ESTIMATED QUANTITIES

	SPECIFICATION NO.	ITEM	UNIT	S.A.P. 55-622-29 PARTICIPATING	S.A.P. 55-622-29 NON PARTICIPATING	S.A.P. 55-622-29 STORM SEWER	S.A.P. 55-625-16 PARTICIPATING	S.A.P. 55-625-16 NON PARTICIPATING	TOTAL ESTIMATED QUANTITIES
	2031.501	FIELD OFFICE ..., TYPE D	EACH	.93			.07		1
(1)	2101.511	CLEARING AND GRUBBING	LUMP SUM	1					1
(2)	2103.501	BUILDING REMOVAL	LUMP SUM	1					1
	2104.501	REMOVE PIPE CULVERTS	LIN. FT.	1,081			282		1,363
	2104.501	REMOVE SEWER PIPE (STORM)	LIN. FT.	150					150
	2104.501	REMOVE CURB & GUTTER	LIN. FT.	2,887					2,887
(3)	2104.501	REMOVE GUARD RAIL	LIN. FT.	235					235
(7)	2104.501	REMOVE CATTLE PASS	LIN. FT.	102					102
	2104.505	REMOVE CONCRETE MEDIAN	SQ. YD.	436					436
	2104.505	REMOVE CONCRETE PAVEMENT	SQ. YD.	10,064			3,235		13,299
	2104.505	REMOVE BITUMINOUS PAVEMENT	SQ. YD.	43,925			6,134		50,059
	2104.509	REMOVE CATCH BASIN	EACH	2					2
(4)	2104.509	REMOVE MISCELLANEOUS STRUCTURES	EACH	6					6
	2104.509	REMOVE LIGHT BASE	EACH	5					5
	2104.511	SAW CONCRETE PAVEMENT	LIN. FT.	66			24		90
	2104.513	SAW BITUMINOUS PAVEMENT	LIN. FT.	771					771
(5)	2104.523	SALVAGE CONCRETE APRON	EACH	1					1
(6)	2104.523	SALVAGE LIGHTING UNIT	EACH	5					5
(8)	2105.515	UNCLASSIFIED EXCAVATION	CU. YD.	(P) 91,117			(P)40,862		131,979
(9)	2105.522	SELECT GRANULAR BORROW (CV)	CU. YD.	(P) 16,911			(P) 2,456		19,367
(10)	2123.503	MOTOR GRADER	HOUR				15		15
(10)	2123.508	15 CU. YD. SCRAPER	HOUR				15		15
(10)	2123.509	DOZER	HOUR				15		15
(11)	2130.501	WATER	M-GALLONS	141			10		151
(12)	2211.501	AGGREGATE BASE CLASS 5A (P)	TON	37,660			2,390		40,050
(13)	2221.501	AGGREGATE SHOULDERING CLASS 2 (P)	TON	7,640			799		8,439
	2301.502	CONCRETE PAVEMENT STANDARD WIDTH	SQ. YD.	64,628			1,969		66,597
	2301.503	CONCRETE PAVEMENT IRREGULAR WIDTH	SQ. YD.	7,580			1,994		9,574
	2301.511	STRUCTURAL CONCRETE	CU. YD.	18,052			771		18,823
	2301.531	EXPANSION JOINT DESIGN E2D-1	LIN. FT.				24		24
	2301.538	DOWEL BAR	EACH	43,280			2,377		45,657
	0301.604	PERMANENT TERMINAL HEADER	LIN. FT.	108			24		132
(14)	2340.508	TYPE 41 WEARING COURSE MIXTURE	TON	1,090					1,090
(15)	2340.514	TYPE 41 BASE COURSE MIXTURE	TON	2,122					2,122
	2340.516	TYPE 41 SHOULDER MIXTURE	TON	2,112			290		2,402
	2340.518	TYPE 41 BIT. MIXTURE FOR PATHS	TON	160					160
(16)	2451.507	GRANULAR BEDDING (CV)	CU. YD.	86					86
	2501.511	15" C.S. PIPE CULVERT	LIN. FT.	30					30
	2501.511	18" C.S. PIPE CULVERT	LIN. FT.	36					36
	2501.511	24" C.S. PIPE CULVERT	LIN. FT.	126					126
	2501.511	42" C.S. PIPE CULVERT	LIN. FT.	36					36
	2501.511	24" R.C. PIPE CULVERT	LIN. FT.	156					156
	2501.511	48" R.C. PIPE CULVERT	LIN. FT.	16					16
	2501.515	15" C.S. PIPE APRON	EACH	2					2
	2501.515	18" C.S. PIPE APRON	EACH	2					2
	2501.515	24" C.S. PIPE APRON	EACH	4					4
	2501.515	42" C.S. PIPE APRON	EACH	2					2
	2501.515	12" R.C. PIPE APRON	EACH			5			5
	2501.515	15" R.C. PIPE APRON	EACH			6			6
	2501.515	18" R.C. PIPE APRON	EACH			4			4
	2501.515	24" R.C. PIPE APRON	EACH	2		1			3
	2501.515	27" R.C. PIPE APRON	EACH			1			1
	2501.515	30" R.C. PIPE APRON	EACH			3			3
	2501.521	49" SPAN C.S. PIPE-ARCH CULVERT	LIN. FT.	72					72
	2501.521	57" SPAN C.S. PIPE-ARCH CULVERT	LIN. FT.	34					34
	2501.521	28" SPAN R.C. PIPE-ARCH CULVERT CL. IIA	LIN. FT.				134		134
	2501.525	28" SPAN R.C. PIPE-ARCH APRON	EACH				4		4
	2501.525	44" SPAN R.C. PIPE-ARCH APRON	EACH			2			2
	2501.525	49" SPAN C.S. PIPE-ARCH APRON	EACH	4					4
	2501.525	57" SPAN C.S. PIPE-ARCH APRON	EACH	2					2
(17)	2501.569	LIGHT DUTY SAFETY GRATE FOR 15" R.C. PIPE APRON	EACH	1					1
(17)	2501.569	LIGHT DUTY SAFETY GRATE FOR 18" R.C. PIPE APRON	EACH	1					1
(5)	2501.573	INSTALL CONCRETE APRON	EACH	1					1
(18)	0501.602	PLUG & ABANDON PIPE CULVERT	EACH	1					1
	2502.521	4" TP PIPE DRAIN	LIN. FT.	196			38		234
	2502.541	4" PERF. PE. PIPE DRAIN	LIN. FT.	6,211			1,754		7,965
	0502.601	4" PRECAST CONCRETE HEADWALL	EACH	12			3		15
	2503.511	12" R.C. PIPE SEWER CLASS IV	LIN. FT.			1,753			1,753
	2503.511	15" R.C. PIPE SEWER CLASS III	LIN. FT.			1,485			1,485
	2503.511	18" R.C. PIPE SEWER CLASS III	LIN. FT.			1,978			1,978
	2503.511	21" R.C. PIPE SEWER CLASS III	LIN. FT.			743			743
	2503.511	24" R.C. PIPE SEWER CLASS III	LIN. FT.			45			45
	2503.511	27" R.C. PIPE SEWER CLASS II	LIN. FT.			692			692
	2503.511	30" R.C. PIPE SEWER CLASS II	LIN. FT.			287			287
	2503.511	30" R.C. PIPE SEWER CLASS IV	LIN. FT.			242			242
	2503.521	44" SPAN R.C. PIPE SEWER CLASS IIA	LIN. FT.			156			156
	0504.602	REMOVE PLUG	EACH		1				1
	0504.602	12" GATE VALVE & BOX	EACH		1				1
	0504.602	12" PIPE BEND 22.5 DEGREE	EACH		3				3
	0504.602	INSTALL 12" PLUG	EACH		8				8
	0504.603	12" WATERMAIN DUCT IRON CL. 52	LIN. FT.		800				800

QUANTITY NOTES

(1) TREES FOR REMOVAL WILL BE DESIGNATED BY THE ENGINEER. (APROXIMATELY .7 ACRES + 126 TREES.)
(2) BUILDING LOCATED RIGHT STA. 157+00 AND GARAGE LOCATED AT STA. 158+50.
(3) INCLUDES ALL TIME, MATERIAL, AND EQUIPMENT TO REMOVE GUARD RAIL STA. 259+50.
(4) INCLUDES REMOVAL OF 4 STONE PILLARS AT EXISTING ENTRANCE STA. 173+22 AND REMOVAL OF 2 STONE WALLS AT ENTRANCE STA. 223+09
(5) 48" R.C. PIPE APRON STA. 203+87
(6) INCLUDES ALL TIME, MATERIAL, AND EQUIPMENT TO SALVAGE LIGHTING UNITS AS INDICATED ON PLAN SHEET NO. 40.
(7) 48" x 72" TIMBER BOX CULVERT STA. 207+00
(8) UNCLASSIFIED EXCAVATION INCLUDES SUBGRADE TREATMENT AS SHOWN IN TYPICAL SECTIONS AND CROSS SECTIONS. 7,586 CU. YDS. UNCLASSIFIED EXCAVATION, TO BE USED AS SALVAGE TOPSOIL AND PLACED AS SHOWN IN THE PLANS. 38,247 CU. YDS. IS INCLUDED FOR DETENTION POND EXCAVATION. 20,728 CU. YDS. OF SELECT GRANULAR MATERIAL FROM DETENTION POND TO BE PLACED AS SUBGRADE MATERIAL. 132 CU. YDS. OF EXCAVATION MATERIAL TO BE USED TO FILL TIMBER BOX CULVERT TO BE REMOVED STA. 207+00. ANY EXCESS MATERIAL SHALL BE STOCK PILED IN THE SOUTHWEST CORNER OF INTERSECTION CSAH 8 AND CSAH 22 DETERMINED BY THE ENGINEER IN THE FIELD.
(9) SELECT GRANULAR BORROW IS TO BE USED IN SUBGRADE TREATMENT AS SHOWN IN TYPICAL SECTIONS AND CROSS SECTIONS.
(10) EQUIPMENT HOURS ARE FOR OBLITERATING AND SHAPING OLD ROAD AS DIRECTED BY THE ENGINEER.
(11) WATER TO BE USED AS A DUST PREVENTATIVE AS DIRECTED BY THE ENGINEER.
(12) INCLUDES 36,951 TONS FOR CSAH 22, 1,283 TONS FOR CSAH 25, 1,107 TONS FOR 2 LOOPS, 312 TONS FOR FRONTAGE ROAD, 374 TONS FOR BIKE PATH
(13) INCLUDES 7,640 TONS FOR CSAH 22, 381 TONS FOR CSAH 25, 418 TONS FOR 2 LOOPS.
(14) INCLUDES 631 TONS FOR TURN LANES, 309 TONS FOR APPROACHES, 52 TONS FOR CSAH 8, AND 82 TONS FOR FRONTAGE ROAD.
(15) INCLUDES 1,261 TONS FOR TURN LANES, 617 TONS FOR APPROACHES, 103 TONS FOR CSAH 8, AND 109 TONS FOR FRONTAGE ROAD.
(16) 2 INCHES OF GRANULAR BEDDING IS TO BE USED UNDER 3 INCH CONCRETE WALK.
(17) THE CONTRACTOR SHALL FURNISH ALL EQUIPMENT, LABOR, AND MATERIALS REQUIRED TO INSTALL GRATES AT STA. 153+50 AND STA. 209+50.
(18) 36" R.C. PIPE CULVERT TO BE PLUGGED AND ABANDONED STA. 160+90.

AS CONSTRUCTED

CERTIFIED BY Kevin M Bienias PROFESSIONAL ENGINEER REG NO 19917 8/28 1996

ESTIMATED QUANTITIES

	SPECIFICATION NO	ITEM	UNIT	S.A.P. 55-622-29 PARTICIPATING	S.A.P. 55-622-29 NON PARTICIPATING	S.A.P. 55-622-29 STORM SEWER	S.A.P. 55-625-16 PARTICIPATING	S.A.P. 55-625-16 NON PARTICIPATING	TOTAL ESTIMATED QUANTITIES
	2506.502	CONSTRUCT DRAINAGE STRUCTURE, DESIGN A	EACH			21			21
	2506.502	CONSTRUCT DRAINAGE STRUCTURE, DESIGN C	EACH			39			39
	2506.502	CONSTRUCT DRAINAGE STRUCTURE, DESIGN F	EACH			1			1
	2506.502	CONSTRUCT DRAINAGE STRUCTURE, DESIGN G	EACH			36			36
	2506.502	CONSTRUCT DRAINAGE STRUCTURE, DESIGN 54-4020	EACH			3			3
	2506.502	CONSTRUCT DRAINAGE STRUCTURE, DESIGN 60-4020	EACH			2			2
	2506.502	CONSTRUCT DRAINAGE STRUCTURE, DESIGN 72-4020	EACH			2			2
	0506.603	RECONSTRUCT SANITARY MANHOLE	LIN. FT.	31.5					31.5
(19)	2511.501	RANDOM RIPRAP CLASS III	CU. YD.	22					22
(22)	2521.501	3" CONCRETE WALK	SQ. FT.	13,896					13,896
(20)	2531.501	CONCRETE CURB & GUTTER B424	LIN. FT.	21,948					21,948
	2545.515	LIGHT BASE DESIGN E	EACH	5					5
(21)	0545.602	INSTALL LIGHTING UNIT	EACH	5					5
	0563.601	TRAFFIC CONTROL	LUMP SUM	.93			.07		1
(22)	0563.603	TWO-WAY RAISED PAVEMENT MARKERS TEMPORARY	EACH	2,700					2,700
	0563.603	TUBE DELINEATOR	EACH	218					218
	0563.603	REPLACEMENT TUBE DELINEATOR	EACH	44					44
	0564.602	PAVEMENT MESSAGE (LEFT ARROW) EPOXY	EACH	32					32
	0564.602	PAVEMENT MESSAGE (RIGHT ARROW) EPOXY	EACH	36					36
(23)	0564.603	4" DOUBLE SOLID LINE YELLOW-PAINT	LIN. FT.	7,425					7,425
	0564.603	4" SOLID LINE WHITE-EPOXY	LIN. FT.	26,337			2,865		29,202
	0564.603	4" BROKEN LINE WHITE-EPOXY	LIN. FT.	4,550					4,550
	0564.603	4" SOLID LINE YELLOW-EPOXY	LIN. FT.	15,305			490		15,795
	0564.603	4" DOUBLE SOLID LINE YELLOW-EPOXY	LIN. FT.	4,120			740		4,860
	0564.603	4" BROKEN LINE YELLOW-EPOXY	LIN. FT.	1,212					1,212
	0564.603	24" SOLID LINE YELLOW-EPOXY	LIN. FT.	327					327
(24)	0565.602	LOOP DETECTOR 6' x 6'	EACH	6					6
(25)	2573.501	BALE CHECK	EACH	93					93
(25)	2573.502	SILT FENCE, TYPE PREASSEMBLED MAINTAINED	LIN. FT.	4,000					4,000
	2575.501	SEEDING	ACRE	(P) 13.8			(P) 3.2		17
	2575.502	SEED MIXTURE 500	POUND	700			150		850
	2575.502	SEED MIXTURE 1100	POUND	1,120			240		1,360
	2575.505	SODDING TYPE EROSION	SQ. YD.	9,821					9,821
	2575.511	MULCH MATERIAL, TYPE 1	TON	26.5			6.5		33
	2575.519	DISK ANCHORING	ACRE	(P) 13			(P) 3		16
	2575.523	WOOD FIBER BLANKET TYPE REGULAR	SQ. YD.	4,656					4,656
	2575.532	COMMERICIAL FERTILIZER, ANALYSIS 12-12-12	POUND	2,825			635		3,460

QUANTITY NOTES

(19) 9 INCHES OF GRANULAR BEDDING OR GEOTEXTILE FILTER UNDER RIPRAP WILL BE CONSIDERED TO BE INCIDENTAL AND NO DIRECT COMPENSATION WILL BE MADE THEREFOR. RIPRAP SHALL BE PLACED ON OUTLET STATIONS 209+00, 211+50, 227+50, AND 240+00

(20) CURB & GUTTER IS TO BE TAPERED DOWN FOR PEDESTRIAN RAMP AT BIKE WAYS AND ENTRANCE LOCATIONS.

(21) INCLUDES ALL TIME, MATERIAL, AND EQUIPMENT TO INSTALL LIGHTING UNITS AS INDICATED ON PLAN SHEET NO. 40

(22) INCLUDES 2,260 YELLOW TWO-WAY TEMPORARY RAISED PAVEMENT MARKERS AND 440 REPLACEMENTS.

(23) TO BE USED FOR TEMPORARY LANE CLOSURE TO CHANNELIZE TRAFFIC. SEE SHEET 54 FOR DETAILS

(24) INCLUDES ALL TIME AND MATERIAL TO INSTALL DETECTION LOOPS IN NB ROADWAY FROM STA. 257+00 TO STA. 260+00 SEE SHEET NUMBERS 48 & 49 FOR EXISTING LOOP DETAILS.

(25) BALE CHECKS AND SILT FENCE TO BE INSTALLED AT LOCATIONS AS DIRECTED BY THE ENGINEER

(26) 3" Walk in median Areas less Than 16 ft. wide

BASIS OF PLANNED QUANTITIES

AGGREGATE BASE CLASS 5 –	140 LBS / CU FT COMPACTED
AGGREGATE SHOULDER CLASS 2 –	140 LBS / CU FT. COMPACTED
BITUMINOUS MIXTURE –	110 LBS / SQUARE YARD / 1 INCH DEPTH
SEED MIXTURE 500 –	50 LBS / ACRE
SEED MIXTURE 1100 –	80 LBS / ACRE
MULCH MATERIAL –	2 TONS / ACRE
DISC ANCHOR –	ALL SEEDING AREA'S EXCEPT 2:1 SLOPES
COMMERCIAL FERTILIZER –	200 LBS / ACRE

STANDARD PLATES

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

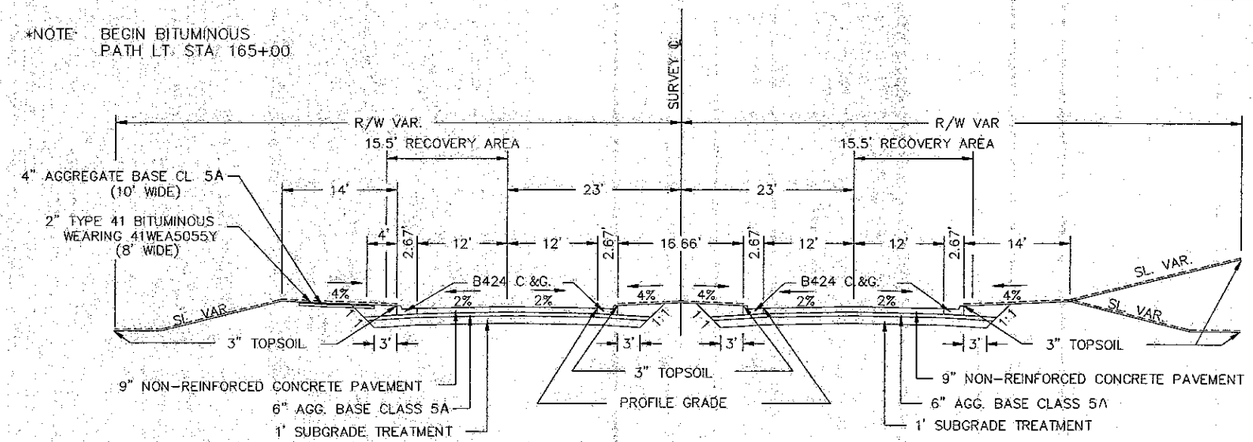
PLATE NO.	DESCRIPTION
	NUMERICAL INDEX OF STANDARD PLATES
1070 K	REINFORCED PANEL OVER CULVERTS
1103 J	TYPICAL DOWEL BAR ASSEMBLY
1141 D	PAVEMENT KEYWAY FOR KEYED JOINT CONSTRUCTION
1150 P	CONSTRUCTION OF HEADER JOINTS
3000 L	REINFORCED CONCRETE PIPE
3014 J	REINFORCED CONCRETE PIPE ARCH
3040 F	CORRUGATED METAL PIPE CULVERT
3100 G	CONCRETE APRON FOR REINFORCED CONCRETE PIPE
3110 G	CONCRETE APRON FOR REINFORCED CONCRETE PIPE ARCH
3122 K	METAL APRON FOR C.M. PIPE-ARCH CULVERT
3123 J	METAL APRON FOR C.S. PIPE
3131 B	PRECAST CONCRETE HEADWALL FOR SUBSURFACE DRAINS
3145 E	CONCRETE PIPE TIES
3221 C	CORRUGATED STEEL PIPE COUPLING BAND
4000 J	MANHOLE OR CATCH BASIN
4002 F	MANHOLE OR CATCH BASIN
4006 L	MANHOLE OR CATCH BASIN
4010 H	CONC. SHORT CONE & ADJUSTING RING
4011 E	PRECAST CONCRETE BASE
4110 E	COVER CASTING FOR MANHOLE
4020 G	MANHOLE OR CATCH BASIN COVER
4101 C	RING CASTING FOR MANHOLE OR CATCH BASIN
4129 G	CATCH BASIN FRAME CASTING
4140 D	SPECIAL GRATE CASTINGS FOR CATCH BASIN
4154 B	CATCH BASIN GRATE CASTING
4160 D	CURB BOX CASTING FOR CATCH BASIN
4180 H	DRAINAGE STRUCTURE OR CATCH BASIN STEP
7036 D	PEDESTRIAN CURB RAMP
7100 G	CONCRETE CURB & GUTTERS
7109 C	MEDIAN NOSE AND ISLAND
7111 J	INSTALLATION & REINFORCEMENT OF CATCH BASIN CASTINGS
7112 C	INSTALLATION & REINFORCEMENT OF CATCH BASINS & MANHOLES
8000 I	STANDARD BARRICADES
9000 C	APPROACHES AND ENTRANCES

AS BUILT PLANS

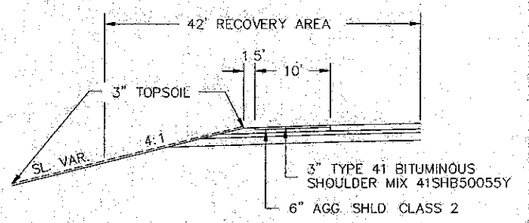
AS BUILT PLANS

CERTIFIED BY Kent M Reinick PROFESSIONAL ENGINEER REG NO 19917 8/20 1996

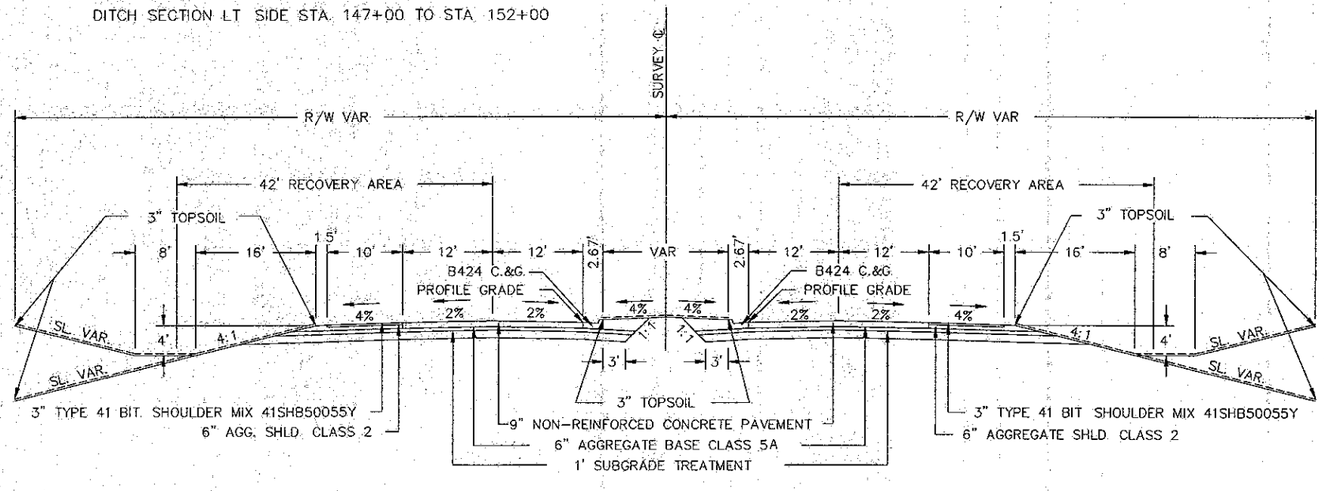
*NOTE: BEGIN BITUMINOUS PATH LT. STA. 165+00



STA. 147+00 TO 176+50

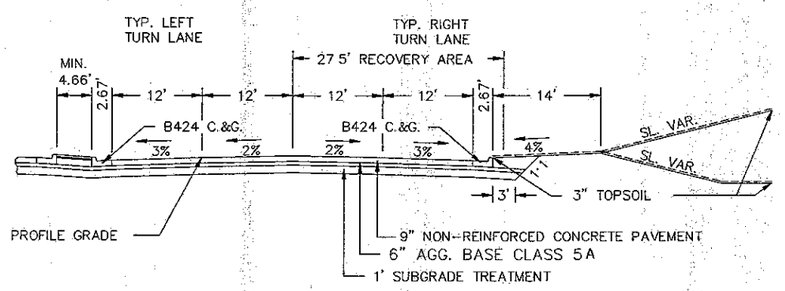


DITCH SECTION LT. SIDE STA. 147+00 TO STA. 152+00



STA. 176+50 TO 192+67

TAPER TRANSITION STA. 182+91.48 TO 192+67

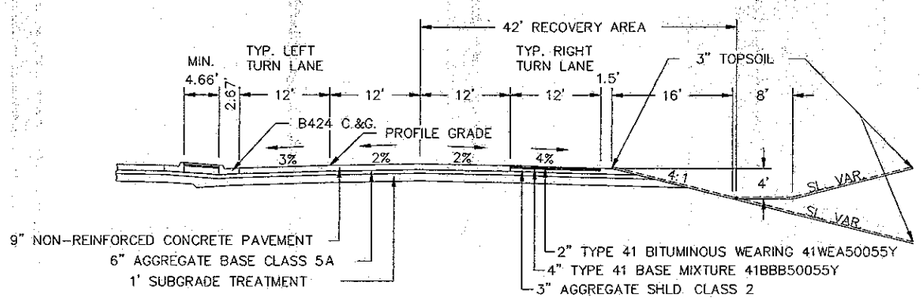


LEFT TURN LANE LOCATIONS:

STA. 148+00 TO STA. 151+80
STA. 153+47 TO STA. 158+27
STA. 161+59 TO STA. 166+39
STA. 171+58 TO STA. 176+38

RIGHT TURN LANE LOCATIONS:

STA. 148+35 TO STA. 151+75
STA. 158+51 TO STA. 163+31
STA. 166+71 TO STA. 171+51
STA. 172+58 TO STA. 176+38



LEFT TURN LANE LOCATIONS:

STA. 176+62 TO STA. 181+42
STA. 182+27 TO STA. 187+07

RIGHT TURN LANE LOCATIONS:

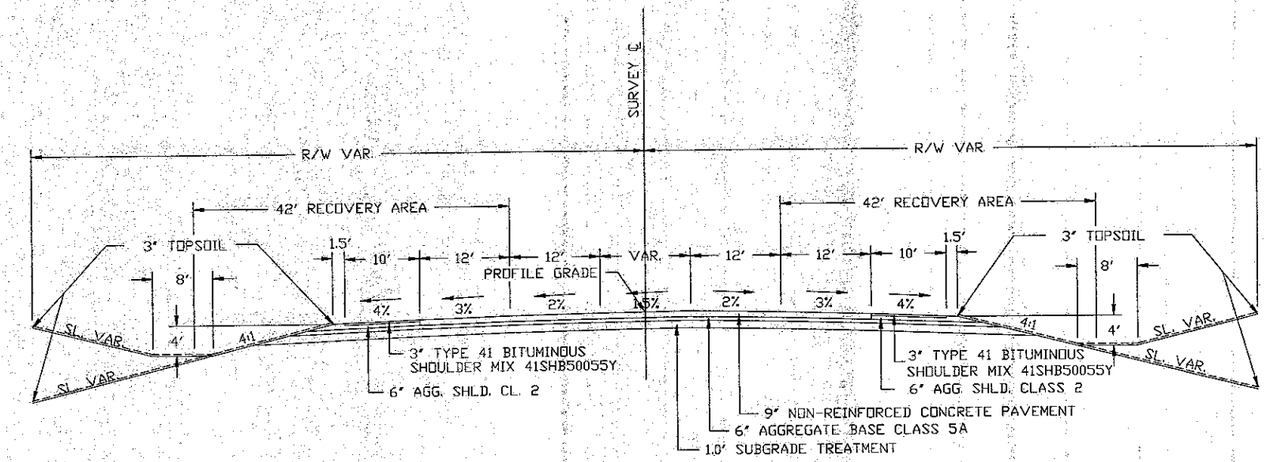
STA. 152+54 TO STA. 157+34
STA. 176+62 TO STA. 180+42
STA. 191+17 TO STA. 195+97

AS BUILT PLANS

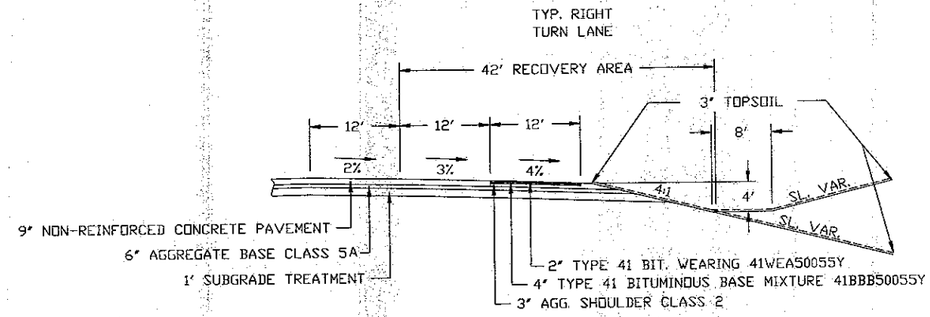
TYPICAL SECTIONS

CERTIFIED BY Kay M Bierwirth REG NO 19217 8/28/1996
PROFESSIONAL ENGINEER

SAP 55-622-29 & 55-625-16 SHEET NO. 4 OF 89 SHEETS

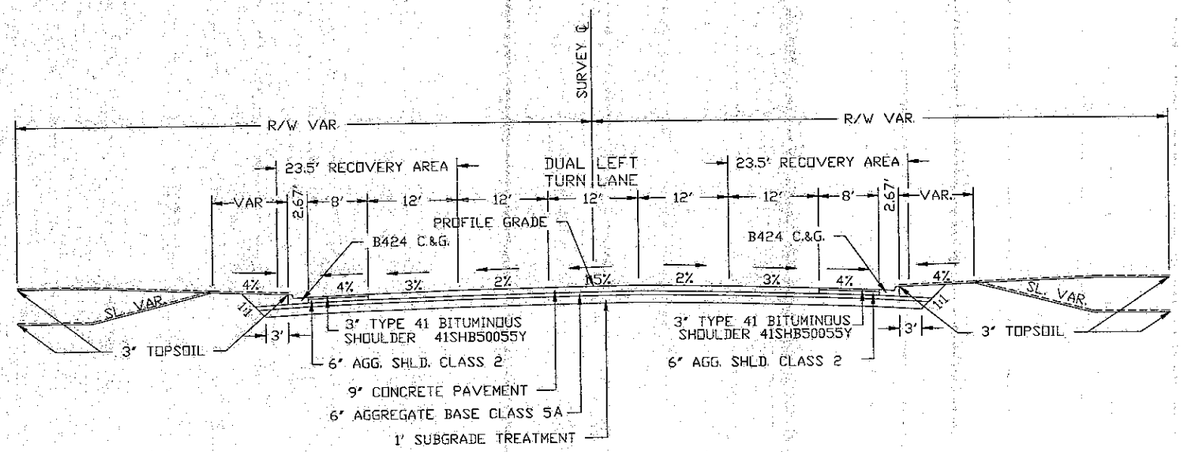


STA. 192+67 TO 209+21
TAPER TRANSITION STA. 192+67 TO 195+60.64
TAPER TRANSITION STA. 247+67.68 TO 252+00

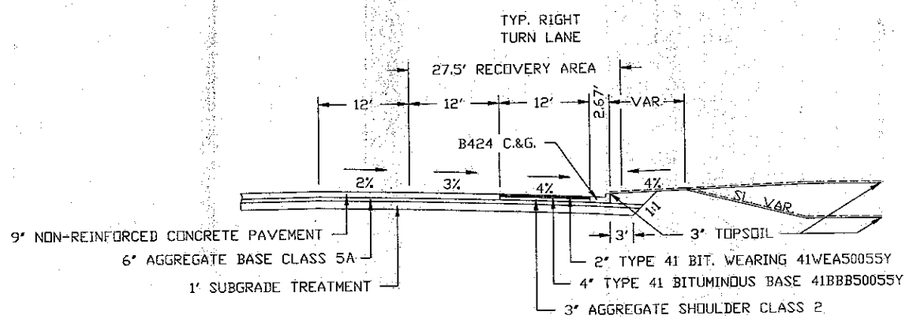


TURN LANE LOCATIONS:

RT. STA. 191+17 TO STA. 195+97
LT. STA. 196+21 TO STA. 201+01
RT. STA. 198+97 TO STA. 203+77



STA. 209+21 TO 233+32
TAPER TRANSITION STA. 228+31.20 TO 233+32



TURN LANE LOCATIONS:

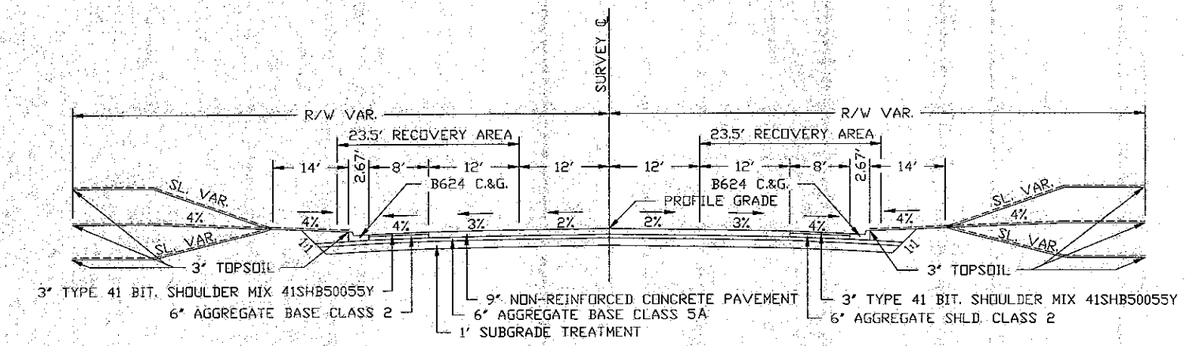
RT. STA. 210+52 TO STA. 214+12
LT. STA. 209+33 TO STA. 212+93
RT. STA. 219+36 TO STA. 222+96
RT. STA. 228+44 TO STA. 232+04

