

# MINNESOTA DEPARTMENT OF TRANSPORTATION

## ANOKA COUNTY

### CONSTRUCTION PLAN FOR GRADING, AGG. BASE, BITUMINOUS SURFACING, MEDIANS AND SIGNAL SYSTEM

LOCATED ON CSAH 11 FROM 228.179 m WEST OF XEON ST. EAST TO 231.721 m EAST OF XEON ST.

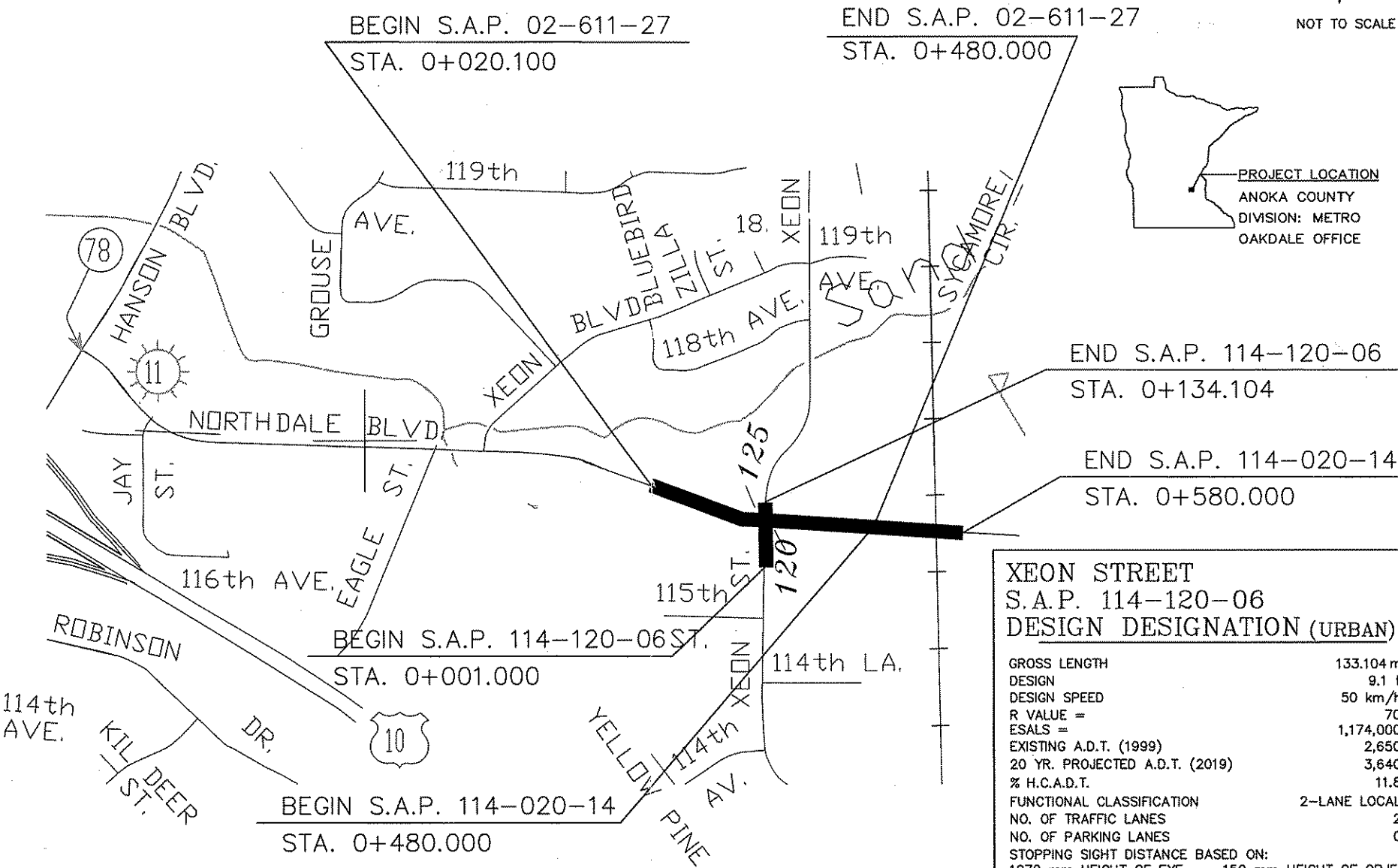
GROSS LENGTH 459.90 METERS

LOCATED ON CSAH 11 FROM 231.721 m EAST OF XEON ST. EAST TO 331.721 m EAST OF XEON ST.

GROSS LENGTH 100.000 METERS

LOCATED ON XEON ST FROM 100.000 m SOUTH OF CSAH 11 NORTH TO 34.104 m NORTH OF CSAH 11

GROSS LENGTH 134.104 METERS



**XEON STREET**  
**S.A.P. 114-120-06**  
**DESIGN DESIGNATION (URBAN)**

GROSS LENGTH	133.104 m
DESIGN	9.1 t
DESIGN SPEED	50 km/h
R VALUE =	70
ESALS =	1,174,000
EXISTING A.D.T. (1999)	2,650
20 YR. PROJECTED A.D.T. (2019)	3,640
% H.C.A.D.T.	11.8
FUNCTIONAL CLASSIFICATION	2-LANE LOCAL
NO. OF TRAFFIC LANES	2
NO. OF PARKING LANES	0
STOPPING SIGHT DISTANCE BASED ON:	
1070 mm HEIGHT OF EYE	150 mm HEIGHT OF OBJECT

GOVERNING SPECIFICATIONS  
 THE 1995 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION  
 "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN EXCEPT  
 AS MODIFIED BY THE SPECIFICATIONS FOR THIS PROJECT.

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2-3	STATEMENT OF ESTIMATED QUANTITIES
4	STREET DETAILS
5-9	STANDARD DETAILS PLAN
10-11	TABULATIONS
12	TABULATIONS/EARTHWORK SUMMARY
13	CONSTRUCTION NOTES / STANDARD PLATES
14-15	TYPICAL SECTIONS
16	ALIGNMENT PLAN
17-18	REMOVALS
19-23	CONSTRUCTION PLAN & PROFILE
24	STORM SEWER PROFILES
25-29	CROSS-SECTIONS
30-34	TRAFFIC SIGNAL PLAN
35-36	PAVEMENT MARKING DETAILS
37-38	SIGNING & PAVEMENT MARKING PLAN
39-41	TRAFFIC CONTROL PLAN
THIS PLAN CONTAINS <u>41</u> SHEETS.	

CSAH 11 (NORTHDALE BOULEVARD) AT XEON STREET  
 S.A.P. 02-611-27 S.A.P. 114-120-06 S.A.P. 114-020-14  
**C.S.A.H. 11**  
 S.A.P. 02-611-27 S.A.P. 114-020-14  
**DESIGN DESIGNATION (RURAL)**

GROSS LENGTH	559.50 m
DESIGN	9.1 t
DESIGN SPEED	70 km/h
R VALUE =	70
ESALS =	3,686,000
EXISTING A.D.T. (1999)	12,039
20 YR. PROJECTED A.D.T. (2019)	19,262
% H.C.A.D.T.	9.3
FUNCTIONAL CLASSIFICATION	2-LANE COLLECTOR
NO. OF TRAFFIC LANES	2
SHOULDER WIDTH	2.4 m
STOPPING SIGHT DISTANCE BASED ON:	
1070 mm HEIGHT OF EYE	150 mm HEIGHT OF OBJECT

PROJECT LOCATION  
 ANOKA COUNTY  
 DIVISION: METRO  
 OAKDALE OFFICE

ALL TRAFFIC CONTROL DEVICES AND  
 SIGNING SHALL CONFORM TO THE MMUTCD,  
 INCLUDING FIELD MANUAL FOR TEMPORARY  
 TRAFFIC CONTROL ZONE LAYOUTS, JANUARY 1998.

NOTE:  
 THE EXACT LOCATION OF UNDERGROUND  
 GAS, TELEPHONE, FIBEROPTIC, ELECTRIC,  
 CABLE TV, AND PIPE LINES ARE UNKNOWN.  
 CONTRACTOR SHALL CONTACT GOPHER  
 STATE ONE CALL BEFORE COMMENCING  
 EXCAVATION.

APPROVED: *[Signature]* 10/18/99  
 ANOKA COUNTY ENGINEER DATE

APPROVED: *[Signature]* 9/30/99  
 CITY OF COON RAPIDS DATE

APPROVED: *[Signature]* 11/02/99  
 METRO-ASSISTANT DIVISION ENGINEER-STATE AID: DATE  
 REVIEWED FOR COMPLIANCE WITH STATE AID RULES/POLICY

APPROVED: *[Signature]* 11/02/99  
 APPROVED FOR STATE AID FUNDING: DATE  
 STATE AID ENGINEER

**LEGEND**

	STREET CENTERLINE
	SURVEY BASELINE
	COUNTY SECTION QUARTER SIXTEENTH
	CORPORATE LIMITS

**EXISTING**

	RIGHT OF WAY
	PERMANENT EASEMENT
	PROPERTY LINE
	R.R. RIGHT OF WAY
	SANITARY SEWER AND MANHOLE
	FORCE MAIN
	SANITARY SEWER SERVICE
	WATERMAIN, HYDRANT AND VALVE
	WATER SERVICE AND CURB STOP BOX
	WATER VALVE MANHOLE
	STORM SEWER AND MANHOLE
	CATCH BASIN
	CULVERT
	BULKHEAD
	UNDERGROUND TELEPHONE CABLE OR CONDUIT
	UNDERGROUND ELECTRIC CABLE OR CONDUIT
	TELEPHONE MANHOLE
	TELEPHONE PEDESTAL
	CABLE TV PEDESTAL
	ELECTRIC MANHOLE
	POWER POLE
	DOWN GUY ANCHOR
	STEEL LIGHT POLE
	TRAFFIC SIGNAL, STANDARD
	GAS MAIN
	GAS VALVE
	SOIL BORING
	TRAVERSE POINT
	CONCRETE CURB AND GUTTER
	EXISTING PAVEMENT OR SIDEWALK
	SIGN (HWY, PARK, STOP, ETC.)
	STREET SIGN
	DITCH
	RAILROAD TRACKS
	FENCE
	TREE (DECIDUOUS)
	TREE (CONIFEROUS)
	BUSH-SHRUB
	WOODED AREA
	BUILDING

**PROPOSED OR NEW CONSTRUCTION**

	NEW RIGHT OF WAY
	PERMANENT EASEMENT
	TEMPORARY EASEMENT
	SANITARY SEWER AND MANHOLE
	FORCE MAIN
	SANITARY SEWER SERVICE
	WATERMAIN, HYDRANT AND VALVE
	WATER SERVICE AND CURB STOP BOX
	WATER VALVE MANHOLE
	STORM SEWER WITH MANHOLE
	CATCH BASIN
	CULVERT
	BULKHEAD
	DRAIN PIPE
	DITCH
	CONCRETE CURB AND GUTTER
	SILT FENCE
	HAYBALES
	STEEL LIGHT POLE
	TRAFFIC SIGNAL, STANDARD
	SIGN (HWY, PARK, STOP, ETC.)
	STREET LIGHT FEED POINT
	STREET LIGHTING CABLE
	REMOVE TREE
	INSULATION

DESIGN	GFA	9/23/99	ADDRESS STATE AID COMMENTS
DRAWING			
CHECKED			
DESIGN TEAM	NO.	BY	DATE
			REVISIONS

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the state of Minnesota.  
*[Signature]*  
 Date: 11/17/99 Reg. No. 18612



S.A.P. 02-611-27  
 S.A.P. 114-120-06  
 S.A.P. 114-020-14

TITLE SHEET

SHEET 1 of 41 SHEETS

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STATEMENT OF ESTIMATED QUANTITIES



TAB	NOTES	ITEM NO.	ITEM	UNIT	TOTAL QUANTITIES		S.A.P.02-611-27 ANOKA COUNTY ROADWAY		S.A.P.02-611-27 ANOKA COUNTY STORM		S.A.P.114-120-06 CITY OF COON RAPIDS ROADWAY		S.A.P.114-120-06 CITY OF COON RAPIDS STORM		S.A.P.114-020-14 CITY OF COON RAPIDS ROADWAY		S.A.P.114-020-14 CITY OF COON RAPIDS STORM			
					EST.	FINAL	EST.QTY	FINAL QTY	EST.QTY	FINAL QTY	EST.QTY	FINAL QTY	EST.QTY	FINAL QTY	EST.QTY	FINAL QTY	EST.QTY	FINAL QTY	EST.QTY	FINAL QTY
		2564.603	100 mm SOLID LINE WHITE, PAINT	m	1295			1060			135				100					
		2564.603	100 mm SOLID LINE YELLOW, PAINT	m	1280			900			250				130					
		2564.603	600 mm SOLID LINE WHITE, POLY PREFORM	m	58			25			8				25					
		2564.603	600 mm SOLID LINE YELLOW, POLY PREFORM	m	20			20												
		2564.603	100 mm DOUBLE LINE YELLOW, TEMP. PAINT (STAGE 1)	m	580			470			110									
		2564.603	100 mm SOLID LINE WHITE, TEMP. PAINT (STAGE 2)	m	1190			1190												
		2564.603	100 mm SOLID LINE YELLOW, TEMP. PAINT (STAGE 2)	m	1200			1000							200					
		2564.604	900 mm SOLID WHITE, POLY PREFORMED	m2	80			40							40					
		2565.511	FULL-TRAFFIC ACTUATED TRAFFIC CONTROL SIGNAL SYS.	SIG. SYS.	1			0.25			0.75									
		2565.601	EMERGENCY VEHICLE PREEMPTION SYSTEM	LUMP SUM	1						1									
		2573.501	BALE CHECK	EACH	50			40							10					
L		2573.502	SILT FENCE, TYPE PREASSEMBLED	m	1020			885.2							134.8					
I		2575.501	SEEDING	ha	0.246			0.22							0.026					
		2575.502	SEED MIXTURE 70A	kg	12.30			11							1.30					
I		2575.505	SODDING TYPE LAWN	m2	404.74			14			224.60				166.14					
		2575.511	MULCH MATERIAL, TYPE 1	ton	1.12			1.00							0.12					
		2575.532	COMM. FERT. ANALYSIS 10-10-10	kg	137.76			124							13.76					

NOTES:

1. INCLUDES ALL BITUMINOUS PAVEMENTS REGARDLESS OF DEPTH OR WIDTH.
2. MILLING SHALL BE USED IN LIEU OF SAWING AT THE DIRECTION OF THE ENGINEER IN THE FIELD.
3. FOR DUST CONTROL AS DIRECTED BY THE ENGINEER IN THE FIELD.
4. INCLUDES 50mm OF BITUMINOUS AND 100mm OF AGGREGATE BASE CLASS 5.
5. QUANTITY BASED ON PLAN THICKNESS PLUS 6mm.
6. UNIFORM SUBCUT FOR COMPACTION

(P) PLANNED QUANTITY

INDEX OF TABULATION CHARTS

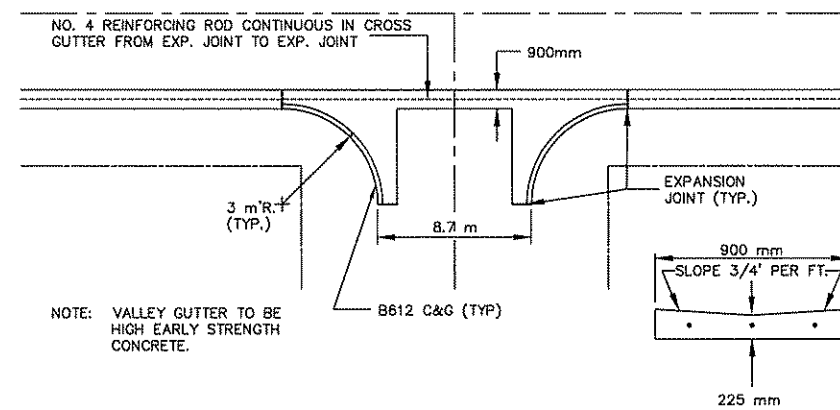
CHART #	SHEET #	DESCRIPTION
A	10	CLEARING & GRUBBING
B	10	REMOVE CONCRETE CURB & GUTTER
C	10	PAVEMENT REMOVAL AND SAWCUT
D	10	STORM SEWER STRUCTURE
E	10	DRIVEWAY REMOVAL/REPLACEMENT
F	12	EXISTING UTILITY TAB
G	11	BITUMINOUS PAVEMENT SUMMARY
H	11	AGGREGATE BASE SUMMARY
I	11	TURF ESTABLISHMENT
J	11	PAVEMENT MARKINGS
K	11	CONCRETE WALK AND CURB & GUTTER
L	11	SILT FENCE
M	10	CASTING ASSEMBLY SUMMARY

BASIS OF ESTIMATED QUANTITIES

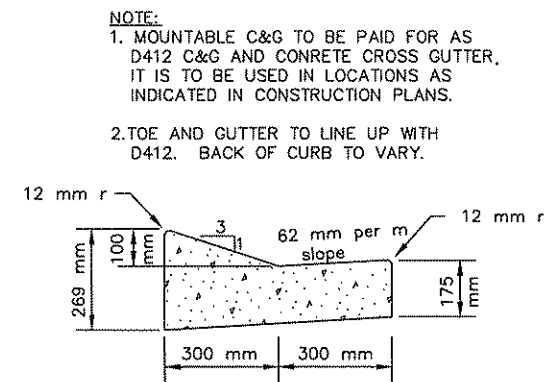
- 2211.501 AGG. BASE CL. 5 - 2.4 kg/m2/mm
- 2350.609 TYPE HV4 PLANT MIXED WEARING COURSE - 2.35 kg/m2/mm
- 2350.609 TYPE HV3 PLANT MIXED NON-WEARING COURSE - 2.35 kg/m2/mm
- 2350.609 TYPE MV4 PLANT MIXED NON-WEARING COURSE - 2.35 kg/m2/mm
- 2357.502 BITUMINOUS MATERIAL FOR TACK COAT - 0.226 L/m2
- 2575.502 SEED MIXTURE 70A - 50 kg/ha
- 2575.511 MULCH MATERIAL TYPE 1 - 4.5 t/ha
- 2575.532 COMM. FERT. ANALYSIS 10-10-10 - 560 kg/ha ON ALL SEED

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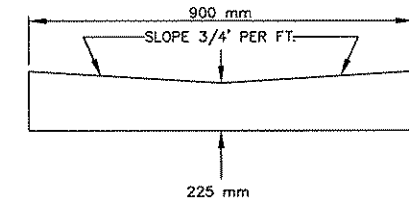
DESIGN	GFA	9/23/99	ADDRESS STATE COMMENTS	I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the state of Minnesota. <i>[Signature]</i> Date: 7/28/99 Reg. No. 18612		ANOKA COUNTY <b>C.S.A.H. 11 (NORTHDALE BLVD.)</b> S.A.P. 02-611-27 S.A.P. 114-120-06 S.A.P. 114-020-14	FILE NO.	3
DRAWING			DATE				7/28/99	
CHECKED			REVISIONS				ITEM	



CONCRETE CROSS GUTTER  
FOR DRIVEWAY ON XEON STREET



MOUNTABLE CURB AND GUTTER  
ON XEON STREET



CONCRETE DRAINAGE FLUME  
SEE PLANS FOR LOCATIONS

C:\CIVIL\CLIENTS\VA\_THRU\_F\ANOKA\9902.02\ACAD\AC902DT1.DWG 05-11-99 1:33 pm

DESIGN		GFA	9/23/99	ADDRESS STATE AID COMMENTS	
DRAWING					
CHECKED					
DESIGN TEAM	NO.	BY	DATE	REVISIONS	ITEM

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.  
*Salman M. Memon*  
 Date: 7/19/99 Reg. No. 18612

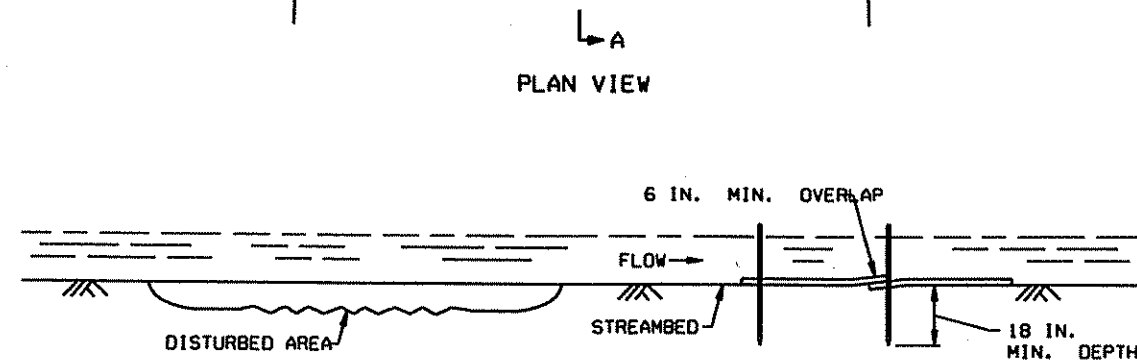
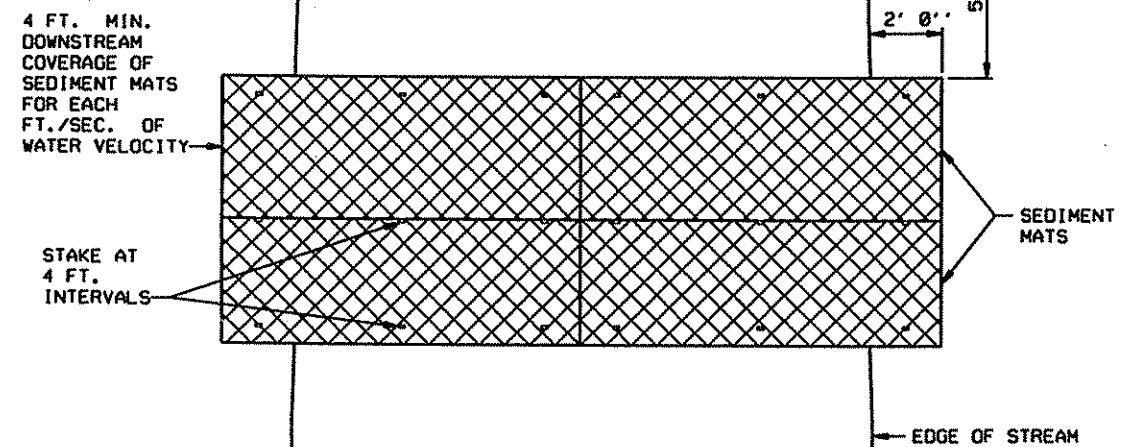
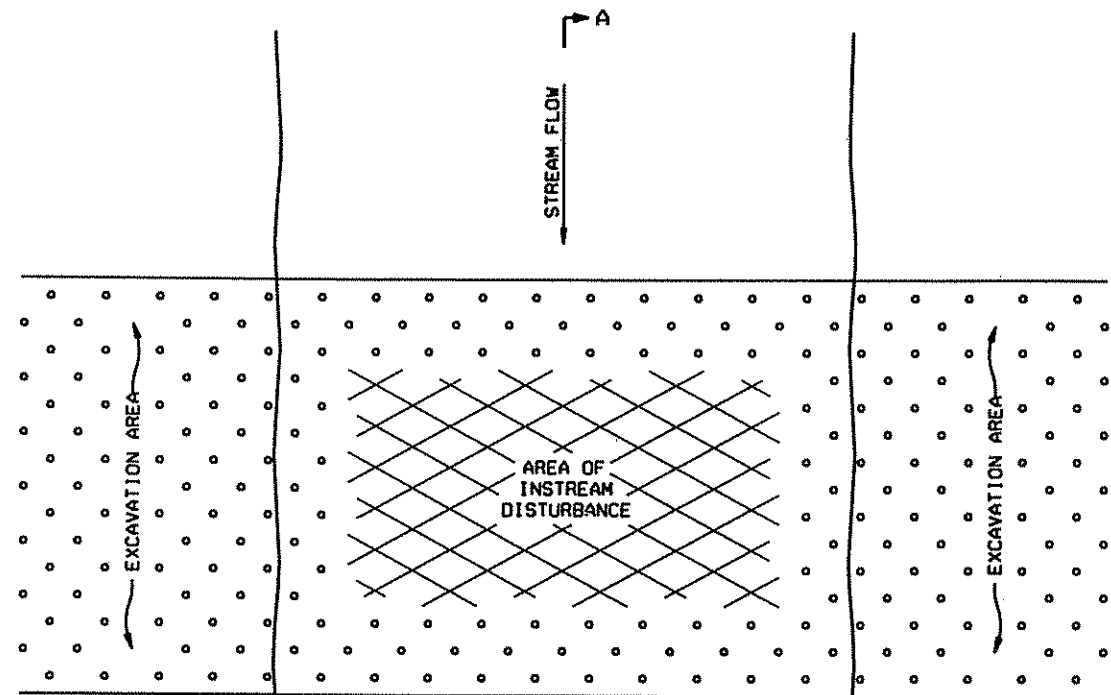


ANOKA COUNTY  
**CSAH 11 (NORTHDAL BLVD.)**  
 S.A.P. 02-611-27  
 S.A.P. 114-120-06  
 S.A.P. 114-020-14

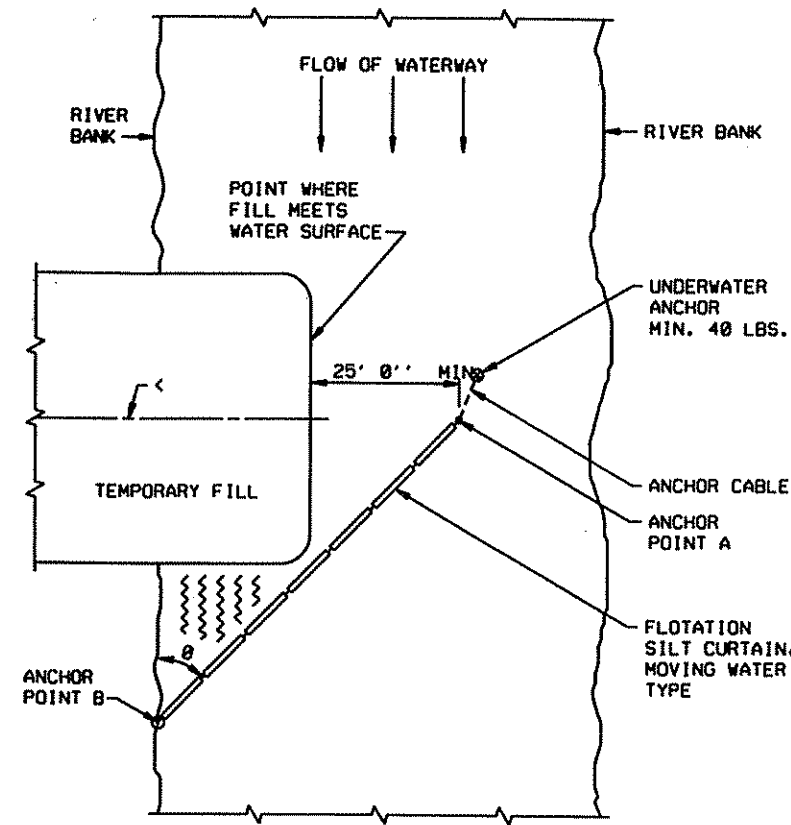
STREET DETAILS

FILE NO.	AANOKC9902.02
DATE	7/28/99

4  
41



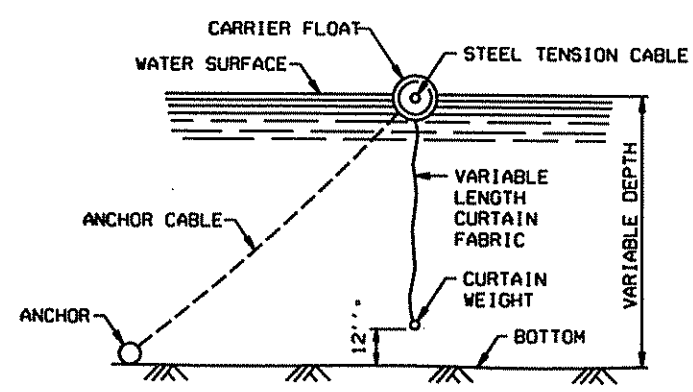
DESIGN CRITERIA:  
 MAXIMUM FLOW VELOCITY: 5 FT./SEC.  
 MAXIMUM FLOW DEPTH: 2 FT.



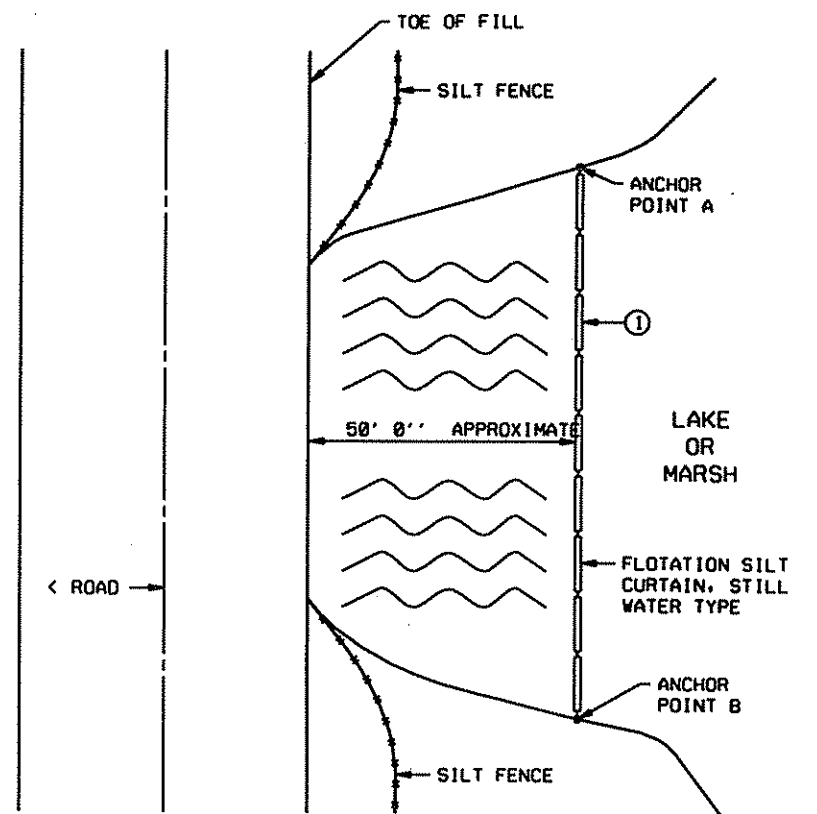
$\angle \theta$	RIVER VELOCITY
45°	SLOW, LESS THAN 5 FT./SEC.
35°	MODERATE, 5 - 7 FT./SEC.

PLAN VIEW OF SILT CURTAIN - MOVING WATER

DESIGN CRITERIA:  
 MAXIMUM WATER DEPTH: 12 FT.  
 MAXIMUM WATER VELOCITY: 7 FT./SEC.

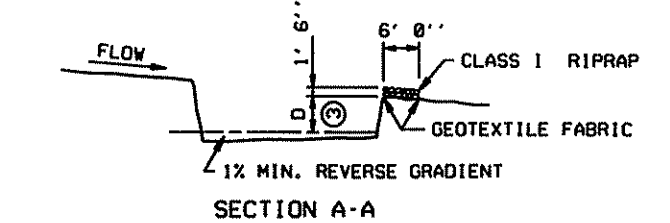
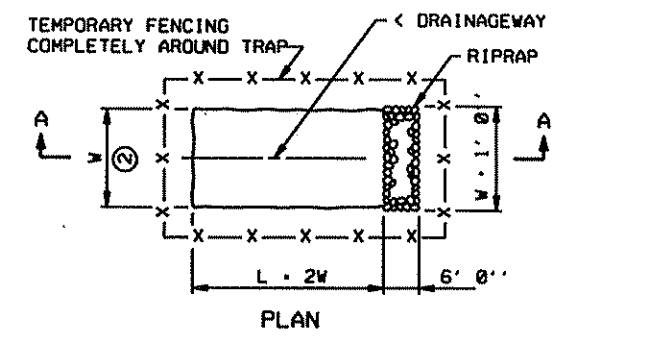


FLOTATION SILT CURTAIN DETAIL  
 (SEE SPEC. 3887)



PLAN VIEW OF SILT CURTAIN - STILL WATER

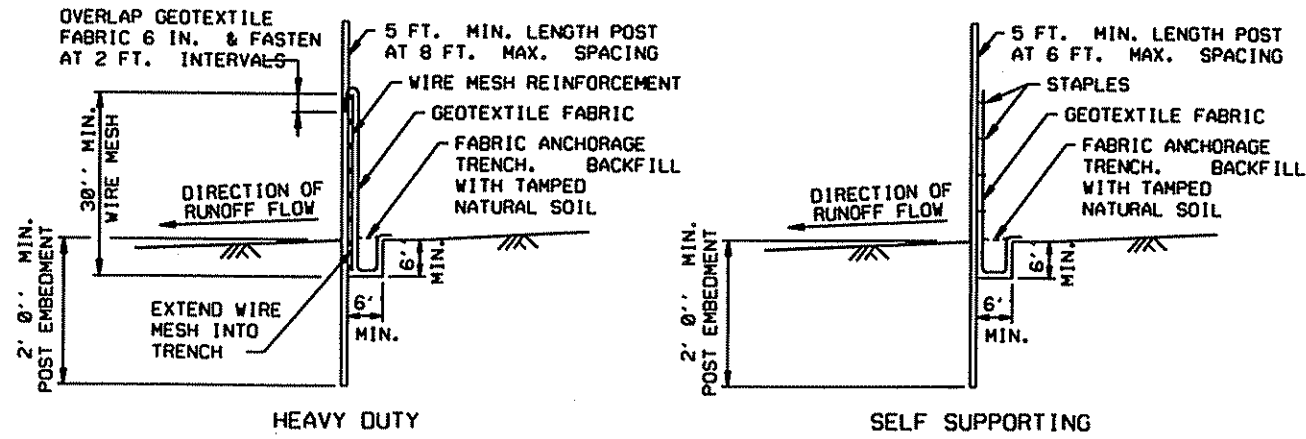
DESIGN CRITERIA:  
 MAXIMUM WATER DEPTH: 12 FT.



