MINNESOTA DEPARTMENT OF TRANSPORTATION

THE COUNTY OF OLMSTED

CONSTRUCTION PLAN FOR GRADING, AGGREGATE BASE AND CONSTRUCT BRIDGES 55J30, 55J31, 55J32, & 55J33

LOCATED ON C.S.A.H. 3 BETWEEN T.H. 30 AND 648 FT. WEST CR.117 (GEOGRAPHIC DESCRIPTION)

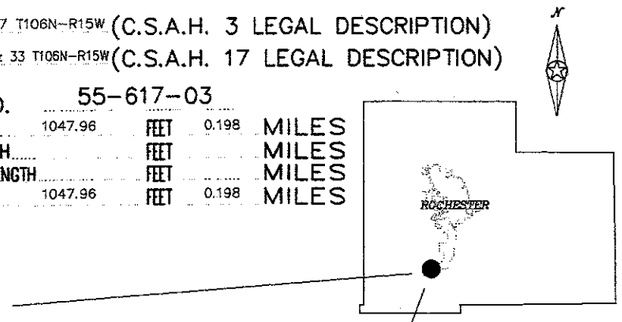
LOCATED ON C.S.A.H. 17 BETWEEN C.S.A.H. 3 AND 1047.96 FT. WEST (GEOGRAPHIC DESCRIPTION)

FROM 34.65' S. SEC. COR 16 & 17 T105N–R15W TO 824.54' WEST CENTER SEC. 27 T106N–R15W (C.S.A.H. 3 LEGAL DESCRIPTION)

FROM SEC. COR 28, 29, 32, & 33 T106N–R15W TO 1047.96' WEST SEC. 28, 29, 32, & 33 T105N–R15W (C.S.A.H. 17 LEGAL DESCRIPTION)

S.A.P. NO.	55–603–30			
GROSS LENGTH	30,590.40	FEET	5.794	MILES
BRIDGE–LENGTH	82.00	FEET	0.016	MILES
EXCEPTIONS–LENGTH	1966.59	FEET	0.372	MILES
NET LENGTH	28,623.81	FEET	5.421	MILES

S.A.P. NO.	55–617–03			
GROSS LENGTH	1047.96	FEET	0.198	MILES
BRIDGE–LENGTH		FEET		MILES
EXCEPTIONS–LENGTH		FEET		MILES
NET LENGTH	1047.96	FEET	0.198	MILES



END: 55–617–03
STA. 20+47.96

BEGIN: 55–617–03
STA. 10+00.00

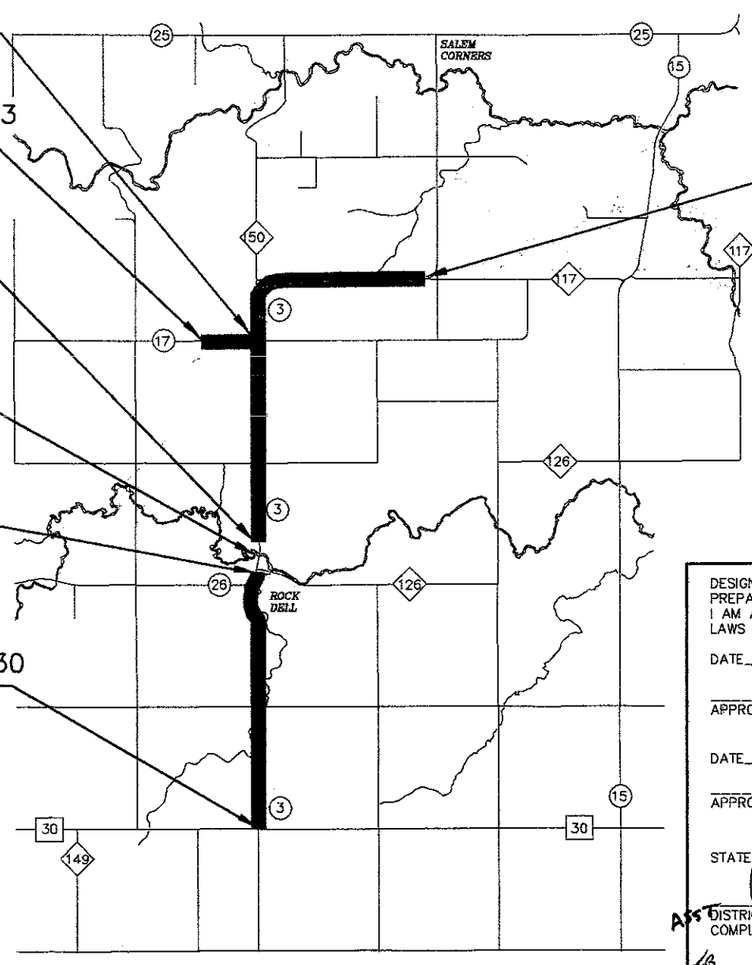
END: EXCEPTION
STA. 233+31.59

BRIDGE NO. 55543
STA. 219+39.51 TO
STA. 220+83.91

BEGIN: EXCEPTION
STA. 213+65

BEGIN: 55–603–30
STA. 100+12.00

END: 55–603–30
STA. 406+02.40



PLAN SYMBOLS

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

UTILITIES SYMBOLS

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

EROSION CONTROL SYMBOLS

TEMPORARY SILT FENCE
RIP RAP DITCH CHECKS

SCALES

PLAN 0 100'
PROFILE 0 100' HORIZ. 0 10' 20' VERT.
CROSS SECTIONS 0 10' 20' HORIZ. 0 5' 10' VERT.

INDEX MAP· NOT TO SCALE

MINN. PROJ. NO. .....

GOVERNING SPECIFICATIONS

THE 1988 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION", AS AMENDED BY THE MAY 2, 1994 SUPPLEMENT SPECIFICATION SHALL GOVERN.

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SHEET NO. 122 – 123	TRAFFIC CONTROL PLANS

THIS PLAN CONTAINS 128 SHEETS.

DESIGN DESIGNATION: RURAL
S.A.P. 55–603–30

R ..... ESN18(20) .....
ADT (Current Year) = 967(2000) Design Speed 55 MPH
ADT (Future Year) = 1547(2020) Based on STOPPING Sight Distance
DHV (Design Hr. Vol.) = ... Height of eye 3.5 FT. Height of object 0.5 FT.
D (Directional Distr.) = ... Design Speed not achieved at:
T (Heavy Commercial) = ...
SUBGRADE = K=150
SOIL FACTOR = 1.30%
SHOULDER WIDTH 6 FT
MAJOR COLLECTOR
9 TON DESIGN

STA. 166+27 TO STA. 181+77 MPH. 50
STA. 195+39.19 TO STA. 199+39.19 MPH. 40
STA. 196+40.73 TO STA. 201+60.92 MPH. 40
STA. 245+54.26 TO STA. 253+04.26 MPH. 40
STA. 330+23.48 TO STA. 343+62.71 MPH. 50

DESIGN DESIGNATION: URBAN (ROCKDELL)
STA. 195+20 TO STA. 213+65
S.A.P. 55–603–30

R ..... ESN18(20) .....
ADT (Current Year) = 425(2000) Design Speed 30 MPH
ADT (Future Year) = 680(2020) Based on STOPPING Sight Distance
DHV (Design Hr. Vol.) = ... Height of eye 3.5 FT. Height of object 0.5 FT.
D (Directional Distr.) = ... Design Speed not achieved at:
T (Heavy Commercial) = ...
SUBGRADE = K=150
SOIL FACTOR = 1.30%
SHOULDER WIDTH 6 FT.
SHOULDER WITH PARKING 8 FT.
MAJOR COLLECTOR
9 TON DESIGN

DESIGN DESIGNATION: (C.S.A.H. 17)
S.A.P. 55–617–03

R ..... ESN18(20) .....
ADT (Current Year) = 326(2000) Design Speed 55 MPH
ADT (Future Year) = 522(2020) Based on STOPPING Sight Distance
DHV (Design Hr. Vol.) = ... Height of eye 3.5 FT. Height of object 0.5 FT.
D (Directional Distr.) = ... Design Speed not achieved at:
T (Heavy Commercial) = ...
SUBGRADE = K=150
SOIL FACTOR = 1.30%
SHOULDER WIDTH 6 FT.
MINOR COLLECTOR
9 TON DESIGN

STA. 16+06.00 TO STA. 17+66.00 MPH. 45

AS-BUILT
MAR 03 2003
ENGINEERING

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

DATE 11/13/00 REGISTRATION NUMBER 19917
Kaye M Bruneck
APPROVED: COUNTY DESIGN ENGINEER

DATE 11/13/00 REGISTRATION NUMBER 10397
Michael Sheridan
APPROVED: OLMSTED COUNTY ENGINEER

STATE AID APPROVALS:

Andy Schmidt
DISTRICT STATE AID ENGINEER: REVIEWED FOR COMPLIANCE WITH STATE AID RULES/POLICY — DATE: 11-15-00

APPROVED FOR STATE AID FUNDING: STATE AID ENGINEER — DATE: 11/28/00

S.A.P. NO. 55–603–30 & 55–617–03 SHEET NO. 1 OF 123 SHEETS

ESTIMATED QUANTITIES

	SPECIFICATION NO.	ITEM	UNIT	S.A.P. 55-603-30 NON PARTICIPATING RURAL	S.A.P. 55-603-30 PARTICIPATING RURAL	S.A.P. 55-617-03 NON PARTICIPATING RURAL	S.A.P. 55-617-03 PARTICIPATING RURAL	TOTAL ESTIMATED QUANTITIES
	2031.501	FIELD OFFICE, TYPE D	EACH		0.96		0.04	1
(1)	2101.511	CLEARING AND GRUBBING	LUMP SUM		0.98		0.02	1
(2)	2103.501	BUILDING REMOVAL	LUMP SUM		1			1
(3)	2104.501	REMOVE PERFORATED PIPE	LIN. FT.		40			40
(4)	2104.501	REMOVE CONCRETE CULVERT	LIN. FT.		64			64
(4)	2104.501	REMOVE METAL CULVERT	LIN. FT.		2,186		167	2,353
(5)	2104.501	REMOVE SEWER PIPE (STORM)	LIN. FT.		305			305
(6)	2104.501	REMOVE FENCE	LIN. FT.		15,842			15,842
(7)	2104.501	REMOVE CONCRETE BOX CULV.	LIN. FT.		134			134
(8)	2104.503	REMOVE CONCRETE SIDEWALK	SQ. FT.		88			88
	2104.505	REMOVE BITUMINOUS PAVEMENT	SQ. YD.		83,211(P)		2,807(P)	86,018(P)
(9)	2104.509	REMOVE MANHOLES	EACH		1			1
(10)	2104.509	REMOVE FOUNDATION	EACH		1			1
*	2104.513	SAW BITUMINOUS (FULL DEPTH)	LIN. FT.		1,041		24	1,065
(11)	2104.525	ABANDON & SEAL WELL SHAFT	EACH		1			1
(12)	2105.511	COMMON CHANNEL EXCAVATION	CU. YDS.		422(P)			422(P)
(13)	2105.515	UNCLASSIFIED EXCAVATION	CU. YDS.		182,104(P)		22,694(P)	204,798(P)
	2105.523	COMMON BORROW (LV)	CU. YDS.		22,372(P)			22,372(P)
(14)	2123.503	MOTOR GRADER	HOUR	15		1		16
(14)	2123.508	15 CU. YD. SCRAPER	HOUR	15		1		16
(14)	2123.509	DOZER	HOUR	15		1		16
(15)	2130.501	WATER	M-GAL.		250		8	258
(16)	2211.501	AGGREGATE BASE CL. 5	TON		62,789		1,925	64,714
	2412.511	10 x 7 PRECAST CONCRETE BOX CULVERT	LIN. FT.		192			192
	2412.511	12 x 4 PRECAST CONCRETE BOX CULVERT	LIN. FT.		262			262
	2412.511	12 x 7 PRECAST CONCRETE BOX CULVERT	LIN. FT.		122			122
	2412.512	10 x 7 P.C. CONCRETE BOX CULVERT END SECTION	EACH		4			4
	2412.512	12 x 4 P.C. CONCRETE BOX CULVERT END SECTION	EACH		6			6
	2412.512	12 x 7 P.C. CONCRETE BOX CULVERT END SECTION	EACH		2			2
(17)	2442.501	REMOVE OLD BRIDGE	EACH		3			3
(18)	2451.507	GRANULAR BEDDING (CV)	CU. YDS.		539			539
	2501.511	18" C.S. PIPE CULVERT	LIN. FT.		1,348		58	1406
	2501.511	24" C.S. PIPE CULVERT	LIN. FT.		610			610
	2501.511	36" C.S. PIPE CULVERT	LIN. FT.		30			30
	2501.511	24" R.C. PIPE CULVERT	LIN. FT.				90	90
	2501.511	30" R.C. PIPE CULVERT CL. III	LIN. FT.		102			102
	2501.511	36" R.C. PIPE CULVERT	LIN. FT.		428			428
	2501.511	42" R.C. PIPE CULVERT	LIN. FT.		98			98
	2501.511	48" R.C. PIPE CULVERT	LIN. FT.		86			86
	2501.515	18" G.S. PIPE APRON	EACH		60		4	64
	2501.515	24" G.S. PIPE APRON	EACH		30			30
	2501.515	36" G.S. PIPE APRON	EACH		2			2
	2501.515	15" R.C. PIPE APRON	EACH		1			1
	2501.515	18" R.C. PIPE APRON	EACH		1			1
	2501.515	24" R.C. PIPE APRON	EACH				2	2
	2501.515	30" R.C. PIPE APRON	EACH		2			2
	2501.515	36" R.C. PIPE APRON	EACH		9			9
	2501.515	42" R.C. PIPE APRON	EACH		2			2
	2501.515	48" R.C. PIPE APRON	EACH		2			2
	2501.521	21" SPAN C.S. PIPE-ARCH CULVERT	LIN. FT.		132			132
	2501.521	28" SPAN C.S. PIPE-ARCH CULVERT	LIN. FT.		26			26
	2501.521	35" SPAN C.S. PIPE-ARCH CULVERT	LIN. FT.		72			72
	2501.521	28" SPAN R.C. PIPE-ARCH CULVERT CL. II A	LIN. FT.		92		70	162
	2501.521	51" SPAN R.C. PIPE-ARCH CULVERT CL. II A	LIN. FT.		80			80
	2501.521	88" SPAN R.C. PIPE-ARCH CULVERT CL. II A	LIN. FT.		80			80
	2501.525	21" SPAN G.S. PIPE-ARCH APRON	EACH		8			8
	2501.525	35" SPAN G.S. PIPE-ARCH APRON	EACH		4			4
	2501.525	28" SPAN R.C. PIPE-ARCH APRON	EACH		6		2	8
	2501.525	51" SPAN R.C. PIPE-ARCH APRON	EACH		2			2
(19)	2501.525	88" SPAN R.C. PIPE-ARCH APRON	EACH		2			2
(20)	2502.541	4" PERF PE PIPE DRAIN	LIN. FT.		40			40
(20)	2502.541	6" PERF PE PIPE DRAIN	LIN. FT.		100			100
(21)	2502.541	8" PERF PE PIPE DRAIN	LIN. FT.		150			150
	2503.541	15" R.C. PIPE SEWER DESIGN 3006 CL. III	LIN. FT.		50			50
	2503.541	15" R.C. PIPE SEWER DESIGN 3006 CL. IV	LIN. FT.		78			78
	2503.541	18" R.C. PIPE SEWER DESIGN 3006 CL. III	LIN. FT.		40			40
(22)	2506.502	CONST. DRAINAGE STRUCTURE DESIGN A	EACH		2			2
(22)	2506.502	CONST. DRAINAGE STRUCTURE DESIGN C	EACH		1			1
(22)	2506.502	CONST. DRAINAGE STRUCTURE DESIGN 60-4020	EACH		1			1
*	2511.501	RIPRAP CL. III	CU. YDS.		654			654

(P) PLAN QUANITY

* ITEMS HAVE LOCATION TABLE ON SHEET 3

ESTIMATED QUANTITIES

	SPECIFICATION NO.	ITEM	UNIT	S.A.P. 55-603-30 NON PARTICIPATING RURAL	S.A.P. 55-603-30 PARTICIPATING RURAL	S.A.P. 55-617-03 NON PARTICIPATING RURAL	S.A.P. 55-617-03 PARTICIPATING RURAL	TOTAL ESTIMATED QUANTITIES
	2563.601	TRAFFIC CONTROL	LUMP SUM		0.96		0.04	1
*	2573.501	BALE CHECKS	EACH		2,620			2,620
* (24)	2573.502	SILT FENCE, TYPE HEAVY DUTY MAINTANED	LIN. FT.		3,410			3,410
	2575.501	SEEDING	ACRE		41.2(P)		1.8(P)	43(P)
(25)	2575.505	SODDING TYPE LAWN	SQ. YD.		42,882		1,878	44,760
*	2575.511	MULCH MATERIAL TYPE 1	TON		76.4		3.6	80
	2575.519	DISK ANCHORING	ACRE		35.6(P)		0.4	36(P)
	2575.523	WOOD FIBER BLANKET TYPE REGULAR	SQ. YD.		8,034			8,034
*	2575.523	WOOD FIBER BLANKET TYPE MODERATE VELOCITY	SQ. YD.		3,908			3,908
*	2575.531	COMMERCIAL FERTILIZER ANALYSIS 10-10-10	TON		4.8		0.2	5
	2575.608	SEED MIXTURE 50A	POUND		2,060		90	2,150
	2575.608	SEED MIXTURE 110A	POUND		3,296		144	3,440

(P) PLAN QUANTITY

* ITEMS HAVE LOCATION TABLE ON SHEET 3

QUANTITY NOTES

(1) APPROX 61 TREES AND 5 ACRES WOODS IN R/W, TREES FOR REMOVAL TO DESIGNATED BY THE ENGINEER

(2) SHED, APPROX 42' x 22', LOCATED 54' LT STA. 147+25.

(3) FOR THE REMOVAL OF ANY DRAIN TILE THAT IS REQUIRED, IN THE FIELD BY THE ENGINEER, THE DRAIN TILE OUTLETS LOCATED AT LT STA. 321+19 & RT STA. 394+14.

(4) REMOVAL OF HEADWALLS ARE TO BE INCIDENTAL TO PIPE REMOVAL

(5) LOCATION: LT STA. 206+30 TO RT STA. 206+78 AND LT STA. 10+49 TO LT STA 12+88.