AS BUILT PLANS

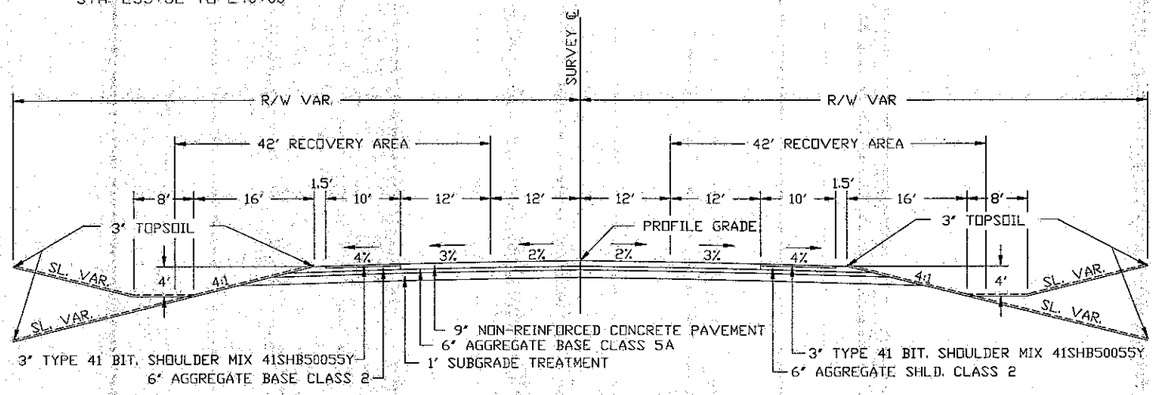
TYPICAL SECTIONS

CERTIFIED BY Gary M Bieniek REG NO. 19917 8/28 1996
PROFESSIONAL ENGINEER

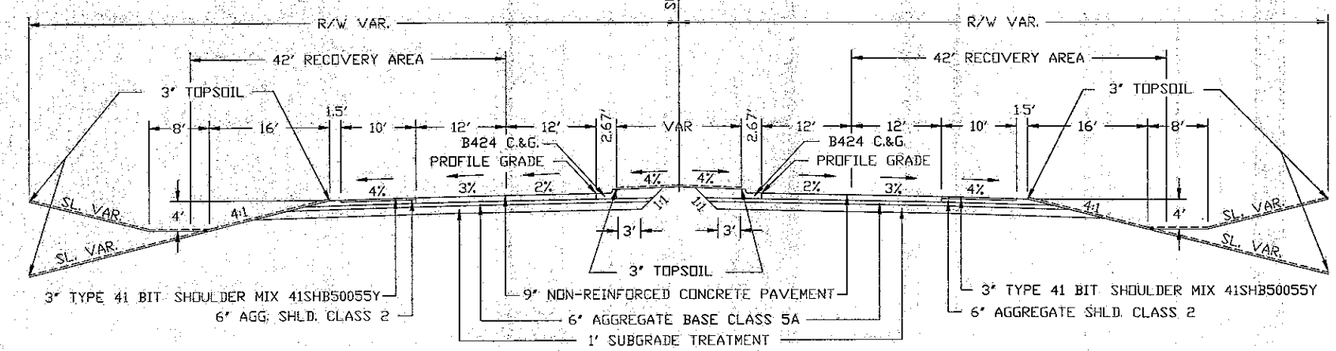
SAP 55-622-29 & 55-625-16



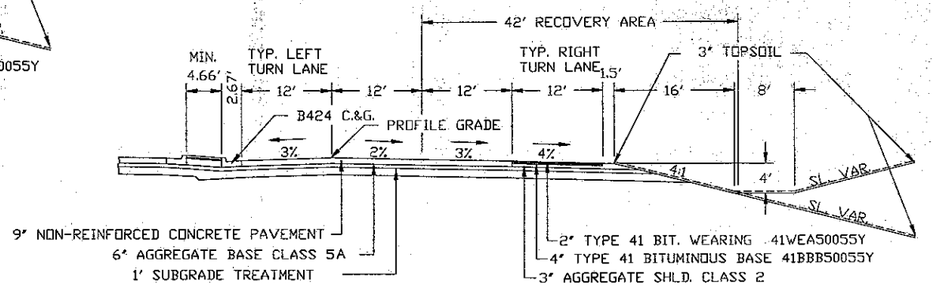
STA. 233+32 TO 240+00



STA. 240+00 TO 247+67.68



TAPER TRANSITION STA. 252+00 TO 256+86.42
STA. 256+86.42 TO 260+00



LEFT TURN LANE LOCATIONS:
STA. 255+59 TO STA. 260+39

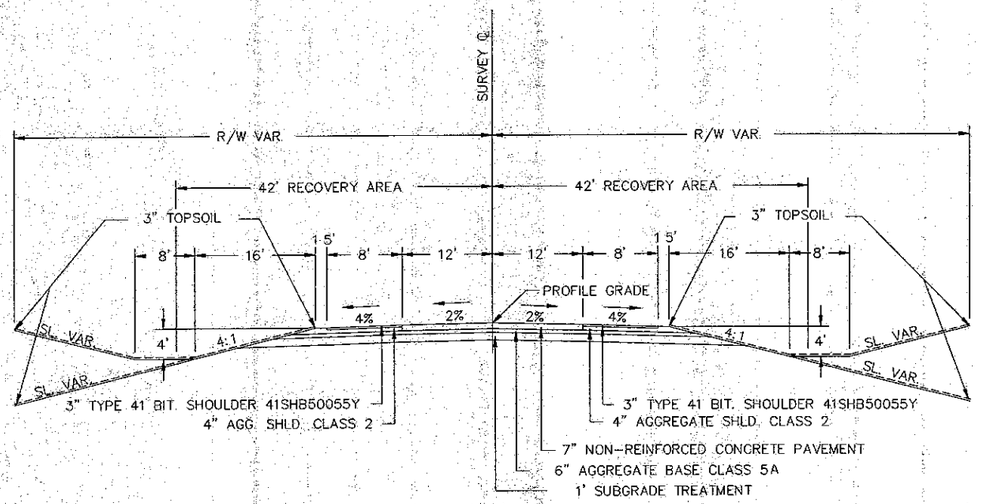
RIGHT TURN LANE LOCATIONS:
STA. 255+59 TO STA. 260+39

AS BUILT PLANS

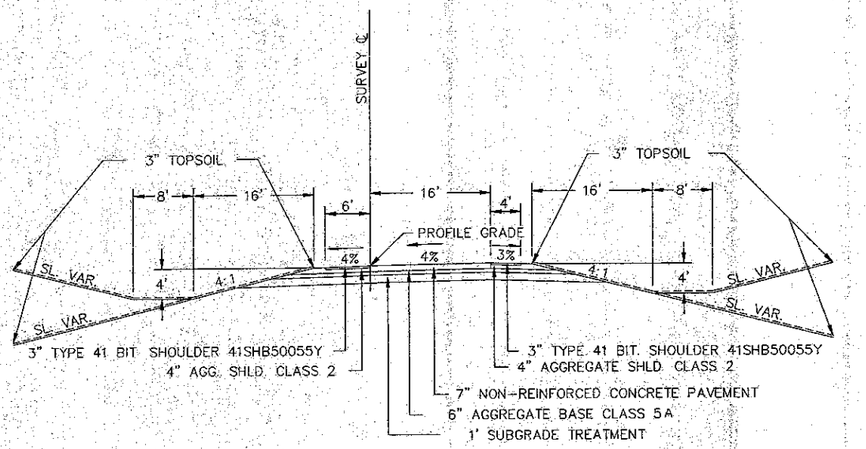
TYPICAL SECTIONS

CERTIFIED BY Kay M Bieniek REG NO. 19917 8/28 1996
PROFESSIONAL ENGINEER

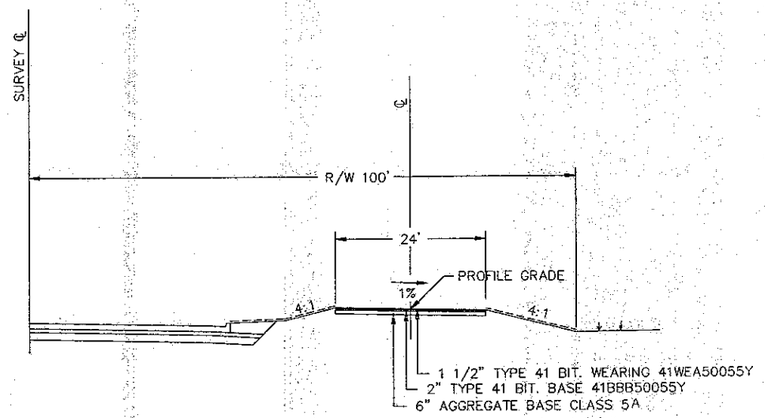
SAP 55-622-29 & 55-625-16



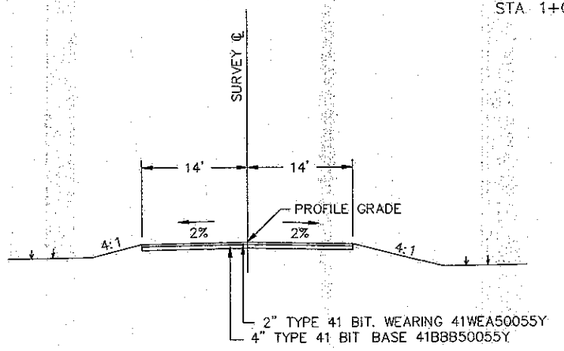
STA 287+00 TO STA 294+38 08
CSAH 25



LOOP "A" STA 292+00 TO STA 294+50
&
LOOP "B" STA 185+00 TO STA 187+50



CROCUS HILLS DRIVE
STA 1+00 TO STA 5+07 66



CSAH 8
STA 101+16 84 TO STA 102+67.56

AS BUILT PLANS

TYPICAL SECTIONS

CERTIFIED BY Gary M Blumick REG NO 19917 8/20/19 96
PROFESSIONAL ENGINEER

SAP 55-622-29 & 55-625-16 SHEET NO. 7 OF 89 SHEETS

LU-1
STA 149+15
51' Lt

CATCH BASIN LT. STA. 148+78
INPL. 18" x 66' R.C. PIPE
W/APRONS
REMOVE CATCH BASIN
REMOVE 72 LIN. FT.

15"x 44' C.S. Pipe Cvlv.
2-15 G.S. Pipe Aprons S.A.H. 8

2-31' R.Steel Conduit
CSAH 8 loop

℄ CULV. STA. 150+20
INPL. 24" x 146' R.C. PIPE
W/APRONS
REMOVE 158 LIN. FT.
24" x 156' R.C. PIPE
2-24" R.C. APRONS
PLACE CULVERT ON
CL "B" BEDDING
Rip Rap outlet

PI 101+37.17
Δ 25°50'13"
D 14°36'08"
T 90.00
L 176.94
R 392.38

LU-5 omit

Remove

ENT LT STA 158+39

LU-2 omit

LU-1

LU-4 omit

omit LU-3

℄ CULV. STA. 153+33
INPL. 24" x 114' R.C. PIPE
W/APRONS
REMOVE 126 LIN. FT.

P.I. 157+36.29
Δ 65°29'27"
D 6°45'00"
T 545.19
L 969.25
E 160.00
R 848.83

RATE SUPERELEVATION 0.06'/FT
RUNOFF LENGTH 288'
RUNOUT LENGTH 96'

253+20
P+I 4" x 92' R.S. Conduit
42' Lt - 50' Rt

RES. DR. RT. STA. 151+87

RES. DR. RT. STA. 156+78
REMOVE ENTRANCE

RES. DR. RT. STA. 158+32
REMOVE ENTRANCE

BEGIN: SAP 55-622-29
STA 147+00

ENT. RT. STA. 147+50
REMOVE ENTRANCE

B.M. ELEV. 1023.19
TOP BRASS PLUG
SE COR BR #7174

FINISHED PROFILE GRADE

℄ PROFILE
PROFILE 75' LT.
PROFILE 75' RT.

BOP 147+00
ELEV. 22.35

-0.25%

INLET 1018.60
OUTLET 1014.00

P.V.C. 160+00
ELEV. 19.12

1060	1050	1040	1030	1020	1010	1000	990	980	970
	1022.35	1022.23	1022.10	1021.98	1021.85	1021.73	1021.60	1021.48	1021.36
1024.40	1024.80	1024.50	1022.90	1022.00	1022.40	1022.50	1023.00	1022.90	1022.50

1060	1050	1040	1030	1020	1010	1000	990	980	970
1021.23	1021.11	1020.98	1020.86	1020.73	1020.61	1020.49	1020.36	1020.24	1020.11
1022.50	1021.70	1021.60	1022.20	1022.40	1022.30	1020.80	1020.30	1020.10	1019.60

1060	1050	1040	1030	1020	1010	1000	990	980	970
1019.99	1019.86	1019.74	1019.61	1019.49	1019.57	1019.24	1019.12		
1019.40	1019.20	1018.50	1018.20	1017.70	1016.00	1015.70	1015.10		

146+00 147+00 148+00 149+00 150+00 151+00 152+00 153+00 154+00 155+00 156+00 157+00 158+00 159+00 160+00

GRADING AND EROSION CONTROL | CERTIFIED BY Kaye M Brevick PROFESSIONAL ENGINEER | REG NO. 19917 | 8/28 19 96 | S.A.P. 55-625-16 55-622-29 | SHEET 8 OF 89 SHEETS

AS BUILT PLANS

CATCH BASIN LT STA 160+84
NO CHANGE

SALEM POINT DR. SW. LT STA 166+55

P.I. 172+91.97
Δ 29°57'18"
D 3°30'00"
T 437.95
L 855.86
E 57.57
R 1637.02
RATE SUPERELEVATION 0.048'/FT
RUNOFF LENGTH 230'
RUNOUT LENGTH 96'

℄ CULV. STA. 160+90
1NPL. 36" x 76' R.C. PIPE
W/APRON
REMOVE 68 LIN. FT.
PLUG & ABANDON REMAINING PIPE CULV.
NO CULV. REQUIRED

B.M. EL. 1022.91
TOP NUT F. HYD.
NE OF RES. #2622

P.I. 162+00
ELEV. 1018.62
400' V.C.

P.I. 168+54.01
ELEV. 1019.24
400' V.C.

0.25%

0.31%

FINISHED GRADE PROFILE

℄ PROFILE
PROFILE 75' LT.
PROFILE 75' RT.

GRADING AND EROSION CONTROL

CERTIFIED BY Kyle M Brincek PROFESSIONAL ENGINEER REG. NO. 19917 8/28 1996

S.A.P. 55-625-16, 55-622-29

SHEET 9 OF 89 SHEETS

AS BUILT PLANS

℄ CULV. STA. 175+30
INPL. 30" x 64' R.C. PIPE
W/APRONS
REMOVE 96 LIN. FT.
NO CULV. REQUIRED

℄ CULV. STA. 176+13
INPL. 30" x 88' R.C. PIPE
W/APRONS
REMOVE 100 LIN. FT.
NO CULV. REQUIRED

CONSTRUCT RES. DRIVE
LT. STA. 176+50
24" x 70' C.S. PIPE
2–24" G.S. APRONS

CONNECT NEW BIKEWAY TO
EXISTING AT STA. 180+50
15" x 30' C.S. PIPE
2–15" G.S. APRONS

STONE PILLARS

CROCUS HILLS DR
RT. STA. 173+22
NO CULV. INPL.
MOVE CROCUS HILLS DR
TO STA. 176+50
SEE SHEETS 66 & 67

INPL. 18" x 30' CMP
W/APRONS
REMOVE 35 LIN. FT.

RES. DR. RT. STA 175+78
NO CULV. INPL.
MOVE RES. DR.
TO STA. 176+50
24" x ~~50'~~ 64' C.S. PIPE CULV
2–24" G.S. PIPE APRONS

CROCUS HILLS CURVE DATA

(D)	(C)	(B)	(A)
P.I. 4+43.39	P.I. 3+25.76	P.I. 1+87.70	P.I. 1+48.35
Δ 85°19'06"	Δ 8°47'51"	Δ 19°45'53"	Δ 25°14'56"
D 114°35'30"	D 8°48'53"	D 49°54'27"	D 64°09'50"
T 46.07	T 50.00	T 20.00	T 20.00
L 74.45	L 99.80	L 39.60	L 39.35

B.M. EL. 1024.83
TOP NUT F. HYD.
WEST OF BRICK GAR.

B.M. EL. 1028.34
TOP NUT F. HYD.
SE COR. INT 22&25

FINISHED PROFILE GRADE

℄ PROFILE
PROFILE 75' LT.
PROFILE 75' RT.

0.31%

1.00%

0.66%

P.I. 4+25
ELEV. 1027.25
150' V.C.

P.I. 180+00
ELEV. 1024.16
400' V.C.

CROCUS HILLS DR

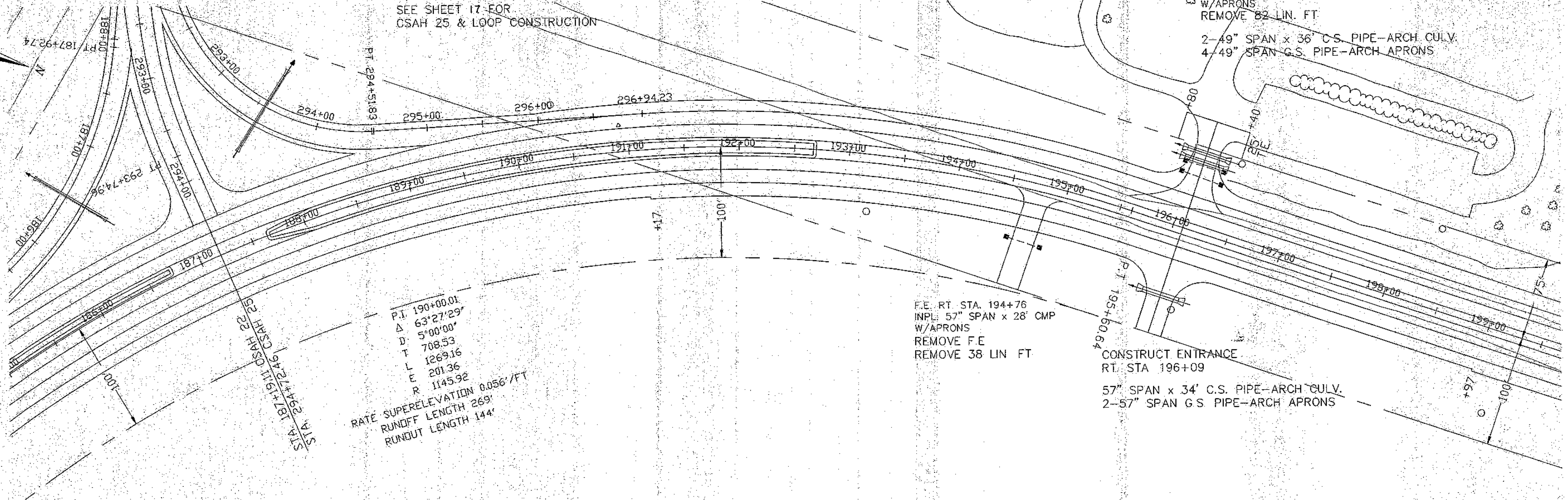
GRADING AND EROSION CONTROL

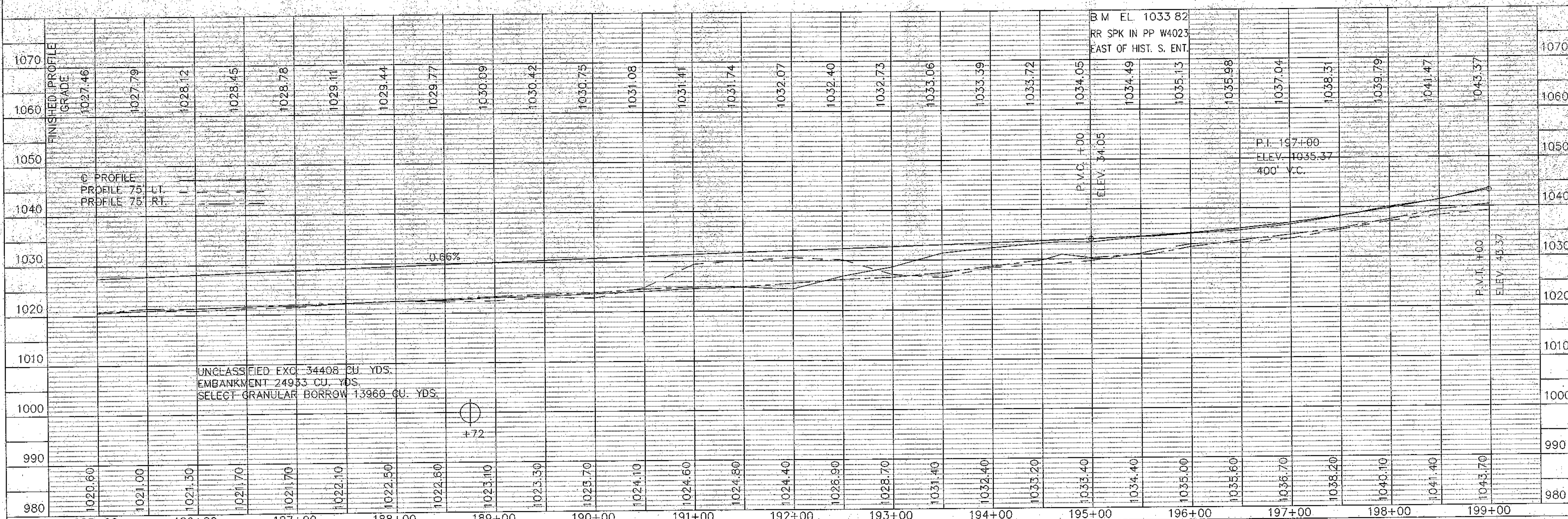
CERTIFIED BY Kaye M Bierwirth PROFESSIONAL ENGINEER REG. NO. 19917 8/28 1996

S.A.P. 55-625-16 55-622-29

SHEET 10 OF 89 SHEETS

AS BUILT PLANS





GRADING AND EROSION CONTROL | CERTIFIED BY Kaye M Brienick PROFESSIONAL ENGINEER REG. NO. 19917 8/28 1996 | S.A.P. 55-625-16 55-622-29 | SHEET 11 OF 89 SHEETS

AS BUILT PLANS

RES. DR. LT. STA. 200+26
NO CHANGE

℄ CULV. STA. 204+20
INPL. 48" x 168' R.C.P
W/APRONS
SALVAGE 48" R.C. PIPE APRON LT.
SALVAGE 16' 48" R.C. PIPE
F. & I. 48" x 16' R.C. PIPE LT
INSTALL 48" R.C. PIPE APRON LT.
PLACE CULVERT ON CLASS "B" BEDDING
INSTALL 48"x16' R.C. Pipe
RIP RAP CL III 22 CU. YDS.

℄ CULV. STA. 207+00
INPL. 48" x 72" x 102'
TIMBER BOX CULV
W/TIMBER WING WALLS
REMOVE TIMBER BOX CULVERT

HISTORIC DR. SW. LT. STA. 209+21
INPL. 24" x 42" CMP W/APRONS
REMOVE 49 LIN. FT.
NO CULV REQUIRED

RES. DR. RT. STA. 200+26
INPL. 42" x 36" CMP W/APRONS
REMOVE 48 LIN. FT.
42" x 36" G.S. PIPE CULV
2-42" G.S. PIPE APRONS

FOX VALLEY DR. SW. RT. STA. 203+94
INPL. 42" x 140' CMP W/APRONS
NO CHANGE

B.M. EL. 1065.16
SPK IN PP W4023
NE COR. INT. ENT.

℄ PROFILE
PROFILE 75' LT.
PROFILE 75' RT.

P.V.I. 200+00
ELEV. 43.37

P.V.C. 202+00
ELEV. 67.37

P.I. 207+00
ELEV. 1075.37
400' V.C.

P.V.T. 212+00
ELEV. 86.77

4.0%

7.7%

INLET 1052.75

OUTLET 1048.80

GRADING AND EROSION CONTROL

CERTIFIED BY Kaye M Brunick PROFESSIONAL ENGINEER REG NO 19917 8/28 1996

S.A.P. 55-625-16 55-622-29

SHEET 12 OF 89 SHEETS

AS BUILT PLANS

P.I 213+70.30
Δ 62°28'41"
D 3°00'00"
T 1158.43
L 2082.61
E 323.87
R 1909.86
RATE SUPERELEVATION 0.045'/FT
RUNOFF LENGTH 216'
RUNOUT LENGTH 144'

FOXCROFT CIRCLE SW RT. STA. 214+26
INPL 18" x 56' CMP W/APRONS
INPL. 2-CATCH BASINS
REMOVE 2-CATCH BASINS
REMOVE 61 LIN. FT.
NO CULV REQUIRED

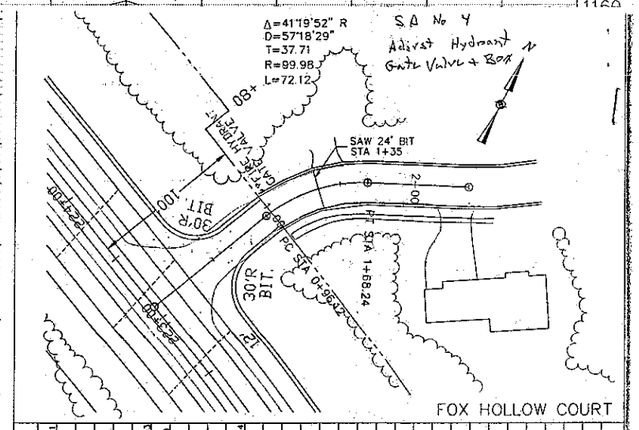
FOX HOLLOW CT SW RT STA 223+09
NO CULV. INPL
~~NO CHANGE~~ See Att sheet S.A. No 4

B.M EL. 1111.98
SPK IN PP W4027
50' S. FOXCROFT ENT

FINISHED PROFILE GRADE
℄ PROFILE
PROFILE 75' LT.
PROFILE 75' RT.

5.7%

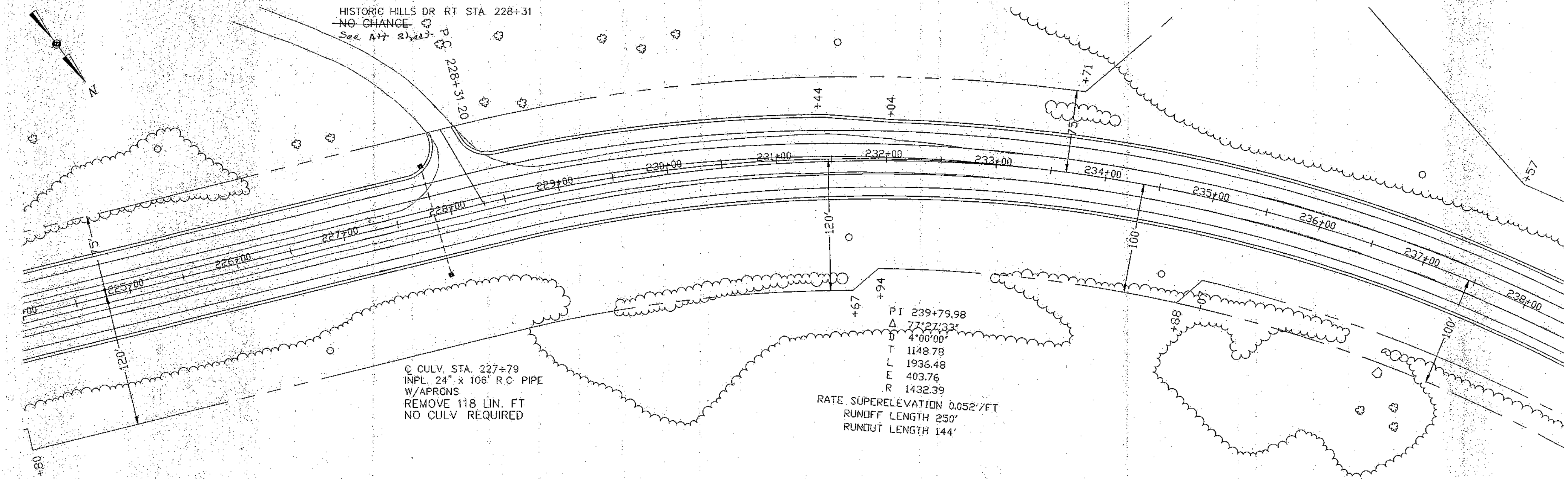
P.V.C. 1+25.21
ELEV. 1111.01

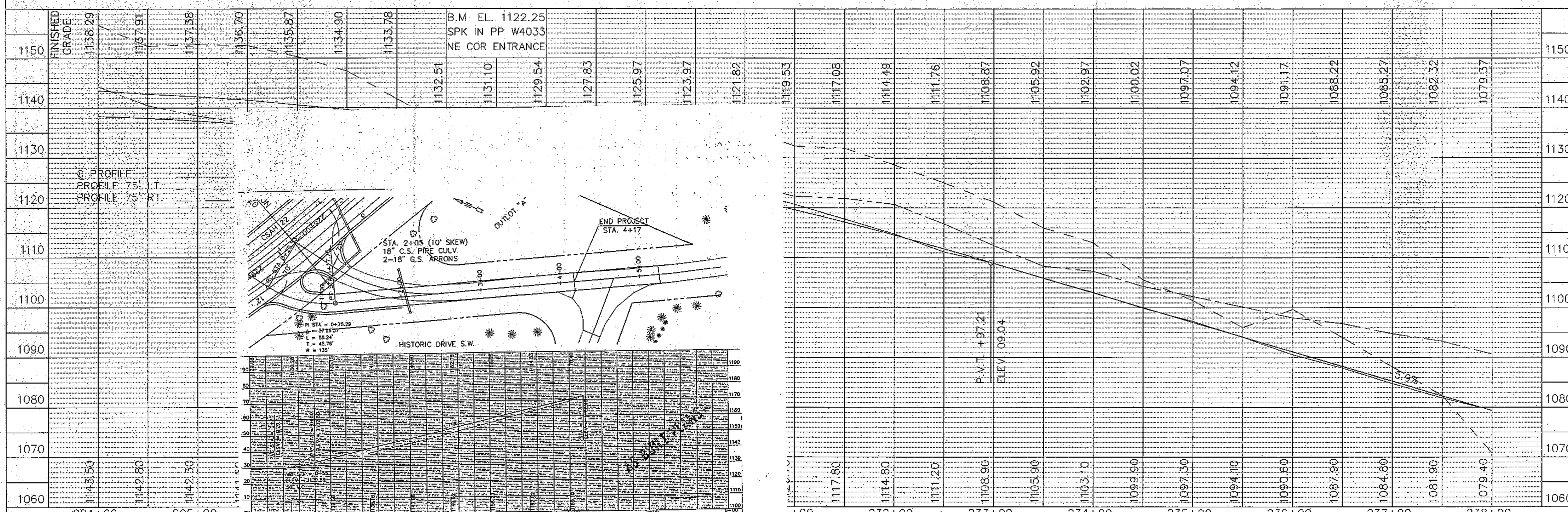


211+00	212+00	213+00	214+00	215+00	216+00	217+00	218+00	219+00	220+00	221+00	222+00	223+00	224+00	225+00
1098.17	1101.02	1103.87	1106.72	1109.57	1112.40	1115.11	1117.66	1120.07	1122.53	1124.45	1126.42	1128.24	1129.91	1131.44
1098.10	1100.70	1103.70	1106.30	1109.50	1112.20	1115.10	1118.50	1120.90	1123.90	1126.30	1128.80	1131.00	1133.10	1135.10

211+00	212+00	213+00	214+00	215+00	216+00	217+00	218+00	219+00	220+00	221+00	222+00	223+00	224+00	225+00
1132.82	1134.05	1135.14	1136.08	1136.87	1137.51	1138.01								
1137.10	1138.60	1139.60	1140.70	1141.80	1142.30	1143.30	1143.7	1144.1	1144.2	1143.8	1143.5	1142.8	1142.3	

GRADING AND EROSION CONTROL | CERTIFIED BY Kaye M Brenick PROFESSIONAL ENGINEER REG NO 19917 8/28 1996 | S.A.P. 55-625-16 55-622-29 | SHEET 13 OF 89 SHEETS





GRADING AND EROSION CONTROL | CERTIFIED BY [signature] PROFESSIONAL ENGINEER | REG. NO 19917 | 8/28 1996 | S.A.P. 55-625-16 55-622-29 | SHEET 14 OF 89 SHEETS

AS BUILT PLANS

N

curb by others

F.E. RT. STA. 241+25
INPL. 18" x 54' CMP
NO APRONS
REMOVE F.E
REMOVE 54 LIN FT

CONST. F.E. RT. STA. 248+00
~~18" x 36' C.S. PIPE CULVERT~~
~~2-18" G.S. PIPE APRONS~~
Move to sta 245+50
42" x 42' C.S. Pipe Culvert
2 - 42" G.S Pipe Aprons

B.M. EL. 1019.60
SPK IN PP W4041
74' LT STA 250+40

P.I. 246+25.68
ELEV. 1030.66
630' V.C.

P.V.I. 240+68.68
ELEV. 28.39

P.V.I. 243+19.24
ELEV. 19.24

-0.72%

5.9%

C. PROFILE
PROFILE 75' LT.
PROFILE 75' RT.

237+00	238+00	239+00	240+00	241+00	242+00	243+00	244+00	245+00	246+00	247+00	248+00	249+00	250+00	251+00
FINISHED GRADE	1085.27	1082.32	1079.37	1076.42	1073.47	1070.52	1067.57	1064.62	1061.67	1058.72	1055.77	1052.82	1049.87	1046.98
	1084.80	1081.90	1079.40	1076.40	1073.20	1070.50	1067.50	1064.40	1061.50	1058.20	1055.80	1052.20	1048.90	1046.90

FINISHED GRADE	1044.30	1041.82	1039.54	1037.47	1035.61	1035.95	1032.50	1031.25	1030.21	1029.38	1028.75	1028.32	1027.96	1027.60	1027.24
	1044.30	1041.20	1039.30	1037.10	1034.80	1035.60	1032.50	1031.10	1030.30	1029.20	1028.10	1027.50	1027.30	1028.80	1028.70

GRADING AND EROSION CONTROL | CERTIFIED BY Kaye M Brienick PROFESSIONAL ENGINEER REG. NO 19917 8/28 1996 | S.A.P. 55-525-16 55-622-29 | SHEET 15 OF 89 SHEETS

AS BUILT PLANS

F.E. LT. STA. 257+80
INPL 18" x 28' CMP W/APRONS
REMOVE 32 LIN. FT.
REMOVE F.E.

GUARD RAIL LEFT STA. 259+50
REMOVE 235 LIN. FT.

END SAP 55-622-29
STA 260+00

SAW Concrete
STA 260+04

CATCH BASIN LT. STA. 258+03
INPL 12" x 72' R.C. PIPE
REMOVE CATCH BASIN
REMOVE 78 LIN. FT.

P.I. 258+57.27
Δ 15°37'08"
D 4°35'58"
T 170.85
L 339.58
E 11.66
R 1245.71

P.C. 256+86.42

P.T. 260+26

RATE SUPERELEVATION 0.055'/FT
RUNOFF LENGTH 264'
RUNOUT LENGTH 96'

B.M. EL 1021.55
TOP ARROW F. HYD.
ENTRANCE TO CCM

FINISHED PROFILE GRADE

℄ PROFILE
PROFILE 75' LT.
PROFILE 75' RT.

P.I. 253+00
ELEV. 1025.80

0.72%

-0.45%

EOP EL=1022.63

EOP 260+00

UNCLASSIFIED EXC. 56709 CU.YDS.
EMBANKMENT 36202 CU.YDS.
SELECT GRANULAR BORROW (CV) 2951 CU.YDS.

UNCLASSIFIED EXC. 91117 CU.YDS.
EMBANKMENT 61135 CU.YDS.
SELECT GRANULAR BORROW (CV) 16911 CU.YDS.

