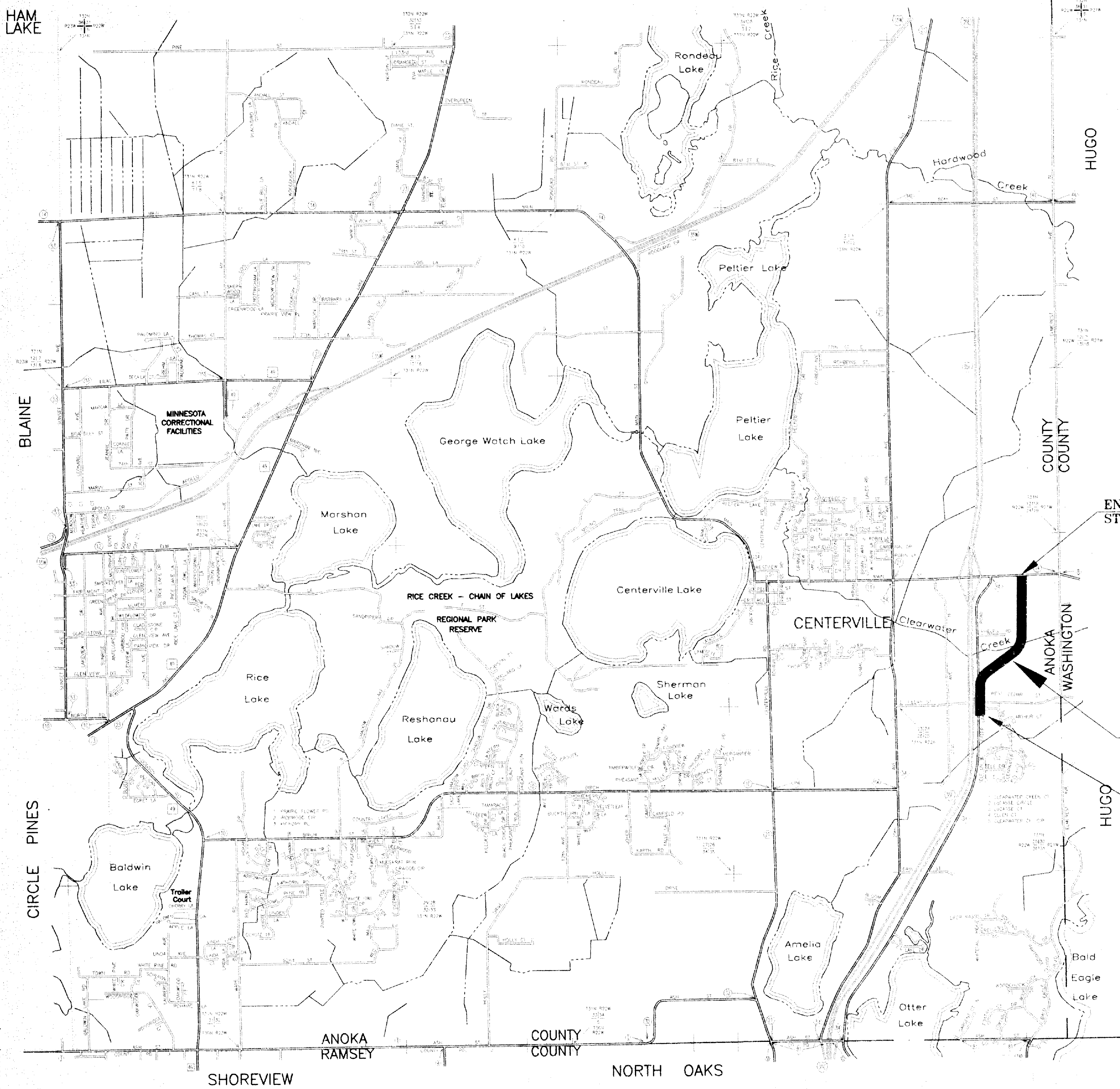


CITY OF LINO LAKES MINNESOTA

OTTER LAKE ROAD REALIGNMENT UTILITY & STREET IMPROVEMENTS COMM. NO. 11085-02

LIST OF DRAWINGS

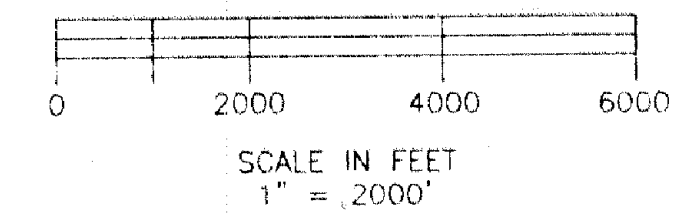
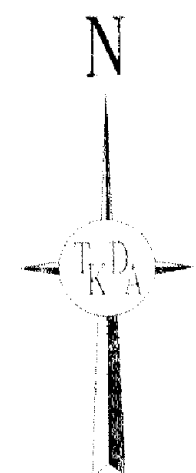
DWG. NO.	DESCRIPTION
1	TITLE SHEET
2	ESTIMATED QUANTITIES, LEGEND
3	SEWER CONSTRUCTION CHARTS
4	TYPICAL SECTIONS AND DETAILS
5-6	DETAILS
7	POND OUTLET STRUCTURE DETAILS
8	EROSION CONTROL PLAN
9	EXISTING CONDITIONS & REMOVALS
10	OLD OTTER LAKE ROAD - Otter Lk. Rd. to 500' North SANITARY SEWER AND WATERMAIN
11	OTTER LAKE ROAD - Old Otter Lk. Rd. to Main St. SANITARY SEWER & WATERMAIN
12-15	OTTER LAKE ROAD - 500' S. of Cedar St. to Main St. STREET & STORM SEWER
16	OLD OTTER LAKE ROAD - Otter Lk. Rd. to Main St. STREET & STORM SEWER
17	SUPERELEVATION PLAN
18	POND DEVELOPMENT & GRADING PLAN
19	LANDSCAPING PLAN
20-21	PAVEMENT SIGNING AND STRIPING PLAN
22-29	OTTER LAKE ROAD - Cedar St. to Main St. CROSS SECTIONS
30	OLD OTTER LAKE ROAD - Otter Lk. Rd. to Main St. CROSS SECTIONS
31	EARTHWORK TABULATION



END CP 96-07-84
STA. 55+67.52

**PROJECT
LOCATION**

BEGIN CP 96-07-84
STA. 4+82



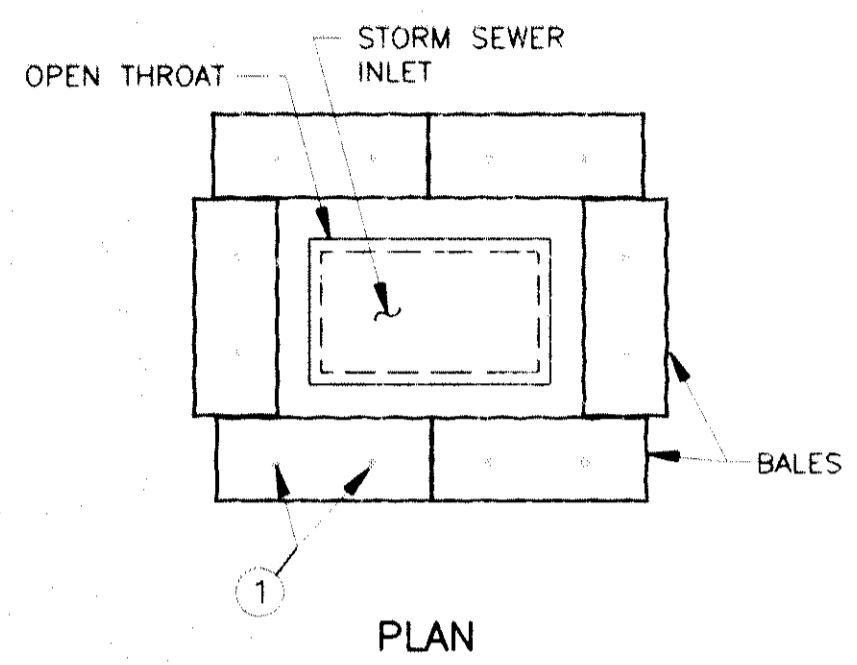
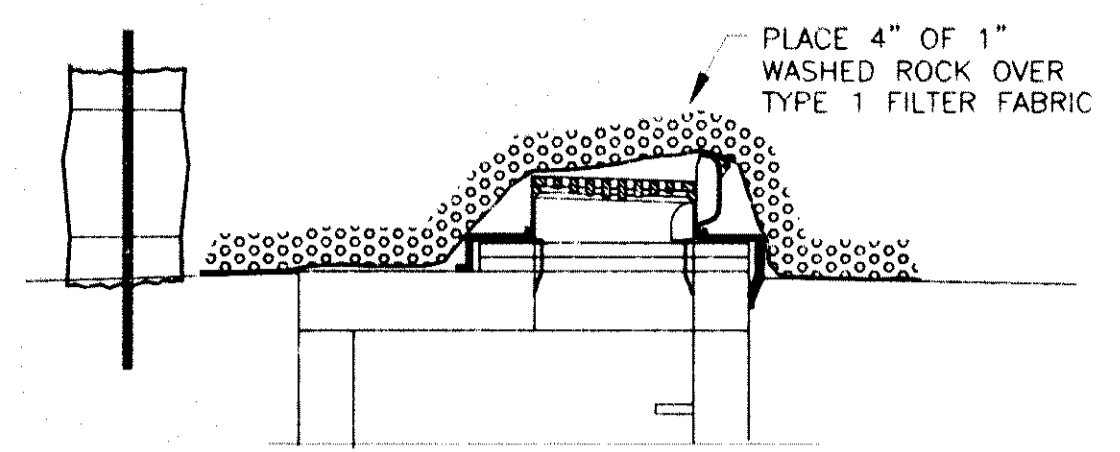
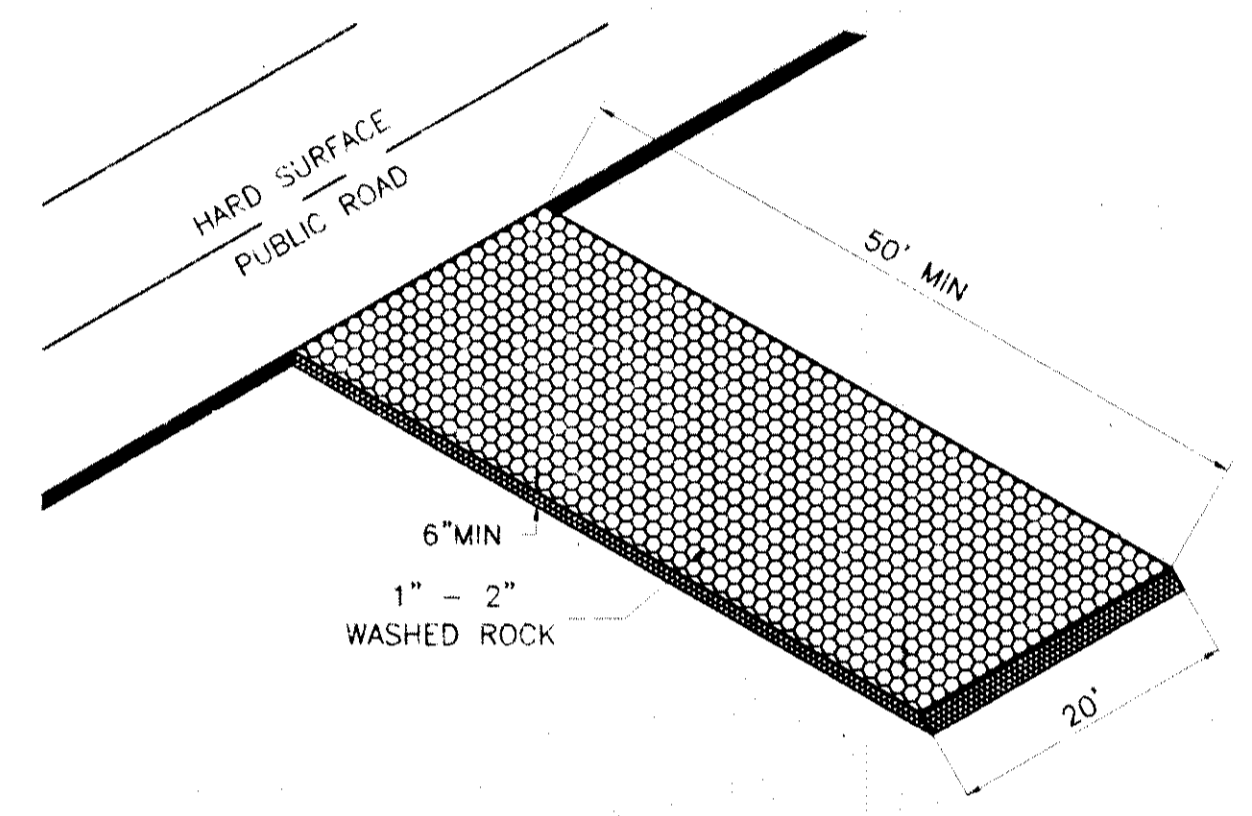
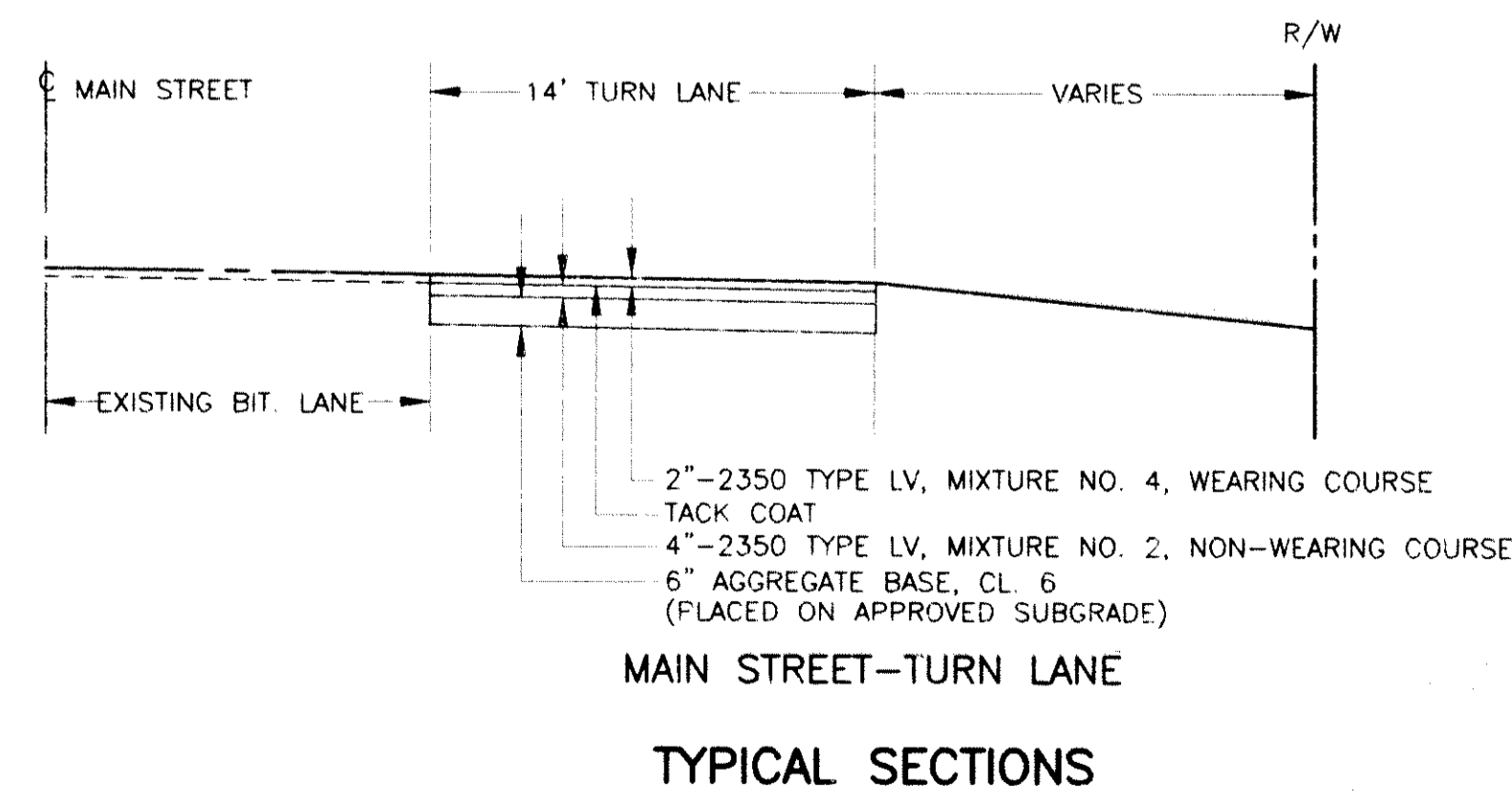
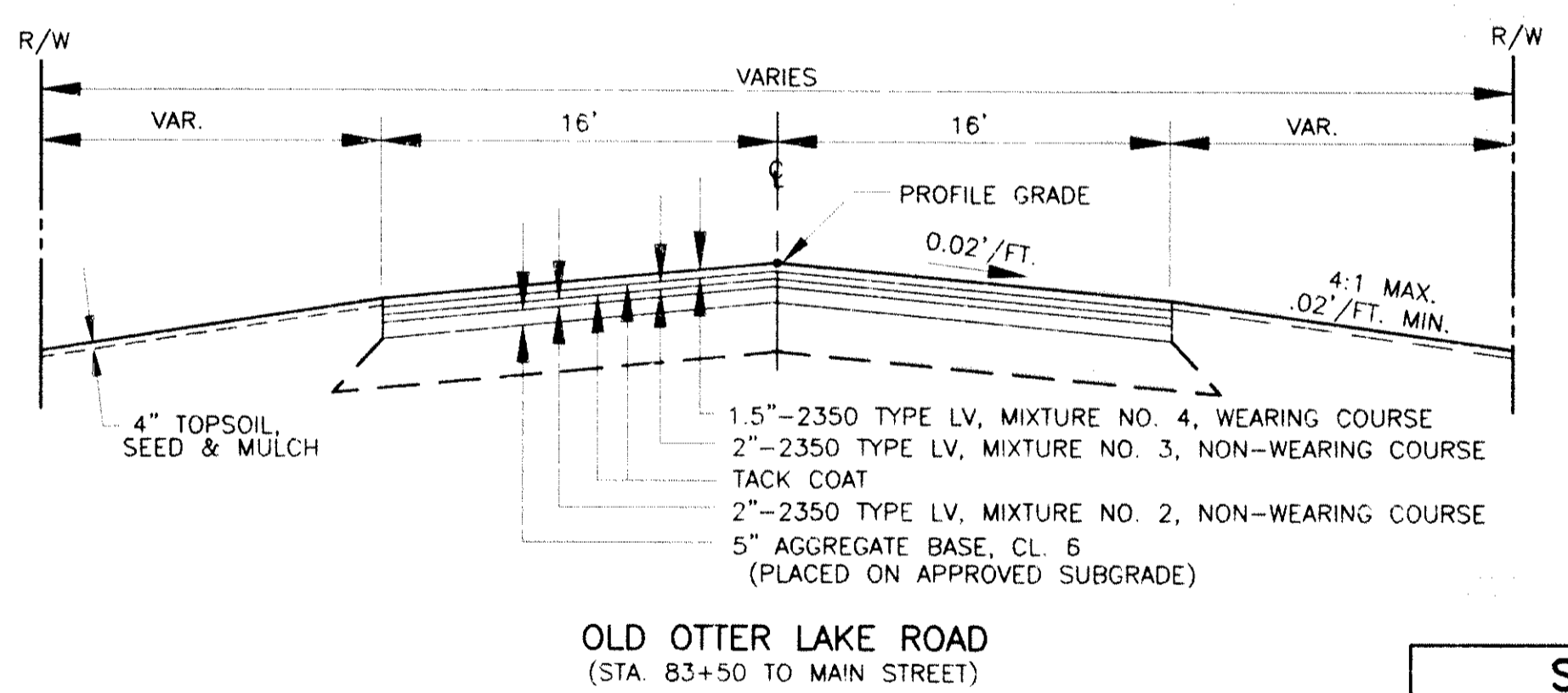
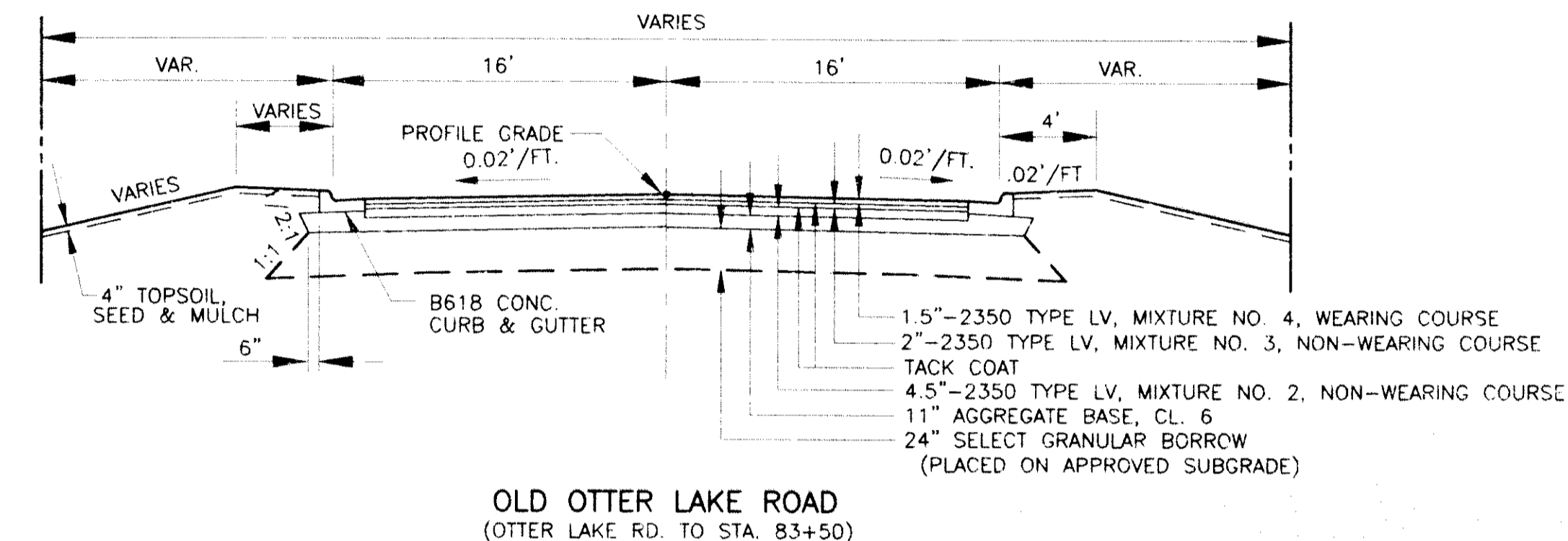
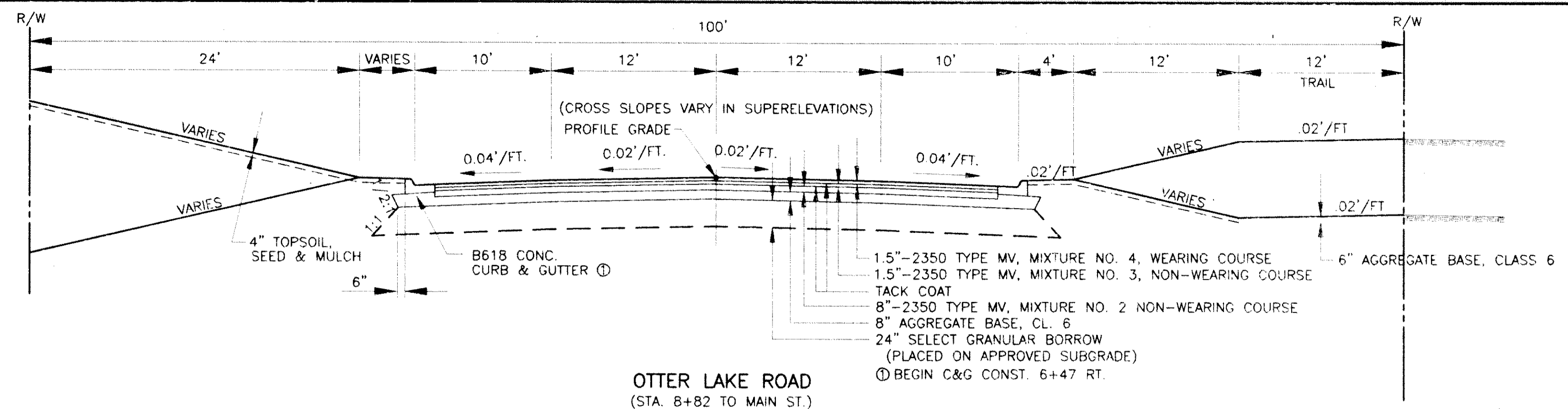
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

DATE 7/6/98 REG. NO. 20834 APPROVED - ANOKA COUNTY ENGINEER DATE

CITY OF LINO LAKES

TKDA
ENGINEERS • ARCHITECTS • PLANNERS
TOLTZ, KING, DUVALL, ANDERSON AND ASSOCIATES INCORPORATED
SAINT PAUL, MINNESOTA

PLOT DATE: 07/30/1998 DWG. NO.: 11085-02-01 DWG. XREF: 11085-02-01.DWG



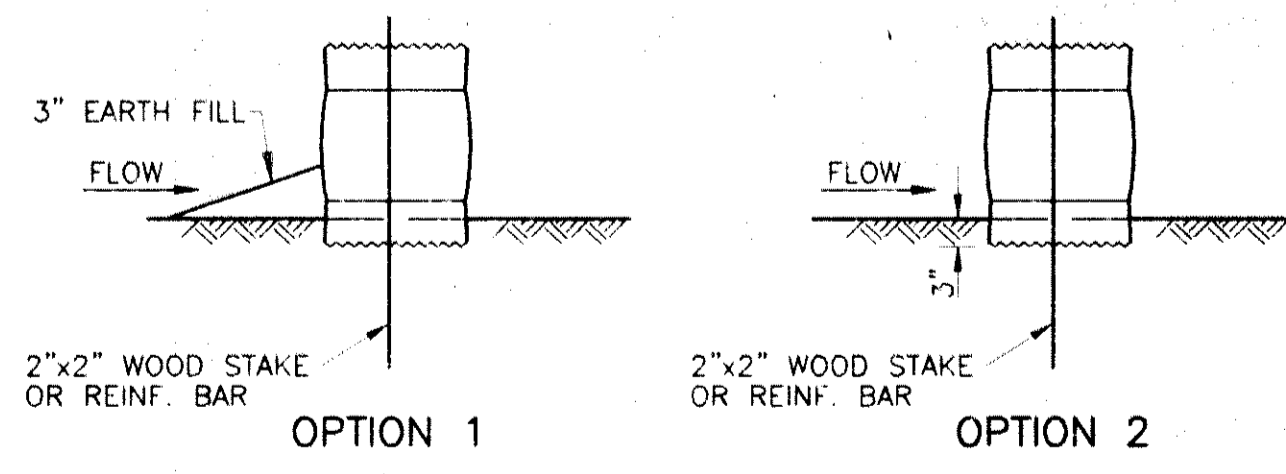
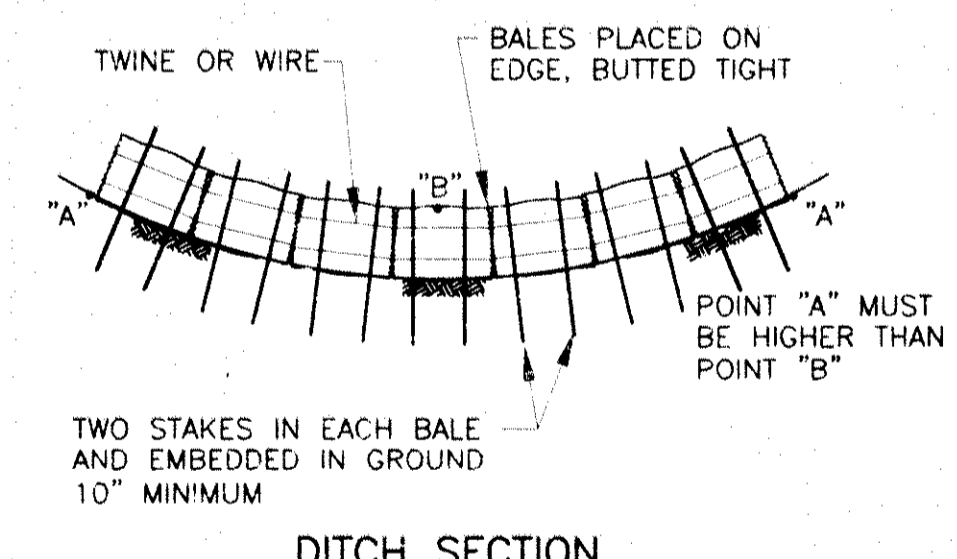
NOTE:
PLACE 2 EA-2"x2" WOOD STAKES OR REINFORCING BARS IN EACH BALE, EMBEDDED IN THE GROUND 10" MINIMUM.

BALE CHECK FOR STORM SEWER INLET

THESE STANDARD PLATES AS APPROVED BY FHWA SHALL APPLY

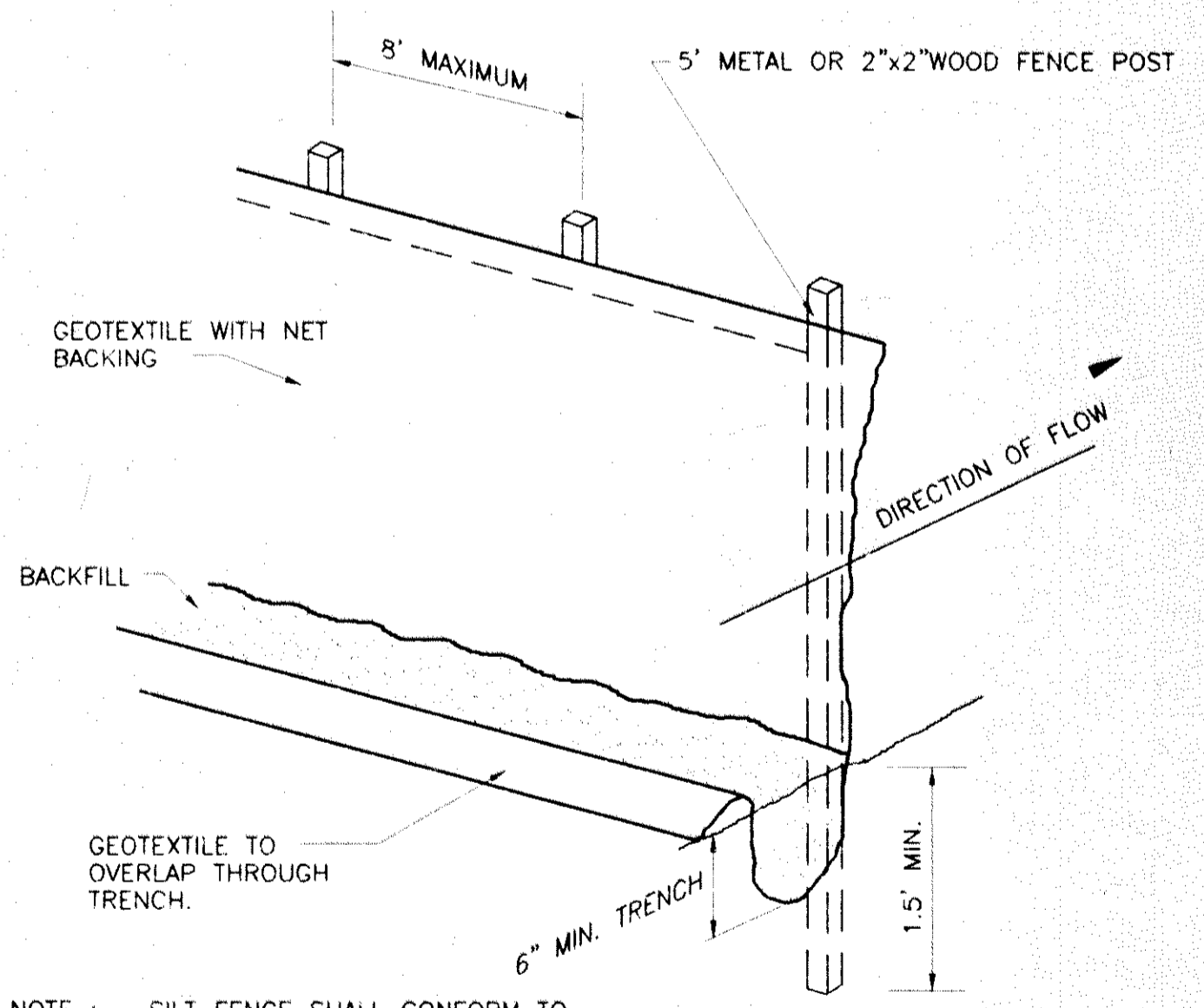
MnDOT PLATE NO.	STANDARD DETAIL
3000L	REINFORCED CONCRETE PIPE
3006G	GASKET JOINT FOR R.C. PIPE
3014J	REINFORCED CONCRETE PIPE ARCH
3100G	CONCRETE APRON FOR R.C. PIPE
3110G	CONCRETE APRON FOR R.C. PIPE-ARCH
3133C	RIPRAP AT RCP OUTLETS
3145E	CONCRETE PIPE TIES
4010H	CONCRETE ADJUSTING RING
4011E	PRECAST CONCRETE BASE
4180J	MANHOLE OR CATCH BASIN STEP
7100G	CONCRETE CURB AND GUTTER, DESIGN B
7111J	INSTALLATION AND REINFORCEMENT OF CATCH BASIN CASTINGS
8000I	STANDARD BARRICADES
8307P	STEEL PLATE BEAM GUARDRAIL
8329F	BREAKAWAY CABLE TERMINAL (ELT)

MANHOLE CASTINGS: NEENAH R-1642, TYPE "B", OR EQUAL
CATCH BASIN CASTINGS: NEENAH R-3250-A, OR EQUAL



BALE SECTION

DITCH CHECK (HAY OR STRAW)



NOTE:
-SILT FENCE SHALL CONFORM TO MNDOT 3886, TYPE B.
-FENCING SHALL BE PLACED ALONG CONTOURS OR AS DIRECTED BY ENGINEER.