(6) SPEC. NI 1903 DOESN'T APPLY TO ITEM NO. 2104.501 REMOVE FENCE.

(7) LOCATION: STA. 164+05, STA. 381+94 AND STA. 393+98 REMOVAL OF ANY WING WALLS SHALL BE INCIDENTAL

(8) LOCATION: RT STA. 203+15 AND RT STA. 209+75

(9) LOCATION: LT STA. 206+32

(10) LOCATION: RT STA. 367+00 AND APPROX. DIMENSIONS ARE 60' x 16'

(11) LOCATION: LT STA. 197+78

(12) CHANNEL EXC 422 CU. YDS. TO BE USED IN SUBGRADE AS FILL

(13) C.S.A.H. 3; FROM STA. 100+12 TO STA. 213+65 — 71,511 CU. YDS
C.S.A.H. 3; FROM STA. 233+32.01 TO STA. 405+89.09 — 86,716 CU. YDS
C.S.A.H. 26; FROM STA. 10+00 TO STA. 13+10 — 1,113 CU. YDS.
60 TH ST S.W.; FROM STA. 504+00 TO STA. 517+00 — 1,523 CU. YDS.
50 TH ST S.W.; STA. 20+47.96 TO STA. 30+00 — 21,241 CU. YDS.
C.S.A.H. 17; STA. 10+00 TO STA. 20+47.96 — 22,694 CU. YDS.
THESE TOTALS INCLUDE 14,246 CU. YDS. TO BE SALVAGED AND USED AS TOPSOIL

(14) USED FOR DITCH SHAPING FOR DRAINAGE, AS DIRECTED BY THE ENGINEER

(15) WATER TO BE USED AS A DUST PREVENTATIVE AS DIRECTED BY THE ENGINEER.

(16) MAINLINE C.S.A.H. 3 — 50,857 TONS
C.S.A.H. 3 APPROACHES, ENTRANCES & COVER OVER PIPE STA. 387+00 — 8,255 TONS
C.S.A.H. 26, APPROACHES AND ENTRANCES — 473 TONS
60 TH ST S.W., APPROACHES AND ENTRANCES — 1,492 TONS
50 TH ST. S.W., APPROACHES AND ENTRANCES — 1,618 TONS
C.S.A.H. 17, APPROACHES AND ENTRANCES — 1,925 TONS

(17) BRIDGE LOCATIONS: STA. 144+90, STA. 195+31.32, AND STA. 273+07

(18) BEDDING FOR ALL PIPES SHOW ON DETAIL SHEET 7 ALL OTHER CENTERLINE PIPE CULVERT ARE PLACED ON CL. 'B' BEDDING AND IT IS INCIDENTAL TO THE PIPE.

(19) SEE DETAIL SHEET 8 FOR CAST INPLACE WEIR WEIR SHALL BE CONSIDERED INCIDENTAL TO ITEM NO. 2501.525.

(20) FOR THE RELOCATION OF DRAIN TILE OUTLETS IN THE FIELD BY THE ENGINEER, THE EXIST LOCATION IS APPROX. LT STA. 321+19 & RT. STA. 394+41 SPEC. NO. 1903 DOESN'T APPLY TO THIS ITEM.

(21) FOR THE RELOCATION OF DRAIN TILE CROSSING AND INSTALLATION OF INSPECTION TEE, IN THE FIELD BY THE ENGINEER INSPECTION TEE TO BE CONSIDERED INCIDENTAL TO, ITEM NO. 2502.541, 8" PERF PE PIPE DRAIN. SPEC. NO. 1903 DOESN'T APPLY TO THIS ITEM.

(22) CATCH BASIN FRAME CASTING NO. 806, CURB BOX NO. 825, & GRATE NO. 814A WILL BE PROVIDED FOR ON FUTURE PAVING PLAN. CONTRACTOR SHALL FURNISH AND INSTALL 3 STEEL PLATES, 36" x 36" x 1/4" THICK, TO COVER CATCH BASIN. WORK TO BE CONSIDERED INCIDENTAL TO ITEM NO. 2506.502.

(23) SEE DETAIL SHEET 8.

(24) TO BE PLACED AS DIRECTED BY THE ENGINEER, SILT FENCE TO REMAIN IN PLACE AFTER COMPLETION OF CONSTRUCTION. SPEC. NO. 1903 DOESN'T APPLY TO ITEM NO. 2573.502

(25) SPEC NO. 1903 DOESN'T APPLY TO ITEM NO. 2575.505 SODDING

BASIS OF PLANNED QUANTITIES

APPROX. COMPACTION FACTOR	32%
AGGREGATE BASE CLASS 5 -	140 LBS / CU. FT COMPACTED
SEED MIXTURE 50A -	50 LBS / ACRE
SEED MIXTURE 110A-	80 LBS / ACRE
MULCH MATERIAL -	2 TONS / ACRE
DISC ANCHOR -	ALL SEEDING AREA'S, EXCLUDING 2:1 SLOPES
COMMERCIAL FERTILIZER -	200 LBS / ACRE

AS-BUILT
MAR 03 2003
ENGINEERING

NOTE: ALL UTILITY POLES AND UNYIELDING OBJECTS WILL BE RELOCATED OUTSIDE THE 42' RECOVERY AREA FOR C.S.A.H. 3.
ALL UTILITY POLES AND UNYIELDING OBJECTS WILL BE RELOCATED OUTSIDE THE 37' RECOVERY AREA FOR C.S.A.H. 26 AND C.S.A.H. 17.
ALL UTILITY POLES AND UNYIELDING OBJECTS WILL BE RELOCATED OUTSIDE THE 20' RECOVERY AREA FOR 60 TH ST S.W & 50 TH S.T S.W

CERTIFIED BY Kaye M Bremer PROFESSIONAL ENGINEER REG. NO. 19917 11/9/2000

WOOD FIBER BLANKET

LOCATION	SQ. YDS.	REMARKS
LT. STA. 192+00 TO STA. 195+69	1,742	MODERATE VELOCITY: PLACE FROM EDGE SUBGRADE, THROUGH DITCH, TO END BACKSLOPE
RT. STA. 189+50 TO STA. 196+84	2,166	MODERATE VELOCITY: PLACE FROM EDGE SUBGRADE, THROUGH DITCH, TO END BACKSLOPE
LT. STA. 321+50 TO STA. 328+50	2,023	REGULAR VELOCITY: PLACE ON BACKSLOPE ONLY
LT. STA. 304+00 TO STA. 314+00	1,999	REGULAR VELOCITY: PLACE ON BACKSLOPE ONLY
RT. STA. 306+00 TO STA. 315+00	2,473	REGULAR VELOCITY: PLACE ON BACKSLOPE ONLY
RT. STA. 330+00 TO STA. 334+50	1,539	REGULAR VELOCITY: PLACE ON BACKSLOPE ONLY

SAW BITUMINOUS

LOCATION	LIN. FT.
STA. 100+12	136
RT. STA. 107+95	14
RT. STA. 140+83	14
LT. STA. 205+00 TO LT. STA. 206+29	129
RT. STA. 10+44 TO STA. RT. 11+85 (C.S.A.H. 26)	141
STA. 13+10 (C.S.A.H. 26)	24
APPROX. RT. STA. 207+45TO RT. STA. 208+66	121
APPROX. RT. STA. 211+85 TO RT. STA. 212+22	37
APPROX. RT. STA. 212+90 TO RT. STA. 213+50	60
STA. 213+65	24
STA. 233+31.65	24
RT. STA. 246+55 TO RT. STA. 249+13	259
LT. STA. 284+19	16
STA. 10+00 (C.S.AH. 17)	24
RT. STA. 346+12	18
STA. 406+02.45	24
TOTAL	1,065

SODDING

LOCATION	SQ. YDS.
RT. STA. 100+30 TO STA. 102+30	1,067
RT. STA. 107+25 TO STA. 112+60	2,646
RT. STA. 139+90 TO STA. 142+00	1,120
LT. STA. 148+25 TO STA. 150+00	1,128
RT. STA. 159+75 TO STA. 162+50	1,162
RT. STA. 165+50 TO STA. 166+75	875
RT. STA. 195+90 TO STA. 206+30	4,430
RT. STA. 198+25 TO STA. 213+20	3,839
LT. STA. 209+00 TO STA. 211+00	845
RT. STA. 238+43 TO STA. 240+40	460
LT. STA. 245+00 TO STA. 254+00	3,580
RT. STA. 245+00 TO STA. 249+80	840
LT. STA. 282+50 TO STA. 286+15	1,542
RT. STA. 297+75 TO STA. 299+75	845
LT. STA. 299+25 TO STA. 304+00	3,975
LT. STA. 317+70 TO STA. 322+20	2,802
RT. STA. 341+00 TO STA. 347+20	4,654
RT. STA. 352+50 TO STA. 354+30	960
LT. STA. 372+75 TO STA. 375+25	1,056
RT. STA. 390+00 TO STA. 392+00	845
LT. STA. 394+20 TO STA. 397+43	1,768
LT. STA. 10+22 TO STA. 13+10(C.S.A.H. 26)	833
RT. STA. 14+25 TO STA. 16+75(C.S.A.H. 17)	1,878
LT. STA. 25+00 TO STA. 27+00(50TH ST.)	934
LT. STA. 28+40 TO STA. 30+00(50TH ST.)	676
TOTAL	44,760

RIPRAP

LOCATION	CU. YDS.
STA. 130+63	20
STA. 144+81.88 & STA. 144+98.12	112
STA. 164+10	19
STA. 196+30	83
STA. 207+04	6
STA. 260+40	14
STA. 264+80	28
STA. 273+20.57 & 273+39.43	132
STA. 321+19	17
STA. 339+53	14
STA. 350+85	11
STA. 382+00	17
STA. 387+00	93
STA. 393+80	82
STA. 511+00	11
STA. 12+75	9
TOTAL	654

NOTES:
WHERE STD. PLATE 3133C IS USED RIPRAP QUAN. IS ROUNDED UP TO NEAREST CU. YD.

