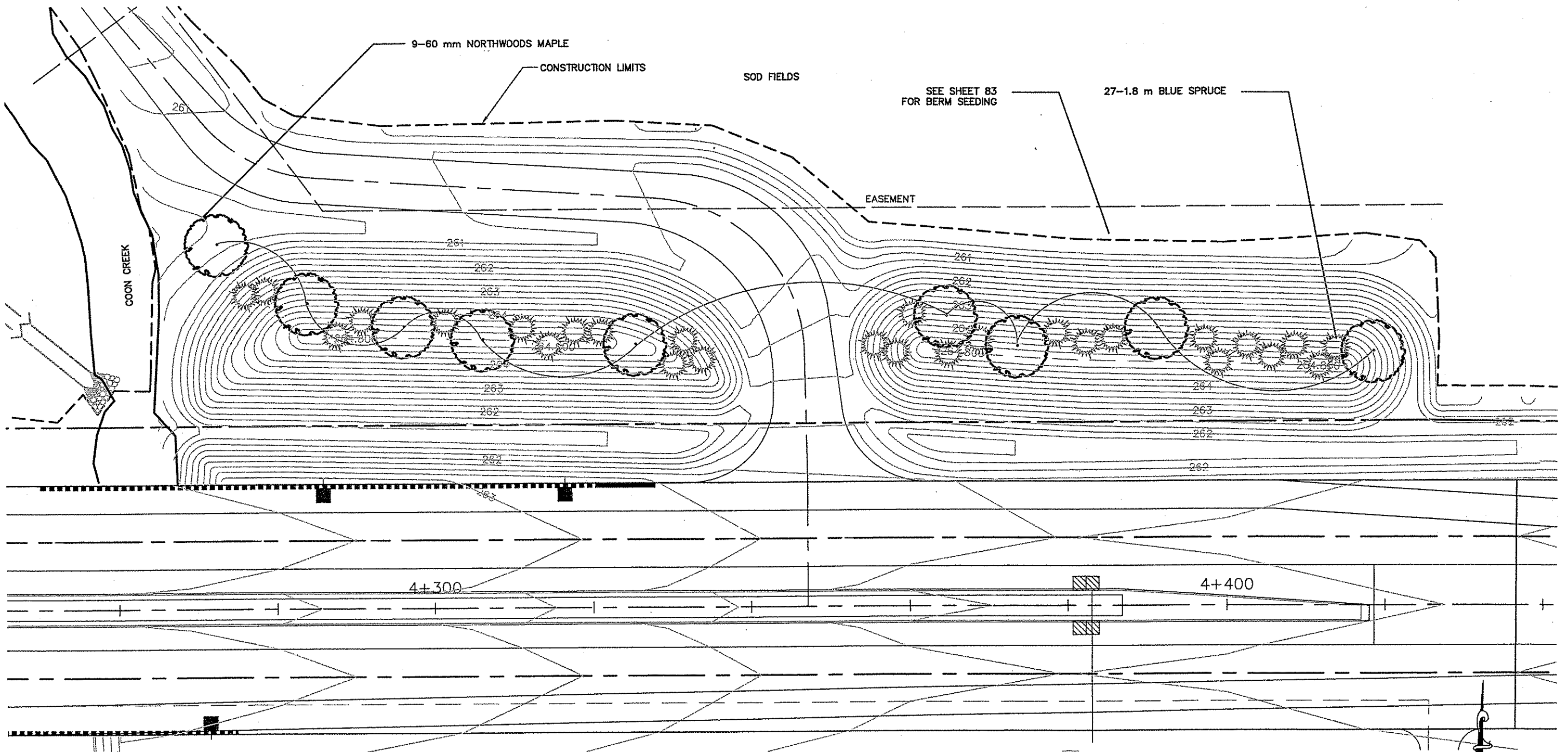
MAIN STREET/T.H. 242 RECONSTRUCTION
 TURF ESTABLISHMENT PLAN
 COMMERCIAL DRIVEWAY
 CITY PROJECT 02-05

S.P. 0212-41

SHEET NO.
 85
 171

2001CL
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SAPBOX
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PLOT DATE: May 23, 2002 1:49pm DISK FILE NAME: (15.05) R:\33889\33889028\33889B\PLAN_SHT\Planning\LB-BRMLPNT.dwg



GENERAL NOTES

1. ALL TREES SHALL BE MULCHED WITH SHREDDED HARDWOOD. MULCH IS CONSIDERED INCIDENTAL TO PRICE OF TREE.
2. RESTORE ALL DISTURBED AREAS, NOT OTHERWISE NOTED, WITH SEED PER SPECIAL PROVISIONS (SEE TURF ESTABLISHMENT PLANS).
3. STAKE ALL TREES AND GENERAL SEEDING AREAS FOR LANDSCAPE ARCHITECTS APPROVAL PRIOR TO INSTALLATION OF MATERIAL.
4. ALL TREES TO BE APPROVED PER SPECIFICATION PRIOR TO INSTALLATION.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	IKR	05/22/02	REVISIONS FOR LAWRENCE D/W PER MNDOT COMMENTS

DESIGN FILE: 33889028 5001	
DRAWN BY: TPH	DESIGN BY: TPH
CHKD. BY: KPK	DWG. NAME: LB-BRMLPNT
DATE: MARCH 29, 2002	

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Todd Halunen
TODD HALUNEN
DATE: 03/29/02 MINN. REG. NO. 24900

MAIN STREET/T.H. 242 RECONSTRUCTION
BERM LANDSCAPE PLAN
CITY PROJECT 02-05

S.P. 0212-41


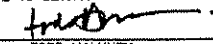
SHEET NO.
86
171

PLANT SCHEDULE					
QTY.	COMMON NAME	BOTANICAL NAME	SIZE	ROOT	REMARKS
9	NORTHWOOD MAPLE	Acer rubrum 'Northwood'	60 mm CAL.	B&B	SINGLE, STRAIGHT LEADER
27	COLORADO BLUE SPRUCE	Picea pungens 'Glauca'	1.8 m HT.	B&B	FULL FORM TO GROUND

EE

- GENERAL NOTES
1. ALL TREES SHALL BE MULCHED WITH SHREDDED HARDWOOD. MULCH IS CONSIDERED INCIDENTAL TO PRICE OF TREE.
 2. RESTORE ALL DISTURBED AREAS, NOT OTHERWISE NOTED, WITH SEED PER SPECIAL PROVISIONS (SEE TURF ESTABLISHMENT PLANS).
 3. STAKE ALL TREES AND GENERAL SEEDING AREAS FOR LANDSCAPE ARCHITECTS APPROVAL PRIOR TO INSTALLATION OF MATERIAL.
 4. ALL TREES TO BE APPROVED PER SPECIFICATION PRIOR TO INSTALLATION.

PLOT DATE: May 23, 2002 1:34pm DISK FILE NAME: (15.05) R:\33889\33889028\33889B\PLAN_SHT\Planning\LB_LS-tab.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION	DESIGN FILE: 33889028	 URS BRW, Inc.	I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL LANDSCAPE ARCHITECT UNDER THE STATE OF MINN. STATUTES SECTION 326.02 TO 326.16.  TODD HALUNEN DATE: 03/29/02 MINN. REG. NO. 24900	MAIN STREET/T.H. 242 RECONSTRUCTION PLANTING TABULATION CITY PROJECT 02-05	S.P. 0212-41	SHEET NO.
1	IKR	05/22/02	REVISIONS PER MNDOT C.O. COMMENTS	DRAWN BY: TPH DESIGN BY: TPH CHKED. BY: KPK DWG. NAME: LB_LS-tab DATE: MARCH 29, 2002					ALL QUANTITIES AND DIMENSIONS ON THIS PLAN ARE IN METRIC UNITS.



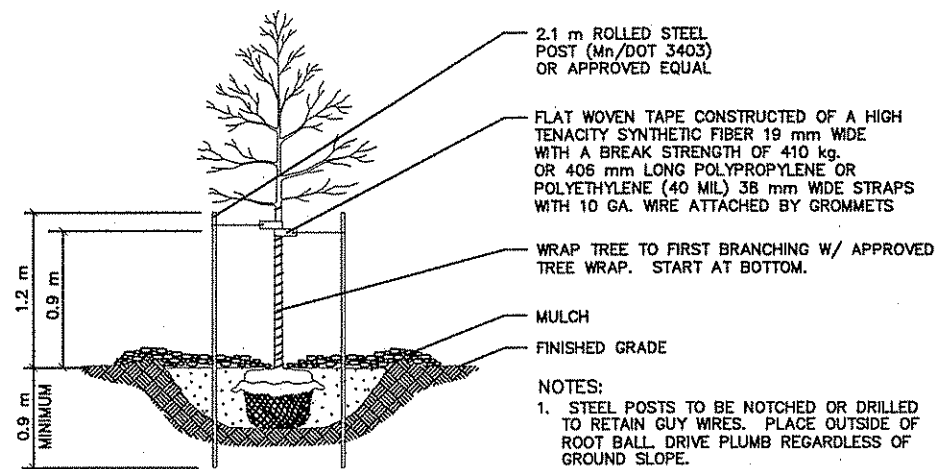
- ZONE 1 BELOW -45° C
- ZONE 2 -45° to -40°
- ZONE 3 -40° to -35°
- ZONE 4 -35° to -30°

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

- ZONE 5 -30° to -25°

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

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



2.1 m ROLLED STEEL POST (Mn/DOT 3403) OR APPROVED EQUAL

FLAT WOVEN TAPE CONSTRUCTED OF A HIGH TENACITY SYNTHETIC FIBER 19 mm WIDE WITH A BREAK STRENGTH OF 410 kg. OR 406 mm LONG POLYPROPYLENE OR POLYETHYLENE (40 MIL) 38 mm WIDE STRAPS WITH 10 GA. WIRE ATTACHED BY GROMMETS

WRAP TREE TO FIRST BRANCHING W/ APPROVED TREE WRAP. START AT BOTTOM.

MULCH
FINISHED GRADE

NOTES:

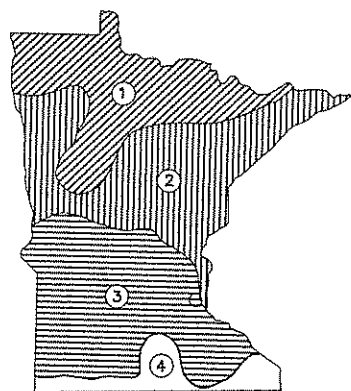
1. STEEL POSTS TO BE NOTCHED OR DRILLED TO RETAIN GUY WIRES. PLACE OUTSIDE OF ROOT BALL. DRIVE PLUMB REGARDLESS OF GROUND SLOPE.
2. REQUESTS TO SUBSTITUTE RUBBER HOSE AND WIRE GUYING SYSTEMS WILL NOT BE APPROVED.
3. USE EITHER STRAPPING TAPE OR WIRE WITH POLYPROPYLENE STRAPS.
4. STAKING/ GUYING IS NOT ANTICIPATED TO BE REQUIRED (NOR IS IT DESIRED), BUT IF STAKING/GUYING BECOMES NECESSARY, AS DETERMINED BY THE ENGINEER, THE STAKING/GUYING SHALL BE DONE IN ACCORDANCE WITH THE STANDARD TREE STAKING/ GUYING DETAIL.

1 ACCEPTABLE GROWING RANGE FOR MIDWEST AND NORTHERN GROWN PLANT STOCK

SCALE IN METRIC: N.T.S.
SOURCE: U.S.D.A. PLANT HARDINESS ZONE MAP

2 STANDARD TREE STAKING / GUYING

SCALE IN METRIC: N.T.S.



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

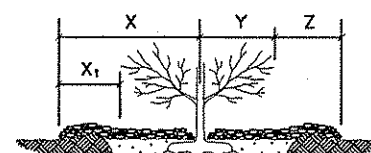
NOTES:

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

○ - INDICATES PROJECT LOCATION

3 OPTIMUM PLANTING DATE ZONES IN MINNESOTA

SCALE IN METRIC: N.T.S.



SUBSIDENCE OR DETERIORATION OF MULCH THROUGHOUT THE CONTRACT IS ACCEPTABLE TO THE EXTENT THAT THE MULCH DEPTH IS MAINTAINED AT A MINIMUM DEPTH OF 75 mm AT ALL TIMES AND UPON FINAL ACCEPTANCE. REPLACEMENT MULCH SHALL BE REQUIRED TO PROVIDE THE MINIMUM MULCH DEPTH SPECIFIED WHEN SUBSIDENCE OR LOSS IS EXCESSIVE OR WHEN THE CONTRACTOR'S OPERATIONS HAVE CONTAMINATED THE MULCH WITH SOIL.

TYPE OF PLANT	X CENTER OF PLANT TO MULCH LINE	X ₁ EDGE OF BRANCHING TO MULCH LINE	Y DEPTH OF MULCH (mm)		Z DEPTH OF MULCH (mm)	
			MIN.	MAX.	MIN.	MAX.
EVERGREEN TREES	VARIABLES	0.9 m MIN.	100	150	100	150
DECIDUOUS TREES	0.9 m MIN.	N/A	100	150	100	150
DECIDUOUS SHRUBS	0.9 m MIN.	N/A	100	150	100	150
GROUNDCOVERS	VARIABLES	0.6 m MIN.	75	100	75	100

NOTE:

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

4 MULCH PLACEMENT DETAIL

SCALE IN METRIC: N.T.S.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889028	
DRAWN BY: TPH	DESIGN BY:
CHKD. BY: KPK	DWG. NAME: LB-detail01
DATE: MARCH 29, 2002	

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Todd Halunen
TODD HALUNEN
DATE: 03/29/02 MINN. REG. NO. 24900

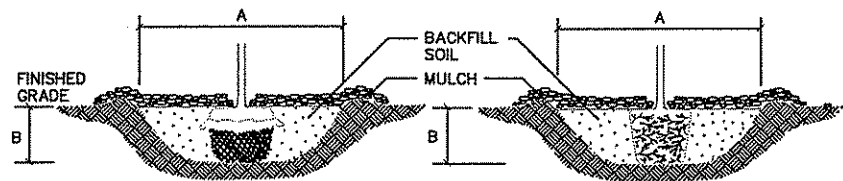
MAIN STREET/T.H. 242 RECONSTRUCTION

PLANTING DETAILS

CITY PROJECT 02-05

S.P. 0212-41

SHEET NO.
88
171



BALLED & BURLAPPED STOCK

CONTAINER STOCK

1. SCARIFY SIDES AND BOTTOM OF HOLE.
2. PROCEED WITH CORRECTIVE PRUNING AS DIRECTED BY ENGINEER.
3. SET PLANT ON UNDISTURBED NATIVE SOIL, OR THOROUGHLY COMPACTED BACKFILL SOIL AT THE SAME DEPTH (IF PROPER) AS IT WAS GROWN IN THE NURSERY.
4. PLANT SHALL BE PLACED IN PLANTING HOLE WITH BURLAP AND WIRE BASKET, IF USED, INTACT. ONCE IN PLACE, THE PLANT SHALL BE BACKFILLED TO WITHIN 300 mm OF THE TOP OF THE ROOTBALL AND WATERED. THE TOP LOOPS OF THE WIRE BASKETS SHALL BE REMOVED AND THE BURLAP SHALL BE FOLDED OR CUT BACK.
5. PLUMB AND BACKFILL WITH THE BACKFILL SOIL SPECIFIED.
6. APPLY WATER TO SETTLE PLANTS AND FILL VOIDS THEN CONSTRUCT 75 mm DEPTH WATERING BASIN.
7. WATER THOROUGHLY WITHIN 2 HOURS.
8. PLACE MULCH WITHIN 48 HOURS OF THE SECOND WATERING UNLESS SOIL MOISTURE IS EXCESSIVE.
9. BIODEGRADABLE TWINE MAY BE LEFT ON AS SUPPORT BETWEEN THE ROOT BALL AND ROOT COLLAR UNTIL THE END OF THE PLANT ESTABLISHMENT PERIOD AT WHICH TIME IT MUST BE CUT AND TOTALLY REMOVED FROM THE ROOT COLLAR. THE TWINE MUST BE TIED OR RETIED TO MID-LEVEL LOOPS OR POINTS ON THE BASKET. USE OF NONBIODEGRADABLE TWINE SHALL NOT BE PERMITTED.

1. SCARIFY SIDES AND BOTTOM OF HOLE.
2. PROCEED WITH CORRECTIVE PRUNING AS DIRECTED BY ENGINEER.
3. REMOVE CONTAINER AND SCORE OR PRUNE OUTSIDE OF SOIL MASS TO REDIRECT CIRCLING FIBROUS ROOTS AS NECESSARY.
4. SET PLANT ON UNDISTURBED NATIVE SOIL, OR THOROUGHLY COMPACTED BACKFILL SOIL AT THE SAME DEPTH (IF PROPER) AS IT WAS GROWN IN THE NURSERY.
5. APPLY WATER TO SETTLE PLANTS AND FILL VOIDS THEN CONSTRUCT 75 mm DEPTH WATERING BASIN.
6. WATER THOROUGHLY WITHIN 2 HOURS.
7. PLACE MULCH WITHIN 48 HOURS OF THE SECOND WATERING UNLESS SOIL MOISTURE IS EXCESSIVE.

NOTES:

1. THE PLANTING DETAILS REPRESENT ADEQUATELY DRAINED SOIL CONDITIONS, THE CONTRACTOR SHOULD EXERCISE DISCRETION IN SETTING PLANTS 25 mm - 75 mm HIGHER IN POORLY DRAINED SOILS.
2. ON 2:1 SLOPES OR GREATER, DO NOT CONSTRUCT THE UPHILL HALF OF THE WATERING BASIN.
3. ON WET, POORLY DRAINED SOILS, DO NOT CONSTRUCT WATERING BASIN.
4. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ADEQUATE DRAINAGE IN HEAVY POORLY DRAINED OR IMPERVIOUS SOILS.
5. PLANTS SHOULD BE SET AT THE PROPER DEPTH WHEREBY THE BEGINNING TAPER OF THE ROOT FLARE IS AT THE SAME ELEVATION AS THE FINISHED SOIL GRADE. THIS SHOULD BE THE SAME DEPTH AS THE PLANTS WERE GROWN AT IN THE NURSERY. NOTE THAT THE ROOTS OF BALLED AND BURLAPPED PLANTS ARE UNACCEPTABLE WHEN THEY ARE COVERED BY MORE THAN 100 mm OF SOIL IN THE TOP OF THE BALL.
6. DELAY MULCH PLACEMENT IF NECESSARY TO ALLOW MORE TIME FOR EXCESS SOIL MOISTURE TO EVAPORATE FROM PLANTING AREAS BEFORE PLACING MULCH.

PLANT TYPE	PLANT SIZE (UP TO AND INCLUDING)	MINIMUM APPROXIMATE HOLE WIDTH HOLE DEPTH (mm)	
		A	B
EVERGREEN TREES	1.8 m HT. BB	1680	400
SHADE & FLOWERING TREES	25 mm BB	1370	360
	40 mm BB	1680	380
	50 mm BB	1829	406
	60 mm BB	2134	483
DECIDUOUS SHRUBS	800 mm POT	1067	279
CONTAINER GROWN PLANTS	150 mm CONT.	330	250

GENERAL NOTES - SEE SPECIAL PROVISIONS FOR SPECIFIC PROJECT REQUIREMENTS

PLANTING HOLE AND BED CULTIVATION: ALL ISOLATED TREE PLANTING LOCATIONS AND PLANTING BEDS SHALL BE CULTIVATED BY TILLING TO A MINIMUM DEPTH OF 250 mm. SOIL AMENDMENTS SHALL BE APPLIED DURING CULTIVATION.

BACKFILL SOIL: USE CULTIVATED AND AMENDED SOIL EXCAVATED FROM PLANTING HOLES. REMOVE ALL DEBRIS INCLUDING ROCKS LARGER THAN 75 mm DIA.

FERTILIZER: NONE
 MN/DOT 3881

COMPOST: NONE
 Mn/DOT 3890

MULCH MATERIAL: Mn/DOT 3882 TYPE 6. MULCH IS CONSIDERED AN INCIDENTAL COST TO ALL TREES.

TREE STAKING: TREE STAKING (ALL SIZES) WILL NOT BE REQUIRED UNLESS SPECIFIED OR NECESSARY TO MAINTAIN TREES IN A PLUMB CONDITION WHERE VANDALISM, SOIL, OR WIND CONDITIONS ARE A PROBLEM OR AS REQUESTED BY THE ENGINEER. COST OF TREE STAKING IS CONSIDERED INCIDENTAL.

TREE PROTECTION: 102 mm WIDE TREE WRAP AS APPROVED BY ENGINEER

MASS PLANTINGS: CULTIVATE BY TILLING. PROVIDE 1 m RADIUS CLEAR OF SHRUBS AROUND EACH DECIDUOUS TREE AND 2.4 m RADIUS AROUND EACH EVERGREEN TREE. THIS RADIUS (CLEARANCE) SHALL BE MEASURED FROM THE CENTER OF THE TREE TO THE CENTER OF THE SHRUB. NOTIFY ENGINEER OF GROSS PLANT QUANTITY SURPLUS OR DEFICIENCY IMMEDIATELY. PLANT SPACINGS OF 3 m OR LESS SHALL BE MASS MULCHED.

PLANTING PLAN: RESPECT STATED DIMENSIONS BEFORE SCALING FROM PLAN.

WATERING GUIDELINES: PLANT TYPE AVERAGE AMOUNT OF WATER PER APPLICATION (LITERS)

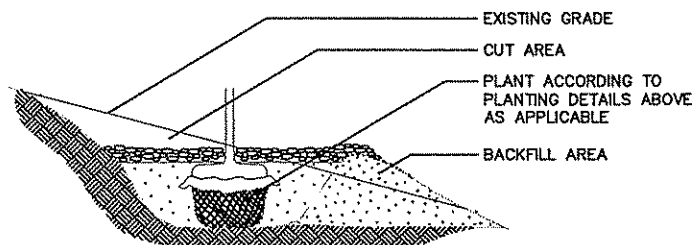
BALLED & BURLAPPED TREES	75±
BARE ROOT TREES	55±
BALLED & BURLAPPED SHRUBS	40±
BARE ROOT OR CONTAINER SHRUBS	25±
WOODY SEEDLINGS	15±
HERBACEOUS GROUNDCOVERS AND VINES	10±

1) THE WATERING GUIDELINES ASSUME A SOIL CONDITION WITH ADEQUATE BUT NOT EXCESSIVE OR POOR DRAINAGE. WATERING INTERVALS AND AMOUNT OF APPLICATION MUST BE VARIED CONSIDERING PREVAILING SOIL MOISTURE AND WEATHER CONDITIONS THROUGHOUT THE GROWING SEASON. ADEQUATE BUT NOT EXCESSIVE SOIL MOISTURE IN THE ROOT ZONE OF NEW PLANTINGS MUST BE MAINTAINED AT ALL TIMES THROUGHOUT THE GROWING SEASON FOR THE FIRST TWO YEARS FOLLOWING PLANTING. WATERING MAY BE REQUIRED WEEKLY OR INFREQUENTLY. THIS DETERMINATION SHALL BE MADE BY THE CONTRACTOR.

2) THE CONTRACTOR IS ADVISED THAT THE WATERING GUIDELINES ARE NOT REQUIREMENTS OF THE CONTRACT ALTHOUGH FAILURE TO CORRECT WATER DEFICITS BY SUPPLEMENTAL WATERING OR FAILURE TO COMPENSATE FOR EXCESSIVE SOIL MOISTURE AND DRAINAGE PROBLEMS MAY RESULT IN UNACCEPTABLE PLANTS LEADING TO REDUCED OR NO PAYMENT.

1 PLANTING DETAILS FOR ISOLATED PLANTING LOCATIONS

SCALE IN METRIC: N.T.S.

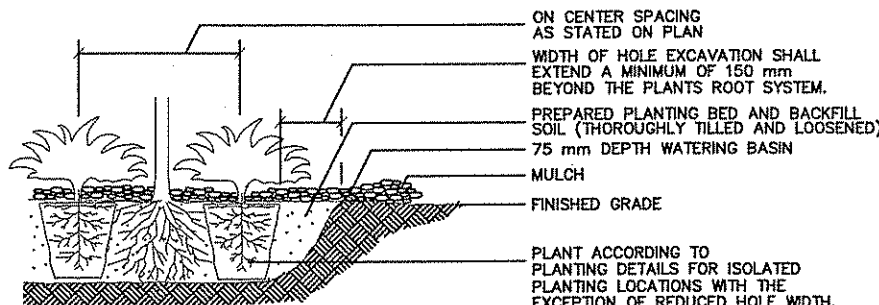


NOTE:

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

2 PLANTING DETAIL FOR STEEP SLOPES

SCALE IN METRIC: N.T.S.



3 PLANTING DETAIL FOR MASS PLANTING BEDS

SCALE IN METRIC: N.T.S.

PLOT DATE: May 23, 2002 1:39pm DISK FILE NAME: (15.05) R:\33889\33889028\33889028\33889028\PLAN_SHT\Planning\LB-detail02.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889028	
DRAWN BY: TPH	DESIGN BY:
CHKD. BY: KPK	DWG. NAME: LB-detail02
DATE: MARCH 29, 2002	

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700 Third Street South
 Minneapolis, MN 55415
 612.370.0700 Tel
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Todd Halunen
 TODD HALUNEN
 DATE: 03/29/02 MINN. REG. NO. 24900

MAIN STREET/T.H. 242 RECONSTRUCTION

PLANTING DETAILS

CITY PROJECT 02-05

S.P. 0212-41

SHEET NO.
 89
 171

PLOT DATE: May 21, 2002 2:01pm DISK FILE NAME: (1.5.05) R:\338899\33889028\338899\PLAN_SHT\Staging\LB_tcs01.dwg

NOTES & GUIDELINES

GENERAL INFORMATION:

1. THE CONTRACTOR SHALL FURNISH, INSTALL AND MAINTAIN THE DEVICES IN THIS TRAFFIC CONTROL PLAN UNLESS OTHERWISE NOTED.
2. FIELD CONDITIONS MAY REQUIRE MODIFICATIONS OF THIS LAYOUT AS DEEMED NECESSARY BY THE ENGINEER.
3. ALL DISTANCES ARE APPROXIMATE
4. THE CONTRACTOR IS RESPONSIBLE FOR PROTECTING ANY WORK AREAS NEAR TRAFFIC IN ACCORDANCE WITH THE MNMUTCD.
5. AN ANNUAL FALL REVIEW OF ALL TRAFFIC CONTROLS WILL BE MADE TO PREPARE FOR WINTER MAINTENANCE OF THE PROJECT. THIS MAY INCLUDE ADJUSTMENTS OR EXCHANGE OF ONE TRAFFIC CONTROL DEVICE FOR ANOTHER. READJUSTMENTS MAY AGAIN BE REQUIRED IN THE SPRING.
6. IF THE CONTRACTOR DECIDES TO PERFORM THE CONSTRUCTION WORK IN A SEQUENCE OTHER THAN SHOWN IN THIS TRAFFIC CONTROL PLAN THE CONTRACTOR SHALL PROVIDE COMPLETE REVISED TRAFFIC CONTROL PLANS TO BE APPROVED BY THE ENGINEER.

SIGNING:

1. ALL TRAFFIC CONTROL DEVICES, INCLUDING OVERHEAD SIGNS ON ROADS OPEN TO TRAFFIC THAT ARE NOT CONSISTENT WITH TRAFFIC OPERATION SHALL BE COVERED, REMOVED OR REVISED AS DIRECTED BY THE ENGINEER.
2. WHEN SIGNS ARE INSTALLED, THEY SHALL BE MOUNTED ON POSTS DRIVEN INTO THE GROUND AT THE PROPER HEIGHT AND LATERAL OFFSET AS DETAILED IN THE MNMUTCD. IF THIS IS NOT POSSIBLE THEY WILL BE MOUNTED ON PORTABLE SUPPORTS AS APPROVED BY THE ENGINEER. WHEN THE SIGNS ARE REMOVED THE SIGN POSTS SHALL ALSO BE REMOVED AS SOON AS POSSIBLE.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY EXTRA SIGNING NEEDED TO FACILITATE TRAFFIC SWITCHES OR FOR TRANSITIONING TRAFFIC FROM ONE STAGE TO ANOTHER.
4. ALL ORANGE SIGNS SHALL BE MADE OF DIAMOND GRADE ORANGE REFLECTIVE SHEETING OR AN APPROVED SUBSTITUTE
5. LONGITUDINAL DROPOFFS SHALL BE SIGNED AS SHOWN ON PAGES 6K-101 AND 6K-102 OF THE 'TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS' FIELD MANUAL UNLESS OTHERWISE SPECIFIED IN THESE PLANS.
6. THE CONTRACTOR SHALL COORDINATE THE INSTALLATION OF THE FINAL SIGNS TO ASSURE THAT THE FINAL SIGNS ARE INSTALLED AS NEEDED, OR PROVIDE TEMPORARY SIGNING AT THEIR EXPENSE UNTIL THE FINAL SIGNING IS INSTALLED.

PAVEMENT MARKING:

1. OBLITERATE ANY CONFLICTING PAVEMENT MARKINGS AS DIRECTED BY THE ENGINEER.
2. PAINT, POLYMER LANE TAPE AND/OR TRPM'S ARE ACCEPTABLE TEMPORARY STRIPING ALTERNATIVES ACCORDING TO ACTUAL CONDITIONS ENCOUNTERED AS DIRECTED BY THE ENGINEER. GENERALLY, PAINT WILL ONLY BE USED IF MANUFACTURERS' SPECIFICATIONS CANNOT BE MET.
3. TRPM'S (TEMPORARY RAISED PAVEMENT MARKERS) SHOULD BE USED TO SUPPLEMENT THE LONG TERM (MORE THAN 7 DAYS) EDGELINES ON ALL TRANSITION AREAS WHEN THE CONDITIONS ARE WITHIN THE MANUFACTURERS' SPECIFICATIONS.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATION AND COORDINATION OF THE INSTALLATION OF TEMPORARY AND FINAL STRIPING TO ASSURE THAT THE MARKINGS ARE INSTALLED AS NEEDED, MN/DOT TRAFFIC PERSONNEL WILL ASSIST IN THE SPOTTING OF TRANSITION AREAS, GORES AND TAPERS.

BARRIER & DELINEATION:

1. BARRIER DELINEATORS WILL HAVE A MINIMUM OF 24 SQ. IN. OF REFLECTIVE SURFACE AREA AND BE PLACED AT 50' SPACES ON TOP OF THE BARRIER WHEN THE BARRIER IS WITHIN 10' OF TRAFFIC UNLESS OTHERWISE NOTED OR AS DIRECTED BY THE ENGINEER. IF A SMALLER APPROVED BARRIER DELINEATOR IS USED IT SHALL BE AT ONE HALF THE SPACING AND ONE HALF THE BID PRICE.

TRAFFIC CONTROL DEVICES & SYMBOLS LEGEND

SYMBOL	DESCRIPTION
	TRAFFIC CONTROL SIGN
	TYPE III BARRICADE =
	DRUM-LIKE CHANNELIZER =
	TYPE I BARRICADE W/ STEADYBURN =
	AREA CLOSED TO TRAFFIC / WORK AREA
	CONCRETE BARRIER WITH DELINEATORS AT 30' SPACES
	SOLID LINE PAVEMENT MARKING WITH TEMPORARY RAISED PAVEMENT MARKERS (TRPM'S) AT 10' SPACES
	TYPE A OR B FLASHING WARNING LIGHT (SPECIFY HIGH INTENSITY)
	RED FLASHING LIGHT
	TYPE C STEADY BURN WARNING LIGHT
	CENTER LINE DELINEATOR TUBE =
	CHANNELIZER SYMBOL
	PORTABLE CHANGEABLE = MESSAGE SIGN
	FLASHING ARROW BOARD TYPE C = (4'X8' UNLESS OTHERWISE NOTED).

INDEX

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103-108	STAGE 1 PHASE 2
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118-123	STAGE 2 PHASE 2
124-125	SPECIAL SIGN DETAILS

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	JLL	05/22/02	REVISIONS PER MNDOT C.O. COMMENTS

DESIGN FILE: 33889028 5001
DRAWN BY: ---
DESIGN BY: ---
CHKD. BY: JRM
DWG. NAME: LB_TCS01
DATE: MARCH 29, 2002



ALL QUANTITIES AND DIMENSIONS ON THIS PLAN ARE IN METRIC UNITS.



Thresher Square
700 Third Street South
Minneapolis, MN 55416
612.370.0700 Tel
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I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

Kevin P. Kiehl
KEVIN P. KIELB
DATE: 03/29/02 MN LIC. NO. 23211

MAIN STREET/T.H. 242 RECONSTRUCTION

TRAFFIC CONTROL

CITY PROJECT 02-05



S.P. 0212-41

SHEET NO. 90	171
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TRAFFIC CONTROL SUMMARY						AA
ITEM	UNIT	STAGE 1 PHASE 1	STAGE 1 PHASE 2	STAGE 2 PHASE 1	STAGE 2 PHASE 3	TOTAL
TRAFFIC CONTROL	LUMP SUM	0.1	0.2	0.45	0.25	1
100 mm SOLID LINE WHITE-PAINT	meter		1062	45		1107
100 mm SOLID LINE YELLOW-PAINT	meter			30		30
100 mm DOUBLE SOLID LINE YELLOW-PAINT	meter		620			620
200 mm DOTTED LINE WHITE-PAINT	meter			8		8
PAVEMENT MARKING REMOVAL - TEMPORARY	meter		1510	38		1548
PAVEMENT MARKING REMOVAL - PERMANENT	m2			3		3
PAVEMENT MARKING REMOVAL - PERMANENT	meter		860	168		1028
CONCRETE MEDIAN BARRIER DESIGN 8337	meter	109	397			506
RELOCATE CONCRETE MEDIAN BARRIER	meter		109			109
IMPACT ATTENUATOR BARRELS	EACH	13	26			39
RELOCATE IMPACT ATTENUATOR BARRELS	EACH		13			13
MEDIAN BARRIER DELINEATOR	EACH	12	44			56
RAISED PAVEMENT MARKER - TEMPORARY	EACH		349	35		384
REMOVABLE PREFORMED PLASTIC MASK (BLACK)	meter		36	198		234
REMOVABLE PREFORMED PLASTIC MARKING	meter		440	811		1251
CONSTRUCTION SIGNS - SPECIAL	m2			92		92

NOTE: THE PROVISIONS OF MN/DOT 1903 ARE MODIFIED SUCH THAT NO PRICE ADJUSTMENT WILL BE MADE IN THE EVENT OF INCREASED OR DECREASED QUANTITIES OF SEPARATE TRAFFIC CONTROL DEVICES.

PLOT DATE: May 20, 2002 4:14pm DISK FILE NAME: (15.05) R:\33889\33889028\33889B\PLAN_SHT\Staging\LB_TCsum.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION	DESIGN FILE: 33889028 5001	 <p>ALL QUANTITIES AND DIMENSIONS ON THIS PLAN ARE IN METRIC UNITS.</p>		<p>700 Third Street South Minneapolis, MN 55415 612.370.0700 Tel 612.370.1376 Fax</p>	<p>I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.</p> <p><i>Kevin P. Kielb</i> KEVIN P. KIELB</p>	<p>DATE: 03/29/02 MN LIC. NO. 23211</p>	<p>MAIN STREET/T.H. 242 RECONSTRUCTION</p>	<p>TRAFFIC CONTROL PAY ITEM TABULATION</p>	<p>CITY PROJECT 02-05</p>	<p>S.P. 0212-41</p>	<p>SHEET NO. 91 171</p>
1	JL	05/22/02	REVISIONS PER MNDOT C.O. COMMENTS	DRAWN BY: IKR DESIGN BY: JRM CHKD. BY: JRM DWG. NAME: LB-TCsum DATE: MARCH 29, 2002										

"R" SERIES			TAB BB
SIGN	SIGN NO.	COLOR	SIZE
	R3-2	BLACK & RED ON WHITE	24"x24"
	R3-7L	BLACK ON WHITE	30"x30"
	R3-7R	BLACK ON WHITE	30"x30"
	R3-8F	BLACK ON WHITE	36"x30"
	R11-2	BLACK ON WHITE	48"x30"
	R11-4	BLACK ON WHITE	60"x30"

"W" SERIES			TAB BB
SIGN	SIGN NO.	COLOR	SIZE
	W1-1R	BLACK ON ORANGE	30"x30"
	W1-4L	BLACK ON YELLOW	30"x30"
	W1-4R	BLACK ON YELLOW	30"x30"
	W1-6	BLACK ON ORANGE	48"x24"
	W4-2L	BLACK ON ORANGE	36"x36"
	W4-2R	BLACK ON ORANGE	36"x36"
	W9-1R	BLACK ON ORANGE	36"x36"
	W13-1	BLACK ON ORANGE	24"x24"

"W" SERIES			TAB BB
SIGN	SIGN NO.	COLOR	SIZE
	W13-1	BLACK ON ORANGE	24"x24"
	W20-1	BLACK ON ORANGE	48"x48"
	W20-2	BLACK ON ORANGE	48"x48"
	W20-3	BLACK ON ORANGE	48"x48"
	W20-100P	BLACK ON ORANGE	24"x18"
	W20-100P	BLACK ON ORANGE	24"x18"
	W20-100P	BLACK ON ORANGE	24"x18"
	W20-100P	BLACK ON ORANGE	24"x18"
	W20-100P	BLACK ON ORANGE	24"x18"
	W20-X3L	BLACK ON ORANGE	48"x48"
	W20-X3R	BLACK ON ORANGE	48"x48"
	W20-X4	BLACK ON ORANGE	48"x48"
	W20-X6	BLACK ON ORANGE	48"x48"
	W20-X7L	BLACK ON ORANGE	48"x48"
	W20-X13R	BLACK ON ORANGE	48"x48"
	W21-X1	BLACK ON ORANGE	48"x48"

"W" SERIES			TAB BB
SIGN	SIGN NO.	COLOR	SIZE
	W21-X5L	BLACK ON ORANGE	48"x48"
	W21-X5R	BLACK ON ORANGE	48"x48"

"M" SERIES			TAB BB
SIGN	SIGN NO.	COLOR	SIZE
	M5-1A	WHITE AND GOLD ON BLUE	30"x24"
	M3-2	BLACK ON WHITE	24"x12"
	M3-4	BLACK ON WHITE	24"x12"
	M4-6	BLACK ON WHITE	24"x12"
	M4-8	BLACK ON ORANGE	24"x12"
	M4-10L	BLACK ON ORANGE	48"x18"
	M5-1L	BLACK ON WHITE	21"x15"
	M5-1R	BLACK ON WHITE	21"x15"
	M6-1L	BLACK ON WHITE	21"x15"
	M6-1R	BLACK ON WHITE	21"x15"
	M6-3	BLACK ON WHITE	21"x15"

"G" SERIES			TAB BB
SIGN	SIGN NO.	COLOR	SIZE
	G20-2A	BLACK ON ORANGE	48"x24"

MISCELLANEOUS			TAB BB
SIGN	SIGN NO.	COLOR	SIZE
	WZ-4	ORANGE	30"x8"

DEVICES		TAB BB
SIGN	DESCRIPTION	COLOR
	PLASTIC CHANNELIZING DRUM	SILVER-WHITE ON ORANGE
	TYPE III BARRICADE	SILVER-WHITE AND ORANGE STRIPING
	TYPE A OR B FLASHING WARNING LIGHT	AMBER

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889028 5001
DRAWN BY: _____ DESIGN BY: _____
CHKD. BY: JRM DWG. NAME: LBTCtab1
DATE: MARCH 29, 2002



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URS
BRW, Inc.

Thresher Square
700 Third Street South
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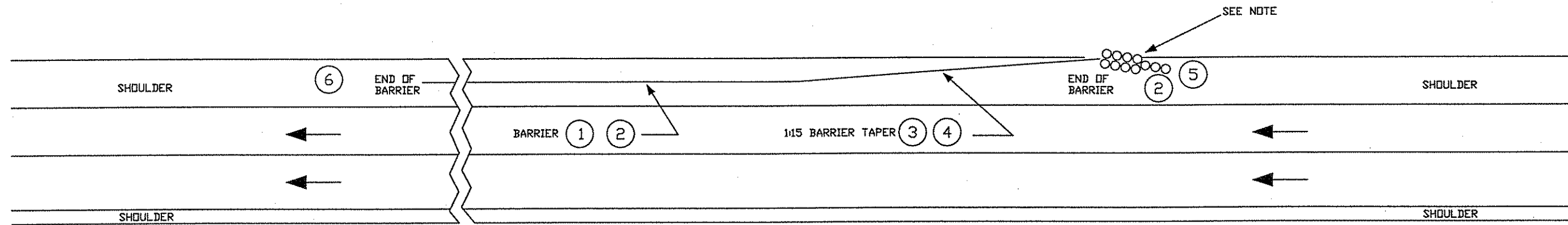
I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Kevin P. Kielb
KEVIN P. KIELB
DATE: 03/29/02 MN LIC. NO. 23211

MAIN STREET/T.H. 242 RECONSTRUCTION
TRAFFIC CONTROL SIGN TABULATION
CITY PROJECT 02-05

S.P. 0212-41

3 OF 7
SHEET NO. 92
171

PORTABLE CONCRETE BARRIER PLACEMENT



SEE NOTE

1 IT IS DESIRABLE TO MAINTAIN FULL SHOULDER WIDTH WHENEVER POSSIBLE. IF NOT POSSIBLE, MINIMUM DESIRABLE LATERAL OFFSETS ARE BASED ON THE FOLLOWING POSTED SPEEDS:

- 65 MPH - 3.0 m
- 60 MPH - 2.4 m
- 50 MPH - 2.0 m
- 40 MPH - 1.5 m

FOR RESTRICTED CONDITIONS, LESSER OFFSETS MAY BE USED. THE OFFSETS SHOULD BE A MINIMUM OF 600 mm UNLESS THE CONDITIONS ARE EXTREME. LATERAL OFFSETS ARE MEASURED TO THE BOTTOM OF THE BARRIER. BARRIER OFFSET FROM EDGE OF THRU LANE SHOULD NOT EXCEED 4.5 m.

2 DESIRABLE TREATMENTS FOR EXPOSED BARRIER ENDS ARE; A CONNECTION TO EXISTING BARRIER; IMPACT ATTENUATOR; TAPER AWAY TO THE EDGE OF THE CLEAR ZONE; AND EXTENDING THROUGH A PLATE BEAM GUARDRAIL BY REMOVING A PANEL.

FOR POSTED SPEEDS 30 MPH OR LESS, THE TAPERING AWAY FROM THE TRAFFIC IS DESIRABLE AND USE OF IMPACT ATTENUATOR ARE OPTIONAL.

3 A 1:10 TAPER MAY BE USED WHEN POSTED SPEED LIMIT IS 35 MPH OR LESS.

4 IF THE BARRIER IS TO BE EXTENDED BEYOND THE SHOULDER, ADDITIONAL FILL WILL BE NEEDED IN ORDER TO PROVIDE A FLAT (1:10) APPROACH AREA TO THE BARRIER. FILL WILL BE INCIDENTAL TO BARRIER AND/OR IMPACT ATTENUATOR. (SEE SHOULDER FILL DETAIL BELOW)

5 THE IMPACT ATTENUATOR SHOULD BE OFFSET A MINIMUM OF 600 mm FROM THE EDGE OF THE THRU LANE (SEE SAND BARREL OFFSET DETAIL). THE IMPACT ATTENUATOR SHOULD BE ORIENTED TO ACCOMMODATE THE PROBABLE IMPACT ANGLE OF AN ENCROACHING VEHICLE. FOR MOST ROADSIDE CONDITIONS, AN ANGLE APPROXIMATELY 10 DEGREES, AS MEASURED BETWEEN THE HIGHWAY AND THE IMPACT ATTENUATOR LONGITUDINAL CENTERLINE, IS CONSIDERED APPROPRIATE (SEE SHOULDER FILL DETAIL). FOR SAND BARREL ARRANGEMENT SEE DETAIL BELOW.

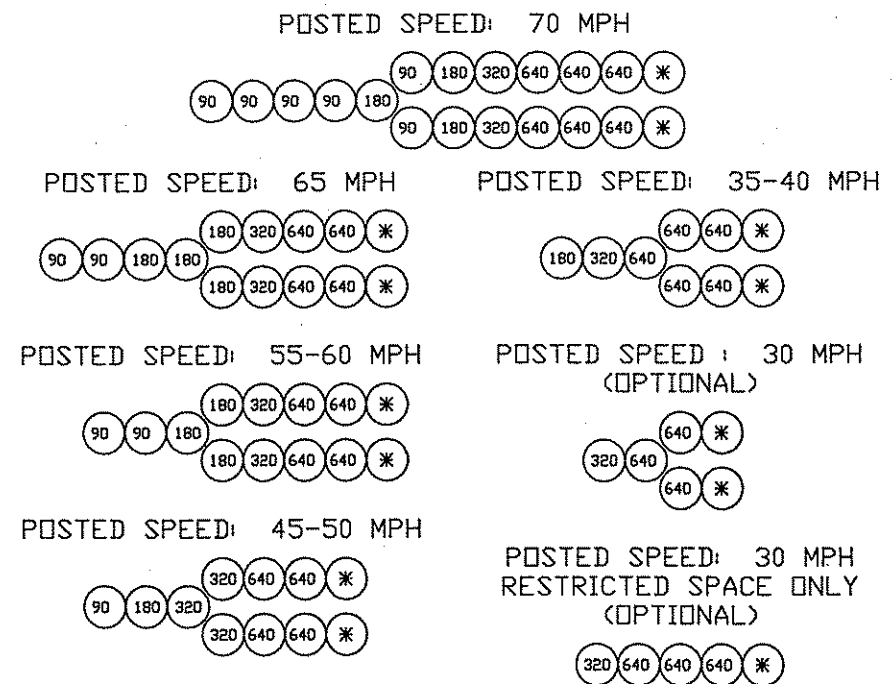
6 FOR TWO-LANE TWO-WAY TRAFFIC BOTH ENDS OF THE BARRIER SHOULD BE TREATED IN THE SAME MANNER AS DESCRIBED IN 2

NOTE:

AT THE DIRECTION OF THE ENGINEER, OTHER APPROVED IMPACT ATTENUATORS CAN BE SUBSTITUTED IN LIEU OF THE SAND BARRELS ESPECIALLY WHERE REDIRECTION IS DESIRED OR AT WIDTH RESTRICTED AREAS.

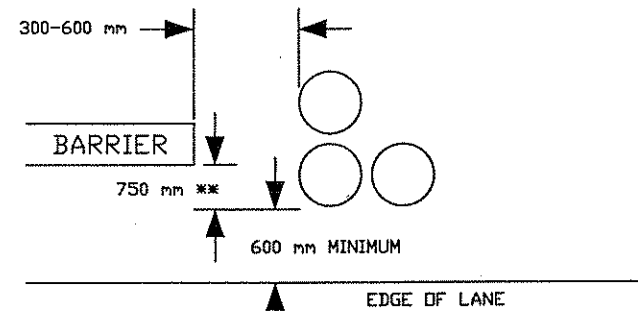
SAND FILLED BARREL ARRANGEMENT

NUMBERS INDICATE STANDARD MODULE WEIGHTS IN KILOGRAMS.



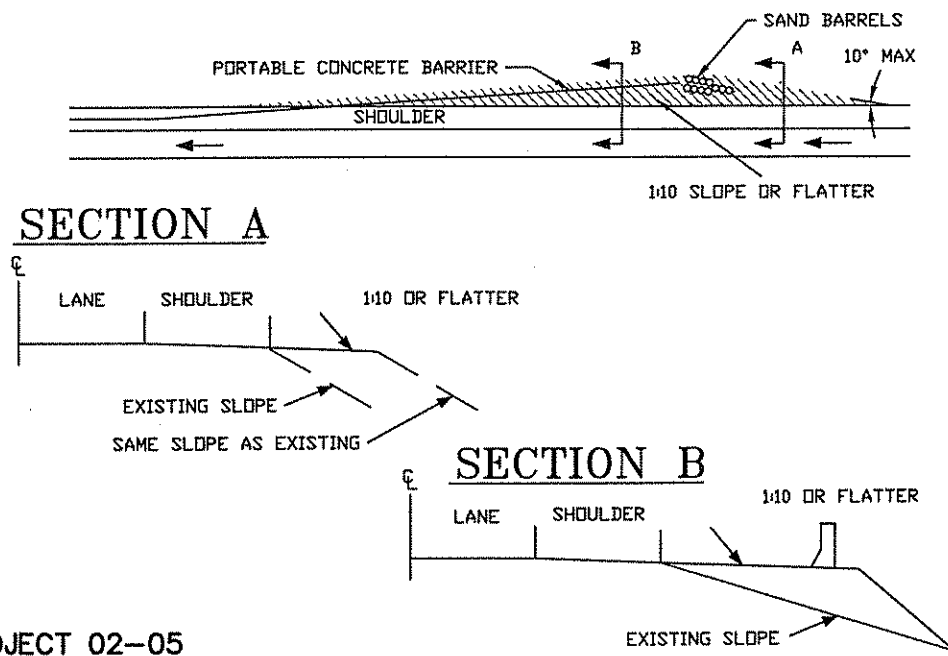
* USE A 960 KILOGRAM DRUM FOR ENERGITE SYSTEM AND A 640 KILOGRAM DRUM FOR A FITCH SYSTEM.

SAND FILLED BARREL OFFSET



** DISTANCE MAY BE REDUCED TO MINIMUM OF 380 mm. THIS IS ACCEPTABLE ONLY WHERE A GREATER OFFSET WOULD CAUSE UNACCEPTABLE INTERFERENCE WITH TRAFFIC.

SHOULDER FILL



CITY PROJECT 02-05



TRAFFIC CONTROL SHEET NO.
1

TITLE:
PORTABLE CONCRETE BARRIER END TREATMENT
4 OF 7

CERTIFIED BY

Kevin P. Bull
LICENSED PROFESSIONAL ENGINEER

LIC. NO. 23211 03/29 20.02

STATE PROJ. NO. 0212-41 (TH 242)

SHEET NO. 93 OF 171 SHEETS

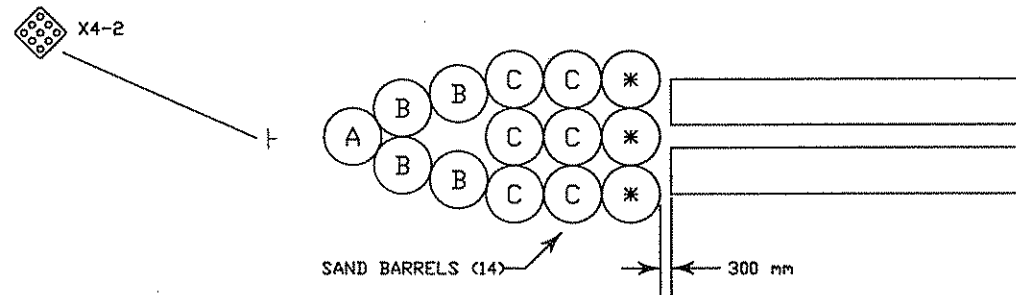
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 PLOT DATE: May 23, 2002 1:59pm
 DISK FILE NAME: (15.05) R: \33889\33889028\33889028\33889B\StdPlans\MndDOTTPS_M.dwg

REVISED: 21-FEB-2001
PLOTTED: \$\$\$TIMEANDDATEOF PLOT\$\$\$

METRO DIV - TRAFFIC
PLOT NAME: IPARMNAME.
PLOT DATE: May 23, 2002 1:59pm
DISK FILE NAME: (15.05) R:\33889\33889028\StdPlans\MnDOT\TYP_S_M.dwg

END TREATMENTS

ATTENUATOR ASSEMBLY NO. 1



SAND BARRELS (14)

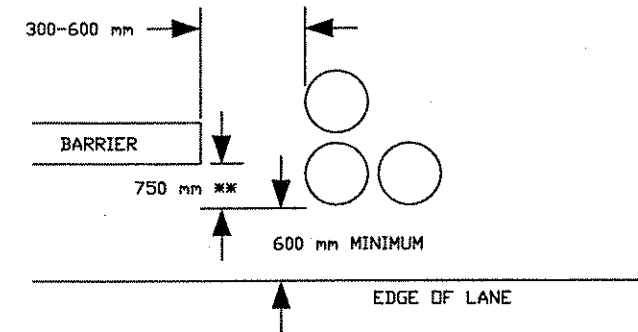
BARREL WT	
A	= 180 kg
B	= 320 kg
C	= 640 kg
*	= 960 kg

* = USE A 960 KILOGRAM DRUM FOR A ENERGITE SYSTEM.
 * = USE A 640 KILOGRAM DRUM FOR A FITCH SYSTEM.

NOTE:

1. ALIGN BARRELS PARALLEL TO APPROACHING TRAFFIC.
2. NUMBERS INDICATE STANDARD MODULE WEIGHTS IN KILOGRAMS.

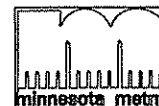
SAND BARREL OFFSET



** DISTANCE MAY BE REDUCED TO MINIMUM OF 380 mm. THIS IS ACCEPTABLE ONLY WHERE A GREATER OFFSET WOULD CAUSE UNACCEPTABLE INTERFERENCE WITH TRAFFIC.

CITY PROJECT 02-05

5 OF 7



TRAFFIC CONTROL SHEET NO.

1

TITLE:

PORTABLE CONCRETE BARRIER END TREATMENT

CERTIFIED BY

Kevin P. Kull
 LICENSED PROFESSIONAL ENGINEER

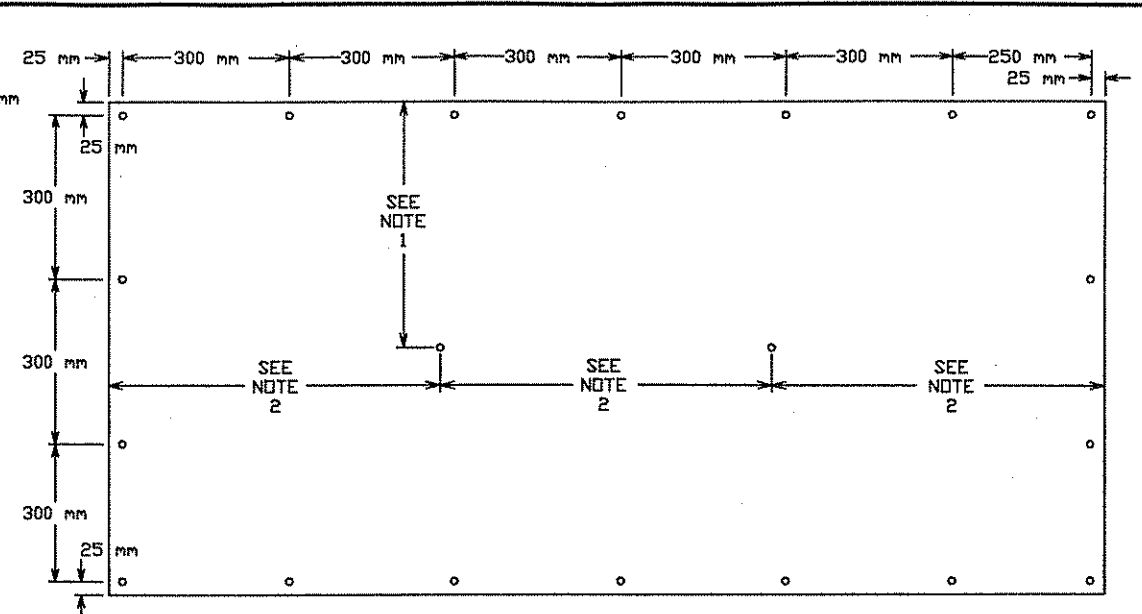
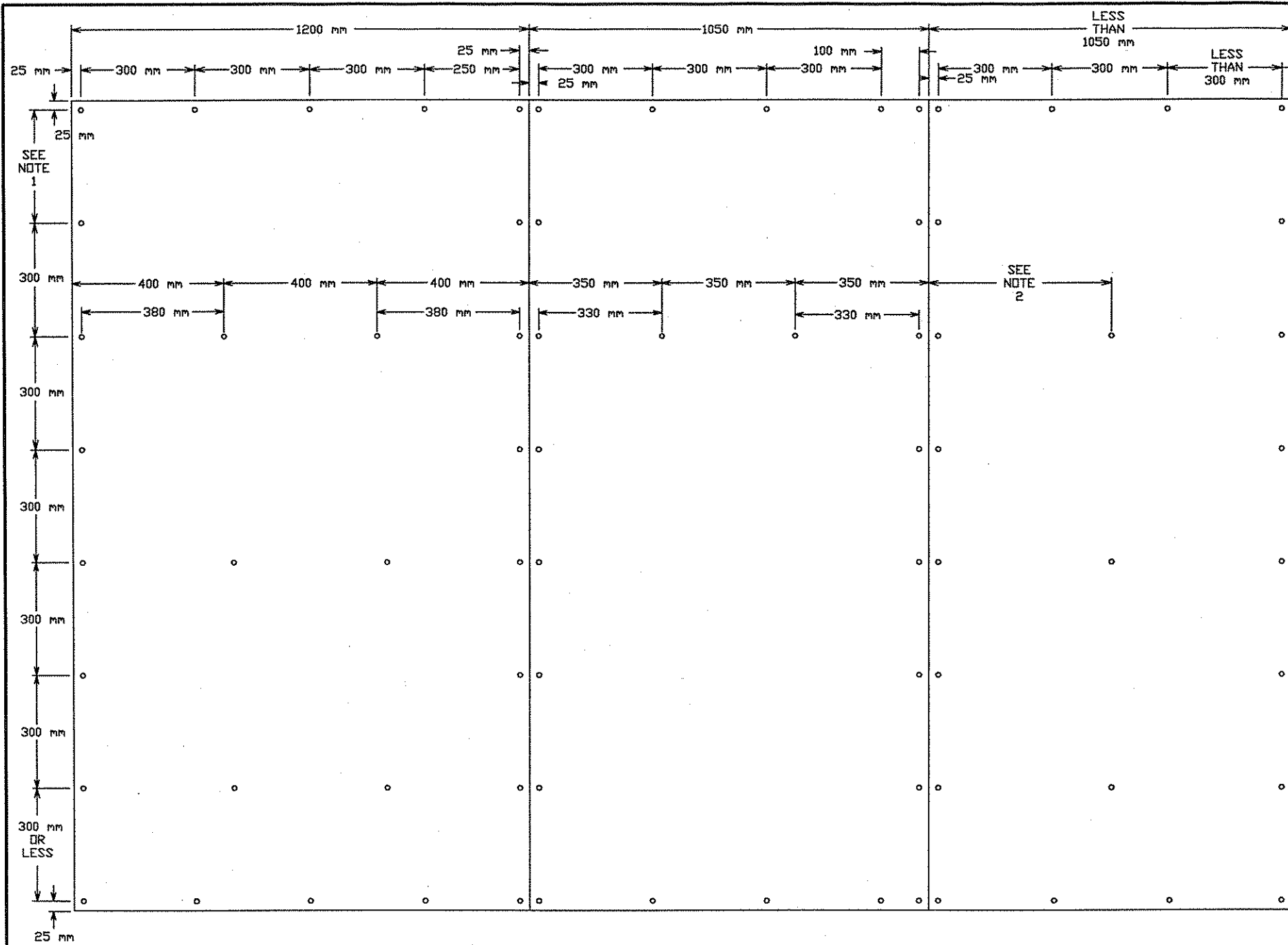
LIC. NO. 23211 03/29 20 02

STATE PROJ. NO. 0212-41 (TH 242)

SHEET NO. 94 OF 171 SHEETS

REVISED: 21-FEB-2001
 PLOTTED: \$\$\$TIMEANDDATEDPLOT\$\$\$

METRO DIV. ON - TRAFFIC
 PLOT NAME: IPARMNAME1
 PLOT DATE: May 23, 2002 1:59pm
 DISK FILE NAME: (15.05) R:\33889\33889028\33889B\StdPlans\MhDOTTYP5_M.dwg



TEMPORARY CONSTRUCTION SIGN PANEL OVERLAY COVERING A PORTION OF A SIGN PANEL

OVERLAY ASSEMBLY STEPS:

1. DRILL 6 mm HOLES ON THE SHEET ALUMINUM OVERLAYS IN ACCORDANCE WITH HOLE SPACING ON DIAGRAM. OUTSIDE HOLES SHALL NOT BE SPACED MORE THAN 300 mm APART.
2. ATTACH ONE PLASTIC WASHER (3 mm THICK, 10 mm I.D., AND 22 mm O.D.), WITH DOUBLE FACED TAPE, CENTERED BEHIND EACH DRILLED HOLE.
3. POSITION THE OVERLAY PANEL, ON THE INPLACE SIGN PANEL, MAKING SURE THE MOUNTING HOLES ON THE OVERLAY PANEL DO NOT LINE UP WITH ANY HORIZONTAL ALUMINUM PANEL JOINTS.
4. DRILL ALL OUTSIDE HOLES THROUGH THE INPLACE SIGN PANEL AND ATTACH OVERLAY PANEL WITH 5 mm POP RIVETS MEETING THE REQUIREMENTS ON Mh/DDT 3352.A7a.
5. DRILL THE INNER HOLES THROUGH THE INPLACE SIGN PANEL AND ATTACH WITH THE SAME RIVETS AS SPECIFIED IN STEP 4.

NOTES:

1. VERTICAL SPACING FOR INNER MOUNTING HOLES IS 1/2 THE PANEL HEIGHT. IF THE PANEL IS LESS THAN 610 mm HIGH, THERE SHALL BE NO INNER HOLES.
2. HORIZONTAL SPACING FOR INNER MOUNTING HOLES SHALL NOT BE LESS THAN 380 mm, NOR MORE THAN 600 mm.

TEMPORARY CONSTRUCTION SIGN PANEL OVERLAY COVERING A COMPLETE SIGN PANEL

OVERLAY ASSEMBLY STEPS:

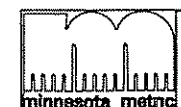
1. DRILL 6 mm HOLES ON THE SHEET ALUMINUM OVERLAYS IN ACCORDANCE WITH HOLE SPACING ON DIAGRAM. OUTSIDE HOLES SHALL NOT BE SPACED MORE THAN 300 mm APART.
2. ATTACH ONE PLASTIC WASHER (3 mm THICK, 10 mm I.D. AND 22 mm O.D.), WITH DOUBLE FACED TAPE, CENTERED BEHIND EACH DRILLED HOLE.
3. POSITION THE FAR LEFT SHEET ALUMINUM OVERLAY PANEL WITH THE BOTTOM FLUSH WITH THE INPLACE EXTRUDED SIGN PANEL AND THE LOWER LEFT EDGE OF THE OVERLAY PANEL LINED UP WITH THE LOWER LEFT EDGE OF THE BOTTOM INPLACE PANEL SECTION.
4. DRILL ALL OUTSIDE HOLES THROUGH THE INPLACE EXTRUDED SIGN PANEL AND ATTACH OVERLAY PANEL WITH 5 mm POP RIVETS MEETING THE REQUIREMENTS ON Mh/DDT 3352.A7a
5. DRILL THE INNER HOLES THROUGH THE INPLACE SIGN PANEL AND ATTACH WITH RIVETS AS SPECIFIED IN STEP 4.
6. ABUT THE NEXT OVERLAY PANEL TO THE FIRST ATTACHED OVERLAY PANEL AND PERFORM THE SAME WORK AS SPECIFIED IN STEPS 4 AND 5.
7. INSTALL EACH ADDITIONAL OVERLAY PANEL AS SPECIFIED IN STEP 6.

NOTES:

1. IF TOP PANEL IS 155 mm HIGH, THIS VERTICAL SPACE IS 155 mm; IF TOP PANEL IS 305 mm HIGH, THIS VERTICAL SPACE IS 305 mm.
2. SHEET ALUMINUM PANEL RIVET SPACING SHALL BE 1/2 THE PANEL'S WIDTH.

CITY PROJECT 02-05

6 OF 7



TRAFFIC CONTROL SHEET NO. 1	TITLE TEMPORARY CONSTRUCTION SIGN PANEL OVERLAY COVERING OF A SIGN PANEL TYPICAL
--------------------------------	---

CERTIFIED BY *Kevin P. Kull* LIC. NO. 23211 03/29 20 02
 LICENSED PROFESSIONAL ENGINEER

STATE PROJ. NO. 0212-41 (TH 242) SHEET NO. 95 OF 171 SHEETS

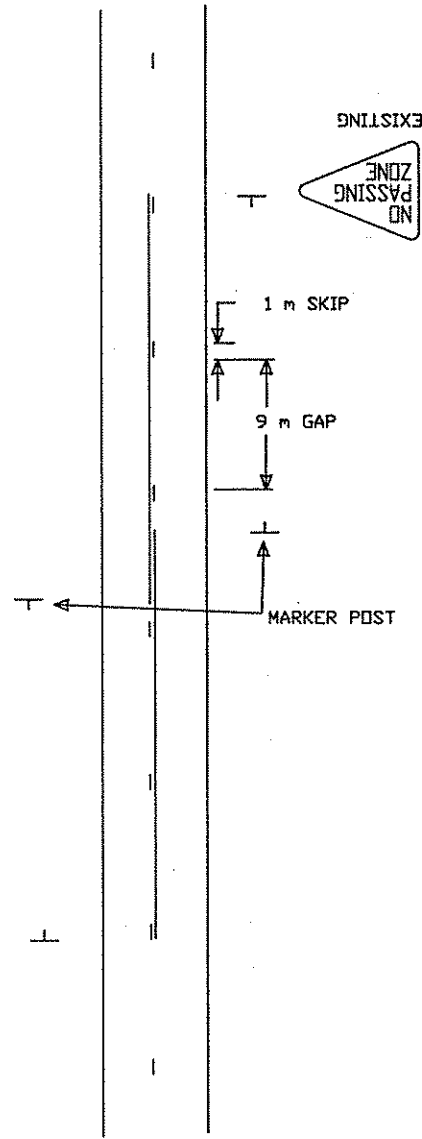
REVISED 01-FEB-2001

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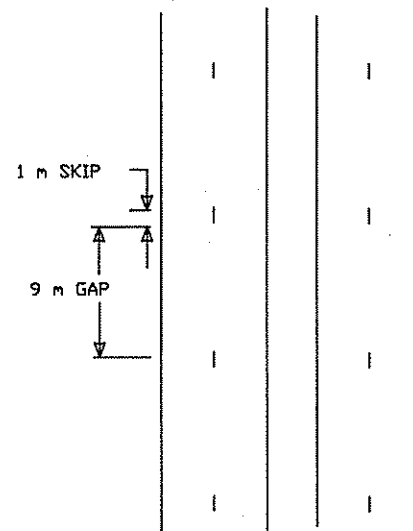
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INTERIM PAVEMENT MARKING

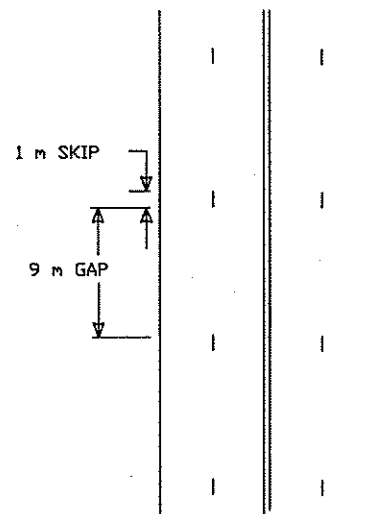
TWO LANE, TWO WAY



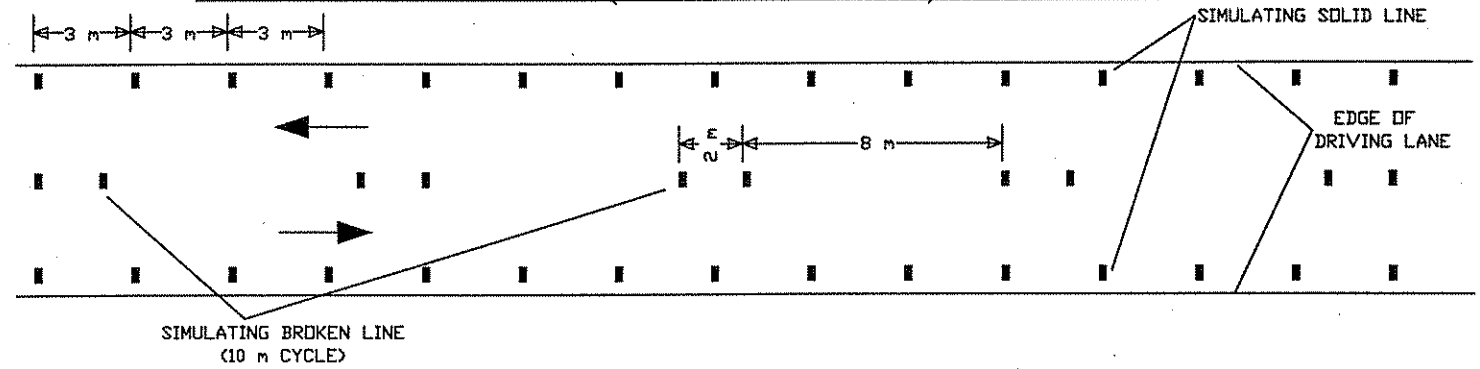
MULTI-LANE, DIVIDED



MULTI-LANE, UNDIVIDED



SIMULATING A SOLID LINE AND A BROKEN LINE (10 m CYCLE) WITH TRPMS



USING TRPM'S AS INTERIM PAVEMENT MARKING

WHEN TRPM'S ARE USED TO SIMULATE A LINE THE FOLLOWING GUIDELINE APPLIES:

SKIP STRIPE - USES 2 TRPM'S ON 2 m CENTERS WITH AN 8 m GAP

SOLID LINE - USES TRPM'S ON 3 m CENTERS ON TANGENTS, FLATTER GRADES AND CURVES UNDER 6 DEGREES (291 m RADIUS). FOR CURVES OVER 6 DEGREES (291 m RADIUS) AND STEEP GRADES, THIS SPACING SHALL BE REDUCED TO 1.5 m CENTERS.

GENERAL NOTES:

SEE SPECIAL PROVISIONS FOR INTERIM PAVEMENT MARKING GUIDELINES

THESE INTERIM PAVEMENT MARKING GUIDELINES APPLY TO ALL TEMPORARY TRAFFIC CONTROL ZONES OF AT LEAST 100 m IN LENGTH ON TANGENT AND 15 m ON CURVES OF 291 m RADIUS OR LESS.

- FOR ALL PROJECTS GREATER THAN 2 km IN LENGTH, INTERIM SKIP STRIPE PAVEMENT MARKINGS SHALL USE THE SAME CYCLE LENGTH AS FINAL PAVEMENT MARKINGS (10 m) AND SHALL BE A MINIMUM OF 1 m LENGTH.
- ON PROJECTS GREATER THAN 100 m IN LENGTH, BUT LESS THAN 2 km IN LENGTH, THE INTERIM MARKING SHALL MATCH THE CYCLE LENGTH AT EITHER END OF THE PROJECT. THE INTERIM STRIPE SHALL BE 1 m IN LENGTH.

ALL INTERIM MARKINGS SHALL BE INSTALLED PRIOR TO REMOVING LANE CLOSURE OR OPENING THE ROADWAY TO TRAFFIC.

GENERAL NOTES (CONTINUED):

FINAL MARKINGS AND ALL OTHER PAVEMENT MARKINGS INCLUDING EDGELINES, CHANNELIZING LINES, LANE REDUCTION TRANSITIONS, GORE MARKINGS AND OTHER LONGITUDINAL MARKINGS AND THE VARIOUS NON-LONGITUDINAL MARKINGS (STOP LINES, RAIL ROAD CROSSINGS, CROSSWALKS, WORDS, SYMBOLS, ETC) SHOULD BE INSTALLED WITHIN 14 CALENDAR DAYS.

NOTE: WHEN FINAL MARKINGS ARE TO BE EPOXY AND PAINT IS USED FOR INTERIM SOLID LINES, A 0.25 mm THICK LAYER APPLICATION OF A WATER-BASED TRAFFIC MARKING PAINT SHALL BE USED WITH A 0.25 mm LAYER OF PAINT APPLIED. BEADS SHOULD BE APPLIED AT A RATE OF 700 g/L. REMOVAL OF THE 0.25 mm LAYER OF PAINT IS NOT REQUIRED PRIOR TO PLACING THE EPOXY.

CITY PROJECT 02-05

7 OF 7



TRAFFIC CONTROL SHEET NO.

1

TITLE:

INTERIM PAVEMENT MARKING

CERTIFIED BY

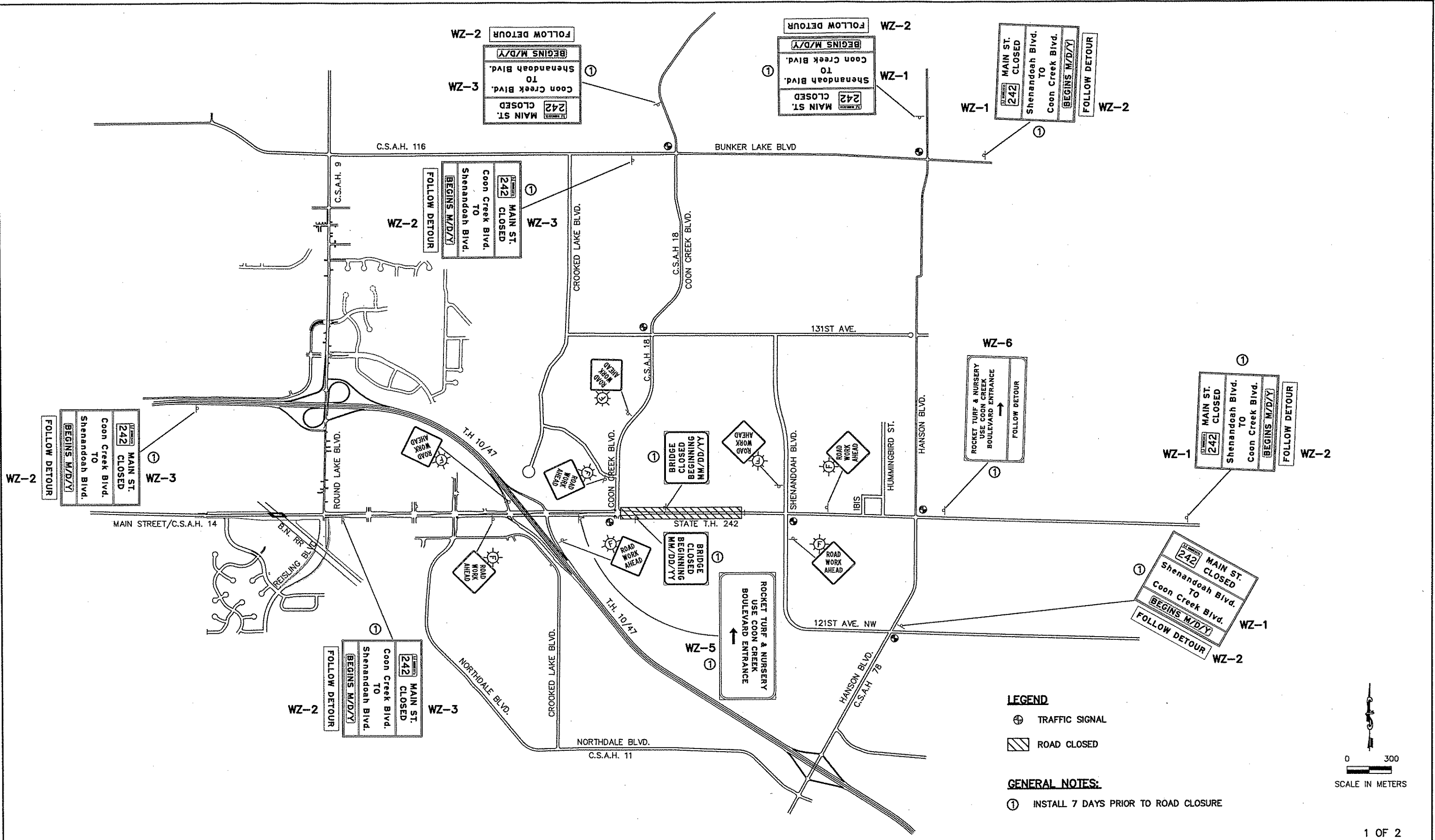
Kevin P. Kullb
LICENSED PROFESSIONAL ENGINEER

LIC. NO. 23211 03/29 20 02

STATE PROJ. NO. 0212-41 (TH 242)

SHEET NO. 96 OF 171 SHEETS

PLOT DATE: May 20, 2002 2:46pm DISK FILE NAME: (15.05) R:\33889\33889028\33889B\PLAN_SHT\Staging\LBdetour1.dwg

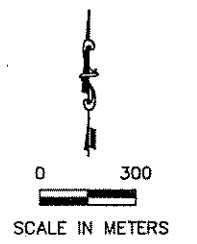


LEGEND

- ⊕ TRAFFIC SIGNAL
- ▨ ROAD CLOSED

GENERAL NOTES:

- ① INSTALL 7 DAYS PRIOR TO ROAD CLOSURE



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889028 5001	
DRAWN BY: IKR	DESIGN BY: JRM
CHKD. BY: JRM	DWG. NAME: LBDETOUT1
DATE: MARCH 29, 2002	



Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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

Kevin P. Kielb
KEVIN P. KIELB
DATE: 03/29/02 MN LIC. NO. 23211

MAIN STREET/T.H. 242 RECONSTRUCTION

TRAFFIC CONTROL
ADVANCED SIGNING
T.H. 242 DETOUR PLAN
CITY PROJECT 02-05

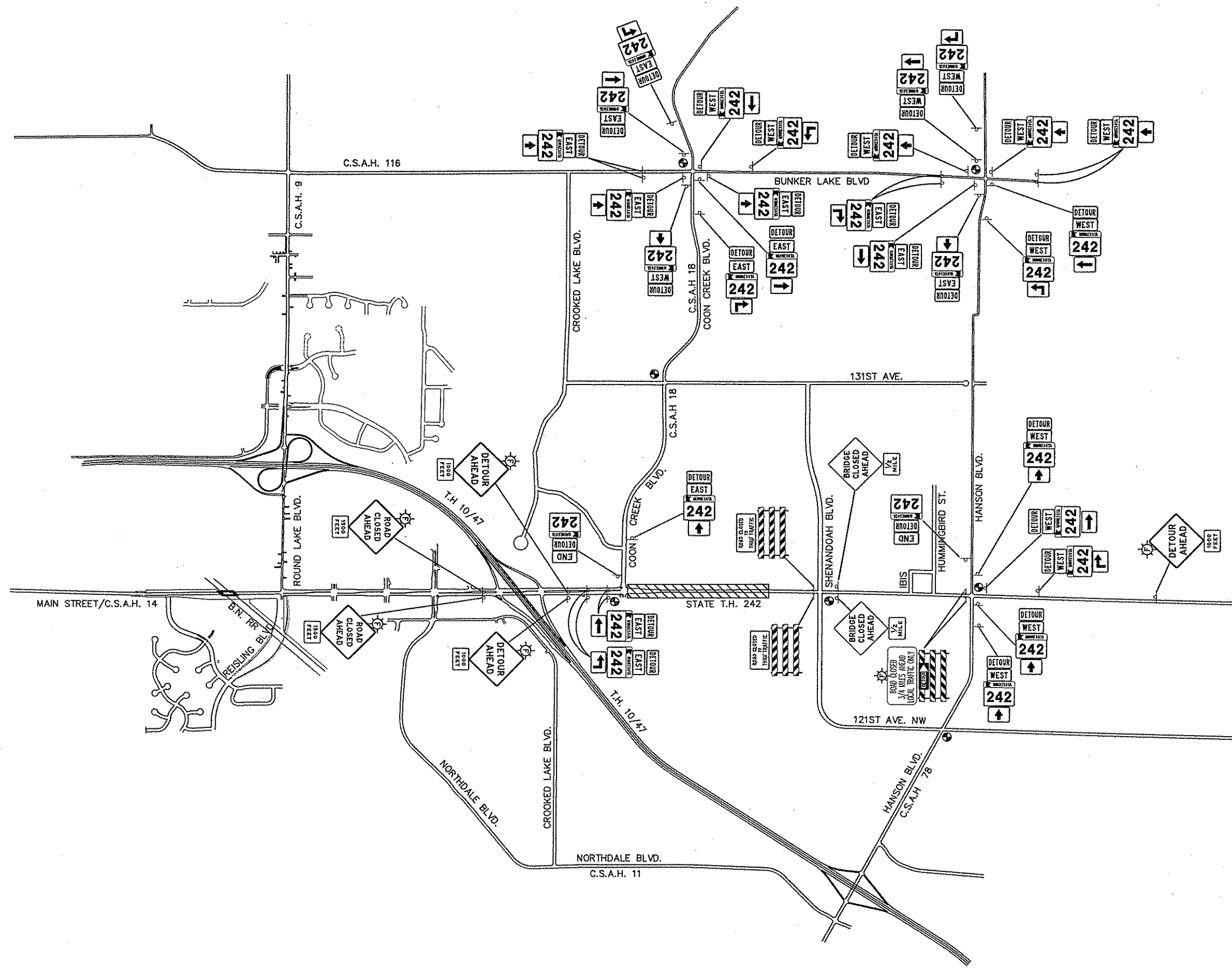
S.P. 0212-41

1 OF 2

SHEET NO.
97

171

PLOT DATE: May 20, 2002 2:46pm DISK FILE NAME: (15.05) R:\33889\33889028\33889B\PLAN_SHT\Staging\LBdetour2.dwg

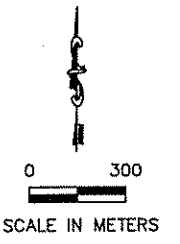
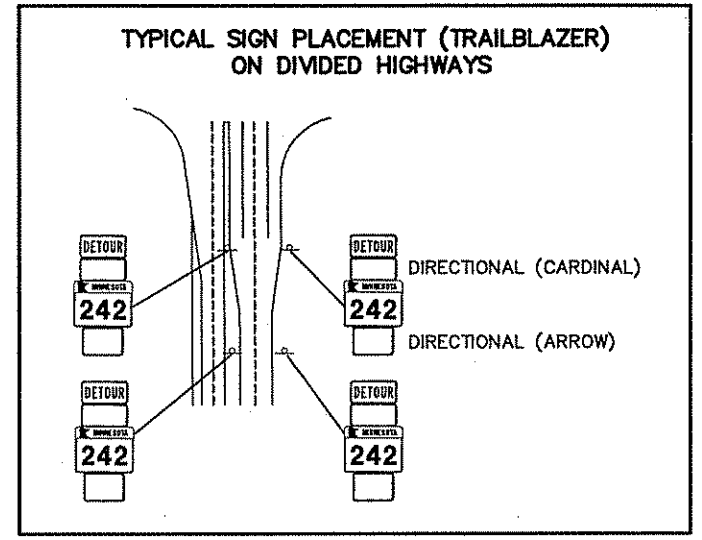


LEGEND

- TRAFFIC SIGNAL
- ROAD CLOSED

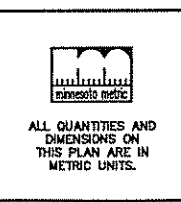
GENERAL NOTES:

1. CONTRACTOR TO COVER ALL CONFLICTING INPLACE TRAFFIC SIGNS FOR THE DURATION OF THE DETOUR.



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889028 5001	
DRAWN BY: IKR	DESIGN BY: JRM
CHKD. BY: JRM	DWG. NAME: LBDETOUR2
DATE: MARCH 29, 2002	



Thrasher Square
700 Third Street South
Minneapolis, MN 55410
612.370.0700 Tel
612.370.1376 Fax

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Kevin P. Kielb
KEVIN P. KIELB
DATE: 03/29/02 MN LIC. NO. 23211

MAIN STREET/T.H. 242 RECONSTRUCTION

TRAFFIC CONTROL
T.H. 242 DETOUR PLAN

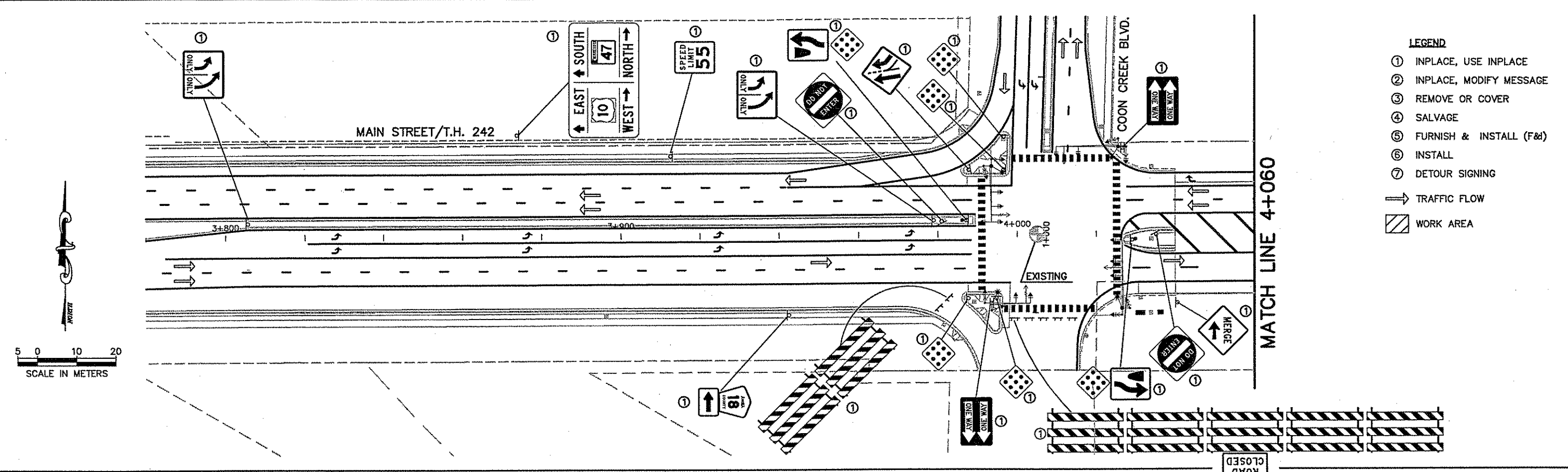
CITY PROJECT 02-05

S.P. 0212-41

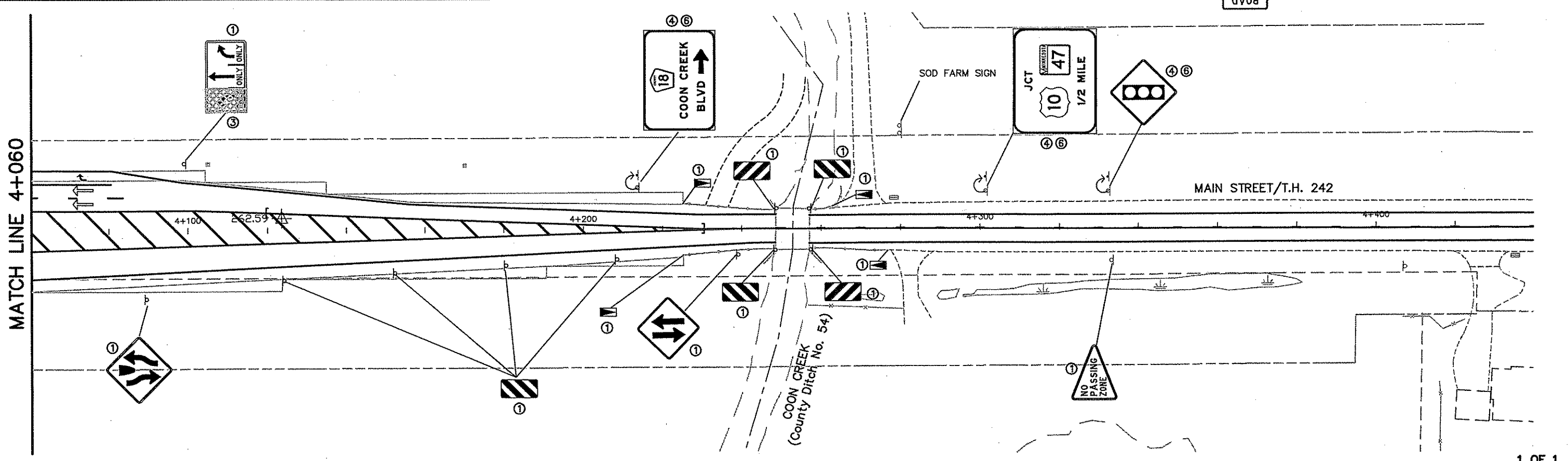
SHEET NO.
98
171

B_exstripe
base_mod
LBsapbox
242MHETO
242PLN2A
242-ESUM
242F-PLN
-ALI

PLOT DATE: May 20, 2002 2:45pm DISK FILE NAME: (15.05) R:\33889\33889028\338898\PLAN_SHT\Staging\LBinpTC04.dwg



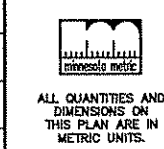
- LEGEND**
- ① INPLACE, USE INPLACE
 - ② INPLACE, MODIFY MESSAGE
 - ③ REMOVE OR COVER
 - ④ SALVAGE
 - ⑤ FURNISH & INSTALL (F&I)
 - ⑥ INSTALL
 - ⑦ DETOUR SIGNING
 - TRAFFIC FLOW
 - ▨ WORK AREA



1 OF 1

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889028 5001	
DRAWN BY: IKR	DESIGN BY: JRM
CHKD. BY: JRM	DWG. NAME: LBINPTC04
DATE: MARCH 29, 2002	



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700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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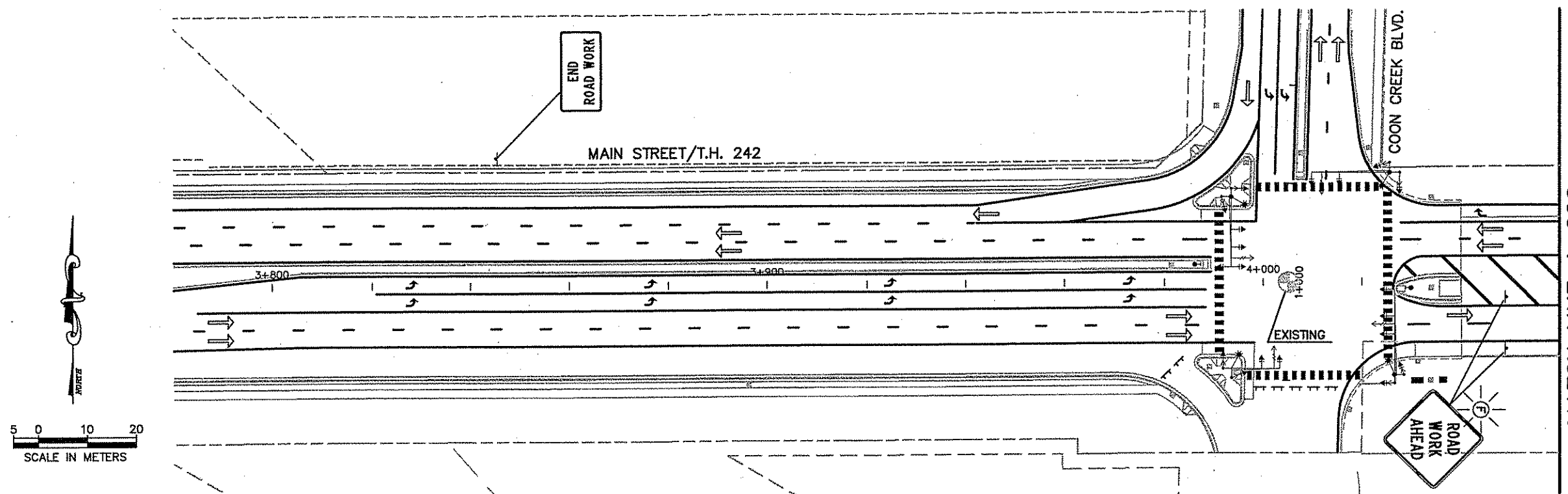
Kevin P. Kielb
KEVIN P. KIELB
DATE: 03/29/02 MN LIC. NO. 23211

MAIN STREET/T.H. 242 RECONSTRUCTION
MAIN STREET/T.H. 242
TRAFFIC CONTROL
STAGE 1, PHASE 1
MODIFY INPLACE SIGNING & STRIPING
CITY PROJECT 02-05

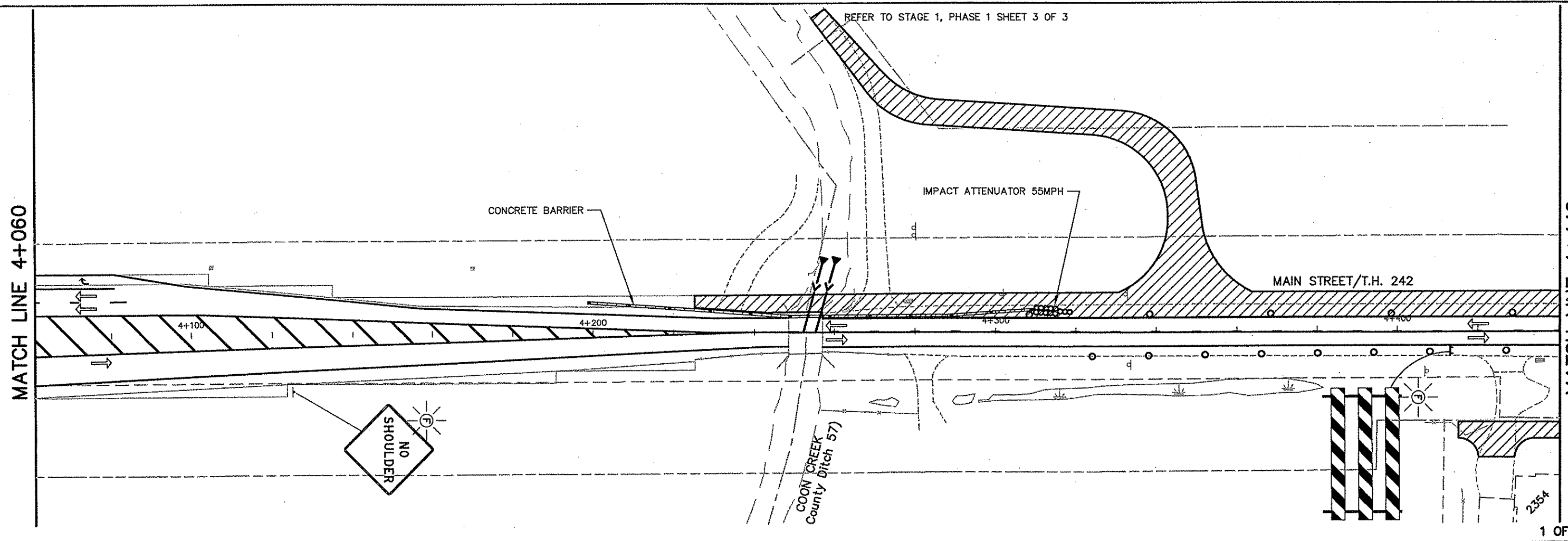
S.P. 0212-41

SHEET NO.
99
171

C_STIPHI
 B_exstipe
 jbase_mod
 LBsapbox
 242MHETO
 242PLN2A
 242-ESUM
 -PLN
 -ALI



- LEGEND**
- ① INPLACE, USE INPLACE
 - ② INPLACE, MODIFY MESSAGE
 - ③ REMOVE OR COVER
 - ④ SALVAGE
 - ⑤ FURNISH & INSTALL (F&I)
 - ⑥ INSTALL
 - ⑦ DETOUR SIGNING
- TRAFFIC FLOW
- ▨ WORK AREA

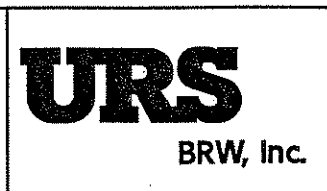


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REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	IKR	05/22/02	REVISED D/W (4+347.150, LT.) PER MNDOT COMMENTS

DESIGN FILE: 33889028 5001	
DRAWN BY: IKR	DESIGN BY: JRM
CHKD. BY: JRM	DWG. NAME: LBTC1-1A
DATE: MARCH 29, 2002	

ALL QUANTITIES AND DIMENSIONS ON THIS PLAN ARE IN METRIC UNITS.



Thresher Square
 700 Third Street South
 Minneapolis, MN 55415
 612.370.0700 Tel
 612.370.1378 Fax

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

Kevin P. Kielb
 KEVIN P. KIELB
 DATE: 03/29/02 MN LIC. NO. 23211

MAIN STREET/T.H. 242 RECONSTRUCTION
MAIN STREET/T.H. 242
 TRAFFIC CONTROL
 STAGE 1, PHASE 1

CITY PROJECT 02-05

S.P. 0212-41

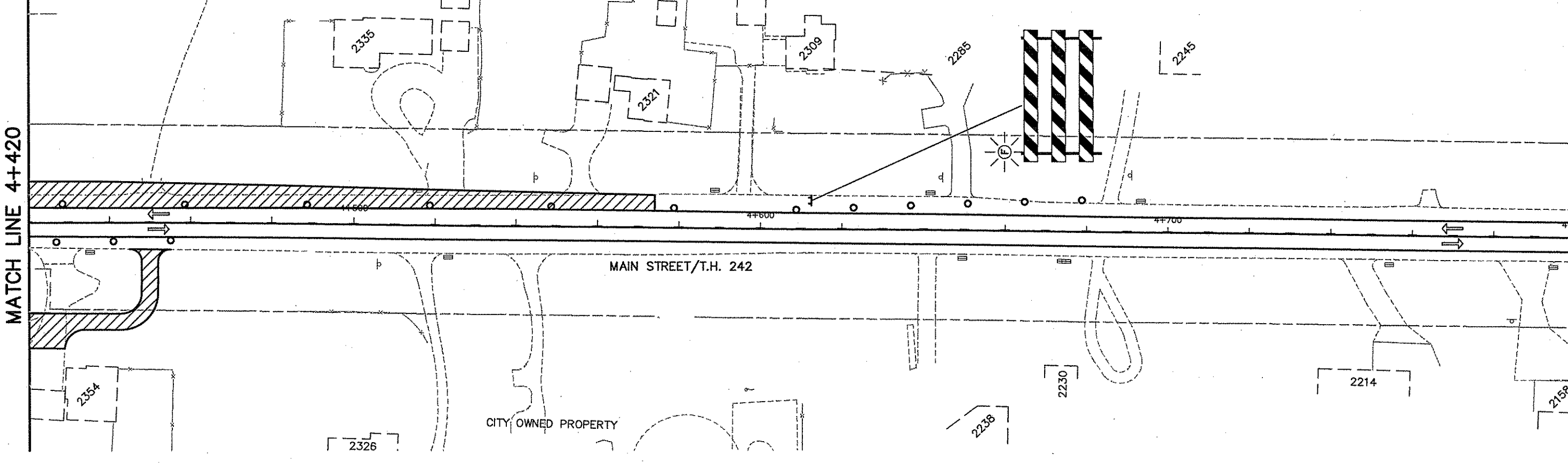
1 OF 3
 SHEET NO.
 100
 171

C_STIP1
 B_exstripe
 Sehplan
 LBSapbox
 242MHETO
 242PLN2A
 242-ESUM
 -PLN
 -ALI

PLOT DATE: May 20, 2002 4:34pm DISK FILE NAME: (15.05) R:\33889\33889028\33889B\PLAN_SHT\Staging\LBTC1-1B.dwg

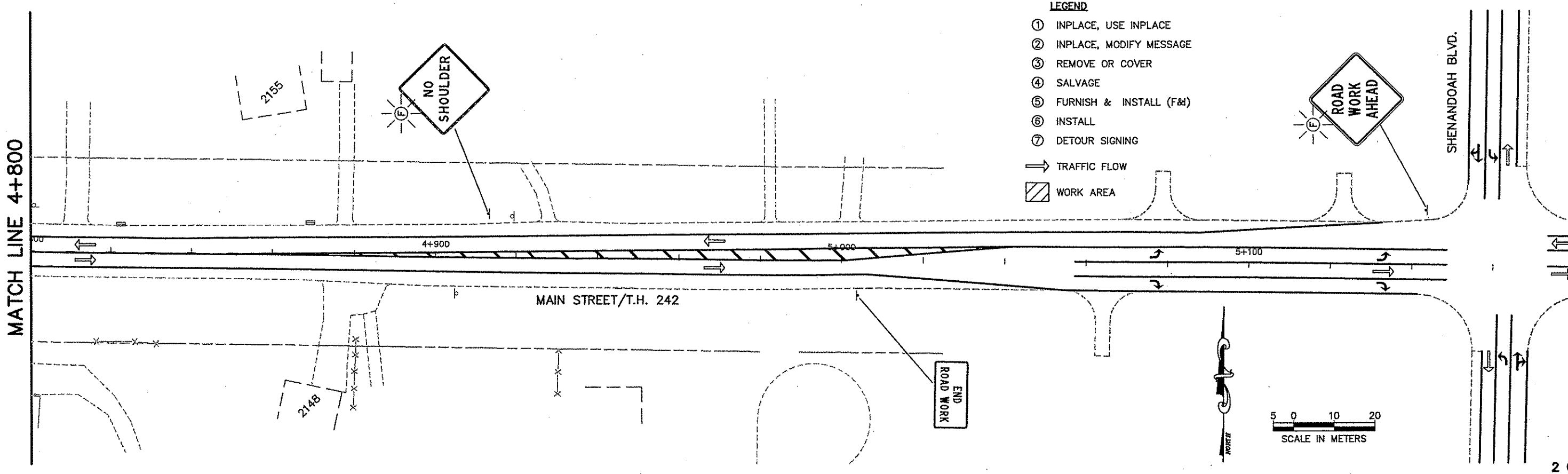
MATCH LINE 4+420

MATCH LINE 4+800

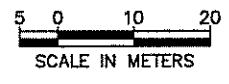


MATCH LINE 4+800

MATCH LINE 4+800



- LEGEND**
- ① INPLACE, USE INPLACE
 - ② INPLACE, MODIFY MESSAGE
 - ③ REMOVE OR COVER
 - ④ SALVAGE
 - ⑤ FURNISH & INSTALL (F&I)
 - ⑥ INSTALL
 - ⑦ DETOUR SIGNING
 - TRAFFIC FLOW
 - ▨ WORK AREA



2 OF 3

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	JL	05/22/02	REVISED PLAN SHEET ORDER

DESIGN FILE: 33889028 5001
DRAWN BY: IKR DESIGN BY: JRM
CHKD. BY: JRM DWG. NAME: LBTC1-1B
DATE: MARCH 29, 2002



Thrasher Square
 700 Third Street South
 Minneapolis, MN 55415
 612.370.0700 Tel
 612.370.3378 Fax

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

Kevin P. Kiehl
 KEVIN P. KIELB
 DATE: 03/29/02 MN LIC. NO. 23211

MAIN STREET/T.H. 242 RECONSTRUCTION
MAIN STREET/T.H. 242
 TRAFFIC CONTROL
 STAGE 1, PHASE 1

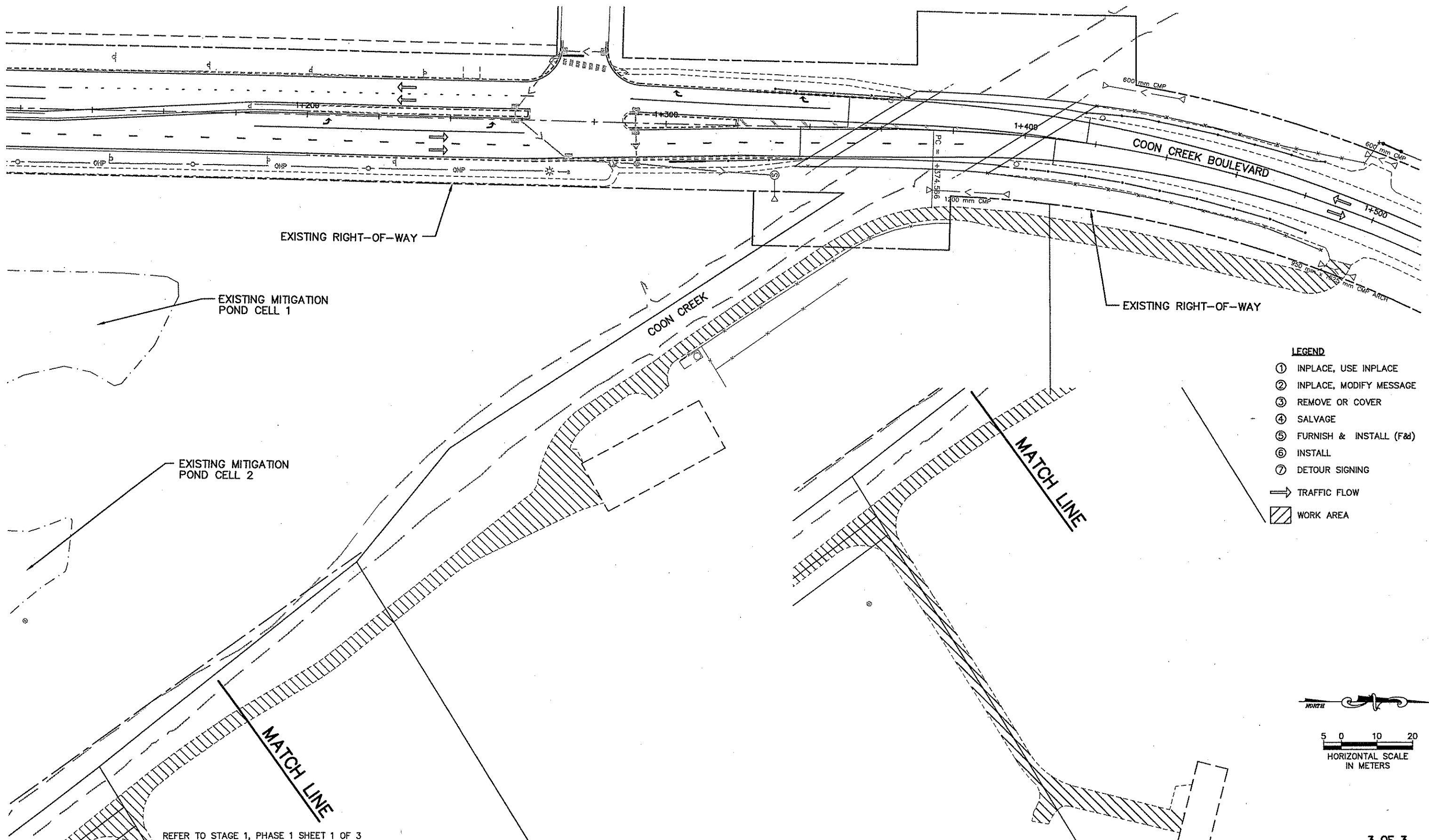
CITY PROJECT 02-05

S.P. 0212-41

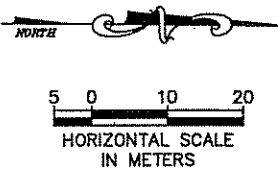
SHEET NO.
 101
 171

TC_STIPH1
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 hosp-pond
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 stripe_mod
 lb_cln
 LB2001CL
 BOX
 SUM
 EUT
 242MHETO

PLOT DATE: May 20, 2002 6:43pm DISK FILE NAME: (15.05) R:\33889\33889028\33889B\PLAN_SHT\Staging\LBTC1-1D.dwg



- LEGEND**
- ① INPLACE, USE INPLACE
 - ② INPLACE, MODIFY MESSAGE
 - ③ REMOVE OR COVER
 - ④ SALVAGE
 - ⑤ FURNISH & INSTALL (F&I)
 - ⑥ INSTALL
 - ⑦ DETOUR SIGNING
 - TRAFFIC FLOW
 - ▨ WORK AREA



REFER TO STAGE 1, PHASE 1 SHEET 1 OF 3

3 OF 3

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	JJL	05/22/02	REVISIONS FOR LAWRENCE D/W PER MNDOT COMMENTS

DESIGN FILE: 33889028 5001	
DRAWN BY: JJL	DESIGN BY: JJL
CHKD. BY: KPK	DWG. NAME: LBTC1-1D
DATE: MARCH 29, 2002	


 ALL QUANTITIES AND DIMENSIONS ON THIS PLAN ARE IN METRIC UNITS.

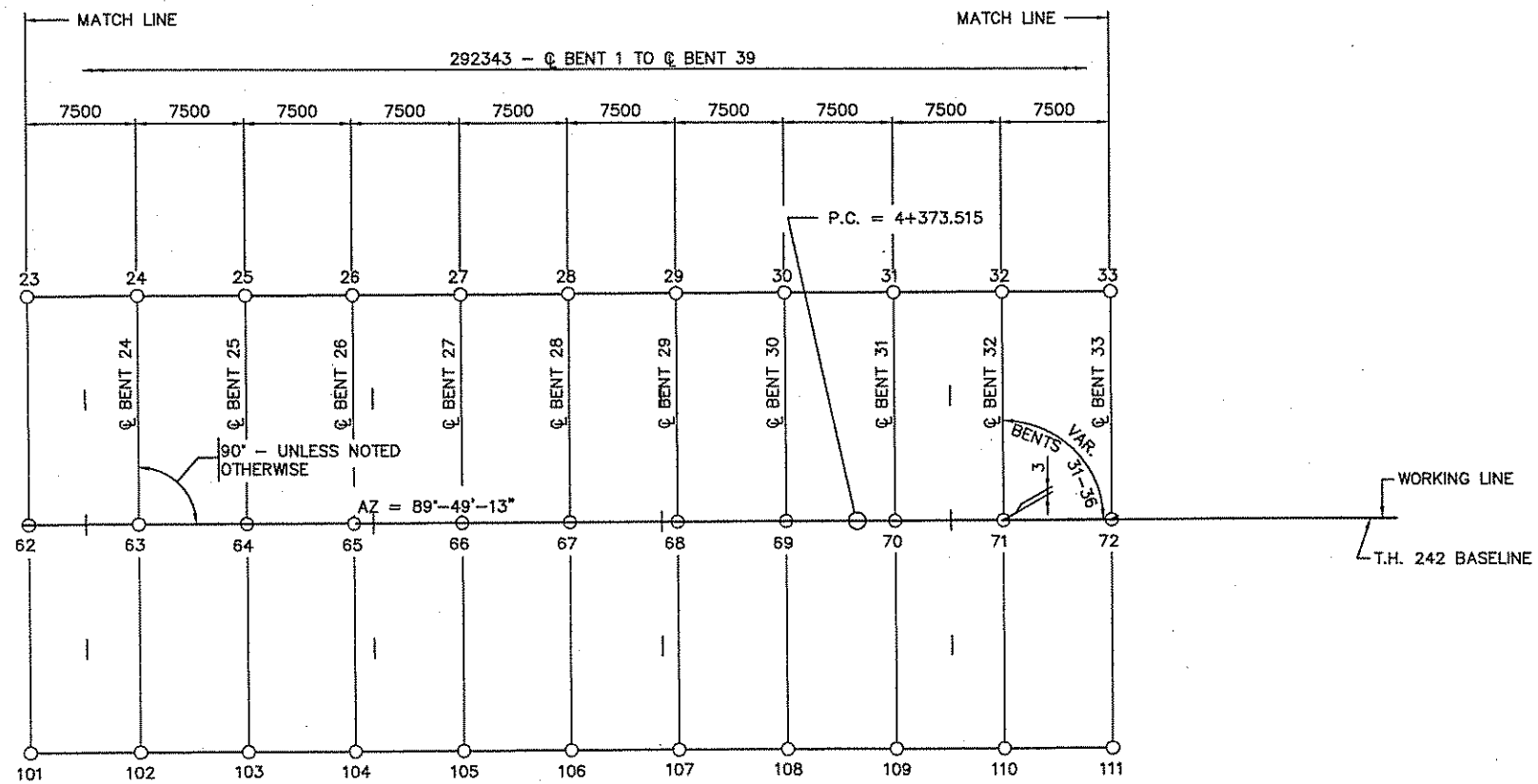
URS
 BRW, Inc.

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Kevin P. Kielb
 KEVIN P. KIELB
 DATE: 03/29/02 MN LIC. NO. 23211

**MAIN STREET/T.H. 242 RECONSTRUCTION
 COON CREEK BLVD. DRIVEWAY ACCESS**
 TRAFFIC CONTROL
 STAGE 1, PHASE 1
 CITY PROJECT 02-05

S.P. 0212-41

SHEET NO.
 102
 171



COORDINATES		ELEVATIONS	
POINT	X-COORD.	Y-COORD.	TOP OF RDWY. ELEVATION
23	147527.479	48537.256	262.883
24	147534.979	48537.280	262.804
25	147542.479	48537.304	262.720
26	147549.979	48537.327	262.634
27	147557.479	48537.351	262.548
28	147564.979	48537.374	262.474
29	147572.479	48537.398	262.418
30	147579.979	48537.421	262.379
31	147587.482	48537.444	262.357
32	147597.994	48537.463	262.356
33	147602.505	48537.477	262.366
62	147527.529	48521.357	262.827
63	147534.907	48521.380	262.749
64	147542.529	48521.404	262.664
65	147550.029	48521.427	262.578
66	147557.529	48521.451	262.492
67	147565.028	48521.474	262.419
68	147572.528	48521.498	262.362
69	147580.028	48521.521	262.323
70	147587.528	48521.545	262.302
71	147595.028	48521.568	262.297
72	147602.528	48521.592	262.311
101	147527.579	48505.457	262.883
102	147535.079	48505.480	262.804
103	147542.579	48505.504	262.720
104	147550.079	48505.527	262.634
105	147557.578	48505.545	262.548
106	147565.078	48505.574	262.474
107	147572.578	48505.598	262.418
108	147580.078	48505.621	262.379
109	147587.574	48505.645	262.357
110	147595.064	48505.686	262.353
111	147602.552	48505.677	262.366

WORKING POINT LAYOUT

DIMENSIONS BETWEEN WORKING POINTS

POINT	STATION	23	24	25	26	27	28	29	30	31	32	33	62	63	64	65	66	67	68	69	70	71	72	101	102	103	104	105	106	107	108	109	110	111	POINT		
23	4+316.133		7500										15900	17580	21859	27551	33953	40732	47726	54855	62071	69348	76667			32672	35160	38955	43718	49168	55102	61380	67903	74604	81444	23	
24	4+323.633			7500									17580	15900	17580	21859	27551	33953	40732	47726	54855	62071	69348	32672			32672	35160	38955	43718	49168	55102	61377	67895	74598	24	
25	4+331.133				7500								21859	17580	15900	17580	21859	27551	33953	40732	47726	54855	62071	35160	32672			32672	35160	38955	43718	49168	55099	61369	67889	25	
26	4+338.633					7500							27551	21859	17580	15900	17580	21859	27551	33953	40732	47726	54855	38955	35160	32672			32672	35160	38955	43718	49165	55092	61365	26	
27	4+346.133						7500						33953	27551	21859	17580	15900	17580	21859	27551	33953	40732	47726	43718	38955	35160	32672			32672	35160	38955	43715	49159	55089	27	
28	4+353.633							7500					40732	33953	27551	21859	17580	15900	17580	21859	27551	33953	40732	49168	43718	38955	35160	32672			32672	35160	38955	43711	49157	28	
29	4+361.133								7500				47726	40732	33953	27551	21859	17580	15900	17580	21859	27551	33953	55102	49168	43718	38955	35160	32672			32672	35159	38950	43710	29	
30	4+368.633									7504			54855	47726	40732	33953	27551	21859	17580	15900	17580	21859	27551	61380	55102	49168	43718	38955	35160	32672			32672	35158	38951	30	
31	4+376.137										7511		62075	54859	47730	40735	33956	27554	21861	17582	15900	17580	21859	67910	61383	55105	49171	43720	38957	35162	32673			32672	35160	31	
32	4+383.648											7511	69361	62085	54868	47739	40744	33964	27561	21866	17582	15900	17580	74627	67917	61391	55112	49177	43725	38960	35162	32672			32672	32	
33	4+391.159																																				33
62	4+316.133													7500											15900	17580	21859	27551	33953	40732	47726	54855	62067	69334	76644	62	
63	4+323.633														7500										17580	15900	17580	21859	27551	33953	40732	47726	54891	62057	69325	63	
64	4+331.133															7500									21859	17580	15900	17580	21859	27551	33953	40732	47723	54855	62049	64	
65	4+338.633																7500								27551	21859	17580	15900	17580	21859	27551	33953	40728	47714	54834	65	
66	4+346.133																	7500							33953	27551	21859	17580	15900	17580	21859	27551	33950	40719	47706	66	
67	4+353.633																		7500						40732	33953	27551	21859	17580	15900	17580	21859	27548	33942	40713	67	
68	4+361.133																			7500					47726	40732	33953	27551	21859	17580	15900	17580	21856	27541	33936	68	
69	4+368.633																				7500				54855	47726	40732	33953	27551	21859	17580	15900	17579	21852	27538	69	
70	4+376.133																								62071	54855	47726	40731	33953	27551	21859	17580	15900	17578	21851	70	
71	4+383.633																								69347	62071	54855	47726	40732	33953	27557	21859	17582	15905	17582	71	
72	4+391.133																																			72	
101	4+316.133																										7500									101	
102	4+323.633																												7500							102	
103	4+331.133																													7500						103	
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106	4+353.633																															7500				106	
107	4+361.133																																			107	
108	4+368.633																																	7496		108	
109	4+376.129																																			109	
110	4+383.618																																			7489	110
111	4+391.107																																				111

W. L. TO C BENT	
BENT	ANGLE
31	89°59'09"
32	89°56'41"
33	89°54'13"

PLOT DATE: Mar 29, 2002 7:10am DISK FILE NAME: (15.05) R:\35889\35889028\35889B\STRUCT\PLAN_SHT\brlay3.dwg

S.A.P. 114-010-11

SIGNATURE: *David D. Long*
 PRINTED NAME: DAVID D. LONG
 DATE: 4/1/02 REG. NO. 243B4

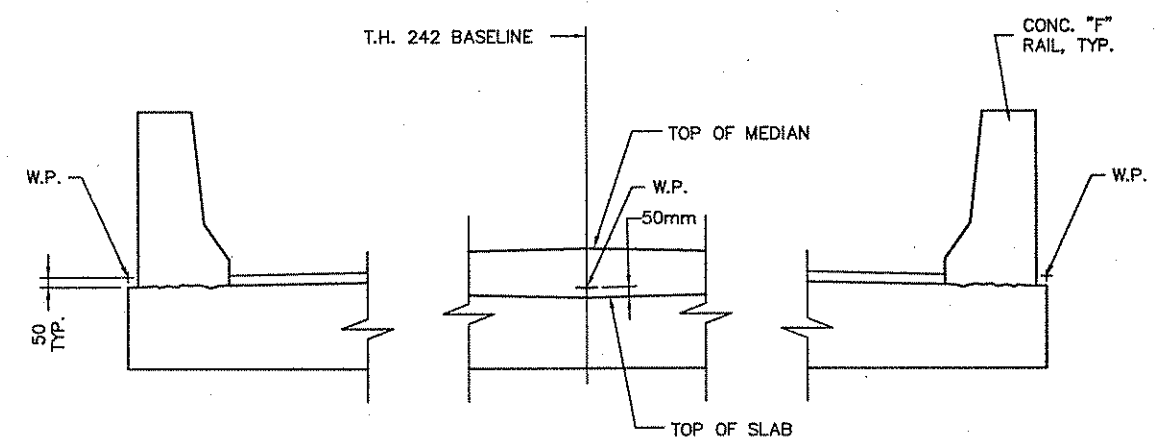
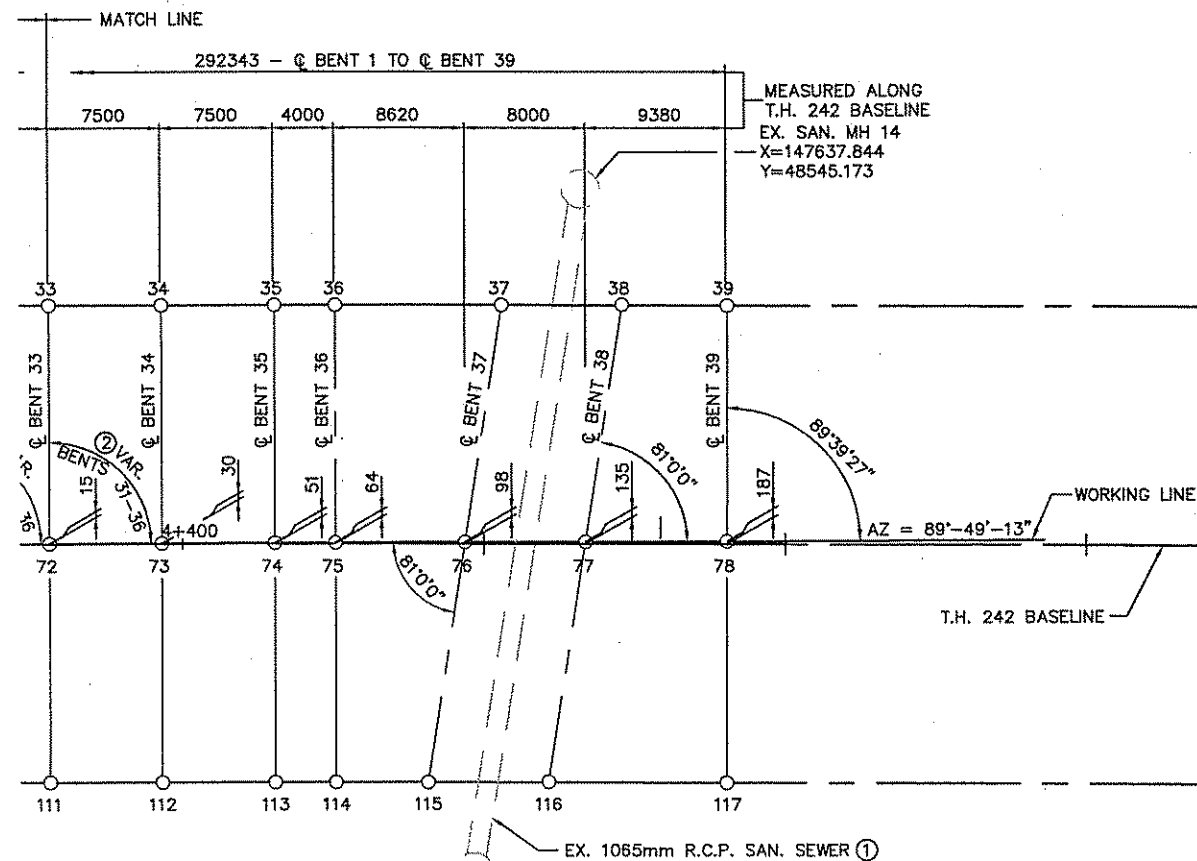


Transfer Square
100 Third Street South
Minneapolis, MN 55416
612.335.0700 Fax
612.335.0770

BRIDGE LAYOUT

DES: DDL DRN: DJV APPROVED: *4-3-02*
 CHK: CRJ CHK: CRJ
 SHEET NO. 6 OF 46 SHEETS

BRIDGE NO. 02015



WORKING POINT ELEVATION LOCATION
SHOWING WORKING POINT ELEVATION LOCATION AT MEDIAN AND BEHIND CONC. "F" RAIL

① CONTRACTOR SHALL FIELD VERIFY LOCATION OF EXISTING R.C.P. SANITARY SEWER PRIOR TO DRIVING PILES FOR BENT 37 AND BENT 38. ENGINEER SHALL BE NOTIFIED IF LOCATION IS NOT AS SHOWN. ADJUSTMENTS TO BRIDGE LAYOUT MAY BE REQUIRED TO PROVIDE MINIMUM CLEAR BETWEEN PILING AND R.C.P. PIPE.

WORKING POINT LAYOUT

T.H. 242 BASELINE CURVE DATA
 $\Delta = 00^\circ-58'-00''$
 $D = n/a$
 $R = 10\ 478.273\ m$
 $T = 88.403\ m$
 $L = 176.802\ m$
 $90\ km/h$
 $e = \text{NORMAL CROWN}$

DIMENSIONS BETWEEN WORKING POINTS

POINT	STATION	33	34	35	36	37	38	39	72	73	74	75	76	77	78	111	112	113	114	115	116	117	POINT
33	4+391.159		7511						15885	17555	21830	24745	31839	38977	47696		32672	35160	37045	40545	45922	55101	33
34	4+398.644			7511					17561	15861	17529	19569	25590	32251	40682	32664		32664	33809	36363	40830	49162	34
35	4+406.155				4006				21856	17555	15849	16334	20229	25968	33886	35160	32672		32052	33381	36591	43717	35
36	4+410.161					11066			24777	19604	16347	15836	18004	22916	29770	37044	33815	32051		32390	34779	41076	36
37	4+421.227						8000		34009	27588	21863	19314	15988	16722	30396	43751	38983	35181	33666		31917	35139	37
38	4+429.227							6974	41262	34453	27999	24799	18964	15988	17225	49604	44116	39299	37096	34347		22592	38
39	4+436.201								47753	40745	33949	30460	23500	18348	15713	55101	49167	43717	41077	37485	33897		39
72	4+391.133															15914	17591	21861	24775	29748	36747	47698	72
73	4+398.633										7500					17605	15930	17605	19642	23768	30171	40716	73
74	4+406.133											4000				21888	17623	15951	16444	18904	24140	33956	74
75	4+410.133												8620			24805	19670	16457	15966	17107	21308	30492	75
76	4+418.753													8000		31900	25692	20370	18170	16186	16896	23612	76
77	4+426.753														9380	39038	32352	26108	23086	19144	16186	18574	77
78	4+436.133															47757	40778	34021	30558	25536	19937	16087	78
111	4+391.107																7489						111
112	4+398.622																	7489					112
113	4+406.111																		3994				113
114	4+410.105																			6143			114
115	4+416.518																				8000		115
116	4+424.518																					11817	116
117	4+436.335																						117

COORDINATES

POINT	X-COORD.	Y-COORD.	ELEVATIONS
33	147602.602	48537.477	262.366
34	147610.017	48537.477	262.397
35	147617.528	48537.488	262.438
36	147621.534	48537.488	262.460
37	147632.685	48537.478	262.521
38	147640.628	48537.463	262.565
39	147647.573	48537.446	262.603
72	147602.528	48521.592	262.311
73	147610.028	48521.615	262.341
74	147617.528	48521.639	262.382
75	147621.528	48521.651	262.404
76	147630.148	48521.678	262.452
77	147638.148	48521.704	262.496
78	147647.528	48521.733	262.547
111	147592.552	48505.678	262.366
112	147610.040	48505.685	262.397
113	147617.529	48505.688	262.438
114	147621.523	48505.686	262.460
115	147627.630	48505.684	262.495
116	147635.625	48505.673	262.539
117	147647.482	48505.646	262.604

W. L. TO C BENT

BENT	ANGLE
33	89°54'13"
34	89°51'46"
35	89°49'18"
36	89°46'50"

PLOT DATE: Apr 02, 2002 12:43pm DISK FILE NAME: (15.05) R:\33889\33889028\STRUCT\PLAN_SHT\Bridg4.dwg

S.A.P. 114-010-11

SIGNATURE: *David D. Long*
 PRINTED NAME: DAVID D. LONG
 DATE: 4/2/02 REG. NO. 24384



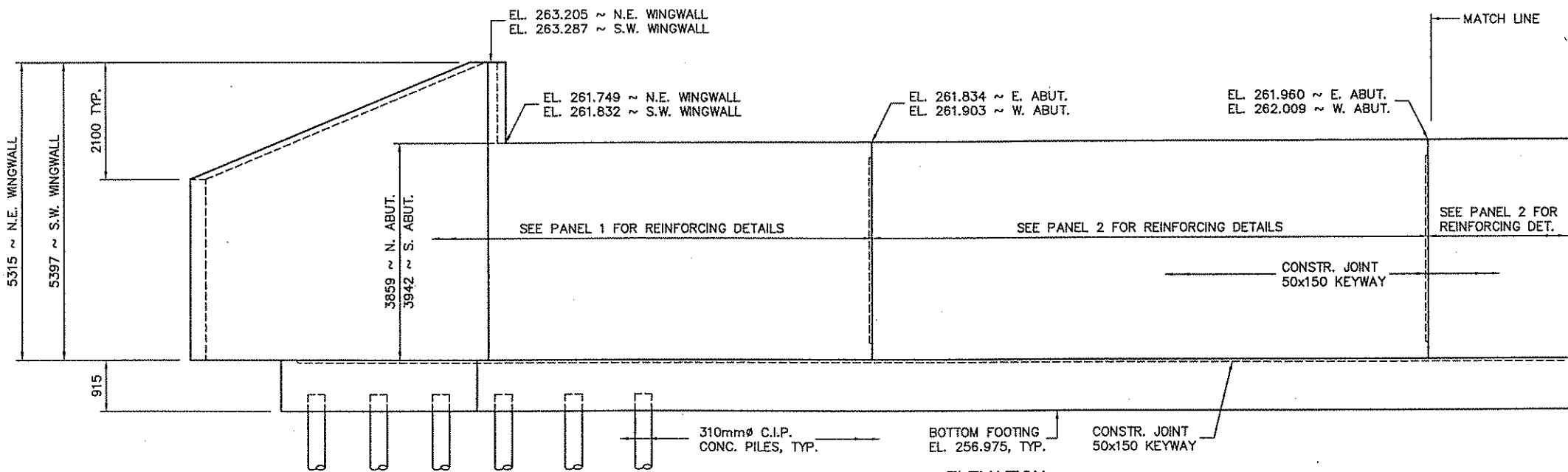
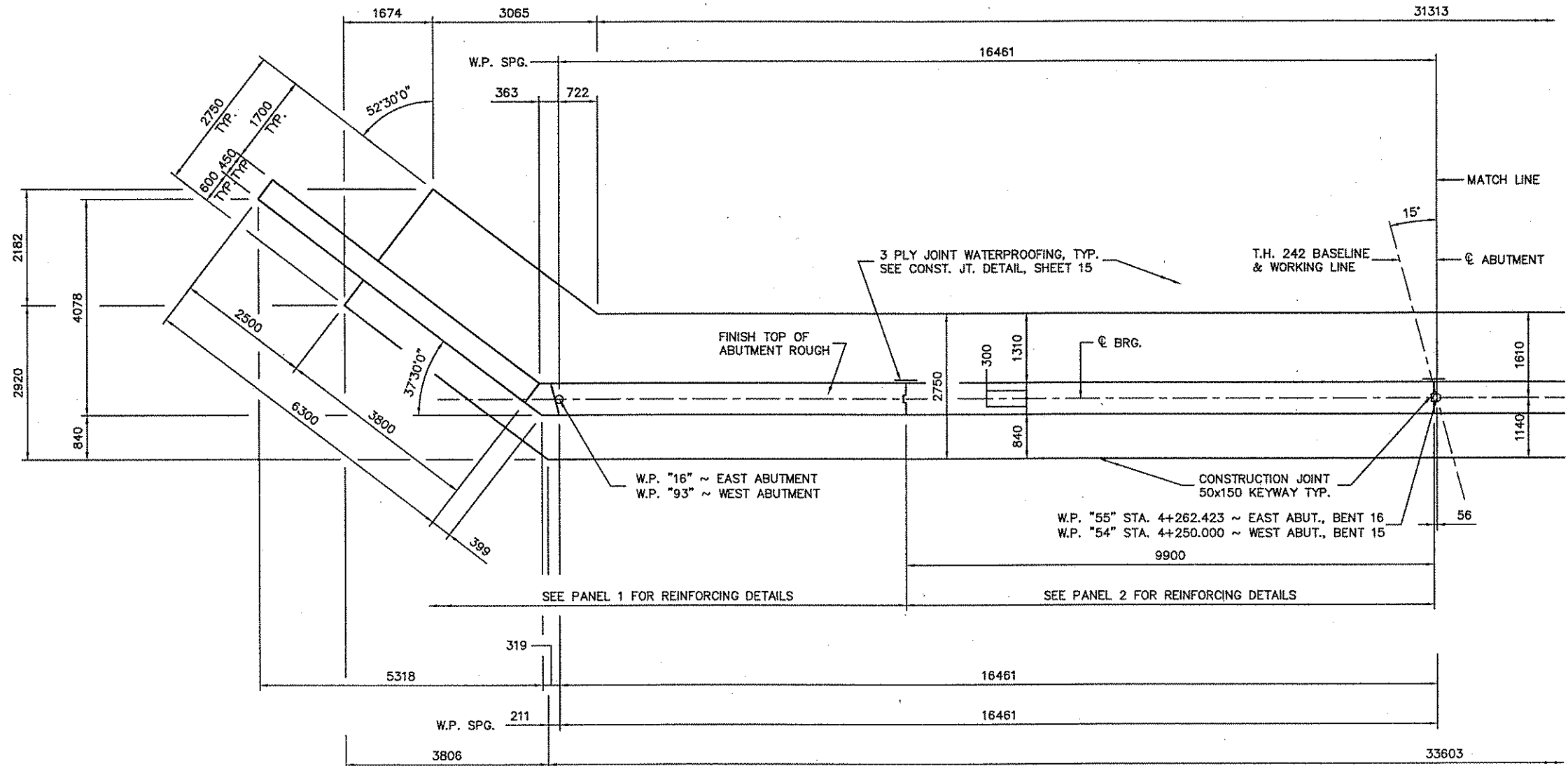
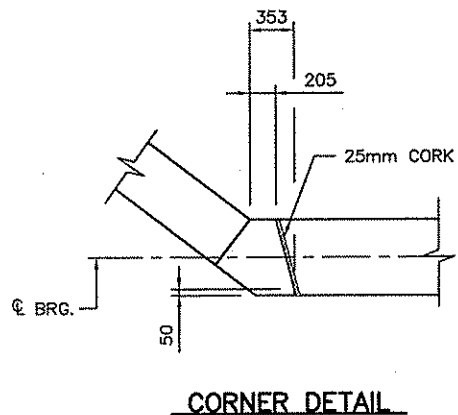
Thresher Square
 100 Third Street South
 Minneapolis, MN 55415
 612.375.0100 FAX
 612.375.0170 FAX

BRIDGE LAYOUT

DES: DDL DRN: DBM APPROVED: 4-3-02
 CHK: CRJ CHK: CRJ
 SHEET NO. 7 OF 46 SHEETS

BRIDGE NO. 02015

PLOT DATE: Mar 29, 2002 11:19am DISK FILE NAME: (15.05) R:\33889\33889026\STRUCT\PLAN_SHT\02015feb03.dwg



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 DATE: 4/1/02 REG. NO. 24384



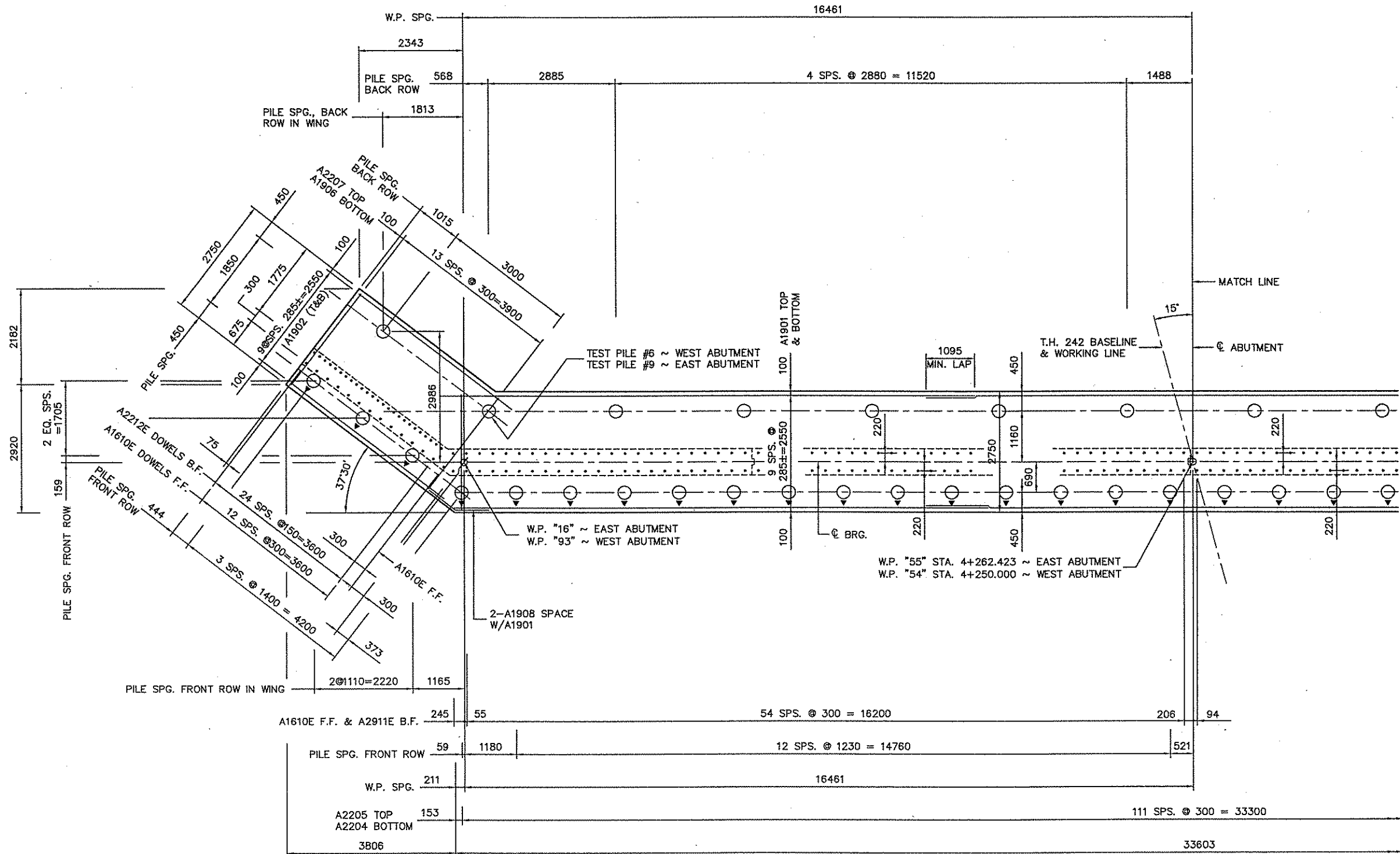
Thresher Square
700 Third Street South
Minneapolis, MN 55416
612.375.0100 Tel
612.375.0176 Fax

**ABUTMENT
DETAILS**

DES: CRJ DRN: DBM APPROVED: 4-3-02
 CHK: DDL CHK: DJV
 SHEET NO. 8 OF 46 SHEETS

BRIDGE NO.
02015

PLOT DATE: Mar 29, 2002 10:43am DISK FILE NAME: (15.05) R:\33889\33889028\33889B\STRUCT\PLAN_SHT\02015cab01.dwg



FOOTING PLAN

S.A.P. 114-010-11

SIGNATURE: *David D. Long*
 PRINTED NAME: DAVID D. LONG
 DATE: 4/1/02 REG. NO. 24384

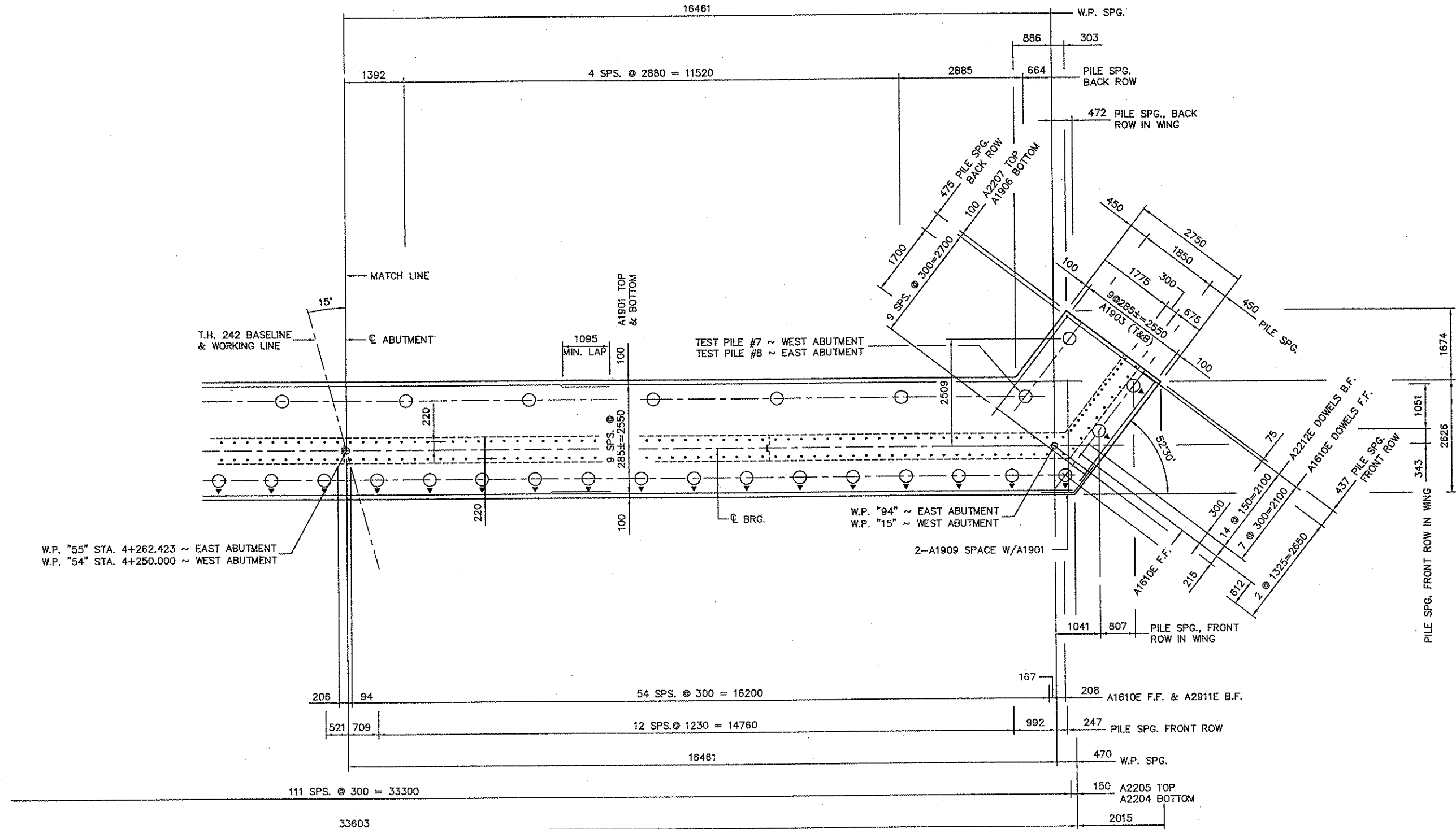


Thermer Square
 100 Third Street South
 Minneapolis, MN 55416
 612.379.0700 Tel
 612.379.1378 Fax

**ABUTMENT
 DETAILS**

DES: CRJ	DRN: DBM	APPROVED: <i>4-3-02</i>	BRIDGE NO. 02015
CHK: DDL	CHK: DJV		
SHEET NO. 10 OF 46 SHEETS			

PLOT DATE: Apr 01, 2002 9:39am DISK FILE NAME: (15.05) R:\33889\33889028\STRUCT\PLAN_SHT\02015eb02.dwg



FOOTING PLAN

PILE NOTES:

1. PILE SPACING SHOWN IS AT BOTTOM OF FOOTING
2. PILES MARKED THUS $\circ \rightarrow$ SHALL BE BATTERED 100mm PER 400mm IN THE DIRECTION SHOWN.
3. ALL PILES TO BE 310mm CAST-IN-PLACE CONCRETE PILES.