PLOT DATE: 07/20/1998 DWG. K. MUNI\QTY\LINK\C1198502.DWG\SH4.DWG XREF.

NO.	DATE	BY	DESCRIPTION OF REVISIONS

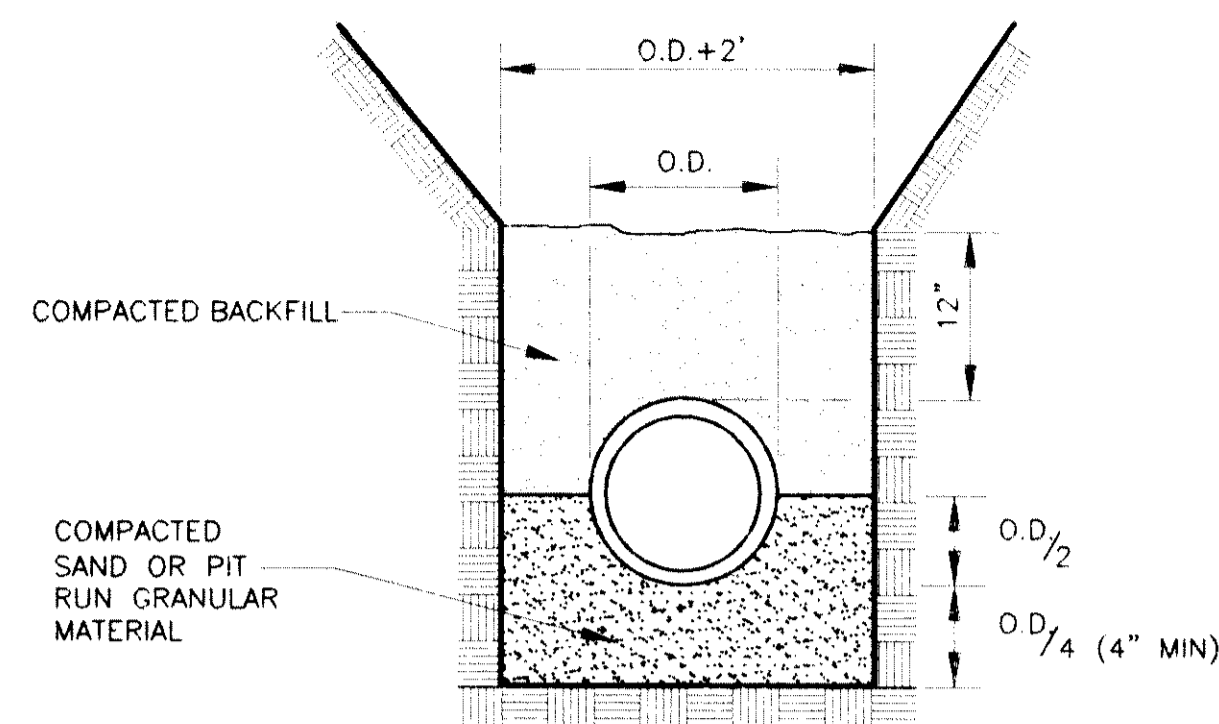
DESIGNED: JMP, RDJ
DRAWN: RDJ
CHECKED: JMP
DATE: 7/6/98
REC. NO.: 20834

TKDA
ENGINEERS • ARCHITECTS • PLANNERS
TOLTE, KING, DUVALL, ANDERSON AND ASSOCIATES, INCORPORATED
SAINT PAUL, MINNESOTA

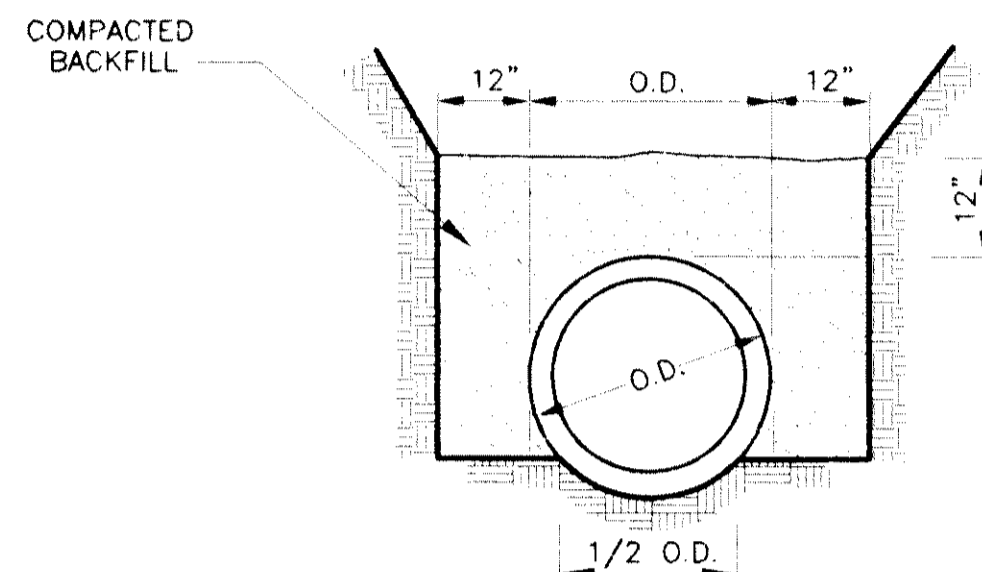
OTTER LAKE ROAD REALIGNMENT
UTILITY & STREET IMPROVEMENTS
MINNESOTA
LINO LAKES

TYPICAL SECTIONS & DETAILS
SHEET NO. 4 OF 31 SHEETS

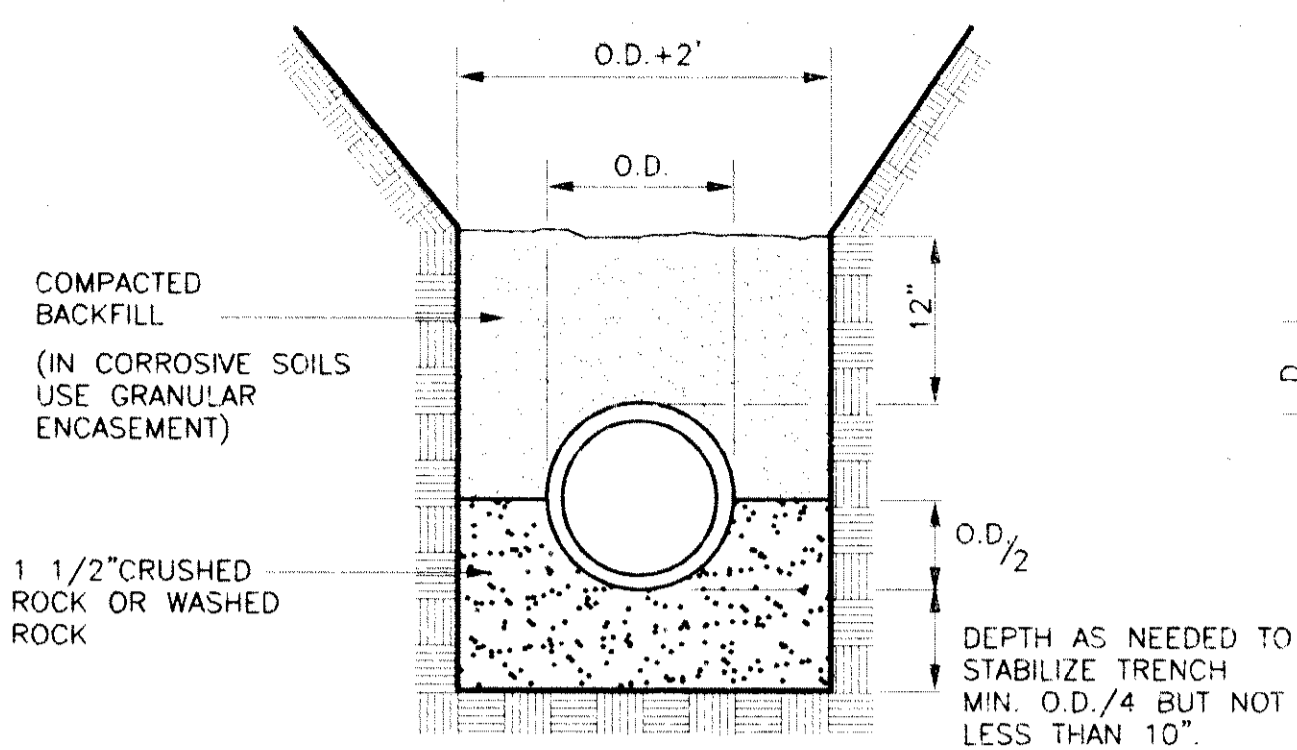
COMMISSION NO.
11085-02



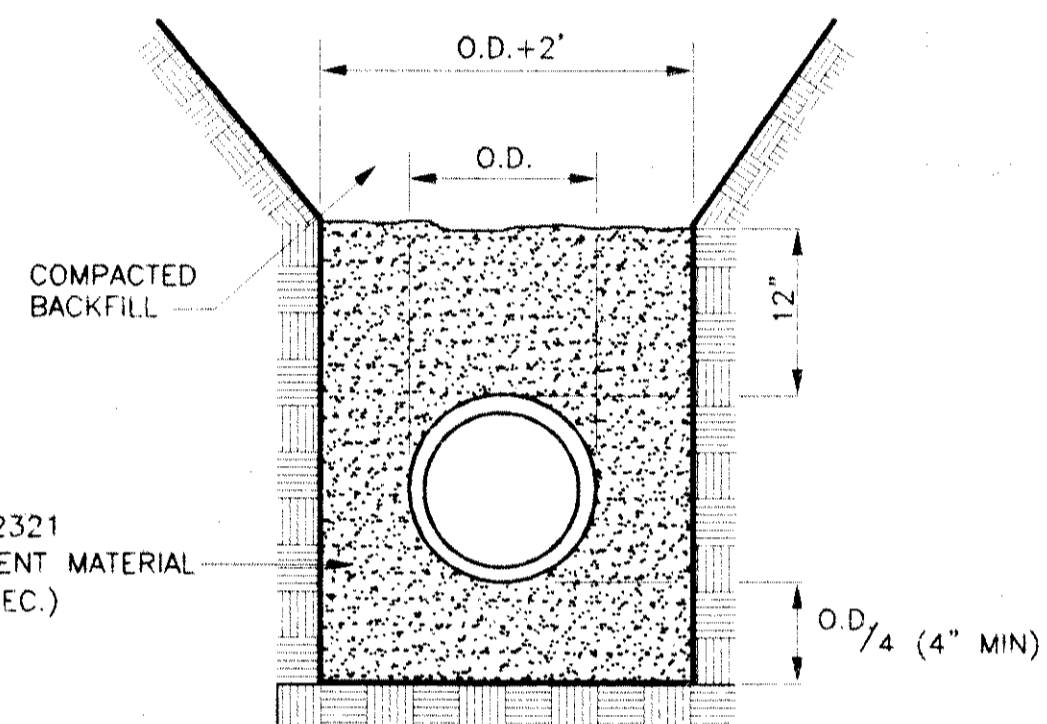
GRANULAR MATERIAL BEDDING



EARTH FOUNDATION
PIPE FOUNDATION DETAILS



SPECIAL FOUNDATION FOR
STABILIZING OR DEWATERING OF TRENCH

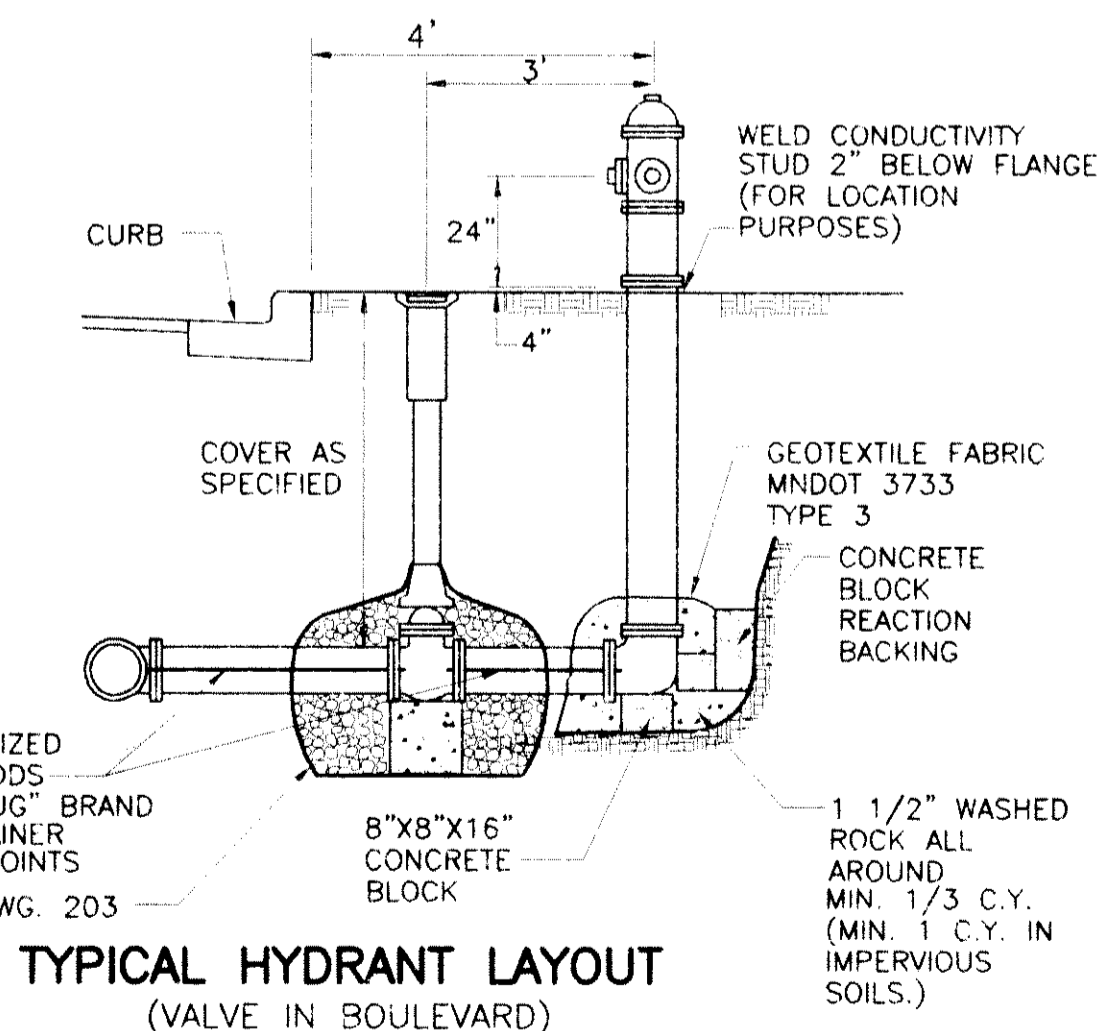
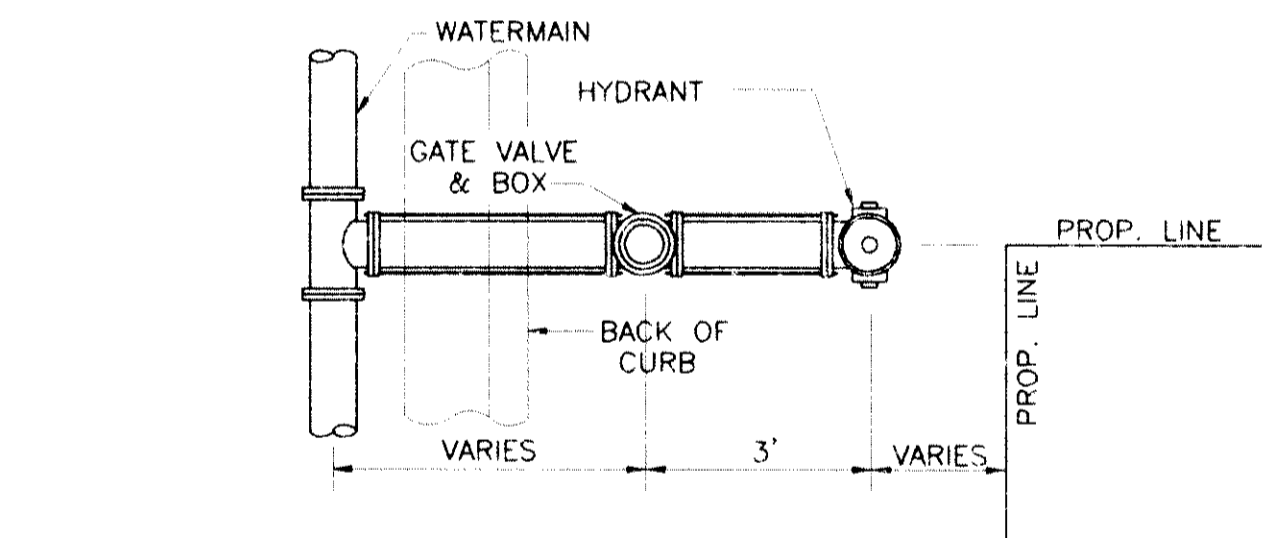


* ASTM D2321
EMBEDMENT MATERIAL
(SEE SPEC.)

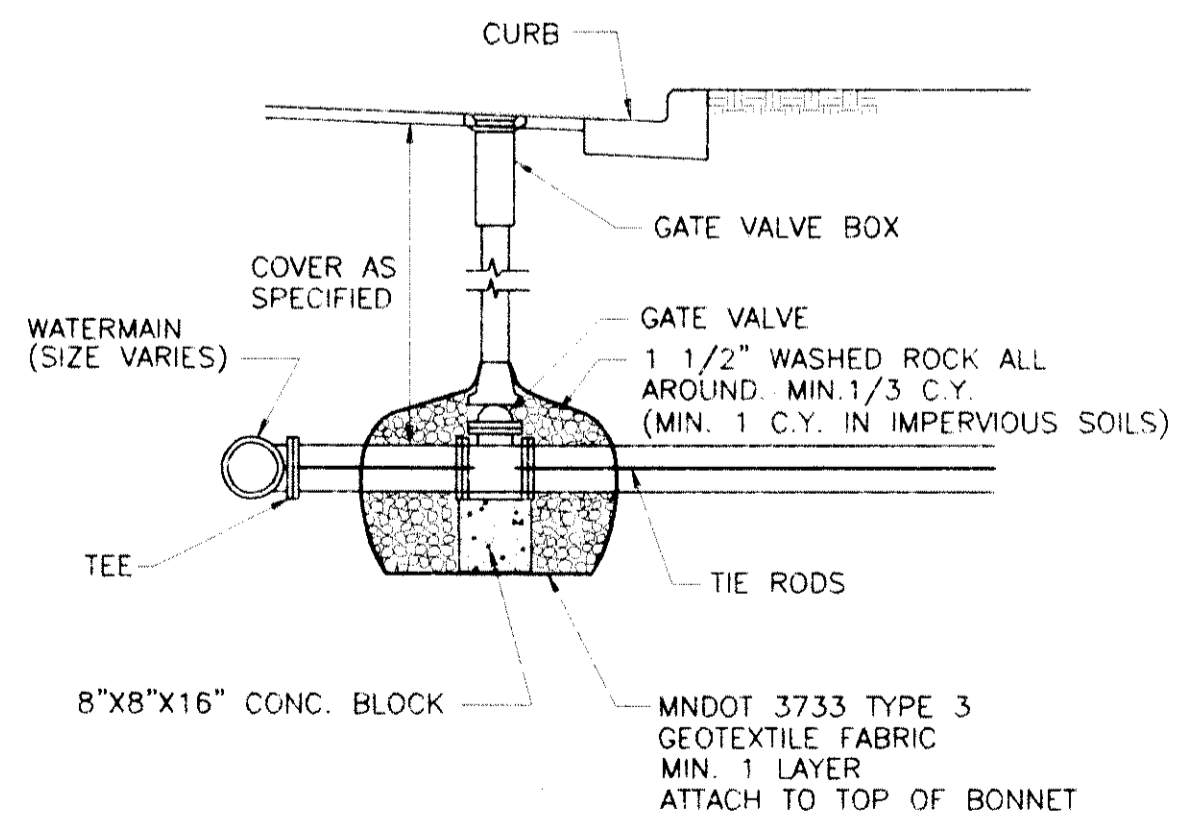
PIPE INSTALLATION IN
ACCORDANCE WITH ASTM D 2321, TABLE 2.

* EMBEDMENT MATERIAL SHALL CONFORM TO ASTM D2321, TABLE 1.

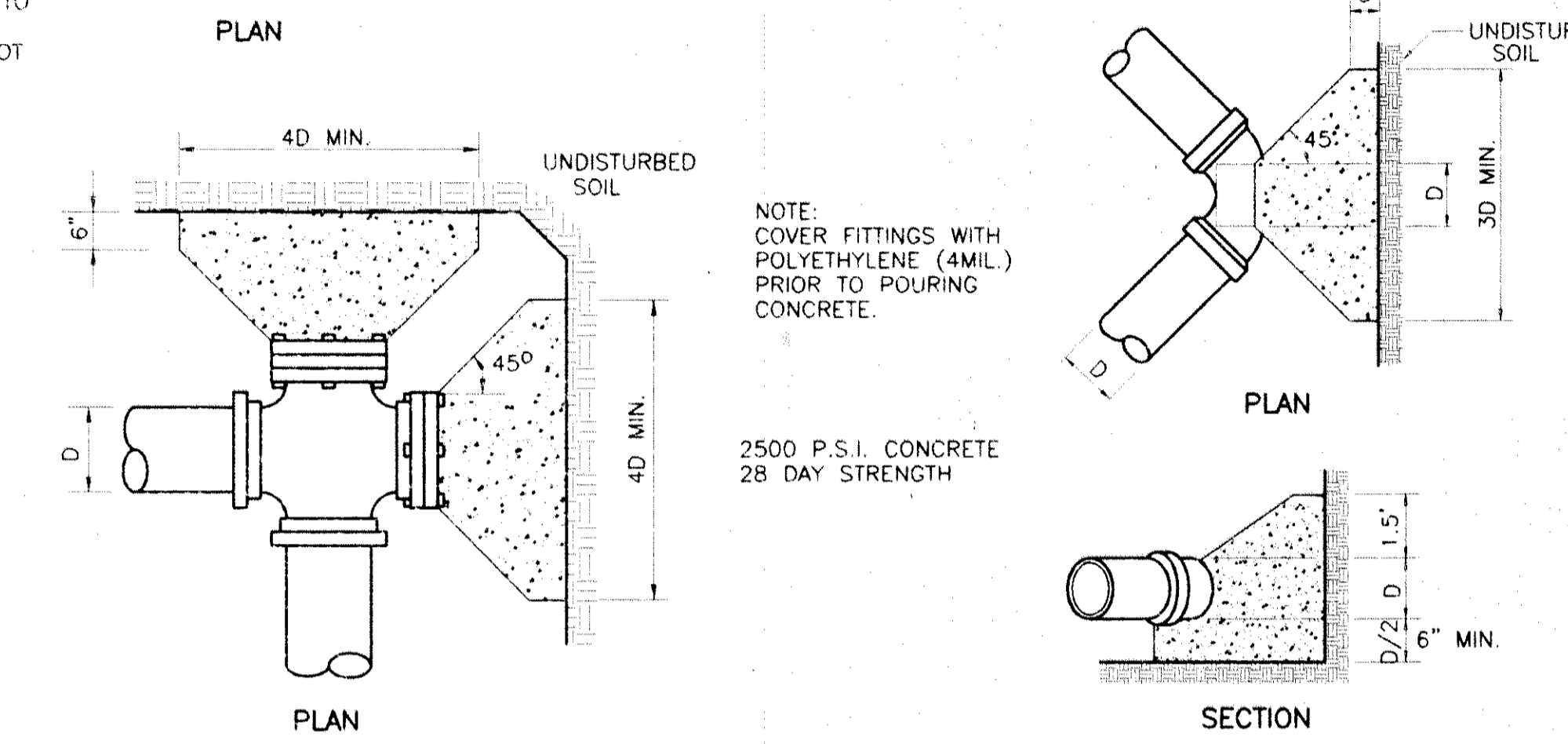
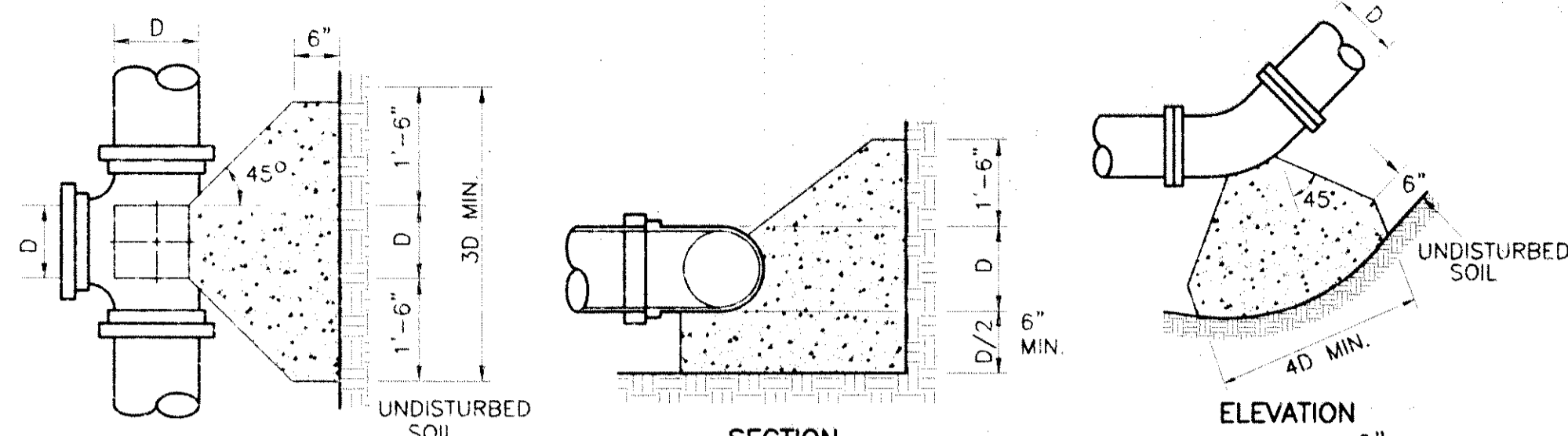
GRANULAR MATERIAL BEDDING METHOD
(FOR PVC PIPE)



TYPICAL HYDRANT LAYOUT
(VALVE IN BOULEVARD)



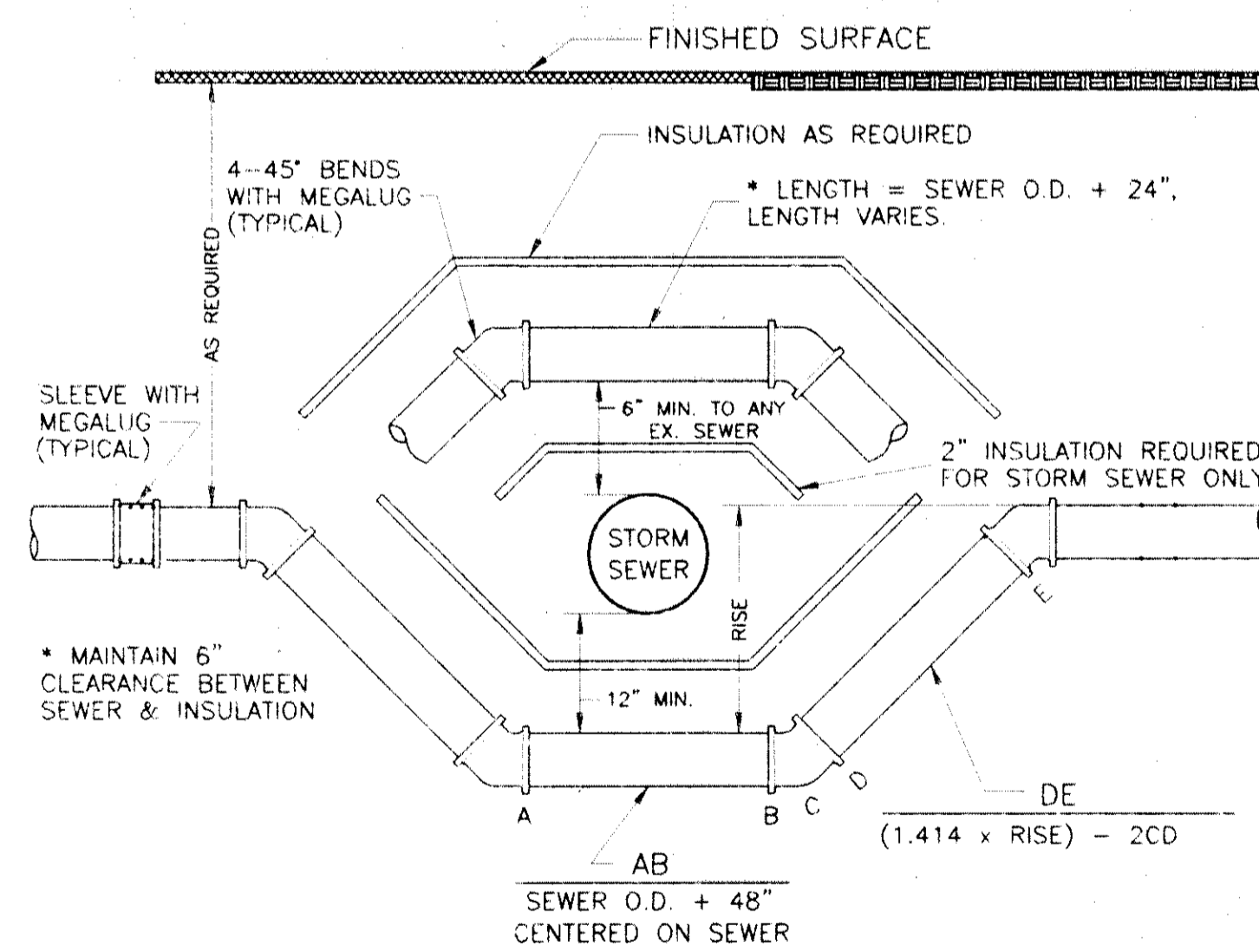
GATE VALVE INSTALLATION



CONCRETE REACTION BACKING

(FOR TEES AND CROSSES)