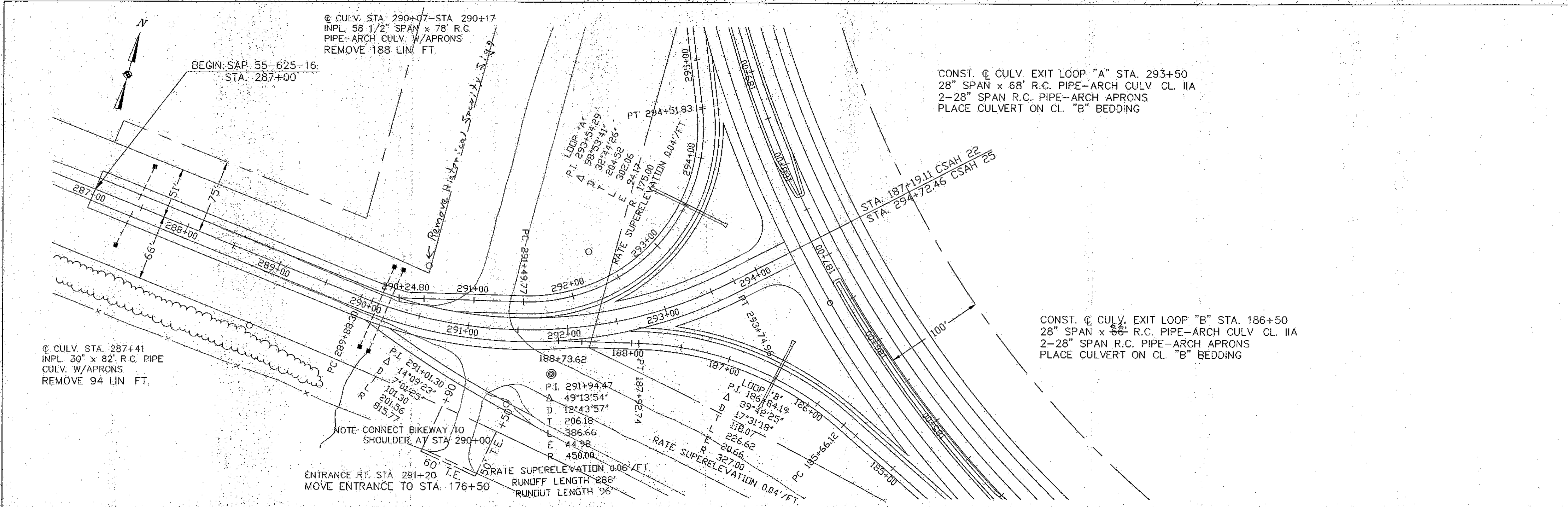
GRADING AND EROSION CONTROL

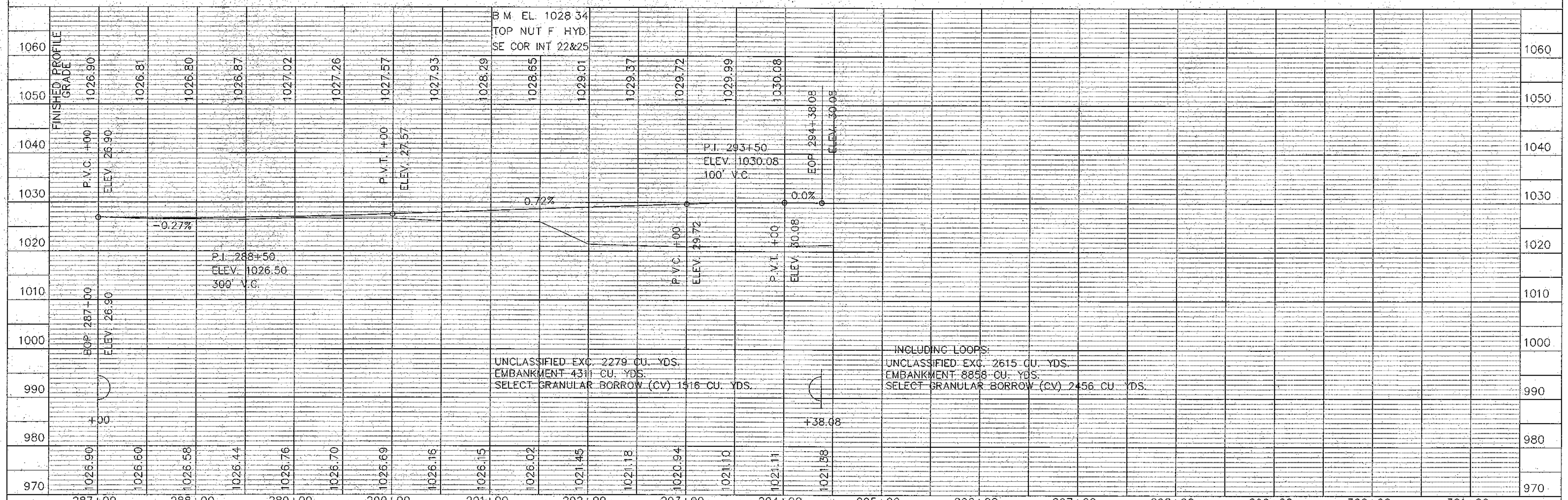
CERTIFIED BY Dave M Brenneke PROFESSIONAL ENGINEER REG NO 19917 8/28 1996

S.A.P. 55-525-16 55-622-29

SHEET 16 OF 89 SHEETS

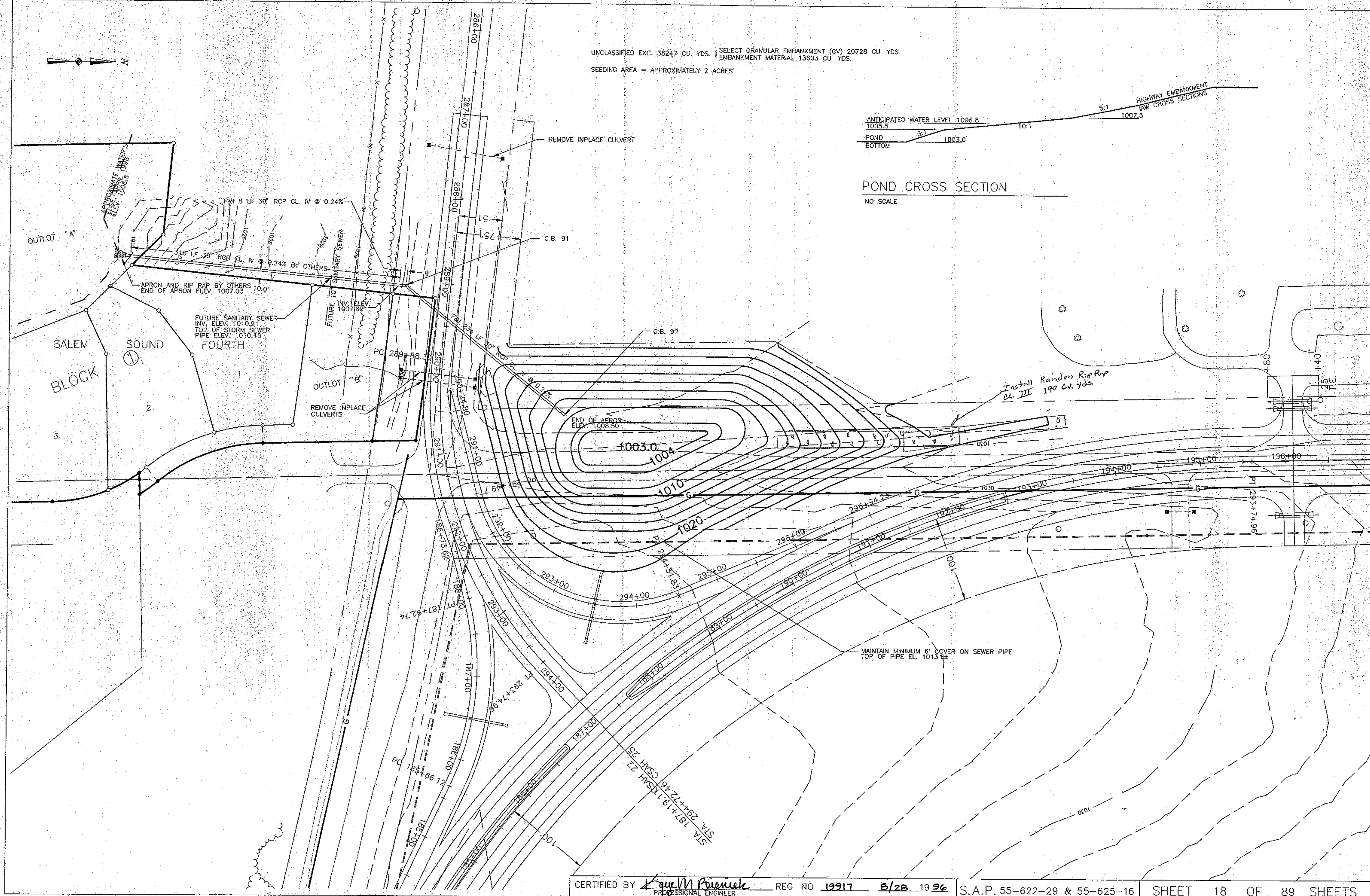
AS BUILT PLANS





GRADING & EROSION CONTROL	CERTIFIED BY Kay M Bieniek, PROFESSIONAL ENGINEER, REG. NO. 19917, 8/28 19 96	S.A.P. 55–625–16 55–622–29	SHEET 17 OF 89 SHEETS

AS BUILT PLANS


UNCLASSIFIED EXC. 38247 CU. YDS. { SELECT GRANULAR EMBANKMENT (CV) 20728 CU. YDS.
EMBANKMENT MATERIAL 13603 CU. YDS.
SEEDING AREA = APPROXIMATELY 2 ACRES
ANTICIPATED WATER LEVEL 1006.8
1005.5
POND BOTTOM
3:1
1003.0
10:1
5:1
1007.5
HIGHWAY EMBANKMENT IAW CROSS SECTIONS
POND CROSS SECTION
NO SCALE
REMOVE INPLACE CULVERT
C.B. 91
C.B. 92
APPROXIMATE WATER'S EDGE, APRIL 1996 ELEV. 1006.8
F&I 8 LF 30" RCP CL. IV @ 0.24%
316 LF 30" RCP CL. IV @ 0.24% BY OTHERS
OUTLOT "A"
APRON AND RIP RAP BY OTHERS
END OF APRON ELEV. 1007.03
10.0'
FUTURE SANITARY SEWER
INV. ELEV. 1010.91
TOP OF STORM SEWER
PIPE ELEV. 1010.46
FUTURE 10" SANITARY SEWER
INV. ELEV. 1007.80
F&I 234 LF 30" RCP CL. IV @ 0.24%
SALEM SOUND FOURTH
BLOCK 1
OUTLOT "B"
REMOVE INPLACE CULVERTS
PC 289+88.30
END OF APRON ELEV. 1008.50
1003.0
1004
1010
1020
Install Random Rip Rap Cl. III 190 CU. YDS
296+94.23
PT 294+51.83
PT 293+74.96
PT 187+92.74
188+73.62
PC 185+66.12
MAINTAIN MINIMUM 6' COVER ON SEWER PIPE
TOP OF PIPE EL. 1013.6±
STA. 294+72.46 CSAH 25
STA 187+19.11 CSAH 22
100'
CERTIFIED BY Kaye M Bieniek PROFESSIONAL ENGINEER REG NO 19917 8/28 1996
S.A.P. 55-622-29 & 55-625-16
SHEET 18 OF 89 SHEETS
AS BUILT PLANS

STA 149+52.69
S.A No. 9
Type 1A 8" Drop Inlet M.H
Elev. 993.8
201 Lin Ft 8" Pipe Sewer

N

INPL 12" W/M

STA 149+87 107' LT. TO 55' RT.
F.&I. 162 LF 12" DIP CL 52 WATERMAIN
1-12" PLUG & 1-22 1/2° BEND
CONNECT TO INPLACE 12" W/M 107' LT.
EL. 14.00

M.H. S-2 M.H. S-3 M.H. S-4 M.H. S-5

EL. 11.09

Relocated

PT 102+24.11

EL 16.00

C.B.1 C.B.2 C.B.3 C.B.4 C.B.5 C.B.6 C.B.7 C.B.8 C.B.9 C.B.10 C.B.11 C.B.12 C.B.13 C.B.14 C.B.15 C.B.16 C.B.17 C.B.18 C.B.19 C.B.20 C.B.21 C.B.22

M.H.1 M.H.2 M.H.3

C.B.8 EL. 16.86

PC 152+47.10

146+00 147+00 148+00 149+00 150+00 151+00 152+00 153+00 154+00 155+00 156+00 157+00 158+00 159+00 160+00

102+00

Install
56' x 15" C.S. Pipe
1 - C.S. Pipe Apron
@ S MH No. 3

FIRE HYDRANT

B.M. ELEV. 1023.19
TOP BRASS PLUG
SE COR BR #7174

C. PROFILE

FINISHED PROFILE GRADE

BOP 147+00
ELEV. 22.35

0.25%

18" R.C. PIPE CL. III @ 5.0%
EL. 16.86
EL. 14.36

18" R.C. PIPE CL. III @ 0.4%
EL. 12.14
EL. 12.90

24" R.C. PIPE CL. III @ 0.4%
EL. 13.10
EL. 13.84

12" R.C. PIPE CL. IV @ 0.4%
EL. 14.09
EL. 14.68

P.V.C. 100
ELEV. 19.12

M.H. 1 2' 6" RT. STA. 154+00
M.H. 2 2' 6" RT. STA. 156+00
M.H. 3 3' 0" RT. STA. 157+95
C.B.1 1' 6" RT. STA. 159+50

	146+00	147+00	148+00	149+00	150+00	151+00	152+00	153+00	154+00	155+00	156+00	157+00	158+00	159+00	160+00
FINISHED PROFILE GRADE	1024.40	1024.80	1024.30	1022.90	1022.00	1022.40	1022.50	1023.00	1022.90	1022.50	1022.50	1021.50	1021.70	1021.60	1022.20
C. PROFILE	1022.35	1022.23	1022.10	1021.98	1021.85	1021.73	1021.60	1021.48	1021.36	1021.23	1021.11	1020.98	1020.86	1020.73	1020.61
	1024.40	1024.80	1024.30	1022.90	1022.00	1022.40	1022.50	1022.50	1022.50	1021.50	1021.70	1021.60	1022.20	1024.40	1022.30
														M.H. 1 2' 6" RT. STA. 154+00	
	1020.49	1020.36	1020.24	1020.11	1019.99	1019.86	1019.74	1019.61	1019.49	1019.37	1019.24	1019.12			
	1020.80	1020.30	1020.10	1019.60	1019.40	1019.20	1018.50	1018.20	1017.70	1016.00	1015.70	1015.10			
				M.H. 2 2' 6" RT. STA. 156+00				M.H. 3 3' 0" RT. STA. 157+95			CB1 1' 6" RT. STA. 159+50				

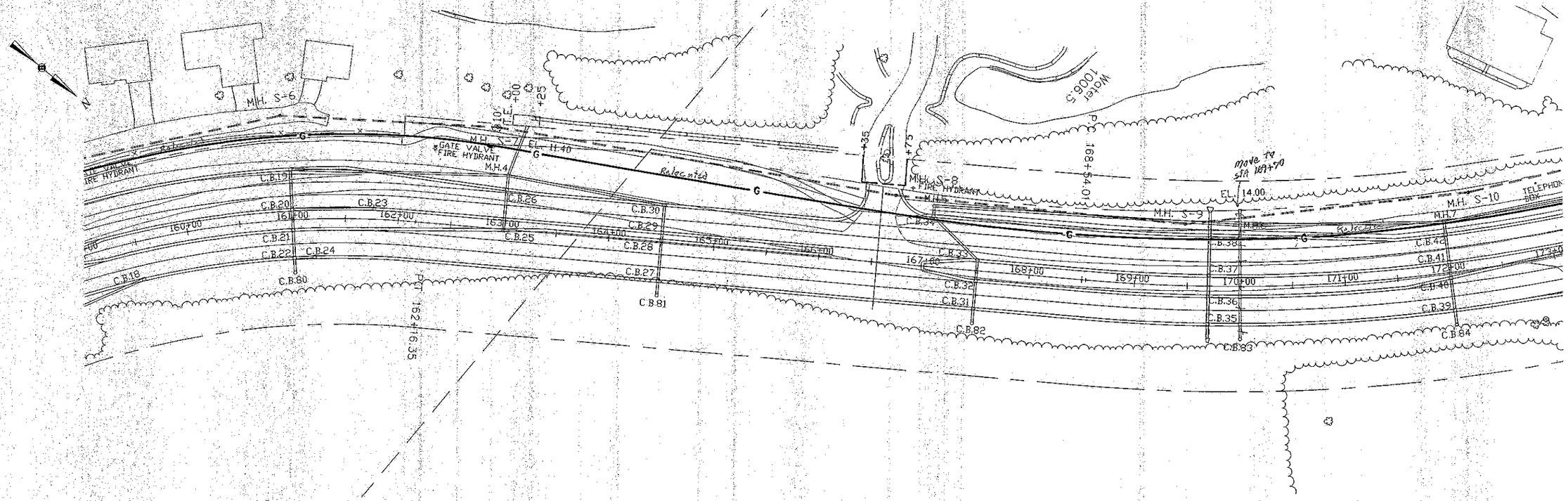
STORM SEWER & UNDERGROUND UTILITIES

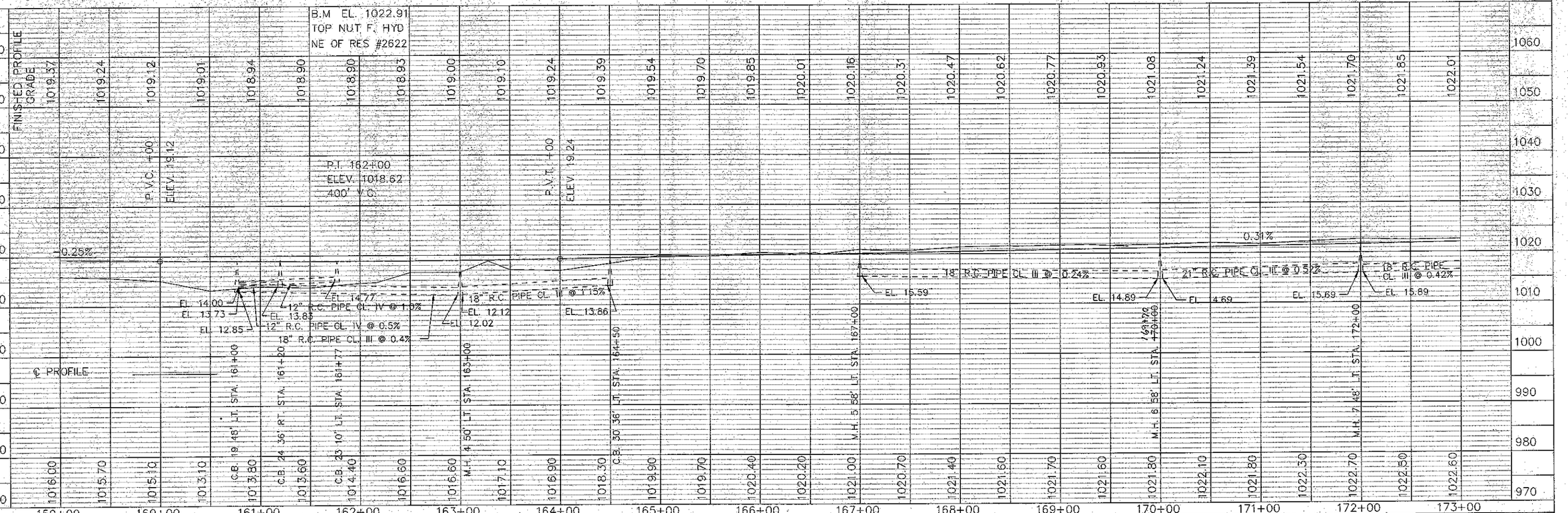
CERTIFIED BY Kaye M Prunick PROFESSIONAL ENGINEER REG NO 19917 8/28 19 96

S.A.P. 55-625-16 55-622-29

SHEET 19 OF 89 SHEETS

AS BUILT





STORM SEWER & UNDERGROUND UTILITES

CERTIFIED BY Kayc M Brunick PROFESSIONAL ENGINEER REG. NO 19917 8/28 1996

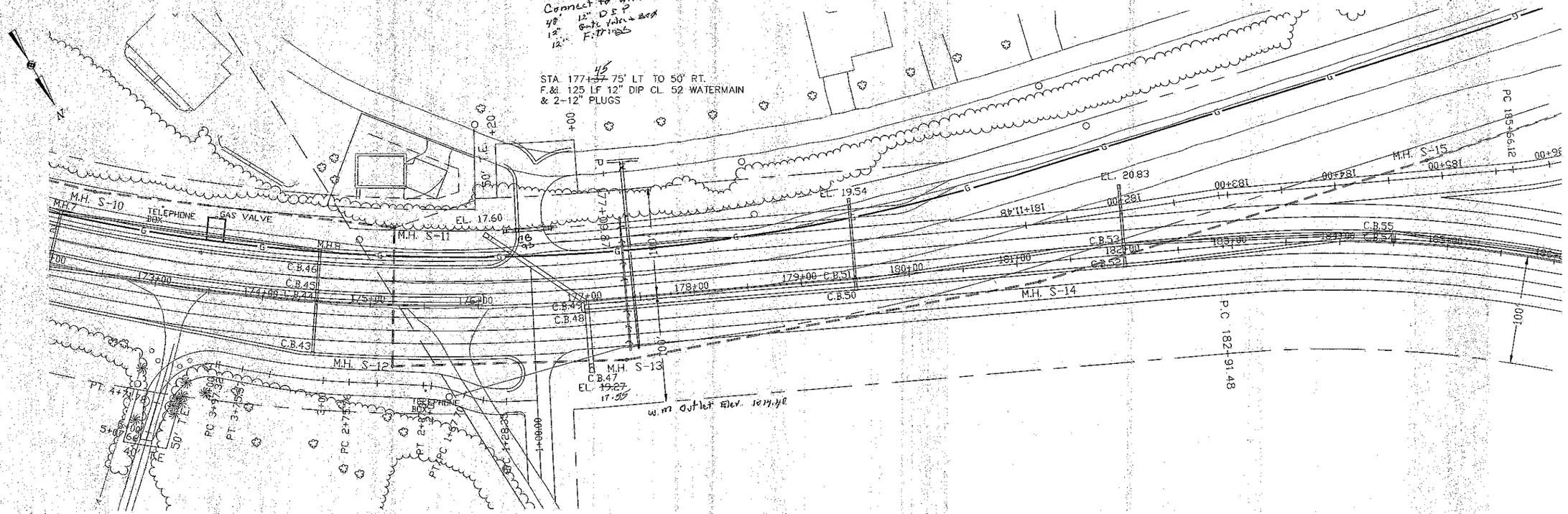
S.A.P. 55-625-16 55-622-29

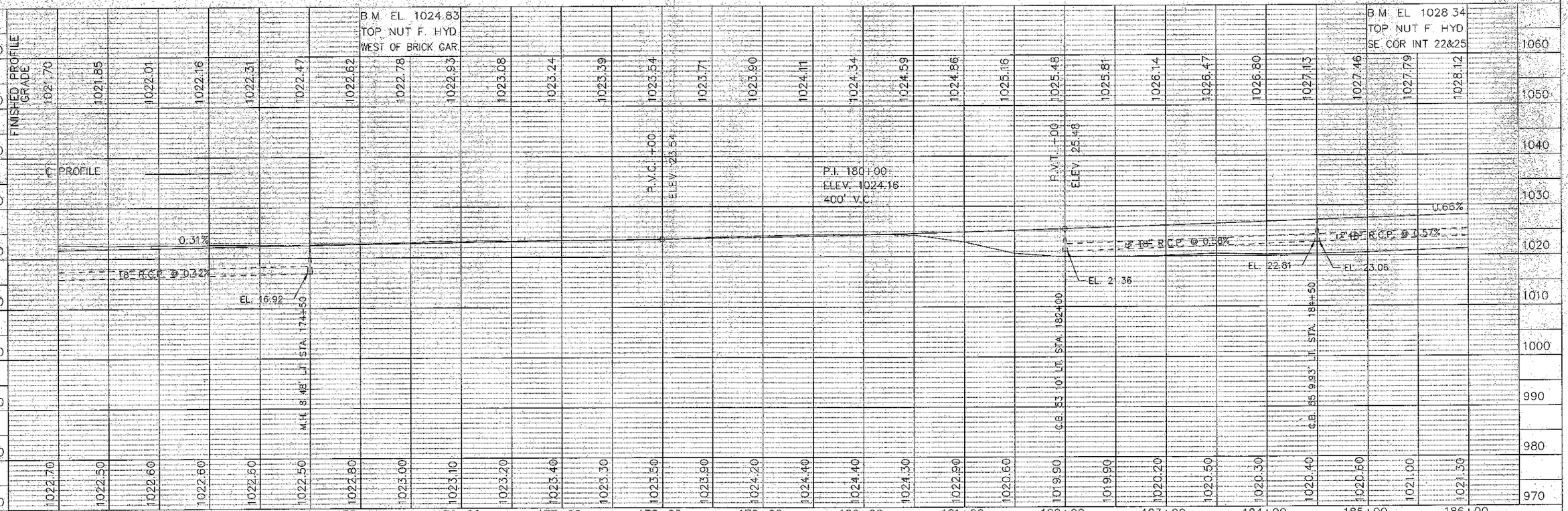
SHEET 20 OF 89 SHEETS

AS BUILT PLANS

S.A. No. 5
Connect to w.m 122' Lt
48' 12" D.I.P
12" Gate Valve and
12" Fittings

STA. 177+~~37~~ 46 75' LT TO 50' RT.
F.&I. 125 LF 12" DIP CL. 52 WATERMAIN
& 2-12" PLUGS





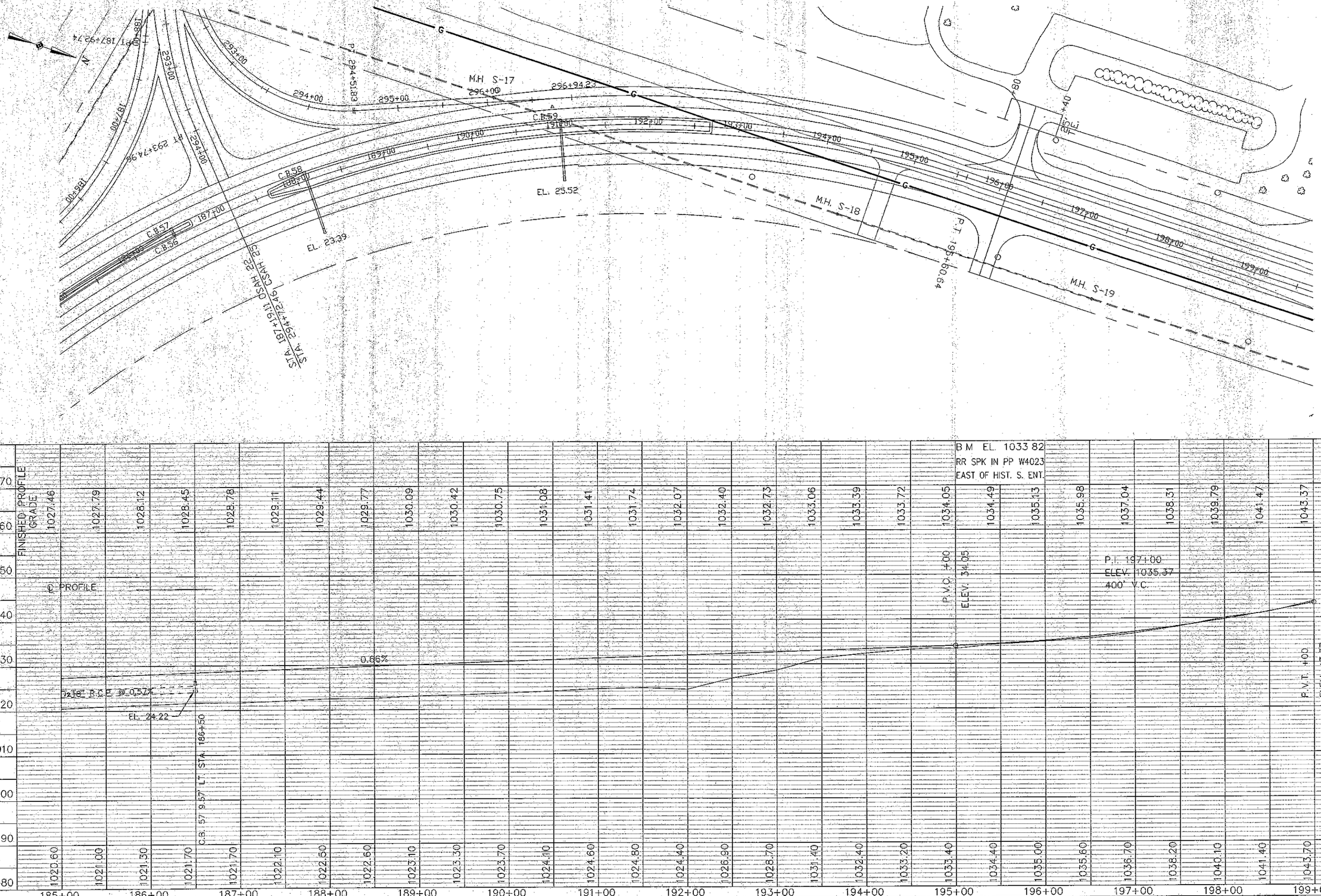
STORM SEWER & UNDERGROUND UTILITIES

CERTIFIED BY Kay M Bienich PROFESSIONAL ENGINEER REG NO 19917 8/28 1996

S.A.P. 55-625-16 55-622-29

SHEET 21 OF 89 SHEETS

AS BUILT PLANS



STORM SEWER

CERTIFIED BY Kurt M Bremer PROFESSIONAL ENGINEER REG NO. 19917 8/28 1996

S.A.P. 55-625-16 55-622-29

SHEET 22 OF 89 SHEETS

AS BUILT PLANS

Lt. STA 200+70
install 25' (20') 4" Perf
Tile w/sock & 4" conc. Head wall

STA. 200+~~68~~ 69 60' LT TO ~~75~~ 65 RT.
F.&I. 135 LF 12" DIP CL. 52 W/M & 2-12" PLUGS
STA 200+70 60' LT TO 100' RT.
F.&I. 160 LF 12" DIP CL 52 WATERMAIN
1-12" PLUG & 2-~~22 1/2°~~ BENDS 45°
CONNECT TO INPLACE WATERMAIN &
F.&I. 12" GATE VALVE & BOX 100' RT.
Remove 12" Plug

N

P.C. 202+11.86

EL. 81.90

C.B.85
M.H.12
C.B.66
M.H.17
C.B.90
C.B.67
EL. 97.62

M.H. S-20
INPL. SAN. SEWER
INPL. 15" W/M

G

199+00 200+00 201+00 202+00 203+00 204+00 205+00 206+00 207+00 208+00 209+00 210+00 211+00 212+00

B.M EL. 1065.16
SPK IN PP W4023
NE COR. INT. ENT.

FINISHED PROFILE GRADE
C. PROFILE

P.V.C. 200+00
ELEV. 43.37
4.0%

P.I. 207+00
ELEV. 1075.37
400' V.C.

P.V.C. 207+00
ELEV. 67.37

P.V.T. 209+60
ELEV. 86.77

M.H. 17 62 LT. STA. 209+60

M.H. 12 54 LT. STA. 211+50

5.7%

30" R.C. PIPE

EL. 1093.68

1085.00
1086.25
1086.00

EL. 1081.90
EL. 1084.80

1093.93

1039.79 1041.47 1043.37 1045.37 1047.37 1049.37 1051.37 1053.37 1055.37 1057.37 1059.37 1061.37 1063.37 1065.37 1067.37 1069.42 1071.58 1073.85 1076.22 1078.70 1081.28 1083.97 1086.77 1089.62 1092.47 1095.32 1098.17 1101.02 1103.87

1040.10 1041.40 1043.70 1045.60 1047.60 1049.70 1051.70 1053.60 1055.30 1057.50 1059.60 1061.10 1062.80 1064.80 1067.20 1069.80 1071.60 1073.80 1076.50 1078.50 1081.20 1083.60 1086.40 1089.30 1092.00 1094.90 1098.10 1100.70 1103.70

1110 1100 1090 1080 1070 1060 1050 1040 1030 1020

198+00 199+00 200+00 201+00 202+00 203+00 204+00 205+00 206+00 207+00 208+00 209+00 210+00 211+00 212+00

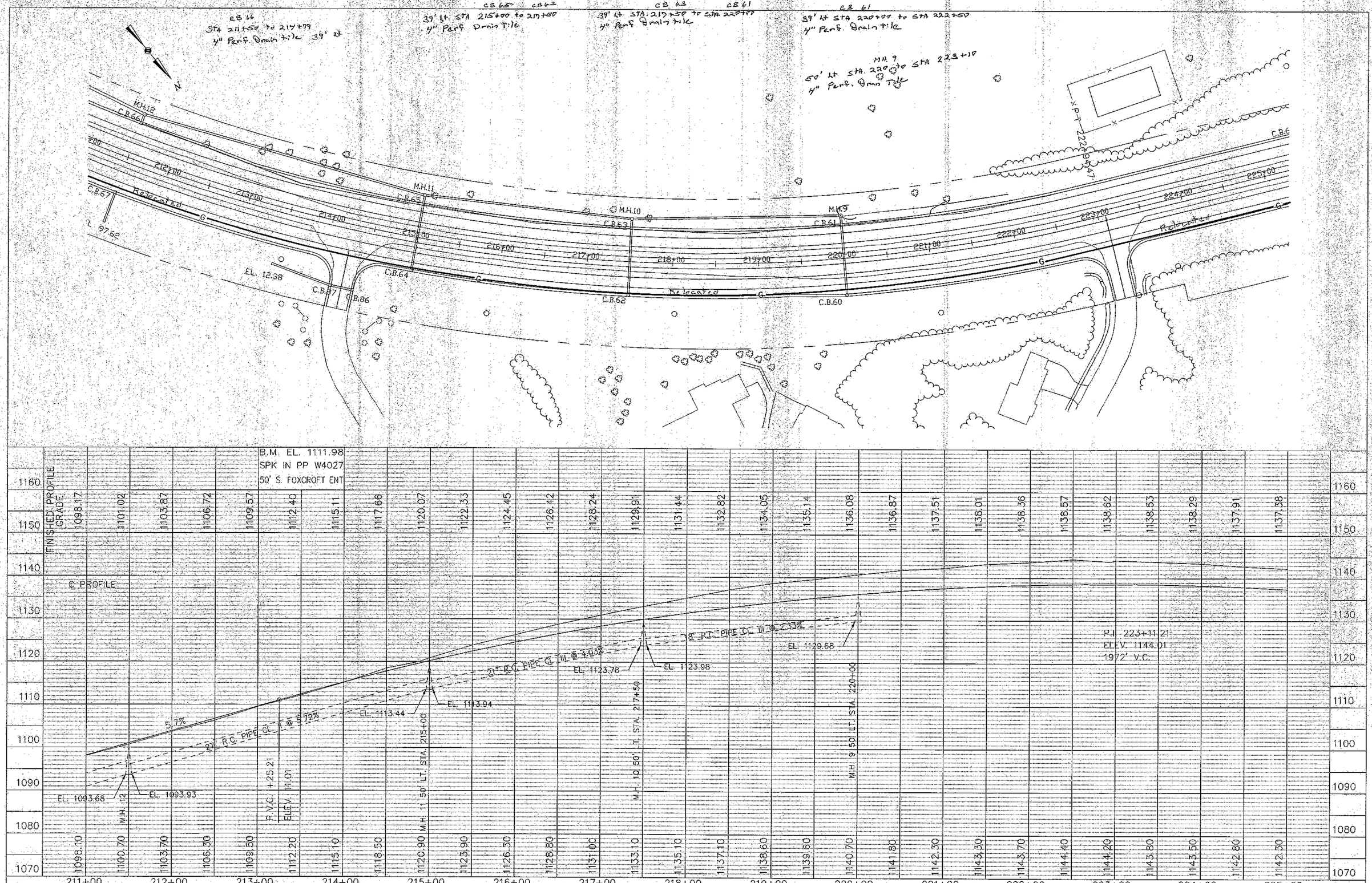
STORM SEWER & UNDERGROUND UTILITIES

CERTIFIED BY Kenneth M. Bjornick PROFESSIONAL ENGINEER REG. NO 19917 8/28 1996

S.A.P. 55-625-16 55-622-29

SHEET 23 OF 89 SHEETS

AS BUILT PLANS



STORM SEWER & UNDERGROUND UTILITIES | CERTIFIED BY Kaye M Brunick PROFESSIONAL ENGINEER REG NO 19917 8/28 1996 | S.A.P. 55-625-16 55-622-29 | SHEET 24 OF 89 SHEETS

AS BUILT PLANS

See Sheet No. 14
For Intersection Changes

4" Perf Drain Tile
30'± Lft STA 227+50 to 229+66

4" Perf Drain Tile
45'± Lft STA 232+80 to 235+25

STA. 227+30 ~~50~~ LT. TO ~~55~~ RT.
109 F.&I. ~~105~~ LF 12" DIP CL. 52 W/M & 2-12" PLUGS
PLACE 4' x 8' x 4" THICK POLYSTYRENE INSULATION
BETWEEN STORM SEWER AND WATERMAIN

4" Perf Drain Tile
30'± RT STA 232 to 236
with laterals At STA 234+15
234+76, 235+29 & 235+82

