PLAN SYMBOLS

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

UTILITIES SYMBOLS

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

EROSION CONTROL SYMBOLS

TEMPORARY SILT FENCE
RIP RAP DITCH CHECKS

SCALES

PLAN
PROFILE
INDEX MAP
CROSS SECTIONS

MINNESOTA DEPARTMENT OF TRANSPORTATION

THE COUNTY OF OLMSTED

CONSTRUCTION PLAN FOR AGGREGATE BASE & CONCRETE SURFACING

LOCATED ON OLMSTED C.S.A.H.22 BETWEEN 19TH ST. N.W. CITY OF ROCHESTER AND 55TH ST. N.W. CITY OF ROCHESTER (GEOGRAPHIC DESCRIPTION)

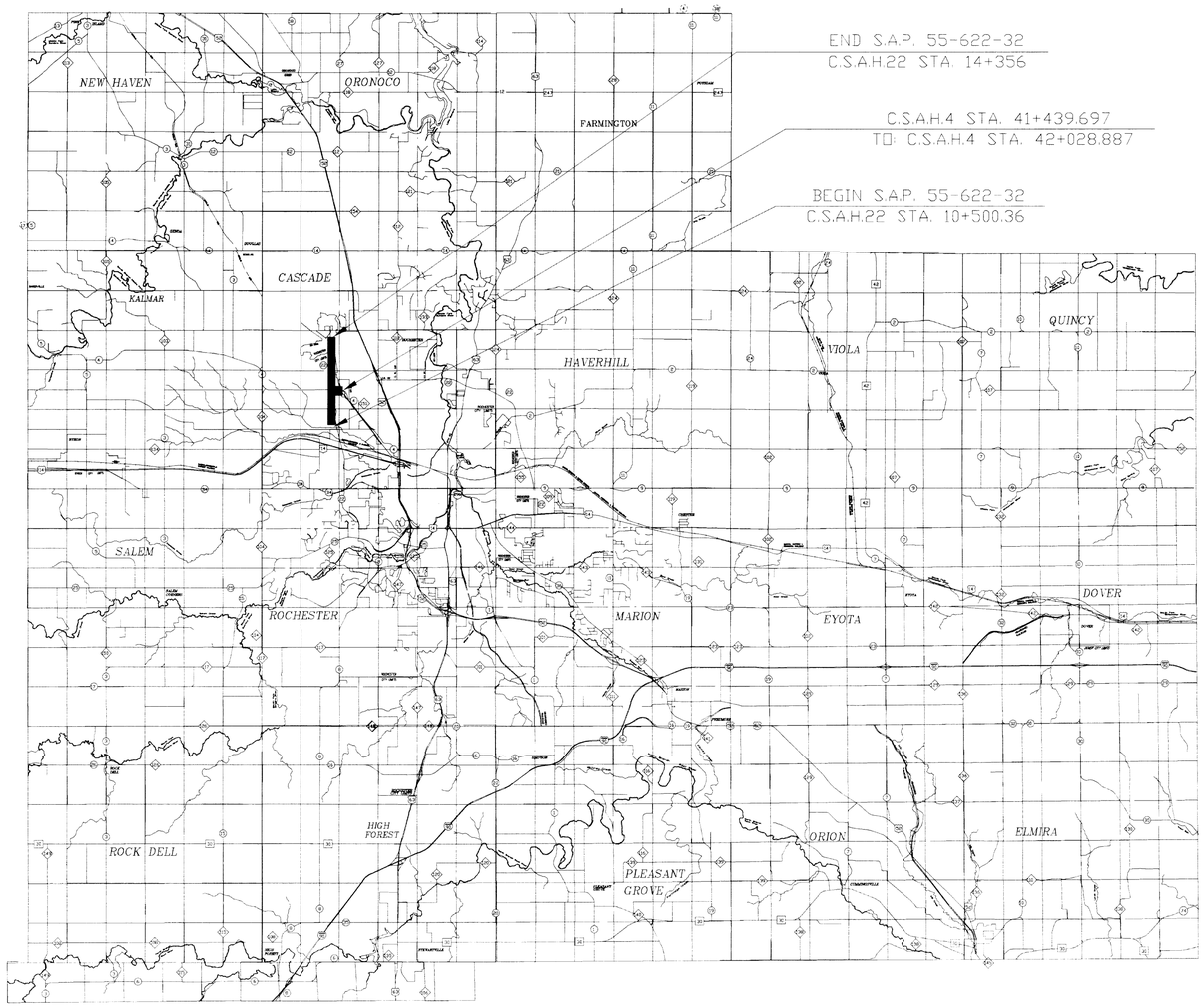
LOCATED ON OLMSTED C.S.A.H. 4 BETWEEN C.S.A.H. 22 AND 484.041 m EAST (GEOGRAPHIC DESCRIPTION)

FROM APPROX. 37.18m N. & 78.64m W. OF COR. N.E.1/4 SEC. 29, T107N, R14W. TO APPROX. 107.29m W. & 80.47m S. OF THE N.E. COR. SEC. 17, T107N, R14W. (LEGAL DESCRIPTION)

S.A.P. NO.	55-622-32			
GROSS LENGTH	4444.83	meter	4.44483	kilometer
BRIDGE-LENGTH	0	meter	0	kilometer
EXCEPTIONS-LENGTH	0	meter	0	kilometer
NET LENGTH	4444.83	meter	4.44483	kilometer

COUNTY PROJECT	C97-02			
GROSS LENGTH	484.041	meter	0.48404	kilometer
BRIDGE-LENGTH	0	meter	0	kilometer
EXCEPTIONS-LENGTH	0	meter	0	kilometer
NET LENGTH	484.041	meter	0.48404	kilometer

THIS PROJECT WAS GRADED UNDER S.A.P.'S
55-622-30 (1996) & 55-622-20 (1992)



MINN. PROJ. NO.

GOVERNING SPECIFICATIONS

THE 1995 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN.

INDEX

SHEET NO. 1	TITLE SHEET
SHEET NO. 2	ESTIMATE OF QUANTITIES
SHEET NO. 3-4	TYPICAL SECTIONS
SHEET NO. 5	DETAIL AND EDGE DRAIN SHEET
SHEET NO. 6-7	C.S.A.H.4 PLAN, PROFILE, & PAVING
SHEET NO. 8-12	C.S.A.H.4 CROSS SECTIONS
SHEET NO. 13-14	C.S.A.H.22 CROSS SECTIONS STA. 12+460 TO STA. 12+540
SHEET NO. 15-16	C.S.A.H.22 PLAN AND PROFILE
SHEET NO. 17-21	C.S.A.H.22 CROSS SECTIONS STA. 13+873 TO STA. 14+356
SHEET NO. 22-25	PAVEMENT JOINT SHEETS
SHEET NO. 26-28	GUARD RAIL SHEETS
SHEET NO. 29-39	C.S.A.H.22 PAVING SHEETS
SHEET NO. 40-41B	TRAFFIC CONTROL
SHEET NO. 42	EDGE DROP OFF
SHEET NO. 43	PAVEMENT MARKINGS

THIS PLAN CONTAINS 45 SHEETS.