TEMPORARY SEDIMENT TRAP DETAIL

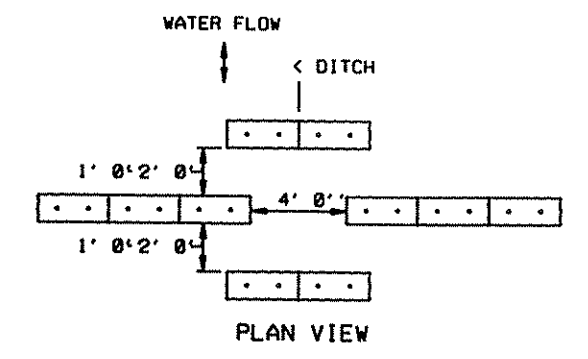
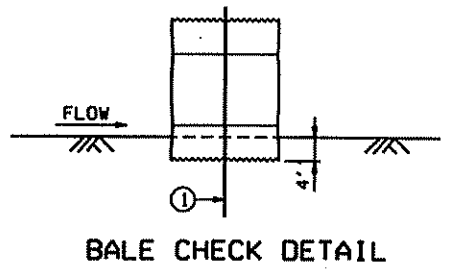
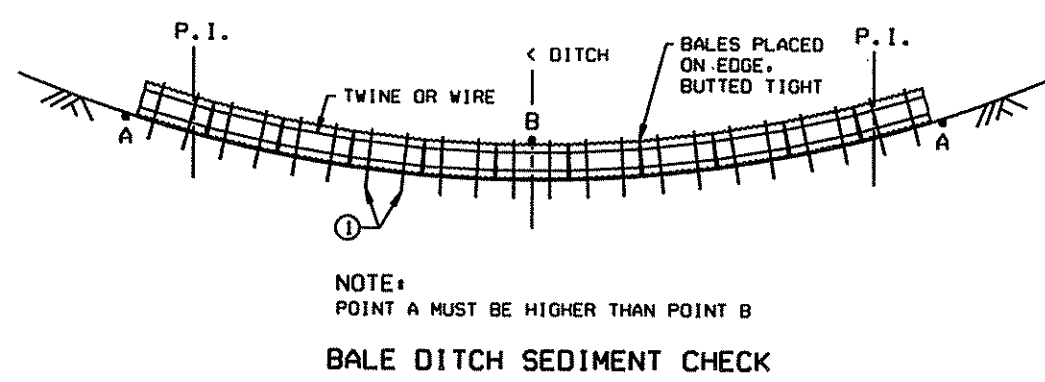
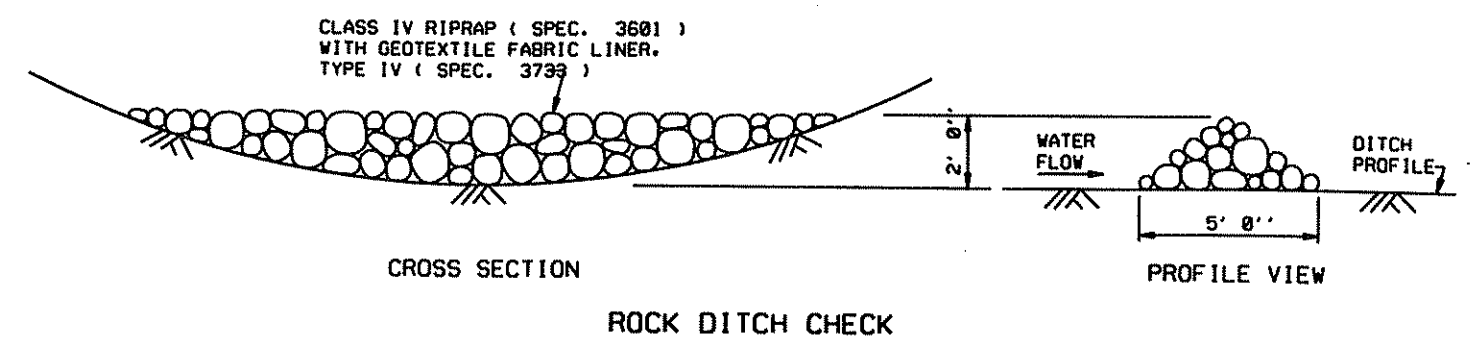
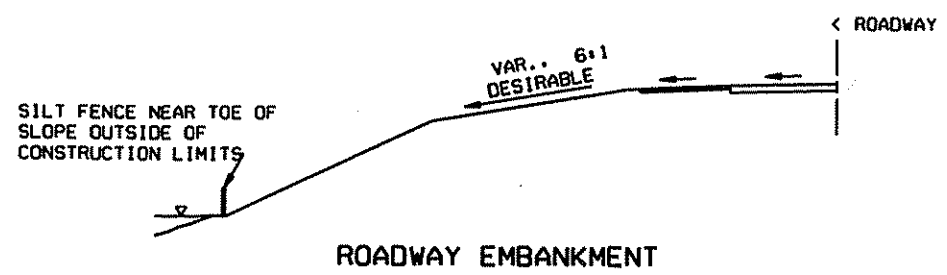
- NOTES:  
 ① CURTAIN 1 FT. FROM BOTTOM  
 ② W = 10 FT. MIN., 20 FT. MAX  
 ③ D = 3 FT. MIN., 6 FT. MAX

20 MAY 99 15:11:29 g:\civil\lights\va\_tbru\_\fanoke\9902.02\acod\akc806d1.dgn

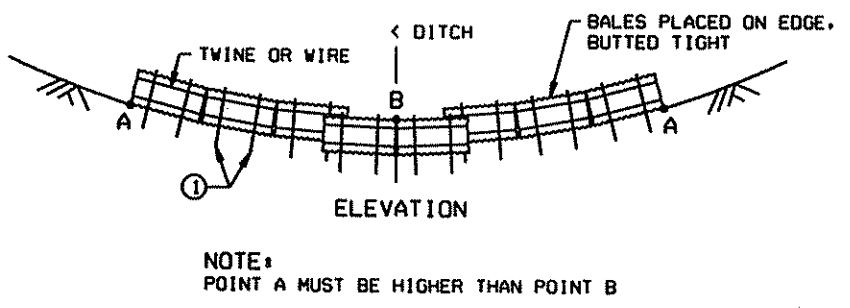


**SILT FENCE DETAILS**  
 TO PROTECT AREAS FROM SHEET FLOW  
 (SEE SPEC. 3886)

**DESIGN CRITERIA:**  
 MAXIMUM CONTRIBUTING AREA: 3 ACRES



RECOMMENDED SPACING BETWEEN DITCH CHECKS	
DITCH GRADE (%)	SPACING (FT.)
2	100
4	75
6	50
8	40
10	25



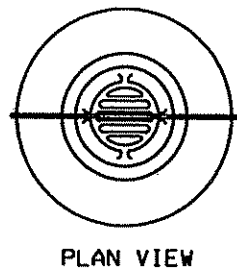
**BALE DITCH VELOCITY CHECKS**  
 (WILL REQUIRE A MINIMUM OF 10 BALES PER SITE)

**DESIGN CRITERIA:**

	<b>BALE</b>	<b>ROCK</b>
STORM FREQUENCY:	2 YR. - 24 HR.	10 YR. - 24 HR.
MAX. FLOW VELOCITY:	5 FT./SEC.	12 FT./SEC.
MAX. DITCH GRADE:	5%	—
MAX. DRAINAGE AREA:	2 ACRES	5 ACRES

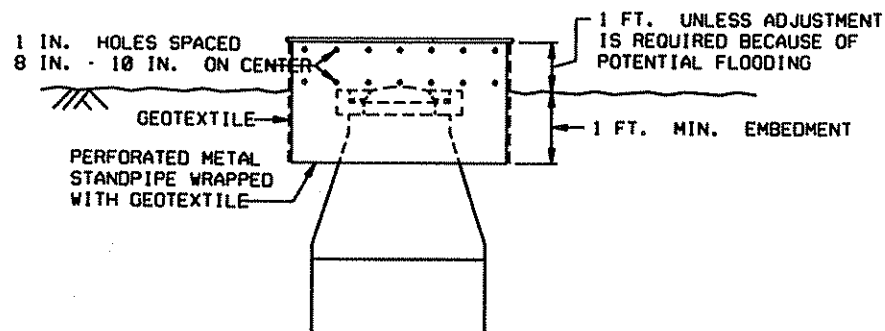
**NOTE:**  
 ① TWO 2 IN. X 2 IN. WOOD STAKES OR REINFORCING BARS PER BALES AND EMBEDDED IN THE GROUND 10 IN. MINIMUM.

20 MAY 99 15:14:23  
 q:\civil\clients\o...thru\_\fanokc\9902.02\acad\akc806d2.dgn



ANTIVORTEX ROD,  
5/8 IN. MIN. DIA.,  
TACK WELD TO  
STANDPIPE AND SET  
PARALLEL TO FLOW

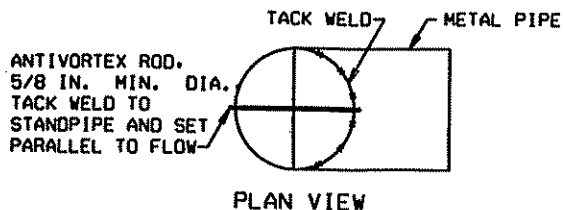
PLAN VIEW



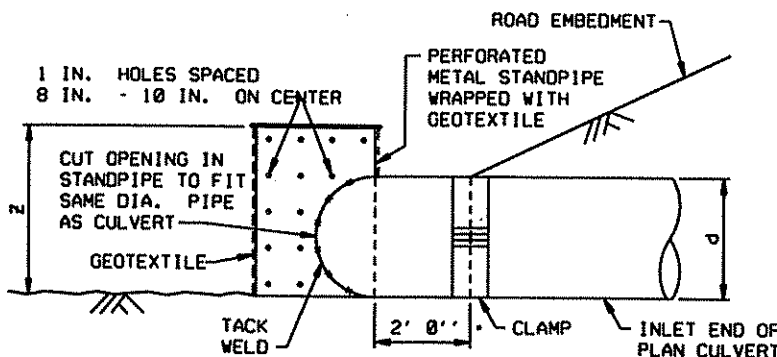
ELEVATION

**TEMPORARY STANDPIPE  
TO PROTECT DROP INLET**

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



PLAN VIEW

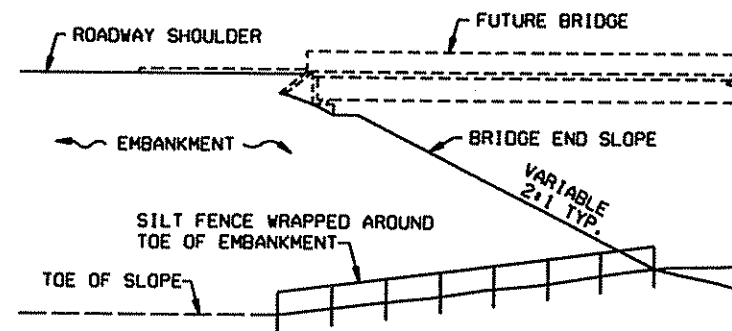


ELEVATION

**TEMPORARY STANDPIPE  
FOR SEDIMENT CONTROL ON CULVERT INLET**

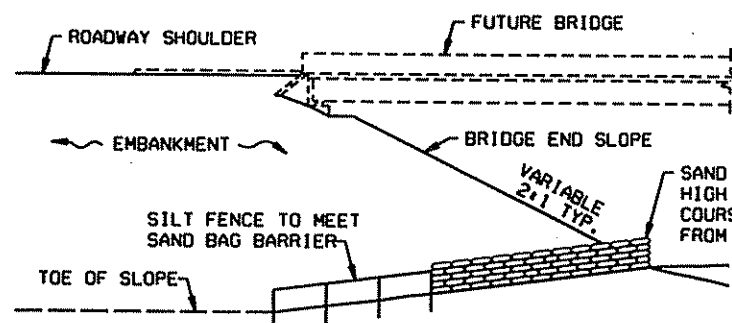
d = DIA. OF STANDPIPE EQUAL TO DIA. OF PLAN CULVERT  
Z = LENGTH OF PERFORATED STANDPIPE d (1 FT.)

DESIGN CRITERIA:  
CULVERT SIZE: 12 - 36 IN.  
STORM FREQUENCY: 10 YR. - 24 HR.



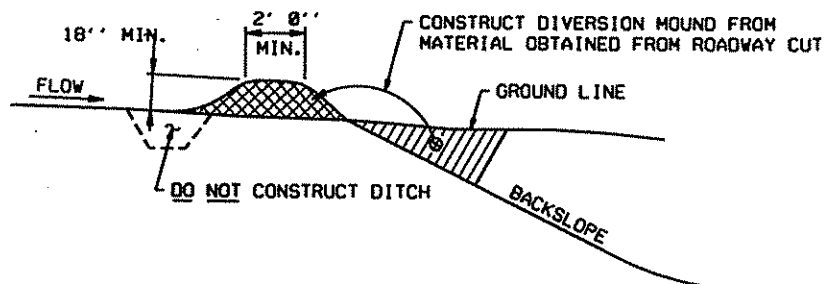
BRIDGE FILL

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



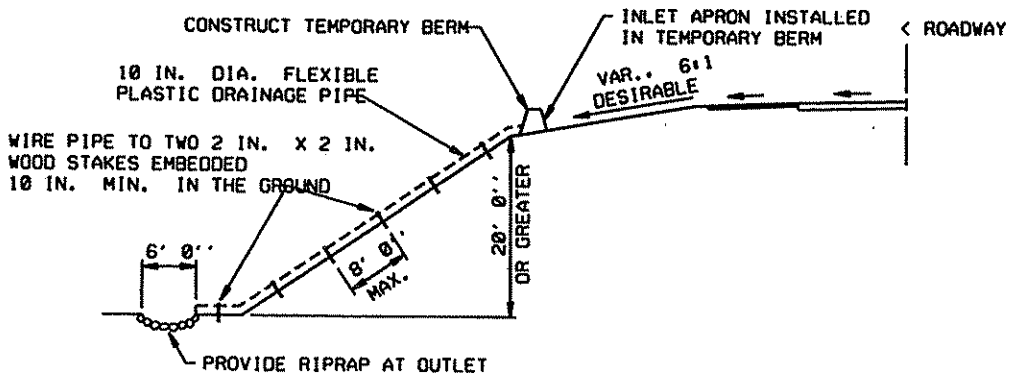
BRIDGE FILL

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



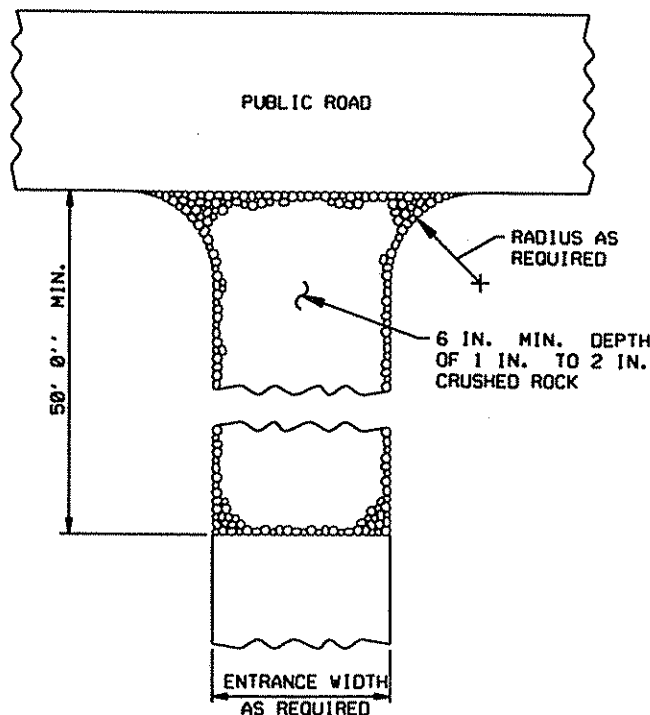
**DIVERSION MOUND**

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

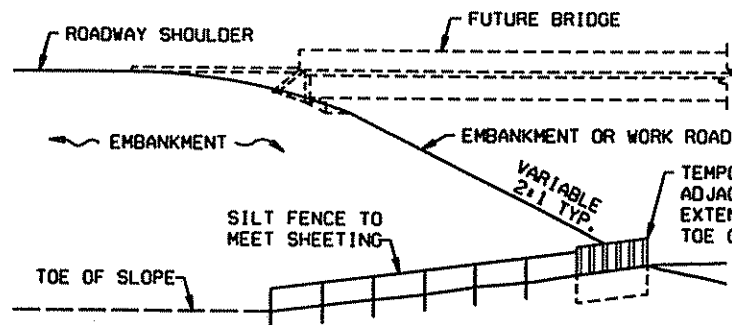


**TEMPORARY DRAIN ON FILL SLOPE**

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



**ROCK CONSTRUCTION ENTRANCE**



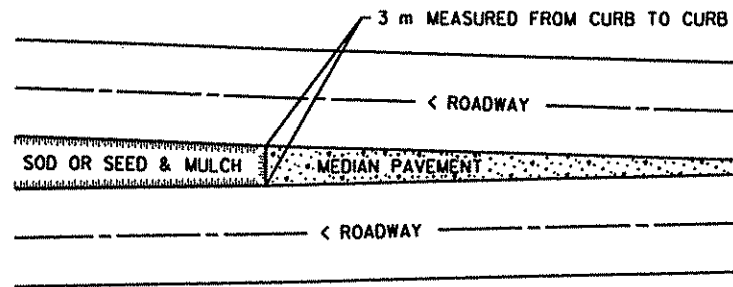
EMBANKMENT OR WORK ROAD FILL

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

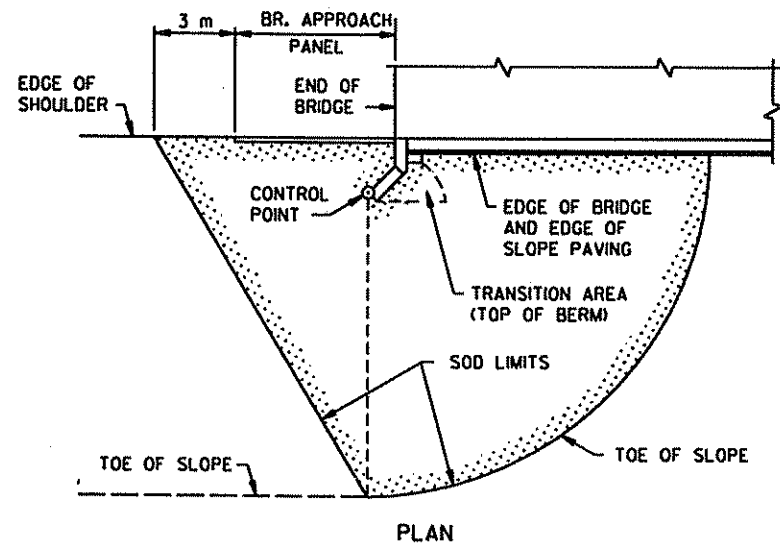
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STANDARD SHEET NO. 5-297.405 ( 3 OF 3 )	TITLE: TEMPORARY EROSION CONTROL
STANDARD APPROVED: MAY 1, 1995	
S.A.P. 02-611-27 S.A.P. 114-120-06 SHEET NO. 7 OF 41 SHEETS	

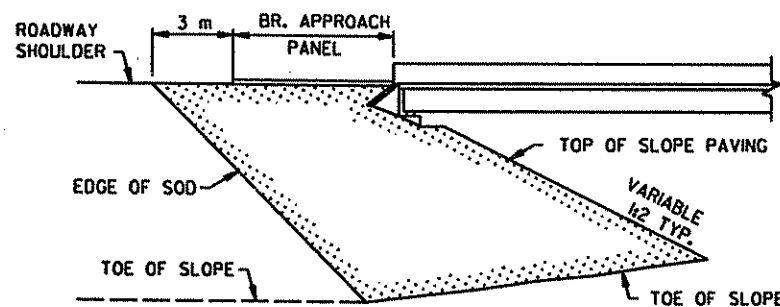




SODDING LIMITS AT GORE AREA

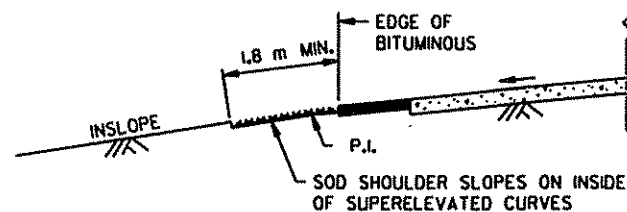


PLAN

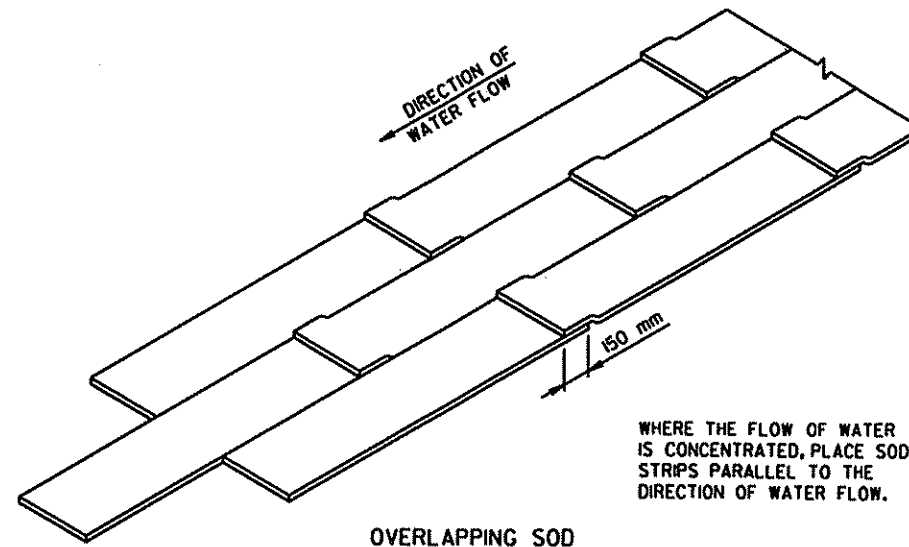


ELEVATION

SODDING LIMITS AT BRIDGE APPROACH FILLS

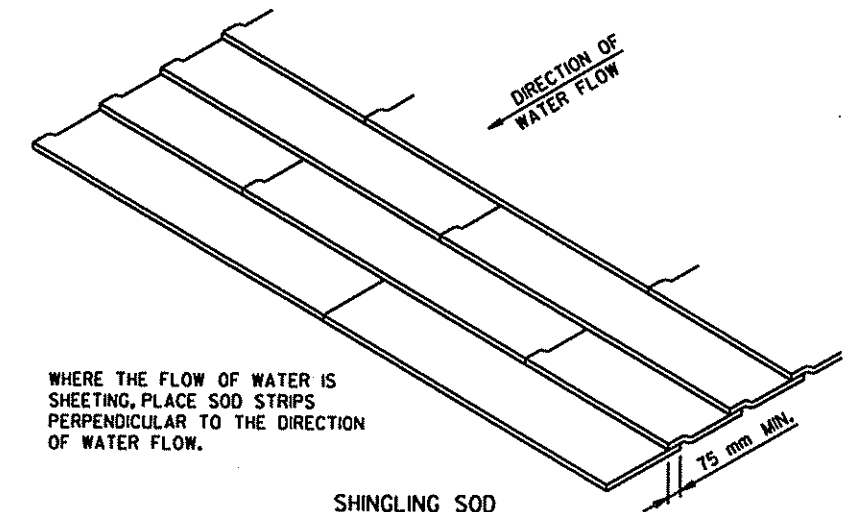


SODDING INSLOPES OF SUPERELEVATED CURVES



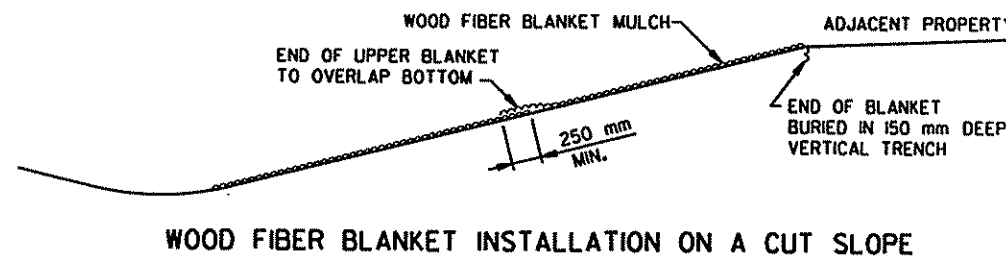
OVERLAPPING SOD

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

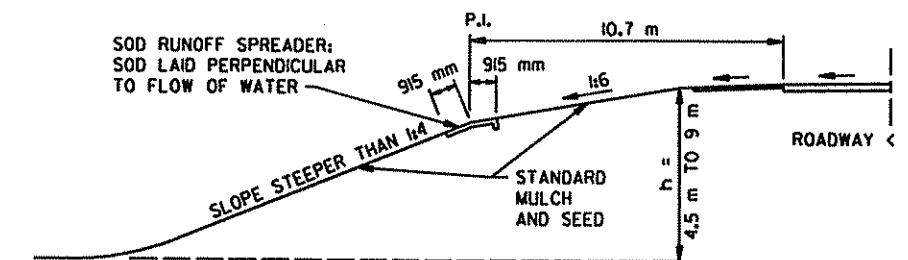


SHINGLING SOD

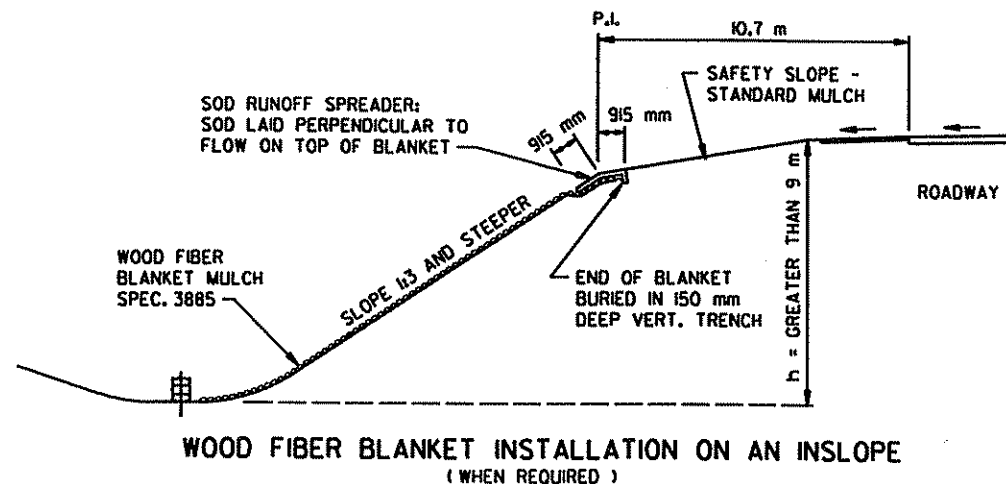
SPECIAL SOD PLACEMENT TECHNIQUES



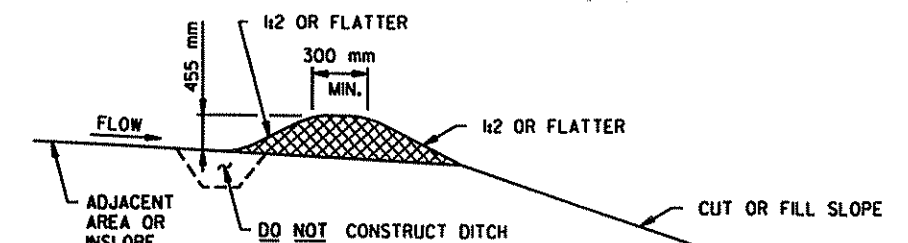
WOOD FIBER BLANKET INSTALLATION ON A CUT SLOPE



BROKEN-BACK SAFETY FILL SLOPE



WOOD FIBER BLANKET INSTALLATION ON AN INSLOPE (WHEN REQUIRED)



PERMANENT SLOPE PROTECTION DIKE

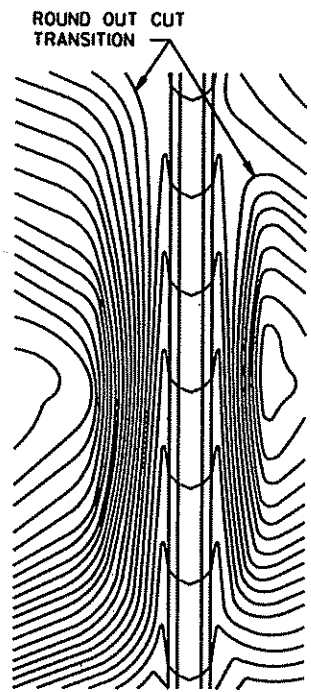
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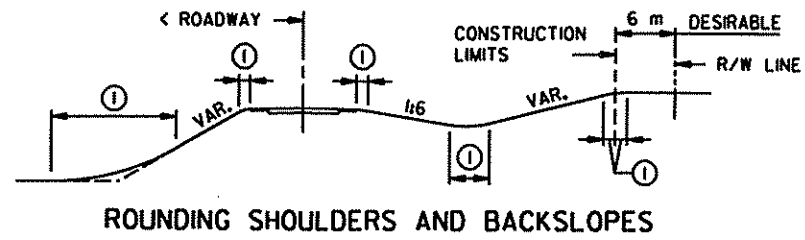
STANDARD SHEET NO.  
5-297.406M  
STANDARD APPROVED:  
JANUARY 31, 1985

TITLE:  
PERMANENT EROSION CONTROL  
ALONG ROADWAYS AND AT GORE AREAS & BRIDGE APPROACH FILLS

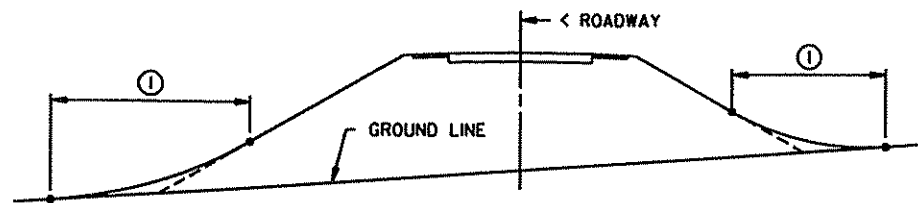




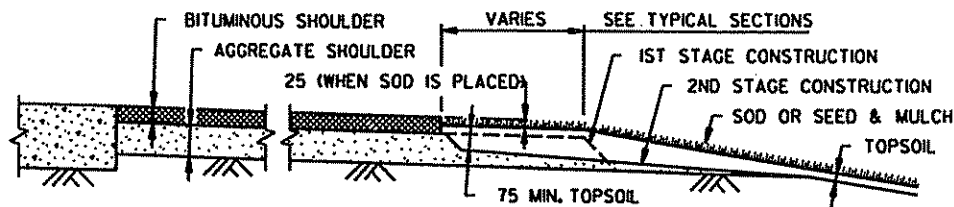
CONTOURING ROAD CUTS



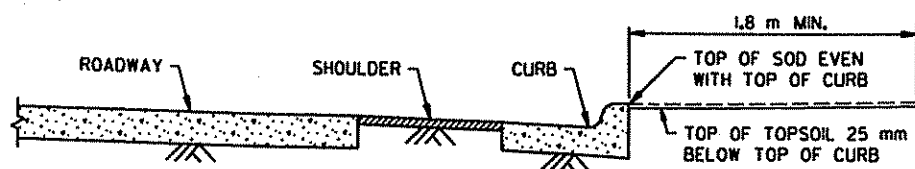
ROUNDING SHOULDERS AND BACKSLOPES



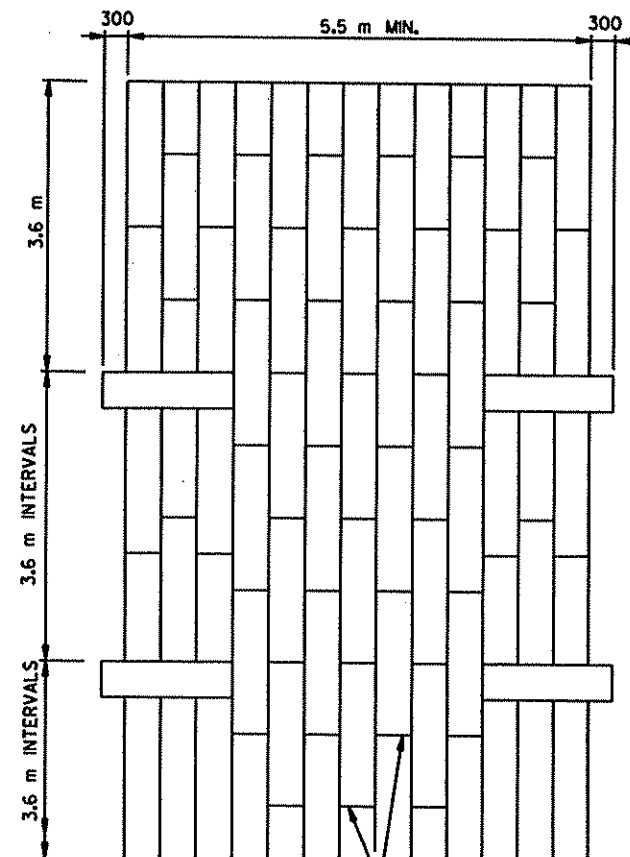
SHAPING FOR DRAINAGE ALONG THE TOE OF FILL SLOPES



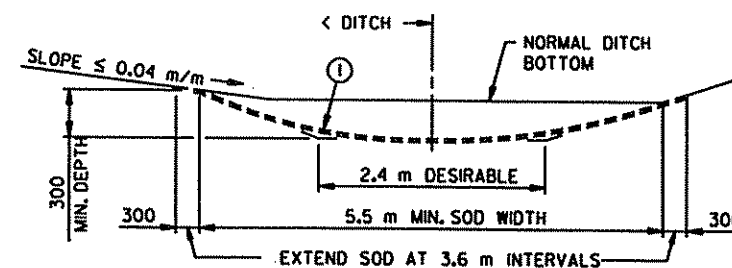
SHAPING AND TOPSOILING INSLOPES



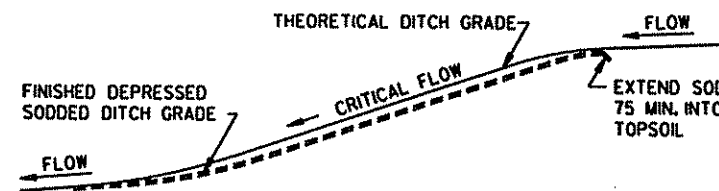
SHAPING ADJACENT TO CURBS WHEN SOD IS PLACED



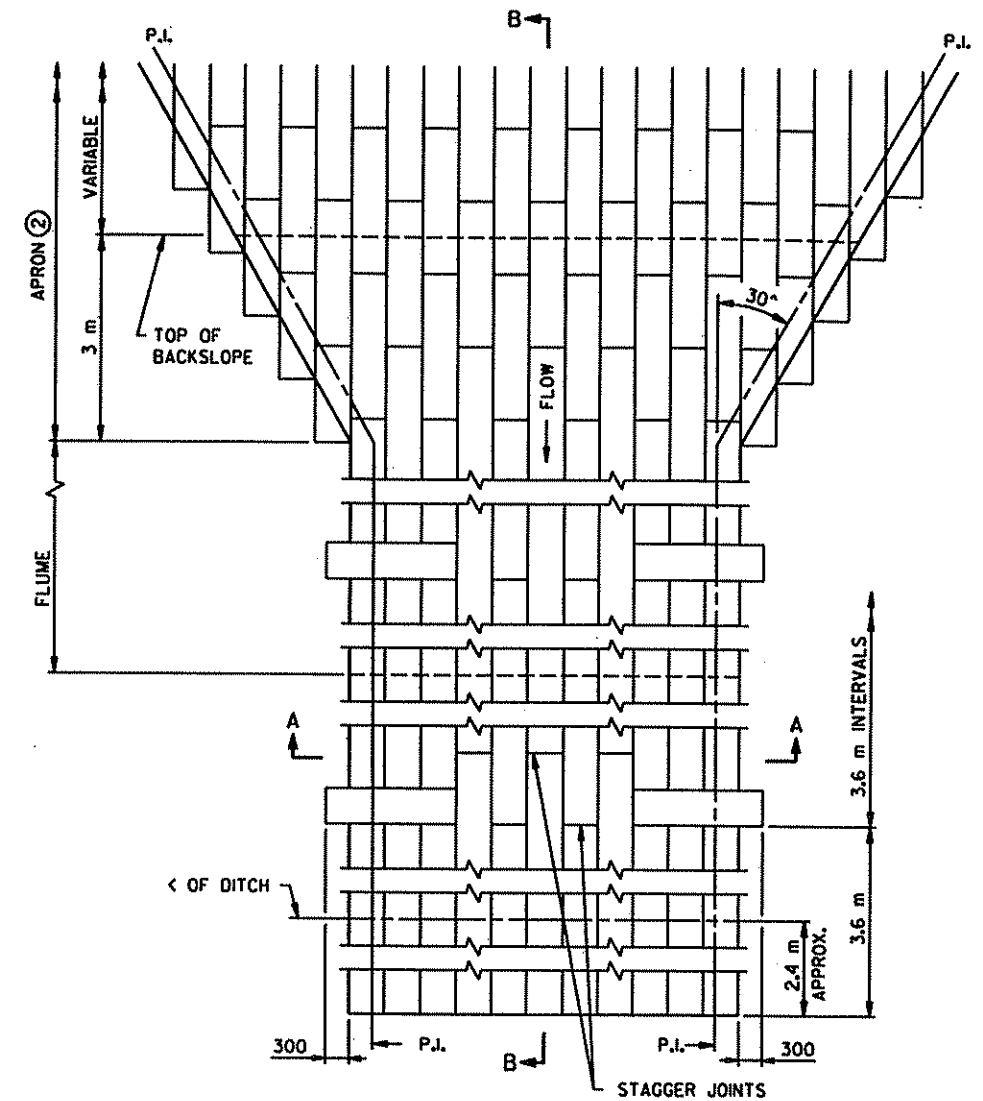
STAGGER JOINTS  
PLAN VIEW



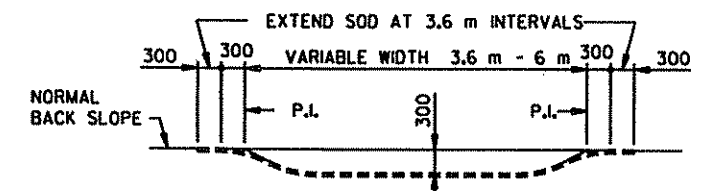
SODDED DITCH CROSS SECTION  
WHERE FRONT OR BACK SLOPE IS FLAT (LESS THAN 0.04 m/m),  
FIRST NOTCH DITCH AND THEN PROVIDE ROUNDING.