B.M. EL. 1122.25
SPK IN PP W4033
NE COR ENTRANCE

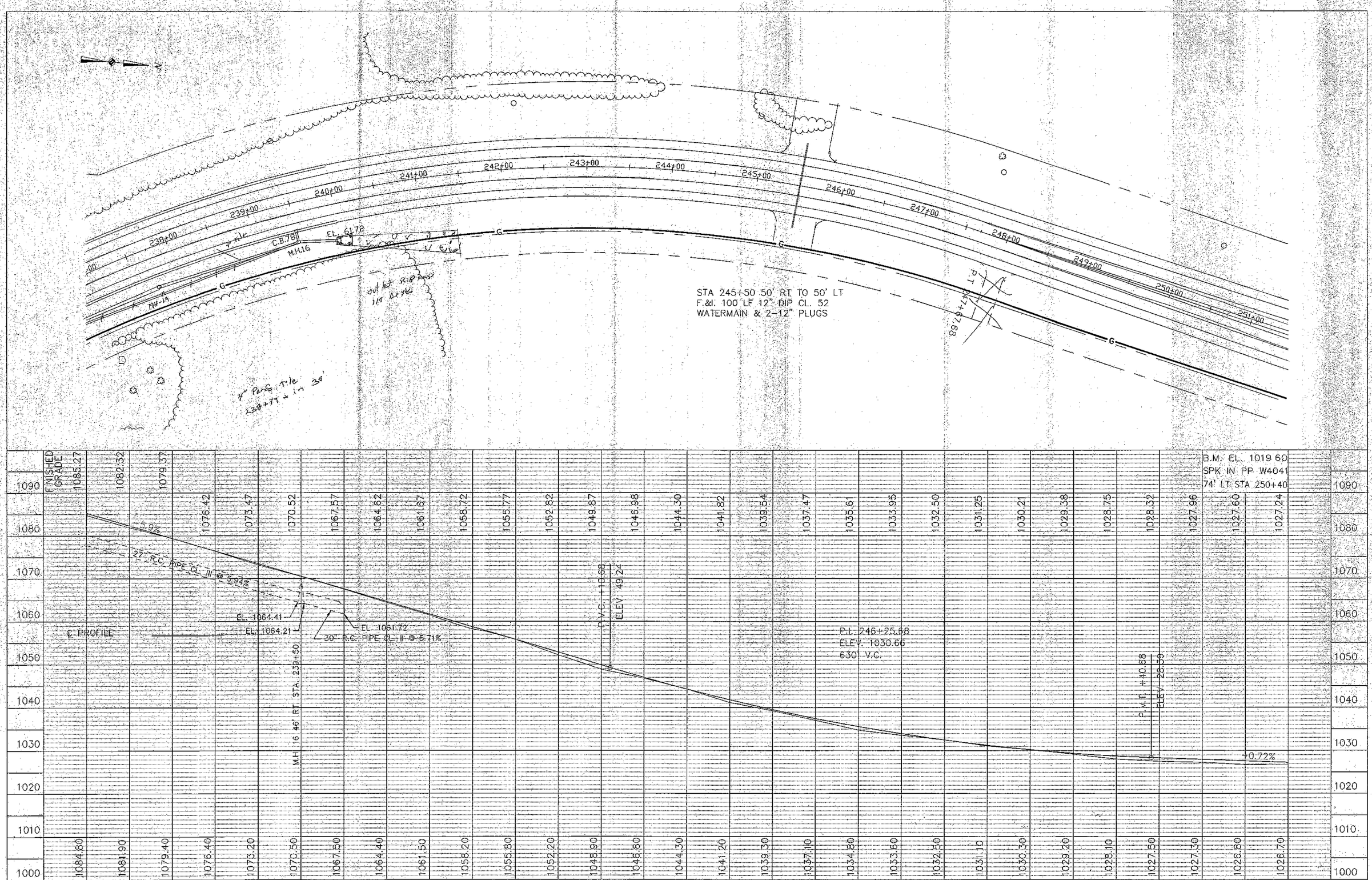
STORM SEWER & UNDERGROUND UTILITIES

CERTIFIED BY Lyle M Brunick PROFESSIONAL ENGINEER REG NO. 19917 8/28 1996

S.A.P. 55-625-16 55-622-29

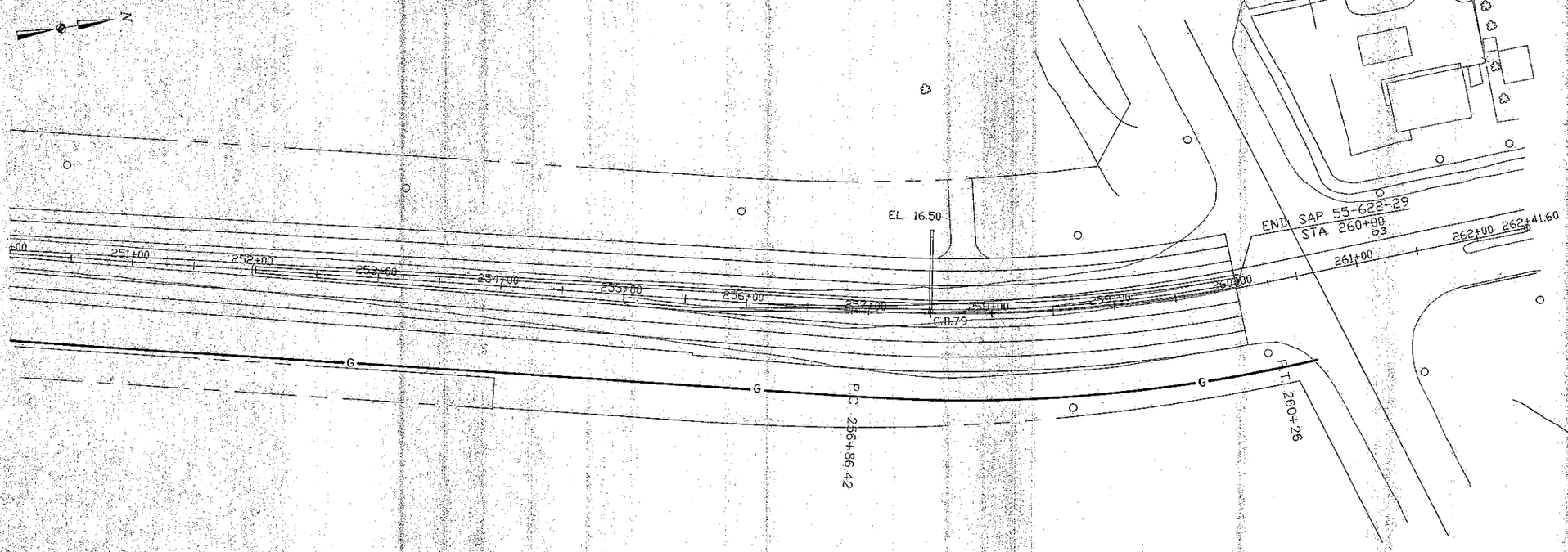
SHEET 25 OF 89 SHEETS

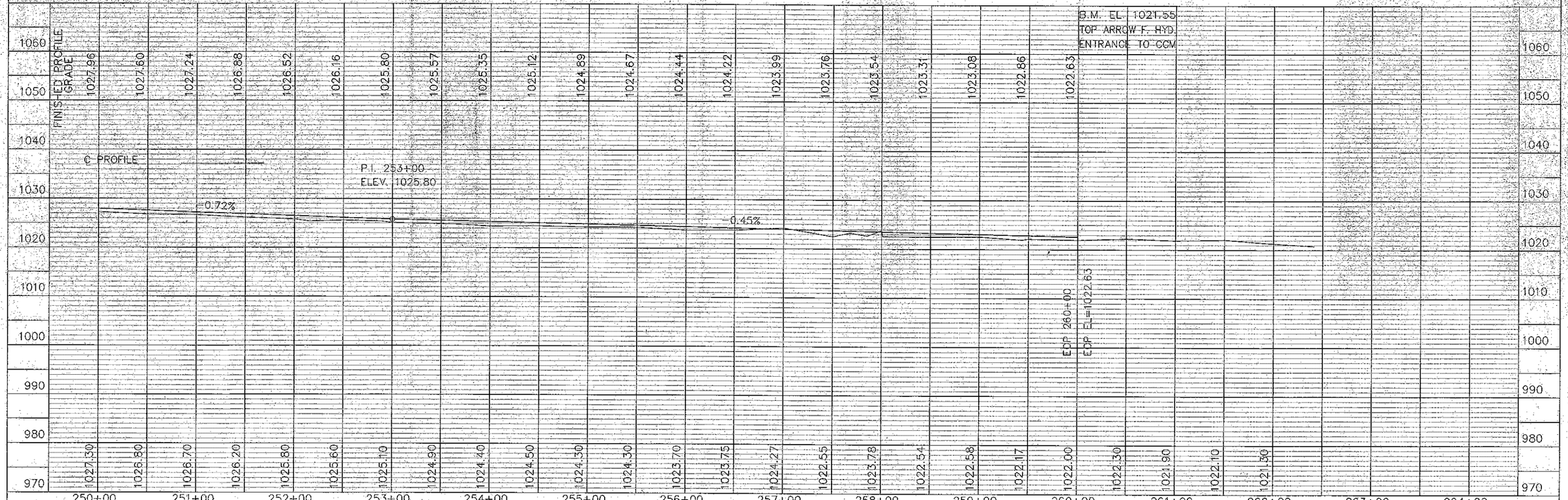
AS BUILT PLANS



STORM SEWER & UNDERGROUND UTILITIES | CERTIFIED BY Wayne M Breinick PROFESSIONAL ENGINEER REG NO 19917 8/28 19 96 | S.A.P. 55-525-16 55-622-29 | SHEET 26 OF 89 SHEETS

AS BUILT PLANS





STORM SEWER & UNDERGROUND UTILITIES | CERTIFIED BY Kaye M Bierwirth PROFESSIONAL ENGINEER REG. NO. 19917 8/28 1996 | S.A.P. 55-525-16 55-622-29 | SHEET 27 OF 89 SHEETS

AS BUILT PLANS

STORM SEWER

STRUCTURE NO.	STATION	LOCATION	CONSTRUCTION DESIGN M.H.	CONSTRUCTION DESIGN C.B.	QUANTITY E.S.T.	QUANTITY FINAL	TOP CASTING ELEV.	INLET ELEV.	INLET ELEV.	INLET ELEV.	OUTLET ELEV.	FRAME CASTING NO.	GRATE NO.	CURB BOX NO.	RING CASTING NO.	COVER CASTING NO.	12" R.C.PIPE LIN.FT.	15" R.C.PIPE LIN.FT.	18" R.C.PIPE LIN.FT.	21" R.C.PIPE LIN.FT.	24" R.C.PIPE LIN.FT.	27" R.C.PIPE LIN.FT.	30" R.C.PIPE LIN.FT.	44"SPAN R.C.PIPE ARCH LIN.FT.	APRON INLET	APRON OUTLET	FLOWS TO	% GRADE	CLASS
C.B.1	149+00	~~19.62~~ 40.62' RT.		C	1		1022.06				1018.50 S.	806	816	825			~~42~~ 46										C.B. 2	2.0	IV
C.B.2	149+00	2.29' LT.		C	1		1022.11	1018.16 N.			1018.11 S.	806	816	825			~~8~~ 7										C.B. 3	2.0	IV
C.B.3	149+00	9.71' LT.		C	1		1021.79	1018.05 N.			1017.80 S.	806	816	825				53								1	OUTLET	4.3	III
C.B.5	152+20	48.29' RT.		C	1		1019.96				1016.28 S.	806	816	825			58										C.B. 6	1.0	IV
C.B.6	151+90	2.29' LT.		G	1		1020.69	1015.70 N.			1015.45 S.	806	816	825				~~8~~ 6									C.B. 7	1.0	III
C.B.7	151+90	9.71' LT.		A	1		1021.05	1015.37 N.			1015.32 SE	806	816	825				107								1	OUTLET	1.2	III
C.B.8	153+50	65' RT.						1016.86 W.											44						1		M.H. 1	5.0	III
M.H.1	154+00	50' RT.	A		1		1019.87	1014.36 E.	1012.14 W.		1011.94 S.				700-7	715				11 ~~14~~							C.B. 9	0.4	III
C.B.9	154+00	36.29' RT.		A	1		1019.11	1011.88 N.			1011.68 S.	806	816	825				~~36~~			47						C.B. 10	0.5	III
C.B.10	154+00	9.71' LT.		A	1		1020.55	1011.50 N.			1011.45 S.	806	816	825					~~26~~		80					1	OUTLET	0.5	III
C.B.11	156+00	9.71' LT.		G	1		1020.05				1015.49 N.	806	816	825			6 ~~8~~										C.B. 12	2.0	IV
C.B.12	156+00	2.29' LT.		G	1		1019.93	1015.33 S.			1015.28 N.	806	816	825			40 ~~38~~										C.B. 13	1.84	IV
C.B.13	156+00	36.29' RT.		G	1		1018.61	1014.58 S.			1014.38 N.	806	816	825				12									M.H. 2	1.5	III
M.H.2	156+00	48' RT.	A		1		1019.29	1014.20 S.	1013.10 W.		1012.90 E.				700-7	715			189								M.H. 1	0.4	III
C.B.14	157+95	36.29' LT.		G	1		1021.05				1016.78 N.	806	816	825			27 ~~26~~										C.B. 15	3.65	IV
C.B.15	157+95	9.71' LT.		C	1		1019.57	1015.83 S.			1015.78 N.	806	816	825			8										C.B. 16	3.5	IV
C.B.16	157+95	2.29' LT.		G	1		1019.44	1015.50 S.			1015.25 N.	806	816	825				37 ~~38~~									C.B. 17	3.5	III
C.B.17	157+95	36.29' RT.		G	1		1018.13	1014.08 S.			1014.03 N.	806	816	825				14									M.H. 3	1.0	III
M.H.3	157+95	50' RT.	A		1		1018.88	1014.09 W.	1013.89 S.		1013.84 E.				700-7	715			183 ~~184~~								M.H. 2	0.4	III
C.B.18	159+50	36.29' RT.		C	1		1017.74				1014.68 E.	806	816	825			148										M.H. 3	0.4	IV
C.B.22	161+00	36.29' RT.		C	1		1017.44	1013.73 W.	1013.78 N.		1013.53 S.	806	816	825				29 ~~26~~									C.B. 21	0.5	III
C.B.21	161+00	9.71' RT.		A	1		1018.93	1013.40 N.			1013.35 S.	806	816	825				19 ~~20~~									C.B. 20	0.5	III
C.B.20	161+00	9.71' LT.		A	1		1018.88	1014.00 W.	1013.25 N.		1013.05 S.	806	816	825					40 ~~38~~								C.B. 19	0.4	III
C.B.19	161+00	48.29' LT.		A	1		1020.20	1012.90 N.			1012.85 S.	806	816	825					209 ~~207~~								M.H. 4	0.4	III
C.B.24	161+20	36.29' RT.		C	1		1017.39				1013.83 E.	806	816	825			19 ~~20~~										C.B. 22	0.5	IV
C.B.23	161+77	9.71' LT.		G	1		1018.83				1014.77 E.	806	816	825			99 ~~78~~										C.B. 20	1.0	IV
C.B.25	163+00	0.31' RT.		G	1		1018.66				1014.10 S.	806	816	825			37 ~~38~~										C.B. 26	2.0	IV
C.B.26	163+00	37.86 LT.		A	1		1019.44	1013.34 N.			1013.29 S.	806	816	825			11 ~~12~~										M.H. 4	2.0	IV
M.H.4	163+00	50' LT.	54-4020		1		1020.14	1013.01 N.	1012.12 W.	1012.02 E.	1011.62 S.				700-7	715					48 ~~45~~					1	OUTLET	0.43	III
C.B.27	164+50	36.29' RT.		G	1		1019.19	1015.18 N.			1015.13 S.	806	816	825			39 ~~38~~										C.B. 28	1.0	IV
C.B.28	164+50	2.29' LT.		G	1		1019.03	1014.75 N.			1014.50 S.	806	816	825				6 8									C.B. 29	1.0	III
C.B.29	164+50	9.71' LT.		G	1		1019.33	1014.42 N.			1014.37 S.	806	816	825				29 ~~26~~									C.B. 30	1.0	III
C.B.30	164+50	36.29' LT.		A	1		1019.47	1014.11 N.			1013.86 S.	806	816	825					151							~~1~~	M.H. 4	1.15	III
C.B.31	167+50	36.29' RT.		C	1		1020.62	1016.87 N.			1016.82 S.	806	816	825			29 ~~26~~										C.B. 32	0.5	IV
C.B.32	167+50	9.71' RT.		C	1		1020.25	1016.69 N.			1016.49 S.	806	816	825				21 ~~20~~									C.B. 33	0.7	III
C.B.33	167+50	9.71' LT.		C	1		1020.25	1016.39 N.			1016.30 S.	806	816	825				62 ~~59~~									C.B. 34	0.68	III
C.B.34	167+00	48.29' LT.		C	1		1019.50	1015.90 N.			1015.70 S.	806	816	825					10								M.H. 5	0.6	III
M.H.5	167+00	58' LT.	G		1		1020.10	1015.64 N.			1015.59 W.				700-7	715			~~250~~ 252								M.H. 6	0.24	III
C.B.35	169+70	36.29' RT.		G	1		1022.12	1018.07 N.			1018.02 S.	806	816	825			28 ~~26~~										C.B. 36	3.38	IV
C.B.36	169+70	9.71' RT.		C	1		1020.93	1017.14 N.			1016.94 S.	806	816	825				19 ~~20~~									C.B. 37	3.4	III
C.B.37	169+70	9.71' LT.		A	1		1020.97	1016.26 N.			1016.16 S.	806	816	825				40 ~~38~~									C.B. 38	2.66	III
C.B.38	169+70	48.29' LT.		G	1		1019.21	1015.15 N.			1014.95 S.	806	816	825					12								M.H. 6	2.0	III
M.H.6	169+70	60' LT.	60-4020		1		1019.89	1014.71 N.	1014.71 E.	1014.51 W.	1014.01 S.				700-7	715						12				1	OUTLET	1.7	II
C.B.39	172+00	36.29' RT.		G	1		1022.83				1018.81 S.	806	816	825			31										C.B. 40	2.8	IV
C.B.40	172+00	5.11' RT.		C	1		1021.42	1017.92 N.			1017.72 S.	806	816	825				15									C.B. 41	2.8	III
C.B.41	172+00	9.71' LT.		G	1		1021.68	1017.32 N.			1017.26 S.	806	816	825				29 ~~26~~									C.B. 42	2.8	III
C.B.42	172+00	36.29' LT.		G			1020.49	1016.53 N.			1016.33 S.	806	816	825					11 ~~12~~								M.H. 7	2.8	III
M.H.7	172+00	48' LT.	A		1		1021.17	1015.99 N.	1015.89 N.		1015.79 E.				700-7	715				225 ~~224~~							M.H. 6	0.41	III
C.B.43	174+50	48.29' RT.		A	1		1023.30				1018.15 S.	806	816	825			52 ~~50~~										C.B. 44	0.5	IV
C.B.44	174+50	2.29' LT.		G			1021.83	1017.90 N.			1017.65 S.	806	816	825				6 ~~8~~									C.B. 45	1.0	III
C.B.45	174+50	9.71' LT.		G	1		1022.45	1017.57 N.			1017.52 S.	806	816	825				29 ~~26~~									C.B. 46	0.5	III
C.B.46	174+50	36.29' LT.		G	1		1021.26	1017.39 N.			1017.14 S.	806	816	825					11 ~~12~~								M.H. 8	1.0	III
M.H.8	174+50	48' LT.	A		1		1021.94	1017.02 N.			1016.92 E.				700-7	715			243								M.H. 7	0.42	III
C.B.47	177+00	66' RT.					1017.60																	48	1		C.B. 48	0.5	II A
C.B.48	177+00	11.71' RT.	72-4020		1		1023.18	1017.30 N.			1017.20 S.	806	816	825										9 ~~11~~			C.B. 49	0.5	II A
C.B.49	177+00	0.29' RT.	72-4020		1		1022.82	1017.16 N.			1017.06 S.	806	816	825										125 ~~106~~		1	OUTLET	0.4	II A
C.B.50	179+50	9.71' RT.		C	1		1024.05				1020.17 S.	806	816	825			7 ~~10~~										C.B. 51	2.0	IV
C.B.51	179+50	2.29' RT.		C	1		1023.69	1020.01 N.			1019.96 S.	806	816	825			70									1	OUTLET	1.2	IV
C.B.52	182+00	9.71' RT.		C	1		1025.43				1021.88 S.	806	816	825			18 ~~20~~										C.B. 53	1.35	IV
C.B.53	182+00	9.71' LT.		G	1		1025.42	1021.61 N.	1021.36 W.		1021.31 S.	806	816	825				18 ~~56~~								1	OUTLET	0.86	III
C.B.54	184+50	2.37' LT.		C	1		1026.90				1023.34 S.	806	816	825			6 ~~8~~										C.B. 55	1.0	IV

OVER
IOLE
CATION
9.96
2.04

CERTIFIED BY _____ REG. NO. _____ _____19___
PROFESSIONAL ENGINEER

STATE PROJ. NO. 55-622-29 & 55-625-16 SHEET NO. 28 OF 89 SHEETS

AS BUILT PLANS

STORM SEWER

STRUCTURE NO.	STATION	LOCATION	CONSTRUCTION DESIGN M.H.	DESIGN C.B.	QUANTITY E.S.T.	QUANTITY FINAL	TOP CASTING ELEV.	INLET ELEV.	INLET ELEV.	INLET ELEV.	OUTLET ELEV.	FRAME CASTING NO.	GRATE NO.	CURB BOX NO.	RING CASTING NO.	COVER CASTING NO.	12" R.C.PIPE LIN.FT.	15" R.C.PIPE LIN.FT.	18" R.C.PIPE LIN.FT.	21" R.C.PIPE LIN.FT.	24" R.C.PIPE LIN.FT.	27" R.C.PIPE LIN.FT.	30" R.C.PIPE LIN.FT.	44" SPAN R.C.PIPE ARCH LIN.FT.	APRON INLET	APRON OUTLET	FLOWS TO	% GRADE	CLASS
C.B.1	149+00	~~4'6" 10.33'~~ RT.		C	1		1022.06				1018.50 S.	802 A	816	823 A			42										C.B. 2	2.0	IV
C.B.2	149+00	2' LT.		C	1		1022.11	1018.16 N.			1018.11 S.	802 A	816	823 A			8										C.B. 3	2.0	IV
C.B.3	149+00	10' LT.		C	1		1021.79	1018.05 N.			1017.80 S.	802 A	816	823 A				53								1	OUTLET	4.3	III
C.B.5	152+20	48' RT.		C	1		1019.96				1016.28 S.	802 A	816	823 A			58										C.B. 6	1.0	IV
C.B.6	151+90	2' LT.		G	1		1020.69	1015.70 N.			1015.45 S.	802 A	816	823 A				8									C.B. 7	1.0	III
C.B.7	151+90	10' LT.		A	1		1021.05	1015.37 N.			1015.32 SE	802 A	816	823 A				107								1	OUTLET	1.2	III
C.B.8	153+50	65' RT.						1016.86 W.											44						1		M.H. 1	5.0	III
M.H.1	154+00	50' RT.	A		1		1019.87	1014.36 E.	1012.14 W.		1011.94 S.				700-7	715				14							C.B. 9	0.4	III
C.B.9	154+00	36' RT.		A	1		1019.11	1011.88 N.			1011.68 S.	802 A	816	823 A				30									C.B. 10	0.5	III
C.B.10	154+00	10' LT.		A	1		1020.55	1011.50 N.			1011.45 S.	802 A	816	823 A					26							1	OUTLET	0.5	III
C.B.11	156+00	10' LT.		G	1		1020.05				1015.49 N.	802 A	816	823 A			8										C.B. 12	2.0	IV
C.B.12	156+00	2' LT.		G	1		1019.93	1015.33 S.			1015.28 N.	802 A	816	823 A			38										C.B. 13	1.84	IV
C.B.13	156+00	36' RT.		G	1		1018.61	1014.58 S.			1014.38 N.	802 A	816	823 A				12									M.H. 2	1.5	III
M.H.2	156+00	48' RT.	A		1		1019.29	1014.20 S.	1013.10 W.		1012.90 E.				700-7	715			189								M.H. 1	0.4	III
C.B.14	157+95	36' LT.		G	1		1021.05				1016.78 N.	802 A	816	823 A			26										C.B. 15	3.65	IV
C.B.15	157+95	10' LT.		C	1		1019.57	1015.83 S.			1015.78 N.	802 A	816	823 A			8										C.B. 16	3.5	IV
C.B.16	157+95	2' LT.		G	1		1019.44	1015.50 S.			1015.25 N.	802 A	816	823 A				38									C.B. 17	3.5	III
C.B.17	157+95	36' RT.		G	1		1018.13	1014.08 S.			1014.03 N.	802 A	816	823 A				14									M.H. 3	1.0	III
M.H.3	157+95	50' RT.	A		1		1018.88	1014.09 W.	1013.89 S.		1013.84 E.				700-7	715			184								M.H. 2	0.4	III
C.B.18	159+50	36' RT.		C	1		1017.74				1014.68 E.	802 A	816	823 A			148										M.H. 3	0.4	IV
C.B.22	161+00	36' RT.		C	1		1017.44	1013.73 W.	1013.78 N.		1013.53 S.	802 A	816	823 A				26									C.B. 21	0.5	III
C.B.21	161+00	10' RT.		A	1		1018.93	1013.40 N.			1013.35 S.	802 A	816	823 A				20									C.B. 20	0.5	III
C.B.20	161+00	10' LT.		A	1		1018.88	1014.00 W.	1013.25 N.		1013.05 S.	802 A	816	823 A					38								C.B. 19	0.4	III
C.B.19	161+00	48' LT.		A	1		1020.20	1012.90 N.			1012.85 S.	802 A	816	823 A					207								M.H. 4	0.4	III
C.B.24	161+20	36' RT.		C	1		1017.39				1013.83 E.	802 A	816	823 A			20										C.B. 22	0.5	IV
C.B.23	161+77	10' LT.		G	1		1018.83				1014.77 E.	802 A	816	823 A			78										C.B. 20	1.0	IV
C.B.25	163+00	0.6' RT.		G	1		1018.66				1014.10 S.	802 A	816	823 A			38										C.B. 26	2.0	IV
C.B.26	163+00	37.57 LT.		A	1		1019.44	1013.34 N.			1013.29 S.	802 A	816	823 A			12										M.H. 4	2.0	IV
M.H.4	163+00	50' LT.	54-4020		1		1020.14	1013.01 N.	1012.12 W.	1012.02 E.	1011.62 S.				700-7	715					45					1	OUTLET	0.43	III
C.B.27	164+50	36' RT.		G	1		1019.19	1015.18 N.			1015.13 S.	802 A	816	823 A			38										C.B. 28	1.0	IV
C.B.28	164+50	2' LT.		G	1		1019.03	1014.75 N.			1014.50 S.	802 A	816	823 A				8									C.B. 29	1.0	III
C.B.29	164+50	10' LT.		G	1		1019.33	1014.42 N.			1014.37 S.	802 A	816	823 A				26									C.B. 30	1.0	III
C.B.30	164+50	36' LT.		A	1		1019.47	1014.11 N.			1013.86 S.	802 A	816	823 A					151							1	M.H. 4	1.15	III
C.B.31	167+50	36' RT.		C	1		1020.62	1016.87 N.			1016.82 S.	802 A	816	823 A			26										C.B. 32	0.5	IV
C.B.32	167+50	10' RT.		C	1		1020.25	1016.69 N.			1016.49 S.	802 A	816	823 A				20									C.B. 33	0.7	III
C.B.33	167+50	10' LT.		C	1		1020.25	1016.39 N.			1016.30 S.	802 A	816	823 A				59									C.B. 34	0.68	III
C.B.34	167+00	48' LT.		C	1		1019.50	1015.90 N.			1015.70 S.	802 A	816	823 A					10								M.H. 5	0.6	III
M.H.5	167+00	58' LT.	G		1		1020.10	1015.64 N.			1015.59 W.				700-7	715			290								M.H. 6	0.24	III
C.B.35	170+00	36' RT.		G	1		1022.21	1018.16 N.			1018.11 S.	802 A	816	823 A			26										C.B. 36	3.38	IV
C.B.36	170+00	10' RT.		C	1		1021.02	1017.23 N.			1017.03 S.	802 A	816	823 A				20									C.B. 37	3.4	III
C.B.37	170+00	10' LT.		A	1		1021.06	1016.35 N.			1016.25 S.	802 A	816	823 A				36									C.B. 38	2.55	III
C.B.38	170+00	46.07' LT.		G	1		1019.39	1015.33 N.			1015.13 S.	802 A	816	823 A					12								M.H. 6	2.0	III
M.H.6	170+00	58' LT.	60-4020		1		1020.07	1014.89 N.	1014.99 E.	1014.89 W.	1014.19 S.				700-7	715						12				1	OUTLET	1.7	II
C.B.39	172+00	36' RT.		G	1		1022.83				1018.81 S.	802 A	816	823 A			31										C.B. 40	2.8	IV
C.B.40	172+00	5.4' RT.		C	1		1021.42	1017.92 N.			1017.72 S.	802 A	816	823 A				15									C.B. 41	2.8	III
C.B.41	172+00	10' LT.		G	1		1021.68	1017.32 N.			1017.26 S.	802 A	816	823 A				26									C.B. 42	2.8	III
C.B.42	172+00	36' LT.		G			1020.49	1016.53 N.			1016.33 S.	802 A	816	823 A					12								M.H. 7	2.8	III
M.H.7	172+00	48' LT.	A		1		1021.17	1015.99 N.	1015.89 N.		1015.79 E.				700-7	715				194							M.H. 6	0.41	III
C.B.43	174+50	48' RT.		A	1		1023.30				1018.15 S.	802 A	816	823 A			50										C.B. 44	0.5	IV
C.B.44	174+50	2' LT.		G			1021.83	1017.90 N.			1017.65 S.	802 A	816	823 A				8									C.B. 45	1.0	III
C.B.45	174+50	10' LT.		G	1		1022.45	1017.57 N.			1017.52 S.	802 A	816	823 A				26									C.B. 46	0.5	III
C.B.46	174+50	36' LT.		G	1		1021.26	1017.39 N.			1017.14 S.	802 A	816	823 A					12								M.H. 8	1.0	III
M.H.8	174+50	48' LT.	A		1		1021.94	1017.02 N.			1016.92 E.				700-7	715			243								M.H. 7	0.42	III
C.B.47	177+00	60' RT.					1019.27																	42			C.B. 48	1.4	II A
C.B.48	177+00	10' RT.	72-4020		1		1023.18	1018.54 N.			1018.44 S.	802 A	816	823 A										8			C.B. 49	1.0	II A
C.B.49	177+00	2' RT.	72-4020		1		1022.82	1018.36 N.			1018.26 S.	802 A	816	823 A										106			OUTLET	0.58	II A
C.B.50	179+50	10' RT.		C	1		1024.05				1020.17 S.	802 A	816	823 A			10									1	C.B. 51	2.0	IV
C.B.51	179+50	2' RT.		C	1		1023.69	1020.01 N.			1019.96 S.	802 A	816	823 A			70									1	OUTLET	1.2	IV
C.B.52	182+00	10' RT.		C	1		1025.43				1021.88 S.	802 A	816	823 A			20										C.B. 53	1.35	IV
C.B.53	182+00	10' LT.		G	1		1025.42	1021.61 N.	1021.36 W.		1021.31 S.	802 A	816	823 A				56								1	OUTLET	0.86	III
C.B.54	184+50	2.08' LT.		C	1		1026.90				1023.34 S.	802 A	816	823 A			8										C.B. 55	1.0	IV

CERTIFIED BY Kaye M Bierwirth PROFESSIONAL ENGINEER REG NO 19917 8/28 19 96

See Next Sheet

STATE PROJ. NO. 55-622-29 & 55-625-16 SHEET NO. 28 OF 89 SHEETS

STORM SEWER

STRUCTURE NO.	STATION	LOCATION	CONSTRUCTION DESIGN M.H.	CONSTRUCTION DESIGN C.B.	QUANTITY E.S.T.	QUANTITY FINAL	TOP CASTING ELEV.	INLET ELEV.	INLET ELEV.	INLET ELEV.	OUTLET ELEV.	FRAME CASTING NO.	GRATE NO.	CURB BOX NO.	RING CASTING NO.	COVER CASTING NO.	12" R.C.PIPE LIN.FT.	15" R.C.PIPE LIN.FT.	18" R.C.PIPE LIN.FT.	21" R.C.PIPE LIN.FT.	24" R.C.PIPE LIN.FT.	27" R.C.PIPE LIN.FT.	30" R.C.PIPE LIN.FT.	44"SPAN R.C.PIPE ARCH LIN.FT.	24" CSP (in FT.)	APRON INLET	APRON OUTLET	FLOWS TO	% GRADE	CLASS
C.B.55	184+50	9.64' LT.		G	1		1027.07	1023.26 N.	1023.06 W.		1022.81 E.	806	816	825				251										C.B. 53	0.58	III
C.B.56	186+50	2.72' LT.		C	1		1028.23				1024.41 S.	806	816	825			6 ~~7~~											C.B. 57	2.0	IV
C.B.57	186+50	9.28' LT.		G	1		1028.39	1024.27 N.			1024.22 E.	806	816	825			202											C.B. 55	0.57	IV
C.B.58	188+10	8.66' LT.		G	1		1029.45				1025.39 N.	806	816	825			66										1	OUTLET	2.78	IV
C.B.59	191+00	7.55' LT.		G	1		1031.35				1027.29 N.	806	816	825			62										1	OUTLET	2.6	IV
C.B.60	220+00	43.29' RT.		G	1		1137.07				1132.76 W.	806	816	825			82											C.B. 66	2.76	IV
C.B.61	220+00	39.29' LT.		G	1		1134.31	1130.50 E.			1130.00 W.	806	816	825					11									M.H. 9	2.45	III
M.H.9	220+00	50' LT.	A		1		1134.95	1129.73 E.			1129.68 S.				700-7	715			24~~4~~									M.H. 10	2.33	III
C.B.62	217+50	39.29' RT.		G	1		1131.00				1126.94 W.	806	816	825			7~~8~~											C.B. 63	3.03	IV
C.B.63	217+50	39.29' LT.		C	1		1128.14	1124.58 E.			1124.38 W.	806	816	825				11										M.H. 10	2.91	III
M.H.10	217+50	50' LT.	A		1		1128.78	1124.06 E.	1123.98 N.		1123.78 S.				700-7	715				244								M.H. 11	4.03	III
C.B.64	215+00	39.29' RT.		G	1		1121.16				1117.10 W.	806	816	825			7~~8~~											C.B. 65	3.03	IV
C.B.65	215+00	39.29' LT.		C	1		1118.30	1114.74 E.			1114.54 W.	806	816	825				11										M.H. 11	2.90	III
M.H.11	215+00	50' LT.	A		1		1118.94	1114.22 E.	1113.94 N.		1113.44 S.				700-7	715						341						M.H. 12	5.72	II
C.B.66	211+50	43.29' LT.		C	1		1099.09				1095.26 W.	806	816	825				11										M.H. 12	2.63	III
M.H.12	211+50	54' LT.	54-4020		1		1099.71	1094.93 E.	1093.93 N.		1093.68 S.				700-7	715							16~~5~~18~~5~~				1	M.H. 17	4.7	II
C.B.67	211+50	43.29' RT.		C	1		1102.01				1098.20 E.	806	816	825			29										1	OUTLET	1.57	IV
C.B.68	225+50	39.29' LT.		C	1		1135.71				1131.86 E.	806	816	825			78											C.B. 69	0.36	III
C.B.69	225+50	39.29' RT.		G	1		1135.89	1131.58 W.			1131.33 E.	806	816	825				201										M.H. 18	1.92	III
C.B.70	227+68	39.29' LT.		G	1		1132.41	1128.30 W.			1128.25 E.	806	816	825				8~~0~~1 ~~80~~										C.B. 71	0.96	IV
C.B.71	227+50	39.29' RT.		C	1		1131.42	1127.66 W.			1127.61 E.	806	816	825				13										M.H. 18	1.0	III
C.B.72	230+00	41.29' LT.		G	1		1125.14				1120.93 E.	806	816	825				78										C.B. 73	3.35	IV
C.B.73	230+00	37.29' RT.		C	1		1122.03	1118.32 W.			1118.27 E.	806	816	825				14										M.H. 13	3.15	III
M.H.13	230+00	50' RT.	A		1		1122.74	1117.86 W.			1117.66 N.				700-7	715			290									M.H. 14	5.16	III
C.B.74	233+00	33.67' LT.		G	1		1109.93				1105.87 E.	806	816	825			67											C.B. 75	3.46	IV
C.B.75	233+00	33.67' RT.		C	1		1107.12	1103.56 W.			1103.31 E.	806	816	825				12~~13~~										M.H. 14	3.25	III
M.H.14	233+00	46' RT.	A		1		1107.83	1102.90 W.	1102.70 S.		1102.50 N.				700-7	715				2~~9~~0~~291~~								M.H. 15	6.0	III
C.B.76	236+00	33.29' LT.		G	1		1092.22				1088.16 E.	806	816	825			66											C.B. 77	3.45	III
C.B.77	236+00	33.29' RT.		C	1		1089.44	1085.88 W.			1085.68 E.	806	816	825				13										M.H. 15	1.15	III
M.H.15	236+00	46' RT.	A		1		1090.17	1085.53 W.	1085.03 S.		1084.53 N.				700-7	715						169 ~~339~~						M.H. 16	5.94	II
C.B.78	239+50	33.29' RT.		C	1		1068.79				1065.23 E.	806	816	825				12~~13~~										M.H. 16	1.69	III
M.H.16	239+50	46' RT.	54-4020		1		1069.51	1065.01 W.	1064.41 S.		1064.21 N.				700-7	715							47				1	OUTLET	5.71	II
C.B.79	257+50	2.29' LT.		G	1		1023.22				1018.66 W.	806	816	825			58										1	OUTLET	3.22	IV
C.B.80	161+00	50' RT.		C	1		1017.15				1013.92 S.				700-7	720	14											C.B. 22	1.0	IV
C.B.81	164+50	50' RT.		C	1		1018.90				1015.32 S.				700-7	720	14											C.B. 27	1.0	IV
C.B.82	167+50	50' RT.		C	1		1020.33				1017.01 S.				700-7	720	14											C.B. 31	1.0	IV
C.B.83	169+70	50' RT.		C	1		1021.96				1018.21 S.				700-7	720	14											C.B. 35	1.0	IV
C.B.84	172+00	50' RT.		C	1		1022.58				1019.00 S.				700-7	720	14											C.B. 39	1.0	IV
C.B.85	209+50	73' LT.						1086.60 W										8									1	M.H. 17	2.5	III
C.B.86	214+38.79	75' RT.		G	1		1118.60				1114.35 S.	806	816	825			3~~1~~2~~7~~											C.B. 87	2.0	IV
C.B.87	214+13.21	75' RT.		G	1		1117.60	1113.81 N.			1113.56 S.	806	816	825				66									1	OUTLET	1.6	III
C.B.88	228+40	68' LT.		~~C~~	~~1~~			1129.72 N.										6~~0~~									1	C.B. 89	1.8	III
C.B.89	227+74	66' LT.		C	1		1132.28	1128.49 N.			1128.44 E.				700-7	720		2~~9~~										C.B. 70	0.5	III
M.H.17	209+60	62' LT.	60-4020		1		1089.23	1085.00 N.	1086.25 W.	1086.00 E.	1084.80 S.				700-7	715							1~~5~~5					OUTLET	4.6	II
C.B.90	209+65	43.29' LT.		C	1		1088.53				1086.10 W.	806	816	825			1~~9~~ 20											M.H. 17	0.5	IV
M.H.18	227+50	52' RT.		G	1		1132.14	1127.48 S.	1127.48 W.		1127.23 N.				700-7	715			15								1	OUTLET	1.0	III
C.B.91	DETENTION POND			F	1		1019.40	1007.92 N.			1007.82 S.				700-7	720							7 ~~8~~					OUTLET	0.24	IV
C.B.92	DETENTION POND							1008.50 N.															234				1	C.B. 91	0.24	IV
MH 19	237+75	46' Rt	A		1		1078.37	1074.72			1074.22				700-7	715						169						MH 16	≤.8	II
C.B.93	176+50	Lt			1																			30			1	outlet		
C.B.94	176+90	Lt		metal	Apron	with	CS	Culvert																40			1	≤B.93		
C.B.95	154+89	Lt		A	1																									