**ABUTMENT COMPUTED PILE LOADS
kN PER PILE**

DEAD LOAD + EARTH PRESSURE kN/PILE	LIVE LOAD kN/PILE	DOWN DRAG kN/PILE	TOTAL LOAD kN/PILE	DESIGN LOAD * kN/PILE
444.8	156.4	355.9	800.7	800.7

* NO REDUCTION PER MnDOT LOAD COMBINATION 2 (DEAD LOAD + DOWN DRAG LOAD)

REQUIRED PILES

- 4 - C.I.P. CONCRETE TEST PILES 41m LONG, 310mm
- 90 - C.I.P. CONCRETE PILES, EST. LENGTH 38m LONG, 310mm
- 94 - C.I.P. CONCRETE PILES REQ'D FOR BOTH ABUTMENTS

S.A.P. 114-010-11

SIGNATURE: *David D. Long*
 PRINTED NAME: DAVID D. LONG
 DATE: 4/1/02 REG. NO. 24384

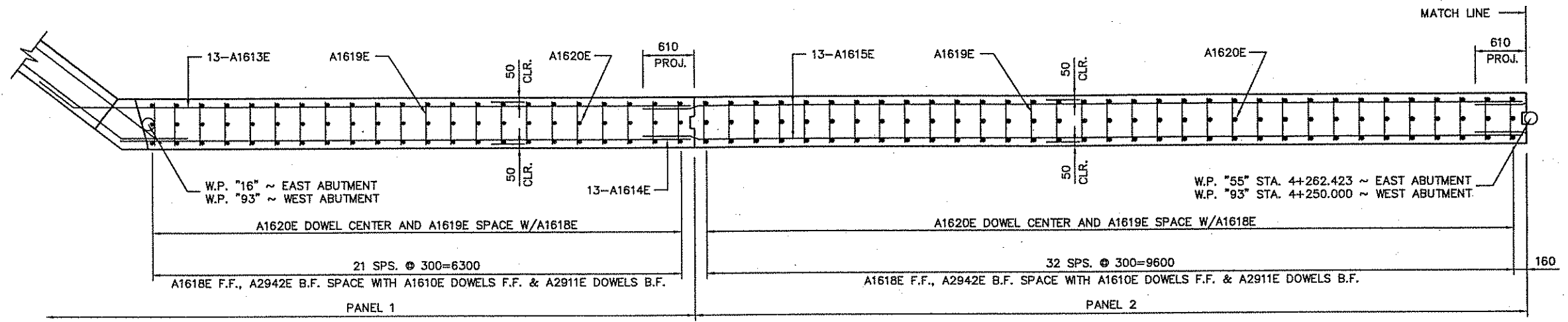


Thresher Sowers
 700 Third Street South
 Minneapolis, MN 55415
 612.370.0700 Tel
 612.370.0710 Fax

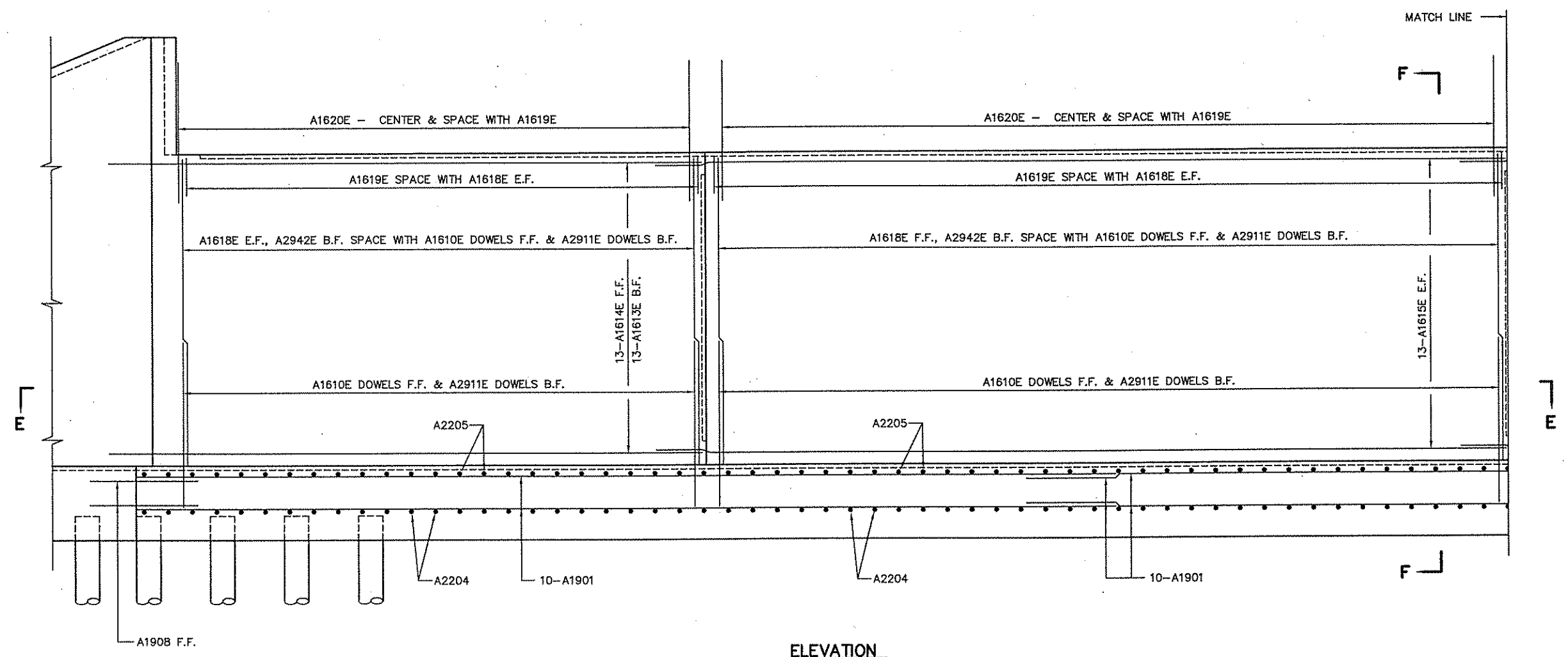
**ABUTMENT
DETAILS**

DES: CRJ	DRN: DBM	APPROVED: 4-3-02
CHK: DDL	CHK: DJV	
SHEET NO. 11 OF 46 SHEETS		

BRIDGE NO.
02015



SECTION E-E
EAST ABUTMENT SHOWN
WEST ABUTMENT SIMILAR



ELEVATION
EAST ABUTMENT SHOWN
WEST ABUTMENT SIMILAR

NOTE: SEE SHEET 15 FOR SECTION F-F

S.A.P. 114-010-11

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PRINTED NAME: DAVID D. LONG
DATE: 4/1/02 REG. NO. 24384



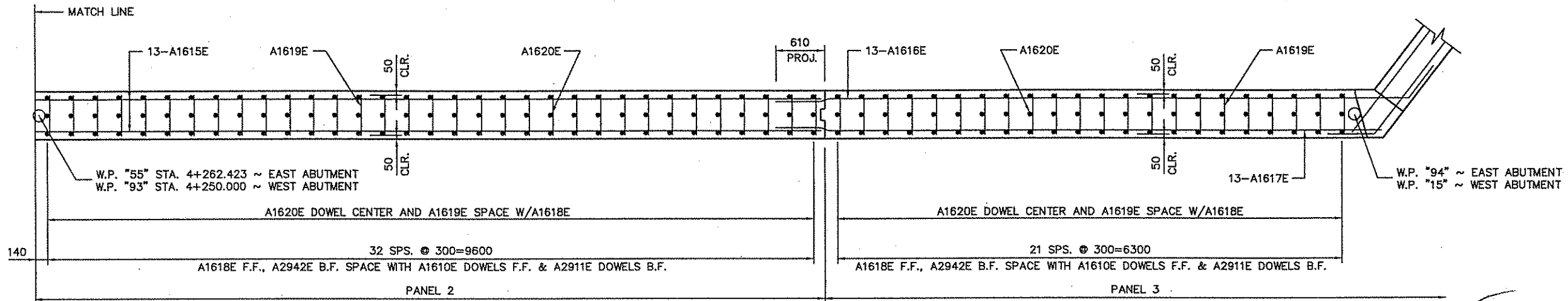
**ABUTMENT
DETAILS**

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CHK: DDL CHK: DJV
SHEET NO. 12 OF 46 SHEETS

BRIDGE NO.
02015

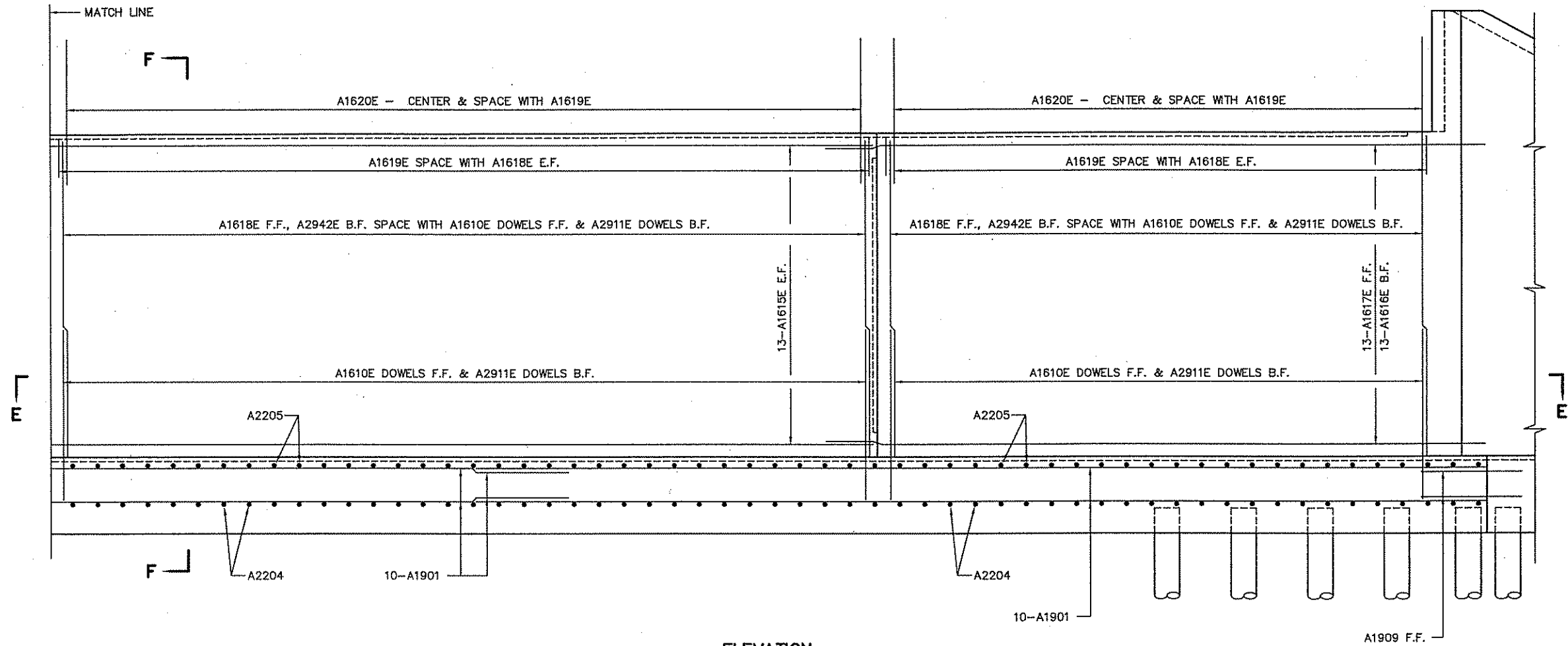
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PLOT DATE: Mar 29, 2002 11:21am DISK FILE NAME: (15.05) R:\33889\33889028\STRUCT\PLAN_SHT\02015ecb05.dwg



SECTION E-E

EAST ABUTMENT SHOWN
WEST ABUTMENT SIMILAR



ELEVATION

EAST ABUTMENT SHOWN
WEST ABUTMENT SIMILAR

NOTE: SEE SHEET 15 FOR SECTION F-F

.S.A.P. 114-010-11

SIGNATURE: *David D. Long*
 PRINTED NAME: DAVID D. LONG
 DATE: 7/1/02 REG. NO. 24384



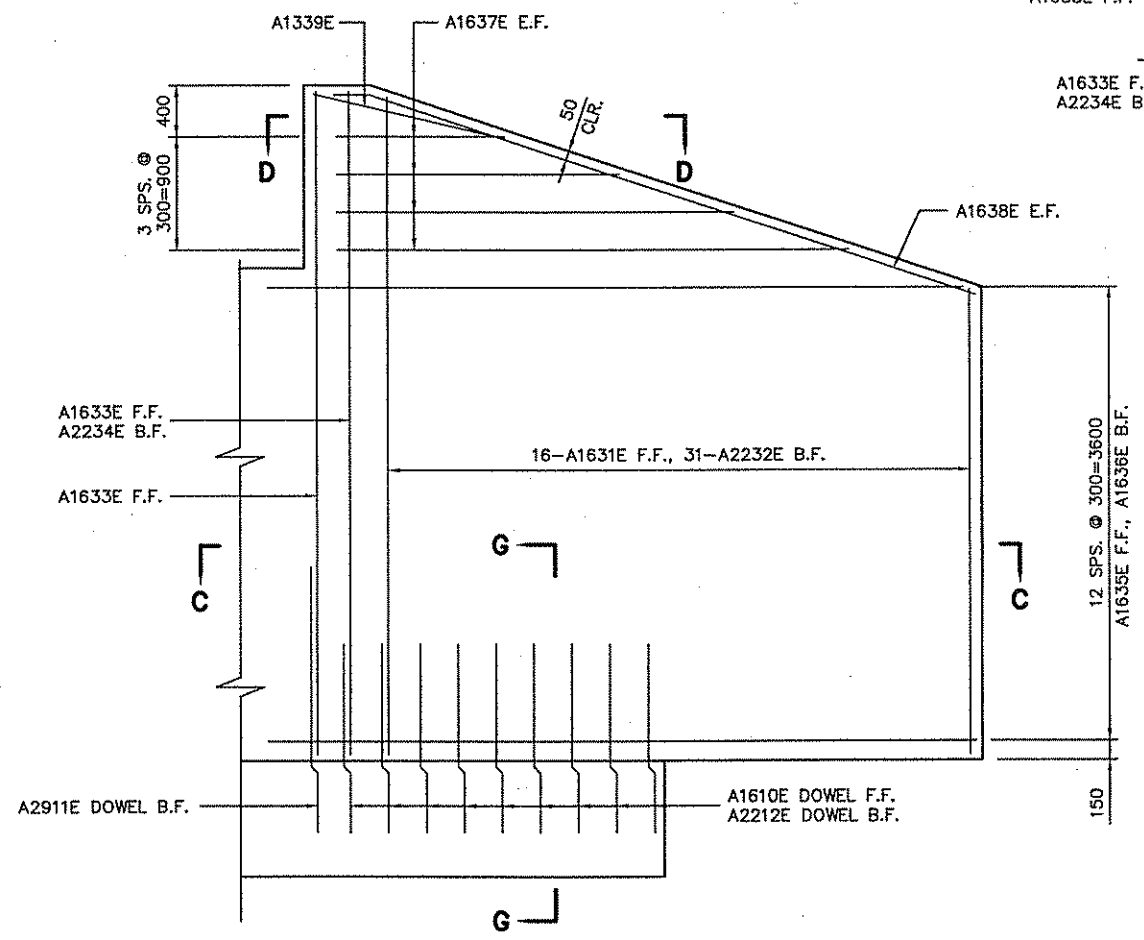
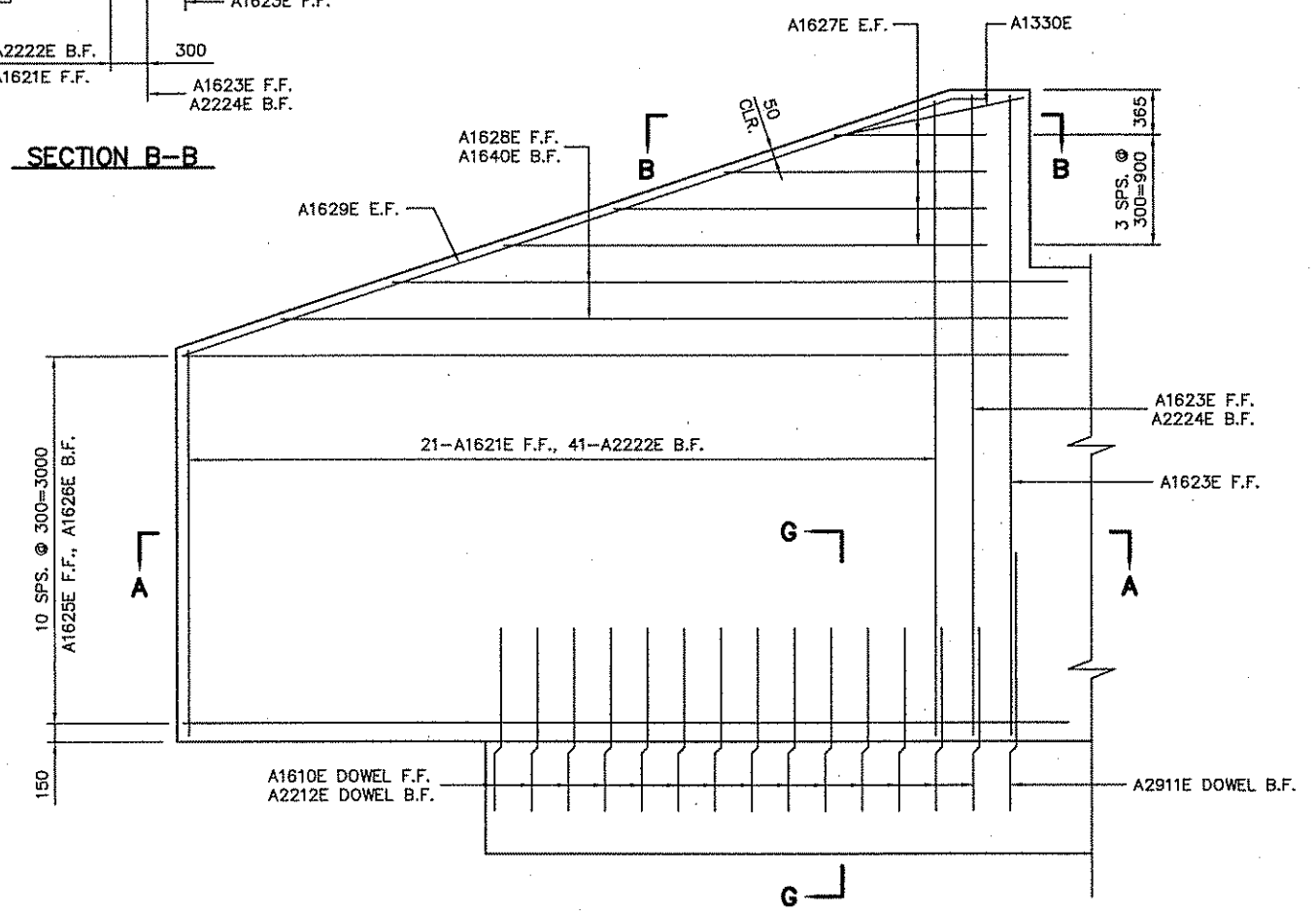
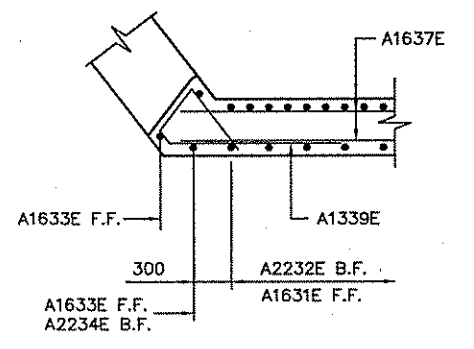
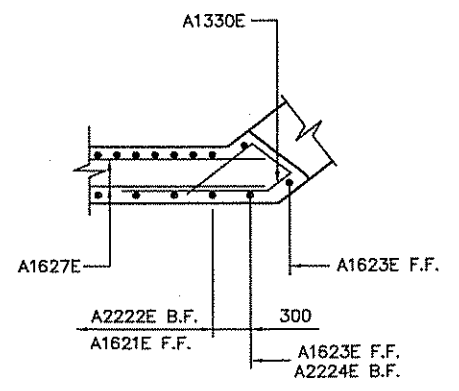
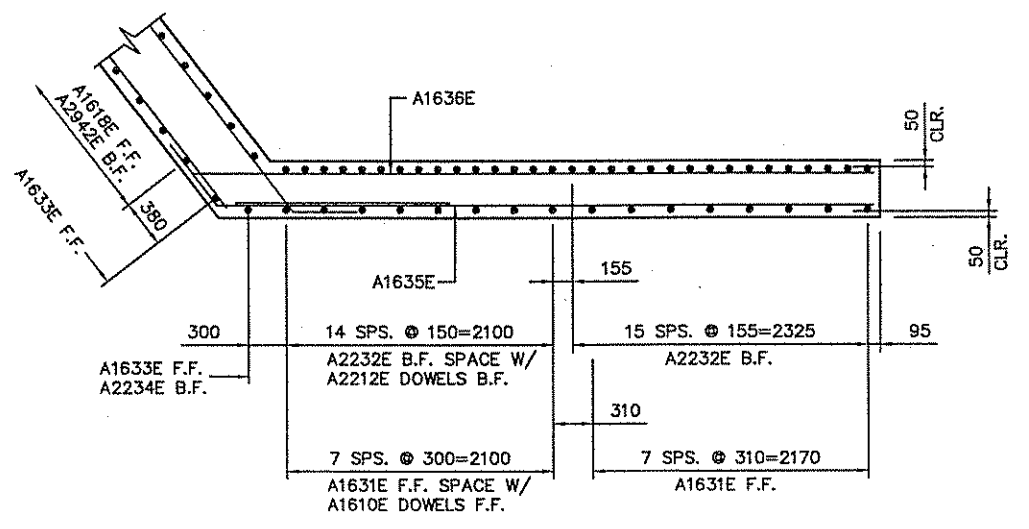
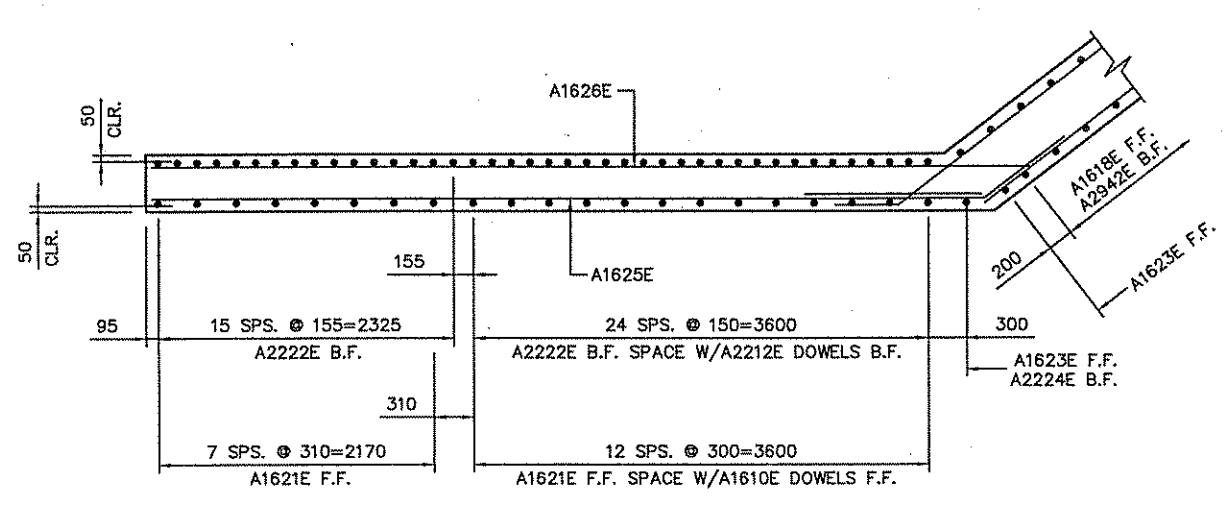
Thresher Square
 100 Third Street South
 Minneapolis, MN 55416
 612.310.0700 Fax
 612.310.0719

**ABUTMENT
 DETAILS**

DES: CRJ	DRN: DBM	APPROVED: 4-3-02
CHK: DDL	CHK: DJV	
SHEET NO. 13 OF 46 SHEETS		

BRIDGE NO.
 02015

PLOT DATE: Mar 29, 2002 11:21am DISK FILE NAME: (15.05) R:\33889\33889028\338898\STRUCT\PLAN_SHT\02015ecb07.dwg



WINGWALL ELEVATION
NORTHEAST WINGWALL SHOWN
SOUTHWEST WINGWALL SIMILAR

WINGWALL ELEVATION
SOUTHEAST WINGWALL SHOWN
NORTHWEST WINGWALL SIMILAR

NOTE: SEE SHEET 15 FOR SECTION G-G

SIGNATURE: *David D. Long*
PRINTED NAME: DAVID D. LONG
DATE: 4/1/02 REG. NO. 24384



Transfer Square
100 Third Street South
Minneapolis, MN 55415
612.270.7000 Tel
612.270.1378 Fax

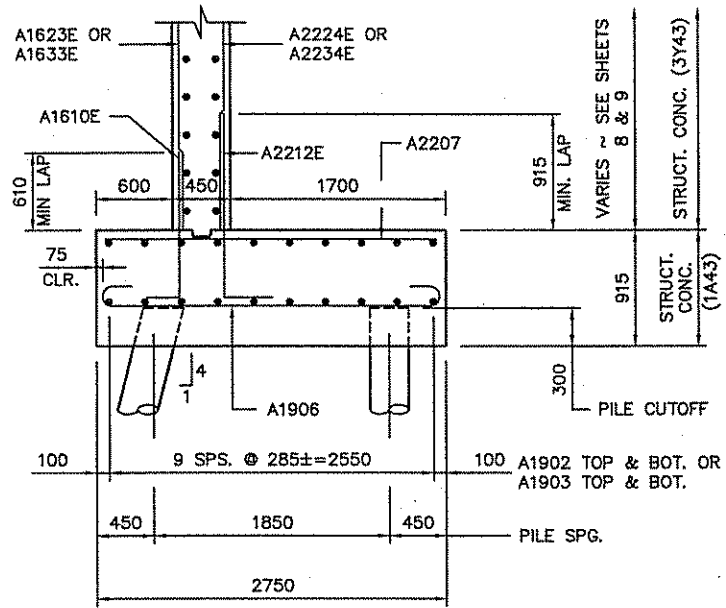
**ABUTMENT
DETAILS**

DES: CRJ	DRN: DBM	APPROVED: 4-3-02
CHK: DDL	CHK: DJV	
SHEET NO. 14 OF 46 SHEETS		

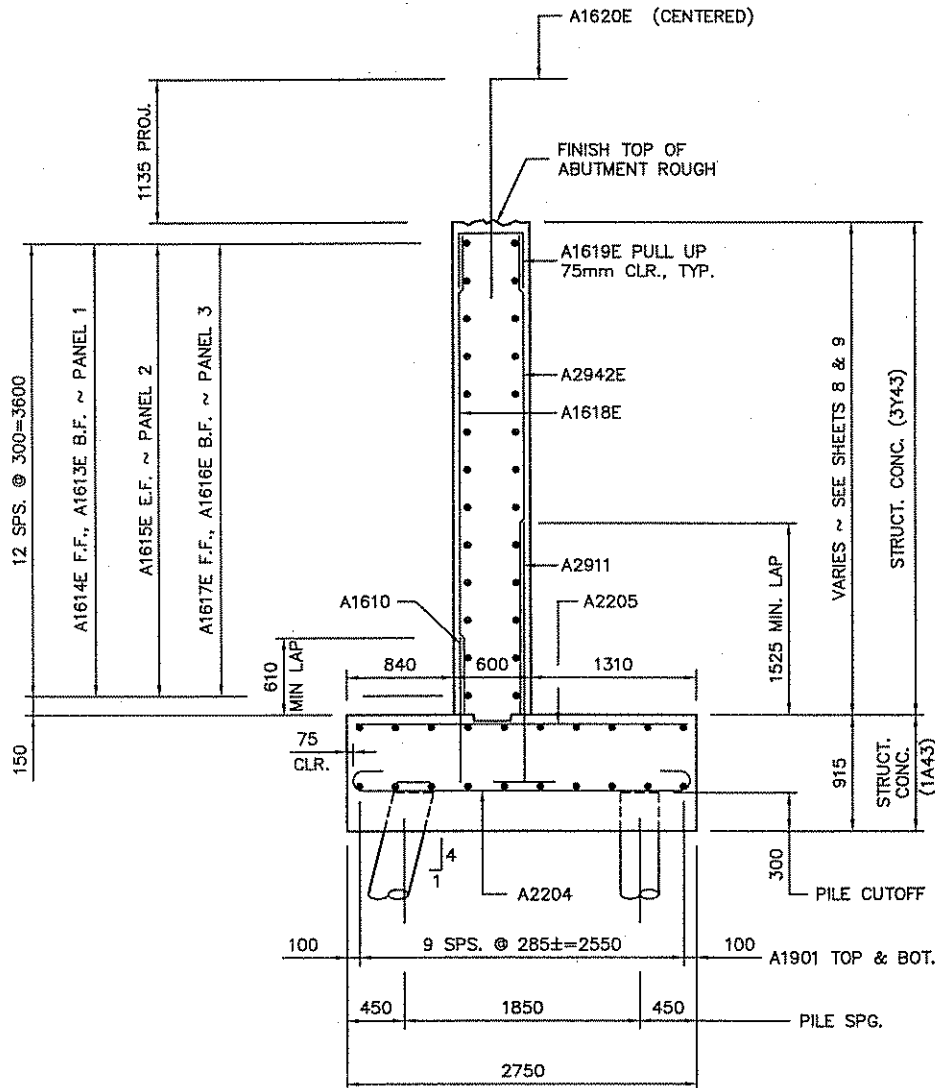
BRIDGE NO.
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S.A.P. 114-010-11

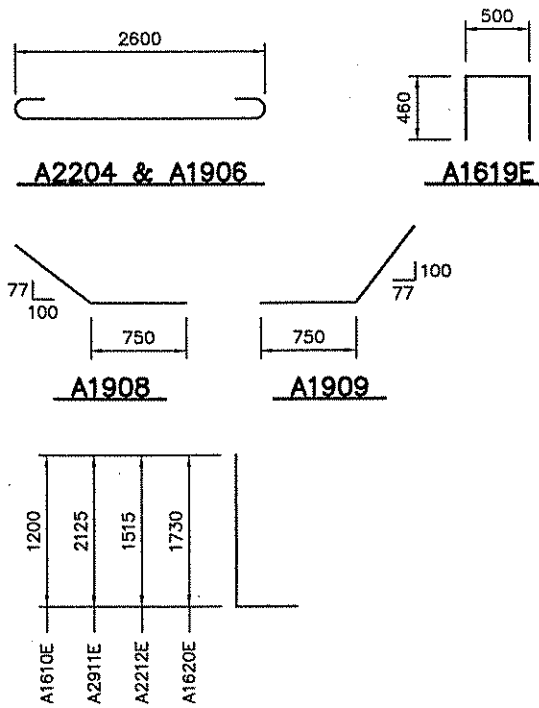
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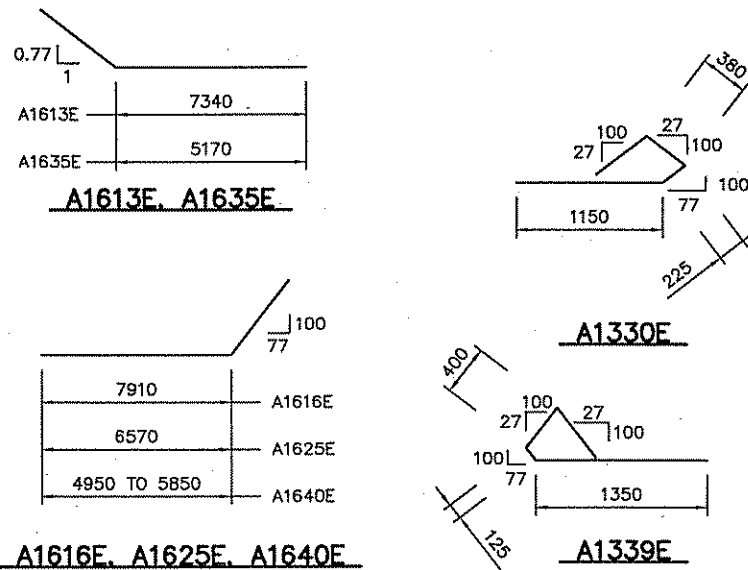
SECTION G-G



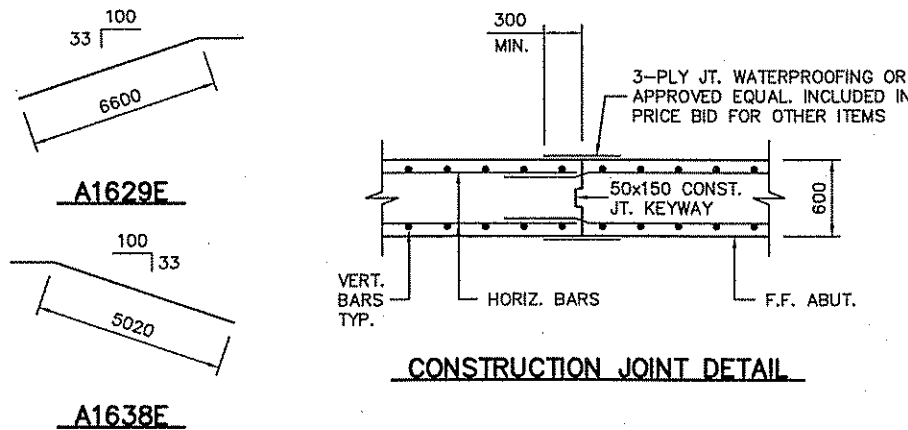
SECTION F-F



A1610E, A2911E, A2212E, A1620E



A1616E, A1625E, A1640E



CONSTRUCTION JOINT DETAIL

BILL OF REINFORCEMENT ~ ABUTMENTS

BAR	NO.	LENGTH	SHAPE	LOCATION
A1901	120	12070	STRT	FOOTING ~ LONGIT.
A1902	40	4330	STRT	FOOTING ~ LONGIT.
A1903	40	2910	STRT	FOOTING ~ LONGIT.
A2204	228	3100	BENT	FOOTING ~ TRANSV.
A2205	228	2600	STRT	FOOTING ~ TRANSV.
A1906	48	3000	BENT	FOOTING ~ TRANSV.
A2207	48	2600	STRT	FOOTING ~ TRANSV.
A1908	2	1500	BENT	FOOTING ~ LONGIT.
A1909	2	1500	BENT	FOOTING ~ LONGIT.
A1610E	270	1450	BENT	FOOTING ~ DOWEL
A2911E	224	2600	BENT	FOOTING ~ DOWEL
A2212E	80	1890	BENT	FOOTING ~ DOWEL
A1613E	26	7840	BENT	ABUTMENT ~ HORIZONTAL - PANEL 1
A1614E	26	6790	STRT	ABUTMENT ~ HORIZONTAL - PANEL 1
A1615E	104	10460	STRT	ABUTMENT ~ HORIZONTAL - PANEL 2
A1616E	26	8500	BENT	ABUTMENT ~ HORIZONTAL - PANEL 3
A1617E	26	7560	STRT	ABUTMENT ~ HORIZONTAL - PANEL 3
A1618E	220	3800	STRT	ABUTMENT ~ VERTICAL, F.F.
A1619E	220	1420	BENT	ABUTMENT ~ TIE
A1620E	220	2330	BENT	ABUTMENT ~ DOWEL
A1621E	2 SER. OF 21	3140 TO 5170	STRT	N.E. & S.W. WINGWALL ~ VERTICAL
A2222E	2 SER. OF 41	3140 TO 5170	STRT	N.E. & S.W. WINGWALL ~ VERTICAL
A1623E	4	5210	STRT	N.E. & S.W. WINGWALL ~ VERTICAL
A2224E	2	5210	STRT	N.E. & S.W. WINGWALL ~ VERTICAL
A1625E	22	7360	BENT	N.E. & S.W. WINGWALL ~ HORIZONTAL
A1626E	22	6940	STRT	N.E. & S.W. WINGWALL ~ HORIZONTAL
A1627E	4 SER. OF 4	1230 TO 3930	STRT	N.E. & S.W. WINGWALL ~ HORIZONTAL
A1628E	2 SER. OF 2	4950 TO 5850	STRT	N.E. & S.W. WINGWALL ~ HORIZONTAL
A1629E	4	6680	BENT	N.E. & S.W. WINGWALL ~ HORIZONTAL
A1330E	2	2400	BENT	N.E. & S.W. WINGWALL ~ HORIZONTAL
A1631E	2 SER. OF 16	3680 TO 5210	STRT	S.E. & N.W. WINGWALL ~ VERTICAL
A2232E	2 SER. OF 31	3680 TO 5210	STRT	S.E. & N.W. WINGWALL ~ VERTICAL
A1633E	4	5250	STRT	S.E. & N.W. WINGWALL ~ VERTICAL
A2234E	2	5250	STRT	S.E. & N.W. WINGWALL ~ VERTICAL
A1635E	26	5770	BENT	S.E. & N.W. WINGWALL ~ HORIZONTAL
A1636E	26	5370	STRT	S.E. & N.W. WINGWALL ~ HORIZONTAL
A1637E	4 SER. OF 4	1320 TO 4020	STRT	S.E. & N.W. WINGWALL ~ HORIZONTAL
A1638E	4	5300	BENT	S.E. & N.W. WINGWALL ~ HORIZONTAL
A1639E	2	2480	BENT	S.E. & N.W. WINGWALL ~ HORIZONTAL
A1640E	2 SER. OF 2	5740 TO 6640	STRT	N.E. & S.W. WINGWALL ~ HORIZONTAL
A2942E	220	3800	STRT	ABUTMENT ~ VERTICAL, B.F.

① 1095 MIN. LAP, 3 LINES

SUMMARY OF QUANTITIES ~ ABUTMENTS

ITEM	UNIT	QUANTITY
STRUCTURAL CONCRETE (1A43)	m ³	198
STRUCTURAL CONCRETE (3Y43)	m ³	206
REINFORCEMENT BARS	kg	8560
REINFORCEMENT BARS (EPOXY COATED)	kg	17480
C.I.P. CONCRETE PILING DELIVERED, 310	m	3420
C.I.P. CONCRETE PILING DRIVEN, 310	m	3420
C.I.P. CONCRETE TEST PILES, 41 m LG.	EACH	4
STRUCTURE EXCAVATION	LUMP SUM	1
BENCHMARK DISK	EACH	1
3-PLY JOINT WATERPROOFING	m	24

- ② DOES NOT INCLUDE TEST PILES.
- ③ SEE SPECIAL PROVISIONS.
- ④ STATE WILL FURNISH DISK. PAYMENT FOR PLACING TO BE INCLUDED IN PRICE BID FOR OTHER ITEMS. SEE STANDARD PLATE NO. 9301B FOR PLACING.
- ⑤ TO BE INCLUDED IN OTHER ITEMS

SIGNATURE: *David D. Long*
 PRINTED NAME: DAVID D. LONG
 DATE: 4/1/02 REG. NO. 24384



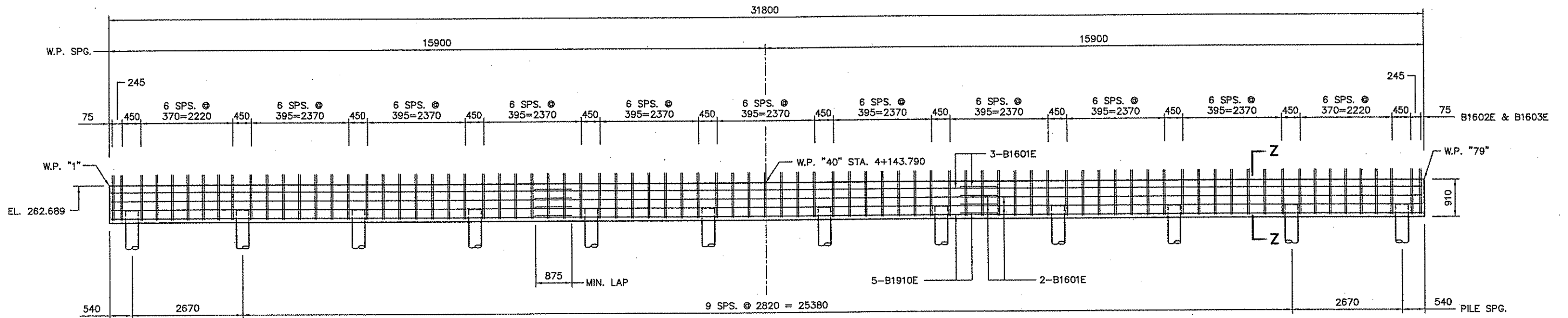
Transfer Square
 100 Third Street South
 Minneapolis, MN 55410
 612.330.0700 Tel
 612.330.0776 Fax

ABUTMENT DETAILS

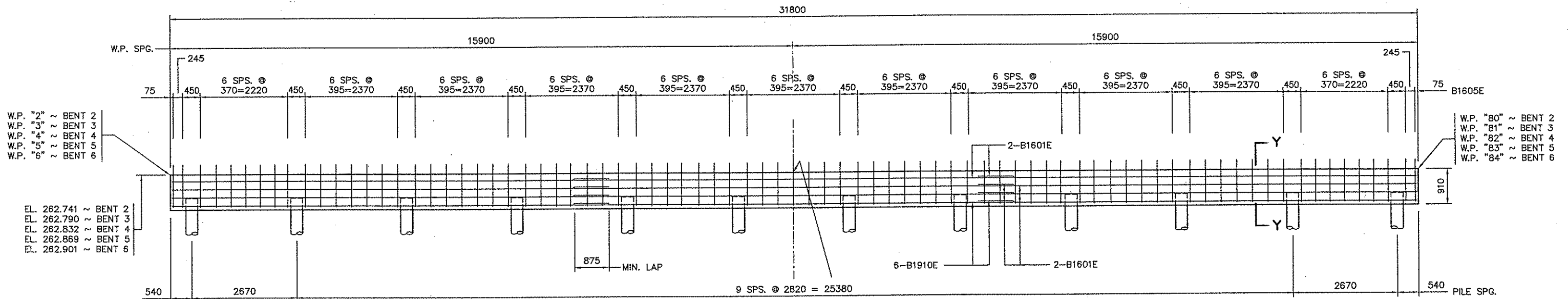
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 CHK: DDL CHK: DJV
 SHEET NO. 15 OF 46 SHEETS

BRIDGE NO. 02015

PLOT DATE: Apr 01, 2002 10:28am DISK FILE NAME: (15.05) R:\33889\33889028\STRUCT\PLAN_SHT\02015BENT01.dwg



BENT 1



W.P. "2" ~ BENT 2
 W.P. "3" ~ BENT 3
 W.P. "4" ~ BENT 4
 W.P. "5" ~ BENT 5
 W.P. "6" ~ BENT 6

EL. 262.741 ~ BENT 2
 EL. 262.790 ~ BENT 3
 EL. 262.832 ~ BENT 4
 EL. 262.869 ~ BENT 5
 EL. 262.901 ~ BENT 6

W.P. "80" ~ BENT 2
 W.P. "81" ~ BENT 3
 W.P. "82" ~ BENT 4
 W.P. "83" ~ BENT 5
 W.P. "84" ~ BENT 6

W.P. "41" STA. 4+151.290 ~ BENT 2
 W.P. "42" STA. 4+158.790 ~ BENT 3
 W.P. "43" STA. 4+166.290 ~ BENT 4
 W.P. "44" STA. 4+173.790 ~ BENT 5
 W.P. "45" STA. 4+181.290 ~ BENT 6

BENTS 2-6

SEE SHEET 22 FOR SECTION Z-Z & Y-Y

S.A.P. 114-010-11

SIGNATURE: *David D. Long*
 PRINTED NAME: DAVID D. LONG
 DATE: 4/1/02 REG. NO. 24384



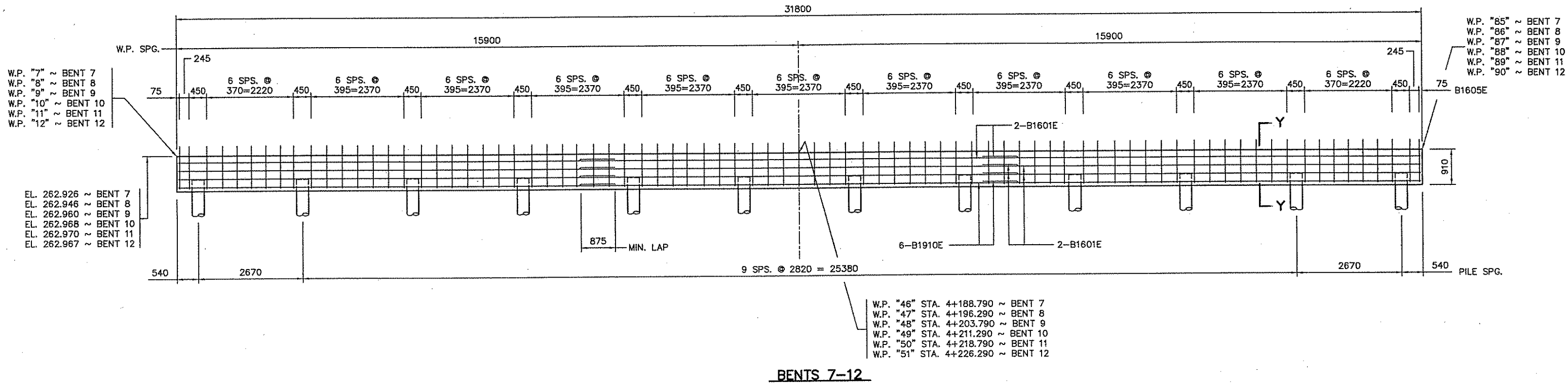
Treasurer Square
 700 Third Street South
 Minneapolis, MN 55415
 612.370.0700 Tel
 612.370.0775 Fax

**BENT
 DETAILS**

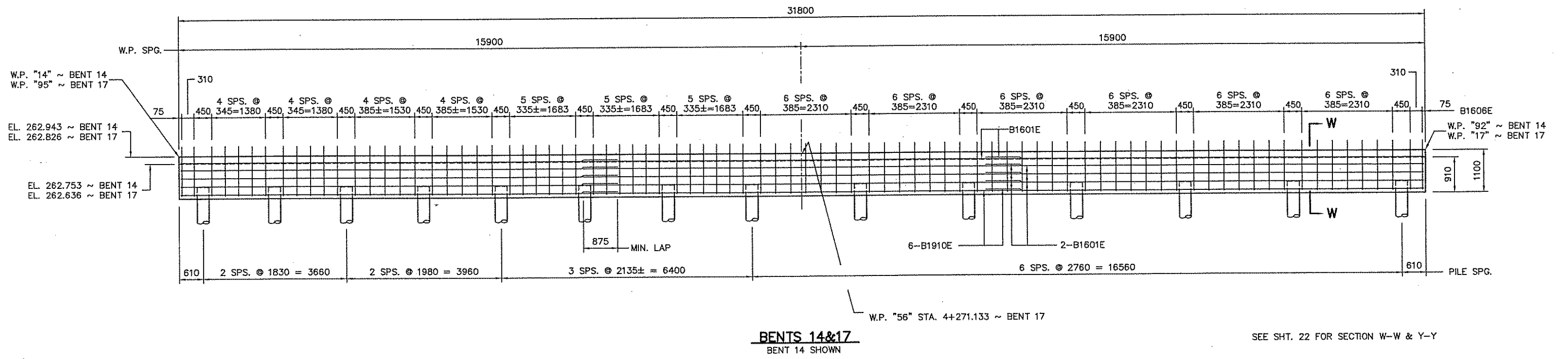
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CHK: DDL	CHK: DDL	
SHEET NO. 16 OF 46 SHEETS		

BRIDGE NO.
 02015

PLOT DATE: Apr 01, 2002 10:26am DISK FILE NAME: (15.05) R:\33888\STRUCT\PLAN_SHT\02015BENT2.dwg



- W.P. "46" STA. 4+188.790 ~ BENT 7
- W.P. "47" STA. 4+196.290 ~ BENT 8
- W.P. "48" STA. 4+203.790 ~ BENT 9
- W.P. "49" STA. 4+211.290 ~ BENT 10
- W.P. "50" STA. 4+218.790 ~ BENT 11
- W.P. "51" STA. 4+226.290 ~ BENT 12



W.P. "56" STA. 4+271.133 ~ BENT 17

SEE SHT. 22 FOR SECTION W-W & Y-Y

S.A.P. 114-010-11

SIGNATURE: *David D. Long*
 PRINTED NAME: DAVID D. LONG
 DATE: 4/1/02 REG. NO. 24384



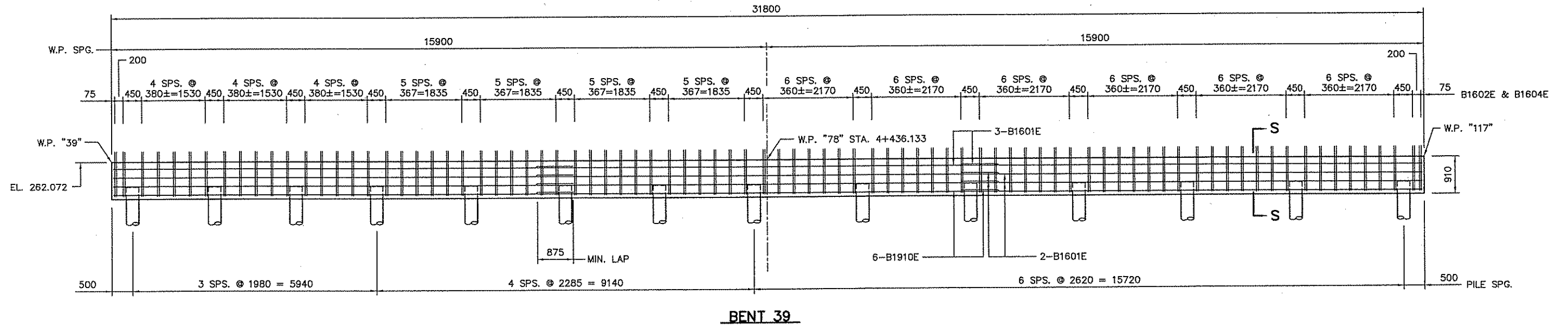
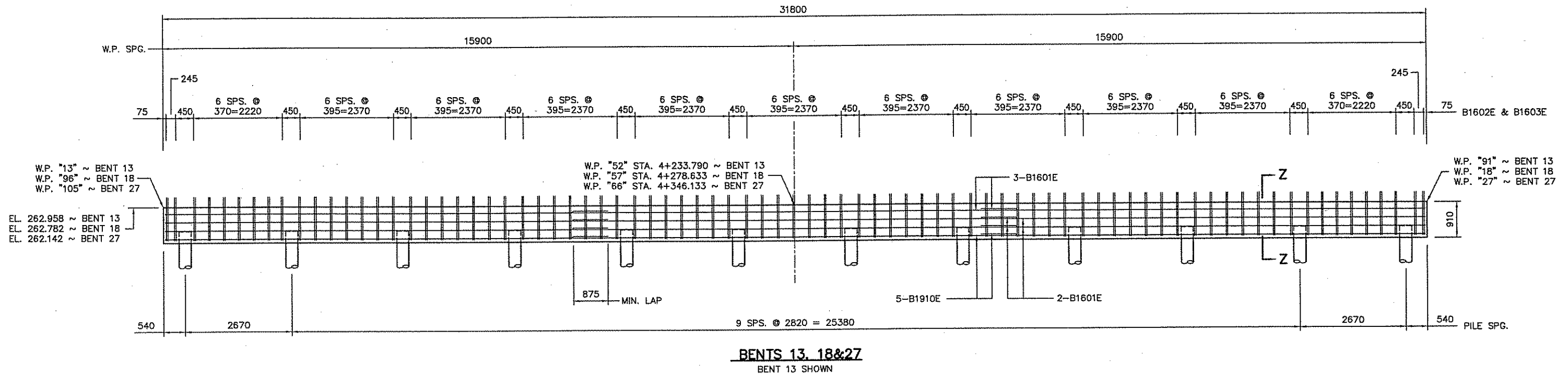
Thresher Square
 700 Third Street South
 Minneapolis, MN 55415
 612.370.0700 Tel
 612.370.0376 Fax

**BENT
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DES: CRJ DRN: DBM APPROVED: 4-3-02
 CHK: DDL CHK: DDL
 SHEET NO. 17 OF 46 SHEETS

BRIDGE NO.
 02015

PLOT DATE: Apr 01, 2002 10:26am DISK FILE NAME: (15.05) R:\33889\33889028\STRUCT\PLAN_SHT\02015BENT3.dwg



SEE SHT. 22 FOR SECTIONS S-S & Z-Z

S.A.P. 114-010-11

SIGNATURE: *David D. Long*
 PRINTED NAME: DAVID D. LONG
 DATE: 4/1/02 REG. NO. 24384



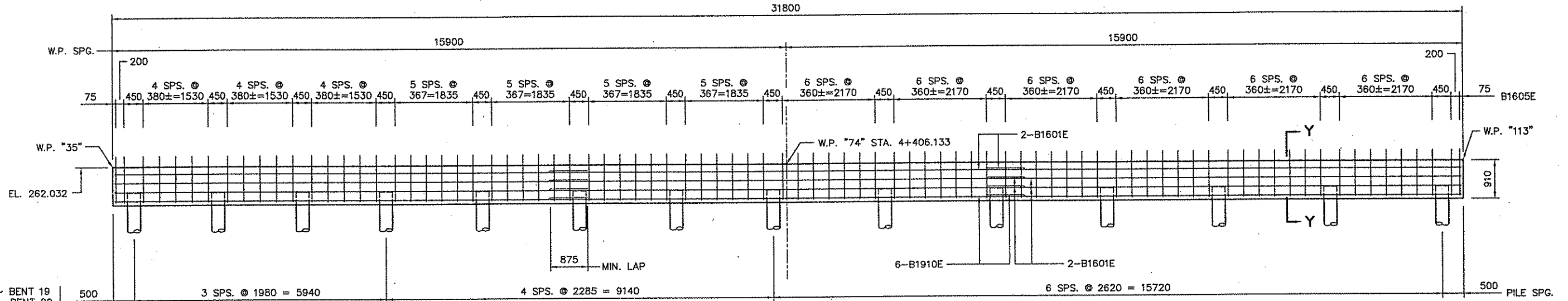
Thresher Square
 700 Third Street South
 Minneapolis, MN 55410
 612.379.0700 Tel
 612.379.0778 Fax

BENT
 DETAILS

DES: CRJ	DRN: DBM	APPROVED:
CHK: DDL	CHK: DDL	<i>4-3-02</i>
SHEET NO. 18 OF 46 SHEETS		

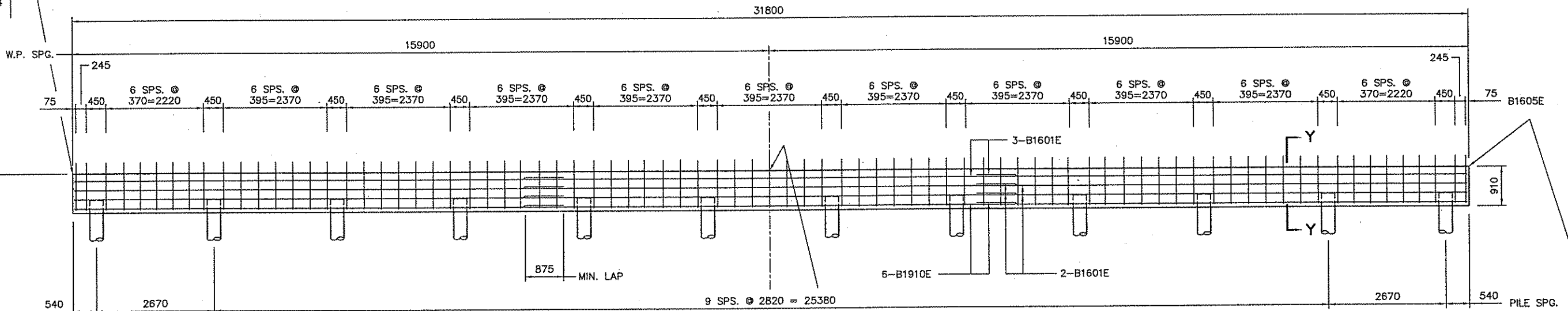
BRIDGE NO.
 02015

PLOT DATE: Apr 01, 2002 10:26am DISK FILE NAME: (15.05) R:\33889\33889028\STRUCT\PLAN_SHT\02015BENT4.dwg



BENT 35

- W.P. "19" ~ BENT 19
- W.P. "20" ~ BENT 20
- W.P. "21" ~ BENT 21
- W.P. "22" ~ BENT 22
- W.P. "23" ~ BENT 23
- W.P. "24" ~ BENT 24
- W.P. "25" ~ BENT 25
- W.P. "26" ~ BENT 26
- W.P. "28" ~ BENT 28
- W.P. "29" ~ BENT 29
- W.P. "30" ~ BENT 30
- W.P. "31" ~ BENT 31
- W.P. "33" ~ BENT 33
- W.P. "34" ~ BENT 34



BENTS 19-26, 28-31 & 33-34

- EL. 262.733 ~ BENT 19
- EL. 262.678 ~ BENT 20
- EL. 262.617 ~ BENT 21
- EL. 262.550 ~ BENT 22
- EL. 262.477 ~ BENT 23
- EL. 262.399 ~ BENT 24
- EL. 262.314 ~ BENT 25
- EL. 262.228 ~ BENT 26
- EL. 262.069 ~ BENT 28
- EL. 262.012 ~ BENT 29
- EL. 261.973 ~ BENT 30
- EL. 261.952 ~ BENT 31
- EL. 261.961 ~ BENT 33
- EL. 261.991 ~ BENT 34

- W.P. "58" STA. 4+286.133 ~ BENT 19
- W.P. "59" STA. 4+293.633 ~ BENT 20
- W.P. "60" STA. 4+301.133 ~ BENT 21
- W.P. "61" STA. 4+308.633 ~ BENT 22
- W.P. "62" STA. 4+316.133 ~ BENT 23
- W.P. "63" STA. 4+323.633 ~ BENT 24
- W.P. "64" STA. 4+331.133 ~ BENT 25
- W.P. "65" STA. 4+338.633 ~ BENT 26
- W.P. "67" STA. 4+353.633 ~ BENT 28
- W.P. "68" STA. 4+361.133 ~ BENT 29
- W.P. "69" STA. 4+368.633 ~ BENT 30
- W.P. "70" STA. 4+376.133 ~ BENT 31
- W.P. "72" STA. 4+391.133 ~ BENT 33
- W.P. "73" STA. 4+398.633 ~ BENT 34

- W.P. "97" ~ BENT 19
- W.P. "98" ~ BENT 20
- W.P. "99" ~ BENT 21
- W.P. "100" ~ BENT 22
- W.P. "101" ~ BENT 23
- W.P. "102" ~ BENT 24
- W.P. "103" ~ BENT 25
- W.P. "104" ~ BENT 26
- W.P. "106" ~ BENT 28
- W.P. "107" ~ BENT 29
- W.P. "108" ~ BENT 30
- W.P. "109" ~ BENT 31
- W.P. "111" ~ BENT 33
- W.P. "112" ~ BENT 34

SEE SHT. 22 FOR SECTION Y-Y

S.A.P. 114-010-11

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 PRINTED NAME: DAVID D. LONG
 DATE: 4/1/02 REG. NO. 24384



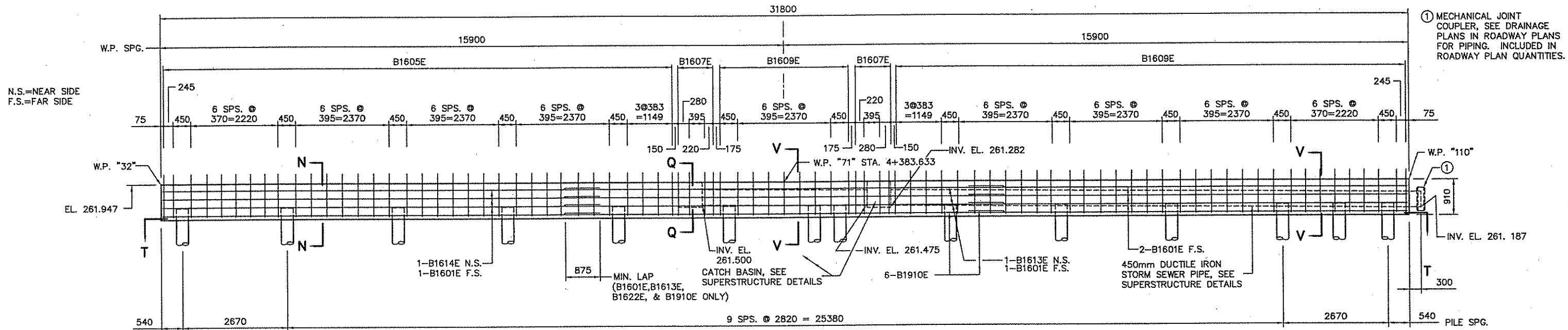
Thresher Square
 100 Third Street South
 Minneapolis, MN 55416
 612.370.0100 Tlx
 612.370.0378 Fax

**BENT
 DETAILS**

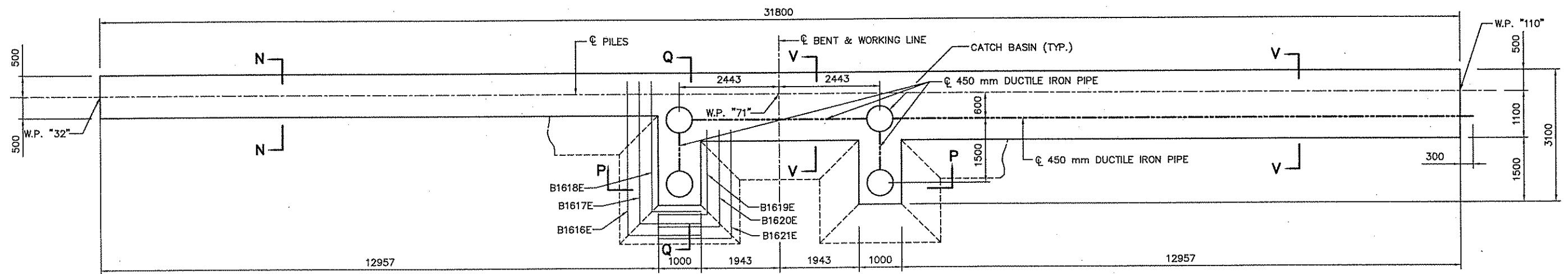
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SHEET NO. 19 OF 46 SHEETS		

BRIDGE NO.
 02015

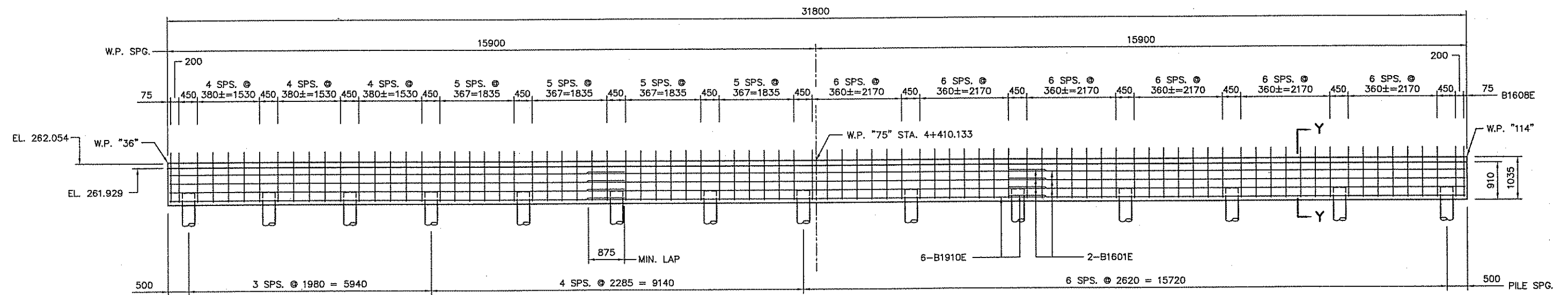
PLOT DATE: Apr 01, 2002 11:27am DISK FILE NAME: (15.05) R:\33889\33889028\STRUCT\PLAN_SHT_02015BENTS.dwg



BENT 32



SECTION T-T
PILING NOT SHOWN



BENT 36

SEE SHEET 22 FOR SECTION R-R.
SEE SHEET 23 FOR SECTIONS N-N, P-P, Q-Q, & V-V.

S.A.P. 114-010-11

SIGNATURE: *David D. Long*
PRINTED NAME: DAVID D. LONG
DATE: 4/1/02
REG. NO. 24384



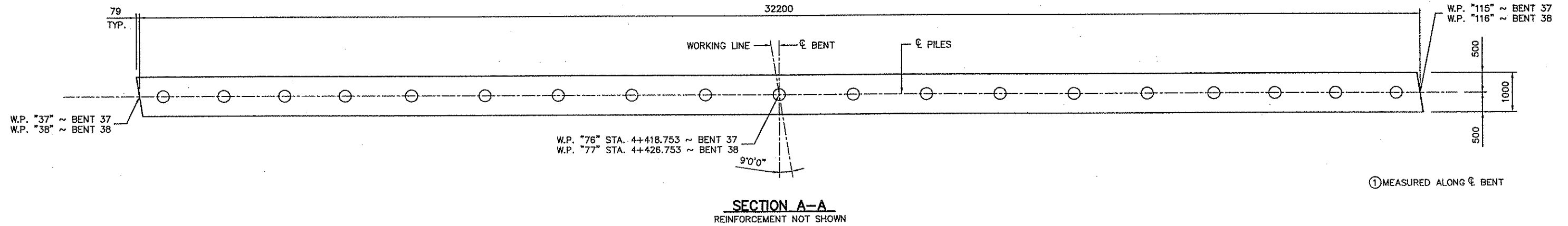
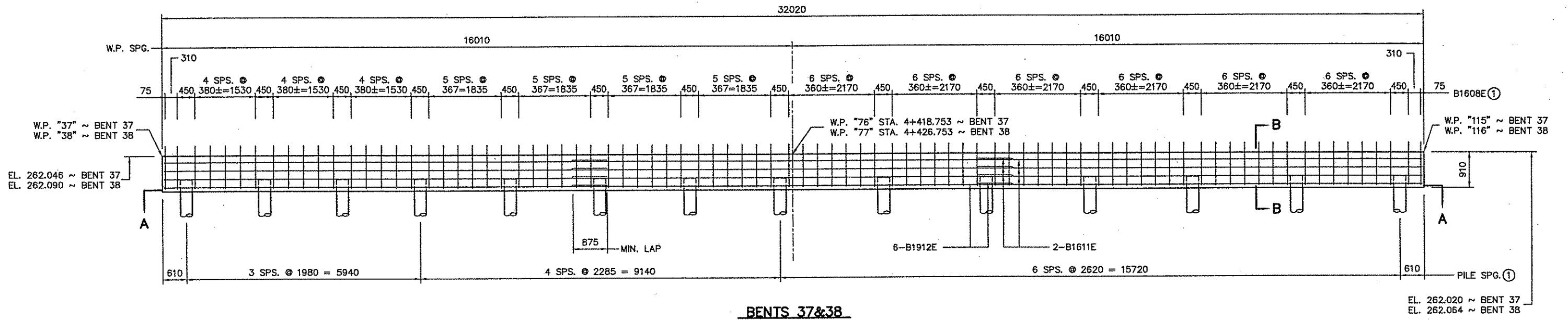
Thresher Square
700 Third Street South
Memphis, TN 38158
901.370.0700 Tel
901.370.0778 Fax

**BENT
DETAILS**

DES: CRJ	DRN: DBM	APPROVED: 4-3-02
CHK: DDL	CHK: DDL	
SHEET NO. 20 OF 46 SHEETS		

BRIDGE NO.
02015

PLOT DATE: Mar 29, 2002 12:01pm DISK FILE NAME: (15.05) R:\33889\33889028\STRUCT\PLAN_SHT_02015BENTS.dwg



SEE SHT. 22 FOR SECTION B-B

S.A.P. 114-010-11

SIGNATURE: *David Long*
PRINTED NAME: DAVID D. LONG
DATE: 4/1/02 REG. NO. 24384



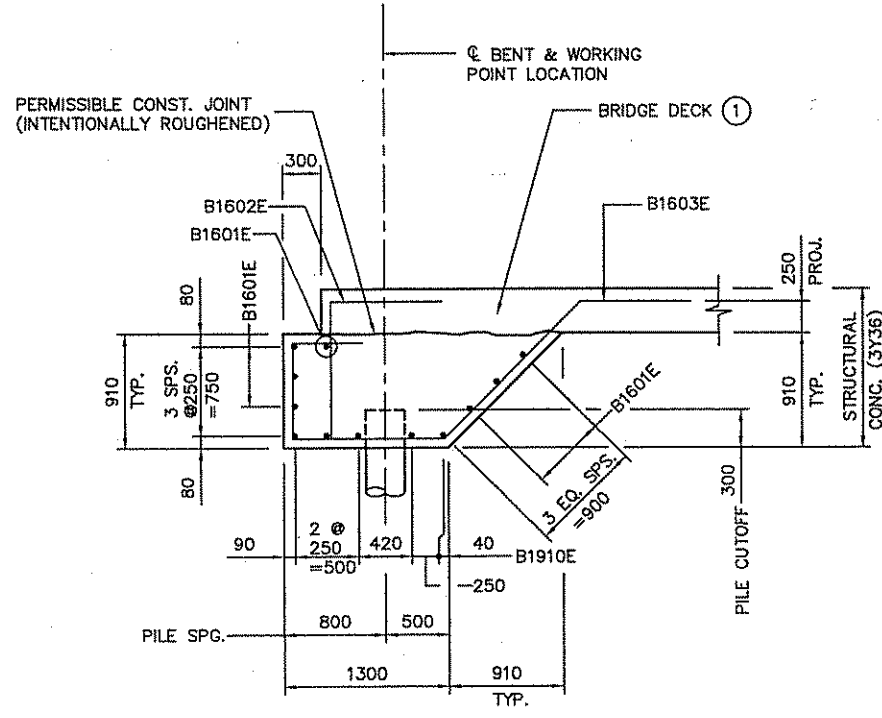
Thresher House
100 Third Street South
Metairie, LA 70002
504.885.0700 Tel
504.885.0778 Fax

**BENT
DETAILS**

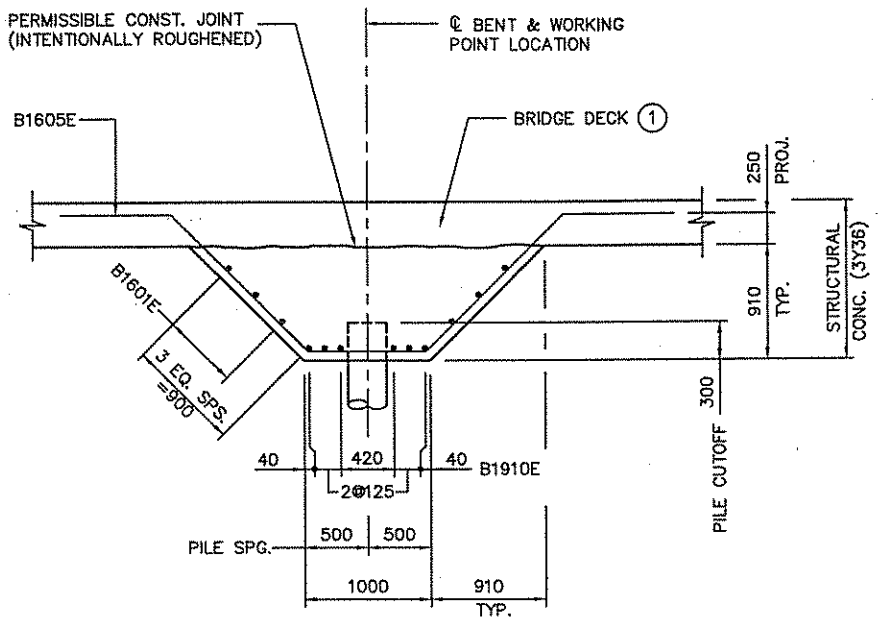
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CHK: DDL	CHK: DDL	4-3-02
SHEET NO. 21 OF 46 SHEETS		

BRIDGE NO.
02015

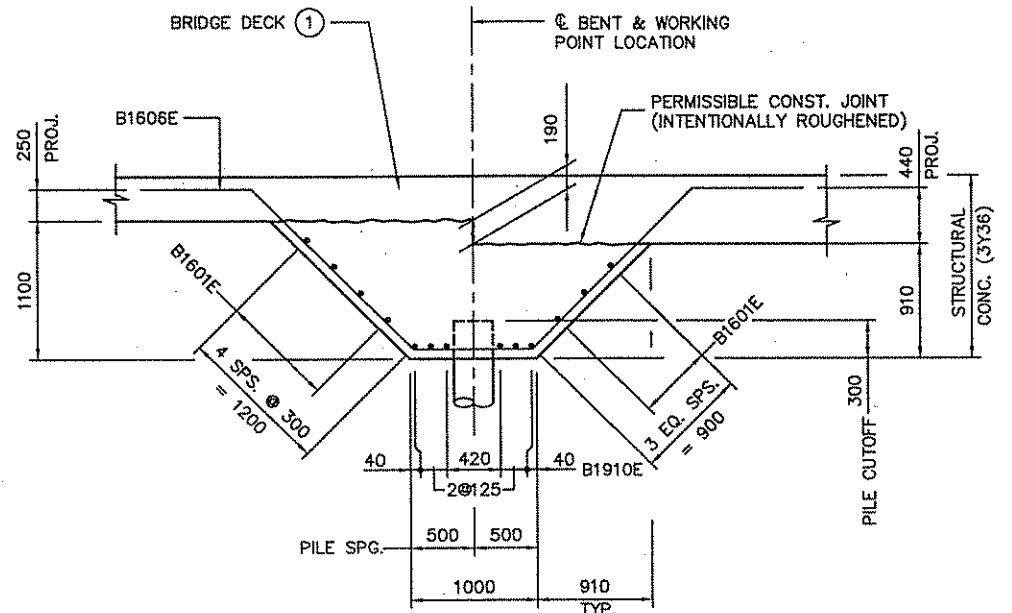
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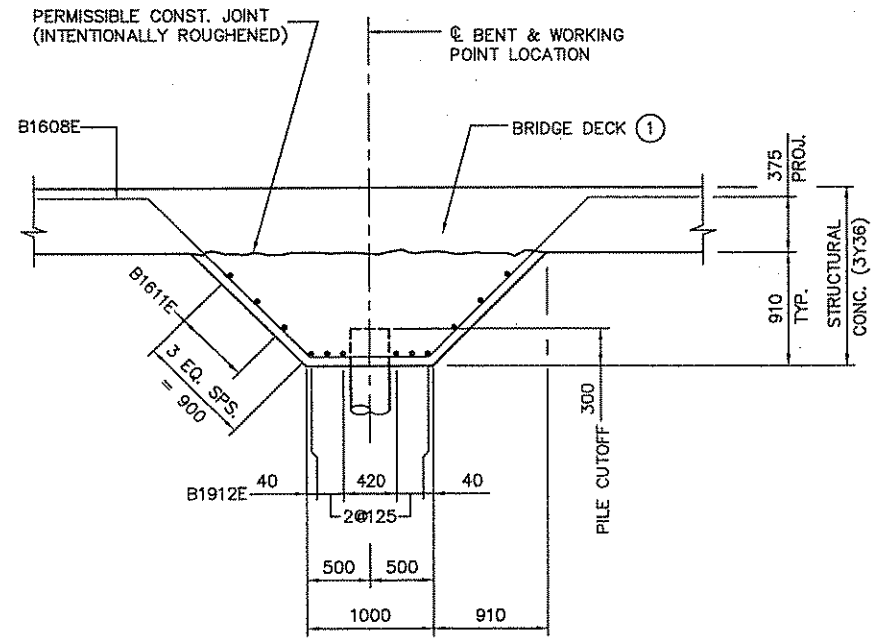
SECTION Z-Z
BENTS 1 & 13 SHOWN
BENTS 18 & 27 MIRRORED



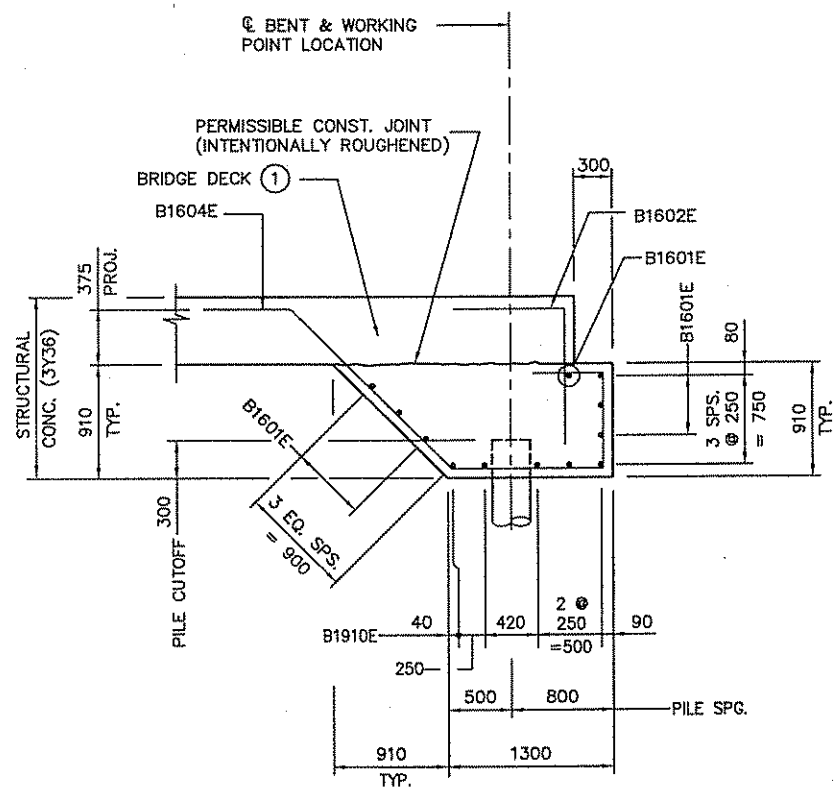
SECTION Y-Y
BENTS 2-12, 19-26, 28-35



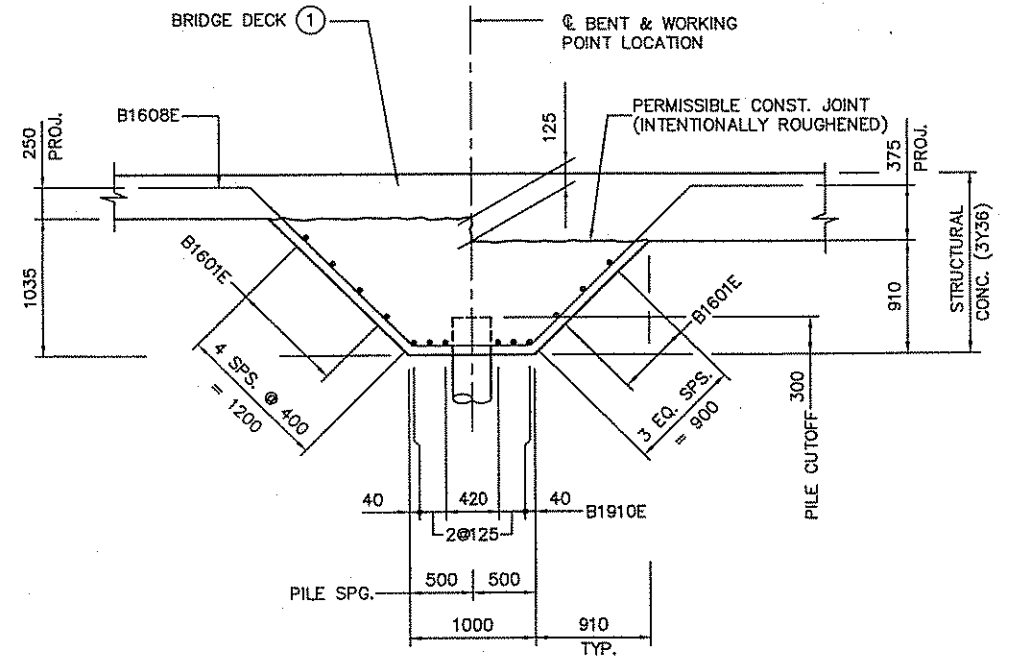
SECTION W-W
BENTS 14 & 17



SECTION B-B
BENTS 37 & 38



SECTION S-S
BENT 39



SECTION R-R
BENT 36

① SEE SUPERSTRUCTURE FOR SLAB REINFORCEMENT AND DETAILS.

S.A.P. 114-010-11

SIGNATURE: *David D. Long*
PRINTED NAME: DAVID D. LONG
DATE: 4/1/02 REG. NO. 24384



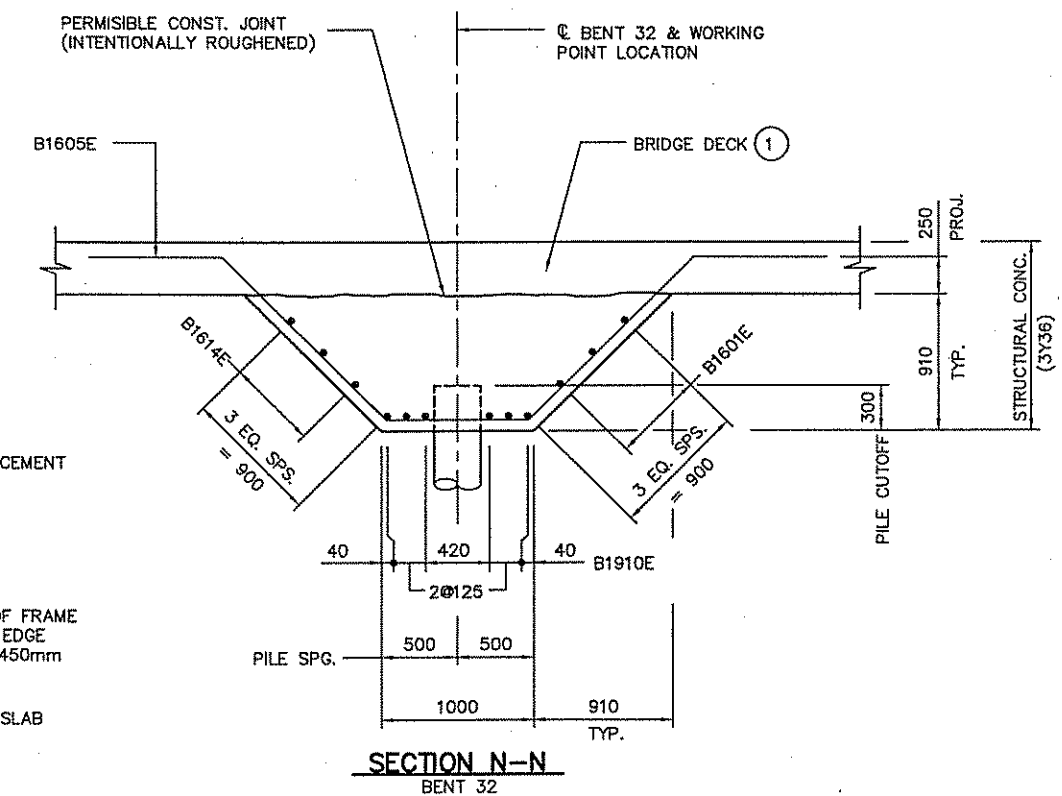
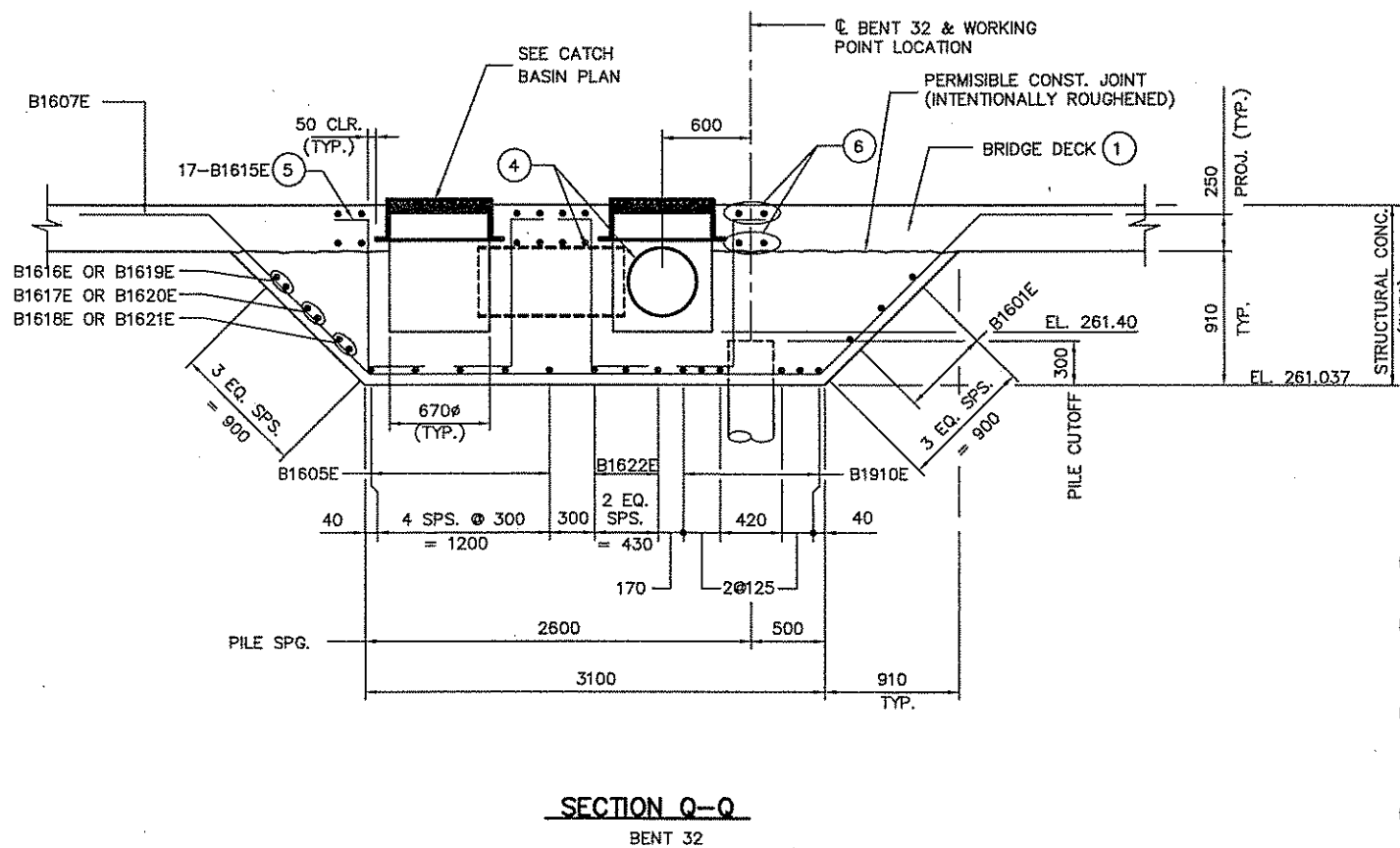
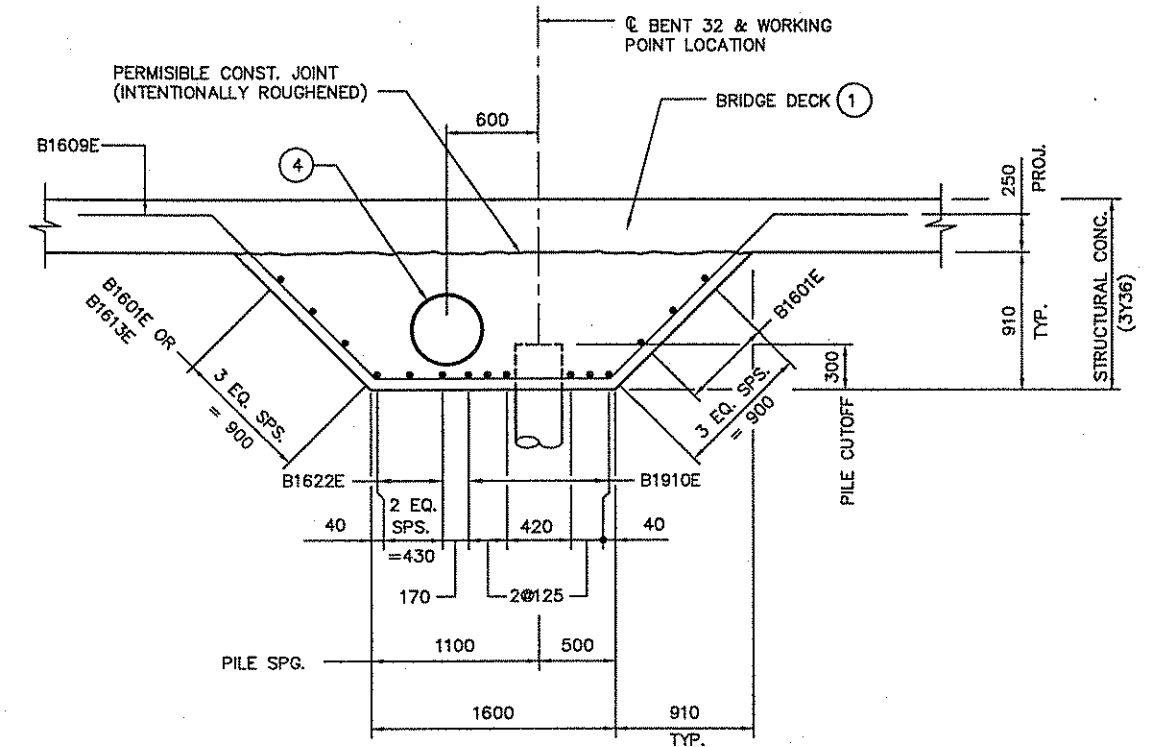
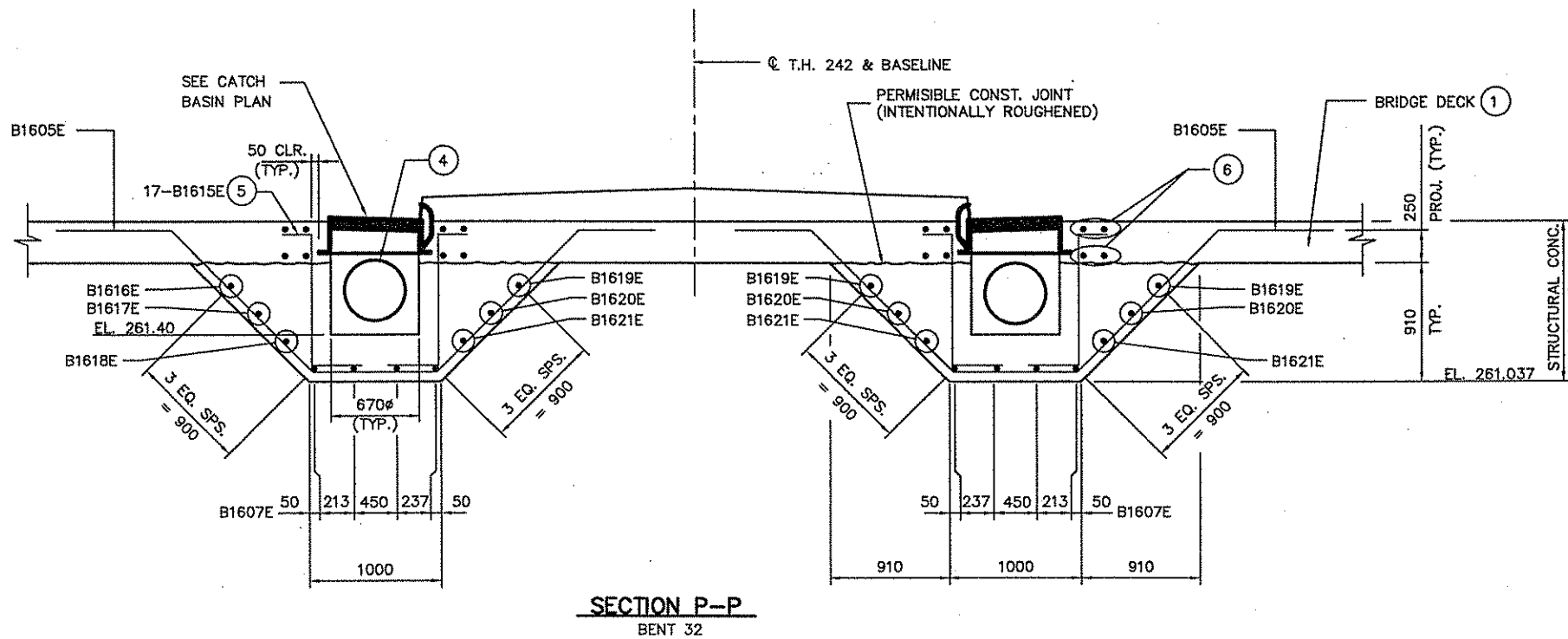
Thresher Square
700 Third Street South
Minneapolis, MN 55414
612.370.0700 Tel
612.370.0370 Fax

**BENT
DETAILS**

DES: CRJ	DRN: DBM	APPROVED: 4-3-02
CHK: DDL	CHK: DJV	
SHEET NO. 22 OF 46 SHEETS		

BRIDGE NO.
02015

PLOT DATE: Mar 29, 2002 12:36pm DISK FILE NAME: (15.05) R:\33889\3388902B\STRUCT\PLAN_SHT\02015BENTD.dwg



- ① SEE SUPERSTRUCTURE FOR SLAB REINFORCEMENT AND DETAILS.
- ④ 450mm DUCTILE IRON PIPE, SEE SUPERSTRUCTURE DETAILS FOR PIPE LOCATION & INVERTS.
- ⑤ SPACE @ 175 MAX. AROUND PERIMETER OF FRAME CASTING. PLACE BAR MIN. 50 CLR. FROM EDGE OF FRAME CASTING (ADJUST POSITION @ 450mm DIP PIPE).
- ⑥ SEE CATCH BASIN PLAN FOR ADDITIONAL SLAB REINFORCING AT CATCH BASIN.

SIGNATURE: *David D. Long*
 PRINTED NAME: DAVID D. LONG
 DATE: 4/1/02 REG. NO. 24384



Truett Square
 100 Third Street South
 Minneapolis, MN 55415
 612.370.0700 Tel
 612.370.0718 Fax

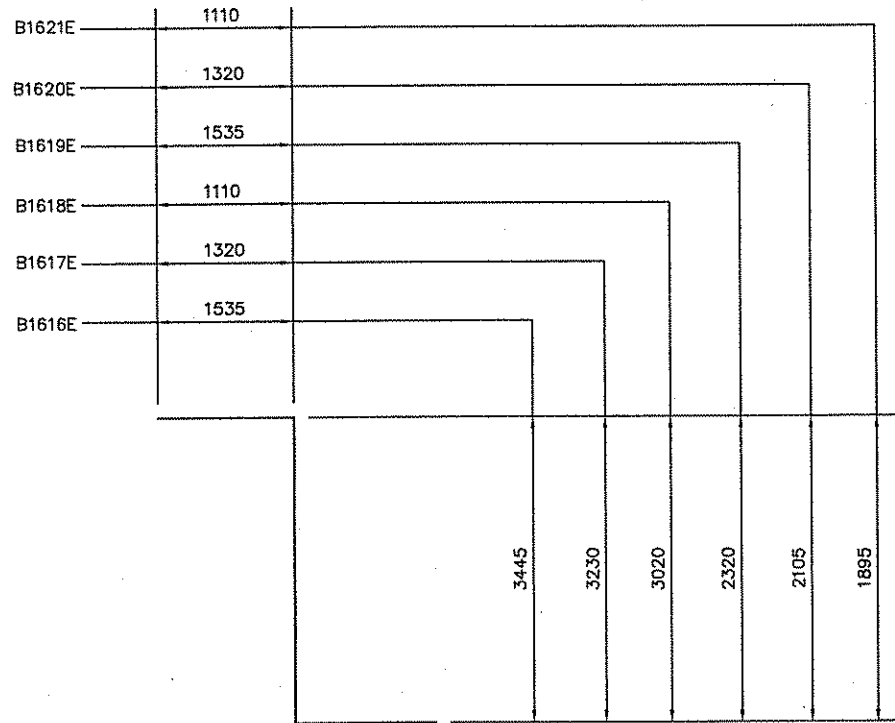
BENT
 DETAILS

DES: CRJ DRN: DBM APPROVED: 4-3-02
 CHK: DDL CHK: DJV
 SHEET NO. 23 OF 46 SHEETS

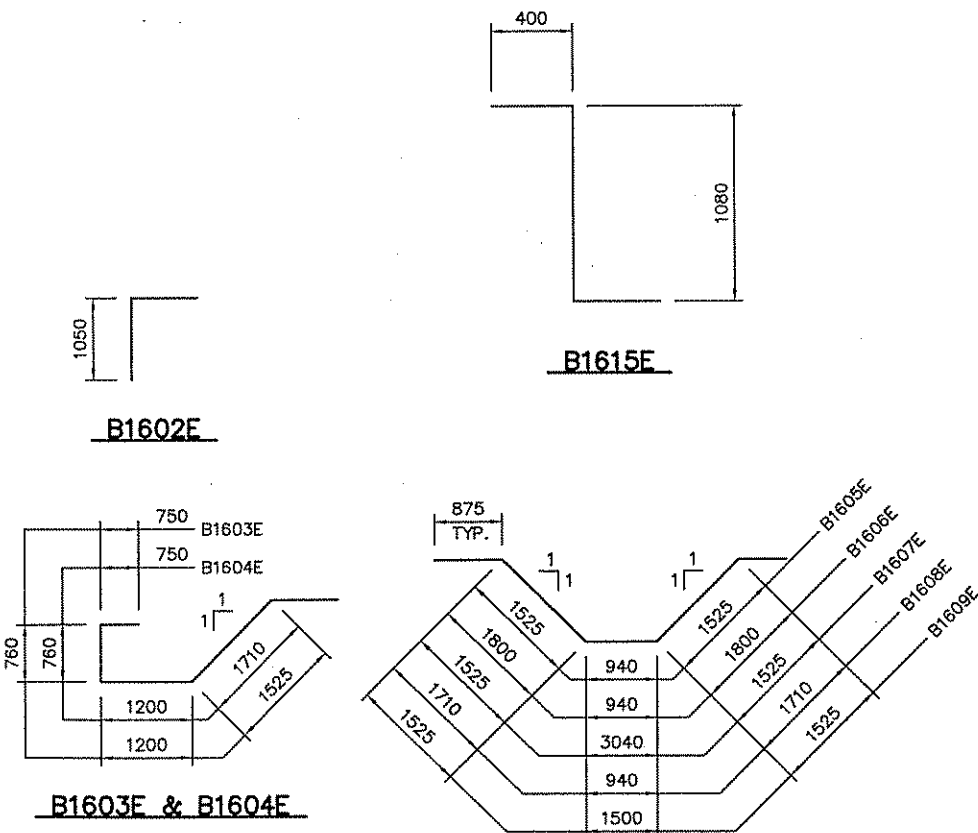
BRIDGE NO.
 02015

S.A.P. 114-010-11

PLOT DATE: Apr 01, 2002 10:34am DISK FILE NAME: (15.05) R:\33889\33889028\338898\STRUCT\PLAN_SHT_02015BENTB.dwg



**B1616E, B1617E, B1618E, B1619E,
B1620E, & B1621E**



B1605E, B1606E, B1607E, B1608E, & B1609E

SUMMARY OF QUANTITIES ~ BENTS

ITEM	UNIT	QUANTITY
② STRUCTURAL CONCRETE (3Y36)	m ³	2086
REINFORCEMENT BARS (EPOXY COATED)	kg	56570
③ C.I.P. CONCRETE PILING DELIVERED, 310	m	15978
③ C.I.P. CONCRETE PILING DRIVEN, 310	m	15978
C.I.P. CONCRETE TEST PILES, 35 m LG.	EACH	5
C.I.P. CONCRETE TEST PILES, 41 m LG.	EACH	5
C.I.P. CONCRETE TEST PILES, 39 m LG.	EACH	2

- ② APPROX. QUANTITY FOR BENTS 1, 13,17,27&39 = 51 m³/BENT
APPROX. QUANTITY FOR BENTS 2-12, 19-26, 28-31, 33-35 = 56 m³/BENT
APPROX. QUANTITY FOR BENTS 14,17&36 = 65 m³/BENT
APPROX. QUANTITY FOR BENT 32 = 71 m³/BENT
APPROX. QUANTITY FOR BENT 37&38 = 56 m³/BENT
- ③ DOES NOT INCLUDE TEST PILES

BILL OF REINFORCEMENT ~ BENTS

BAR	NO.	LENGTH	SHAPE	LOCATION
① B1601E	645	11150	STR	LONGITUDINAL
B1602E	409	1925	BENT	TIE
B1603E	324	5110	BENT	TIE
B1604E	85	5295	BENT	TIE
B1605E	2154	5740	BENT	TIE
B1606E	168	6290	BENT	TIE
B1607E	8	7840	BENT	TIE
B1608E	255	6110	BENT	TIE
B1609E	43	6300	BENT	TIE
① B1910E	618	11150	STR	LONGITUDINAL
① B1611E	36	11300	STR	LONGITUDINAL
① B1912E	36	11300	STR	LONGITUDINAL
B1613E	3	8520	STR	BENT 32 - LONGITUDINAL
B1614E	3	13840	STR	BENT 32 - LONGITUDINAL
B1615E	68	1880	BENT	BENT 32 - CATCH BASIN
B1616E	1	6515	BENT	BENT 32 - HORIZ. TIE
B1617E	1	5870	BENT	BENT 32 - HORIZ. TIE
B1618E	1	5240	BENT	BENT 32 - HORIZ. TIE
B1619E	3	5390	BENT	BENT 32 - HORIZ. TIE
B1620E	3	4745	BENT	BENT 32 - HORIZ. TIE
B1621E	3	4115	BENT	BENT 32 - HORIZ. TIE
B1622E	6	9830	STR	BENT 32 - LONGITUDINAL

PILE NOTES:

- 1. PILE SPACING SHOWN IS AT BOTTOM OF BENT.
- 2. ALL PILES TO BE 310mm DIA. CAST-IN-PLACE CONC. PILES.
- 3. PILES TO HAVE A NOMINAL DIAMETER OF 310mm.
- 4. PILES TO HAVE A MINIMUM WALL THICKNESS OF 6mm.

① 875 MIN. LAP, 3 LINES

SUMMARY OF PILE QUANTITIES ~ BENTS

BENT #	TEST PILES REQUIRED	TEST PILE LENGTH	PILES REQUIRED	ESTIMATED PILE LENGTH	TOTAL PILES REQUIRED	COMPUTED PILE LOADS ~ KN/PILE DEAD LOAD	COMPUTED PILE LOADS ~ KN/PILE LIVE LOAD	COMPUTED PILE LOADS ~ KN/PILE DOWN DRAG	COMPUTED PILE LOADS ~ KN/PILE TOTAL LOAD
⑤ 1	1	35	11	32	12	432.8	343.0	133.5	775.8
⑤ 2			12	32	12	432.8	343.0	133.5	775.8
⑤ 3			12	32	12	432.8	343.0	133.5	775.8
⑤ 4	1	35	11	32	12	432.8	343.0	133.5	775.8
⑤ 5			12	32	12	432.8	343.0	133.5	775.8
⑤ 6			12	32	12	432.8	343.0	133.5	775.8
⑤ 7	1	35	11	32	12	432.8	343.0	266.9	775.8
⑤ 8			12	32	12	432.8	343.0	266.9	775.8
⑤ 9	1	35	11	32	12	432.8	343.0	266.9	775.8
⑤ 10			12	32	12	432.8	343.0	266.9	775.8
⑤ 11			12	32	12	432.8	343.0	266.9	775.8
⑤ 12	1	35	11	32	12	432.8	343.0	266.9	775.8
⑤ 13			12	38	12	432.8	343.0	355.9	788.7
⑤ 14			14	38	14	444.8	327.3	355.9	800.7
⑤ 17			14	38	14	444.8	327.3	355.9	800.7
⑤ 18			12	38	12	432.8	343.0	355.9	788.7
⑤ 19	1	41	11	38	12	432.8	343.0	355.9	788.7
⑤ 20			12	38	12	432.8	343.0	355.9	788.7
⑤ 21			12	38	12	432.8	343.0	355.9	788.7
⑤ 22			12	38	12	432.8	343.0	355.9	788.7
⑤ 23	1	41	11	38	12	432.8	343.0	355.9	788.7
⑤ 24			12	38	12	432.8	343.0	355.9	788.7
⑤ 25			12	38	12	432.8	343.0	355.9	788.7
⑤ 26			12	38	12	432.8	343.0	355.9	788.7
⑤ 27	1	41	11	38	12	432.8	343.0	355.9	788.7
⑤ 28			12	38	12	432.8	343.0	355.9	788.7
⑤ 29			12	38	12	432.8	343.0	355.9	788.7
⑤ 30			12	38	12	432.8	343.0	355.9	788.7
⑤ 31	1	41	11	38	12	432.8	343.0	355.9	788.7
⑤ 32			12	38	12	432.8	343.0	355.9	788.7
⑤ 33			12	38	12	432.8	343.0	355.9	788.7
⑤ 34	1	41	11	38	12	432.8	343.0	355.9	788.7
⑤ 35			14	36	14	493.8	306.9	133.5	800.7
⑤ 36			14	36	14	493.8	306.9	133.5	800.7
⑤ 37	1	39	13	36	14	493.8	306.9	133.5	800.7
⑤ 38			14	36	14	493.8	306.9	133.5	800.7
⑤ 39	1	39	13	36	14	493.8	306.9	133.5	800.7

- ⑤ DESIGN LOAD = TOTAL LOAD: NO REDUCTION PER MnDOT LOAD COMBINATION 1 (LIVE LOAD + DEAD LOAD)
- ⑥ DESIGN LOAD = TOTAL LOAD: NO REDUCTION PER MnDOT LOAD COMBINATION 2 (DEAD LOAD + DOWN DRAG LOAD)

SIGNATURE: *David D. Long*
 PRINTED NAME: DAVID D. LONG
 DATE: 4/1/02 REG. NO. 24384

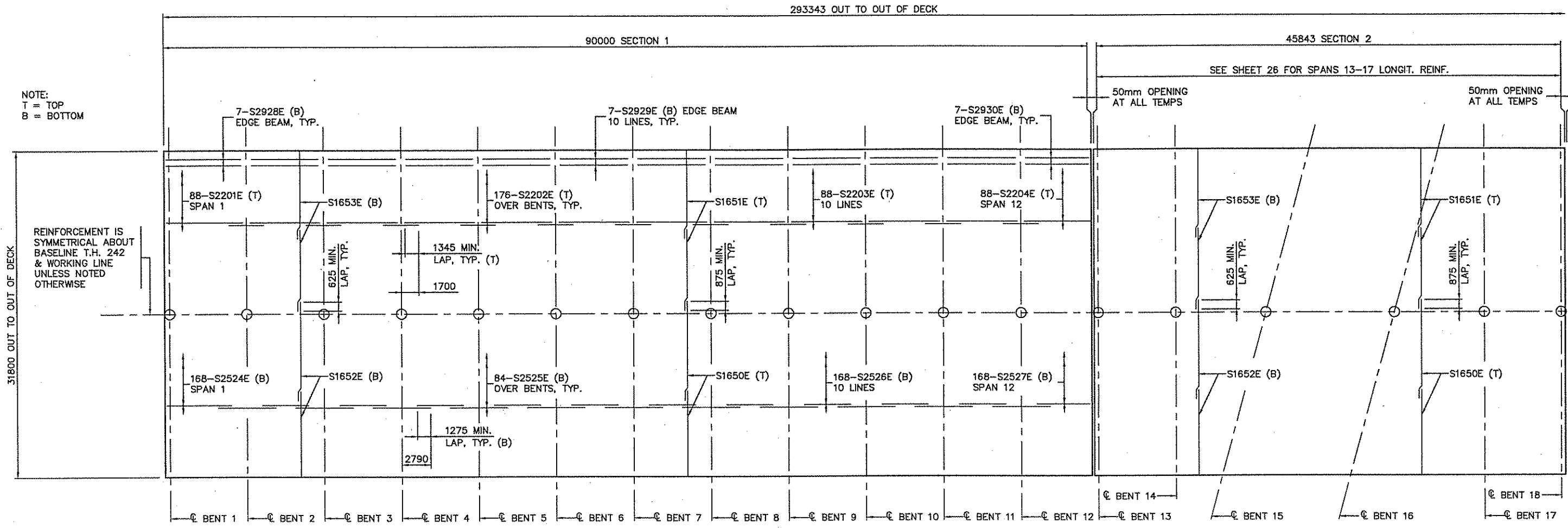


Thrasher Square
 100 Third Street South
 Minneapolis, MN 55415
 612.270.0700 Tel
 612.270.0700 Fax

**BENT
DETAILS**

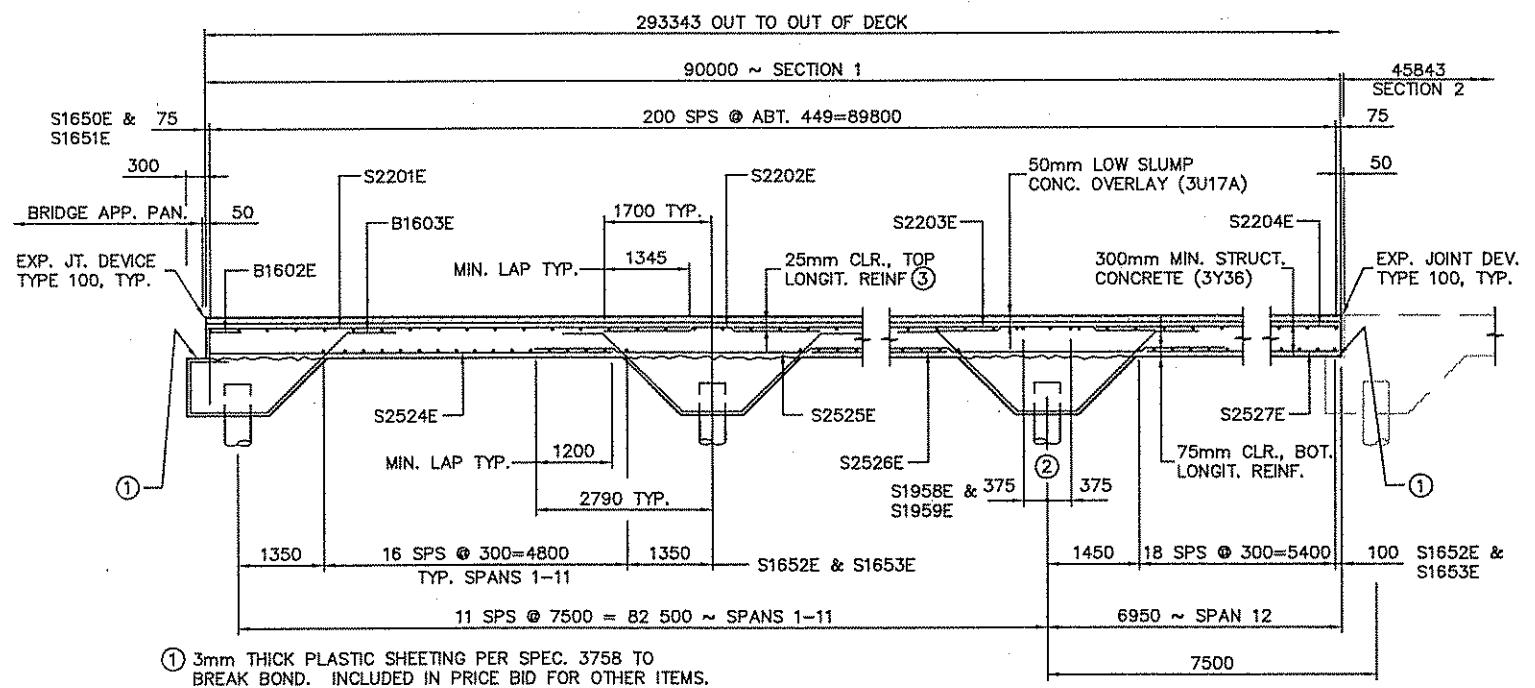
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CHK: DDL	CHK: DDL		
SHEET NO. 24 OF 46 SHEETS			

PLOT DATE: Mar 29, 2002 7:40am DISK FILE NAME: (1.05) R:\33869\33889028\STRUCT\PLAN_SHT\02015SUPER1.dwg



DECK PLAN ~ SECTION 1

DECK PLAN ~ SECTION 2
TRANSVERSE BARS



- ① 3mm THICK PLASTIC SHEETING PER SPEC. 3758 TO BREAK BOND. INCLUDED IN PRICE BID FOR OTHER ITEMS. (TROWEL CONCRETE SURFACE SMOOTH).
- ② 5 BARS EQ. SPG. ~ BENTS 1-12 (PLACED PARALLEL TO CL BENT)
- ③ TO TOP OF STRUCTURAL SLAB

LONGITUDINAL SECTION THRU DECK - SECTION 1

SIGNATURE: *David D. Long*
 PRINTED NAME: DAVID D. LONG
 DATE: 4/1/02 REG. NO. 24384



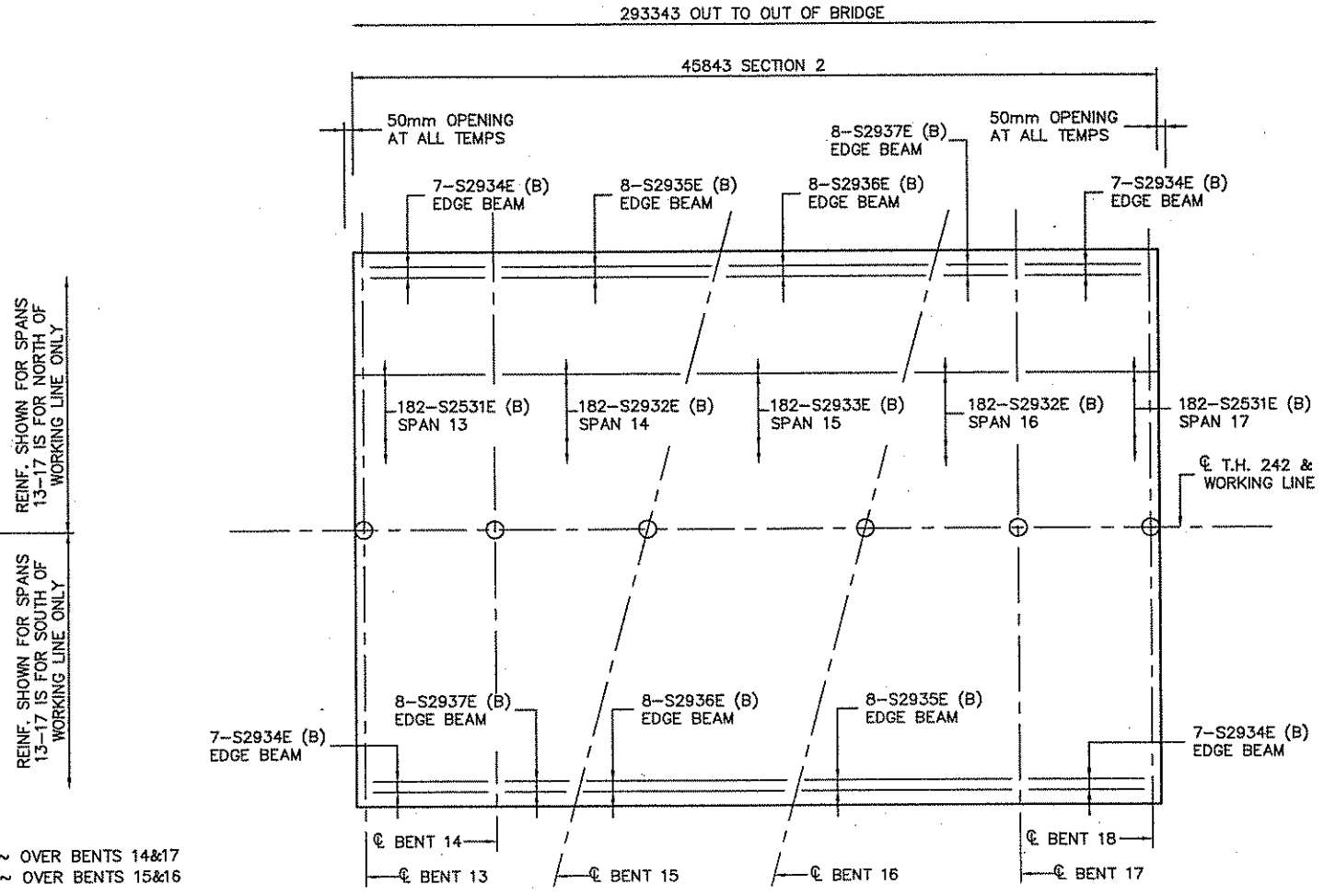
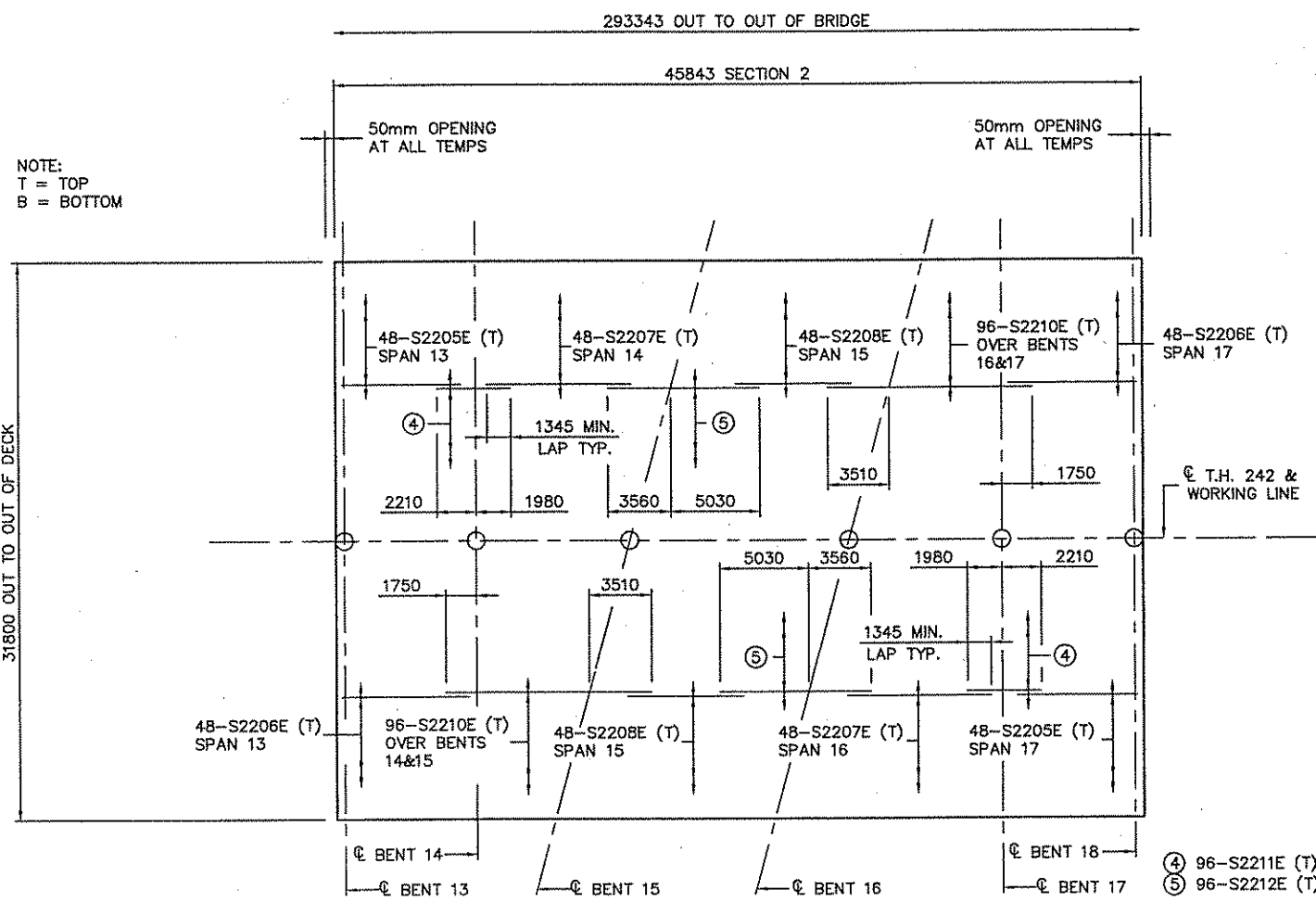
Thresher Square
 100 Third Street South
 Minneapolis, MN 55410
 612.276.0100 Tel
 612.276.0179 Fax

**SUPERSTRUCTURE
 DETAILS**

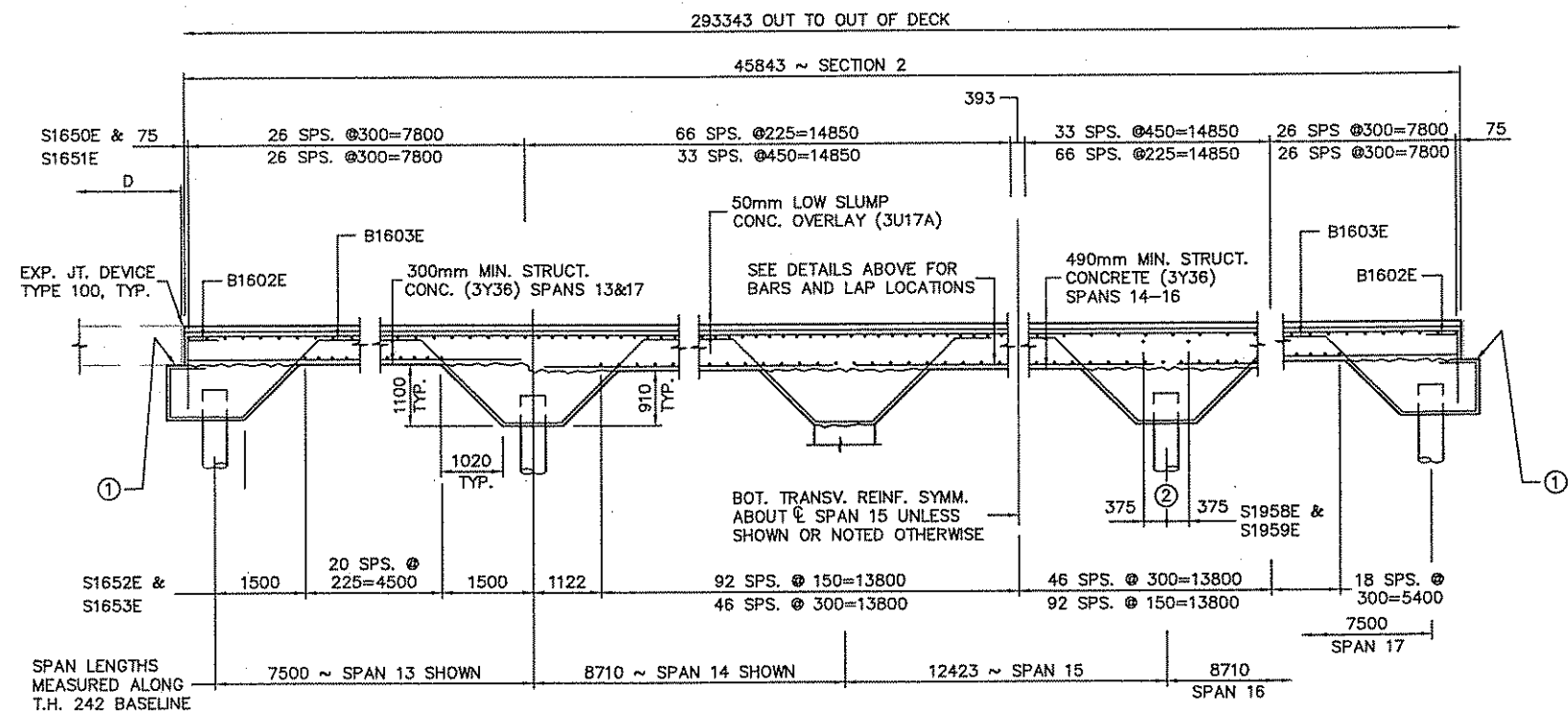
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CHK: NPH	CHK: DJV	
SHEET NO. 25 OF 46 SHEETS		

BRIDGE NO.
 02015

S.A.P. 114-010-11



TOP **DECK PLAN ~ SECTION 2** **BOTTOM**



① 3mm THICK PLASTIC SHEETING PER SPEC. 3758 TO BREAK BOND. INCLUDED IN PRICE BID FOR OTHER ITEMS. (TROWEL CONCRETE SURFACE SMOOTH).
 ② 5 BARS EQ. SPG. ~ BENTS 13, 14, 17&18 (PLACED PARALLEL TO C/ BENT)

LONGITUDINAL SECTION THRU DECK ~ SECTION 2

PLOT DATE: Apr 01, 2002 10:38am DISK FILE NAME: (15.05) R:\33889\33889028\STRUCT\PLAN_SHT\02015SUPER2.dwg

S.A.P. 114-010-11
 SIGNATURE: *David D. Long*
 PRINTED NAME: DAVID D. LONG
 DATE: 4/1/02 REG. NO. 24384



Thresher Square
 700 Third Street South
 Minneapolis, MN 55415
 612.370.0100 Fax
 612.370.0175 Fax

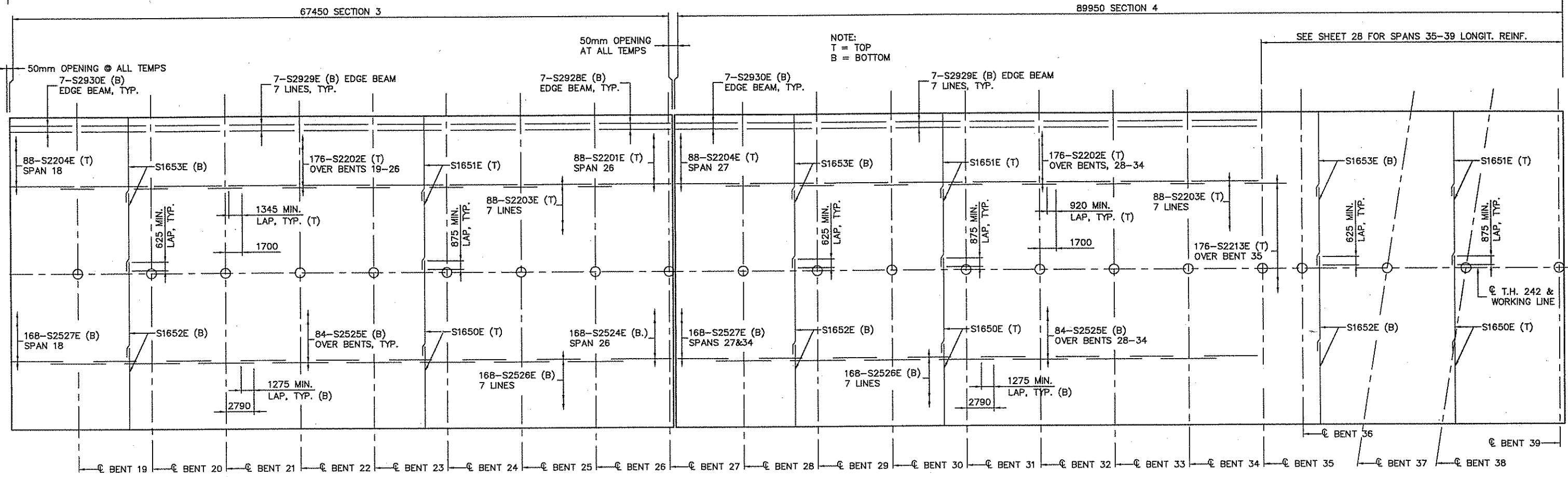
**SUPERSTRUCTURE
 DETAILS**

DES: DDL	DRN: DBM	APPROVED: 4.3.02
CHK: NPH	CHK: DJV	
SHEET NO. 26 OF 46 SHEETS		

BRIDGE NO.
 02015

PLOT DATE: Apr 01, 2002 10:39am DISK FILE NAME: (15.05) R:\33868\33868028\STRUCT\PLAN_SHT\02015SUPER3.dwg

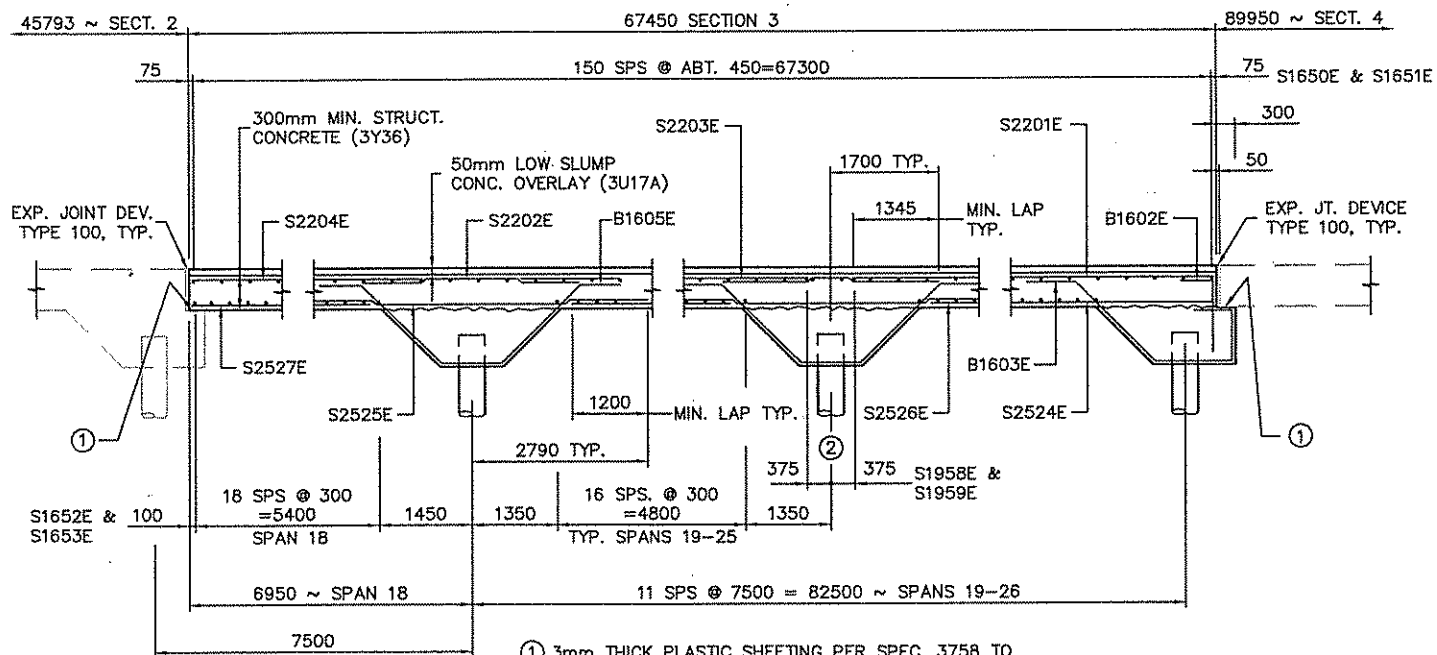
293343 OUT TO OUT OF DECK



DECK PLAN ~ SECTION 3

DECK PLAN ~ SECTION 4

293343 OUT TO OUT OF DECK



- ① 3mm THICK PLASTIC SHEETING PER SPEC. 3758 TO BREAK BOND. INCLUDED IN PRICE BID FOR OTHER ITEMS. (TROWEL CONCRETE SURFACE SMOOTH).
- ② 5 BARS EQ. SPG. ~ BENTS 19-36 & 39 (PLACED PARALLEL TO C BENT)

LONGITUDINAL SECTION THRU DECK - SECTION 3

S.A.P. 114-010-11

SIGNATURE: *David Wong*
 PRINTED NAME: DAVID D. LONG
 DATE: 4/1/02 REG. NO. 24384

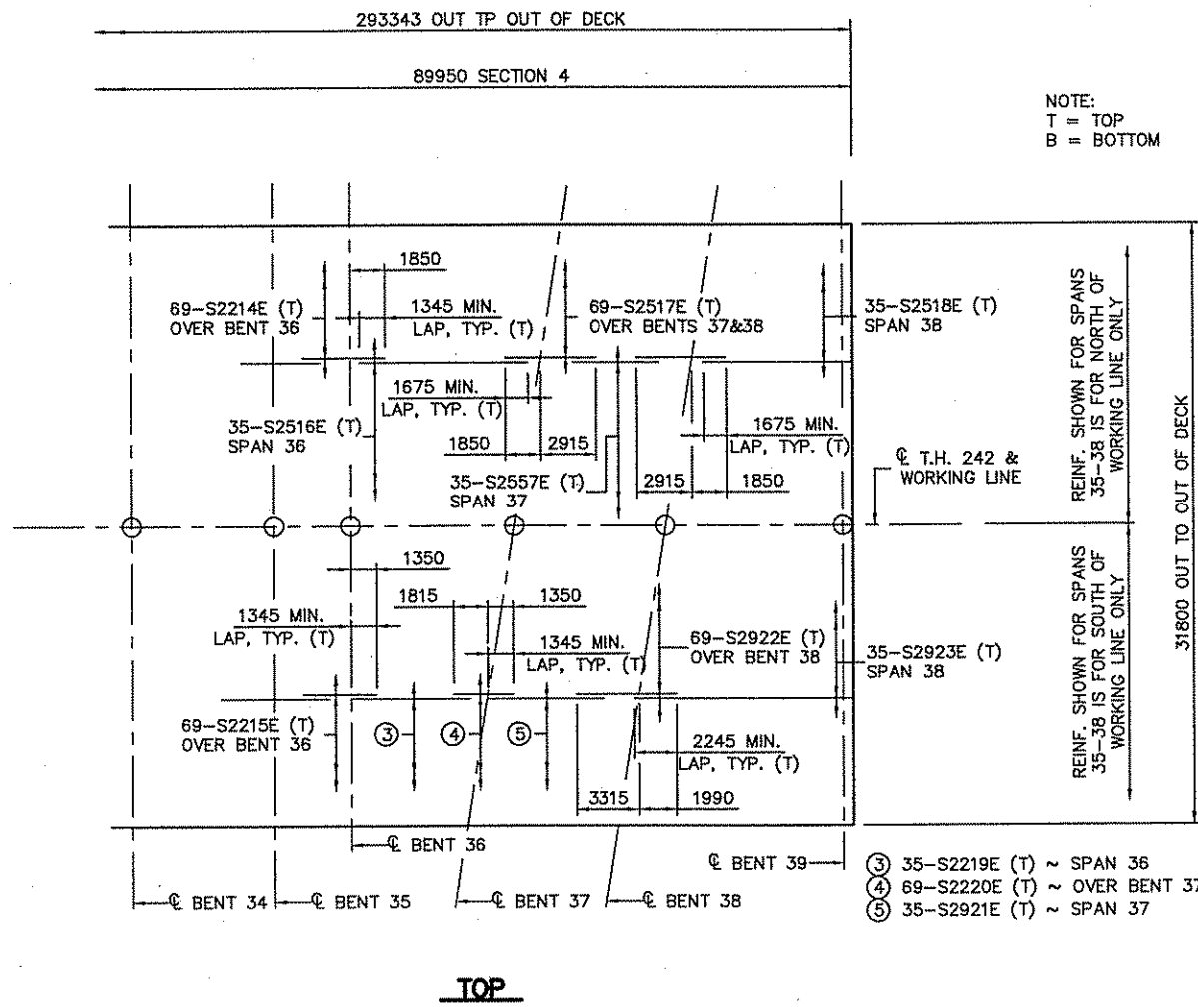


Thresher Bowers
 700 Third Street South
 Minneapolis, MN 55415
 612.370.0700 Tel
 612.370.0770 Fax

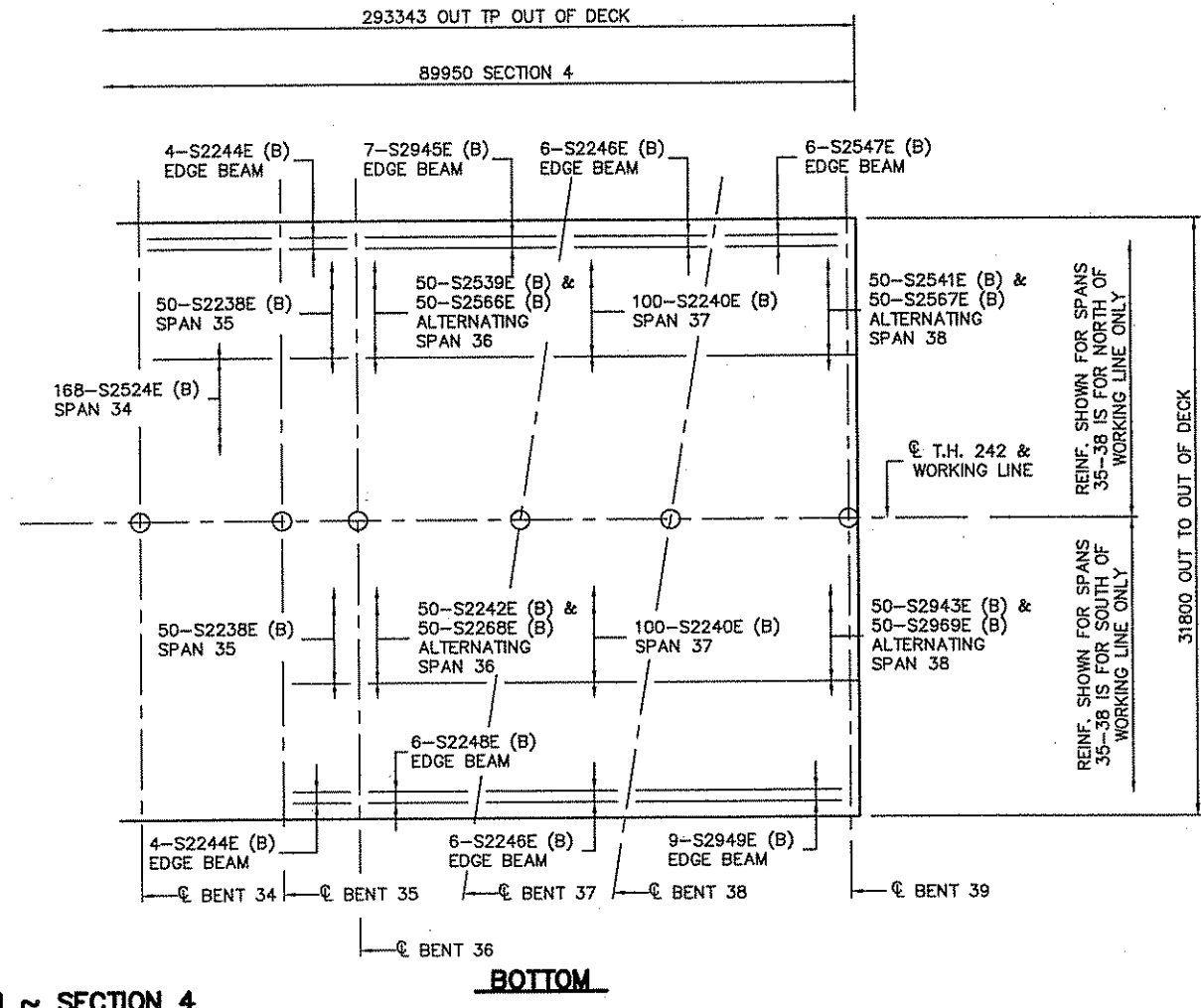
**SUPERSTRUCTURE
 DETAILS**

DES: DDL	DRN: DBM	APPROVED: 4-3-02	BRIDGE NO. 02015
CHK: NPH	CHK: DJV	SHEET NO. 27 OF 46 SHEETS	

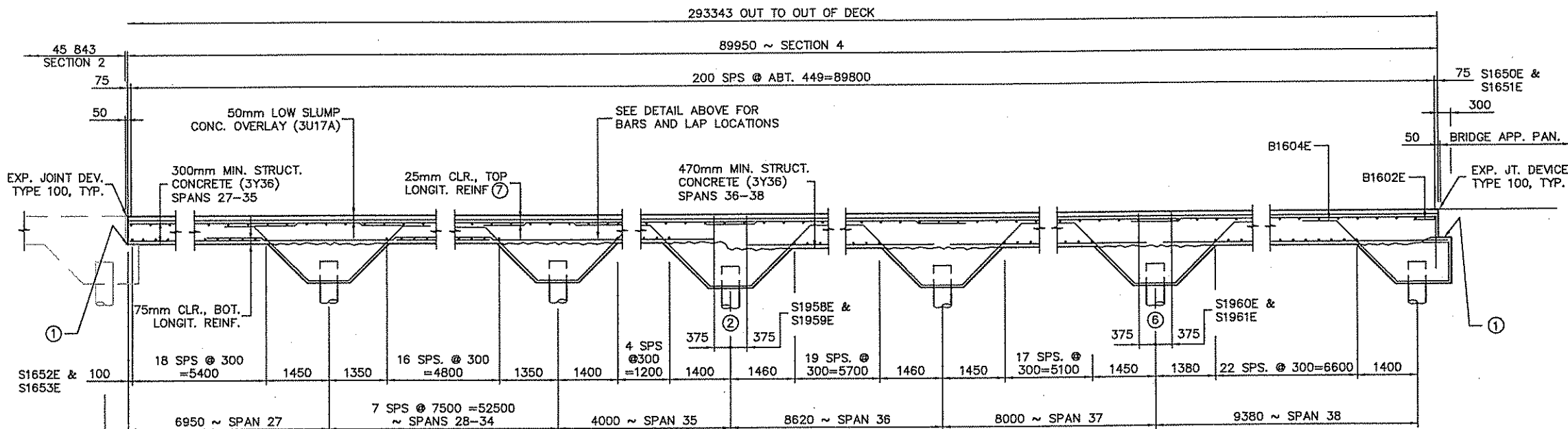
PLOT DATE: Apr 02, 2002 12:39pm DISK FILE NAME: (15.05) R:\33888\STRUCT\PLAN_SHT\02015SUPER4.dwg



NOTE:
T = TOP
B = BOTTOM



DECK PLAN ~ SECTION 4



- ① 3mm THICK PLASTIC SHEETING PER SPEC. 3758 TO BREAK BOND. INCLUDED IN PRICE BID FOR OTHER ITEMS. (TROWEL CONCRETE SURFACE SMOOTH).
- ② 5 BARS EQ. SPG. ~ BENTS 19-36 & 39
- ③ 35-S2219E (T) ~ SPAN 36
- ④ 69-S2220E (T) ~ OVER BENT 37
- ⑤ 35-S2921E (T) ~ SPAN 37
- ⑥ 5 BARS EQ. SPG. ~ BENTS 37&38
- ⑦ TO TOP OF STRUCTURAL SLAB

LONGITUDINAL SECTION THRU DECK ~ SECTION 4

S.A.P. 114-010-11

SIGNATURE: *David D. Long*
 PRINTED NAME: DAVID D. LONG
 DATE: 4/2/02 REG. NO. 24384



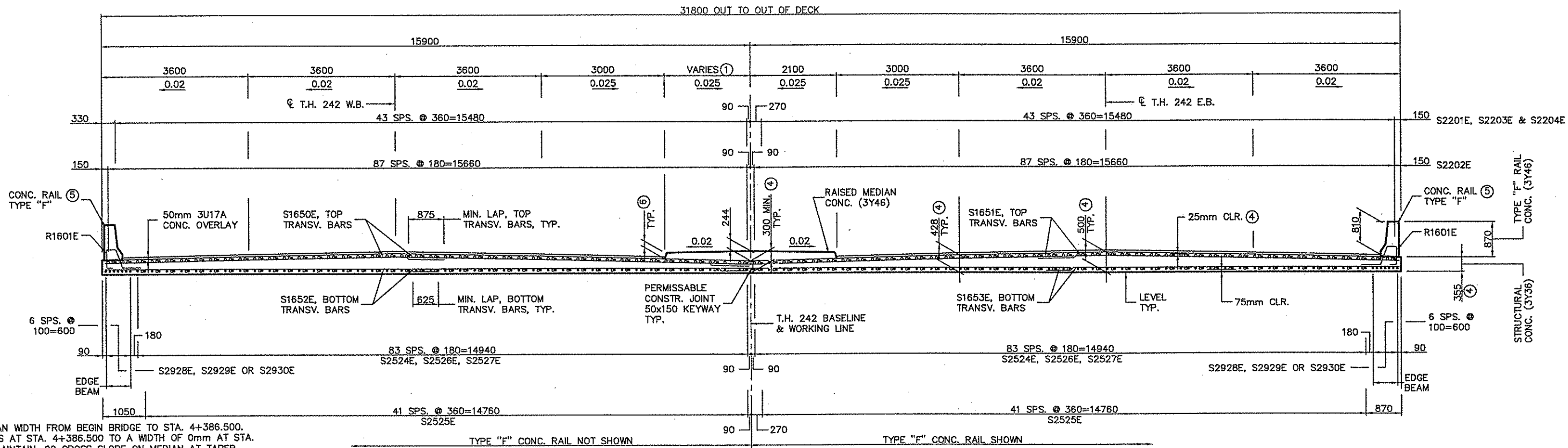
Threshor Bowyer
 700 Third Street South
 Minneapolis, MN 55415
 612.370.0700 Fax
 612.370.0719 Fax

**SUPERSTRUCTURE
 DETAILS**

DES: DDL	DRN: DBM	APPROVED:	4-3-02
CHK: NPH	CHK: DJV		
SHEET NO. 28 OF 46 SHEETS			

BRIDGE NO.
 02015

PLOT DATE: Mar 29, 2002 7:42am DISK FILE NAME: (15.05) R:\33889\33889028\STRUCT\PLAN_SHT\02015SUPER5.dwg



TYPICAL SECTION
SPANS 1-12, 18-34

① 2100mm MEDIAN WIDTH FROM BEGIN BRIDGE TO STA. 4+386,500. MEDIAN TAPERS AT STA. 4+386,500 TO A WIDTH OF 0mm AT STA. 4+418,000. MAINTAIN .02 CROSS SLOPE ON MEDIAN AT TAPER,

② S2934E, 6 SPS. @ 108±=650 ~ SPANS 13&17
S2935E, 8 SPS. @ 93±=650 ~ SPAN 14
S2936E, 8 SPS. @ 93±=650 ~ SPAN 15
S2937E, 8 SPS. @ 93±=650 ~ SPAN 16

③ S2934E, 6 SPS. @ 108±=650 ~ SPANS 13&17
S2937E, 8 SPS. @ 93±=650 ~ SPAN 14
S2936E, 8 SPS. @ 93±=650 ~ SPAN 15
S2935E, 8 SPS. @ 93±=650 ~ SPAN 16

④ TO TOP OF STRUCTURAL SLAB

⑤ SEE PART PLAN ON SHT. 31 FOR LIMITS OF TYPE "F" CONCRETE RAIL

⑥ 150mm ABOVE STRUCTURAL SLAB

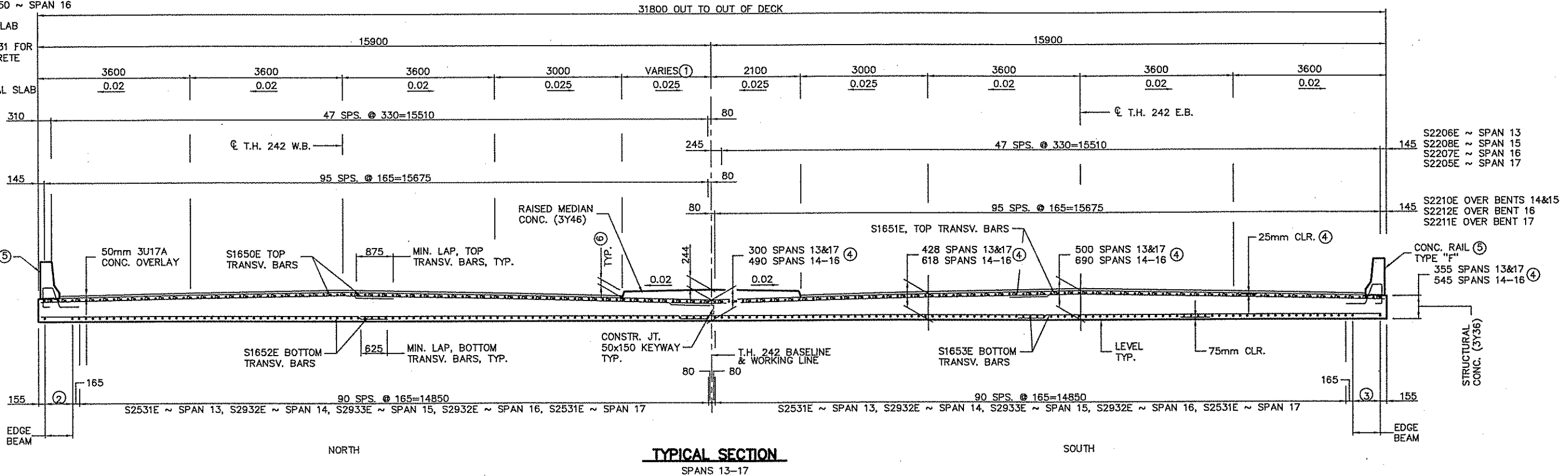
S2205E ~ SPAN 13
S2207E ~ SPAN 14
S2208E ~ SPAN 15
S2206E ~ SPAN 17

S2211E OVER BENT 14
S2212E OVER BENT 15
S2210E OVER BENTS 16&17

S2206E ~ SPAN 13
S2208E ~ SPAN 15
S2207E ~ SPAN 16
S2205E ~ SPAN 17

S2210E OVER BENTS 14&15
S2212E OVER BENT 16
S2211E OVER BENT 17

CONC. RAIL TYPE "F"
355 SPANS 13&17
545 SPANS 14-16



TYPICAL SECTION
SPANS 13-17

SIGNATURE: *David D. Long*
PRINTED NAME: DAVID D. LONG
DATE: 4/1/02 REG. NO. 24384



Transfer Station
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Fax
612.370.1319 Fax

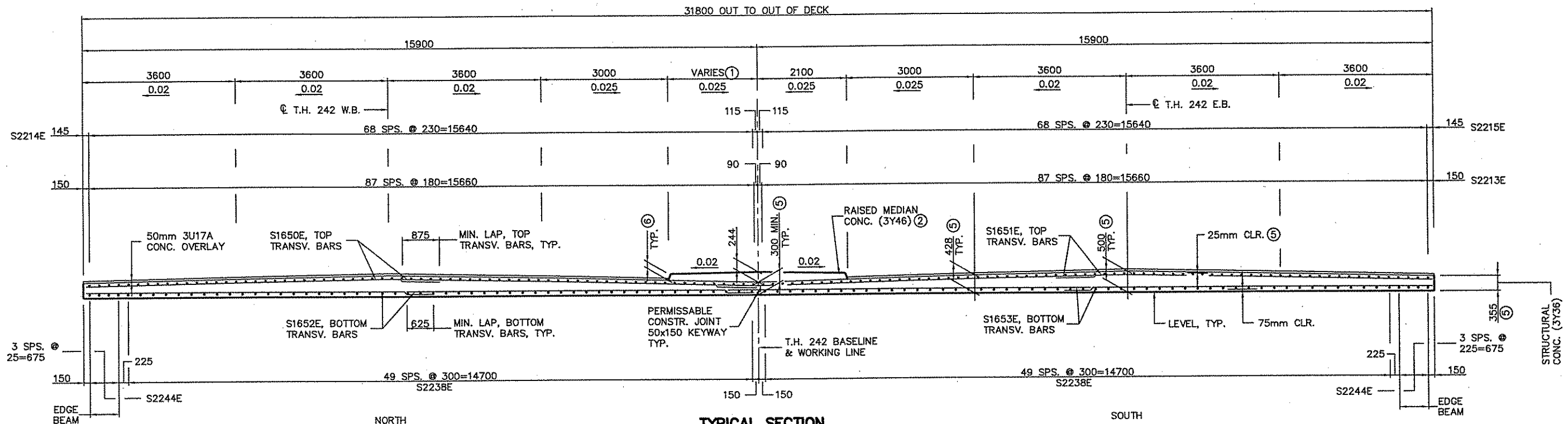
**SUPERSTRUCTURE
DETAILS**

DES: DDL DRN: DBM APPROVED: 4-3-02
CHK: NPH CHK: DJV
SHEET NO. 29 OF 46 SHEETS

BRIDGE NO.
02015

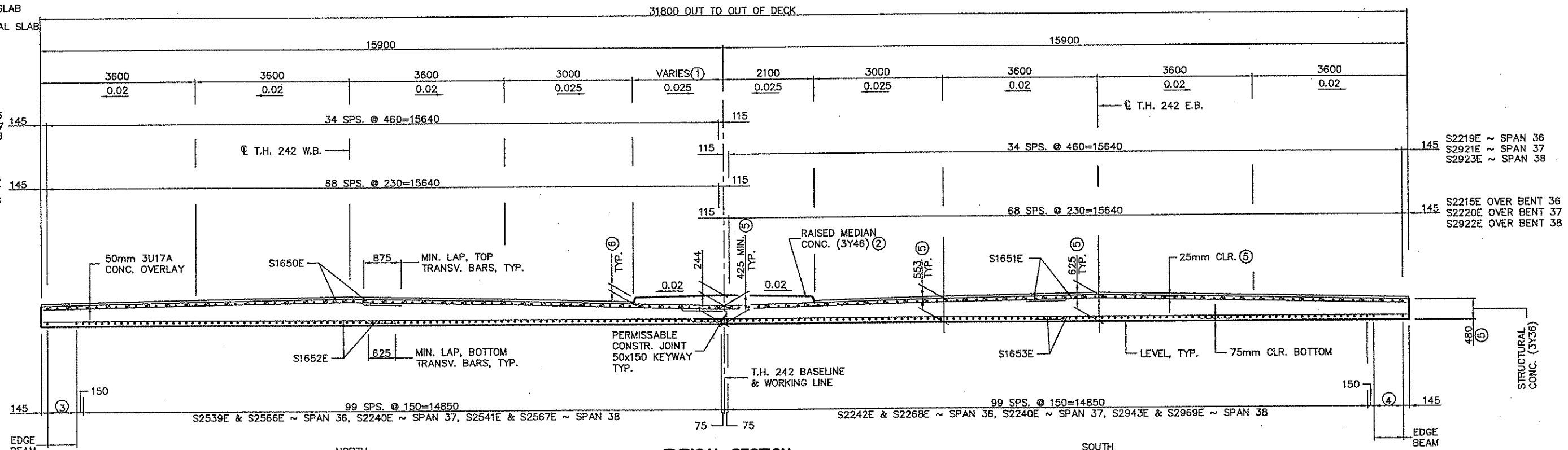
S.A.P. 114-010-11

PLOT DATE: Apr 02, 2002 12:41pm DISK FILE NAME: (15.05) R:\33889\33889028\STRUCT PLAN_SHT\02015SUPER6.dwg



TYPICAL SECTION
SECTION TAKEN AT CENTER OF SPAN
SPAN 35
S2213E (TOP LONGIT. REINF.) NOT SHOWN FOR CLARITY

- ① 2100mm MEDIAN WIDTH FROM BEGIN BRIDGE TO STA. 4+386.500. MEDIAN TAPERS AT STA. 4+386.500 TO A WIDTH OF 0mm AT STA. 4+418.000. MAINTAIN .02 CROSS SLOPE ON MEDIAN AT TAPER,
- ② END MEDIAN STA. 4+418.000
- ③ S2945E, 6 SPS. @ 113±=680 ~ SPAN 36
S2246E, 5 SPS. @ 136±=680 ~ SPAN 37
S2547E, 5 SPS. @ 136±=680 ~ SPAN 38
- ④ S2248E, 5 SPS. @ 136±=680 ~ SPAN 36
S2246E, 5 SPS. @ 136±=680 ~ SPAN 37
S2949E, 8 SPS. @ 85=680 ~ SPAN 38
- ⑤ TO TOP OF STRUCTURAL SLAB
- ⑥ 150mm ABOVE STRUCTURAL SLAB



TYPICAL SECTION
SPAN 36-38

S.A.P. 114-010-11

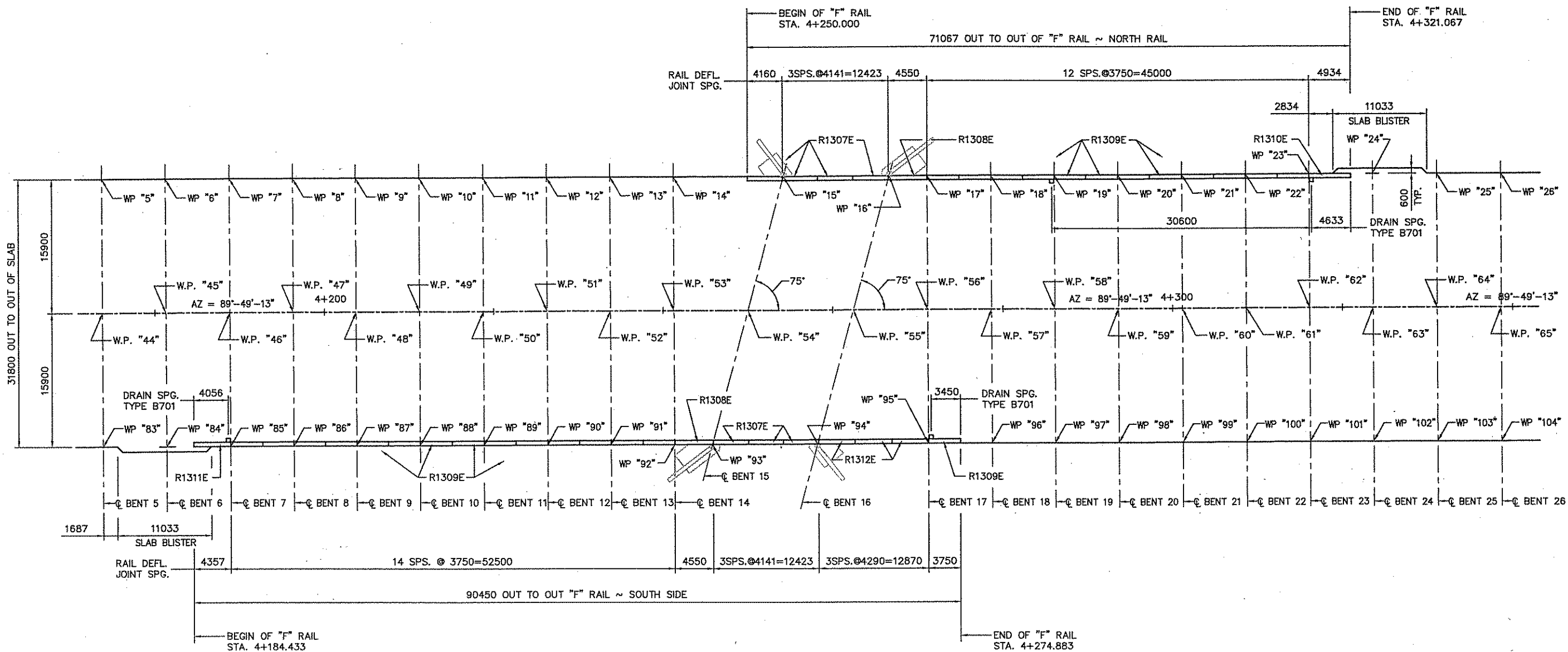
SIGNATURE: *David D. Long*
PRINTED NAME: DAVID D. LONG
DATE: 4/2/02 REG. NO. 24384



Thresher Square
700 Third Street South
Minneapolis, MN 55416
612.370.0700 FAX
612.370.0770 FAX

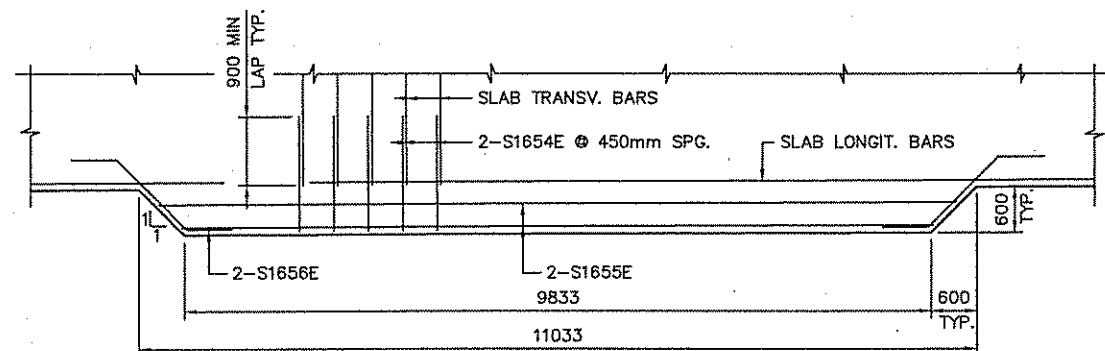
**SUPERSTRUCTURE
DETAILS**

DES: DDL	DRN: DBM	APPROVED: 4-3-02	BRIDGE NO. 02015
CHK: NPH	CHK: DJV	SHEET NO. 30 OF 46 SHEETS	



PART PLAN

PLAN SHOWING RAIL DEFLECTION JOINT SPACING



SLAB BLISTER DETAIL ①

① COORDINATE WITH ROADWAY PLANS FOR QUADQUARD DETAILS AND CONCRETE INSERT LOCATIONS.

NOTE:
SEE SHEET 41 FOR DRAIN B701 DETAILS.

PLOT DATE: Mar 29, 2002 7:43am DISK FILE NAME: (15.05) R:\33889\33889028\STRUCT\PLAN_SHT\02015SUPER7.dwg

S.A.P. 114-010-11

SIGNATURE: *David D. Long*
 PRINTED NAME: DAVID D. LONG
 DATE: 4/1/02 REG. NO. 24384



Truax Square
100 Third Street South
Minneapolis, MN 55416
612.370.0700 Fax
612.370.0770

**SUPERSTRUCTURE
DETAILS**

DES: DDL	DRN: DBM	APPROVED:
CHK: DJV	CHK: DJV	4-3-02
SHEET NO. 31 OF 46 SHEETS		

BRIDGE NO.
02015

PLOT DATE: Apr 02, 2002 12:53pm DISK FILE NAME: (15.05) R:\338899\338899028\STRUCT\PLAN_SH1_02015SUPER8.dwg

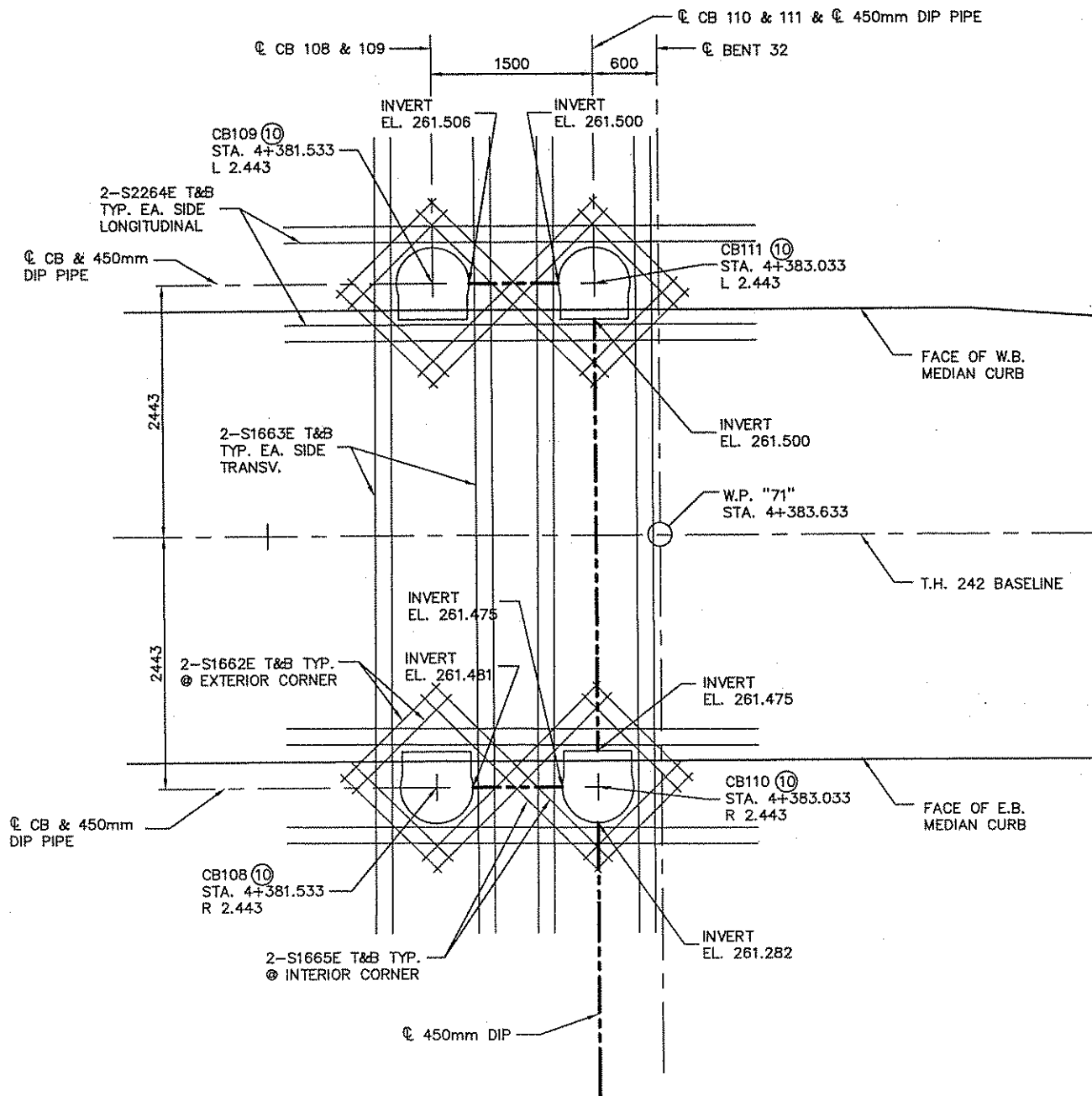
SUMMARY OF QUANTITIES ~ SUPERSTRUCTURE

ITEM	UNIT	QUANTITY
STRUCTURAL CONCRETE (3Y36)	m ³	4157
CONCRETE WEARING COURSE (3U17A)	m ²	8500
RAISED MEDIAN CONCRETE (3Y46)	m ²	1121
TYPE F RAILING CONCRETE (3Y46)	m	162
REINFORCEMENT BARS (EPOXY COATED)	kg	454485
EXPANSION JOINT DEVICES TYPE 100	m	160
BRIDGE DRAIN TYPE B701	EACH	4
DRAINAGE SYSTEM TYPE SPECIAL	LUMP SUM	1
3mm PLASTIC SHEETING	m ²	48
25mm CORK 325mm (RAIL)	m	22
25mm CORK 465mm (ABUTMENTS)	m	6
BRIDGE NAME PLATE	EACH	1

BILL OF REINFORCEMENT ~ SUPERSTRUCTURE

BAR	NO.	LENGTH	SHAPE	LOCATION
S2201E	176	7570	STRT	SLAB ~ LONGITUDINAL, TOP
S2202E	4576	3400	STRT	SLAB ~ LONGITUDINAL, TOP
S2203E	2112	6640	STRT	SLAB ~ LONGITUDINAL, TOP
S2204E	264	6520	STRT	SLAB ~ LONGITUDINAL, TOP
S2205E	96	7060	STRT	SLAB ~ LONGITUDINAL, TOP
S2206E	96	7470	STRT	SLAB ~ LONGITUDINAL, TOP
S2207E	2 SER. OF 48	5410 TO 9970	STRT	SLAB ~ LONGITUDINAL, TOP
S2208E	96	6575	STRT	SLAB ~ LONGITUDINAL, TOP
S2210E	2 SER. OF 96	9820 TO 13970	STRT	SLAB ~ LONGITUDINAL, TOP
S2211E	192	4190	STRT	SLAB ~ LONGITUDINAL, TOP
S2212E	192	8590	STRT	SLAB ~ LONGITUDINAL, TOP
S2213E	176	4375	STRT	SLAB ~ LONGITUDINAL, TOP
S2214E	69	4525	STRT	SLAB ~ LONGITUDINAL, TOP
S2215E	69	4025	STRT	SLAB ~ LONGITUDINAL, TOP
S2516E	1 SER. OF 35	8100 TO 10570	STRT	SLAB ~ LONGITUDINAL, TOP
S2517E	138	4775	STRT	SLAB ~ LONGITUDINAL, TOP
S2518E	1 SER. OF 35	7325 TO 9780	STRT	SLAB ~ LONGITUDINAL, TOP
S2219E	1 SER. OF 35	5465 TO 7940	STRT	SLAB ~ LONGITUDINAL, TOP
S2220E	69	3175	STRT	SLAB ~ LONGITUDINAL, TOP
S2921E	35	6930	STRT	SLAB ~ LONGITUDINAL, TOP
S2922E	69	5215	STRT	SLAB ~ LONGITUDINAL, TOP
S2923E	1 SER. OF 35	10100 TO 12550	STRT	SLAB ~ LONGITUDINAL, TOP
S2524E	504	6500	STRT	SLAB ~ LONGITUDINAL, BOTTOM
S2525E	2184	5600	STRT	SLAB ~ LONGITUDINAL, BOTTOM
S2526E	4032	4500	STRT	SLAB ~ LONGITUDINAL, BOTTOM
S2527E	336	5450	STRT	SLAB ~ LONGITUDINAL, BOTTOM
S2928E	28	7800	STRT	SLAB ~ LONGITUDINAL, BOTTOM
S2929E	336	7100	STRT	SLAB ~ LONGITUDINAL, BOTTOM
S2930E	42	6700	STRT	SLAB ~ LONGITUDINAL, BOTTOM
S2531E	364	7800	STRT	SLAB ~ LONGITUDINAL, BOTTOM
S2932E	2 SER. OF 182	4050 TO 12570	STRT	SLAB ~ LONGITUDINAL, BOTTOM
S2933E	182	12000	STRT	SLAB ~ LONGITUDINAL, BOTTOM
S2934E	28	7800	STRT	SLAB ~ LONGITUDINAL, BOTTOM
S2935E	16	12600	STRT	SLAB ~ LONGITUDINAL, BOTTOM
S2936E	16	12000	STRT	SLAB ~ LONGITUDINAL, BOTTOM
S2937E	16	4100	STRT	SLAB ~ LONGITUDINAL, BOTTOM
S2238E	100	3600	STRT	SLAB ~ LONGITUDINAL, BOTTOM
S2539E	1 SER. OF 50	8300 TO 10675	STRT	SLAB ~ LONGITUDINAL, BOTTOM
S2240E	200	7600	STRT	SLAB ~ LONGITUDINAL, BOTTOM
S2541E	1 SER. OF 50	7300 TO 9675	STRT	SLAB ~ LONGITUDINAL, BOTTOM
S2242E	1 SER. OF 50	5800 TO 8175	STRT	SLAB ~ LONGITUDINAL, BOTTOM
S2943E	1 SER. OF 50	9800 TO 12175	STRT	SLAB ~ LONGITUDINAL, BOTTOM
S2244E	8	3600	STRT	SLAB ~ LONGITUDINAL, BOTTOM
S2945E	7	10700	STRT	SLAB ~ LONGITUDINAL, BOTTOM
S2246E	12	7600	STRT	SLAB ~ LONGITUDINAL, BOTTOM
S2547E	6	7100	STRT	SLAB ~ LONGITUDINAL, BOTTOM
S2248E	6	5700	STRT	SLAB ~ LONGITUDINAL, BOTTOM
S2949E	9	11900	STRT	SLAB ~ LONGITUDINAL, BOTTOM
S1650E	1416	8850	STRT	SLAB ~ TRANSVERSE, TOP
S1651E	1416	8350	STRT	SLAB ~ TRANSVERSE, TOP
S1652E	1456	8600	STRT	SLAB ~ TRANSVERSE, BOTTOM
S1653E	1456	8225	STRT	SLAB ~ TRANSVERSE, BOTTOM
S1654E	96	1500	STRT	SLAB ~ TRANSVERSE @ BLISTER
S1655E	4 SER. OF 2	9800 TO 10400	STRT	SLAB ~ LONGITUDINAL @ BLISTER
S1656E	8	2500	BENT	SLAB ~ TIE @ BLISTER
S2557E	35	5520	STRT	SLAB ~ LONGITUDINAL, BOTTOM
S1958E	350	8850	STRT	SLAB @ BENTS - TRANSVERSE
S1959E	350	8350	STRT	SLAB @ BENTS - TRANSVERSE
S1960E	20	9000	STRT	SLAB @ BENTS - TRANSVERSE
S1961E	20	8500	STRT	SLAB @ BENTS - TRANSVERSE
S1662E	32	2390	STRT	SLAB ~ T&B @ CATCH BASIN
S1663E	16	7500	STRT	SLAB ~ T&B @ CATCH BASIN
S2264E	16	4000	STRT	SLAB ~ T&B @ CATCH BASIN
S1665E	16	3800	STRT	SLAB ~ T&B @ CATCH BASIN
S2566E	1 SER. OF 50	8324 TO 10700	STRT	SLAB ~ LONGITUDINAL, BOTTOM
S2567E	1 SER. OF 50	7325 TO 9700	STRT	SLAB ~ LONGITUDINAL, BOTTOM

- ② COMPUTED QTY. IS 425 CU. METERS FOR INFORMATIONAL PURPOSES ONLY INCLUDES APPROACH PANELS.
- ③ COMPUTED QTY. IS 224 CU. METERS FOR INFORMATIONAL PURPOSES ONLY.
- ④ COMPUTED QTY. IS 48 CU. METERS FOR INFORMATIONAL PURPOSES ONLY.
- ⑤ INCLUDES REINFORCEMENT FOR SLAB, AND RAILING.
- ⑥ TO BE INCLUDED IN PRICE BID FOR OTHER ITEMS.
- ⑦ INCLUDES 20 METERS 450mm DIA. DUCTILE IRON PIPE, 4 - RING OR FRAME CASTING NO. 801 PER Mn/DOT STD. PLATE #M4126, 4 - GRATE CASTING NO. 810 PER Mn/DOT STD. PLATE #M4149, AND 4 - CURB BOX NO. 821-B PER Mn/DOT STD. PLATE #M4161.
- ⑨ TO BE INCLUDED IN PRICE BID FOR ITEM 2502.601 "DRAINAGE SYSTEM TYPE SPECIAL".
- ⑩ MNDOT TYPE B-1, CB WHICH REFERS TO MNDOT STANDARD PLATES M4126 FOR RING OR FRAME CASTING NO.801, M4149 FOR GRATE CASTING NO.810, AND M4161 FOR CURB BOX NO.821-B.



