

MINNESOTA DEPARTMENT OF TRANSPORTATION ANOKA COUNTY

CONSTRUCTION PLAN FOR GRADING, AGG.BASE, BITUMINOUS SURFACING, DRAINAGE, CURB & GUTTER, SIGNAL SYSTEM, CONCRETE WALK AND BITUMINOUS PATH.

LOCATED ON ROUND LAKE BLVD. BETWEEN BUNKER LAKE BLVD. AND 130 FT. NORTH OF (Geographic Description)
C.S.A.H. 9 C.S.A.H. 116 152ND. LANE N.W.

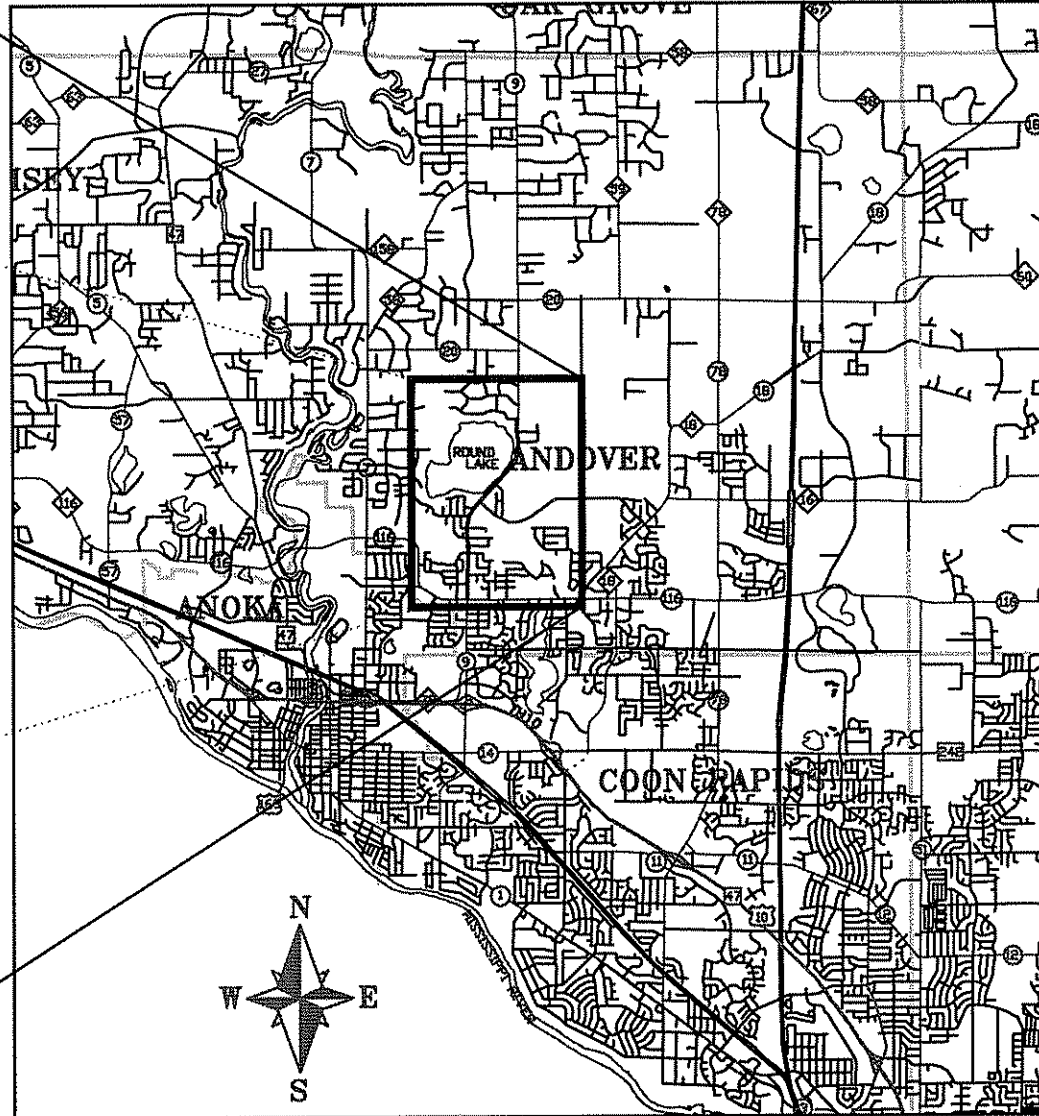
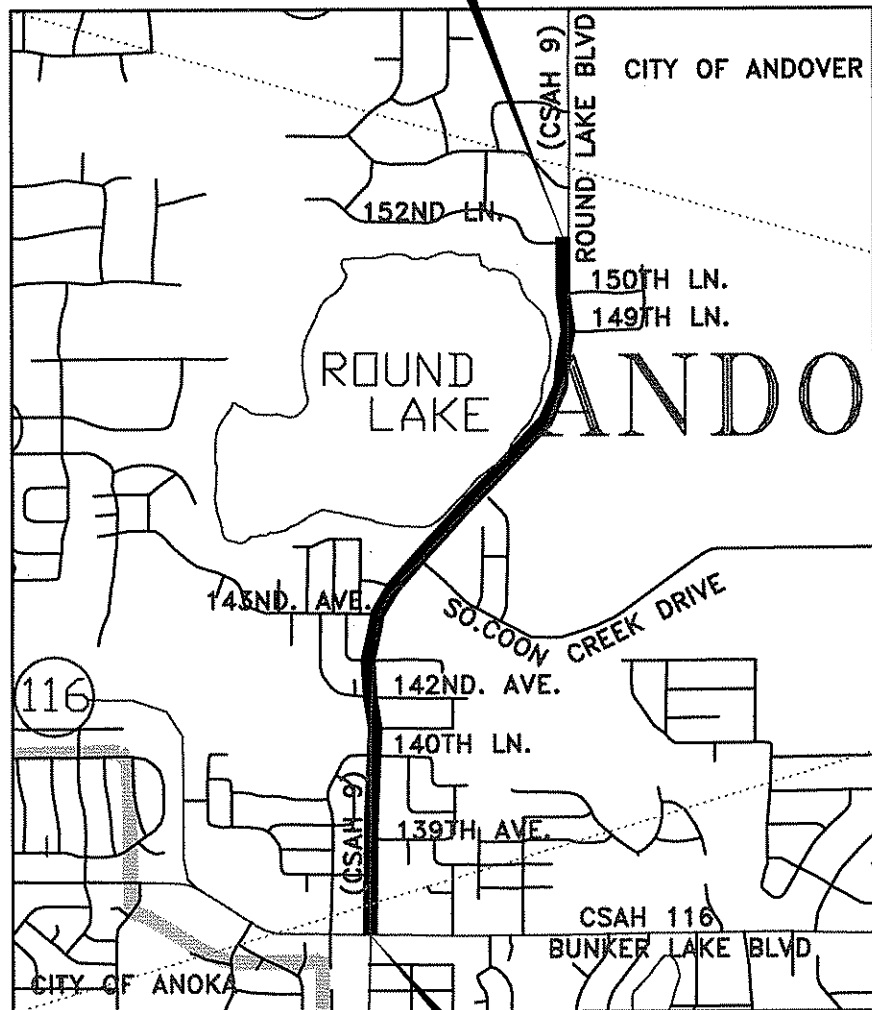
STATE PROJ. NO. 02-609-12

C.S.A.H. 9 (ROUND LAKE BLVD.)

GROSS LENGTH	10,504.10 FEET	1.989 MILES
BRIDGES-LENGTH	0.00 FEET	0.000 MILES
EXCEPTIONS-LENGTH	0.00 FEET	0.000 MILES
NET LENGTH	10,504.10 FEET	1.989 MILES

END CONSTRUCTION
S.A.P. 02-609-12
STA 186+10.60

BEGIN CONSTRUCTION
S.A.P. 02-609-12
STA 81+06.50



DESIGN DESIGNATION - SOUTH COON CREEK DRIVE

DESIGN DESIGNATION - 143RD AVENUE NW

ESAL ₂₀ 265,626	Functional Classification COLLECTOR
R VALUE 70	No. of Traffic Lanes 2
ADT (2000)= 1,950	No. of Parking Lanes 0
Proj. ADT (2020)= 3,100	Design Speed 30 MPH
Proj. HCADT (2020)=	Based on Stopping Sight Distance
Soil Factor NA	Height of eye 3.50'
9 TON DESIGN	Height of object 0.50'
	Design Speed not achieved at: NA

ESAL ₂₀ 256,890	Functional Classification COLLECTOR
R VALUE 70	No. of Traffic Lanes 2
ADT (2000)= 1,250	No. of Parking Lanes 0
Proj. ADT (2020)= 3,100	Design Speed 30 MPH
Proj. HCADT (2020)=	Based on Stopping Sight Distance
Soil Factor NA	Height of eye 3.50'
9 TON DESIGN	Height of object 0.50'
	Design Speed not achieved at: NA

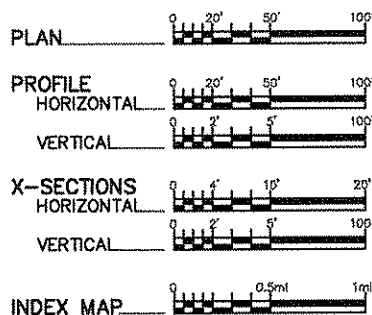
PLAN SYMBOLS

COUNTY LINE	-----
TOWNSHIP OR RANGE LINE	-----
SECTION LINE	-----
QUARTER LINE	-----
SIXTEENTH LINE	-----
RIGHT OF WAY LINE	-----
SLOPE EASEMENT	-----
EXISTING RIGHT OF WAY	-----
PROPERTY LINE	-----
CORPORATE OR CITY LIMITS	-----
RETAINING WALL	-----
RAILROAD	-----
RAILROAD RIGHT OF WAY	-----
RIVER OR CREEK	-----
DRAINAGE DITCH	-----
CULVERT	-----
DROP INLET	-----
GUARD RAIL	-----
BARBED WIRE FENCE	-----
WOVEN WIRE FENCE	-----
CHAIN LINK FENCE	-----
WOOD FENCE	-----
STONE WALL OR FENCE	-----
HEDGE	-----
LOWLAND	-----
TIMBER	-----
ORCHARD	-----
BRUSH	-----
NURSERY	-----
CATTLE GUARD	-----
OVERPASS (Highway Over)	-----
UNDERPASS (Highway Under)	-----
BRIDGE	-----
BUILDING (One Story Frame)	-----
F-FRAME D-CONCRETE	-----
S-STONE T-TILE	-----
B-BRICK ST-STUCCO	-----
RAILROAD CROSSING BELL	-----
RAILROAD CROSSING GATE	-----
MANHOLE	-----
CATCH BASIN	-----
FIRE HYDRANT	-----
CAST IRON MONUMENT	-----
IRON PIN	-----
GRAVEL PIT	-----
SAND PIT	-----
BORROW PIT	-----
ROCK QUARRY	-----

UTILITY SYMBOLS

POWER POLE LINE	-----
TELEPHONE OR TELEGRAPH POLE LINE	-----
JOINT TELEPHONE & POWER ON POWER POLES	-----
ON TELEPHONE POLES	-----
ANCHOR	-----
STEEL TOWER	-----
STREET LIGHT	-----
PEDESTAL (Cable Terminal)	-----
GAS MAIN	-----
WATERMAIN	-----
TELEPHONE CABLE IN CONDUIT	-----
ELECTRIC CABLE IN CONDUIT	-----
TELEPHONE MANHOLE	-----
ELECTRIC MANHOLE	-----
BURIED TELEPHONE CABLE	-----
BURIED ELECTRIC CABLE	-----
AERIAL TELEPHONE CABLE	-----
SEWER (Sanitary or Storm)	-----
SEWER MANHOLE	-----

SCALES



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

GOVERNING SPECIFICATIONS

THE 2000 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MMUTCD, INCLUDING "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS."

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THIS PLAN CONTAINS 165 SHEETS

DESIGN DESIGNATION - CSAH 9

ESAL ₂₀	2,246,180
R VALUE	70
ADT (2003)=	17,933
Proj. ADT (2023)=	25,106
Proj. HCADT (2023)=	1,481
Soil Factor	NA
10 TON DESIGN	
Functional Classification	HIGH DENSITY ARTERIAL
No. of Traffic Lanes	4 No. of Parking Lanes 0
Design Speed	55 MPH
Based on Stopping Sight Distance	
Height of eye	3.50' Height of object 0.50'
Design Speed not achieved at:	NA

Approved 8/22, 2003 ANOKA COUNTY ENGINEER

Approved 8/22, 2003 CITY OF ANDOVER

Recommended for Approval 9/5, 2003 METRO-ASSISTANT DIVISION ENGINEER-STATE AID For Rules

Approved for State Aid Division 9/5, 2003 STATE AID ENGINEER For Funding

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
PRINT NAME: PETER M. LEMKE
SIGNATURE:
DATE: 8/22/2003 LICENSE NO. 40118

DRAWN BY: MM DATE: 3/27/03
DESIGN BY: MM DATE: 3/27/03
CHECKED BY: PM DATE: 8/22/03



ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. _____
STATE AID PROJECT NO. 02-609-12
CITY PROJECT NO. 198-020-17
COUNTY PROJECT NO. _____

TITLE SHEET

Sheet 1 of 165 Sheets

STATEMENT OF ESTIMATED QUANTITIES

TAB. NO.	NOTE	ITEM NO.	ITEM	UNIT	TOTAL	ANOKA COUNTY SAP 02-609 12		ANOKA COUNTY NON-PARTICIPATING		CITY OF ANDOVER 198 020 17		CITY OF ANDOVER NON-PARTICIPATING		STORM SEWER SAP 02 609 12	
						EST.	FINAL	EST.	FINAL	EST.	FINAL	EST.	FINAL	EST.	FINAL
S		2501.515	12" RC PIPE APRON	EACH	6										6
S		2501.515	18" RC PIPE APRON	EACH	1										1
S		2501.515	30" RC PIPE APRON	EACH	1										1
S		2501.515	36" RC PIPE APRON	EACH	1										1
S		2501.515	42" RC PIPE APRON	EACH	1										1
S		2503.541	12" RC PIPE SEWER DES 3006 CLASS II	LIN FT	2465										2465
S		2503.541	15" RC PIPE SEWER DES 3006 CLASS II	LIN FT	1485										1485
S		2503.541	18" RC PIPE SEWER DES 3006 CLASS II	LIN FT	1818										1818
S		2503.541	21" RC PIPE SEWER DES 3006 CLASS II	LIN FT	286										286
S		2503.541	24" RC PIPE SEWER DES 3006 CLASS II	LIN FT	1549										1549
S		2503.541	27" RC PIPE SEWER DES 3006 CLASS II	LIN FT	1330										1330
S		2503.541	30" RC PIPE SEWER DES 3006 CLASS II	LIN FT	590										590
S		2503.541	33" RC PIPE SEWER DES 3006 CLASS II	LIN FT	374										374
S		2503.541	36" RC PIPE SEWER DES 3006 CLASS II	LIN FT	529										529
S		2503.541	42" RC PIPE SEWER DES 3006 CLASS II	LIN FT	51										51
S		2503.602	CONNECT INTO EXISTING DRAINAGE STRUCTURE	EACH	1										1
S		2503.602	CONNECT TO EXISTING STORM SEWER	EACH	6										6
P	25	2503.602	CONNECT TO EXISTING SANITARY SEWER	EACH	1								1		
P	25	2503.602	CONNECT TO EXISTING MANHOLES (SANITARY SEWER)	EACH	2								2		
		2503.602	ADJUST SANITARY SEWER SERVICE	EACH	15								15		
P	25	2503.602	SERVICE CLEANOUT	EACH	5								5		
O,P	25	2503.603	4" PVC PIPE SEWER SCHEDULE 40	LIN FT	740								740		
P	25	2503.603	8" PVC PIPE SEWER (SDR 35)	LIN FT	964								964		
P	25	2503.603	TELEWISE SANITARY SEWER	LIN FT	935								935		
O	25	2503.608	DUCTILE IRON FITTINGS	LB	2127								2127		
O	25	2504.602	6" GATE VALVE AND BOX	EACH	8								8		
O	25	2504.602	8" GATE VALVE AND BOX	EACH	5								5		
O	25	2504.602	12" GATE VALVE AND BOX	EACH	3								3		
O	25	2504.602	1" CORP STOP	EACH	13								13		
O	25	2504.602	1" CURB STOP AND BOX	EACH	13								13		
P	25	2504.602	8" X 4" PVC WYE	EACH	5								5		
O	25	2504.602	HYDRANT	EACH	7								7		
V	23, 25	2504.602	RELOCATE HYDRANT	EACH	8					8					
V	23, 25	2504.602	INSTALL HYDRANT	EACH	2					2					
V	25	2504.602	ADJUST HYDRANT	EACH	2					2					
V	25	2504.602	ADJUST GATE VALVE	EACH	34					34					
O	25	2504.602	12" X 8" PRESSURE TAP WITH 8" GV & BOX	EACH	2								2		
O	25	2504.602	CONNECT TO EXISTING WATER MAIN	EACH	7								7		
		2504.602	ADJUST CURB STOP AND BOX	EACH	15								15		
O,V	25	2504.603	6" WATERMAIN DUCTILE IRON CL 52	LIN FT	236								236		
O	25	2504.603	8" WATERMAIN DUCTILE IRON CL 52	LIN FT	1045								1045		
O	25	2504.603	12" WATERMAIN DUCTILE IRON CL 52	LIN FT	2410								2410		
O	25	2504.603	1" TYPE K COPPER PIPE	LIN FT	725								725		
O	16,25	2504.604	2" POLYSTYRENE INSULATION	SQ YD	1900					1900					
O,P	15,25	2504.609	1 1/2" CRUSHED ROCK	TON	1980								1980		
S		2506.501	CONST DRAINAGE STRUCTURE DESIGN F	LIN FT	39										39
S		2506.501	CONST DRAINAGE STRUCTURE DESIGN G	LIN FT	356.9										357
S		2506.501	CONST DRAINAGE STRUCTURE DESIGN H	LIN FT	22.7										23
S		2506.501	CONST DRAINAGE STRUCTURE DESIGN 48-4020	LIN FT	61.4										61
S		2506.501	CONST DRAINAGE STRUCTURE DESIGN 54-4020	LIN FT	63.5										64
S		2506.501	CONST DRAINAGE STRUCTURE DESIGN 60-4020	LIN FT	74.5										75
S		2506.501	CONST DRAINAGE STRUCTURE DESIGN 66-4020	LIN FT	6.1										6
S		2506.501	CONST DRAINAGE STRUCTURE DESIGN 72-4020	LIN FT	33.5										34
S		2506.501	CONST DRAINAGE STRUCTURE DESIGN 78-4020	LIN FT	29.7										30
S		2506.501	CONST DRAINAGE STRUCTURE DESIGN 84-4020	LIN FT	11.3										11
S		2506.501	CONST DRAINAGE STRUCTURE DESIGN 90-4020	LIN FT	5.9										6
S	17	2506.502	CONSTRUCT DRAINAGE STRUCTURE DESIGN SPECIAL	EACH	1										1

1	9-03-03	MFG	PML	PML	SEE NOTES 24, 27, 28, 29
2	9-06-03	MFG	PML	PML	UPDATED TRAFFIC CONTROL QUANTITIES
NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\0260912\PLAN\03-08-TabSheet.dwg 09/06/2003 03:22:13 PM CDT					

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 PRINT NAME: PETER M. LEMKE
 SIGNATURE: *Peter M Lemke*
 DATE: 9/3/2003 LICENSE NO. 40118

DRAWN BY: _____ MN. DATE: 2/2/03
 DESIGN BY: _____ EML. DATE: 4/9/03
 CHECKED BY: _____ PML. DATE: 8/22/03

ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. _____
 STATE AID PROJECT NO. 02-609-12
 CITY PROJECT NO. 198-020-17
 COUNTY PROJECT NO. _____

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						EST.	FINAL	EST.	FINAL	EST.	FINAL	EST.	FINAL	EST.	FINAL
S		2506.503	RECONSTRUCT DRAINAGE STRUCTURE	LIN FT	4.3										4
S		2506.602	STORMWATER TREATMENT SYSTEM	EACH	1										1
T		2506.516	CASTING ASSEMBLY	EACH	153										153
T		2506.521	INSTALL CASTING	EACH	5										5
N,S		2506.522	ADJUST FRAME AND RING CASTING	EACH	11					6					5
P	25	2506.602	CONSTRUCT SANITARY MANHOLE W/CASTING (0-10')	EACH	6							6			
P	25	2506.602	CONSTRUCT SANITARY MANHOLE (EXTRA DEPTH)	LIN FT	6.67							6.67			
N	25	2506.603	RECONSTRUCT SANITARY MANHOLE	LIN FT	66					66					
S		2511.501	RANDOM RIPRAP, CL III	CU YD	51										51
S		2511.515	GEOTEXTILE FILTER TYPE IV	SQ YD	103										103
R,K	28, 29	2521.501	4" CONCRETE WALK	SQ FT	76145	56,394				19,751					
R	28	2531.501	CONCRETE CURB & GUTTER DESIGN B418	LIN FT	32422	23,808				8,614					
R	28	2531.501	CONCRETE CURB & GUTTER DESIGN B618	LIN FT	730	365				365					
M		2531.507	6" CONCRETE DRIVEWAY PAVEMENT	SQ YD	530	530									
	26	2531.604	7" CONCRETE VALLEY GUTTER	SQ YD	267	267									
R		2531.618	CONCRETE NOSE DES 7113	SQ FT	148	148									
	18	2531.618	PEDESTRIAN CURB RAMP (TRUNCATED DOME)	SQ FT	416	416									
		2533.504	CONCRETE MEDIAN BARRIER DES 8337B	LIN FT	1370	1370									
H		2540.602	RELOCATE MAIL BOX SUPPORT	EACH	28	28									
H		2540.602	RELOCATE MAIL BOX SUPPORT SPECIAL	EACH	3	3									
	28	2554.615	IMPACT ATTENUATOR	AMBY	6	6									
E		2557.603	TEMPORARY FENCE	LIN FT	1020	1020									
		2563.601	TRAFFIC CONTROL STAGE 1	LS	1	1									
		2563.601	TRAFFIC CONTROL STAGE 2	LS	1	1									
		2563.601	TRAFFIC CONTROL STAGE 3	LS	1	1									
		2563.601	TRAFFIC CONTROL STAGE 4	LS	1	1									
		2563.601	TRAFFIC CONTROL STAGE 5	LS	1	1									
		2563.601	DETOUR SIGNING	LS	1	1									
		2563.602	RAISED PAVEMENT MARKER TEMPORARY, TYPE 1	EACH	260	260									
		2564.531	SIGN PANELS TYPE C	SQ FT	688	688									
I		2564.537	INSTALL SIGN TYPE SPECIAL	EACH	15	15									
	19	2564.602	TEMPORARILY RELOCATE SIGN TYPE C	EACH	12	12									
		2564.602	TEMPORARILY RELOCATE SIGN TYPE SPECIAL	EACH	18					18					
		2564.602	PVMT MESSAGE (LT ARROW) POLY PREFORM	EACH	21	21									
		2564.602	PVMT MESSAGE (RT ARROW) POLY PREFORM	EACH	24	24									
		2564.603	4" SOLID LINE WHITE-LATEX	LIN FT	23900	23,900									
		2564.603	4" SOLID LINE YELLOW-LATEX	LIN FT	11500	11,500									
		2564.603	4" DOUBLE SOLID LINE YELLOW-LATEX	LIN FT	3280	3,280									
		2564.603	4" SOLID LINE WHITE-EPOXY	LIN FT	21222	21,222									
		2564.603	4" BROKEN LINE WHITE-EPOXY	LIN FT	17617	17,617									
		2564.603	4" SOLID LINE YELLOW-EPOXY	LIN FT	16916	16,916									
		2564.603	4" DOUBLE SOLID LINE YELLOW-EPOXY	LIN FT	3722	3,722									
		2564.603	24" STOP LINE WHITE-POLY PREFORM	LIN FT	652	652									
		2564.603	36" SOLID LINE WHITE-POLY PREFORM	LIN FT	990	990									
	28	2565.511	FULL T ACT T CONTROL SIGNAL SYSTEM "A"	SIG SYS	1	1				0					
	28	2565.511	FULL T ACT T CONTROL SIGNAL SYSTEM "B"	SIG SYS	1	0.33				0.67					
		2565.601	SALVAGE SIGNAL SYSTEM	LS	1			1							
		2565.601	TRAFFIC CONTROL INTERCONNECTION	LS	1	1									
		2565.601	EMERGENCY VEHICLE PREEMPTION SYSTEM "A"	LS	1					1					
		2565.601	EMERGENCY VEHICLE PREEMPTION SYSTEM "B"	LS	1					1					
		2565.601	EMERGENCY VEHICLE PREEMPTION SYSTEM "C"	LS	1					0.75		0.25			
		2565.602	PVC HANDHOLE (METAL FRAME & COVER)	EACH	16					16					
		2565.603	4 INCH RIGID STEEL CONDUIT	LIN FT	750					750					
		2565.616	REVISE SIGNAL SYSTEM	SYST	1	0.75		0.25							

1	9-03-03	MFG	PMI	PMI	SEE NOTES 24, 27, 28, 29
2	9-06-03	MFG	PMI	PMI	UPDATED TRAFFIC CONTROL QUANTITIES
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						EST.	FINAL	EST.	FINAL	EST.	FINAL	EST.	FINAL	EST.	FINAL
		2573.602	SILT FENCE BOX	EACH	22	22									
U		2573.502	SILT FENCE, TYPE HEAVY DUTY	LIN FT	11901	11901									
	20	2573.605	RAPID STABILIZATION METHOD 1	ACRE	7	7									
	20	2573.609	RAPID STABILIZATION METHOD 5	TON	51	51									
U		2575.501	SEEDING	ACRE	12	12									
U		2575.502	SEED MIXTURE 120B	POUND	271	271									
U		2575.502	SEED MIXTURE 28B	POUND	142	142									
U		2575.502	SEED MIXTURE 30B	POUND	201	201									
U		2575.502	SEED MIXTURE 60B	POUND	67	67									
U		2575.502	SEED MIXTURE 60B (MOD)	POUND	395	395									
U		2575.505	SODDING TYPE LAWN	SQ YD	17665	17,665									
U		2575.505	SODDING TYPE SALT RESISTANT	SQ YD	2686	2,686									
U		2575.511	MULCH MATERIAL TYPE 1	TON	7.6	7.6									
U		2575.519	DISK ANCHORING	ACRE	4	4									
U		2575.523	EROSION CONTROL BLANKETS CATEGORY 3	SQ YD	38974	38,974									
U		2575.531	COMMERCIAL FERT ANALYSIS 22-5-10 (SLOW RELEASE)	TON	2	2.0									
		2580.501	TEMPORARY LANE MARKING	LIN FT	288	288									
		2581.501	REMOVABLE PREFORMED PLASTIC MARKING	LIN FT	1000	1,000									

CONSTRUCTION NOTES

1 INCLUDES ALL TYPES AND SIZES

2 INCLUDES ALL DEPTHS

3 SIX BORINGS OF THE DRIVING LANES INDICATE DEPTHS AVERAGING 5-3/4". SHOULDER BITUMINOUS CORES INDICATE DEPTH VARIES FROM 1-1/2" TO 1-3/4". TURN LANE BORINGS VARY FROM 2" TO 6-1/4", 3-5/8" AVERAGE. BIDDER TO VERIFY.

4 SALVAGE TO OWNER

5 SALVAGE TO ANOKA COUNTY HIGHWAY DEPT, 1440 BUNKER LAKE BLVD, ANDOVER, MN

6 SALVAGE AND REINSTALL TO PERMANENT LOCATION AFTER CONSTRUCTION.

7 SALVAGE TO THE CITY OF ANDOVER PUBLIC WORKS, 1780 CROSSTOWN BLVD NW, ANDOVER, MN

8 2500 SQ YD TO BE USED FOR GRADE TRANSITION IN STAGE 3 AT 142ND AVE NW

9 SIGNAL SYSTEM AT 140TH LANE NW - HAUL SALVAGED SIGNAL EQUIPMENT TO THE ANOKA COUNTY HIGHWAY DEPARTMENT

10 ANDOVER BOULEVARD POND AND ROUND LAKE POND

11 TO BE USED AT THE DIRECTION OF THE ENGINEER.

12 FOR DUST CONTROL, AS DIRECTED BY THE ENGINEER.

13 INCLUDES QUANTITY FOR ADDING 1/4" TO THE DESIGN THICKNESS

14 PIPE BEDDING FOR POND OUTLET PIPE ONLY. INCLUDES 275 TON FOR BRANDON'S LAKEVIEW ESTATES POND, 60 TON FOR ROUND LAKE POND, AND 32 TON FOR ANDOVER BOULEVARD POND.

15 BEDDING FOR THE CITY OF ANDOVER UTILITIES, AS DIRECTED BY THE ENGINEER

16 INSULATION TO BE PLACED BETWEEN THE CITY OF ANDOVER WATERMANS AT NEW STORM SEWER CROSSINGS, AS DIRECTED BY THE ENGINEER.

17 CATCH BASIN 434 OUTLET CONTROL STRUCTURE FOR ROUND LAKE POND, SEE PLAN SHEET 91

18 SEE TECHNICAL MEMO NO. 03-19-TS-02 IN THE ATTACHMENTS FOR THE TRUNCATED DOME CONSTRUCTION DETAILS

19 FOR RELOCATING TRAFFIC SIGNS DURING CONSTRUCTION. QUANTITY INCLUDES 12 TRAFFIC SIGNS FOR BITUMINOUS PATH CONSTRUCTION - BUNKER LAKE BLVD TO 139TH AVE.

20 FOR EMERGENCY EROSION CONTROL TO ERODABLE AREAS ADJOINING WETLANDS ON THE PROJECT, AS DIRECTED BY THE ENGINEER

21 SALVAGE POSTS TO ANOKA COUNTY HIGHWAY DEPARTMENT. CONTRACTOR TO DISPOSE OF CABLE.

22 QUANTITY INCLUDES 400 CU YDS AT ROUND LAKE POND AND 310 CU YDS AT ANDOVER BLVD POND FOR THE CONSTRUCTION OF 15' WIDE PAD FOR INSTALLATION OF OUTLET AND CONTROL STRUCTURES.

23 INSTALL CITY OF ANDOVER FURNISHED HYDRANTS AT HYDRANT RELOCATIONS.

24 FOR ENTRANCE CONSTRUCTION AT THE DIRECTION OF THE ENGINEER.

25 SEE ATTACHED CITY OF ANDOVER SANITARY SEWER AND WATER DISTRIBUTION SYSTEMS SPECIFICATIONS.

26 INCLUDES 87 SQ YDS FOR 141ST LANE LNB 108+75, 92 SQ YDS FOR 142ND LANE LNB 117+95, AND 88 SQ YDS FOR 141ST LANE LSB 108+72.

27 INCLUDES 1187 LIN FT SAWCUT BITUMINOUS FOR STAGE 1 UTILITIES CROSSINGS.

28 THIS ITEM ADDED OR HAD QUANTITY REVISED IN PLAN REVISION NO. 1 PRESENTED IN ADDENDUM NO. 2 - 9/4/2003.

29 QUANTITY UNIT CHANGED TO "SQ FT" FROM "SQ YD." QUANTITY WAS GIVEN IN SQ FT BUT WAS LABELED SQ YD.

30 TEMPORARY CONCRETE BARRIER FOR USE DURING TRAFFIC CONTROL STAGING.

1	9-03-03	MFG	PML	PML	SEE NOTES 24, 27, 28, 29
2	9-06-03	MFG	PML	PML	UPDATED TRAFFIC CONTROL QUANTITIES
NO	DATE	BY	CHKD	APPR	REVISION
NAME: P:\0260912\PLAN\03-08-TabSheet.dwg 09/06/2003 03:22:13 PM CDT					

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 PRINT NAME: PETER M. LEMKE
 SIGNATURE: *Peter M Lemke*
 DATE: 9/3/2003 LICENSE NO. 40118

DRAWN BY: MNL DATE 2/2/03
 DESIGN BY: PML DATE 4/9/03
 CHECKED BY: PML DATE 8/22/03



**ANOKA COUNTY
HIGHWAY DEPT.**

STATE PROJECT NO. _____
 STATE AID PROJECT NO. 02-609-12
 CITY PROJECT NO. 198-020-17
 COUNTY PROJECT NO. _____

STATEMENT OF
ESTIMATED QUANTITIES

Sheet 5 of 165 Sheets

INDEX OF TABULATION CHARTS

CHART	SHEET	DESCRIPTION
A	18-19	CLEAR AND GRUB
B	20	REMOVE BITUMINOUS PAVEMENT & SAWING BITUMINOUS PAVEMENT
C	20	REMOVE CONCRETE CURB AND GUTTER
D	21	REMOVE EXISTING STORM SEWER & CULVERTS
E	21	REMOVE FENCE
F	20	REMOVE CONCRETE AND BITUMINOUS FLUME
G	20	REMOVE RETAINING WALL
H	22	RELOCATE MAILBOX SUPPORT
I	22	SALVAGE SIGN PANEL TYPE C & SIGN TYPE SPECIAL
J	22	TRENCH RESTORATION
K	23	CONCRETE WALK
L	23	CONSTRUCT BITUMINOUS PATH
M	23	DRIVEWAY REMOVAL AND CONSTRUCTION
N	25	SANITARY SEWER ADJUSTMENTS/RECONSTRUCTION
O	131	WATERMAIN NEW
P	131	SANITARY SEWER NEW
Q	23	CONSTRUCT RETAINING WALL
R	24	CONCRETE CURB AND GUTTER, CONCRETE MEDIANS
S	92-95	STORM SEWER
T	6	CASTING ASSEMBLY SCHEDULE
U	124	TURF ESTABLISHMENT
V	25	EXISTING GATE VALVES AND HYDRANTS
W	24	BASE AND BITUMINOUS QUANTITIES
Y	14	EARTHWORK SUMMARY
AA	16	GAS - CENTERPOINT ENERGY/MINNEGASCO
AB	17	OVERHEAD POWER - CONNEXUS ENERGY
AC	16	TELEPHONE - QWEST
AD	17	CABLE TB - CONCAST

STANDARD PLATES

PLATE NO.	DESCRIPTION
3000L	REINFORCED CONCRETE PIPE
3006G	GASKET JOINT FOR R.C. PIPE
3007C	SHEAR REINFORCEMENT FOR PRECAST DRAINAGE STRUCTURES
3100G	CONCRETE APRON FOR REINFORCED CONCRETE PIPE
3133C	RIPRAP AT RCP OUTLETS
3145E	CONCRETE PIPE TIES
4005L	MANHOLE OR CATCH BASIN
4006L	MANHOLE OR CATCH BASIN
4010H	CONCRETE SHORT CONE AND ADJUSTING RING
4011E	PRECAST CONCRETE BASE
4018A	MANHOLE OR CATCH BASIN REDUCER CONE SECTION
4020I	MANHOLE OR CATCH BASIN COVER
4026A	CONCRETE ENCASED CONCRETE ADJUSTING RINGS
4125D	CATCH BASIN FRAME CASTING
4134A	CURB BOX CASTING FOR CATCH BASIN
4143E	STOOL GRATE AND CONCRETE FRAME
4154B	CATCH BASIN GRATE CASTING
4180J	MANHOLE OR CATCH BASIN STEP
7035L	CONCRETE WALK AND CURB RETURNS AND ENTRANCES
7036E	PEDESTRIAN CURB RAMP
7065C	BITUMINOUS CURB
7100G	CONCRETE CURB AND GUTTER
7111J	INSTALLATION OF CATCH BASIN CASTINGS
7113A	CONCRETE APPROACH NOSE DETAIL
8000I	STANDARD BARRICADES
8110D	TRAFFIC SIGNAL BRACKETING (POLE MOUNTED)
8114A	PVC HANDHOLE/PULLBOX
8115D	PEDESTRIAN PUSH BUTTON INSTALLATION
8118C	SERVICE EQUIPMENT AND POLE-TRAFFIC CONTROL SIGNALS
8119C	GROUND MOUNTED CABINET FOUNDATION
8121D	TRANSFORMER BASE AND POLE BASE PLATE
8123E	POLE AND MAST ARM
8124E	MAST ARM SIGNAL HEAD MOUNTS
8126F	POLE FOUNDATION (PA90 AND PA100)
8150B	INSTALLATION OF CULVERT MARKERS
8337B	TEMPORARY PRECAST PORTABLE BARRIERS (TYPE F)
9102D	TURF ESTABLISHMENT AREAS

CASTING ASSEMBLY SCHEDULE

CASTING ASSEMBLY SCHEDULE					T
ASSEMBLY	RING OR FRAME CASTING	COVER OR GRATE CASTING	CURB BOX CASTING	QUANTITY	REMARKS
B-1	801	810		122	
B-1 (LP)	801	810	821B	22	CB LOW POINTS, USE CURB BOX (1)
AD-7	700-7	715		9	MANHOLE
AD-7 (S)	700-7	715		5	SALVAGE & INSTALL MH CASTING AND COVER
			TOTAL	158	

1. THE CONTRACTOR SHALL FURNISH AND INSTALL 1/4"x 7 1/2"x 24" GALVANIZED STEEL PLATES TO COVER THE CURB BOX OPENINGS FOR THE B-1 CASTING ASSEMBLIES. THE COST OF FURNISHING AND INSTALLING THE GALVANIZED STEEL PLATES TO THE CURB BOX OPENING SHALL BE CONSIDERED INCIDENTAL TO THE CASTING ASSEMBLY AND NO ADDITIONAL COMPENSATION SHALL BE MADE.

1	9/5/03	MFG	PML	PML	ADD NOTE 1
NO	DATE	BY	CHKD	APPR	REVISION

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 PRINT NAME: PETER M. LEMKE
 SIGNATURE: *Peter M. Lemke*
 DATE: 9/5/2003 LICENSE NO. 4011B

DRAWN BY: CSO DATE: 2/19/03
 DESIGN BY: CSO DATE: 4/10/03
 CHECKED BY: MTH DATE: 4/10/03



ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. _____
 STATE AID PROJECT NO. 02-609-12
 CITY PROJECT NO. 198-020-17
 COUNTY PROJECT NO. _____

STANDARD PLATES
 INDEX OF TABULATIONS
 CASTING ASSEMBLY
 SCHEDULE

Sheet 6 of 165 Sheets

EARTHWORK VOLUMES BY STATION								
STATION	EXCAVATION				EMBANKMENT			
	TOPSOIL	COMMON	1' SUBGRADE	MUCK	TOPSOIL	COMMON	MUCK DISPOSAL	MUCK EXC BACKFILL
LNB CSAH 9 / ROUND LAKE BOULEVARD								
93+50	2	11	0	0	0	0	0	0
94+00	4	23	0	0	1	0	0	0
94+50	5	30	0	0	2	0	0	0
95+00	6	37	0	0	2	0	0	0
95+50	6	37	0	0	2	0	0	0
96+00	6	39	0	0	2	0	0	0
96+50	6	71	35	0	2	0	0	0
97+00	6	108	70	0	2	0	0	0
97+50	6	113	70	0	2	0	0	0
98+00	7	109	70	0	2	0	0	0
98+50	7	104	71	0	2	0	0	0
99+00	8	123	75	0	1	0	0	0
99+50	10	141	79	0	1	0	0	0
100+00	11	143	84	0	2	0	0	0
100+50	11	146	92	0	1	0	0	0
101+00	17	162	97	0	1	0	0	0
101+50	23	140	90	0	3	23	0	0
102+00	25	99	78	0	5	52	0	0
102+50	24	96	77	0	4	47	0	0
103+00	24	105	80	0	3	34	0	0
103+50	24	117	85	0	4	37	0	0
104+00	22	130	94	0	3	27	0	0
104+50	20	165	100	0	3	6	0	0
105+00	23	141	95	0	4	13	0	0
105+50	23	99	85	0	4	17	0	0
106+00	23	119	80	0	4	4	0	0
106+50	25	162	80	0	5	0	0	0
107+00	28	228	80	0	8	0	0	0
107+50	29	276	80	0	9	0	0	0
108+00								

EARTHWORK VOLUMES BY STATION								
STATION	EXCAVATION				EMBANKMENT			
	TOPSOIL	COMMON	1' SUBGRADE	MUCK	TOPSOIL	COMMON	MUCK DISPOSAL	MUCK EXC BACKFILL
LNB CSAH 9 / ROUND LAKE BOULEVARD								
108+00	33	317	80	0	12	0	0	0
108+50	31	347	80	0	11	0	0	0
109+00	25	332	80	0	7	0	0	0
109+50	26	332	84	0	6	0	0	0
110+00	26	351	94	0	6	0	0	0
110+50	26	357	99	0	6	0	0	0
111+00	27	367	100	0	6	0	0	0
111+50	27	370	100	0	7	0	0	0
112+00	27	369	100	0	6	0	0	0
112+50	26	411	100	0	6	0	0	0
113+00	27	345	90	0	7	12	0	0
113+50	28	229	80	0	8	38	0	0
114+00	30	216	80	0	10	74	0	0
114+50	31	200	79	0	12	95	0	0
115+00	32	184	78	0	13	95	0	0
115+50	31	186	79	0	12	58	0	0
116+00	26	209	80	0	6	11	0	0
116+50	23	199	80	0	3	8	0	0
117+00	23	172	80	0	4	8	0	0
117+50	25	209	80	0	6	0	0	0
118+00	28	191	79	0	11	43	0	0
118+50	28	137	81	0	11	60	0	0
119+00	25	173	87	0	8	16	0	0
119+50	24	217	90	0	7	0	0	0
120+00	25	242	91	0	9	0	0	0
120+50	28	306	91	0	12	0	0	0
121+00	28	334	91	0	13	0	0	0
121+50								

NO	DATE	BY	CHKD	APPR	REVISION

NAME: P:\0260912\PLAN\11 NB EW TABS.dwg 08/29/2003 10:33:55 AM CDT

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 PRINT NAME: PETER M. LEMKE
 SIGNATURE: *Peter M. Lemke*
 DATE: 8/22/2003 LICENSE NO. 40118

DRAWN BY: SAT DATE 03/27/03
 DESIGN BY: SAT DATE 03/27/03
 CHECKED BY: PML DATE 08/21/03



ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. _____
 STATE AID PROJECT NO. 02-609-12
 CITY PROJECT NO. 198-020-17
 COUNTY PROJECT NO. _____

LNB EARTHWORK
TABULATIONS
 Sheet 7 of 165 Sheets

EARTHWORK VOLUMES BY STATION								
STATION	EXCAVATION				EMBANKMENT			
	TOPSOIL	COMMON	1' SUBGRADE	MUCK	TOPSOIL	COMMON	MUCK DISPOSAL	MUCK EXC BACKFILL
LNB CSAH 9 / ROUND LAKE BOULEVARD								
121+50	28	235	91	0	8	0	0	0
122+00	28	151	91	0	6	0	0	0
122+50	25	183	91	0	7	0	0	0
123+00	23	205	91	0	7	0	0	0
123+50	23	191	91	0	7	0	0	0
124+00	23	162	81	0	7	0	0	0
124+50	23	134	70	0	7	0	0	0
125+00	26	215	70	0	10	0	0	0
125+50	31	339	70	0	15	0	0	0
126+00	28	350	70	0	11	0	0	0
126+50	22	299	70	0	5	0	0	0
127+00	22	279	70	0	5	0	0	0
127+50	23	275	70	0	5	0	0	0
128+00	23	204	70	0	5	0	0	0
128+50	29	114	72	0	13	29	0	0
129+00	32	90	76	0	16	50	0	0
129+50	28	90	83	0	11	49	0	0
130+00	27	137	93	0	9	36	0	0
130+50	27	164	93	0	8	47	0	0
131+00	29	155	87	0	9	87	0	0
131+50	30	154	87	0	10	103	0	0
132+00	31	141	81	0	12	155	0	0
132+50	30	134	86	0	11	122	0	0
133+00	28	161	99	0	6	22	0	0
133+50	27	156	95	0	4	3	0	0
134+00	25	87	73	0	5	15	0	0
134+50	26	45	55	0	8	62	0	0
135+00								

EARTHWORK VOLUMES BY STATION								
STATION	EXCAVATION				EMBANKMENT			
	TOPSOIL	COMMON	1' SUBGRADE	MUCK	TOPSOIL	COMMON	MUCK DISPOSAL	MUCK EXC BACKFILL
LNB CSAH 9 / ROUND LAKE BOULEVARD								
135+00	28	46	62	0	11	78	0	0
135+50	28	145	70	0	11	28	0	0
136+00	36	283	70	0	18	0	0	0
136+50	37	304	70	0	20	0	0	0
137+00	35	376	70	0	17	0	0	0
137+50	36	393	70	0	18	0	0	0
138+00	35	343	70	0	17	0	0	0
138+50	33	325	70	0	15	0	0	0
139+00	30	249	70	0	12	0	0	0
139+50	29	240	70	0	11	0	0	0
140+00	30	302	70	0	13	0	0	0
140+50	33	400	70	0	15	0	0	0
141+00	36	438	70	0	18	0	0	0
141+50	37	482	70	0	19	0	0	0
142+00	32	488	71	0	20	0	0	0
142+50	25	365	75	0	18	0	0	0
143+00	30	237	79	0	15	0	0	0
143+50	29	121	74	0	9	11	0	0
144+00	26	64	64	0	6	45	0	0
144+50	29	64	64	0	6	52	0	0
145+00	27	103	43	141	3	18	0	141
145+50	24	131	33	328	3	1	12	328
146+00	24	106	43	477	5	11	45	477
146+50	23	86	37	689	6	27	83	689
147+00	28	83	40	774	10	68	93	774
147+50	33	88	45	790	16	134	91	790
148+00	34	92	45	779	17	168	90	779
148+50								

NO	DATE	BY	CKD	APPR	REVISION

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 PRINT NAME: PETER M. LEMKE
 SIGNATURE: *Peter M. Lemke*
 DATE: 8/22/2003 LICENSE NO. 40118

DRAWN BY: SAT DATE 03/27/03
 DESIGN BY: SAT DATE 03/27/03
 CHECKED BY: PML DATE 08/21/03



ANOKA COUNTY
 HIGHWAY DEPT.

STATE PROJECT NO. _____
 STATE AID PROJECT NO. 02-609-12
 CITY PROJECT NO. 198-020-17
 COUNTY PROJECT NO. _____

LNB EARTHWORK
 TABULATIONS
 Sheet 8 of 165 Sheets

EARTHWORK VOLUMES BY STATION								
STATION	EXCAVATION				EMBANKMENT			
	TOPSOIL	COMMON	1' SUBGRADE	MUCK	TOPSOIL	COMMON	MUCK DISPOSAL	MUCK EXC BACKFILL
LNB CSAH 9 / ROUND LAKE BOULEVARD								
148+50								
	33	90	46	774	18	173	104	774
149+00								
	33	87	48	618	18	174	113	618
149+50								
	33	94	50	411	18	169	101	411
150+00								
	31	105	51	440	16	133	107	440
150+50								
	28	111	53	485	14	76	141	485
151+00								
	26	111	55	689	11	45	196	689
151+50								
	23	122	57	887	10	37	222	887
152+00								
	21	136	61	839	9	42	194	839
152+50								
	20	159	69	776	9	29	129	776
153+00								
	27	171	75	685	17	46	141	685
153+50								
	38	180	81	580	27	84	165	580
154+00								
	39	190	83	556	27	111	141	556
154+50								
	37	174	81	573	25	138	169	573
155+00								
	38	156	78	635	25	146	193	635
155+50								
	38	135	77	598	26	138	170	598
156+00								
	40	113	77	552	28	163	202	552
156+50								
	45	89	71	630	26	285	231	630
157+00								
	44	59	57	638	26	278	201	638
157+50								
	40	46	50	569	29	228	199	569
158+00								
	42	52	53	507	30	268	226	507
158+50								
	43	60	52	460	31	241	243	460
159+00								
	42	68	50	451	30	198	228	451
159+50								
	42	69	50	430	29	192	199	430
160+00								
	42	68	51	386	28	206	169	386
160+50								
	42	73	51	368	28	206	169	368
161+00								
	39	83	53	291	24	206	165	291
161+50								

EARTHWORK VOLUMES BY STATION								
STATION	EXCAVATION				EMBANKMENT			
	TOPSOIL	COMMON	1' SUBGRADE	MUCK	TOPSOIL	COMMON	MUCK DISPOSAL	MUCK EXC BACKFILL
LNB CSAH 9 / ROUND LAKE BOULEVARD								
161+50								
	35	97	58	195	20	173	113	195
162+00								
	30	120	66	158	14	75	39	158
162+50								
	24	171	70	75	7	8	0	75
163+00								
	26	205	70	0	6	0	0	0
163+50								
	26	183	70	0	6	0	0	0
164+00								
	27	156	70	0	7	9	0	0
164+50								
	33	176	75	0	10	18	0	0
165+00								
	34	172	74	0	11	39	0	0
165+50								
	35	138	66	0	12	105	0	0
166+00								
	36	154	72	0	12	98	0	0
166+50								
	32	218	80	0	6	24	0	0
167+00								
	31	327	80	0	4	0	0	0
167+50								
	32	433	80	0	5	0	0	0
168+00								
	33	431	80	0	6	0	0	0
168+50								
	35	441	80	0	7	0	0	0
169+00								
	37	586	80	0	10	0	0	0
169+50								
	37	712	80	0	10	0	0	0
170+00								
	35	651	80	0	8	0	0	0
170+50								
	33	495	80	0	5	0	0	0
171+00								
	33	476	80	0	5	0	0	0
171+50								
	35	515	80	0	7	0	0	0
172+00								
	41	544	80	0	12	0	0	0
172+50								
	44	726	78	0	17	0	0	0
173+00								
	41	828	79	0	16	0	0	0
173+50								
	38	744	86	0	14	0	0	0
174+00								
	38	589	93	0	10	0	0	0
174+50								
	36	428	98	0	5	0	0	0
175+00								

NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\0260912\PLAN\11 NB EV TABS.dwg 08/29/2003 10:33:55 AM CDT					

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 PRINT NAME: PETER M. LEMKE
 SIGNATURE: *Peter M. Lemke*
 DATE: 8/22/2003 LICENSE NO. 4011B

DRAWN BY: SAT DATE 03/27/03
 DESIGN BY: SAT DATE 03/27/03
 CHECKED BY: PML DATE 08/21/03



ANOKA COUNTY
 HIGHWAY DEPT.

STATE PROJECT NO. _____
 STATE AID PROJECT NO. 02-609-12
 CITY PROJECT NO. 198-020-17
 COUNTY PROJECT NO. _____

LNB EARTHWORK
 TABULATIONS
 Sheet 9 of 165 Sheets

EARTHWORK VOLUMES BY STATION								
STATION	EXCAVATION				EMBANKMENT			
	TOPSOIL	COMMON	1' SUBGRADE	MUCK	TOPSOIL	COMMON	MUCK DISPOSAL	MUCK EXC BACKFILL
LNB CSAH 9 / ROUND LAKE BOULEVARD								
175+00	31	354	100	0	4	0	0	0
175+50	30	288	100	0	3	0	0	0
176+00	31	218	100	0	5	9	0	0
176+50	32	177	100	0	5	9	0	0
177+00	31	219	104	0	3	0	0	0
177+50	26	219	91	0	9	0	0	0
178+00	25	131	72	0	16	4	0	0
178+50	26	85	69	0	15	11	0	0
179+00	26	77	66	0	15	18	0	0
179+50	27	70	63	0	15	22	0	0
180+00	27	58	62	0	15	28	0	0
180+50	25	46	62	0	13	32	0	0
181+00	23	40	64	0	14	35	0	0
181+50	22	42	62	0	15	37	0	0
182+00	23	46	60	0	15	32	0	0
182+50	23	46	58	0	15	22	0	0
183+00	23	40	55	0	15	17	0	0
183+50	23	53	52	0	15	8	0	0
184+00	21	63	50	0	13	1	0	0
184+50	14	62	48	0	11	1	0	0
185+00	10	69	47	0	11	0	0	0
185+50	10	70	47	0	12	0	0	0
186+00	5	34	23	0	6	0	0	0
186+50								
SUBTOTALS	5081	37798	13259	19235	1978	7046	5081	19235

LNB EARTHWORK SUMMARY

LNB EXCAVATION (CY)

TOPSOIL 5081 (EV)
COMMON 30,321 (EV) 54,637 (EV)
MUCK 19,235 (EV)

TOPSOIL 2374 (EV) /1.2 = 1978 (CV)
COMMON 8455 (EV) /1.2 = 7046 (CV)
MUCK DISPOSAL 7113 (EV) /1.4 = 5081 (CV)
MUCK EXC BACKFILL 33661 (EV) /1.75 = 19235 (CV) 33,340 (CV)
TOPSOIL EXCESS 2707 (EV)
COMMON SHORTAGE -11,795 (EV)
MUCK EXCESS 12,122 (EV)

LNB EMBANKMENT (CY)

TOPSOIL 1978 (CV)
COMMON 7046 (CV)
MUCK DISPOSAL 5081 (CV)
MUCK EXC BACKFILL 19235 (CV)

+EXCESS/-SHORTAGE →

LNB EARTHWORK SUMMARY

COMMON EXCAVATION QUANTITY OF 37,798 CY INCLUDES 5,081 CY OF TOPSOIL STRIPPING AND 2,396 CY OF BITUMINOUS REMOVAL.

37,798 CY COMMON BANK EXCAVATION MINUS 5,081 CY TOPSOIL STRIPPING AND MINUS 2,396 CY BITUMINOUS REMOVAL EQUALS 30,321 CY COMMON EXCAVATION AVAILABLE FOR BACKFILL.

BITUMINOUS REMOVAL CUBIC YARDS BASED ON DEPTHS INDICATED IN CONSTRUCTION NOTE NO. 3 OF STATEMENT OF ESTIMATED QUANTITIES CONSTRUCTION NOTES.

30,321 CY COMMON EXCAVATION AVAILABLE FOR BACKFILL MINUS 8,455 CY COMMON EMBANKMENT AND MINUS 33,661 CY MUCK EXCAVATION BACKFILL EQUALS 11,795 CY NEEDED FOR MUCK EXCAVATION BACKFILL.

COMMON EXCAVATION PAY QUANTITY IS 37,798 CY BANK EXCAVATION MINUS 2,396 CY BITUMINOUS PAVEMENT REMOVAL PLUS 13,259 CY SUBGRADE TREATMENT WHICH EQUALS 48,661 CY (EV).

MUCK EXCAVATION QUANTITY OF 19,235 CY (EV) MINUS MUCK DISPOSAL QUANTITY OF 7,113 CY EQUALS 12,122 CY EXCESS MUCK.

TOPSOIL STRIPPING QUANTITY OF 5,081 CY MINUS TOPSOIL EMBANKMENT QUANTITY OF 2,374 CY EQUALS 2,707 CY EXCESS TOPSOIL.

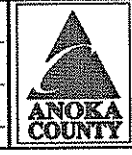
ALL EXCESS EXCAVATED SOILS SHALL BE DISPOSED OF BY THE CONTRACTOR OFF THE PROJECT SITE. NO ADDITIONAL COMPENSATION SHALL BE MADE FOR THE OFFSITE DISPOSAL OF THE EXCESS SOILS.

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\0260912\PLAN\11 NB EV TABS.dwg 08/29/03 11:37:41 AM CBT

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
PRINT NAME: PETER M. LEMKE
SIGNATURE: *Peter M Lemke*
DATE: 8/22/2003 LICENSE NO. 40118

DRAWN BY: SAT DATE 03/27/03
DESIGN BY: SAT DATE 03/27/03
CHECKED BY: PML DATE 08/21/03



ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. _____
STATE AID PROJECT NO. 02-609-12
CITY PROJECT NO. 198-020-17
COUNTY PROJECT NO. _____

LNB EARTHWORK
TABULATIONS
Sheet 10 of 160 Sheets

EARTHWORK VOLUMES BY STATION								
STATION	EXCAVATION				EMBANKMENT			
	TOPSOIL	COMMON	1' SUBGRADE	MUCK	TOPSOIL	COMMON	MUCK DISPOSAL	MUCK EXC BACKFILL
LSB CSAH 9 / ROUND LAKE BOULEVARD								
93+50								
94+00	0	0	0	0	0	0	0	0
94+50	0	0	0	0	0	0	0	0
95+00	0	0	0	0	0	0	0	0
95+50	0	0	0	0	0	0	0	0
96+00	0	0	0	0	0	0	0	0
96+50	0	0	0	0	0	0	0	0
97+00	1	63	52	0	1	0	0	0
97+50	2	126	101	0	2	0	0	0
98+00	2	127	94	0	2	0	0	0
98+50	3	123	88	0	2	0	0	0
99+00	6	115	83	0	3	2	0	0
99+50	12	101	81	0	4	7	0	0
100+00	14	89	81	0	5	9	0	0
100+50	15	88	81	0	5	9	0	0
101+00	18	84	80	0	5	9	0	0
101+50	19	75	79	0	5	10	0	0
102+00	18	69	80	0	4	9	0	0
102+50	18	70	80	0	4	7	0	0
103+00	18	76	81	0	4	5	0	0
103+50	17	93	81	0	3	2	0	0
104+00	16	115	81	0	2	0	0	0
104+50	20	154	83	0	5	0	0	0
105+00	42	232	84	0	8	0	0	0
105+50	43	223	91	0	6	0	0	0
106+00	26	170	100	0	6	0	0	0
106+50	24	155	99	0	3	2	0	0
107+00	21	174	99	0	0	2	0	0
107+50	21	218	100	0	1	0	0	0
108+00	21	224	100	0	2	0	0	0

EARTHWORK VOLUMES BY STATION								
STATION	EXCAVATION				EMBANKMENT			
	TOPSOIL	COMMON	1' SUBGRADE	MUCK	TOPSOIL	COMMON	MUCK DISPOSAL	MUCK EXC BACKFILL
LSB CSAH 9 / ROUND LAKE BOULEVARD								
108+00								
108+50	28	309	100	0	10	0	0	0
109+00	39	449	100	0	23	0	0	0
109+50	30	444	100	0	16	0	0	0
110+00	19	381	95	0	7	0	0	0
110+50	22	388	86	0	7	0	0	0
111+00	23	350	81	0	6	0	0	0
111+50	21	296	79	0	4	0	0	0
112+00	20	300	79	0	3	0	0	0
112+50	24	333	90	0	8	0	0	0
113+00	33	395	100	0	10	0	0	0
113+50	28	394	100	0	4	0	0	0
114+00	19	337	100	0	2	0	0	0
114+50	20	323	100	0	3	0	0	0
115+00	23	324	100	0	6	0	0	0
115+50	24	321	100	0	6	0	0	0
116+00	23	343	100	0	4	0	0	0
116+50	22	411	95	0	4	0	0	0
117+00	22	434	86	0	6	0	0	0
117+50	25	393	79	0	11	0	0	0
118+00	29	369	73	0	15	0	0	0
118+50	26	371	70	0	11	0	0	0
119+00	22	374	70	0	6	0	0	0
119+50	22	324	70	0	6	0	0	0
120+00	22	227	70	0	7	0	0	0
120+50	21	161	70	0	7	0	0	0
121+00	20	132	70	0	6	0	0	0
121+50	21	109	70	0	6	5	0	0

					I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.		DRAWN BY <u>SAT</u> DATE <u>03/30/03</u>		STATE PROJECT NO. _____		LSB EARTHWORK TABULATIONS	
					PRINT NAME: <u>PETER M. LEMKE</u>		DESIGN BY <u>SAT</u> DATE <u>03/30/03</u>		STATE AID PROJECT NO. <u>02-609-12</u>		Sheet <u>11</u> of <u>165</u> Sheets	
					SIGNATURE: <u>Peter M. Lemke</u>		CHECKED BY <u>PML</u> DATE <u>08/21/03</u>		CITY PROJECT NO. <u>198-020-17</u>			
					DATE: <u>8/22/2003</u> LICENSE NO. <u>40118</u>				COUNTY PROJECT NO. _____			
NO	DATE	BY	CHKD	APPR	REVISION							



ANOKA COUNTY
HIGHWAY DEPT.

EARTHWORK VOLUMES BY STATION								
STATION	EXCAVATION				EMBANKMENT			
	TOPSOIL	COMMON	1' SUBGRADE	MUCK	TOPSOIL	COMMON	MUCK DISPOSAL	MUCK EXC BACKFILL
LSB CSAH 9 / ROUND LAKE BOULEVARD								
121+50	22	92	70	0	9	19	0	0
122+00	23	95	70	0	11	26	0	0
122+50	23	102	67	0	11	29	0	0
123+00	24	96	60	0	11	53	0	0
123+50	51	117	78	0	12	81	0	0
124+00	55	148	100	0	15	68	0	0
124+50	30	145	88	0	13	80	0	0
125+00	26	130	78	0	9	98	0	0
125+50	24	128	89	0	6	49	0	0
126+00	22	179	98	0	4	9	0	0
126+50	22	228	99	0	3	0	0	0
127+00	22	230	96	0	4	0	0	0
127+50	24	222	86	0	4	0	0	0
128+00	33	161	80	0	6	3	0	0
128+50	34	96	67	0	7	26	0	0
129+00	26	77	56	0	6	43	0	0
129+50	24	70	58	0	6	37	0	0
130+00	24	70	57	0	5	33	0	0
130+50	24	79	57	0	4	29	0	0
131+00	26	94	67	0	3	20	0	0
131+50	24	101	73	0	4	17	0	0
132+00	22	109	70	0	6	16	0	0
132+50	22	113	70	0	7	11	0	0
133+00	20	117	81	0	6	6	0	0
133+50	21	148	91	0	5	0	0	0
134+00	20	156	91	0	4	0	0	0
134+50	20	137	91	0	2	0	0	0
135+00								

EARTHWORK VOLUMES BY STATION								
STATION	EXCAVATION				EMBANKMENT			
	TOPSOIL	COMMON	1' SUBGRADE	MUCK	TOPSOIL	COMMON	MUCK DISPOSAL	MUCK EXC BACKFILL
LSB CSAH 9 / ROUND LAKE BOULEVARD								
135+00	20	131	91	0	3	2	0	0
135+50	16	140	91	0	2	2	0	0
136+00	17	161	91	0	3	0	0	0
136+50	19	169	91	0	4	0	0	0
137+00	20	138	91	0	5	9	0	0
137+50	23	98	83	0	8	46	0	0
138+00	26	83	69	0	11	94	0	0
138+50	22	95	67	0	7	57	0	0
139+00	17	121	70	0	1	0	0	0
139+50	17	143	70	0	1	0	0	0
140+00	17	158	70	0	1	0	0	0
140+50	18	174	70	0	3	0	0	0
141+00	20	201	70	0	5	0	0	0
141+50	24	194	64	57	10	1	18	57
142+00	34	142	51	105	24	19	182	105
142+50	41	103	42	152	32	42	338	152
143+00	42	81	36	265	31	61	333	265
143+50	41	68	35	405	30	56	294	405
144+00	40	67	36	519	29	51	270	519
144+50	39	68	37	486	28	74	258	486
145+00	32	67	35	481	26	74	237	481
145+50	29	68	35	563	24	55	209	563
146+00	33	74	35	635	21	44	178	635
146+50	33	77	36	671	21	36	162	671
147+00	34	82	36	673	22	36	164	673
147+50	33	83	36	737	21	40	192	737
148+00	32	80	35	687	19	42	178	687
148+50								

NO	DATE	BY	CHKD	APPR	REVISION

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 SIGNATURE: *Peter M. Lemke*
 DATE: 8/22/2003 LICENSE NO. 40118

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ANOKA COUNTY
 HIGHWAY DEPT.

STATE PROJECT NO. _____
 STATE AID PROJECT NO. 02-609-12
 CITY PROJECT NO. 198-020-17
 COUNTY PROJECT NO. _____

LSB EARTHWORK
 TABULATIONS
 Sheet 12 of 165 Sheets

EARTHWORK VOLUMES BY STATION								
STATION	EXCAVATION				EMBANKMENT			
	TOPSOIL	COMMON	1' SUBGRADE	MUCK	TOPSOIL	COMMON	MUCK DISPOSAL	MUCK EXC BACKFILL
LSB CSAH 9 / ROUND LAKE BOULEVARD								
148+50								
	31	73	32	576	18	45	148	576
149+00								
	31	63	29	493	17	51	125	493
149+50								
	30	55	26	394	15	46	89	394
150+00								
	40	57	26	335	24	21	84	335
150+50								
	45	55	24	226	22	23	51	226
151+00								
	39	48	34	74	10	35	10	74
151+50								
	41	51	47	0	8	52	0	0
152+00								
	42	53	51	0	9	64	0	0
152+50								
	39	50	53	0	10	38	0	0
153+00								
	37	49	52	0	8	29	0	0
153+50								
	36	53	55	0	6	22	0	0
154+00								
	39	96	39	88	9	22	0	88
154+50								
	41	94	19	165	17	73	0	165
155+00								
	41	51	21	225	23	98	0	225
155+50								
	40	42	21	383	23	79	0	383
156+00								
	40	28	19	587	22	67	0	587
156+50								
	39	20	20	799	22	59	0	799
157+00								
	40	23	36	791	21	59	0	791
157+50								
	63	297	52	571	45	73	0	571
158+00								
	87	671	58	362	71	77	0	362
158+50								
	89	795	44	210	73	102	0	210
159+00								
	90	843	27	75	75	195	0	75
159+50								
	91	884	27	0	77	270	0	0
160+00								
	91	908	29	0	77	273	0	0
160+50								
	90	978	28	0	77	241	0	0
161+00								
	90	1039	23	0	78	178	0	0
161+50								

EARTHWORK VOLUMES BY STATION								
STATION	EXCAVATION				EMBANKMENT			
	TOPSOIL	COMMON	1' SUBGRADE	MUCK	TOPSOIL	COMMON	MUCK DISPOSAL	MUCK EXC BACKFILL
LSB CSAH 9 / ROUND LAKE BOULEVARD								
161+50								
	91	1047	41	0	78	96	0	0
162+00								
	91	1100	65	0	80	45	0	0
162+50								
	87	1177	69	0	75	28	0	0
163+00								
	83	1305	70	0	72	27	0	0
163+50								
	84	1474	70	0	74	28	0	0
164+00								
	86	1574	70	0	76	24	0	0
164+50								
	87	1611	70	0	78	33	0	0
165+00								
	74	1355	70	0	66	21	0	0
165+50								
	39	688	70	0	31	0	0	0
166+00								
	15	278	70	0	8	0	0	0
166+50								
	12	280	70	0	6	2	0	0
167+00								
	17	299	70	0	11	6	16	0
167+50								
	26	312	70	0	21	4	50	0
168+00								
	31	318	70	0	27	0	66	0
168+50								
	31	331	70	0	27	0	62	0
169+00								
	34	338	70	0	30	0	111	0
169+50								
	42	347	70	0	38	0	208	0
170+00								
	46	357	70	0	42	0	261	0
170+50								
	48	368	70	0	44	0	286	0
171+00								
	50	371	70	0	45	0	295	0
171+50								
	47	369	70	0	43	0	273	0
172+00								
	44	364	70	0	40	0	231	0
172+50								
	41	377	70	0	37	0	149	0
173+00								
	27	389	70	0	22	0	48	0
173+50								
	16	383	70	0	9	0	0	0
174+00								
	18	374	70	0	11	0	0	0
174+50								
	21	380	70	0	16	0	0	0
175+00								

NO	DATE	BY	CKD	APPR	REVISION

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 CITY PROJECT NO. 198-020-17
 COUNTY PROJECT NO. _____

LSB EARTHWORK
 TABULATIONS
 Sheet 13 of 165 Sheets

EARTHWORK VOLUMES BY STATION								
STATION	EXCAVATION				EMBANKMENT			
	TOPSOIL	COMMON	1' SUBGRADE	MUCK	TOPSOIL	COMMON	MUCK DISPOSAL	MUCK EXC BACKFILL
LSB CSAH 9 / ROUND LAKE BOULEVARD								
175+00								
175+50	23	378	70	0	18	0	0	0
176+00	19	337	70	0	14	0	0	0
176+50	16	307	70	0	11	0	0	0
177+00	15	273	70	0	10	0	0	0
177+50	13	225	73	0	7	0	0	0
178+00	13	191	78	0	8	2	0	0
178+50	17	173	79	0	12	8	0	0
179+00	21	159	79	0	17	11	0	0
179+50	23	143	78	0	18	9	0	0
180+00	22	124	78	0	17	15	0	0
180+50	22	107	77	0	17	20	0	0
181+00	22	92	76	0	17	32	0	0
181+50	23	85	74	0	18	47	0	0
182+00	24	93	73	0	19	46	0	0
182+50	12	48	36	0	9	22	0	0
183+00	0	0	0	0	0	0	0	0
183+50	0	0	0	0	0	0	0	0
184+00	0	0	0	0	0	0	0	0
184+50	0	0	0	0	0	0	0	0
185+00	0	0	0	0	0	0	0	0
185+50	0	0	0	0	0	0	0	0
186+00	0	0	0	0	0	0	0	0
186+50	0	0	0	0	0	0	0	0
SUBTOTALS	5453	46144	11814	12788	3037	4489	5576	12788

LSB EARTHWORK SUMMARY

LSB EXCAVATION (CY)

TOPSOIL 5453 (EV)
 COMMON 21,559 (EV) 39,800 (EV)
 MUCK 12,788 (EV)

TOPSOIL 3644 (EV) / 1.2 = 3037 (CV)
 COMMON 5387 (EV) / 1.2 = 4489 (CV)
 MUCK DISPOSAL 7806 (EV) / 1.4 = 5576 (CV)
 MUCK EXC BACKFILL 22379 (EV) / 1.75 = 12788 (CV) 25,890 (CV)
 TOPSOIL EXCESS 1809 (EV)
 COMMON SHORTAGE -6,207 (EV)
 MUCK EXCESS 4,982 (EV)

LSB EMBANKMENT (CY)

TOPSOIL 3037 (CV)
 COMMON 4489 (CV)
 MUCK DISPOSAL 5576 (CV)
 MUCK EXC BACKFILL 12788 (CV)

+EXCESS/-SHORTAGE →

LSB EARTHWORK SUMMARY

COMMON BANK EXCAVATION QUANTITY OF 46,144 CY INCLUDES 16,736 CY SPECIAL EXCAVATION FOR ROUND LAKE POND, 5453 CY TOPSOIL STRIPPING, AND 2396 CY OF BITUMINOUS REMOVAL.

46,144 CY COMMON BANK EXCAVATION MINUS 16,736 CY SPECIAL EXCAVATION, MINUS 5453 CY TOPSOIL STRIPPING, AND MINUS 2396 CY BITUMINOUS REMOVAL EQUALS 21,559 CY AVAILABLE FOR BACKFILL.

BITUMINOUS REMOVAL CUBIC YARDS BASED ON DEPTHS INDICATED IN CONSTRUCTION NOTE NO. 3 OF STATEMENT OF ESTIMATED QUANTITIES CONSTRUCTION NOTES.

21,559 CY COMMON EXCAVATION AVAILABLE FOR BACKFILL MINUS 5387 CY COMMON EMBANKMENT MINUS 22,379 CY MUCK EXCAVATION BACKFILL EQUALS 6,207 CY NEEDED FOR MUCK EXCAVATION BACKFILL.

COMMON EXCAVATION PAY QUANTITY IS 46,144 CY COMMON BANK EXCAVATION MINUS 16,736 CY SPECIAL EXCAVATION FOR ROUND LAKE POND, MINUS 2396 CY BITUMINOUS PAVEMENT REMOVAL PLUS 11,814 CY SUBGRADE TREATMENT WHICH EQUALS 38,826 CY (EV).

MUCK EXCAVATION QUANTITY OF 12,788 CY (EV) MINUS MUCK DISPOSAL QUANTITY OF 7806 CY EQUALS 4982 CY EXCESS MUCK.

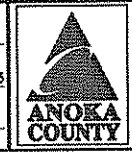
TOPSOIL STRIPPING QUANTITY OF 5453 CY MINUS TOPSOIL EMBANKMENT QUANTITY OF 3644 CY EQUALS 1809 CY EXCESS TOPSOIL.

ALL EXCESS EXCAVATED SOILS SHALL BE DISPOSED OF BY THE CONTRACTOR OFF THE PROJECT SITE. NO ADDITIONAL COMPENSATIONS SHALL BE MADE FOR THE OFFSITE DISPOSAL OF THE EXCESS SOILS.

NO	DATE	BY	CKD	APPR	REVISION

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
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ANOKA COUNTY
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 STATE AID PROJECT NO. 02-609-12
 CITY PROJECT NO. 198-020-17
 COUNTY PROJECT NO. _____

LSB EARTHWORK
 TABULATIONS
 Sheet 14 of 165 Sheets

PROJECT EARTHWORK SUMMARY			Y
	COMMON EXCAVATION (EV) (P)	MUCK EXCAVATION (EV)	GRANULAR BORROW (LV)
	CY	CY	CY
LNB	48,661	19,235	15,334
LSB	38,826	12,788	551
PROJECT TOTALS	87,487	32,023	15,885

SOIL FACTORS:

REGULAR GRADING AND TOPSOIL DRESSING: 1 CY (CV) = 1.2 x 1 CY (EV) SUBGRADE CORRECTION: 1 CY (CV) = 1.2 x 1 CY (EV)
 SELECT GRANULAR BORROW: 1 CY (CV) = 1.3 x 1 CY (LV)
 GRANULAR BORROW: 1CY (CV) = 1.3 x CY (LV)
 MUCK DISPOSAL: 1 CY (CV) = 1.4 x 1 CY (EV)
 MUCK EXC BACKFILL: 1 CY (CV) = 1.75 X 1 CY (EV)

SOILS AND CONSTRUCTION NOTES:

- TOP OF GRADING GRADE IS DEFINED AS THE BOTTOM OF THE AGGREGATE BASE.
- IN FILL AREAS, THE SUBGRADE SHALL BE CONSTRUCTED WITH SELECTED GRADING MATERIAL.
- SELECTED GRADING MATERIALS SHALL CONSIST OF SELECT GRANULAR MATERIALS.
- GRANULAR MATERIAL, REGARDLESS OF SOURCE, SHALL MEET THE REQUIREMENTS OF SPEC. 3149.2B.
- COMPACTION OF THE GRADING PORTION OF THIS PROJECT SHALL BE BY THE "SPECIFIED DENSITY METHOD".
- TEST ROLLING WILL NOT BE REQUIRED.
- BITUMINOUS OR CONCRETE ITEMS REMOVED BY CONSTRUCTION SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE EITHER RECYCLED OR DISPOSED OF IN ACCORDANCE WITH THE REQUIREMENTS OF 2104.3C3 WITH NO DIRECT COMPENSATION MADE THEREFORE.
- DISPOSITION OF EXCESS EXCAVATED MATERIAL SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF 2105.3D WITH NO DIRECT COMPENSATION THEREFORE.
- WHERE MATCHING INTO THE INPLACE ROADWAY AT THE ENDS OF CONSTRUCTION, CUT VERTICALLY TO THE TOP OF THE GRADING GRADE, AND THEN AT A 20:1 TAPER TO THE BOTTOM OF THE RECOMMENDED SUBGRADE EXCAVATION.
- WHERE CONNECTING NEW SURFACING TO AN INPLACE PAVEMENT, THE EXCAVATION SHALL BE BACKFILLED PROMPTLY TO AVOID UNDERMINING THE INPLACE PAVEMENT.
- USE TACK COAT BETWEEN ALL BITUMINOUS MIXTURES PRIOR TO PLACING BITUMINOUS MIXTURES AND PRIOR TO PLACING ANY BITUMINOUS MIXTURES ON EXISTING CONCRETE OR BITUMINOUS SURFACES. THE BITUMINOUS TACK COAT MATERIAL SHALL BE APPLIED AT UNIFORM RATE OF 0.05 GAL/SQ.YD. 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.
- COMPACTION OF THE AGGREGATE BASE LAYERS SHALL BE BY THE "SPECIFIED DENSITY METHOD", UNLESS RECYCLED MATERIAL'S.
- PLACE MINIMUM 4 INCH TOPSOIL OR SLOPE DRESSING ON ALL AREAS DISTURBED BY CONSTRUCTION AND SCHEDULED FOR PERMANENT TURF ESTABLISHMENT. FERTILIZE WITH COMMERCIAL FERTILIZER, IN ACCORDANCE WITH THE TURF ESTABLISHMENT PLAN.
- USE MIXTURE 70A SEED AND TYPE 1 MULCH IN AREAS TO BE SEEDED.
- SOD ALL MAINTAINED LAWNS DISTURBED BY CONSTRUCTION.
- ALL SOD UTILIZED WITHIN THE PROJECT LIMITS SHALL MEET THE REQUIREMENTS OF SPEC. 3878.2C (LAWN SOD).
- ORGANIC AND NONGRANULAR EXCAVATED MATERIAL MAY BE USED IN EMBANKMENT CONSTRUCTION IN AREAS OUTSIDE OF A 1 1/2:1 SLOPE FROM THE BACK OF CURB, OR GRADING P.I.
- BITUMINOUS REMOVAL QUANTITY BASED ON SQ.YD. REMOVED. INPLACE SURFACE ASSUMED TO BE 5.75 (ROADWAY) AND 1.75 (SHOULDER) INCHES IN DEPTH. CONTRACTOR SHALL INVESTIGATE AND MAKE OWN DETERMINATION OF ACTUAL PAVEMENT DEPTH.
- ALL SILT FENCING AS SHOWN IN THE PLANS SHALL BE IN PLACE PRIOR TO THE COMMENCEMENT OF GRADING OPERATIONS.
- TOPSOIL STRIPPINGS TO BE SALVAGED AND UTILIZED TO ITS FULLEST EXTENT WITHIN THE PROJECT LIMITS.

PROJECT EARTHWORK BALANCE

LNB EARTHWORK SUMMARY INDICATES MUCK EXCAVATION BACKFILL SHORTAGE OF 11,795 CY.

LSB EARTHWORK SUMMARY INDICATES MUCK EXCAVATION BACKFILL SHORTAGE OF 6207 CY.

LNB SHORTAGE OF 11,795 CY PLUS LSB SHORTAGE OF 6207 CY EQUALS A PROJECT SHORTAGE OF 18,002 CY.

IT IS ESTIMATED THAT 5783 CY OF GRANULAR MATERIAL IS AVAILABLE ABOVE THE ELEVATION OF 870.00 FROM THE SPECIAL EXCAVATION FOR ROUND LAKE POND THAT WILL BE SUITABLE AS MUCK EXCAVATION BACKFILL.

PROJECT BALANCE: 18,002 CY MUCK EXCAVATION BACKFILL SHORTAGE MINUS 5783 CY FROM SPECIAL EXCAVATION FROM ROUND LAKE POND EQUALS A NET SHORTAGE OF 12,219 CY MUCK EXCAVATION BACKFILL. USING A CONVERSION FACTOR OF 1 CY (CV) = 1.3 CY (LV), 15,885 CY GRANULAR BORROW (LV) IS NEEDED TO FILL THE 12,219 CY (CV) OF MUCK EXCAVATION BACKFILL SHORTAGE. THE PROVISIONS OF 1903 SHALL NOT APPLY TO ITEM NO. 2105.521 GRANULAR BORROW (LV) CY.


CONTRACTOR SHALL USE ALL SUITABLE GRANULAR MATERIAL FROM THE EXCAVATION OF ROUND LAKE POND FOR MUCK EXCAVATION BACKFILL PRIOR TO USING 2105.521 GRANULAR BORROW (LV) CY.

PROJECT PAY QUANTITY TOTALS

LNB COMMON EXCAVATION EQUALS 48,661 CY.
 LSB COMMON EXCAVATION EQUALS 38,826 CY.
 PROJECT TOTAL COMMON EXCAVATION (EV) (P) EQUALS 87,487 CY.

LNB MUCK EXCAVATION EQUALS 19,235 CY.
 LSB MUCK EXCAVATION EQUALS 12,788 CY.
 PROJECT TOTAL MUCK EXCAVATION (EV) EQUALS 32,023 CY.

ROUND LAKE POND SPECIAL EXCAVATION EQUALS 16,736 CY.
 ANDOVER POND SPECIAL EXCAVATION EQUALS 7421 CY.
 TOTAL PROJECT SPECIAL EXCAVATION (EV) EQUALS 24157 CY.


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NO	DATE	BY	CKD	APPR	REVISION	NAME: P:\0260912\PLAN\03-08-TabSheet.dwg 08/29/2003 12:03:48 PM CDT			

GAS - CENTERPOINT ENERGY/MINNEGASCO			AA
STATION	OFFSET FROM LNB	REMARKS	SIZE & ITEM
95+00 - 102+85	1 RT TO 5 RT	R	4" PE
102+85 - 108+66	5 RT TO 1 LT	R	3" ST
108+66 - 109+03	1 LT TO 8 RT	R	3" ST
109+03 - 112+57	8 RT TO 1 RT	R	3" ST
112+57 - 118+16	1 RT TO 1 LT	R	3" ST
118+16 - 124+18	1 LT TO 1 LT	R	3" ST
124+18 - 128+68	1 LT TO 1 LT	R	3" ST
128+68 - 133+48	1 LT TO 1 LT	R	3" ST
133+48 - 145+59	1 LT TO 1 LT	R	3" ST
145+59 - 168+25	1 LT TO 11 LT	R	3" ST
168+25 - 177+90	11 LT TO 9 LT	R	3" ST
177+90 - 184+89	9 LT TO 8 RT	R	3" ST
95+00 - 102+85	25 RT TO 15 RT	R	4" PE
102+85 - 102+85	15 RT TO 5 RT	R	4" PE
109+03 - 109+01	8 RT TO 72 LT	LAI	2" ST
109+01 - 108+95	72 LT TO 160 LT	LAI	2" ST
108+95 - 108+77	160 LT TO 218 LT	LAI	2" ST
112+57 - 112+74	1 RT TO 336 RT	LAI	3" ST
118+16 - 118+24	1 LT TO 95 RT	R	3" ST
124+18 - 123+36	1 LT TO 298 LT	LAI	3" ST
128+68 - 127+92	1 LT TO 222 LT	LAI	2" ST
133+48 - 133+40	1 LT TO 236 RT	LAI	3" ST
145+59 - 145+59	1 LT TO 231 RT	LAI	3" ST
168+25 - 168+32	11 LT TO 134 RT	LAI	2" PE
172+14 - 172+23	37 RT TO 335 RT	LAI	2" PE
177+90 - 178+02	9 LT TO 127 RT	LAI	2" PE
94+99 - 105+09	60 LT TO 57 LT	LAI	16" ST
105+09 - 106+69	57 LT TO 56 LT	LAI	16" ST
106+69 - 106+87	56 LT TO 56 LT	LAI	16" ST
105+09 - 105+08	57 LT TO 251 LT	LAI	4" PE
106+69 - 106+67	56 LT TO 203 LT	LAI	16" ST

TELEPHONE - QWEST			AC
STATION	OFFSET FROM LNB	INPLACE ITEM	REMARKS
93+24	51 RT	SPLICE BOX TELEPHONE	R
98+29	85 LT	SPLICE BOX TELEPHONE	R
100+14	86 LT	SPLICE BOX TELEPHONE	R
101+98	47 RT	SPLICE BOX TELEPHONE	R
103+06	86 LT	SPLICE BOX TELEPHONE	R
105+12	184 LT	SPLICE BOX TELEPHONE	R
104+65	183 LT	SPLICE BOX TELEPHONE	R
106+72	77 LT	SPLICE BOX TELEPHONE	R
106+73	43 RT	SPLICE BOX TELEPHONE	R
106+75	40 RT	SPLICE BOX TELEPHONE	R
108+90	192 LT	SPLICE BOX TELEPHONE	R
110+15	77 LT	SPLICE BOX TELEPHONE	R
110+75	25 RT	SPLICE BOX TELEPHONE	R
113+18	29 RT	SPLICE BOX TELEPHONE	R
116+47	24 RT	SPLICE BOX TELEPHONE	R
118+32	25 RT	SPLICE BOX TELEPHONE	R
118+31	68 LT	SPLICE BOX TELEPHONE	R
121+55	23 RT	SPLICE BOX TELEPHONE	R
125+05	30 RT	SPLICE BOX TELEPHONE	R
125+19	22 RT	SPLICE BOX TELEPHONE	R
126+71	29 RT	SPLICE BOX TELEPHONE	R
128+27	146 LT	SPLICE BOX TELEPHONE	R
133+93	41 RT	SPLICE BOX TELEPHONE	R
133+94	35 RT	SPLICE BOX TELEPHONE	R
137+27	66 LT	SPLICE BOX TELEPHONE	R
140+43	65 LT	SPLICE BOX TELEPHONE	R
163+44	27 RT	SPLICE BOX TELEPHONE	R
166+49	14 RT	SPLICE BOX TELEPHONE	R
168+65	10 RT	SPLICE BOX TELEPHONE	R
175+43	6 RT	SPLICE BOX TELEPHONE	R
175+46	71 LT	SPLICE BOX TELEPHONE	R
179+01	78 LT	SPLICE BOX TELEPHONE	R
179+12	12 RT	SPLICE BOX TELEPHONE	R

UTILITY NOTES

A = ADJUST (BY OTHERS)
R = RELOCATE (BY OTHERS)
LAI = LEAVE AS IS

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NO	DATE	BY	CKD	APPR	REVISION							
					P:\0260912\PLAN\03-08-TabSheet.dwg 08/25/2003 04:30:11 PM CDT							

OVERHEAD POWER - CONNEXUS ENERGY				AB
STATION	OFFSET	INPLACE ITEM	REMARKS	
106+77	41	LT LSB	POWER POLE	R
116+82	130	LT LSB	POWER POLE	R
117+06	50	LT LSB	POWER POLE	R
117+61	28	LT LSB	POWER POLE	R
119+39	32	LT LSB	POWER POLE	R
123+99	21	LT LSB	POWER POLE	R
123+81	98	LT LSB	POWER POLE	R
126+11	79	LT LSB	LIGHT	R
127+13	25	LT LSB	POWER POLE	R
127+39	73	LT LSB	POWER POLE	R
128+80	25	LT LSB	POWER POLE	R
133+29	25	LT LSB	POWER POLE	R
133+30	26	LT LSB	POWER POLE	R
135+44	25	LT LSB	POWER POLE	R
137+47	25	LT LSB	POWER POLE	R
140+79	22	LT LSB	POWER POLE	R
164+36	24	LT LSB	POWER POLE	R
166+59	21	LT LSB	POWER POLE	R
168+53	17	LT LSB	POWER POLE	R
170+81	22	LT LSB	POWER POLE	R
173+08	27	LT LSB	POWER POLE	R
175+45	32	LT LSB	POWER POLE	R
175+48	62	LT LSB	POWER POLE	R
177+57	32	LT LSB	POWER POLE	R
179+40	94	LT LSB	POWER POLE	R
179+72	33	LT LSB	POWER POLE	R
180+06	43	LT LSB	LIGHT	R
182+81	32	LT LSB	POWER POLE	R
184+46	32	LT LSB	POWER POLE	R
175+90	16	RT LNB	POWER POLE	R
168+58	19	RT LNB	POWER POLE	R
166+80	92	RT LNB	POWER POLE	R
166+57	10	RT LNB	POWER POLE	R
162+77	66	RT LNB	POWER POLE	R
162+77	66	RT LNB	POWER POLE	R
162+15	23	RT LNB	POWER POLE	R
159+44	29	RT LNB	POWER POLE	R
156+71	31	RT LNB	POWER POLE	R
153+63	33	RT LNB	POWER POLE	R
150+56	29	RT LNB	POWER POLE	R
147+48	24	RT LNB	POWER POLE	R
145+47	24	RT LNB	POWER POLE	R
144+39	24	RT LNB	POWER POLE	R
141+41	23	RT LNB	POWER POLE	R
141+47	23	RT LNB	POWER POLE	R
136+96	20	RT LNB	POWER POLE	R
135+15	18	RT LNB	POWER POLE	R
133+98	21	RT LNB	POWER POLE	R
131+15	22	RT LNB	POWER POLE	R
128+58	19	RT LNB	POWER POLE	R
129+17	89	RT LNB	POWER POLE	R
123+53	87	RT LNB	POWER POLE	R
121+51	21	RT LNB	POWER POLE	R
119+88	20	RT LNB	POWER POLE	R
117+67	21	RT LNB	POWER POLE	R
114+97	23	RT LNB	POWER POLE	R
113+25	22	RT LNB	POWER POLE	R
112+57	133	RT LNB	POWER POLE	R
112+46	22	RT LNB	POWER POLE	R

OVERHEAD POWER - CONNEXUS ENERGY				AB
STATION	OFFSET	INPLACE ITEM	REMARKS	
110+83	18	RT LNB	POWER POLE	R
109+12	22	RT LNB	POWER POLE	R
108+47	22	RT LNB	POWER POLE	R
107+19	59	RT LNB	POWER POLE	R
106+76	22	RT LNB	POWER POLE	R
105+37	89	RT LNB	LIGHT	R
105+36	243	RT LNB	LIGHT	R
104+51	24	RT LNB	POWER POLE	R
104+38	83	RT LNB	LIGHT	R
103+33	41	RT LNB	LIGHT	R
101+67	118	RT LNB	LIGHT	R
100+97	115	RT LNB	LIGHT	R
100+97	173	RT LNB	LIGHT	R
100+97	233	RT LNB	LIGHT	R
100+35	115	RT LNB	LIGHT	R
100+35	174	RT LNB	LIGHT	R
100+35	233	RT LNB	LIGHT	R
99+94	64	RT LNB	LIGHT	R
99+39	28	RT LNB	POWER POLE	R
99+11	63	RT LNB	LIGHT	R
98+34	66	RT LNB	LIGHT	R
98+33	128	RT LNB	LIGHT	R
97+38	170	RT LNB	LIGHT	R
96+73	30	RT LNB	POWER POLE	R

PRIVATE UTILITY OWNER INFORMATION

Mr. Doug Zahn
Comcast
934 Woodhill DR
Roseville, mn 55113
651 493 5144

Mr. David Berkowitz
City Engineer
City of Andover
1685 Crosstown Boulevard NW
Andover, MN 55304
763 755 5100

Mr. Steve Zimmerman
Planning and Design Group Leader
Connexus Energy
14601 Ramsey Boulevard
Anoka, MN 55303
763 323 4216

Mr. Judd Syverson
Field Engineer
Qwest
425 Monroe Street
Anoka, MN 55303
763 712 5021

Mr. Steve Guhanick
Senior Administration Engineer
Centerpoint Energy Minnegasco
700 West Linden Avenue
P.O. Box 1165
Minneapolis, MN 55440-1165
612 342 5200

CABLE TV - COMCAST				AD
STATION	OFFSET FROM LNB	DESCRIPTION/SIZE	REMARKS	
103+07	37	RT	SPLICE BOX TELEVISION	R
104+54	24	RT	SPLICE BOX TELEVISION	R
106+72	22	RT	SPLICE BOX TELEVISION	R
106+78	84	LT	SPLICE BOX TELEVISION	R
108+32	183	LT	SPLICE BOX TELEVISION	R
108+90	192	LT	SPLICE BOX TELEVISION	R
125+07	7	RT	SPLICE BOX TELEVISION	R
128+60	58	LT	SPLICE BOX TELEVISION	R
137+17	19	RT	SPLICE BOX TELEVISION	R
140+47	14	RT	SPLICE BOX TELEVISION	R
175+44	6	RT	SPLICE BOX TELEVISION	R

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\0260912\PLAN\03-08-TabSheet.dwg 08/25/2003 04:30:11 PM CDT

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PRINT NAME: PETER M. LEMKE
SIGNATURE: *Peter M. Lemke*
DATE: 8/22/2003 LICENSE NO. 40118

DRAWN BY: MN DATE: 2/19/02
DESIGN BY: PMI DATE: 4/10/03
CHECKED BY: PMI DATE: 4/10/03



ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. _____
STATE AID PROJECT NO. 02-609-12
CITY PROJECT NO. 198-020-17
COUNTY PROJECT NO. _____

UTILITY TABULATIONS
Sheet 17 of 165 Sheets

CLEAR & GRUB (LNB)								A	
STATION		LOCATION		CLEAR		GRUB			
START	END	START	END	EACH	ACRE	EACH	ACRE		
103+98		40	RT LNB	1		1			
107+08		34	RT LNB	0		1			
107+24		34	RT LNB	1		1			
107+54		34	RT LNB	1		1			
107+72		35	RT LNB	1		1			
107+84		34	RT LNB	1		1			
107+99		34	RT LNB	1		1			
108+14		34	RT LNB	1		1			
108+27		34	RT LNB	1		1			
108+42		33	RT LNB	1		1			
110+77		47	RT LNB	1		1			
110+79		40	RT LNB	1		1			
110+80		36	RT LNB	1		1			
110+85		33	RT LNB	1		1			
112+03		40	RT LNB	1		1			
112+22		39	RT LNB	1		1			
112+31		39	RT LNB	1		1			
112+40		39	RT LNB	1		1			
114+57		30	RT LNB	2		1			
116+44	117+66	48	RT LNB	47	RT	0.05		0.05	
118+56		29	RT LNB	1		1			
118+63		28	RT LNB	1		1			
118+72		27	RT LNB	1		1			
119+24		31	RT LNB	1		1			
119+31		31	RT LNB	2		1			
119+57		22	RT LNB	1		1			
120+08		35	RT LNB	1		1			
121+12		49	RT LNB	4		1			
121+26		40	RT LNB	1		1			
121+59		39	RT LNB	1		1			
122+52		31	RT LNB	1		1			
122+79		23	RT LNB	2		1			
123+26		32	RT LNB	1		1			
123+43		33	RT LNB	1		1			
123+89		42	RT LNB	1		1			
124+17		42	RT LNB	1		1			
124+49		38	RT LNB	2		1			
124+60	125+37	44	RT LNB	58	RT	0.05		0.05	
125+07		25	RT LNB	1		1			
125+10		26	RT LNB	2		1			
125+42		31	RT LNB	5		1			
125+78		29	RT LNB	1		1			
126+06		34	RT LNB	1		1			
126+19		34	RT LNB	1		1			
126+44		30	RT LNB	1		1			
126+64		67	RT LNB	1		1			
126+67		70	RT LNB	1		1			
126+72		69	RT LNB	1		1			
126+75		64	RT LNB	1		1			
126+75		67	RT LNB	1		1			
126+79		60	RT LNB	1		1			
126+87		30	RT LNB	0		1			
127+01		38	RT LNB	1		1			
126+87		30	RT LNB	0		1			
127+01		38	RT LNB	1		1			
127+01		38	RT LNB	1		1			
128+64		32	RT LNB	1		1			
131+35		52	RT LNB	1		1			
SUBTOTALS				65	0.10	56	0.10		

CLEAR & GRUB (LNB)								A	
STATION		LOCATION		CLEAR		GRUB			
START	END	START	END	EACH	ACRE	EACH	ACRE		
131+40		50	RT LNB	1		1			
131+92		45	RT LNB	1		1			
132+74		48	RT LNB	1		1			
132+85		32	RT LNB	0		1			
132+86		34	RT LNB	1		1			
133+03		39	RT LNB	1		1			
133+05		39	RT LNB	1		1			
133+13		39	RT LNB	1		1			
133+14		39	RT LNB	1		1			
134+08		39	RT LNB	1		1			
134+20		32	RT LNB	1		1			
134+35		38	RT LNB	1		1			
134+79		35	RT LNB	1		1			
134+81		37	RT LNB	1		1			
135+29		40	RT LNB	1		1			
135+47		39	RT LNB	1		1			
135+54		40	RT LNB	1		1			
135+71		25	RT LNB	1		1			
135+79		25	RT LNB	1		1			
135+83		25	RT LNB	1		1			
135+87		26	RT LNB	1		1			
138+18		32	RT LNB	0		1			
138+19		30	RT LNB	0		1			
138+20		37	RT LNB	3		1			
138+53		38	RT LNB	1		1			
138+53		43	RT LNB	2		1			
138+57		38	RT LNB	1		1			
138+62		38	RT LNB	2		1			
138+64		38	RT LNB	1		1			
138+72		38	RT LNB	1		1			
138+77		38	RT LNB	1		1			
138+82		38	RT LNB	2		1			
138+86		39	RT LNB	2		1			
138+88		38	RT LNB	1		1			
138+92		39	RT LNB	2		1			
138+97		39	RT LNB	1		1			
139+01		40	RT LNB	1		1			
139+04		39	RT LNB	1		1			
139+06		40	RT LNB	2		1			
139+48		19	RT LNB	1		1			
139+49		28	RT LNB	1		1			
139+57		39	RT LNB	1		1			
139+72		32	RT LNB	1		1			
140+98		20	RT LNB	1		1			
141+73	142+47	59	RT LNB	59	RT	0.05		0.05	
143+33	144+03	59	RT LNB	51	RT	0.05		0.05	
144+03		43	RT LNB	0		1			
146+54		40	RT LNB	1		1			
146+61		41	RT LNB	1		1			
146+68		40	RT LNB	1		1			
146+68		41	RT LNB	1		1			
146+73		37	RT LNB	1		1			
146+81		37	RT LNB	1		1			
147+03		57	RT LNB	1		1			
147+27		39	RT LNB	1		1			
147+47		49	RT LNB	1		1			
147+57		41	RT LNB	2		1			
SUBTOTALS				60	0.10	55	0.10		

CLEAR & GRUB (LNB)								A	
STATION		LOCATION		CLEAR		GRUB			
START	END	START	END	EACH	ACRE	EACH	ACRE		
149+97		42	RT LNB	2		1			
150+20		59	RT LNB	59	RT	0.05		0.05	
151+64		59	RT LNB	59	RT	0.05		0.05	
159+54		42	RT LNB	1		1			
159+59		40	RT LNB	1		1			
159+77		42	RT LNB	2		1			
159+83		44	RT LNB	1		1			
159+94		58	RT LNB	1		1			
160+22		44	RT LNB	1		1			
160+30		46	RT LNB	1		1			
162+42		37	RT LNB	1		1			
163+16		42	RT LNB	0		1			
163+20		32	RT LNB	5		1			
163+59		28	RT LNB	1		1			
163+73		24	RT LNB	1		1			
163+82		22	RT LNB	1		1			
164+44		29	RT LNB	1		1			
164+86		35	RT LNB	3		1			
165+35	165+66	68	RT LNB	59	RT	0.05		0.05	
166+23	166+37	12	RT LNB	36	RT	0.05		0.05	
166+51		22	RT LNB	1		1			
166+59		35	RT LNB	1		1			
166+77		40	RT LNB	1		1			
167+16		15	RT LNB	1		1			
167+21		23	RT LNB	2		1			
167+25		30	RT LNB	1		1			
167+31		32	RT LNB	1		1			
167+59		40	RT LNB	2		1			
167+60		24	RT LNB	1		1			
167+83	172+81	44	LT LSB	47	LT	0.25		0.25	
168+14		23	RT LNB	1		1			
168+15		32	RT LNB	1		1			
168+17		44	RT LNB	1		1			
168+68	171+96	49	RT LNB	49	RT	0.25		0.25	
172+69		48	RT LNB	1		1			
172+81	175+13	49	RT LNB	12	RT	0.10		0.10	
172+82		40	RT LNB	1		1			
172+92		39	RT LNB	1		1			
173+13		22	RT LNB	1		1			
175+07		31	RT LNB	0		1			
175+28		33	RT LNB	1		1			
175+62		15	RT LNB	1		1			
175+65		33	RT LNB	1		1			
176+52		39	RT LNB	4		1			
176+55		18	RT LNB	1		1			
176+81		17	RT LNB	1		1			
176+97		31	RT LNB	1		1			
177+15		26	RT LNB	1		1			
177+43		21	RT LNB	1		1			
177+45		42	RT LNB	1		1			
177+94	181+77	45	RT LNB	57	RT	0.35		0.35	
182+62		24	RT LNB	1		1			
182+85		26	RT LNB	1		1			
182+86		21	RT LNB	1		1			
183+63		33	RT LNB	0		1			
00+58		28	CL Coon Creek	0		1			
00+75		31	CL Coon Creek	0		1			
00+88		27	CL Coon Creek	1		1			
00+89		33	CL Coon Creek	1		1			
SUBTOTAL				59	1.15	51	1.15		

NO	DATE	BY	CHKD	APPR	REVISION
NAME: P:\0260912\PLAN\03-08-TabSheet.dwg 08/25/2003 04:30:11 PM CDT					

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 PRINT NAME: **PETER M. LEMKE**
 SIGNATURE: *Peter M. Lemke*
 DATE: **8/22/2003** LICENSE NO. 40118

DRAWN BY: **MN** DATE: **2/19/03**
 DESIGN BY: **PML** DATE: **4/10/03**
 CHECKED BY: **PML** DATE: **8/19/03**



ANOKA COUNTY

CLEAR & GRUB (LSB)								A
STATION		LOCATION		CLEAR		GRUB		
START	END	START	END	EACH	ACRE	EACH	ACRE	
109+53		39	LT LSB		5		1	
109+87		40	LT LSB		1		1	
110+14		49	LT LSB		1		1	
110+18		38	LT LSB		1		1	
110+25		49	LT LSB		2		1	
110+28		45	LT LSB		1		1	
110+51		43	LT LSB		0		1	
117+21		29	LT LSB		1		1	
117+72		38	LT LSB		0		1	
118+30		37	LT LSB		1		1	
118+51		27	LT LSB		1		1	
118+97		28	LT LSB		1		1	
119+45		28	LT LSB		1		1	
119+47		35	LT LSB		1		1	
120+49		23	LT LSB		1		1	
120+63		28	LT LSB		1		1	
120+85		25	LT LSB		1		1	
121+52		37	LT LSB		1		1	
121+60		25	LT LSB		1		1	
121+63		33	LT LSB		0		1	
121+76		28	LT LSB		0		1	
121+81		40	LT LSB		1		1	
121+89		40	LT LSB		1		1	
122+67		31	LT LSB		1		1	
122+69		38	LT LSB		1		1	
122+72		43	LT LSB		1		1	
122+77		32	LT LSB		1		1	
122+79		32	LT LSB		1		1	
122+88		43	LT LSB		1		1	
122+90		30	LT LSB		1		1	
122+98		32	LT LSB		1		1	
123+08		36	LT LSB		1		1	
123+10		35	LT LSB		1		1	
123+42		30	LT LSB		1		1	
123+57		31	LT LSB		1		1	
123+67		38	LT LSB		1		1	
123+69		47	LT LSB		1		1	
123+76		49	LT LSB		1		1	
123+70		49	LT LSB		1		1	
123+80		50	LT LSB		1		1	
123+84		35	LT LSB		1		1	
123+85		49	LT LSB		3		1	
123+87		52	LT LSB		1		1	
124+58		68	LT LSB		1		1	
124+61		59	LT LSB		1		1	
124+81		32	LT LSB		1		1	
124+84		71	LT LSB		0		1	
124+87		71	LT LSB		1		1	
124+91		64	LT LSB		1		1	
125+03		41	LT LSB		0		1	
125+05		28	LT LSB		0		1	
125+07		28	LT LSB		1		1	
125+64		38	LT LSB		2		1	
125+91		29	LT LSB		1		1	
125+92		36	LT LSB		0		1	
126+16		33	LT LSB		1		1	
126+53		39	LT LSB		1		1	
126+59		21	LT LSB		1		1	
SUBTOTALS				58	0.00	58	0.00	

CLEAR & GRUB (LSB)								A
STATION		LOCATION			CLEAR		GRUB	
START	END	START	END		EACH	ACRE	EACH	ACRE
126+95		26	LT LSB		1		1	
126+96		30	LT LSB		1		1	
127+72		24	LT LSB		2		1	
127+96		35	LT LSB		1		1	
127+98		23	LT LSB		1		1	
130+00		38	LT LSB		1		1	
134+38		32	LT LSB		1		1	
134+51		21	LT LSB		1		1	
134+55		23	LT LSB		1		1	
135+57		25	LT LSB		3		1	
135+74		27	LT LSB		3		1	
135+77		27	LT LSB		2		1	
135+83		27	LT LSB		1		1	
135+85		26	LT LSB		1		1	
135+86		25	LT LSB		1		1	
135+86		23	LT LSB		1		1	
135+89		25	LT LSB		3		1	
136+45		26	LT LSB		2		1	
136+49		28	LT LSB		1		1	
136+60		26	LT LSB		1		1	
136+61		23	LT LSB		1		1	
136+64		25	LT LSB		1		1	
136+98		25	LT LSB		1		1	
137+27		30	LT LSB		1		1	
137+48	13880	30	LT LSB	44	LT	0.05		0.05
138+92		29	LT LSB		1		1	
139+01		29	LT LSB		1		1	
140+14		26	LT LSB		1		1	
140+29		30	LT LSB		1		1	
140+46		31	LT LSB		1		1	
140+48		26	LT LSB		1		1	
140+51		27	LT LSB		1		1	
140+55		27	LT LSB		1		1	
140+55		29	LT LSB		1		1	
140+57		26	LT LSB		1		1	
140+61		23	LT LSB		1		1	
140+63		31	LT LSB		1		1	
140+65		29	LT LSB		1		1	
140+67		31	LT LSB		1		1	
140+67		25	LT LSB		1		1	
140+69		25	LT LSB		1		1	
140+69		29	LT LSB		2		1	
140+75		25	LT LSB		1		1	
140+79		25	LT LSB		1		1	
141+23		29	LT LSB		5		1	
141+97	14891	34	LT LSB	34	LT	0.25		0.25
154+71	15777	43	LT LSB	39	LT	0.10		0.10
159+73	16148	39	LT LSB	39	LT	0.05		0.05
177+97		45	LT LSB		0		1	
178+65		41	LT LSB		1		1	
7+53		29	CL 143rd		1		1	
7+62		30	CL 143rd		1		1	
7+74		29	CL 143rd		1		1	
8+04		27	CL 143rd		1		1	
8+10		29	CL 143rd		1		1	
8+17		28	CL 143rd		1		1	
8+25		27	CL 143rd		1		1	
SUBTOTALS				66	0.45	53	0.45	

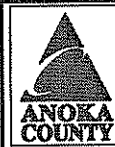
CLEAR & GRUB (LSB)								A
STATION		LOCATION		CLEAR		GRUB		
START	END	START	END	EACH	ACRE	EACH	ACRE	
8+31		29	CL 143rd		1		1	
8+38		30	CL 143rd		1		1	
8+45		30	CL 143rd		1		1	
8+52		30	CL 143rd		1		1	
8+65		33	CL 143rd		1		1	
8+91		28	CL 143rd		1		1	
9+04		26	CL 143rd		1		1	
9+21		31	CL 143rd		1		1	
SUBTOTALS				8	0	8	0	

CLEAR AND GRUB TOTALS				A
	CLEAR EACH	CLEAR ACRE	GRUB EACH	GRUB ACRE
LNB TOTALS	184	1.35	162	1.35
LSB TOTALS	132	0.45	119	0.45
TOTALS	316	1.80	281	1.80

NO	DATE	BY	GKD	APPR	REVISION
NAME: P:\0260912\PLAN\03-08-TabSheet.dwg 08/25/2003 04:30:11 PM CDT					

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 DESIGN BY: PML DATE 4/10/03
 CHECKED BY: PML DATE 4/10/03



ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. _____
 STATE AID PROJECT NO. 02-609-12
 CITY PROJECT NO. 198-020-17
 COUNTY PROJECT NO. _____

QUANTITY TABULATION
 LSB CLEAR AND GRUB
 Sheet 19 of 165 Sheets

REMOVE BITUMINOUS PAVEMENT				B	
STATION TO STATION	LOCATION	DESCRIPTION	REMOVE PAVEMENT SECTION	SAWING BITUMINOUS PAVEMENT	
			SQ YD	LIN FT	
93+66		RT LNB	BEGIN PVMT		50
93+66	96+71	RT LNB	RT. TURN LINE	120	305
96+70	101+12	LT- RT LNB	MAINLINE	1297	84
96+71	101+16	RT LNB	RT. TURN LINE	402	
96+70	100+85	RT LSB	MAINLINE	770	
101+12	186+11	LT LNB	MAINLINE	11368	
101+12	104+99	RT LNB	SHOULDER	522	
104+99	113+21	RT LNB	SHOULDER	1066	
96+71	99+40	LT LSB	SHOULDER	665	
99+40	104+99	LT LSB	SHOULDER	784	
100+85	182+13	RT LSB	MAINLINE	784	
113+21	118+49	RT LNB	SHOULDER	684	
101+12	104+99	RT LNB	SHOULDER	522	
104+99	113+21	RT LNB	SHOULDER	1066	
113+21	118+49	RT LNB	SHOULDER	684	
118+49	124+79	RT LNB	SHOULDER	873	
124+79	128+79	RT LNB	SHOULDER	518	
128+79	134+21	RT LNB	SHOULDER	686	
134+21	146+77	RT LNB	SHOULDER	1409	
146+77	157+02	RT LNB	SHOULDER	1135	
157+02	167+02	RT LNB	SHOULDER	1069	
167+02	178+00	RT LNB	SHOULDER	1216	
178+00	186+11	RT LNB	SHOULDER	982	12
182+13	186+11	LT LNB			398
104+90		RT LNB	140 TH. LANE	441	206
108+75		RT LNB	141 ST. LANE	244	28
112+88		RT LNB	142 ND. AVE.	278	30
117+95		RT LNB	142 ND. LANE	229	20
133+70		RT LNB	SO. COON CREEK	287	70
145+75		RT LNB	JONQUIL ST.	281	30
168+40		RT LNB	149 TH. AVE.	183	
172+30		RT LNB	149 TH. LANE	311	24
177+70		RT LNB	150 TH. LANE	291	22
104+99	113+21	LT LSB	SHOULDER	921	
113+21	118+49	LT LSB	SHOULDER	581	
104+99	113+21	LT LSB	SHOULDER	921	
118+49	124+90	LT LSB	SHOULDER	766	
124+90	129+00	LT LSB	SHOULDER	505	
129+00	134+38	LT LSB	SHOULDER	667	
134+38	147+00	LT LSB	SHOULDER	1405	
147+00	157+34	LT LSB	SHOULDER	1135	
157+34	167+02	LT LSB	SHOULDER	1114	
178+00	182+13	LT LSB	SHOULDER	461	
104+90		LT LSB	140 TH. LANE	236	30
108+72		LT LSB	141 ST. LANE	236	15
112+75		LT LSB	142 ND. AVE.	214	29
123+28	124+00	LT LSB	143 RD AVE.		255
178+00	182+13	LT LSB	SHOULDER	660	41
128+42		LT LSB	144 TH. AVE.	272	33
TOTALS			41263	1681	

REMOVE CURB AND GUTTER						C	
STATION TO STATION	LOCATION	DESCRIPTION			CONCRETE		
					LIN FT		
93+72	96+71	62	27	RT LNB	Shoulder	322	
96+70	96+80	14	18	LT LNB	Median	11	
98+88	99+12	23	22	RT LNB	Shoulder	25	
100+96	100+97	22	37	RT LNB	Shoulder	21	
101+36	101+68	37	2	LT LNB	Shoulder	55	
101+21	101+21	4	29	RT LNB	Shopping Ent.	82	
104+71		35	48	RT LNB	140th Lane NW	35	
105+08		35	48	RT LNB	140th Lane NW	212	
105+07		81	98	RT LNB	140th Shopping Ent.	11	
105+13		137	142	RT LNB	140th Shopping Ent.	12	
112+97		2	22	RT LNB	142nd Ave NW	78	
117+95		19	60	RT LNB	142nd Lane NW	94	
133+50		26	56	RT LNB	S. Coon Creek Drive	36	
133+83		29	237	RT LNB	S. Coon Creek Drive	168	
96+70	96+80	26	29	RT LSB	Median	11	
96+70	96+78	26	26	LT LSB	Side of Road	7	
104+74		28	47	LT LSB	Underclift St. NW	61	
105+06		28	51	LT LSB	Underclift St. NW	62	
108+73		3	68	RT LSB	141st Lane NW	80	
112+78		20	56	LT LSB	142nd Ave NW	121	
124+11		4	20	LT LSB	143rd Ave NW	336	
124+71		3	19	LT LSB	143rd Ave NW	116	
128+32	128+27	26	59	LT LSB	Side of Road	34	
128+42		23	65	LT LSB	144th Ave NW	116	
128+62	128+57	25	63	LT LSB	Side of Road	39	
TOTALS						2145	

REMOVE FLUME				F	
STATION	OFFSET	BITUMINOUS	CONCRETE		
		SQ YD	SQ YD		
124+01	73	LT LSB		1	
135+25	1	RT LNB	3		
145+99	27	RT LNB	14		
172+20	12	LT LSB	2		
TOTALS			19	1	

REMOVE RETAINING WALL						G	
TATION TO STATIO	LOCATION	DESCRIPTION	LENGTH	HEIGHT	BLOCK	WOOD	
			FEET	FEET	SQ FT	SQ FT	
135+04 TO 135+45	33 TO 32 RT LNB	BLOCK	86.8	1	87		
136+96 TO	24 TO 44 RT LNB	WOOD TIMBERS	43.9	2		88	
117+19 TO 117+25	24 TO 24 LT LSB	BLOCK	14	7	98		
140+67 TO 140+77	29 TO 29 LT LSB	WOOD TIMBERS	15.1	0.5		8	
TOTAL					185	95	

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\0260912\PLAN\03-08-TabSheet.dwg 08/25/2003 04:30:11 PM CDT

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CHECKED BY: PML DATE 4/10/03



ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. _____
STATE AID PROJECT NO. 02-609-12
CITY PROJECT NO. 198-020-17
COUNTY PROJECT NO. _____

QUANTITY TABULATION
BITUMINOUS REMOVAL
Sheet 20 of 165 Sheets

EXISTING STORM SEWER & CULVERTS REMOVALS						D					
STATION		OFFSET				ALIGNMENT	DRAINAGE STRUCTURE	PIPE APRON	STORM SEWER PIPE	CULVERT	REMARKS
FROM	TO	FROM	TO	FROM	TO						
94+07	94+06	17	RT	24	RT	LNB	1		8		CB-5
96+67	96+66	17	RT	23	RT	LNB	1		6		CB-6
99+01	99+01	16	RT	25	RT	LNB	1		7		CB-6
104+47	105+33	21	RT	19	RT	LNB				87	12" CMP
106+83	107+29	16	LT	13	LT	LSB				46	12" CMP
107+43	107+77	16	LT	17	LT	LSB				34	12" CMP
110+25	110+56	17	LT	17	LT	LSB				31	12" CMP
122+89	123+21	13	RT	13	RT	LNB				32	12" CMP
122+39	122+71	18	LT	19	LT	LSB				32	12" CMP
122+91	123+26	20	LT	22	LT	LSB				36	12" CMP
123+59	123+10	13	RT	14	RT	LNB				40	12" CMP
123+77	124+91	65	LT	41	LT	LNB		1	118		APRON
124+89	124+91	63	LT	41	LT	LNB		1	21		APRON
124+90	124+91	5	RT	41	LT	LNB		1	46		APRON
124+91		41	LT				1				MH
124+91	126+63	41	LT	41	LT	LNB			175		
126+63		41	LT				1				MH
126+63	128+37	41	LT	37	LT	LNB			179		
128+37		41	LT				1				MH
128+37	130+86	40	LT	39	LT	LNB			247		
130+13	130+47	18		17	RT	LNB				34	12" CMP
130+86		40	LT				1				MH
130+86	132+74	39	LT	39	LT	LNB			184		
132+74		39	LT				1				CB
132+74	132+75	39	LT	251	LT	LNB			208		
132+75		39	LT				1				MH
132+75	132+06	251	LT	253	LT	LNB			65		
132+06		251	LT				1				MH
132+06	131+04	253	LT	346	LT	LNB		1	135		APRON
128+04		74	LT				1				CB
128+04	128+32	74	LT	73	LT	LNB			32		
128+32		73	LT				1				CB
128+32	128+37	73	LT	40	LT	LNB			32		
128+37		1	RT				1				CB
128+37	128+37	1	RT	40	LT	LNB			39		
130+85	130+86	63	LT	39	LT	LNB		1	21		APRON
133+80		78	RT				1				CB
133+80	133+50	78	RT	77	RT	LNB			25		SO. COON CR
133+50		77	RT				1				CB
133+50	133+13	77	RT	7	RT	LNB			77		
133+13		7	RT				1				CB
133+13	132+76	7	RT	1	RT	LNB			37		
132+76		1	RT				1				CB
132+76	132+74	1	RT	39	RT	LNB			36		
132+43	132+76	28	RT	1	RT	LNB		1	39		APRON
133+97	133+13	19	RT	7	RT	LNB		1	83		APRON
132+74	132+93	39	LT	43	LT	LNB			18		
132+93		43	LT				1				CB
132+74	132+75	39	LT	252	LT	LNB			213		
145+32	146+25	22	RT	21	RT	LNB				93	12" CMP
146+98	147+36	21	RT	27	RT	LNB				38	12" CMP
153+07	153+30	78	RT	64	RT	LNB				28	12" CMP
152+74	153+13	30	RT	34	RT	LNB				38	12" CMP
162+44	163+38	20	RT	15	RT	LNB				96	12" CMP
164+76	165+10	15	RT	15	RT	LNB				34	12" CMP
180+18	180+54	29	LT	29	LT	LSB				36	12" CMP
TOTALS						18	7	2051	736		

REMOVE/SALVAGE FENCE							E		
ADDRESS	STATION TO STATION	LANE	LOCATION	DESCRIPTION	REMOVE	SALVAGE	TEMP		
					LIN FT	LIN FT	LIN FT		
3552 141st Ln	106+72 TO 108+46	LNB	30 TO 31 RT	SPLIT RAIL	173				
	106+72	LNB	30 TO 49 RT	SPLIT RAIL	18				
	108+46	LNB	31 TO 42 RT	SPLIT RAIL	12				
3555 141st Ln	109+16 TO 109+64	LNB	32 TO 31 RT	CHAINLINK		62	47		
	109+64 TO 110+73	LNB	31 TO 30 RT	WOOD		109	109		
	109+64	LNB	31 TO 47 RT	CHAINLINK		15			
3554 142nd Av	110+73	LNB	31 TO 47 RT	WOOD		15			
	110+73 TO 112+51	LNB	30 TO	WOOD		176	176		
	111+95	LNB	30 TO 49 RT	WOOD		19			
	112+50	LNB	30 TO 49 RT	WOOD		19			
14216 RLB	114+08 TO 115+24	LNB	38 TO 38 RT	WOOD		116			
	114+08	LNB	38 TO 54 RT	WOOD		15			
	115+24	LNB	38 TO 54 RT	WOOD		16			
14267 RLB	118+44 TO 119+51	LNB	22 TO 23 RT	WOOD		111			
	118+44	LNB	22 TO 54 RT	WOOD		31			
	119+51	LNB	23 TO 44 RT	WOOD		20			
14385 RLB	126+38 TO 126+68	LNB	30 TO 30 RT	SPLIT RAIL	29				
	126+97	LNB	26 TO 36 RT	SPLIT RAIL	11				
14509 RLB	135+47 TO 136+55	LNB	28 TO 31 RT	WOOD		108			
	135+47	LNB	28 TO 39 RT	WOOD	11				
	136+76 TO 137+05	LNB	23 TO 23 RT	WOOD	29				
14535 RLB	138+10	LNB	24 TO 53 RT	METAL WIRE	15	14			
14817 RLB	162+54 TO 163+21	LNB	44 TO 33 RT	METAL WIRE		67			
	163+47 TO 164+82	LNB	36 TO 37 RT	METAL WIRE		139			
	163+59	LNB	36 TO 49 RT	METAL WIRE		13			
	164+82	LNB	37 TO 79 RT	METAL WIRE	42				
15011 RLB	175+15 TO 176+16	LNB	25 TO 27 RT		101				
	176+16	LNB	27 TO 37 RT		10				
	176+34 TO 177+33	LNB	27 TO 27 RT		99				
	177+33	LNB	27 TO 49 RT		22				
3167 150th Ln	178+08 TO 181+62	LNB	27 TO 29 RT	METAL WIRE		354			
	181+62	LNB	27 TO 38 RT	METAL WIRE		11			
3617 140th Ln	105+18 TO 105+37	LSB	40 TO 40 LT	SPLIT RAIL		20	20		
	105+18	LSB	40 TO 61 LT	WOOD		21	21		
	105+37 TO 106+54	LSB	40 TO 41 LT	WOOD		119	119		
	105+82	LSB	41 TO 44 LT	WOOD		3	3		
14215 RLB	113+25 TO 114+11	LSB	29 TO 29 LT	WOOD		86			
	113+12 TO 113+25	LSB	40 TO 29 LT	WOOD		17			
	114+11	LSB	39 TO 29 LT	WOOD		10			
14225 RLB	114+11 TO 116+23	LSB	29 TO 29 LT	WOOD		212	212		
	116+23	LSB	30 TO 42 LT	WOOD		12			
	116+23	LSB	30 TO 42 LT	WOOD		12			
14234 RLB	116+23 TO 117+22	LSB	30 TO 30 LT	WOOD		99			
	117+22	LSB	29 TO 38 LT	WOOD		9			
14260 RLB	118+13 TO 119+73	LSB	33 TO 34 LT	WOOD		160	160		
	119+73	LSB	34 TO LT	WOOD		29			
	119+86	LSB	34 TO LT	WOOD		29			
3608 143rd Ave				WOOD		10	100		
3595 143rd Av	125+82 TO 126+15	LSB	31 TO 30 LT	CHAINLINK		34	34		
	125+81	LSB	31 TO 44 LT	CHAINLINK		14			
	126+15	LSB	30 TO 43 LT	CHAINLINK		14			
14410 RLB	127+15	LSB	28 TO 44 LT	CHAINLINK	15				
14452 RLB	133+47	LSB	29 TO 49 LT	METAL WIRE	20				
PARCEL 67	166+71 TO 173+67	LSB	13 TO 13 LT	GUARD RAIL	695				
15012 RLB	175+39 TO 175+48	LSB	31 TO 31 LT	CHAINLINK			9		
	175+48	LSB	31 TO	CHAINLINK			12		
TOTAL					1302	2340	1020		

NO	DATE	BY	CHKD	APPR	REVISION
NAME: P:\0260912\PLAN\03-08-TabSheet.dwg 08/25/2003 04:30:11 PM CDT					

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 PRINT NAME: PETER M. LEMKE
 SIGNATURE: *Peter M. Lemke*
 DATE: 8/22/2003 LICENSE NO. 40118

DRAWN BY: MN DATE 2/19/03
 DESIGN BY: PML DATE 4/10/03
 CHECKED BY: PML DATE 4/10/03



ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO. _____
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 CITY PROJECT NO. 198-020-17
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QUANTITY TABULATION REMOVALS
 Sheet 21 of 165 Sheets

RELOCATE MAILBOX SUPPORT				H
STATION	LOCATION	ADDRESS	RELOCATE MAILBOX SUPPORT	INSTALL MAIL BOX SUPPORT SPECIAL
			EACH	EACH
119+46	3 RT LNB	14267	1	
120+98	7 RT LNB	14311	1	
122+80	5 RT LNB	14325	1	
126+69	7 RT LNB	14385	1	
127+30	5 RT LNB	14411	1	
136+35	3 RT LNB	14509	1	
138+14	9 RT LNB	14521	1	
138+96	2 RT LNB	14535	1	
139+95	4 RT LNB	14545	1	
140+86	1 RT LNB	14555	1	
163+59	0 RT LNB	14817	1	
167+14	7 LT LNB	14851	1	
168+79	6 LT LNB	2975 149TH AVE.	1	
168+80	6 LT LNB	3140 149TH AVE.	1	
175+90	8 LT LNB	15011	1	
110+18	5 LT LSB	14140		1
117+09	6 LT LSB	14234	1	
119+62	5 LT LSB	14260	1	
120+51	4 LT LSB	14268	1	
122+23	3 LT LSB	14288	1	
126+71	4 LT LSB	14400		1
127+61	3 LT LSB	14410		1
134+44	3 LT LSB	14452	1	
134+45	3 LT LSB	14440 (NEWSPAPER)	1	
134+46	3 LT LSB	14440	1	
134+48	3 LT LSB	14462	1	
136+57	3 LT LSB	14516	1	
139+50	3 LT LSB	14536	1	
141+21	2 LT LSB	14554	1	
175+42	15 LT LSB	15012	1	
179+65	16 LT LSB	CHURCH	1	
TOTALS			28	3

SALVAGE SIGN PANEL TYPE C SALVAGE & INSTALL SIGN TYPE					I
STATION	RT/LT	ALIGNMENT	DESCRIPTION	SALVAGE SIGN TYPE SPECIAL	INSTALL SIGN TYPE SPECIAL
				EACH	EACH
93+25	R	LNB	139th Ave	1	1
104+50	R	LNB	140th Lane	1	1
105+25	L	LSB	140th Lane	1	1
108+30	R	LNB	141st Lane	1	1
109+10	L	LSB	141st Lane	1	1
112+40	R	LNB	142nd Ave	1	1
113+10	L	LSB	142nd Ave	1	1
117+60	R	LNB	142nd Lane	1	1
124+50	L	LSB	143rd Ave	1	1
128+80	L	LSB	144th Ave	1	1
133+30	R	LNB	South Coon Creek Dr	1	1
145+40	R	LNB	Jonquil St	1	1
167+95	R	LNB	149th Ave	1	1
172+05	R	LNB	149th Lane	1	1
177+44	R	LNB	150th Lane	1	1
				15	15

TRENCH RESTORATION					J
STATION	DESCRIPTION		BIT PAVEMENT	BIT SAWCUT	BIT REMOVAL
			SQ YD	LIN FT	SQ YD
96+75 TO 99+40	MEDIAN REMOVAL		319		319
108+75	141ST LANE NW	RT	58	65	58
109+37	CB 107-111	LT	117	90	117
116+55	WATER SERVICE		107	90	107
118+85	WATER SERVICE		107	90	107
122+25	WATER SERVICE		107	90	107
124+25	WATERMAIN	RT	197	160	197
126+58	WATER SERVICE		107	90	107
127+60	WATER SERVICE		107	90	107
131+80	CB 225-229	LT	117	90	117
133+75	SOUTH COON	RT	43	77	43
141+50	WATERMAIN	RT	60	90	60
145+85	JONQUIL	RT	50	75	50
155+10	CB 309-312	RT	107	90	107
TOTALS			1603	1187	1603

1	9/03/03	MFG	PML	PML	ADD BIT SAWCUT & REMOVAL TO TAB J - TRENCH RESTORATION, ADD TRENCH RESTORATION ON SIDESTREETS FOR CITY UTILITY INSTALLATION.
NO	DATE	BY	CKD	APPR	REVISION

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 PRINT NAME: PETER M. LEMKE
 SIGNATURE: *Peter M. Lemke*
 DATE: 9/03/03 LICENSE NO. 40118

DRAWN BY: MN DATE 2/19/03
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ANOKA COUNTY
 HIGHWAY DEPT.