STA 264+80 USE STD. PLATE 3133C ON BOTH INLET AND OUTLET ENDS.

SILT FENCE

LOCATION	LIN. FT.
LT. STA. 131+50 TO STA. 136+50	500
LT. STA. 144+50	100
LT. STA. 145+00	100
RT. STA. 163+50	100
LT. STA. 164+40	100
RT. STA. 164+50	100
LT. STA. 195+50	100
RT. STA. 197+10 TO STA. 197+50	80
RT. STA. 251+50 TO STA. 258+50	700
LT. STA. 251+50 TO STA. 253+00	150
LT. STA. 253+80 TO STA. 258+50	470
LT. STA. 511+20	50
RT. STA. 317+00 TO STA. 323+50	125
LT. STA. 321+50 TO STA. 322+75	125
LT. STA. 339+10 TO STA. 339+90	80
LT. STA. 346+50 TO STA. 350+80	430
LT. STA. 351+00 TO STA. 352+00	100
TOTAL	3,410

BALE CHECKS

LOCATION	QUAN.
RT. STA. 106+00 TO STA. 111+00	7
LT. STA. 106+00 TO STA. 111+00	7
RT. STA. 163+00 TO STA. 169+50	14
LT. STA. 163+00 TO STA. 169+50	14
LT. STA. 178+00 TO STA. 193+00	30
RT. STA. 178+50 TO STA. 188+00	20
RT. STA. 188+50 TO STA. 191+00	10
RT. STA. 193+50 TO STA. 196+50	12
RT. STA. 193+50 TO STA. 195+50	8
RT. STA. 239+50 TO STA. 244+50	11
RT. STA. 239+50 TO STA. 244+50	11
LT. STA. 254+50 TO STA. 258+50	9
RT. STA. 253+50 TO STA. 257+50	9
LT. STA. 294+00 TO STA. 299+50	12
RT. STA. 294+00 TO STA. 303+00	18
LT. STA. 328+00 TO STA. 339+00	23
RT. STA. 328+00 TO STA. 339+00	23
LT. STA. 361+50 TO STA. 367+50	8
RT. STA. 361+50 TO STA. 367+50	8
LT. STA. 10+50 TO STA. 13+50	4
RT. STA. 10+50 TO STA. 13+50	4
TOTAL	262

STANDARD PLATES

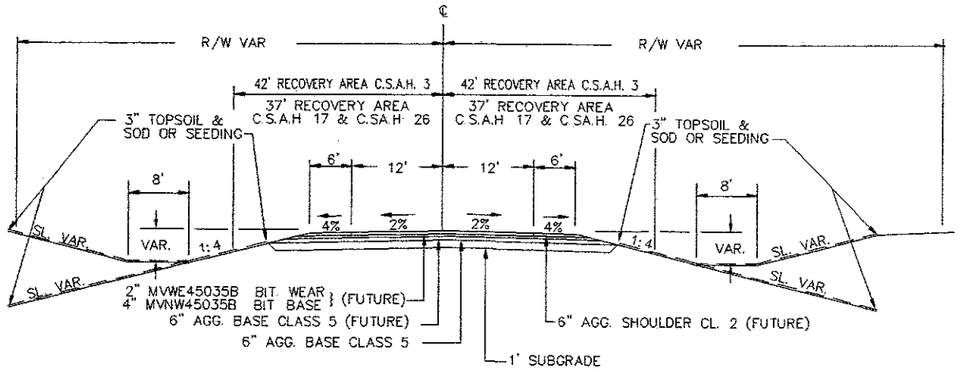
THE FOLLOWING STANDARD PLATES, APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION SHALL APPLY ON THIS PROJECT.

PLATE NO.	DESCRIPTION
	NUMERICAL INDEX OF STANDARD PLATES
3000L	REINFORCED CONCRETE PIPE
3006G	GASKET JOINT FOR R.C. PIPE
3007C	SHEAR REINFORCEMENT FOR PRECAST DRAINAGE STRUCTURES
3014J	REINFORCED CONCRETE PIPE-ARCH
3040F	CORRUGATED METAL PIPE CULVERT
3100G	CONCRETE APRON FOR REINFORCED CONCRETE PIPE
3110G	CONCRETE APRON FOR REINFORCED CONCRETE PIPE-ARCH
3122K	METAL APRON FOR C.M. PIPE-ARCH CULVERT
3123J	METAL APRON FOR C.S. PIPE
3124B	METAL APRON CONNECTION
3133C	RIPRAP AT R.C.P. OUTLETS
3145E	CONCRETE PIPE TIES
3221C	CORRUGATED STEEL PIPE COUPLING BAND
4000J	MANHOLE OR CATCH BASIN
4002F	MANHOLE OR CATCH BASIN
4020H	MANHOLE OR CATCH BASIN COVER
4108F	ADJUSTING RINGS
4180J	MANHOLE OR CATCH BASIN STEPS
8000I	STANDARD BARRICADES
*9000C	APPROACHES AND ENTRANCES
9102D	TURF ESTABLISHMENT AREAS

*NOTE: ALL BACKSLOPES ON APPROACHES AND ENTRANCES ARE 4:1 SLOPE

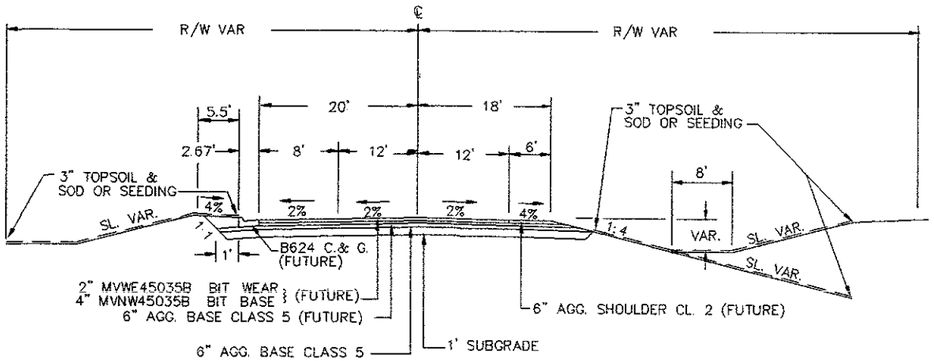
AS-BUILT
MAR 08 2002
ENGINEERING

CERTIFIED BY Kaye M Bremek PROFESSIONAL ENGINEER REG NO 19917 11/9 2000

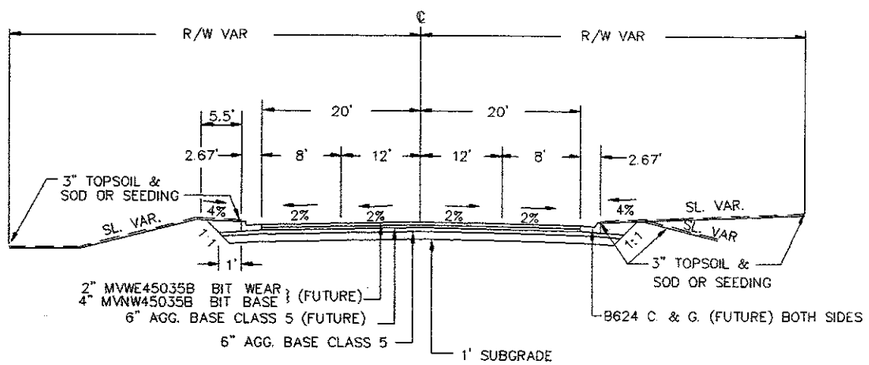


STA. 100+12 TO STA. 198+25
STA. 233+31.64 TO STA. 245+00
STA. 251+00 TO STA. 406+02.45
STA. 10+00 TO STA. 20+47.96 (CSAH 17)
STA. 12+40 TO STA. 13+10 (CSAH 26)

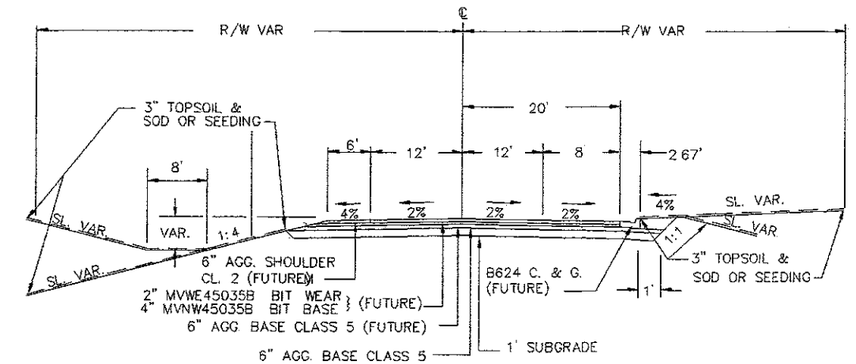
SUPERELEVATION LOCATIONS: STA. 186+02.21 TO STA. 194+53.38
STA. 195+21.43 TO STA. 202+80.22
STA. 329+27.53 TO STA. 344+58.75