■ TRAFFIC PROJECTION YEAR 2017 ADT 18,000
(FROM PROJECT DEVELOPMENT REPORT)

DESIGN DESIGNATION (CSAH 22)

R
ADT (Current Year) = ■
ADT (Future Year) = ■
DHV (Design Hr. Vol.) =
D (Directional Distr.) =
T (Heavy Commercial) = EST.10%
SUBGRADE = K=150
9.1 t DESIGN
ΣN18 (20)
Design Speed 90 km/h
Based on STOPPING Sight Distance
Height of eye 1070mm Height of object 150mm
Design Speed not achieved at:
SHOULDER WIDTH 1.83m STA. 10+500.36 TO STA. 14+356 km/h
SHOULDER WIDTH STA. TO STA. km/h
FUNCTIONAL CLASSIFICATION: PRINCIPLE ARTERIAL
SOIL FACTOR = 130% TST = EST 5%

STA.		TO STA.	km/h
STA.		TO STA.	km/h

DESIGN DESIGNATION (CSAH 4)

R
ADT (Current Year) = 4481 (1997)
ADT (Future Year) = 6722 (2017)
DHV (Design Hr. Vol.) =
D (Directional Distr.) =
T (Heavy Commercial) = EST.10%
SUBGRADE = K=150
9.1 t DESIGN
ΣN18 (20)
Design Speed 90 km/h
Based on STOPPING Sight Distance
Height of eye 1070mm Height of object 150mm
Design Speed not achieved at:
SHOULDER WIDTH 2.44m STA. 41+439.697 TO STA 42+028.887 km/h
SHOULDER WIDTH STA. TO STA. km/h
FUNCTIONAL CLASSIFICATION: MINOR ARTERIAL
SOIL FACTOR = 130% TST = EST 5%

STA.		TO STA.	km/h
STA.		TO STA.	km/h

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 3/21/97 REG. NO. 19917 ENGR. Kaye M Bierwirth
COUNTY OLMSTED

Approved 3/24 1997 Michael J Sheehan
OLMSTED COUNTY ENGINEER

Recommended for Approval 19
~~DISTRICT STATE AID ENGINEER~~

Recommended for Approval 19
DIRECTOR, OFFICE OF TRAFFIC ENGINEERING

Recommended for Approval 19
STATE AID PLANS AND SPECS ENGINEER

Approved 4/23 1997
FOR STATE AID DIVISION

ATTENTION: THIS IS A METRIC PLAN

minnesota metric

SAP NO 55-622-32 SHEET NO 1 OF 43 SHEETS

ESTIMATED QUANTITIES

	SPECIFICATION NO.	ITEM	UNIT	C.S.A.H. 22 PARTICIPATING RURAL	C.S.A.H. 4 NON PARTICIPATING RURAL	TOTAL ESTIMATED QUANTITIES
	2031.501	FIELD OFFICE, TYPE D	EACH	1		1
	2102.502	PAVEMENT MARKING REMOVAL	m	6089.00	1840.00	7929.00
	2104.501	REMOVE CURB AND GUTTER	m	122.00		122.00
	2104.505	REMOVE CONCRETE WALK	m2	189.00		189.00
1	2104.505	REMOVE CONCRETE PAVEMENT	m2	4476.00	146.00	4622.00
2	2104.505	REMOVE BITUMINOUS PAVEMENT	m2	2536.00	2326.00	4862.00
	2104.511	SAW CONCRETE PAVEMENT (FULL DEPTH)	m	322.00	8.00	330.00
	2104.513	SAW BITUMINOUS PAVEMENT (FULL DEPTH)	m	30.00	5.00	35.00
	2104.523	SALVAGE R.C.CATTLE PASS APRON	EACH	1		1
3	2105.515	UNCLASSIFIED EXCAVATION	m3	(P) 2107.00	(P) 1310.00	3417.00
4	2105.523	COMMON BORROW (LV)	m3	1618.00		1618.00
5	2105.525	TOPSOIL BORROW (LV)	m3	2600.00		2600.00
6	2112.501	SUBGRADE PREPARATION	m	5554.00		5554.00
7	2130.501	WATER	m3	96.00		96.00
8	2211.501	AGGREGATE BASE CL. 5A	t	31667.00	2035.00	33702.00
9	2221.501	AGGREGATE SHOULDERING CL. 2	t	9964.00	1214.00	11178.00
	0301.604	TEMPORARY TERMINAL HEADER	m	16.40		16.40
	0301.610	DRILL AND GROUT REINFORCEMENT BARS	EACH	530.00		530.00
	2301.502	CONCRETE PAVEMENT STANDARD WIDTH 177.8 mm	m2		(P) 2319.00	2319.00
	2301.502	CONCRETE PAVEMENT STANDARD WIDTH 228.6 mm	m2	(P) 46195.00		46195.00
10	2301.503	CONCRETE PAVEMENT IRREGULAR WIDTH 177.8 mm	m2		(P) 172.00	172.00
11	2301.503	CONCRETE PAVEMENT IRREGULAR WIDTH 228.6 mm	m2	(P) 5019.00		5019.00
	2301.511	STRUCTURAL CONCRETE	m3	(P) 11708.00	(P) 443.00	12151.00
	2301.538	DOWEL BAR	EACH	31759.00	1644.00	33403.00
12	2340.508	TYPE 41 WEARING COURSE MIXTURE	t	701.00	136.00	837.00
	2340.514	TYPE 41 BASE COURSE MIXTURE	t	421.00	65.00	486.00
13	2340.516	TYPE 41 SHOULDER MIXTURE	t	1650.00	203.00	1853.00
	2501.511	450 mm CP PIPE CULVERT	m	38.00		38.00
	2501.521	725 mm SPAN RC PIPE-ARCH CULVERT CLIIA	m	18.91		18.91
	2501.525	725 mm SPAN RC PIPE-ARCH APRON	EACH	2		2
	2501.541	1524 mm HIGH RC CATTLE PASS CULVERT	m	18.91		18.91
	2501.567	450 mm CS SAFETY APRON AND GRATE DES.3128	EACH	2		2
	2501.573	INSTALL RC CATTLE PASS APRON	EACH	1		1
	2502.501	100 mm PRE CAST CONCRETE HEADWALL	EACH	77		77
	2502.521	100 mm NON-PERFORATED PIPE DRAIN (TP)	m	186.00		186.00
	2502.541	100 mm PERFORATED P.E. PIPE DRAIN / GEOTEXTILE KNIT SOCK	m	10917.00		10917.00
14	2554.501	TRAFFIC BARRIER DESIGN M8307	m	76.00		76.00
14	2554.509	GUIDE POST TYPE A	EACH	40		40
	2564.552	TRAFFIC CONTROL	LUMP SUM	1		1
	0564.602	PAVEMENT MESSAGE (LEFT ARROW) EPOXY	EACH	10		10
	0564.602	PAVEMENT MESSAGE (RIGHT ARROW) EPOXY	EACH	8		8
	0564.603	600 mm STOP LINE WHITE - EPOXY	m	7.2		7.2
	0564.603	100 mm SOLID LINE WHITE - EPOXY	m	8102.00	920.00	9022.00
	0564.603	100 mm BROKEN LINE WHITE - EPOXY	m	1542.00	173.00	1715.00
	0564.603	100 mm SOLID LINE YELLOW - EPOXY	m	7652.00	920.00	8572.00
	0564.603	100 mm DOUBLE SOLID LINE YELLOW - EPOXY	m		460.00	460.00
15	2573.501	BALE CHECK	EACH	192.00	48.00	240.00
	2575.501	SEEDING	ha	(P) 2.90	(P) 0.20	3.10
	2575.502	SEED MIXTURE 50A	kg	145.00	10.00	155.00
	2575.502	SEED MIXTURE 110A	kg	290.00	20.00	310.00
	2575.511	MULCH MATERIAL TYPE 1	t	13.05	0.9	13.95
	2575.519	DISC ANCHORING	ha	(P) 2.90	(P) 0.20	3.10
	2575.532	COMMERCIAL FERTILIZER ANALYSIS 12-12-12	kg	652.50	45.00	697.50

JOINTS:

ALL CONTRACTION JOINTS, ALL LONGITUDINAL JOINTS WILL BE INCIDENTAL TO PAVING ITEMS AND NO DIRECT COMPENSATION WILL BE MADE THEREFOR.