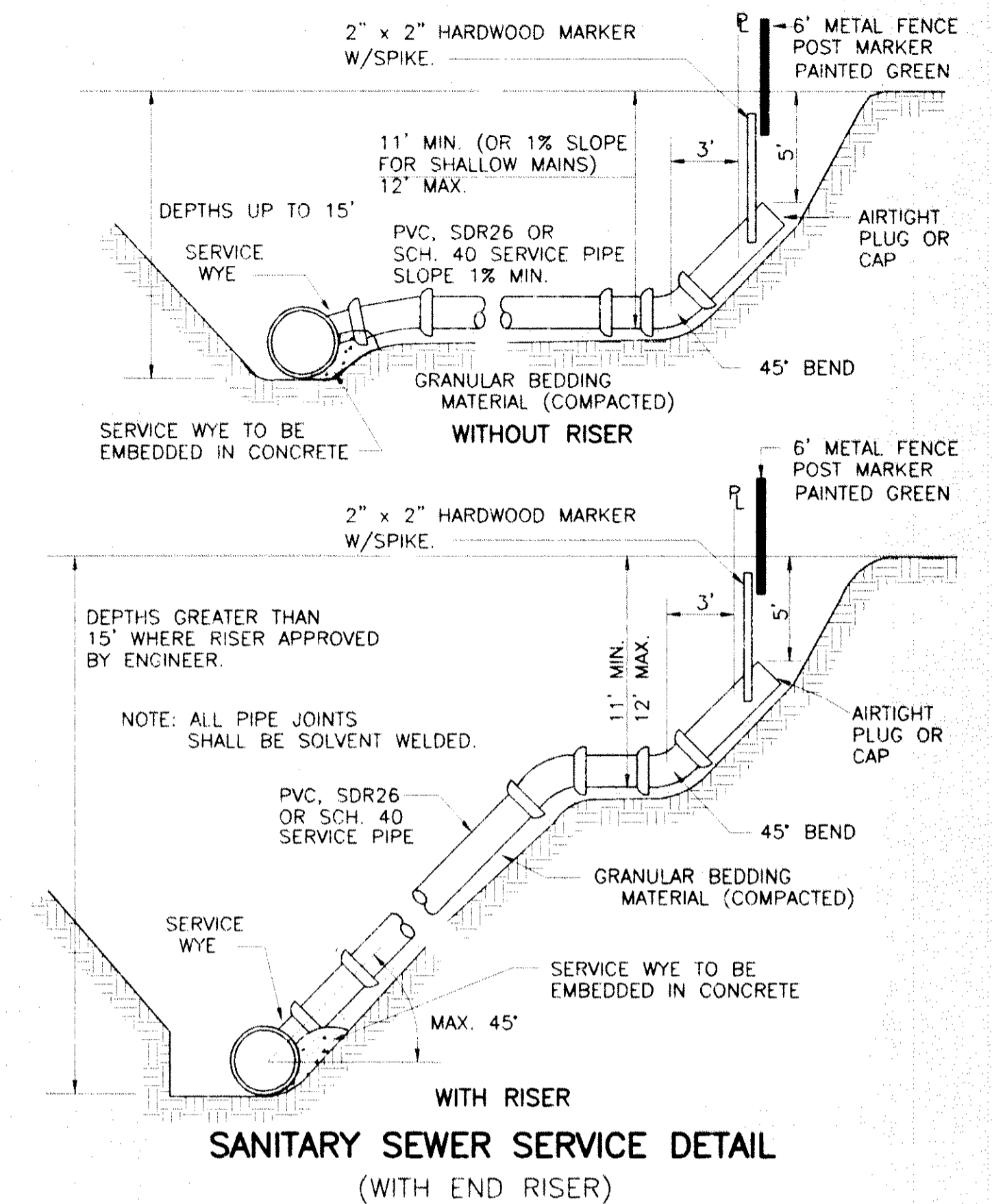
(FOR BENDS)



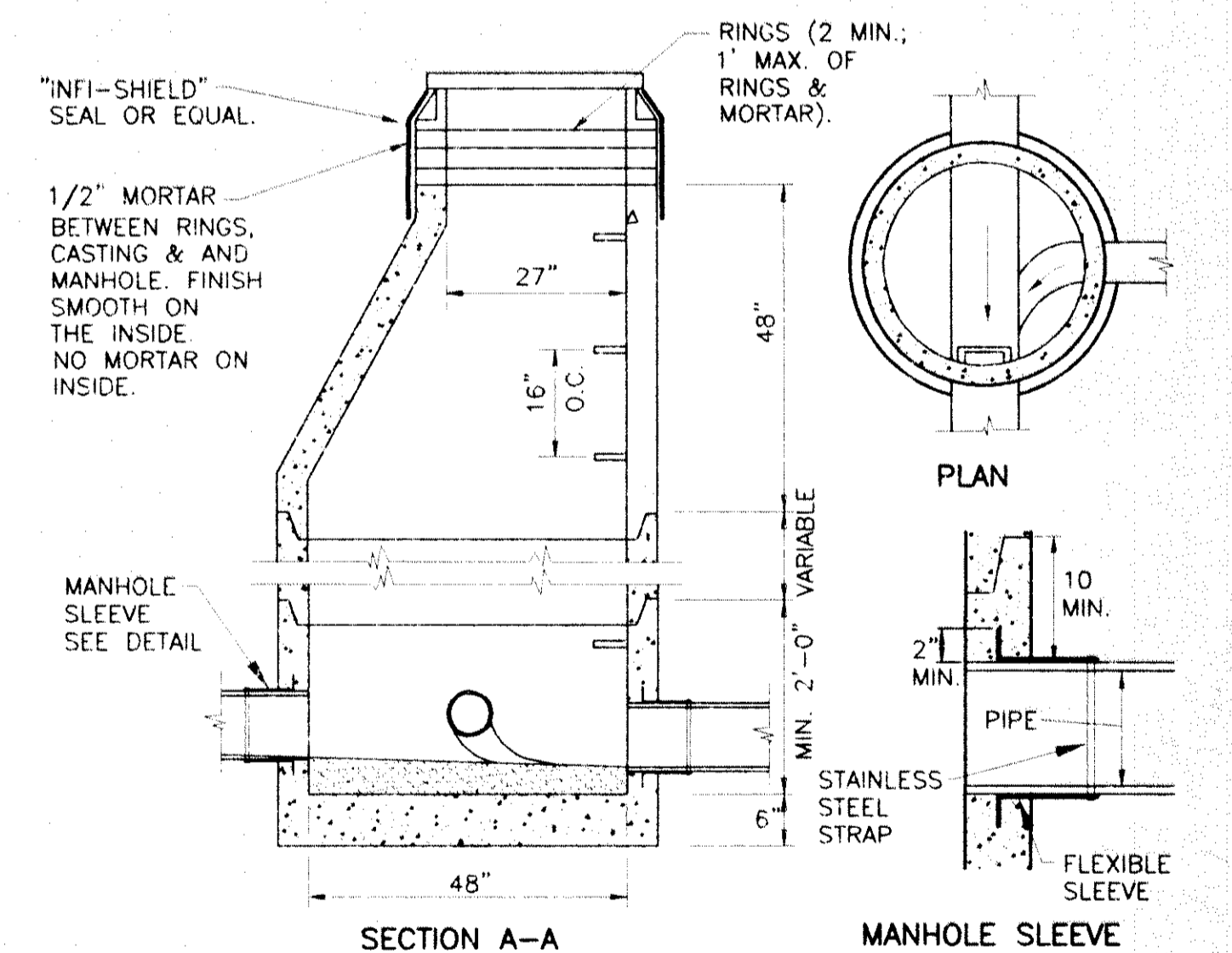
WM DIA.	CD(STD. CIP)	CD(COMPACT DIP)
6"	5"	3"
8"	5.5"	3.5"
12"	7.5"	5.5"
16"	8"	5.5"

*FOR RESTRAINED PIPE LENGTHS ON EACH SIDE OF BENDS SEE PLATE D-11

WATERMAIN OFFSET DETAIL



SANITARY SEWER SERVICE DETAIL
(WITH END RISER)



SANITARY SEWER MANHOLE, TYPE 301
(PIPES 27" OR LESS)

NO WOOD SHALL BE USED FOR ADJUSTING CASTING; CEMENT MORTAR ONLY.
CAST IRON MANHOLE FRAME & COVER AS PER SPECIFICATIONS.
MANHOLE STEPS SHALL BE CAST IRON, ALUMINUM OR STEEL REINFORCED PLASTIC, PER ASTM C478. STEP LOCATION SHALL BE AS NOTED IN THE SPECIFICATIONS.
MANHOLES 20" DEEP AND OVER TO BE CONSTRUCTED WITHOUT STEPS.
PRECAST REINFORCED CONCRETE MANHOLE SECTIONS PER ASTM C478, FURNISHED WITH O-RING GASKETS AND LUBRICANT EXCEPT AS OTHERWISE SPECIFIED.
A 12" OR 16" BARREL SECTION SHALL BE INSTALLED UNDER THE CONE WHENEVER POSSIBLE.
PIPE CONNECTIONS TO MANHOLE SHALL BE MADE WATER TIGHT BY CAST INPLACE RUBBER BOOT AND CEMENT MORTAR INSIDE SURFACE SHALL BE FINISHED SMOOTH.

PLOT DATE: 07/20/1998 DWG. K. WUM/CITY/LINO/C1108502.DWG/SHS.DWG
FIELD BOOK:

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DESIGNED JMP,RDJ	DRAWN RDJ	I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A FULLY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA	
CHECKED JMP	DATE 7/6/98	REG. NO. 20834	

TKDA

ENGINEERS • ARCHITECTS • PLANNERS

TOLTE, KING, DUVALL, ANDERSON
AND ASSOCIATES, INCORPORATED
SAINT PAUL, MINNESOTA

OTTER LAKE ROAD REALIGNMENT
UTILITY & STREET
IMPROVEMENTS

LINO LAKES

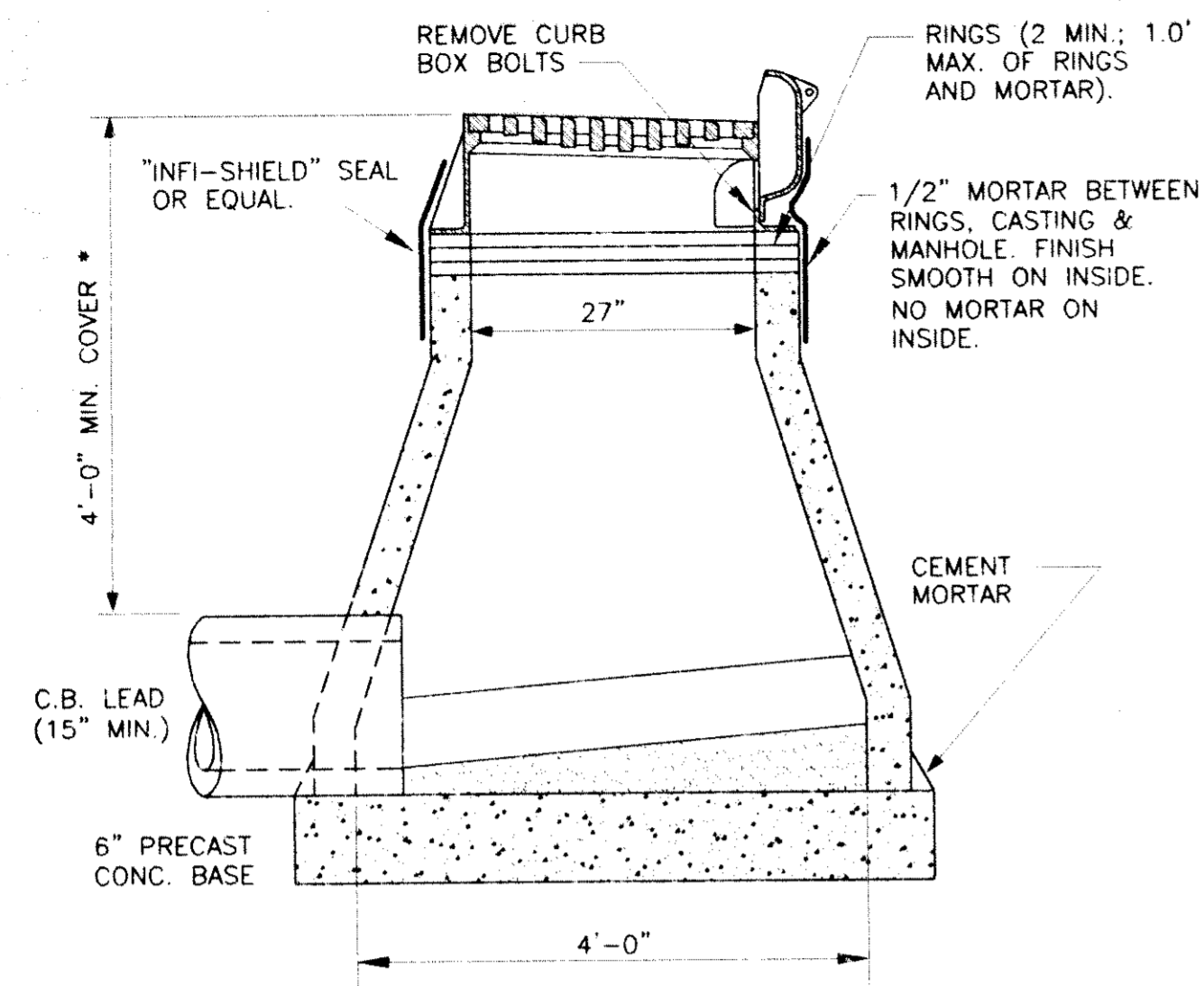
MINNESOTA

DETAILS

SHEET NO. 5 OF 31 SHEETS

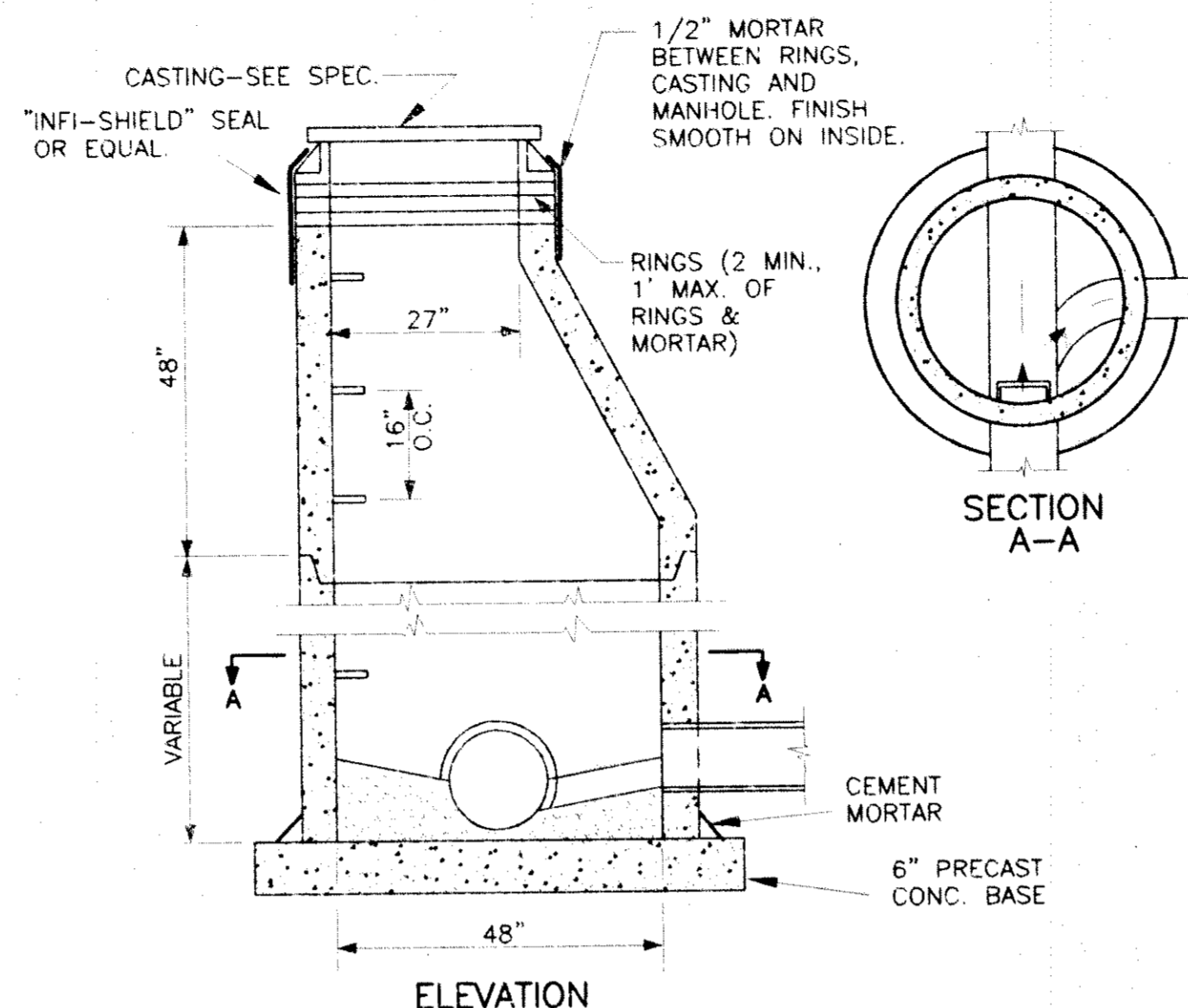
COMMISSION NO.

11085-02



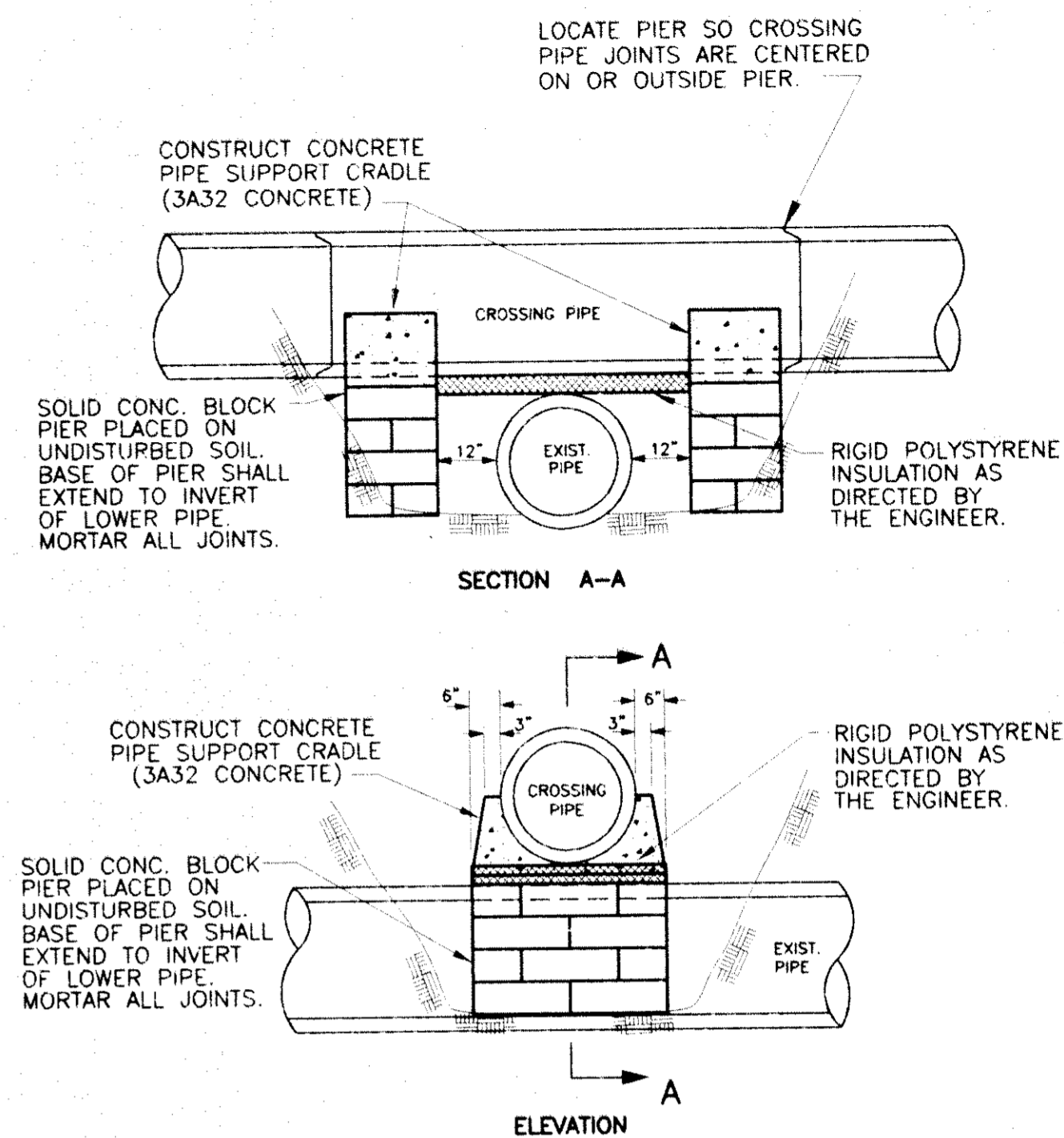
NO WOOD SHALL BE USED FOR ADJUSTING CASTING; CEMENT MORTAR ONLY.
 CAST IRON CATCH BASIN FRAME & COVER CASTINGS PER SPECIFICATIONS.
 PRECAST REINFORCED CONCRETE CONE SECTION & PRECAST BASE PER ASTM C478.
 FILL OPENING BETWEEN PIPE AND MANHOLE WALL WITH CEMENT MORTAR INSIDE SURFACE SHALL BE FINISHED SMOOTH.
 * MINIMUM PIPE COVER CAN BE REDUCED FROM 4' TO 2'-6\"/>

CATCH BASIN, TYPE 402

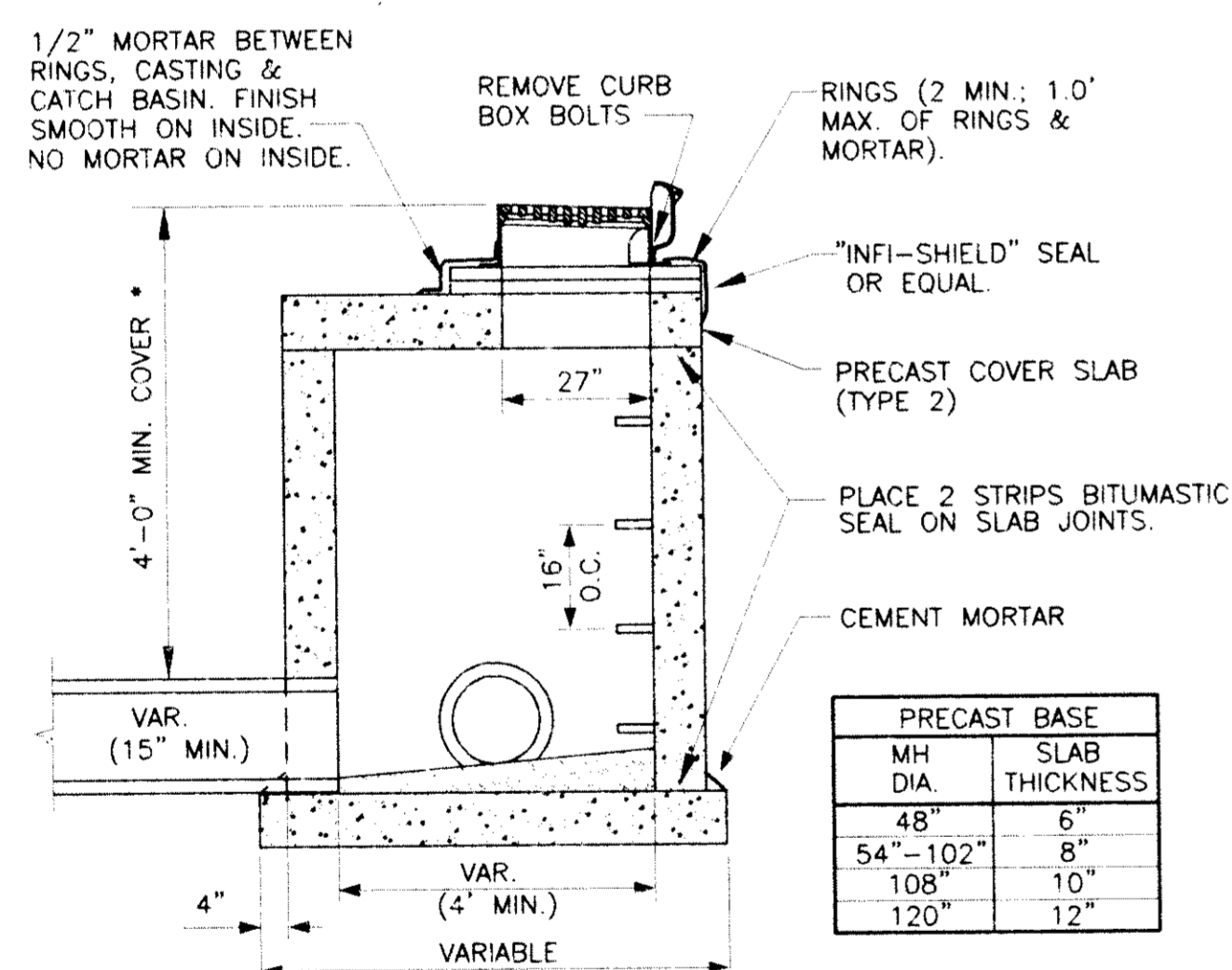


NO WOOD SHALL BE USED FOR ADJUSTING CASTING; CEMENT MORTAR ONLY.
 CAST IRON MANHOLE FRAME & COVER AS PER SPECIFICATIONS.
 MANHOLE STEPS SHALL BE CAST IRON, ALUMINUM OR STEEL REINFORCED PLASTIC PER ASTM C478. LOCATION SHALL BE AS NOTED IN THE SPECIFICATIONS.
 PRECAST REINFORCED CONCRETE MANHOLE SECTIONS & BASE SLAB PER ASTM C478.
 FURNISH PRECAST MANHOLE SECTIONS WITH O-RING GASKETS & LUBRICANT EXCEPT AS OTHERWISE SPECIFIED.
 A 12\"/>

**STORM SEWER MANHOLE, TYPE 407
 (PIPES 27\"/>**



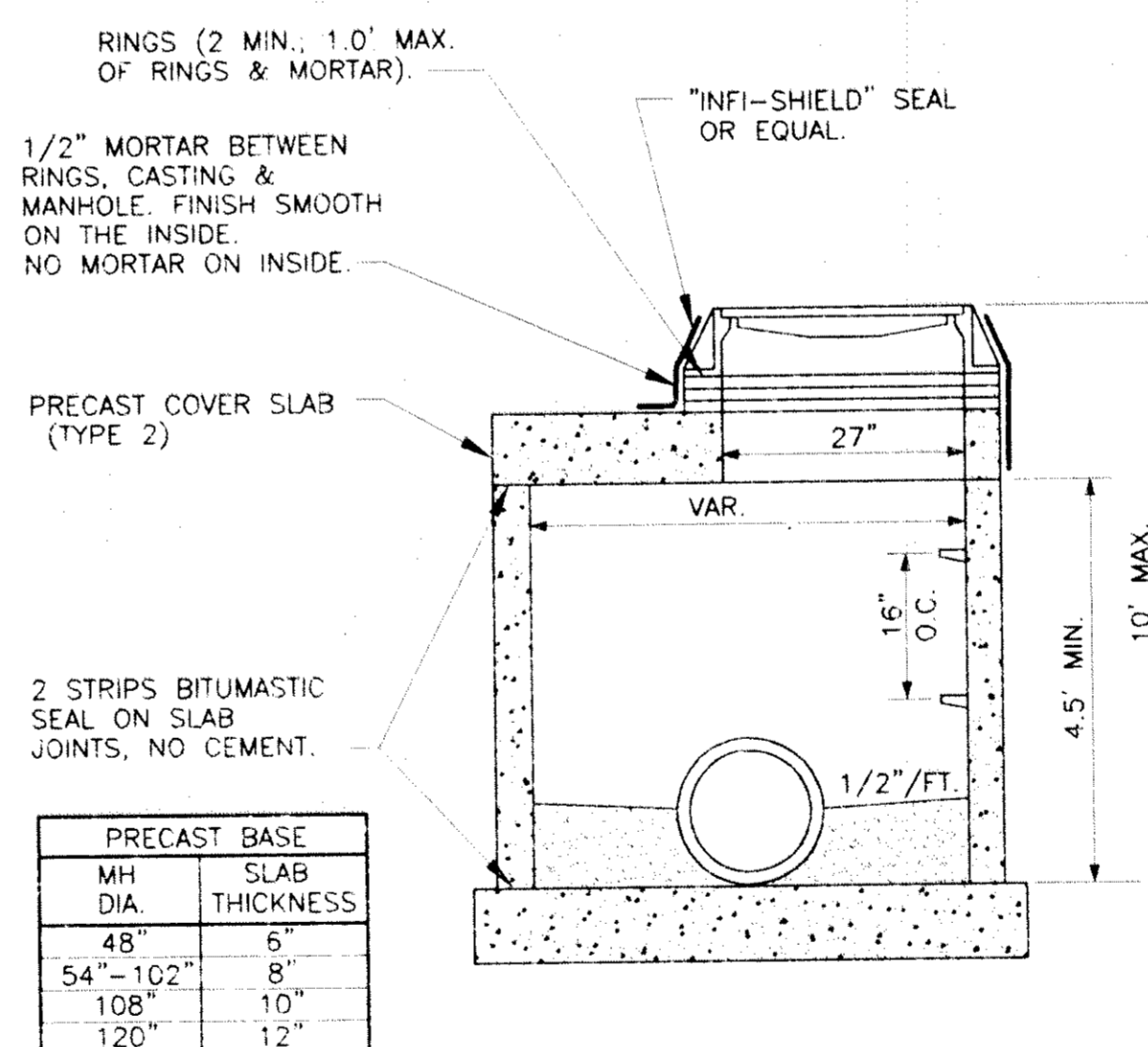
PIPE SUPPORT DETAIL



PRECAST BASE	
MH DIA.	SLAB THICKNESS
48"	6"
54"-102"	8"
108"	10"
120"	12"

NO WOOD SHALL BE USED FOR ADJUSTING CASTING; CEMENT MORTAR ONLY.
 CAST IRON FRAME & GRATE CASTINGS PER SPECIFICATIONS.
 MANHOLE STEPS SHALL BE CAST IRON, ALUMINUM OR STEEL REINFORCED PLASTIC PER ASTM C478. LOCATION SHALL BE AS NOTED IN THE SPECIFICATIONS.
 PRECAST REINFORCED CONCRETE BASE SLAB & COVER SLAB PER ASTM C478.
 PRECAST REINFORCED CONCRETE MANHOLE SECTIONS PER ASTM C478, OR 8\"/>

CATCH BASIN/MANHOLE, TYPE 406



PRECAST BASE	
MH DIA.	SLAB THICKNESS
48"	6"
54"-102"	8"
108"	10"
120"	12"

NO WOOD SHALL BE USED FOR ADJUSTING CASTING; CEMENT MORTAR ONLY.
 CAST IRON MANHOLE FRAME & COVER AS PER SPECIFICATIONS.
 MANHOLE STEPS SHALL BE CAST IRON, ALUMINUM OR STEEL REINFORCED PLASTIC PER ASTM C478. LOCATION SHALL BE AS NOTED IN THE SPECIFICATIONS.
 PRECAST REINFORCED CONCRETE MANHOLE SECTIONS & BASE SLAB PER ASTM C478.
 FURNISH PRECAST MANHOLE SECTIONS WITH O-RING GASKETS & LUBRICANT EXCEPT AS OTHERWISE SPECIFIED.
 A 12\"/>