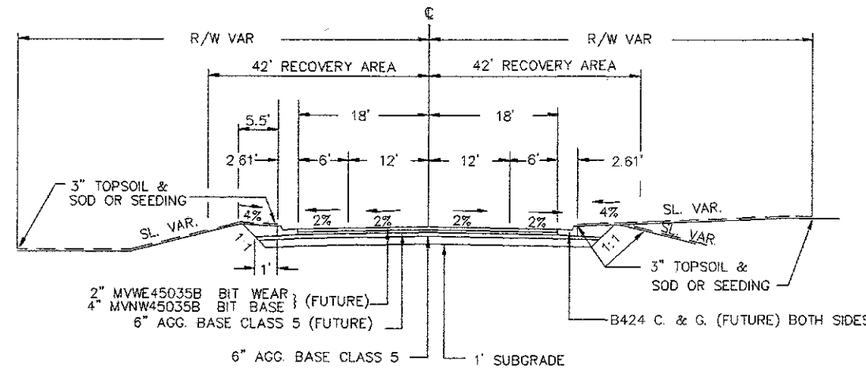
URBAN SECTION
STA. 198+25 TO STA. 201+50
STA. 10+00 TO STA. 12+40 (CSAH 26)



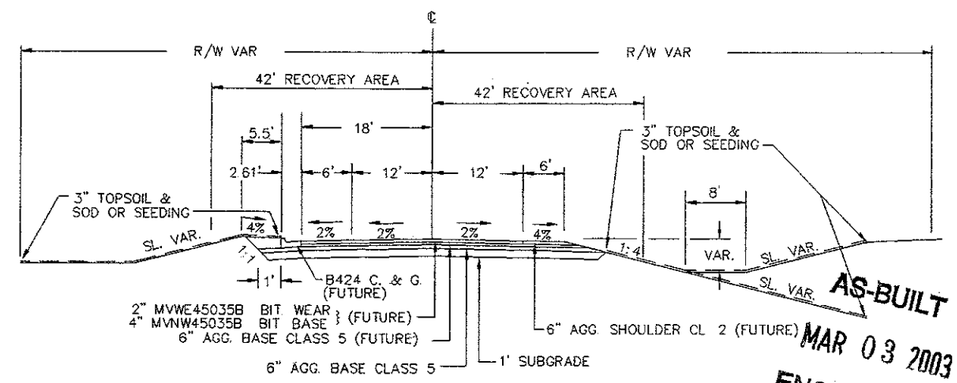
URBAN SECTION
STA. 201+50 TO STA. 206+65



URBAN SECTION
STA. 206+65 TO STA. 213+65



CHURCH LOCATION
STA. 245+00 TO STA. 247+87



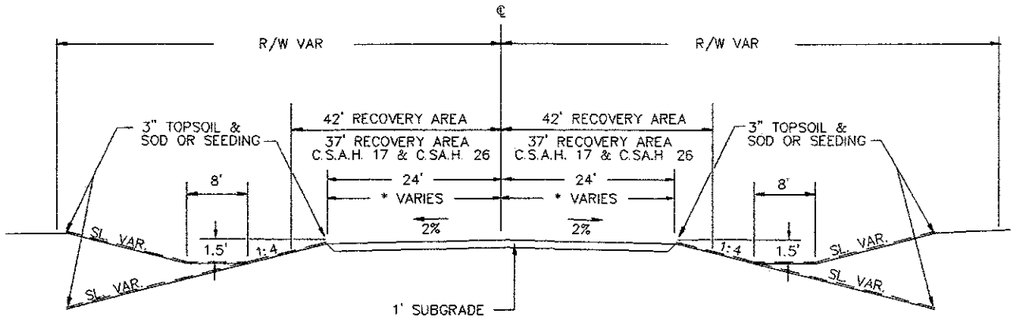
CHURCH LOCATION
STA. 249+03 TO STA. 251+00

AS-BUILT
MAR 03 2003
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FINISHED TYPICAL SECTIONS

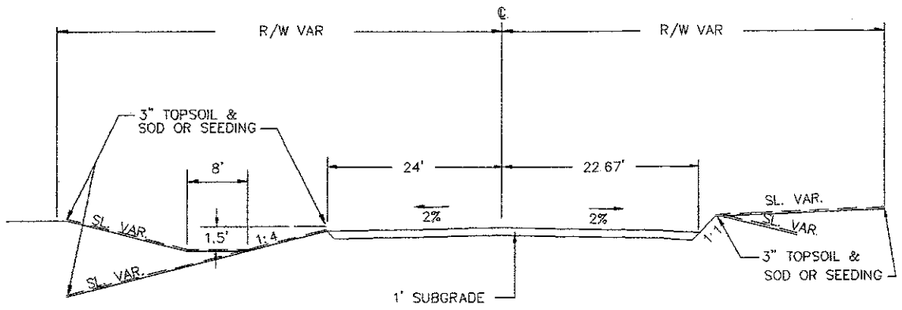
CERTIFIED BY Kayle M Brenner REG NO. 19917 11/9 2000
PROFESSIONAL ENGINEER

SAP 55-603-30 & 55-617-03

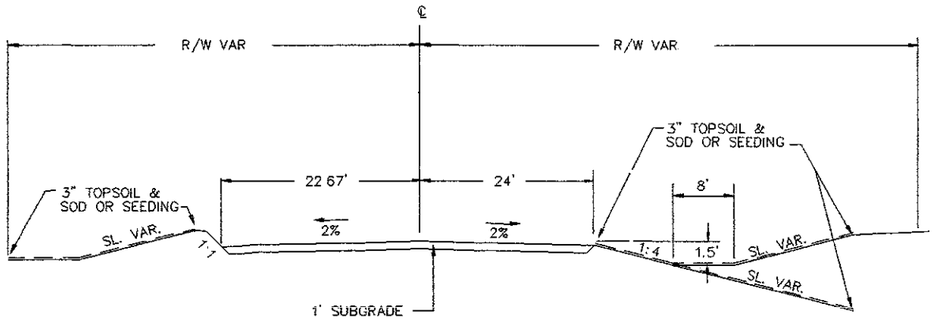


STA. 100+12 TO STA. 198+25
STA. 233+31.64 TO STA. 245+00
STA. 251+00 TO STA. 406+02.45
STA. 10+00 TO STA. 20+47.96 (CSAH 17)
STA. 12+40 TO STA. 13+10 (CSAH 26)

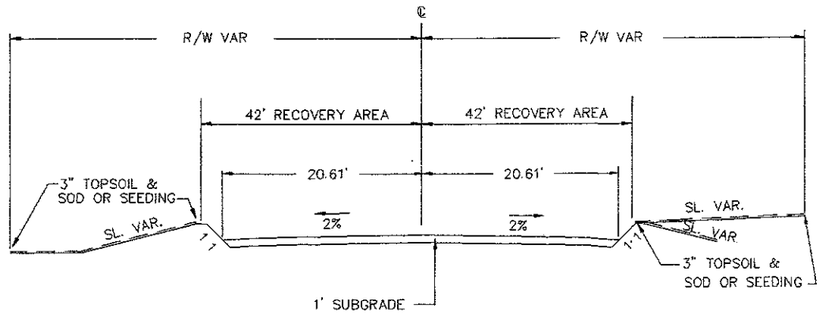
*** SUPERELEVATION LOCATIONS: STA. 186+02.21 TO STA. 194+53.38**
STA. 195+21.43 TO STA. 202+80.22
STA. 329+27.53 TO STA. 344+58.75



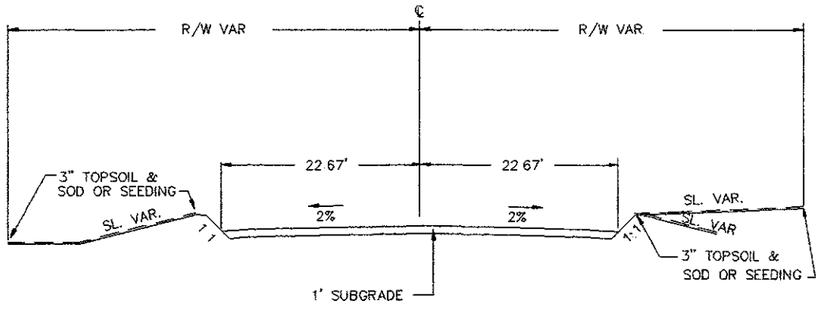
URBAN SECTION
STA. 206+65 TO STA. 213+65



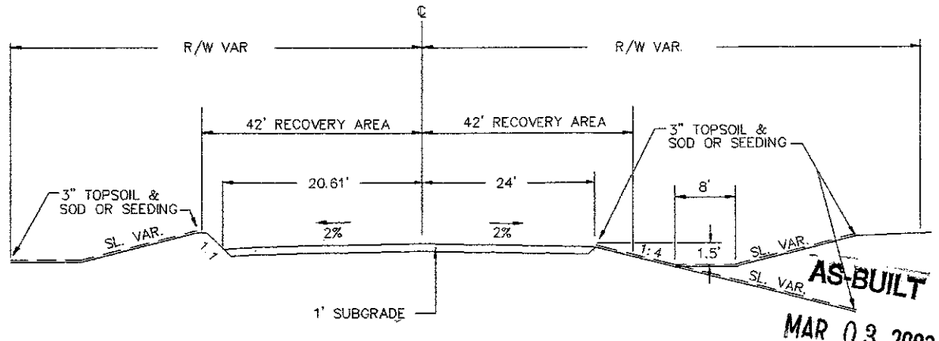
URBAN SECTION
STA. 198+25 TO STA. 201+50
STA. 10+00 TO STA. 12+40 (CSAH 26)