STEEL REINFORCEMENT:

STEEL REINFORCEMENT REQUIRED FOR CONCRETE PAVEMENT WILL BE INCIDENTAL TO PAVING ITEMS AND NO DIRECT COMPENSATION WILL BE MADE THEREFOR.

CONCRETE PAVEMENT:

CONCRETE PAVEMENT SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE STANDARD DETAIL PLATE NOTED IN THE PLANS, MODIFIED TO THE EXTENT THAT C2B-D CONTRACTION JOINTS WILL BE REQUIRED.

REINFORCED PANEL OVER CULVERT:

REINFORCED CONCRETE PANELS OF THE LENGTH INDICATED AT LOCATIONS LISTED BELOW SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE STANDARD DETAIL PLATE. REINFORED PANELS WILL BE INCIDENTAL TO PAVING ITEMS AND NO DIRECT COMPENSATION WILL BE MADE THEREFOR.

N.B.L. STATIONING:	PANEL:	N.B.L. STATIONING:	PANEL:	S.B.L. STATIONING:	PANEL:
10+843	3.0 m	12+724	3.0 m	11+704	17.0 m
11+293	3.0 m	12+924	3.0 m		
11+605	7.0 m	13+576	3.0 m	LOOP "1"	
11+704	17.0 m	13+807	3.0 m	STATIONING:	PANEL:
12+062	3.0 m	13+874	12.0 m	12+070	4.0 m
12+507	16.0 m	14+008	3.0 m		
12+375	4.0 m	14+259	3.0 m	LOOP "2"	
12+641.5	18.0 m	14+310	3.0 m	STATIONING:	PANEL:
12+680	4.0 m			12+099	5.0 m

QUANTITY NOTES

1 REMOVE CONCRETE PAVEMENT INCLUDES 146 m2 OF 177.8 mm DEPTH ON C.S.A.H. 4 AND 4476 m2 OF 228.6 mm DEPTH ON C.S.A.H. 22.

2 REMOVE BITUMINOUS PAVEMENT INCLUDES 2326 m2 ON C.S.A.H. 4 AND 2536 m2 ON C.S.A.H. 22.

3 UNCLASSIFIED EXCAVATION INCLUDES APPROXIMATELY 419 m3 EXCESS FROM C.S.A.H. 4 TO BE USED IN EMBANKMENT ON C.S.A.H. 22 FROM APPROX. STA. 12+460 TO APPROX. STA. 12+507 NORTH BOUND LANES AND APPROXIMATELY 158 m3 ARE TO BE SALVAGED FROM C.S.A.H.4 FOR TOPSOIL AND PLACED ON DISTURBED AREAS OF C.S.A.H. 4 FROM STA. 41+560 TO STA. 41+927.

4 COMMON BORROW INCLUDES APPROXIMATELY 712 m3 TO BE USED FOR EMBANKMENT FROM APPROXIMATELY STA. 12+507 TO STA. 12+540 C.S.A.H. 22, APPROXIMATELY 366 m3 TO BE USED FOR EMBANKMENT FROM APPROX. STA. 13+940 TO STA. 14+020 C.S.A.H. 22 AND APPROX. 540 m3 TO BE USED FOR TRAFFIC BARRIER LOOP ENCLOSURE STA. 13+852 TO STA. 13+926.

5 TOPSOIL BORROW INCLUDES APPROXIMATELY 71 m3 FROM STA. 12+460 TO STA. 12+540 , 336 m3 FROM STA. 13+893 TO STA. 14+356 , 1168 m3 FROM STA. 10+500 TO STA. 12+104 , 54 m3 FROM STA. 12+104 TO STA. 12+460 AND 971 m3 FROM STA. 12+540 TO STA. 13+893.

6 SUBGRADE PREPARATION ON PAVING PORTION ONLY. INCLUDES NORTH BOUND LANES FROM STA. 10+500.36 TO STA. 12+460 = 1959.64 m , FROM STA. 12+540 TO STA. 13+893 = 1353.00 m. SOUTH BOUND LANES STA. 10+500.36 TO STA. 12+104.10 = 1603.74 m , LOOP "1" STA. 11+931.396 TO STA. 12+223.666 = 292.27 m AND LOOP "2" STA. 11+978.032 TO STA. 12+323.382 = 345.350 m. ALL OTHER PAVING AREAS THAT ARE NOT INCLUDED IN SUBGRADE PREPARATION ARE UNDER EXCAVATION 2105.

7 TO BE USED FOR DUST CONTROL WITHIN THE PROJECT LIMITS AS DIRECTED BY THE ENGINEER.

8 AGGREGATE BASE CL.5A INCLUDES 3987 METRIC TONS TO BE USED IN CONJUNCTION WITH THE SUBGRADE PREPARATION AS INDICATED BY STATIONING IN NOTE 6. 1916 METRIC TONS FOR USE ON C.S.A.H. 4 AND 26266 METRIC TONS TO BE USED FOR MAINLINE, TURN LANES, APPROACHES , ENTRANCES AND LOOPS ON C.S.A.H. 22. 1414 METRIC TONS FOR USE ON C.S.A.H. 22 AND 119 METRIC TON FOR USE ON C.S.A.H. 4 ALONG BIKE PATH.

9 AGGREGATE SHOULDER CL.2 INCLUDES 1194 METRIC TONS FOR USE ON C.S.A.H. 4, 9728 METRIC TON FOR USE ON C.S.A.H. 22 AND 236 METRIC TON FOR USE ON BIKE PATH ALONG C.S.A.H. 22 AND 20 METRIC TON FOR USE ON BIKE PATH ALONG C.S.A.H. 4.

10 INCLUDES TAPERS STA. 41+872.299 TO STA. 41+927.09 LEFT AND STA. 41+872.299 TO STA. 41+910.081 RIGHT OF C.S.A.H. 4.

11 INCLUDES ALL TURN LANES, TAPERS, CROSSOVERS (AT INTERSECTIONS) AND LOOPS "1"&"2" C.S.A.H. 22.

12 WEARING COURSE INCLUDES 237 METRIC TON FOR C.S.A.H. 22, 43 METRIC TON FOR C.S.A.H. 4 AND 464 METRIC TON FOR THE BIKE PATH ALONG C.S.A.H. 22 AND 93 METRIC TON FOR USE ON BIKE PATH ALONG C.S.A.H. 4.

13 SHOULDER MIXTURE INCLUDES 203 METRIC TON FOR C.S.A.H. 4 AND 1650 METRIC TON FOR C.S.A.H. 22.

14 INCLUDES ALL MATERIALS, EQUIPMENT, AND LABOR TO FURNISH AND INSTALL LOOP ENCLOSURE STA. 13+872.488 TO STA. 13+906.288 C.S.A.H. 22. AGGREGATE MULCH AND PLASTIC SHEETING WILL BE INCIDENTAL AND NO DIRECT PAYMENT WILL BE MADE.