CATCH BASIN PLAN

BILL OF REINFORCEMENT ~ SUPERSTRUCTURE - CONT'D

S2268E	1 SER. OF 50	5825 TO 8200	STRT	SLAB ~ LONGITUDINAL, BOTTOM
S2969E	1 SER. OF 50	9825 TO 12200	STRT	SLAB ~ LONGITUDINAL, BOTTOM

SIGNATURE: *David D. Long*
 PRINTED NAME: DAVID D. LONG
 DATE: 4/2/02 REG. NO. 24384



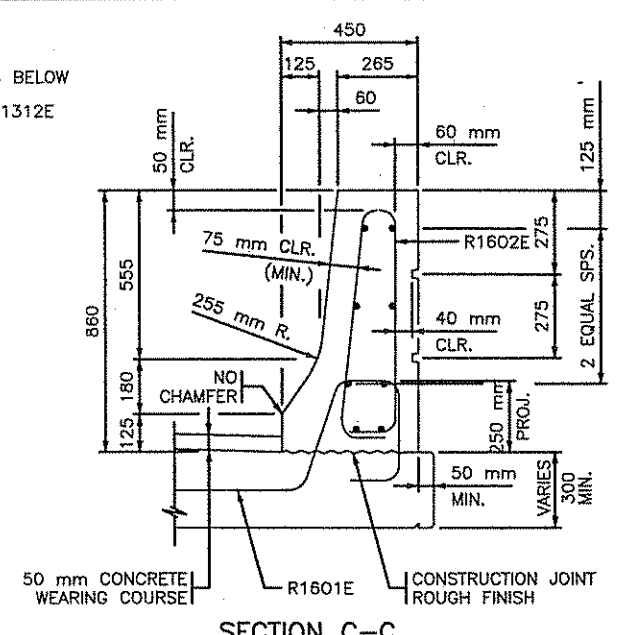
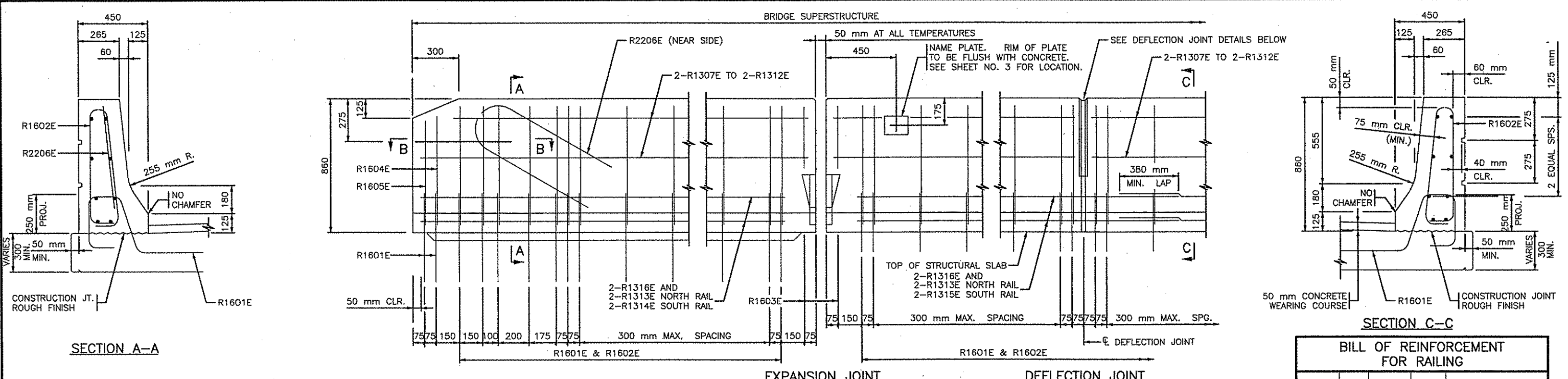
Thresher Square
 100 Third Street South
 Minneapolis, MN 55415
 612.376.0700 Tel
 612.376.0716 Fax

SUPERSTRUCTURE DETAILS

DES: DDL DRN: SCS APPROVED: 4-3-02
 CHK: NPH CHK: DJV
 SHEET NO. 32 OF 46 SHEETS

BRIDGE NO. 02015

PLOT DATE: Mar 29, 2002 7:36am DISK FILE NAME: (15.05) R:\33889\33889028\STRUCT\PLAN_SHT_02015rail.dwg



SECTION A-A

EXPANSION JOINT
(EXPANSION DEVICE NOT SHOWN, SOUTH RAIL ONLY)
INSIDE ELEVATION OF RAILING
(CONCRETE WEARING COURSE NOT SHOWN)

DEFLECTION JOINT

BILL OF REINFORCEMENT FOR RAILING

BAR	NO.	LENGTH	SHAPE	LOCATION
R1601E	645	1590		RAIL DOWEL
R1602E	637	1950		RAIL VERTICAL
R1603E	4	1330		RAIL VERTICAL
R1604E	4	1810		RAIL VERTICAL
R1605E	4	1750		RAIL VERTICAL
R2206E	4	1970		RAIL VERTICAL
R1307E	28	4015		RAIL LONGITUDINAL
R1308E	8	4425		RAIL LONGITUDINAL
R1309E	108	3625		RAIL LONGITUDINAL
R1310E	4	4810		RAIL LONGITUDINAL
R1311E	4	4230		RAIL LONGITUDINAL
R1312E	12	4170		RAIL LONGITUDINAL
R1313E	12	9800		NORTH RAIL LONG.
R1314E	16	12625		SOUTH RAIL LONG.
R1315E	16	10464		SOUTH RAIL LONG.
R1316E	16	10895		NORTH RAIL LONG.

- ① 3 LINES, MIN. LAP 380mm
- ② 4 LINES, MIN. LAP 380mm
- ④ EXPANSION JT. BENT 13 (SOUTH)
EXPANSION JT. BENT 18 (NORTH)

GENERAL NOTES

ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE NOTED.

LENGTH OF "TYPE F RAILING CONCRETE (3Y46)" FOR PAYMENT SHALL BE MEASURED BETWEEN THE OUTSIDE FACES OF THE CONCRETE RAIL.

CONCRETE RAILING = 6.83 kN/m (0.290 m\$/m)

FINISH ALL EDGES OF RAIL WITH 13 mm VEE, EXCEPT WHERE OTHERWISE NOTED.

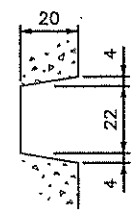
MAXIMUM SPACING OF CONCRETE DEFLECTION JOINTS SHALL BE 6 m.

SEE SUPERSTRUCTURE SHEET FOR JOINT SPACING.

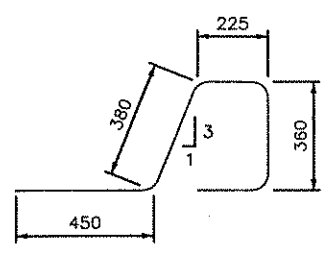
GUARDRAIL CONNECTION TO BE STRUCTURAL STEEL, Mn/DOT SPEC. 3306.

GUARDRAIL CONNECTION TO BE INCLUDED IN PRICE BID FOR OTHER ITEMS.

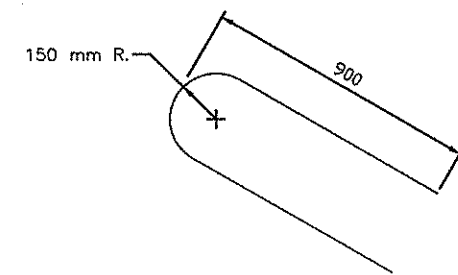
RAIL QUANTITIES ARE INCLUDED IN SUMMARY OF QUANTITIES FOR SUPERSTRUCTURE.



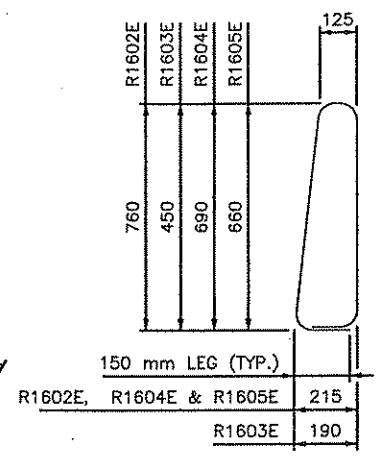
RAIL RUSTICATION



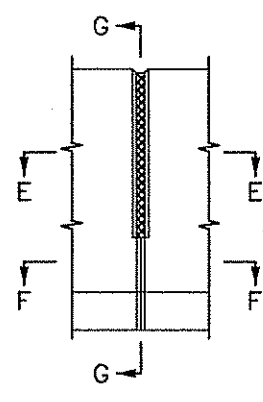
R1601E



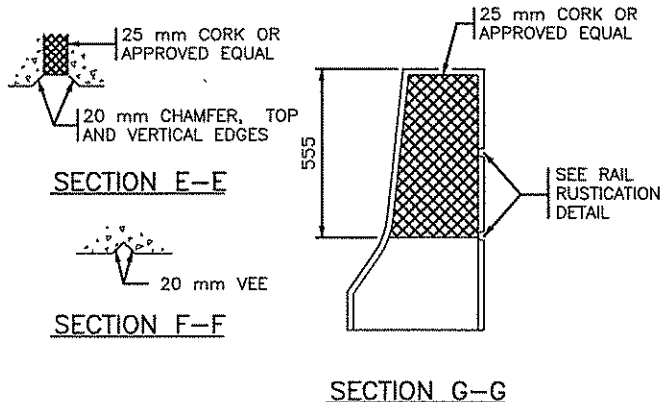
R2206E



R1602E, R1603E, R1604E & R1605E



ELEVATION



SECTION G-G

DEFLECTION JOINT DETAILS

REVISION: 10-25-01

APPROVED: _____

STATE BRIDGE ENGINEER

S.A.P. 114-010-11

SIGNATURE: *David D. Long*

PRINTED NAME: DAVID D. LONG

DATE: 4/1/02 REG. NO. 24384

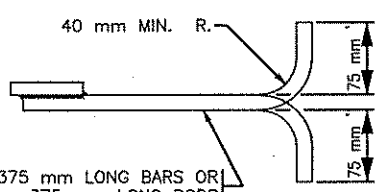
CONCRETE RAILING (TYPE F)
WITH INTEGRAL END POST
(WITH CONCRETE WEARING COURSE)

DES: MNDOT	DR: MNDOT	APPROVED: 4-3-02	BRIDGE NO. 02015
CHK: DDL	CHK: DJV		

SHEET NO. 33 OF 46 SHEETS

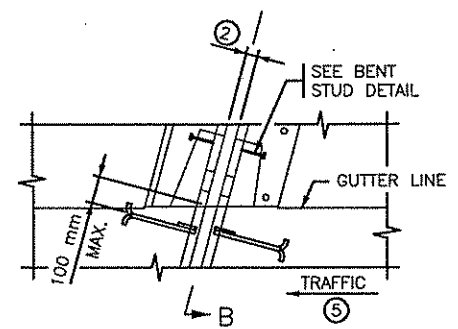
FIG. 5-397.117M

PLOT DATE: Mar 28, 2002 7:23am DISK FILE NAME: (15.05) R:\33885\STRUCT\PLAN_SHT\02015EXP1.dwg



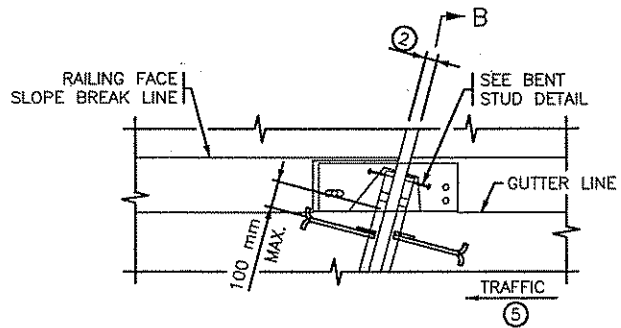
15 mm SQ. x 375 mm LONG BARS OR
16 mm DIA. x 375 mm LONG RODS

BAR-ROD DETAIL



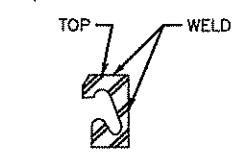
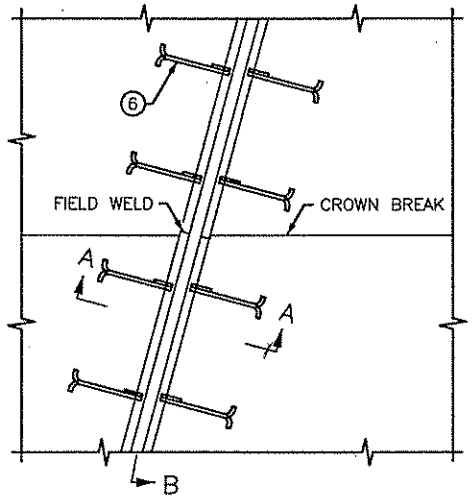
PLAN VIEW AT EXPANSION DEVICE

MEDIAN OR SIDEWALK ALTERNATE

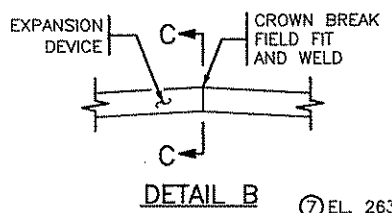


PLAN VIEW AT EXPANSION DEVICE

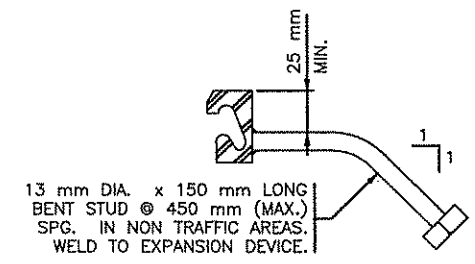
WITH STRAIGHT DEVICE



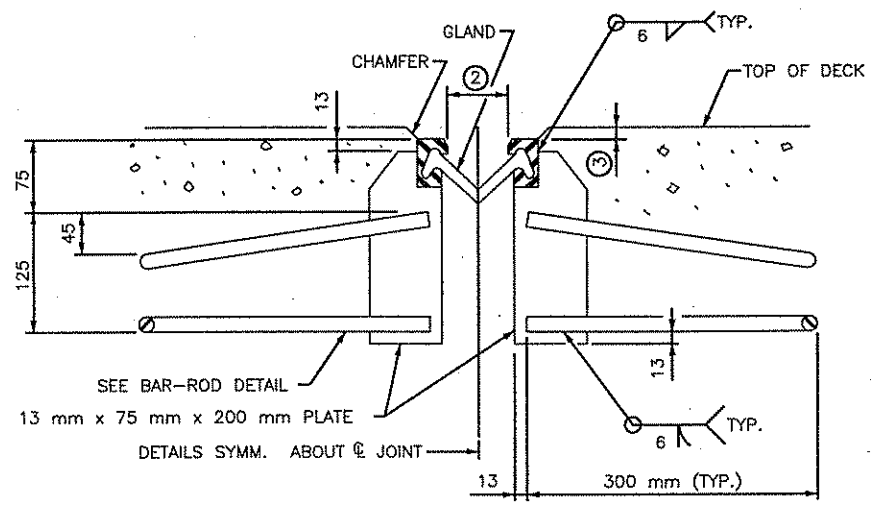
SECTION C-C



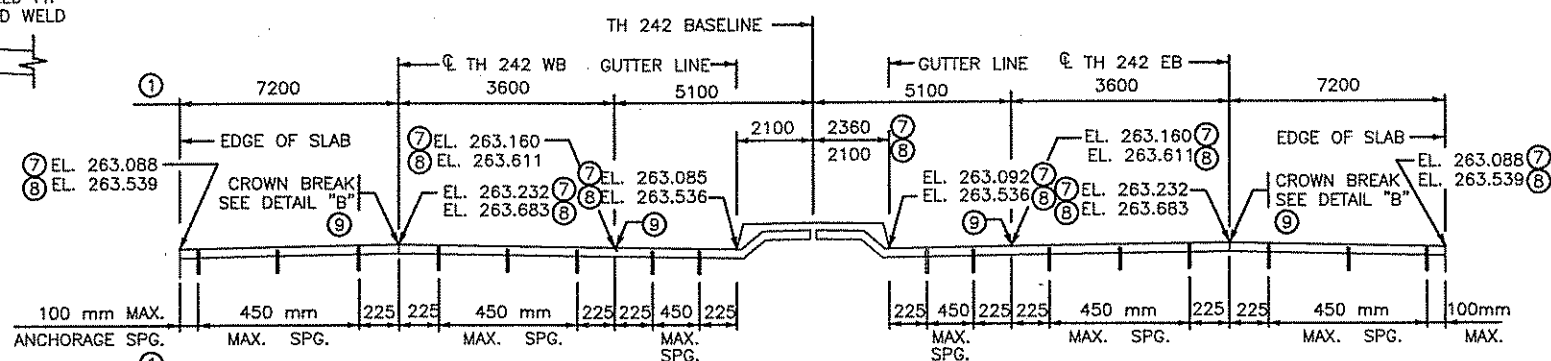
DETAIL B



BENT STUD DETAIL



SECTION A-A



SECTION B-B ~ ALONG C JOINT

ELEVATIONS SHOWN ARE 3 mm BELOW TOP OF SLAB @ C JOINT

- ⑦ EXPANSION JOINT 1
- ⑧ EXPANSION JOINT 4
- ⑨ CROWN BREAK, SEE DETAIL "B"

GENERAL NOTES

- ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE NOTED.
- GALVANIZE STRUCTURAL STEEL AFTER FABRICATION AS PER Mn/DOT SPEC. 3394. GALVANIZE FASTENERS AS PER Mn/DOT SPEC. 3392.
- JOINTS IN EXTRUSION SHALL BE LOCATED AT BREAKS IN TRANSVERSE PROFILE AND AS OTHERWISE REQUIRED. JOINTS SHALL BE CLOSE FIT AND WELDED. REPAIR AFTER WELDING AS PER Mn/DOT SPEC. 2471.3L.
- STRUCTURAL STEEL SHALL COMPLY WITH Mn/DOT SPEC. 3306 OR Mn/DOT SPEC. 3309.
- EXPANSION DEVICE SHALL BE STRAIGHTENED TO A TOLERANCE OF 1 mm IN 1 m.
- LENGTH OF PAYMENT FOR DEVICE IS FROM OUT TO OUT OF EXTRUSION ALONG CENTERLINE OF JOINT.
- ① DIMENSIONS ARE ALONG CENTERLINE OF JOINT.
- ② 50 mm AT ALL TEMPS.
- ③ 3 mm (6 mm MAX.)
13 mm (16 mm MAX.) WHEN SNOWPLOW FINGERS ARE USED
SNOWPLOW FINGERS ARE REQUIRED FOR SKEWS OVER 15' AND LESS THAN 50'.
- ⑤ SEE SHEET 2&3 FOR DIRECTION OF TRAFFIC.
- ⑥ PLACE BAR-ROD NORMAL TO JOINT ON NEW BRIDGES AND JOINT REPLACEMENTS. ON JOINT REPLACEMENTS WHEN SKEW IS OVER 15' AND LESS THAN 50' BEND RODS PARALLEL TO C ROADWAY.

REVISION: 06-16-00
APPROVED: _____
STATE BRIDGE ENGINEER

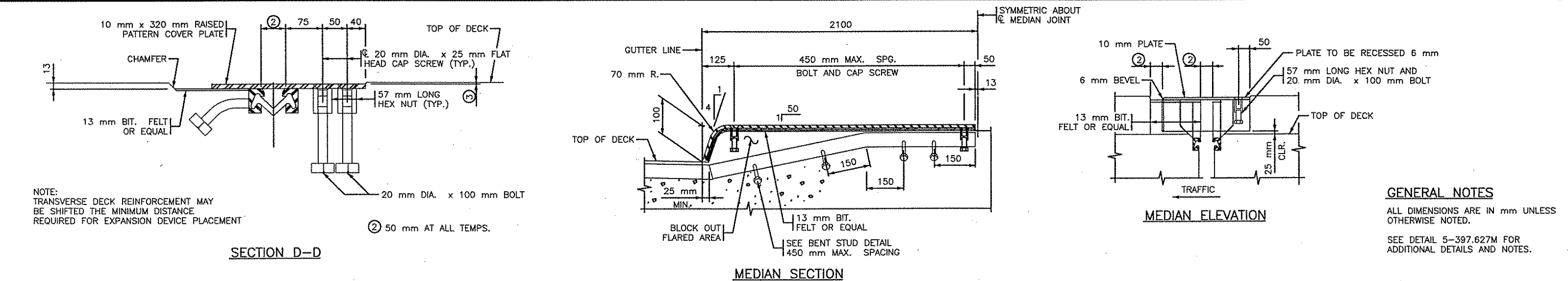
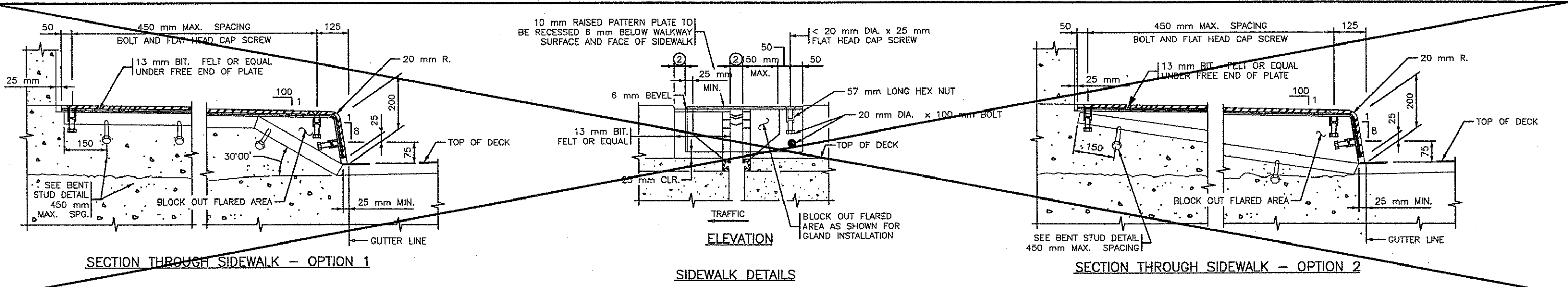
S.A.P. 114-010-11

SIGNATURE: *David D. Long*
 PRINTED NAME: DAVID D. LONG
 DATE: 4/1/02 REG. NO. 24384

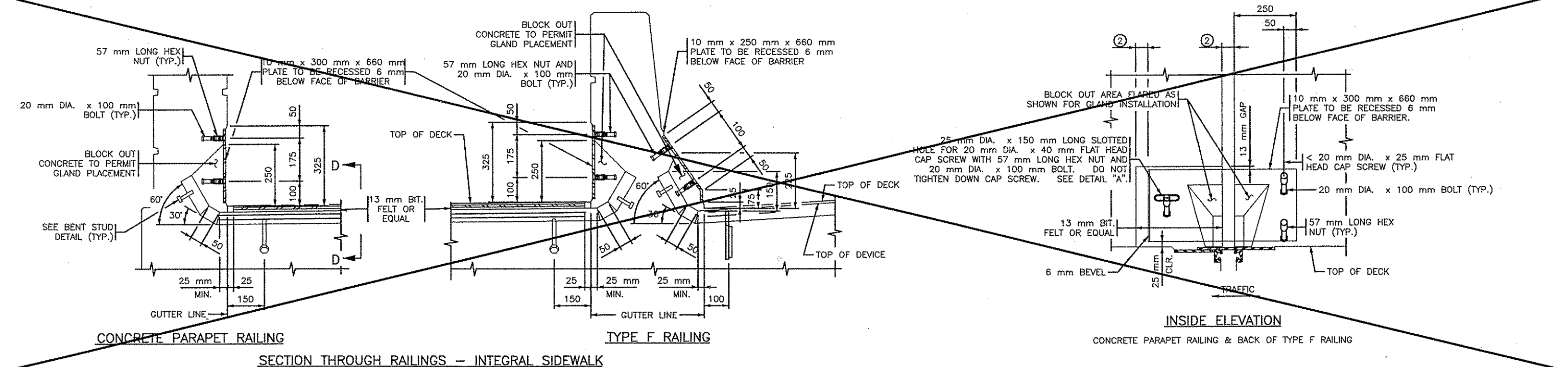
TITLE: **WATERPROOF EXPANSION DEVICE
JOINT 1 & 4**

DES: DDL	DR: DM	APPROVED: 4-3-02
CHK: DJV	CHK: DJV	

FIG. 5-397.627M (MOD.)
BRIDGE NO. 02015
SHEET NO. 34 OF 46 SHEETS



GENERAL NOTES
 ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE NOTED.
 SEE DETAIL 5-397.627M FOR ADDITIONAL DETAILS AND NOTES.



REVISION: 04-15-99
 APPROVED: _____
 STATE BRIDGE ENGINEER

S.A.P. 114-010-11

SIGNATURE: *David Long*
 PRINTED NAME: DAVID D. LONG
 DATE: 4/1/02 REG. NO. 24384

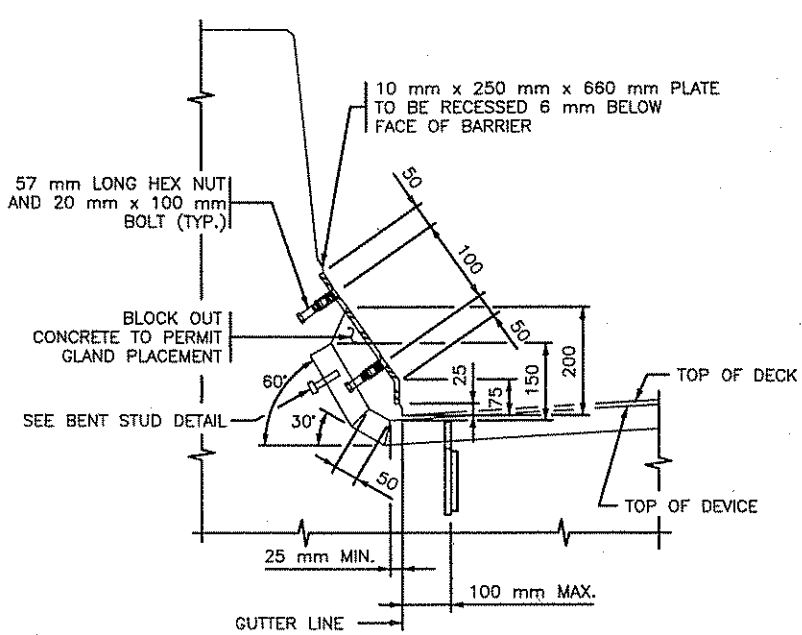
TITLE: **WATERPROOF EXPANSION DEVICE**
 (WITH RAISED MEDIAN OR SIDEWALK)

DES: DDL DR: DM
 CHK: DJV CHK: DJV
 APPROVED: 4-3-02
 SHEET NO. 35 OF 46 SHEETS
 BRIDGE NO. 02015

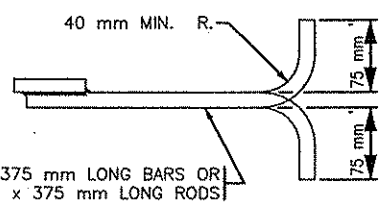
FIG. 5-397.630M

PLOT DATE: Mar 29, 2002 7:23am DISK FILE NAME: (15.05) R:\33889\33889028\STRUCT\PLAN_SHT\02015EXP1A.dwg

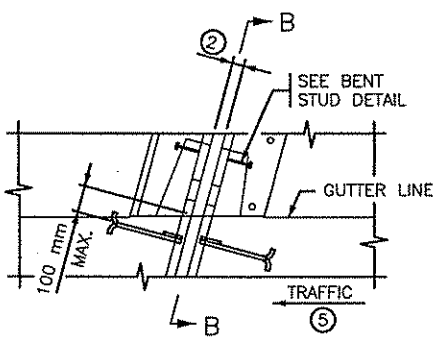
PLOT DATE: Mar 29, 2002 7:24am DISK FILE NAME: (15.05) R:\33889\33889\STRUCT\PLAN_SHT\02015EXP2.dwg



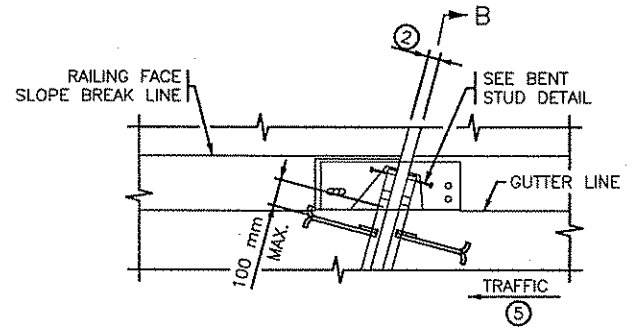
SECTION THROUGH RAILING
TYPE F RAILING



BAR-ROD DETAIL

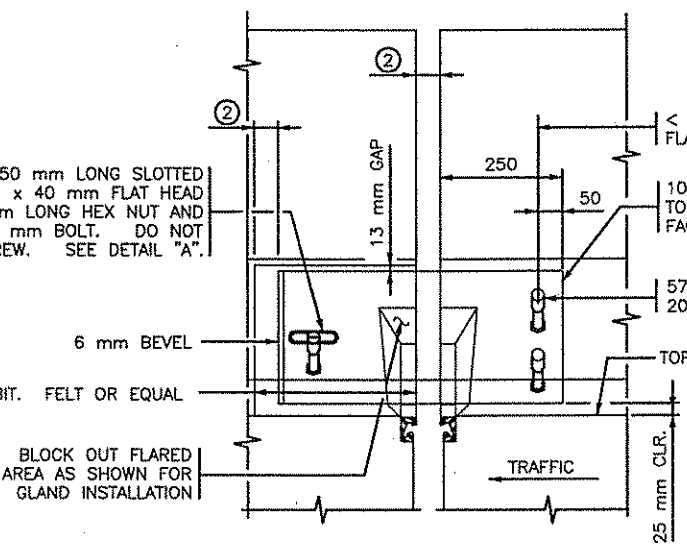


PLAN VIEW AT EXPANSION DEVICE
MEDIAN OR SIDEWALK ALTERNATE

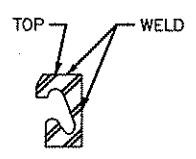


PLAN VIEW AT EXPANSION DEVICE
WITH STRAIGHT DEVICE

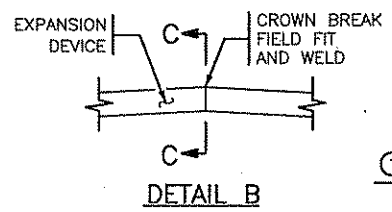
25 mm DIA. x 150 mm LONG SLOTTED HOLE FOR 20 mm DIA. x 40 mm FLAT HEAD CAP SCREW WITH 57 mm LONG HEX NUT AND 20 mm DIA. x 100 mm BOLT. DO NOT TIGHTEN DOWN CAP SCREW. SEE DETAIL "A".



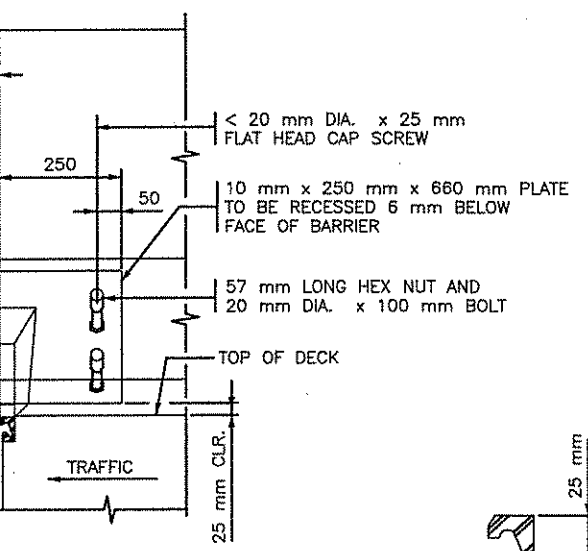
RAILING ELEVATION



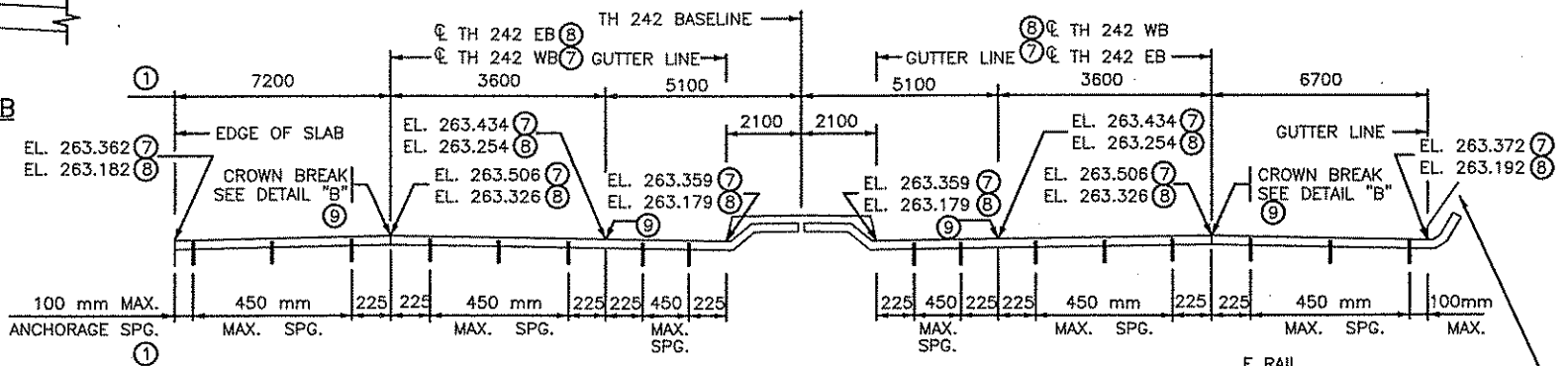
SECTION C-C



DETAIL B

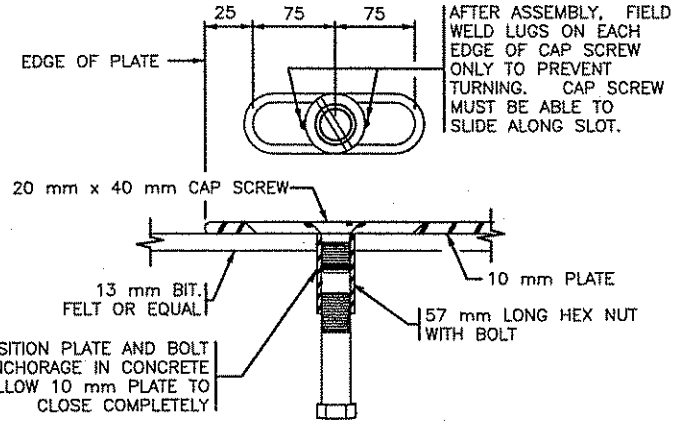


SECTION A-A



SECTION B-B ~ ALONG Q. JOINT

ELEVATIONS SHOWN ARE 3 mm BELOW TOP OF SLAB @ Q. JOINT



DETAIL "A"

GENERAL NOTES

- ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE NOTED.
- GALVANIZE STRUCTURAL STEEL AFTER FABRICATION AS PER Mn/DOT SPEC. 3394. GALVANIZE FASTENERS AS PER Mn/DOT SPEC. 3392.
- JOINTS IN EXTRUSION SHALL BE LOCATED AT BREAKS IN TRANSVERSE PROFILE AND AS OTHERWISE WELDED. JOINTS SHALL BE CLOSE FIT AND WELDED. REPAIR AFTER WELDING AS PER Mn/DOT SPEC. 2471.3L.
- STRUCTURAL STEEL SHALL COMPLY WITH Mn/DOT SPEC. 3306 OR Mn/DOT SPEC. 3309.
- EXPANSION DEVICE SHALL BE STRAIGHTENED TO A TOLERANCE OF 1 mm IN 1 m.
- CAP SCREWS SHALL BE COUNTERSUNK 2 mm BELOW TOP OF PLATE.
- LENGTH OF PAYMENT FOR DEVICE IS FROM OUT TO OUT OF EXTRUSION ALONG CENTERLINE OF JOINT.
- ① DIMENSIONS ARE ALONG CENTERLINE OF JOINT.
- ② 50 mm AT ALL TEMPS.
- ③ 3 mm (6 mm MAX.) 13 mm (16 mm MAX.) WHEN SNOWPLOW FINGERS ARE USED SNOWPLOW FINGERS ARE REQUIRED FOR SKEWS OVER 15' AND LESS THAN 50'.
- ⑤ SEE SHEET 2&3 FOR DIRECTION OF TRAFFIC.
- ⑥ PLACE BAR-ROD NORMAL TO JOINT ON NEW BRIDGES AND JOINT REPLACEMENTS. ON JOINT REPLACEMENTS WHEN SKEW IS OVER 15' AND LESS THAN 50' BEND RODS PARALLEL TO Q. ROADWAY.

REVISION: 06-16-00
APPROVED: _____
STATE BRIDGE ENGINEER

SIGNATURE: *David D. Long*
 PRINTED NAME: DAVID D. LONG
 DATE: 4/1/02 REG. NO. 24384

TITLE: **WATERPROOF EXP. DEVICE JOINT 2&3**
 (WITH TYPE F BARRIER)

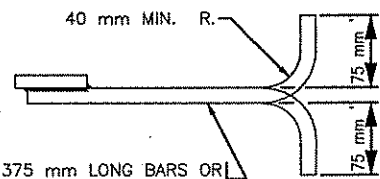
DES: DDL DR: DM
 CHK: DJV CHK: DJV
 APPROVED: 4-3-02

SHEET NO. 36 OF 46 SHEETS

BRIDGE NO. 02015

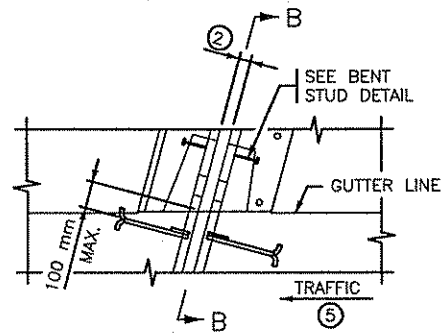
FIG. 5-397.627M (MOD.)

PLOT DATE: Mar 29, 2002 7:24am DISK FILE NAME: (15.05) R:\33869\33869028\STRUCT\PLAN_SHT\0201SEXP4.dwg

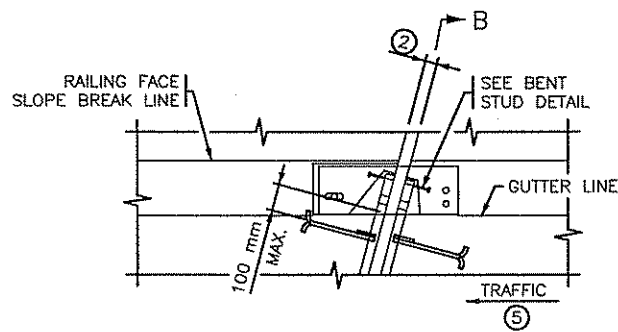


15 mm SQ. x 375 mm LONG BARS OR
16 mm DIA. x 375 mm LONG RODS

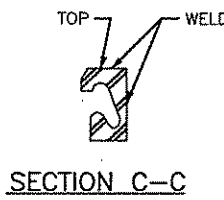
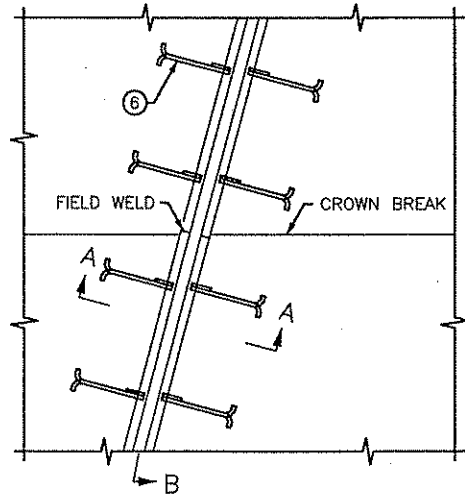
BAR-ROD DETAIL



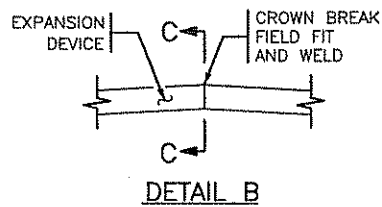
PLAN VIEW AT EXPANSION DEVICE
MEDIAN OR SIDEWALK ALTERNATE



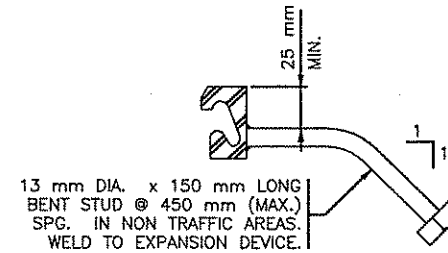
PLAN VIEW AT EXPANSION DEVICE
WITH STRAIGHT DEVICE



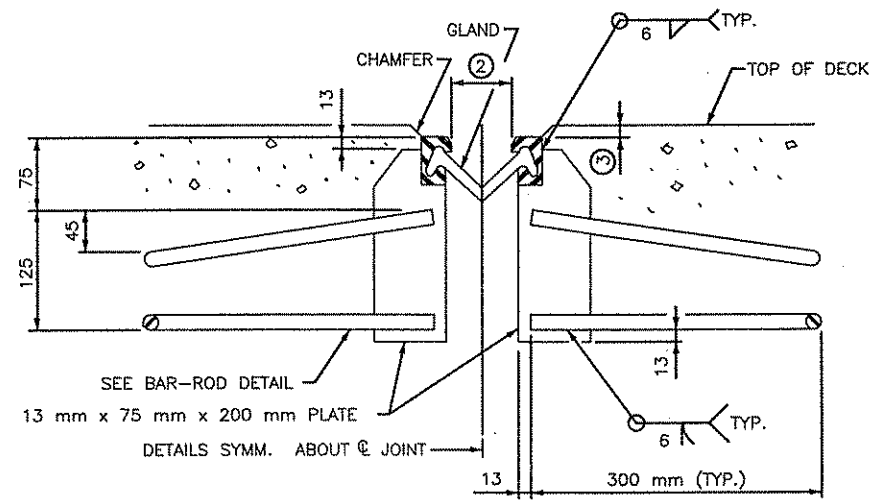
SECTION C-C



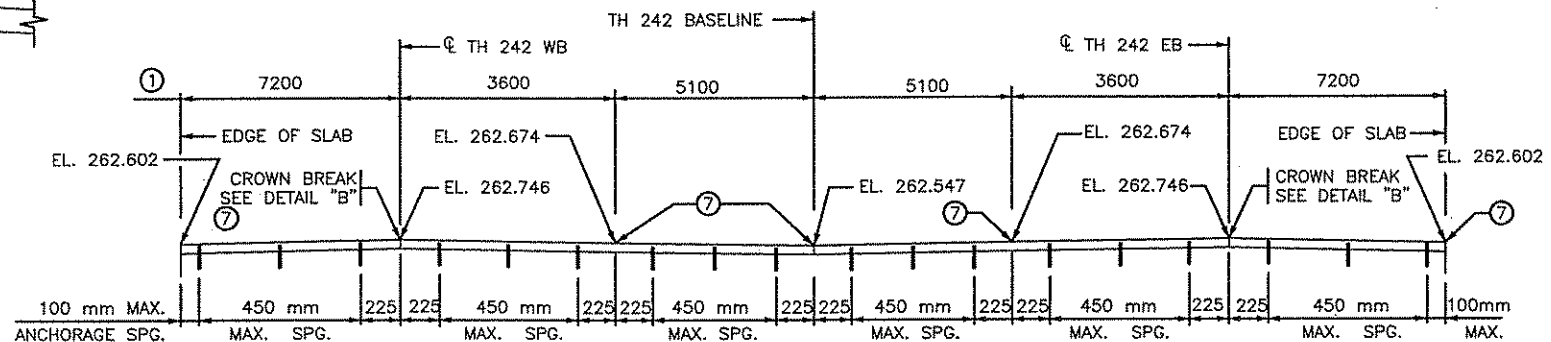
DETAIL B



BENT STUD DETAIL



SECTION A-A



SECTION B-B ~ ALONG C JOINT

ELEVATIONS SHOWN ARE 3 mm BELOW TOP OF SLAB @ C JOINT

GENERAL NOTES

ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE NOTED.

GALVANIZE STRUCTURAL STEEL AFTER FABRICATION AS PER Mn/DOT SPEC. 3394. GALVANIZE FASTENERS AS PER Mn/DOT SPEC. 3392.

JOINTS IN EXTRUSION SHALL BE LOCATED AT BREAKS IN TRANSVERSE PROFILE AND AS OTHERWISE REQUIRED. JOINTS SHALL BE CLOSE FIT AND WELDED. REPAIR AFTER WELDING AS PER Mn/DOT SPEC. 2471.3L.

STRUCTURAL STEEL SHALL COMPLY WITH Mn/DOT SPEC. 3306 OR Mn/DOT SPEC. 3309.

EXPANSION DEVICE SHALL BE STRAIGHTENED TO A TOLERANCE OF 1 mm IN 1 m.

LENGTH OF PAYMENT FOR DEVICE IS FROM OUT TO OUT OF EXTRUSION ALONG CENTERLINE OF JOINT.

① DIMENSIONS ARE ALONG CENTERLINE OF JOINT.

② 50 mm AT ALL TEMPS.

③ 3 mm (6 mm MAX.)
13 mm (16 mm MAX.) WHEN SNOWPLOW FINGERS ARE USED
SNOWPLOW FINGERS ARE REQUIRED FOR SKEWS OVER 15' AND LESS THAN 50'.

⑤ SEE SHEET 2&3 FOR DIRECTION OF TRAFFIC.

⑥ PLACE BAR-ROD NORMAL TO JOINT ON NEW BRIDGES AND JOINT REPLACEMENTS. ON JOINT REPLACEMENTS WHEN SKEW IS OVER 15' AND LESS THAN 50' BEND RODS PARALLEL TO C ROADWAY.

⑦ CROWN BREAK, SEE DETAIL "B".

REVISION: 06-16-00
APPROVED: _____
STATE BRIDGE ENGINEER

S.A.P. 114-010-11

SIGNATURE: *David D. Long*
PRINTED NAME: DAVID D. LONG
DATE: 4/1/02 REG. NO. 24384

TITLE: WATERPROOF EXP. DEVICE JOINT 5

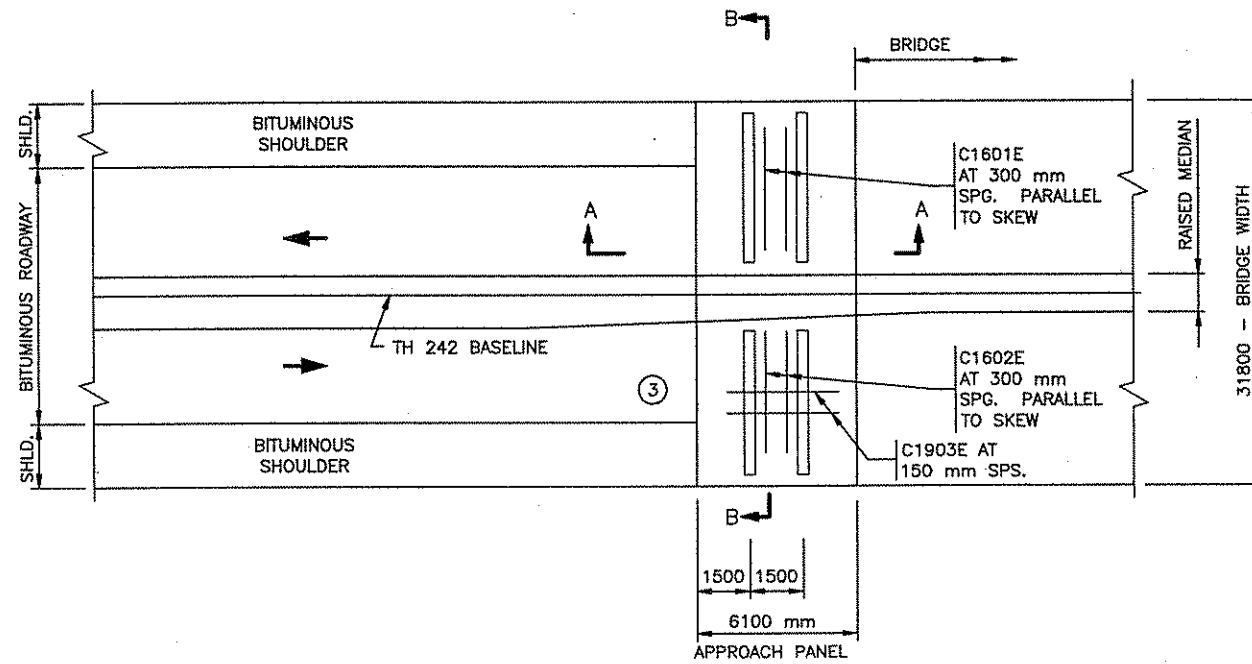
DES: DDL	DR: DM	APPROVED: 4-3-02
CHK: DJV	CHK: DJV	

SHEET NO. 37 OF 46 SHEETS

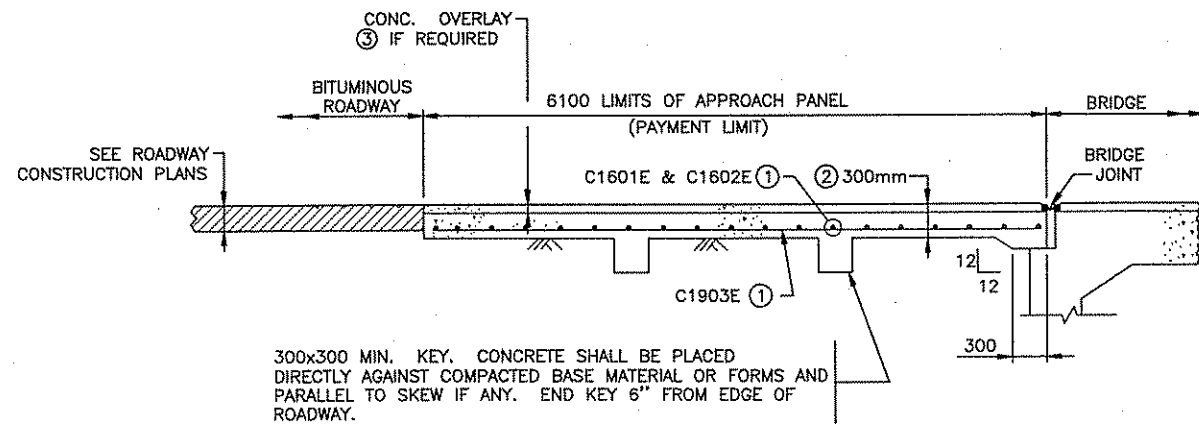
BRIDGE NO. 02015

FIG. 5-397.627M (MOD.)

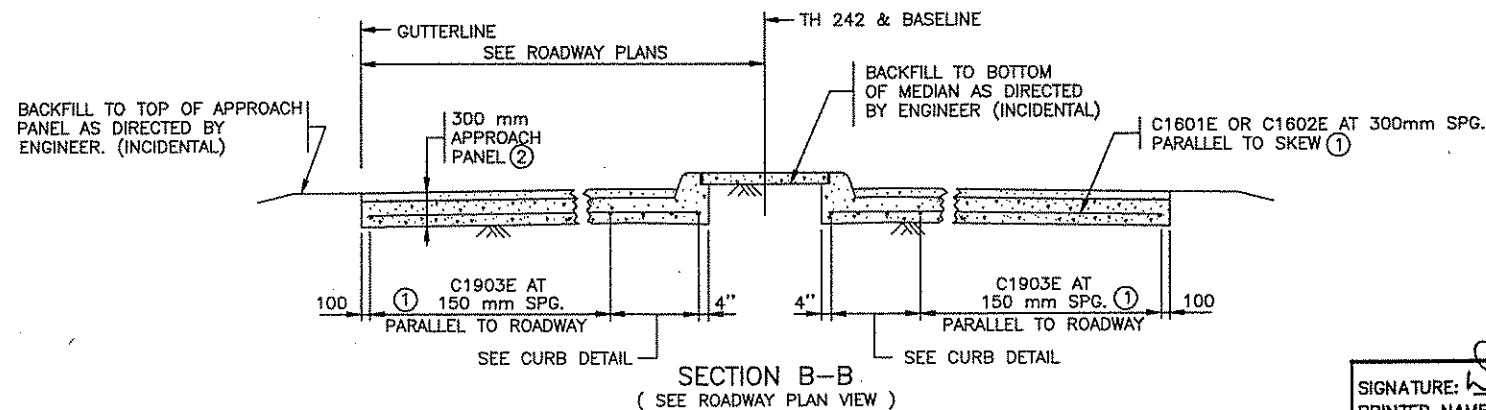
PLOT DATE: Apr 01, 2002 11:08am DISK FILE NAME: (15.05) R:\33889\33889028\33889028\STRUCT\PLAN_SHT\02015APP1.dwg



URBAN ROADWAY PLAN



SECTION A-A
(SOME REINFORCEMENT NOT SHOWN)



SECTION B-B
(SEE ROADWAY PLAN VIEW)

BILL OF REINFORCEMENT				
BAR	NO.	LENGTH	SHAPE	LOCATION
C1601E	21	13725	STRT.	APPROACH SLAB TRANSV. (N)
C1602E	1 SER. OF 21	13000 TO 13400	STRT.	APPROACH SLAB TRANSV. (S)
C1903E	186	6000	STRT.	APPROACH SLAB LONGIT.

SUMMARY OF QUANTITIES FOR WEST BRIDGE APPROACH PANEL ~ BR. 02015	
BRIDGE APPROACH PANEL	194 m ²

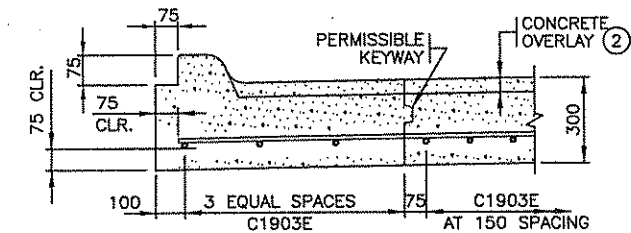
CONCRETE MIX NO. 3X42 49 m³
REINFORCEMENT BARS 3370 kg

⑤ INCLUDES QUANTITIES FOR THE WEST BRIDGE APPROACH PANEL INCLUDED IN PRICE BID 2301.553 "BRIDGE APPROACH PANELS".

NOTES:

ALL REBARS ARE IN METRIC DESIGNATIONS

- ① ALL REINFORCEMENT IN APPROACH PANEL, SILL AND CURB SHALL BE GRADE 60 AND EPOXY COATED AS PER SPEC. 3301.
- ② APPROACH SLAB THICKNESS SHOWN INCLUDES CONCRETE OVERLAY. CONCRETE OVERLAYS TO BE INCLUDED IN BRIDGE QUANTITIES AND DONE AT THE SAME TIME BY BRIDGE CONTRACTOR.
- ③ SEE GRADING PORTION OF PLAN FOR BRIDGE APPROACH ROADWAY INFORMATION.
- ④ SEE GRADING PLANS FOR BRIDGE APPROACH TREATMENT BENEATH BRIDGE APPROACH PANELS.

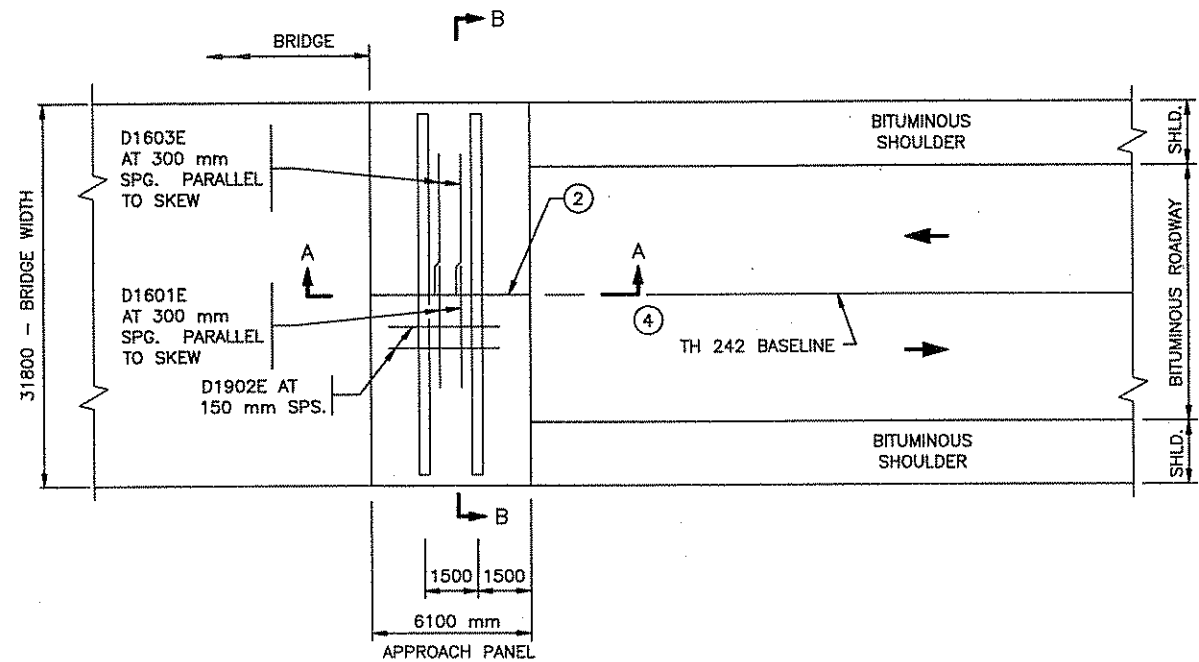


CURB DETAIL
(B4 INTEGRANT CURB OR B424 SPECIAL CURB AND GUTTER)

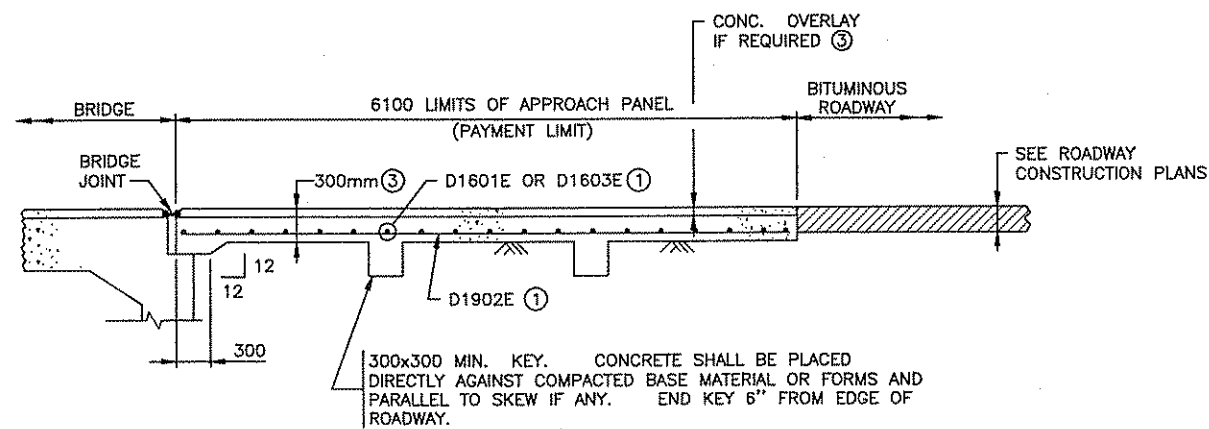
4-3-02

SIGNATURE: <i>David D. Long</i>	REVISION DATE: 2-7-2000	STANDARD SHEET NO. 5-297.229	TITLE: WEST BRIDGE APPROACH PANEL BITUMINOUS MAINLINE - JOINT AT ABUTMENT SQUARE TO 10° SKEWS
PRINTED NAME: DAVID D. LONG	DATE: 4/1/02	STANDARD APPROVED: NOVEMBER 9, 1999	
REG. NO. 24384	STATE PROJ. NO. 0212-02015	SHEET NO. 38 OF 46 SHEETS	

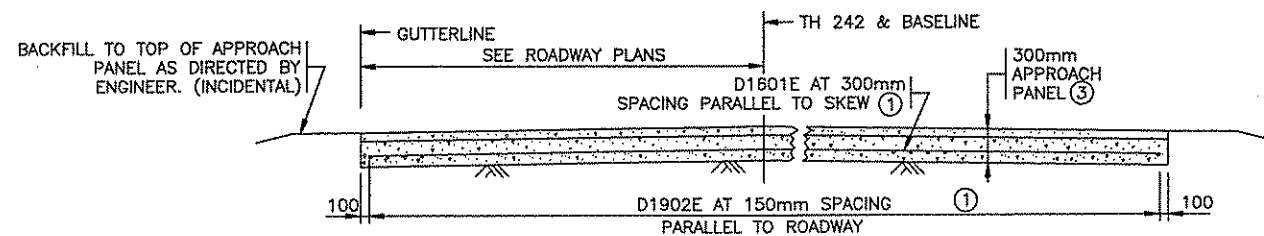
PLOT DATE: Apr 01, 2002 9:18am DISK FILE NAME: (15.05) R:\33888\STRUCT\PLAN_SHT\02015APP2.dwg



URBAN ROADWAY PLAN



SECTION A-A
(SOME REINFORCEMENT NOT SHOWN)



SECTION B-B
(SEE ROADWAY PLAN VIEW)

BILL OF REINFORCEMENT				
BAR	NO.	LENGTH	SHAPE	LOCATION
⑥ D1601E	21	16510	STRT.	APPROACH SLAB TRANSV. (N)
D1902E	212	6000	STRT.	APPROACH SLAB LONGIT.
⑥ D1603E	21	13700	STRT.	APPROACH SLAB TRANSV. (S)

⑥ 510 MIN. LAP

SUMMARY OF QUANTITIES FOR WEST BRIDGE APPROACH PANEL ~ BR. 02015	
BRIDGE APPROACH PANEL	194 m ²

CONCRETE MIX NO. 3X42 49 m³
REINFORCEMENT BARS 3830 kg

⑤ INCLUDES QUANTITIES FOR THE EAST BRIDGE APPROACH PANEL, INCLUDED IN PRICE BID 2301.553 "BRIDGE APPROACH PANELS".

NOTES:

ALL REBARS ARE IN METRIC DESIGNATIONS

- ① ALL REINFORCEMENT IN APPROACH PANEL, SILL AND CURB SHALL BE GRADE 60 AND EPOXY COATED AS PER SPEC. 3301.
- ② L2KT OR L1T LONGITUDINAL JOINT IS REQUIRED BEFORE AND AFTER CONCRETE OVERLAY IS APPLIED. SEE STANDARD PAVEMENT JOINT SHEET FOR DETAILS.
- ③ APPROACH SLAB THICKNESS SHOWN INCLUDES CONCRETE OVERLAY. CONCRETE OVERLAYS TO BE INCLUDED IN BRIDGE QUANTITIES AND DONE AT THE SAME TIME BY BRIDGE CONTRACTOR.
- ④ SEE GRADING PORTION OF PLAN FOR BRIDGE APPROACH ROADWAY INFORMATION.
- ⑤ SEE GRADING PLANS FOR BRIDGE APPROACH TREATMENT BENEATH BRIDGE APPROACH PANELS.

4-3-02

REVISION DATE
2-7-2000

STANDARD SHEET NO.
5-297.229

TITLE:

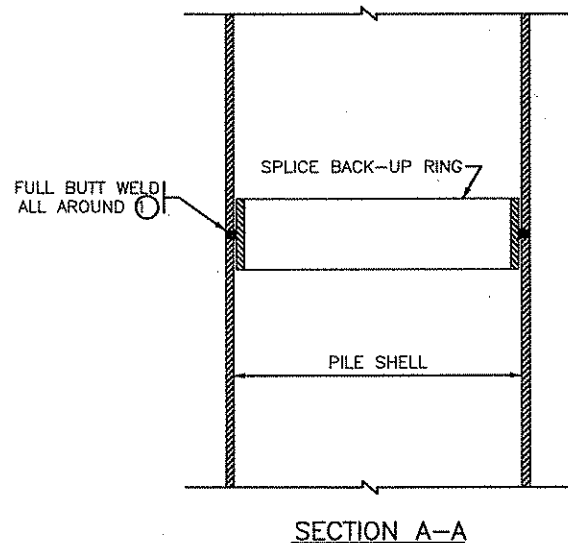
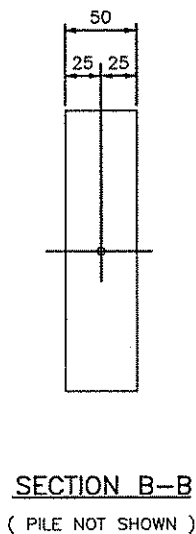
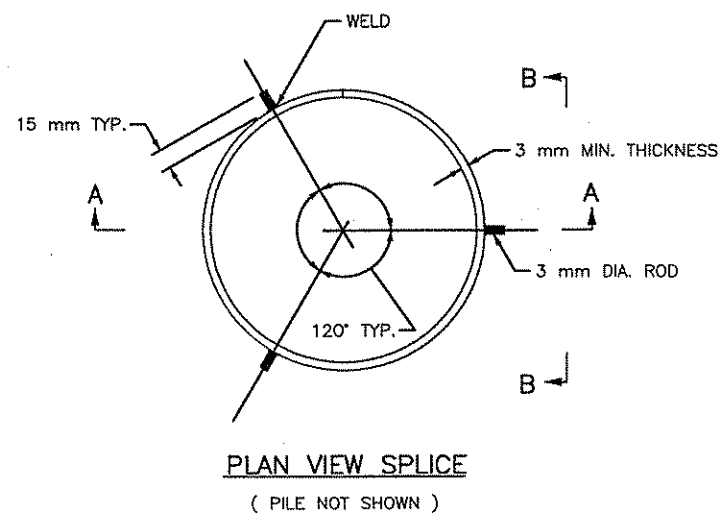
EAST BRIDGE APPROACH PANEL
BITUMINOUS MAINLINE - JOINT AT ABUTMENT
SQUARE TO 10' SKEWS

SIGNATURE: *David D. Long*
PRINTED NAME: DAVID D. LONG
DATE: 4/1/02 REG. NO. 24384

STANDARD APPROVED:
NOVEMBER 9, 1999

STATE PROJ. NO. 0212-02015

SHEET NO. 39 OF 46 SHEETS



NOTES:

APPROVED COMMERCIAL PILE SPLICE BACK-UP RING MAY BE USED IN LIEU OF THE TYPE DETAILED. BACK-UP RING SHALL HAVE A TIGHT FIT.

WELDING ELECTRODE SHALL BE A.W.S. TYPE E7016 OR E7018 (LOW-HYDROGEN).

LOW-HYDROGEN ELECTRODES SHALL BE SUPPLIED IN HERMETICALLY (AIR-TIGHT) SEALED CONTAINERS.

LOW-HYDROGEN ELECTRODES SHALL BE STORED IN HOLDING OVENS AT A TEMPERATURE OF NOT LESS THAN 121° C.

LOW-HYDROGEN ELECTRODES SHALL BE PLACED IN A HOLDING OVEN FOR AT LEAST 8 HOURS IF THEY HAVE BEEN EXPOSED TO THE ATMOSPHERE FOR MORE THAN 2 HOURS.

ELECTRODES WHICH HAVE BECOME WET, SOILED OR DAMAGED SHALL NOT BE USED.

WELDING SHALL NOT BE DONE WHEN THE AMBIENT TEMPERATURE IS LOWER THAN -18° C. OR WHEN THE PILE IS WET OR EXPOSED TO FALLING RAIN OR SNOW. WHEN THE PILE METAL TEMPERATURE IS BELOW 0° C., THE PILE METAL IN THE AREA OF THE WELD SHALL BE HEATED TO A MINIMUM TEMPERATURE OF 21° C. AND MAINTAINED AT THIS TEMPERATURE DURING WELDING.

① FOR PILE SHELL THICKNESSES GREATER THAN 13 mm, USE A B-U4a WELD CONFIGURATION.

ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE NOTED

APPROVED: APRIL 2, 1997
Donald J. Blanning
 STATE BRIDGE ENGINEER

STATE OF MINNESOTA
 DEPARTMENT OF TRANSPORTATION
PILE SPLICE
 (CAST IN PLACE CONCRETE PILES)

REVISION
 DETAIL NO.
B201M

SIGNATURE: *David D. Long*
 PRINTED NAME: DAVID D. LONG
 DATE: 4/1/02 REG. NO. 24384

S.A.P. 114-010-11

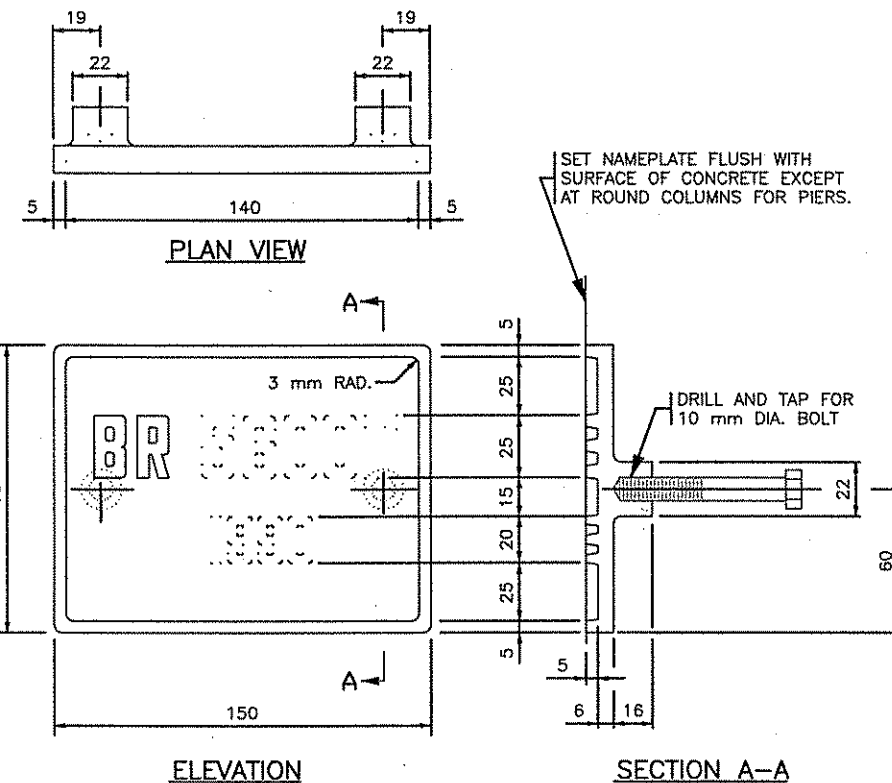


Thresher Square
 700 Third Street South
 Minneapolis, MN 55416
 612.376.0700 Tel
 612.376.1378 Fax

**BRIDGE
 DETAILS**

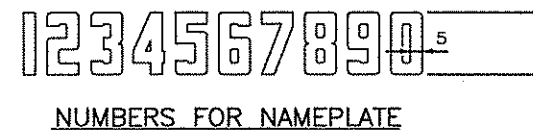
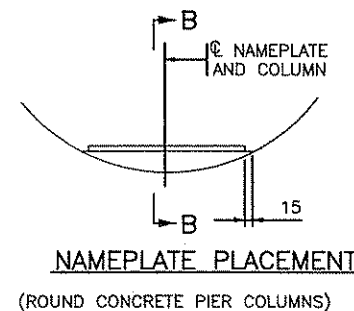
DES: DDL DRN: DBM APPROVED: 4-3-02
 CHK: DJV CHK: DJV
 SHEET NO. 40 OF 46 SHEETS

BRIDGE NO.
02015



THE DASHED NUMBERS SHOWN ABOVE ARE FOR ILLUSTRATION. DATA TO BE SHOWN ON NAMEPLATE IS AS FOLLOWS:

BRIDGE 02015
 YEAR 2002



NOTES:

NO SHOP DRAWING REQUIRED.

MATERIAL SHALL COMPLY WITH Mn/DOT SPEC. 3327.

LETTERS AND NUMBERS SHALL CONFORM TO THOSE SHOWN.

DRAFT ON LETTERS AND NUMBERS SHALL NOT BE MORE THAN 75 mm IN 300 mm.

HORIZONTAL SPACING OF LETTERS AND NUMBERS SHALL PRODUCE A BALANCED LAYOUT IN PROPORTION TO SPACING SHOWN.

TOP SURFACE OF LETTERS, NUMBERS AND FRAMES SHALL BE BURNISHED.

FURNISH 2 STEEL BOLTS 10 mm DIA. x 75 mm LONG WITH EACH PLATE.

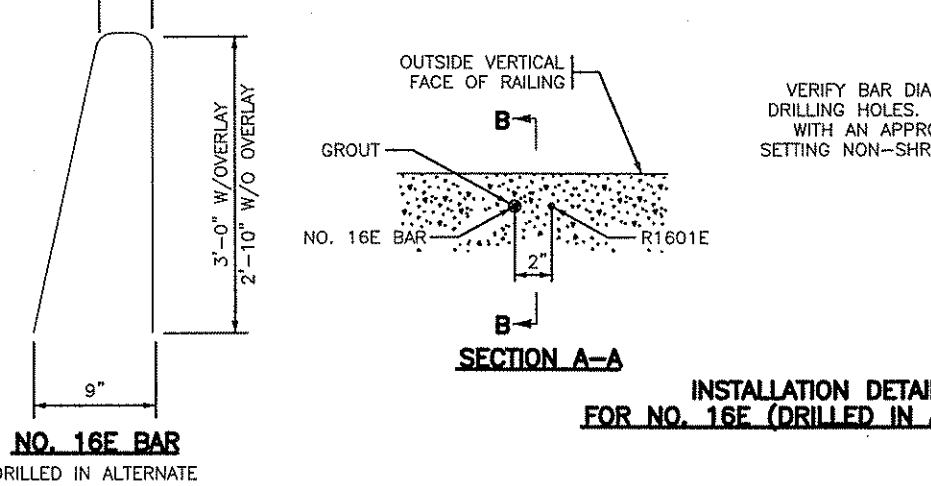
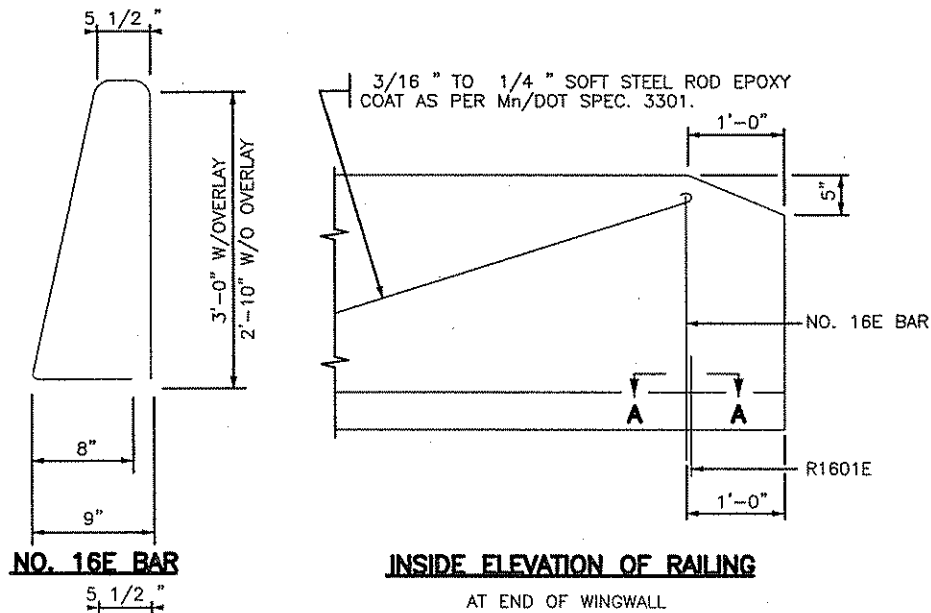
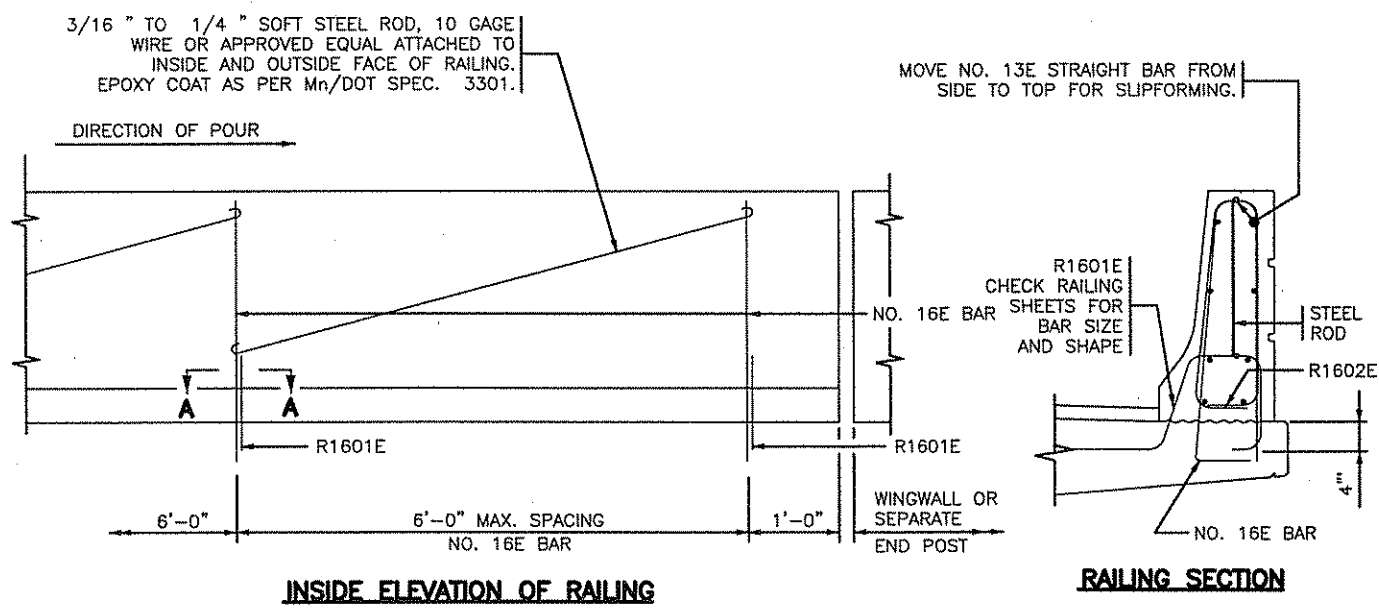
ALL DIMENSIONS FOR 19 mm HIGH LETTERS AND NUMBERS SHALL BE IN DIRECT PROPORTION TO THOSE SHOWN FOR THE 25 mm HIGH LETTERS AND NUMBERS.

ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE NOTED.

APPROVED: APRIL 2, 1997
Donald J. Blanning
 STATE BRIDGE ENGINEER

STATE OF MINNESOTA
 DEPARTMENT OF TRANSPORTATION
BRIDGE NAMEPLATE
 (FOR NEW BRIDGES)

REVISION
 03-08-99
 DETAIL NO.
B101M



NOTES:

CONTRACTOR WILL TOOL V-GROOVE AT DEFLECTION JOINTS AT TIME RAIL IS CAST AND SHALL EXTEND V-GROOVE AROUND ENTIRE PERIMETER OF RAIL.

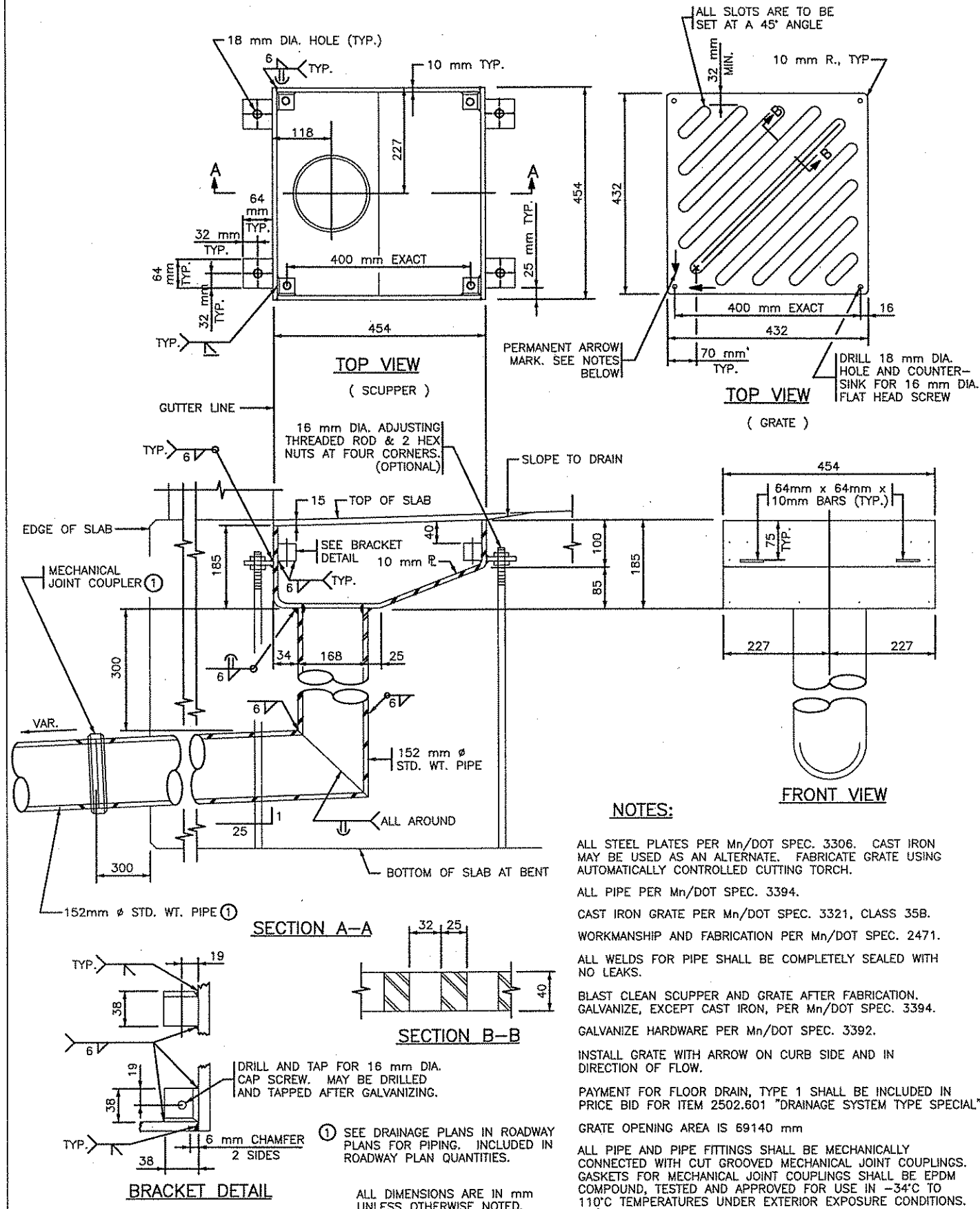
FOR ADDITIONAL DIMENSIONS, DETAILS, REINFORCEMENT AND NOTES SEE RAILING SHEET.

FORM RAIL FOR A MINIMUM OF 4' ON EACH SIDE OF EXPANSION DEVICES, LIGHT STANDARDS AND DECK DRAIN BOX OUTS.

PAY QUANTITIES WILL NOT BE ADJUSTED AS A RESULT OF SELECTING THIS ALTERNATE.

USE A SIMILAR METHOD FOR TALLER RAILINGS OR MODIFIED VERSIONS OF THIS RAILING.

INSTALLATION DETAILS FOR NO. 16E (DRILLED IN ALTERNATE)



NOTES:

ALL STEEL PLATES PER Mn/DOT SPEC. 3306. CAST IRON MAY BE USED AS AN ALTERNATE. FABRICATE GRATE USING AUTOMATICALLY CONTROLLED CUTTING TORCH.

ALL PIPE PER Mn/DOT SPEC. 3394.

CAST IRON GRATE PER Mn/DOT SPEC. 3321, CLASS 35B.

WORKMANSHIP AND FABRICATION PER Mn/DOT SPEC. 2471.

ALL WELDS FOR PIPE SHALL BE COMPLETELY SEALED WITH NO LEAKS.

BLAST CLEAN SCUPPER AND GRATE AFTER FABRICATION. GALVANIZE, EXCEPT CAST IRON, PER Mn/DOT SPEC. 3394.

GALVANIZE HARDWARE PER Mn/DOT SPEC. 3392.

INSTALL GRATE WITH ARROW ON CURB SIDE AND IN DIRECTION OF FLOW.

PAYMENT FOR FLOOR DRAIN, TYPE 1 SHALL BE INCLUDED IN PRICE BID FOR ITEM 2502.601 "DRAINAGE SYSTEM TYPE SPECIAL".

GRATE OPENING AREA IS 69140 mm

ALL PIPE AND PIPE FITTINGS SHALL BE MECHANICALLY CONNECTED WITH CUT GROOVED MECHANICAL JOINT COUPLINGS. GASKETS FOR MECHANICAL JOINT COUPLINGS SHALL BE EPDM COMPOUND, TESTED AND APPROVED FOR USE IN -34°C TO 110°C TEMPERATURES UNDER EXTERIOR EXPOSURE CONDITIONS.

APPROVED: JULY 30, 1999

Donald J. Klemm

STATE BRIDGE ENGINEER

STATE OF MINNESOTA
DEPARTMENT OF TRANSPORTATION

CONCRETE RAILING (TYPE F)
(SLIPFORM ALTERNATE)

REVISION

DETAIL NO.

B830

APPROVED: APRIL 2, 1997

Donald J. Klemm

STATE BRIDGE ENGINEER

STATE OF MINNESOTA
DEPARTMENT OF TRANSPORTATION

BRIDGE FLOOR DRAIN
(WELDED BOX)

REVISION

DETAIL NO.

03-12-99

B701M
MODIFIED

S.A.P. 114-010-11

SIGNATURE: *David D. Long*

PRINTED NAME: DAVID D. LONG

DATE: 4/10/02 REG. NO. 24384

URS

Threeier Square
100 Third Street South
Minneapolis, MN 55415
612.376.0700 Tel
612.376.0719 Fax

BRIDGE
DETAILS

DES: DDL DRN: DBM APPROVED: 4-3-02

CHK: DJV CHK: DJV

SHEET NO. 41 OF 46 SHEETS

BRIDGE NO.

02015

CONCRETE OVERLAY

LOW SLUMP
 OTHER _____
TYPE OR MANUFACTURER

EXPANSION JOINTS

JOINT MANUFACTURER _____
NAME AND ADDRESS (CITY, STATE)

MANUFACTURER'S IDENTIFICATION _____
MFR'S No. AND/OR LETTER DESIGNATION FOR JOINT USED

GLAND MANUFACTURER _____
NAME AND ADDRESS (CITY, STATE)

SIZE OF GLAND _____

MANUFACTURER'S IDENTIFICATION _____
MFR'S No. AND/OR LETTER DESIGNATION FOR GLAND USED

BEARING PADS

NEOPRENE PAD MANUFACTURER _____
NAME AND ADDRESS (CITY, STATE)

SPECIAL SURFACE TREATMENT

TYPE: _____ COLOR: _____

FINISHING ROADWAY FACES OF BARRIER RAILING

TYPE: _____ COLOR: _____

ANTI-GRAFFITI COATING

MANUFACTURER _____
NAME AND ADDRESS (CITY, STATE)

PRODUCT NAME: _____ LOCATION: _____

PAINT SYSTEM

Mn/DOT CONSTRUCTION SPECIFICATION NUMBER _____
2476 OR 2478 OR 2479

MANUFACTURER _____
NAME AND ADDRESS (CITY, STATE)

PRIME COAT _____
Mn/DOT MATERIAL SPECIFICATION NUMBER

INTERMEDIATE COAT _____
Mn/DOT MATERIAL SPECIFICATION NUMBER

FINISH COAT _____
Mn/DOT MATERIAL SPECIFICATION NUMBER COLOR

PLAN QUALITY

RATE 1 (AGREE), 2 (NEUTRAL), OR 3 (DISAGREE, PLEASE COMMENT BELOW)

DIMENSIONING AND DETAILING ADEQUATELY DESCRIBED REQUIRED CONSTRUCTION. _____

BAR LISTS AND QUANTITIES WERE TYPICALLY COMPLETE AND FREE OF ERRORS. _____

SCALE OF DRAWINGS AND OVERALL LEGIBILITY OF LINES AND TEXT WAS GOOD. _____

(SB) SPECIAL PROVISIONS ADEQUATELY DESCRIBED SPECIAL WORK AND PAYMENT. _____

COMMENTS: _____

NUMBER OF BRIDGE SUPPLEMENTAL AGREEMENTS: _____ COST: \$ _____

LIST SIGNIFICANT ERRORS OR OMISSIONS IN PLAN DETAILS OR PAY QUANTITIES IN THE SPACE PROVIDED AT RIGHT.

OTHER ITEMS ①

① UTILITIES ADDED DURING CONSTRUCTION AND SPECIALTY ITEMS.

FINAL QUANTITIES ENTERED ON SCHEDULE OF QUANTITIES: YES NO

SUMMARY OF SIGNIFICANT AS-BUILT CHANGES

THE AS-BUILT INFORMATION WAS ADDED TO THE PLAN BY:

INSPECTOR(S) DATE

CHECKED BY: _____ DATE
PROJECT ENGINEER / SUPERVISOR

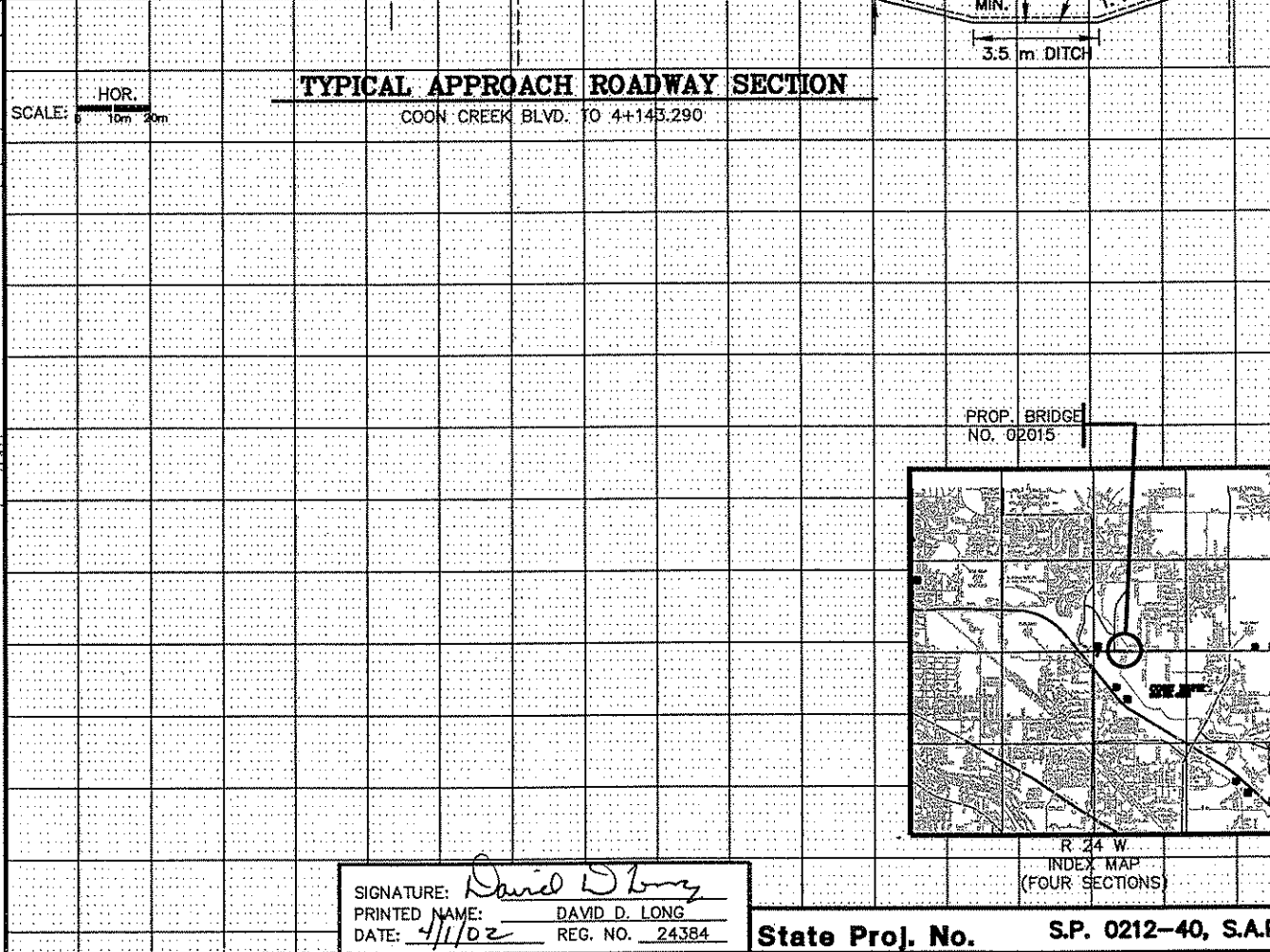
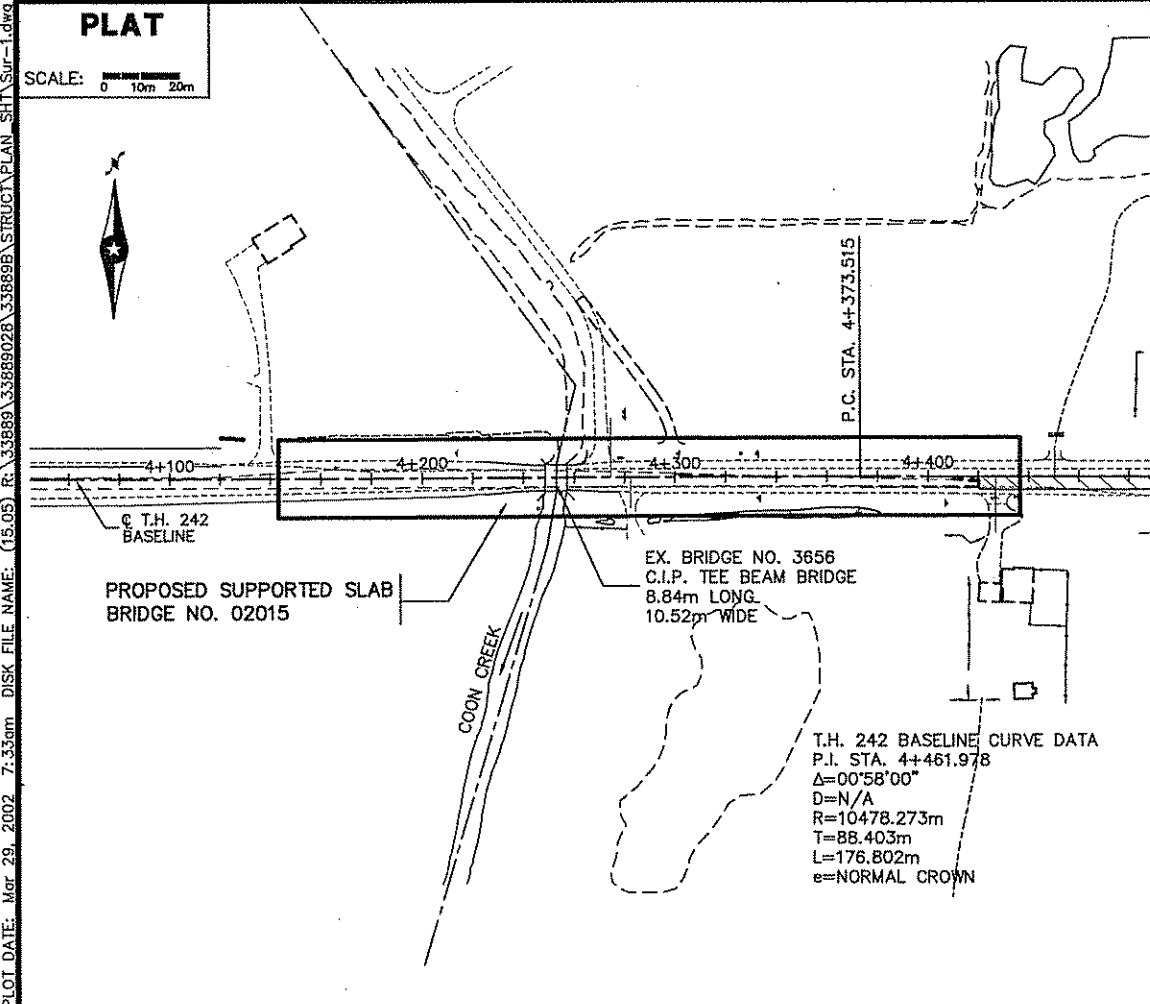
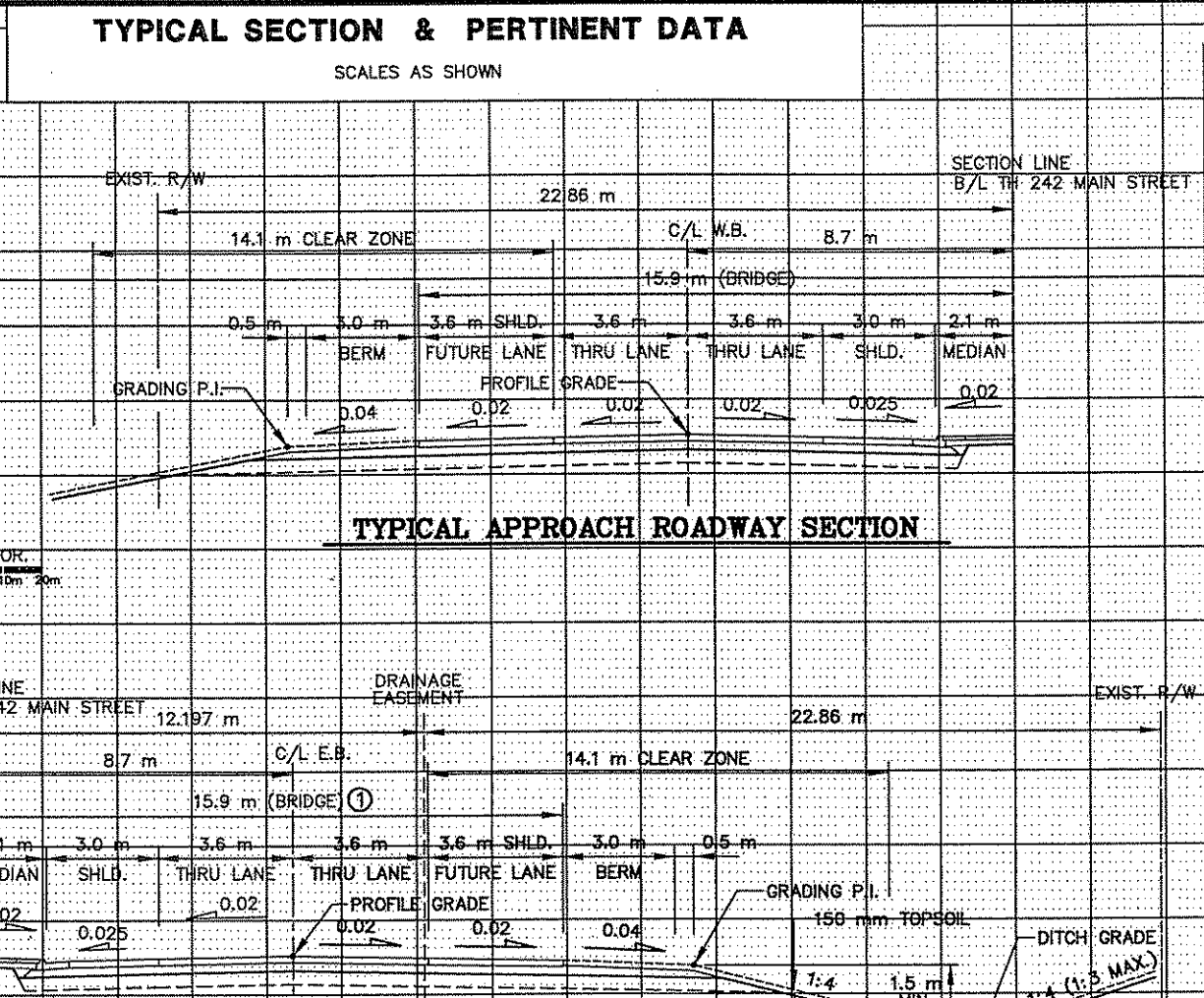
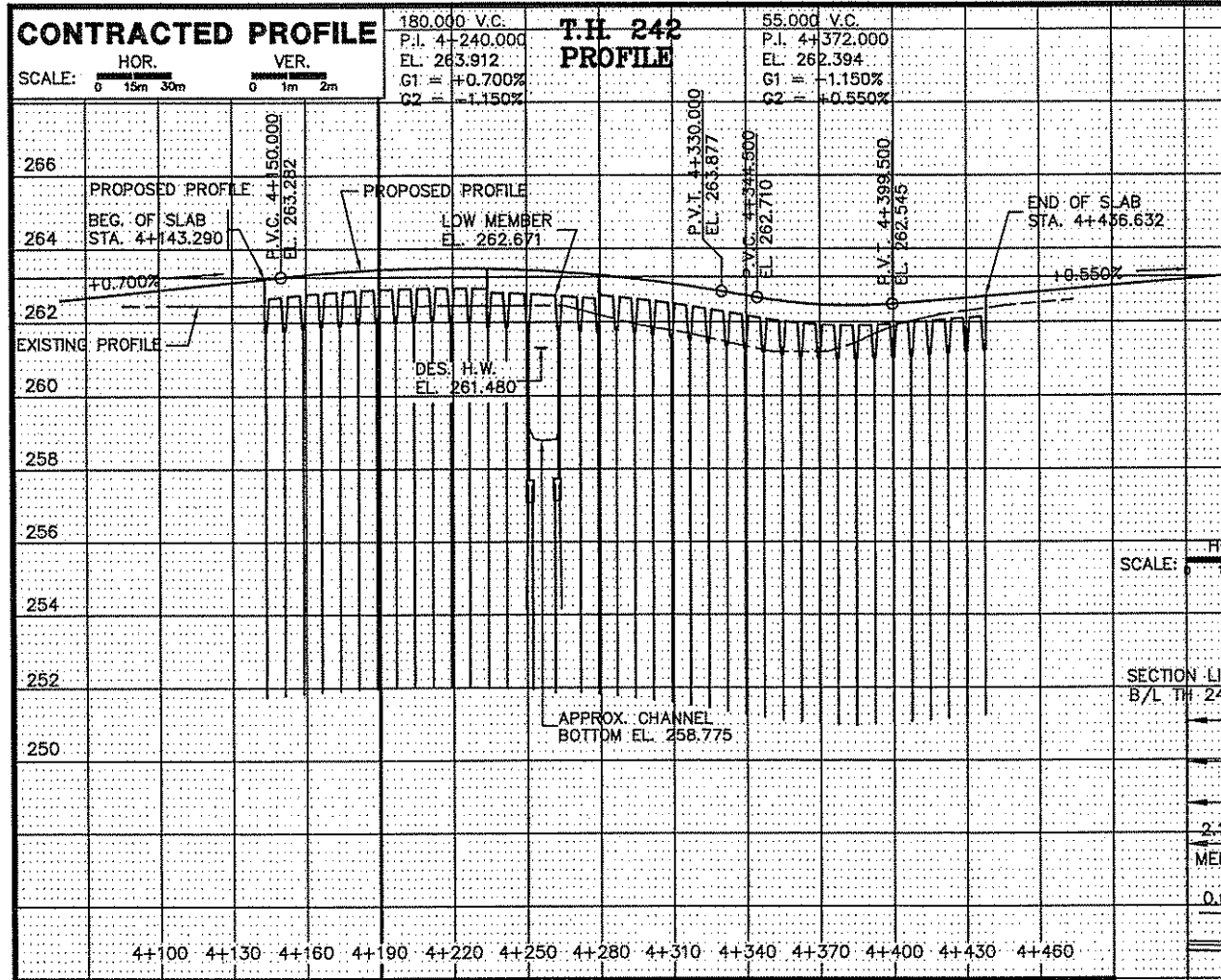
SUBMIT THIS FORM WITH THE PROJECT FINAL, AND SUBMIT A COPY TO THE OFFICE OF BRIDGES AND STRUCTURES - ATTN: REGIONAL CONSTRUCTION ENGINEER (MS610).

REVISION: 05-22-01
APPROVED: _____
STATE BRIDGE ENGINEER

AS-BUILT DETAILS (AS NEEDED)

TITLE: AS-BUILT BRIDGE DATA
DES: _____ DR: _____ APPROVED: 4-3-02
CHK: _____ CHK: _____ BRIDGE NO. 02015
SHEET NO. 42 OF 46 SHEETS

FIG. 5-397.900



Fed. Proj. No.

LOCATION ENGINEER'S OBSERVATIONS AT BRIDGE SITE

- Special Features: Waterfalls, dams, floods, ice, debris, sliding banks, recreational boating.
- Other bridges or culverts over the same stream (particularly structures which carry high water without overflow of roadway): Given location, type, length, height above high water, cross-sectional area etc.
- Apparent highwater elevation _____ Obtained from _____
- Other data: Approx. velocity of water at time of survey _____

HYDRAULIC ENGINEERS RECOMMENDATION

DATE 4-21-00

Stream or ditch designation COON CREEK
 Drainage area 191.7 km²
 Max. flood on record Unkn. Design flood 100 (yr. freq.) 27.3 m³/sec
 Max. observed highwater elev. 261.1 Design tailwater elev. 261.32
 Design mean velocity through structure 1.1 m/sec
 Low superstructure at or above elev. 262.671
 Flowline elev. 258.77 Skew angle 15
 Waterway area req'd below el. 261.32 = 24.9 m² at Rt. angles to channel

In the interest of flood plain zoning the regional flood (500 yr. freq.) is 46.4 m³ at stage 261.92 and mean of velocity of 0.14 m/sec. with 0.24 m swellhead.

The above recommendation will provide a structure of adequate waterway to pass the regional flood within criteria established by the Dept. of Natural Resources.

FOUNDATION ENGINEERS RECOMMENDATION

DATE _____

Bridge survey sheets made from: _____

Bench mark elevation 270.308 (M.S.L. 1929 Adj.)
 Location: STD. DISK ON S.E. COR. EXISTING BRIDGE
 STAMPED 02011 (HWY. 10/47 & T.H. 242)

MINNESOTA DEPARTMENT OF TRANSPORTATION

BRIDGE SURVEY

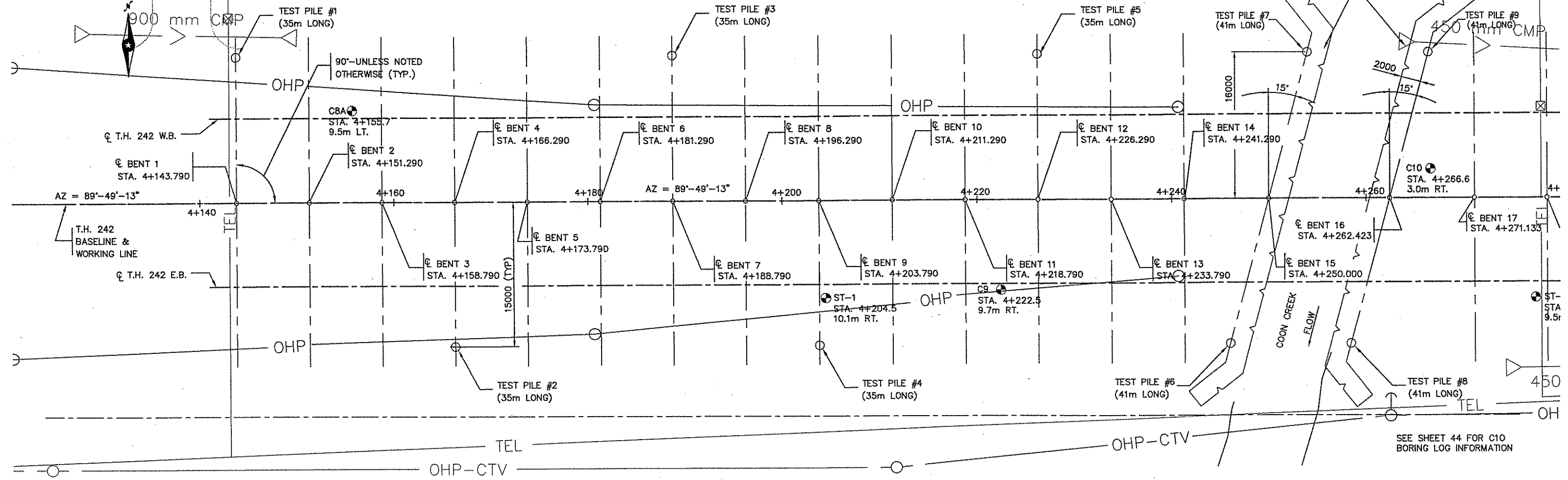
AT MILE POINT _____ ON T.H. 242
 (T.H., C.S.A.H., C.R. etc.)
 PROPOSED BRIDGE LOCATED 0.30 km EAST OF
COON CREEK BLVD. ON T.H. 242
 SEC. 4 TWP. 31 N R. 24 W
 CITY COON RAPIDS COUNTY ANOKA
 BRIDGE NO. 02015

PLOT DATE: Mar. 29, 2002 7:33am DISK FILE NAME: (15.05) R:\33889\3388902E\STRUCT\PLAN_SHT_Sur-1.dwg

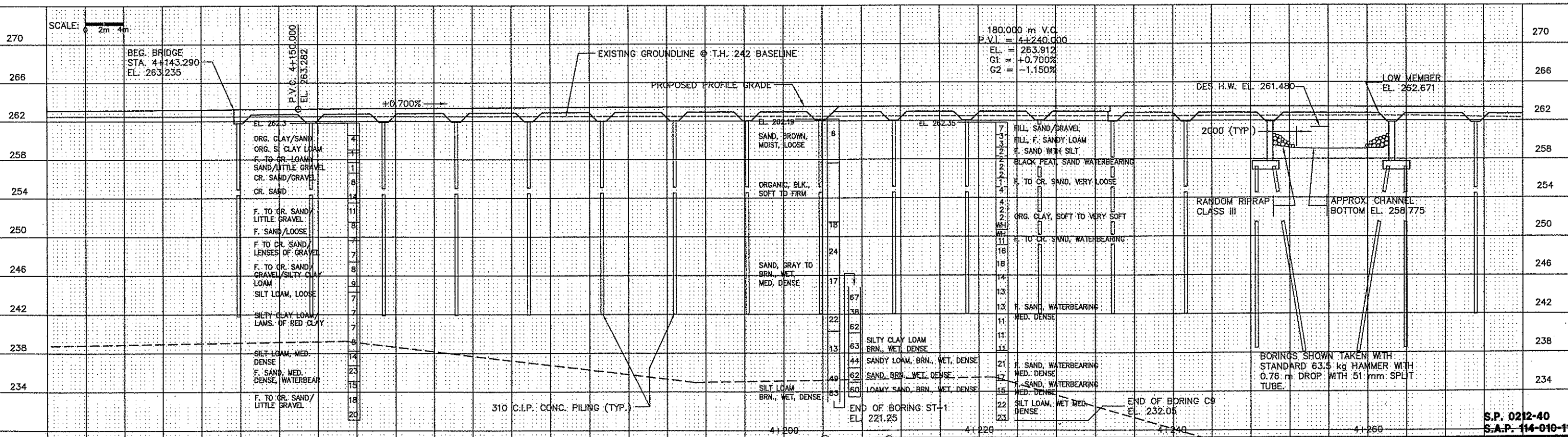
SIGNATURE: *David D. Long*
 PRINTED NAME: DAVID D. LONG
 DATE: 4/1/02 REG. NO. 24384

State Proj. No. S.P. 0212-40, S.A.P. 114-010-11 Sheet No. 43 of 46 Sheets

SCALE: 0 2m 4m



PLOT DATE: Mar 29, 2002 7:34am DISK FILE NAME: (15.05) R: 33889\33889028\338898 STRUCT\PLAN_SHT_Sur-2.dwg



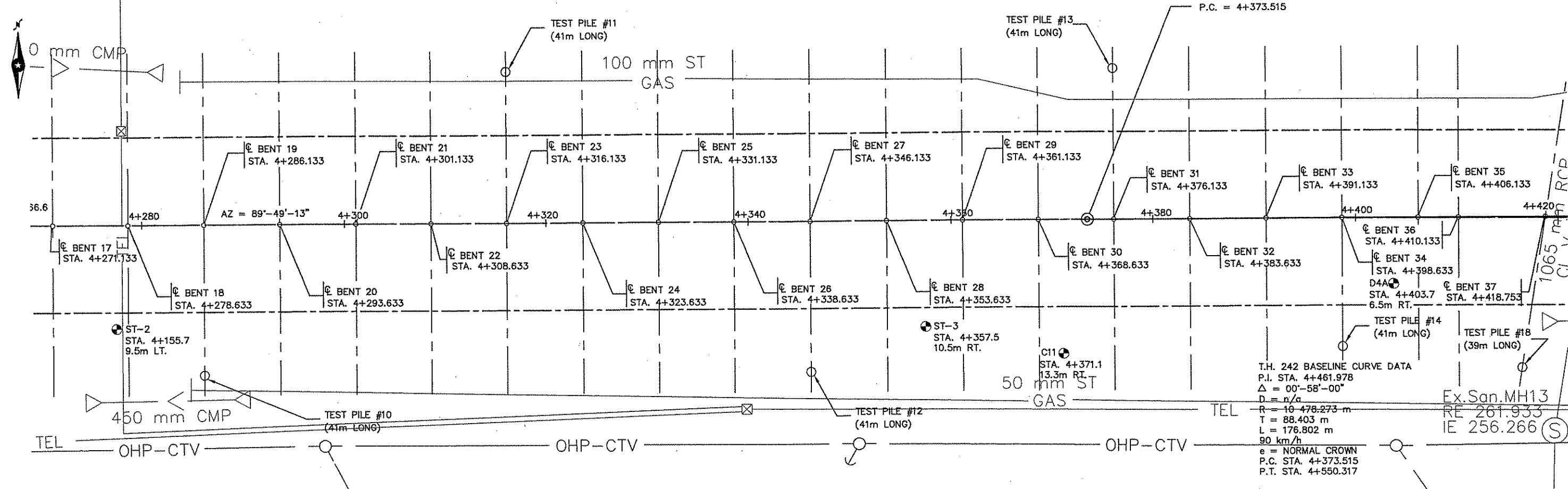
SIGNATURE: *David D. Long*
 PRINTED NAME: DAVID D. LONG
 DATE: 4/1/02 REG. NO. 24384

BRIDGE SURVEY PLAN AND PROFILE

DES: DDL DR: DBM APPROVED: 4-3-02
 CHK: CRJ CHK: DDL
 Sheet No. 44 OF 46 Sheets

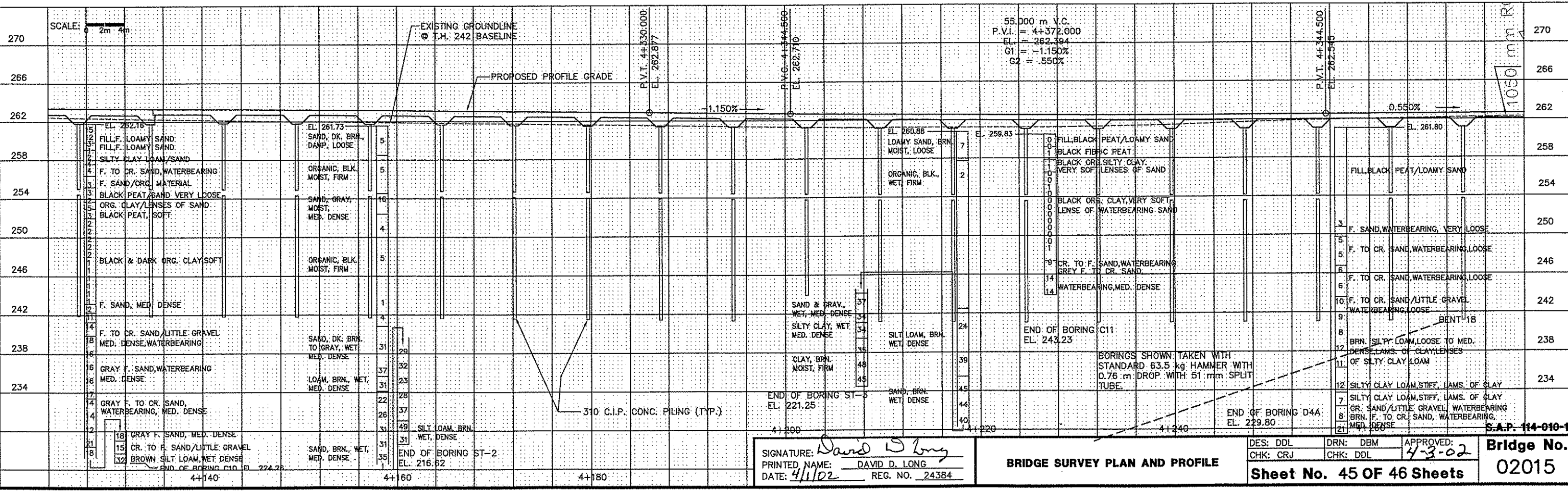
S.P. 0212-40
 S.A.P. 114-010-11
 Bridge No. 02015

SCALE: 0 2m 4m



Ex. San. MH13
 RE 261.933
 IE 256.266

PLOT DATE: Mar. 29, 2002 7:35am DISK FILE NAME: (15.05) R:\33889\33889028\STRUCT PLAN_SHT_Sur-2-a.dwg



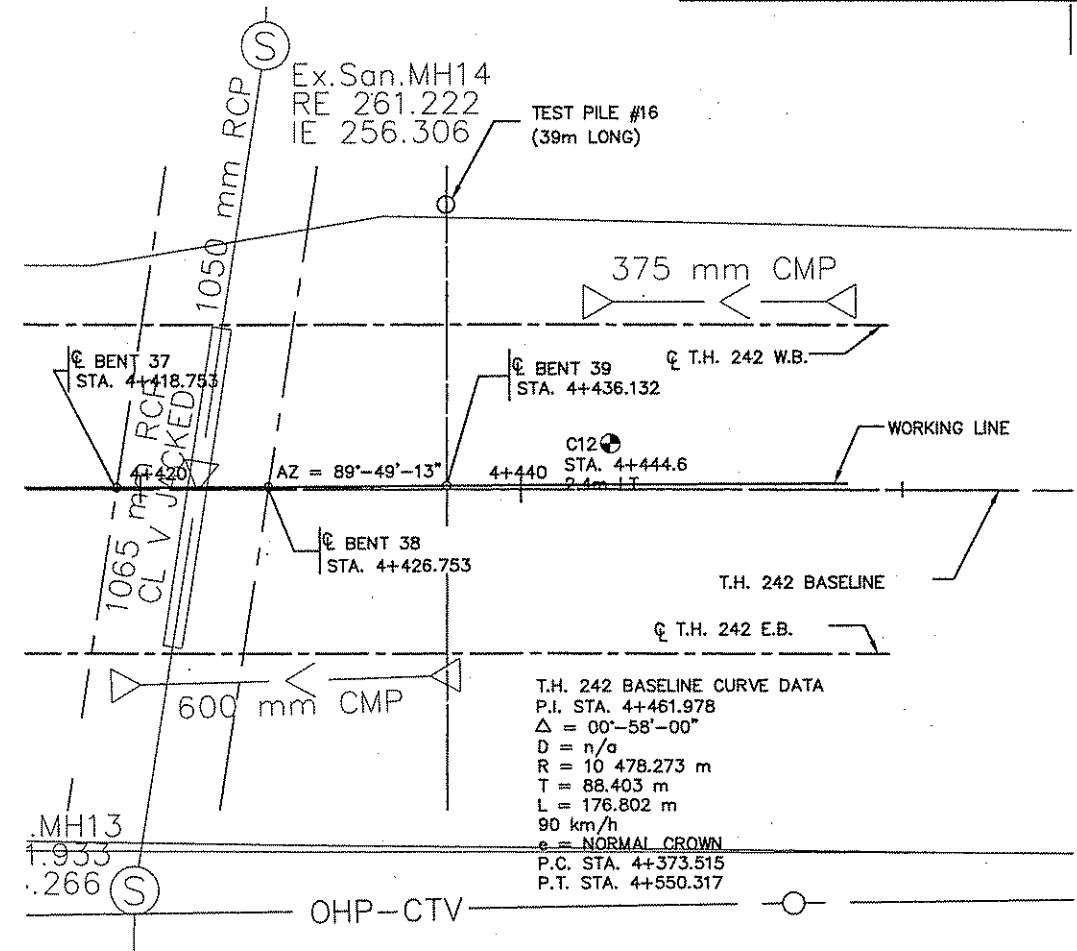
SIGNATURE: *David D Long*
 PRINTED NAME: DAVID D. LONG
 DATE: 4/1/02 REG. NO. 24384

BRIDGE SURVEY PLAN AND PROFILE

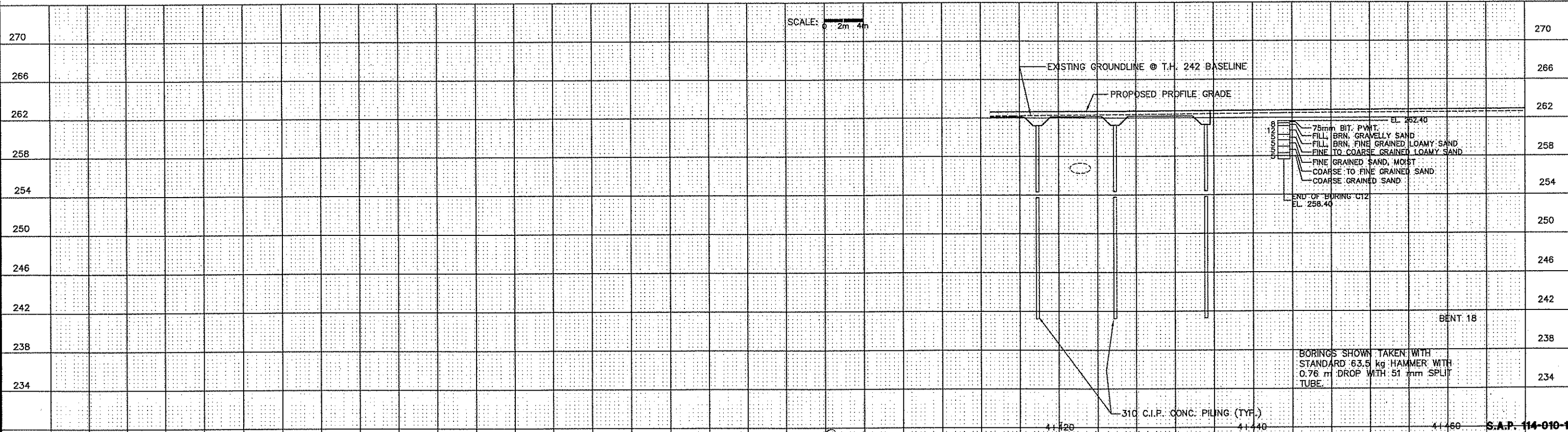
DES: DDL DRN: DBM APPROVED: 4-3-02
 CHK: CRJ CHK: DDL
 Sheet No. 45 OF 46 Sheets

S.A.P. 114-010-11
 Bridge No. 02015

SCALE: 0 2m 4m



SCALE: 0 2m 4m



PLOT DATE: Mar 29, 2002 7:35am DISK FILE NAME: (15.05) R:\33889\33889026\33889B\STRUCT\PLAN_SHT\Sur-2-cB.dwg

SIGNATURE: David Long
PRINTED NAME: DAVID D. LONG
DATE: 4/1/02 REG. NO. 24384

BRIDGE SURVEY PLAN AND PROFILE

DES: DDL DR: DBM APPROVED: 4-3-02
CHK: CRJ CHK: DDL

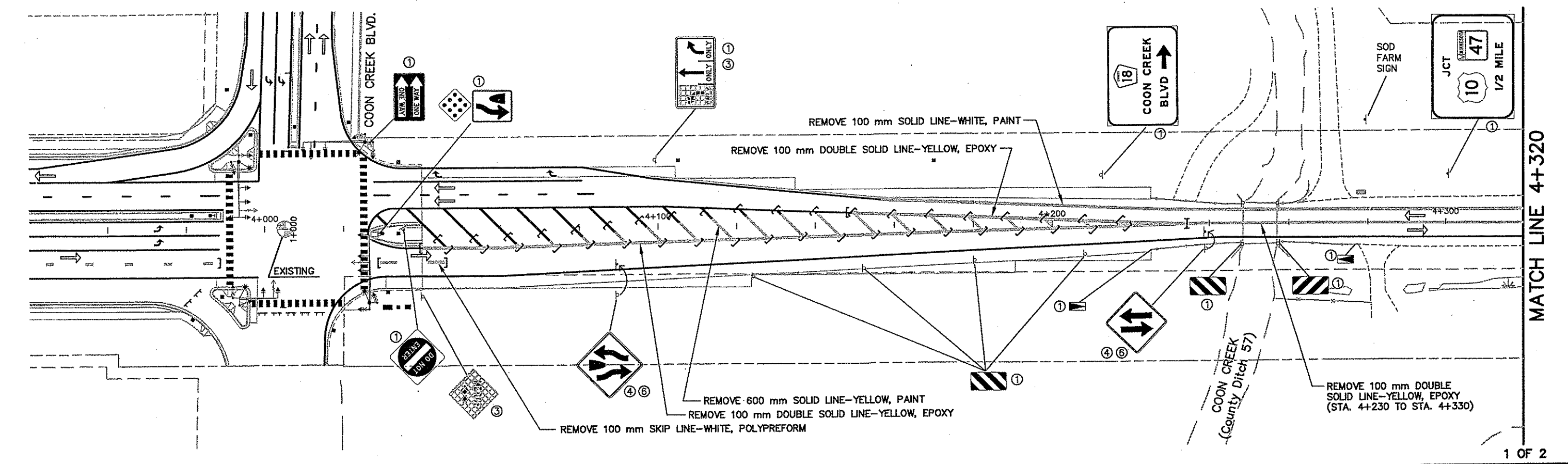
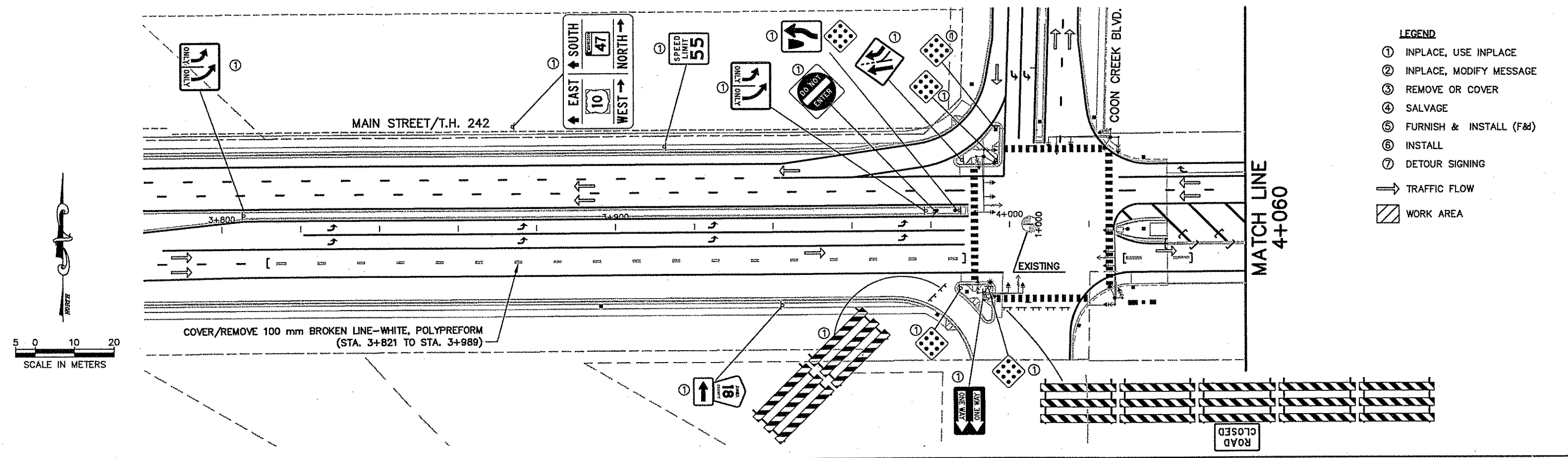
Bridge No. 02015

Sheet No. 46 OF 46 Sheets

S.A.P. 114-010-11

stripe_mod
base_mod
LBsapbox
242MHE TO
242PLN2A
242-ESUM
242-PLN
-ALI

PLOT DATE: May 20, 2002 2:35pm DISK FILE NAME: (15.05) R:\33889\33889028\33889B\PLAN_SHT\Staging\LBinpTC05.dwg



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
33889028 5001
DRAWN BY: IKR
DESIGN BY: JRM
CHKD. BY: JRM
DWG. NAME: LBINPTC05
DATE: MARCH 29, 2002

ALL QUANTITIES AND DIMENSIONS ON THIS PLAN ARE IN METRIC UNITS.

URS
BRW, Inc.

Threeher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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

Kevin P. Kielb
KEVIN P. KIELB
DATE: 03/29/02 MN LIC. NO. 23211

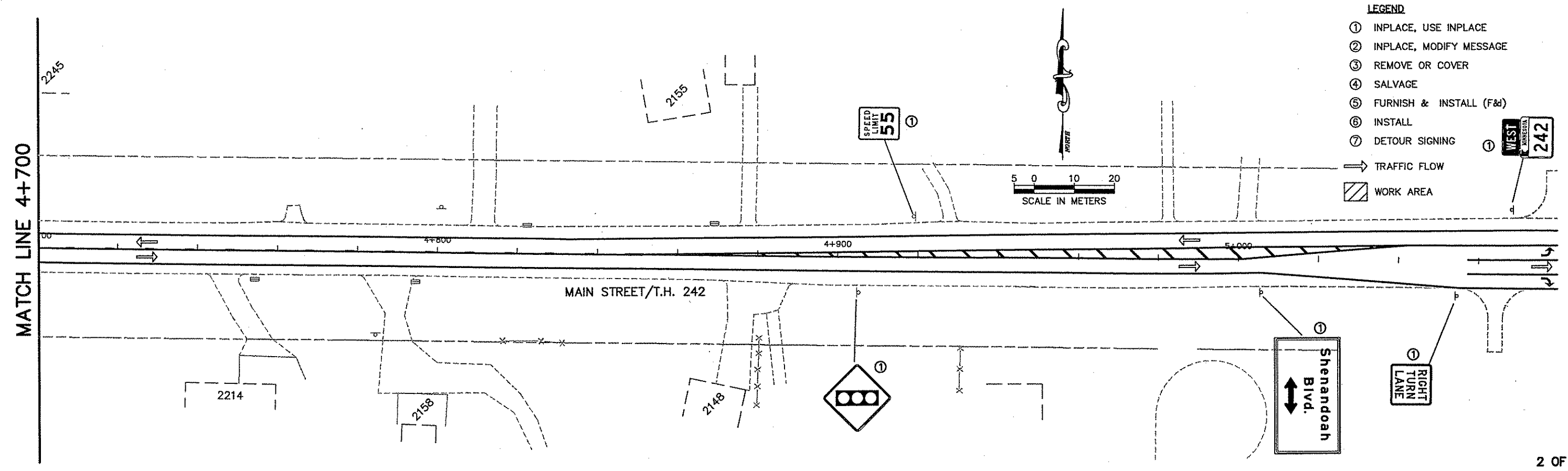
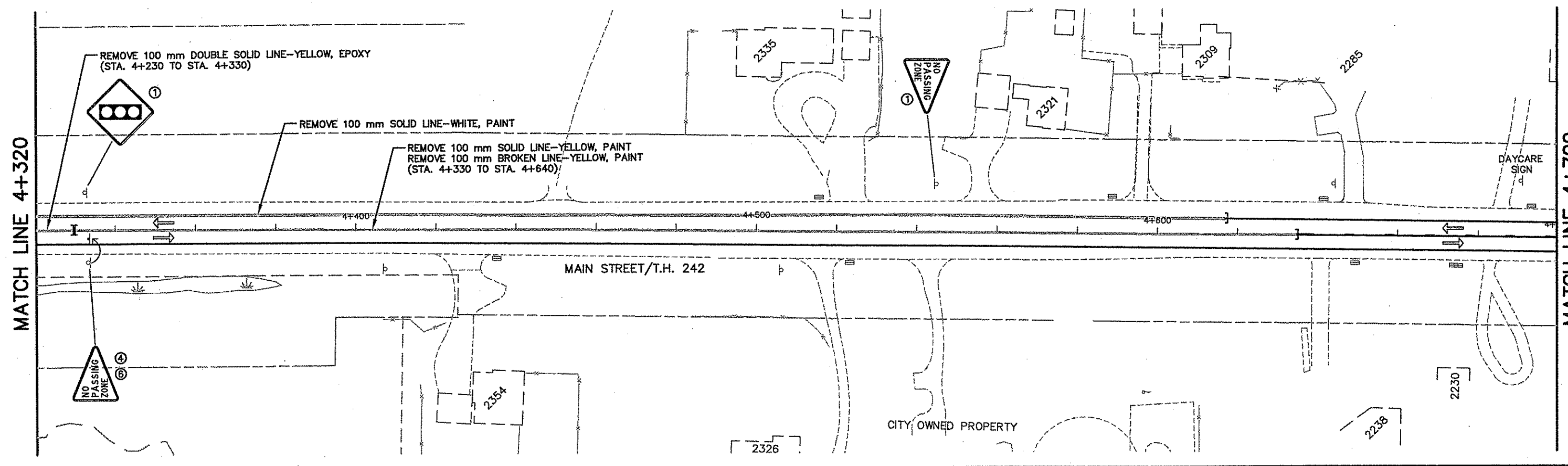
MAIN STREET/T.H. 242 RECONSTRUCTION
MAIN STREET/T.H. 242
TRAFFIC CONTROL
STAGE 1, PHASE 2
MODIFY INPLACE SIGNING & STRIPING
CITY PROJECT 02-05

S.P. 0212-41

SHEET NO.
103
171

Sehplan
 stripe_mod
 base_mod
 LBSapbox
 242MHETO
 242PLNZA
 242-ESUM
 -PLN
 -ALI

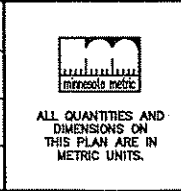
PLOT DATE: May 20, 2002 2:35pm DISK FILE NAME: (15.05) R:\33889\33889028\33889B\PLAN_SHT\Staging\LBinpTC06.dwg



- LEGEND**
- ① INPLACE, USE INPLACE
 - ② INPLACE, MODIFY MESSAGE
 - ③ REMOVE OR COVER
 - ④ SALVAGE
 - ⑤ FURNISH & INSTALL (F&I)
 - ⑥ INSTALL
 - ⑦ DETOUR SIGNING
 - TRAFFIC FLOW
 - ▨ WORK AREA

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
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 DRAWN BY: IKR
 DESIGN BY: JRM
 CHKD. BY: JRM
 DWG. NAME: LBINPTC06
 DATE: MARCH 29, 2002



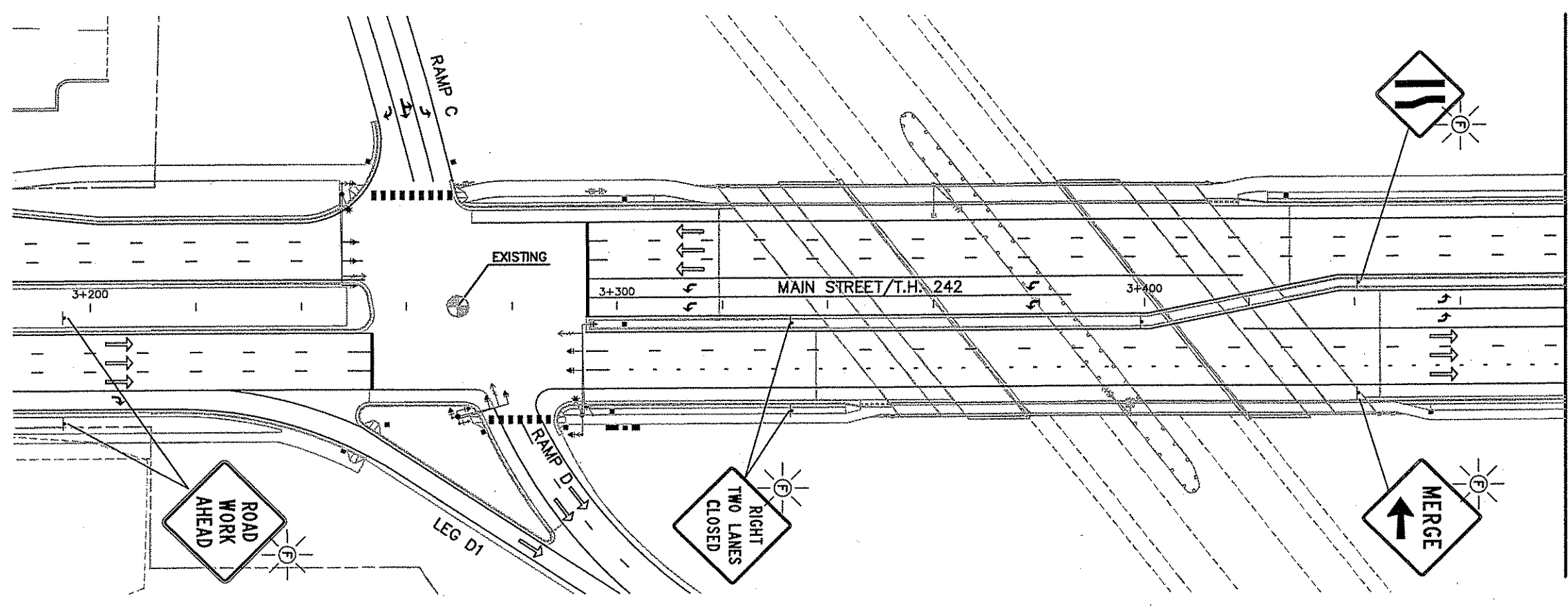
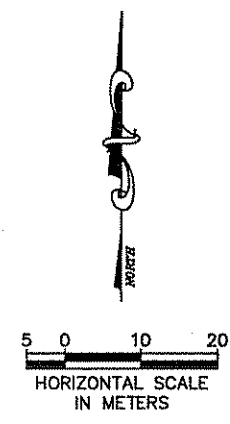
I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Kevin P. Kiehl
 KEVIN P. KIEHL
 DATE: 03/29/02 MN LIC. NO. 23211

MAIN STREET/T.H. 242 RECONSTRUCTION
MAIN STREET/T.H. 242
 TRAFFIC CONTROL
 STAGE 1, PHASE 2
 MODIFY INPLACE SIGNING & STRIPING
 CITY PROJECT 02-05

S.P. 0212-41

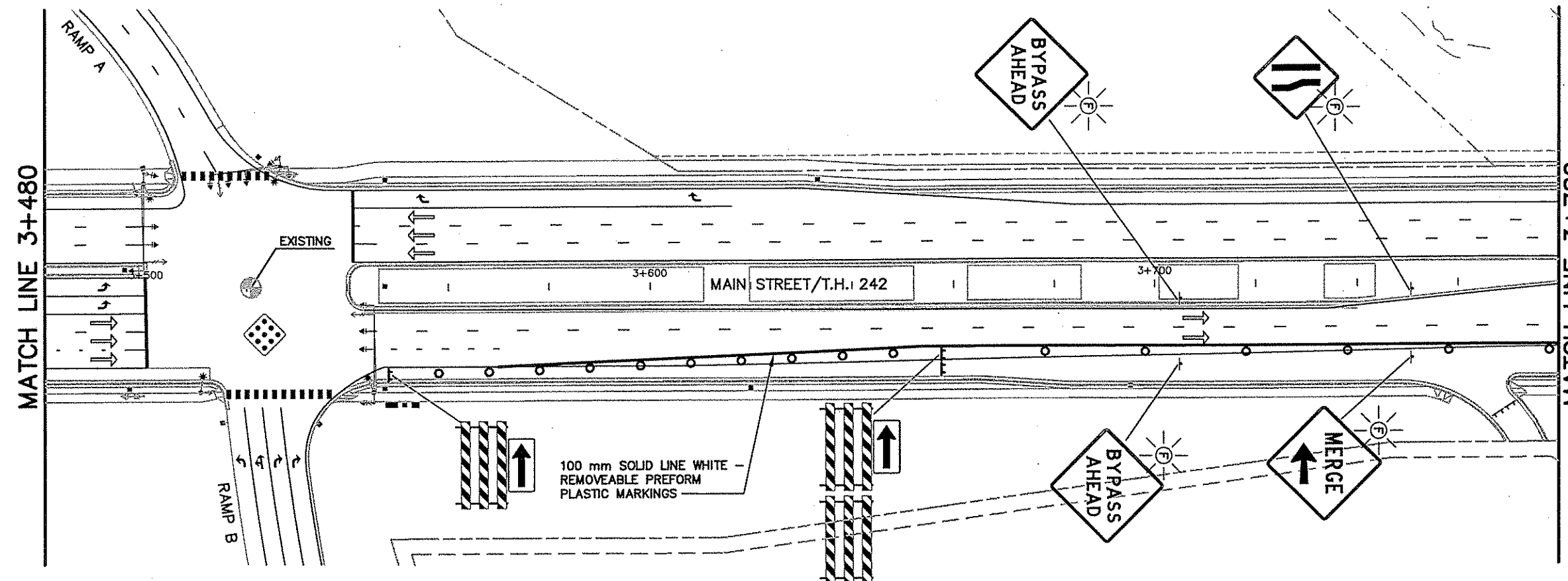
2 OF 2
 SHEET NO. 104
 171

stripe_mod
base_mod
LBSapbox
242e-ali
242MHETO
242-ESUM
PLN



MATCH LINE 3+480

- LEGEND**
- ① INPLACE, USE INPLACE
 - ② INPLACE, MODIFY MESSAGE
 - ③ REMOVE OR COVER
 - ④ SALVAGE
 - ⑤ FURNISH & INSTALL (F&I)
 - ⑥ INSTALL
 - ⑦ DETOUR SIGNING
 - TRAFFIC FLOW
 - ▨ WORK AREA



MATCH LINE 3+480

MATCH LINE 3+780

PLOT DATE: May 20, 2002 1:54pm DISK FILE NAME: (15.05) R:\33889\33889028\PLAN_SHT\Staging\LBTC1-2A.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
33889028 5001

DRAWN BY: IKR DESIGN BY: JRM

CHKD. BY: KPK/PBD DWG. NAME: LBTC1-2A

DATE: MARCH 29, 2002



Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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Kevin P. Kielb
KEVIN P. KIELB
DATE: 03/29/02 MN LIC. NO. 23211

MAIN STREET/T.H. 242 RECONSTRUCTION
MAIN STREET/T.H. 242
TRAFFIC CONTROL
STAGE 1, PHASE 2

CITY PROJECT 02-05

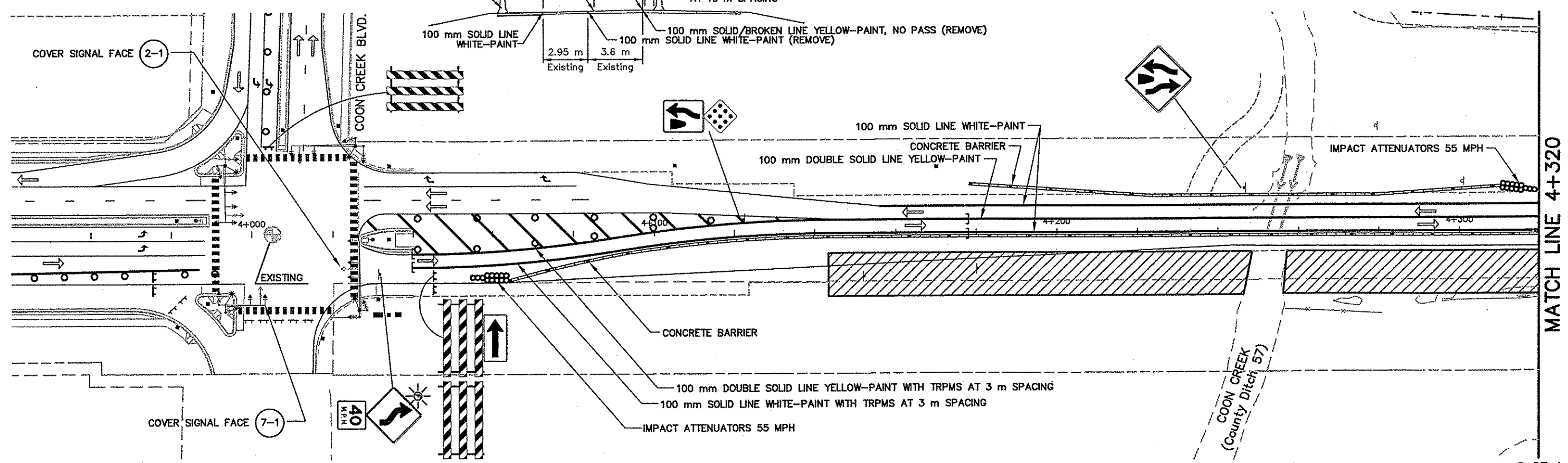
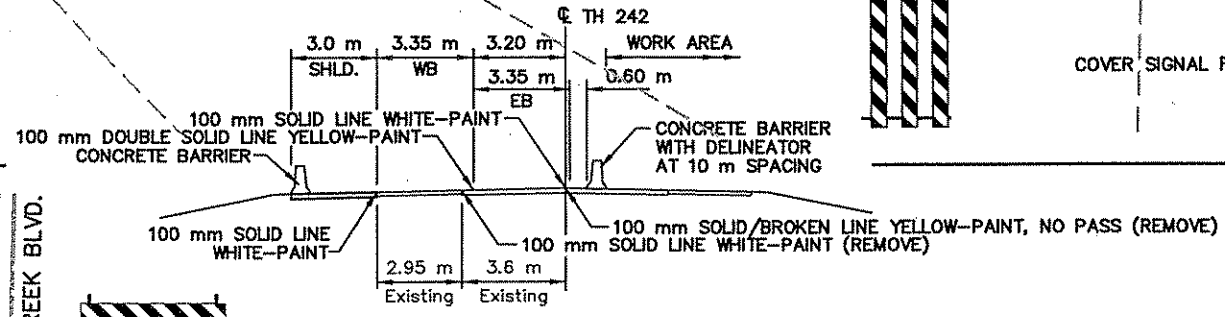
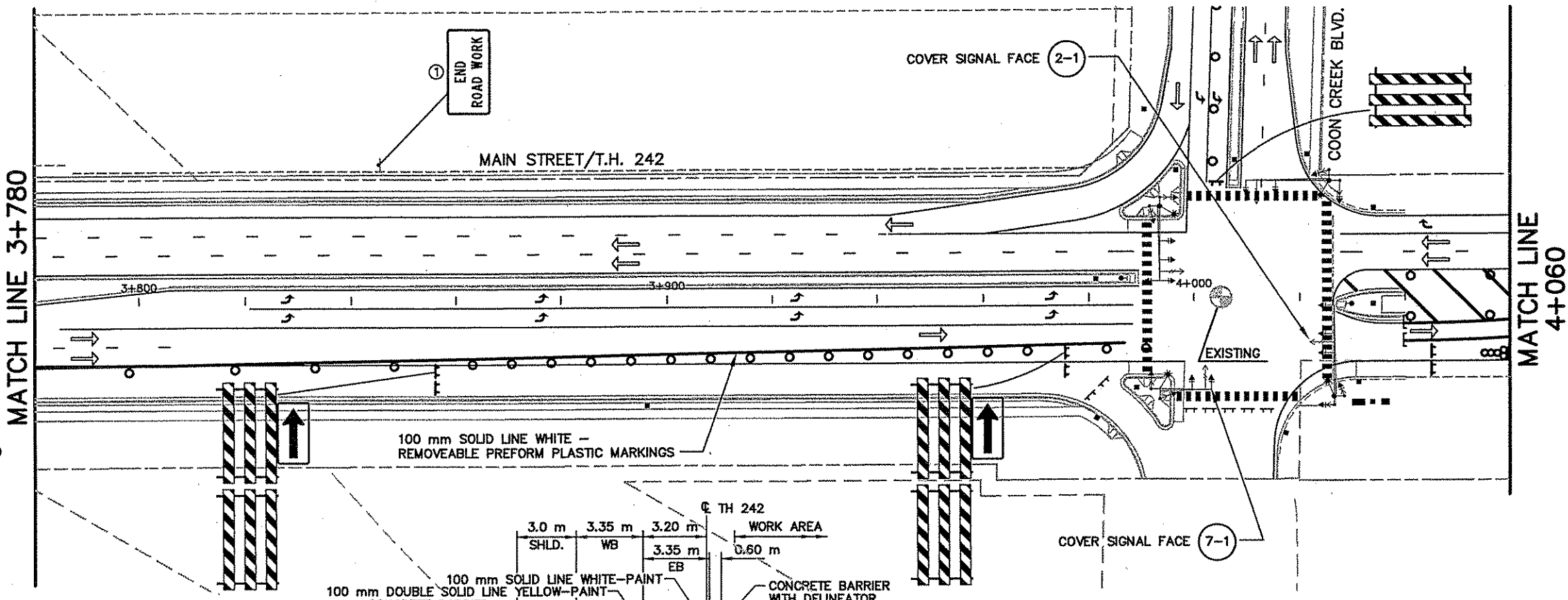
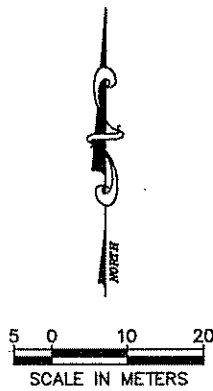
S.P. 0212-41

1 OF 4

SHEET NO.
105
171

ib_aln
242mhta
C_ST1PH2
:tripe_mod
base_mod
LBsapbox
2 ESUM
PLN

- LEGEND**
- ① INPLACE, USE INPLACE
 - ② INPLACE, MODIFY MESSAGE
 - ③ REMOVE OR COVER
 - ④ SALVAGE
 - ⑤ FURNISH & INSTALL (F&I)
 - ⑥ INSTALL
 - ⑦ DETOUR SIGNING
 - TRAFFIC FLOW
 - ▨ WORK AREA



PLOT DATE: May 20, 2002 1:54pm DISK FILE NAME: (15.05) R:\33889\33889028\33889B\PLAN_SHT\Staging\LBTC1-2B.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	IKR	05/22/02	REVISED D/W (4+347.150, LT.) PER MNDOT COMMENTS

DESIGN FILE:
33889028 5001

DRAWN BY: IKR DESIGN BY: JRM

CHKD. BY: JRM DWG. NAME: LBTC1-2B

DATE: MARCH 29, 2002

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Minneapolis, MN 55415
612.370.0700 Tel
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Kevin P. Kiehl
KEVIN P. KIEHL
DATE: 03/29/02 MN LIC. NO. 23211

MAIN STREET/T.H. 242 RECONSTRUCTION
MAIN STREET/T.H. 242
TRAFFIC CONTROL
STAGE 1, PHASE 2

CITY PROJECT 02-05

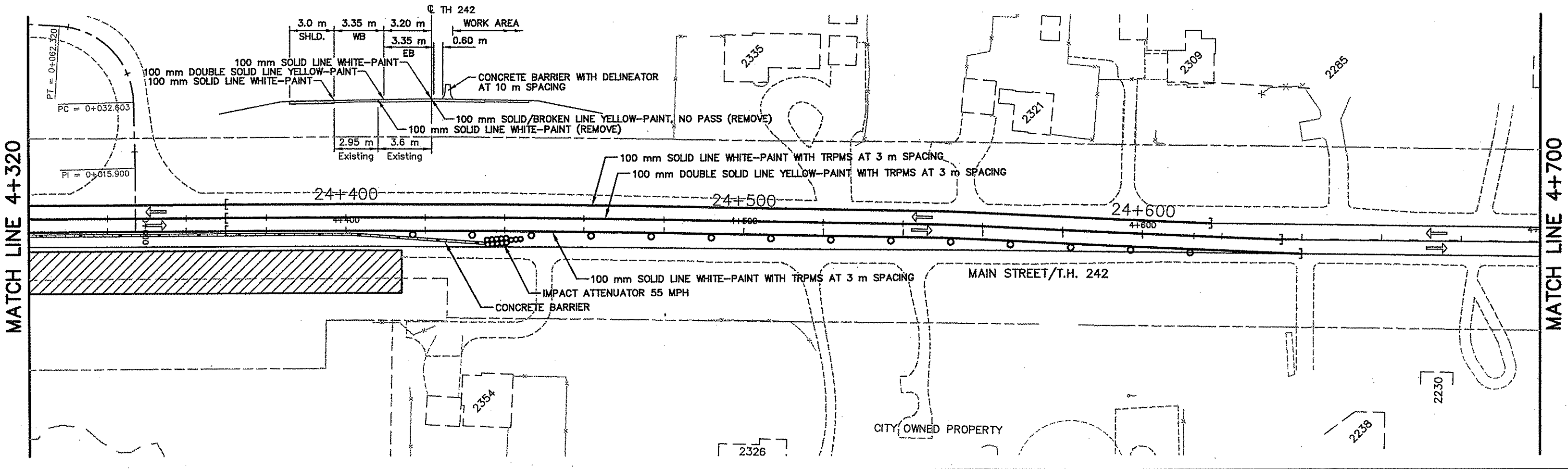
S.P. 0212-41

SHEET NO.
106
171

tmp_pvmt
C_STIPH2
Sehplan
stripe_mod
LBSapbox
242MHETO
N2A
ESUM
PLN
242E-AL1

MATCH LINE 4+320

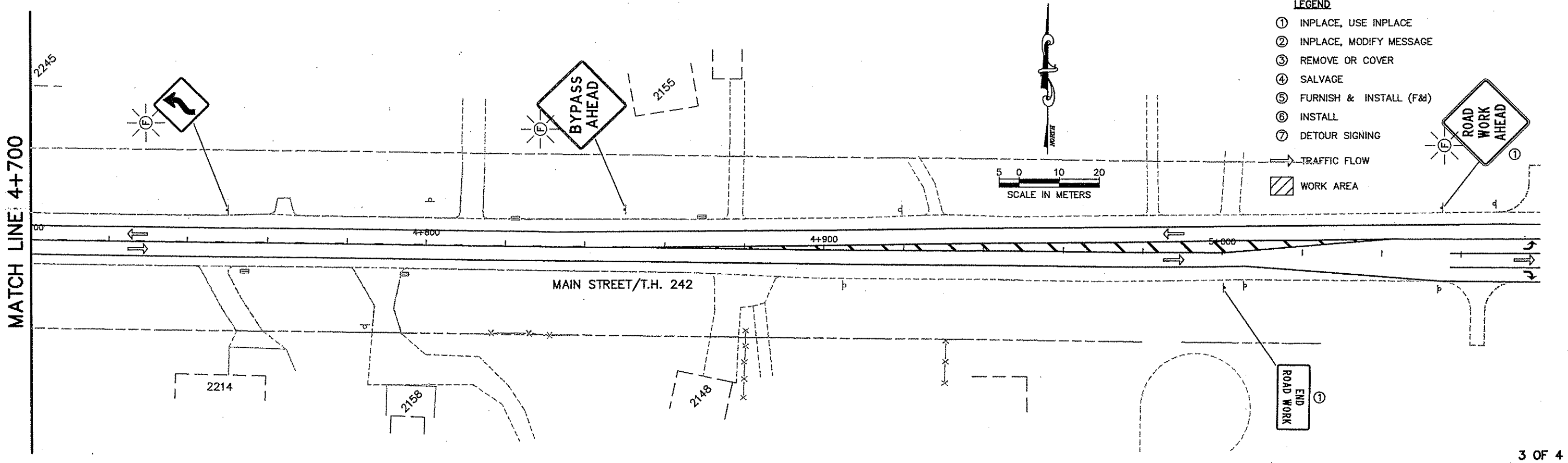
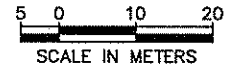
MATCH LINE 4+700



MATCH LINE 4+700

LEGEND

- ① INPLACE, USE INPLACE
- ② INPLACE, MODIFY MESSAGE
- ③ REMOVE OR COVER
- ④ SALVAGE
- ⑤ FURNISH & INSTALL (F&I)
- ⑥ INSTALL
- ⑦ DETOUR SIGNING
- TRAFFIC FLOW
- ▨ WORK AREA



PLOT DATE: May 20, 2002 1:53pm DISK FILE NAME: (15.05) R:\33889\33889028\33889B\PLAN_SHT\Staging\LBTC1-2C.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	IKR	05/22/02	REVISED D/W (3+347.150, LT.) PER MNDOT COMMENTS

DESIGN FILE: 33889028 5001	
DRAWN BY: IKR	DESIGN BY: JRM
CHKD. BY: JRM	DWG. NAME: LBTC1-2C
DATE: MARCH 29, 2002	



URS
BRW, Inc.