CHURCH LOCATION
STA. 245+00 TO STA. 247+87



URBAN SECTION
STA. 201+50 TO STA. 206+65



CHURCH LOCATION
STA. 249+36.5 TO STA. 251+00

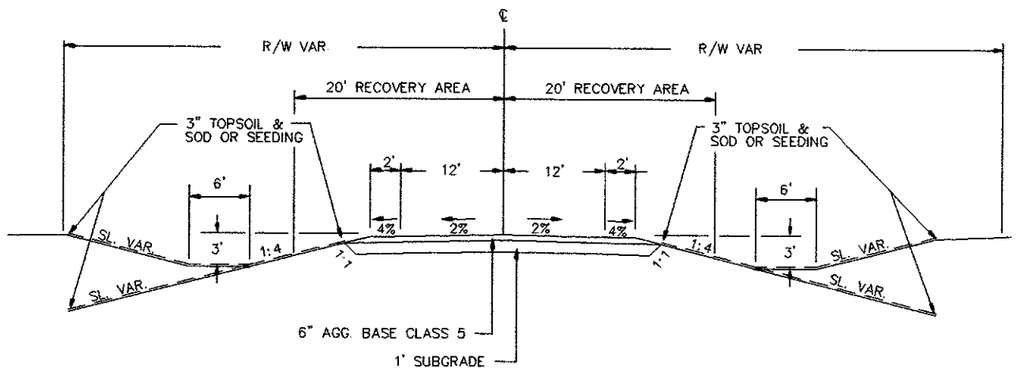
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MAR 03 2003
ENGINEERING

SUBGRADE TYPICAL SECTIONS

CERTIFIED BY Kaye M Bruniek REG NO. 19917 11/9 2000
PROFESSIONAL ENGINEER

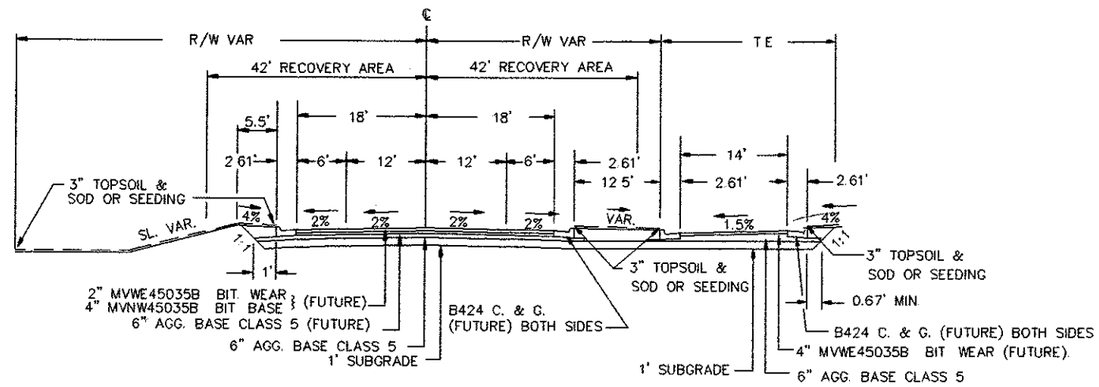
SAP 55-603-30 & 55-617-03

FINISHED TYPICAL SECTIONS



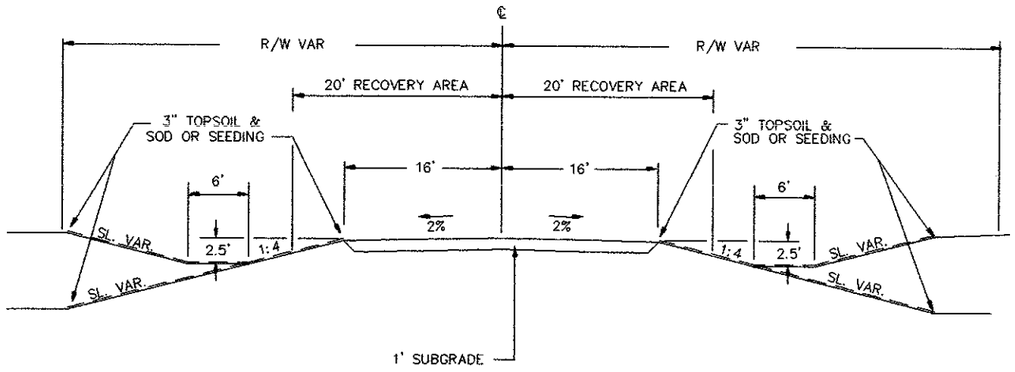
STA. 504+00 TO STA. 517+00 (60th ST SW)
STA. 20+47.96 TO STA. 30+00 (50th ST SW)

FINISHED TYPICAL SECTIONS



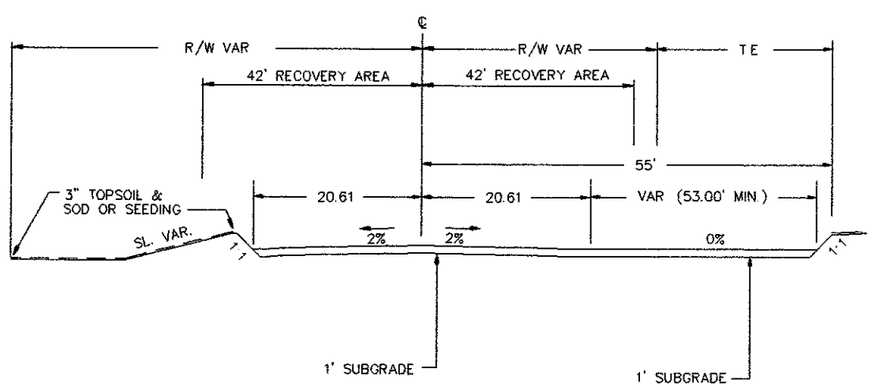
CHURCH LOCATION
STA. 247+87 TO STA. 249+03

SUBGRADE TYPICAL SECTIONS



STA. 504+00 TO STA. 517+00 (60th ST SW)
STA. 20+47.96 TO STA. 30+00 (50th ST SW)

SUBGRADE TYPICAL SECTIONS



CHURCH LOCATION
STA. 247+87 TO STA. 249+36.5

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MAR 03 2003
ENGINEERING

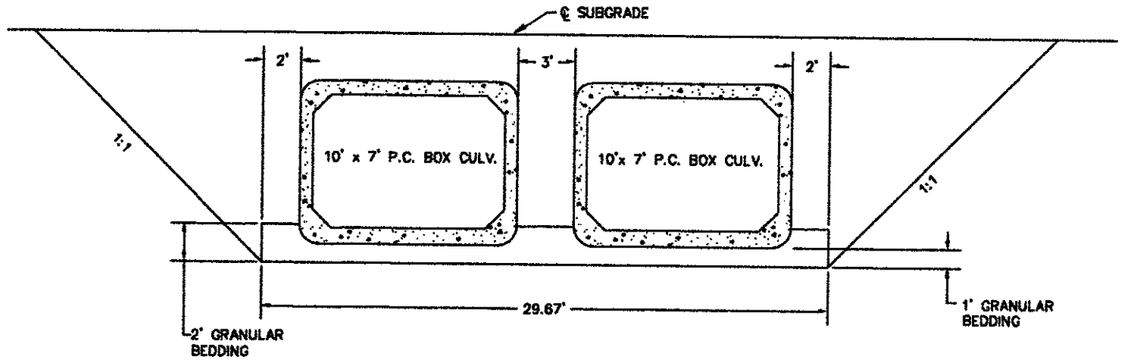
TYPICAL SECTIONS

CERTIFIED BY Kayne M Bierwirth PROFESSIONAL ENGINEER REG NO. 19917 10/26 2000

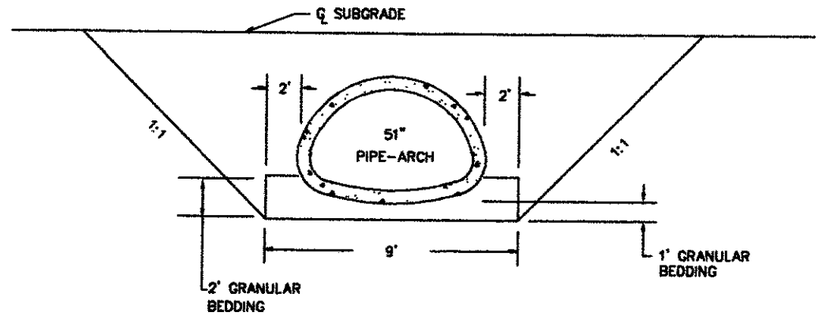
SAP 55-603-30

SHEET NO. 6 OF 123 SHEETS

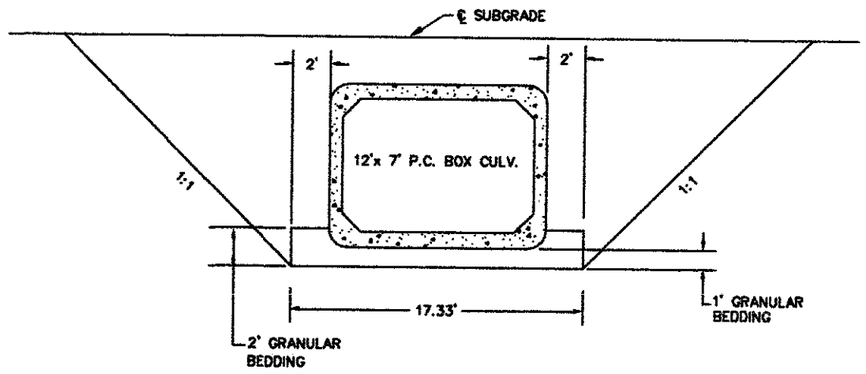
BEDDING DETAIL
STA. 144+81.88 AND STA. 144+98.12