STATE PROJECT NO. _____
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 CITY PROJECT NO. 198-020-17
 COUNTY PROJECT NO. _____

QUANTITY TABULATION
 REMOVALS
 Sheet 22 of 165 Sheets

DRIVEWAY REMOVAL AND CONSTRUCTION														M
STATION	LOCATION	ADDRESS/DESCRIPTION (NOTES)	SAWCUT			REMOVAL				CONSTRUCTION				
			BIT	CONC	LENGTH	WIDTH	BIT	CONC	CL 5	LENGTH	WIDTH	BIT	6" CONC	4" CL 5
			LIN FT	LIN FT										
101+22	4 RT LNB	Coon Rapids Floral	39		35	34	91							
105+08	114 RT LNB	Champion Auto	30		20	30	85			13	30	42		
119+71	2 RT LNB	14267		11	40	11	49	24		24	16		28	
120+75	4 RT LNB	14311	18		65	18	175			49	18	104		
123+43	3 RT LNB	14325			66	34	116		246	49	20	20		136
126+31	3 RT LNB	14385	25		70	25	207			53	16	146		
127+07	2 RT LNB	14411			51	23	57		35	29	20	20		26
128+94	1 RT LNB	14411			68	30	65		182	49	28	19		99
130+30	2 RT LNB	Field / Wetland			66	27	77		96	44	18	11		80
136+66	0 RT LNB	14509 (A)	19		68	19	142	48		49	18	79	39	
137+74	0 RT LNB	14521			40	26	78		25	18	16	18		
139+22	0 RT LNB	14535	19		68	30	196			49	20	108		
140+15	0 RT LNB	14545		19	68	19	37	144		48	18		111	
141+18	0 RT LNB	14555			68	25	275			49	24	104		
147+19	1 RT LNB	14605			19	21	63			19	20	16		
152+95	12 RT LNB	Field / Wetland			70	18	55		58	57	16	16		65
162+58	1 RT LNB	14817			58	16	63		45	39	16	16		38
163+24	0 LT LNB	14817			50	15	48		44	29	16	16		21
164+94	4 LT LNB	14817			63	19	55		45	37	16	12		38
166+91	9 LT LNB	14851		10	68	14	53	56		32	16		45	
176+23	11 LT LNB	15011 (B)	11		77	11	115			41	16			
107+01	1 LT LSB	Outlot A			19	14	43					4		
107+63	0 LT LSB	3614			32	24			110			4		
110+41	4 LT LSB	14140 (C)			57	10			97	36	16	4		52
117+38	0 LT LSB	14234			62	10	106			44	16	68		
119+82	2 LT LSB	14260			62	13	40		43	44	16	13		11
120+55	2 LT LSB	14268 (D)	51		36	51	148			22	16	48		
121+00	LT LSB	14278 (E)												
122+55	1 LT LSB	14288		26	48	26	66	81		29	24		63	
123+17	1 LT LSB	3608			42	16	46		49	24	16	12		20
124+45	39 LT LSB	3595 - 143rd Av (F)		17	75	15	17	108		90	17		170	
126+37	2 LT LSB	14400		29	41	22	64	56		18	20		34	
127+33	2 LT LSB	14410 (G)			41	15	57		37	19	16	3		33
133+51	1 LT LSB	14452 (H)			47	30	51		96	52	16	25		50
134+81	0 LT LSB	14462 (I)	18		33	17	101			14	16	24		
136+83	0 RT LSB	14516	23		32	23	84			13	20	30		
139+71	0 LT LSB	14536 (J)		30	33	30		93		14	26		39	
140+97	1 LT LSB	14554 (K)	29		28	29	96			14	26	41		
150+47	5 RT LSB	Boat Landing			65	21	58		1192	39	24			1162
154+55	10 RT LSB	Boat Landing			52	18	62			28	24			
174+41	12 LT LSB	14964 (L)	10		32	10	62			25	16	44		
175+23	12 LT LSB	14964	13		30	13	69			22	16	57		
175+62	12 LT LSB	15012 (M)	11		30	11	56			22	16	39		
179+27	13 LT LSB	15036	51		37	21	129			30	21	70		
180+39	11 LT LSB	15036	42		37	23	120			28	21	66		
TOTAL			407	140	2170	924	3576	611	2400	1395	776	1357	530	1831

- (A) ADD CONCRETE TURNAROUND
- (B) REALIGN DRIVEWAY TO 150TH LANE
- (C) NEED WIDE ENTRANCE FOR TRUCK AND TRAILER
- (D) NEW 12'X14' TURNAROUND, EXPAND DRIVEWAY OPENING, REMOVE EXISTING NORTH DRIVEWAY
- (E) ADD DOUBLE DRIVEWAY
- (F) REALIGN ENTRANCE
- (G) REMOVE CSAH 9 ENTRANCE AND ADD 144TH AVENUE ENTRANCE
- (H) CHECK WITH OWNER ABOUT SHAPE OF DRIVEWAY
- (I) ADD BITUMINOUS TURNAROUND
- (J) NEED 32' CONCRETE OPENING
- (K) MEDICAL PROBLEMS REQUIRE ENTRANCE AT ALL TIMES
- (L) PROFILE CONCERNS
- (M) CONTACT OWNER ABOUT DRIVEWAY LOCATION AND ENTRANCE RADIUS

CONCRETE WALK						K
STATION TO STATION		LOCATION		DESCRIPTION		4" CONC WALK SQ FT
105+18	108+46	32	LT. LSB	1:12.5 Taper Sta.94+22.80 to 94+60.30		1607
105+18	108+46	32	LT. LSB	2 FT. WIDE PAVED BOULEVARD		405
109+00	112+49	32	LT. LSB			1711
109+00	112+49	32	LT. LSB	2 FT. WIDE PAVED BOULEVARD		432
113+03	116+06	32	LT. LSB			1502
113+03	116+06	32	LT. LSB	2 FT. WIDE PAVED BOULEVARD		384
116+06	123+84	32	LT. LSB			3913
124+41	128+16	32	LT. LSB	Taper Sta.126+24.80 to 128+45.40		1885
124+41	128+16	32	LT. LSB	2 FT. WIDE PAVED BOULEVARD		477
128+69	133+54	32	LT. LSB			2445
128+69	131+71	32	LT. LSB	2 FT. WIDE PAVED BOULEVARD		384
133+54	140+83	32	LT. LSB			3659
133+54	140+83	32	LT. LSB			947
TOTAL						19751

CONSTRUCT RETAINING WALL						Q	
STATION TO STATION	LOCATION	LENGTH	HEIGHT	INSTALL	COMMENTS		
						LIN FT	LIN FT
94+50	99+60	34.00	RT LNB	510	1 - 4	1275	CONCRETE BLOCK
115+75	117+28	34.00	LT LSB	174	1 - 5	609	CONCRETE BLOCK
118+02	119+68	34.00	LT LSB	180	1 - 5	630	CONCRETE BLOCK
126+43	128+38	39.00	RT LNB	210	1 - 4	630	CONCRETE BLOCK
TOTAL:						3144	

CONSTRUCT BITUMINOUS PATH						L
STATION TO STATION		LOCATION		DESCRIPTION		SQ YD
093+77	101+05	30 - 33	RT. LNB	1:12.5 Taper Sta.94+22.80 to 94+60.30		643.66
094+60	101+05	22 - 25	RT. LNB	2 FT. Wide Paved Boulevard		110
101+36	104+65	37	RT. LNB			288
105+21	108+53	37	RT. LNB			287
108+95	112+60	37	RT. LNB			316
113+06	117+77	37	RT. LNB			410
118+18	125+94	37	RT. LNB			674
125+94	128+76	37 - 35	RT. LNB	Taper Sta.126+24.80 to 128+45.40		245
128+76	133+43	37	RT. LNB			410
133+91	145+56	37	RT. LNB			1028
145+98	156+80	37	RT. LNB			955
157+20	167+92	37	RT. LNB			968
168+36	172+13	37	RT. LNB			327
172+47	177+52	37	RT. LNB			443
TOTAL:						7105

NO	DATE	BY	CHK	APPR	REVISION
NAME: P:\0260912\PLAN\03-08-TabSheet.dwg 08/28/2003 02:41:30 PM CDT					

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ANOKA COUNTY
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QUANTITY TABULATIONS
 Sheet 23 of 165 Sheets

CONCRETE CURB AND GUTTER, CONCRETE MEDIAN							R	
STATION TO STATION	LOCATION		DESCRIPTION	CONCRETE CURB & GUTTER DESIGN B-618	CONCRETE CURB & GUTTER DESIGN B-418	4" CONCRETE WALK (MEDIAN)	CONCRETE NOSE DES 7113	
				LIN FT	LIN FT	SQ FT	SQ FT	
93+72	100+96	18.5-23.5	RT LNB	SHOULDER		768		
96+70	104+25	12.5-23.5	LT LNB	MEDIAN		759	5167	
96+70	104+25	24.5-12.5	RT LSB	MEDIAN		756		
96+70	104+74	24.5	LT LSB	SHOULDER		821		
105+07	108+57	23.5	LT LSB	SHOULDER		385		
105+08	105+15	20	RT LNB	140TH AVE NW	187			
105+15	108+60	23.5	RT LNB	SHOULDER		389		
105+55	112+28	12.5-23.5	LT LNB	MEDIAN		681	1787	
105+50	112+30	23.5-12.5	RT LSB	MEDIAN		681		
101+36	104+71	23.5	RT LNB	SHOULDER		376		
108+89	112+59	23.5	LT LSB	SHOULDER		406		
108+89	112+67	23.5	RT LNB	SHOULDER		439		
112+92	123+91	23.5-18.5	LT LSB	SHOULDER		1142		
113+39	123+70	23.5-12.5	RT LSB	MEDIAN		1028	4415	
113+37	123+58	12.5-23.5	LT LNB	MEDIAN		1027		
113+01	117+83	25.0-23.5	RT LNB	SHOULDER		535		
118+16	133+49	18.5-23.5	RT LNB	SHOULDER		1565		
123+91	123+34	20	LT LSB	143RD AVE	300			
124+16	128+26	23.5	LT LSB	SHOULDER		515		
124+73	133+41	23.5-12.5	RT LSB	MEDIAN		860	4437	
124+58	133+09	12.5-23.5	LT LNB	MEDIAN		856		
128+58	182+12	23.5	LT LSB	SHOULDER		5376		
133+74	133+92	20	RT LNB	SO. COON CREEK	244			
133+92	145+61	20.0-23.5	RT LNB	SHOULDER		1205		
134+54	177+13	23.5-12.5	RT LSB	MEDIAN		4268		
134+22	177+13	12.5-23.5	LT LNB	MEDIAN		4279		
134+22	156+41	14	LT LNB	MEDIAN			22079	
157+52	177+13	14	LT LNB	MEDIAN			18508	
145+94	168+33	18.5-23.5	RT LNB	SHOULDER		2314		
168+50	172+19	23.5	RT LNB	SHOULDER		432		
172+44	177+58	18.5-23.5	RT LNB	SHOULDER		557		
TOTALS:					730	32421	56394	148

BASE AND BITUMINOUS QUANTITIES										W
STATION TO STATION	LOCATION	DESCRIPTION	BITUMINOUS SURFACE	1.5 INCH WEAR COURSE	2 INCH BINDER COURSE*	3 INCH BASE COURSE*	TACK COAT	AGGREGATE SURFACE	CLASS 5 AGGREGATE	
			SQ YD	TON	TON	TON	GALLON	SQ YD	CU YD	
96+70	186+11	2.5 LT- 12.0 RT LNB	24338	2008	3012	4351	2434	26302	4384	
96+70	182+12	2.0 LT- 12.5 RT LSB	23253	1918	2878	4157	2325	25303	4217	
93+66	98+85	12.0 - 18.5 RT LNB	375	31	46	67	38	586	98	
118+43	129+74	12.0 - 18.5 RT LNB	817	67	101	146	82	1277	213	
134+21	142+27	12.0 - 18.5 RT LNB	582	48	72	104	58	910	152	
146+24	153+11	12.0 - 18.5 RT LNB	496	41	61	89	50	776	129	
157+45	164+23	12.0 - 18.5 RT LNB	489	40	61	87	49	765	128	
172+71	173+82	12.0 - 18.5 RT LNB	79	7	10	14	8	124	21	
116+66	123+62	12.0 - 18.5 LT LSB	502	41	62	90	50	785	131	
132+36	182+12	12.0 - 18.5 LT LSB	3594	296	445	642	359	5618	936	
98+85	118+43	18.5 - 23.5 RT LNB	2457	203	304	439	246	3216	536	
129+74	134+21	12.0 - 23.5 RT LNB	521	43	65	93	52	666	111	
142+27	146+24	12.0 - 23.5 RT LNB	460	38	57	82	46	584	97	
153+11	157+45	12.0 - 23.5 RT LNB	511	42	63	91	51	651	108	
164+23	172+72	12.0 - 23.5 RT LNB	1042	86	129	186	104	1351	225	
173+82	177+28	12.0 - 23.5 RT LNB	421	35	52	75	42	525	88	
99+76	105+50	12.5 - 23.5 LT LNB	576	47	71	103	58	768	128	
109+50	113+32	12.5 - 23.5 LT LNB	376	31	47	67	38	491	82	
117+88	124+52	12.5 - 23.5 LT LNB	688	57	85	123	69	917	153	
128+49	134+17	12.5 - 23.5 LT LNB	555	46	69	99	55	745	124	
151+81	157+47	12.5 - 23.5 LT LNB	565	47	70	101	56	754	126	
172+53	177+18	18.5 - 23.5 RT LNB	467	39	58	84	47	657	109	
177+18	184+82	12.5 - 18.0 LT LNB	961	79	119	172	96	961	160	
96+70	116+66	21.0 - 21.0 LT LSB	2623	216	325	469	262	3398	566	
123+62	132+36	23.5 - 23.5 LT LSB	1068	88	132	191	107	1387	231	
96+70	98+82	12.5 - 23.5 RT LSB	157	13	19	28	16	244	41	
104+30	110+61	12.5 - 23.5 RT LSB	678	56	84	121	68	894	149	
112+35	118+00	12.5 - 23.5 RT LSB	568	47	70	102	57	758	126	
123+65	128+33	12.5 - 23.5 RT LSB	481	40	60	86	48	631	105	
133+46	139+12	12.5 - 23.5 RT LSB	569	47	70	102	57	799	133	
156+78	162+43	12.5 - 23.5 RT LSB	538	44	67	96	54	727	121	
93+66		62.5 RT LNB	139TH AVE NW	45	4	6	5	82	14	
104+90		70 RT LNB	140TH LANE NW	259	21	32	26	295	49	
104+90		FUTURE RTL	140TH LANE NW	176	14	22	31	224	37	
108+74		68 RT LNB	141ST LANE NW	175	14	22	31	212	35	
112+84		70 RT LNB	142ND AVE NW	206	17	25	37	242	40	
117+99		60 RT LNB	142ND LANE NW	178	15	22	32	214	36	
133+71		57 RT LNB	S COON CREEK DR	204	17	25	37	241	40	
133+71		FUTURE RTL	S COON CREEK DR	236	19	29	42	335	56	
145+79		55 RT LNB	JONQUIL ST NW	160	13	20	29	197	33	
157+02		55 RT LNB	FUTURE CITY ROAD	158	13	20	28	195	33	
168+42		56 RT LNB	149TH AVE NW	152	13	19	27	189	31	
172+31		59 RT LNB	149TH LANE NW	138	11	17	25	174	29	
177+70		55 RT LNB	150TH LANE NW	191	16	24	34	228	38	
104+91		56 LT LSB	140TH LANE NW	153	13	19	27	190	32	
108+73		55 LT LSB	141ST LANE NW	153	13	19	27	190	32	
112+76		57 LT LSB	142ND AVE NW	159	13	20	28	196	33	
124+15		52 LT LSB	143RD AVE NW	184	15	23	33	221	37	
124+15		FUTURE RTL	143RD AVE NW	592	49	73	30	714	119	
128+43		61 LT LSB	144TH AVE NW	179	15	22	32	216	36	
TOTAL			74509	6147	9220	13170	7409	88127	14688	

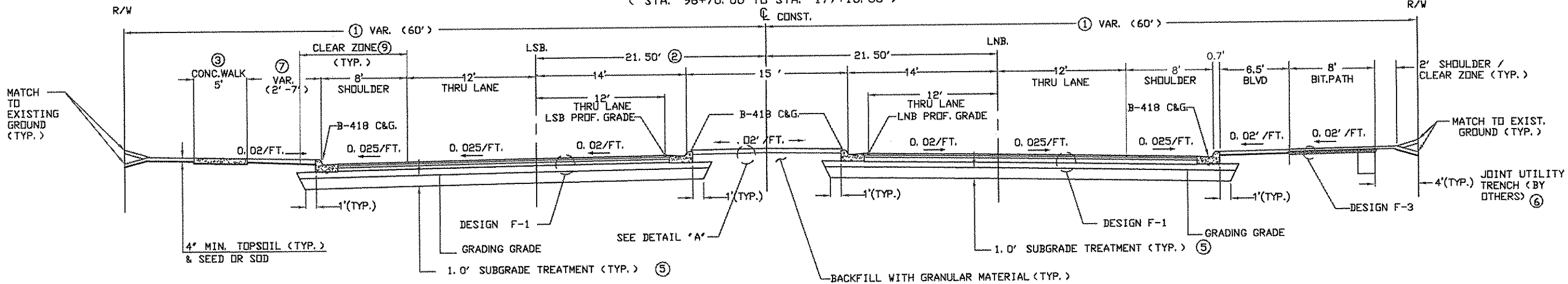
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. PRINT NAME: PETER M. LEMKE SIGNATURE: <i>Peter M. Lemke</i> DATE: 8/22/2003 LICENSE NO. 40118					DRAWN BY: MN DATE 2/19/03 DESIGN BY: PML DATE 4/10/03 CHECKED BY: PML DATE 4/10/03			ANOKA COUNTY HIGHWAY DEPT.		STATE PROJECT NO. _____ STATE AID PROJECT NO. 02-609-12 CITY PROJECT NO. 198-020-17 COUNTY PROJECT NO. _____		QUANTITY TABULATIONS BASE AND BITUMINOUS Sheet 24 of 165 Sheets	
NO	DATE	BY	CKD	APPR	REVISION								
NAME: P:\0260912\PLAN\03-08-TabSheet.dwg 08/25/2003 04:30:11 PM CDT													

SANITARY SEWER ADJUSTMENTS/RECONSTRUCTION											N	
STATION	LNB LSB	EXISTING TOC	PROPOSED TOC	HEIGHT OF RINGS FT	CONE HEIGHT FT	BARRELL HEIGHT FT	INVERT	CHANGE IN TOC FT	ADJUST SANITARY SEWER EACH	RECONSTRUCT SANITARY SEWER LIN FT	MANHOLE IS LOCATED AT	REMARKS
93+56	NB	878.57	878.57	1.70	4.50	10.50	859.75	0.00			139th Ave Int.	None
93+49	NB	878.03	878.03	0.00	4.50	14.00	860.44	0.00			139th Ave Int.	None
108+77	NB	881.11	878.83	1.80	4.50	15.00	858.96	-2.28		6.52	141st Lane Int.	Remove 2.5 ft barrel. Add 1.5 ft barrel.
108+80	SB	881.10	878.73	0.20	4.50	18.50	857.85	-2.37		5.33	141st Lane Int.	Remove 2-1.5 ft barrels.
112+88	NB	881.43	879.73	0.00	4.50	16.00	860.61	-1.70		6.80	142nd Ave Int.	Remove 4 ft barrel. Add 1.5 ft barrel.
112+88	SB	881.54	879.77	0.00	4.50	17.50	858.28	-1.77		5.23	142nd Ave Int.	Remove 1.5 ft and 1.0 ft barrel.
118+10	NB	884.17	881.10	2.00	4.50	10.00	867.67	-3.07		5.93	142nd Lane Int.	Remove 2.5 ft barrel. Add 1.0 ft barrel.
118+13	SB	881.78	881.31	1.00	4.50	5.00	870.06	-0.47	1		142nd Lane Int.	add 0.53 ft rings to cone.
122+02	SB	878.76	879.63	1.50	4.50	7.50	864.95	0.87		6.87	Gutter line	Add 2 ft barrel.
124+35	SB	877.07	877.62	0.40	4.50	8.00	863.99	0.55	1		143rd Ave Int.	add 0.95 ft rings to cone.
126+29	SB	876.93	876.84	0.00	4.50	6.50	865.09	-0.09		5.41	Shoulder	Remove 1.0 ft barrel.
128+22	NB	874.45	873.14	0.50	4.00	4.50	864.90	-1.31		4.19	Behind curb	Remove 1.0 ft barrel.
128+36	SB	875.67	875.85	1.50	4.50	6.00	862.40	0.18	1		144th Ave Int.	add 1.68 ft rings to cone
129+17	SB	873.34	875.60				855.75	2.26			Concrete walk	MH falls in conc. walk
132+20	NB	871.42	873.02				853.83	1.60			Gutter line	MH falls in gutter line
133+67	NB	875.62	875.02	0.00	4.50	5.00	864.91	-0.60		7.90	S. Coon Creek Blvd int.	Remove 4.0 ft barrel. Add 3.0 ft barrel.
134+80	NB	874.76	876.89	0.30	4.50	3.00	866.39	2.13		6.93	Behind curb	Add 2 ft barrel.
135+14	SB	877.34	877.03	1.00	4.00	5.00	864.11	-0.31	1		Shoulder	add 0.69 ft rings to cone
135+59	NB	878.07	877.67	1.70	4.00	5.50	867.10	-0.40	1		Gutter line	add 1.3 ft rings to cone
137+45	SB	880.53	880.22	1.10	4.00	6.50	868.36	-0.31	1		Shoulder	add 0.79 ft rings to cone
141+41	SB	883.91	882.34	1.10	4.00	6.00	872.51	-1.57		4.53	Shoulder	Remove 1.0 ft barrel.
TOTAL									6	65.64		

EXISTING GATE VALVES & HYDRANTS														V
STATION	OFFSET	L/RT	LNB/LSB	ADJUST GATE VALVE	ADJUST HYDRANT	RELOCATE HYDRANT	SALVAGE HYDRANT	INSTALL HYDRANT	INSTALL HYDRANT STATION & LOCATION	F & I 6 INCH DIP W/M (CL 52)	NOTES	LIN FT		
												EACH	EACH	
91+48	59.0	RT	LNB	1								Gate Valve		
93+44	41.8	RT	LNB	1								Gate Valve		
93+47	38.9	RT	LNB	1								Gate Valve		
93+51	42.2	RT	LNB	1								Gate Valve		
96+53	45.9	RT	LNB	1								Gate Valve		
96+73	46.7	RT	LNB	1								Gate Valve		
96+74	67.2	RT	LNB									Hydrant, leave as is		
99+53	45.7	RT	LNB	1								Gate Valve		
99+73	45.4	RT	LNB	1								Gate Valve		
99+98	74.1	RT	LNB									Hydrant, leave as is		
102+74	52.2	RT	LNB									Hydrant, leave as is		
104+75	40.2	RT	LNB	1								Gate Valve		
104+83	42.3	RT	LNB	1								Gate Valve		
105+43	30.9	RT	LNB	1								Gate Valve		
113+05	60.0	RT	LNB	1								Gate Valve		
113+08	59.7	RT	LNB		1							Hydrant, adjust 1' down		
117+98	19.5	RT	LNB	1								Gate Valve		
118+21	17.1	RT	LNB	1								Gate Valve		
118+21	19.1	RT	LNB			1			118+21	44	RT	LNB	25	Hydrant, move 25' east
118+26	14.3	RT	LNB	1								Gate Valve		
125+08	19.8	RT	LNB	1								G V - in gutter line		
125+08	21.9	RT	LNB			1			125+08	25	RT	LNB	3	Hydrant, move 3' east
128+43	8.6	RT	LNB	1								Gate Valve		
128+53	10.8	RT	LNB	1								Gate Valve		
129+63	19.3	RT	LNB	1								G V - in gutter line		
129+63	21.5	RT	LNB			1			139+64	25	RT	LNB	3	Hydrant, move 3' east
133+59	21.9	RT	LNB	1								Gate Valve		
133+63	16.9	RT	LNB	1								Gate Valve		
135+45	21.6	RT	LNB	1								Gate Valve		
135+45	24.1	RT	LNB		1							Hydrant, adjust 2' up		
146+14	35.8	RT	LNB									Gate Valve, salvage		
146+14	38.1	RT	LNB				1					Hydrant, salvage		
93+24	95.3	LT	LNB	1								Gate Valve		
93+25	97.9	LT	LNB									Hydrant, leave as is		
104+69	40.6	LT	LSB			1	1	1	104+65	41	LT	LSB	4	Hydrant, move 4' south
104+72	40.6	LT	LSB	1								G V - @ lip of curb		
104+80	49.5	LT	LSB	1								Gate Valve		
105+24	30.1	LT	LSB	1								Gate Valve		
108+71	32.0	LT	LSB	1								Gate Valve		
110+16	26.8	LT	LSB			1	1	1	110+10	36	LT	LSB	9	Hydrant, move 9' SW
110+16	24.0	LT	LSB									Gate Valve		
112+76	30.6	LT	LSB	1								Gate Valve		
113+11	15.8	LT	LSB	1								Gate Valve		
128+69	63.2	LT	LSB	1								Gate Valve		
128+71	64.1	LT	LSB									Hydrant, leave as is		
130+84	31.8	LT	LSB			1			130+84	34	LT	LSB	2	Hydrant, move 2' west
130+84	28.6	LT	LSB	1								G V - in gutter line		
135+22	11.6	LT	LSB	1								Gate Valve		
137+41	18.4	LT	LSB	1								G V - in gutter line		
137+41	21.0	LT	LSB			1			137+41	22	LT	LSB	1	Hydrant, move 7' west
141+77	23.5	LT	LSB			1			141+77	27	LT	LSB	4	Hydrant, move 4' west
141+77	19.9	LT	LSB	1								G V - in gutter line		
TOTAL				34	2	8	3	2					51	

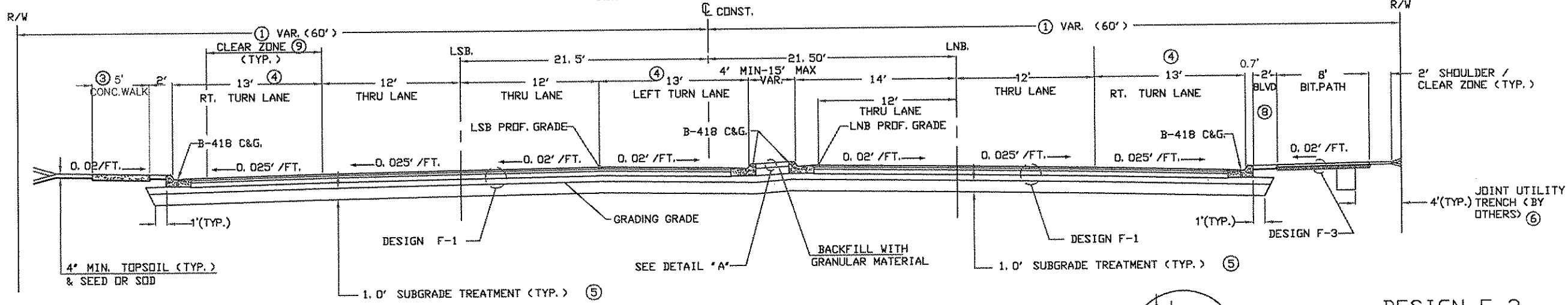
ROUND LAKE BLVD. (C. S. A. H. NO. 9)

(STA. 96+70.00 TO STA. 177+18.00)



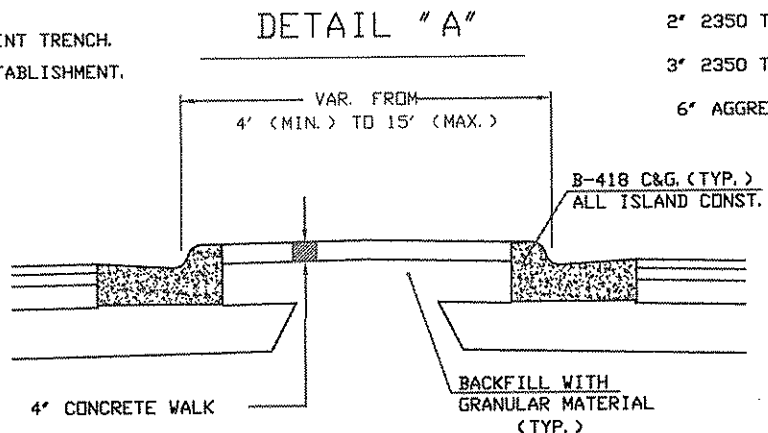
ROUND LAKE BLVD. (C. S. A. H. 9) -TURN BAY

SEE TURNING LANE CHART FOR LOCATIONS



GENERAL NOTES

- ① PROPOSED CONSTRUCTION C/L IS THE NOT SAME AS RIGHT OF WAY C/L. ALL NEW R/W IS 38.5' LT OF LSB AND 38.5' RT OF LNB.
- ② 24.5' STA. 96+70 LSB TO STA. 97+02.11 LSB, TAPERS FROM 24.5' TO 21.5' STA. 97+02.11 LSB TO STA. 98+65.70 LSB.
- ③ 4' CONCRETE SIDEWALK FROM STA. 105+13 LSB TO STA. 130+22 LSB
- ④ SEE TURN LANE LOCATIONS CHART ON PAGE 27 FOR LOCATIONS
- ⑤ SUBGRADE TREATMENT SHALL CONSIST OF MIXING THE UPPER 1' OF THE SUBGRADE FOR UNIFORMITY OF COMPACTION. TO BE PAID AS COMMON EXCAVATION.
- ⑥ MATERIAL GENERATED FROM MUCK EXCAVATION SHALL NOT BE USED AS BACKFILL IN JOINT TRENCH.
- ⑦ UP TO 3' WIDE - PAVE WITH 4" CONCRETE SIDEWALK, AND 3' TO 5' WIDE - TURF ESTABLISHMENT.
- ⑧ PAVE 2' BOULEVARD WITH 2350.604 BITUMINOUS PAVING FOR PATH CONSTRUCTION FROM STATION 94+48 TO 101+00. DELINEATE 2' PAVED BOULEVARD FROM TRAIL WITH APPROX. 652 LIN FT OF 2564.603 4INCH SOLID LINE WHITE LATEX.
- ⑨ 10' STA. 143+52.64 - STA. 177+57.27
1.5' FROM FACE OF CURB STA. 93+70 TO STA. 143+52.64



DESIGN F-1
CSAH. 9

- 1 1/2" 2350 TYPE MV3 WEARING COURSE MIXTURE (F)
- 2" 2350 TYPE MV3 WEARING COURSE MIXTURE (F)
- 3" 2350 TYPE MV3 NON WEARING COURSE MIXTURE (B)
- 6" AGGREGATE BASE CLASS 5A

DESIGN F-2
CITY STREET

- 1 1/2" 2350 TYPE MV3 WEARING COURSE MIXTURE (F)
- 2" 2350 TYPE MV3 WEARING COURSE MIXTURE (F)
- 4" AGGREGATE BASE CLASS 5A

DESIGN F-3
BITUMINOUS PATH

- 2.5" 2350 TYPE LV4 WEARING COURSE MIXTURE (B)
- 4" AGGREGATE BASE CLASS 5

PAYMENT FOR BIKE PATH AGGREGATE BASE IS INCLUDED IN THE COST FOR THE BIKE PATH BITUMINOUS WEAR COURSE WHICH IS PAID FOR BY THE SQUARE YARD.

1	9/03/03	MFG	PML	PML	DELETED "NON" IN 2" LIFT LABEL IN PAVEMENT DESIGN F1 & F2
NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\0260912\PLAN\09-TYPICALS.dwg 09/03/2003 05:44:15 PM CDT MN.					

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.
 PRINT NAME: PETER M. LEMKE
 SIGNATURE: *Peter M. Lemke*
 DATE: 9/03/03 REG. NO. 40118

DRAWN BY: MN DATE 12/10/02
 DESIGN BY: MN DATE 12/10/02
 CHECKED BY: PML DATE 3/27/03



ANOKA COUNTY
HIGHWAY DEPT.

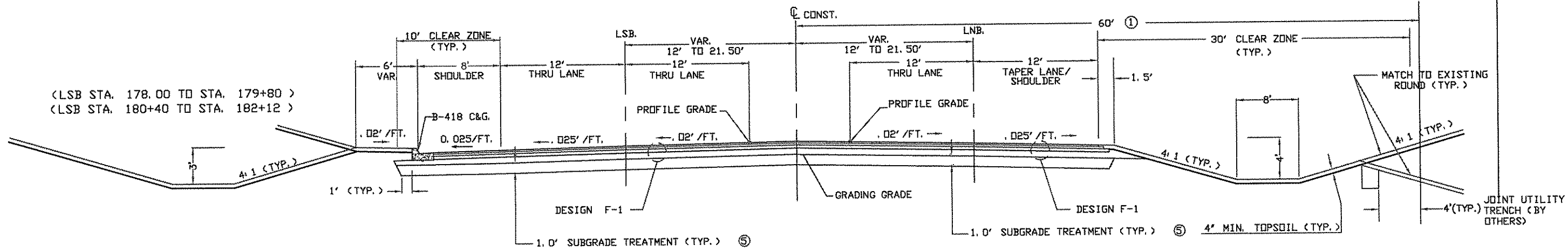
STATE PROJECT NO. _____
 STATE AID PROJECT NO. 02-609-12
 CITY PROJECT NO. 198-020-17
 COUNTY PROJECT NO. _____

TYPICAL SECTIONS
 Sheet 26 of 165 Sheets

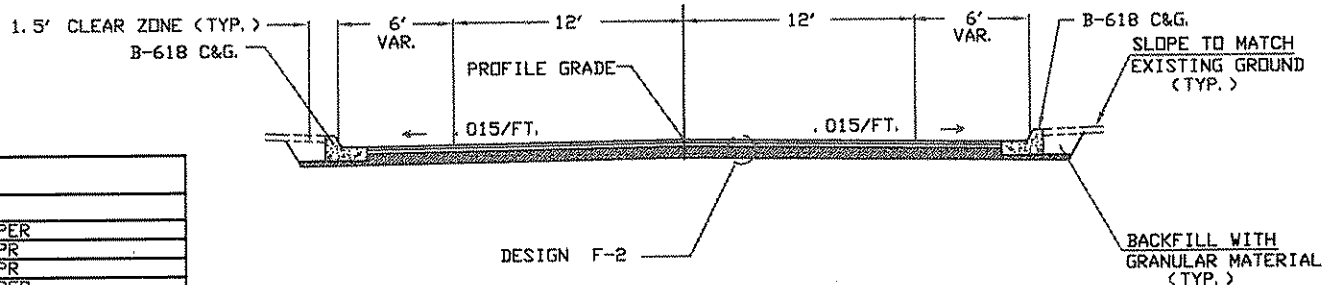
ROUND LAKE BLVD. (C. S. A. H. NO. 9)

(LSB STA. 177+18.00 TO STA. 182+12.00)

(LNB STA. 177+18.00 TO STA. 186+10.60)



CITY STREET CONSTRUCTION
END OF RADIUS TO MATCH POINT.
SEE PLAN AND PROF SHEET FOR LOCATIONS.



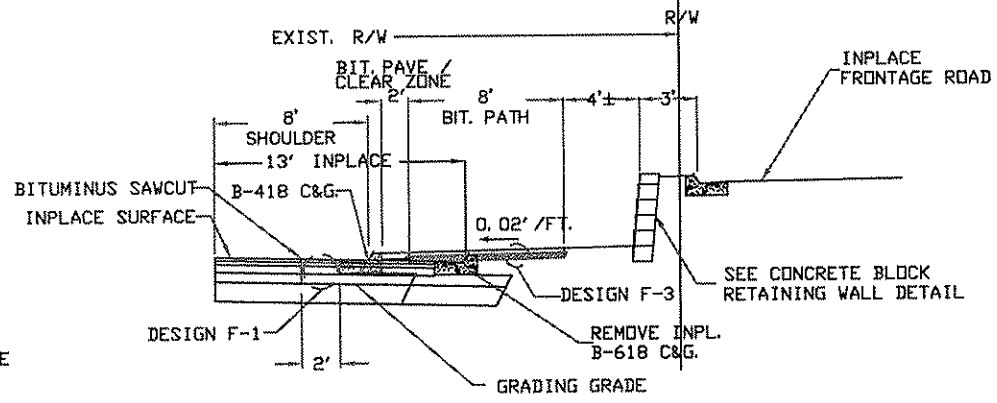
DESIGN F-1
CSAH. 9

- 1 1/2" 2350 TYPE MV3 WEARING COURSE MIXTURE (F)
- 2" 2350 TYPE MV3 WEARING COURSE MIXTURE (F)
- 3" 2350 TYPE MV3 NON WEARING COURSE MIXTURE (B)
- 6" AGGREGATE BASE CLASS 5A

DESIGN F-2
CITY STREET

- 1 1/2" 2350 TYPE MV3 WEARING COURSE MIXTURE (F)
- 2" 2350 TYPE MV3 WEARING COURSE MIXTURE (F)
- 4" AGGREGATE BASE CLASS 5A

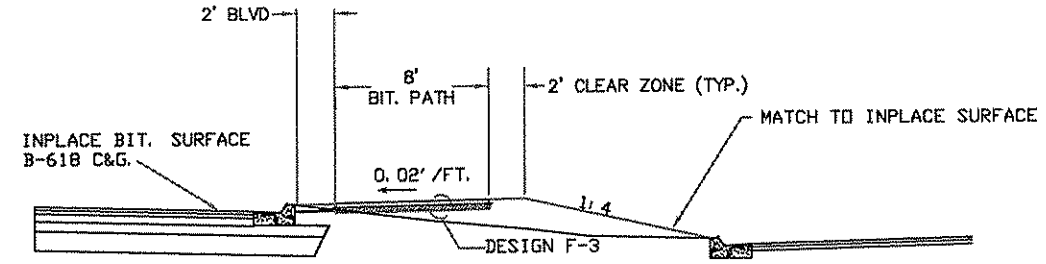
SHOULDER RECONSTRUCTION AND BITUMINOUS PATH DETAIL
STA. 93+60 LNB TO STA. 101+00 LNB



DESIGN F-3
BITUMINOUS PATH

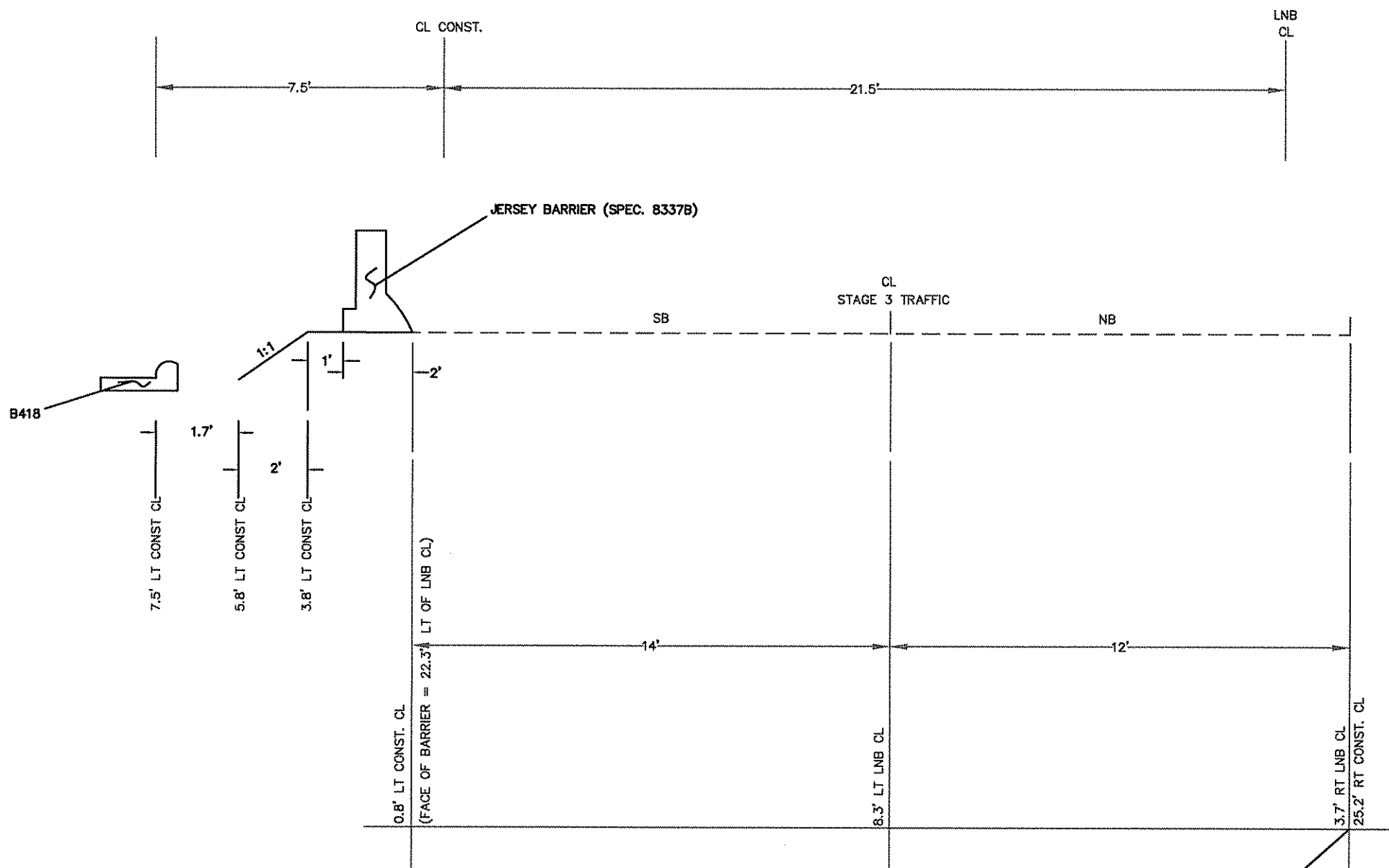
- 2.5" 2350 TYPE LV4 WEARING COURSE MIXTURE (B)
- 4" AGGREGATE BASE CLASS 5

CONSTRUCTION BITUMINOUS PATH DETAIL
STA. 81+06.50 TO STA. 93+26.60 CL BITUMINOUS PATH



PAYMENT FOR BIKE PATH AGGREGATE BASE IS INCLUDED IN THE COST FOR THE BIKE PATH BITUMINOUS WEAR COURSE WHICH IS PAID FOR BY THE SQUARE YARD.

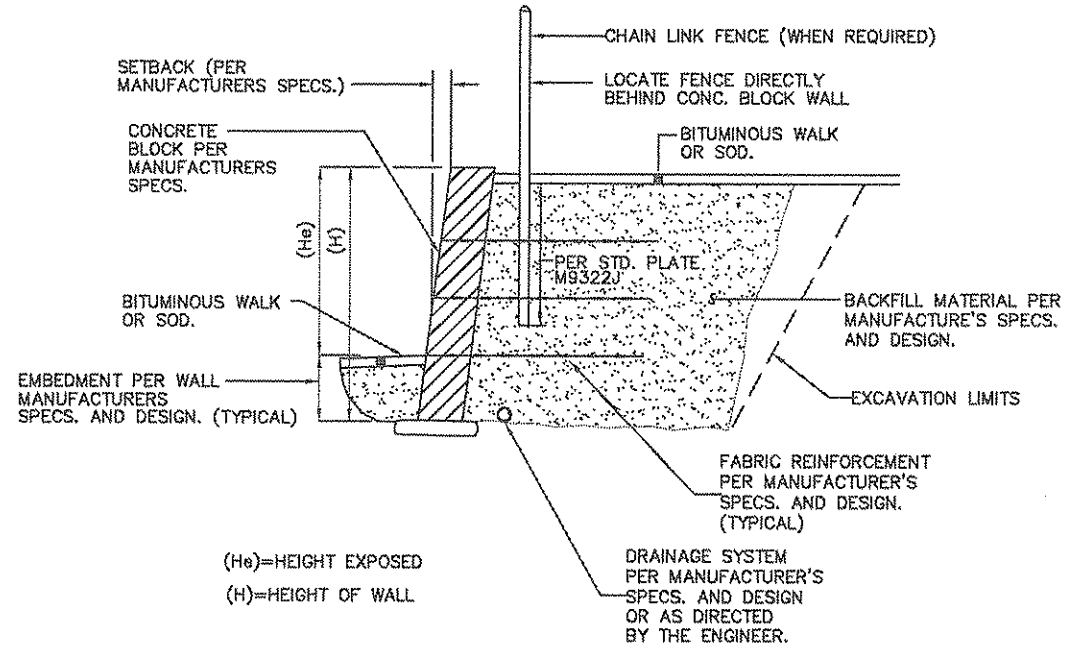
TURN LANE LOCATIONS			
STA. TO STA.	LOCATION	DESCRIPTION	
LNB. 98+84.90	117+78.00	RT.	RIGHT TURN LANE 15:1 TAPER
LNB. 99+74.50	104+30.00	LT.	LEFT TURN LANE 15:1 TAPER
LNB. 109+50.00	112+33.00	LT.	LEFT TURN LANE 10:1 TAPER
LNB. 117+88.00	123+53.00	LT.	LEFT TURN LANE 15:1 TAPER
LNB. 128+27.00	132+92.00	LT.	LEFT TURN LANE 15:1 TAPER
LNB. 129+63+70	133+38.70	RT.	RIGHT TURN LANE 15:1 TAPER
LNB. 142+27.10	145+62.10	RT.	RIGHT TURN LANE 15:1 TAPER
LNB. 151+81.00	156+46.00	LT.	LEFT TURN LANE 15:1 TAPER
LNB. 153+10.90	156+85.90	RT.	RIGHT TURN LANE 15:1 TAPER
LNB. 164+23.00	167+99.40	RT.	RIGHT TURN LANE 15:1 TAPER
LNB. 172+53.00	177+18.00	LT.	LEFT TURN LANE 15:1 TAPER
LNB. 173+81.90	177+57.30	RT.	RIGHT TURN LANE 15:1 TAPER
LSB. 96+70.00	116+66.00	LT.	RIGHT TURN LANE 15:1 TAPER
LSB. 96+70.00	98+82.20	RT.	LEFT TURN LANE 15:1 TAPER
LSB. 105+50.00	110+61.00	RT.	LEFT TURN LANE 10:1 TAPER
LSB. 113+35.00	118+00.00	RT.	LEFT TURN LANE 15:1 TAPER
LSB. 124+30.50	132+11.00	LT.	RIGHT TURN LANE 10:1 TAPER
LSB. 124+68.00	127+98.00	RT.	LEFT TURN LANE 10:1 TAPER
LSB. 134+33.80	138+98.80	RT.	LEFT TURN LANE 15:1 TAPER
LSB. 157+78.00	162+43.00	RT.	LEFT TURN LANE 15:1 TAPER



TEMPORARY WIDENING DETAIL

LIMITS OF TEMPORARY WIDENING

CONCRETE BLOCK RETAINING WALL DETAIL
SEE CONCRETE BLOCK RETAINING WALL TAB FOR LOCATIONS



1	9/03/03	MFG	PML	PML	ADD "TEMPORARY WIDENING DETAIL" CHANGE "LNB" TO "CONST."
NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\0260912\PLAN\09-TYPICALS.dwg 09/03/2003 05:44:15 PM CDT MN.					

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.
 PRINT NAME: PETER M. LEMKE
 SIGNATURE: *Peter M. Lemke*
 DATE: 9/03/03 REG. NO. 4011B

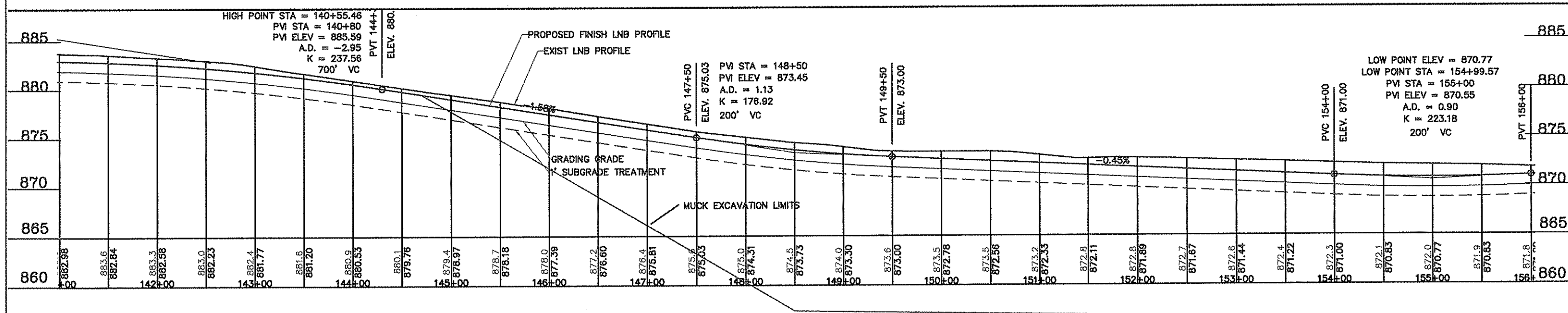
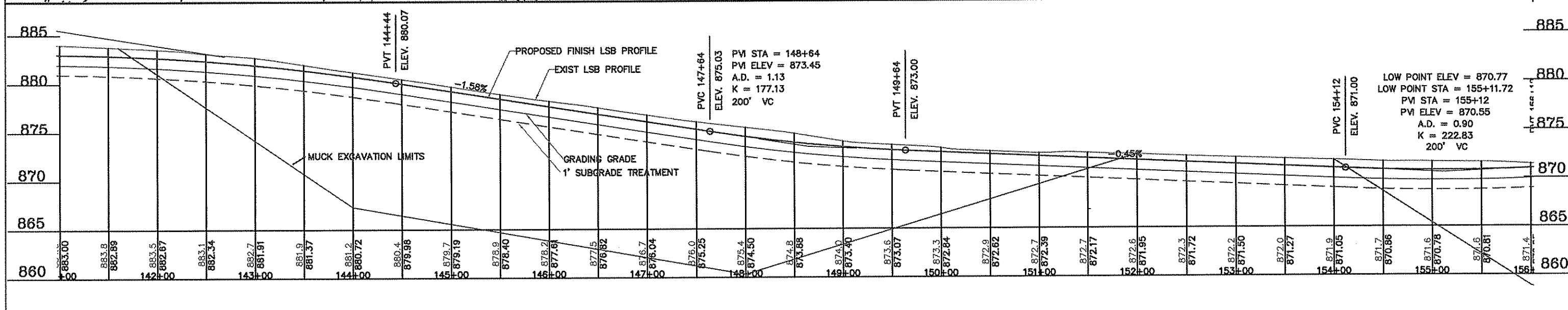
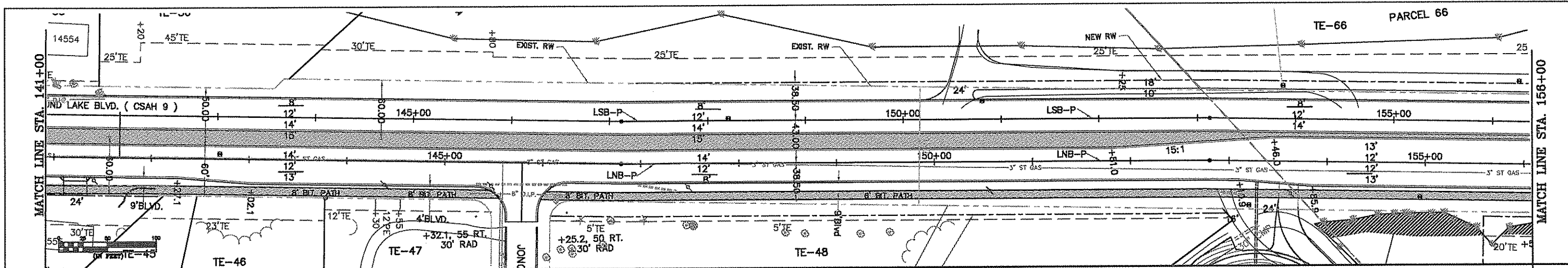
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 DESIGN BY: MN DATE 12/10/03
 CHECKED BY: PML DATE 3/27/03



ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. _____
 STATE AID PROJECT NO. 02-609-12
 CITY PROJECT NO. 198-020-17
 COUNTY PROJECT NO. _____

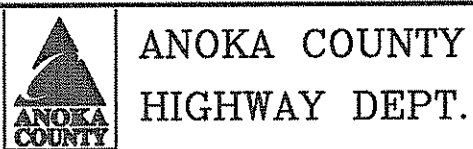
MISCELLANEOUS
DETAILS
 Sheet 28 of 165 Sheets



NO	DATE	BY	CKD	APPR	REVISION

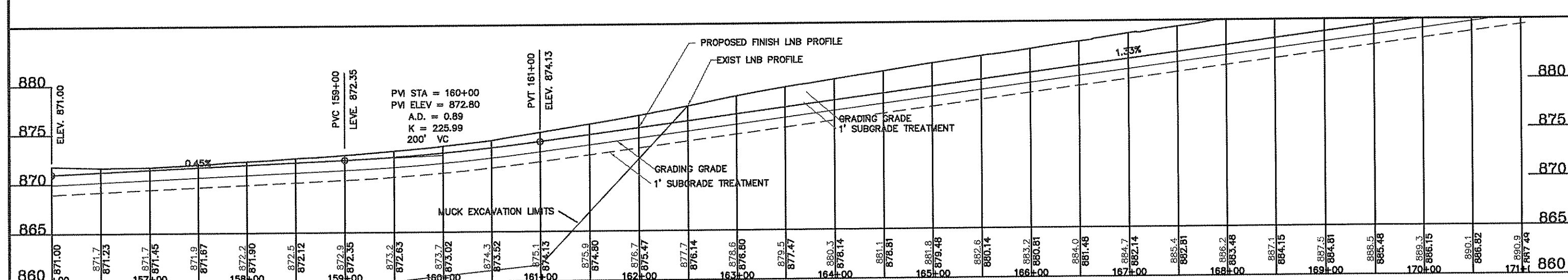
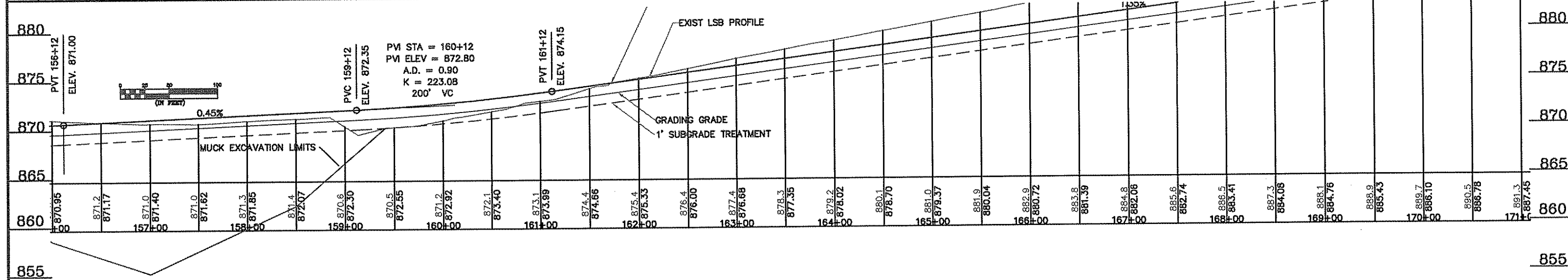
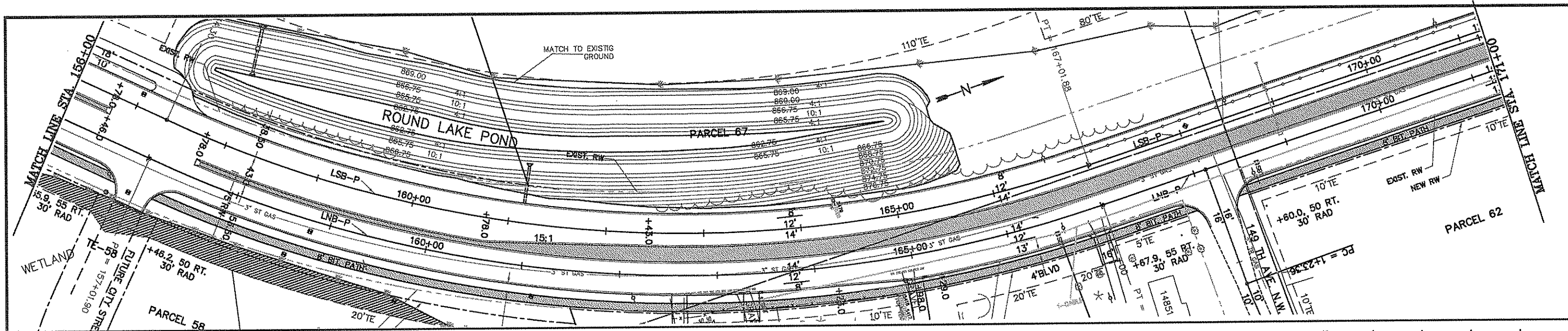
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 PRINT NAME: PETER M. LEMKE
 SIGNATURE: *Peter M. Lemke*
 DATE: 8/22/2003 LICENSE NO. 40118

DRAWN BY: SAT DATE: 6/18/03
 DESIGN BY: SAT DATE: 04/10/03
 CHECKED BY: PML DATE: 04/11/03

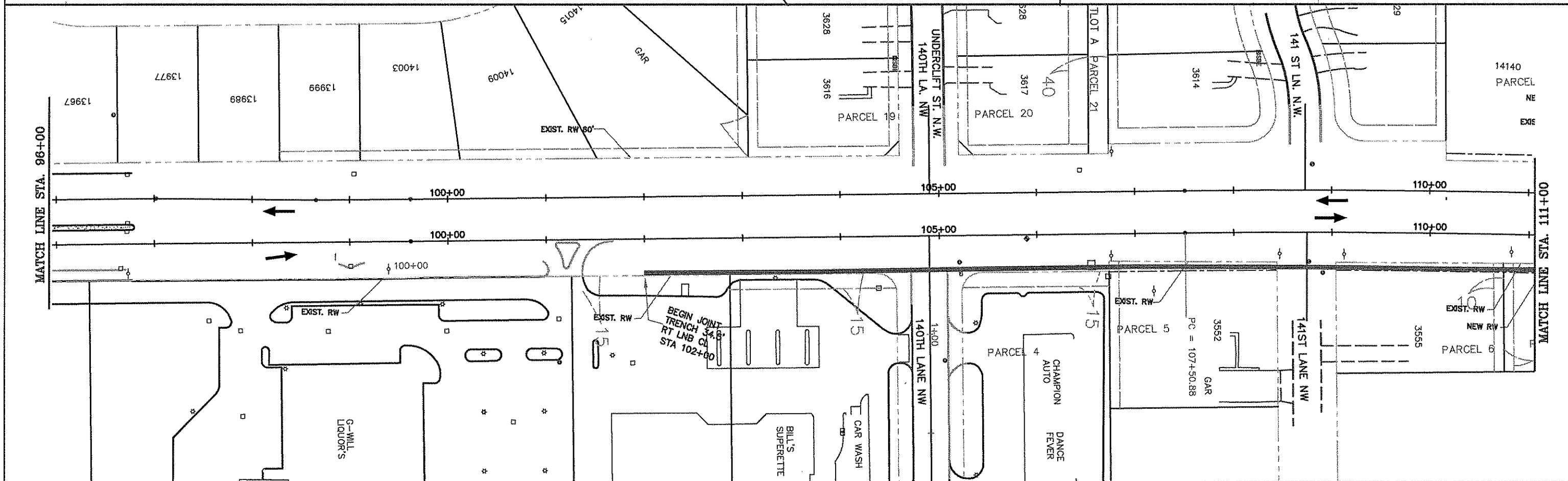
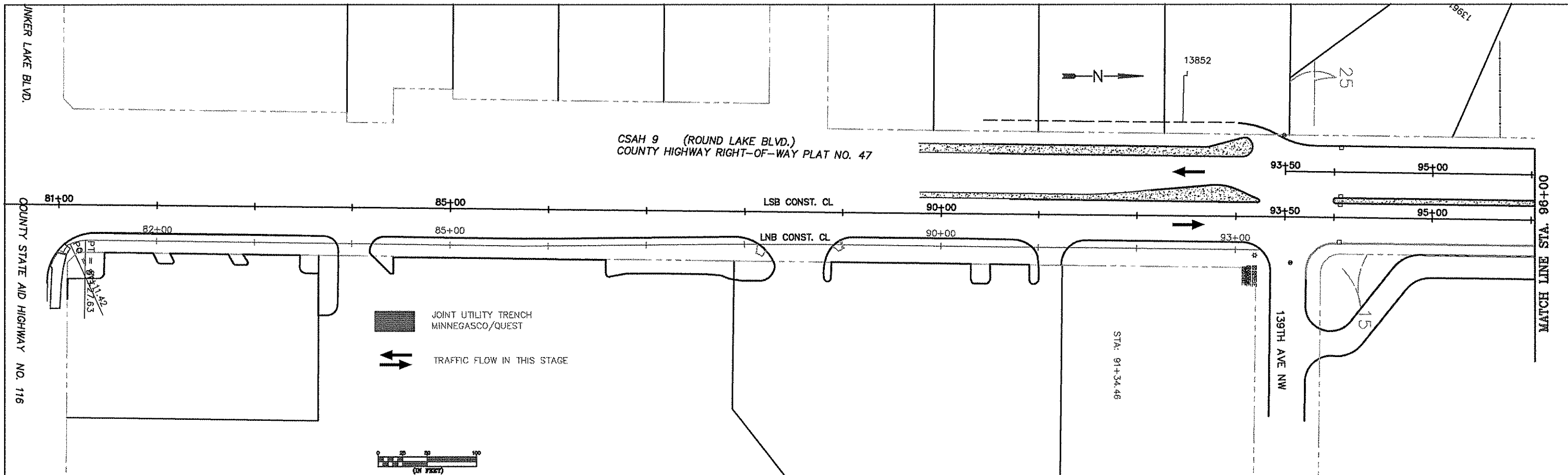


STATE PROJECT NO. _____
 STATE AID PROJECT NO. 02-609-12
 CITY PROJECT NO. 198-020-17
 COUNTY PROJECT NO. _____

MUCK EXCAVATION
 STA. 141+00 TO 156+00
 Sheet 29 of 165 Sheets



I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. PRINT NAME: PETER M. LEMKE SIGNATURE: <i>Peter M. Lemke</i> DATE: 8/22/2003 LICENSE NO. 40118					DRAWN BY: SAT DATE 5/15/03 DESIGN BY: SAT DATE 04/10/03 CHECKED BY: PML DATE 04/11/03	ANOKA COUNTY HIGHWAY DEPT.	STATE PROJECT NO. _____ STATE AID PROJECT NO. 02-609-12 CITY PROJECT NO. 198-020-17 COUNTY PROJECT NO. _____	MUCK EXCAVATION STA. 156+00 TO 171+00 Sheet 30 of 165 Sheets
NO DATE BY CKD APPR REVISION NAME: P:\0260912\PLAN\161-163 MUCK EXCAVATION.dwg 08/25/2003 06:52:05 PM CDT								



NO	DATE	BY	CKD	APPR	REVISION

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

PRINT NAME: PETER M. LEMKE
 SIGNATURE: *Peter M. Lemke*
 DATE: 8/22/2003 LICENSE NO. 40118

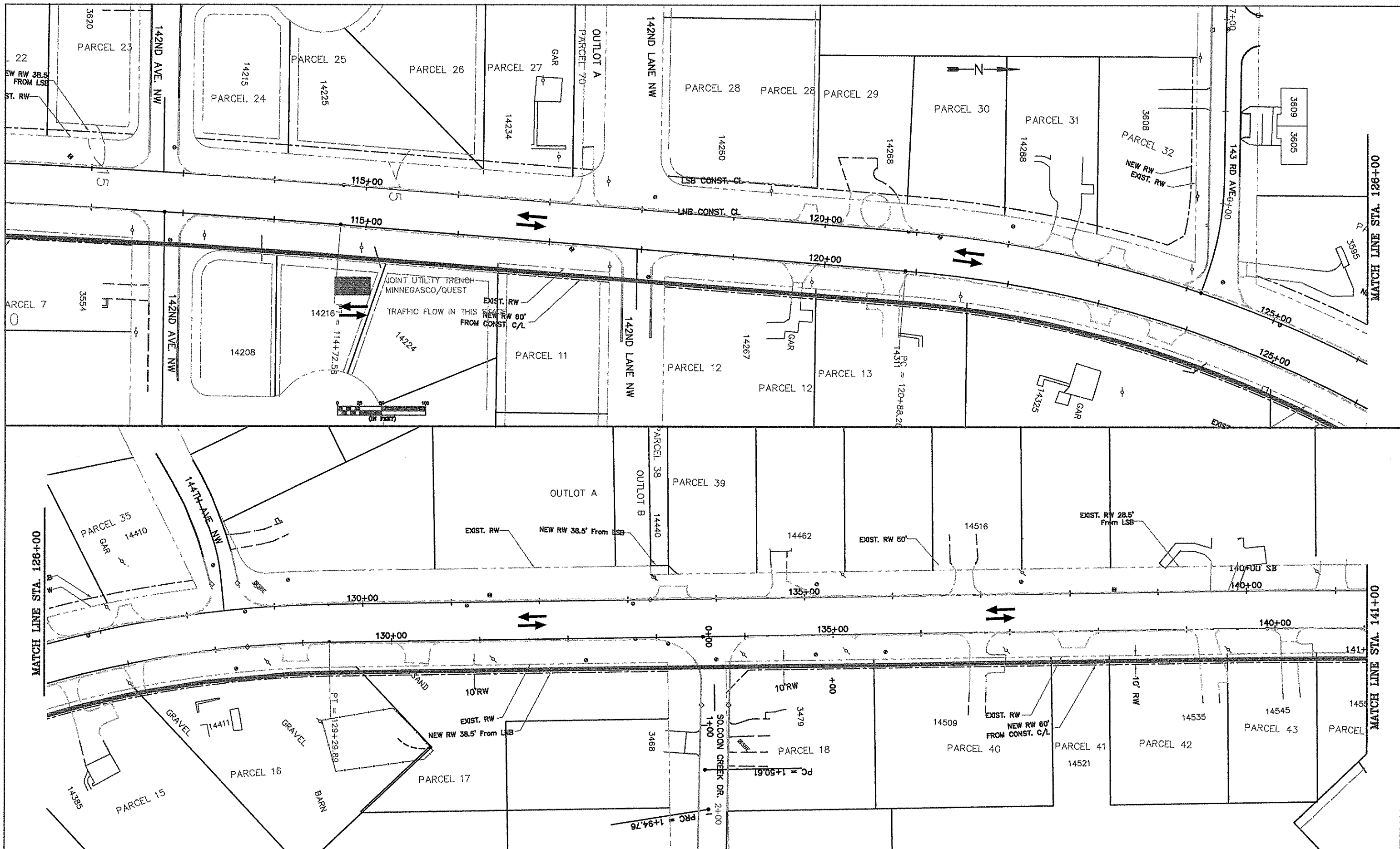
DRAWN BY: GSO DATE 01/24/03
 DESIGN BY: PML DATE 3/31/03
 CHECKED BY: PML DATE 3/31/03



**ANOKA COUNTY
HIGHWAY DEPT.**

STATE PROJECT NO. _____
 STATE AID PROJECT NO. 02-609-12
 CITY PROJECT NO. 198-020-17
 COUNTY PROJECT NO. _____

**STAGE 1
CONSTRUCTION**
 STA. 81+06.50 TO 111+00
 Sheet 31 of 165 Sheets



NO	DATE	BY	CHKD	APPR	REVISION

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 DATE: 8/22/2003 LICENSE NO. 40118

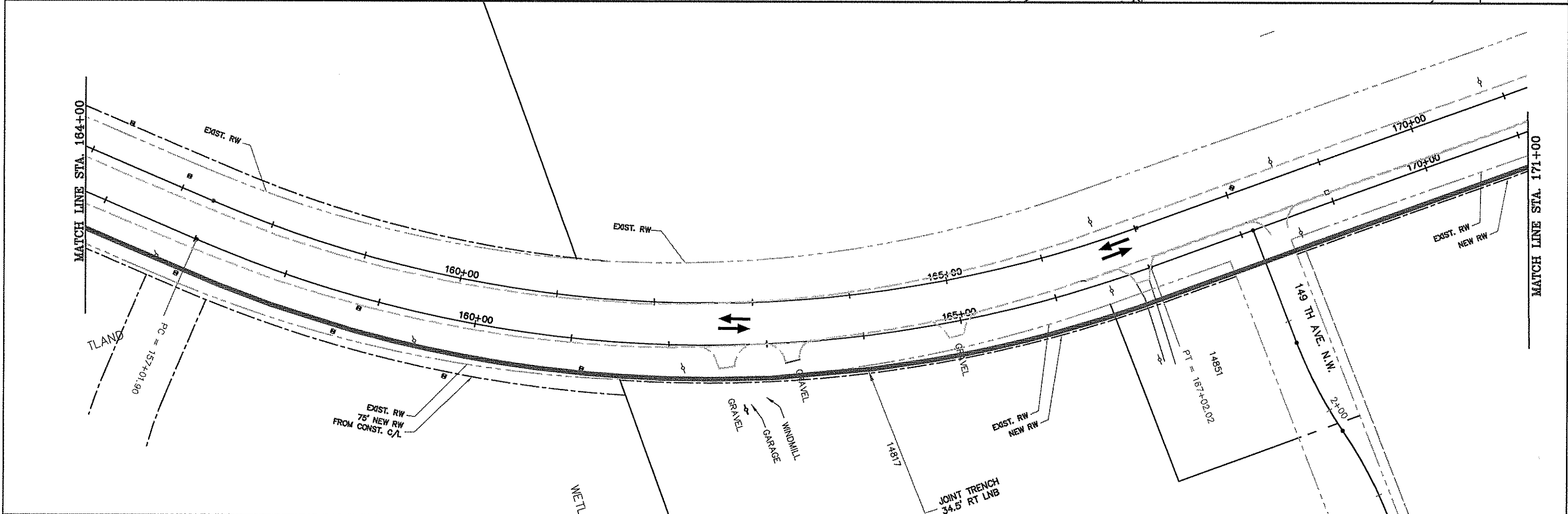
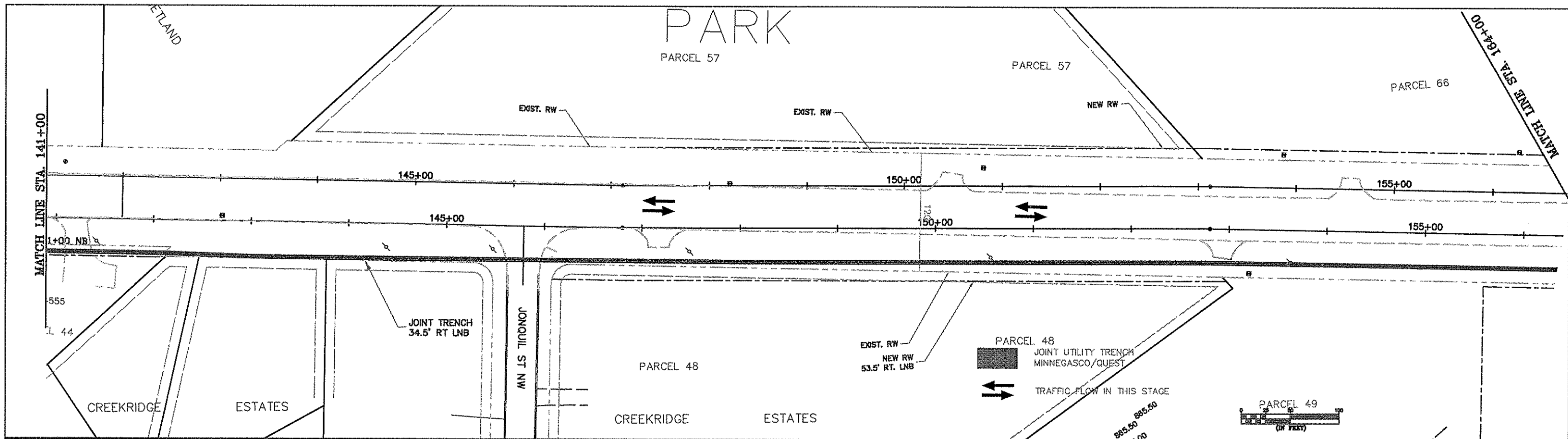
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 CHECKED BY: PML DATE: 3/31/03



**ANOKA COUNTY
 HIGHWAY DEPT.**

STATE PROJECT NO. _____
 STATE AID PROJECT NO. 02-609-12
 CITY PROJECT NO. 198-020-17
 COUNTY PROJECT NO. _____

**STAGE 1
 CONSTRUCTION**
 STA. 110+00 TO 141+00
 Sheet 32 of 165 Sheets



NO	DATE	BY	CHKD	APPR	REVISION

NAME: P:\0260912\PLAN\50-53 -Stage LDWG 09/27/2003 09:10:28 AM CBT

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

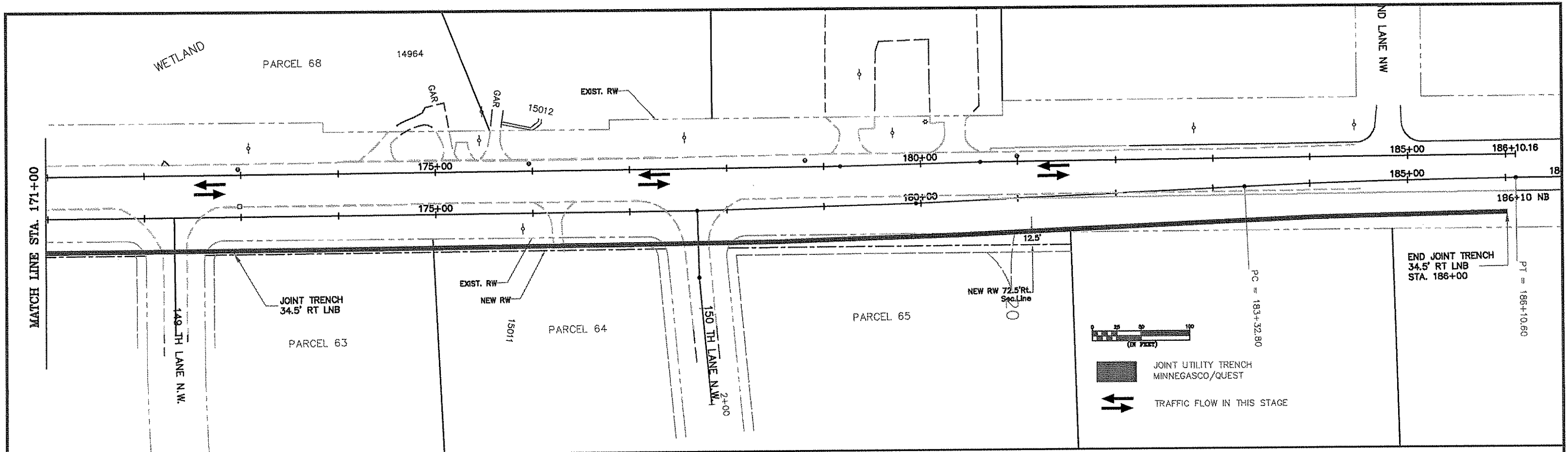
PRINT NAME: PETER M. LEMKE
 SIGNATURE: *Peter M. Lemke*
 DATE: 8/22/2003 LICENSE NO. 40118

DRAWN BY: CSQ DATE 01/24/03
 DESIGN BY: PML DATE 3/31/03
 CHECKED BY: PML DATE 3/31/03

ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. _____
 STATE AID PROJECT NO. 02-609-12
 CITY PROJECT NO. 198-020-17
 COUNTY PROJECT NO. _____

STAGE 1
CONSTRUCTION
 STA. 141+00 TO 171+00
 Sheet 33 of 165 Sheets



STAGE 1 CONSTRUCTION

TRAFFIC SHALL UTILIZE EXISTING CSAH 9 BITUMINOUS PAVEMENT

UPON APPROVAL OF THE ENGINEER, DURING DAYLIGHT HOURS, TRAFFIC MAY BE SHIFTED, TO FACILITATE CONSTRUCTION, UTILIZING APPROVED TRAFFIC CONES.

CLEAR AND GRUB TREES, STATION 93+70 TO 145+00

STRIP TOPSOIL, STATION 93+70 TO 145+00

REMOVE MUCK, PEAT AND OTHER UNSUITABLE MATERIALS FROM STATION 145+25 TO 148+50. UPON APPROVAL OF THE ENGINEER, TO FACILITATE THE MUCK EXCAVATION AND GRANULR BACKFILL, TRAFFIC MAY BE SHIFTED INTO TWO 12' LANES, USING 60:1 TAPERS, USING REMOVABLE LANE TAPE OR TRAFFIC PAINT. GRANULAR BACKFILL FOR THE MUCK EXCAVATION SHALL BE ACQUIRED FROM COMMON EXCAVATION BEYOND A 3:1 SLOPE LINE FROM THE EXISTING BITUMINOUS PAVEMENT, LNB 105+25 TO 145+25.

GRANULAR BACKFILL SHALL BE PLACED TO THE ELEVATION NEEDED TO CONSTRUCT THE JOINT UTILITY TRENCH

INSTALL WATERMAIN, LNB STATION 105+44 TO STATION 148+00

JOINT UTILITY TRENCH WILL BE CONSTRUCTED BY MINNEGASCO, LNB STATION 102+00 TO 148+00

INSTALL UTILITY CROSSINGS, SANITARY SEWER AND WATER, AS SHOWN ON THE PLAN

CONSTRUCT STORM SEWER AT LOW POINTS. CONSTRUCT ALL STORM SEWER FEASIBLE WITHOUT SHIFTING TRAFFIC OUTSIDE THE INPLACE BITUMINOUS SURFACE.

INTERIM SEEDING FOR WINTER SUSPENSION

PATCH DRIVEWAYS FOR WINTER SUSPENSION

NOTE: CONTRACTOR SHALL REMOVE ALL CONFLICTING SIGNING AND STRIPING PRIOR TO IMPLEMENTATION OF THIS TRAFFIC CONTROL PLAN.

NO	DATE	BY	CHKD	APPR	REVISION

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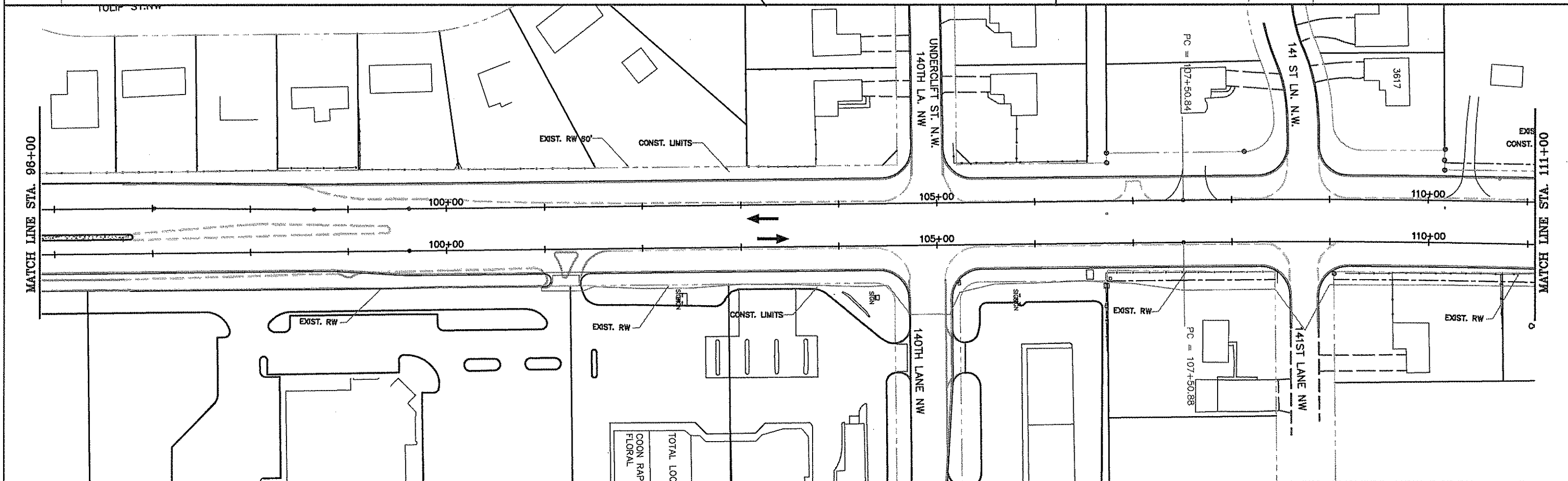
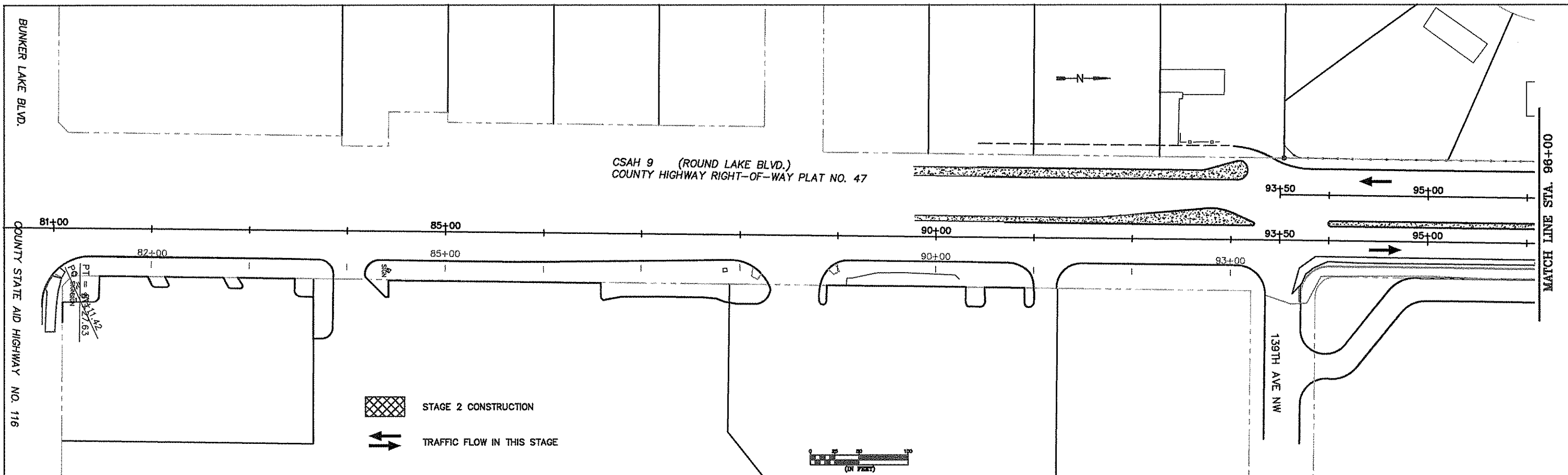
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 DESIGN BY: PML DATE: 3/31/03
 CHECKED BY: PML DATE: 3/31/03



**ANOKA COUNTY
 HIGHWAY DEPT.**

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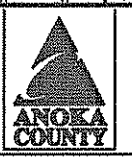
**STAGE 1
 CONSTRUCTION**
 STA. 171+00 TO 186+10
 Sheet 34 of 165 Sheets



NO	DATE	BY	CKD	APPR	REVISION

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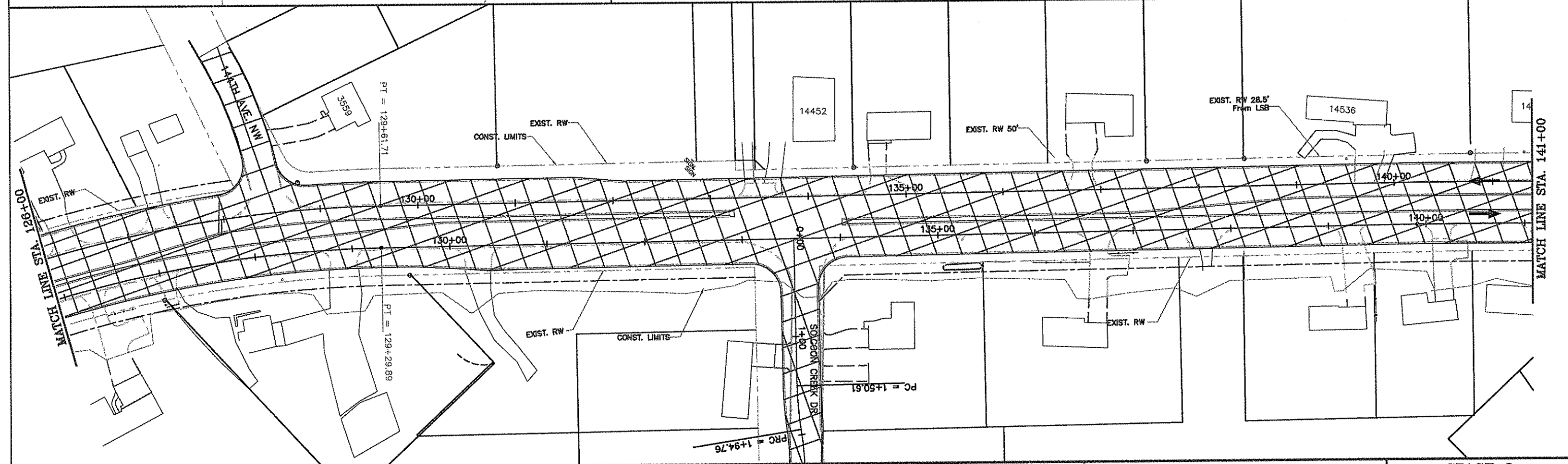
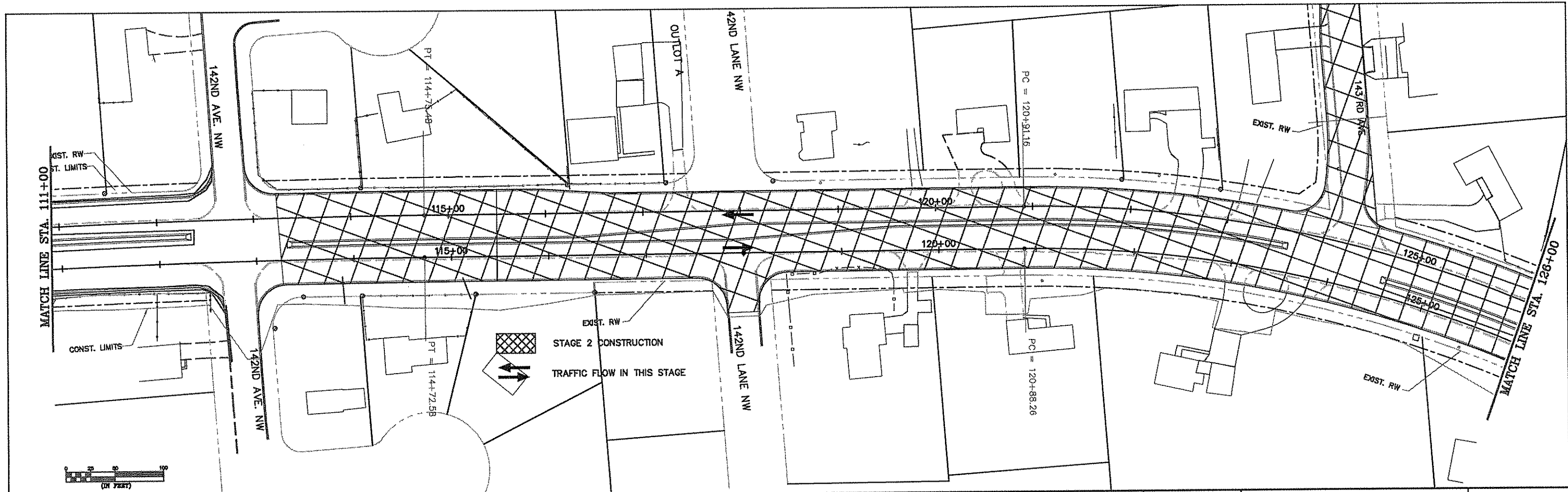
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 DESIGN BY: PML DATE: 3/31/03
 CHECKED BY: PML DATE: 3/31/03



**ANOKA COUNTY
 HIGHWAY DEPT.**

STATE PROJECT NO. _____
 STATE AID PROJECT NO. 02-609-12
 CITY PROJECT NO. 198-020-17
 COUNTY PROJECT NO. _____

**STAGE 2
 CONSTRUCTION**
 STA. 81.06.50 TO 111+00
 Sheet 35 of 165 Sheets



NO	DATE	BY	CKD	APPR	REVISION

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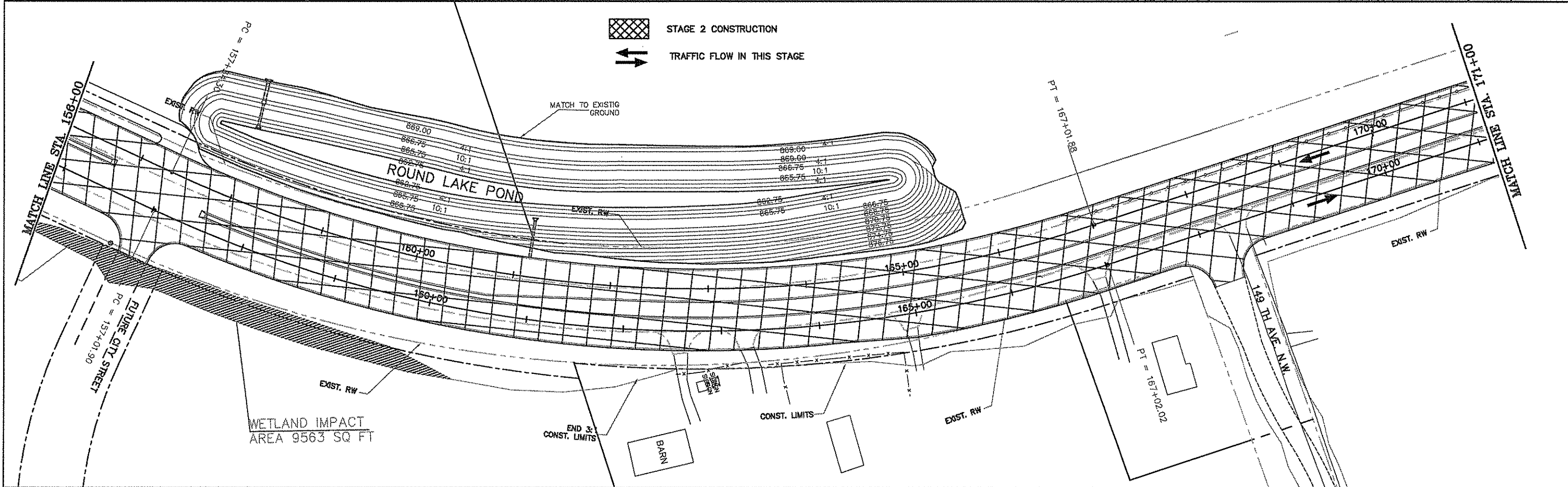
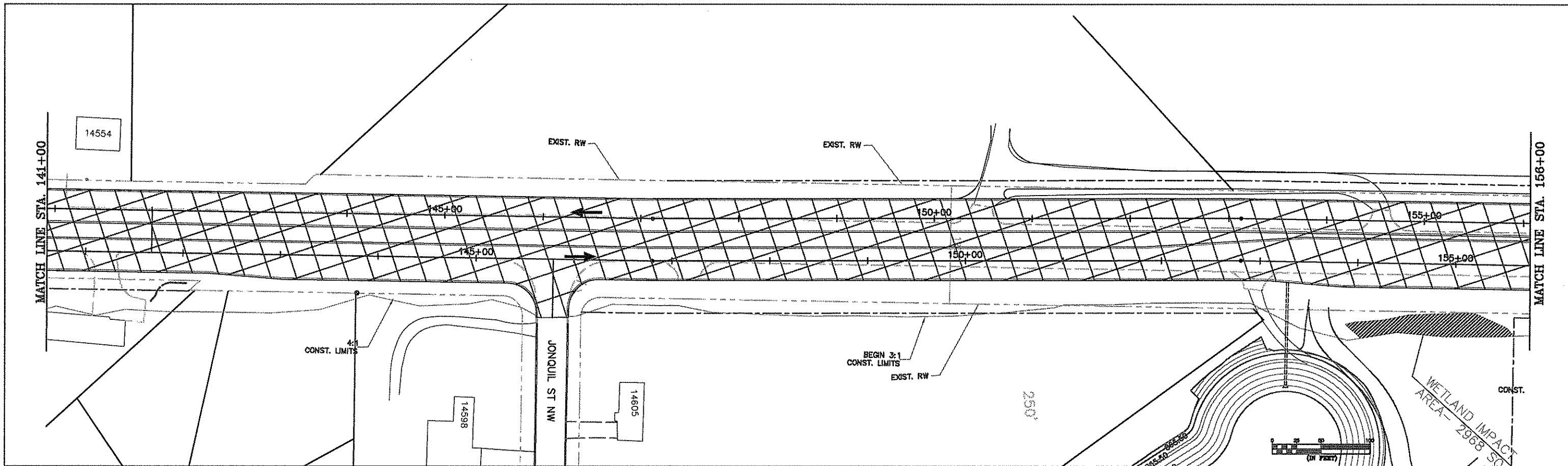
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 CHECKED BY: FMI DATE: 3/31/03



ANOKA COUNTY
 HIGHWAY DEPT.

STATE PROJECT NO. _____
 STATE AID PROJECT NO. 02-609-12
 CITY PROJECT NO. 198-020-17
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STAGE 2
 CONSTRUCTION
 STA. 111+00 TO 141+00
 Sheet 36 of 165 Sheets



NO	DATE	BY	CHKD	APPR	REVISION

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 PRINT NAME: PETER M. LENKE
 SIGNATURE: *Peter M. Lenke*
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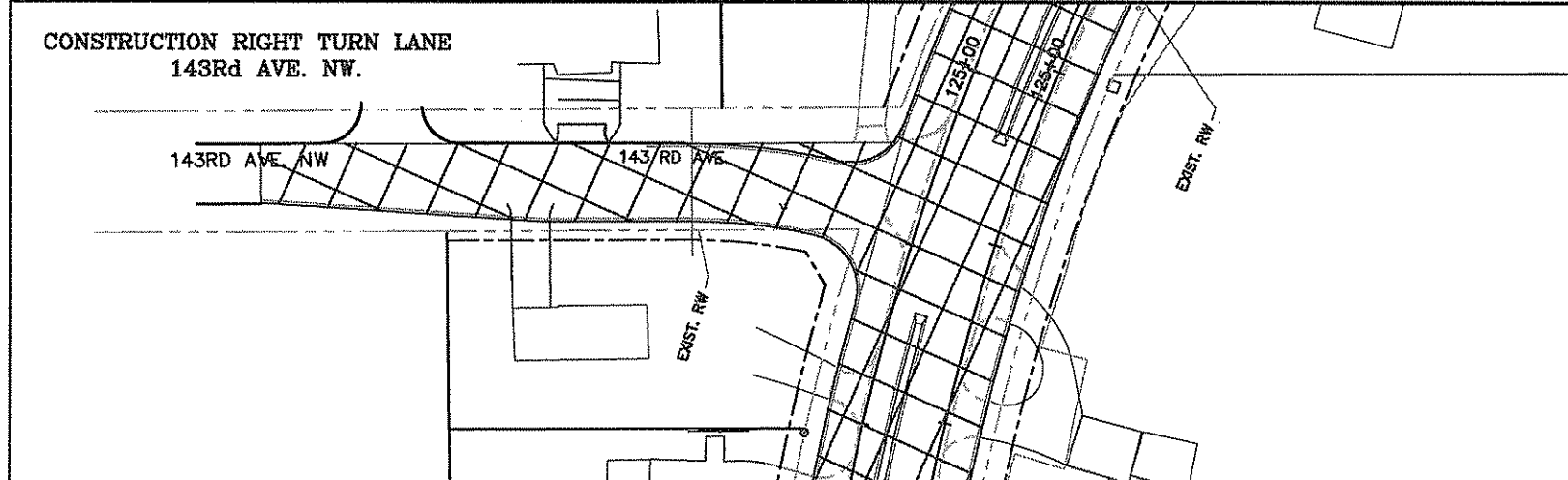
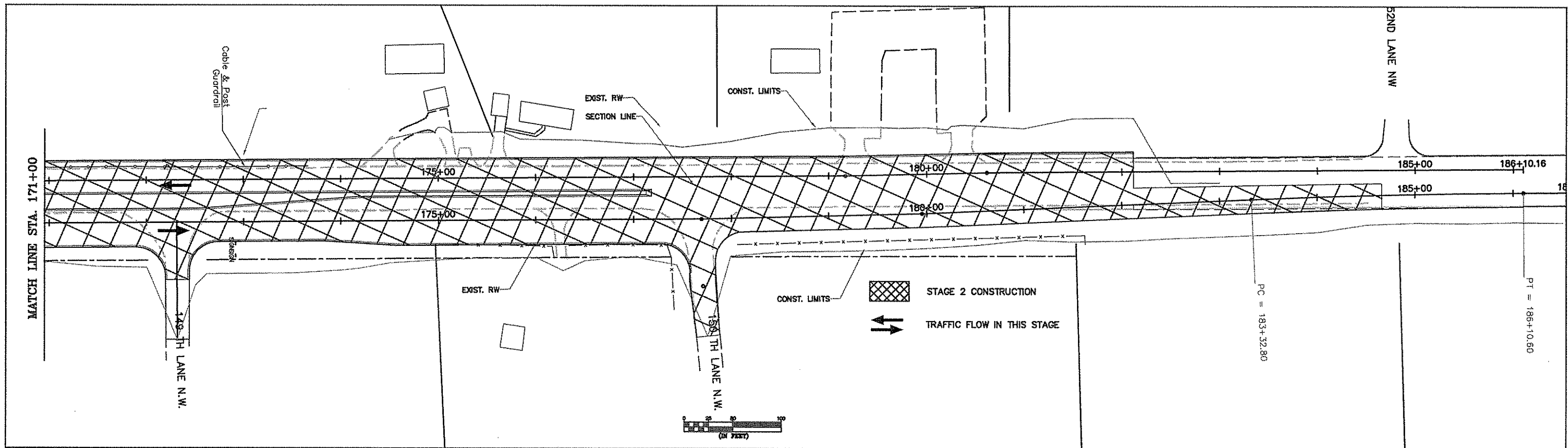
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 DESIGN BY: PML DATE: 3/31/03
 CHECKED BY: PML DATE: 3/31/03



ANOKA COUNTY
 HIGHWAY DEPT.

STATE PROJECT NO. _____
 STATE AID PROJECT NO. 02-609-12
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 COUNTY PROJECT NO. _____

STAGE 2
 CONSTRUCTION
 STA. 141+00 TO 171+00
 Sheet 37 of 165 Sheets



STAGE 2 CONSTRUCTION

ROAD CLOSED FROM THE NORTH RADIUS OF 142ND AVENUE TO THE SOUTH RADIUS OF 152ND LANE.

DURING THIS STAGE, ALL CONSTRUCTION CAN BE COMPLETED FOR THE LIMITS OF THE CLOSURE AREA. THIS WORK WOULD INCLUDE BITUMINOUS PATH, SIDEWALK, SEED AND SOD, AND WEAR COURSE. SOD SHALL BE PLACED BEFORE PAVING THE WEAR COURSE.

PLACE STORM WATER TREATMENT SYSTEM AND CONNECTING STORM SEWER PIPE, LNB STATION 106+25.

COMPLETE ALL REMAINING STORM SEWER, SANITARY SEWER AND WATERMAIN WORK.

GRADE AND TEMPORARY PAVE HEIGHT DIFFERENTIAL TRANSITION, STATION 108+62 TO 113+30

TEMPORARILY WIDEN, LNB 101+50 TO 108+62, IF NEEDED

REMOVE BITUMINOUS MEDIAN, STATION 96+70 TO 99+50

NO	DATE	BY	CHKD	APPR	REVISION

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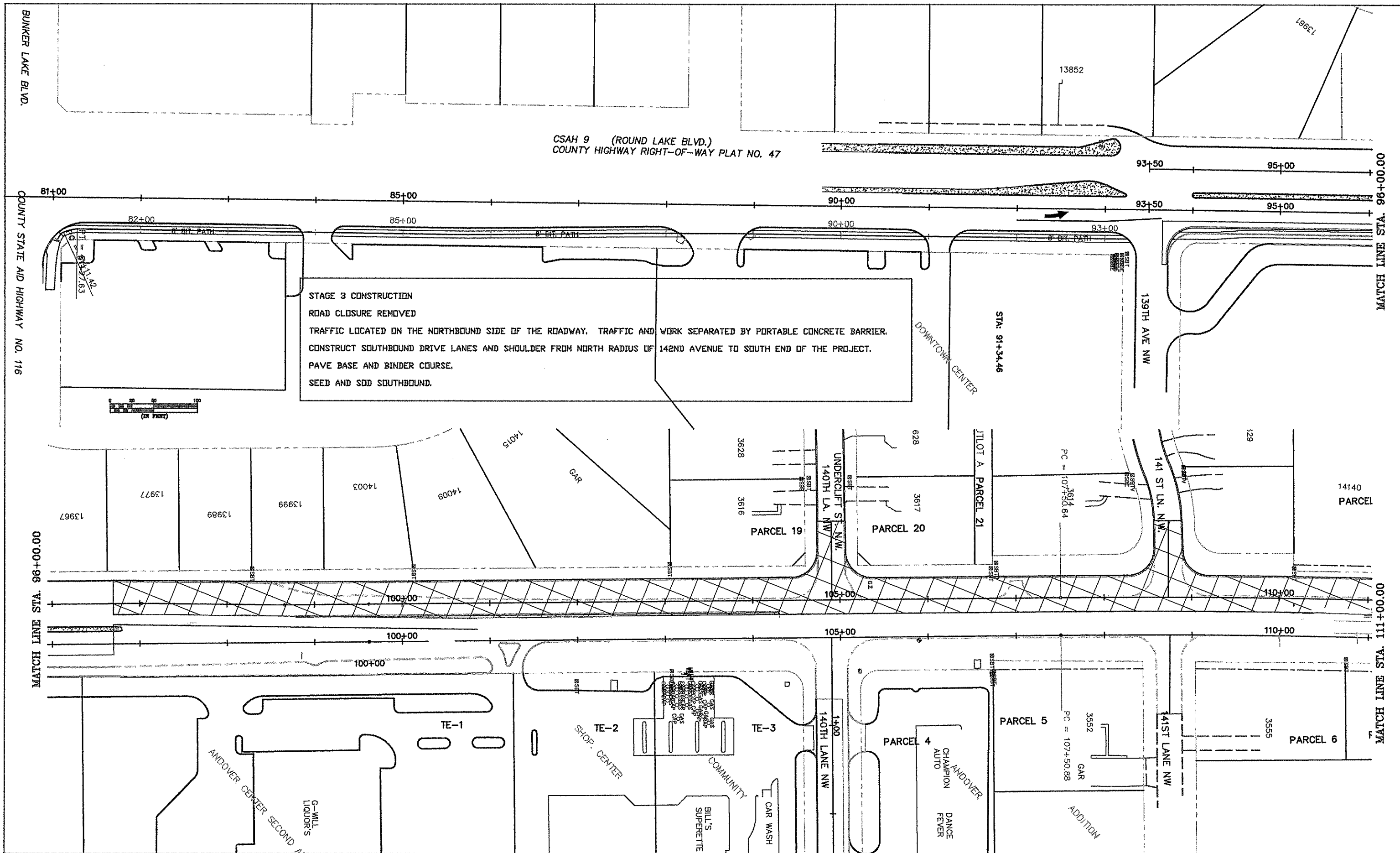
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**ANOKA COUNTY
HIGHWAY DEPT.**

STATE PROJECT NO. _____
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 CITY PROJECT NO. 198-020-17
 COUNTY PROJECT NO. _____

**STAGE 2
CONSTRUCTION**
 STA. 171+00 TO 186+10
 Sheet 38 of 165 Sheets



CSAH 9 (ROUND LAKE BLVD.)
COUNTY HIGHWAY RIGHT-OF-WAY PLAT NO. 47

STAGE 3 CONSTRUCTION
ROAD CLOSURE REMOVED
TRAFFIC LOCATED ON THE NORTHBOUND SIDE OF THE ROADWAY. TRAFFIC AND WORK SEPARATED BY PORTABLE CONCRETE BARRIER.
CONSTRUCT SOUTHBOUND DRIVE LANES AND SHOULDER FROM NORTH RADIUS OF 142ND AVENUE TO SOUTH END OF THE PROJECT.
PAVE BASE AND BINDER COURSE.
SEED AND SOD SOUTHBOUND.

NO	DATE	BY	CKD	APPR	REVISION

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PRINT NAME: **PETER M. LEMKE**
SIGNATURE: *Peter M. Lemke*
DATE: **8/22/2003** LICENSE NO. **40118**

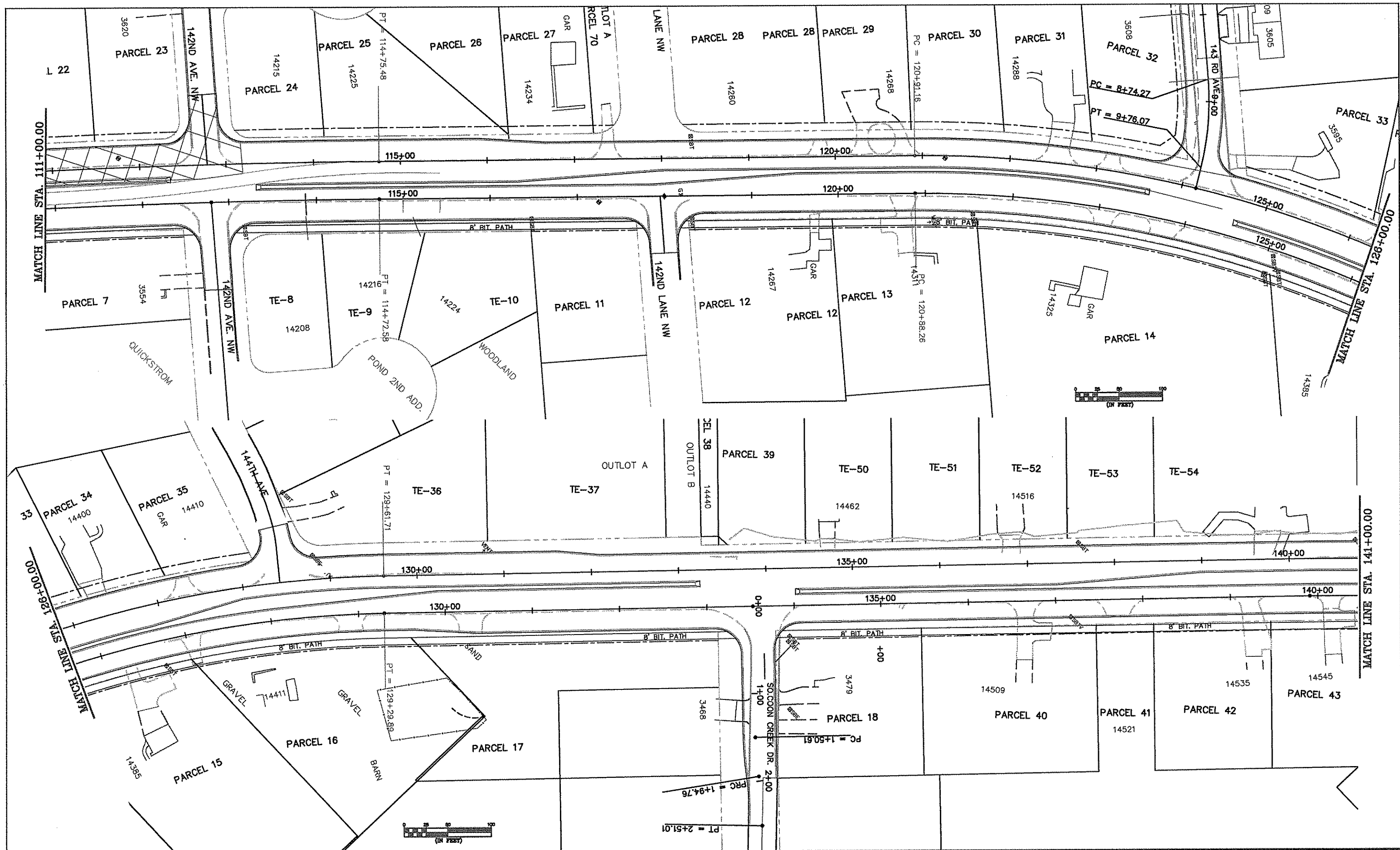
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DESIGN BY: **PMI** DATE: **3/31/03**
CHECKED BY: **PMI** DATE: **3/31/03**



ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. _____
STATE AID PROJECT NO. **02-609-12**
CITY PROJECT NO. **198-020-17**
COUNTY PROJECT NO. _____

STAGE 3
CONSTRUCTION
STA. **81+06.50 TO 111+00**
Sheet **39** of **165** Sheets



NO	DATE	BY	CKD	APPR	REVISION

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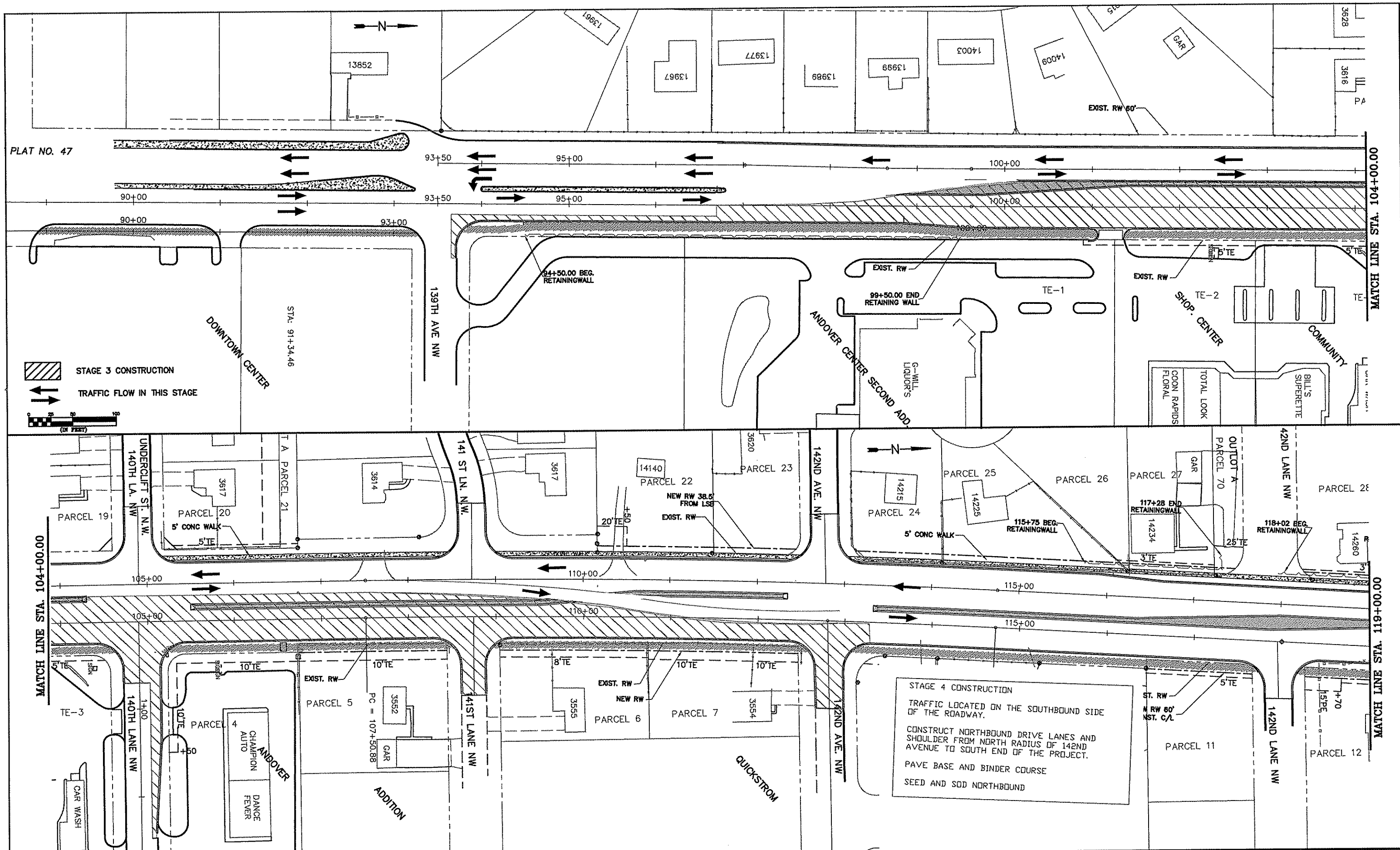
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 DESIGN BY: PML DATE 3/31/03
 CHECKED BY: PML DATE 3/31/03



ANOKA COUNTY
 HIGHWAY DEPT.

STATE PROJECT NO. _____
 STATE AID PROJECT NO. 02-609-12
 CITY PROJECT NO. 198-020-17
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STAGE 3
 CONSTRUCTION
 STA. 111+00 TO 141+00
 Sheet 40 of 165 Sheets



NO	DATE	BY	CHKD	APPR	REVISION

NAME: P:\0260912\PLAN\62-65 -Stage 4.DWG 08/27/2003 10:03:45 AM CDT

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

PRINT NAME: PETER M. LEMKE
 SIGNATURE: *Peter M. Lemke*
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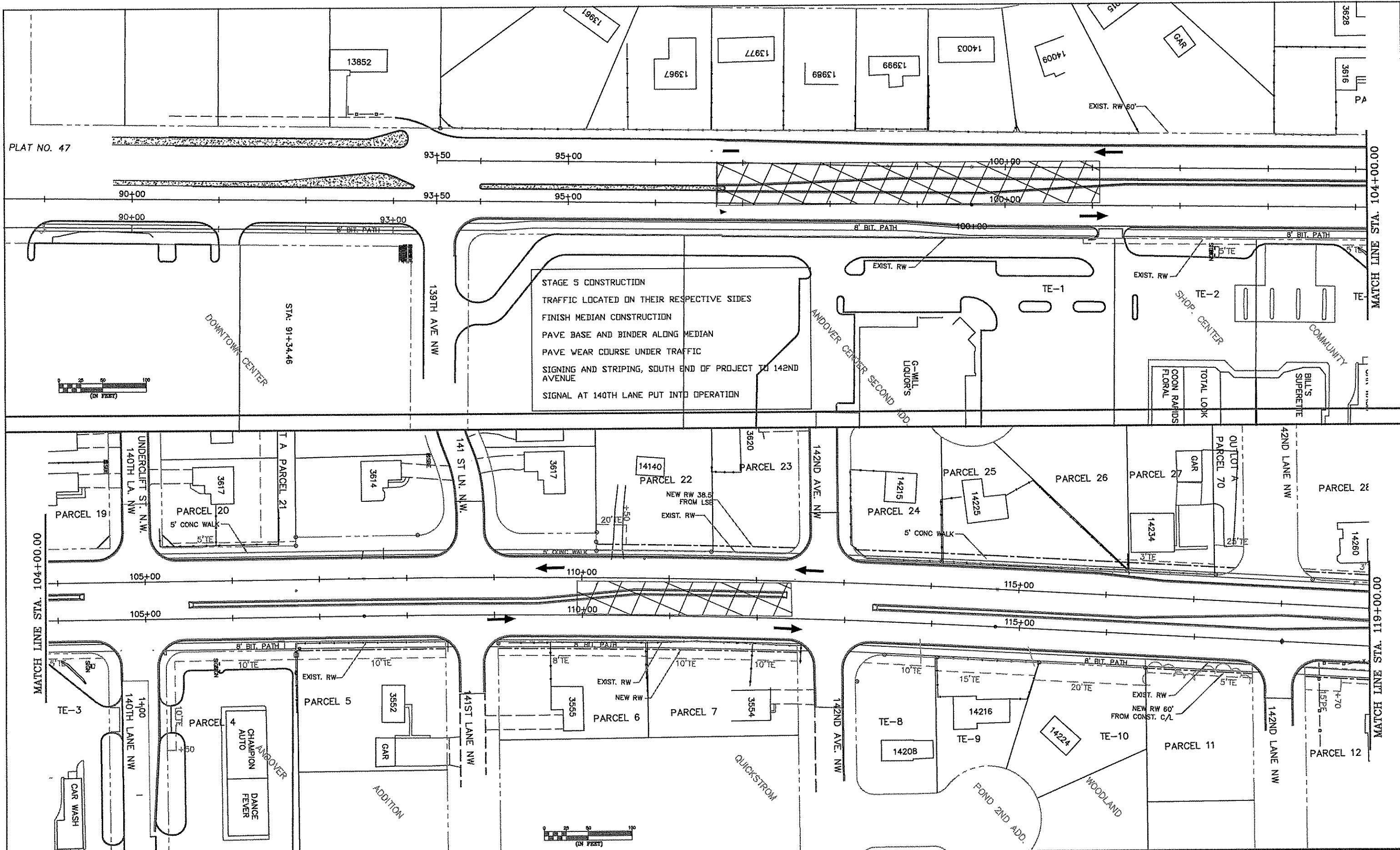
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 CHECKED BY: PML DATE: 08/22/03



ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. _____
 STATE AID PROJECT NO. 02-609-12
 CITY PROJECT NO. 198-020-17
 COUNTY PROJECT NO. _____

STAGE 4
CONSTRUCTION
 STA. 95+00 TO 119+00
 Sheet 41 of 165 Sheets



STAGE 5 CONSTRUCTION
 TRAFFIC LOCATED ON THEIR RESPECTIVE SIDES
 FINISH MEDIAN CONSTRUCTION
 PAVE BASE AND BINDER ALONG MEDIAN
 PAVE WEAR COURSE UNDER TRAFFIC
 SIGNING AND STRIPING, SOUTH END OF PROJECT TO 142ND AVENUE
 SIGNAL AT 140TH LANE PUT INTO OPERATION



NO	DATE	BY	CKD	APPR	REVISION

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 PRINT NAME: PETER M. LEMKE
 SIGNATURE: Peter M. Lemke
 DATE: 08/22/2003 LICENSE NO. 40118

DRAWN BY: BL DATE 08/22/03
 DESIGN BY: BL DATE 08/22/03
 CHECKED BY: PML DATE 08/22/03



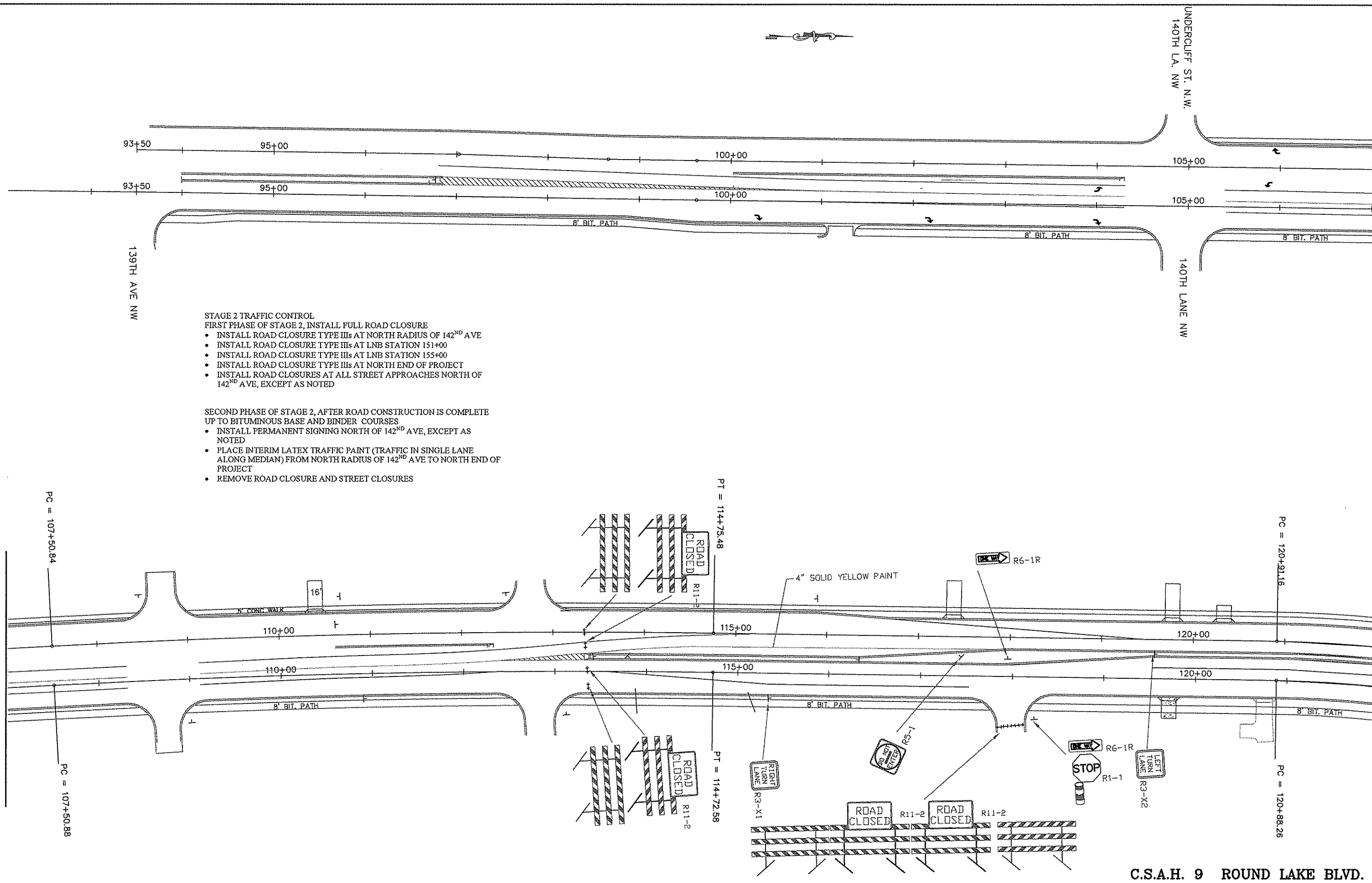
ANOKA COUNTY
 HIGHWAY DEPT.

STATE PROJECT NO. _____
 STATE AID PROJECT NO. 02-609-12
 CITY PROJECT NO. 198-020-17
 COUNTY PROJECT NO. _____

STAGE 5
 CONSTRUCTION
 STA. 95+00 TO 119+00
 Sheet 42 of 165 Sheets

MATCHLINE 'A' SEE BELOW LEFT

MATCHLINE 'B' SEE SHEET 44 OF 165



- STAGE 2 TRAFFIC CONTROL
 FIRST PHASE OF STAGE 2, INSTALL FULL ROAD CLOSURE
- INSTALL ROAD CLOSURE TYPE IIIs AT NORTH RADIUS OF 142ND AVE
 - INSTALL ROAD CLOSURE TYPE IIIs AT LNB STATION 151+00
 - INSTALL ROAD CLOSURE TYPE IIIs AT LNB STATION 155+00
 - INSTALL ROAD CLOSURE TYPE IIIs AT NORTH END OF PROJECT
 - INSTALL ROAD CLOSURES AT ALL STREET APPROACHES NORTH OF 142ND AVE, EXCEPT AS NOTED

- SECOND PHASE OF STAGE 2, AFTER ROAD CONSTRUCTION IS COMPLETE UP TO BITUMINOUS BASE AND BINDER COURSES
- INSTALL PERMANENT SIGNING NORTH OF 142ND AVE, EXCEPT AS NOTED
 - PLACE INTERIM LATEX TRAFFIC PAINT (TRAFFIC IN SINGLE LANE ALONG MEDIAN) FROM NORTH RADIUS OF 142ND AVE TO NORTH END OF PROJECT
 - REMOVE ROAD CLOSURE AND STREET CLOSURES

C.S.A.H. 9 ROUND LAKE BLVD.

1	9-06-03	RLB	PML	PML	FINAL SHEET COMPLETED
NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\0260912\PLAN\43-46 TRAFFIC CNTRL STAGE 2.dwg 09/06/2003 01:54:58 PM CDT					

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.
 PRINT NAME: PETER M. LEMKE
 SIGNATURE: *Peter M. Lemke*
 DATE: 9/8/2003 REG. NO. 40118

DRAWN BY: DM DATE 10/31/02
 DESIGN BY: DM DATE 10/31/02
 CHECKED BY: PML DATE 8/22/03



ANOKA COUNTY
 HIGHWAY DEPT.

STATE PROJECT NO. _____
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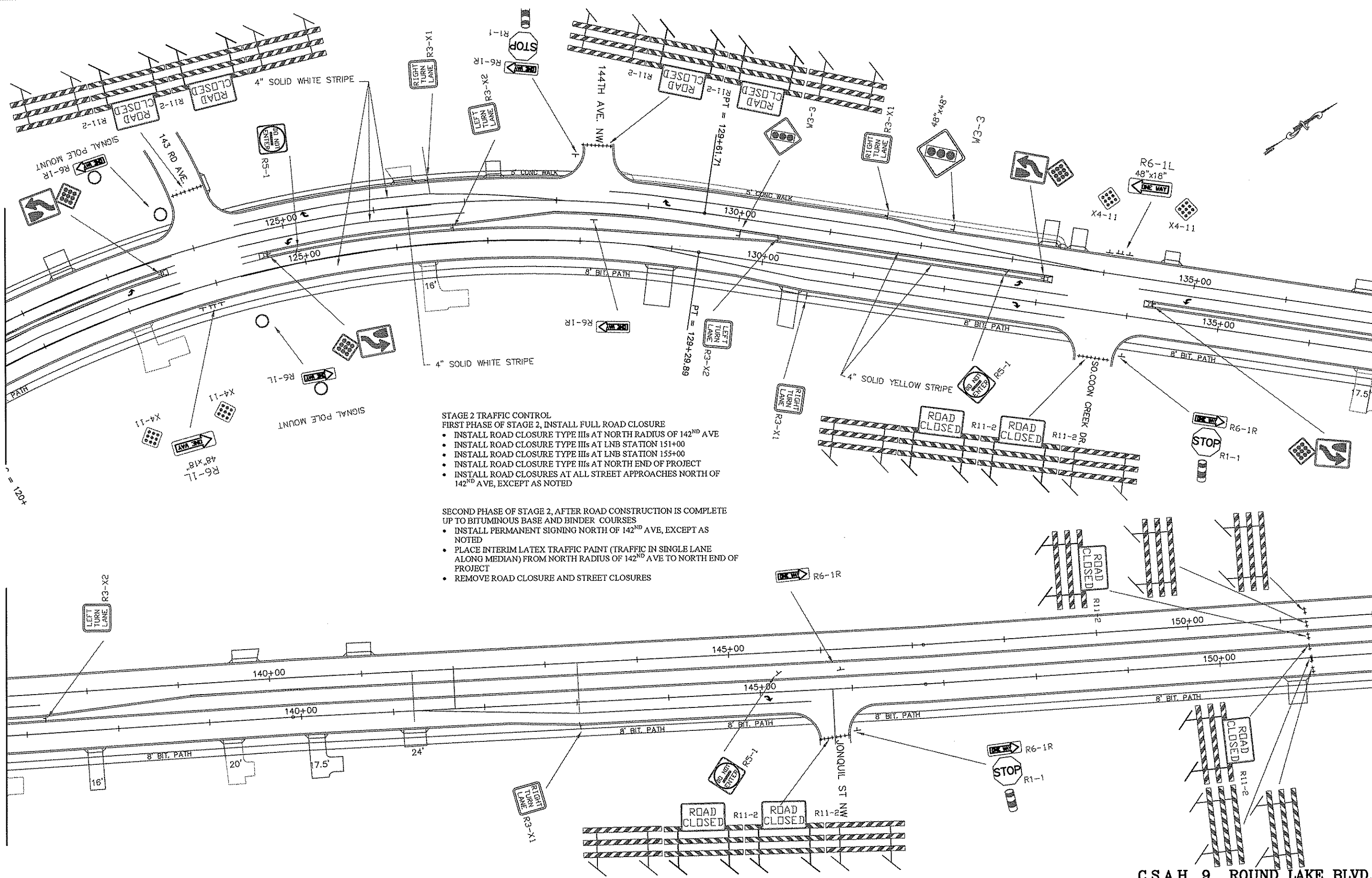
TRAFFIC CONTROL
 STAGE 2
 Sheet 43 of 165 Sheets

MATCHLINE 'B' SEE SHEET 43 of 165

MATCHLINE 'C' SEE ABOVE RIGHT

MATCHLINE 'C' SEE BELOW LEFT

MATCHLINE 'D' SEE SHEET 45 of 165



STAGE 2 TRAFFIC CONTROL
FIRST PHASE OF STAGE 2, INSTALL FULL ROAD CLOSURE

- INSTALL ROAD CLOSURE TYPE IIIs AT NORTH RADIUS OF 142ND AVE
- INSTALL ROAD CLOSURE TYPE IIIs AT LNB STATION 151+00
- INSTALL ROAD CLOSURE TYPE IIIs AT LNB STATION 155+00
- INSTALL ROAD CLOSURE TYPE IIIs AT NORTH END OF PROJECT
- INSTALL ROAD CLOSURES AT ALL STREET APPROACHES NORTH OF 142ND AVE, EXCEPT AS NOTED

SECOND PHASE OF STAGE 2, AFTER ROAD CONSTRUCTION IS COMPLETE UP TO BITUMINOUS BASE AND BINDER COURSES

- INSTALL PERMANENT SIGNING NORTH OF 142ND AVE, EXCEPT AS NOTED
- PLACE INTERIM LATEX TRAFFIC PAINT (TRAFFIC IN SINGLE LANE ALONG MEDIAN) FROM NORTH RADIUS OF 142ND AVE TO NORTH END OF PROJECT
- REMOVE ROAD CLOSURE AND STREET CLOSURES

C.S.A.H. 9 ROUND LAKE BLVD.

1	9-06-03	RLB	PML	PML	FINAL SHEET COMPLETED
NO	DATE	BY	CHKD	APPR	REVISION
NAME: P:\0260912\PLAN\43-46 TRAFFIC CONTROL STAGE 2.dwg 09/06/2003 01:54:58 PM CDT					

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 SIGNATURE: *Peter M. Lemke*
 DATE: **9/06/2003** REG. NO. **40118**

DRAWN BY: **DM** DATE **10/31/02**
 DESIGN BY: **DM** DATE **10/31/02**
 CHECKED BY: **PML** DATE **8/22/03**



ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. _____
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 CITY PROJECT NO. **198-020-17**
 COUNTY PROJECT NO. _____

TRAFFIC CONTROL
STAGE 2
 Sheet **44** of **165** Sheets

MATCHLINE 'D' SEE SHEET 44 of 165

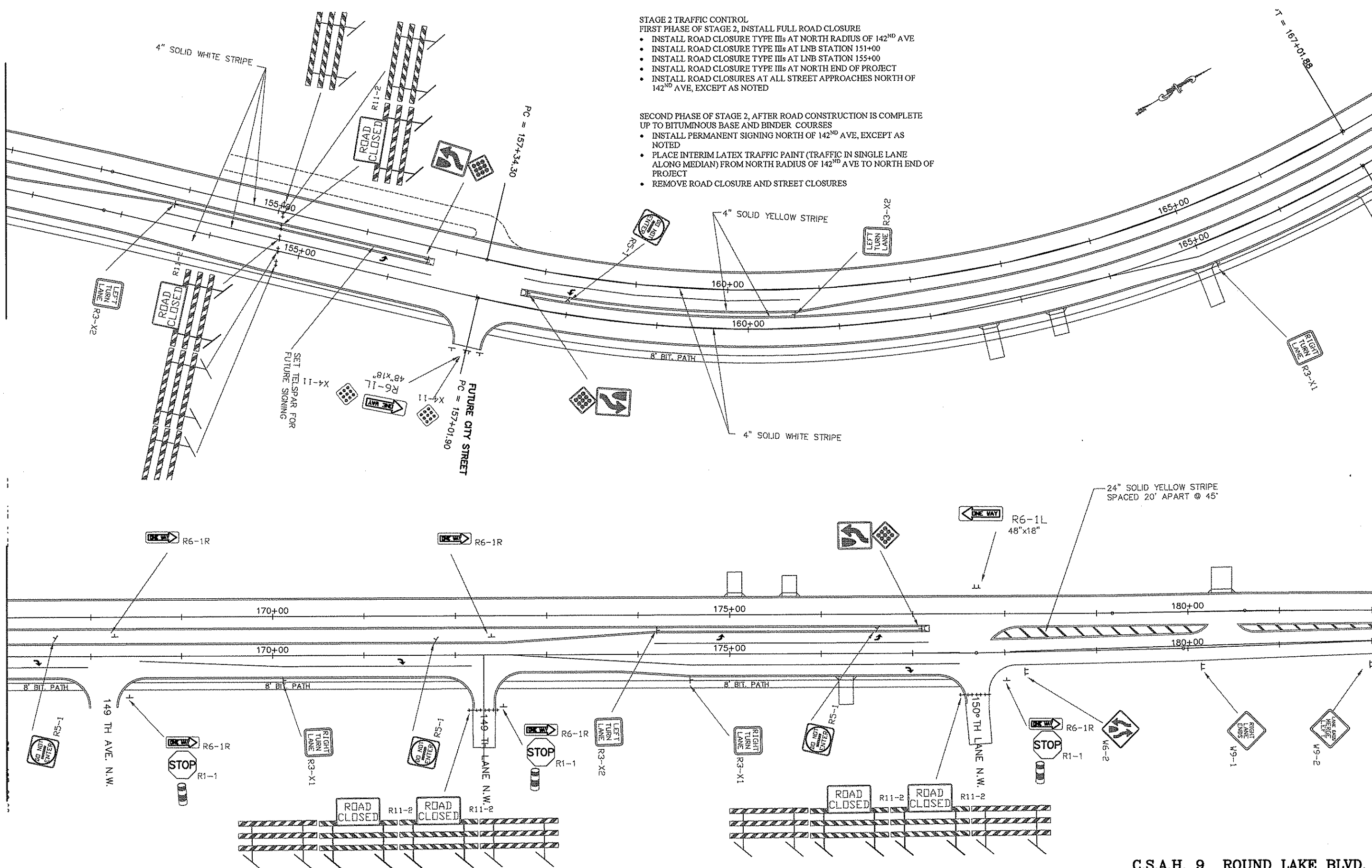
MATCHLINE 'E' SEE ABOVE RIGHT

MATCHLINE 'E' SEE BELOW LEFT

MATCHLINE 'F' SEE SHEET 46 of 165

- STAGE 2 TRAFFIC CONTROL
 FIRST PHASE OF STAGE 2, INSTALL FULL ROAD CLOSURE
- INSTALL ROAD CLOSURE TYPE IIIs AT NORTH RADIUS OF 142ND AVE
 - INSTALL ROAD CLOSURE TYPE IIIs AT LNB STATION 151+00
 - INSTALL ROAD CLOSURE TYPE IIIs AT LNB STATION 155+00
 - INSTALL ROAD CLOSURE TYPE IIIs AT NORTH END OF PROJECT
 - INSTALL ROAD CLOSURES AT ALL STREET APPROACHES NORTH OF 142ND AVE, EXCEPT AS NOTED

- SECOND PHASE OF STAGE 2, AFTER ROAD CONSTRUCTION IS COMPLETE UP TO BITUMINOUS BASE AND BINDER COURSES
- INSTALL PERMANENT SIGNING NORTH OF 142ND AVE, EXCEPT AS NOTED
 - PLACE INTERIM LATEX TRAFFIC PAINT (TRAFFIC IN SINGLE LANE ALONG MEDIAN) FROM NORTH RADIUS OF 142ND AVE TO NORTH END OF PROJECT
 - REMOVE ROAD CLOSURE AND STREET CLOSURES



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NO	DATE	BY	CHKD	APPR	REVISION
NAME: P:\0260912\PLAN\43-46 TRAFFIC CONTROL STAGE 2.dwg 09/06/2003 01:54:58 PM CDT					

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 SIGNATURE: *Peter M. Lemke*
 DATE: 9/6/2003 REG. NO. 40118

DRAWN BY: DM DATE 10/31/02
 DESIGN BY: DM DATE 10/31/02
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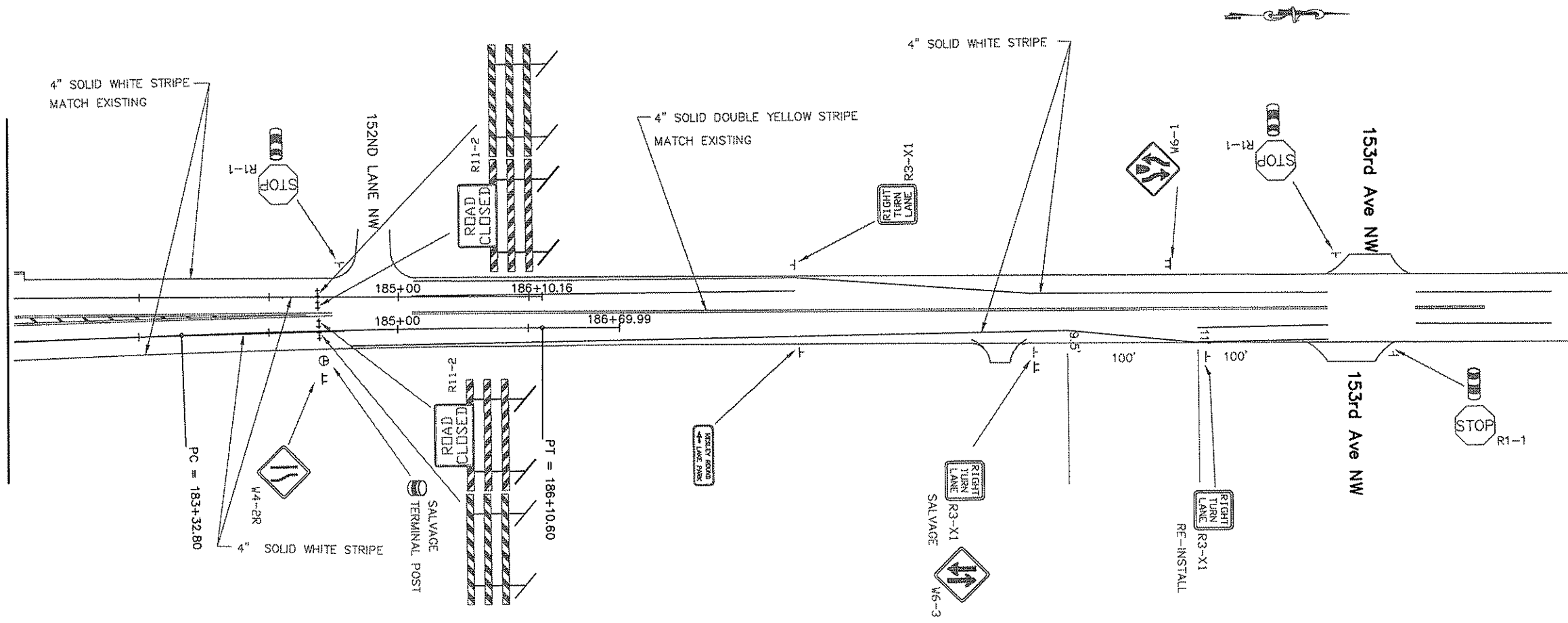


ANOKA COUNTY
 HIGHWAY DEPT.

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TRAFFIC CONTROL
 STAGE 2
 Sheet 45 of 165 Sheets

MATCHLINE 'F' SEE SHEET 45 of 165



- STAGE 2 TRAFFIC CONTROL**
- FIRST PHASE OF STAGE 2, INSTALL FULL ROAD CLOSURE**
- INSTALL ROAD CLOSURE TYPE IIIs AT NORTH RADIUS OF 142ND AVE
 - INSTALL ROAD CLOSURE TYPE IIIs AT LNB STATION 151+00
 - INSTALL ROAD CLOSURE TYPE IIIs AT LNB STATION 155+00
 - INSTALL ROAD CLOSURE TYPE IIIs AT NORTH END OF PROJECT
 - INSTALL ROAD CLOSURES AT ALL STREET APPROACHES NORTH OF 142ND AVE, EXCEPT AS NOTED
- SECOND PHASE OF STAGE 2, AFTER ROAD CONSTRUCTION IS COMPLETE UP TO BITUMINOUS BASE AND BINDER COURSES**
- INSTALL PERMANENT SIGNING NORTH OF 142ND AVE, EXCEPT AS NOTED
 - PLACE INTERIM LATEX TRAFFIC PAINT (TRAFFIC IN SINGLE LANE ALONG MEDIAN) FROM NORTH RADIUS OF 142ND AVE TO NORTH END OF PROJECT
 - REMOVE ROAD CLOSURE AND STREET CLOSURES

C.S.A.H. 9 ROUND LAKE BLVD.

1	9-06-03	RLB	PML	PML	FINAL SHEET COMPLETED
NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\0260912\PLAN\43-46 TRAFFIC CONTROL STAGE 2.dwg 09/06/2003 01:54:58 PM CDT					

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.

PRINT NAME: PETER M. LEMKE
 SIGNATURE: *Peter M. Lemke*
 DATE: 9/6/2003 REG. NO. 40118

DRAWN BY: DM DATE 10/31/02
 DESIGN BY: DM DATE 10/31/02
 CHECKED BY: PML DATE 8/22/03

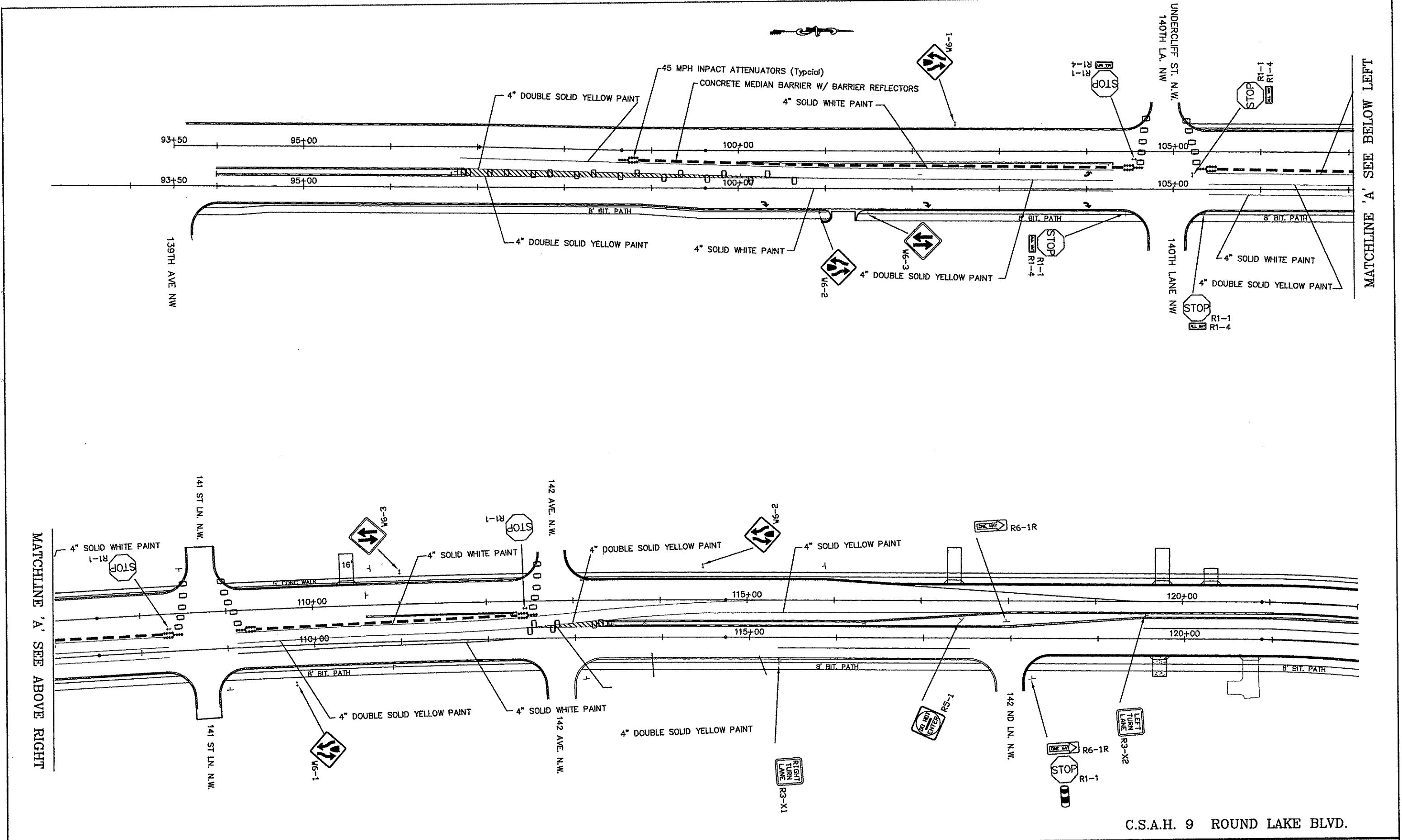


**ANOKA COUNTY
HIGHWAY DEPT.**

STATE PROJECT NO. _____
 STATE AID PROJECT NO. 02-609-12
 CITY PROJECT NO. 198-020-17
 COUNTY PROJECT NO. _____

**TRAFFIC CONTROL
STAGE 2**

Sheet 46 of 165 Sheets



NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\0260912\PLAN\00-00 STAGE3SIGN&STRIPE.dwg 09/06/2003 09:41:39 AM CDT

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.

PRINT NAME: PETER M. LEMKE
 SIGNATURE: *Peter M. Lemke*
 DATE: 9/6/2003 REG. NO. 4011B

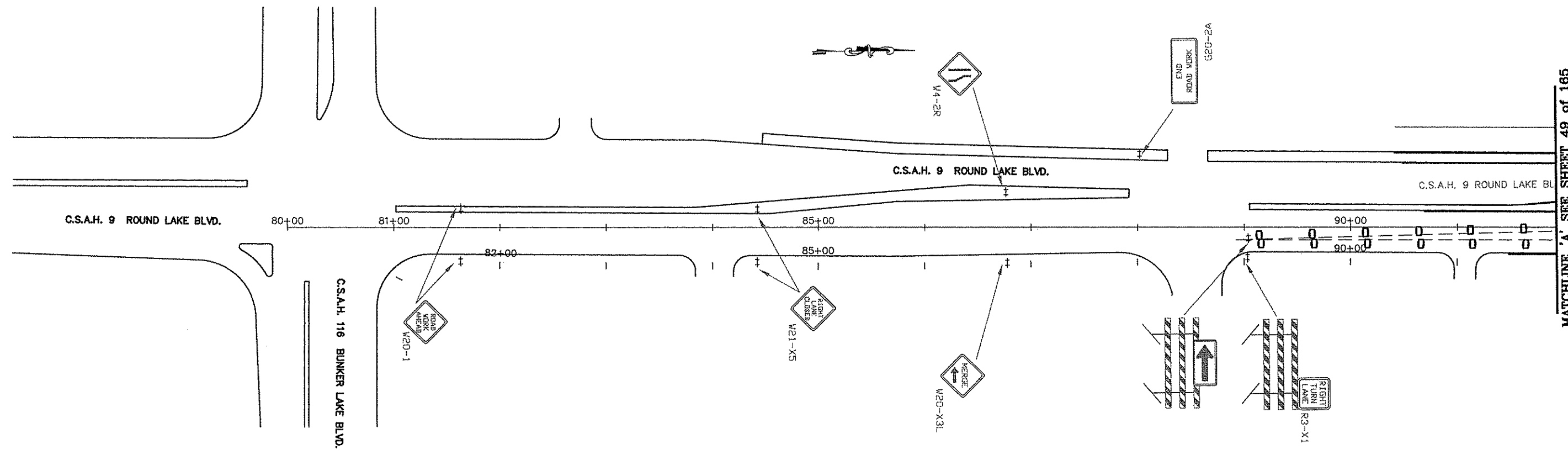
DRAWN BY: DM DATE: 10/31/02
 DESIGN BY: DM DATE: 10/31/02
 CHECKED BY: PML DATE: 8/22/03

ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. _____
 STATE AID PROJECT NO. 02-609-12
 CITY PROJECT NO. 198-020-17
 COUNTY PROJECT NO. _____

STAGE 3
 TRAFFIC CONTROL
 Sheet 47 of 165 Sheets

0 = REFLECTORIZED DRUM



1	9/6/03	BFL	MFG	PML	FINAL SHEET COMPLETED
NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\0260912\PLAN\48-S1 TRAFFIC CONTROL STAGE 4.dwg 09/06/2003 11:55:56 AM CDT					

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 PRINT NAME: PETER M. LEMKE
 SIGNATURE: *Peter M. Lemke*
 DATE: 9/6/2003 LICENSE NO. 40118

DRAWN BY: ST DATE 04/11/03
 DESIGN BY: DATE
 CHECKED BY: DATE

ANOKA COUNTY
HIGHWAY DEPT.