Thresher Square
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Kevin P. Kiehl
KEVIN P. KIEHL
DATE: 03/29/02 MN LIC. NO. 23211

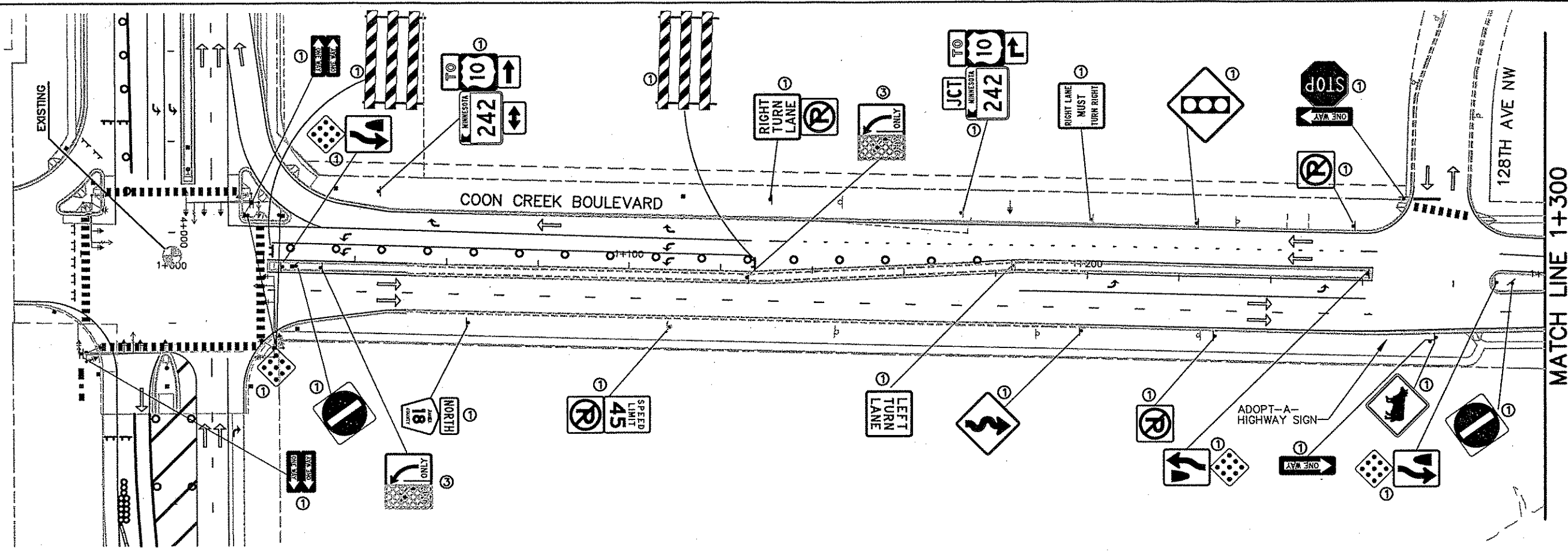
MAIN STREET/T.H. 242 RECONSTRUCTION
MAIN STREET/T.H. 242
TRAFFIC CONTROL
STAGE 1, PHASE 2
CITY PROJECT 02-05

S.P. 0212-41

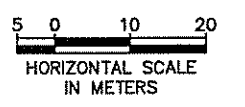
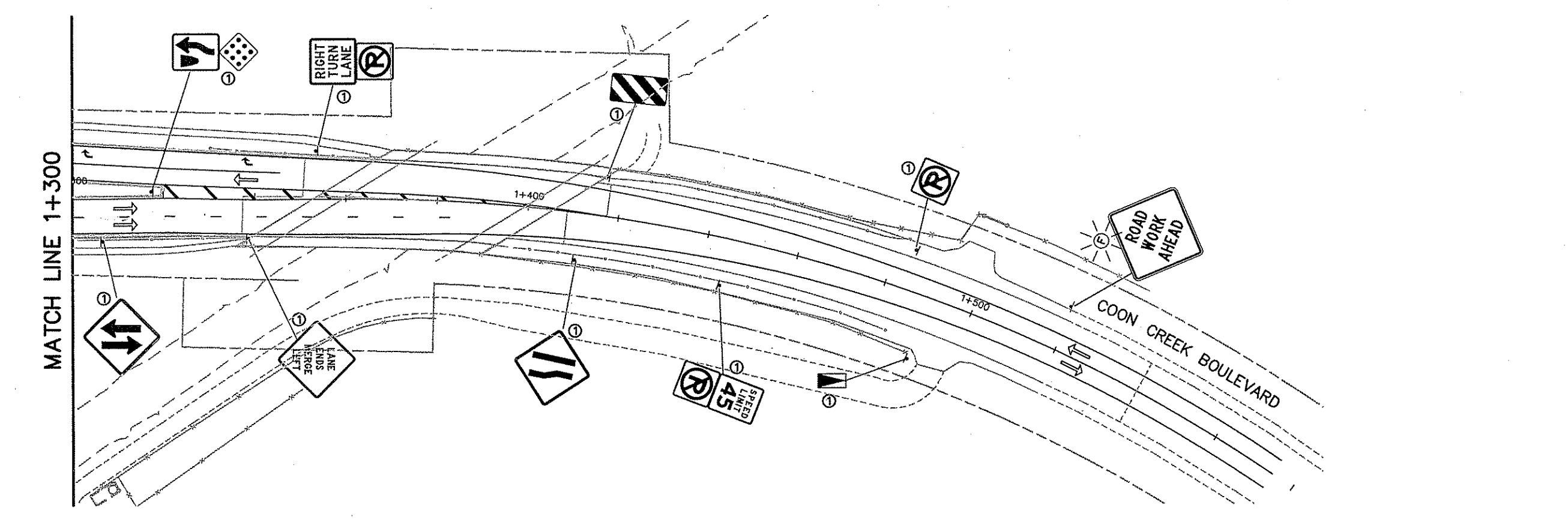
3 OF 4
SHEET NO.
107
171

C:\STPH2
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 base_mod
 PRD-ESGN
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 ALI
 242-PLN
 242MHETO

PLOT DATE: May 20, 2002 1:52pm DISK FILE NAME: (15.05) R:\33889\33889028\33889B\PLAN_SHT\Staging\LBTC1-2D.dwg



- LEGEND**
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 - ④ SALVAGE
 - ⑤ FURNISH & INSTALL (F&I)
 - ⑥ INSTALL
 - ⑦ DETOUR SIGNING
- TRAFFIC FLOW
- ▨ WORK AREA



4 OF 4

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
 33889028 5001

DRAWN BY: IKR DESIGN BY: JRM

CHKD. BY: JRM DWG. NAME: LBTC1-2D

DATE:
 MARCH 29, 2002

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Kevin P. Kielb
 KEVIN P. KIELB
 DATE: 03/29/02 MN LIC. NO. 23211

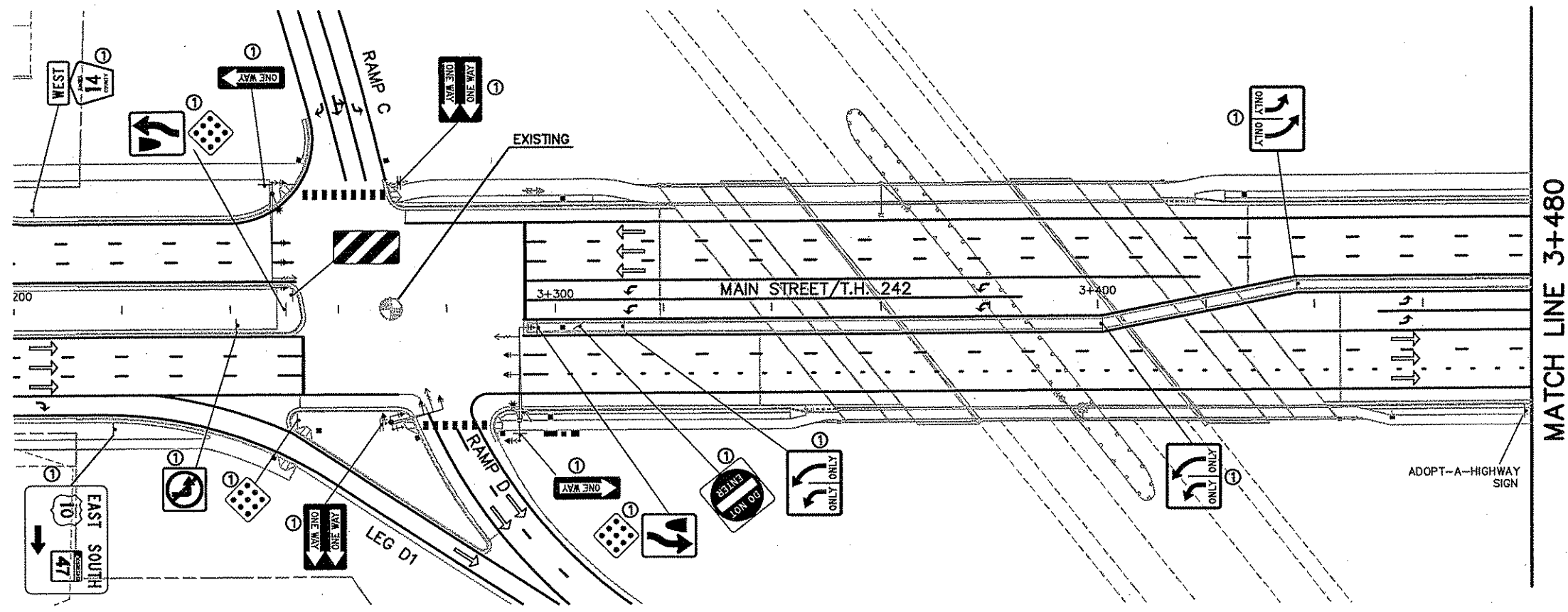
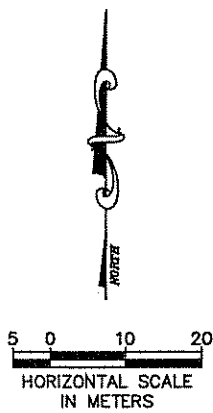
MAIN STREET/T.H. 242 RECONSTRUCTION
 COON CREEK BOULEVARD
 TRAFFIC CONTROL
 STAGE 1, PHASE 2

CITY PROJECT 02-05

S.P. 0212-41

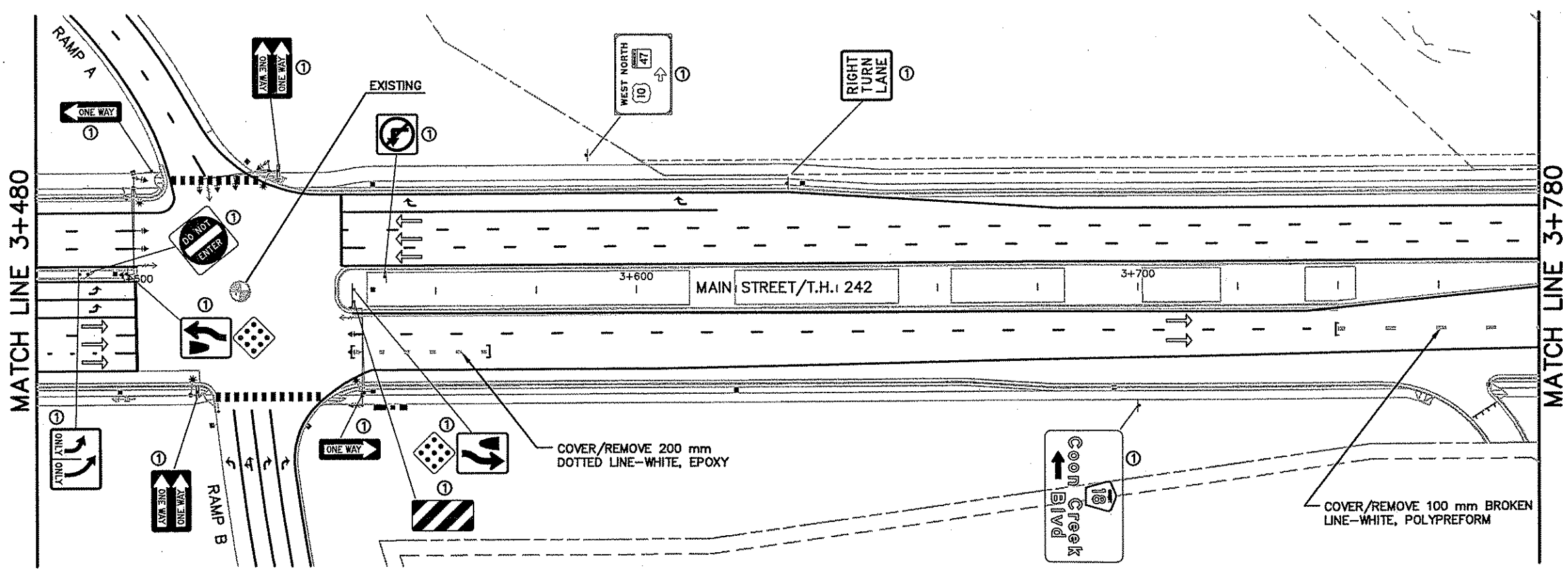
SHEET NO.
 108
 171

stripe_mod
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242e-ali
242MHETO
242-ESUM
242PLNW
-PLN



- LEGEND**
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 - ⑤ FURNISH & INSTALL (F&I)
 - ⑥ INSTALL
 - ⑦ DETOUR SIGNING
 - TRAFFIC FLOW
 - ▨ WORK AREA

PLOT DATE: May 20, 2002 2:39pm DISK FILE NAME: (15.05) R:\33889\33889028\PLAN_SHT\Staging\BinpTC01.dwg



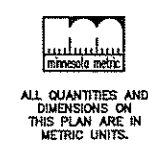
REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
33889028 5001

DRAWN BY: IKR DESIGN BY: JRM

CHKD. BY: KPK/PBD DWG. NAME: LBNPTC01

DATE: MARCH 29, 2002



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Kevin P. Kiel
KEVIN P. KIEL

DATE: 03/29/02 MN LIC. NO. 23211

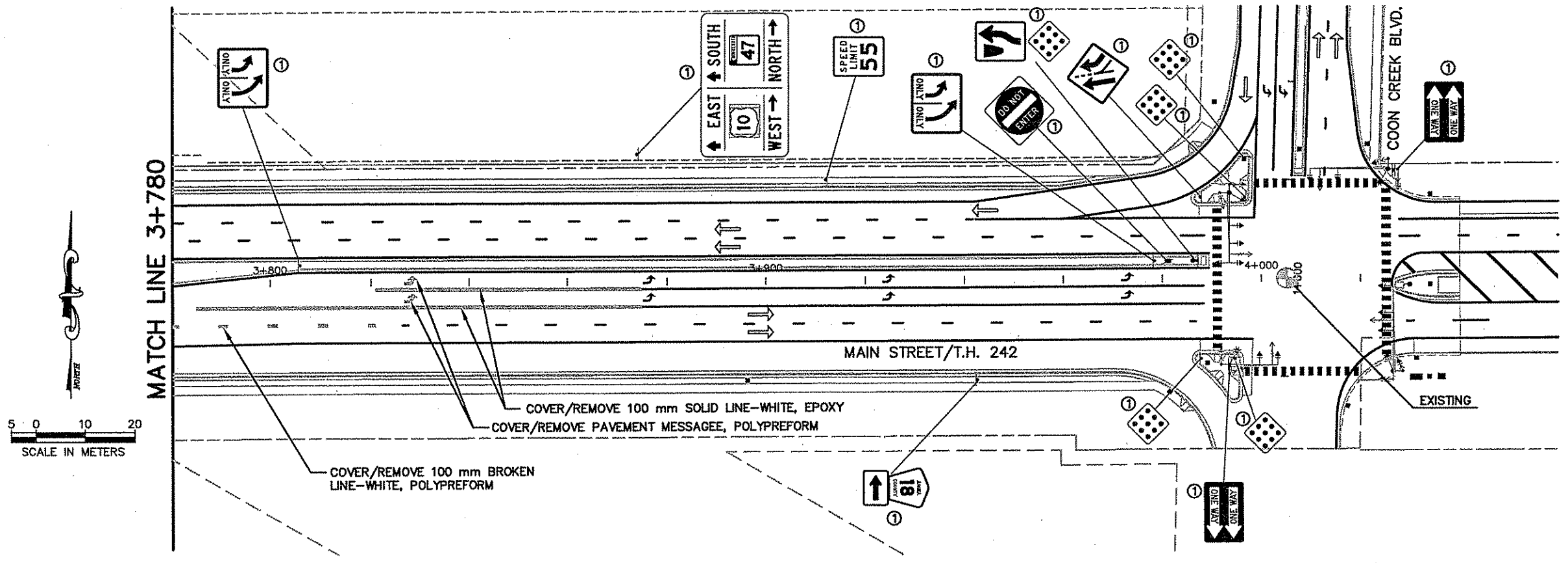
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MAIN STREET/T.H. 242
TRAFFIC CONTROL
STAGE 2, PHASE 1
MODIFY INPLACE SIGNING & STRIPING
CITY PROJECT 02-05

S.P. 0212-41

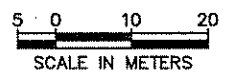
1 OF 3
SHEET NO. 109
171

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242-PLN
-ALI

PLOT DATE: May 20, 2002 2:39pm DISK FILE NAME: (15.05) R:\33889\33889028\33889B\PLAN_SHT\Staging\LBinpTC02.dwg



- LEGEND**
- ① INPLACE, USE INPLACE
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 - ③ REMOVE OR COVER
 - ④ SALVAGE
 - ⑤ FURNISH & INSTALL (F&I)
 - ⑥ INSTALL
 - ⑦ DETOUR SIGNING
 - TRAFFIC FLOW
 - ▨ WORK AREA



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889028 5001	
DRAWN BY: IKR	DESIGN BY: JRM
CHKD. BY: JRM	DWG. NAME: LBINPTC02
DATE: MARCH 29, 2002	

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Kevin P. Kielb
KEVIN P. KIELB
DATE: 03/29/02 MN LIC. NO. 23211

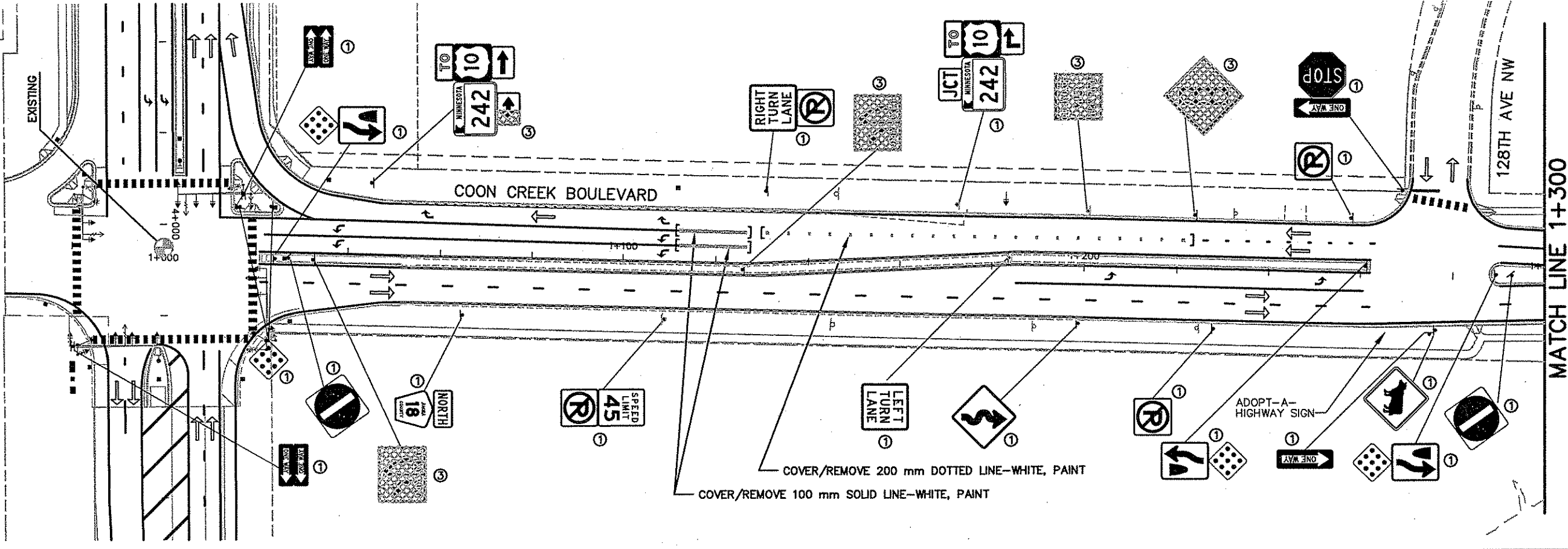
MAIN STREET/T.H. 242 RECONSTRUCTION
MAIN STREET/T.H. 242
TRAFFIC CONTROL
STAGE 2, PHASE 1
MODIFY INPLACE SIGNING & STRIPING
CITY PROJECT 02-05

S.P. 0212-41

2 OF 3
SHEET NO.
110
171

stripe_mod
base_mod
PRD-ESGN
LBSapbox
242PLN2A
242-ESUM
242-AL1
242-PLN
242-MHETO

PLOT DATE: May 20, 2002 2:42pm DISK FILE NAME: (15.05) R:\33889\33889028\33889E\PLAN_SHT\Staging\LBinpTC03.dwg



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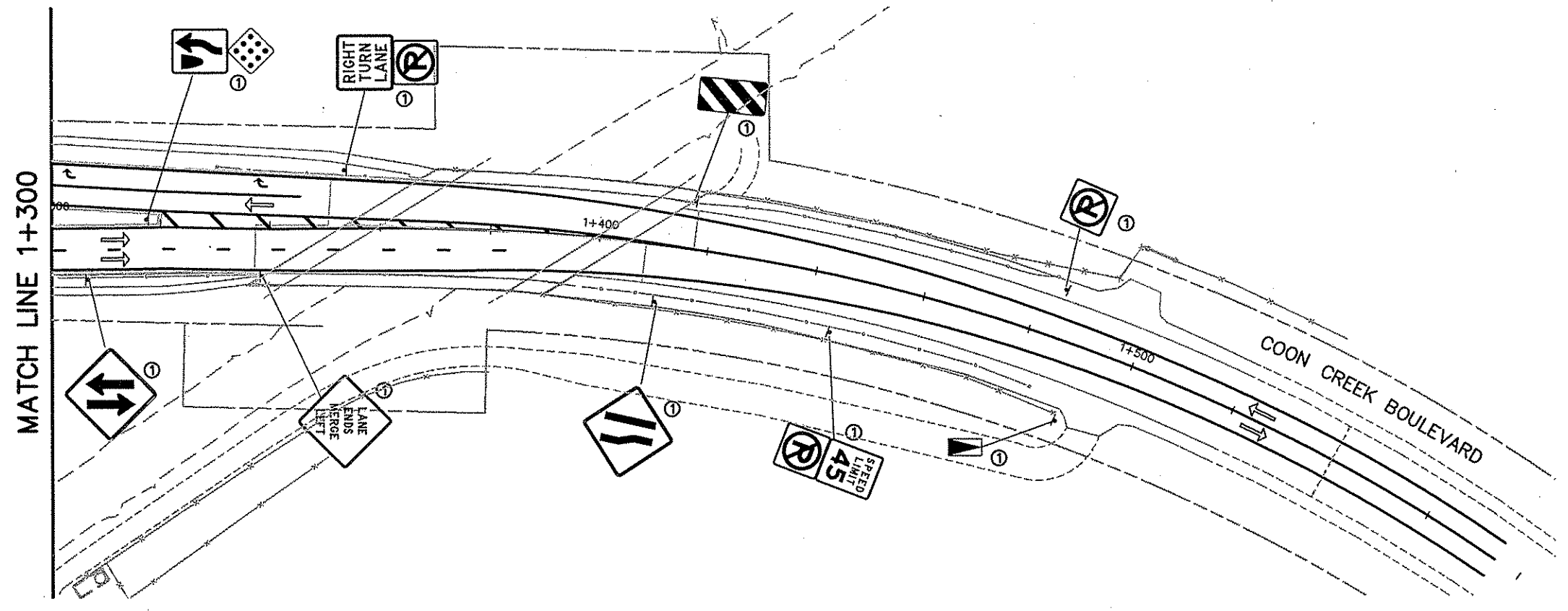
- ① INPLACE, USE INPLACE
- ② INPLACE, MODIFY MESSAGE
- ③ REMOVE OR COVER
- ④ SALVAGE
- ⑤ FURNISH & INSTALL (F&I)
- ⑥ INSTALL
- ⑦ DETOUR SIGNING

→ TRAFFIC FLOW

▨ WORK AREA

NORTH

COVER/REMOVE 200 mm DOTTED LINE-WHITE, PAINT
COVER/REMOVE 100 mm SOLID LINE-WHITE, PAINT



NORTH

5 0 10 20
HORIZONTAL SCALE
IN METERS

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
33889028 5001

DRAWN BY: IKR
DESIGN BY: JRM

CHKD. BY: JRM
DWG. NAME: LBINPTC03

DATE:
MARCH 29, 2002



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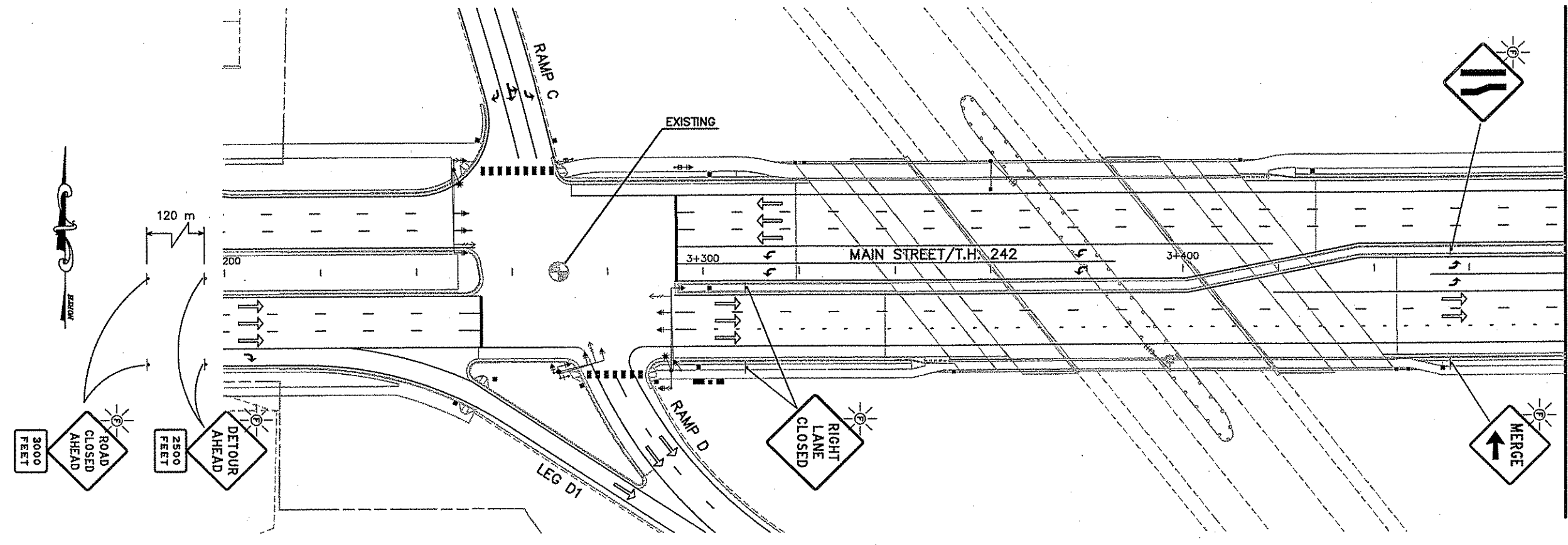
Kevin P. Kielb
KEVIN P. KIELB
DATE: 03/29/02 MN LIC. NO. 23211

**MAIN STREET/T.H. 242 RECONSTRUCTION
COON CREEK BOULEVARD**
TRAFFIC CONTROL
STAGE 2, PHASE 1
MODIFY INPLACE SIGNING & STRIPING
CITY PROJECT 02-05

S.P. 0212-41

3 OF 3
SHEET NO.
111
171

TC_ST2PH1
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 2-PLN

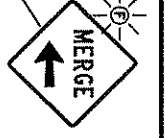
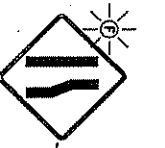
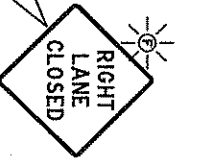
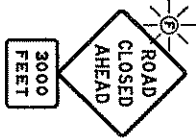


MATCH LINE 3+480

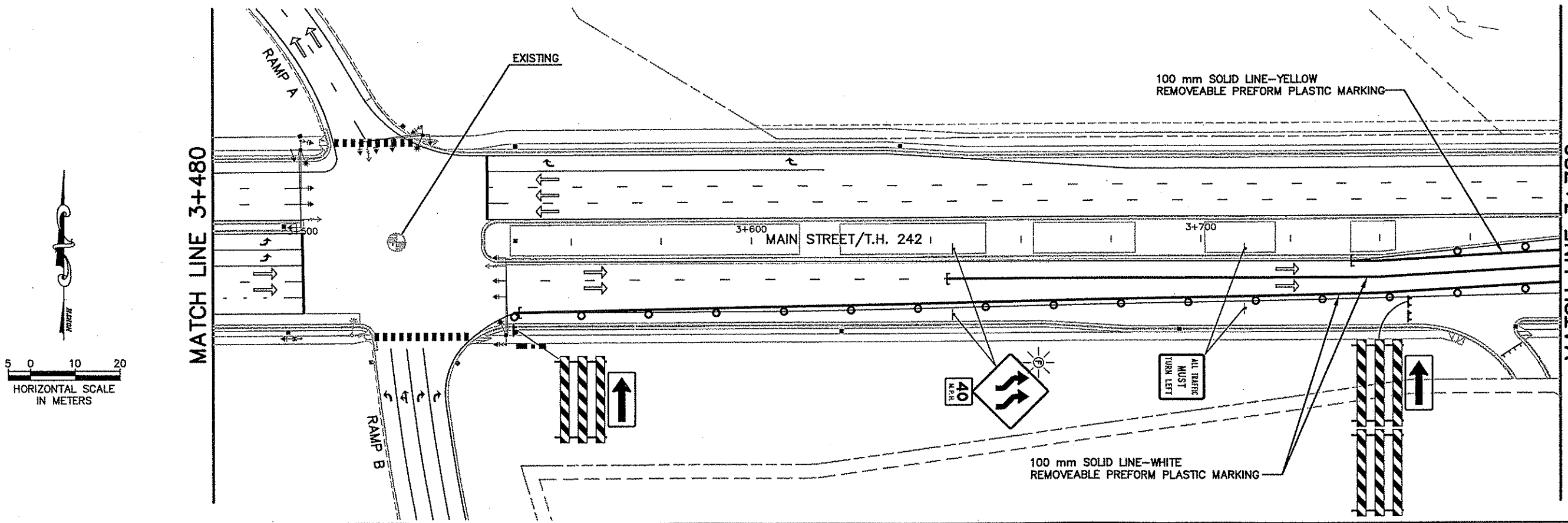
- LEGEND**
- ① INPLACE, USE INPLACE
 - ② INPLACE, MODIFY MESSAGE
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 - ⑤ FURNISH & INSTALL (F & I)
 - ⑥ INSTALL
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 - TRAFFIC FLOW
 - ▨ WORK AREA



120 m

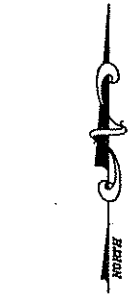


PLOT DATE: May 20, 2002 1:51pm DISK FILE NAME: (15.05) R:\33889\33889028\PLAN_SHT\Staging\LBTC2-1A.dwg



MATCH LINE 3+480

MATCH LINE 3+780



5 0 10 20
 HORIZONTAL SCALE
 IN METERS

100 mm SOLID LINE--YELLOW
 REMOVEABLE PREFORM PLASTIC MARKING

100 mm SOLID LINE--WHITE
 REMOVEABLE PREFORM PLASTIC MARKING



ALL TRAFFIC
 MUST
 TURN LEFT

1 OF 6

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889028 5001	
DRAWN BY: IKR	DESIGN BY: JRM
CHKD. BY: JRM	DWC. NAME: LBTC2-1A
DATE: MARCH 29, 2002	



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Kevin P. Kiehl
 KEVIN P. KIEHL
 DATE: 03/29/02 MN LIC. NO. 23211

MAIN STREET/T.H. 242 RECONSTRUCTION
MAIN STREET/T.H. 242
 TRAFFIC CONTROL
 STAGE 2, PHASE 1

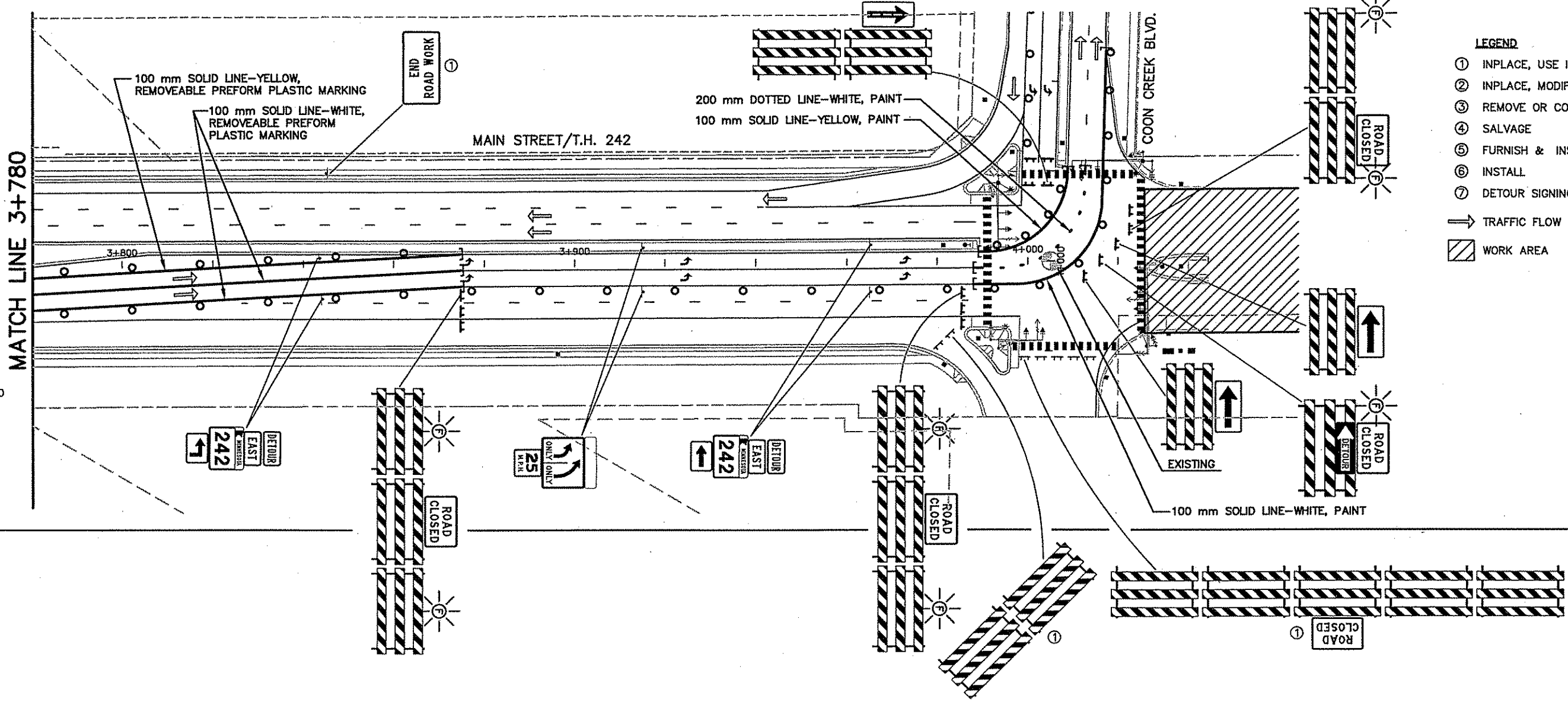
CITY PROJECT 02-05

S.P. 0212-41

SHEET NO.
 112
 171

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 LBsapbox
 242MHETO
 242-ESUM
 ?-PLN
 -ALI


PLOT DATE: May 20, 2002 1:50pm DISK FILE NAME: (15.05) R:\33889\33889028\33889B\PLAN_SHT\Staging\LBTC2-1B.dwg



- LEGEND**
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 - ② INPLACE, MODIFY MESSAGE
 - ③ REMOVE OR COVER
 - ④ SALVAGE
 - ⑤ FURNISH & INSTALL (F & I)
 - ⑥ INSTALL
 - ⑦ DETOUR SIGNING
 - TRAFFIC FLOW
 - ▨ WORK AREA

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889028 5001	
DRAWN BY: IKR	DESIGN BY: JRM
CHKD. BY: JRM	DWG. NAME: LBTC2-1B
DATE: MARCH 29, 2002	


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Kevin P. Kielb
 KEVIN P. KIELB
 DATE: 03/29/02 MN LIC. NO. 23211

MAIN STREET/T.H. 242 RECONSTRUCTION
MAIN STREET/T.H. 242
 TRAFFIC CONTROL
 STAGE 2, PHASE 1

CITY PROJECT 02-05

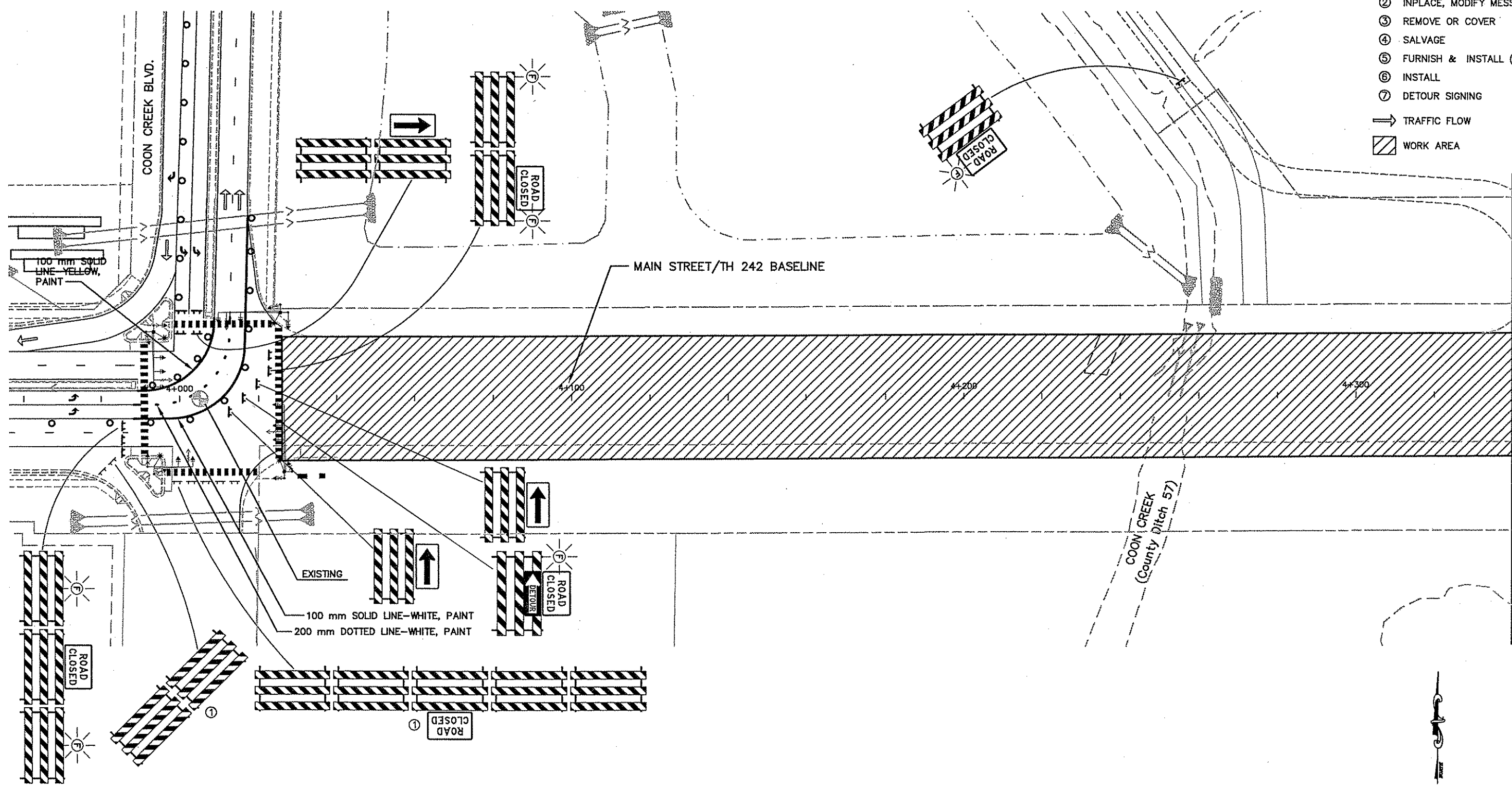
S.P. 0212-41

2 OF 6
 SHEET NO.
 113
 171

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 PBOX
 ALN
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 242-EUT

PLOT DATE: May 20, 2002 4:29pm DISK FILE NAME: (15.05) R:\33889\33889028\33889B\PLAN_SHT\Staging\LBT2-1C.dwg

- LEGEND**
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 - ⑥ INSTALL
 - ⑦ DETOUR SIGNING
 - TRAFFIC FLOW
 - ▨ WORK AREA



MATCH LINE 4+320

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	IKR	05/22/02	REVISED D/W (4+347.150, LT.) PER MNDOT COMMENTS

DESIGN FILE: 33889028 5001	
DRAWN BY: IKR	DESIGN BY: JRM
CHKD. BY: JRM	DWG. NAME: LBT2-1C
DATE: MARCH 29, 2002	

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Kevin P. Kiehl
 KEVIN P. KIEHL
 DATE: 03/29/02 MN LIC. NO. 23211

MAIN STREET/T.H. 242 RECONSTRUCTION

TRAFFIC CONTROL
 STAGE 2, PHASE 1

CITY PROJECT 02-05

S.P. 0212-41

3 OF 6

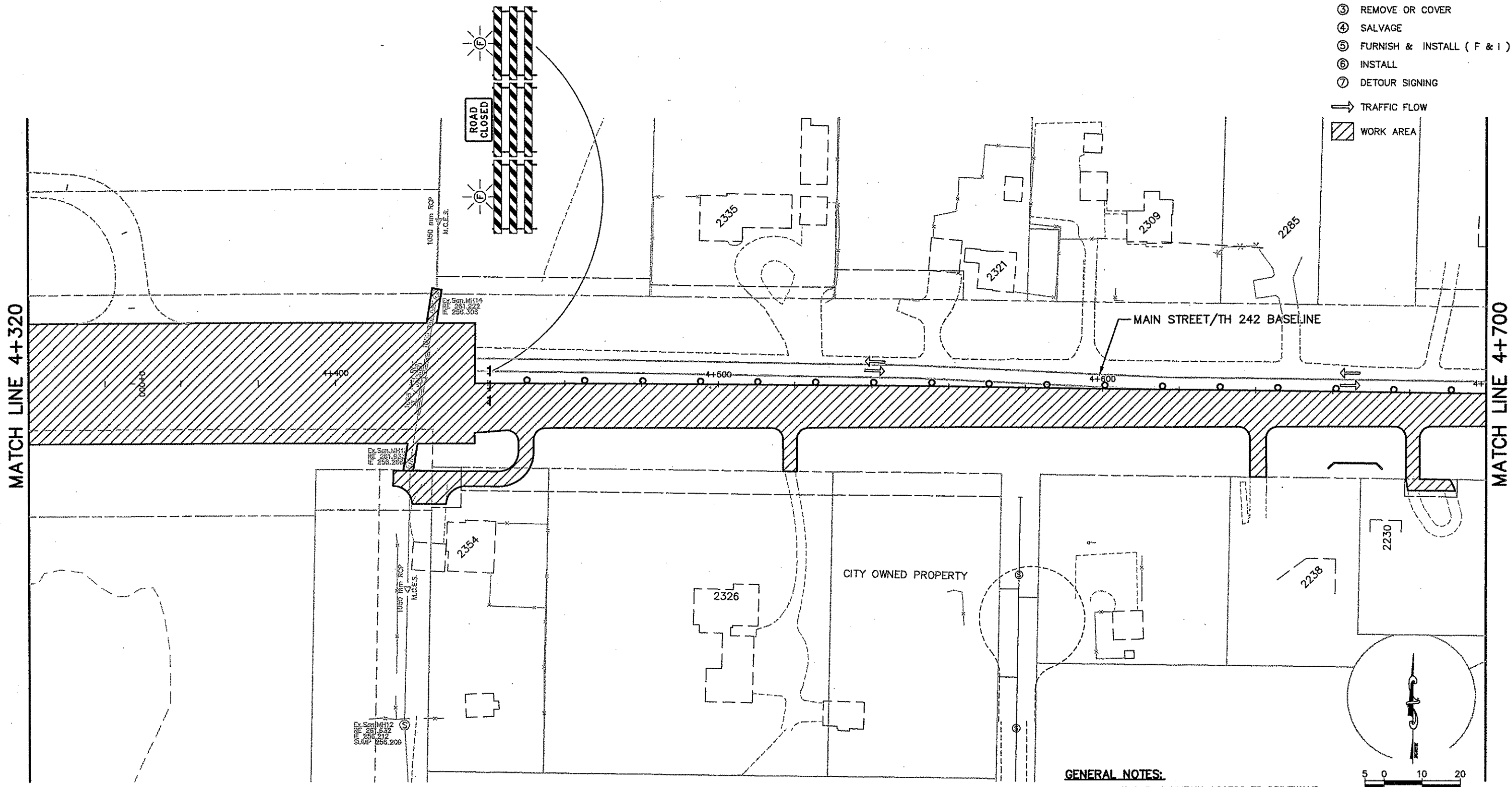
SHEET NO.
114
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TC_ST2PH1
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PLOT DATE: May 20, 2002 4:30pm DISK FILE NAME: (15.05) R:\33889\33889028\33889B\PLAN_SHT\Staging\LBTC2-1D.dwg

- LEGEND**
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 - ② INPLACE, MODIFY MESSAGE
 - ③ REMOVE OR COVER
 - ④ SALVAGE
 - ⑤ FURNISH & INSTALL (F & I)
 - ⑥ INSTALL
 - ⑦ DETOUR SIGNING

→ TRAFFIC FLOW
 ▨ WORK AREA



GENERAL NOTES:
 1. CONTRACTOR TO MAINTAIN ACCESS TO DRIVEWAYS

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	IKR	05/22/02	REVISED D/W (4+347.150, LT.) PER MNDOT COMMENTS

DESIGN FILE: 33889028 5001	
DRAWN BY: IKR	DESIGN BY: JRM
CHKD. BY: JRM	DWG. NAME: LBTC2-1D
DATE: MARCH 29, 2002	

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Kevin P. Kielb
 KEVIN P. KIELB
 DATE: 03/29/02 MN LIC. NO. 23211

MAIN STREET/T.H. 242 RECONSTRUCTION

TRAFFIC CONTROL
 STAGE 2, PHASE 1

CITY PROJECT 02-05

S.P. 0212-41

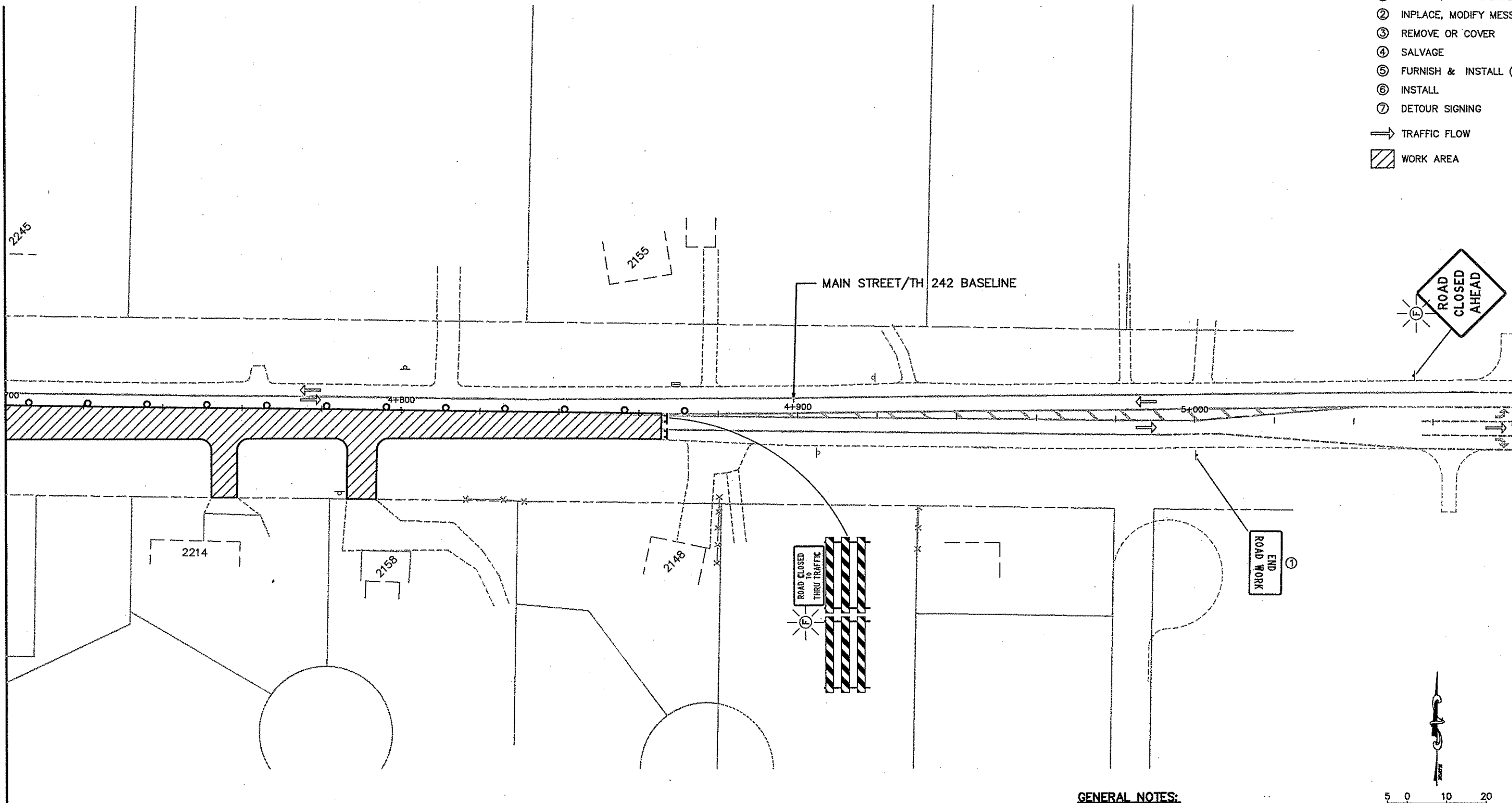
4 OF 6

SHEET NO.
 115
 171

PHI_pvmt
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 Sehplan
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 242pin2a
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 PBOX
 ALN
 242-ESUM

- LEGEND**
- ① INPLACE, USE INPLACE
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 - ④ SALVAGE
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 - ⑥ INSTALL
 - ⑦ DETOUR SIGNING
 - TRAFFIC FLOW
 - ▨ WORK AREA

MATCH LINE 4+700



GENERAL NOTES:
 1. CONTRACTOR TO MAINTAIN ACCESS TO DRIVEWAYS

PLOT DATE: May 20, 2002 1:47pm DISK FILE NAME: (15.05) R:\33889\33889028\33889B\PLAN_SHT\Staging\LBTC2-1E.dwg

5 OF 6

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889028 5001	
DRAWN BY: IKR	DESIGN BY: JRM
CHKD. BY: JRM	DWG. NAME: LBTC2-1E
DATE: MARCH 29, 2002	


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Kevin P. Kiehl
 KEVIN P. KIEHL
 DATE: 03/29/02 MN LIC. NO. 23211

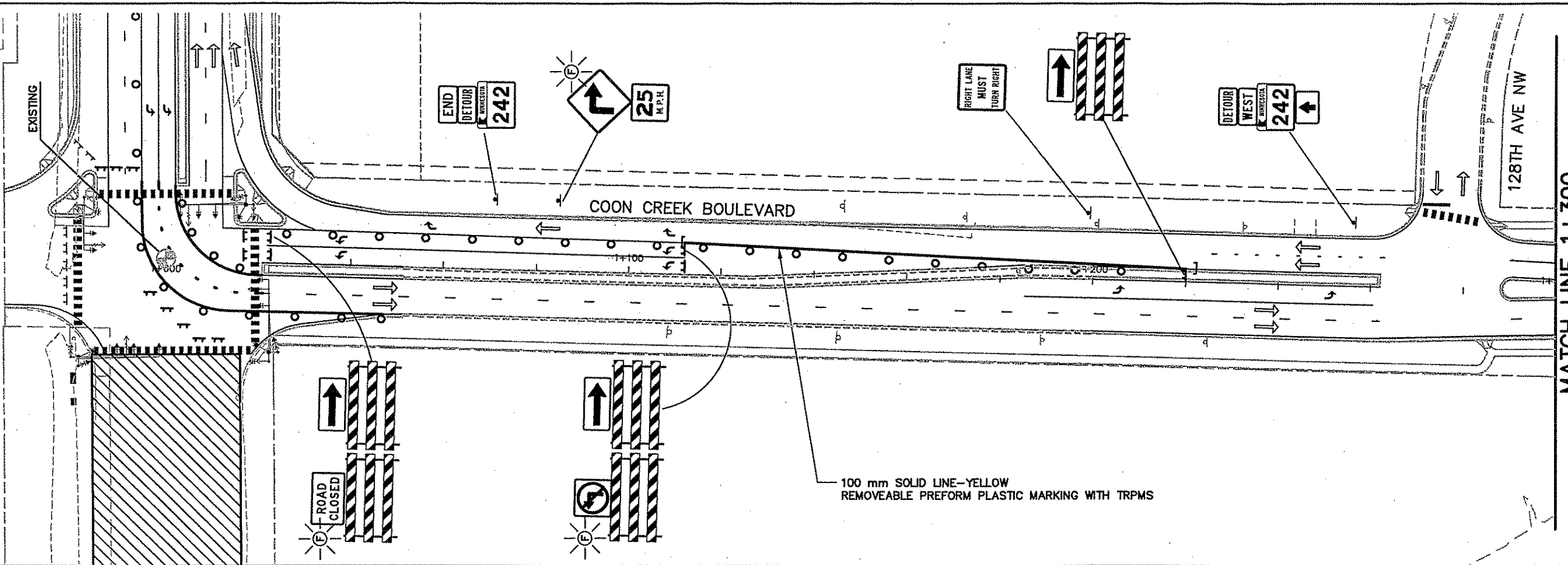
MAIN STREET/T.H. 242 RECONSTRUCTION
 TRAFFIC CONTROL
 STAGE 2, PHASE 1
 CITY PROJECT 02-05

S.P. 0212-41

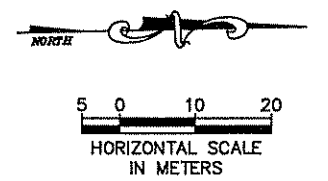
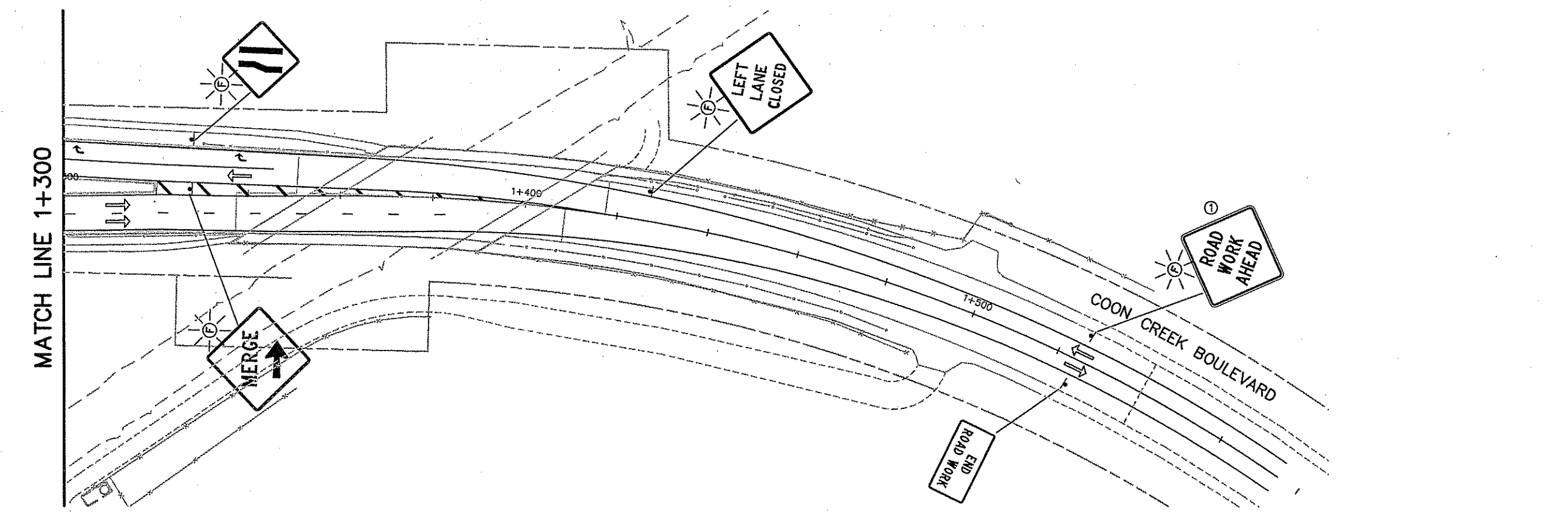
SHEET NO.
 116
 171

FC_ST2PH1
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PLOT DATE: May 20, 2002 1:46pm DISK FILE NAME: (15.05) R:\33889\33889028\33889B\PLAN_SHT\Staging\LBTC2-1F.dwg



- LEGEND**
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 - ② INPLACE, MODIFY MESSAGE
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 - ④ SALVAGE
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 - ⑥ INSTALL
 - ⑦ DETOUR SIGNING
- TRAFFIC FLOW
- ▨ WORK AREA



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
 33889028 5001

DRAWN BY: IKR DESIGN BY: JRM

CHKD. BY: JRM DWG. NAME: LBTC2-1F

DATE:
 MARCH 29, 2002



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Kevin P. Kielb
 KEVIN P. KIELB

DATE: 03/29/02 MN LIC. NO. 23211

MAIN STREET/T.H. 242 RECONSTRUCTION
 COON CREEK BOULEVARD
 TRAFFIC CONTROL
 STAGE 2, PHASE 1

CITY PROJECT 02-05

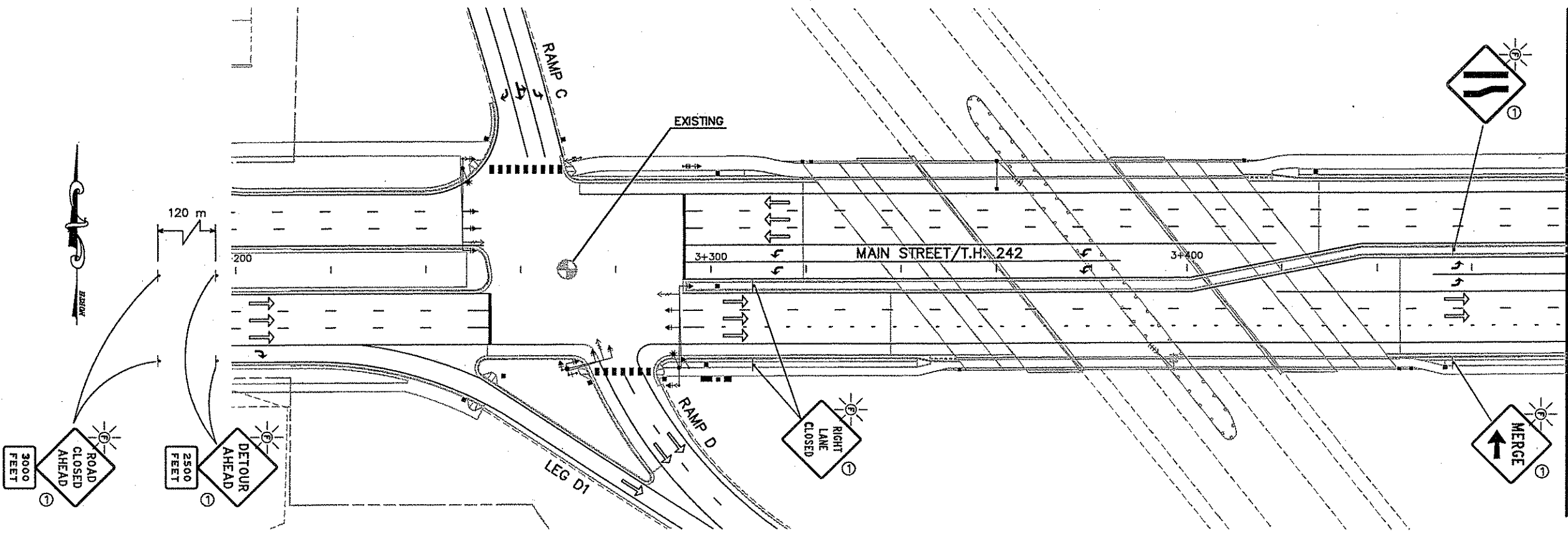
S.P. 0212-41

6 OF 6

SHEET NO.
 117
 171

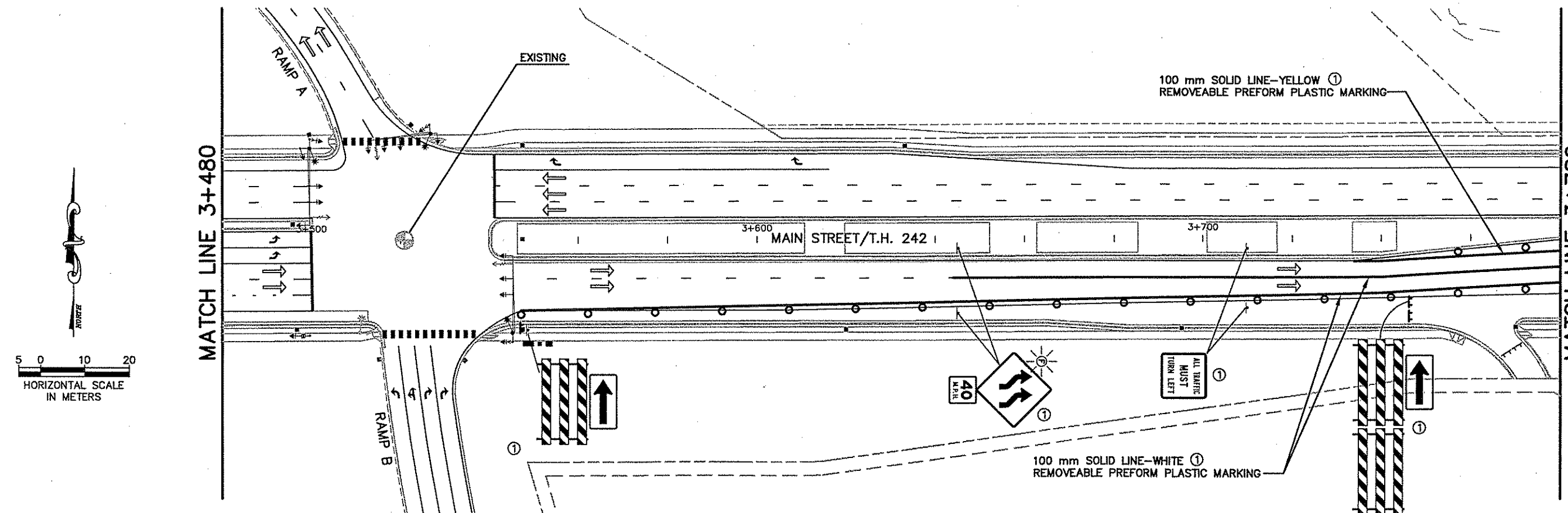
TC_ST2PH1
 stripe_mod
 base_mod
 LBsapbox
 242e-all
 242MHETO
 2 ESUM
 .NW
 -PLN

PLOT DATE: May 20, 2002 1:45pm DISK FILE NAME: (15.05) R:\33889\33889028\PLAN_SHT\Staging\LBTC2-2A.dwg

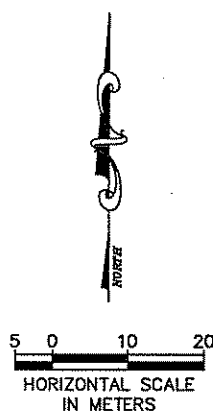


MATCH LINE 3+480

- LEGEND**
- ① INPLACE, USE INPLACE
 - ② INPLACE, MODIFY MESSAGE
 - ③ REMOVE OR COVER
 - ④ SALVAGE
 - ⑤ FURNISH & INSTALL (F & I)
 - ⑥ INSTALL
 - ⑦ DETOUR SIGNING
 - TRAFFIC FLOW
 - ▨ WORK AREA



MATCH LINE 3+780



1 OF 6

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889028 5001	
DRAWN BY: IKR	DESIGN BY: JRM
CHKD. BY: JRM	DWG. NAME: LBTC2-2A
DATE: MARCH 29, 2002	

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 700 Third Street South
 Minneapolis, MN 55415
 612.370.0700 Tel
 612.370.1378 Fax

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Kevin P. Kielb
 KEVIN P. KIELB
 DATE: 03/29/02 MN LIC. NO. 23211

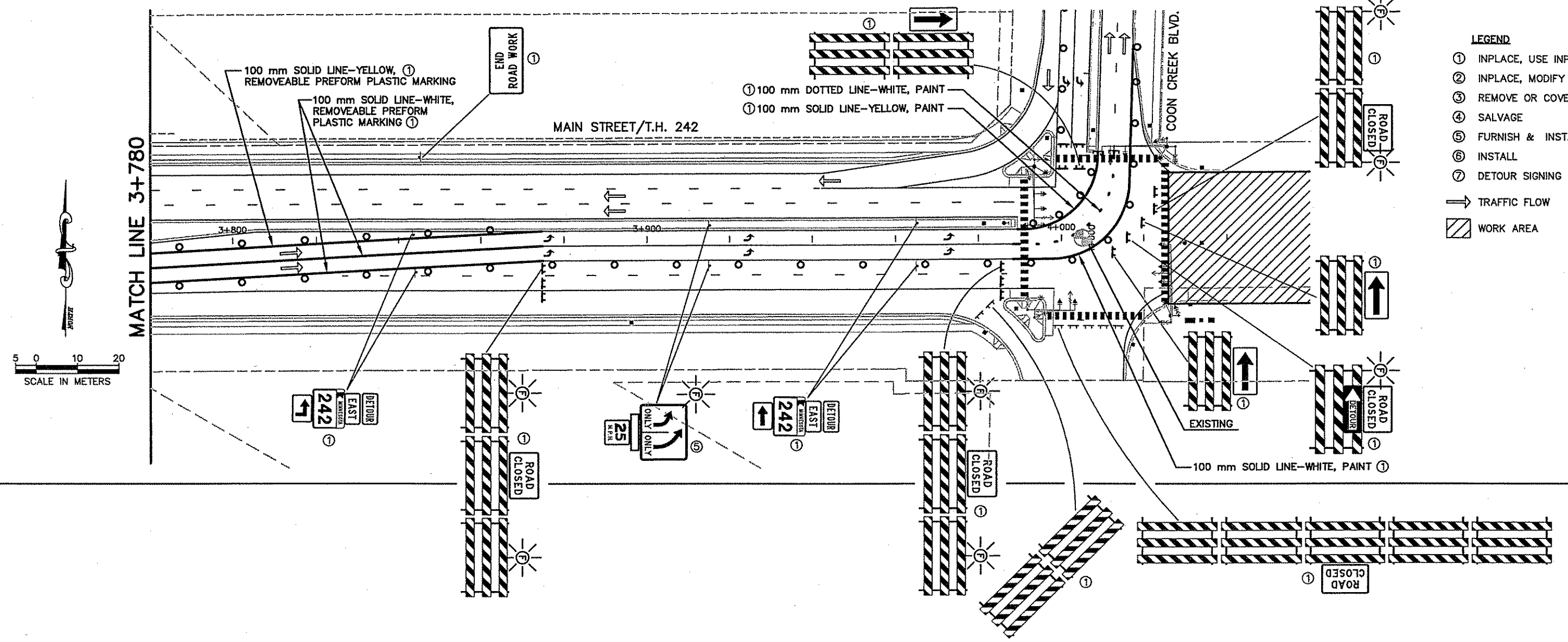
MAIN STREET/T.H. 242 RECONSTRUCTION
MAIN STREET/T.H. 242
 TRAFFIC CONTROL
 STAGE 2, PHASE 2
 CITY PROJECT 02-05

S.P. 0212-41

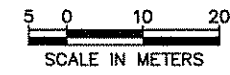
SHEET NO.
 118
 171

C:\ST2PH1
 stripe_mod
 base_mod
 LBSapbox
 242MHETO
 242-ESUM
 242-PLN
 -ALI

PLOT DATE: May 20, 2002 1:45pm DISK FILE NAME: (15.05) R:\33889\33889028\33889028\PLAN_SHT\Staging\LBTC2-2B.dwg



- LEGEND**
- ① INPLACE, USE INPLACE
 - ② INPLACE, MODIFY MESSAGE
 - ③ REMOVE OR COVER
 - ④ SALVAGE
 - ⑤ FURNISH & INSTALL (F & I)
 - ⑥ INSTALL
 - ⑦ DETOUR SIGNING
- TRAFFIC FLOW
- ▨ WORK AREA



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889028 5001	
DRAWN BY: IKR	DESIGN BY: JRM
CHKD. BY: JRM	DWG. NAME: LBTC2-2B
DATE: MARCH 29, 2002	

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Kevin P. Kiehl
KEVIN P. KIEHL

DATE: 03/29/02 MN LIC. NO. 23211

MAIN STREET/T.H. 242 RECONSTRUCTION
MAIN STREET/T.H. 242
 TRAFFIC CONTROL
 STAGE 2, PHASE 2

CITY PROJECT 02-05

S.P. 0212-41

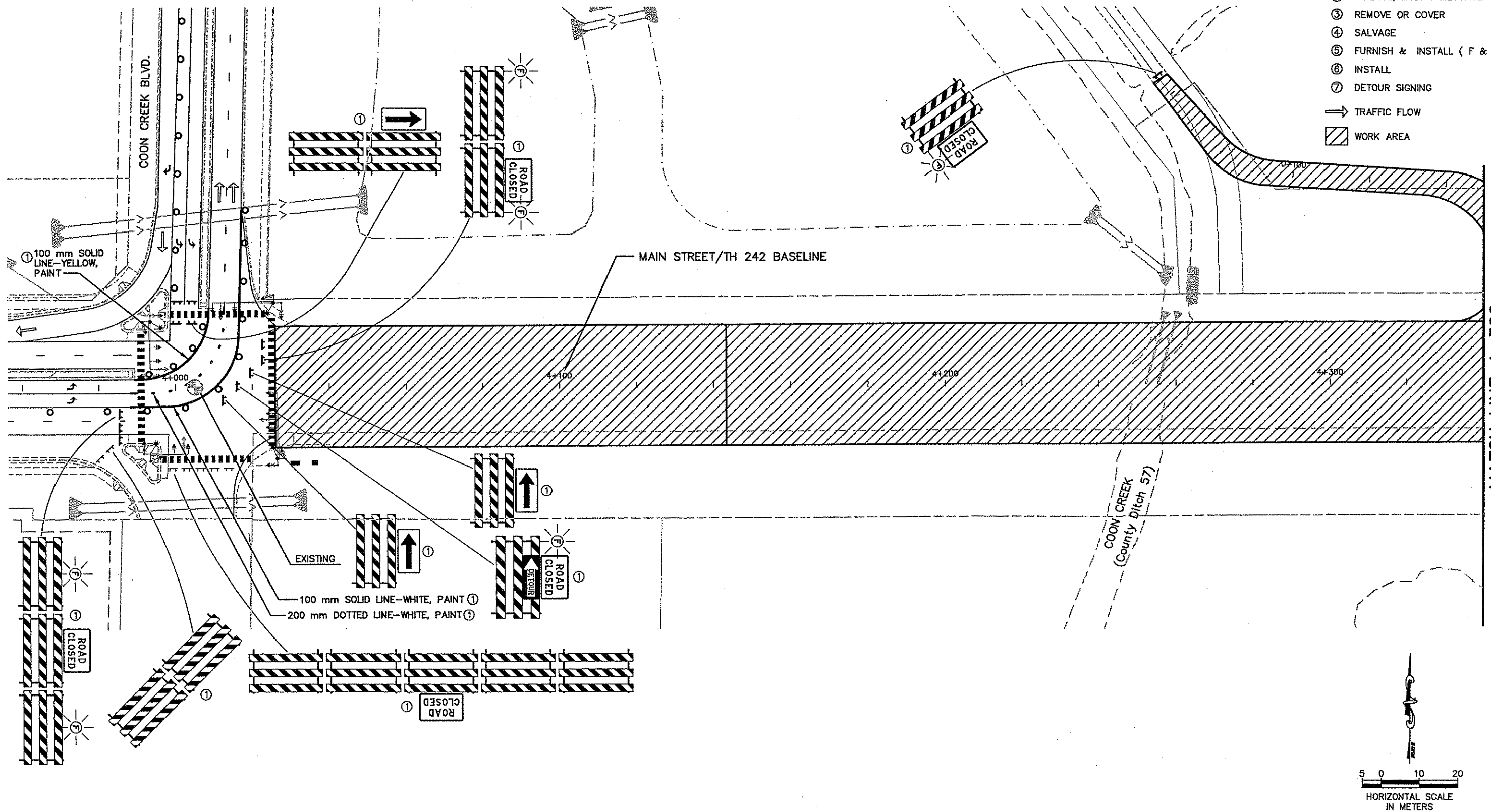
2 OF 6

SHEET NO.
119

171

C_ST2PH2
 stripe_mod
 base_mod
 osp-pond
 242e_drn
 242mhto
 242e_pln
 BOX
 LN
 242-ESUM
 242-EUT

PLOT DATE: May 20, 2002 1:44pm DISK FILE NAME: (15.05) R:\33889\33889028\33889B\PLAN_SHT\Staging\LBTC2-2C.dwg



- LEGEND**
- ① INPLACE, USE INPLACE
 - ② INPLACE, MODIFY MESSAGE
 - ③ REMOVE OR COVER
 - ④ SALVAGE
 - ⑤ FURNISH & INSTALL (F & I)
 - ⑥ INSTALL
 - ⑦ DETOUR SIGNING
 - TRAFFIC FLOW
 - ▨ WORK AREA

MATCH LINE 4+320

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	IKR	05/22/02	REVISED D/W (3+347.150, LT.) PER MNDOT COMMENTS

DESIGN FILE: 33889028 5001	
DRAWN BY: IKR	DESIGN BY: JRM
CHKD. BY: JRM	DWG. NAME: LBTC2-2C
DATE: MARCH 29, 2002	



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Kevin P. Kielb
 KEVIN P. KIELB
 DATE: 03/29/02 MN LIC. NO. 23211

MAIN STREET/T.H. 242 RECONSTRUCTION

TRAFFIC CONTROL
 STAGE 2, PHASE 2

CITY PROJECT 02-05

S.P. 0212-41


3 OF 6

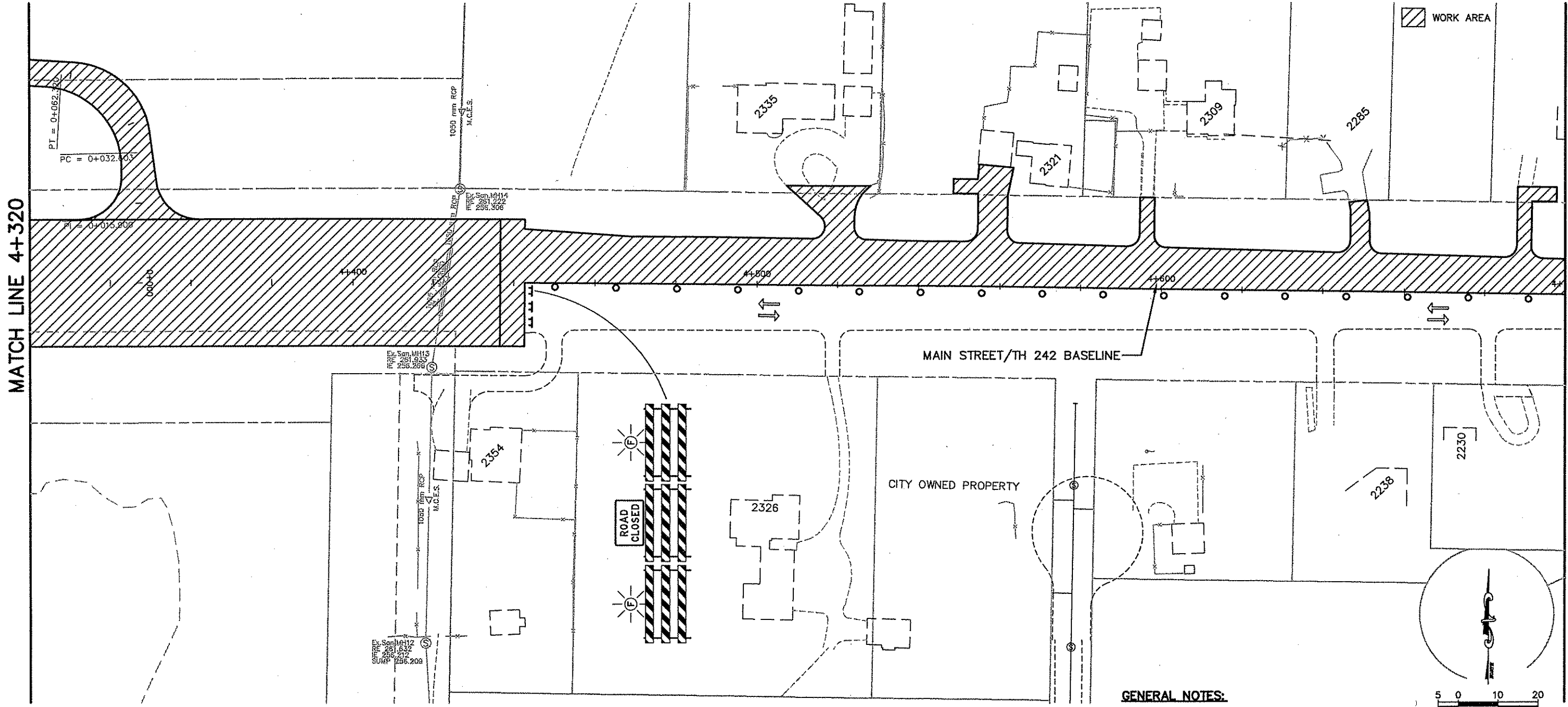
SHEET NO.
120
171

tripe_mod
 C_ST2PH2
 242mhto
 LBSAPBOX
 LB_ALN
 242-ESUM
 242-EUT

PLOT DATE: May 20, 2002 1:43pm DISK FILE NAME: (15.05) R:\33889\33889028\33889B\PLAN_SHT\Staging\LBTC2-2D.dwg

- LEGEND**
- ① INPLACE, USE INPLACE
 - ② INPLACE, MODIFY MESSAGE
 - ③ REMOVE OR COVER
 - ④ SALVAGE
 - ⑤ FURNISH & INSTALL (F & I)
 - ⑥ INSTALL
 - ⑦ DETOUR SIGNING

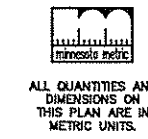
→ TRAFFIC FLOW
 WORK AREA



GENERAL NOTES:
 1. CONTRACTOR TO MAINTAIN ACCESS TO DRIVEWAYS

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	IKR	05/22/02	REVISED D/W (4+347.150, L.T.) PER MNDOT COMMENTS

DESIGN FILE:
 33889028 5001
 DRAWN BY: IKR
 DESIGN BY: JRM
 CHKD. BY: JRM
 DWG. NAME: LBTC2-2D
 DATE: MARCH 29, 2002



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Kevin P. Kiehl
 KEVIN P. KIEHL
 DATE: 03/29/02 MN LIC. NO. 23211

MAIN STREET/T.H. 242 RECONSTRUCTION
 TRAFFIC CONTROL
 STAGE 2, PHASE 2
 CITY PROJECT 02-05

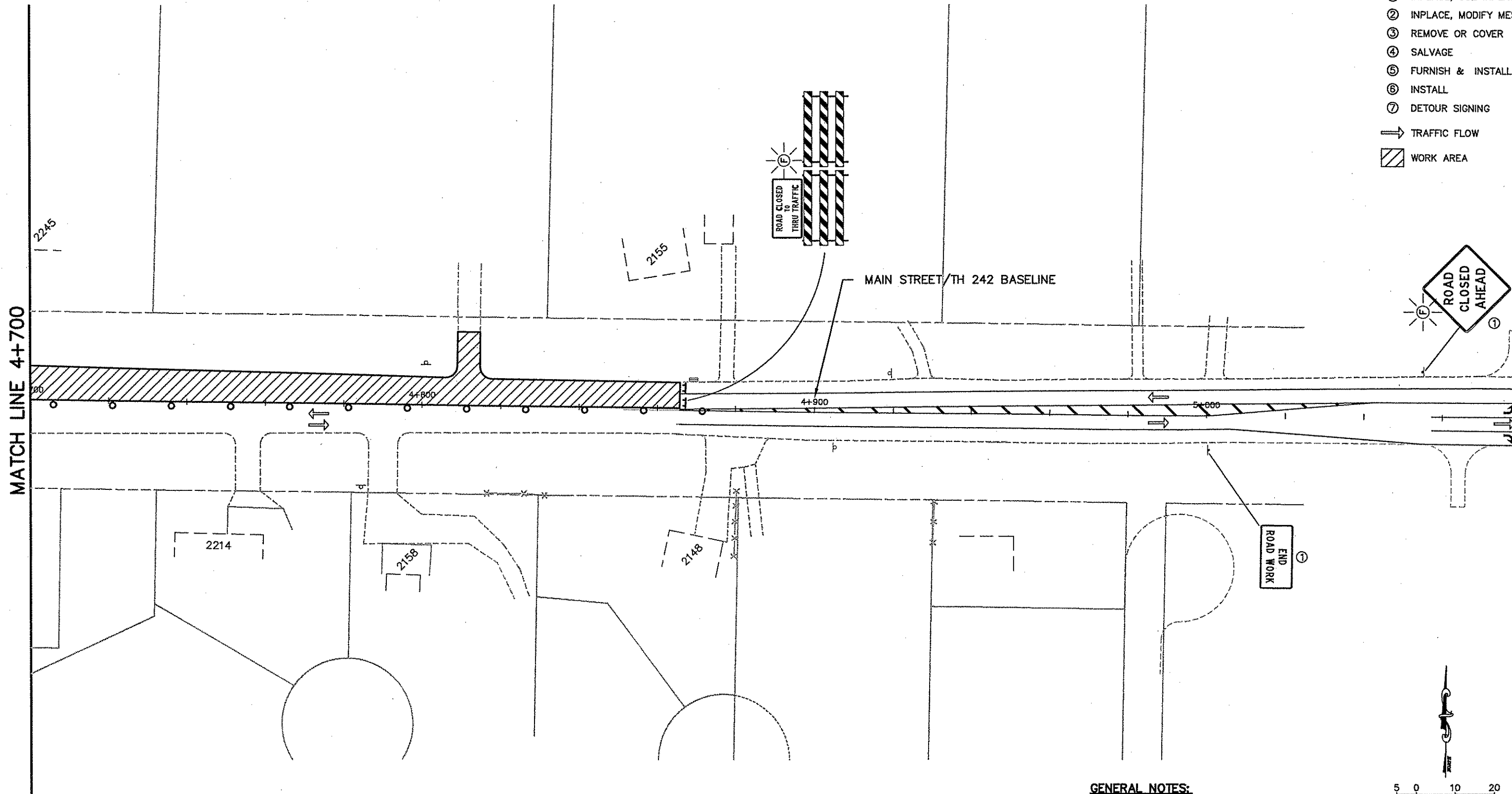
S.P. 0212-41

4 OF 6
 SHEET NO.
 121
 171

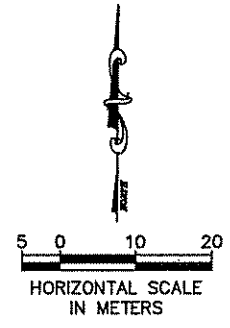
itripe_mod
C_ST2PH2
Sehplan
242mheto
LBSAPBOX
LB_ALN
242-ESUM

PLOT DATE: May 20, 2002 1:43pm DISK FILE NAME: (15.05) R:\33889\33889028\33889B\PLAN_SHT\Staging\LBTC2-2E.dwg

- LEGEND**
- ① INPLACE, USE INPLACE
 - ② INPLACE, MODIFY MESSAGE
 - ③ REMOVE OR COVER
 - ④ SALVAGE
 - ⑤ FURNISH & INSTALL (F & I)
 - ⑥ INSTALL
 - ⑦ DETOUR SIGNING
 - TRAFFIC FLOW
 - ▨ WORK AREA



GENERAL NOTES:
1. CONTRACTOR TO MAINTAIN ACCESS TO DRIVEWAYS



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889028 5001
DRAWN BY: IKR DESIGN BY: JRM
CHKD. BY: JRM DWG. NAME: LBTC2-2E
DATE: MARCH 29, 2002

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Minneapolis, MN 55415
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Kevin P. Kiehl
KEVIN P. KIEHL
DATE: 03/29/02 MN LIC. NO. 23211

MAIN STREET/T.H. 242 RECONSTRUCTION

TRAFFIC CONTROL
STAGE 2, PHASE 2

CITY PROJECT 02-05

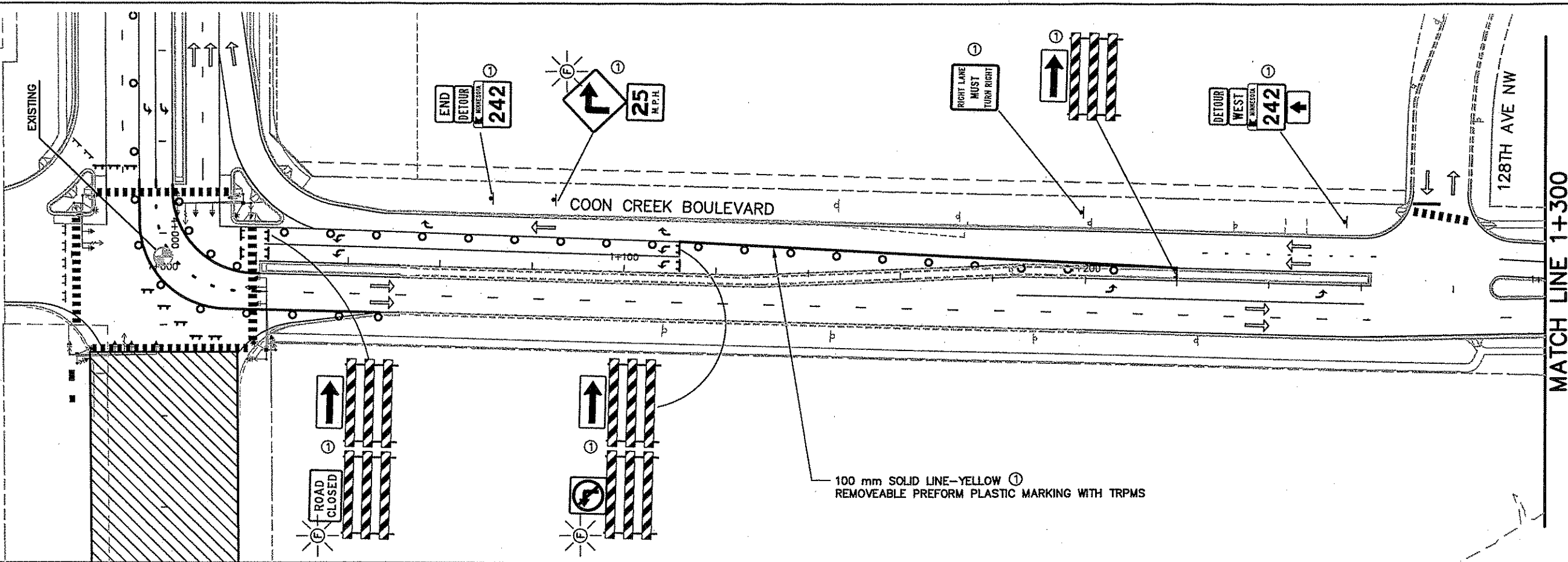
S.P. 0212-41

5 OF 6

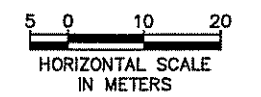
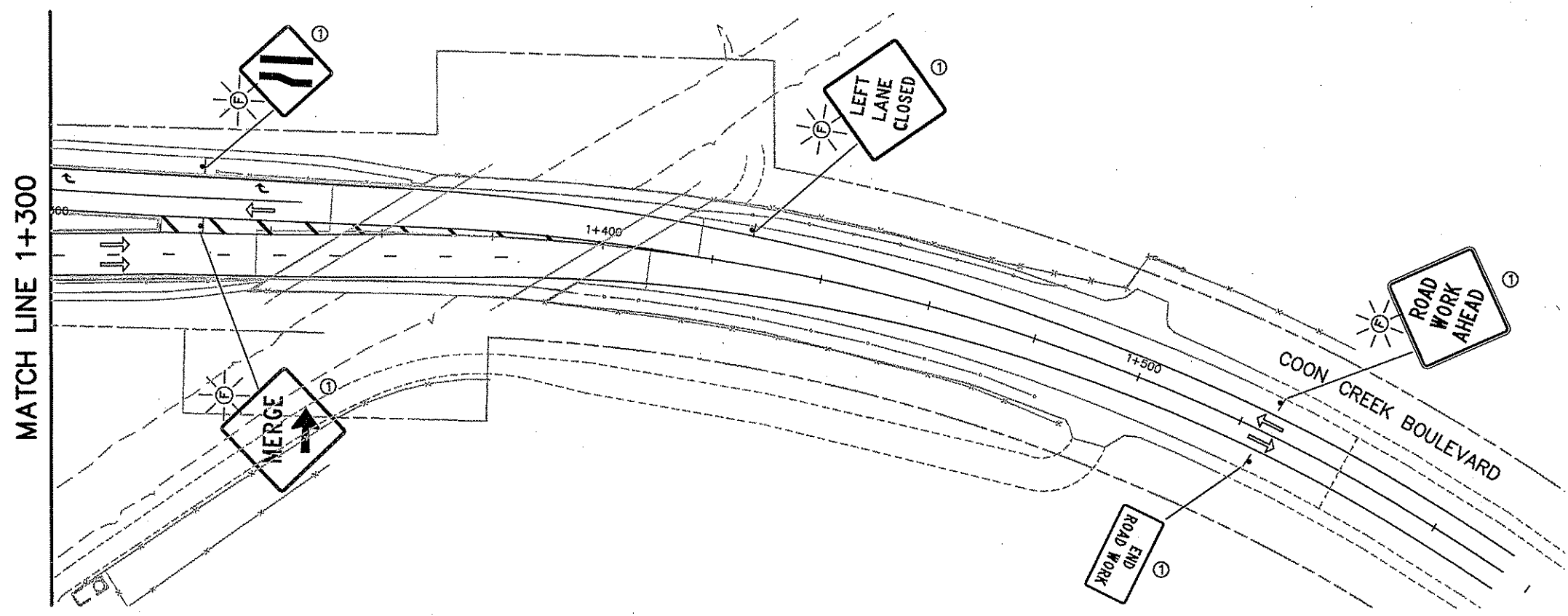
SHEET NO.
122
171

C_ST2PH2
 stripe_mod
 base_mod
 Lbsapbox
 242-ESUM
 242E-ALI
 242E-PLN
 HETO

PLOT DATE: May 20, 2002 1:42pm DISK FILE NAME: (15.05) R:\33889\33889028\33889B\PLAN_SHT\Staging\LBTC2-2F.dwg



- LEGEND**
- ① INPLACE, USE INPLACE
 - ② INPLACE, MODIFY MESSAGE
 - ③ REMOVE OR COVER
 - ④ SALVAGE
 - ⑤ FURNISH & INSTALL (F&I)
 - ⑥ INSTALL
 - ⑦ DETOUR SIGNING
- TRAFFIC FLOW
- ▨ WORK AREA



6 OF 6

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889028 5001
DRAWN BY: IKR DESIGN BY: JRM
CHKD. BY: JRM DWG. NAME: LBTC2-2F
DATE: MARCH 29, 2002



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Kevin P. Kielb
 KEVIN P. KIELB
 DATE: 03/29/02 MN LIC. NO. 23211

MAIN STREET/T.H. 242 RECONSTRUCTION
 COON CREEK BOULEVARD
 TRAFFIC CONTROL
 STAGE 2, PHASE 2

CITY PROJECT 02-05

S.P. 0212-41

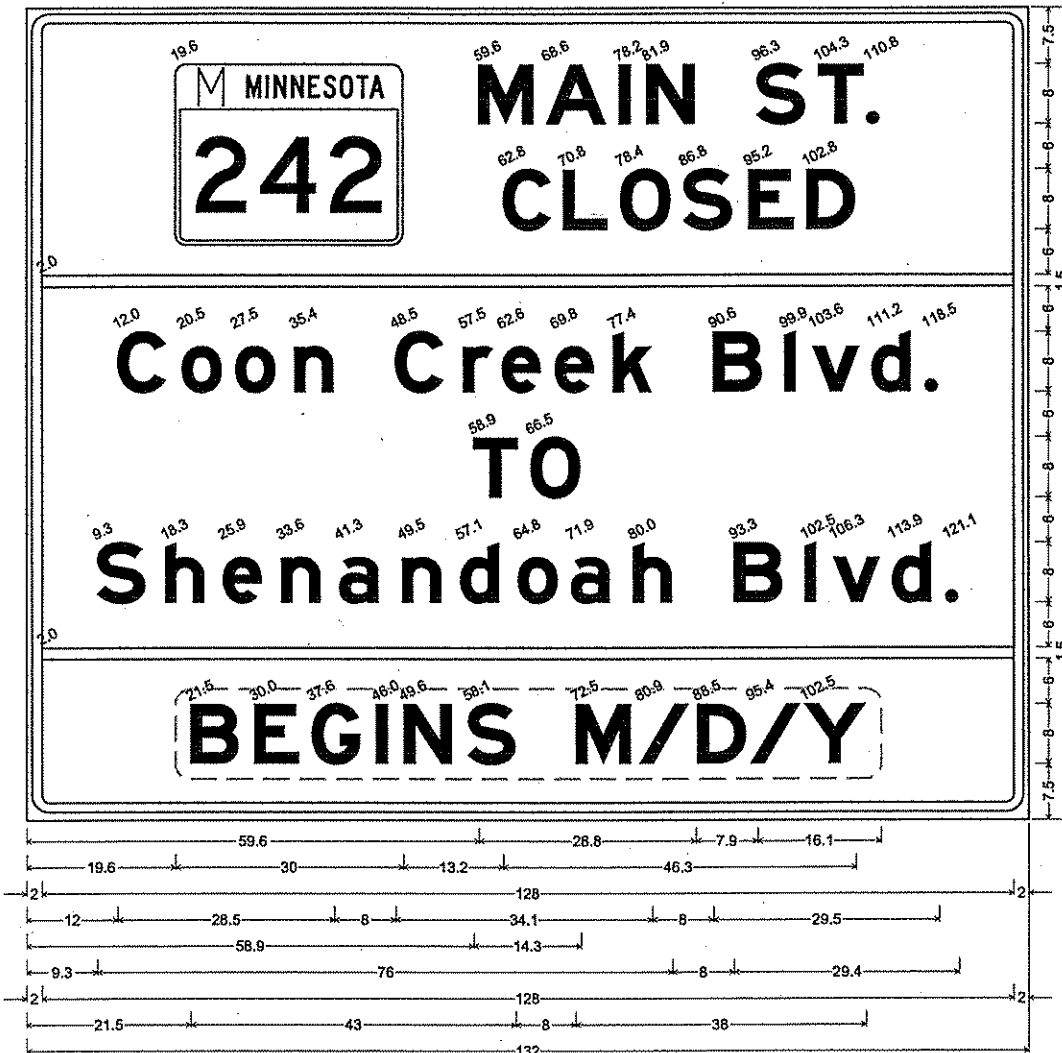
SHEET NO.
 123
 171

WZ-1



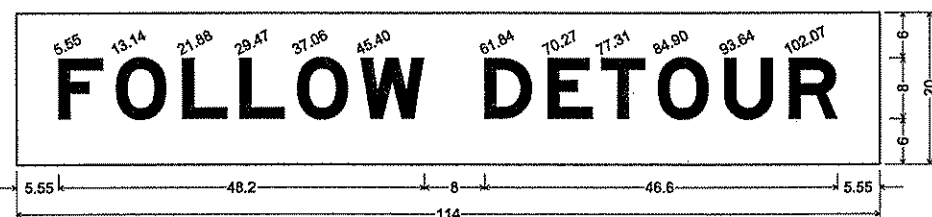
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 24" OVERLAY: [MINNESOTA STATE ROUTE MARKER]
 BLACK E MOD: [CLOSED]
 BLACK E MOD: [Shenandoah Blvd.]
 BLACK E MOD: [TO]
 BLACK E MOD: [Coon Creek Blvd.]
 BLACK E MOD: [BEGINS M/D/Y]
4 REQUIRED

WZ-3



BLACK E MOD: [MAIN ST.]
 24" OVERLAY: [MINNESOTA STATE ROUTE MARKER]
 BLACK E MOD: [CLOSED]
 BLACK E MOD: [Coon Creek Blvd.]
 BLACK E MOD: [TO]
 BLACK E MOD: [Shenandoah Blvd.]
 BLACK E MOD: [BEGINS M/D/Y]
4 REQUIRED

WZ-2



BLACK E MOD: [FOLLOW DETOUR]
8 REQUIRED

WZ-4



ORANGE PANEL
1 REQUIRED

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	JJA	05/22/02	REVISIONS PER MNDOT C.O. COMMENTS

DESIGN FILE: 33889028 5001	
DRAWN BY: IKR	DESIGN BY: JRM
CHKD. BY: JRM	DWG. NAME: LB-TCsgn1
DATE: MARCH 29, 2002	



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Kevin P. Kielb
 KEVIN P. KIELB
 DATE: 03/29/02 MN LIC. NO. 23211

MAIN STREET/T.H. 242 RECONSTRUCTION

TRAFFIC CONTROL
 SPECIAL SIGN DETAILS

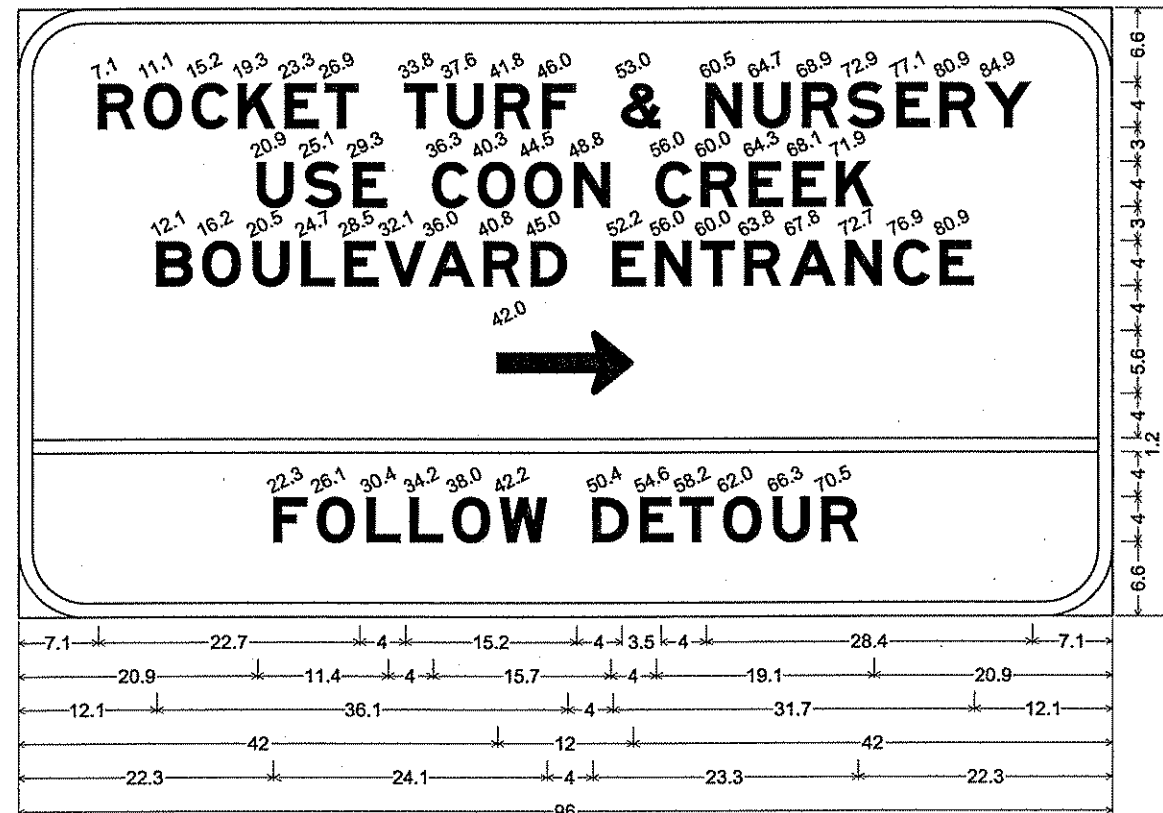
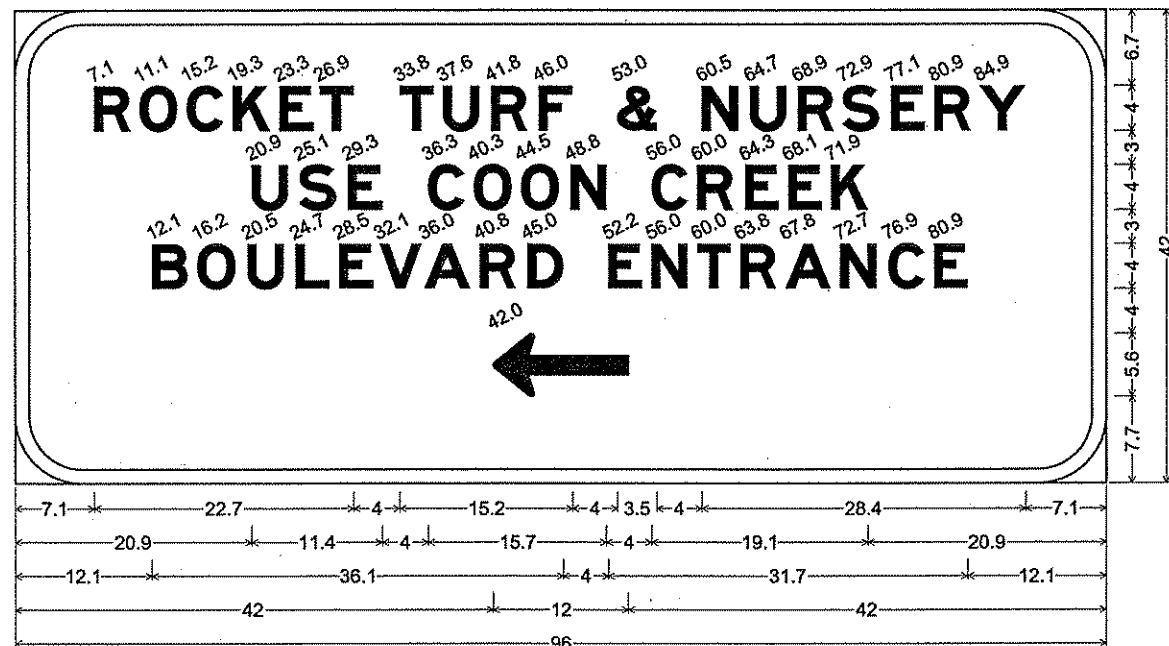
CITY PROJECT 02-05

S.P. 0212-41

SHEET NO. 124
171

WZ-5

WZ-6



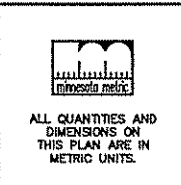
6.0" Radius, 1.3" Border, Black on Orange;
 [ROCKET TURF & NURSERY] E Mod; [USE COON CREEK] E Mod; [BOULEVARD ENTRANCE] E Mod;
 Arrow 1 - 12.0° 0°;
1 REQUIRED

6.0" Radius, 1.3" Border, Black on Orange;
 [ROCKET TURF & NURSERY] E Mod; [USE COON CREEK] E Mod; [BOULEVARD ENTRANCE] E Mod;
 Arrow 1 - 12.0° 0°; [FOLLOW DETOUR] E Mod;
1 REQUIRED

PLOT DATE: May 21, 2002 2:12pm DISK FILE NAME: (15.05) R:\33889\33889028\PLAN_SHT\Staging\LB-TCsgn2.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	JLL	05/22/02	REVISIONS PER MNDOT C.O. COMMENTS

DESIGN FILE: 33889028 5001	
DRAWN BY: IKR	DESIGN BY: JLL
CHKD. BY: JRM	DWG. NAME: LB-TCsgn2
DATE: MARCH 29, 2002	



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Kevin P. Kielb
 KEVIN P. KIELB
 DATE: 03/29/02 MN LIC. NO. 23211

MAIN STREET/T.H. 242 RECONSTRUCTION

TRAFFIC CONTROL
SPECIAL SIGN DETAILS

CITY PROJECT 02-05

S.P. 0212-41

2 OF 2

SHEET NO.
125
171

SIGN PANELS TYPE C									X	
SIGN NUMBER	NO. & TYPE	POSTS		MOUNTING HEIGHT [1]	2564			PANEL CODE NUMBER	PANEL LEGEND	
		KNEE BRACE EACH	LENGTH m		PANEL SIZE INCHES	PANEL AREA m2	QUANT. EACH			TOTAL AREA m2
SP 0212-41 MAIN STREET / TH 242										
C-1	2U	1	4.5	2.2	36 X 48	1.114	1	1.114	R2-1	SPEED LIMIT (55 MPH)
C-2	2U		4.1	2.2	30 X 30	0.580	1	0.580	R3-X1	RIGHT TURN LANE
C-3	2U		4.1	2.2	24 X 30	0.464	1	0.464	R4-7	KEEP RIGHT
C-4	2U		4.1	2.2	18 X 18				X4-2	HAZARD MARKER
C-5	2U		3.6	2.2	30 X 30	0.580	1	0.580	R5-1	DO NOT ENTER
C-7	2U	1	4.2	2.2	36 X 36	0.836	2	1.672	R6-1(R)	ONE WAY (RIGHT)
C-8	2U	1	4.2	2.2	36 X 36	0.836	1	0.836	W4-2(R)	LANE REDUCTION TRANSITION
C-9	2U	1	4.2	2.2	36 X 36	0.836	2	1.672	W6-1	DIVIDED HIGHWAY
C-10	2U	1	4.2	2.2	36 X 36	0.836	1	0.836	W6-2	DIVIDED HIGHWAY ENDS
C-12	2U	1	4.2	2.2	36 X 36	0.836	1	0.836	W9-1(R)	RIGHT LANE ENDS
C-12	2U	1	4.2	2.2	36 X 36	0.836	1	0.836	W6-3	TWO WAY TRAFFIC
PROJECT TOTAL =									8.868	

NOTES FOR SIGN PANELS TYPE C
 SPECIFIC NOTES:
 [1] MOUNTING HEIGHT IS MINIMUM, SEE SHEET 8 OF 13 IN THE SIGNING PLANS FOR TYPICAL MOUNTING
 [2] INSTALL ON 4.45 kg/m POST (MnDOT 3401)
 GENERAL NOTES:
 - POST LENGTHS ARE APPROXIMATE AND INCLUDE EMBEDMENT, BUT DO NOT INCLUDE ADDITIONAL LENGTH REQUIRED FOR SPLICE.
 - SEE SHEETS 7-10 OF 13 IN THE SIGNING PLANS FOR STRUCTURAL DETAILS.
 - SEE STANDARD SIGNS MANUAL FOR PUNCHING CODE AND DETAILED DRAWINGS OF TYPE C SIGN PANELS.

SALVAGE & INSTALL SIGNS TYPE D								V2	
SIGN NUMBER	NO. & TYPE	POSTS		MOUNTING HEIGHT [1]	PANEL SIZE INCHES	SIGN LEGEND	2104	2564	
		KNEE BRACE EACH	LENGTH m						
SP 0212-41 MAIN STREET / TH 242									
D-101	2U	2	5.7	2.2	90 x 72	COON CREEK BLVD / CO RD 18 / RT	1	1	
D-102	2U	2	5.4	2.2	66 x 66	JCT / US 10 / MN 47 / 1/2 MILE	1	1	
PROJECT TOTAL =									2

REMOVE, SALVAGE & INSTALL SIGNS TYPE C								V1	
SIGN NUMBER	NO. & TYPE	POSTS		MOUNTING HEIGHT [1]	PANEL SIZE INCHES	SIGN LEGEND	2104	2564	
		KNEE BRACE EACH	LENGTH m						
SP 0212-41 MAIN STREET / TH 242									
C-101	2U		4.1	2.2	24 X 30	KEEP RIGHT	1	1	
C-102	2U		4.1	2.2	30 X 30	DO NOT ENTER	1	1	
C-103	2U	1			48 X 48	MERGE LEFT			
C-104	2U	1			36 X 36	DIVIDED HIGHWAY ENDS			
C-105	2U				54 X 30	LT TURN / THRU / RT TURN			
C-106	2U	1			36 X 36	TWO WAY TRAFFIC			
C-107	2U		4.2	2.2	36 X 36	SIGNAL AHEAD	1	1	
C-108	2U	1			48 X 60 X 60	NO PASSING ZONE			
C-109	2U	1			48 X 60 X 60	NO PASSING ZONE			
C-110	2U					SIGNAL AHEAD NO PASSING ZONE			
C-111	2U					SPEED LIMIT (55 MPH)			
PROJECT TOTAL =									5

PERMANENT PAVEMENT MARKINGS									Z
STATION TO STATION	2564	2564	2564	2564	2564	2564	2564	2564	NOTES
	PAVEMENT MESSAGE (3) (RT ARROW) EACH	100 mm SOLID LINE WHITE (4) m	100 mm BROKEN LINE WHITE (3,5) m	100 mm BROKEN LINE WHITE (4,5) m	100 mm SOLID LINE YELLOW (4) m	100 mm DOUBLE SOLID LINE YELLOW (4,6) m	600 mm SOLID LINE YELLOW (4,7) m	ZEBRA CROSSWALK WHITE (3) m2	
SP 0212-41 MAIN STREET / TH 242									
3+982.000 - 4+137.190	2	296	44		226		64	100	
4+137.90 - 4+436.632		909		70	599		50		
4+436.632 - 4+865.700		846				846	396		
PROJECT TOTAL =									2

PERMANENT PAVEMENT MARKING NOTES:
 (3) POLY-PREFORM
 (4) EPOXY PAINT
 (5) LENGTH DOES NOT INCLUDE GAPS (50 ft CYCLE: LENGTH = 10 ft, SPACE = 40 ft)
 (6) LENGTH FOR DOUBLE SOLID LINES WILL BE MEASURED AS ONE LINE
 (7) PAINTED ISLAND (600 mm STRIPE AT 45 DEGREES, 6 m SPACING)

DELINEATORS & MARKERS			Y
TYPE	COLOR	APPROXIMATE LOCATION	QUANTITY [2]
SP 0212-41 MAIN STREET / TH 242			
X4-2	YELLOW/BLACK	4+416.4, RT	1
X4-4		4+385.6, CENTER	1

REMOVE MARKERS				W
TYPE	COLOR	APPROXIMATE LOCATION	QTY.	
SP 0212-41 MAIN STREET / TH 242				
X4-4(R)	YELLOW/BLACK	4+124, RT.	1	
X4-4(R)	YELLOW/BLACK	4+152, RT.	1	
X4-4(R)	YELLOW/BLACK	4+181, RT.	1	
X4-4(R)	YELLOW/BLACK	4+208, RT.	1	
X4-4(R)	YELLOW/BLACK	4+239, RT.	1	
X4-4(L)	YELLOW/BLACK	4+249, LT.	1	
X4-4(R)	YELLOW/BLACK	4+257, LT.	1	
X4-4(L)	YELLOW/BLACK	4+257, RT.	1	
PROJECT TOTAL =			8	

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	J.J.	05/02/02	REVISIONS PER CENTRAL OFFICE COMMENTS
2	J.J.	05/22/02	REVISIONS PER MNDOT C.O. COMMENTS

DESIGN FILE: 33889028 5001	DRAWN BY: IKR	DESIGN BY: BR/JJL
CHKD. BY: KPK/PBD	DWG. NAME: LB-tab04	
DATE: MARCH 29, 2002		

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BRW, Inc.

ALL QUANTITIES AND DIMENSIONS ON THIS PLAN ARE IN METRIC UNITS.

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

Kevin P. Kiehl
KEVIN P. KIEHL
DATE: 03/29/02 MN LIC. NO. 23211

MAIN STREET/T.H. 242 RECONSTRUCTION

SIGNING AND STRIPING PLAN
SIGN TABULATIONS

CITY PROJECT 02-05

1 OF 13

S.P. 0212-41

SHEET NO. 126	171
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NOTES & GUIDELINES

GENERAL INFORMATION:

THE ENGINEER'S INVOLVEMENT IN THE APPLICATION OF THE MATERIAL SHALL BE LIMITED TO FIELD CONSULTATION AND INSPECTION. THE CONTRACTOR WILL PLACE NECESSARY "SPOTTING" AT APPROPRIATE POINTS TO PROVIDE HORIZONTAL CONTROL FOR STRIPING AND TO DETERMINE NECESSARY STARTING AND CUTOFF POINTS. LONGITUDINAL JOINTS, PAVEMENT EDGES AND EXISTING MARKINGS MAY SERVE AS HORIZONTAL CONTROL WHEN SO DIRECTED.

EDGE LINES AND LANE LINES ARE TO BE BROKEN ONLY AT INTERSECTIONS WITH PUBLIC ROADS AND AT PRIVATE ENTRANCES IF THEY ARE CONTROLLED BY A YIELD SIGN, STOP SIGN OR TRAFFIC SIGNAL. THE BREAK POINT IS TO BE AT THE START OF THE RADIUS FOR THE INTERSECTION OR AT MARKED STOP LINES OR CROSSWALKS.

A TOLERANCE OF 1/4 INCH UNDER OR 1/4 INCH OVER THE SPECIFIED WIDTH WILL BE ALLOWED FOR STRIPING PROVIDED THE VARIATION IS GRADUAL AND DOES NOT DETRACT FROM THE GENERAL APPEARANCE. BROKEN LINE SEGMENTS MAY VARY UP TO ONE-HALF FOOT FROM THE SPECIFIED LENGTHS PROVIDED THE OVER AND UNDER VARIATIONS ARE REASONABLY COMPENSATORY. ALIGNMENT DEVIATIONS FROM THE CONTROL GUIDE SHALL NOT EXCEED 1 INCH. MATERIAL SHALL NOT BE APPLIED OVER LONGITUDINAL JOINTS. ESTABLISHMENT OF APPLICATION TOLERANCES SHALL NOT RELIEVE THE CONTRACTOR OF THEIR RESPONSIBILITY TO COMPLY AS CLOSELY AS PRACTICABLE WITH THE PLANNED DIMENSIONS.

EPOXY:

THE ROAD SURFACE SHALL BE CLEANED AT THE DIRECTION OF THE ENGINEER JUST PRIOR TO APPLICATION. PAVEMENT CLEANING SHALL CONSIST OF AT LEAST BRUSHING WITH A ROTARY BROOM (NON-METALLIC) OR AS RECOMMENDED BY THE MATERIAL MANUFACTURER AND ACCEPTABLE TO THE ENGINEER. NEW PORTLAND CEMENT CONCRETE SURFACES SHALL BE SANDBLAST CLEANED TO REMOVE ANY SURFACE TREATMENTS AND/OR LAITANCE. ON LOW SPEED (SPEED LIMIT 35 OR LESS) URBAN PORTLAND CEMENT CONCRETE ROADWAYS, SANDBLAST CLEANING SHALL BE USED FOR ALL EPOXY PAVEMENT MARKINGS.

THE EPOXY MARKING APPLICATION SHALL IMMEDIATELY FOLLOW THE PAVEMENT CLEANING. GLASS BEADS SHALL BE APPLIED IMMEDIATELY AFTER APPLICATION OF THE EPOXY RESIN LINE TO PROVIDE AN IMMEDIATE NO-TRACK SYSTEM.

AN EPOXY RESIN LINE 4 WIDE AND 15 MILL THICKNESS (WET), REQUIRES AN APPLICATION RATE OF ONE (1) GALLON OF COMPONENTS FOR 320 FEET OF LINE. GLASS BEADS SHALL BE APPLIED AT A POUND PER GALLON RATE SUFFICIENT TO ACHIEVE AN ACCEPTABLE NO-TRACK SYSTEM.

OPERATIONS SHALL BE CONDUCTED ONLY WHEN THE ROAD PAVEMENT SURFACE TEMPERATURES ARE 50 DEGREES F OR GREATER.

PERMANENT PAVEMENT MARKINGS SHALL NOT BE PLACED OVER TEMPORARY TAPE MARKINGS.

PAINT:

AT THE TIME OF APPLYING THE MARKING MATERIAL, THE APPLICATION AREA SHALL BE FREE OF CONTAMINATION. THE CONTRACTOR SHALL CLEAN THE ROADWAY SURFACE PRIOR TO THE LINE APPLICATION IN A MANNER AND TO THE EXTENT REQUIRED BY THE ENGINEER.

GLASS BEADS SHALL BE APPLIED IMMEDIATELY AFTER APPLICATION OF THE PAINT LINE.

EXCEPT WHEN USED AS A TEMPORARY MARKING, PAVEMENT MARKINGS SHALL ONLY BE APPLIED IN SEASONABLE WEATHER WHEN AIR TEMPERATURE IS 50° F OR HIGHER AND SHALL NOT BE APPLIED WHEN THE WIND OR OTHER CONDITIONS CAUSE A FILM OF DUST TO BE DEPOSITED ON THE PAVEMENT SURFACE AFTER CLEANING AND BEFORE THE MARKING MATERIAL CAN BE APPLIED.

THE FILLING OF TANKS, POURING OF MATERIALS OR CLEANING OF EQUIPMENT SHALL NOT BE PERFORMED ON UNPROTECTED PAVEMENT SURFACES UNLESS ADEQUATE PROVISIONS ARE MADE TO PREVENT SPILLAGE OF MATERIAL.

POLY PREFORM INLAY APPLICATION:

MAT TEMPERATURE SHALL BE CHECKED USING A THERMOMETER TO MAKE SURE THE INLAY IS BEING DONE IN THE PROPER TEMPERATURE RANGE. THE TEMPERATURE SHOULD MEASURE BETWEEN 150° F (ASPHALT FIRM ENOUGH TO WALK ON) AND 120° F. APPLICATION BELOW 120° F MAY NOT GET A PROPER INLAY. INLAYS ARE NOT RECOMMENDED AFTER SEPTEMBER 15th AS THE ASPHALT COOLS TOO FAST AT THIS TIME OF THE YEAR.

NO PRIMERS ARE USED FOR INLAY APPLICATION. DO NOT INSTALL LANE LINES ON AN ASPHALT SEAM. ROLLING OF ALL THE MARKINGS SHOULD BE LENGTHWISE IN THE DIRECTION THEY WERE LAID. FOR CROSSWALKS AND STOP BARS, INITIAL TAMPING WITH THE TAMPING CART IS RECOMMENDED USING ONLY 100 LBS. OF WEIGHT.

USE COMPACTION ROLLER TO EMBED (INLAY) MARKINGS INTO PAVEMENT SURFACE. USE MINIMUM SPEED AND WATER ON ROLLER. DO NOT USE VIBRATOR. IF MARKING BUCKLES OR DISTORTS SEVERELY IN FRONT OF ROLLER, MAT TEMPERATURE OR ROLLER SPEED MAY BE TOO HIGH.

POLY PREFORM OVERLAY APPLICATION (ONLY IF SPECIFIED OR AUTHORIZED BY THE ENGINEER):

TEMPERATURE REQUIREMENTS

- MINIMUM AIR TEMPERATURE 60° F (16° C) AND RISING
- MINIMUM PAVEMENT TEMPERATURE 70° F (21° C) AND RISING
- MINIMUM OVERNIGHT TEMPERATURE 60° F (16° C) AND RISING
- NO OVERLAY APPLICATIONS AFTER SEPTEMBER 1.

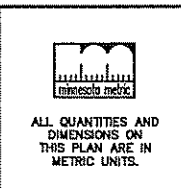
SURFACE PREPARATION

- A. NEW CONCRETE (LESS THAN 3 MONTHS OLD)
 - REMOVE CURING COMPOUND BY SANDBLASTING, HYDROBLASTING OR SHOT BLASTING WHERE TAPE IS TO BE APPLIED (HYDROBLASTING LEAVES SURFACE WET, TIME SHALL BE ALLOWED FOR PAVEMENT TO DRY)
 - SWEEP OR BLOW THE BLASTED AREAS
 - APPLY REQUIRED PRIMER
- B. ASPHALT- LESS THAN 11 DAYS OLD
 - ALL - SWEEP OR BLOW CLEAN
 - 0 - 3 DAYS OLD - NO PRIMER
 - 4 - 10 DAYS OLD - STAMARK™ SP44 ONLY
 - 11+ DAYS - STAMARK™ E44 OR SP44 DEPENDING ON APPLICATION. SEE MANUFACTURERS SPECIFICATION
- C. OLD CONCRETE
 - SWEEP OR BLOW CLEAN
 - APPLY REQUIRED PRIMER
- D. OLD MARKINGS
 - DO NOT APPLY OVER PAINT, EPOXY, OR THERMOPLASTIC UNLESS WELL WORN AND WELL ADHERED TO THE ROAD. OLD MARKINGS MUST BE AT LEAST 75%-80% WORN AWAY.
 - GRIND OR SANDBLAST OLD MARKINGS AND SWEEP OR BLOW SURFACE CLEAN
 - APPLY REQUIRED PRIMER
- E. WORN STAMARK™ MARKINGS
 - OK TO APPLY NEW MATERIAL OVER WORN STAMARK™. REMOVE ALL LOOSE MATERIAL WITH SCRAPER OR KNIFE.
 - SWEEP OR BLOW SURFACE CLEAN
 - APPLY REQUIRED PRIMER

PLOT DATE: May 20, 2002 5:11pm DISK FILE NAME: (15.05) R:\33889\33889028\33889B\PLAN_SHT\Engring\LB-sgn04.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	JJL	05/22/02	REVISIONS PER MNDOT C.O. COMMENTS

DESIGN FILE: 33889028 5001
DRAWN BY: -----
DESIGN BY: MnDOT
CHKD. BY: KPK
DWG. NAME: LB-SGND4
DATE: MARCH 29, 2002



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Kevin P. Kielb
KEVIN P. KIELB
DATE: 03/29/02 MN LIC. NO. 23211

MAIN STREET/T.H. 242 RECONSTRUCTION

SIGNING AND STRIPING
PAVEMENT MARKING DETAILS

CITY PROJECT 02-05

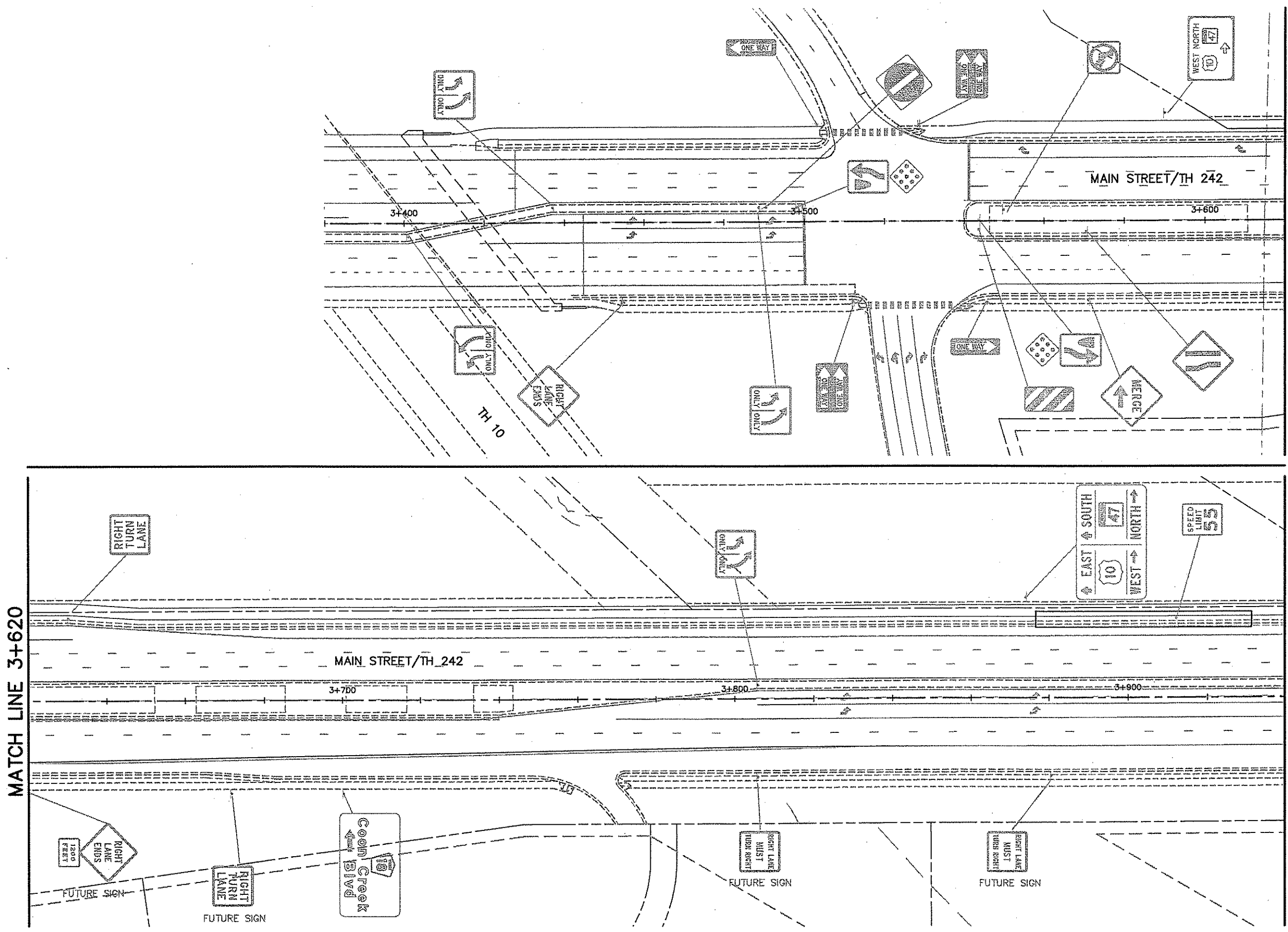
S.P. 0212-41

2 OF 13

SHEET NO.
127
171

LB2001GM
LBSTR1PE
242E-PLN
LBSAPBOX
LB_ALN
242-ESUM
242-CHETO

PLOT DATE: May 20, 2002 5:12pm DISK FILE NAME: (15.05) R:\33889\33889028\33889B\PLAN_SHT\Engring\lb-sgn01A.dwg



MATCH LINE 3+620

MATCH LINE 3+940

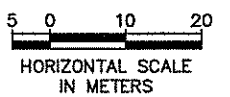
PERMANENT SIGNING LEGEND

① FURNISH AND INSTALL
② SALVAGE AND INSTALL

SEE PERMANENT SIGN TABULATION FOR ADDITIONAL INFORMATION

PERMANENT PAVEMENT MARKING LEGEND

100W 100 mm SOLID LINE-WHITE
BW 100 mm BROKEN LINE-WHITE
50 ft CYCLE; 10 ft LINE, 40 ft SPACE
100Y 100 mm SOLID LINE-YELLOW
DY 100 mm DOUBLE SOLID LINE-YELLOW
600Y 600 mm SOLID LINE-YELLOW
(PAINTED ISLAND - 6 m SPACING @ 45°)
RT PAVEMENT MESSAGE, RT.
LT PAVEMENT MESSAGE, LT.
KEEP OFF MEDIUM INPLACE SIGNS (SCREENED)
PROPOSED SIGNS

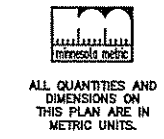


3 OF 13

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	JUL	05/22/02	REVISIONS PER MNDDOT C.O. COMMENTS

DESIGN FILE:
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DRAWN BY: J.J.L. DESIGN BY: BR/J.J.L.
CHKD. BY: KPK DWG. NAME: LB-SGN01
DATE: MARCH 29, 2002



URS
BRW, Inc.

Thresher Square
700 Third Street South
Minneapolis, MN 55410
612.570.0700 Tel
612.570.1375 Fax

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Kevin P. Kiehl
KEVIN P. KIEHL
DATE: 05/29/02 MN LIC. NO. 23211

MAIN STREET/T.H. 242 RECONSTRUCTION

SIGNING AND STRIPING PLAN
STATION 3+380.000 TO STATION 3+940.000

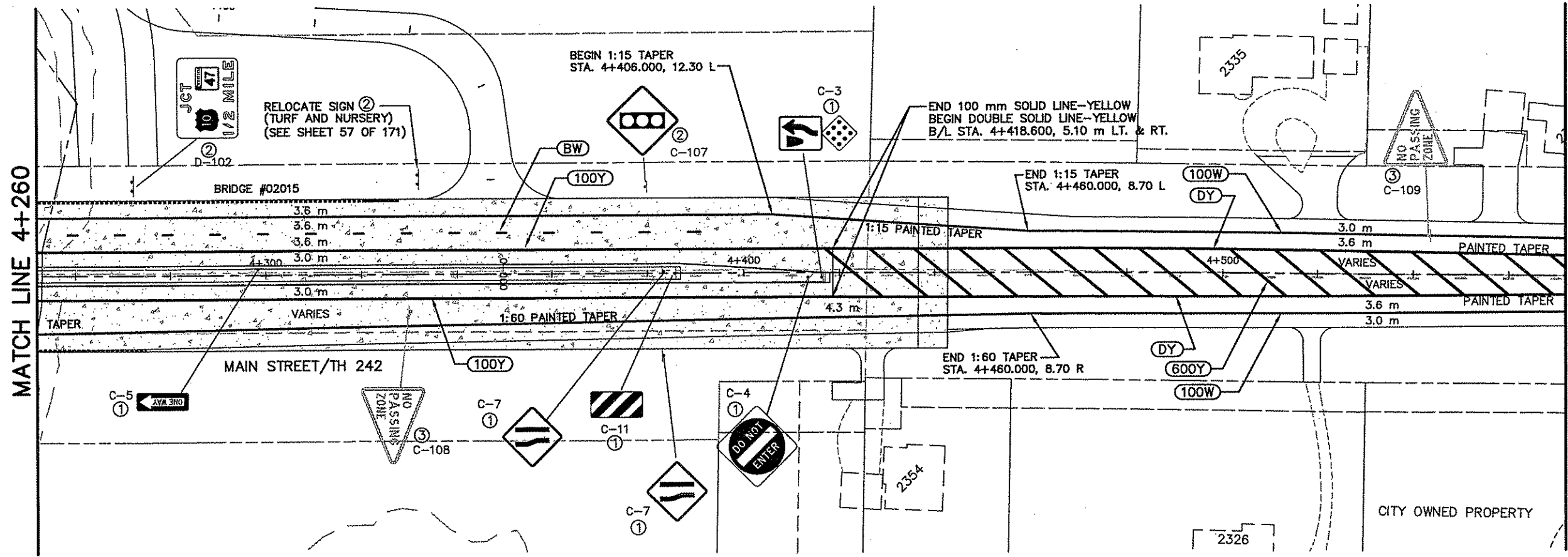
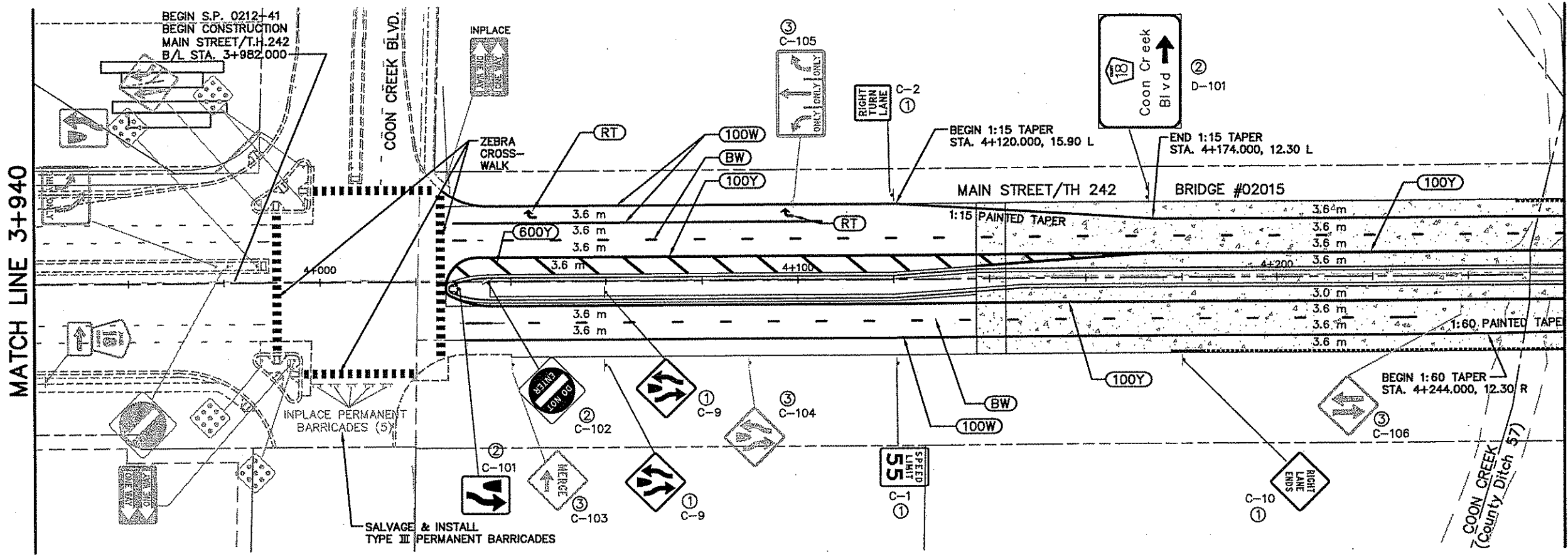
CITY PROJECT 02-05

S.P. 0212-41

SHEET NO.
128
171

LB2001GM
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242E-PLN
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242-ESUM
27-4ETO

PLOT DATE: May 21, 2002 3:31pm DISK FILE NAME: (15.05) R:\33889\33889028\PLAN_SHT\Engring\lb-sgn01.dwg



PERMANENT SIGNING LEGEND

① FURNISH AND INSTALL
② SALVAGE AND INSTALL
③ REMOVE SIGN

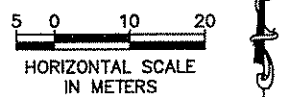
SEE PERMANENT SIGN TABULATION FOR ADDITIONAL INFORMATION

PERMANENT PAVEMENT MARKING LEGEND

100W 100 mm SOLID LINE-WHITE
BW 100 mm BROKEN LINE-WHITE 50 ft CYCLE: 10 ft LINE, 40 ft SPACE
100Y 100 mm SOLID LINE-YELLOW
DY 100 mm DOUBLE SOLID LINE-YELLOW
600Y 600 mm SOLID LINE-YELLOW (PAINTED ISLAND - 6 m SPACING @ 45°)
RT PAVEMENT MESSAGE, RT.
LT PAVEMENT MESSAGE, LT.

INPLACE SIGNS (SCREENED)

PROPOSED SIGNS



REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	JJL	05/02/02	REVISIONS PER CENTRAL OFFICE COMMENTS
2	IKR	05/22/02	REVISED D/W (4+347.150, LT.) PER MNDOT COMMENTS

DESIGN FILE:
33889028 5001

DRAWN BY:
IKR

DESIGN BY:
BR

CHKD. BY:
JJL

DWG. NAME:
LB-SGN01

DATE:
MARCH 29, 2002

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URS
BRW, Inc.

Thresher Square
700 Third Street South
Minneapolis, MN 55416
612.370.0700 Tel
612.370.1376 Fax

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Kevin P. Kiehl
KEVIN P. KIEHL
DATE: 03/29/02 MN LIC. NO. 23211

MAIN STREET/T.H. 242 RECONSTRUCTION

SIGNING AND STRIPING PLAN
STATION 3+940.000 TO STATION 4+580.000

CITY PROJECT 02-05

S.P. 0212-41

4 OF 13

SHEET NO.
129

171

LBSTR I PE
LB200 I GM
SEHPLAN
LBSAPBOX
LB_ALN
242-ESUM
242-THETO

PLOT DATE: May 20, 2002 5:14pm DISK FILE NAME: (15.05) R:\33889\33889028\33889B\PLAN_SHT\Engring\lb-sgn02.dwg

MATCH LINE 4+580

MATCH LINE 4+900

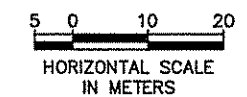
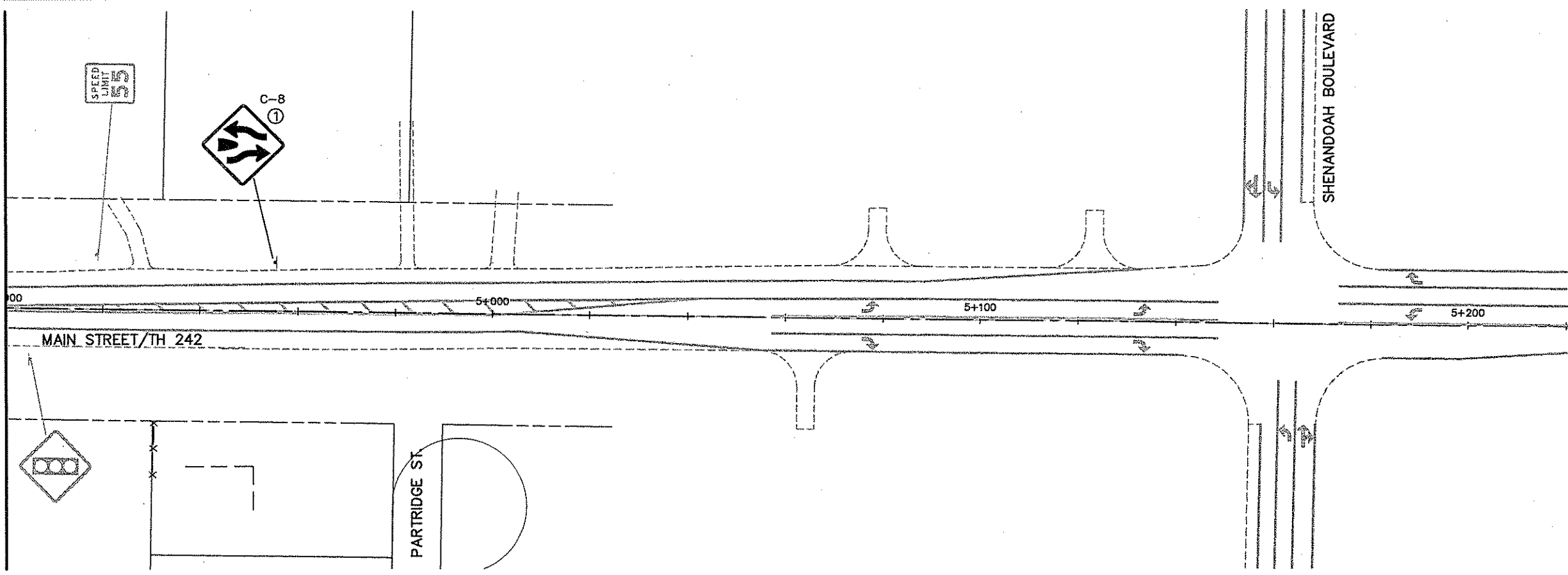
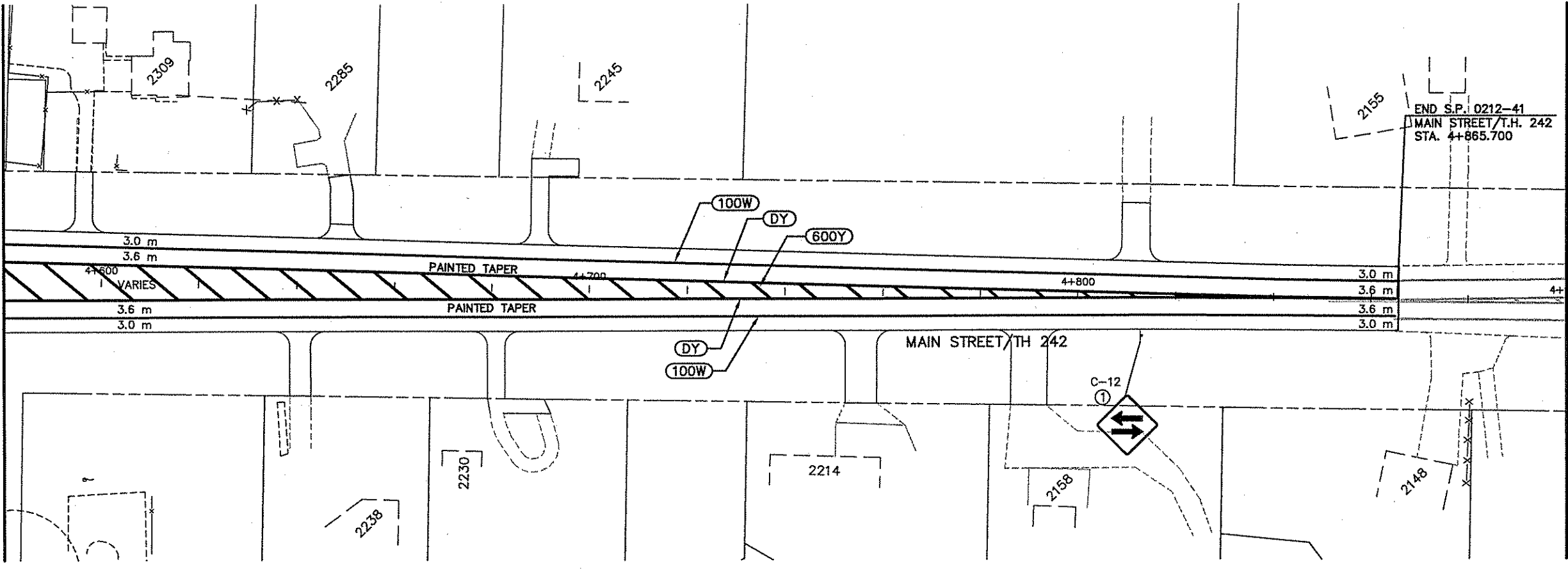
MATCH LINE 4+900

PERMANENT SIGNING LEGEND

- ① FURNISH AND INSTALL
 - ② SALVAGE AND INSTALL
- SEE PERMANENT SIGN TABULATION FOR ADDITIONAL INFORMATION

PERMANENT PAVEMENT MARKING LEGEND

- (100W)** 100 mm SOLID LINE-WHITE
- (BW)** 100 mm BROKEN LINE-WHITE
50 ft m CYCLE: 10 ft LINE,
40 ft SPACE
- (100Y)** 100 mm SOLID LINE-YELLOW
- (DY)** 100 mm DOUBLE SOLID LINE-YELLOW
- (600Y)** 600 mm SOLID LINE-YELLOW
(PAINTED ISLAND - 6 m
SPACING @ 45°)
- (RT)** PAVEMENT MESSAGE, RT.
- (LT)** PAVEMENT MESSAGE, LT.
- (KEEP OFF MEDIAN)** INPLACE SIGNS (SCREENED)



REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	JUL	05/22/02	REVISIONS PER MNDOT C.O. COMMENTS

DESIGN FILE: 33889028 5001	
DRAWN BY: IKR	DESIGN BY: BR
CHKD. BY: JUL	DWG. NAME: LB-SGN02
DATE: MARCH 29, 2002	



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Kevin P. Kiehl
KEVIN P. KIEHL
DATE: 03/29/02 MN LIC. NO. 23211

MAIN STREET/T.H. 242 RECONSTRUCTION

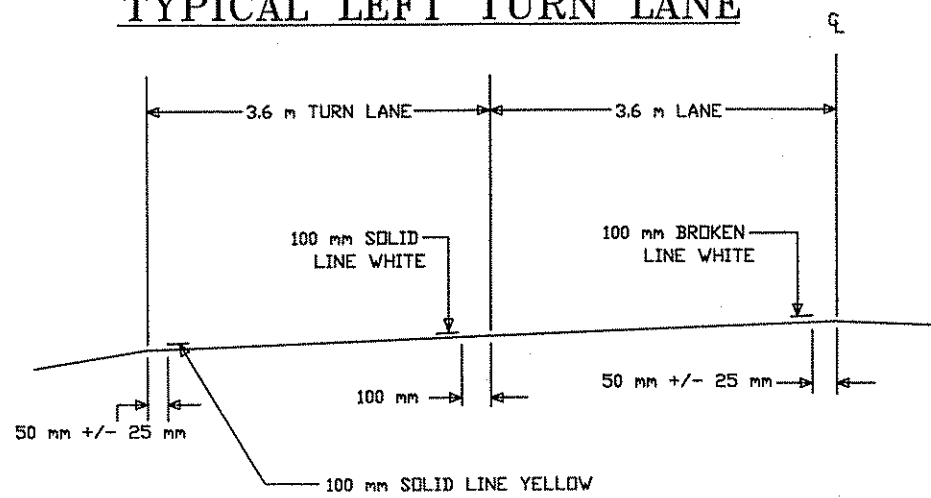
SIGNING AND STRIPING PLAN
STATION 4+580.000 TO STATION 5+237.117

CITY PROJECT 02-05

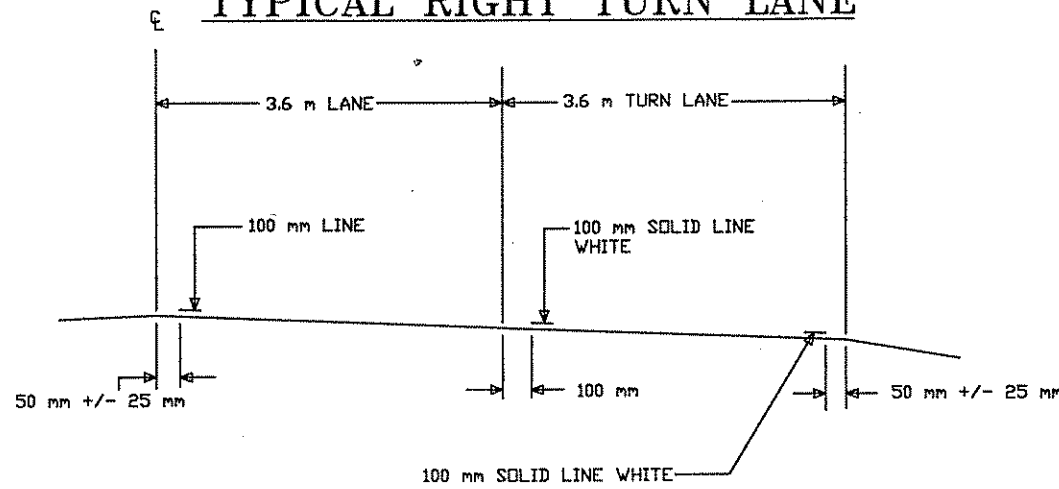
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SHEET NO.
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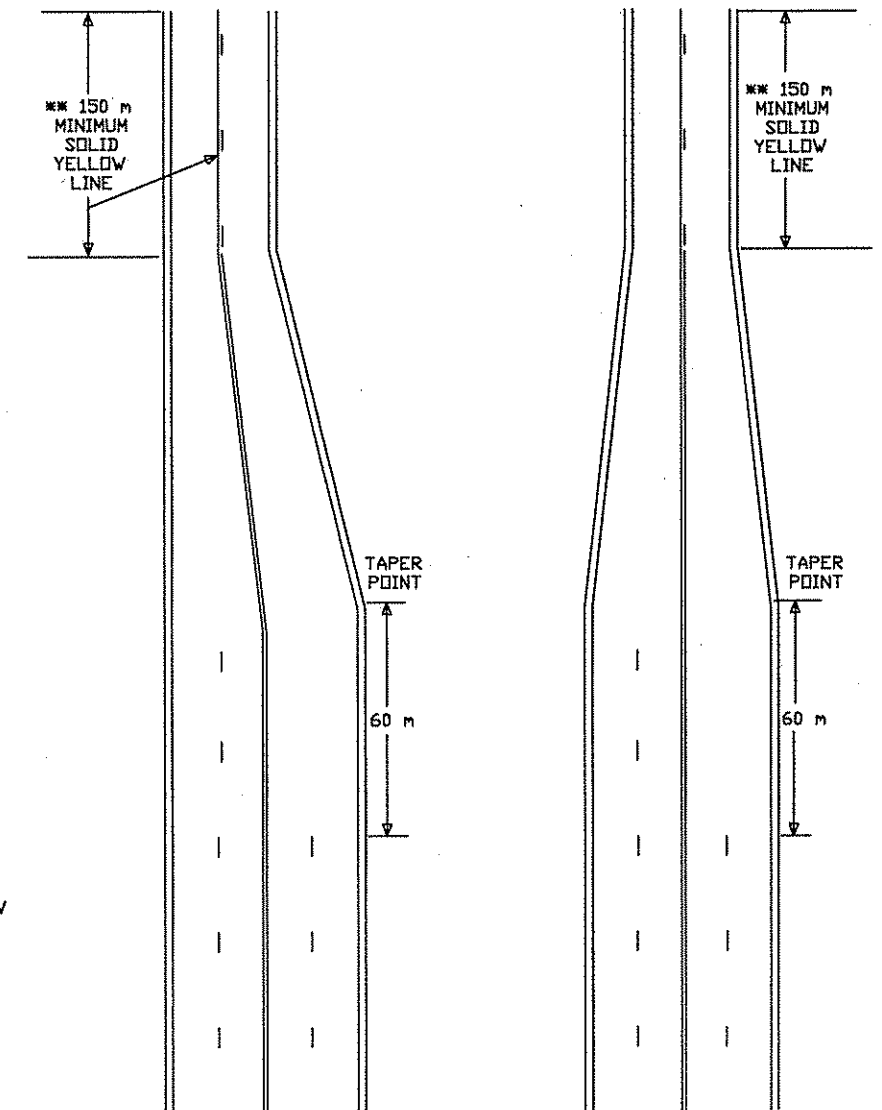
TYPICAL LEFT TURN LANE



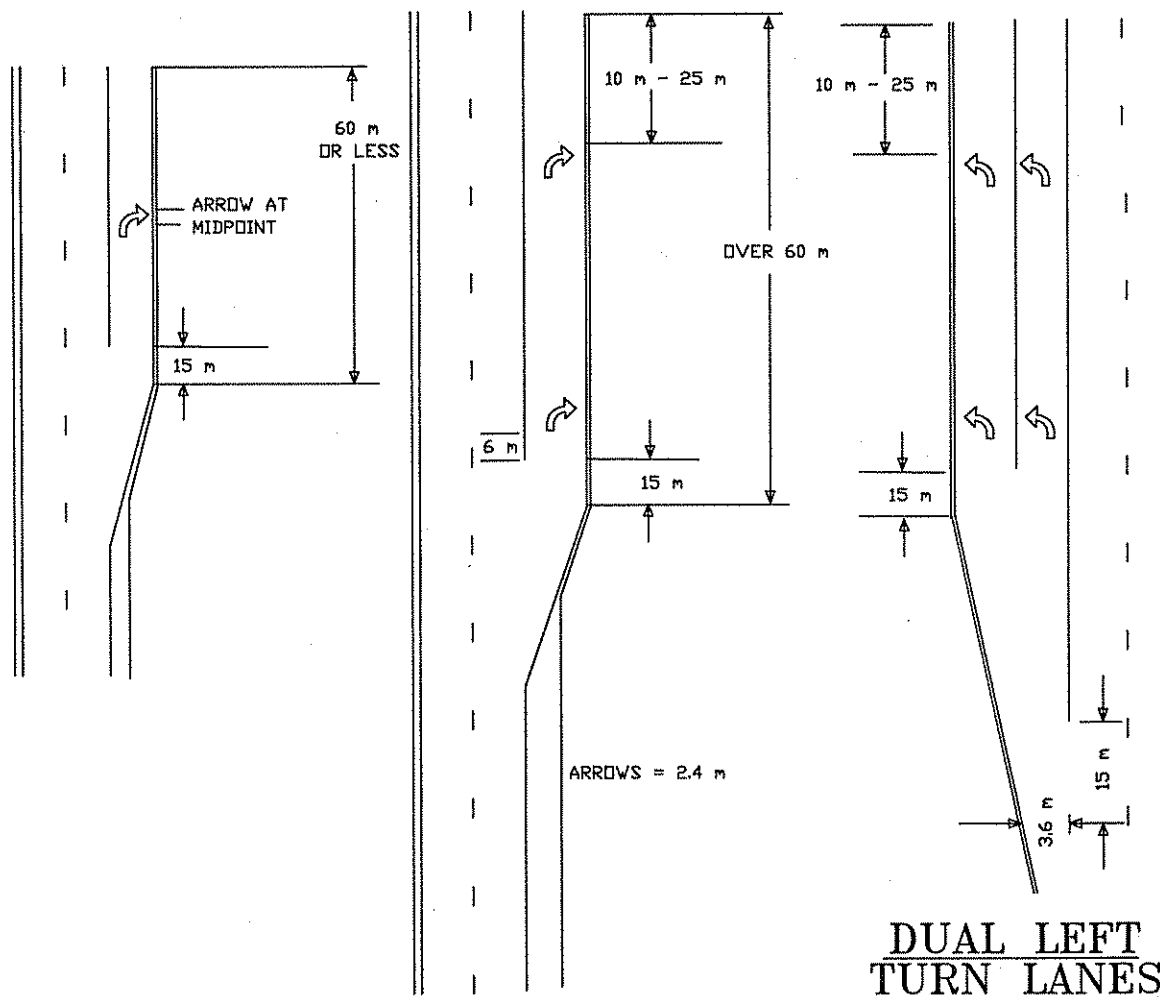
TYPICAL RIGHT TURN LANE



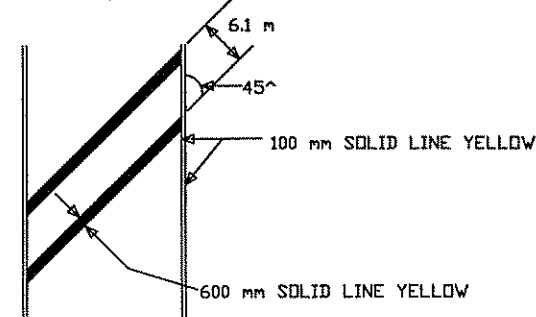
TYPICAL LANE REDUCTION TRANSITION



TYPICAL MESSAGE PLACEMENT FOR TURN LANES



TYPICAL MARKINGS FOR LEFT TURN ISLANDS



AT SPEEDS LESS THAN 40 MPH THE WIDTH OF THE CROSSHATCH LINE MAY BE REDUCED TO 300 mm.

AT SPEEDS OVER 40 MPH THE SPACING MAY BE INCREASED TO 9 m BETWEEN CROSSHATCH LINES.

* SEE "TYPICAL MESSAGE PLACEMENT FOR TURN LANES" FOR NUMBER OF ARROWS.

** IF THE DISTANCE BETWEEN THE BEGINNING OF THE SOLID LINE YELLOW IS LESS THAN THE DISTANCES IN THE CHART BELOW FROM THE END OF A PRECEDING SOLID LINE YELLOW IN THE SAME LANE, THE SOLID LINE SHALL BE EXTENDED BETWEEN THEM.

35 MPH SPEED LIMIT OR LESS	150 m
40-50 MPH SPEED LIMIT	200 m
55 MPH SPEED LIMIT	245 m

** 150 m SOLID YELLOW

REVISED: 07-APR-1998

PLLOT DATE: May 20, 2002 5:15pm DISK FILE NAME: (15.05) R:\33889\33889028\PLAN_SHT\Engring\LB-sgn03.dwg

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1	JUL	05/22/02	REVISIONS PER MINDOT C.O. COMMENTS

DESIGN FILE: 33889028 5001	
DRAWN BY: IKR	DESIGN BY: KPK
CHKD. BY: KPK/PBD	DWG. NAME: LB-SGN03
DATE: MARCH 29, 2002	



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KEVIN P. KIELB
DATE: 03/29/02 MN LIC. NO. 23211

MAIN STREET/T.H. 242 RECONSTRUCTION

SIGNING AND STRIPING
PAVEMENT MARKING DETAILS

CITY PROJECT 02-05

S.P. 0212-41

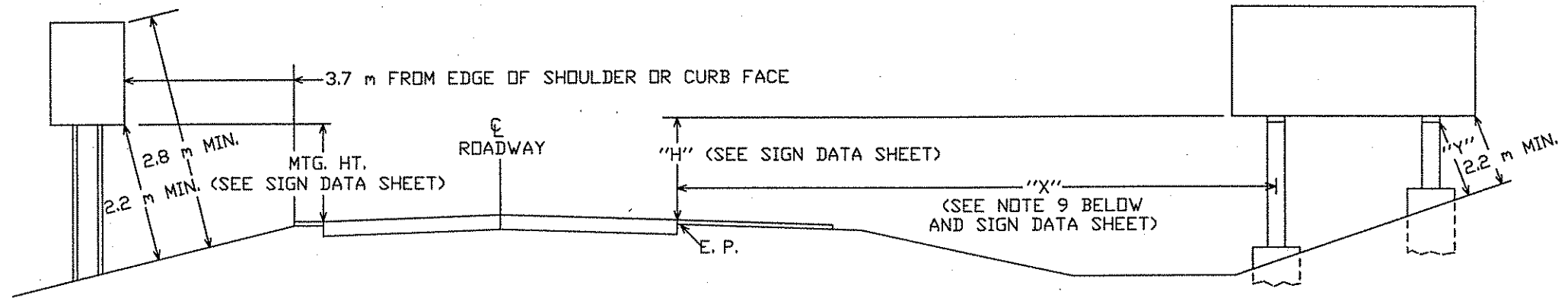
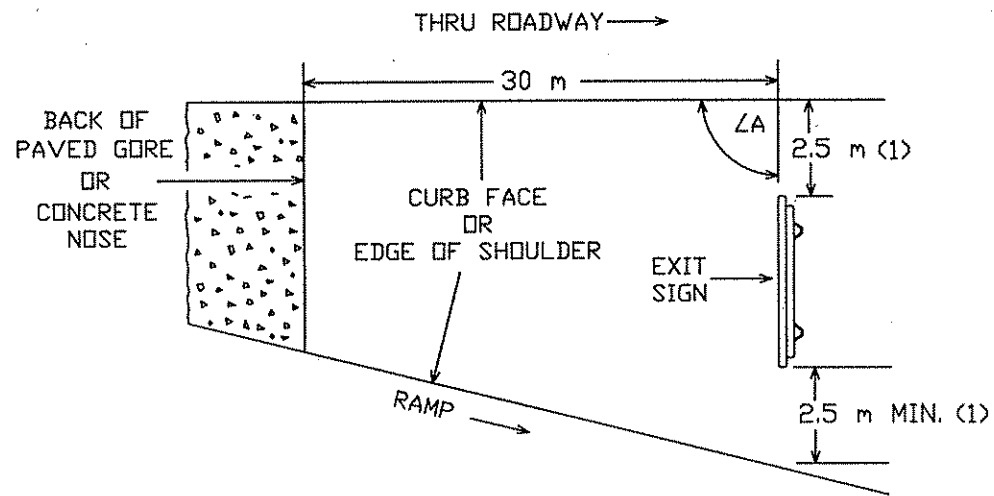
SHEET NO.