CERTIFIED BY _____ REG.-NO. _____ 19__
PROFESSIONAL ENGINEER

STATE PROJ. NO. 55-622-29 & 55-625-16 SHEET NO. 29 OF 89 SHEETS

AS BUILT PLANS

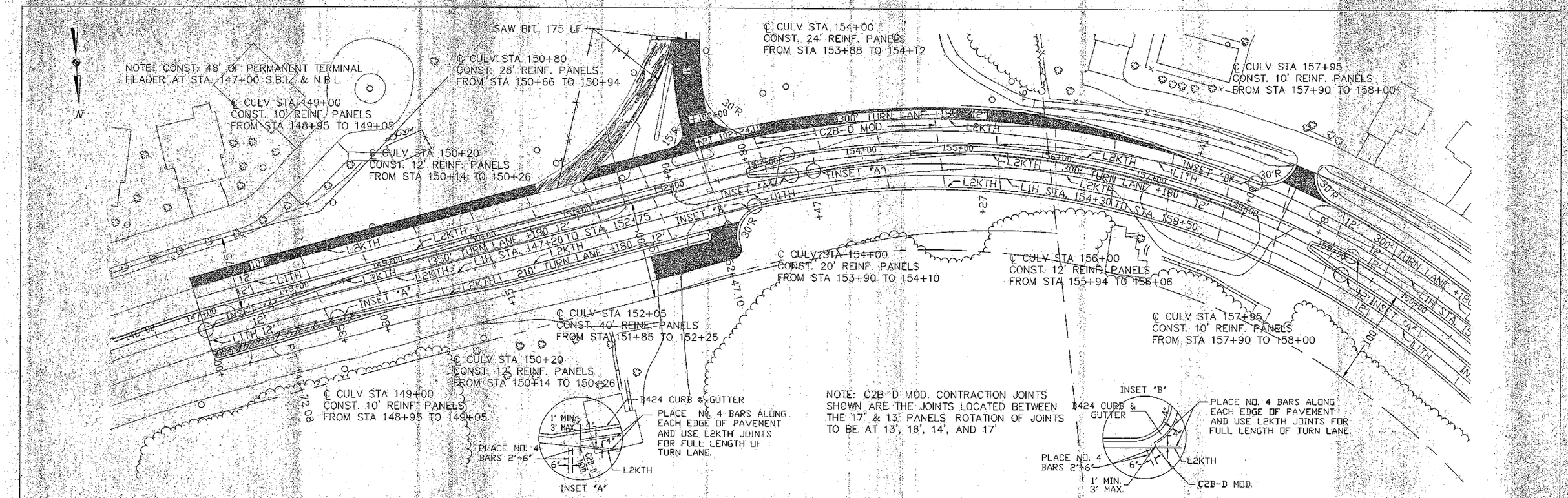
STORM SEWER

STRUCTURE NO.	STATION	LOCATION	CONSTRUCTION DESIGN M.H.	CONSTRUCTION DESIGN C.B.	CONSTRUCTION QUANTITY E.S.T.	CONSTRUCTION QUANTITY FINAL	TOP CASTING ELEV.	INLET ELEV.	INLET ELEV.	INLET ELEV.	OUTLET ELEV.	FRAME CASTING NO.	GRATE NO.	CURB BOX NO.	RING CASTING NO.	COVER CASTING NO.	12" R.C.PIPE LIN.FT.	15" R.C.PIPE LIN.FT.	18" R.C.PIPE LIN.FT.	21" R.C.PIPE LIN.FT.	24" R.C.PIPE LIN.FT.	27" R.C.PIPE LIN.FT.	30" R.C.PIPE LIN.FT.	44"SPAN R.C.PIPE ARCH LIN.FT.	APRON INLET	APRON OUTLET	FLOWS TO	% GRADE	CLASS
C.B.55	184+50	9.93' LT.		G	1		1027.07	1023.26 N.	1023.06 W.		1022.81 E.	802 A	816	823 A				251									C.B. 53	0.58	III
C.B.56	186+50	2.43' LT.		C	1		1028.23				1024.41 S.	802 A	816	823 A			7										C.B. 57	2.0	IV
C.B.57	186+50	9.57' LT.		G	1		1028.39	1024.27 N.			1024.22 E.	802 A	816	823 A			202										C.B. 55	0.57	IV
C.B.58	188+10	8.95' LT.		G	1		1029.45				1025.39 N.	802 A	816	823 A			66									1	OUTLET	2.78	IV
C.B.59	191+00	7.84' LT.		G	1		1031.35				1027.29 N.	802 A	816	823 A			62									1	OUTLET	2.6	IV
C.B.60	220+00	43' RT.		G	1		1137.07				1132.76 W.	802 A	816	823 A			82										C.B. 66	2.76	IV
C.B.61	220+00	39' LT.		G	1		1134.31	1130.50 E.			1130.00 W.	802 A	816	823 A					11								M.H. 9	2.45	III
M.H.9	220+00	50' LT.	A		1		1134.95	1129.73 E.			1129.68 S.				700-7	715			244								M.H. 10	2.33	III
C.B.62	217+50	39' RT.		G	1		1131.00				1126.94 W.	802 A	816	823 A			78										C.B. 63	3.03	IV
C.B.63	217+50	39' LT.		C	1		1128.14	1124.58 E.			1124.38 W.	802 A	816	823 A				11									M.H. 10	2.91	III
M.H.10	217+50	50' LT.	A		1		1128.78	1124.06 E.	1123.98 N.		1123.78 S.				700-7	715				244							M.H. 11	4.03	III
C.B.64	215+00	39' RT.		G	1		1121.16				1117.10 W.	802 A	816	823 A			78										C.B. 65	3.03	IV
C.B.65	215+00	39' LT.		C	1		1118.30	1114.74 E.			1114.54 W.	802 A	816	823 A				11									M.H. 11	2.90	III
M.H.11	215+00	50' LT.	A		1		1118.94	1114.22 E.	1113.94 N.		1113.44 S.				700-7	715						341					M.H. 12	5.72	II
C.B.66	211+50	43' LT.		C	1		1099.09				1095.26 W.	802 A	816	823 A				11									M.H. 12	2.63	III
M.H.12	211+50	54' LT.	54-4020		1		1099.71	1094.93 E.	1093.93 N.		1093.68 S.				700-7	715							185			1	M.H. 17	4.7	II
C.B.67	211+50	43' RT.		C	1		1102.01				1098.20 E.	802 A	816	823 A			29									1	OUTLET	1.57	IV
C.B.68	225+50	39' LT.		C	1		1135.71				1131.86 E.	802 A	816	823 A			78										C.B. 69	0.36	III
C.B.69	225+50	39' RT.		G	1		1135.89	1131.58 W.			1131.33 E.	802 A	816	823 A				201									M.H. 18	1.92	III
C.B.70	227+50	39' LT.		G	1		1132.67	1128.46 W.			1128.41 E.	802 A	816	823 A				78									C.B. 71	0.96	IV
C.B.71	227+50	39' RT.		C	1		1131.42	1127.66 W.			1127.61 E.	802 A	816	823 A				13									M.H. 18	1.0	III
C.B.72	230+00	41' LT.		G	1		1125.14				1120.93 E.	802 A	816	823 A				78									C.B. 73	3.35	IV
C.B.73	230+00	37' RT.		C	1		1122.03	1118.32 W.			1118.27 E.	802 A	816	823 A				14									M.H. 13	3.15	III
M.H.13	230+00	50' RT.	A		1		1122.74	1117.86 W.			1117.66 N.				700-7	715			290								M.H. 14	5.16	III
C.B.74	233+00	33.38' LT.		G	1		1109.93				1105.87 E.	802 A	816	823 A			67										C.B. 75	3.46	IV
C.B.75	233+00	33.38' RT.		C	1		1107.12	1103.56 W.			1103.31 E.	802 A	816	823 A				13									M.H. 14	3.25	III
M.H.14	233+00	46' RT.	A		1		1107.83	1102.90 W.	1102.70 S.		1102.50 N.				700-7	715				291							M.H. 15	6.0	III
C.B.76	236+00	33' LT.		G	1		1092.22				1088.16 E.	802 A	816	823 A			66										C.B. 77	3.45	III
C.B.77	236+00	33' RT.		C	1		1089.44	1085.88 W			1085.68 E.	802 A	816	823 A				13									M.H. 15	1.15	III
M.H.15	236+00	46' RT.	A		1		1090.17	1085.53 W	1085.03 S.		1084.53 N.				700-7	715						339					M.H. 16	5.94	II
C.B.78	239+50	33' RT.		C	1		1068.79				1065.23 E.	802 A	816	823 A				13									M.H. 16	1.69	III
M.H.16	239+50	46' RT.	54-4020		1		1069.51	1065.01 W.	1064.41 S.		1064.21 N.				700-7	715							47			1	OUTLET	5.71	II
C.B.79	257+50	2' LT.		G	1		1023.22				1018.66 W.	802 A	816	823 A			58									1	OUTLET	3.22	IV
C.B.80	161+00	50' RT.		C	1		1017.15				1013.92 S.				700-7	720	14										C.B. 22	1.0	IV
C.B.81	164+50	50' RT.		C	1		1018.90				1015.32 S.				700-7	720	14										C.B. 27	1.0	IV
C.B.82	167+50	50' RT.		C	1		1020.33				1017.01 S.				700-7	720	14										C.B. 31	1.0	IV
C.B.83	170+00	50' RT.		C	1		1021.96				1018.30 S.				700-7	720	14										C.B. 35	1.0	IV
C.B.84	172+00	50' RT.		C	1		1022.58				1019.00 S.				700-7	720	14										C.B. 39	1.0	IV
C.B.85	209+50	73' LT.						1086.60 W										8								1	M.H. 17	2.5	III
C.B.86	214+40	75' RT.		G	1		1118.60				1114.35 S.	802 A	816	823 A			27										C.B. 87	2.0	IV
C.B.87	214+12	75' RT.		G	1		1117.60	1113.81 N.			1113.56 S.	802 A	816	823 A				66								1	OUTLET	1.6	III
C.B.88	228+40	69' LT.		C	1			1130.23 N.										82								1	C.B. 89	2.0	III
C.B.89	227+50	65' LT.					1132.38	1128.59 N.			1128.54 E.				700-7	720		14									C.B. 70	0.5	III
M.H.17	209+60	62' LT.	60-4020		1		1089.23	1085.00 N.	1086.25 W.	1086.00 E.	1084.80 S.				700-7	715							55				OUTLET	4.6	II
C.B.90	209+65	43' LT.		C	1		1088.53				1086.10 W.	802 A	816	823 A			20										M.H. 17	0.5	IV
M.H.18	227+50	52' RT.		G	1		1132.14	1127.48 S.	1127.48 W.		1127.23 N.				700-7	715			15							1	OUTLET	1.0	III
C.B.91	DETENTION POND			F	1		1019.40	1007.92 N.			1007.82 S.				700-7	720							8				OUTLET	0.24	IV
C.B.92	DETENTION POND							1008.50 N.															234			1	C.B. 91	0.24	IV

CERTIFIED BY Kaye M Bierwirth PROFESSIONAL ENGINEER REG NO. 19917 8/28 19 96

STATE PROJ. NO. 55-622-29 & 55-625-16 SHEET NO. 29 OF 89 SHEETS

See As Built Sheet



B.M. ELEV. 1023.19
TOP BRASS PLUG
SE COR BR #7174

℄ PROF.
FINISHED PROFILE GRADE
BOP 147+00
ELEV. 22.35
P.V.C. 160+00
ELEV. 19.12
0.25%

	146+00	147+00	148+00	149+00	150+00	151+00	152+00	153+00	154+00	155+00	156+00	157+00	158+00	159+00	160+00
℄ PROF.	1024.40	1024.80	1024.30	1022.90	1022.00	1022.40	1022.50	1023.00	1022.90	1022.50	1022.50	1021.50	1021.70	1021.60	1022.20
FINISHED PROFILE GRADE			1022.35	1022.23	1022.10	1021.98	1021.85	1021.73	1021.60	1021.48	1021.36	1021.23	1021.11	1020.98	1020.86

	161+00	162+00	163+00	164+00	165+00	166+00	167+00	168+00	169+00	170+00	171+00	172+00	173+00	174+00	175+00
℄ PROF.	1022.40	1022.30	1022.40	1022.30	1022.30	1020.80	1020.30	1020.10	1019.60	1019.40	1019.20	1018.50	1018.20	1017.70	1016.00
FINISHED PROFILE GRADE	1020.73	1020.61	1020.49	1020.36	1020.24	1020.11	1019.99	1019.86	1019.74	1019.61	1019.49	1019.37	1019.24	1019.12	

SURFACING

CERTIFIED BY Kaye M Brunick PROFESSIONAL ENGINEER REG. NO. 19917 8/28 19 96

S.A.P. 55-625-16 55-622-29

SHEET 30 OF 89 SHEETS

AS BUILT PLANS

℄ CULV STA 161+00
CONST 18' OF REINF PANELS
FROM STA 160+91 TO STA 161+09

℄ CULV STA 163+00
CONST 14' OF REINF PANELS
FROM STA 162+93 TO STA 163+07

℄ CULV STA 164+50
CONST 12' OF REINF PANELS
FROM STA 164+44 TO STA 164+56

℄ CULV STA 167+28
CONST 40' OF REINF PANELS
FROM STA 167+08 TO STA 167+68

℄ CULV STA 170+00
CONST 10' OF REINF PANELS
FROM STA 169+95 TO STA 170+05

℄ CULV STA 172+00
CONST 10' OF REINF PANELS
FROM STA 171+95 TO STA 172+05

300' TURN LANE +180
L2KTH
L1H STA. 158+20 TO STA. 163+20
INSET 'A'
INSET 'B'
L1TH
300' TURN LANE +180
L1H STA. 161+70 TO STA. 166+70
C2B-D MOD.
L1H STA. 166+20 TO STA. 171+40
P.I. 162+00
ELEV. 1018.62
400' V.C.
P.I. 168+54.01

℄ CULV STA 161+00
CONST 12' OF REINF PANELS
FROM STA 160+94 TO STA 161+06

℄ CULV STA 164+50
CONST 12' OF REINF PANELS
FROM STA 164+44 TO STA 164+56

℄ CULV STA 167+50
CONST 10' OF REINF PANELS
FROM STA 167+45 TO STA 167+55

℄ CULV STA 170+00
CONST 10' OF REINF PANELS
FROM STA 169+95 TO STA 170+05

℄ CULV STA 172+00
CONST 10' OF REINF PANELS
FROM STA 171+95 TO STA 172+05

INSET 'B'
B424 CURB & GUTTER
PLACE NO. 4 BARS ALONG EACH EDGE OF PAVEMENT AND USE L2KTH JOINTS FOR FULL LENGTH OF TURN LANE
PLACE NO. 4 BARS 2'-6"
L2KTH
C2B-D MOD.
1' MIN.
3' MAX.

NOTE: C2B-D MOD. CONTRACTION JOINTS SHOWN ARE THE JOINTS LOCATED BETWEEN THE 17' & 13' PANELS ROTATION OF JOINTS TO BE AT 13', 16', 14', AND 17'

INSET 'A'
B424 CURB & GUTTER
PLACE NO 4 BARS ALONG EACH EDGE OF PAVEMENT AND USE L2KTH JOINTS FOR FULL LENGTH OF TURN LANE.
PLACE NO. 4 BARS 2'-6"
L2KTH
1' MIN.
3' MAX.

B.M. EL. 1022.91
TOP NUT F. HYD.
NE OF RES #2622

FINISHED PROFILE GRADE
1019.37 1019.24 1019.12 1019.01 1018.94 1018.90 1018.90 1018.93 1019.00 1019.10 1019.24 1019.39 1019.54 1019.70 1019.85 1020.01 1020.16 1020.31 1020.47 1020.62 1020.77 1020.93 1021.08 1021.24 1021.39 1021.54 1021.70 1021.85 1022.01

P.V.C. 1+00
ELEV. 19.12
P.V.T. 1+00
ELEV. 19.24
0.25%
0.31%

℄ PROFILE

1016.00 1015.70 1015.10 1013.10 1013.80 1013.60 1014.40 1016.60 1016.60 1017.10 1016.90 1018.30 1019.90 1019.70 1020.40 1020.20 1021.00 1020.70 1021.40 1021.60 1021.70 1021.60 1021.80 1022.10 1021.80 1022.30 1022.70 1022.50 1022.60

159+00 160+00 161+00 162+00 163+00 164+00 165+00 166+00 167+00 168+00 169+00 170+00 171+00 172+00 173+00

1060 1050 1040 1030 1020 1010 1000 990 980 970

SURFACING

CERTIFIED BY Kay M Buenik PROFESSIONAL ENGINEER REG NO. 19917 8/28 19 96

S.A.P. 55-625-16 55-622-29

SHEET 31 OF 89 SHEETS

AS BUILT PLANS

℄ CULV STA 174+50
CONST. 12' OF REINF. PANELS
FROM STA 174+44 TO STA 174+56

℄ CULV STA 174+50
CONST. 12' OF REINF. PANELS
FROM STA 174+44 TO STA 174+56

℄ CULV STA 176+74
CONST. 60' OF REINF. PANELS
FROM STA 176+44 TO STA 177+04

℄ CULV STA 177+00
CONST. 14' OF REINF. PANELS
FROM STA 176+93 TO STA 177+07

℄ CULV STA 179+50
CONST. 12' OF REINF. PANELS
FROM STA 179+44 TO STA 179+56

℄ CULV STA 182+00
CONST. 12' OF REINF. PANELS
FROM STA 181+94 TO STA 182+06

B424 CURB & GUTTER
PLACE NO. 4 BARS ALONG EACH EDGE OF PAVEMENT AND USE L2KTH JOINTS FOR FULL LENGTH OF TURN LANE.

INSET "C"
PLACE NO. 4 BARS 2'-6"
1' MIN. 3' MAX.
L2KTH
C2B-D MOD.

CONST. EDGE DRAIN S.B.L.
STA. 177+00 TO STA. 183+00
SEE PLAN SHEET 41 FOR DETAILS

INSET "D"
PLACE NO. 4 BARS ALONG EACH EDGE OF PAVEMENT AND USE L2KTH JOINTS FOR FULL LENGTH OF TAPER.

CONST. EDGE DRAIN N.B.L.
STA. 179+00 TO STA. 185+00
SEE PLAN SHEET 41 FOR DETAILS

INSET "B"
B424 CURB & GUTTER
PLACE NO. 4 BARS ALONG EACH EDGE OF PAVEMENT AND USE L2KTH JOINTS FOR FULL LENGTH OF TURN LANE.
PLACE NO. 4 BARS 2'-6"
L2KTH
1' MIN. 3' MAX.
C2B-D MOD.

NOTE: C2B-D MOD. CONTRACTION JOINTS SHOWN ARE THE JOINTS LOCATED BETWEEN THE 17' & 13' PANELS. ROTATION OF JOINTS TO BE AT 13', 16', 14', AND 17'

B.M. EL. 1024.83
TOP NUT F. HYD.
WEST OF BRICK GAR.

B.M. EL. 1028.34
TOP NUT F. HYD.
SE COR INT. 22&25

FINISHED PROFILE GRADE
℄ PROFILE
CROCUS HILLS DR.
0.31%
1.00%
0.66%
P.V.C. +00
ELEV. 23.54
P.I. 180+00
ELEV. 1024.16
400' V.C.
P.V.T. +00
ELEV. 25.48
P.I. 4+25
ELEV. 1027.25
50' V.C.
P.V.C. +50
ELEV. 26.50
P.V.T. +00
ELEV. 31.87

	172+00	173+00	174+00	175+00	176+00	177+00	178+00	179+00	180+00	181+00	182+00	183+00	184+00	185+00	186+00
FINISHED PROFILE GRADE	1021.70	1021.85	1022.01	1022.16	1022.31	1022.47	1022.62	1022.78	1022.93	1023.08	1023.24	1023.39	1023.54	1023.71	1023.90
	1024.00	1024.50	1025.00	1025.50	1026.00	1026.50	1027.43	1029.22	1031.87						
	1030														
	1020														
	1022.70	1022.50	1022.60	1022.80	1022.60	1022.50	1022.80	1023.00	1023.10	1023.20	1023.40	1023.30	1023.50	1023.90	1024.20

	182+00	183+00	184+00	185+00	186+00
FINISHED PROFILE GRADE	1025.48	1025.81	1026.14	1026.47	1026.80	1027.13	1027.46	1027.79	1028.12
	1024.34	1024.59	1024.86	1025.16					
	1024.40	1024.30	1022.90	1020.60	1019.90	1019.90	1020.20	1020.50	1020.30	1020.40	1020.60	1021.00	1021.30

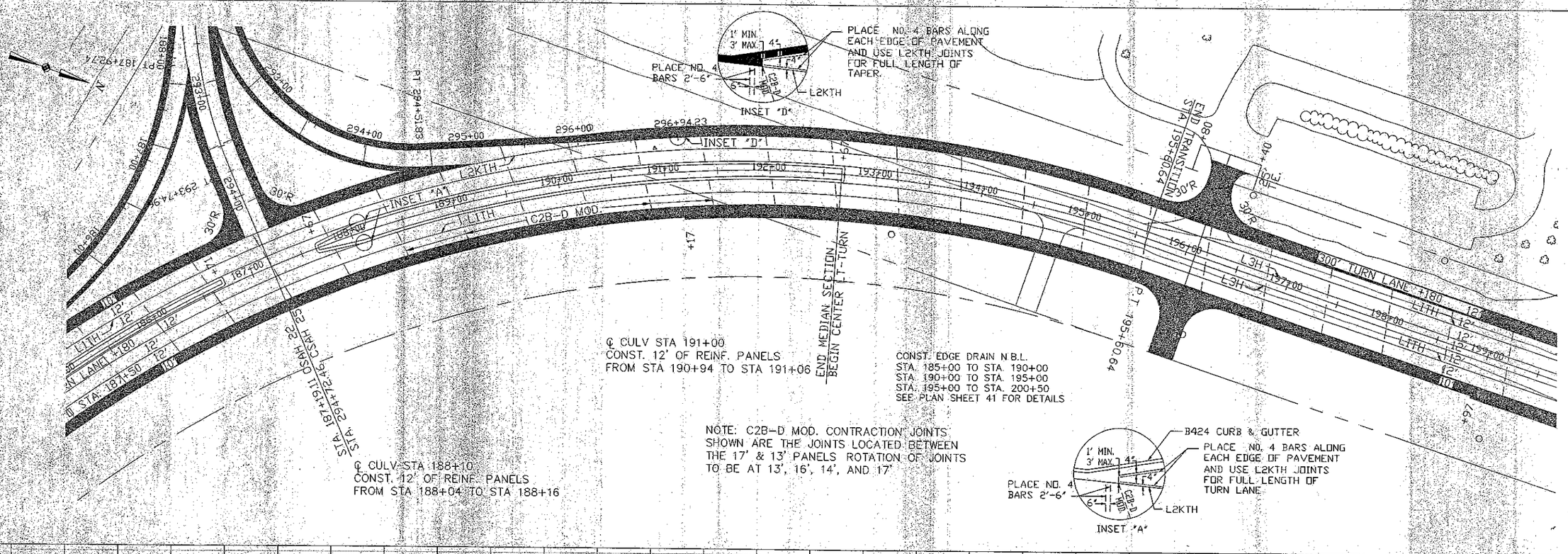
SURFACING

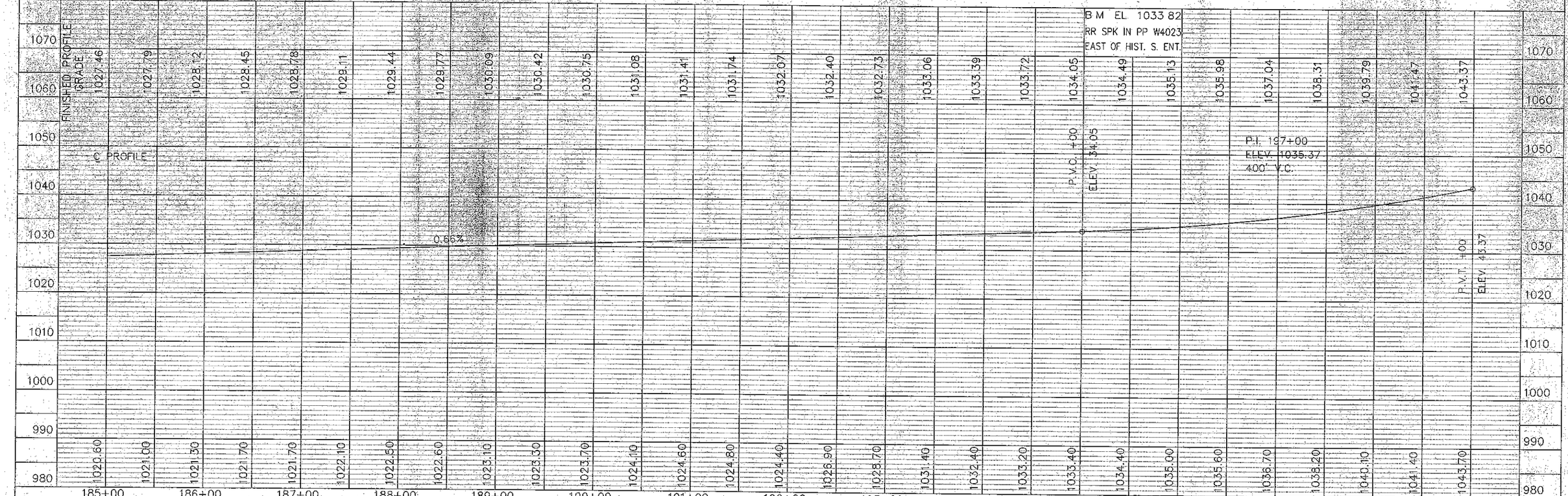
CERTIFIED BY Kaye M Brenick PROFESSIONAL ENGINEER REG NO 19917 8/20 1996

S.A.P. 55-625-16 55-622-29

SHEET 32 OF 89 SHEETS

AS BUILT PLANS





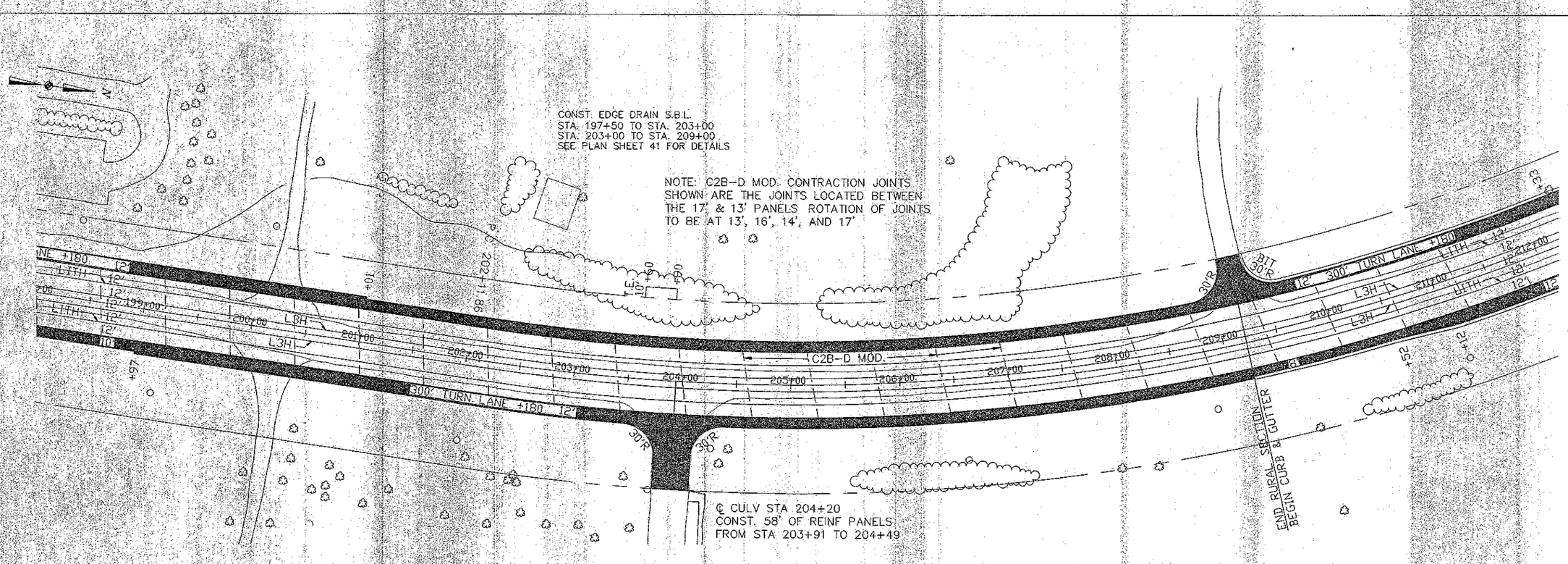
SURFACING

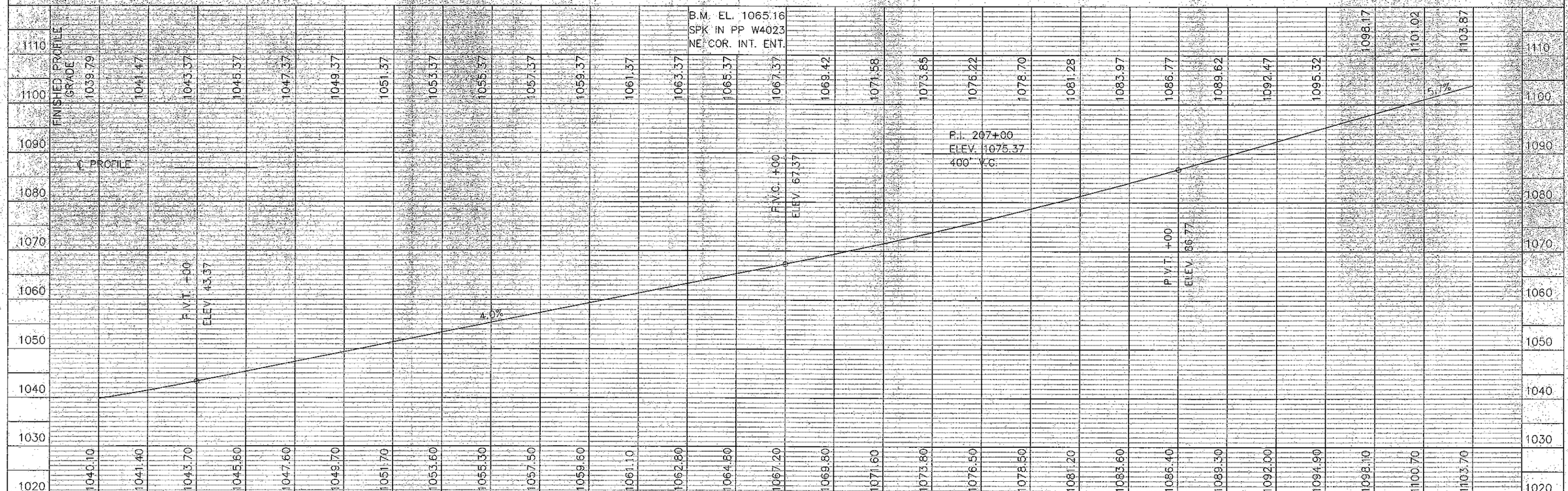
CERTIFIED BY Kaye M Brunick PROFESSIONAL ENGINEER REG NO 19917 8/28 19 96

S.A.P. 55-625-16 55-622-29

SHEET 33 OF 89 SHEETS

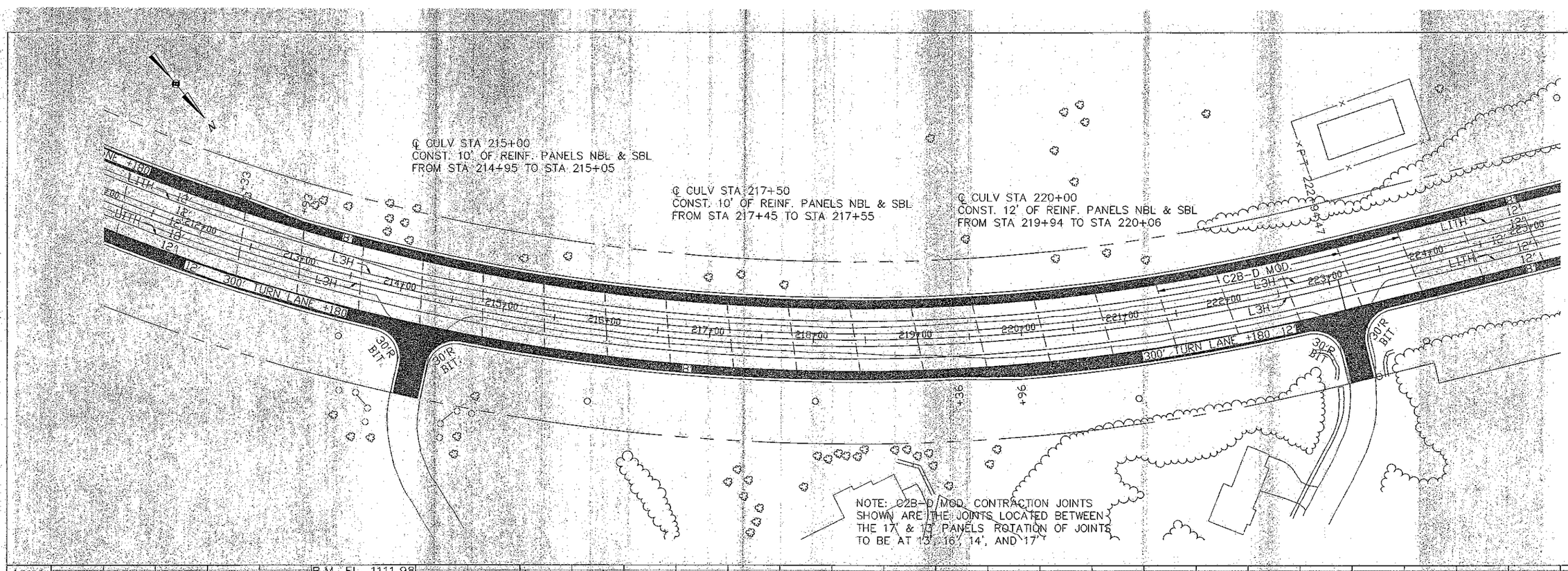
AS BUILT PLANS





SURFACING | CERTIFIED BY Kyle M Brunick PROFESSIONAL ENGINEER REG. NO. 19917 8/28 1996 | S.A.P. 55-625-16 55-622-29 | SHEET 34 OF 89 SHEETS

AS BUILT PLANS



B.M. EL. 1111.98
SPK IN PP W4027
50' S/ FOXCROFT ENT

FINISHED PROFILE GRADE
℄ PROFILE

P.V.C. +25.21
ELEV. 11.01

5.7%

P.I. 223+11.21
ELEV. 1144.01
1972' V.C.