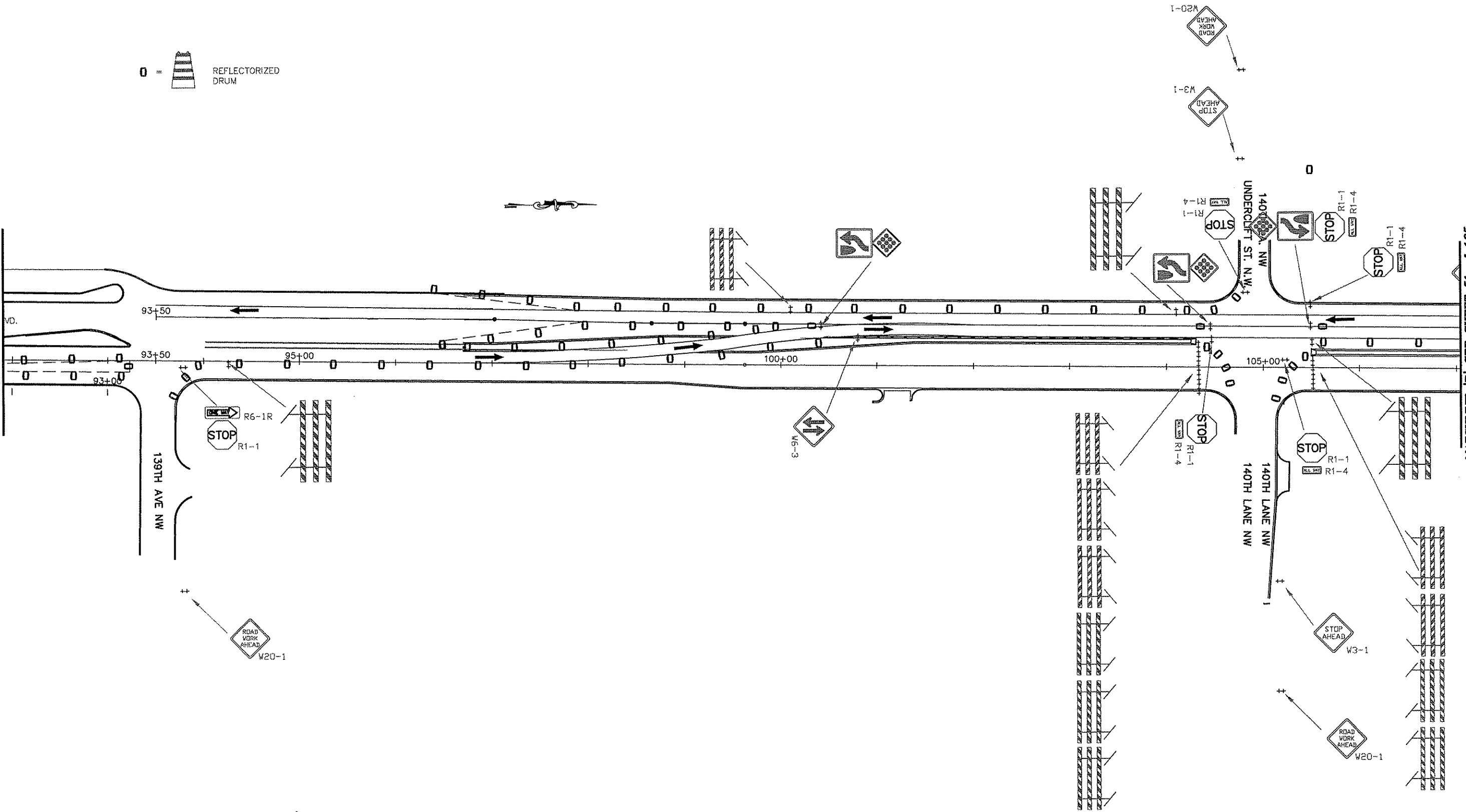
STATE PROJECT NO. _____
 STATE AID PROJECT NO. 02-609-12
 CITY PROJECT NO. 198-020-17
 COUNTY PROJECT NO. _____

TRAFFIC CONTROL
 STAGE 4
 Sheet 48 of 165 Sheets

0 = REFLECTORIZED DRUM

MATCHLINE 'A' SEE SHEET 48 of 165

MATCHLINE 'B' SEE SHEET 51 of 165



1	9/6/03	BFL	MFG	PML	FINAL SHEET COMPLETED
NO	DATE	BY	CHKD	APPR	REVISION
NAME: P:\0260912\PLAN\48-51 TRAFFIC CONTRL STAGE 4.dwg 09/06/2003 11:55:56 AM CDT					

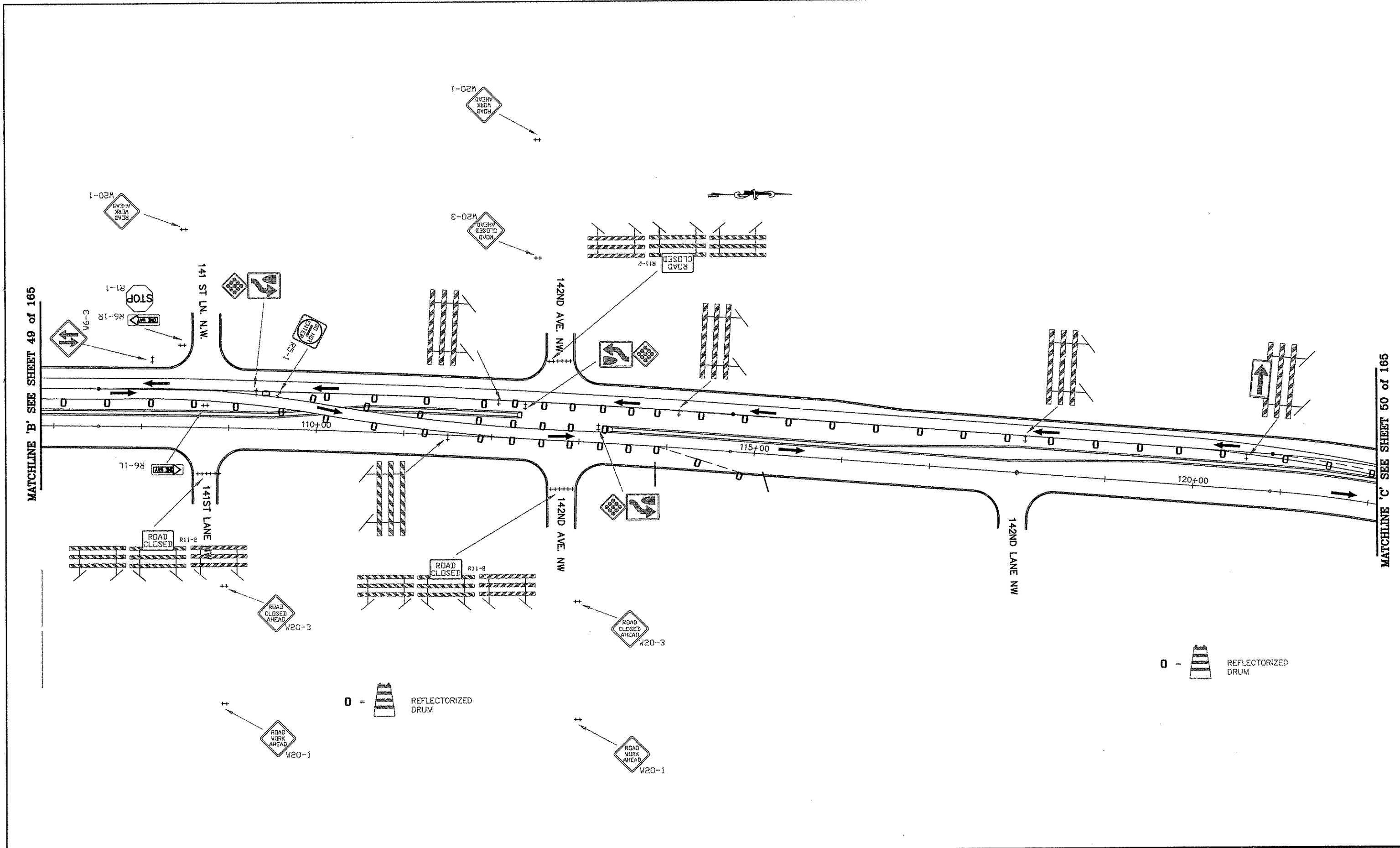
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 PRINT NAME: PETER M. LEMKE
 SIGNATURE: *Peter M Lemke*
 DATE: 9/6/2003 LICENSE NO. 40118

DRAWN BY: ST DATE: 04/11/03
 DESIGN BY: DATE:
 CHECKED BY: DATE:

ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. _____
 STATE AID PROJECT NO. 02-609-12
 CITY PROJECT NO. 198-020-17
 COUNTY PROJECT NO. _____

TRAFFIC CONTROL
 STAGE 4
 Sheet 49 of 165 Sheets

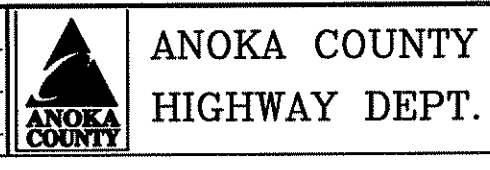


1	9/6/03	BFL	MFG	PML	FINAL SHEET COMPLETED
NO	DATE	BY	CHKD	APPR	REVISION
NAME: P:\0260912\PLAN\48-51 TRAFFIC CDNTROL STAGE 4.dwg 09/06/2003 11:55:56 AM CDT					

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

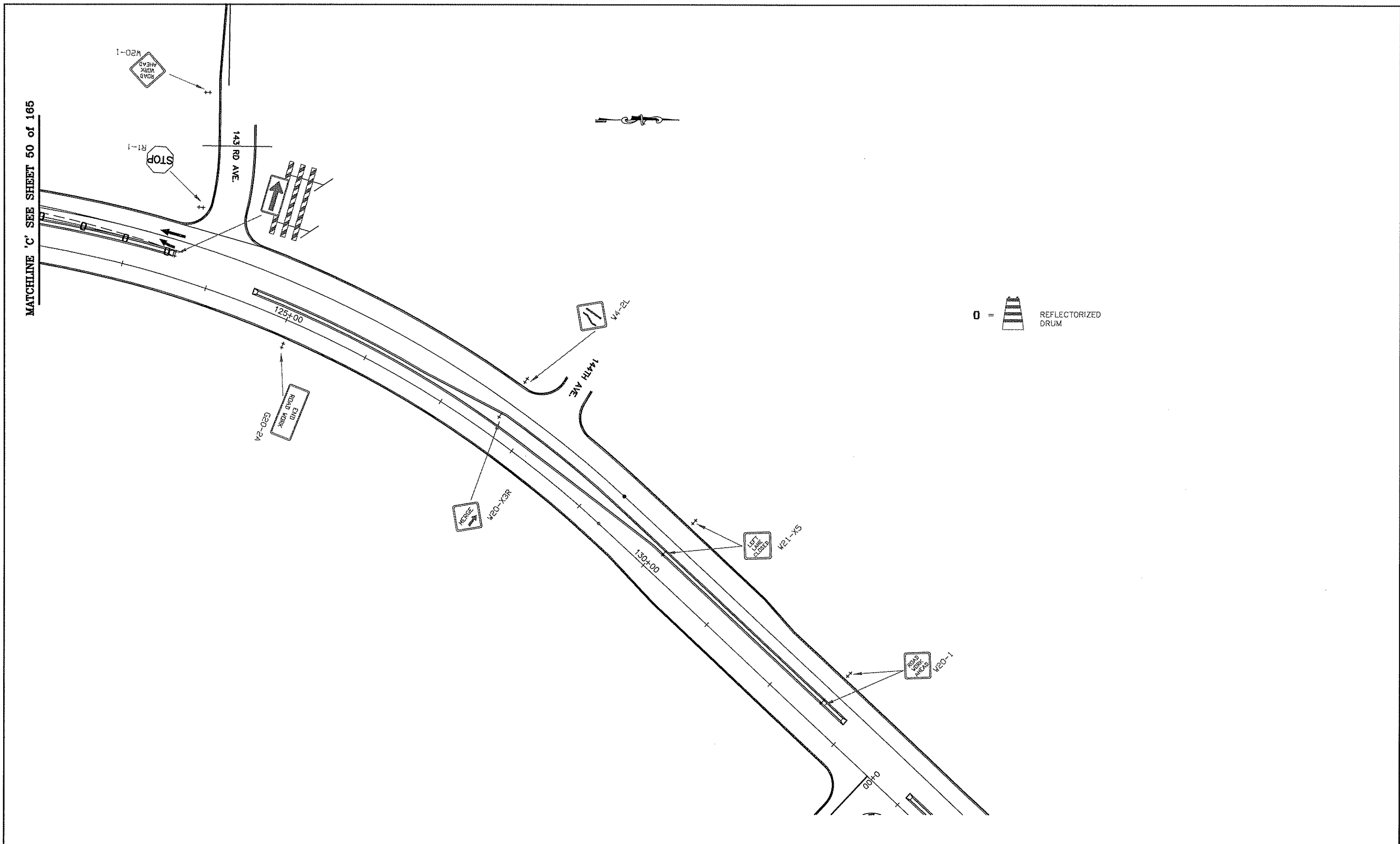
PRINT NAME: PETER M. LEMKE
 SIGNATURE: *Peter M. Lemke*
 DATE: 9/6/2003 LICENSE NO. 40118

DRAWN BY: ST DATE: 04/11/03
 DESIGN BY: DATE:
 CHECKED BY: DATE:



STATE PROJECT NO. _____
 STATE AID PROJECT NO. 02-609-12
 CITY PROJECT NO. 198-020-17
 COUNTY PROJECT NO. _____

TRAFFIC CONTROL
 STAGE 4
 Sheet 50 of 165 Sheets



MATCHLINE 'C' SEE SHEET 50 of 165

0 =  REFLECTORIZED DRUM

1	9/6/03	BFL	MFG	PML	FINAL SHEET COMPLETED
NO	DATE	BY	CHK	APPR	REVISION
NAME: P:\0260912\PLAN\48-51 TRAFFIC CONTROL STAGE 4.dwg 09/06/2003 11:55:56 AM CDT					

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 PRINT NAME: PETER M. LEMKE
 SIGNATURE: *Peter M Lemke*
 DATE: 9/6/2003 LICENSE NO. 40118

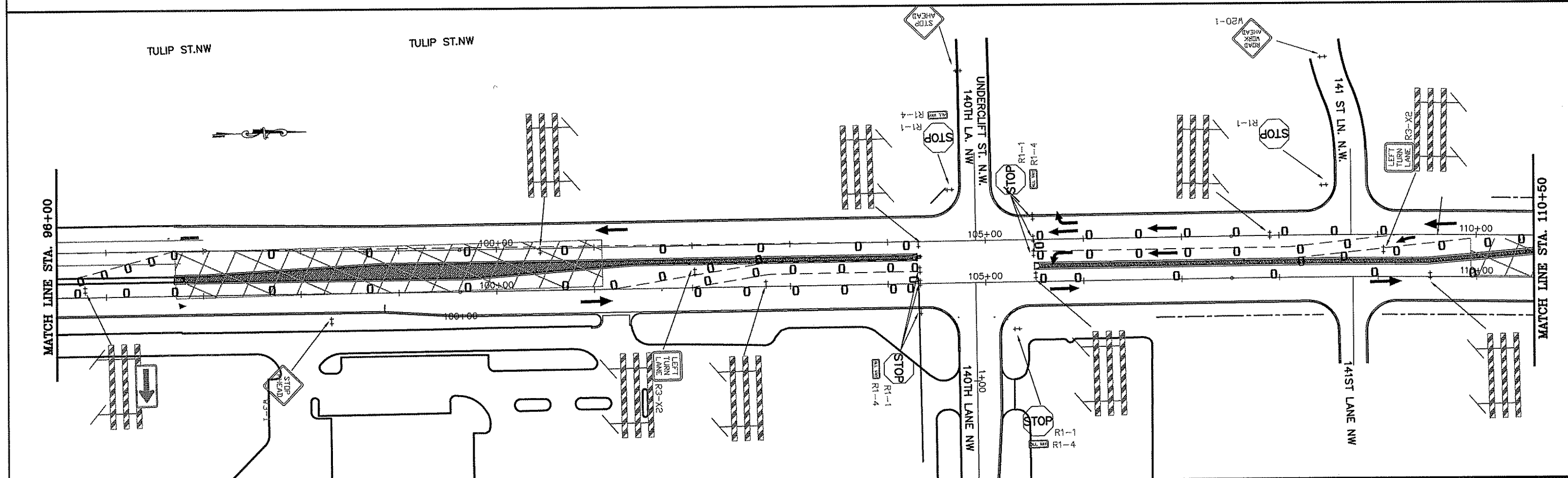
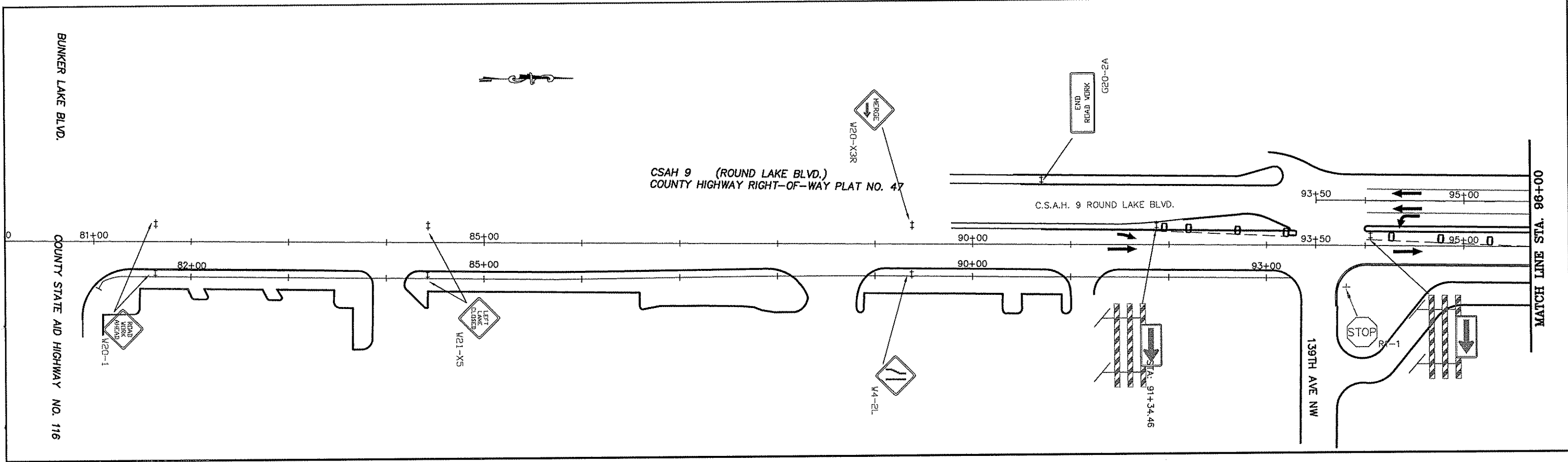
DRAWN BY: ST DATE: 04/11/03
 DESIGN BY: DATE:
 CHECKED BY: DATE:



**ANOKA COUNTY
 HIGHWAY DEPT.**

STATE PROJECT NO. _____
 STATE AID PROJECT NO. 02-609-12
 CITY PROJECT NO. 198-020-17
 COUNTY PROJECT NO. _____

**TRAFFIC CONTROL
 STAGE 4**
 Sheet 51 of 165 Sheets



1	9-06-03	RLB	PML	PML	FINAL SHEET COMPLETED
NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\0260912\PLAN\52-53 TRAFFIC CONTRL STAGE 5.dwg 09/06/2003 12:44:43 PM CDT

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

PRINT NAME: PETER M. LEMKE
 SIGNATURE: *Peter M Lemke*
 DATE: 9/6/2003 LICENSE NO. 40118

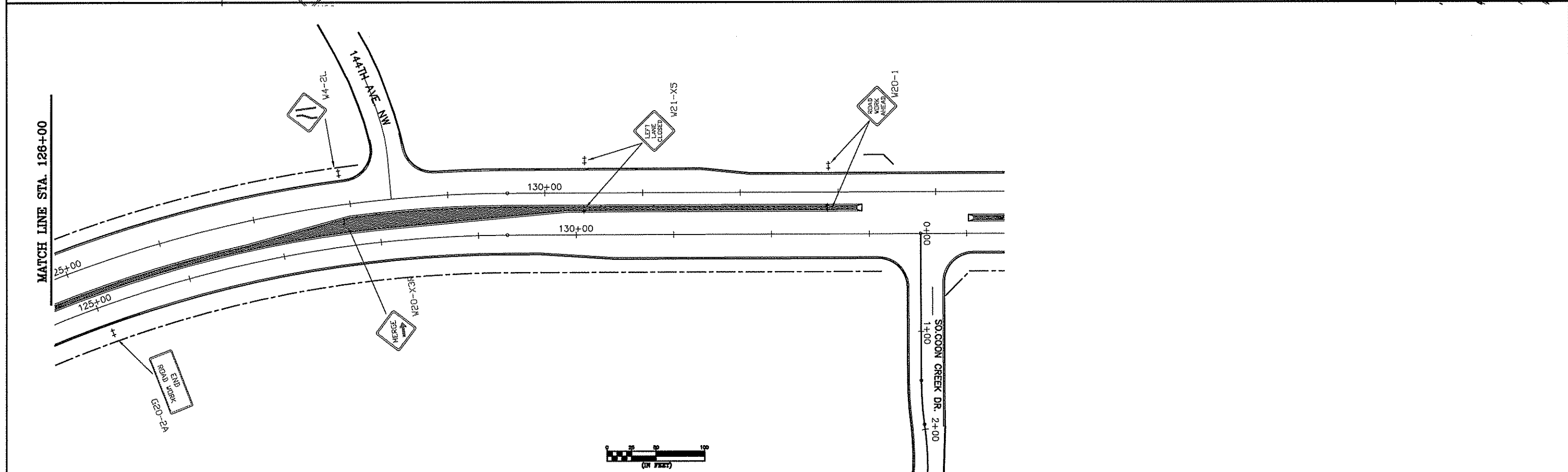
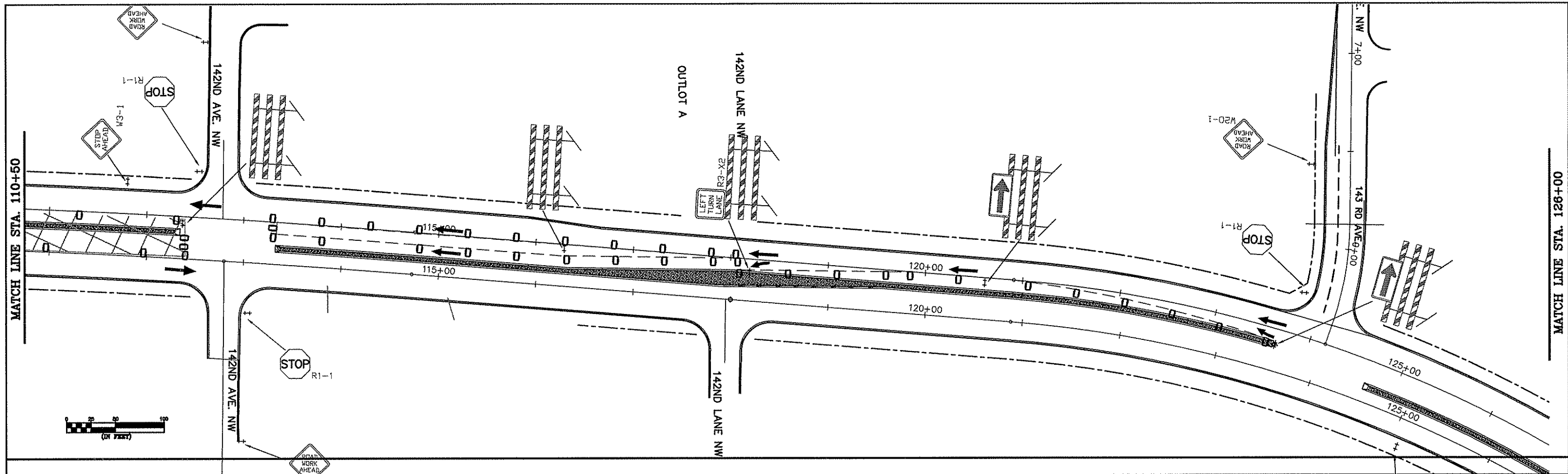
DRAWN BY: RL DATE: 08/22/03
 DESIGN BY: RL DATE: 08/22/03
 CHECKED BY: PML DATE: 08/22/03

ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. _____
 STATE AID PROJECT NO. 02-609-12
 CITY PROJECT NO. 198-020-17
 COUNTY PROJECT NO. _____

TRAFFIC CONTROL
STAGE 5

Sheet 52 of 165 Sheets



1	9-06-03	RLB	PML	PML	FINAL SHEET COMPLETED
NO	DATE	BY	CHKD	APPR	REVISION
NAME: P:\0260912\PLAN\52-53 TRAFFIC CONTROL STAGE 5.dwg 09/06/2003 12:44:43 PM CDT					

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 PRINT NAME: PETER M. LENKE
 SIGNATURE: *Peter M. Lenke*
 DATE: 9/8/2003 LICENSE NO. 40118

DRAWN BY: RL DATE 08/22/03
 DESIGN BY: RL DATE 08/22/03
 CHECKED BY: PML DATE 08/22/03

ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. _____
 STATE AID PROJECT NO. 02-609-12
 CITY PROJECT NO. 198-020-17
 COUNTY PROJECT NO. _____

TRAFFIC CONTROL
 STAGE 5
 Sheet 53 of 165 Sheets

M. U. T. C. D. CODE	SIZE	INSERT	QTY. STG. 1	QTY. STG. 2	QTY. STG. 3	QTY. STG. 4	QTY. STG. 5	SQ. FT.
R1-1	48" x 48"	STOP		9	8	14		16.00
R1-4	18" x 6"	ALL WAY		7	4	8		.75
R6-1L	18" x 24"	ONE WAY		0	1	0		5.00
W20-3	48" x 48"	ROAD CLOSED AHEAD		0	0	0		5.00
R3-1	24" x 24"	NO LEFT TURN		0	0	0		4.00
R3-2	24" x 24"	NO RIGHT TURN		0	0	0		4.00
R4-1	24" x 30"	DO NOT PASS		0	0	0		5.00
R4-7	24" x 30"	LEFT TURN AHEAD		0	0	6		5.00
X4-11	18" x 18"	IMPACT ATTENUATOR		0	6	0		2.25
W3-1	48" x 48"	STOP AHEAD		3	4	10		16.00
W1-4L	48" x 48"	LEFT TURN AHEAD		0	0	0		16.00
W4-2L	48" x 48"	LANE AHEAD		0	0	0		16.00

M. U. T. C. D. CODE	SIZE	INSERT	QTY. STG. 1	QTY. STG. 2	QTY. STG. 3	QTY. STG. 4	QTY. STG. 5	SQ. FT.
W6-3	48" x 48"	TRAFFIC CONTROL	0	6	2			16.00
R6-1R	18" x 24"	ONE WAY	0	0	2	0		16.00
W20-X3R	48" x 48"	MERGE	0	0		0		16.00
W21-X5	48" x 48"	LEFT LANE CLOSED	0	0		0		16.00
	48" x 48"	TRAFFIC CONTROL	0	0		0		16.00
R3-X2	30" x 30"	LEFT TURN AHEAD	0	0		3		6.25
TYPE III	8 FOOT	PORTABLE BARRIER						
R11-2	48" x 30"	ROAD CLOSED	22	0		3		10.00
TYPE III	8 FOOT	PORTABLE BARRIER						
W1-7	48" x 24"	ONE WAY	0	0		0		8.00
TYPE III	8 FOOT	PORTABLE BARRIER						
W1-6	48" x 24"	ONE WAY	13	0	2			8.00
TYPE III	8 FOOT	PORTABLE BARRIER						

M. U. T. C. D. CODE	SIZE	INSERT	QTY. STG. 1	QTY. STG. 2	QTY. STG. 3	QTY. STG. 4	QTY. STG. 5	SQ. FT.
W1-6	48" x 24"	ONE WAY	0		2	5		8.00
TYPE III	8 FOOT	PORTABLE BARRIER						
TYPE III	8 FOOT	PORTABLE BARRIER	22	0	18	8		
TYPE III	8 FOOT	PORTABLE BARRIER	22	0	13	9	8	
G20-2a	48" x 24"	END ROAD WORK	2	0	0	0		8.00
REFLECTORIZED REBOUNDABLE DRUM		REFLECTORIZED REBOUNDABLE DRUM	0	49	164	113		

TRAFFIC CONTROL DEVICE & SYMBOLS LEGEND

R6-1L		
MERGE		
W20-X3L		
SYMBOL	DESCRIPTION	
	REFLECTORIZED REBOUNDABLE DRUM	
	PORTABLE BARRIER WITH BARRIER DELINEATORS SPACED AT 50' Mn/DOT 2563	
	IMPACT ATTENUATOR BARRELS Mn/DOT 2554	
	SOLID LINE PAVEMENT MARKING WITH TRPM's SPACED AT 10' INTERVALS (TEMPORARY RAISED PAVEMENT MARKERS)	

* ASPER ROAD CLOSED REQUIREMENTS

TRAFFIC CONTROL

1	9-06-03	MFG	PML	PML	FINAL SHEET COMPLETED.
NO	DATE	BY	CKD	APPR	REVISION
NAME: PA026912\PLAN\42-STG2TY.dwg 09/06/2003 04:17:59 PM CDT					

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.
 PRINT NAME: PETER M. LEMKE
 SIGNATURE: *Peter M. Lemke*
 DATE: 9/6/2003 REG. NO. 40118

DRAWN BY: BFL DATE: 02/14/03
 DESIGN BY: MFG DATE: 02/14/03
 CHECKED BY: MFG DATE: 02/14/03

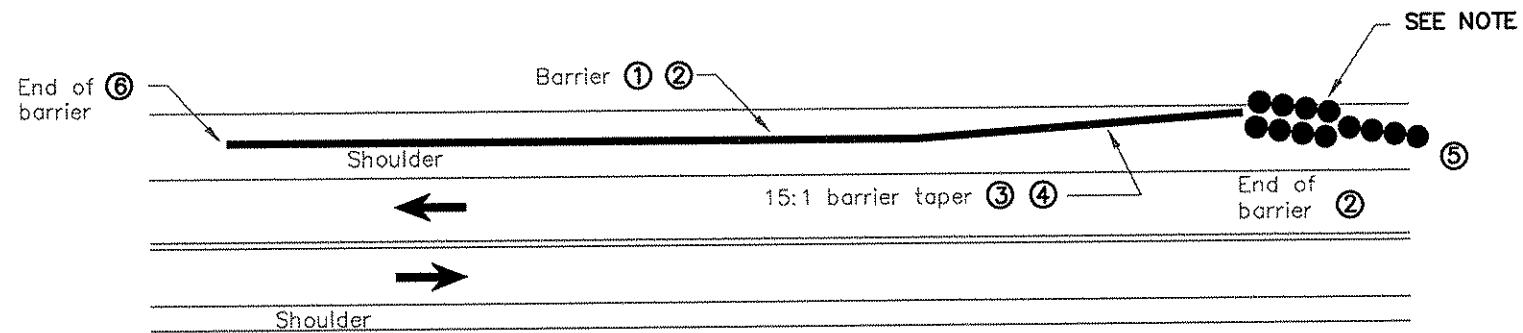


ANOKA COUNTY
 HIGHWAY DEPT.

STATE PROJECT NO. _____
 STATE AID PROJECT NO. 02-609-12
 CITY PROJECT NO. 198-020-17
 COUNTY PROJECT NO. _____

STAGING
 SIGN QUANTITIES
 Sheet 54 of 165 Sheets

PORTABLE CONCRETE BARRIER PLACEMENT



① It is desirable to maintain full shoulder width whenever possible. If not possible, minimum desirable lateral offsets are based on the following speeds:

- 60MPH - 8.0 ft.
- 50MPH - 6.5 ft.
- 40MPH - 5.0 ft.

For restricted conditions, lesser offsets may be used. The offsets should be a minimum of 2 ft. unless the conditions are extreme. Lateral offsets are measured to the bottom of the barrier. Barrier offset from edge of through lane should not exceed 15 ft.

② Desirable treatments for exposed barrier ends are: a connection to existing barrier; impact attenuator; taper away to the edge; the clear zone; and extending through a plate beam guardrail by removing panel.

For posted speeds 30MPH or less, the tapering away from traffic is desirable and use of impact attenuator are optional.

③ A 10:1 taper may be used when posted speed limit is 35MPH or less.

④ If the barrier is to be extended beyond the shoulder, additional fill will be needed in order to provide a flat (10:1) 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 2 FT. from the edge of the through 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.

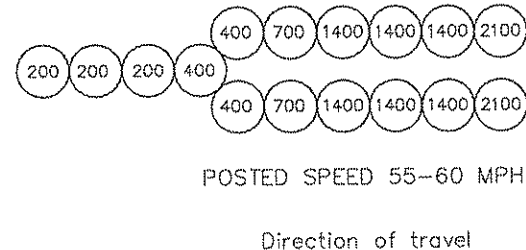
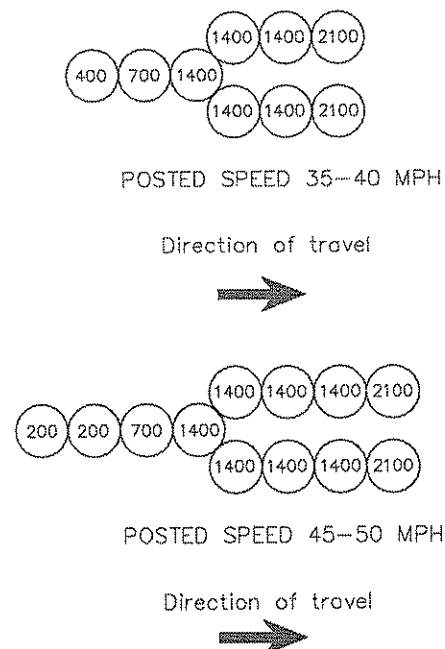
⑥ For Two-Lane Two Way traffic both ends of the barrier should be treated in the same manner as described in ②

NOTE:

At the direction of the Engineer, other approved impact attenuates can be substituted in lieu of the sand barrels especially where redirection is desired or at width restriction area.

* See M.U.T.C.D. Manual page 6F-49 figure VI-12b for shoulder fill details.

SAND FILLED BARREL ARRANGEMENT

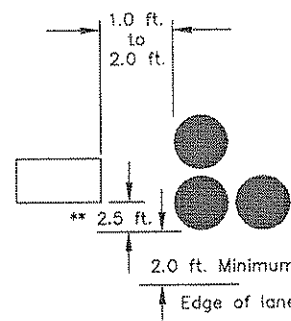


NOTE:

1. Numbers indicate standard module weights in pounds.
2. These arrangements meet the Energite Systems specifications.
3. See the manufacturer's specifications for the Fitch System.

See M.U.T.C.D. Manual page 6F-49 figure VI-12b for sand barrel details.

SAND BARREL OFFSETS



** Distance may be reduced to a minimum of 15 in. (1.25ft.) This is acceptable only where a greater offset would cause unacceptable interference with traffic.

PORTABLE CONCRETE BARRIER PLACEMENT AND END TREATMENTS

1	9-06-03	MFG	PML	PML	FINAL SHEET COMPLETED.
NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\0260912\PLAN\55 END TREATMENT.dwg 09/06/2003 04:05:03 PM CDT					

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.
 PRINT NAME: PETER M. LEMKE
 SIGNATURE: Peter M. Lemke
 DATE: 02/19/2003 REG. NO. 40118

DRAWN BY: RLB DATE: 02/19/03
 DESIGN BY: RLB DATE: 02/19/03
 CHECKED BY: PML DATE: 9/06/03



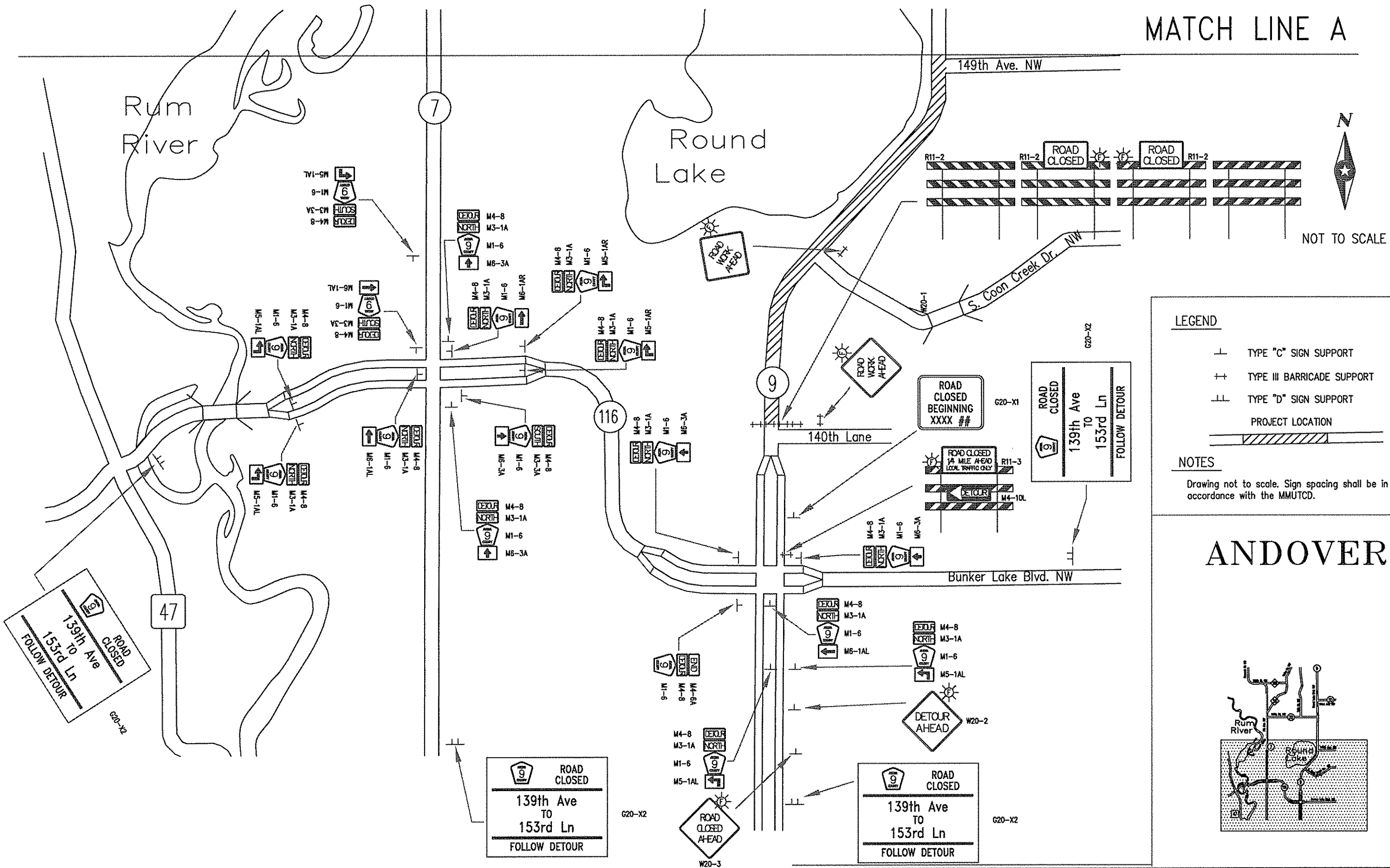
**ANOKA COUNTY
HIGHWAY DEPT.**

STATE PROJECT NO. _____
 STATE AID PROJECT NO. 02-609-12
 CITY PROJECT NO. 198-020-17
 COUNTY PROJECT NO. _____

**TRAFFIC CONTROL
BARRIER AND ATTENUATOR
DETAILS**

Sheet 55 of 165 Sheets

MATCH LINE A

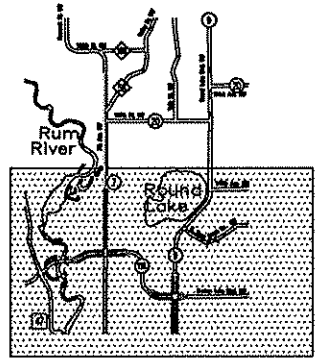


LEGEND

- + TYPE "C" SIGN SUPPORT
- ++ TYPE III BARRICADE SUPPORT
- TYPE "D" SIGN SUPPORT
- PROJECT LOCATION

NOTES
 Drawing not to scale. Sign spacing shall be in accordance with the MMUTCD.

ANDOVER




1	9-08-03	RLB	PML	PML	FINAL SHEET COMPLETED
NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\0266912\PLAN\56-5B DETOUR.dwg 09/06/2003 09:33:15 AM CDT MN.					

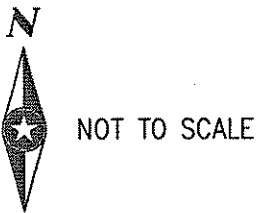
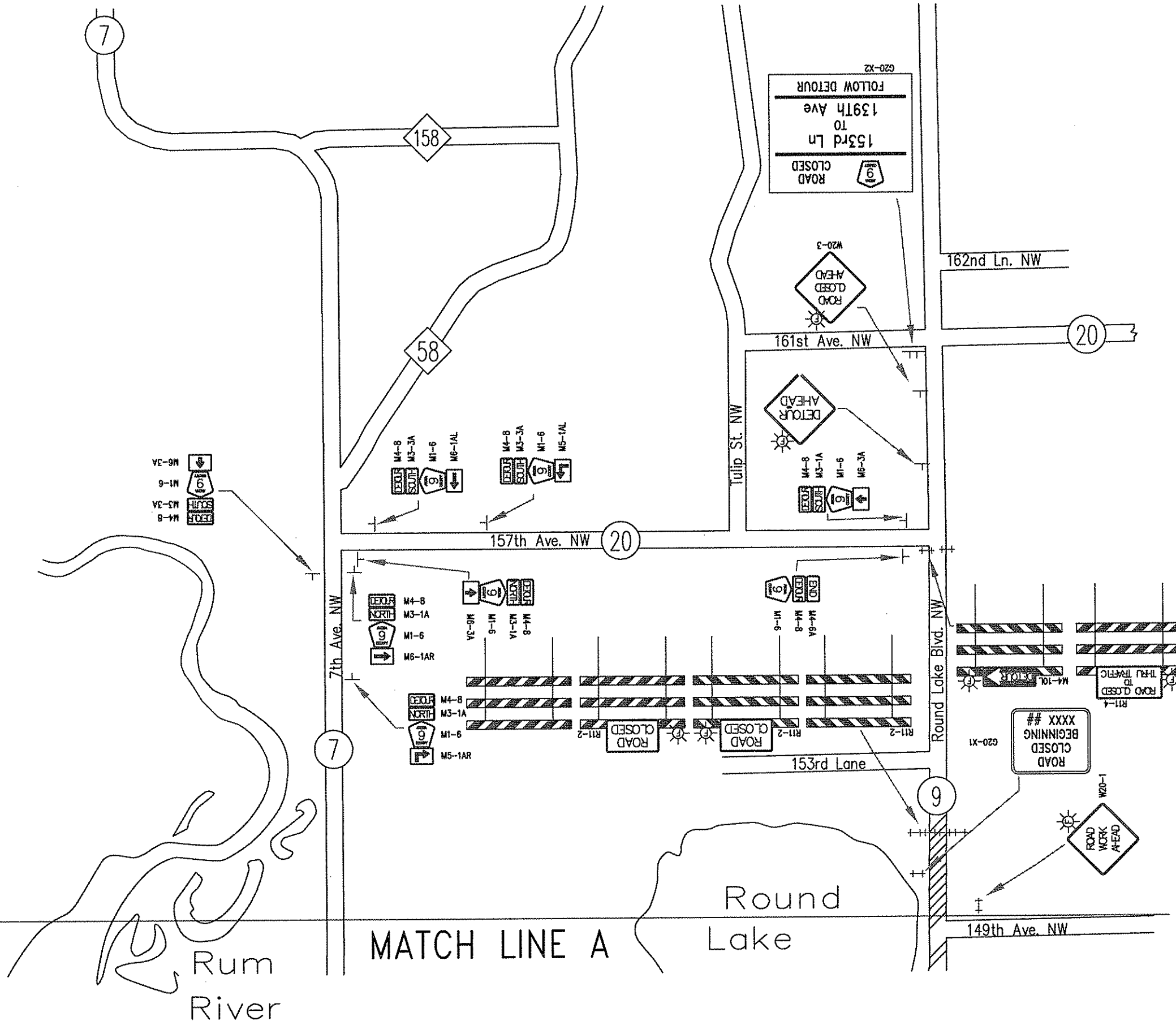
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 PRINT NAME: PETER M LEMKE
 SIGNATURE: *Peter M Lemke*
 DATE: 9/05/03 REG. NO. 40118

DRAWN BY: RLB DATE: 9/05/03
 DESIGN BY: RLB DATE: 9/05/03
 CHECKED BY: PML DATE: 9/05/03

ANOKA COUNTY HIGHWAY DEPT.



STATE PROJECT NO. _____
 STATE AID PROJECT NO. 02-609-12
 CITY PROJECT NO. 198-020-17
 COUNTY PROJECT NO. _____



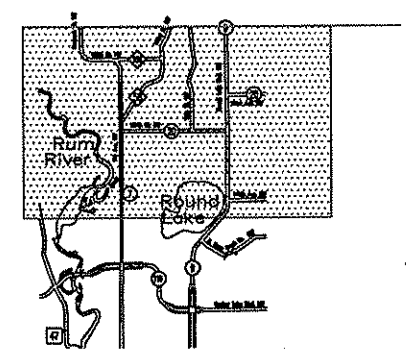
LEGEND

- ⊥ TYPE "C" SIGN SUPPORT
- ++ TYPE III BARRICADE SUPPORT
- ⊥⊥ TYPE "D" SIGN SUPPORT
- ▨ PROJECT LOCATION

NOTES

Drawing not to scale. Sign spacing shall be in accordance with the MMUTCD.

ANDOVER



1	9-08-03	RLB	PML	PML	FINAL SHEET COMPLETED
NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\0260912\PLAN\56-58 DETOUR.dwg 09/06/2003 09:33:15 AM CDT MN.					

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.

PRINT NAME: PETER M. LEMKE
 SIGNATURE: *Peter M Lemke*
 DATE: 9/05/03 REG. NO. 40118




DRAWN BY: RLB DATE: 9/05/02
 DESIGN BY: RLB DATE: 9/05/02
 CHECKED BY: PML DATE: 9/05/02

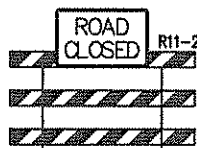
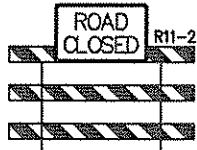


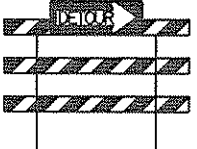

ANOKA COUNTY HIGHWAY DEPT.


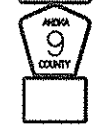


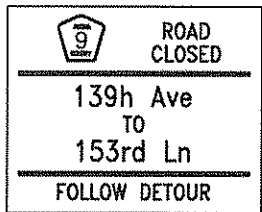
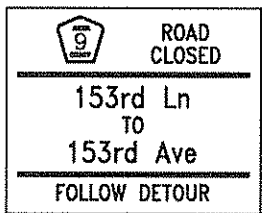


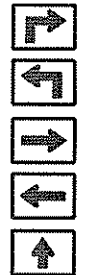
STATE PROJECT NO. _____
 STATE AID PROJECT NO. 02-609-12
 CITY PROJECT NO. 198-020-17
 COUNTY PROJECT NO. _____

DETOUR PLAN

Sheet 57 of 165 Sheets

MMUTCD CODE	SIZE	INSERT	QUANTITY
W20-1	48" x 48"		15
W20-2	48" x 48"		2
W20-3	48" x 48"		2

MMUTCD CODE	SIZE	INSERT	QUANTITY
R11-2 TYPE III	60" x 30" 8 FOOT		2 4
R11-2 TYPE III	60" x 30" 8 FOOT		2 4
R11-3 TYPE III M4-10L	60" x 30" 8 FOOT 48" x 18"		1 1
R11-4 TYPE III	60" x 30" 8 FOOT		1 1
M4-10R TYPE III	48" x 18" 8 FOOT		1 1
TYPE "A" FLASHER	-		26

MMUTCD CODE	SIZE	INSERT	QUANTITY
M4-8A M3-3A	24" x 12" 24" x 12"		2
M1-6 VAR.	24" x 24" 21" x 15"		2 3
M5-1AL M6-1AL M6-3A			2 2 3
G20-X1	60" x 48"		2
G20-X2	132" x 108"		7
G20-X2	132" x 108"		1
M4-6A M4-8A M1-6	24" x 12" 24" x 12" 24" x 24"		2
M4-8A M3-1A M1-6 VAR.	24" x 12" 24" x 12" 24" x 24" 21" x 15"		3 4 2 2 4
M5-1AR M5-1AL M6-1AR M6-1AL M6-3A			3 4 2 2 4

DETOUR NOTES & GUIDELINES

GENERAL INFORMATION:

1. THE DEVICES IN THIS DETOUR PLAN WILL BE FURNISHED, INSTALLED, AND MAINTAINED UNLESS OTHERWISE NOTED.

ALL TRAFFIC CONTROL DEVICES AND SIGNING SHALL CONFORM TO THE MMUTCD, INCLUDING FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS, JANUARY 2001.

SIGNING:

1. ALL TRAFFIC CONTROL DEVICES OPEN TO TRAFFIC THAT ARE NOT CONSISTENT WITH TRAFFIC OPERATION SHALL BE COVERED, REMOVED OR REVISED.
2. WHEN SIGNS ARE INSTALLED, THEY SHALL BE MOUNTED AT THE PROPER HEIGHT AND LATERAL OFFSET AS DETAILED IN THE MMUTCD.
3. ALL ORANGE SIGNS SHALL BE MADE OF DIAMOND GRADE ORANGE REFLECTIVE SHEETING OR AN APPROVED SUBSTITUTE.
4. THE REMOVAL OF THE TEMPORARY SIGNS WILL BE COORDINATED TO ASSURE THAT THE FINAL SIGNS ARE INSTALLED AS NEEDED, OR TEMPORARY SIGNING WILL BE PROVIDED UNTIL THE FINAL SIGNING IS INSTALLED.
5. PERMANENT SIGNING IN ACCORDANCE WITH THE SIGNING PLANS SHALL BE INSTALLED IN THOSE AREAS WHERE CONSTRUCTION IS SUBSTANTIALLY COMPLETED AT THE DIRECTION OF THE ENGINEER AS THE SIGNS ARE NEEDED TO REGULATE, GUIDE, OR WARN TRAFFIC IN THE PROJECT AREA.
6. ALL G20-X1 (ROAD CLOSED BEGINNING MONTH DAY) SIGNS SHALL BE INSTALLED A MINIMUM OF SEVEN DAYS PRIOR TO ACTUAL DATE OF ROAD CLOSURE AND IMPLEMENTATION OF DETOUR SIGNING. SIGNS TO BE REMOVED AT THE TIME OF DETOUR INSTALLATION.

1	9-06-03	RLB	PML	PML	FINAL SHEET COMPLETED
NO	DATE	BY	CKD	APPR	REVISION
NAME:	P:\0260912\PLAN\56-58 DETOUR.dwg 09/06/2003 09:33:15 AM CDT MN.				

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.
 PRINT NAME: PETER M. LEMKE
 SIGNATURE: *Peter M. Lemke*
 DATE: 9/05/03 REG. NO. 40118

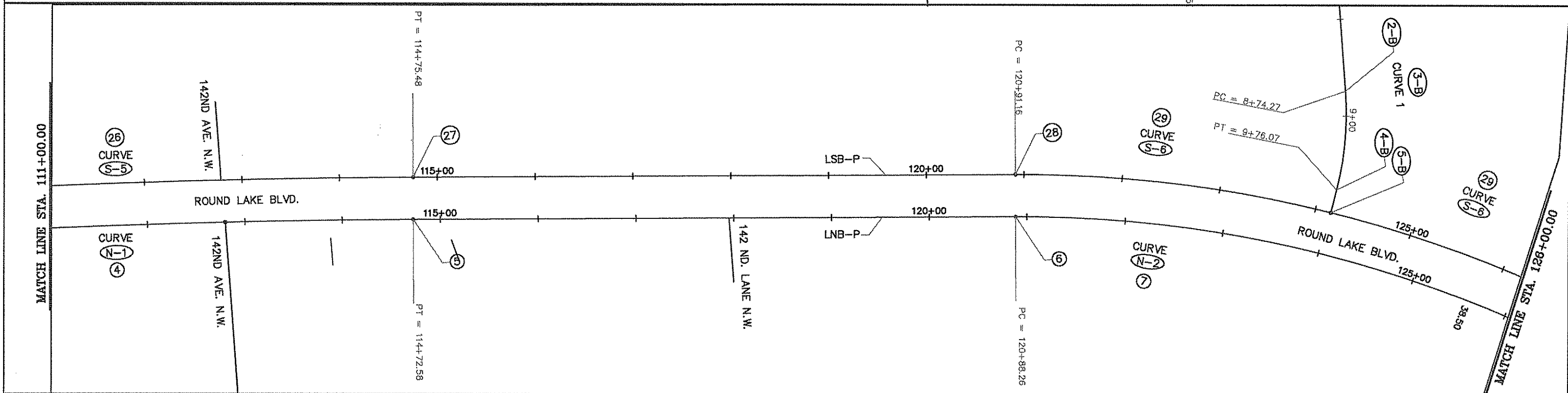
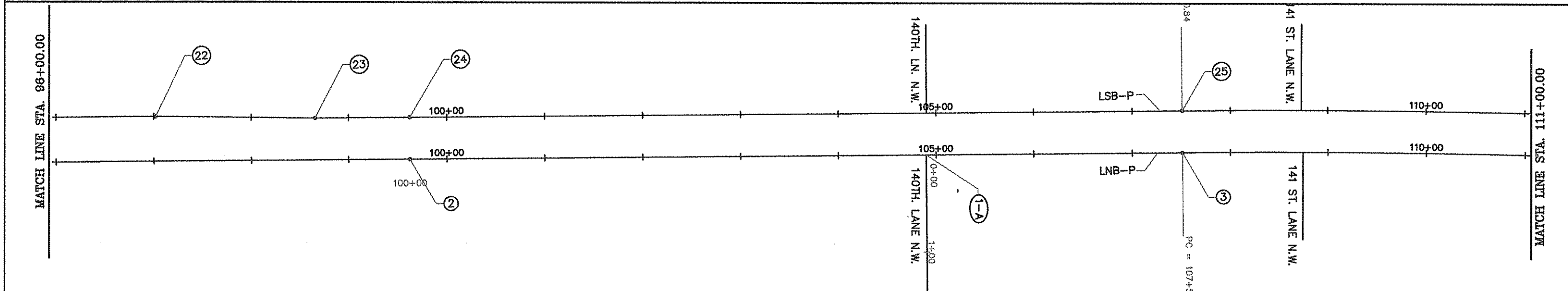
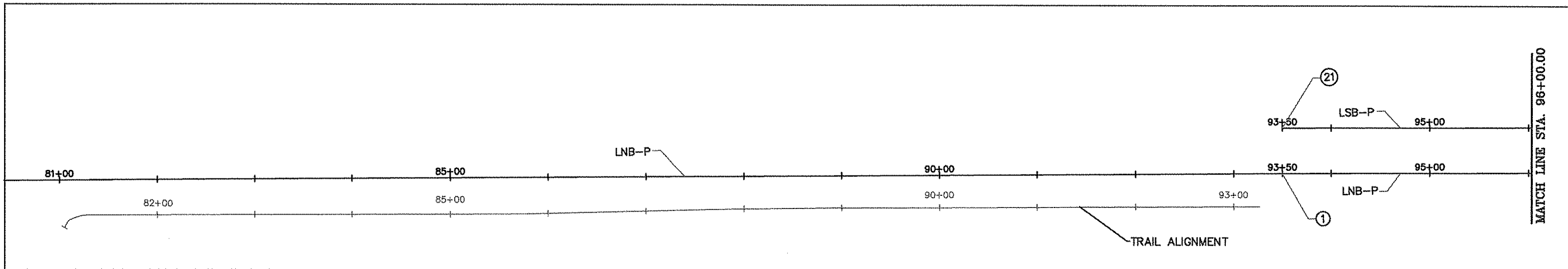
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 DESIGN BY: RLB DATE: 9/05/03
 CHECKED BY: PML DATE: 9/05/03



ANOKA COUNTY
 HIGHWAY DEPT.

STATE PROJECT NO. _____
 STATE AID PROJECT NO. 02-609-12
 CITY PROJECT NO. 198-020-17
 COUNTY PROJECT NO. _____

DETOUR
 TABULATIONS



NO	DATE	BY	CHKD	APPR	REVISION

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 PRINT NAME: Peter M. Lemke
 SIGNATURE: *Peter M. Lemke*
 DATE: 8/22/2003 LICENSE NO. 40118

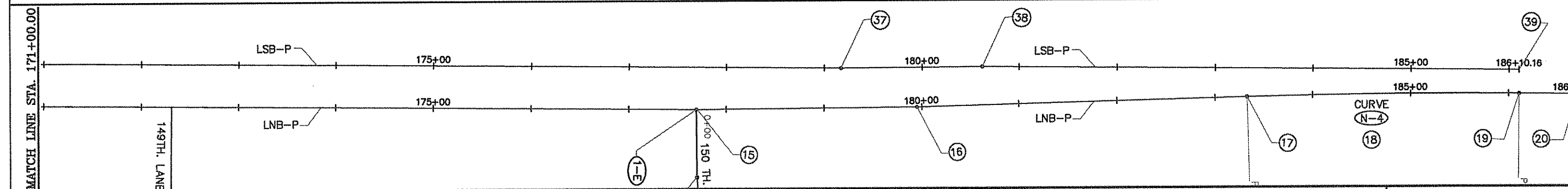
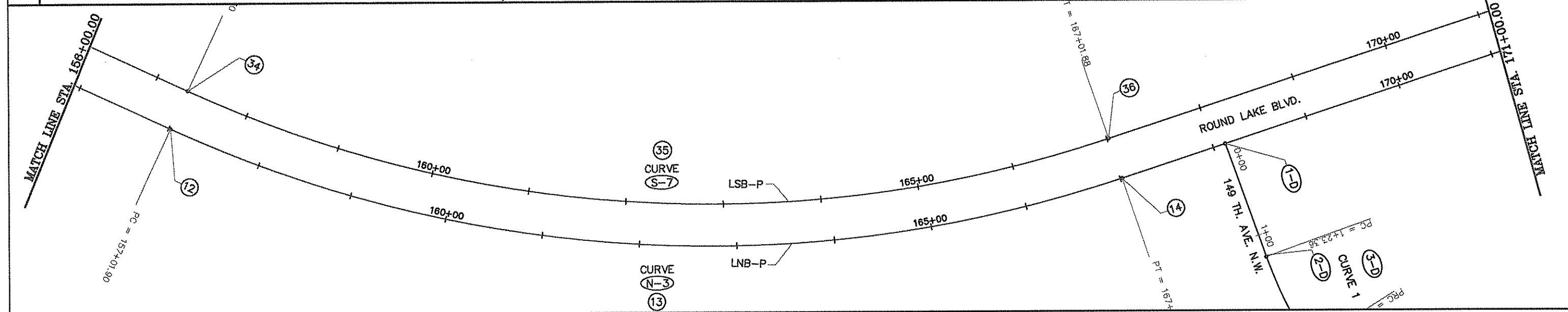
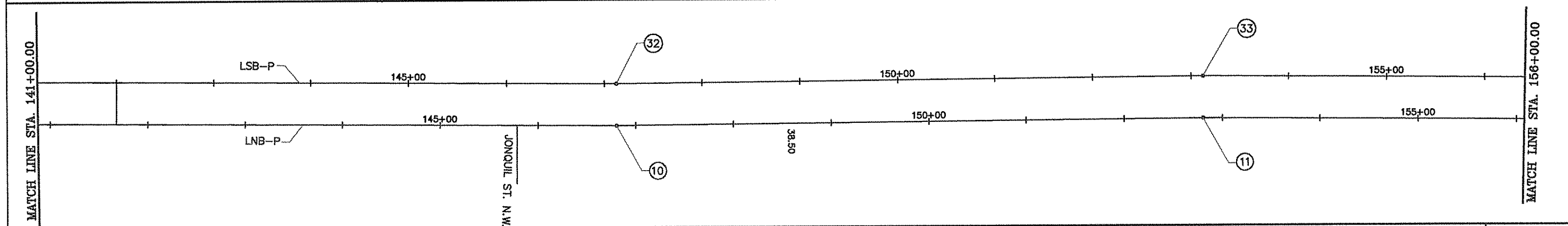
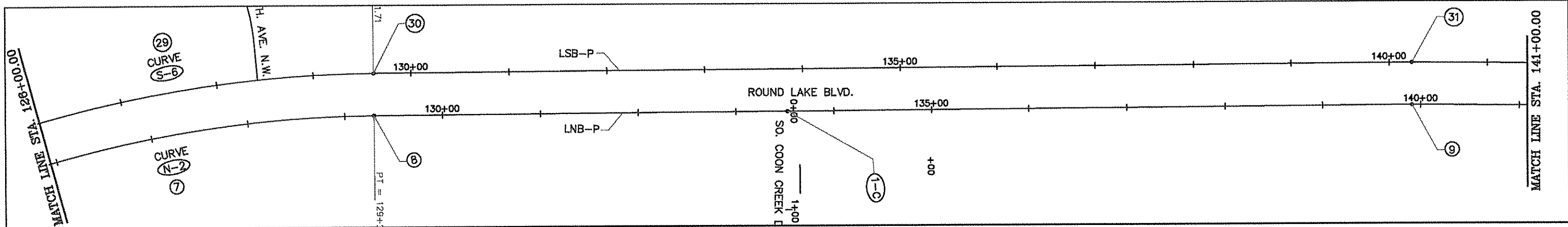
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 DESIGN BY: MN DATE: 02/22/02
 CHECKED BY: PM DATE: 4/10/03



**ANOKA COUNTY
 HIGHWAY DEPT.**

STATE PROJECT NO. _____
 STATE AID PROJECT NO. 02-609-12
 CITY PROJECT NO. 198-020-17
 COUNTY PROJECT NO. _____

ALIGNMENT PLAN
 STA. 81+06.50 TO 126+00
 Sheet 59 of 165 Sheets



NO	DATE	BY	CHKD	APPR	REVISION

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

PRINT NAME: Peter M. Lemke
 SIGNATURE: *Peter M. Lemke*
 DATE: 8/22/2003 LICENSE NO. 4011B

DRAWN BY: MN DATE: 02/22/02
 DESIGN BY: MN DATE: 02/22/02
 CHECKED BY: PML DATE: 4/10/03

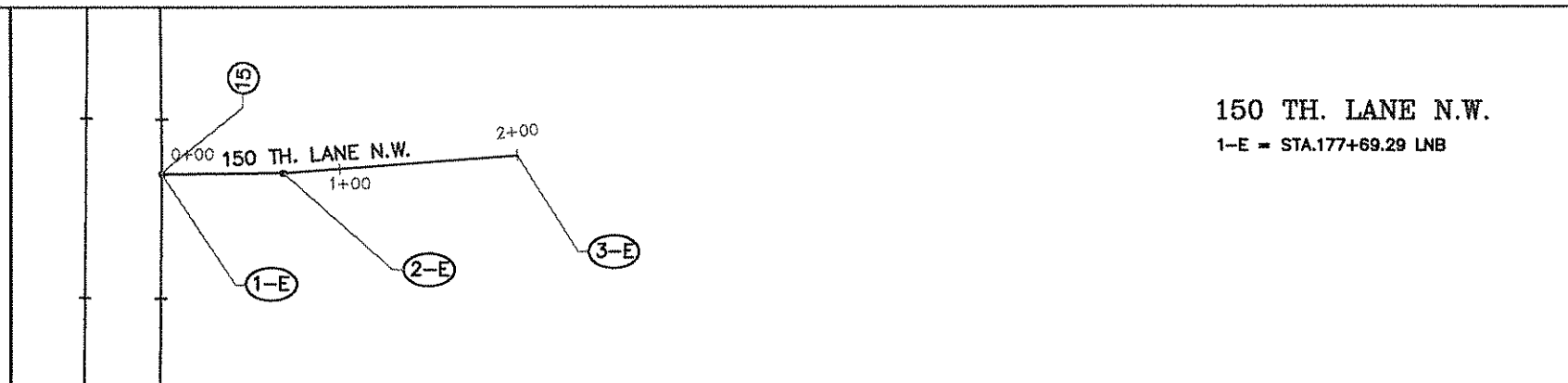


ANOKA COUNTY
 HIGHWAY DEPT.

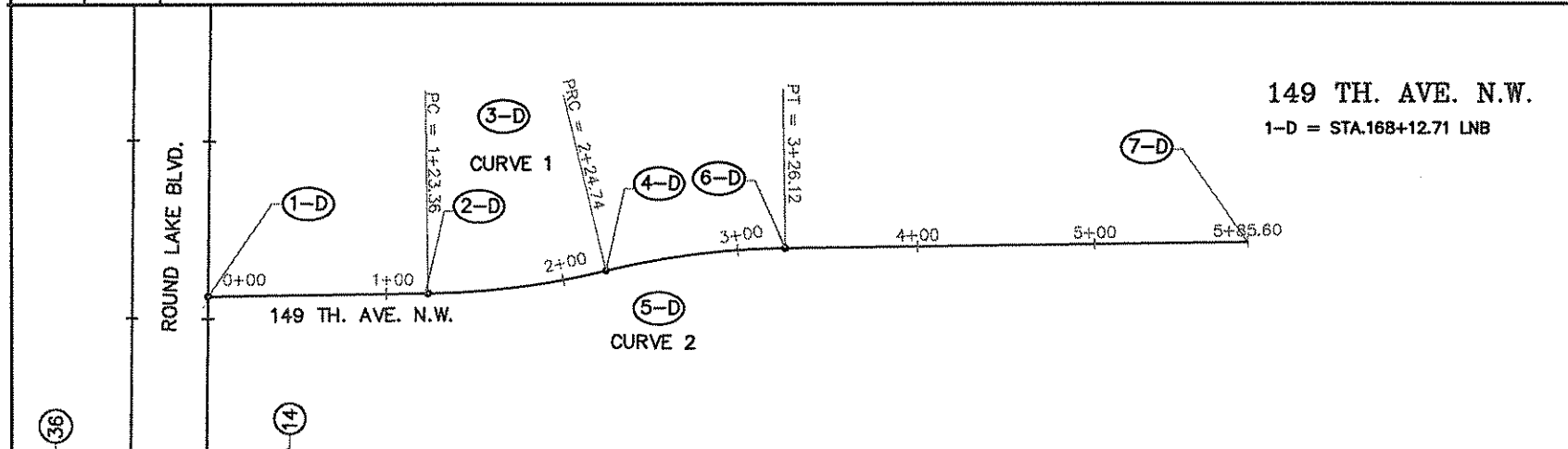
STATE PROJECT NO. _____
 STATE AID PROJECT NO. 02-609-12
 CITY PROJECT NO. 198-020-17
 COUNTY PROJECT NO. _____

ALIGNMENT PLAN
 STA. 126+00 TO 186+10.61
 Sheet 60 of 165 Sheets

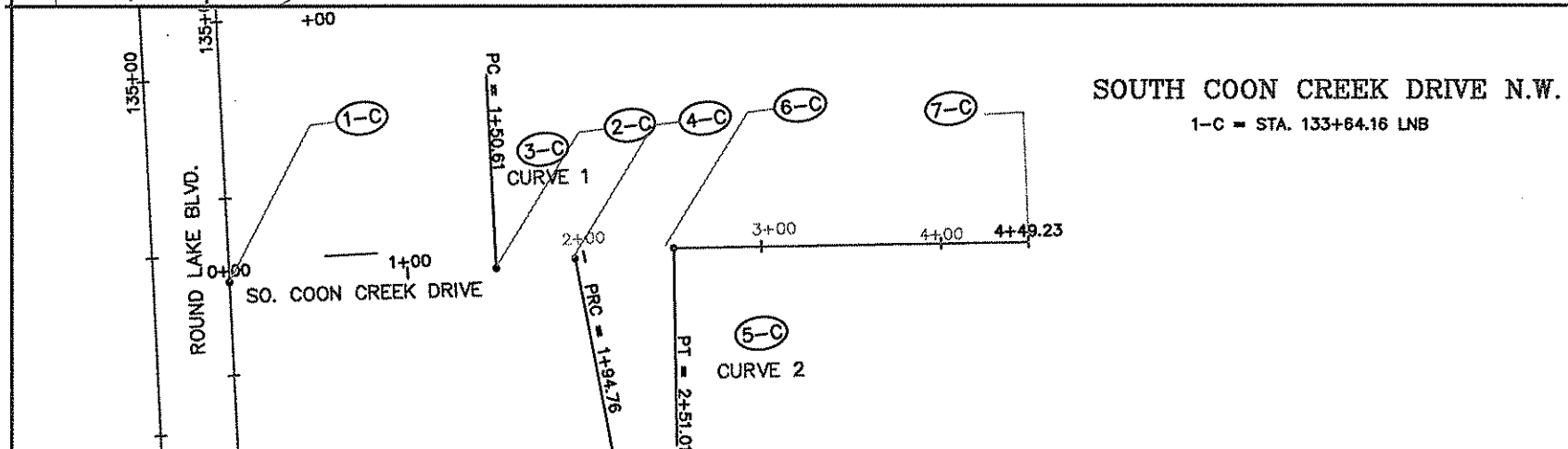
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CURVE NO.	POINT NO.	LOCATION	CURVE DATA					COORDINATES		
			COURSE	DELTA	RADIUS	TANGENT	LENGTH	NORTHING	EASTING	
LNB-P										
	1	PI	93+50.00	N 00-46-42 E				612.32	168516.553	476649.325
	2	PI	99+62.32	N 00-41-23 E	00-05-19			1149.55	169128.812	476657.645
	3	PC	107+50.88						169917.315	476667.137
N-1	4	PI	111+11.87	N 04-36-35 E		10548.50	360.99	721.17	170278.282	476671.483
	5	PT	114+72.58		03-55-12				170638.108	476700.496
	6	PC	120+88.26		00-22-15				171251.791	476749.978
N-2	7	PI	125+25.68	N 43-08-02 E	38-31-27	1251.74	437.42	841.64	171687.800	476785.133
	8	PT	129+29.89						172007.013	477084.203
	9	PI	139+91.04	N 43-55-09 E	00-47-07			689.12	172781.392	477809.717
	10	PI	146+80.16	N 42-57-52 E	00-57-17			600.08	173277.781	478287.723
	11	PI	152+80.25	N 43-55-09 E	00-55-17			947.03	173716.909	478696.706
	12	PC	157+01.90						174020.631	478989.180
N-3	13	PI	162+27.28	N 00-33-27 E	43-21-42	1321.50	525.38	1000.12	174399.070	479353.605
	14	PT	167+02.02						174924.423	479358.716
	15	PI	177+70.39	N 00-29-03 W	01-02-30			224.72	175992.646	479369.110
	16	PI	179+95.02	N 01-31-33 W				476.70	176217.362	479367.211
	17	PC	183+32.80						176555.028	479358.216
N-4	18	PI	184+71.72	N 00-33-28 E	02-05-01	7639.00	138.92	277.80	176693.894	479354.518
	19	PT	186+10.60					59.39	176832.803	479355.870
	20	PI	186+69.99						176892.162	479359.448
LSB-P										
	21	PI	93+50.00	N 00-46-52 E				352.11	168517.179	476603.314
	22	PI	97+02.11	N 01-49-45 E	01-02-54			163.59	168869.257	476608.114
	23	PI	98+65.70	N 00-46-42 E	01-03-03			96.61	169032.765	476613.335
	24	PI	99+62.31	N 00-41-23 E	00-05-19			1150.99	169129.363	476614.648
	25	PC	107+50.84						169917.833	476624.141
S-5	26	PI	111+13.30	N 04-36-35 E	3-55-12	10591.50	362.46	1430.59	170280.271	476628.504
	27	PT	114+75.48						170641.563	476657.635
	28	PC	120+91.16						171255.247	476707.117
S-6	29	PI	125+43.61	N 43-08-02 E	38-31-27	1294.74	453.66	1513.89	171706.234	476743.480
	30	PT	129+61.71						172036.413	477052.823
	31	PI	140+23.15	N 43-55-09 E	00-47-07			689.06	172811.006	477778.539
	32	PI	147+12.22	N 42-57-52 E	00-57-17			600.08	173307.350	478256.501
	33	PI	153+12.29	N 43-55-09 E	00-57-17			930.29	173746.477	478665.483
	34	PC	157+34.30						174050.458	478958.206
S-7	35	PI	162+42.60	N 00-33-27 E	43-21-42	1278.50	508.28	1723.45	174416.583	479310.773
	36	PT	167+01.88						174924.842	479315.718
	37	PI	179+17.05	N 00-23-51 W	00-57-17			145.02	176139.956	479327.641
	38	PI	180+62.07	N 00-33-28 E	00-57-17			548.09	176284.974	479326.535
	39	PI	188+10.16						176833.036	479331.871
CL-P 140TH. LANE N.W.										
	1-A	POT	0+00.00	S 89-20-28 E				400.22	169656.250	476663.994
	2-A	POT	4+00.22						169651.648	477064.192
CL-P 143 RD AVE. N.W.										
	1-B	POT	5+00.00	S 89-13-52 E				425.61	171602.822	476276.680
	2-B	PC	8+74.27						171597.799	476650.920
CURVE 1	3-B	PI	9+25.61	S 71-00-16 E	18-13-36	320.00	51.33	101.80	171597.110	476702.247
	4-B	PT	9+76.07					23.93	171580.402	476750.784
	5-B	POT	10+00.00	S 71-00-16 E					171572.614	476773.408
CL-P SO. COON CREEK DRIVE										
	1-C	POT	0+00.00	S 46-57-53 E				150.61	172315.512	477373.235
	2-C	PC	1+50.61						172213.145	477482.875
CURVE 1	3-C	PI	1+72.41	S 54-58-41 E	8-00-48	320.00	22.41	44.76	172197.848	477499.258
	4-C	PRC	1+94.76						172184.985	477517.614
CURVE 2	5-C	PI	2+22.96	S 44-54-18 E	10-04-23	320.00	28.20	56.26	172168.800	477540.710
	6-C	PT	2+51.01					198.18	172148.825	477560.619
	7-C	POT	4+49.23						172008.458	477700.521
CL-P 149TH. AVE. N.W.										
	1-D	POT	0+00.00	N 89-16-29 E				174.27	175035.108	479359.799
	2-D	PC	1+23.26					101.81	175036.659	479483.149
CURVE 1	3-D	PI	1+74.27	N 76-21-58 E	12-54-30	450.00	50.91		175037.314	479534.051
	4-D	PRC	2+24.74						175049.313	479583.524
CURVE 2	5-D	PI	2+75.65	N 89-16-29 E	12-54-30	450.00	50.91	310.38	175061.313	479632.996
	6-D	PT	3+26.12						175061.958	479683.899
	7-D	POT	5+85.60	N 89-16-29 E					175065.240	479943.350
CL-P 150TH. LANE N.W.										
	1-E	POT	0+00.00	N 89-30-57 E				68.49	175991.642	479369.118
	2-E	PI	0+68.49	N 85-46-42 E				131.44	175992.221	479437.610
	3-E	POT	2+00.00	N 85-46-42 E					176001.900	479568.745



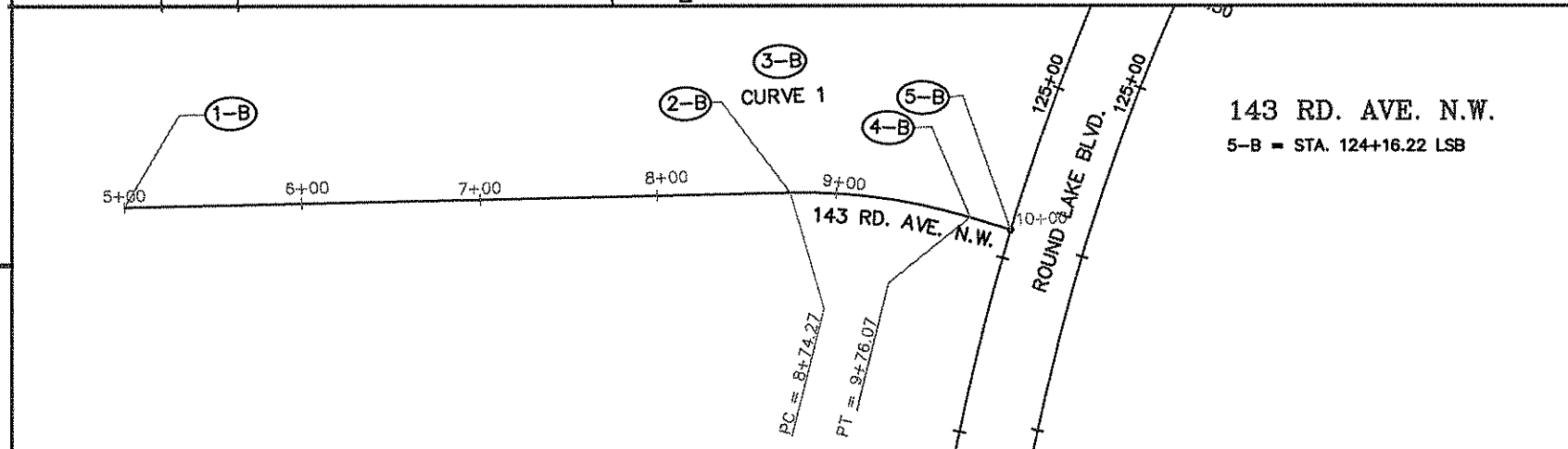
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1-E = STA.177+69.29 LNB



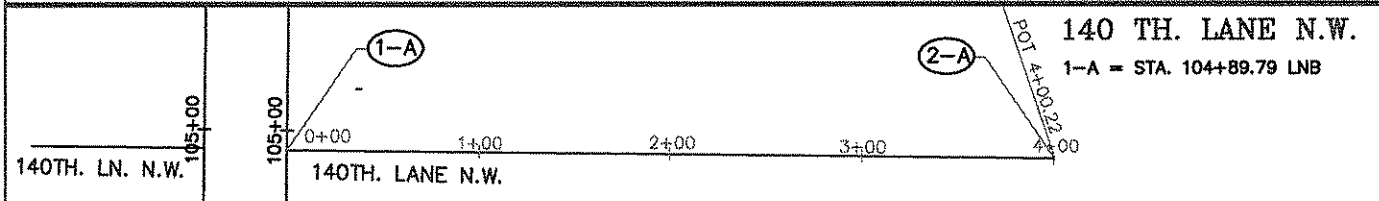
149 TH. AVE. N.W.
1-D = STA.168+12.71 LNB



SOUTH COON CREEK DRIVE N.W.
1-C = STA. 133+64.16 LNB



143 RD. AVE. N.W.
5-B = STA. 124+16.22 LSB

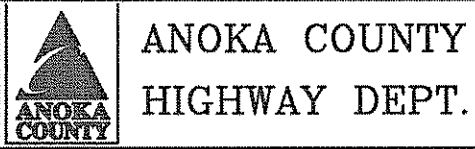


140 TH. LANE N.W.
1-A = STA. 104+89.79 LNB

NO	DATE	BY	CKD	APPR	REVISION

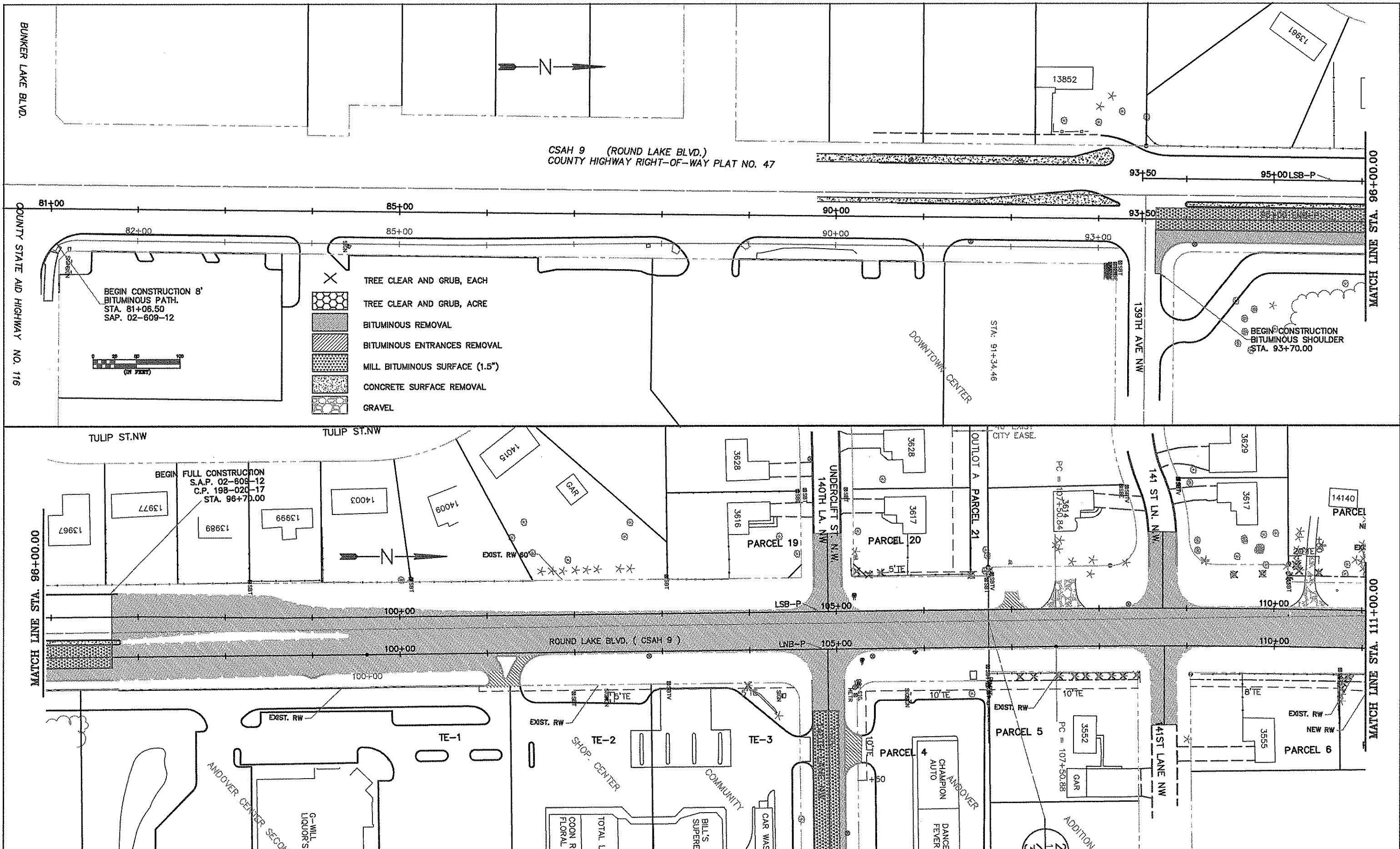
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
PRINT NAME: Peter M. Lemke
SIGNATURE: *Peter M. Lemke*
DATE: 8/22/2003 LICENSE NO. 40118

DRAWN BY: MN DATE: 02/19/02
DESIGN BY: MN DATE: 02/19/02
CHECKED BY: PML DATE: 4/10/03



STATE PROJECT NO. _____
STATE AID PROJECT NO. 02-609-12
CITY PROJECT NO. 198-020-17
COUNTY PROJECT NO. _____

ALIGNMENT PLAN AND TABULATION
Sheet 61 of 165 Sheets



NO	DATE	BY	CHKD	APPR	REVISION

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

PRINT NAME: **PETER M. LEMKE**
 SIGNATURE: *Peter M Lemke*
 DATE: **8/22/2003** LICENSE NO. **40118**

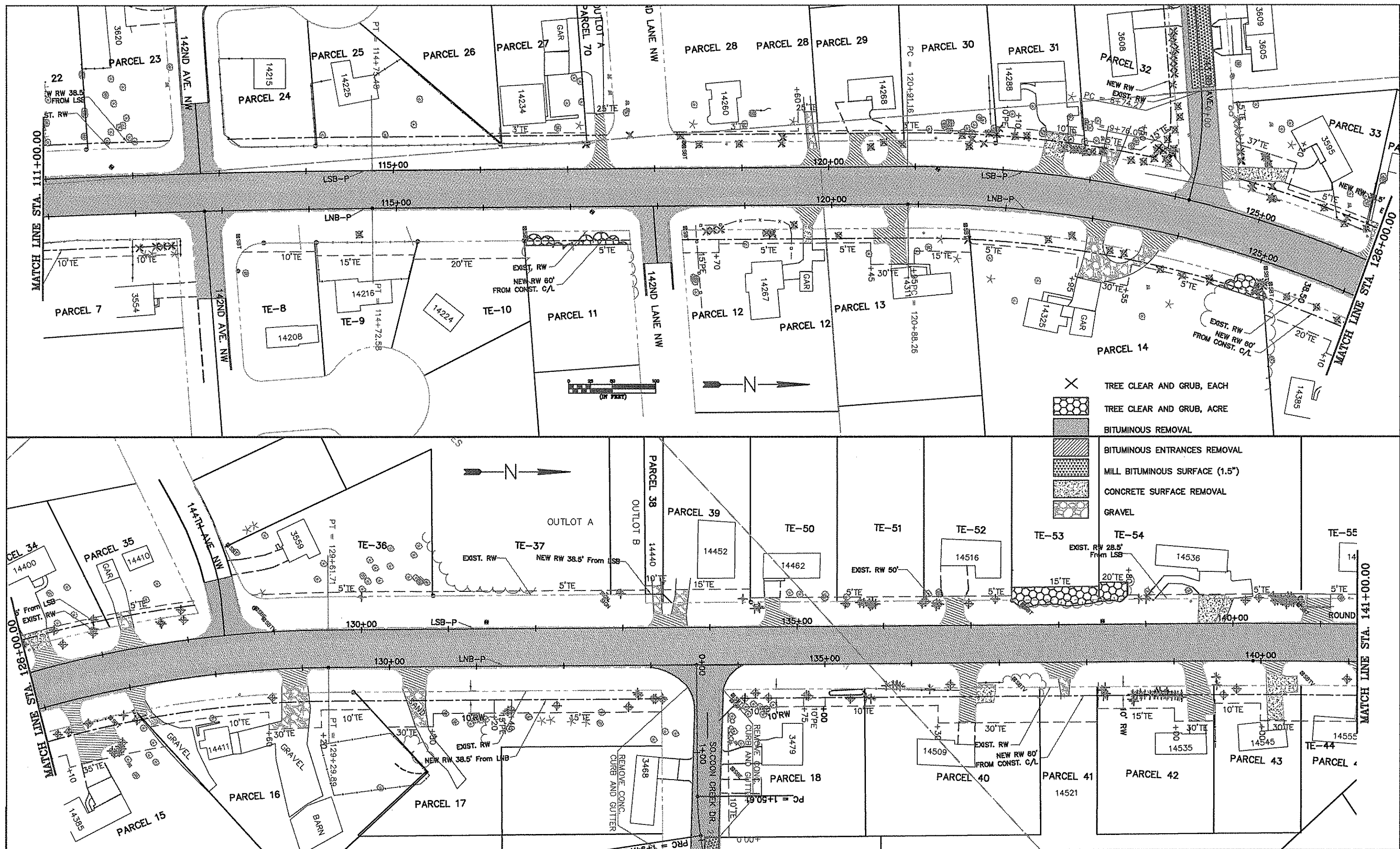
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 CHECKED BY: **PM** DATE **04/10/03**



**ANOKA COUNTY
HIGHWAY DEPT.**

STATE PROJECT NO. _____
 STATE AID PROJECT NO. **02-609-12**
 CITY PROJECT NO. **198-020-17**
 COUNTY PROJECT NO. _____

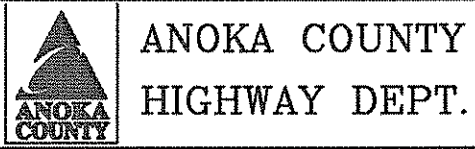
**EXISTING CONDITIONS
AND REMOVAL PLAN**
 STA. 81+06.50 TO 111+00
 Sheet **62** of **165** Sheets



- TREE CLEAR AND GRUB, EACH
- TREE CLEAR AND GRUB, ACRE
- BITUMINOUS REMOVAL
- BITUMINOUS ENTRANCES REMOVAL
- MILL BITUMINOUS SURFACE (1.5")
- CONCRETE SURFACE REMOVAL
- GRAVEL

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 PRINT NAME: PETER M. LEMKE
 SIGNATURE: *Peter M. Lemke*
 DATE: 8/22/2003 LICENSE NO. 40118

DRAWN BY: MN DATE 04/08/03
 DESIGN BY: MN DATE 04/08/03
 CHECKED BY: PMI DATE 04/10/03

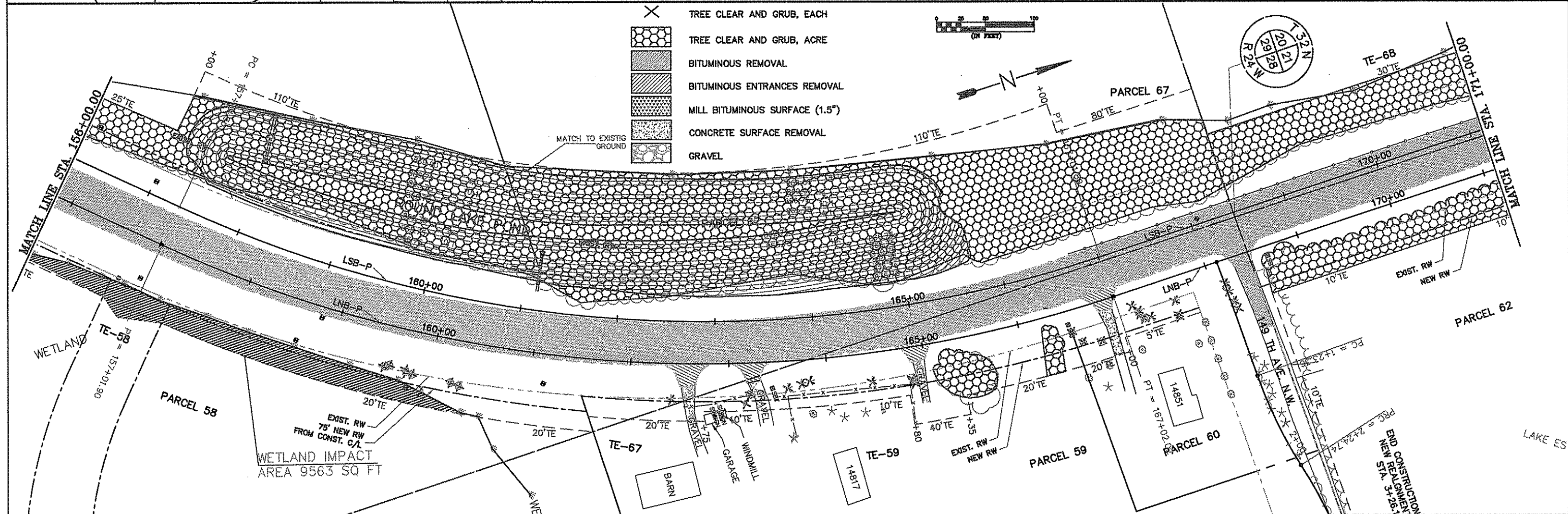
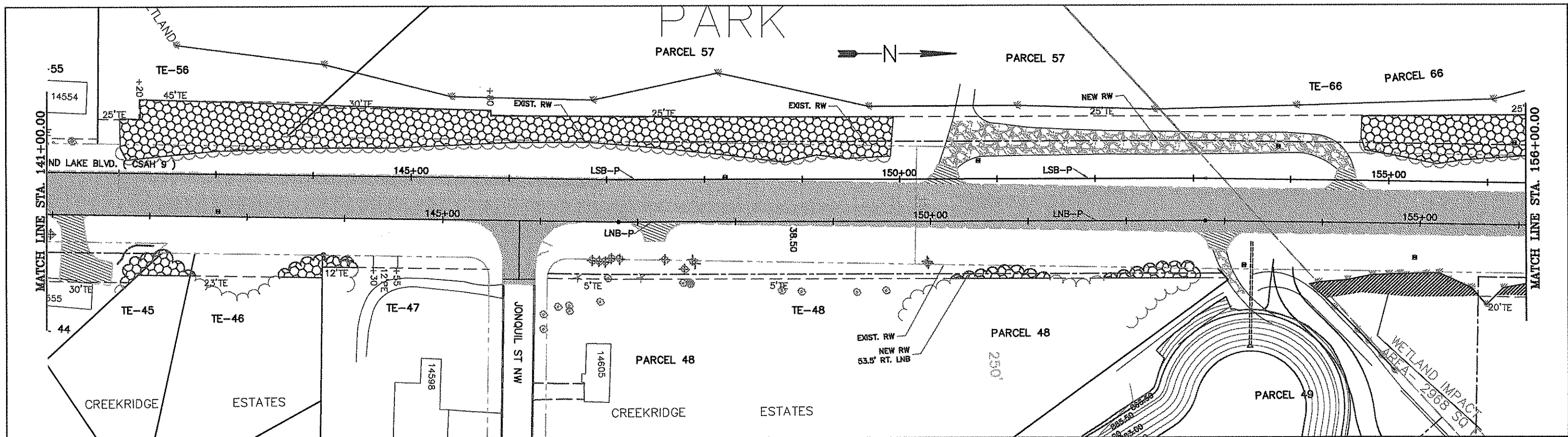


STATE PROJECT NO. _____
 STATE AID PROJECT NO. 02-609-12
 CITY PROJECT NO. 198-020-17
 COUNTY PROJECT NO. _____

EXISTING CONDITIONS AND REMOVAL PLAN
 STA. 111+00 TO 141+00
 Sheet 63 of 165 Sheets

NO	DATE	BY	CHKD	APPR	REVISION

NAME: P:\0260912\PLAN\20-27-Remov-Plan.DWG 08/25/2003 09:49:15 PM CBT



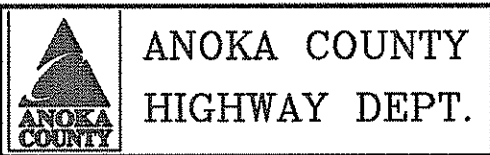
- TREE CLEAR AND GRUB, EACH
- TREE CLEAR AND GRUB, ACRE
- BITUMINOUS REMOVAL
- BITUMINOUS ENTRANCES REMOVAL
- MILL BITUMINOUS SURFACE (1.5")
- CONCRETE SURFACE REMOVAL
- GRAVEL

NO	DATE	BY	CHKD	APPR	REVISION

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

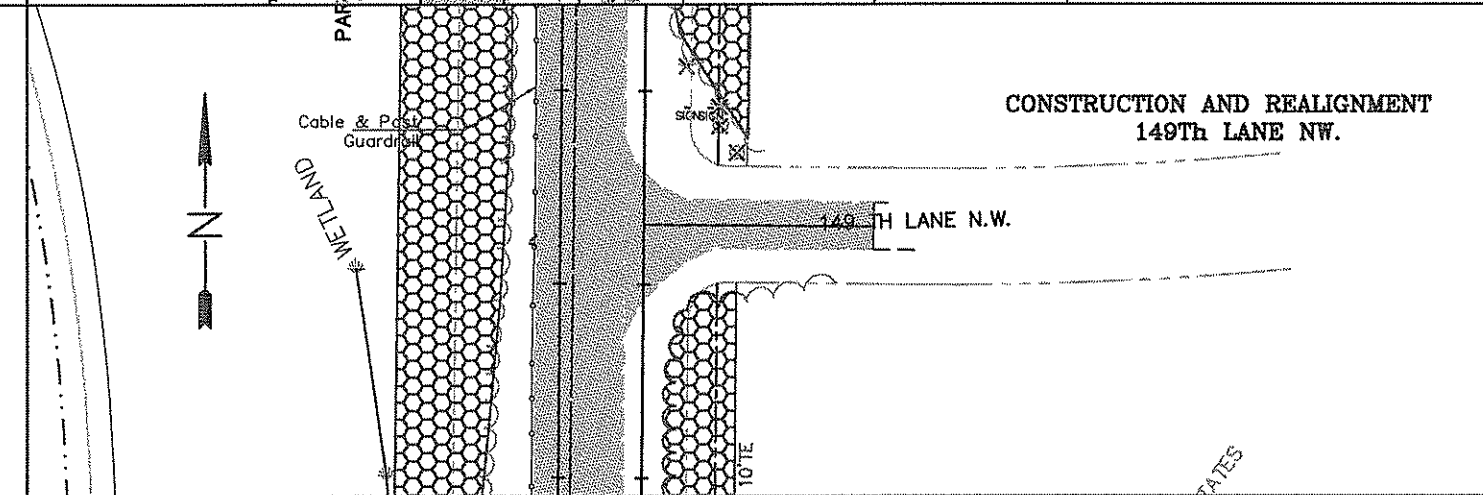
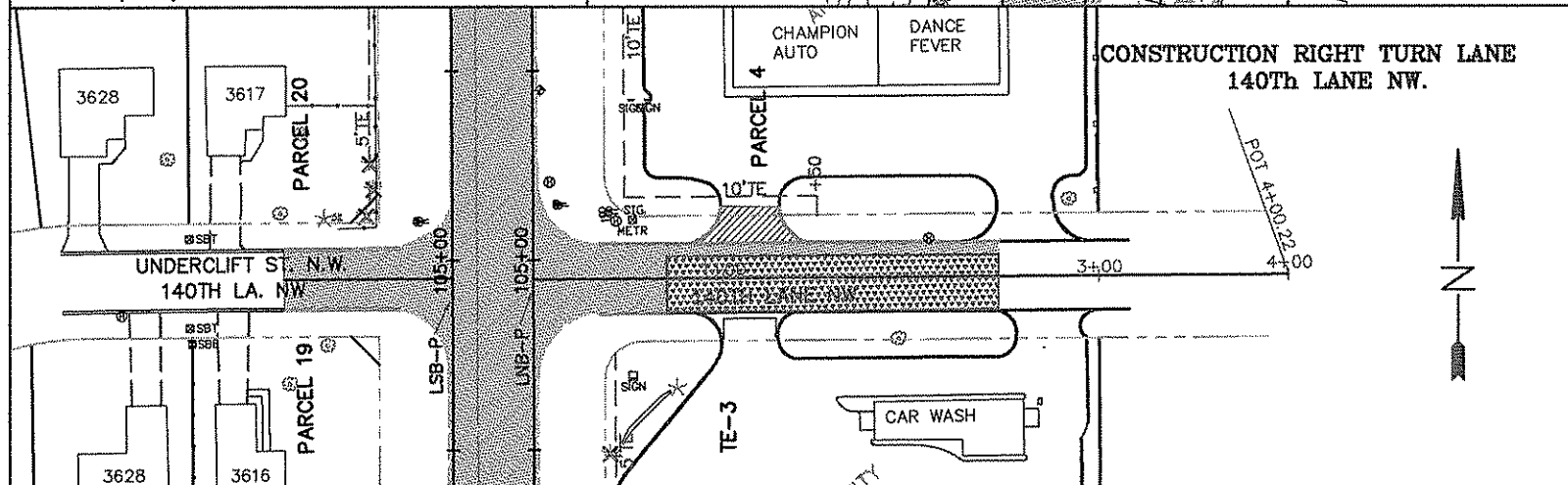
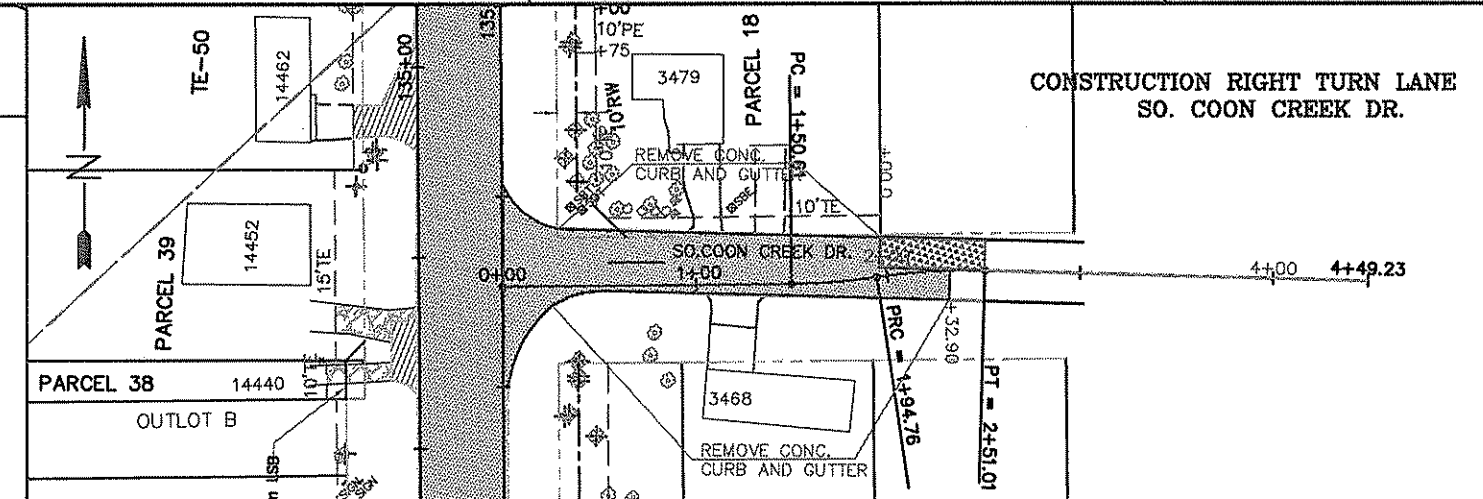
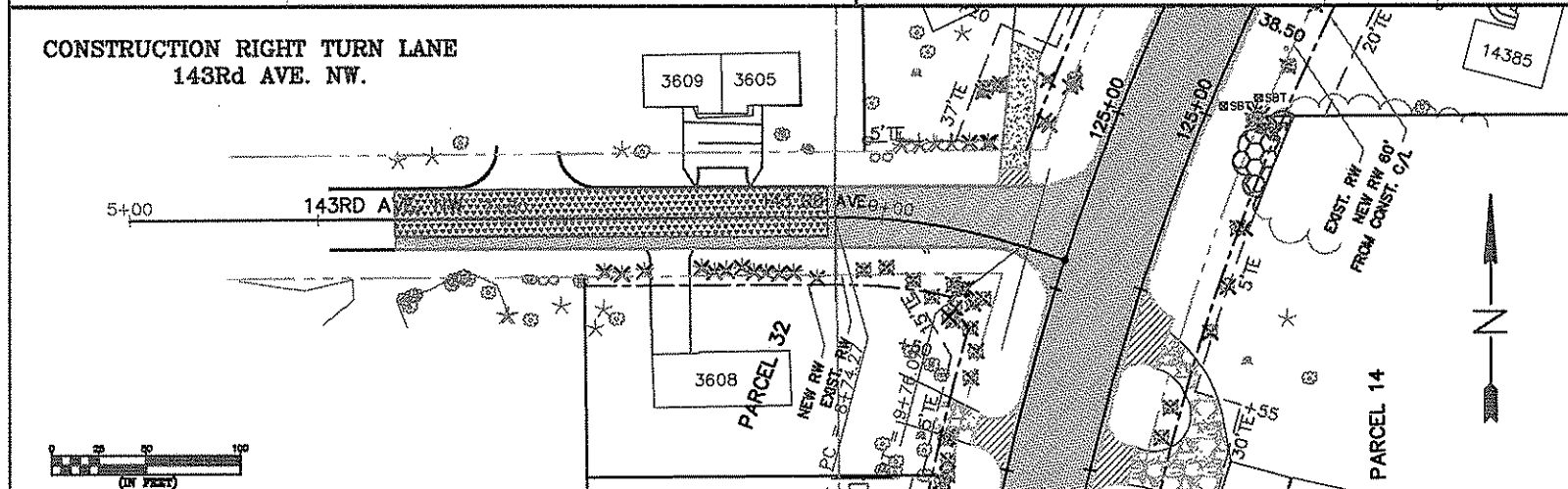
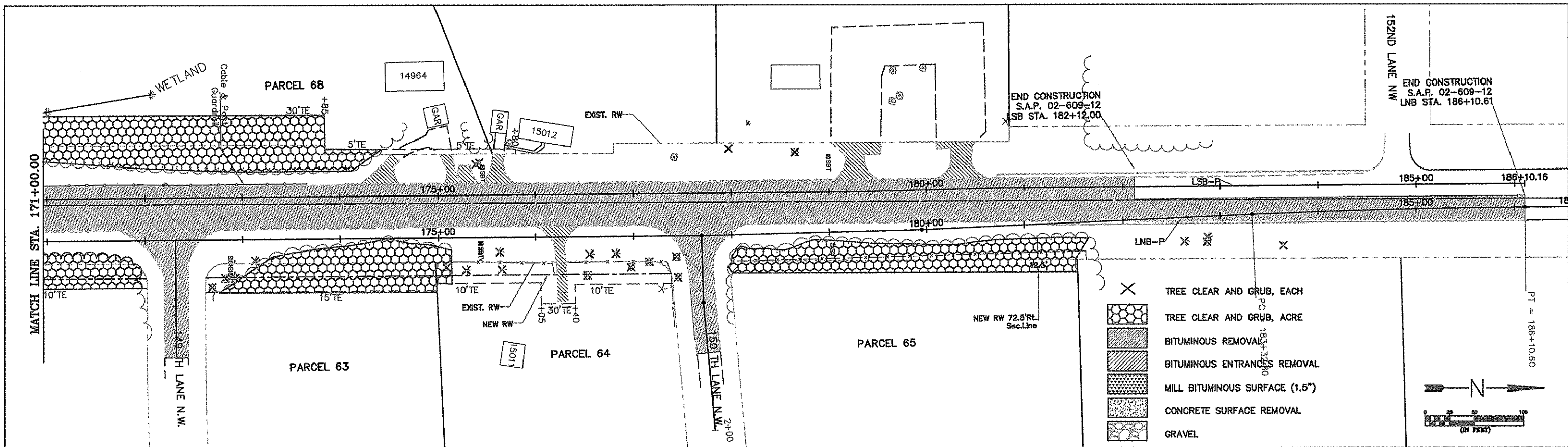
PRINT NAME: **PETER M. LEMKE**
 SIGNATURE: *Peter M. Lemke*
 DATE: **8/22/2003** LICENSE NO. **40118**

DRAWN BY: **MN** DATE **04/08/03**
 DESIGN BY: **MN** DATE **04/08/03**
 CHECKED BY: **PML** DATE **04/10/03**



STATE PROJECT NO. _____
 STATE AID PROJECT NO. **02-609-12**
 CITY PROJECT NO. **198-020-17**
 COUNTY PROJECT NO. _____

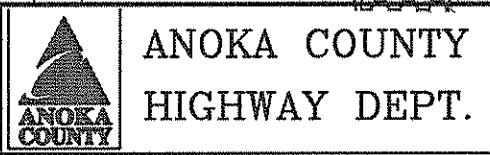
EXISTING CONDITIONS AND REMOVAL PLAN
 STA. 141+00 TO 171+00
 Sheet **64** of **165** Sheets



NO	DATE	BY	CHKD	APPR	REVISION

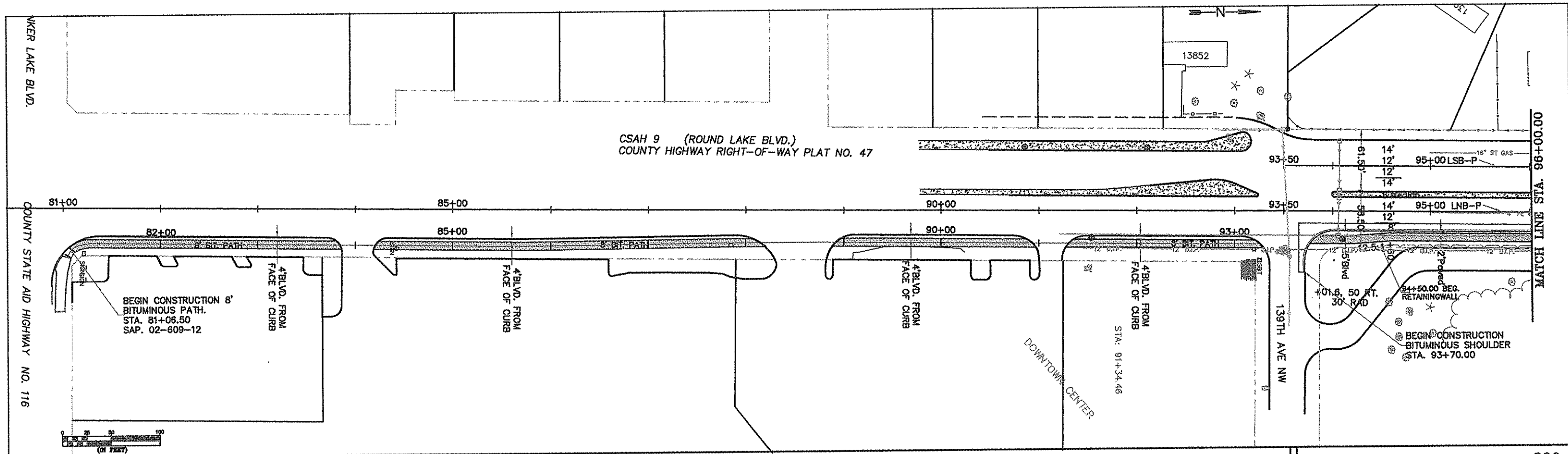
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 PRINT NAME: **PETER M. LEMKE**
 SIGNATURE: *Peter M. Lemke*
 DATE: **8/22/2003** LICENSE NO. **40118**

DRAWN BY: MN DATE 02/19/02
 DESIGN BY: MN DATE 02/19/02
 CHECKED BY: PML DATE 04/10/03

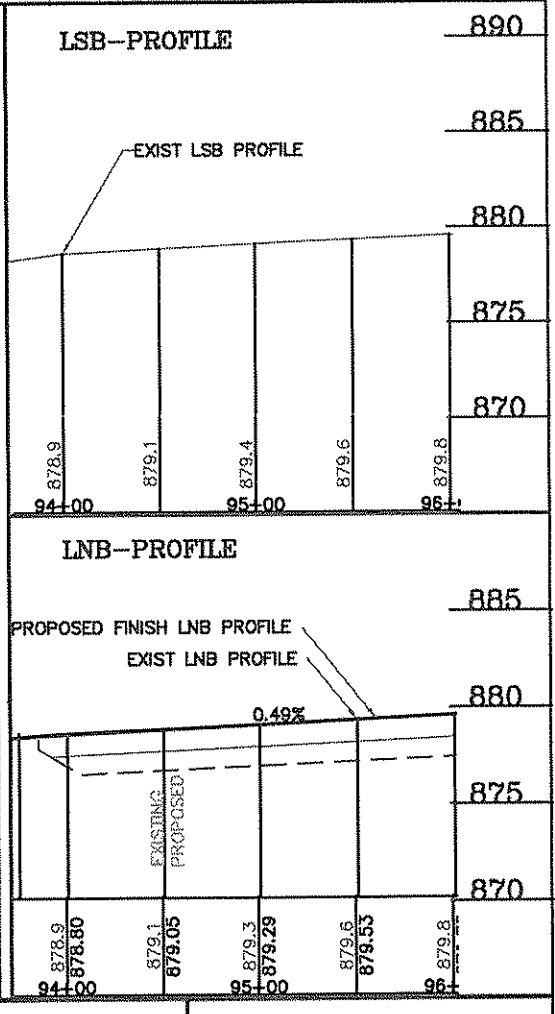
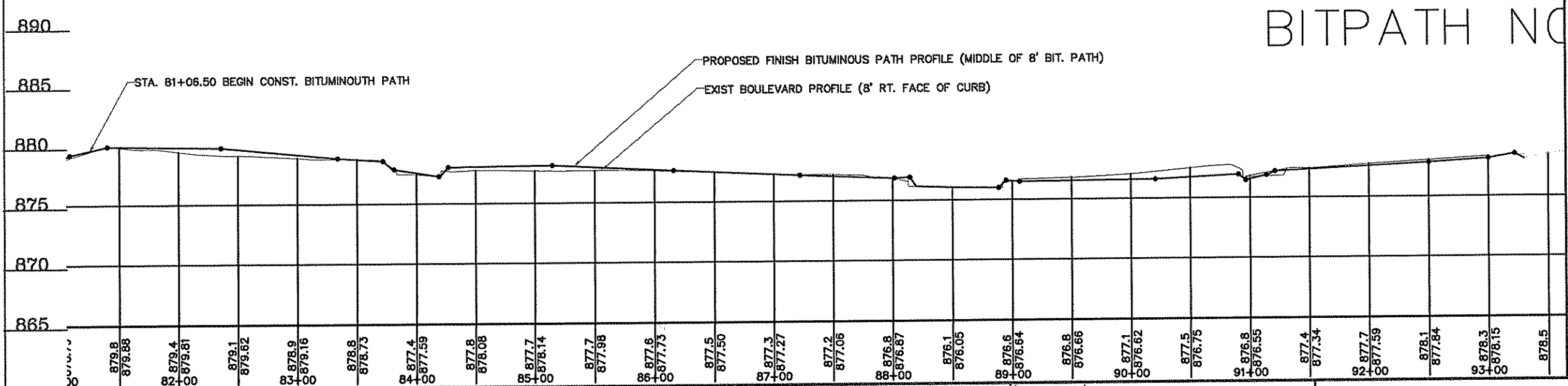


STATE PROJECT NO.
 STATE AID PROJECT NO. 02-609-12
 CITY PROJECT NO. 198-020-17
 COUNTY PROJECT NO.

EXISTING CONDITIONS AND REMOVAL PLAN
 STA. 171+00 TO 186+10
 Sheet 65 of 165 Sheets



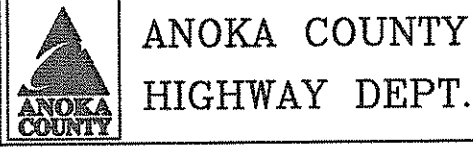
BITUMINOUS PATH PROFILE FROM STA. 81+06.50 TO 93+26.60



NO	DATE	BY	CKD	APPR	REVISION

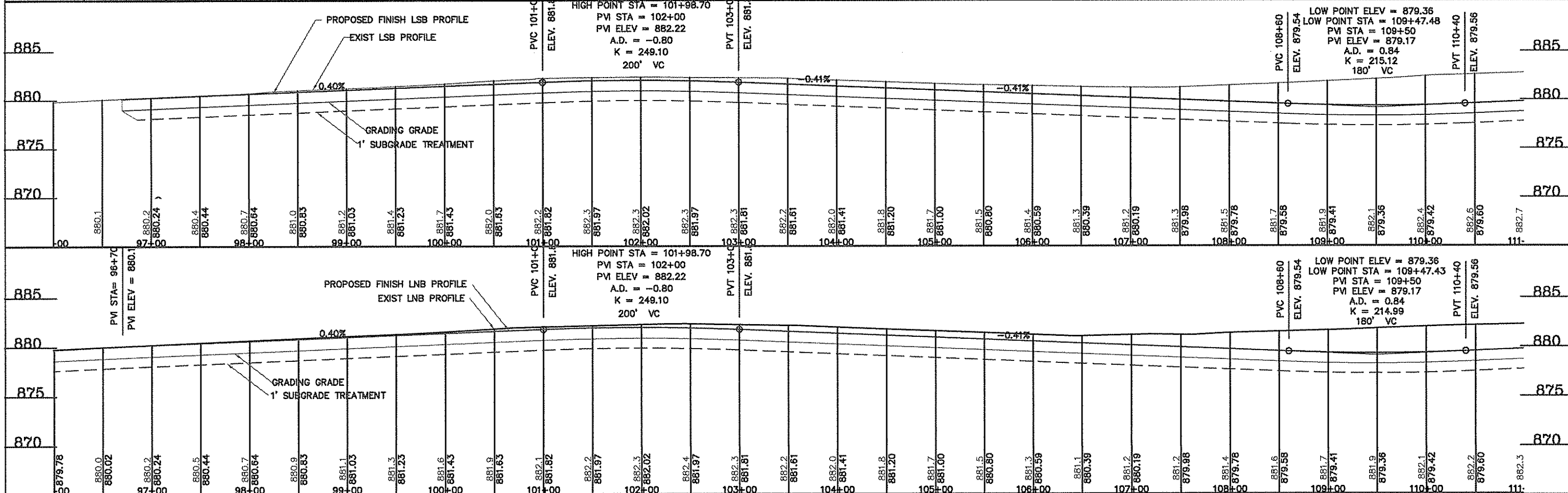
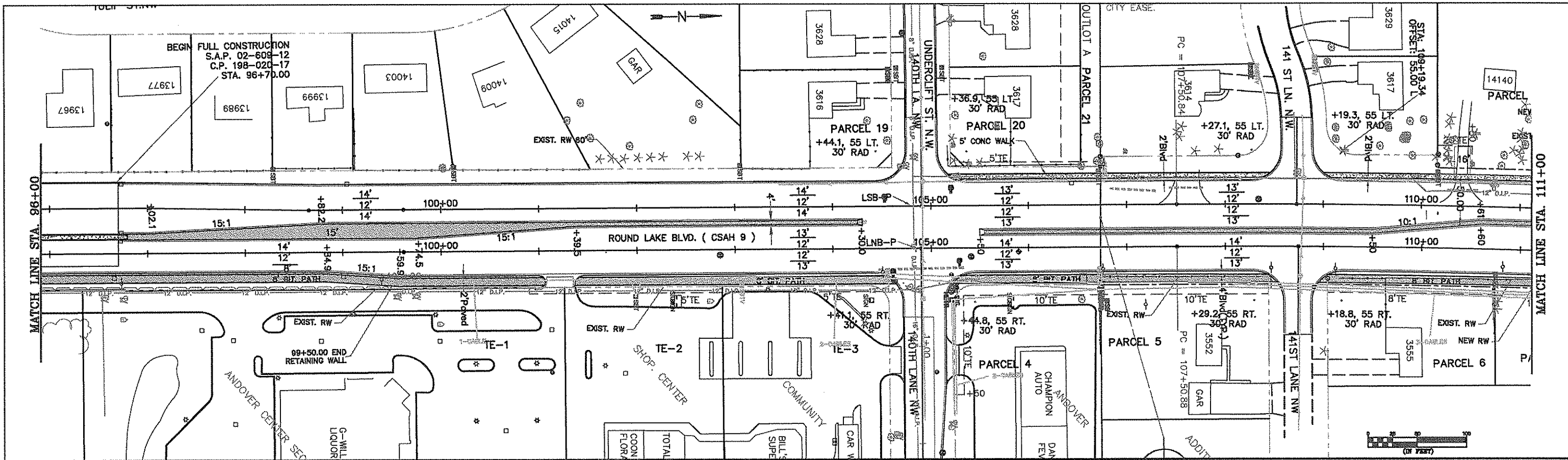
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 PRINT NAME: Peter M. Lemke
 SIGNATURE: *Peter M. Lemke*
 DATE: 8/22/2003 LICENSE NO. 40118

DRAWN BY: MN DATE: 04/10/03
 DESIGN BY: MN DATE: 04/10/03
 CHECKED BY: PML DATE: 08/22/03



STATE PROJECT NO. _____
 STATE AID PROJECT NO. 02-609-12
 CITY PROJECT NO. 198-020-17
 COUNTY PROJECT NO. _____

PLAN AND PROFILE
 STA. 81+06.50 TO 96+00
 Sheet 66 of 165 Sheets



NO	DATE	BY	CKD	APPR	REVISION

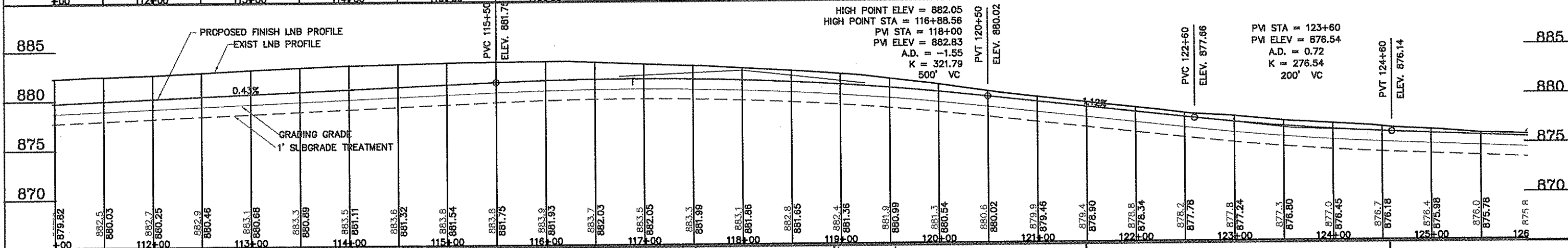
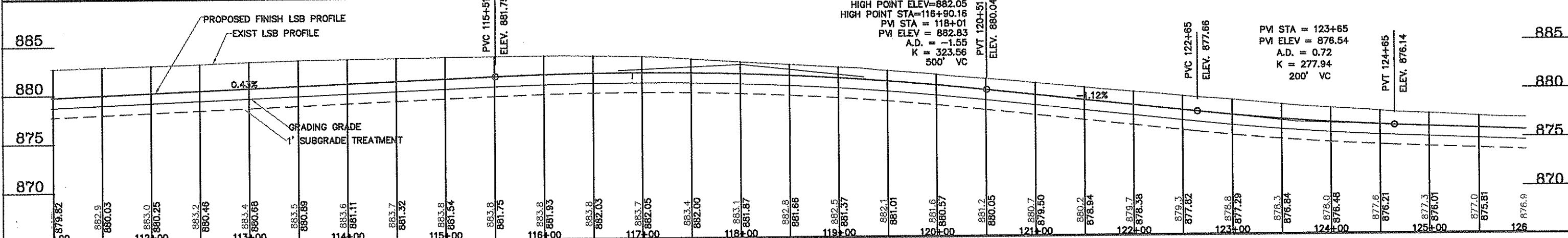
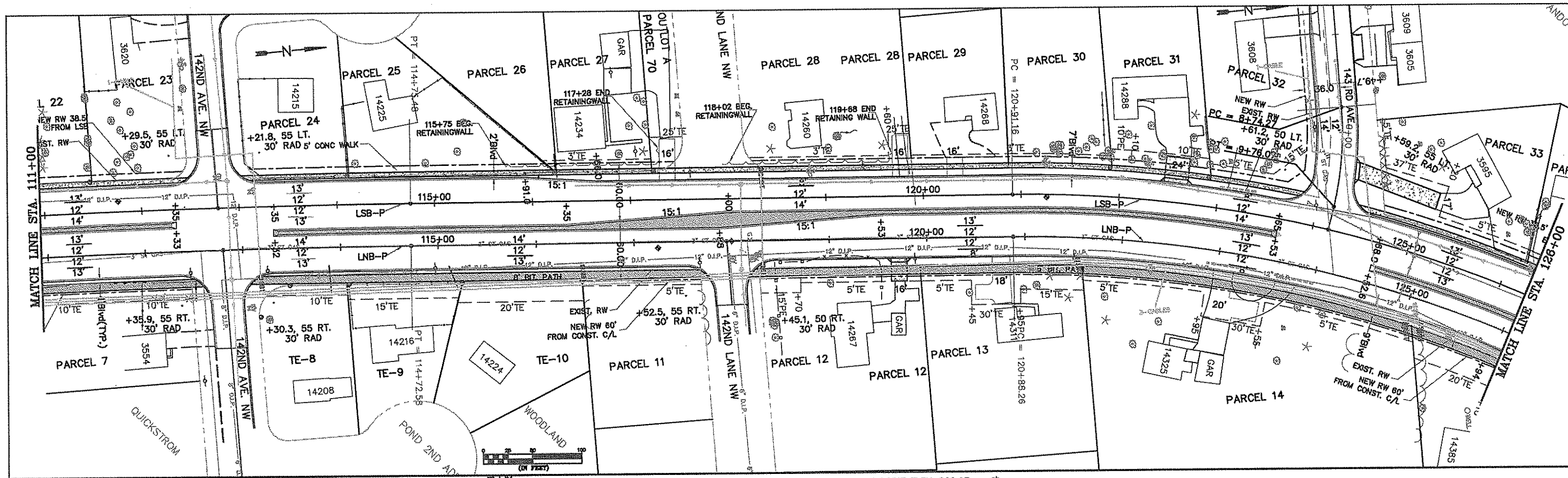
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 PRINT NAME: Peter M. Lemke
 SIGNATURE: *Peter M. Lemke*
 DATE: 8/22/2003 LICENSE NO. 40118

DRAWN BY: MN DATE 04/10/03
 DESIGN BY: MN DATE 04/10/03
 CHECKED BY: PML DATE 08/22/03

ANOKA COUNTY HIGHWAY DEPT.

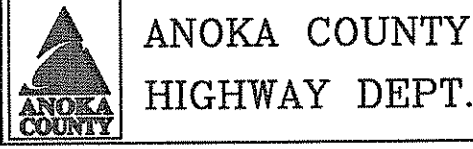
STATE PROJECT NO. _____
 STATE AID PROJECT NO. 02-609-12
 CITY PROJECT NO. 198-020-17
 COUNTY PROJECT NO. _____

PLAN AND PROFILE
 STA. 96+00 TO 111+00
 Sheet 67 of 165 Sheets



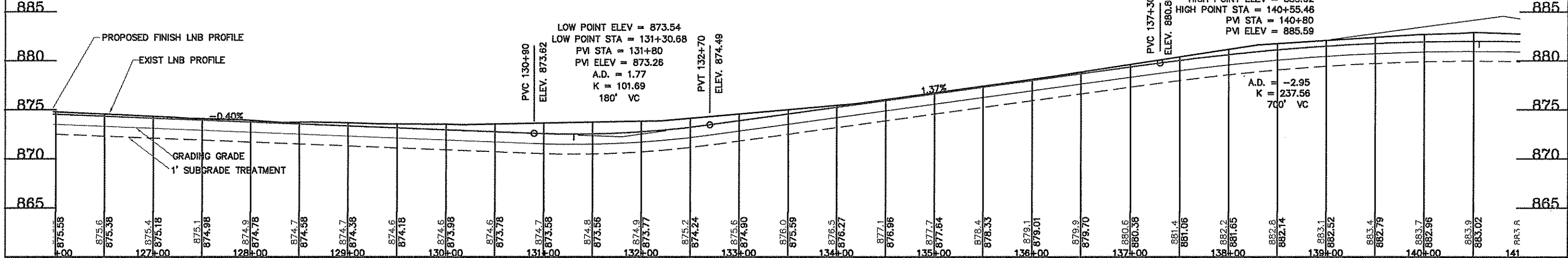
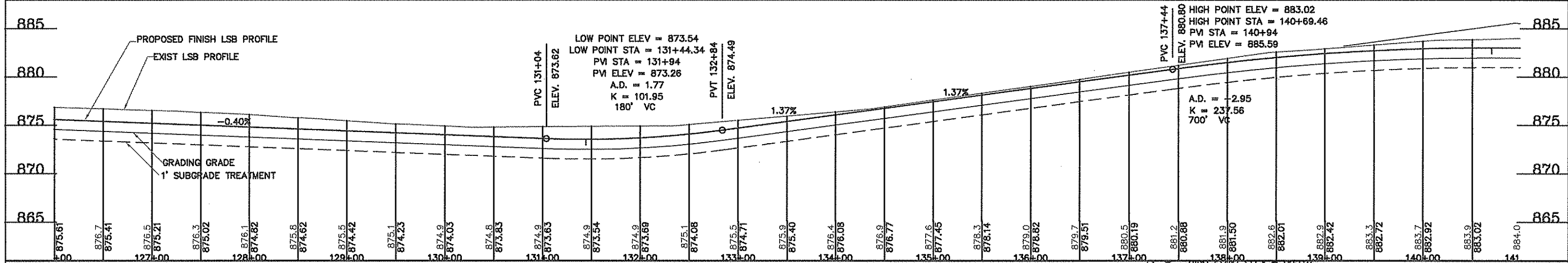
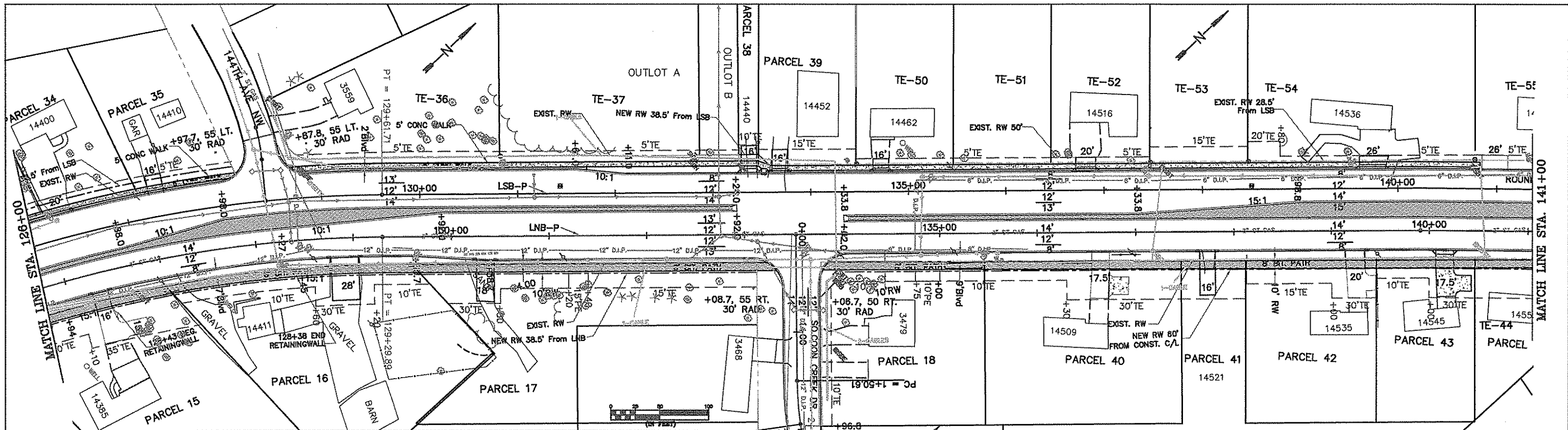
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 PRINT NAME: Peter M. Lemke
 SIGNATURE: *Peter M. Lemke*
 DATE: 8/22/2003 LICENSE NO. 40118

DRAWN BY: MN DATE 11/10/03
 DESIGN BY: MN DATE 11/10/03
 CHECKED BY: PML DATE 08/22/03



STATE PROJECT NO. _____
 STATE AID PROJECT NO. 02-609-12
 CITY PROJECT NO. 198-020-17
 COUNTY PROJECT NO. _____

PLAN AND PROFILE
 STA. 111+00 TO 126+00
 Sheet 68 of 165 Sheets



NO	DATE	BY	CHKD	APPR	REVISION

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

PRINT NAME: Peter M. Lemke
 SIGNATURE: *Peter M. Lemke*
 DATE: 8/22/2003 LICENSE NO. 40118

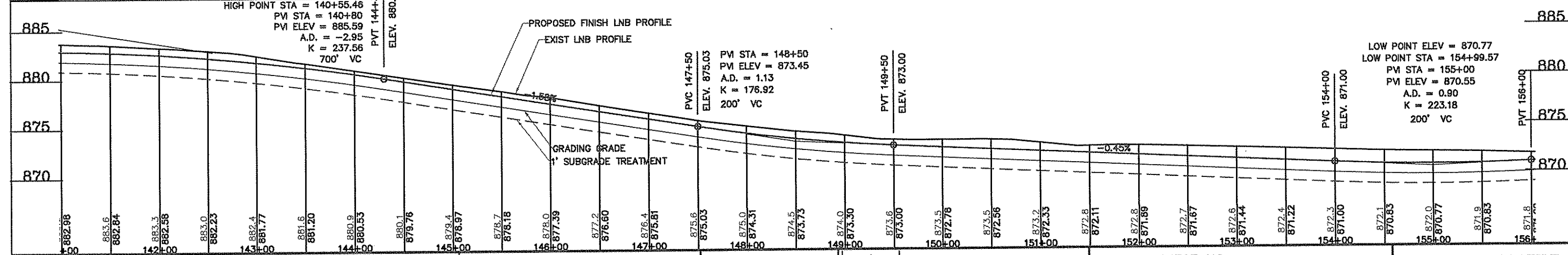
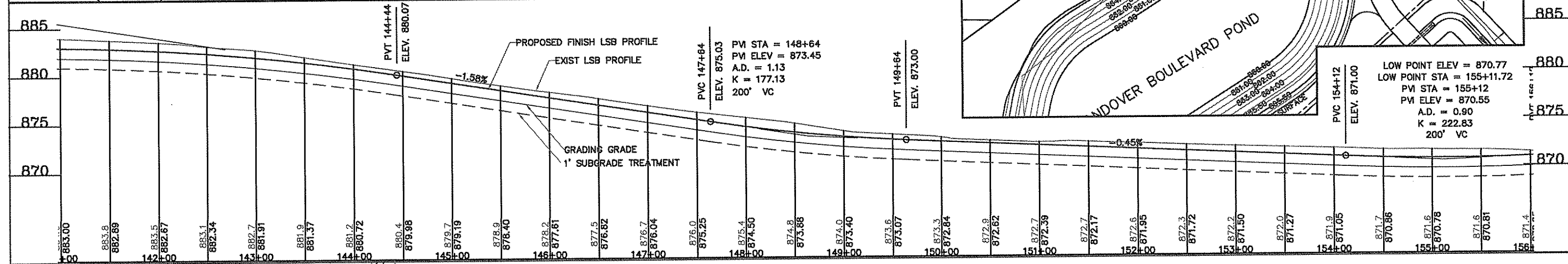
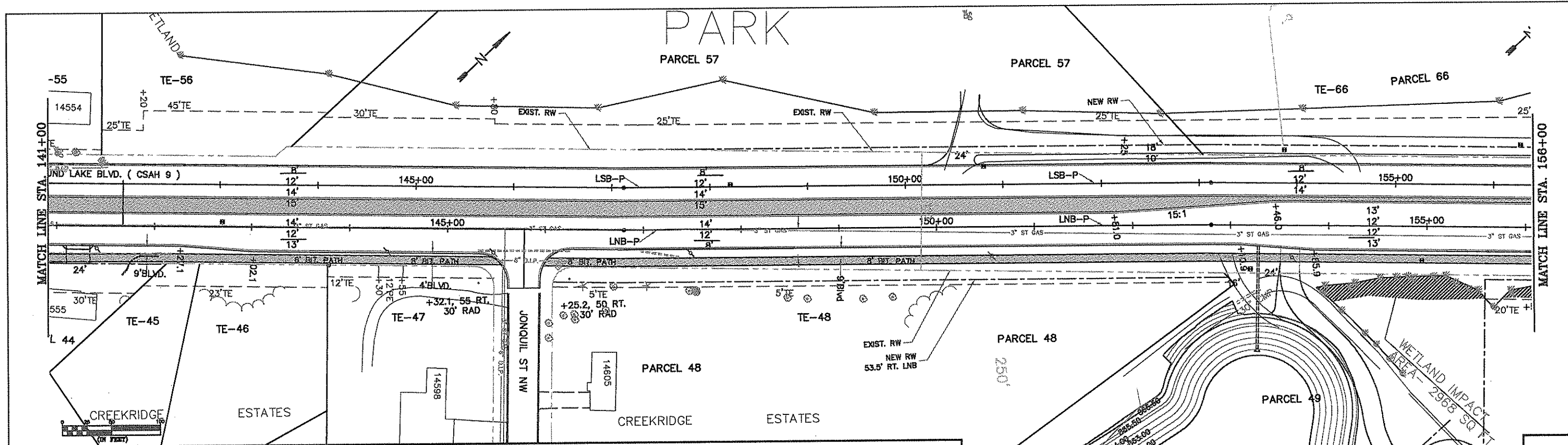
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 DESIGN BY: MN DATE: 04/10/03
 CHECKED BY: PML DATE: 08/22/03



ANOKA COUNTY
HIGHWAY DEPT.