STORM SEWER MANHOLE, TYPE 409

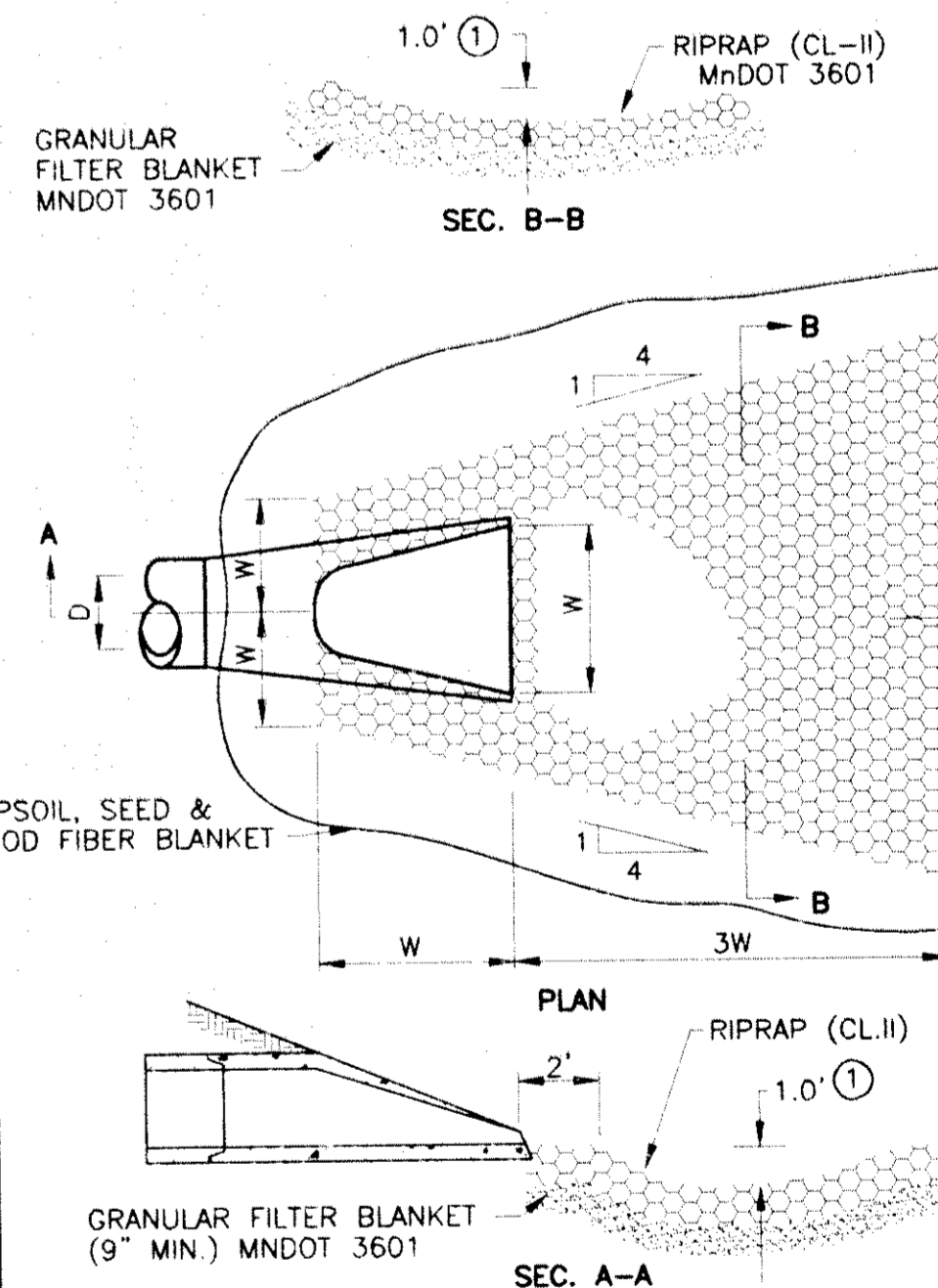
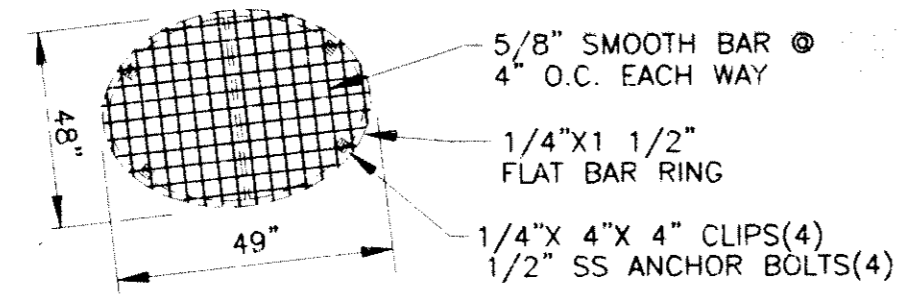


TABLE OF QUANTITIES RIPRAP AT RCP OUTLETS		
W (FT.)	CLASS II Riprap 12\"/>	
2.0	1.8	1.3
2.5	2.8	2.1
3.0	4.0	3.0
3.5	5.4	4.0
4.0	7.1	5.3
4.5	9.0	6.5
5.0	11.1	8.3
5.5	13.4	10.1
6.0	16.0	12.0
6.5	18.8	14.1
7.0	21.8	16.3

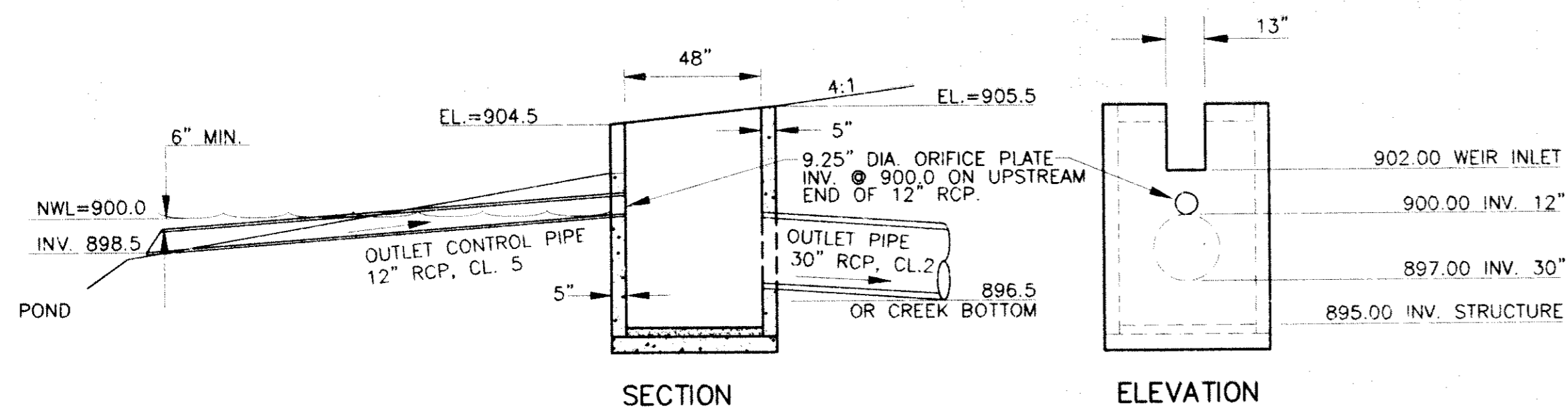
- FOR PIPES 48\"/>
- THE CONTRACTOR SHALL PLACE RIPRAP, TOPSOIL, SEED AND WOOD FIBER BLANKET, IMMEDIATELY AFTER PIPE IS INSTALLED. EXTEND AREA TO MATCH UNDISTURBED SOIL.

RIPRAP AT RCP OUTLETS

PLOT DATE: 07/30/1998 DWG. NO. 11085-02.DWG SHEET NO. 6 OF 31
 FIELD BOOK REF.

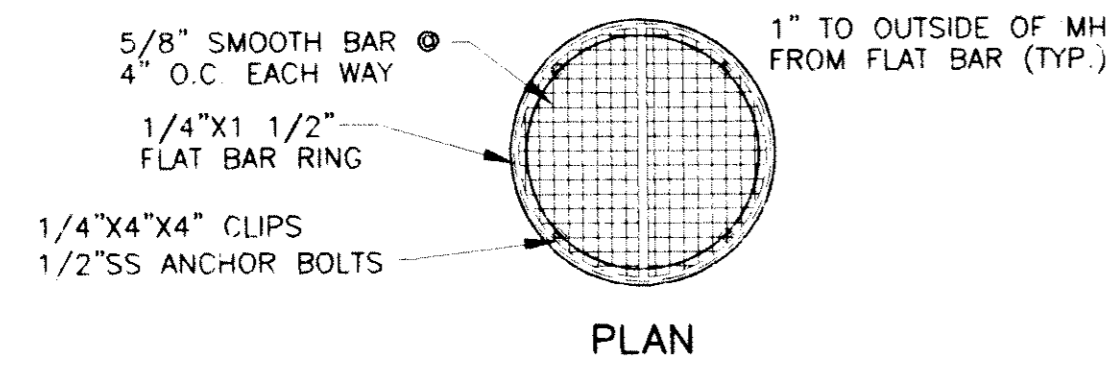


SCREEN



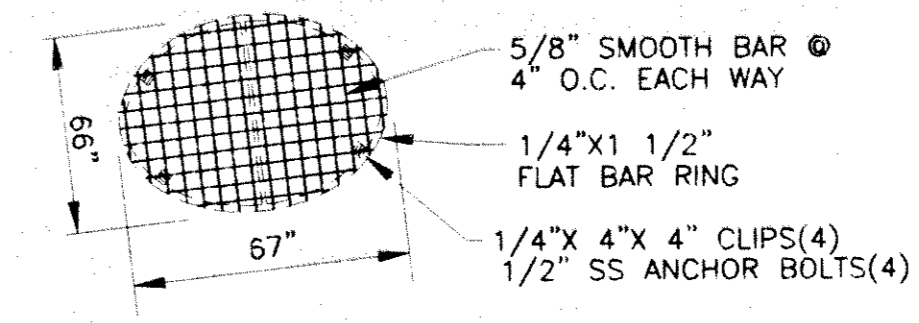
SECTION

ELEVATION

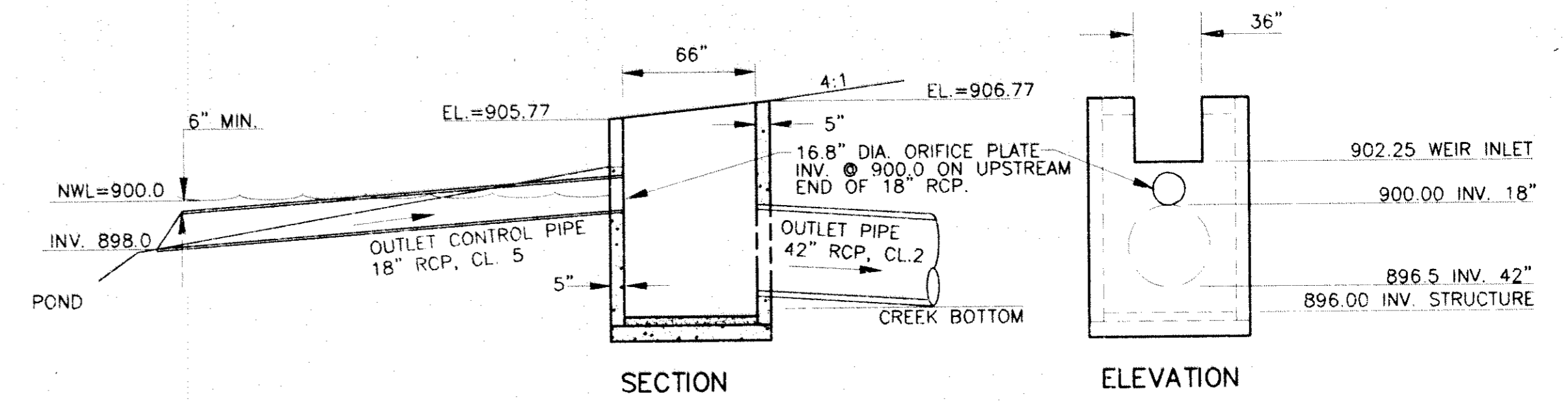


PLAN

POND 4 OUTFALL STRUCTURE

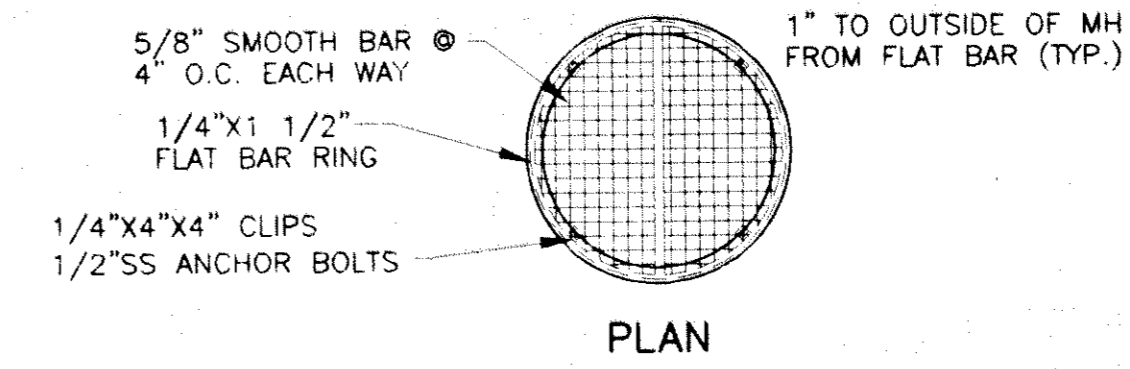


SCREEN



SECTION

ELEVATION

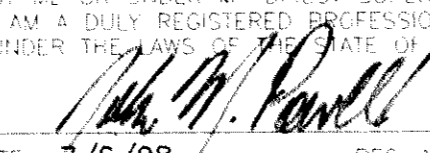


PLAN

POND 2 OUTFALL STRUCTURES

PLOT DATE: 07/30/1998 DWG: K:\MUN\CITY\LINK\C1108502.DWG\SH7.DWG
 FIELD BOOK:

NO.	DATE	BY	DESCRIPTION OF REVISIONS

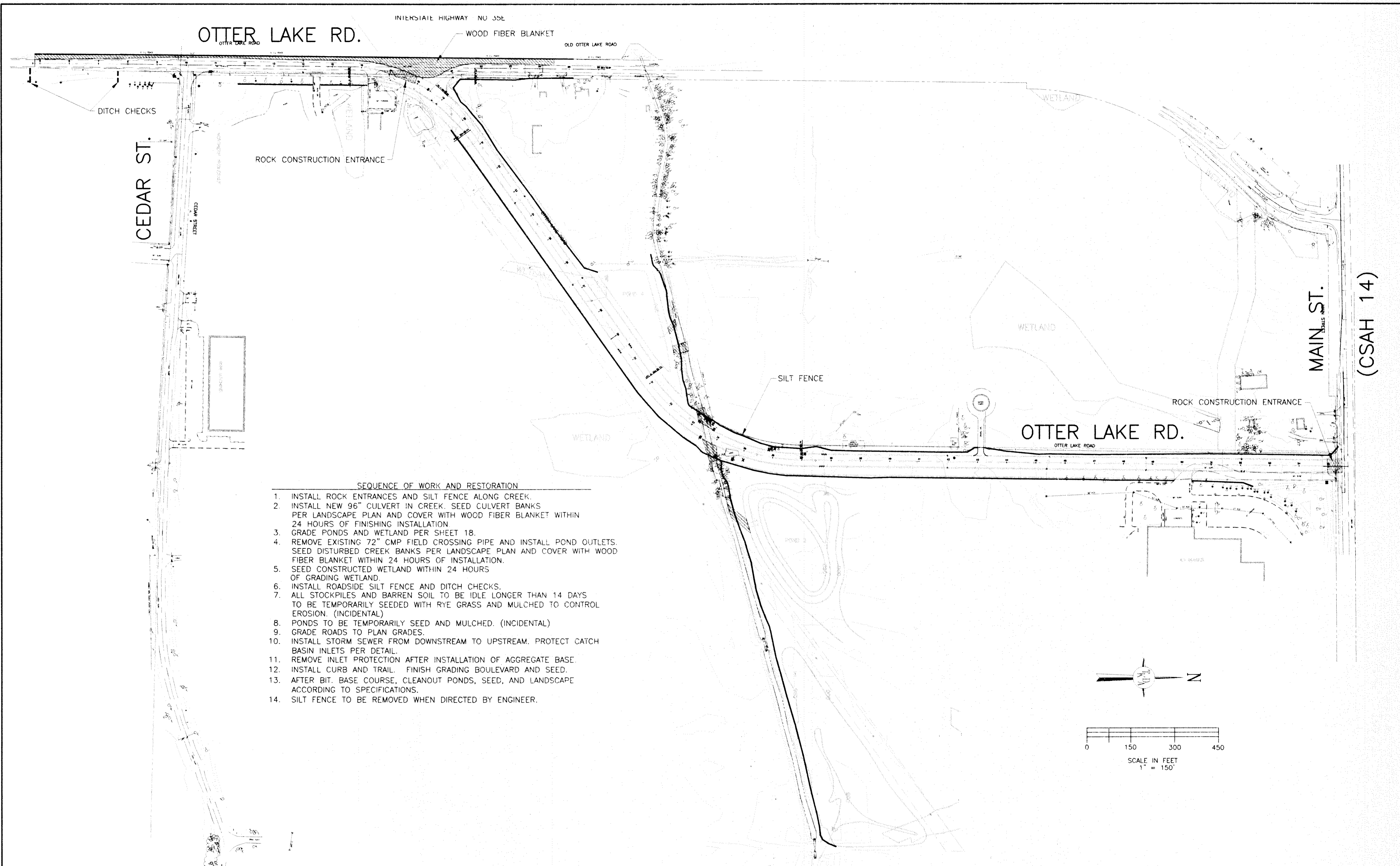
DESIGNED DAF,RDJ	DRAWN RDJ	I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA 
CHECKED JMP	DATE 7/6/98	
	REG. NO. 20834	

TKDA
 TOLTZ, KING, DUVALL, ANDERSON
 AND ASSOCIATES INCORPORATED
 ENGINEERS • ARCHITECTS • PLANNERS SAINT PAUL, MINNESOTA

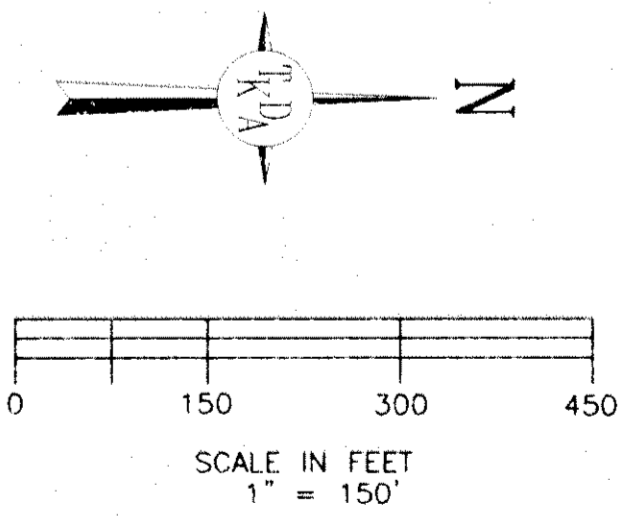
OTTER LAKE ROAD REALIGNMENT
 UTILITY & STREET
 IMPROVEMENTS
 LINO LAKES MINNESOTA

**POND OUTLET
 STRUCTURE
 DETAILS**
 SHEET NO. 7 OF 31 SHEETS

COMMISSION NO.
 11085-02



- SEQUENCE OF WORK AND RESTORATION**
1. INSTALL ROCK ENTRANCES AND SILT FENCE ALONG CREEK.
 2. INSTALL NEW 96" CULVERT IN CREEK. SEED CULVERT BANKS PER LANDSCAPE PLAN AND COVER WITH WOOD FIBER BLANKET WITHIN 24 HOURS OF FINISHING INSTALLATION.
 3. GRADE PONDS AND WETLAND PER SHEET 18.
 4. REMOVE EXISTING 72" CMP FIELD CROSSING PIPE AND INSTALL POND OUTLETS. SEED DISTURBED CREEK BANKS PER LANDSCAPE PLAN AND COVER WITH WOOD FIBER BLANKET WITHIN 24 HOURS OF INSTALLATION.
 5. SEED CONSTRUCTED WETLAND WITHIN 24 HOURS OF GRADING WETLAND.
 6. INSTALL ROADSIDE SILT FENCE AND DITCH CHECKS.
 7. ALL STOCKPILES AND BARREN SOIL TO BE IDLE LONGER THAN 14 DAYS TO BE TEMPORARILY SEEDED WITH RYE GRASS AND MULCHED TO CONTROL EROSION. (INCIDENTAL)
 8. PONDS TO BE TEMPORARILY SEED AND MULCHED. (INCIDENTAL)
 9. GRADE ROADS TO PLAN GRADES.
 10. INSTALL STORM SEWER FROM DOWNSTREAM TO UPSTREAM. PROTECT CATCH BASIN INLETS PER DETAIL.
 11. REMOVE INLET PROTECTION AFTER INSTALLATION OF AGGREGATE BASE.
 12. INSTALL CURB AND TRAIL. FINISH GRADING BOULEVARD AND SEED.
 13. AFTER BIT. BASE COURSE, CLEANOUT PONDS, SEED, AND LANDSCAPE ACCORDING TO SPECIFICATIONS.
 14. SILT FENCE TO BE REMOVED WHEN DIRECTED BY ENGINEER.



PLOT DATE: 07/30/1998 DWG: K:\MUNI\CTV\UNO\C1108502.DWG\SH8.DWG
 FIELD BOOK:

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DESIGNED: SWH DRAWN: SWH
 CHECKED: JMP
 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: 7/16/98 REG. NO.: 20834

TKDA

ENGINEERS • ARCHITECTS • PLANNERS

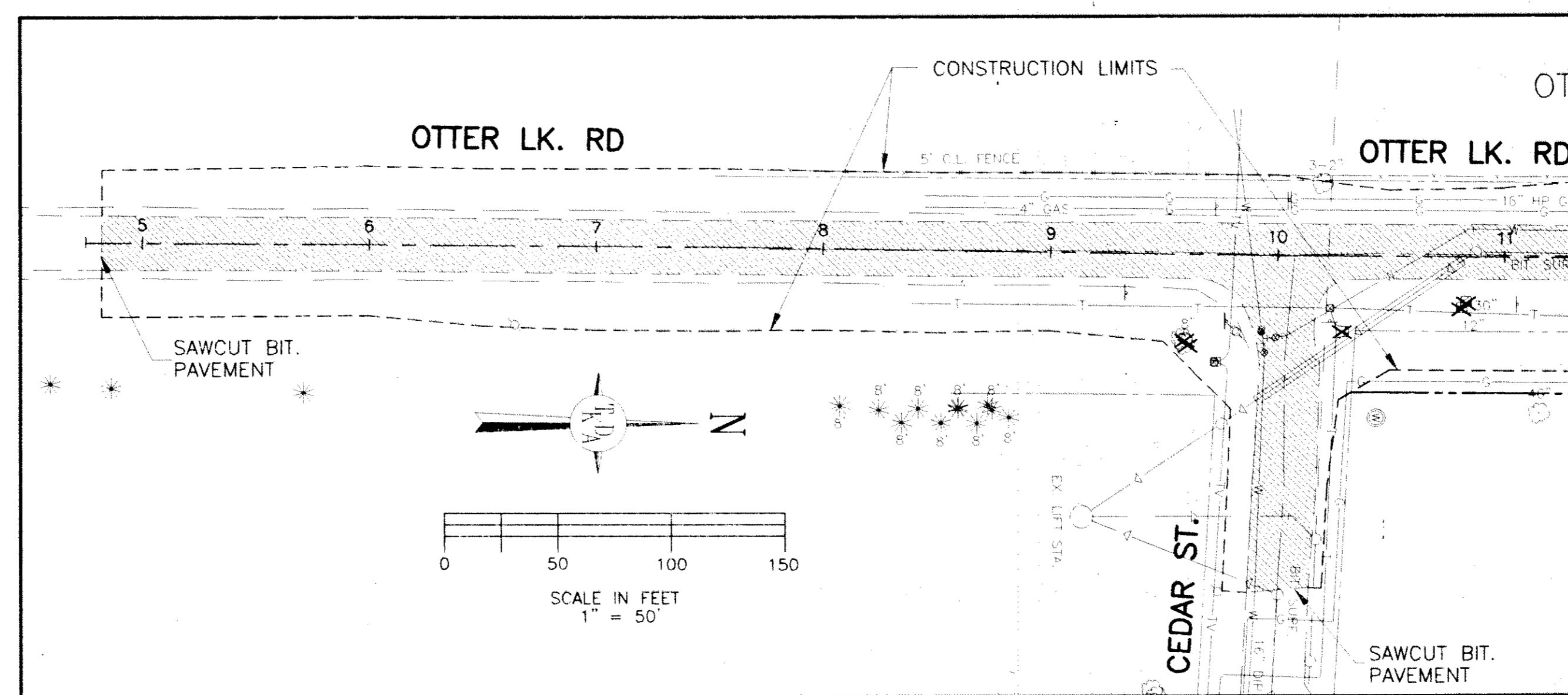
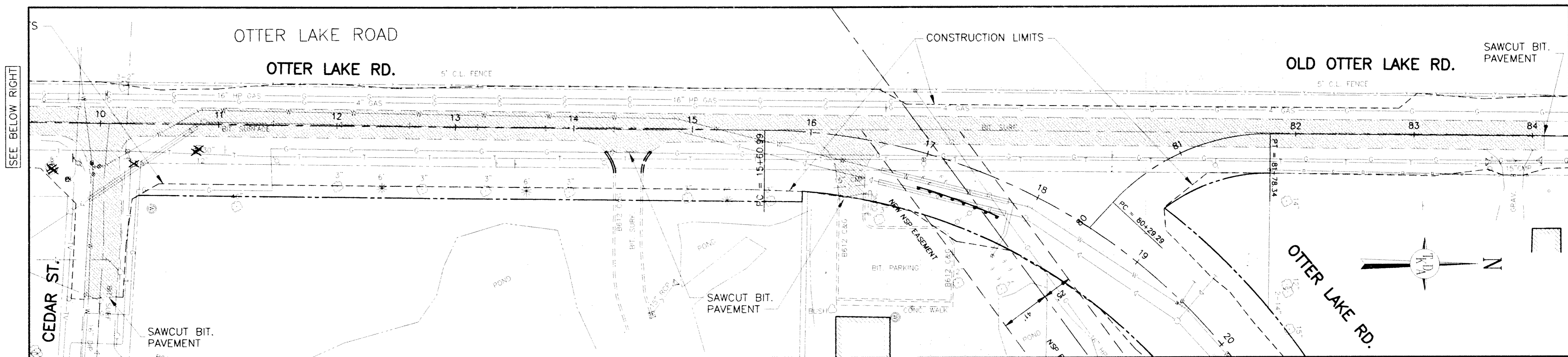
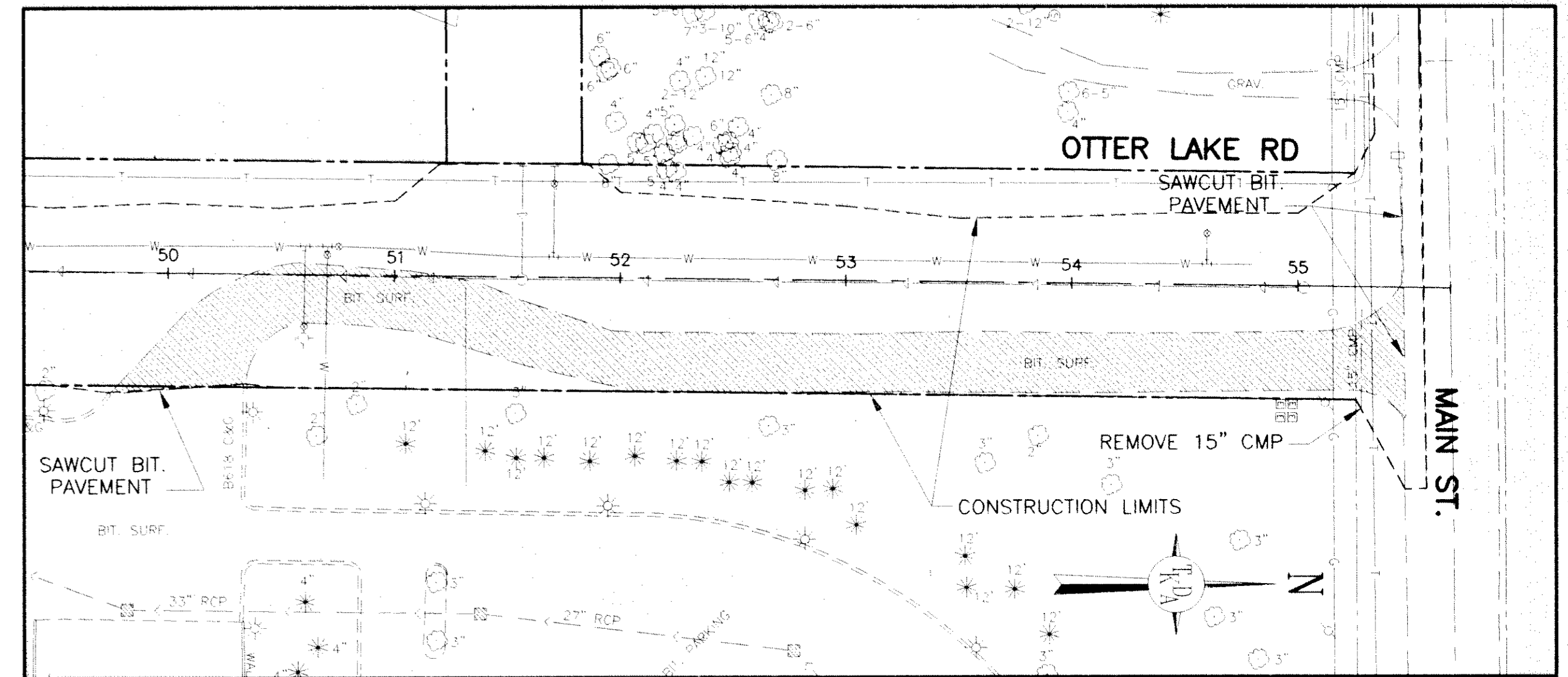
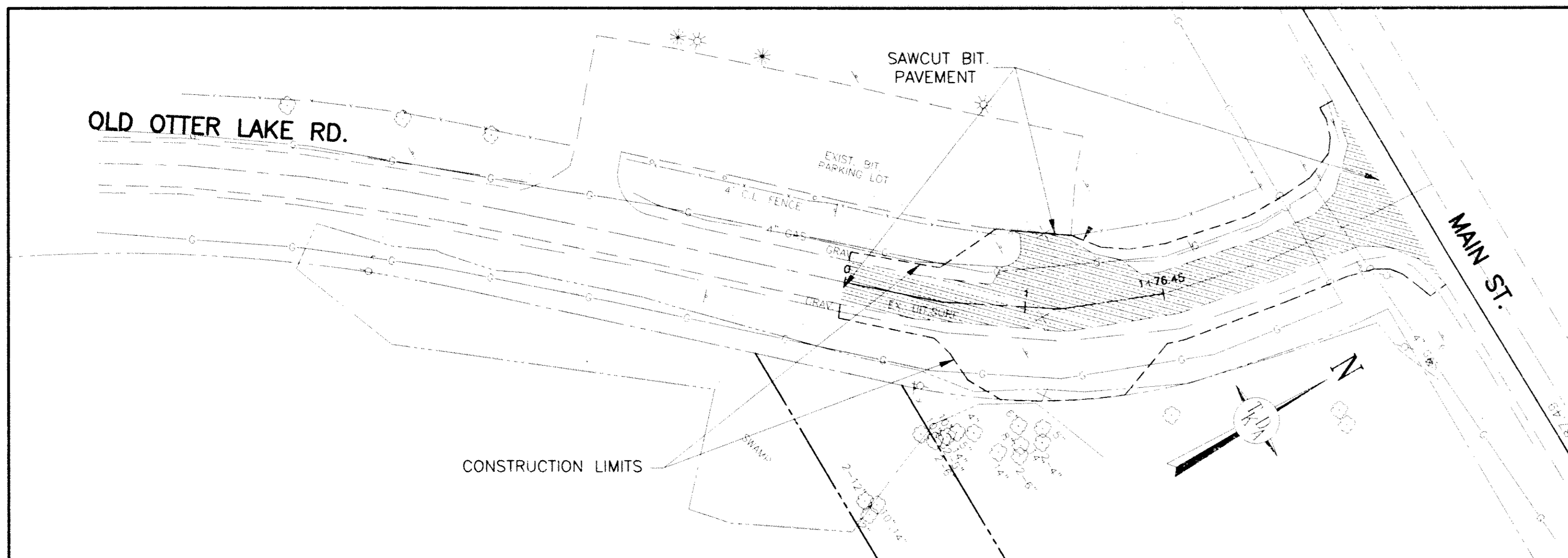
TOLTZ, KING, DUVALL, ANDERSON AND ASSOCIATES, INCORPORATED
SAINT PAUL, MINNESOTA

**OTTER LAKE ROAD REALIGNMENT
 UTILITY & STREET
 IMPROVEMENTS**
 LINO LAKES MINNESOTA

EROSION CONTROL PLAN
 SHEET NO. 8 OF 31 SHEETS


COMMISSION NO.
11085-02

(CSAH 14)



PLOT DATE: 07/20/1998 DWG. K:\MUN\QTY\LINO\G1108502\DWG\SH9.DWG
FIELD BOOK: XREF:base

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DESIGNED JMP,RDJ	DRAWN RDJ,MDM	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 
CHECKED JMP	DATE 7/6/98	REG. NO. 20834