	211+00	212+00	213+00	214+00	215+00	216+00	217+00	218+00	219+00	220+00	221+00	222+00	223+00	224+00	225+00
FINISHED PROFILE GRADE	1098.17	1101.02	1103.87	1106.72	1109.57	1112.40	1115.11	1117.66	1120.07	1122.33	1124.45	1126.42	1128.24	1129.91	1131.44	1132.82	1134.03	1135.14	1136.08	1136.87	1137.51	1138.01	1138.36	1138.57	1138.62	1138.53	1138.29	1137.91	1137.38
℄ PROFILE	1098.10	1100.70	1103.70	1106.30	1109.50	1112.20	1115.10	1118.50	1120.90	1123.90	1126.30	1128.80	1131.00	1133.10	1135.10	1137.10	1138.60	1139.60	1140.70	1141.80	1142.30	1143.50	1143.70	1144.40	1144.20	1143.80	1143.50	1142.80	1142.50

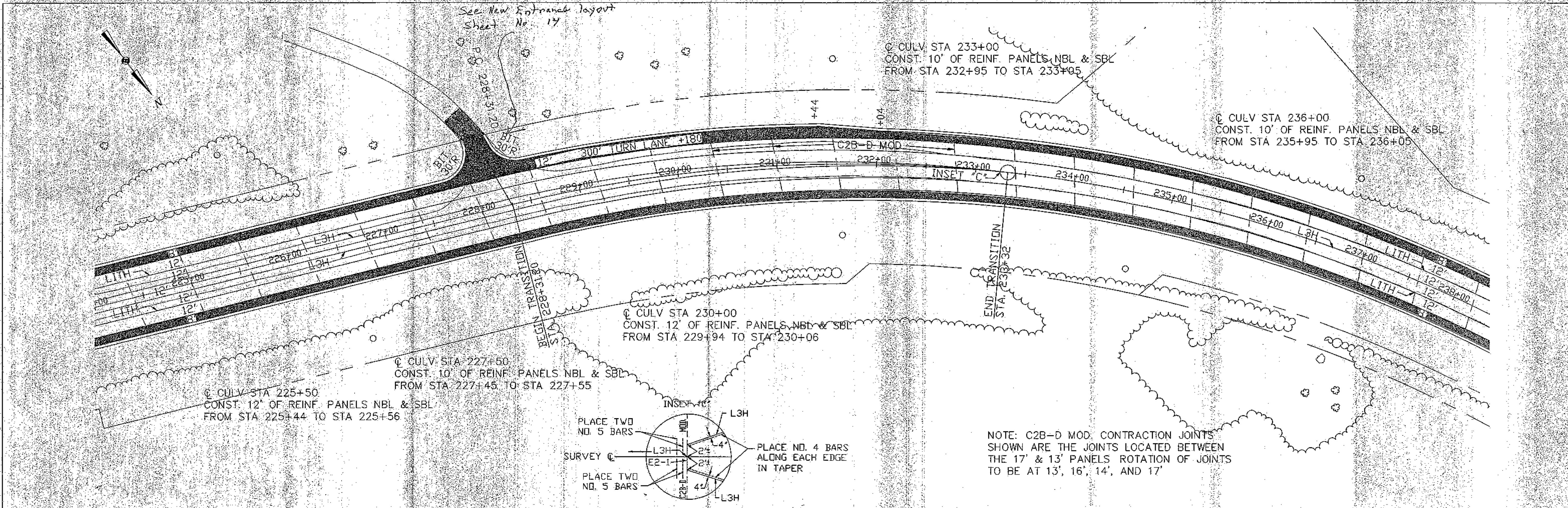
SURFACING

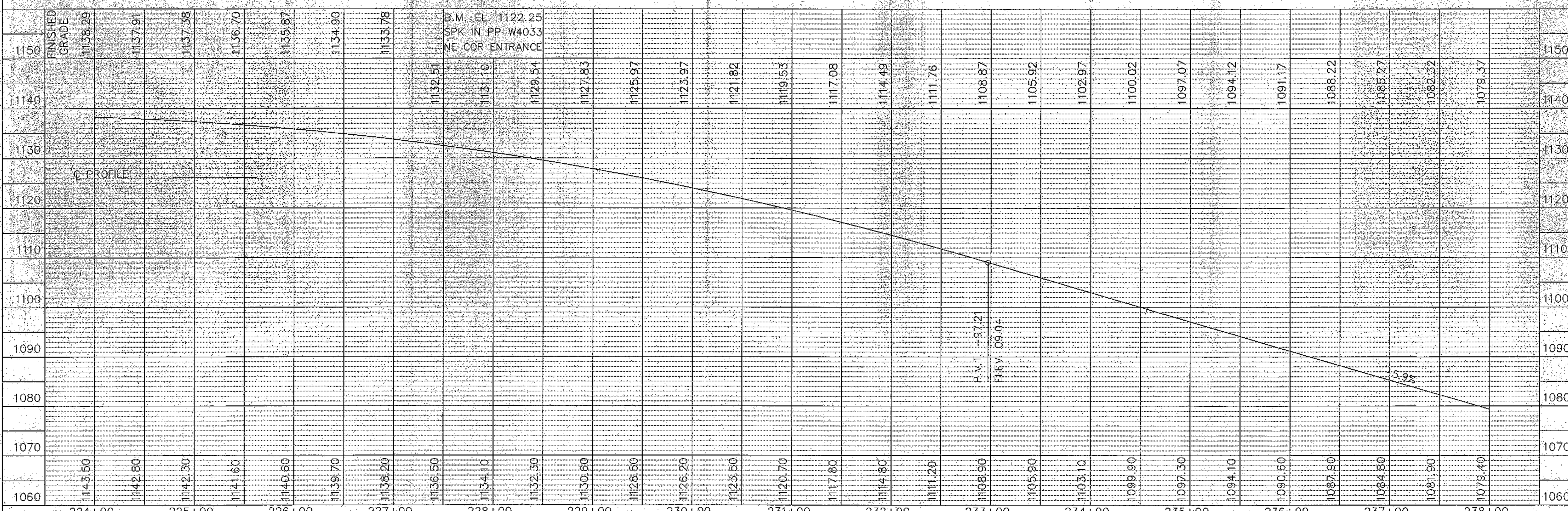
CERTIFIED BY Kevin M Brunick PROFESSIONAL ENGINEER REG NO 19917 8/28 1996

S.A.P. 55-625-16 55-622-29

SHEET 35 OF 89 SHEETS

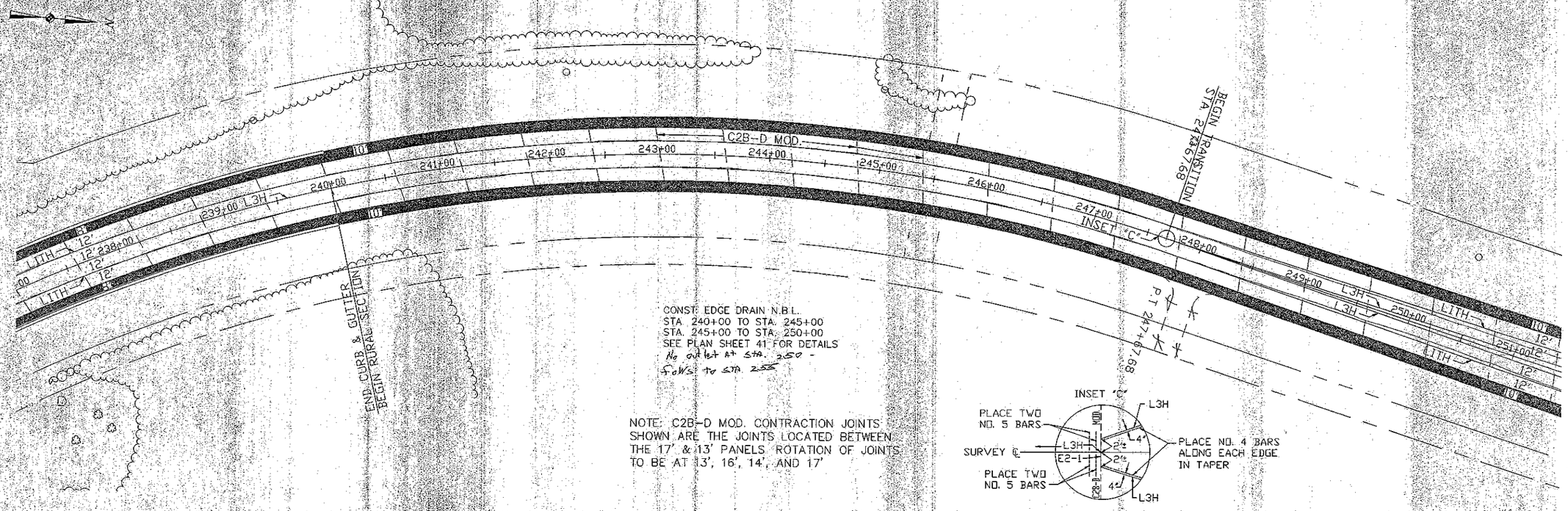
AS BUILT PLANS

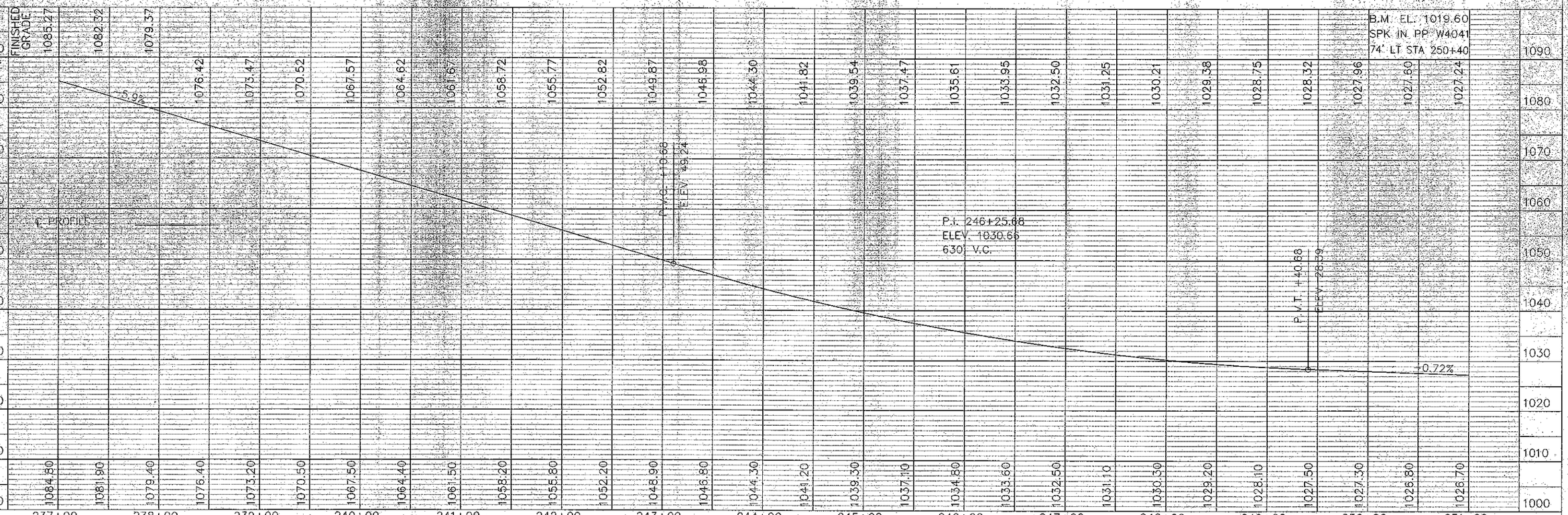




SURFACING	CERTIFIED BY Kaye M Bieniek PROFESSIONAL ENGINEER REG NO 19917 8/28 1996	S.A.P. 55-625-16 55-622-29	SHEET 36 OF 89 SHEETS

AS BUILT PLANS





SURFACING | CERTIFIED BY Kevin M Brennick PROFESSIONAL ENGINEER REG NO 19917 8/28 1996 | S.A.P. 55-525-16 55-622-29 | SHEET 37 OF 89 SHEETS

AS BUILT PLANS

B624 CURB & GUTTER

PLACE NO. 4 BARS ALONG EACH EDGE OF PAVEMENT AND USE L2KTH JOINTS FOR FULL LENGTH OF TURN LANE.

1" MIN. 3" MAX.

PLACE NO. 4 BARS 2'-6"

6"

C2B-D MOD.

L2KTH

INSET "A"

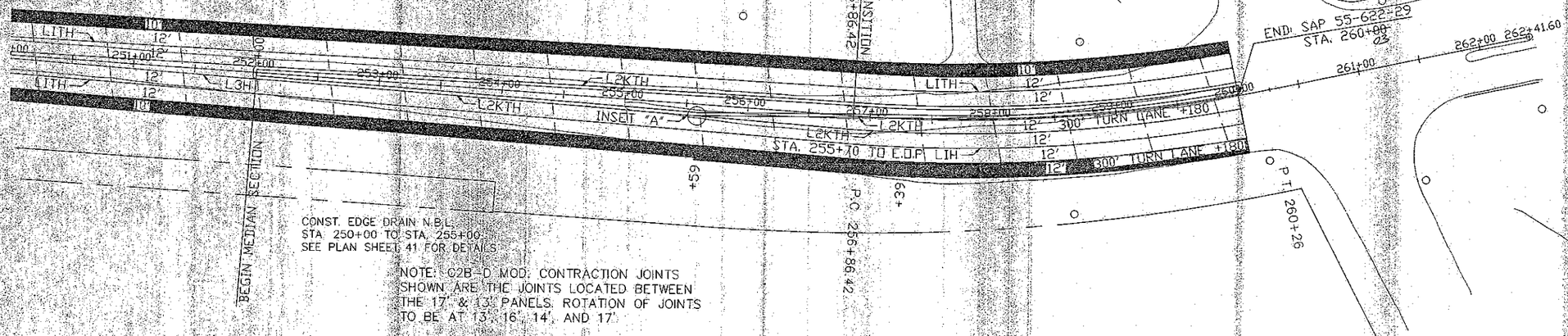
NOTE: CONST 60' OF PERMANENT TERMINAL HEADER AT STA. 260+00 N.B.L. & S.B.L.

CONST. EDGE DRAIN S.B.L.
STA. 249+50 TO STA. 255+00
STA. 255+00 TO STA. ~~259+50~~ 258+90
SEE PLAN SHEET 41 FOR DETAILS

℄ CULV. STA 257+50
CONST. 12' OF REINF. PANELS
FROM STA 257+44 TO STA 257+56

END TRANSITION STA. 256+86.42

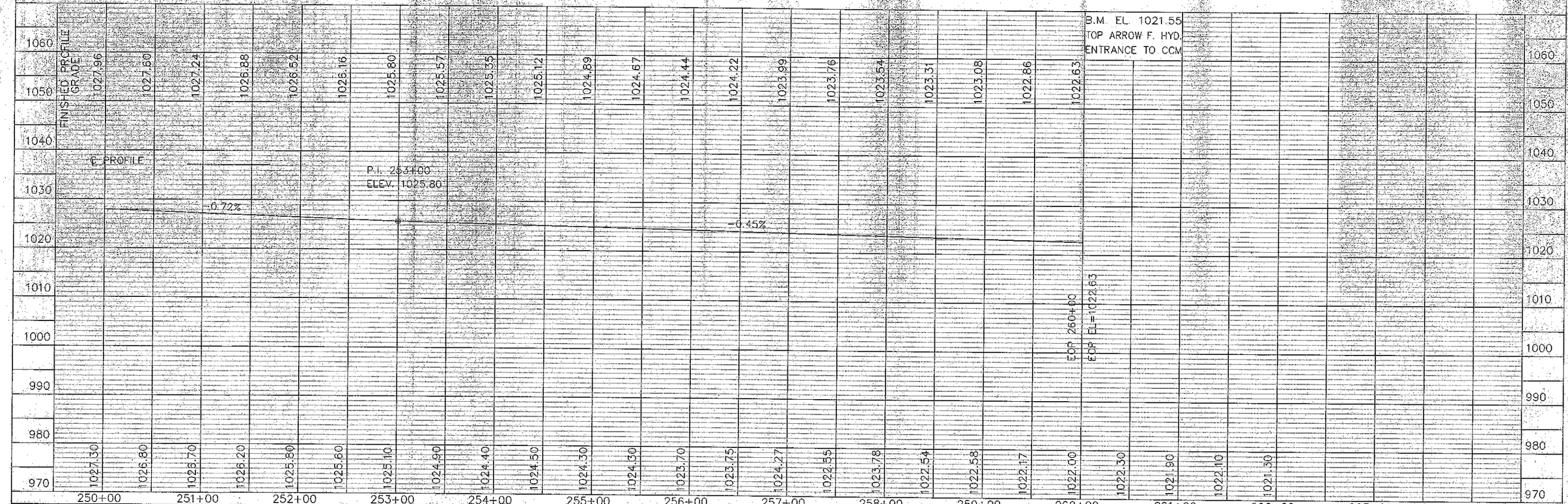
END SAP 55-622-29
STA. 260+00



CONST. EDGE DRAIN N.B.L.
STA. 250+00 TO STA. 255+00
SEE PLAN SHEET 41 FOR DETAILS

NOTE: C2B-D MOD. CONTRACTION JOINTS SHOWN ARE THE JOINTS LOCATED BETWEEN THE 17' & 13' PANELS. ROTATION OF JOINTS TO BE AT 13', 16', 14', AND 17'

B.M. EL. 1021.55
TOP ARROW F. HYD.
ENTRANCE TO CCM



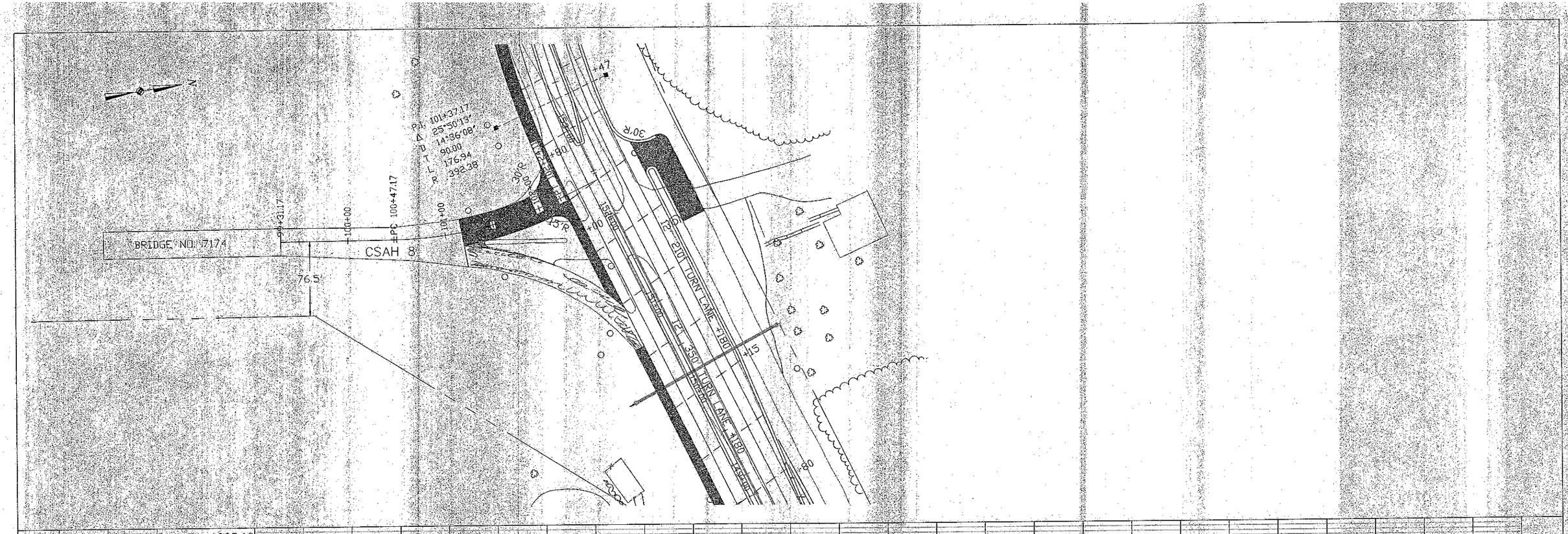
SURFACING

CERTIFIED BY Kevin M Brinnick PROFESSIONAL ENGINEER REG. NO 19917 8/28 1996

S.A.P. 55-525-16 55-622-29

SHEET 38 OF 89 SHEETS

AS BUILT PLANS



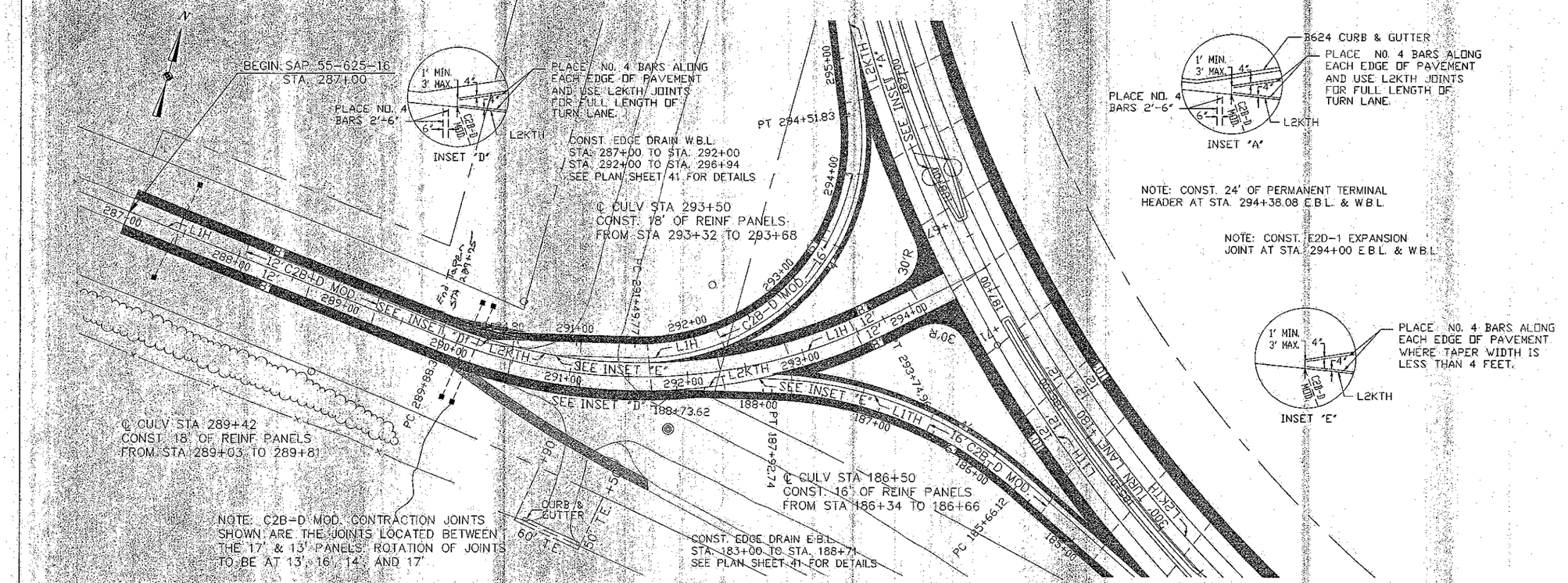
CSAH 8 SURFACING

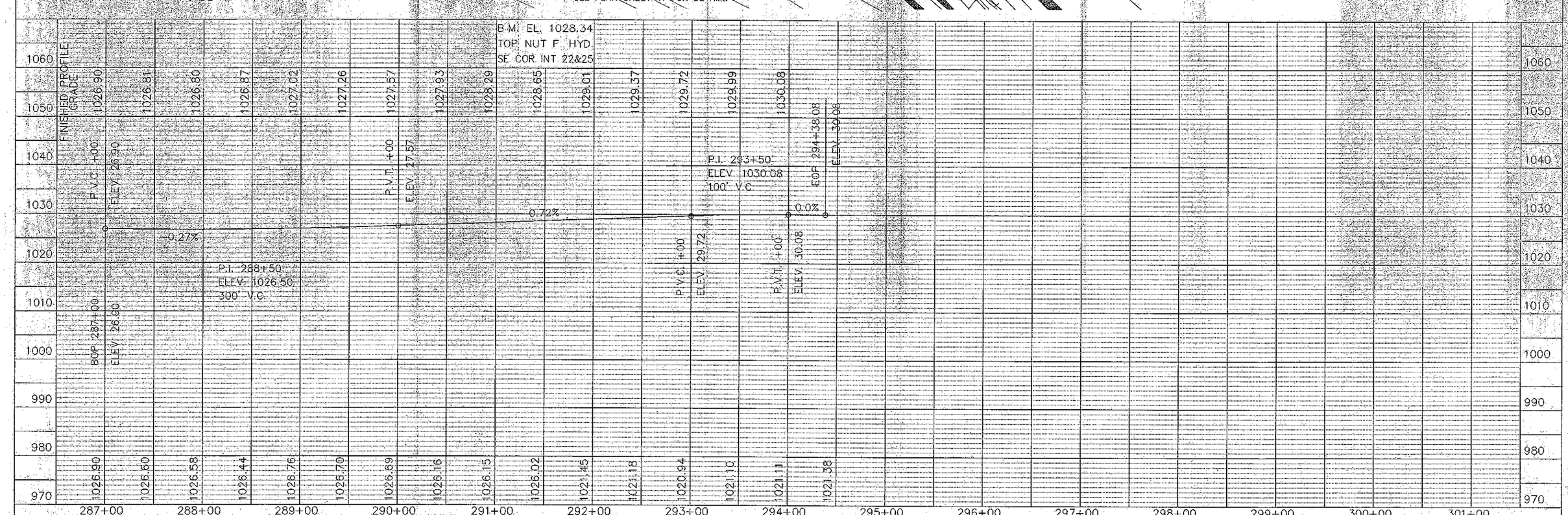
CERTIFIED BY Larry M Bennich PROFESSIONAL ENGINEER REG NO 19917 8/28 19 96

S.A.P. 55-625-16 55-622-29

SHEET 38A OF 89 SHEETS

AS BUILT PLANS





SURFACING | CERTIFIED BY Kay M Bierwirth PROFESSIONAL ENGINEER REG NO 19917 8/28 19 96 | S.A.P. 55-625-16 55-622-29 | SHEET 39 OF 89 SHEETS

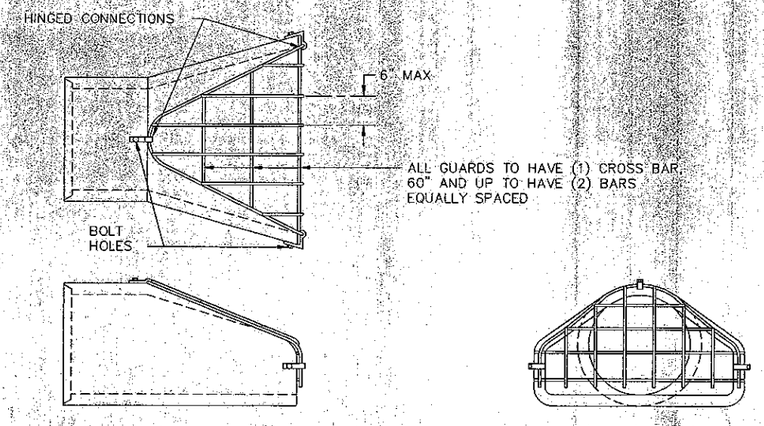
AS BUILT PLANS

UTILITY LOCATIONS
GOPHER STATE ONE CALL 1-800-252-1166
NOTE: CONTRACTOR SHALL VARIFY ALL UNDERGROUND UTILITIES LOCATIONS AND ELEVATIONS PRIOR TO CONSTRUCTION ALL INPLACE UTILITIES MAY NOT BE SHOWN ON THIS PLAN.

SILT FENCE (PREASSEMBLED)	BALE CHECKS
STA. 150+50 TO STA. 151+50 (LT)	STA 147+00 TO STA 151+50 (LT)
STA. 152+50 TO STA. 155+00 (LT)	STA 167+00 TO STA. 176+00 (LT)
STA. 162+00 TO STA. 166+50 (LT)	STA 177+00 TO STA. 204+50 (RT)
STA. 201+00 TO STA. 207+00 (LT)	STA 191+00 TO STA. 201+00 (LT)
STA. 205+00 TO STA. 210+00 (RT)	STA 207+00 TO STA. 209+00 (LT)
STA. 225+00 TO STA. 230+00 (RT)	STA 210+00 TO STA. 214+00 (RT)
STA. 238+00 TO STA. 253+00 (LT)	STA 241+00 TO STA. 251+00 (RT)
STA. 251+50 TO STA. 252+50 (RT)	STA. 253+00 TO STA. 259+00 (RT)

LIGHTING STANDARDS & BASES

LIGHTING UNIT NO.	EXISTING STATION	LOCATION	NEW STATION	LOCATION	MAST ARM	
LU-1	148+93	46' LT.	~~148+95~~	~~48' LT.~~	12'	149+15 51' LT
LU-2	151+54	28' LT.	~~151+55~~	~~48' LT.~~	6'	omit
LU-3	151+65	51' RT.	~~152+20~~	~~53' RT.~~	6'	omit
LU-4	152+48	46' RT.	~~152+75~~	~~55' RT.~~	12'	omit
LU-5	153+17	39' LT.	~~153+20~~	~~50' LT.~~	12'	omit



HOT DIP GALVANIZED PER MN/DOT 3392 OR ASTM-A153

LIGHT DUTY SAFTEY GRATE FOR R. C PIPE APRON

BAR SIZES

	STANDARD DESIGN					HEAVY DESIGN			
	PIPE SIZE	HOLE DIA. REQ'D.	BOLT DIA.	BAR SIZE		PIPE SIZE	HOLE DIA. REQ'D.	BOLT DIA.	BAR SIZE
ROUND	12"-24"	3/4"	5/8"	5/8"	ROUND	12"-18"	3/4"	5/8"	3/4"
	27"-48"	7/8"	3/4"	3/4"		21"-48"	7/8"	3/4"	1"
	54"-90"	1 1/8"	1"	1"		54"-90"	1 1/8"	1"	1 1/4"
ARCH	22"-29"	3/4"	5/8"	5/8"	ARCH	22"	3/4"	5/8"	3/4"
	36"-59"	7/8"	3/4"	3/4"		36"-59"	7/8"	3/4"	1"
	65"-88"	1 1/8"	1"	1"		65"-88"	1 1/8"	1"	1 1/4"

BOLT LG. = PIPE WALL THK. + 2 1/2"

SEED MIXTURE 500 - SEED MIXTURE 1100 - MULCH - DISC ANCHOR - & FERTILIZER

LOCATION				ACRES
DITCH & SLOPES	LT	STA. 147+00 TO STA. 151+00		0.4
SLOPES	LT	STA. 152+50 TO STA. 155+00		0.3
BEHIND CURB & SLOPES	RT	STA. 152+00 TO STA. 173+00		1.0
SLOPES	RT	STA. 174+50 TO STA. 176+38		0.1
BEHIND CURB,DITCH & SLOPES	LT & RT	STA. 176+62 TO STA. 260+00		12.0
DITCH & SLOPES	LT & RT	STA. 184+50 TO STA. 173+00	EXIT LOOP "B"	0.3
DITCH & SLOPES	LT & RT	STA. 291+50 TO STA. 176+38	EXIT LOOP "A"	0.3
DITCH & SLOPES	LT & RT	STA. 287+00 TO STA. 294+38	CSAH 25	0.6
DETENTION POND	RT	STA. 290+00 TO STA. 296+94	CSAH 25	2.0
			TOTAL ACRES	17.0

SODDING LOCATIONS

LOCATIONS				SQ. YD.
BEHIND CURB	RT	STA. 147+00 TO STA. 151+75	CSAH 22	561
BEHIND CURB	LT	STA. 152+50 TO STA. 158+27	CSAH 22	868
BEHIND CURB & SLOPES	LT	STA. 158+51 TO STA. 166+42	CSAH 22	2017
BEHIND CURB & SLOPES	LT	STA. 166+68 TO STA. 176+38	CSAH 22	2086
BEHIND CURB	RT	STA. 173+00 TO STA. 176+38	CSAH 22	581
BEHIND CURB	MEDIAN	STA. 147+00 TO STA. 192+67	CSAH 22	3244
BEHIND CURB	MEDIAN	STA. 252+00 TO STA. 260+00	CSAH 22	464
			TOTAL SQ. YDS.	9,821

WOOD FIBER BLANKET

LOCATIONS				SQ. YD.
2:1 SLOPES	RT	STA. 209+50 TO STA. 211+50	CSAH 22	799
2:1 SLOPES	LT	STA. 239+00 TO STA. 245+50	CSAH 22	3129
2:1 SLOPES	RT	STA. 241+50 TO STA. 244+50	CSAH 22	728
			TOTAL SQ. YDS.	4,656

SANITARY SCHEDULE

STRUCT NO.	CENTERLINE STA.	LOCATION	EXISTING RING EL.	NEW RING EL.	LIN. FT.	REMARKS	
M.H. S-2	151+82.95	159.53' LT.	1014.0			NO CHANGE	
M.H. S-3	153+10.06	116.00' LT.	1015.0	1018.5	~~3.5~~	~~NO CHANGE~~	Removed
M.H. S-4	155+93.60	87.60' LT.	1021.0			NO CHANGE	
M.H. S-5	158+12	104' LT.	1020.0			NO CHANGE	
M.H. S-6	160+93.80	100.10' LT.	1020.0			NO CHANGE	
M.H. S-7	162+86.07	96.59' LT.	1020.0			NO CHANGE	
M.H. S-8	166+67.36	64.76' LT.	1019.0			NO CHANGE	
M.H. S-9	169+46	59' LT.	1017.0			NO CHANGE	
M.H. S-10	172+27.52	73.21' LT.	1017.0			NO CHANGE	
M.H. S-11	175+19.99	72.55' LT.	1017.0	1018.0	~~1~~	RECONSTRUCT	0.36
M.H. S-12	175+22.21	56.33' RT.	1020.0	1024.3	~~4.3~~	RECONSTRUCT	4.68
M.H. S-13	177+32.33	58.15' RT.	1020.0	1021.0	~~1~~	RECONSTRUCT	1.33
M.H. S-14	181+19.42	18.40' RT.	1020.0	1024.98	~~4.98~~	RECONSTRUCT	5.40
M.H. S-15	184+74.87	78.38' LT.	1021.0	1025.5	~~4.5~~	RECONSTRUCT	4.90
M.H. S-16	187+44.64	257.72' LT.	1022.0	1029.04	~~7.04~~	RECONSTRUCT	7.21
M.H. S-17	190+30.48	41.10' LT.	1023.4	1032.08	~~8.68~~	RECONSTRUCT	9.16
M.H. S-18	194+27	78' RT.	1028.8			NO CHANGE	
M.H. S-19	197+36	85' RT.	1036.0			NO CHANGE	
M.H. S-20	200+67	85' RT.	1047.8			NO CHANGE	
		TOTAL =			31.50	LIN. FT.	

CERTIFIED BY Kaye M Bruner PROFESSIONAL ENGINEER REG NO 19917 8/28 1996

S.A.P. 55-622-29 & 55-625-16

SHEET 40 OF 89 SHEETS

AS BUILT PLANS

(A) EQUIPMENT PAD - SEE DETAIL
CONTROLLER CABINET AND LOAD CENTER - PAD MOUNTED

CABINET TO HH. NO. 1 :
3" R.S.C.
3 - 12/C #12
1 - 3/C #12
8 - 2/C #14
1 - 3/C #20 (E.V.P.)

CABINET TO HH. 20 :
4" R.S.C.
9 - 12/C #12
3 - 3/C #12
8 - 2/C #14
1 - 3/C #20 (E.V.P.)

LOAD CENTER TO HH. NO. 1 :
1 1/4" R.S.C.
1 - 3/C #12 (LUM.)

LOAD CENTER TO HH. NO. 20 :
1 1/4" R.S.C.
1 - 3/C #12 (LUM.)

LOAD CENTER TO CABINET :
1 1/4" R.S.C.
2 - 1/C #6
1 - 1/C #6 BARE

(B) S.D.P. WOOD POLE INPLACE
F.& I. 2" R.S.C. RISER AND WEATHERHEAD

POLE TO LOAD CENTER :
2" R.S.C.
3 - 1/C #2

HH. 1 TO HH. 2 :
1 1/4" R.S.C.
2 - 2/C #14

HH. 1 TO HH. 3 :
4 " R.S.C. (60' INPLACE)
3 - 12/C #12
1 - 3/C #12
6 - 2/C #14
1 - 3/C #12 (LUM.)
1 - 3/C #20 (E.V.P.)

HH. 3 TO HH. 4 :
1 1/4" R.S.C. (INPLACE)
2 - 2/C #14

HH. 3 TO HH. 5 :
4" R.S.C. (30' INPLACE)
3 - 12/C #12
1 - 3/C #12
4 - 2/C #14
1 - 3/C #12 (LUM.)
1 - 3/C #20 (E.V.P.)

HH. 5 TO HH. 6 :
3" R.S.C.
3 - 12/C #12
1 - 3/C #12
4 - 2/C #14
1 - 3/C #12 (LUM.)
1 - 3/C #20 (E.V.P.)

HH. 6 TO HH. 7 :
1 1/4" R.S.C.
2 - 2/C #14

HH. 7 TO HH. 8 :
1 1/4" R.S.C.
2 - 2/C #14

HH. 9 TO HH. 10 :
1 1/4" R.S.C.
2 - 2/C #14

HH. 10 TO HH. 11 :
1 1/4" R.S.C.
2 - 2/C #14

HH. 9 TO HH. 12 :
4" R.S.C. (55' INPLACE)
3 - 12/C #12
1 - 3/C #12
2 - 12/C #14
1 - 3/C #12 (LUM.)
1 - 3/C #20 (E.V.P.)

HH. 12 TO HH. 13 :
1 1/4" R.S.C.
2 - 2/C #14

HH. 12 TO HH. 14 :
4" R.S.C. (35' INPLACE)
3 - 12/C #12
1 - 3/C #12
4 - 2/C #14
1 - 3/C #12 (LUM.)
1 - 3/C #20 (E.V.P.)

(1) TYPE PA100 POLE FOUNDATION
TYPE PA100 - A45 - D40 - 12 (DAVIT AT 350°)
LUMINAIRE (250 WATT H.P.S.) WITH P.E.C.
1 - ONE WAY SIGNAL OVERHEAD - END MOUNT
2 - ONE WAY SIGNAL OVERHEAD - MID-MAST ARM MOUNTED AT 15' AND 29' FROM END OF MAST ARM
TYPE 20C (POLE MOUNTED 270°)
2 PEDESTRIAN PUSH BUTTON AND SIGN (R10-4C)

EXTEND INTO HH. 6 :
3" R.S.C.
3 - 12/C #12
1 - 3/C #12
1 - 3/C #12 LUM.
1 - 3/C #20 E.V.P.

(2) TYPE PA90 POLE FOUNDATION
TYPE PA90 - A35 - D40 - 12 (DAVIT AT 350°)
LUMINAIRE (250 WATT H.P.S.) WITH P.E.C.
1 - ONE WAY SIGNAL OVERHEAD - END MOUNT
1 - ONE WAY SIGNAL OVERHEAD - MID-MAST ARM MOUNTED AT 15' FROM END OF MAST ARM
TYPE 20C (POLE MOUNTED 270°)
2 PEDESTRIAN PUSH BUTTON AND SIGN (R10-4C)

EXTEND INTO HH. 9 :
3" R.S.C.
3 - 12/C #12
1 - 3/C #12
1 - 3/C #12 LUM.
1 - 3/C #20 E.V.P.