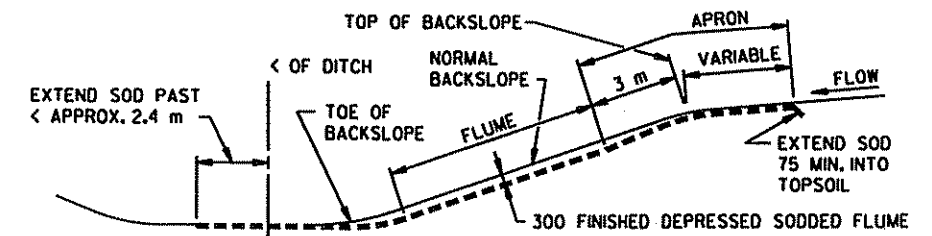
DITCH PROFILE  
SODDED DITCH DETAILS



PLAN VIEW



SECTION A-A



SECTION B-B

SODDED FLUME DETAILS

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

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

3-6-95



STANDARD SHEET NO.  
5-297.404M  
STANDARD APPROVED:  
DECEMBER 19, 1990

TITLE:  
PERMANENT EROSION CONTROL  
ALONG ROADWAYS, DITCHES AND FLUMES

S.A.P. 02-611-27 S.A.P. 114-120-06 SHEET NO. 9 OF 41 SHEETS

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D STORM SEWER STRUCTURE SCHEDULE																				
LINE	STRUCT. NO.	STRUCTURE LOCATION ①				DESIGN				CASTING TYPE	TOP OF CAST	OUTLET ELEV.	DRAINS TO			SALVAGE & ADJUST CASTING	REMARKS	LINE	300mm RCP DES. 3006 m	FLARED END STRUCT.
		STATION	CONSTRUCTION C/L		SURVEY LINE	M.H.	C.B.	DIAM. (mm)	DEPTH (m)				NO.	% GRADE	INLET ELEV.					
1	101	0+022.855		5.9	XEON ST.				A-7D			EXIST.			1	REPLACE EXISTING CASTING	1			
2	102	0+036.970		5.9	XEON ST.		H	675	0.87	A-7D	265.830	264.630	103	1.00%	EXIST.		2	3.0		
3	103	0+036.970		9.0	XEON ST.	F		1200	1.07	②	265.849	264.448	101	EXIST.	264.600	CONNECT TO EXIST. 675 mm RCP	3			
4	104	0+084.570		5.9	XEON ST.	F		1200	1.23	A-7D	266.200	264.640	EXIST.			REMOVE EXISTING STRUCTURE	4		2	
5	105	0+269.120		3.7	C.S.A.H. 11	F		1200	0.58	B-1	266.320	265.406	104	4.25%	264.640		5	18.0		
6	106	0+269.120		1.5	C.S.A.H. 11		H	675	0.58	B-1	266.320	265.406	105	0.50%	265.406		6	1.2		
7	107	0+217.350	0.8		C.S.A.H. 11	F		1200	0.66	B-1	265.910	264.920	FL. END	1.00%	264.770		7	15.0	1	
8	108	0+217.350	3.1		C.S.A.H. 11	F		1200	0.58	B-1	265.840	264.930	107	1.00%	264.920		8	8.0	1	
9	109	0+129.980		3.0	C.S.A.H. 11	F		1200	0.63	B-1	266.220	265.260	FL. END	0.50%	265.210		9	11.0	1	
10	110	0+129.980	2.1		C.S.A.H. 11		H	675	0.57	B-1	266.200	265.300	109	1.00%	265.280		10	4.2		
11	111	0+402.510		2.6	C.S.A.H. 11	F		1200	0.63	B-1	267.060	266.101	FL. END	1.00%	266.000		11	11.0	1	
12	112	0+402.510	2.4		C.S.A.H. 11		H	675	0.58	B-1	267.060	266.146	111	1.00%	266.101		12	4.2		

NOTES:

- ① LOCATION TO FACE OF CURB FOR CATCH BASINS.
- ② INSTALL EXISTING CASTING FROM #101.
- ③ INCLUDES ALL INTERIM ADJUSTMENTS.

A CLEARING AND GRUBBING					
STATION	LOCATION	CLEARING		GRUBBING	
		LT/RT	EACH	ha	EACH
XEON STREET					
0+035	RT		1		1
0+038	RT		1		1
0+042	RT		1		1
0+045	RT		1		1
0+049	RT		1		1
0+051	RT		1		1
0+062	RT		1		1
0+066	RT		2		2
TOTAL			9		9

M CASTING ASSEMBLY SUMMARY						
ASSEMBLY	RING OR FRAME CASTING	COVER OR GRATE CASTING	CURB BOX	STANDARD PLATE	TOTAL QUANTITY	REMARKS
A-7D	700-7			M 4101	3	MANHOLE
				M 4110		
B-1	801	810	821B	M 4126	8	CURB INLET
				M 4149		
				M 4161		

C PAVEMENT REMOVAL AND SAW CUT						
ALIGNMENT	STATION	LOCATION	BITUMINOUS PAVEMENT	MILL BITUMINOUS	SAW CUT BITUMINOUS	
			m2	m2	m	
C.S.A.H. 11	0+020 0+048	LT	85.00		28.60	
C.S.A.H. 11	0+048 0+227	LT & RT	2350.00		14.20	
C.S.A.H. 11	0+227 0+264	LT & RT		872.00		
C.S.A.H. 11	0+264 0+555	LT & RT	3437.00		19.60	
C.S.A.H. 11	0+555 0+580	LT & RT	268.00		71.90	
XEON STREET	0+001 0+063	RT			93.80	
XEON STREET	0+063 0+084	LT & RT		260.00		
XEON STREET	0+115 0+134	LT & RT		263.00		
TOTAL			6140.00	1395.00	228.10	

GENERAL NOTES:

- 1) PROTECT ALL EXISTING UTILITIES.
- 2) CONTRACTOR SHALL VERIFY INVERTS ON EXISTING MANHOLES PRIOR TO ANY SEWER CONSTRUCTION.
- 3) CONTRACTOR SHALL PROTECT ALL EXISTING SANITARY SEWERS, WATER MAINS AND SERVICES NOT MARKED FOR REMOVAL.
- 4) ALL OFFSETS SHOWN ARE FROM THE PROPOSED ALIGNMENT.
- 5) CONSTRUCT ALL RADII AS PER PLANS. ALL RADII SHOWN ARE TO FACE OF CURB.
- 6) ALL CASTINGS NOT BEING REUSED SHALL BE SALVAGED FOR ANOKA COUNTY AND/OR THE CITY OF COON RAPIDS.
- 7) EROSION CONTROL TO BE PLACED BEFORE REMOVAL OF BITUMINOUS PAVEMENT.
- 8) SAW CUT ALL BITUMINOUS AND CONCRETE AS DIRECTED BY THE ENGINEER IN THE FIELD.
- 9) THE LOCATION OF EXISTING UTILITIES SHOWN ARE APPROXIMATE AND MAY NOT BE COMPLETE. THE CONTRACTOR SHALL HAVE ALL UTILITIES LOCATED IN THE FIELD BEFORE DIGGING. CONTRACTOR SHALL COORDINATE WITH RELOCATION OF PRIVATE UTILITIES.
- 10) CONTRACTOR SHALL PROVIDE AND MAINTAIN ALL EROSION CONTROL MEASURES AS SHOWN ON THESE PLANS AND SPECIFICATIONS AND IMPLEMENT ANY ADDITIONAL EROSION CONTROL MEASURES NECESSARY, OR AS DIRECTED BY ENGINEER, IN ORDER TO PROTECT ADJACENT PROPERTY.

B REMOVE CONCRETE CURB & CURB AND GUTTER				
STATION	DESCRIPTION	LENGTH m		REMARKS
C.S.A.H. 11				
0+098.64	10.4 RT	1.5		⊗ EX. DRIVE
0+106.08	10.4 RT	2.0		⊗ EX. DRIVE
0+108.45	11.5 LT	2.3		⊗ EX. DRIVE
0+115.74	11.5 LT	2.0		⊗ EX. DRIVE
0+240.50	15.7 LT	2.4		⊗ XEON ST
0+265.05	17.2 LT	4.3		⊗ XEON ST
0+500.00 0+529.00	1.0 LT & RT	58.5		TEMP. MEDIAN
0+540.00 0+569.00	1.0 LT & RT	58.5		TEMP. MEDIAN
XEON STREET				
0+002.40 0+084.57	6.2 RT	83.3		
0+023.92	9.1 RT	10.5		⊗ EX. DRIVE
0+032.46	9.1 RT	10.0		⊗ EX. DRIVE
0+063.20 0+079.30	6.2 LT	16.2		
TOTAL CURB		117.0		
TOTAL CURB & GUTTER		134.5		

E DRIVEWAY REMOVAL / REPLACEMENT						
STATION	LOCATION	REMOVAL	SAWCUT	REPLACEMENT		
				BIT. 50mm	AGG. 100mm	
C.S.A.H. 11		m2	m	m2	m3	
0+102.20	7.90 RT	50.00	7.20	32.00	3.60	
0+111.80	9.30 LT	75.00	7.00	31.00	3.50	
0+496.10	5.20 RT	78.00	5.50	78.00	9.60	
XEON STREET						
0+028.50	9.20 RT	69.00	8.30	40.00	5.20	
TOTAL		272.00	28.00	181.00	21.90	

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DRAWN BY: JB					
DESIGNER: JB					
CHECKED BY: SM					
DESIGN TEAM	NO.	BY	DATE	REVISIONS	ITEM

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.  
*John M. Moran*  
 Date: 7/28/99 Reg. No. 18612



ANOKA COUNTY  
**C.S.A.H. 11 (NORTHDAL BLVD.)**  
 S.A.P. 02-611-27  
 S.A.P. 114-120-06  
 S.A.P. 114-020-14

TABULATIONS

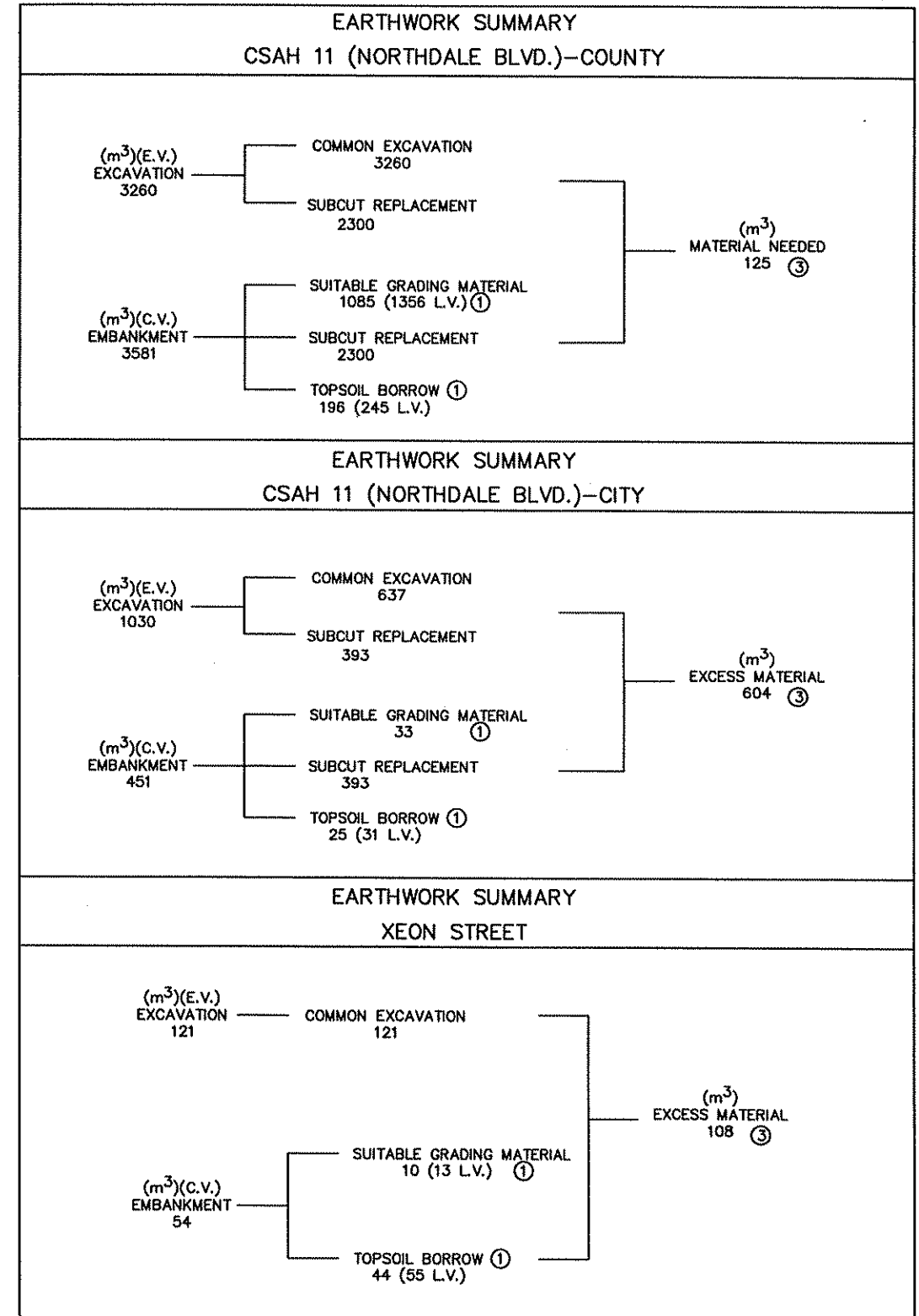
FILE NO.  
 ANOKC9902.02  
 DATE  
 7/28/99

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F EXITING UTILITY TABULATION			
STATION	LOCATION	ITEM	REMARKS
C.S.A.H. 11			
0+033.750	11.120 RT	15" CMP	PROTECT
0+046.750	11.120 RT	15" CMP	PROTECT
0+066.550	10.730 RT	15" CMP	REMOVE
0+085.200	11.220 RT	15" CMP	REMOVE
0+102.600	10.050 LT	STREET LIGHT	REMOVE BY OTHERS
0+114.740	7.800 LT	W/M GATE VALVE	ADJUST
0+117.000	13.170 LT	W/M HYDRANT	PROTECT
0+135.460	15.600 RT	POWER POLE	PROTECT
0+162.900	14.300 RT	POWER POLE	PROTECT
0+221.300	16.630 RT	POWER POLE	PROTECT
0+231.410	9.880 RT	LIGHT POLE	REMOVE BY OTHERS
0+242.100	6.680 LT	W/M GATE VALVE	ADJUST
0+244.560	5.600 LT	W/M GATE VALVE	ADJUST
0+247.480	9.830 LT	SANITARY MH	ADJUST
0+260.300	11.000 LT	LIGHT POLE	REMOVE BY OTHERS
0+267.170	11.370 LT	TELEPHONE PEDESTAL	PROTECT
0+274.500	12.570 RT	TELEPHONE MH	ADJUST
0+288.950	10.940 RT	TELEPHONE MH	ADJUST
0+294.270	15.120 RT	POWER POLE	PROTECT
0+338.760	10.000 LT	SANITARY MH	ADJUST
0+368.650	9.830 LT	15" CMP	REMOVE
0+377.120	9.590 LT	15" CMP	REMOVE
0+370.100	15.230 RT	POWER POLE	PROTECT
0+429.940	10.020 LT	SANITARY MH	ADJUST
0+465.070	15.040 RT	POWER POLE	PROTECT
0+512.500	13.370 RT	GUY WIRE	PROTECT
0+518.200	13.140 RT	POWER POLE	PROTECT
0+518.200	17.000 RT	GUY WIRE	PROTECT
0+518.200	9.600 RT	GUY WIRE	PROTECT
0+519.000	13.130 RT	TELEPHONE PEDESTAL	PROTECT
0+520.640	9.950 LT	SANITARY MH	ADJUST
0+534.200	6.980 RT	RAILROAD SIGNAL ARM	PROTECT
0+540.640	6.910 LT	RAILROAD SIGNAL ARM	PROTECT
0+552.180	8.960 LT	HYDRANT	PROTECT
0+564.530	11.760 RT	POWER POLE	PROTECT
0+564.530	11.760 RT	TELEPHONE PEDESTAL	PROTECT
0+564.530	9.500 RT	GUY WIRE	PROTECT
0+566.720	5.200 LT	W/M GATE VALVE	PROTECT
0+570.460	10.550 LT	SANITARY MH	PROTECT
0+570.740	11.700 RT	GUY WIRE	PROTECT
XEON STREET			
0+008.000	3.570 LT	W/M GATE VALVE	PROTECT
0+008.170	8.350 LT	W/M HYDRANT	PROTECT
0+009.320	7.580 LT	POST	PROTECT
0+009.910	7.020 LT	POST	PROTECT
0+047.040	C/L	SANITARY MH	PROTECT
0+071.390	4.950 LT	W/M GATE VALVE	ADJUST
0+077.640	11.260 RT	TELEPHONE PEDESTAL	RELOCATE BY OTHERS
0+079.610	11.470 RT	TELEPHONE PEDESTAL	RELOCATE BY OTHERS
0+081.450	8.390 LT	W/M HYDRANT	RELOCATE TO 0+081.740, 12.80 LT
0+084.540	11.960 RT	POWER POLE	RELOCATE BY OTHERS



- ① 125% SHRINKAGE FACTOR USED FROM LOOSE VOLUME (L.V.) TO COMPACTED VOLUME (C.V.).
- ② PAID FOR AS BITUMINOUS REMOVAL
- ③ CALCULATED FROM DIFFERENCE OF EXCAVATION (E.V.) AND EMBANKMENT OF SUITABLE MATERIAL (L.V.)

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DRAWN BY: JB				
DESIGNER: JB				
CHECKED BY: SM				
DESIGN TEAM	NO.	BY	DATE	REVISIONS
				ITEM

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

*[Signature]*  
Date: 7/28/99 Reg. No. 18612



ANOKA COUNTY  
**C.S.A.H. 11 (NORTHDALE BLVD.)**  
S.A.P. 02-611-27  
S.A.P. 114-120-06  
S.A.P. 114-020-14

TABULATIONS & EARTHWORK SUMMARY

FILE NO. ANOKC9902.02	12 41
DATE 7/28/99	



# CONSTRUCTION/SOILS NOTES

1. SUITABLE GRADING MATERIAL ON THIS PROJECT SHALL CONSIST OF ALL SOILS ENCOUNTERED WITH THE EXCEPTION OF SLOPE DRESSING, DEBRIS, ORGANIC MATERIAL, MUCK AND OTHER UNSUITABLE MATERIAL.
2. ITEMS REFERRED TO AS INCIDENTAL ON THIS PROJECT SHALL BE CONSIDERED INCIDENTAL WITH NO DIRECT COMPENSATION MADE THEREFORE.
3. SELECT GRANULAR MATERIAL SHALL MEET THE REQUIREMENTS OF SPEC. 3149.2B2
4. BITUMINOUS AND CONCRETE SURFACING REMOVED BY CONSTRUCTION SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL EITHER BE RECYCLED OR DISPOSED OF OFF THE PROJECT, IN ACCORDANCE WITH THE PROVISIONS OF SPEC. 2104 AND 2105.
5. UNSUITABLE MATERIALS SHALL BE PLACED IN EMBANKMENTS OUTSIDE OF A 1V:1-1/2H SLOPE EXTENDING DOWN AND OUTWARD FROM THE GRADING PI OR THE BOULEVARD PI.
6. COMPACTION OF THE GRADING ITEMS OF THIS PROJECT SHALL BE BY THE "SPECIFIED DENSITY METHOD", EXCEPT WHEN WITHIN 1 m OF THE WATER TABLE, THEN BY THE "QUALITY COMPACTION METHOD".
7. COMPACTION OF THE AGGREGATE BASE ITEMS OF THIS PROJECT SHALL BE BY THE "SPECIFIED DENSITY METHOD" EXCEPT WHEN THE CONTRACTOR ELECTS TO USE RECYCLED MATERIALS FOR THE AGGREGATE BASE ITEMS, THEN THE "QUALITY COMPACTION METHOD" SHALL BE UTILIZED.
8. WHERE WIDENING ADJACENT TO EXISTING PAVEMENT, CUT VERTICALLY TO THE BOTTOM OF THE CLASS 5 AGGREGATE BASE AND THEN AT A 1V:1/2H SLOPE TO THE BOTTOM OF THE RECOMMENDED SUBGRADE EXCAVATION (AS SHOWN ON THE TYPICAL SECTIONS AND THE CROSS SECTIONS). BACKFILL PROMPTLY TO AVOID UNDERMINING THE EXISTING PAVEMENT.
9. PROVIDE 1V:20H LONGITUDINAL TAPERS BETWEEN CHANGES IN SUBGRADE AND SUBCUT DEPTHS.
10. USE TACK COAT BETWEEN ALL BITUMINOUS MIXTURES AND WHERE CONCRETE CURBING ABUTS BITUMINOUS MIXTURES.
11. STRIP AND REFUSE AS SLOPE DRESSING ALL EXISTING TOPSOIL, WHERE PRESENT, IN AREAS TO BE DISTURBED BY CONSTRUCTION. TOPSOIL STRIPING IS CONSIDERED TO BE COMMON EXCAVATION.
12. PLACE A MINIMUM OF SLOPE DRESSING ON ALL AREAS SCHEDULED FOR PERMANENT TURF ESTABLISHMENT. ALL EXCESS TOPSOIL SHALL BE USED AS SLOPE DRESSING BY PROVIDING A THICKNESS GREATER THAN 100 mm.
13. SEEDING REQUIREMENTS ON THIS PROJECT SHALL BE AS FOLLOWS:
  - a. SEED MIXTURE 70A SHALL BE APPLIED AT A RATE OF 50 KILOGRAMS PER HECTARE.
  - b. MULCH MATERIAL TYPE I SHALL BE APPLIED AT A RATE OF 4.5 METRIC TONS PER HECTARE.
  - c. COMMERCIAL FERTILIZER ANALYSIS 10-10-10 (OR EQUIVALENT) SHALL BE APPLIED AT A RATE OF 560 KILOGRAMS PER HECTARE.
14. DITCH BOTTOMS, TOE OF FILL, CUT RUNOUTS AND THE TOP EDGE OF THE BACKSLOPES SHALL BE ROUNDED REGARDLESS OF THE SECTION USED ON THE CROSS SECTION SHEETS.
15. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MMUTCD, INCLUDING FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS, JANUARY 1998.
16. COMMON BORROW MATERIAL SHALL HAVE A MINIMUM R-VALUE OF 55. BORROW MATERIAL PLACED WITHIN THE UPPER 1.2 m OF THE EMBANKMENT BELOW THE GRADING GRADE SHALL BE SELECT GRANULAR MATERIAL.

These standard plates, approved by the FEDERAL HIGHWAY ADMINISTRATION, shall apply on this project.

MN/DOT STANDARD PLATES	
PLATE NO.	DESCRIPTION
M 3000 L	REINFORCED CONCRETE PIPE (5 SHEETS)
M 3006 G	GASKET JOINT FOR R.C. PIPE (2 SHEETS)
M 4005 L	MANHOLE OR CATCH BASIN (DESIGN F)
M 4006 L	MANHOLE OR CATCH BASIN (DESIGN G OR DESIGN H)
M 4011 E	PRECAST CONCRETE BASE
M 4020 G	MANHOLE OR CATCH BASIN COVER
M 4108 F	ADJUSTING RINGS FOR CATCH BASINS AND MANHOLES
M 4126 F	CATCH BASIN FRAME CASTING
M 4149 C	GRATE CASTING FOR CATCH BASIN
M 4180 J	MANHOLE OR CATCH BASIN STEP
M 7100 G	CONCRETE CURB & GUTTERS (DESIGN BAND DESIGN V)
M 7102 I	CONCRETE CURB & GUTTERS (DESIGN BAND DESIGN D)
M 7111 J	INSTALLATION & REINFORCEMENT OF CATCH BASIN CASTINGS
M 7113 A	CONCRETE APPROACH NOSE DETAIL
M 8000 I	STANDARD BARRICADES

Q:\CIVIL\CLIENTS\VA\_THRU\_F\ANOKC\9902\02\CAD\CAD\AC9020N.DWG 07-28-99 8:55 am

DESIGN	GFA	9/23/99	ADDRESS STATE AID COMMENTS
DRAWING			
CHECKED			
DESIGN TEAM	NO.	BY	DATE
			REVISIONS
			ITEM

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the state of Minnesota.