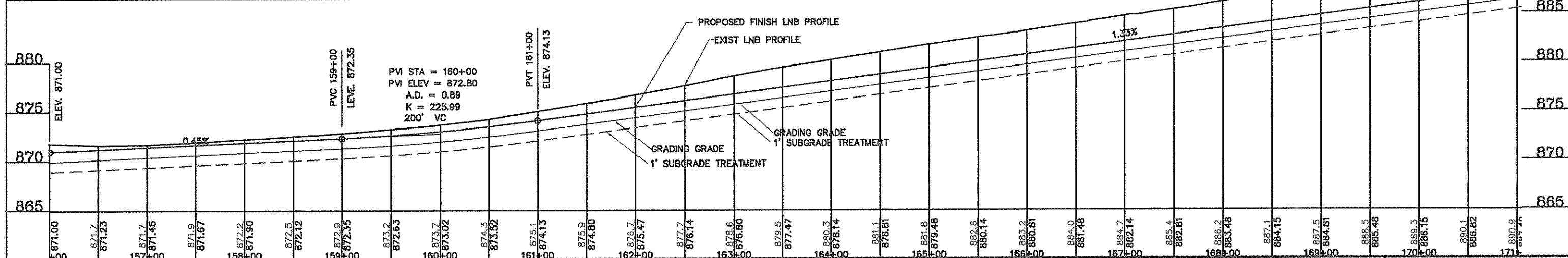
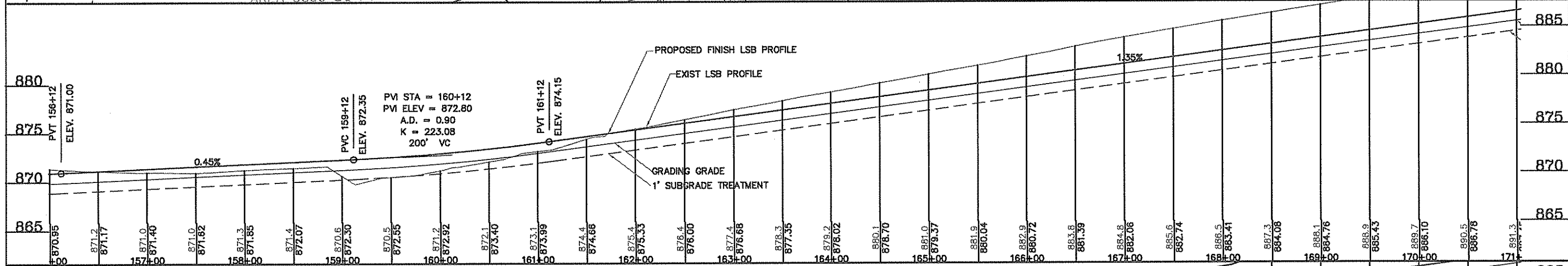
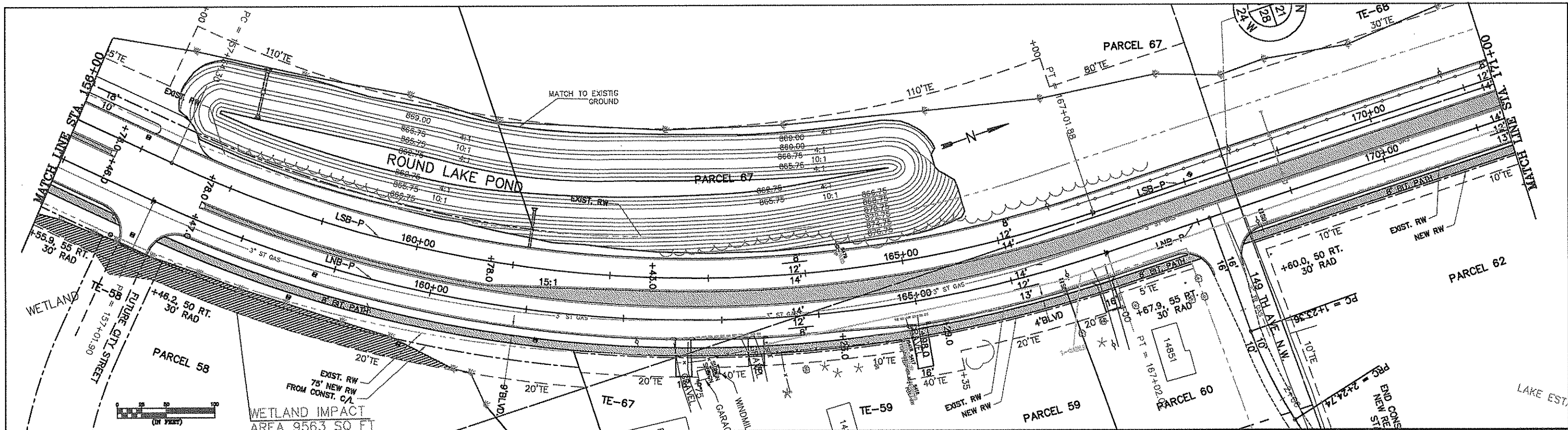
STATE PROJECT NO. _____
 STATE AID PROJECT NO. 02-609-12
 CITY PROJECT NO. 198-020-17
 COUNTY PROJECT NO. _____

PLAN AND PROFILE
 STA. 126+00 TO 141+00
 Sheet 69 of 165 Sheets

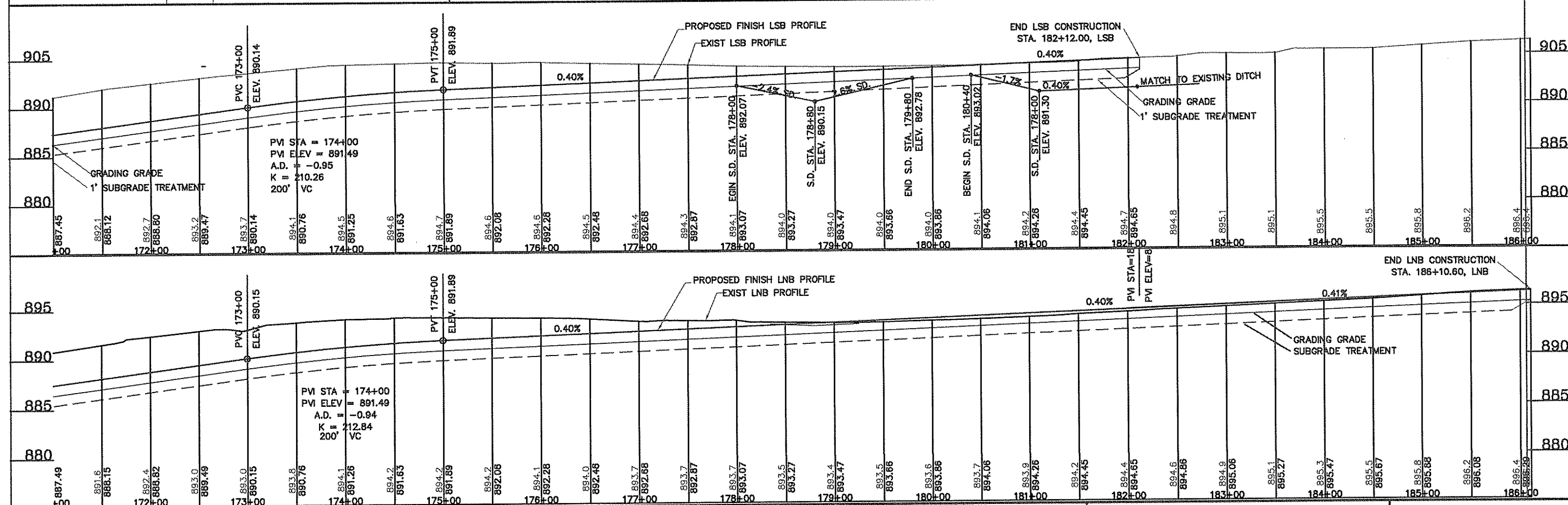
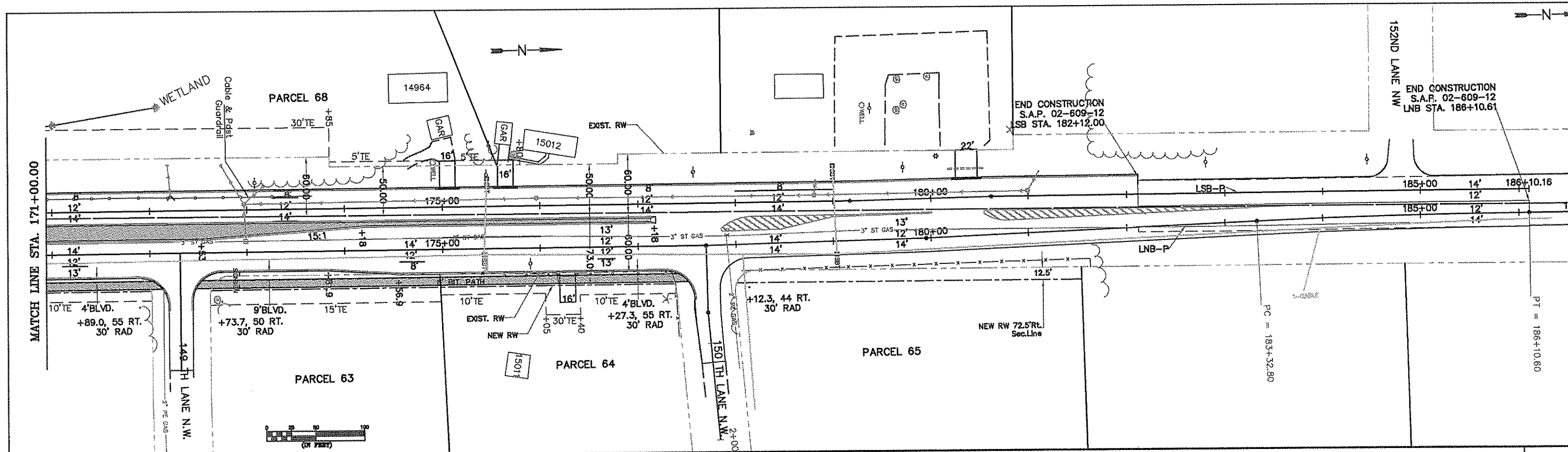


I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. PRINT NAME: Peter M. Lemke SIGNATURE: <i>Peter M. Lemke</i> DATE: 8/22/2003 LICENSE NO. 40118	DRAWN BY: MN DATE: 04/10/03 DESIGN BY: MN DATE: 04/10/03 CHECKED BY: PML DATE: 08/22/03	ANOKA COUNTY HIGHWAY DEPT.	STATE PROJECT NO. _____ STATE AID PROJECT NO. 02-609-12 CITY PROJECT NO. 198-020-17 COUNTY PROJECT NO. _____	PLAN AND PROFILE STA. 141+00 TO 156+00 Sheet 70 of 165 Sheets
	NO DATE BY CKD APPR REVISION	ANOKA COUNTY		

NAME: P:\0260912\PLAN\66-73-PlanProf.dwg 08/26/2003 06:54:04 PM CDT

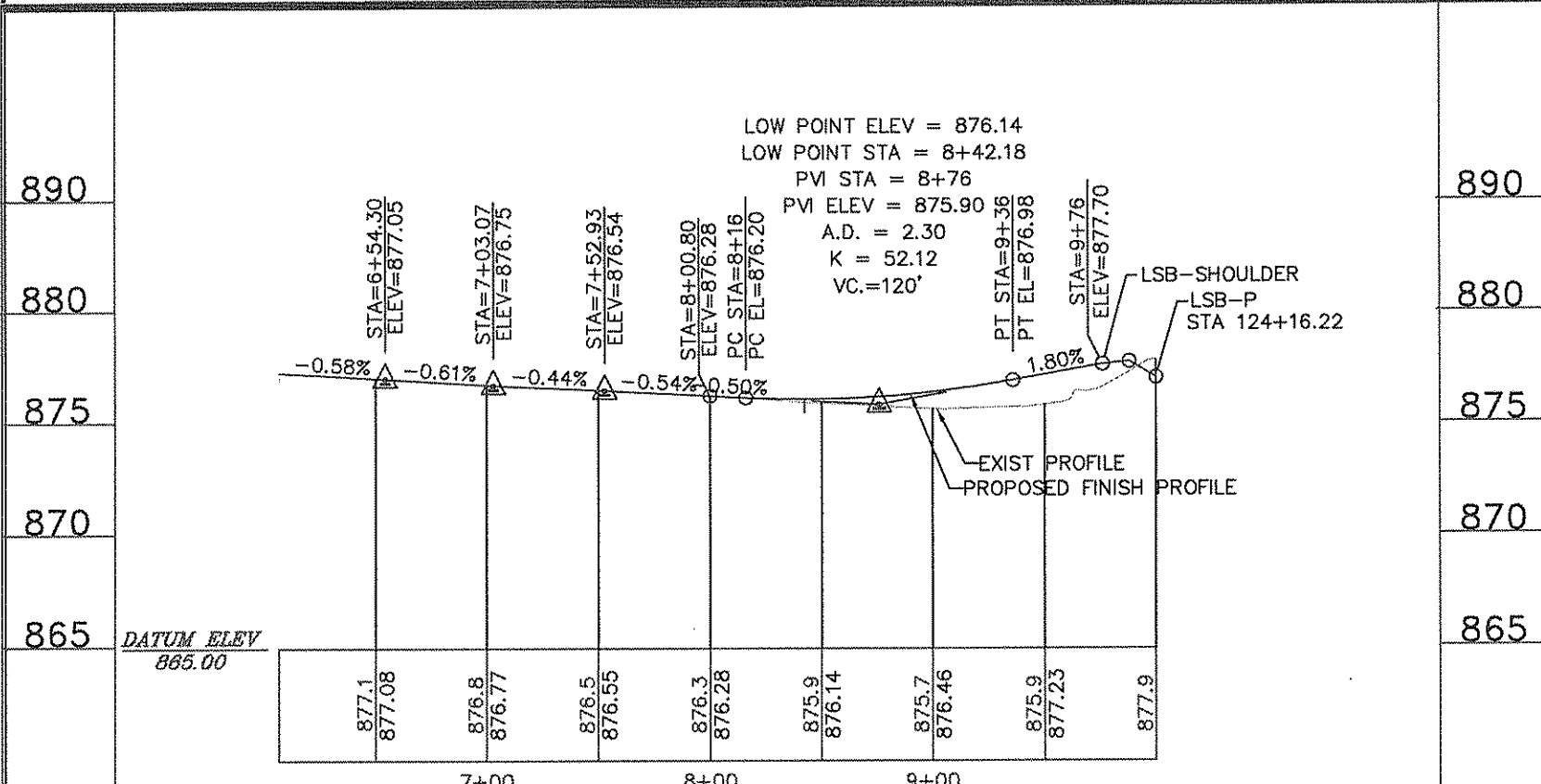
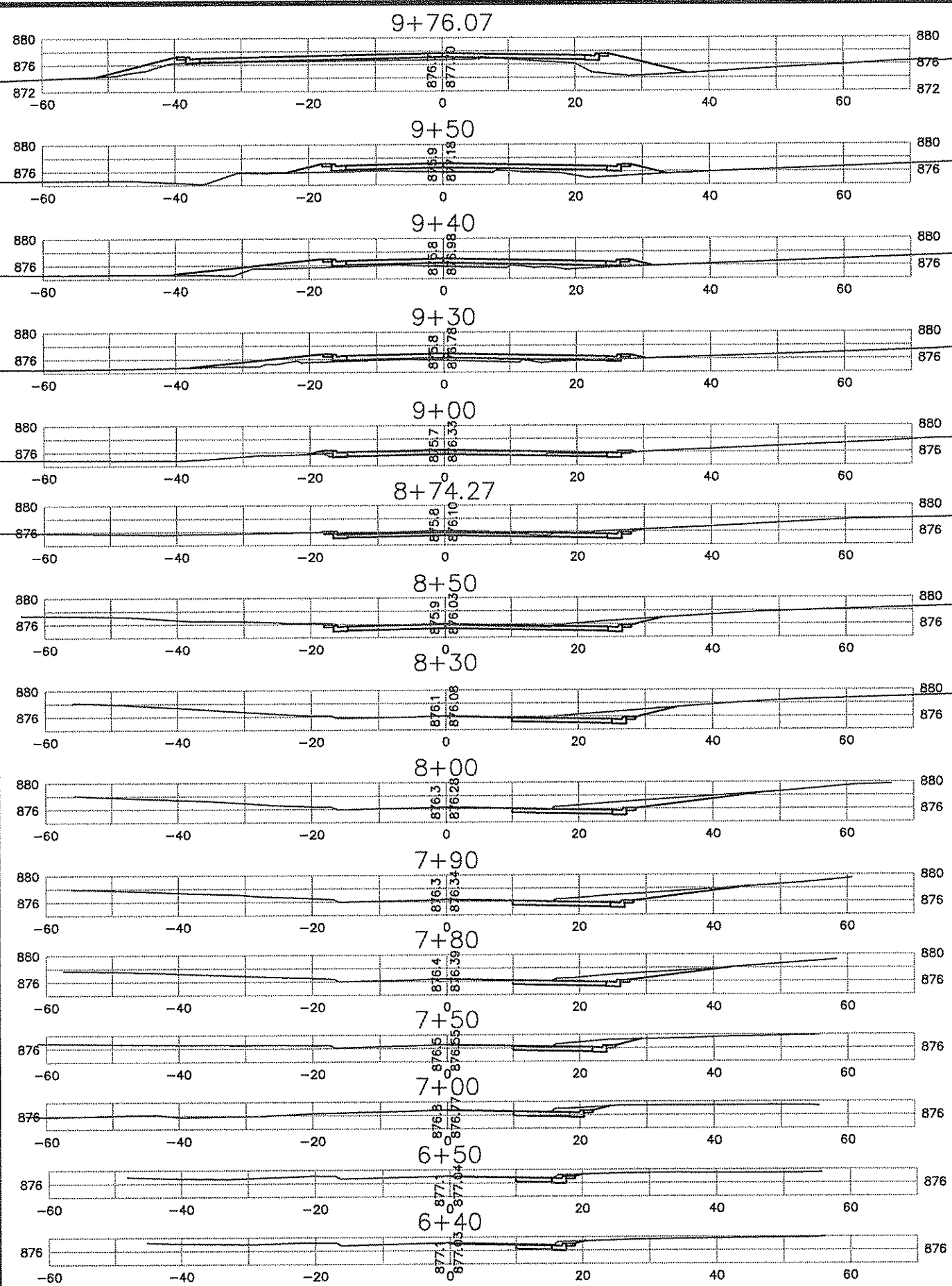
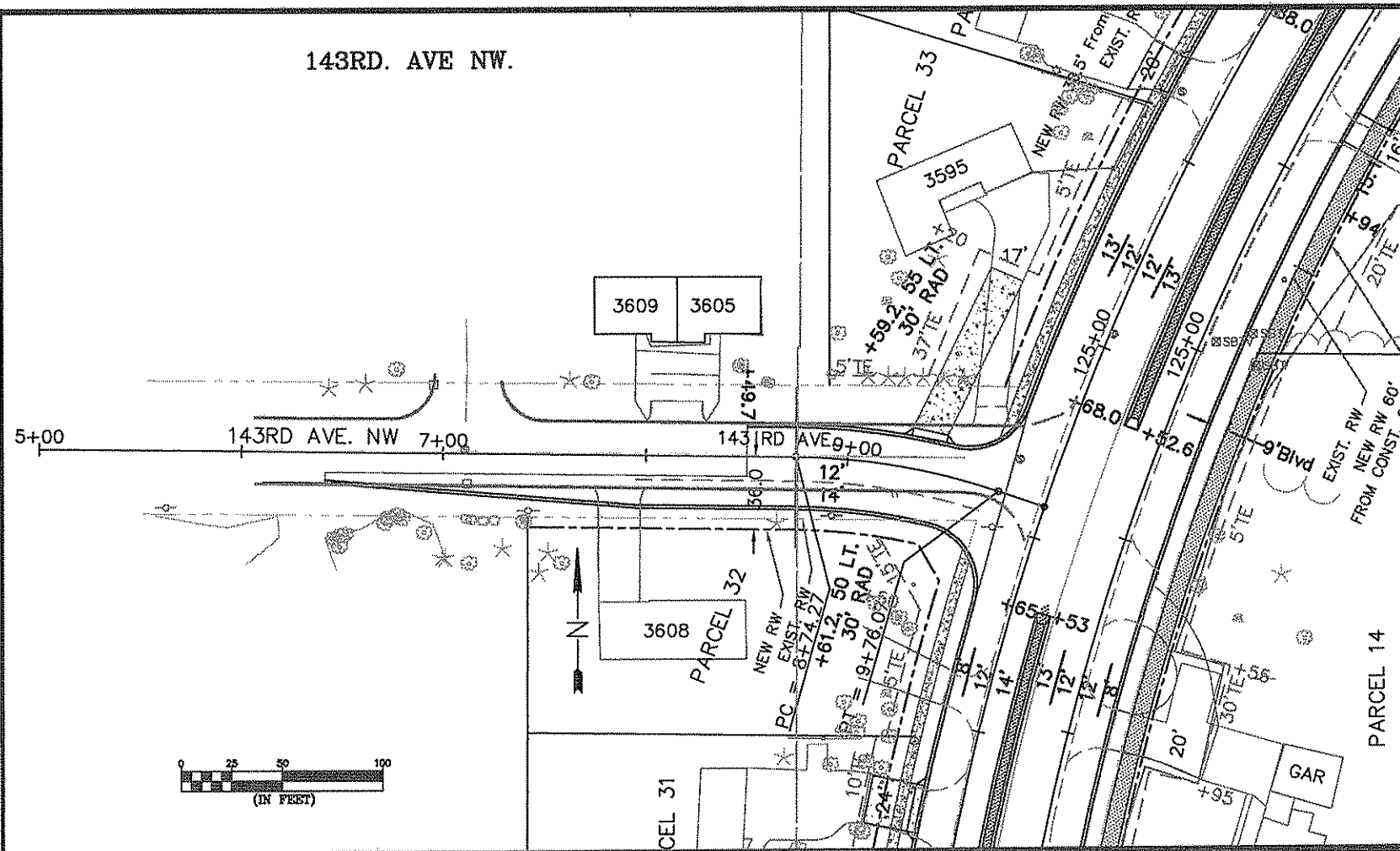


I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. PRINT NAME: Peter M. Lemke SIGNATURE: <i>Peter M. Lemke</i> DATE: 8/22/2003 LICENSE NO. 4011B				DRAWN BY: MN DATE 04/10/03 DESIGN BY: MN DATE 04/10/03 CHECKED BY: PML DATE 08/22/03		ANOKA COUNTY HIGHWAY DEPT.		STATE PROJECT NO. _____ STATE AID PROJECT NO. 02-609-12 CITY PROJECT NO. 198-020-17 COUNTY PROJECT NO. _____		PLAN AND PROFILE STA. 156+00 TO 171+00 Sheet 71 of 165 Sheets	
NO	DATE	BY	CKD	APPR	REVISION						
NAME: P:\0260912\PLAN\66-75-PlanProf.dwg 09/27/2003 07:20:22 AM CDT											



I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. PRINT NAME: <u>Peter M. Lemke</u> SIGNATURE: <u>Peter M. Lemke</u> DATE: <u>8/22/2003</u> LICENSE NO. <u>40118</u>					DRAWN BY: <u>MM</u> DATE: <u>04/10/03</u> DESIGN BY: <u>MM</u> DATE: <u>04/10/03</u> CHECKED BY: <u>PML</u> DATE: <u>08/22/03</u>		ANOKA COUNTY HIGHWAY DEPT.		STATE PROJECT NO. _____ STATE AID PROJECT NO. <u>02-609-12</u> CITY PROJECT NO. <u>198-020-17</u> COUNTY PROJECT NO. _____		PLAN AND PROFILE STA. 171+00 TO 186+10.61 Sheet <u>72</u> of <u>165</u> Sheets	
NO	DATE	BY	CHKD	APPR	REVISION							
NAME: P:\0260912\PLAN\66-75-PlanProf.dwg 08/27/2003 07:29:22 AM CBT												

143RD. AVE NW.



NO	DATE	BY	CKD	APPR	REVISION

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

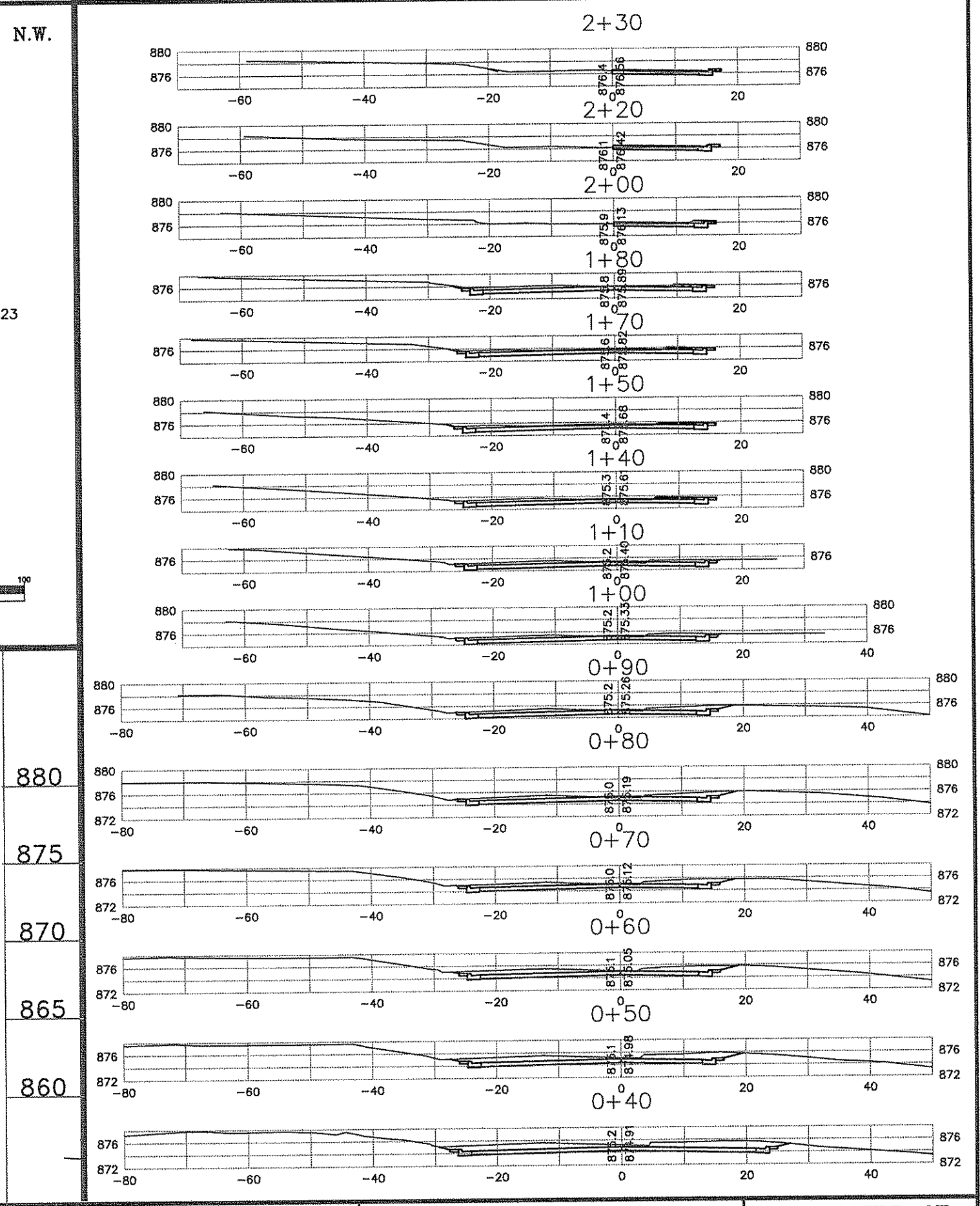
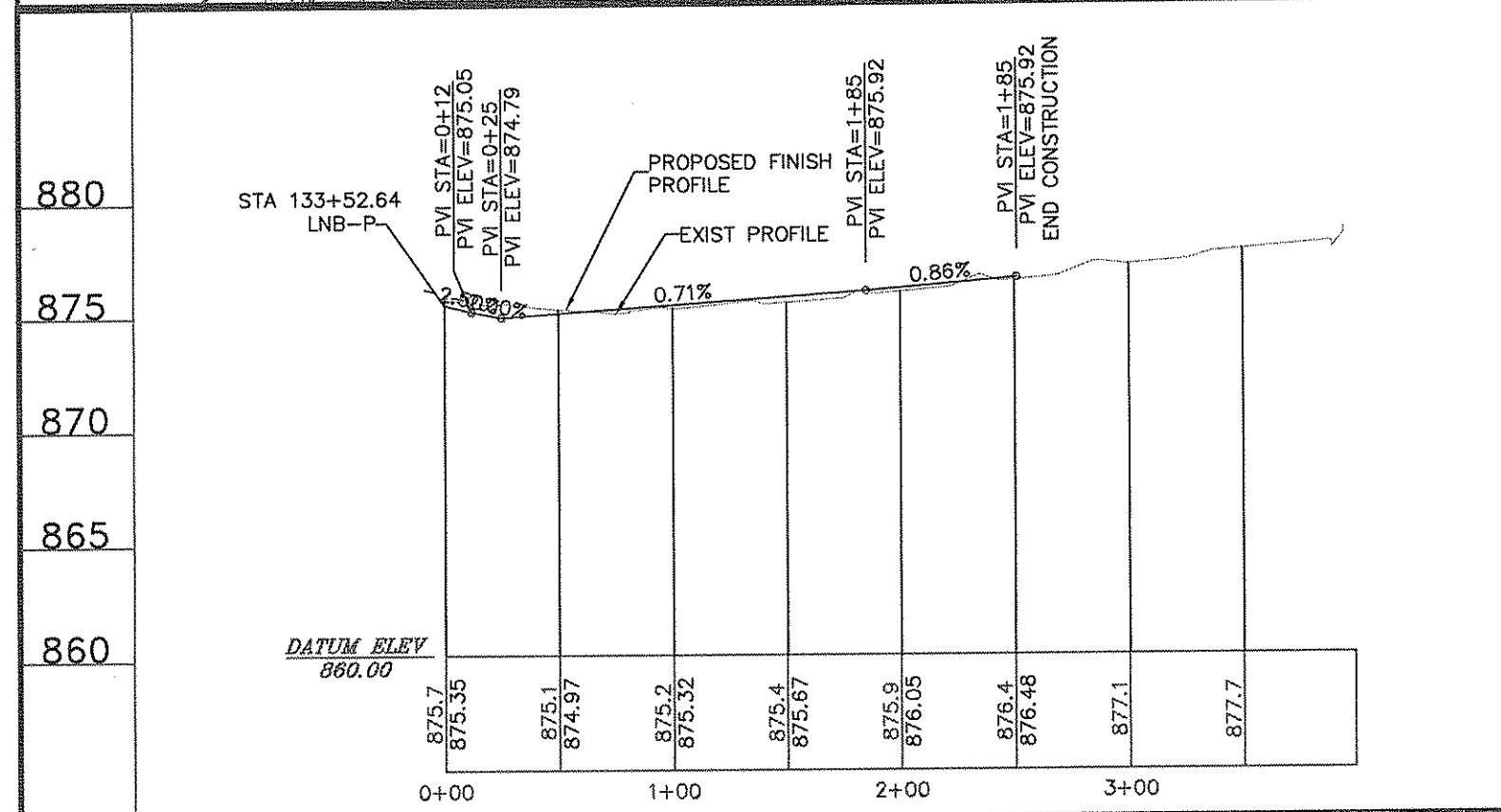
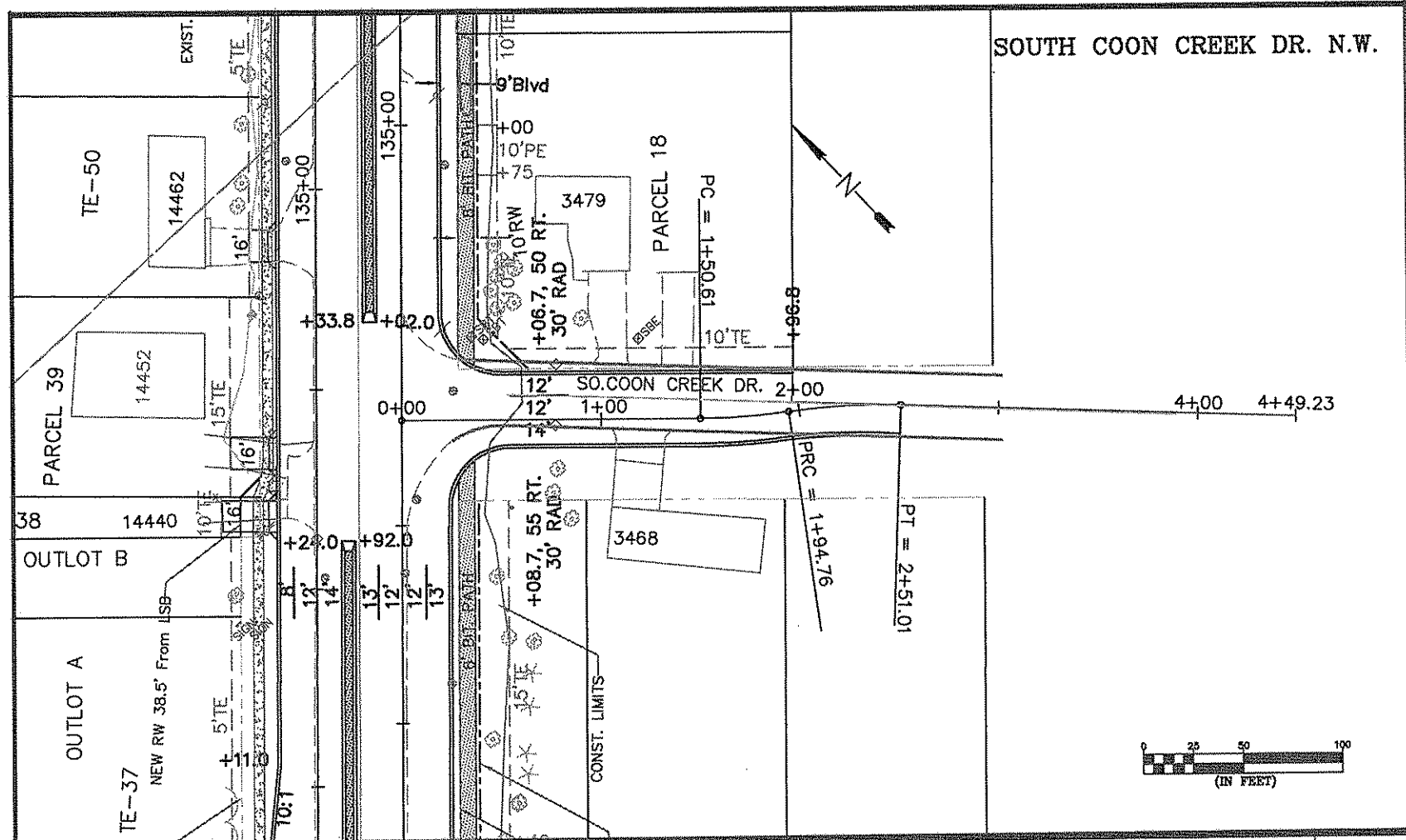
PRINT NAME: Peter M. Lemke
 SIGNATURE: *Peter M. Lemke*
 DATE: 8/22/20 DATE: 8/22/20 LICENSE NO. 40118

DRAWN BY: MN DATE 05/30/03
 DESIGN BY: MN DATE 05/30/03
 CHECKED BY: PML DATE 08/22/03

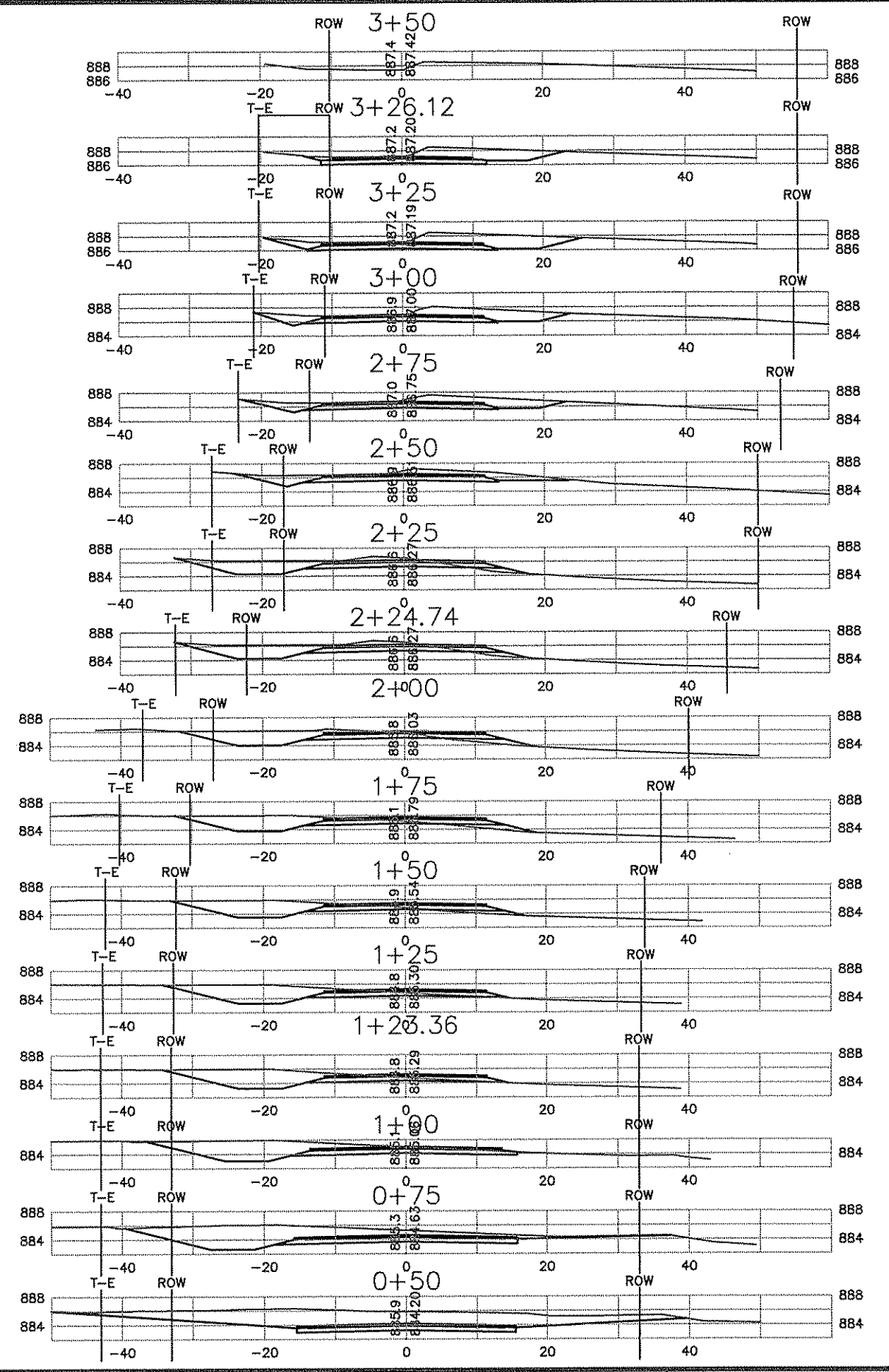
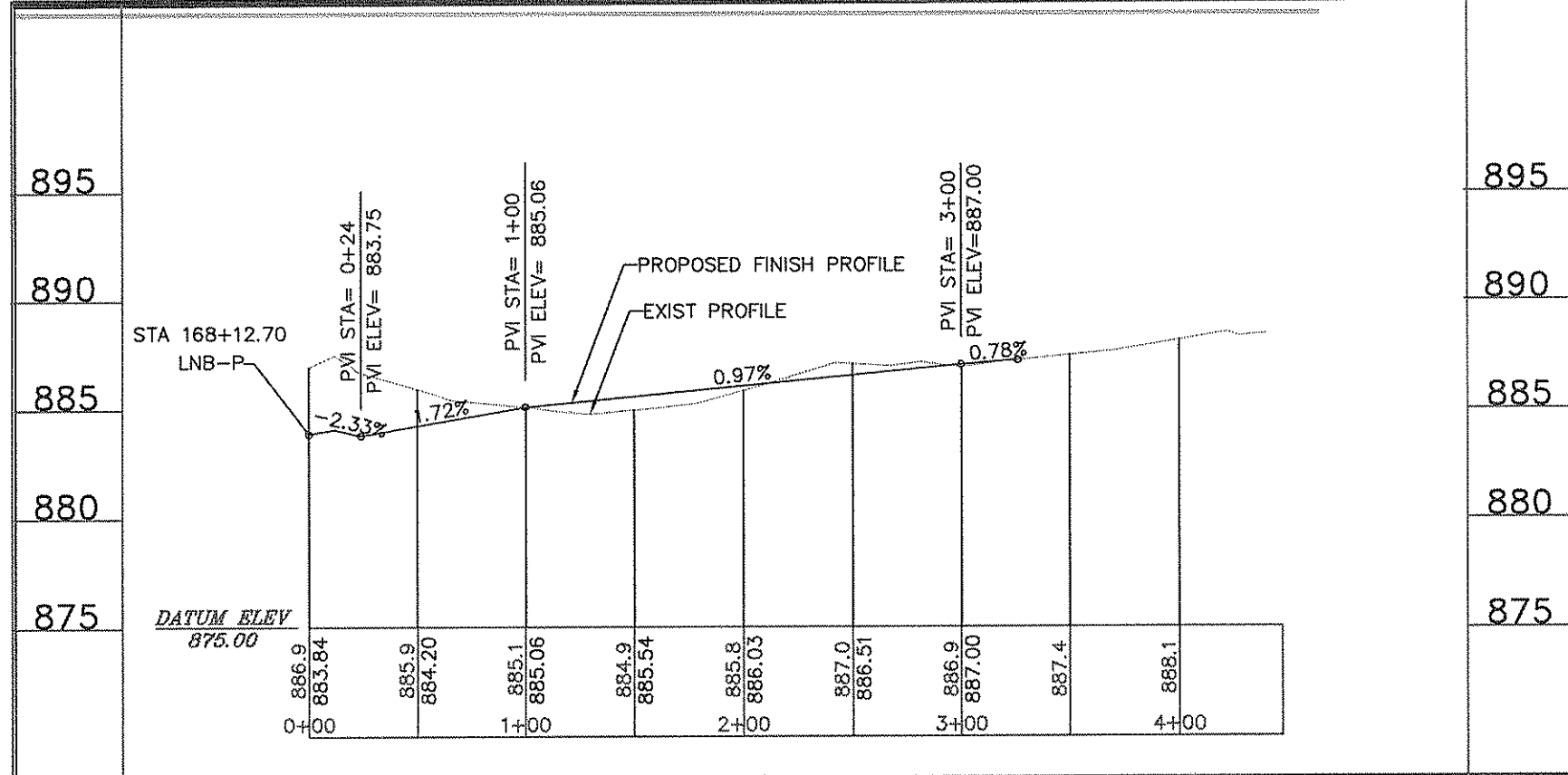
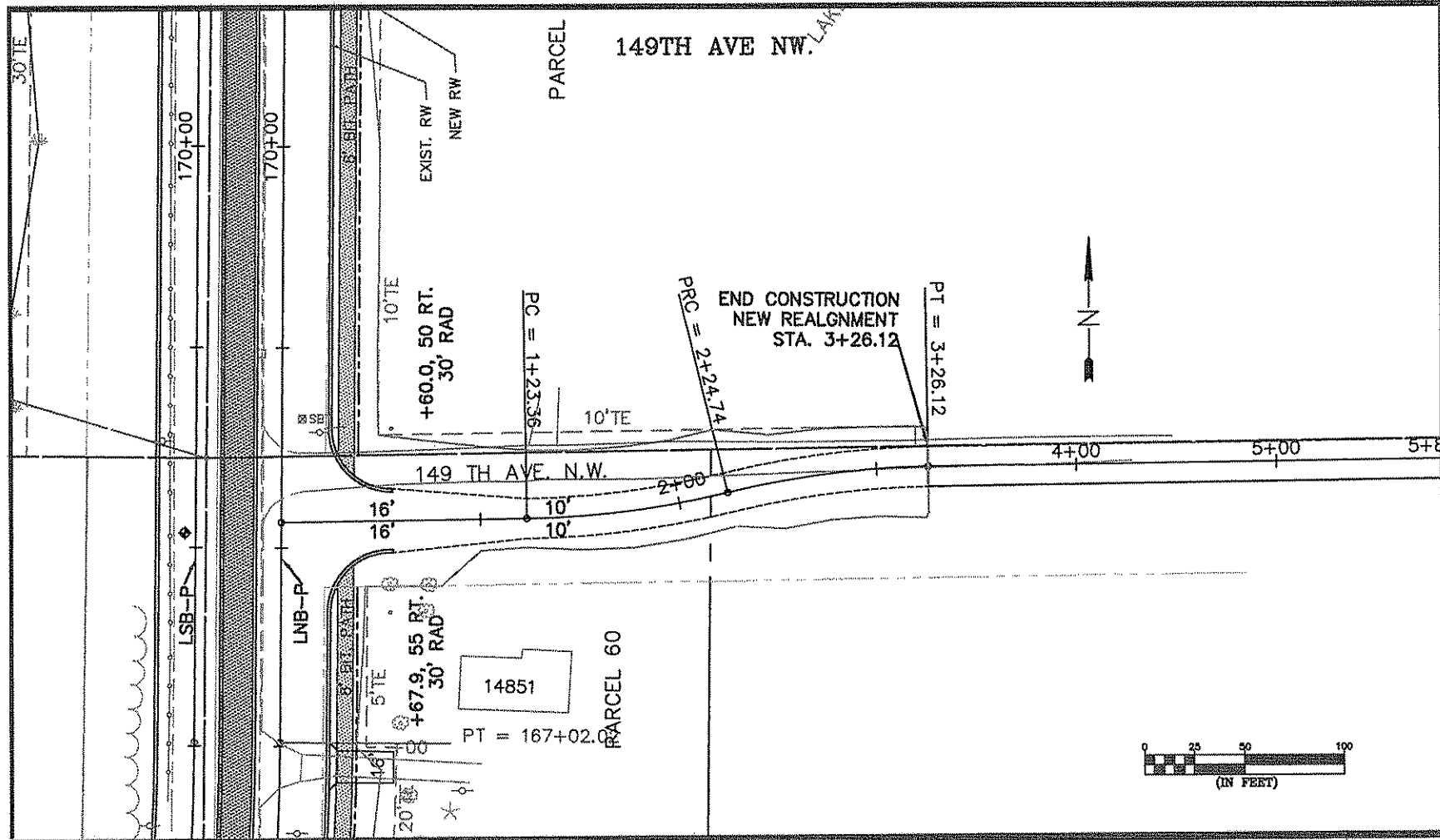
ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. _____
 STATE AID PROJECT NO. 02-609-12
 CITY PROJECT NO. 198-020-17
 COUNTY PROJECT NO. _____

PLAN PROFILE AND CROSS SECTIONS
 143RD. AVE NW.
 Sheet 73 of 165 Sheets



I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. PRINT NAME: Peter M. Lemke SIGNATURE: <i>Peter M. Lemke</i> DATE: 8/22/2003 LICENSE NO. 40118					DRAWN BY: MN DATE 05/30/03 DESIGN BY: MN DATE 05/30/03 CHECKED BY: PML DATE 08/22/03		ANOKA COUNTY HIGHWAY DEPT. STATE PROJECT NO. _____ STATE AID PROJECT NO. 02-609-12 CITY PROJECT NO. 198-020-17 COUNTY PROJECT NO. _____		PLAN PROFILE AND CROSS SECTIONS SO. COON CREEK DR. NW. Sheet 74 of 165 Sheets	
NO	DATE	BY	CKD	APPR	REVISION	NAME: P:\026091\PLAN\161-X-SEC 149th.dwg 08/27/2003 07:26:45 AM CDT				



NO	DATE	BY	CHKD	APPR	REVISION

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

PRINT NAME: Peter M. Lemke
 SIGNATURE: *Peter M. Lemke*
 DATE: 8/22/2003 LICENSE NO. 40118

DRAWN BY: MN DATE 05/30/03
 DESIGN BY: MN DATE 05/30/03
 CHECKED BY: PMI DATE 08/22/03

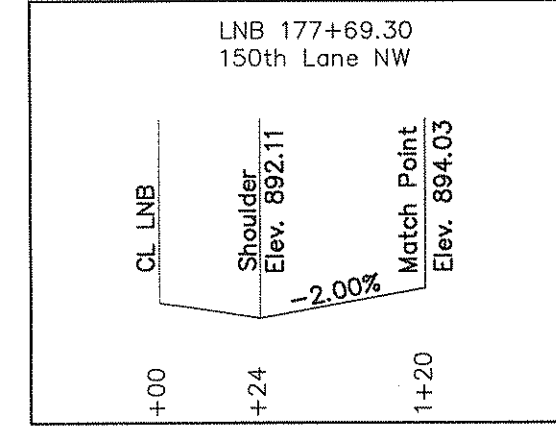
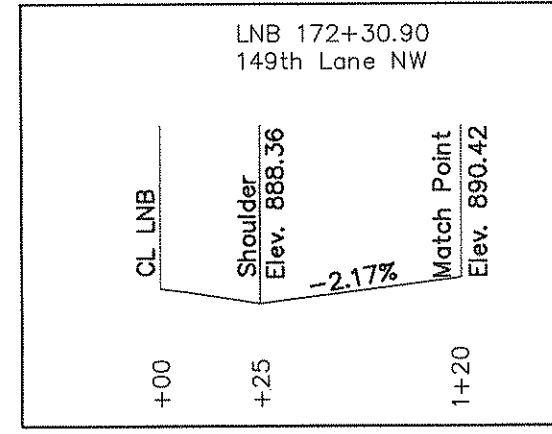
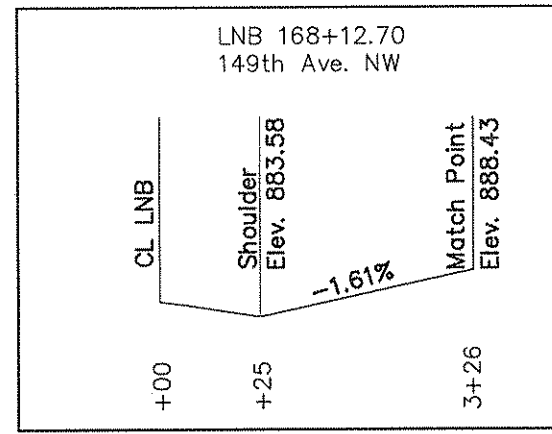
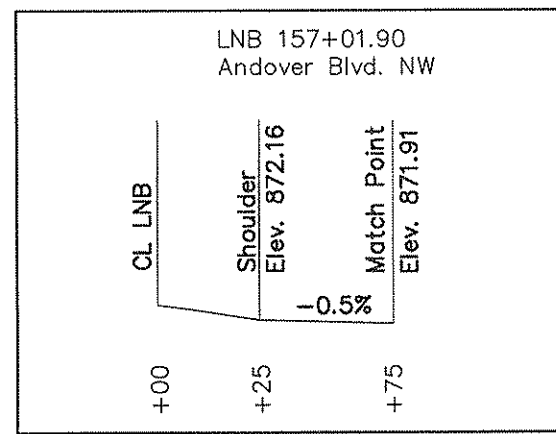
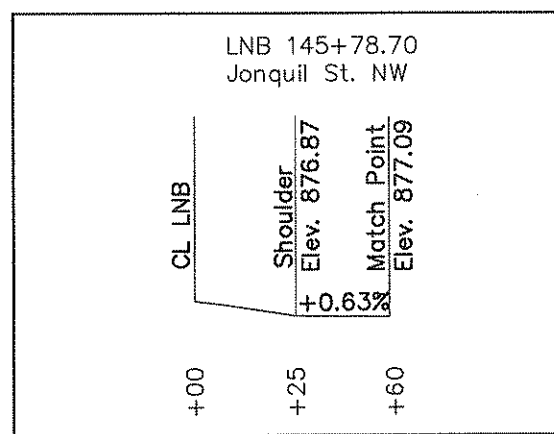
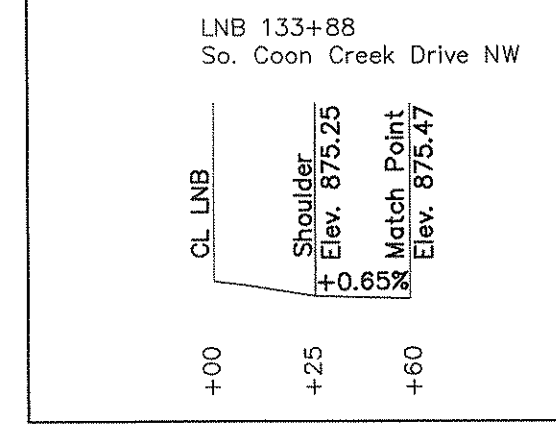
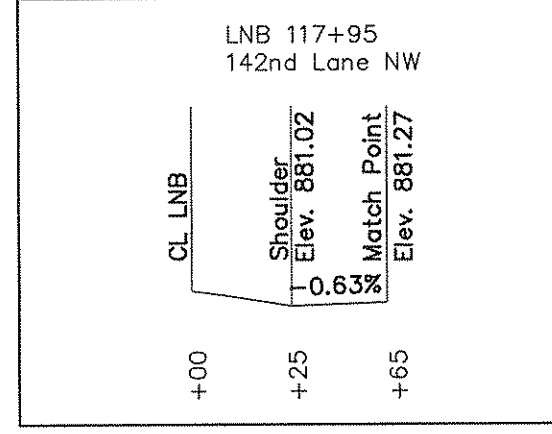
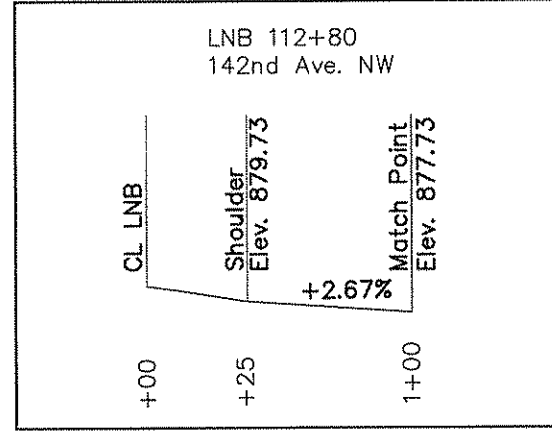
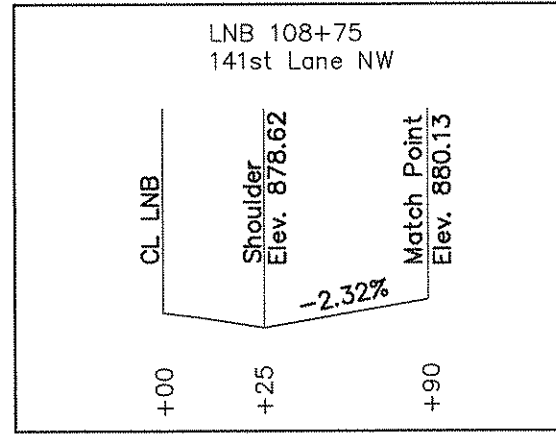
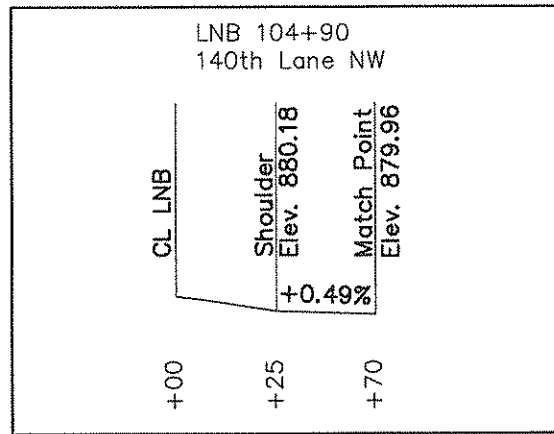


ANOKA COUNTY
 HIGHWAY DEPT.

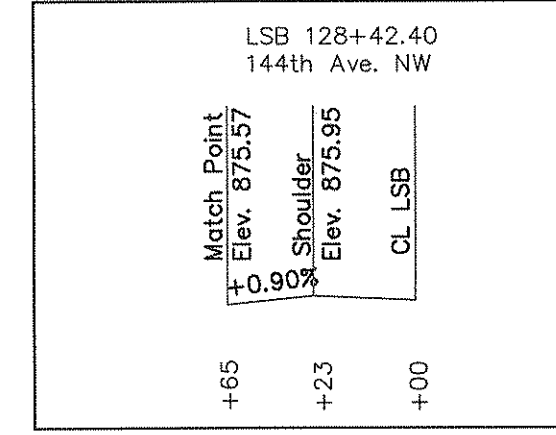
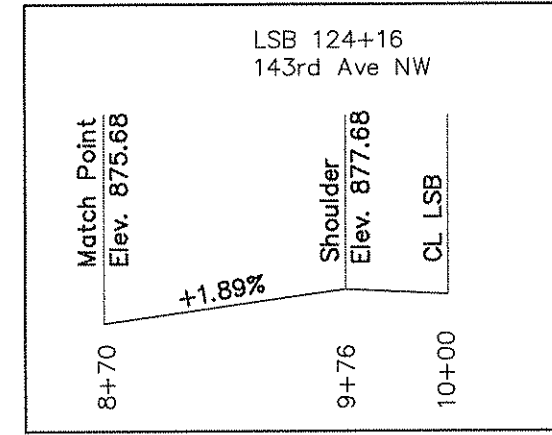
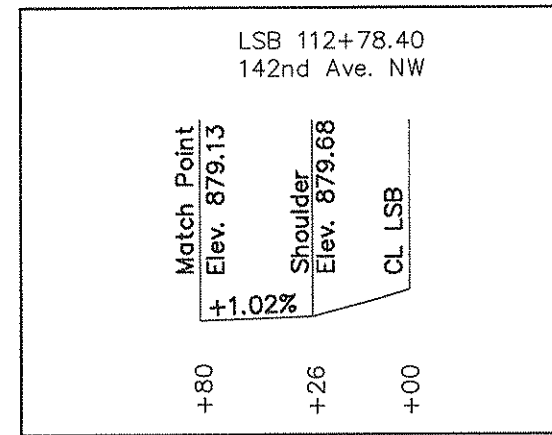
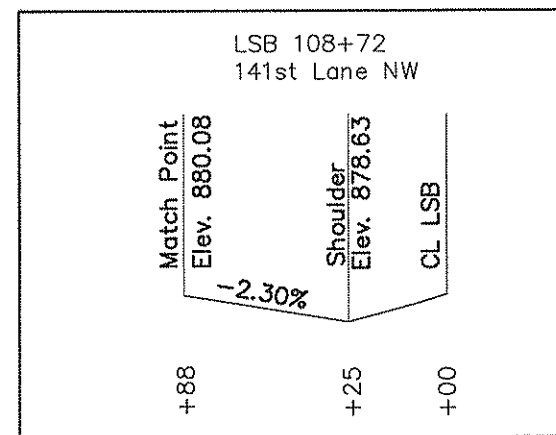
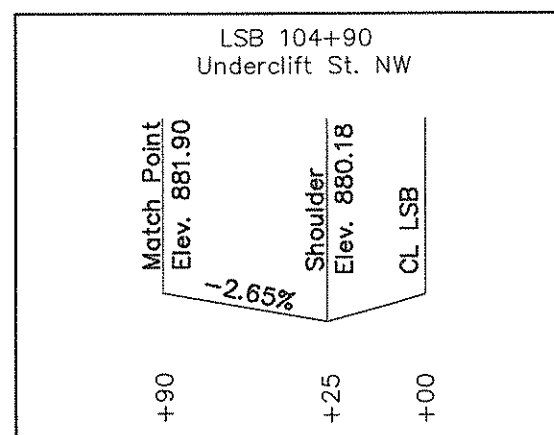
STATE PROJECT NO. _____
 STATE AID PROJECT NO. 02-609-12
 CITY PROJECT NO. 198-020-17
 COUNTY PROJECT NO. _____

PLAN PROFILE AND
 CROSS SECTIONS
 149TH. AVE NW.
 Sheet 75 of 165 Sheets

LNB



LSB



NO	DATE	BY	CHKD	APPR	REVISION

NAME: P:\0260912\PLAN\170-SideStreets-Prof.dwg 08/25/2003 09:18:47 AM CDT

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

PRINT NAME: Peter M. Lemke
 SIGNATURE: *Peter M. Lemke*
 DATE: 8/22/2003 LICENSE NO. 40118

DRAWN BY: MN DATE: 04/10/03
 DESIGNED BY: MN DATE: 04/10/03
 CHECKED BY: PML DATE: 04/11/03

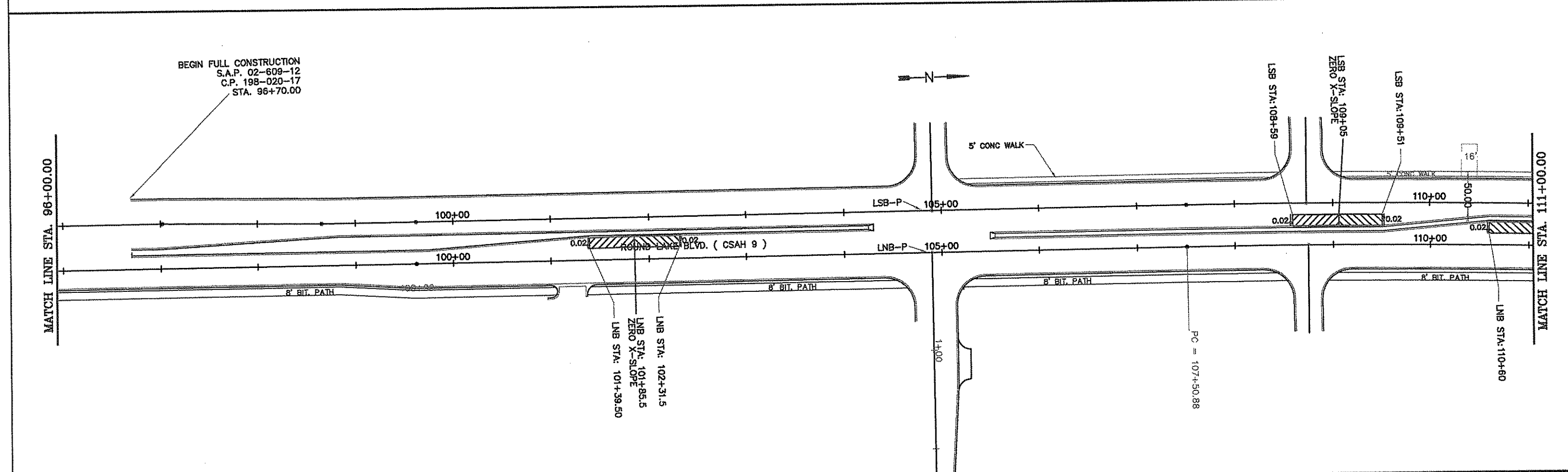
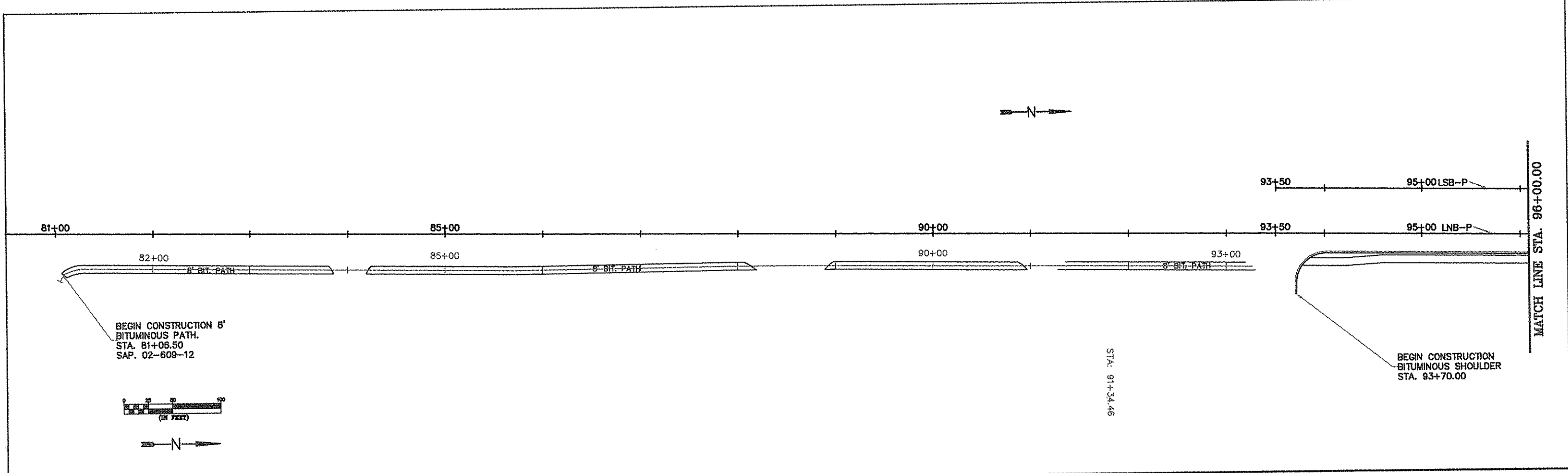


ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. _____
 STATE AID PROJECT NO. 02-609-12
 CITY PROJECT NO. 198-020-17
 COUNTY PROJECT NO. _____

SIDESTREET PROFILES

Sheet 76 of 165 Sheets



NO	DATE	BY	CHKD	APPR	REVISION

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

PRINT NAME: PETER M. LEMKE

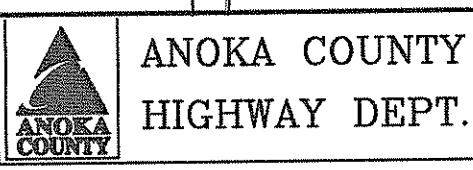
SIGNATURE: *Peter M. Lemke*

DATE: 8/22/2003 LICENSE NO. 40118

DRAWN BY: CSD DATE 12/22/02

DESIGN BY: PMI DATE 4/9/03

CHECKED BY: PMI DATE 4/9/03



STATE PROJECT NO. _____

STATE AID PROJECT NO. 02-609-12

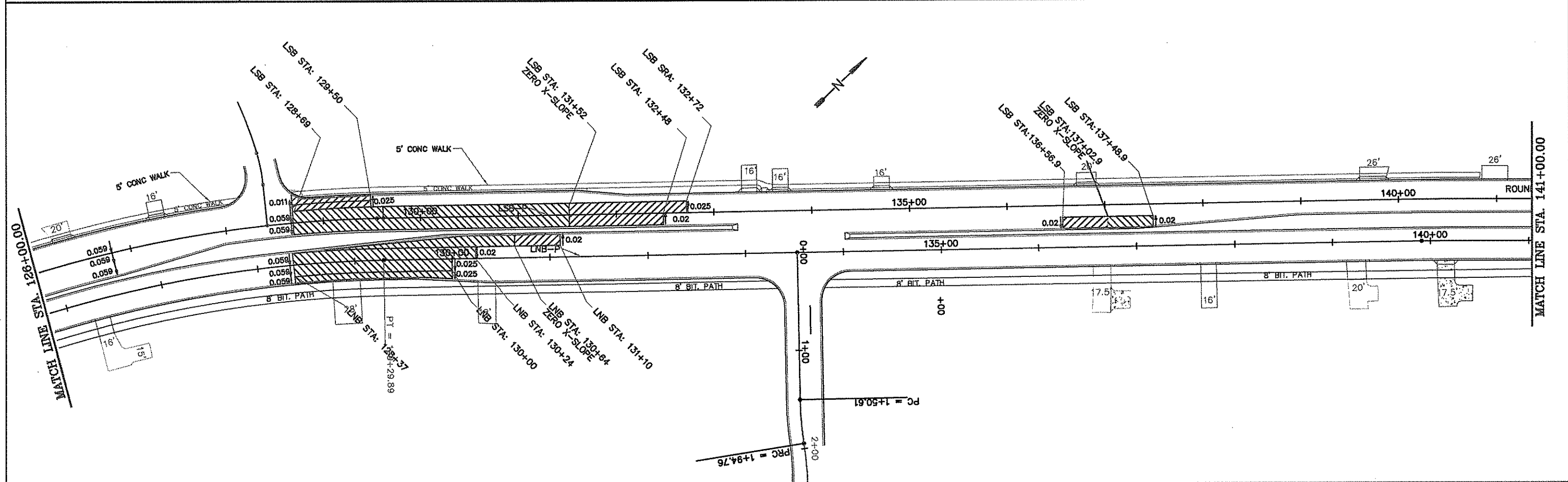
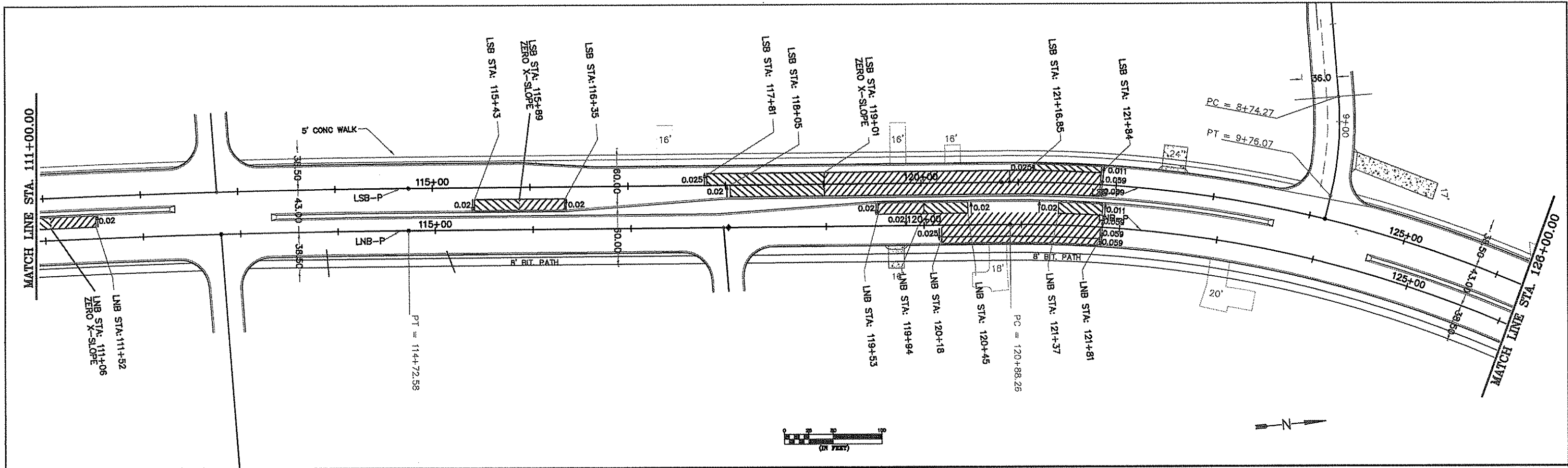
CITY PROJECT NO. 198-020-17

COUNTY PROJECT NO. _____

SUPERELEVATION PLAN

STA. 81+08.50 TO 111+00

Sheet 77 of 165 Sheets



NO	DATE	BY	CKD	APPR	REVISION

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

PRINT NAME: PETER M. LEMKE
 SIGNATURE: *Peter M. Lemke*
 DATE: 8/22/2003 LICENSE NO. 40118

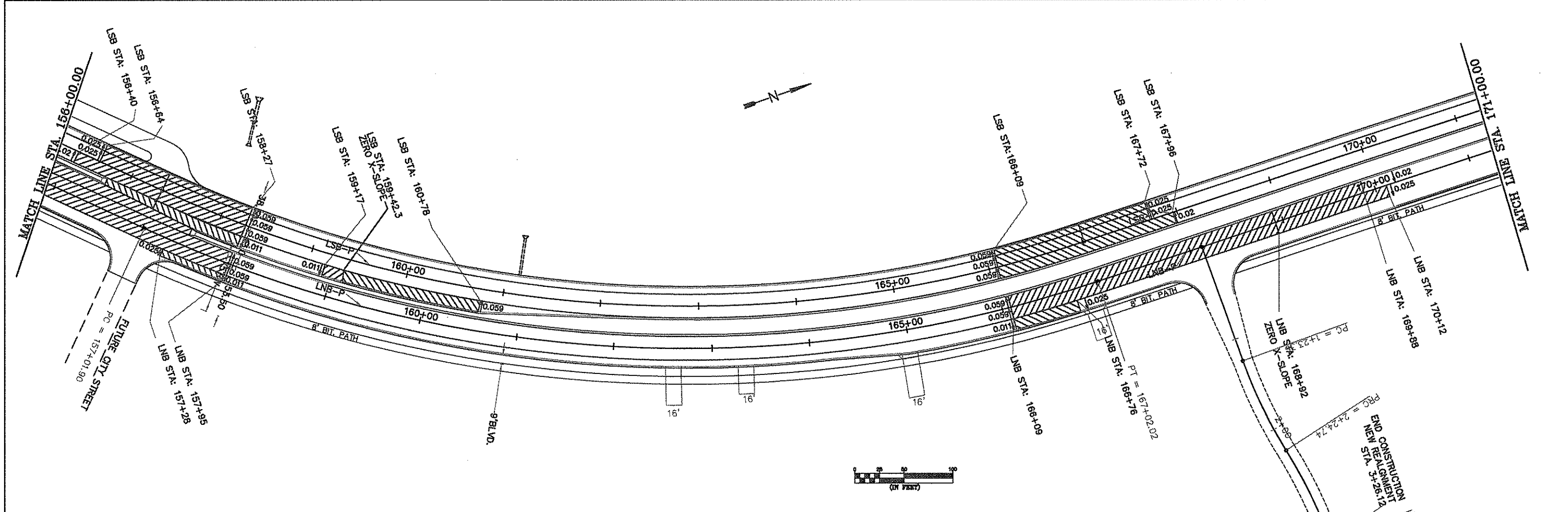
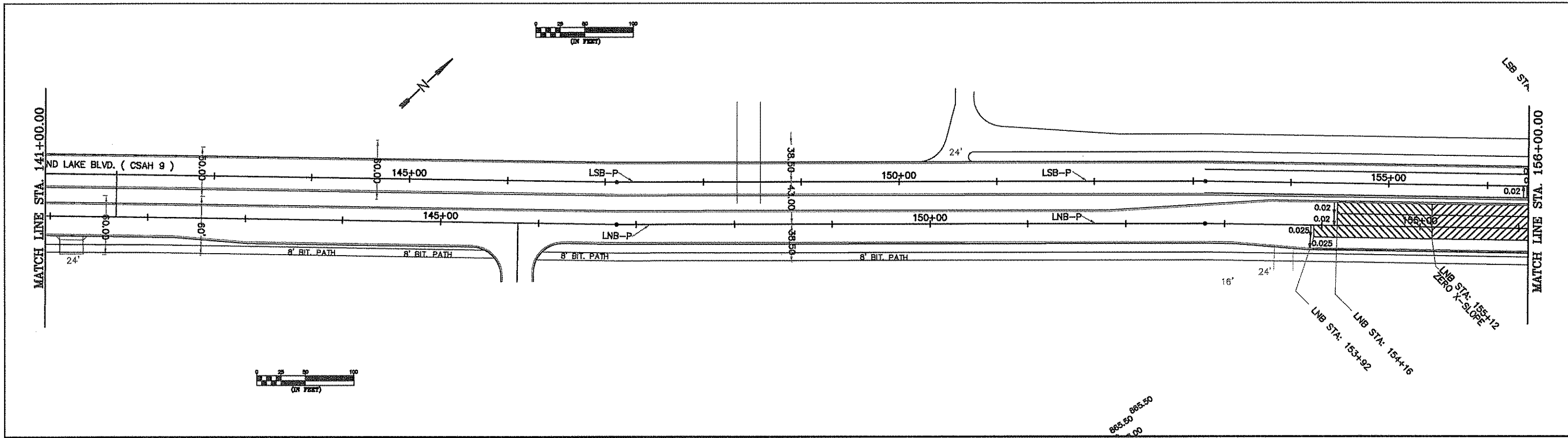
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 DESIGN BY: PML DATE: 4/9/03
 CHECKED BY: PML DATE: 4/9/03



ANOKA COUNTY
 HIGHWAY DEPT.

STATE PROJECT NO. _____
 STATE AID PROJECT NO. 02-609-12
 CITY PROJECT NO. 198-020-17
 COUNTY PROJECT NO. _____

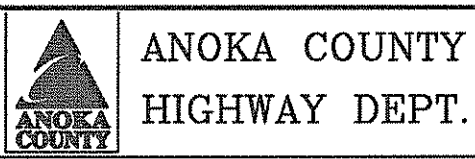
SUPERELEVATION
 PLAN
 STA. 111+00 TO 141+00
 Sheet 78 of 165 Sheets



NO	DATE	BY	CHKD	APPR	REVISION

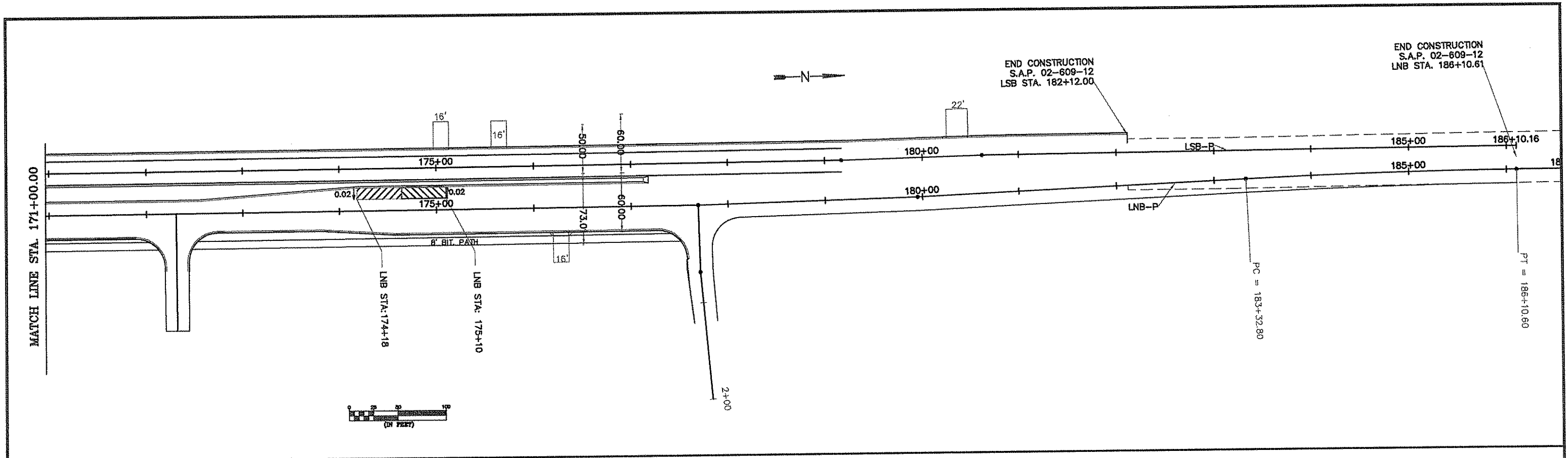
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 PRINT NAME: PETER M. LEMKE
 SIGNATURE: *Peter M Lemke*
 DATE: 8/22/2003 LICENSE NO. 40118

DRAWN BY: CSD DATE: 12/22/02
 DESIGN BY: PML DATE: 4/9/03
 CHECKED BY: PML DATE: 4/9/03



STATE PROJECT NO. _____
 STATE AID PROJECT NO. 02-609-12
 CITY PROJECT NO. 198-020-17
 COUNTY PROJECT NO. _____

SUPERELEVATION PLAN
 STA. 141+00 TO 171+00
 Sheet 79 of 165 Sheets



NO	DATE	BY	CHKD	APPR	REVISION

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

PRINT NAME: PETER M. LEMKE
 SIGNATURE: *Peter M. Lemke*
 DATE: 8/22/2003 LICENSE NO. 40118

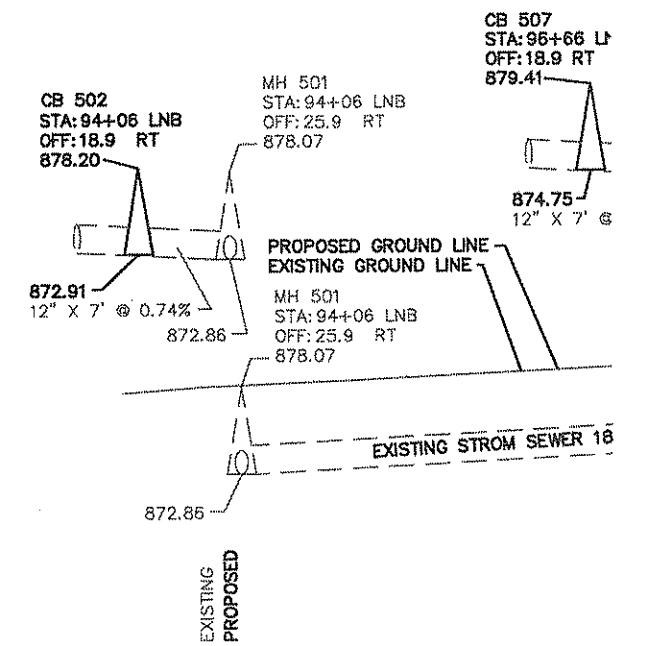
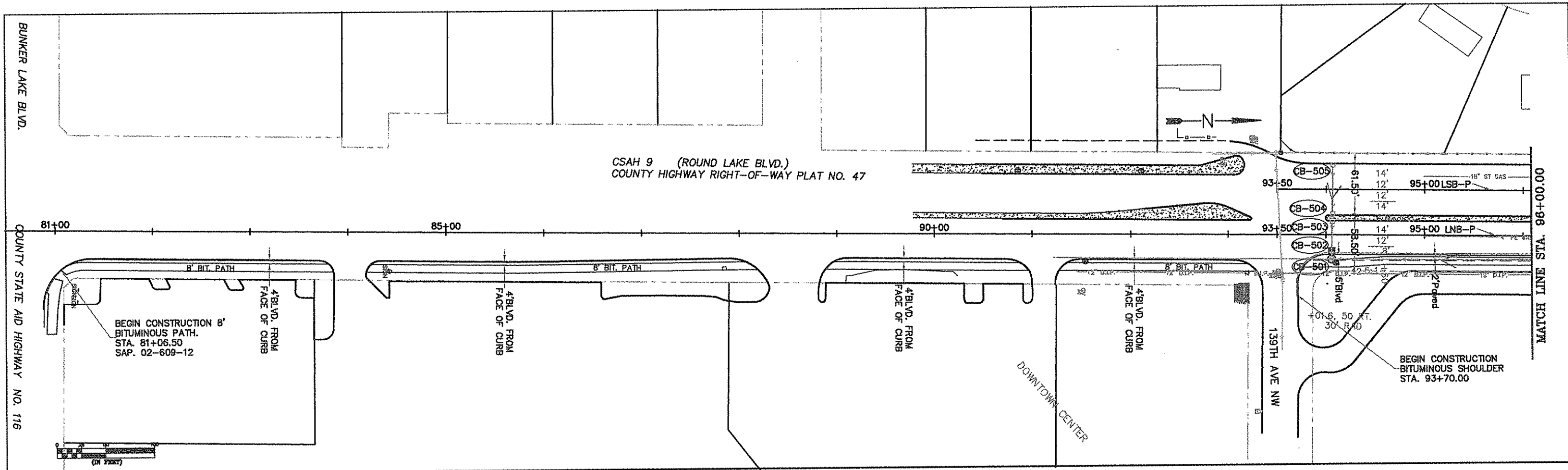
DRAWN BY: CSO DATE: 12/22/02
 DESIGN BY: PML DATE: 4/8/03
 CHECKED BY: PML DATE: 4/8/03



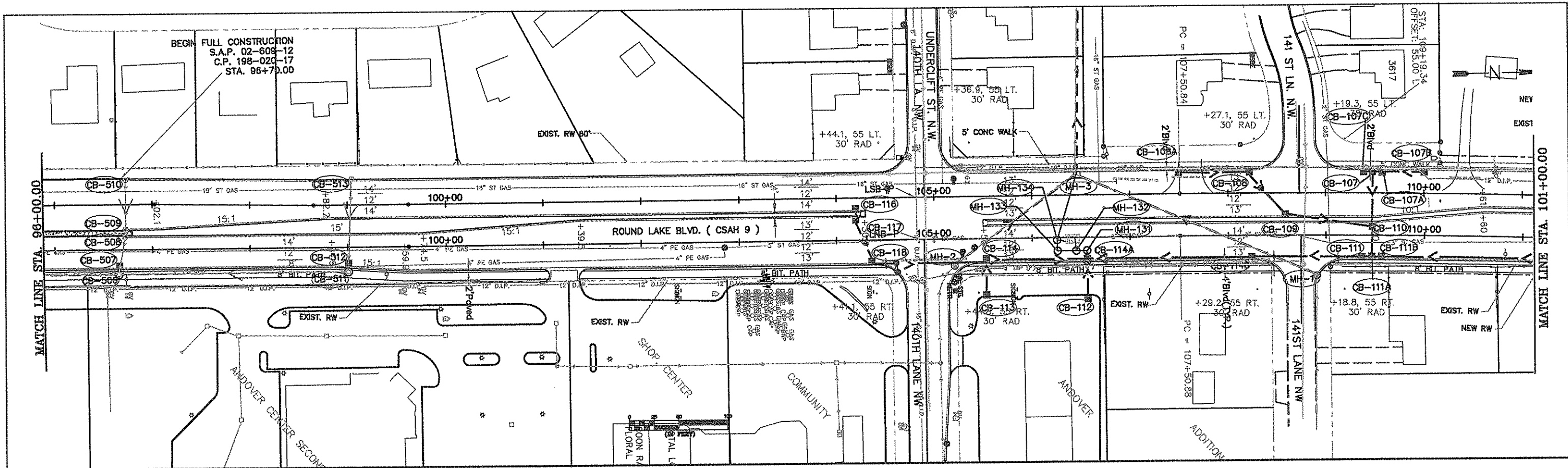
ANOKA COUNTY
 HIGHWAY DEPT.

STATE PROJECT NO. _____
 STATE AID PROJECT NO. 02-609-12
 CITY PROJECT NO. 198-020-17
 COUNTY PROJECT NO. _____

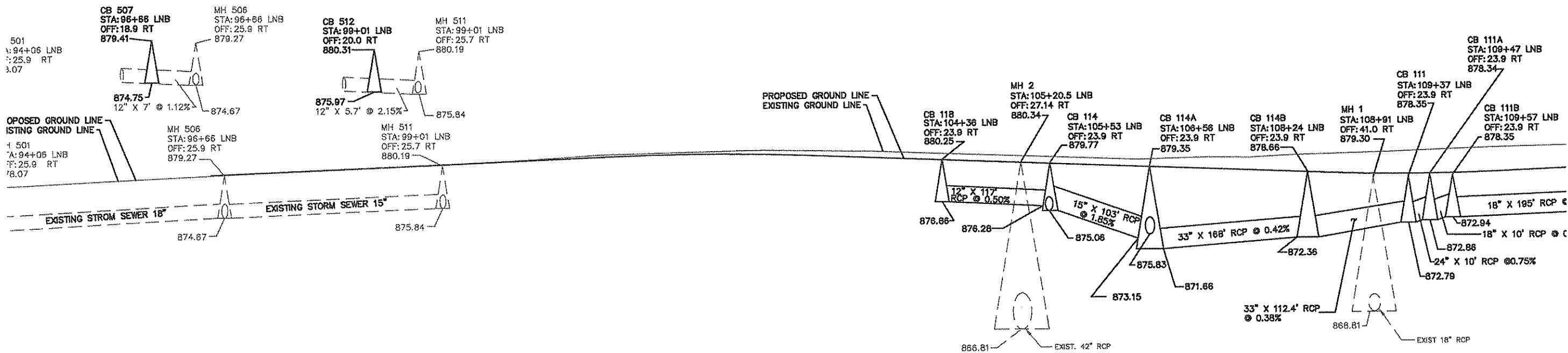
SUPERELEVATION
 PLAN
 STA. 171+00 TO 186+10
 Sheet 80 of 165 Sheets



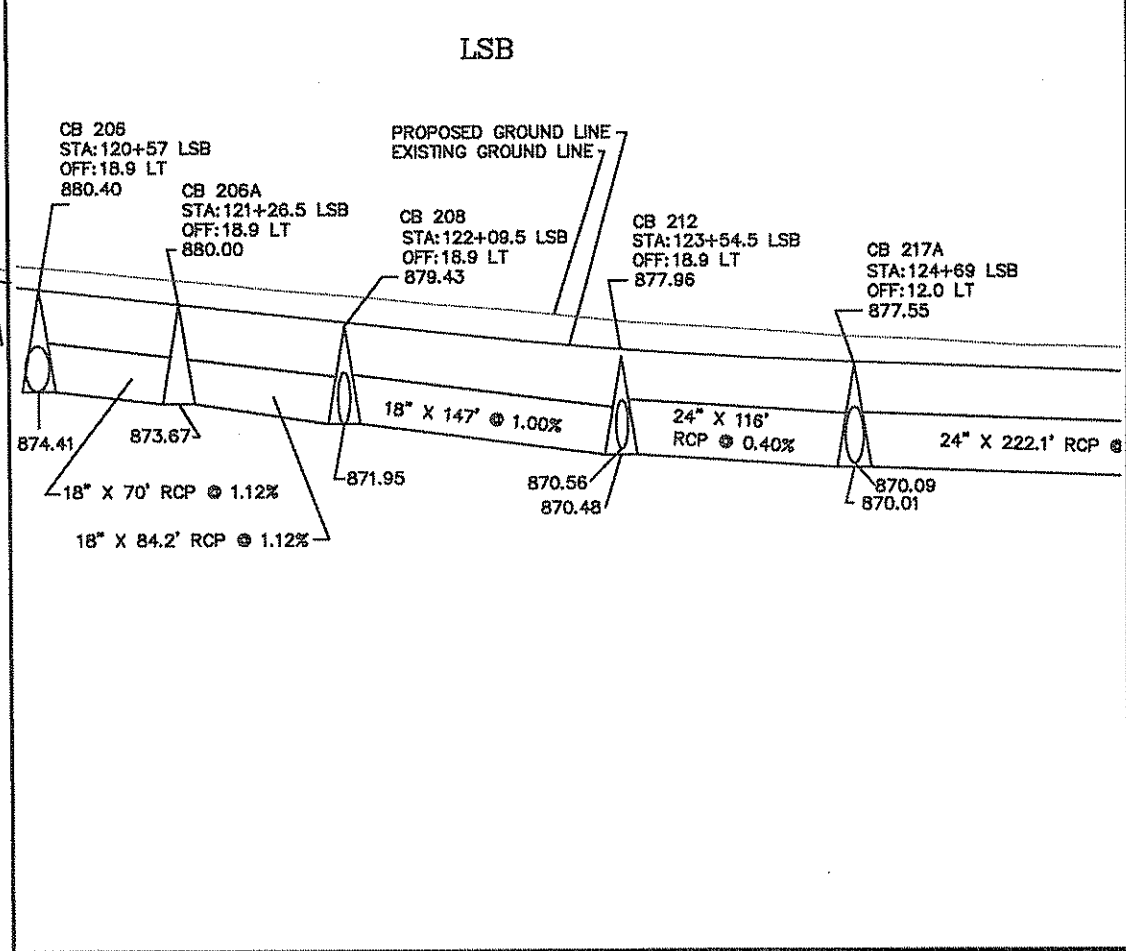
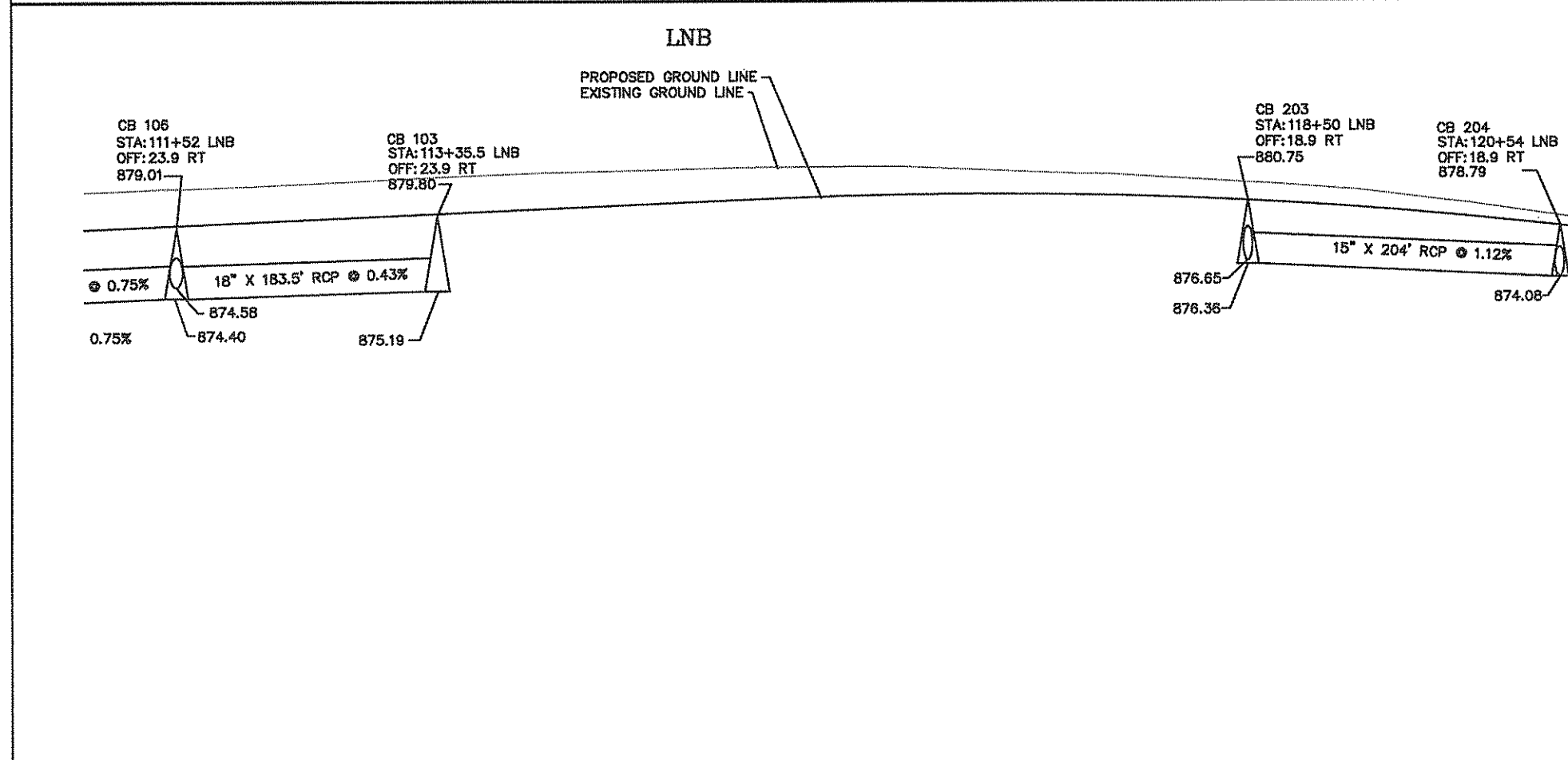
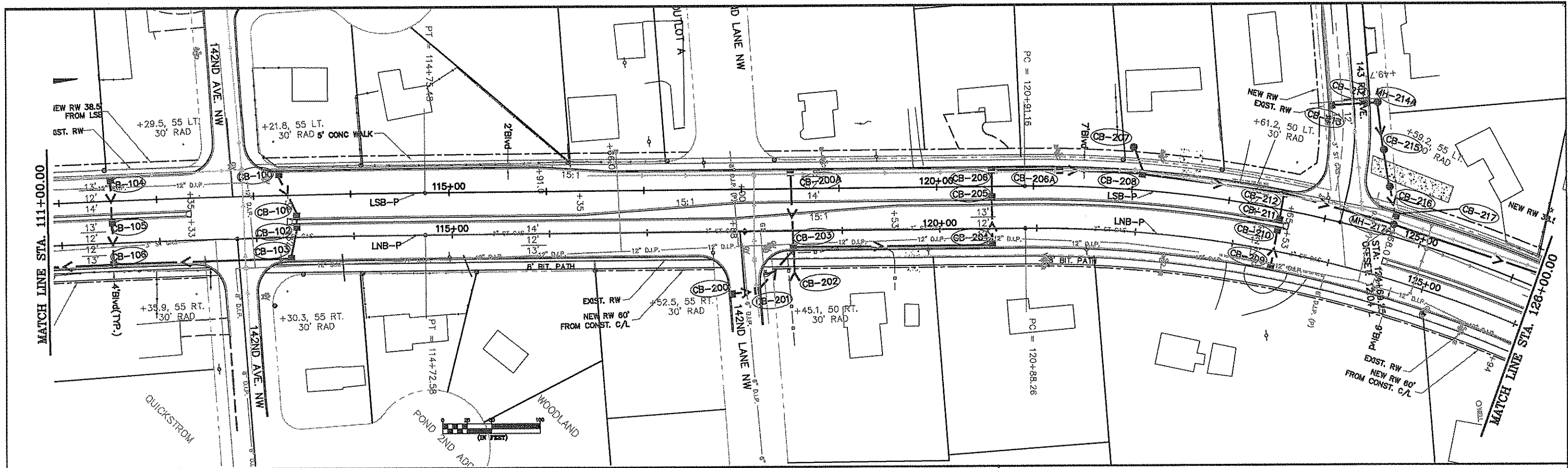
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. PRINT NAME: PETER M. LEMKE SIGNATURE: <i>Peter M. Lemke</i> DATE: 8/22/2003 LICENSE NO. 40118					DRAWN BY: MIN DATE: 04/01/03 DESIGN BY: PML DATE: 4/01/03 CHECKED BY: PML DATE: 4/01/03	ANOKA COUNTY HIGHWAY DEPT.	STATE PROJECT NO. _____ STATE AID PROJECT NO. 02-609-12 CITY PROJECT NO. 198-020-17 COUNTY PROJECT NO. _____	STORM DRAINAGE PLAN & PROFILE STA. 81+06.5 TO 96+00 Sheet 81 of 165 Sheets	
NO	DATE	BY	CKD	APPR	REVISION				
NAME: P:\0266912\PLAN\75-81-Storm Plan\Prof.DWG 08/26/2003 04:45:24 PM EDT									



LNB PROFILE



I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. PRINT NAME: PETER M. LEMKE SIGNATURE: <i>Peter M Lemke</i> DATE: 8/22/2003 LICENSE NO. 40118					DRAWN BY: MTH DATE: 04/01/03 DESIGN BY: PML DATE: 4/01/03 CHECKED BY: MTH DATE: 4/10/03	ANOKA COUNTY HIGHWAY DEPT.	STATE PROJECT NO. _____ STATE AID PROJECT NO. 02-609-12 CITY PROJECT NO. 198-020-17 COUNTY PROJECT NO. _____	STORM DRAINAGE PLAN & PROFILE STA. 96+00 TO 111+00 Sheet 82 of 165 Sheets	
NO	DATE	BY	CKD	APPR	REVISION				
NAME: P:\0260912\PLAN\75-81-Storm Plan\Prof.DWG 08/26/2003 04:45:24 PM CBT									



NO	DATE	BY	CHKD	APPR	REVISION

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 PRINT NAME: PETER M. LEMKE
 SIGNATURE: *Peter M. Lemke*
 DATE: 8/22/2003 LICENSE NO. 40118

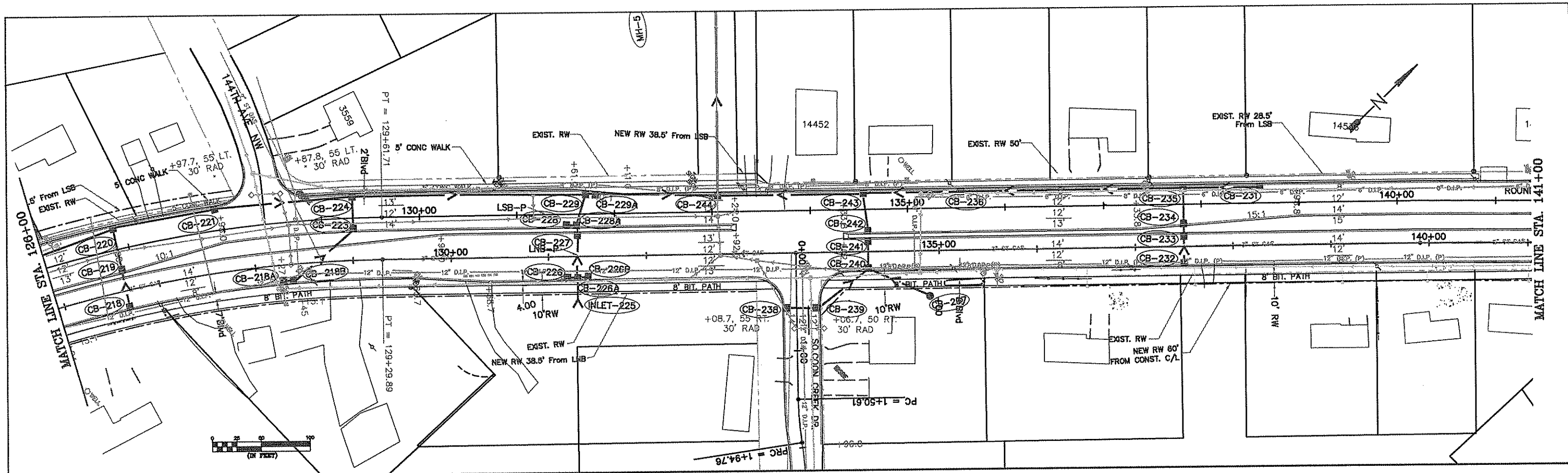
DRAWN BY: MN DATE: 04/01/03
 DESIGN BY: MTH DATE: 4/01/03
 CHECKED BY: PML DATE: 4/10/03



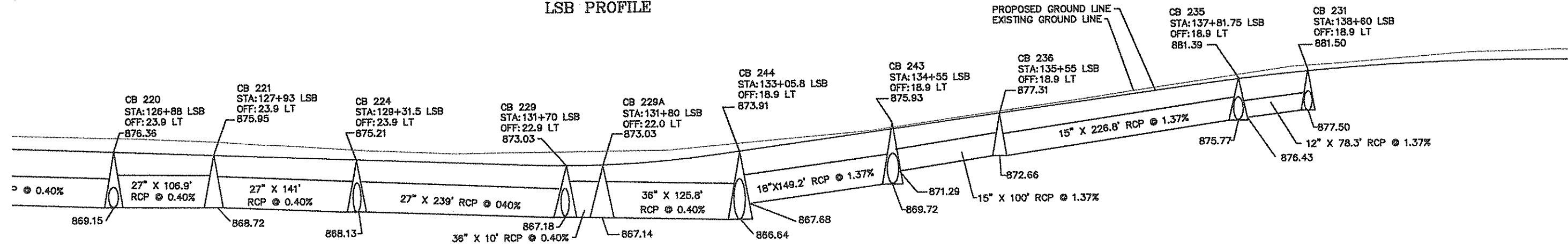
ANOKA COUNTY
 HIGHWAY DEPT.

STATE PROJECT NO. _____
 STATE AID PROJECT NO. 02-609-12
 CITY PROJECT NO. 198-020-17
 COUNTY PROJECT NO. _____

STORM DRAINAGE
 PLAN & PROFILE
 STA. 111+00 TO 128+00
 Sheet 83 of 165 Sheets



LSB PROFILE



NO	DATE	BY	CHKD	APPR	REVISION

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 PRINT NAME: PETER M. LEMKE
 SIGNATURE: *Peter M. Lemke*
 DATE: 8/22/2003 LICENSE NO. 40118

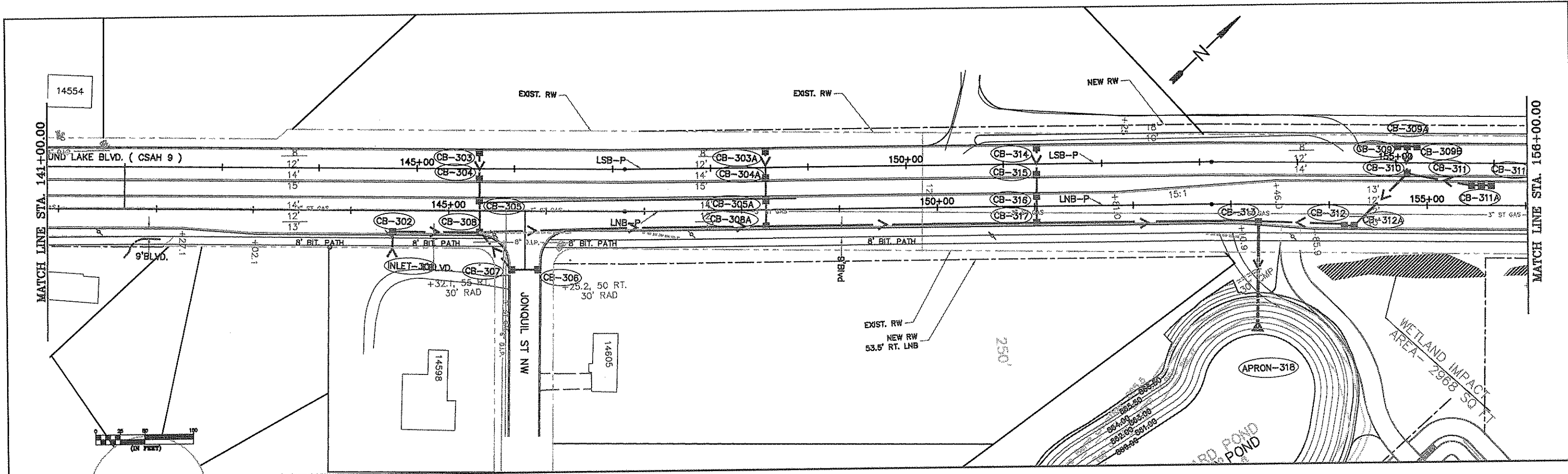
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 DESIGN BY: MTH DATE: 4/01/03
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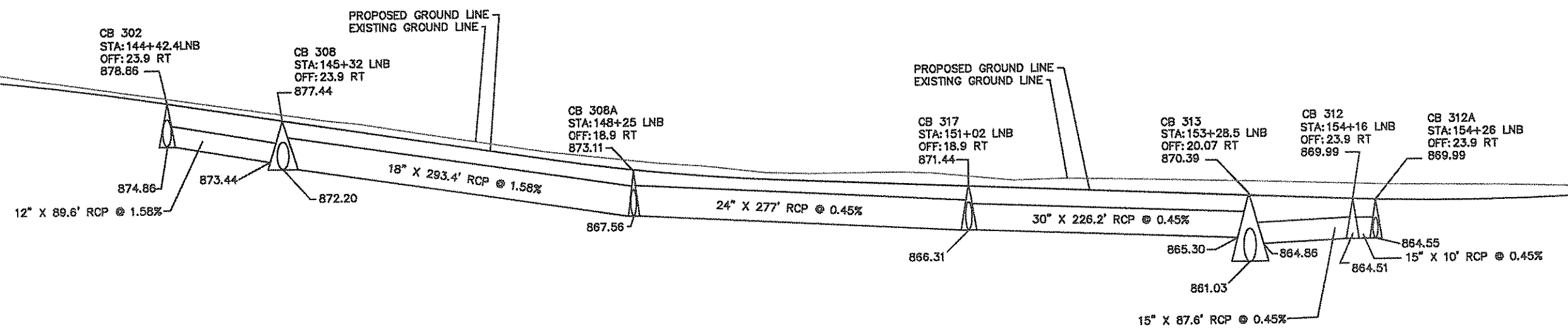
ANOKA COUNTY
 HIGHWAY DEPT.

STATE PROJECT NO. _____
 STATE AID PROJECT NO. 02-609-12
 CITY PROJECT NO. 198-020-17
 COUNTY PROJECT NO. _____

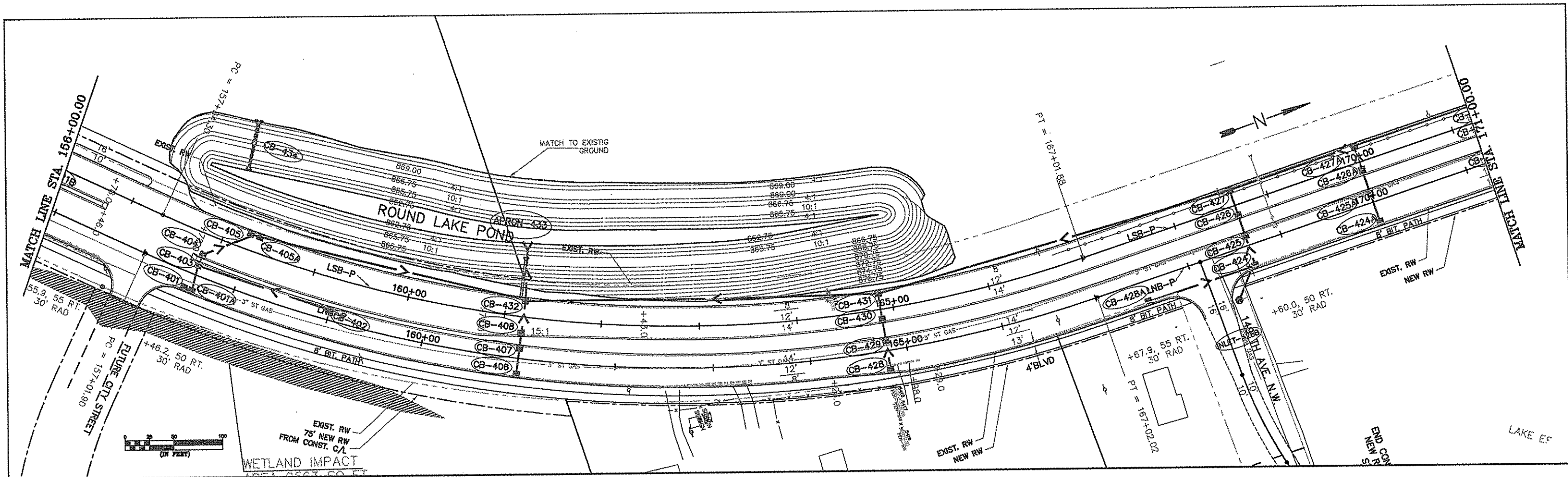
STORM DRAINAGE
 PLAN & PROFILE
 STA. 126+00 TO 141+00
 Sheet 84 of 165 Sheets



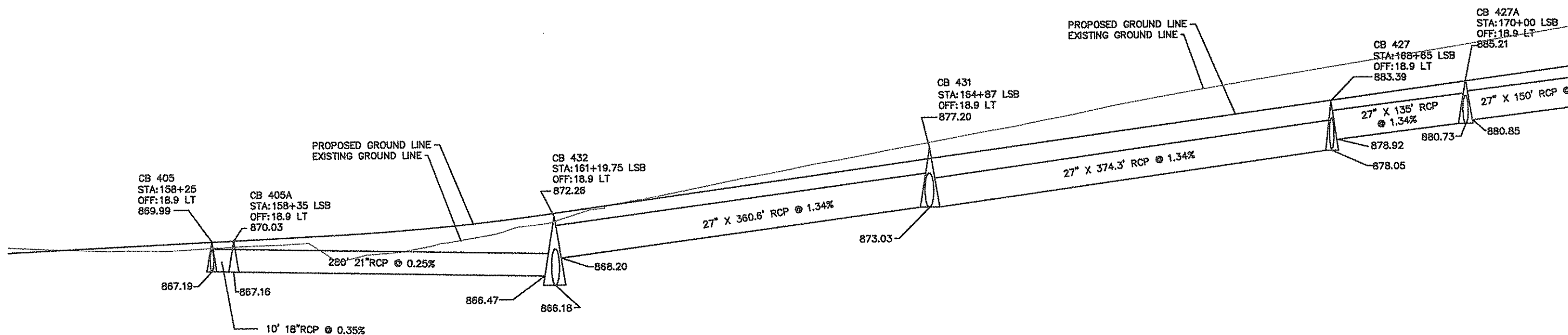
LNB-PROFILE



I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. PRINT NAME: PETER M. LEMKE SIGNATURE: <i>Peter M. Lemke</i> DATE: 8/22/2003 LICENSE NO. 4011B						DRAWN BY: MN DATE: 04/01/03 DESIGN BY: MTH DATE: 4/01/03 CHECKED BY: PML DATE: 4/10/03	ANOKA COUNTY HIGHWAY DEPT.	STATE PROJECT NO. _____ STATE AID PROJECT NO. 02-609-12 CITY PROJECT NO. 198-020-17 COUNTY PROJECT NO. _____	STORM DRAINAGE PLAN & PROFILE STA. 141+00 TO 156+00 Sheet 85 of 165 Sheets
NO	DATE	BY	CKD	APPR	REVISION				



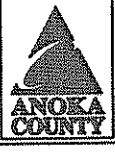
LSB PROFILE



NO	DATE	BY	CKD	APPR	REVISION

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 PRINT NAME: PETER M. LEMKE
 SIGNATURE: *Peter M. Lemke*
 DATE: 8/22/2003 LICENSE NO. 40118

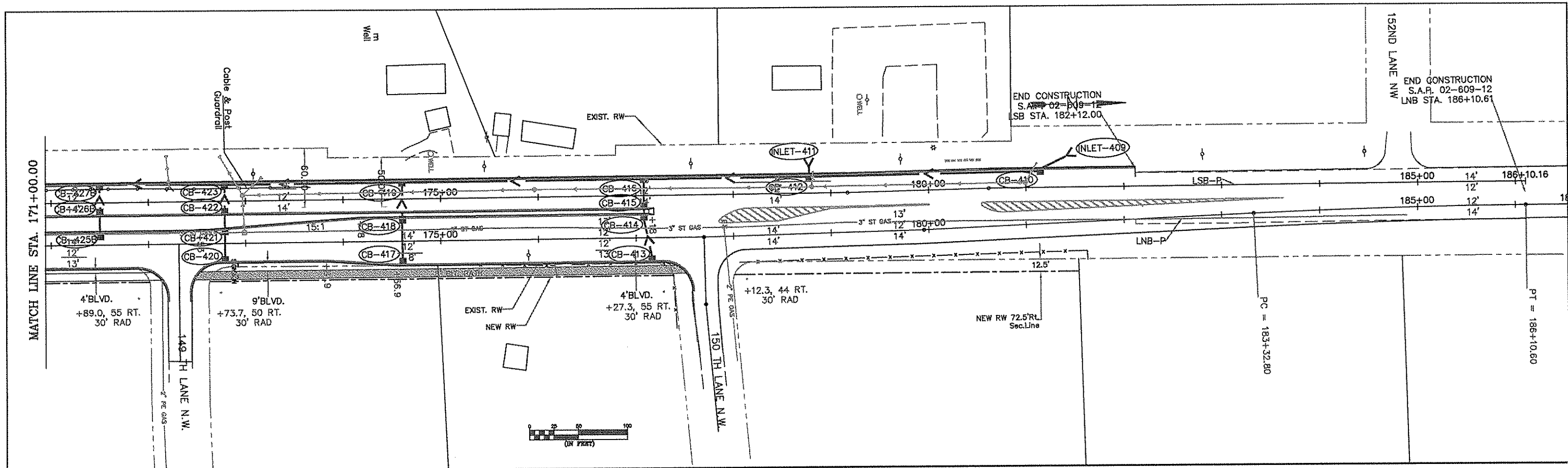
DRAWN BY: MN DATE: 04/01/03
 DESIGN BY: MTH DATE: 4/01/03
 CHECKED BY: PM DATE: 4/10/03



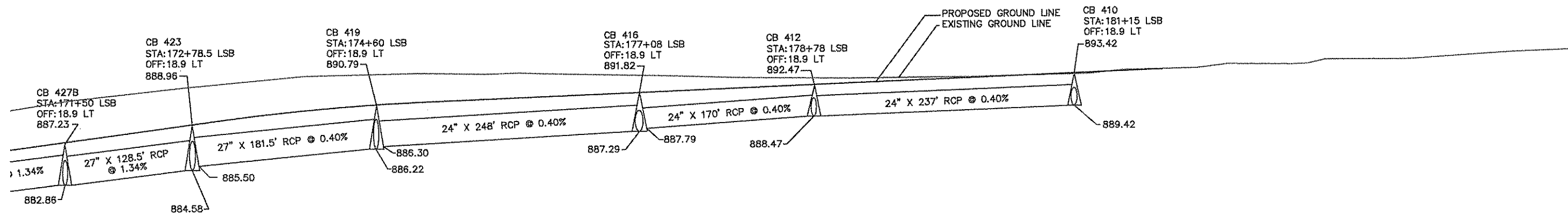
ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO. _____
 STATE AID PROJECT NO. 02-609-12
 CITY PROJECT NO. 198-020-17
 COUNTY PROJECT NO. _____

STORM DRAINAGE PLAN & PROFILE
 STA. 156+00 TO 171+00
 Sheet 86 of 165 Sheets



LSB PROFILE



NO	DATE	BY	CKD	APPR	REVISION

NAME: PA0260912\PLAN\75-81-Storm Plan\Prof.DWG 08/26/2003 04:43:24 PM CDT

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 PRINT NAME: PETER M. LEMKE
 SIGNATURE: *Peter M Lemke*
 DATE: 8/22/2003 LICENSE NO. 4011B

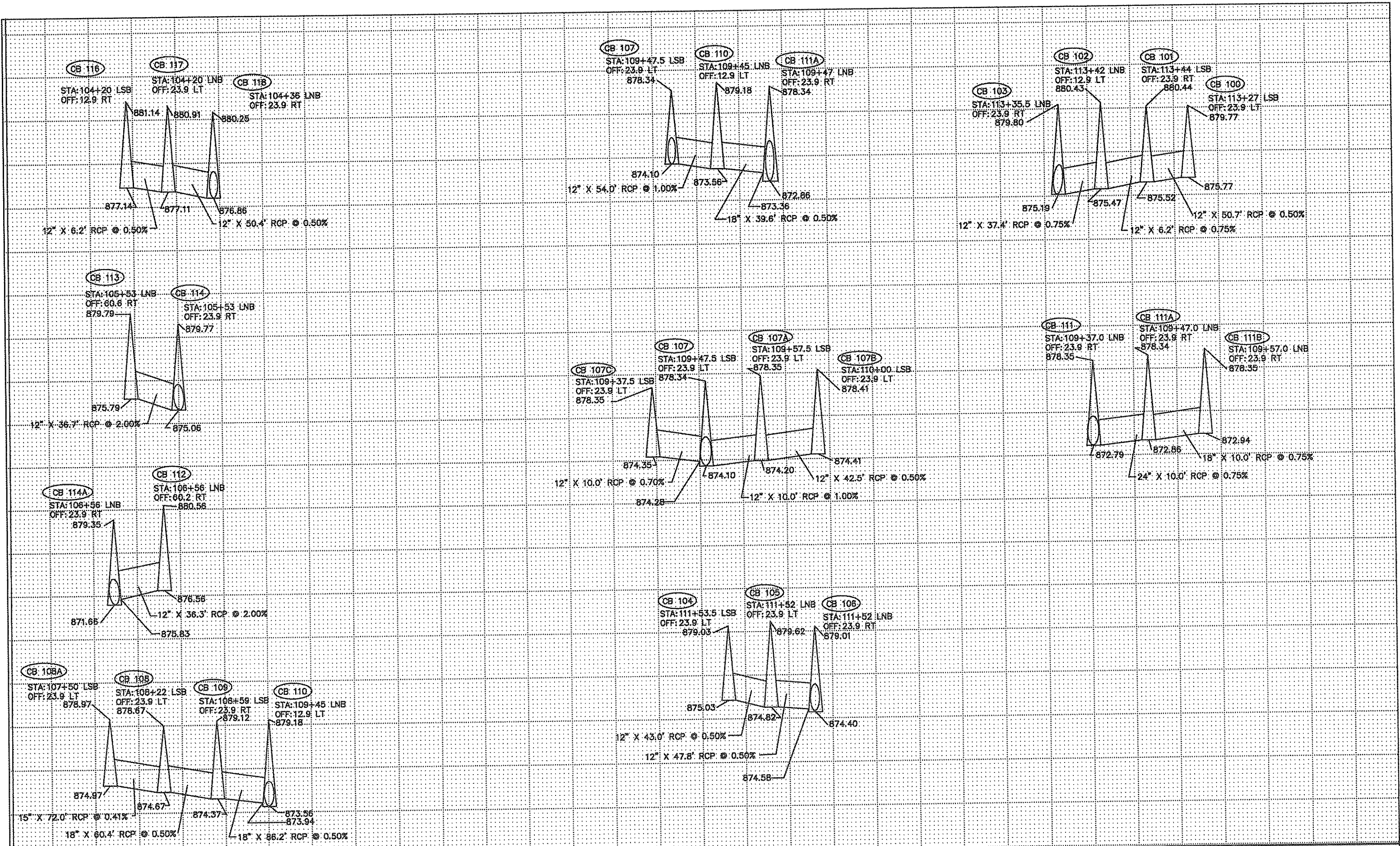
DRAWN BY: MN DATE: 04/01/03
 DESIGN BY: MTH DATE: 4/01/03
 CHECKED BY: PML DATE: 4/10/03



ANOKA COUNTY
 HIGHWAY DEPT.

STATE PROJECT NO. _____
 STATE AID PROJECT NO. 02-609-12
 CITY PROJECT NO. 198-020-17
 COUNTY PROJECT NO. _____

STORM DRAINAGE
 PLAN & PROFILE
 STA. 171+00 TO 186+10
 Sheet 87 of 165 Sheets



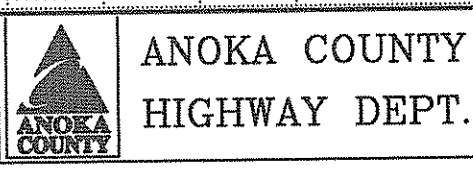
NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\0260912\PLAN\02-65-Storm Leads.dwg 08/25/03 10:06:46 AM CBT

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

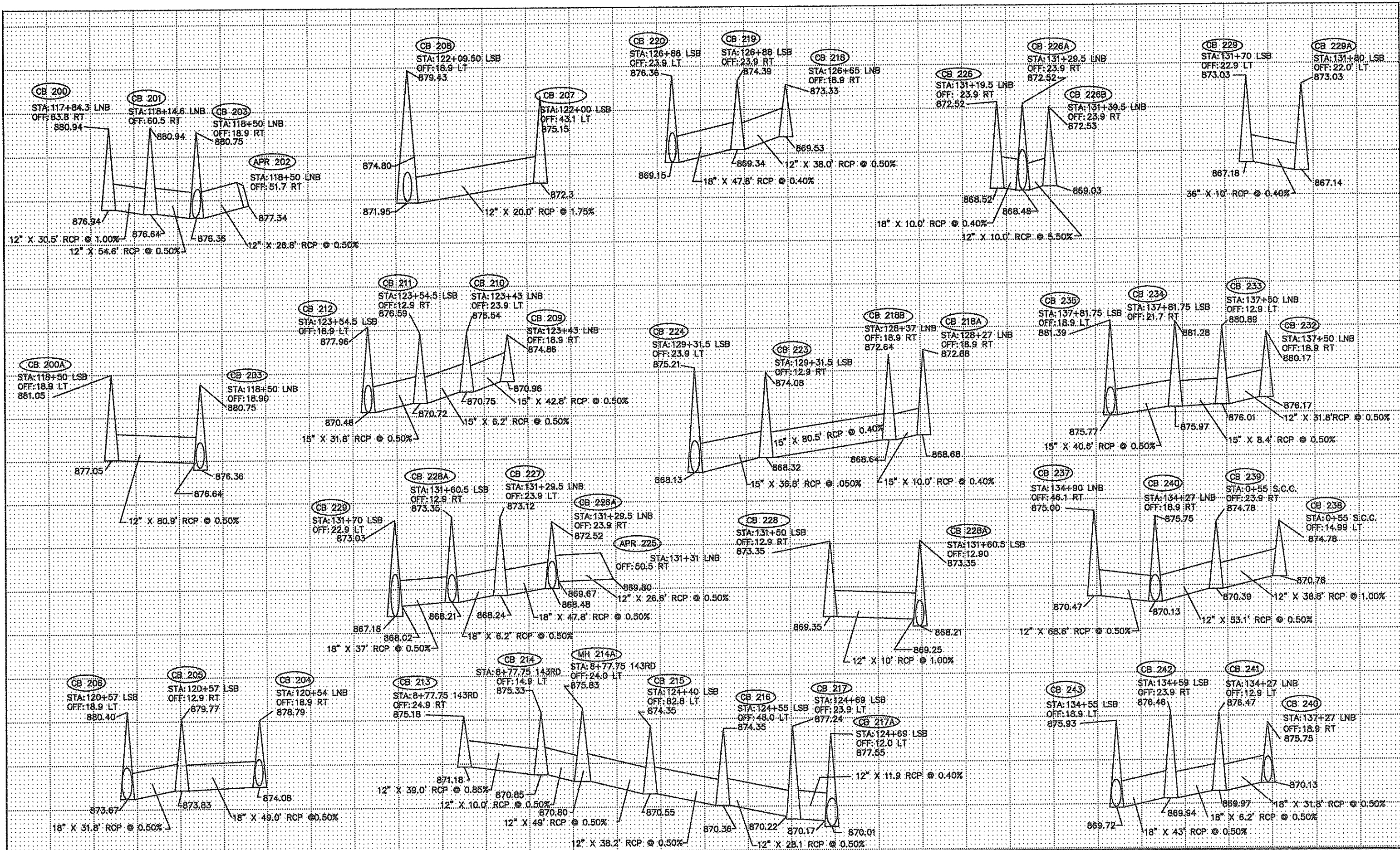
PRINT NAME: PETER M. LEMKE
 SIGNATURE: *Peter M Lemke*
 DATE: 8-22-2003 LICENSE NO. 40118

DRAWN BY: CSO DATE: 4-08-03
 DESIGN BY: CSO DATE: 4-08-03
 CHECKED BY: MTH DATE: 4-08-03



STATE PROJECT NO. _____
 STATE AID PROJECT NO. 02-609-12
 CITY PROJECT NO. 198-020-17
 COUNTY PROJECT NO. _____

STORM LEADS
 SYSTEM 100
 Sheet 88 of 165 Sheets



NO	DATE	BY	CHKD	APPR	REVISION

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

PRINT NAME: PETER M. LEMKE
 SIGNATURE: Peter M Lemke
 DATE: 8-22-2003 LICENSE NO. 4011B

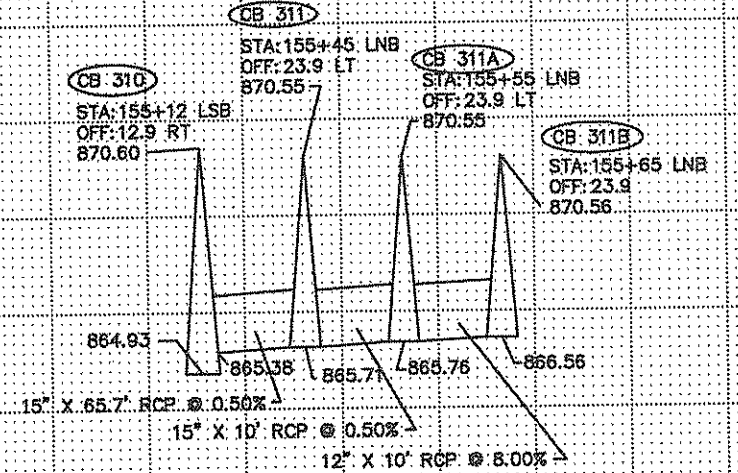
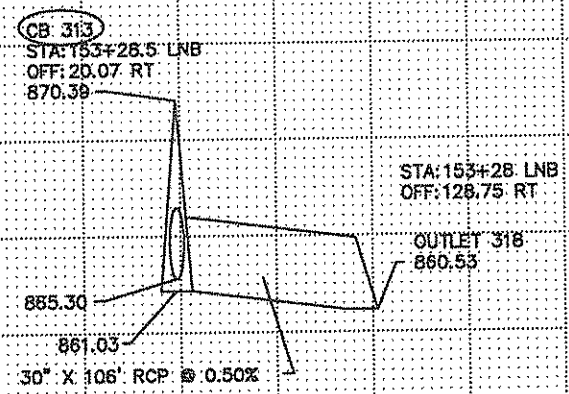
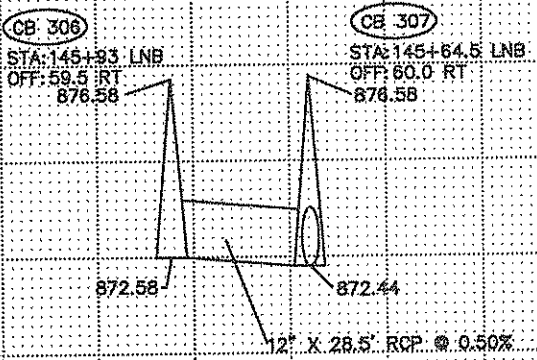
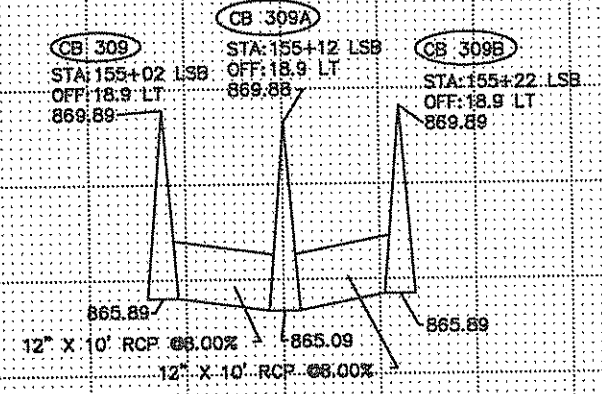
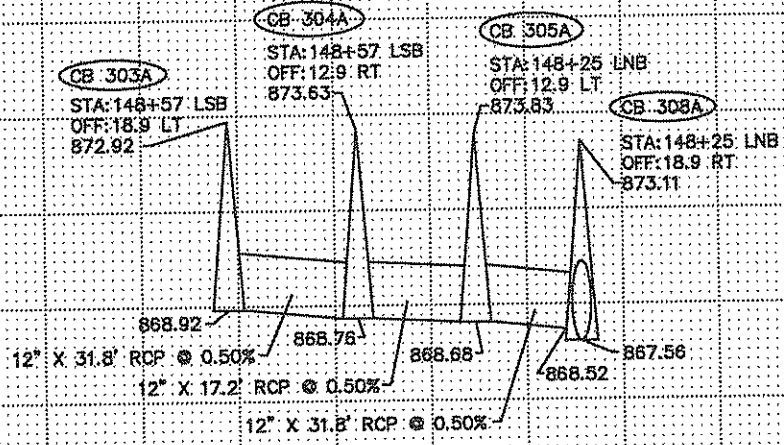
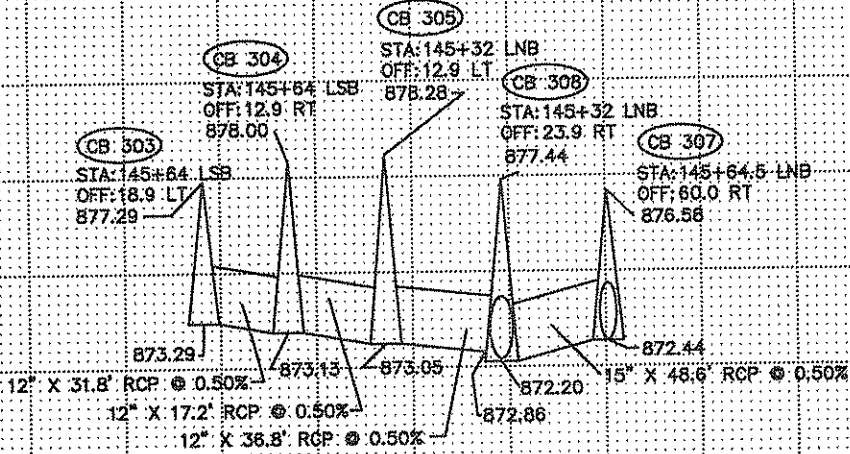
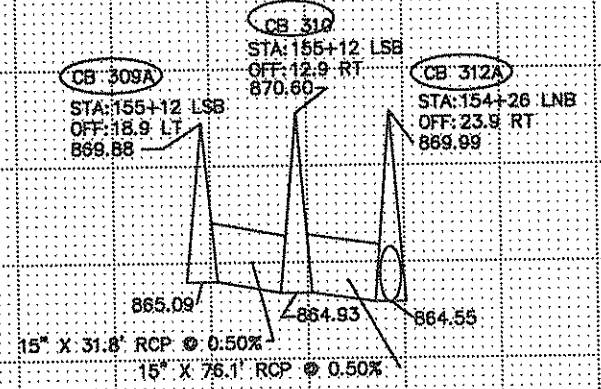
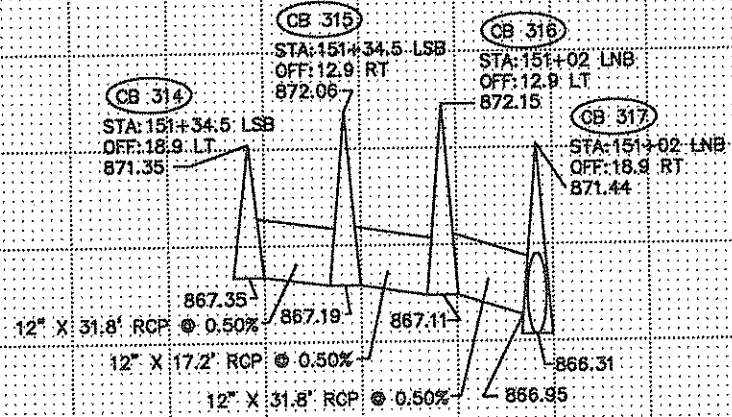
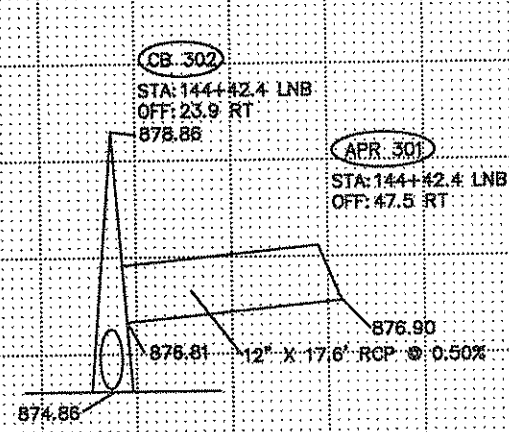
DRAWN BY CSO DATE 4-08-03
 DESIGNED BY CSO DATE 4-08-03
 CHECKED BY MTH DATE 4-08-03



ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. _____
 STATE AID PROJECT NO. 02-609-12
 CITY PROJECT NO. 198-020-17
 COUNTY PROJECT NO. _____

STORM LEADS
SYSTEM 200
 Sheet 89 of 165 Sheets



NO	DATE	BY	CHK	APPR	REVISION

NAME: P:\0260912\PLAN\BE-05-Storm Leads.dwg 08/25/03 10:02:46 AM CDT

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 PRINT NAME: PETER M. LEMKE
 SIGNATURE: *Peter M Lemke*
 DATE: 8-22-2003 LICENSE NO. 40118

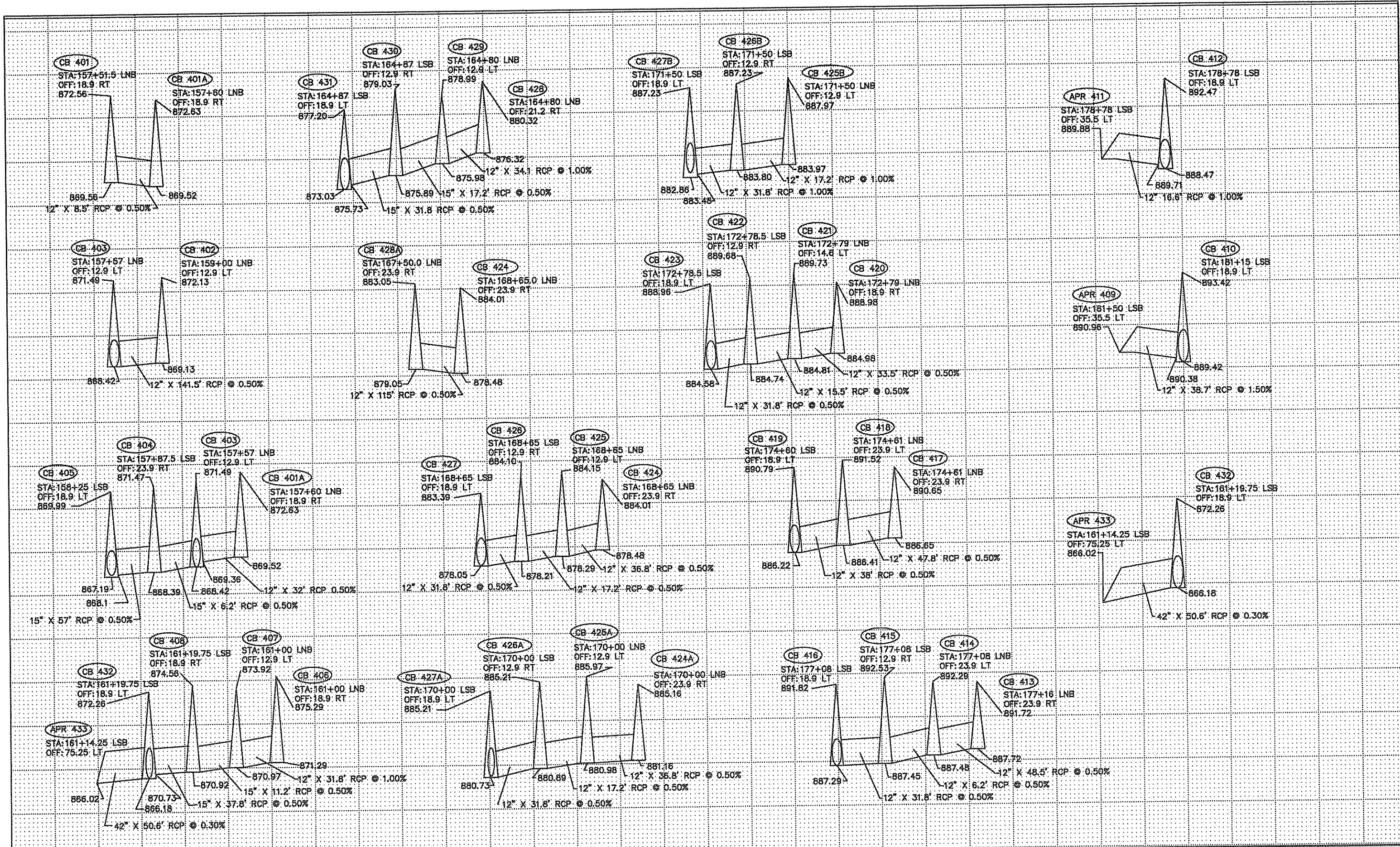
DRAWN BY: CSO DATE: 4-08-03
 DESIGN BY: CSO DATE: 4-08-03
 CHECKED BY: MTH DATE: 4-08-03



ANOKA COUNTY
 HIGHWAY DEPT.

STATE PROJECT NO. _____
 STATE AID PROJECT NO. 02-609-12
 CITY PROJECT NO. 198-020-17
 COUNTY PROJECT NO. _____

STORM LEADS
 SYSTEM 300
 Sheet 90 of 165 Sheets



I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 PRINT NAME: PETER M. LEMKE
 SIGNATURE: *Peter M Lemke*
 DATE: 8-22-2003 LICENSE NO. 40118

DRAWN BY CSO DATE 4-08-03
 DESIGN BY CSO DATE 4-08-03
 CHECKED BY MTH DATE 4-08-03



**ANOKA COUNTY
 HIGHWAY DEPT.**

STATE PROJECT NO. _____
 STATE AID PROJECT NO. 02-609-12
 CITY PROJECT NO. 198-020-17
 COUNTY PROJECT NO. _____

**STORM LEADS
 SYSTEM 400**
 Sheet 91 of 165 Sheets

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\0260912\PLAN\02-609-12-Storm Leads.dwg 08/25/03 10:02:46 AM CDT


FLOW FROM	ALIGNMENT	STATION	OFFSET	L/R	TOP OF CASTING ELEVATION	INVERT ELEVATION	PIPE SLOPE	FLOW TO:	NEW STRUCTURE CONSTRUCTION					EXISTING STRUCTURE			DRAINAGE PIPE - RCP (DESIGN 3006)						STR. OR APRON INLET	FOOT NOTES				
									DESIGN	PAY HT	CASTING ASSEMBLY	CONNECT INTO EXISTING DRAINAGE STRUCTURE	CONE	RE-CONSTRUCT DRAINAGE STRUCTURE	CONNECT TO EXISTING STORM SEWER	ADJUST FRAME & RING CASTING (STORM)	12 in CL II	15 in CL II	18 in CL II	21 in CL II	24 in CL II	30 in CL II						
STR. OR APRON INLET					FT	FT	%	STR. OR APRON OUTLET	FT	TYPE	EACH	TYPE	LN FT	EACH	EACH	FT	FT	FT	FT	FT	FT	FT	STR. OR APRON INLET					
501	LNB	94+06	24.9	RT	878.07	872.86		EXISTING			4.99	AD-7			1							501	H					
502	LNB	94+06	18.5	RT	878.20	872.91	0.74	501	G		5.07	B-1		2								502	F,G					
503	LNB	94+06	13.4	LT	878.74	873.14	0.74	502			5.38											503						
504	LSB	94+06	25.4	RT	878.54	873.32	2.54	503			5.00											504						
505	LSB	94+06	25.9	LT	877.95	874.49	2.29	504			3.24											505						
506	LNB	96+65	25.0	RT	879.27	874.67	0.70	501			4.38	AD-7			1							506	H					
507	LNB	96+67	17.8	RT	879.41	874.75	1.20	506	G		4.44	B-1		2								507	F,G					
508	LNB	96+72	12.6	LT	880.02	875.13	1.20	507			4.67											508						
509	LSB	96+73	24.0	RT	879.85	875.34	2.33	508			4.29											509						
510	LSB	96+73	23.7	LT	879.21	875.88	1.10	509			3.11											510						
511	LNB	99+00	24.7	RT	880.19	875.84	0.50	506			4.13	AD-7			1							511	H					
512	LNB	99+01	17.9	RT	880.31	875.97	2.20	511	G		4.12	B-1		2								512	F,G					
513	LSB	99+04	24.3	LT	879.57	877.88	2.20	512			1.47											513						
100	LSB	113+27.00	23.90	LT	879.77	875.77	0.50	101	G		3.78	B-1				50.7						100						
101	LSB	113+44.00	23.90	RT	880.44	875.52	0.75	102	G		4.70	B-1				6.2						101						
102	LNB	113+42.00	12.90	LT	880.43	875.47	0.75	103	G		4.74	B-1				37.4						102						
103	LNB	113+35.50	23.90	RT	879.80	875.19	0.43	106	48-4020		4.39	B-1					183.5					103						
104	LSB	111+53.50	23.90	LT	879.03	875.03	0.50	105	G		3.78	B-1				43.0						104						
105	LNB	111+52.00	23.90	LT	879.62	874.82	0.50	106	G		4.59	B-1				47.8						105						
106	LNB	111+52.00	23.90	RT	879.01	874.40	0.75	111B	48-4020		4.39	B-1					195.0					106						
107	LSB	109+47.50	23.90	LT	878.34	874.10	1.00	110	48-4020		4.02	B-1 (LP)				54.0						107	E					
107A	LSB	109+57.50	23.90	LT	878.35	874.20	1.00	107	G		3.93	B-1 (LP)				10.0						107A	E					
107B	LSB	110+00.00	23.90	LT	878.41	874.41	0.50	107A	G		3.78	B-1				42.5						107B						
107C	LSB	109+37.50	23.90	LT	878.35	874.35	0.70	107	G		3.78	B-1 (LP)				10.0						107C	E					
108	LSB	108+22.00	23.90	LT	878.67	874.67	0.50	109	48-4020		3.78	B-1					60.4					108						
108A	LSB	107+50.00	23.90	LT	878.97	874.97	0.41	108	G		3.78	B-1				72.0						108A						
109	LSB	108+59.00	23.90	RT	879.12	874.37	0.50	110	48-4020		4.53	B-1					86.2					109						
110	LNB	109+45.00	12.90	LT	879.18	873.56	0.50	111A	54-4020		5.40	B-1					39.6					110	E					
111	LNB	109+37.00	23.90	RT	878.35	872.79	0.38	114B	54-4020		5.34	B-1 (LP)									112.4	111	E					
111A	LNB	109+47.00	23.90	RT	878.34	872.86	0.75	111	60-4020		5.26	B-1 (LP)									10.0	111A	E					
111B	LNB	109+57.00	23.90	RT	878.35	872.94	0.75	111A	48-4020		5.19	B-1 (LP)					10.0					111B	E					
112	LNB	106+56.50	60.20	RT	880.56	876.56	2.00	114A	G		3.78	B-1				36.3						112						
113	LNB	105+53.00	60.60	RT	879.79	875.79	2.00	114	G		3.78	B-1				36.7						113						
114	LNB	105+53.00	23.90	RT	879.77	875.06	1.85	114A	54-4020		4.49	B-1				103.0						114						
114A	LNB	106+56.00	23.90	RT	879.35	871.66	0.50	131	78-4020		7.48	B-1									10.5	114A						
114B	LNB	108+24.00	23.90	RT	878.66	872.36	0.42	114A	54-4020		6.08	B-1									168.0	114B						
116	LSB	104+20.00	12.90	RT	881.14	877.14	0.50	117	G		3.78	B-1				6.2						116						
117	LNB	104+20.00	23.90	LT	880.91	877.11	0.50	118	G		3.58	B-1				50.4						117						
118	LNB	104+36.00	23.90	RT	880.25	876.86	0.50	114	H		3.17	B-1				117.0						118						
131	LNB	106+56.00	13.40	RT	879.79	871.60	0.50	132	78-4020		7.97	AD-7									10.5	131	K					
132	LNB	106+45.00	13.40	RT	879.89	871.55	0.50	133	72-4020		8.06	AD-7									10.5	132	K					
VT-1	LNB	-	-	RT	879.89	871.50	0.50	VT-1	-		8.11										10.5	VT-1	K					
VT-1	LNB	106+48.00	5.90	RT		871.45	0.50	134																				
	LNB	106+93.00	5.90	RT																								
	LNB	106+48.00	3.10	LT																								
	LNB	106+93.00	3.10	LT																								
133	LNB	106+25.00	13.40	RT	879.91	871.50	0.50	134	72-4020		8.19	AD-7									11.2	133	K					
134	LNB	106+25.00	2.30	RT	880.19	871.39	0.50	MH-3	78-4020		8.58	AD-7	1								72.3	134	I,K					
MH-1	LNB	108+91.00	41.00	RT	879.30	868.81	0.90	MH-3				AD-7 (S)		4.9									MH-1	J				
MH-2	LNB	105+20.50	27.14	RT	880.34	866.81	0.29	MH-3				AD-7 (S)											MH-2	H				
MH-3	LSB	106+46.50	23.90	LT	879.49	866.97	0.50	POND				AD-7 (S)											MH-3	H				
TOTAL													1			4.3		6		2	548.2	175.0	535.1	39.6	52.7	373.7		

(A) STATIONS, OFFSETS, AND TOP OF CASTING ELEVATIONS ARE GIVEN TO CENTER OF CASTING. CENTER OF CATCH BASIN CASTING IS 1.10 FT FROM FACE OF CURB. DESIGN 4020
(B) TIE LAST THREE JOINTS AT APRON END. FURNISHING AND INSTALLING PIPE TIES CONSIDERED INCIDENTAL.
(C) ALL POTENTIAL CONFLICTS WITH PUBLIC AND PRIVATE UTILITIES SHALL BE FIELD VERIFIED PRIOR TO INSTALLATION OF STORM SEWER.
(D) FURNISHING AND INSTALLING STEPS CONSIDERED INCIDENTAL.
(E) SEDIMENT BARRIERS SHALL BE USED ON ALL LOW POINT CATCH BASINS PRIOR TO PAVEMENT PLACEMENT.
(F) CONSTRUCT OVER EXISTING PIPE. VERIFY EXISTING PIPE ELEVATION IN THE FIELD.
(G) CONNECT TO EXISTING PIPE AND MATCH ELEVATIONS. VERIFY EXISTING PIPE ELEVATIONS IN THE FIELD.
(H) ADJUST DRAINAGE STRUCTURE. VERIFY PROPOSED TOP OF CASTING ELEVATION WITH ENGINEER IN THE FIELD.
(I) CONNECT TO EXISTING DRAINAGE STRUCTURE. VERIFY EXISTING INVERT ELEVATION IN THE FIELD.
(J) RECONSTRUCT DRAINAGE STRUCTURE. VERIFY PROPOSED TOP OF CASTING ELEVATION WITH ENGINEER IN THE FIELD. SEE STANDARD EROSION CONTROL PLAN SHEETS. CONSIDERED INCIDENTAL TO STORM SEWER STRUCTURE.
(K) THE STORM WATER TREATMENT SYSTEM IS LOCATED AT STATION 106+40, 1 FT RT LNB. IT IS SHOWN ON THE PLANS WITH THE ENGINEER'S ANTICIPATED CONFIGURATION WITH PIPE AND MANHOLE SIZING. THE FINAL CONFIGURATION, PIPE AND MANHOLE SIZES WILL BE DETERMINED UPON RECEIPT OF RECOMMENDATIONS FROM THE STORM WATER TREATMENT SYSTEM MANUFACTURER. CONTRACT PAY ITEMS WILL BE USED FOR THE STORM SEWER PIPE AND DRAINAGE STRUCTURES, NO ADDITIONAL COMPENSATION WILL BE MADE. A CONCRETE WEIR SHALL BE CONSTRUCTED IN THE BYPASS MANHOLE FOR THE STORM WATER TREATMENT SYSTEM PER THE MANUFACTURER'S RECOMMENDATIONS (SEE THE VORTECH DETAILS IN THE ATTACHMENTS). THE CONSTRUCTION OF THE CONCRETE WEIR SHALL BE CONSIDERED INCIDENTAL TO THE STORM WATER TREATMENT SYSTEM, NO ADDITIONAL COMPENSATION SHALL BE MADE. THE CONTRACTOR SHALL NOT ORDER THE MANHOLES AND STORM SEWER PIPE FOR THE STORM WATER TREATMENT SYSTEM UNTIL THE ENGINEER APPROVES THE MANUFACTURER'S SHOP DRAWINGS AND DETAILS.