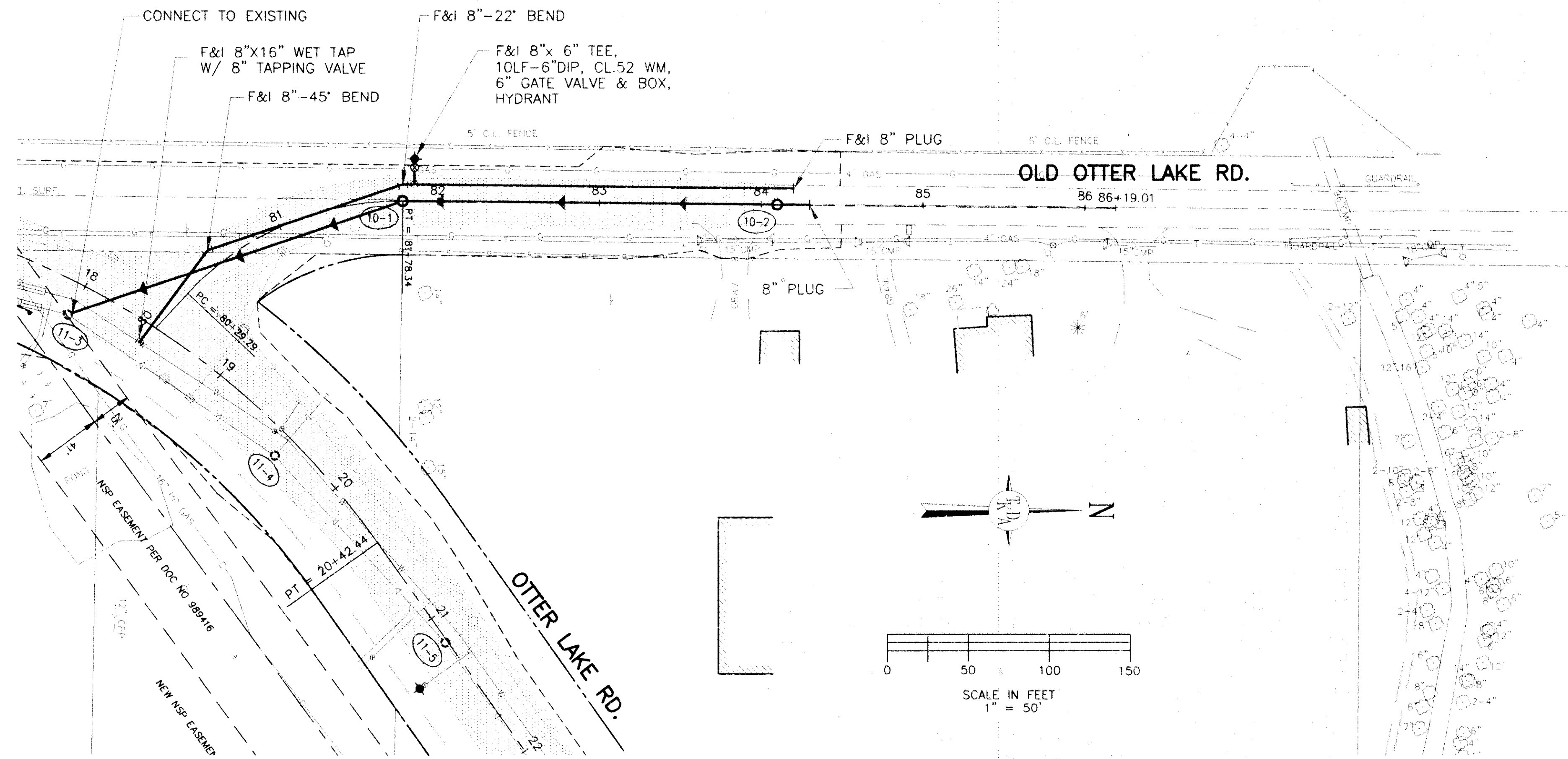
TKDA
ENGINEERS • ARCHITECTS • PLANNERS

TOLTZ, KING, DUVALL, ANDERSON
AND ASSOCIATES INCORPORATED
SAINT PAUL, MINNESOTA

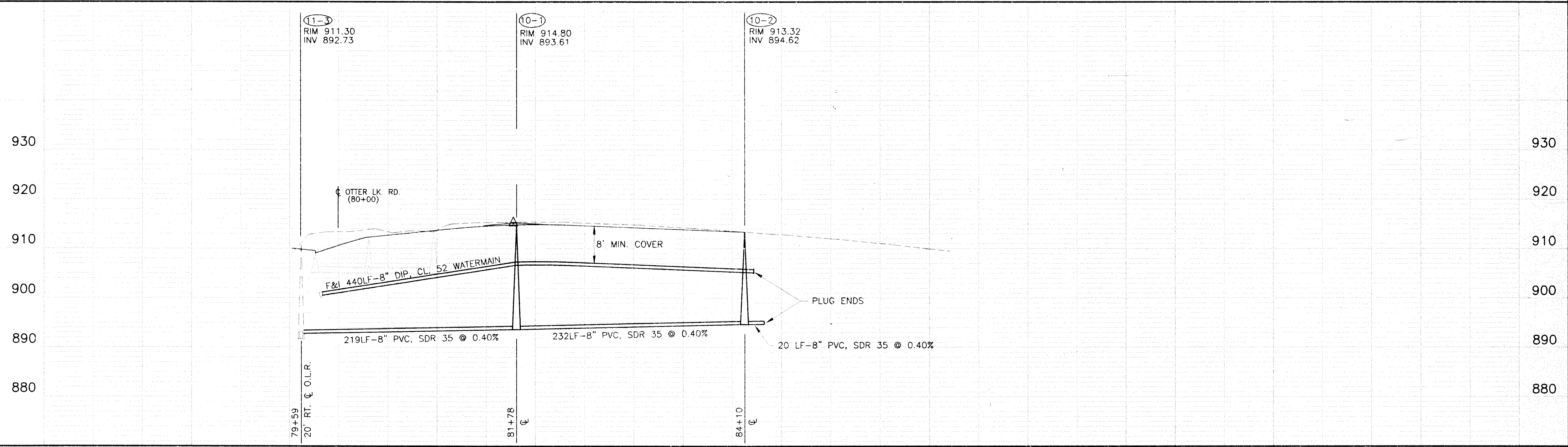
OTTER LAKE ROAD REALIGNMENT
UTILITY & STREET
IMPROVEMENTS
LINO LAKES MINNESOTA

EXISTING CONDITIONS
&
REMOVALS
SHEET NO. 9 OF 31 SHEETS

COMMISSION NO.
11085-02




OLD OTTER LAKE ROAD



PLOT DATE: 07/30/1998 DWG. K:\MUNI\CTY\JINO\CT108502.DWG\SH10.DWG
 XREF: proscorn

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DESIGNED DRAWN
 RDJ,MDM RDJ,MDM
 CHECKED
 JMP

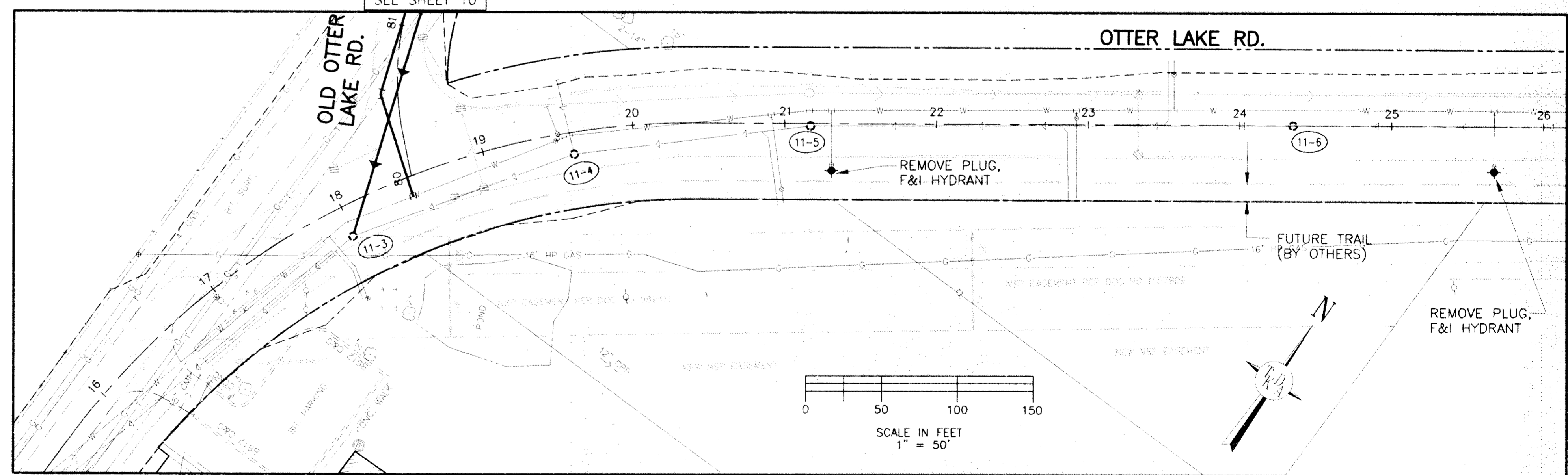
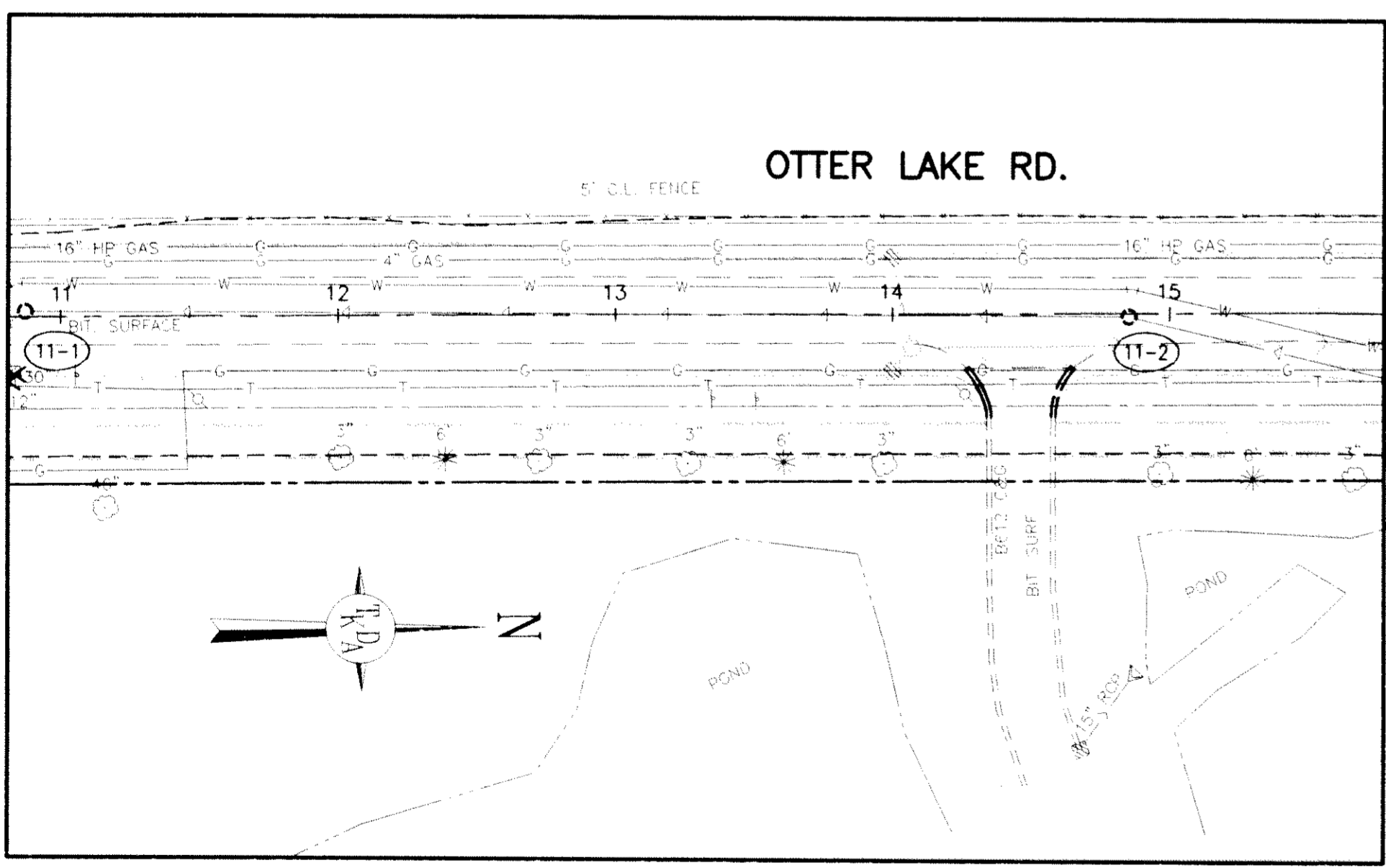
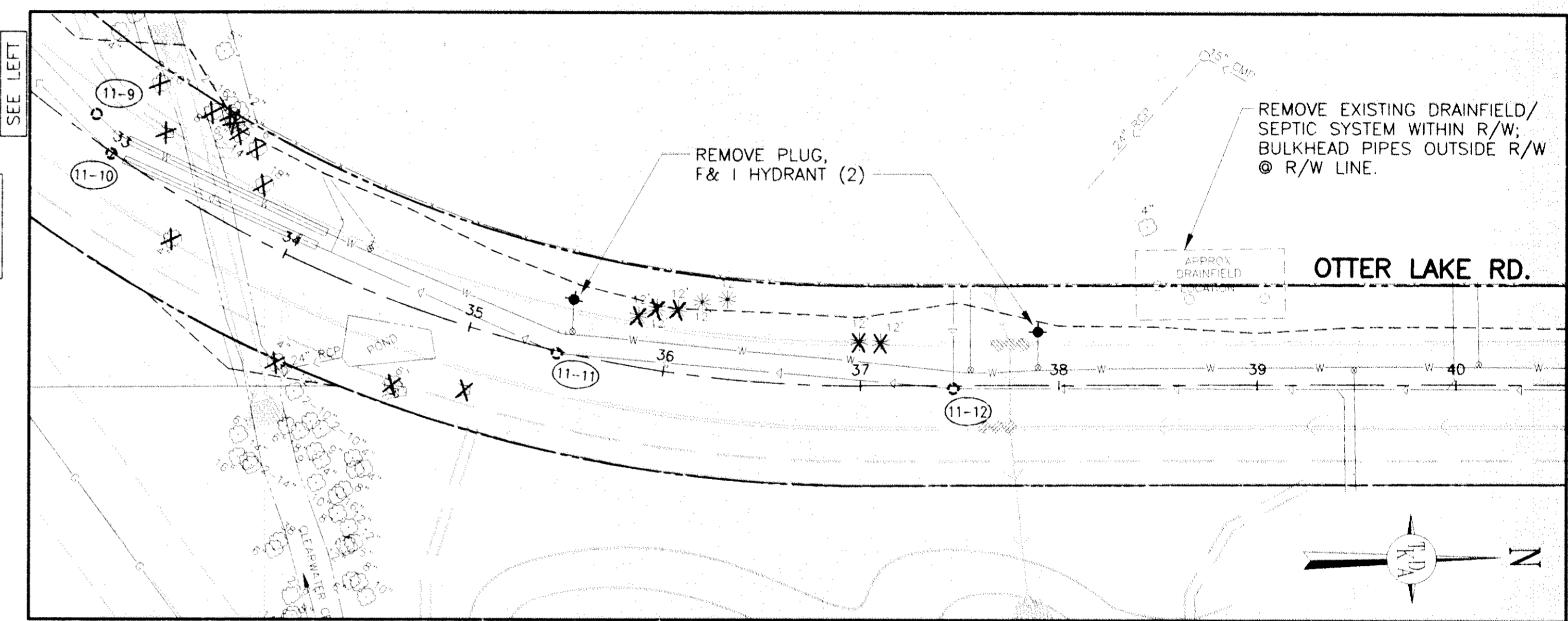
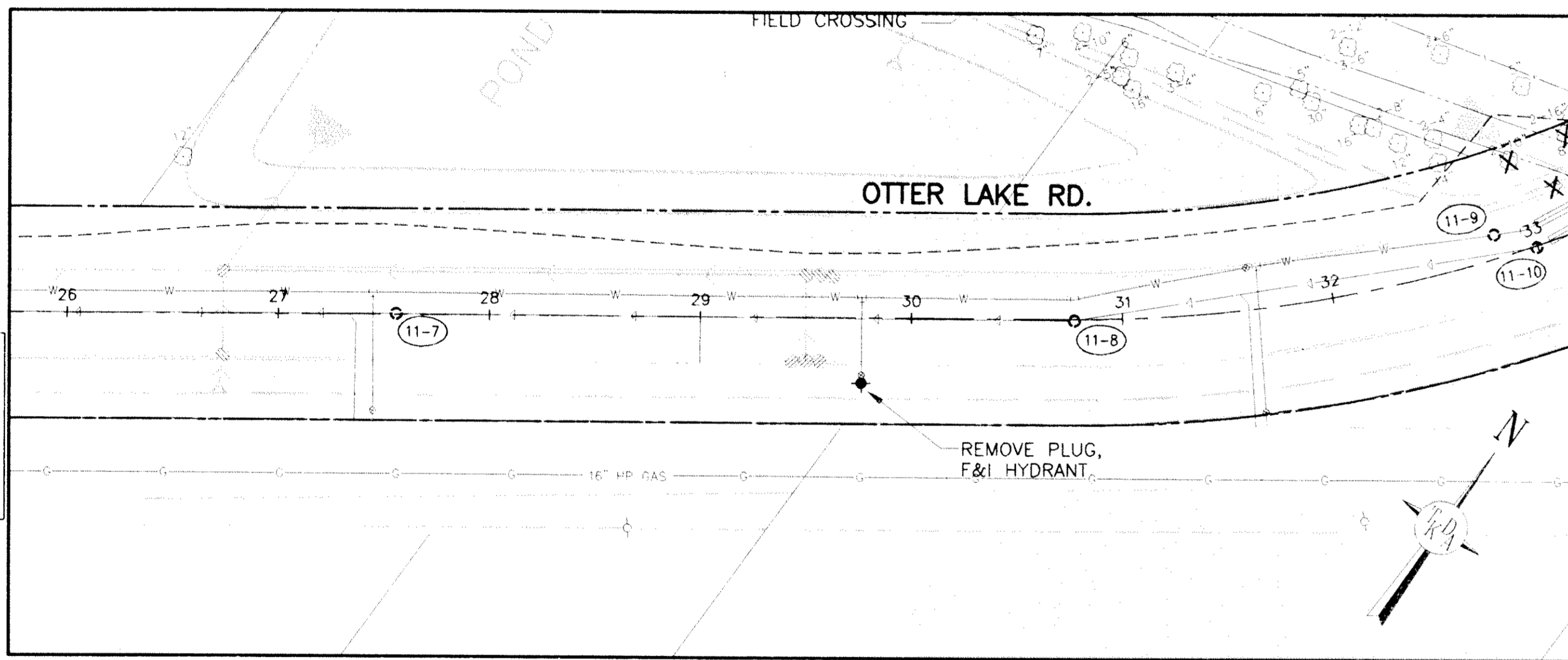
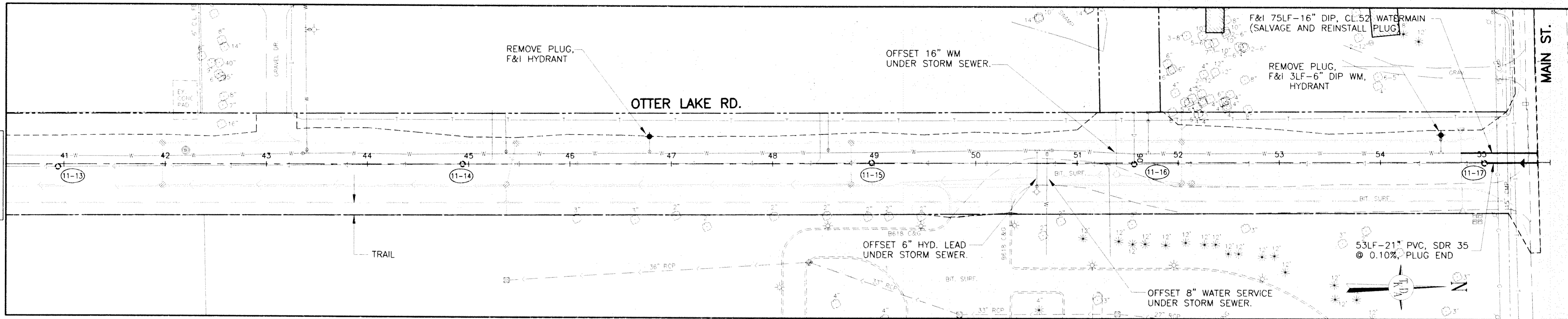
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED
 BY ME OR UNDER MY DIRECT SUPERVISION AND THAT
 I AM A DULY REGISTERED PROFESSIONAL ENGINEER
 UNDER THE LAWS OF THE STATE OF MINNESOTA

 DATE: 7/6/98 REG. NO. 20834

TKDA
 ENGINEERS • ARCHITECTS • PLANNERS
 TOLTZ, KING, DUVALL, ANDERSON
 AND ASSOCIATES INCORPORATED
 SAINT PAUL, MINNESOTA

**OTTER LAKE ROAD REALIGNMENT
 UTILITY & STREET
 IMPROVEMENTS**
 LINO LAKES MINNESOTA

**OLD OTTER LAKE ROAD
 Otter Lake Road to 500' North
 SANITARY SEWER & WATERMAIN**
 SHEET NO. 10 OF 31 SHEETS

COMMISSION NO.
 11085-02



PLOT DATE: 07/20/1998 DWG. NO. MUNICIPALITY: LINO LAKES SHEET NO. 11 OF 31 SHEETS

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DESIGNED: RDJ, MDM
 DRAWN: RDJ, MDM
 CHECKED: JMP
 DATE: 7/6/98
 PROJECT NO.: 20834

TKDA
 ENGINEERS • ARCHITECTS • PLANNERS

TOLTZ, KING, DUVALL, ANDERSON
 AND ASSOCIATES INCORPORATED
 SAINT PAUL, MINNESOTA

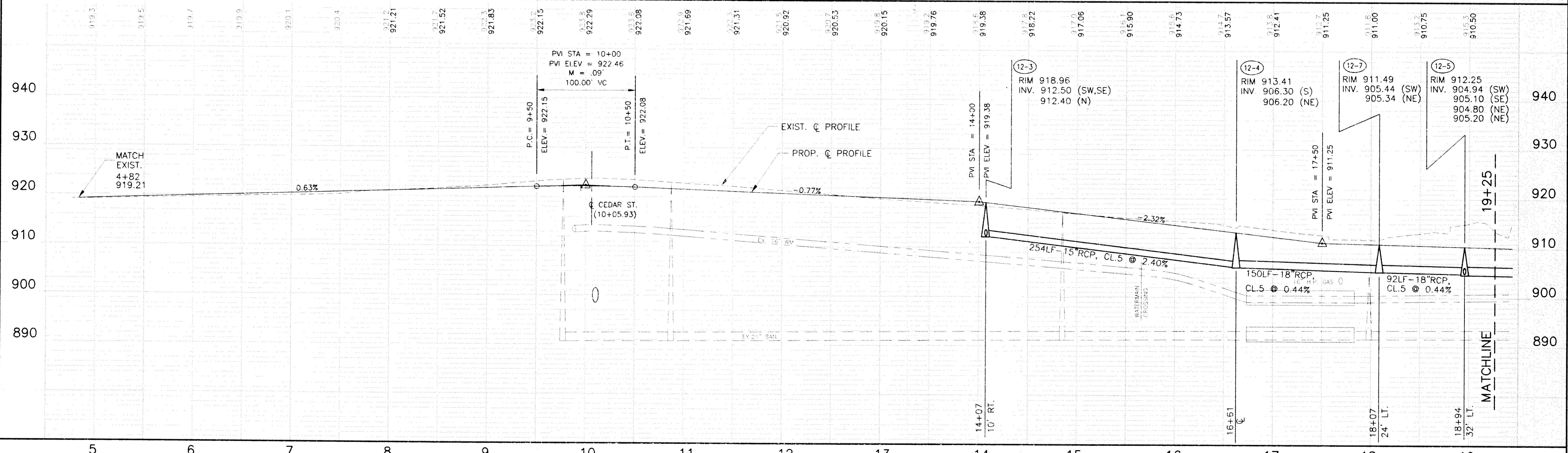
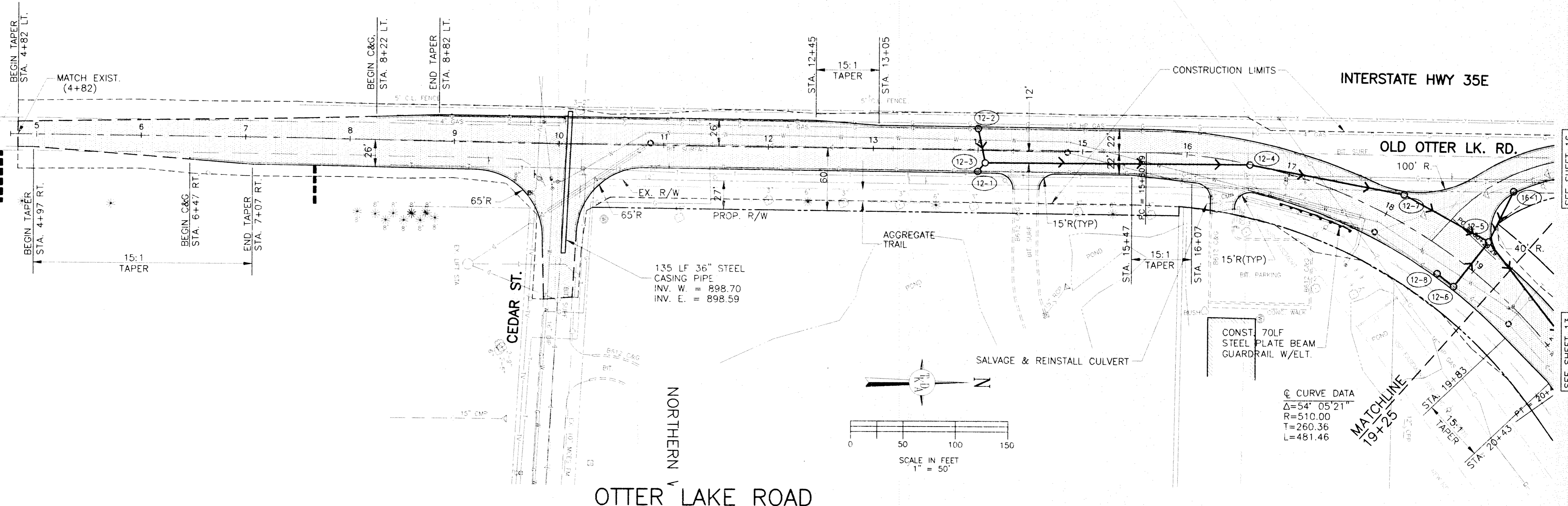
**OTTER LAKE ROAD REALIGNMENT
 UTILITY & STREET
 IMPROVEMENTS**

LINO LAKES MINNESOTA

**OTTER LAKE RD.
 Old Otter Lake Rd. to Main St.
 SANITARY SEWER & WATERMAIN**

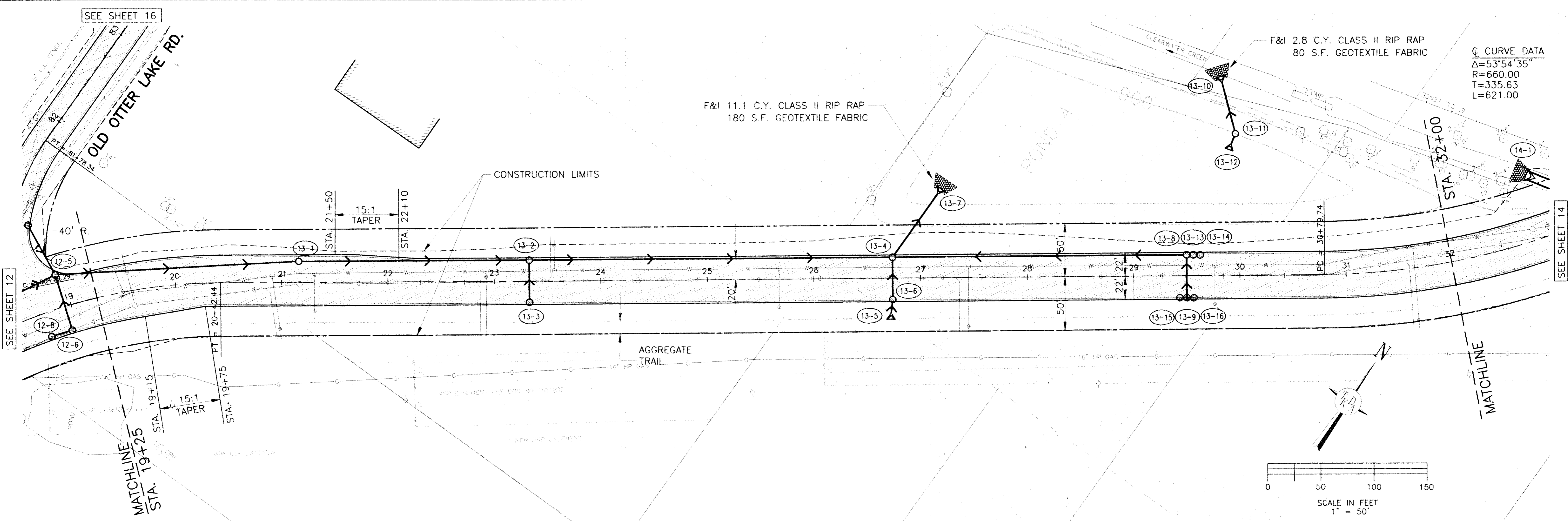
SHEET NO. 11 OF 31 SHEETS

COMMISSION NO.
 11085-02

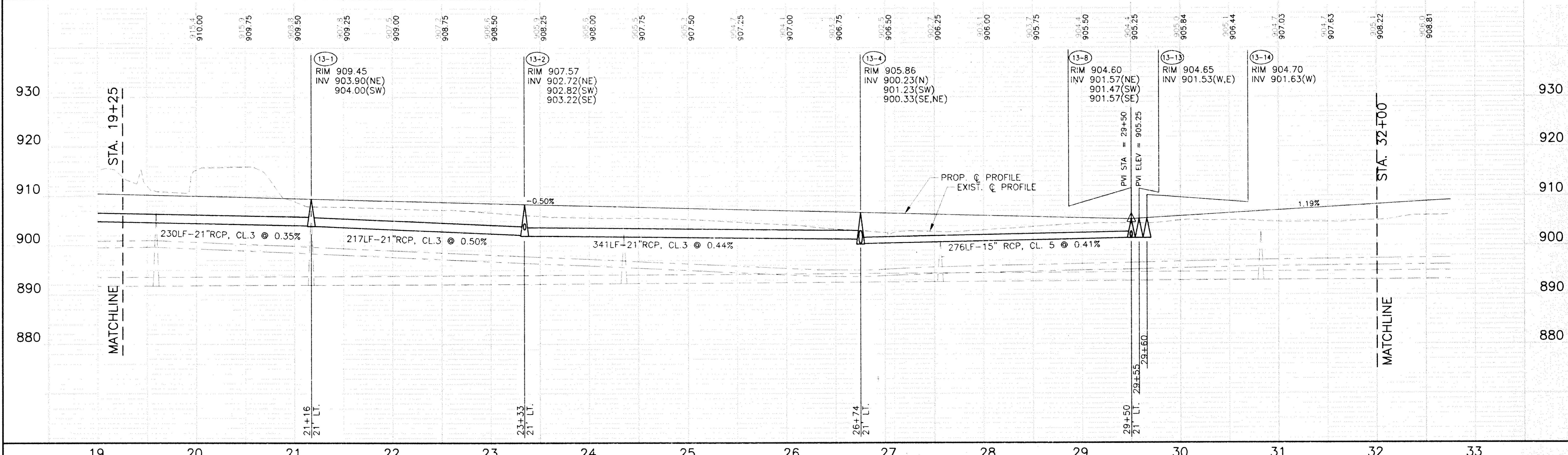


PLOT DATE: 07/30/1998 DWG. K:\MUN\GTY\LINO\1108502.DWG SH2.DWG
 XREF BASE PROOT

NO.	DATE	BY	DESCRIPTION OF REVISIONS	DESIGNED JMW,MDM	DRAWN RDJ,MDM	CHECKED JMP	DATE 7/6/98	REG. NO. 20834	TKDA TOLTZ, KING, DUVAL, ANDERSON AND ASSOCIATES INCORPORATED ENGINEERS • ARCHITECTS • PLANNERS SAINT PAUL, MINNESOTA	OTTER LAKE ROAD REALIGNMENT UTILITY & STREET IMPROVEMENTS	OTTER LAKE ROAD Sta. 4+82 to Sta. 19+25 STREET & STORM SEWER	COMMISSION NO. 11085-02
										LINO LAKES MINNESOTA	SHEET NO. 12 OF 31 SHEETS	



OTTER LAKE ROAD



PLOT DATE: 07/30/1998 DWG: K:\MUM\CITY\LINO\01108502\DWG\SH13.DWG
 AREA: 6.54 AC
 PROJECT:

	DESIGNED: JMW,MDM DRAWN: RDJ,MDM CHECKED: JMP DATE: 7/6/98	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. <i>John M. Powell</i> REG. NO. 20834	TKDA ENGINEERS • ARCHITECTS • PLANNERS TOITZ, KING, DUVALL, ANDERSON AND ASSOCIATES, INCORPORATED SAINT PAUL, MINNESOTA	OTTER LAKE ROAD REALIGNMENT UTILITY & STREET IMPROVEMENTS LINO LAKES MINNESOTA	OTTER LAKE ROAD Sta. 19+25 to Sta. 32+00 STREET & STORM SEWER SHEET NO. 13 OF 31 SHEETS	COMMISSION NO. 11085-02
--	---	--	---	---	---	-----------------------------------

SEE SHEET 13

MATCHLINE
STA. 32+00

F&I 21.8 C.Y. CLASS II RIP RAP
480 S.F. GEOTEXTILE FABRIC

Q CURVE DATA
 $\Delta=53^{\circ} 54' 35''$
 $R=660.00$
 $T=335.63$
 $L=621.00$

CONSTRUCTION LIMITS

WATER TOWER

STA. 45+00

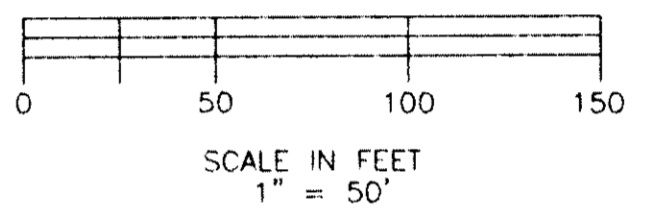
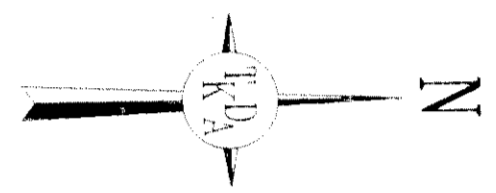
SEE SHEET 15

F&I 21.8 C.Y. CLASS II RIP RAP
480 S.F. GEOTEXTILE FABRIC

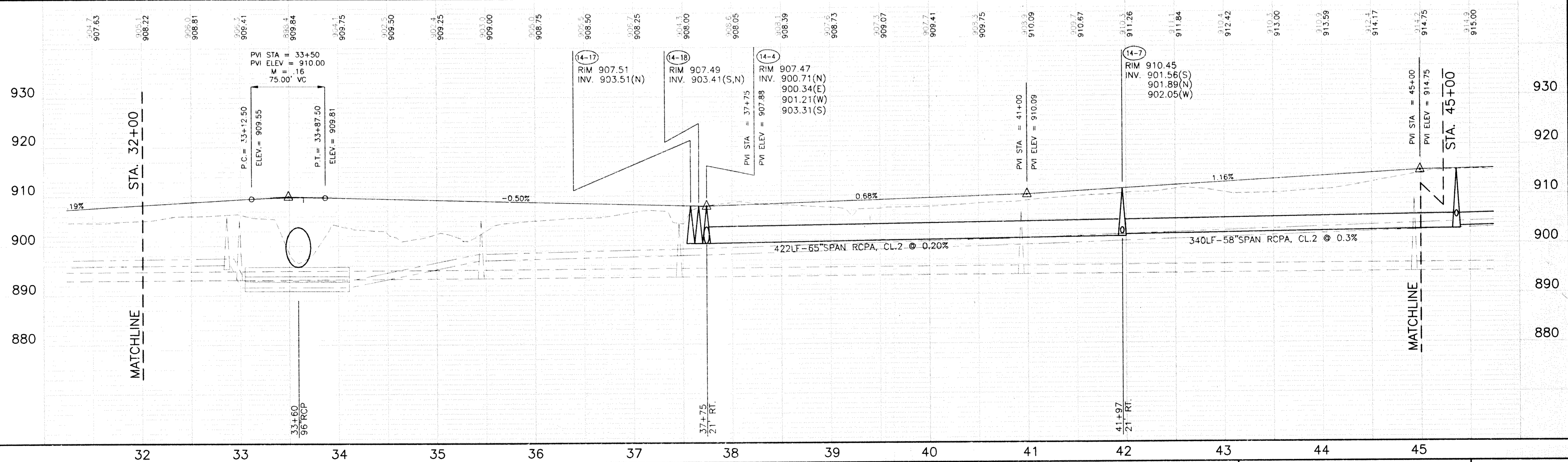
F&I 5.4 C.Y. CLASS II RIP RAP
80 S.F. GEOTEXTILE FABRIC

F&I 13.4 C.Y. CLASS II RIP RAP
224 S.F. GEOTEXTILE FABRIC

F&I 5.4 C.Y. CLASS II RIP RAP
80 S.F. GEOTEXTILE FABRIC



OTTER LAKE ROAD



PLOT DATE: 07/30/1998 DWG. K:\MUN\GTY\JNO\G1108502\DWG\SH14.DWG
FIELD BOOK: XREF BASE PRODTT

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DESIGNED: JMW,MDM DRAWN: RDJ,MDM
 CHECKED: JMP
 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.
John W. Powell
 DATE: 7/6/98 REV. NO.: 20834

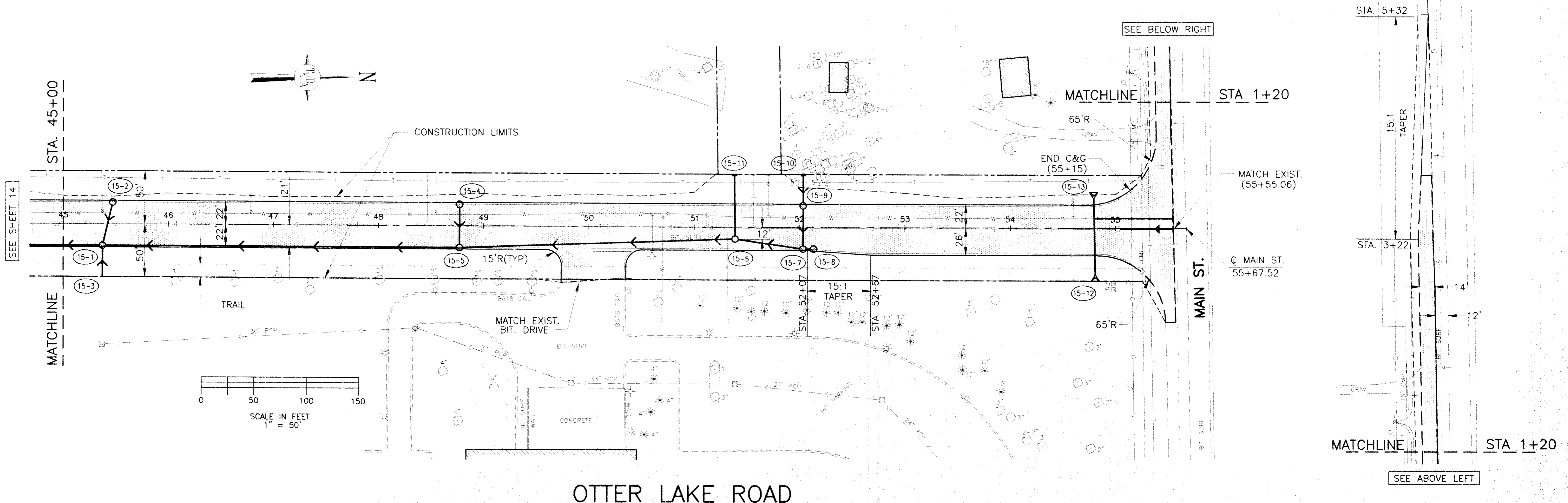
TKDA
 ENGINEERS • ARCHITECTS • PLANNERS

TOLTZ, KING, DUVALL, ANDERSON
 AND ASSOCIATES INCORPORATED
 SAINT PAUL, MINNESOTA

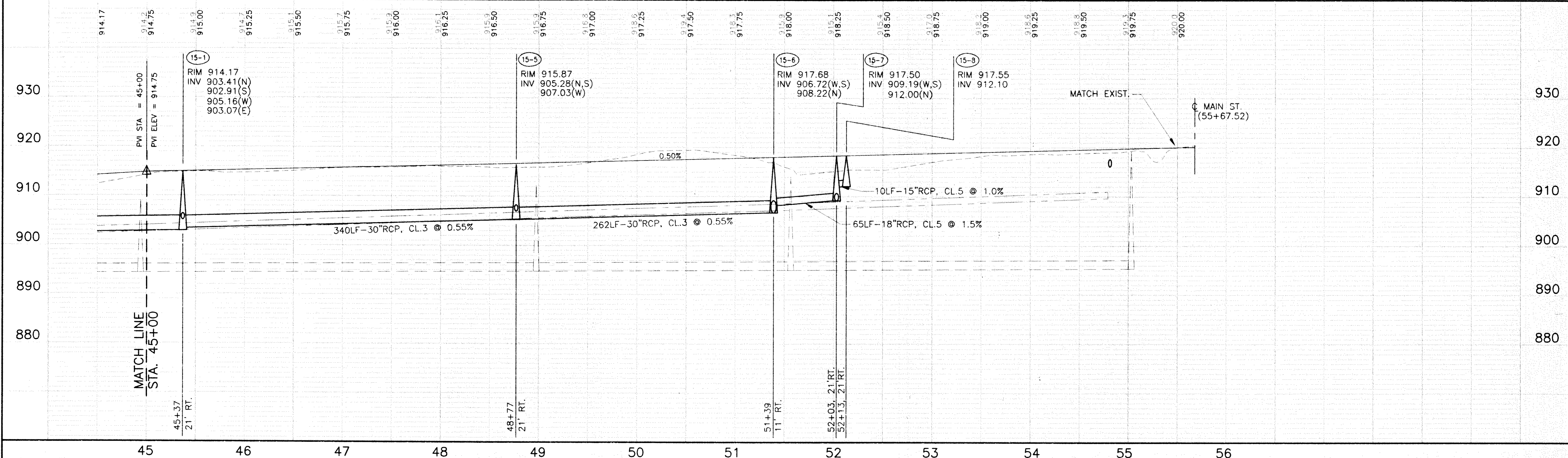
OTTER LAKE ROAD REALIGNMENT
 UTILITY & STREET IMPROVEMENTS
 LINO LAKES MINNESOTA

OTTER LAKE ROAD
 Sta. 32+00 to 45+00
 STREET & STORM SEWER
 SHEET NO. 14 OF 31 SHEETS

COMMISSION NO.
 11085-02



OTTER LAKE ROAD



PLOT DATE: 07/30/1998 DWS: K:\MHW\QTY\LINO\CH108502.DWG\SH15.DWG
 XREF: BAS\PRODTT

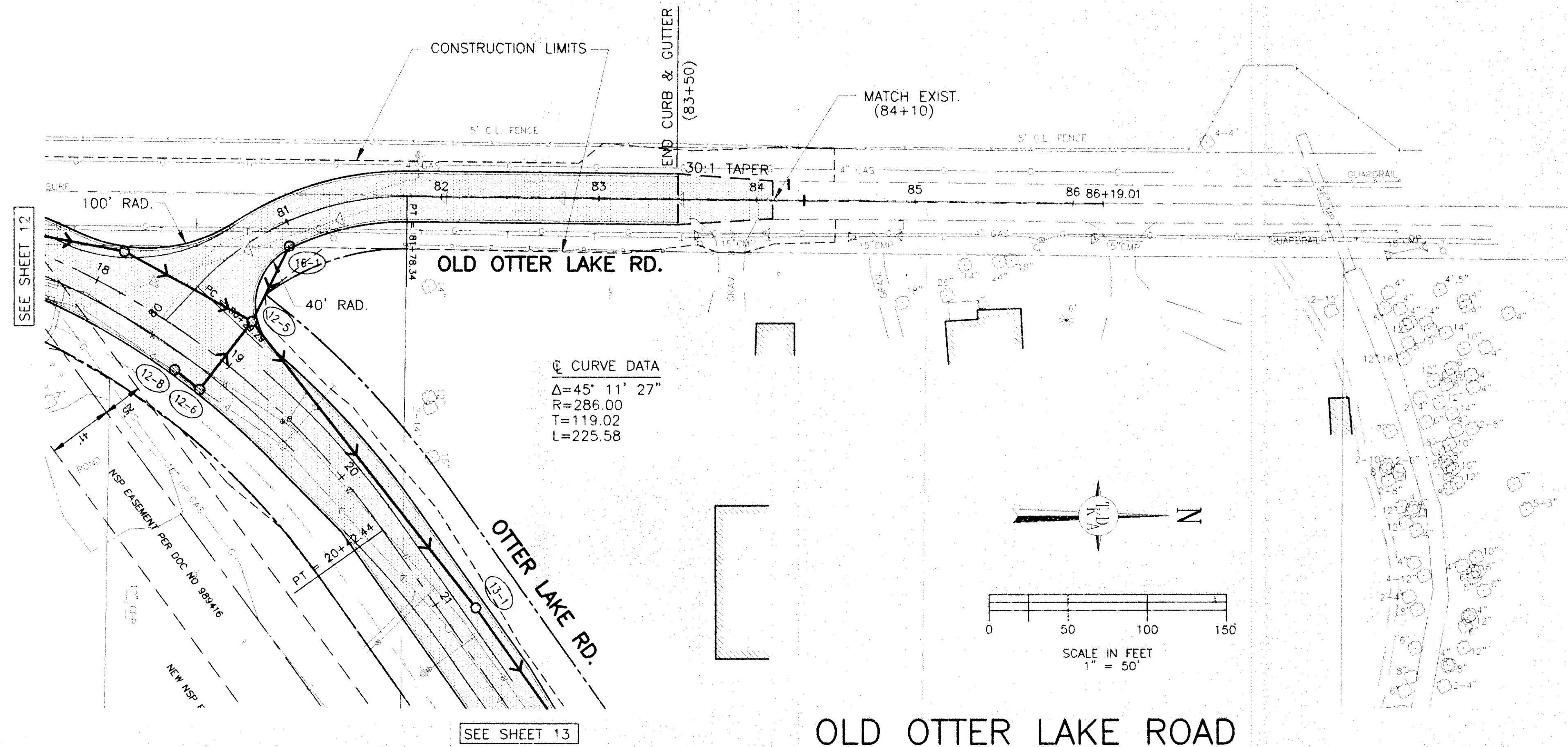
NO.	DATE	BY	DESCRIPTION OF REVISIONS

DESIGNED: JMW,MDM DRAWN: RDJ,MDM
 CHECKED: JMP
 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: 7/16/98 REG. NO. 20834

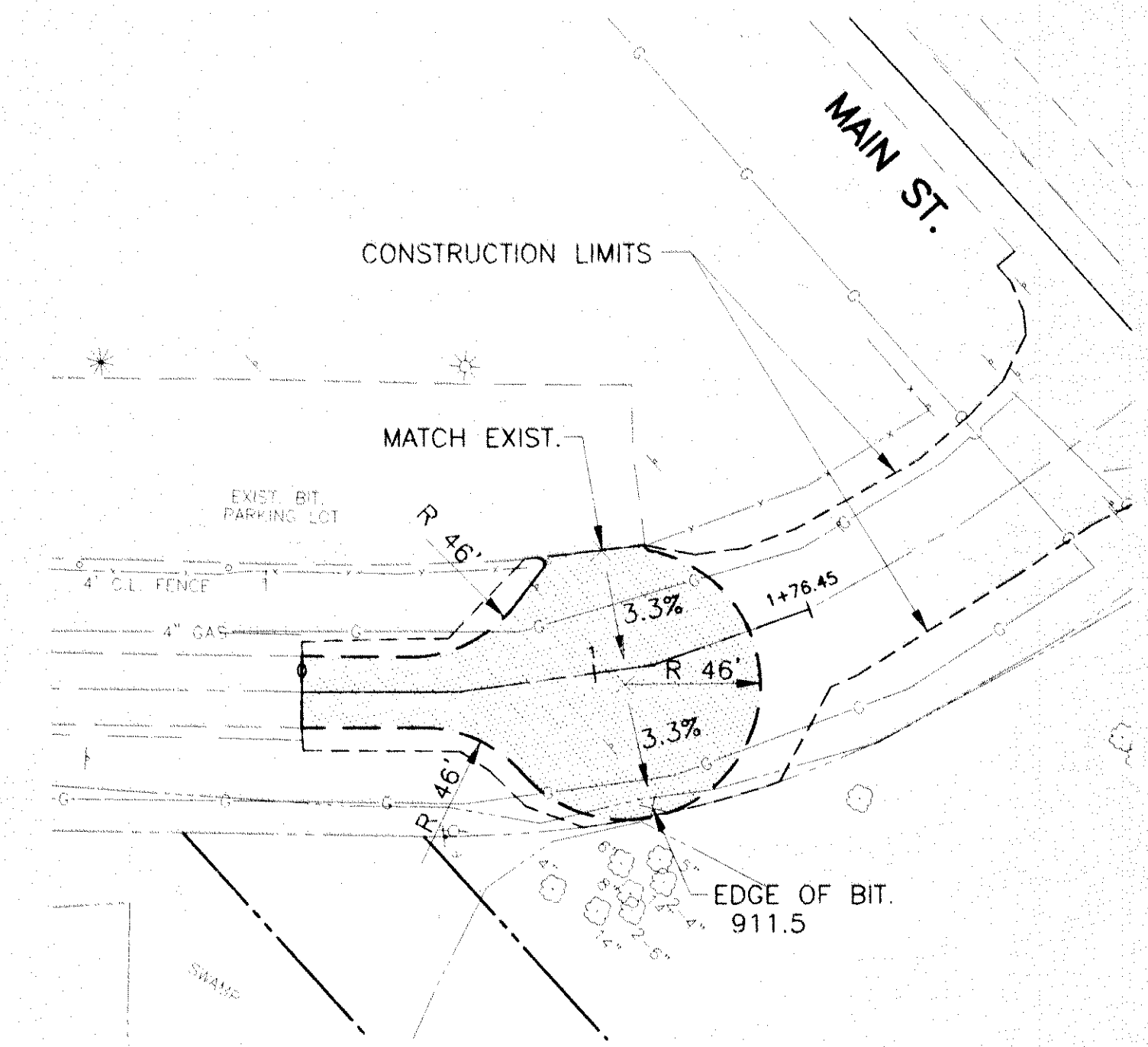
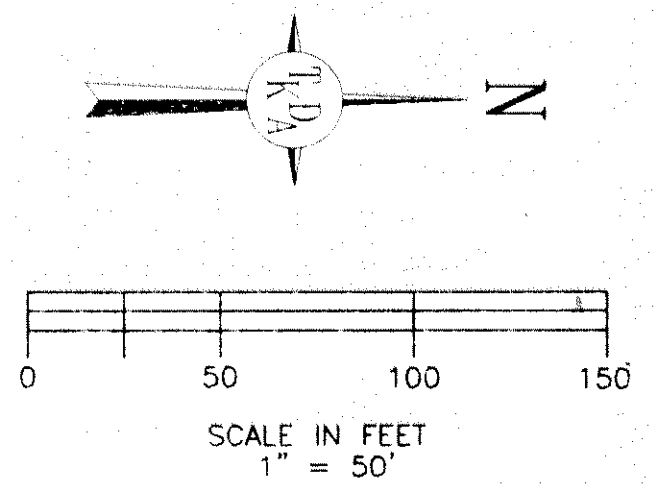
TKDA
 ENGINEERS • ARCHITECTS • PLANNERS
 TOLTZ, KING, DUVALL, ANDERSON AND ASSOCIATES, INCORPORATED
 SAINT PAUL, MINNESOTA

OTTER LAKE ROAD REALIGNMENT
 UTILITY & STREET IMPROVEMENTS
 LINO LAKES MINNESOTA

OTTER LAKE ROAD
 Sta. 45+00 to Main St.
 STREET & STORM SEWER
 SHEET NO. 15 OF 31 SHEETS
 COMMISSION NO. 11085-02

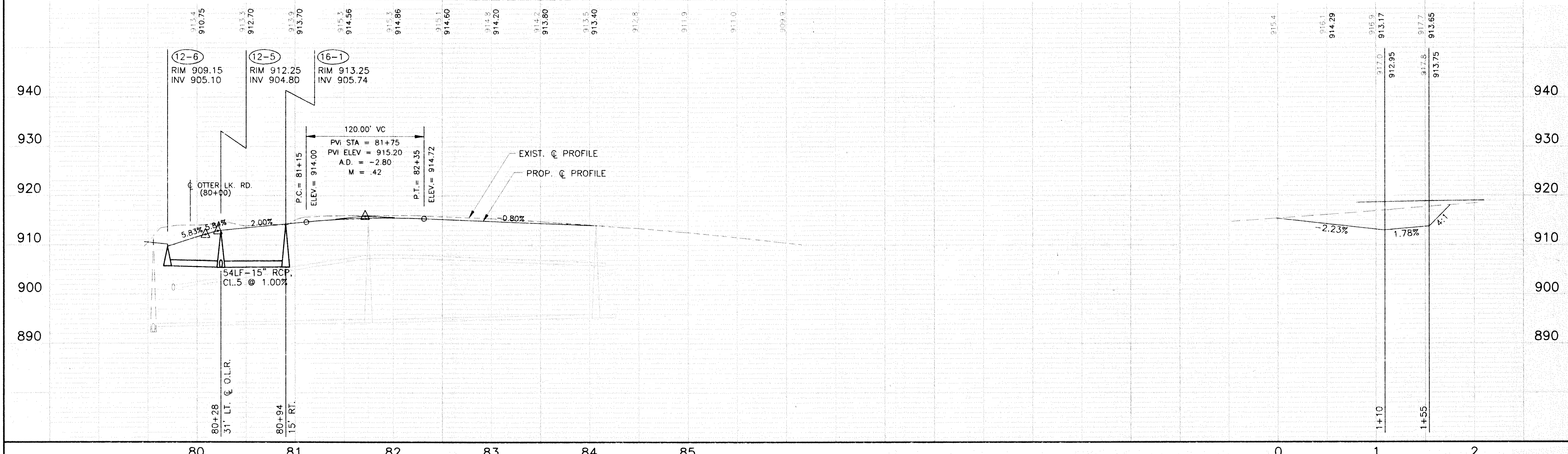


☉ CURVE DATA
 $\Delta = 45^\circ 11' 27''$
 $R = 286.00$
 $T = 119.02$
 $L = 225.58$



OLD OTTER LAKE ROAD

OLD OTTER LAKE ROAD



NO.	DATE	BY	DESCRIPTION OF REVISIONS

DESIGNED DRAWN
 JMW,MDM RDJ,MDM

CHECKED
 JMP

DATE 7/6/98 REG. NO. 20834

TKDA

TOLTZ, KING, DUVALL, ANDERSON AND ASSOCIATES, INCORPORATED

ENGINEERS • ARCHITECTS • PLANNERS

SAINT PAUL, MINNESOTA

OTTER LAKE ROAD REALIGNMENT
 UTILITY & STREET IMPROVEMENTS

LINO LAKES MINNESOTA

OLD OTTER LAKE ROAD
 Otter Lake Rd. to Main Street
 STREET & STORM SEWER

SHEET NO. 16 OF 31 SHEETS

COMMISSION NO.
 11085-02

PLOT DATE: 07/30/1998 DWG: K:\MUM\QTY\LINO\1108502.DWG\SH16.DWG
 XREF: PROSCON

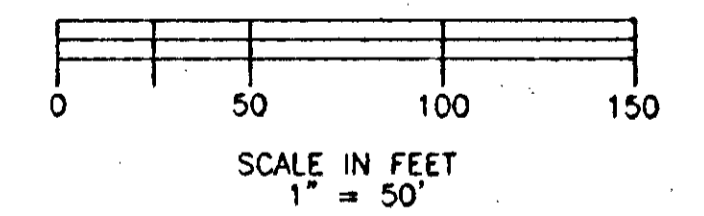
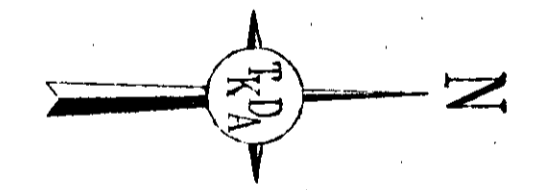
OTTER LAKE ROAD

OLD OTTER LAKE ROAD

- NOTES: 1. OTTER LAKE ROAD LEFT GUTTER SLOPES IN AT PAVEMENT CROSS SLOPE FROM STATION 14+64.98 TO 20+72.44.
2. OLD OTTER LAKE ROAD LEFT GUTTER SLOPES IN AT PAVEMENT CROSS SLOPE TO STATION 82+10.34.

SEE RIGHT

SEE LEFT



PLOT DATE: 07/05/1998 DWG. NO.: MUMU\CTTY\UNO\CT108502.DWG (SHT17.DWG)
 PLOT BOOK: 3349
 PLOT: 3349

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DESIGNED: JMW
 DRAWN: RDJ
 CHECKED: JMP
 DATE: 7/6/98
 REG. NO.: 20834

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.

John W. Powell

TKDA

ENGINEERS • ARCHITECTS • PLANNERS

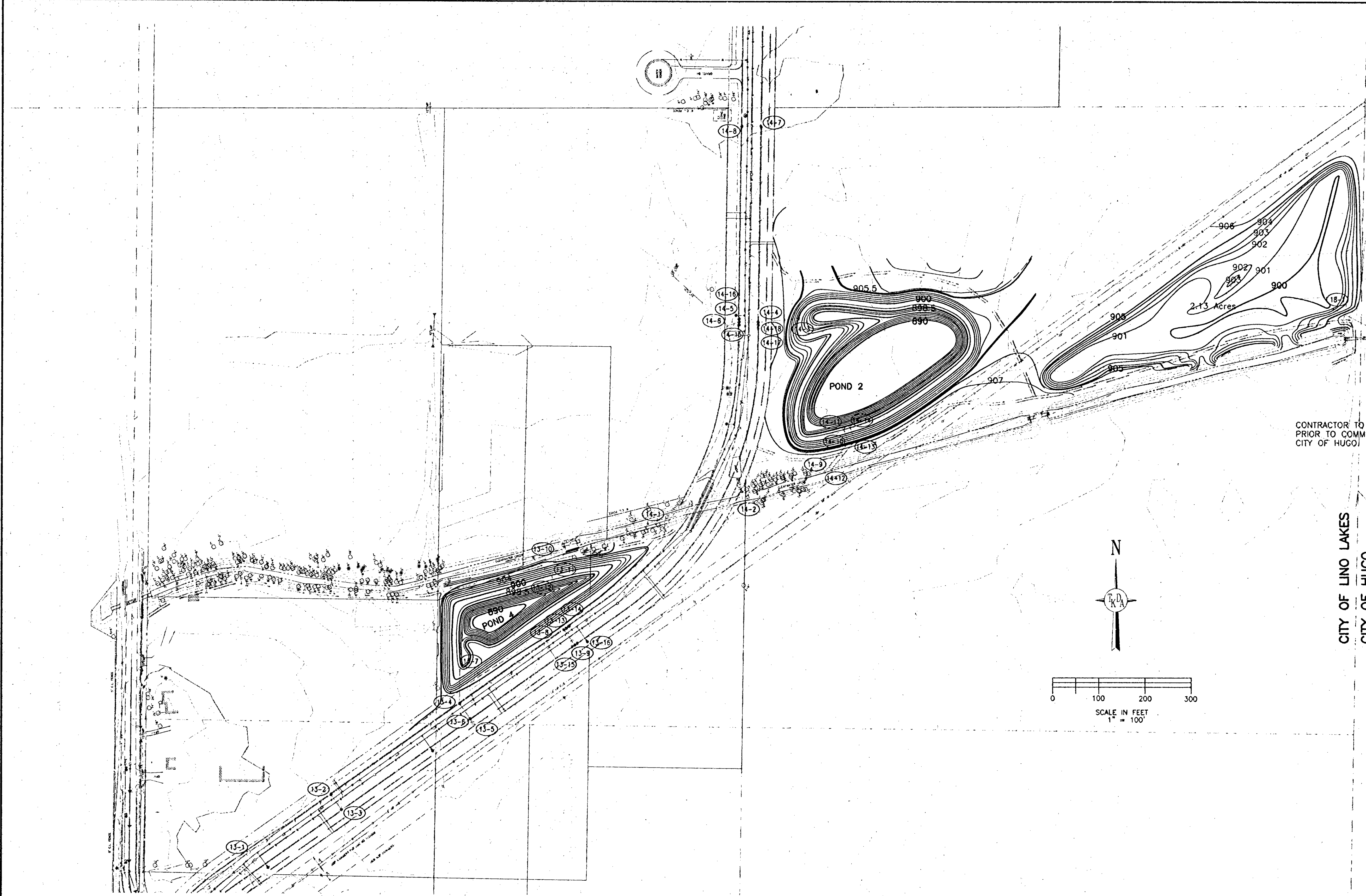
TOLTZ, KING, DUVALL, ANDERSON AND ASSOCIATES INCORPORATED
 SAINT PAUL, MINNESOTA

OTTER LAKE ROAD REALIGNMENT
 UTILITY & STREET IMPROVEMENTS
 LINO LAKES MINNESOTA

SUPERELEVATION PLAN
 SHEET NO. 17 OF 31 SHEETS

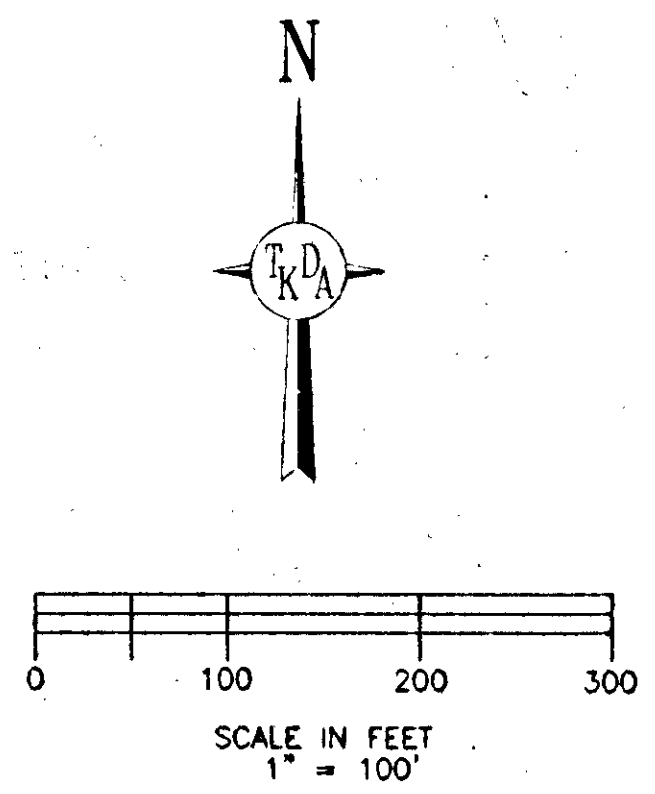
COMMISSION NO.
 11085-02

PLOT DATE: 07/30/1998 DWS: K. MURPHY CITY/LINO/C1108502.DWG/S1818.DWG
 XREF BASED ON: XREF BASED ON: ponds



CONTRACTOR TO NOTIFY ENGINEER
 PRIOR TO COMMENCING WORK IN
 CITY OF HUGO

CITY OF LINO LAKES
 CITY OF HUGO



NO.	DATE	BY	DESCRIPTION OF REVISIONS

DESIGNED: RLG DRAWN: RLG, JRH
 CHECKED: JMP
 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.
John M. Powell
 DATE: 7/8/98 REG. NO.: 20834