(3) TYPE PA100 POLE FOUNDATION
TYPE PA100 - A50 - D40 - 12 (DAVIT AT 350°)
LUMINAIRE (250 WATT H.P.S.) WITH P.E.C.
1 - ONE WAY SIGNAL OVERHEAD - END MOUNT
2 - ONE WAY SIGNAL OVERHEAD - MID-MAST ARM MOUNTED AT 15' AND 30' FROM END OF MAST ARM
TYPE 20C (POLE MOUNTED 270°)
2 PEDESTRIAN PUSH BUTTON AND SIGN (R10-4C)

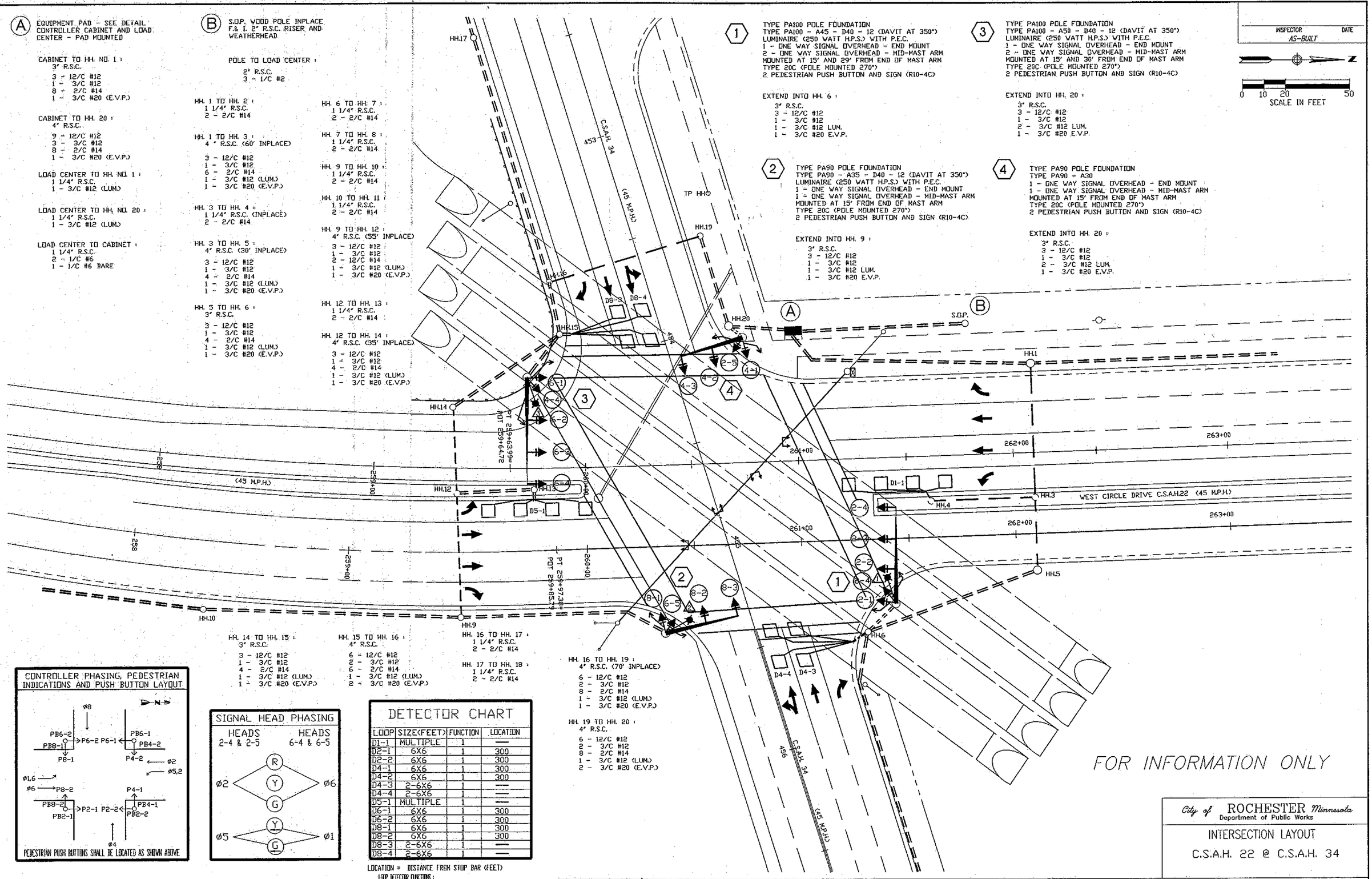
EXTEND INTO HH. 20 :
3" R.S.C.
3 - 12/C #12
1 - 3/C #12
2 - 3/C #12 LUM.
1 - 3/C #20 E.V.P.

(4) TYPE PA90 POLE FOUNDATION
TYPE PA90 - A30
1 - ONE WAY SIGNAL OVERHEAD - END MOUNT
1 - ONE WAY SIGNAL OVERHEAD - MID-MAST ARM MOUNTED AT 15' FROM END OF MAST ARM
TYPE 20C (POLE MOUNTED 270°)
2 PEDESTRIAN PUSH BUTTON AND SIGN (R10-4C)

EXTEND INTO HH. 20 :
3" R.S.C.
3 - 12/C #12
1 - 3/C #12
2 - 3/C #12 LUM.
1 - 3/C #20 E.V.P.

INSPECTOR DATE
AS-BUILT

0 10 20 50
SCALE IN FEET



HH. 14 TO HH. 15 :
3" R.S.C.
3 - 12/C #12
1 - 3/C #12
1 - 3/C #14
1 - 3/C #12 (LUM.)
1 - 3/C #20 (E.V.P.)

HH. 15 TO HH. 16 :
4" R.S.C.
6 - 12/C #12
2 - 3/C #12
6 - 2/C #14
1 - 3/C #12 (LUM.)
2 - 3/C #20 (E.V.P.)

HH. 16 TO HH. 17 :
1 1/4" R.S.C.
2 - 2/C #14

HH. 17 TO HH. 18 :
1 1/4" R.S.C.
2 - 2/C #14

HH. 16 TO HH. 19 :
4" R.S.C. (70' INPLACE)
6 - 12/C #12
2 - 3/C #12
8 - 2/C #14
1 - 3/C #12 (LUM.)
1 - 3/C #20 (E.V.P.)

HH. 19 TO HH. 20 :
4" R.S.C.
6 - 12/C #12
2 - 3/C #12
8 - 2/C #14
1 - 3/C #12 (LUM.)
2 - 3/C #20 (E.V.P.)

CONTROLLER PHASING, PEDESTRIAN INDICATIONS AND PUSH BUTTON LAYOUT

PEDESTRIAN PUSH BUTTONS SHALL BE LOCATED AS SHOWN ABOVE

SIGNAL HEAD PHASING

DETECTOR CHART

LOOP	SIZE(FEET)	FUNCTION	LOCATION
D1-1	MULTIPLE	1	—
D2-1	6X6	1	300
D2-2	6X6	1	300
D4-1	6X6	1	300
D4-2	6X6	1	300
D4-3	2-6X6	1	—
D4-4	2-6X6	1	—
D5-1	MULTIPLE	1	—
D6-1	6X6	1	300
D6-2	6X6	1	300
D8-1	6X6	1	300
D8-2	6X6	1	300
D8-3	2-6X6	1	—
D8-4	2-6X6	1	—

LOCATION = DISTANCE FROM STOP BAR (FEET)
LOOP DETECTOR FUNCTIONS :
1.) CALL AND EXTEND

FOR INFORMATION ONLY

City of ROCHESTER Minnesota
Department of Public Works

INTERSECTION LAYOUT
C.S.A.H. 22 @ C.S.A.H. 34

CERTIFIED BY Lowell W. Brimmer REG NO. 19917 DATE 8/28/96
PROFESSIONAL ENGINEER

S. A. P. 55-622-29 & 55-625-16

Sheet No. 48 of 89 Sheets

FIELD BOOK NO.

INSPECTOR DATE

AS-BUILT

N

0 10 20 50
SCALE IN FEET

FIELD BOOK NO.

HH.18 D8-1 D8-2

HH.17

36 AVENUE NW

C.S.A.H. 34 (45 MPH)

TP HH

S.U.P.

HH.1 HH.2 D6-1 D6-2

WEST CIRCLE DRIVE C.S.A.H.22 (45 M.P.H.)

255 256 257 258 259 260 261+00 262+00 263+00 264+00 265 266

PI 258+69.95= PDT 260+84.72

PT 255+97.38= PDT 258+85.79

D2-2 D2-1

HH.11 HH.10

HH.6

C.S.A.H. 34 (45 M.P.H.)

HH.7

HH.8

D4-2 D4-1

FOR INFORMATION ONLY

City of ROCHESTER Minnesota
Department of Public Works

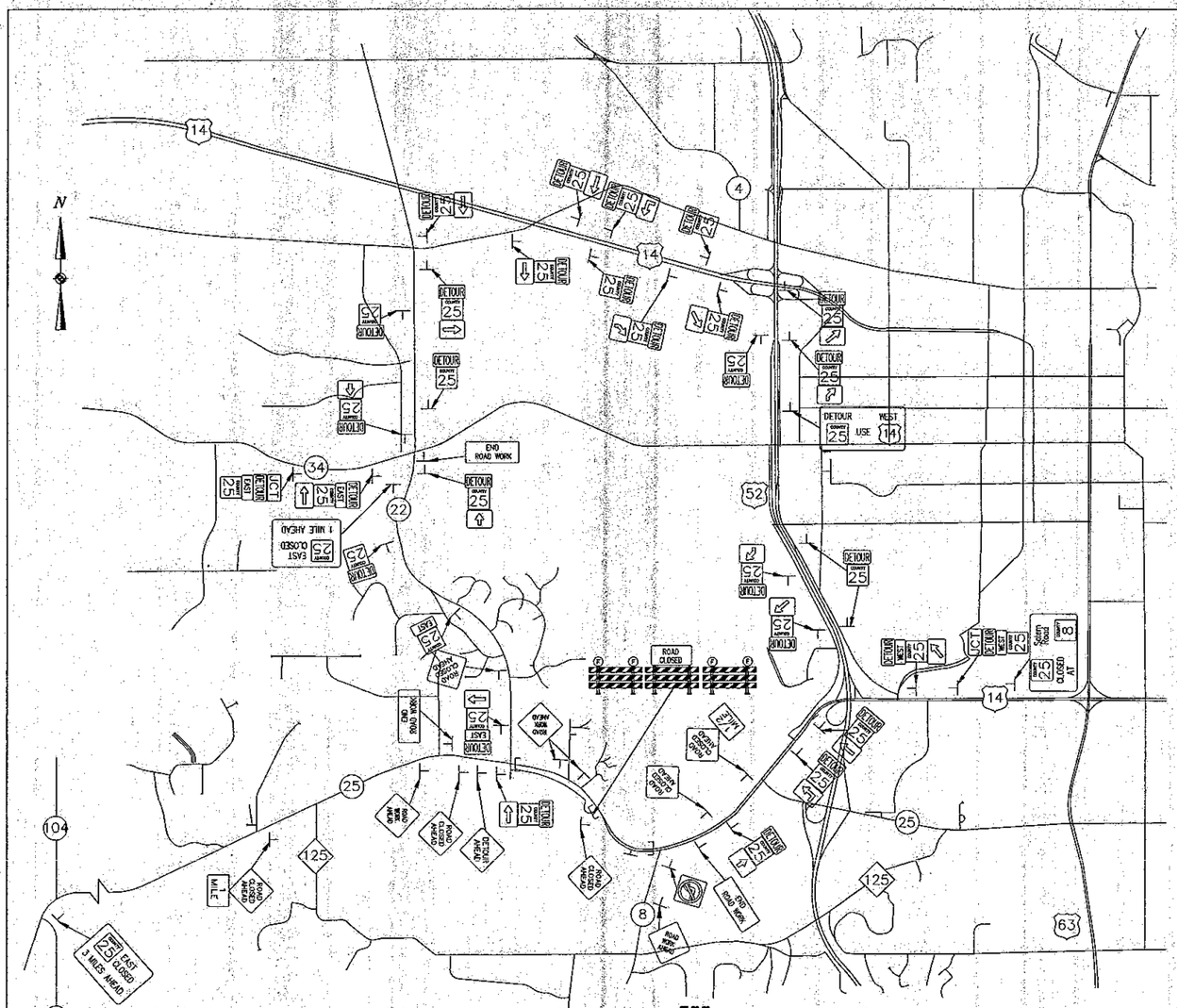
ADVANCE LOOP DETECTOR LAYOUT

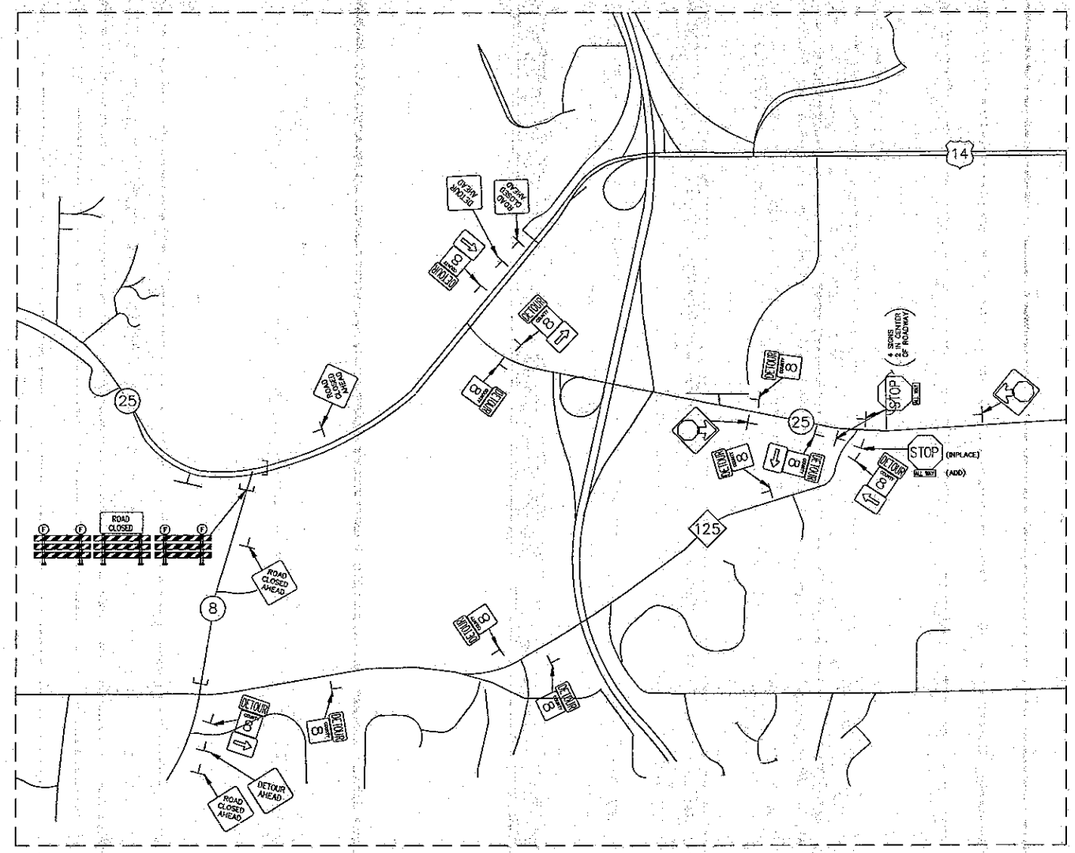
C.S.A.H. 22 @ C.S.A.H. 34

CERTIFIED BY Lloyd M Bierwirth REG NO 19917 1996
PROFESSIONAL ENGINEER

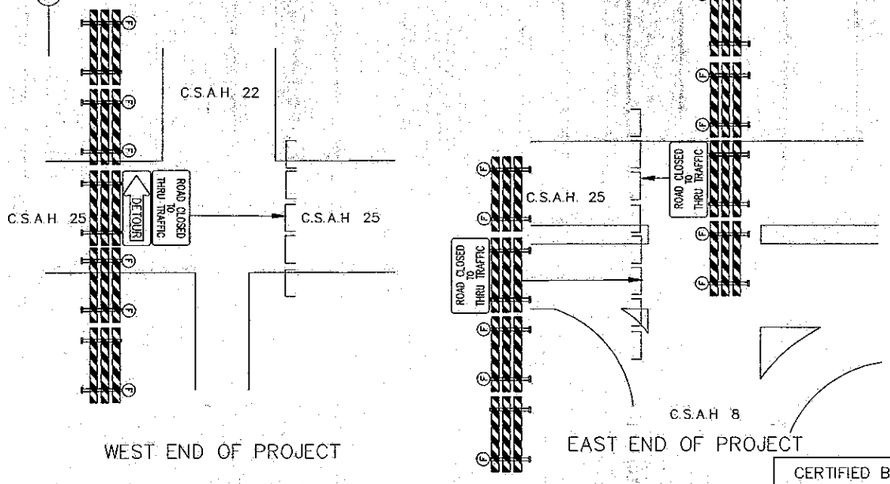
S.A.P. 55-622-29 & 55-625-16

Sheet No. 49 of 89 Sheets





TEMPORARY SIGNING DETOUR



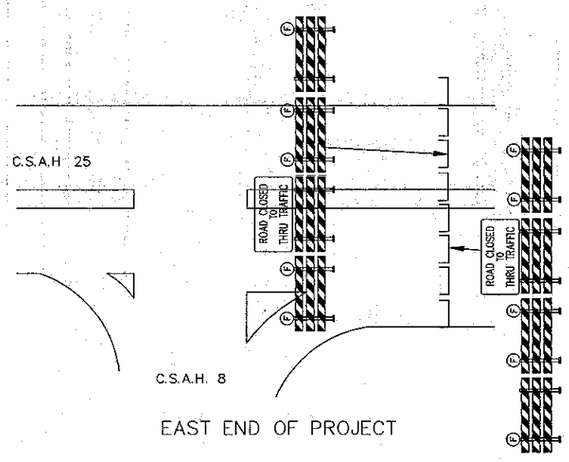
WEST END OF PROJECT

EAST END OF PROJECT

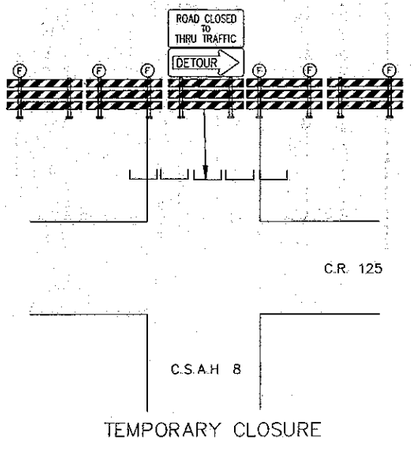
TRAFFIC CONTROL LEGEND

⊥ POST OR STAND MOUNTED SIGN

⊔ TYPE III BARRICADE



EAST END OF PROJECT

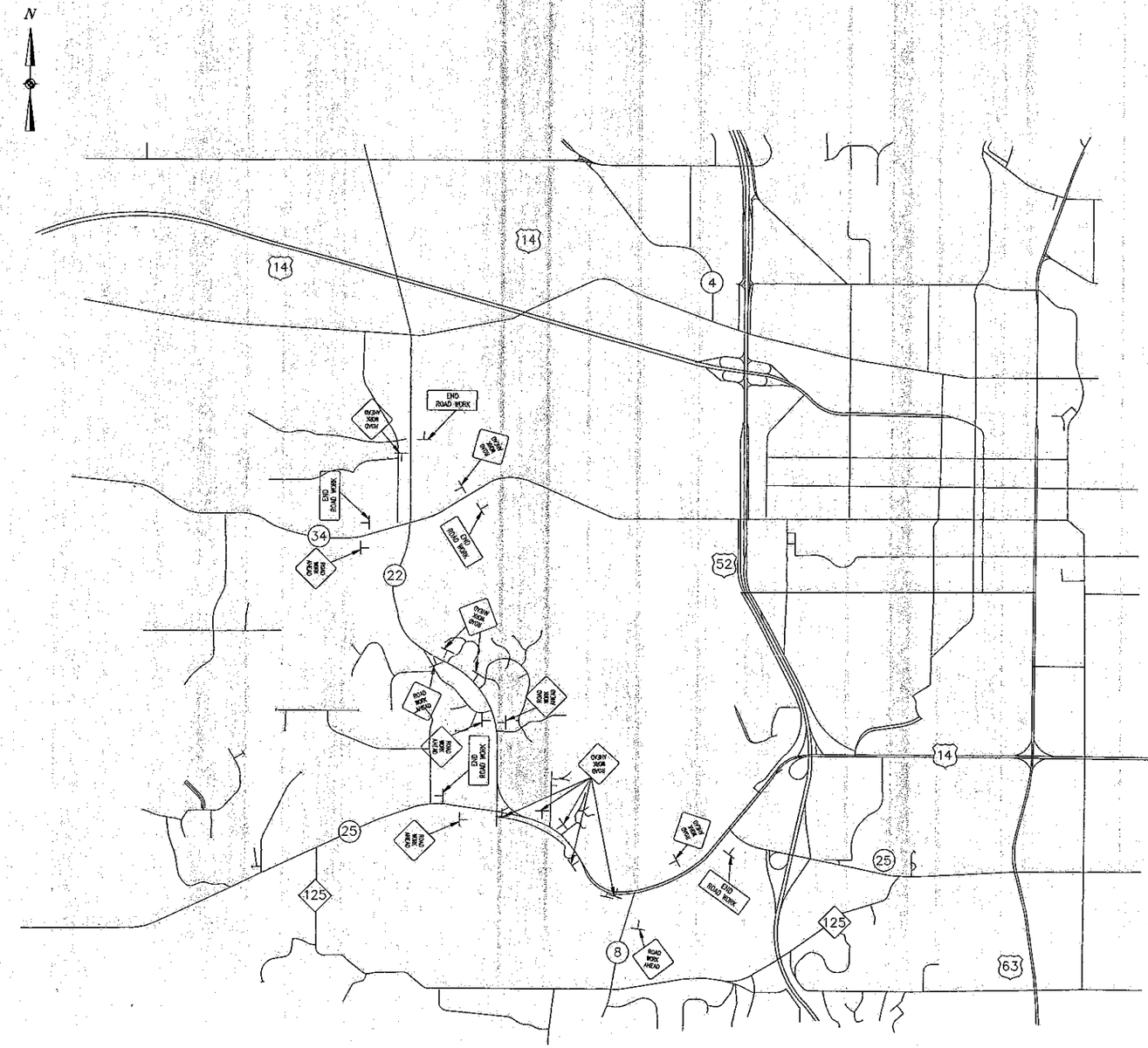


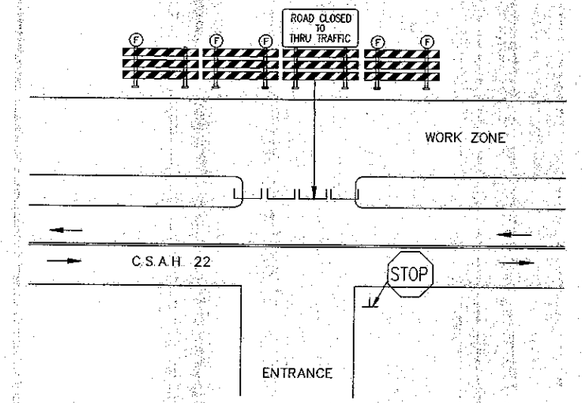
TEMPORARY CLOSURE

TRAFFIC CONTROL PLAN C.S.A.H. 25 DETOUR (PHASE 1)

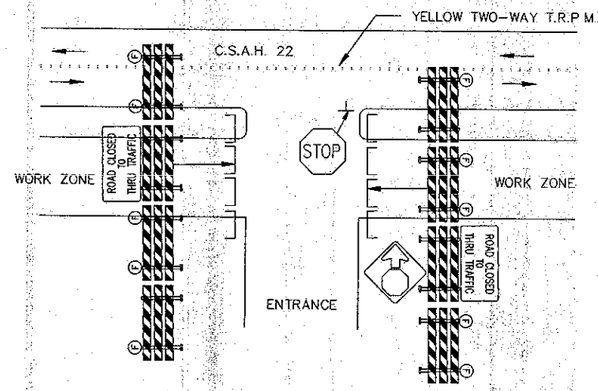
CERTIFIED BY Kyle M Brunner PROFESSIONAL ENGINEER REG. NO 19917 8/28 1996

S.A.P. 55-622-29 & 55-625-16 OLMSTED COUNTY Sheet 50 of 89 Sheets





TYPICAL SIGNING
FOR PUBLIC & PRIVATE ROAD INTERSECTIONS



TYPICAL SIGNING
FOR PUBLIC & PRIVATE ROAD INTERSECTIONS

TRAFFIC CONTROL LEGEND

⊥ POST OR STAND MOUNTED SIGN

⌴ TYPE III BARRICADE

TRAFFIC CONTROL PLAN SIGNING DURING CONSTRUCTION/PAVING (PHASE 2)

CERTIFIED BY Kaye M Bairnick PROFESSIONAL ENGINEER REG NO 19917 8/28 1996

S.A.P. 55-622-29 & 55-625-16 OLMSTED COUNTY Sheet 51 of 89 Sheets

N

TEMPORARY SIGNING DETOUR

ESTIMATE OF TRAFFIC CONTROL DEVICES									
DEVICE	NUMBER	SIZE	COLOR	QUANTITY	DEVICE	NUMBER	SIZE	COLOR	QUANTITY
STOP	R1-1	30 x 30	WH/RED	4	COUNTY 8	M1-X4A	24 x 24	BLK/WH	11
ALL WAY	R1-4	18 x 6	WH/RED	5	DETOUR	M4-8	24 x 12	BLK/OR	11
ROAD CLOSED TO THRU TRAFFIC	R11-4	60 x 30	BLK/WH	1	DETOUR	M4-10R	48 x 18	BLK/OR	1
	W3-1A	36 x 36	BLK,RED &YW/WHT	2		M6-1	21 x 15	BLK/WH	5
DETOUR AHEAD	W20-2	48 x 48	BLK/OR	2		TYPE III	MIN. 6'	OR & BLK	8
ROAD CLOSED AHEAD	W20-3	48 x 48	BLK/OR	2	(F)	TYPE A	FLASHING LAMPS	AMBER	10

SIGNING DURING CONSTRUCTION/PAVING (PHASE 2)

ESTIMATE OF TRAFFIC CONTROL DEVICES									
DEVICE	NUMBER	SIZE	COLOR	QUANTITY	DEVICE	NUMBER	SIZE	COLOR	QUANTITY
STOP	R1-1	30 x 30	WH/RED	7	NO PASSING ZONE	W14-3	36x48x40	BLK/OR	8
DO NOT PASS	R4-1	24 x 30	BLK/WHT	8	ROAD WORK AHEAD	W20-1	48 X 48	BLK/OR	17
ROAD CLOSED TO THRU TRAFFIC	R11-4	60 x 30	BLK/WH	18	LEFT LANE CLOSED	W21-X5L	36 x 36	BLK/OR	3
	W1-6	48 x 24	BLK/YW	3	END ROAD WORK	G20-2	60 x 24	BLK/OR	5
	W3-1A	36 x 36	BLK,RED &YW/WHT	7		TYPE III	MIN 6'	OR & BLK	48
	W4-2L	36 x 36	BLK/YW	3	(F)	TYPE A	FLASHING LAMPS	AMBER	51
	W6-3	36 x 36	BLK/OR	8		DRUM LIKE CHANNELIZER	APPROX. 36"	WHT & OR	216

C.S.A.H 25 DETOUR (PHASE 1)

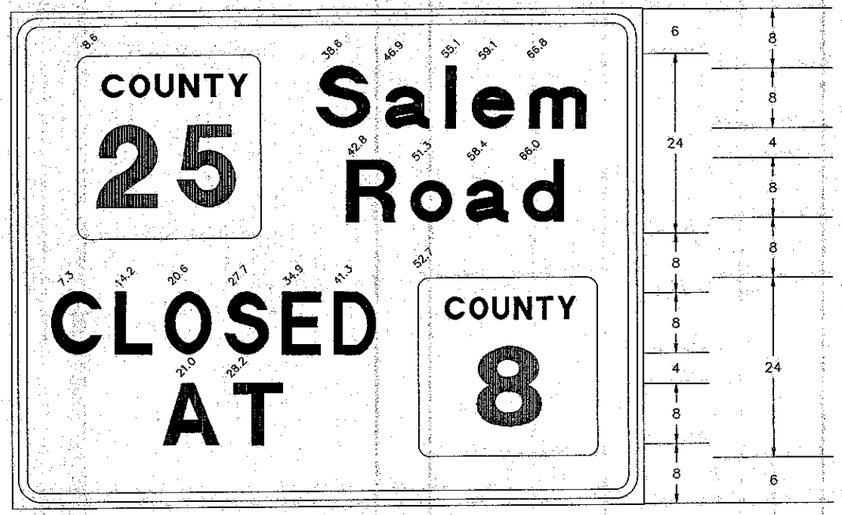
ESTIMATE OF TRAFFIC CONTROL DEVICES									
DEVICE	NUMBER	SIZE	COLOR	QUANTITY	DEVICE	NUMBER	SIZE	COLOR	QUANTITY
	R3-2	24 x 24	BLK&RED	1		M5-1	21 x 15	BLK/WH	2
ROAD CLOSED	R11-2	48 x 30	BLK/WHT	1		M5-2	21 x 15	BLK/WH	3
ROAD CLOSED TO THRU TRAFFIC	R11-4	60 x 30	BLK/WH	3		M6-1	21 x 15	BLK/WH	8
ROAD WORK AHEAD	W20-1	48 X 48	BLK/OR	2		M6-2	21 x 15	BLK/WH	4
DETOUR AHEAD	W20-2	48 x 48	BLK/OR	1		M6-3	21 x 15	BLK/WH	2
ROAD CLOSED AHEAD	W20-3	48 x 48	BLK/OR	7	END ROAD WORK	G20-2	60 x 24	BLK/OR	3
1 MILE	W20-100P	36 x 24	BLK/OR	1	COUNTY 25 Salem Road CLOSED AT COUNTY 8	SPECIAL	78 x 60	BLK/OR	1
1/2 MILE	W20-100P	36 x 24	BLK/OR	1	DETOUR WEST COUNTY 25 USE STATE 14	SPECIAL	90 x 48	BLK/OR	1
COUNTY 25	M1-X4A	24 x 24	BLK/WH	32	COUNTY 25 EAST CLOSED 1 MILE AHEAD	SPECIAL	66 x 36	BLK/OR	1
EAST	M3-2	24 x 12	BLK/WH	3	COUNTY 25 EAST CLOSED 3 MILES AHEAD	SPECIAL	66 x 36	BLK/OR	1
WEST	M3-4	24 x 12	BLK/WH	2		TYPE III	MIN. 6'	OR & BLK	16
DETOUR	M4-8	24 x 12	BLK/OR	30	(F)	TYPE A	FLASHING LAMPS	AMBER	20
DETOUR	M4-10L	48 x 18	BLK/OR	1					

TRAFFIC CONTROL NOTES

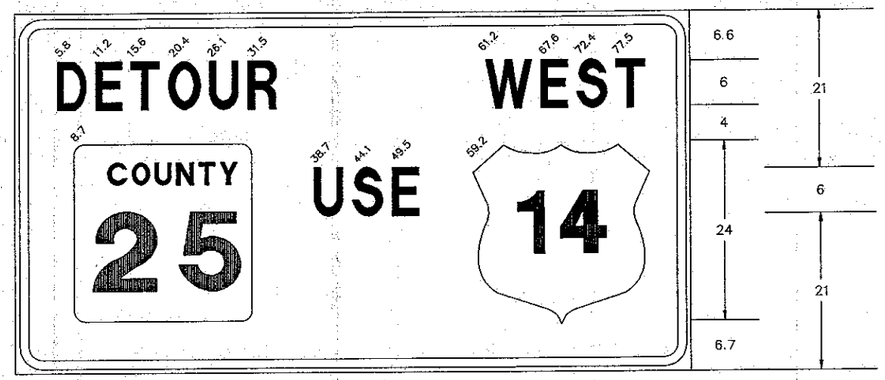
1. THE LOCATION OF SIGNS AND DEVICES WILL BE STAKED BY THE ENGINEER IN THE FIELD.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TRAFFIC CONTROL ON THIS PROJECT.
3. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES INCLUDING THE TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS FIELD MANUAL DATED APRIL 1995.
4. CONSTRUCTION ZONE SIGNING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND WILL INCLUDE, BUT NOT BE LIMITED TO SIGNS FOR LANE CLOSURE, MACHINARY AHEAD, BUMP, DIP, LOOSE GRAVEL, ECT. THE NUMBER AND LOCATION WILL BE DETERMINED BY THE CONTRACTORS OPERATION.
5. ALL BARRICADES ON THIS PROJECT SHALL BE REFLECTORIZED ON BOTH SIDES.

TRAFFIC CONTROL PLAN

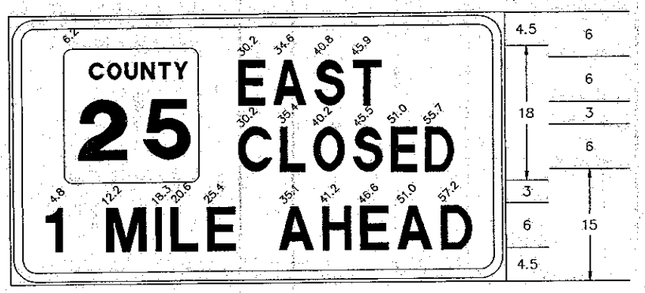
CERTIFIED BY Kaye M Brenick REG NO 19917 8/28 1996
PROFESSIONAL ENGINEER



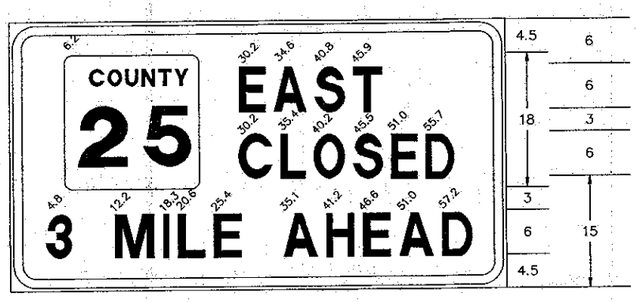
84" x 66" 3"R. 1.2"B.



90" x 48" 3"R. 1.2"B.



66" x 36" 2.2"R. 0.9"B.

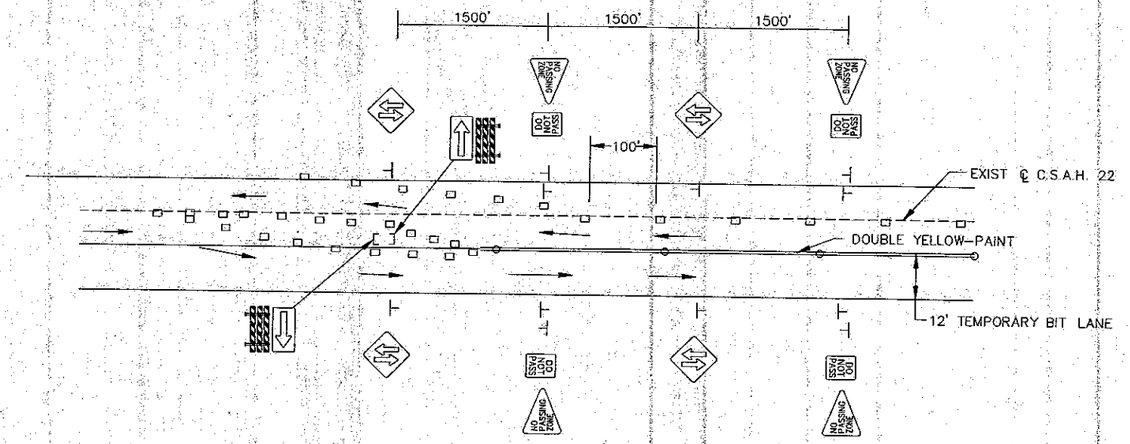


66" x 36" 2.2"R. 0.9"B.