1	9/03/03	MFG	PML	PML	ADD NOTE (K) TO STRUCTURES 131-134, VT-1		I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. PRINT NAME: PETER M. LEMKE SIGNATURE: <i>Peter M. Lemke</i> DATE: 8/22/2003 9/03/2003 LICENSE NO. 40118	DRAWN BY: MTH DATE 04/08/03 DESIGN BY: MTH DATE 04/08/03 CHECKED BY: PML DATE 04/08/03	ANOKA COUNTY HIGHWAY DEPT.	STATE PROJECT NO. _____ STATE AID PROJECT NO. 02-609-12 CITY PROJECT NO. 198-020-17 COUNTY PROJECT NO. _____	STORM SEWER TABULATION CHARTS SYSTEM 100 Sheet 92 of 165 Sheets
NO	DATE	BY	CKD	APPR	REVISION						
NAME: P:\0260912\PLAN\86-89-StormTabulation.dwg 09/04/2003 07:15:26 AM CDT											

FLOWS FROM STR. OR APRON INLET	ALIGNMENT	STATION	OFFSET	L/R	TOP OF CASTING ELEVATION	INVERT ELEVATION	PIPE SLOPE	FLOWS TO: STR. OR APRON OUTLET	NEW STRUCTURE CONSTRUCTION			DRAINAGE PIPE - RCP (DESIGN 3006)								RIPRAP AT RCP OUTLETS		FLOWS FROM STR. OR APRON INLET	FOOT NOTES				
									DESIGN	PAY HT	CASTING ASSEMBLY	12 in CL II	12 in CL II APRON	15 in CL II	18 in CL II	21 in CL II	24 in CL II	30 in CL II	36 in CL II	36 in CL II APRON	CL III 18" DEPTH RIPRAP			GEOTEXTILE FILTER TYPE IV			
					FT	FT	%		FT	TYPE	FT	EACH	FT	FT	FT	FT	FT	FT	FT	EACH	CU YD	SQ YD					
200	LNB	117+84.90	83.80	RT	880.94	876.94	1.00	201	G	3.78	B-1	30.5												200			
200A	LSB	118+50.00	18.90	LT	881.05	877.05	0.50	203	G	3.78	B-1	80.9													200A		
201	LNB	118+14.80	60.50	RT	880.94	876.64	0.50	203	G	4.09	B-1	54.6													201		
202	LNB	118+50.00	51.70	RT	877.34	877.34	0.50	203				26.8	1												202	B, APRON	
203	LNB	118+50.00	18.90	RT	880.75	876.36	1.12	204	72-4020	4.17	B-1			204.0											203		
204	LNB	120+54.00	18.90	RT	878.79	874.08	0.50	205	54-4020	4.49	B-1				49.0										204		
205	LSB	120+57.00	12.90	RT	879.77	873.83	0.50	206	F	5.72	B-1				31.8										205		
206	LSB	120+57.00	18.90	LT	880.40	873.67	1.12	206A	54-4020	6.51	B-1				70.0										206		
206A	LSB	121+28.50	18.90	LT	880.00	872.89	1.12	208	F	6.89	B-1				84.2										206A		
207	LSB	122+00.00	43.10	LT	879.15	879.15	1.75	208	G	-0.22	B-1	20.0													207		
209	LSB	122+09.50	18.90	LT	879.43	871.95	1.00	212	60-4020	7.28	B-1				147.0										209		
209	LNB	123+43.00	18.90	RT	874.86	870.96	0.50	210	H	3.68	B-1			42.8											209		
210	LNB	123+43.00	23.90	LT	876.54	870.75	0.50	211	G	5.57	B-1			6.2											210		
211	LSB	123+54.50	12.90	RT	876.59	870.72	0.50	212	G	5.66	B-1			31.8											211		
212	LSB	123+54.50	18.90	LT	877.96	870.48	0.40	217A	80-4020	7.26	B-1					116.0									212		
213	143RD	08+77.75	24.90	RT	875.18	871.18	0.85	214	G	3.78	B-1	39.0													213		
214	143RD	08+77.75	14.90	LT	875.33	870.85	0.50	214A	G	4.26	B-1	10.0													214		
214A	143RD	08+77.75	24.00	LT	875.83	870.80	0.50	215	G	4.81	AD-7	49.0													214A		
215	LSB	124+40.00	82.80	LT	874.35	870.55	0.50	216	G	3.58	B-1	38.2													215		
216	LSB	124+55.00	48.00	LT	874.35	870.36	0.50	217	G	3.77	B-1	28.1													216		
217	LSB	124+69.00	23.90	LT	877.24	870.22	0.40	217A	F	6.80	B-1	11.9													217		
217A	LSB	124+69.00	12.00	LT	877.55	870.01	0.40	220	54-4020	7.32	AD-7					222.1									217A		
218	LNB	126+65.00	18.90	RT	873.33	869.53	0.50	219	H	3.58	B-1	38.0													218		
218A	LNB	128+27.00	18.90	RT	872.68	868.68	0.40	218B	G	3.78	B-1			10.0											218A		
218B	LNB	128+37.00	18.90	RT	872.64	868.64	0.40	223	G	3.78	B-1			80.5											218B		
219	LSB	126+88.00	23.90	RT	874.39	869.34	0.40	220	G	4.83	B-1				47.8										219		
220	LSB	126+88.00	23.90	LT	876.36	869.15	0.40	221	60-4020	6.99	B-1					106.9									220		
221	LSB	127+93.00	23.90	LT	875.95	868.72	0.40	224	F	7.01	B-1					141.0									221		
222	LSB	129+31.50	12.90	RT	874.08	868.32	0.50	224	G	5.54	B-1			36.8											222		
224	LSB	129+31.50	23.90	LT	875.21	868.13	0.40	229	60-4020	6.86	B-1					239.0									224		
225	LNB	131+31.00	50.50	RT	869.80	869.80	0.50	226A				26.6	1												225	B, APRON	
226	LNB	131+19.50	23.90	RT	872.52	868.52	0.40	226A	G	3.78	B-1 (LP)			10.0											226	E	
226A	LNB	131+29.50	23.90	RT	872.52	868.48	0.50	227	54-4020	3.82	B-1 (LP)				47.8										226A	E	
226B	LNB	131+39.50	23.90	RT	872.53	869.03	5.50	228A	H	3.28	B-1 (LP)	10.0													226B	E	
227	LNB	131+29.50	23.90	LT	873.12	868.24	0.50	228A	G	4.66	B-1 (LP)				6.2										227	E	
228	LSB	131+50.50	12.90	RT	873.35	869.35	1.00	228A	G	3.78	B-1 (LP)	10.0													228	E	
228A	LSB	131+60.50	12.90	RT	873.35	868.21	0.50	229	54-4020	4.92	B-1 (LP)				37.0										228A	E	
229	LSB	131+70.00	22.90	LT	873.03	867.18	0.40	229A	78-4020	5.83	B-1 (LP)														229	E	
229A	LSB	131+80.00	22.00	LT	873.03	867.14	0.40	244	60-4020	5.87	B-1 (LP)					125.8									229A	E	
231	LSB	138+60.00	18.90	LT	881.50	877.50	1.37	235	G	3.78	B-1	78.3													231		
232	LNB	137+50.00	18.90	RT	880.17	876.17	0.50	233	G	3.78	B-1	31.8													232		
233	LNB	137+50.00	12.90	LT	880.89	876.01	0.50	234	G	4.66	B-1			8.4											233		
234	LSB	137+81.75	23.90	RT	881.28	875.97	0.50	235	G	5.09	B-1			40.6											234		
235	LSB	137+81.75	18.90	LT	881.39	875.77	1.37	236	48-4020	5.40	B-1			226.8											235		
236	LSB	135+55.00	18.90	LT	877.31	872.66	1.37	243	G	4.43	B-1			100.0											236		
237	LNB	134+90.00	46.10	RT	875.00	870.47	0.50	240	G	4.31	B-1	68.6													237		
239	S.C.C.	0+55.00	14.90	LT	874.78	870.78	1.00	239	G	3.78	B-1	38.8													239		
239	S.C.C.	0+55.00	23.90	RT	874.78	870.39	0.50	240	G	4.17	B-1			53.1											239		
240	LNB	134+27.00	18.90	RT	875.75	870.13	0.50	241	48-4020	5.40	B-1				31.8										240		
241	LNB	134+27.00	12.90	LT	876.47	869.97	0.50	242	F	6.28	B-1				6.2										241		
242	LSB	134+59.00	23.90	RT	876.46	869.94	0.50	243	F	6.30	B-1				43.0										242		
243	LSB	134+55.00	18.90	LT	875.93	869.72	1.37	244	54-4020	5.99	B-1				149.2										243		
244	LSB	133+05.80	18.90	LT	873.91	866.64	0.50	MH-4	72-4020	7.05	B-1					189.6									244		
MH-4	LSB	133+07.00	208.50	LT	872.16	865.69	0.50	MH-5	84-4020	6.25	AD-7 (S)					69.5									MH-4		
MH-5	LSB	132+37.50	210.50	LT	871.70	865.34	0.50	APRON	66-4020	6.14	AD-7 (S)					134.2	1								MH-5	B, APRON	
APRON	LSB	130+86.00	368	LT		864.67		POND													13.8	27.6					
TOTAL												691.1	2	651.0	601.8	149.2	338.1	486.9	529.1	1	13.8	27.6					

- (A) STATIONS, OFFSETS, AND TOP OF CASTING ELEVATIONS ARE GIVEN TO CENTER OF CASTING. CENTER OF CATCH BASIN CASTING IS 1.10 FT FROM FACE OF CURB. DESIGN 4020
- (B) THE LAST THREE JOINTS AT APRON END. FURNISHING AND INSTALLING PIPE TIES CONSIDERED INCIDENTAL.
- (C) ALL POTENTIAL CONFLICTS WITH PUBLIC AND PRIVATE UTILITIES SHALL BE FIELD VERIFIED PRIOR TO INSTALLATION OF STORM SEWER.
- (D) FURNISHING AND INSTALLING STEPS CONSIDERED INCIDENTAL.
- (E) SEDIMENT BARRIERS SHALL BE USED ON ALL LOW POINT CATCH BASINS PRIOR TO PAVEMENT PLACEMENT. SEE STANDARD EROSION CONTROL PLAN SHEETS. CONSIDERED INCIDENTAL TO STORM SEWER STRUCTURE.

NO		DATE	BY	CKD	APPR	REVISION
NAME: P:\0260912\PLAN\86-89-StormTabulation.dwg 08/26/03 01:39:24 PM CDT						
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.						
PRINT NAME: PETER M. LEMKE						
SIGNATURE: <i>Peter M. Lemke</i>						
DATE: 8/22/2003 LICENSE NO. 40118						
DRAWN BY: MTH		DATE: 04/08/03				
DESIGN BY: MTH		DATE: 04/08/03				
CHECKED BY: PML		DATE: 04/08/04				
 ANOKA COUNTY HIGHWAY DEPT.		STATE PROJECT NO. _____				
		STATE AID PROJECT NO. <u>02-609-12</u>				
		CITY PROJECT NO. <u>198-020-17</u>				
		COUNTY PROJECT NO. _____				
						STORM SEWER TABULATION CHARTS SYSTEM 200
						Sheet <u>93</u> of <u>165</u> Sheets

FLOWS FROM	ALIGNMENT	STATION	OFFSET	L/R	TOP OF CASTING ELEVATION	INVERT ELEVATION	PIPE SLOPE	FLOWS TO:	NEW STRUCTURE CONSTRUCTION			DRAINAGE PIPE - RCP (DESIGN 3006)							RIPRAP AT RCP OUTLETS		FLOWS FROM	FOOT NOTES		
									STR. OR APRON OUTLET	DESIGN	PAY HT	CASTING ASSEMBLY	12 in CL II	12 in CL II APRON	15 in CL II	18 in CL II	21 in CL II	24 in CL II	30 in CL II	30 in CL II APRON			CL III 18" DEPTH RIPRAP	GEOTEXTILE FILTER TYPE IV
STR. OR APRON INLET					FT	FT	%		FT	TYPE	FT	EACH	FT	FT	FT	FT	FT	EACH	CU YD	SQ YD				
301	LNB	144+42.40	47.50	RT	876.90	876.90	0.50	302	APRON		17.6	1										301	B, APRON	
302	LNB	144+42.40	23.90	RT	878.86	874.86	1.58	308	G	3.78	B-1	89.6											302	
303	LSB	145+64.00	18.90	LT	877.29	873.29	0.50	304	G	3.78	B-1	31.8											303	
303A	LSB	148+57.00	18.90	LT	872.92	868.92	0.50	304A	G	3.78	B-1	31.8											303A	
304	LSB	145+64.00	12.90	RT	878.00	873.13	0.50	305	G	4.65	B-1	17.2											304	
304A	LSB	148+57.00	12.90	RT	873.63	868.76	0.50	305A	G	4.65	B-1	17.2											304A	
305	LNB	145+32.00	12.90	LT	878.28	873.05	0.50	308	G	5.02	B-1	36.8											305	
305A	LNB	148+25.00	12.90	LT	873.83	868.68	0.50	308A	G	4.94	B-1	31.8											305A	
306	LNB	145+93.00	59.50	RT	876.58	872.58	0.50	307	G	3.78	B-1	28.5											306	
307	LNB	145+64.50	60.00	RT	876.58	872.44	0.50	308	G	3.92	B-1				48.6								307	
308	LNB	145+32.00	23.90	RT	877.44	872.20	1.58	308A	84-4020	5.03	B-1					293.4							308	
308A	LNB	148+25.00	18.90	RT	873.11	867.56	0.45	317	54-4020	5.33	B-1					277.0							308A	
309	LSB	155+02.00	18.90	LT	869.89	865.89	8.00	309A	G	3.78	B-1 (LP)	10.0											309	E
309A	LSB	155+12.00	18.90	LT	869.88	865.09	0.50	310	48-4020	4.57	B-1 (LP)				31.8								309A	E
309B	LSB	155+22.00	18.90	LT	869.89	865.89	8.00	309A	G	3.78	B-1 (LP)	10.0											309B	E
310	LSB	155+12.00	12.90	RT	870.60	864.93	0.50	312A	48-4020	5.45	B-1												310	
311	LNB	155+45.00	23.90	LT	870.55	865.71	0.50	310	G	4.62	B-1 (LP)				65.7								311	E
311A	LNB	155+55.00	23.90	LT	870.55	865.76	0.50	311	G	4.57	B-1 (LP)				10.0								311A	E
311B	LNB	155+65.00	23.90	LT	870.56	866.56	8.00	311A	G	3.78	B-1 (LP)	10.0											311B	E
312	LNB	154+16.00	23.90	RT	869.99	864.51	0.45	313	48-4020	5.26	B-1 (LP)				87.6								312	E
312A	LNB	154+26.00	23.90	RT	869.99	864.55	0.45	312	48-4020	5.22	B-1 (LP)				10.0								312A	E
313	LNB	153+28.50	20.07	RT	870.39	861.03	0.50	318	72-4020	9.14	B-1							102.7					313	
314	LSB	151+34.50	18.90	LT	871.35	867.35	0.50	315	G	3.78	B-1	31.8											314	
315	LSB	151+34.50	12.90	RT	872.06	867.19	0.50	316	G	4.65	B-1	17.2											315	
316	LNB	151+02.00	12.90	LT	872.15	867.11	0.50	317	G	4.82	B-1	31.8											316	
317	LNB	151+02.00	18.90	RT	871.44	866.31	0.45	313	60-4020	4.91	B-1					226.2							317	
318	LNB	153+28.00	128.75	RT	860.50	860.50	0.50	POND											1	10.9	22.0		318	B, APRON
TOTAL													413.1	1	156.1	369.5	97.6	503.2	102.7	1	10.9	22.0		

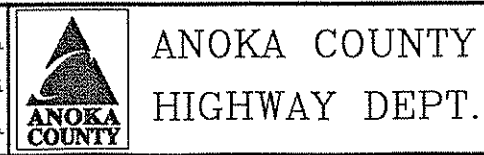
- (A) STATIONS, OFFSETS, AND TOP OF CASTING ELEVATIONS ARE GIVEN TO CENTER OF CASTING. CENTER OF CATCH BASIN CASTING IS 1.10 FT FROM FACE OF CURB. DESIGN 4020
- (B) TIE LAST THREE JOINTS AT APRON END. FURNISHING AND INSTALLING PIPE TIES CONSIDERED INCIDENTAL.
- (C) ALL POTENTIAL CONFLICTS WITH PUBLIC AND PRIVATE UTILITIES SHALL BE FIELD VERIFIED PRIOR TO INSTALLATION OF STORM SEWER.
- (D) FURNISHING AND INSTALLING STEPS CONSIDERED INCIDENTAL.
- (E) SEDIMENT BARRIERS SHALL BE USED ON ALL LOW POINT CATCH BASINS PRIOR TO PAVEMENT PLACEMENT. SEE STANDARD EROSION CONTROL PLAN SHEETS. CONSIDERED INCIDENTAL TO STORM SEWER STRUCTURE.

NO	DATE	BY	CKD	APPR	REVISION

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

PRINT NAME: PETER M LEMKE
SIGNATURE: *Peter M Lemke*
DATE: 8/22/2003 LICENSE NO. 40118

DRAWN BY: MTH DATE 04/08/03
DESIGN BY: MTH DATE 04/08/03
CHECKED BY: PMI DATE 04/08/03




STATE PROJECT NO. _____
STATE AID PROJECT NO. 02-609-12
CITY PROJECT NO. 198-020-17
COUNTY PROJECT NO. _____

STORM SEWER
TABULATION CHARTS
SYSTEM 300

Sheet 94 of 165 Sheets

FLOWS FROM STR. OR APRON INLET	ALIGNMENT	STATION	OFFSET	L/R	TOP OF CASTING ELEVATION	INVERT ELEVATION	PIPE SLOPE	FLOWS TO: STR. OR APRON OUTLET	NEW STRUCTURE CONSTRUCTION			DRAINAGE PIPE - RCP (DESIGN 3006)								RIPRAP AT RCP OUTLETS		FLOWS FROM STR. OR APRON INLET	FOOT NOTES		
									DESIGN	PAY HT	CASTING ASSEMBLY	12 in CL II	12 in CL II APRON	15 in CL II	18 in CL II	18 in CL II APR	24 in CL II	27 in CL II	42 in CL II	42 in CL II APRON	CL III 18" DEPTH RIPRAP			GEOTEXTILE FILTER TYPE IV	
																									FT
401	LNB	157+51.50	18.90	RT	872.56	869.56	0.50	401A	H	2.78	B-1	8.5											401		
401A	LNB	157+60.00	18.90	RT	872.63	869.52	0.50	403	G	2.89	B-1	32.0											401A		
402	LNB	159+00.00	12.90	LT	872.13	869.13	0.50	403	H	2.78	B-1			141.5									402		
403	LNB	157+57.00	12.90	LT	871.49	868.42	0.50	404	G	2.85	B-1			6.2									403		
404	LSB	157+87.50	23.90	RT	871.47	868.39	0.50	405	G	2.86	B-1			57.0									404		
405	LSB	158+25.00	18.90	LT	869.99	867.19	0.35	405A	G	2.58	B-1				10.0								405		
405A	LSB	158+35.00	18.90	LT	870.03	867.16	0.35	432	G	2.65	B-1				280.0								405A		
406	LNB	161+00.00	18.90	RT	875.29	871.29	1.00	407	G	3.78	B-1	31.8											406		
407	LNB	161+00.00	12.90	LT	873.92	870.97	0.50	408	G	2.73	B-1			11.2									407		
408	LSB	161+19.75	18.90	RT	874.56	870.92	0.50	432	G	3.42	B-1			37.8									408		
409	LSB	181+50.00	35.50	LT	890.96	890.96	1.50	410				38.7	1										409	B, APRON	
410	LSB	181+15.00	18.90	LT	893.42	889.42	0.40	412	48-4020	3.78	B-1					237.0							410		
411	LSB	178+78.00	35.50	LT	889.88	889.88	1.00	412				16.6	1										411	B, APRON	
412	LSB	178+78.00	18.90	LT	892.47	888.47	0.40	416	54-4020	3.78	B-1					170.0							412		
413	LNB	177+16.00	23.90	RT	891.72	887.72	0.50	414	G	3.78	B-1	48.5											413		
414	LNB	177+08.00	23.90	LT	892.29	887.48	0.50	415	G	4.59	B-1	6.2											414		
415	LSB	177+08.00	12.90	RT	892.53	887.45	0.50	416	G	4.86	B-1	31.8											415		
416	LSB	177+08.00	18.90	LT	891.82	887.29	0.40	419	60-4020	4.31	B-1					248.0							416		
417	LNB	174+61.00	23.90	RT	890.65	886.65	0.50	418	G	3.78	B-1	47.8											417		
418	LNB	174+61.00	23.90	LT	891.52	886.41	0.50	419	G	4.89	B-1	38.0											418		
419	LSB	174+60.00	18.90	LT	890.79	886.22	0.40	423	60-4020	4.35	B-1						181.5						419		
420	LNB	172+79.00	18.90	RT	888.98	884.98	0.50	421	G	3.78	B-1	33.5											420		
421	LNB	172+79.00	14.60	LT	889.73	884.81	0.50	422	G	4.70	B-1	15.5											421		
422	LSB	172+78.50	12.90	RT	889.68	884.74	0.50	423	G	4.72	B-1	31.8											422		
423	LSB	172+78.50	18.90	LT	888.96	884.58	1.34	427B	60-4020	4.16	B-1						128.5						423		
424	LNB	168+65.00	23.90	RT	884.01	878.48	0.50	425	G	5.31	B-1	36.8											424		
424A	LNB	170+00.00	23.90	RT	885.16	881.16	0.50	425A	G	3.78	B-1	36.8											424A		
425	LNB	168+65.00	12.90	LT	884.15	878.29	0.50	426	G	5.64	B-1	17.2											425	B, APRON	
425A	LNB	170+00.00	12.90	LT	885.97	880.98	0.50	426A	G	4.77	B-1	17.2											425A		
425B	LNB	171+50.00	12.90	LT	887.97	883.97	1.00	426B	G	3.78	B-1	17.2											425B		
426	LSB	168+65.00	12.90	RT	884.10	878.21	0.50	427	G	5.67	B-1	31.8											426		
426A	LSB	170+00.00	12.90	RT	885.21	880.89	0.50	427A	G	4.10	B-1	31.8											426A		
426B	LSB	171+50.00	12.90	RT	887.23	883.80	1.00	427B	G	3.21	B-1	31.8											426B		
427	LSB	168+65.00	18.90	LT	883.39	878.05	1.34	431	60-4020	5.12	B-1							374.3					427		
427A	LSB	170+00.00	18.90	LT	885.21	880.73	1.34	427	60-4020	4.26	B-1							135.0					427A		
427B	LSB	171+50.00	18.90	LT	887.23	882.86	1.34	427A	60-4020	4.15	B-1							150.0					427B		
428	LNB	164+80.00	21.20	RT	880.32	876.32	1.00	429	G	3.78	B-1	34.1											428		
428A	LNB	167+50.00	23.90	RT	883.05	879.05	0.50	424	G	3.78	B-1	115.0											428A		
428B	LNB	168+35.00	50.00	RT	882.50	878.85	1.00	424	H	3.43	B-1	37.0											428B	BEEHIVE	
429	LNB	164+80.00	12.90	LT	878.99	875.98	0.50	430	G	2.79	B-1			17.2									429		
430	LSB	164+87.00	12.90	RT	879.03	875.89	0.50	431	G	2.92	B-1			31.8									430		
431	LSB	164+87.00	18.90	LT	877.20	873.03	1.34	432	60-4020	3.95	B-1								360.6				431		
432	LSB	161+19.75	18.90	LT	872.26	866.18	0.30	433	90-4020	5.87	B-1									50.6			432		
433	LSB	161+14.25	75.25	LT		866.02	0.30	POND OUTLET													1	16.3	32.8	433	B
POND OUTLET	LSB					866.75	0.01	434				25.4	1									4.1	8.4	POND OUTLET	B
434	LSB			LT		866.40	0.01	ROUND LAKE		-866.62					21.4	1						5.9	12.0	434	B
TOTAL												812.8	3	302.7	311.4	1	655.0	1329.9	50.6	1	26.3	53.2			

- (A) STATIONS, OFFSETS, AND TOP OF CASTING ELEVATIONS ARE GIVEN TO CENTER OF CASTING. CENTER OF CATCH BASIN CASTING IS 1.10 FT FROM FACE OF CURB. DESIGN 4020
- (B) TIE LAST THREE JOINTS AT APRON END. FURNISHING AND INSTALLING PIPE TIES CONSIDERED INCIDENTAL.
- (C) ALL POTENTIAL CONFLICTS WITH PUBLIC AND PRIVATE UTILITIES SHALL BE FIELD VERIFIED PRIOR TO INSTALLATION OF STORM SEWER.
- (D) FURNISHING AND INSTALLING STEPS CONSIDERED INCIDENTAL.
- (E) SEDIMENT BARRIERS SHALL BE USED ON ALL LOW POINT CATCH BASINS PRIOR TO PAVEMENT PLACEMENT. SEE STANDARD EROSION CONTROL PLAN SHEETS. CONSIDERED INCIDENTAL TO STORM SEWER STRUCTURE.

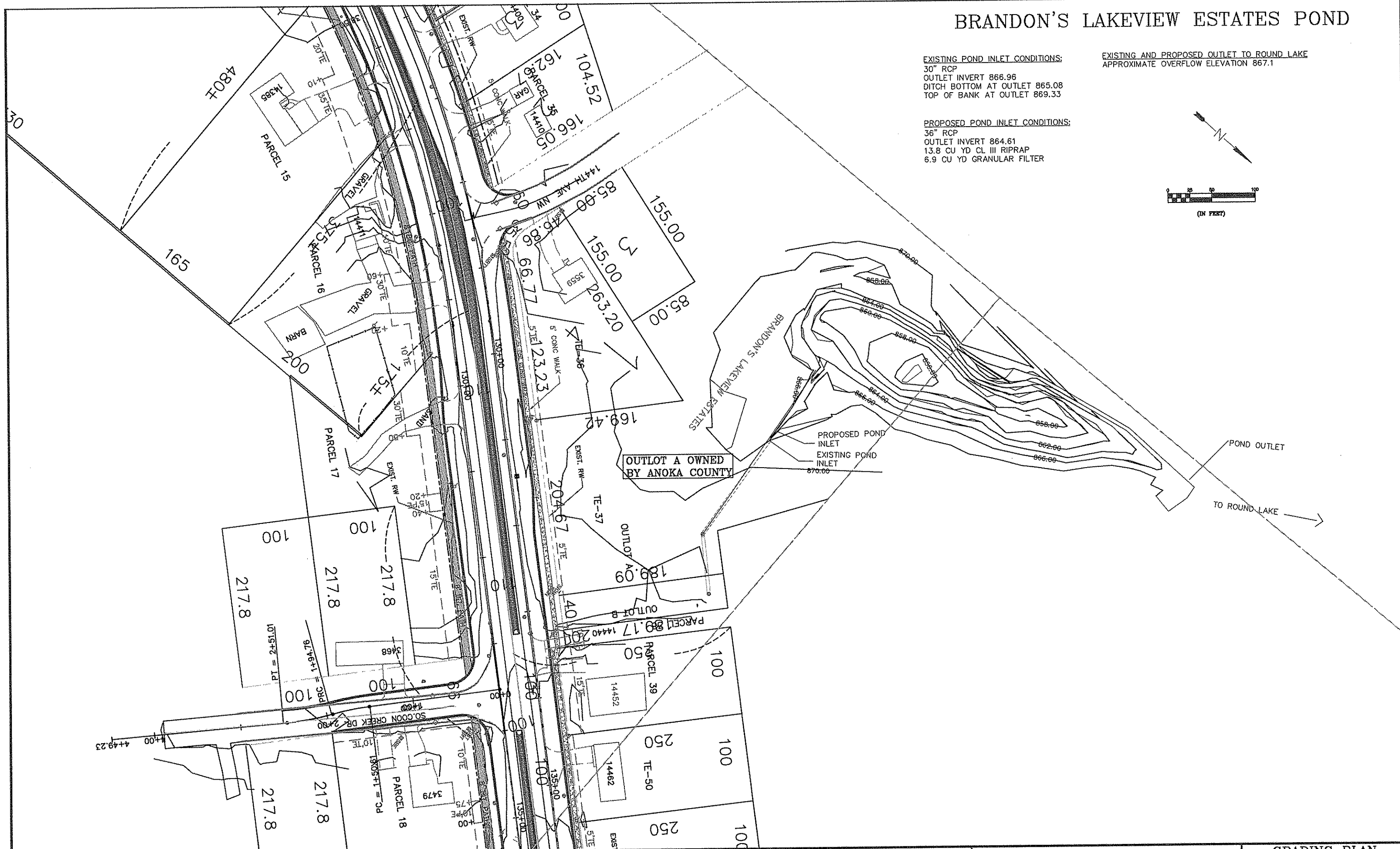
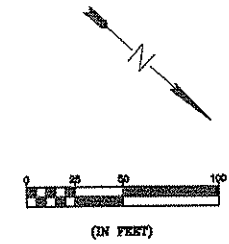
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. PRINT NAME: <u>PETER M. LEMKE</u> SIGNATURE: <u><i>Peter M. Lemke</i></u> DATE: <u>8/22/2003</u> LICENSE NO. <u>4011B</u>					DRAWN BY: <u>MTH</u> DATE <u>04/08/03</u> DESIGN BY: <u>MTH</u> DATE <u>04/08/03</u> CHECKED BY: <u>PML</u> DATE <u>04/08/03</u>		 ANOKA COUNTY HIGHWAY DEPT.		STATE PROJECT NO. _____ STATE AID PROJECT NO. <u>02-609-12</u> CITY PROJECT NO. <u>198-020-17</u> COUNTY PROJECT NO. _____		STORM SEWER TABULATION CHARTS SYSTEM 400 Sheet <u>95</u> of <u>165</u> Sheets	
NO. _____ DATE _____ BY _____ CKD _____ APPR _____ REVISION _____ NAME: <u>P:\0260912\PLAN\86-89-StormTabulation.dwg 08/26/03 01:39:24 PM CDT</u>												

BRANDON'S LAKEVIEW ESTATES POND

EXISTING POND INLET CONDITIONS:
 30" RCP
 OUTLET INVERT 866.96
 DITCH BOTTOM AT OUTLET 865.08
 TOP OF BANK AT OUTLET 869.33

EXISTING AND PROPOSED OUTLET TO ROUND LAKE
 APPROXIMATE OVERFLOW ELEVATION 867.1

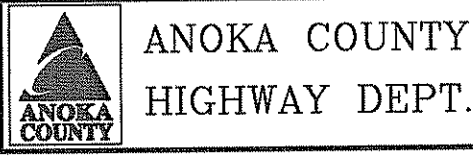
PROPOSED POND INLET CONDITIONS:
 36" RCP
 OUTLET INVERT 864.61
 13.8 CU YD CL III RIPRAP
 6.9 CU YD GRANULAR FILTER



NO	DATE	BY	CHKD	APPR	REVISION

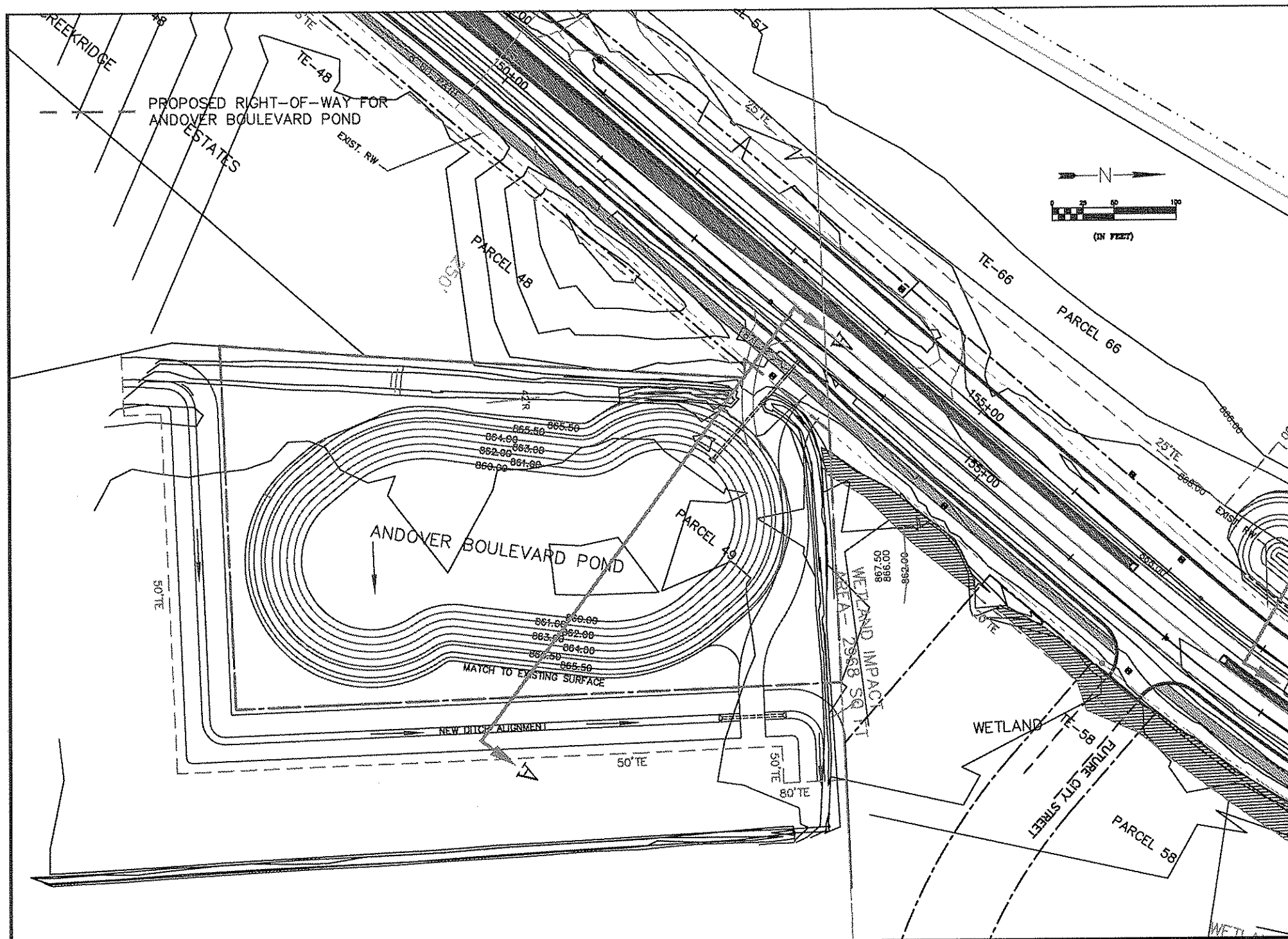
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 PRINT NAME: PETER M LEMKE
 SIGNATURE: Peter M Lemke
 DATE: 8/22/2003 LICENSE NO. 40118

DRAWN BY: MN DATE 03/31/03
 DESIGN BY: MTH DATE 03/31/03
 CHECKED BY: PML DATE 04/01/03

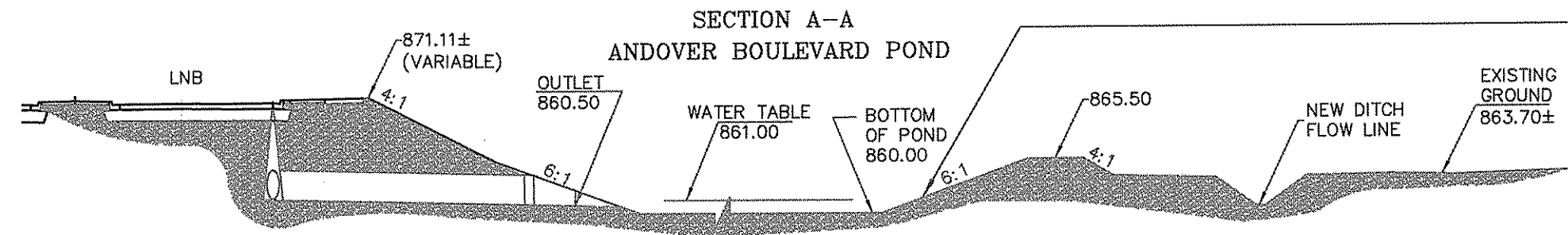


STATE PROJECT NO. _____
 STATE AID PROJECT NO. 02-609-12
 CITY PROJECT NO. 198-020-17
 COUNTY PROJECT NO. _____

GRADING PLAN
 BRANDON'S LAKEVIEW
 ESTATES POND
 Sheet 96 of 165 Sheets



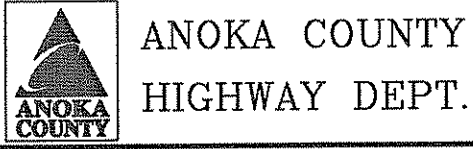
NOTE :
ANDOVER BOULEVARD POND
 CONTRACTOR SHALL PLACE 4" MINIMUM TOPSOIL ON ALL SLOPES ABOVE THE WATER TABLE ELEV. OF 861.00 .
 THIS WORK SHALL BE CONSIDERD INCIDENTAL TO THE POND CONSTRUCTION WITH NO ADDITIONAL COMPENSATION THEREFORE.



NO	DATE	BY	CKD	APPR	REVISION

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 PRINT NAME: PETER M. LEMKE
 SIGNATURE: *Peter M Lemke*
 DATE: 8/22/2003 LICENSE NO. 40118

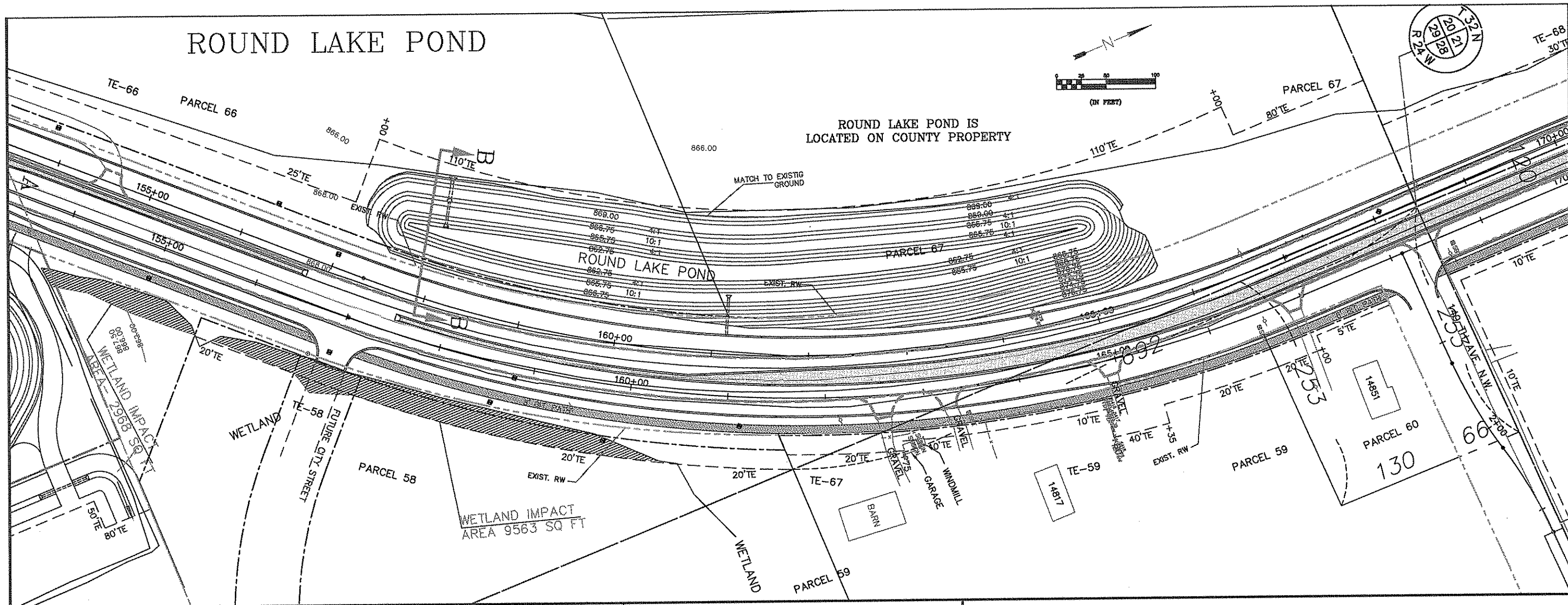
DRAWN BY: _____ MN DATE 12/10/03.
 DESIGN BY: _____ MN DATE 12/10/03.
 CHECKED BY: _____ PML DATE 3/27/03.



STATE PROJECT NO. _____
 STATE AID PROJECT NO. 02-609-12
 CITY PROJECT NO. 198-020-17
 COUNTY PROJECT NO. _____

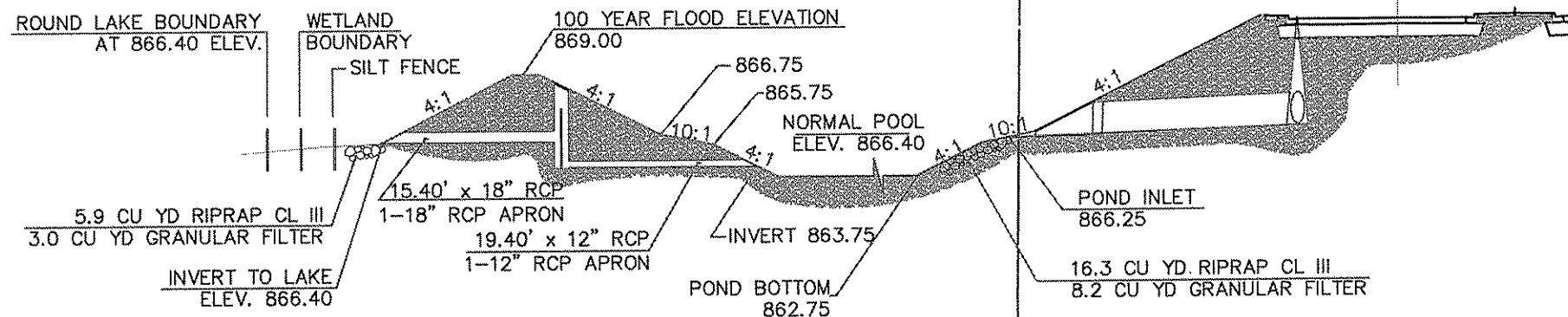
GRADING PLAN
ANDOVER BOULEVARD POND
 Sheet 97 of 165 Sheets

ROUND LAKE POND

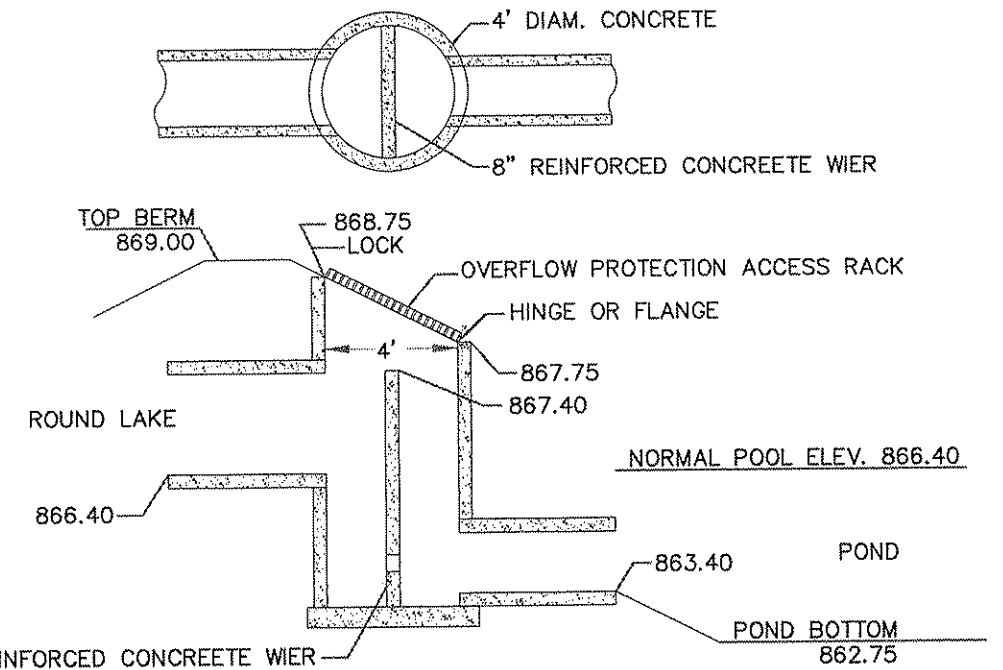


NOTE :
ROUND LAKE POND
 CONTRACTOR SHALL PLACE 4" MINIMUM TOPSOIL ON ALL SLOPES ABOVE THE NORMAL POOL ELEV. OF 866.40 .
 THIS WORK SHALL BE CONSIDERD INCIDENTAL TO THE POND CONSTRUCTION WITH NO ADDITIONAL COMPENSATION THEREFORE.

ROUND LAKE POND SECTION B-B



OUTLET DETAIL



I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 PRINT NAME: **PETER M. LEMKE**
 SIGNATURE: *Peter M Lemke*
 DATE: **8/22/2003** LICENSE NO. **40118**

DRAWN BY: **ML** DATE **12/10/03**
 DESIGN BY: **ML** DATE **12/10/03**
 CHECKED BY: **PML** DATE **04/03/03**

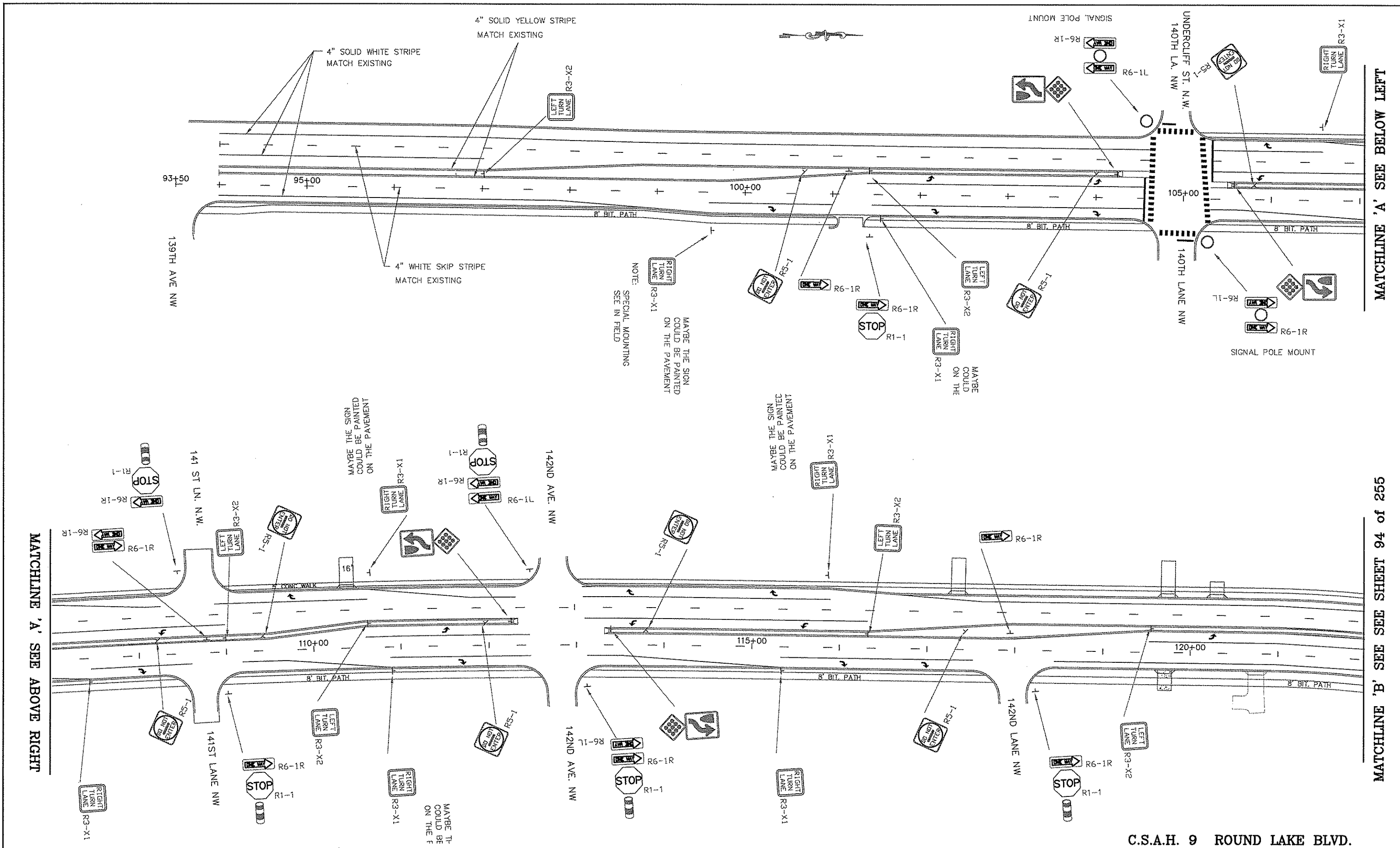


ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. _____
 STATE AID PROJECT NO. **02-609-12**
 CITY PROJECT NO. **198-020-17**
 COUNTY PROJECT NO. _____

GRADING PLAN
ROUND LAKE POND

Sheet **98** of **165** Sheets



MATCHLINE 'A' SEE ABOVE RIGHT

MATCHLINE 'B' SEE SHEET 94 of 255

MATCHLINE 'A' SEE BELOW LEFT

C.S.A.H. 9 ROUND LAKE BLVD.

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\0260912\PLAN\93-97 - PERMSIGN&STRIPED.dwg 08/26/2003 07:47:32 AM CDT

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.
 PRINT NAME: **PETER M. LEMKE**
 SIGNATURE: *Peter M Lemke*
 DATE: **8/22/2003** REG. NO. **40118**

DRAWN BY: **DM** DATE: **10/31/02**
 DESIGN BY: **DM** DATE: **10/31/02**
 CHECKED BY: **FML** DATE: **8/22/03**



ANOKA COUNTY
HIGHWAY DEPT.

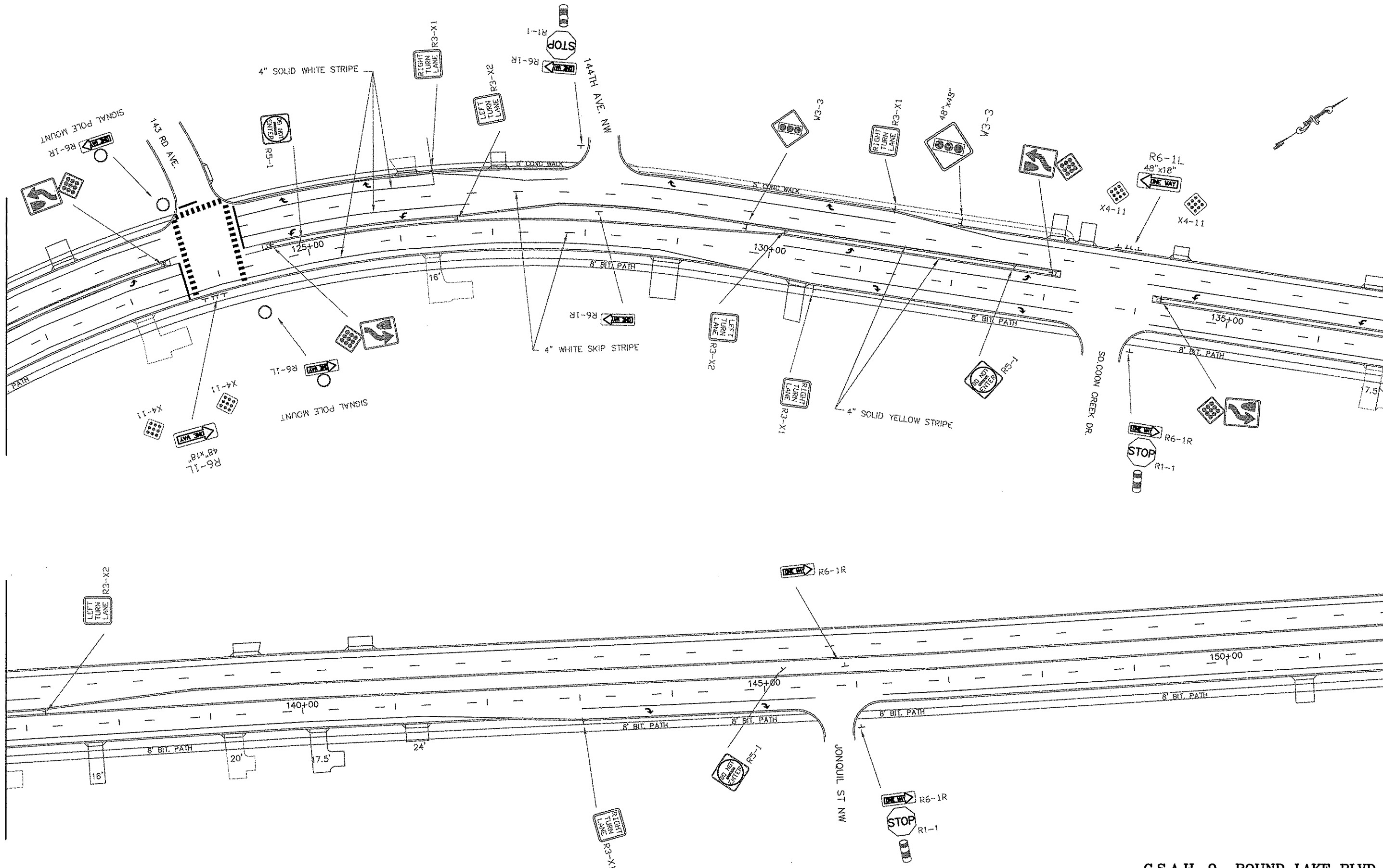
STATE PROJECT NO. _____
 STATE AID PROJECT NO. **02-609-12**
 CITY PROJECT NO. **198-020-17**
 COUNTY PROJECT NO. _____

PERMANENT
SIGNING / STRIPING
 Sheet **99** of **165** Sheets

MATCHLINE 'B' SEE SHEET 93 OF 255

MATCHLINE 'C' SEE ABOVE RIGHT

MATCHLINE 'C' SEE BELOW LEFT
MATCHLINE 'D' SEE SHEET 96 OF 255



C.S.A.H. 9 ROUND LAKE BLVD.

NO	DATE	BY	CHKD	APPR	REVISION

NAME: P:\0260912\PLAN\93-97 - PERMSIGN&STRIPED.dwg 08/26/2003 07:52:26 AM CDT

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.

PRINT NAME: PETER M. LEMKE
 SIGNATURE: *Peter M. Lemke*
 DATE: 8/22/2003 REG. NO. 40118

DRAWN BY: DM DATE: 10/31/02
 DESIGN BY: DM DATE: 10/31/02
 CHECKED BY: PML DATE: 8/22/03



ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. _____
 STATE AID PROJECT NO. 02-609-12
 CITY PROJECT NO. 198-020-17
 COUNTY PROJECT NO. _____

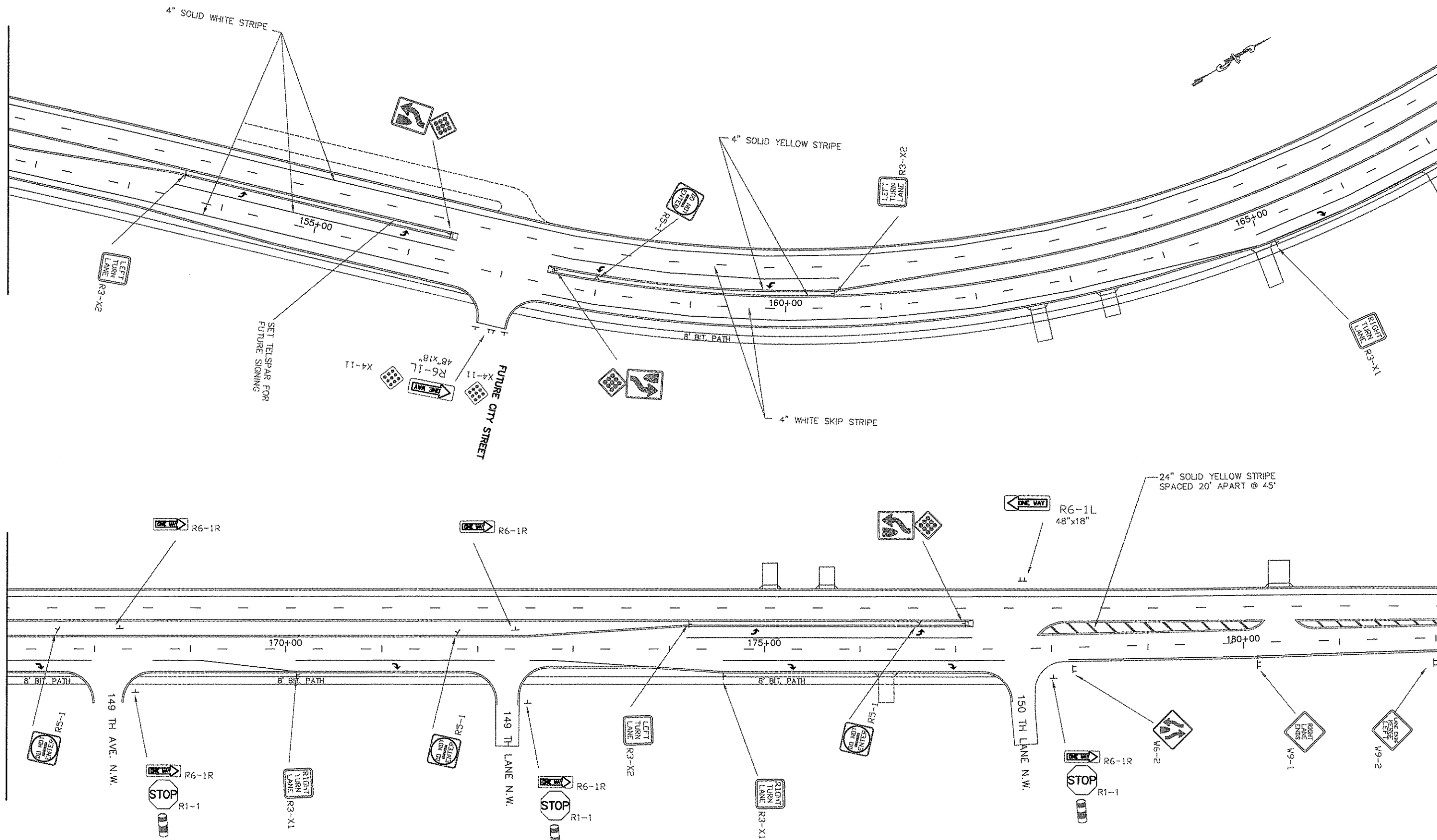
PERMANENT
SIGNING / STRIPING
 Sheet 100 of 165 Sheets

MATCHLINE 'D' SEE SHEET 94 OF 255

MATCHLINE 'E' SEE ABOVE RIGHT

MATCHLINE 'E' SEE BELOW LEFT

MATCHLINE 'F' SEE SHEET 96 OF 255



C.S.A.H. 9 ROUND LAKE BLVD.

NO	DATE	BY	CHKD	APPR	REVISION

NAME: P:\0260912\PLAN\93-97 - PERMSIGN&STRIPES.dwg 08/26/2003 04:47:14 PM CDT

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.

PRINT NAME: PETER M. LEMKE

SIGNATURE: *Peter M Lemke*

DATE: 8/22/2003 REG. NO. 40118

DRAWN BY: DM DATE 10/31/02

DESIGN BY: DM DATE 10/31/02

CHECKED BY: PML DATE 8/22/03



ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. _____

STATE AID PROJECT NO. 02-609-12

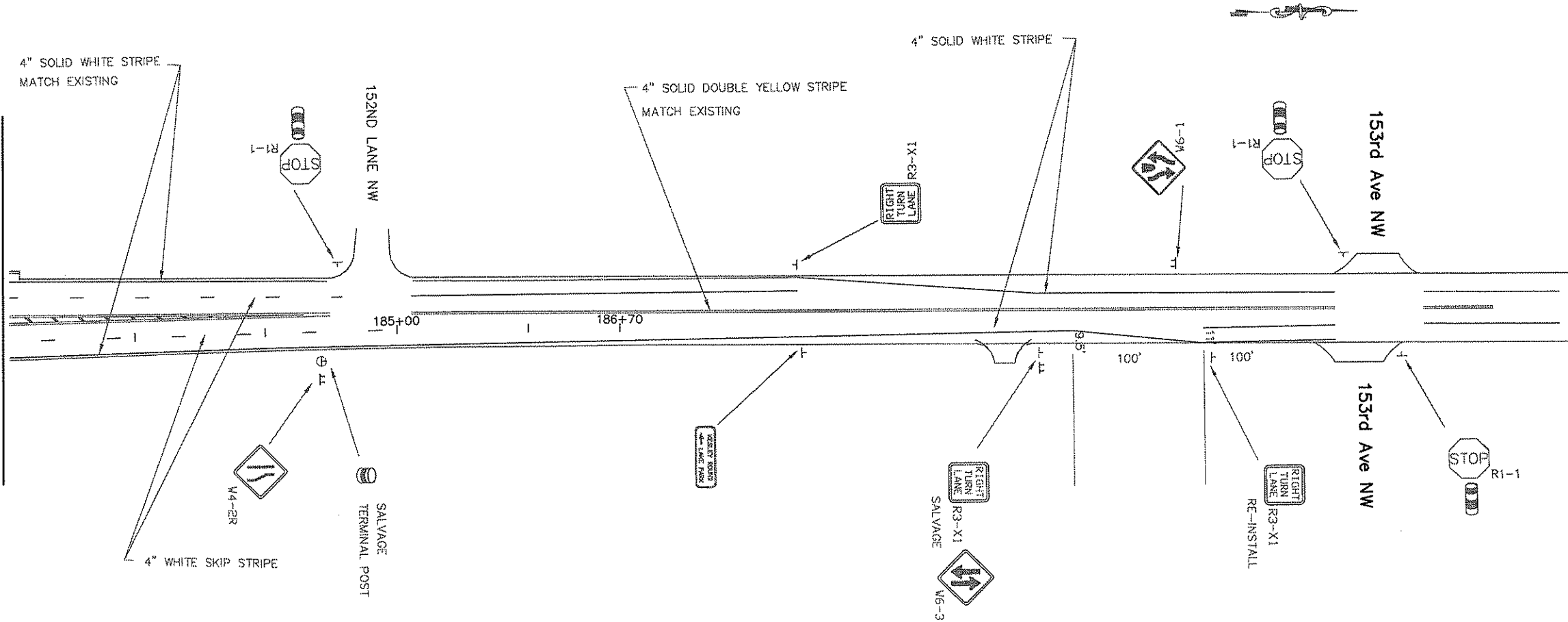
CITY PROJECT NO. 198-020-17

COUNTY PROJECT NO. _____

PERMANENT
SIGNING / STRIPING

Sheet 101 of 165 Sheets

MATCHLINE 'F' SEE SHEET 95 of 255



C.S.A.H. 9 ROUND LAKE BLVD.

NO	DATE	BY	CHKD	APPR	REVISION

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 PRINT NAME: PETER M. LEMKE
 SIGNATURE: *Peter M. Lemke*
 DATE: 8/22/2003 REG. NO. 40118

DRAWN BY: DM DATE: 10/31/02
 DESIGN BY: DM DATE: 10/31/02
 CHECKED BY: PML DATE: 8/22/03



ANOKA COUNTY
 HIGHWAY DEPT.

STATE PROJECT NO. _____
 STATE AID PROJECT NO. 02-609-12
 CITY PROJECT NO. 198-020-17
 COUNTY PROJECT NO. _____

PERMANENT
 SIGNING / STRIPING
 Sheet 102 of 165 Sheets

M. U. T. C. D. CODE	SIZE	INSERT	QTY	SQ. FT.	TOTAL SQ. FT.	MOUNTING POST PER INSTALLATION	MOUNTING HEIGHT	M. U. T. C. D. CODE	SIZE	INSERT	QTY	SQ. FT.	TOTAL SQ. FT.	MOUNTING POST PER INSTALLATION	MOUNTING HEIGHT
R1-1	30" x 30"	STOP	9	6.25	56.25	1	7.0	W4-2R	36" x 36"		1	9.00	9.00	2	7.0
DELINEATOR 4"DIA x 15"			8					W6-1	36" x 36"		2	9.00	18.00	2	7.0
R3-X1	30" x 30"	RIGHT TURN LANE	15	6.25	87.50	1	7.0	W6-2	36" x 36"		2	9.00	18.00	2	7.0
R3-X2	30" x 30"	LEFT TURN LANE	12	6.25	62.50	1	7.0	W6-3	36" x 36"		1	9.00	9.00	2	7.0
R4-7	24" x 30"		11	5.00	55.00	1	7.0	W9-1	36" x 36"	RIGHT LANE ENDS	1	9.00	9.00	2	7.0
X4-2	1'8" x 18"		11	2.25	24.75	1	7.0	W9-2	36" x 36"	LANE ENDS MERGE LEFT	1	9.00	9.00	2	7.0
R5-1	30" x 30"	DO NOT ENTER	15	6.25	93.75	1	7.0	X4-11	18" x 18"		6	2.25	13.5	1	5.0
R6-1R	36" x 12"	ONE WAY	23	6.00	132.00	① ② ③		SUB-TOTAL (COLUMN 2) 91.75 SUB-TOTAL (COLUMN 1) 597.75 TOTAL 687.50							
R6-1L	36" x 12"	ONE WAY	5	6.00	36.00	①									
R6-1L	48" x 18"	ONE WAY	4	6.25	25.00	②									
W3-3	36" x 36"		1	9.00	9.00	2	7.0								
W3-3	48" x 48"		1	16.00	16.00	2	7.0								
SUB-TOTAL					597.75										

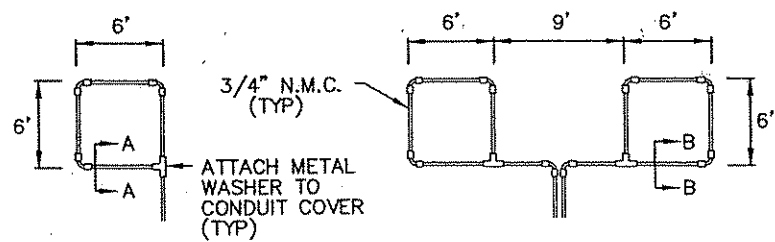
NOTE:

- LOCATIONS OF 'NO PASSING ZONES' ARE APPROXIMATE. EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD
- ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MOST RECENT EDITION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

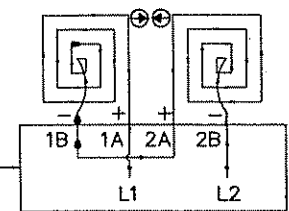
- SIGNAL POLE MOUNT (3) R6-1R / (3) R6-1L
- 12 POST MOUNT (2 BACK TO BACK)
- 14 MOUNTED ABOVE R1-1

C.S.A.H. 9 ROUND LAKE BLVD.

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. PRINT NAME: PETER M. LEMKE SIGNATURE: <i>Peter M. Lemke</i> DATE: 8/22/2003 REG. NO. 40118					DRAWN BY: DM DATE 10/31/02 DESIGN BY: DM DATE 10/31/02 CHECKED BY: PML DATE 8/22/03		ANOKA COUNTY HIGHWAY DEPT.	STATE PROJECT NO. _____ STATE AID PROJECT NO. 02-609-12 CITY PROJECT NO. 198-020-17 COUNTY PROJECT NO. _____	PERMANENT SIGNING / STRIPING Sheet 103 of 165 Sheets	
NO	DATE	BY	CKD	APPR	REVISION					
NAME: P:\0260912\PLAN\93-97 - PERMSIGN&STRIPEDWG 08/26/2003 081504 AM CDT										



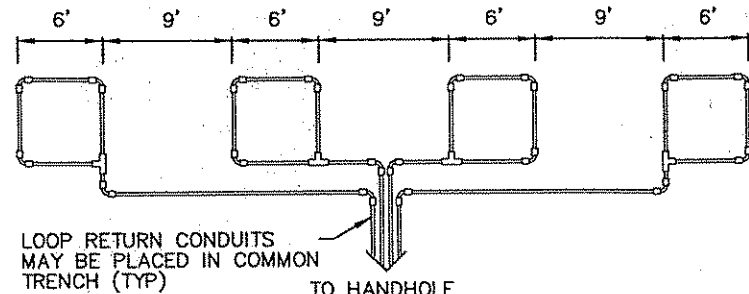
**LOOP DETECTOR
DETAIL 'A'**
(LOOP PHASING FOR
SINGLE CONNECTION)



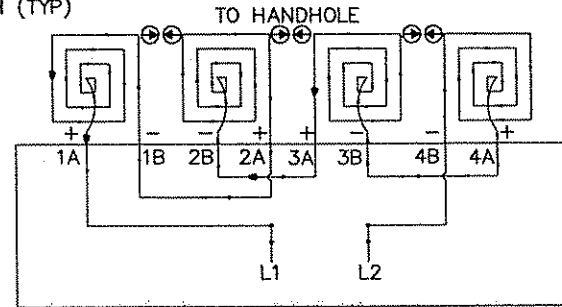
LOOP CONNECTIONS SHALL BE
LABELED AND SPLICED IN THE
HANDHOLE AS FOLLOWS:

L1 TO 1A
1B TO 2A
2B TO L2

**LOOP DETECTOR
DETAIL 'B'**
(LOOP PHASING FOR
SERIES CONNECTION)



LOOP RETURN CONDUITS
MAY BE PLACED IN COMMON
TRENCH (TYP)

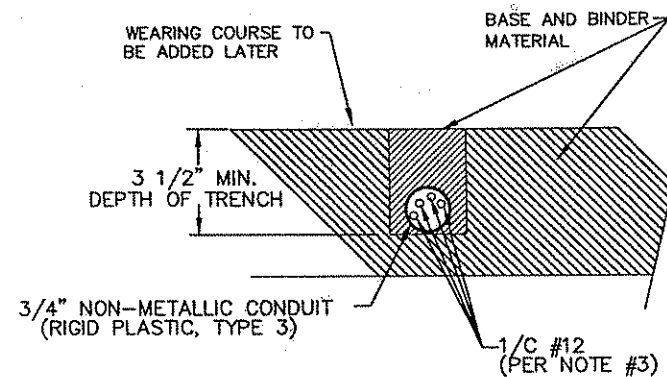


LOOP CONNECTIONS SHALL BE LABELED AND SPLICED
IN THE HANDHOLE AS FOLLOWS:

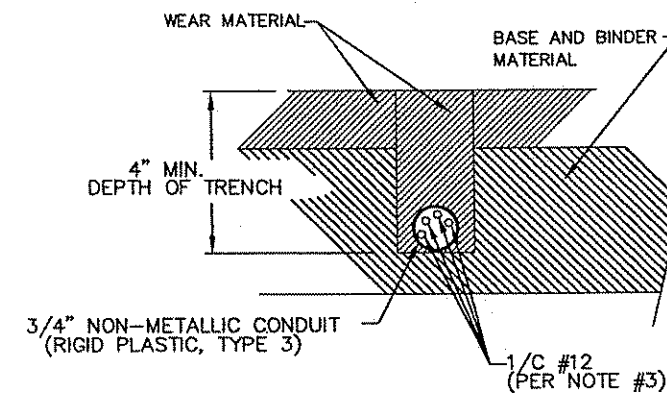
L1 TO 1A 3B TO 4A
1B TO 2A 4B TO L2
2B TO 3A

SPLICE CONTROL CABLE TO L1 & L2 IN HANDHOLE.
ALL CONDUCTORS SHALL BE TAGGED IN HANDHOLE
(1A, 1B, ECT)

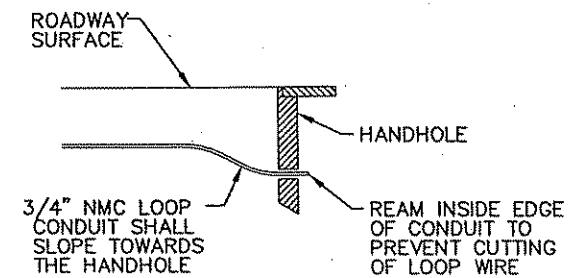
**LOOP DETECTOR
DETAIL 'C'**
(LOOP PHASING FOR
SERIES CONNECTION)



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 FOOT THROUGH THE CONDUIT TO THE HANDHOLE.
- 5) NMC DESIGNATES NON-METALLIC CONDUIT (SPEC. 3803)
- 6) LOOPS 6' x 6' THRU 6' x 14' SHALL HAVE (4) TURNS.
- 7) LOOPS 6' x 15' AND LARGER SHALL HAVE (2) TURNS.

STANDARD PLATES	
THESE STANDARD PLATES AS APPROVED BY FHWA SHALL APPLY:	
PLATE NO.	DESCRIPTION
* 7035 L	CONCRETE WALK AND CURB RETURNS AT ENTRANCES
* 7036 E	PEDESTRIAN CURB RAMP
* 7100 G	CONCRETE CURB AND GUTTER (DESIGN B)
* 8110 D	TRAFFIC SIGNAL BRACKETING - POLE MOUNTED
* 8111 C	TRAFFIC SIGNAL BRACKETING - PEDESTAL MOUNTED
* 8112 C	PEDESTAL FOUNDATION
* 8114 A	PVC HANDHOLE/PULLBOX
8115 D	PEDESTRIAN PUSH BUTTON INSTALLATION
* 8118 C	SERVICE EQUIPMENT AND POLE-TRAFFIC CONTROL SIGNALS
* 8119 C	GROUND MOUNTED CABINET FOUNDATION
* 8120 K	PA85 POLE FOUNDATION
* 8121 D	TRANSFORMER BASE AND POLE BASE PLATE
* 8122 C	PEDESTAL AND PEDESTAL BASE
* 8123 E	POLE AND MAST ARM
* 8124 E	MAST ARM SIGNAL HEAD MOUNTS
* 8126 F	PA90 AND PA100 POLE FOUNDATION

* - APPLIES TO THIS PROJECT

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

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	(G)
HANDHOLE - IN PLACE	(H)
RIGID STEEL CONDUIT (RSC)	(I)
RIGID STEEL CONDUIT (RSC) - IN PLACE	(J)
SIGNAL FACE WITH BACKGROUND SHIELD	(K)
SIGNAL FACE W/O BACKGROUND SHIELD	(L)
SIGNAL FACE - IN PLACE	(M)
PEDESTRIAN INDICATORS	(N)
PEDESTRIAN INDICATORS - IN PLACE	(O)
PEDESTRIAN PUSH BUTTONS ON PEDESTAL OR POLE	(P)
PEDESTRIAN PUSH BUTTON STATION	(Q)
TRAFFIC SIGNAL PEDESTAL	(R)
TRAFFIC SIGNAL PEDESTAL - INPLACE	(S)
TRAFFIC SIGNAL POLE AND MAST ARM	(T)
TRAFFIC SIGNAL POLE AND MAST ARM - IN PLACE	(U)
STREET LIGHT POLE AND LUMINAIRE	(V)
STREET LIGHT POLE AND LUMINAIRE - IN PLACE	(W)
MAST ARM AND LUMINAIRE	(X)
MAST ARM AND LUMINAIRE - INPLACE	(Y)
WOOD POLE	(Z)
WOOD POLE - IN PLACE	(AA)
SOURCE OF POWER	(AB)
RAILROAD SIGNAL - IN PLACE	(AC)
RIGHT OF WAY LINE	(AD)
CENTERLINE	(AE)
EDGE OF ROADWAY	(AF)
SHOULDERLINE	(AG)
CURB LINE	(AH)
STOP BAR	(AI)
EMERGENCY VEHICLE PREEMPTION DETECTOR	(AJ)

ABBREVIATIONS

3-1(EG)	SIGNAL HEAD PHASE "3" - NO "1"	P2-1(EG)	PED 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
DZ-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
G	GREEN	SOP	SOURCE OF POWER
GLTA	GREEN LEFT TURN ARROW	SPR	SPARE
GRN	GREEN	ST. LHT	STREET LIGHT
GR. R	GROUND ROD	STA	STATION
GRTA	GREEN RIGHT TURN ARROW	SW	SWITCH
GTHA	GREEN THRU ARROW	SWD	SWITCHED
HH	HANDHOLE	S&R	SALVAGE AND REINSTALL
HPS	HIGH PRESSURE SODIUM	TDW	TELEPHONE DROP WIRE
JB	JUNCTION BOX	WLK	WALK
LUM	LUMINAIRE	YEL	YELLOW
NEU	NEUTRAL	YLTA	YELLOW LEFT TURN ARROW
NMC	NONMETALLIC CONDUIT	YRTA	YELLOW RIGHT TURN ARROW
		YTHA	YELLOW THRU ARROW

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CHECKED BY:	JMG
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 Name: John M. Gray, P.E.
 Lic. No. 22457
 Date: March 7, 2008

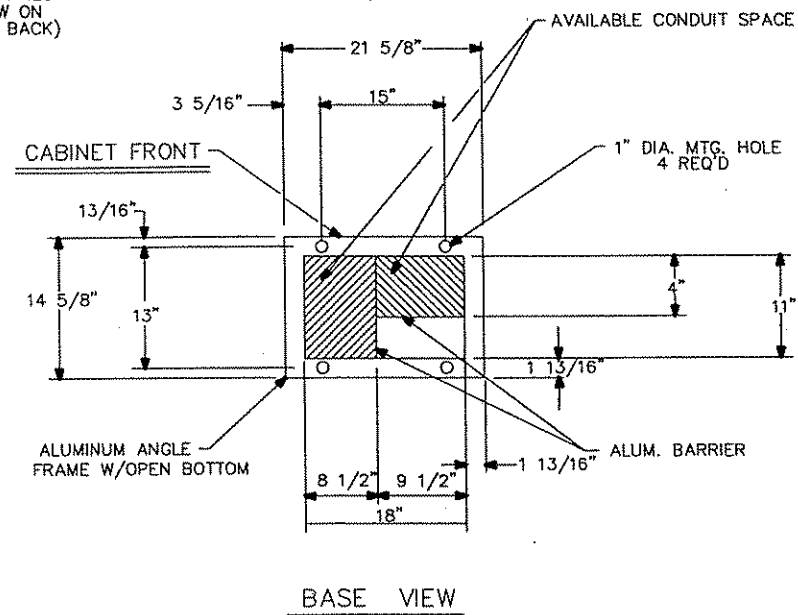
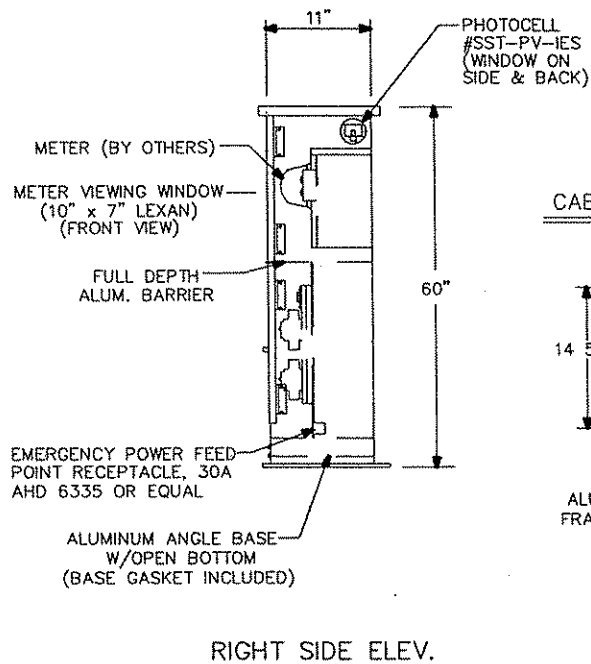
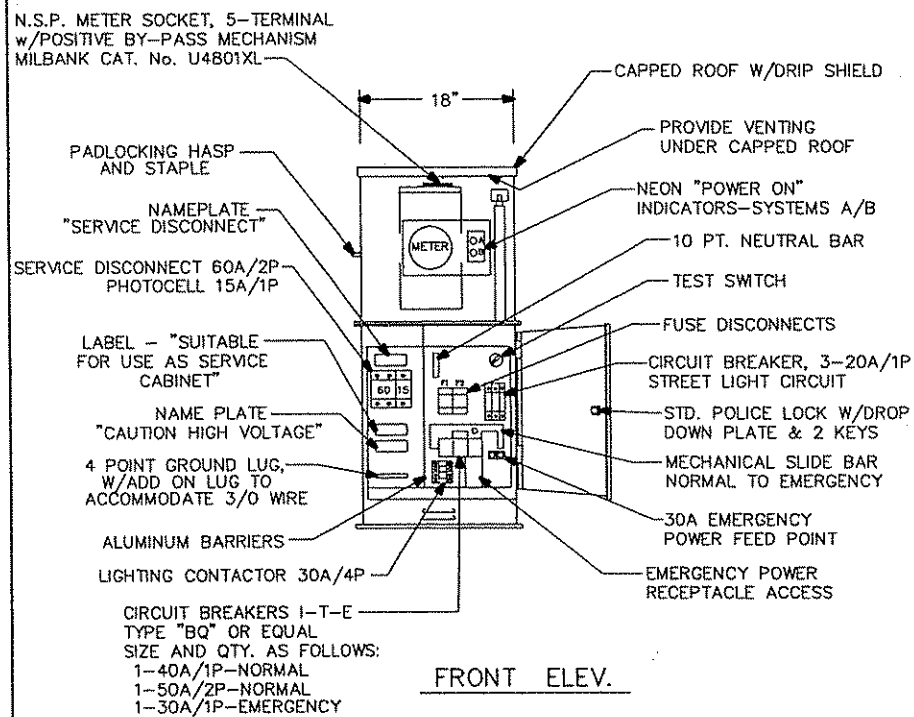
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 PHONE: (651) 490-2000
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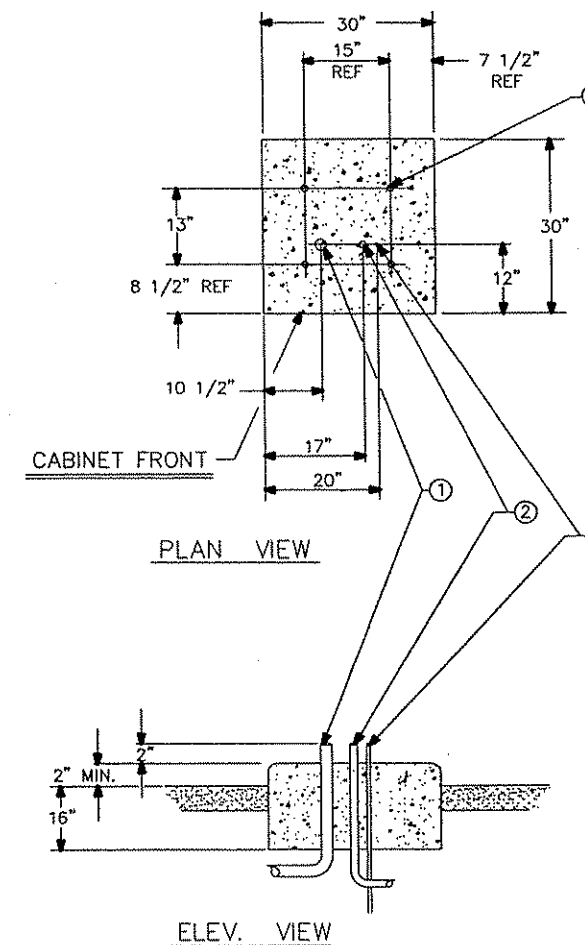
TRAFFIC SIGNAL SYSTEMS
DETAILS & STANDARD PLATES
CSAH 9 (ROUND LAKE BLVD NW)

FILE NO. ANOKC0102.00
 SIGNAL SHEET 1 OF 16
 104
 165

SIGNAL SERVICE CABINET



SERVICE CABINET FOUNDATION



CONSTRUCTION NOTES

ENCLOSURE SHALL BE FABRICATED FROM 1/8" ALUMINUM FOR OUTDOOR WEATHERPROOF SERVICE.

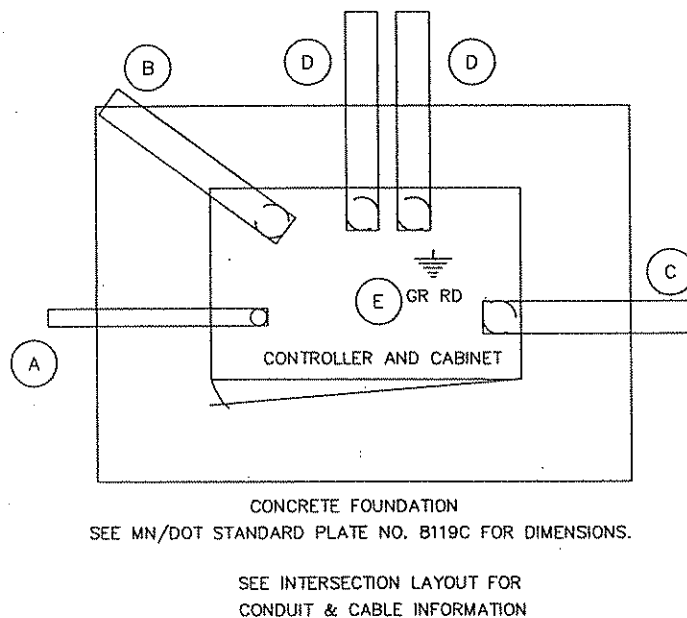
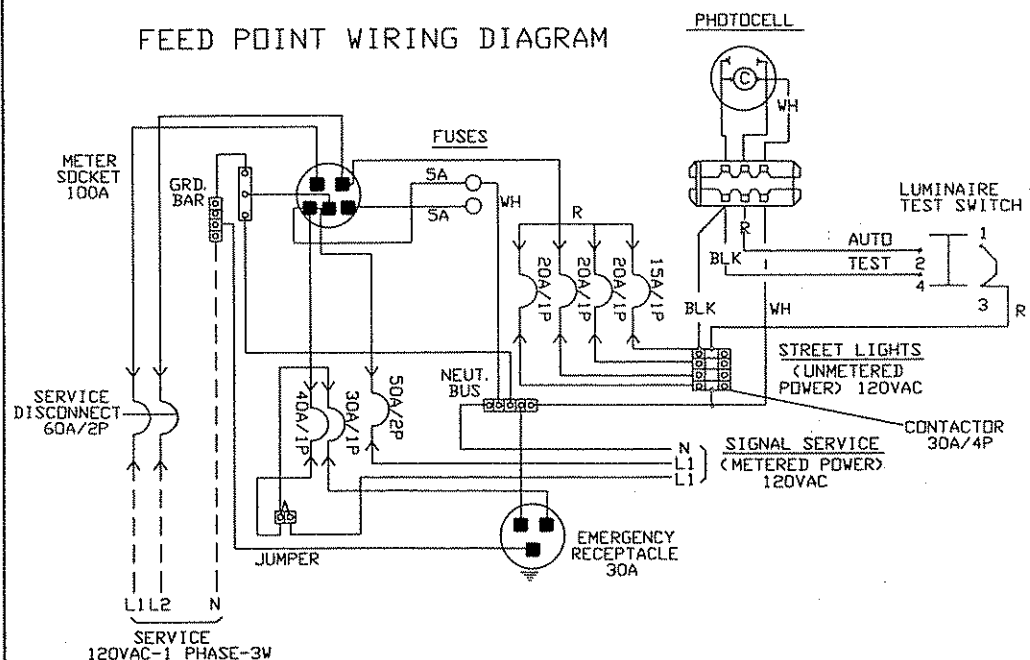
DOORS TO BE NEOPRENE GASKETED. ALL HINGES, PINS AND LOCKS TO BE OF NON-CORRODING CONSTRUCTION.

CABINET SHALL HAVE ANODIC COATING FOR ALL ALUMINUM SURFACES. SEE SPECIAL PROVISIONS.

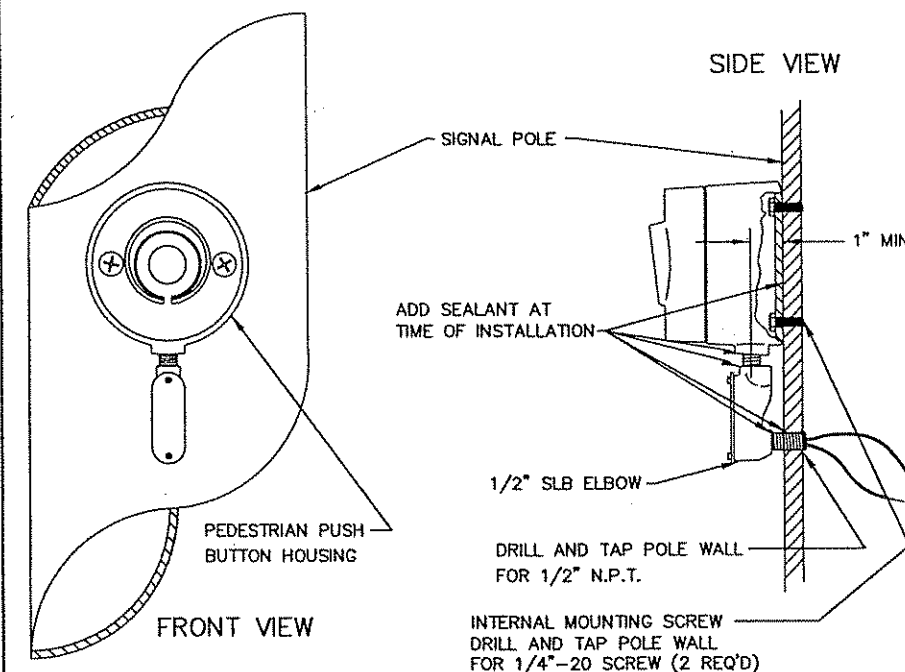
NEMA 3R ENCLOSURE SHALL BE "UL" APPROVED.

CABINET SHALL HAVE BASE GASKET INCLUDED.

FEED POINT WIRING DIAGRAM



MAST ARM POLE PEDESTRIAN PUSH BUTTON DETAIL



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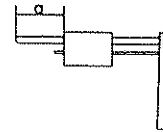
TRAFFIC SIGNAL SYSTEMS "A-B"
CABINET & PUSH BUTTON DETAILS
CSAH 9 (ROUND LAKE BLVD NW)

FILE NO. 105
AANOKC0102.00
SIGNAL SHEET 2 OF 16
165

SIGN PANELS - TYPE D								
SIGNAL SYSTEM	SIGN PANEL	SIZE (inches)	NO. REQ.	BRACKETS PER SIGN	BRACKET SPACING (**)	AREA (sq.ft.) PER SIGN	POLE NO.	Ø
A	D-1	120x24	1	4	-	20.00	1	8'
A	D-2	108x24	1	4	-	18.00	2	28'
A	D-3	120x24	1	4	-	20.00	3	8'
A	D-4	108x24	1	4	-	18.00	4	28'
B	D-5	102x24	1	4	-	17.00	1	28'
B	D-6	102x24	1	4	-	17.00	3	28'
B	D-7	120x24	1	4	-	20.00	4	8'
TOTALS			7			130.00		

(**) = SPACING BETWEEN STIFFENERS SHALL NOT EXCEED 36 INCHES AND SHALL BE UNIFORMLY SPACED. SEE SPECIAL PROVISIONS FOR BRACKET SPACING REQUIREMENTS.

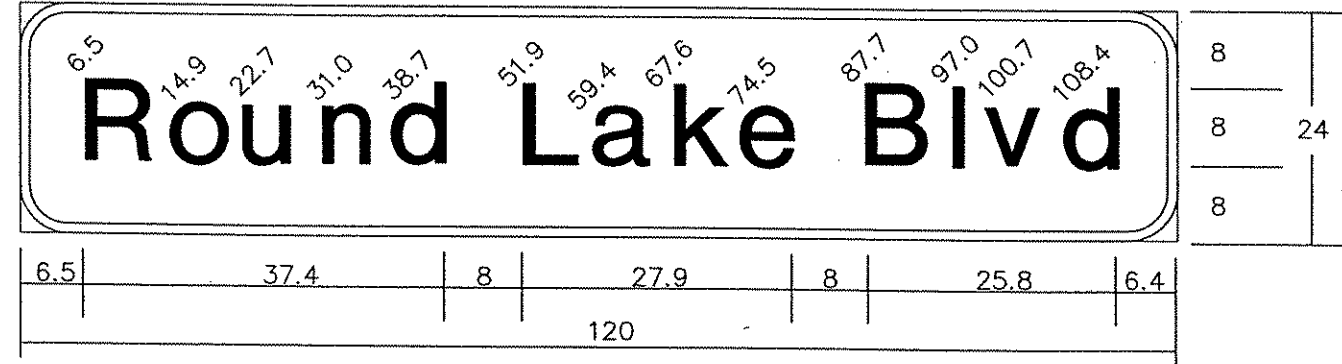
SIGN PANELS - TYPE C								
SIGNAL SYSTEM	SIGN PANEL	SIZE (in.)	NO. REQ.	NO. POSTS PER SIGN	POST SPACING (in.)	SQ. FT. PER SIGN	POLE NO.	Ø
A	R6-1L	36x12	2	①	-	3.00	2,4	-
A	R6-1R	36x12	2	①	-	3.00	2,4	-
B	R6-1L	36x12	1	①	-	3.00	3	-
B	R6-1R	36x12	1	①	-	3.00	1	-
B	R9-3a	18x18	2	①	-	2.25	2,3	-
TOTALS			8			22.50		



NOTES:

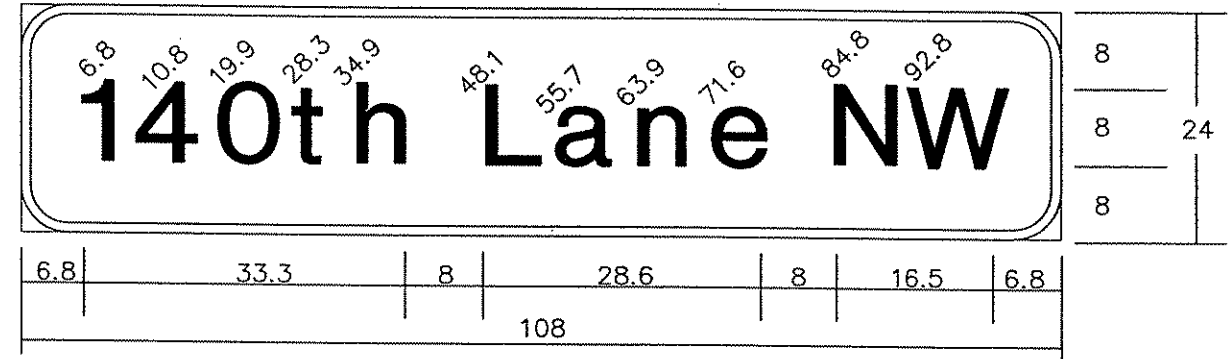
- COLOR FOR TYPE D SIGNS SHALL BE WHITE LEGEND AND BORDER ON GREEN BACKGROUND, FULLY REFLECTORIZED.
- CORNERS EXTENDING BEYOND THE BORDER SHALL NOT BE TRIMMED.
- FOR STRUCTURAL DETAILS, TYPE D SIGNS, SEE STANDARD SIGNS MANUAL AND SPECIAL PROVISIONS, PAGE 105A.
- SIGN PANELS TO BE FURNISHED AND INSTALLED INCIDENTAL TO ITEM NO. 2565.511 FOR EACH SIGNAL SYSTEM.
- ① = MOUNT ON TRAFFIC SIGNAL MAST ARM POLE AS NOTED IN PLANS & SPECIAL PROVISIONS.
- ALL NEW TYPE C AND D SIGNS SHALL BE FABRICATED USING VIP SHEETING. SEE SPECIAL PROVISIONS.

D-1, D-3, D-7



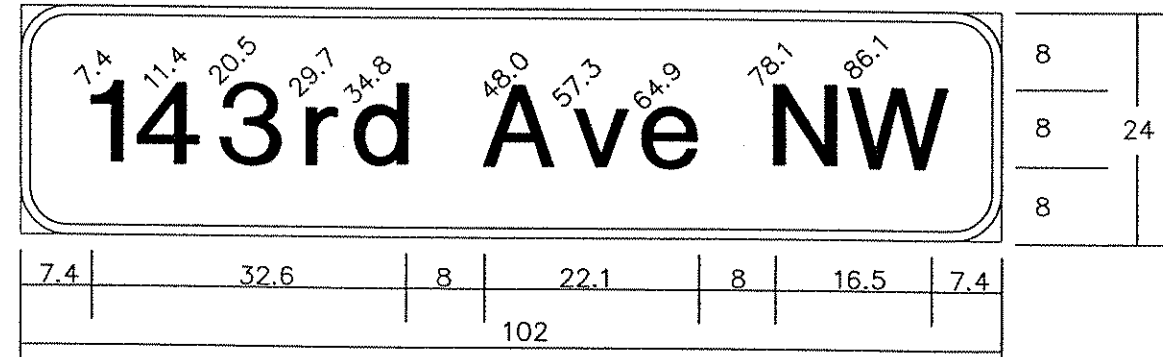
D-1, D-3, D-7; 120" x 24", 3.0" Radius, 1.0" Border, White on Green
"Round Lake Blvd" E Mod.

D-2, D-4



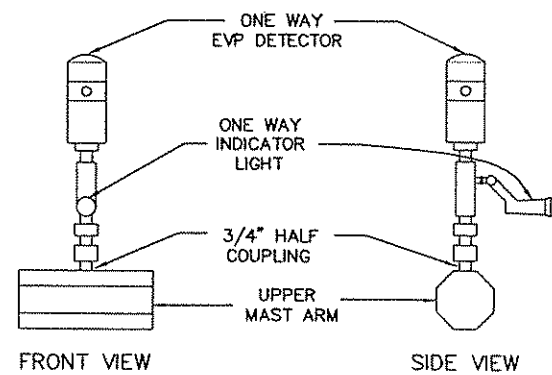
D-2, D-4; 108" x 24", 3.0" Radius, 1.0" Border, White on Green
"140th Lane NW" E Mod.

D-5, D-6



D-5, D-6; 102" x 24", 3.0" Radius, 1.0" Border, White on Green
"143rd Ave NW" E Mod.

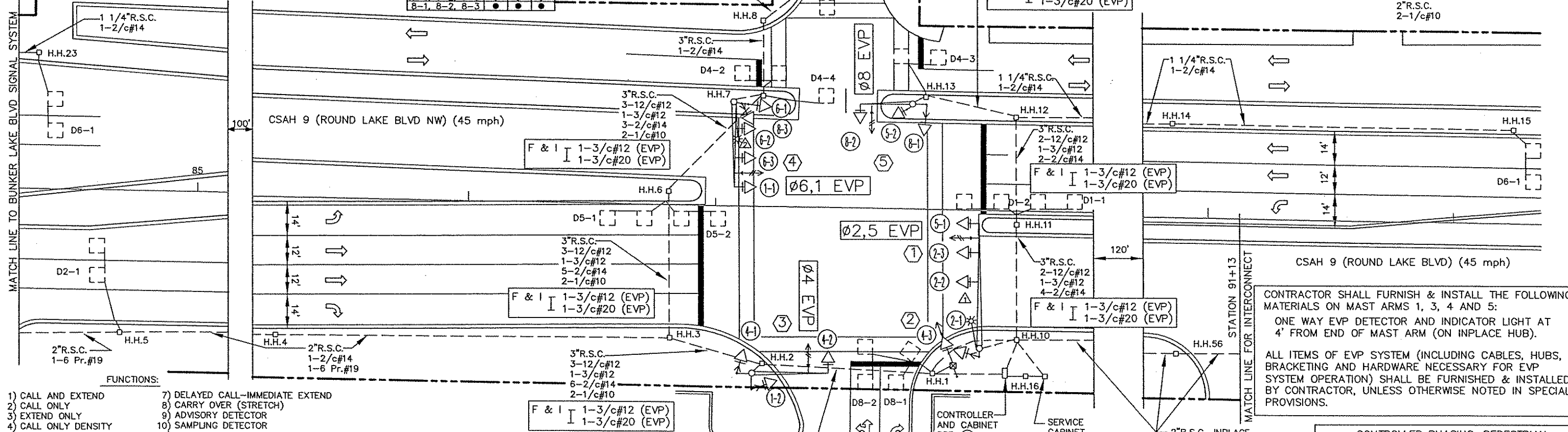
EVP DETECTOR AND LIGHT MOUNTING DETAIL ON MAST ARM



NOTES:

- 1) ALL ITEMS OF SIGNAL SYSTEM ARE INPLACE AND SHALL BE REUSED AND MAINTAINED INPLACE, EXCEPT AS DENOTED BELOW AND ELSEWHERE ON THIS PLAN SHEET.
- 2) CONTRACTOR SHALL SALVAGE ALL INPLACE INCANDESCENT VEHICLE SIGNAL INDICATIONS AND SHALL FURNISH AND INSTALL NEW LED SIGNAL INDICATIONS IN THEIR PLACE (INCIDENTAL TO ITEM NO. 2565.616-REVISE SIGNAL SYSTEM).
- 3) CONTRACTOR SHALL SALVAGE ALL INPLACE PEDESTRIAN INDICATIONS, AND SHALL FURNISH AND INSTALL NEW ONE SECTION "HAND/WALKING PERSON" LED SIGNAL INDICATIONS AND HOUSINGS IN THEIR PLACE (INCIDENTAL TO ITEM NO. 2565.616-REVISE SIGNAL SYSTEM).
- 4) SIGNAL SYSTEM FLASH MODE SHALL BE ALL RED.
- 5) EACH SIGNAL FACE HAS BACKGROUND SHIELD.
- 6) LOOP DETECTOR WIRES ARE CROSS-LINKED POLYETHYLENE (XLP) IN 1" N.M.C.
- 7) EACH HANDHOLE IS A CONCRETE HANDHOLE WITH TYPE "C" COVER PER Mn/DOT STANDARD PLATE NO.8117F.
- 8) F & I = ITEMS TO BE FURNISHED AND INSTALLED BY CONTRACTOR. SALVAGE = ITEMS TO BE REMOVED AND SALVAGED BY CONTRACTOR.
- 9) (INTERCONNECT) DENOTES MATERIALS TO BE FURNISHED AND INSTALLED BY CONTRACTOR UNDER ITEM NO. 2565.601 (TRAFFIC CONTROL INTERCONNECTION).
- 10) (EVP) DENOTES MATERIALS TO BE FURNISHED AND INSTALLED BY CONTRACTOR UNDER ITEM NO. 2565.601 (EMERGENCY VEHICLE PREEMPTION SYSTEM "C").
- 11) INPLACE ITEMS TO BE REUSED INPLACE AS PART OF REVISE SIGNAL SYSTEM SHALL BE PROTECTED AND MAINTAINED INPLACE.
- 12) CONTRACTOR SHALL MAINTAIN OPERATION OF SIGNAL SYSTEM AT ALL TIMES, UNLESS APPROVED BY ENGINEER TO BE TURNED OFF.

LED SIGNAL FACES			
SIGNAL FACE	ALL 12"		
	R	Y	G
1-1, 1-2	←	←	←
2-1, 2-2, 2-3	•	•	•
4-1, 4-2, 4-3	•	•	•
5-1, 5-2	←	←	←
6-1, 6-2, 6-3	•	•	•
8-1, 8-2, 8-3	•	•	•



- FUNCTIONS:**
- | | |
|------------------------------|---|
| 1) CALL AND EXTEND | 7) DELAYED CALL-IMMEDIATE EXTEND |
| 2) CALL ONLY | 8) CARRY OVER (STRETCH) |
| 3) EXTEND ONLY | 9) ADVISORY DETECTOR |
| 4) CALL ONLY DENSITY | 10) SAMPLING DETECTOR |
| 5) DELAYED CALL ONLY | 11) IMMEDIATE CALL DURING PHASE 4/8 GREEN |
| 6) DELAYED CALL ONLY DENSITY | |

NMC LOOP DETECTORS (INPLACE)

NUMBER	SIZE (FT.)	LOCATION	FUNCTION
D1-1	2-6x6	20'	7,11
D1-2	2-6x6	5'	7,11
D2-1	2-6x6	330'	1
D4-1	2-6x6	5'	7
D4-2	2-6x6	5'	7
D4-3	2-6x6	5'	7
D4-4	6x6	5'	7
D5-1	2-6x6	20'	7,11
D5-2	2-6x6	5'	7,11
D6-1	2-6x6	330'	1
D8-1	2-6x6	5'	7
D8-2	2-6x6	5'	7

3 INPLACE (MAINTAIN INPLACE) P90 POLE FOUNDATION TYPE P90-A-30 ONE WAY SIGNAL-OVERHEAD 2-TYPE 10B-POLE MOUNTED 90° & 180° 2-PEDESTRIAN PUSH BUTTONS TYPE D SIGN PANEL-OVERHEAD EXTENDED INTO H.H.2: 3"R.S.C. 2-12/c#12 1-3/c#12

INPLACE (SALVAGE) - 2-SETS PEDESTRIAN INDICATIONS

F & I 2-SETS PEDESTRIAN INDICATIONS ONE WAY EVP DETECTOR AND LIGHT (ø4) (EVP) 1-3/c#12 (EVP) 1-3/c#20 (EVP)

2 INPLACE (MAINTAIN INPLACE) PEDESTAL FOUNDATION 10' PEDESTAL POLE AND BASE TYPE 1C 2-PEDESTRIAN PUSH BUTTONS EXTENDED INTO H.H.1: 2"R.S.C. 1-12/c#12 1-3/c#12

INPLACE (SALVAGE) - 1-SET PEDESTRIAN INDICATIONS

F & I - 1-SET PEDESTRIAN INDICATIONS

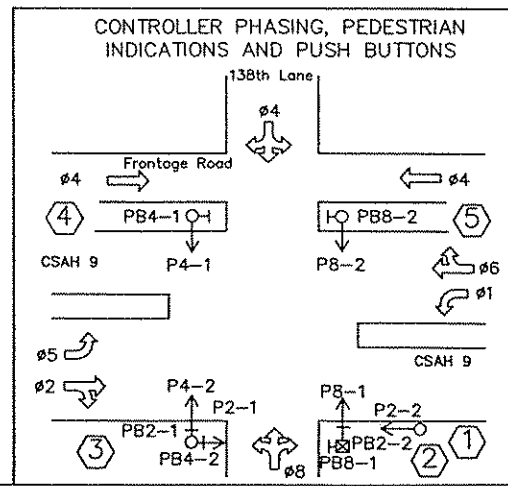
F & I 2-3/c#12 (EVP) 2-3/c#20 (EVP)

2"R.S.C. 1-6 Pr.#19

1 INPLACE (MAINTAIN INPLACE) A100 POLE FOUNDATION TYPE A100-A-50-D40-9 (DAVIT AT 350') LUMINAIRE-200 W HPS WITH PEC & CHECK SWITCH 3-ONE WAY SIGNALS-OVERHEAD (0°, 11° AND 23°-FROM END OF MAST ARM) TYPE 10B-POLE MOUNTED 180° 2-R6-1 SIGN PANELS-POLE MOUNTED 0° & 180° TYPE D SIGN PANEL-OVERHEAD EXTENDED INTO H.H.10: 3"R.S.C. 2-12/c#12 2-1/c#10

INPLACE (SALVAGE) - 1-SET PEDESTRIAN INDICATIONS

F & I 1-SET PEDESTRIAN INDICATIONS ONE WAY EVP DETECTOR AND LIGHT (ø2.5) (EVP) 1-3/c#12 (EVP) 1-3/c#20 (EVP)



A CONTROLLER AND CABINET CABINET FOUNDATION EXTENDED INTO H.H.16: METERED SIGNAL SERVICE 1 1/4"R.S.C. 3-1/c#6 EXTENDED INTO H.H.1: 4"R.S.C. 6-12/c#12 3-3/c#12 8-2/c#14

F & I 2-3/c#12 (EVP) 2-3/c#20 (EVP)

EXTENDED INTO H.H.10: 4"R.S.C. 4-12/c#12 1-3/c#12 4-2/c#14

F & I 2-3/c#12 (EVP) 2-3/c#20 (EVP)

EXTENDED INTO H.H.1: 2"R.S.C. 1-6 Pr.#19

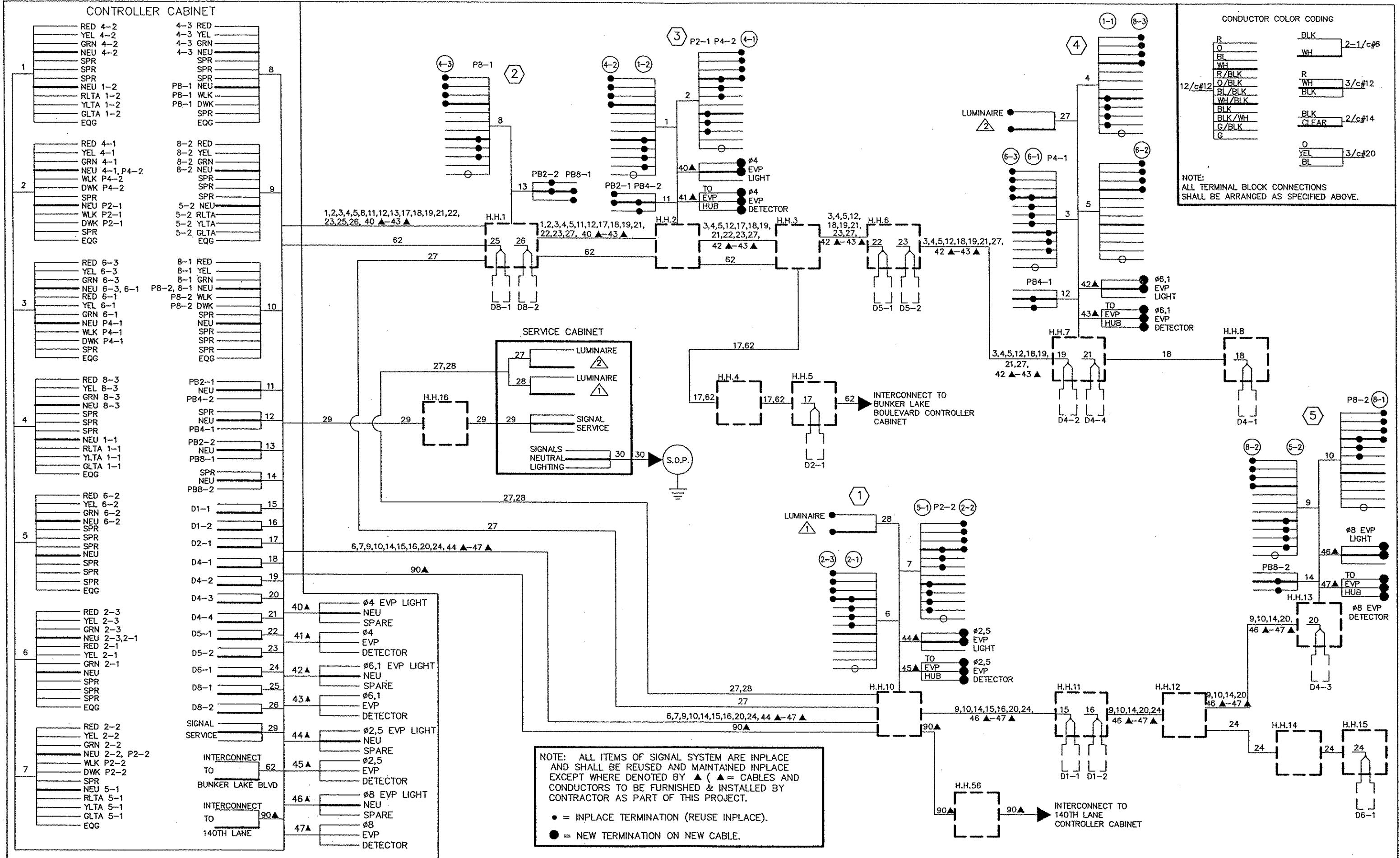
EXTENDED INTO H.H.10: 2"R.S.C.

1-6 Pr.#19-INPLACE (REMOVE) (INTERCONNECT) 1-6 Pr.#19 (INTERCONNECT)

B SERVICE CABINET CABINET FOUNDATION 2"R.S.C. STUB OUT (FOR SERVICE BY CONNEXUS) EXTENDED INTO H.H.16: METERED SIGNAL SERVICE 1 1/4"R.S.C. 3-1/c#6 EXTENDED INTO H.H.10: UNMETERED STREET LIGHT SERVICE 1 1/4"R.S.C. 4-1/c#10 BETWEEN H.H.1 AND H.H.10: 2"R.S.C. 2-1/c#10

CONTRACTOR SHALL FURNISH & INSTALL THE FOLLOWING MATERIALS ON MAST ARMS 1, 3, 4 AND 5: ONE WAY EVP DETECTOR AND INDICATOR LIGHT AT 4' FROM END OF MAST ARM (ON INPLACE HUB).

ALL ITEMS OF EVP SYSTEM (INCLUDING CABLES, HUBS, BRACKETING AND HARDWARE NECESSARY FOR EVP SYSTEM OPERATION) SHALL BE FURNISHED & INSTALLED BY CONTRACTOR, UNLESS OTHERWISE NOTED IN SPECIAL PROVISIONS.



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DESIGNER:	JMG		
CHECKED BY:	JMG		
DESIGN TEAM			
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John M. Gray
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Date: March 7, 2003 Lic. No. 22457



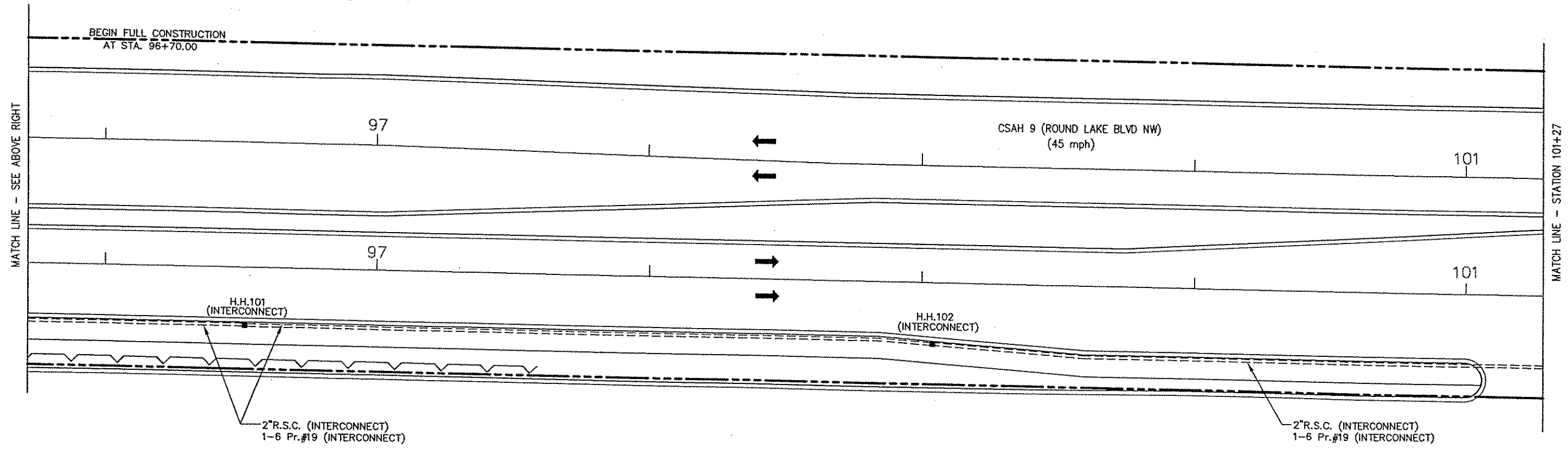
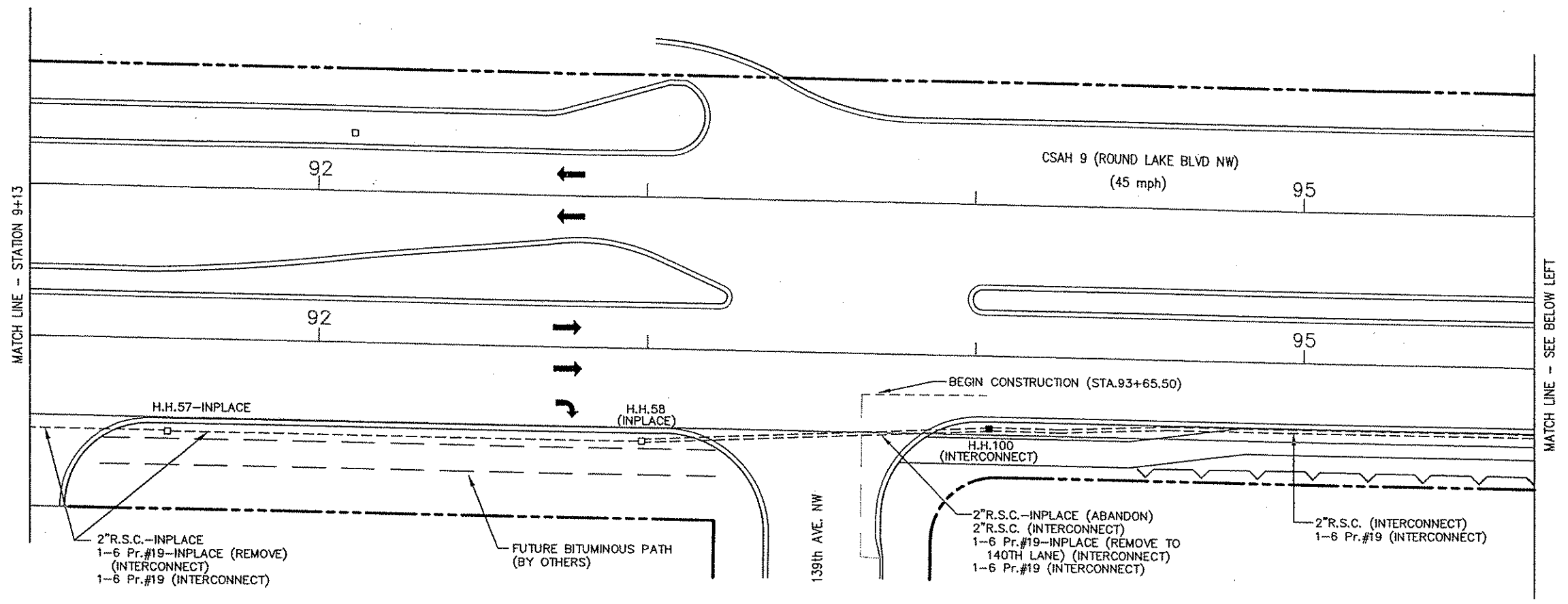
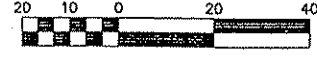
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S.A.P. 198-020-17

REVISE SIGNAL SYSTEM
FIELD WIRING DIAGRAM
CSAH 9 (ROUND LAKE BLVD NW)
AT 138TH LANE NORTHWEST

FILE NO. 108
AANOKC0102.00
SIGNAL SHEET 5 OF 16
165

NOTES:

- 1) LOCATION OF HANDHOLES SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
- 2) NEW HANDHOLES SHALL BE PVC HANDHOLES WITH METAL FRAMES AND COVERS.
- 3) (INTERCONNECT) DENOTES ITEMS TO BE FURNISHED & INSTALLED BY CONTRACTOR UNDER ITEM NO. 2565.601 (TRAFFIC CONTROL INTERCONNECTION). SEE ESTIMATED QUANTITIES & SPECIAL PROVISIONS.



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ANOKA COUNTY, MINNESOTA
 CITY OF ANDOVER
 S.A.P. 02-609-12
 S.A.P. 198-020-17

TRAFFIC SIGNAL INTERCONNECT
 INTERSECTION LAYOUT
 CSAH 9 (ROUND LAKE BLVD NW)
 (138TH LANE NW TO 140TH LANE NW)

FILE NO. 109
 AANOKC0102.00
 SIGNAL SHEET 6 OF 16
 165

NOTES:

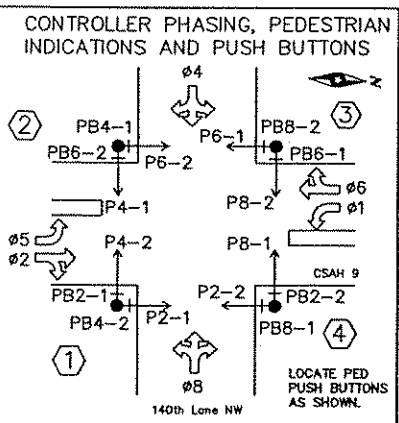
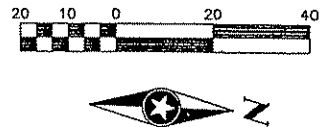
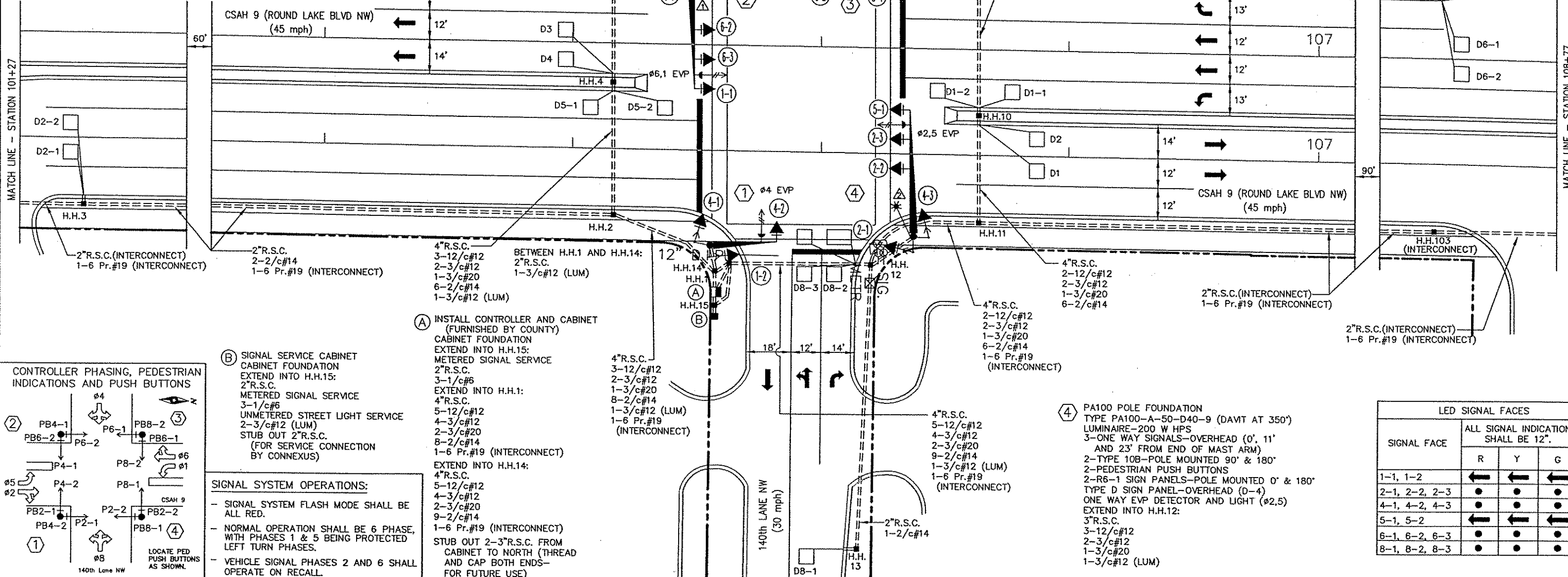
- 1) LOCATION OF POLES, CONTROLLER CABINET, SERVICE CABINET, LOOP DETECTORS AND HANDHOLES SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
- 2) SEE SPECIAL PROVISIONS FOR COUNTY FURNISHED MATERIALS.
- 3) LOOP DETECTOR WIRES SHALL BE CROSS-LINKED POLYETHYLENE (XLP) IN 3/4" N.M.C. SEE SPECIAL PROVISIONS.
- 4) NEW HANDHOLES SHALL BE PVC HANDHOLES WITH METAL FRAMES AND COVERS.
- 5) EACH SIGNAL FACE SHALL HAVE BACKGROUND SHIELD.
- 6) EACH PEDESTRIAN INDICATION SHALL BE ONE SECTION HAND/WALKING PERSON INDICATION.
- 7) ALL VEHICLE SIGNAL INDICATIONS, AND ALL PEDESTRIAN SIGNAL INDICATIONS SHALL BE LED.
- 8) SEE SPECIAL PROVISIONS AND DETAILS REGARDING SIGNS TO BE FURNISHED & INSTALLED BY CONTRACTOR (INCIDENTAL TO ITEM NO. 2565.511 FOR THIS SIGNAL SYSTEM).
- 9) CONTRACTOR SHALL PROVIDE EXTENDED BRACKETS FOR EACH POLE MOUNTED VEHICLE AND PEDESTRIAN SIGNAL FACE.
- 10) A 3/4" HALF COUPLING, 3/4" PIPE NIPPLE AND CONDUIT OUTLET BODY SHALL BE FURNISHED AND INSTALLED 6 FEET FROM THE END OF EACH MAST ARM (FOR EVP).
- 11) SEE SPECIAL PROVISIONS & ESTIMATED QUANTITIES REGARDING INPLACE SIGNAL SYSTEM TO BE REMOVED AND SALVAGED BY CONTRACTOR (SEPARATE FROM ITEM NO. 2565.511).
- 12) CONTRACTOR SHALL MAINTAIN OPERATION OF INPLACE SIGNAL SYSTEM AT ALL TIMES, UNTIL APPROVED BY ENGINEER FOR SIGNAL SYSTEM TO BE TURNED OFF.
- 13) CONTRACTOR SHALL COORDINATE ALL TRAFFIC SIGNAL INSTALLATION WORK WITH ROAD CONSTRUCTION TO BE COMPLETED BY OTHERS AS PART OF ENTIRE PROJECT.
- 14) (INTERCONNECT) DENOTES ITEMS TO BE FURNISHED & INSTALLED BY CONTRACTOR UNDER ITEM NO. 2565.601 (TRAFFIC CONTROL INTERCONNECTION). SEE ESTIMATED QUANTITIES & SPECIAL PROVISIONS.

N.M.C. LOOP DETECTORS			
NUMBER	SIZE (FT.)	LOCATION	FUNCTION
D1-1	6x6	40'	1
D1-2	6x6	10'	1
D2-1	6x6	300'	1
D2-2	6x6	300'	1
D4-1	6x6	120'	3,8
D4-2	2-6x10	5'	7
D5-1	6x6	40'	1
D5-2	6x6	10'	1
D6-1	6x6	300'	1
D6-2	6x6	300'	1
D8-1	6x6	120'	3,8
D8-2	6x10&6x6	5'	7
D8-3	2-6x6	5'	7
D1	6x6	50'	11
D2	6x6	50'	11
D3	6x6	50'	11
D4	6x6	50'	11

NOTE: LOCATION = DISTANCE FROM STOP BAR TO FRONT OF LOOP DETECTOR.

LOOP DETECTORS FUNCTIONS:

- 1) CALL AND EXTEND
- 2) CALL ONLY
- 3) EXTEND ONLY
- 4) CALL ONLY DENSITY
- 5) DELAYED CALL ONLY
- 6) DELAYED CALL ONLY DENSITY
- 7) DELAYED CALL - IMMEDIATE EXTEND
- 8) CARRY OVER (STRETCH)
- 9) ADVISORY DETECTOR
- 10) SAMPLING DETECTOR
- 11) SPECIAL DETECTOR (COUNTING)



(B) SIGNAL SERVICE CABINET
 CABINET FOUNDATION
 EXTEND INTO H.H.15:
 2" R.S.C.
 METERED SIGNAL SERVICE
 EXTEND INTO H.H.1:
 4" R.S.C.
 3-1/c#6
 UNMETERED STREET LIGHT SERVICE
 2-3/c#12 (LUM)
 STUB OUT 2" R.S.C.
 (FOR SERVICE CONNECTION
 BY CONNEXUS)

SIGNAL SYSTEM OPERATIONS:

- SIGNAL SYSTEM FLASH MODE SHALL BE ALL RED.
- NORMAL OPERATION SHALL BE 6 PHASE, WITH PHASES 1 & 5 BEING PROTECTED LEFT TURN PHASES.
- VEHICLE SIGNAL PHASES 2 AND 6 SHALL OPERATE ON RECALL.

(A) INSTALL CONTROLLER AND CABINET
 (FURNISHED BY COUNTY)
 CABINET FOUNDATION
 EXTEND INTO H.H.15:
 METERED SIGNAL SERVICE
 2" R.S.C.
 3-1/c#6
 EXTEND INTO H.H.1:
 4" R.S.C.
 5-12/c#12
 4-3/c#12
 2-3/c#20
 8-2/c#14
 1-6 Pr.#19 (INTERCONNECT)
 EXTEND INTO H.H.14:
 4" R.S.C.
 5-12/c#12
 4-3/c#12
 2-3/c#20
 9-2/c#14
 1-6 Pr.#19 (INTERCONNECT)
 STUB OUT 2-3" R.S.C. FROM
 CABINET TO NORTH (THREAD
 AND CAP BOTH ENDS-
 FOR FUTURE USE)

LED SIGNAL FACES			
SIGNAL FACE	ALL SIGNAL INDICATIONS SHALL BE 12".		
	R	Y	G
1-1, 1-2	←	←	←
2-1, 2-2, 2-3	•	•	•
4-1, 4-2, 4-3	•	•	•
5-1, 5-2	←	←	←
6-1, 6-2, 6-3	•	•	•
8-1, 8-2, 8-3	•	•	•

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 DESIGNER: JMG
 CHECKED BY: JMG

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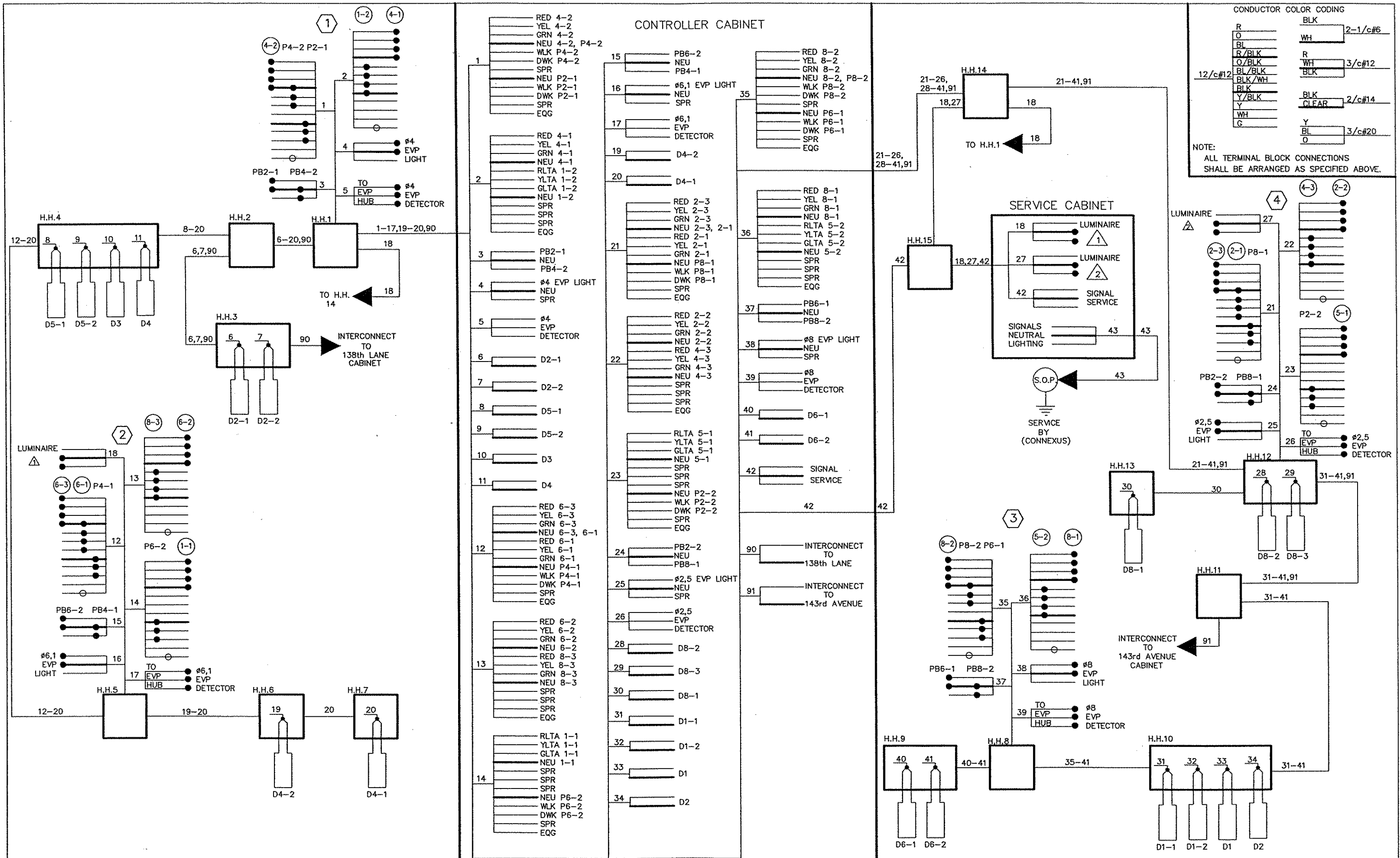
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 Name: John M. Gray, P.E.
 Date: March 7, 2003 Lic. No. 22457



ANOKA COUNTY, MINNESOTA
 CITY OF ANDOVER
 S.A.P. 02-609-12
 S.A.P. 198-020-17

TRAFFIC SIGNAL SYSTEM "A"
 INTERSECTION LAYOUT
 CSAH 9 (ROUND LAKE BLVD NW)
 AT 140TH LANE NW

FILE NO. 110
 SIGNAL SHEET 7 OF 16
 165



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John M. Gray
Name: John M. Gray, P.E.
Date: March 7, 2005 Lic. No. 22457



ANOKA COUNTY, MINNESOTA
CITY OF ANDOVER
S.A.P. 02-609-12
S.A.P. 198-020-17

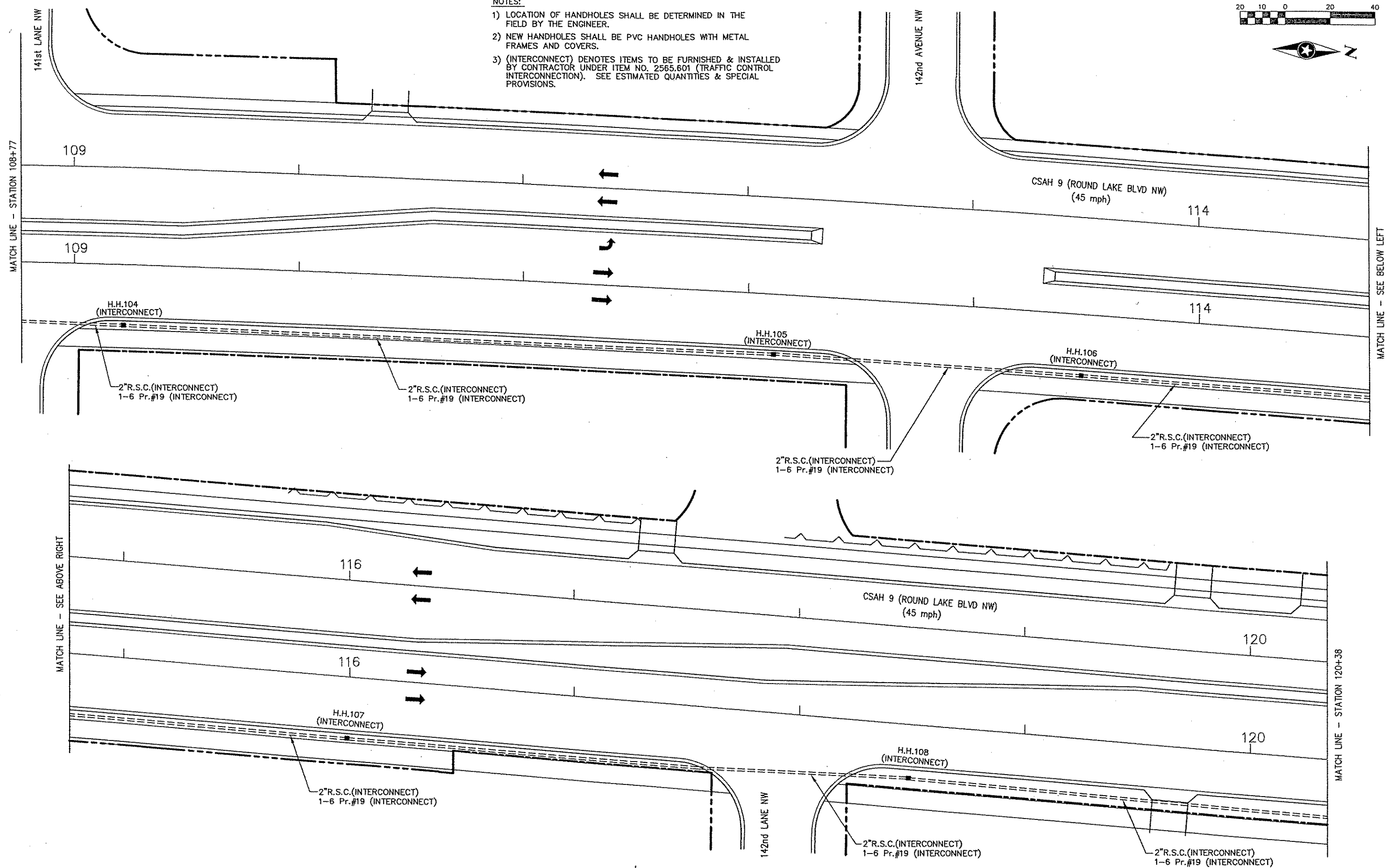
TRAFFIC SIGNAL SYSTEM 'A'
FIELD WIRING DIAGRAM
CSAH 9 (ROUND LAKE BLVD NW)
AT 140TH LANE NW

FILE NO. AANOKC0102.00
SIGNAL SHEET 8 OF 16.
111
165



NOTES:

- 1) LOCATION OF HANDHOLES SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
- 2) NEW HANDHOLES SHALL BE PVC HANDHOLES WITH METAL FRAMES AND COVERS.
- 3) (INTERCONNECT) DENOTES ITEMS TO BE FURNISHED & INSTALLED BY CONTRACTOR UNDER ITEM NO. 2565,601 (TRAFFIC CONTROL INTERCONNECTION). SEE ESTIMATED QUANTITIES & SPECIAL PROVISIONS.