*[Signature]*  
Date: 7/28/99 Reg. No. 18612



ANOKA COUNTY  
**C.S.A.H. 11 (NORTHDAL BLVD.)**  
 S.A.P. 02-611-27  
 S.A.P. 114-120-06  
 S.A.P. 114-020-14

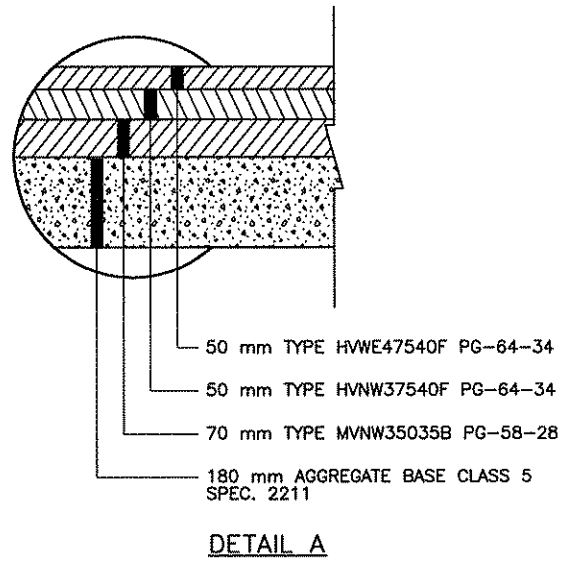
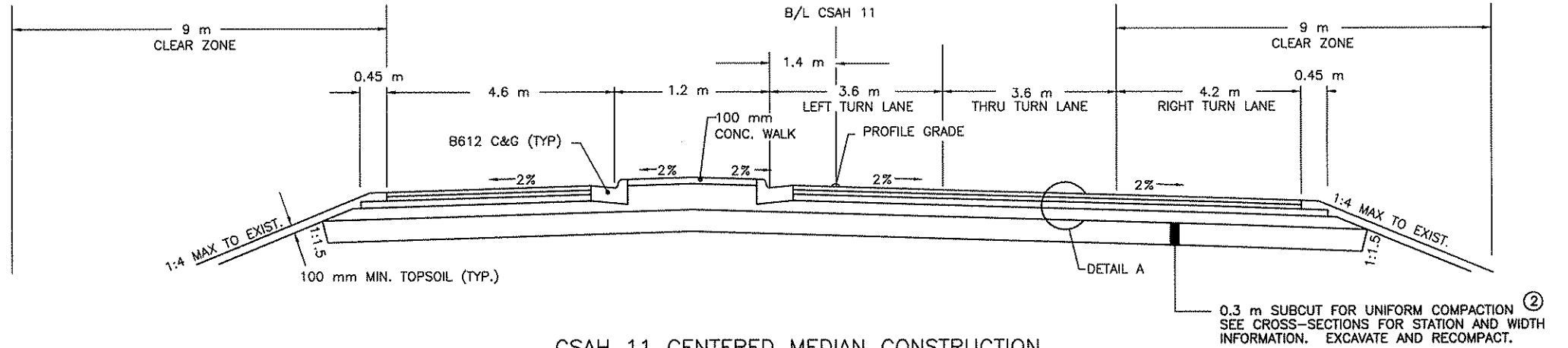
CONSTRUCTION/SOILS NOTES  
 STANDARD PLATES

FILE NO.  
 ANOKC9902.02  
 DATE  
 7/28/99

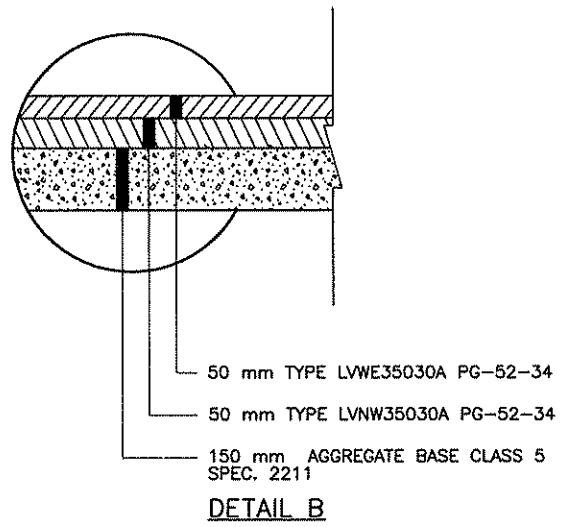
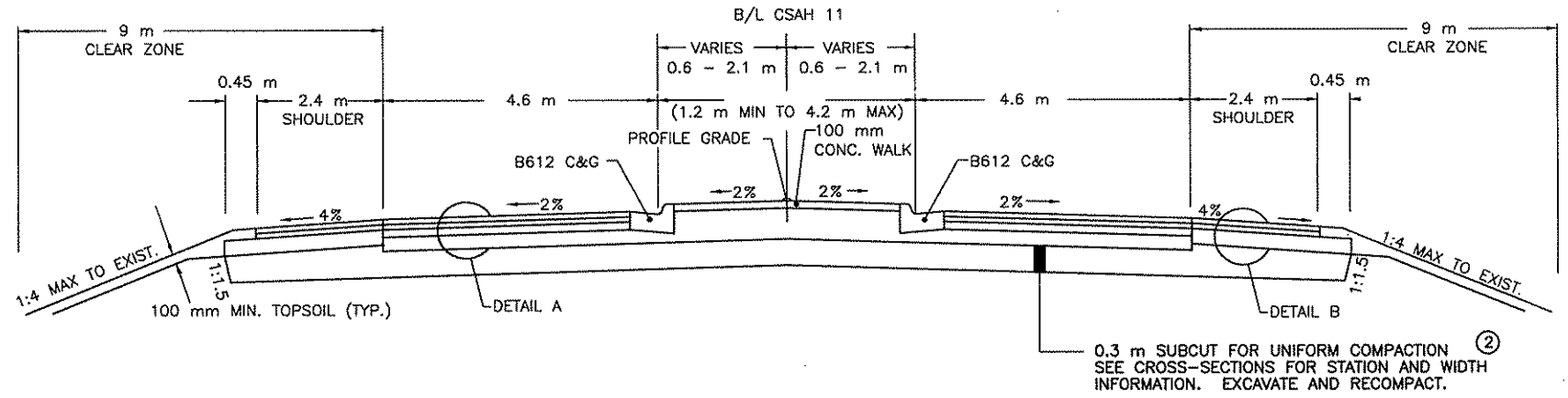
13  
 41



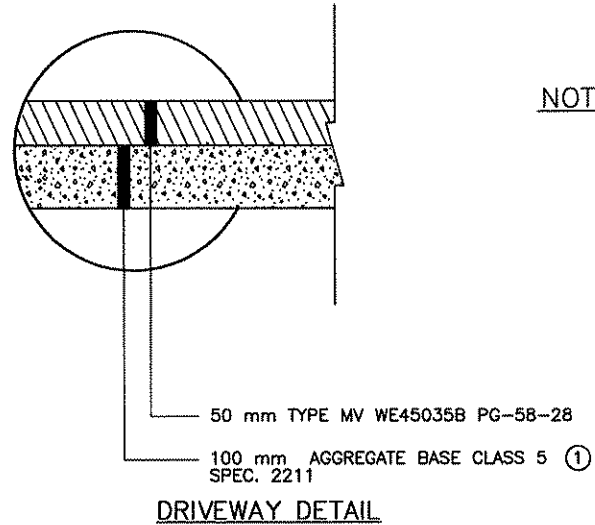
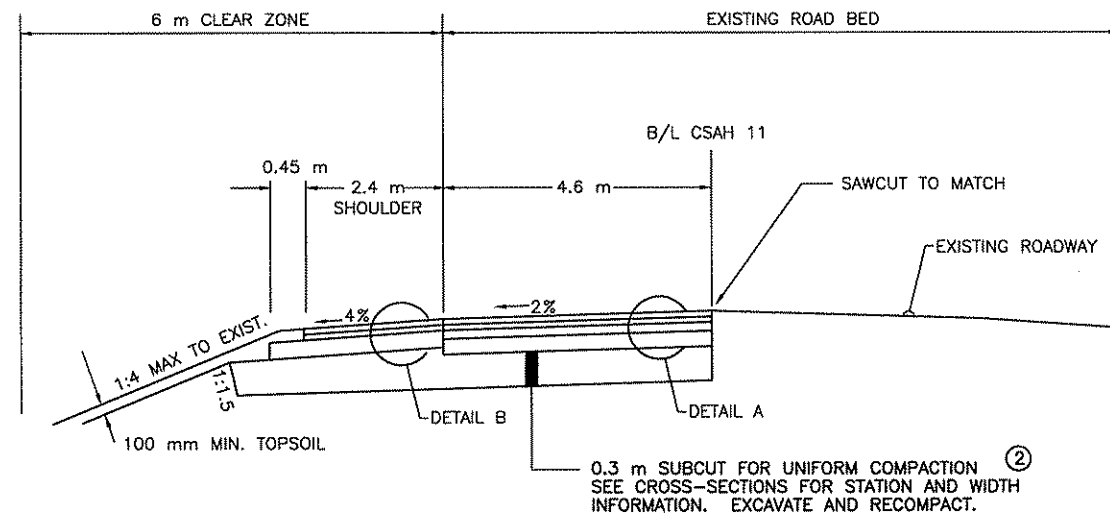
**CSAH 11 LEFT TURN LANE**  
 STA. 0+147.000 TO STA. 0+226.370  
 STA. 0+265.640 TO STA. 0+372.102



**CSAH 11 CENTERED MEDIAN CONSTRUCTION**  
 STA. 0+051.000 TO STA. 0+147.589  
 STA. 0+372.102 TO STA. 0+503.450



**CSAH 11 WIDENING CONSTRUCTION**  
 STA. 0+020.100 TO STA. 0+051.000



**NOTES:**

- ① 50 mm BITUMINOUS DRIVEWAY PAID FOR BY THE SQUARE METER INCLUDING 100 mm AGGREGATE BASE.
- ② PAID FOR AS SUBGRADE EXCAVATION

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.  
*James M. Mason*  
 Date: 7/28/99 Reg. No. 18612



ANOKA COUNTY  
**CSAH 11 (NORTHDAL BLVD.)**  
 S.A.P. 02-611-27  
 S.A.P. 114-120-06  
 S.A.P. 114-020-14

**TYPICAL SECTIONS**

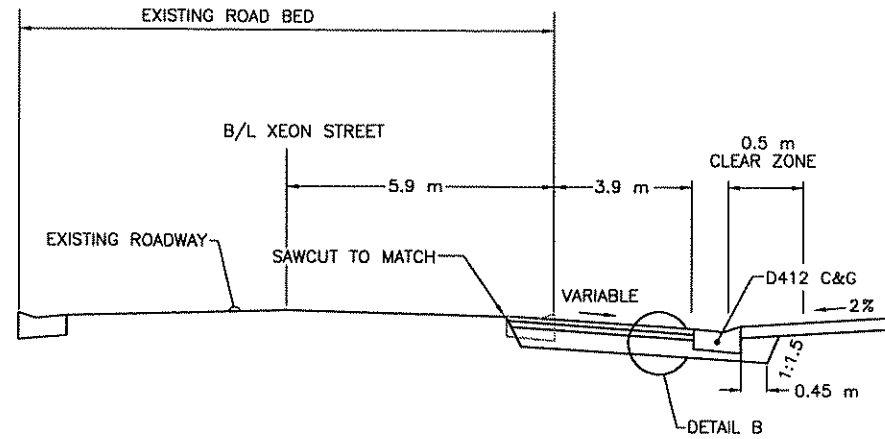
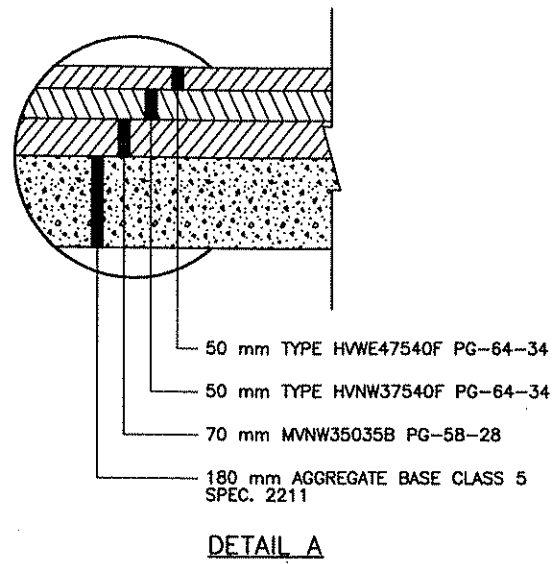
FILE NO.  
 AANOKC9902.02  
 DATE  
 7/28/99

**14**  
**41**

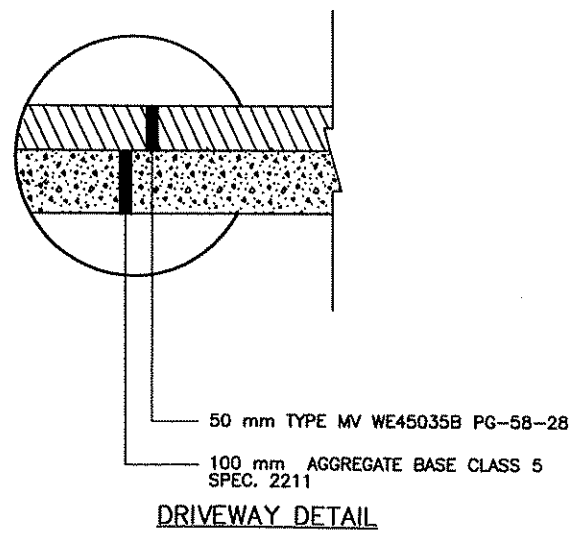
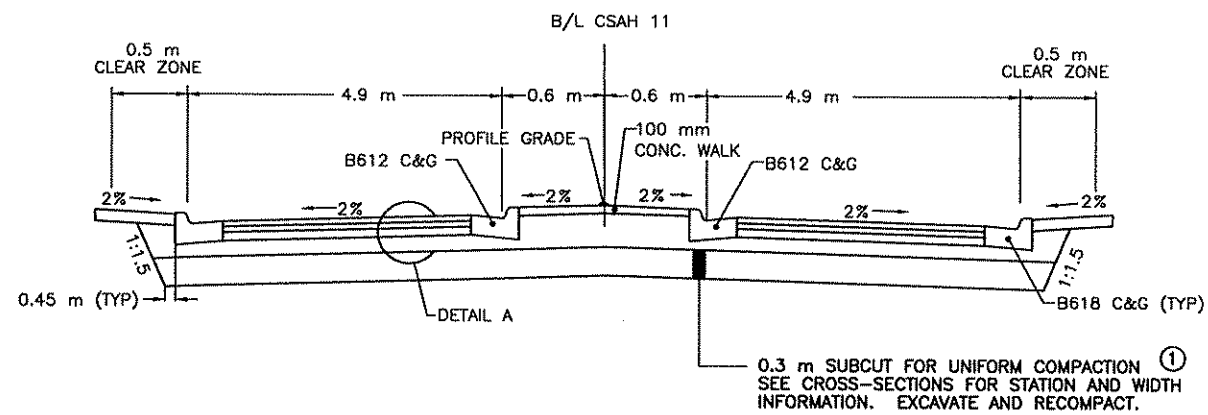
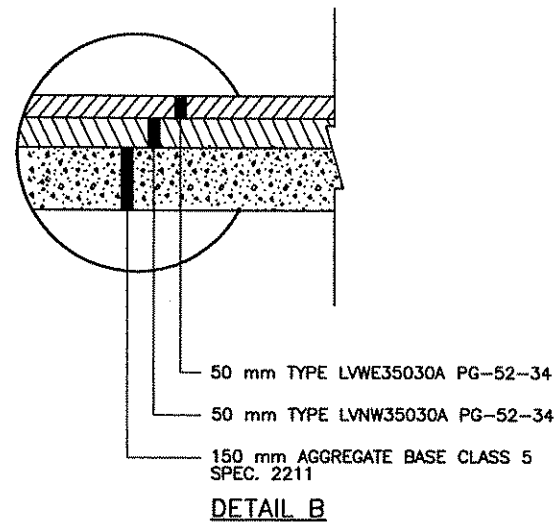
DESIGN TEAM	NO.	BY	DATE	REVISIONS	ITEM



**XEON STREET WIDENING CONSTRUCTION**  
 STA. 0+000.000 TO STA. 0+083.900



**CSAH 11 MEDIAN W/SAW CUT**  
 STA. 0+503.450 TO 0+578.860



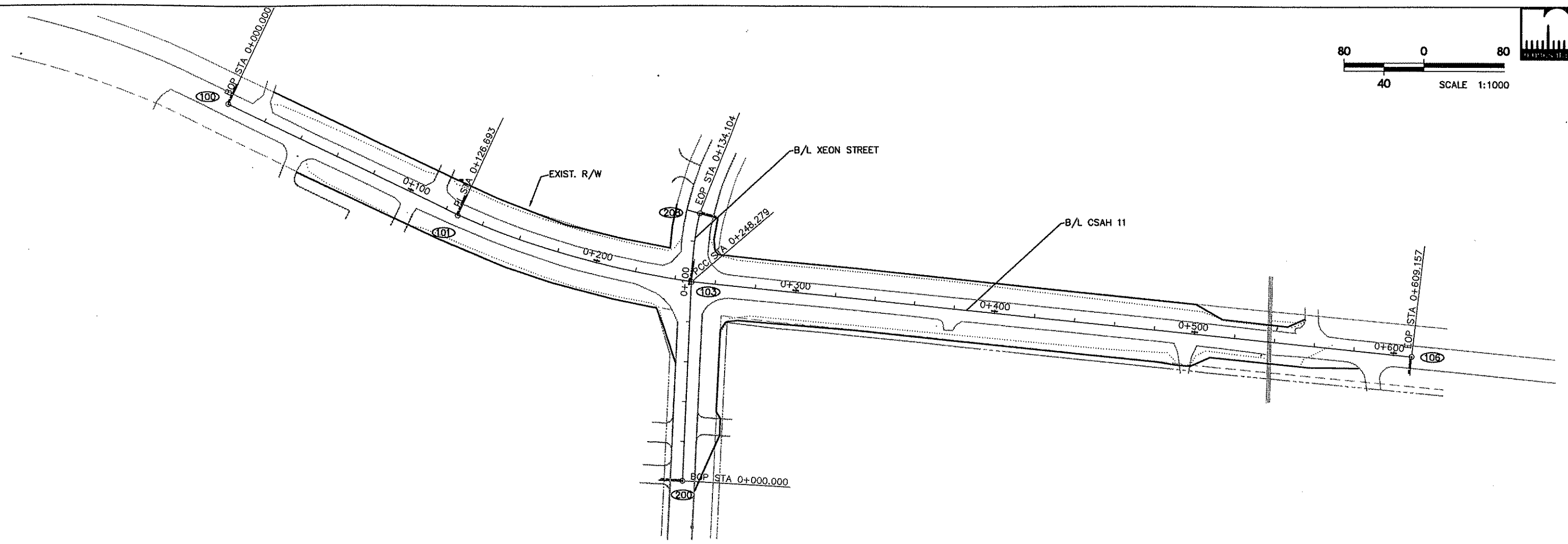
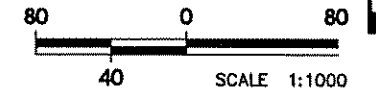
**NOTES:**

- ① 50 mm BITUMINOUS DRIVEWAY PAID FOR BY THE SQUARE METER INCLUDING 100 mm AGGREGATE BASE.
- ② PAID FOR AS SUBGRADE EXCAVATION

Q:\CIVIL\CLIENTS\A\_THRU\F\ANOKA\9902.02\ACAD\AC902TS1.DWG 07-28-99 9:17 am

DESIGN						I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the state of Minnesota.  Date: 7/28/99 Reg. No. 8612		ANOKA COUNTY <b>CSAH 11 (NORTHDAL BLVD.)</b> S.A.P. 02-611-27 S.A.P. 114-120-06 S.A.P. 114-020-14	<b>TYPICAL SECTIONS CONT.</b>	FILE NO.	<b>15</b>  <b>41</b>
DRAWING					DATE					7/28/99	
CHECKED											
DESIGN TEAM	NO.	BY	DATE	REVISIONS	ITEM						





ALIGNMENT TABULATION										
POINT ID	POINT	CURVE	STATION	DELTA	CL CURVE DATA			COORDINATES		
					RADIUS	TANGENT	LENGTH	NORTHING	EASTING	BEARING
100	POB		0+000.000					9925.0075	11051.6725	S64°28'31"E
101	PI		0+126.693					9870.4155	11166.0001	S66°31'06"E
102	PI	C 1	0+187.858	15°28'20"	450.250	61.165	121.586	9846.0440	11222.1001	S98°00'34"E
103	PCC		0+248.279					9837.5216	11282.6686	
104	RP							10283.3796	11345.4038	
105	PI		0+248.279					9837.5216	11282.6686	S84°09'40"E
106	POE		0+609.157					9800.8086	11641.6746	
200	POB		0+000.000					9737.5914	11278.1040	N02°36'54"E
201	PI		0+100.034					9837.5217	11282.6682	N02°00'46"E
202	PI	C 2	0+113.474	7°31'54"	204.182	13.440	26.840	9850.9530	11283.1402	N09°32'40"E
203	PCC		0+126.875					9864.2066	11285.3687	
204	RP							9830.3508	11486.7240	
205	PI	C 3	0+130.493	5°52'35"	70.490	3.618	7.230	9867.7744	11285.9686	N15°25'15"E
206	PCC		0+134.104					9871.2621	11286.9306	
207	RP							9852.5186	11354.8825	
208	POE		0+134.104					9871.2621	11286.9306	

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DESIGN	DRAWING	CHECKED	DESIGN TEAM	NO.	BY	DATE	REVISIONS	ITEM

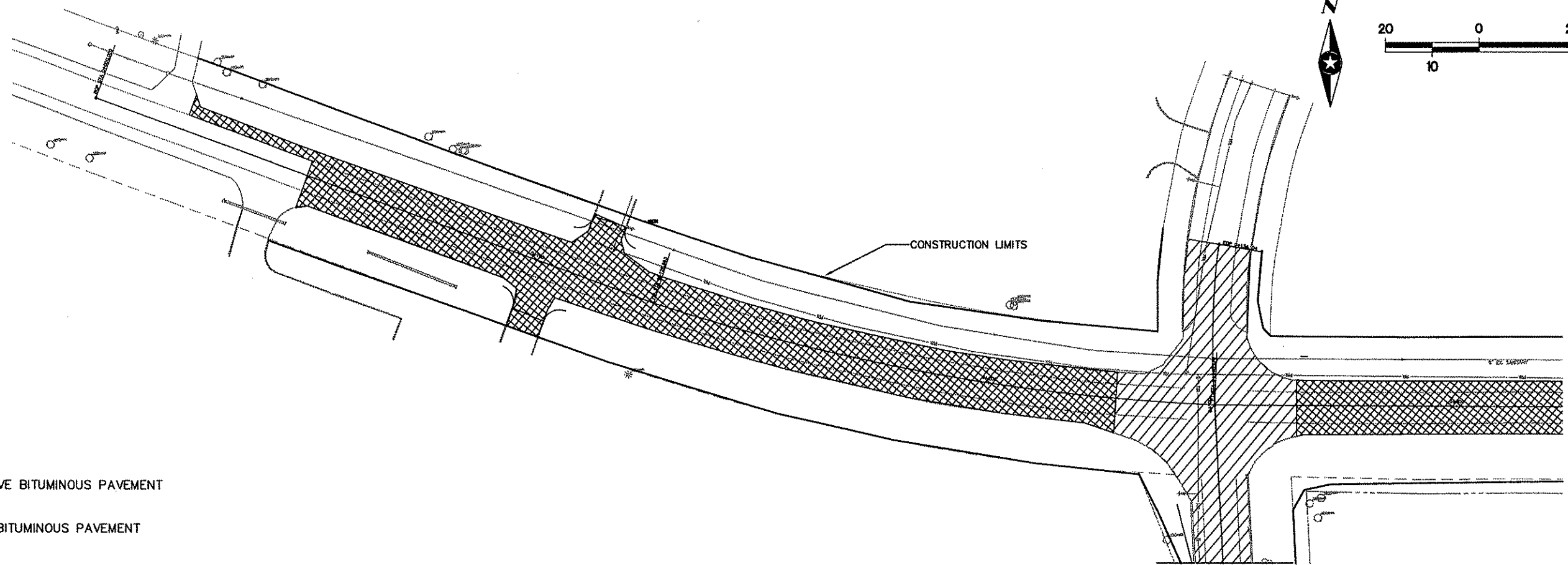
I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the state of Minnesota.  
 Date: 7/28/99 Reg. No. 18612





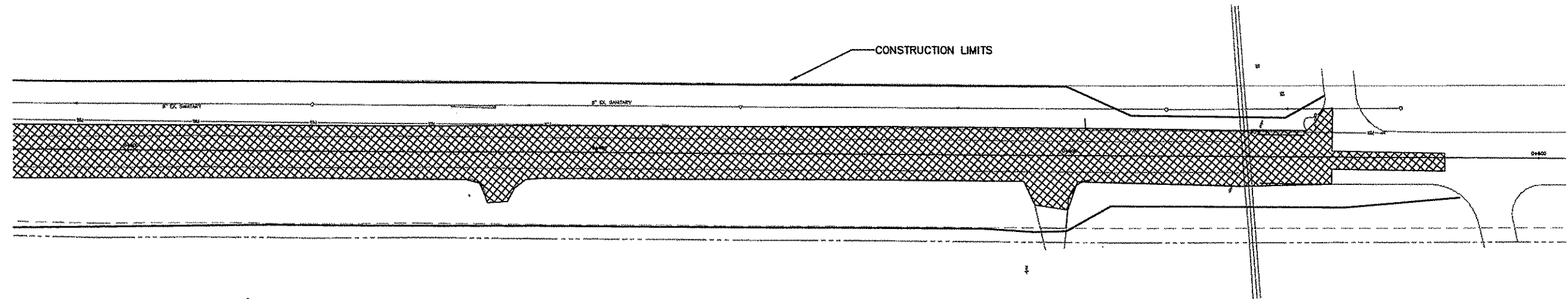
ANOKA COUNTY  
**C.S.A.H. 11 (NORTHDALE BLVD.)**  
 S.A.P. 02-611-27  
 S.A.P. 114-120-06  
 S.A.P. 114-020-14



**ALIGNMENT PLAN**  
 NORTHDALE BLVD. AND XEON ST.

FILE NO. ANOKC9902.02	<b>16</b>
DATE 7/28/99	<b>41</b>



-  REMOVE BITUMINOUS PAVEMENT
-  MILL BITUMINOUS PAVEMENT



-  REMOVE BITUMINOUS PAVEMENT
-  MILL BITUMINOUS PAVEMENT

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DESIGN TEAM	NO.	BY	DATE	REVISIONS	ITEM

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the state of Minnesota.  
 Date: 7/28/99 Reg. No. 18612

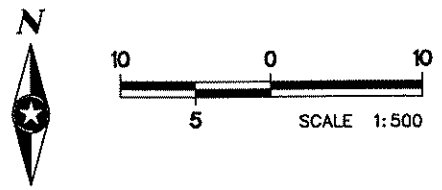




ANOKA COUNTY  
**C.S.A.H. 11 (NORTHDALÉ BLVD.)**  
 S.A.P. 02-611-27  
 S.A.P. 114-120-06  
 S.A.P. 114-020-14

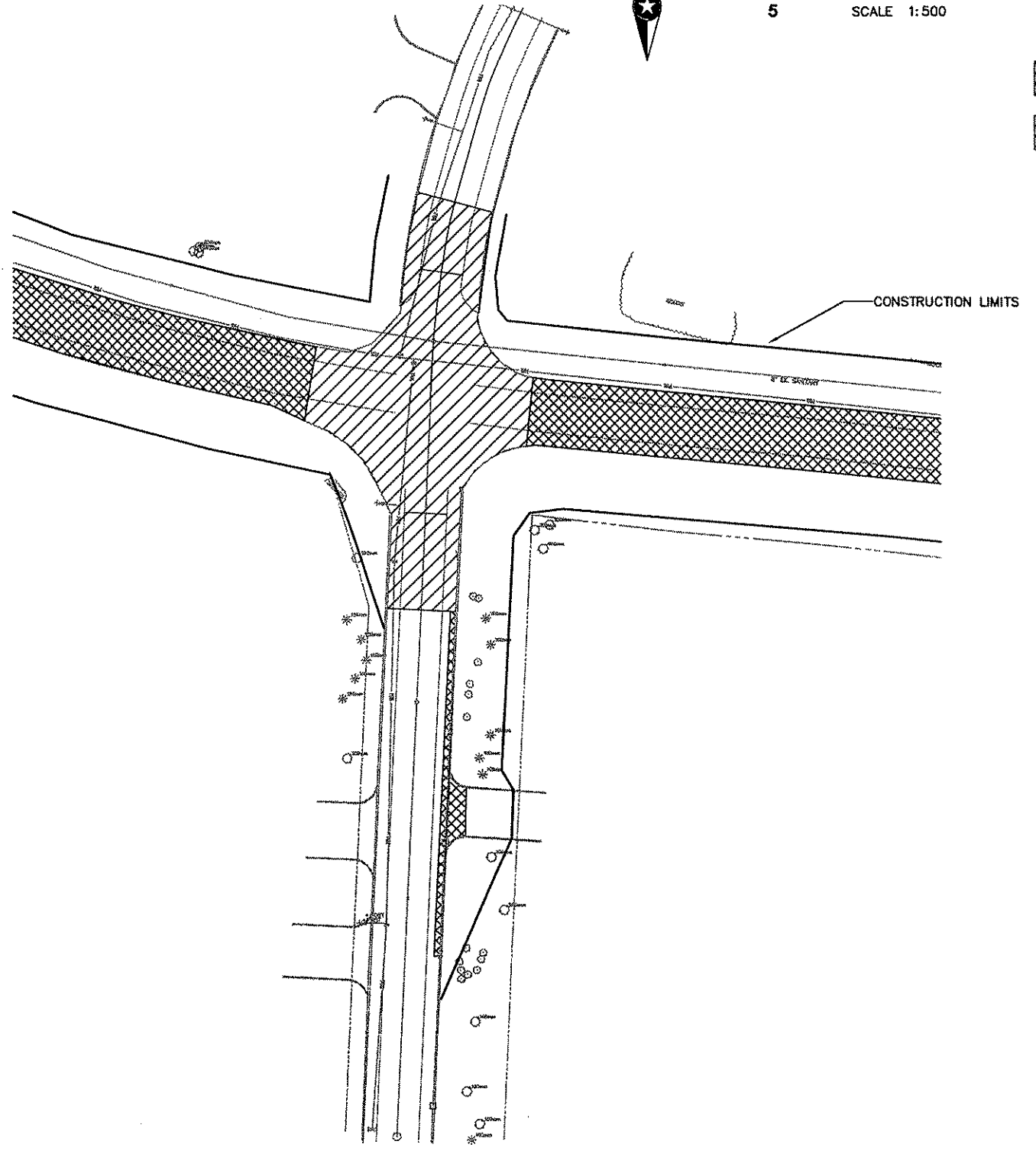
REMOVALS

FILE NO.  
 ANOKC9902.02  
 DATE  
 7/28/99

17  
 41



-  REMOVE BITUMINOUS PAVEMENT
-  MILL BITUMINOUS PAVEMENT



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DESIGN TEAM	NO.	BY	DATE	REVISIONS	ITEM

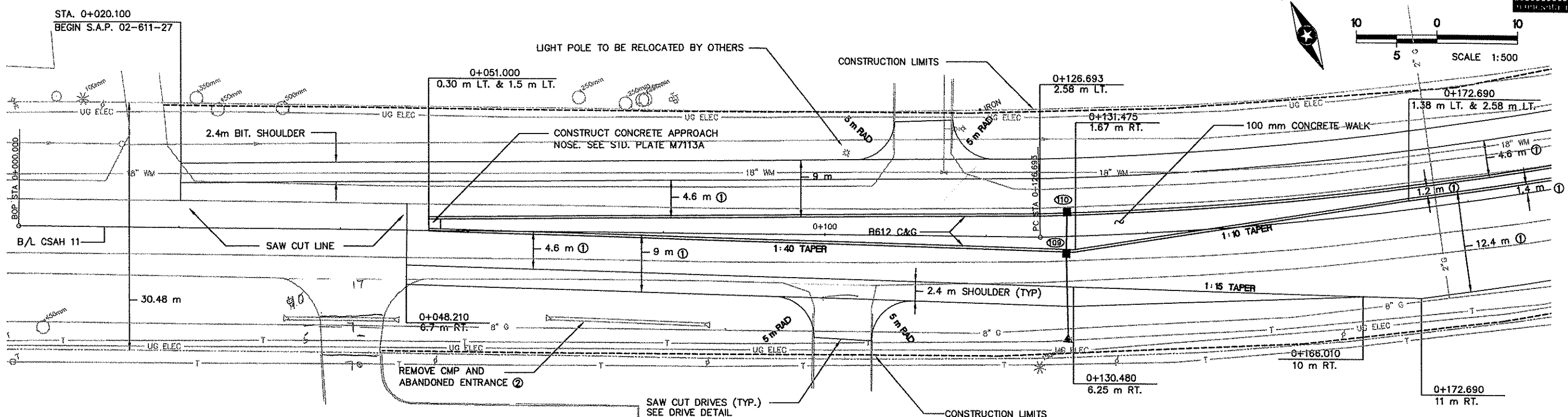
I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the state of Wisconsin.  
*[Signature]*  
 Date: 7/28/99 Reg. No. 18612



ANOKA COUNTY  
**XEON STREET**  
 S.A.P. 02-611-27  
 S.A.P. 114-120-06  
 S.A.P. 114-020-14

REMOVALS

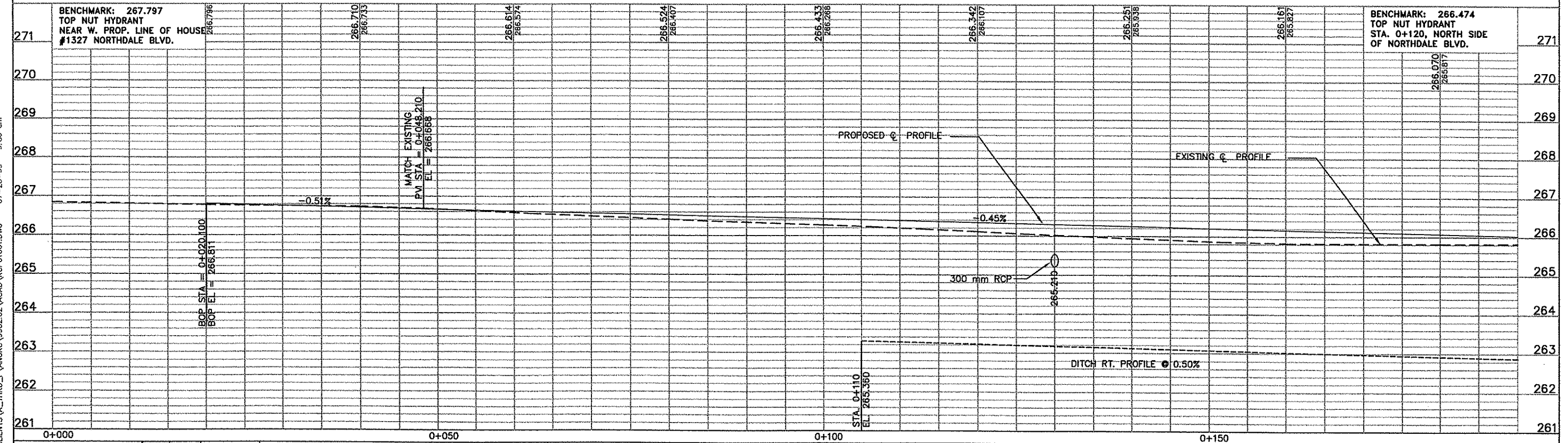
FILE NO. ANOKC9902.02	<b>18</b> <b>41</b>
DATE 7/28/99	



- NOTES:
- ① ALL DIMENSIONS ARE TO THE FACE OF CURB (TYP).
  - ② PAID FOR AS COMMON EX.

NOTE:  
CONTRACTOR TO VERIFY ALL UTILITY ELEVATIONS WHEN CONNECTING TO EXISTING FACILITIES

### C.S.A.H. 11 (NORTHDAL BLVD.)



DESIGN	NO.	BY	DATE	REVISIONS	ITEM

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the state of Minnesota.