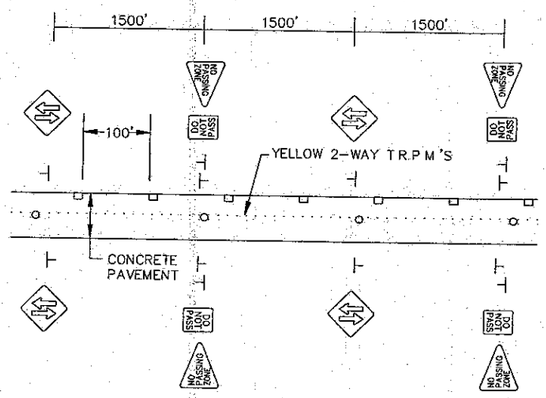
TRAFFIC CONTROL PLAN

CERTIFIED BY Kaye M Briesch PROFESSIONAL ENGINEER REG. NO. 19917 8/28 1996

S.A.P. 55-622-29 & 55-625-16 OLMSTED COUNTY



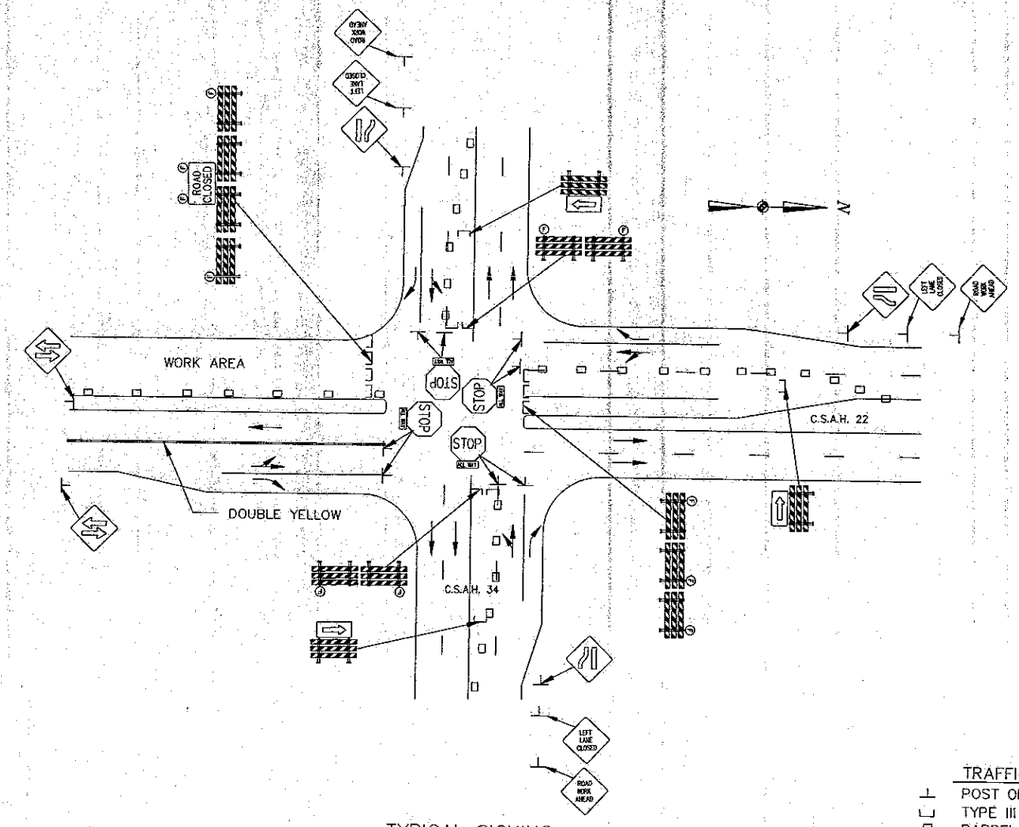
TYPICAL TWO-WAY SECTION (TEMPORARY)



TYPICAL TWO-WAY SECTION (FINISH)

NOTE: 1. INSTALL YELLOW 2-WAY TEMPORARY RAISED PAVEMENT MARKERS TO SIMULATE A DOUBLE SOLID YELLOW CENTERLINE. THIS WILL REQUIRE PLACING THE T.R.P.M.'S SIDE BY SIDE AT 10' SPACING ALONG THE CENTERLINE. (APPROX. 2,260 T.R.P.M.'S)

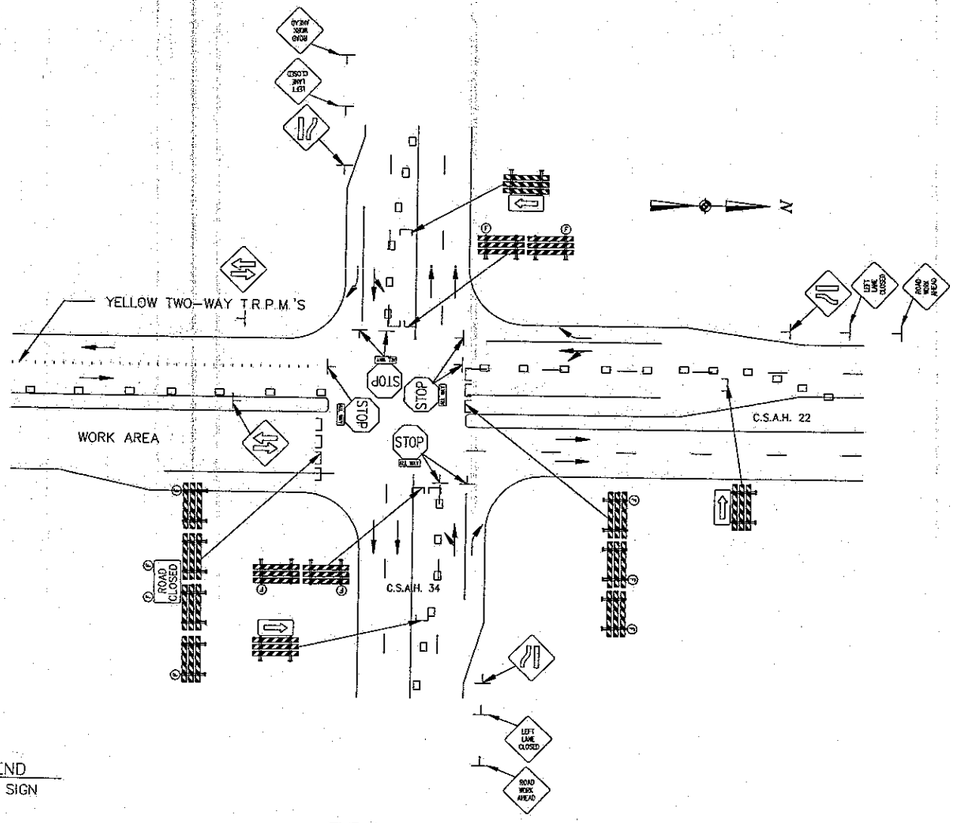
2. TUBE DELINEATORS SHALL BE SPACED EVERY 100' WITH EXCEPTION OF 500' FROM AN INTERSECTION 50' SPACING SHALL BE USED.



TYPICAL SIGNING
C.S.A.H. 22 & C.S.A.H. 34 INTERSECTION

TRAFFIC CONTROL LEGEND

- ⊥ POST OR STAND MOUNTED SIGN
- ⊔ TYPE III BARRICADE
- ▯ BARREL
- ○ TUBE DELINEATORS



TYPICAL SIGNING
C.S.A.H. 22 & C.S.A.H. 34 INTERSECTION

TRAFFIC CONTROL PLAN

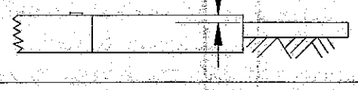
CERTIFIED BY Kenneth M Reinert PROFESSIONAL ENGINEER REG. NO 19917 8/28 1996

State Aid Project No. 55-622-29 & 55-625-16 Sheet 54 of 89 Sheets

EDGE DROP OFF

W8-9 LOW SHOULDER

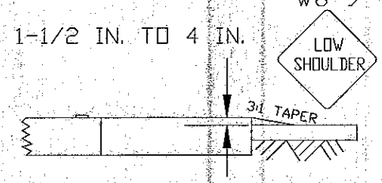
MAXIMUM 1-1/2 IN.



EDGE DROP-OFF WITH TAPER

W8-9 LOW SHOULDER

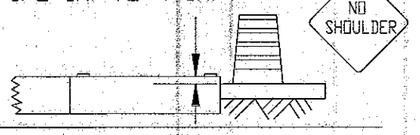
1-1/2 IN. TO 4 IN.



SHOULDER SHALL BE CLOSED WITH APPROPRIATE WARNING SIGNS AND CHANNELIZING DEVICES AT A MAXIMUM OF 250 FT. SPACING.

W21-X1 NO SHOULDER

1-1/2 IN. TO 4 IN.

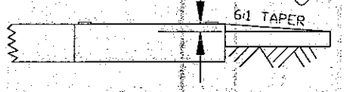


EDGE DROP-OFF WITH TAPER (SHOULDER - OPEN)

THIS CONDITION WILL NOT BE PERMITTED UNLESS THE 6:1 SLOPE IS COMPACTED SO THAT A VEHICLE MAY SAFELY DRIVE ONTO IT WITHOUT LOSING CONTROL AND IN THE OPINION OF THE ENGINEER THERE ARE NO OTHER HAZARDOUS CONDITIONS.

W8-4 SOFT SHOULDER

4 IN. TO 12 IN.

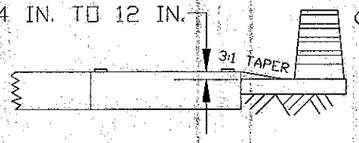


EDGE DROP-OFF WITH TAPER (SHOULDER - CLOSED)

SHOULDER SHALL BE CLOSED WITH APPROPRIATE WARNING SIGNS AND CHANNELIZING DEVICES AT A MAXIMUM OF 250 FT. SPACING.

W21-X1 NO SHOULDER

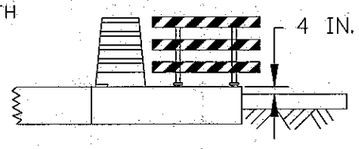
4 IN. TO 12 IN.



ADJACENT LANE SHALL BE CLOSED WITH APPROPRIATE LANE CLOSURE LAYOUT.

CHANNELIZING DEVICES TO BE AT A MAXIMUM OF 100 FT. SPACING AND TYPE III EVERY 1000 FT.

4 IN. TO 12 IN.

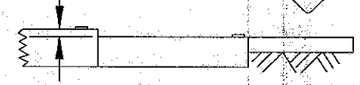


NOTE: SIGNS ARE REQUIRED ONLY ON THE SIDE OF THE ROAD THAT IS AFFECTED BY CONSTRUCTION (EXCEPT SIGNS THAT ARE FOR A LANE CLOSURE ON DIVIDED HIGHWAYS).

UNEVEN LANES

W8-11 UNEVEN LANES

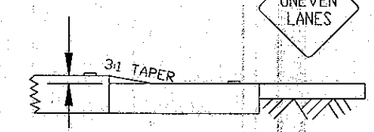
MAXIMUM 1-1/2 IN.



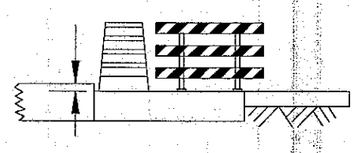
UNEVEN LANES WITH TAPER

W8-11 UNEVEN LANES

1-1/2 IN. TO 4 IN.



1-1/2 IN. TO 4 IN.



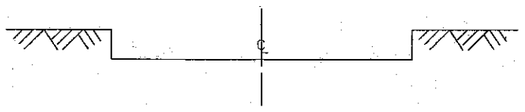
LANE SHALL BE CLOSED WITH APPROPRIATE LANE CLOSURE LAYOUT. CHANNELIZING DEVICES AT A MAXIMUM OF 100 FT. SPACING AND A TYPE III BARRICADE EVERY 1000 FT.

NOTE: FOR DIVIDED HIGHWAYS, USE SIGNS ON RIGHT AND LEFT SIDE. SIGN SEQUENCE SHOWN FOR ONE DIRECTION ONLY; OTHER DIRECTION SHALL BE IDENTICAL.

MILLED EDGE

W21-X9 HIGH SHOULDER

W21-X9 HIGH SHOULDER



NOTE: MILLED EDGES SHOULD BE TREATED WITH TAPERS, CHANNELIZERS, AND SIGNING AS SHOWN ON EDGE DROP-OFF DETAILS.

GUIDELINES

THESE GUIDELINES ARE INTENDED TO INCREASE TRAFFIC SAFETY USING TRAFFIC CONTROL DEVICES, SAFTEY RELATED APPURTENANCES, AND CONSTRUCTION TECHNIQUES FOR UNEVEN LANES. MILLED EDGES, AND EDGE DROP-OFFS THAT OCCUR IN HIGHWAY WORK ZONES. THE BEST WAY TO INCREASE TRAFFIC SAFETY IS TO MAKE EVERY ATTEMPT TO MINIMIZE EXPOSURE TO UNEVEN LANES, MILLED EDGES, AND EDGE DROP-OFFS; HOWEVER, IT IS REALIZED THAT THIS IS OFTEN NOT POSSIBLE OR FEASIBLE, ONLY WHEN UNEVEN LANES. MILLED EDGES, OR EDGE DROP-OFFS ARE DEEMED NECESSARY, SHALL THE APPROPRIATE PORTIONS) OF THESE GUIDELINES BE APPLIED TO ENHANCE TRAFFIC SAFETY.

APPROPRIATE UNEVEN LANE WARNING SIGNS OR SHOULDER WARNING SIGNS SHALL BE REPEATED AFTER EACH INTERSECTION.

MAXIMUM WARNING SIGN SHALL BE:
- A - 1 MILE WHEN THE SPEED LIMIT IS GREATER THAN 30 MPH AND
- B - 1/4 MILE WHEN THE SPEE LIMIT IS 30 MPH OR LESS.

WHEN SPACE PERMITS, MINIMUM WARNING SIGN SIZE SHALL BE:
- A - 48 IN. x 48 IN. WHEN THE SPEED LIMIT IS GREATER THEN 30 MPH AND
- B - 36 IN. x 36 IN. WHEN THE SPEED LIMIT IS 30 MPH OR LESS.

1. FOR DROP-OFFS OF 1/2 INCHES OR LESS, APPROPRIATE WARNING SHALL BE PROVIDED.

2. FOR DROP-OFFS GREATER THAN 1-1/2 INCHES UP TO 4 INCHES:
   - A - THE EDGE SHALL BE TAPERED AND COMPACTED AT A RATE OF 3:1 AND APPROPRIATE WARNING SIGNS SHALL BE PROVIDED; OR
   - B - IF THE TAPER IS NOT PROVIDED, TRAFFIC SHALL NOT BE PERMITTED TO CROSS THE DROP-OFF AND THAT PORTION OF THE ROADWAY SHALL BE CLOSED TO TRAFFIC WITH THE APPROPRIATE WARNING SIGNS AND DEVICES.

3. FOR DROP-OFFS GREATER THAN 4 INCHES UP TO 12 INCHES:
   - A - THE EDGE SHALL TAPERED AND COMPACTED AT A RATE OF 6:1 AND APPROPRIATE WARNING SIGNS SHALL BE PROVIDED, (6:1 TAPER SHALL NOT BE USED AS A TRAFFIC CARRYING LANE);
   - B - THE EDGE SHALL BE TAPERED AND COMPACTED AT A RATE OF 3:1, TRAFFIC SHALL NOT BE ALLOWED TO CROSS THE DROP-OFF, AND THAT PORTION OF THE ROADWAY SHALL BE CLOSED TO TRAFFIC WITH APPROPIATE WARNING SIGNS AND CHANNELIZING DEVICES; OR
   - C - IF A TAPOR IS NOT PROVIDED, THE TRAFFIC OR AUXILIARY LANE ADJACENT TO THE DROP-OFF SHALL BE CLOSED TO TRAFFIC WITH THE APPROPRIATE WARNING SIGNS AND CHANNELIZING DEVICES OR A POSITIVE BARRIER, SUCH AS A PORTABLE PRECAST CONCRETE BARRIER, SHALL BE PROVIDED TO PREVENT TRAFFIC FROM CROSSING THE DROP-OFF.

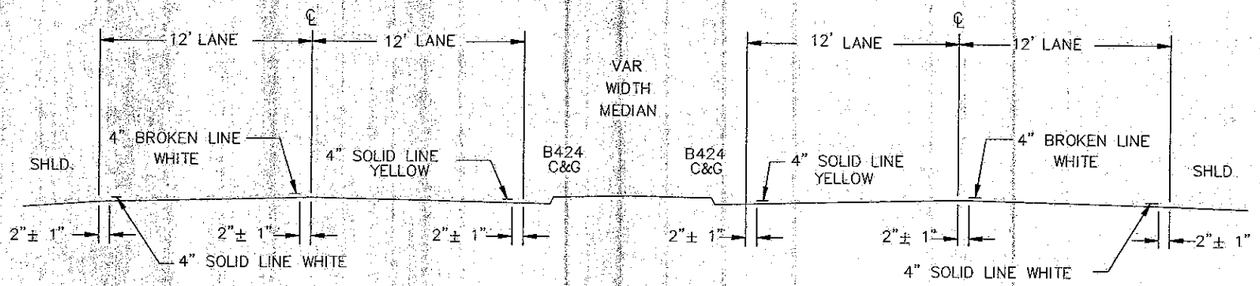
4. FOR SHOULDER EDGE DROP-OFFS:
   - A - 0-2 FOOT SHOULDER WIDTH AND A 0-12 IN. DROP-OFF; USE GUIDELINES AS SHOWN.
   - B - 2-8 FOOT SHOULDER WIDTH AND A 0-4 IN. DROP-OFF; INSTALL EDGELINE OR USE GUIDELINES AS SHOWN.
   - C - 8 FT. OR GREATER SHOULDER WIDTH AND A 0-4 IN. DROP-OFF; NO TRAFFIC CONTROL REQUIRED.
   - D - GREATER THAN 2 FOOT SHOULDER WIDTH AND A 4-12 IN. DROP-OFF; USE GUIDELINES AS SHOWN.

5. DROP-OFFS GREATER THAN 4 IN. ADJACENT TO TRAFFIC CARRYING LANES ARE PERMITED WITHOUT TAPERS OR POSITIVE BARRIERS FOR:
   - A - PROJECTS WITHIN URBAN AREA WHEN THE SPEED LIMIT IS 30 MPH OR LESS; OR
   - B - SHORT TERM (7 CALENDAR DAYS OR LESS) CONCRETE OR UTILITY REPAIR LESS THAN 50 FT. IN LENGTH WHEN THE SPEED LIMIT IS GREATER THAN 30 MPH.

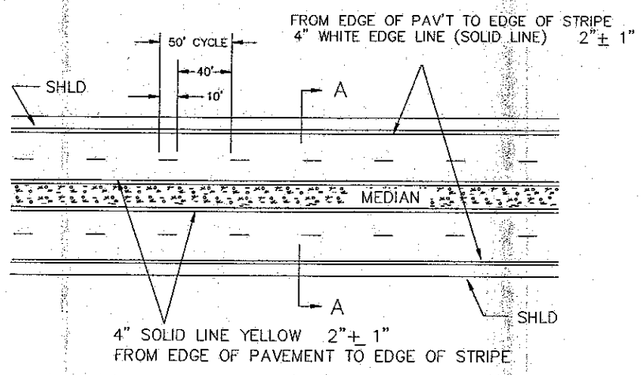
6. AT NO TIME SHALL THERE BE MORE THAN ONE UNEVEN LANE CONDITION BETWEEN THE TRAFFIC CARRYING LANES WHICH INCLUDE AUXILIARY LANES, TURN LANES, AND RAMP ACCESS OR EGRESS AREA. WEATHER PERMITTING, ALL EXPOSED UNEVEN LANE CONDITIONS WITHIN THE TRAFFIC CARRYING LANES SHALL BE "MATCHED" WITHIN 24 HOURS.

7. MILLING OPERATIONS SHALL BE REQUIRED TO COMPLETE THE FULL WIDTH OF THE SECTION UNDER CONSTRUCTION AT THE END OF EACH WORK PERIOD.

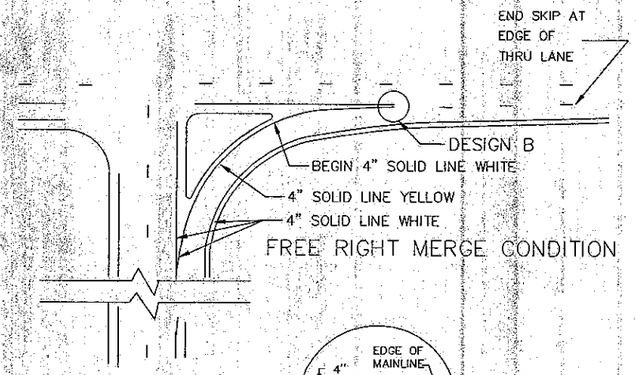
TRAFFIC CONTROL TREATMENT OF LONGITUDINAL JOINTS AND EDGE DROP-OFFS IN WORK ZONES



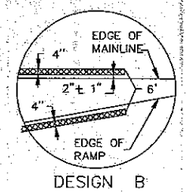
SECTION A – A



TYPICAL 4–LANE DIVIDED LANE MARKINGS



FREE RIGHT MERGE CONDITION



DESIGN B

EPOXY

THE ROAD SURFACE SHALL BE CLEANED AT THE DIRECTION OF THE ENGINEER JUST PRIOR TO APPLICATION. PAVEMENT CLEANING SHALL CONSIST OF AT LEAST BRUSHING WITH A ROTARY BROOM (NON-METALLIC), OR AS RECOMMENDED BY THE MATERIAL MANUFACTURER AND ACCEPTABLE TO THE ENGINEER. NEW PORTLAND CEMENT CONCRETE SURFACES SHALL BE SANDBLAST CLEANED TO REMOVE ANY SURFACE TREATMENTS AND/OR LAITANCE. ON LOW SPEED (SPEED LIMIT 35 OR LESS) URBAN PORTLAND CEMENT CONCRETE ROADWAYS, SANDBLAST CLEANING SHALL BE USED FOR ALL EPOXY PAVEMENT MARKINGS.

THE EPOXY MARKING APPLICATION SHALL IMMEDIATELY FOLLOW THE PAVEMENT CLEANING. GLASS BEADS SHALL BE APPLIED IMMEDIATELY AFTER APPLICATION OF THE EPOXY RESIN LINE TO PROVIDE AN IMMEDIATE NO-TRACK SYSTEM.

AN EPOXY RESIN LINE 4 INCHES WIDE AND 15 MILL THICKNESS (WET), REQUIRES AN APPLICATION RATE OF ONE (1) GALLON OF COMPONENTS FOR 320 FEET OF LINE. GLASS BEADS SHALL BE APPLIED AT A POUND PER GALLON RATE SUFFICIENT TO ACHIVE AN ACCEPTABLE NO-TRACK SYSTEM.

OPERATIONS SHALL BE CONDUCTED ONLY WHEN THE ROAD PAVEMENT SURFACE TEMPERATURES ARE 50 DEGREES F OR GREATER.

PERMANENT PAVEMENT MARKINGS SHALL NOT BE PLACED OVER TEMPORARY MARKINGS.

GENERAL REQUIREMENTS

THE ENGINEERS INVOLVEMENT IN THE APPLICATION OF THE MATERIAL SHALL BE LIMITED TO FIELD SPOTTING, LOCATION AND INSPECTION. THE ENGINEER WILL PLACE NECESSARY "SPOTTING" AT APPROPRIATE POINTS TO PROVIDE HORIZONTAL CONTROL FOR STRIPING AND TO DETERMINE NECESSARY STARTING AND CUTOFF POINTS. BROKEN LINE INTERVALS WILL NOT BE MARKED. LONGITUDINAL JOINTS, PAVEMENT EDGES, AND EXISTING MARKINGS SHALL SERVE AS HORIZONTAL CONTROL WHEN SO DIRECTED.

EDGE LINES AND LANE LINES ARE TO BE BROKEN ONLY AT INTERSECTIONS WITH PUBLIC ROADS AND AT PRIVATE ENTRANCES IF THEY ARE CONTROLLED BY A YIELD SIGN, STOP SIGN, OR TRAFFIC SIGNAL. THE BREAK POINT IS TO BE AT THE START OF THE RADIUS FOR THE INTERSECTION OR AT MARKED STOP LINES OR CROSSWALKS.

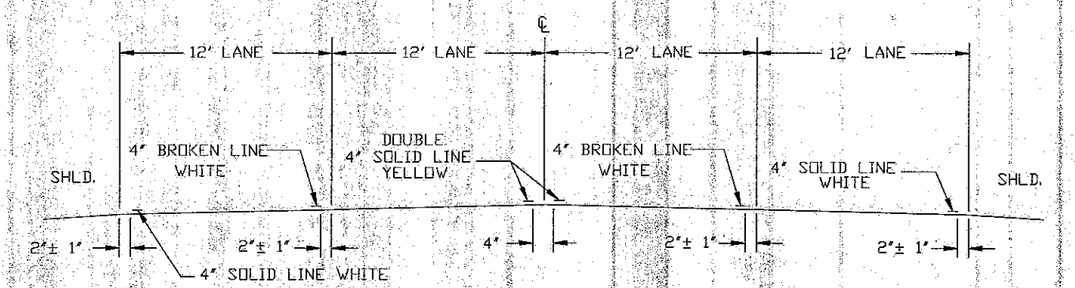
A TOLERANCE OF 1/ 4 INCH UNDER OR 1/ 4 INCH OVER THE SPECIFIED WIDTH WILL BE ALLOWED FOR STRIPING PROVIDED THE VARIATION IS GRADUAL AND DOES NOT DETRACT FROM THE GENERAL APPEARANCE. BROKEN LINE SEGMENTS MAY VARY UP TO ONE-HALF FOOT FROM THE SPECIFIED LENGTHS PROVIDED THE OVER AND UNDER VARIATIONS ARE REASONABLY COMPENSATORY. ALIGNMENT DEVIATIONS FROM THE CONTROL GUIDE SHALL NOT EXCEED 2 INCHES. MATERIAL SHALL NOT BE APPLIED OVER LONGITUDINAL JOINT. ESTABLISHMENT OF APPLICATION TOLERANCES SHALL NOT RELIEVE THE CONTRACTOR OF THEIR RESPONSIBILITY TO COMPLY AS CLOSELY AS PRACTICABLE WITH THE PLANNED DIMENSIONS.

CERTIFIED BY Karl M Brienick PROFESSIONAL ENGINEER REG NO 19917 8/28 1996

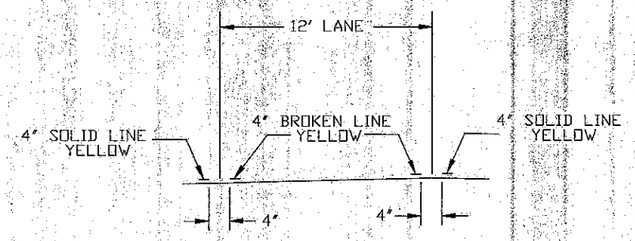
S.A.P. 55-622-29 & 55-625-16

PERMANENT PAVEMENT MARKING DETAILS

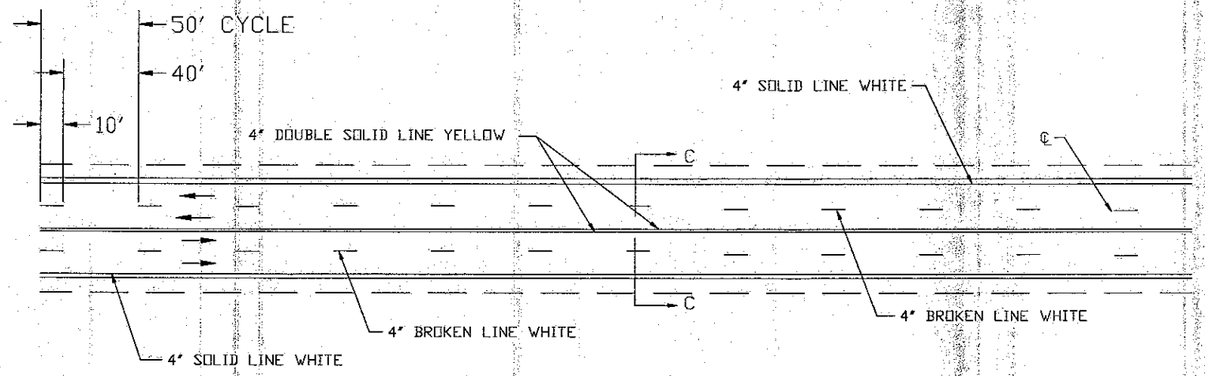
SHEET 56 OF 89 SHEETS



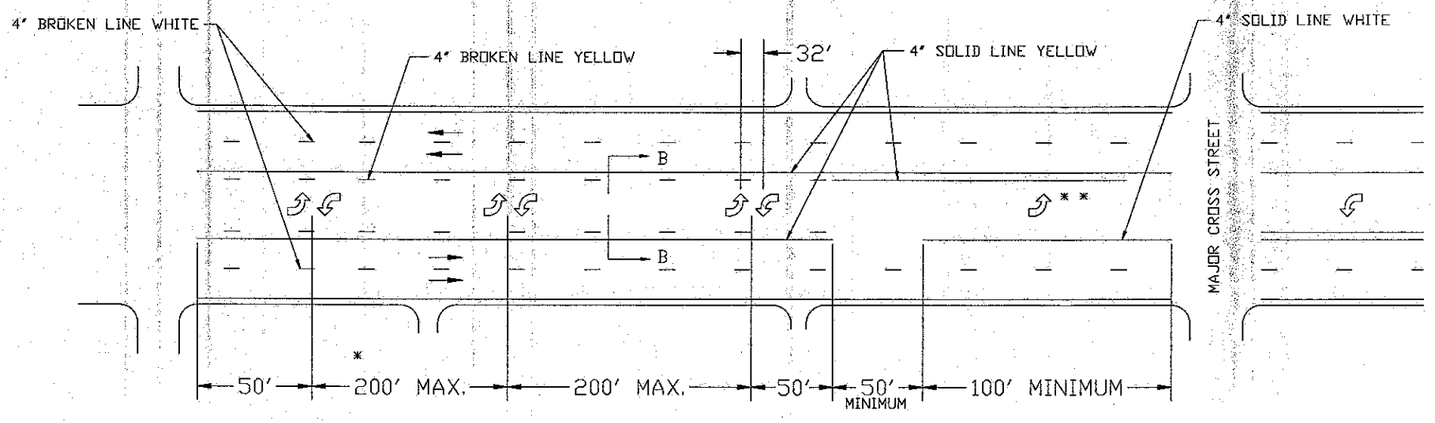
SECTION C - C



SECTION B - B



FOUR LANE - TWO WAY TRAFFIC MARKING



* THESE DISTANCES SHOULD BE EQUAL. THE ARROWS ARE PLACED TO SHOW THE OPERATION AND DO NOT HAVE TO LINE UP WITH ANY OF THE DRIVEWAYS.

* * SEE "TYPICAL MESSAGE PLACEMENT FOR TURN LANES" FOR NUMBER AND PLACEMENT OF ARROWS.

TWO WAY LEFT TURN LANE

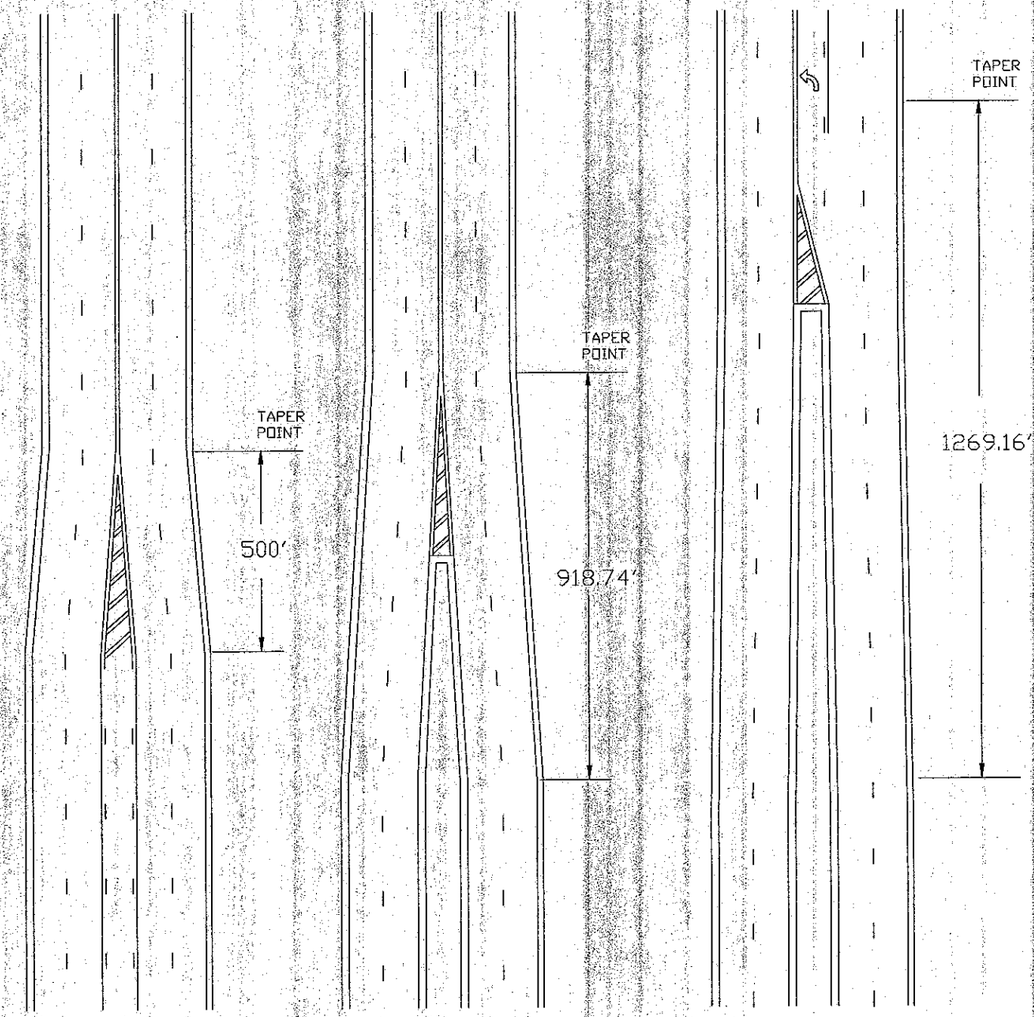
CERTIFIED BY Kevin M Biernacki PROFESSIONAL ENGINEER REG. NO. 19917 8/28 1996

S.A.P. 55-622-29 & 55-625-16

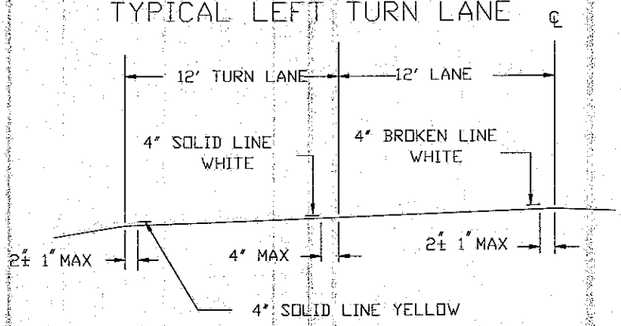
PERMANENT PAVEMENT MARKING DETAILS

SHEET 57 OF 89 SHEETS

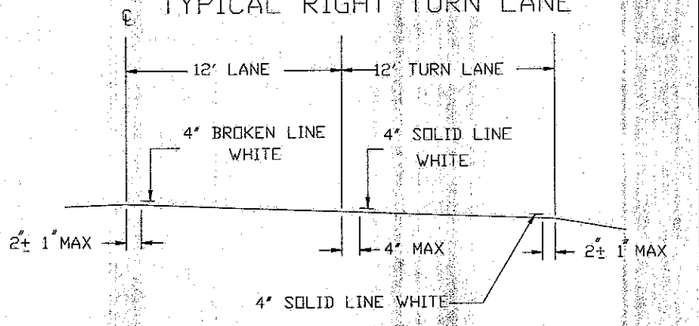
TYPICAL LANE REDUCTION TRANSITION



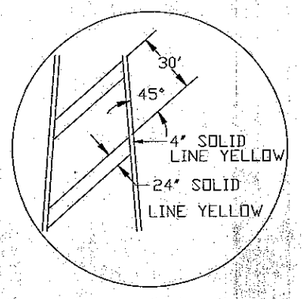
TYPICAL LEFT TURN LANE

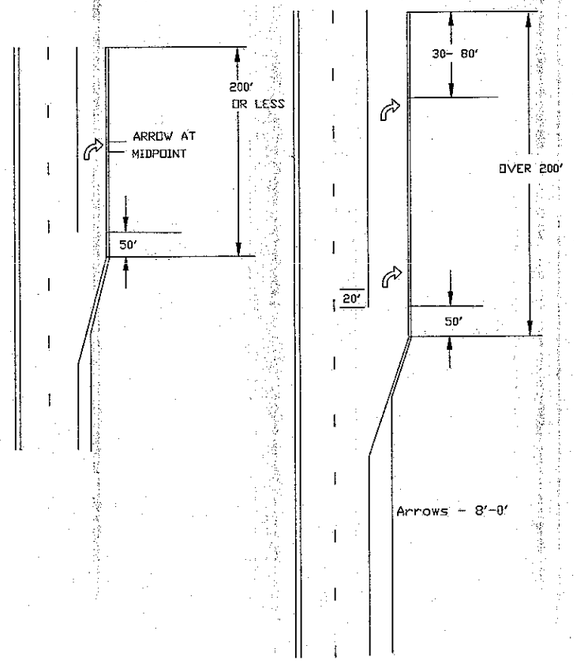


TYPICAL RIGHT TURN LANE



TAPER STRIPPING DETAIL





TYPICAL MESSAGE PLACEMENT FOR TURN LANES

CERTIFIED BY Kevin M Brinick PROFESSIONAL ENGINEER REG. NO. 19917 8/28 1996

S.A.P. 55-622-29 & 55-625-16

PERMANENT PAVEMENT MARKING DETAILS

SHEET 58 OF 89 SHEETS