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 DESIGNER: JMG
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John M. Gray
 Name: John M. Gray, P.E.
 Lic. No. 22457
 Date: March 7, 2003



ANOKA COUNTY, MINNESOTA
 CITY OF ANDOVER
 S.A.P. 02-609-12
 S.A.P. 198-020-17

TRAFFIC SIGNAL INTERCONNECT
INTERSECTION LAYOUT
CSAH 9 (ROUND LAKE BLVD NW)
(140TH LANE NW TO 143RD AVE NW)

FILE NO. AANOKC0102.00
 SIGNAL SHEET 9 OF 16
 112
 165

NOTES:

- 1) LOCATION OF POLES, CONTROLLER CABINET, SERVICE CABINET, LOOP DETECTORS AND HANDHOLES SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
- 2) SEE SPECIAL PROVISIONS FOR COUNTY FURNISHED MATERIALS.
- 3) LOOP DETECTOR WIRES SHALL BE CROSS-LINKED POLYETHYLENE (XLP) IN 3/4" N.M.C. SEE SPECIAL PROVISIONS.
- 4) NEW HANDHOLES SHALL BE PVC HANDHOLES WITH METAL FRAMES AND COVERS.
- 5) EACH SIGNAL FACE SHALL HAVE BACKGROUND SHIELD.
- 6) EACH PEDESTRIAN INDICATION SHALL BE ONE SECTION HAND/WALKING PERSON INDICATION.
- 7) ALL VEHICLE SIGNAL INDICATIONS, AND ALL PEDESTRIAN SIGNAL INDICATIONS SHALL BE LED.
- 8) SEE SPECIAL PROVISIONS AND DETAILS REGARDING SIGNS TO BE FURNISHED & INSTALLED BY CONTRACTOR (INCIDENTAL TO ITEM NO. 2565.511 FOR THIS SIGNAL SYSTEM).
- 9) CONTRACTOR SHALL PROVIDE EXTENDED BRACKETS FOR EACH POLE MOUNTED VEHICLE AND PEDESTRIAN SIGNAL FACE.
- 10) A 3/4" HALF COUPLING, 3/4" PIPE NIPPLE AND CONDUIT OUTLET BODY SHALL BE FURNISHED AND INSTALLED 6 FEET FROM THE END OF EACH MAST ARM (FOR EVP).
- 11) CONTRACTOR SHALL COORDINATE ALL TRAFFIC SIGNAL INSTALLATION WORK WITH ROAD CONSTRUCTION TO BE COMPLETED BY OTHERS AS PART OF ENTIRE PROJECT.
- 12) (INTERCONNECT) DENOTES ITEMS TO BE FURNISHED & INSTALLED BY CONTRACTOR UNDER ITEM NO. 2565.601 (TRAFFIC CONTROL INTERCONNECTION). SEE ESTIMATED QUANTITIES & SPECIAL PROVISIONS.

N.M.C. LOOP DETECTORS			
NUMBER	SIZE (FT.)	LOCATION	FUNCTION
D1-1	6x6	40'	1
D1-2	6x6	10'	1
D2-1	6x6	300'	1
D2-2	6x6	300'	1
D4-1	6x6	120'	3,8
D4-2	6x6	120'	3,8
D4-3	2-6x6	5'	7
D4-4	2-6x6	5'	7
D5-1	6x6	40'	1
D5-2	6x6	10'	1
D6-1	6x6	300'	1
D6-2	6x6	300'	1
D1	6x6	50'	11
D2	6x6	50'	11
D3	6x6	50'	11
D4	6x6	50'	11

LOOP DETECTORS FUNCTIONS:

- 1) CALL AND EXTEND
- 2) CALL ONLY
- 3) EXTEND ONLY
- 4) CALL ONLY DENSITY
- 5) DELAYED CALL ONLY
- 6) DELAYED CALL ONLY DENSITY
- 7) DELAYED CALL- IMMEDIATE EXTEND
- 8) CARRY OVER (STRETCH)
- 9) ADVISORY DETECTOR
- 10) SAMPLING DETECTOR
- 11) SPECIAL DETECTOR (COUNTING)

NOTE: LOCATION=DISTANCE FROM STOP BAR TO FRONT OF LOOP DETECTOR.

BETWEEN H.H.1 AND H.H.11:
2"R.S.C.
1-3/c#12 (LUM) 2"R.S.C.
2-2/c#14

4"R.S.C.
2-12/c#12
2-3/c#12
1-3/c#20
6-2/c#14
1-6 Pr.#19 (INTERCONNECT)

① PA100 POLE FOUNDATION
TYPE PA100-A-45-D40-9 (DAVT AT 350')
LUMINAIRE-200 W HPS
3-ONE WAY SIGNALS-OVERHEAD (0', 11' AND 23' FROM END OF MAST ARM)
TYPE 30A-POLE MOUNTED 90°
TYPE 10B-POLE MOUNTED 180°
2-PEDESTRIAN PUSH BUTTONS
R6-1 SIGN PANEL-POLE MOUNTED 180°
TYPE D SIGN PANEL-OVERHEAD (D-5)
ONE WAY EVP DETECTOR AND LIGHT (Ø6,1)
ONE WAY EVP DETECTOR-POLE MOUNTED 180° (Ø2,5)
EXTEND INTO H.H.11:
3"R.S.C.
3-12/c#12
2-3/c#12
2-3/c#20
1-3/c#12 (LUM)

② PA85 POLE FOUNDATION
TYPE PA85-A MAST ARM POLE
TYPE 10B-POLE MOUNTED 90°
1-PEDESTRIAN PUSH BUTTON
R9-3a SIGN PANEL-FACING POLE 3
ONE WAY EVP DETECTOR-POLE MOUNTED 90° (Ø4)
ONE WAY EVP DETECTOR-POLE MOUNTED 180° (Ø6,1)
EXTEND INTO H.H.3:
3"R.S.C.
2-12/c#12
2-3/c#12
2-3/c#20

Ⓐ INSTALL CONTROLLER AND CABINET (FURNISHED BY COUNTY)
CABINET FOUNDATION
EXTEND INTO H.H.12:
METERED SIGNAL SERVICE
2"R.S.C.
3-1/c#6
EXTEND INTO H.H.1:
4"R.S.C.
4-12/c#12
5-3/c#12
3-3/c#20
10-2/c#14

EXTEND INTO H.H.11:
4"R.S.C.
5-12/c#12
4-3/c#12
3-3/c#20
6-2/c#14
1-6 Pr.#19 (INTERCONNECT)
STUB OUT 2-3"R.S.C. FROM CABINET TO EAST (THREAD AND CAP BOTH ENDS-FOR FUTURE USE)

Ⓑ SIGNAL SERVICE CABINET
CABINET FOUNDATION
EXTEND INTO H.H.12:
2"R.S.C.
METERED SIGNAL SERVICE
3-1/c#6
UNMETERED STREET LIGHT SERVICE
2-3/c#12 (LUM)
STUB OUT 2"R.S.C. (FOR SERVICE CONNECTION BY CONNEXUS)

④ PA85 POLE FOUNDATION
TYPE PA85-A-20
ONE WAY SIGNAL-OVERHEAD
TYPE 10A-POLE MOUNTED 90°
TYPE 10B-POLE MOUNTED 180°
1-PEDESTRIAN PUSH BUTTON
TYPE D SIGN PANEL-OVERHEAD (D-7)
ONE WAY EVP DETECTOR AND LIGHT (Ø4)
EXTEND INTO H.H.8:
3"R.S.C.
2-12/c#12
2-3/c#12
1-3/c#20

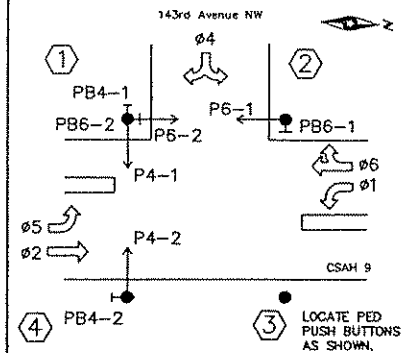
③ PA100 POLE FOUNDATION
TYPE PA100-A-45-D40-9 (DAVT AT 350')
LUMINAIRE-200 W HPS
3-ONE WAY SIGNALS-OVERHEAD (0', 11' AND 23' FROM END OF MAST ARM)
2-TYPE 10A-POLE MOUNTED 90° & 270°
R9-3a SIGN PANEL-FACING POLE 2
R6-1 SIGN PANEL-POLE MOUNTED 0°
TYPE D SIGN PANEL-OVERHEAD (D-6)
ONE WAY EVP DETECTOR AND LIGHT (Ø2,5)
EXTEND INTO H.H.7:
3"R.S.C.
2-12/c#12
3-3/c#12
1-3/c#20
1-3/c#12 (LUM)

SIGNAL SYSTEM OPERATIONS:

- SIGNAL SYSTEM FLASH MODE SHALL BE ALL RED.
- NORMAL OPERATION SHALL BE 5 PHASE, WITH PHASES 1 & 5 BEING PROTECTED LEFT TURN PHASES.
- VEHICLE SIGNAL PHASES 2 AND 6 SHALL OPERATE ON RECALL.

LED SIGNAL FACES			
SIGNAL FACE	ALL SIGNAL INDICATIONS SHALL BE 12"		
	R	Y	G
1-1, 1-2	←	←	←
2-1, 2-2, 2-3	•	•	•
4-1, 4-2, 4-3	•	•	•
5-1, 5-2	←	←	←
6-1, 6-2, 6-3	•	•	•

CONTROLLER PHASING, PEDESTRIAN INDICATIONS AND PUSH BUTTONS



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DESIGN TEAM	NO. BY DATE	REVISIONS

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Date: March 7, 2003 Name: John M. Gray, P.E. Lic. No. 22457

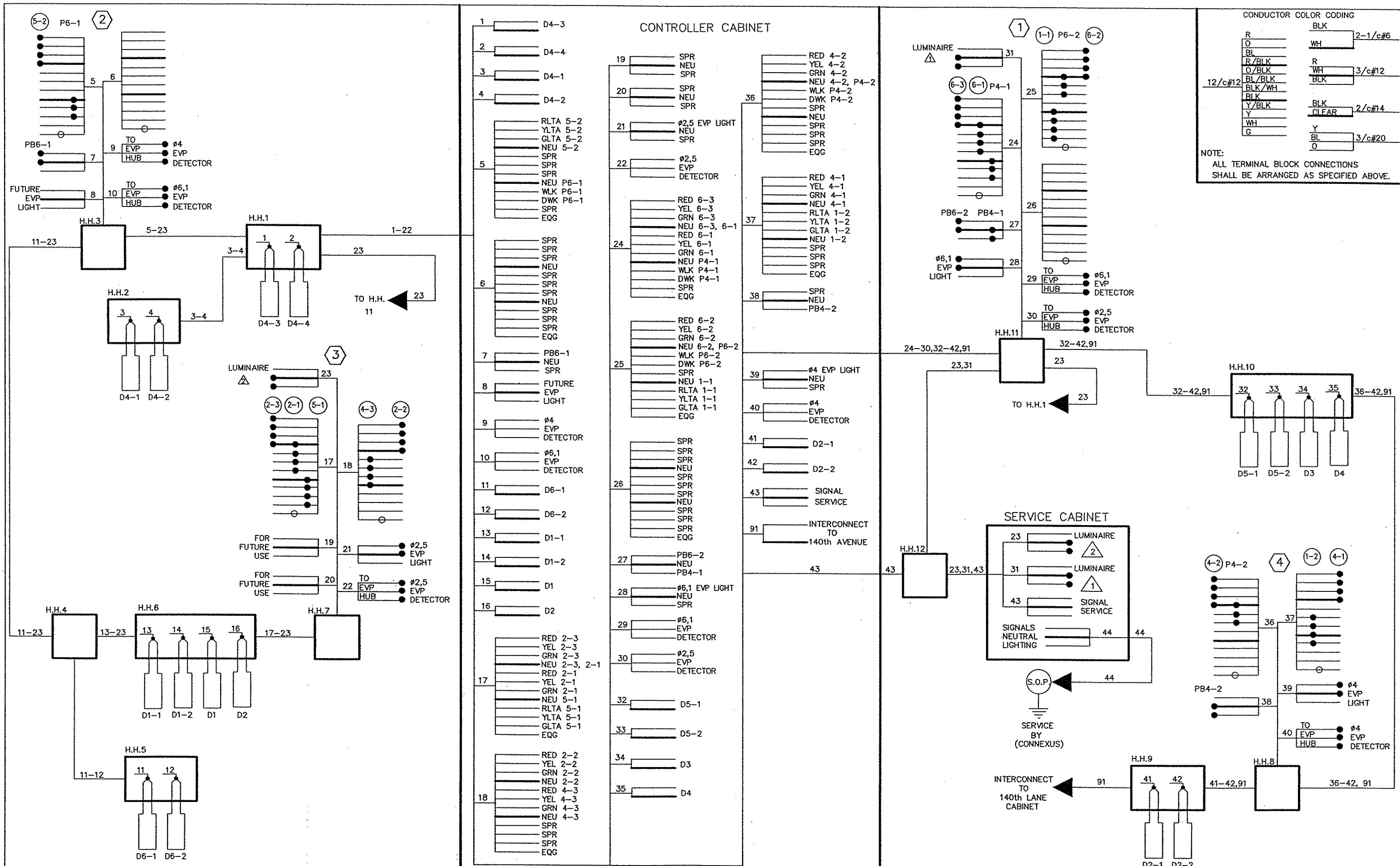


ANOKA COUNTY, MINNESOTA
CITY OF ANDOVER
S.A.P. 02-609-12
S.A.P. 198-020-17

TRAFFIC SIGNAL SYSTEM "B"
INTERSECTION LAYOUT
CSAH 9 (ROUND LAKE BLVD NW)
AT 143RD AVENUE NW

FILE NO. ANOKC0102.00 113
SIGNAL SHEET 10 OF 16 165





CONDUCTOR COLOR CODING

R	BLK	2-1/c#6
O	WH	
BL	R	
O/BLK	WH	3/c#12
BL/BLK	BLK	
BLK/WH	BLK	
BLK	BLK	2/c#14
Y/BLK	CL FAR	
Y	Y	
WH	BL	3/c#20
G	O	

NOTE:
ALL TERMINAL BLOCK CONNECTIONS SHALL BE ARRANGED AS SPECIFIED ABOVE.

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 DESIGNER: JMG
 CHECKED BY: JMG
 DESIGN TEAM

NO.	BY	DATE	REVISIONS

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John M. Gray
 Name: John M. Gray, P.E.
 Date: March 7, 2003 Lic. No. 22457

SEH
 PHONE: (651) 490-2000
 3535 VADNAIS CENTER DR.
 ST. PAUL, MN 55110

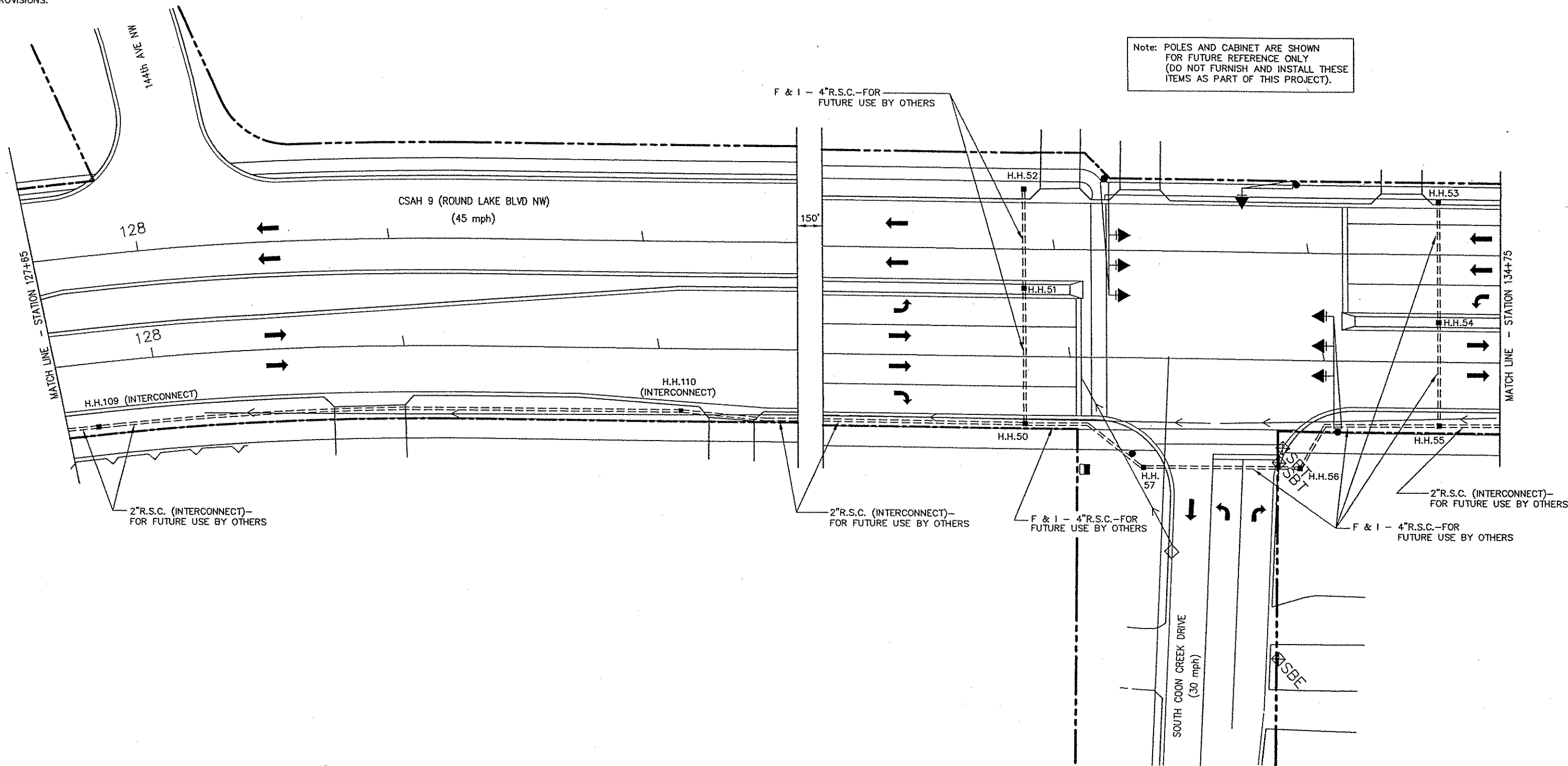
ANOKA COUNTY, MINNESOTA
 CITY OF ANDOVER
 S.A.P. 02-609-12
 S.A.P. 198-020-17

TRAFFIC SIGNAL SYSTEM "B"
 FIELD WIRING DIAGRAM
 CSAH 9 (ROUND LAKE BLVD NW)
 AT 143RD LANE NW

FILE NO. 114
 AANOKC0102.00
 SIGNAL SHEET 11 OF 16
 165

NOTES:

- 1) LOCATION OF HANDHOLES SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
- 2) NEW HANDHOLES SHALL BE PVC HANDHOLES WITH METAL FRAMES AND COVERS.
- 3) CONTRACTOR SHALL THREAD AND CAP ALL ENDS OF CONDUIT ENTERING EACH HANDHOLE (FOR FUTURE USE BY OTHERS).
- 4) CONTRACTOR SHALL COORDINATE ALL TRAFFIC SIGNAL INSTALLATION WORK WITH ROAD CONSTRUCTION TO BE COMPLETED BY OTHERS AS PART OF ENTIRE PROJECT.
- 5) (INTERCONNECT) DENOTES ITEMS TO BE FURNISHED & INSTALLED BY CONTRACTOR UNDER ITEM NO. 2565.601 (TRAFFIC CONTROL INTERCONNECTION). SEE ESTIMATED QUANTITIES & SPECIAL PROVISIONS.



Note: POLES AND CABINET ARE SHOWN FOR FUTURE REFERENCE ONLY (DO NOT FURNISH AND INSTALL THESE ITEMS AS PART OF THIS PROJECT).

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DESIGNER:	JMG			
CHECKED BY:	JMG			
DESIGN TEAM				
	NO.	BY	DATE	REVISIONS

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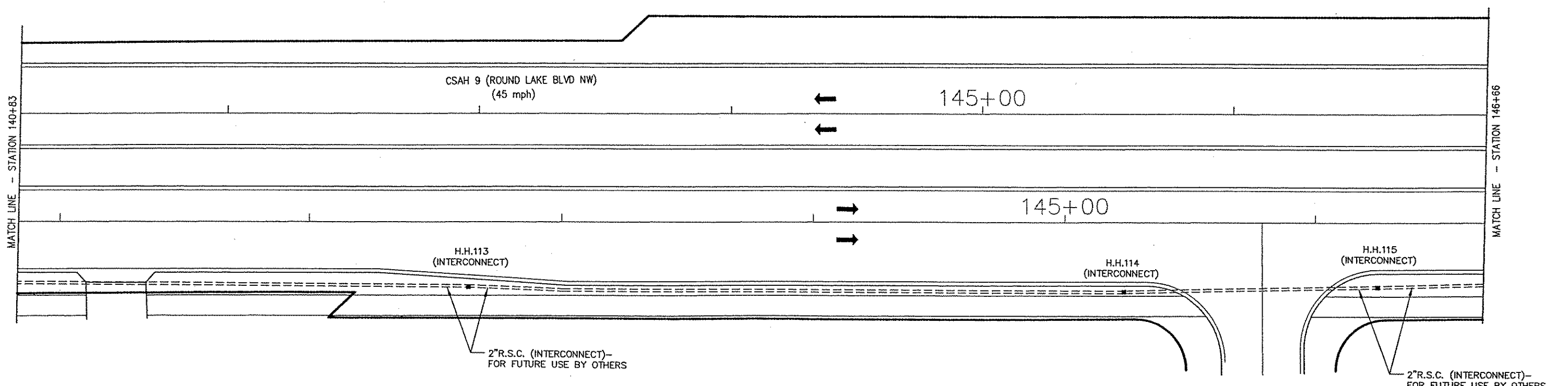
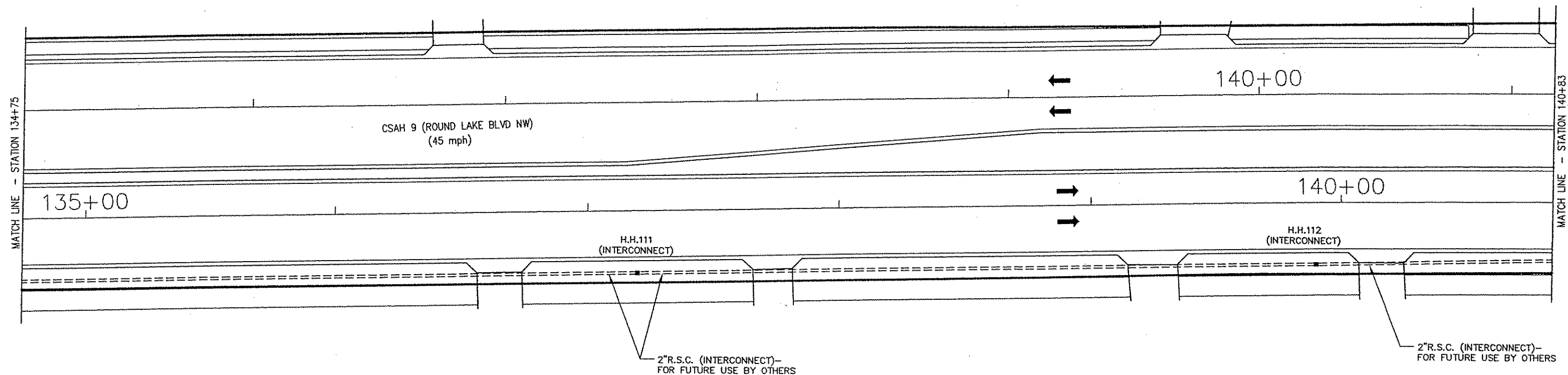
ANOKA COUNTY, MINNESOTA
 CITY OF ANDOVER
 S.A.P. 02-609-12
 S.A.P. 198-020-17

FUTURE SIGNAL/INTERCONNECT
 INTERSECTION LAYOUT
 CSAH 9 (ROUND LAKE BLVD NW)
 AT SOUTH COON CREEK DRIVE

FILE NO.	AANOKC0102.00	115
SIGNAL SHEET		165
	12 OF 16	

NOTES:

- 1) LOCATION OF HANDHOLES SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
- 2) NEW HANDHOLES SHALL BE PVC HANDHOLES WITH METAL FRAMES AND COVERS.
- 3) CONTRACTOR SHALL THREAD AND CAP ALL ENDS OF CONDUIT ENTERING EACH HANDHOLE (FOR FUTURE USE BY OTHERS).
- 4) CONTRACTOR SHALL COORDINATE ALL TRAFFIC SIGNAL INSTALLATION WORK WITH ROAD CONSTRUCTION TO BE COMPLETED BY OTHERS AS PART OF ENTIRE PROJECT.
- 5) (INTERCONNECT) DENOTES ITEMS TO BE FURNISHED & INSTALLED BY CONTRACTOR UNDER ITEM NO. 2565.601 (TRAFFIC CONTROL INTERCONNECTION). SEE ESTIMATED QUANTITIES & SPECIAL PROVISIONS.



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John M. Gray
 Name: John M. Gray, P.E.
 Lic. No. 22457
 Date: March 7, 2003



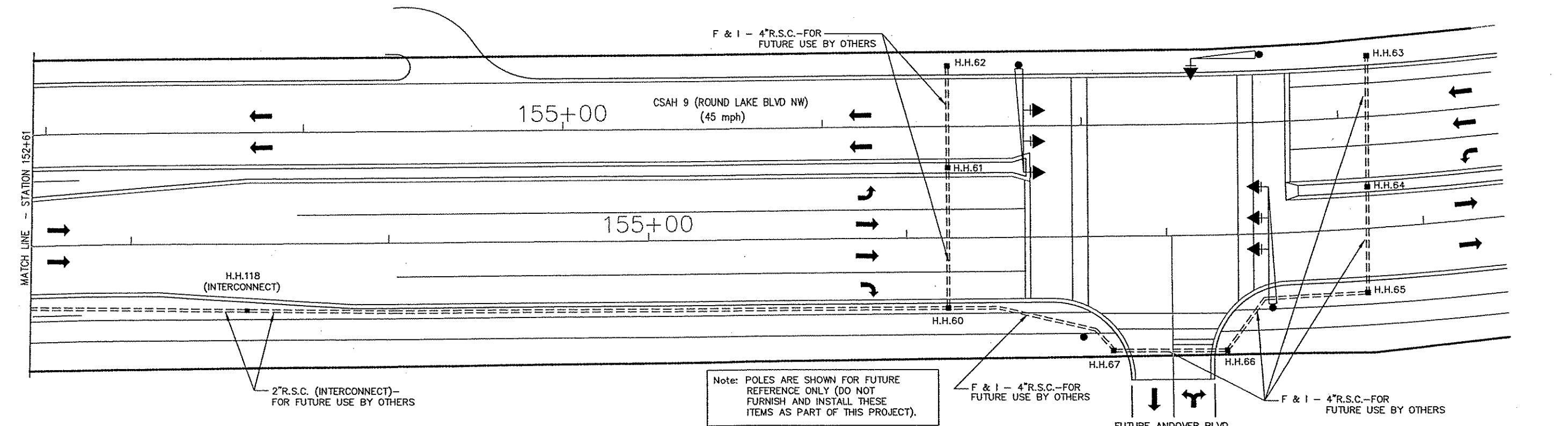
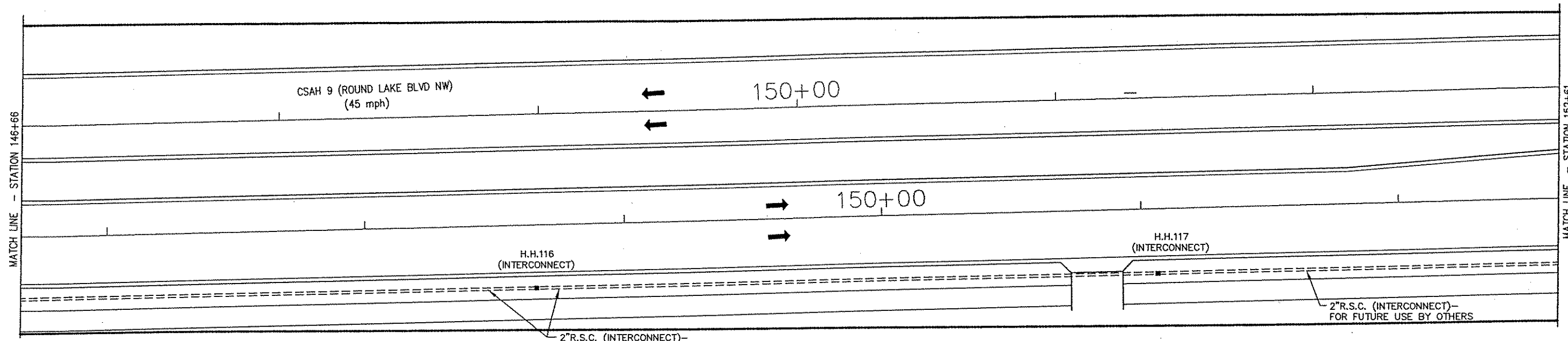
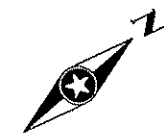
ANOKA COUNTY, MINNESOTA
 CITY OF ANDOVER
 S.A.P. 02-609-12
 S.A.P. 198-020-17

TRAFFIC SIGNAL INTERCONNECT
 INTERSECTION LAYOUT
 CSAH 9 (ROUND LAKE BLVD NW)
 (S COON CREEK DRIVE TO ANDOVER BLVD)

FILE NO.	AANCKC0102.00	116
SIGNAL SHEET		165
	13 OF 16	

NOTES:

- 1) LOCATION OF HANDHOLES SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
- 2) NEW HANDHOLES SHALL BE PVC HANDHOLES WITH METAL FRAMES AND COVERS.
- 3) CONTRACTOR SHALL THREAD AND CAP ALL ENDS OF CONDUIT ENTERING EACH HANDHOLE (FOR FUTURE USE BY OTHERS).
- 4) CONTRACTOR SHALL COORDINATE ALL TRAFFIC SIGNAL INSTALLATION WORK WITH ROAD CONSTRUCTION TO BE COMPLETED BY OTHERS AS PART OF ENTIRE PROJECT.
- 5) (INTERCONNECT) DENOTES ITEMS TO BE FURNISHED & INSTALLED BY CONTRACTOR UNDER ITEM NO. 2565.601 (TRAFFIC CONTROL INTERCONNECTION). SEE ESTIMATED QUANTITIES & SPECIAL PROVISIONS.



Note: POLES ARE SHOWN FOR FUTURE REFERENCE ONLY (DO NOT FURNISH AND INSTALL THESE ITEMS AS PART OF THIS PROJECT).

DRAWN BY:	JMG
DESIGNER:	JMG
CHECKED BY:	JMG
DESIGN TEAM	

NO.	BY	DATE	REVISIONS

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

John M. Gray
 Name: John M. Gray, P.E.
 Lic. No. 22457
 Date: March 7, 2003



ANOKA COUNTY, MINNESOTA
 CITY OF ANDOVER
 S.A.P. 02-609-12
 S.A.P. 198-020-17

FUTURE SIGNAL/INTERCONNECT
 INTERSECTION LAYOUT
 CSAH 9 (ROUND LAKE BLVD NW)
 AT FUTURE ANDOVER BOULEVARD

FILE NO. AANOKC0102.00
 SIGNAL SHEET 14 OF 15
 117
 165

NOTES:

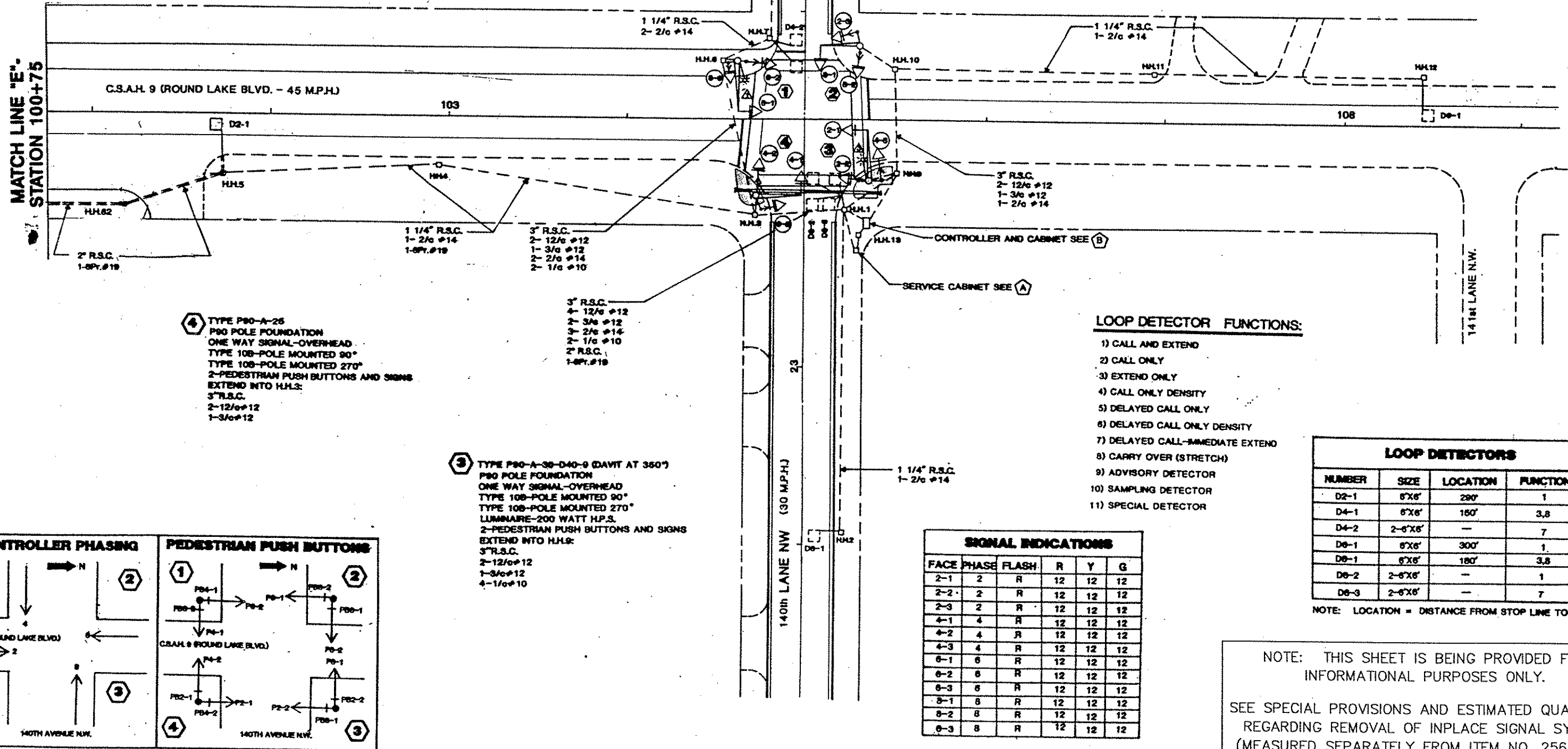
- 1) SEE SPECIAL PROVISIONS FOR CONTRACTORS RESPONSIBILITY FOR LOCATION OF UTILITIES.
- 2) ALL SIGNAL FACES SHALL HAVE BACKGROUND SHIELDS.
- 3) LUMINAIRE Δ WITH P.E.C. AND CHECK SWITCH.
- 4) SEE SPECIAL PROVISIONS FOR ANOKA COUNTY SERVICE CABINET DETAILS.
- 5) DIRECTIONAL SIGNS TO BE FURNISHED AND INSTALLED ON MAST ARMS AT ① ② ③ AND ④. SEE SPECIAL PROVISIONS.
- 6) HANDHOLES SHALL BE CONCRETE WITH CONCRETE COVERS.
- 7) LOOP DETECTOR WIRES SHALL BE CROSS LINKED POLYETHYLENE (XLP) IN 1" N.M.C. SEE SPECIAL PROVISIONS.
- 8) ALL PEDESTRIAN INDICATIONS SHALL BE 12" x 12".
- 9) HUBS FOR POLE MOUNTED SIGNAL INDICATIONS SHALL BE PROVIDED ON 4 SIDES OF MAST ARM POLES.

① TYPE P90-A-26-D40-9 (DAVIT AT 350°)
 P90 POLE FOUNDATION
 ONE WAY SIGNAL-OVERHEAD
 TYPE 108-POLE MOUNTED 90°
 TYPE 108-POLE MOUNTED 270°
 LUMINAIRE-200 WATT H.P.S.
 2-PEDESTRIAN PUSH BUTTONS AND SIGNS
 EXTEND INTO H.H.6:
 3" R.S.C.
 2-12/c#12
 1-3/c#12
 2-1/c#10

② TYPE P90-A-20
 P90 POLE FOUNDATION
 ONE WAY SIGNAL-OVERHEAD
 TYPE 108-POLE MOUNTED 90°
 TYPE 108-POLE MOUNTED 270°
 2-PEDESTRIAN PUSH BUTTONS AND SIGNS
 EXTEND INTO H.H.10:
 3" R.S.C.
 2-12/c#12
 1-3/c#12

⑤ CONTROLLER AND CABINET FOUNDATION
 EXTEND INTO H.H.13:
 METERED SIGNAL SERVICE
 1 1/4" R.S.C.
 3- 1/c #8
 EXTEND INTO H.H.1:
 4" R.S.C.
 4- 12/c #12
 2- 3/c #12
 6- 2/c #14
 EXTEND INTO H.H.9:
 4" R.S.C.
 4- 12/c #12
 2- 3/c #12
 1- 2/c #14
 BETWEEN H.H.1 AND H.H.9
 2" R.S.C.
 4- 1/c #10
 STUB OUT 2" R.S.C. AND EXTEND
 INTO H.H.1
 1-6P.#19

④ SERVICE CABINET FOUNDATION
 CABINET FOUNDATION
 STUB OUT 2" R.S.C.
 (FOR SERVICE BY OTHERS)
 EXTEND INTO H.H.13:
 METERED SIGNAL SERVICE
 1 1/4" R.S.C.
 3-1/c#8
 UNMETERED STREET LIGHT SERVICE
 1" R.S.C.
 2-1/c#10
 BETWEEN H.H.1 AND H.H.13
 1 1/4" R.S.C.
 2-1/c#10



④ TYPE P90-A-26
 P90 POLE FOUNDATION
 ONE WAY SIGNAL-OVERHEAD
 TYPE 108-POLE MOUNTED 90°
 TYPE 108-POLE MOUNTED 270°
 2-PEDESTRIAN PUSH BUTTONS AND SIGNS
 EXTEND INTO H.H.3:
 3" R.S.C.
 2-12/c#12
 1-3/c#12

③ TYPE P90-A-30-D40-9 (DAVIT AT 350°)
 P90 POLE FOUNDATION
 ONE WAY SIGNAL-OVERHEAD
 TYPE 108-POLE MOUNTED 90°
 TYPE 108-POLE MOUNTED 270°
 LUMINAIRE-200 WATT H.P.S.
 2-PEDESTRIAN PUSH BUTTONS AND SIGNS
 EXTEND INTO H.H.8:
 3" R.S.C.
 2-12/c#12
 1-3/c#12
 4-1/c#10

LOOP DETECTOR FUNCTIONS:

- 1) CALL AND EXTEND
- 2) CALL ONLY
- 3) EXTEND ONLY
- 4) CALL ONLY DENSITY
- 5) DELAYED CALL ONLY
- 6) DELAYED CALL ONLY DENSITY
- 7) DELAYED CALL-IMMEDIATE EXTEND
- 8) CARRY OVER (STRETCH)
- 9) ADVISORY DETECTOR
- 10) SAMPLING DETECTOR
- 11) SPECIAL DETECTOR

LOOP DETECTORS

NUMBER	SIZE	LOCATION	FUNCTION
D2-1	6'x6'	290'	1
D4-1	6'x6'	150'	3,8
D4-2	2-6'x6'	-	7
D6-1	6'x6'	300'	1
D6-2	6'x6'	180'	3,8
D6-3	2-6'x6'	-	7

NOTE: LOCATION = DISTANCE FROM STOP LINE TO DETECTOR

SIGNAL INDICATIONS

FACE	PHASE	FLASH	R	Y	G
2-1	2	R	12	12	12
2-2	2	R	12	12	12
2-3	2	R	12	12	12
4-1	4	R	12	12	12
4-2	4	R	12	12	12
4-3	4	R	12	12	12
6-1	6	R	12	12	12
6-2	6	R	12	12	12
6-3	6	R	12	12	12
8-1	8	R	12	12	12
8-2	8	R	12	12	12
8-3	8	R	12	12	12

NOTE: THIS SHEET IS BEING PROVIDED FOR INFORMATIONAL PURPOSES ONLY.

SEE SPECIAL PROVISIONS AND ESTIMATED QUANTITIES REGARDING REMOVAL OF INPLACE SIGNAL SYSTEM (MEASURED SEPARATELY FROM ITEM NO. 2565.511).

DRAWN BY: GN	NO.	BY	DATE	REVISIONS
DESIGNER: JMG				
CHECKED BY: JMG				
DESIGN TEAM				

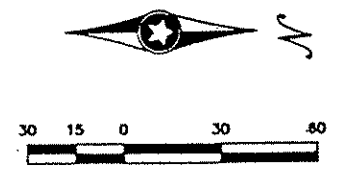
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HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 Name: John M. Gray, P.E.
 Lic. No. 22457
 Date: March 7, 2003

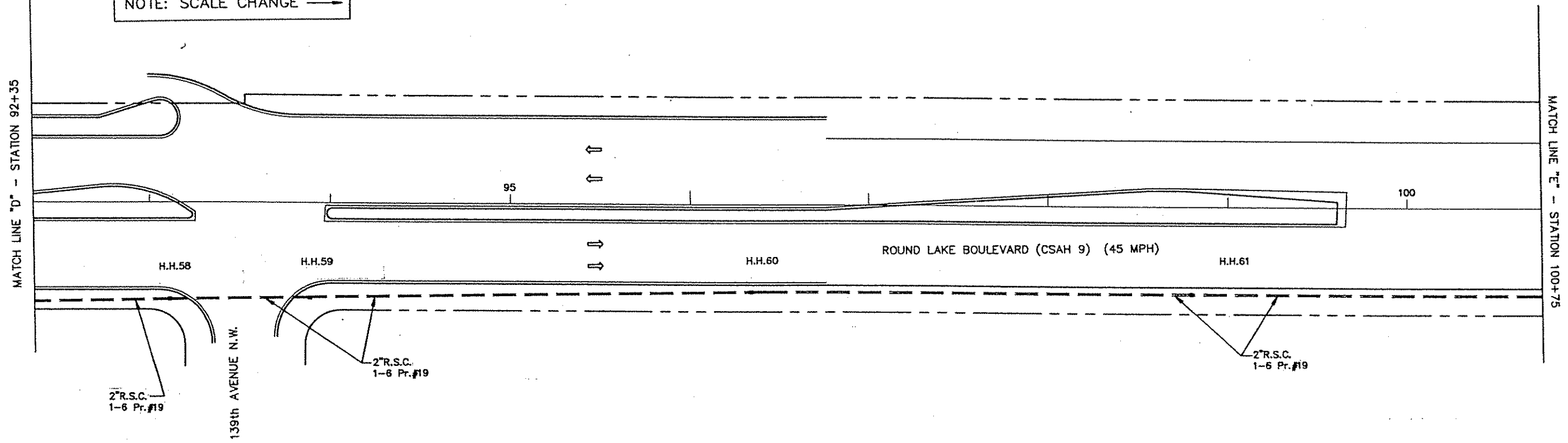


ANOKA COUNTY, MINNESOTA
 CITY OF ANDOVER
 S.A.P. 02-609-12
 S.A.P. 198-020-17

INPLACE SIGNAL SYSTEM FOR INFORMATION ONLY	FILE NO. AANOKC0102.00	118
CSAH 9 (ROUND LAKE BLVD NW) AT 140TH LANE NW	SIGNAL SHEET	165
		15 OF 16



NOTE: SCALE CHANGE →



NOTE: THIS SHEET IS BEING PROVIDED FOR INFORMATIONAL PURPOSES ONLY.

DRAWN BY:	GN			
DESIGNER:	JMG			
CHECKED BY:	JMG			
DESIGN TEAM	NO.	BY	DATE	REVISIONS

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[Signature] Name: John M. Gray, P.E.
 Date: March 7, 2007 Lic. No. 22457



ANOKA COUNTY, MINNESOTA
 CITY OF ANDOVER
 S.A.P. 02-609-12
 S.A.P. 198-020-17

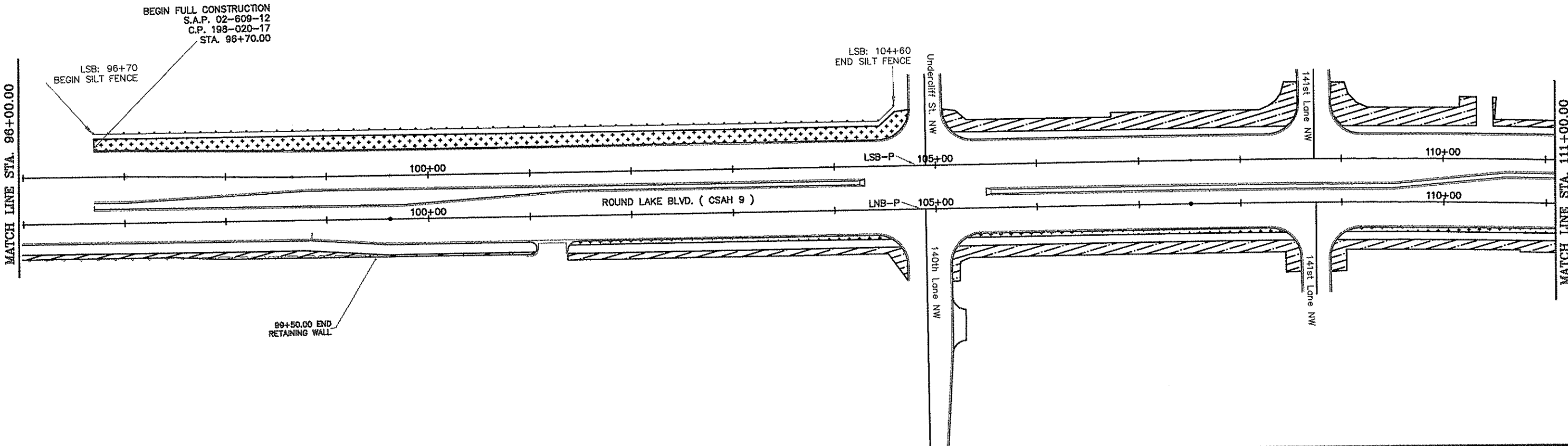
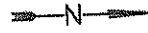
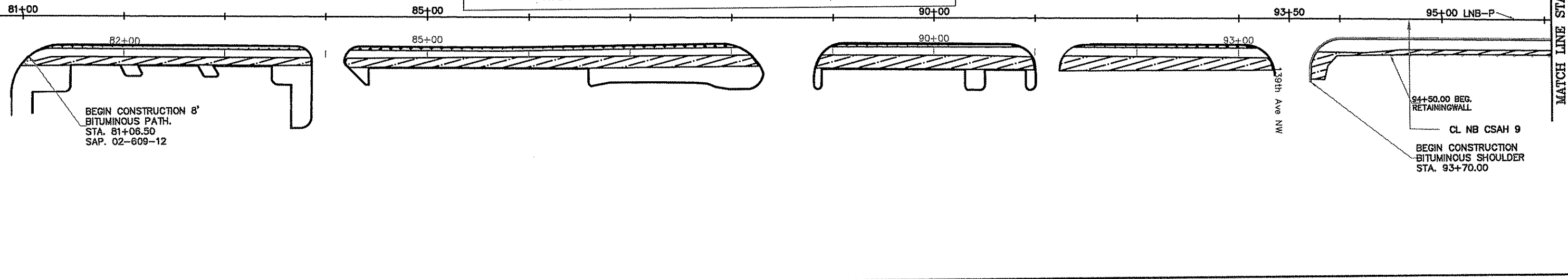
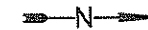
INPLACE INTERCONNECT SYSTEM
 FOR INFORMATION ONLY
 CSAH 9 (ROUND LAKE BLVD NW)
 (138TH LANE TO 140TH LANE)

FILE NO.	AANOKC0102.00	119
SIGNAL SHEET	16 OF 16	165

NOTE:
SILT FENCE SHALL FOLLOW, AS CLOSELY AS POSSIBLE, TO A SINGLE CONTOUR LINE.
STRAW 2S BLANKET TO BE PLACED ON ALL POND SEEDING AREAS

LEGEND

	SOD (SALT RESISTANT)		SEED MIXTURE 28B COMMERCIAL FERT. ANALYSIS 22-5-10 EROSION CONTROL BLANKET (STRAW 2S)
	SOD (LAWN)		SEED MIXTURE 30B COMMERCIAL FERT. ANALYSIS 22-5-10 DISK ANCHORING EROSION CONTROL BLANKET (STRAW 2S)
	Place RipRap at Apron end See STD. PLATE 3133		SEED MIXTURE 30B COMMERCIAL FERT. ANALYSIS 22-5-10 DISK ANCHORING MULCH MATERIAL - TYPE I
	Place SOD at Apron end See STD. PLATE 9102		SEED MIXTURE 60B (MOD.) COMMERCIAL FERT. ANALYSIS 22-5-10 EROSION CONTROL BLANKET (STRAW 2S)
	SILT FENCE, TYPE HEAVY DUTY		SEED MIXTURE 60B COMMERCIAL FERT. ANALYSIS 22-5-10 HYDRAULIC SOIL STABILIZER, TYPE 5



NO	DATE	BY	CHKD	APPR	REVISION

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 PRINT NAME: Peter M. Lemke
 SIGNATURE: *Peter M. Lemke*
 DATE: 8/22/2003 LICENSE NO. 40118

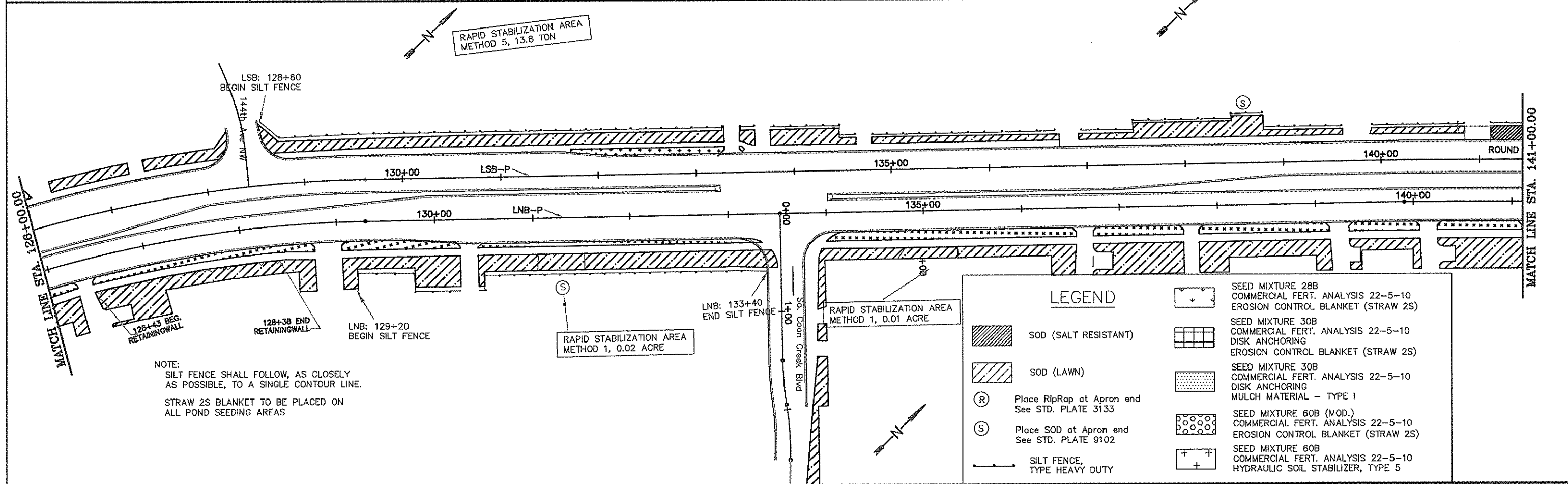
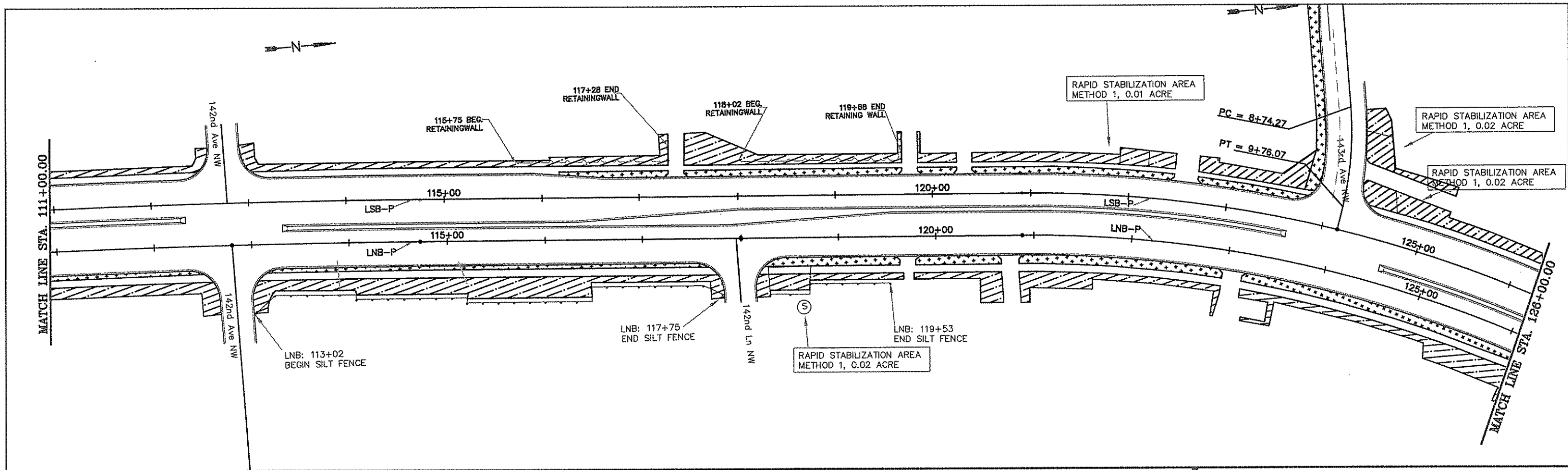
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 DESIGN BY: MTH DATE: 12/24/02
 CHECKED BY: PMJ DATE: 01/02/03



**ANOKA COUNTY
HIGHWAY DEPT.**

STATE PROJECT NO. _____
 STATE AID PROJECT NO. 02-609-12
 CITY PROJECT NO. 198-020-17
 COUNTY PROJECT NO. _____

**TURF ESTABLISHMENT
AND EROSION CONTROL**
 STA. 81+06.50 TO 111+00
 Sheet 120 of 165 Sheets



NOTE:
SILT FENCE SHALL FOLLOW, AS CLOSELY AS POSSIBLE, TO A SINGLE CONTOUR LINE.
STRAW 2S BLANKET TO BE PLACED ON ALL POND SEEDING AREAS

LEGEND	
	SOD (SALT RESISTANT)
	SOD (LAWN)
	Place RipRap at Apron end See STD. PLATE 3133
	Place SOD at Apron end See STD. PLATE 9102
	SILT FENCE, TYPE HEAVY DUTY
	SEED MIXTURE 28B COMMERCIAL FERT. ANALYSIS 22-5-10 EROSION CONTROL BLANKET (STRAW 2S)
	SEED MIXTURE 30B COMMERCIAL FERT. ANALYSIS 22-5-10 DISK ANCHORING EROSION CONTROL BLANKET (STRAW 2S)
	SEED MIXTURE 30B COMMERCIAL FERT. ANALYSIS 22-5-10 DISK ANCHORING MULCH MATERIAL - TYPE 1
	SEED MIXTURE 60B (MOD.) COMMERCIAL FERT. ANALYSIS 22-5-10 EROSION CONTROL BLANKET (STRAW 2S)
	SEED MIXTURE 60B COMMERCIAL FERT. ANALYSIS 22-5-10 HYDRAULIC SOIL STABILIZER, TYPE 5

NO	DATE	BY	CHKD	APPR	REVISION

NAME: P:\0260912\PLAN\114-119 Turf Establish.dwg 08/26/2003 01:49:46 PM DDT

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
PRINT NAME: Peter M. Lemke
SIGNATURE: *Peter M. Lemke*
DATE: 8/22/2003 LICENSE NO. 4011B

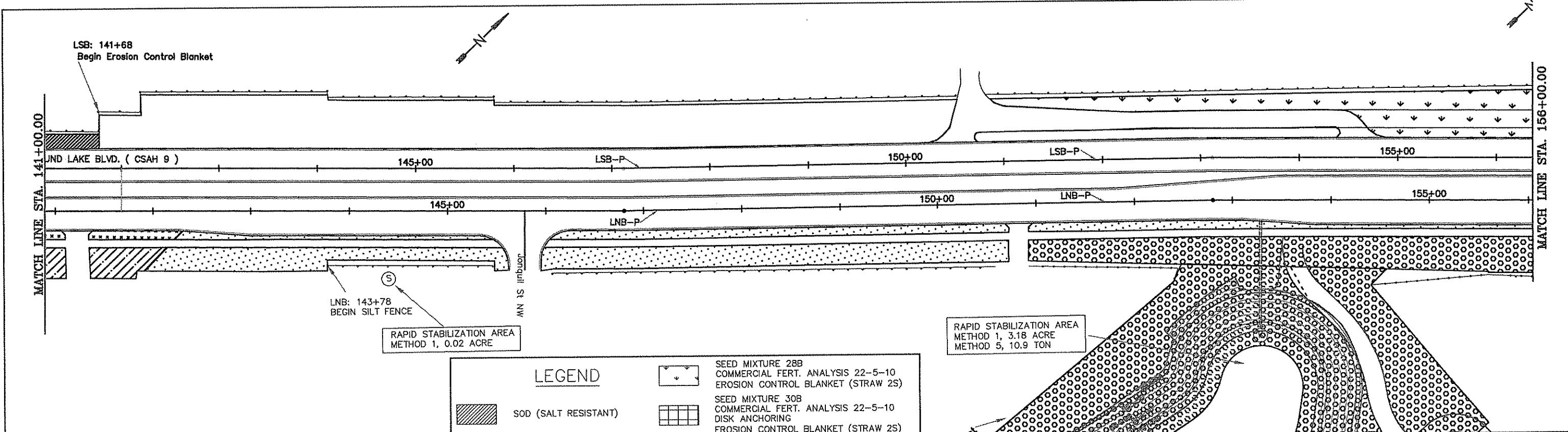
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CHECKED BY: FNL DATE: 01/02/03



ANOKA COUNTY
HIGHWAY DEPT.

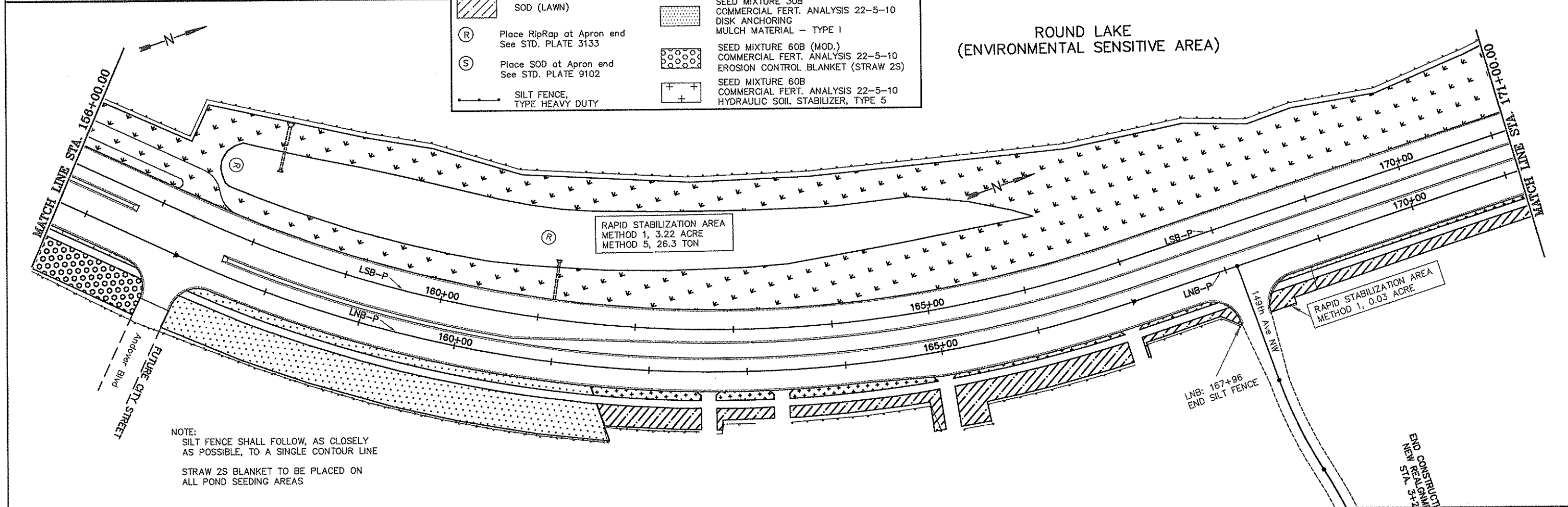
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STATE AID PROJECT NO. 02-609-12
CITY PROJECT NO. 198-020-17
COUNTY PROJECT NO. _____

TURF ESTABLISHMENT AND EROSION CONTROL
STA. 111+00 TO 141+00
Sheet 121 of 165 Sheets



LEGEND

	SOD (SALT RESISTANT)		SEED MIXTURE 28B COMMERCIAL FERT. ANALYSIS 22-5-10 EROSION CONTROL BLANKET (STRAW 2S)
	SOD (LAWN)		SEED MIXTURE 30B COMMERCIAL FERT. ANALYSIS 22-5-10 DISK ANCHORING EROSION CONTROL BLANKET (STRAW 2S)
	Place RipRap at Apron end See STD. PLATE 3133		SEED MIXTURE 30B COMMERCIAL FERT. ANALYSIS 22-5-10 DISK ANCHORING MULCH MATERIAL - TYPE 1
	Place SOD at Apron end See STD. PLATE 9102		SEED MIXTURE 60B (MOD.) COMMERCIAL FERT. ANALYSIS 22-5-10 EROSION CONTROL BLANKET (STRAW 2S)
	SILT FENCE, TYPE HEAVY DUTY		SEED MIXTURE 60B COMMERCIAL FERT. ANALYSIS 22-5-10 HYDRAULIC SOIL STABILIZER, TYPE 5



NOTE:
SILT FENCE SHALL FOLLOW, AS CLOSELY AS POSSIBLE, TO A SINGLE CONTOUR LINE
STRAW 2S BLANKET TO BE PLACED ON ALL POND SEEDING AREAS

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\0260912\PLAN\114-119 Turf Establishment.dwg 08/26/2003 01:40:46 PM CBT

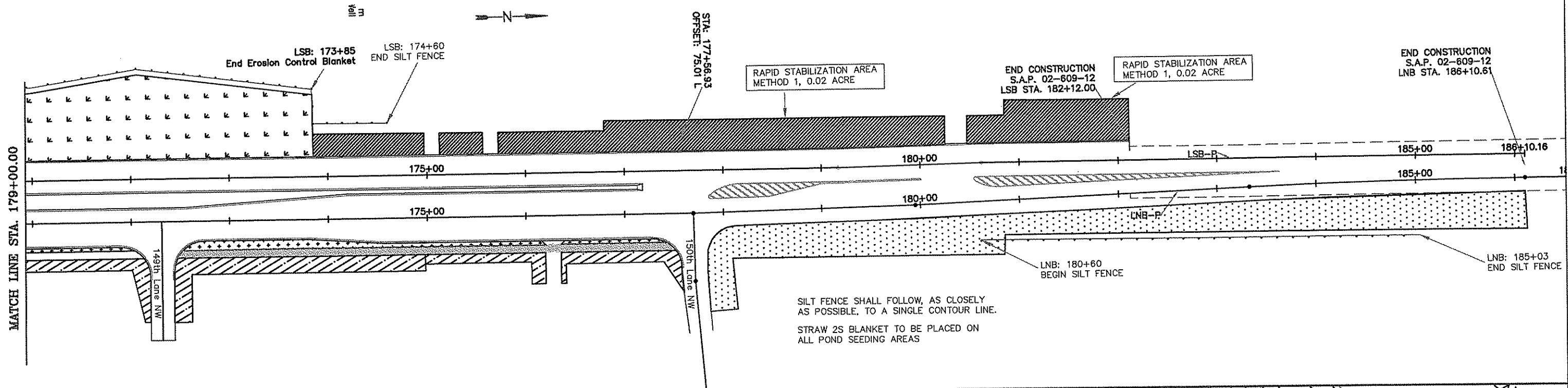
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
PRINT NAME: Peter M. Lemke
SIGNATURE: *Peter M. Lemke*
DATE: 8/22/2003 LICENSE NO. 4011B

DRAWN BY: MTH DATE: 12/24/02
DESIGN BY: MTH DATE: 12/24/02
CHECKED BY: PMH DATE: 01/02/03

ANOKA COUNTY
HIGHWAY DEPT.

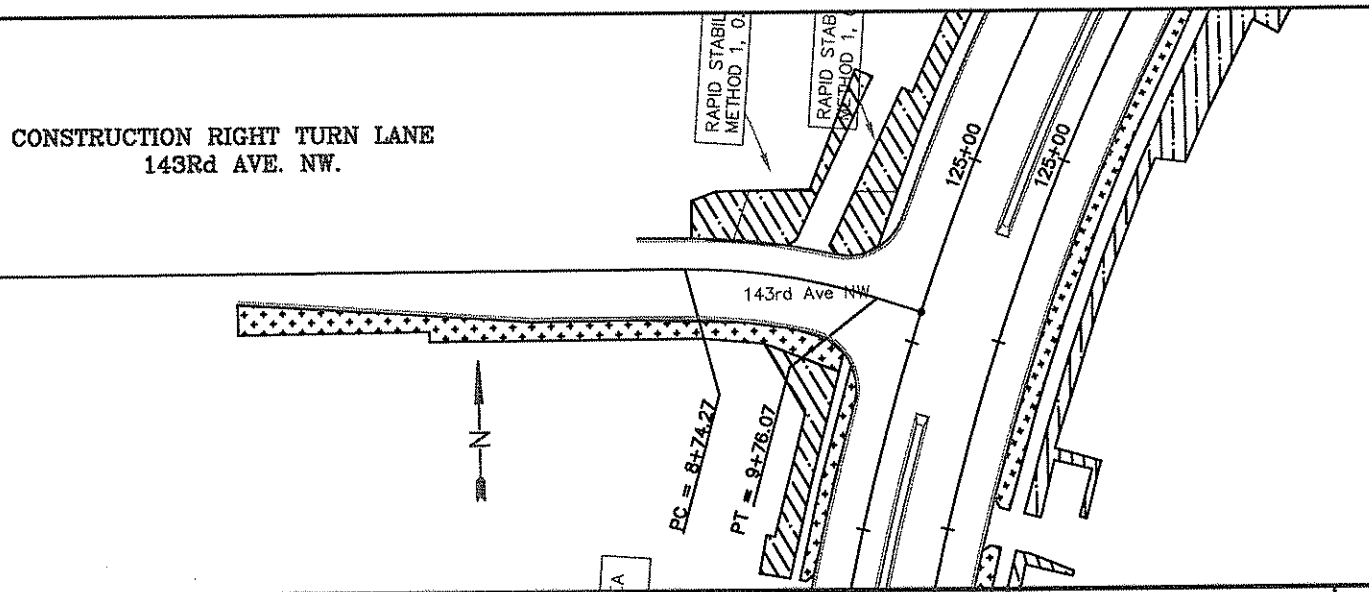
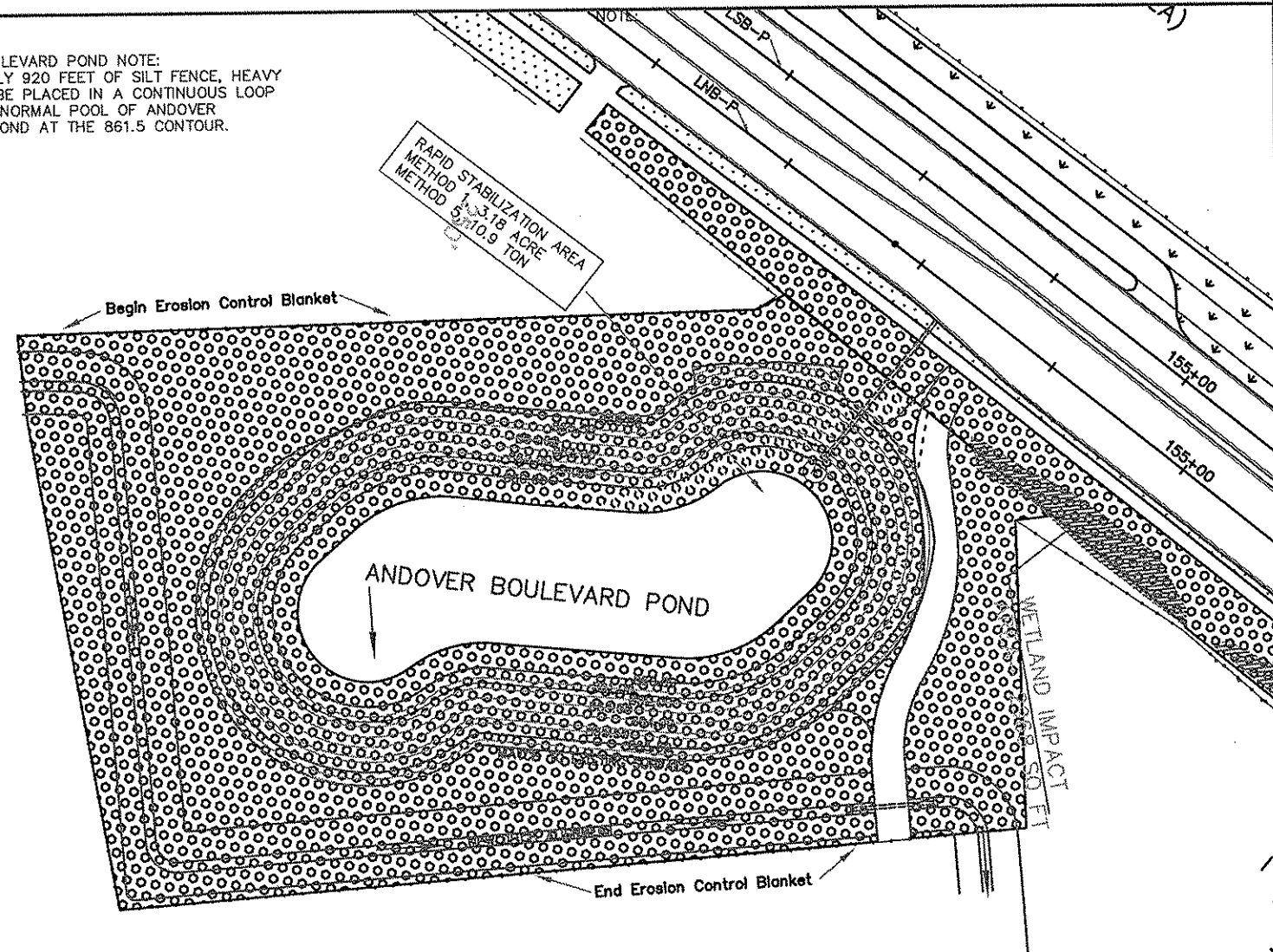
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STATE AID PROJECT NO. 02-609-12
CITY PROJECT NO. 198-020-17
COUNTY PROJECT NO. _____

TURF ESTABLISHMENT AND EROSION CONTROL
STA. 141+00 TO 171+00
Sheet 122 of 165 Sheets



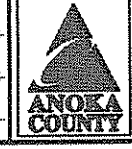
LEGEND	
	SOD (SALT RESISTANT)
	SOD (LAWN)
	Place RipRap at Apron end See STD. PLATE 3133
	Place SOD at Apron end See STD. PLATE 9102
	SILT FENCE, TYPE HEAVY DUTY
	SEED MIXTURE 28B COMMERCIAL FERT. ANALYSIS 22-5-10 EROSION CONTROL BLANKET (STRAW 2S)
	SEED MIXTURE 30B COMMERCIAL FERT. ANALYSIS 22-5-10 DISK ANCHORING EROSION CONTROL BLANKET (STRAW 2S)
	SEED MIXTURE 30B COMMERCIAL FERT. ANALYSIS 22-5-10 DISK ANCHORING MULCH MATERIAL - TYPE 1
	SEED MIXTURE 60B (MOD.) COMMERCIAL FERT. ANALYSIS 22-5-10 EROSION CONTROL BLANKET (STRAW 2S)
	SEED MIXTURE 60B COMMERCIAL FERT. ANALYSIS 22-5-10 HYDRAULIC SOIL STABILIZER, TYPE 5

ANDOVER BOULEVARD POND NOTE:
APPROXIMATELY 920 FEET OF SILT FENCE, HEAVY
DUTY SHALL BE PLACED IN A CONTINUOUS LOOP
AROUND THE NORMAL POOL OF ANDOVER
BOULEVARD POND AT THE 861.5 CONTOUR.



I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 PRINT NAME: Peter M. Lemke
 SIGNATURE: *Peter M. Lemke*
 DATE: 8/22/2003 LICENSE NO. 40118

DRAWN BY: MTH DATE: 12/24/02
 DESIGN BY: MTH DATE: 12/24/02
 CHECKED BY: PML DATE: 01/02/03



ANOKA COUNTY
 HIGHWAY DEPT.

STATE PROJECT NO. _____
 STATE AID PROJECT NO. 02-609-12
 CITY PROJECT NO. 198-020-17
 COUNTY PROJECT NO. _____

TURF ESTABLISHMENT
 AND EROSION CONTROL
 STA. 179+00 TO 186+10
 Sheet 123 of 165 Sheets


TURF ESTABLISHMENT AND EROSION CONTROL

U

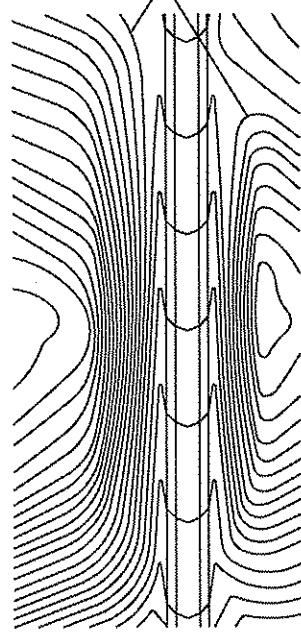
LOCATION	SILT FENCE	SEEDING	SEED MIXTURE					MULCH MATERIAL TYPE 1	DISK ANCHOR	COMM. FERT. ANALYSIS 22-5-10 (100 lb/acre)	EROSION CONTROL BLANKET (STRAW 2S)	SODDING		
			120B	28B	30B-F-3	60B	60B (MOD.)					TYPE SALT RESISTANT	TYPE LAWN	
Units	LIN FT	ACRE	LB	LB	LB	LB	LB	TON	ACRE	TON	SQ YD	SQ YD	SQ YD	
RT LNB														
Begin Project														
139TH Av to 140th Ln Rt LNB		0.03						3			0.06		339	1,207
140th Ln to 141st Ln Rt LNB		0.03						3			0.03			721
141st Ln to 142nd Av Rt LNB		0.04						4			0.03			539
142nd Av to 142nd Ln Rt LNB	520	0.05						5			0.04			565
142nd Ln to So. Coon Creek Dr. Rt LNB	590	0.26						26			0.14			879
So. Coon Creek Dr to Jonquil St. Rt LNB	170	0.38	5		13			16	0.4	0.2	0.13			2,620
Jonquil St to Andover Blvd Rt LNB	3471	4.21	105		16			395	1.4	0.7	0.37	16,925		1,786
Andover Blvd to 149th Av Rt LNB	1200	0.52	13		31				1.0	0.5	0.15		457	1,256
149th Av to 149th Ln Rt LNB		0.17	3		8			3	0.3	0.1	0.03			
149th Ln to 150th Ln Rt LNB		0.20	3		8			7	0.3	0.1	0.05			391
150th Ln to End of Project Rt LNB	450	0.71	18		43				1.4	0.7	0.12			
RT LNB SUB-TOTAL	6,401	6.59	148	0	118	67	395	4.8	2.4	1.17	16,925	796	9,964	
LT LSB														
96+70 to Undercliff St Lt LSB	810	0.28	7		17				0.6	0.3	0.05			
140th Ln to 141st Ln Lt LSB											0.03		0	703
141st Ln to 142nd Av Lt LSB											0.02		0	590
142nd Av to 143rd Av Lt LSB											0.09		549	1,850
143rd Av to 144th Av Lt LSB											0.03		0	864
144th Av to End of Project Lt LSB	4690	4.65	116	142	67				2.2	1.1	0.59	22,049	1,341	3,694
LT LSB SUB-TOTAL	5,500	4.93	123	142	83	0	0	2.8	1.4	0.80	22,049	1,891	7,701	
PROJECT TOTAL	11,901	11.52	271	142	201	67	395	7.6	3.8	1.98	38,974	2,686	17,665	

NOTES:

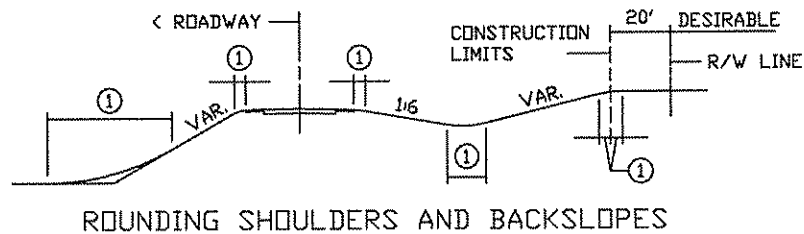
- 120B REGREEN (TEMPORARY MIX) - Application Rate 25 lb/acre. Used as a nurse or cover crop for all the seed areas.
- 28B GENERAL PURPOSE NATIVE DITCH - Application Rate 40lb/acre. Mesic/wet native grass ditch mix. General purpose mix for use in roadside ditches range from wet to dry. Reaches a height of 36 inches.
- 30B-F3 MIX - URBAN PRAIRIE WITH FORBES - Application Rate 60 lb/acre. For use in urban areas where conditions may be saline, droughty & generally p Combination native and turf mix. Reaches a height of 18 inches.
- 60B (MOD.) Low Maintenance Turf. Application Rate 100 lb/acre
- MULCH MATERIAL TYPE 1 - Application rate 2 tons per acre
- COMMERCIAL FERTILIZER ANALYSIS 22-5-10: Application rate 350 lb per acre for seed mixes 30B, 60B and sod; Application rate 120 lb/acre for mix 28B.
- EROSION CONTROL BLANKET (STRAW 2S) to be placed on all pond seeding areas.
- Quantities are based on 110% of the computed area.

	I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. PRINT NAME: <u>Peter M. Lemke</u> SIGNATURE: <u>Peter M. Lemke</u> DATE: <u>8/22/2003</u> LICENSE NO. <u>40118</u>	DRAWN BY: <u>MTH</u> DATE: <u>12/24/02</u> DESIGN BY: <u>MTH</u> DATE: <u>12/24/02</u> CHECKED BY: <u>PML</u> DATE: <u>01/02/03</u>	 ANOKA COUNTY HIGHWAY DEPT.	STATE PROJECT NO. _____ STATE AID PROJECT NO. <u>02-609-12</u> CITY PROJECT NO. <u>198-020-17</u> COUNTY PROJECT NO. _____	TURF ESTABLISHMENT AND EROSION CONTROL TABULATION Sheet <u>124</u> of <u>165</u> Sheets
NO. _____ DATE _____ BY _____ CKD _____ APPR _____ REVISION _____ NAME: P:\0260912\PLAN\114-119 Turf Establn.dwg 08/26/2003 01:40:46 PM CDT					

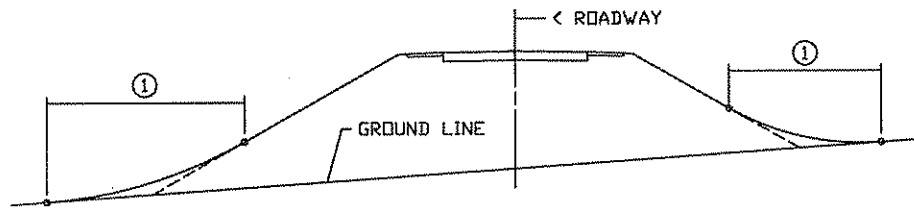
ROUND OUT CUT TRANSITION



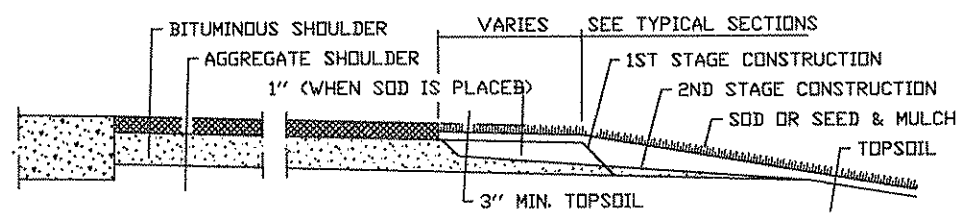
CONTOURING ROAD CUTS



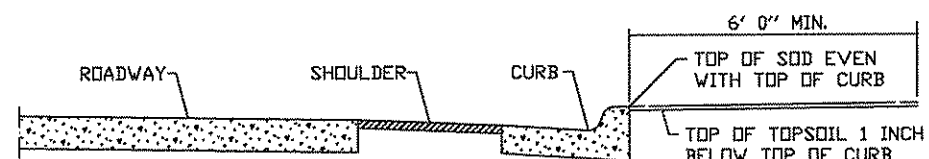
ROUNDING SHOULDERS AND BACKSLOPES



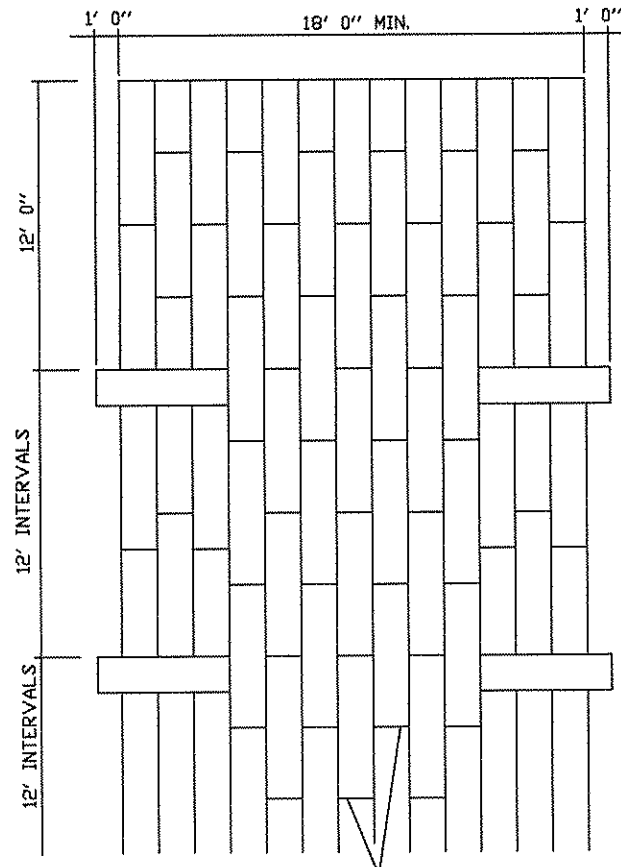
SHAPING FOR DRAINAGE ALONG THE TOE OF FILL SLOPES



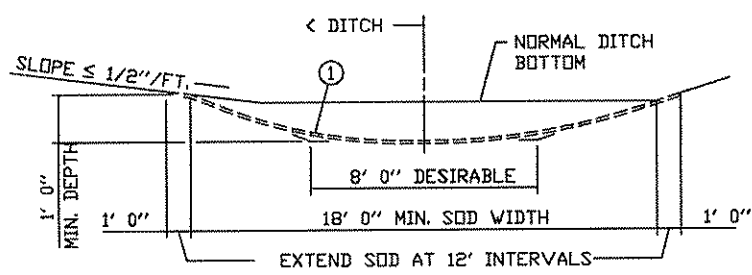
SHAPING AND TOPSOILING INSLOPES



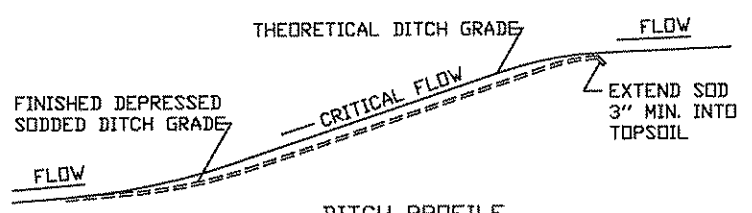
SHAPING ADJACENT TO CURBS WHEN SOD IS PLACED



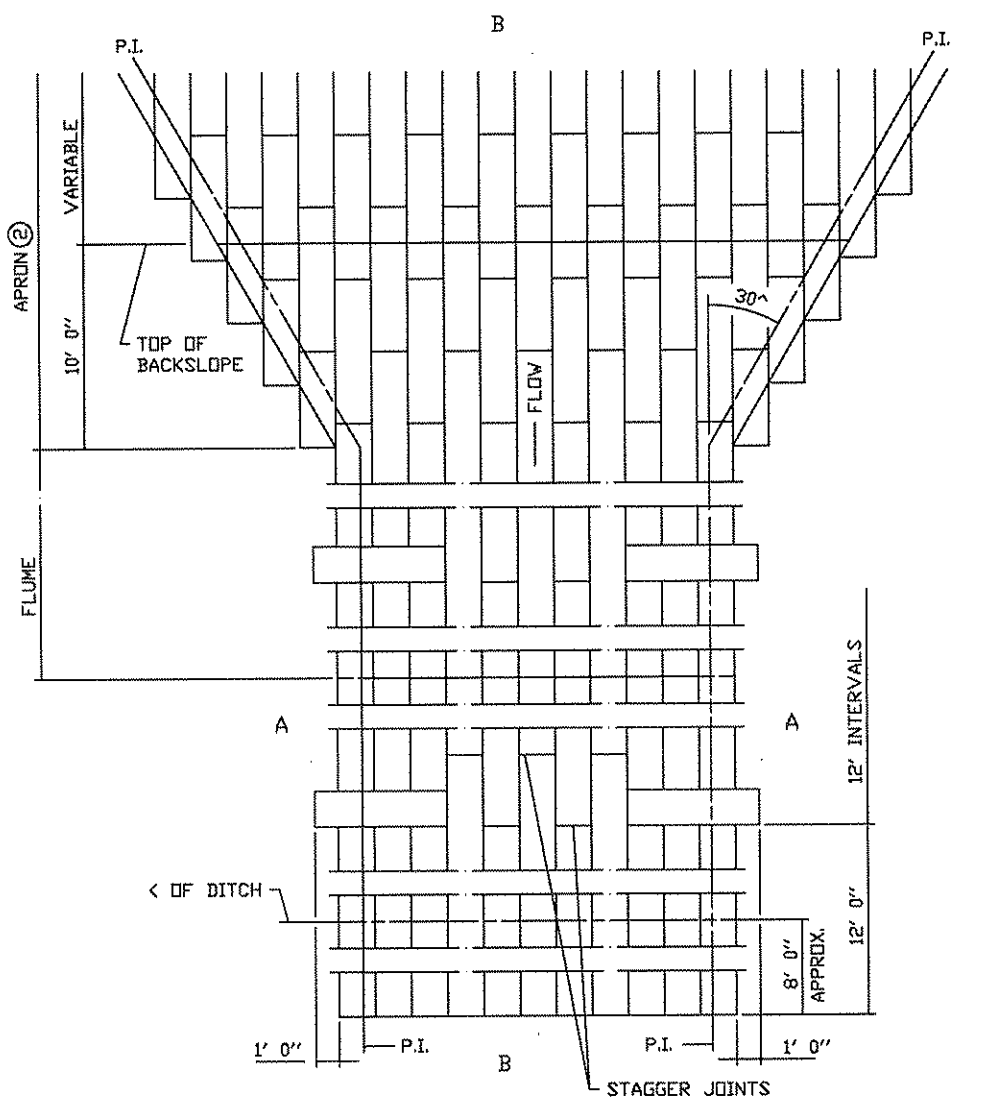
STAGGER JOINTS
PLAN VIEW



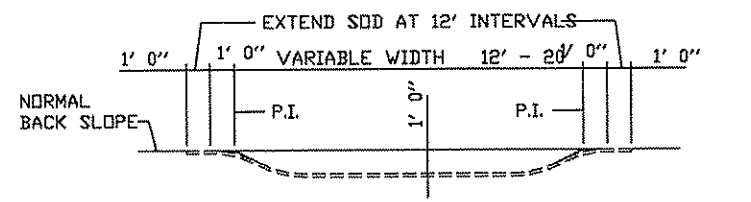
SODDED DITCH CROSS SECTION
WHERE FRONT OR BACK SLOPE IS FLAT (LESS THAN 1/2"/FT.),
FIRST NOTCH DITCH AND THEN PROVIDE ROUNDING.



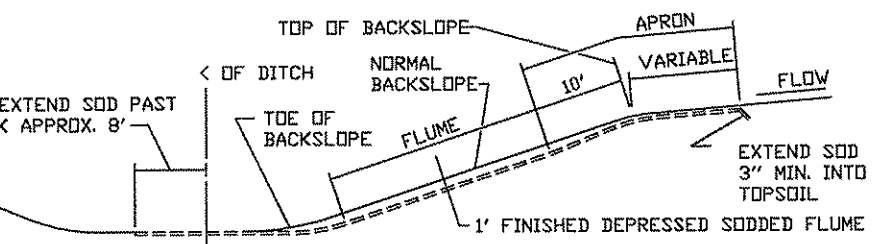
DITCH PROFILE
SODDED DITCH DETAILS



STAGGER JOINTS
PLAN VIEW



SECTION A-A



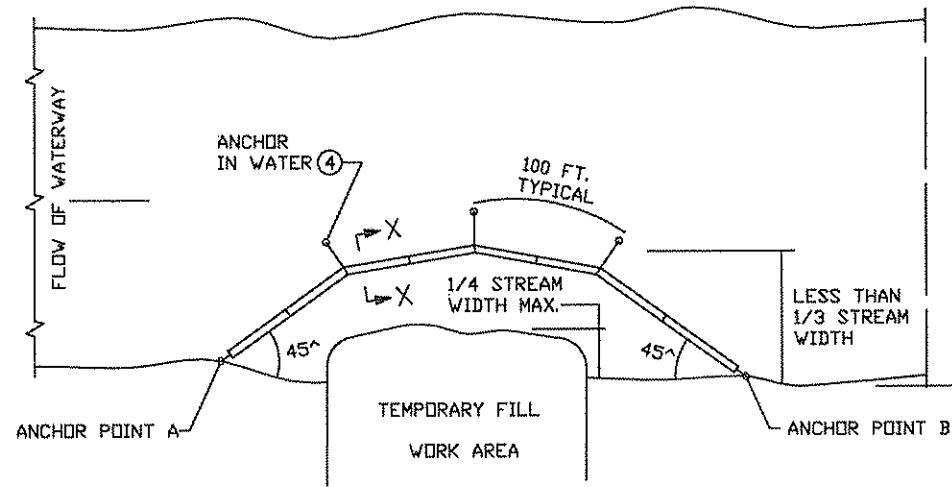
SECTION B-B
SODDED FLUME DETAILS

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

REVISION DATE
10-26-2000

STANDARD SHEET NO.
5-297.404
STANDARD APPROVED
DECEMBER 19, 1990
STATE PROJ NO.

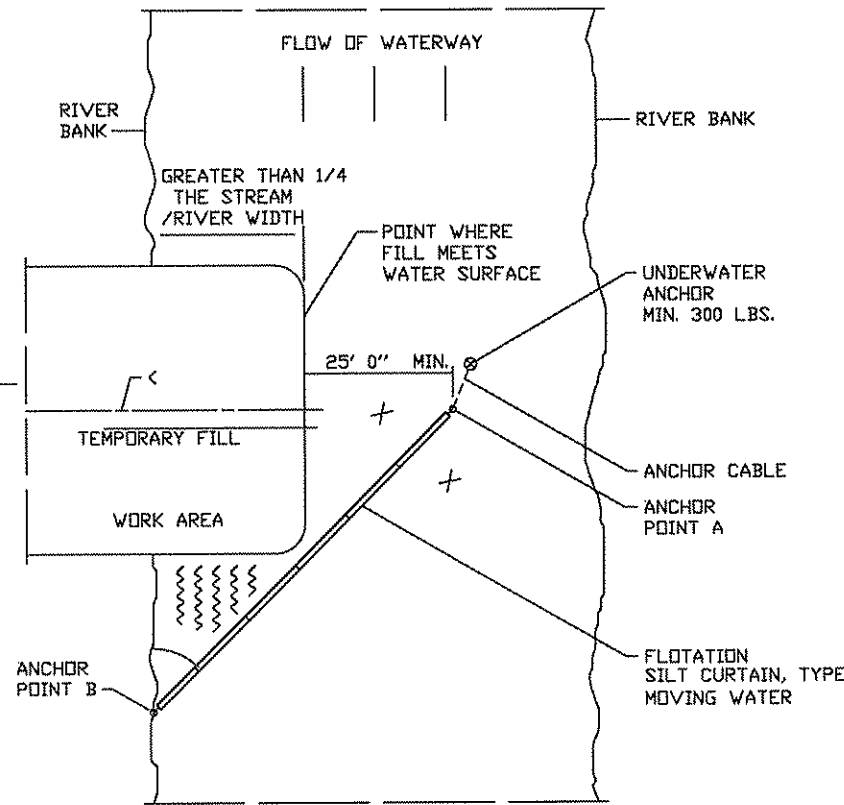
TITLE:
PERMANENT EROSION CONTROL
ALONG ROADWAYS, DITCHES AND FLUMES
SHEET NO. 125 OF 165 SHEETS



PLAN VIEW
FLOTATION SILT CURTAIN - TYPE WORK AREA
(SPEC. 3887)

FOR CONTAINING OVERFLOWS FROM WEIRS, STANDPIPES, SETTLING PONDS

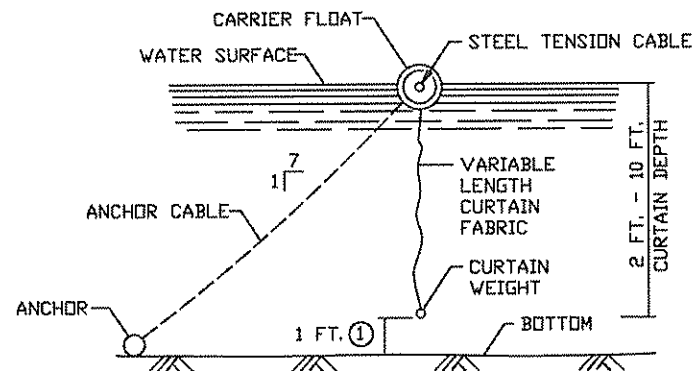
DESIGN GUIDELINES:
WHEN TEMPORARY FILL ENCRDACHES LESS THAN 1/4 OF THE WIDTH OF STREAM,
MAXIMUM WATER VELOCITY: 5 FT./SEC.
MAXIMUM WATER DEPTH: 11 FT.



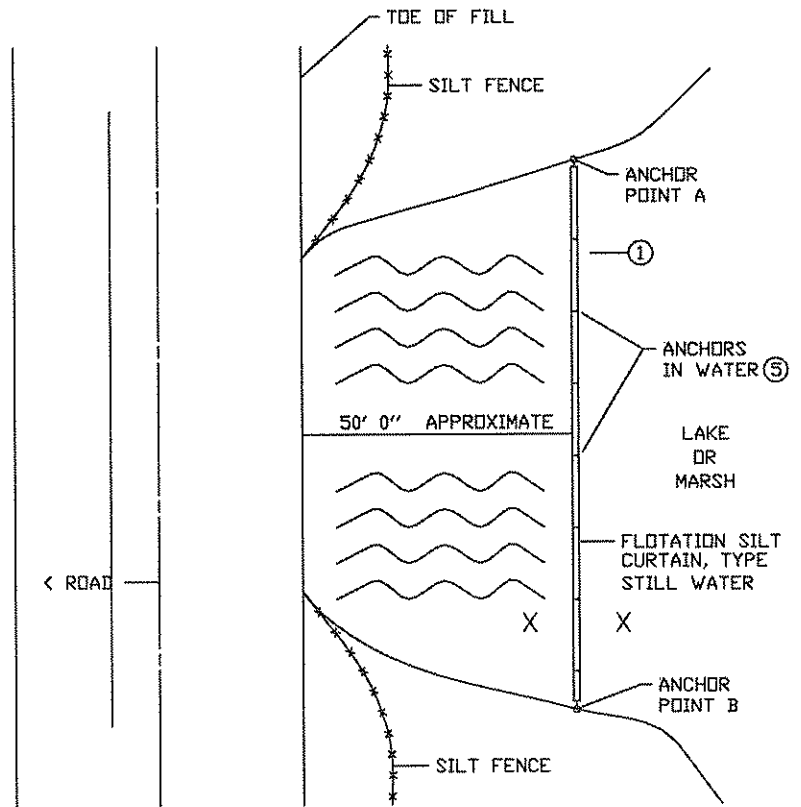
∠	RIVER VELOCITY
45°	SLOW, LESS THAN 3 FT./SEC.
35°	MODERATE, 3 - 5 FT./SEC.

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: 11 FT. ①
MINIMUM WATER DEPTH: 3 FT.
MAXIMUM WATER VELOCITY: 5 FT./SEC.

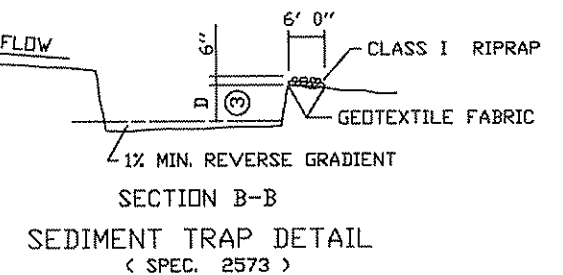
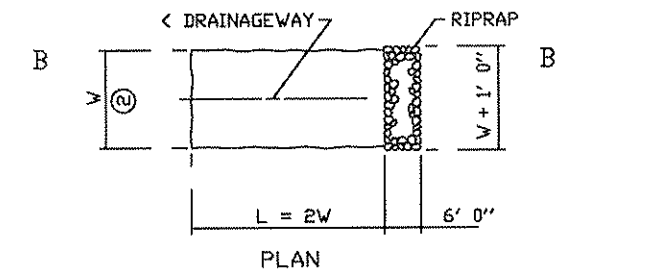


SECTION X-X
FLOTATION SILT CURTAINS
(SPEC. 3887)

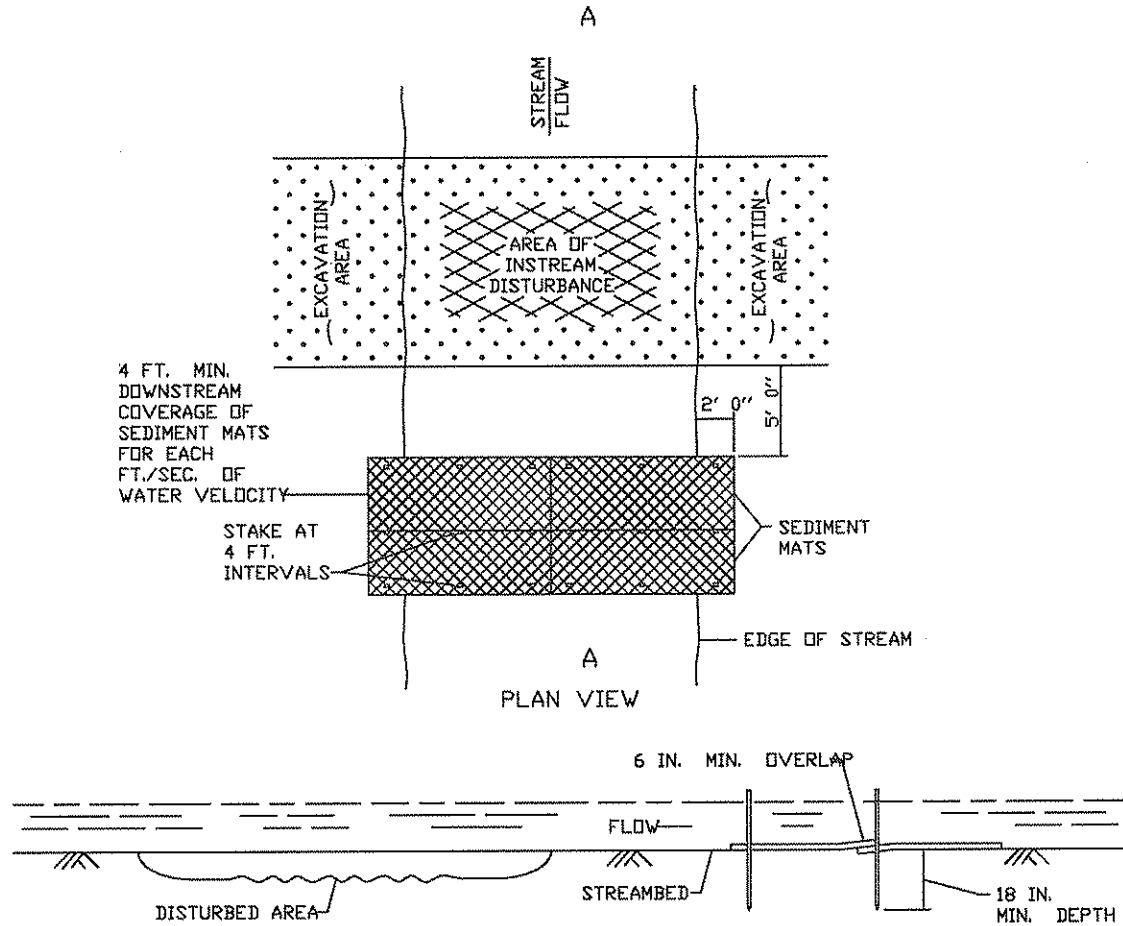


PLAN VIEW
FLOTATION SILT CURTAIN - TYPE STILL WATER
(SPEC. 3887)

DESIGN GUIDELINES:
MAXIMUM WATER DEPTH: 11 FT. ①
MINIMUM WATER DEPTH: 3 FT.



- NOTES:
SEE SPECS. 2573, 3887 & 3894.
- ① CURTAIN 1 FT. FROM BOTTOM
 - ② W = 10 FT. MIN., 20 FT. MAX.
 - ③ D = 2 FT.
 - ④ 100 FT. MAX. SPACING BETWEEN ANCHORS, MIN. 40 LBS.
 - ⑤ USE ENOUGH ANCHORS TO HOLD SILT CURTAIN IN PLACE.



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

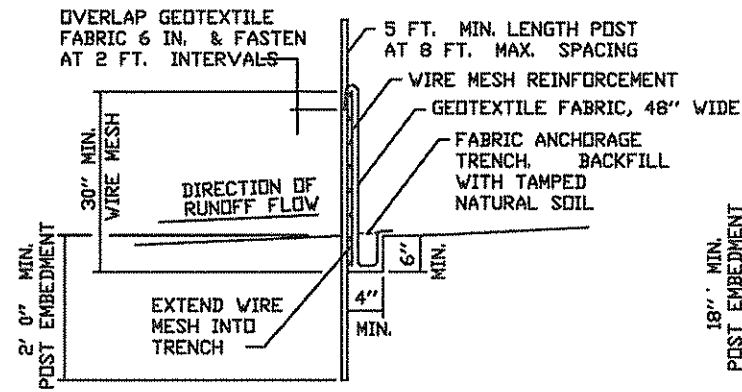
DESIGN GUIDELINES:
MAXIMUM FLOW VELOCITY: 5 FT./SEC.
MAXIMUM FLOW DEPTH: 2 FT.

STANDARD SHEET NO.
5-297.405 (1 OF 4)
STANDARD APPROVED
July 30, 2001

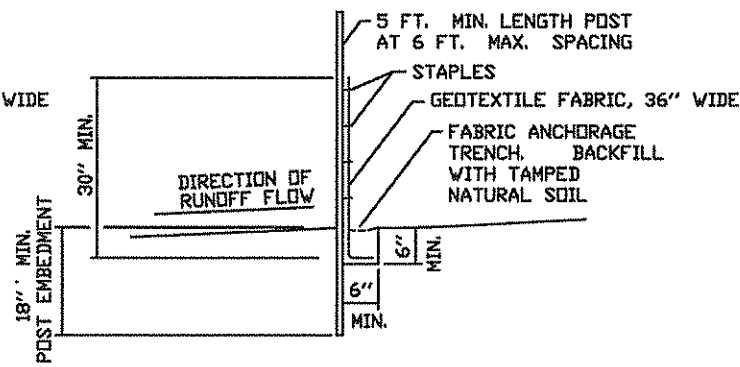
TEMPORARY EROSION CONTROL

STATE PROJ. NO. 02-609-12

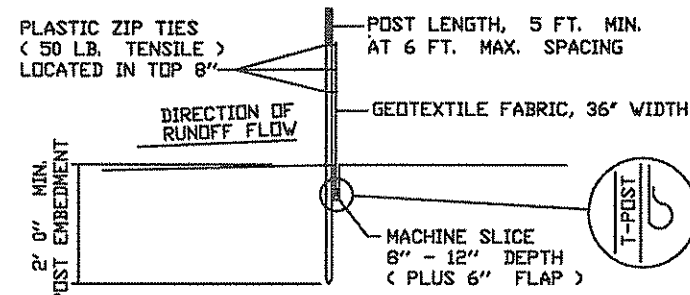
SHEET NO. 126 OF 165 SHEETS



HEAVY DUTY



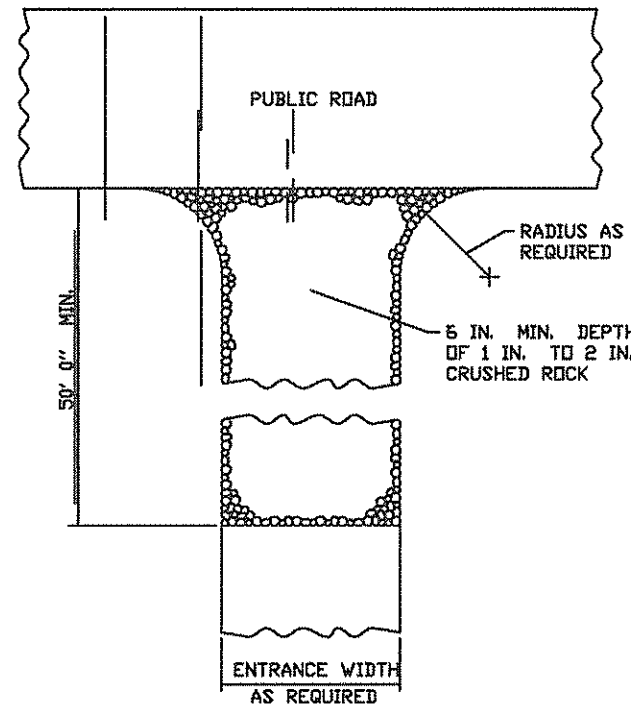
PREASSEMBLED



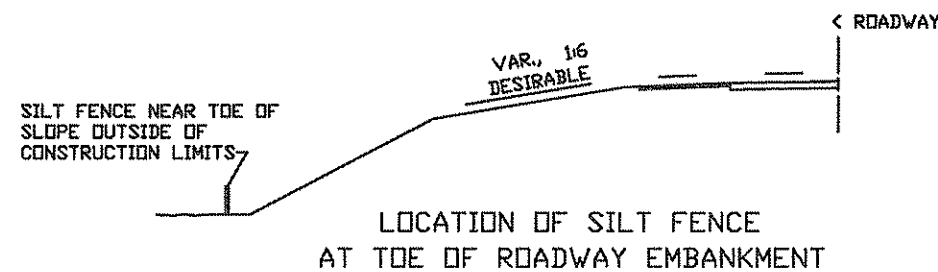
STANDARD MACHINE SLICED

DESIGN GUIDELINES:
MAXIMUM CONTRIBUTING AREA: 3 ACRES

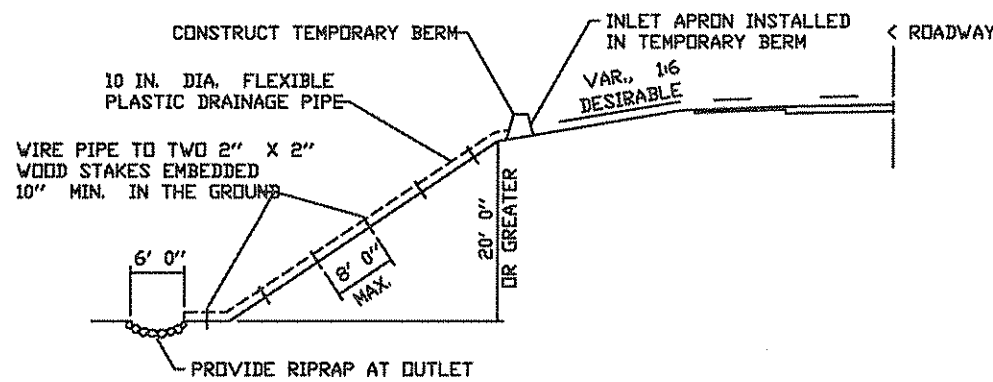
SILT FENCE DETAILS
TO PROTECT AREAS FROM SHEET FLOW
(SEE SPEC. 3886)



ROCK CONSTRUCTION ENTRANCE

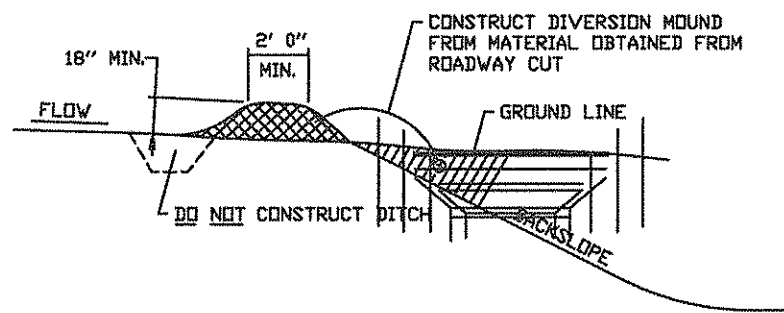


LOCATION OF SILT FENCE
AT TOE OF ROADWAY EMBANKMENT



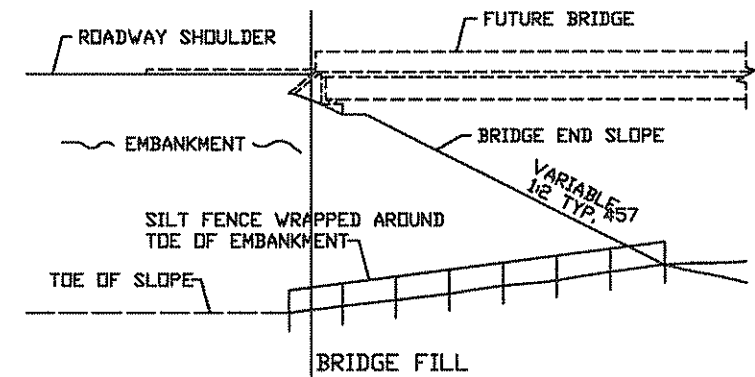
TEMPORARY DRAIN ON FILL SLOPE

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

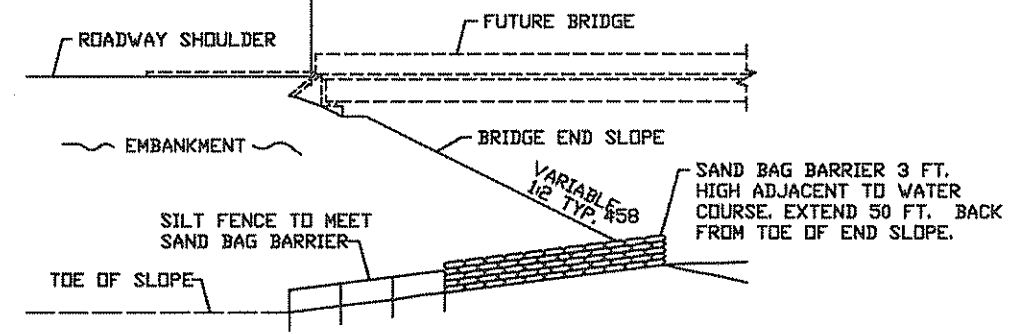


DIVERSION MOUND

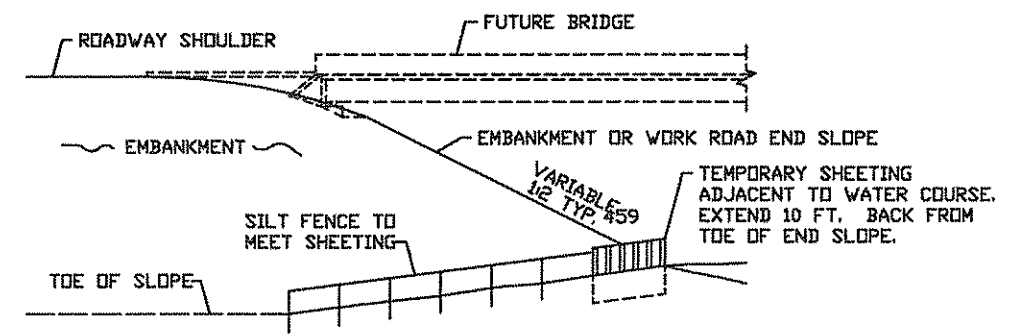
DESIGN GUIDELINES:
STORM FREQUENCY: 10 YEAR - 24 HOUR
MAXIMUM DRAINAGE AREA: 5 ACRES
MAXIMUM DIVERSION: GRADE 5%



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



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



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

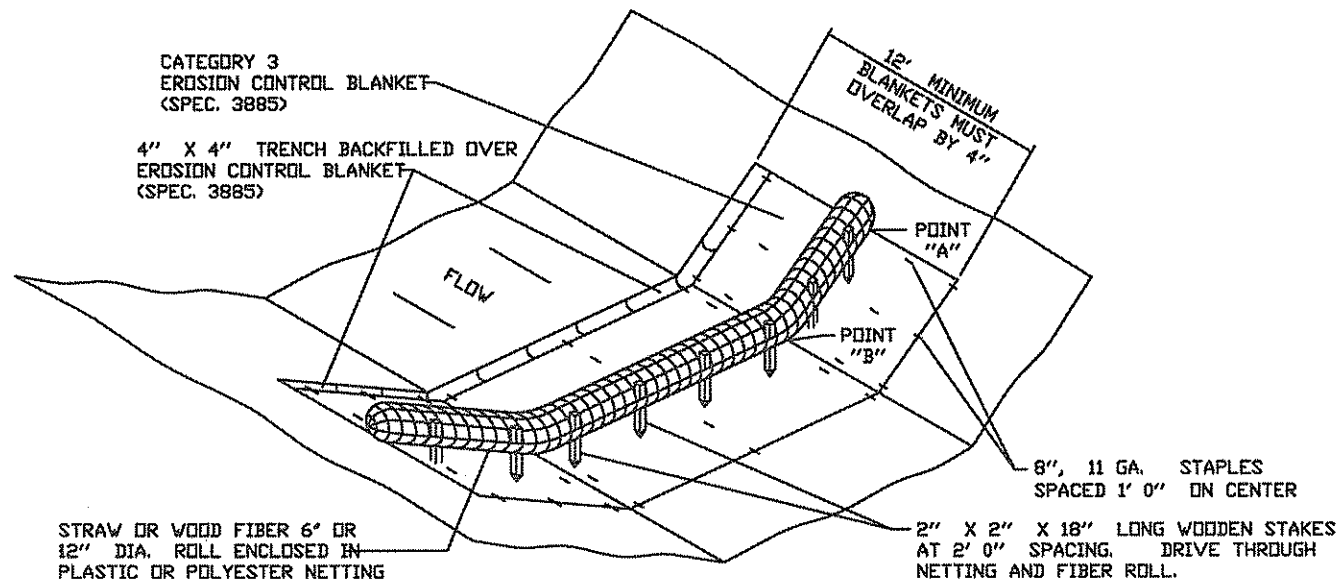
SILT FENCE AT BRIDGE EMBANKMENT

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

TEMPORARY EROSION CONTROL

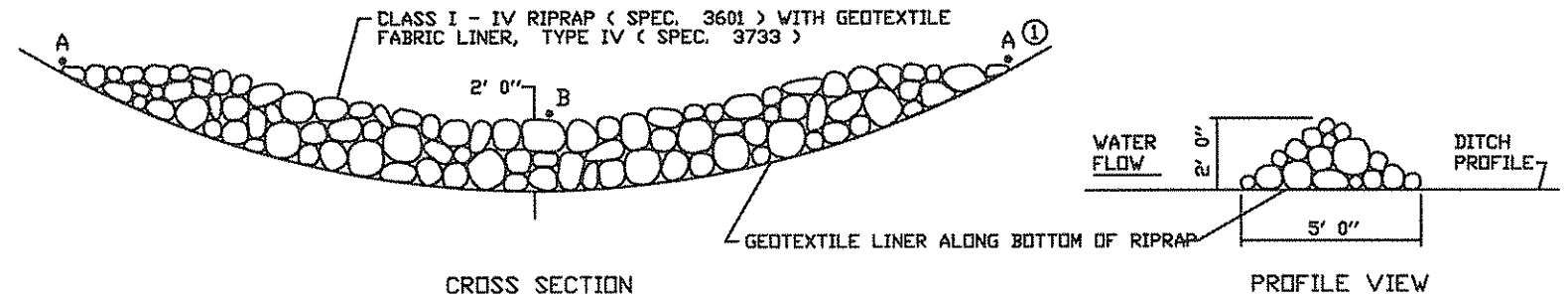
STATE PROJ NO. 02-609-12

SHEET NO. 127 OF 165 SHEETS

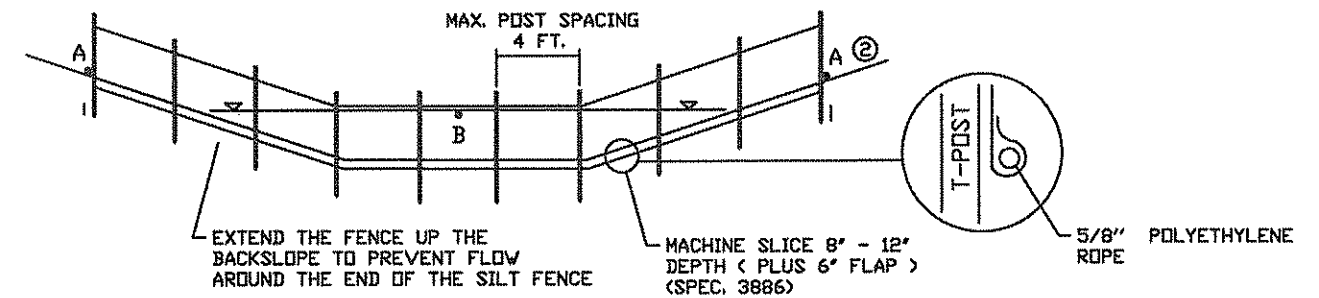


POINT "A" MUST BE HIGHER THAN POINT "B" TO ENSURE THAT WATER FLOWS OVER THE DIKE AND NOT AROUND THE ENDS.

BIDROLL BLANKET SYSTEM
(TYPE 3 SPEC. 3889)



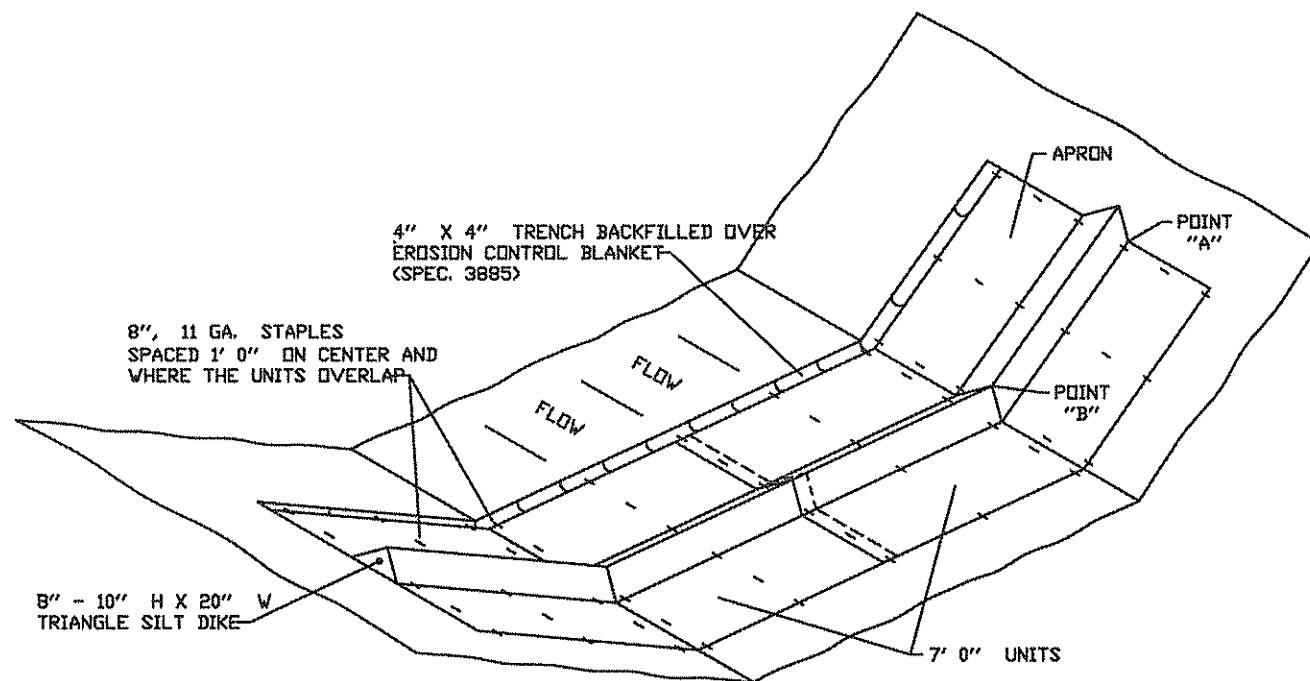
ROCK CHECK
(TYPE 7 SPEC. 3889)



DESIGN GUIDELINES	
STORM FREQUENCY	2 YR.- 24 HR.
MAX. DITCH GRADE	5%
MAX. DRAINAGE AREA	1 ACRE

NOTE:
WHEN SEDIMENT BUILD UP REACHES 1.5 FT., 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)

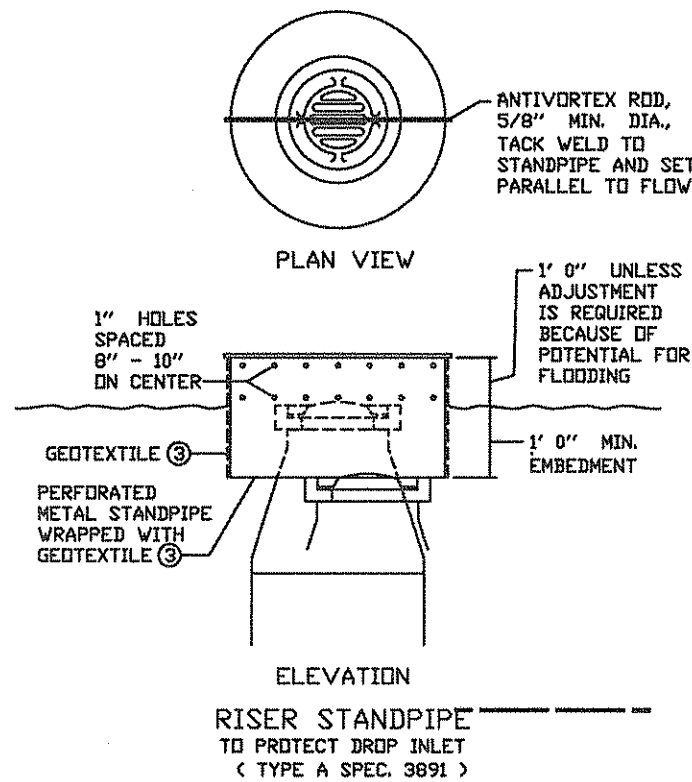


POINT "A" MUST BE HIGHER THAN POINT "B" TO ENSURE THAT WATER FLOWS OVER THE DIKE AND NOT AROUND THE ENDS.

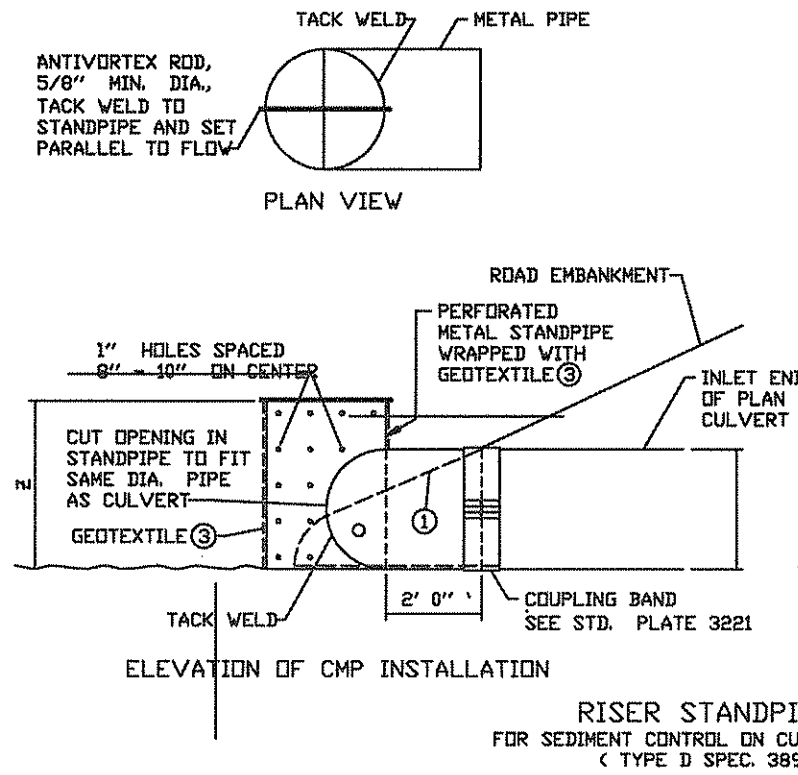
GEOTEXTILE TRIANGULAR DIKE
(TYPE 6 SPEC. 3889)

- 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 2' 6" MIN. HIGHER THAN POINT B.
 - ② POINT A MUST BE 2' 0" MIN. HIGHER THAN POINT B.

STANDARD SHEET NO. 5-297,405 (3 OF 4)	TITLE: TEMPORARY EROSION CONTROL DITCH CHECKS
STANDARD APPROVED: JULY 30, 2001	
STATE PROJ NO. 02-609-12	SHEET NO. 128 OF 165 SHEETS

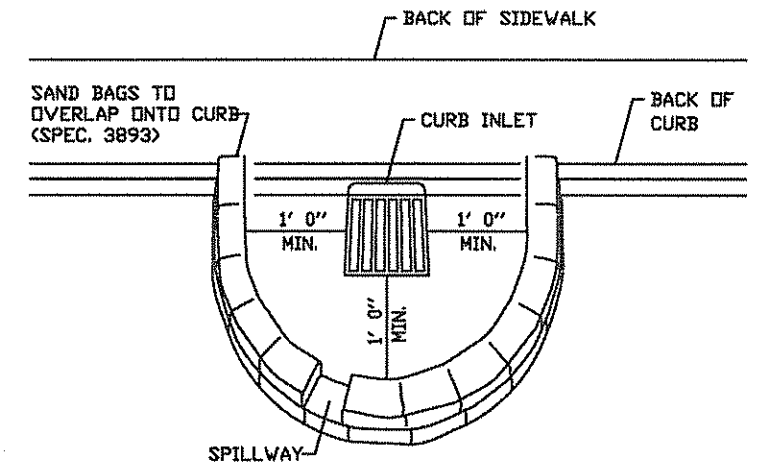
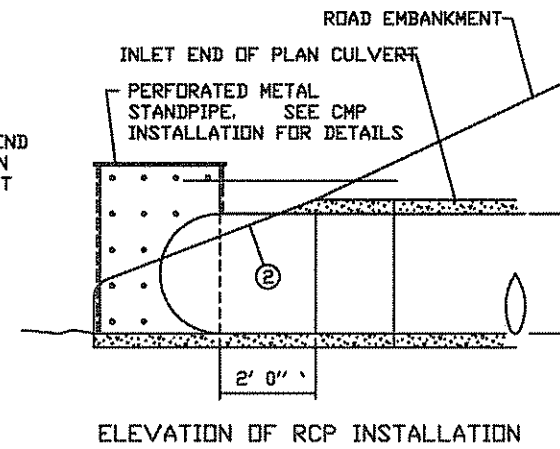


DESIGN GUIDELINES:
STORM FREQUENCY: 10 YEAR, - 24 HOUR.

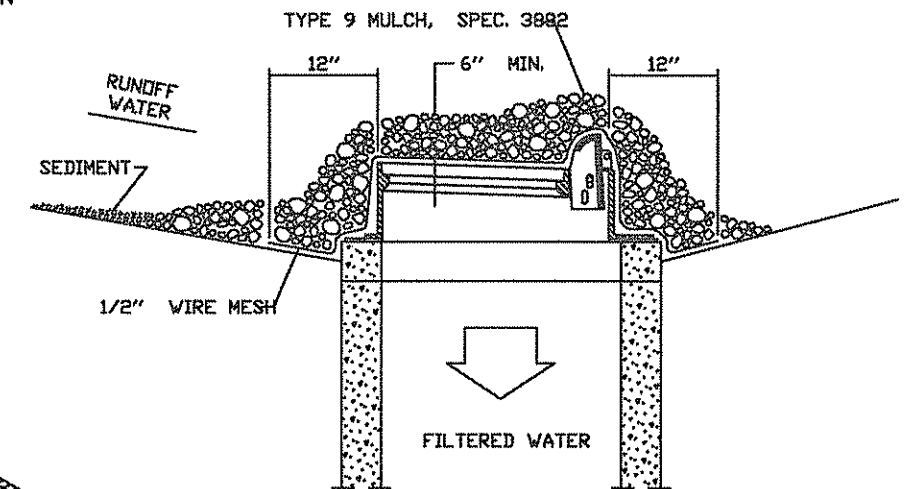


= DIA. OF STANDPIPE EQUAL TO DIA. OF PLAN CULVERT
Z = LENGTH OF PERFORATED STANDPIPE (+ 12")

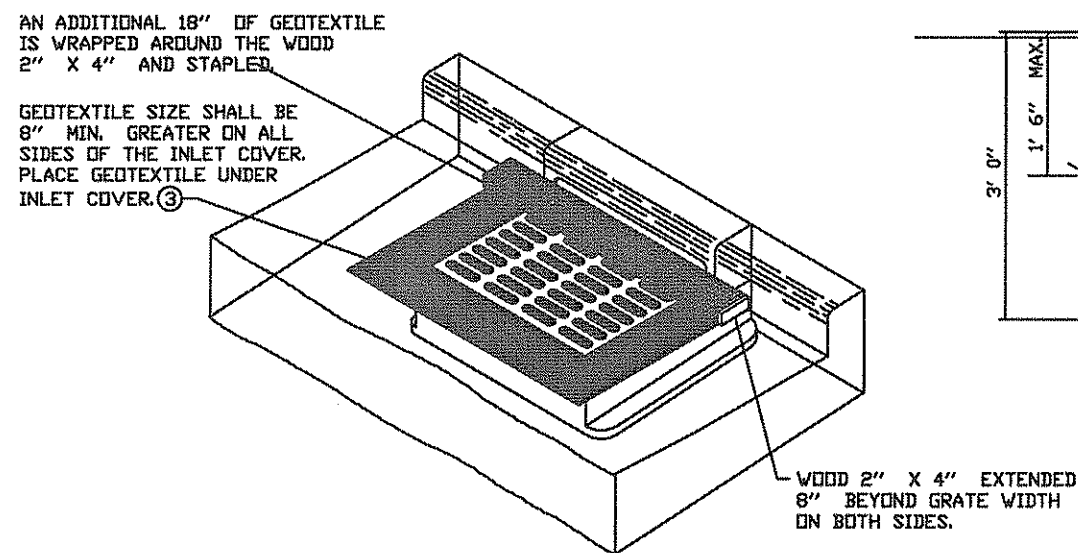
DESIGN GUIDELINES:
CULVERT SIZE: 12" - 36"
STORM FREQUENCY: 10 YR. - 24 HR.