*[Signature]*  
Date: 7/28/99 Reg. No. 18612



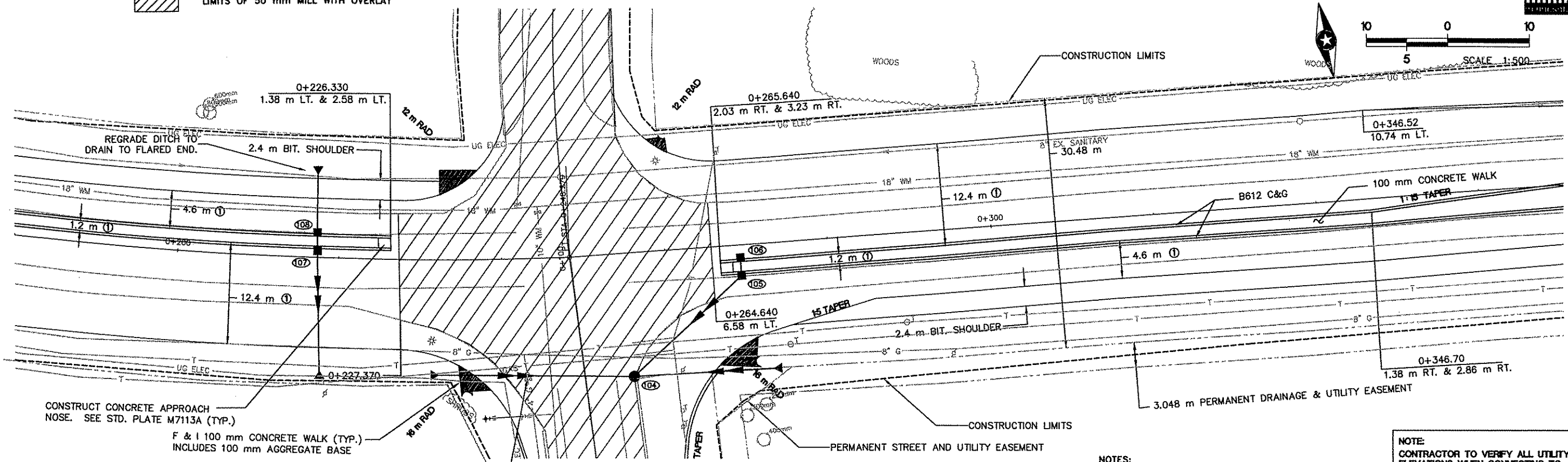
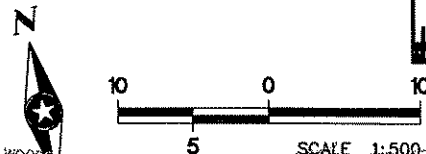
ANOKA COUNTY  
**C.S.A.H. 11 (NORTHDAL BLVD.)**  
S.A.P. 02-611-27  
S.A.P. 114-120-06  
S.A.P. 114-020-14

CONSTRUCTION PLAN AND PROFILE  
STA. 0+000.000 TO 0+190.000

FILE NO. ANOKC9902.02 **19**  
DATE 7/28/99 **41**

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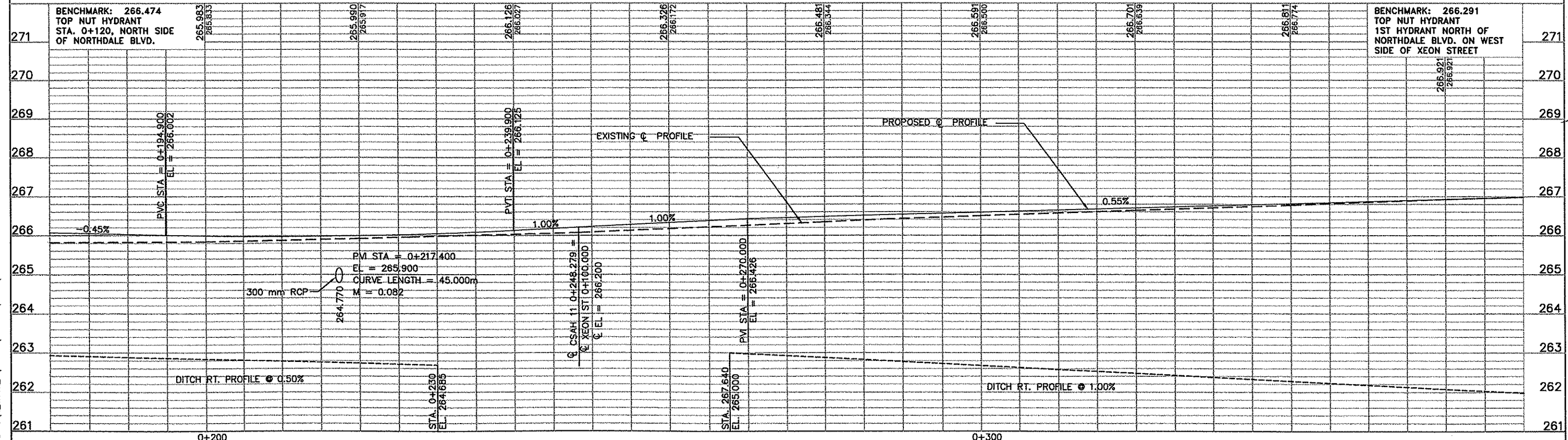
LIMITS OF 50 mm MILL WITH OVERLAY



### C.S.A.H. 11 (NORTHDAL BLVD.)

NOTES:  
① ALL DIMENSIONS ARE TO THE FACE OF CURB (TYP.)

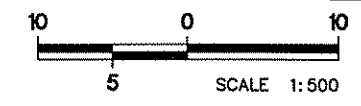
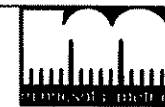
NOTE:  
CONTRACTOR TO VERIFY ALL UTILITY ELEVATIONS WHEN CONNECTING TO EXISTING FACILITIES



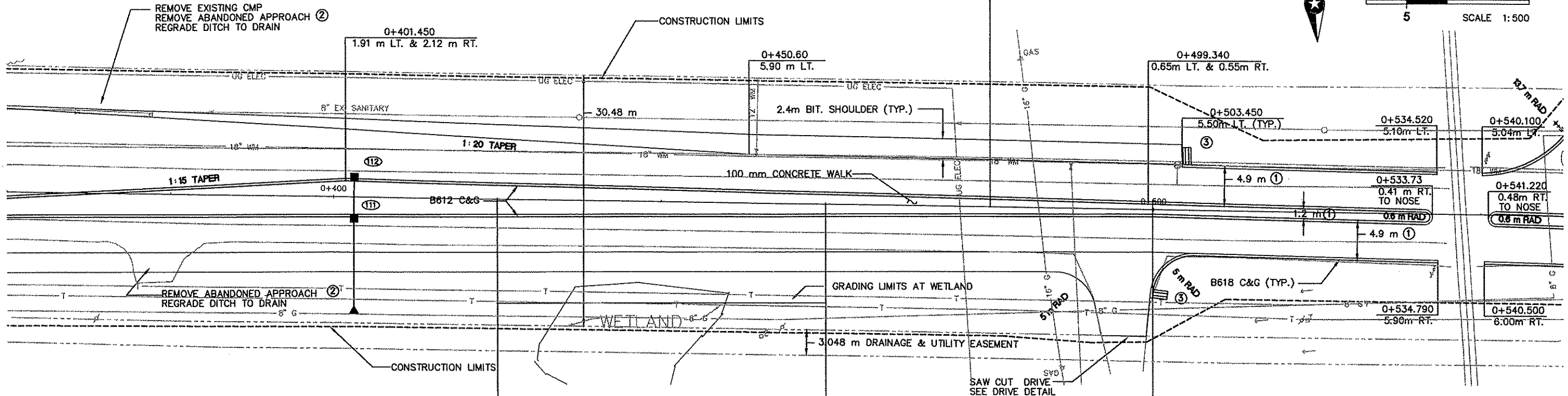
G:\CIVIL\CLIENTS\A\_THRU\F\ANOKA\9902.02\ACAD\PCP02001.DWG 07-28-99 9:57 am

DESIGN					I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the state of Minnesota. <i>[Signature]</i> Date: 7/28/99 Reg. No. 18612		ANOKA COUNTY <b>C.S.A.H. 11 (NORTHDAL BLVD.)</b> S.A.P. 02-611-27 S.A.P. 114-120-06 S.A.P. 114-020-14	CONSTRUCTION PLAN AND PROFILE STA. 0+180.000 TO 0+370.000	FILE NO.	<b>20</b>  <b>41</b>
DRAWING				ANOKC9902.02						
CHECKED				DATE					7/28/99	
DESIGN TEAM	NO.	BY	DATE	REVISIONS	ITEM					





STA. 0+480.000  
END S.A.P. 02-611-27  
BEGIN S.A.P. 114-020-14



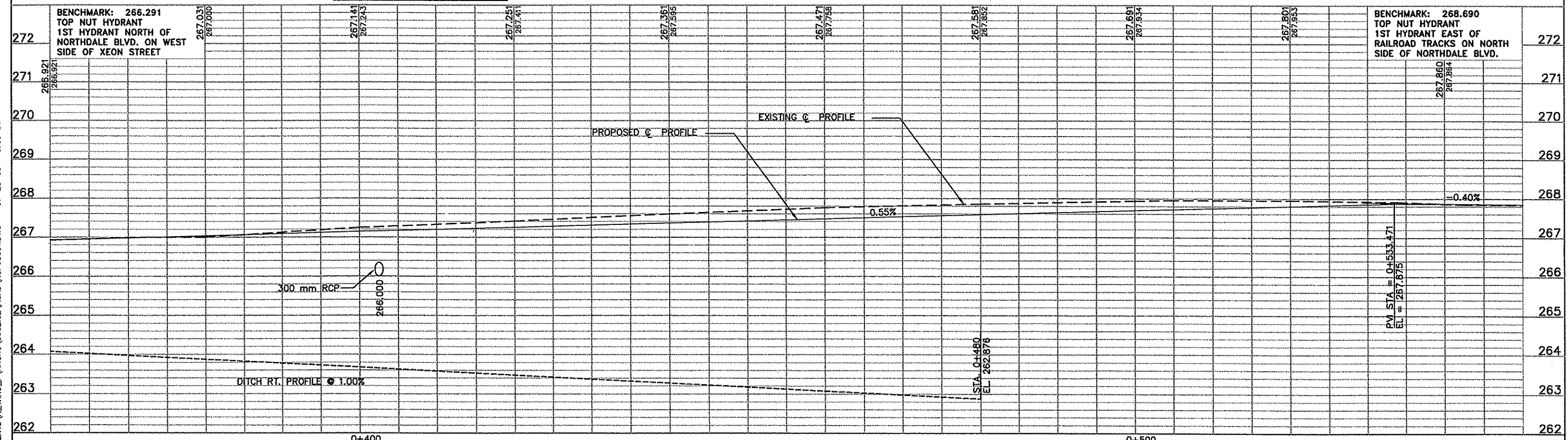
- NOTES:
- ① ALL DIMENSIONS ARE TO THE FACE OF CURB (TYP).
  - ② PAID FOR AS COMMON EX.
  - ③ CONSTRUCT CONCRETE FLUME PER DETAIL.

NOTE:  
CONTRACTOR TO VERIFY ALL UTILITY ELEVATIONS WHEN CONNECTING TO EXISTING FACILITIES

CONSTRUCT 1:3 DITCH SLOPES FROM STA 0+420 TO 0+460 (RT) TO REDUCE WETLAND IMPACT.

REMOVE TEMPORARY MEDIAN THIS AREA (STA. 0+500.00 TO STA. 0+569.00)

# C.S.A.H. 11 (NORTHDALE BLVD.)



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DESIGN	DRAWING	CHECKED	DESIGN TEAM	NO.	BY	DATE	REVISIONS	ITEM

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.  
*Silvia M. Mader*  
 Date: 7/28/99 Reg. No. 18612



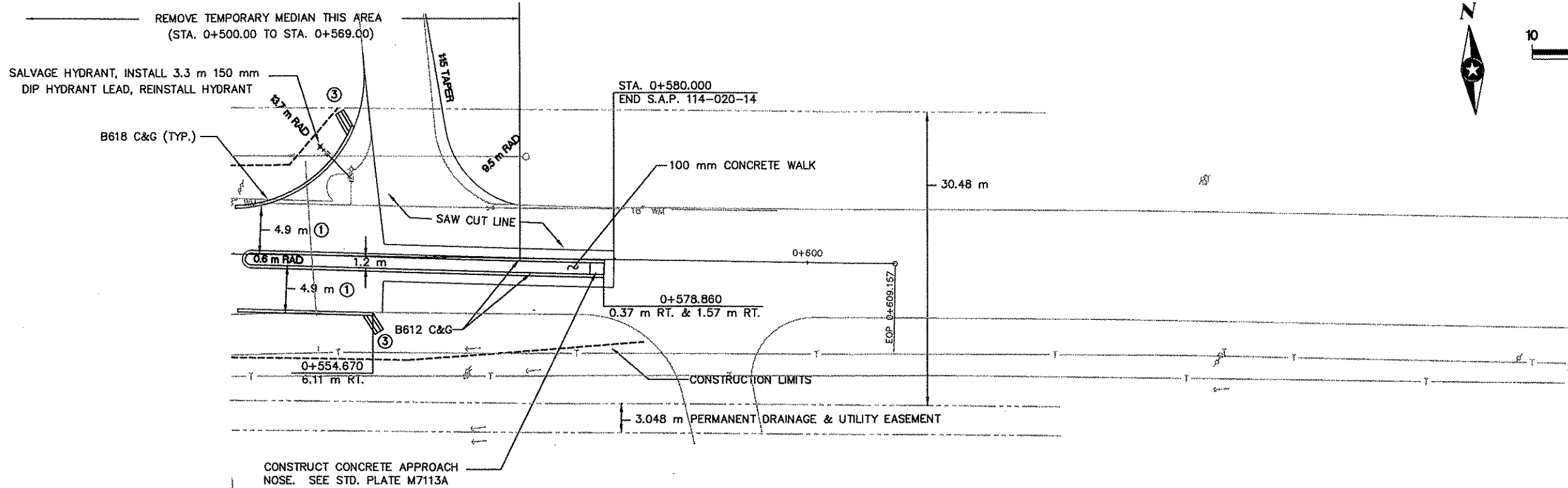
ANOKA COUNTY  
**C.S.A.H. 11 (NORTHDALE BLVD.)**  
 S.A.P. 02-611-27  
 S.A.P. 114-120-06  
 S.A.P. 114-020-14

CONSTRUCTION PLAN AND PROFILE  
 STA. 0+360.000 TO 0+550.000

FILE NO. ANOKC9802.02	<b>21</b>
DATE 7/28/99	



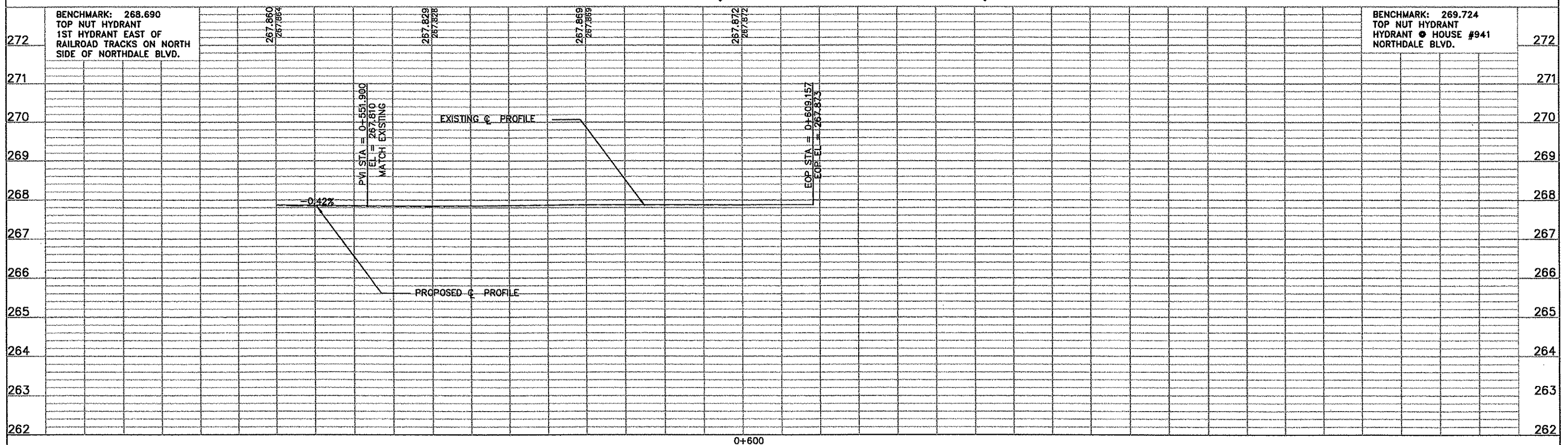
SCALE 1:500



- NOTES:
- ① ALL DIMENSIONS ARE TO THE FACE OF CURB (TYP).
  - ② PAID FOR AS COMMON EX.
  - ③ CONSTRUCT CONCRETE FLUME PER DETAIL.

NOTE:  
CONTRACTOR TO VERIFY ALL UTILITY ELEVATIONS WHEN CONNECTING TO EXISTING FACILITIES

## C.S.A.H. 11 (NORTHDALE BLVD.)



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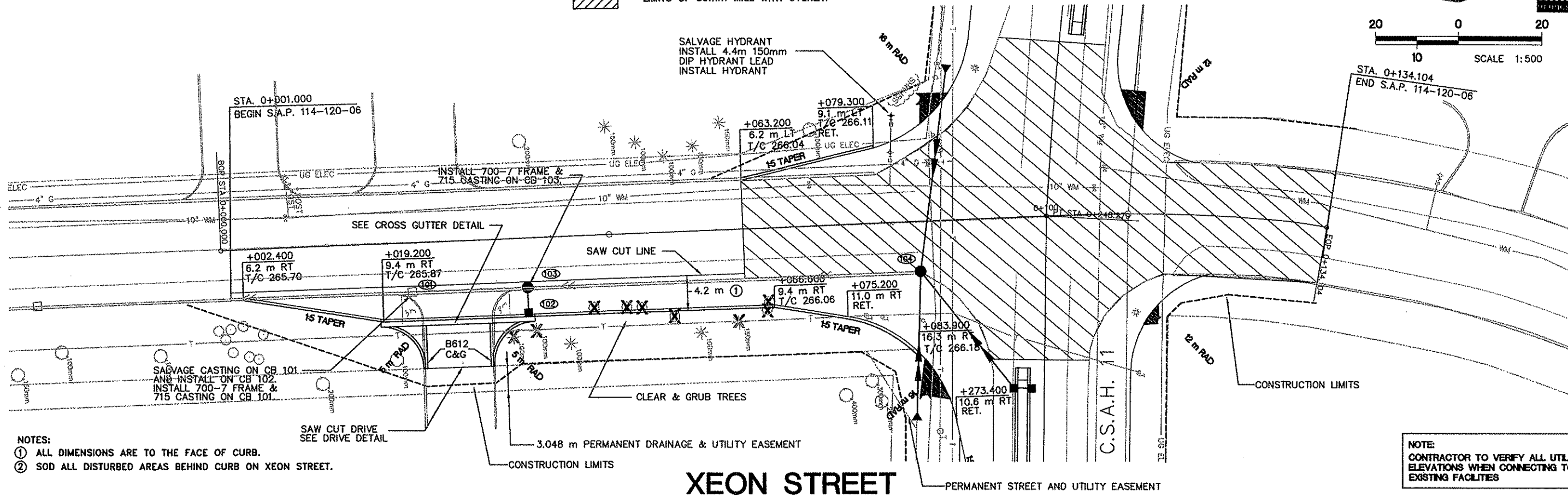
DESIGN	DRAWING	CHECKED	DESIGN TEAM	NO.	BY	DATE	REVISIONS	ITEM	I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the state of Minnesota. <i>James M. Wilson</i> Date: 7/28/99 Reg. No. 18612		ANOKA COUNTY <b>C.S.A.H. 11 (NORTHDALE BLVD.)</b> S.A.P. 02-611-27 S.A.P. 114-120-06 S.A.P. 114-020-14	<b>CONSTRUCTION PLAN AND PROFILE</b> STA. 0+540.000 TO 0+609.157	FILE NO. ANOKC9902.02 DATE 7/28/99	<b>22</b>  <b>41</b>
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LIMITS OF 50mm MILL WITH OVERLAY

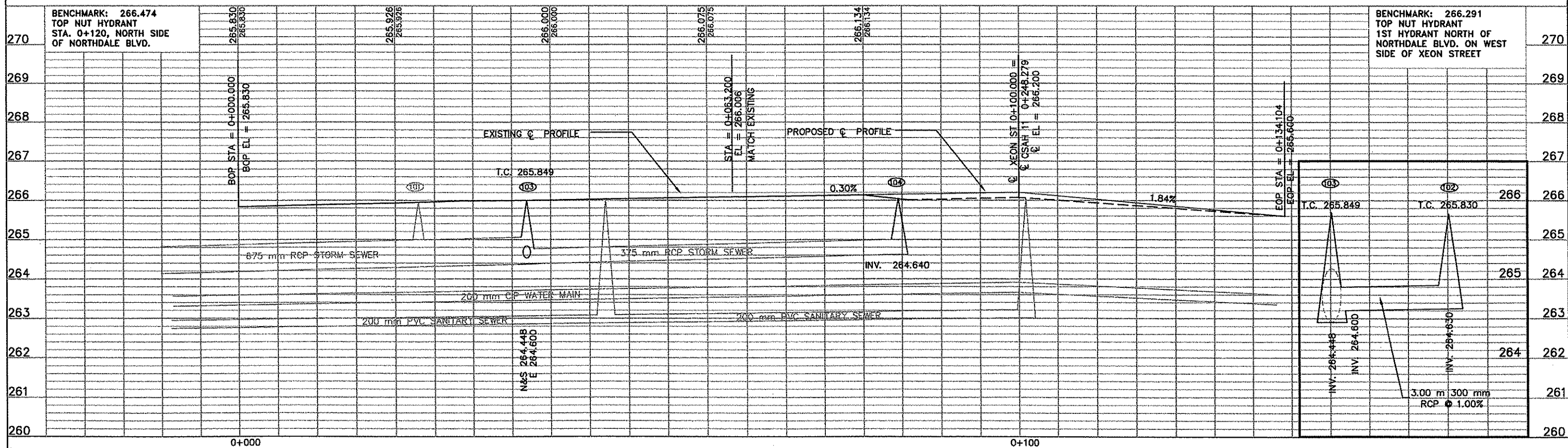
SALVAGE HYDRANT  
INSTALL 4.4m 150mm  
DIP HYDRANT LEAD  
INSTALL HYDRANT



- NOTES:
- ① ALL DIMENSIONS ARE TO THE FACE OF CURB.
  - ② SOD ALL DISTURBED AREAS BEHIND CURB ON XEON STREET.

NOTE:  
CONTRACTOR TO VERIFY ALL UTILITY  
ELEVATIONS WHEN CONNECTING TO  
EXISTING FACILITIES

# XEON STREET



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DESIGN	DRAWING	CHECKED	DESIGN TEAM	NO.	BY	DATE	REVISIONS	ITEM

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the state of Minnesota.

*[Signature]*  
Date: 7/25/99 Reg. No. 18612

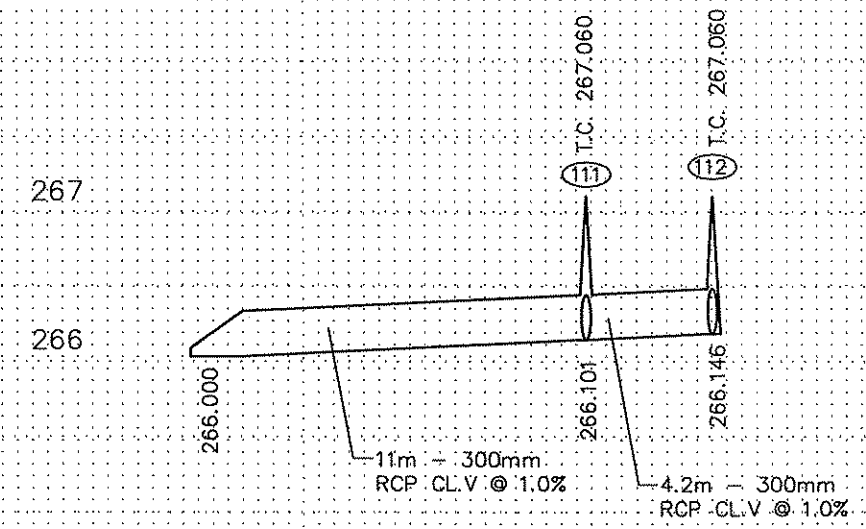
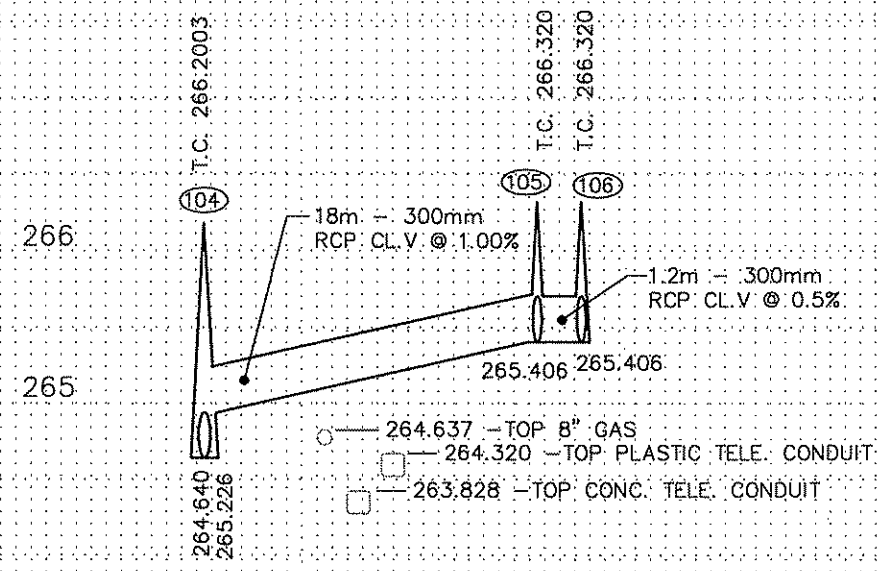
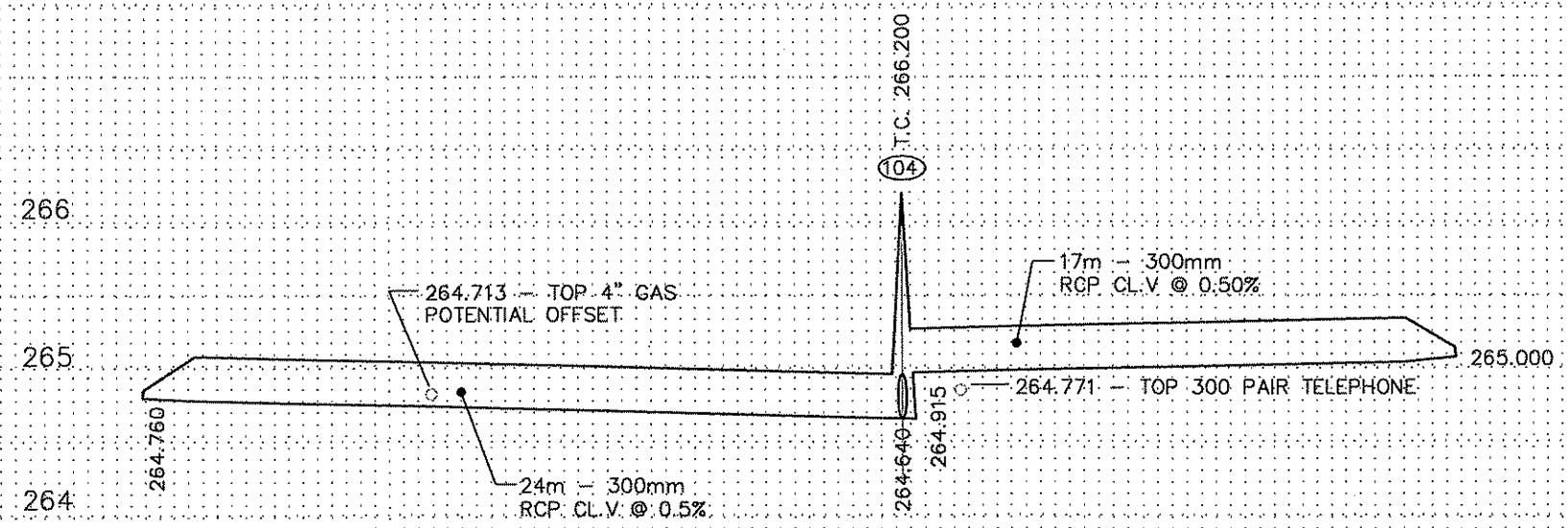
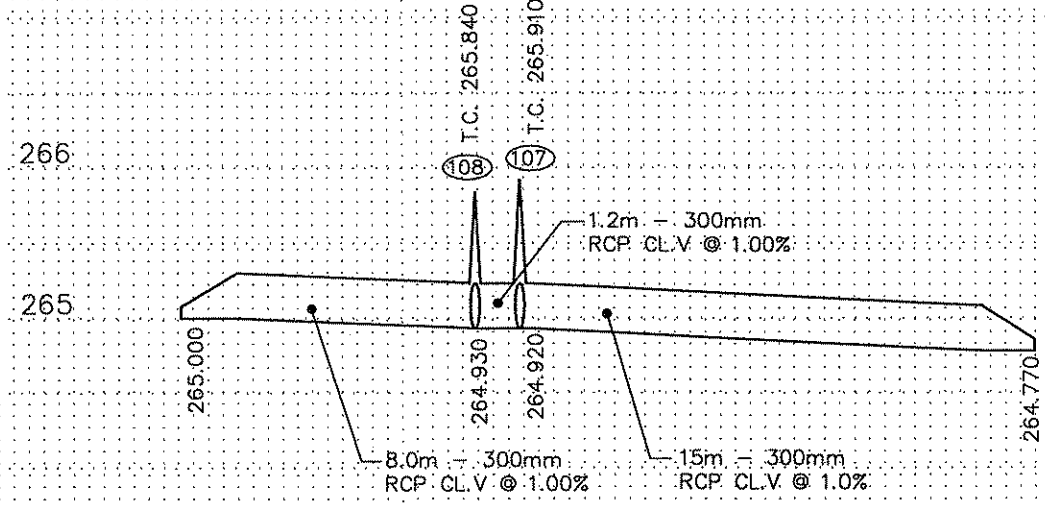
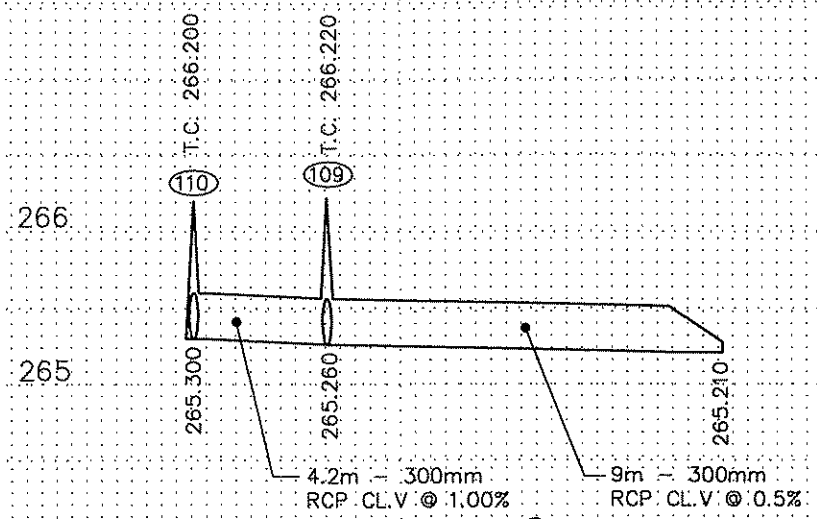


ANOKA COUNTY  
**C.S.A.H. 11 (NORTHDALE BLVD.)**  
S.A.P. 02-611-27  
S.A.P. 114-120-06  
S.A.P. 114-020-14

CONSTRUCTION PLAN AND PROFILE  
STA. 0+000.000 TO 0+085.839

FILE NO.  
ANOKC9902.02  
DATE  
7/28/99

**23**  
**41**



G:\CIVIL\CLIENTS\VA\_THRU\_F\ANOKK\9902.02\ACAD\AC9025TMD.DWG 07-29-99 3:57 pm

DESIGN					
DRAWING					
CHECKED					
DESIGN TEAM	NO.	BY	DATE	REVISIONS	ITEM

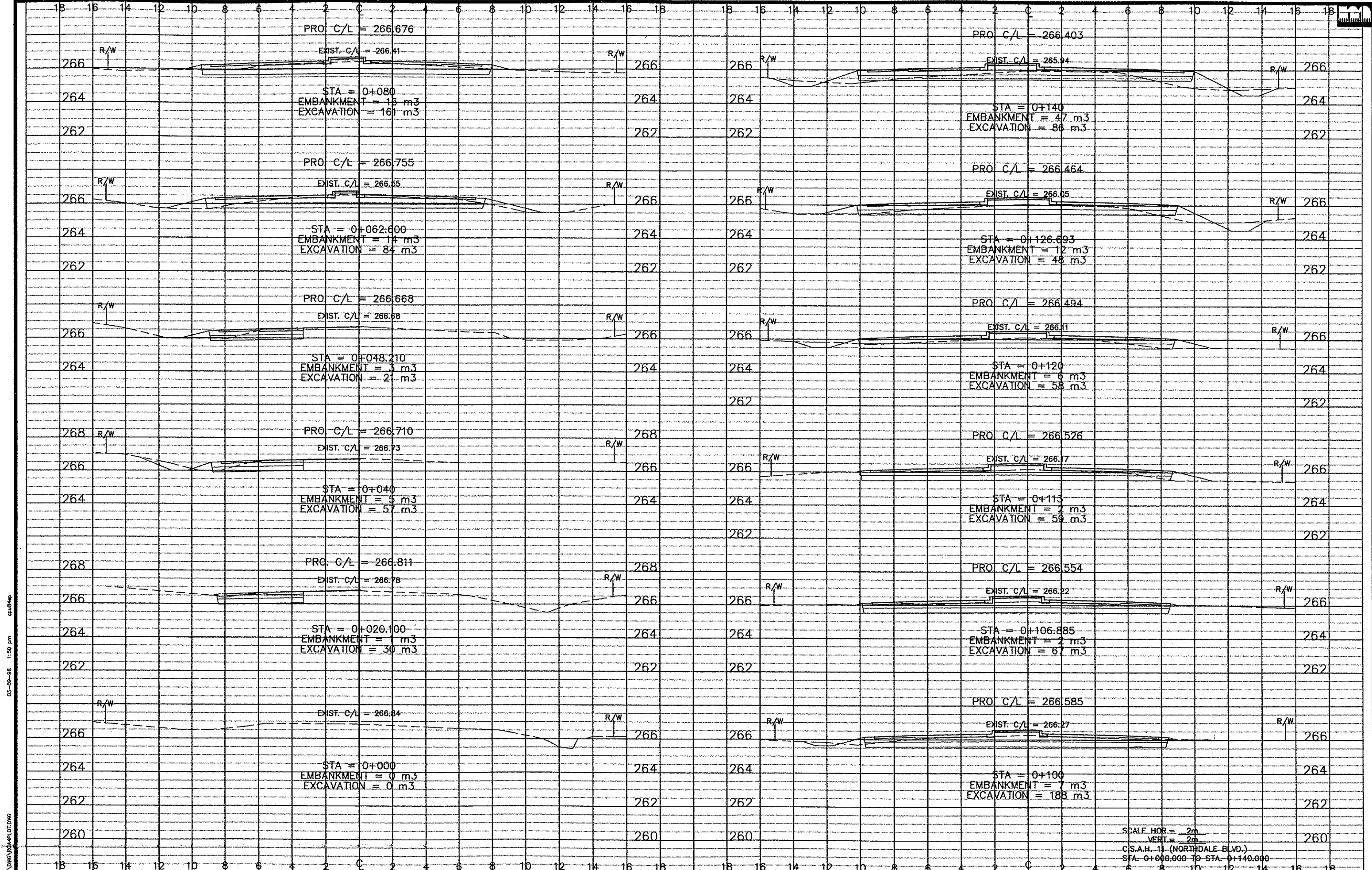
I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the state of Minnesota.  
*Alan M. M. Olson*  
 Date: 7/28/99 Reg. No. 18612