131

171

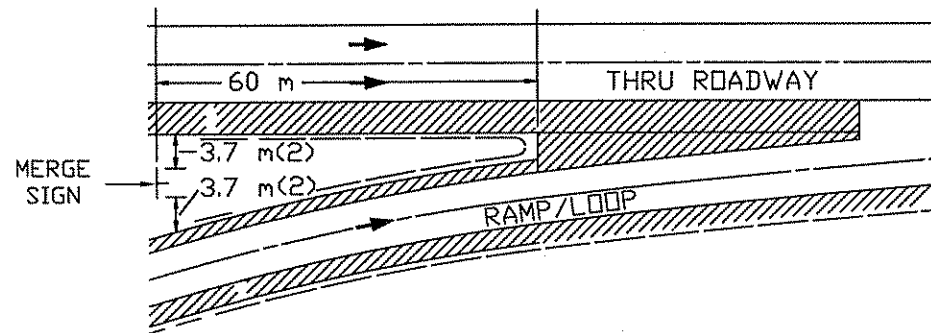
GORE PLACEMENT

ROADSIDE PLACEMENT



MAJOR GUIDE SIGN - TYPE "A"

ROUTE MARKER, REGULATORY & WARNING SIGNS - TYPE "C"
MINOR GUIDE SIGNS - TYPE "D"



SPECIFIC NOTES:

(1) EXIT SIGNS

IF THESE OFFSETS CANNOT BE ATTAINED WITHIN 30 m OF THE PAVED GORE, A 1.3 m OFFSET IS ACCEPTABLE. IF THE 1.3 m OFFSETS CANNOT BE ATTAINED WITHIN 30 m OF THE PAVED GORE, CONTACT THE DTE SIGNING UNIT.

IF THE GORE NEEDS TO BE DELINEATED, INSTALL A HAZARD MARKER PLATE X4-2 JUST BEYOND THE PAVED GORE. IN ADDITION, INSTALL RAMP DELINEATORS ON SEPARATE POSTS TO MAINTAIN THEIR PROPER LOCATIONS AND SPACINGS.

(2) MERGE SIGNS

IF THESE OFFSETS CANNOT BE ATTAINED WITHIN 60 m OF THE PAVED GORE, A 1.3 m OFFSET IS ACCEPTABLE, UNLESS THE SIGN IS TO BE MOUNTED ON A LIGHT POLE STANDARD (MINIMUM 0.6 m OFFSET) LOCATED WITHIN 60 m OF THE PAVED GORE. IF THE 1.3 m OFFSETS CANNOT BE ATTAINED WITHIN 60 m OF THE PAVED GORE, CONTACT THE DTE SIGNING UNIT.

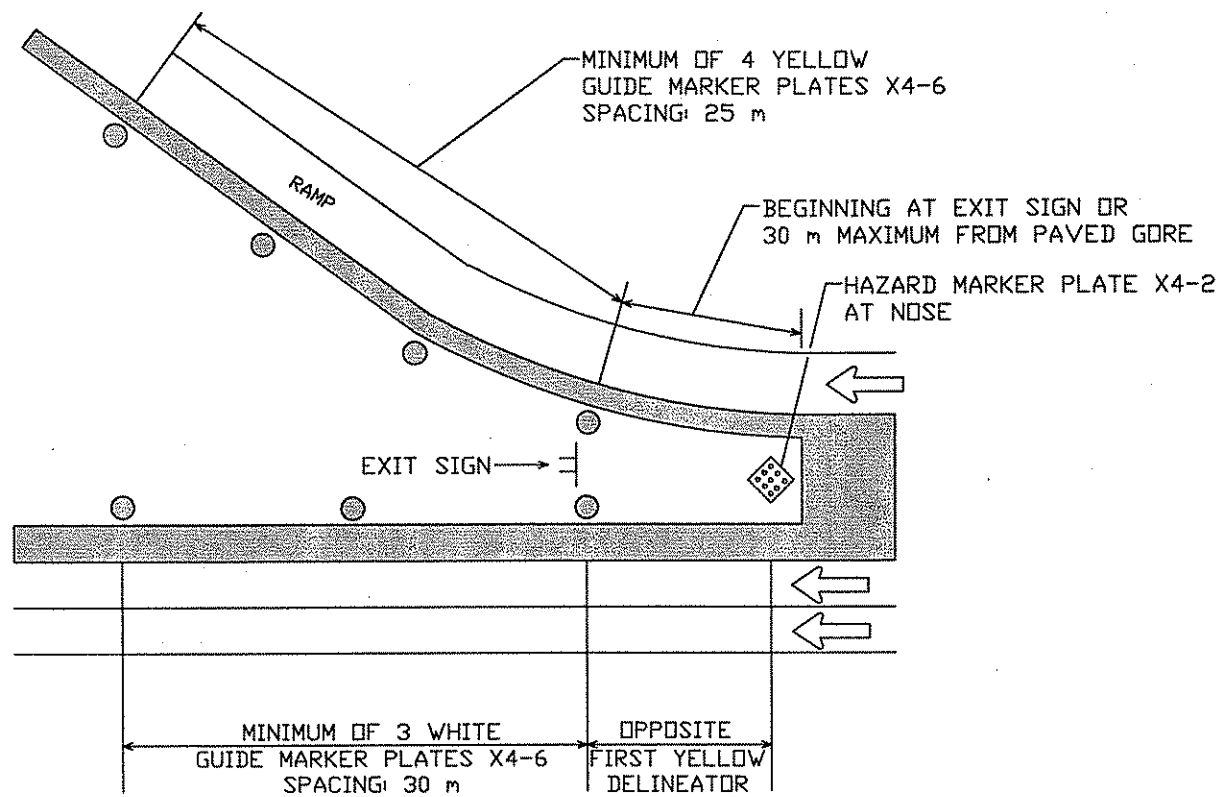
NOTES:

- IF A SECONDARY SIGN IS MOUNTED BELOW A MAJOR SIGN, THE MAJOR SIGN SHALL BE AT LEAST 2.5 m ABOVE THE PAVEMENT EDGE AND THE SECONDARY SIGN AT LEAST 1.6 m.
- ALL ROUTE MARKERS, WARNING AND REGULATORY SIGNS SHALL BE AT LEAST 1.9 m ABOVE PAVEMENT EDGE EXCEPT WHERE HEAVY PEDESTRIAN TRAFFIC IS ENCOUNTERED THEY SHALL BE 2.2 m.
- SIGN FACES SHALL BE VERTICAL.
- OVERHEAD SIGNS SHALL BE POSITIONED AT RIGHT ANGLES TO THE THRU ROADWAY UNLESS OTHERWISE NOTED.
- TO AVOID SPECULAR GLARE, α SHALL BE APPROXIMATELY 93 FOR SIGNS LOCATED LESS THAN 9 m FROM THE EDGE OF PAVEMENT AND APPROXIMATELY 92 FOR SIGNS LOCATED 9 m OR MORE FROM EDGE OF PAVEMENT. THIS APPLIES TO SIGNS TYPE "A", "C", & "D" AND INCLUDES SIGNS IN THE GORE.
- "Y" IS THE PERPENDICULAR DISTANCE FROM THE GROUND LINE TO THE FRICTION FUSE ON THE POST. THIS DISTANCE SHALL BE AT LEAST 2.2 m.
- WHERE "X" IS LESS THAN 9 m, "H" SHALL BE 2.2 m -150 mm. WHERE "X" IS 9 m OR GREATER, MINIMUM AND PREFERRED "H" IS 1.6 m.
- LATERAL CLEARANCES GIVEN APPLY TO RIGHT AND OR LEFT SIDE INSTALLATION.
- WHEN A TYPE A SIGN IS INSTALLED DIRECTLY BEHIND TRAFFIC BARRIER, THE LEFT EDGE OF THE SIGN PANEL SHALL BE LOCATED A MINIMUM OF 1.3 m BEHIND THE FACE OF THE TRAFFIC BARRIER.

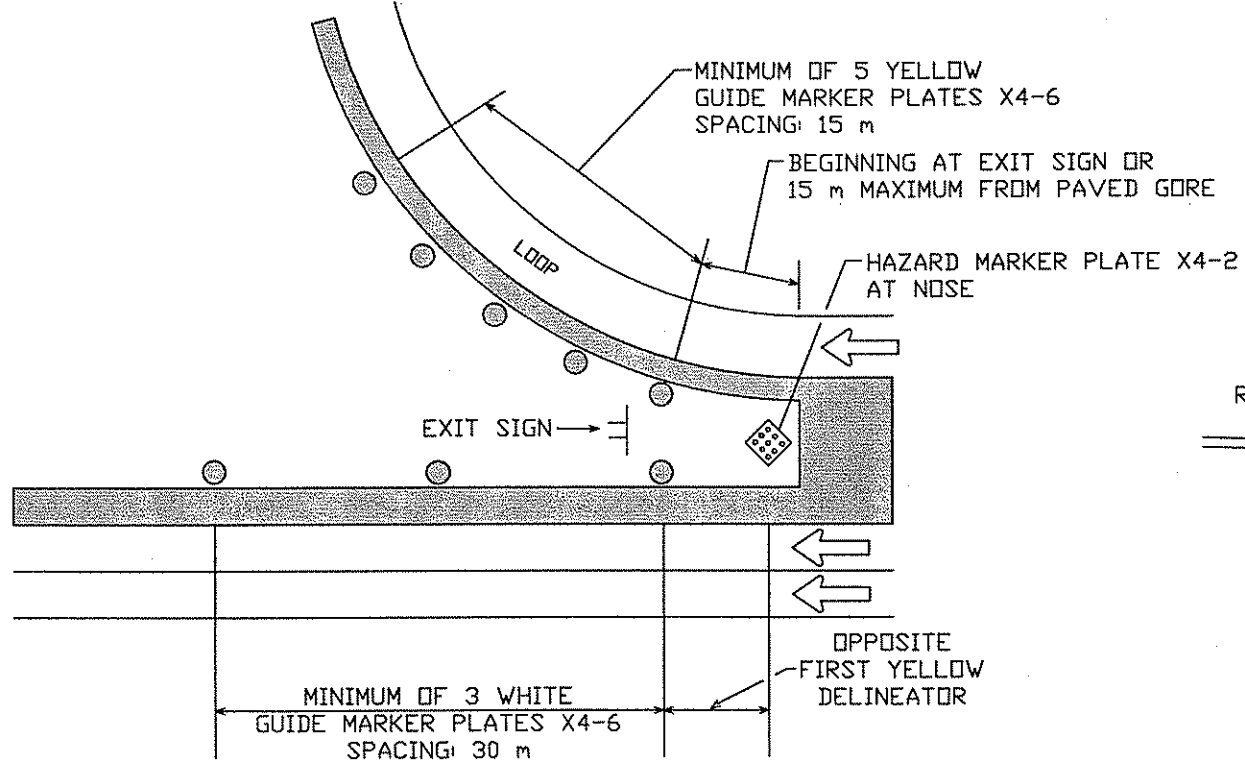
SIGN PLACEMENT



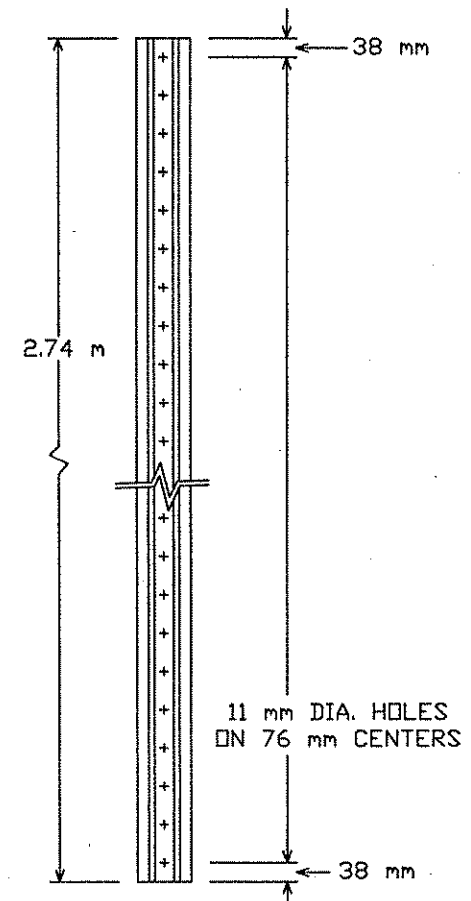
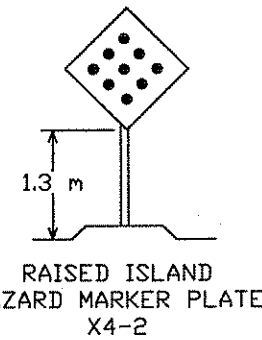
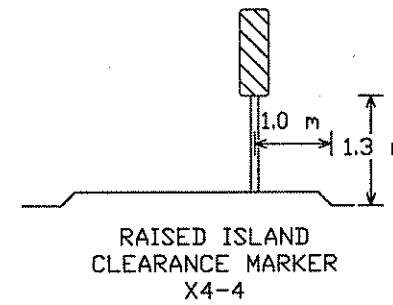
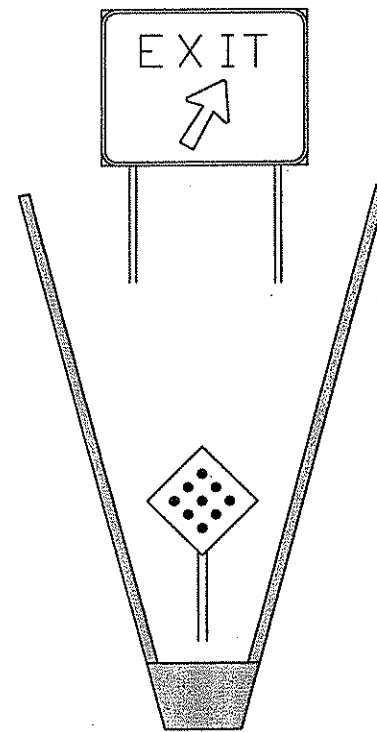
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 POSTSKSTD BELIN 4-23-99



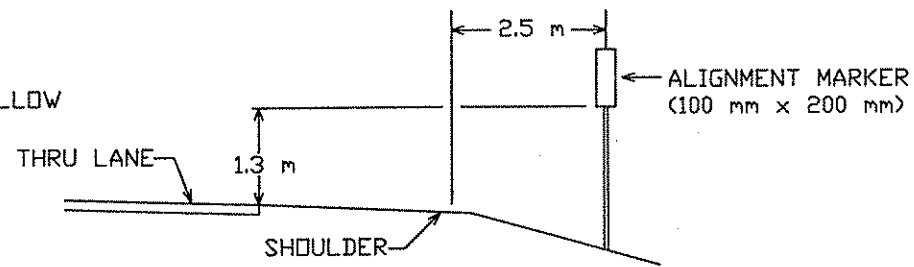
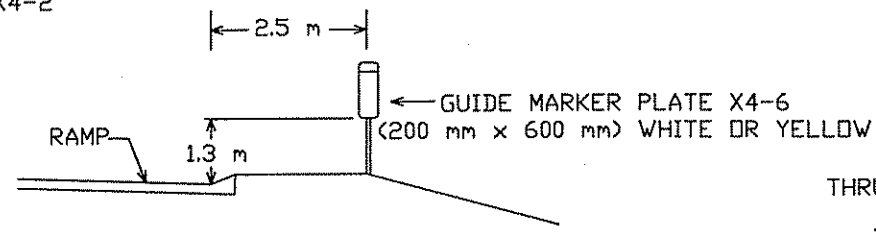
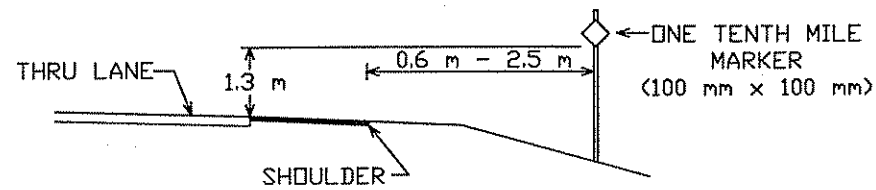
**PLAN A
RAMP DELINEATION**



**PLAN B
LOOP DELINEATION**



DELINEATOR POST
 MN/DDT 3401
 NORMAL WEIGHT= 3.0 kg/m

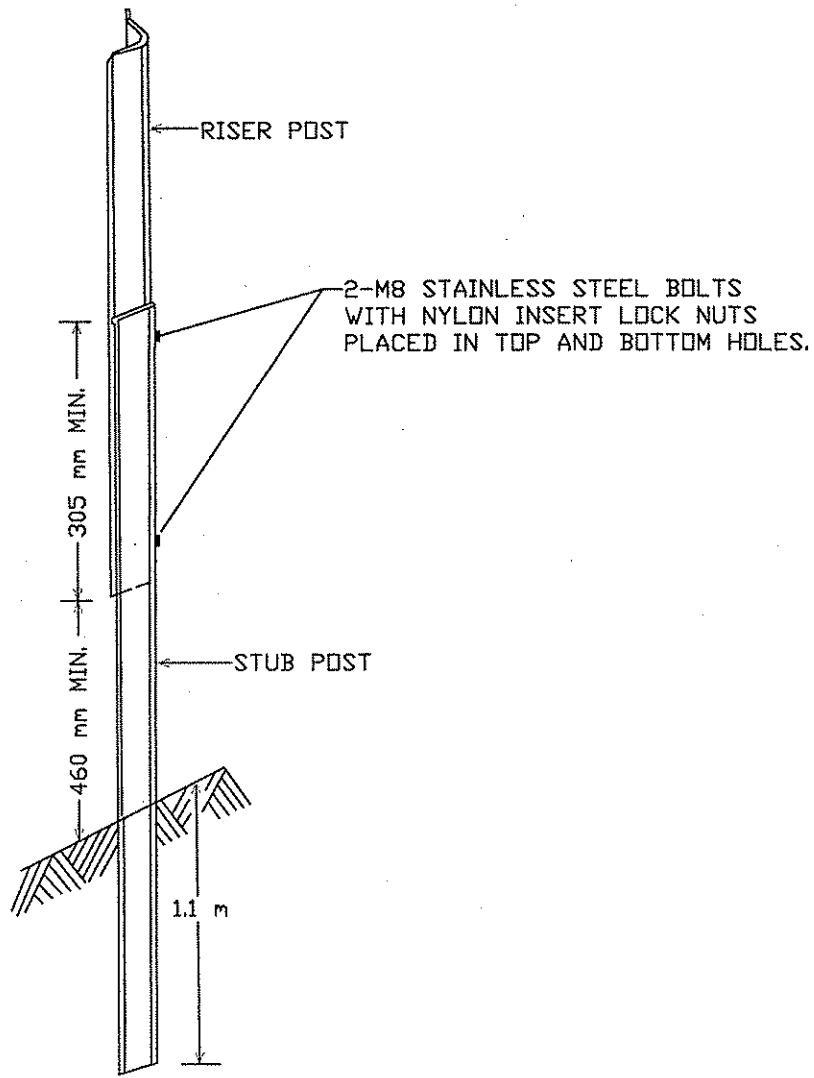


TYPICAL PLACEMENT

DELINEATORS AND MARKERS

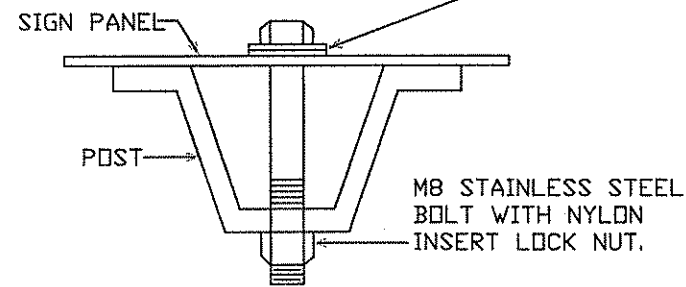


TYPE C & D POST

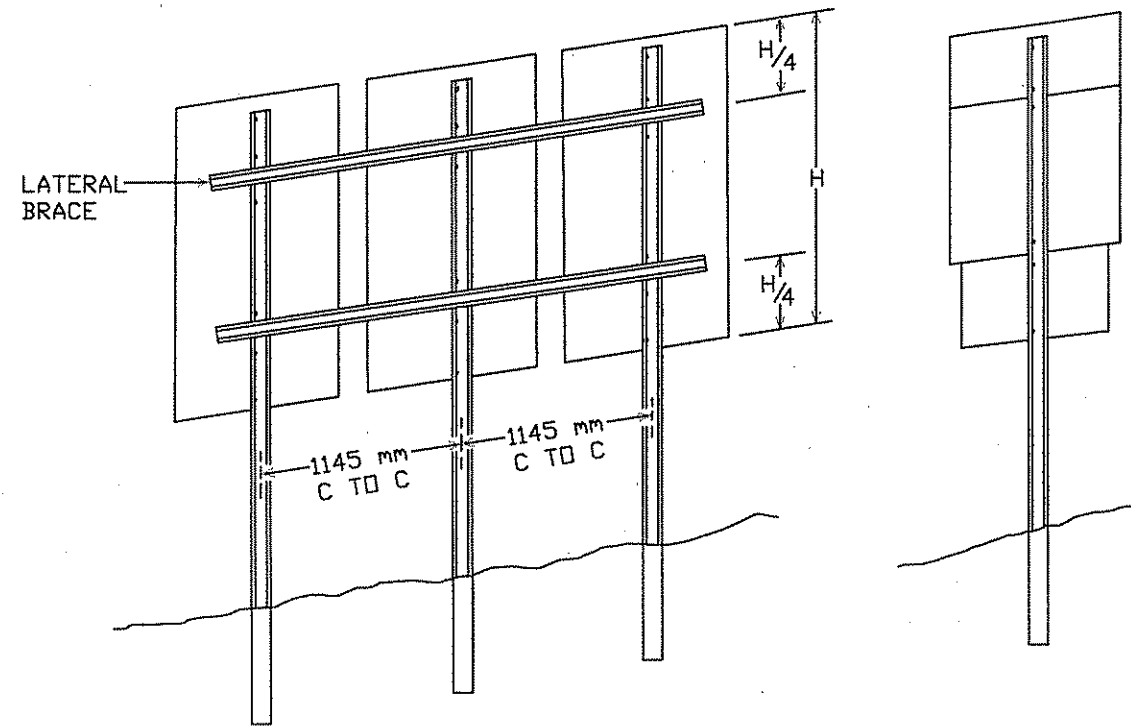


U POST SPLICE

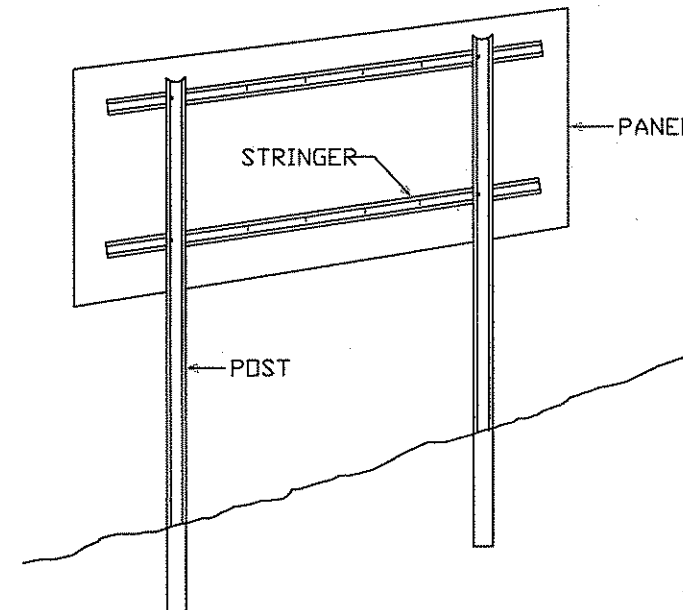
STAINLESS STEEL WASHER AND NYLON WASHER
(T=1 mm MIN., I.D.=9.5 mm MAX., O.D.=22 mm MAX.)



**U POST MOUNTING
TYPE C SIGNS**



TYPICAL TYPE C INSTALLATIONS



TYPICAL TYPE D INSTALLATION

NOTES:

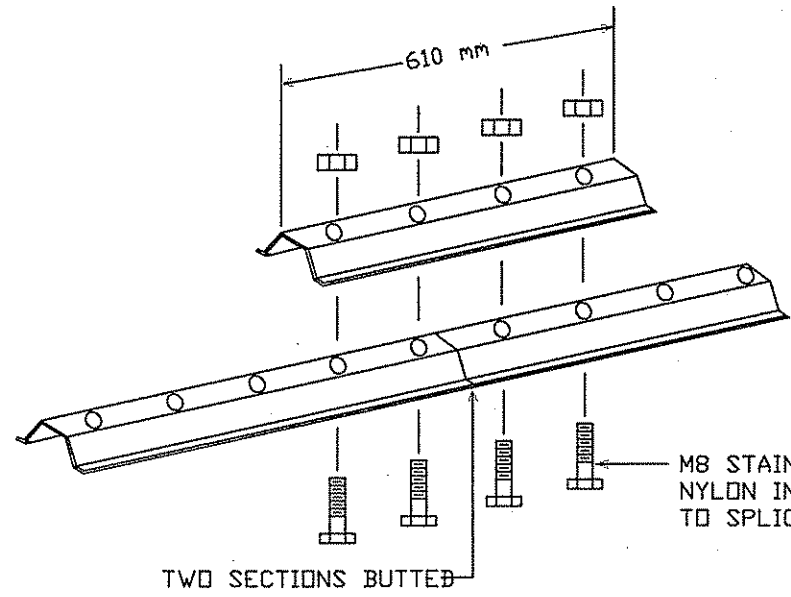
1. USE 4.45 kg/m STUB POSTS, RISER POSTS, STRINGERS, KNEE BRACES, LATERAL BRACES AND KNEE BRACE STUB POSTS. ALL SHALL CONFORM TO MN/DOT 3401.
2. FOR TYPE D SIGN POSTS LENGTHS AND SPACINGS, SEE SIGN DATA SHEET.
3. TYPE D SIGN PANELS SHALL BE BOLTED TO STRINGERS AT 610 mm MAXIMUM INTERVALS IN ACCORDANCE WITH TYPE D STRINGER AND PANEL-JOINT DETAIL (SEE STANDARD SIGNS MANUAL).
4. MOUNTING (PUNCHING CODE) FOR TYPE C SIGN PANELS SHALL BE AS INDICATED IN THE STANDARD SIGNS MANUAL UNLESS OTHERWISE SPECIFIED.
5. ALL RISER (VERTICAL) U POSTS SHALL BE SPLICED. DRIVEN STUB POSTS SHALL BE AT LEAST 2.2 m LONG.
6. USE STAINLESS STEEL M8 BOLTS, WASHERS, AND NYLON INSERT LOCK NUTS AS SHOWN FOR ALL GROUND MOUNTED AND OVERHEAD MOUNTED SIGNS.
7. STAINLESS STEEL WASHER WITH SAME DIMENSIONS SHALL BE PROVIDED BETWEEN ALL NYLON WASHERS AND BOLT HEADS.
8. BRACING STUBS SHALL BE NO MORE THAN 100 mm ABOVE GROUND AND EMBEDDED AT LEAST 1.1 m.
9. A-FRAME BRACKET SHALL BE STEEL CONFORMING TO MN/DOT 3306 AND GALVANIZED IN ACCORDANCE WITH MN/DOT 3394.
10. COLLARS SHALL BE USED TO SHIM OVERLAYS AND DEMOUNTABLE LEGEND AWAY FROM PANEL WHERE INTERFERENCE WITH BOLT HEADS IS ENCOUNTERED. MN/DOT 3352.2A5.
11. 2 AND 3 POST TYPE C SIGNS SHALL BE REINFORCED WITH AT LEAST ONE LATERAL BRACE. INSTALLATIONS WHERE THE TOTAL PANEL HEIGHT IS 1525 mm OR MORE SHALL HAVE TWO LATERAL BRACES LOCATED APPROXIMATELY AT THE QUARTER POINTS.
12. WHERE 2 OR MORE SINGLE POST SIGNS (TYPE C) ARE MOUNTED SIDE BY SIDE, THEY SHALL BE REINFORCED Laterally BY AT LEAST 2 POST SECTIONS, BOLTED AT EACH POST AND LOCATED APPROXIMATELY AT THE QUARTER POINTS AS SHOWN IN SKETCH.

**TYPE C & D SIGN
STRUCTURAL DETAILS**

Sheet 1 of 2



PLOT DATE: May 21, 2002 4:06pm DISK FILE NAME: (15.05) R:\33889\33889028\33889B\StdPlans\CandSign_m.dwg
 C:\SIGNSTR CBE 2-19-98

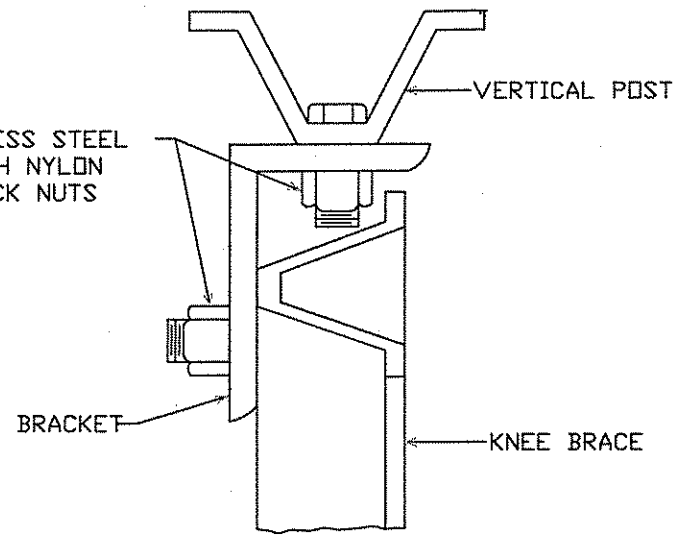


LATERAL BRACE OR STRINGER
SPLICE DETAIL (EXPLODED VIEW)

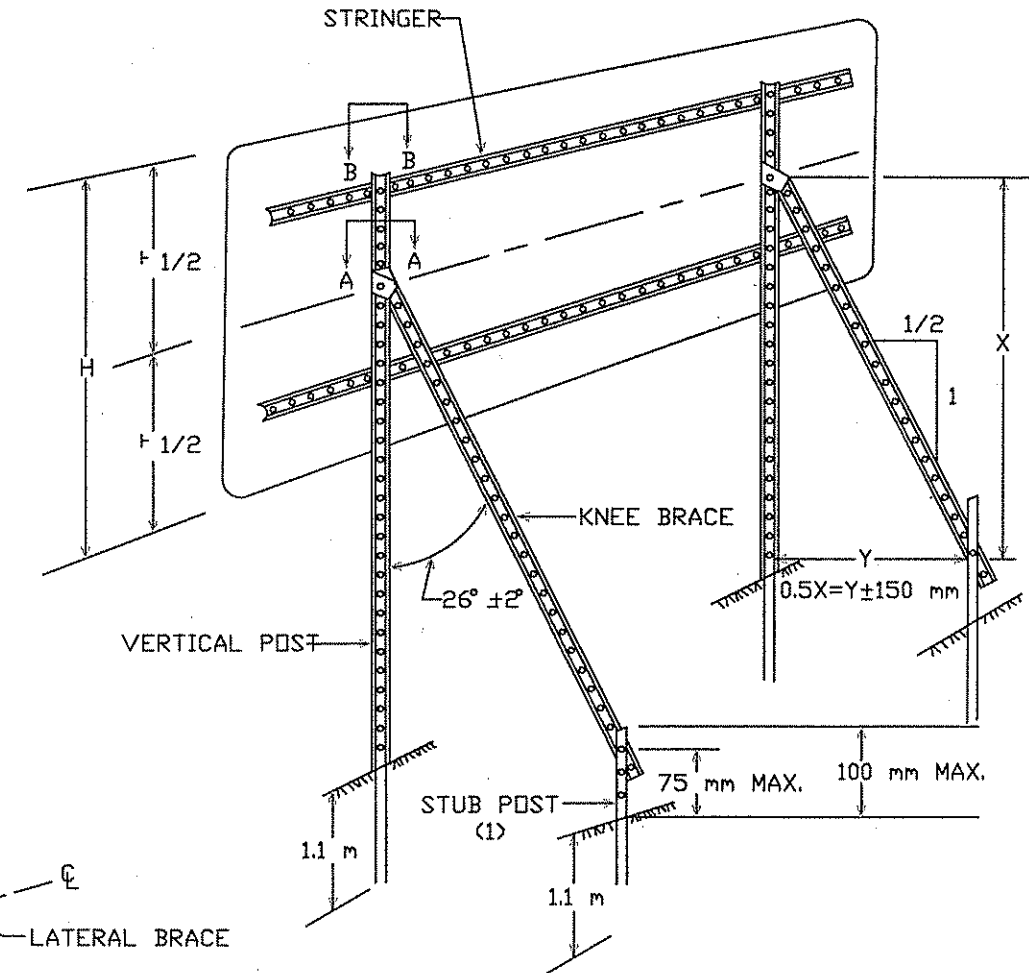
M8 STAINLESS STEEL BOLTS WITH NYLON INSERT LOCK NUTS

M8 STAINLESS STEEL BOLTS WITH NYLON INSERT LOCK NUTS AS CLOSE TO SPLICE & OUTSIDE HOLES.

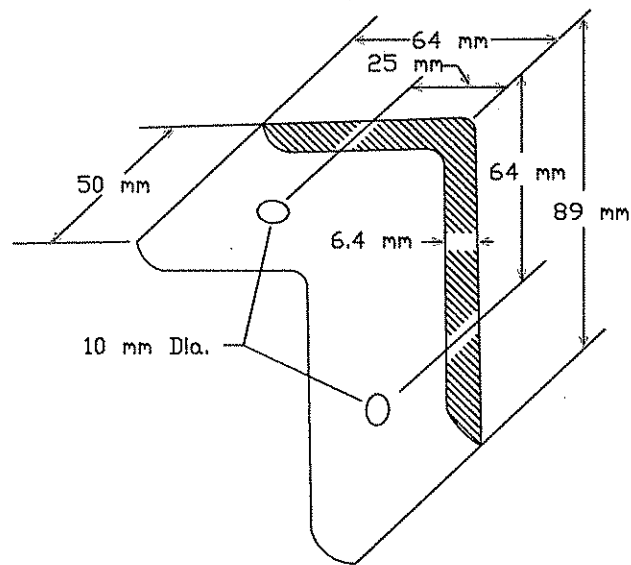
TWO SECTIONS BUTTED



SECTION A-A

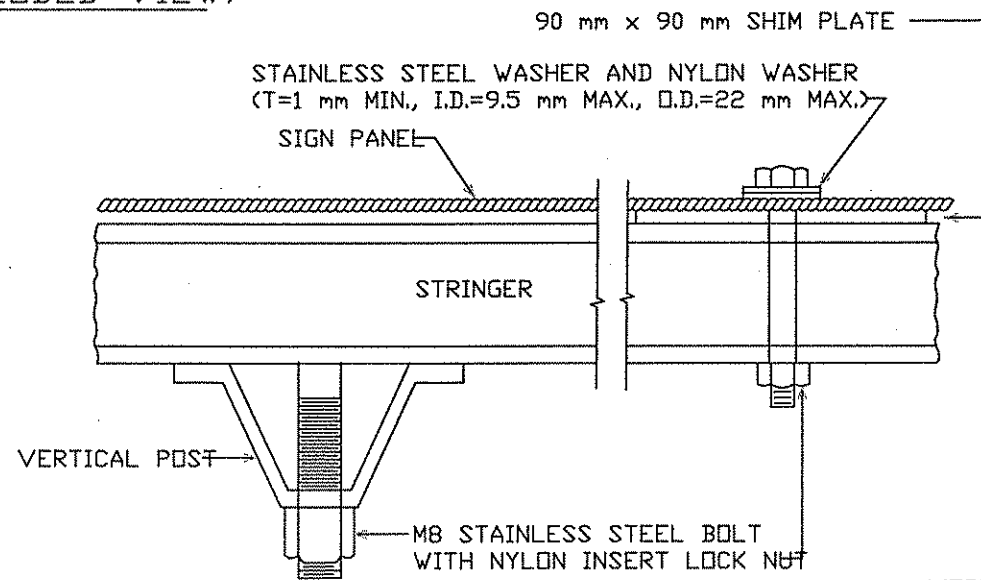


TYPICAL A-FRAME INSTALLATION
TYPE D SIGNS

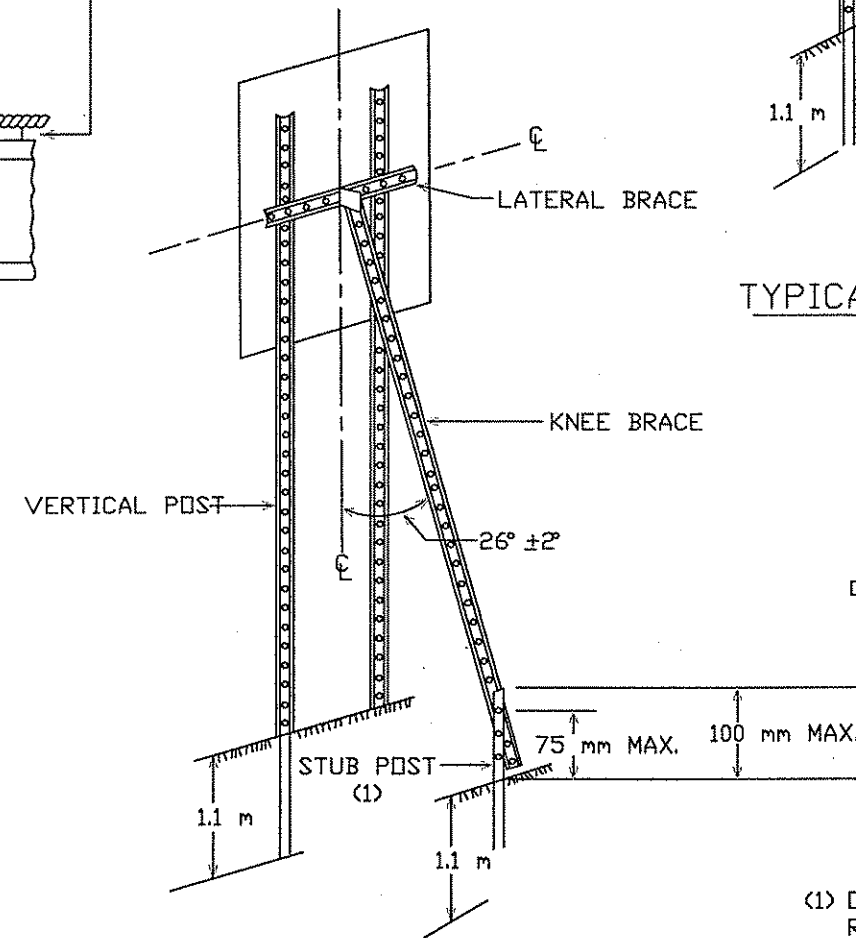


A-FRAME BRACKET

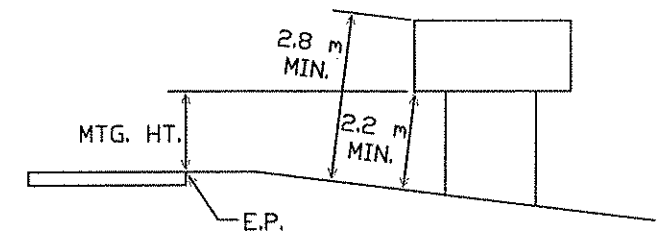
(STEEL MN/DOT 3306 GALVANIZED PER MN/DOT 3394)



SECTION B-B



TYPICAL A-FRAME INSTALLATION
TYPE C SIGNS



TYPICAL MOUNTING

(1) OFFSET STUB POST 300 mm TOWARD ROADWAY RELATIVE TO VERTICAL POST.

TYPE C & D SIGN
STRUCTURAL DETAILS

Sheet 2 of 2

Revised 2-19-98

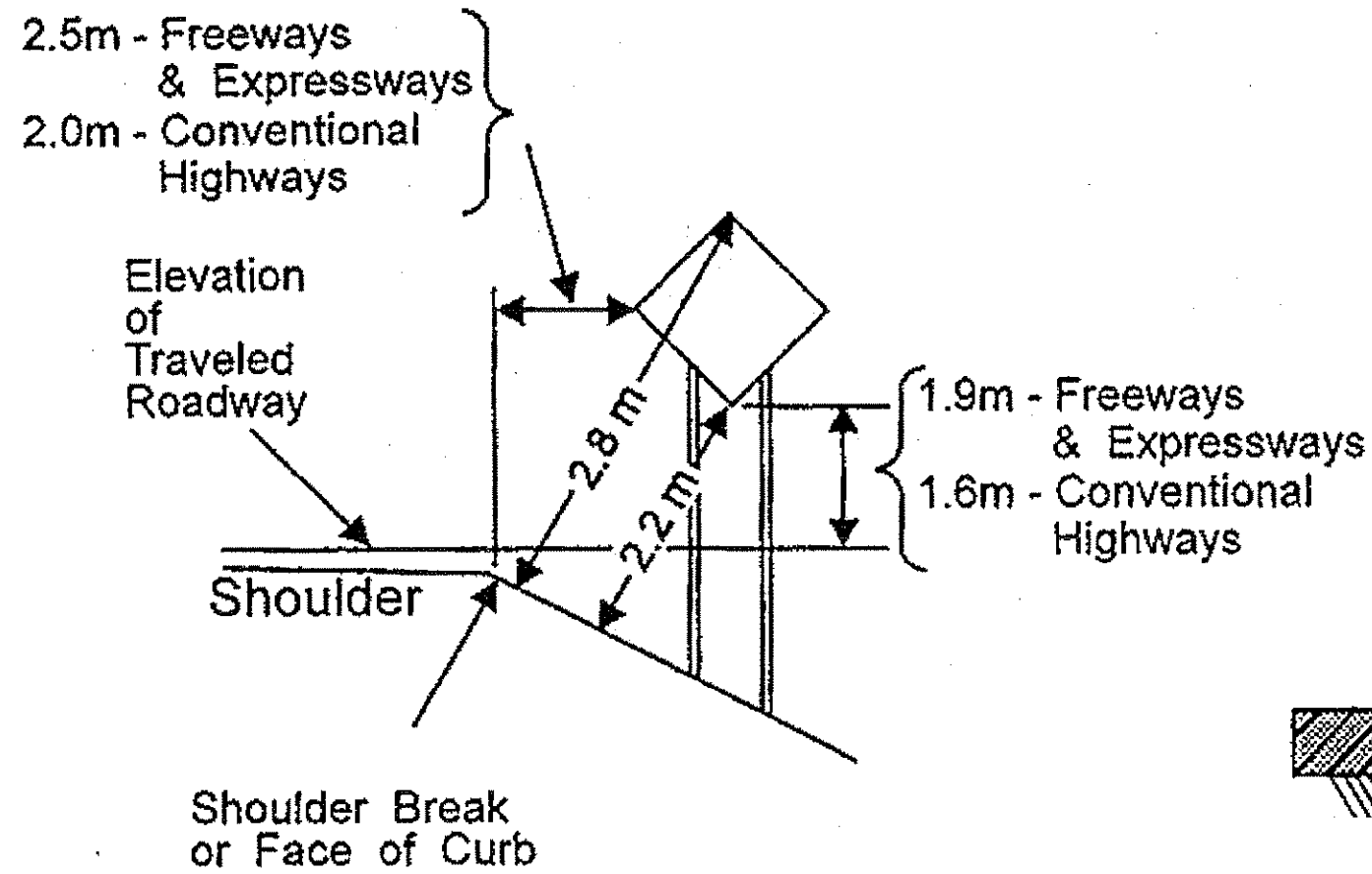
KNEE BRACE SPLICE

M8 STAINLESS STEEL BOLTS WITH NYLON INSERT LOCK NUTS PLACED NEAR TOP AND BOTTOM HOLES.



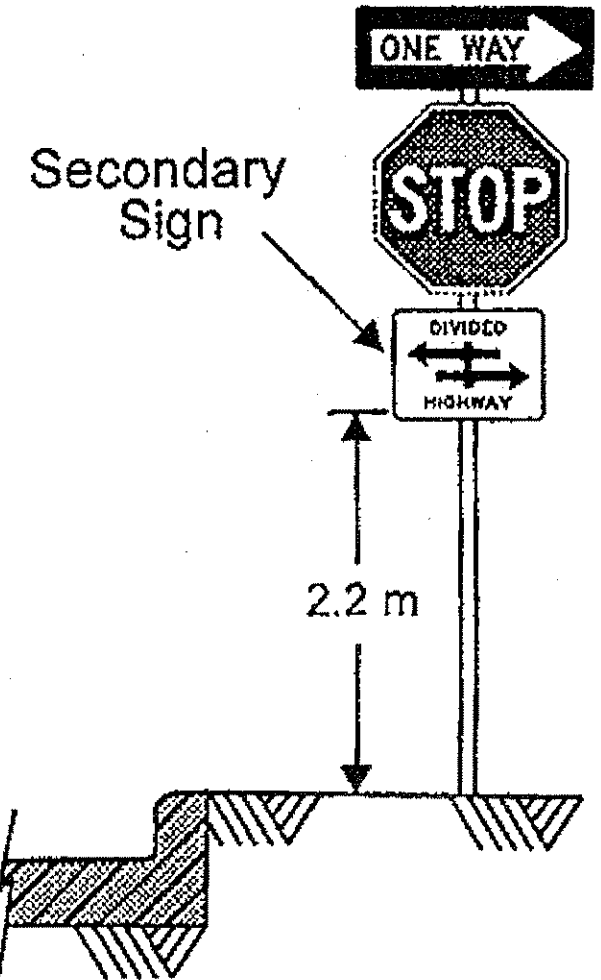
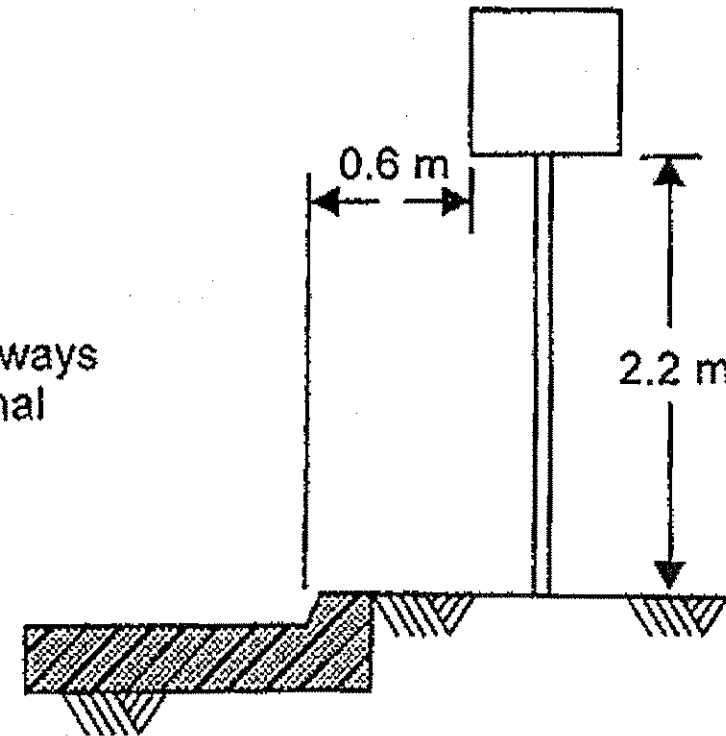
RURAL

(Typical Speeds 40 mph and above)



URBAN

(Typical Speeds below 40 mph)



NOTE:
All Dimensions are minimums

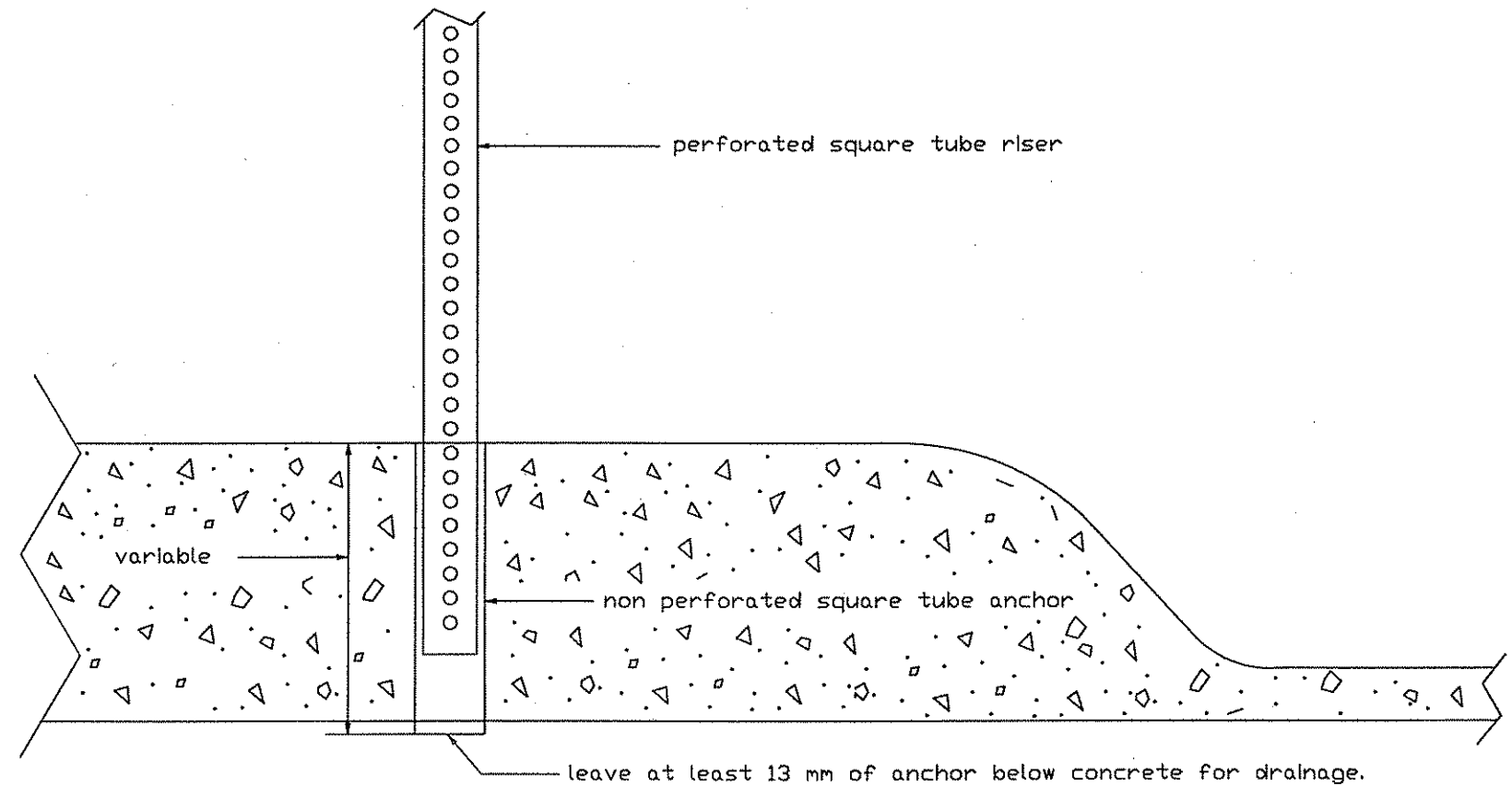
TYPE C & D SIGN
PLACEMENT DETAILS

PLOT DATE: May 21, 2002 5:57pm DISK FILE NAME: (15.05) R:\33889\33889028\StdPlans\CandDesign\MEDIAN.dwg

CONCRETE ISLAND INSTALLATION DETAIL

CONSTRUCTION NOTES:

1. Drill a 152 mm diameter hole the full depth of the concrete island.
2. Drill 9 mm diameter holes on opposite sides of the non-perforated square tube anchor approx. 25 mm from the bottom of the anchor. Insert an M8 stainless steel bolt through the holes and secure with a stainless steel nylon insert lock nut. The perforated square tube riser (to be inserted inside the non-perforated square tube anchor) will rest on this bolt.
3. Insert the anchor in the pre drilled hole in the concrete island.
4. After installation of the non-perforated square tube anchor, fill the hole with concrete mix approved by the Engineer and level off the top of the concrete.

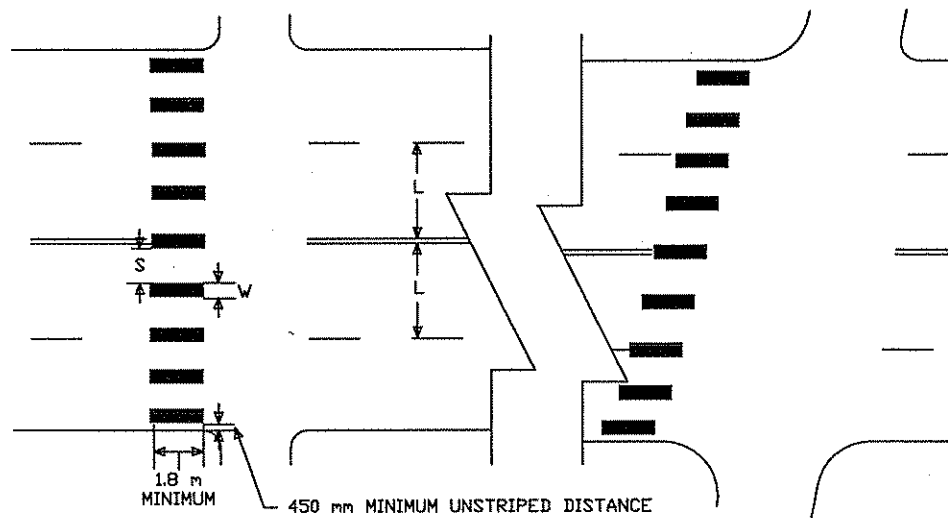


TYPE C SIGNS, DELINEATORS &
MARKERS IN CONCRETE



MARKINGS FOR PEDESTRIAN CROSSWALKS

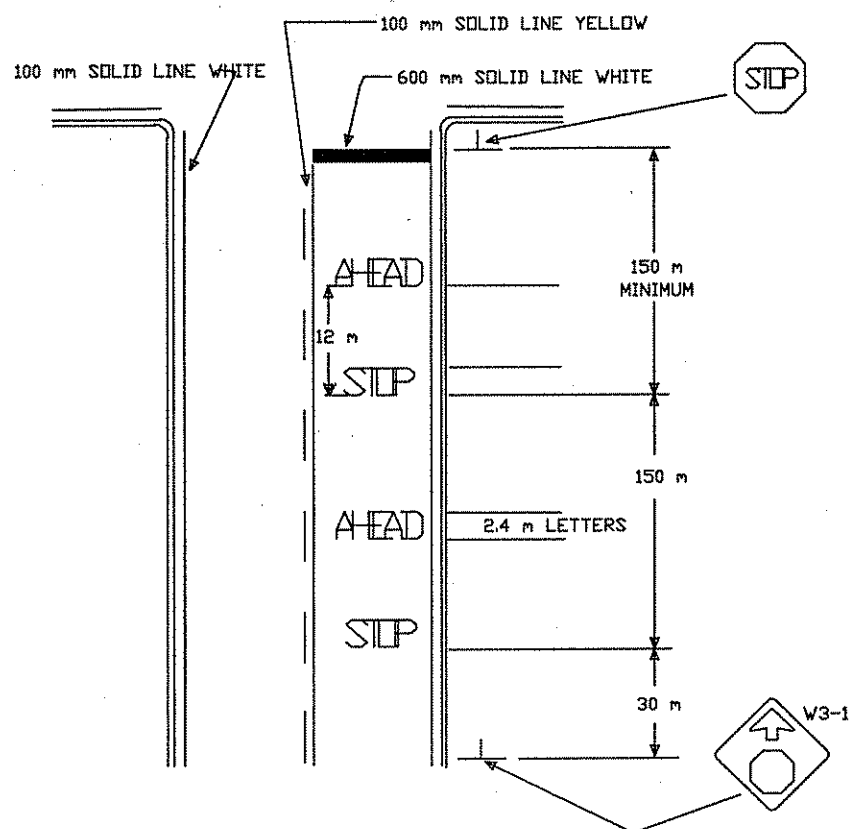
(L) WIDTH OF INSIDE LANE	(W) WIDTH OF PAINTED AREA	(S) WIDTH OF SPACE
2.7 m	600 mm	750 mm
3 m	750 mm	750 mm
3.4 m	750 mm	900 mm
3.6 m	900 mm	900 mm
4 m	900 mm	1100 mm



NOTES:

1. PAINTED AREAS TO BE CENTERED ON CENTERLINE AND LANE LINES.
2. A MINIMUM OF 500 mm CLEAR DISTANCE SHALL BE LEFT ADJACENT TO THE CURB. IF LAST PAINTED AREA FALLS INTO THIS DISTANCE IT MUST BE OMITTED.
3. ON TWO LANE TWO WAY STREETS, USE SPACING SHOWN FOR AN 3.3 m INSIDE LANE.
4. FOR DIVIDED ROADWAYS, ADJUSTMENTS IN SPACING OF THE BLOCKS SHOULD BE MADE IN THE MEDIAN SO THAT THE BLOCKS ARE MAINTAINED IN THEIR PROPER LOCATION ACROSS THE TRAVELED PORTION OF THE ROADWAY.
5. AT SKEWED CROSSWALKS, THE BLOCKS ARE TO REMAIN PARALLEL TO THE LANE LINES AS SHOWN.

PLACEMENT FOR "STOP AHEAD" MARKINGS AND STOP LINES



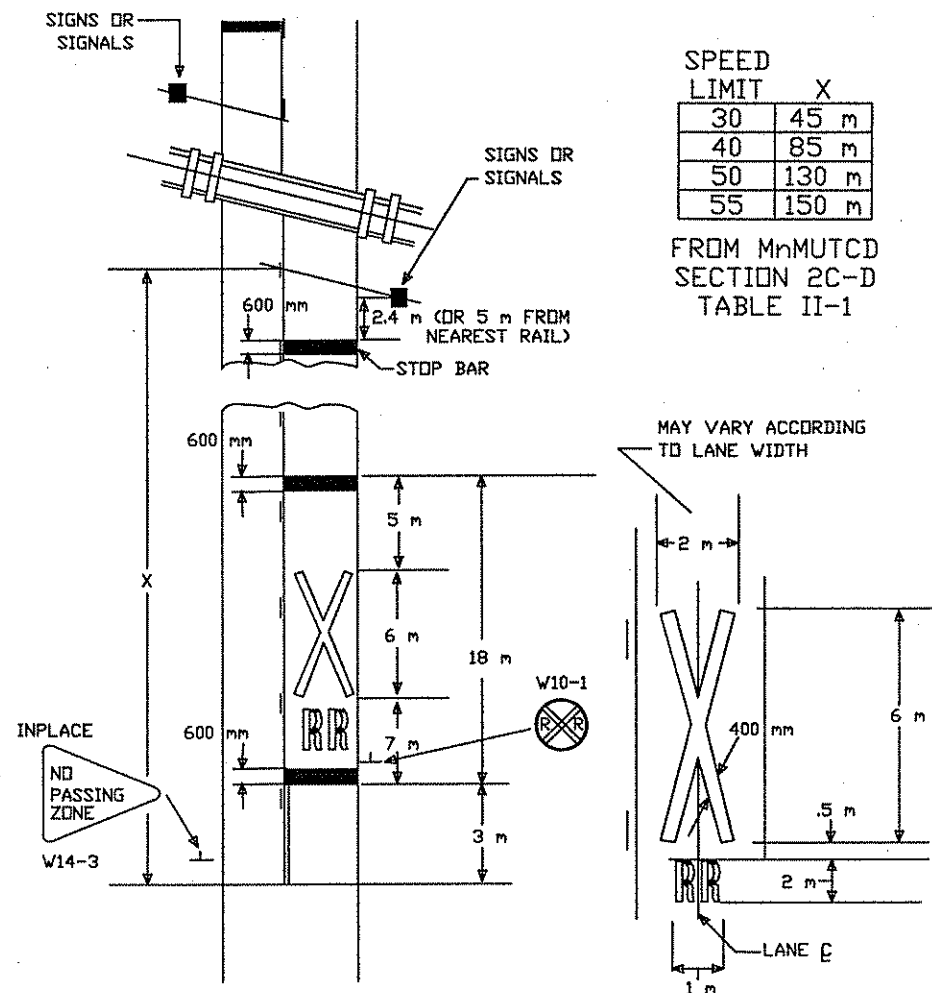
NOTES:

1. DOUBLE MESSAGE AS SHOWN SHOULD BE PLACED WHEREVER APPROACH SPEEDS ARE OVER 40 MPH.
2. IF THE DISTANCE BETWEEN THE BEGINNING OF THE SOLID LINE YELLOW IS LESS THAN THE DISTANCES IN THE CHART BELOW FROM THE END OF A PRECEDING SOLID LINE YELLOW IN THE SAME LANE, THE SOLID LINE SHALL BE EXTENDED BETWEEN THEM.

35 MPH SPEED LIMIT OR LESS . . .	150 m
40-50 MPH SPEED LIMIT	200 m
55 MPH SPEED LIMIT	245 m
3. STOP LINES SHOULD ORDINARILY BE PLACED 1.2 m IN ADVANCE OF AND PARALLEL TO THE NEAREST CROSSWALK LINE. IN THE ABSENCE OF A MARKED CROSSWALK, THE STOP LINE SHOULD BE PLACED AT THE DESIRED STOPPING POINT, AND IN NO CASE NO MORE THAN 9 m OR NO LESS THAN 1 m FROM THE NEAREST EDGE OF THE INTERSECTING CURB LINE OR NEAR EDGE OR SHOULDER.

IF A STOP LINE IS USED IN CONJUNCTION WITH A STOP SIGN, IT SHOULD ORDINARILY BE PLACED IN LINE WITH THE STOP SIGN. HOWEVER, IF THE SIGN CANNOT BE LOCATED EXACTLY WHERE VEHICLES ARE EXPECTED TO STOP, THE STOP LINE SHOULD BE PLACED AT THE STOPPING POINT.

MARKINGS FOR RAILROAD CROSSINGS



NOTES:

1. THE DISTANCE FROM THE RAILROAD CROSSING MARKING TO THE NEAREST TRACK WILL VARY ACCORDING TO THE APPROACH SPEED AND SIGHT DISTANCE OF THE VEHICULAR TRAFFIC APPROACHING, BUT SHOULD NOT BE LESS THAN 15 m.
2. ON MULTI-LANE ROADS THE TRANSVERSE BANDS SHOULD EXTEND ACROSS ALL APPROACH LANES, AND INDIVIDUAL R X R SYMBOLS SHOULD BE USED IN EACH APPROACH LANE.
3. THE STOP LINE MAY BE PARALLEL TO AND 5 m FROM THE TRACKS WHERE THERE ARE RAILROAD CROSSBUCK SIGNS.

CITY PROJECT 02-05

REVISED: 21-FEB-2001
PLOTTED: \$\$\$TIMEANDDATEOF PLOT\$\$\$

METRO DIV. ON - TRAFFIC
PLOT NAME: IPARMNAME.I
DISK FILE NAME: (15.05) R:\33889\33889028\33889B\StdPlans\MnDOTTYP_S_M.dwg
PLOT DATE: May 23, 2002 1:59pm



FINAL STRIPING SHEET NO.

4

TITLE:

PAVEMENT MARKING DETAILS

13 OF 13

CERTIFIED BY

Kevin P. Kullb
LICENSED PROFESSIONAL ENGINEER

LIC. NO. 23211 03/29 20 02

STATE PROJ. NO. 0212-41 (TH 242)

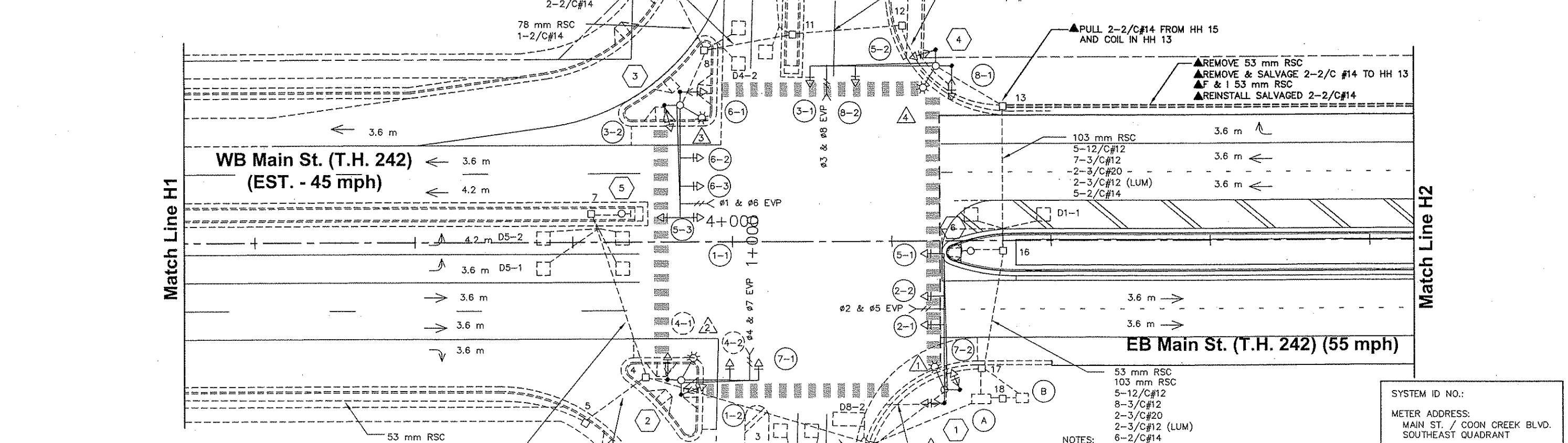
SHEET NO. 138 OF 171 SHEETS

PLOT DATE: May 20, 2002 5:20pm DISK FILE NAME: (15.05) R:\33889\33889028\33889B\PLAN_SHT\Enging\LB-sig04.dwg

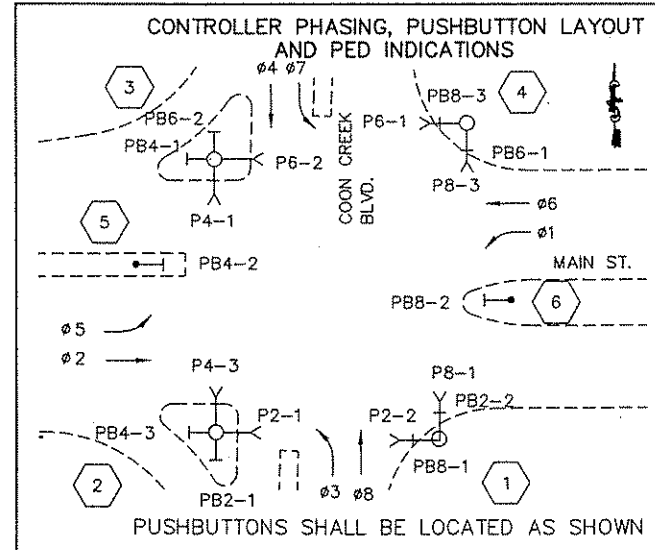
LOOP DETECTORS (NMC)				
STATUS	NUMBER	SIZE (m)	LOCATION (m)	FUNCTION
INPLACE	D1-1	2-1.7 X 1.7	3,12	1
INPLACE	D2-1, D2-2	1.7 X 1.7	92	1
INPLACE	D3-1, D3-2	1.7 X 1.7	3,12	1
INPLACE	D4-1	1.7 X 1.7	92	3 & 8
INPLACE	D4-2	2-1.7 X 1.7	1,5,6	1
INPLACE	D5-1	2-1.7 X 1.7	3,12	1
INPLACE	D5-2	2-1.7 X 1.7	3,12	1
F & I	D6-1	1.7 X 1.7	145	1
F & I	D6-2	1.7 X 1.7	145	1
INPLACE	D7-1	2-1.7 X 1.7	3,12	1
INPLACE	D8-1	1.7 X 1.7	37	3 & 8
INPLACE	D8-2	1.7,3,4	1,5,6	1

NOTE: LOCATION = DISTANCE FROM BACK OF STOP BAR / PEDESTRIAN MARKINGS TO FRONT OF LOOP DETECTOR

LOOP DETECTOR FUNCTIONS:
 (1) - CALL AND EXTEND
 (3) - EXTEND ONLY
 (7) - DELAY CALL, IMMEDIATE EXTEND
 (8) - STRETCH



SIGNAL FACES						
ALL INDICATIONS SHALL BE 300 mm ALL INDICATIONS SHALL BE LED.						
SIGNAL FACE	R	Y	G	R	Y	G
1-1, 1-2				←	←	←
2-1, 2-2, 2-3	●	●	●			
3-1, 3-2				←	←	←
4-1, 4-2	●	●	●			
5-1, 5-2, 5-3				←	←	←
6-1, 6-2, 6-3	●	●	●			
7-1, 7-2				←	←	←
8-1, 8-2, 8-3/1	●	●	●			



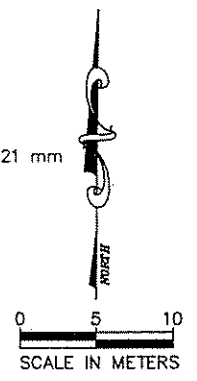
SIGNAL SYSTEM OPERATION

- THE SIGNAL SYSTEM FLASH MODE IS ALL RED.
- NORMAL OPERATION IS 8 PHASE WITH PHASES 1, 3, 5 & 7 BEING PROTECTED LEFT TURN PHASES IN LOCK MODE OPERATION.
- PHASES 2 & 6 SHALL BE ON VEHICLE RECALL.

NOTE:
 ALL ITEMS INPLACE UNLESS OTHERWISE NOTED.
 ▲ = WORK TO BE COMPLETED

- NOTES:**
- 1.) SEE SPECIAL PROVISIONS FOR ANOKA COUNTY FURNISHED MATERIALS.
 - 2.) EACH SIGNAL FACE SHALL HAVE A BACKGROUND SHIELD.
 - 3.) ALL VEHICLE AND PEDESTRIAN SIGNAL INDICATIONS SHALL BE LED. SEE SPECIAL PROVISIONS.
 - 4.) EACH PEDESTRIAN SIGNAL FACE SHALL BE A ONE SECTION LED HAND/WALKING PERSON INDICATION. SEE SPECIAL PROVISIONS.
 - ▲ 5.) LOCATION OF POLES, CONTROLLER CABINET, SERVICE CABINET, AND HANDHOLES SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.
 - ▲ 6.) HANDHOLES SHALL BE PVC WITH METAL FRAMES AND COVERS, PER MN/DOT STANDARD PLATE NO. MB114.
 - ▲ 7.) LOOP DETECTOR WIRES SHALL BE #12 AWG CROSS-LINKED POLYETHYLENE (XLP) IN 21 mm NMC. SEE SPECIAL PROVISIONS AND DETAILS.
 - 8.) A 21 mm HALF-COUPLING, 21 mm PIPE NIPPLE AND CONDUIT OUTLET BODY FOR EMERGENCY VEHICLE PREEMPTION SHALL BE FURNISHED AND INSTALLED ON EACH MAST ARM AT 1.8 m FROM END OF MAST ARM.
 - 9.) SIGNAL EQUIPMENT SHALL BE PAINTED DARK BROWN AS SPECIFIED IN THE SPECIAL PROVISIONS.
 - 10.) SEE SPECIAL PROVISIONS, DETAILS, AND REMAINDER OF PLANS FOR INFORMATION REGARDING SIGN PANELS, STRIPING, AND CURB CUTS.
 - 11.) * DENOTES ITEM INCLUDED WITH INTERCONNECT (SEE INTERCONNECT PLANS).
 - 12.) REMOVAL AND SALVAGING OF THE INPLACE SIGNAL SYSTEM SHALL BE INCLUDED IN ITEM 2565.511 SIGNAL SYSTEM "H".
 - 13.) TRAFFIC SIGNAL CABINET, SERVICE CABINET, THE EAST CONDUIT CROSSING OF MAIN STREET, THE ADJACENT HANDHOLES, AND LOOP D1-1 SHALL BE CONSTRUCTED WITHIN THE LIMITS OF THE PERMANENT CONSTRUCTION AREA (WEST OF 4+040).

SYSTEM ID NO.:
 METER ADDRESS:
 MAIN ST. / COON CREEK BLVD.
 SOUTHEAST QUADRANT



REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	JUL	05/22/02	REVISIONS PER MNDOT C.O. COMMENTS

DESIGN FILE:
33889028

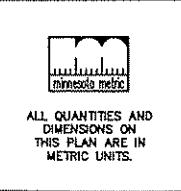
DRAWN BY:
JAS

DESIGN BY:
GLS

CHKD. BY:
GLS

DWG. NAME:
LB-sig04

DATE:
MARCH 29, 2002



URS
BRW, Inc.

Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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

Gary L. Shannon
GARY L. SHANNON
DATE: 5-21-02 MN LIC. NO. 16687

MAIN STREET/T.H. 242 RECONSTRUCTION
242RAMPA, RAMP B ACCESS, 242RAMPB
MAIN ST. (T.H. 242) / COON CREEK BLVD.
REVISED TRAFFIC SIGNAL INTERSECTION LAYOUT

CITY PROJECT 02-05

SHEET NO.
139

S.P. 0212-41

171

1 OF 6

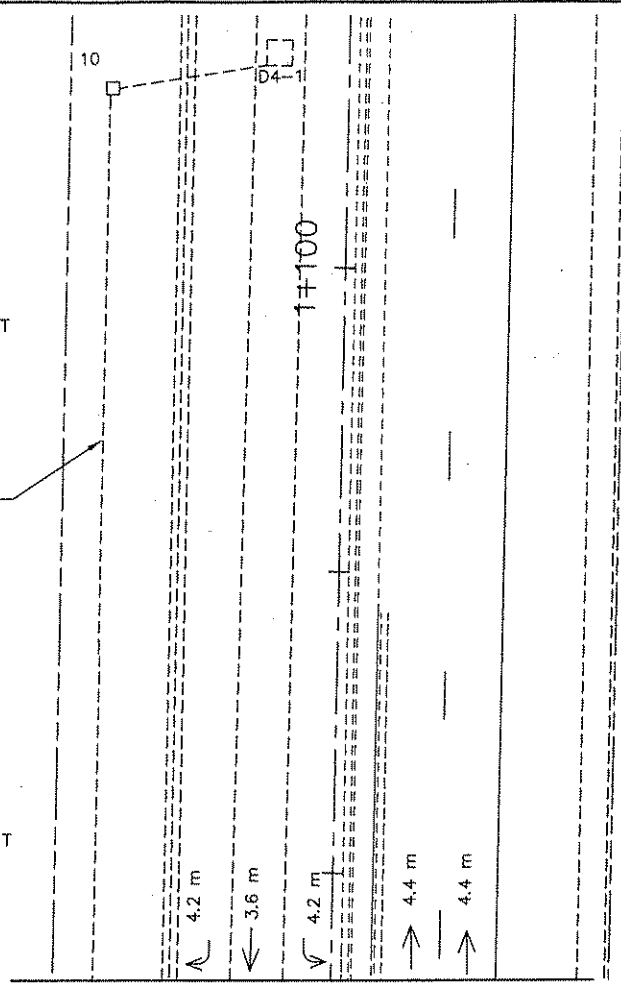
PLOT DATE: May 20, 2002 5:22pm DISK FILE NAME: (15.05) R:\33889\33889028\338898\PLAN_SHT\Engring\LB-sig05.dwg

1 TYPE PA100 POLE FOUNDATION
 TYPE PA100-A-16.8-X9.1
 LUMINAIRE ARM AT 350'
 (SEE SPECIAL PROVISIONS)
 LUMINAIRE 250 WATT METAL HALIDE
 WITH P.E.C. AND CHECK SWITCH
 (SEE SPECIAL PROVISIONS)
 3 - ONE WAY SIGNALS OVERHEAD (0 m,
 5.2 m & 8.8 m FROM END OF MAST ARM)
 1 - TYPE 10B POLE MOUNTED AT 90°
 1 - TYPE 10B POLE MOUNTED AT 180°
 2 - PEDESTRIAN PUSHBUTTONS
 INTERNALLY ILLUMINATED SIGN (D-5)
 WITH PEC AND SIGN SWITCH ON POLE
 ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT
 (ø2 & ø5) (1.8 m FROM END OF MAST ARM)
 EXTEND INTO HH 1:
 78 mm RSC
 2-12/C#12
 4-3/C#12
 1-3/C#20
 1-3/C#12 (LUM)

2 TYPE PA90 POLE FOUNDATION
 TYPE PA90-A-9.1-X9.1
 LUMINAIRE ARM AT 350'
 (SEE SPECIAL PROVISIONS)
 LUMINAIRE 250 WATT METAL HALIDE
 WITH P.E.C. AND CHECK SWITCH
 (SEE SPECIAL PROVISIONS)
 2 - ONE WAY SIGNALS OVERHEAD (0 m &
 3.3 m FROM END OF MAST ARM)
 2 - TYPE 10B POLE MOUNTED AT 90° & 180°
 2 - PEDESTRIAN PUSHBUTTONS
 INTERNALLY ILLUMINATED SIGN (D-1)
 WITH PEC AND SIGN SWITCH ON POLE
 ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT
 (ø4 & ø7) (1.8 m FROM END OF MAST ARM)
 EXTEND INTO HH 4:
 78 mm RSC
 2-12/C#12
 4-3/C#12
 1-3/C#20
 1-3/C#12 (LUM)

3 TYPE PA100 POLE FOUNDATION
 TYPE PA100-A-13.7-X9.1
 LUMINAIRE ARM AT 350'
 (SEE SPECIAL PROVISIONS)
 LUMINAIRE 250 WATT METAL HALIDE
 WITH P.E.C. AND CHECK SWITCH
 (SEE SPECIAL PROVISIONS)
 3 - ONE WAY SIGNALS OVERHEAD (0 m, 3.3 m &
 6.9 m FROM END OF MAST ARM)
 2 - TYPE 10B POLE MOUNTED AT 90° & 180°
 2 - PEDESTRIAN PUSHBUTTONS
 INTERNALLY ILLUMINATED SIGN (D-5)
 WITH PEC AND SIGN SWITCH ON POLE
 ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT
 (ø1 & ø6) (1.8 m FROM END OF MAST ARM)
 EXTEND INTO HH 8:
 78 mm RSC
 3-12/C#12
 3-3/C#12
 1-3/C#20
 1-3/C#12 (LUM)

4 TYPE PA100 POLE FOUNDATION
 TYPE PA100-A-15.2-X9.1
 LUMINAIRE ARM AT 350'
 (SEE SPECIAL PROVISIONS)
 LUMINAIRE 250 WATT METAL HALIDE
 WITH P.E.C. AND CHECK SWITCH
 (SEE SPECIAL PROVISIONS)
 2 - ONE WAY SIGNALS OVERHEAD (0 m &
 5.1 m FROM END OF MAST ARM)
 1 - TYPE 10B POLE MOUNTED AT 90°
 1 - TYPE 10B POLE MOUNTED AT 270°
 2 - PEDESTRIAN PUSHBUTTONS
 INTERNALLY ILLUMINATED SIGN (D-1)
 WITH PEC AND SIGN SWITCH ON POLE
 ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT
 (ø3 & ø8) (1.8 m FROM END OF MAST ARM)
 EXTEND INTO HH 12:
 78 mm RSC
 2-12/C#12
 4-3/C#12
 1-3/C#20
 1-3/C#12 (LUM)

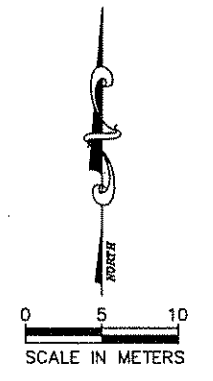


Coon Creek Blvd. (CSAH 18)
(45 mph)

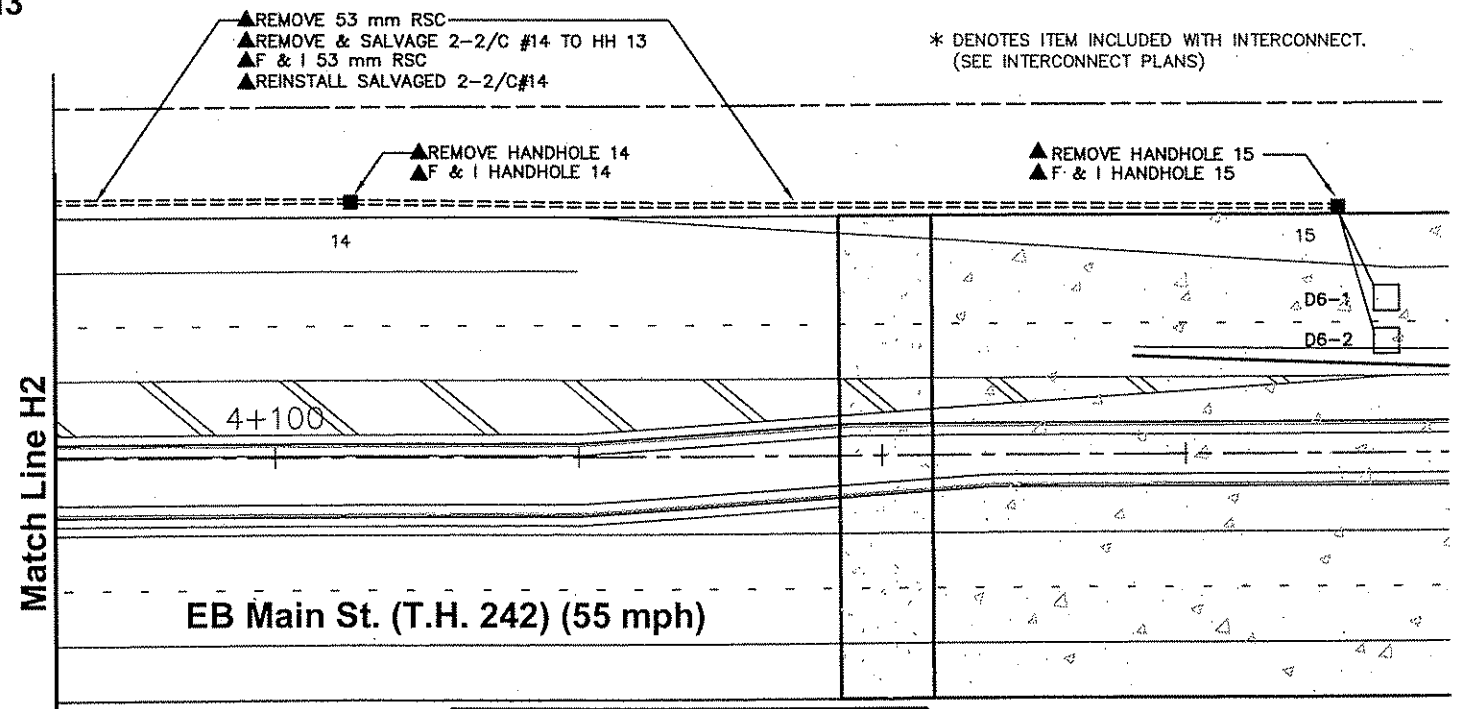
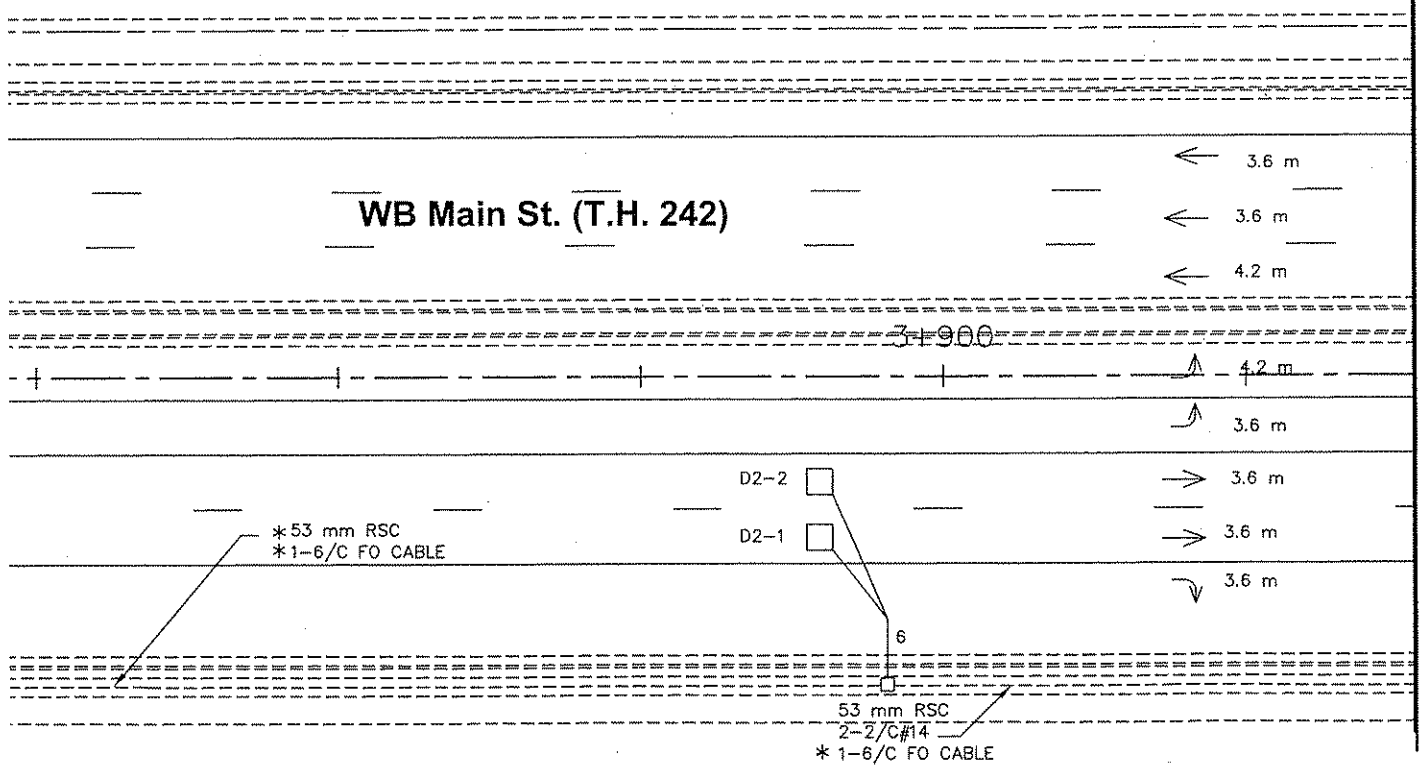
A INSTALL CONTROLLER AND CABINET
 (FURNISHED BY ANOKA COUNTY)
 CABINET FOUNDATION
 EXTEND INTO HH 17:
 103 mm RSC
 5-12/C#12
 6-3/C#12
 2-3/C#20
 6-2/C#14
 EXTEND INTO HH 1:
 103 mm RSC
 4-12/C#12
 7-3/C#12
 2-3/C#20
 8-2/C#14
 *1-6/C FO CABLE
 EXTEND INTO HH 18:
 METERED SIGNAL SERVICE
 35 mm RSC
 3-1/C#6

B SERVICE CABINET
 CABINET FOUNDATION
 EXTEND INTO HH 18:
 METERED SIGNAL SERVICE
 35 mm RSC
 3-1/C#6
 EXTEND INTO HH 17:
 53 mm RSC
 UNMETERED STREET LIGHT SERVICE
 4-3/C#12 (LUM)
 UNMETERED ILLUMINATED SIGN SERVICE
 4-3/C#12
 STUB OUT 53 mm RSC TO SOUTH
 (FOR POWER BY CONNEXUS)

5 PEDESTAL FOUNDATION
 3 m PEDESTAL POLE AND BASE
 PEDESTRIAN PUSHBUTTON
 EXTEND INTO HH 7:
 53 mm RSC
 1-3/C#12
 6 PEDESTAL FOUNDATION
 3 m PEDESTAL POLE AND BASE
 PEDESTRIAN PUSHBUTTON
 EXTEND INTO HH 16:
 53 mm RSC
 1-3/C#12



Match Line H3



NOTE:
 ALL ITEMS INPLACE UNLESS OTHERWISE NOTED.
 ▲ = WORK TO BE COMPLETED

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	JAS	05/22/02	REVISIONS PER MNDOT C.O. COMMENTS

DESIGN FILE:
 33889028
 DRAWN BY:
 JAS
 DESIGN BY:
 GLS
 CHKED. BY:
 GLS
 DWG. NAME:
 LB-sig05
 DATE:
 MARCH 29, 2002



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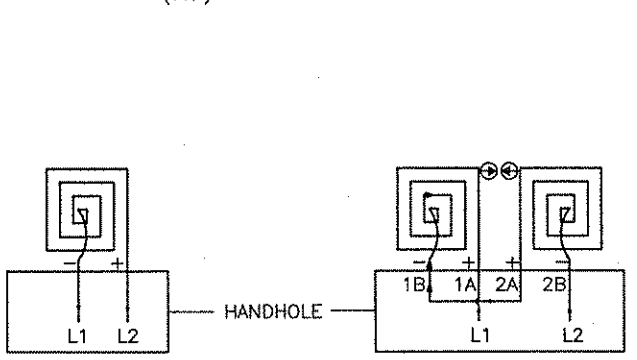
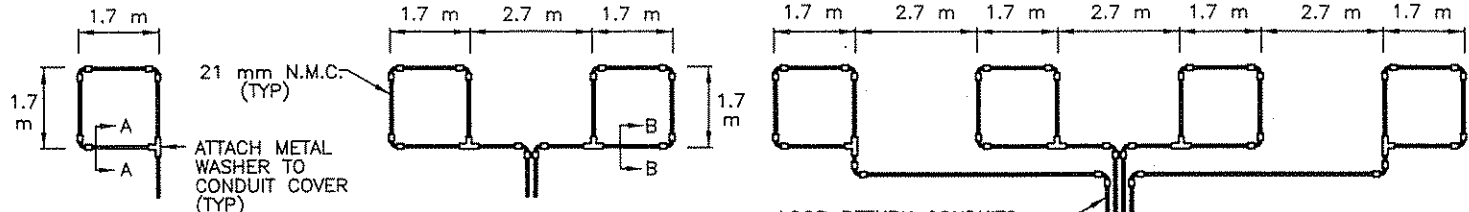
Threeher Square
 700 Third Street South
 Minneapolis, MN 55415
 612.370.0700 Tel
 612.370.1576 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION
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 DIRECT SUPERVISION AND THAT I AM A DULY
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 LAWS OF THE STATE OF MINNESOTA.
 GARY L. SHANNON
 DATE: 5-21-02 MN LIC. NO. 16687

MAIN STREET/T.H. 242 RECONSTRUCTION
 242RAMP A, RAMP B ACCESS, 242RAMP B
 MAIN ST. (T.H. 242) / COON CREEK BLVD.
 REVISED TRAFFIC SIGNAL INTERSECTION LAYOUT
 CITY PROJECT 02-05

S.P. 0212-41
 SHEET NO. 140
 171
 2 OF 6

PLOT DATE: May 21, 2002 8:58am DISK FILE NAME: (15.05) R:\33889\33889028\3388989\PLAN_SHT\Engring\LB-sig00.dwg

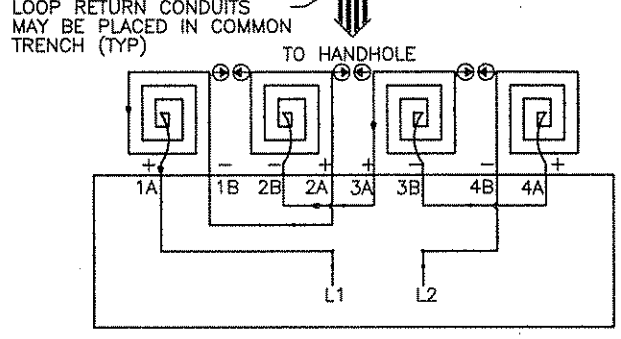


LOOP DETECTOR DETAIL 'A'
(LOOP PHASING FOR SINGLE CONNECTION)

LOOP CONNECTIONS SHALL BE LABELED AND SPLICED IN THE HANDHOLE AS FOLLOWS:

- L1 TO 1A
- 1B TO 2A
- 2B TO L2

LOOP DETECTOR DETAIL 'B'
(LOOP PHASING FOR SERIES CONNECTION)

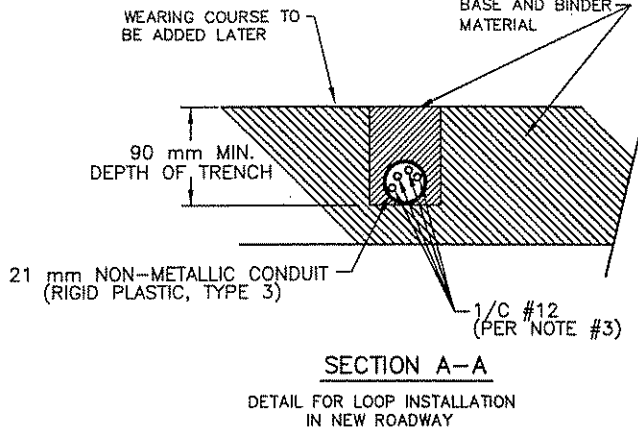


LOOP CONNECTIONS SHALL BE LABELED AND SPLICED IN THE HANDHOLE AS FOLLOWS:

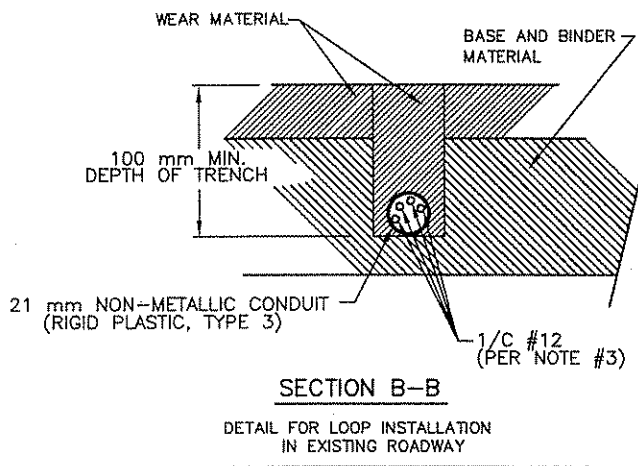
- L1 TO 1A 3B TO 4A
- 1B TO 2A 4B TO L2
- 2B TO 3A

SPLICE CONTROL CABLE TO L1 & L2 IN HANDHOLE. ALL CONDUCTORS SHALL BE TAGGED IN HANDHOLE (1A, 1B, ECT)

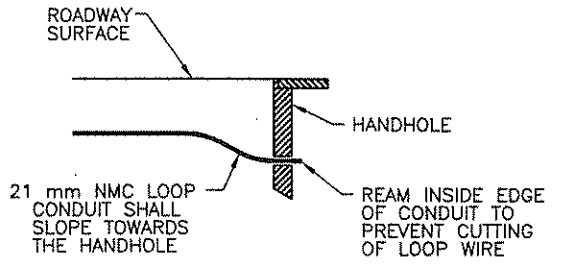
LOOP DETECTOR DETAIL 'C'
(LOOP PHASING FOR SERIES CONNECTION)



SECTION A-A
DETAIL FOR LOOP INSTALLATION IN NEW ROADWAY



SECTION B-B
DETAIL FOR LOOP INSTALLATION IN EXISTING ROADWAY



DRAINAGE DETAIL

LOOP DETECTOR WIRING

- 1) ALL CORNERS SHALL BE 90° CONDUIT BENDS.
- 2) CONNECT WIRES IN HANDHOLES USING SPLICE KIT METHOD DESCRIBED IN THE SPECIAL PROVISIONS.
- 3) LOOP DETECTOR WIRES SHALL BE #12 AWG CROSSED LINKED POLYETHYLENE (XLP). SEE SPECIAL PROVISIONS.
- 4) LOOP LEAD IN WIRES SHALL BE TWISTED A MIN. OF (5) TURNS PER 0.3 METER (1 FOOT) THROUGH THE CONDUIT TO THE HANDHOLE.
- 5) NMC DESIGNATES NON-METALLIC CONDUIT (SPEC. 3803)
- 6) LOOPS 1.7 m x 1.7 m THRU 1.7 m x 4.3 m SHALL HAVE (4) TURNS.
- 7) LOOPS 1.7 m x 4.6 m AND LARGER SHALL HAVE (2) TURNS.

LEGEND OF SYMBOLS

CONTROLLER AND SERVICE EQUIP. NO's	(A)
SIGNAL BASE NO.	(B)
SIGNAL FACE NO.	(C)
LUMINAIRE NO.	(D)
CONTROLLER AND CABINET	(E)
CONTROLLER AND CABINET - IN PLACE	(F)
HANDHOLE - IN PLACE	(G)
RIGID STEEL CONDUIT (RSC)	(H)
RIGID STEEL CONDUIT (RSC) - IN PLACE	(I)
SIGNAL FACE WITH BACKGROUND SHIELD	(J)
SIGNAL FACE W/O BACKGROUND SHIELD	(K)
SIGNAL FACE - IN PLACE	(L)
PEDESTRIAN INDICATORS	(M)
PEDESTRIAN INDICATORS - IN PLACE	(N)
PEDESTRIAN PUSH BUTTONS ON PEDESTAL OR POLE	(O)
PEDESTRIAN PUSH BUTTON STATION	(P)
TRAFFIC SIGNAL PEDESTAL	(Q)
TRAFFIC SIGNAL PEDESTAL - IN PLACE	(R)
TRAFFIC SIGNAL POLE AND MAST ARM	(S)
TRAFFIC SIGNAL POLE AND MAST ARM - IN PLACE	(T)
STREET LIGHT POLE AND LUMINAIRE	(U)
STREET LIGHT POLE AND LUMINAIRE - IN PLACE	(V)
MAST ARM AND LUMINAIRE	(W)
MAST ARM AND LUMINAIRE - IN PLACE	(X)
WOOD POLE	(Y)
WOOD POLE - IN PLACE	(Z)
SOURCE OF POWER	(AA)
RAILROAD SIGNAL - IN PLACE	(AB)
RIGHT OF WAY LINE	(AC)
CENTERLINE	(AD)
EDGE OF ROADWAY	(AE)
SHOULDERLINE	(AF)
CURB LINE	(AG)
STOP BAR	(AH)
MICROWAVE VEHICLE SENSOR	(AI)
ONE EVP DETECTOR AND LIGHT	(AJ)

ABBREVIATIONS

3-1(EG) SIGNAL HEAD PHASE "3" - NO "1"	P2-1(EG) PEDESTRIAN INDICATION PHASE "2" - NO. "1"
BR. GR. BARE GROUND	PB PUSH BUTTON
CH. SW. CHECK SWITCH	PB2-1(EG) PUSH BUTTON PHASE "2" - NO. "1"
CLR CLEAR	PEC PHOTOELECTRIC CELL
D2-1(EG) DETECTOR PHASE "2" - NO. "1"	PED PEDESTRIAN
DWK DON'T WALK	R RED
EQG EQUIPMENT GROUND	R&S REMOVE AND SALVAGE
EVP EMERGENCY VEHICLE PRE-EMPTION	RLTA RED LEFT TURN ARROW
F&I FURNISH AND INSTALL	RRTA RED RIGHT TURN ARROW
FL FLASH/FLASHING	RSC RIGID STEEL CONDUIT
FO FIBER OPTIC	SOP SOURCE OF POWER
G GREEN	SPR SPARE
GLTA GREEN LEFT TURN ARROW	ST. LHT STREET LIGHT STATION
GRN GREEN	STA STATION
GR. R GROUND ROD	SW SWITCH
GRTA GREEN RIGHT TURN ARROW	SWD SWITCHED
GTHA GREEN THRU ARROW	S&R SALVAGE AND REINSTALL
HH HANDHOLE	TDW TELEPHONE DROP WIRE
HPS HIGH PRESSURE SODIUM	WLK WALK
JB JUNCTION BOX	YEL YELLOW
LUM LUMINAIRE	YLTA YELLOW LEFT TURN ARROW
NEU NEUTRAL	YRTA YELLOW RIGHT TURN ARROW
NMC NONMETALLIC CONDUIT	YTHA YELLOW THRU ARROW

CONDUCTOR COLOR CODE

R	RED
O	ORANGE
BL	BLUE
WH	WHITE
R/BLK	RED WITH BLACK TRACER
O/BLK	ORANGE WITH BLACK TRACER
BL/BLK	BLUE WITH BLACK TRACER
WH/BLK	WHITE WITH BLACK TRACER
BLK	BLACK
BLK/WH	BLACK WITH WHITE TRACER
G/BLK	GREEN WITH BLACK TRACER
G	GREEN

STANDARD PLATES	
THESE STANDARD PLATES AS APPROVED BY FHWA SHALL APPLY:	
PLATE NO.	DESCRIPTION
M8110 D	TRAFFIC SIGNAL BRACKETING - POLE MOUNTED
M8111 C	TRAFFIC SIGNAL BRACKETING - PEDESTAL MOUNTED
M8112 C	PEDESTAL FOUNDATION
M8114 A	PVC HANDHOLE/PULLBOX
M8115 D	PEDESTRIAN PUSH BUTTON INSTALLATION
M8118 C	SERVICE EQUIPMENT AND POLE-TRAFFIC CONTROL SIGNALS
M8119 C	GROUND MOUNTED CABINET FOUNDATION
M8120 K	POLE FOUNDATION (PA85)
M8121 D	TRANSFORMER BASE AND POLE BASE PLATE
M8122 C	PEDESTAL AND PEDESTAL BASE
M8123 D	POLE AND MAST ARM
M8124 E	MAST ARM SIGNAL HEAD MOUNTS
M8126 F	POLE FOUNDATION (PA90 AND PA100)

* - APPLIES TO THIS PROJECT

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	JL	05/22/02	REVISIONS PER MNDOT C.O. COMMENTS

DESIGN FILE: 33889028	DRAWN BY: JAS	DESIGN BY: GLS
	CHKD. BY: GLS	DWG. NAME: LB-sig00
	DATE: MARCH 29, 2002	



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Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
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Gary L. Shannon
GARY L. SHANNON
DATE: 5-21-02 MN LIC. NO. 16687

MAIN STREET/T.H. 242 RECONSTRUCTION
242RAMP A, RAMP B ACCESS, 242RAMP B
MAIN ST. (T.H. 242) / COON CREEK BLVD.
NMC LOOP DETECTOR DETAILS
AND STANDARD PLATES
CITY PROJECT 02-05

S.P. 0212-41

3 OF 6
SHEET NO.
141
171

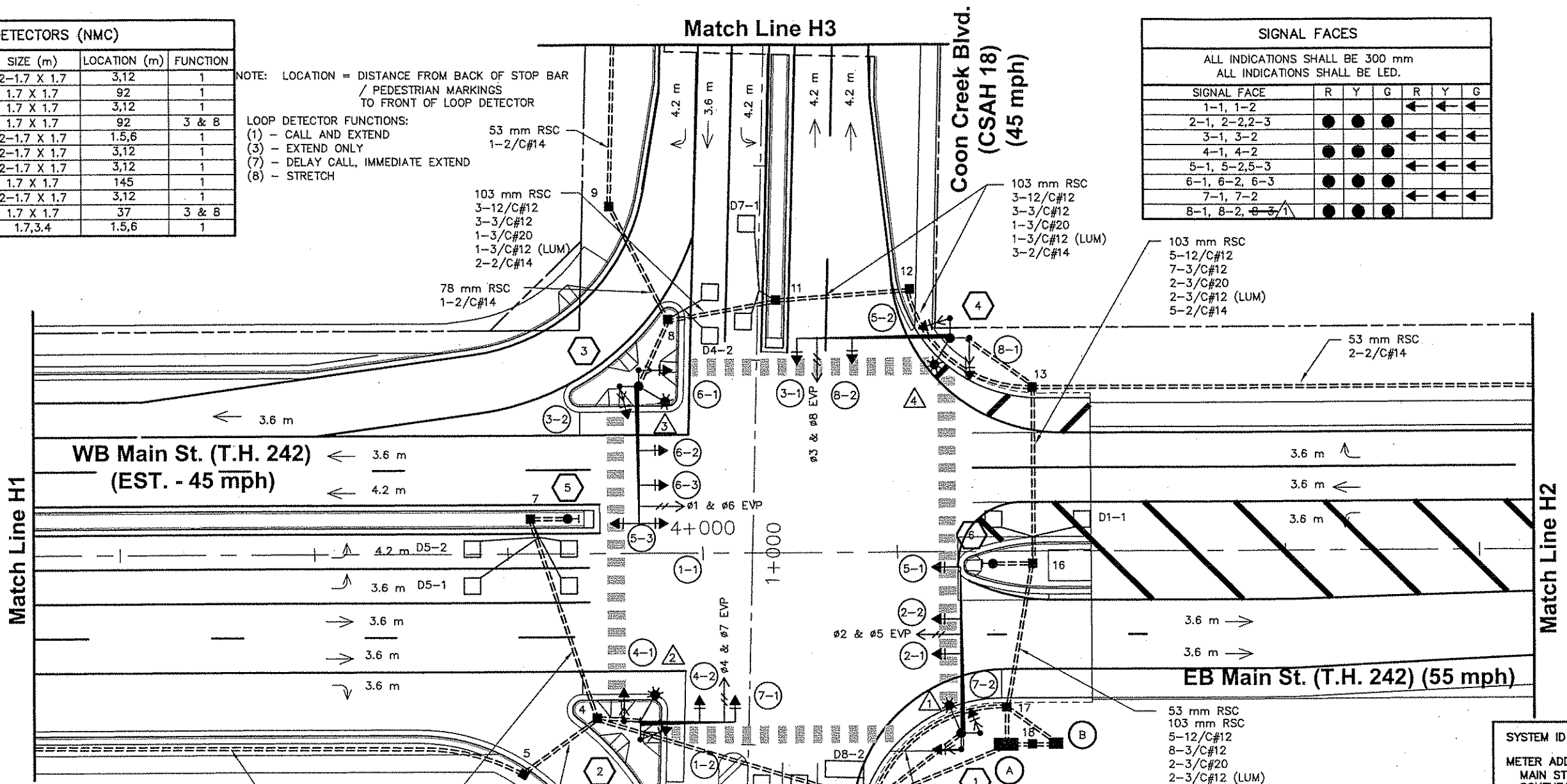
PLOT DATE: May 20, 2002 5:36pm DISK FILE NAME: (15.05) R:\33889\33889028\33889B\PLAN_SHT\Enging\LB-sig01.dwg

LOOP DETECTORS (NMC)			
NUMBER	SIZE (m)	LOCATION (m)	FUNCTION
D1-1	2-1.7 X 1.7	3,12	1
D2-1, D2-2	1.7 X 1.7	92	1
D3-1, D3-2	1.7 X 1.7	3,12	1
D4-1	1.7 X 1.7	92	3 & B
D4-2	2-1.7 X 1.7	1,5,6	1
D5-1	2-1.7 X 1.7	3,12	1
D5-2	2-1.7 X 1.7	3,12	1
D6-1	1.7 X 1.7	145	1
D7-1	2-1.7 X 1.7	3,12	1
D8-1	1.7 X 1.7	37	3 & B
D8-2	1.7,3,4	1,5,6	1

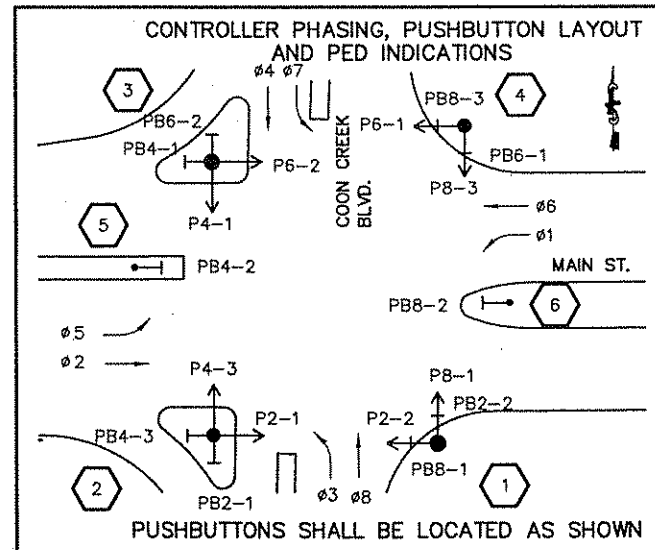
NOTE: LOCATION = DISTANCE FROM BACK OF STOP BAR / PEDESTRIAN MARKINGS TO FRONT OF LOOP DETECTOR

LOOP DETECTOR FUNCTIONS:
 (1) - CALL AND EXTEND
 (3) - EXTEND ONLY
 (7) - DELAY CALL, IMMEDIATE EXTEND
 (8) - STRETCH

SIGNAL FACES						
ALL INDICATIONS SHALL BE 300 mm ALL INDICATIONS SHALL BE LED.						
SIGNAL FACE	R	Y	G	R	Y	G
1-1, 1-2				←	←	←
2-1, 2-2, 2-3	●	●	●			
3-1, 3-2				←	←	←
4-1, 4-2	●	●	●			
5-1, 5-2, 5-3				←	←	←
6-1, 6-2, 6-3	●	●	●			
7-1, 7-2				←	←	←
8-1, 8-2, 8-3	●	●	●			



SYSTEM ID NO.:
 METER ADDRESS:
 MAIN ST. / COON CREEK BLVD.
 SOUTHEAST QUADRANT

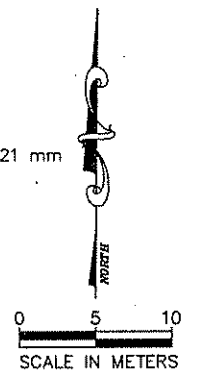


SIGNAL SYSTEM OPERATION

- THE SIGNAL SYSTEM FLASH MODE IS ALL RED.
- NORMAL OPERATION IS 8 PHASE WITH PHASES 1, 3, 5 & 7 BEING PROTECTED LEFT TURN PHASES IN LOCK MODE OPERATION.
- PHASES 2 & 6 SHALL BE ON VEHICLE RECALL.

FOR INFORMATION ONLY

- NOTES:
- SEE SPECIAL PROVISIONS FOR ANOKA COUNTY FURNISHED MATERIALS.
 - EACH SIGNAL FACE SHALL HAVE A BACKGROUND SHIELD.
 - ALL VEHICLE AND PEDESTRIAN SIGNAL INDICATIONS SHALL BE LED. SEE SPECIAL PROVISIONS.
 - EACH PEDESTRIAN SIGNAL FACE SHALL BE A ONE SECTION LED HAND/WALKING PERSON INDICATION. SEE SPECIAL PROVISIONS.
 - LOCATION OF POLES, CONTROLLER CABINET, SERVICE CABINET, AND HANDHOLES SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.
 - HANDHOLES SHALL BE PVC WITH METAL FRAMES AND COVERS, PER MN/DOT STANDARD PLATE NO. MB114.
 - LOOP DETECTOR WIRES SHALL BE #12 AWG CROSS-LINKED POLYETHYLENE (XLP) IN 21 mm NMC. SEE SPECIAL PROVISIONS AND DETAILS.
 - A 21 mm HALF-COUPLING, 21 mm PIPE NIPPLE AND CONDUIT OUTLET BODY FOR EMERGENCY VEHICLE PREEMPTION SHALL BE FURNISHED AND INSTALLED ON EACH MAST ARM AT 1.8 m FROM END OF MAST ARM.
 - SIGNAL EQUIPMENT SHALL BE PAINTED DARK BROWN AS SPECIFIED IN THE SPECIAL PROVISIONS.
 - SEE SPECIAL PROVISIONS, DETAILS, AND REMAINDER OF PLANS FOR INFORMATION REGARDING SIGN PANELS, STRIPING, AND CURB CUTS.
 - * DENOTES ITEM INCLUDED WITH INTERCONNECT (SEE INTERCONNECT PLANS).
 - REMOVAL AND SALVAGING OF THE INPLACE SIGNAL SYSTEM SHALL BE INCLUDED IN ITEM 2565.511 SIGNAL SYSTEM "H".
 - TRAFFIC SIGNAL CABINET, SERVICE CABINET, THE EAST CONDUIT CROSSING OF MAIN STREET, THE ADJACENT HANDHOLES, AND LOOP D1-1 SHALL BE CONSTRUCTED WITHIN THE LIMITS OF THE PERMANENT CONSTRUCTION AREA (WEST OF 4+040).



REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	JUL	05/22/02	REVISIONS PER MNDOT C.O. COMMENTS

DESIGN FILE: 33889028
 DRAWN BY: JAS
 DESIGN BY: GLS
 CHKD. BY: GLS
 DWG. NAME: LB-sig01
 DATE: MARCH 29, 2002



Thresher Square
 700 Third Street South
 Minneapolis, MN 55415
 612.370.0700 Tel
 612.370.1376 Fax

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 GARY L. SHANNON
 DATE: 5-21-02 MN LIC. NO. 16667

MAIN STREET/T.H. 242 RECONSTRUCTION
 242RAMP A, RAMP B ACCESS, 242RAMP B
 MAIN ST. (T.H. 242) / COON CREEK BLVD.
 INPLACE TRAFFIC SIGNAL INTERSECTION LAYOUT
 CITY PROJECT 02-05

SHEET NO. 142
 S.P. 0212-41
 171
 4 OF 6

PLOT DATE: May 20, 2002 5:38pm DISK FILE NAME: (15.05) R:\33889\33889028\33889B\PLAN_SHT\Engring\LB-sig02.dwg

1 TYPE PA100 POLE FOUNDATION
 TYPE PA100-A-16.8-X9.1
 LUMINAIRE ARM AT 350'
 (SEE SPECIAL PROVISIONS)
 LUMINAIRE 250 WATT METAL HALIDE
 WITH P.E.C. AND CHECK SWITCH
 (SEE SPECIAL PROVISIONS)
 3 - ONE WAY SIGNALS OVERHEAD (0 m,
 5.2 m & 8.8 m FROM END OF MAST ARM)
 1 - TYPE 10B POLE MOUNTED AT 90°
 1 - TYPE 10B POLE MOUNTED AT 180°
 2 - PEDESTRIAN PUSHBUTTONS
 INTERNALLY ILLUMINATED SIGN (D-5)
 WITH PEC AND SIGN SWITCH ON POLE
 ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT
 (#2 & #5) (1.8 m FROM END OF MAST ARM)

 EXTEND INTO HH 1:
 78 mm RSC
 2-12/C#12
 4-3/C#12
 1-3/C#20
 1-3/C#12 (LUM)

2 TYPE PA90 POLE FOUNDATION
 TYPE PA90-A-9.1-X9.1
 LUMINAIRE ARM AT 350'
 (SEE SPECIAL PROVISIONS)
 LUMINAIRE 250 WATT METAL HALIDE
 WITH P.E.C. AND CHECK SWITCH
 (SEE SPECIAL PROVISIONS)
 2 - ONE WAY SIGNALS OVERHEAD (0 m &
 3.3 m FROM END OF MAST ARM)
 2 - TYPE 10B POLE MOUNTED AT 90° & 180°
 2 - PEDESTRIAN PUSHBUTTONS
 INTERNALLY ILLUMINATED SIGN (D-1)
 WITH PEC AND SIGN SWITCH ON POLE
 ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT
 (#4 & #7) (1.8 m FROM END OF MAST ARM)

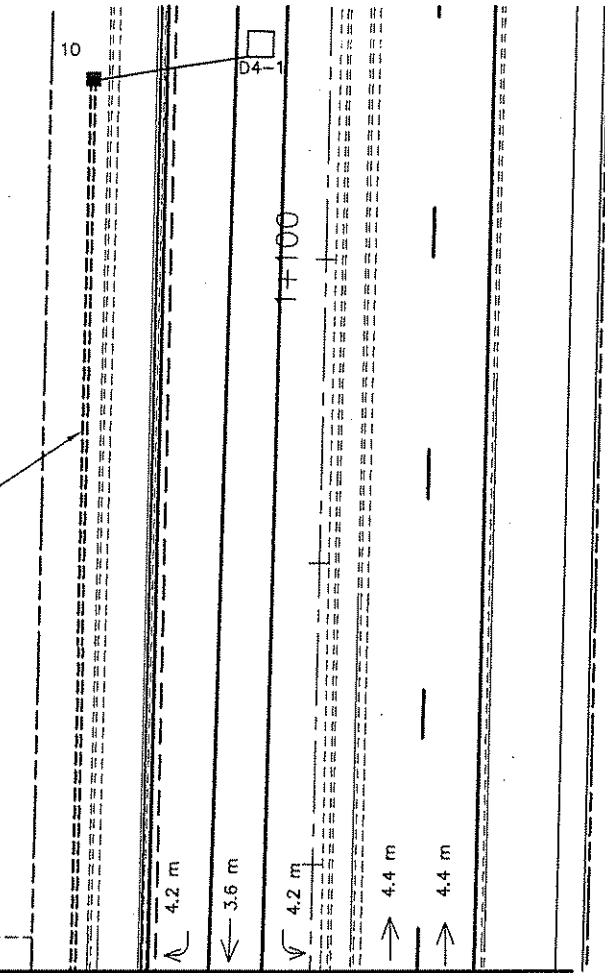
 EXTEND INTO HH 4:
 78 mm RSC
 2-12/C#12
 4-3/C#12
 1-3/C#20
 1-3/C#12 (LUM)

3 TYPE PA100 POLE FOUNDATION
 TYPE PA100-A-13.7-X9.1
 LUMINAIRE ARM AT 350'
 (SEE SPECIAL PROVISIONS)
 LUMINAIRE 250 WATT METAL HALIDE
 WITH P.E.C. AND CHECK SWITCH
 (SEE SPECIAL PROVISIONS)
 3 - ONE WAY SIGNALS OVERHEAD (0 m, 3.3 m &
 6.9 m FROM END OF MAST ARM)
 2 - TYPE 10B POLE MOUNTED AT 90° & 180°
 2 - PEDESTRIAN PUSHBUTTONS
 INTERNALLY ILLUMINATED SIGN (D-5)
 WITH PEC AND SIGN SWITCH ON POLE
 ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT
 (#1 & #6) (1.8 m FROM END OF MAST ARM)

 EXTEND INTO HH 8:
 78 mm RSC
 3-12/C#12
 3-3/C#12
 1-3/C#20
 1-3/C#12 (LUM)

4 TYPE PA100 POLE FOUNDATION
 TYPE PA100-A-15.2-X9.1
 LUMINAIRE ARM AT 350'
 (SEE SPECIAL PROVISIONS)
 LUMINAIRE 250 WATT METAL HALIDE
 WITH P.E.C. AND CHECK SWITCH
 (SEE SPECIAL PROVISIONS)
 2 - ONE WAY SIGNALS OVERHEAD (0 m &
 5.1 m FROM END OF MAST ARM)
 1 - TYPE 10B POLE MOUNTED AT 90°
 1 - TYPE 10B POLE MOUNTED AT 270°
 2 - PEDESTRIAN PUSHBUTTONS
 INTERNALLY ILLUMINATED SIGN (D-1)
 WITH PEC AND SIGN SWITCH ON POLE
 ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT
 (#3 & #8) (1.8 m FROM END OF MAST ARM)

 EXTEND INTO HH 12:
 78 mm RSC
 2-12/C#12
 4-3/C#12
 1-3/C#20
 1-3/C#12 (LUM)



Coon Creek Blvd. (CSAH 18)
(45 mph)

A INSTALL CONTROLLER AND CABINET
 (FURNISHED BY ANOKA COUNTY)
 CABINET FOUNDATION

 EXTEND INTO HH 17:
 103 mm RSC
 5-12/C#12
 6-3/C#12
 2-3/C#20
 6-2/C#14

 EXTEND INTO HH 1:
 103 mm RSC
 4-12/C#12
 7-3/C#12
 2-3/C#20
 8-2/C#14
 *1-6/C FO CABLE

STUB OUT 78 mm RSC FROM CABINET TO WEST
 (THREAD AND CAP BOTH ENDS)

B SERVICE CABINET
 CABINET FOUNDATION

 EXTEND INTO HH 18:
 METERED SIGNAL SERVICE
 35 mm RSC
 3-1/C#6

 EXTEND INTO HH 17:
 53 mm RSC
 UNMETERED STREET LIGHT SERVICE
 4-3/C#12 (LUM)
 UNMETERED ILLUMINATED SIGN SERVICE
 4-3/C#12

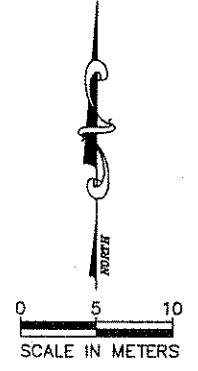
 STUB OUT 53 mm RSC TO SOUTH
 (FOR POWER BY CONNEXUS)

5 PEDESTAL FOUNDATION
 3 m PEDESTAL POLE AND BASE
 PEDESTRIAN PUSHBUTTON

 EXTEND INTO HH 7:
 53 mm RSC
 1-3/C#12

6 PEDESTAL FOUNDATION
 3 m PEDESTAL POLE AND BASE
 PEDESTRIAN PUSHBUTTON

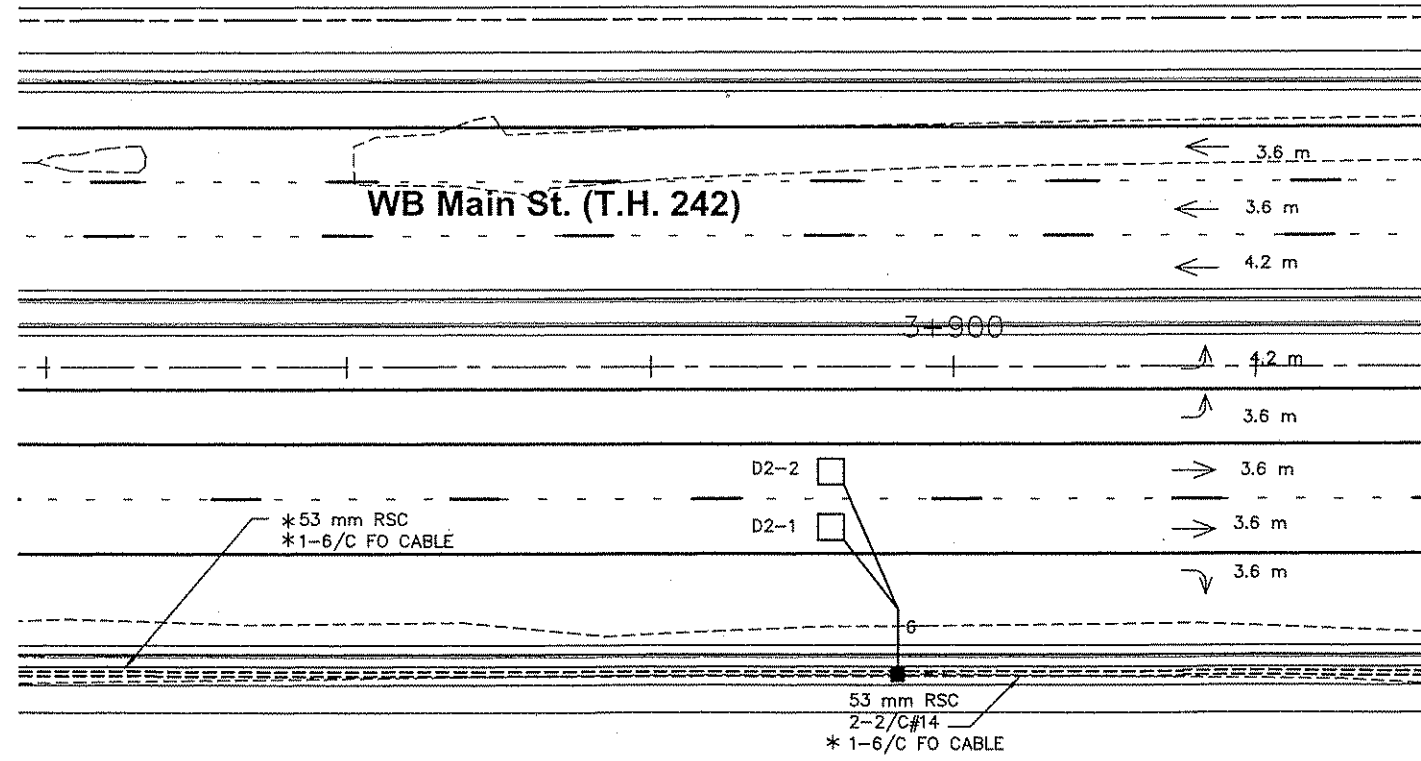
 EXTEND INTO HH 16:
 53 mm RSC
 1-3/C#12



Match Line H3

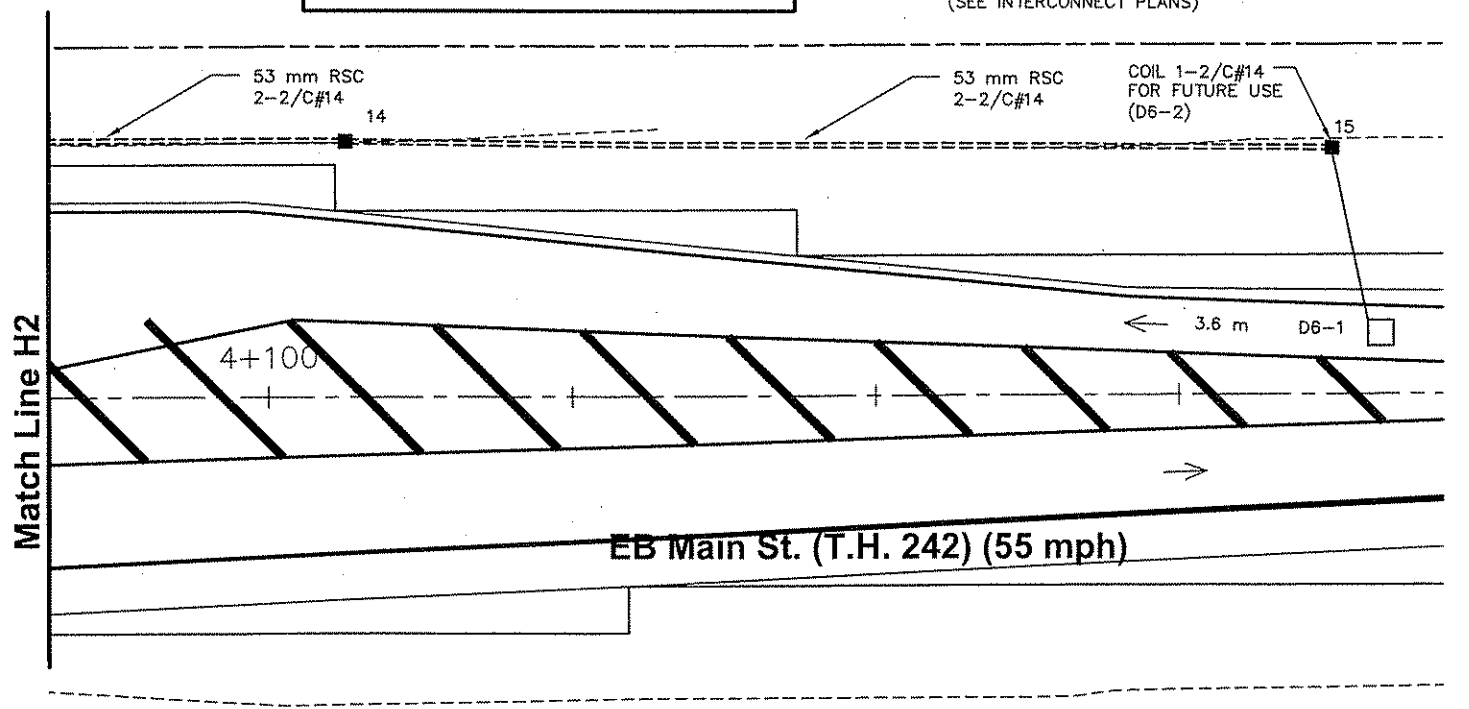
FOR INFORMATION ONLY

* DENOTES ITEM INCLUDED WITH INTERCONNECT.
 (SEE INTERCONNECT PLANS)



WB Main St. (T.H. 242)

Match Line H1



EB Main St. (T.H. 242) (55 mph)

Match Line H2

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	JLJ	05/22/02	REVISIONS PER MNDOT C.O. COMMENTS

DESIGN FILE:
33889028

 DRAWN BY:
JAS

 DESIGN BY:
GLS

 CHKED. BY:
GLS

 DWG. NAME:
LB-sig02

 DATE:
MARCH 29, 2002



URS
BRW, Inc.

Thresher Square
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612.370.0700 Tel
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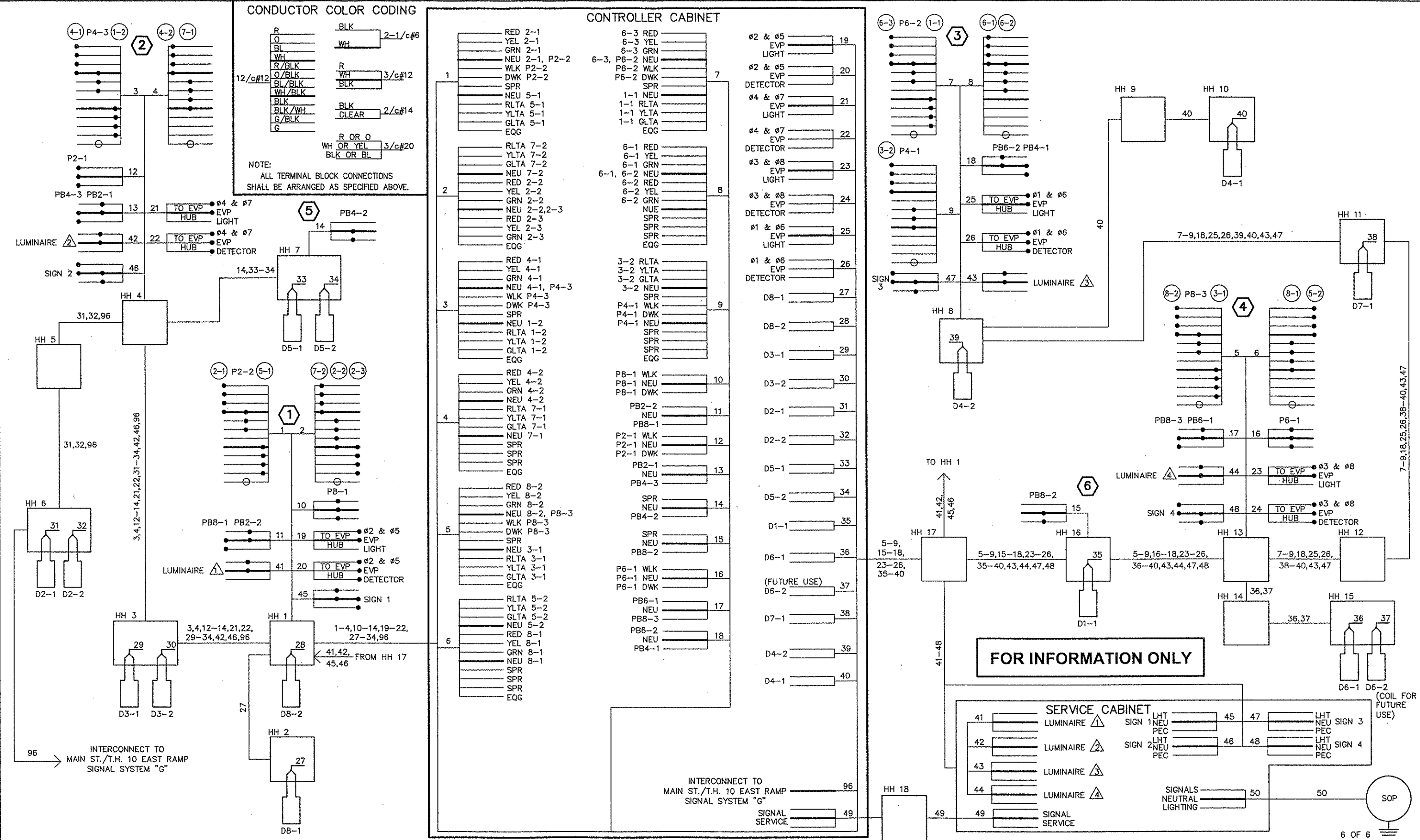
MAIN STREET/T.H. 242 RECONSTRUCTION
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 INPLACE TRAFFIC SIGNAL INTERSECTION LAYOUT

 CITY PROJECT 02-05

S.P. 0212-41

SHEET NO.
143
171

PLOT DATE: May 20, 2002 5:39pm DISK FILE NAME: (15.05) R:\33889\33889028\PLAN_SHT\Engring\LB-sig03.dwg



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REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	JUL	05/22/02	REVISIONS PER MNDDT C.O. COMMENTS

DESIGN FILE: 33889028	DESIGN BY: GLS
DRAWN BY: JAS	DWG. NAME: LB-sig03
CHKD. BY: GLS	DATE: MARCH 29, 2002

ALL QUANTITIES AND DIMENSIONS ON THIS PLAN ARE IN METRIC UNITS.

URS
BRW, Inc.

Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.0376 Fax

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Gary L. Shannon
GARY L. SHANNON
DATE: 5-21-02 MN LIC. NO. 16687

MAIN STREET/T.H. 242 RECONSTRUCTION
242RAMP A, RAMP B ACCESS, 242RAMP B
MAIN ST. (T.H. 242) / COON CREEK BLVD.
INPLACE TRAFFIC SIGNAL WIRING DIAGRAM

CITY PROJECT 02-05

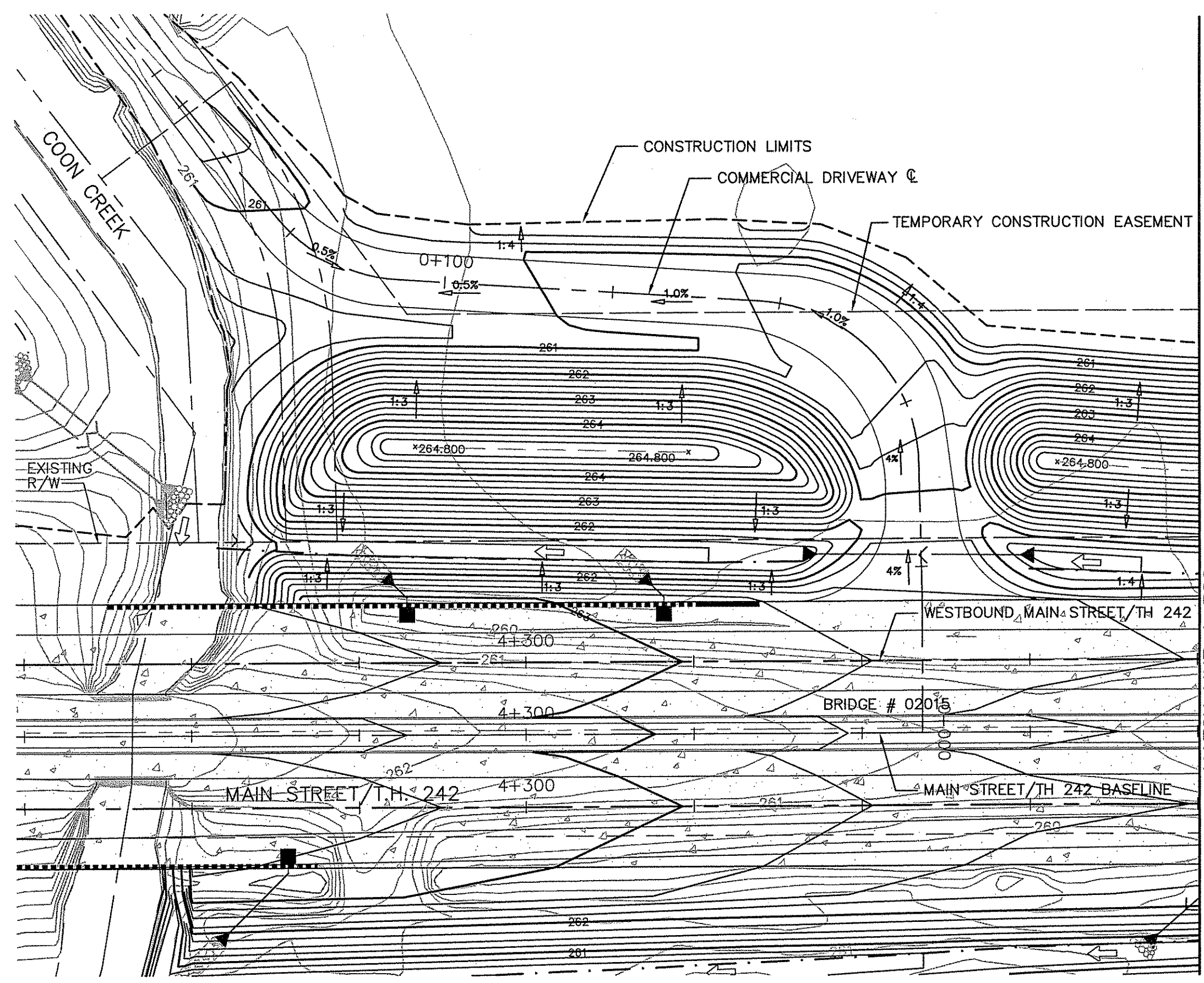
SHEET NO. 144

S.P. 0212-41

171

-LowrBerm
 _easement
 242mheto
 LB2001ut
 LB2001CL
 242-esum
 _ctn
 ?BOX
 LB2001GM
 LB_ALN

PLOT DATE: May 23, 2002 2:08pm DISK FILE NAME: (15.05) R:\33889\33889028\33889E\PLAN_SHT\Engring\LB-det06.dwg



LEGEND	
x 260.000	EXISTING SPOT ELEVATION
— 260 —	EXISTING CONTOURS
x 260.000	PROPOSED SPOT ELEVATION
— 260 —	PROPOSED CONTOURS (ROADWAY)
— 260 —	PROPOSED CONTOURS (BERM GRADING)
- - - - -	BREAKLINE

FOR ADDITIONAL INFORMATION SEE:
 PLANNED CONSTRUCTION SHEET 1 OF 4
 CROSS SECTION SHEETS 6 THRU 10 OF 20

MATCH LINE 4+380

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	JAL	05/22/02	REVISIONS FOR LAWRENCE D/W PER MNDOT COMMENTS

DESIGN FILE: 33889028 5001	
DRAWN BY: IKR	DESIGN BY: JUL
CHKD. BY: KPK	DWG. NAME: LB-DET06
DATE: MARCH 29, 2002	

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 700 Third Street South
 Minneapolis, MN 55415
 612.370.0700 Tel
 612.370.1378 Fax

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Kevin P. Kiehl
 KEVIN P. KIEHL
 DATE: 03/29/02 MN LIC. NO. 23211

MAIN STREET/T.H. 242 RECONSTRUCTION
 BERM GRADING PLAN
 T.H. 242, COON CREEK TO STATION 4+380
 CITY PROJECT 02-05

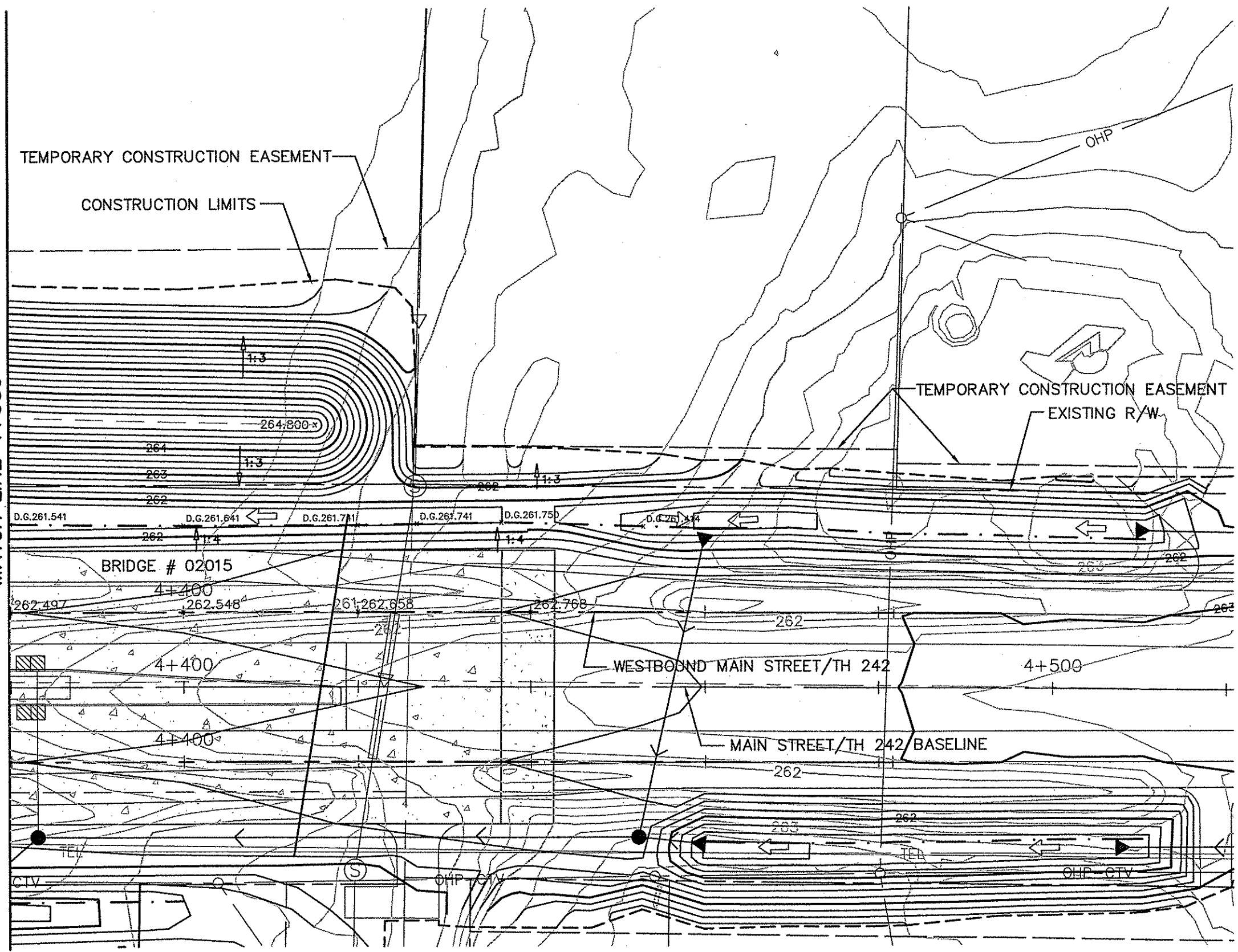
S.P. 0212-41

1 OF 2
 SHEET NO.
 145
 171

242-eut
 -easement
 -LawrBerm
 LB2001ut
 LB2001CL
 242-esum
 L-
 -th
 BOX
 LB2001GM
 LB_ALN

PLOT DATE: May 23, 2002 2:08pm DISK FILE NAME: (15.05) R:\33889\33889028\33889B\PLAN_SHT\Engring\LB-det07.dwg

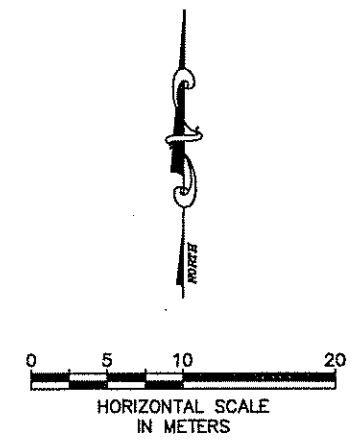
MATCH LINE 4+380



LEGEND

- x 260.000 EXISTING SPOT ELEVATION
- 260— EXISTING CONTOURS
- x 260.000 PROPOSED SPOT ELEVATION
- 260— PROPOSED CONTOURS (ROADWAY)
- 260— PROPOSED CONTOURS (BERM GRADING)
- - - - - BREAKLINE

FOR ADDITIONAL INFORMATION SEE:
 PLANNED CONSTRUCTION SHEET 2 OF 4
 CROSS SECTION SHEETS 10 THRU 12 OF 20



2 OF 2

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	JJL	05/22/02	REVISIONS TO LAWRENCE D/W PER MNDDOT COMMENTS

DESIGN FILE: 33889028 5001	
DRAWN BY: IKR	DESIGN BY: JJL
CHKD. BY: KPK	DWG. NAME: LB-DET07
DATE: MARCH 29, 2002	

ALL QUANTITIES AND DIMENSIONS ON THIS PLAN ARE IN METRIC UNITS.