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)



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

SILT FENCE BOX TO PROTECT DROP INLETS
USE WHERE INLET DRAINS AN AREA WITH SLOPES AT 1/3 OR LESS
(TYPE A SPEC. 3891)

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

STANDARD SHEET NO.
5-297.405 (4 OF 4)

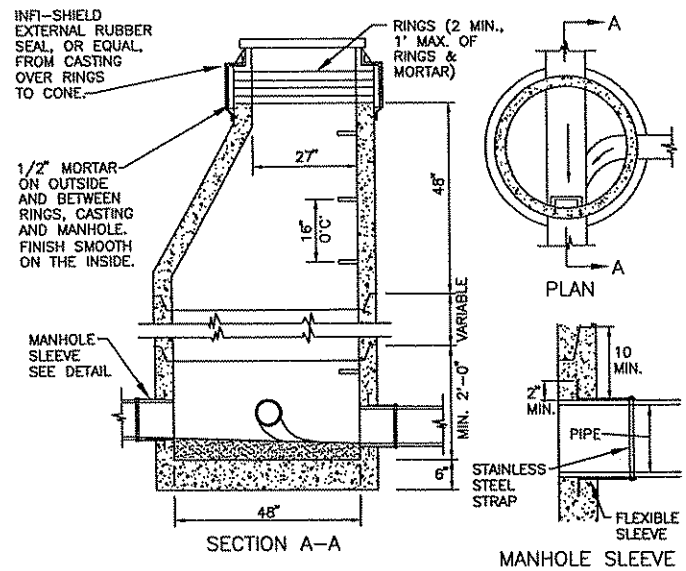
STANDARD APPROVED:
JULY 30, 2001

TITLE:
TEMPORARY EROSION CONTROL
TEMPORARY INLET PROTECTION

STATE PROJ NO 02-609-12

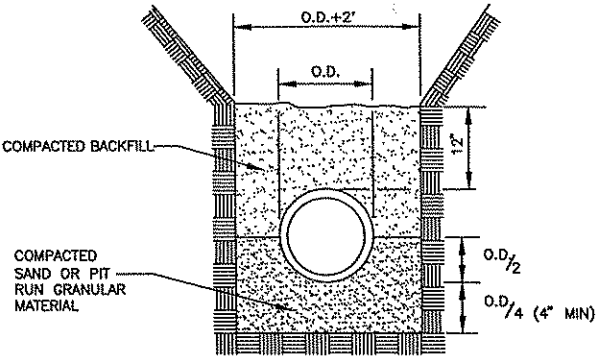
SHEET NO 129 OF 165 SHEETS

PLotted

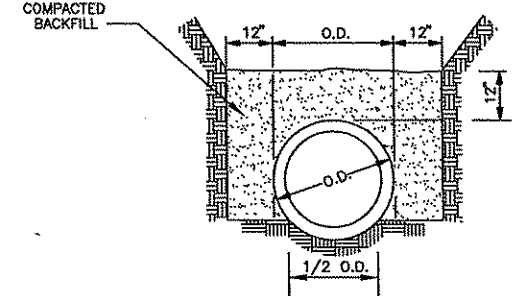


NO WOOD SHALL BE USED FOR ADJUSTING CASTING; CEMENT MORTAR ONLY.
 CAST IRON MANHOLE FRAME & COVER AS PER SPECIFICATIONS.
 MANHOLE STEPS SHALL BE CAST IRON, ALUMINUM, OR STEEL REINFORCED PLASTIC, PER ASTM C478, LOCATED OVER DOWNSTREAM PIPE.
 PRECAST REINFORCED CONCRETE MANHOLE SECTIONS PER ASTM C478, FURNISHED WITH O-RING GASKETS & LUBRICANT EXCEPT AS OTHERWISE SPECIFIED.
 LIFT HOLES NOT PERMITTED IN MANHOLE SECTIONS.
 A 12\"/>

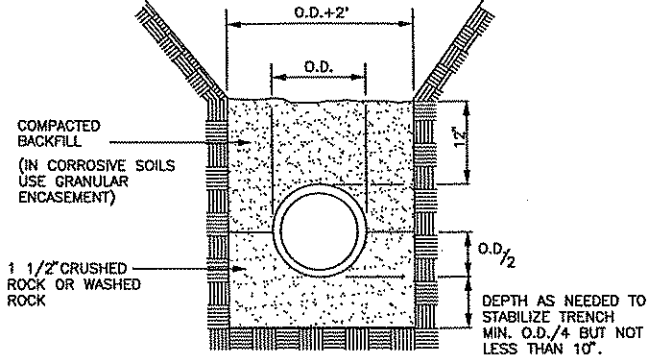
SANITARY SEWER MANHOLE, TYPE 301 (PIPES 27\"/>



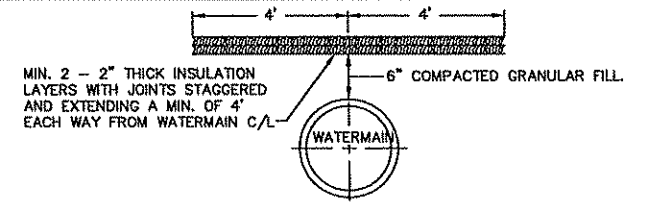
GRANULAR MATERIAL BEDDING



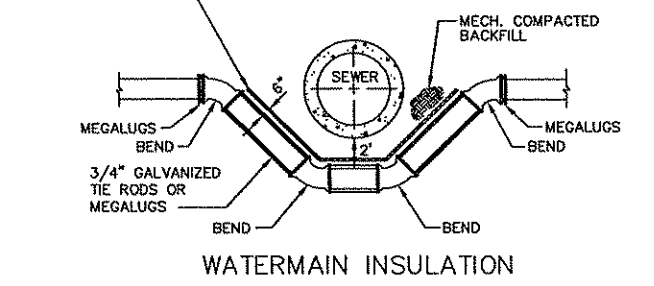
EARTH FOUNDATION
PVC PIPE INSTALLATION



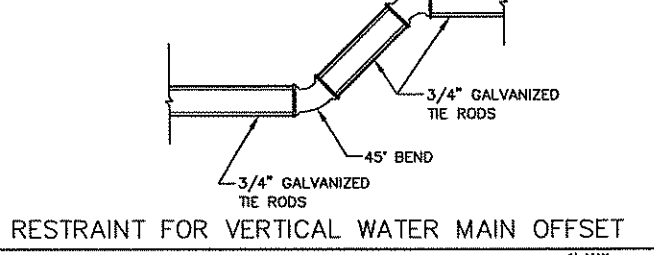
SPECIAL FOUNDATION FOR STABILIZING OR DEWATERING OF TRENCH



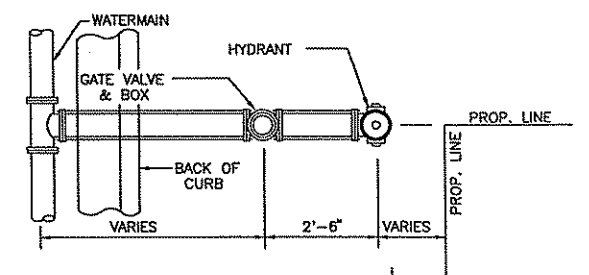
WATERMAIN INSULATION



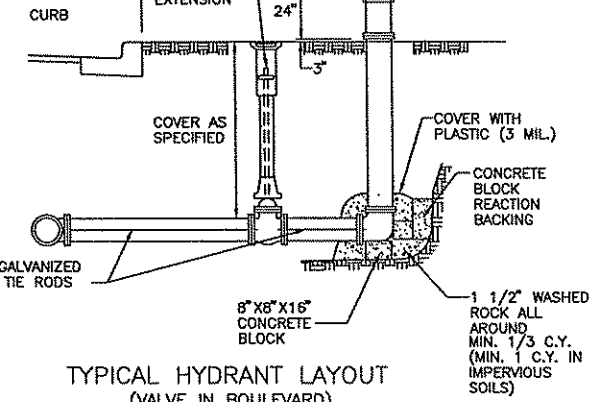
RESTRAINT FOR VERTICAL WATER MAIN OFFSET



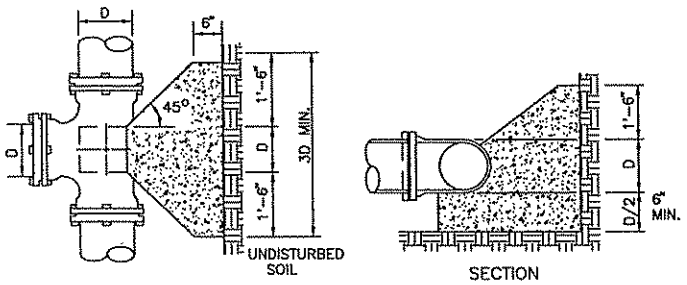
WATER SERVICE DETAIL



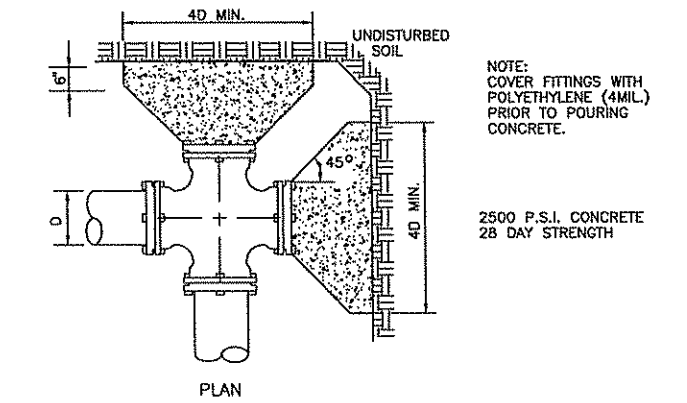
TYPICAL HYDRANT LAYOUT (VALVE IN BOULEVARD)



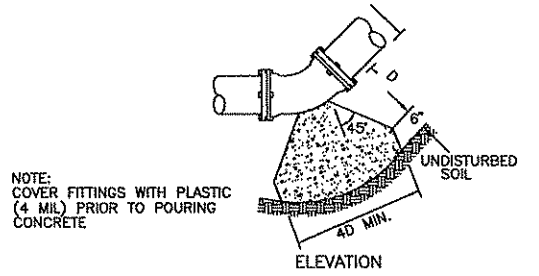
SANITARY SEWER SERVICE DETAIL (WITH CLEANOUT)



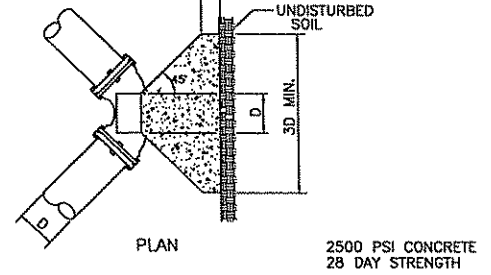
CONCRETE REACTION BACKING (FOR TEES AND CROSSES)



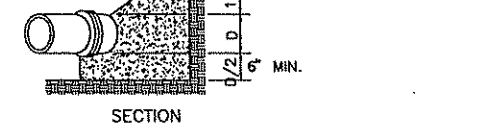
CONCRETE REACTION BACKING (FOR BENDS)



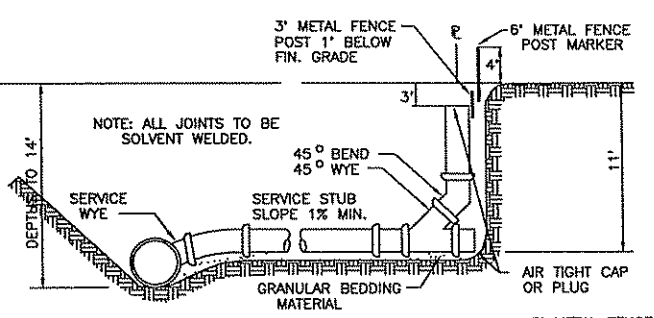
CONCRETE REACTION BACKING (FOR BENDS)



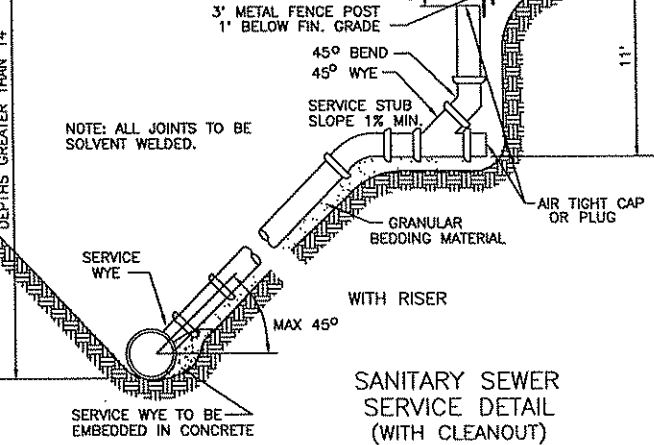
CONCRETE REACTION BACKING (FOR BENDS)



CONCRETE REACTION BACKING (FOR BENDS)



SANITARY SEWER SERVICE DETAIL (WITH RISER)



SANITARY SEWER SERVICE DETAIL (WITH RISER)

X:\A\ANDOVER\G0901\ACAD\PLOTS\ANS0101.DWG USER: CSE/ERR/OLA
 DATE: 08-25-03 TIME: 8:21 am
 REF:

DRAWN BY: -	CES			
DESIGNER:	CES/DOB			
CHECKED BY:	DOB			
DESIGN TEAM	NO.	BY	DATE	REVISIONS

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I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Chad E. Setterholm
 Chad E. Setterholm, P.E.
 Lic. No. 40913
 Date: 8/25/03



ANDOVER, MINNESOTA

DETAILS C.P. 99-14

FILE NO. ANDOV0301
130
155

STATEMENT OF ESTIMATED QUANTITIES

TAB. NO.	NOTE	ITEM NO.	ITEM	UNIT	TOTAL	ANOKA COUNTY SAP 02-609 12		ANOKA COUNTY NON-PARTICIPATING		CITY OF ANDOVER 198 020 17		CITY OF ANDOVER NON-PARTICIPATING		STORM SEWER SAP 02 609 12	
						EST.	FINAL	EST.	FINAL	EST.	FINAL	EST.	FINAL	EST.	FINAL
		2013.601	CELLULAR MOBILE TELEPHONE	EACH	3			3							
		2015.601	COMPUTER EQUIPMENT	LS	1			1							
		2021.501	MOBILIZATION	LS	1	1									
		2031.501	FIELD OFFICE TYPE D	EACH	1	1									
A		2101.501	CLEARING	EACH	316	316									
A		2101.502	CLEARING	ACRE	1.8	1.8									
A		2101.506	GRUBBING	EACH	281	281									
A		2101.507	GRUBBING	ACRE	1.8	1.8									
		2102.502	PAVEMENT MARKING REMOVAL	LIN FT	5670	5670									
D	1	2104.501	REMOVE PIPE CULVERT	LIN FT	736	736									
O	1	2104.501	REMOVE DIP WATER MAIN	LIN FT	290						290				
D	1	2104.501	REMOVE SEWER PIPE (STORM)	LIN FT	2051	2051									
C	1	2104.501	REMOVE CURB & GUTTER	LIN FT	2145	2145									
E	1	2104.501	REMOVE FENCE	LIN FT	1302	1302									
G		2104.503	REMOVE WOOD RETAINING WALL	SQ FT	95	95									
G		2104.503	REMOVE BLOCK RETAINING WALL	SQ FT	185	185									
	2	2104.503	REMOVE BITUMINOUS MEDIAN	SQ FT	2559	2559									
	2	2104.503	REMOVE CONCRETE MEDIAN	SQ FT	38	38									
M	2	2104.505	REMOVE CONCRETE DRIVEWAY PAVEMENT	SQ YD	611	611									
M	2	2104.505	REMOVE BITUMINOUS DRIVEWAY PAVEMENT	SQ YD	3575.7	3576									
F	2	2104.505	REMOVE BITUMINOUS FLUME	SQ YD	19	19									
F	2	2104.505	REMOVE CONCRETE FLUME	SQ YD	1.0	1.0									
B, J	3, 28	2104.505	REMOVE BITUMINOUS PAVEMENT	SQ YD	42476	41533					943				
D	1	2104.509	REMOVE DRAINAGE STRUCTURE	EACH	18	18									
D	1	2104.509	REMOVE PIPE APRON	EACH	7	7									
M		2104.511	SAWING CONCRETE PAVEMENT (FULL DEPTH)	LIN FT	140	140									
B, M, J	27, 28	2104.513	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	LIN FT	3275	2358					917				
E	4	2104.521	SALVAGE FENCE	LIN FT	2340	2340									
	21	2104.521	SALVAGE GUIDE CABLE AND POSTS	LIN FT	731	731									
T		2104.523	SALVAGE CASTING	EACH	5	5									
	5	2104.523	SALVAGE SIGN PANEL TYPE C	EACH	110			110							
I	6	2104.523	SALVAGE SIGN TYPE SPECIAL	EACH	15			15							
O	7	2104.523	SALVAGE HYDRANT AND GATE VALVE	EACH	2							2			
V	7, 28	2104.523	SALVAGE HYDRANT	EACH	3							3			
	9	2104.601	HAUL SALVAGED MATERIAL	LS	1			1							
Y		2105.501	COMMON EXCAVATION (EV) (P)	CU YD	87487	87487									
Y	22	2105.503	MUCK EXCAVATION (EV)	CU YD	32023	32023									
Y		2105.521	GRANULAR BORROW (LV)	CU YD	15885	15885									
	10	2105.607	SPECIAL EXCAVATION (EV)	CU YD	24157	24157									
	11	2123.509	DOZER	HR	10	10									
	12	2130.501	WATER	MGAL	30	30									
W		2211.503	AGGREGATE BASE (CV) CL 5 (P)	CU YD	14688	13929				759					
M	24, 28	2211.604	AGGREGATE BASE CLASS 5 (4" THICK)	SQ YD	1831	1831									
		2232.501	MILL BITUMINOUS SURFACE (1.5")	SQ YD	2169	853				1316					
W		2350.501	TYPE MV3 WEARING COURSE MIXTURE (F)	TON	15367	14604				763					
W	13	2350.502	TYPE MV3 NON WEARING COURSE MIXTURE (B)	TON	13170	12657				513					
M		2350.602	TYPE LV4 BITUMINOUS MIXTURE FOR DRIVEWAYS	SQ YD	1357	1357									
L		2350.604	BITUMINOUS PAVING FOR PATH CONSTRUCTION (2-1/2")	SQ YD	7105					7105					
J	28	2350.604	BIT PAVEMENT FOR TRENCH RESTORATION	SQ YD	1603	660					943				
	8	2350.604	(2350) TYPE MV WEARING COURSE MIXTURE (2" THICK)	SQ YD	2500	2500									
W		2357.502	BITUMINOUS MATERIAL FOR TACK COAT	GALLON	7409	7081				328					
Q		2411.603	MODULAR BLOCK RETAINING WALL	SQ FT	3144	3144									
	14	2451.509	AGGREGATE BEDDING	TON	367										367

1	9-03-03	MFG	PML	PML	SEE NOTES 24, 27, 28, 29
2	9-06-03	MFG	PML	PML	UPDATED TRAFFIC CONTROL QUANTITIES
NO	DATE	BY	CHKD	APPR	REVISION
NAME: P:\0260912\PLAN\03-08-TabSheet.dwg 09/06/2003 03:22:13 PM CDT					

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 PRINT NAME: PETER M. LEMKE
 SIGNATURE: *Peter M Lemke*
 DATE: 9/3/2003 LICENSE NO. 40118

DRAWN BY: MN DATE: 2/2/03
 DESIGN BY: PML DATE: 4/9/03
 CHECKED BY: PML DATE: 8/22/03



ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. _____
 STATE AID PROJECT NO. 02-609-12
 CITY PROJECT NO. 198-020-17
 COUNTY PROJECT NO. _____

STATEMENT OF ESTIMATED QUANTITIES
 Sheet 2 of 165 Sheets

WATER MAIN

STATION TO STATION	OFFSET	CONN. TO EXIST. WM	6" GV & BOX EACH	8" GV & BOX EACH	12" GV & BOX EACH	6" DIP WM (CL.52) LIN. FT.	8" DIP WM (CL.52) LIN. FT.	12" DIP WM (CL.52) LIN. FT.	DUCTILE IRON FITTINGS POUNDS	1" CORP. STOP EACH	1" CURB STOP & BOX EACH	1" TYPE K COPPER PIPE LIN. FT.	4" PVC (SCH.40) SERVICE CONDUIT LIN. FT.	HYDRANT EACH	SALVAGE HYDRANT & GV EACH	12" x 8" PRESSURE TAP w/ 8"GV & BOX EACH	REMOVE DIP WM LIN. FT.	1 1/2" CRUSHED ROCK TON	2" RIGID INSULATION S.Y.
NORTHBOUND ALIGNMENT																			
105+43.52 TO 108+66.67	33' R	1	-	1	-	-	360	-	102	-	-	-	-	-	-	-	-	-	140
108+50.33	54.48' R	-	1	-	-	13	-	-	72	-	-	-	-	1	-	-	-	-	2
116+48.35	91.47' L	-	-	-	-	-	-	-	-	1	1	110	120	-	-	-	-	-	-
118+67.71	90.17' L	-	-	-	-	-	-	-	-	1	1	105	115	-	-	-	-	-	-
122+10.42	81.50' L	-	-	-	-	-	-	-	-	1	1	110	120	-	-	-	-	-	-
124+13.81	24.50' R	-	-	-	-	-	25	-	45	-	-	-	-	-	-	1	-	-	15
124+12.30	158.84' L	-	1	-	-	15	-	-	72	-	-	-	-	1	-	-	-	-	2
124+29.59	140.32' L	-	-	-	-	-	-	-	-	1	1	30	-	-	-	-	-	-	-
124+33.49	11.06' R	-	-	-	-	-	190	-	87	-	-	-	-	-	-	1	-	-	70
125+86.56	47.02' R	-	-	-	-	-	-	-	-	1	1	30	-	-	-	-	-	-	-
126+49.28	81.50' L	-	-	-	-	-	-	-	-	1	1	110	110	-	-	-	-	-	-
127+47.01	81.50' L	-	-	-	-	-	-	-	-	1	1	110	110	-	-	-	-	-	-
128+02.29	47.31' R	-	-	-	-	-	-	-	-	1	1	30	-	-	-	-	-	-	-
130+72.08 TO 134+74.05	54.58' L	2	-	-	-	-	430	-	306	-	-	-	-	-	-	-	-	-	170
132+96.86	58.68' L	-	-	-	-	-	30	-	131	-	-	-	-	-	-	-	-	-	15
133+76.76	80.00' L	-	-	-	-	-	-	-	-	1	1	30	-	-	-	-	-	-	-
133+75.76 TO 135+64.57	10' R	2	-	1	-	-	-	210	305	-	-	-	-	-	-	-	-	-	80
135+45.10	25.01' R	-	1	-	-	20	-	-	110	-	-	-	-	1	1	-	210	2	-
135+81.36 TO 157+11.67	33' R	1	-	-	-	-	10	2200	308	-	-	-	-	-	-	-	80	844	-
136+32.73	38.5' R	-	-	-	-	-	-	-	-	1	1	15	-	-	-	-	-	-	-
139+01.34	38.5' R	-	-	-	-	-	-	-	-	1	1	15	-	-	-	-	-	-	-
139+91.40	38.5' R	-	-	-	-	-	-	-	-	1	1	15	-	-	-	-	-	-	-
140+84.84	38.5' R	-	-	-	-	-	-	-	-	1	1	15	-	-	-	-	-	-	-
141+45.85	53.5' L	1	-	-	-	90	-	-	149	-	-	-	-	-	-	-	-	-	-
142+46.43	40.50' R	-	1	-	-	10	-	-	110	-	-	-	-	1	-	-	-	-	40
146+13.69	40.50' R	-	1	-	-	10	-	-	110	-	-	-	-	1	1	-	-	-	40
150+58.52	40.50' R	-	1	-	-	10	-	-	110	-	-	-	-	1	-	-	-	-	40
157+23.70	40.97' R	-	1	-	-	15	-	-	110	-	-	-	-	1	-	-	-	-	40
132+96.86	58.68' L	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
133+65.88	14.36' R	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
134+68.25	54.64' L	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
141+45.85	24.57' R	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
145+68.76	36.07' R	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
145+74.15	32.97' R	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
157+11.55	50.20' R	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SEE INDIVIDUAL PLAN SHEETS FOR LOCATIONS																			1900
TOTALS		7	8	5	3	185	1045	2410	2127	13	13	725	575	7	2	2	290	1500	1900

SANITARY SEWER

STATION TO STATION	OFFSET	CONN. TO EXIST. SAN. SEWER	CONN. TO EXIST. MANHOLE	8" PVC (SDR 35) PIPE LIN. FT.	4" PVC (SCH.40) PIPE LIN. FT.	8" x 4" PVC WYE EACH	STANDARD MH W/ CASTING (0-10') EACH	EXTRA DEPTH MANHOLE LIN. FT.	TELEVISION SANITARY SEWER LIN. FT.	1 1/2" CRUSHED ROCK TON	SERVICE CLEANOUT
NORTHBOUND ALIGNMENT											
124+24.02	24.5' R	-	-	-	-	-	1	0.16	-	-	-
124+24.68	38.5' R	-	-	14	-	-	-	-	-	15	-
124+20.22	62' L	-	1	87	-	-	-	87	40	-	-
130+46.58	71.19' L	1	-	-	-	-	1	-	-	-	-
130+46.58 TO 132+86.90	71.19' L	-	-	240	-	-	-	240	105	-	-
132+86.90	66.5' L	-	-	-	-	-	1	-	-	-	-
132+86.90	81.30' L	-	-	15	-	-	-	-	25	-	-
132+86.90 TO 133+54.17	66.5' L	-	-	67	-	-	-	67	15	-	-
133+50.83	80.00' L	-	-	-	25	1	-	-	-	-	1
133+54.17	66.5' L	-	-	-	-	-	1	2.05	-	-	-
135+59.31 TO 138+79.30	20.22' R	-	1	320	-	-	-	-	320	130	-
136+29.73	38.5' L	-	-	-	35	1	-	-	-	15	1
138+79.30	23' R	-	-	-	-	-	1	2.22	-	-	-
138+79.30 TO 141+00.00	23' R	-	-	221	-	-	-	-	221	90	-
138+98.34	38.5' R	-	-	-	35	1	-	-	-	15	1
139+87.87	38.5' R	-	-	-	35	1	-	-	-	15	1
140+81.84	38.5' R	-	-	-	35	1	-	-	-	15	1
141+00.00	21.59' R	-	-	-	-	-	1	2.24	-	-	-
TOTALS		1	2	964	165	5	6	6.67	935	480	5

X:\AEV\ANDOV301\ACAD\PILOTS\AN301D12.DWG USER: CSEITERHOLM DATE: 08-25-03 TIME: 8:23 am

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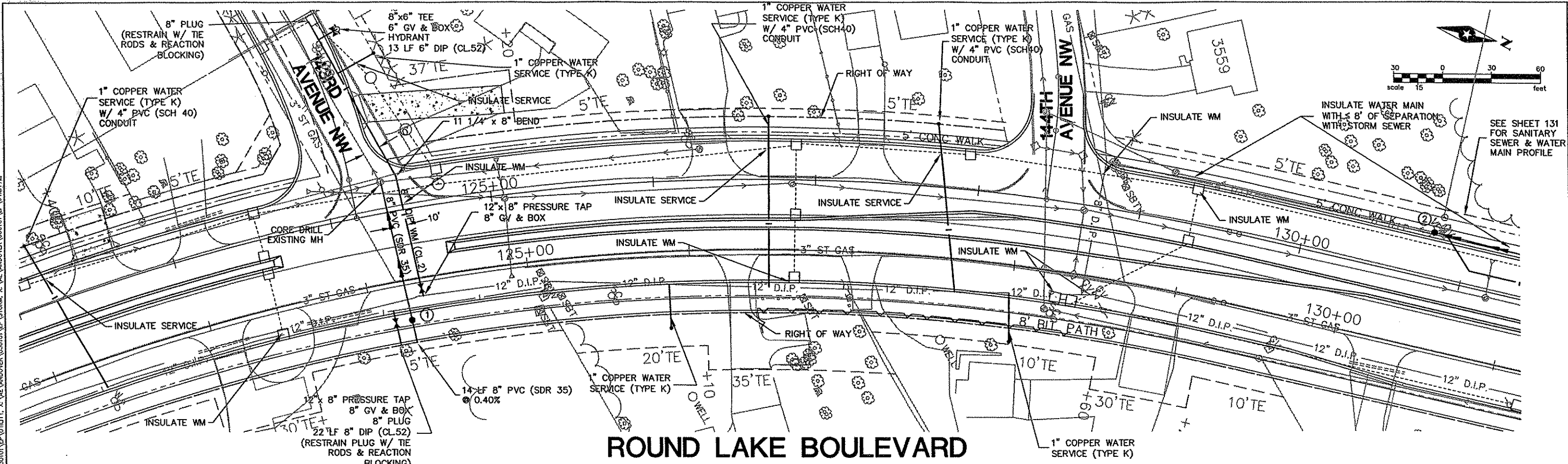
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Chad E. Setterholm
 Chad E. Setterholm, P.E.
 Date: 8/25/03 Lic. No. 40913



ANDOVER, MINNESOTA

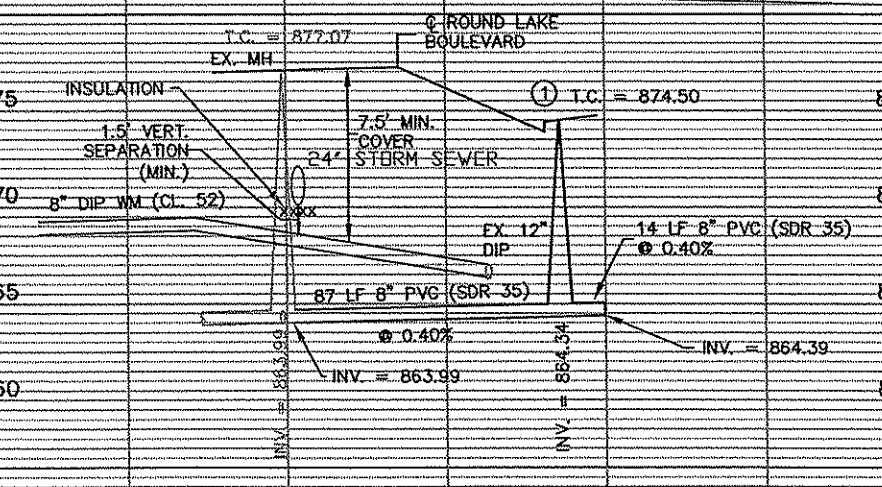
SANITARY SEWER & WATER MAIN QUANTITY TABULATIONS
 ROUND LAKE BOULEVARD
 C.P. 99-14

FILE NO. ANDOV301 **131**
155



ROUND LAKE BOULEVARD

895	878.34	877.78	877.24	876.80	876.45	876.18	875.98	875.78	875.58	875.38	875.18	874.98	874.78	874.58	874.38	874.18	873.98	873.78	895
890																			890
885																			885
880																			880
875																			875
870																			870
865																			865
860																			860
855																			855
850																			850
	122+00	123+00	124+00	125+00	126+00	127+00	128+00	129+00	130+00	131+00									



- NOTES:**
- CONTRACTOR SHALL COORDINATE ALL SANITARY SEWER & WATER MAIN WORK WITH ANOKA COUNTY'S CONSTRUCTION STAGING.
 - 4" PVC (SCH.40) PIPE SHALL BE INSTALLED WHERE WATER SERVICES CROSS UNDER ROUND LAKE BOULEVARD. 1" COPPER SERVICE PIPE (TYPE K) TO BE INSTALLED INSIDE THE 4" PVC PIPE (NO COUPLINGS WILL BE ALLOWED IN THE 1" COPPER SERVICE PIPE UNDER THE PAVED ROADWAY SURFACE OF ROUND LAKE BOULEVARD).
 - INSULATE WATER MAIN AT ALL CROSSINGS WITH STORM SEWER AND IN AREAS WHERE STORM SEWER RUNS PARALLEL WITH WATER MAIN WITH LESS THAN 8' OF SEPARATION (USE 5' MIN. PARALLEL SEPARATION FOR 12" & LARGER WATER MAIN).

X:\AE\ANDOVER\030101\ACAD\PLANS\ANDOVER\030101\EP\UTILITY.X X:\AE\ANDOVER\030101\EP\ROAD.X X:\AE\ANDOVER\030101\EP\STORM.X X:\AE\ANDOVER\030101\EP\UTILITY.X
 DATE: 08-25-03 TIME: 8:27 am USER: CSETTERHOLM
 XREFS: X:\AE\ANDOVER\030101\EP\ACAD\PLANS\ANDOVER\030101\EP\ROAD.X X:\AE\ANDOVER\030101\EP\STORM.X X:\AE\ANDOVER\030101\EP\UTILITY.X

DRAWN BY: CES
 DESIGNER: CES/DB
 CHECKED BY: DB

NO.	BY	DATE	REVISIONS

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Chad E. Setterholm
 Chad E. Setterholm, P.E.
 Lic. No. 40913

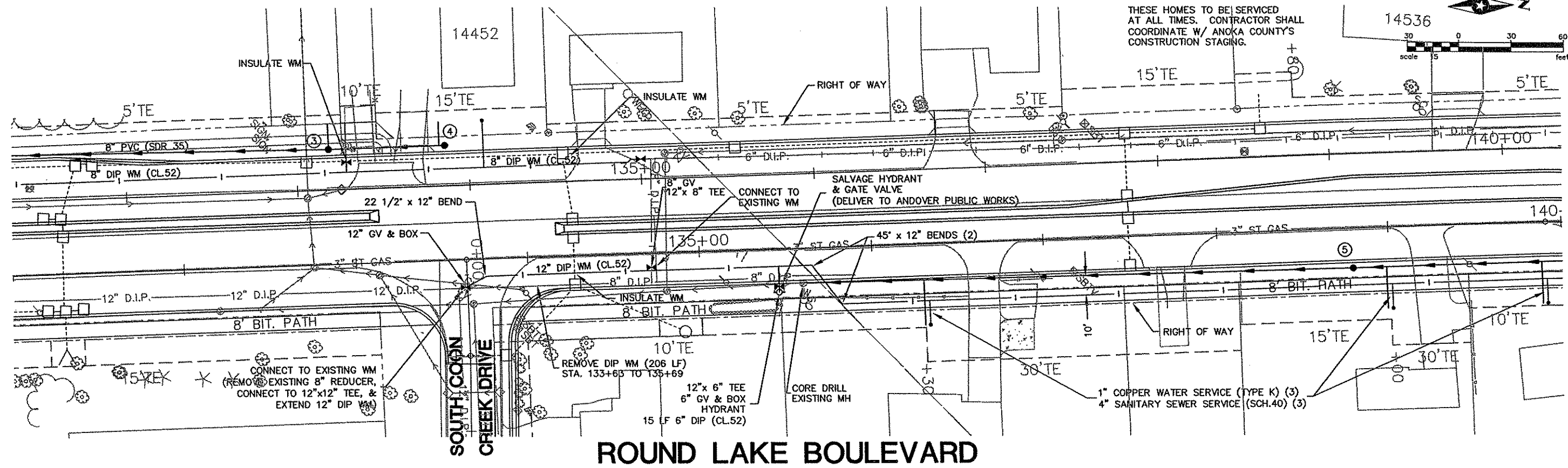


ANDOVER, MINNESOTA

**SANITARY SEWER & WATER MAIN
 ROUND LAKE BOULEVARD
 C.P. 99-14**

FILE NO. ANDOV301
134
155

X:\AE\ANDOVER\G30101\MAP\PLANS\SS\SS.DWG USER: CSE/TERHOLM DATE: 08-25-03 TIME: 8:31 am
 X:\AE\ANDOVER\G30101\EP\PROG.D X:\AE\ANDOVER\G30101\EP\UTILTY X:\AE\ANDOVER\G30101\EP\STORM X:\AE\ANDOVER\G30101\EP\UTILTY2
 X:\AE\ANDOVER\G30101\MAP\PLANS\SS\SS.DWG USER: CSE/TERHOLM DATE: 08-25-03 TIME: 8:31 am
 X:\AE\ANDOVER\G30101\EP\PROG.D X:\AE\ANDOVER\G30101\EP\UTILTY X:\AE\ANDOVER\G30101\EP\STORM X:\AE\ANDOVER\G30101\EP\UTILTY2



THESE HOMES TO BE SERVICED AT ALL TIMES. CONTRACTOR SHALL COORDINATE W/ ANOKA COUNTY'S CONSTRUCTION STAGING.

14536

scale 1" = 30'

ROUND LAKE BOULEVARD

895	873.56	873.56	873.77	874.24	874.90	875.19	876.27	876.96	877.64	878.33	879.01	879.70	880.38	881.06	881.65	882.14	882.52	882.79	895	
890	<p>NOTES:</p> <ol style="list-style-type: none"> CONTRACTOR SHALL COORDINATE ALL SANITARY SEWER & WATER MAIN WORK WITH ANOKA COUNTY'S CONSTRUCTION STAGING. INSULATE WATER MAIN AT ALL CROSSINGS WITH STORM SEWER AND IN AREAS WHERE STORM SEWER RUNS PARALLEL WITH WATER MAIN WITH LESS THAN 8' OF SEPARATION (USE 5' MIN. PARALLEL SEPARATION FOR 12" & LARGER WATER MAIN). 																			890
885	<p>PROPOSED C-NORTH BOUND</p>																			885
880	<p>PROPOSED C-BIT. TRAIL</p>																			880
875	<p>T.C. = 875.90</p> <p>T.C. = 875.80</p> <p>T.C. = 877.94</p> <p>7.5' MIN. COVER</p>																			875
870	<p>T.C. = 874.90</p> <p>INSULATION</p> <p>18" STORM SEWER</p> <p>320 LF 8" PVC (SDR-35)</p> <p>221 LF 8" PVC (SDR-35)</p> <p>0.40%</p>																			870
865	<p>INV = 865.47</p> <p>INV = 866.09 (SE-INE)</p> <p>INV = 866.09 (SW)</p> <p>INV = 866.00 (NE)</p> <p>INV = 866.28</p>																			865
860	<p>1.5' VERT. SEPARATION (MIN.)</p>																			860
855																				855
850																				850
	131+00	132+00	133+00	134+00	135+00	136+00	137+00	138+00	139+00	140+00										

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DESIGNER:	CES/DB		
CHECKED BY:	DB		
DESIGN TEAM			
NO.	BY	DATE	REVISIONS

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Date: 8/25/03



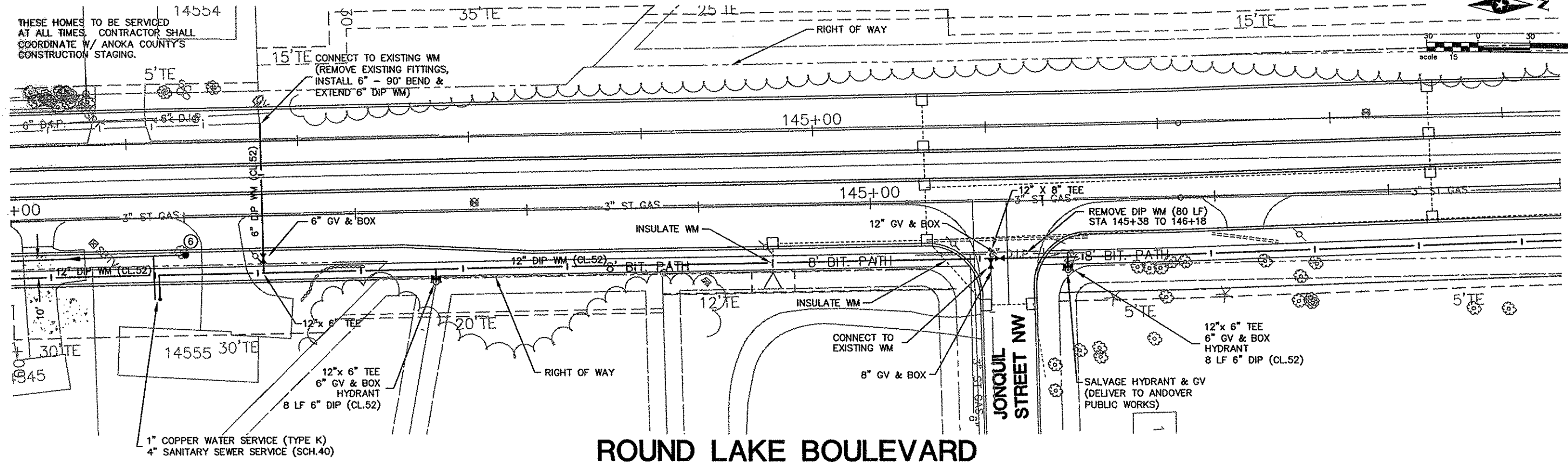
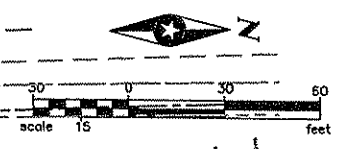
ANDOVER, MINNESOTA

**SANITARY SEWER & WATER MAIN
 ROUND LAKE BOULEVARD
 C.P. 99-14**

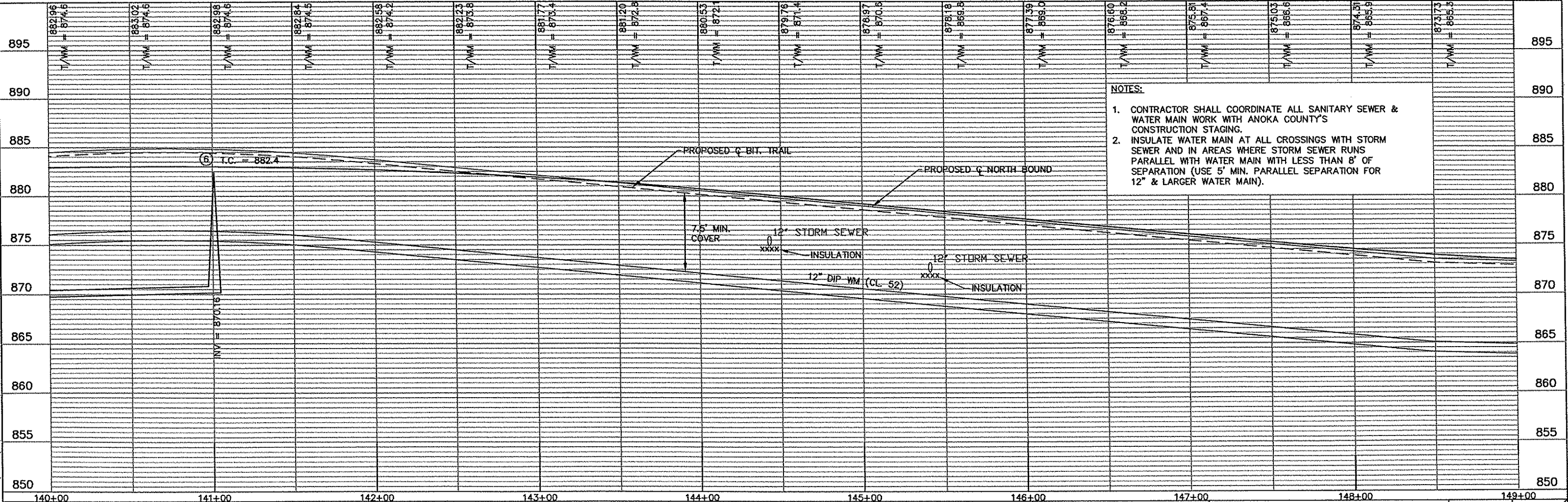
FILE NO. ANDOV301

135
155

THESE HOMES TO BE SERVICED AT ALL TIMES. CONTRACTOR SHALL COORDINATE W/ ANOKA COUNTY'S CONSTRUCTION STAGING.



ROUND LAKE BOULEVARD



- NOTES:**
1. CONTRACTOR SHALL COORDINATE ALL SANITARY SEWER & WATER MAIN WORK WITH ANOKA COUNTY'S CONSTRUCTION STAGING.
 2. INSULATE WATER MAIN AT ALL CROSSINGS WITH STORM SEWER AND IN AREAS WHERE STORM SEWER RUNS PARALLEL WITH WATER MAIN WITH LESS THAN 8' OF SEPARATION (USE 5' MIN. PARALLEL SEPARATION FOR 12" & LARGER WATER MAIN).

DRAWN BY: CES
 DESIGNER: CES/DB
 CHECKED BY: DB

NO.	BY	DATE	REVISIONS

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I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Chad E. Setterholm
 Chad E. Setterholm, P.E.
 Date: 11/25/03 Lic. No. 40913



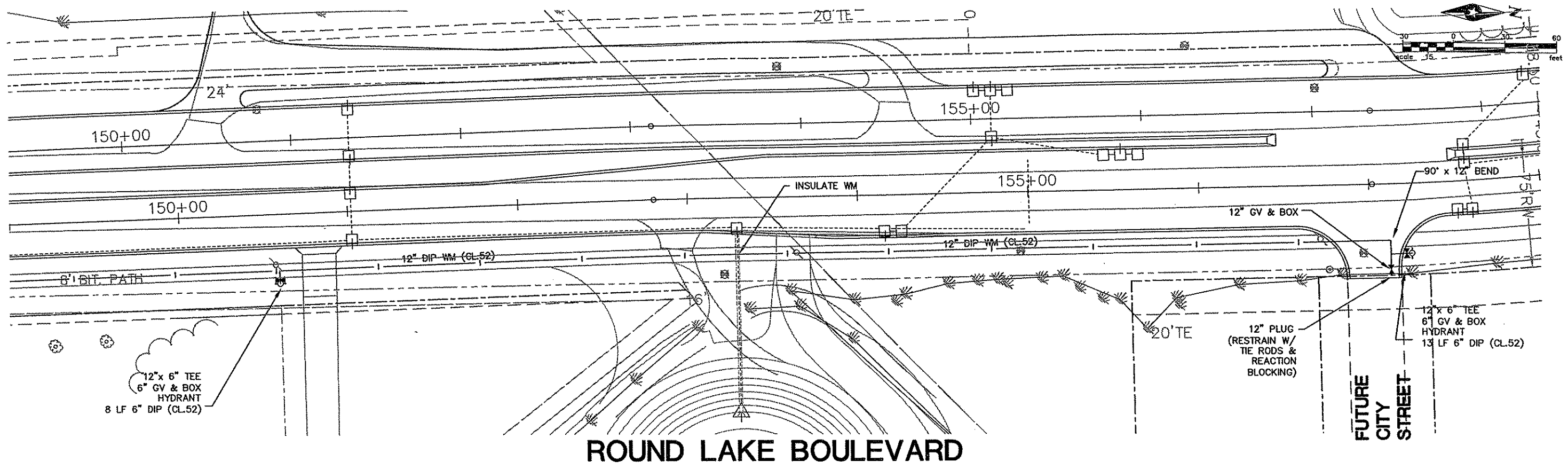
ANDOVER, MINNESOTA

**SANITARY SEWER & WATER MAIN
 ROUND LAKE BOULEVARD
 C.P. 99-14**

FILE NO. ANDOV301
137
155

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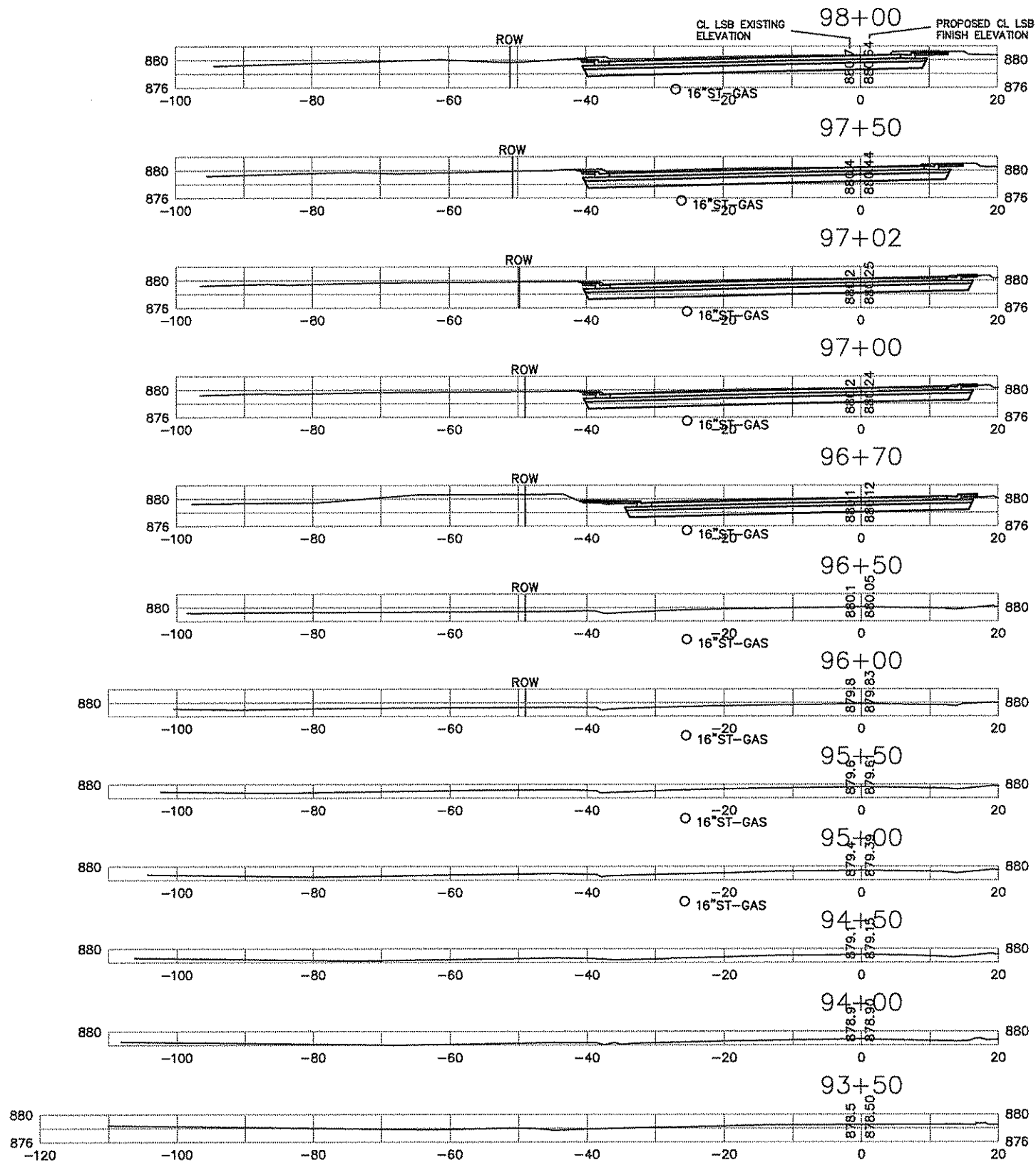


ROUND LAKE BOULEVARD

890	873.30 T/WM = 864.9	873.00 T/WM = 864.6	872.78 T/WM = 864.4	872.56 T/WM = 864.2	872.33 T/WM = 863.9	872.11 T/WM = 863.7	871.89 T/WM = 863.5	871.67 T/WM = 863.3	871.44 T/WM = 863.1	871.22 T/WM = 862.9	871.00 T/WM = 862.7	870.83 T/WM = 862.5	870.77 T/WM = 862.4	870.83 T/WM = 862.5	871.00 T/WM = 862.7	871.22 T/WM = 862.9	871.45 T/WM = 863.1	871.67	890
885	NOTES: 1. CONTRACTOR SHALL COORDINATE ALL SANITARY SEWER & WATER MAIN WORK WITH ANOKA COUNTY'S CONSTRUCTION STAGING. 2. INSULATE WATER MAIN AT ALL CROSSINGS WITH STORM SEWER AND IN AREAS WHERE STORM SEWER RUNS PARALLEL WITH WATER MAIN WITH LESS THAN 8' OF SEPARATION (USE 5' MIN. PARALLEL SEPARATION FOR 12" & LARGER WATER MAIN).																		885
880																			880
875	<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p>PROPOSED C NORTH BOUND</p> </div> <div style="width: 45%;"> <p>PROPOSED C BIT TRAIL</p> </div> </div>																		875
870	<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p>7.5' MIN. COVER</p> </div> <div style="width: 45%;"> <p>INSULATION</p> </div> </div>																		870
865	<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p>12" DIP WM (CL 52)</p> </div> <div style="width: 45%;"> <p>30" STORM SEWER</p> </div> </div>																		865
860	<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p>1.5' VERT. SEPARATION</p> </div> <div style="width: 45%;"> <p>12" DIP WM (CL 52)</p> </div> </div>																		860
855																			855
850																			850
845																			845

DRAWN BY: CES DESIGNER: CES/DB CHECKED BY: DB	DESIGN TEAM NO. BY DATE REVISIONS	©SHORT ELLIOTT HENDRICKSON 1998. ANY USE OR REUSE OF THIS PLAN/DRAWING AND THE CORRESPONDING COMPUTER AIDED DESIGN/DRAFTING FILES WITHOUT THE EXPRESS WRITTEN CONSENT OF SEH, IS PROHIBITED. SEH SHALL NOT BE RESPONSIBLE FOR ANY UNAUTHORIZED USE OR REUSE OF THESE MATERIALS, OR DAMAGES RESULTING THEREFROM.	I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. <i>Chad E. Selterholm</i> Chad E. Selterholm, P.E. Date: 8/25/03 Lic. No. 40913	 ANDOVER, MINNESOTA	SANITARY SEWER & WATER MAIN ROUND LAKE BOULEVARD C.P. 99-14	FILE NO. ANDOV301 <div style="border: 1px solid black; padding: 2px; display: inline-block;"> 138 155 </div>
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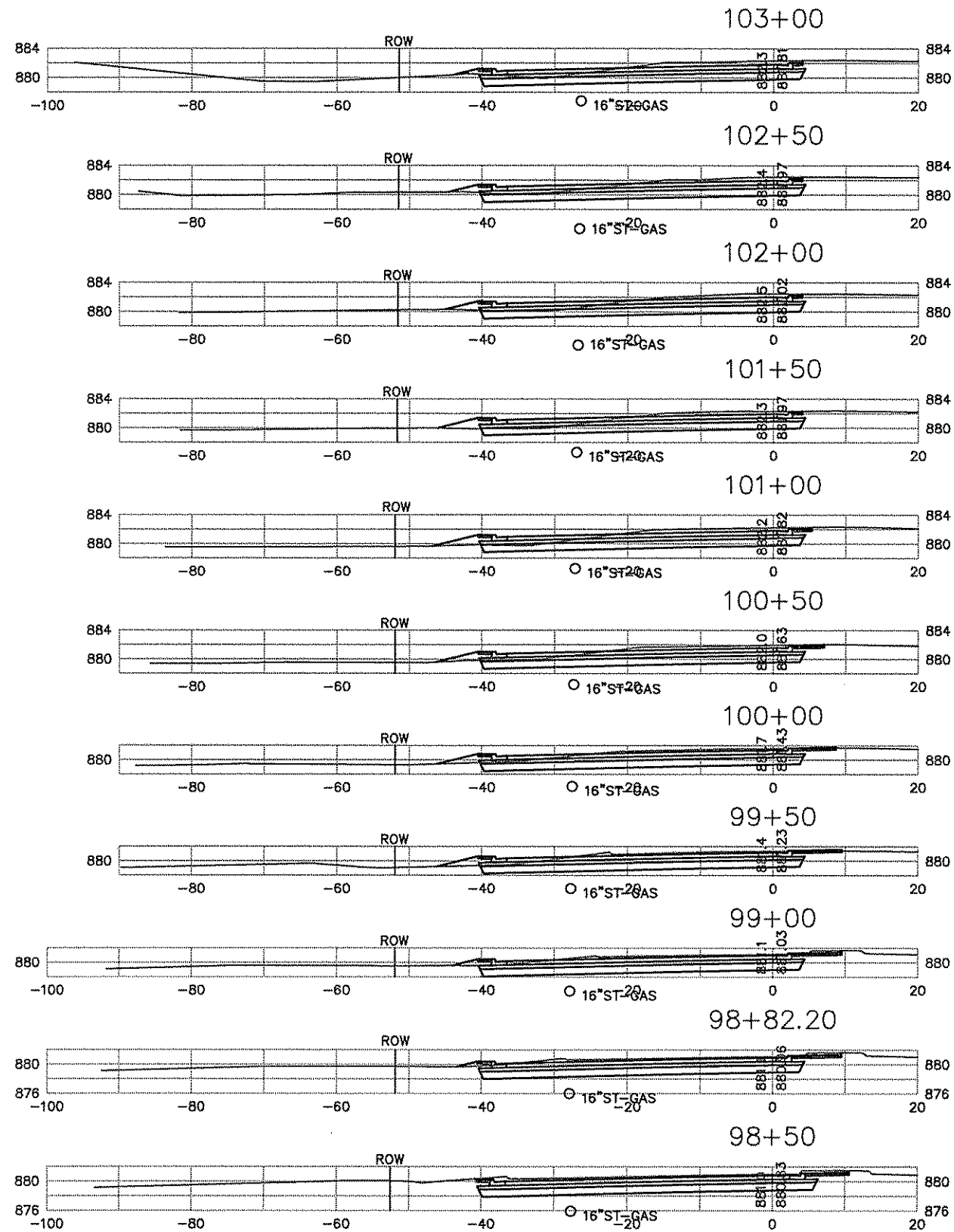
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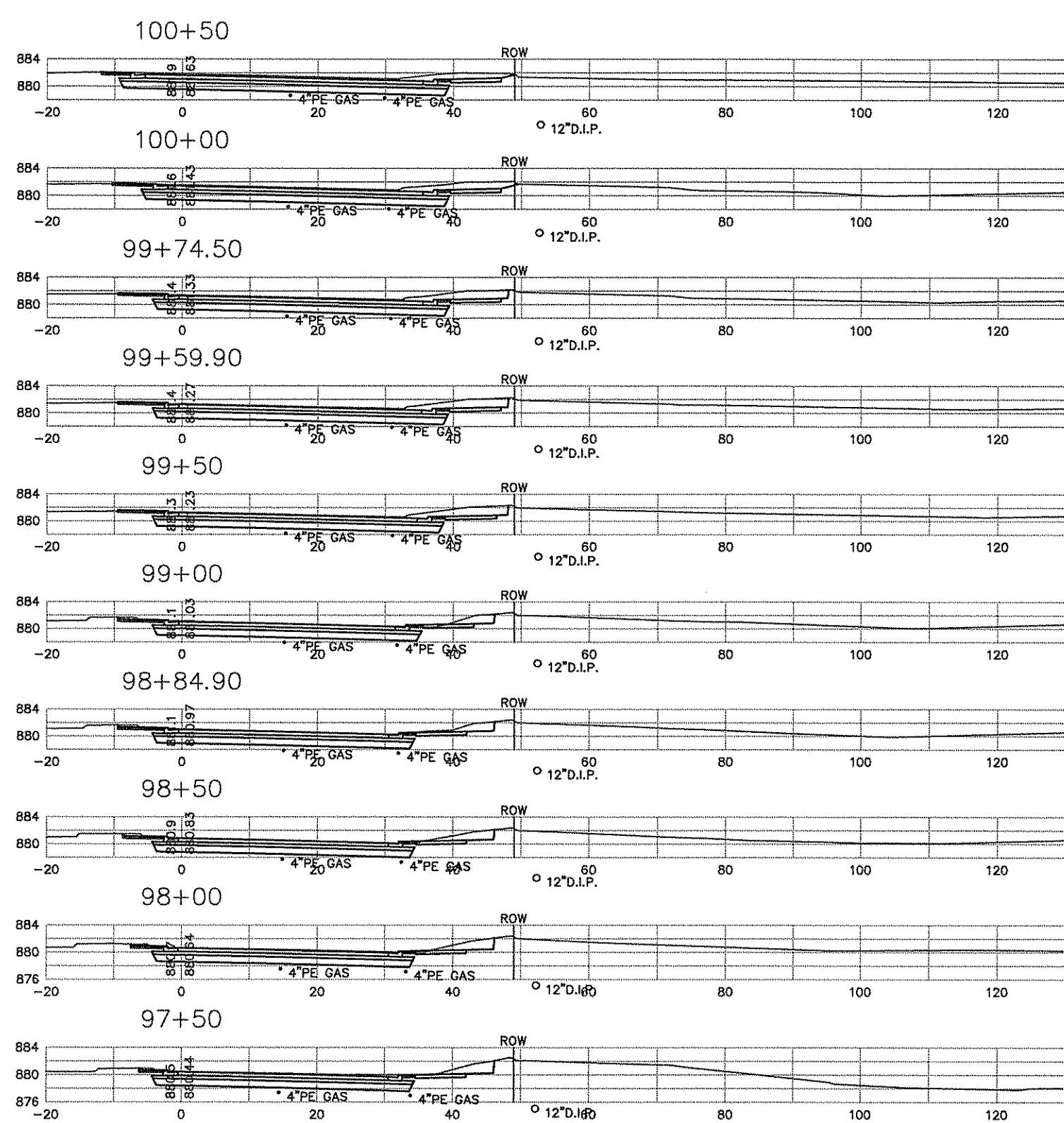
LNB PROFILE



LSB PROFILE



LNB PROFILE



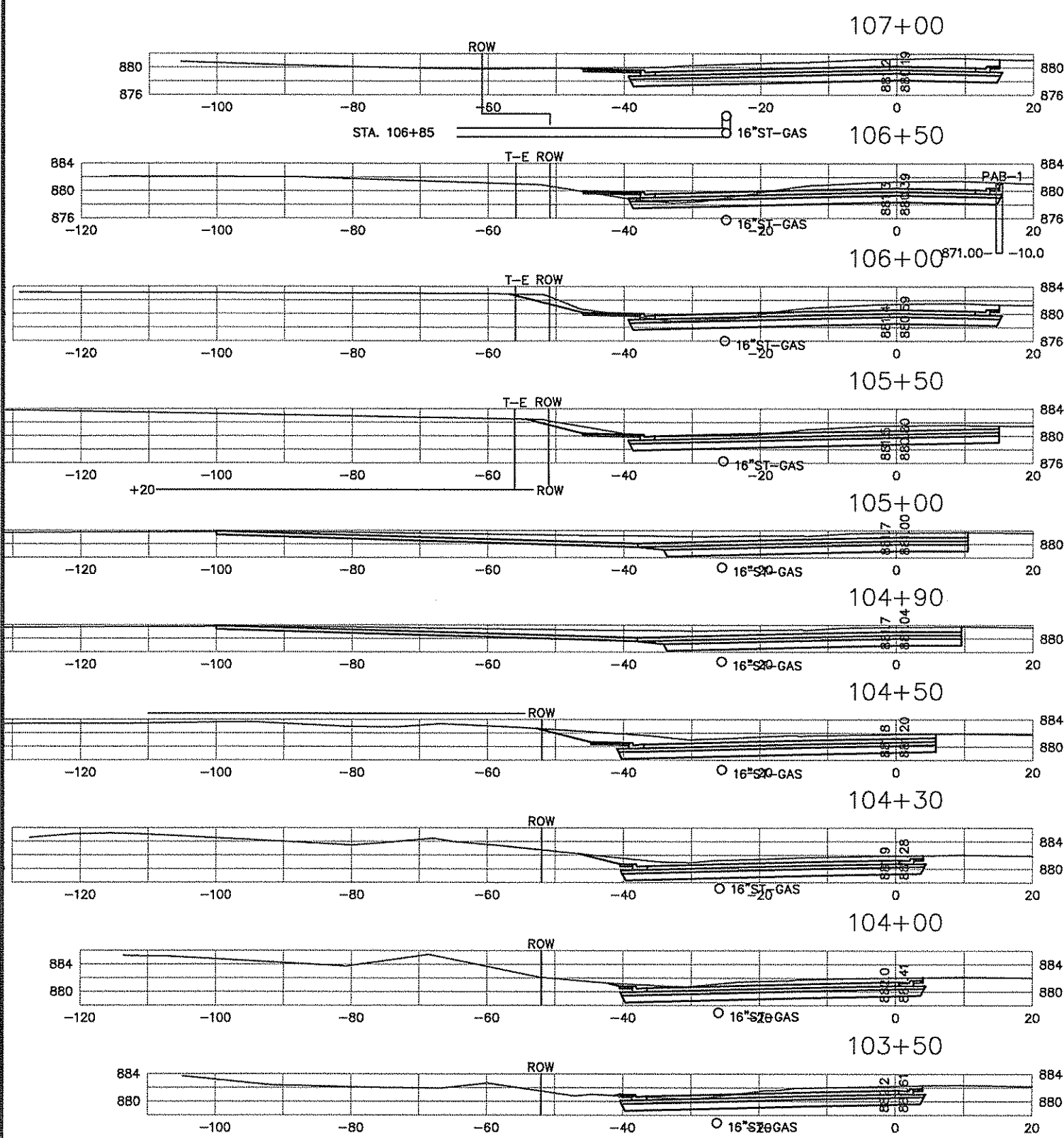
ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. _____
STATE AID PROJECT NO. 02-609-12
CITY PROJECT NO. 198-020-17
COUNTY PROJECT NO. _____

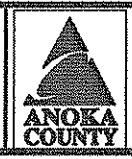
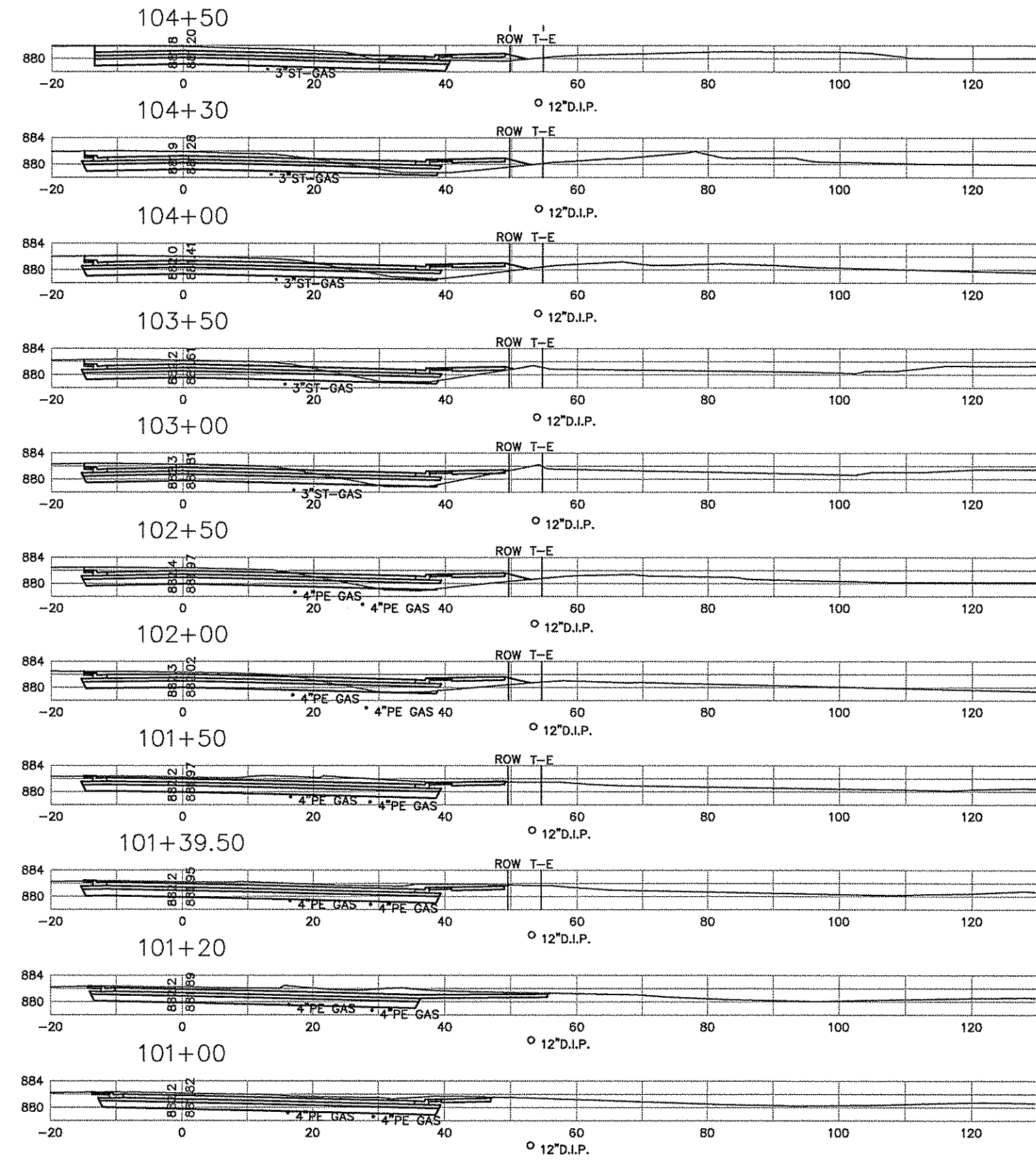
CROSS SECTIONS
97+50 TO 100+50

Sheet 140 of 165 Sheets

LSB PROFILE



LNB PROFILE



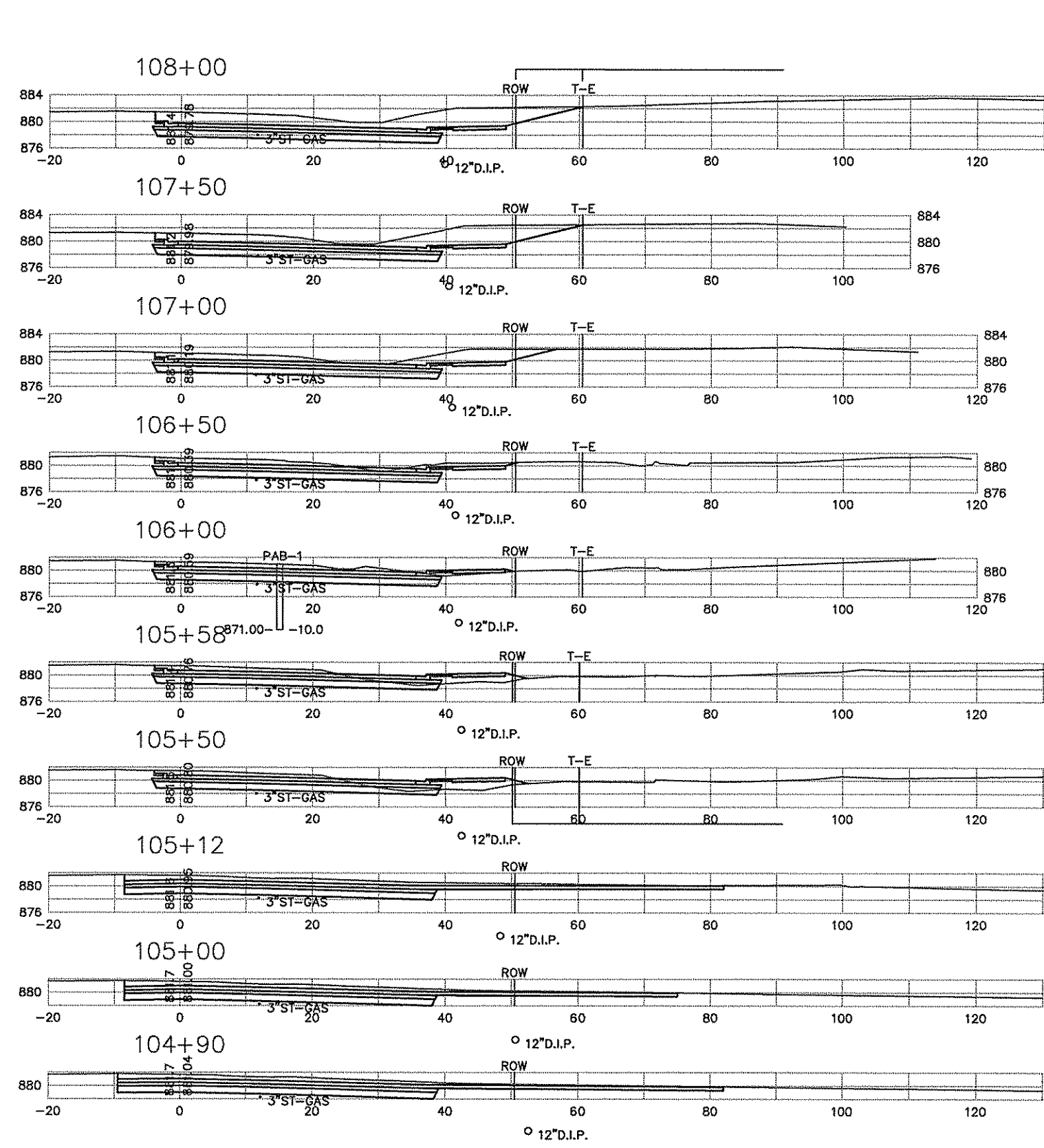
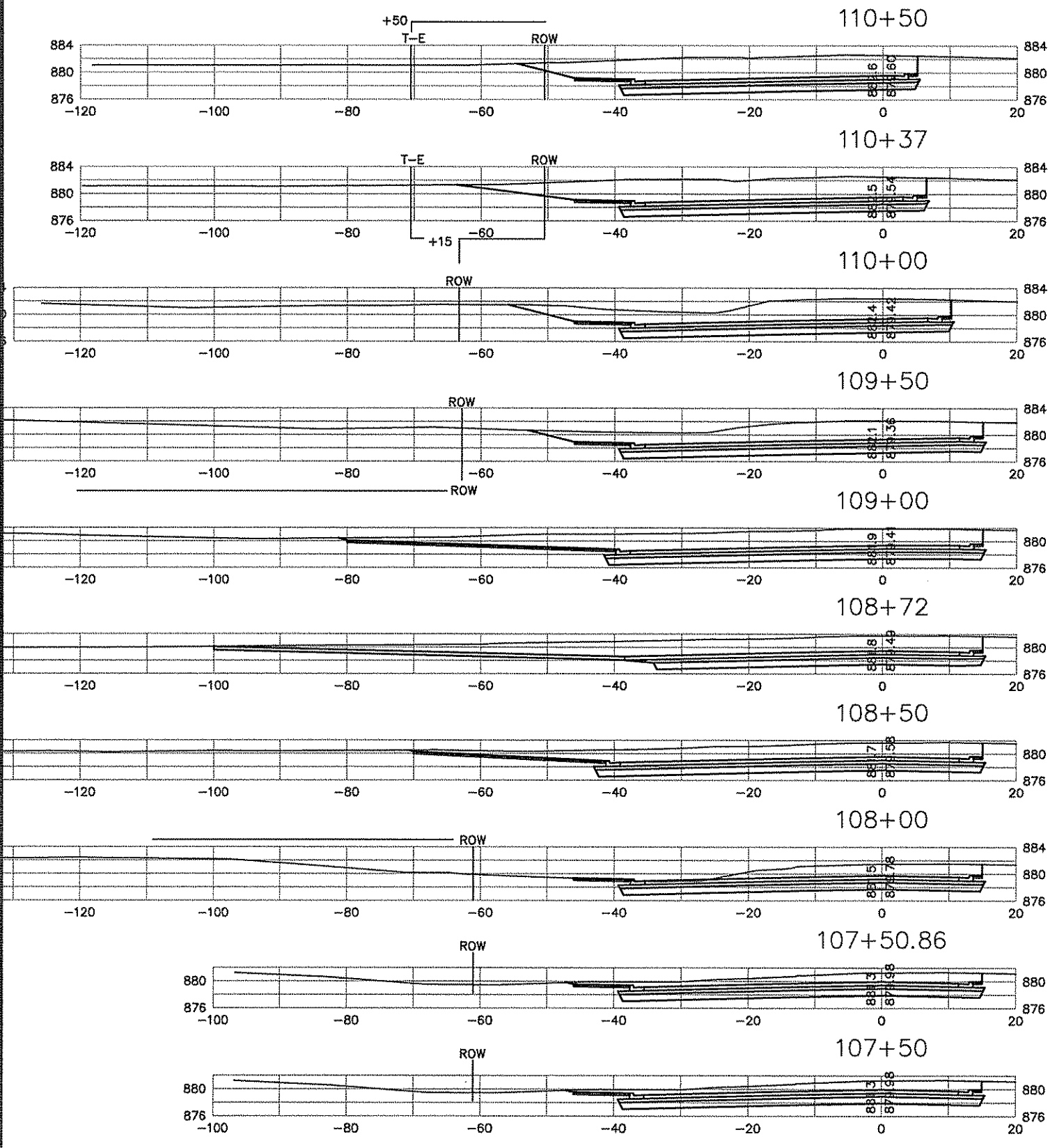
ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. _____
STATE AID PROJECT NO. 02-609-12
CITY PROJECT NO. 198-020-17
COUNTY PROJECT NO. _____

CROSS SECTIONS
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Sheet 141 of 165 Sheets

LSB PROFILE

LNB PROFILE



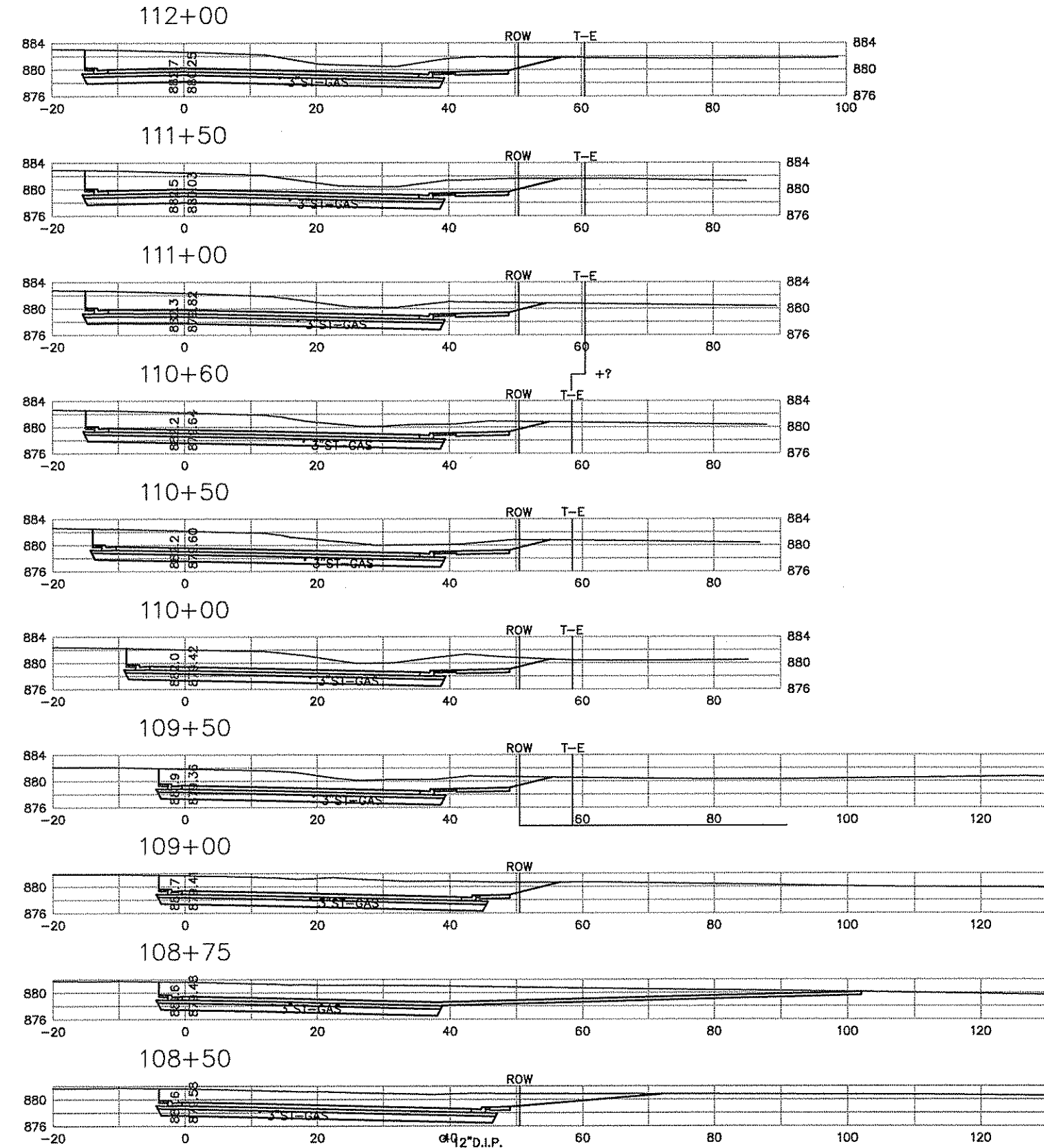
ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. _____
STATE AID PROJECT NO. 02-609-12
CITY PROJECT NO. 198-020-17
COUNTY PROJECT NO. _____

CROSS SECTIONS
104+90 TO 108+00
Sheet 142 of 165 Sheets

LSB PROFILE

LNB PROFILE

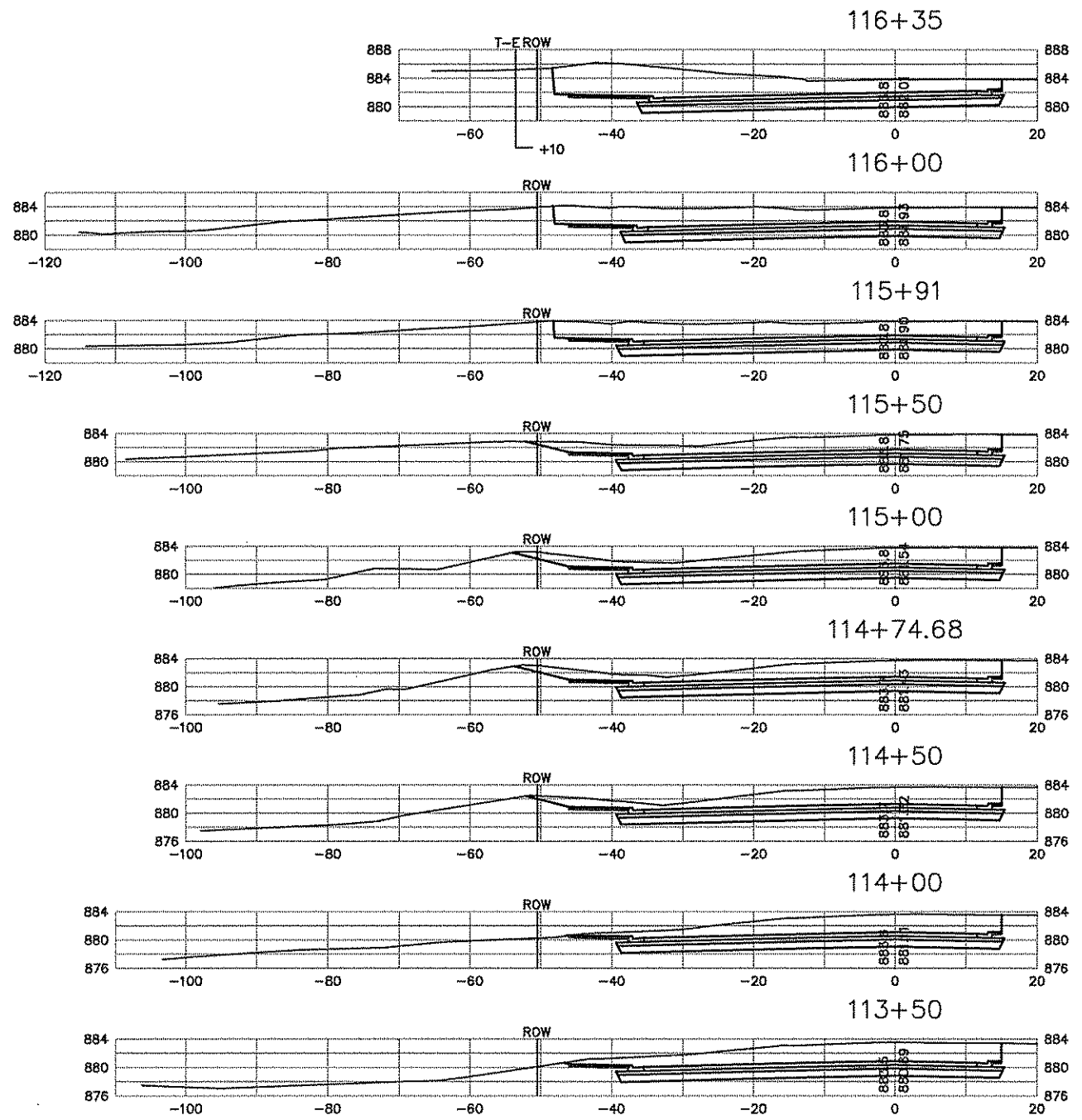


ANOKA COUNTY
HIGHWAY DEPT.

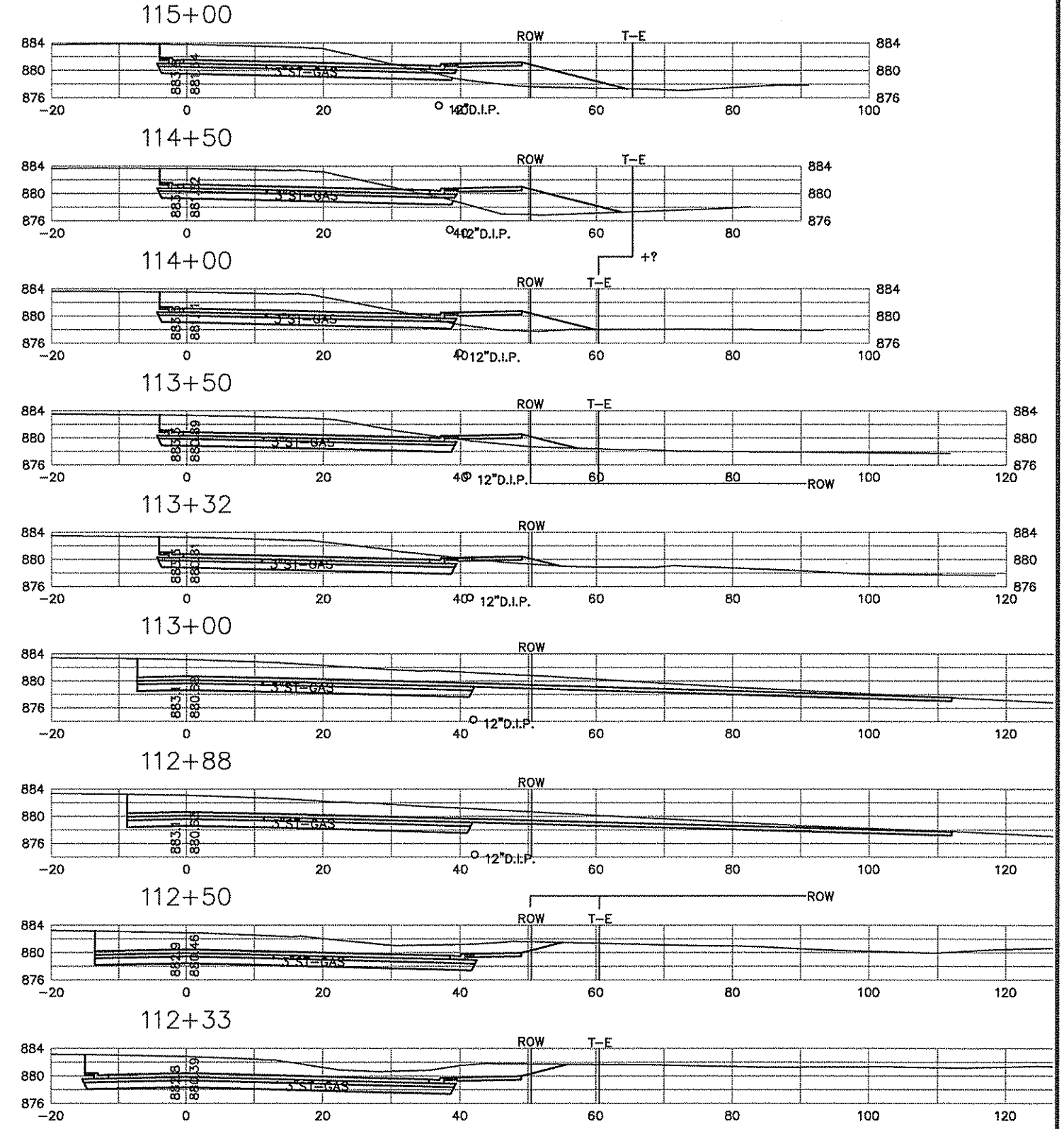
STATE PROJECT NO. _____
STATE AID PROJECT NO. 02-609-12
CITY PROJECT NO. 198-020-17
COUNTY PROJECT NO. _____

CROSS SECTIONS
108+50 TO 112+00
Sheet 143 of 165 Sheets

LSB PROFILE



LNB PROFILE



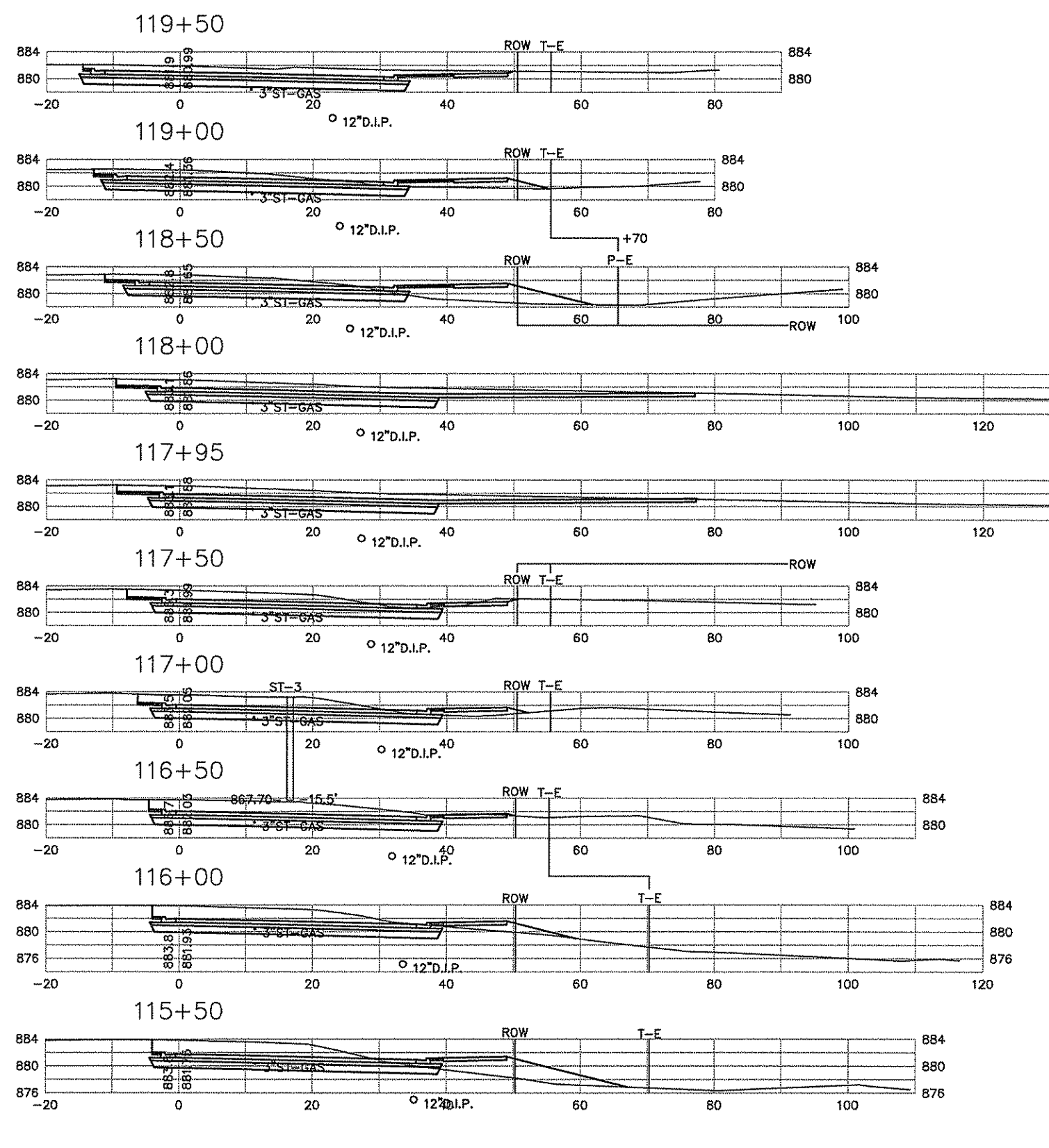
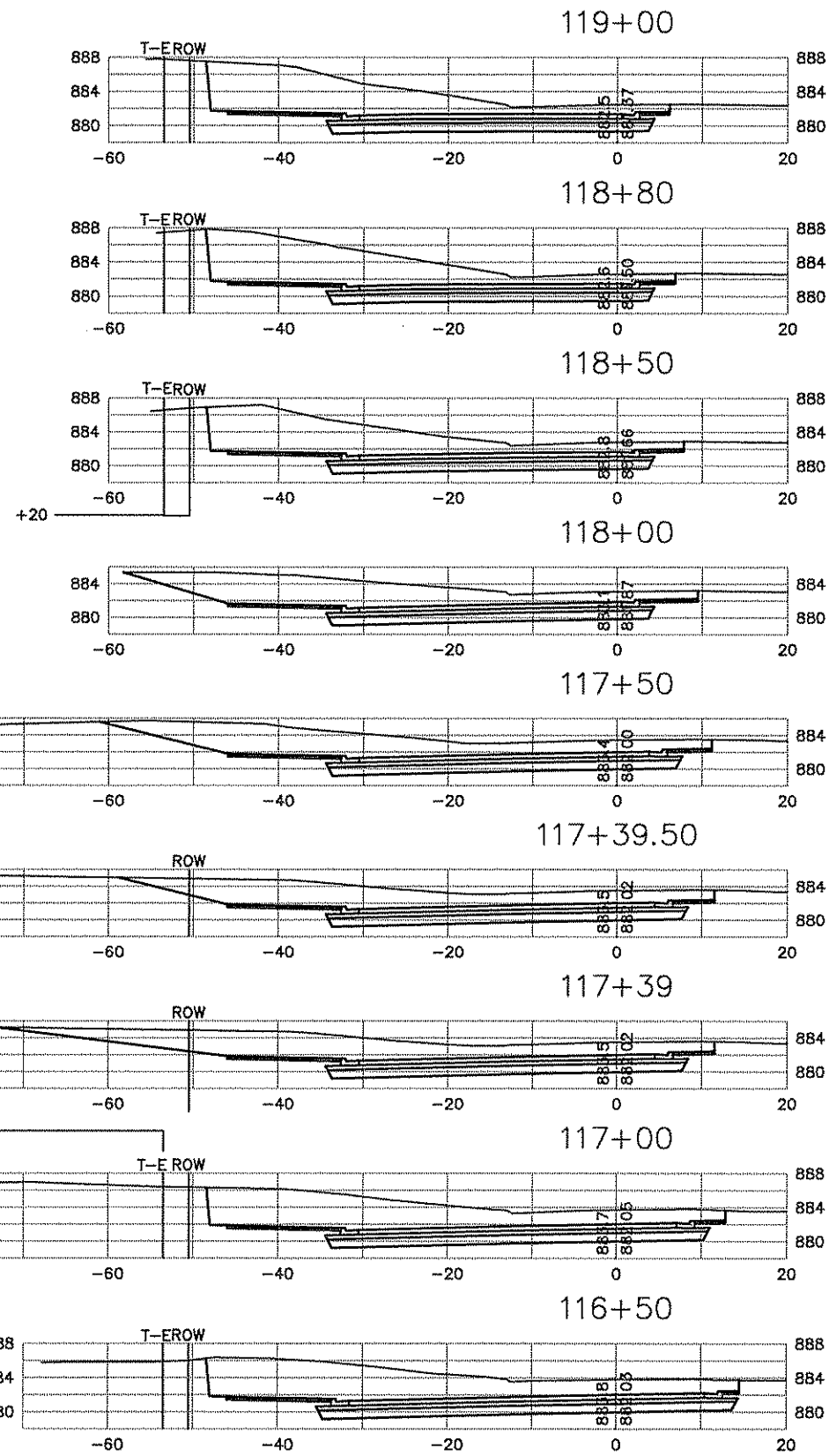
ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. _____
STATE AID PROJECT NO. 02-609-12
CITY PROJECT NO. 198-020-17
COUNTY PROJECT NO. _____

CROSS SECTIONS
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Sheet 144 of 165 Sheets

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LNB PROFILE

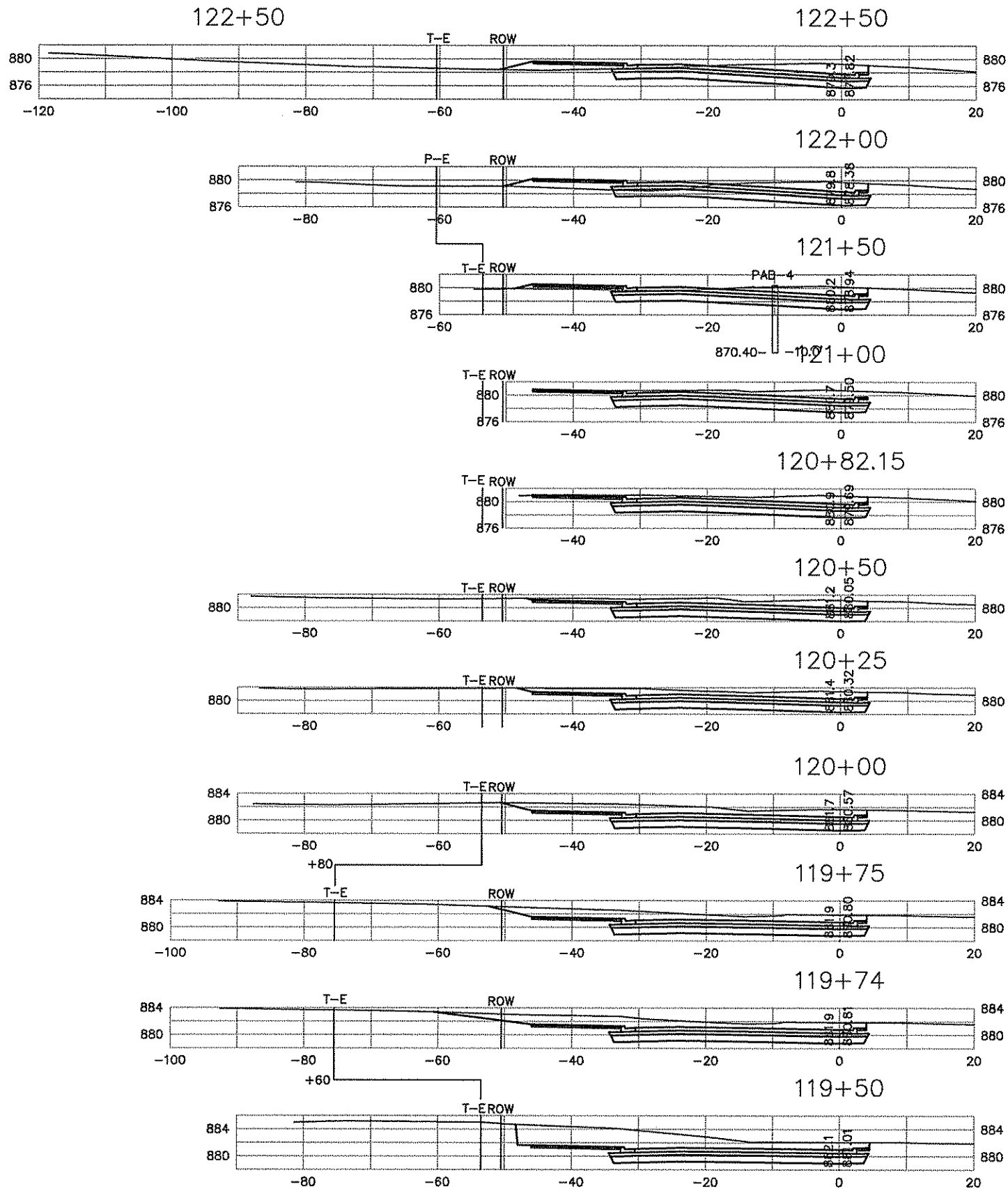


ANOKA COUNTY
HIGHWAY DEPT.

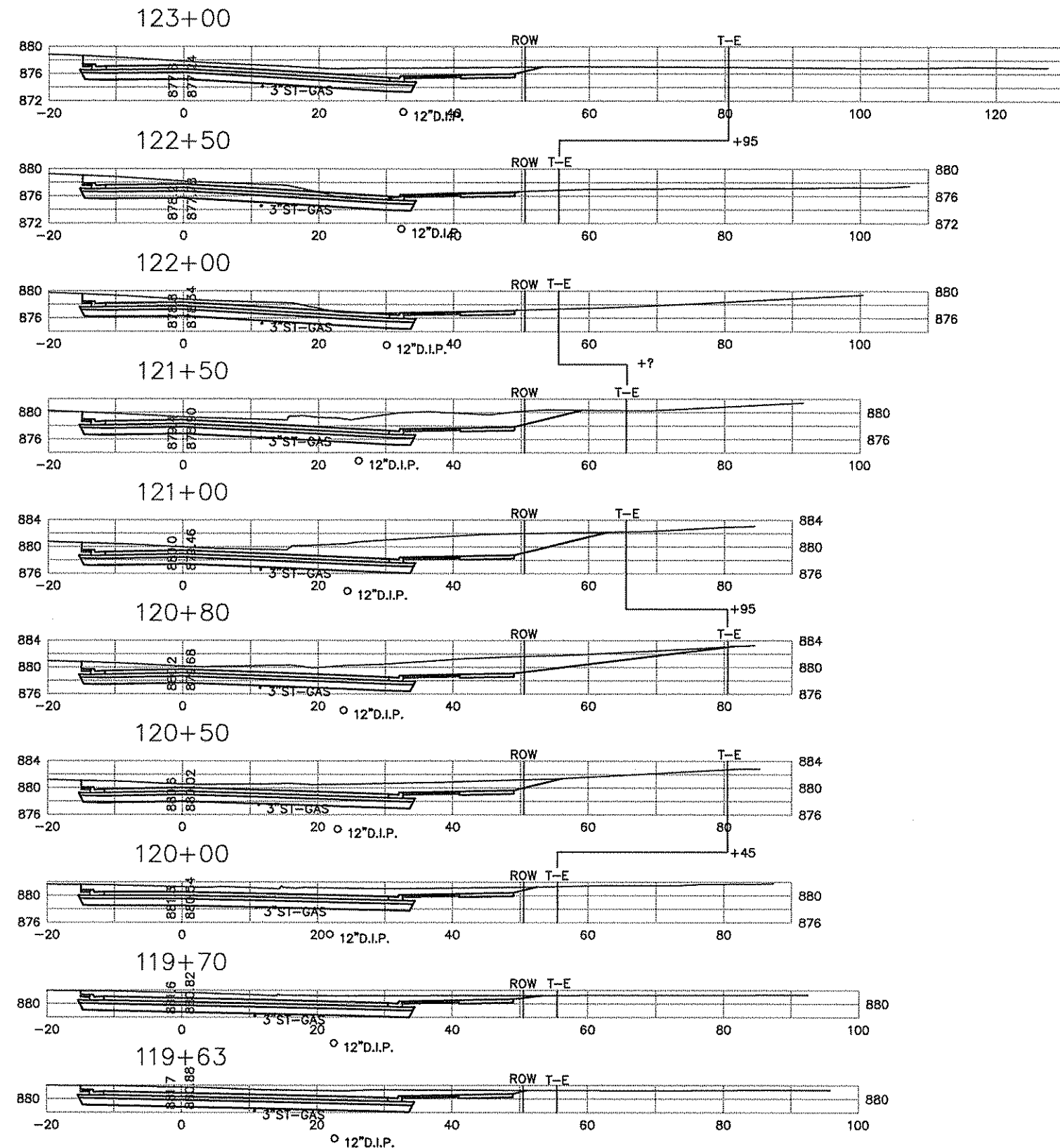
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STATE AID PROJECT NO. 02-609-12
CITY PROJECT NO. 198-020-17
COUNTY PROJECT NO. _____

CROSS SECTIONS
115+50 TO 119+50

LSB PROFILE



LNB PROFILE

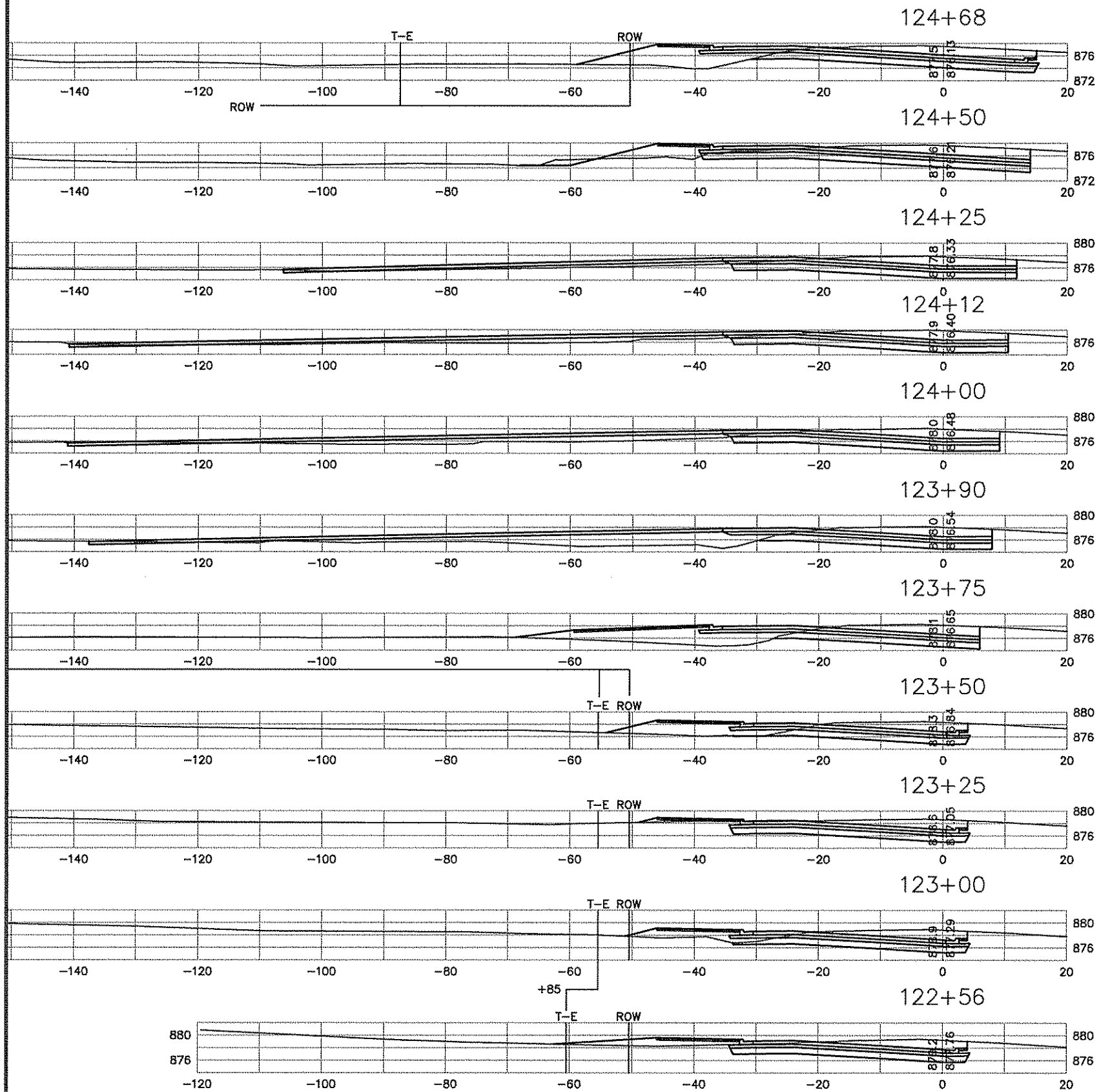


ANOKA COUNTY
HIGHWAY DEPT.

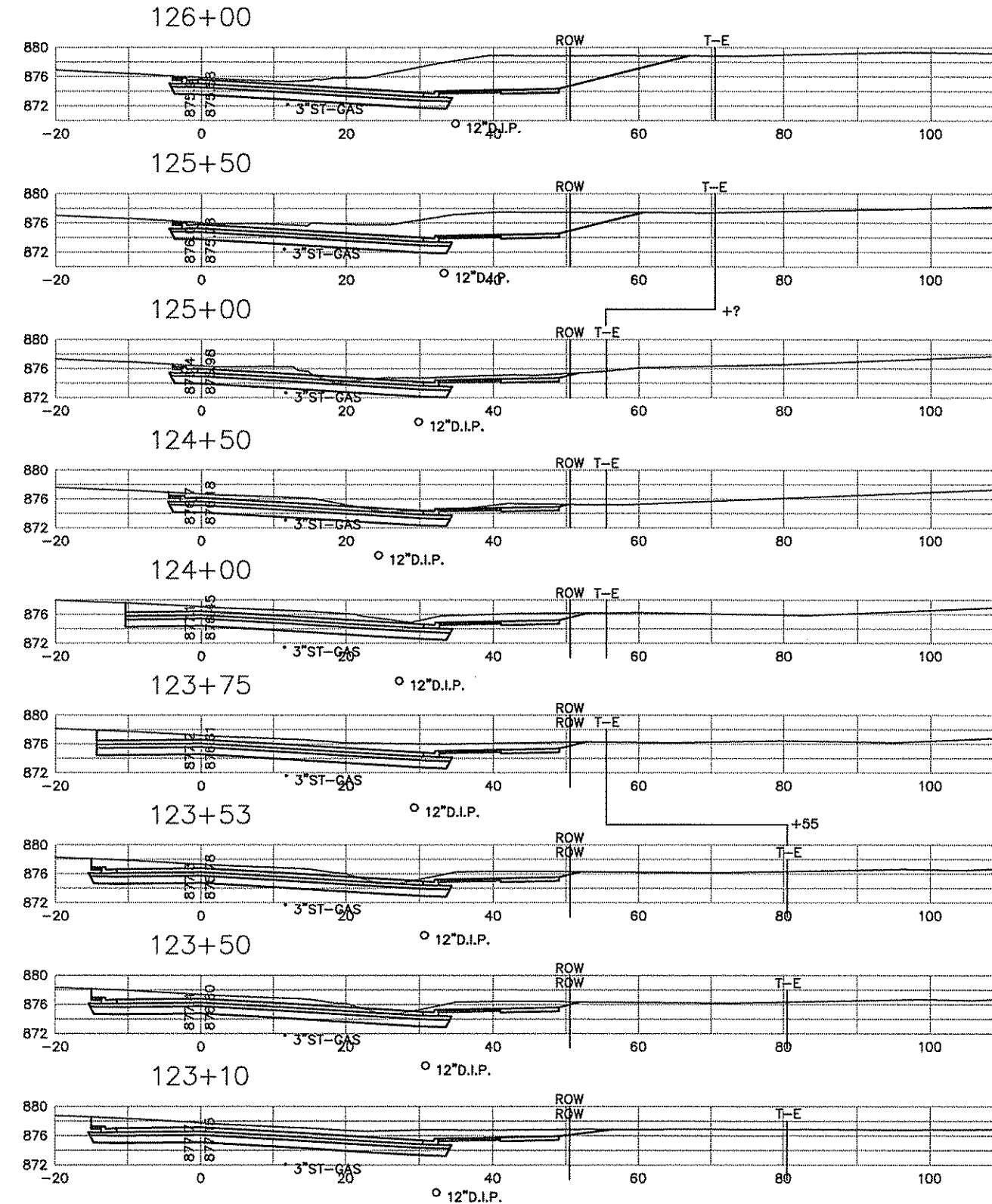
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STATE AID PROJECT NO. 02-609-12
CITY PROJECT NO. 198-020-17
COUNTY PROJECT NO. _____

CROSS SECTIONS
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LSB PROFILE



LNB PROFILE



ANOKA COUNTY
HIGHWAY DEPT.

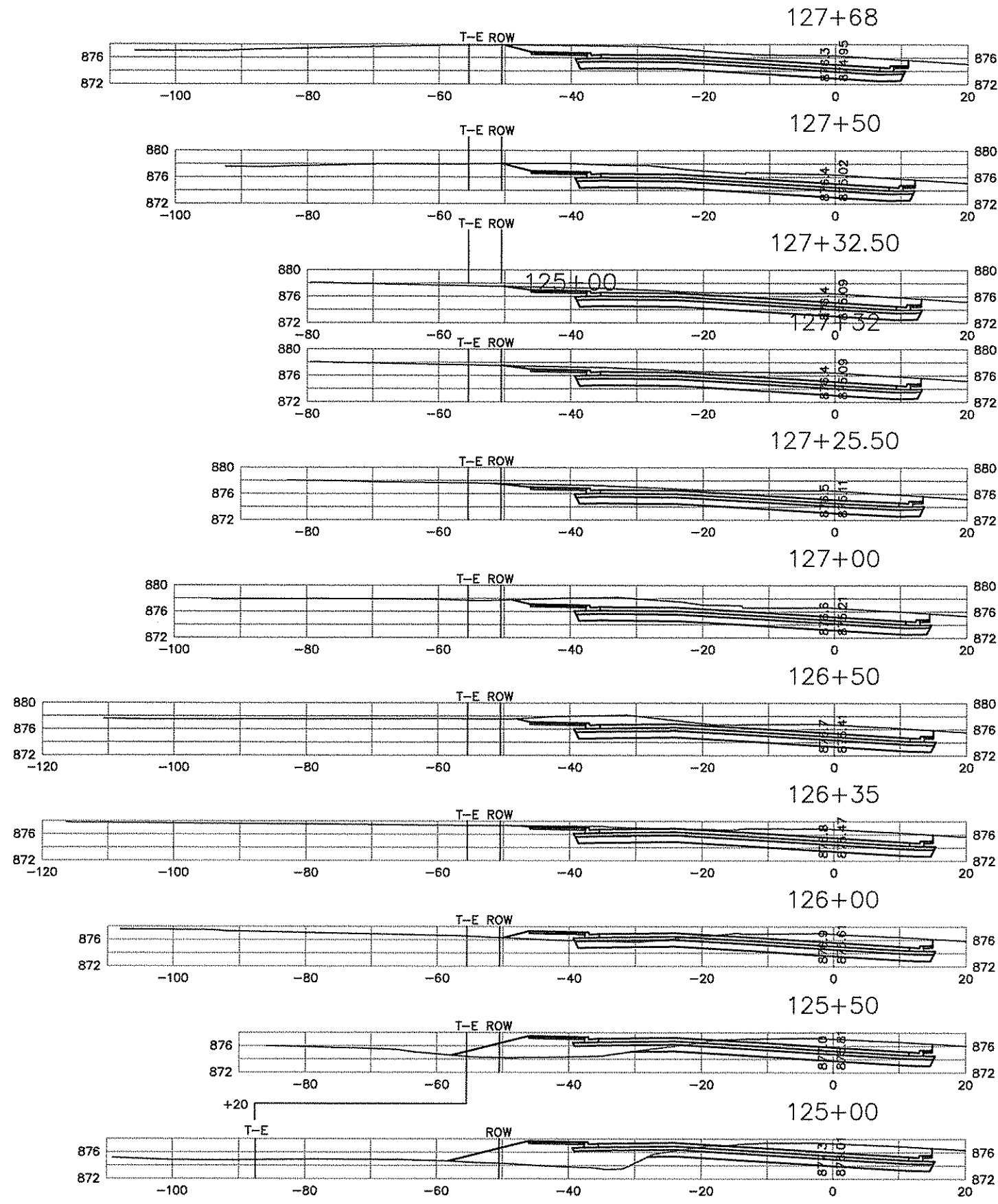
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CITY PROJECT NO. 198-020-17
COUNTY PROJECT NO. _____

CROSS SECTIONS

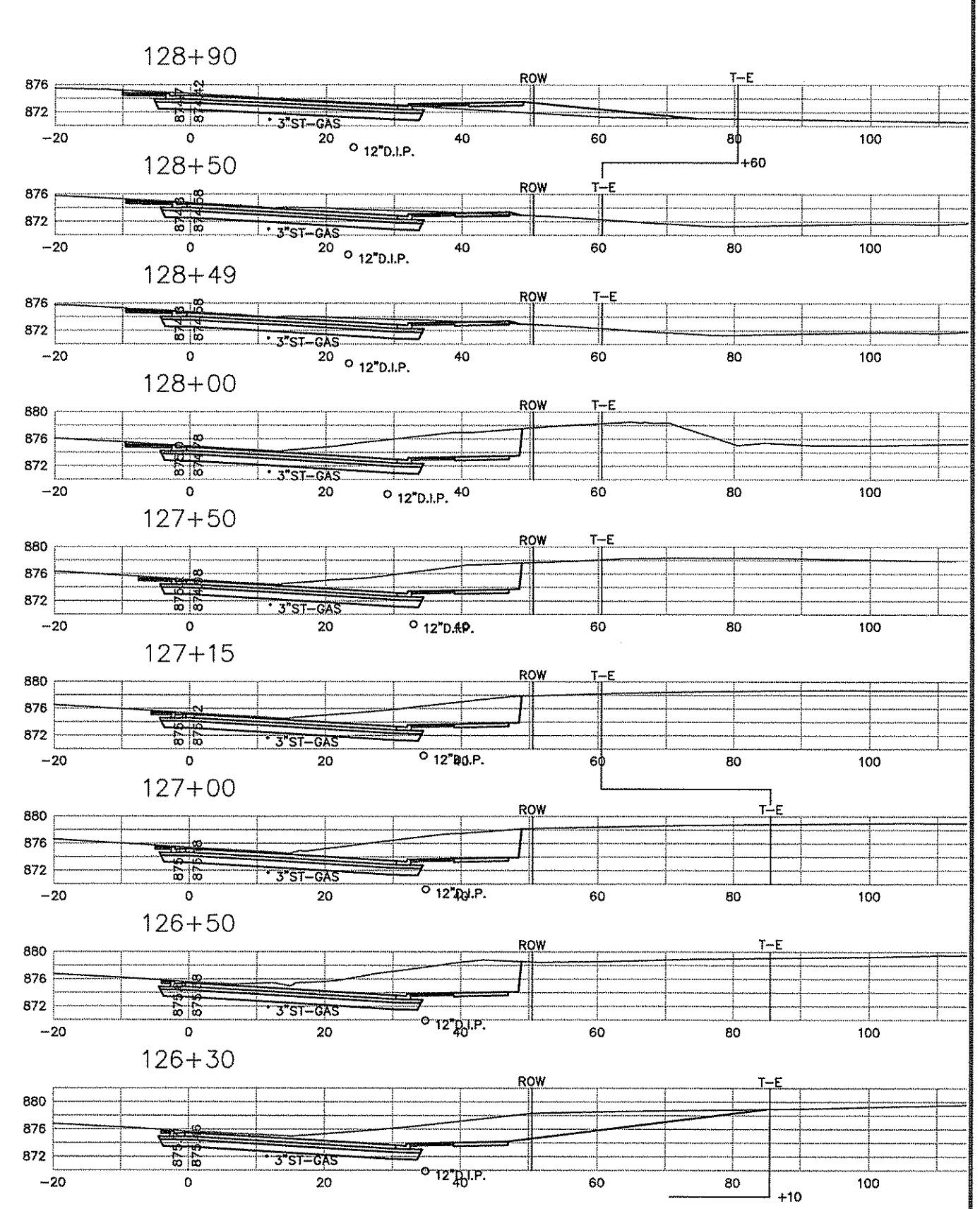
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Sheet 147 of 165 Sheets

LSB PROFILE



LNB PROFILE

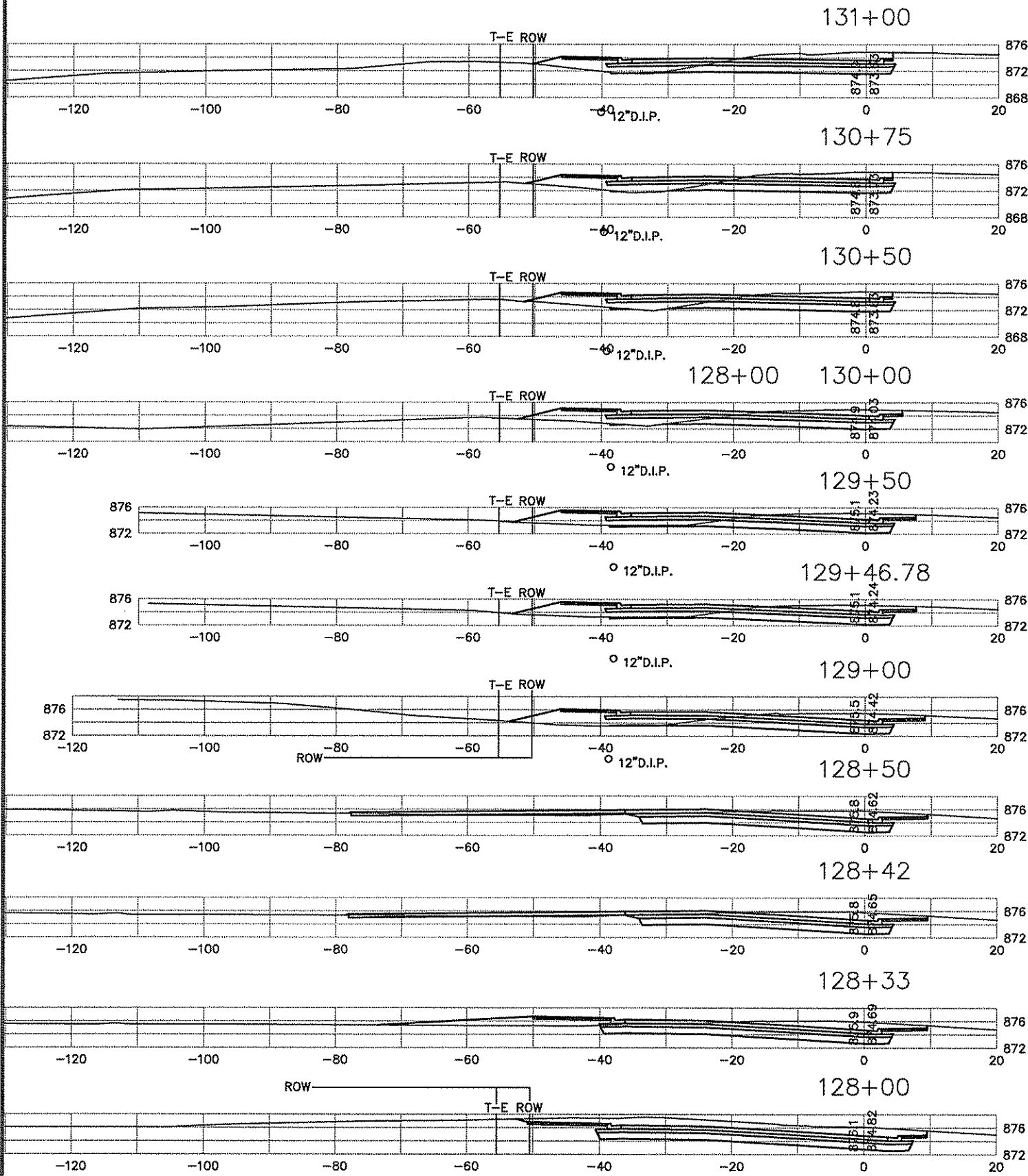


ANOKA COUNTY
HIGHWAY DEPT.

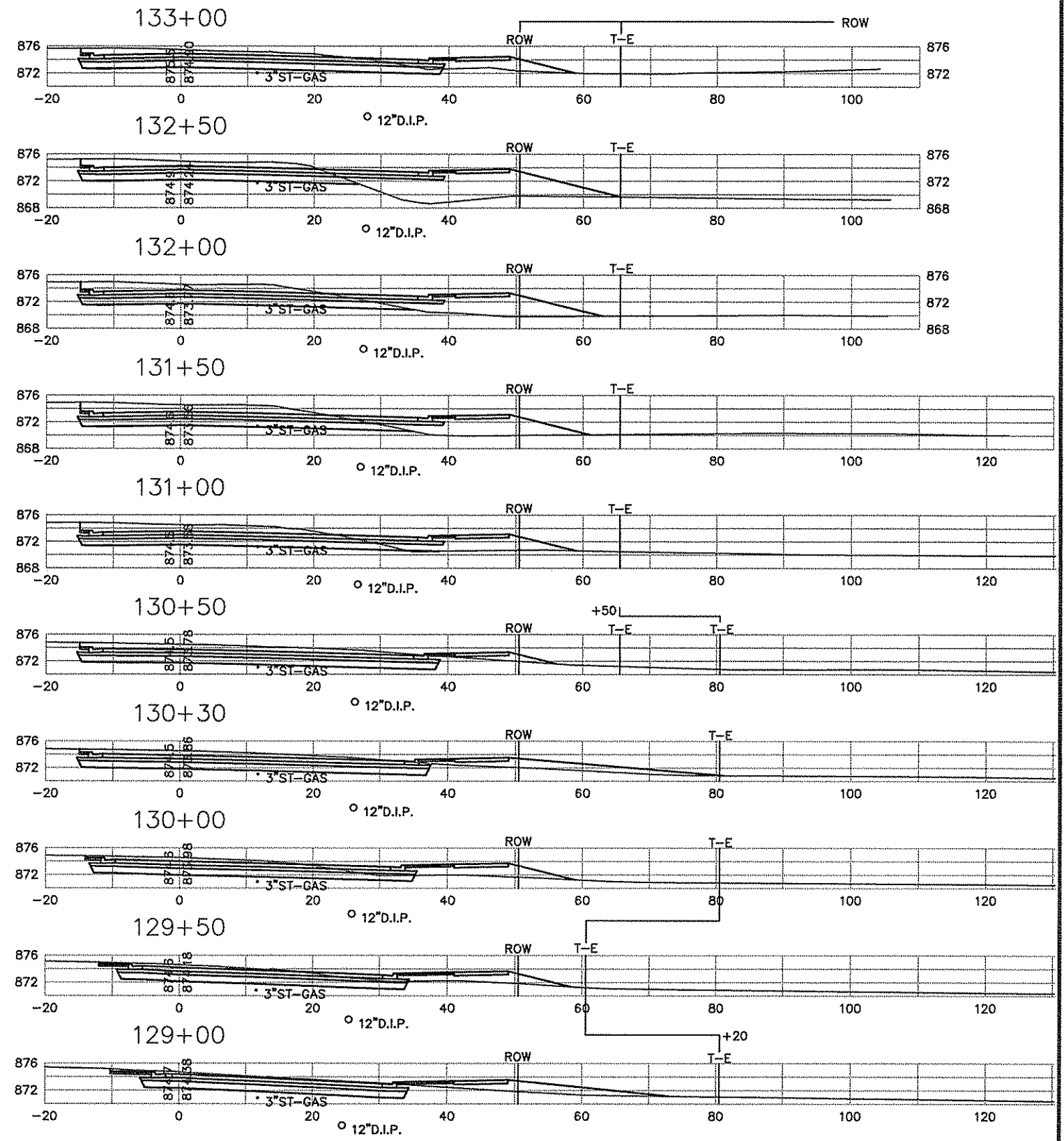
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STATE AID PROJECT NO. 02-609-12
CITY PROJECT NO. 198-020-17
COUNTY PROJECT NO. _____

CROSS SECTIONS
126+30 TO 128+90
Sheet 148 of 165 Sheets

LSB PROFILE



LNB PROFILE



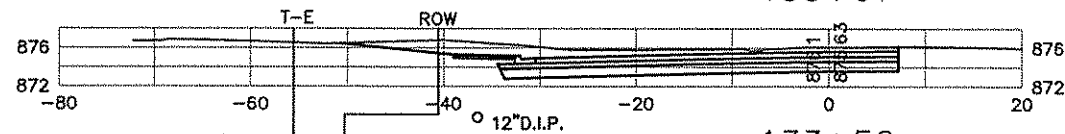
ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. _____
STATE AID PROJECT NO. 02-609-12
CITY PROJECT NO. 198-020-17
COUNTY PROJECT NO. _____

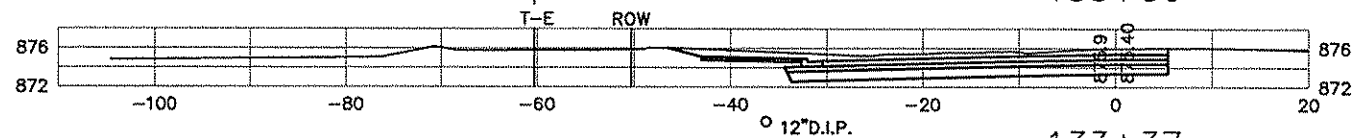
CROSS SECTIONS
129+00 TO 133+00

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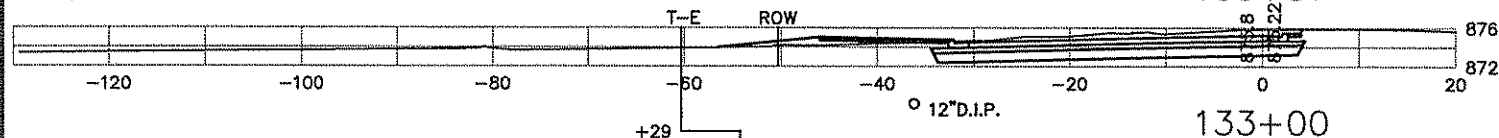
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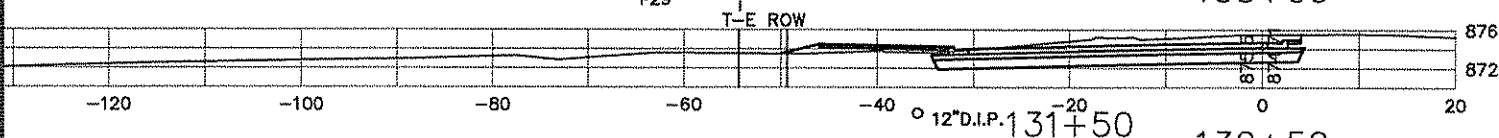
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133+37

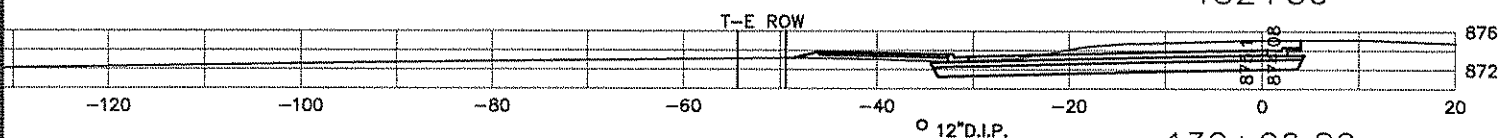


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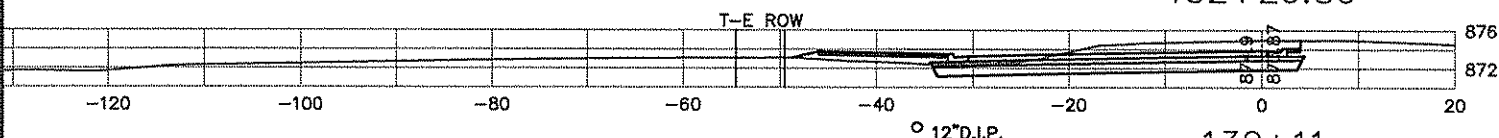


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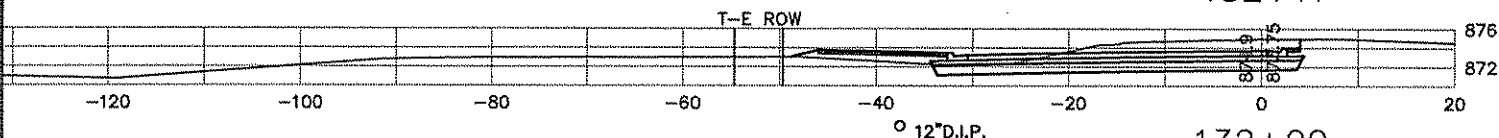
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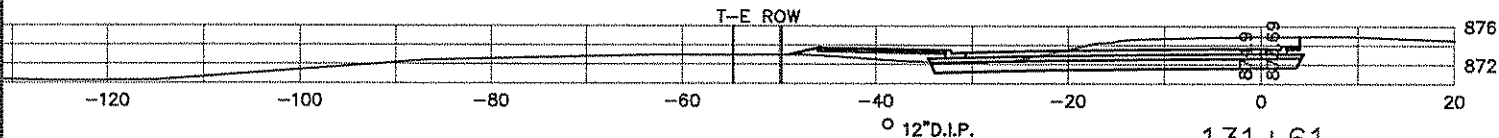
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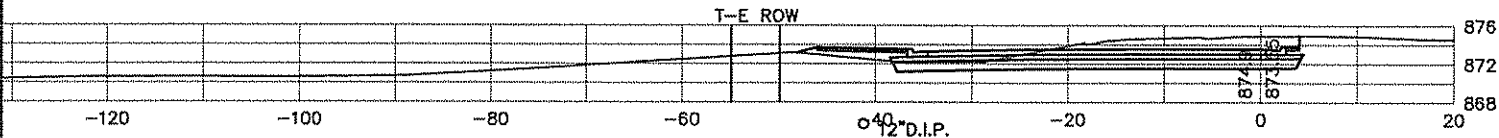
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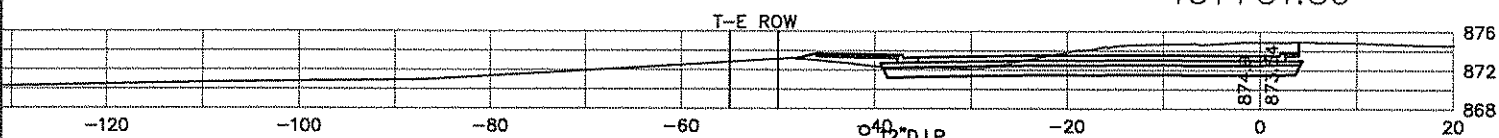
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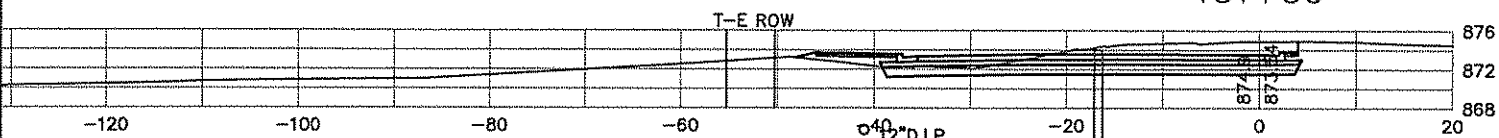
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131+51.80



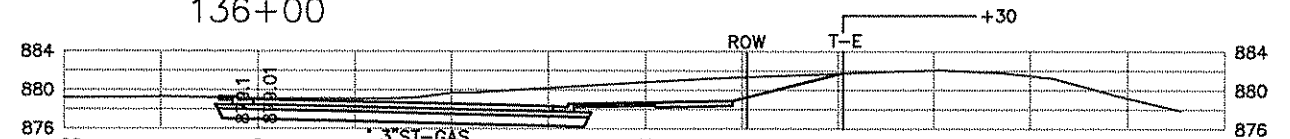
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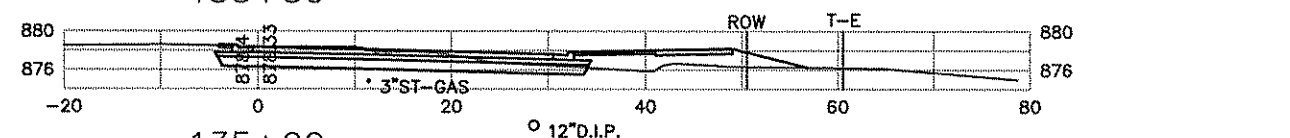
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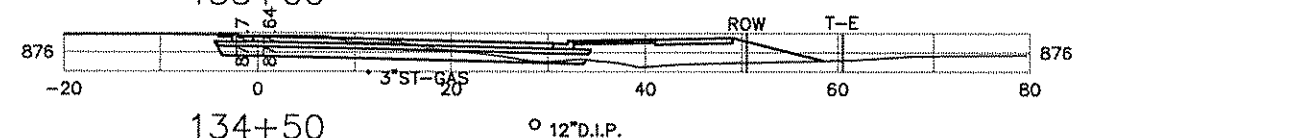
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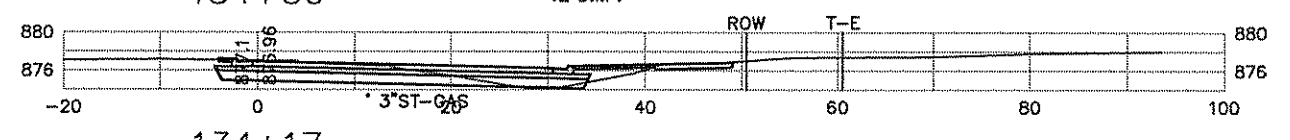
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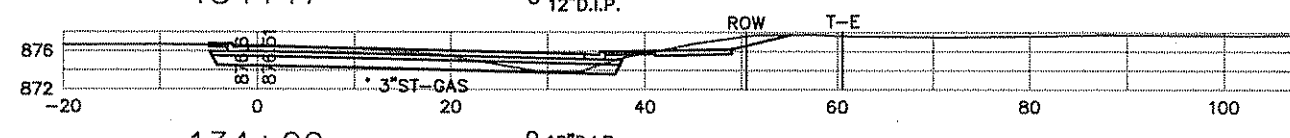
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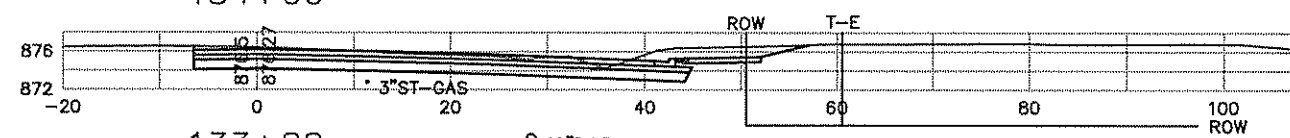
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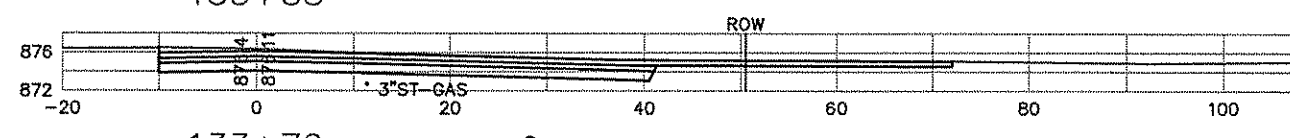
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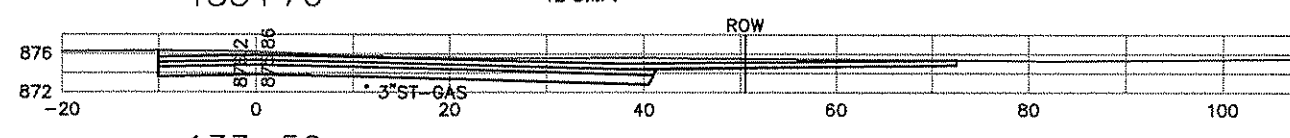
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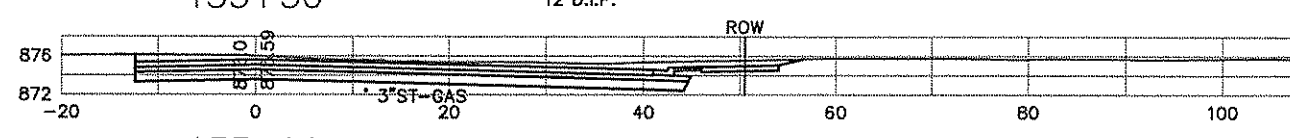
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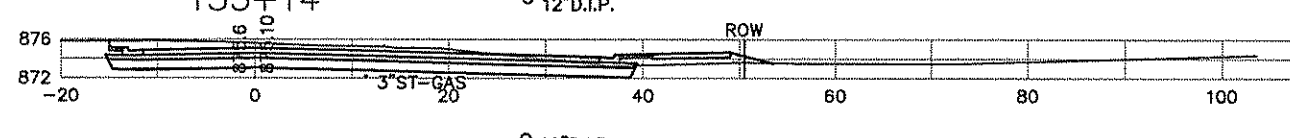
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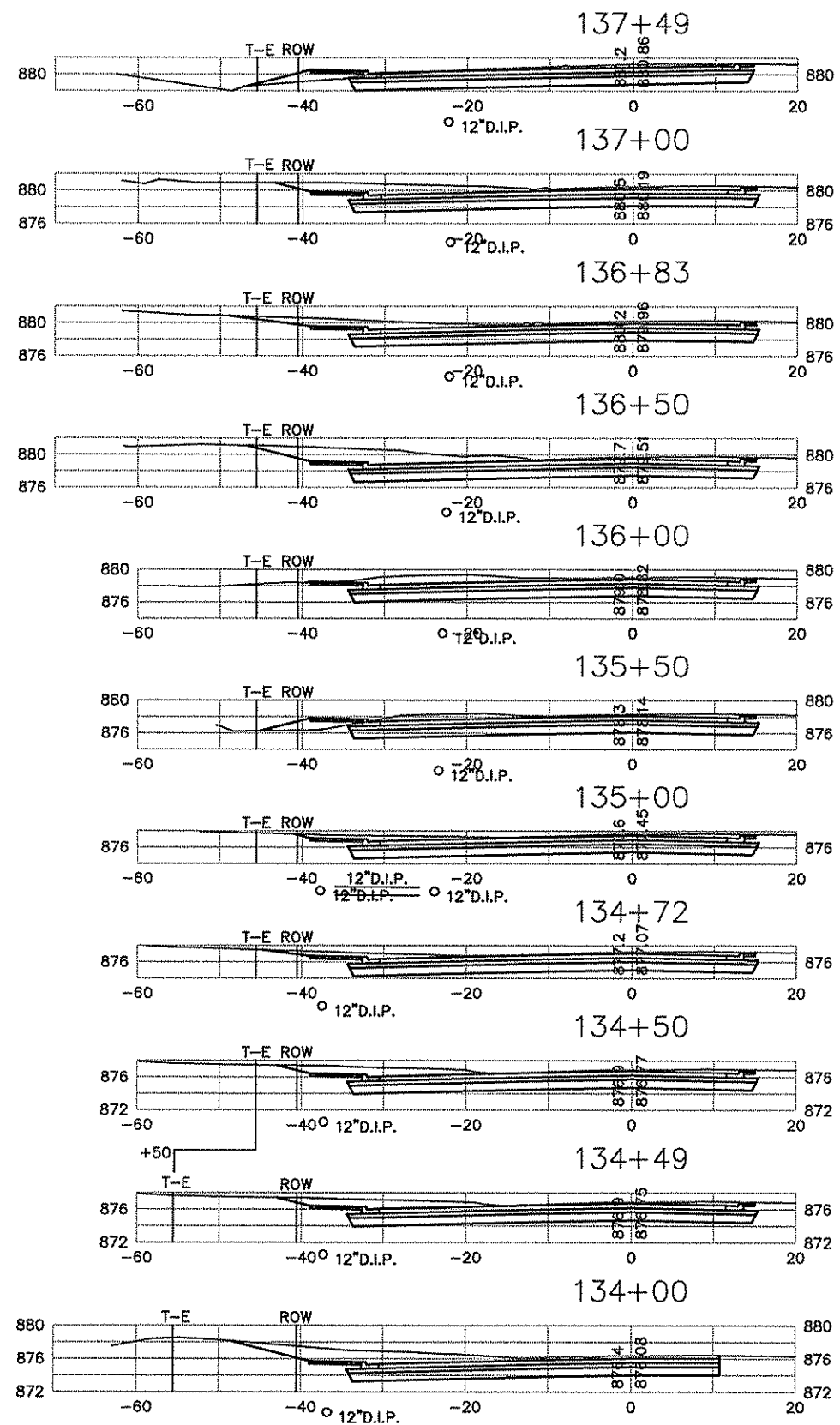
ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. _____
STATE AID PROJECT NO. 02-609-12
CITY PROJECT NO. 198-020-17
COUNTY PROJECT NO. _____

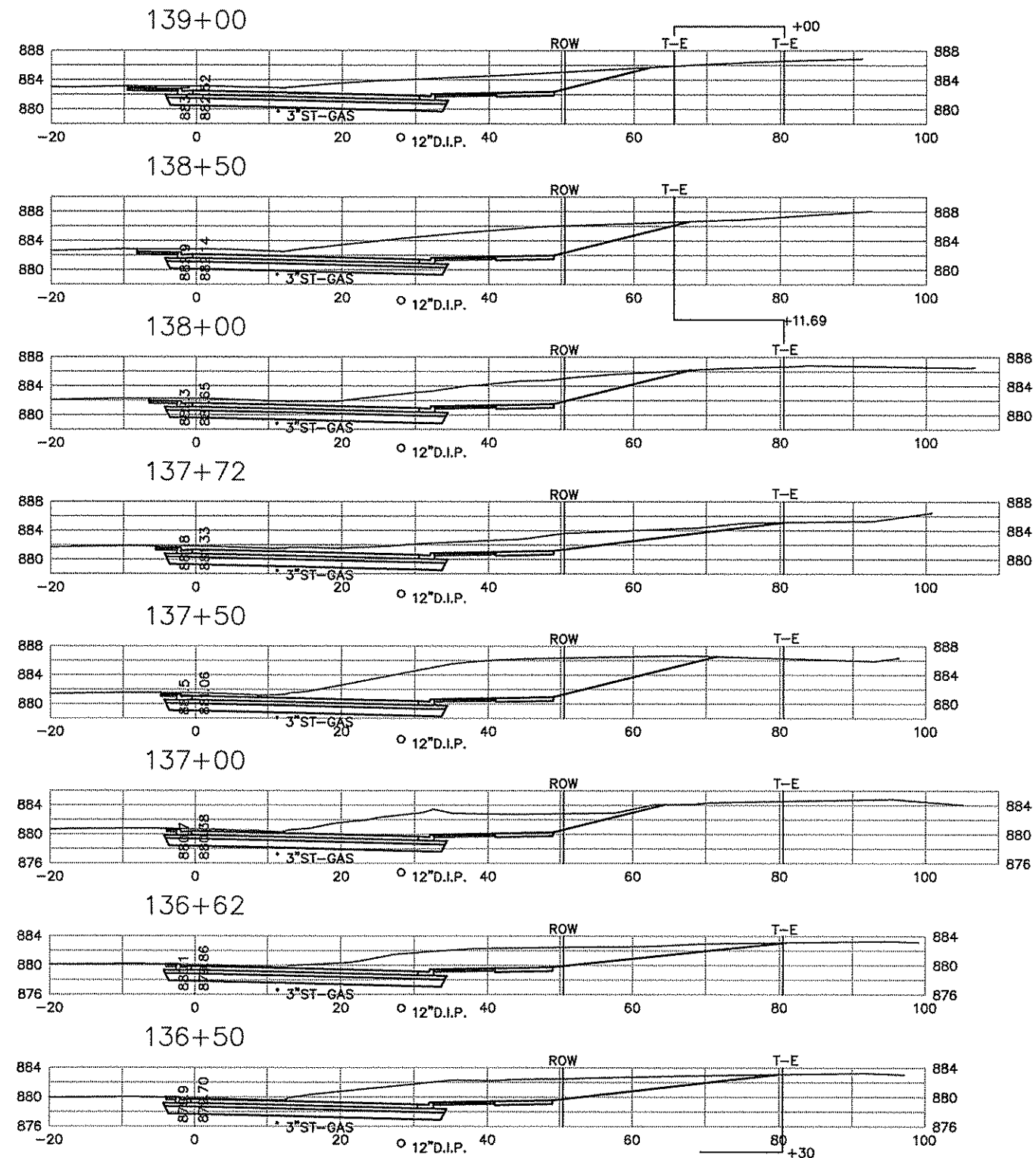
CROSS SECTIONS
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Sheet 150 of 165 Sheets

LSB PROFILE



LNB PROFILE



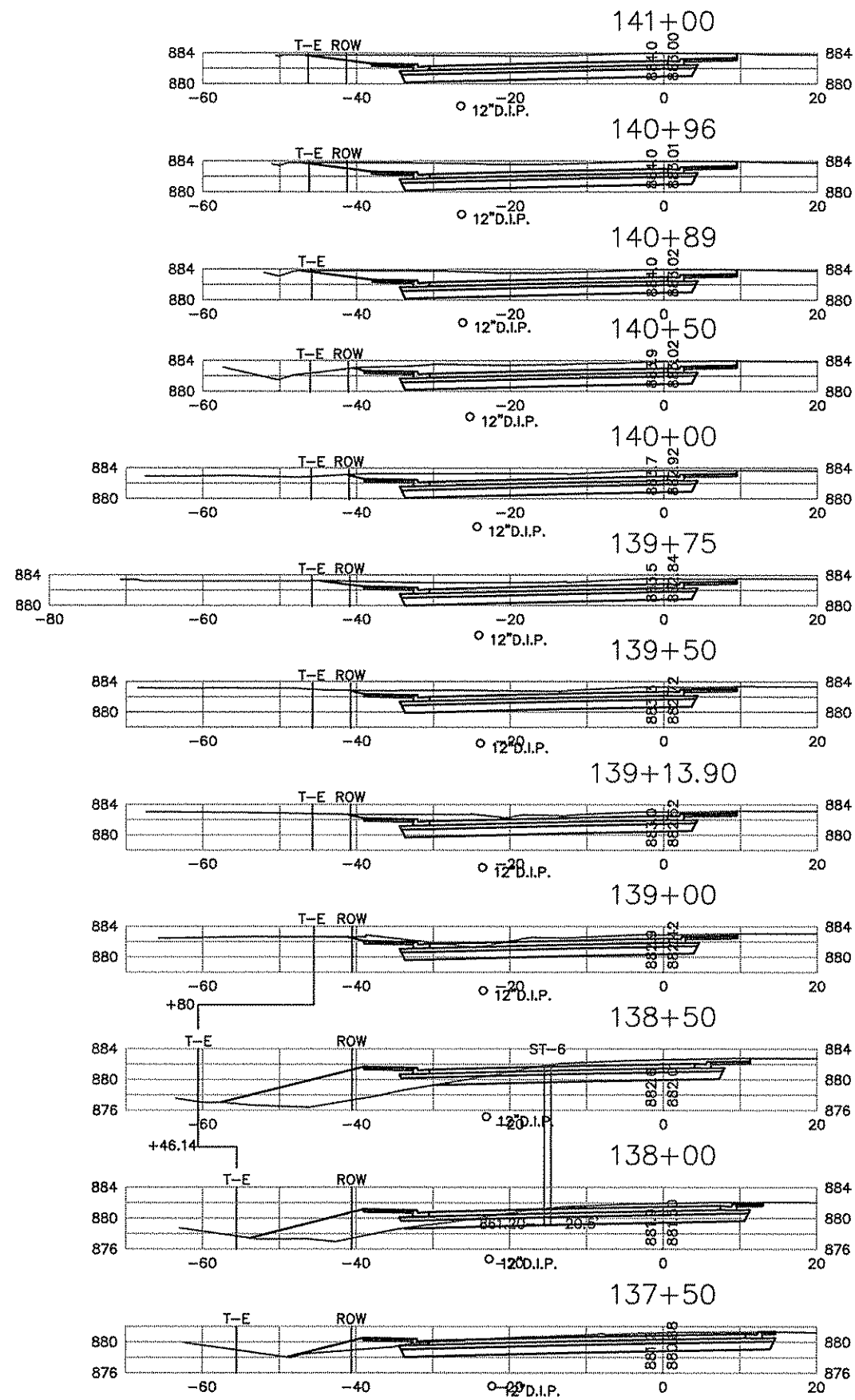
ANOKA COUNTY
HIGHWAY DEPT.