ANOKA COUNTY  
**CSAH 11 (NORTHDAL BLVD.)**  
 S.A.P. 02-611-27  
 S.A.P. 114-120-06  
 S.A.P. 114-020-14

**STORM SEWER PROFILES**

FILE NO.	<b>24</b>
AANOKC9902.02	
DATE	<b>41</b>
7/28/99	



PRO C/L = 266.676  
 EXIST. C/L = 266.41  
 STA = 0+080  
 EMBANKMENT = 13 m<sup>3</sup>  
 EXCAVATION = 161 m<sup>3</sup>

PRO C/L = 266.755  
 EXIST. C/L = 266.55  
 STA = 0+062.600  
 EMBANKMENT = 14 m<sup>3</sup>  
 EXCAVATION = 84 m<sup>3</sup>

PRO C/L = 266.668  
 EXIST. C/L = 266.58  
 STA = 0+048.210  
 EMBANKMENT = 3 m<sup>3</sup>  
 EXCAVATION = 21 m<sup>3</sup>

PRO C/L = 266.710  
 EXIST. C/L = 266.73  
 STA = 0+040  
 EMBANKMENT = 3 m<sup>3</sup>  
 EXCAVATION = 57 m<sup>3</sup>

PRO C/L = 266.811  
 EXIST. C/L = 266.78  
 STA = 0+020.100  
 EMBANKMENT = 1 m<sup>3</sup>  
 EXCAVATION = 30 m<sup>3</sup>

EXIST. C/L = 266.84  
 STA = 0+000  
 EMBANKMENT = 0 m<sup>3</sup>  
 EXCAVATION = 0 m<sup>3</sup>

PRO C/L = 266.403  
 EXIST. C/L = 265.94  
 STA = 0+140  
 EMBANKMENT = 47 m<sup>3</sup>  
 EXCAVATION = 86 m<sup>3</sup>

PRO C/L = 266.464  
 EXIST. C/L = 266.05  
 STA = 0+126.693  
 EMBANKMENT = 12 m<sup>3</sup>  
 EXCAVATION = 48 m<sup>3</sup>

PRO C/L = 266.494  
 EXIST. C/L = 266.11  
 STA = 0+120  
 EMBANKMENT = 6 m<sup>3</sup>  
 EXCAVATION = 58 m<sup>3</sup>

PRO C/L = 266.526  
 EXIST. C/L = 266.17  
 STA = 0+113  
 EMBANKMENT = 2 m<sup>3</sup>  
 EXCAVATION = 59 m<sup>3</sup>

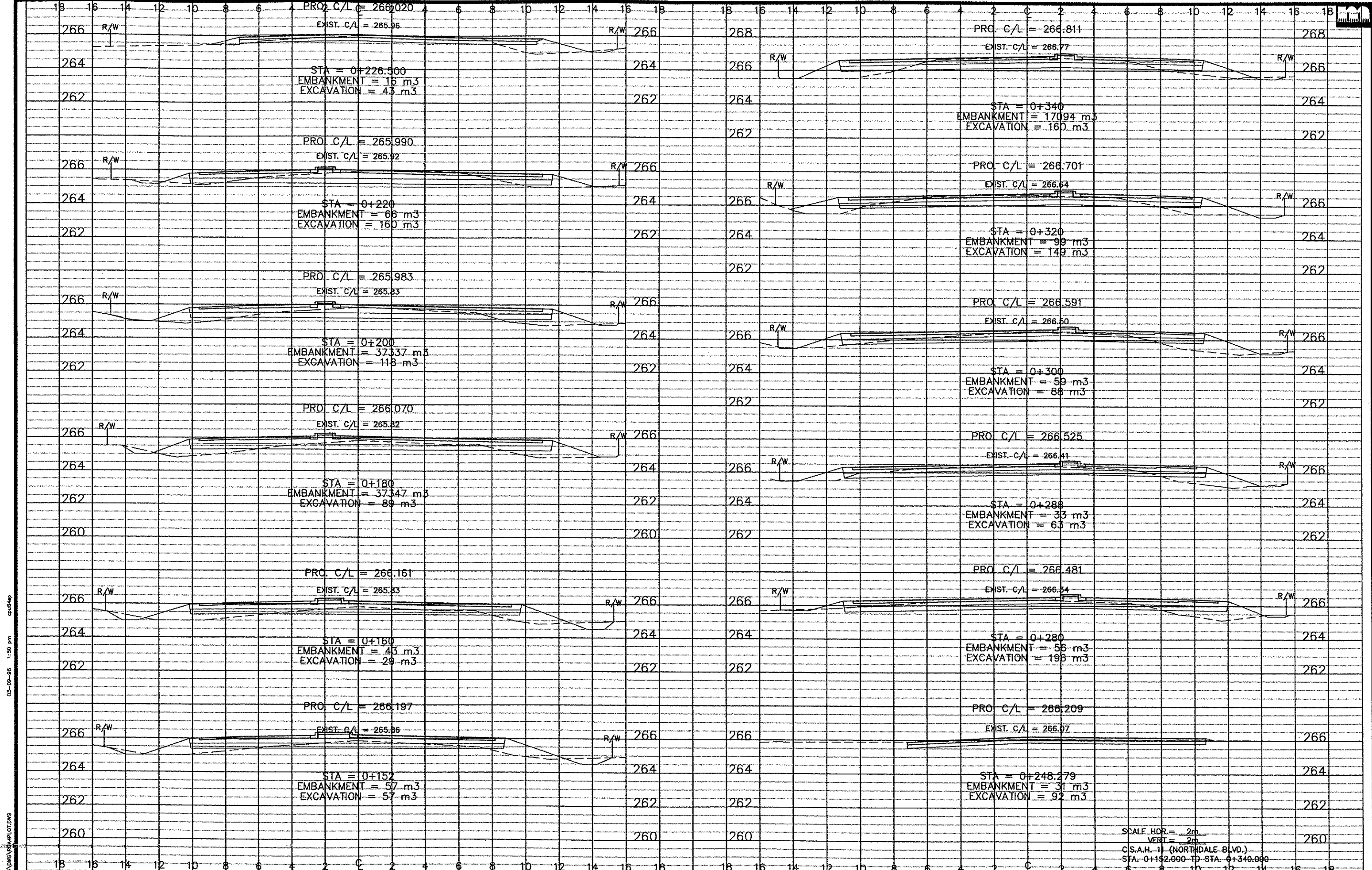
PRO C/L = 266.554  
 EXIST. C/L = 266.22  
 STA = 0+106.885  
 EMBANKMENT = 2 m<sup>3</sup>  
 EXCAVATION = 67 m<sup>3</sup>

PRO C/L = 266.585  
 EXIST. C/L = 266.27  
 STA = 0+100  
 EMBANKMENT = 7 m<sup>3</sup>  
 EXCAVATION = 188 m<sup>3</sup>

SCALE HOR = 2m  
 VERT = 2m  
 C.S.A.H. 11 (NORTHDALE BLVD.)  
 STA. 0+000.000 TO STA. 0+140.000

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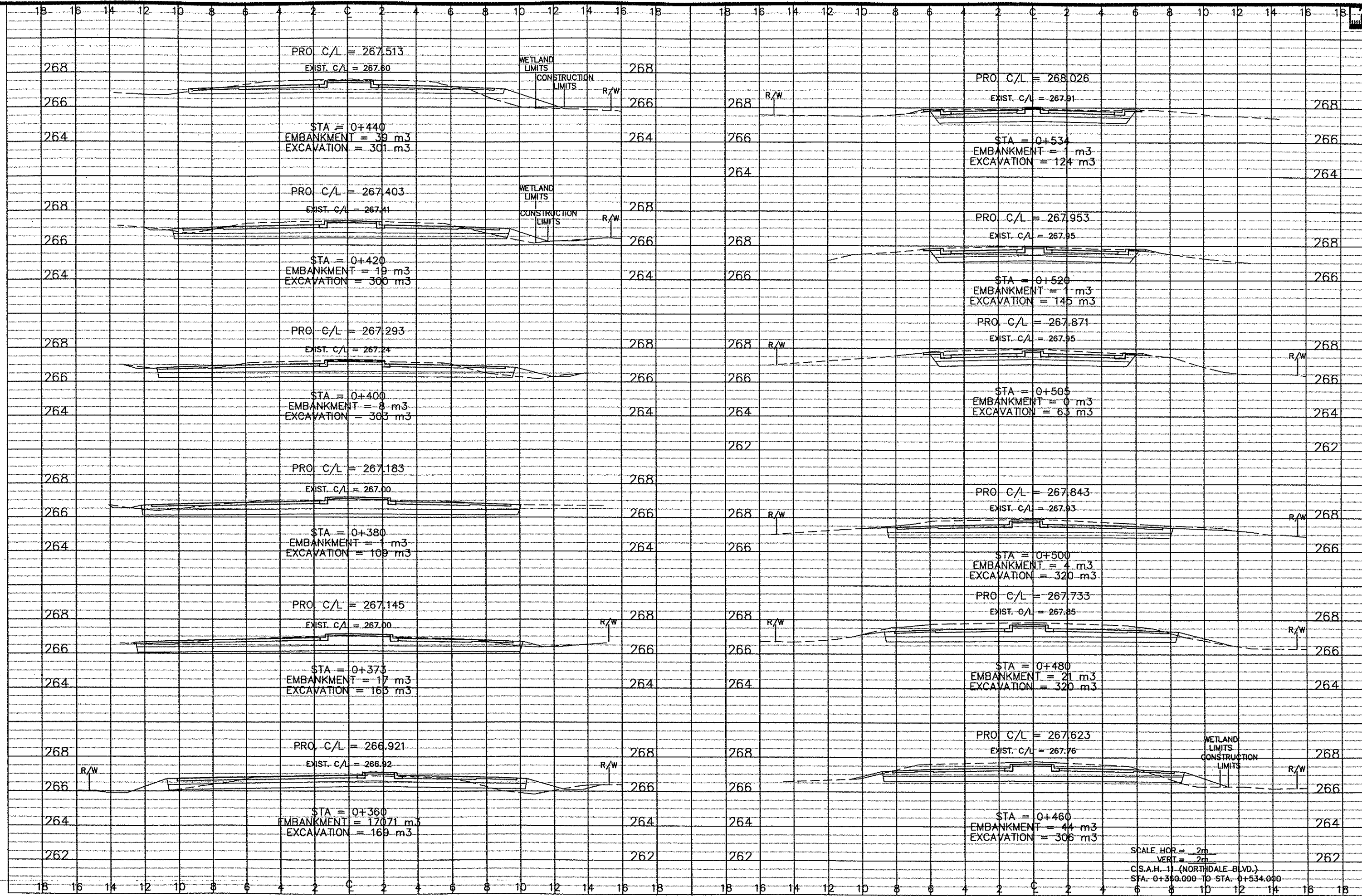




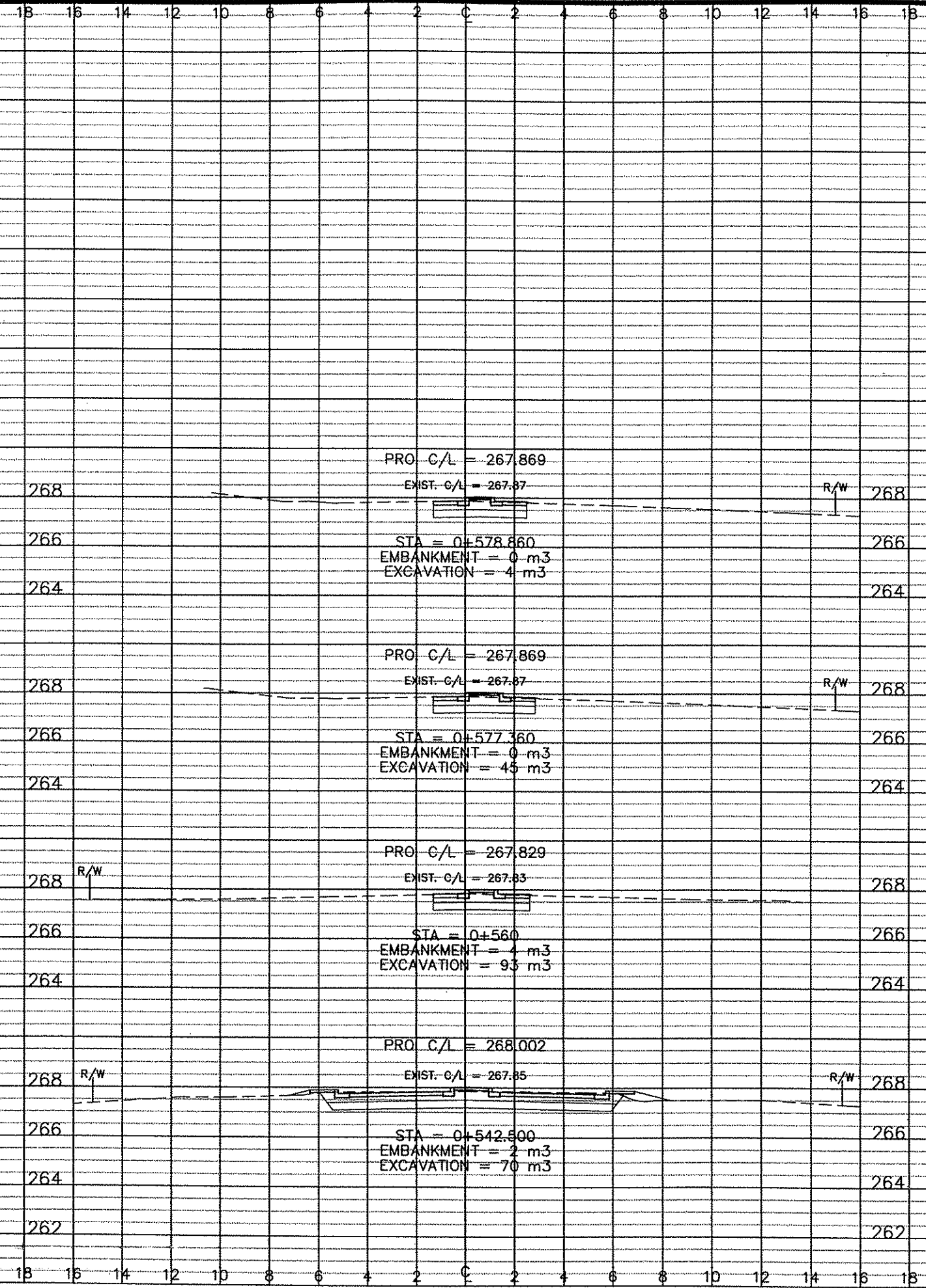
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 gus84ap

SCALE HOR = 2m  
 VERT = 2m  
 C.S.A.H. 11 (NORTHDALE BLVD.)  
 STA. 0+152.000 TO STA. 0+340.000

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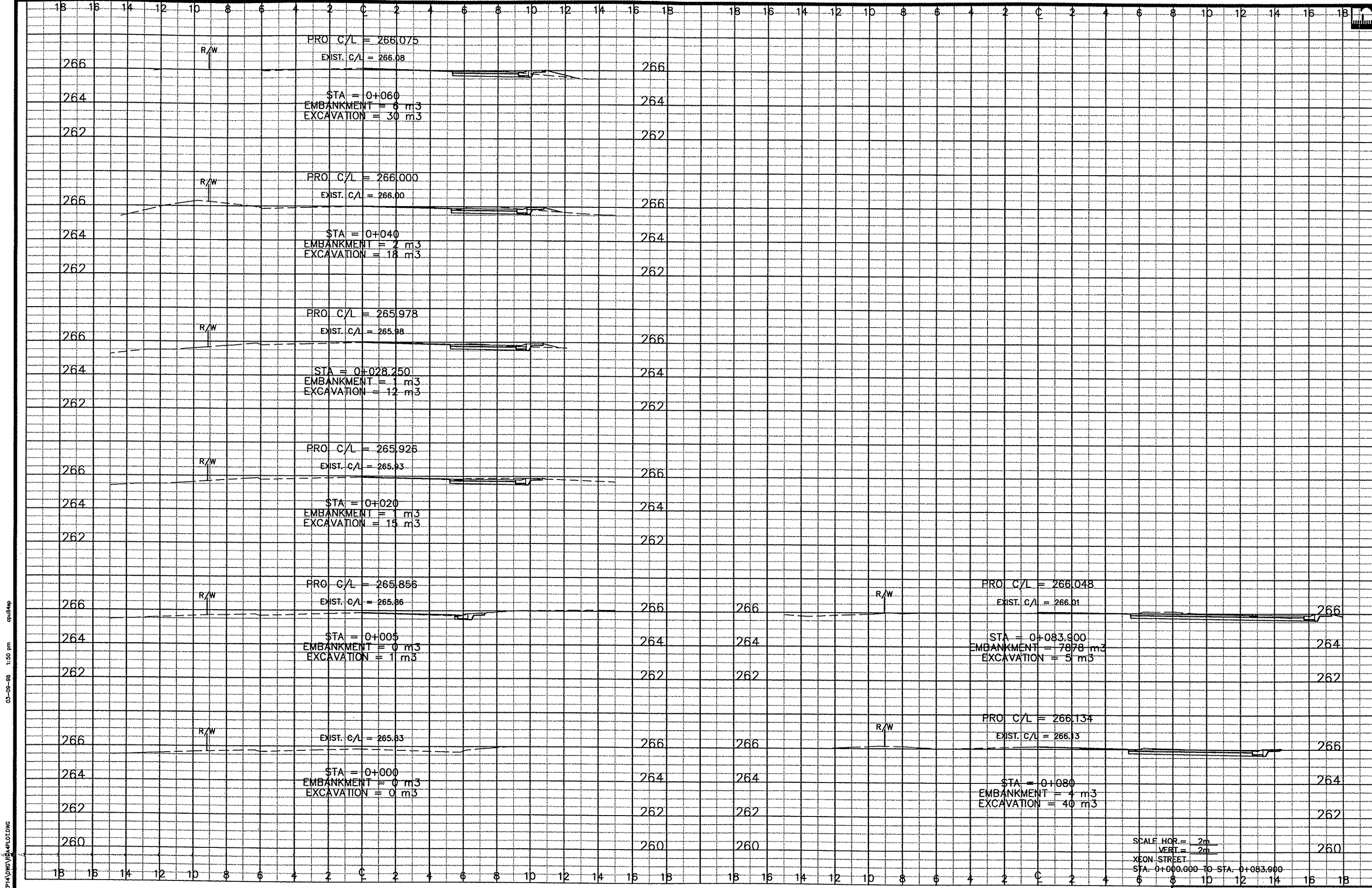
SCALE HOR. = 2m  
 VERT. = 2m  
 C.S.A.H. 1) (NORTHDALE BLVD.)  
 STA. 0+360.000 TO STA. 0+534.000



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SCALE HOR = 2m  
 VERT = 2m  
 C.S.A.H. 11 (NORTHDALE BLVD.)  
 STA. 0+542.500 TO STA. 0+578.860

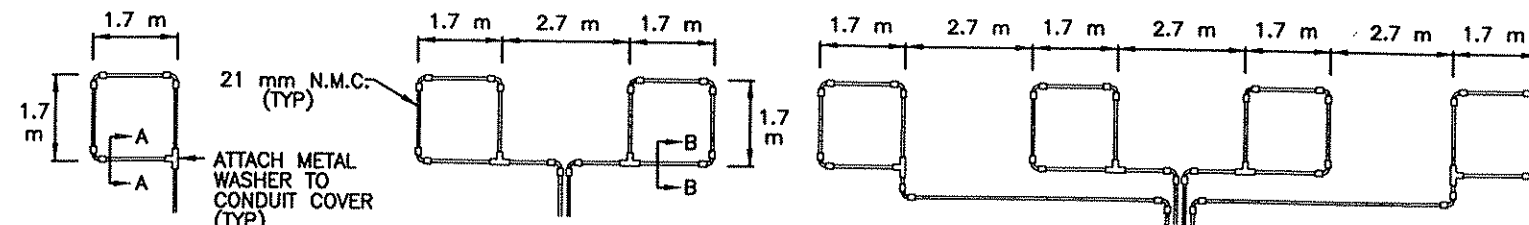




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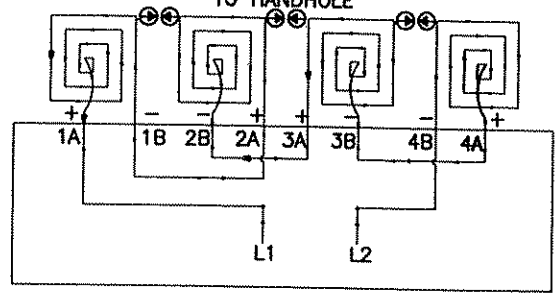
SCALE HOR. = 2m  
 VERT. = 2m  
 XEON STREET  
 STA. 0+000.000 TO STA. 0+083.900





21 mm N.M.C. (TYP)  
ATTACH METAL WASHER TO CONDUIT COVER (TYP)

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

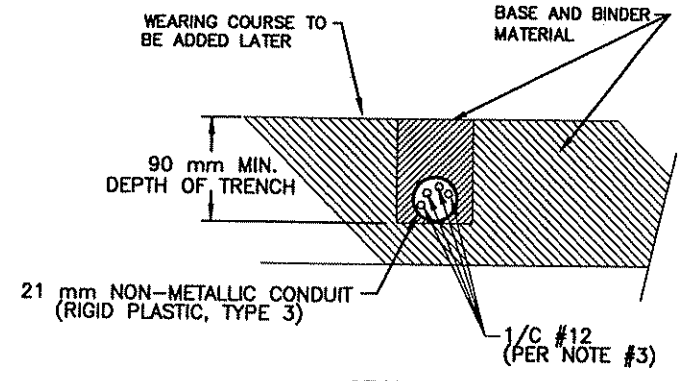


LOOP CONNECTIONS SHALL BE LABELED AND SPLICED IN THE HANDHOLE AS FOLLOWS:

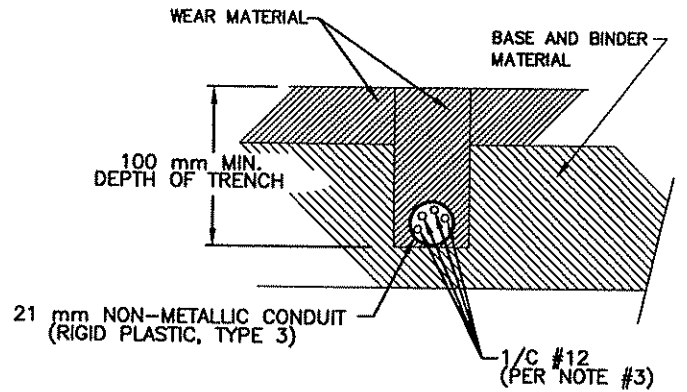
- L1 TO 1A
- 1B TO 2A
- 2B TO 3A
- 3B TO 4A
- 4B TO L2

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

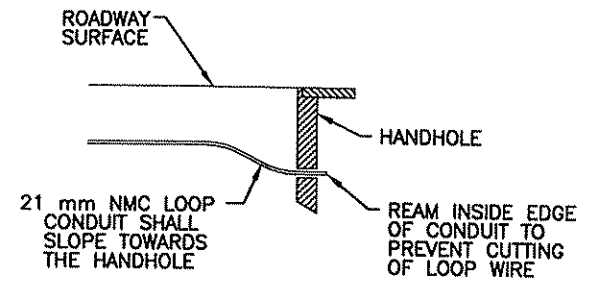
**LOOP DETECTOR DETAIL 'C'**  
(LOOP PHASING FOR SERIES CONNECTION)



**SECTION A-A**  
DETAIL FOR LOOP INSTALLATION IN NEW ROADWAY



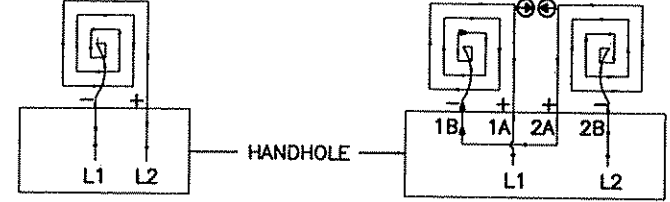
**SECTION B-B**  
DETAIL FOR LOOP INSTALLATION IN EXISTING ROADWAY



**DRAINAGE DETAIL**

- LOOP DETECTOR WIRING**
- 1) ALL CORNERS SHALL BE 90° CONDUIT BENDS.
  - 2) CONNECT WIRES IN HANDHOLES USING SPLICE KIT METHOD DESCRIBED IN THE SPECIAL PROVISIONS.
  - 3) LOOP DETECTOR WIRES SHALL BE #12 AWG CROSSED LINKED POLYETHYLENE (XLP). SEE SPECIAL PROVISIONS.
  - 4) LOOP LEAD IN WIRES SHALL BE TWISTED A MIN. OF (5) TURNS PER 0.3 METER (1 FOOT) THROUGH THE CONDUIT TO THE HANDHOLE.
  - 5) NMC DESIGNATES NON-METALLIC CONDUIT (SPEC. 3803)
  - 6) LOOPS 1.7 m x 1.7 m THRU 1.7 m x 4.3 m SHALL HAVE (4) TURNS.
  - 7) LOOPS 1.7 m x 4.6 m AND LARGER SHALL HAVE (2) TURNS.

**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)

**LEGEND OF SYMBOLS**

CONTROLLER AND SERVICE EQUIP. NO's	⊙
SIGNAL BASE NO.	⊙
SIGNAL FACE NO.	⊙
LUMINAIRE NO.	⊙
CONTROLLER AND CABINET	⊙
CONTROLLER AND CABINET - IN PLACE	⊙
HANDHOLE	⊙
HANDHOLE - IN PLACE	⊙
RIGID STEEL CONDUIT (RSC)	⊙
RIGID STEEL CONDUIT (RSC) - IN PLACE	⊙
SIGNAL FACE WITH BACKGROUND SHIELD	⊙
SIGNAL FACE W/O BACKGROUND SHIELD	⊙
SIGNAL FACE - IN PLACE	⊙
PEDESTRIAN INDICATORS	⊙
PEDESTRIAN INDICATORS - IN PLACE	⊙
PEDESTRIAN PUSH BUTTONS ON PEDESTAL OR POLE	⊙
PEDESTRIAN PUSH BUTTON STATION	⊙
TRAFFIC SIGNAL PEDESTAL	⊙
TRAFFIC SIGNAL PEDESTAL - IN PLACE	⊙
TRAFFIC SIGNAL POLE AND MAST ARM	⊙
TRAFFIC SIGNAL POLE AND MAST ARM - IN PLACE	⊙
STREET LIGHT POLE AND LUMINAIRE	⊙
STREET LIGHT POLE AND LUMINAIRE - IN PLACE	⊙
MAST ARM AND LUMINAIRE	⊙
MAST ARM AND LUMINAIRE - IN PLACE	⊙
WOOD POLE	⊙
WOOD POLE - IN PLACE	⊙
SOURCE OF POWER	⊙
RAILROAD SIGNAL - IN PLACE	⊙
RIGHT OF WAY LINE	⊙
CENTERLINE	⊙
EDGE OF ROADWAY	⊙
SHOULDERLINE	⊙
CURB LINE	⊙
STOP BAR	⊙
EMERGENCY VEHICLE PREEMPTION DETECTOR	⊙

**ABBREVIATIONS**

3-1(EG)	SIGNAL HEAD PHASE "3" - NO "1"	P2-1(EG)	PEDESTRIAN INDICATION PHASE "2" - NO. "1"
BR. GR.	BARE GROUND	PB	PUSH BUTTON
CH. SW.	CHECK SWITCH	PB2-1(EG)	PUSH BUTTON PHASE "2" - NO. "1"
CLR	CLEAR	PEC	PHOTOELECTRIC CELL
D2-1(EG)	DETECTOR PHASE "2" - NO. "1"	PED	PEDESTRIAN
DWK	DON'T WALK	R	RED
EQG	EQUIPMENT GROUND	R&S	REMOVE AND SALVAGE
EVP	EMERGENCY VEHICLE PRE-EMPTION	RLTA	RED LEFT TURN ARROW
F&I	FURNISH AND INSTALL	RRTA	RED RIGHT TURN ARROW
FL	FLASH/FLASHING	RSC	RIGID STEEL CONDUIT
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

**CONDUCTOR COLOR CODE**

R	RED
O	ORANGE
BL	BLUE
WH	WHITE
R/BLK	RED WITH BLACK TRACER
O/BLK	ORANGE WITH BLACK TRACER
BL/BLK	BLUE WITH BLACK TRACER
WH/BLK	WHITE WITH BLACK TRACER
BLK	BLACK
BLK/WH	BLACK WITH WHITE TRACER
G/BLK	GREEN WITH BLACK TRACER
G	GREEN

**STANDARD PLATES**  
THESE STANDARD PLATES AS APPROVED BY FHWA SHALL APPLY:

PLATE NO.	DESCRIPTION
* M8110 D	TRAFFIC SIGNAL BRACKETING - POLE MOUNTED
* M8111 C	TRAFFIC SIGNAL BRACKETING - PEDESTAL MOUNTED
* M8112 C	PEDESTAL FOUNDATION
* M8114 A	PVC HANDHOLE/PULLBOX
M8115 D	PEDESTRIAN PUSH BUTTON INSTALLATION
* M8118 C	SERVICE EQUIPMENT AND POLE-TRAFFIC CONTROL SIGNALS
* M8119 C	GROUND MOUNTED CABINET FOUNDATION
M8120 K	PA85 POLE FOUNDATION
* M8121 D	TRANSFORMER BASE AND POLE BASE PLATE
* M8122 C	PEDESTAL AND PEDESTAL BASE
* M8123 D	POLE AND MAST ARM
* M8124 E	MAST ARM SIGNAL HEAD MOUNTS
* M8126 F	PA90 AND PA100 POLE FOUNDATION

\* - APPLIES TO THIS PROJECT

CITY PROJECT NO. 99-4

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NO.	BY	DATE	REVISIONS	ITEM	DESIGN	CHECKED

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the state of Minnesota.  
Date: 5/28/99 Reg. No. 22457



ANOKA COUNTY  
C.S.A.H. 11 (NORTHDAL BLVD.)  
S.A.P. 02-611-27  
S.A.P. 114-120-06

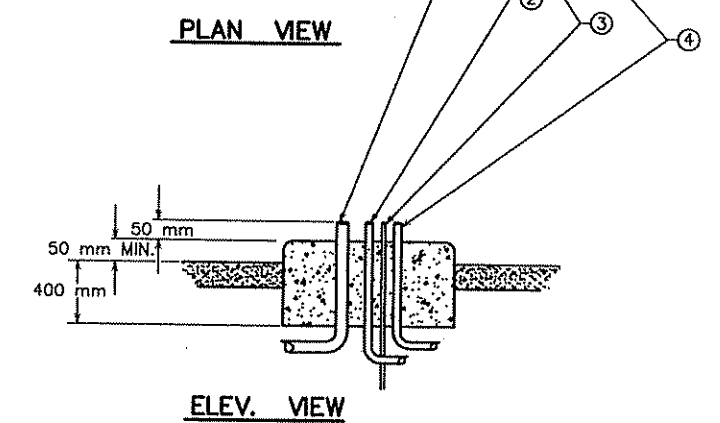
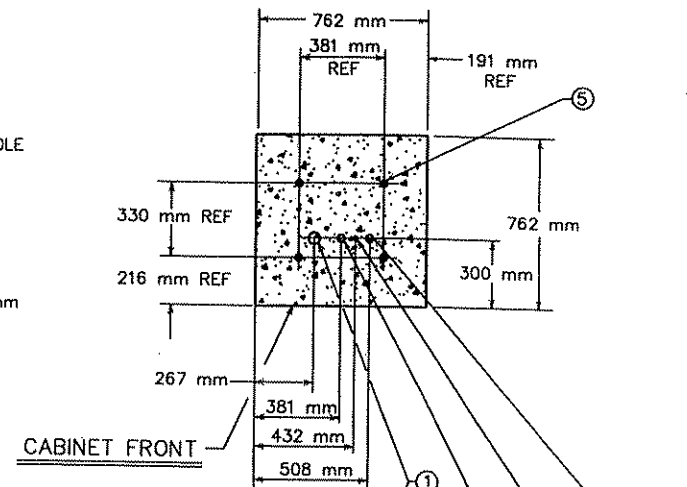
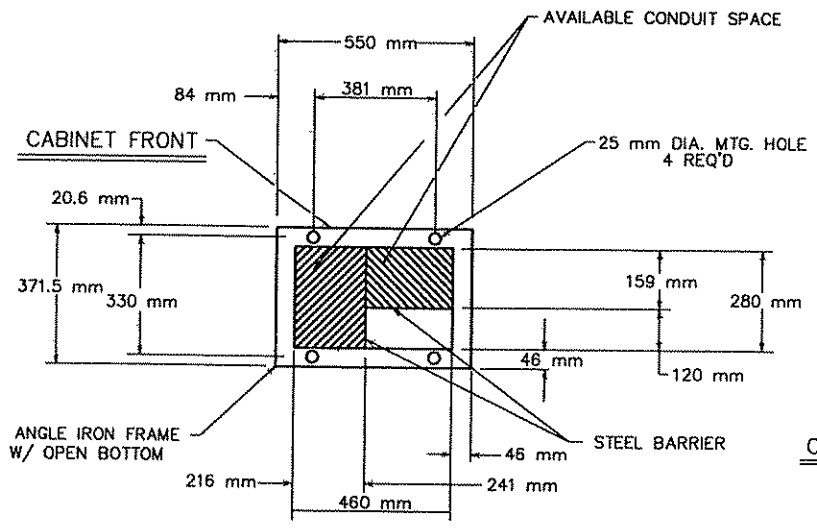
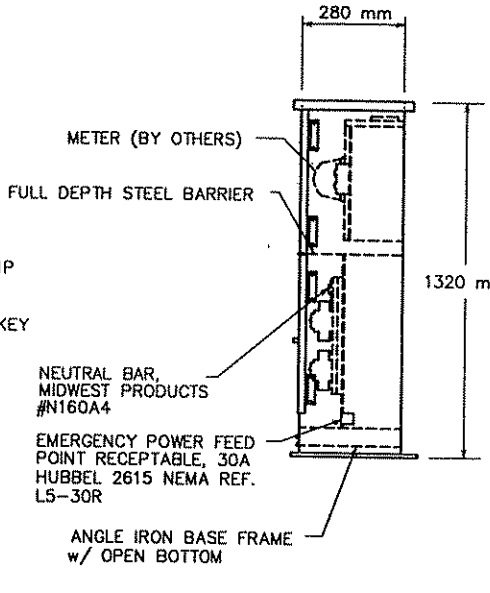
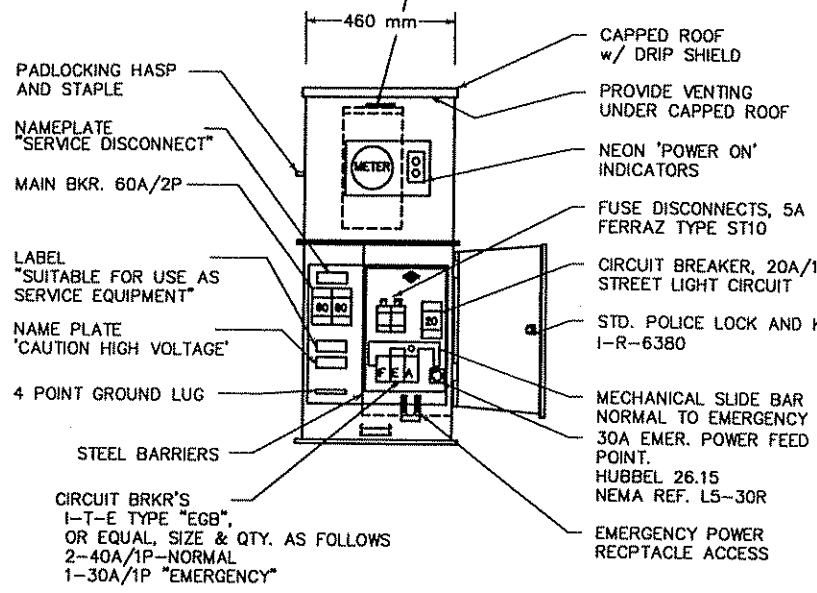
TRAFFIC SIGNAL SYSTEM  
DETAILS & STANDARD PLATES  
NORTHDAL BLVD (CSAH 11) AT XEON STREET