TKDA
 ENGINEERS • ARCHITECTS • PLANNERS

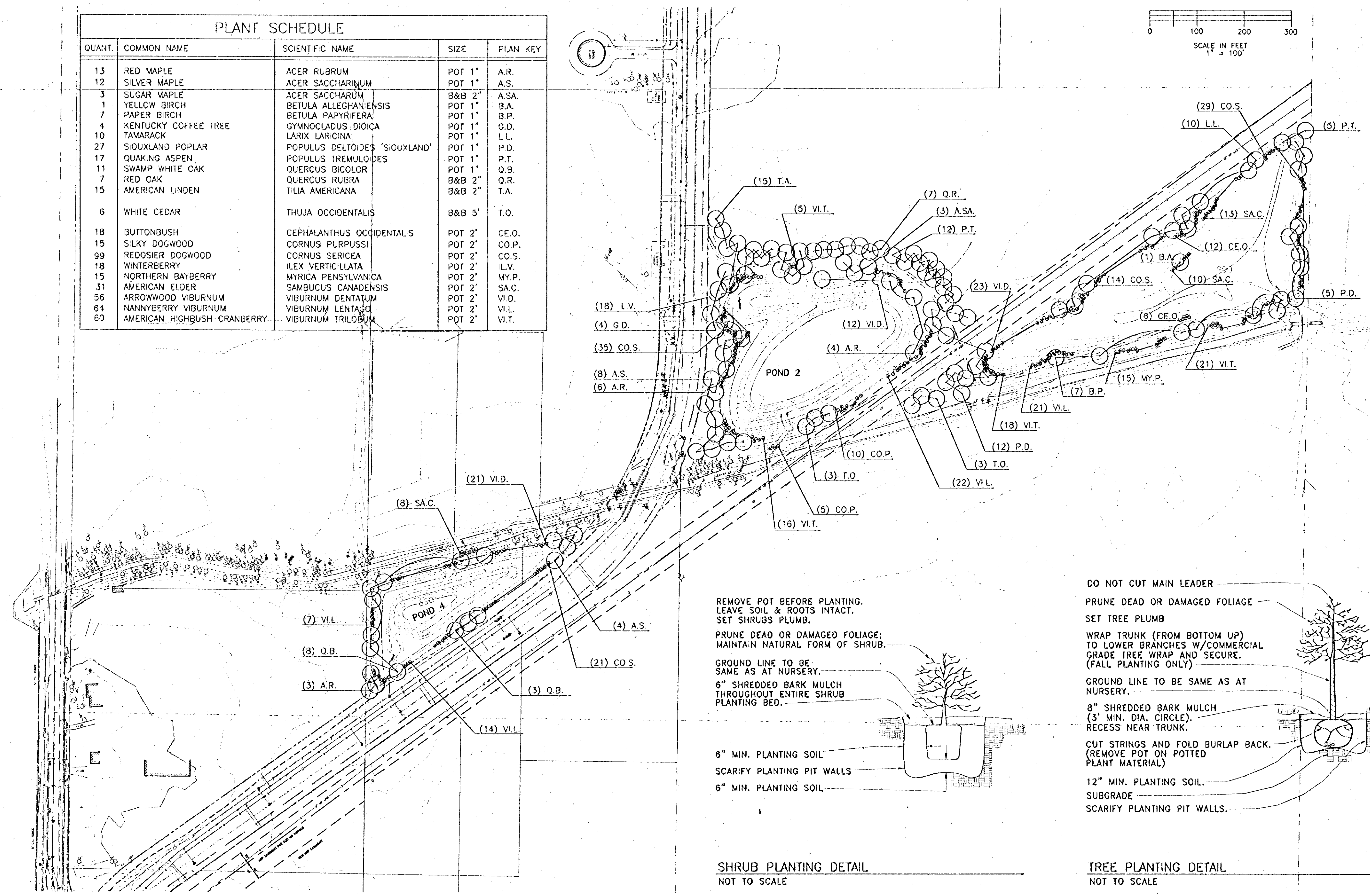
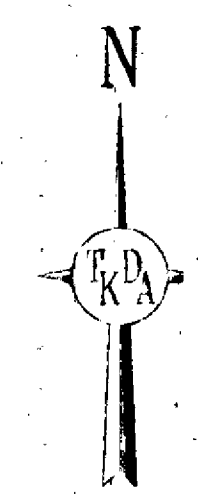
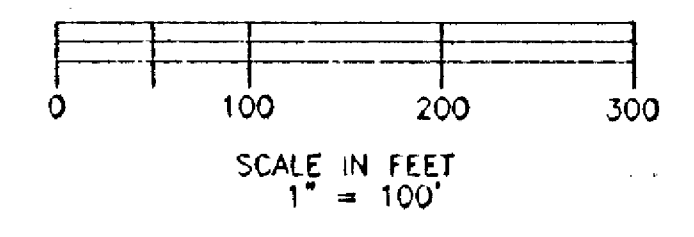
TOLTZ, KING, DUVALL, ANDERSON AND ASSOCIATES INCORPORATED
 SAINT PAUL, MINNESOTA

**OTTER LAKE ROAD REALIGNMENT
 UTILITY & STREET
 IMPROVEMENTS**
 LINO LAKES MINNESOTA

**POND DEVELOPMENT
 &
 GRADING PLAN**
 SHEET NO. 18 OF 31 SHEETS

COMMISSION NO.
11085-02

PLANT SCHEDULE				
QUANT.	COMMON NAME	SCIENTIFIC NAME	SIZE	PLAN KEY
13	RED MAPLE	ACER RUBRUM	POT 1"	A.R.
12	SILVER MAPLE	ACER SACCHARINUM	POT 1"	A.S.
3	SUGAR MAPLE	ACER SACCHARUM	B&B 2"	ASA
1	YELLOW BIRCH	BETULA ALLEGHANIENSIS	POT 1"	B.A.
7	PAPER BIRCH	BETULA PAPIRYFERA	POT 1"	B.P.
4	KENTUCKY COFFEE TREE	GYMNOCLADUS DIOICA	POT 1"	G.D.
10	TAMARACK	LARIX LARICINA	POT 1"	L.L.
27	SIOUXLAND POPLAR	POPULUS DELTOIDES 'SIOUXLAND'	POT 1"	P.D.
17	QUAKING ASPEN	POPULUS TREMULOIDES	POT 1"	P.T.
11	SWAMP WHITE OAK	QUERCUS BICOLOR	POT 1"	Q.B.
7	RED OAK	QUERCUS RUBRA	B&B 2"	Q.R.
15	AMERICAN LINDEN	TILIA AMERICANA	B&B 2"	T.A.
6	WHITE CEDAR	THUJA OCCIDENTALIS	B&B 5'	T.O.
18	BUTTONBUSH	CEPHALANTHUS OCCIDENTALIS	POT 2'	CE.O.
15	SILKY DOGWOOD	CORNUS PURPUSSI	POT 2'	CO.P.
99	REDSIER DOGWOOD	CORNUS SERICEA	POT 2'	CO.S.
18	WINTERBERRY	ILEX VERTICILLATA	POT 2'	IL.V.
15	NORTHERN BAYBERRY	MYRICA PENNSYLVANICA	POT 2'	MY.P.
31	AMERICAN ELDER	SAMBUCUS CANADENSIS	POT 2'	SAC.
56	ARROWWOOD VIBURNUM	VIBURNUM DENTATUM	POT 2'	VI.D.
64	NANNYBERRY VIBURNUM	VIBURNUM LENTAGO	POT 2'	VI.L.
60	AMERICAN Highbush CRANBERRY	VIBURNUM TRILOBUM	POT 2'	VI.T.

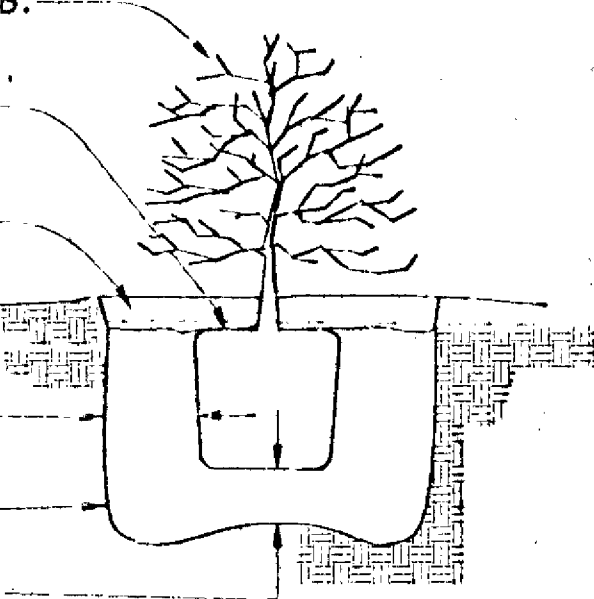


REMOVE POT BEFORE PLANTING.
LEAVE SOIL & ROOTS INTACT.
SET SHRUBS PLUMB.

PRUNE DEAD OR DAMAGED FOLIAGE;
MAINTAIN NATURAL FORM OF SHRUB.

GROUND LINE TO BE
SAME AS AT NURSERY.

6" SHREDDED BARK MULCH
THROUGHOUT ENTIRE SHRUB
PLANTING BED.



SHRUB PLANTING DETAIL
NOT TO SCALE

DO NOT CUT MAIN LEADER

PRUNE DEAD OR DAMAGED FOLIAGE

SET TREE PLUMB

WRAP TRUNK (FROM BOTTOM UP)
TO LOWER BRANCHES W/COMMERCIAL
GRADE TREE WRAP AND SECURE.
(FALL PLANTING ONLY)

GROUND LINE TO BE SAME AS AT
NURSERY.

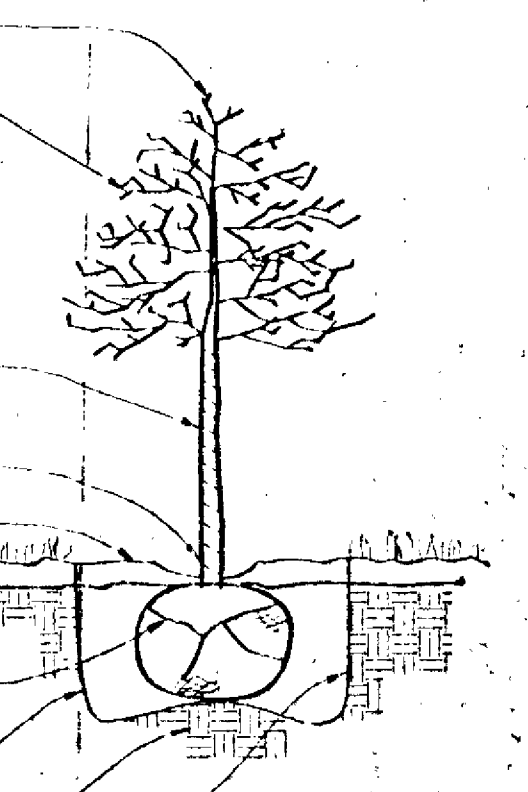
8" SHREDDED BARK MULCH
(3' MIN. DIA. CIRCLE).
RECESS NEAR TRUNK.

CUT STRINGS AND FOLD BURLAP BACK.
(REMOVE POT ON POTTED
PLANT MATERIAL)

12" MIN. PLANTING SOIL.

SUBGRADE

SCARIFY PLANTING PIT WALLS.



TREE PLANTING DETAIL
NOT TO SCALE

PLOT DATE: 07/26/1998 DWG. K. V. LUNDGREN \LUNDGREN\1108502.DWG \SHS.DWG
REF: BOUNDING

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DESIGNED DRAWN
RLG RLG, JRH

CHECKED
JMP

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

DATE 7/8/98 REG. NO. 16346

TKDA
ENGINEERS • ARCHITECTS • PLANNERS

TOLTZ, KING, DUVALL, ANDERSON
AND ASSOCIATES INCORPORATED
SAINT PAUL, MINNESOTA

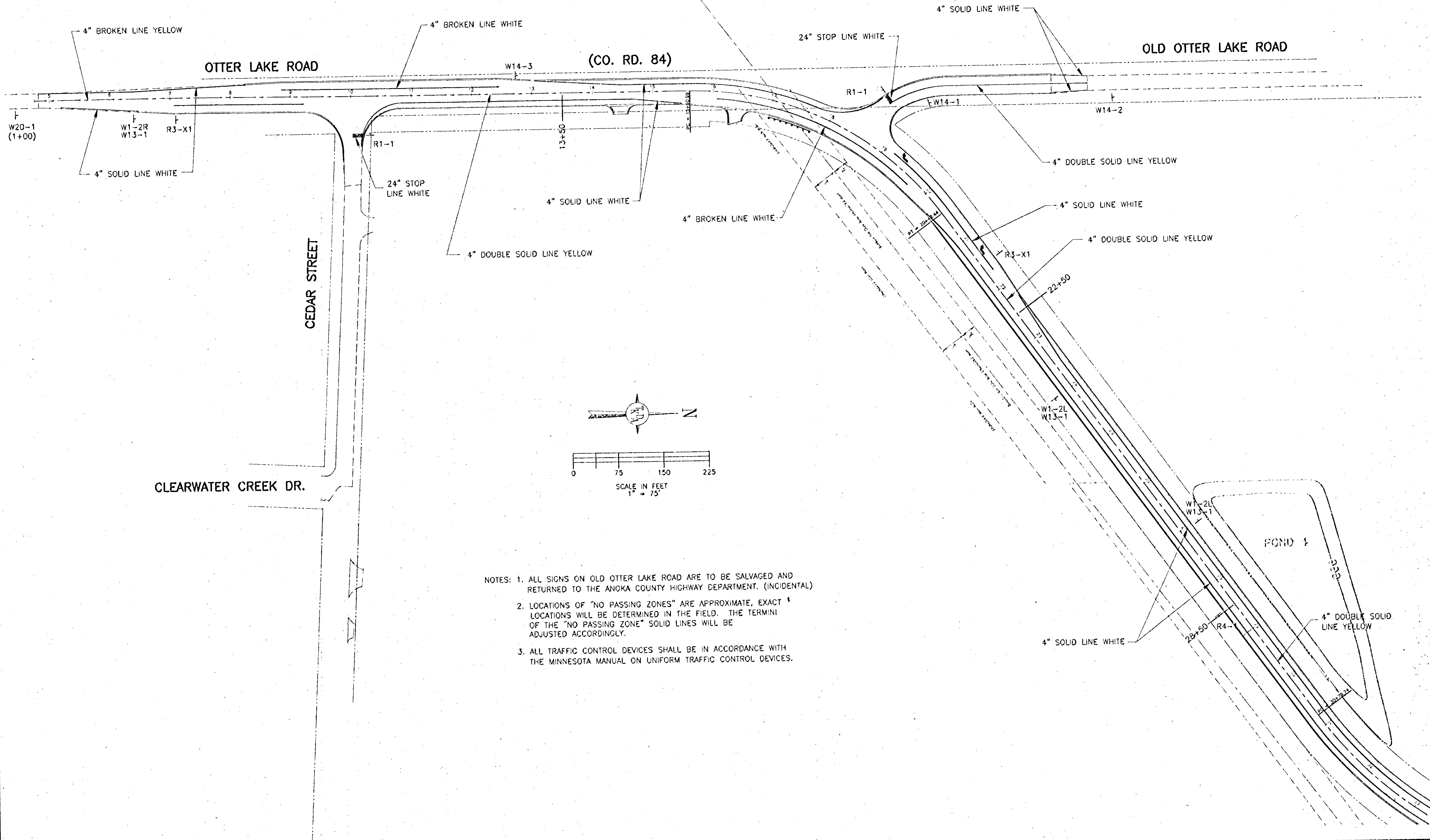
OTTER LAKE ROAD REALIGNMENT
UTILITY & STREET
IMPROVEMENTS

LINO LAKES MINNESOTA

LANDSCAPING PLAN

SHEET NO. 19 OF 31 SHEETS

COMMISSION NO.
11085-02



- NOTES: 1. ALL SIGNS ON OLD OTTER LAKE ROAD ARE TO BE SALVAGED AND RETURNED TO THE ANOKA COUNTY HIGHWAY DEPARTMENT. (INCIDENTAL)
2. LOCATIONS OF "NO PASSING ZONES" ARE APPROXIMATE, EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD. THE TERMINI OF THE "NO PASSING ZONE" SOLID LINES WILL BE ADJUSTED ACCORDINGLY.
3. ALL TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

PLOT DATE: 07/20/1998 DWG. NO. MINNACITY\JMO\CT108502\DWG\SH000.DWG
 FIELD BOOK: 3589 REF: base 3597

NO	DATE	BY	DESCRIPTION OF REVISIONS

DESIGNED: JMW,MDM DRAWN: RDJ,MDM
 CHECKED: JMP
 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.
[Signature]
 DATE: 7/6/98 REG. NO.: 20834

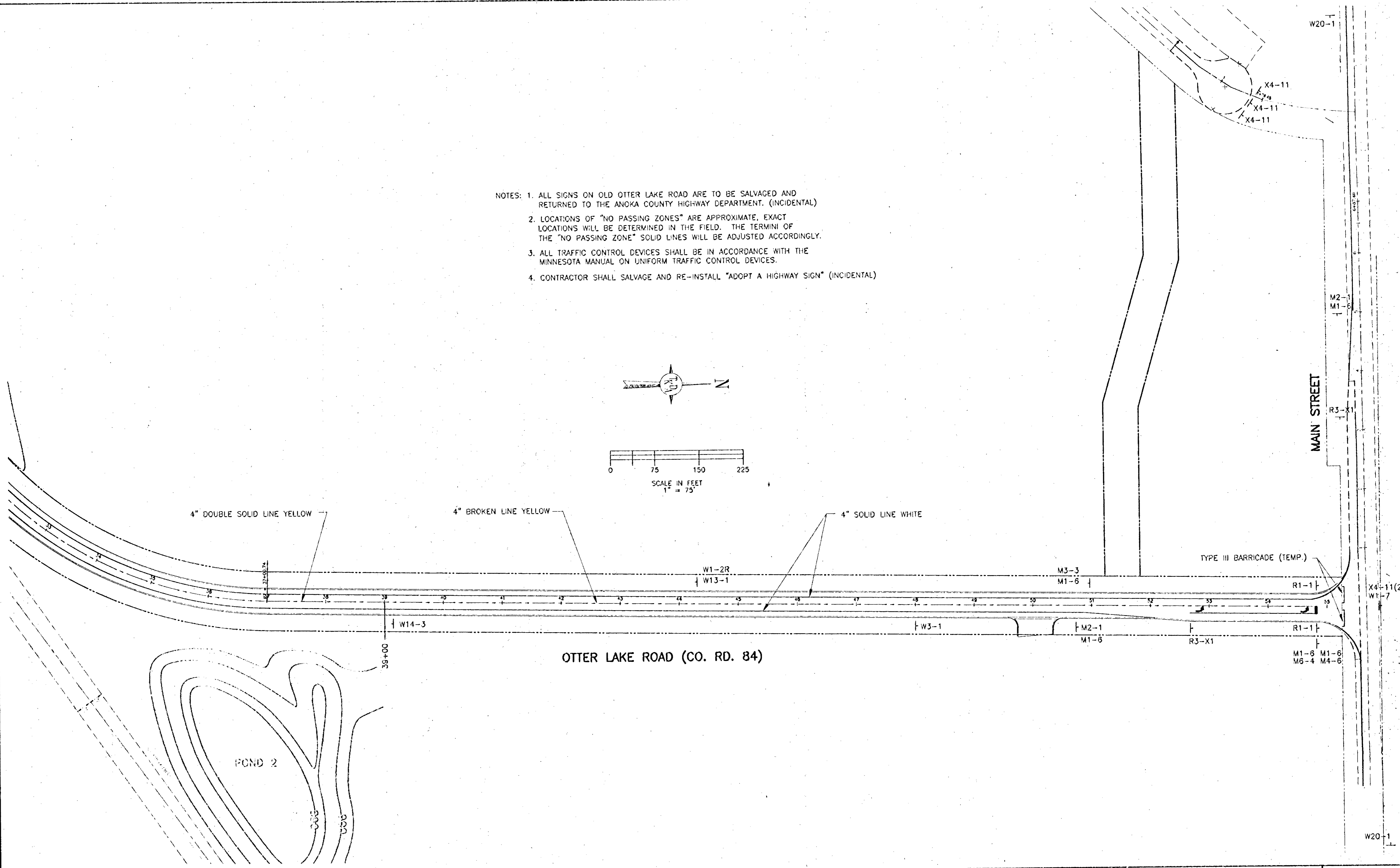
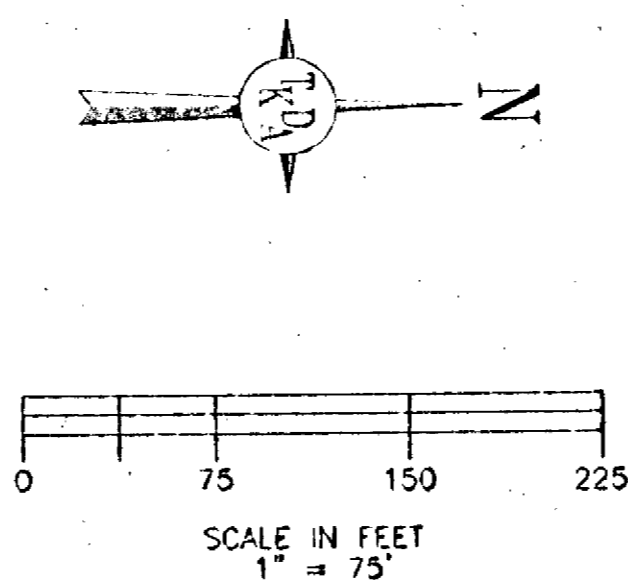
TKDA
 ENGINEERS • ARCHITECTS • PLANNERS
 TOLTZ, KING, DUVALL, ANDERSON AND ASSOCIATES INCORPORATED
 SAINT PAUL, MINNESOTA

OTTER LAKE ROAD REALIGNMENT
 UTILITY & STREET IMPROVEMENTS
 LINO LAKES MINNESOTA

PAVEMENT SIGNING AND STRIPING PLAN
 SHEET NO. 20 OF 31 SHEETS

COMMISSION NO.
 11085-02

- NOTES: 1. ALL SIGNS ON OLD OTTER LAKE ROAD ARE TO BE SALVAGED AND RETURNED TO THE ANOKA COUNTY HIGHWAY DEPARTMENT. (INCIDENTAL)
2. LOCATIONS OF "NO PASSING ZONES" ARE APPROXIMATE, EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD. THE TERMINI OF THE "NO PASSING ZONE" SOLID LINES WILL BE ADJUSTED ACCORDINGLY.
3. ALL TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
4. CONTRACTOR SHALL SALVAGE AND RE-INSTALL "ADOPT A HIGHWAY SIGN" (INCIDENTAL)



PLOT DATE: 07/20/1998 DWG. K:\MUNICIPALITY\1108502\DWG\SK21.DWG
 FIELD BOOK: 3369 REF: BASE 3367

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DESIGNED: JMW,MDM
 DRAWN: RDJ,MDM
 CHECKED: JMW
 DATE: 7/15/98
 REG. NO.: 20834

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

W. M. Powell

TKDA
 ENGINEERS • ARCHITECTS • PLANNERS

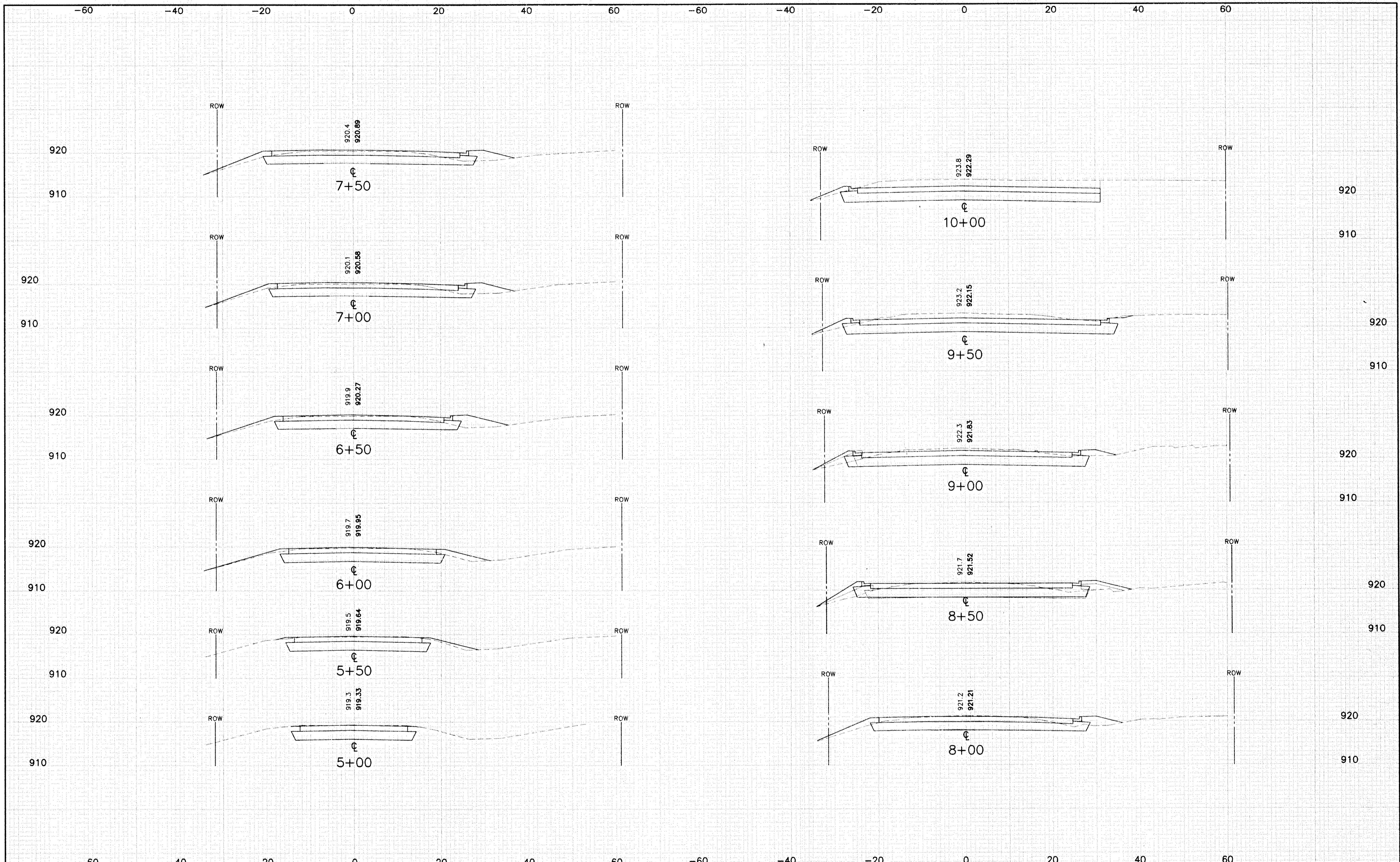
TOLTZ, KING, DUVALL, ANDERSON
 AND ASSOCIATES INCORPORATED
 SAINT PAUL, MINNESOTA

OTTER LAKE ROAD REALIGNMENT
 UTILITY & STREET IMPROVEMENTS
 LINO LAKES MINNESOTA

PAVEMENT SIGNING AND STRIPING PLAN
 SHEET NO. 21 OF 31 SHEETS

COMMISSION NO.
 11085-02

PLOT DATE: 07/30/1998 DWG: K:\MUNI\CTTY\LINO\CT108502\JWC\SH22.DWG
 XREF: SEC101



NO.	DATE	BY	DESCRIPTION OF REVISIONS

DESIGNED: JMW
 DRAWN: JMW
 CHECKED: JMW
 DATE: 7/6/98
 REG. NO. 20834

TKDA
 ENGINEERS • ARCHITECTS • PLANNERS

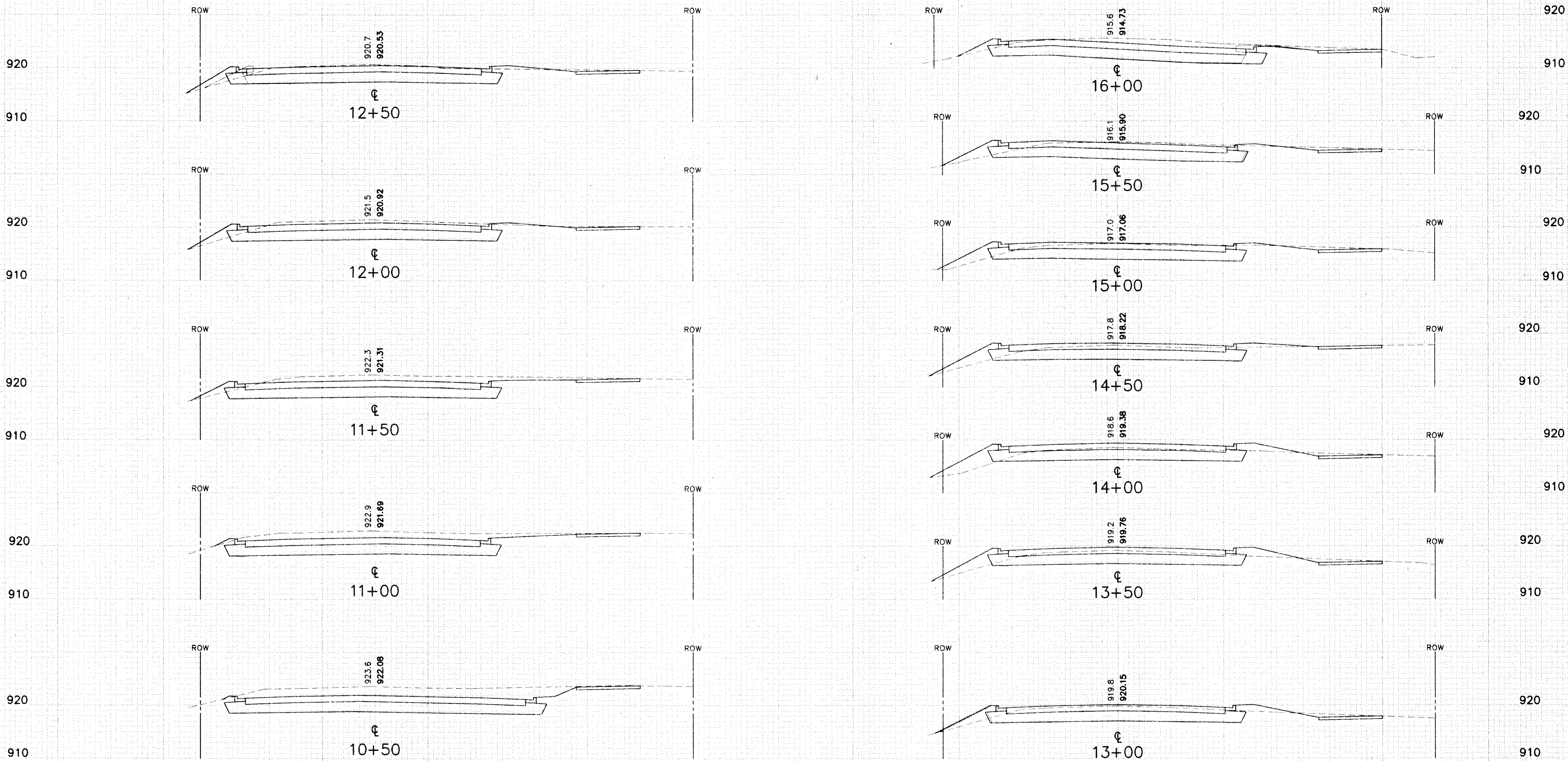
TOLTZ, KING, DUVALL, ANDERSON
 AND ASSOCIATES, INCORPORATED
 SAINT PAUL, MINNESOTA

OTTER LAKE ROAD REALIGNMENT
 UTILITY & STREET
 IMPROVEMENTS
 LINO LAKES MINNESOTA

OTTER LAKE ROAD
 5+00 TO 10+00
 CROSS SECTIONS
 SHEET NO. 22 OF 31 SHEETS

COMMISSION NO.
 11085-02

-60 -40 -20 0 20 40 60 -60 -40 -20 0 20 40 60



PLOT DATE: 07/30/1998 DWG: K:\JMW\QTY\UNO\Q1108502\DWG\SH23.DWG XREF: SEC_01

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DESIGNED: JMW DRAWN: JMW
 CHECKED: JMW
 DATE: 7/6/98 REG. NO. 20834

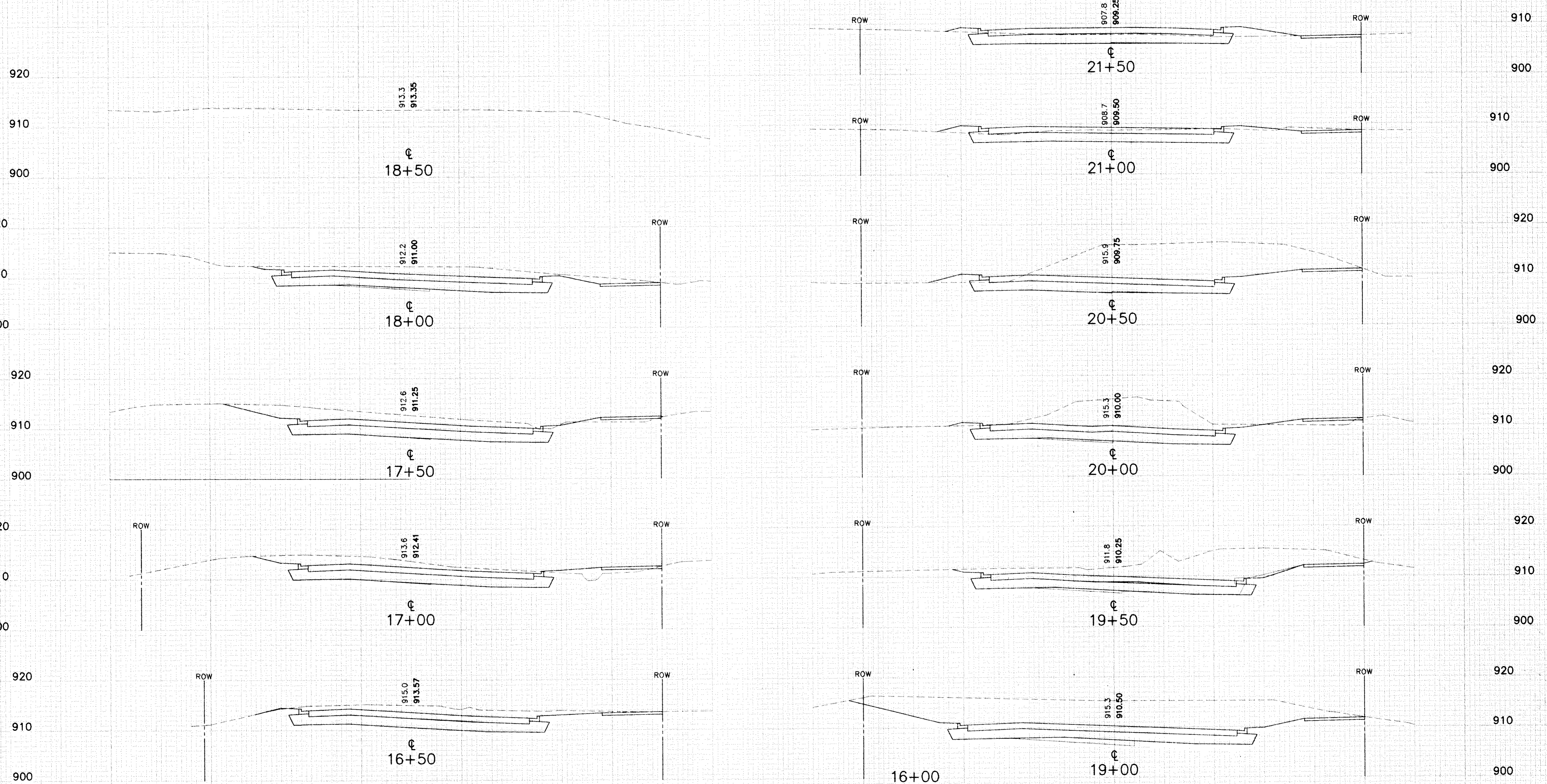
TKDA
 ENGINEERS • ARCHITECTS • PLANNERS
 TOLTZ, KING, DUVALL, ANDERSON AND ASSOCIATES, INCORPORATED
 SAINT PAUL, MINNESOTA