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Thresher Square
 700 Third Street South
 Minneapolis, MN 55416
 612.370.0700 Tel
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Kevin P. Kielb
 KEVIN P. KIELB
 DATE: 03/29/02 MN LIC. NO. 23211

MAIN STREET/T.H. 242 RECONSTRUCTION

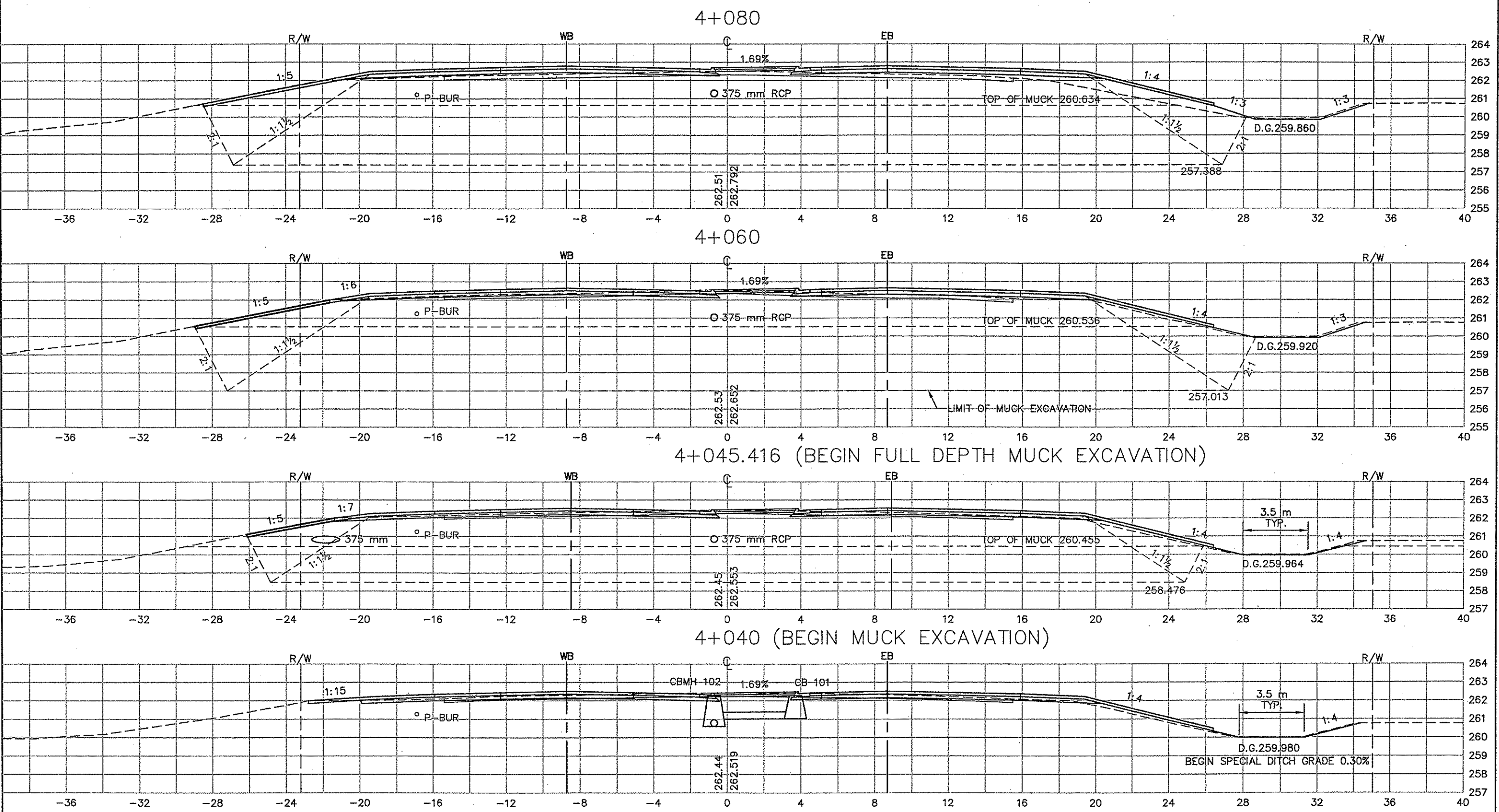
BERM GRADING PLAN
 T.H. 242, STATION 4+380 TO STATION 4+500

CITY PROJECT 02-05

S.P. 0212-41

SHEET NO.
 146
 171

PLOT DATE: May 20, 2002 1:02pm DISK FILE NAME: (15.05) R:\33889\33889028\33889B\XSEC\Xsplns\lboxspl02.dwg



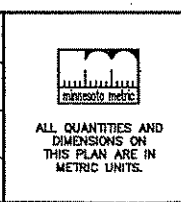
REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	JUL	05/22/02	REVISIONS PER MnDOT C.O. COMMENTS

DESIGN FILE:
33889028 5001

DRAWN BY: IKR DESIGN BY: KPK

CHKD. BY: KPK/PBD DWG. NAME: LBXSPLT02

DATE: MARCH 29, 2002



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Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

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Kevin P. Kielb
KEVIN P. KIELB
DATE: 03/29/02 MN LIC. NO. 23211

MAIN STREET/T.H. 242 RECONSTRUCTION

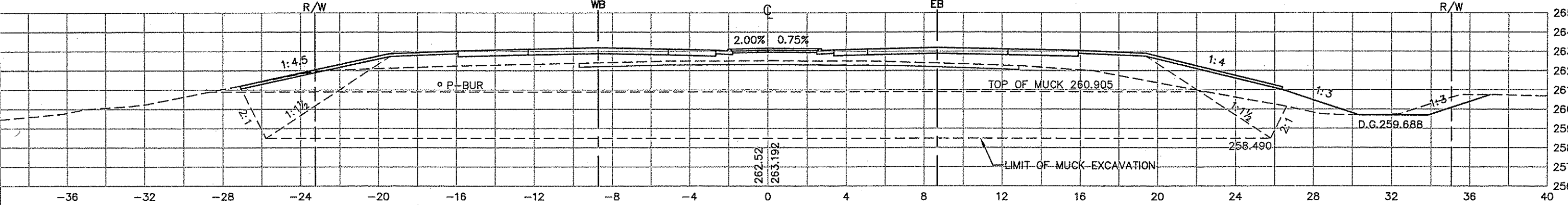
CROSS SECTIONS
STATION 4+040.000 TO STATION 4+080.000

CITY PROJECT 02-05

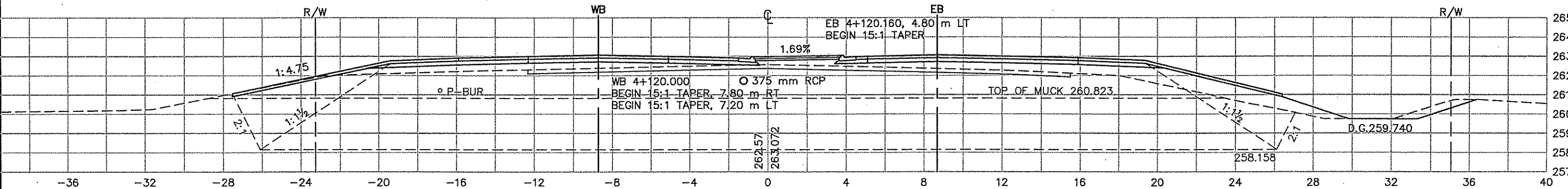
S.P. 0212-41

PLOT DATE: May 20, 2002 1:01pm DISK FILE NAME: (15.05) R:\33889\33889028\XSEC\Xsplans\lbcxsp103.dwg

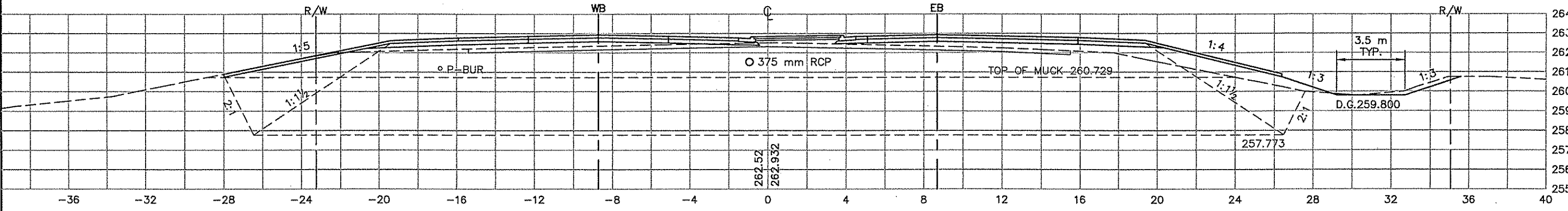
4+137.190 (BEGIN BRIDGE APPROACH PANEL)



4+120



4+100



REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	JL	05/22/02	REVISIONS PER MnDOT C.O. COMMENTS

DESIGN FILE: 33889028 5001	
DRAWN BY: IKR	DESIGN BY: KPK
CHKD. BY: KPK/PBD	DWG. NAME: LBXSPLT03
DATE: MARCH 29, 2002	



Treasure Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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Kevin P. Kiehl
KEVIN P. KIEHL
DATE: 03/29/02 MN LIC. NO. 23211

MAIN STREET/T.H. 242 RECONSTRUCTION

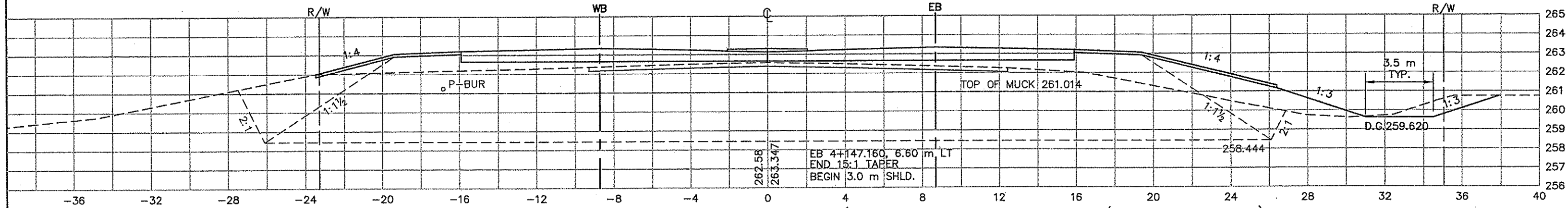
CROSS SECTIONS
STATION 4+100.000 TO STATION 4+137.190

CITY PROJECT 02-05

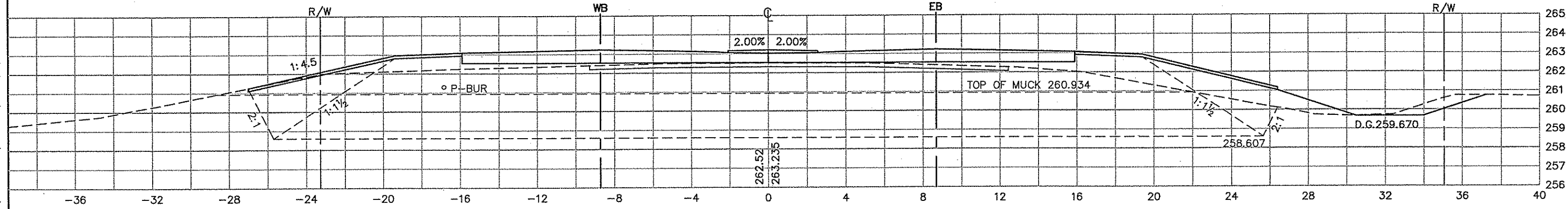
S.P. 0212-41

SHEET NO.
149
171

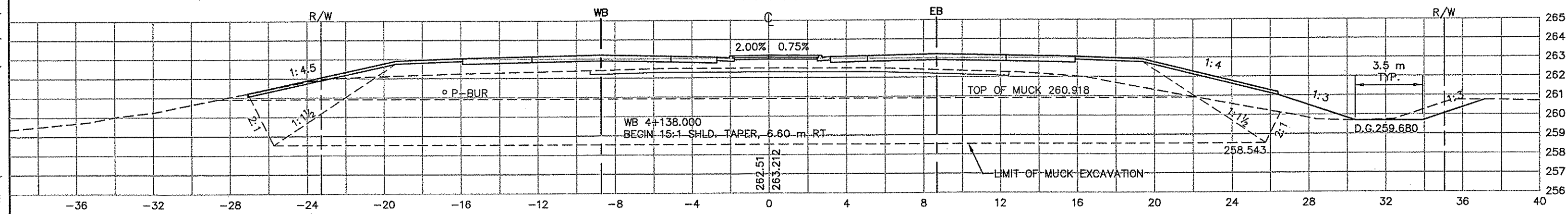
(BEGIN LANDBRIDGE SUBGRADE TREATMENT)
4+160 (END MUCK EXCAVATION)



4+143.290 (END APPROACH PANEL/BEGIN BRIDGE)



4+140

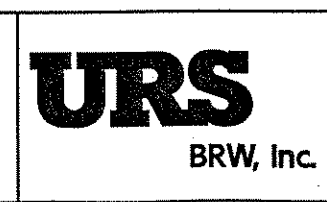


PLOT DATE: May 20, 2002 12:59pm DISK FILE NAME: (15.05) R:\33889\33889028\XSEC\XSpans\Lbsplit04.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	JL	05/22/02	REVISIONS PER MnDOT C.O. COMMENTS

DESIGN FILE: 33889028 5001	
DRAWN BY: IKR	DESIGN BY: KPK
CHKD. BY: KPK/PBD	DWG. NAME: LBXSPLT04
DATE: MARCH 29, 2002	

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Minneapolis, MN 55416
612.370.0700 Tel
612.370.1378 Fax

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Kevin P. Kiel
KEVIN P. KIEL
DATE: 03/29/02 MN LIC. NO. 23211

MAIN STREET/T.H. 242 RECONSTRUCTION

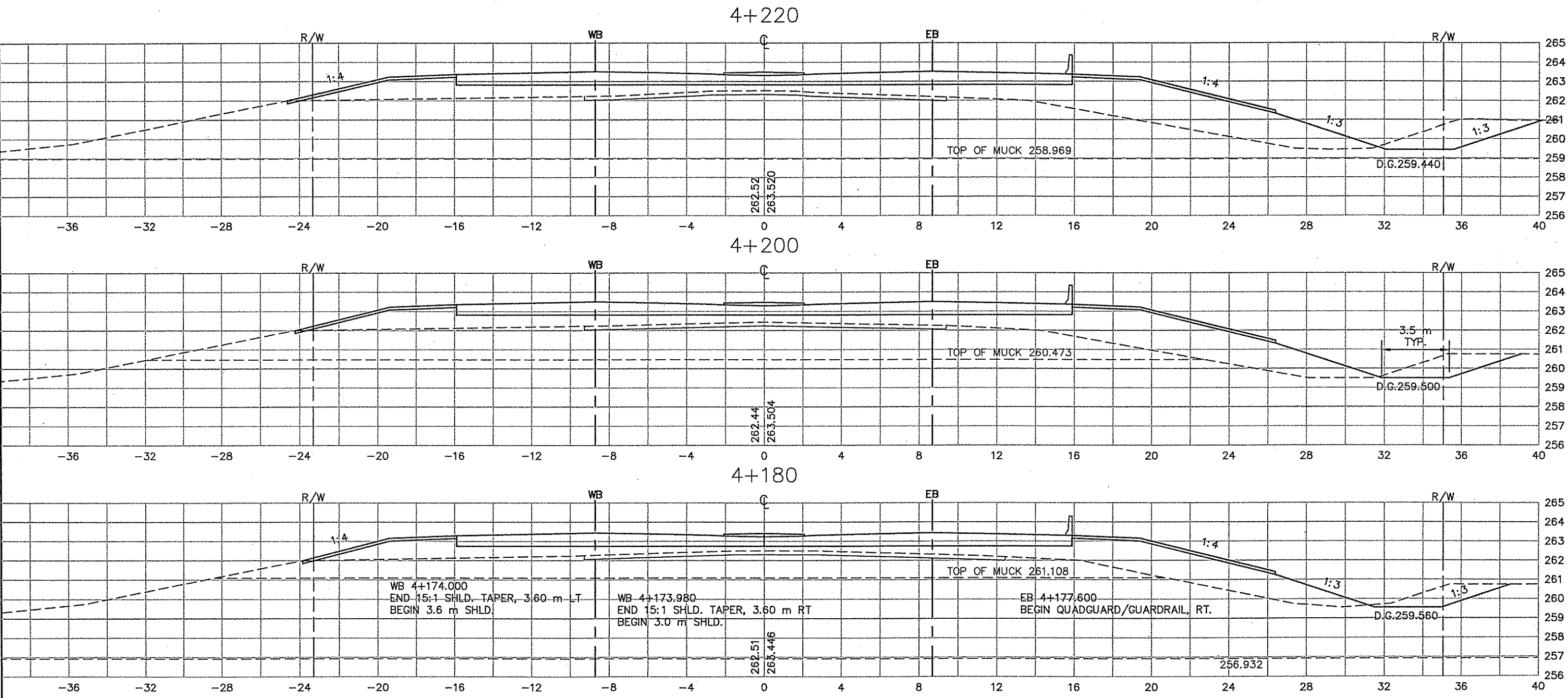
CROSS SECTIONS
STATION 4+140.000 TO STATION 4+160.000

CITY PROJECT 02-05

S.P. 0212-41

SHEET NO.
150
171

PLOT DATE: May 20, 2002 12:42pm DISK FILE NAME: (15.05) R:\33889\33889028\33889B\XSEC\XSpans\lboxspl05.dwg



REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	JKL	05/22/02	REVISIONS PER MNDOT C.O. COMMENTS

DESIGN FILE:
33889028 5001

DRAWN BY: IKR	DESIGN BY: KPK
CHKD. BY: KPK/PBD	DWG. NAME: LBXSPLT05
DATE: MARCH 29, 2002	



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Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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Kevin P. Kiehl
KEVIN P. KIEHL
DATE: 03/29/02 MN LIC. NO. 23211

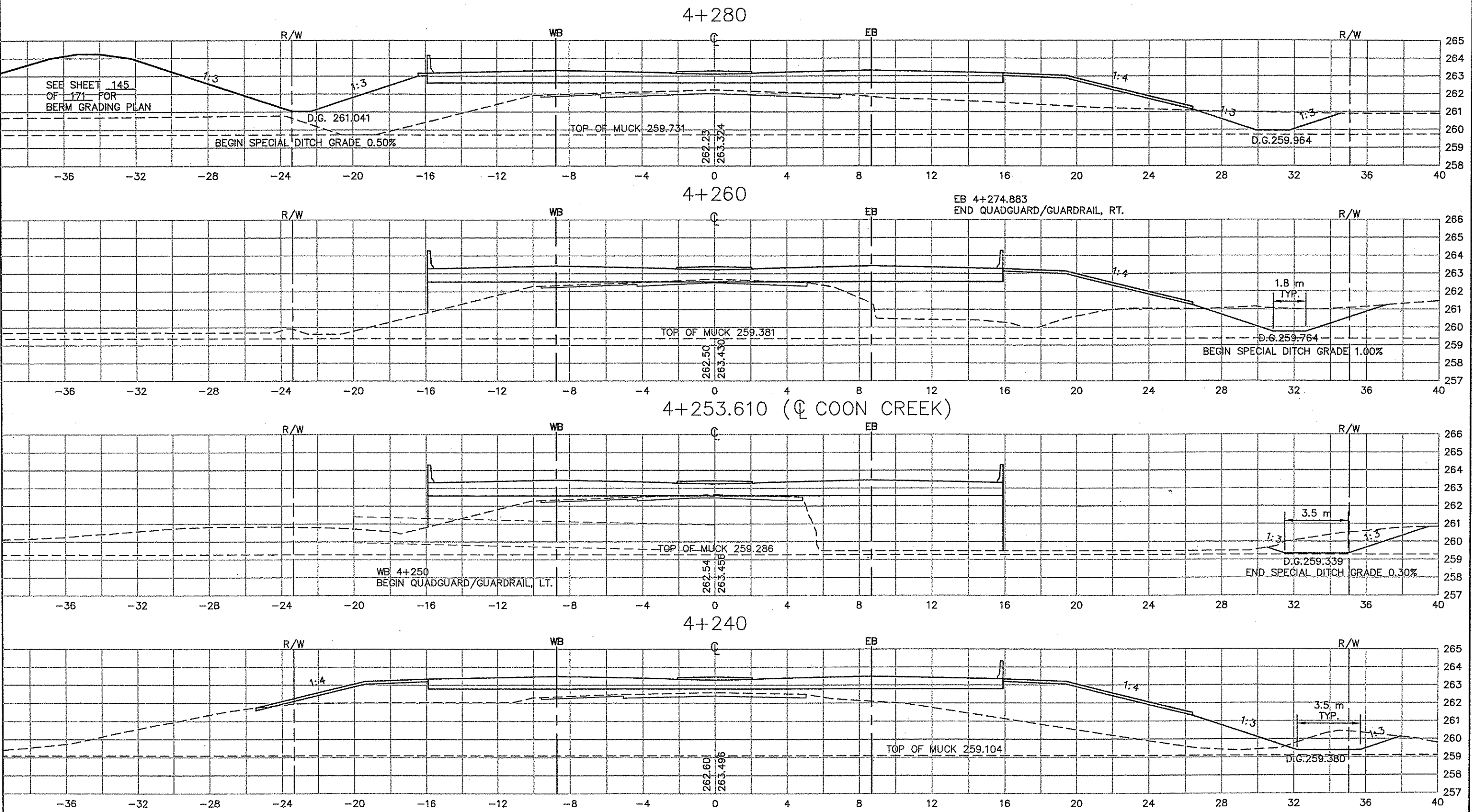
MAIN STREET/T.H. 242 RECONSTRUCTION

CROSS SECTIONS
STATION 4+180.000 TO STATION 4+220.000

CITY PROJECT 02-05

S.P. 0212-41

SHEET NO.
151
171



PLOT DATE: May 20, 2002 2:06pm DISK FILE NAME: (15.05) R:\33889\33889028\XSEC\XSpans\LBXSPLT06.dwg


REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	IKR	05/22/02	REVISED D/W (4+347.150, LT.) PER MNDOT COMMENTS

DESIGN FILE:
33889028 5001

DRAWN BY: IKR DESIGN BY: KPK

CHKD. BY: KPK/PBD DWG. NAME: LBXSPLT06

DATE: MARCH 29, 2002


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Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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Kevin P. Kielb
KEVIN P. KIELB
DATE: 05/29/02 MN LIC. NO. 23211

MAIN STREET/T.H. 242 RECONSTRUCTION

CROSS SECTIONS
STATION 4+240.000 TO STATION 4+280.000

CITY PROJECT 02-05

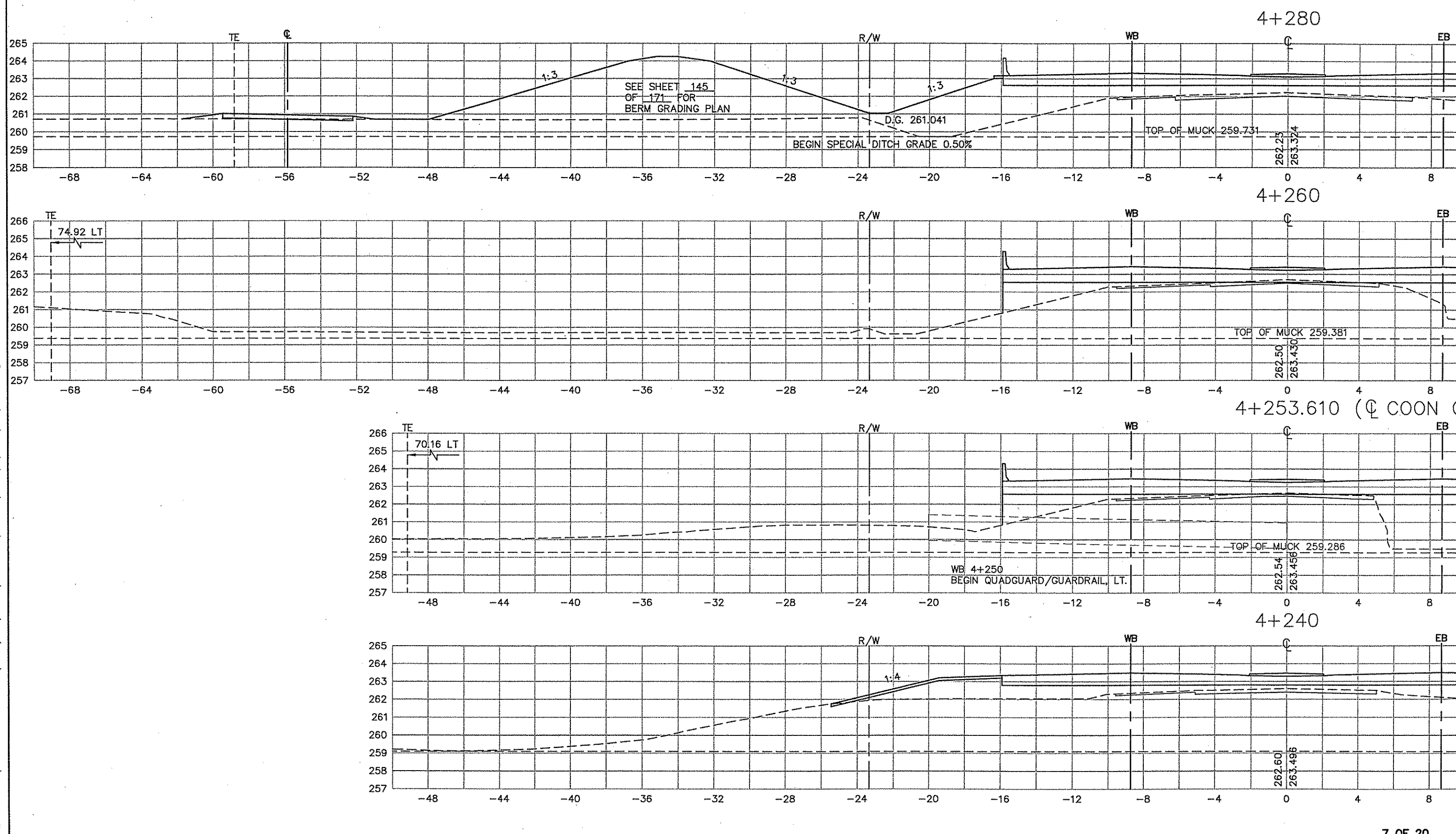
6 OF 20

SHEET NO. 152

S.P. 0212-41

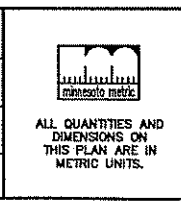
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PLOT DATE: May 20, 2002 12:39pm DISK FILE NAME: (15.05) R:\338899\33889028\338899\XSEC\XSP\plans\lboxsp106A.dwg



REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	IKR	05/22/02	REVISED D/W (4+347.150, LT.) PER MNDOT COMMENTS

DESIGN FILE: 33889028 5001	DRAWN BY: IKR	DESIGN BY: KPK
	CHKD. BY: KPK/PBD	DWG. NAME: LBXSPLT06A
DATE: MARCH 29, 2002		



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Minneapolis, MN 55415
612.370.0700 Tel
612.370.1376 Fax

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Kevin P. Kiehl
KEVIN P. KIELB
DATE: 03/29/02 MN LIC. NO. 23211

MAIN STREET/T.H. 242 RECONSTRUCTION

CROSS SECTIONS
STATION 4+240.000 TO STATION 4+280.000

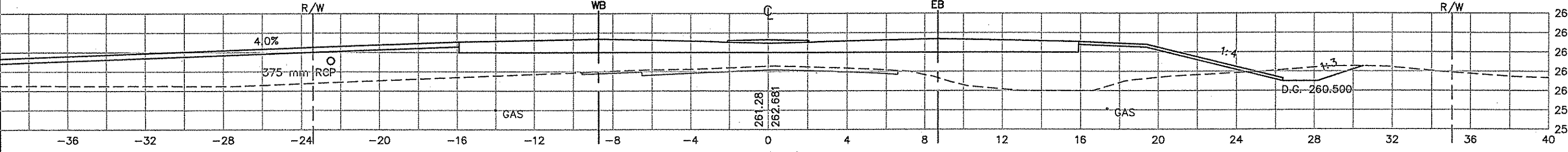
CITY PROJECT 02-05

S.P. 0212-41

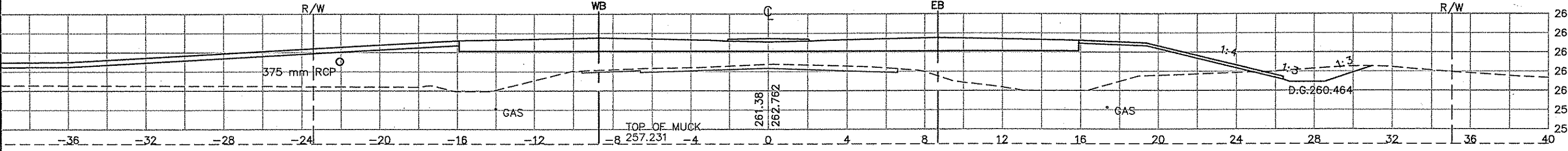
7 OF 20

SHEET NO.
153
171

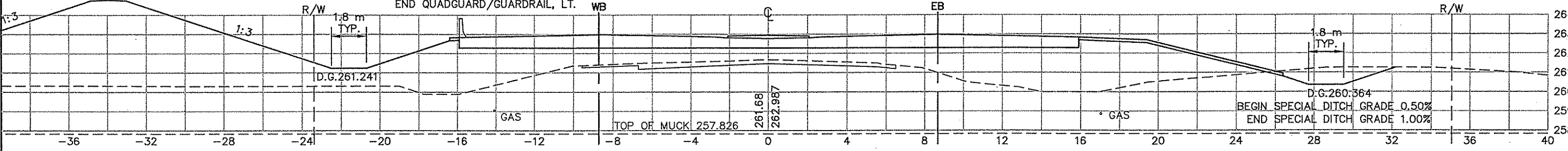
(☉ COMMERCIAL D/W, LT.) 4+347.150



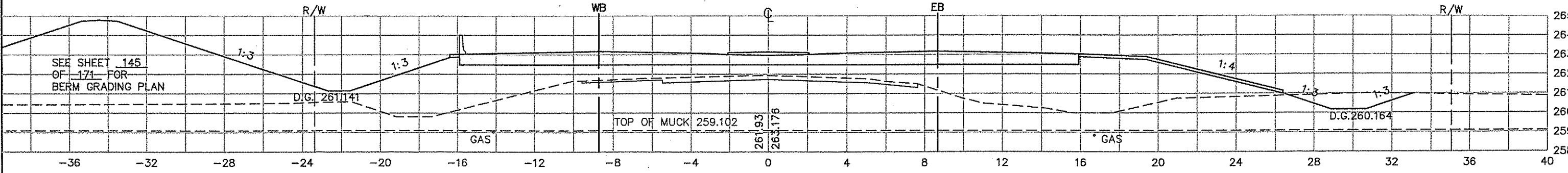
4+340



4+320



4+300



PLOT DATE: May 20, 2002 12:38pm DISK FILE NAME: (15.05) R:\33889\33889028\33889B\XSEC\LBXSPLT07.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	IKR	05/22/02	REVISED D/W (4+347.150, LT.) PER MNDOT COMMENTS

DESIGN FILE: 33889028 5001	
DRAWN BY: IKR	DESIGN BY: KPK
CHECKED BY: KPK/PBD	DWG. NAME: LBXSPLT07
DATE: MARCH 29, 2002	



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700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1376 Fax

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Kevin P. Kiehl
KEVIN P. KIEHL
DATE: 03/29/02 MN LIC. NO. 23211

MAIN STREET/T.H. 242 RECONSTRUCTION

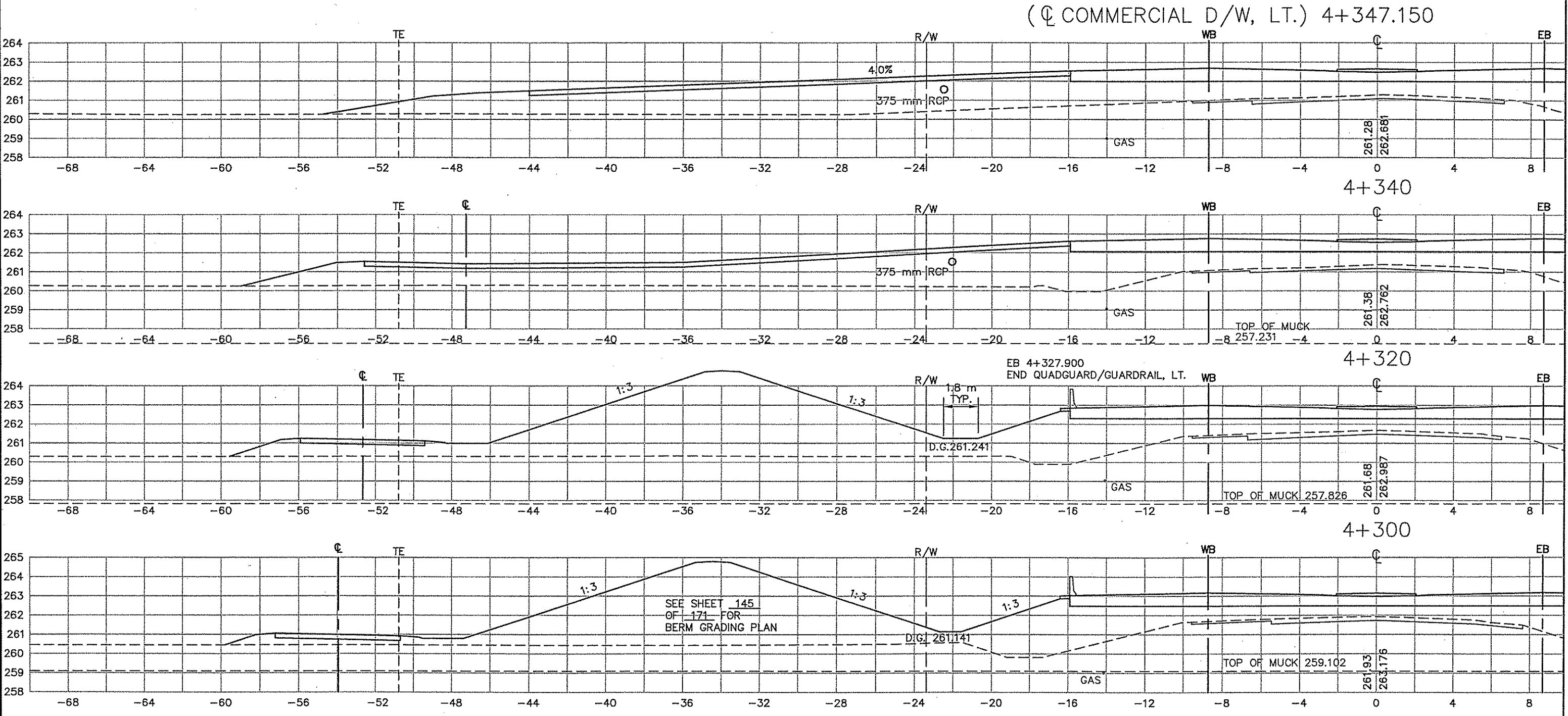
CROSS SECTIONS
STATION 4+300.000 TO STATION 4+347.150

CITY PROJECT 02-05

S.P. 0212-41

SHEET NO.
154
171

PLOT DATE: May 20, 2002 12:37pm DISK FILE NAME: (15.05) R:\33889\33889028\XSEC\Xplans\lbs07a.dwg



REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	IKR	05/22/02	REVISED D/W (4+347.150, LT.) PER MNDOT COMMENTS

DESIGN FILE: 33889028 5001	
DRAWN BY: IKR	DESIGN BY: KPK
CHKD. BY: KPK/PBD	DWG. NAME: LBXS07A
DATE: MARCH 29, 2002	

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Kevin P. Kiehl
KEVIN P. KIEHL
DATE: 03/29/02 MN LIC. NO. 23211

MAIN STREET/T.H. 242 RECONSTRUCTION

CROSS SECTIONS
STATION 4+300.000 TO STATION 4+347.150

CITY PROJECT 02-05

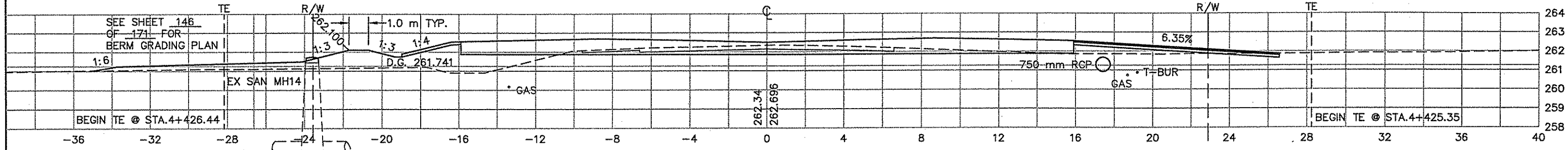
9 OF 20

SHEET NO.
155

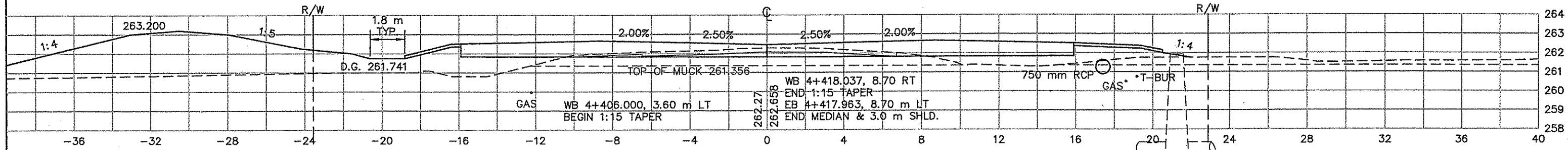
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171

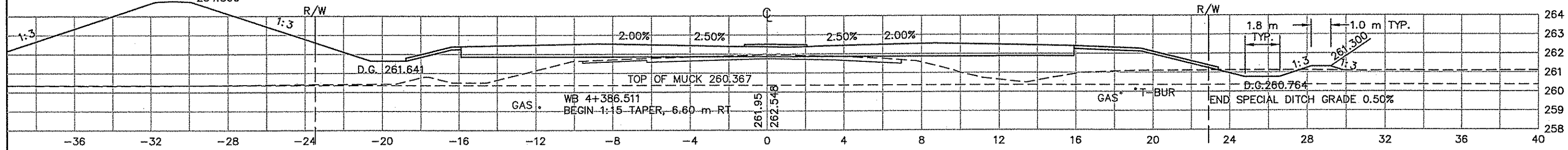
4+426.877 (C/D/W, RT.)



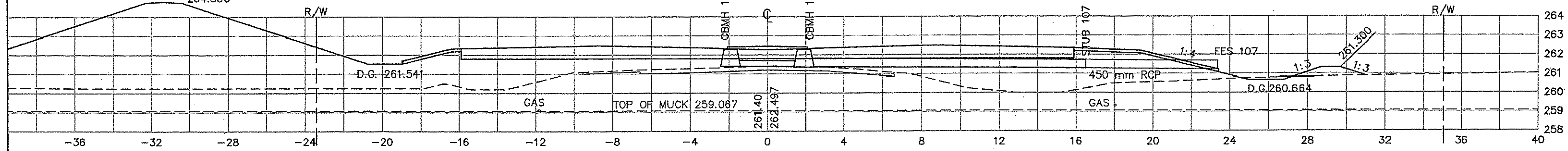
4+420



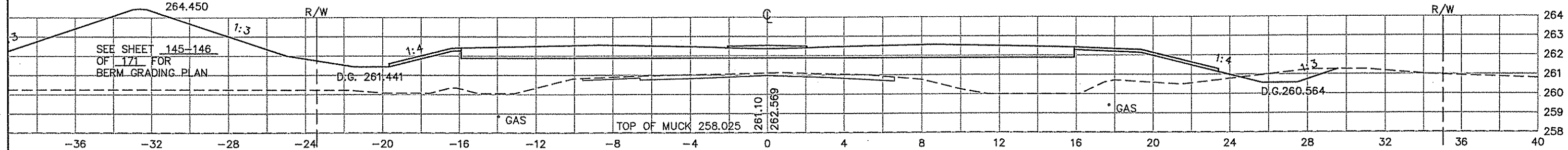
4+400



4+380



4+360



PLOT DATE: May 20, 2002 12:35pm DISK FILE NAME: (15.05) R:\33889\33889028\33889028\XSEC\XSpians\lxspl108.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	JK	05/22/02	REVISIONS PER MnDOT C.O. COMMENTS

DESIGN FILE:
33889028 5001

DRAWN BY: IKR DESIGN BY: KPK

CHKD. BY: KPK/PBD DWG. NAME: LBSAPBOX

DATE:
MARCH 29, 2002

ALL QUANTITIES AND DIMENSIONS ON THIS PLAN ARE IN METRIC UNITS.



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Kevin P. Kiehl
KEVIN P. KIEHL
DATE: 03/29/02 MN LIC. NO. 23211

MAIN STREET/T.H. 242 RECONSTRUCTION

CROSS SECTIONS
STATION 4+360.000 TO STATION 4+426.877

CITY PROJECT 02-05

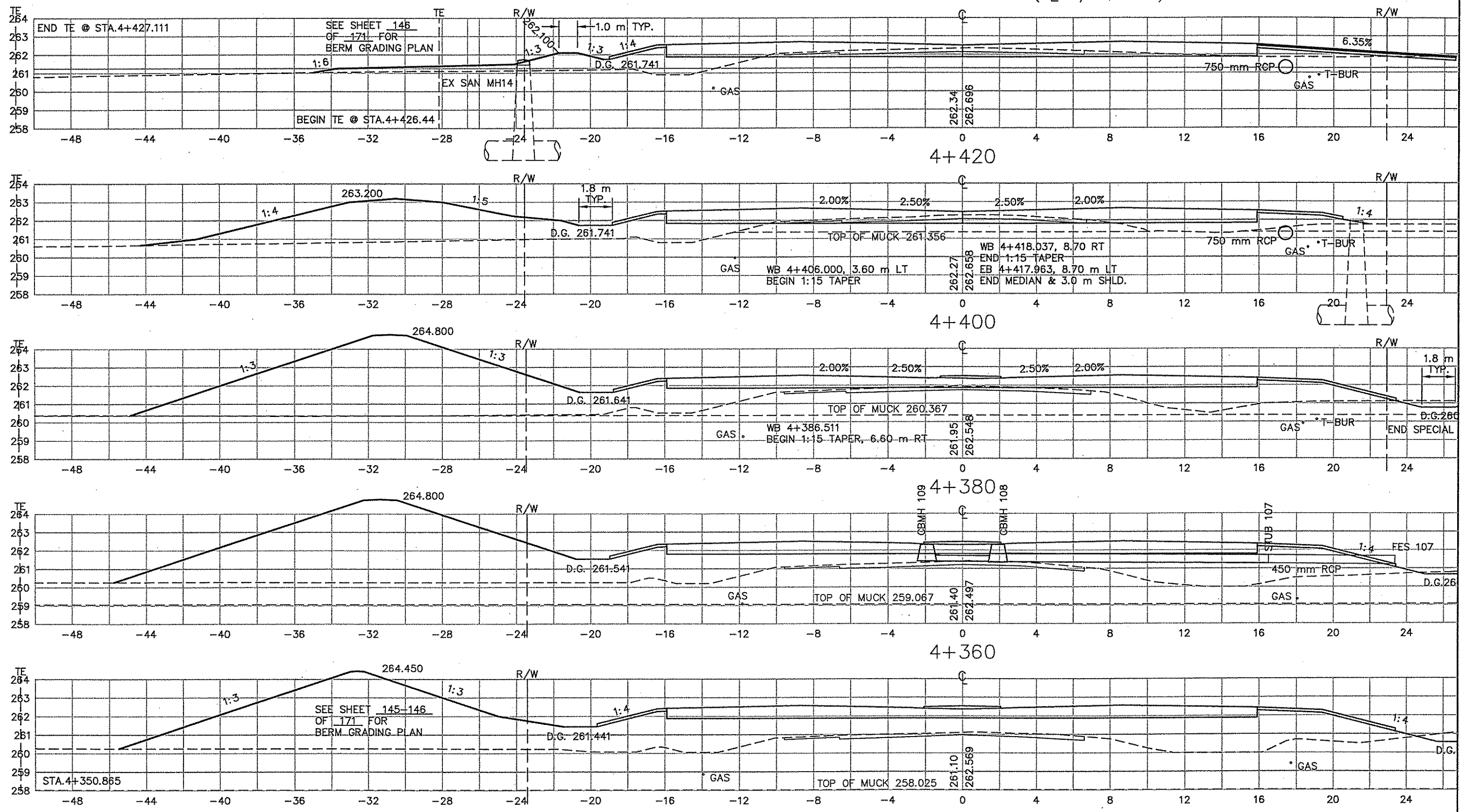
S.P. 0212-41

10 OF 20

SHEET NO.
156
171

PLOT DATE: May 20, 2002 12:33pm DISK FILE NAME: (15.05) R:\33889\33889028\33889B\XSEC\XSp\ans\lxs08A.dwg

4+426.877 (C D/W, RT.)



REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	JL	05/22/02	REVISIONS PER MNDOT C.O. COMMENTS

DESIGN FILE:
33889028 5001
DRAWN BY: IKR
DESIGN BY: KPK
CHKD. BY: KPK/PBD
DWG. NAME: LBXS08A
DATE: MARCH 29, 2002

ALL QUANTITIES AND DIMENSIONS ON THIS PLAN ARE IN METRIC UNITS.

URS
BRW, Inc.

Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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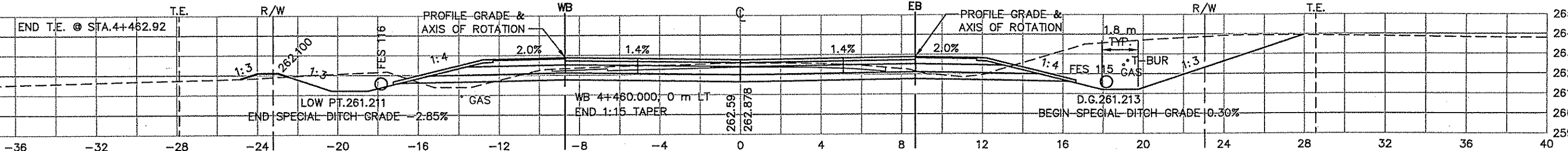
Kevin P. Kiehl
KEVIN P. KIEHL
DATE: 03/29/02 MN LIC. NO. 23211

MAIN STREET/T.H. 242 RECONSTRUCTION
CROSS SECTIONS
STATION 4+360.000 TO STATION 4+426.877
CITY PROJECT 02-05

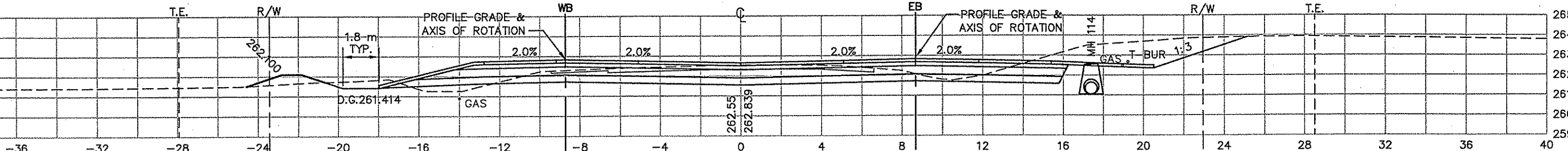
S.P. 0212-41

11 OF 20
SHEET NO.
157
171

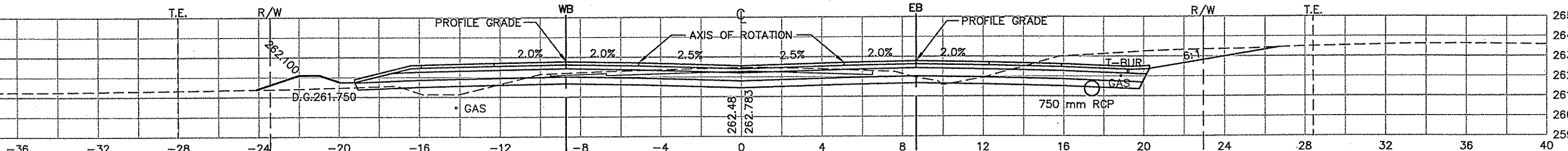
4+460



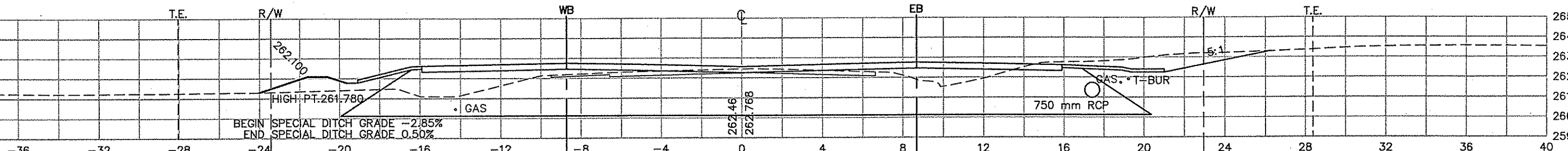
4+452.932 (BEGIN THRU LANE/MEDIAN TRANSITION)



4+442.732 (END APPROACH PANEL/BEGIN PAVEMENT TRANSITION)

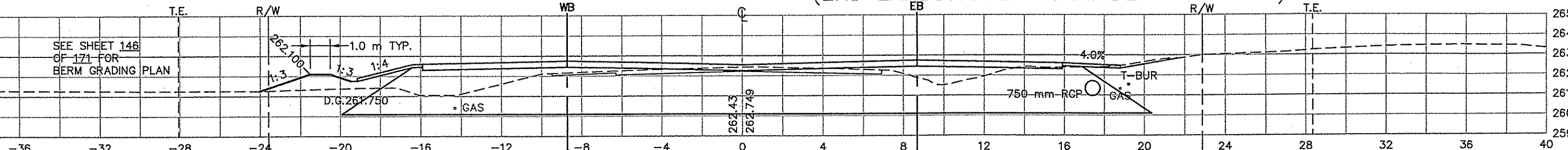


4+440



4+436.632 (END BRIDGE/BEGIN APPROACH PANEL)

(END LANDBRIDGE SUBGRADE TREATMENT)



PLOT DATE: May 20, 2002 12:31pm DISK FILE NAME: (15.05) R:\33889\33889028\33889028\LBXSPL109.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	JAL	05/22/02	REVISIONS PER MnDOT C.O. COMMENTS

DESIGN FILE:
33889028 5001

DRAWN BY: IKR	DESIGN BY: KPK
CHKD. BY: KPK/PBD	DWG. NAME: LBXSPL109
DATE: MARCH 28, 2002	



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Kevin P. Kielb
KEVIN P. KIELB
DATE: 03/29/02 MN LIC. NO. 23211

MAIN STREET/T.H. 242 RECONSTRUCTION

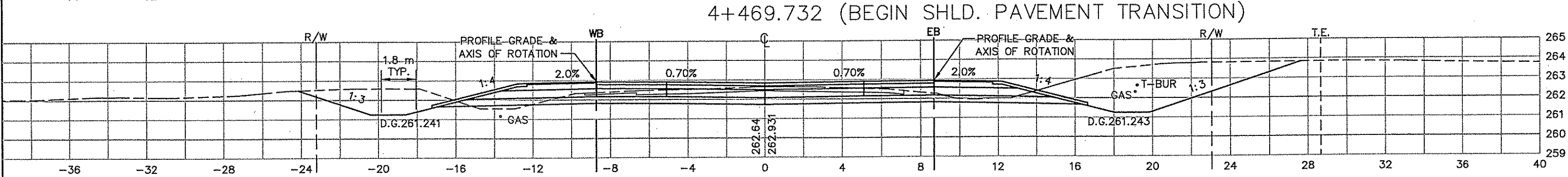
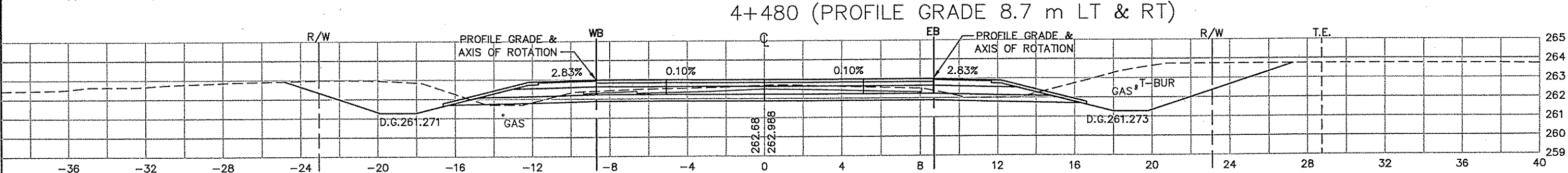
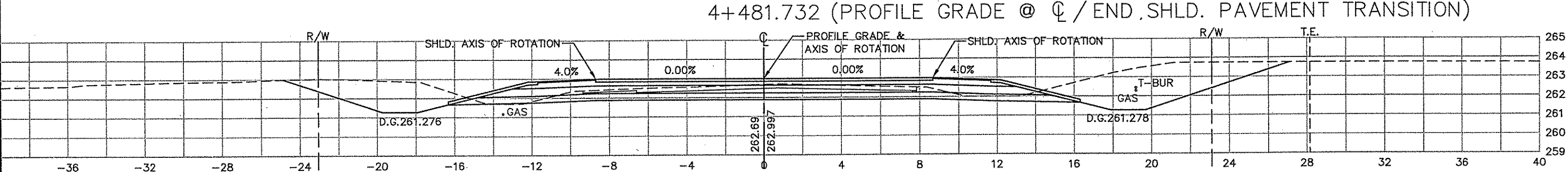
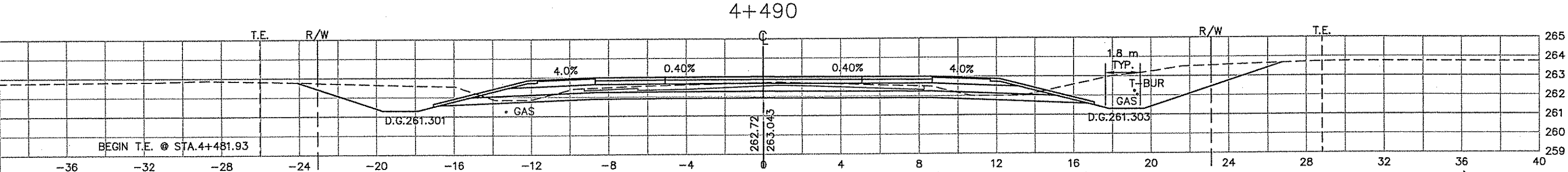
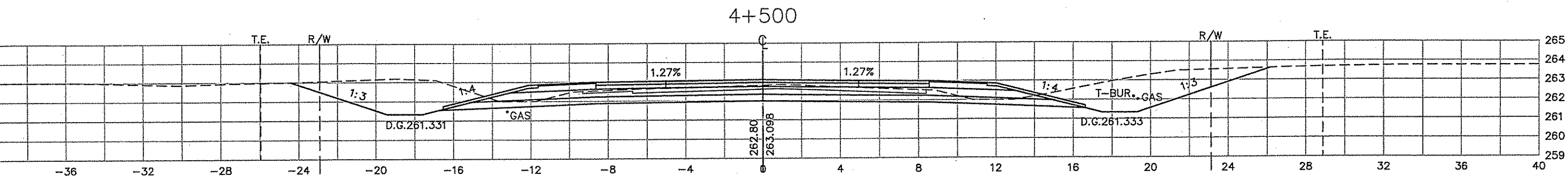
CROSS SECTIONS
STATION 4+436.632 TO STATION 4+460.000

CITY PROJECT 02-05

S.P. 0212-41

SHEET NO. 158	171
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PLOT DATE: May 20, 2002 12:29pm DISK FILE NAME: (15.05) R:\33889\33889028\33889B\XSEC\Xsplans\Lbsplit10.dwg



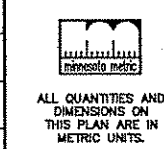
REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	JL	05/22/02	REVISIONS PER MnDOT C.O. COMMENTS

DESIGN FILE:
33889028 5001

DRAWN BY: IKR
DESIGN BY: KPK

CHKD. BY: KPK/PBD
DWG. NAME: LBSPLT10

DATE:
MARCH 29, 2002



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Minneapolis, MN 55415
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612.370.1378 Fax

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Kevin P. Kielb
KEVIN P. KIELB
DATE: 03/29/02 MN LIC. NO. 23211

MAIN STREET/T.H. 242 RECONSTRUCTION

CROSS SECTIONS
STATION 4+469.732 TO STATION 4+500.000

CITY PROJECT 02-05

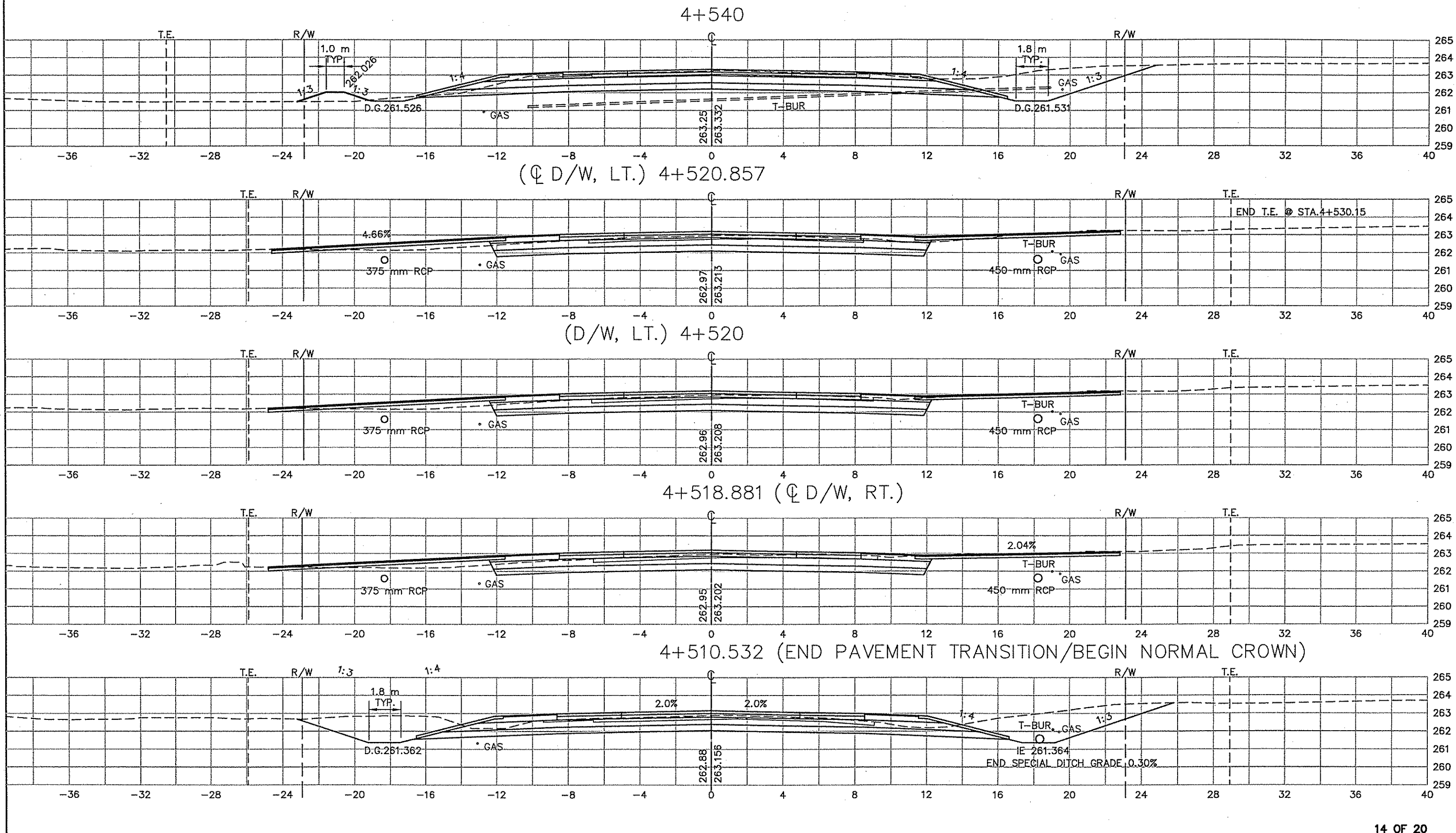
S.P. 0212-41

13 OF 20

SHEET NO.
159

171

PLOT DATE: May 20, 2002 12:28pm DISK FILE NAME: (15.05) R:\33889\33889028\33889B\XSEC\XSpans\lbsxsplit11.dwg



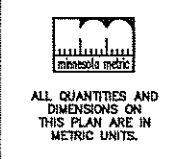
REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	JR	05/22/02	REVISIONS PER MnDOT C.O. COMMENTS

DESIGN FILE:
33889028 5001

DRAWN BY: IKR DESIGN BY: KPK

CHKD. BY: KPK/PBD DWG. NAME: LBSXPLT11

DATE: MARCH 29, 2002



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Kevin P. Kielb
KEVIN P. KIELB
DATE: 03/29/02 MN LIC. NO. 23211

MAIN STREET/T.H. 242 RECONSTRUCTION

CROSS SECTIONS
STATION 4+510.532 TO STATION 4+540.000

CITY PROJECT 02-05

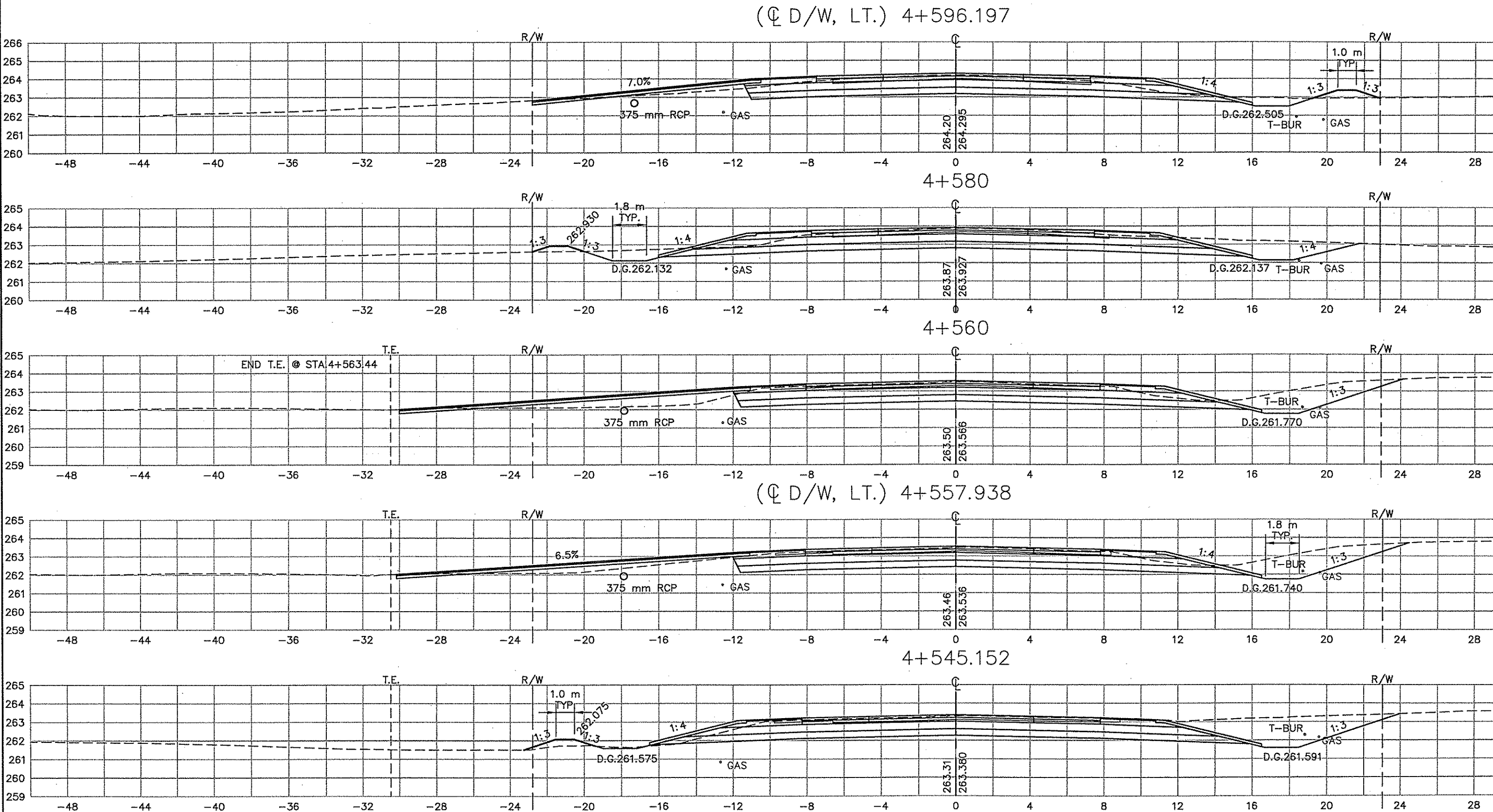
14 OF 20

SHEET NO. 160

S.P. 0212-41

171

PLOT DATE: May 20, 2002 12:27pm DISK FILE NAME: (15.05) R:\33889\33889028\33889028\33889028\XSECS\LBXSPL12.dwg



REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	JUL	05/22/02	REVISIONS PER MnDOT C.O. COMMENTS

DESIGN FILE: 33889028 5001	
DRAWN BY: JKR	DESIGN BY: KPK
CHKD. BY: KPK/PBD	DWG. NAME: LBXSPL12
DATE: MARCH 29, 2002	

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Kevin P. Kielb
KEVIN P. KIELB
DATE: 03/29/02 MN LIC. NO. 23211

MAIN STREET/T.H. 242 RECONSTRUCTION

CROSS SECTIONS
STATION 4+545.152 TO STATION 4+596.197

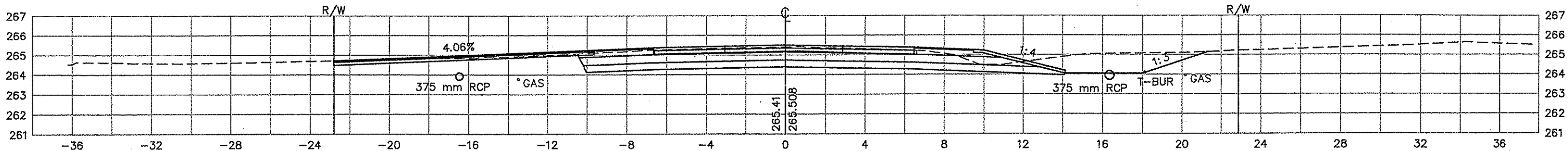
CITY PROJECT 02-05

S.P. 0212-41

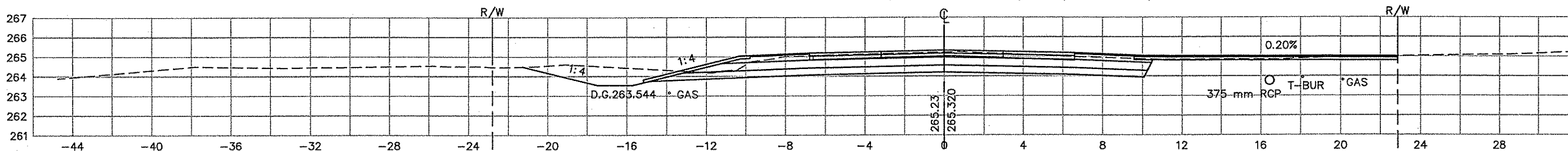
15 OF 20

SHEET NO.
161
171

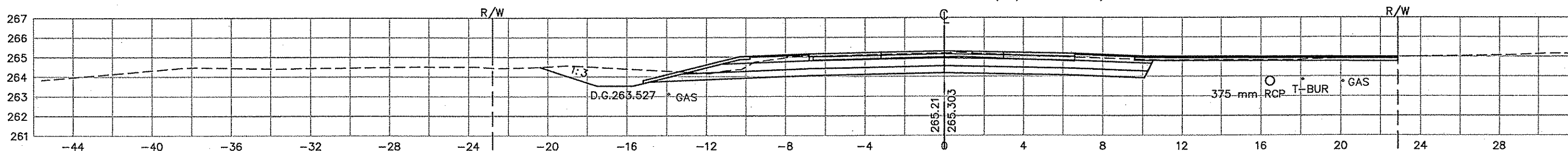
(\varnothing D/W, LT.) 4+648.952



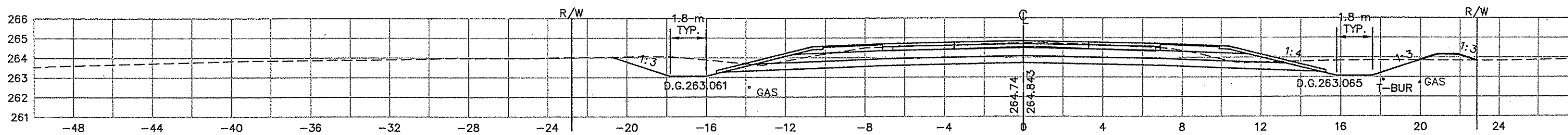
4+640.756 (\varnothing D/W, RT.)



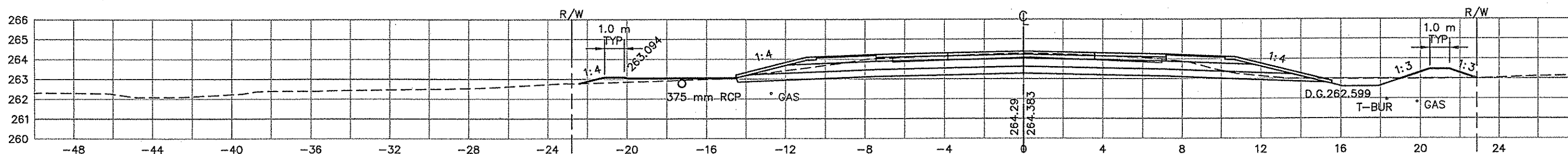
4+640 (D/W, RT.)



4+620



4+600



PLOT DATE: May 20, 2002 12:25pm DISK FILE NAME: (15.05) R:\33889\33889028\33889B\SEC\XSP\plans\lboxsplit13.dwg

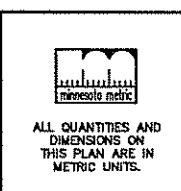
REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	JL	05/22/02	REVISIONS PER MnDOT C.O. COMMENTS

DESIGN FILE:
33889028 5001

DRAWN BY: IKR DESIGN BY: KPK

CHKD. BY: KPK/PBD DWG. NAME: LBXSPL13

DATE:
MARCH 29, 2002



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Kevin P. Kiehl
KEVIN P. KIEHL

DATE: 03/29/02 MN LIC. NO. 23211

MAIN STREET/T.H. 242 RECONSTRUCTION

CROSS SECTIONS
STATION 4+600.000 TO STATION 4+648.952

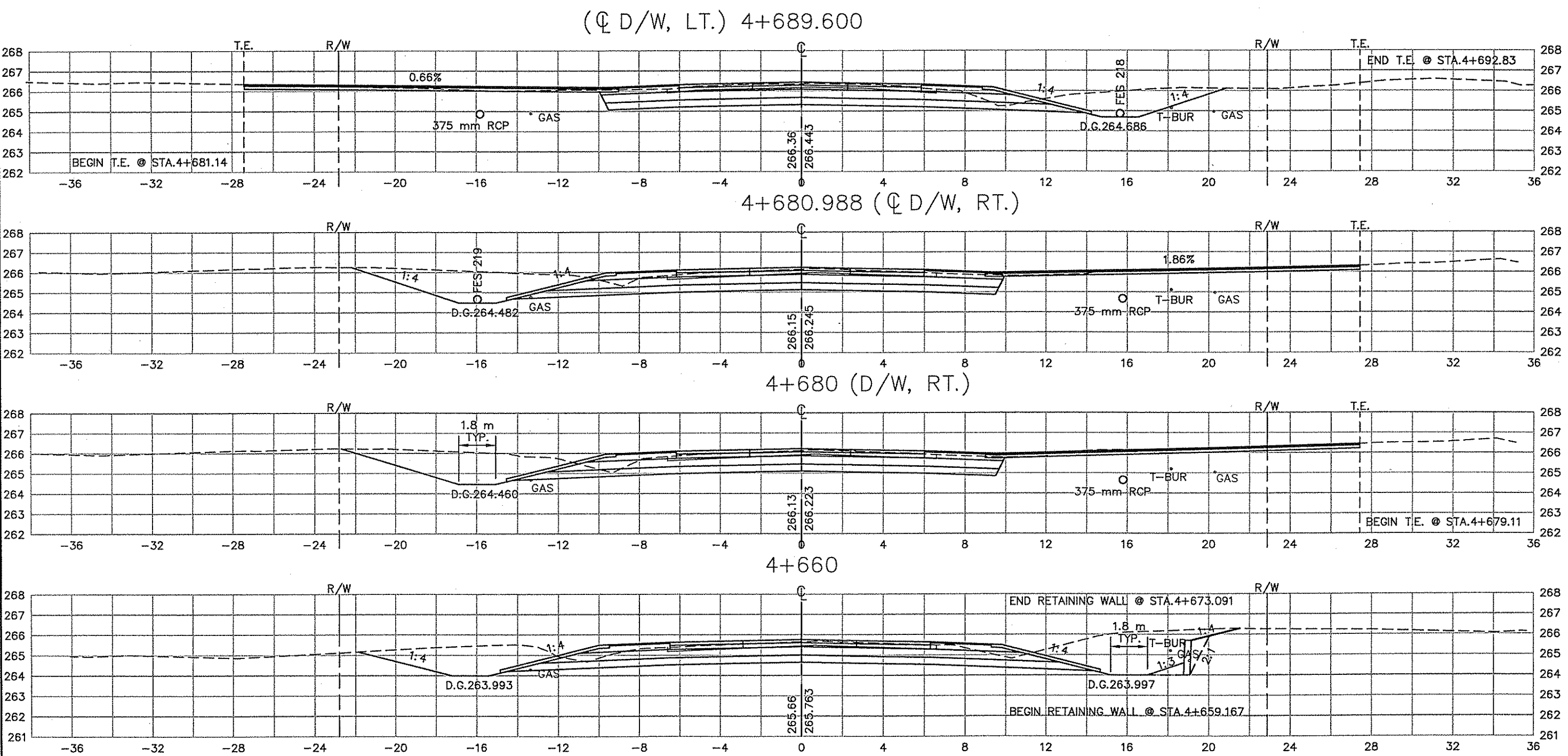
CITY PROJECT 02-05

S.P. 0212-41

16 OF 20

SHEET NO.
162
171

PLOT DATE: May 20, 2002 12:24pm DISK FILE NAME: (15.05) R:\33889\33889028\33889B\XSEC\Xsplns\lbcxspl14.dwg



REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	J.A.	05/22/02	REVISIONS PER MnDOT C.O. COMMENTS

DESIGN FILE: 33889028 5001	
DRAWN BY: IKR	DESIGN BY: KPK
CHKD. BY: KPK/PBD	DWG. NAME: LBCXSPL14
DATE: MARCH 29, 2002	



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Minneapolis, MN 55416
612.370.0700 Tel
612.370.1978 Fax

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Kevin P. Kiehl
KEVIN P. KIEHL
DATE: 03/29/02 MN LIC. NO. 23211

MAIN STREET/T.H. 242 RECONSTRUCTION

CROSS SECTIONS
STATION 4+660.000 TO STATION 4+689.600

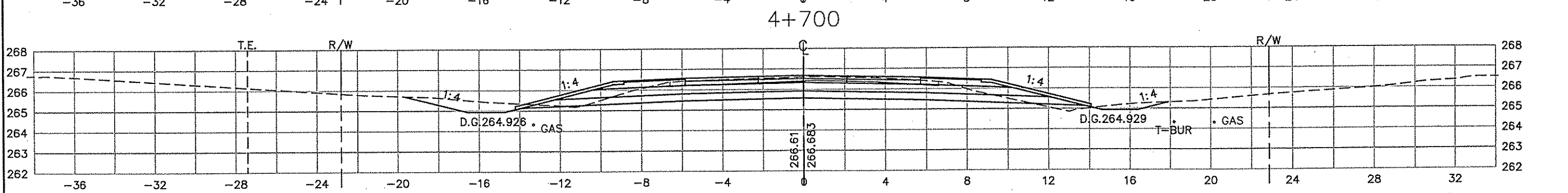
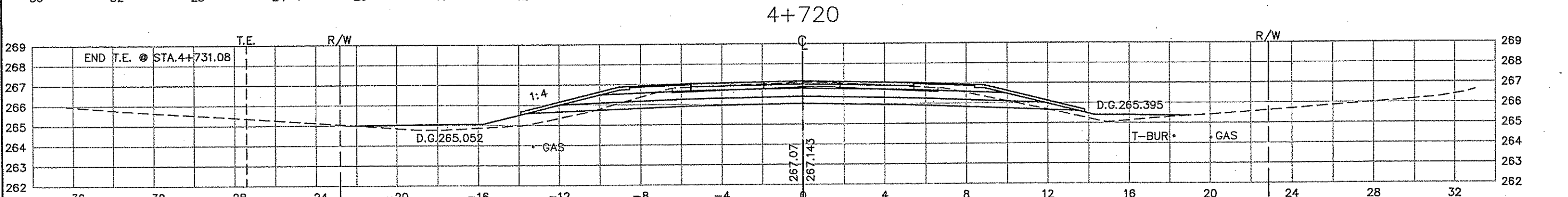
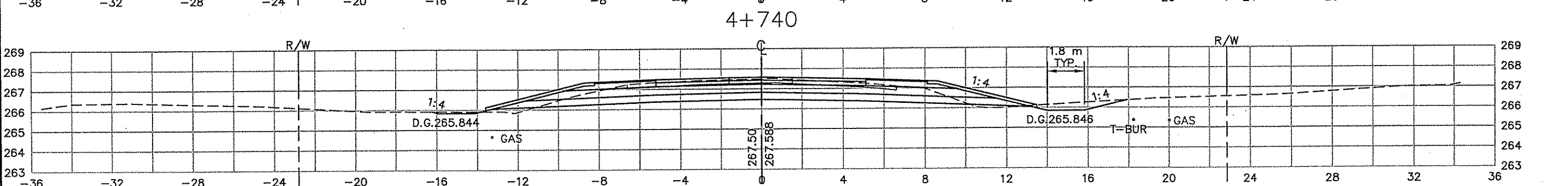
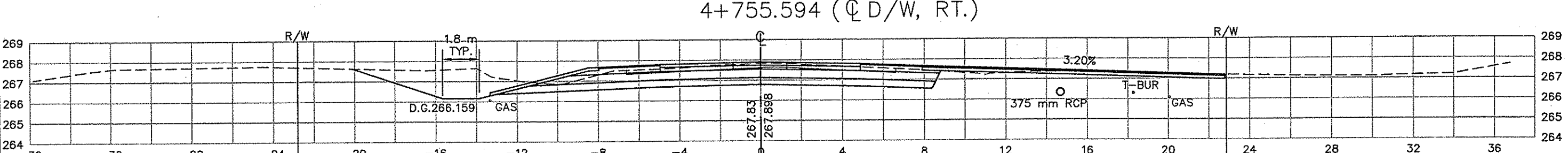
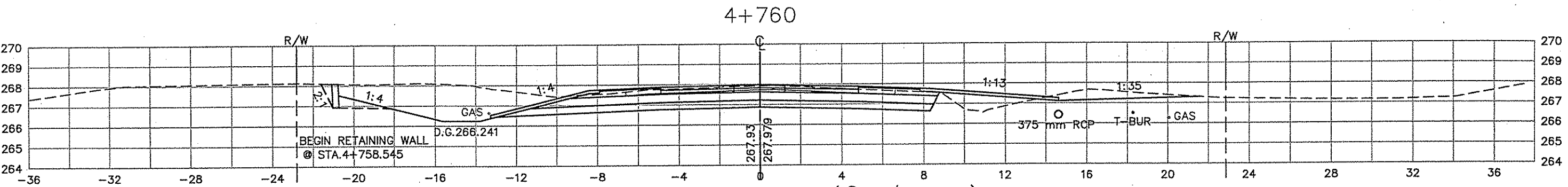
CITY PROJECT 02-05

S.P. 0212-41

17 OF 20

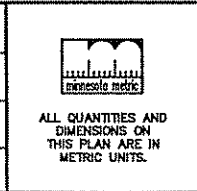
SHEET NO.
163
171

PLOT DATE: May 20, 2002 12:22pm DISK FILE NAME: (15.05) R:\33889\33889028\33889B\XSEC\Xspln15.dwg



REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	JUL	05/22/02	REVISIONS PER MnDOT C.O. COMMENTS

DESIGN FILE: 33889028 5001	
DRAWN BY: IKR	DESIGN BY: KPK
CHKD. BY: KPK/PBD	DWG. NAME: LBXSPLT15
DATE: MARCH 29, 2002	



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Kevin P. Kielb
KEVIN P. KIELB
DATE: 03/29/02 MN LIC. NO. 23211

MAIN STREET/T.H. 242 RECONSTRUCTION

CROSS SECTIONS
STATION 4+700.000 TO STATION 4+760.000

CITY PROJECT 02-05

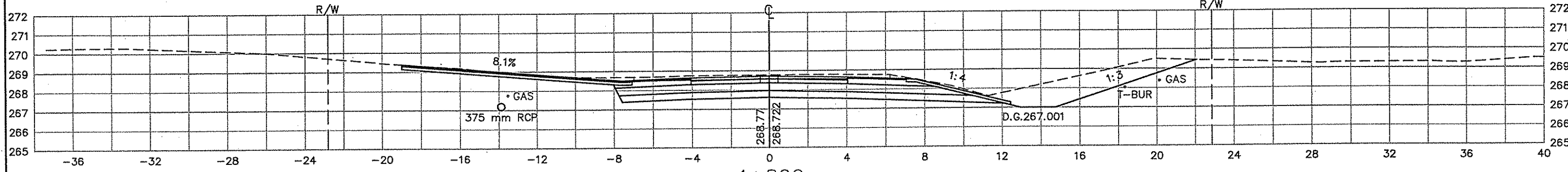
S.P. 0212-41

18 OF 20

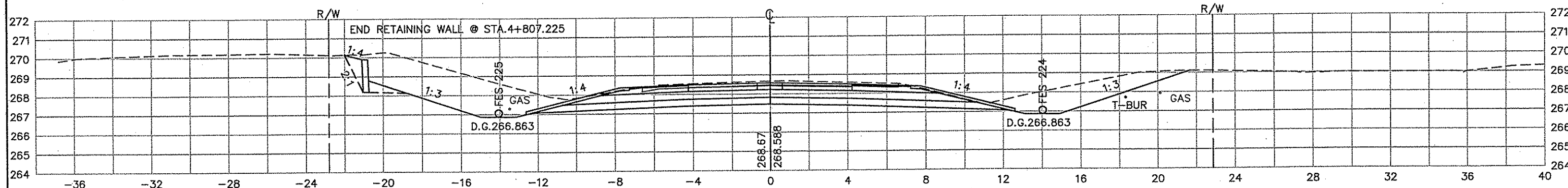
SHEET NO.
164

171

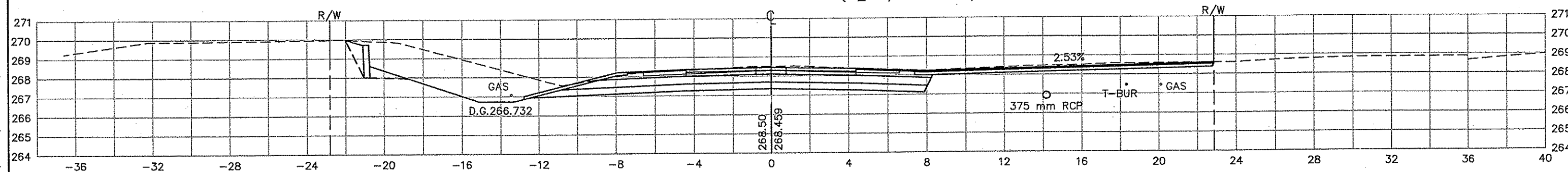
(C D/W, LT.) 4+811.697



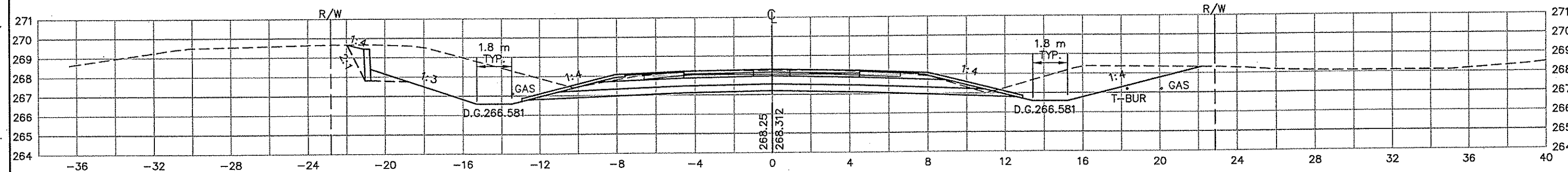
4+800



4+790.166 (C D/W, RT.)



4+780



PLOT DATE: May 20, 2002 12:15pm DISK FILE NAME: (15.05) R:\33889\33889028\XSEC\Xspln\lbgxspl16.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	JLL	05/22/02	REVISIONS PER MNDOT C.O. COMMENTS

DESIGN FILE: 33889028 5001	
DRAWN BY: IKR	DESIGN BY: KPK
CHKD. BY: KPK/PBD	DWG. NAME: LBXSPLT16
DATE: MARCH 29, 2002	



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Kevin P. Kielb
KEVIN P. KIELB
DATE: 03/29/02 MN LIC. NO. 23211

MAIN STREET/T.H. 242 RECONSTRUCTION

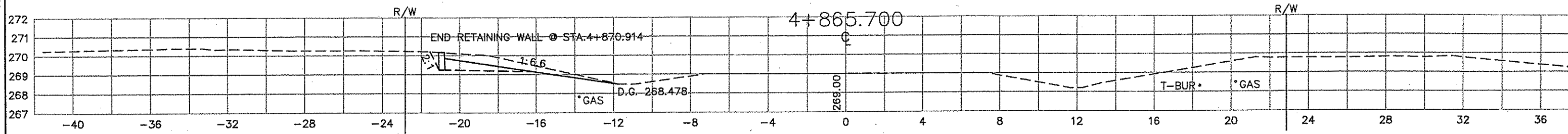
CROSS SECTIONS
STATION 4+780.000 TO STATION 4+811.697

CITY PROJECT 02-05

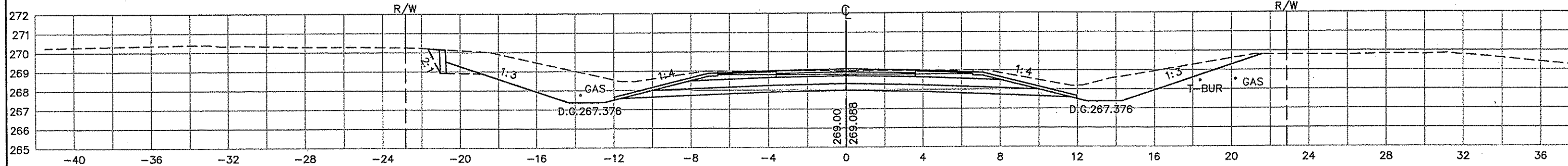
S.P. 0212-41

19 OF 20

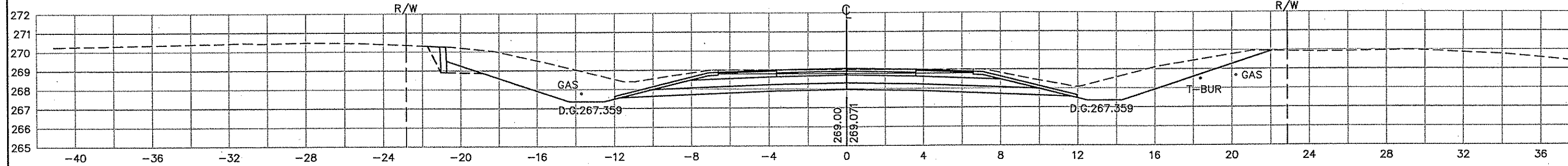
SHEET NO.
165
171



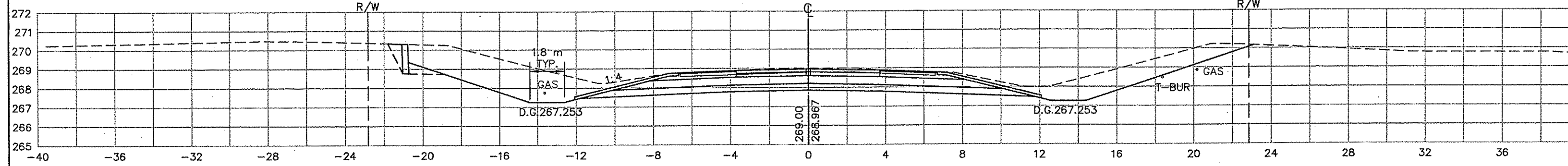
4+865 (END FULL DEPTH PAVEMENT/MATCH INPLACE)



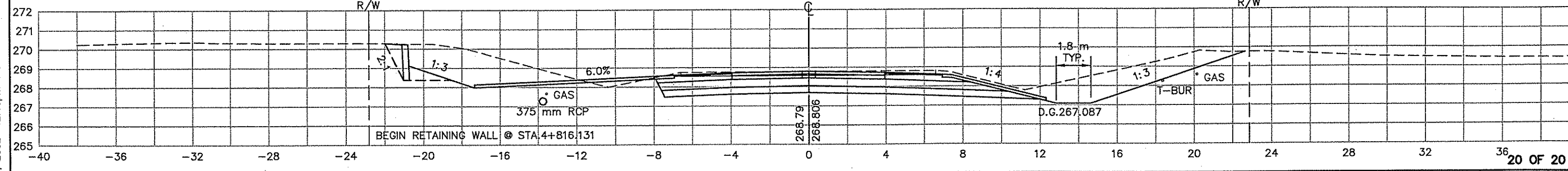
4+860



4+840



4+820

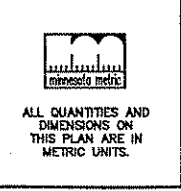


20 OF 20

PLOT DATE: May 20, 2002 12:10pm DISK FILE NAME: LBSXPLT17.DWG.DWG

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	JAL	05/22/02	REVISIONS PER MNDOT C.O. COMMENTS

DESIGN FILE: 33889028 5001	
DRAWN BY: IKR	DESIGN BY: KPK
CHKD. BY: KPK/PBD	DWG. NAME: LBSXPLT17
DATE: MARCH 29, 2002	



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Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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Kevin P. Kiehl
KEVIN P. KIEHL
DATE: 03/29/02 MN LIC. NO. 23211

MAIN STREET/T.H. 242 RECONSTRUCTION

CROSS SECTIONS
STATION 4+820.000 TO STATION 4+865.700

CITY PROJECT 02-05

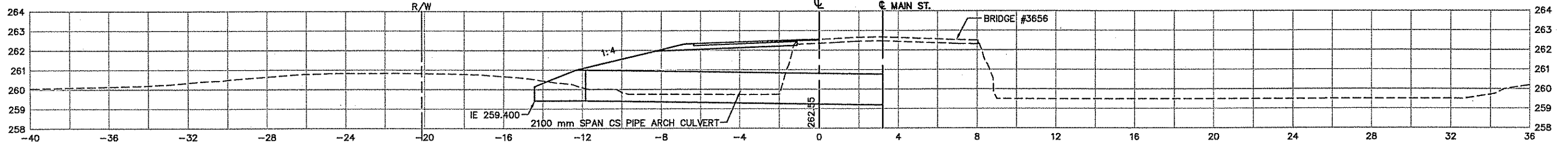
SHEET NO. 166

S.P. 0212-41

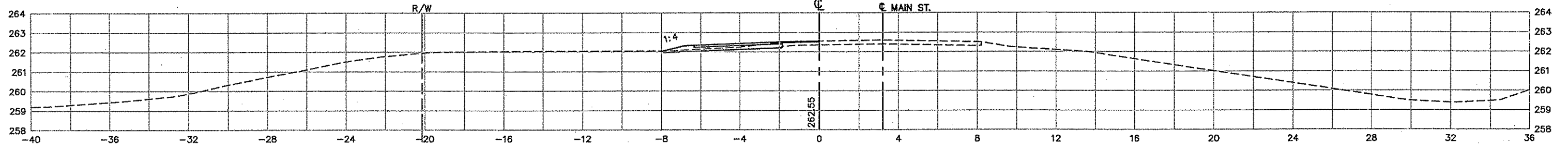
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PLOT DATE: May 20, 2002 12:00pm DISK FILE NAME: (15.05) R:\33889\33889028\XSEC\XSpans\lboxsplit18.dwg

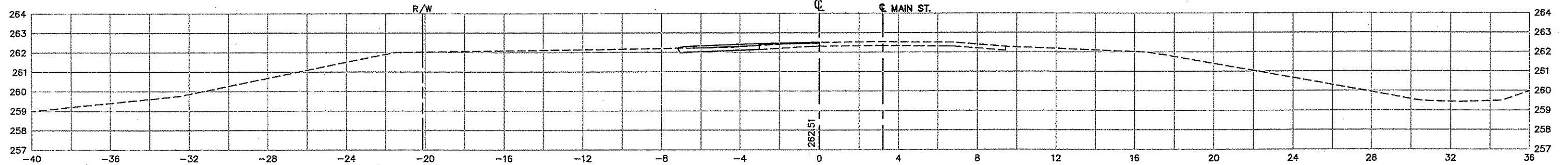
24+253.610 (COON CREEK)



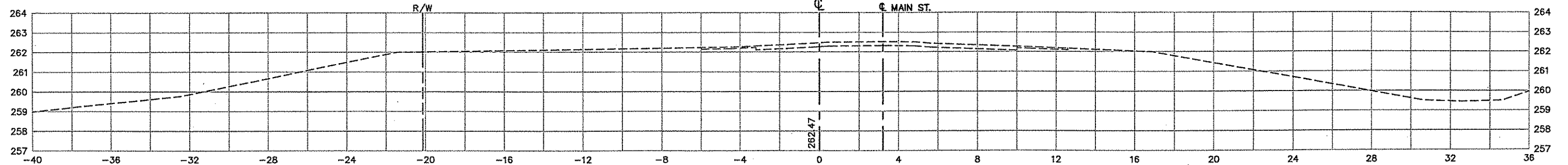
24+240



24+225.141 (BEGIN TEMPORARY PAVEMENT, LT.)



24+220



REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	JUL	05/22/02	REVISIONS PER MADOT C.O. COMMENTS

DESIGN FILE: 33889028 5001	
DRAWN BY: IKR	DESIGN BY: KPK
CHKD. BY: KPK/PBD	DWG. NAME: LBXSPLT18
DATE: MARCH 29, 2002	



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Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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Kevin P. Kielb
KEVIN P. KIELB
DATE: 03/29/02 MN LIC. NO. 23211

MAIN STREET/T.H. 242 RECONSTRUCTION

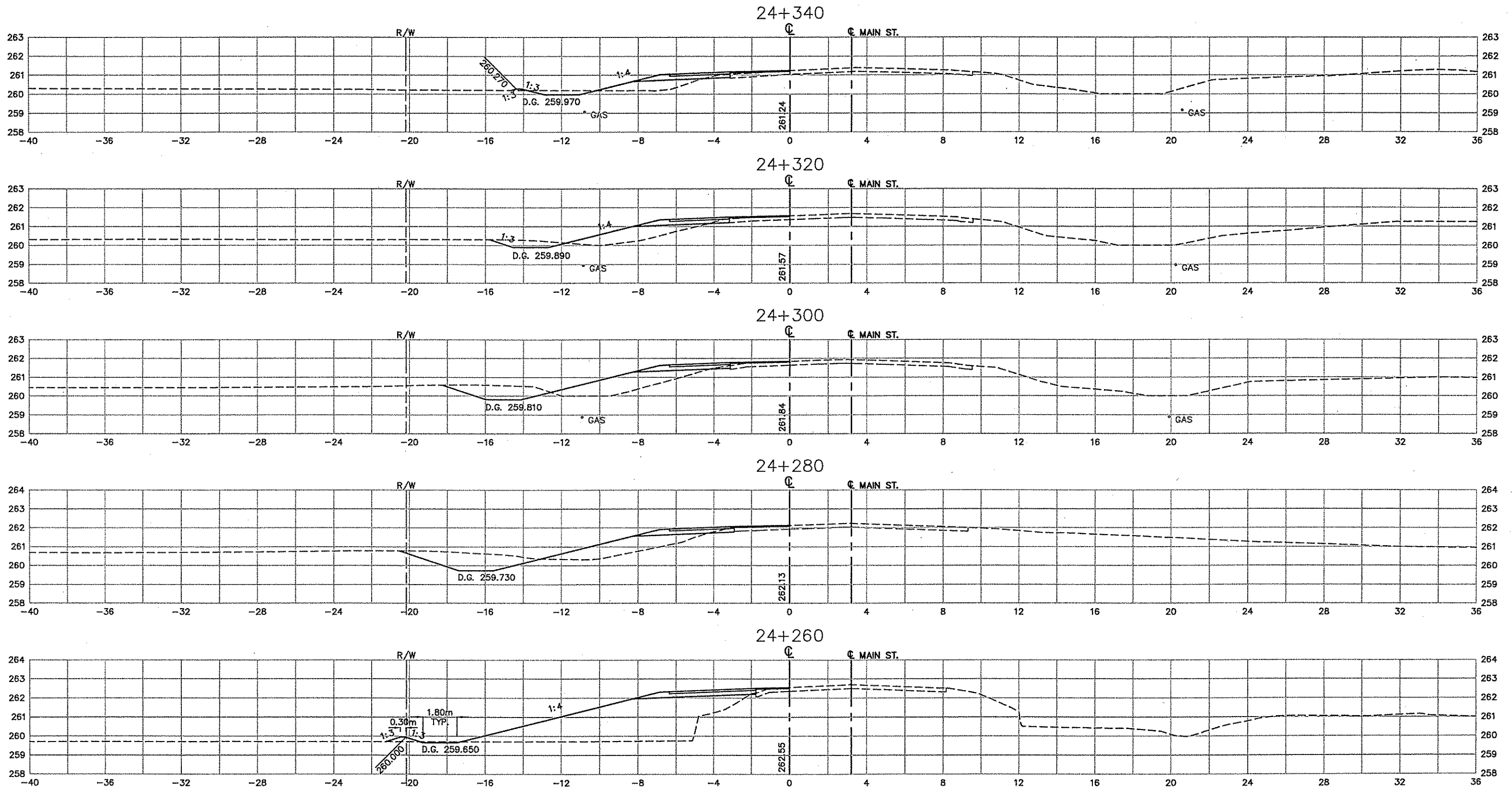
CROSS SECTIONS - TEMPORARY PAVEMENT
STATION 24+220.000 TO STATION 24+253.610

CITY PROJECT 02-05

S.P. 0212-41


SHEET NO.
167
171

PLOT DATE: May 20, 2002 11:59am DISK FILE NAME: (15.05) R:\33889\33889028\33889B\XSEC\Xsplans\lbxspl19.dwg

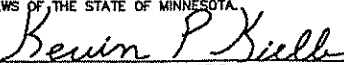


REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	JL	05/22/02	REVISIONS PER MRDOT C.O. COMMENTS

DESIGN FILE: 33889028 5001	
DRAWN BY: IKR	DESIGN BY: KPK
CHKD. BY: KPK/PBD	DWG. NAME: LBXSPL19
DATE: MARCH 29, 2002	


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URS
 BRW, Inc.

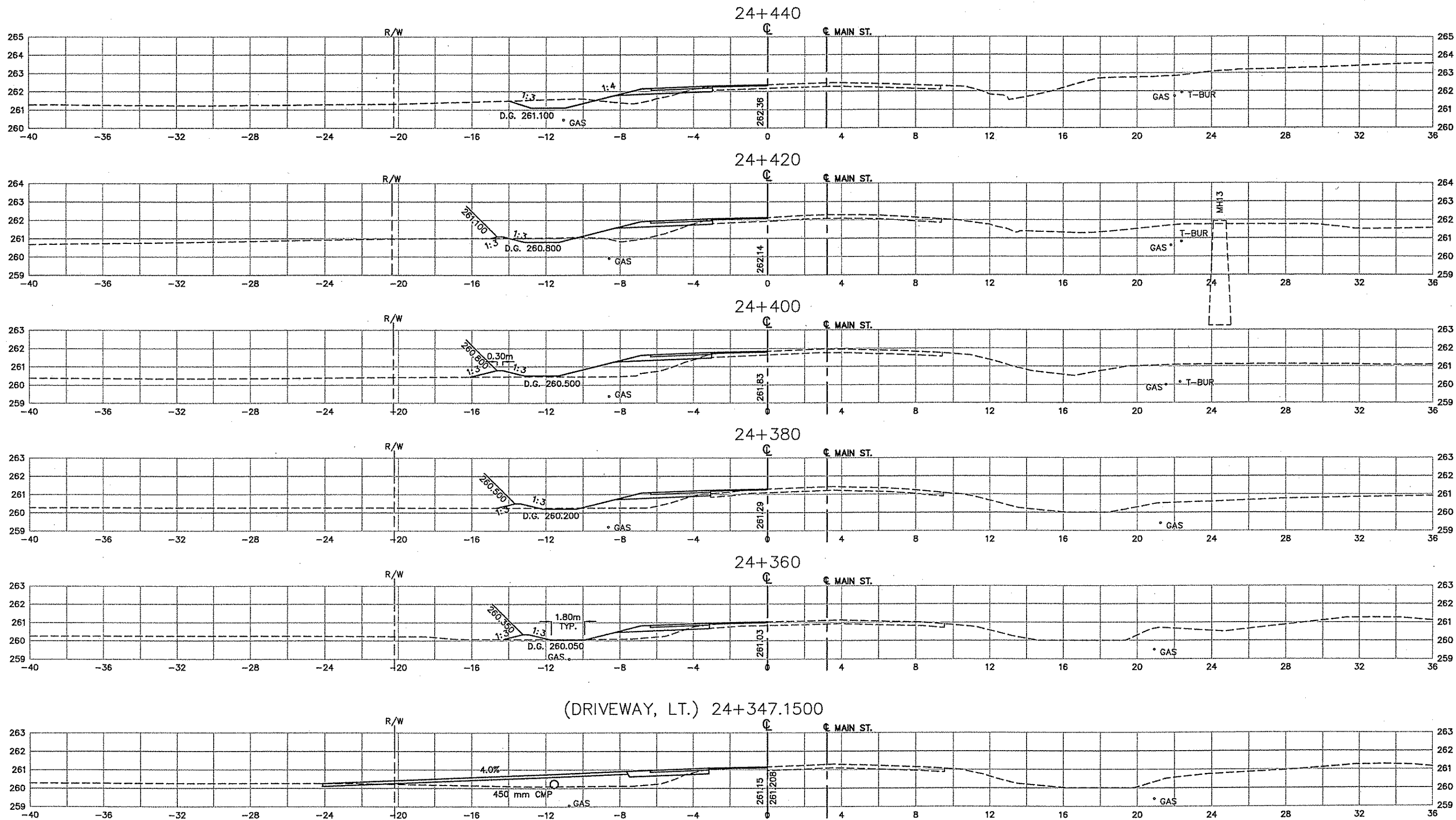
I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

 KEVIN P. KIELB
 DATE: 03/29/02 MN LIC. NO. 23211

MAIN STREET/T.H. 242 RECONSTRUCTION
 CROSS SECTIONS - TEMPORARY PAVEMENT
 STATION 24+260.000 TO STATION 24+340.000
 CITY PROJECT 02-05

S.P. 0212-41


SHEET NO.
 168
 171

PLOT DATE: May 20, 2002 11:58am DISK FILE NAME: (15.05) R:\33889\33889028\33889B\XSEC\X5plans\lboxspl20.dwg




REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	JL	05/22/02	REVISIONS PER MnDOT C.O. COMMENTS

DESIGN FILE: 33889028 5001	
DRAWN BY: IKR	DESIGN BY: KPK
CHKD. BY: KPK/PBD	DWG. NAME: LBXSPL20
DATE: MARCH 29, 2002	


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 700 Third Street South
 Minneapolis, MN 55415
 612.370.0700 Tel
 612.370.1378 Fax

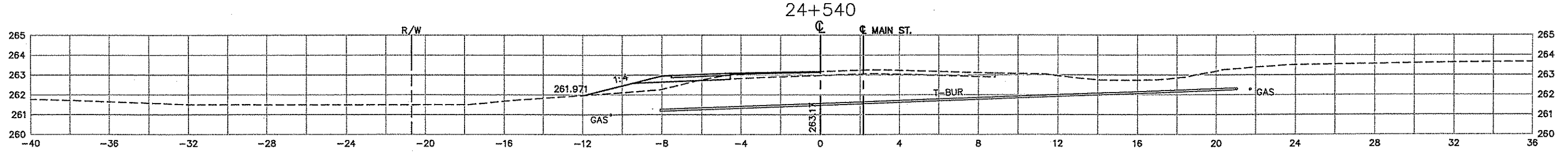
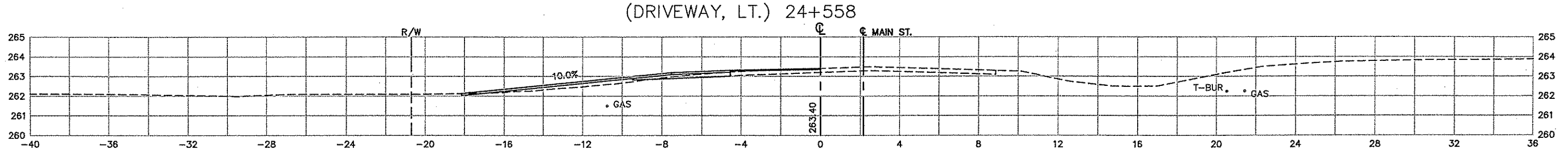
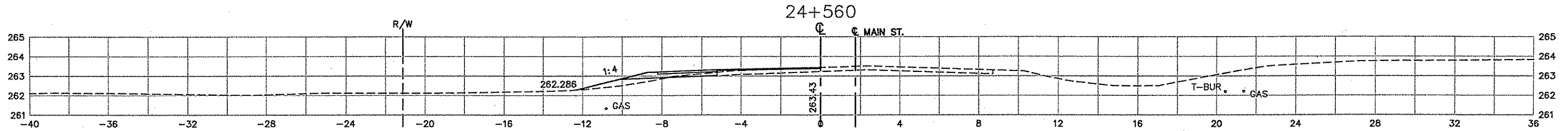
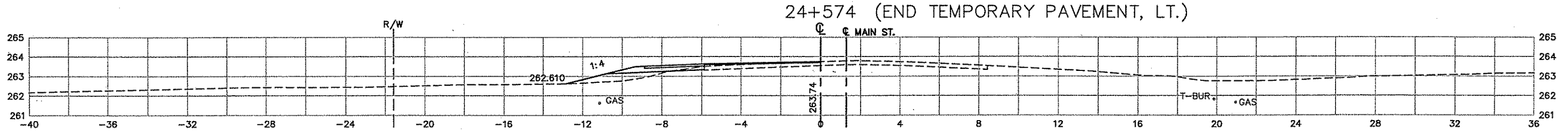
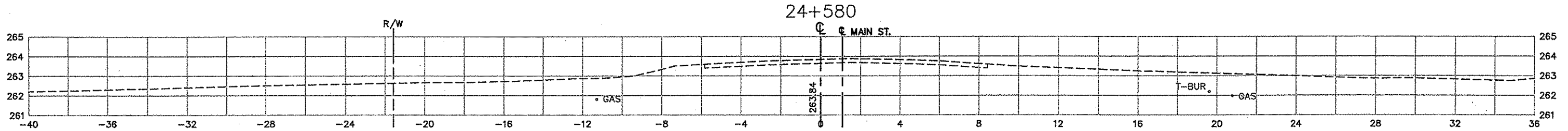
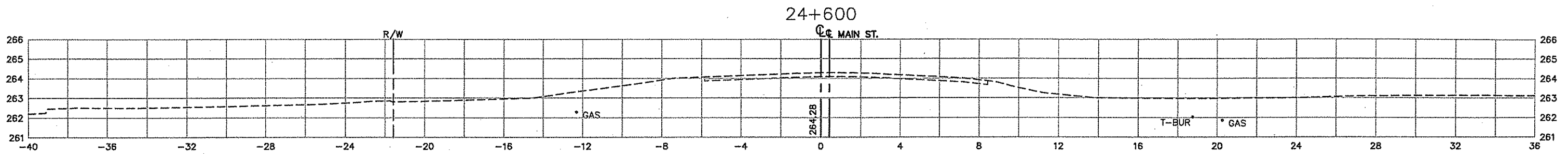
I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

 KEVIN P. KIEHL
 DATE: 03/29/02 MN LIC. NO. 23211

MAIN STREET/T.H. 242 RECONSTRUCTION
 CROSS SECTIONS - TEMPORARY PAVEMENT
 STATION 24+347.150 TO STATION 24+440.000
 CITY PROJECT 02-05

S.P. 0212-41


SHEET NO.
 169
 171

PLOT DATE: May 20, 2002 11:50am DISK FILE NAME: (15.05) R:\33889\33889028\XSECC\Xplans\lboxspl22.dwg



REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	JL	05/22/02	REVISIONS PER MNDOT C.O. COMMENTS

DESIGN FILE: 33889028 5001	
DRAWN BY: IKR	DESIGN BY: KPK
CHKD. BY: KPK/PBD	DWG. NAME: LBXSPLT22
DATE: MARCH 29, 2002	


ALL QUANTITIES AND DIMENSIONS ON THIS PLAN ARE IN METRIC UNITS.

URS
BRW, Inc.

700 Third Street South
Minneapolis, MN 55416
612.370.0700 Tel
612.370.1376 Fax

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

Kevin P. Kiehl
KEVIN P. KIEHL
DATE: 03/29/02 MN LIC. NO. 23211

MAIN STREET/T.H. 242 RECONSTRUCTION

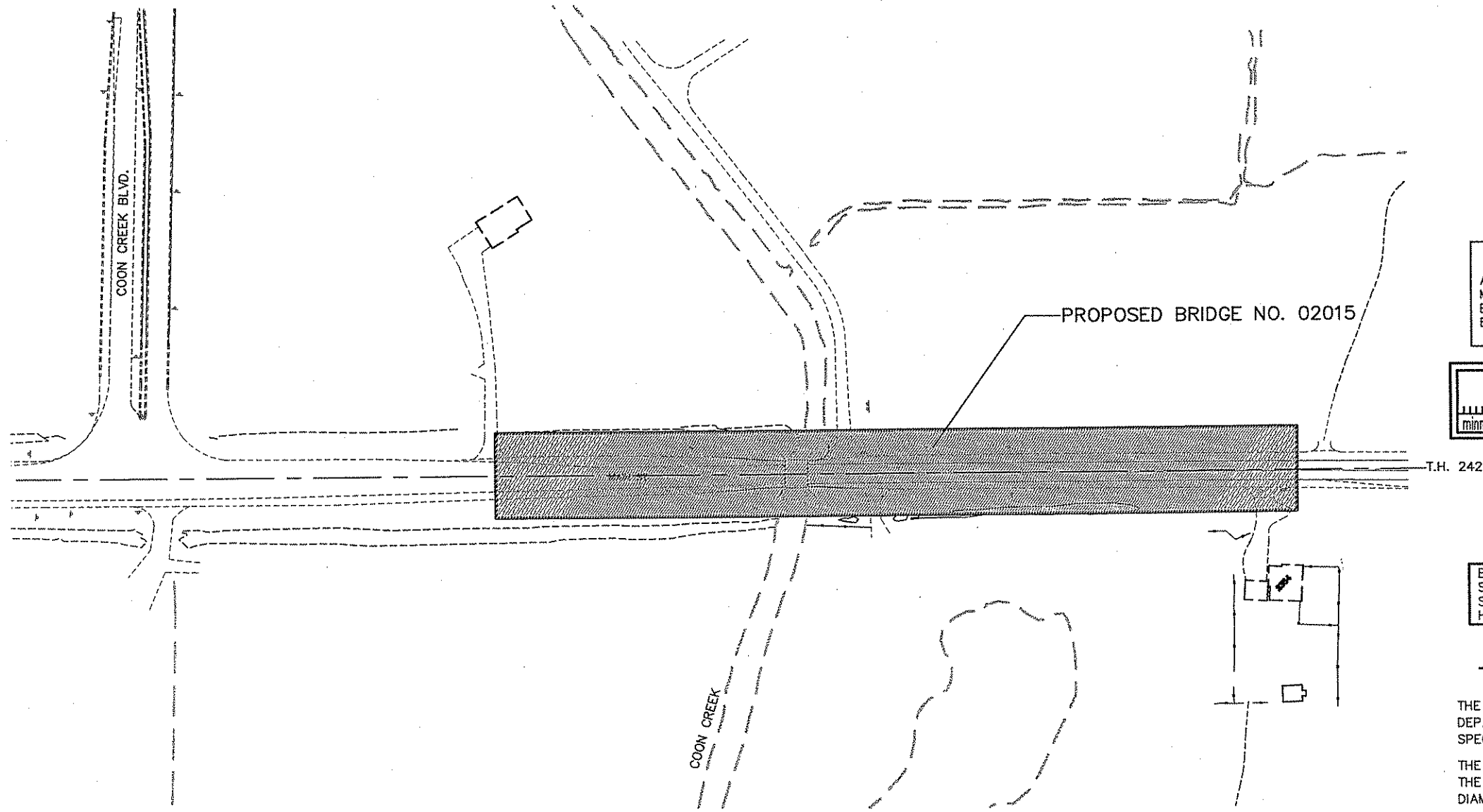
CROSS SECTIONS - TEMPORARY PAVEMENT
STATION 24+540.000 TO STATION 24+600.000

CITY PROJECT 02-05

S.P. 0212-41

SHEET NO.	171
171	

BR. NO. 02015 AT T.H. 242 IN COON RAPIDS



METRIC
ALL PLAN DIMENSIONS ARE IN MILLIMETERS (mm) AND ALL ELEVATIONS ARE IN METERS (m) EXCEPT AS NOTED.

ALL QUANTITIES AND DIMENSIONS ON THIS PLAN ARE IN METRIC UNITS.

B.M. EL. 270.308
STANDARD DISK ON S.E. CORNER
STAMPED 02011
HIGHWAY 10 & T.H. 242

CONSTRUCTION NOTES

THE 2000 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN.
THE FIRST TWO DIGITS OF EACH BAR MARK INDICATE THE BAR NUMBER WHICH APPROXIMATE THE NOMINAL DIAMETER OF THE BAR IN MILLIMETERS.
BARS MARKED WITH THE SUFFIX "E" SHALL BE EPOXY COATED IN ACCORDANCE WITH 3301.

① INCLUDES APPROACH PANELS

STATE FUNDS DESIGN DATA

1996 (AND CURRENT INTERIM) A.A.S.H.T.O. DESIGN SPECIFICATIONS
MS22.5 LIVE LOADING
LOAD FACTOR DESIGN METHOD
DESIGN LOAD INCLUDES 0.80kN/m² ALLOWANCE FOR FUTURE WEARING COURSE MODIFICATIONS
MAXIMUM ALLOWABLE DESIGN STRESSES :
REINFORCED CONCRETE: $f_c = 28 \text{ MPa}$ $n = 8$
 $F_y = 420 \text{ MPa}$ REINFORCEMENT, GRADE 420
DESIGN SPEED = 90 km/h
APPROXIMATE DECK AREA 9329 SQ. METER
63000 PROJECTED A.D.T. FOR YEAR 2020
BRIDGE OPERATING RATING MS 36.7

SHEET INDEX

NO.	TITLE
1	TITLE SHEET
2&3	GENERAL PLAN & ELEVATION
4-7	BRIDGE LAYOUT
8-15	ABUTMENT DETAILS & REINFORCEMENT
16-24	BENT DETAILS & REINFORCEMENT
25-32	SUPERSTRUCTURE DETAILS & REINF.
33	TYPE F RAILING DETAILS
34-37	WATERPROOF EXP. DEVICE DETAILS
38&39	APPROACH PANEL DETAILS
40&41	BRIDGE DETAILS
42	AS-BUILT BRIDGE DATA
43	BRIDGE SURVEY PLAN AND PROFILE
44-46	BRIDGE SURVEY

2020 PROJECTED TRAFFIC VOLUMES

A.D.T. 30,000
D.H.V. N/A
H.C.A.D.T. 5.9%



I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
SIGNED: *David D. Long*
PRINTED NAME: DAVID D. LONG
DATE: 4/2/02 REG. NO.: 24384

ANOKA COUNTY
MINNESOTA DEPARTMENT
OF TRANSPORTATION

BRIDGE NO. 02015

T.H. 242 OVER COON CREEK & WEAK SOIL, 0.30 km EAST OF COON CREEK BLVD. IN THE CITY OF COON RAPIDS.

TITLE SHEET

293 m - CAST-IN-PLACE CONCRETE SLAB SPAN, 31.80 m ROADWAY

SPAN IDENTIFICATION NO. 209
SEC 4 T31N R24W

CITY OF COON RAPIDS ANOKA COUNTY
DATED 4/3/02
APPROVED: *Wendell J. Hanson*
STATE BRIDGE ENGINEER

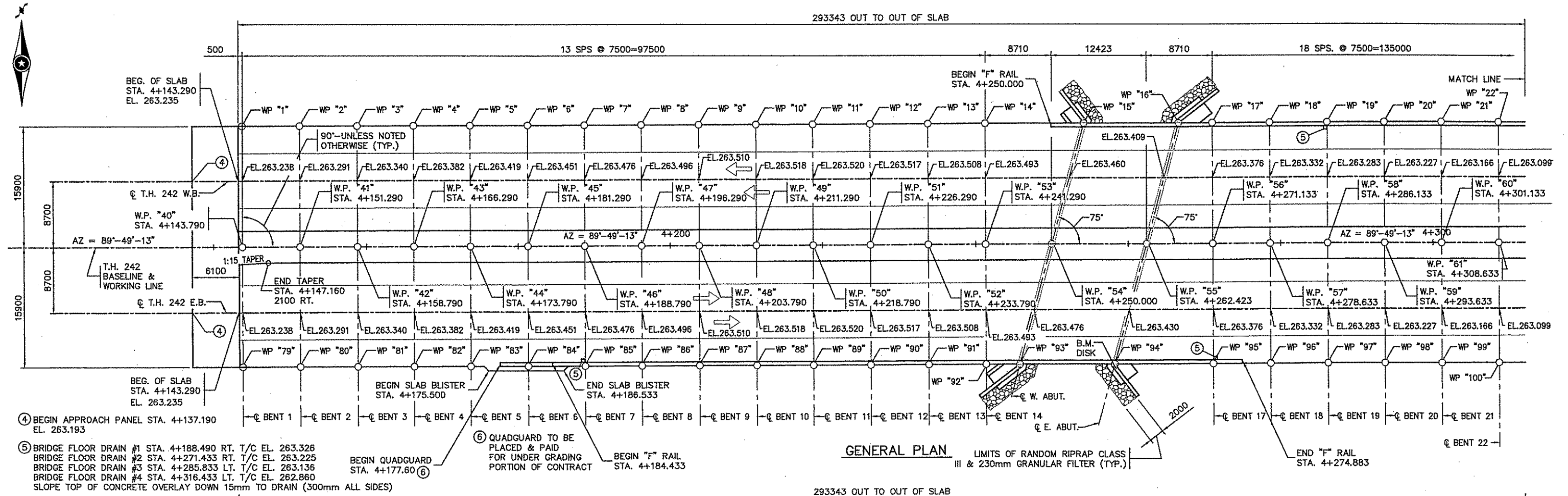
DES: DDL DRW: MUF
CHK: MKM CHK: DJV **02015**

SCHEDULE OF QUANTITIES FOR ENTIRE BRIDGE NO. 02015

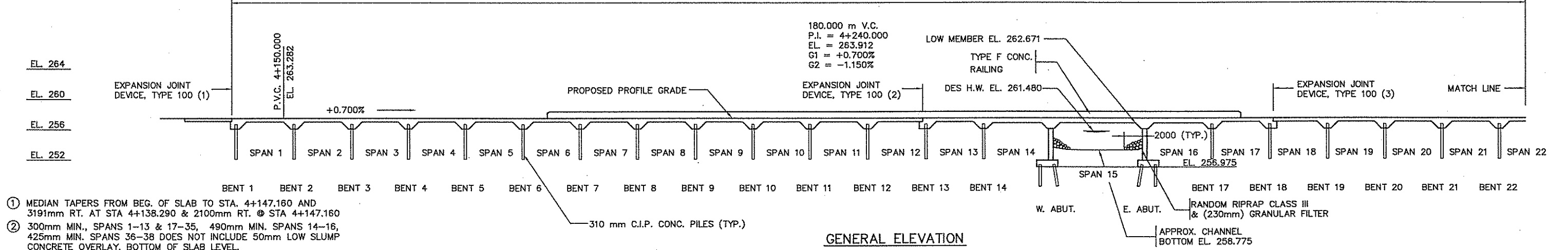
ITEM NO.	2442.501	2401.601	2401.601																					
ITEM	REMOVE OLD BRIDGE	FOUNDATION PREPARATION EAST ABUTMENT	FOUNDATION PREPARATION WEST ABUTMENT																					
UNIT	LUMP SUM	LUMP SUM	LUMP SUM																					
QUANTITY	1	1	1																					
ITEM NO.	2401.601	2401.501	2401.501	2401.501	2401.513	2401.516	2404.501	2401.541	2401.541	2402.591	2301.553	2452.508	2452.507	2452.519	2452.519	2452.519	2452.602	2452.602	2502.601	2511.501	2511.511			
ITEM	STRUCTURE EXCAVATION	STRUCTURAL CONCRETE (1A43)	STRUCTURAL CONCRETE (3Y43)	STRUCTURAL CONCRETE (3Y36)	TYPE F RAILING CONCRETE (3Y46)	RAISED MEDIAN CONCRETE (3Y46)	CONCRETE WEARING COURSE (3U17A)	REINFORCEMENT BARS (EPOXY COATED)	REINFORCEMENT BARS	EXPANSION JOINT DEVICES, TYPE 100	BRIDGE APPROACH PANELS	CAST-IN-PLACE CONC. PILING DRIVEN	CAST-IN-PLACE CONC. PILING DELIVERED	CAST-IN-PLACE CONC. TEST PILING	CAST-IN-PLACE CONC. TEST PILING	CAST-IN-PLACE CONC. TEST PILING	PILE REDRIVING	PILE ANALYSIS	DRAINAGE SYSTEM TYPE SPECIAL	RANDOM RIPRAP CLASS III	GRANULAR FILTER			
UNIT	LUMP SUM	m ³	m ³	m ³	m	m ²	m ²	kg	kg	m	m ²	m	m	EACH	EACH	EACH	EACH	EACH	LUMP SUM	m ³	m ³			
QUANTITY	1	198 (P)	206 (P)	6243 (P)	182 (P)	1121 (P)	8500 (P)	528535 (P)	8560 (P)	160 (P)	388 (P)	19398	19398	9	2	5	16	16	1	110	44			

PLOT DATE: Apr 02, 2002 1:00pm DISK FILE NAME: (15.05) R:\33889\33889025\STRUCT\PLAN_SHT\Titlesht.dwg

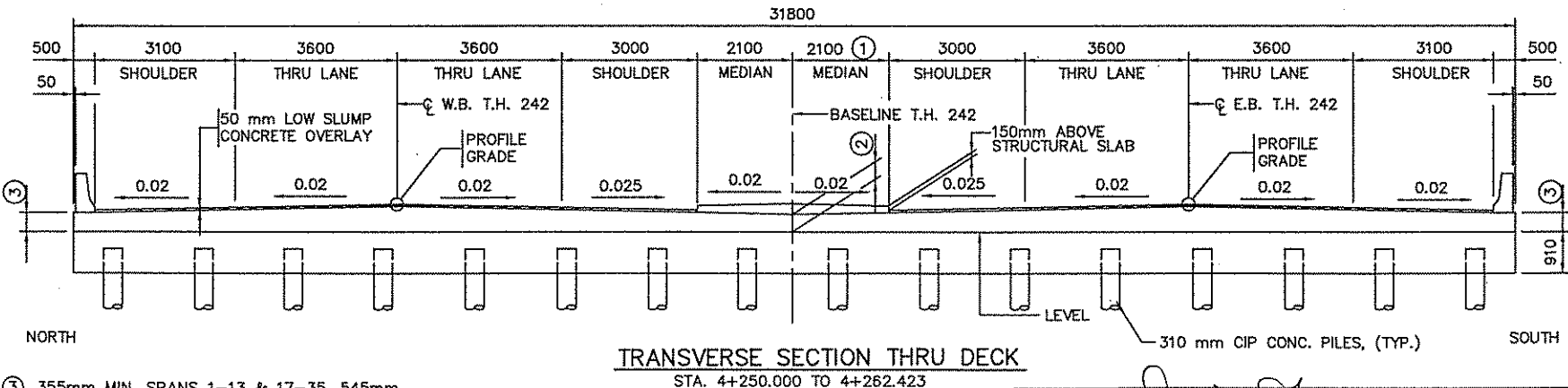
PLOT DATE: Mar 29, 2002 8:02am DISK FILE NAME: (15.05) R:\33889\33889028\STRUCT\PLAN_SHT\Spe1.dwg



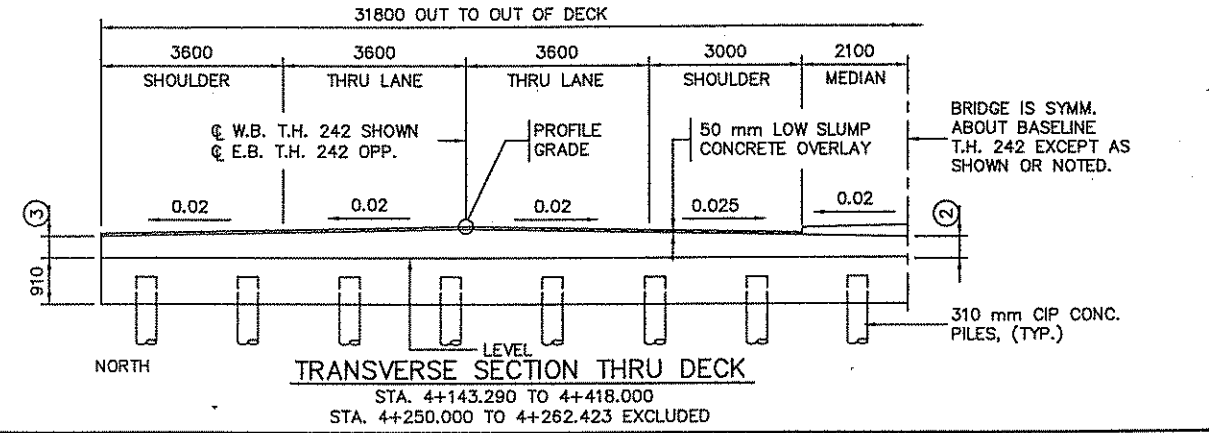
- ④ BEGIN APPROACH PANEL STA. 4+137.190 EL. 263.193
- ⑤ BRIDGE FLOOR DRAIN #1 STA. 4+188.490 RT. T/C EL. 263.326
BRIDGE FLOOR DRAIN #2 STA. 4+271.433 RT. T/C EL. 263.225
BRIDGE FLOOR DRAIN #3 STA. 4+285.833 LT. T/C EL. 263.135
BRIDGE FLOOR DRAIN #4 STA. 4+316.433 LT. T/C EL. 262.860
SLOPE TOP OF CONCRETE OVERLAY DOWN 15mm TO DRAIN (300mm ALL SIDES)
- ⑥ QUADGUARD TO BE PLACED & PAID FOR UNDER GRADING PORTION OF CONTRACT



- ① MEDIAN TAPERS FROM BEG. OF SLAB TO STA. 4+147.160 AND 319mm RT. AT STA 4+138.290 & 2100mm RT. @ STA 4+147.160
- ② 300mm MIN., SPANS 1-13 & 17-35, 490mm MIN. SPANS 14-16, 425mm MIN. SPANS 36-38 DOES NOT INCLUDE 50mm LOW SLUMP CONCRETE OVERLAY. BOTTOM OF SLAB LEVEL.



- ③ 355mm MIN. SPANS 1-13 & 17-35, 545mm MIN. SPANS 14-16, 480mm MIN. SPANS 36-38, DOES NOT INCLUDE 50mm LOW SLUMP OVERLAY, BOTTOM OF SLAB IS LEVEL.



SIGNATURE: *David Long*
 PRINTED NAME: DAVID D. LONG
 DATE: 4/1/02 REG. NO. 24384

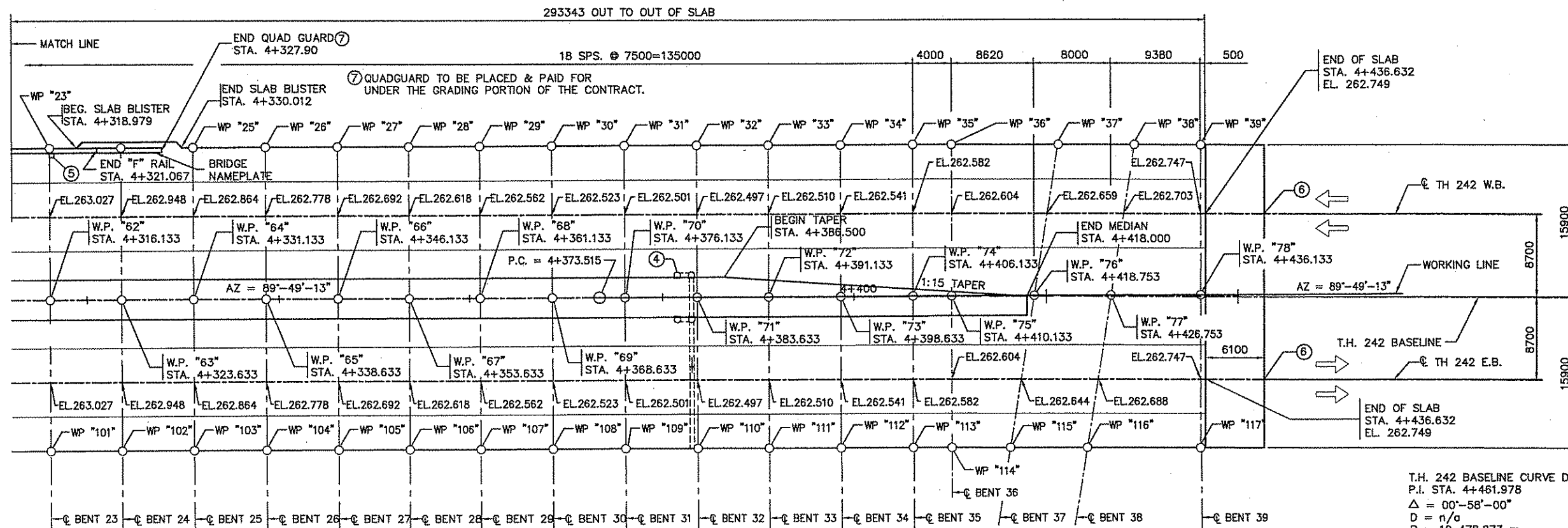


GENERAL PLAN AND ELEVATION

DES: DDL	DRN: DJV	APPROVED: <i>H-3-02</i>	BRIDGE NO. 02015
CHK: CRJ	CHK: CRJ	SHEET NO. 2 OF 46 SHEETS	

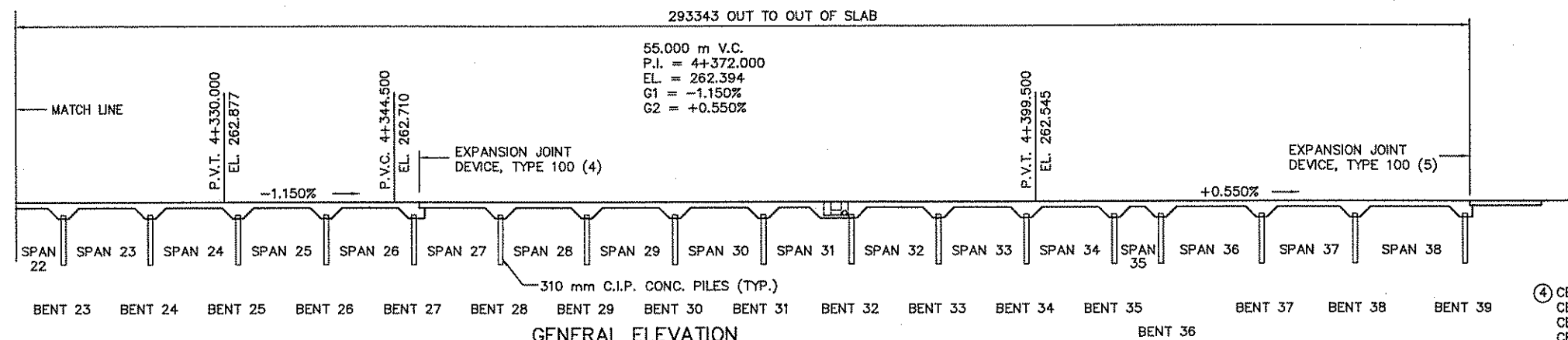
S.A.P. 114-010-11

PLOT DATE: Mar 29, 2002 8:03am DISK FILE NAME: (15.05) R:\33889\33889028\STRUCT\PLAN_SHT\0pe2.dwg



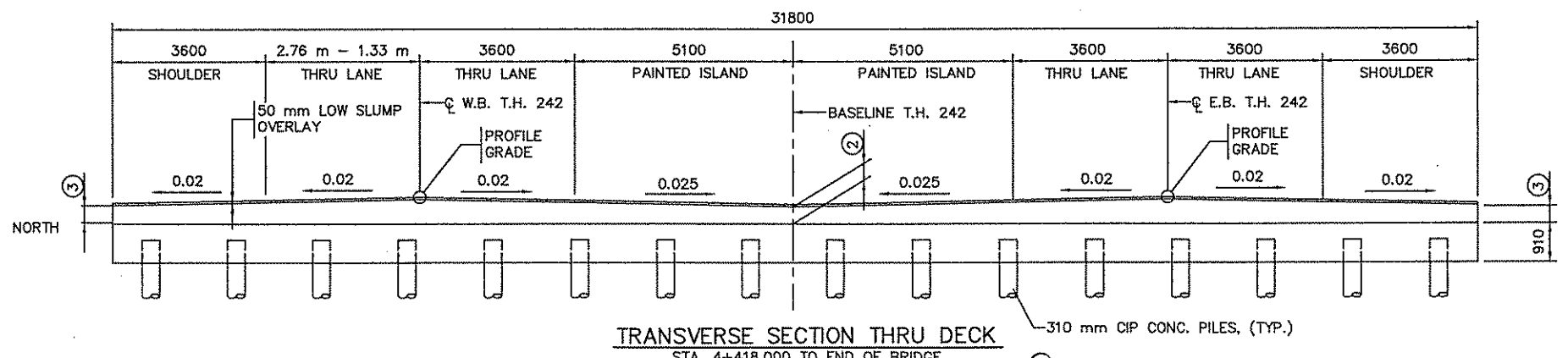
GENERAL PLAN

T.H. 242 BASELINE CURVE DATA
P.I. STA. 4+461.978
Δ = 00°-58'-00"
D = n/a
R = 10 478.273 m
T = 88.403 m
L = 176.802 m
e = NORMAL CROWN
P.C. STA. 4+373.515
P.T. STA. 4+550.317



GENERAL ELEVATION

- ④ CB #108 STA. 4+381.533 LT. T/C EL. 262.334
CB #109 STA. 4+381.533 RT. T/C EL. 262.334
CB #110 STA. 4+383.033 LT. T/C EL. 262.335
CB #111 STA. 4+383.033 RT. T/C EL. 262.335
SLOPE TOP OF CONCRETE OVERLAY DOWN 15mm TO DRAIN (300mm ALL SIDE)
- ⑤ BRIDGE FLOOR DRAIN #1 STA. 4+188.490 RT. T/C EL. 263.326
BRIDGE FLOOR DRAIN #2 STA. 4+271.433 RT. T/C EL. 263.225
BRIDGE FLOOR DRAIN #3 STA. 4+285.833 LT. T/C EL. 263.136
BRIDGE FLOOR DRAIN #4 STA. 4+316.433 LT. T/C EL. 262.860
SLOPE TOP OF CONCRETE OVERLAY DOWN TO DRAIN (300mm ALL SIDES)



- ② 300mm MIN., SPANS 1-13 & 17-35, 490 MIN. SPANS 14-16, 425mm MIN. SPANS 36-38, DOES NOT INCLUDE 50mm LOW SLUMP CONCRETE OVERLAY, BOTTOM OF SLAB LEVEL.
- ③ 355mm MIN. SPANS 1-13 & 17-35, 545mm MIN. SPANS 14-16, 480mm MIN. SPANS 36-38, DOES NOT INCLUDE 50mm LOW SLUMP CONCRETE OVERLAY, BOTTOM OF SLAB LEVEL.

SIGNATURE: *David Long*
PRINTED NAME: DAVID D. LONG
DATE: 4/1/02 REG. NO. 24384

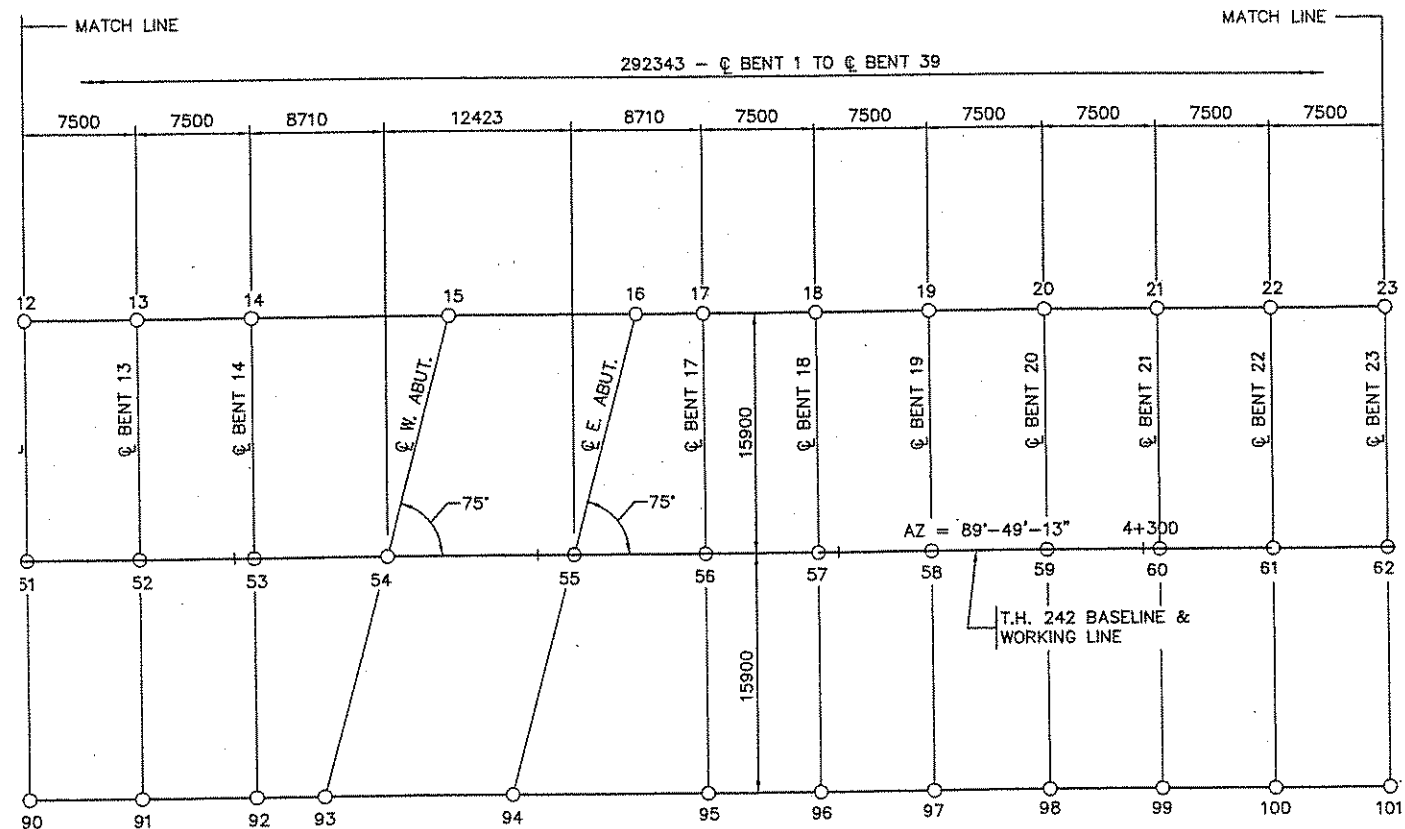


100 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.0719 Fax

GENERAL PLAN AND ELEVATION

DES: DDL	DRN: DBM	APPROVED: 4-3-02	BRIDGE NO. 02015
CHK: CRJ	CHK: CRJ	SHEET NO. 3 OF 46 SHEETS	

S.A.P. 114-010-11



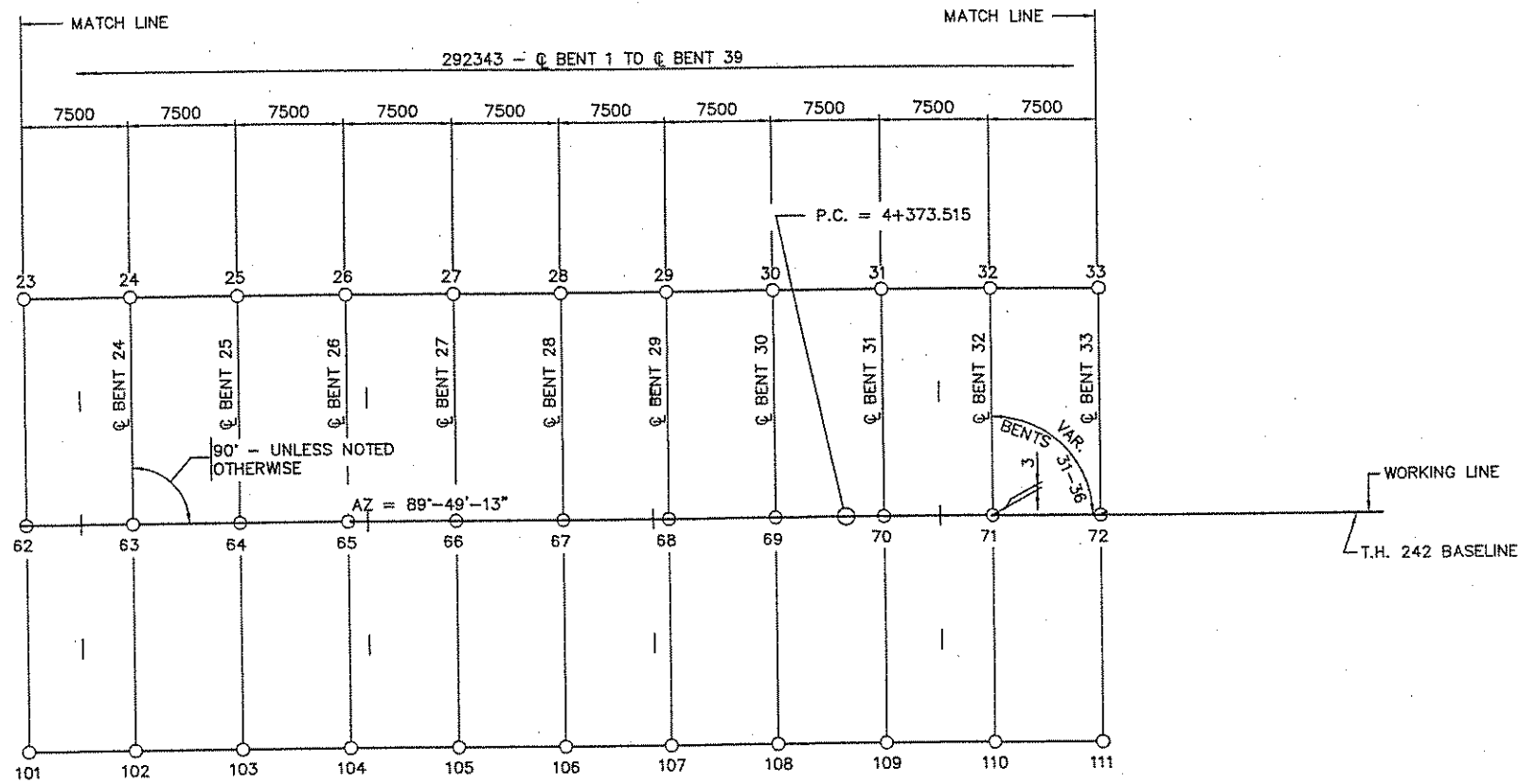
WORKING POINT LAYOUT



COORDINATES		ELEVATIONS	
POINT	X-COORD.	Y-COORD.	TOP OF RDWY. ELEVATION
12	147437.636	48536.975	263.373
13	147445.136	48536.998	263.364
14	147452.636	48537.022	263.349
15	147465.606	48537.062	263.309
16	147478.029	48537.101	263.255
17	147482.479	48537.115	263.232
18	147489.979	48537.139	263.188
19	147497.479	48537.162	262.139
20	147504.979	48537.186	263.083
21	147512.479	48537.209	263.022
22	147519.979	48537.233	262.955
23	147527.479	48537.256	262.883
51	147437.686	48521.075	263.317
52	147445.186	48521.098	263.308
53	147452.686	48521.122	263.293
54	147461.396	48521.149	263.269
55	147473.819	48521.188	263.220
56	147482.529	48521.215	263.176
57	147490.029	48521.239	263.133
58	147497.529	48521.262	263.083
59	147505.029	48521.286	263.028
60	147512.529	48521.309	262.967
61	147520.029	48521.333	262.900
62	147527.529	48521.357	262.827
90	147437.736	48505.175	263.373
91	147445.236	48505.198	263.364
92	147452.736	48505.222	263.349
93	147457.186	48505.236	263.337
94	147469.609	48505.275	263.294
95	147482.579	48505.315	263.232
96	147490.079	48505.339	263.188
97	147497.579	48505.362	262.139
98	147505.079	48505.386	263.083
99	147512.579	48505.410	263.022
100	147520.079	48505.433	262.955
101	147527.579	48505.457	262.883

DIMENSIONS BETWEEN WORKING POINTS

POINT	STATION	12	13	14	15	16	17	18	19	20	21	22	23	51	52	53	54	55	56	57	58	59	60	61	62	90	91	92	93	94	95	96	97	98	99	100	101	POINT																																																																																																																																																																																																																																																																																																																																																		
12	4+226.290		7500											15900	17580	21859	28548	39477	47578	54705	61919	69195	76513	83864	91239			32672	35160	37276	45023	54974	61246	67767	74474	81319	88270	95305	12																																																																																																																																																																																																																																																																																																																																																	
13	4+233.790			7500										17580	15900	17580	22706	32751	40587	47578	54705	61919	69195	76508	83864	32672		32672	33971	40066	49098	54974	61246	67767	74474	81319	88270	95305	13																																																																																																																																																																																																																																																																																																																																																	
14	4+241.290				12970									21859	17580	15900	18129	26446	33814	40587	47578	54705	61919	69195	76513	35160	32672		32672	35999	43610	49098	54974	61246	67767	74474	81319	88270	95305	14																																																																																																																																																																																																																																																																																																																																																
15	4+254.260					12423								32174	25920	20519	16461	17873	23184	29100	35618	42462	49496	56650	63883	42351	37819	34343		32039	35999	40066	45023	50611	56642	62989	69566	76143	82720	89297	95874	102451	15																																																																																																																																																																																																																																																																																																																																													
16	4+266.683						4450							43410	36535	29961	23047	16461	16511	19890	25122	31290	37942	44862	51943	51409	45752	40695	38077		32110	33971	37276	41684	46883	52640	58792	64944	71096	77248	83400	89552	95704	101856	16																																																																																																																																																																																																																																																																																																																																											
17	4+271.133							7500						47578	40587	33814	26446	18129	15900	17580	21859	27551	33953	40732	47726	54974	49048	43610	40695		34343		32672	35160	38955	43718	49168	55102	60542	65992	71442	76892	82342	87792	93242	98692	17																																																																																																																																																																																																																																																																																																																																									
18	4+278.633								7500					54705	47578	40587	32751	22706	17580	15900	17580	21859	27551	33953	40732	47726	54974	49048	43610	40695		34343		32672	35160	38955	43718	49168	55102	60542	65992	71442	76892	82342	87792	93242	98692	104142	18																																																																																																																																																																																																																																																																																																																																							
19	4+286.133									7500				61919	54705	47578	39477	28548	21859	17580	15900	17580	21859	27551	33953	40732	47726	54974	49048	43610	40695		34343		32672	35160	38955	43718	49168	55102	60542	65992	71442	76892	82342	87792	93242	98692	104142	19																																																																																																																																																																																																																																																																																																																																						
20	4+293.633										7500			69195	61919	54705	46440	35027	27551	21859	17580	15900	17580	21859	27551	34474	41684	49048	43610	40695		34343		32672	35160	38955	43718	49168	55102	60542	65992	71442	76892	82342	87792	93242	98692	104142	20																																																																																																																																																																																																																																																																																																																																							
21	4+301.133											7500		76513	69195	61919	53548	41848	33953	27551	21859	17580	15900	17580	21859	27551	34474	41684	49048	43610	40695		34343		32672	35160	38955	43718	49168	55102	60542	65992	71442	76892	82342	87792	93242	98692	104142	21																																																																																																																																																																																																																																																																																																																																						
22	4+308.633												7500	83864	76513	69195	60751	48869	40732	33953	27551	21859	17580	15900	17580	21859	27551	34474	41684	49048	43610	40695		34343		32672	35160	38955	43718	49168	55102	60542	65992	71442	76892	82342	87792	93242	98692	104142	22																																																																																																																																																																																																																																																																																																																																					
23	4+316.133																																																			23																																																																																																																																																																																																																																																																																																																																				
51	4+226.290														7500														15900	17580	21859	25122	35618	47578	54705	61919	69195	76513	83864	91239													51																																																																																																																																																																																																																																																																																																																																			
52	4+233.790															7500													17580	15900	17580	19890	29100	40587	47578	54705	61919	69195	76513	83864	91239																52																																																																																																																																																																																																																																																																																																																															
53	4+241.290																8710												21859	17580	15900	16511	23184	33814	40587	47578	54705	61919	69195	76513	83864	91239																	53																																																																																																																																																																																																																																																																																																																													
54	4+250.000																	12423											28548	22706	18129	16461	17873	26446	32751	39477	46440	53548	60751	68018	75285	82552	89819	97086	104353	111620	118887	126154	133421	140688	147955	155222	162489	169756	177023	184290	191557	198824	206091	213358	220625	227892	235159	242426	249693	256960	264227	271494	278761	286028	293295	300562	307829	315096	322363	329630	336897	344164	351431	358698	365965	373232	380499	387766	395033	402300	409567	416834	424101	431368	438635	445902	453169	460436	467703	474970	482237	489504	496771	504038	511305	518572	525839	533106	540373	547640	554907	562174	569441	576708	583975	591242	598509	605776	613043	620310	627577	634844	642111	649378	656645	663912	671179	678446	685713	692980	700247	707514	714781	722048	729315	736582	743849	751116	758383	765650	772917	780184	787451	794718	801985	809252	816519	823786	831053	838320	845587	852854	860121	867388	874655	881922	889189	896456	903723	910990	918257	925524	932791	940058	947325	954592	961859	969126	976393	983660	990927	998194	1005461	1012728	1020000	1027267	1034534	1041801	1049068	1056335	1063602	1070869	1078136	1085403	1092670	1100000	1107300	1114600	1121900	1129200	1136500	1143800	1151100	1158400	1165700	1173000	1180300	1187600	1195000	1202300	1209600	1216900	1224200	1231500	1238800	1246100	1253400	1260700	1268000	1275300	1282600	1290000	1297300	1304600	1312000	1319300	1326600	1334000	1341300	1348600	1356000	1363300	1370600	1378000	1385300	1392600	1400000	1407300	1414600	1422000	1429300	1436600	1444000	1451300	1458600	1466000	1473300	1480600	1488000	1495300	1502600	1510000	1517300	1524600	1532000	1539300	1546600	1554000	1561300	1568600	1576000	1583300	1590600	1598000	1605300	1612600	1620000	1627300	1634600	1642000	1649300	1656600	1664000	1671300	1678600	1686000	1693300	1700600	1708000	1715300	1722600	1730000	1737300	1744600	1752000	1759300	1766600	1774000	1781300	1788600	1796000	1803300	1810600	1818000	1825300	1832600	1840000	1847300	1854600	1862000	1869300	1876600	1884000	1891300	1898600	1906000	1913300	1920600	1928000	1935300	1942600	1950000	1957300	1964600	1972000	1979300	1986600	1994000	2001300	2008600	2016000	2023300	2030600	2038000	2045300	2052600	2060000	2067300	2074600	2082000	2089300	2096600	2104000	2111300	2118600	2126000	2133300	2140600	2148000	2155300	2162600	2170000	2177300	2184600	2192000	2199300	2206600	2214000	2221300	2228600	2236000	2243300	2250600	2258000	2265300	2272600	2280000	2287300	2294600	2302000	2309300	2316600	2324000	2331300	2338600	2346000	2353300	2360600	2368000	2375300	2382600	2390000	2397300	2404600	2412000	2419300	2426600	2434000	2441300	2448600	2456000	2463300	2470600	2478000	2485300	2492600	2500000	2507300	2514600	252



COORDINATES			ELEVATIONS
POINT	X-COORD.	Y-COORD.	TOP OF RDWY. ELEVATION
23	147527.479	48537.256	262.883
24	147534.979	48537.280	262.804
25	147542.479	48537.304	262.720
26	147549.979	48537.327	262.634
27	147557.479	48537.351	262.548
28	147564.979	48537.374	262.474
29	147572.479	48537.398	262.418
30	147579.979	48537.421	262.379
31	147587.482	48537.444	262.357
32	147597.994	48537.463	262.356
33	147602.505	48537.477	262.366
62	147527.529	48521.357	262.827
63	147534.907	48521.380	262.749
64	147542.529	48521.404	262.664
65	147550.029	48521.427	262.578
66	147557.529	48521.451	262.492
67	147565.028	48521.474	262.419
68	147572.528	48521.498	262.362
69	147580.028	48521.521	262.323
70	147587.528	48521.545	262.302
71	147595.028	48521.568	262.297
72	147602.528	48521.592	262.311
101	147527.579	48505.457	262.883
102	147535.079	48505.480	262.804
103	147542.579	48505.504	262.720
104	147550.079	48505.527	262.634
105	147557.578	48505.645	262.548
106	147565.078	48505.574	262.474
107	147572.578	48505.598	262.418
108	147580.078	48505.621	262.379
109	147587.574	48505.645	262.357
110	147595.064	48505.686	262.353
111	147602.552	48505.677	262.366

WORKING POINT LAYOUT

DIMENSIONS BETWEEN WORKING POINTS

POINT	STATION	23	24	25	26	27	28	29	30	31	32	33	62	63	64	65	66	67	68	69	70	71	72	101	102	103	104	105	106	107	108	109	110	111	POINT			
23	4+316.133		7500										15900	17580	21859	27551	33953	40732	47726	54855	62071	69348	76667			32672	35160	38955	43718	49168	55102	61380	67903	74604	81444	23		
24	4+323.633			7500									17580	15900	17580	21859	27551	33953	40732	47726	54855	62071	69348	32672			32672	35160	38955	43718	49168	55102	61377	67895	74598	24		
25	4+331.133				7500								21859	17580	15900	17580	21859	27551	33953	40732	47726	54855	62071	35160	32672			32672	35160	38955	43718	49168	55099	61369	67889	25		
26	4+338.633					7500							27551	21859	17580	15900	17580	21859	27551	33953	40732	47726	54855	38955	35160	32672			32672	35160	38955	43718	49165	55092	61365	26		
27	4+346.133						7500						33953	27551	21859	17580	15900	17580	21859	27551	33953	40732	47726	43718	38955	35160	32672			32672	35160	38955	43715	49159	55089	27		
28	4+353.633							7500					40732	33953	27551	21859	17580	15900	17580	21859	27551	33953	40732	49168	43718	38955	35160	32672			32672	35160	38953	43711	49157	28		
29	4+361.133								7500				47726	40732	33953	27551	21859	17580	15900	17580	21859	27551	33953	55102	49168	43718	38955	35160	32672			32672	35159	38950	43710	29		
30	4+368.633									7504			54855	47726	40732	33953	27551	21859	17580	15900	17580	21859	27551	61380	55102	49168	43718	38955	35160	32672			32672	35158	38951	30		
31	4+376.137										7511		62075	54859	47730	40735	33956	27554	21861	17582	15900	17580	21859	67910	61383	55105	49171	43720	38957	35162			32673	35160	31			
32	4+383.648											7511	69361	62085	54868	47739	40744	33964	27561	21866	17582	15900	17580	74627	67917	61391	55112	49177	43725	38960	35162	32672			32672	32		
33	4+391.159																																				33	
62	4+316.133												7500											15900	17580	21859	27551	33953	40732	47726	54855	62067	69334	76644	62			
63	4+323.633													7500										17580	15900	17580	21859	27551	33953	40732	47726	54891	62057	69325	63			
64	4+331.133														7500									21859	17580	15900	17580	21859	27551	33953	40732	47723	54855	62049	64			
65	4+338.633															7500								27551	21859	17580	15900	17580	21859	27551	33953	40728	47714	54834	65			
66	4+346.133																7500							33953	27551	21859	17580	15900	17580	21859	27551	33950	40719	47706	66			
67	4+353.633																	7500						40732	33953	27551	21859	17580	15900	17580	21859	27548	33942	40713	67			
68	4+361.133																		7500					47726	40732	33953	27551	21859	17580	15900	17580	21856	27541	33936	68			
69	4+368.633																			7500				54855	47726	40732	33953	27551	21859	17580	15900	17579	21852	27538	69			
70	4+376.133																				7500			62071	54855	47726	40731	33953	27551	21859	17580	15900	17578	21851	70			
71	4+383.633																						7500	69347	62071	54855	47726	40732	33953	27557	21859	17582	15905	17582	71			
72	4+391.133																																			72		
101	4+316.133																								7500											101		
102	4+323.633																										7500										102	
103	4+331.133																											7500										103
104	4+338.633																												7500									104
105	4+346.133																													7500								105
106	4+353.633																														7500							106
107	4+361.133																															7500						107
108	4+368.633																																7496					108
109	4+376.129																																	7489				109
110	4+383.618																																		7489			110
111	4+391.107																																					111

W. L. TO @ BENT	
BENT	ANGLE
31	89°59'09"
32	89°56'41"
33	89°54'13"

PLOT DATE: Mar 29, 2002 7:10am DISK FILE NAME: (15.05) R:\338899\STRUCT\PLAN_SHT\Broy3.dwg

S.A.P. 114-010-11

SIGNATURE: *David D. Long*
 PRINTED NAME: DAVID D. LONG
 DATE: 4/1/02 REG. NO. 24384



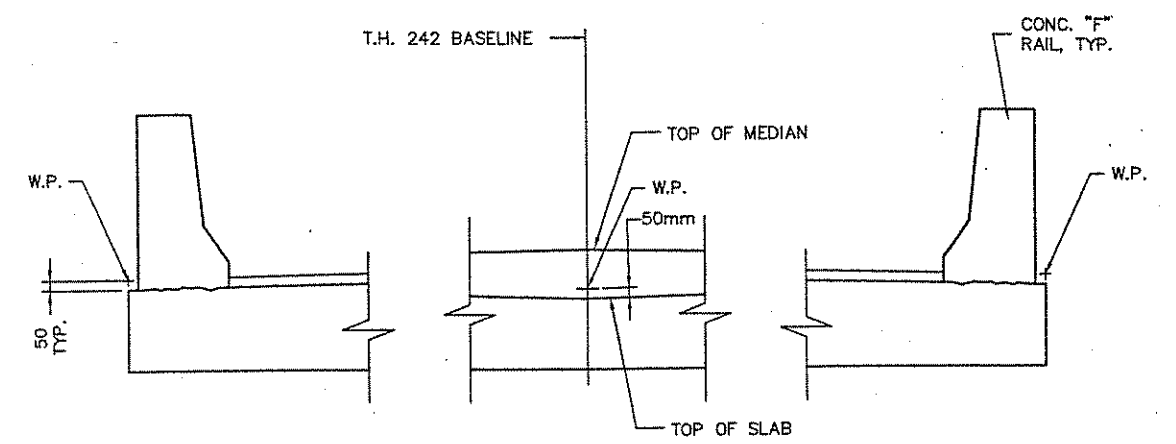
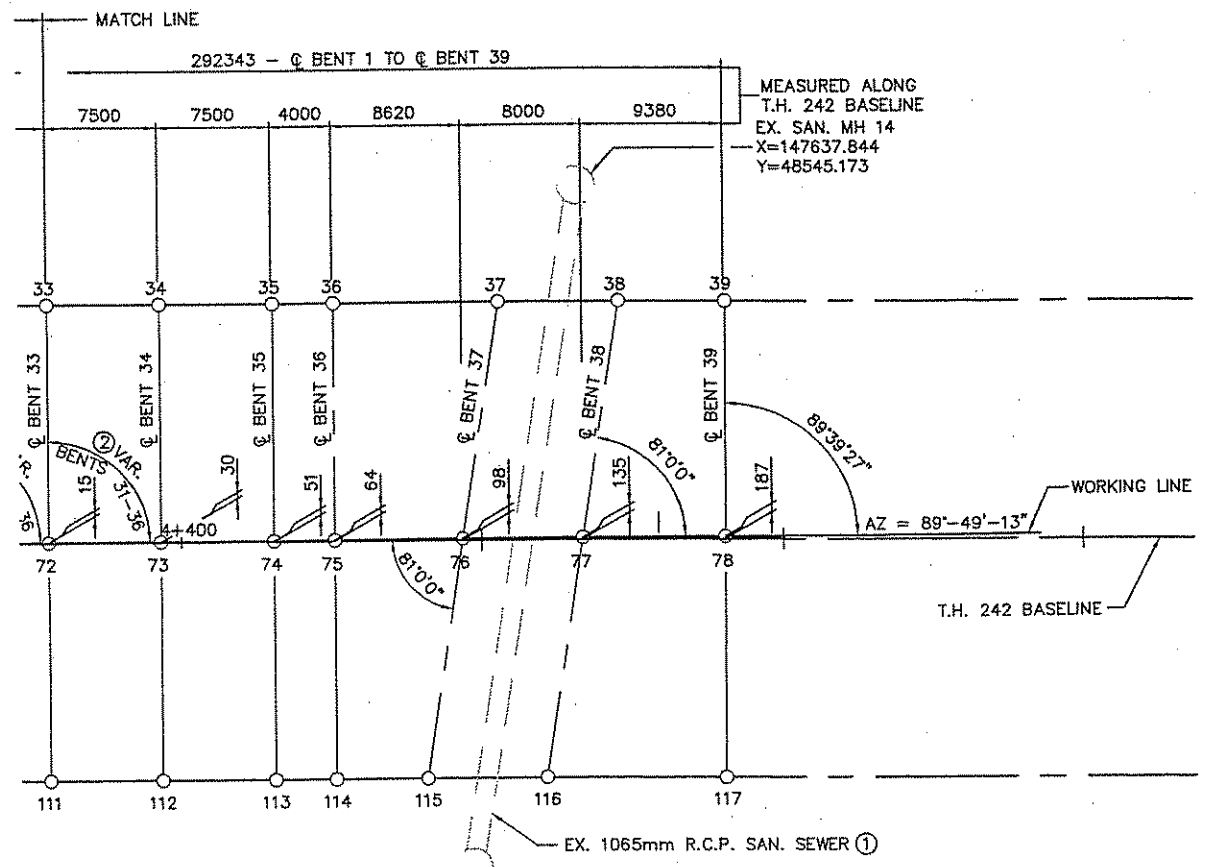
Transfer Station
 700 Third Street South
 Minneapolis, MN 55410
 612.770.0700 Tel
 612.770.0710 Fax

BRIDGE LAYOUT

DES: DDL DRN: DJV APPROVED: 4-3-02
 CHK: CRJ CHK: CRJ
 SHEET NO. 6 OF 46 SHEETS

BRIDGE NO. 02015

PLOT DATE: Apr 02, 2002 12:43pm DISK FILE NAME: (15.05) R:\338899\338899028\338899\STRUCT\PLAN_SHT\Brioy4.dwg



WORKING POINT ELEVATION LOCATION
SHOWING WORKING POINT ELEVATION LOCATION AT MEDIAN AND BEHIND CONC. "F" RAIL

① CONTRACTOR SHALL FIELD VERIFY LOCATION OF EXISTING R.C.P. SANITARY SEWER PRIOR TO DRIVING PILES FOR BENT 37 AND BENT 38. ENGINEER SHALL BE NOTIFIED IF LOCATION IS NOT AS SHOWN. ADJUSTMENTS TO BRIDGE LAYOUT MAY BE REQUIRED TO PROVIDE MINIMUM CLEAR BETWEEN PILING AND R.C.P. PIPE.