15 BALE CHECKS TO BE INSTALLED IN LOCATIONS AS DIRECTED BY THE ENGINEER.

BASIS OF PLANNED QUANTITIES

AGGREGATE BASE CLASS 5A- 2160 kg/m3

AGGREGATE SHOULDER CLASS 2 - 2160 kg/m3

BITUMINOUS MIXTURE - 60kg/m2/25 mm

SEED MIXTURE 110A - 100 kg/ha IN CONJUNCTION WITH SEED MIX 50A.

SEED MIXTURE 50A - 50 kg/ha APPLY TO ALL AREAS WHERE TOPSOIL HAS BEEN PLACED.

MULCH MATERIAL TYPE 1 - 4.5 metric ton/ha.

DISC ANCHORING - ALL SEEDED AREAS EXCEPT 2:1 SLOPES.

FERTILIZER - 225 kg/ha.

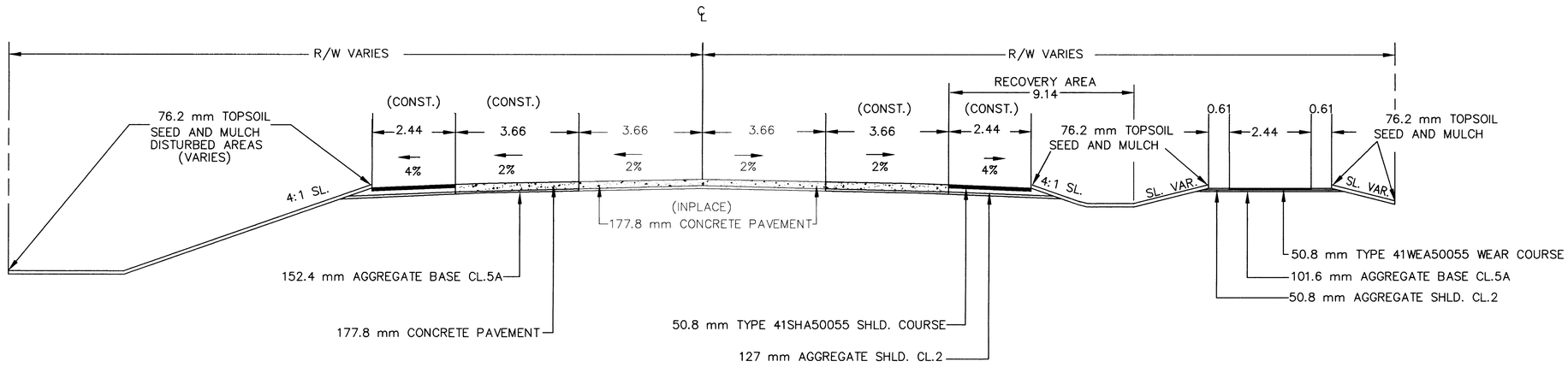
STANDARD PLATES

THE FOLLOWING STANDARD PLATES, APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION SHALL APPLY ON THIS PROJECT.

PLATE NO.	DESCRIPTION
	NUMERICAL INDEX OF STANDARD PLATES
1070 K	REINFORCED PANEL OVER CULVERTS
1103 J	TYPICAL DOWEL BAR ASSEMBLY
1141 D	PAVEMENT KEYWAY FOR KEYED JOINT CONSTRUCTION
1150 P	CONSTRUCTION OF HEADER JOINT
M3014 J	REINFORCED CONCRETE PIPE - ARCH
M3110 G	CONCRETE APRON FOR REINFORCED CONCRETE PIPE - ARCH
M3128 F	SAFETY APRON
M3131 B	PRECAST CONCRETE HEADWALL FOR SUBSURFACE DRAINS
M3145 E	CONCRETE PIPE TIES
M3221 C	CORRUGATED STEEL PIPE COUPLING BAND
M8000 I	STANDARD BARRICADES
M8307P	STEEL PLATE BEAM GUARDRAIL