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CITY PROJECT NO. 198-020-17
COUNTY PROJECT NO. _____

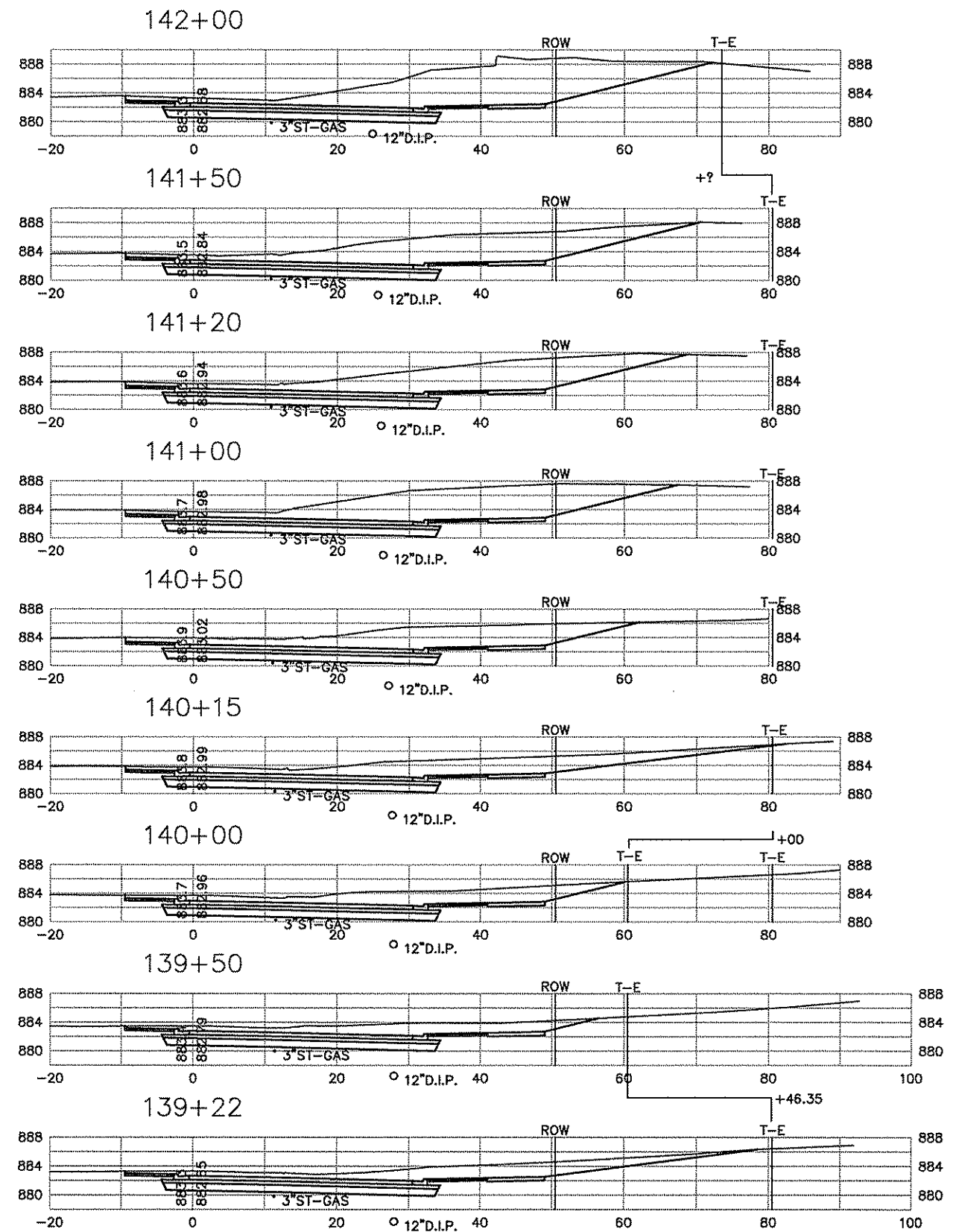
CROSS SECTIONS
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Sheet 151 of 165 Sheets

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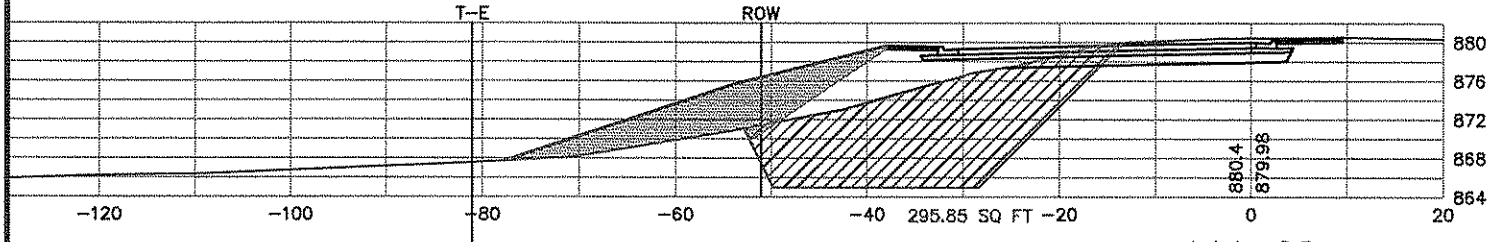


ANOKA COUNTY
HIGHWAY DEPT.

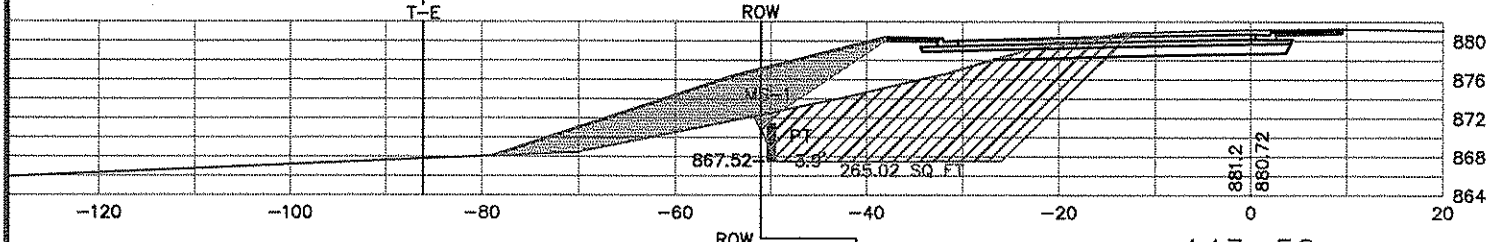
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CITY PROJECT NO. 198-020-17
COUNTY PROJECT NO. _____

CROSS SECTIONS
139+22 TO 142+00

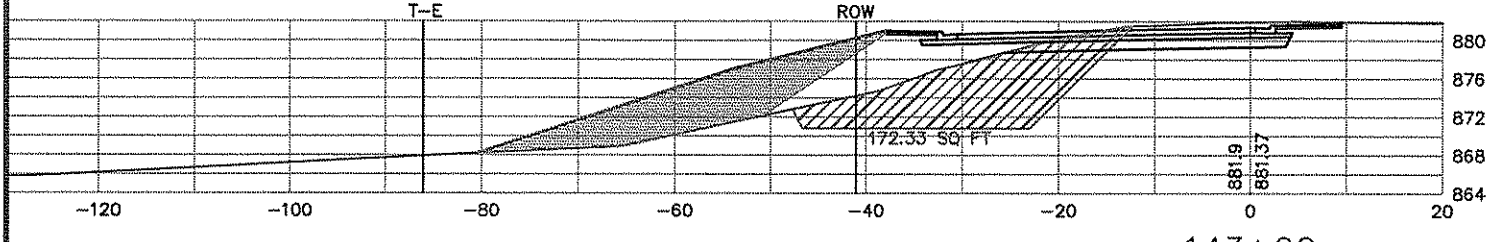
LSB PROFILE
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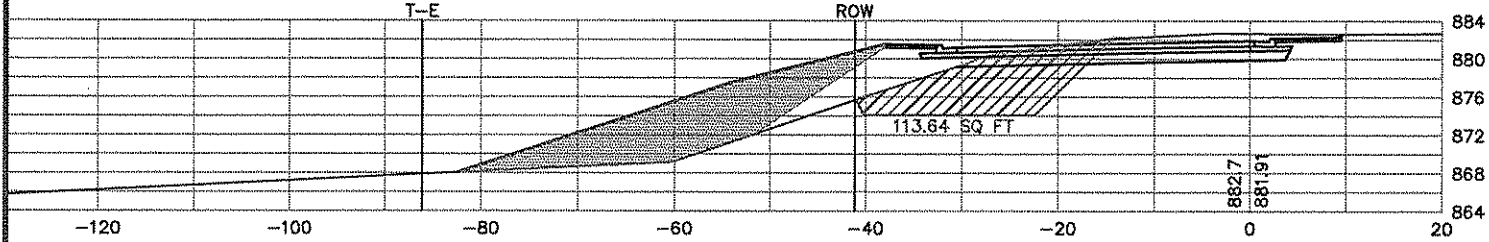
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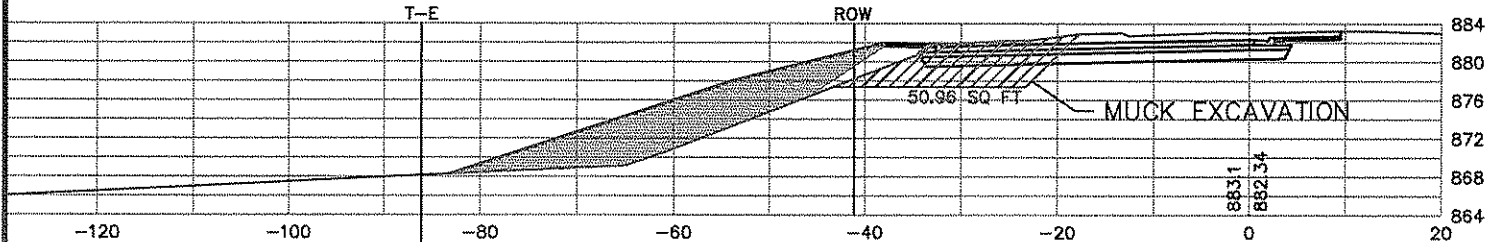
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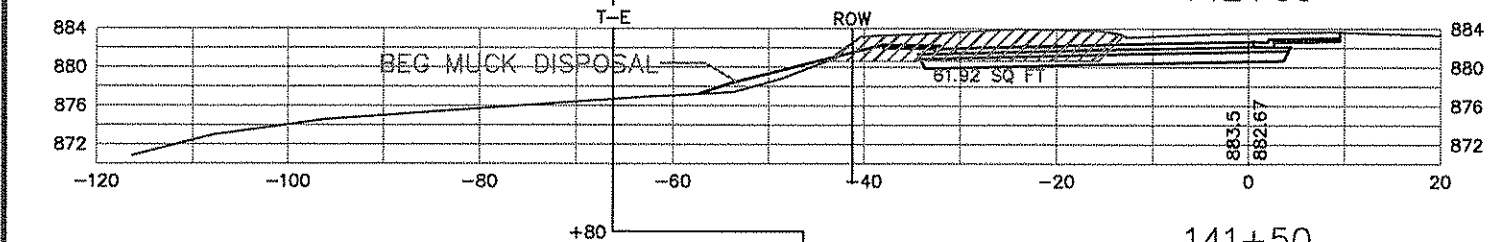
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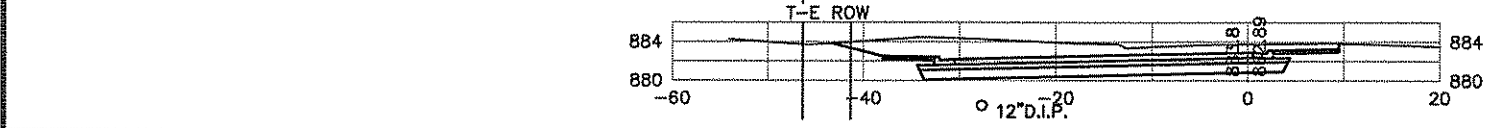
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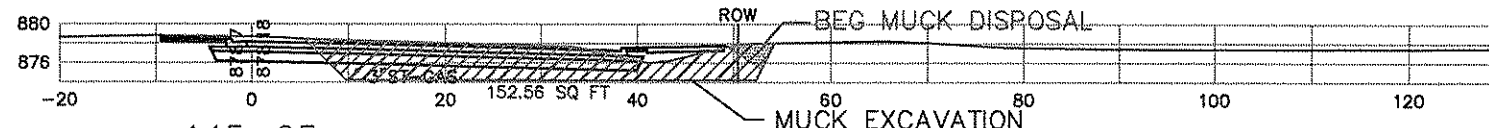


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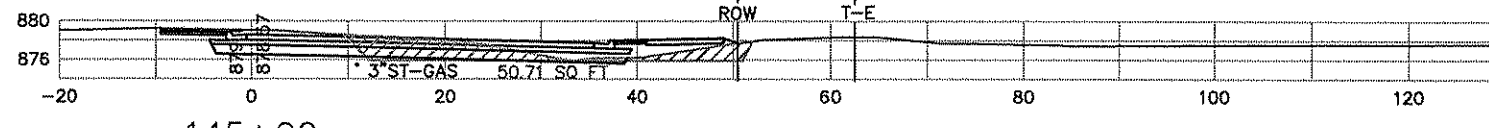


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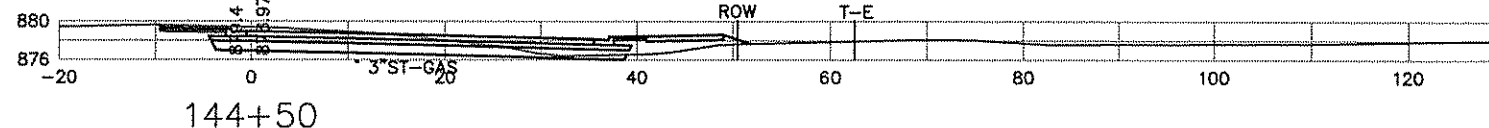
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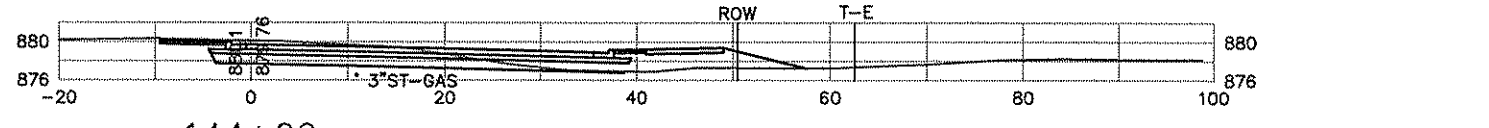
145+25



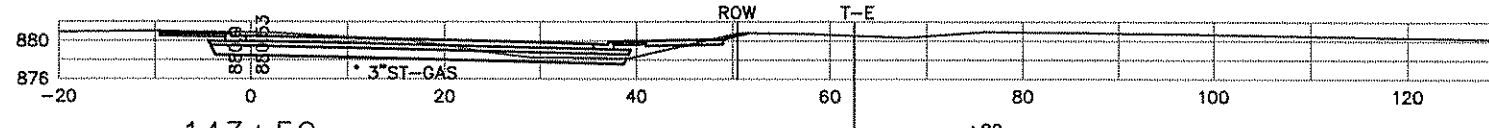
145+00



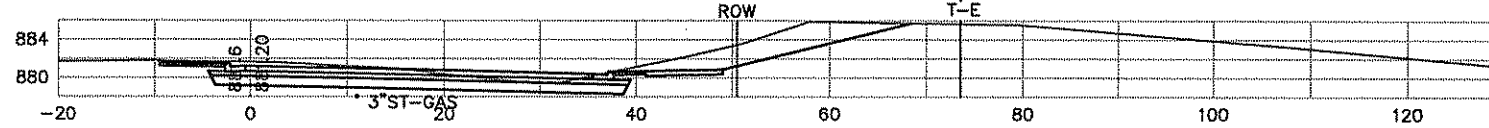
144+50



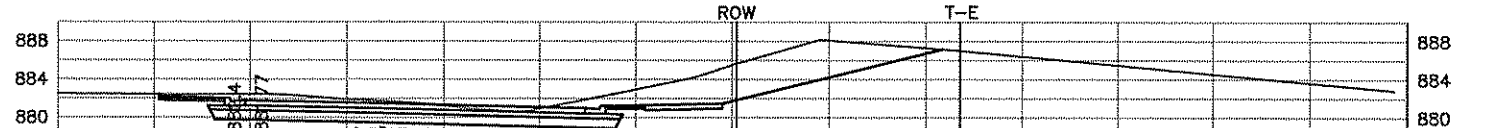
144+00



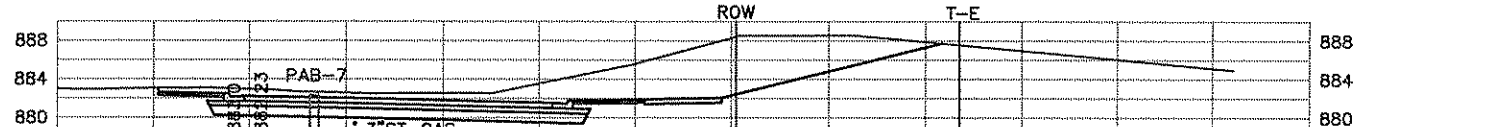
143+50



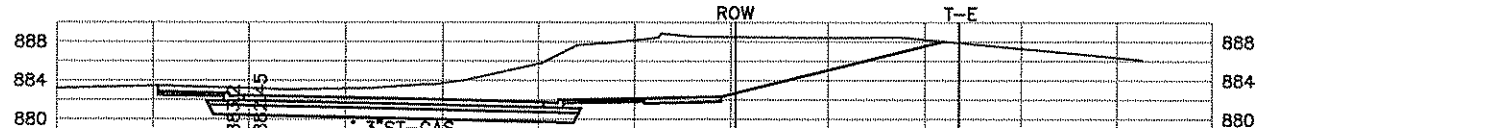
143+00



142+50



142+21.10



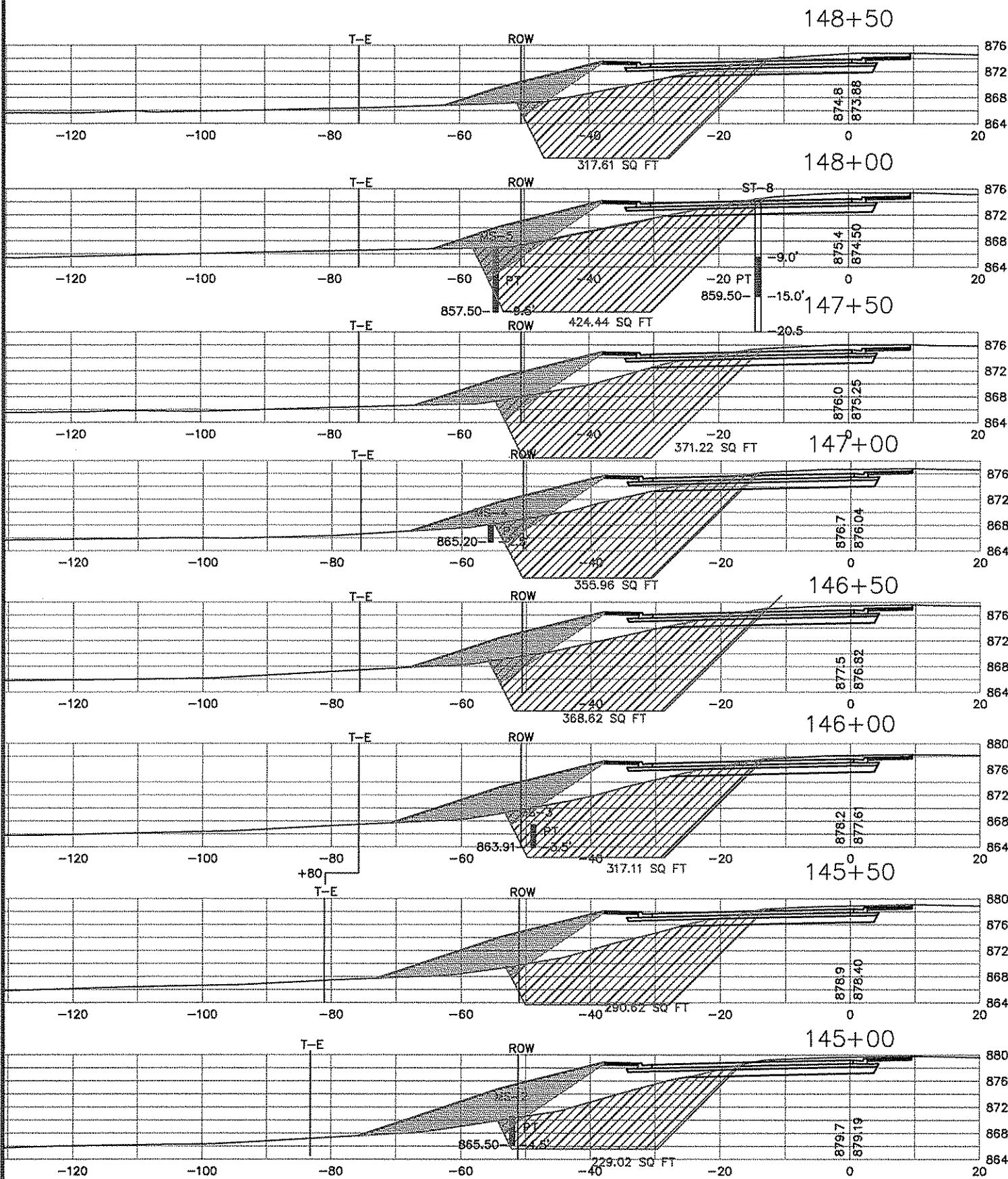
ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. _____
STATE AID PROJECT NO. 02-609-12
CITY PROJECT NO. 198-020-17
COUNTY PROJECT NO. _____

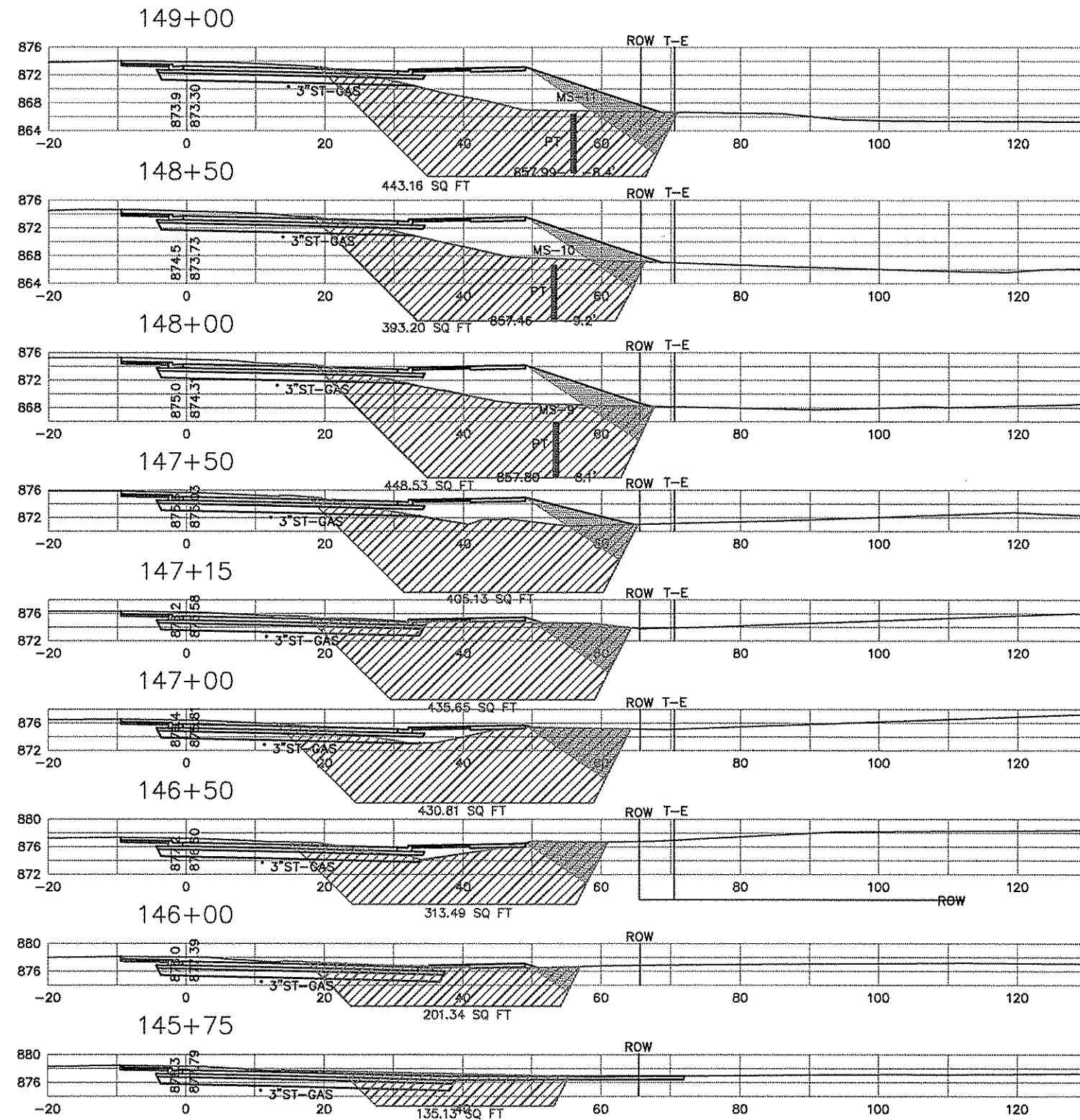
CROSS SECTIONS
142+21.10 TO 145+50

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LSB PROFILE



LNB PROFILE



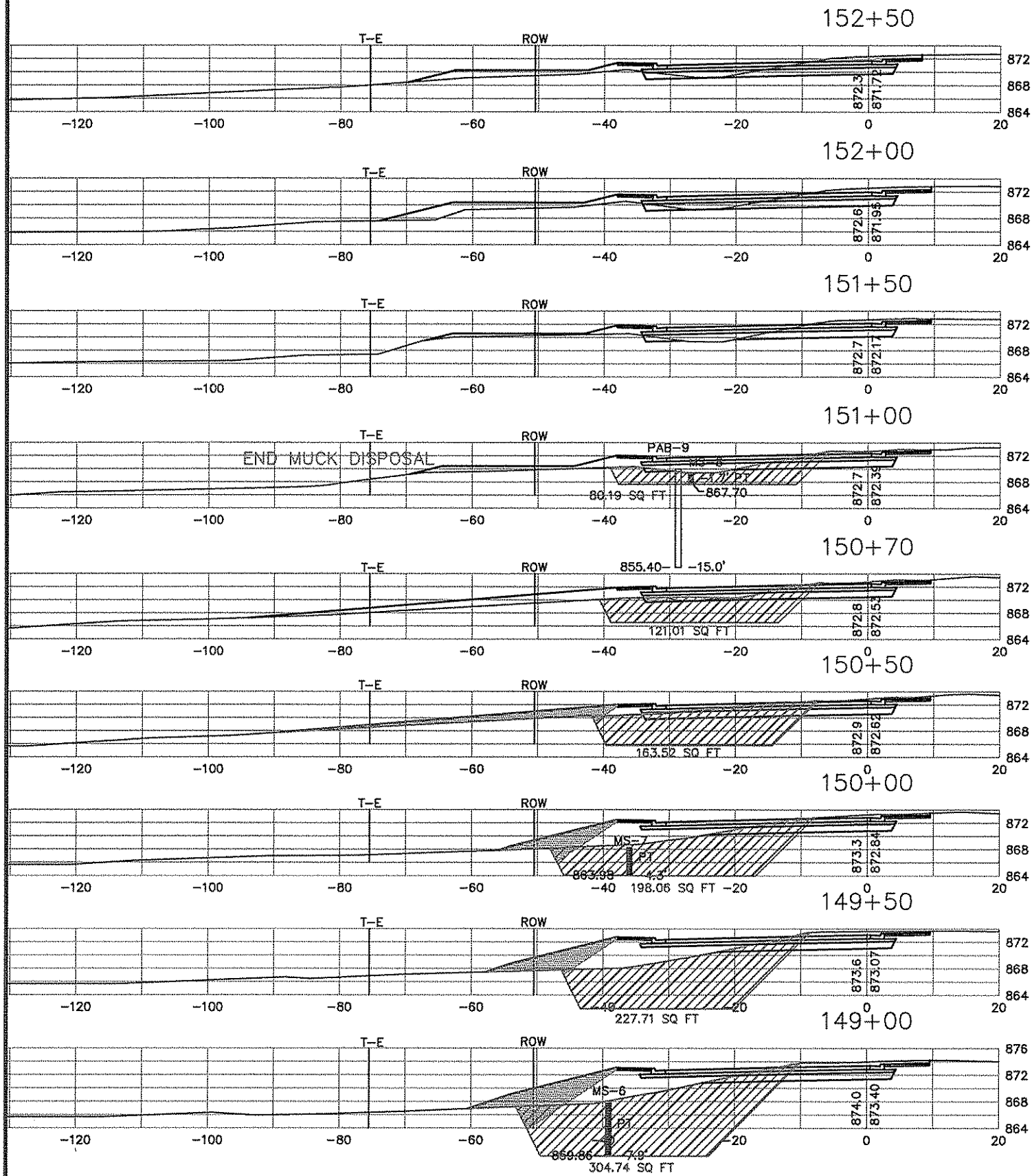
ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. _____
STATE AID PROJECT NO. 02-609-12
CITY PROJECT NO. 198-020-17
COUNTY PROJECT NO. _____

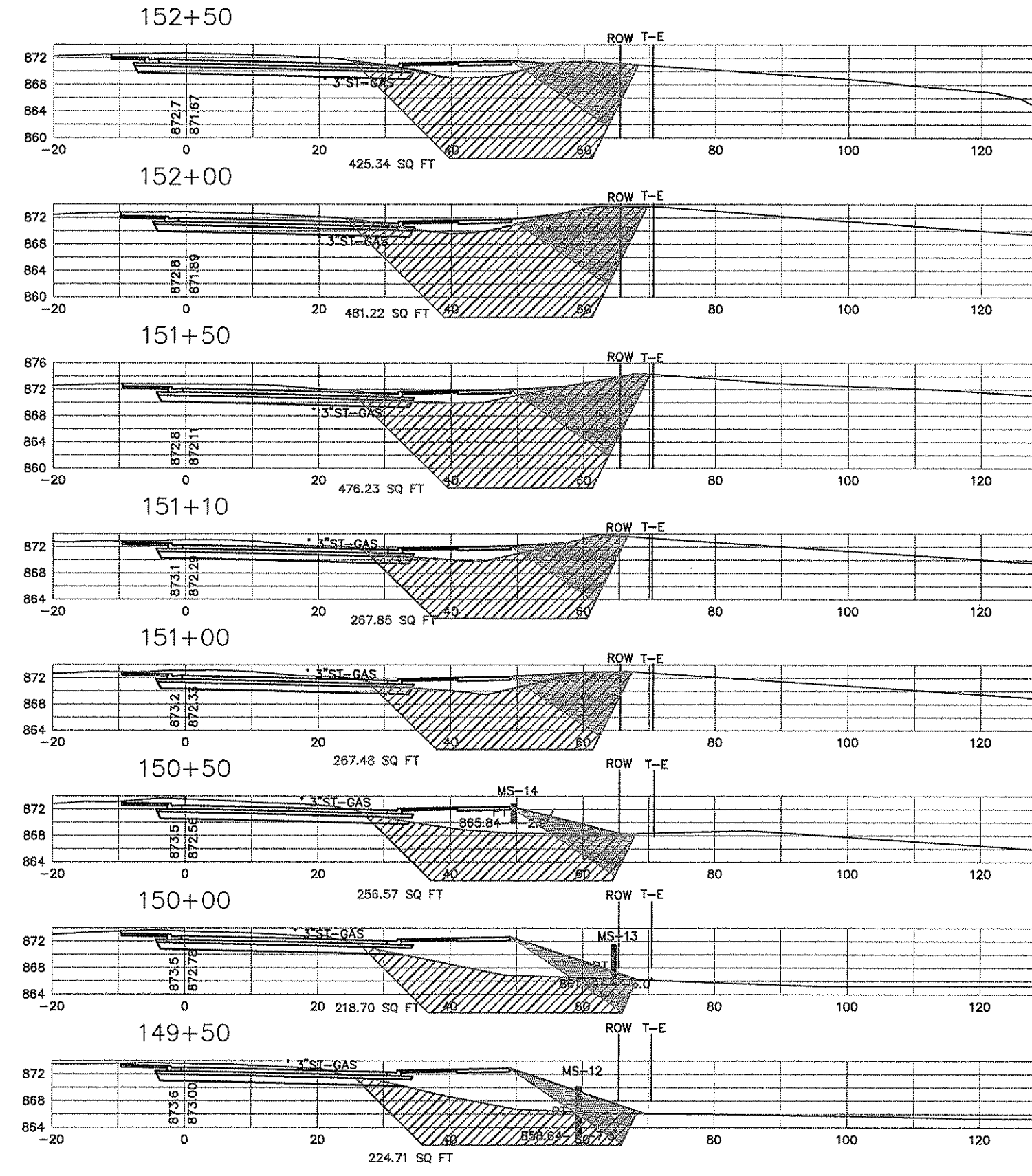
CROSS SECTIONS
145+75 TO 149+00

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LSB PROFILE



LNB PROFILE

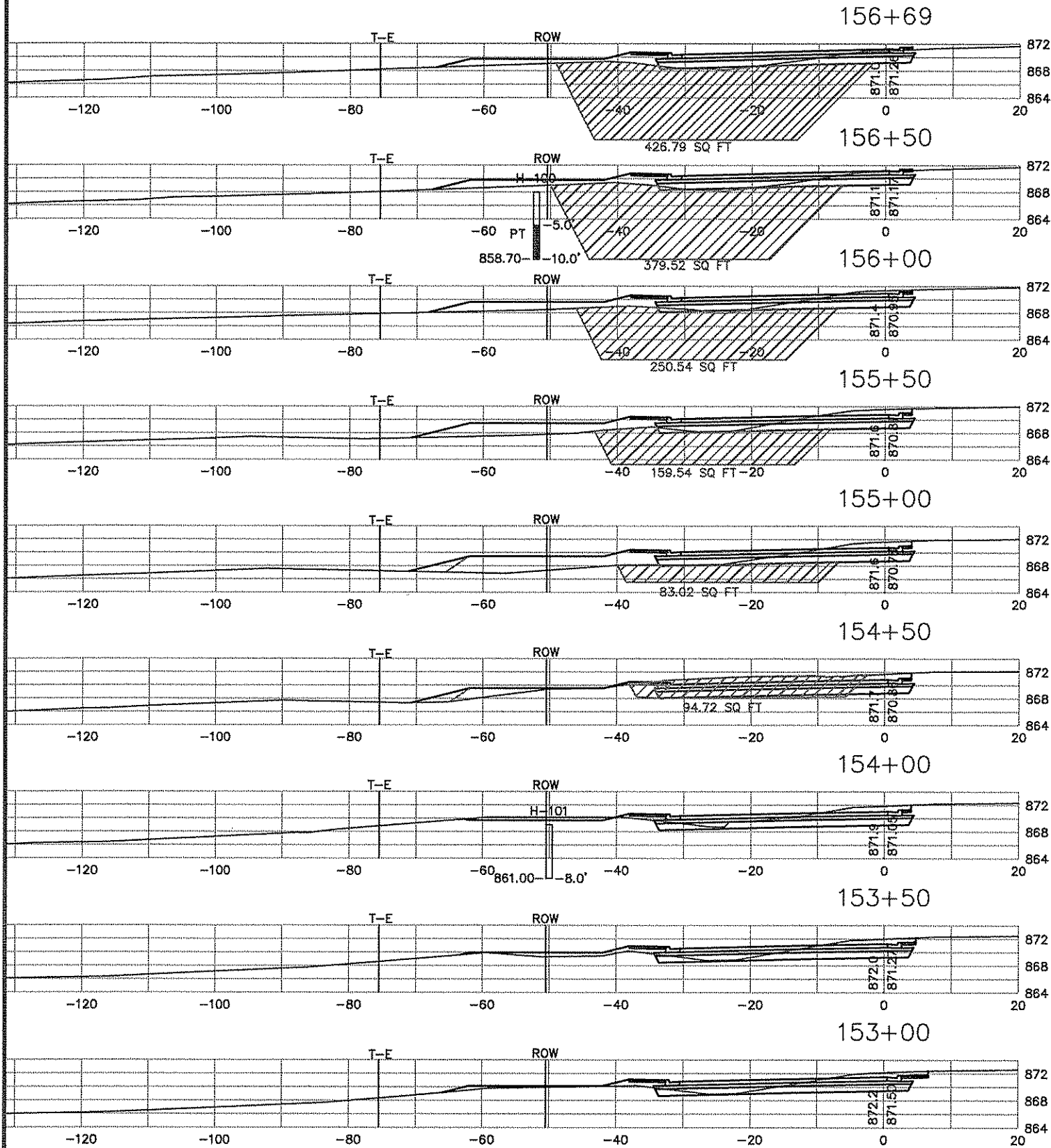


ANOKA COUNTY
HIGHWAY DEPT.

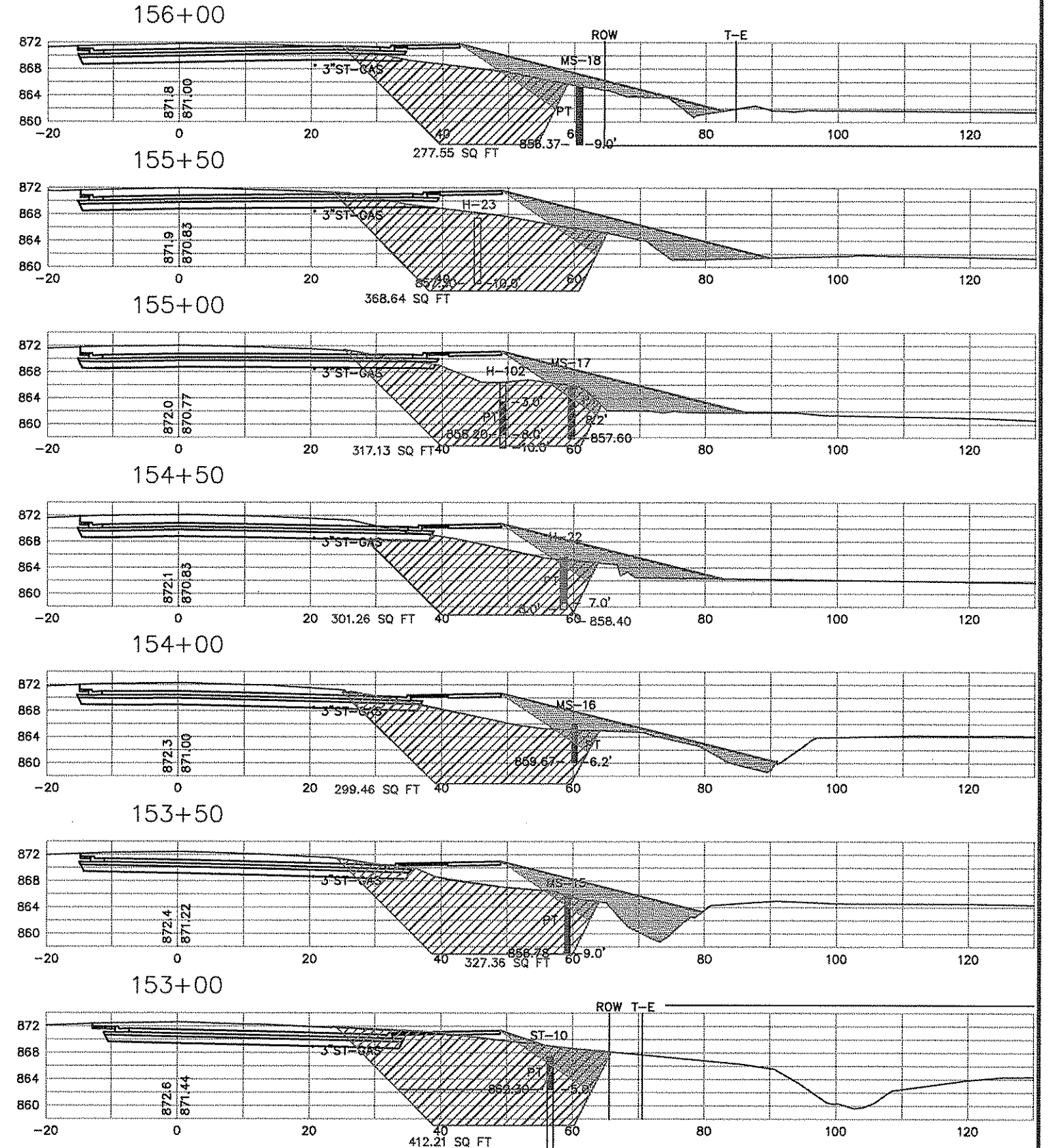
STATE PROJECT NO. _____
STATE AID PROJECT NO. 02-609-12
CITY PROJECT NO. 198-020-17
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CROSS SECTIONS
149+50 TO 152+50
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LSB PROFILE



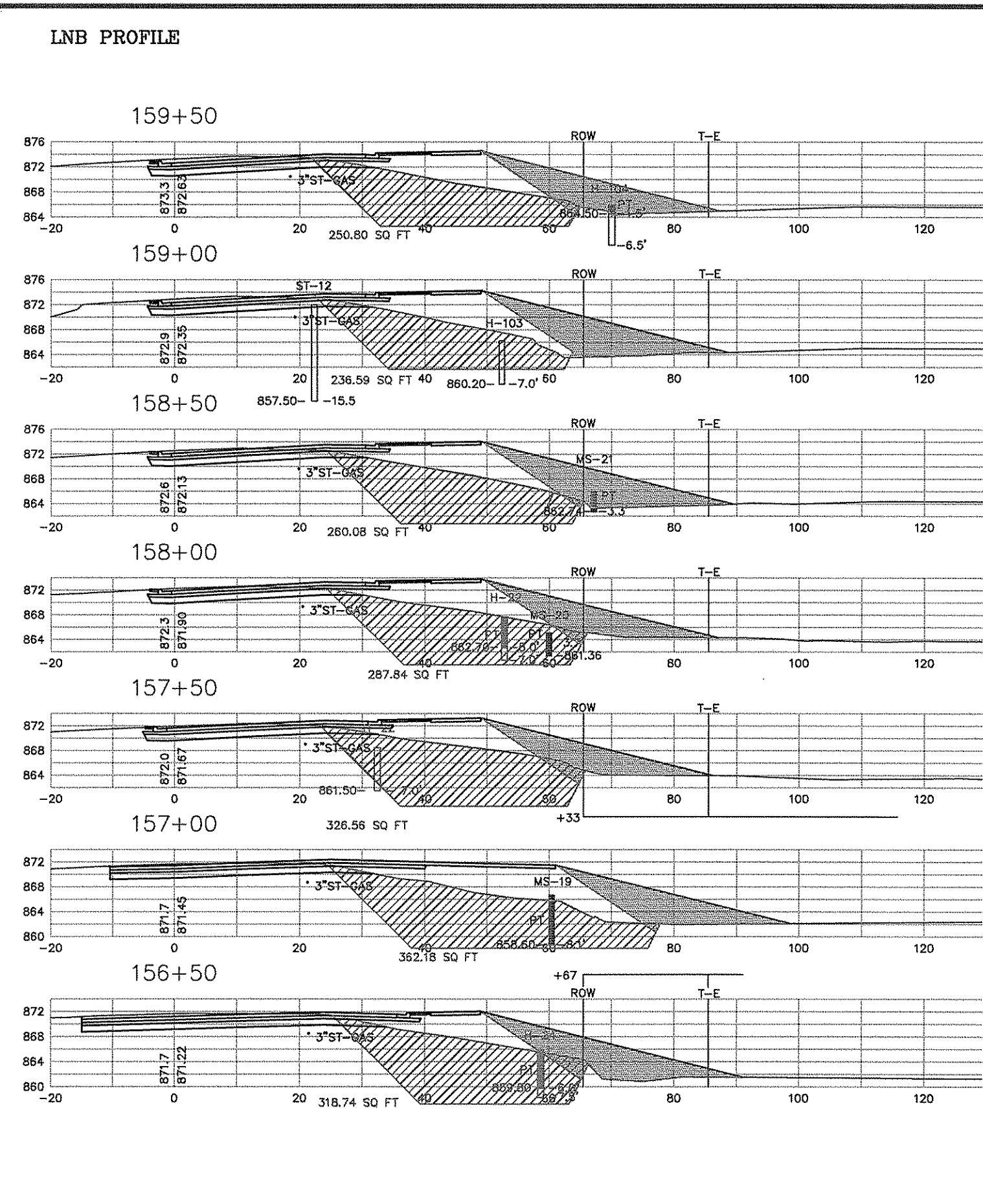
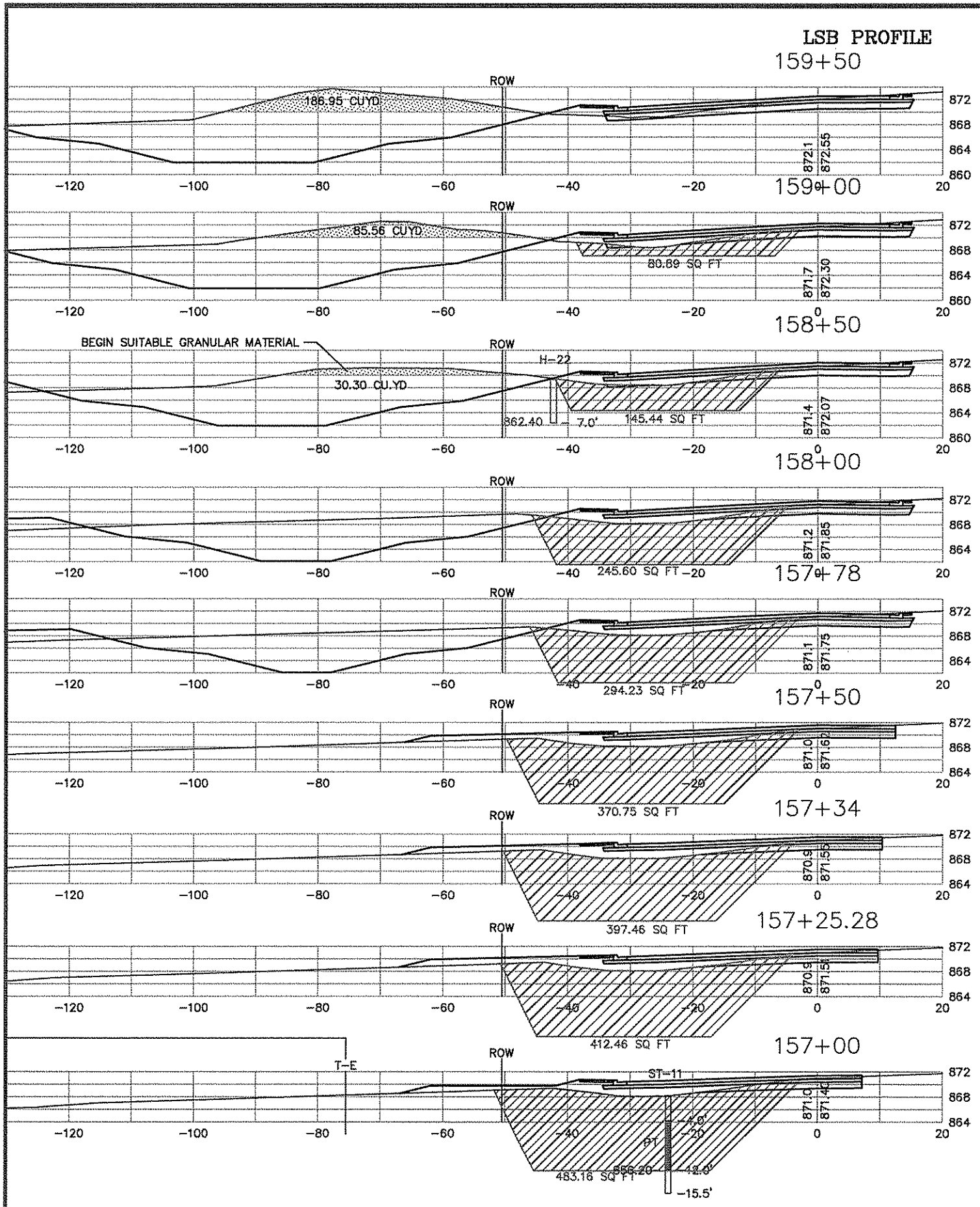
LNB PROFILE



ANOKA COUNTY
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CROSS SECTIONS
153+00 TO 156+00
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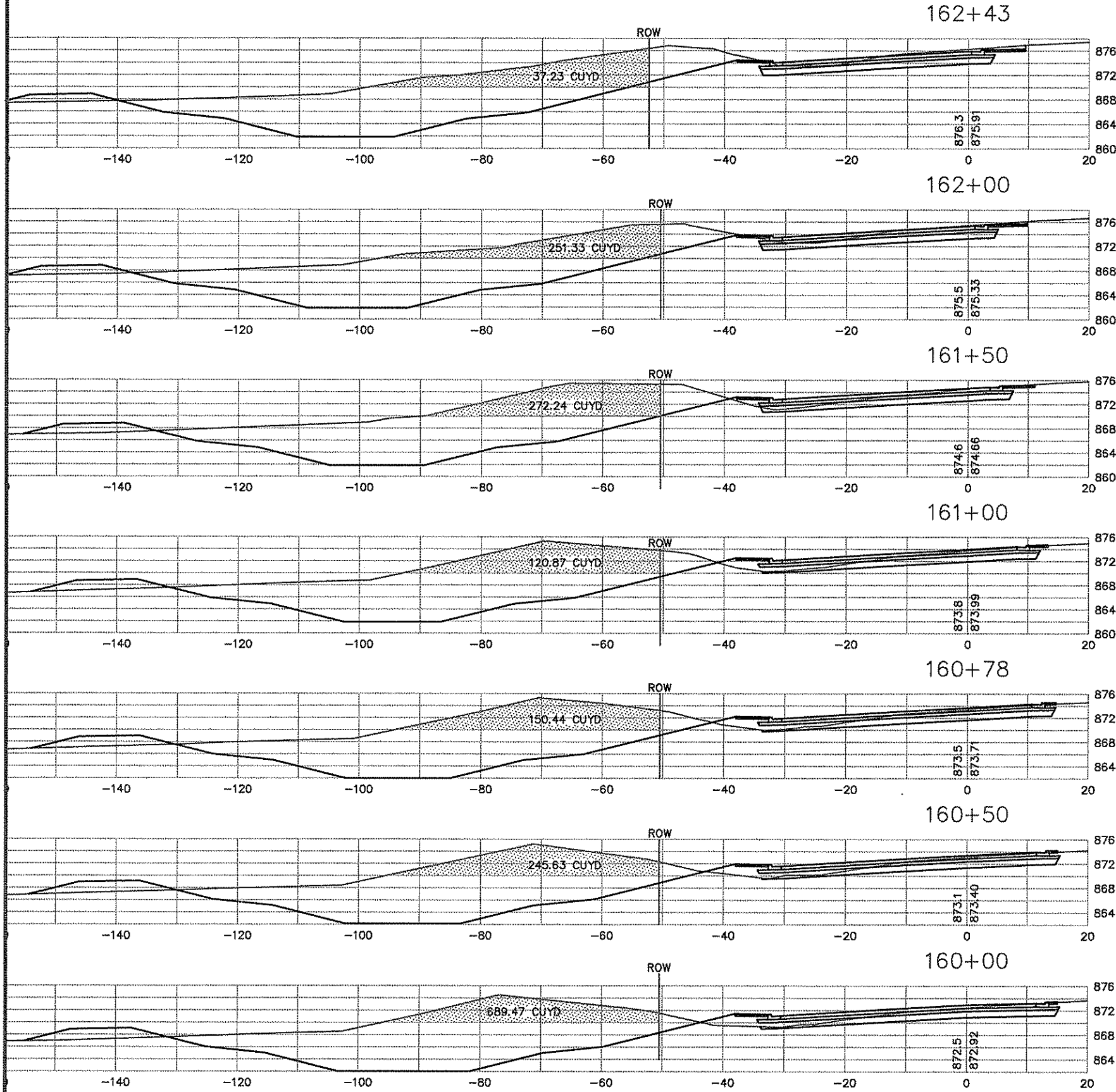


**ANOKA COUNTY
HIGHWAY DEPT.**

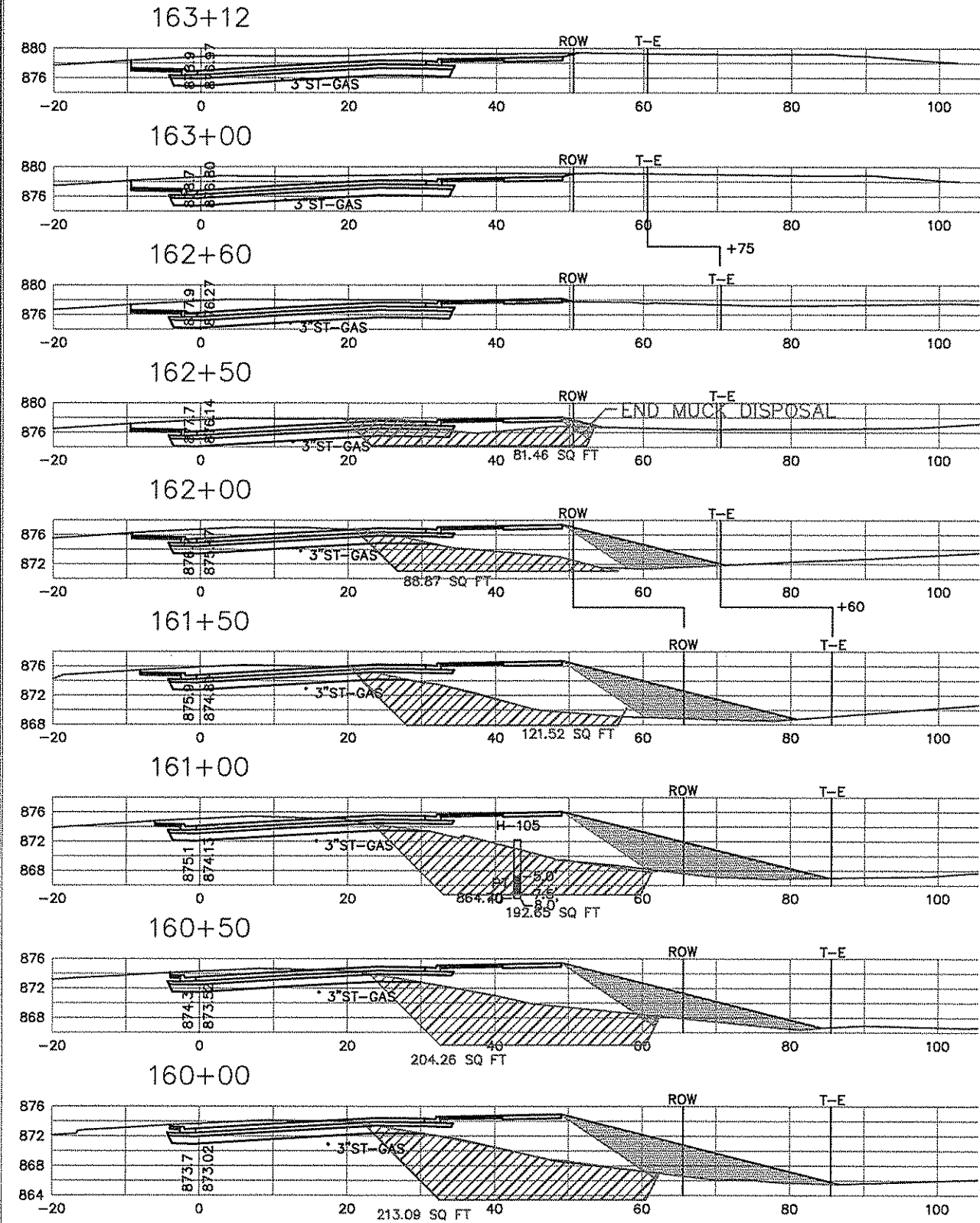
STATE PROJECT NO. _____
 STATE AID PROJECT NO. 02-609-12
 CITY PROJECT NO. 198-020-17
 COUNTY PROJECT NO. _____

CROSS SECTIONS
 156+50 TO 159+50
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LSB PROFILE



LNB PROFILE

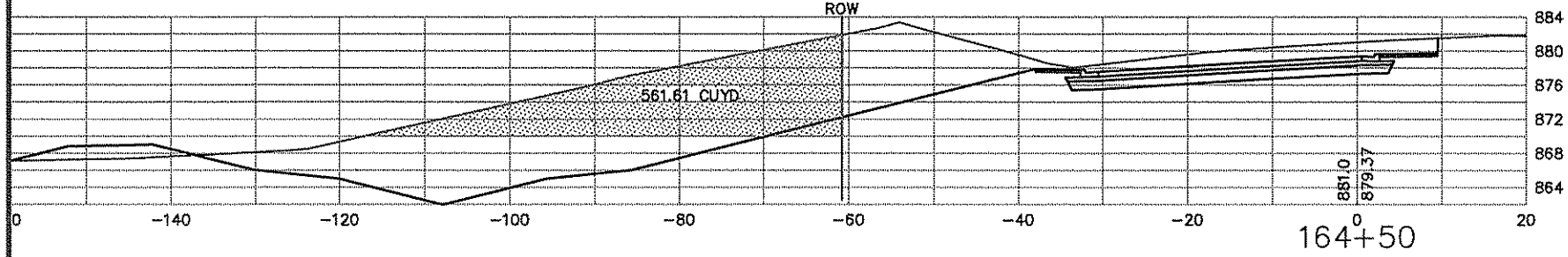


ANOKA COUNTY
HIGHWAY DEPT.

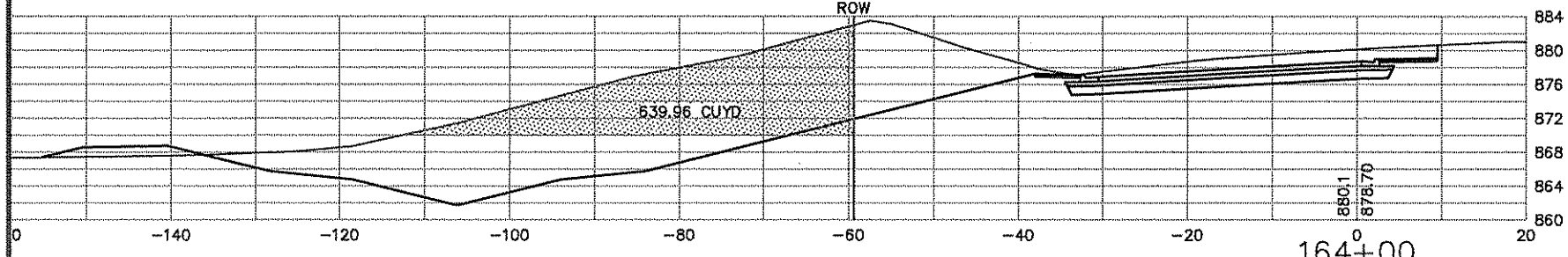
STATE PROJECT NO. _____
STATE AID PROJECT NO. 02-609-12
CITY PROJECT NO. 198-020-17
COUNTY PROJECT NO. _____

CROSS SECTIONS
160+00 TO 163+12

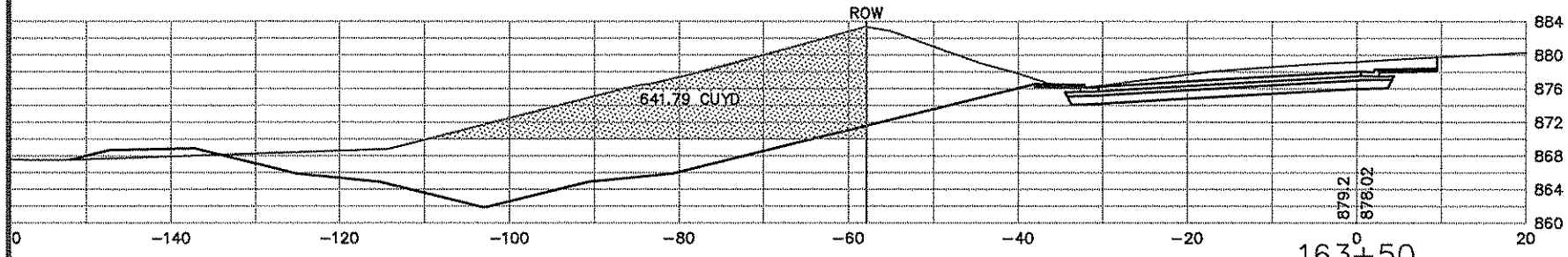
LSB PROFILE
165+00



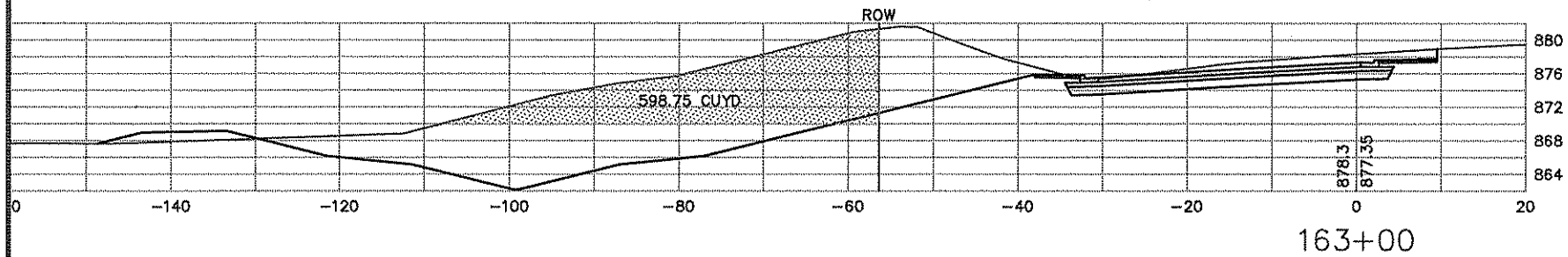
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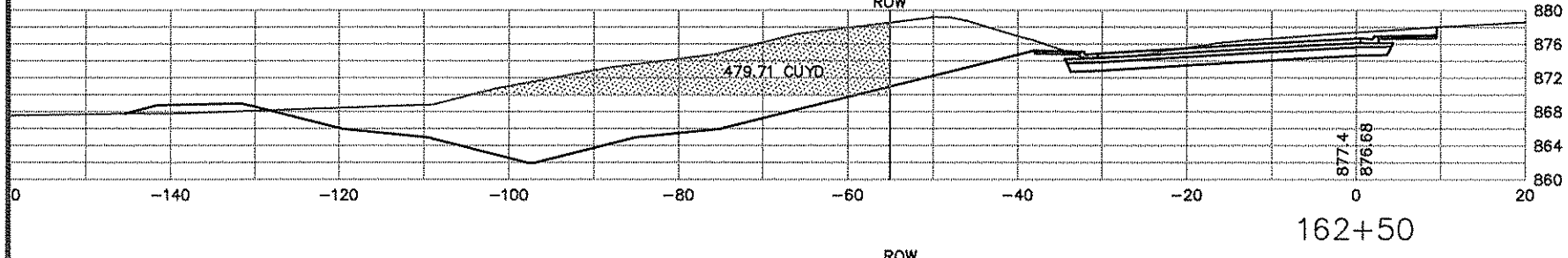
164+00



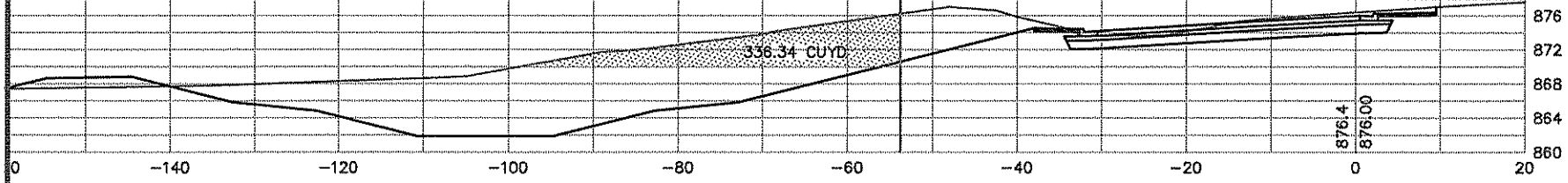
163+50



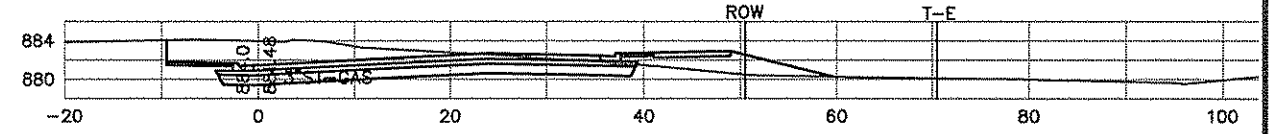
163+00



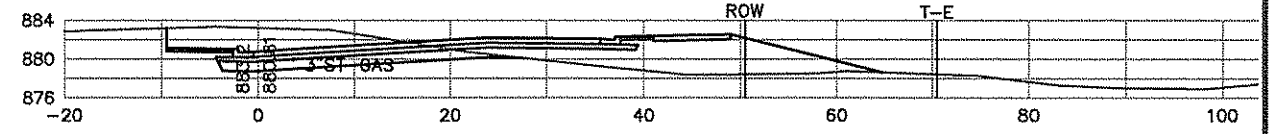
162+50



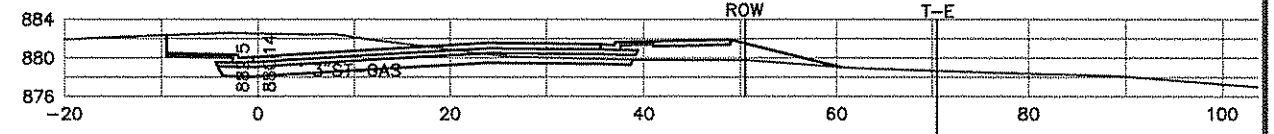
LNB PROFILE
166+50



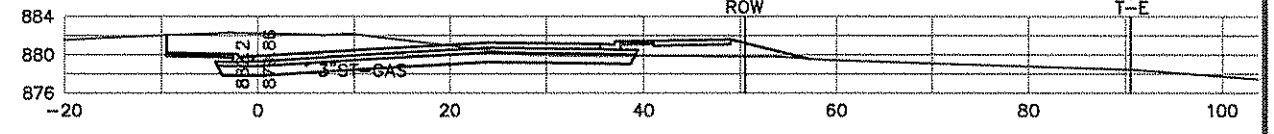
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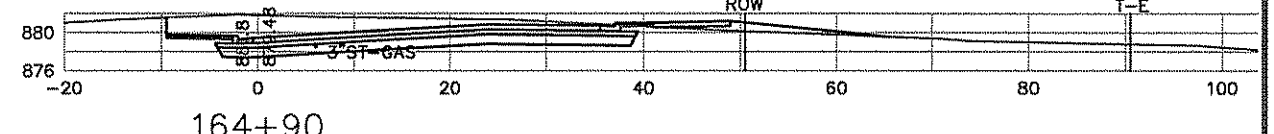
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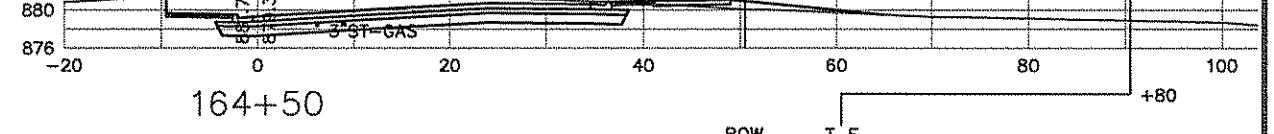
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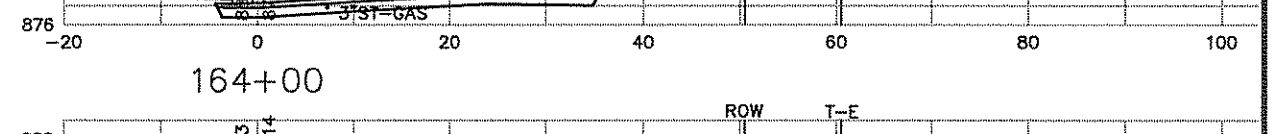
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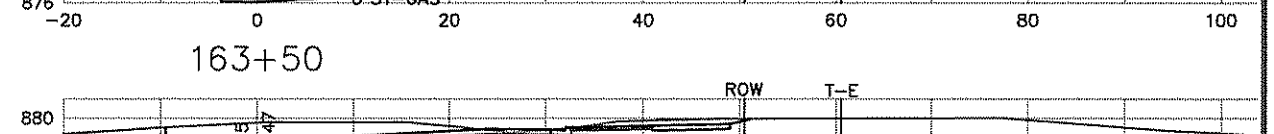
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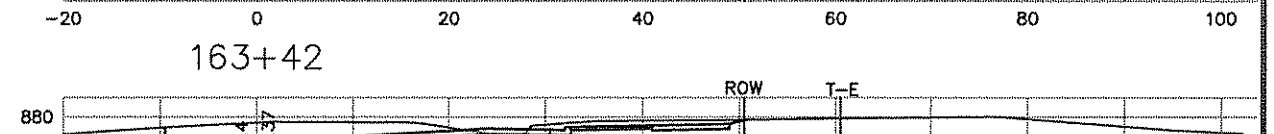
164+50



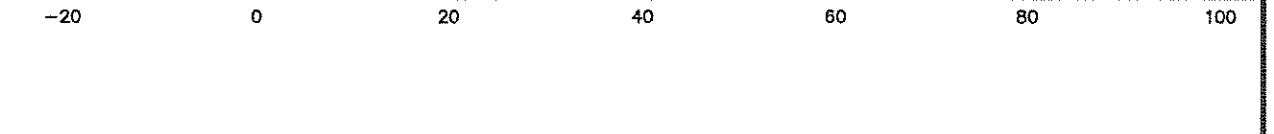
164+00



163+50



163+42

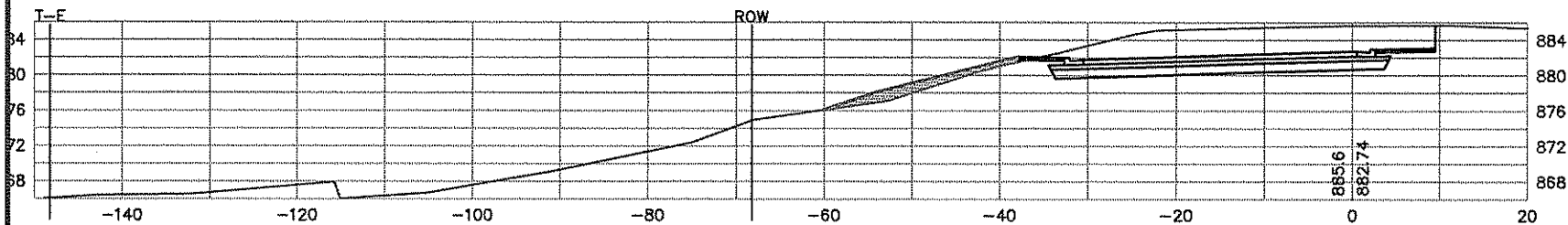


ANOKA COUNTY
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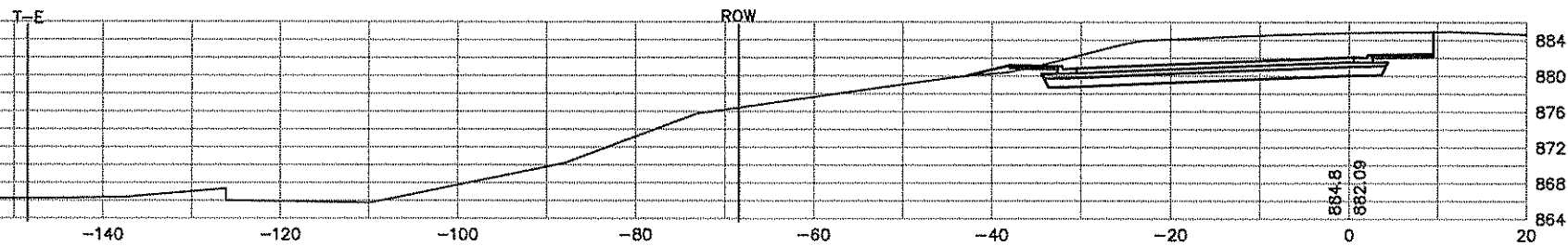
STATE PROJECT NO. _____
STATE AID PROJECT NO. 02-609-12
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CROSS SECTIONS
163+42 TO 166+50
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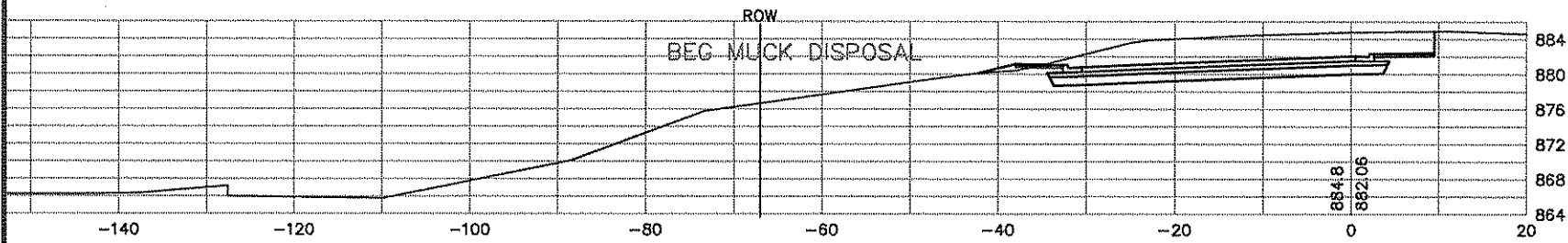
LSB PROFILE
167+50



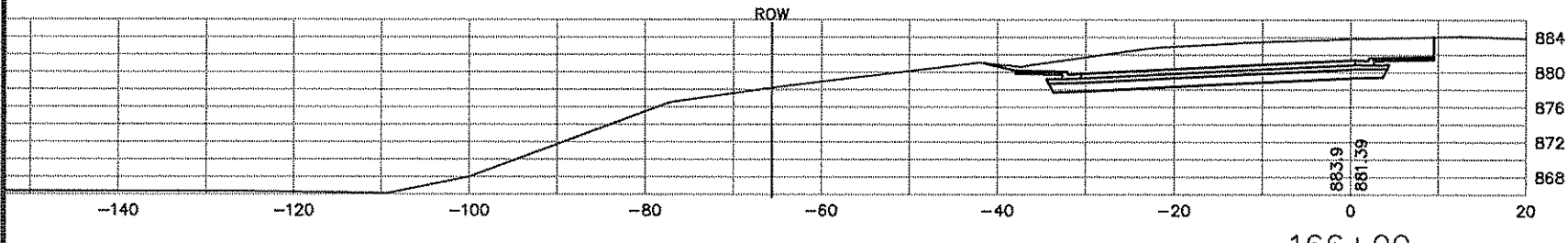
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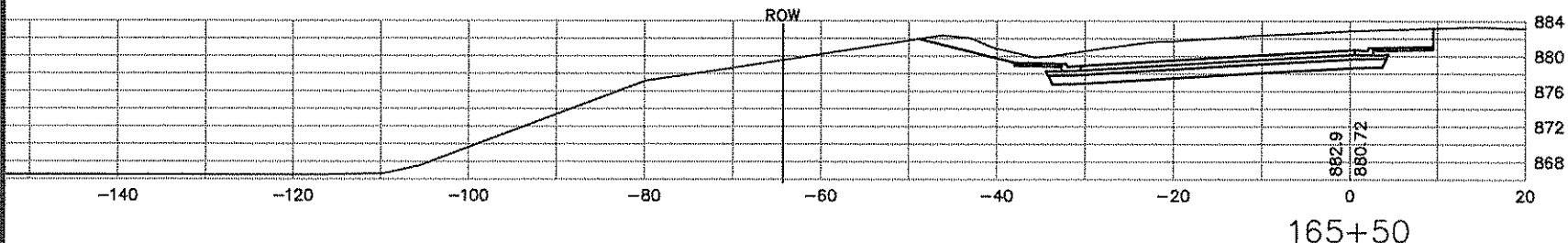
167+00



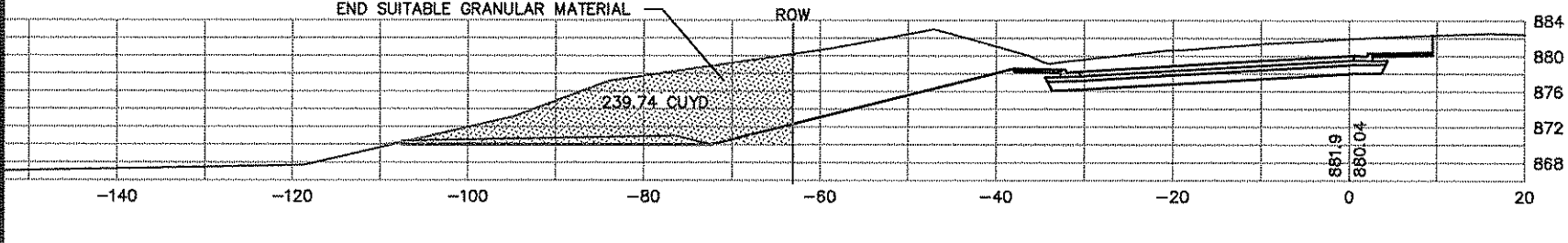
166+50



166+00

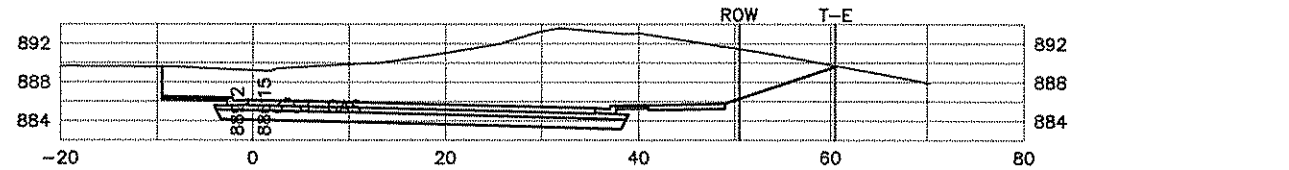


165+50

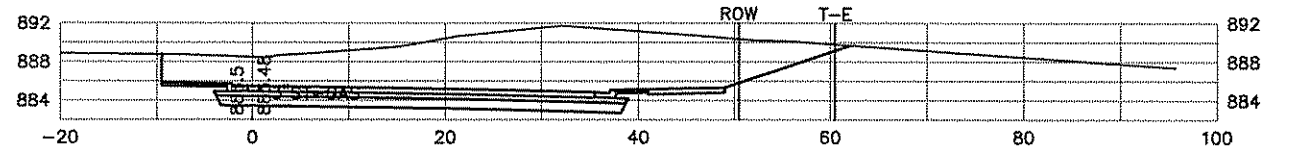


LNB PROFILE

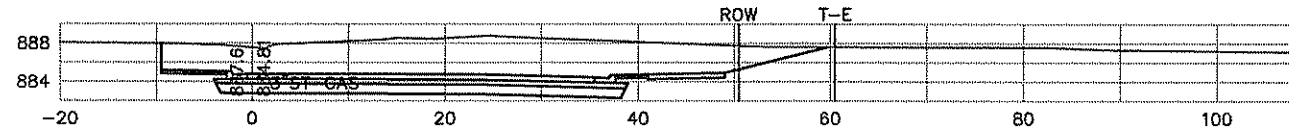
170+00



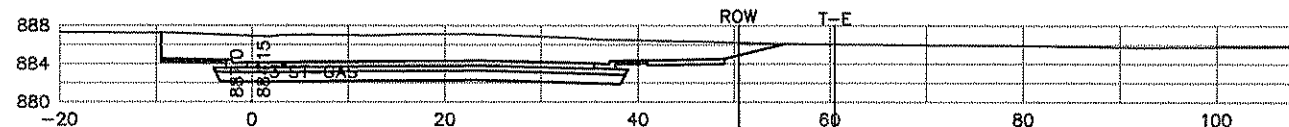
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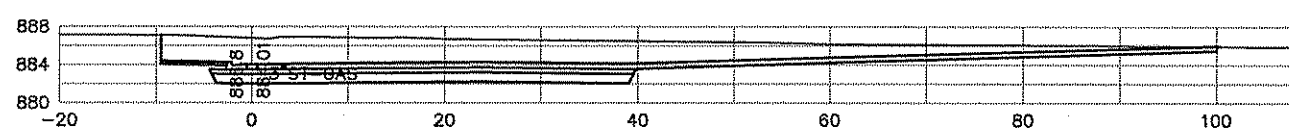
169+00



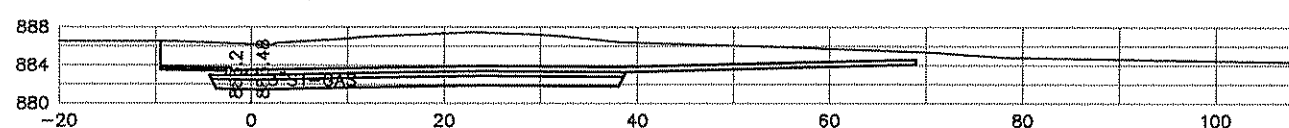
168+50



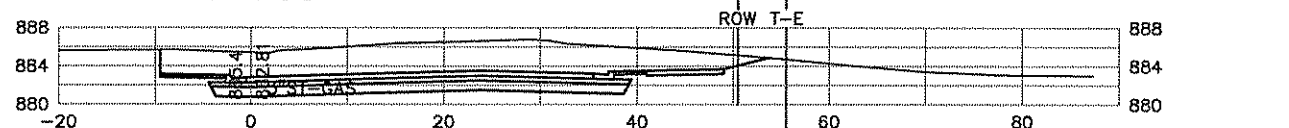
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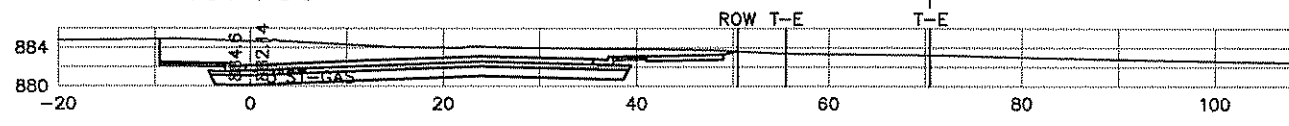
168+00



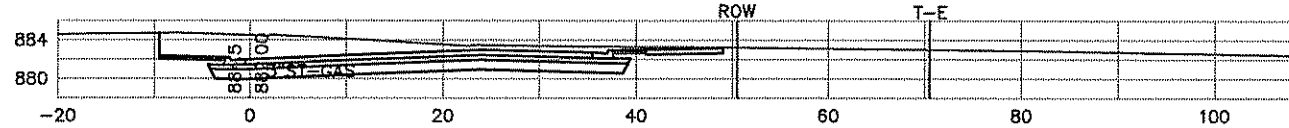
167+50



167+00



166+89



ANOKA COUNTY
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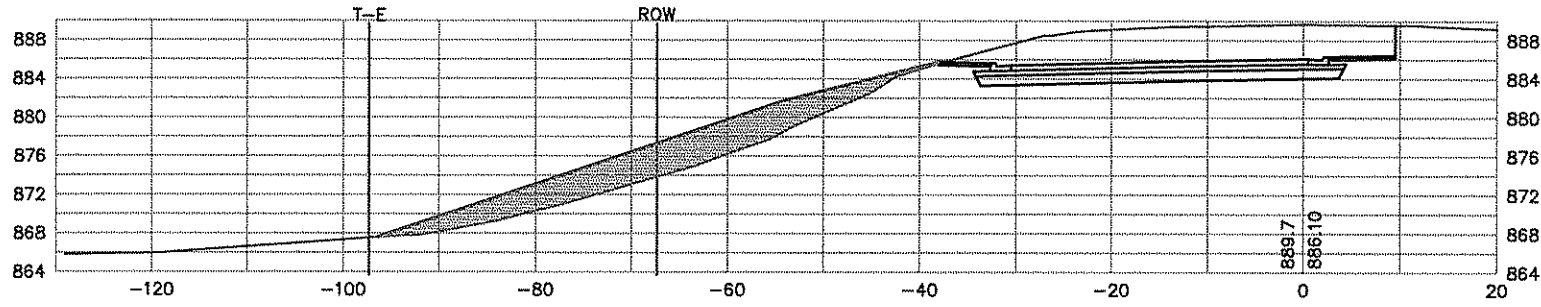
STATE PROJECT NO. _____
STATE AID PROJECT NO. 02-609-12
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CROSS SECTIONS
166+89 TO 170+00

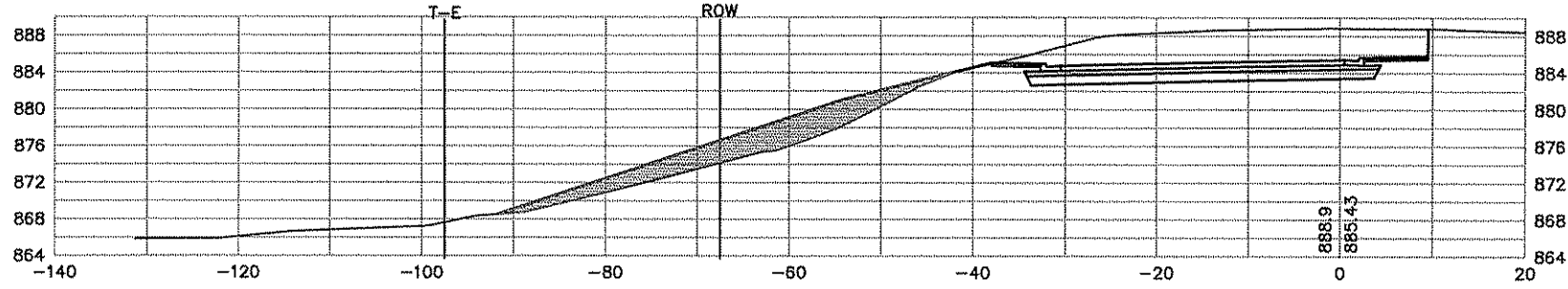
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LSB PROFILE

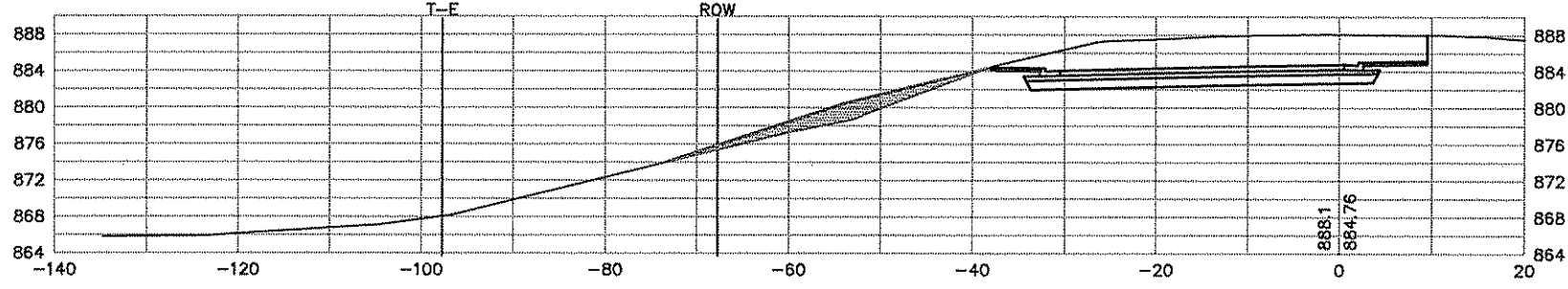
170+00



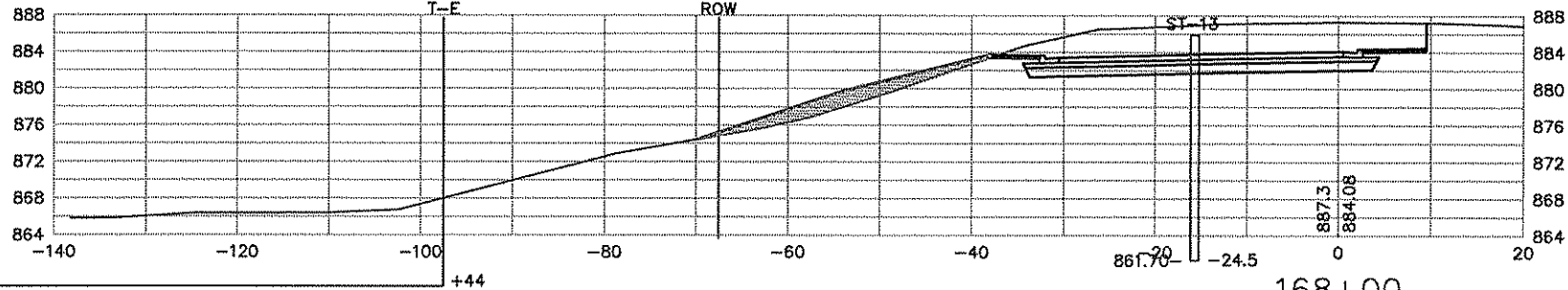
169+50



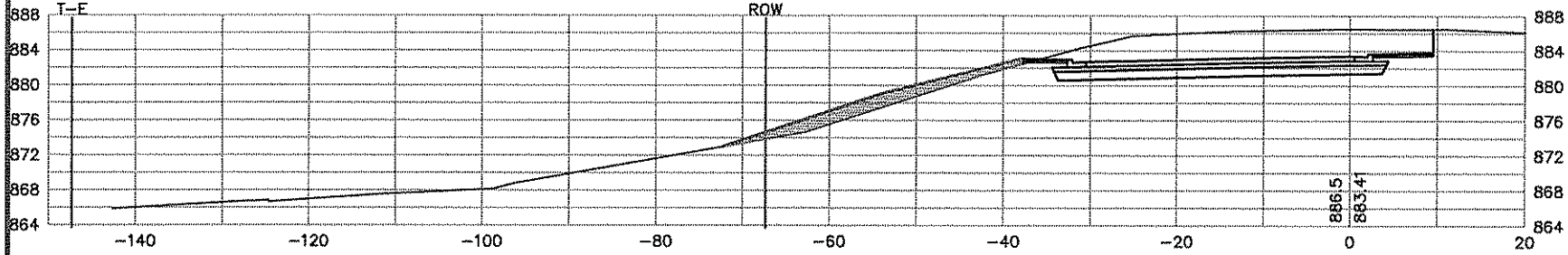
169+00



168+50

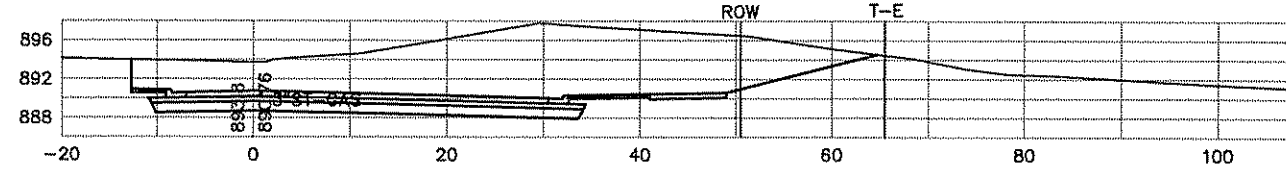


168+00

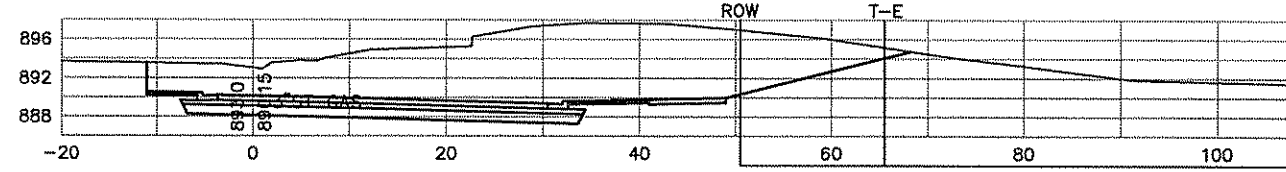


LNB PROFILE

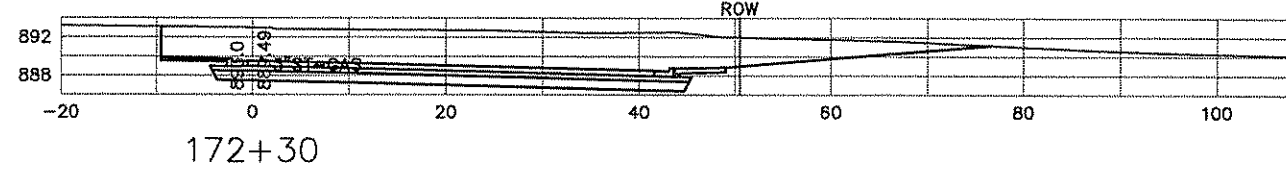
173+50



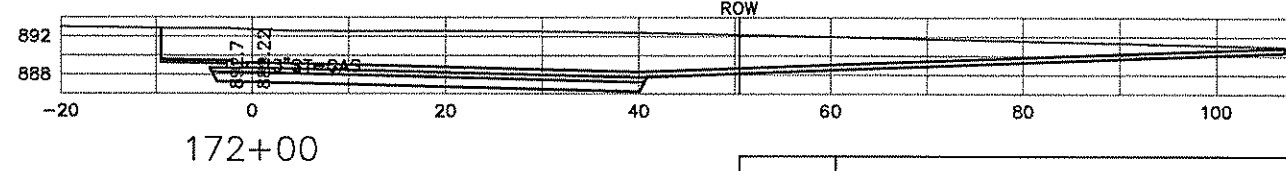
173+00



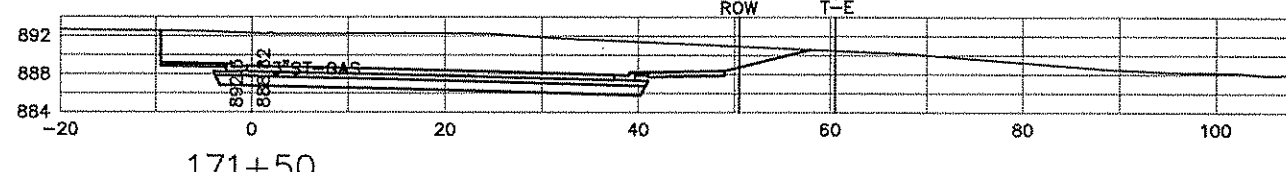
172+50



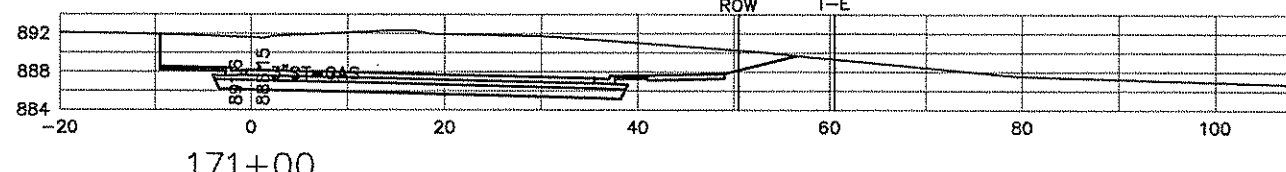
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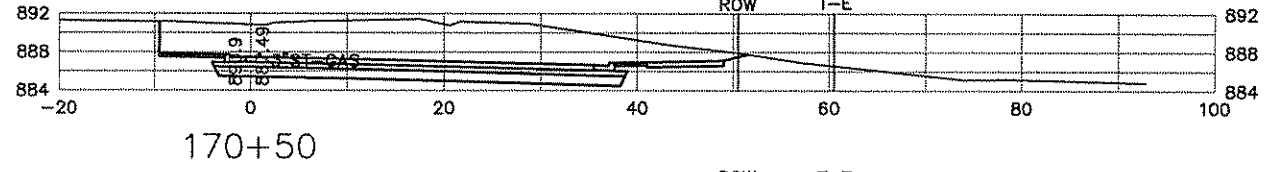
172+00



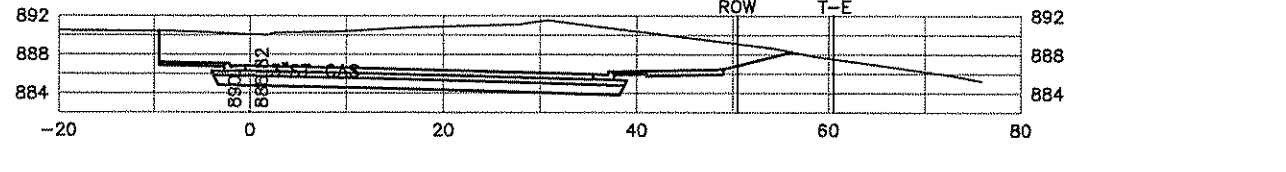
171+50



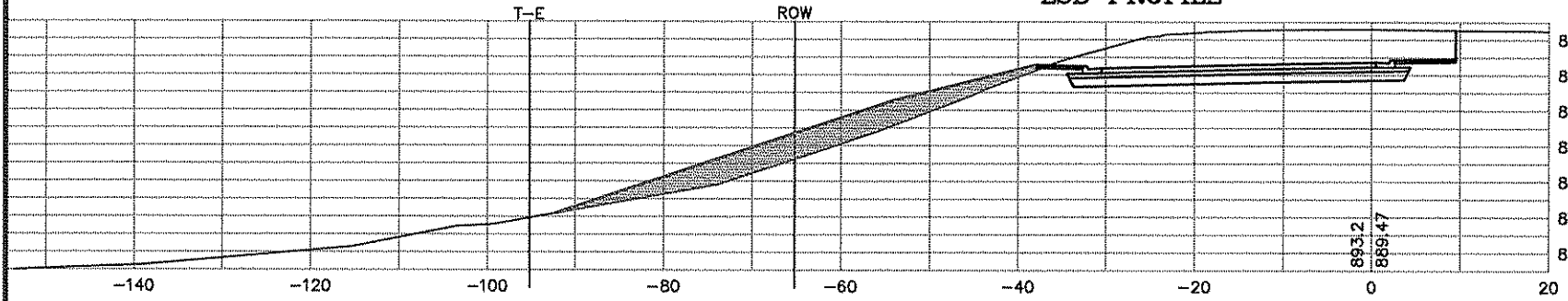
171+00



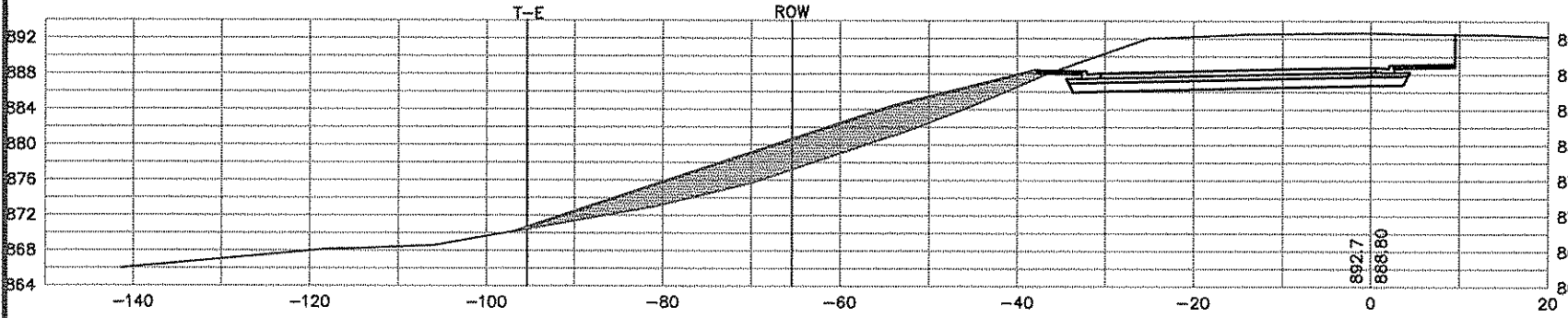
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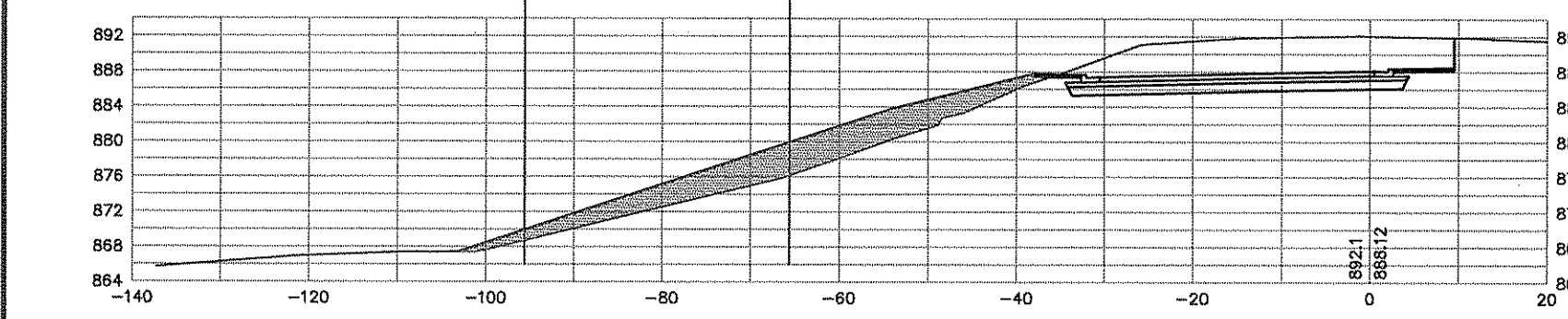
LSB PROFILE 172+50



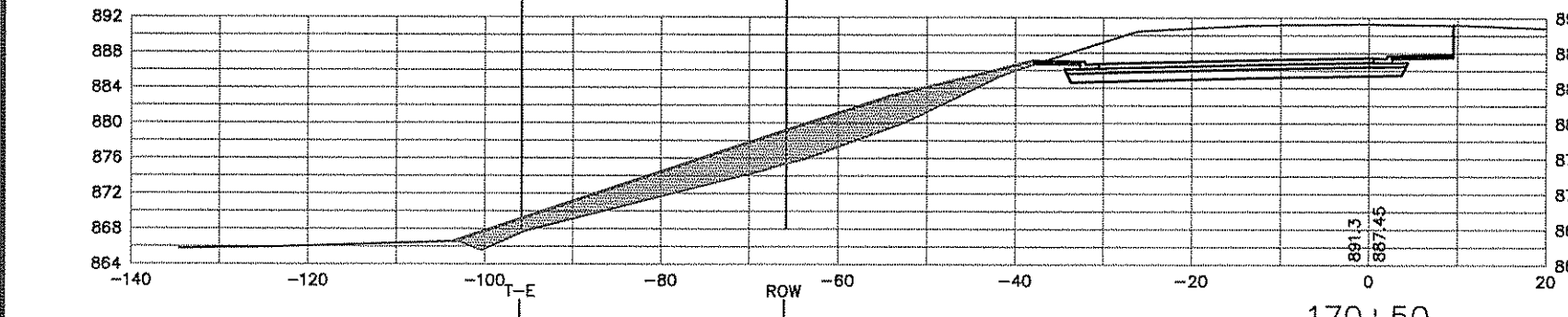
172+00



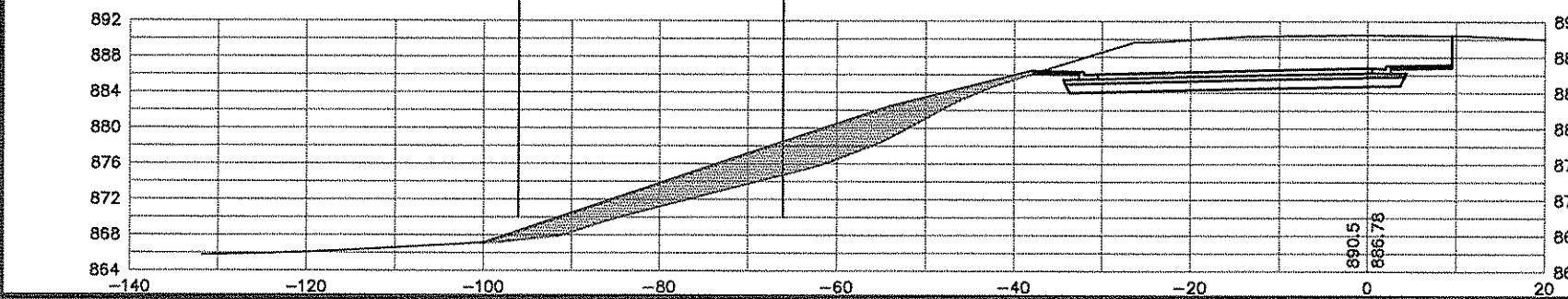
171+50



171+00

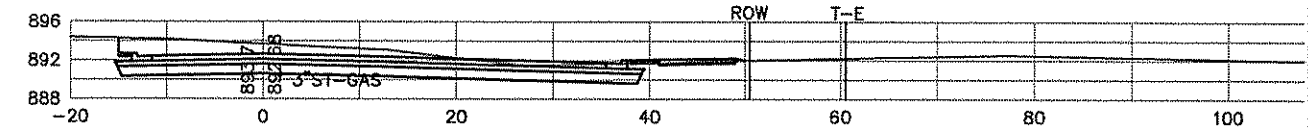


170+50

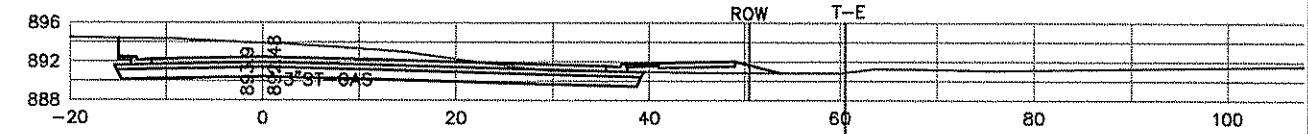


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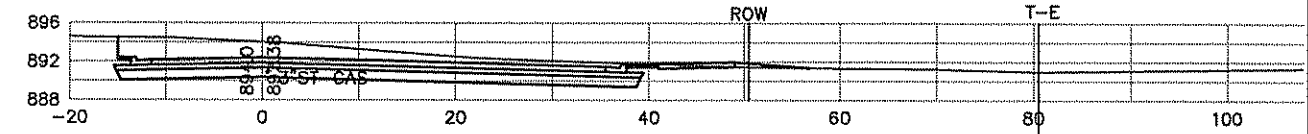
177+00



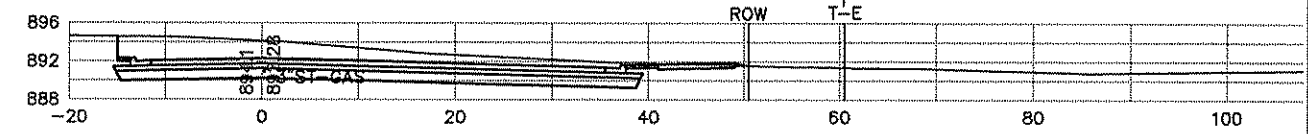
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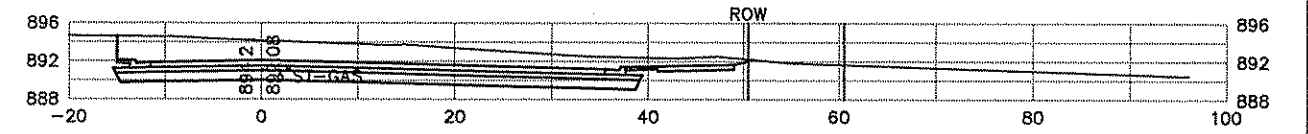
176+25



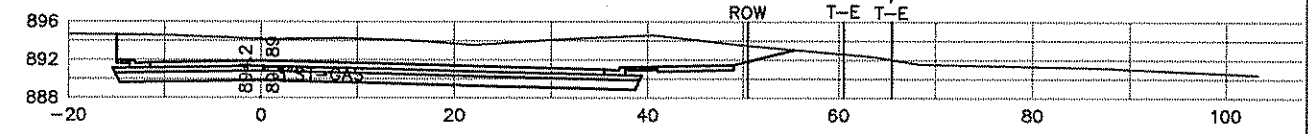
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175+50



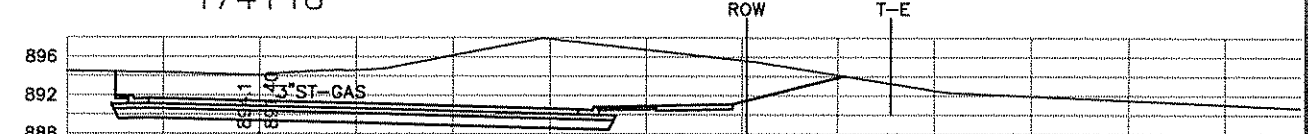
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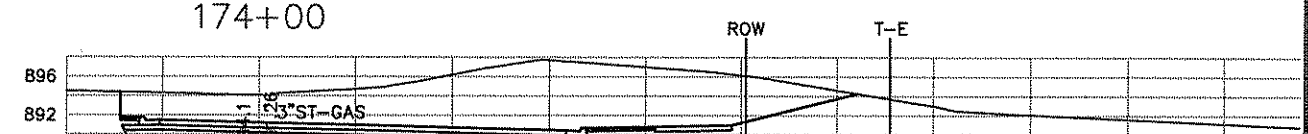
174+50



174+18



174+00



ANOKA COUNTY
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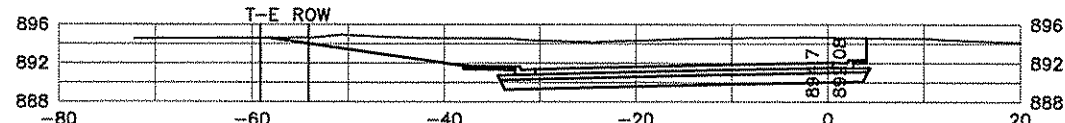
STATE PROJECT NO. _____
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CROSS SECTIONS
174+00 TO 177+00

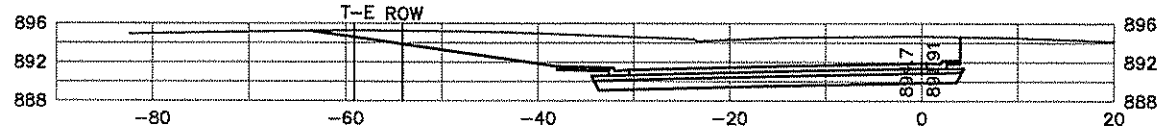
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LSB PROFILE

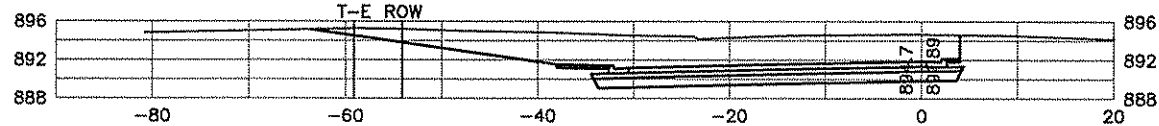
175+50



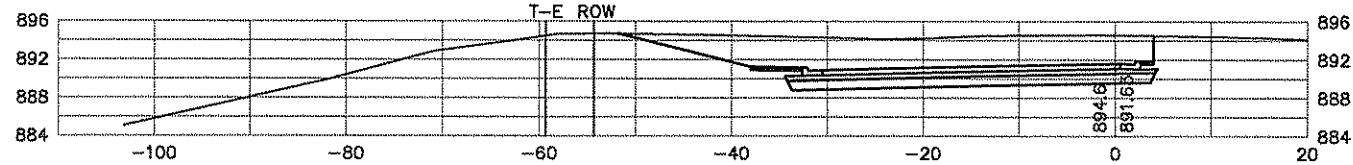
175+07



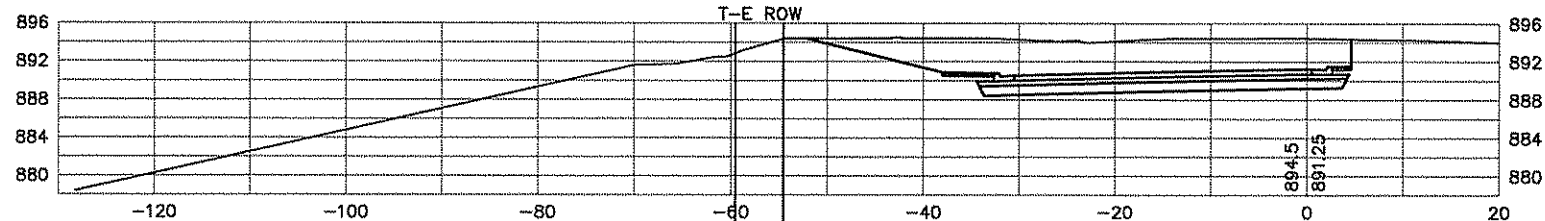
175+00



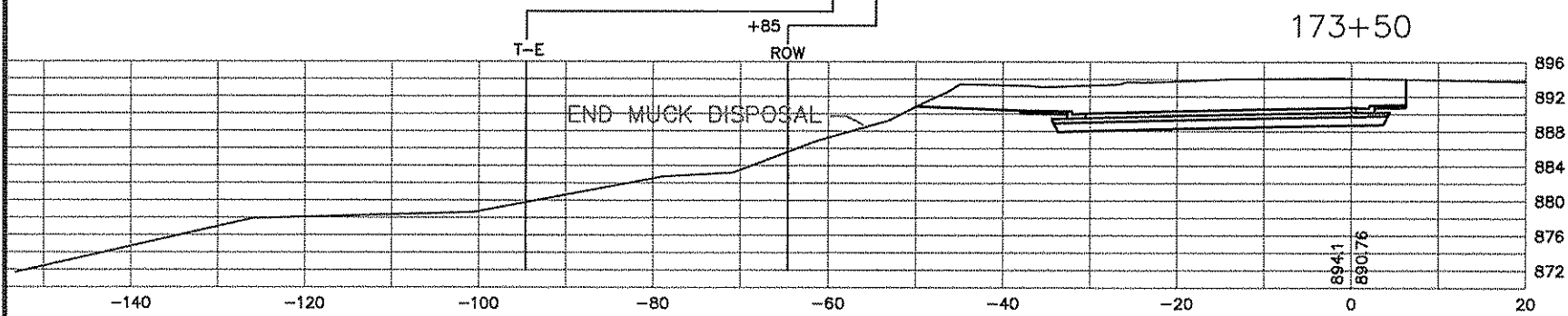
174+50



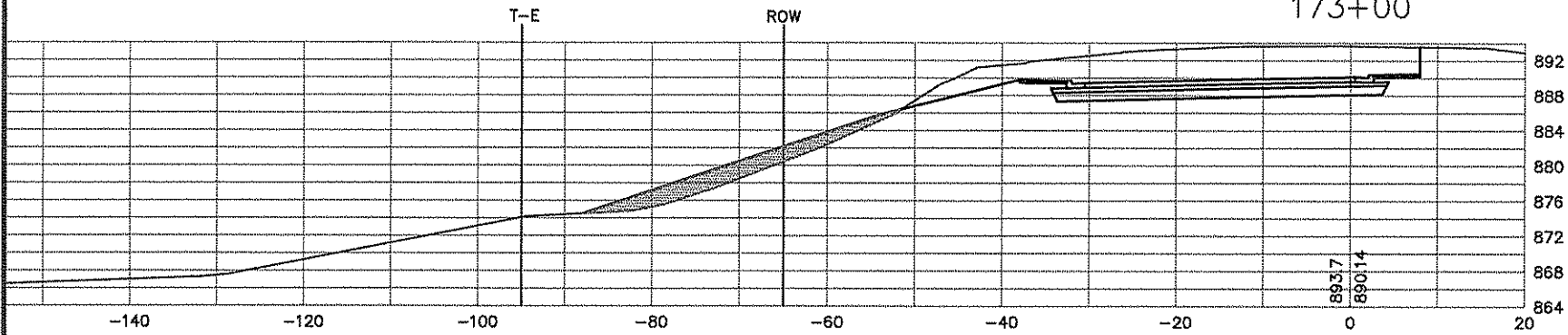
174+00



173+50

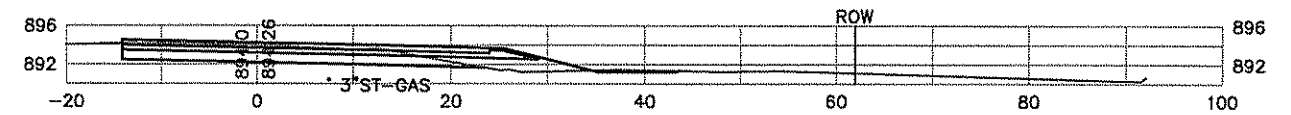


173+00

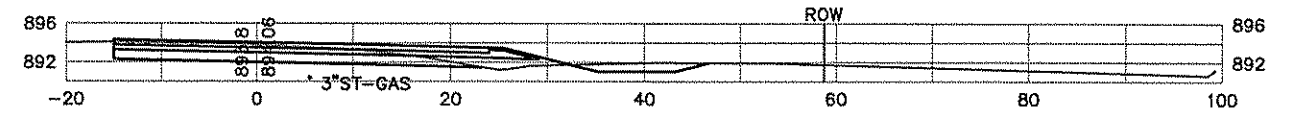


LNB PROFILE

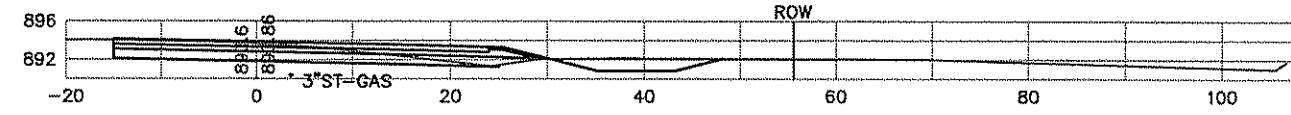
181+00



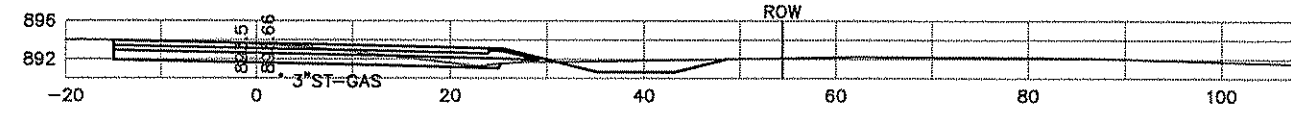
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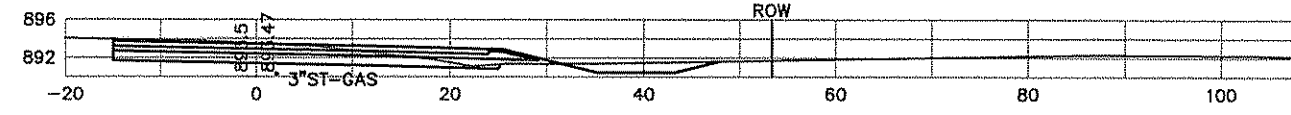
180+00



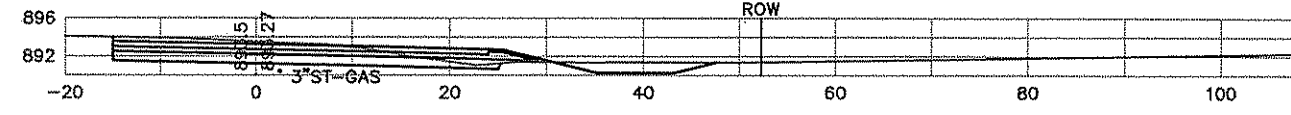
179+50



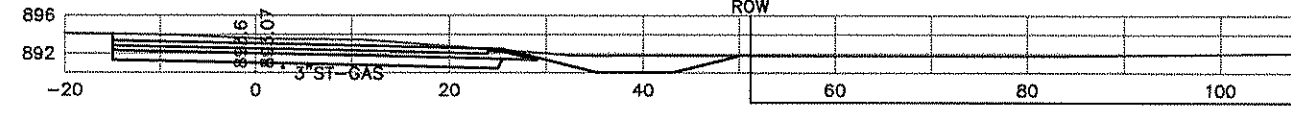
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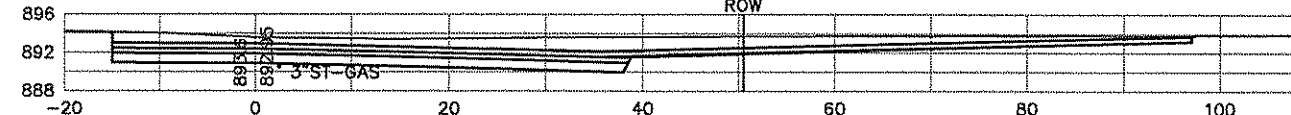
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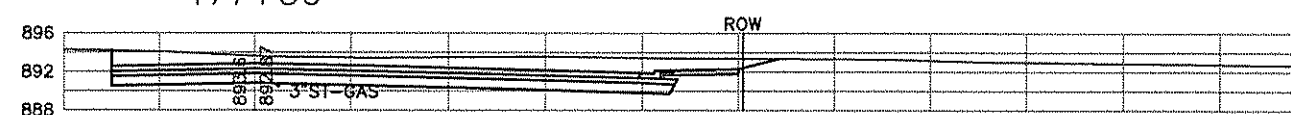
178+00



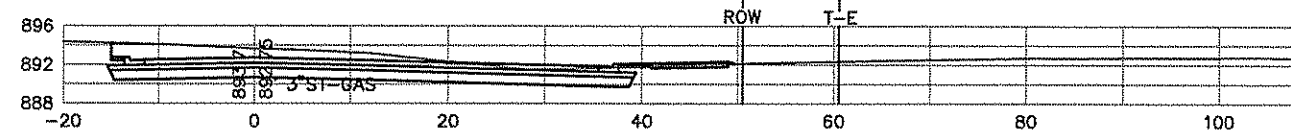
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177+50



177+18



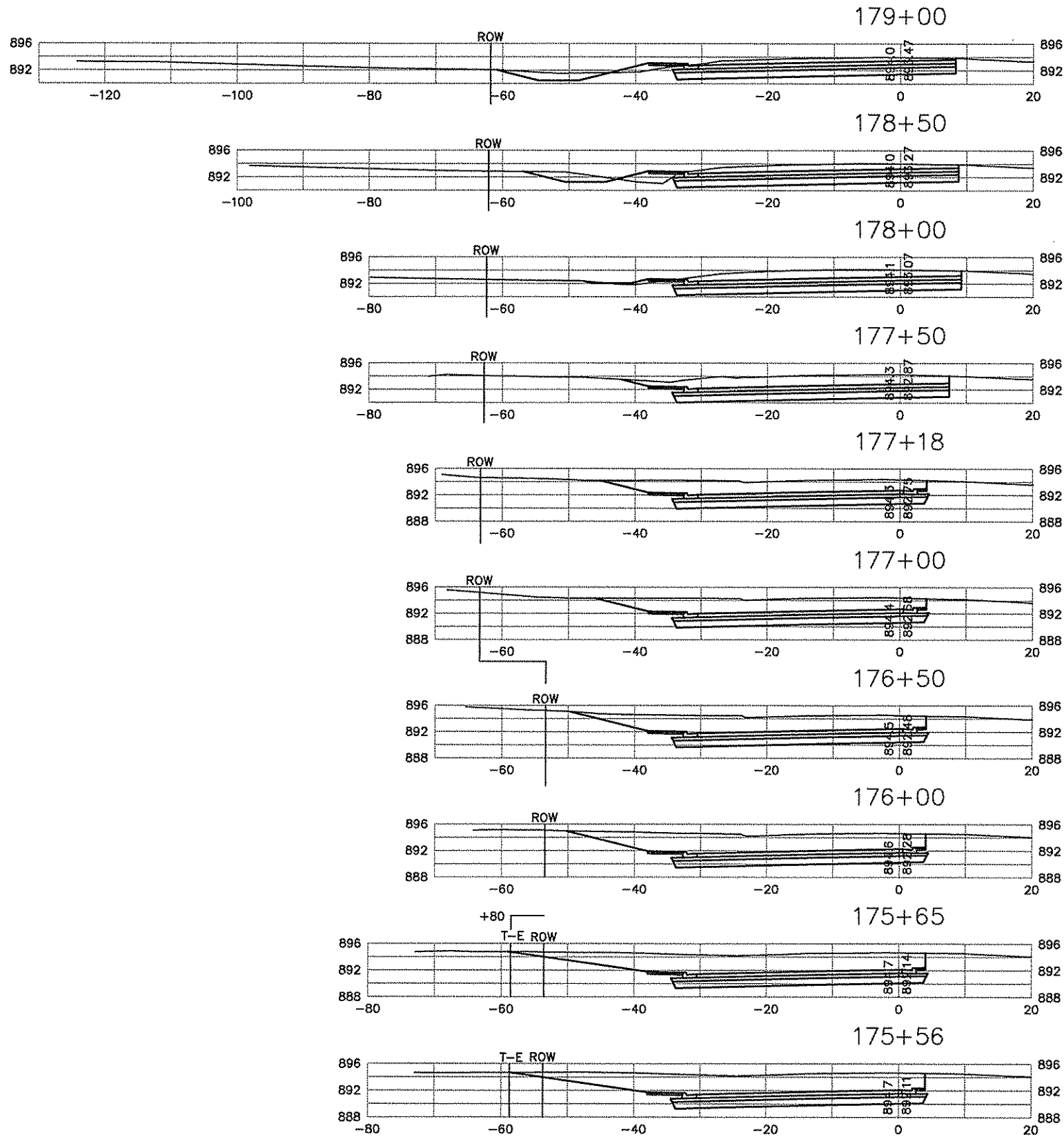
ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. _____
STATE AID PROJECT NO. 02-609-12
CITY PROJECT NO. 198-020-17
COUNTY PROJECT NO. _____

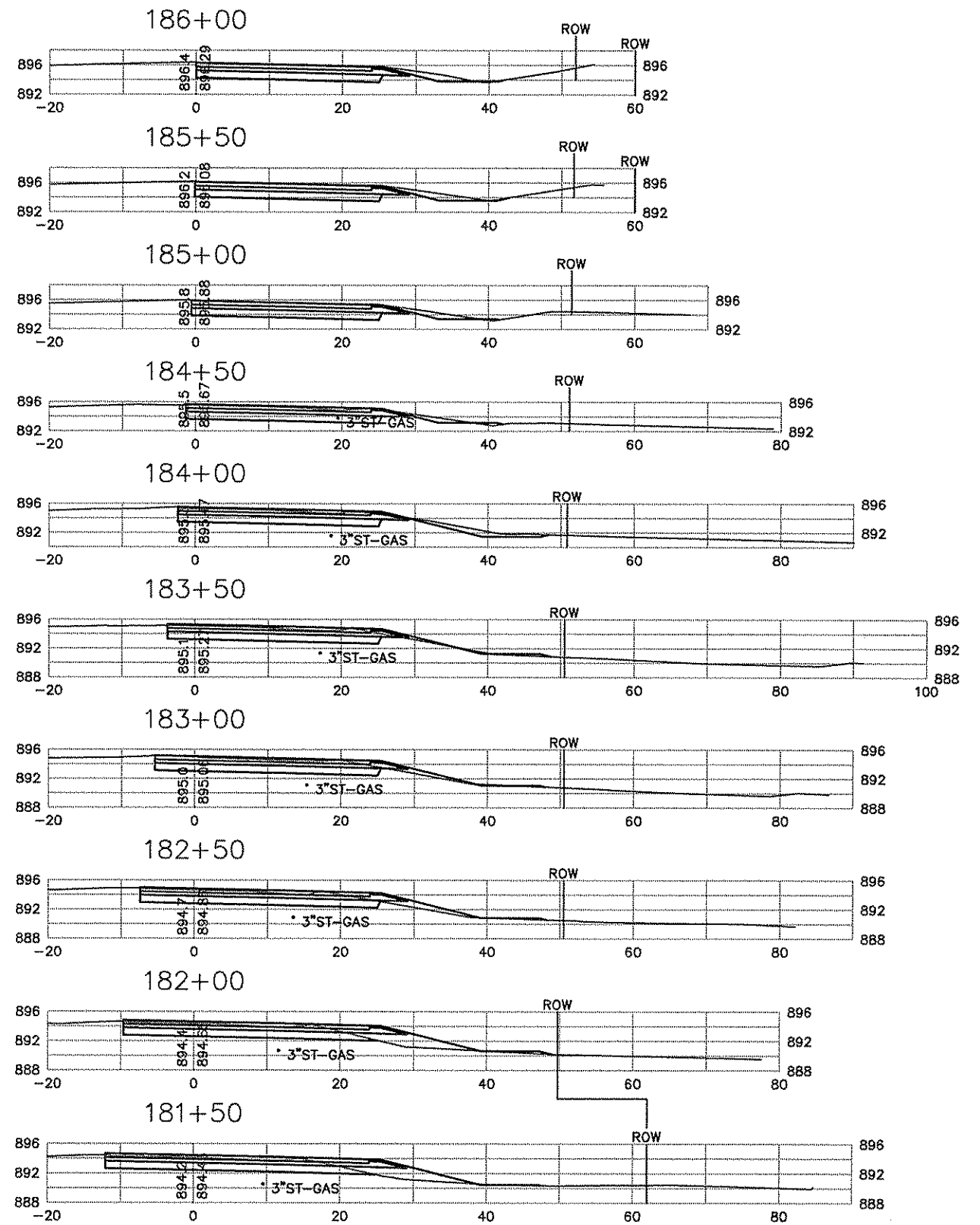
CROSS SECTIONS
177+18 TO 181+00

Sheet 163 of 165 Sheets

LSB PROFILE



LNB PROFILE



ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. _____
STATE AID PROJECT NO. 02-609-12
CITY PROJECT NO. 198-020-17
COUNTY PROJECT NO. _____

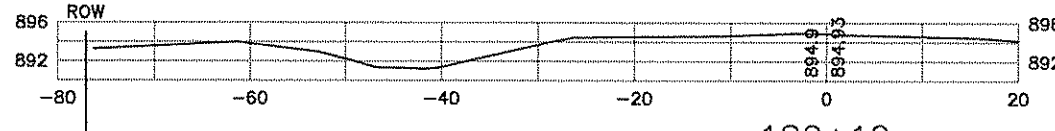
CROSS SECTIONS
181+50 TO 186+00

Sheet 164 of 165 Sheets

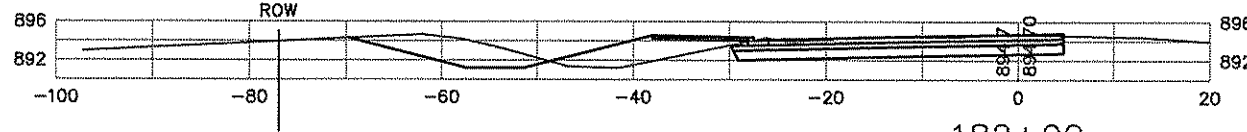
LSB PROFILE

LNB PROFILE

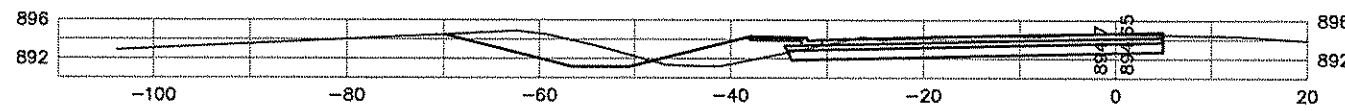
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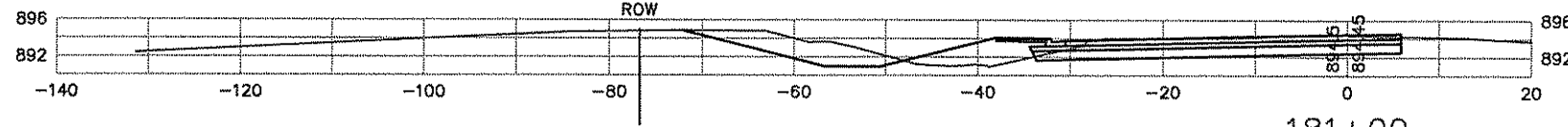
182+12



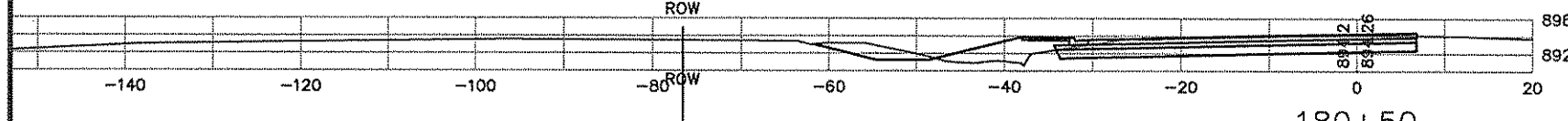
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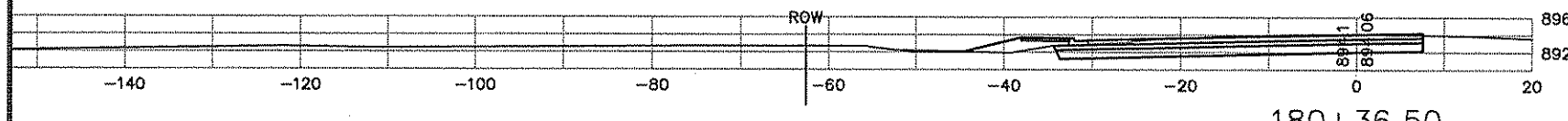
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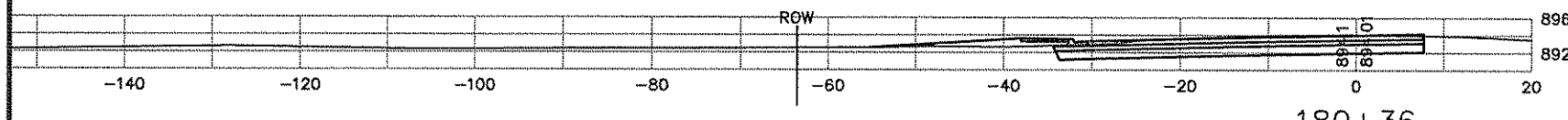
181+00



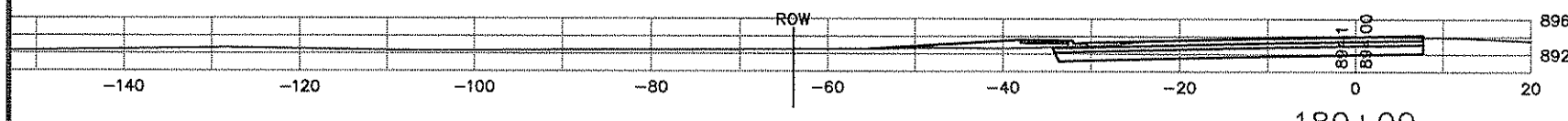
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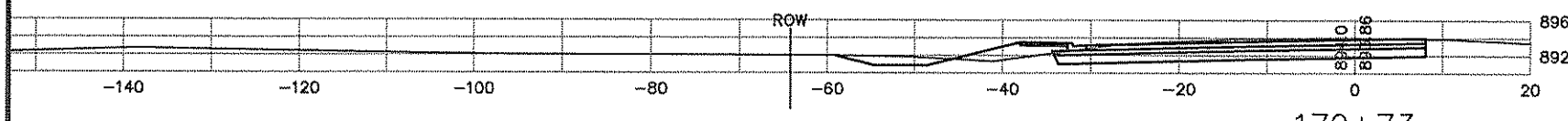
180+36.50



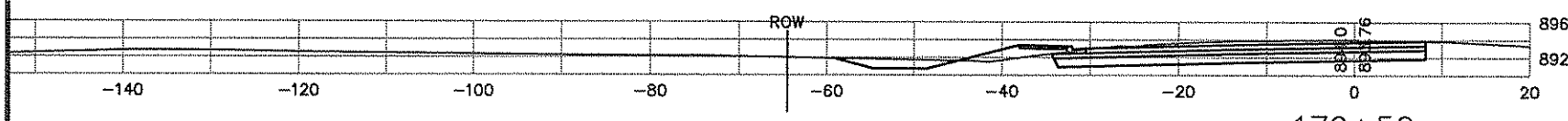
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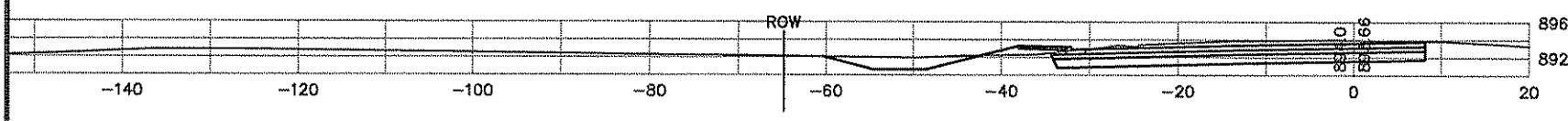
180+00



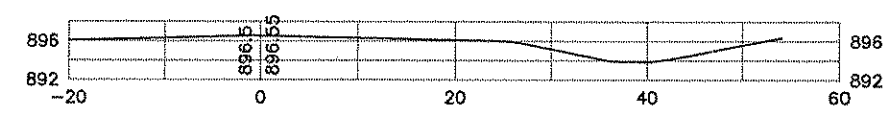
179+73



179+50



186+50



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COUNTY PROJECT NO. _____

CROSS SECTIONS
186+50