FILE NO.	ANOKC9902.02	30
DATE	7/28/99	41

**SIGNAL SERVICE CABINET**

**SERVICE CABINET FOUNDATION**

N.S.P. METER SOCKET, 5-TERMINAL  
w/POSTIVE BY-PASS MECHANISM  
MILBANK CAT. No. U-2272-RL

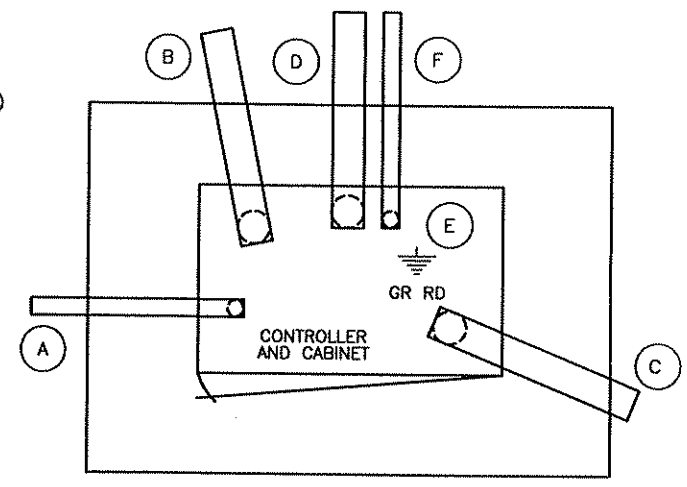


**CONSTRUCTION NOTES**

ENCLOSURE SHALL BE FABRICATED FROM #12 GA. ALL WELDED COLD ROLLED STEEL FOR OUTDOOR WEATHER PROOF SERVICE. DOORS TO BE GASKETED, ALL HINGES, PINS AND LOCKS TO BE OF NON CORRODING CONSTRUCTION. CABINET TO BE PRIMED INSIDE AND OUT WITH RUST INHIBITING PRIMER. FINISH PER MN/DOT #3527.  
ENCLOSURE SHALL BE 'UL' APPROVED

- ① 53 mm RSC STUB OUT (FOR SDP-BY CONNEXUS)
- ② 35 mm RSC TO CONTROLLER CABINET (VIA HH 16)
- ③ GROUNDING ROD
- ④ 35 mm RSC TO HANDHOLE 1 (FOR STREET LIGHTING)
- ⑤ ANCHOR BOLT LOCATIONS (4 REQUIRED)

- Ⓐ 35 mm R.S.C. FOR SERVICE CONNECTION (VIA HH 16)
- Ⓑ 103 mm R.S.C. TO HH 1
- Ⓒ 103 mm R.S.C. TO HH 15
- Ⓓ 78 mm R.S.C. STUBOUT, THREAD & CAP BOTH ENDS (FOR FUTURE USE).
- Ⓔ 15.8 mm DIA X 4.6 m GROUND ROD
- Ⓕ 53 mm R.S.C. STUBOUT, THREAD & CAP BOTH ENDS (FOR FUTURE USE).



CONCRETE FOUNDATION  
SEE MN/DOT STANDARD PLATE NO. MB119C FOR DIMENSIONS.

SEE INTERSECTION LAYOUT FOR  
CONDUIT & CABLE INFORMATION

**TYPICAL CONTROLLER CABINET PAD LAYOUT**

NO SCALE

CITY PROJECT NO. 99-4

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NO.	BY	DATE	REVISIONS	ITEM	DESIGN	CHECKED

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the state of Minnesota.  
Date: 7/28/99 Reg. No. 22457



ANOKA COUNTY  
C.S.A.H. 11 (NORTHDALE BLVD.)  
S.A.P. 02-611-27  
S.A.P. 114-120-06

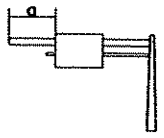
TRAFFIC SIGNAL SYSTEM  
CABINET AND PAD DETAILS  
NORTHDALE BLVD (CSAH 11) AT XEON STREET

FILE NO.  
ANOKC9902.02  
DATE  
7/28/99

MAST ARM MOUNTED SIGNING



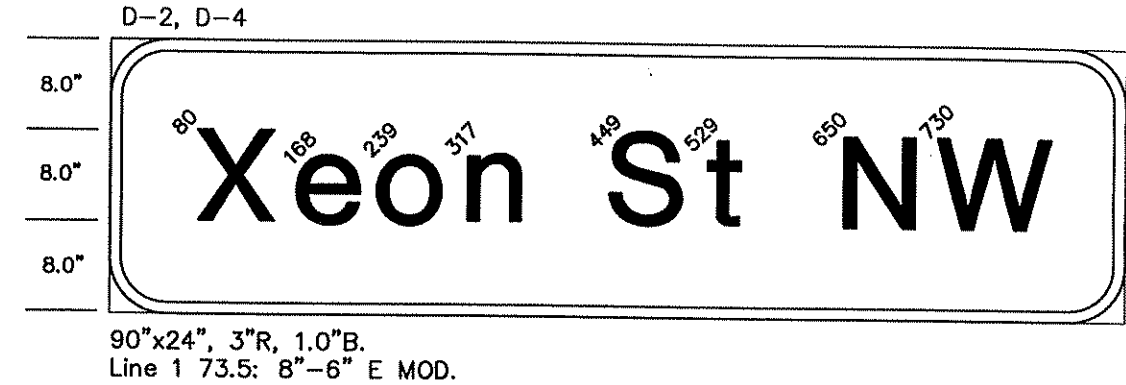
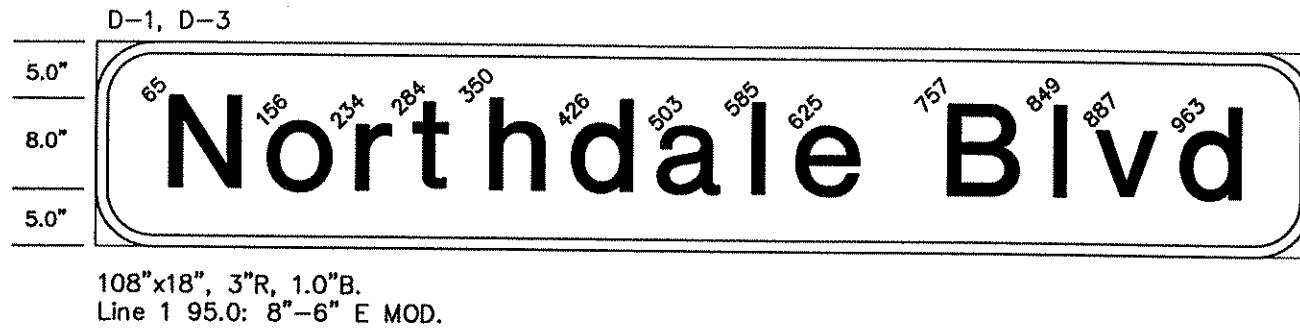
TYPE "D" SIGNS - F & I								
SIGN PANEL	SIZE (inches)	SIZE (meters)	NO. REQ.	NO. POSTS PER SIGN	POST SPACING (mm)	AREA (sq.m.) PER SIGN	POLE NO.	Ø
D-1	108x18	2.74x0.46	1	3	1145	1.25	1	2.5 m
D-2	90x24	2.29x0.61	1	2	1375	1.39	2	6.0 m
D-3	108x18	2.74x0.46	1	3	1145	1.25	3	2.5 m
D-4	90x24	2.29x0.61	1	2	1375	1.39	4	6.0 m
TYPE "C" SIGNS - F & I								
R6-1L	36x12	0.91x0.30	2	-	-	0.28	2,4	-
R6-1R	36x12	0.91x0.30	2	-	-	0.28	2,4	-



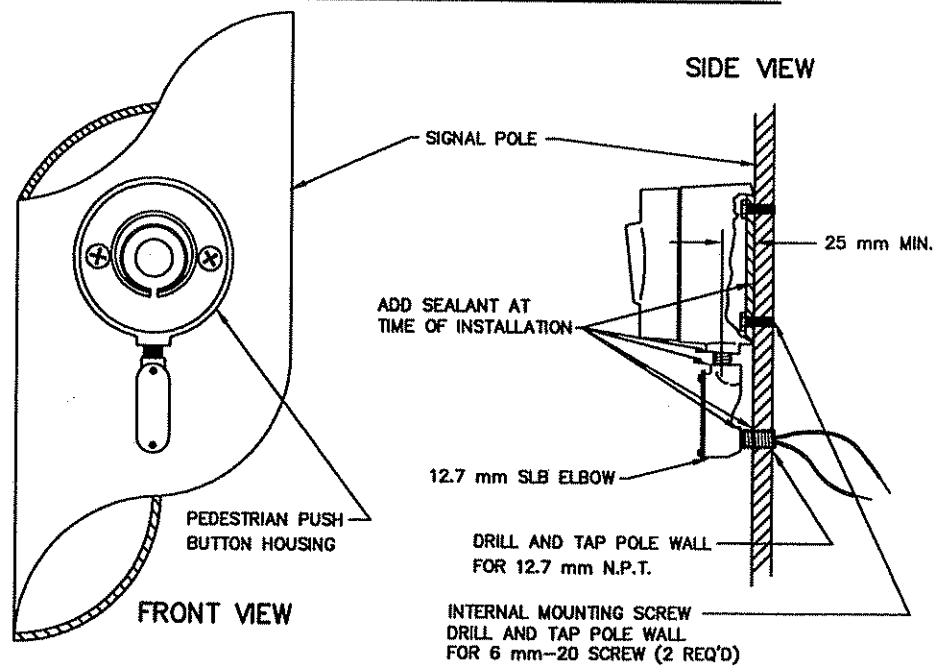
NOTES:

- 1) TYPE "D" SIGN COLOR--WHITE LEGEND AND BORDER ON GREEN BACKGROUND, FULLY REFLECTORIZED.
- 2) CORNERS EXTENDING BEYOND THE BORDER SHALL NOT BE TRIMMED.
- 3) FOR STRUCTURAL DETAILS, TYPE "C" AND "D" SIGNS, SEE DETAILS AND STANDARD SIGNS MANUAL.
- 4) FOR TYPE "D" STRINGER AND PANEL--JOINT DETAIL, SEE DETAILS AND STANDARD SIGNS MANUAL.
- 5) TYPE "C" AND "D" SIGN PANELS SHALL BE FURNISHED AND INSTALLED BY SIGNAL CONTRACTOR INCIDENTAL TO ITEM NO. 2565.511 FOR SIGNAL SYSTEM. SEE SPECIAL PROVISIONS.

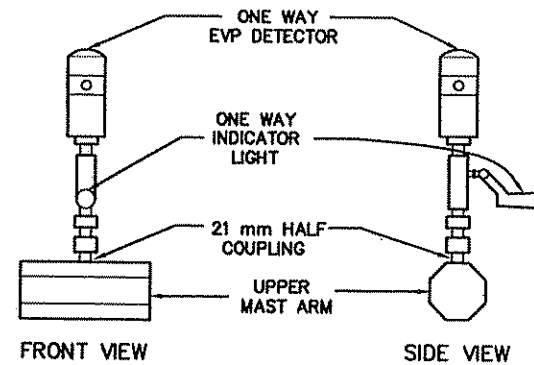
NOTE: ALL DIMENSIONS OF DETAILED SIGN PANELS ARE IN INCHES.



MAST ARM POLE PEDESTRIAN PUSH BUTTON DETAIL



EVP DETECTOR AND LIGHT MOUNTING DETAIL ON MAST ARM



CITY PROJECT NO. 99-4

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NO.	BY	DATE	REVISIONS	ITEM	DESIGN	CHECKED

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the state of Minnesota.  
Date: 5/26/99 Reg. No. 22457



ANOKA COUNTY  
C.S.A.H. 11 (NORTHDAL BLVD.)  
S.A.P. 02-611-27  
S.A.P. 114-120-06

TRAFFIC SIGNAL SYSTEM  
DETAILS AND SIGNING  
NORTHDAL BLVD (CSAH 11) AT XEON STREET

FILE NO.  
ANOKC9902.02  
DATE  
7/28/99

32  
41

**NOTES:**

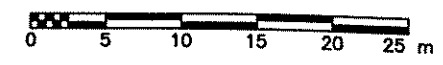
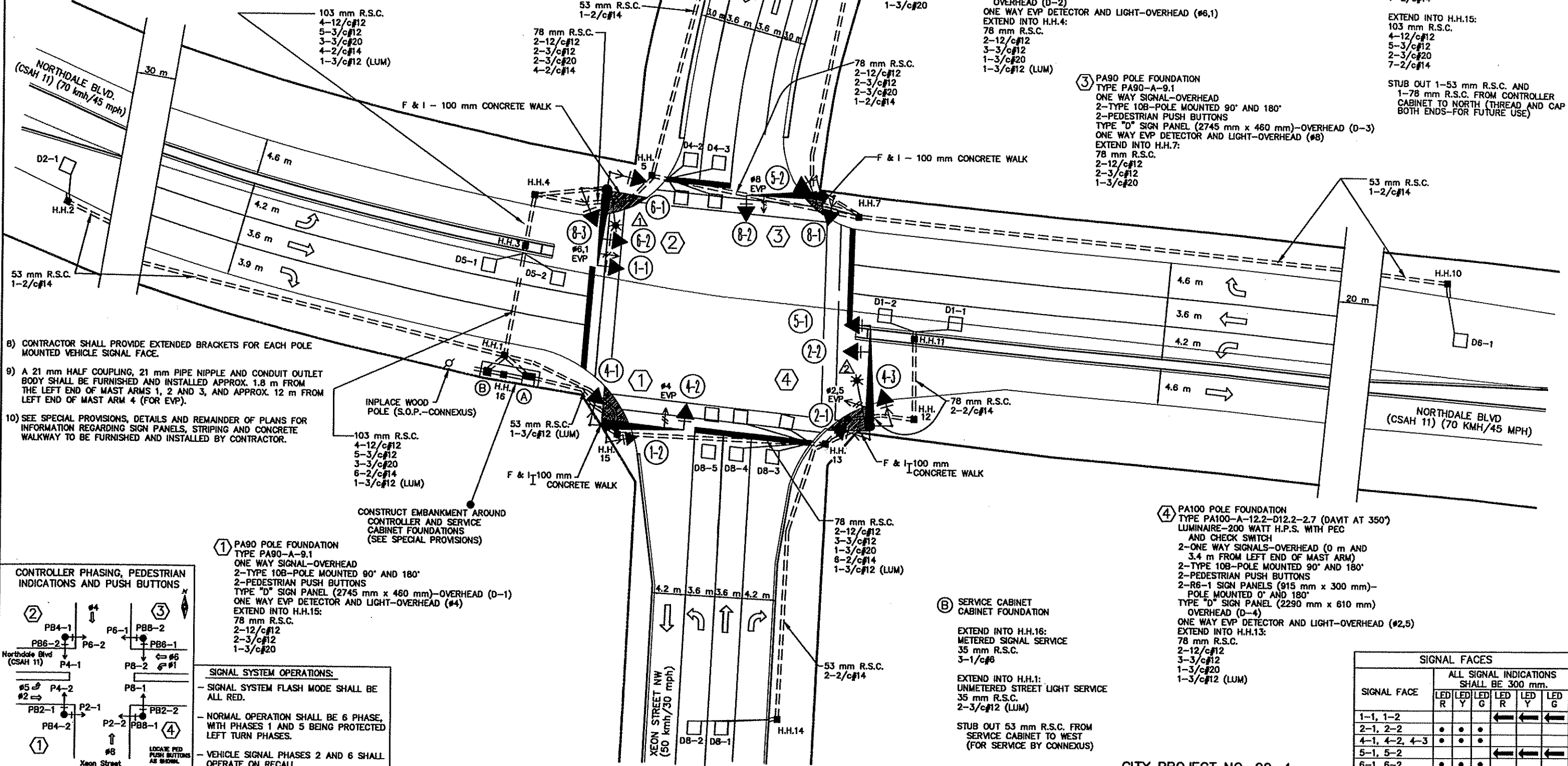
- 1) LOCATION OF POLES, CONTROLLER CABINET, SERVICE CABINET, LOOP DETECTORS AND HANDHOLES SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
- 2) SEE SPECIAL PROVISIONS FOR COUNTY FURNISHED MATERIALS.
- 3) LOOP DETECTOR WIRES SHALL BE CROSS-LINKED POLYETHYLENE (XLP) IN 21 mm N.M.C. SEE SPECIAL PROVISIONS AND DETAILS.
- 4) NEW HANDHOLES SHALL BE PVC HANDHOLES WITH METAL FRAMES AND COVERS, PER Mn/DOT STANDARD PLATE NO. M8114A.
- 5) EACH SIGNAL FACE SHALL HAVE BACKGROUND SHIELD.
- 6) EACH PEDESTRIAN INDICATION SHALL BE A ONE SECTION HAND/WALKING PERSON INDICATION. SEE SPECIAL PROVISIONS.
- 7) ALL VEHICLE, AND ALL "HAND" PEDESTRIAN SIGNAL INDICATIONS SHALL BE LED. SEE SPECIAL PROVISIONS.

N.M.C. LOOP DETECTORS			
NUMBER	SIZE (m)	LOCATION	FUNCTION
D1-1	1.7 x 1.7	12 m	1
D1-2	1.7 x 1.7	3 m	1
D2-1	1.7 x 1.7	91 m	1
D4-1	1.7 x 1.7	30 m	3,8
D4-2	2-1.7 x 1.7	AS SHOWN	7
D4-3	2-1.7 x 1.7	AS SHOWN	7
D5-1	1.7 x 1.7	12 m	1
D5-2	1.7 x 1.7	3 m	1
D6-1	1.7 x 1.7	91 m	1
D8-1	1.7 x 1.7	37 m	3,8
D8-2	1.7 x 1.7	37 m	3,8
D8-3	2-1.7 x 1.7	AS SHOWN	7
D8-4	2-1.7 x 1.7	AS SHOWN	7

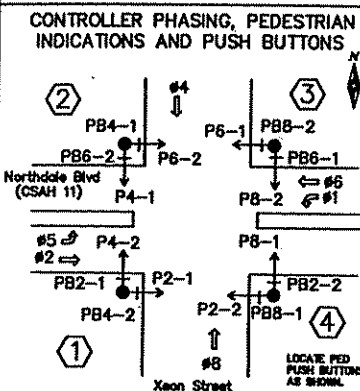
NOTE: LOCATION-DISTANCE FROM STOP BAR TO FRONT OF LOOP DETECTOR.

**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



- 8) CONTRACTOR SHALL PROVIDE EXTENDED BRACKETS FOR EACH POLE MOUNTED VEHICLE SIGNAL FACE.
- 9) A 21 mm HALF COUPLING, 21 mm PIPE NIPPLE AND CONDUIT OUTLET BODY SHALL BE FURNISHED AND INSTALLED APPROX. 1.8 m FROM THE LEFT END OF MAST ARMS 1, 2 AND 3, AND APPROX. 12 m FROM LEFT END OF MAST ARM 4 (FOR EVP).
- 10) SEE SPECIAL PROVISIONS, DETAILS AND REMAINDER OF PLANS FOR INFORMATION REGARDING SIGN PANELS, STRIPING AND CONCRETE WALKWAY TO BE FURNISHED AND INSTALLED BY CONTRACTOR.



- 1) PA90 POLE FOUNDATION  
TYPE PA90-A-9.1  
ONE WAY SIGNAL-OVERHEAD  
2-TYPE 10B-POLE MOUNTED 90° AND 180°  
2-PEDESTRIAN PUSH BUTTONS  
TYPE "D" SIGN PANEL (2745 mm x 460 mm)-OVERHEAD (D-1)  
ONE WAY EVP DETECTOR AND LIGHT-OVERHEAD (#4)  
EXTEND INTO H.H.15:  
78 mm R.S.C.  
2-12/c#12  
2-3/c#12  
1-3/c#20

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

- 5) PEDESTAL FOUNDATION  
3.0 m PEDESTAL POLE AND BASE  
ONE WAY EVP DETECTOR (#4)-MOUNT ON TOP OF PEDESTAL POLE  
EXTEND INTO H.H.9:  
53 mm R.S.C.  
1-3/c#20
- 2) PA100 POLE FOUNDATION  
TYPE PA100-A-9.1-D12.2-2.7 (DAVIT AT 350°)  
LUMINAIRE-200 WATT H.P.S. WITH PEC AND CHECK SWITCH  
2-ONE WAY SIGNALS-OVERHEAD (0 m AND 3.4 m FROM LEFT END OF MAST ARM)  
2-TYPE 10B-POLE MOUNTED 90° AND 180°  
2-PEDESTRIAN PUSH BUTTONS  
2-R6-1 SIGN PANELS (915 mm x 300 mm)-POLE MOUNTED 0° AND 180°  
TYPE "D" SIGN PANEL (2290 mm x 610 mm) OVERHEAD (D-2)  
ONE WAY EVP DETECTOR AND LIGHT-OVERHEAD (#6,1)  
EXTEND INTO H.H.4:  
78 mm R.S.C.  
2-12/c#12  
3-3/c#12  
1-3/c#20  
1-3/c#12 (LUM)

- 3) PA90 POLE FOUNDATION  
TYPE PA90-A-9.1  
ONE WAY SIGNAL-OVERHEAD  
2-TYPE 10B-POLE MOUNTED 90° AND 180°  
2-PEDESTRIAN PUSH BUTTONS  
TYPE "D" SIGN PANEL (2745 mm x 460 mm)-OVERHEAD (D-3)  
ONE WAY EVP DETECTOR AND LIGHT-OVERHEAD (#8)  
EXTEND INTO H.H.7:  
78 mm R.S.C.  
2-12/c#12  
2-3/c#12  
1-3/c#20

- 4) PA100 POLE FOUNDATION  
TYPE PA100-A-12.2-D12.2-2.7 (DAVIT AT 350°)  
LUMINAIRE-200 WATT H.P.S. WITH PEC AND CHECK SWITCH  
2-ONE WAY SIGNALS-OVERHEAD (0 m AND 3.4 m FROM LEFT END OF MAST ARM)  
2-TYPE 10B-POLE MOUNTED 90° AND 180°  
2-PEDESTRIAN PUSH BUTTONS  
2-R6-1 SIGN PANELS (915 mm x 300 mm)-POLE MOUNTED 0° AND 180°  
TYPE "D" SIGN PANEL (2290 mm x 610 mm) OVERHEAD (D-4)  
ONE WAY EVP DETECTOR AND LIGHT-OVERHEAD (#2,5)  
EXTEND INTO H.H.13:  
78 mm R.S.C.  
2-12/c#12  
3-3/c#12  
1-3/c#20  
1-3/c#12 (LUM)

- B) SERVICE CABINET  
CABINET FOUNDATION  
EXTEND INTO H.H.16:  
METERED SIGNAL SERVICE  
35 mm R.S.C.  
3-1/c#6  
EXTEND INTO H.H.1:  
UNMETERED STREET LIGHT SERVICE  
35 mm R.S.C.  
2-3/c#12 (LUM)  
STUB OUT 53 mm R.S.C. FROM SERVICE CABINET TO WEST (FOR SERVICE BY CONNEXUS)

- A) INSTALL CONTROLLER AND CABINET (FURNISHED BY COUNTY) CABINET FOUNDATION  
EXTEND INTO H.H.18:  
METERED SIGNAL SERVICE  
35 mm R.S.C.  
3-1/c#6  
EXTEND INTO H.H.1:  
103 mm R.S.C.  
4-12/c#12  
5-3/c#12  
3-3/c#20  
4-2/c#14  
EXTEND INTO H.H.15:  
103 mm R.S.C.  
4-12/c#12  
5-3/c#12  
2-3/c#20  
7-2/c#14  
STUB OUT 1-53 mm R.S.C. AND 1-78 mm R.S.C. FROM CONTROLLER CABINET TO NORTH (THREAD AND CAP BOTH ENDS-FOR FUTURE USE)

SIGNAL FACES						
SIGNAL FACE	ALL SIGNAL INDICATIONS SHALL BE 300 mm.					
	LED R	LED Y	LED G	LED R	LED Y	LED G
1-1, 1-2				←	←	←
2-1, 2-2	•	•	•			
4-1, 4-2, 4-3	•	•	•			
5-1, 5-2				←	←	←
6-1, 6-2	•	•	•			
8-1, 8-2, 8-3	•	•	•			

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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 Registered Professional Engineer under the laws of the state of Minnesota.  
Date: 7/28/99 Reg. No. 22457



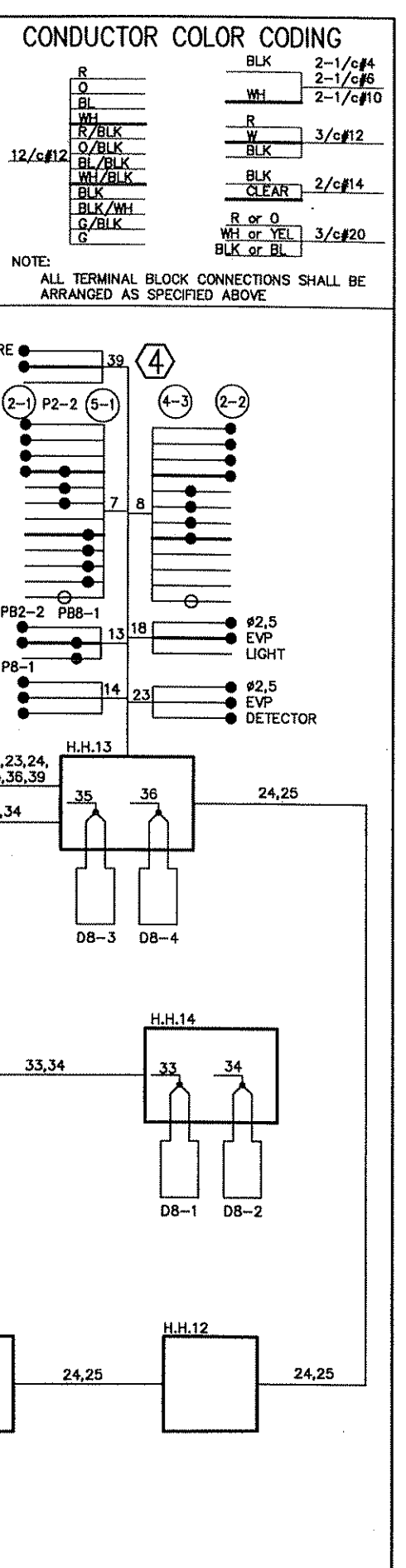
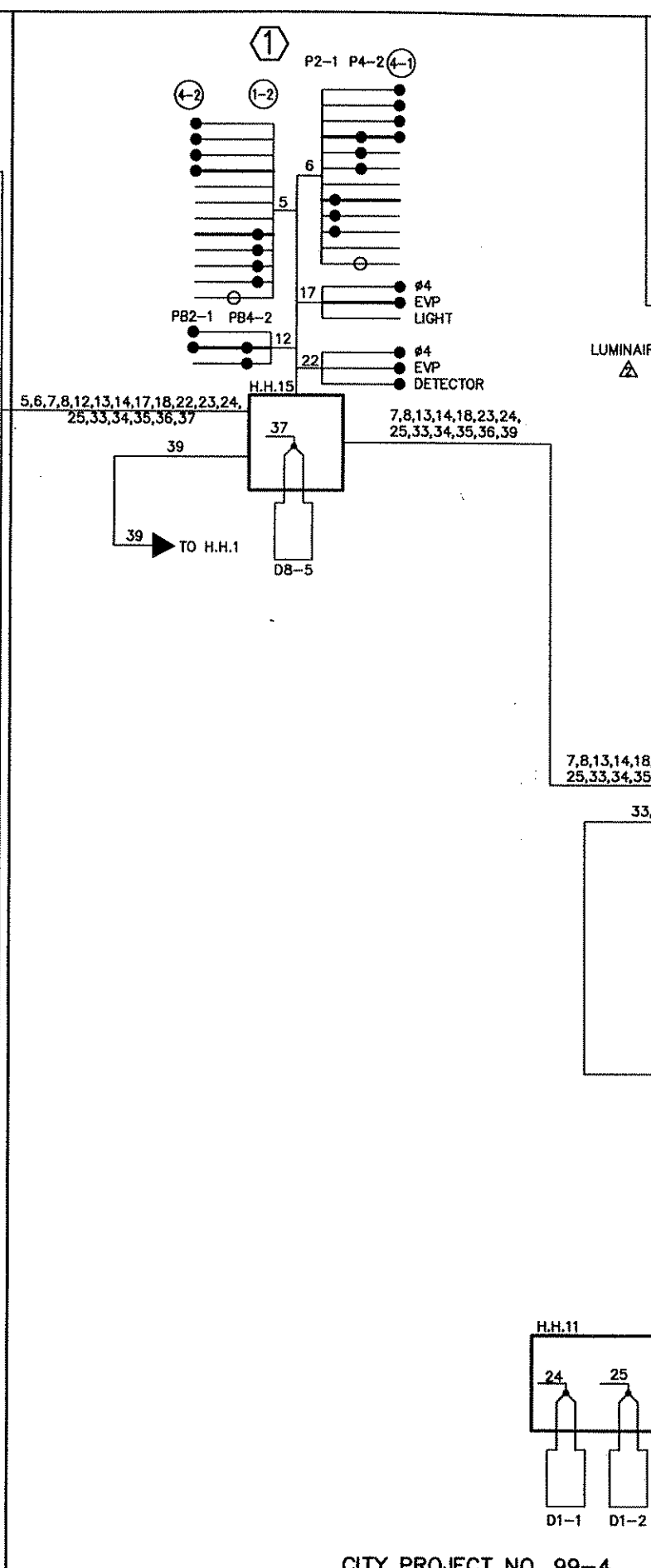
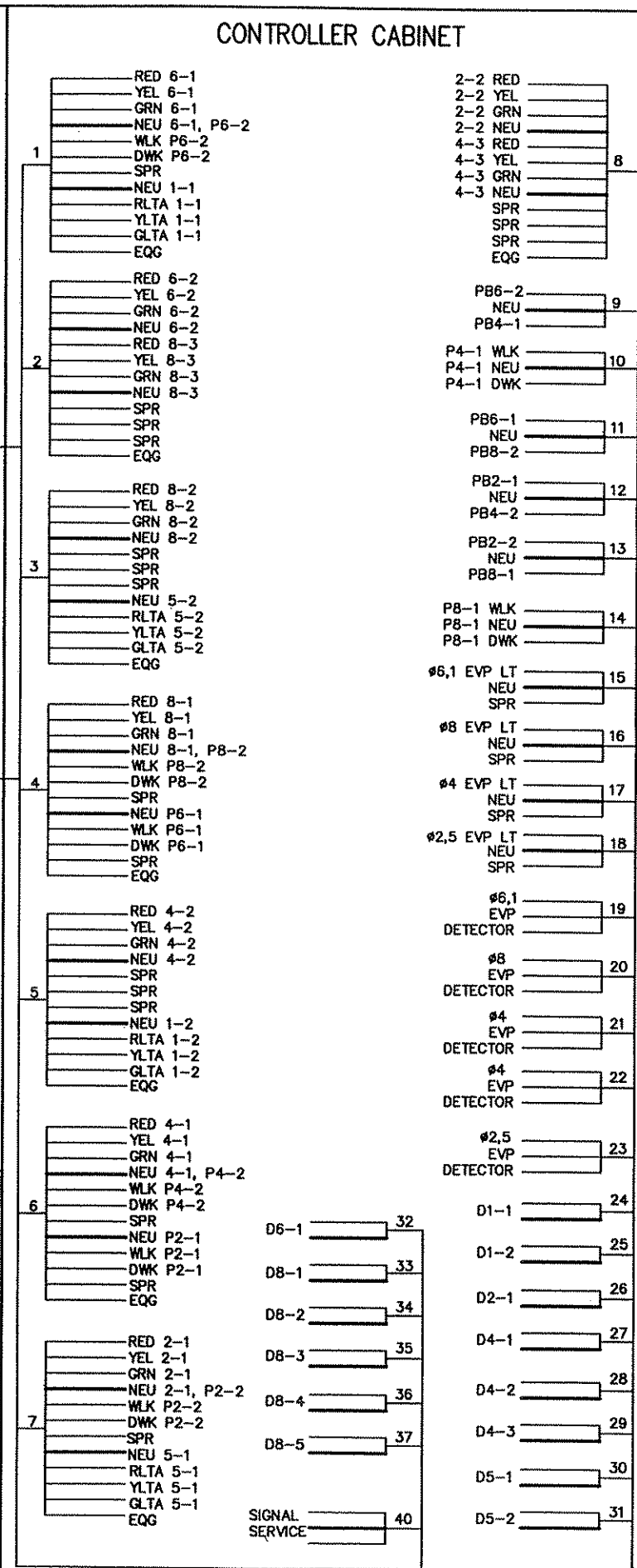
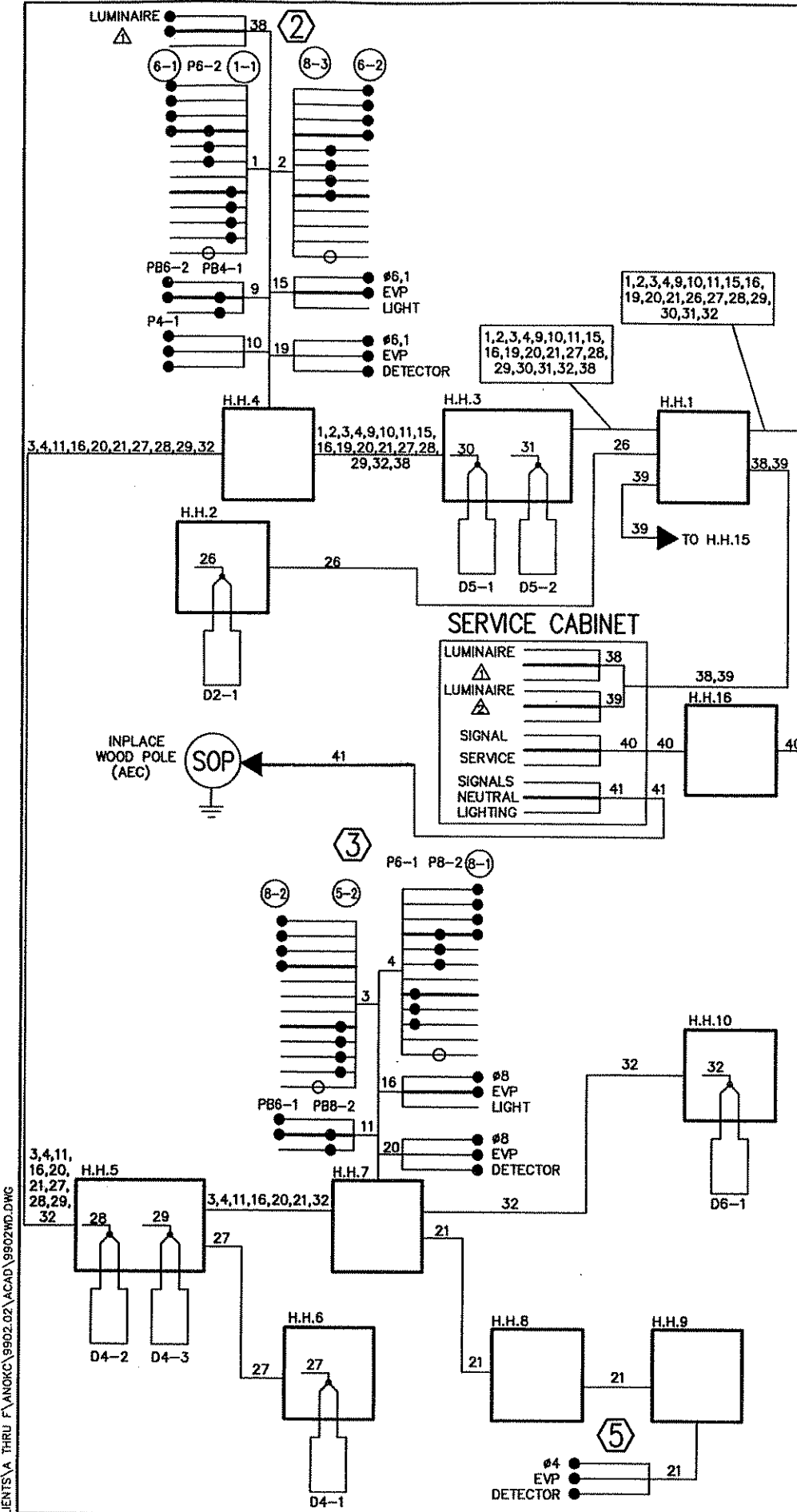
ANOKA COUNTY  
C.S.A.H. 11 (NORTHDALE BLVD.)  
S.A.P. 02-611-27  
S.A.P. 114-120-06