WORKING POINT LAYOUT

T.H. 242 BASELINE CURVE DATA
 $\Delta = 00^\circ-58'-00''$
 $D = n/a$
 $R = 10\ 478.273\ m$
 $T = 88.403\ m$
 $L = 176.802\ m$
 $90\ km/h$
 $e = \text{NORMAL CROWN}$

DIMENSIONS BETWEEN WORKING POINTS

POINT	STATION	33	34	35	36	37	38	39	72	73	74	75	76	77	78	111	112	113	114	115	116	117	POINT
33	4+391.159		7511						15885	17555	21830	24745	31839	38977	47696		32672	35160	37045	40545	45922	55101	33
34	4+398.644			7511					17561	15861	17529	19569	25590	32251	40682	32664		32664	33809	36363	40830	49162	34
35	4+406.155				4006				21856	17555	15849	16334	20229	25968	33886	35160	32672		32052	33381	36591	43717	35
36	4+410.161					11066			24777	19604	16347	15836	18004	22916	29770	37044	33815	32051		32390	34779	41076	36
37	4+421.227						8000		34009	27588	21863	19314	15988	16722	30396	43751	38983	35181	33666		31917	35139	37
38	4+429.227							6974	41262	34453	27999	24799	18964	15988	17225	49604	44116	39299	37096	34347		22592	38
39	4+436.201								47753	40745	33949	30460	23500	18348	15713	55101	49167	43717	41077	37485	33897		39
72	4+391.133									7500						15914	17591	21861	24775	29748	36747	47698	72
73	4+398.633										7500					17605	15930	17605	19642	23768	30171	40716	73
74	4+406.133											4000				21888	17623	15951	16444	18904	24140	33956	74
75	4+410.133												8620			24805	19670	16457	15966	17107	21308	30492	75
76	4+418.753													8000		31900	25692	20370	18170	16186	16896	23612	76
77	4+426.753														9380	39038	32352	26108	23086	19144	16186	18574	77
78	4+436.133															47757	40778	34021	30558	25536	19937	16087	78
111	4+391.107																7489						111
112	4+398.622																	7489					112
113	4+406.111																		3994				113
114	4+410.105																			6143			114
115	4+416.518																				8000		115
116	4+424.518																					11817	116
117	4+436.335																						117

POINT	COORDINATES		ELEVATIONS
	X-COORD.	Y-COORD.	TOP OF RDWY. ELEVATION
33	147602.602	48537.477	262.366
34	147610.017	48537.477	262.397
35	147617.528	48537.488	262.438
36	147621.534	48537.488	262.460
37	147632.685	48537.478	262.521
38	147640.628	48537.463	262.565
39	147647.573	48537.446	262.603
72	147602.528	48521.592	262.311
73	147610.028	48521.615	262.341
74	147617.528	48521.639	262.382
75	147621.528	48521.651	262.404
76	147630.148	48521.678	262.452
77	147638.148	48521.704	262.496
78	147647.528	48521.733	262.547
111	147592.552	48505.678	262.366
112	147610.040	48505.685	262.397
113	147617.529	48505.688	262.438
114	147621.523	48505.686	262.460
115	147627.630	48505.684	262.495
116	147635.625	48505.673	262.539
117	147647.482	48505.646	262.604

② W. L. TO © BENT	
BENT	ANGLE
33	89°54'13"
34	89°51'46"
35	89°49'18"
36	89°46'50"

SIGNATURE: *David D. Long*
 PRINTED NAME: DAVID D. LONG
 DATE: 4/2/02 REG. NO. 24384



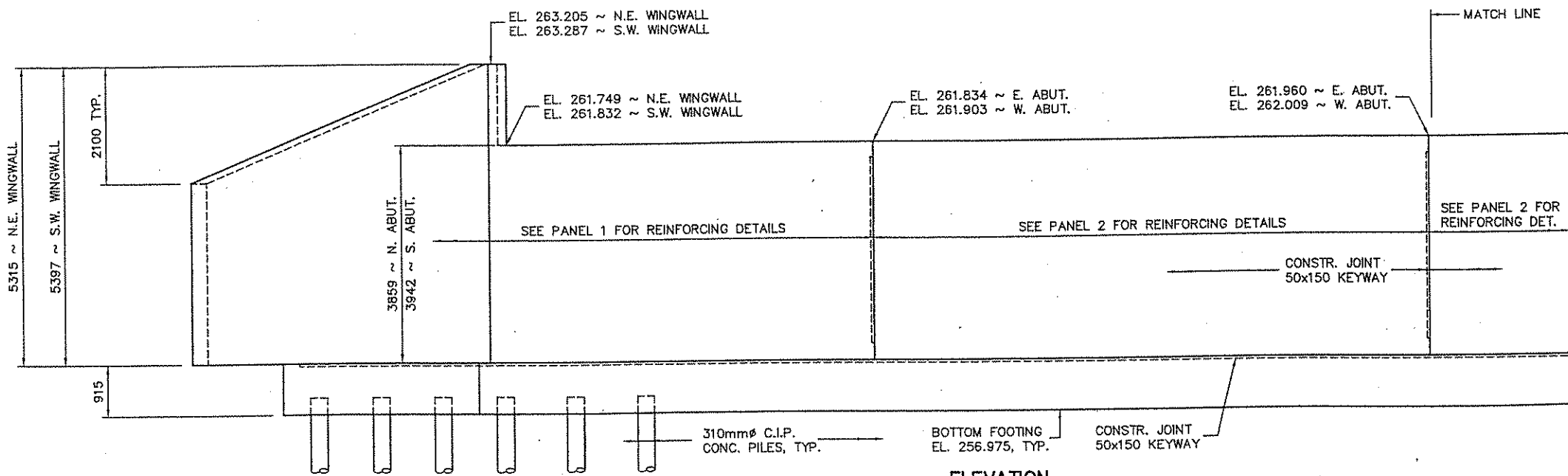
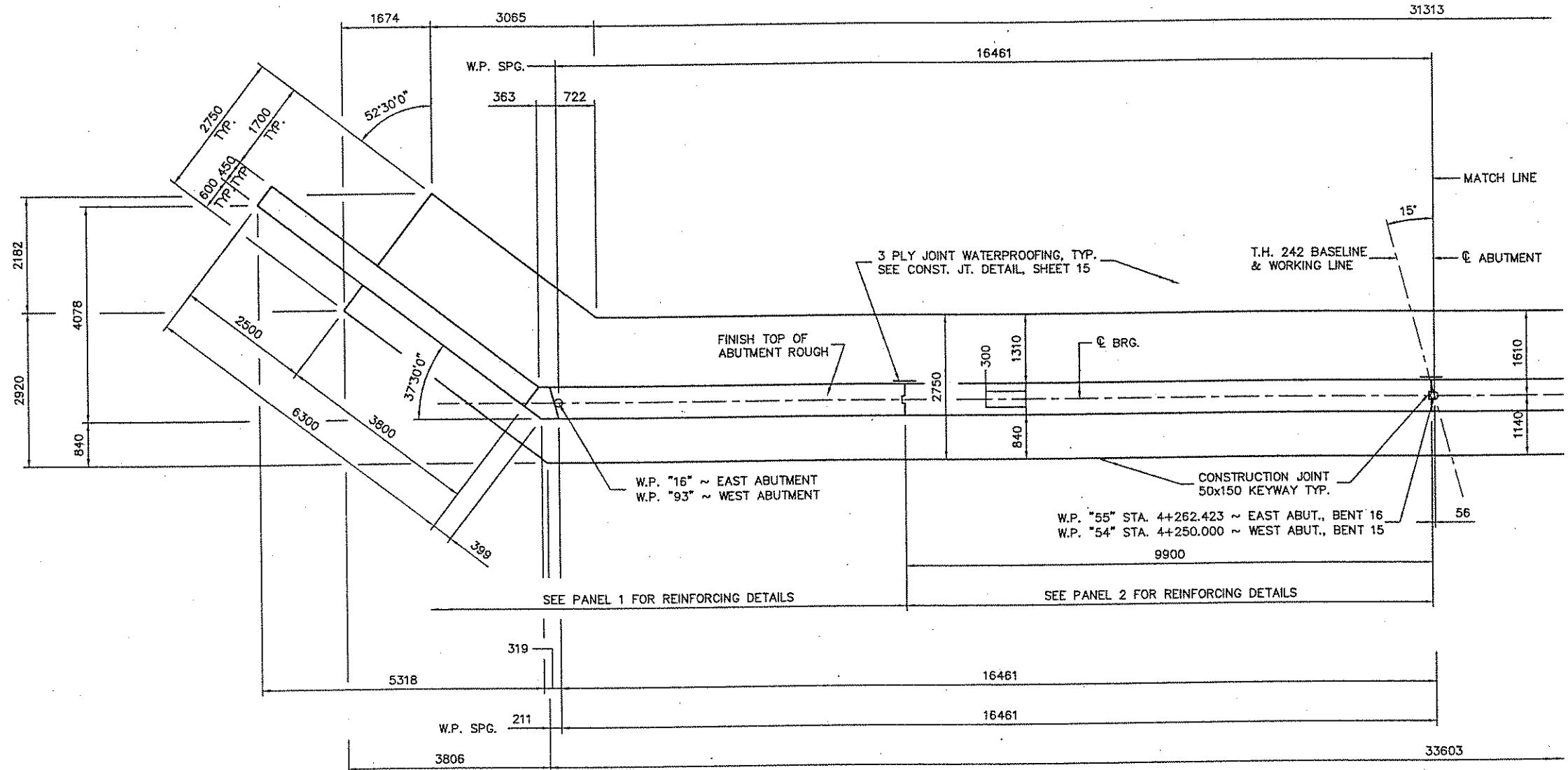
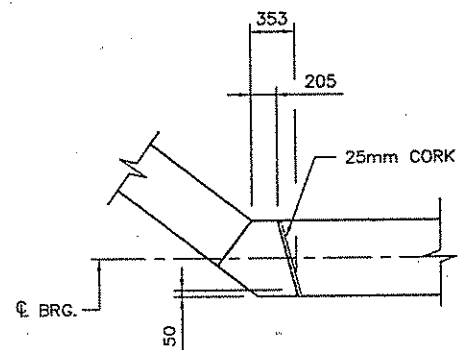
Thresher Square
 100 Third Street South
 Minneapolis, MN 55416
 612.378.0700 Fax
 612.378.0779 Fax

BRIDGE LAYOUT

DES: DDL DRN: DBM APPROVED: 4-3-02
 CHK: CRJ CHK: CRJ
 SHEET NO. 7 OF 46 SHEETS
 BRIDGE NO. 02015

S.A.P. 114-010-11

PLOT DATE: Mar 29, 2002 11:19am DISK FILE NAME: (15.05) R:\33889\33889028\338899\STRUCT\PLAN_SHT_02015eab03.dwg



S.A.P. 114-010-11

SIGNATURE: *David D. Long*
 PRINTED NAME: DAVID D. LONG
 DATE: 4/1/02 REG. NO. 24384



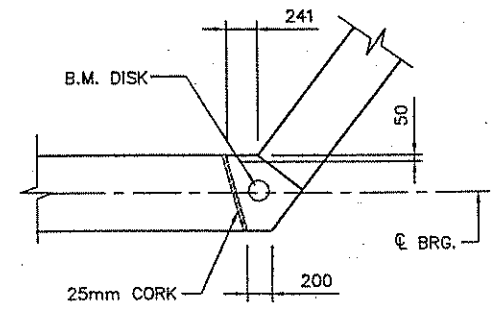
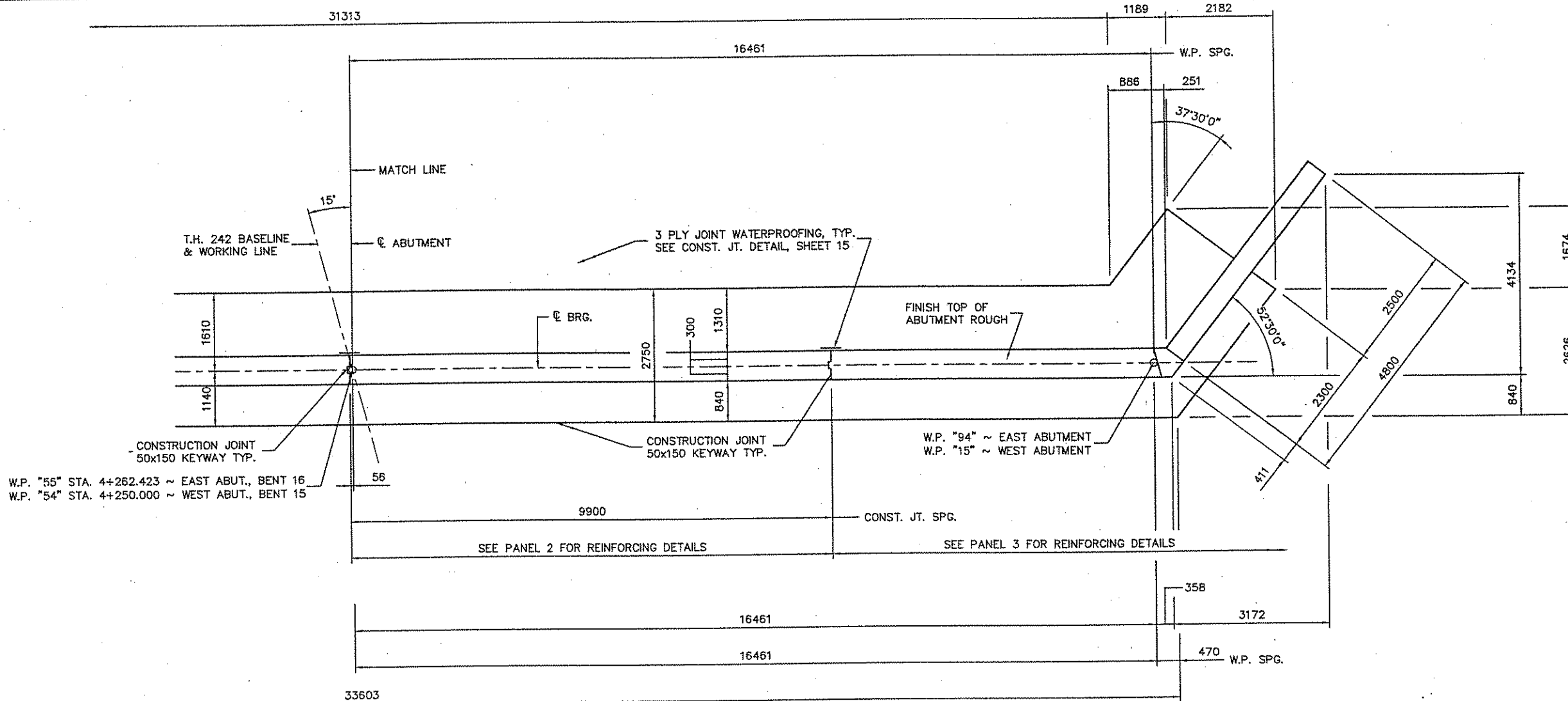
Trainer Square
 100 Third Street South
 Minneapolis, MN 55410
 612.276.0700 Fax
 612.276.1378 Fax

ABUTMENT
 DETAILS

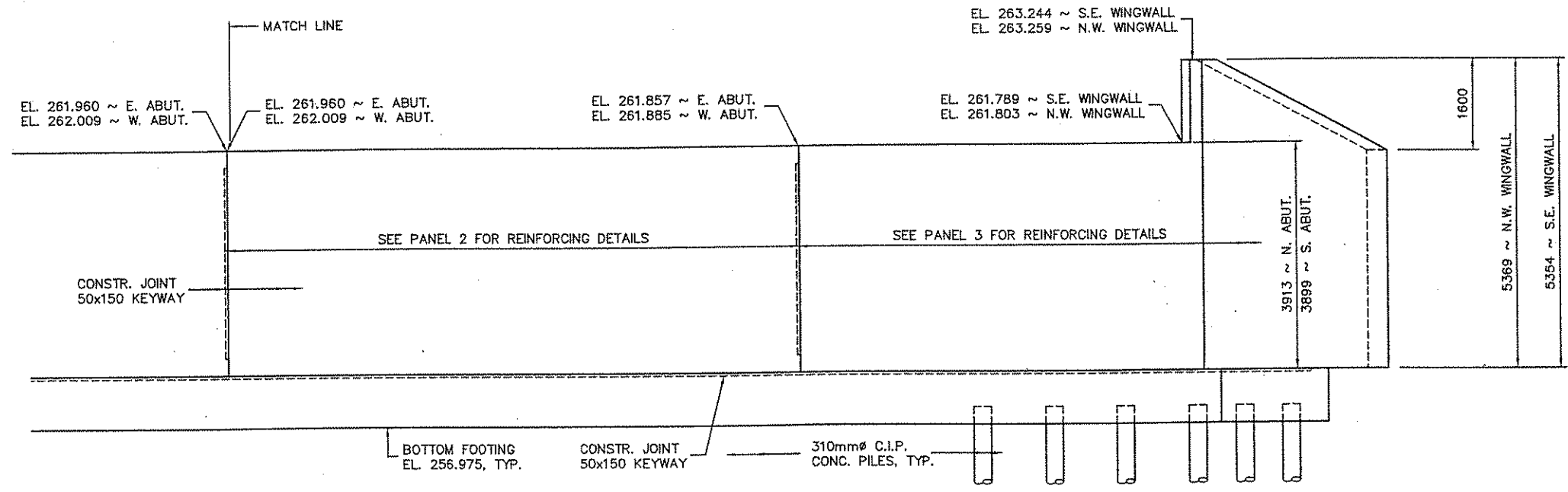
DES: CRJ DRN: DBM APPROVED: 4-3-02
 CHK: DDL CHK: DJV
 SHEET NO. 8 OF 46 SHEETS

BRIDGE NO.
 02015

PLOT DATE: Mar 29, 2002 11:20am DISK FILE NAME: (15.05) R:\33889\33889028\33889B\STRUCT\PLAN_SHT_02015enb04.dwg



PLAN
EAST ABUTMENT SHOWN, WEST ABUTMENT SIMILAR



ELEVATION
EAST ABUTMENT SHOWN, WEST ABUTMENT SIMILAR

SIGNATURE: *David D. Long*
 PRINTED NAME: DAVID D. LONG
 DATE: 4/1/02 REG. NO. 24384

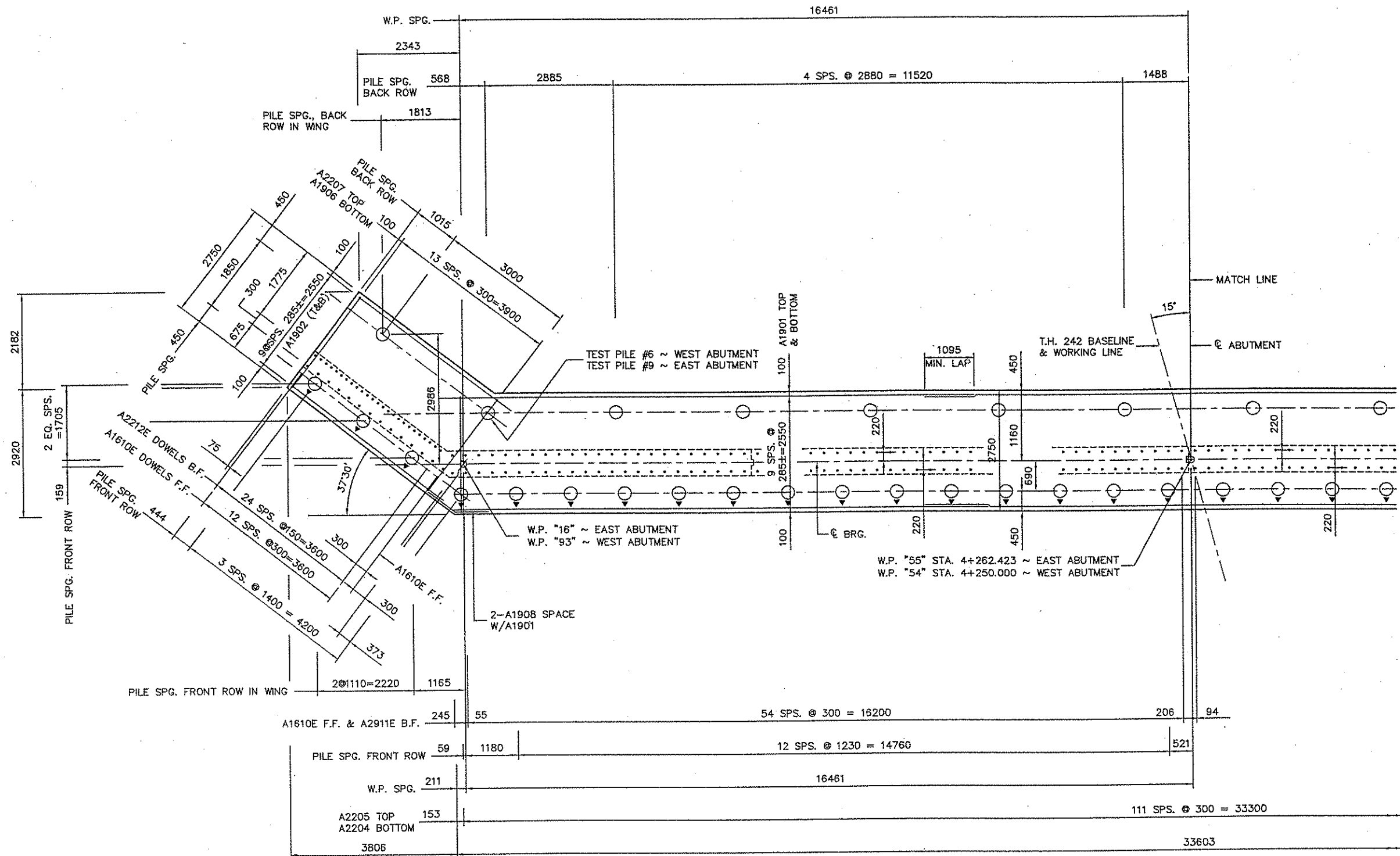


**ABUTMENT
DETAILS**

DES: CRJ	DRN: DBM	APPROVED: 4-3-02	BRIDGE NO. 02015
CHK: DDL	CHK: DJV	SHEET NO. 9 OF 46 SHEETS	

S.A.P. 114-010-11

PLOT DATE: Mar 29, 2002 10:43am DISK FILE NAME: (15.05) R:\33889\33889028\338899\STRUCT\PLAN_SHT\02015eob01.dwg



FOOTING PLAN

S.A.P. 114-010-11

SIGNATURE: *David D. Long*
 PRINTED NAME: DAVID D. LONG
 DATE: 4/1/02 REG. NO. 24384



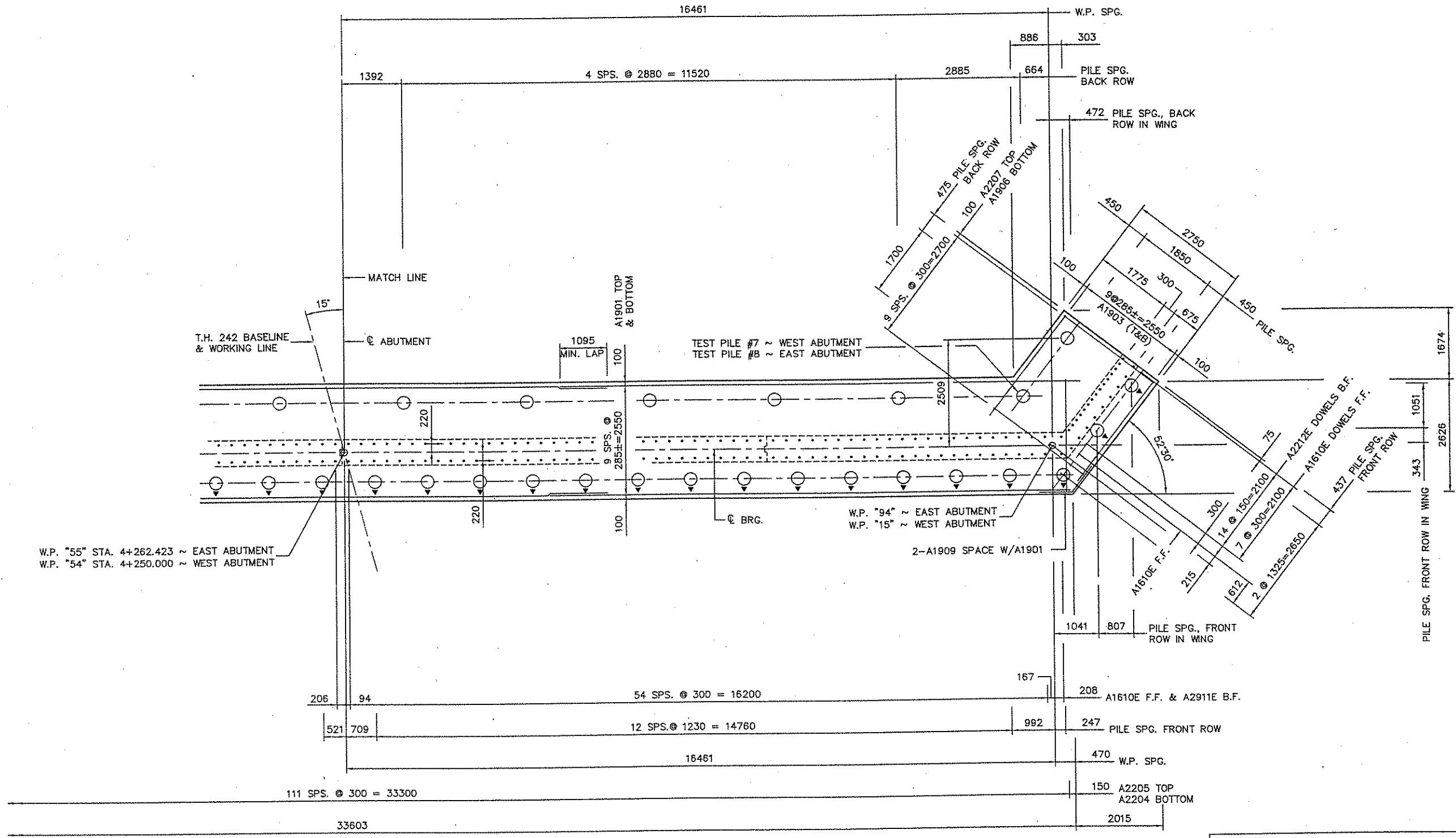
Thresher Engineers
 700 Third Street South
 Minneapolis, MN 55416
 612.370.0700 Tel
 612.370.1378 Fax

**ABUTMENT
 DETAILS**

DES: CRJ	DRN: DBM	APPROVED: <i>4-3-02</i>
CHK: DDL	CHK: DJV	
SHEET NO. 10 OF 46 SHEETS		

BRIDGE NO.
 02015

PLOT DATE: Apr 01, 2002 9:39am DISK FILE NAME: (15.05) R:\33889\33889028\33889B\STRUCT\PLAN_SHT\02015eob02.dwg



FOOTING PLAN

PILE NOTES:

1. PILE SPACING SHOWN IS AT BOTTOM OF FOOTING
2. PILES MARKED THUS \odot SHALL BE BATTERED 100mm PER 400mm IN THE DIRECTION SHOWN.
3. ALL PILES TO BE 310mm CAST-IN-PLACE CONCRETE PILES.

ABUTMENT COMPUTED PILE LOADS kN PER PILE				
DEAD LOAD + EARTH PRESSURE kN/PILE	LIVE LOAD kN/PILE	DOWN DRAG kN/PILE	TOTAL LOAD kN/PILE	DESIGN LOAD * kN/PILE
444.8	156.4	355.9	800.7	800.7

* NO REDUCTION PER MnDOT LOAD COMBINATION 2 (DEAD LOAD + DOWN DRAG LOAD)

REQUIRED PILES

- 4 - C.I.P. CONCRETE TEST PILES 41m LONG, 310mm
- 90 - C.I.P. CONCRETE PILES, EST. LENGTH 38m LONG, 310mm
- 94 - C.I.P. CONCRETE PILES REQ'D FOR BOTH ABUTMENTS

S.A.P. 114-010-11

SIGNATURE: *David D. Long*
 PRINTED NAME: DAVID D. LONG
 DATE: 4/1/02 REG. NO. 24384



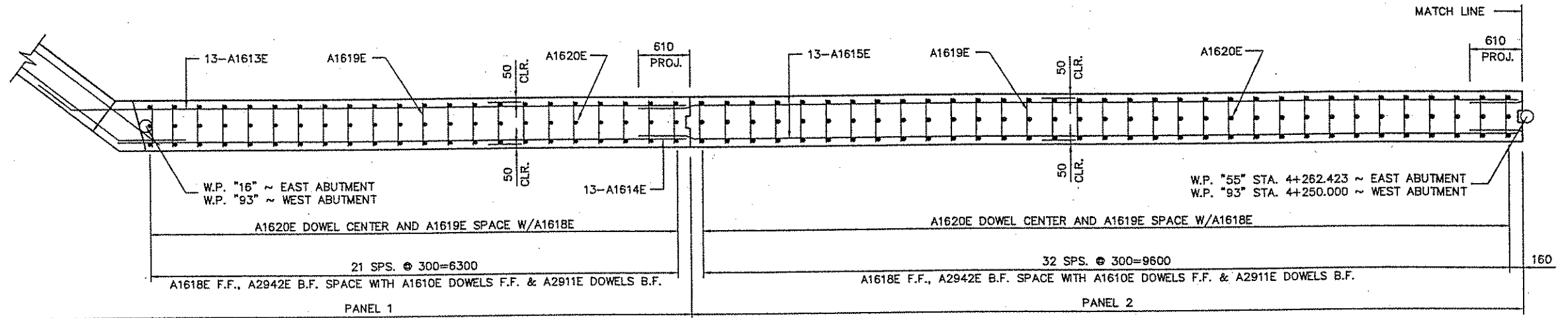
Treasurer Square
 100 Third Street South
 Minneapolis, MN 55416
 612.370.0700 Td
 612.370.0778 Fax

**ABUTMENT
 DETAILS**

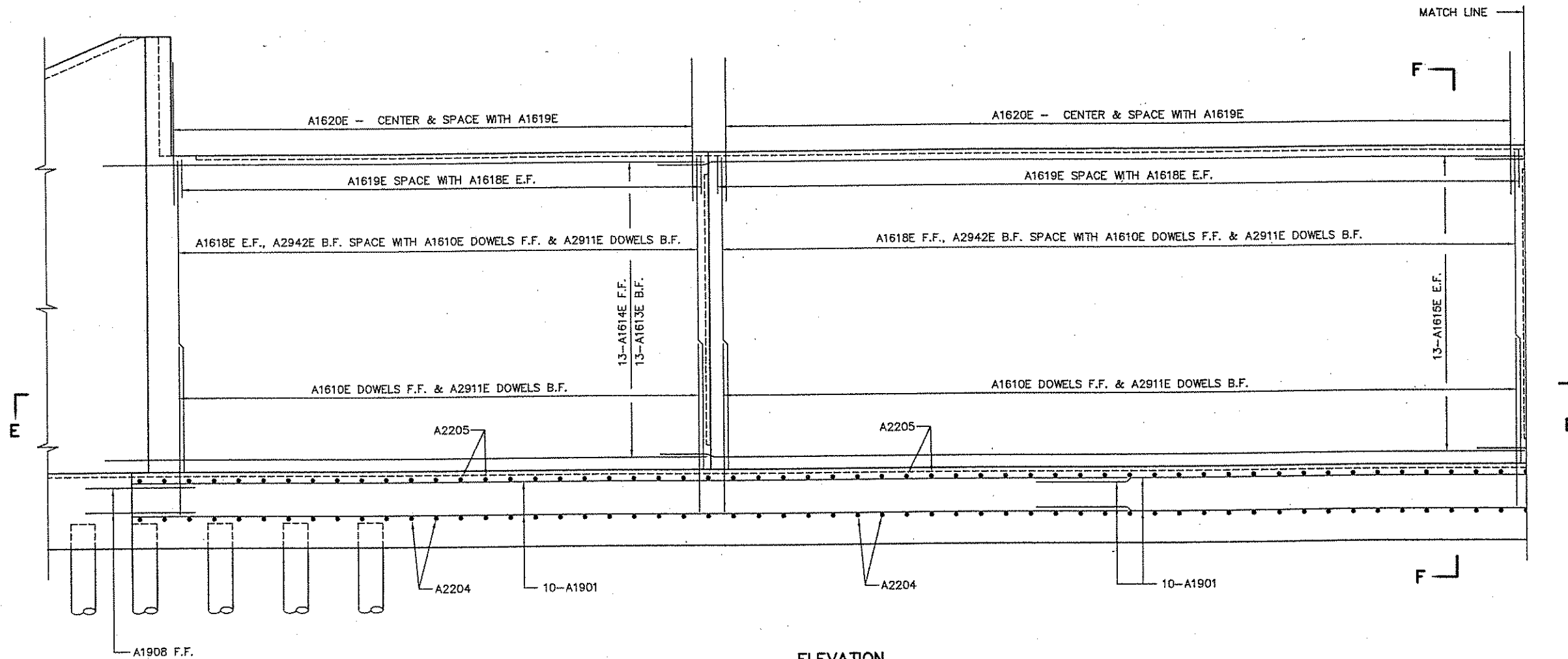
DES: CRJ DRN: DBM APPROVED: *4-3-02*
 CHK: DDL CHK: DJV
 SHEET NO. 11 OF 46 SHEETS

BRIDGE NO.
 02015

PLOT DATE: Mar 29, 2002 11:20am DISK FILE NAME: (15.05) R:\33869\33869028\33869B\STRUCT\PLAN_SHT\02015eab05.dwg



SECTION E-E
EAST ABUTMENT SHOWN
WEST ABUTMENT SIMILAR



ELEVATION
EAST ABUTMENT SHOWN
WEST ABUTMENT SIMILAR

NOTE: SEE SHEET 15 FOR SECTION F-F

S.A.P. 114-010-11

SIGNATURE: *David D. Long*
PRINTED NAME: DAVID D. LONG
DATE: 4/1/02 REG. NO. 24384



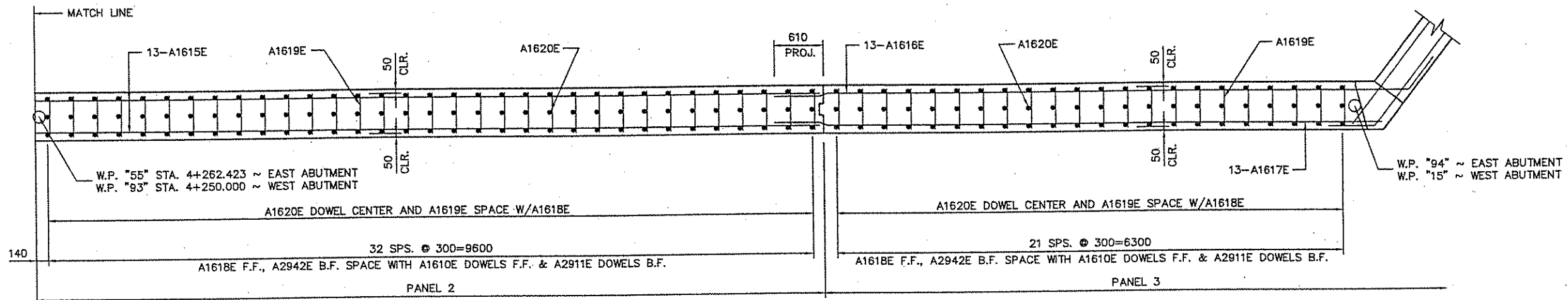
Treasurer Square
100 Third Street South
Minneapolis, MN 55439
612.370.0700 Tel
612.370.0776 Fax

**ABUTMENT
DETAILS**

DES: CRJ	DRN: DBM	APPROVED:
CHK: DDL	CHK: DJV	4-3-02
SHEET NO. 12 OF 46 SHEETS		

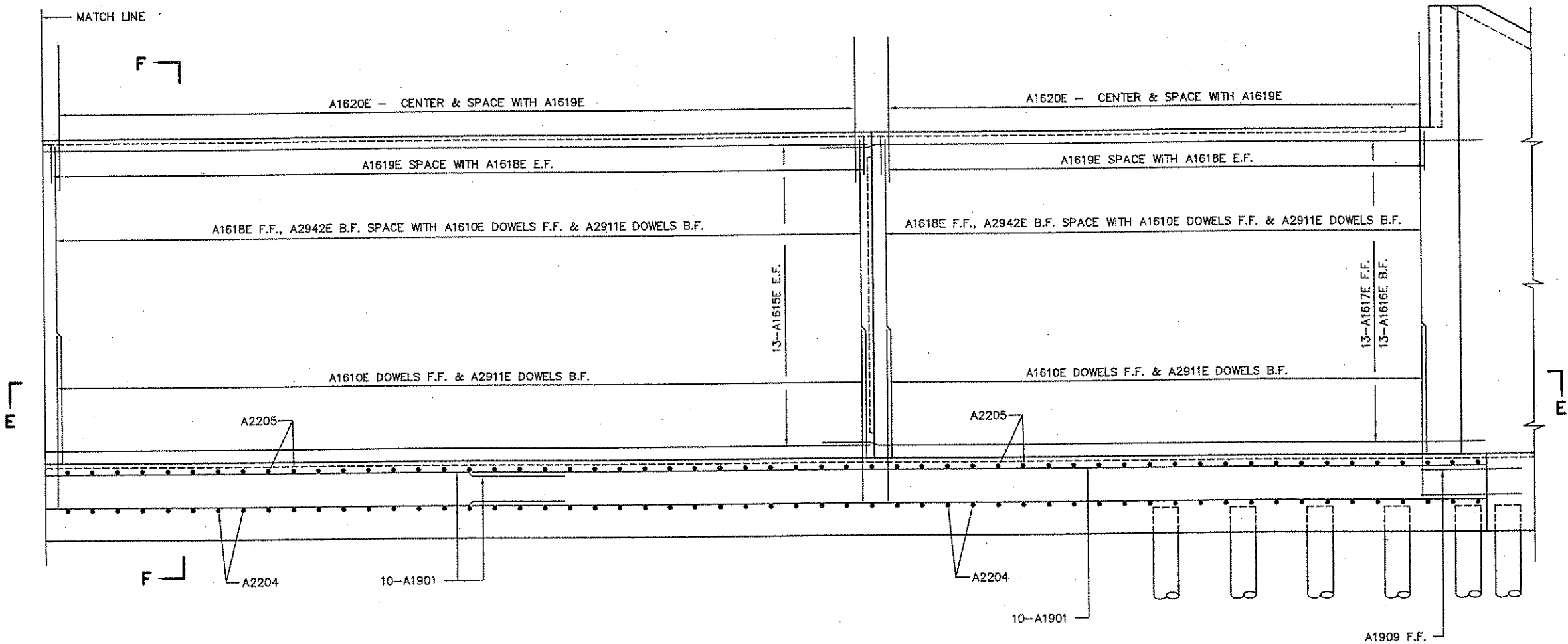
BRIDGE NO.
02015

PLOT DATE: Mar 29, 2002 11:21am DISK FILE NAME: (15.05) R:\33889\3388902B\33889B\STRUCT\PLAN_SHT\02015eab05.dwg



SECTION E-E

EAST ABUTMENT SHOWN
WEST ABUTMENT SIMILAR



ELEVATION

EAST ABUTMENT SHOWN
WEST ABUTMENT SIMILAR

NOTE: SEE SHEET 15 FOR SECTION F-F

S.A.P. 114-010-11

SIGNATURE: *David D. Long*
PRINTED NAME: DAVID D. LONG
DATE: 7/1/02 REG. NO. 24384



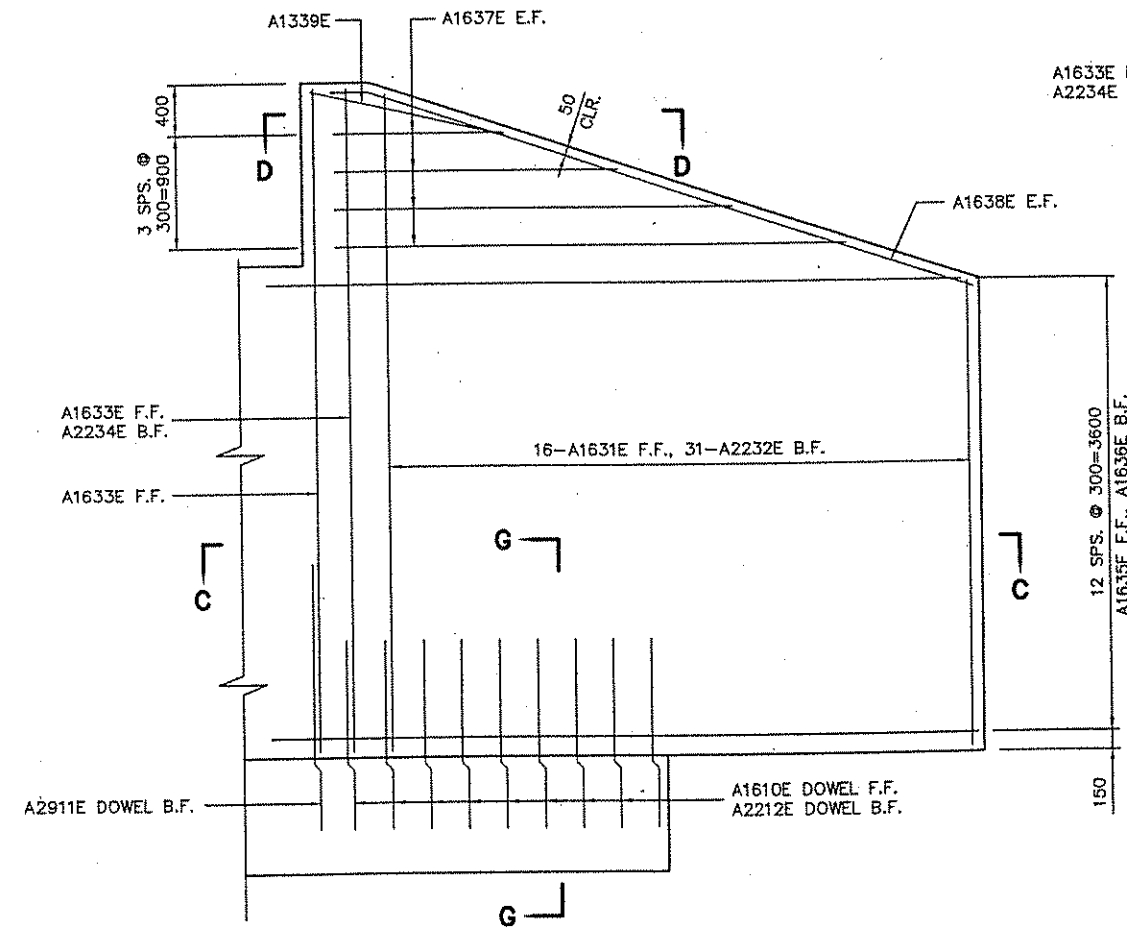
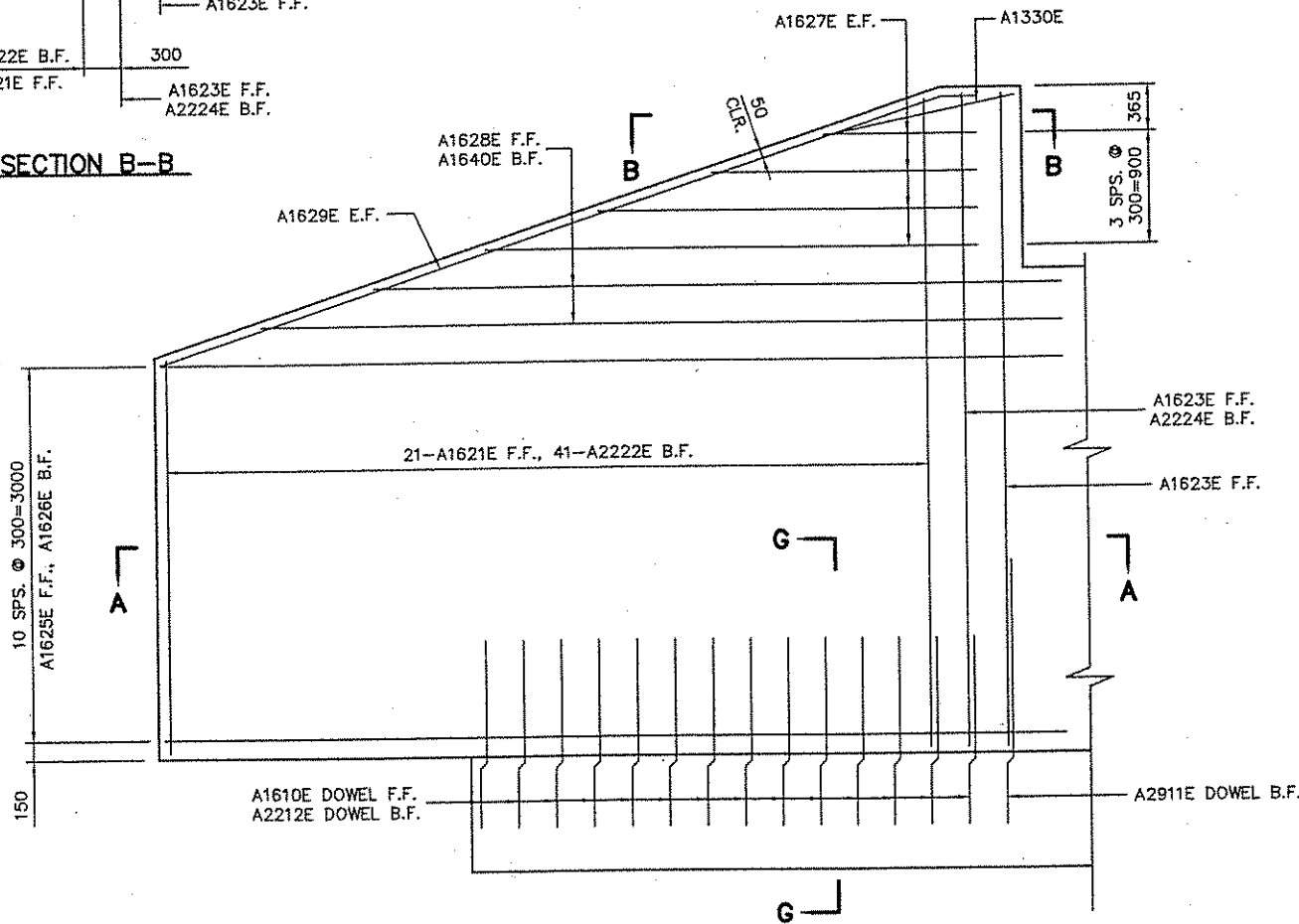
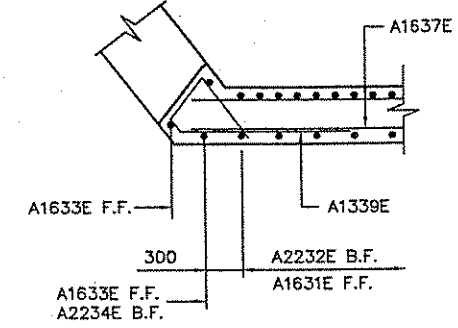
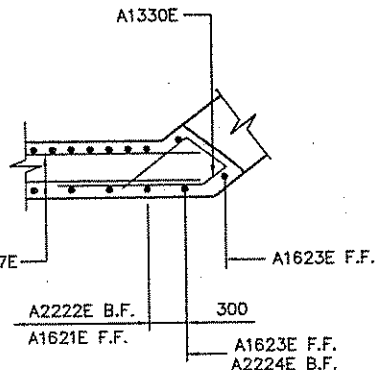
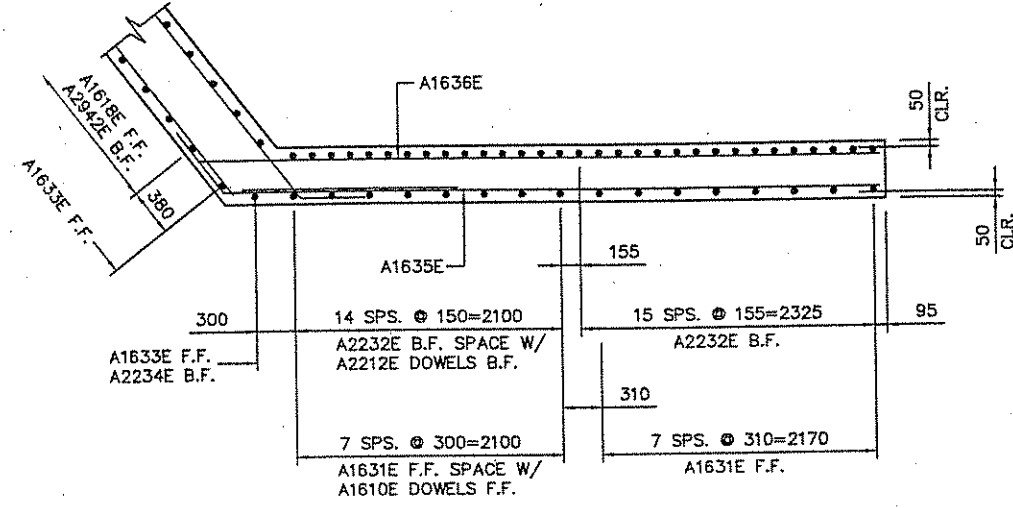
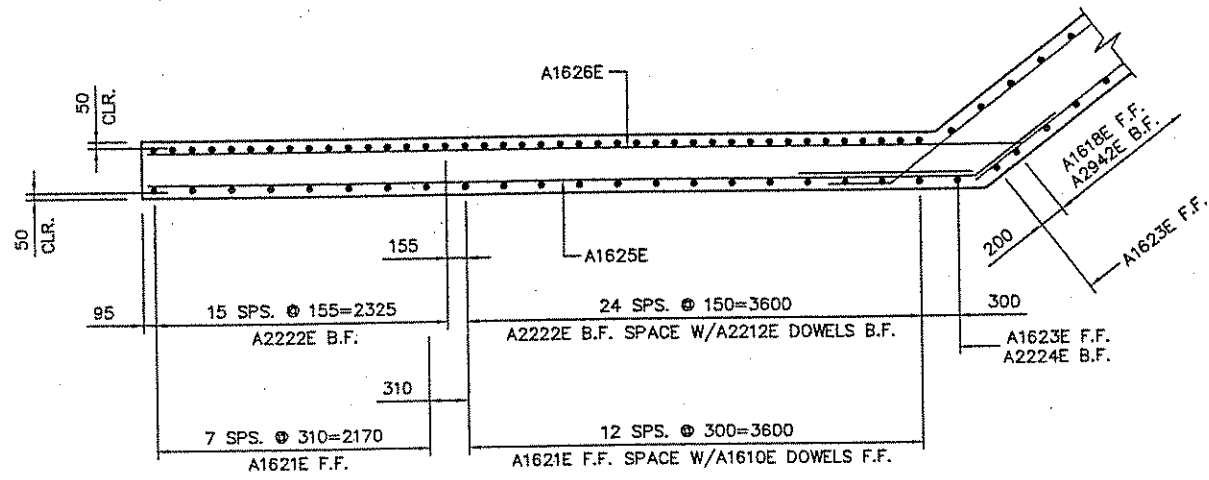
Threaten Source
700 Third Street South
Minneapolis, MN 55415
952.770.0700 Tel
952.770.0718 Fax

**ABUTMENT
DETAILS**

DES: CRJ	DRN: DBM	APPROVED:
CHK: DDL	CHK: DJV	4-3-02
SHEET NO. 13 OF 46 SHEETS		

BRIDGE NO.
02015

PLOT DATE: Mar 29, 2002 11:21am DISK FILE NAME: (15.05) R:\33889\33889028\338899\STRUCT\PLAN_SHT\02015eab07.dwg



WINGWALL ELEVATION
NORTHEAST WINGWALL SHOWN
SOUTHWEST WINGWALL SIMILAR

WINGWALL ELEVATION
SOUTHEAST WINGWALL SHOWN
NORTHWEST WINGWALL SIMILAR

NOTE: SEE SHEET 15 FOR SECTION G-G

S.A.P. 114-D10-11

SIGNATURE: *David D. Long*
PRINTED NAME: DAVID D. LONG
DATE: 4/1/02 REG. NO. 24384

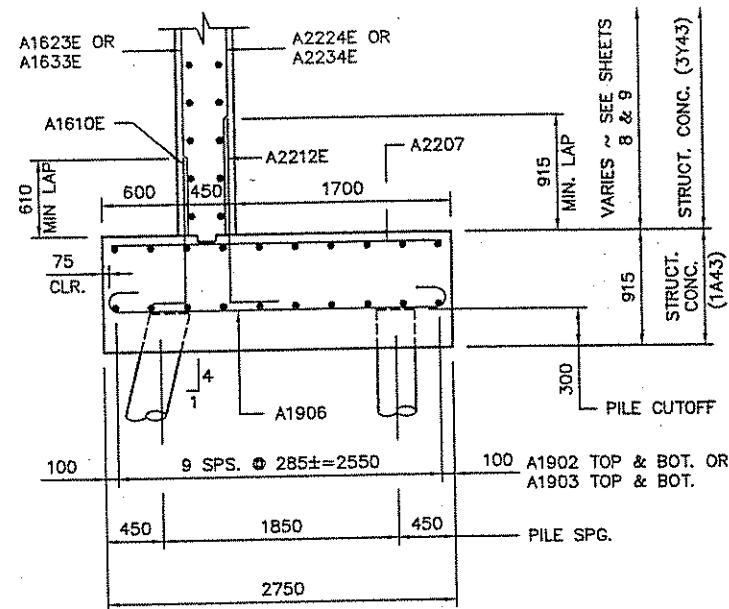


Thruway Square
100 Third Street South
Minneapolis, MN 55415
612.270.2700 Fax
612.270.2779 Fax

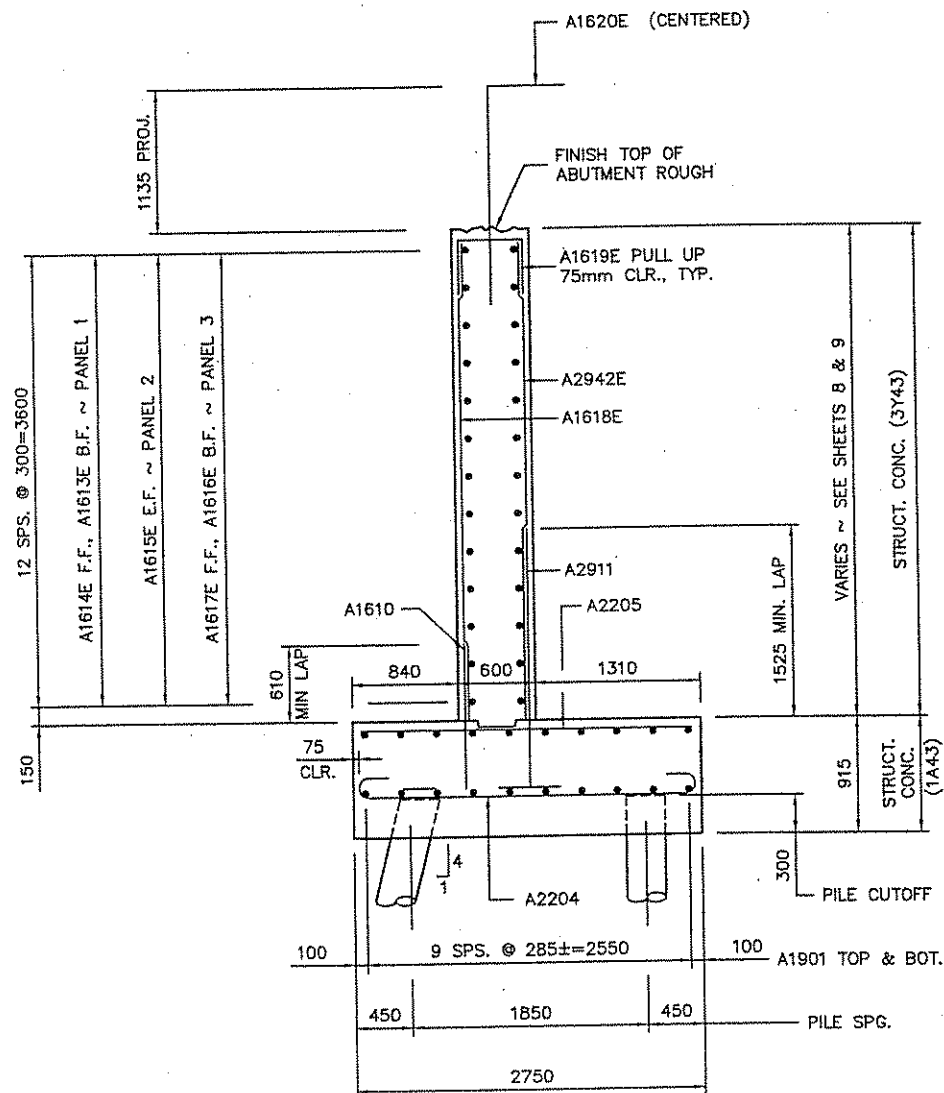
**ABUTMENT
DETAILS**

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CHK: DDL	CHK: DJV	4-3-02	
SHEET NO. 14 OF 46 SHEETS			

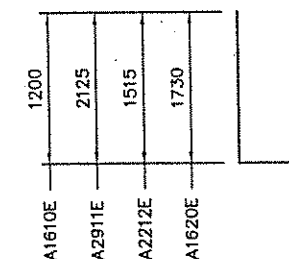
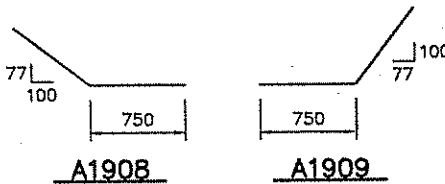
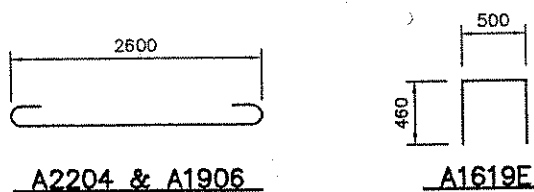
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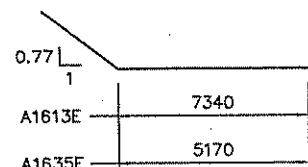
SECTION G-G



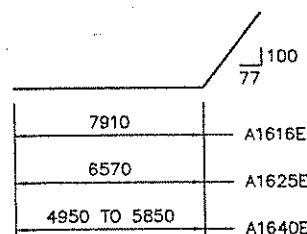
SECTION F-F



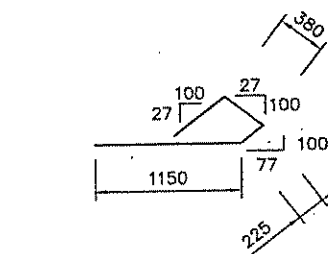
A1610E, A2911E, A2212E, A1620E



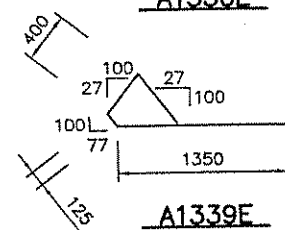
A1613E, A1635E



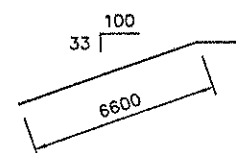
A1616E, A1625E, A1640E



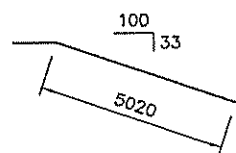
A1330E



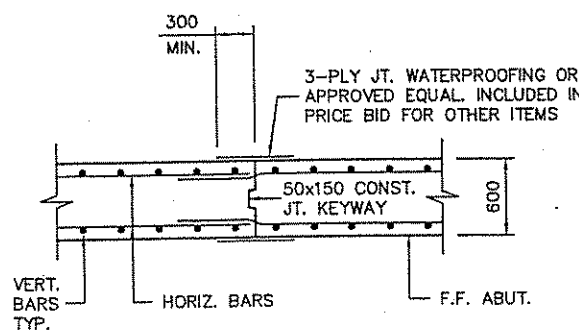
A1339E



A1629E



A1638E



CONSTRUCTION JOINT DETAIL

BILL OF REINFORCEMENT ~ ABUTMENTS

BAR	NO.	LENGTH	SHAPE	LOCATION
A1901	120	12070	STRT	FOOTING ~ LONGIT.
A1902	40	4330	STRT	FOOTING ~ LONGIT.
A1903	40	2910	STRT	FOOTING ~ LONGIT.
A2204	228	3100	BENT	FOOTING ~ TRANSV.
A2205	228	2600	STRT	FOOTING ~ TRANSV.
A1906	48	3000	BENT	FOOTING ~ TRANSV.
A2207	48	2600	STRT	FOOTING ~ TRANSV.
A1908	2	1500	BENT	FOOTING ~ LONGIT.
A1909	2	1500	BENT	FOOTING ~ LONGIT.
A1610E	270	1450	BENT	FOOTING ~ DOWEL
A2911E	224	2600	BENT	FOOTING ~ DOWEL
A2212E	80	1890	BENT	FOOTING ~ DOWEL
A1613E	26	7840	BENT	ABUTMENT ~ HORIZONTAL - PANEL 1
A1614E	26	6790	STRT	ABUTMENT ~ HORIZONTAL - PANEL 1
A1615E	104	10460	STRT	ABUTMENT ~ HORIZONTAL - PANEL 2
A1616E	26	8500	BENT	ABUTMENT ~ HORIZONTAL - PANEL 3
A1617E	26	7560	STRT	ABUTMENT ~ HORIZONTAL - PANEL 3
A1618E	220	3800	STRT	ABUTMENT ~ VERTICAL, F.F.
A1619E	220	1420	BENT	ABUTMENT ~ TIE
A1620E	220	2330	BENT	ABUTMENT ~ DOWEL
A1621E	2 SER. OF 21	3140 TO 5170	STRT	N.E. & S.W. WINGWALL ~ VERTICAL
A2222E	2 SER. OF 41	3140 TO 5170	STRT	N.E. & S.W. WINGWALL ~ VERTICAL
A1623E	4	5210	STRT	N.E. & S.W. WINGWALL ~ VERTICAL
A2224E	2	5210	STRT	N.E. & S.W. WINGWALL ~ VERTICAL
A1625E	22	7360	BENT	N.E. & S.W. WINGWALL ~ HORIZONTAL
A1626E	22	6940	STRT	N.E. & S.W. WINGWALL ~ HORIZONTAL
A1627E	4 SER. OF 4	1230 TO 3930	STRT	N.E. & S.W. WINGWALL ~ HORIZONTAL
A1628E	2 SER. OF 2	4950 TO 5850	STRT	N.E. & S.W. WINGWALL ~ HORIZONTAL
A1629E	4	6680	BENT	N.E. & S.W. WINGWALL ~ HORIZONTAL
A1330E	2	2400	BENT	N.E. & S.W. WINGWALL ~ HORIZONTAL
A1631E	2 SER. OF 16	3680 TO 5210	STRT	S.E. & N.W. WINGWALL ~ VERTICAL
A2232E	2 SER. OF 31	3680 TO 5210	STRT	S.E. & N.W. WINGWALL ~ VERTICAL
A1633E	4	5250	STRT	S.E. & N.W. WINGWALL ~ VERTICAL
A2234E	2	5250	STRT	S.E. & N.W. WINGWALL ~ VERTICAL
A1635E	26	5770	BENT	S.E. & N.W. WINGWALL ~ HORIZONTAL
A1636E	26	5370	STRT	S.E. & N.W. WINGWALL ~ HORIZONTAL
A1637E	4 SER. OF 4	1320 TO 4020	STRT	S.E. & N.W. WINGWALL ~ HORIZONTAL
A1638E	4	5300	BENT	S.E. & N.W. WINGWALL ~ HORIZONTAL
A1639E	2	2480	BENT	S.E. & N.W. WINGWALL ~ HORIZONTAL
A1640E	2 SER. OF 2	5740 TO 6640	STRT	N.E. & S.W. WINGWALL ~ HORIZONTAL
A2942E	220	3800	STRT	ABUTMENT ~ VERTICAL, B.F.

① 1095 MIN. LAP, 3 LINES

SUMMARY OF QUANTITIES ~ ABUTMENTS

ITEM	UNIT	QUANTITY
STRUCTURAL CONCRETE (1A43)	m ³	198
STRUCTURAL CONCRETE (3Y43)	m ³	206
REINFORCEMENT BARS	kg	8560
REINFORCEMENT BARS (EPOXY COATED)	kg	17480
C.I.P. CONCRETE PILING DELIVERED, 310	m	3420
C.I.P. CONCRETE PILING DRIVEN, 310	m	3420
C.I.P. CONCRETE TEST PILES, 41 m LG.	EACH	4
STRUCTURE EXCAVATION	LUMP SUM	1
BENCHMARK DISK	EACH	1
3-PLY JOINT WATERPROOFING	m	24

- ② DOES NOT INCLUDE TEST PILES.
- ③ SEE SPECIAL PROVISIONS.
- ④ STATE WILL FURNISH DISK. PAYMENT FOR PLACING TO BE INCLUDED IN PRICE BID FOR OTHER ITEMS. SEE STANDARD PLATE NO. 9301B FOR PLACING.
- ⑤ TO BE INCLUDED IN OTHER ITEMS

SIGNATURE: *David D. Long*
 PRINTED NAME: DAVID D. LONG
 DATE: 4/1/02 REG. NO. 24384

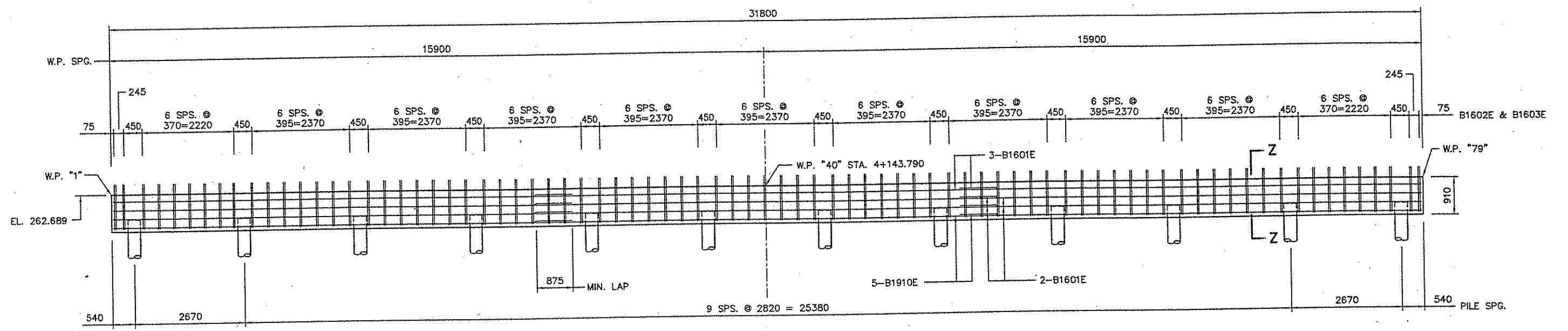


Thresher Square
 100 Third Street South
 Minneapolis, MN 55404
 612.379.0700 Tele
 612.379.0770 Fax

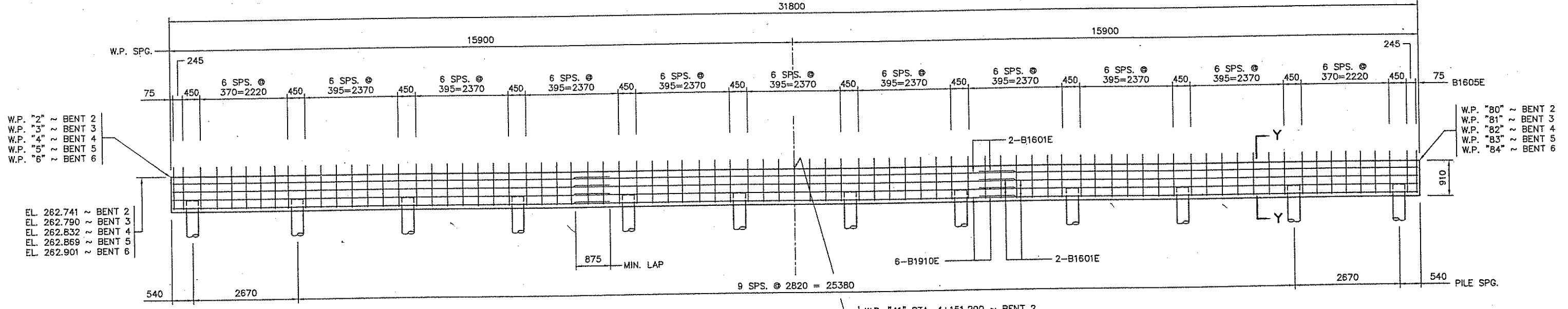
ABUTMENT DETAILS

DES: CRJ	DRN: DBM	APPROVED: 4-3-02	BRIDGE NO. 02015
CHK: DDL	CHK: DJV		
SHEET NO. 15 OF 46 SHEETS			

PLOT DATE: Apr 01, 2002 10:28am DISK FILE NAME: (15.05) R:\33888\STRUCT\PLAN_SHT\02015BENT01.dwg



BENT 1



BENTS 2-6

W.P. "41" STA. 4+151.290 ~ BENT 2
 W.P. "42" STA. 4+158.790 ~ BENT 3
 W.P. "43" STA. 4+166.290 ~ BENT 4
 W.P. "44" STA. 4+173.790 ~ BENT 5
 W.P. "45" STA. 4+181.290 ~ BENT 6

SEE SHEET 22 FOR SECTION Z-Z & Y-Y

S.A.P. 114-010-11

SIGNATURE: *David D. Long*
 PRINTED NAME: DAVID D. LONG
 DATE: 4/1/02 REG. NO. 24384



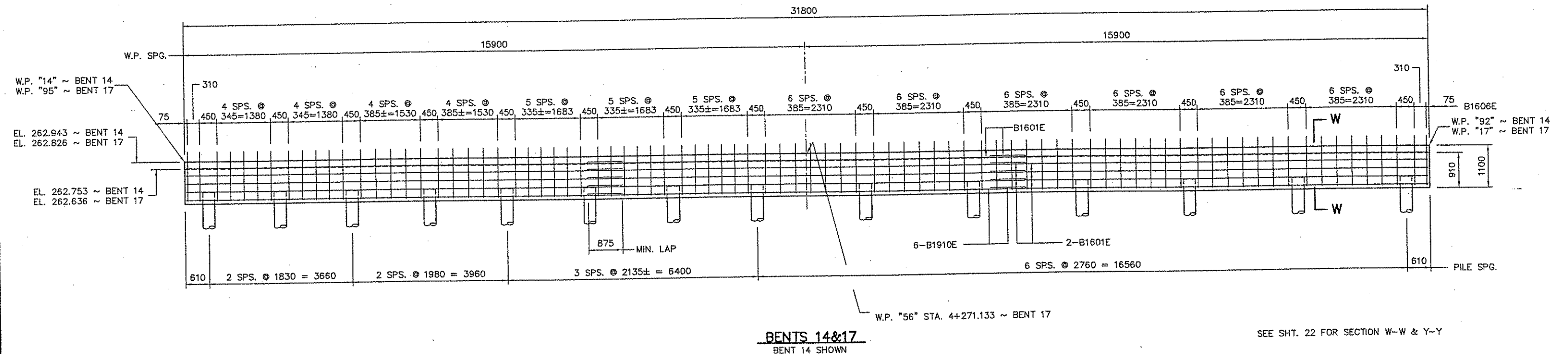
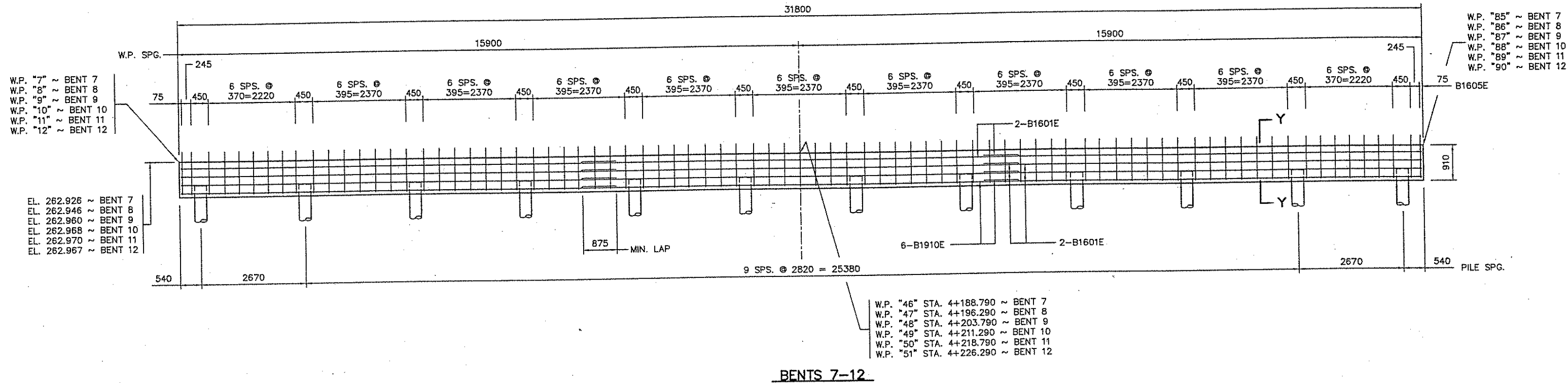
Thruway Square
 700 Third Street South
 Minneapolis, MN 55415
 612.370.0300 Tel
 612.370.0375 Fax

**BENT
DETAILS**

DES: CRJ DRN: DBM APPROVED: 4-3-02
 CHK: DDL CHK: DDL
 SHEET NO. 16 OF 46 SHEETS

BRIDGE NO.
02015

PLOT DATE: Apr 01, 2002 10:25am DISK FILE NAME: (15.05) R:\33889\33889028\STRUCT\PLAN_SHT\02015BENTZ.dwg



S.A.P. 114-010-11

SIGNATURE: *David D. Long*
PRINTED NAME: DAVID D. LONG
DATE: 4/1/02 REG. NO. 24384



Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0100 Tel
612.370.0170 Fax

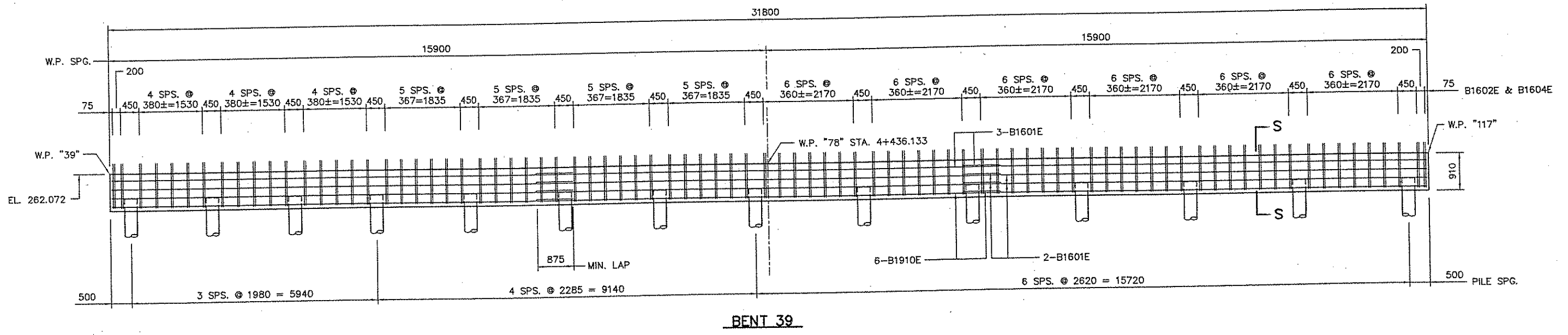
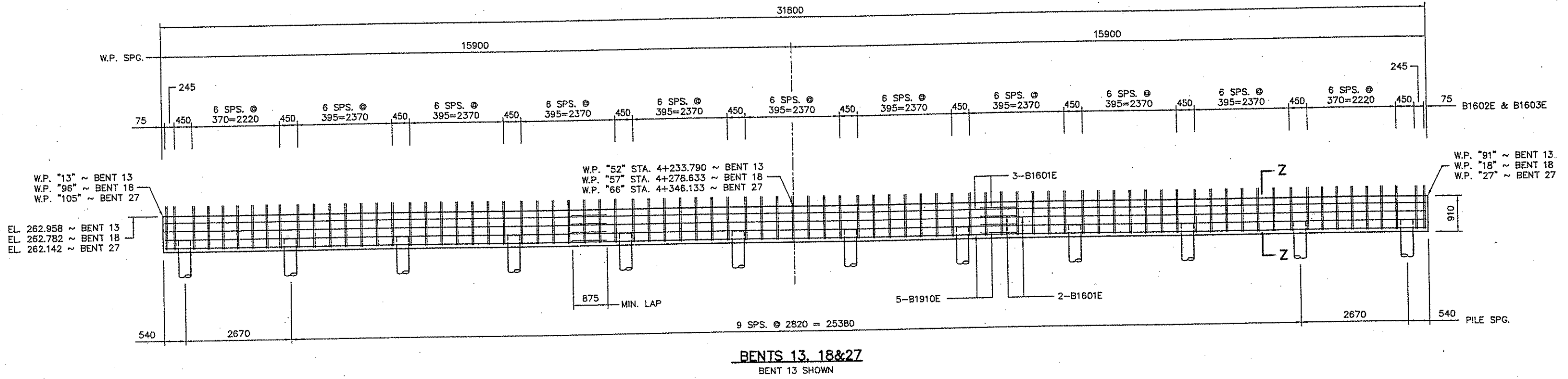
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DETAILS**

DES: CRJ	DRN: DBM	APPROVED: 4-3-02
CHK: DDL	CHK: DDL	

SHEET NO. 17 OF 46 SHEETS

BRIDGE NO.
02015

PLOT DATE: Apr 01, 2002 10:26am DISK FILE NAME: (15.05) R:\33889\33889028\338898\STRUCT\PLAN_SHT_02015BENT13.dwg



SEE SHT. 22 FOR SECTIONS S-S & Z-Z

S.A.P. 114-010-11

SIGNATURE: *David D. Long*
 PRINTED NAME: DAVID D. LONG
 DATE: 4/1/02 REG. NO. 24384



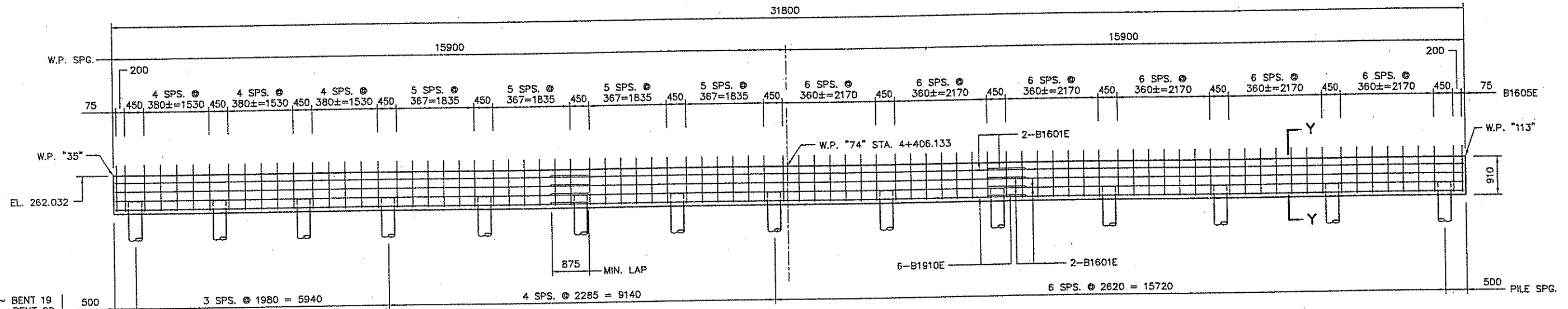
Truett-Lane
 700 Third Street South
 Meriden, CT 06450
 (860) 235-1700 Tel
 (860) 235-1770 Fax

**BENT
 DETAILS**

DES: CRJ	DRN: DBM	APPROVED:
CHK: DDL	CHK: DDL	4-3-02
SHEET NO. 18 OF 46 SHEETS		

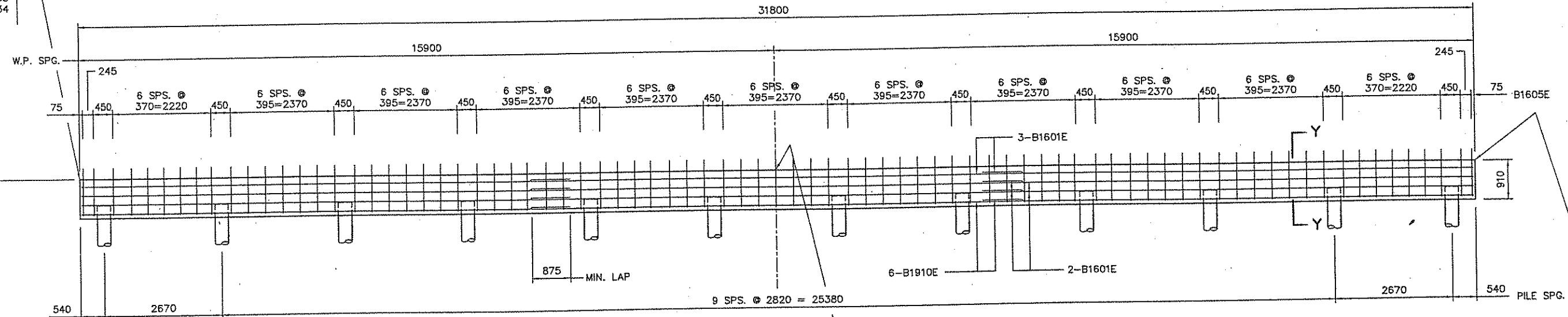
BRIDGE NO.
 02015

PLOT DATE: Apr 01, 2002 10:26am DISK FILE NAME: (15.05) R:\336899\336899028\STRUCT\PLAN_SHT\0201SBENT14.dwg



BENT 35

- W.P. "19" ~ BENT 19
- W.P. "20" ~ BENT 20
- W.P. "21" ~ BENT 21
- W.P. "22" ~ BENT 22
- W.P. "23" ~ BENT 23
- W.P. "24" ~ BENT 24
- W.P. "25" ~ BENT 25
- W.P. "26" ~ BENT 26
- W.P. "28" ~ BENT 28
- W.P. "29" ~ BENT 29
- W.P. "30" ~ BENT 30
- W.P. "31" ~ BENT 31
- W.P. "33" ~ BENT 33
- W.P. "34" ~ BENT 34



- EL. 262.733 ~ BENT 19
- EL. 262.678 ~ BENT 20
- EL. 262.617 ~ BENT 21
- EL. 262.550 ~ BENT 22
- EL. 262.477 ~ BENT 23
- EL. 262.399 ~ BENT 24
- EL. 262.314 ~ BENT 25
- EL. 262.228 ~ BENT 26
- EL. 262.069 ~ BENT 28
- EL. 262.012 ~ BENT 29
- EL. 261.973 ~ BENT 30
- EL. 261.952 ~ BENT 31
- EL. 261.961 ~ BENT 33
- EL. 261.991 ~ BENT 34

- W.P. "58" STA. 4+286.133 ~ BENT 19
- W.P. "59" STA. 4+293.633 ~ BENT 20
- W.P. "60" STA. 4+301.133 ~ BENT 21
- W.P. "61" STA. 4+308.633 ~ BENT 22
- W.P. "62" STA. 4+316.133 ~ BENT 23
- W.P. "63" STA. 4+323.633 ~ BENT 24
- W.P. "64" STA. 4+331.133 ~ BENT 25
- W.P. "65" STA. 4+338.633 ~ BENT 26
- W.P. "67" STA. 4+353.633 ~ BENT 28
- W.P. "68" STA. 4+361.133 ~ BENT 29
- W.P. "69" STA. 4+368.633 ~ BENT 30
- W.P. "70" STA. 4+376.133 ~ BENT 31
- W.P. "72" STA. 4+391.133 ~ BENT 33
- W.P. "73" STA. 4+398.633 ~ BENT 34

- W.P. "97" ~ BENT 19
- W.P. "98" ~ BENT 20
- W.P. "99" ~ BENT 21
- W.P. "100" ~ BENT 22
- W.P. "101" ~ BENT 23
- W.P. "102" ~ BENT 24
- W.P. "103" ~ BENT 25
- W.P. "104" ~ BENT 26
- W.P. "106" ~ BENT 28
- W.P. "107" ~ BENT 29
- W.P. "108" ~ BENT 30
- W.P. "109" ~ BENT 31
- W.P. "111" ~ BENT 33
- W.P. "112" ~ BENT 34

BENTS 19-26, 28-31 & 33-34

SEE SHT. 22 FOR SECTION Y-Y

S.A.P. 114-010-11

SIGNATURE: *David D. Long*
 PRINTED NAME: DAVID D. LONG
 DATE: 4/1/02 REG. NO. 24384



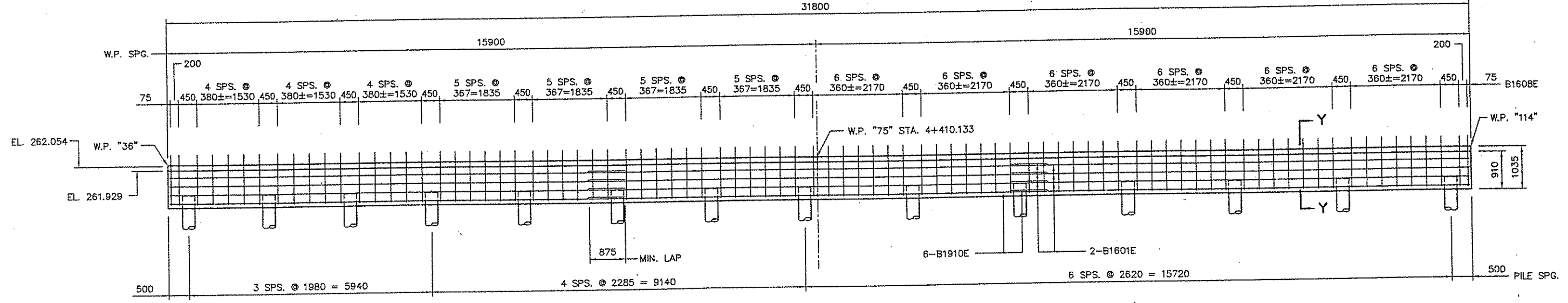
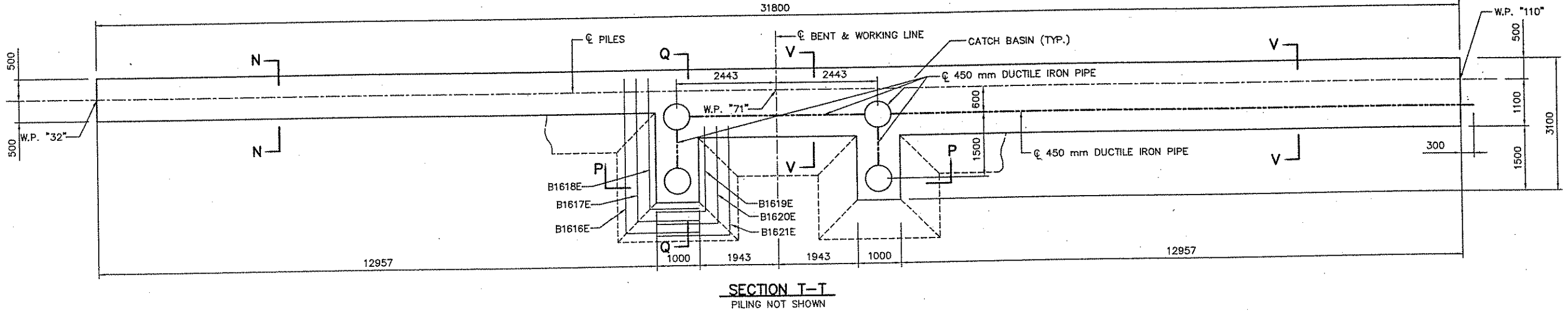
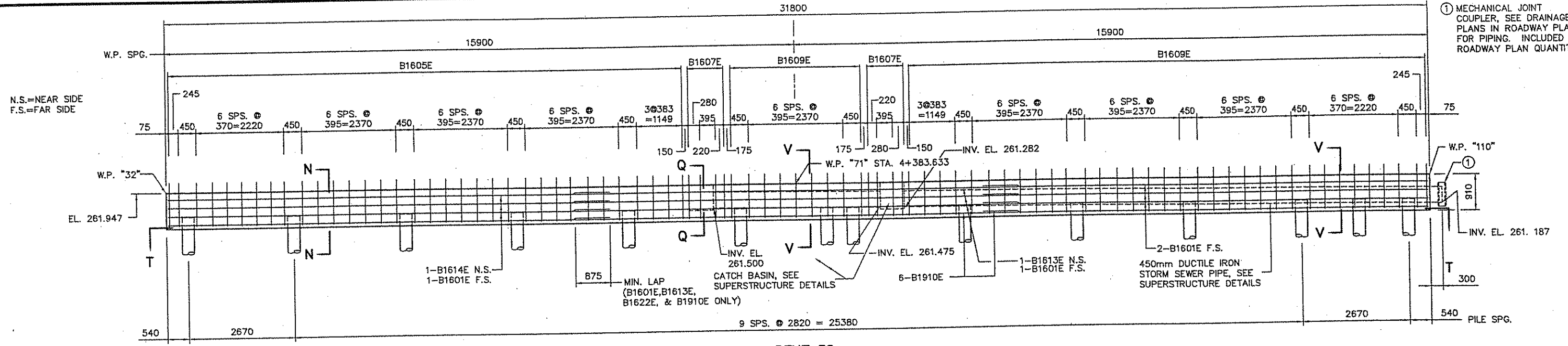
Thresher Square
 100 Third Street South
 Minneapolis, MN 55416
 612.371.0700 Fax
 612.371.0719

**BENT
 DETAILS**

DES: CRJ	DRN: DBM	APPROVED:	BRIDGE NO.
CHK: DDL	CHK: DDL	4-3-02	02015
SHEET NO. 19 OF 46 SHEETS			

PLOT DATE: Apr 01, 2002 11:27am DISK FILE NAME: (15.05) R:\33889\33889028\STRUCT\PLAN_SHT\02015BENTS.dwg

① MECHANICAL JOINT COUPLER, SEE DRAINAGE PLANS IN ROADWAY PLANS FOR PIPING. INCLUDED IN ROADWAY PLAN QUANTITIES.



SEE SHEET 22 FOR SECTION R-R.
SEE SHEET 23 FOR SECTIONS N-N, P-P, Q-Q, & V-V.

S.A.P. 114-010-11

SIGNATURE: *David D. Long*
PRINTED NAME: DAVID D. LONG
DATE: 4/1/02 REG. NO. 24384



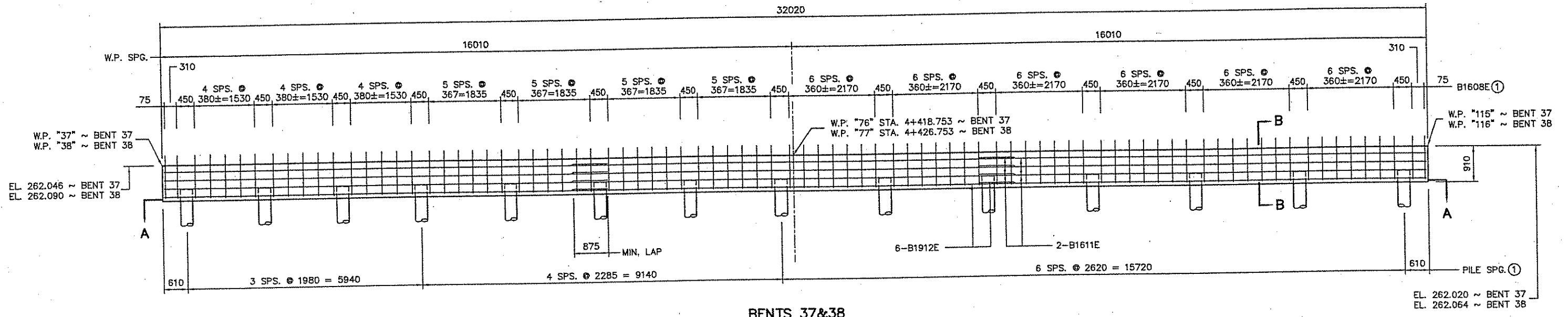
Thresher Square
100 Third Street South
Minneapolis, MN 55419
612.376.0700, TX
612.376.1378 Fax

**BENT
DETAILS**

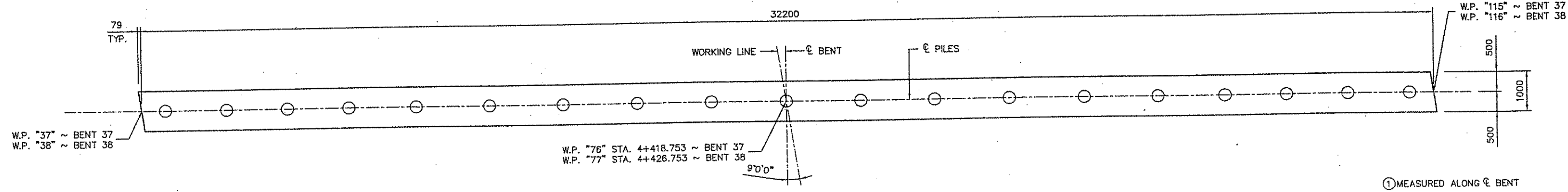
DES: CRJ	DRN: DBM	APPROVED: 4-3-02
CHK: DDL	CHK: DDL	
SHEET NO. 20 OF 46 SHEETS		

BRIDGE NO. 02015

PLOT DATE: Mar 29, 2002 12:01pm DISK FILE NAME: (15.05) R:\33889\33889028\STRUCT\PLAN_SHT\0215BENTS.dwg



BENTS 37&38



SECTION A-A
REINFORCEMENT NOT SHOWN

SEE SHT. 22 FOR SECTION B-B

S.A.P. 114-010-11

SIGNATURE: *David D. Long*
 PRINTED NAME: DAVID D. LONG
 DATE: 4/1/02 REG. NO. 24384



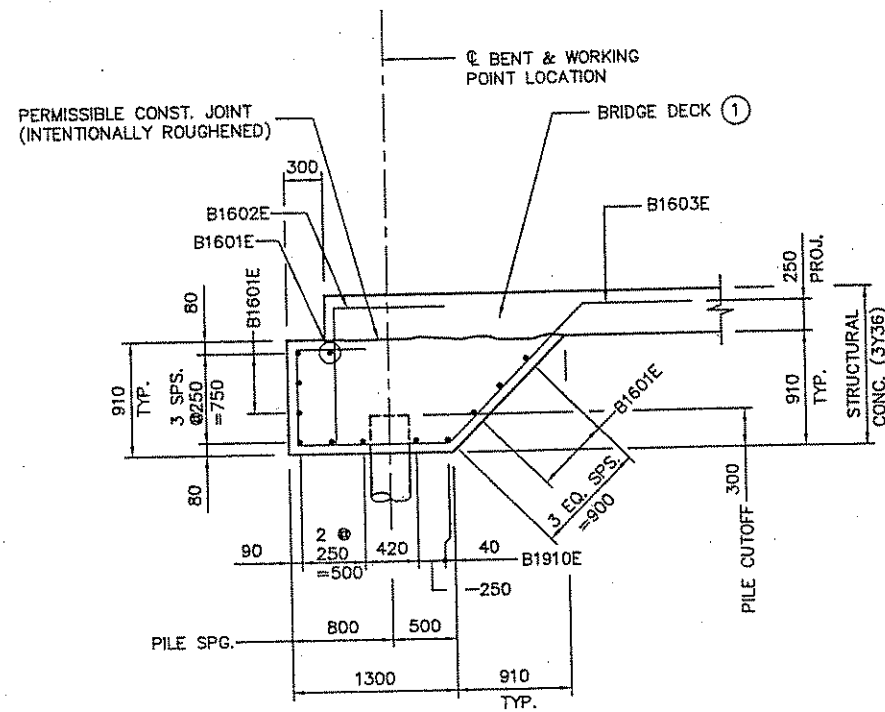
Thrasher Square
 700 Third Street South
 Minneapolis, MN 55415
 612.370.0700 Tel
 612.370.0378 Fax

**BENT
 DETAILS**

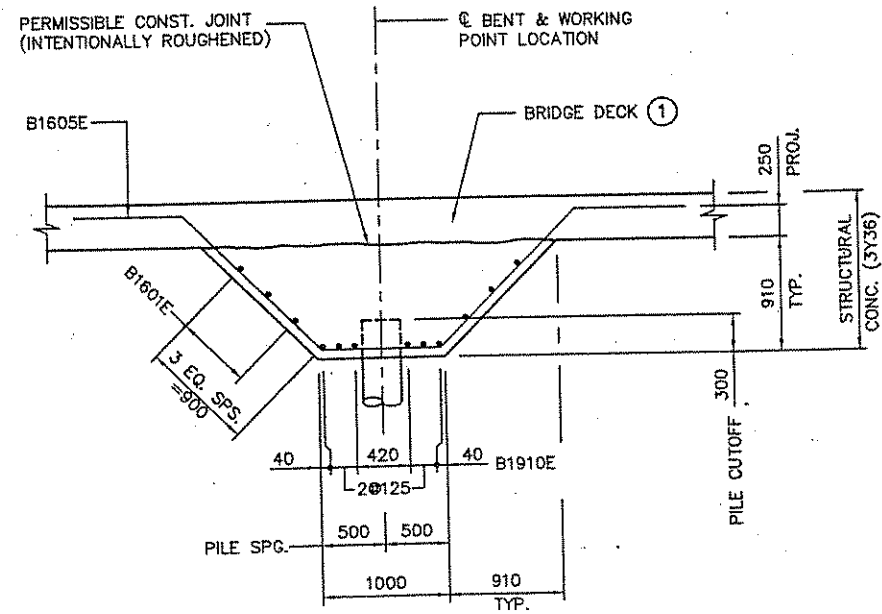
DES: CRJ	DRN: DBM	APPROVED: <i>4-3-02</i>
CHK: DDL	CHK: DDL	
SHEET NO. 21 OF 46 SHEETS		

BRIDGE NO.
 02015

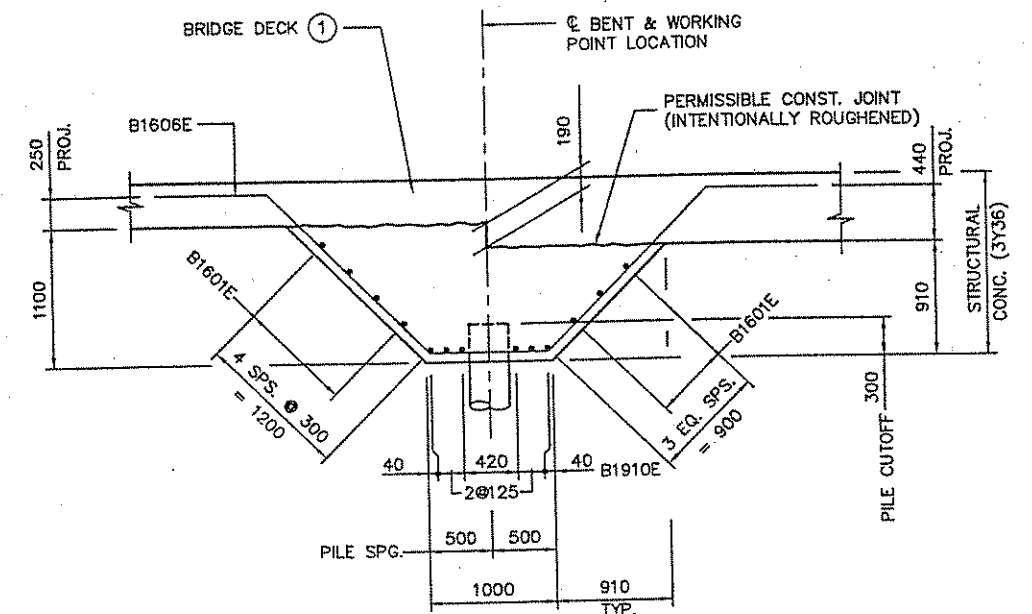
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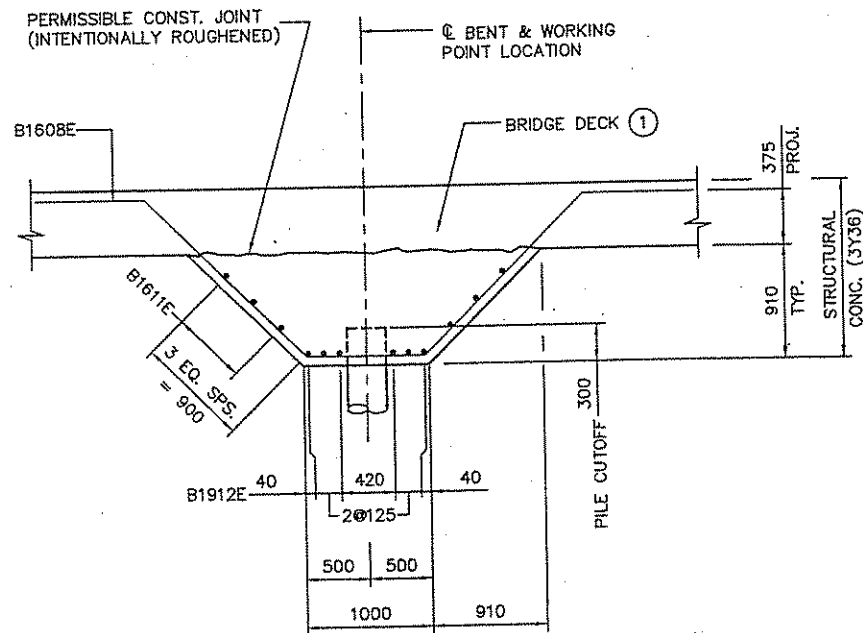
SECTION Z-Z
BENTS 1 & 13 SHOWN
BENTS 18 & 27 MIRRORED



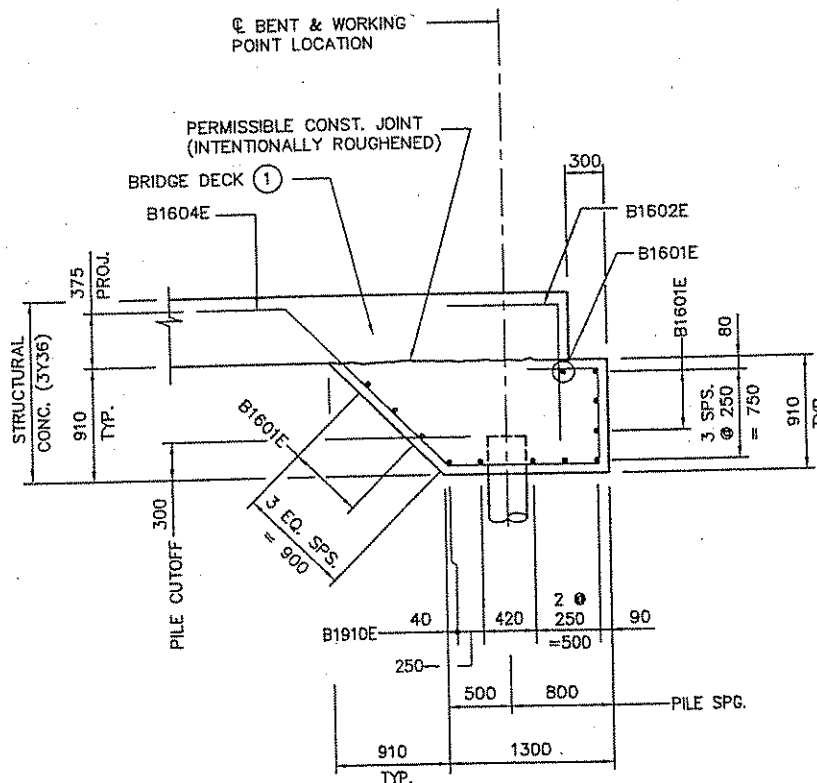
SECTION Y-Y
BENTS 2-12, 19-26, 28-35



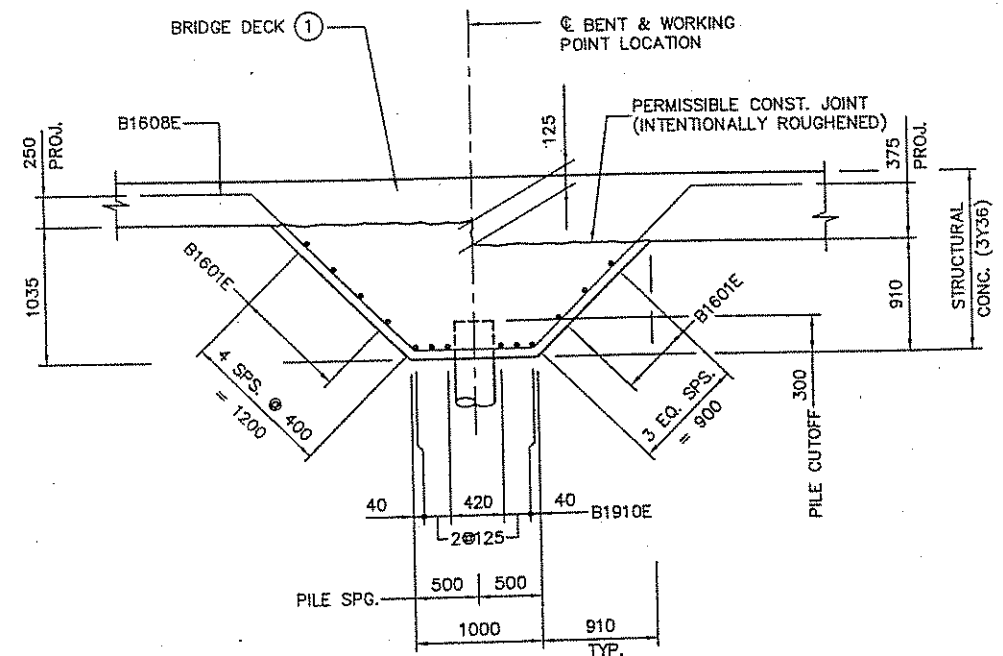
SECTION W-W
BENTS 14 & 17



SECTION B-B
BENTS 37 & 38



SECTION S-S
BENT 39



SECTION R-R
BENT 36

① SEE SUPERSTRUCTURE FOR SLAB REINFORCEMENT AND DETAILS.

S.A.P. 114-010-11

SIGNATURE: *David D. Long*
PRINTED NAME: DAVID D. LONG
DATE: 4/1/02 REG. NO. 24384



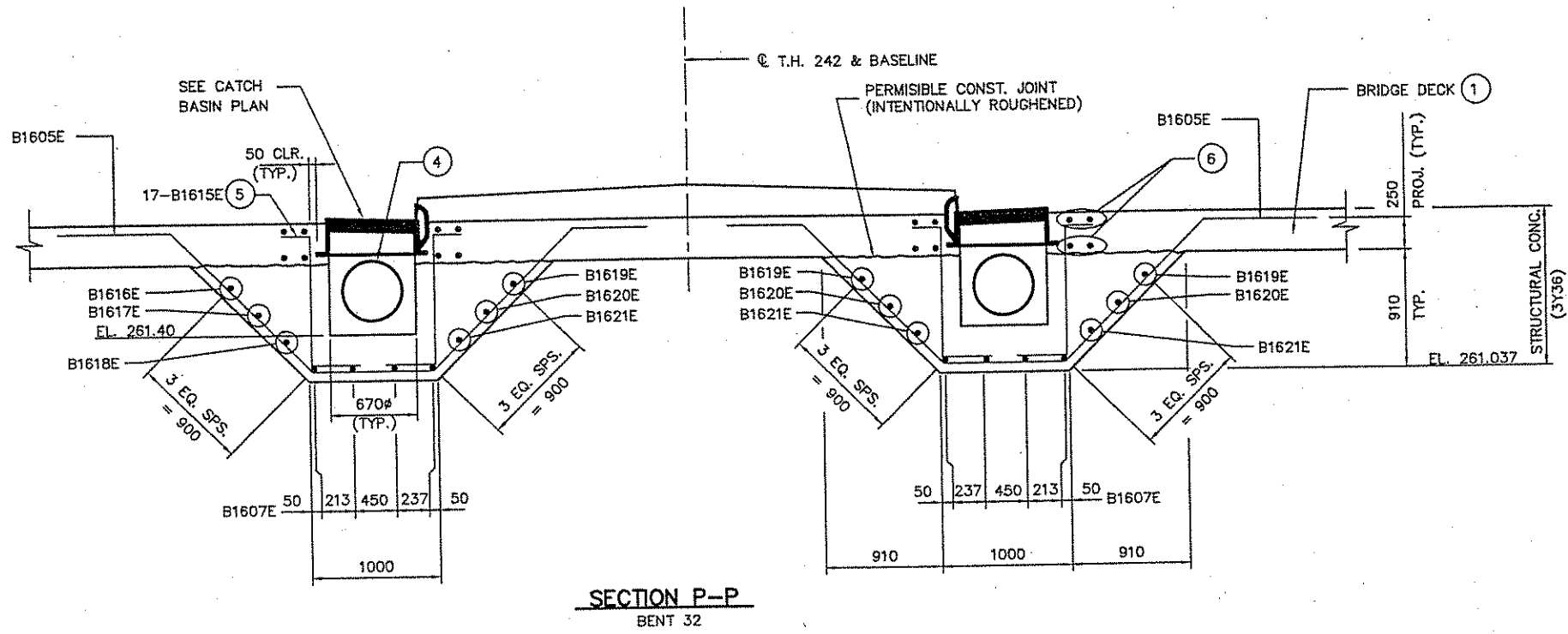
Therese Ewers
700 Third Street South
Minneapolis, MN 55415
612.379.0100 Tel.
612.379.0378 Fax

**BENT
DETAILS**

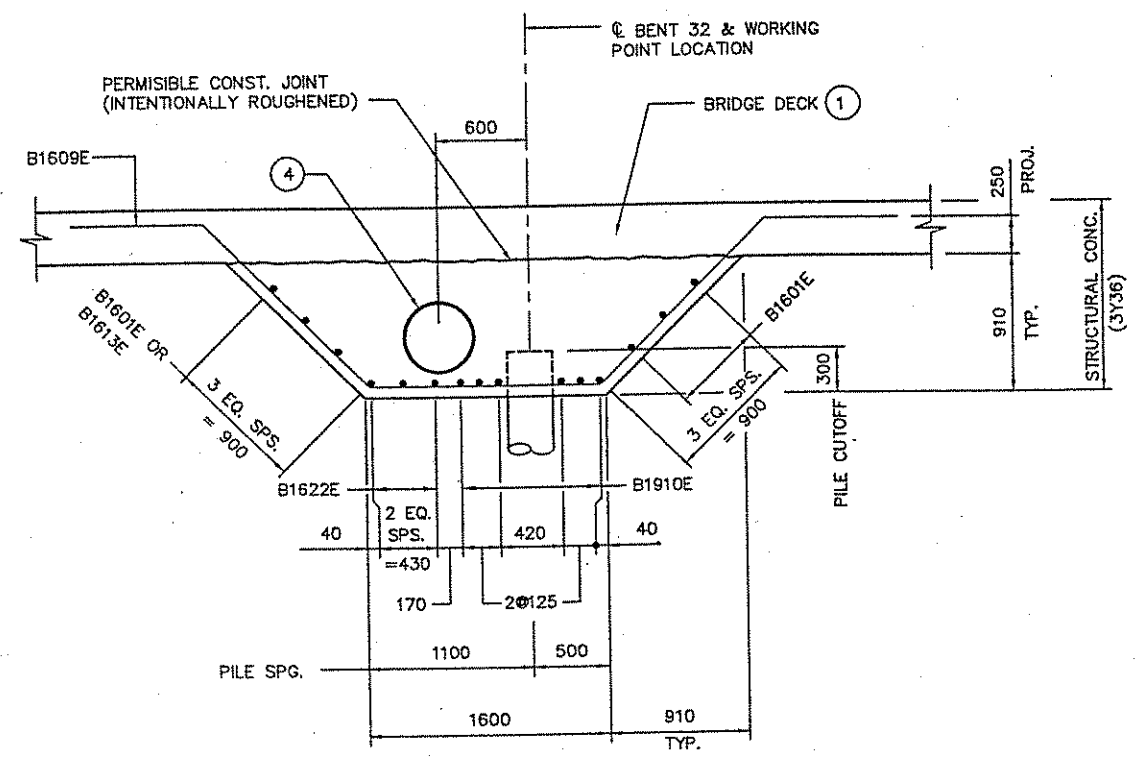
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CHK: DDL CHK: DJV
SHEET NO. 22 OF 46 SHEETS

BRIDGE NO.
02015

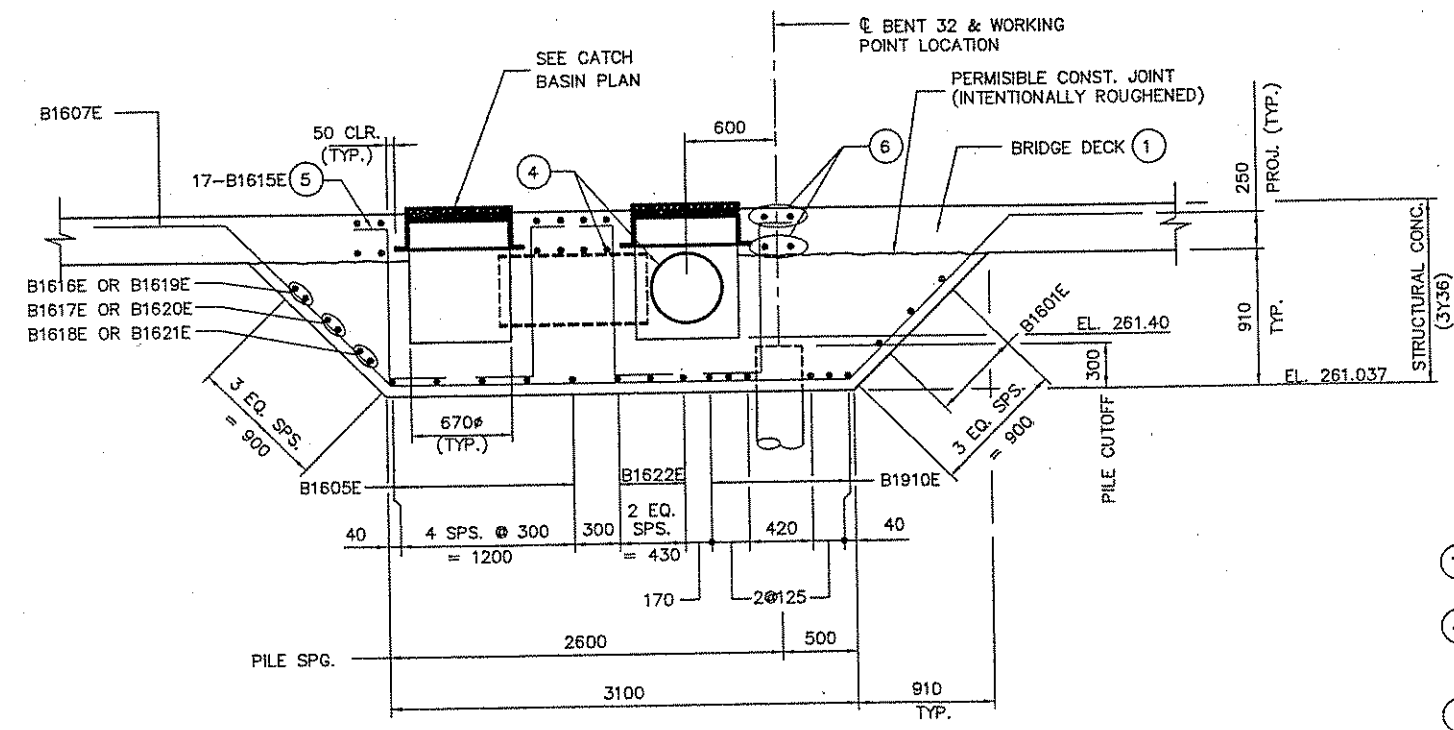
PLOT DATE: Mar 29, 2002 12:36pm DISK FILE NAME: (15.05) R:\33889\33889028\338896\STRUCT\PLAN_SHT\02015BENT19.dwg



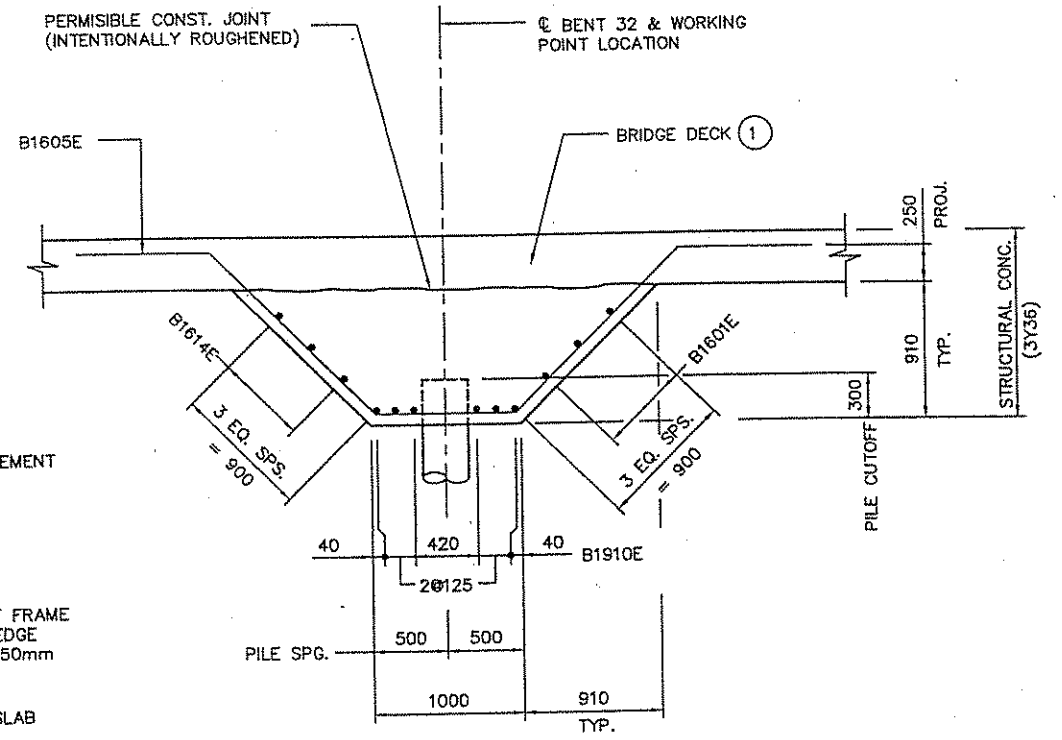
SECTION P-P
BENT 32



SECTION V-V
BENT 32



SECTION Q-Q
BENT 32



SECTION N-N
BENT 32

- ① SEE SUPERSTRUCTURE FOR SLAB REINFORCEMENT AND DETAILS.
- ④ 450mm DUCTILE IRON PIPE, SEE SUPERSTRUCTURE DETAILS FOR PIPE LOCATION & INVERTS.
- ⑤ SPACE @ 175' MAX. AROUND PERIMETER OF FRAME CASTING. PLACE BAR MIN. 50 CLR. FROM EDGE OF FRAME CASTING (ADJUST POSITION @ 450mm DIP PIPE).
- ⑥ SEE CATCH BASIN PLAN FOR ADDITIONAL SLAB REINFORCING AT CATCH BASIN.

S.A.P. 114-010-11

SIGNATURE: *David D. Long*
 PRINTED NAME: DAVID D. LONG
 DATE: 4/1/02 REG. NO. 24384



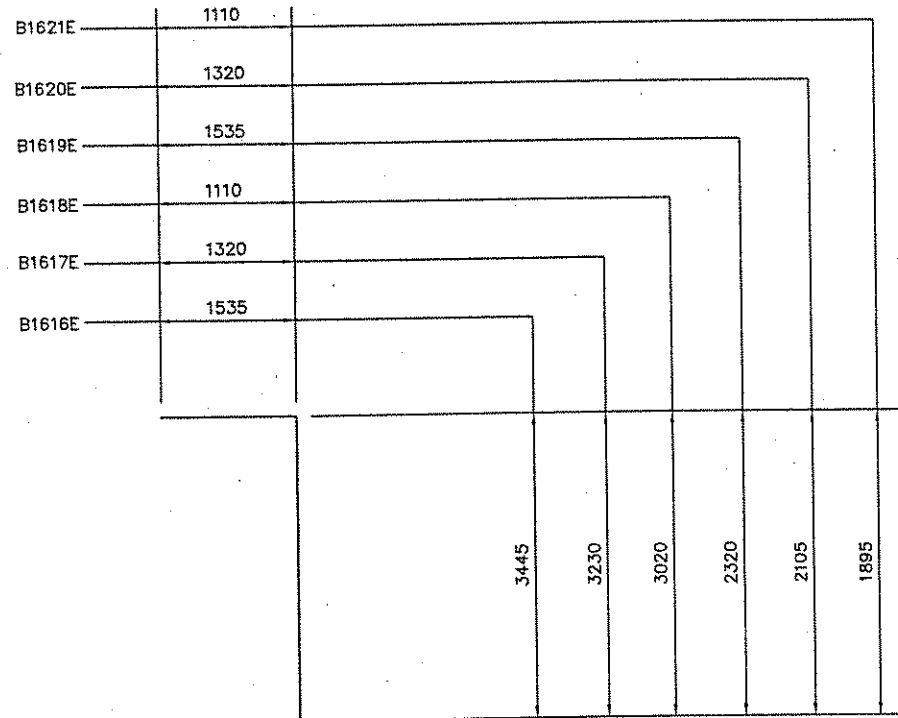
Thresher Square
 700 Third Street South
 Minneapolis, MN 55416
 612.378.0100 Tel
 612.378.0319 Fax

BENT
 DETAILS

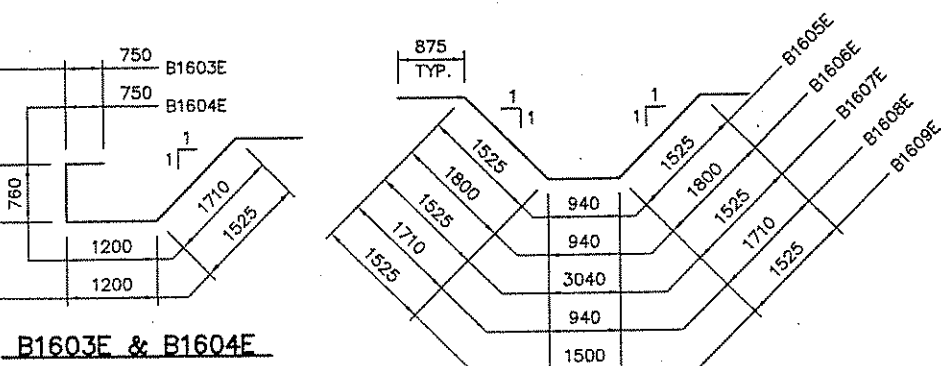
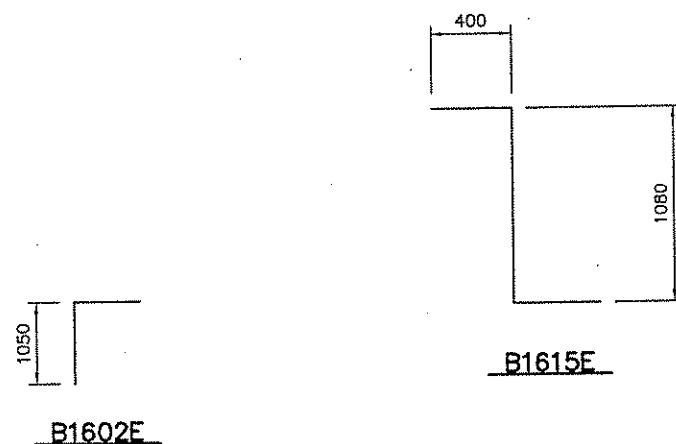
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CHK: DDL	CHK: DJV	
SHEET NO. 23 OF 46 SHEETS		

BRIDGE NO.
 02015

PLOT DATE: Apr 01, 2002 10:34am DISK FILE NAME: (15.05) R:\33889\33889028\33889B\STRUCT\PLAN_SHT\02015BENTS.dwg



B1616E, B1617E, B1618E, B1619E,
B1620E, & B1621E



B1605E, B1606E, B1607E, B1608E, & B1609E

S.A.P. 114-010-11

SUMMARY OF QUANTITIES ~ BENTS

ITEM	UNIT	QUANTITY
② STRUCTURAL CONCRETE (3Y36)	m ³	2086
REINFORCEMENT BARS (EPOXY COATED)	kg	56570
③ C.I.P. CONCRETE PILING DELIVERED, 310	m	15978
③ C.I.P. CONCRETE PILING DRIVEN, 310	m	15978
C.I.P. CONCRETE TEST PILES, 35 m LG.	EACH	5
C.I.P. CONCRETE TEST PILES, 41 m LG.	EACH	5
C.I.P. CONCRETE TEST PILES, 39 m LG.	EACH	2

- ② APPROX. QUANTITY FOR BENTS 1, 13, 17, 27 & 39 = 51 m³/BENT
APPROX. QUANTITY FOR BENTS 2-12, 19-26, 28-31, 33-35 = 56 m³/BENT
APPROX. QUANTITY FOR BENTS 14, 17 & 36 = 65 m³/BENT
APPROX. QUANTITY FOR BENT 32 = 71 m³/BENT
APPROX. QUANTITY FOR BENT 37 & 38 = 56 m³/BENT
- ③ DOES NOT INCLUDE TEST PILES

PILE NOTES:

1. PILE SPACING SHOWN IS AT BOTTOM OF BENT.
2. ALL PILES TO BE 310mm DIA. CAST-IN-PLACE CONC. PILES.
3. PILES TO HAVE A NOMINAL DIAMETER OF 310mm.
4. PILES TO HAVE A MINIMUM WALL THICKNESS OF 6mm.

BILL OF REINFORCEMENT ~ BENTS

BAR	NO.	LENGTH	SHAPE	LOCATION
① B1601E	645	11150	STR	LONGITUDINAL
B1602E	409	1925	BENT	TIE
B1603E	324	5110	BENT	TIE
B1604E	85	5295	BENT	TIE
B1605E	2154	5740	BENT	TIE
B1606E	168	6290	BENT	TIE
B1607E	8	7840	BENT	TIE
B1608E	255	6110	BENT	TIE
B1609E	43	6300	BENT	TIE
① B1910E	618	11150	STR	LONGITUDINAL
① B1611E	36	11300	STR	LONGITUDINAL
① B1912E	36	11300	STR	LONGITUDINAL
B1613E	3	8520	STR	BENT 32 - LONGITUDINAL
B1614E	3	13840	STR	BENT 32 - LONGITUDINAL
B1615E	68	1880	BENT	BENT 32 - CATCH BASIN
B1616E	1	6515	BENT	BENT 32 - HORIZ. TIE
B1617E	1	5870	BENT	BENT 32 - HORIZ. TIE
B1618E	1	5240	BENT	BENT 32 - HORIZ. TIE
B1619E	3	5390	BENT	BENT 32 - HORIZ. TIE
B1620E	3	4745	BENT	BENT 32 - HORIZ. TIE
B1621E	3	4115	BENT	BENT 32 - HORIZ. TIE
B1622E	6	9830	STR	BENT 32 - LONGITUDINAL

① 875 MIN. LAP, 3 LINES

SUMMARY OF PILE QUANTITIES ~ BENTS

BENT #	TEST PILES REQUIRED	TEST PILE LENGTH	PILES REQUIRED	ESTIMATED PILE LENGTH	TOTAL PILES REQUIRED	COMPUTED PILE LOADS ~ KN/PILE DEAD LOAD	COMPUTED PILE LOADS ~ KN/PILE LIVE LOAD	COMPUTED PILE LOADS ~ KN/PILE DOWN DRAG	COMPUTED PILE LOADS ~ KN/PILE TOTAL LOAD
⑤ 1	1	35	11	32	12	432.8	343.0	133.5	775.8
⑤ 2			12	32	12	432.8	343.0	133.5	775.8
⑤ 3			12	32	12	432.8	343.0	133.5	775.8
⑤ 4	1	35	11	32	12	432.8	343.0	133.5	775.8
⑤ 5			12	32	12	432.8	343.0	133.5	775.8
⑤ 6			12	32	12	432.8	343.0	133.5	775.8
⑤ 7	1	35	11	32	12	432.8	343.0	266.9	775.8
⑤ 8			12	32	12	432.8	343.0	266.9	775.8
⑤ 9	1	35	11	32	12	432.8	343.0	266.9	775.8
⑤ 10			12	32	12	432.8	343.0	266.9	775.8
⑤ 11			12	32	12	432.8	343.0	266.9	775.8
⑤ 12	1	35	11	32	12	432.8	343.0	266.9	775.8
⑤ 13			12	38	12	432.8	343.0	266.9	775.8
⑥ 14			14	38	14	444.8	327.3	355.9	800.7
⑥ 17			14	38	14	444.8	327.3	355.9	800.7
⑥ 18			12	38	12	432.8	343.0	355.9	788.7
⑥ 19	1	41	11	38	12	432.8	343.0	355.9	788.7
⑥ 20			12	38	12	432.8	343.0	355.9	788.7
⑥ 21			12	38	12	432.8	343.0	355.9	788.7
⑥ 22			12	38	12	432.8	343.0	355.9	788.7
⑥ 23	1	41	11	38	12	432.8	343.0	355.9	788.7
⑥ 24			12	38	12	432.8	343.0	355.9	788.7
⑥ 25			12	38	12	432.8	343.0	355.9	788.7
⑥ 26			12	38	12	432.8	343.0	355.9	788.7
⑥ 27	1	41	11	38	12	432.8	343.0	355.9	788.7
⑥ 28			12	38	12	432.8	343.0	355.9	788.7
⑥ 29			12	38	12	432.8	343.0	355.9	788.7
⑥ 30			12	38	12	432.8	343.0	355.9	788.7
⑥ 31	1	41	11	38	12	432.8	343.0	355.9	788.7
⑥ 32			12	38	12	432.8	343.0	355.9	788.7
⑥ 33			12	38	12	432.8	343.0	355.9	788.7
⑥ 34	1	41	11	38	12	432.8	343.0	355.9	788.7
⑥ 35			14	36	14	493.8	306.9	133.5	800.7
⑥ 36			14	36	14	493.8	306.9	133.5	800.7
⑤ 37	1	39	13	36	14	493.8	306.9	133.5	800.7
⑤ 38			14	36	14	493.8	306.9	133.5	800.7
⑤ 39	1	39	13	36	14	493.8	306.9	133.5	800.7

- ⑤ DESIGN LOAD = TOTAL LOAD: NO REDUCTION PER MnDOT LOAD COMBINATION 1 (LIVE LOAD + DEAD LOAD)
- ⑥ DESIGN LOAD = TOTAL LOAD: NO REDUCTION PER MnDOT LOAD COMBINATION 2 (DEAD LOAD + DOWN DRAG LOAD)

SIGNATURE: *David D. Long*
PRINTED NAME: DAVID D. LONG
DATE: 4/1/02 REG. NO. 24384



Thresher Square
100 Third Street South
Minneapolis, MN 55415
612.374.0700 TW
612.374.0778 FAX

BENT DETAILS

DES: CRJ DRN: DBM APPROVED: 4-3-02 BRIDGE NO. 02015
CHK: DDL CHK: DDL
SHEET NO. 24 OF 46 SHEETS

90000 SECTION 1

45843 SECTION 2

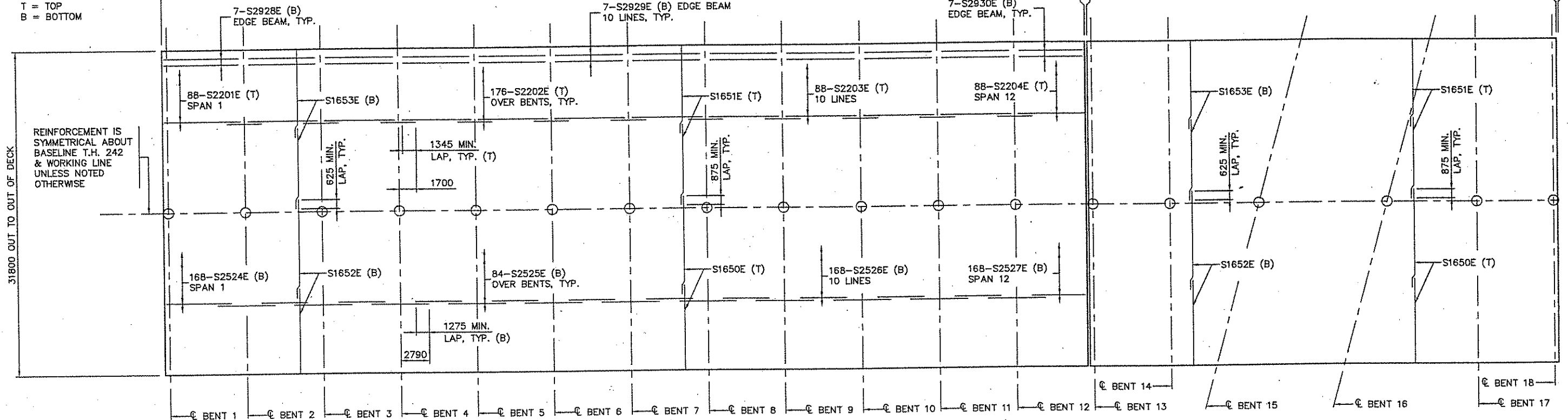
SEE SHEET 26 FOR SPANS 13-17 LONGIT. REINF.

50mm OPENING AT ALL TEMPS

50mm OPENING AT ALL TEMPS

NOTE:
T = TOP
B = BOTTOM

REINFORCEMENT IS SYMMETRICAL ABOUT BASELINE T.H. 242 & WORKING LINE UNLESS NOTED OTHERWISE



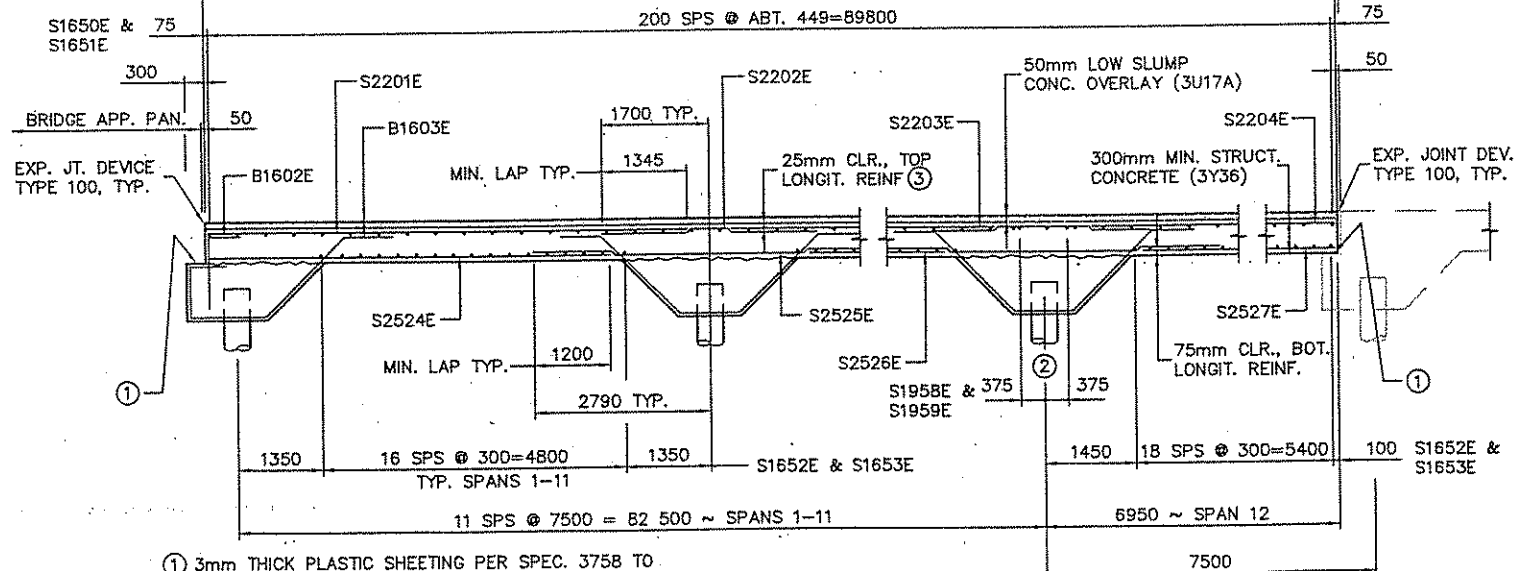
DECK PLAN ~ SECTION 1

DECK PLAN ~ SECTION 2
TRANSVERSE BARS

90000 ~ SECTION 1

45843 SECTION 2

200 SPS @ ABT. 449=89800



① 3mm THICK PLASTIC SHEETING PER SPEC. 375B TO BREAK BOND. INCLUDED IN PRICE BID FOR OTHER ITEMS. (TROWEL CONCRETE SURFACE SMOOTH).

② 5 BARS EQ. SPC. ~ BENTS 1-12 (PLACED PARALLEL TO @ BENT)

③ TO TOP OF STRUCTURAL SLAB

LONGITUDINAL SECTION THRU DECK - SECTION 1

PLOT DATE: Mar 29, 2002 7:40am DISK FILE NAME: (15.05) R:\338889\338889028\338889\STRUCT\PLAN_SHT\020155SUPER1.dwg

SIGNATURE: *David D. Long*
PRINTED NAME: DAVID D. LONG
DATE: 4/1/02 REG. NO. 24384



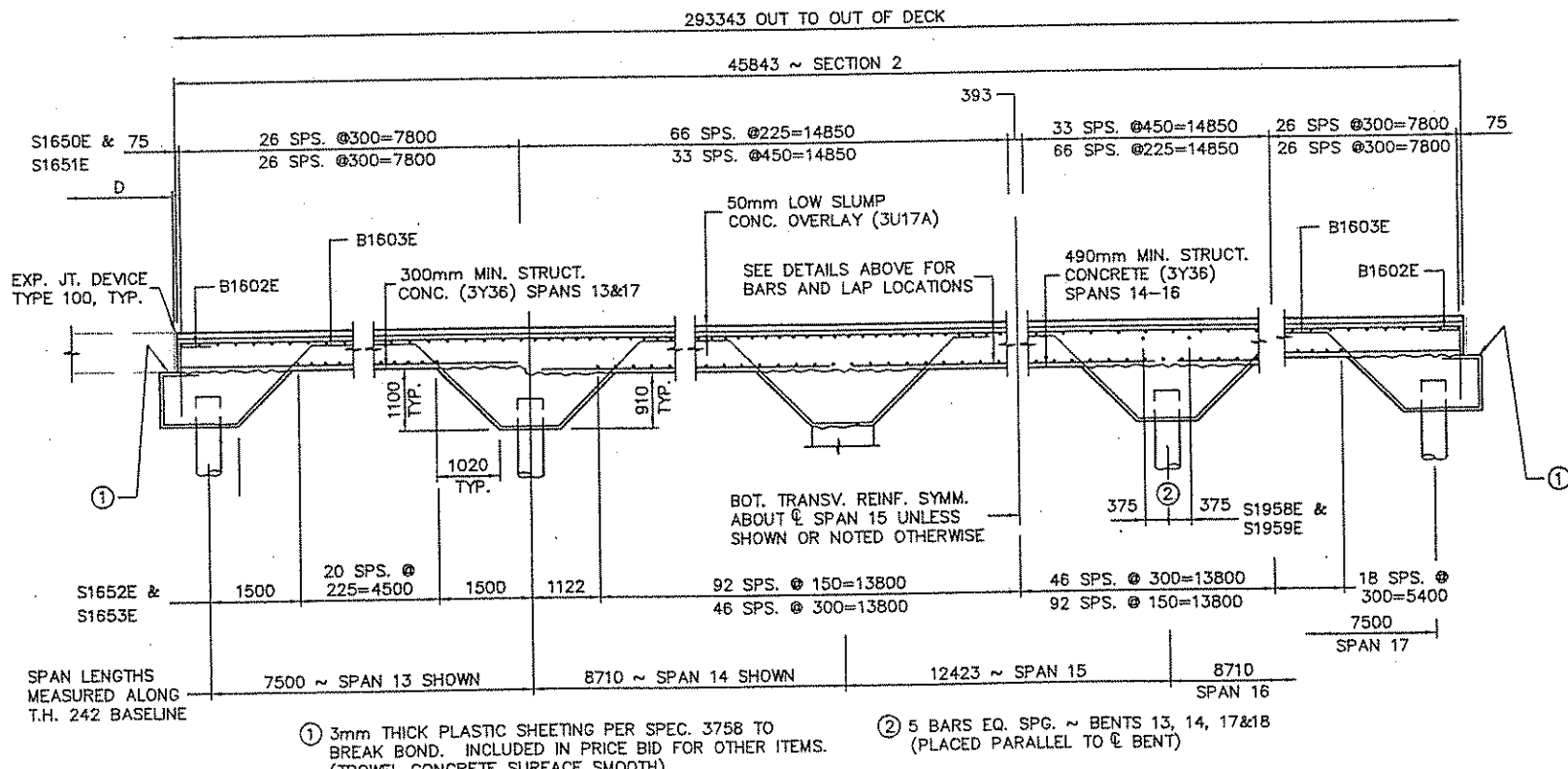
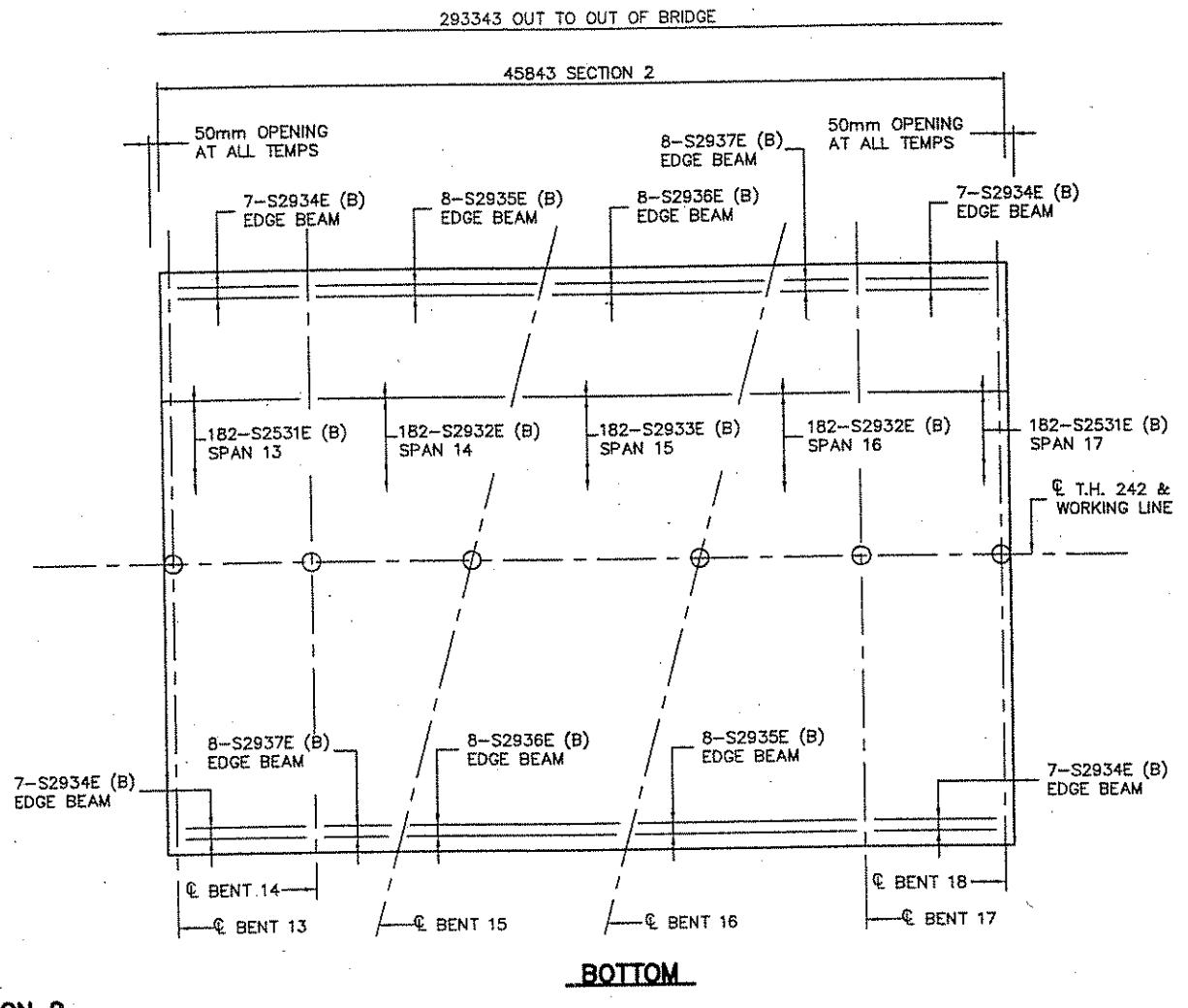
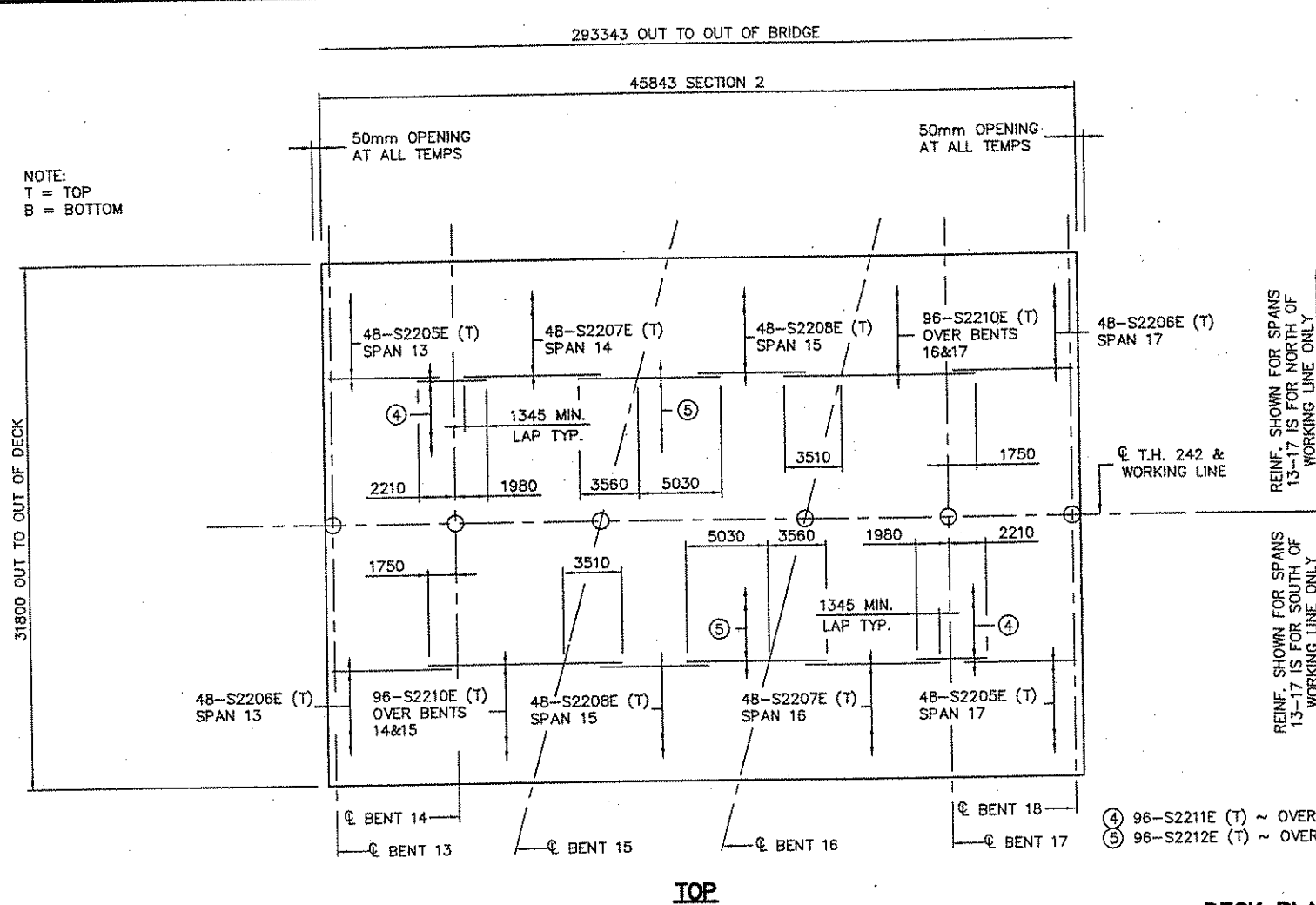
Thruway Board
100 Third Street South
Montgomery, AL 36116
902.272.0700 Tel
902.272.0778 Fax

SUPERSTRUCTURE
DETAILS

DES: DDL	DRN: DBM	APPROVED:	4-3-02
CHK: NPH	CHK: DJV		
SHEET NO. 25 OF 46 SHEETS			

BRIDGE NO.
02015

PLOT DATE: Apr 01, 2002 10:38am DISK FILE NAME: (15.05) R:\31889\31889\STRUCT\PLAN_SHT\02015SUPER2.dwg



- ① 3mm THICK PLASTIC SHEETING PER SPEC. 3758 TO BREAK BOND. INCLUDED IN PRICE BID FOR OTHER ITEMS. (TROWEL CONCRETE SURFACE SMOOTH).
- ② 5 BARS EQ. SPG. ~ BENTS 13, 14, 17&18 (PLACED PARALLEL TO CL BENT)

LONGITUDINAL SECTION THRU DECK ~ SECTION 2

S.A.P. 114-010-11

SIGNATURE: *David D. Long*
 PRINTED NAME: DAVID D. LONG
 DATE: 4/1/02 REG. NO. 24384



Thresher Square
 700 Third Street South
 Minneapolis, MN 55415
 612.376.0700 Fax
 612.376.0719 Fax

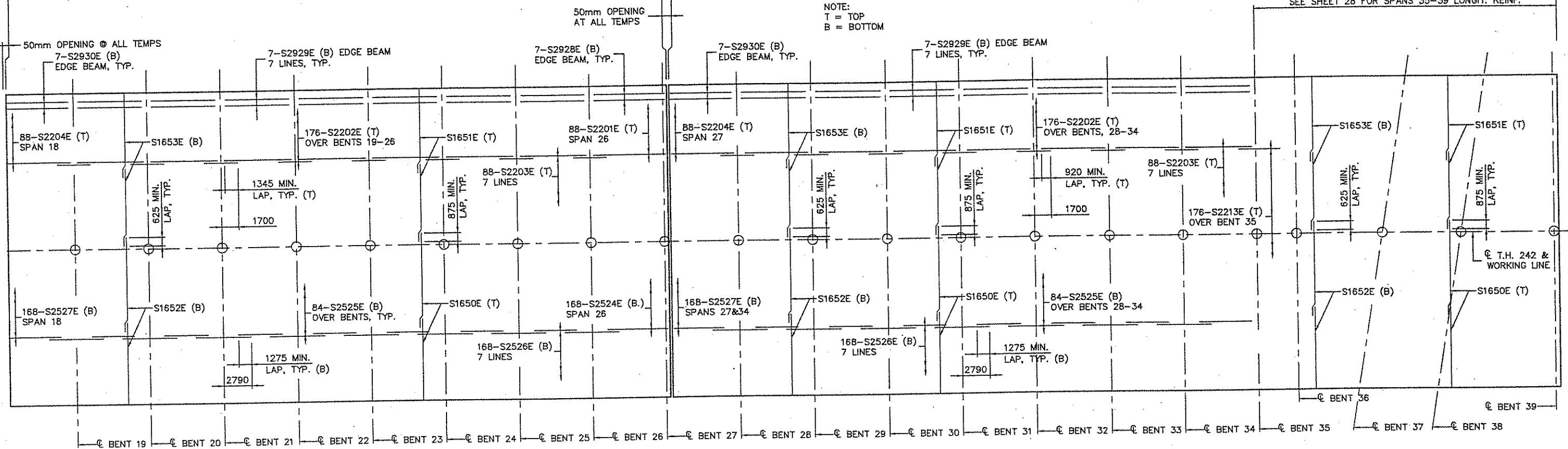
**SUPERSTRUCTURE
 DETAILS**

DES: DDL	DRN: DBM	APPROVED:	BRIDGE NO.
CHK: NPH	CHK: DJV	4-3-02	02015
SHEET NO. 26 OF 46 SHEETS			

67450 SECTION 3

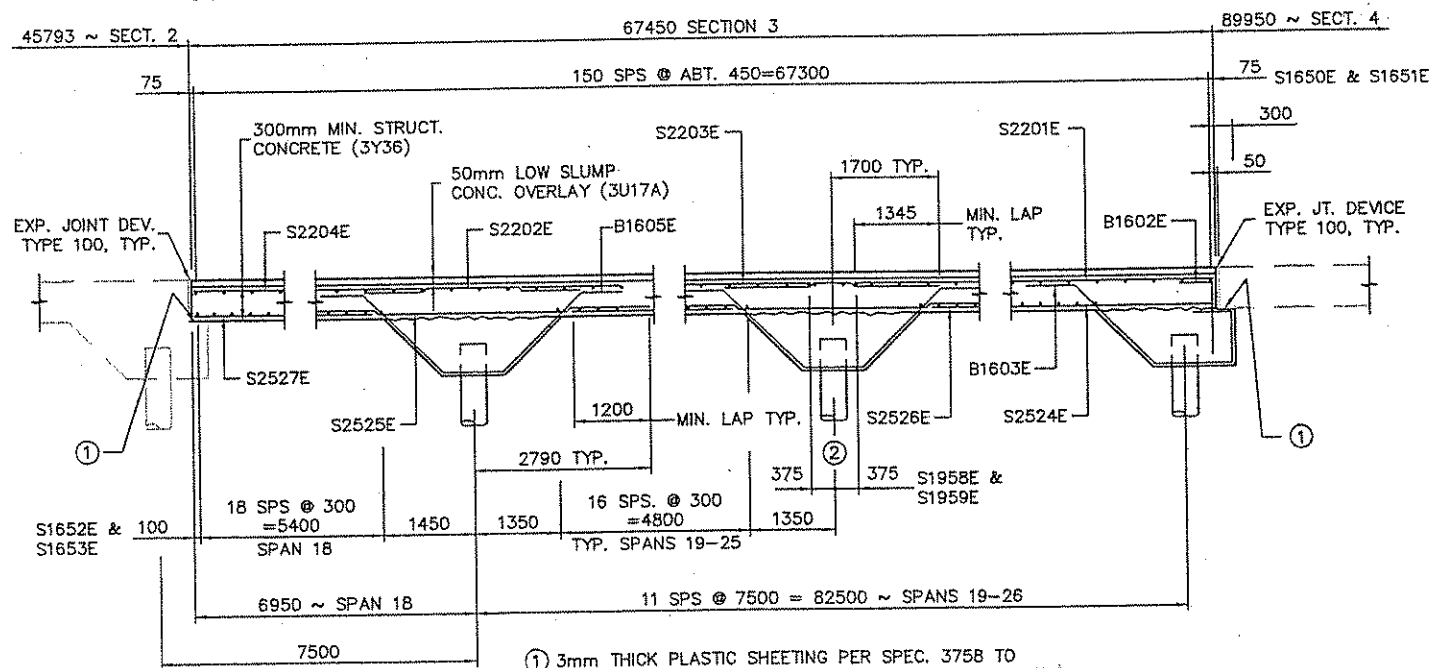
89950 SECTION 4

SEE SHEET 28 FOR SPANS 35-39 LONGIT. REINF.



DECK PLAN ~ SECTION 3

DECK PLAN ~ SECTION 4



① 3mm THICK PLASTIC SHEETING PER SPEC. 3758 TO BREAK BOND. INCLUDED IN PRICE BID FOR OTHER ITEMS. (TROWEL CONCRETE SURFACE SMOOTH).