OTTER LAKE ROAD REALIGNMENT
 UTILITY & STREET IMPROVEMENTS
 LINO LAKES MINNESOTA

OTTER LAKE ROAD
 10+50 TO 16+00
 CROSS SECTIONS
 SHEET NO. 23 OF 31 SHEETS

COMMISSION NO.
 11085-02

-60 -40 -20 0 20 40 60 -60 -40 -20 0 20 40 60



PLOT DATE: 07/30/1998 DWG: K:\MUN\QTY\LINO\1108502.DWG\SH42.DWG XREF: SEC_01T FIELD BOOK:

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DESIGNED: JMW DRAWN: JMW
 CHECKED: JMW
 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.
John M. Powell
 DATE: 7/6/98 REG. NO. 20834

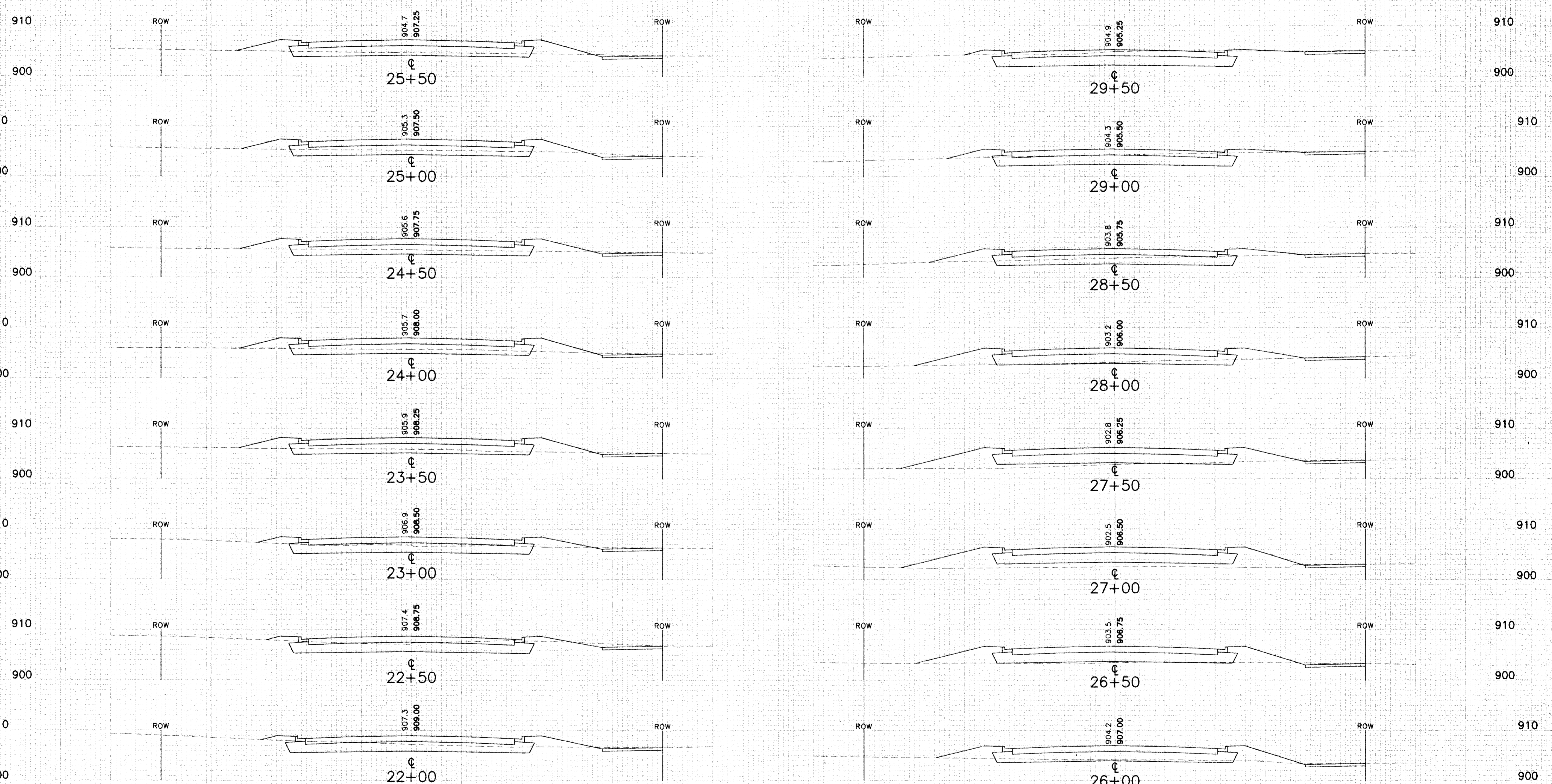
TKDA
 ENGINEERS • ARCHITECTS • PLANNERS
 TOLTZ, KING, DUWALL, ANDERSON AND ASSOCIATES INCORPORATED
 SAINT PAUL, MINNESOTA

OTTER LAKE ROAD REALIGNMENT
 UTILITY & STREET IMPROVEMENTS
 LINO LAKES MINNESOTA

OTTER LAKE ROAD
 16+50 TO 21+50
 CROSS SECTIONS
 SHEET NO. 24 OF 31 SHEETS

COMMISSION NO.
 11085-02

-60 -40 -20 0 20 40 60 -60 -40 -20 0 20 40 60



PLOT DATE: 07/30/1998 DWG: K:\MUNICIPALITY\LINO\CT108502\UMW\S425.DWG
XREF: SEC_011
FIELD BOOK:

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DESIGNED: JMW
DRAWN: JMW
CHECKED: JMW
DATE: 7/6/98
REG. NO.: 20834

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

John M. Powell

TKDA
ENGINEERS • ARCHITECTS • PLANNERS

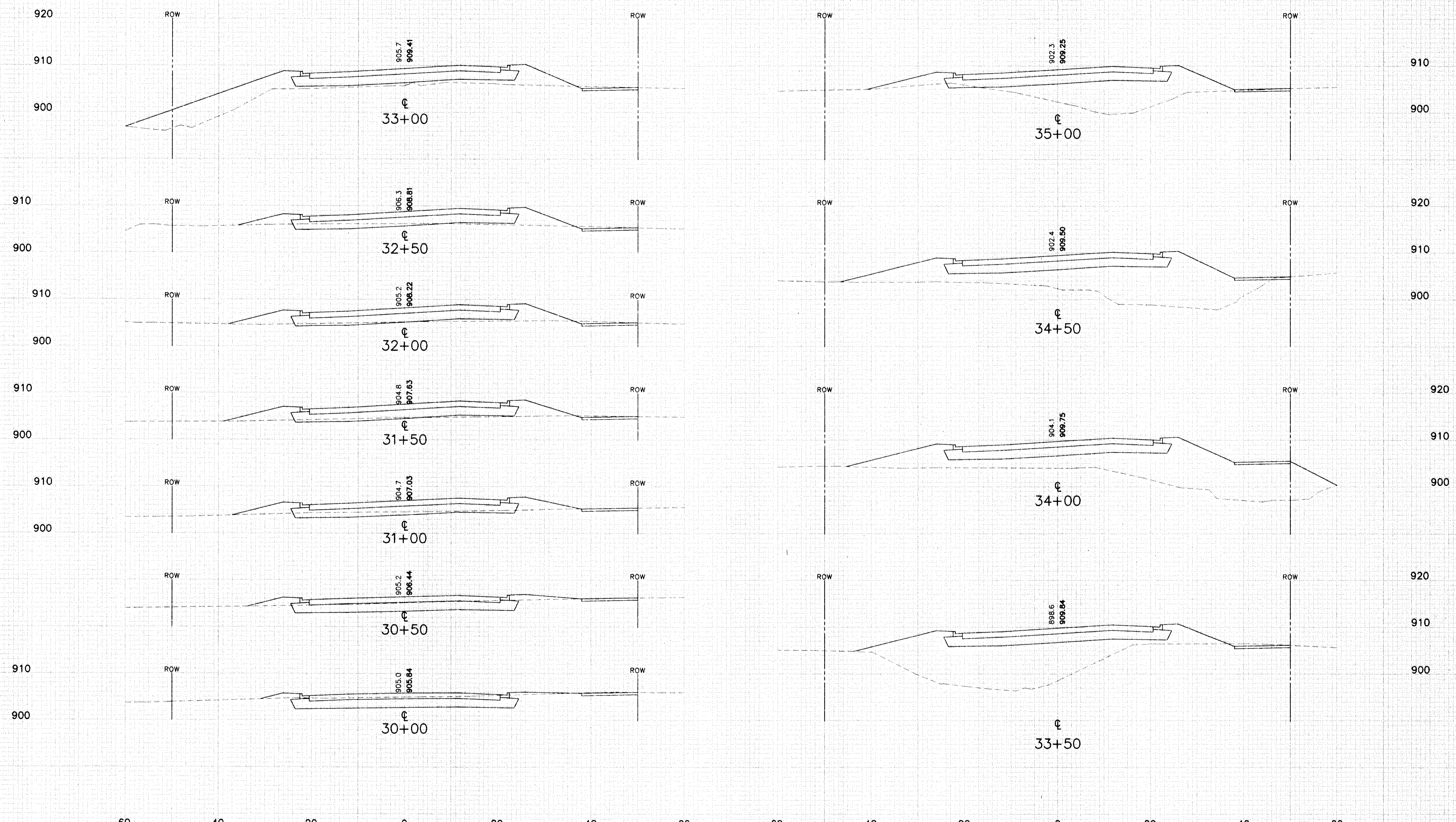
TOLTZ, KING, DUVALL, ANDERSON AND ASSOCIATES INCORPORATED
SAINT PAUL, MINNESOTA

OTTER LAKE ROAD REALIGNMENT
UTILITY & STREET IMPROVEMENTS
LINO LAKES MINNESOTA

OTTER LAKE ROAD
22+00 TO 29+50
CROSS SECTIONS
SHEET NO. 25 OF 31 SHEETS

COMMISSION NO.
11085-02

-60 -40 -20 0 20 40 60 -60 -40 -20 0 20 40 60



PLOT DATE: 07/30/1998 DWG: K:\MINN\CTTY\LINO\1108502.DWG\SH26.DWG XREF: SEC_01T

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DESIGNED: JMW DRAWN: JMW
 CHECKED: JMW
 I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A FULLY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 DATE: 7/6/98 REG. NO. 20834

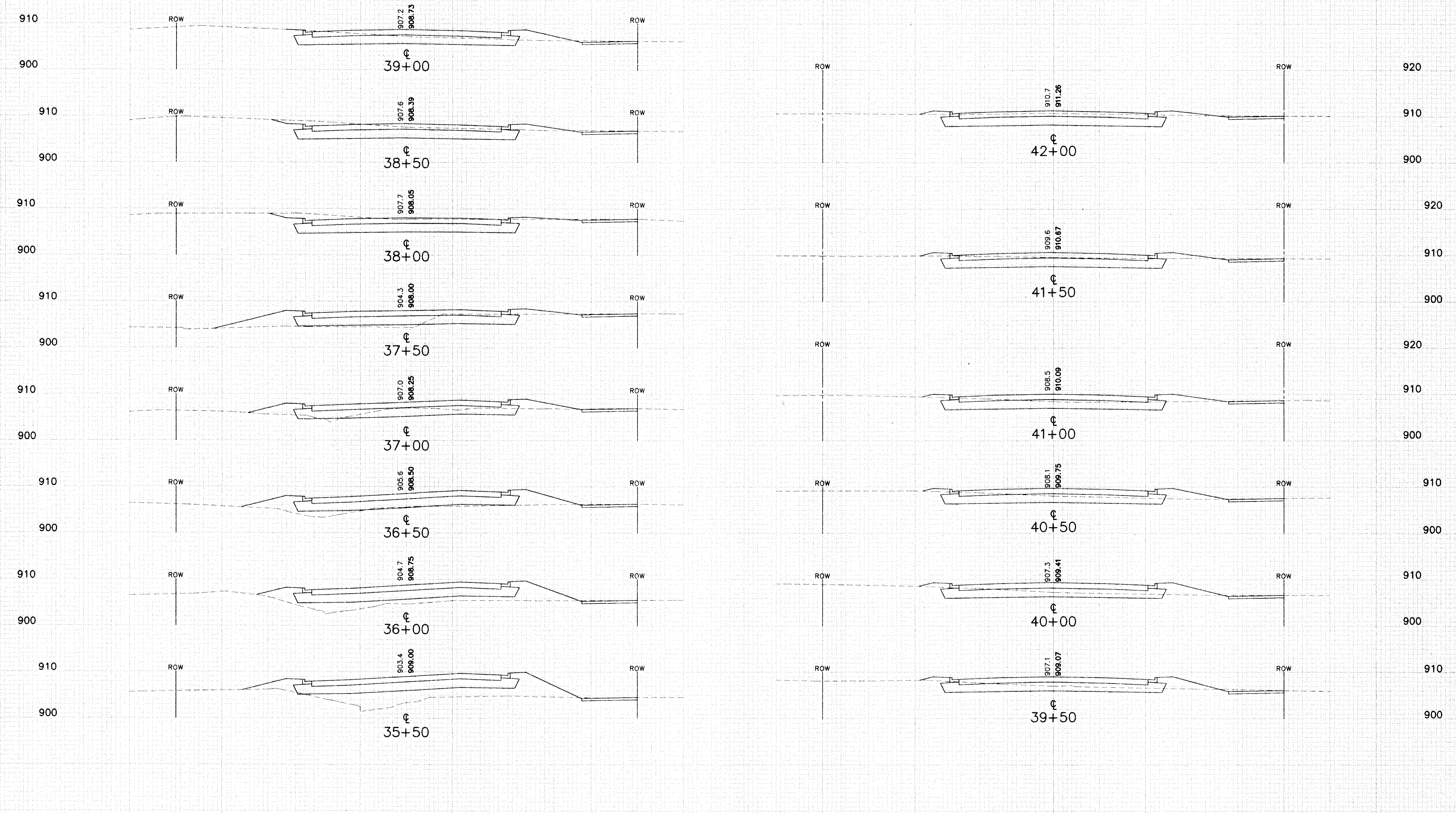
TKDA
 ENGINEERS • ARCHITECTS • PLANNERS
 TOLTZ, KING, DUVALL, ANDERSON AND ASSOCIATES, INCORPORATED
 SAINT PAUL, MINNESOTA

OTTER LAKE ROAD REALIGNMENT
 UTILITY & STREET IMPROVEMENTS
 LINO LAKES MINNESOTA

OTTER LAKE ROAD
 30+00 TO 35+00
 CROSS SECTIONS
 SHEET NO. 26 OF 31 SHEETS

COMMISSION NO.
 11085-02

-60 -40 -20 0 20 40 60 -60 -40 -20 0 20 40 60



PLOT DATE: 07/20/1998 DWG: K:\MUNICIPAL\LINOL\1108502\DWG\SH27.DWG XREF: SEC_01T

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DESIGNED: JMW DRAWN: JMW
 CHECKED: JMW
 I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A FULLY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 DATE: 7/6/98 REG. NO.: 20834

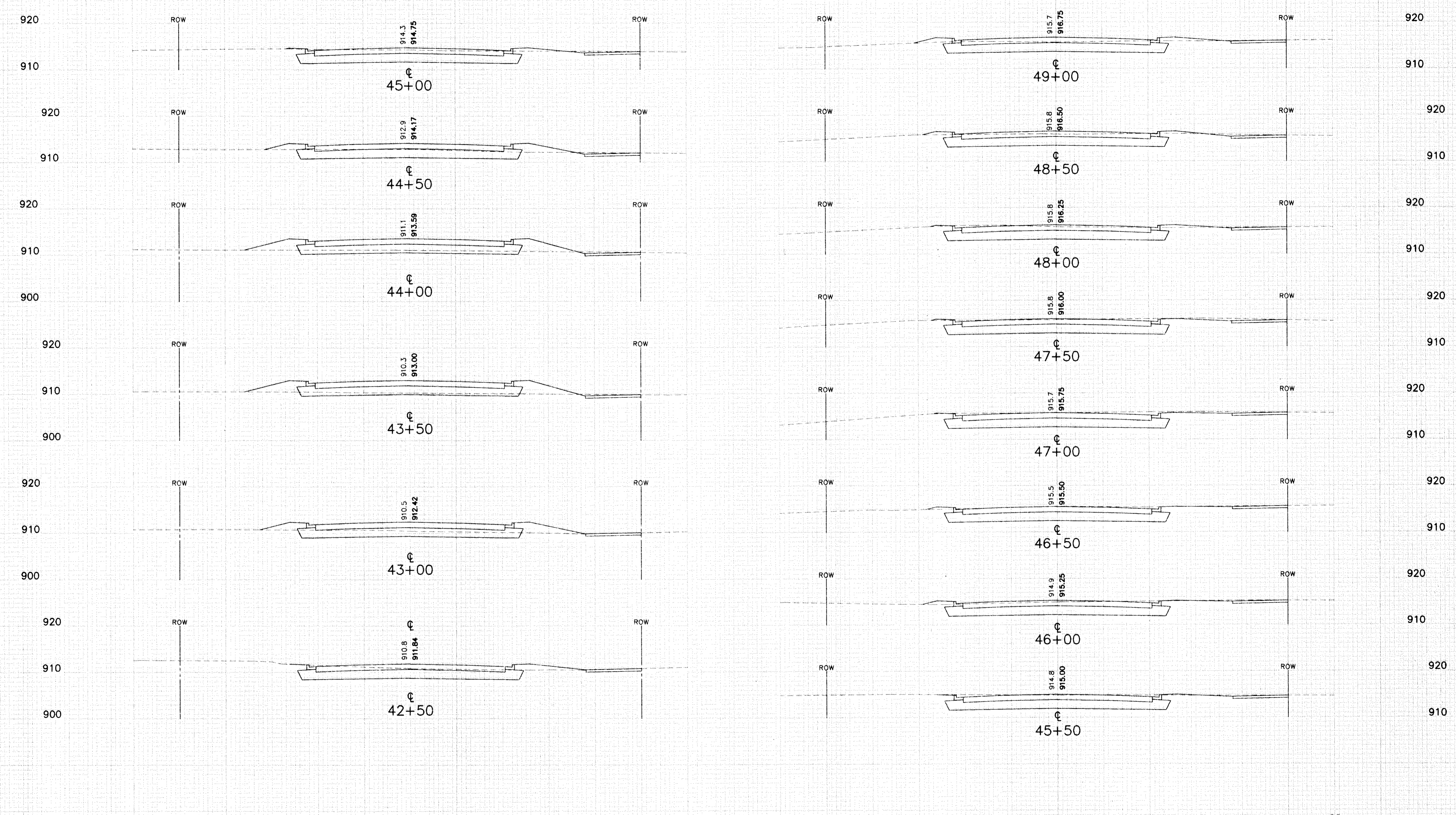
TKDA
 ENGINEERS • ARCHITECTS • PLANNERS
 TOLTZ, KING, DUVALL, ANDERSON AND ASSOCIATES INCORPORATED
 SAINT PAUL, MINNESOTA

OTTER LAKE ROAD REALIGNMENT
 UTILITY & STREET IMPROVEMENTS
 LINO LAKES MINNESOTA

OTTER LAKE ROAD
 35+50 TO 42+00
 CROSS SECTIONS
 SHEET NO. 27 OF 31 SHEETS

COMMISSION NO.
 11085-02

-60 -40 -20 0 20 40 60 -60 -40 -20 0 20 40 60



PLOT DATE: 07/20/1998 DWS: K:\MUNI\CTY\LINO\1108502.DWG\SH28.DWG XREF: Sec_01

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DESIGNED: JMW DRAWN: JMW
 CHECKED: JMP
 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: 7/6/98 REG. NO. 20834

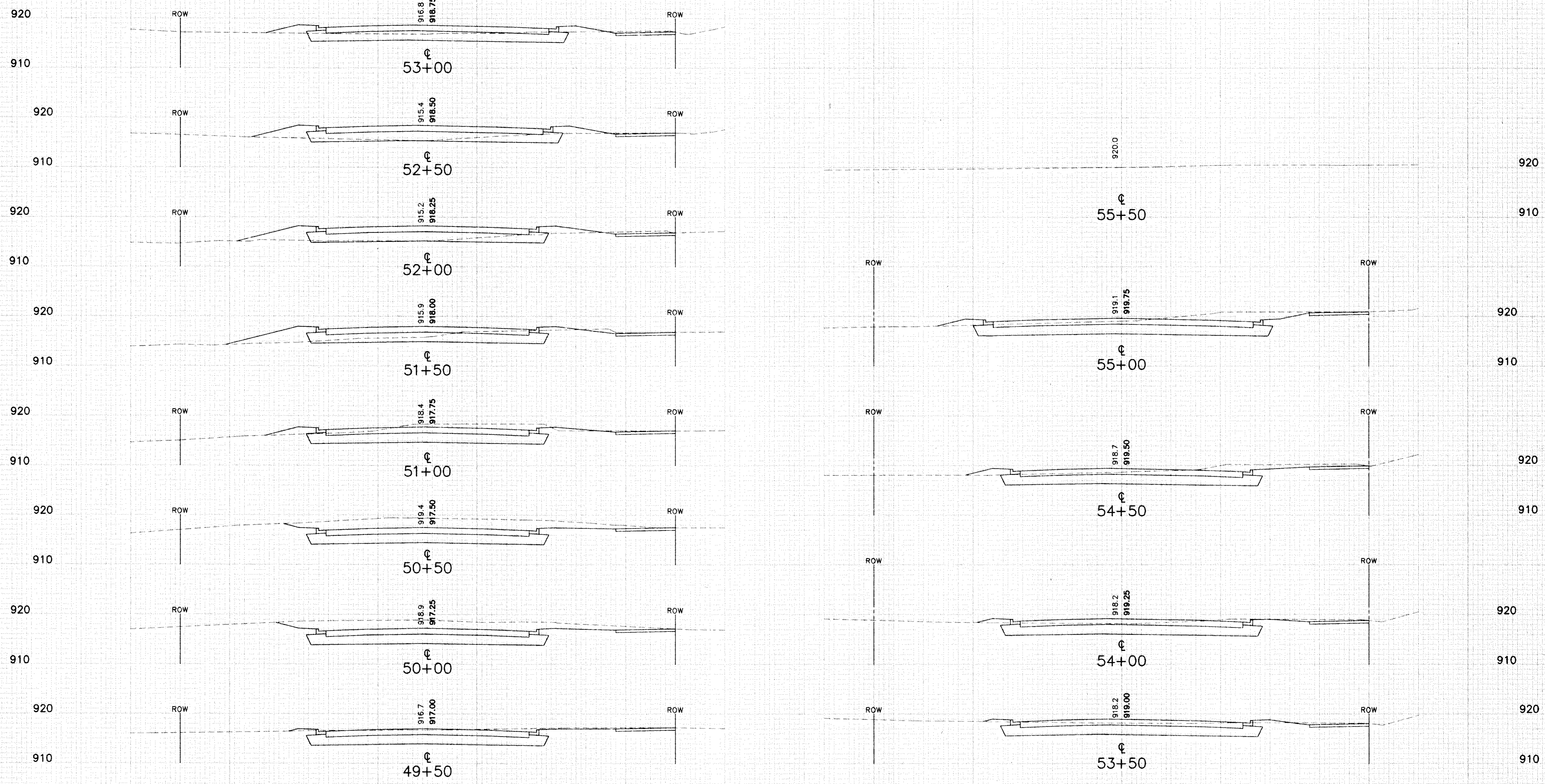
TKDA
 ENGINEERS • ARCHITECTS • PLANNERS
 TOLTZ, KING, DUVALL, ANDERSON AND ASSOCIATES INCORPORATED
 SAINT PAUL, MINNESOTA

OTTER LAKE ROAD REALIGNMENT
 UTILITY & STREET IMPROVEMENTS
 LINO LAKES MINNESOTA

OTTER LAKE RD.
 42+50 TO 49+00
 CROSS SECTIONS
 SHEET NO. 28 OF 31 SHEETS

COMMISSION NO.
 11085-02

-60 -40 -20 0 20 40 60 -60 -40 -20 0 20 40 60



PLOT DATE: 07/30/1998 DWG. K. MUNI\GTY\LINO\G1108502\DWG\SH29.DWG XREF: sec_ott

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DESIGNED: JMW
 DRAWN: JMW
 CHECKED: JMW
 I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A FULLY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 DATE: 7/6/98 REG. NO. 20834

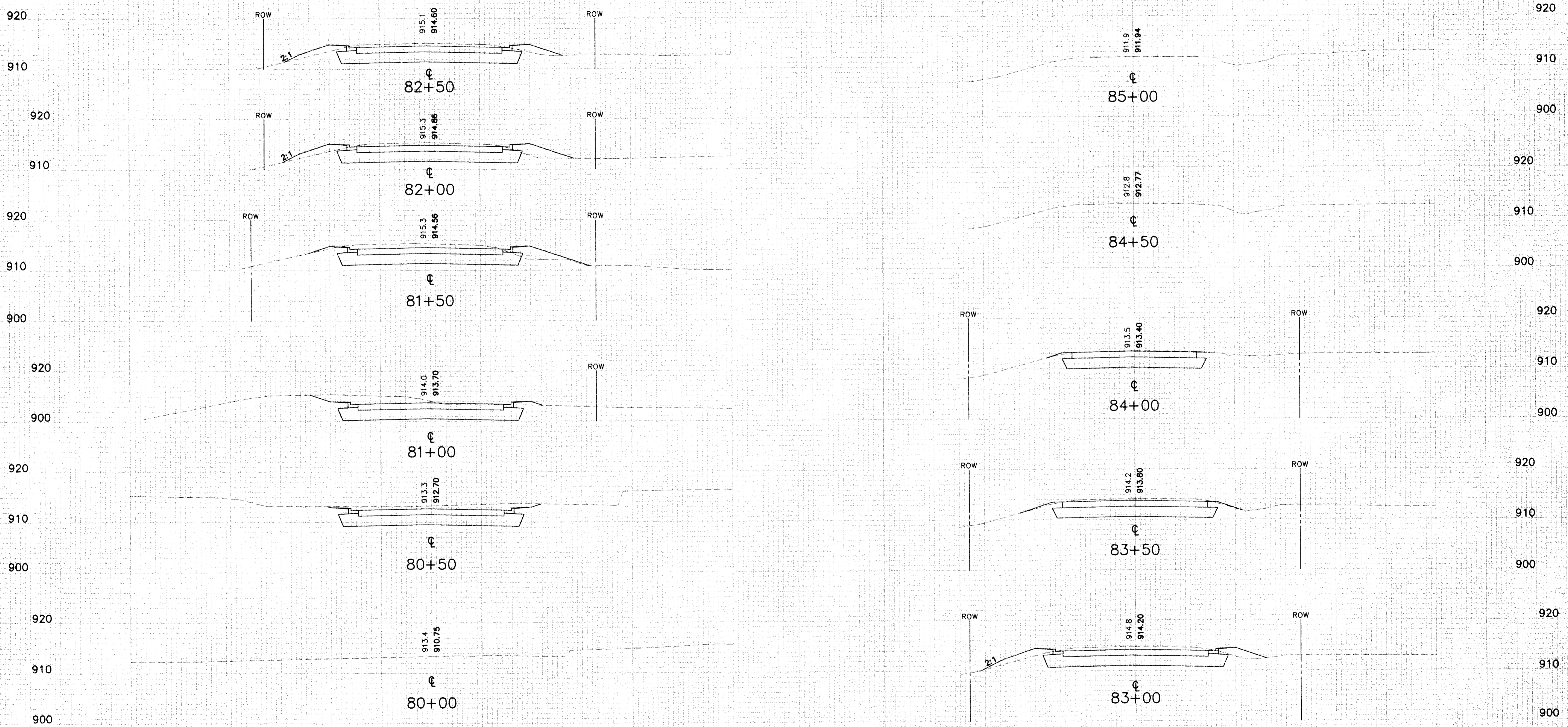
TKDA
 ENGINEERS • ARCHITECTS • PLANNERS
 TOLTZ, KING, DUVALL, ANDERSON AND ASSOCIATES INCORPORATED
 SAINT PAUL, MINNESOTA

OTTER LAKE ROAD REALIGNMENT
 UTILITY & STREET IMPROVEMENTS
 LINO LAKES MINNESOTA

OTTER LAKE RD.
 49+50 TO 55+50
 CROSS SECTIONS
 SHEET NO. 29 OF 31 SHEETS

COMMISSION NO.
 11085-02


-60 -40 -20 0 20 40 60 -60 -40 -20 0 20 40 60



-60 -40 -20 0 20 40 60 -60 -40 -20 0 20 40 60

PLOT DATE: 07/30/1998 DWG. K: WJW\CT\LIN\01108502.DWG\SH30.DWG
FIELD BOOK:

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DESIGNED JMW	DRAWN JMW	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 7/6/98 REG. NO. 20834
CHECKED JMP		

TKDA
ENGINEERS • ARCHITECTS • PLANNERS

TOLTZ, KING, DUVAL, ANDERSON
AND ASSOCIATES INCORPORATED
SAINT PAUL, MINNESOTA

**OTTER LAKE ROAD REALIGNMENT
UTILITY & STREET
IMPROVEMENTS**

LINO LAKES MINNESOTA

**OLD OTTER LAKE ROAD
80+50 TO 85+00
CROSS SECTIONS**

SHEET NO. 30 OF 31 SHEETS

COMMISSION NO.
11085-02

OTTER LAKE ROAD

OTTER LAKE ROAD

OLD OTTER LAKE ROAD

Table with columns: STATION, AREAS (Square Feet CUT, FILL), VOLUMES (Cubic Yards CUT, FILL), CUMULATIVE VOLUMES (Cubic Yards CUT, FILL). Rows range from station 5+00 to 33+00.

Table with columns: STATION, AREAS (Square Feet CUT, FILL), VOLUMES (Cubic Yards CUT, FILL), CUMULATIVE VOLUMES (Cubic Yards CUT, FILL). Rows range from station 33+50 to 55+50.

Table with columns: STATION, AREAS (Square Feet CUT, FILL), VOLUMES (Cubic Yards CUT, FILL), CUMULATIVE VOLUMES (Cubic Yards CUT, FILL). Rows range from station 80+00 to 86+00.

PLOT DATE: 07/30/1998 DWG. K:\MUNA\QTY\LINO\G1108502\DWG\SH31.DWG XREF: FIELD BOOK:

DESIGNED: JMP,RDJ GVG,MDM DRAWN: CHECKED: JMP I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DAILY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA DATE: 7/6/98 REG. NO. 20834

TKDA ENGINEERS • ARCHITECTS • PLANNERS TOLTZ, KING, DUVALL, ANDERSON AND ASSOCIATES INCORPORATED SAINT PAUL, MINNESOTA

OTTER LAKE ROAD REALIGNMENT UTILITY & STREET IMPROVEMENTS LINO LAKES MINNESOTA

EARTHWORK TABULATION SHEET NO. 31 OF 31 SHEETS

COMMISSION NO. 11085-02