CERTIFIED BY Kay M Biernick PROFESSIONAL ENGINEER REG. NO. 19917 3/21 1997

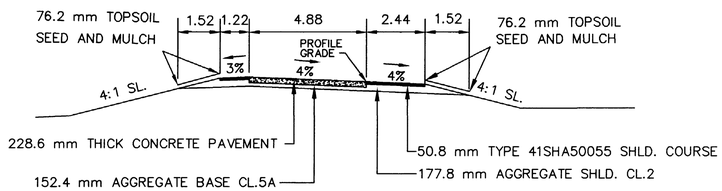
S.A.P. 55 - 622 - 32



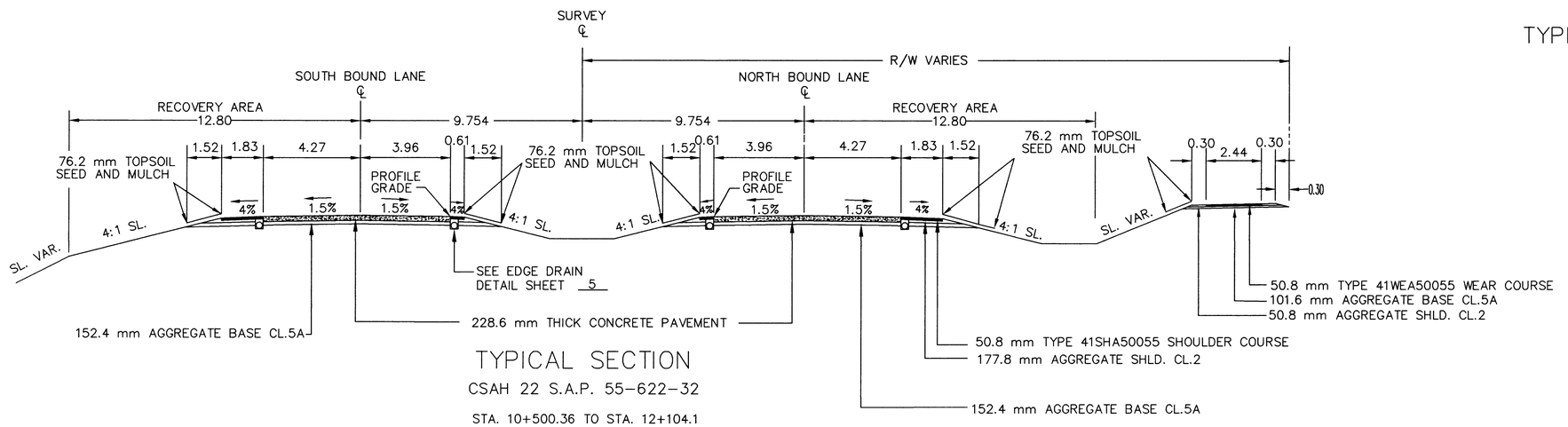
TYPICAL SECTION

CSAH 4 S.A.P. 55-622-32

STA. 41+540 TO STA. 41+940



TYPICAL LOOP SECTION



TYPICAL SECTION

CSAH 22 S.A.P. 55-622-32

STA. 10+500.36 TO STA. 12+104.1

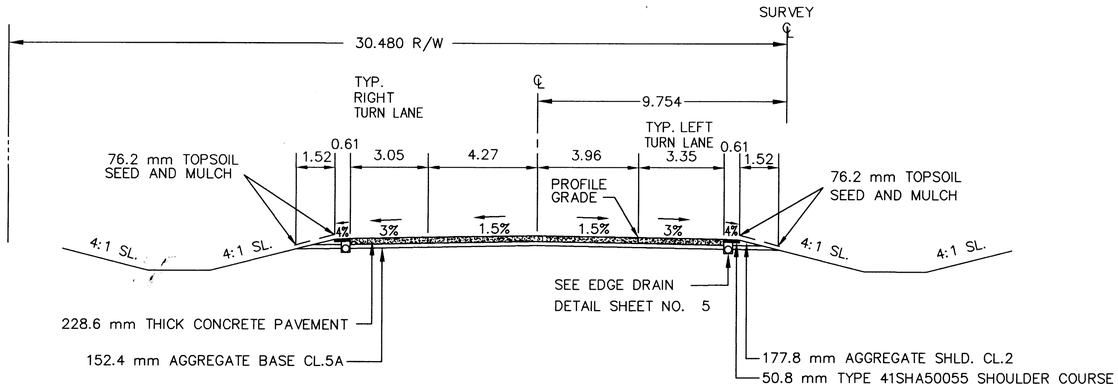
ALL DIMENSIONS ARE METER UNLESS OTHERWISE NOTED.

minnesota metric

TYPICAL SECTIONS C.S.A.H. 22 & C.S.A.H. 4

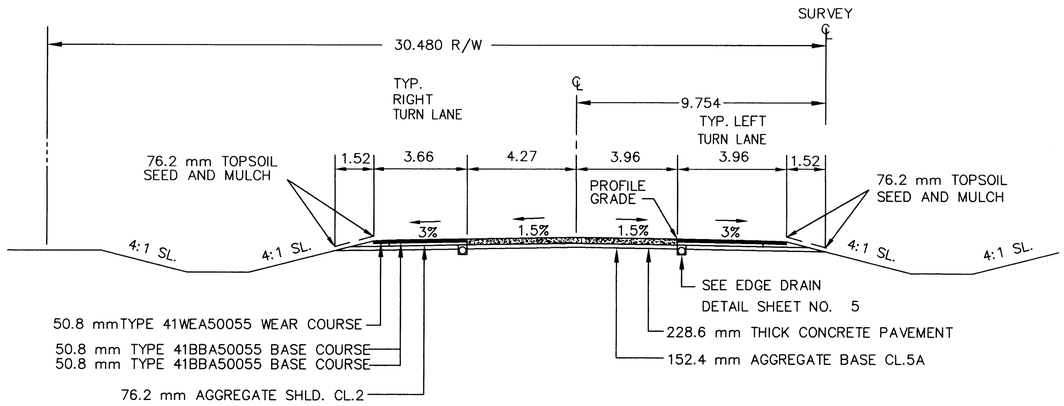
CERTIFIED BY Kaye M Bieniek REG. NO. 19917 3/21 1997
PROFESSIONAL ENGINEER

S.A.P. 55-622-32



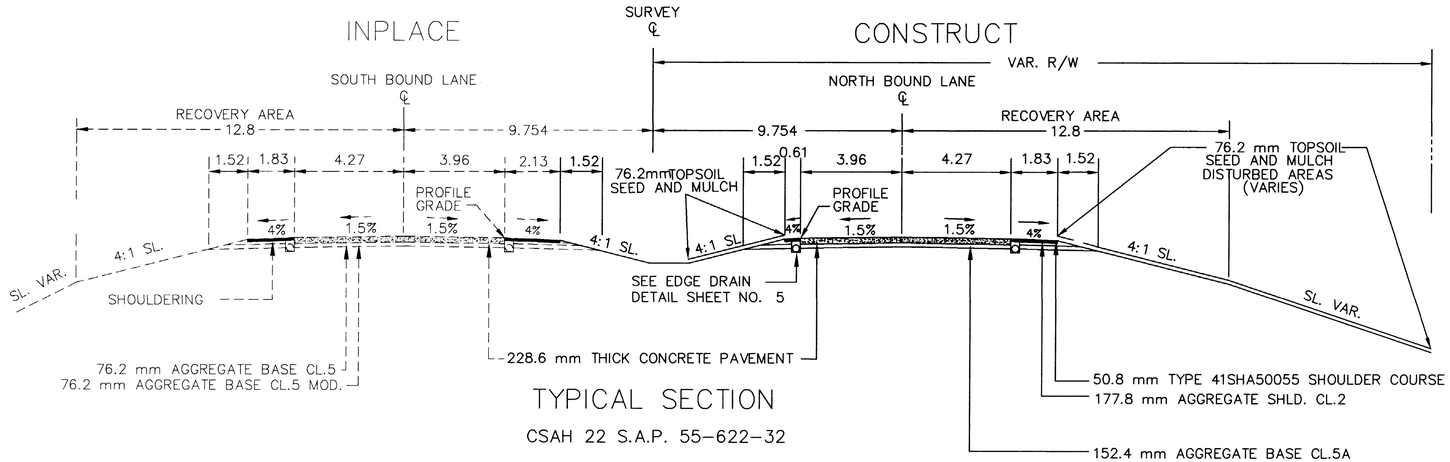
TYPICAL CONCRETE TURN LANE & STATIONING

STA. 10+500.36 TO STA. 10+633 LT. & RT.
STA. 11+921 TO STA. 12+100 LT.
STA. 12+532 TO STA. 12+720 RT.
STA. 12+680 TO STA. 12+867 LT.



TYPICAL BITUMINOUS TURN LANE & STATIONING

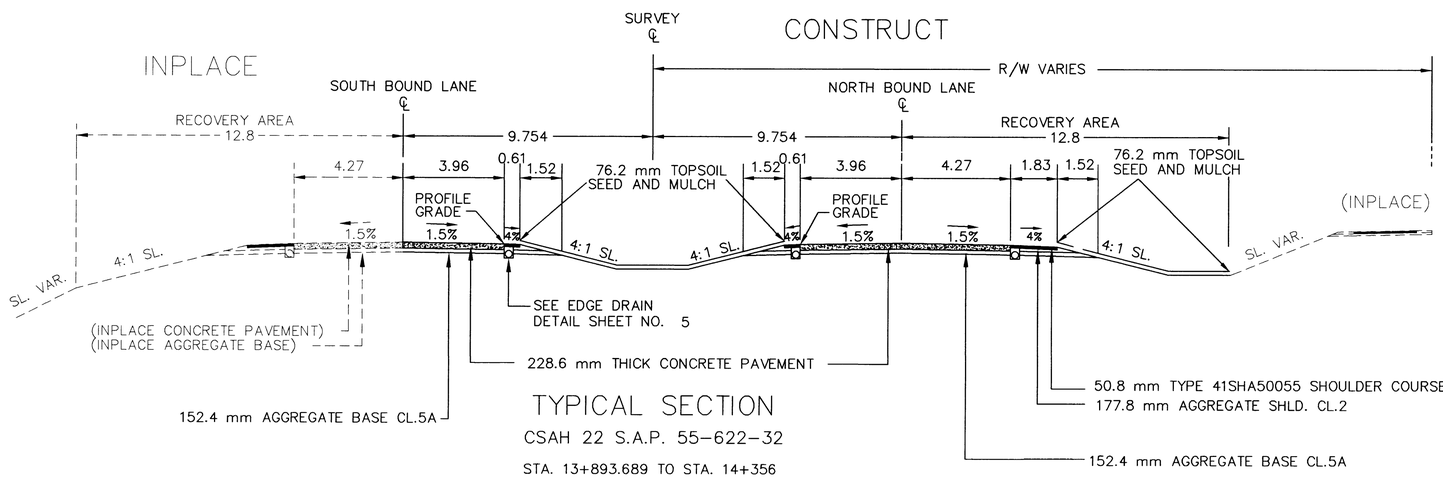
STA. 12+768 TO STA. 12+860 RT.
STA. 13+441 TO STA. 13+607 LT.