② 5 BAR# EQ. SPG. ~ BENTS 19-36 & 39 (PLACED PARALLEL TO CL BENT)

LONGITUDINAL SECTION THRU DECK - SECTION 3

S.A.P. 114-010-11

SIGNATURE: *David D. Long*
 PRINTED NAME: DAVID D. LONG
 DATE: 4/1/02 REG. NO. 24384



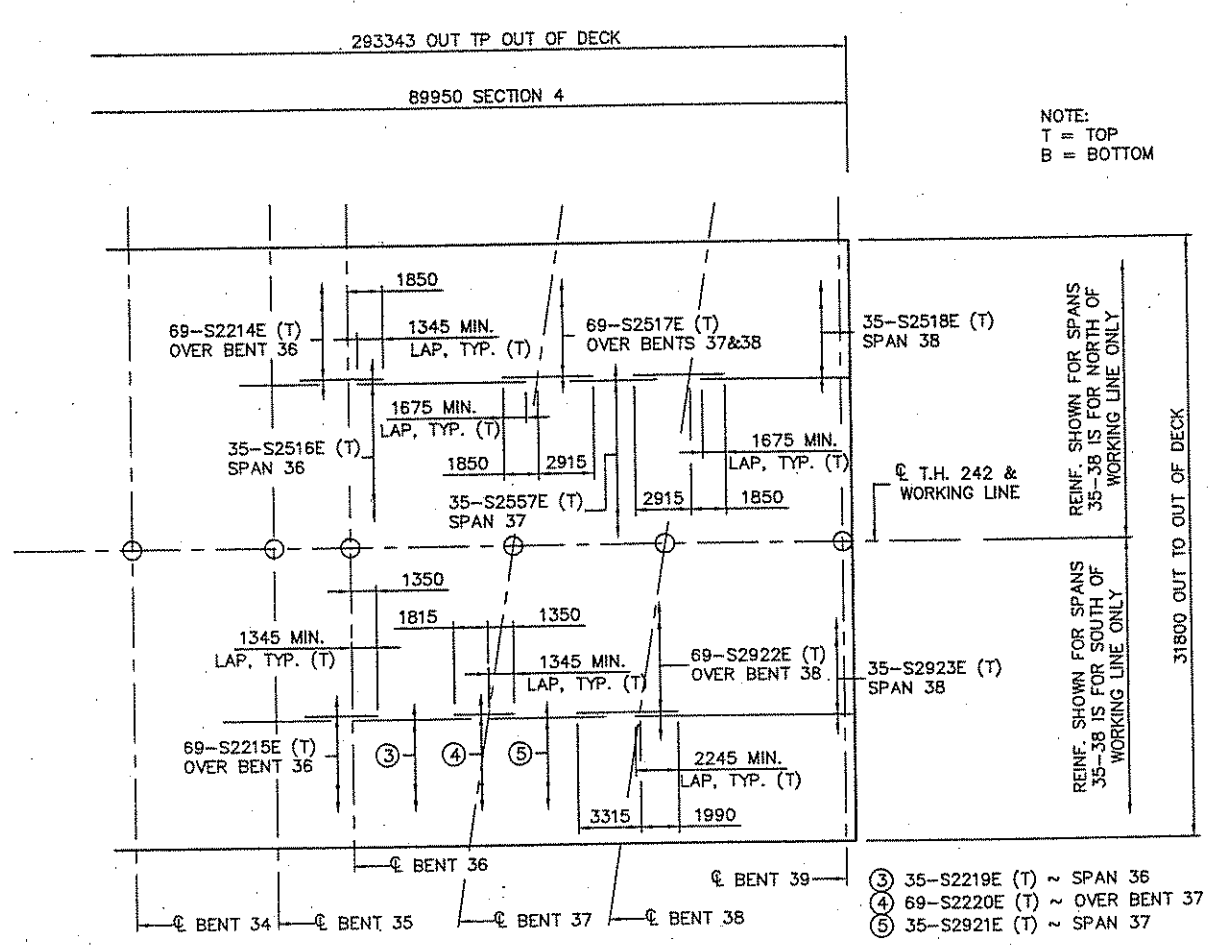
Thresher Square
 100 Third Street South
 Minneapolis, MN 55416
 612.370.0700 Tel
 612.370.0118 Fax

SUPERSTRUCTURE DETAILS

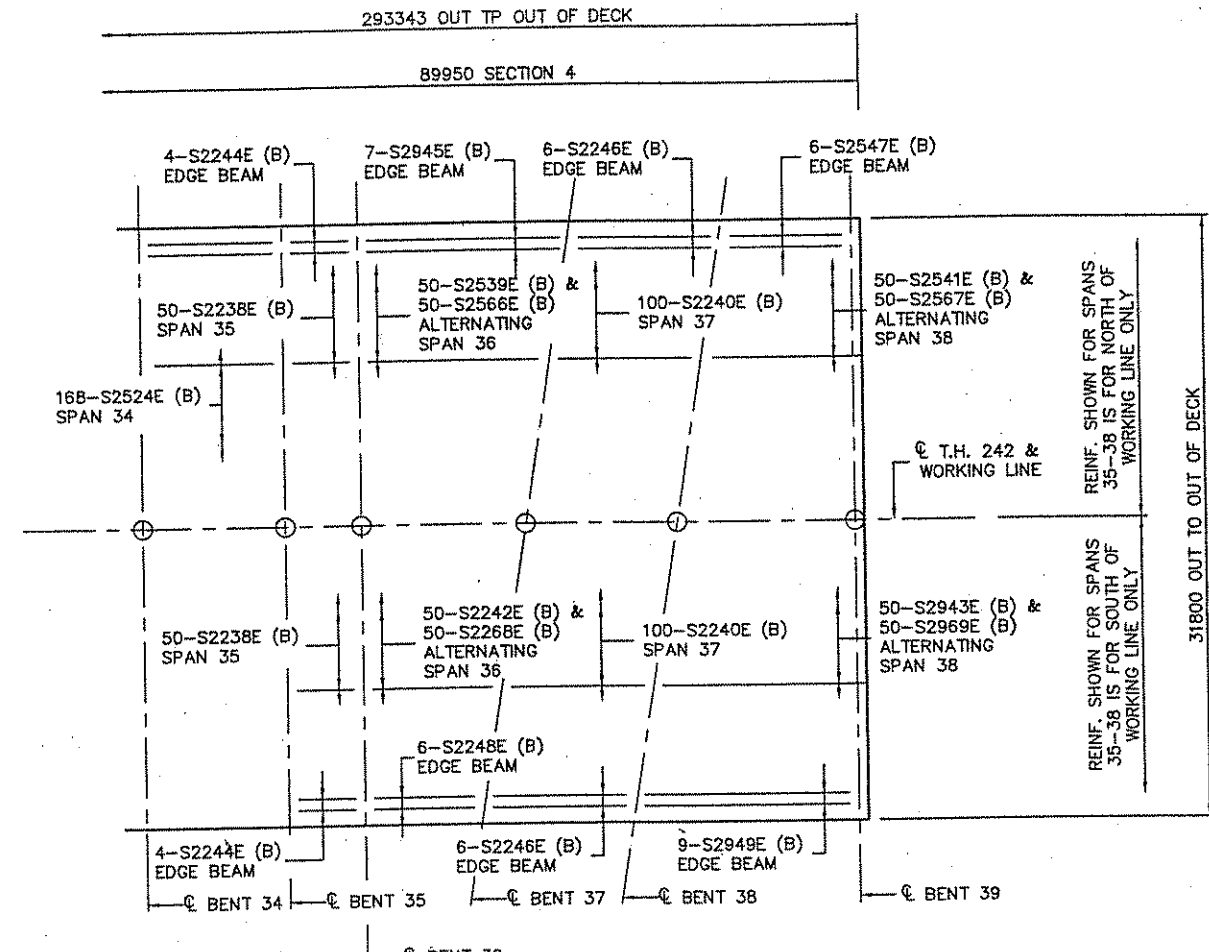
DES: DDL DRN: DBM APPROVED: 4-3-02
 CHK: NPH CHK: DJV
 SHEET NO. 27 OF 46 SHEETS

BRIDGE NO. 02015

PLOT DATE: Apr 02, 2002 12:39pm DISK FILE NAME: (15.05) R:\33889\STRUCT\PLAN_SHT\02015SUPER4.dwg

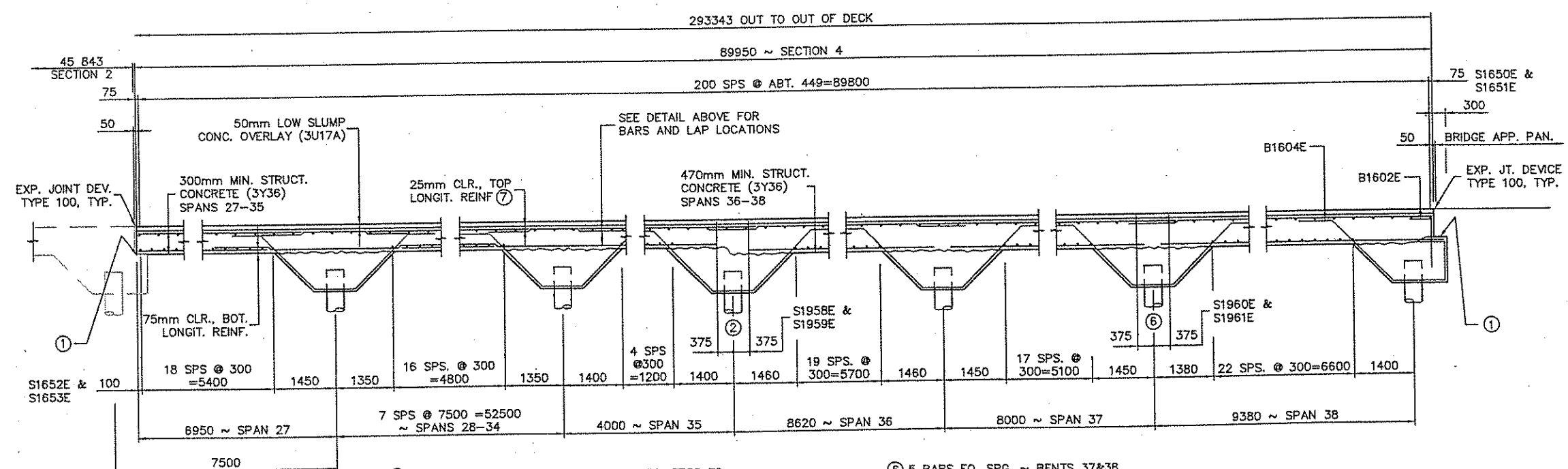


TOP



BOTTOM

DECK PLAN ~ SECTION 4

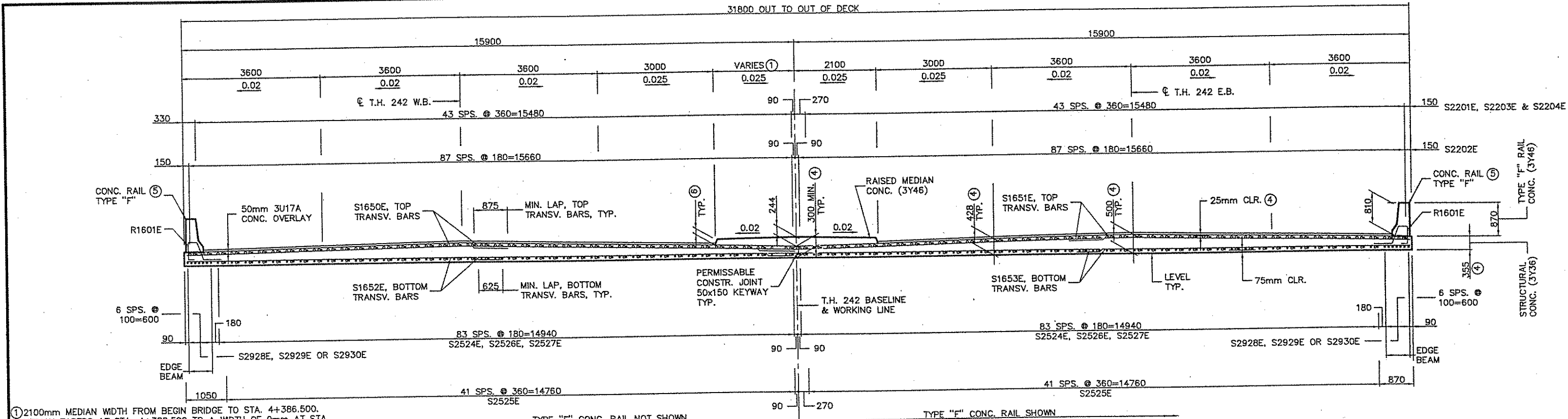


LONGITUDINAL SECTION THRU DECK ~ SECTION 4

SIGNATURE: <i>David D. Long</i> PRINTED NAME: DAVID D. LONG DATE: 4/2/02 REG. NO. 24384	URS Thruway Square 100 Third Street South Manchester, NH 03103 603.753.0700 Tel 603.753.1579 Fax	SUPERSTRUCTURE DETAILS		DES: DDL CHK: NPH	DRN: DBM CHK: DJV	APPROVED: 4-3-02	BRIDGE NO. 02015
				SHEET NO. 28 OF 46 SHEETS			

S.A.P. 114-010-11

PLOT DATE: Mar 29, 2002 7:42am DISK FILE NAME: (15.05) R:\33889\33889028\33889B\STRUCT\PLAN_SHT\02015SUPER5.dwg



TYPICAL SECTION

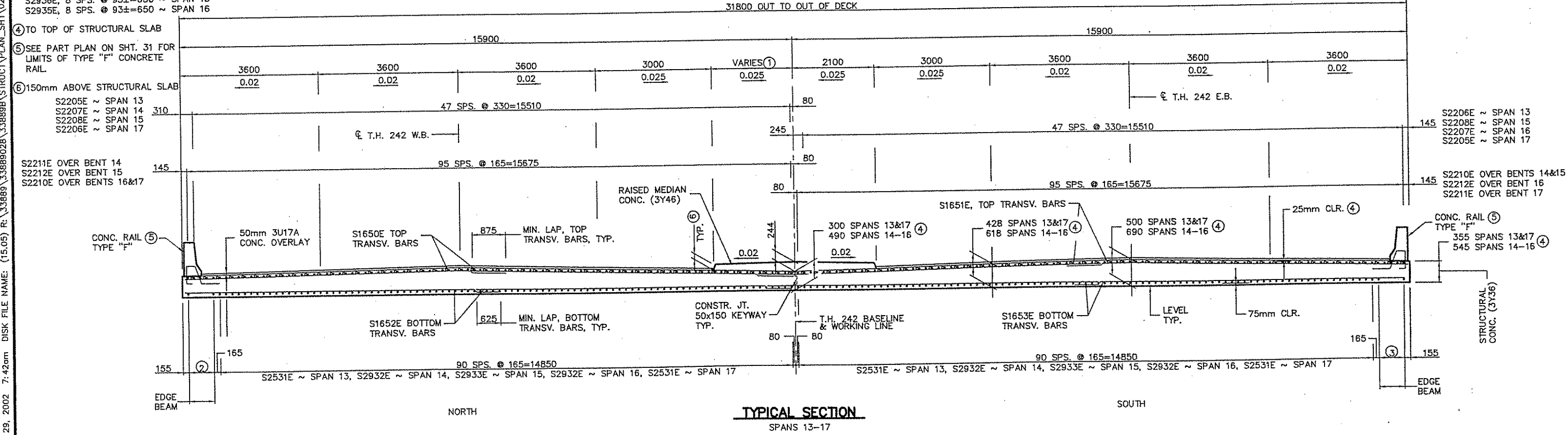
SPANS 1-12, 18-34

- ① 2100mm MEDIAN WIDTH FROM BEGIN BRIDGE TO STA. 4+386.500. MEDIAN TAPERS AT STA. 4+386.500 TO A WIDTH OF 0mm AT STA. 4+418.000. MAINTAIN .02 CROSS SLOPE ON MEDIAN AT TAPER,
- ② S2934E, 6 SPS. @ 108±=650 ~ SPANS 13&17
S2935E, 8 SPS. @ 93±=650 ~ SPAN 14
S2936E, 8 SPS. @ 93±=650 ~ SPAN 15
S2937E, 8 SPS. @ 93±=650 ~ SPAN 16
- ③ S2934E, 6 SPS. @ 108±=650 ~ SPANS 13&17
S2937E, 8 SPS. @ 93±=650 ~ SPAN 14
S2936E, 8 SPS. @ 93±=650 ~ SPAN 15
S2935E, 8 SPS. @ 93±=650 ~ SPAN 16

- ④ TO TOP OF STRUCTURAL SLAB
- ⑤ SEE PART PLAN ON SHT. 31 FOR LIMITS OF TYPE "F" CONCRETE RAIL
- ⑥ 150mm ABOVE STRUCTURAL SLAB
S2205E ~ SPAN 13
S2207E ~ SPAN 14
S2208E ~ SPAN 15
S2206E ~ SPAN 17

S2211E OVER BENT 14
S2212E OVER BENT 15
S2210E OVER BENTS 16&17

S2210E OVER BENTS 14&15
S2212E OVER BENT 16
S2211E OVER BENT 17



TYPICAL SECTION

SPANS 13-17

SIGNATURE: *David D. Long*
PRINTED NAME: DAVID D. LONG
DATE: 4/1/02 REG. NO. 24384



Traverse Square
700 Third Street South
Memphis, TN 38158
901.321.0100 Tel
901.321.0179 Fax

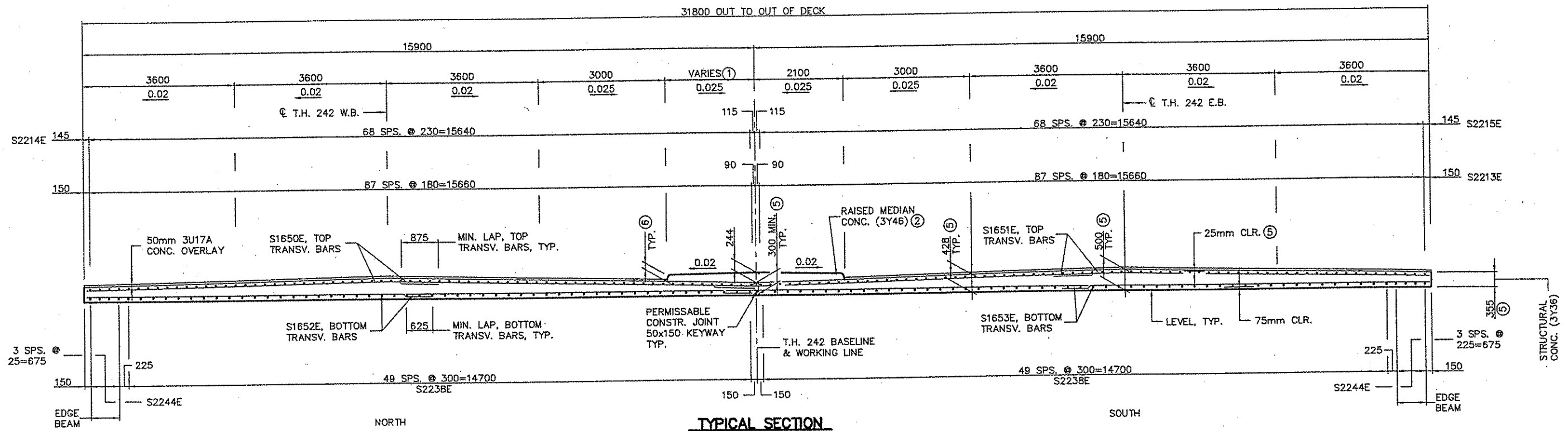
**SUPERSTRUCTURE
DETAILS**

DES: DDL	DRN: DBM	APPROVED:	4-3-02
CHK: NPH	CHK: DJV		
SHEET NO. 29 OF 46 SHEETS			

BRIDGE NO.
02015

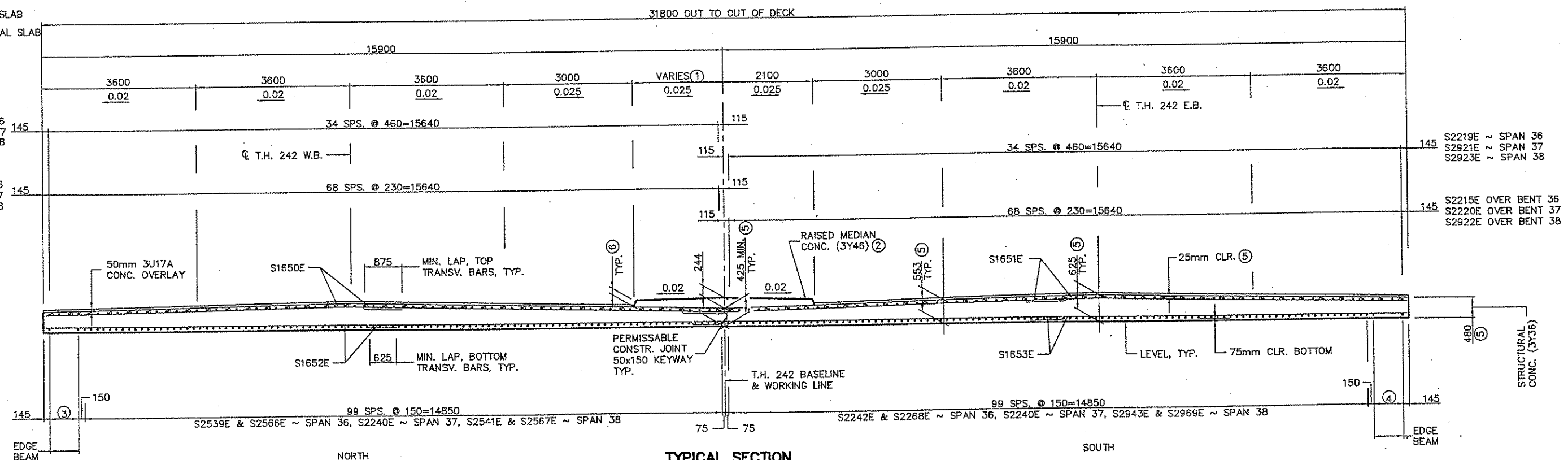
S.A.P. 114-010-11

PLOT DATE: Apr 02, 2002 12:41pm DISK FILE NAME: (15.05) R:\33889\33889028\33889B\STRUCTY\PLAN_SHT_02015SUPER6.dwg



TYPICAL SECTION
SECTION TAKEN AT CENTER OF SPAN
SPAN 35
S2213E (TOP LONGIT. REINF.) NOT SHOWN FOR CLARITY

- ① 2100mm MEDIAN WIDTH FROM BEGIN BRIDGE TO STA. 4+386.500. MEDIAN TAPERS AT STA. 4+386.500 TO A WIDTH OF 0mm AT STA. 4+418.000. MAINTAIN .02 CROSS SLOPE ON MEDIAN AT TAPER,
- ② END MEDIAN STA. 4+418.000
- ③ S2945E, 6 SPS. @ 113±=680 ~ SPAN 36
S2246E, 5 SPS. @ 136±=680 ~ SPAN 37
S2547E, 5 SPS. @ 136±=680 ~ SPAN 38
- ④ S2248E, 5 SPS. @ 136±=680 ~ SPAN 36
S2246E, 5 SPS. @ 136±=680 ~ SPAN 37
S2949E, 8 SPS. @ 85=680 ~ SPAN 38



TYPICAL SECTION
SPANS 36-38

S.A.P. 114-010-11

SIGNATURE: *David D. Long*
PRINTED NAME: DAVID D. LONG
DATE: 4/2/02 REG. NO. 24384



Thresher Source
100 13th Street South
Minneapolis, MN 55416
612.701.0700 Tel
612.701.0374 Fax

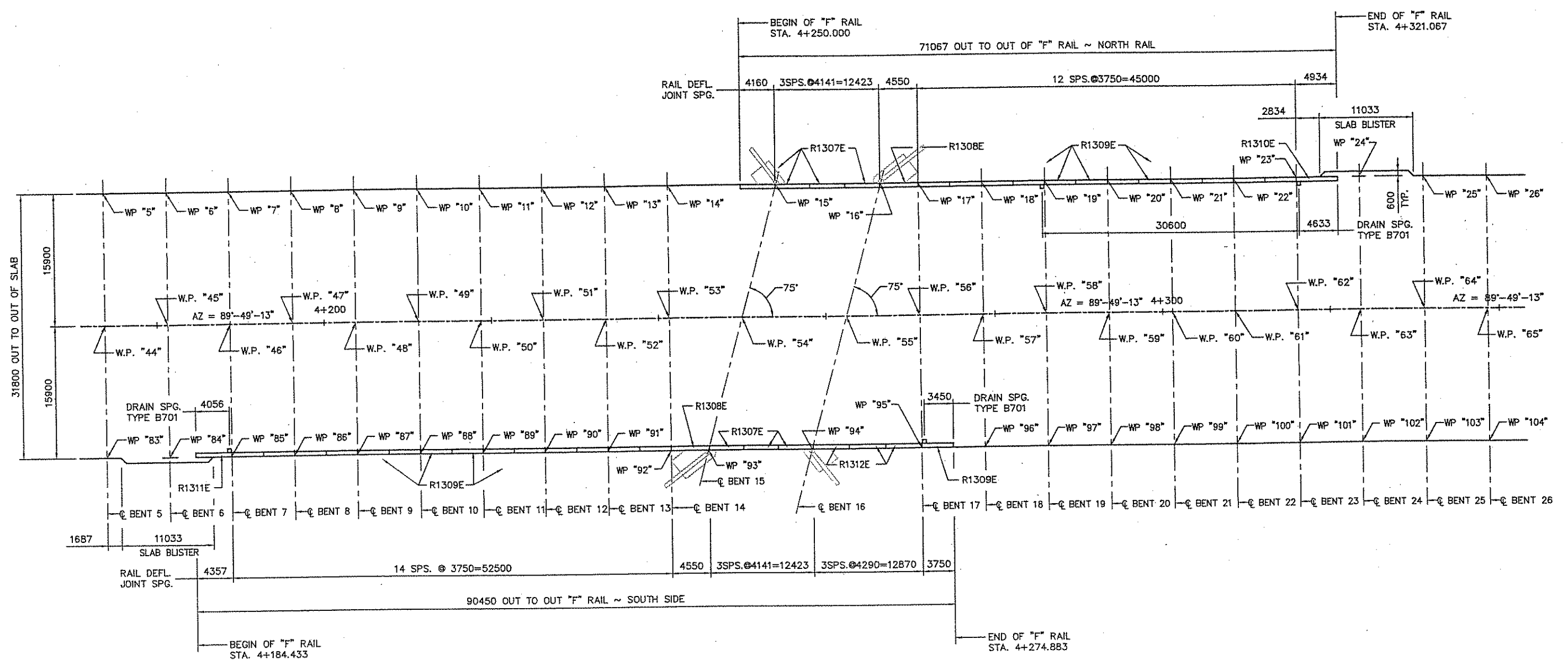
**SUPERSTRUCTURE
DETAILS**

DES: DDL DRN: DBM APPROVED: 4-3-02
CHK: NPH CHK: DJV
SHEET NO. 30 OF 46 SHEETS

BRIDGE NO.
02015

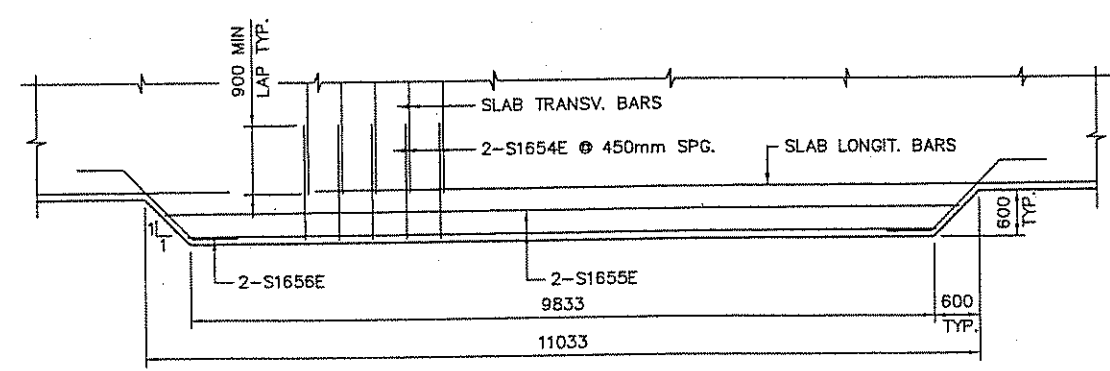
PLOT DATE: Mar 29, 2002 7:43am DISK FILE NAME: (15.05) R:\33889\33889028\STRUCT\PLAN_SHT\02015SUPER7.dwg

293343 OUT TO OUT OF SLAB



PART PLAN

PLAN SHOWING RAIL DEFLECTION JOINT SPACING



SLAB BLISTER DETAIL ①

① COORDINATE WITH ROADWAY PLANS FOR QUADQUARD DETAILS AND CONCRETE INSERT LOCATIONS.

NOTE:
SEE SHEET 41 FOR DRAIN B701 DETAILS.

SIGNATURE: *David D. Long*
 PRINTED NAME: DAVID D. LONG
 DATE: 4/1/02 REG. NO. 24384



Therese Egan
 700 Third Street South
 Minneapolis, MN 55415
 612.370.0700 Tel
 612.370.0776 Fax

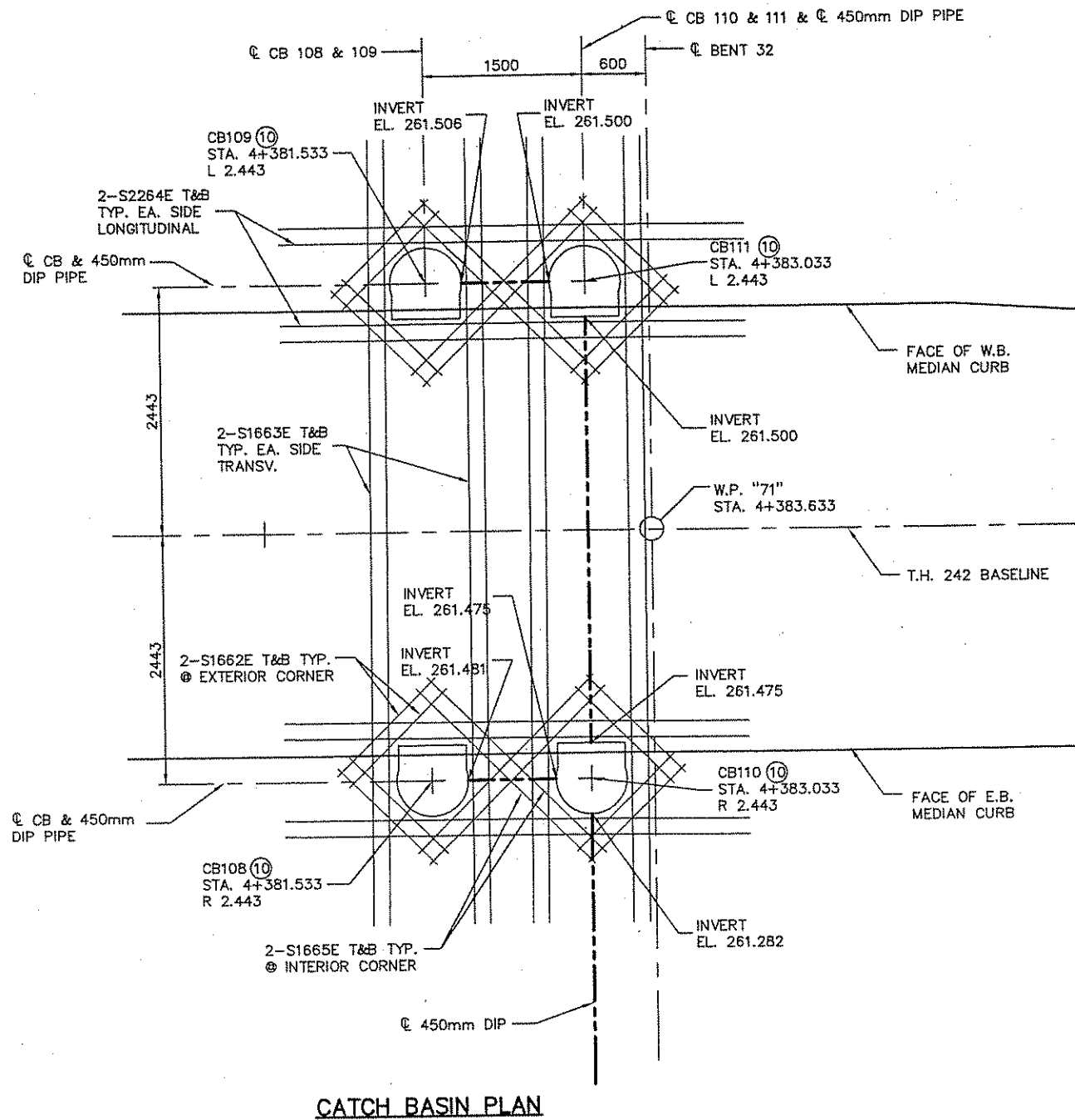
**SUPERSTRUCTURE
 DETAILS**

DES: DDL	DRN: DBM	APPROVED:
CHK: DJV	CHK: DJV	4-3-02
SHEET NO. 31 OF 46 SHEETS		

BRIDGE NO.
 02015

S.A.P. 114-010-11

PLOT DATE: Apr 02, 2002 12:53pm DISK FILE NAME: (15.05) R:\33889\3388902B\STRUCT\PLAN_SH1\020155\SUPER8.dwg



SUMMARY OF QUANTITIES ~ SUPERSTRUCTURE

ITEM	UNIT	QUANTITY
STRUCTURAL CONCRETE (3Y36)	m ³	4157
CONCRETE WEARING COURSE (3U17A)	m ²	8500
RAISED MEDIAN CONCRETE (3Y46)	m ²	1121
TYPE F RAILING CONCRETE (3Y46)	m	162
REINFORCEMENT BARS (EPOXY COATED)	kg	454485
EXPANSION JOINT DEVICES TYPE 100	m	160
BRIDGE DRAIN TYPE B701	EACH	4
DRAINAGE SYSTEM TYPE SPECIAL	LUMP SUM	1
3mm PLASTIC SHEETING	m ²	48
25mm CORK 325mm (RAIL)	m	22
25mm CORK 465mm (ABUTMENTS)	m	6
BRIDGE NAME PLATE	EACH	1

- ② COMPUTED QTY. IS 425 CU. METERS FOR INFORMATIONAL PURPOSES ONLY INCLUDES APPROACH PANELS.
- ③ COMPUTED QTY. IS 224 CU. METERS FOR INFORMATIONAL PURPOSES ONLY.
- ④ COMPUTED QTY. IS 48 CU. METERS FOR INFORMATIONAL PURPOSES ONLY.
- ⑤ INCLUDES REINFORCEMENT FOR SLAB, AND RAILING.
- ⑥ TO BE INCLUDED IN PRICE BID FOR OTHER ITEMS.
- ⑦ INCLUDES 20 METERS 450mm DIA. DUCTILE IRON PIPE, 4 - RING OR FRAME CASTING NO. 801 PER Mn/DOT STD. PLATE #M4126, 4 - GRATE CASTING NO. 810 PER Mn/DOT STD. PLATE #M4149, AND 4 - CURB BOX NO. 821-B PER Mn/DOT STD. PLATE #M4161.
- ⑨ TO BE INCLUDED IN PRICE BID FOR ITEM 2502.601 "DRAINAGE SYSTEM TYPE SPECIAL".
- ⑩ MNDOT TYPE B-1, CB WHICH REFERS TO MNDOT STANDARD PLATES M4126 FOR RING OR FRAME CASTING NO.801, M4149 FOR GRATE CASTING NO.810, AND M4161 FOR CURB BOX NO.821-B.

BILL OF REINFORCEMENT ~ SUPERSTRUCTURE

BAR	NO.	LENGTH	SHAPE	LOCATION
S2201E	176	7570	STRT	SLAB ~ LONGITUDINAL, TOP
S2202E	4576	3400	STRT	SLAB ~ LONGITUDINAL, TOP
S2203E	2112	6640	STRT	SLAB ~ LONGITUDINAL, TOP
S2204E	264	6520	STRT	SLAB ~ LONGITUDINAL, TOP
S2205E	96	7060	STRT	SLAB ~ LONGITUDINAL, TOP
S2206E	96	7470	STRT	SLAB ~ LONGITUDINAL, TOP
S2207E	2 SER. OF 48	5410 TO 9970	STRT	SLAB ~ LONGITUDINAL, TOP
S2208E	96	6575	STRT	SLAB ~ LONGITUDINAL, TOP
S2210E	2 SER. OF 96	9820 TO 13970	STRT	SLAB ~ LONGITUDINAL, TOP
S2211E	192	4190	STRT	SLAB ~ LONGITUDINAL, TOP
S2212E	192	8590	STRT	SLAB ~ LONGITUDINAL, TOP
S2213E	176	4375	STRT	SLAB ~ LONGITUDINAL, TOP
S2214E	69	4525	STRT	SLAB ~ LONGITUDINAL, TOP
S2215E	69	4025	STRT	SLAB ~ LONGITUDINAL, TOP
S2516E	1 SER. OF 35	8100 TO 10570	STRT	SLAB ~ LONGITUDINAL, TOP
S2517E	138	4775	STRT	SLAB ~ LONGITUDINAL, TOP
S2518E	1 SER. OF 35	7325 TO 9780	STRT	SLAB ~ LONGITUDINAL, TOP
S2219E	1 SER. OF 35	5465 TO 7940	STRT	SLAB ~ LONGITUDINAL, TOP
S2220E	69	3175	STRT	SLAB ~ LONGITUDINAL, TOP
S2921E	35	6930	STRT	SLAB ~ LONGITUDINAL, TOP
S2922E	69	5215	STRT	SLAB ~ LONGITUDINAL, TOP
S2923E	1 SER. OF 35	10100 TO 12550	STRT	SLAB ~ LONGITUDINAL, TOP
S2524E	504	6500	STRT	SLAB ~ LONGITUDINAL, BOTTOM
S2525E	2184	5600	STRT	SLAB ~ LONGITUDINAL, BOTTOM
S2526E	4032	4500	STRT	SLAB ~ LONGITUDINAL, BOTTOM
S2527E	336	5450	STRT	SLAB ~ LONGITUDINAL, BOTTOM
S2928E	28	7800	STRT	SLAB ~ LONGITUDINAL, BOTTOM
S2929E	336	7100	STRT	SLAB ~ LONGITUDINAL, BOTTOM
S2930E	42	6700	STRT	SLAB ~ LONGITUDINAL, BOTTOM
S2531E	364	7800	STRT	SLAB ~ LONGITUDINAL, BOTTOM
S2932E	2 SER. OF 182	4050 TO 12570	STRT	SLAB ~ LONGITUDINAL, BOTTOM
S2933E	182	12000	STRT	SLAB ~ LONGITUDINAL, BOTTOM
S2934E	28	7800	STRT	SLAB ~ LONGITUDINAL, BOTTOM
S2935E	16	12600	STRT	SLAB ~ LONGITUDINAL, BOTTOM
S2936E	16	12000	STRT	SLAB ~ LONGITUDINAL, BOTTOM
S2937E	16	4100	STRT	SLAB ~ LONGITUDINAL, BOTTOM
S2238E	100	3600	STRT	SLAB ~ LONGITUDINAL, BOTTOM
S2539E	1 SER. OF 50	8300 TO 10675	STRT	SLAB ~ LONGITUDINAL, BOTTOM
S2240E	200	7600	STRT	SLAB ~ LONGITUDINAL, BOTTOM
S2541E	1 SER. OF 50	7300 TO 9675	STRT	SLAB ~ LONGITUDINAL, BOTTOM
S2242E	1 SER. OF 50	5800 TO 8175	STRT	SLAB ~ LONGITUDINAL, BOTTOM
S2943E	1 SER. OF 50	9800 TO 12175	STRT	SLAB ~ LONGITUDINAL, BOTTOM
S2244E	8	3600	STRT	SLAB ~ LONGITUDINAL, BOTTOM
S2945E	7	10700	STRT	SLAB ~ LONGITUDINAL, BOTTOM
S2246E	12	7600	STRT	SLAB ~ LONGITUDINAL, BOTTOM
S2547E	6	7100	STRT	SLAB ~ LONGITUDINAL, BOTTOM
S2248E	6	5700	STRT	SLAB ~ LONGITUDINAL, BOTTOM
S2949E	9	11900	STRT	SLAB ~ LONGITUDINAL, BOTTOM
S1650E	1416	8850	STRT	SLAB ~ TRANSVERSE, TOP
S1651E	1416	8350	STRT	SLAB ~ TRANSVERSE, TOP
S1652E	1456	8600	STRT	SLAB ~ TRANSVERSE, BOTTOM
S1653E	1456	8225	STRT	SLAB ~ TRANSVERSE, BOTTOM
S1654E	96	1500	STRT	SLAB ~ TRANSVERSE @ BLISTER
S1655E	4 SER. OF 2	9800 TO 10400	STRT	SLAB ~ LONGITUDINAL @ BLISTER
S1656E	8	2500	BENT	SLAB ~ TIE @ BLISTER
S2557E	35	5520	STRT	SLAB ~ LONGITUDINAL, BOTTOM
S1958E	350	8850	STRT	SLAB @ BENTS - TRANSVERSE
S1959E	350	8350	STRT	SLAB @ BENTS - TRANSVERSE
S1960E	20	9000	STRT	SLAB @ BENTS - TRANSVERSE
S1961E	20	8500	STRT	SLAB @ BENTS - TRANSVERSE
S1662E	32	2390	STRT	SLAB ~ T&B @ CATCH BASIN
S1663E	16	7500	STRT	SLAB ~ T&B @ CATCH BASIN
S2264E	16	4000	STRT	SLAB ~ T&B @ CATCH BASIN
S1665E	16	3800	STRT	SLAB ~ T&B @ CATCH BASIN
S2566E	1 SER. OF 50	8324 TO 10700	STRT	SLAB ~ LONGITUDINAL, BOTTOM
S2567E	1 SER. OF 50	7325 TO 9700	STRT	SLAB ~ LONGITUDINAL, BOTTOM

BILL OF REINFORCEMENT ~ SUPERSTRUCTURE - CONT'D

S2268E	1 SER. OF 50	5825 TO 8200	STRT	SLAB ~ LONGITUDINAL, BOTTOM
S2969E	1 SER. OF 50	9825 TO 12200	STRT	SLAB ~ LONGITUDINAL, BOTTOM

SIGNATURE: *David D. Long*
 PRINTED NAME: DAVID D. LONG
 DATE: 4/2/02 REG. NO. 24384

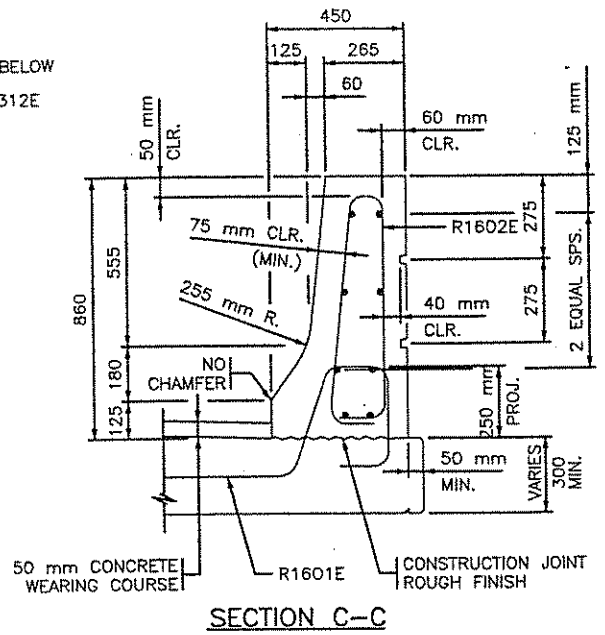
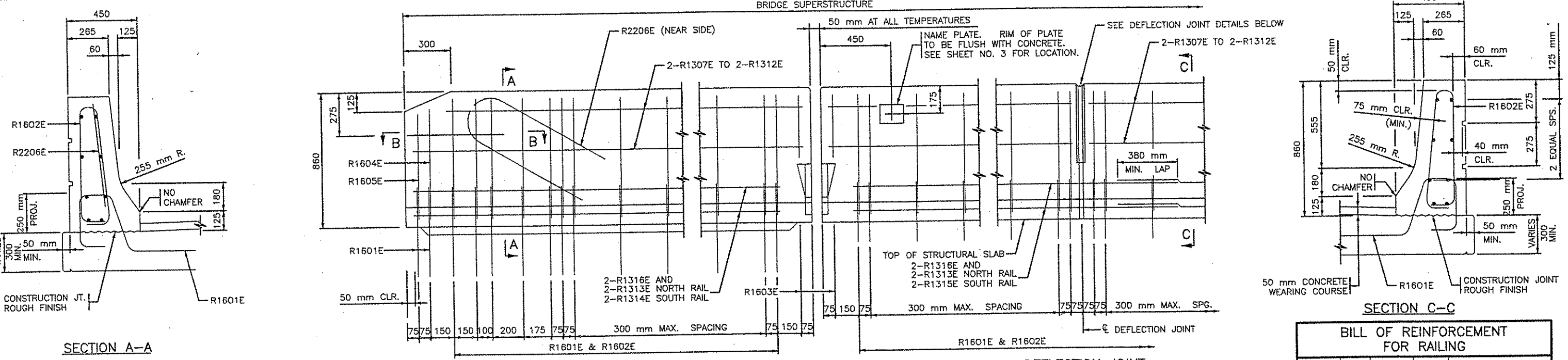


Thruway Square
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 Minneapolis, MN 55415
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**SUPERSTRUCTURE
 DETAILS**

DES: DDL DRN: SCS APPROVED: 4-3-02 BRIDGE NO. 02015
 CHK: NPH CHK: DJV
 SHEET NO. 32 OF 46 SHEETS

PLOT DATE: Mar 29, 2002 7:36am DISK FILE NAME: (15.05) R:\33889\STRUCT\PLAN_SHT_02015.rail.dwg



BILL OF REINFORCEMENT FOR RAILING				
BAR	NO.	LENGTH	SHAPE	LOCATION
R1601E	645	1590		RAIL DOWEL
R1602E	637	1950		RAIL VERTICAL
R1603E	4	1330		RAIL VERTICAL
R1604E	4	1810		RAIL VERTICAL
R1605E	4	1750		RAIL VERTICAL
R2206E	4	1970		RAIL VERTICAL
R1307E	28	4015		RAIL LONGITUDINAL
R1308E	8	4425		RAIL LONGITUDINAL
R1309E	108	3625		RAIL LONGITUDINAL
R1310E	4	4810		RAIL LONGITUDINAL
R1311E	4	4230		RAIL LONGITUDINAL
R1312E	12	4170		RAIL LONGITUDINAL
R1313E	12	9800		NORTH RAIL LONG.
R1314E	16	12625		SOUTH RAIL LONG.
R1315E	16	10464		SOUTH RAIL LONG.
R1316E	16	10895		NORTH RAIL LONG.

- ① 3 LINES, MIN. LAP 380mm
- ② 4 LINES, MIN. LAP 380mm
- ④ EXPANSION JT. BENT 13 (SOUTH)
- EXPANSION JT. BENT 18 (NORTH)

GENERAL NOTES

ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE NOTED.

LENGTH OF "TYPE F RAILING CONCRETE (3Y46)" FOR PAYMENT SHALL BE MEASURED BETWEEN THE OUTSIDE FACES OF THE CONCRETE RAIL.

CONCRETE RAILING = 6.83 kN/m (0.290 m³/m)

FINISH ALL EDGES OF RAIL WITH 13 mm VEE, EXCEPT WHERE OTHERWISE NOTED.

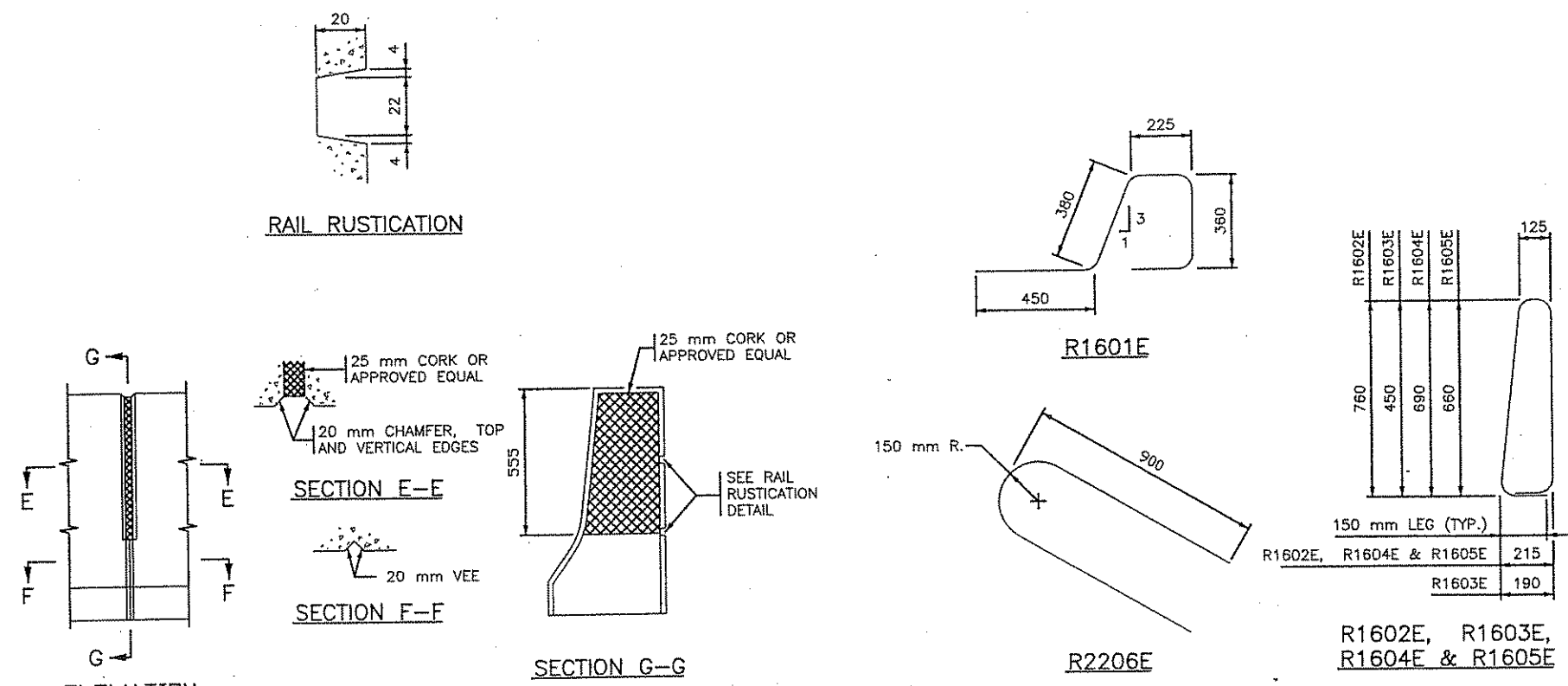
MAXIMUM SPACING OF CONCRETE DEFLECTION JOINTS SHALL BE 6 m.

SEE SUPERSTRUCTURE SHEET FOR JOINT SPACING.

GUARDRAIL CONNECTION TO BE STRUCTURAL STEEL, Mn/DOT SPEC. 3306.

GUARDRAIL CONNECTION TO BE INCLUDED IN PRICE BID FOR OTHER ITEMS.

RAIL QUANTITIES ARE INCLUDED IN SUMMARY OF QUANTITIES FOR SUPERSTRUCTURE.



REVISION: 10-25-01

APPROVED: _____

STATE BRIDGE ENGINEER

S.A.P. 114-010-11

SIGNATURE: *David D. Long*

PRINTED NAME: DAVID D. LONG

DATE: 9/1/02 REG. NO. 24384

CONCRETE RAILING (TYPE F)

WITH INTEGRAL END POST

(WITH CONCRETE WEARING COURSE)

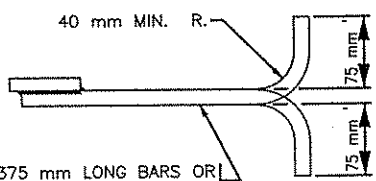
DES: MNDOT	DR: MNDOT	APPROVED: 4-3-02	BRIDGE NO. 02015
CHK: DDL	CHK: DJV		

SHEET NO. 33 OF 46 SHEETS

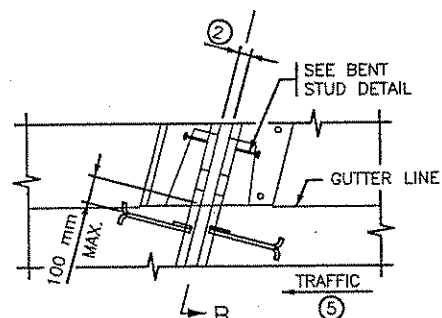
FIG. 5-397.117M

PLOT DATE: Mar 29, 2002 7:23am DISK FILE NAME: (15.05) R:\3889\33889\STRUCT\PLAN_SHT\02015EXP1.dwg

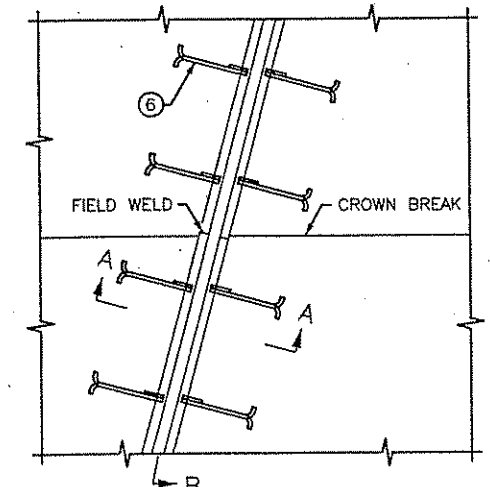
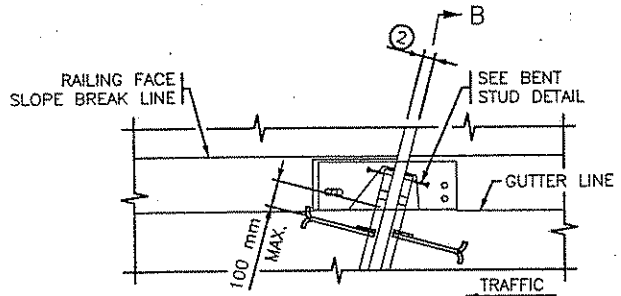
15 mm SQ. x 375 mm LONG BARS OR
16 mm DIA. x 375 mm LONG RODS



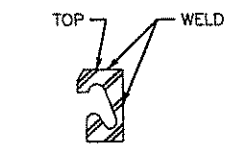
BAR-ROD DETAIL



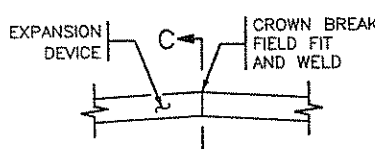
PLAN VIEW AT EXPANSION DEVICE
MEDIAN OR SIDEWALK ALTERNATE



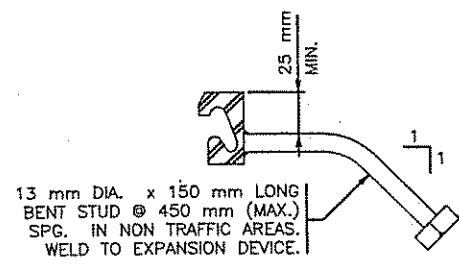
PLAN VIEW AT EXPANSION DEVICE
WITH STRAIGHT DEVICE



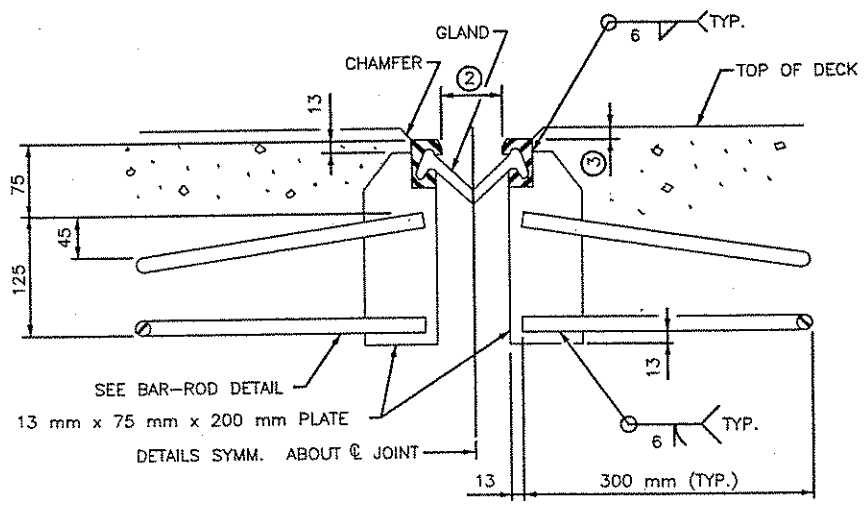
SECTION C-C



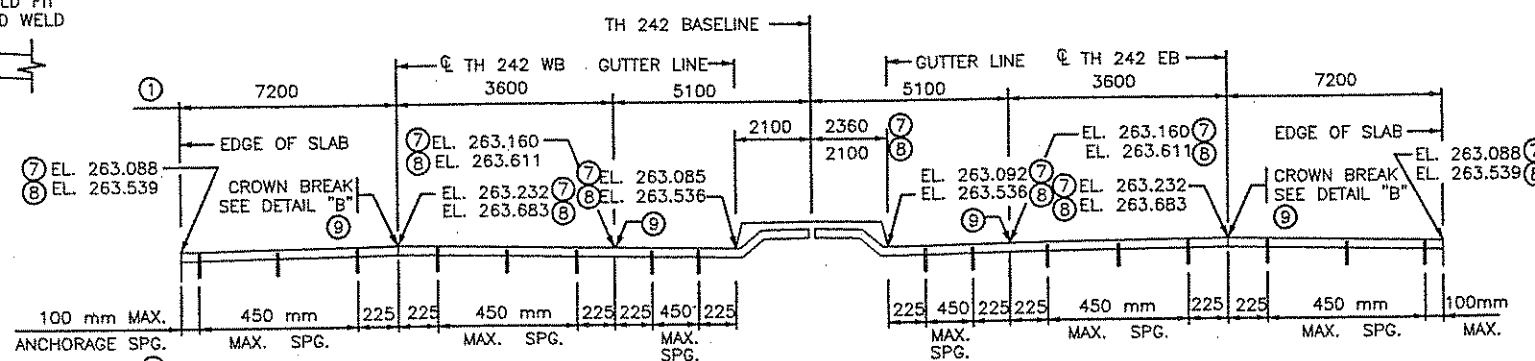
DETAIL B



BENT STUD DETAIL



SECTION A-A



SECTION B-B ~ ALONG C/J JOINT

ELEVATIONS SHOWN ARE 3 mm BELOW TOP OF SLAB @ C/J JOINT

- ⑦ EXPANSION JOINT 1
- ⑧ EXPANSION JOINT 4
- ⑨ CROWN BREAK, SEE DETAIL "B"

GENERAL NOTES

- ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE NOTED.
- GALVANIZE STRUCTURAL STEEL AFTER FABRICATION AS PER Mn/DOT SPEC. 3394. GALVANIZE FASTENERS AS PER Mn/DOT SPEC. 3392.
- JOINTS IN EXTRUSION SHALL BE LOCATED AT BREAKS IN TRANSVERSE PROFILE AND AS OTHERWISE REQUIRED. JOINTS SHALL BE CLOSE FIT AND WELDED. REPAIR AFTER WELDING AS PER Mn/DOT SPEC. 2471.3L.
- STRUCTURAL STEEL SHALL COMPLY WITH Mn/DOT SPEC. 3306 OR Mn/DOT SPEC. 3309.
- EXPANSION DEVICE SHALL BE STRAIGHTENED TO A TOLERANCE OF 1 mm IN 1 m.
- LENGTH OF PAYMENT FOR DEVICE IS FROM OUT TO OUT OF EXTRUSION ALONG CENTERLINE OF JOINT.
- ① DIMENSIONS ARE ALONG CENTERLINE OF JOINT.
- ② 50 mm AT ALL TEMPS.
- ③ 3 mm (6 mm MAX.)
13 mm (16 mm MAX.) WHEN SNOWPLOW FINGERS ARE USED
SNOWPLOW FINGERS ARE REQUIRED FOR SKEWS OVER 15' AND LESS THAN 50'.
- ⑤ SEE SHEET 2&3 FOR DIRECTION OF TRAFFIC.
- ⑥ PLACE BAR-ROD NORMAL TO JOINT ON NEW BRIDGES AND JOINT REPLACEMENTS. ON JOINT REPLACEMENTS WHEN SKEW IS OVER 15' AND LESS THAN 50' BEND RODS PARALLEL TO C/R ROADWAY.

REVISION: 06-16-00
APPROVED: _____
STATE BRIDGE ENGINEER

S.A.P. 114-010-11

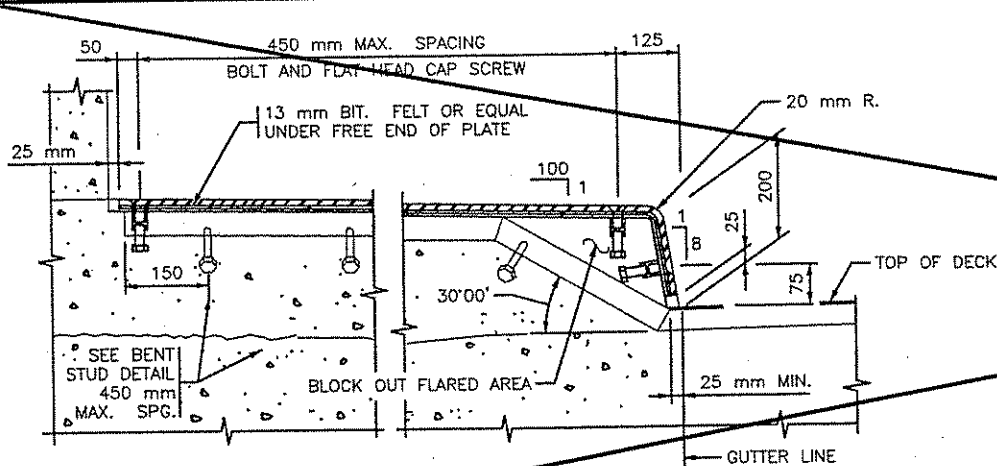
SIGNATURE: *David D. Long*
PRINTED NAME: DAVID D. LONG
DATE: 4/1/02 REG. NO. 24384

TITLE: WATERPROOF EXPANSION DEVICE
JOINT 1 & 4

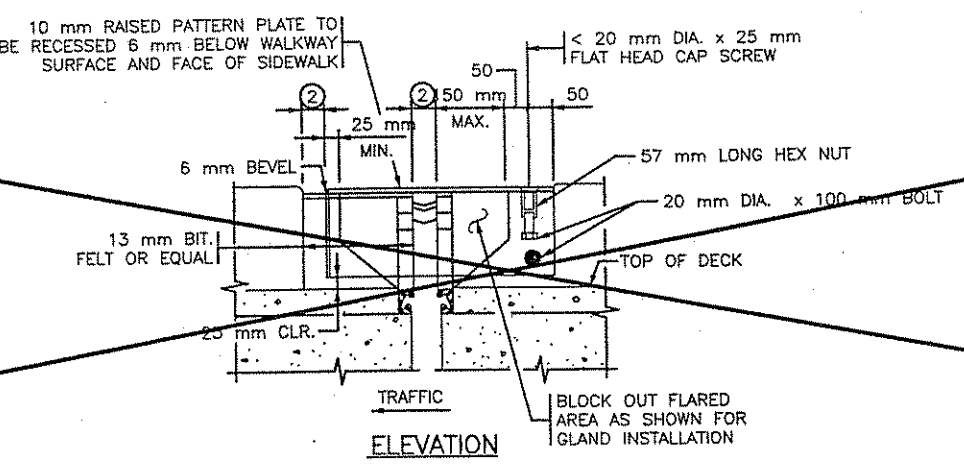
DES: DDL DR: DM APPROVED: 4-3-02
CHK: DJV CHK: DJV
SHEET NO. 34 OF 46 SHEETS

BRIDGE NO. 02015

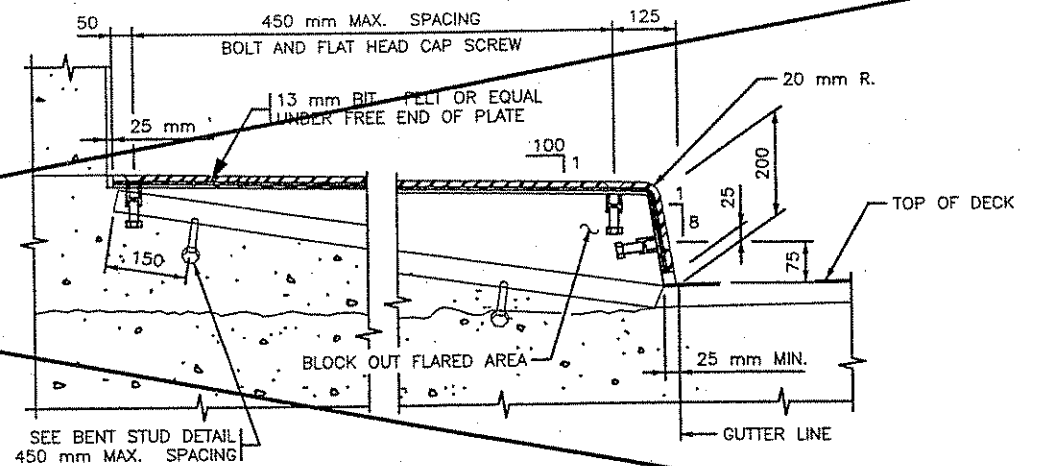
FIG. 5-397.627M (MOD.)



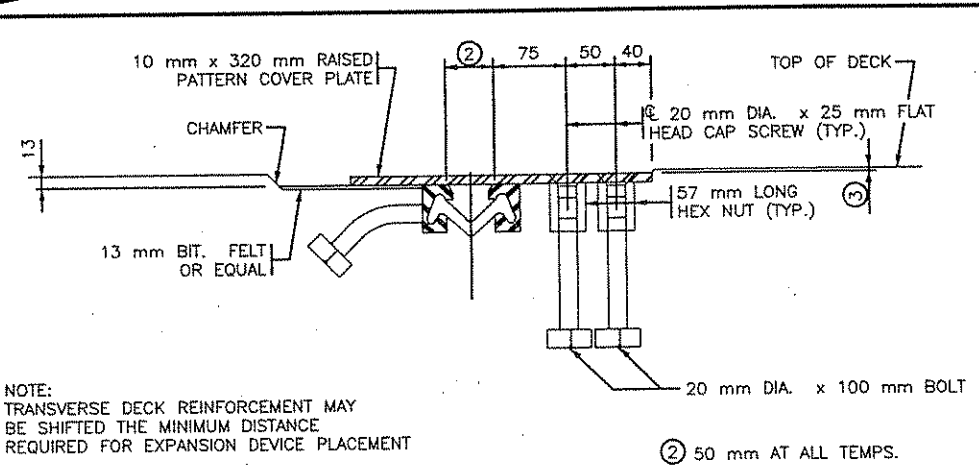
SECTION THROUGH SIDEWALK - OPTION 1



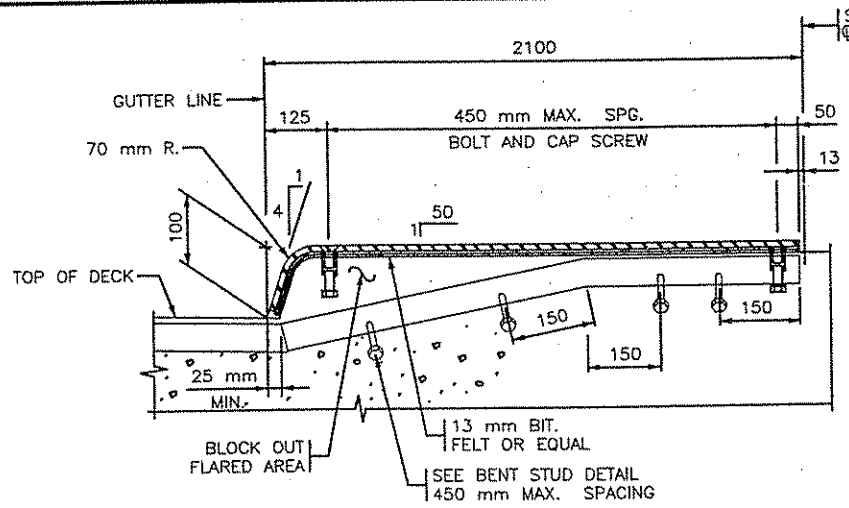
SIDEWALK DETAILS



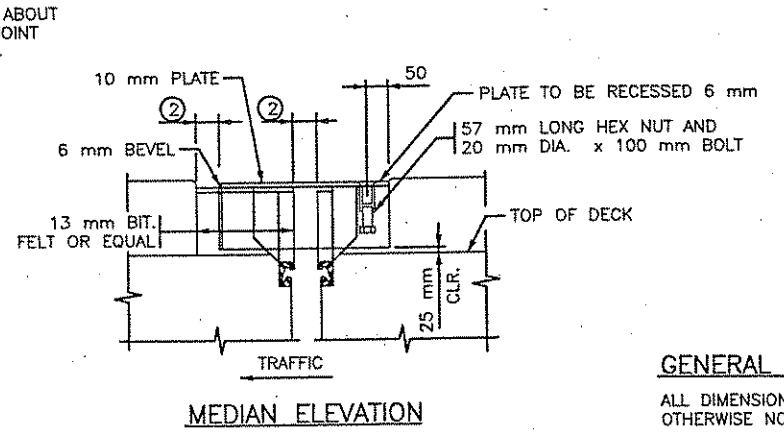
SECTION THROUGH SIDEWALK - OPTION 2



SECTION D-D

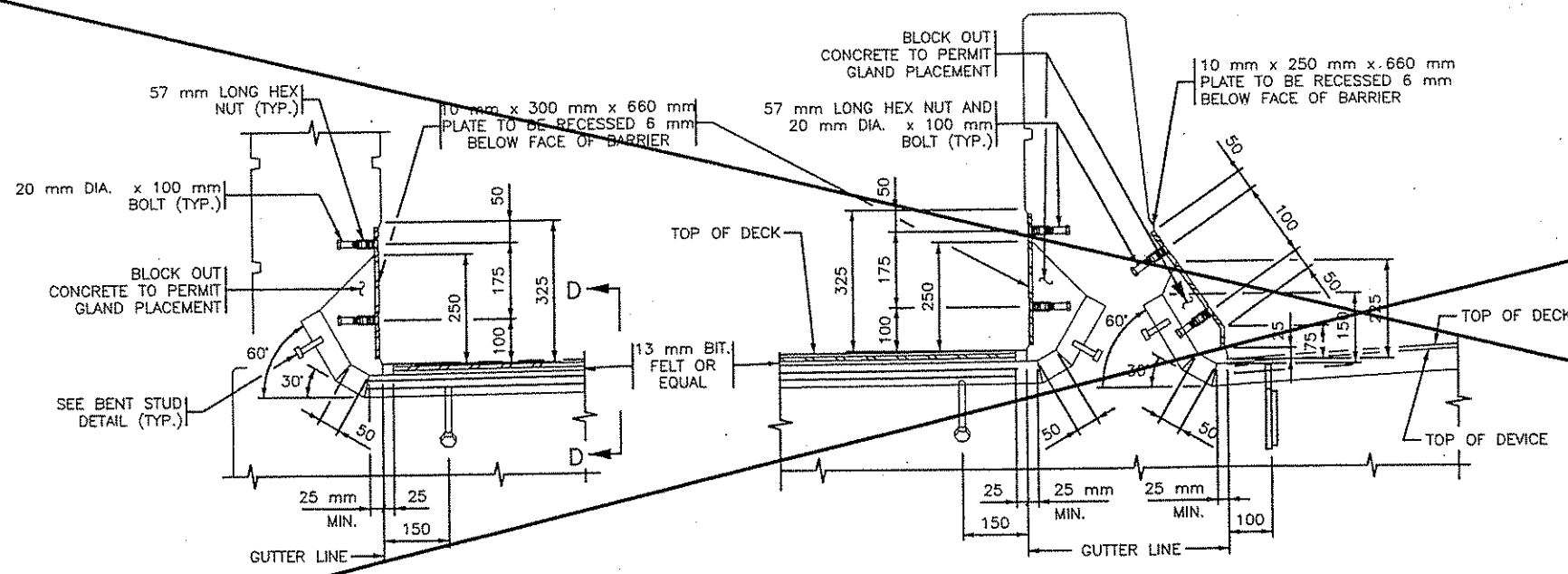


MEDIAN SECTION

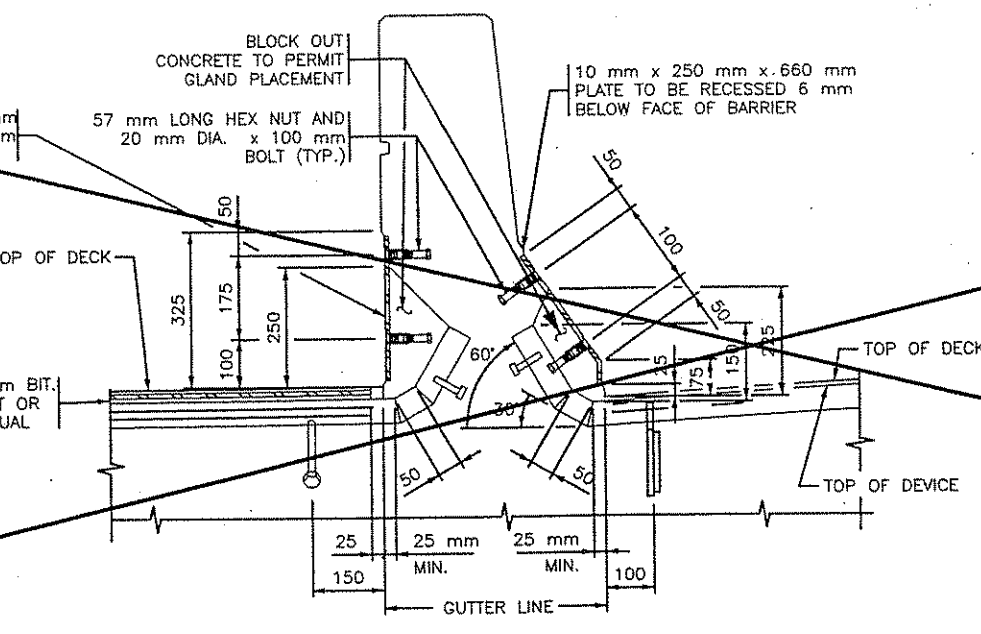


MEDIAN ELEVATION

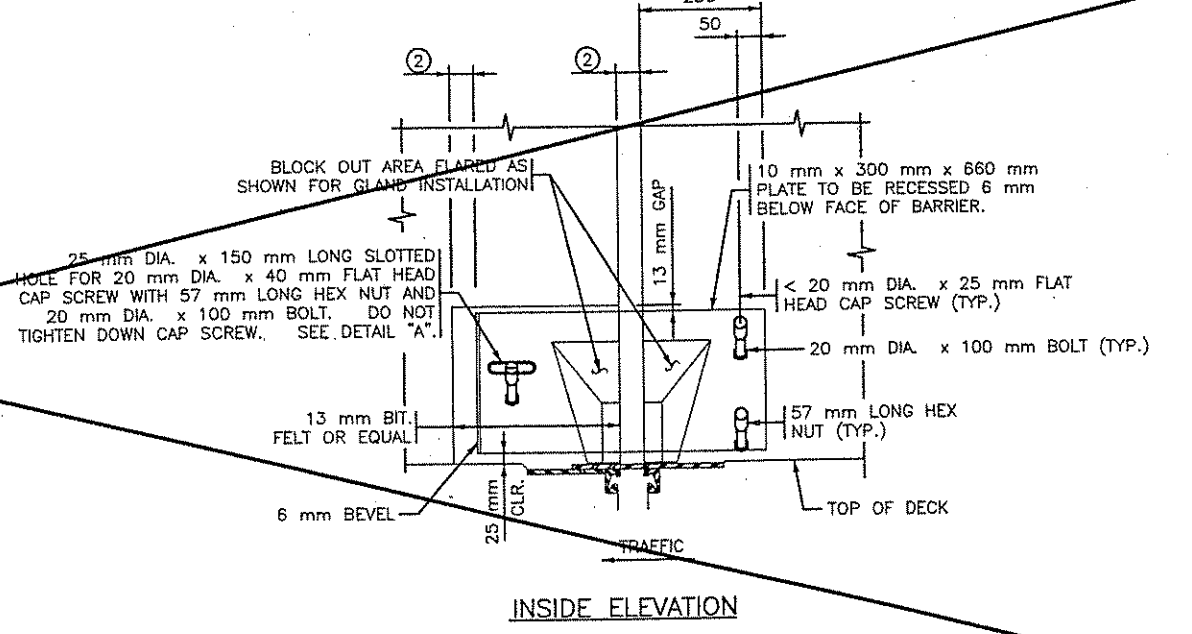
GENERAL NOTES
 ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE NOTED.
 SEE DETAIL 5-397.627M FOR ADDITIONAL DETAILS AND NOTES.



CONCRETE PARAPET RAILING



TYPE F RAILING



INSIDE ELEVATION

CONCRETE PARAPET RAILING & BACK OF TYPE F RAILING

SECTION THROUGH RAILINGS - INTEGRAL SIDEWALK

REVISION: 04-15-99
 APPROVED: _____
 STATE BRIDGE ENGINEER

SIGNATURE: *David Long*
 PRINTED NAME: DAVID D. LONG
 DATE: 4/1/02 REG. NO. 24384

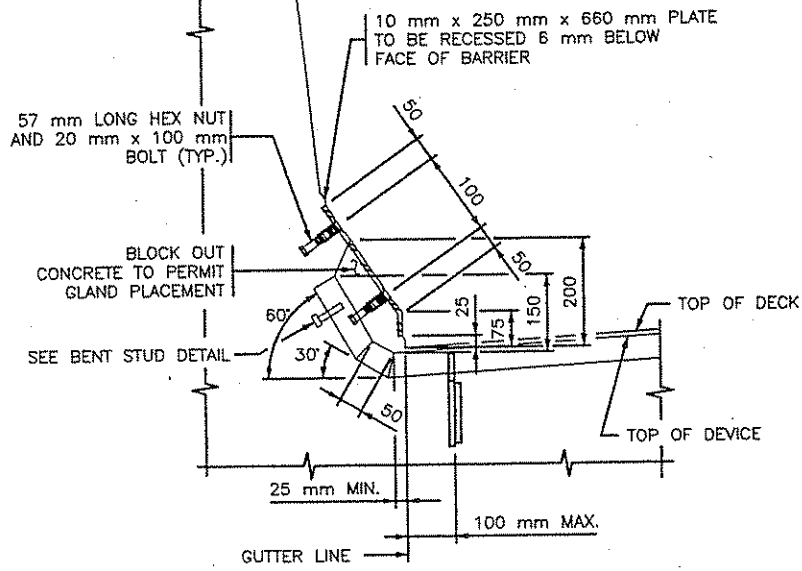
TITLE: **WATERPROOF EXPANSION DEVICE**
 (WITH RAISED MEDIAN OR SIDEWALK)

DES: DDL DR: DM
 CHK: DJV CHK: DJV
 APPROVED: 4-3-02
 SHEET NO. 35 OF 46 SHEETS
 BRIDGE NO. 02015

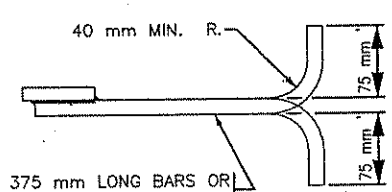
S.A.P. 114-010-11

FIG. 5-397.630M

PLOT DATE: Mar 29, 2002 7:23am DISK FILE NAME: (15.05) R:\33889\33889028\STRUCT\PLAN_SHT\02015EXP1A.dwg

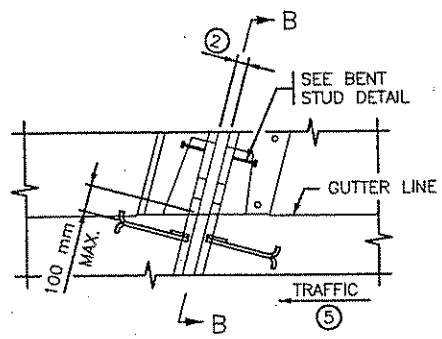


SECTION THROUGH RAILING
TYPE F RAILING

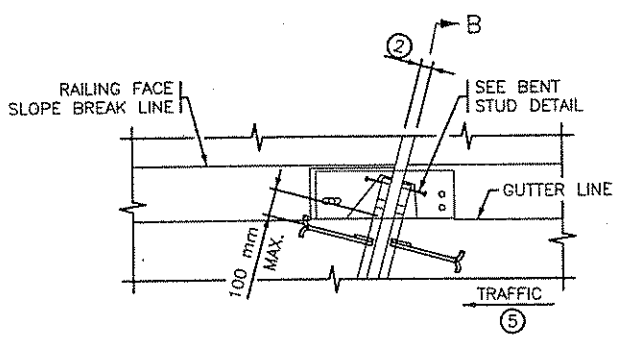


BAR-ROD DETAIL

15 mm SQ. x 375 mm LONG BARS OR
16 mm DIA. x 375 mm LONG RODS

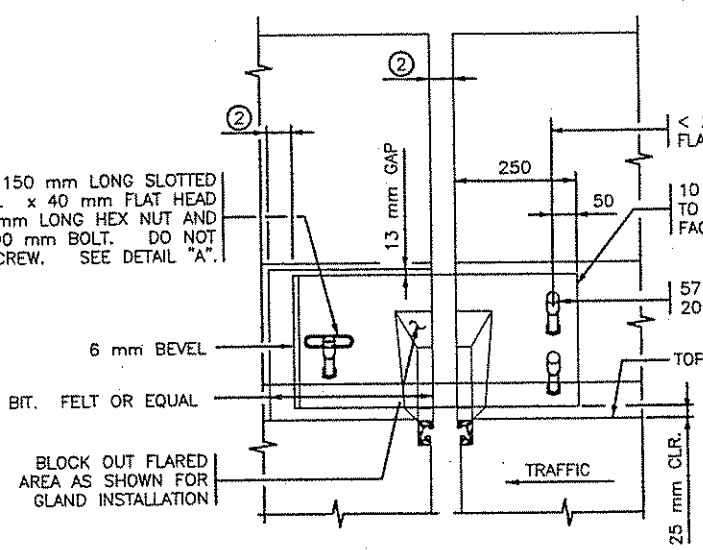


PLAN VIEW AT EXPANSION DEVICE
MEDIAN OR SIDEWALK ALTERNATE

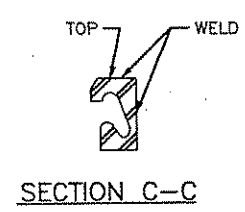


PLAN VIEW AT EXPANSION DEVICE
WITH STRAIGHT DEVICE

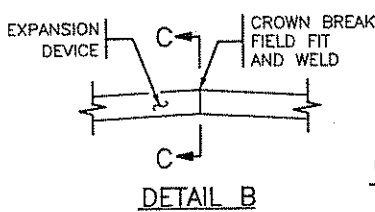
25 mm DIA. x 150 mm LONG SLOTTED HOLE FOR 20 mm DIA. x 40 mm FLAT HEAD CAP SCREW WITH 57 mm LONG HEX NUT AND 20 mm DIA. x 100 mm BOLT. DO NOT TIGHTEN DOWN CAP SCREW. SEE DETAIL "A".



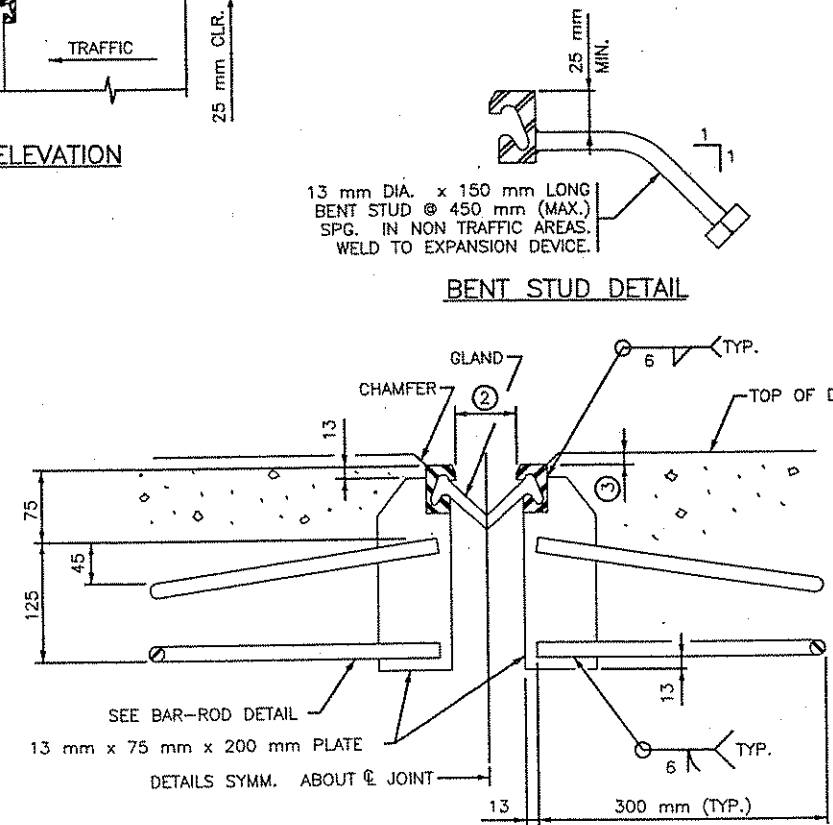
RAILING ELEVATION



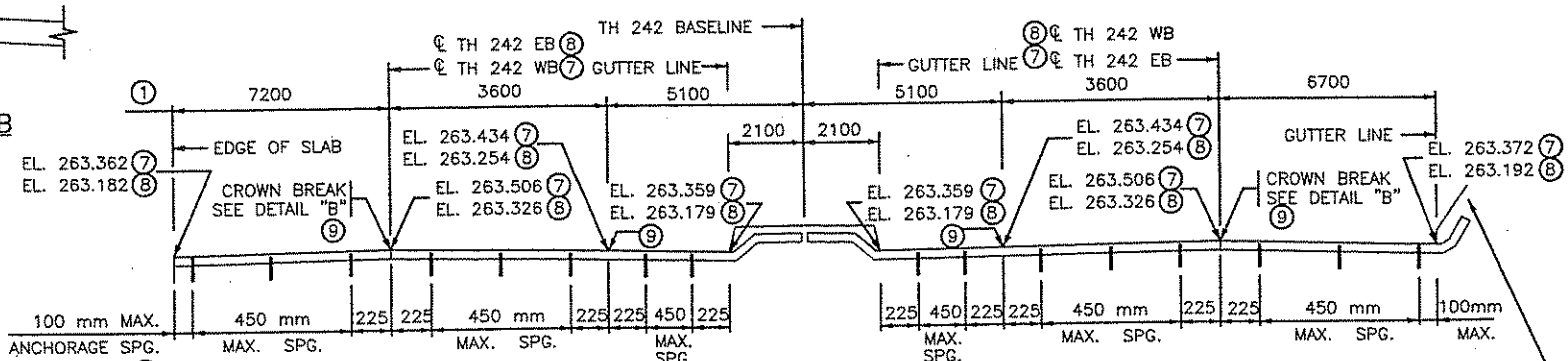
SECTION C-C



DETAIL B



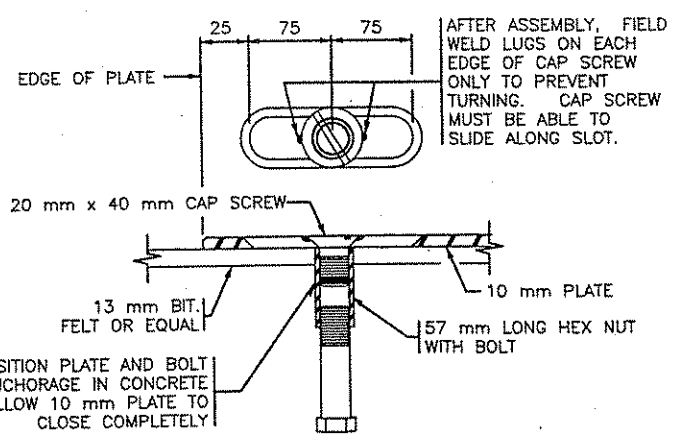
SECTION A-A



SECTION B-B ~ ALONG @ JOINT

ELEVATIONS SHOWN ARE 3 mm BELOW TOP OF SLAB @ @ JOINT

- ⑦ EXPANSION JOINT 2
- ⑧ EXPANSION JOINT 3
- ⑨ CROWN BREAK, SEE DETAIL "B".



DETAIL "A"

GENERAL NOTES

- ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE NOTED.
- GALVANIZE STRUCTURAL STEEL AFTER FABRICATION AS PER Mn/DOT SPEC. 3394. GALVANIZE FASTENERS AS PER Mn/DOT SPEC. 3392.
- JOINTS IN EXTRUSION SHALL BE LOCATED AT BREAKS IN TRANSVERSE PROFILE AND AS OTHERWISE REQUIRED. JOINTS SHALL BE CLOSE FIT AND WELDED. REPAIR AFTER WELDING AS PER Mn/DOT SPEC. 2471.3L.
- STRUCTURAL STEEL SHALL COMPLY WITH Mn/DOT SPEC. 3306 OR Mn/DOT SPEC. 3309.
- EXPANSION DEVICE SHALL BE STRAIGHTENED TO A TOLERANCE OF 1 mm IN 1 m.
- CAP SCREWS SHALL BE COUNTERSUNK 2 mm BELOW TOP OF PLATE.
- LENGTH OF PAYMENT FOR DEVICE IS FROM OUT TO OUT OF EXTRUSION ALONG CENTERLINE OF JOINT.
- ① DIMENSIONS ARE ALONG CENTERLINE OF JOINT.
- ② 50 mm AT ALL TEMPS.
- ③ 3 mm (6 mm MAX.) 13 mm (16 mm MAX.) WHEN SNOWPLOW FINGERS ARE USED SNOWPLOW FINGERS ARE REQUIRED FOR SKEWS OVER 15° AND LESS THAN 50°.
- ⑤ SEE SHEET 2&3 FOR DIRECTION OF TRAFFIC.
- ⑥ PLACE BAR-ROD NORMAL TO JOINT ON NEW BRIDGES AND JOINT REPLACEMENTS. ON JOINT REPLACEMENTS WHEN SKEW IS OVER 15° AND LESS THAN 50° BEND RODS PARALLEL TO @ ROADWAY.

PLOT DATE: Mar 29, 2002 7:24am DISK FILE NAME: (15.05) R: 33889 \33889028\33889\STRUCT\PLAN_SHT\02015EXP2.dwg

REVISION: 06-16-00
APPROVED: _____
STATE BRIDGE ENGINEER

S.A.P. 114-010-11

SIGNATURE: *David D. Long*
PRINTED NAME: DAVID D. LONG
DATE: 4/1/02 REG. NO. 24384

TITLE: WATERPROOF EXP. DEVICE JOINT 2&3
(WITH TYPE F BARRIER)

DES: DDL DR: DM APPROVED: 4-3-02
CHK: DJV CHK: DJV

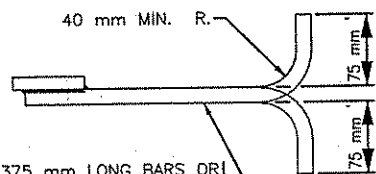
SHEET NO. 36 OF 46 SHEETS

BRIDGE NO. 02015

FIG. 5-397.627M (MOD.)

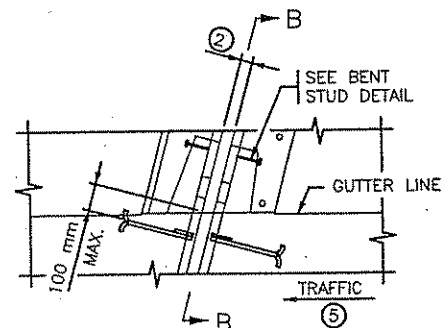
F RAIL
SOUTH SIDE - EXP. JT. 2
NORTH SIDE - EXP. JT. 3

PLOT DATE: Mar 29, 2002 7:24am DISK FILE NAME: (15.05) R:\33888\STRUCT\PLAN_SHT\02015EXP4.dwg



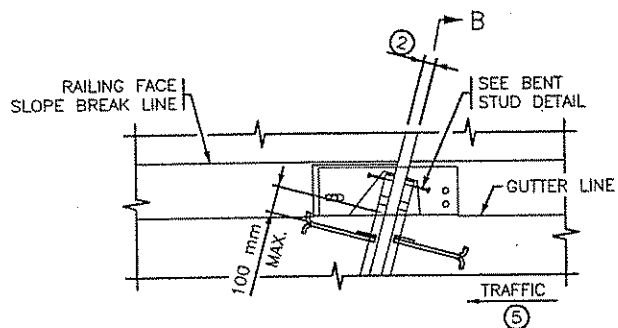
BAR-ROD DETAIL

15 mm SQ. x 375 mm LONG BARS OR
16 mm DIA. x 375 mm LONG RODS



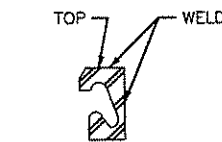
PLAN VIEW AT EXPANSION DEVICE

MEDIAN OR SIDEWALK ALTERNATE

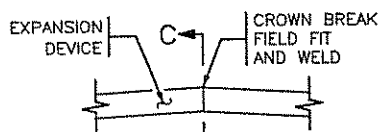


PLAN VIEW AT EXPANSION DEVICE

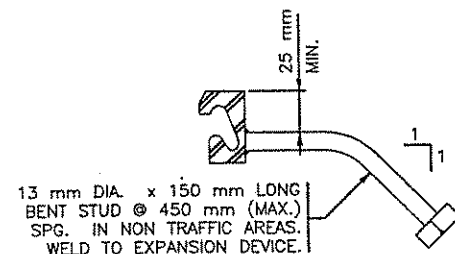
WITH STRAIGHT DEVICE



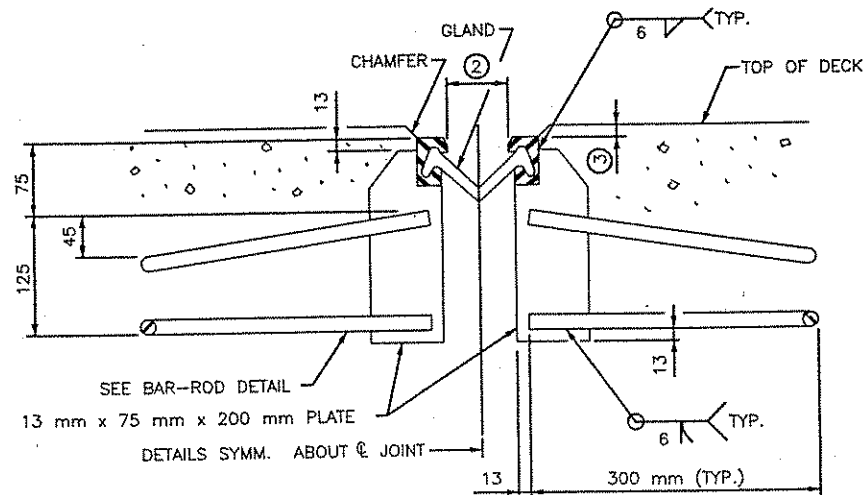
SECTION C-C



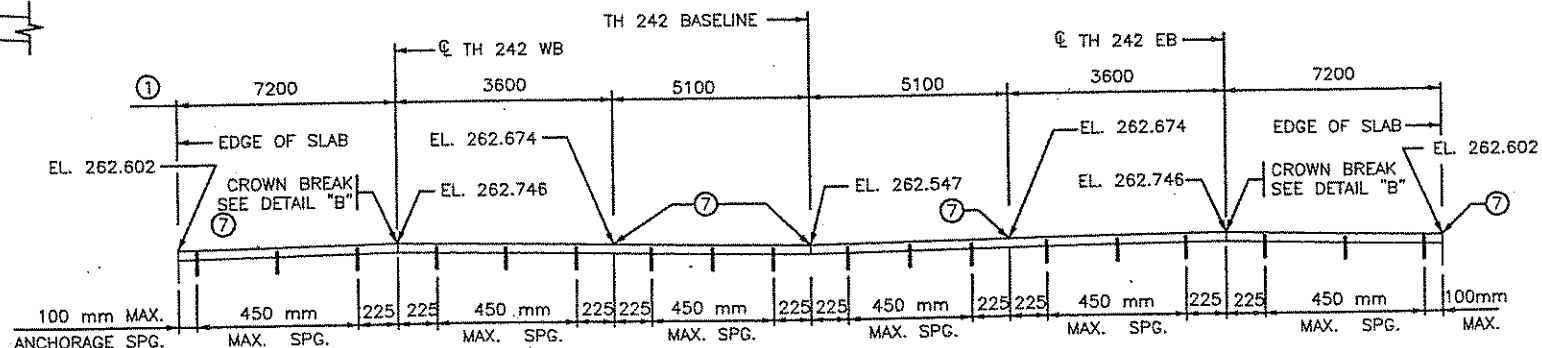
DETAIL B



BENT STUD DETAIL



SECTION A-A



SECTION B-B ~ ALONG Q JOINT

ELEVATIONS SHOWN ARE 3 mm BELOW TOP OF SLAB @ Q JOINT

GENERAL NOTES

ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE NOTED.

GALVANIZE STRUCTURAL STEEL AFTER FABRICATION AS PER Mn/DOT SPEC. 3394. GALVANIZE FASTENERS AS PER Mn/DOT SPEC. 3392.

JOINTS IN EXTRUSION SHALL BE LOCATED AT BREAKS IN TRANSVERSE PROFILE AND AS OTHERWISE REQUIRED. JOINTS SHALL BE CLOSE FIT AND WELDED. REPAIR AFTER WELDING AS PER Mn/DOT SPEC. 2471.3L.

STRUCTURAL STEEL SHALL COMPLY WITH Mn/DOT SPEC. 3306 OR Mn/DOT SPEC. 3309.

EXPANSION DEVICE SHALL BE STRAIGHTENED TO A TOLERANCE OF 1 mm IN 1 m.

LENGTH OF PAYMENT FOR DEVICE IS FROM OUT TO OUT OF EXTRUSION ALONG CENTERLINE OF JOINT.

- ① DIMENSIONS ARE ALONG CENTERLINE OF JOINT.
- ② 50 mm AT ALL TEMPS.
- ③ 3 mm (6 mm MAX.)
13 mm (16 mm MAX.) WHEN SNOWPLOW FINGERS ARE USED
SNOWPLOW FINGERS ARE REQUIRED FOR SKEWS OVER 15' AND LESS THAN 50'.
- ⑤ SEE SHEET 2&3 FOR DIRECTION OF TRAFFIC.
- ⑥ PLACE BAR-ROD NORMAL TO JOINT ON NEW BRIDGES AND JOINT REPLACEMENTS. ON JOINT REPLACEMENTS WHEN SKEW IS OVER 15' AND LESS THAN 50' BEND RODS PARALLEL TO Q ROADWAY.
- ⑦ CROWN BREAK, SEE DETAIL "B".

REVISION: 06-16-00
APPROVED: _____
STATE BRIDGE ENGINEER

SIGNATURE: *David D. Long*
PRINTED NAME: DAVID D. LONG
DATE: 4/1/02 REG. NO. 24384

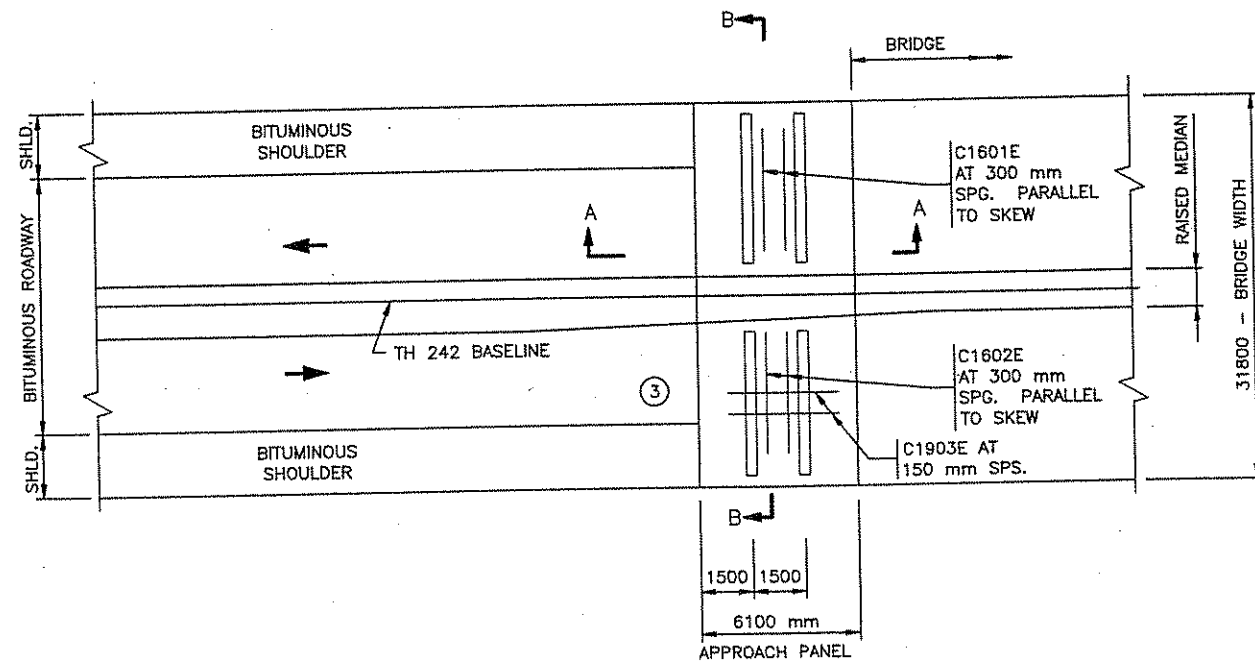
TITLE: WATERPROOF EXP. DEVICE JOINT 5

DES: DDL	DR: DM	APPROVED: 4-3-02	BRIDGE NO. 02015
CHK: DJV	CHK: DJV		
SHEET NO. 37 OF 46 SHEETS			

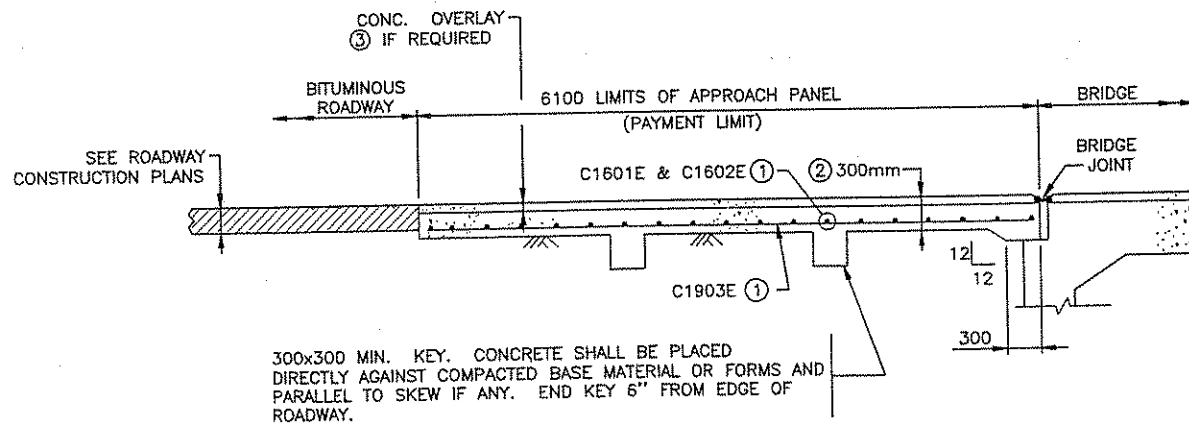
FIG. 5-397.627M (MOD.)

S.A.P. 114-010-11

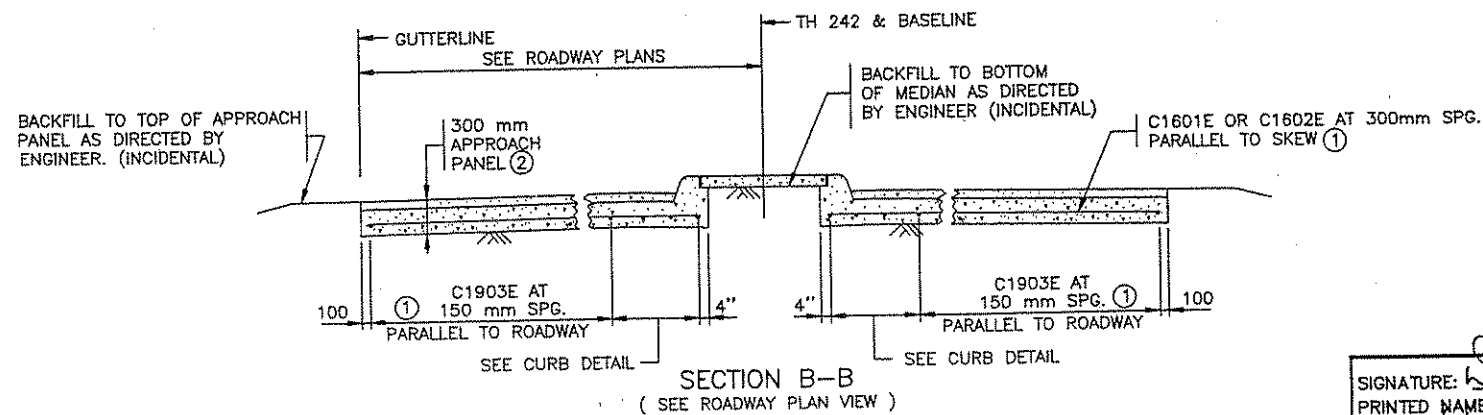
PLOT DATE: Apr 01, 2002 11:08am DISK FILE NAME: (15.05) R:\33889\33889028\338899\STRUCT\PLAN_SHT_02015APP1.dwg



URBAN ROADWAY PLAN



SECTION A-A
(SOME REINFORCEMENT NOT SHOWN)



SECTION B-B
(SEE ROADWAY PLAN VIEW)

BILL OF REINFORCEMENT				
BAR	NO.	LENGTH	SHAPE	LOCATION
C1601E	21	13725	STRT.	APPROACH SLAB TRANSV. (N)
C1602E	1 SER. OF 21	13000 TO 13400	STRT.	APPROACH SLAB TRANSV. (S)
C1903E	186	6000	STRT.	APPROACH SLAB LONGIT.

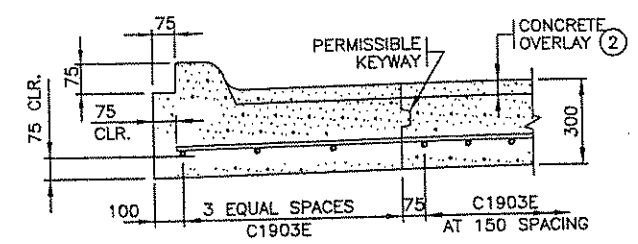
SUMMARY OF QUANTITIES FOR WEST BRIDGE APPROACH PANEL ~ BR. 02015	
BRIDGE APPROACH PANEL	194 m ²

CONCRETE MIX NO. 3X42 49 m³
REINFORCEMENT BARS 3370 kg

⑤ INCLUDES QUANTITIES FOR THE WEST BRIDGE APPROACH PANEL INCLUDED IN PRICE BID 2301.553 "BRIDGE APPROACH PANELS".

NOTES:

- ① ALL REBARS ARE IN METRIC DESIGNATIONS
- ① ALL REINFORCEMENT IN APPROACH PANEL, SILL AND CURB SHALL BE GRADE 60 AND EPOXY COATED AS PER SPEC. 3301.
- ② APPROACH SLAB THICKNESS SHOWN INCLUDES CONCRETE OVERLAY. CONCRETE OVERLAYS TO BE INCLUDED IN BRIDGE QUANTITIES AND DONE AT THE SAME TIME BY BRIDGE CONTRACTOR.
- ③ SEE GRADING PORTION OF PLAN FOR BRIDGE APPROACH ROADWAY INFORMATION.
- ④ SEE GRADING PLANS FOR BRIDGE APPROACH TREATMENT BENEATH BRIDGE APPROACH PANELS.



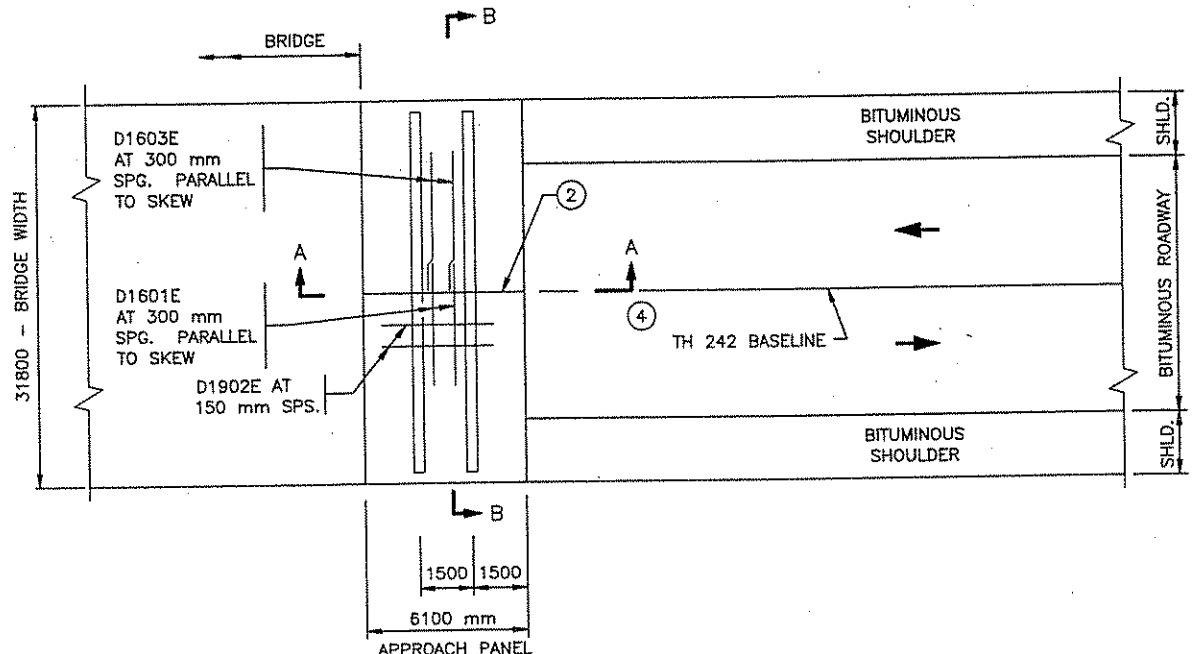
CURB DETAIL
(B4 INTEGRANT CURB OR B424 SPECIAL CURB AND GUTTER)

4-3-02

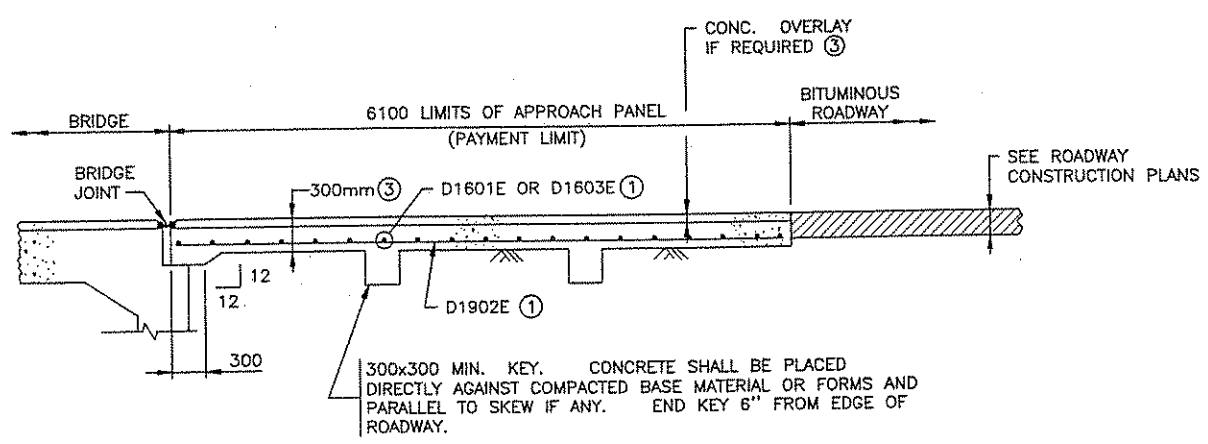
SIGNATURE: <i>David D. Long</i> PRINTED NAME: DAVID D. LONG DATE: 4/1/02	REVISION DATE 2-7-2000	STANDARD SHEET NO. 5-297.229	TITLE: WEST BRIDGE APPROACH PANEL BITUMINOUS MAINLINE - JOINT AT ABUTMENT SQUARE TO 10' SKEWS
	REG. NO. 24384	STANDARD APPROVED: NOVEMBER 9, 1999	STATE PROJ. NO. 0212-02015

SHEET NO. 38 OF 46 SHEETS

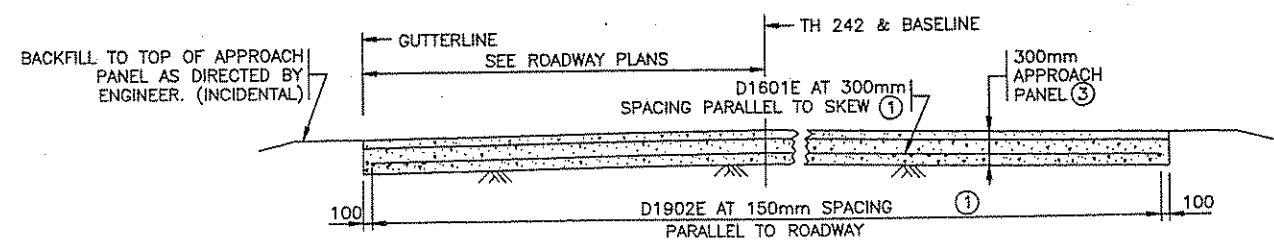
PLOT DATE: Apr 01, 2002 9:18am DISK FILE NAME: (15.05) R:\33889\33889028\STRUCT\PLAN_SHT\02015APP2.dwg



URBAN ROADWAY PLAN



SECTION A-A
(SOME REINFORCEMENT NOT SHOWN)



SECTION B-B
(SEE ROADWAY PLAN VIEW)

BILL OF REINFORCEMENT				
BAR	NO.	LENGTH	SHAPE	LOCATION
D1601E	21	16510	STRT.	APPROACH SLAB TRANSV. (N)
D1902E	212	6000	STRT.	APPROACH SLAB LONGIT.
D1603E	21	13700	STRT.	APPROACH SLAB TRANSV. (S)

⑥ 510 MIN. LAP

SUMMARY OF QUANTITIES FOR WEST BRIDGE APPROACH PANEL ~ BR. 02015	
BRIDGE APPROACH PANEL	194 m ²

CONCRETE MIX NO. 3X42 49 m³
REINFORCEMENT BARS 3830 kg

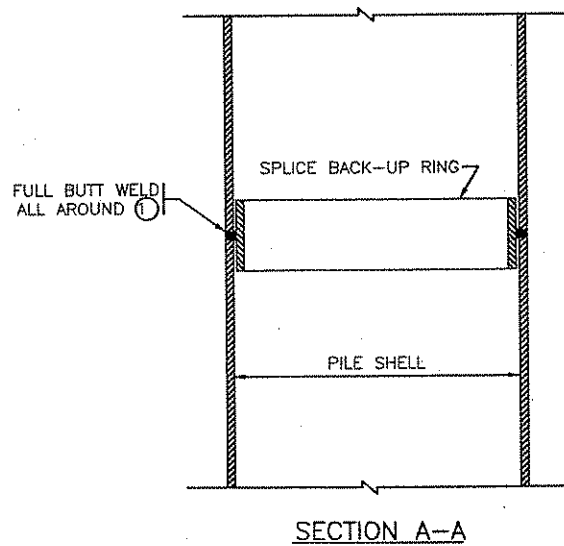
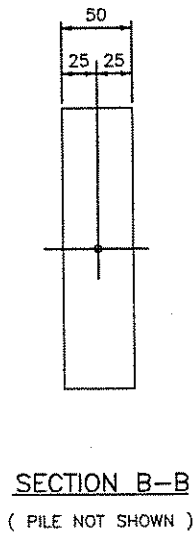
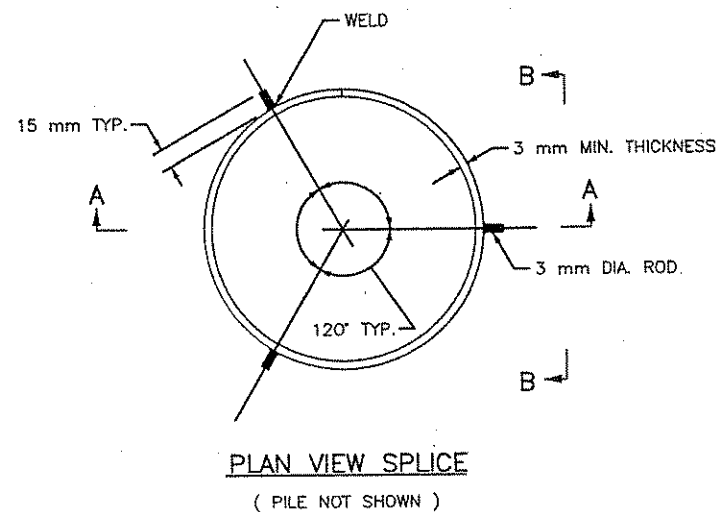
⑤ INCLUDES QUANTITIES FOR THE EAST BRIDGE APPROACH PANEL INCLUDED IN PRICE BID 2301.553 "BRIDGE APPROACH PANELS".

NOTES:

- ① ALL REBARS ARE IN METRIC DESIGNATIONS
- ① ALL REINFORCEMENT IN APPROACH PANEL, SILL AND CURB SHALL BE GRADE 60 AND EPOXY COATED AS PER SPEC. 3301.
- ② L2KT OR L1T LONGITUDINAL JOINT IS REQUIRED BEFORE AND AFTER CONCRETE OVERLAY IS APPLIED. SEE STANDARD PAVEMENT JOINT SHEET FOR DETAILS.
- ③ APPROACH SLAB THICKNESS SHOWN INCLUDES CONCRETE OVERLAY. CONCRETE OVERLAYS TO BE INCLUDED IN BRIDGE QUANTITIES AND DONE AT THE SAME TIME BY BRIDGE CONTRACTOR.
- ④ SEE GRADING PORTION OF PLAN FOR BRIDGE APPROACH ROADWAY INFORMATION.
- ⑤ SEE GRADING PLANS FOR BRIDGE APPROACH TREATMENT BENEATH BRIDGE APPROACH PANELS.

4-3-02

REVISION DATE 2-7-2000	STANDARD SHEET NO. 5-297.229	TITLE: EAST BRIDGE APPROACH PANEL BITUMINOUS MAINLINE - JOINT AT ABUTMENT SQUARE TO 10' SKEWS
SIGNATURE: <i>David D. Long</i>		STANDARD APPROVED: NOVEMBER 9, 1999
PRINTED NAME: DAVID D. LONG		STATE PROJ. NO 0212-02015
DATE: 4/1/02 REG. NO. 24384		SHEET NO 39 OF 46 SHEETS



NOTES:

APPROVED COMMERCIAL PILE SPLICE BACK-UP RING MAY BE USED IN LIEU OF THE TYPE DETAILED. BACK-UP RING SHALL HAVE A TIGHT FIT.

WELDING ELECTRODE SHALL BE A.W.S. TYPE E7016 OR E7018 (LOW-HYDROGEN).

LOW-HYDROGEN ELECTRODES SHALL BE SUPPLIED IN HERMETICALLY (AIR-TIGHT) SEALED CONTAINERS.

LOW-HYDROGEN ELECTRODES SHALL BE STORED IN HOLDING OVENS AT A TEMPERATURE OF NOT LESS THAN 121° C.

LOW-HYDROGEN ELECTRODES SHALL BE PLACED IN A HOLDING OVEN FOR AT LEAST 8 HOURS IF THEY HAVE BEEN EXPOSED TO THE ATMOSPHERE FOR MORE THAN 2 HOURS.

ELECTRODES WHICH HAVE BECOME WET, SOILED OR DAMAGED SHALL NOT BE USED.

WELDING SHALL NOT BE DONE WHEN THE AMBIENT TEMPERATURE IS LOWER THAN -18° C. OR WHEN THE PILE IS WET OR EXPOSED TO FALLING RAIN OR SNOW. WHEN THE PILE METAL TEMPERATURE IS BELOW 0° C., THE PILE METAL IN THE AREA OF THE WELD SHALL BE HEATED TO A MINIMUM TEMPERATURE OF 21° C. AND MAINTAINED AT THIS TEMPERATURE DURING WELDING.

① FOR PILE SHELL THICKNESSES GREATER THAN 13 mm, USE A B-U4d WELD CONFIGURATION.

ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE NOTED

APPROVED: APRIL 2, 1997

Donald J. Blumming
STATE BRIDGE ENGINEER

STATE OF MINNESOTA
DEPARTMENT OF TRANSPORTATION

PILE SPLICE
(CAST IN PLACE CONCRETE PILES)

REVISION

DETAIL NO.

B201M

APPROVED: APRIL 2, 1997

Donald J. Blumming
STATE BRIDGE ENGINEER

STATE OF MINNESOTA
DEPARTMENT OF TRANSPORTATION

BRIDGE NAMEPLATE
(FOR NEW BRIDGES)

REVISION

03-08-99

DETAIL NO.

B101M

SIGNATURE: *David D. Long*
PRINTED NAME: DAVID D. LONG
DATE: 4/1/02 REG. NO. 24384

URS

Thresher Square
100 Third Street South
Minneapolis, MN 55415
612.770.0700 Tel
612.770.1376 Fax

**BRIDGE
DETAILS**

DES: DDL DRN: DBM
CHK: DJV CHK: DJV

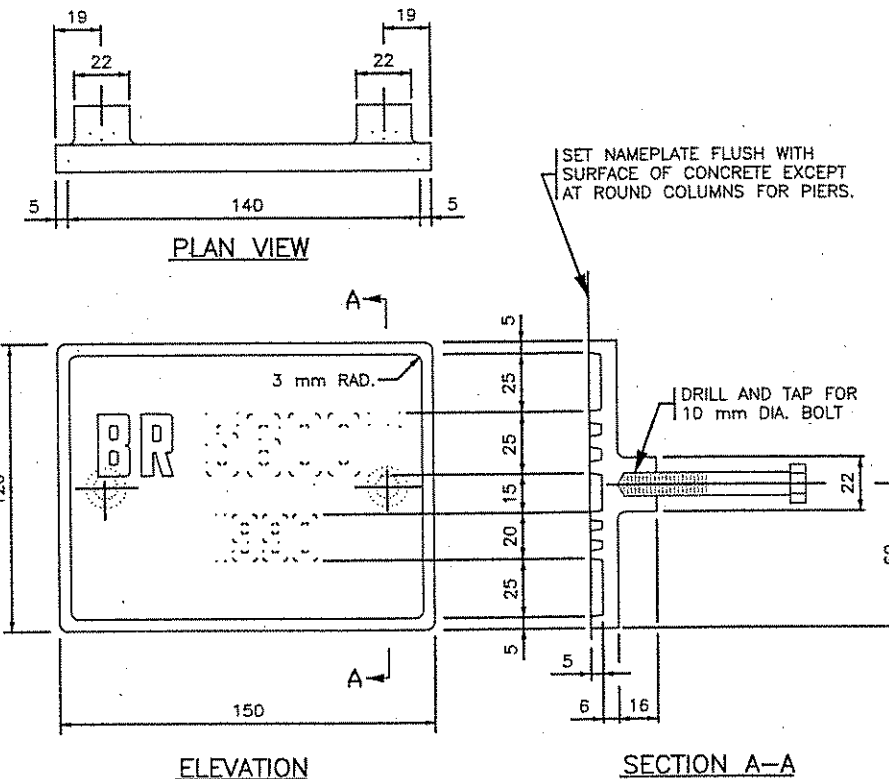
APPROVED: 4-3-02

SHEET NO. 40 OF 46 SHEETS

BRIDGE NO.

02015

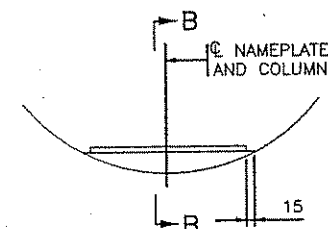
S.A.P. 114-010-11



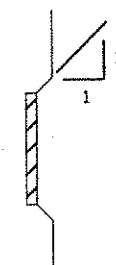
THE DASHED NUMBERS SHOWN ABOVE ARE FOR ILLUSTRATION.
DATA TO BE SHOWN ON NAMEPLATE IS AS FOLLOWS:

BRIDGE: 02015

YEAR: 2002



NAMEPLATE PLACEMENT
(ROUND CONCRETE PIER COLUMNS)



SECTION B-B

1234567890

NUMBERS FOR NAMEPLATE

NOTES:

NO SHOP DRAWING REQUIRED.

MATERIAL SHALL COMPLY WITH Mn/DOT SPEC. 3327.

LETTERS AND NUMBERS SHALL CONFORM TO THOSE SHOWN.

DRAFT ON LETTERS AND NUMBERS SHALL NOT BE MORE THAN 75 mm IN 300 mm.

HORIZONTAL SPACING OF LETTERS AND NUMBERS SHALL PRODUCE A BALANCED LAYOUT IN PROPORTION TO SPACING SHOWN.

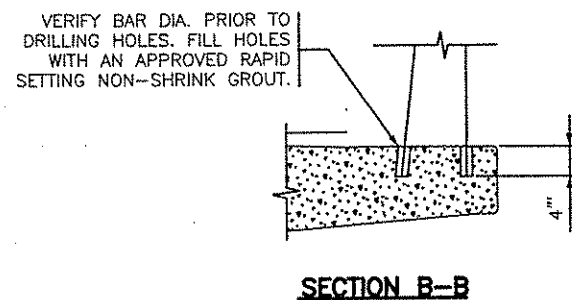
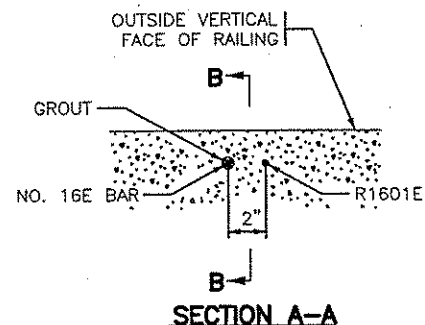
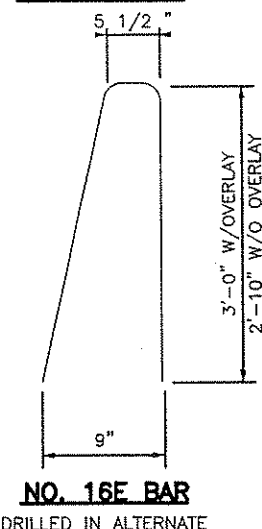
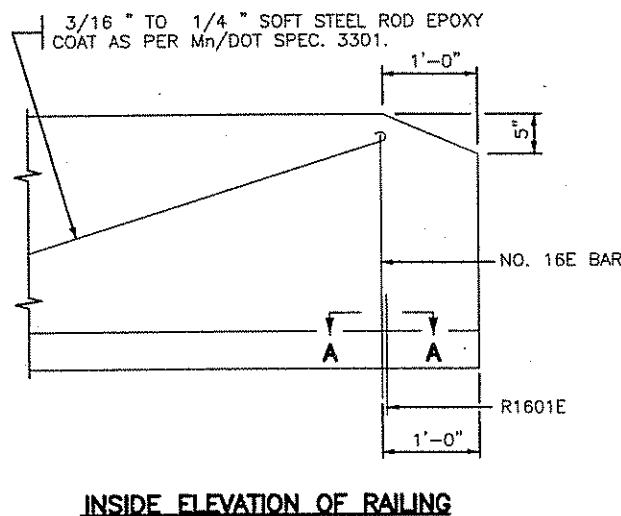
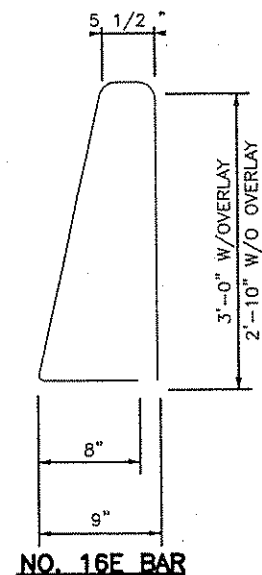
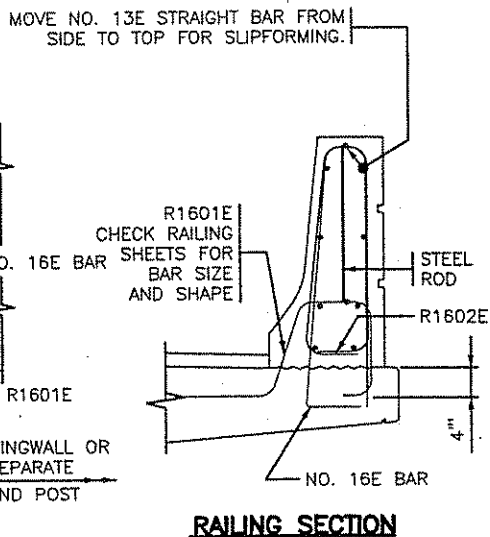
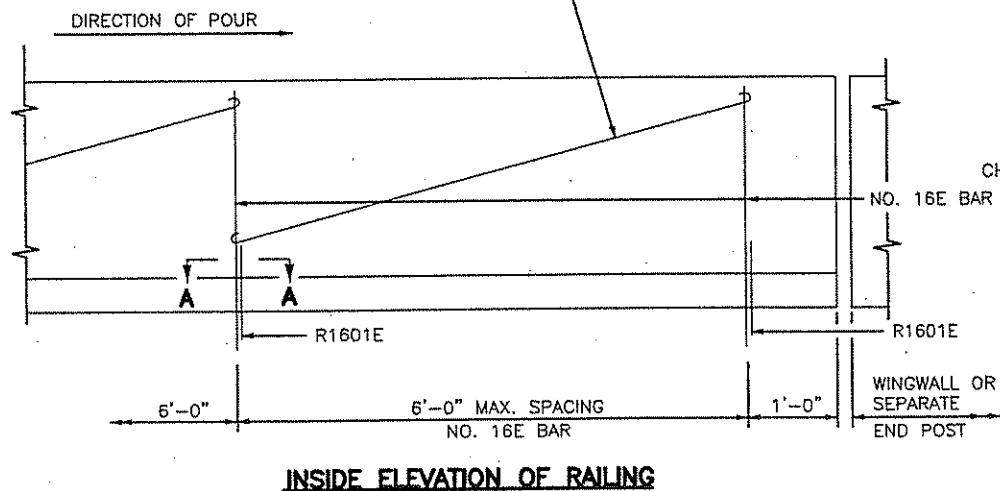
TOP SURFACE OF LETTERS, NUMBERS AND FRAMES SHALL BE BURNISHED.

FURNISH 2 STEEL BOLTS 10 mm DIA. x 75 mm LONG WITH EACH PLATE.

ALL DIMENSIONS FOR 19 mm HIGH LETTERS AND NUMBERS SHALL BE IN DIRECT PROPORTION TO THOSE SHOWN FOR THE 25 mm HIGH LETTERS AND NUMBERS.

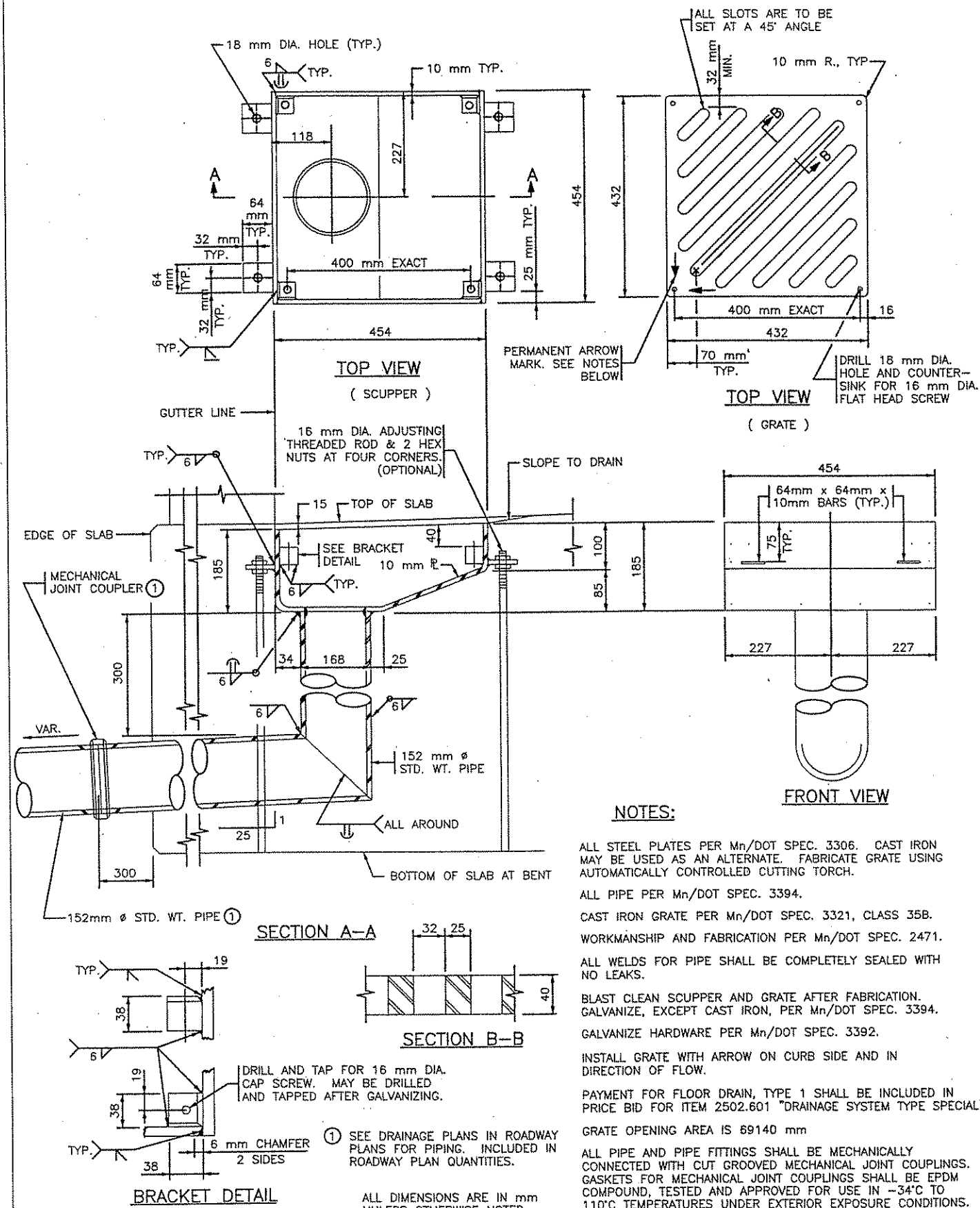
ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE NOTED.

3/16" TO 1/4" SOFT STEEL ROD, 10 GAGE WIRE OR APPROVED EQUAL ATTACHED TO INSIDE AND OUTSIDE FACE OF RAILING. EPOXY COAT AS PER Mn/DOT SPEC. 3301.



INSTALLATION DETAILS FOR NO. 16E (DRILLED IN ALTERNATE)

NOTES:
 CONTRACTOR WILL TOOL V-GROOVE AT DEFLECTION JOINTS AT TIME RAIL IS CAST AND SHALL EXTEND V-GROOVE AROUND ENTIRE PERIMETER OF RAIL.
 FOR ADDITIONAL DIMENSIONS, DETAILS, REINFORCEMENT AND NOTES SEE RAILING SHEET.
 FORM RAIL FOR A MINIMUM OF 4' ON EACH SIDE OF EXPANSION DEVICES, LIGHT STANDARDS AND DECK DRAIN BOX OUTS.
 PAY QUANTITIES WILL NOT BE ADJUSTED AS A RESULT OF SELECTING THIS ALTERNATE.
 USE A SIMILAR METHOD FOR TALLER RAILINGS OR MODIFIED VERSIONS OF THIS RAILING.



NOTES:
 ALL STEEL PLATES PER Mn/DOT SPEC. 3306. CAST IRON MAY BE USED AS AN ALTERNATE. FABRICATE GRATE USING AUTOMATICALLY CONTROLLED CUTTING TORCH.
 ALL PIPE PER Mn/DOT SPEC. 3394.
 CAST IRON GRATE PER Mn/DOT SPEC. 3321, CLASS 35B.
 WORKMANSHIP AND FABRICATION PER Mn/DOT SPEC. 2471.
 ALL WELDS FOR PIPE SHALL BE COMPLETELY SEALED WITH NO LEAKS.
 BLAST CLEAN SCUPPER AND GRATE AFTER FABRICATION. GALVANIZE, EXCEPT CAST IRON, PER Mn/DOT SPEC. 3394.
 GALVANIZE HARDWARE PER Mn/DOT SPEC. 3392.
 INSTALL GRATE WITH ARROW ON CURB SIDE AND IN DIRECTION OF FLOW.
 PAYMENT FOR FLOOR DRAIN, TYPE 1 SHALL BE INCLUDED IN PRICE BID FOR ITEM 2502.601 "DRAINAGE SYSTEM TYPE SPECIAL".
 GRATE OPENING AREA IS 69140 mm.
 ALL PIPE AND PIPE FITTINGS SHALL BE MECHANICALLY CONNECTED WITH CUT GROOVED MECHANICAL JOINT COUPLINGS. GASKETS FOR MECHANICAL JOINT COUPLINGS SHALL BE EPDM COMPOUND, TESTED AND APPROVED FOR USE IN -34°C TO 110°C TEMPERATURES UNDER EXTERIOR EXPOSURE CONDITIONS.

APPROVED: JULY 30, 1999
Donald J. Blanning
 STATE BRIDGE ENGINEER

STATE OF MINNESOTA
 DEPARTMENT OF TRANSPORTATION
CONCRETE RAILING (TYPE F)
 (SLIPFORM ALTERNATE)

REVISION
 DETAIL NO. **B830**

APPROVED: APRIL 2, 1997
Donald J. Blanning
 STATE BRIDGE ENGINEER

STATE OF MINNESOTA
 DEPARTMENT OF TRANSPORTATION
BRIDGE FLOOR DRAIN
 (WELDED BOX)

REVISION
 03-12-99
 DETAIL NO. **B701M MODIFIED**

SIGNATURE: *David D. Long*
 PRINTED NAME: DAVID D. LONG
 DATE: 4/10/02 REG. NO. 24384



Thresher Square
 700 Third Street South
 Minneapolis, MN 55415
 612.370.0700 Tel
 612.370.0178 Fax

**BRIDGE
 DETAILS**

DES: DDL DRN: DBM APPROVED: 4-3-02
 CHK: DJV CHK: DJV
 SHEET NO. 41 OF 46 SHEETS

BRIDGE NO. **02015**

CONTRACTED PROFILE

SCALE: HOR. 0 15m 30m VER. 0 1m 2m

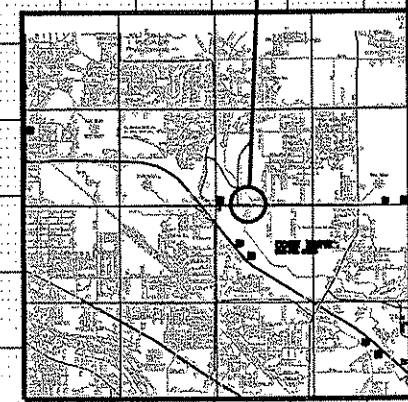
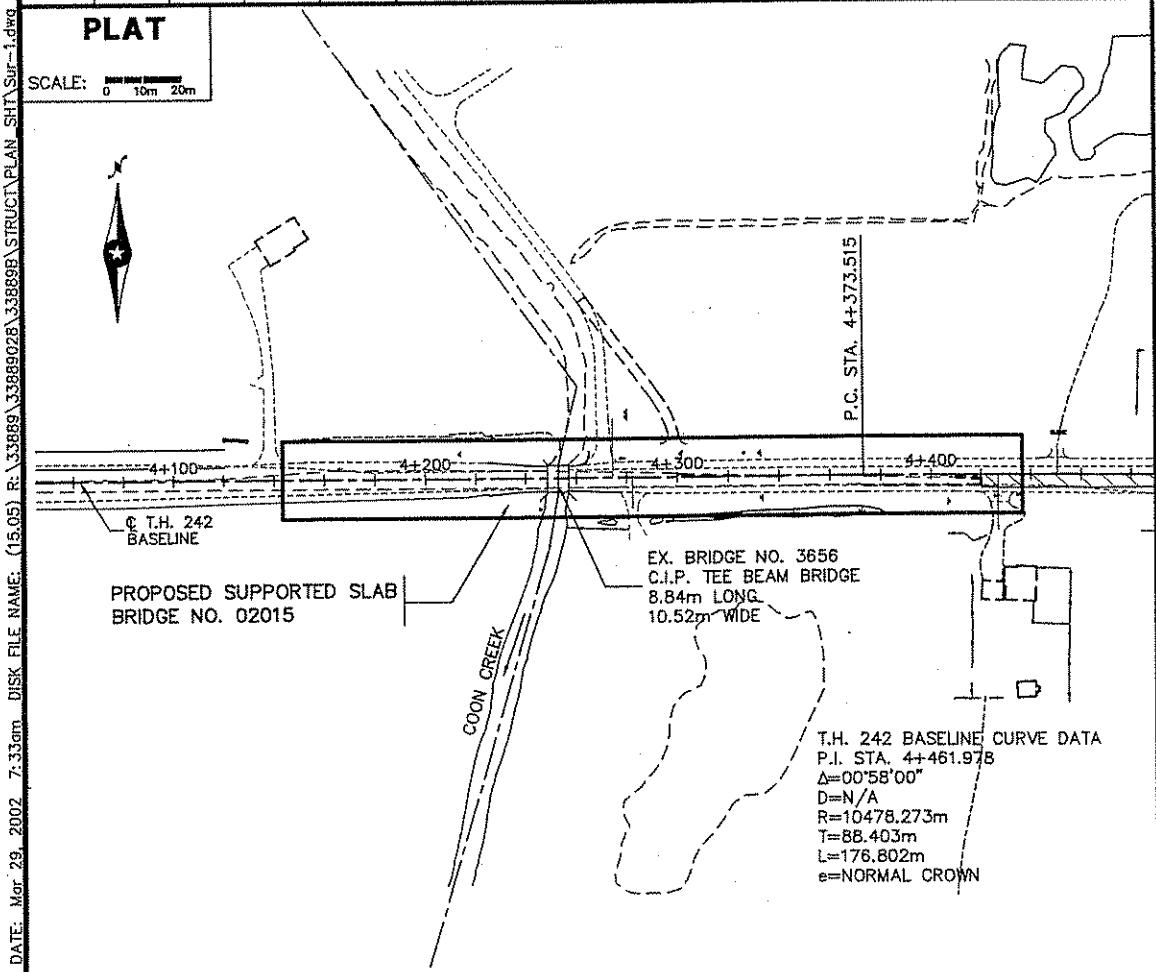
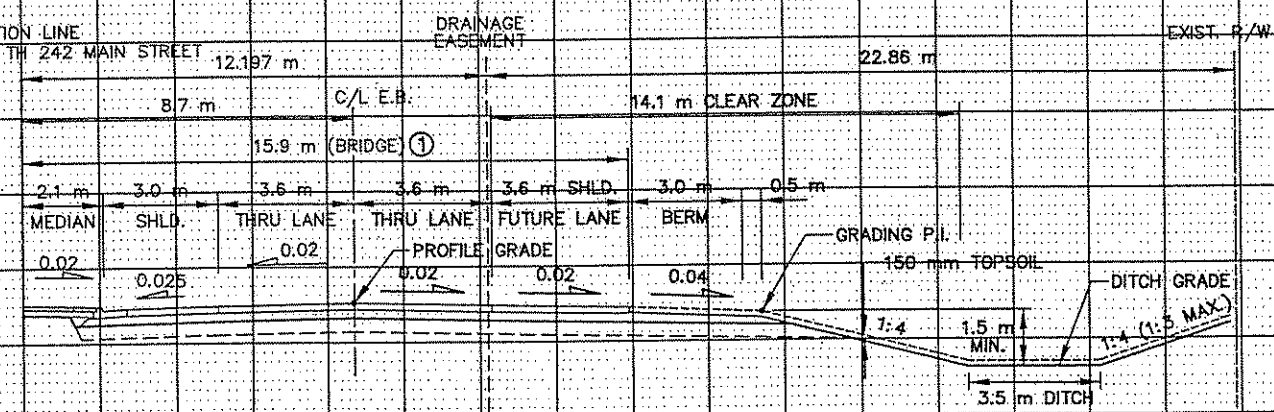
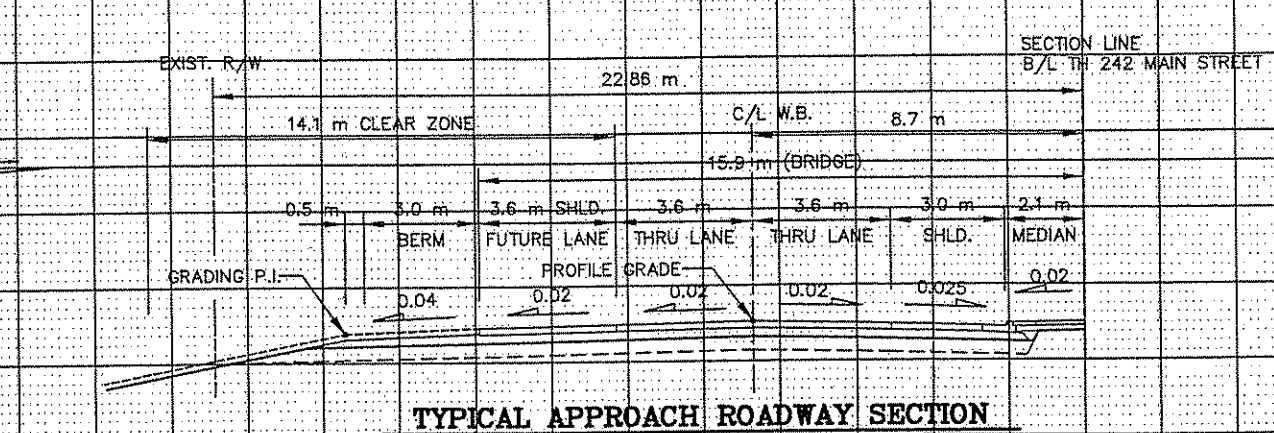
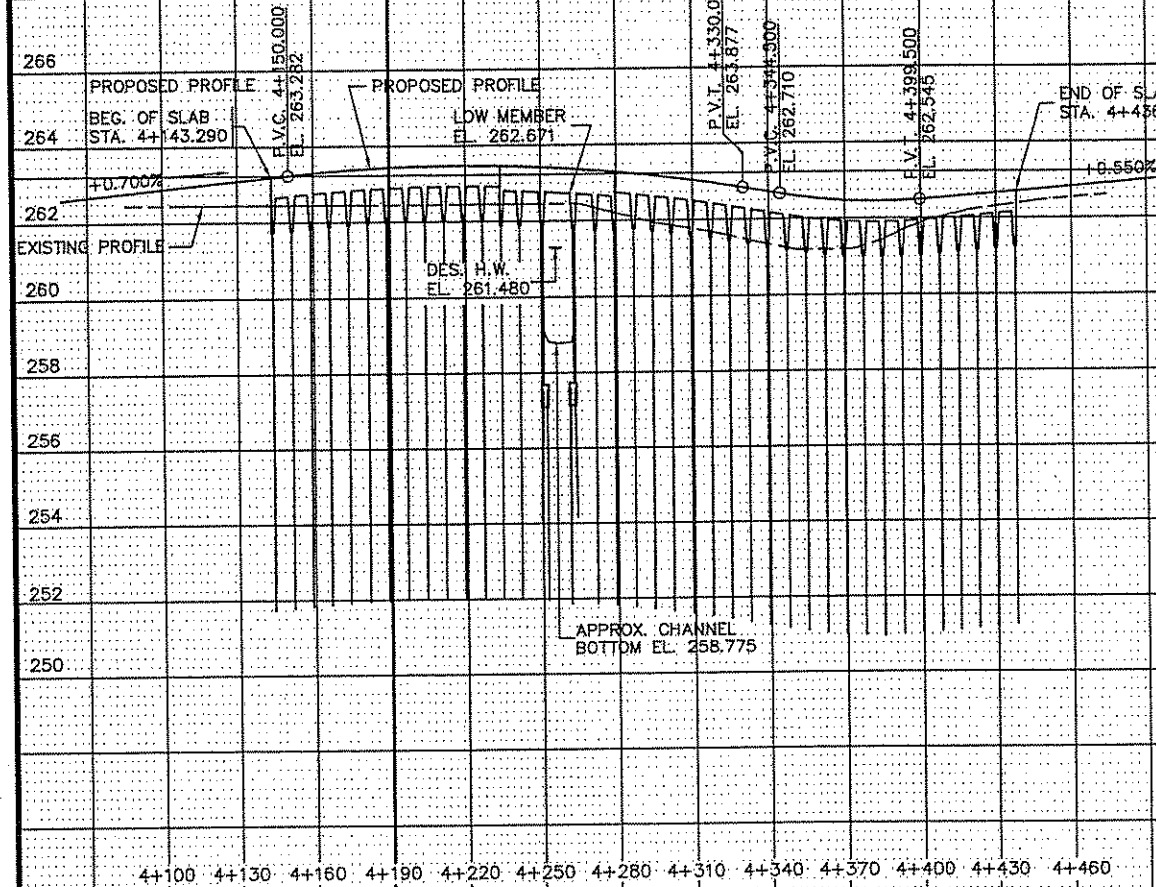
180.000 V.C.
P.I. 4+240.000
EL. 263.912
G1 = +0.7000%
G2 = -1.150%

T.H. 242 PROFILE

55.000 V.C.
P.I. 4+372.000
EL. 262.394
G1 = -1.150%
G2 = +0.550%

TYPICAL SECTION & PERTINENT DATA

SCALES AS SHOWN



Fed. Proj. No.

LOCATION ENGINEER'S OBSERVATIONS AT BRIDGE SITE

- Special Features: Waterfalls, dams, floods, ice, debris, sliding banks, recreational boating.
- Other bridges or culverts over the same stream (particularly structures which carry high water without overflow of roadway): Given location, type, length, height above high water, cross-sectional area etc.
- Apparent highwater elevation _____ Obtained from _____
- Other data: Approx. velocity of water at time of survey _____

HYDRAULIC ENGINEERS RECOMMENDATION
 DATE 4-21-00

Stream or ditch designation COON CREEK
 Drainage area 191.7 km²
 Max. flood on record unkn. Design flood 100 (yr. freq.) 27.3 m³/sec
 Max. observed highwater elev. 261.1 Design tallwater elev. 261.32
 Design mean velocity through structure 1.1 m/sec
 Low superstructure at or above elev. 262.671
 Flowline elev. 258.77 Skew angle 15
 Waterway area req'd below el. 261.32 = 24.9 m² at Rt. angles to channel

In the interest of flood plain zoning the regional flood (500 yr. freq.) is 46.4 m² at stage 261.92 and mean of velocity of 0.14 m/sec. with 0.24 m swellhead.

The above recommendation will provide a structure of adequate waterway to pass the regional flood within criteria established by the Dept. of Natural Resources.

FOUNDATION ENGINEERS RECOMMENDATION
 DATE _____

Bridge survey sheets made from: _____

Bench mark elevation 270.308 (M.S.L. 1928 Adj.)
 Location: STD. DISK ON S.E. COR. EXISTING BRIDGE
 STAMPED 02011 (HWY. 10/47 & T.H. 242)

MINNESOTA
 DEPARTMENT OF TRANSPORTATION

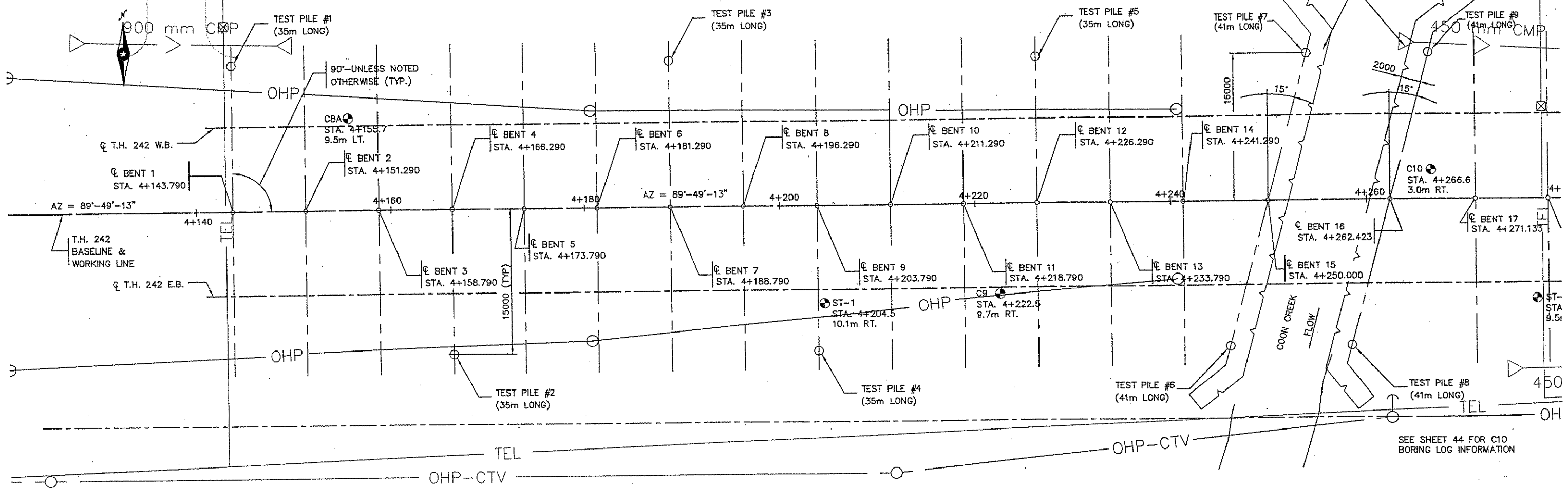
BRIDGE SURVEY

AT MILE POINT _____ ON T.H. 242
 (T.H. C.S.A.H., C.R. etc.)
 PROPOSED BRIDGE LOCATED 0.30 km EAST OF
COON CREEK BLVD. ON T.H. 242
 SEC. 4 TWP. 31 N R. 24 W
 CITY COON RAPIDS COUNTY ANOKA
 BRIDGE NO. 02015

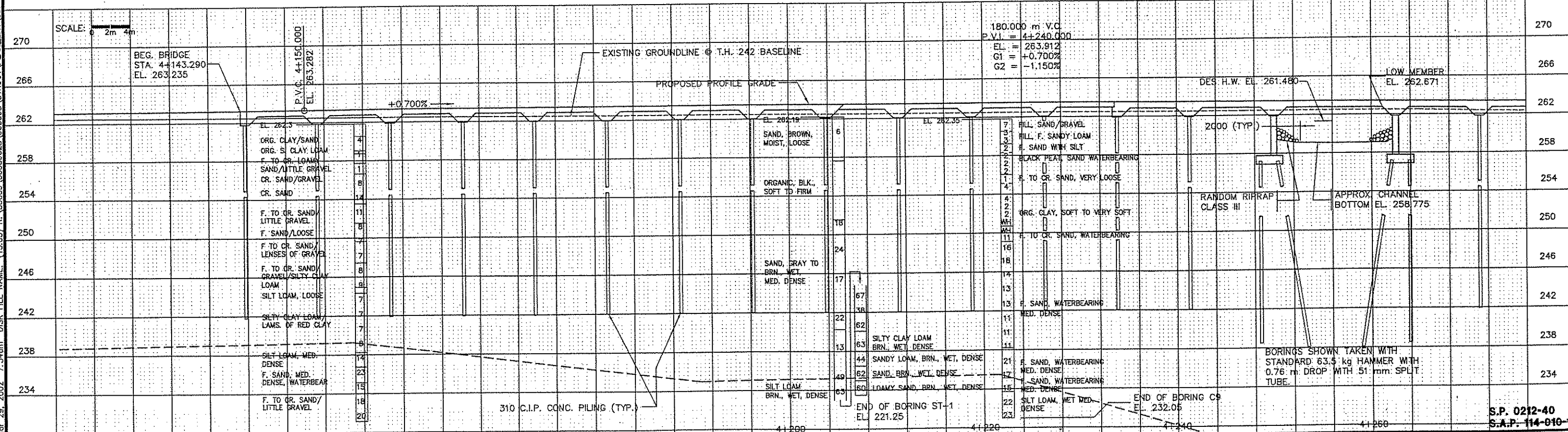
SIGNATURE: David D. Long
 PRINTED NAME: DAVID D. LONG
 DATE: 4/1/02 REG. NO. 24384

PLOT DATE: Mar 29, 2002 7:33am DISK FILE NAME: (15.05) R:\33889\33889028\STRUCT\PLAN_SHT_Sur-1.dwg

SCALE: 0 2m 4m



SCALE: 0 2m 4m



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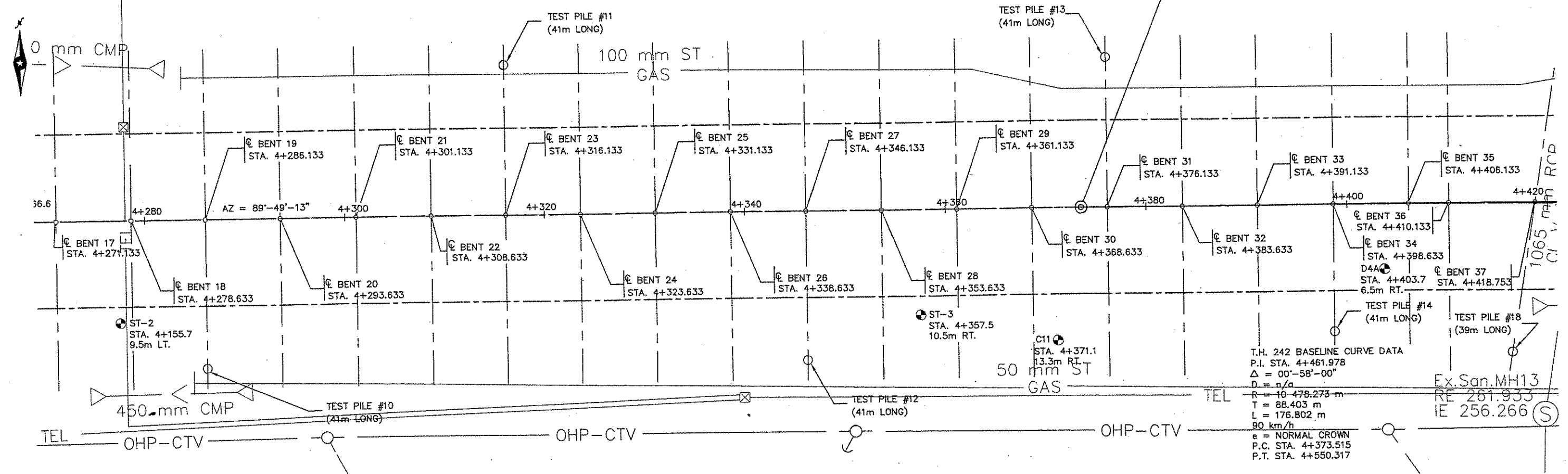
SIGNATURE: *David D. Long*
 PRINTED NAME: DAVID D. LONG
 DATE: 4/1/02 REG. NO. 24384

BRIDGE SURVEY PLAN AND PROFILE

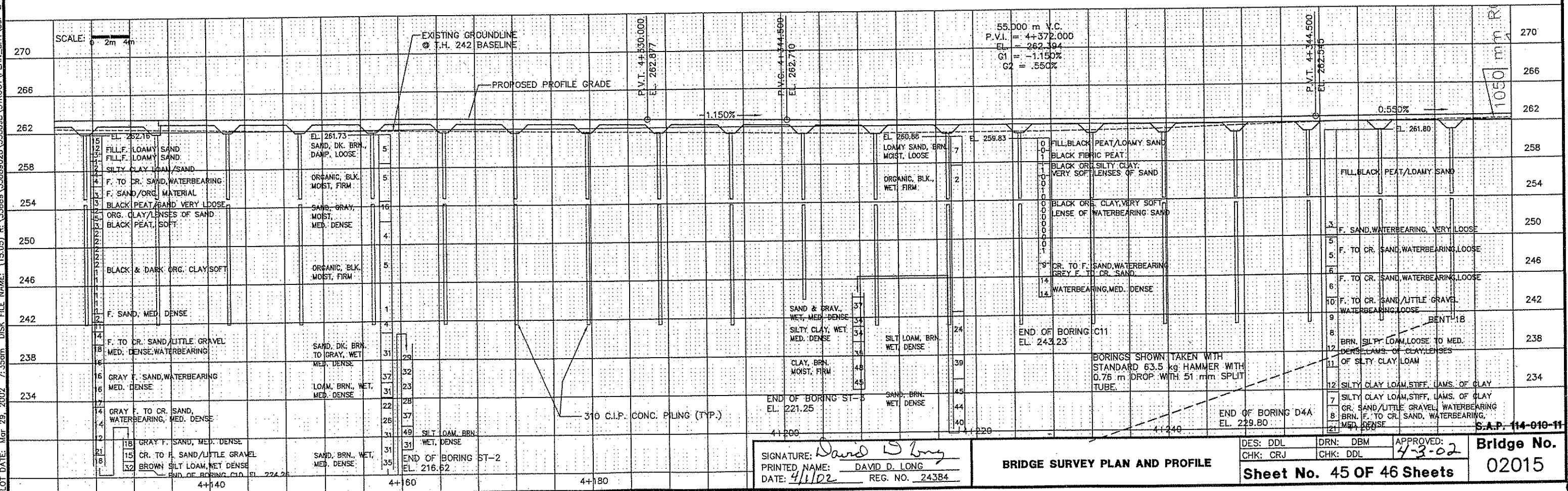
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 CHK: CRJ CHK: DDL
 Sheet No. 44 OF 46 Sheets

S.P. 0212-40
 S.A.P. 114-010-11
 Bridge No. 02015

SCALE: 0 2m 4m



SCALE: 0 2m 4m



PLOT DATE: Mar 29, 2002 7:35am DISK FILE NAME: (15.05) R:\33889\3388902B\STRUCT\PLAN_SHT Sur-2-a.dwg

SIGNATURE: *David D Long*
 PRINTED NAME: DAVID D. LONG
 DATE: 4/1/02 REG. NO. 24384

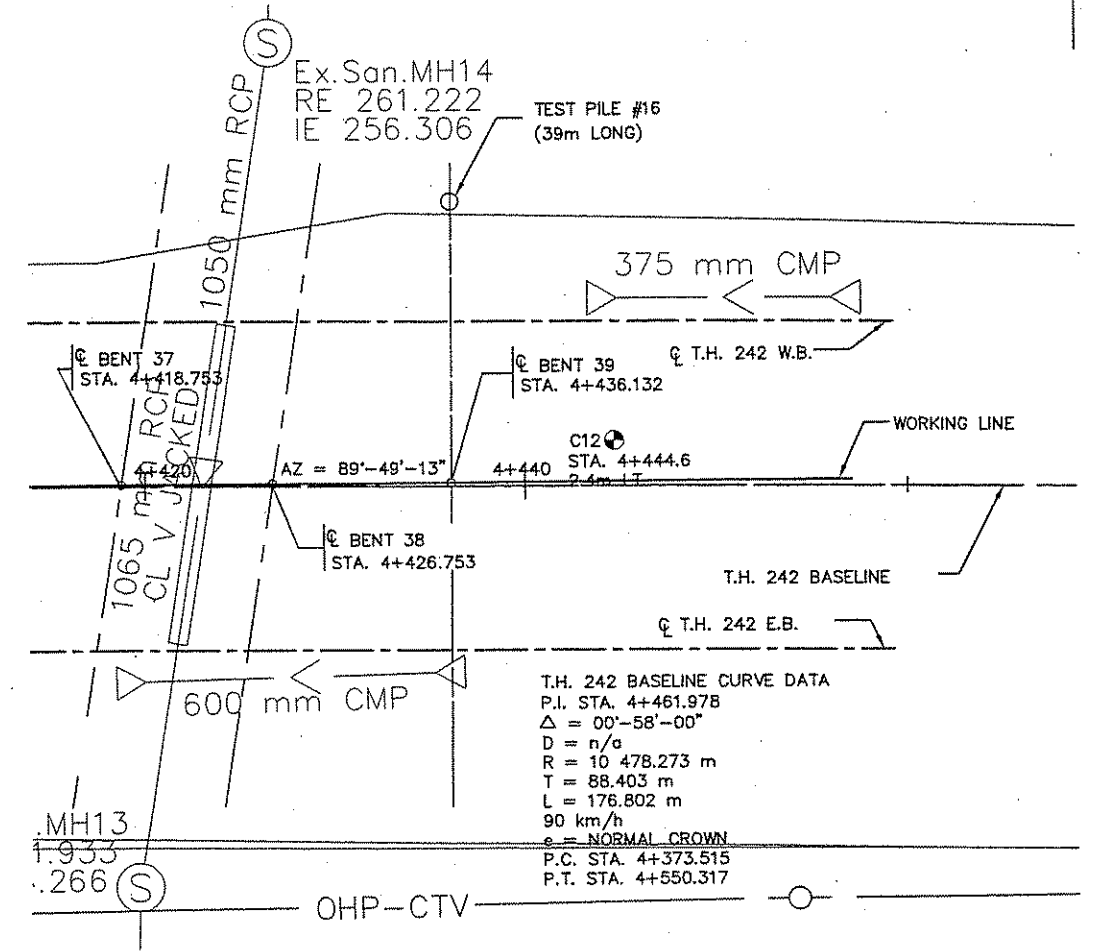
BRIDGE SURVEY PLAN AND PROFILE

DES: DDL DRN: DBM APPROVED: 4-3-02
 CHK: CRJ CHK: DDL

S.A.P. 114-010-11
 Bridge No. 02015

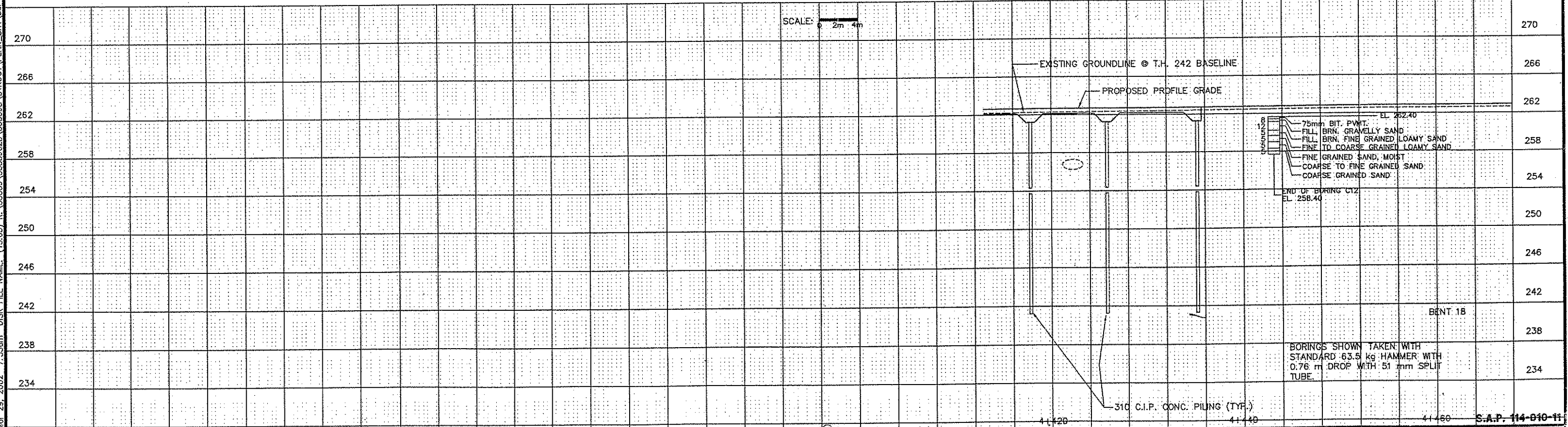
Sheet No. 45 OF 46 Sheets

SCALE: 0 2m 4m



PLOT DATE: Mar 29, 2002 7:35am DISK FILE NAME: (15.05) R:\33889\33889028\338898\STRUCT\PLAN_SHT\Sht-2-08.dwg

SCALE: 0 2m 4m



SIGNATURE: *David D. Long*
 PRINTED NAME: DAVID D. LONG
 DATE: 4/1/02 REG. NO. 24384

BRIDGE SURVEY PLAN AND PROFILE

DES: DDL DR: DBM APPROVED: 4-3-02
 CHK: CRJ CHK: DDL
 Sheet No. 46 OF 46 Sheets

Bridge No. 02015