CITY PROJECT NO. 99-4

TRAFFIC SIGNAL SYSTEM  
INTERSECTION LAYOUT  
NORTHDALE BLVD (CSAH 11) AT XEON STREET

FILE NO.  
ANOKC9902.02  
DATE  
7/28/99

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41



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*[Signature]*  
Date: 7/28/89 Reg. No. 22457



CITY PROJECT NO. 99-4

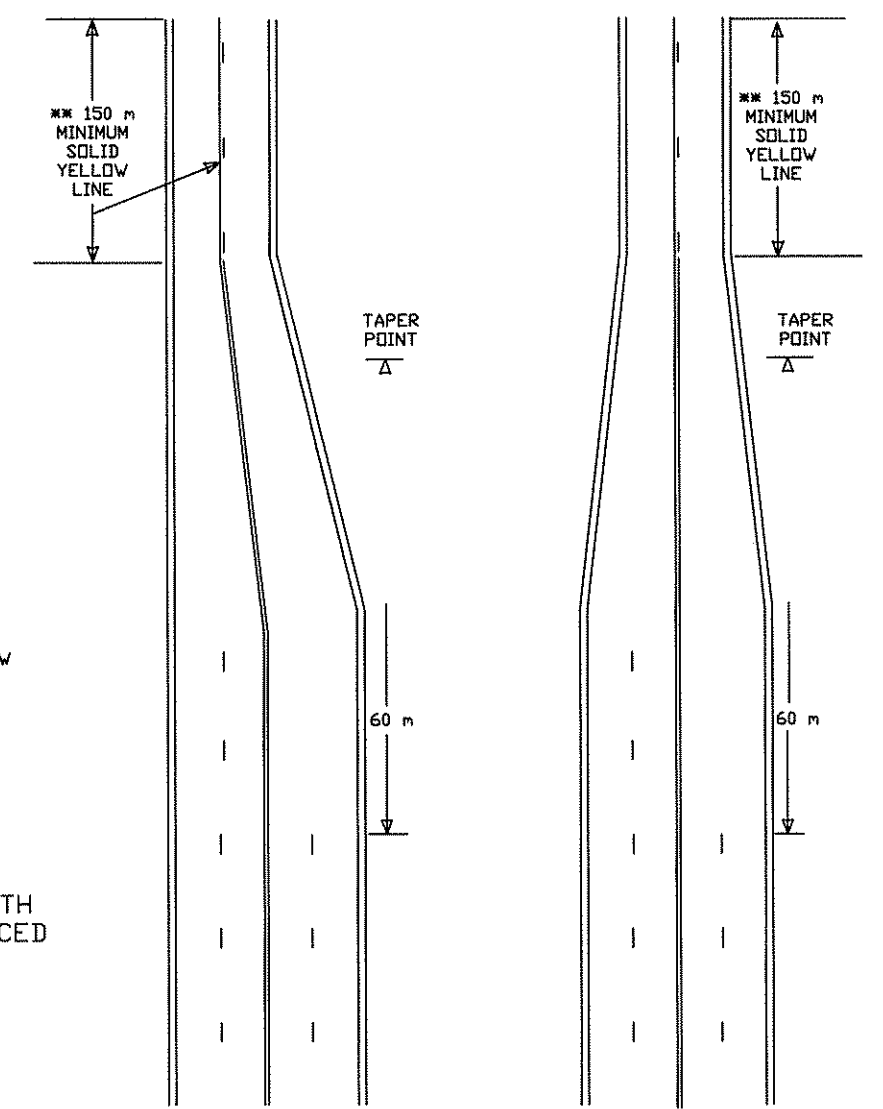
ANOKA COUNTY  
C.S.A.H. 11 (NORTHDALE BLVD.)  
S.A.P. 02-611-27  
S.A.P. 114-120-06

TRAFFIC SIGNAL SYSTEM  
FIELD WIRING DIAGRAM  
NORTHDALE BLVD (CSAH 11) AT XEON STREET

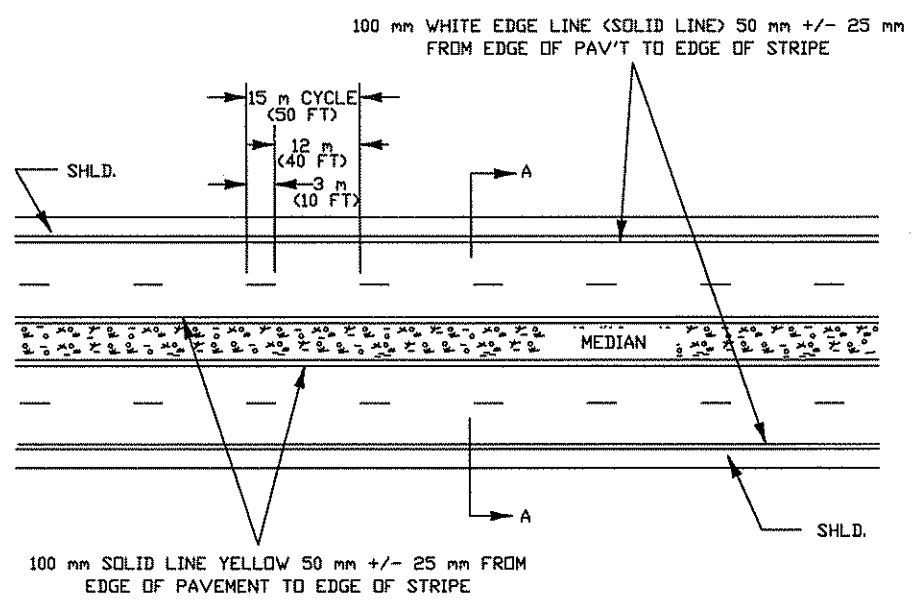
FILE NO. ANOKC9902.02	34
DATE 7/28/89	



### TYPICAL LANE REDUCTION TRANSITION

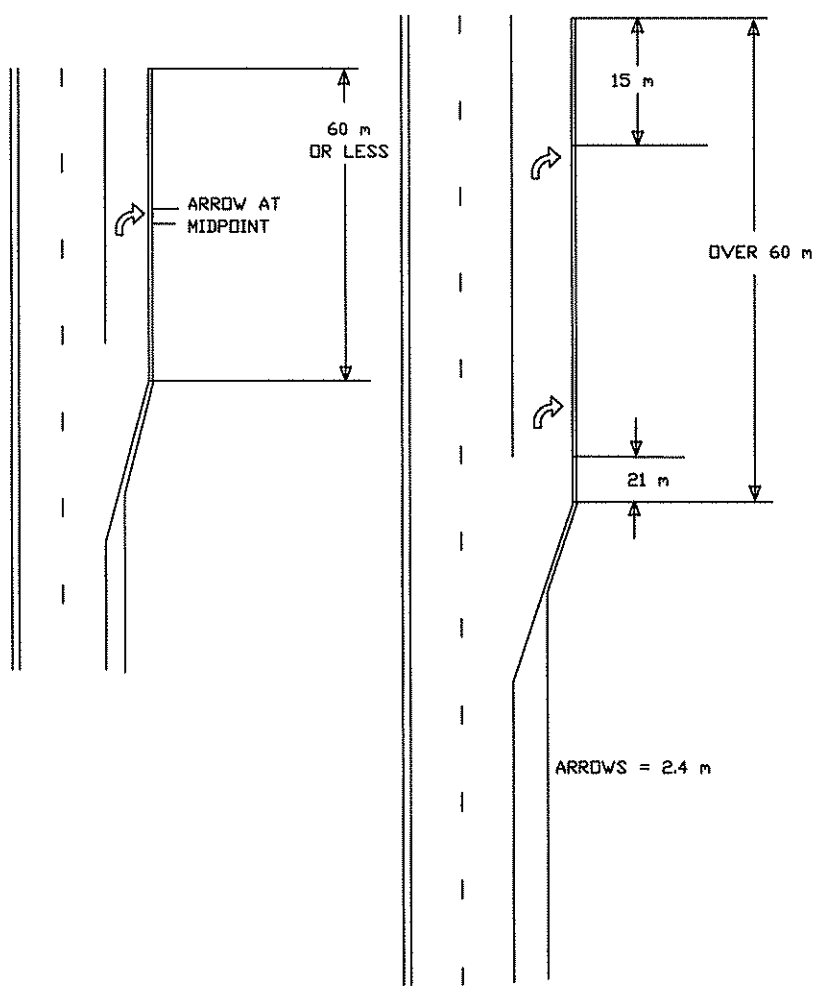


- \* SEE "TYPICAL MESSAGE PLACEMENT FOR TURN LANES" FOR NUMBER OF ARROWS.
  - \*\* IF THE DISTANCE BETWEEN THE BEGINNING OF THE SOLID LINE YELLOW IS LESS THAN THE DISTANCES IN THE CHART BELOW FROM THE END OF A PRECEDING SOLID LINE YELLOW IN THE SAME LANE, THE SOLID LINE SHALL BE EXTENDED BETWEEN THEM.
- |                                      |       |
|--------------------------------------|-------|
| 35 MPH SPEED LIMIT OR LESS . . . . . | 150 m |
| 40-50 MPH SPEED LIMIT . . . . .      | 200 m |
| 55 MPH SPEED LIMIT . . . . .         | 245 m |

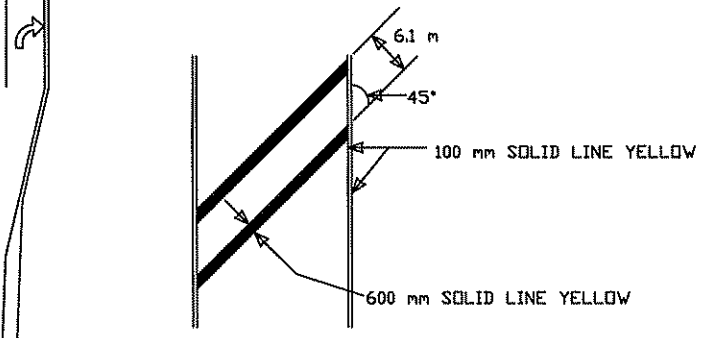


### TYPICAL 4-LANE DIVIDED LANE MARKINGS

### TYPICAL MESSAGE PLACEMENT FOR TURN LANES

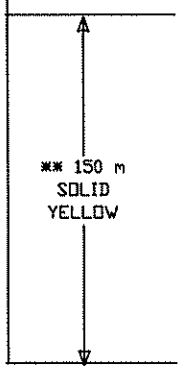


### TYPICAL MARKINGS FOR LEFT TURN ISLANDS



AT SPEEDS LESS THAN 40 MPH THE WIDTH OF THE CROSSHATCH LINE MAY BE REDUCED TO 300 mm.

AT SPEEDS OVER 40 MPH THE SPACING MAY BE INCREASED TO 9 m BETWEEN CROSSHATCH LINES.



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*Vanessa M. ...*

Date: 7/28/99 Reg. No. 25772



ANOKA COUNTY  
CSAH 11 (NORTHDAL BLVD.)  
S.A.P. 02-611-27  
S.A.P. 114-120-06  
S.A.P. 114-020-14

PAVEMENT MARKING DETAILS

FILE NO. AANDKC9902.02  
DATE 7/28/99  
**35**  
**41**

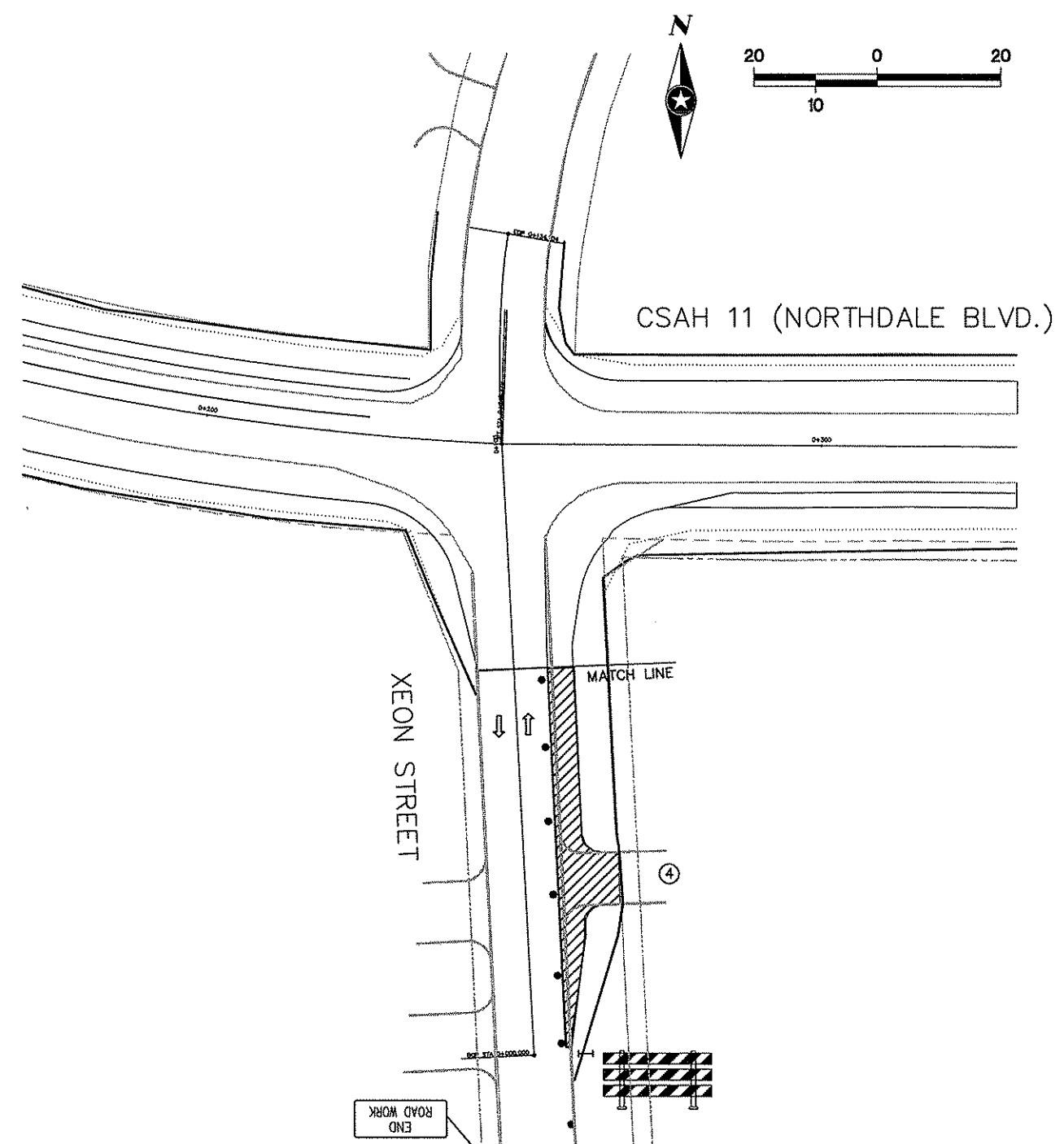












**LEGEND**

- REFLECTORIZED DRUM (15 m SPACING MAX.)
- ..... SOLID LINE PAVEMENT MARKINGS WITH TRPMS (TEMPORARY RAISED PAVEMENT MARKERS AT 3 m SPACES).
- T POST MOUNTED SIGN
- I TYPE III BARRICADE
- ↔ DIRECTION OF TRAFFIC
- ▨ PERMANENT CONSTRUCTION COMPLETED IN THIS STAGE

M.U.T.C.D. CODE	SIZE	INSERT	STAGE 1 QTY.	STAGE 2A QTY.	STAGE 2B QTY.	STAGE 2C QTY.
R1-1	48" x 48"	STOP ALL WAY	4	4	4	0
R1-4	10" x 16"					
R4-7	24" x 30"	↑	0	2	2	0
X4-2	18" x 18"					
TYPE III R	8 FT.	[Barricade symbol]	7	2	2	0
TYPE III L	8 FT.					
W20-1	48" x 48"	ROAD WORK AHEAD	4	4	4	2
W21-X1	48" x 48"	NO SHOULDER	2	0	0	0
G20-2	21" x 15"	END ROAD WORK	4	4	4	0
REBOUNDABLE DRUM		[Drum symbol]	100	50	50	10
R2-1	⑤	SPEED LIMIT 35	2	1	1	0
R2-1	⑤	SPEED LIMIT 45	2	1	1	0
R2-5a	⑤	REDUCED SPEED AHEAD	1	1	1	0
W3-1	⑤	STOP AHEAD	4	2	2	0
W10-1	⑤	[No Right Turn symbol]	1	1	1	0
W1-4L	30" x 30"	[Right Turn symbol]	0	1	0	0
W13-1	24" x 24"		25 M.P.H.			
W1-4R	30" x 30"	[Left Turn symbol]	0	0	1	0
W13-1	24" x 24"		25 M.P.H.			
W20-4	48" x 48"	ONE LANE ROAD AHEAD	0	2	2	0
W20-7a	48" x 48"	[Worker symbol]	0	2	2	0

**TRAFFIC CONTROL - ESTIMATED QUANTITIES**

ITEM	UNIT	STAGE I	STAGE IIA	STAGE IIB	STAGE IIC
100 mm DOUBLE SOLID YELLOW-PAINT	m	580			
100 mm SOLID WHITE-PAINT	m		590	590	
100 mm SOLID YELLOW-PAINT	m		540	540	

- NOTES:**
- ① ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING THE FIELD MANUAL DATED JANUARY, 1998
  - ② ALL TYPE III BARRICADES SHALL BE REFLECTORIZED ON BOTH SIDES, AND BARRICADE MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE MINNESOTA MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
  - ③ COMPLETE UTILITY WORK UNDER TEMPORARY LANE CLOSURE PRIOR TO STAGE ONE.
  - ④ MAINTAIN ACCESS TO PROPERTIES VIA EXISTING, PERMANENT OR TEMPORARY DRIVE.
  - ⑤ MOUNT EXISTING SIGN PANEL ON TEMPORARY SUPPORT

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*Pamela Mali*  
 Date: 7/28/99 Reg. No. 25772

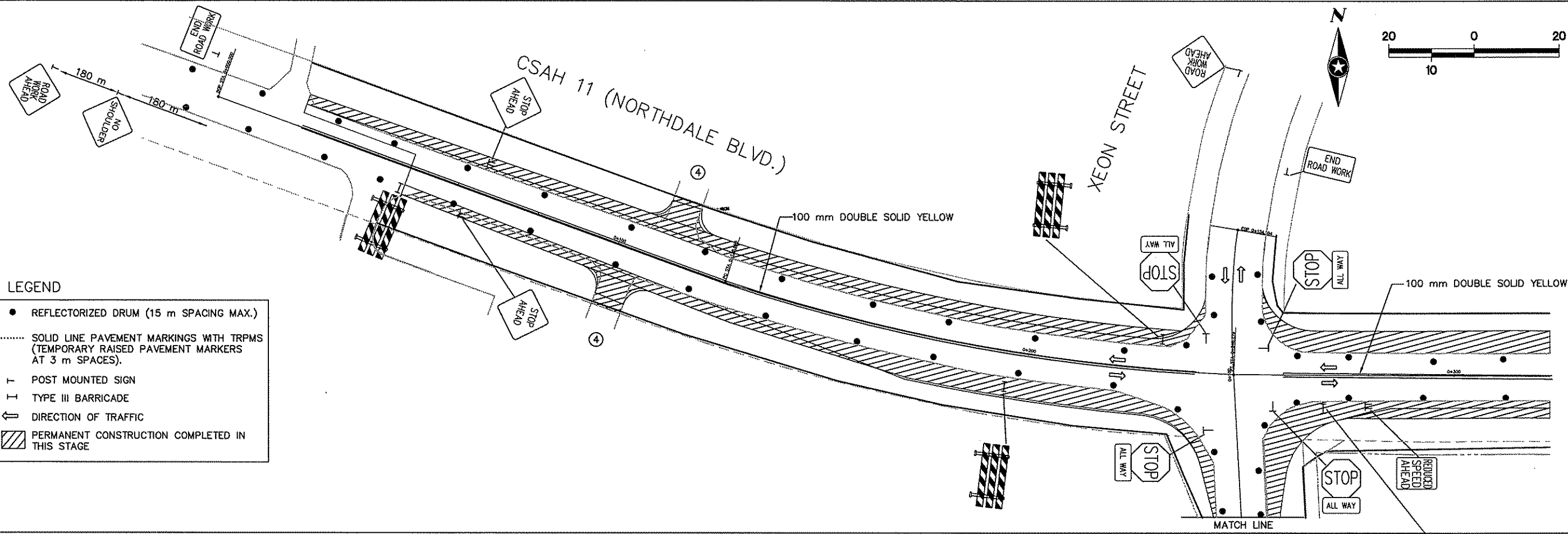
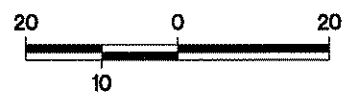


ANOKA COUNTY  
**XEON STREET**  
 S.A.P. 02-611-27  
 S.A.P. 114-120-06  
 S.A.P. 114-020-14

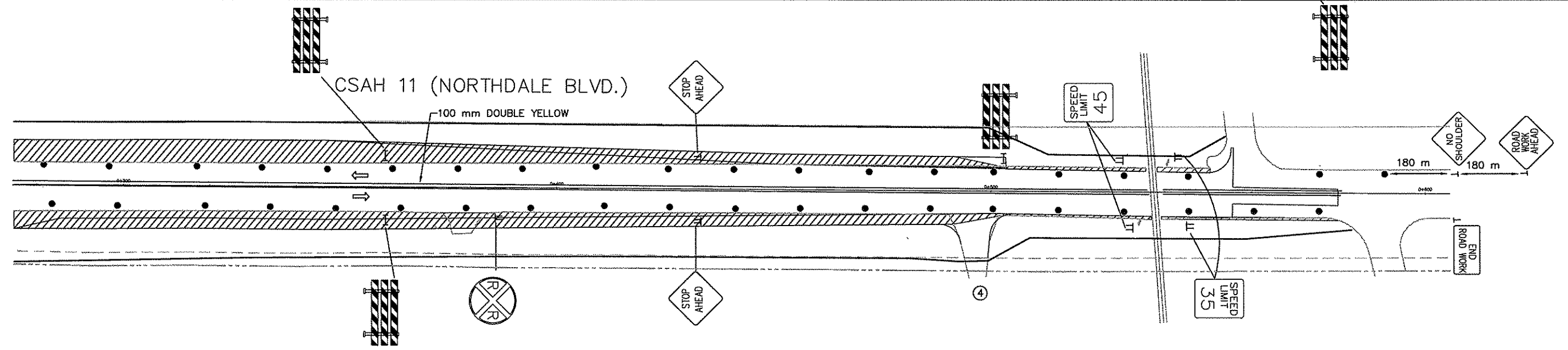
TRAFFIC CONTROL STAGE ONE  
 ESTIMATED QUANTITIES  
 STA. 0+000.000 TO 0+085.839

FILE NO. ANOKC9902.02	<b>39</b>
DATE 7/28/99	<b>41</b>

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- LEGEND**
- REFLECTORIZED DRUM (15 m SPACING MAX.)
  - ..... SOLID LINE PAVEMENT MARKINGS WITH TRPMS (TEMPORARY RAISED PAVEMENT MARKERS AT 3 m SPACES).
  - T POST MOUNTED SIGN
  - T TYPE III BARRICADE
  - ⇄ DIRECTION OF TRAFFIC
  - ▨ PERMANENT CONSTRUCTION COMPLETED IN THIS STAGE



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*Pamela Mak*  
 Date: 7/28/99 Reg. No. 25772



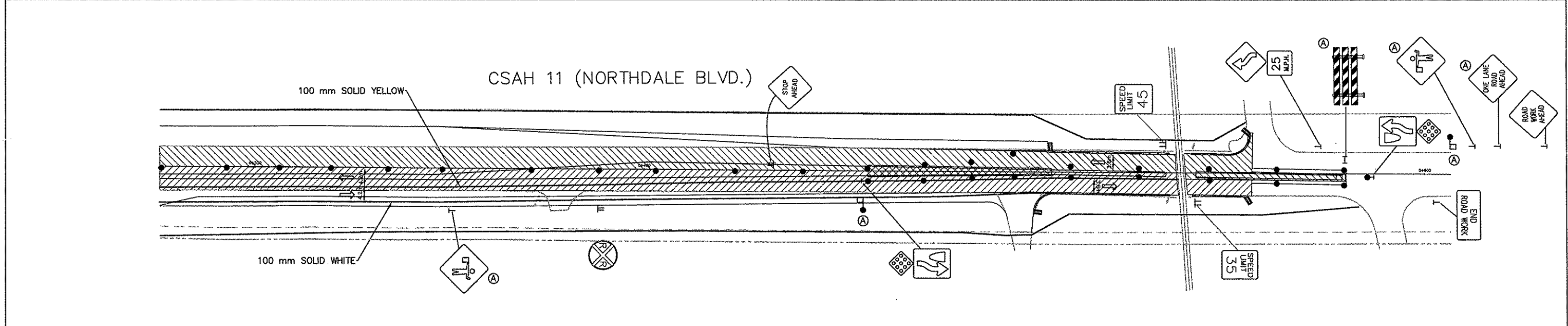
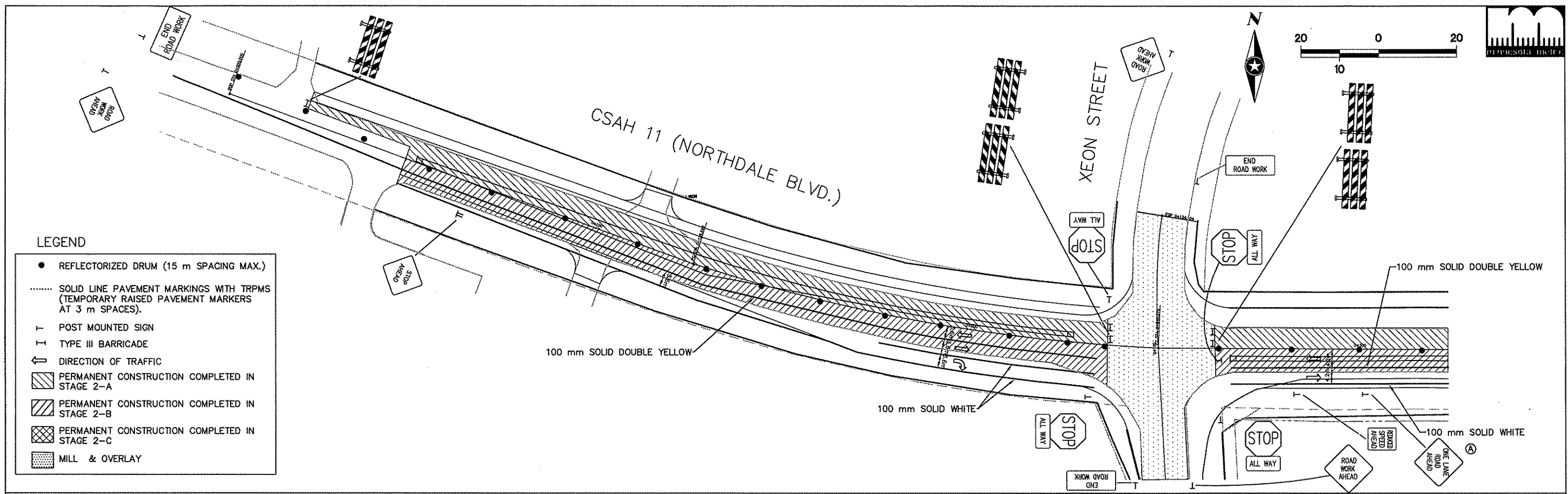
ANOKA COUNTY  
**C.S.A.H. 11 (NORTHDALE BLVD.)**  
 S.A.P. 02-611-27  
 S.A.P. 114-120-06  
 S.A.P. 114-020-14

TRAFFIC CONTROL - STAGE ONE  
 STA. 0+000.000 TO 0+600.000

FILE NO.  
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**41**

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**NOTES:**

- (A) THESE TRAFFIC CONTROL DEVICES SHALL BE USED FOR ONE-LANE ROADWAY BETWEEN STATIONS 0+500 AND 0+590 DURING WORK HOURS.
- (B) ROADWAY SHALL BE OPENED TO TWO-WAY TRAFFIC DURING NON-WORK HOURS.
- (C) STAGE 2A TRAFFIC CONTROL IS SHOWN HERE. STAGE 2B SHALL MOVE TRAFFIC TO NORTH HALF OF ROAD AND USE SIMILAR TRAFFIC CONTROL AS STAGE 2A.
- (D) STAGE 2C TRAFFIC CONTROL CONSISTS OF FINISHING CONCRETE MEDIAN WHERE CROSSOVER IS LOCATED.

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*Parulamak*

Date: 7/28/99 Reg. No. 25772



ANOKA COUNTY  
**C.S.A.H. 11 (NORTHDALE BLVD.)**  
 S.A.P. 02-611-27  
 S.A.P. 114-120-06  
 S.A.P. 114-020-14

TRAFFIC CONTROL - STAGE 2A,B & C  
 STA. 0+000.00 TO 0+600.00

FILE NO. ANOKC9902.02  
 DATE 7/28/99  
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