TYPICAL SECTION

CSAH 22 S.A.P. 55–622–32

STA. 12+104.1 TO STA. 13+893.689



TYPICAL SECTION

CSAH 22 S.A.P. 55–622–32

STA. 13+893.689 TO STA. 14+356

ALL DIMENSIONS ARE METER UNLESS OTHERWISE NOTED:

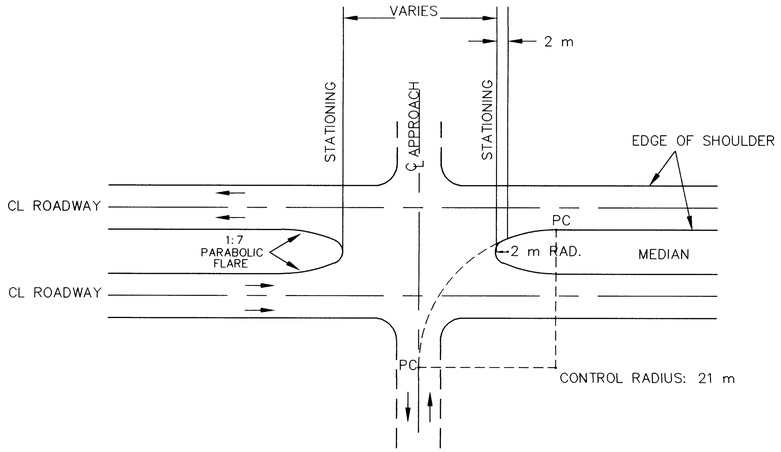
minnesota metric

TYPICAL SECTIONS C.S.A.H. 22

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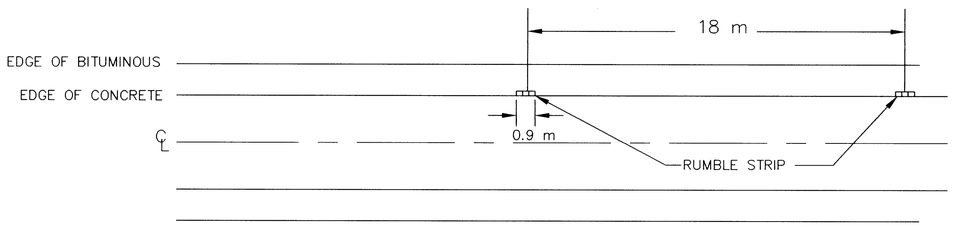
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MEDIAN NOSE CONSTRUCTION DETAIL

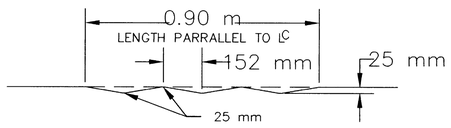


NOTE: REFERENCE MN/DOT ROAD DESIGN 1 MANUAL
FIGURE 5-2.07C

RUMBLE STRIP DETAILS AND CONSTRUCTION NOTES



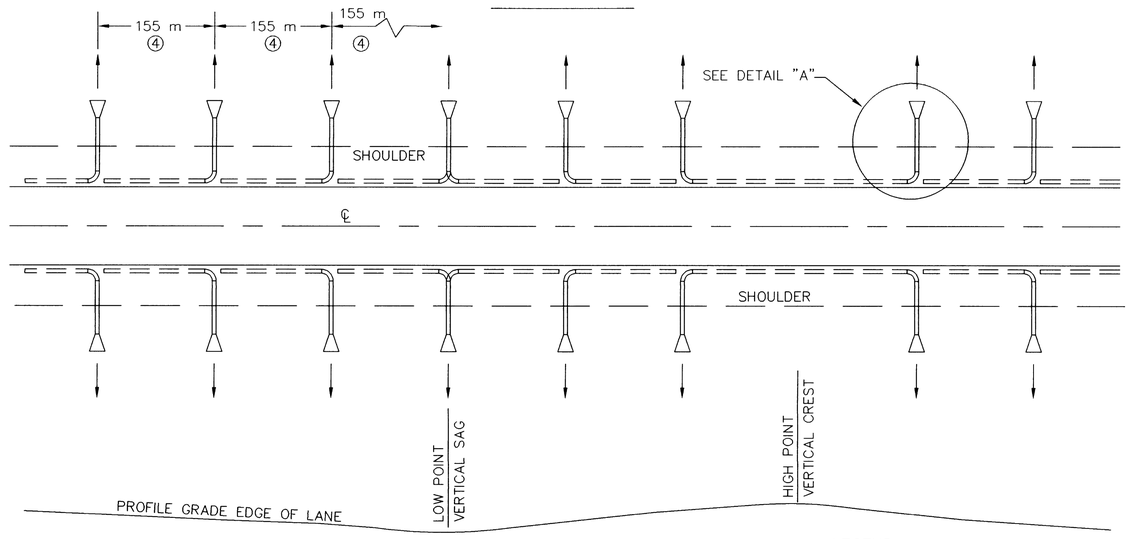
PLAN VIEW



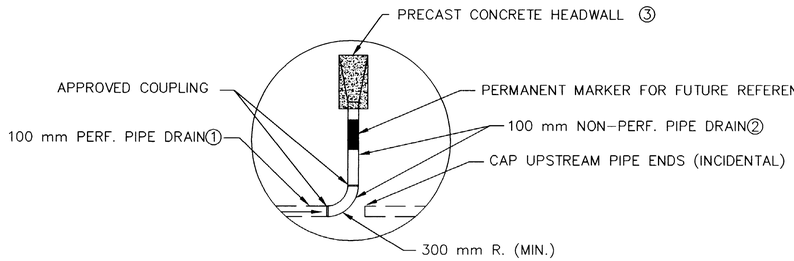
NOTE:
1. RUMBLE STRIPS SHALL BE SPACED APPROX. EVERY 18 m CENTERED ON 4.6 m EFFECTIVE CONTRACTION JOINTED PANELS.
2. RUMBLE STRIPS WILL NOT BE PLACED IN AREA OF TURN LANES.
3. RUMBLE STRIPS SHALL BE FROM THE 3.65 m LANE LINE OUT.
4. STRIPS TO BE 0.6 m WIDE.
5. RUMBLE STRIPS WILL BE INCIDENTAL AND THERE WILL BE NO DIRECT COMPENSATION THEREFORE.

EDGE DRAIN DETAILS AND CONSTRUCTION NOTES

PLAN VIEW

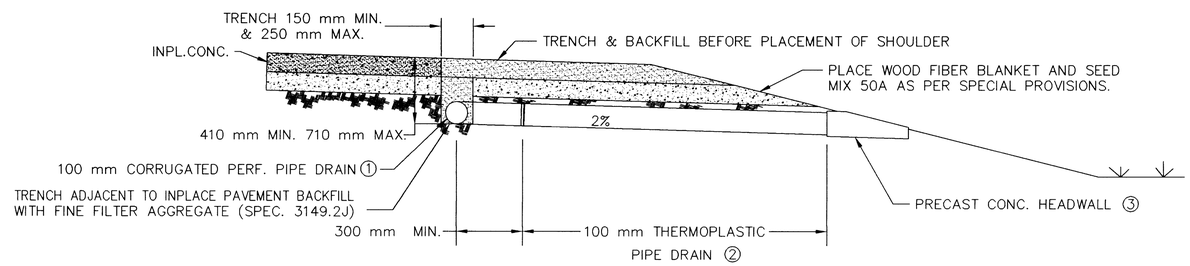


LEGEND
- 100 mm PERFORATED PIPE DRAIN
- 100 mm NON-PERFORATED PIPE DRAIN
- PRECAST CONCRETE HEADWALL



DETAIL "A"

X-SECTION VIEW



CONSTRUCTION NOTES

① PAYMENT FOR 100 mm PERFORATED PIPE DRAIN SHALL BE FULL COMPENSATION FOR TRENCHING, FABRIC WRAPPED P.E. PIPE AND INSTALLATION, FILTER AGGREGATE BACKFILL AND COMPACTION, AND ALL OTHER ASSOCIATED WORK.

② PAYMENT FOR 100 mm NON-PERFORATED PIPE DRAIN SHALL BE FULL COMPENSATION FOR TRENCHING, FURNISHING AND PLACING PIPE AND CONNECTIONS, BACKFILL AND COMPACTION, AND ALL OTHER ASSOCIATED WORK.

③ PAYMENT FOR PRECAST CONCRETE HEADWALLS SHALL BE FULL COMPENSATION FOR PLACING HEADWALL, WOOD FIBER BLANKET AND SEED, AND ALL OTHER ASSOCIATED WORK.

④ IF AN OUTLET HAPPENS TO FALL WITHIN A CROSS-OVER OR DITCH-BLOCK INCREASE THE LENGTH OF THE PERFORATED PIPE TO A POINT WHERE AN OUTLET CAN BE SATISFACTORILY CONSTRUCTED AS DIRECTED BY THE ENGINEER.

⑤ EXCESS EXCAVATED MATERIAL SHALL BE DISPOSED OF IN ACCORDANCE WITH MN/DOT SPEC. 2104.3C3.

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NOTE: SEE SHEET NO. 33 FOR MORE OF INTERSECTION C.S.A.H. 22, C.S.A.H. 4 AND LOOP INFORMATION.

INSET "B"

PLACE 2 NO. 13M BARS 150 mm FROM EDGE OF L3H JOINT

PLACE NO. 13M BARS ALONG EACH EDGE OF PAVEMENT WHERE THE TAPER IS LESS THAN 2 m

L2KTH 102 mm
L3H
102 mm
305 mm ±
L1TH

CONST. CONC. PAVEMENT LANE LT. OF W.B. LANE FROM STA. 41+556.158 TO STA. 41+927.09 SEE SHEET NO.3 FOR TYPICAL AND SHEET 8 THRU 12 OF CROSS SECTIONS FOR GRADING.

CONST. BIT. SHOULDER LT. OF W.B. LANE FROM STA. 41+566.158 TO STA. 41+927.09

SAW CONC. PAVEMENT FULL DEPTH STA. 41+459.442

SAW BITUMINOUS FULL DEPTH STA. 41+420

12+104.1

12+064

41+439.697

41+443.049

41+459.442

41+453.230

PC STA 12+063.688

41+566.158 STA BACK
41+557.358 STA AHEAD

41+556.158

LOOP "2"

LOOP "1"

L1TH

L3H

SEE INSET "B"

C C.S.A.H.4

41 + 500

41 + 600

41 + 700

12 + 000

12 + 100

12 + 200

- 400

BOP STA. 11+978.036

NEW SHEET APPROX. 1+229

F.E. LT. STA. 41+698
NO CHANGE

+698

REMOVE 2.44 m INPL. BIT.

CONST. 2.44 m BIT. SHOULDER

CONST. 3.66 m CONC. LANE

3.66 m INPL.

3.66 m INPL.

CONST. 2.44 m BIT. SHOULDER

REMOVE 2.44 m INPL. BIT.

CONST. 3.66 m CONC. LANE

GRADE FROM STA. 41+600 TO STA. 41+846

+696

EOP 41+223.666

2.44 m WIDE BITUMINOUS BIKE PATH WITH AGGREGATE SHOULDERS.

BEGIN BIKE PATH GRADING AT STA. 41+600

41+560.158

PT STA 12+109.281

PI STA 12+121.457

PT STA 12+453.230

PI STA 41+459.442

NOTE: C2B-D MOD. CONTRACTION JOINTS ON CONSTRUCTED LANE TO MATCH INPL. JOINTS ON C.S.A.H. 4 DRIVING LANES.

F.E. RT. STA. 41+696
NO CHANGE

REMOVE PAVEMENT

REMOVE 2326 m2 OF BITUMINOUS PAVEMENT RT. & LT. OF C.S.A.H. 4
FROM STA. 41+439.697 TO STA. 41+918.53 E.B. LANE &
FROM STA. 41+443.049 TO STA. 41+927.09 W.B. LANE

APPROX. 419 m3 OF EXCESS AGGREGATE SHOULDER & SUBGRADE CUT OUT FROM SHOULDER AREA TO BE USED IN FILL AREA ON C.S.A.H. 22 BETWEEN STA. 12+460 AND STA. 12+507

REMOVE 329 m2 OF CONCRETE PAVEMENT S.B. LANES OF C.S.A.H. 22
FROM STA. 12+064 TO STA. 12+104.1
REMOVE 146 m2 OF CONCRETE PAVEMENT E.B. & W.B. LANES OF C.S.A.H. 4
FROM STA. 41+439.697 TO STA. 41+459.442

CONST. CONCRETE PAVEMENT LANE AND BITUMINOUS SHOULDER RT. OF E.B. LANE C.S.A.H. 4.
FROM STA. 41+560.158 TO STA. 41+908.44 SEE SHEET NO.3 FOR TYPICAL AND CROSS SECTION SHEETS 8 THRU 12 OF GRADING.

CONST. BIT. SHOULDER RT. OF E.B. LANE FROM STA. 41+560.158 TO STA. 41+918.53

CONST. BIKE PATH RT. STA. 41+600 TO STA. 41+846 C.S.A.H. 4
SEE TYPICAL SHEET NO.3 & CROSS SECTION SHEETS 8 THRU 12 FOR GRADING.

℄ S.B.L. C.S.A.H. 22

℄ N.B.L. C.S.A.H. 22

SURVEY ℄

PT STA 12+024.885
STA BACK 12+027.054
PT STA 12+024.885

PT STA 12+024.884
STA AHEAD 12+027.716

PT STA 12+012.949

(GRADED TO STA. 41+600 IN 1996)

BEGIN BIKE PATH C-97-02 STA. 41+520

B.M. EL. 338.075
TOP CAP W/SQ. ROD
LT. STA. 12+131

START GRADE CHANGE
P.V.T. STA. 41+422.320
EL. 339.692

NEW P.I. STA. 41+431.467
EL. 339.644

NEW P.I. STA. 41+439.697
EL. 339.687

NEW P.I. STA. 41+451.279
EL. 339.687

NEW P.I. STA. 41+459.442
EL. 339.592

END GRADE CHANGE
P.V.C. STA. 41+468.040
EL. 339.559

-0.5%
+0.52%
0.0%
-1.15%
-0.5%

P.I. STA. 41+483.280
EL. 339.501
V.C. 30.480

P.V.T. STA. 41+498.520
EL. 338.848

-4.3%

P.V.C. STA. 41+649.396
EL. 332.370

P.I. STA. 41+727.120
EL. 329.041
V.C. 155.448

-0.3%

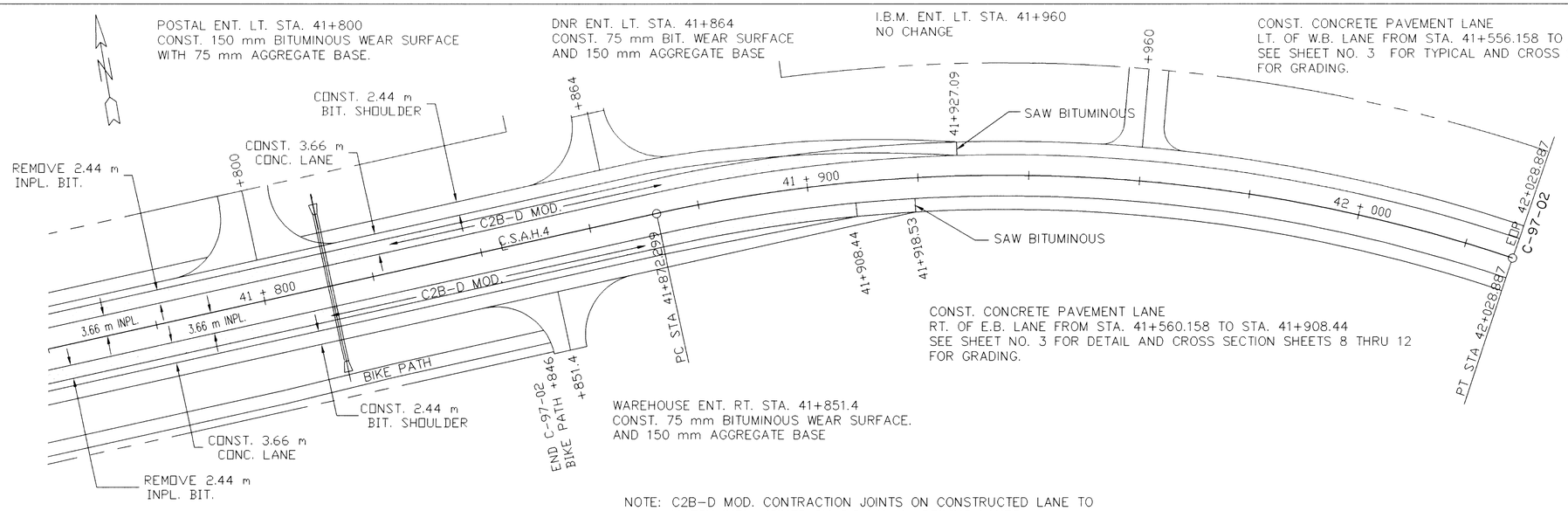
	41+400	41+420	41+440	41+460	41+480	41+500	41+520	41+540	41+559	41+579	41+599	41+619	41+639	41+659	41+679	41+699	41+719	41+739	41+759
NEW FINISHED PROFILE SURVEY ℄	339.940	339.702	339.697	339.589															
INPL. FINISHED PROFILE SURVEY ℄	339.940	339.702	339.637	339.574	339.422	338.785	337.928	337.072	336.198	335.341	334.485	333.628	332.772	331.930	331.179	330.530	329.984	329.541	329.200

344 342 340 338 336 334 332 330

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SHEET 6 OF 43 SHEETS



NOTE: C2B-D MOD. CONTRACTION JOINTS ON CONSTRUCTED LANE TO MATCH INPL. JOINTS ON C.S.A.H. 4 DRIVING LANES.

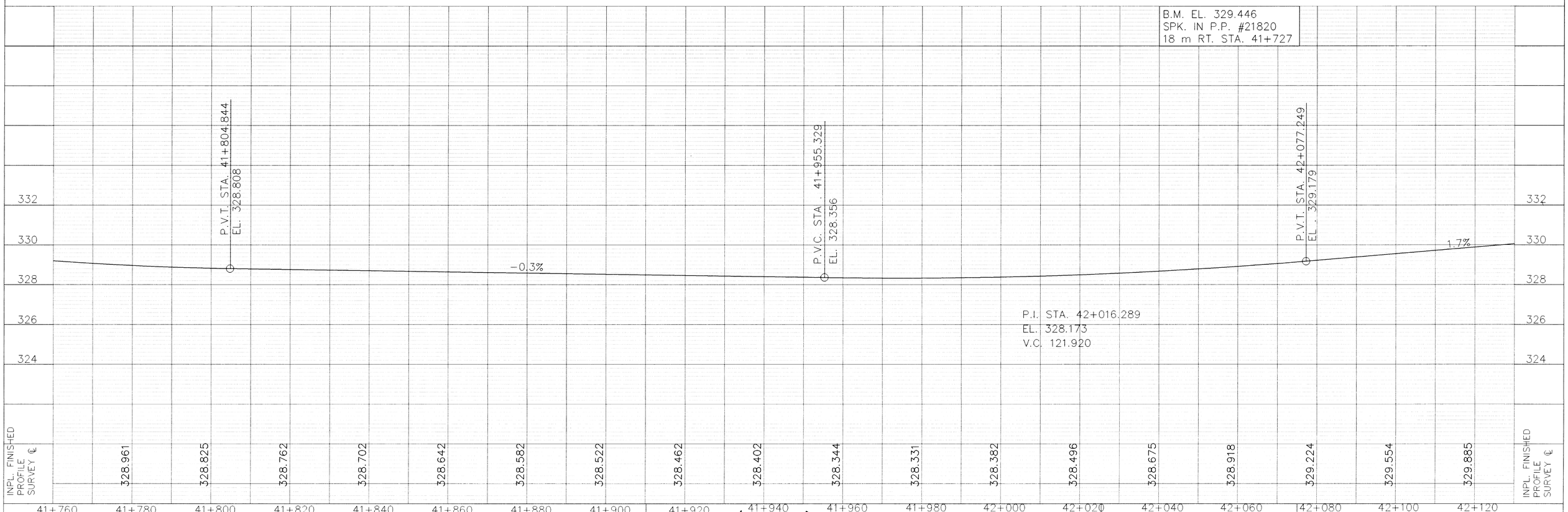
CONST. BIKE PATH RT. STA. 41+600 TO STA. 41+846 C.S.A.H. 4.
SEE TYPICAL SHEET NO. 3 AND CROSS SECTION SHEET 8 THRU
SHEET 12 , FOR GRADING.

REMOVE BITUMINOUS SHOULDER

BITUMINOUS PAVEMENT

SEE SHEET NO.6 FOR BITUMINOUS REMOVAL
QUANTITY FROM STA. 41+439.697 TO STA. 41+918.53 E.B. LANE
AND FROM STA. 41+443.049 TO STA. 41+927.09 W.B. LANE.

SEE SHEET NO. 12 FOR APPROX. QUANTITY OF EXCESS AGGREGATE SHOULDER
AND SUBGRADE CUT OUT FROM SHOULDER AREA TO BE USED IN FILL
AREA C.S.A.H. 22 FROM STA. 12+460 TO STA. 12+507.



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