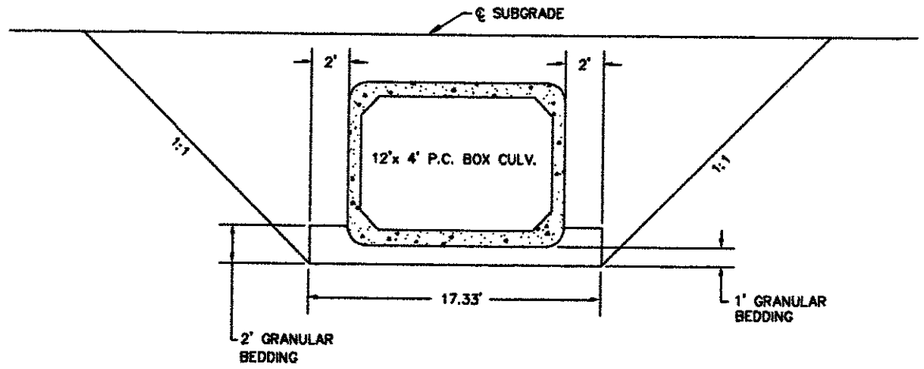
BEDDING DETAIL
STA. 382+14



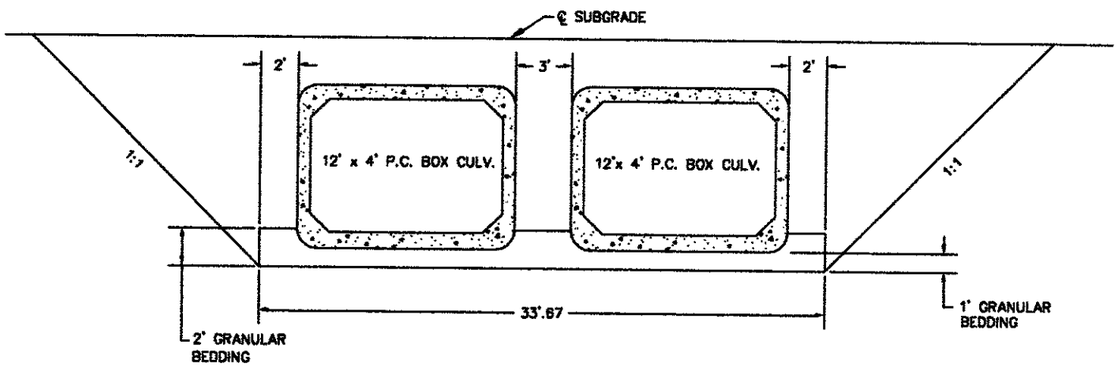
BEDDING DETAIL
STA. 196+30



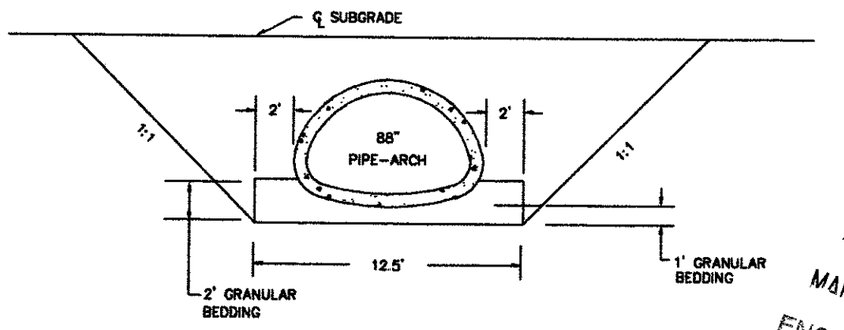
BEDDING DETAIL
STA. 387+00



BEDDING DETAIL
STA. 273+20.57 & STA. 273+39.43



BEDDING DETAIL
STA. 393+93

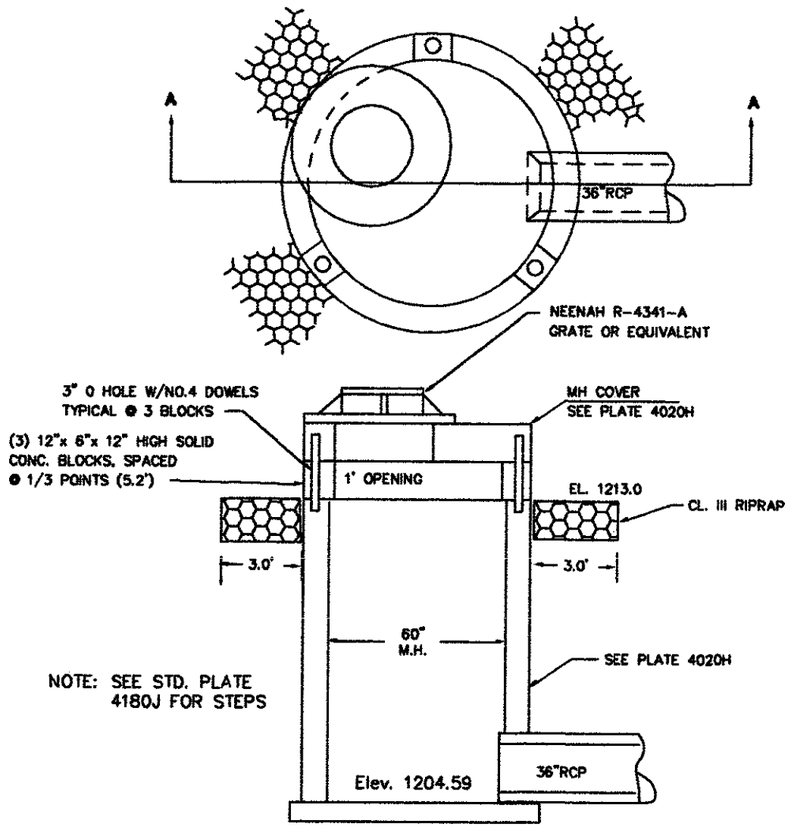


AS-BUILT
MAR 03 2003
ENGINEERING

GENERAL NOTES:

1. CULVERT EXCAVATION WILL BE CONSIDERED INCIDENTAL AND WILL BE INCLUDED FOR PAYMENT UNDER UNIT PRICE FOR ITEM NO. 2412.511, ITEM NO. 2412.512, ITEM NO. 2501.521, AND ITEM NO. 2501.525.
2. CULVERT TO BE BACKFILLED WITH EXCAVATION MATERIAL AND WILL BE CONSIDERED INCIDENTAL TO UNCLASSIFIED EXCAVATION AND NO DIRECT COMPENSATION WILL BE MADE.
3. GRANULAR BEDDING TO BE PLACED UNDER BARREL SECTION ONLY.

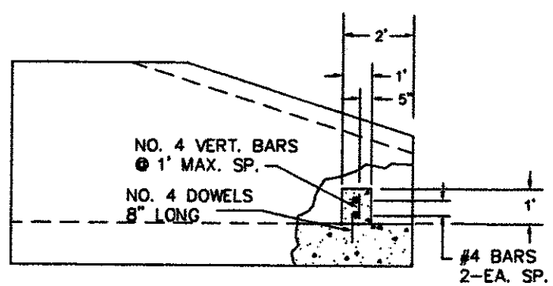
MANHOLE DROP INLET
DESIGN 60-4020



SECTION A-A

NOTES:

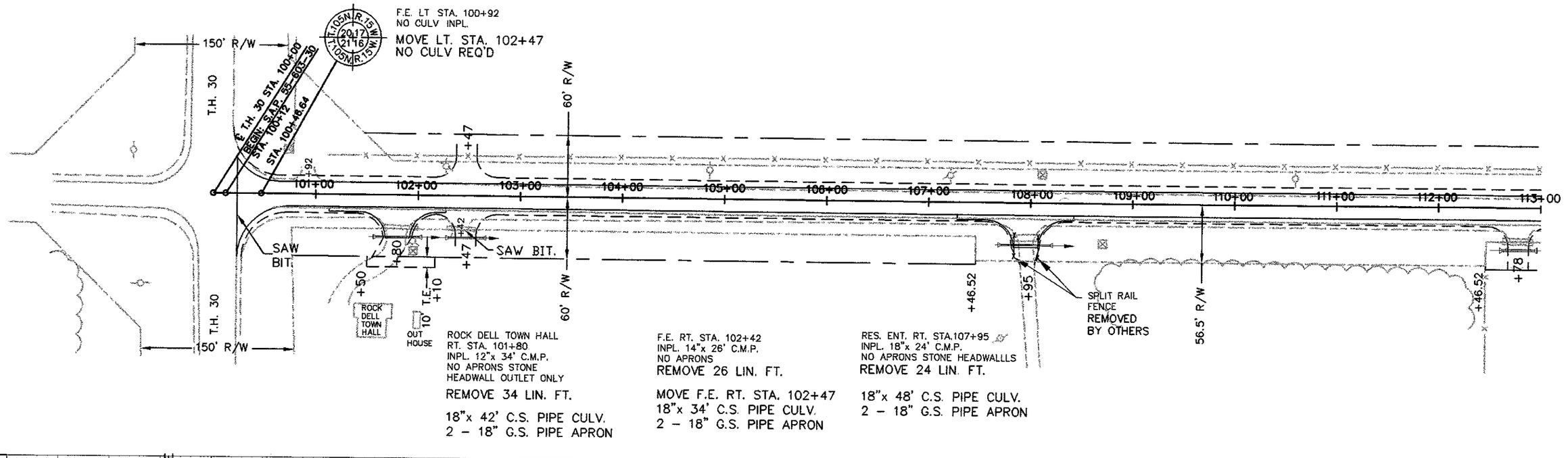
1. CULVERT EXCAVATION WILL BE CONSIDERED INCIDENTAL AND WILL BE INCLUDED FOR PAYMENT UNDER UNIT PRICE FOR ITEM NO. 2501.511, ITEM NO. 2501.515 & ITEM NO. 2506.502.
2. CULVERT TO BE BACKFILLED WITH EXCAVATION MATERIAL AND WILL BE CONSIDERED INCIDENTAL TO UNCLASSIFIED EXCAVATION AND NO DIRECT COMPENSATION WILL BE MADE.
3. CL. "B" BEDDING TO BE PLACED UNDER BARREL SECTION AND M.H. ONLY AND WILL BE CONSIDERED INCIDENTAL TO ITEM NO. 2501.511 & ITEM NO. 2506.502.



WEIR DETAIL STA. 393+93

WEIR TO BE CONSIDERED INCIDENTAL TO ITEM NO. 2501.525

AS-BUILT
MAR 03 2003
ENGINEERING

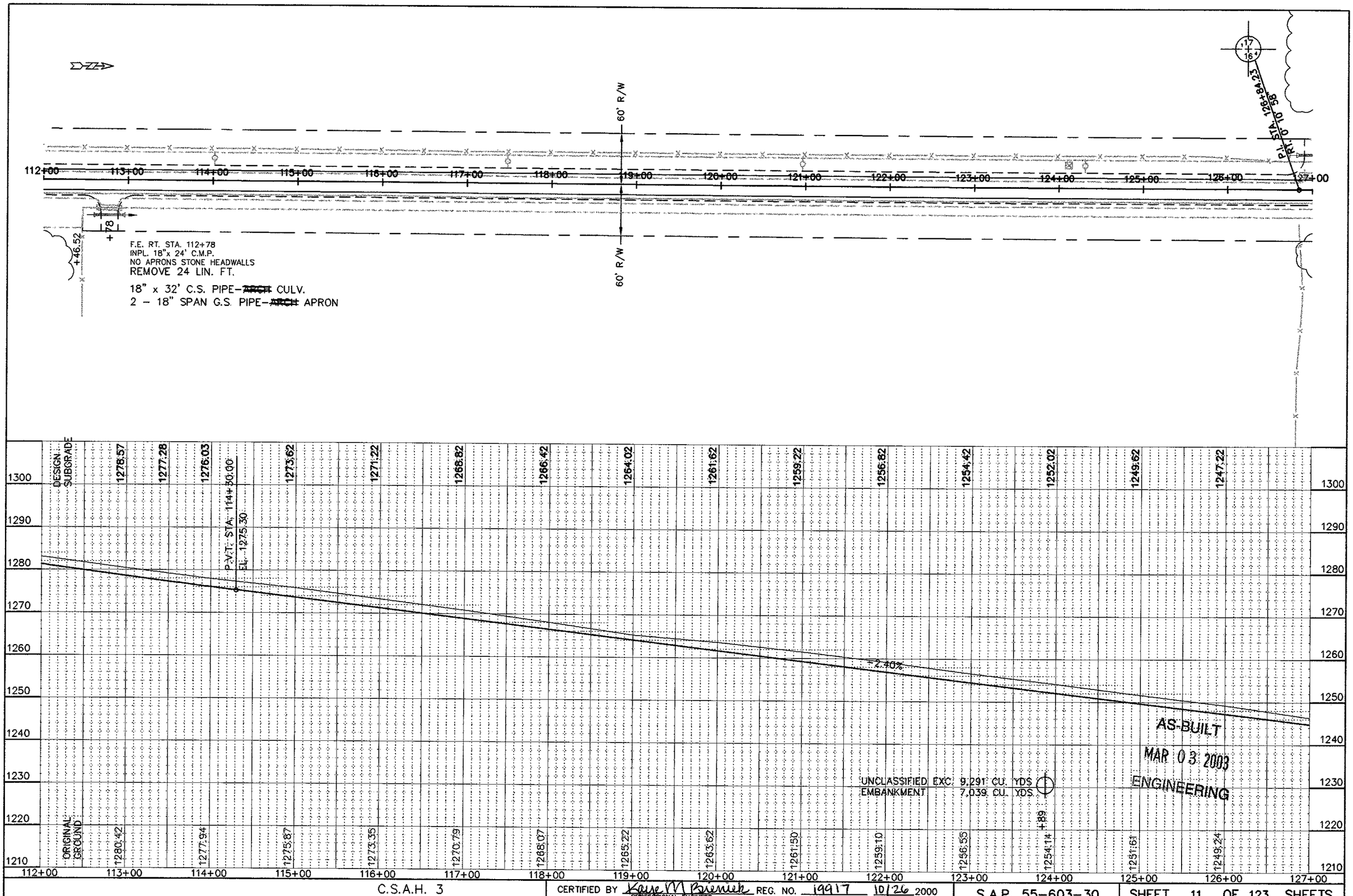


C.S.A.H. 3

CERTIFIED BY Kurt M Bluemke PROFESSIONAL ENGINEER REG. NO. 19917 10/26 2000

S.A.P. 55-603-30

SHEET 10 OF 123 SHEETS



C.S.A.H. 3 | CERTIFIED BY Kaye M Buenish PROFESSIONAL ENGINEER REG. NO. 19917 10/26 2000 | S.A.P. 55-603-30 | SHEET 11 OF 123 SHEETS

F.E. LT. STA. ~~126+98~~ 129+35
INPL. 24"x 20' C.M.P.
NO APRONS
REMOVE 20'
24"x 32' C.S. PIPE CULV.
2-24" G.S. PIPE APRON

P.I. STA. 126+84.23
R = 1010.58

CHANNEL CHANGE
LT. STA. 131+65 TO STA.135+70
SEE CROSS SECTION SHEETS 52 TO 54

SILT FENCE

F.E. LT STA. 139+14
NO CULV. INPL.
NO CULV. REQ'D

℄ CULV. STA. 130+55.5
INPL. 36"x 44' C.M.P.
NO APRONS
REMOVE 44 LIN. FT.

MOVE STA. 130+63 SKEW 20°
48" x 86' R.C. PIPE CULV.
2 - 48" R C. PIPE APRONS
SEE PLATE 3133C FOR RIPRAP CL..III
PLACE PIPE ON CL. "B" BEDDING AND THIS
WORK SHALL BE INCIDENTAL TO THE PIPE.

℄ CULV. STA.
INPL. 24"x 50' C.M.P.
NO APRONS
REMOVE 50 LIN. FT.
NO CULV. REQ'D

F.E RT. STA. 139+56
NO CULV INPL.
MOVE F.E. RT. STA. 139+70

FARM ENT RT STA. 139+79
NO CULV. INPL.
MOVE F.E. RT. STA. 139+70
~~18"x 56' C.S. PIPE CULV.~~
~~2 - 18" C.S. PIPE APRON~~
Dry

DESIGN SUBGRADE
ORIGINAL GROUND

P.V.C. STA. 129+65.00
EL. 1238.46
P.V.T. STA. 134+65.00
EL. 1234.45
P.V.C. STA. 135+32.50
EL. 1235.15

INLET EL. 1230.80
OUTLET EL. 1227.98

P.I. STA. 132+15.00
EL. 1232.46
V.C. 500.00
E = 2.00

P.I. STA. 139+30.00
EL. 1238.15
V.C. 755.00
E = 3.11

-2.40%
0.80%
-2.50%

CHANNEL EXC. 422 CU. YDS.
UNCLASSIFIED EXC. 7,799 CU. YDS.
EMBANKMENT 6,228 CU. YDS.

AS-BUILT
MAR 03 2003
ENGINEERING

C.S.A.H. 3 | CERTIFIED BY Kaye M Bienek PROFESSIONAL ENGINEER REG. NO. 19917 10/26 2000 | S.A.P. 55-603-30 | SHEET 12 OF 123 SHEETS

RES. ENT. LT. STA. 148+81
INPL. 24"x 32' C.M.P.
ROCK HEADWALL INLET
NO ARONS
REMOVE 32 LIN. FT.

SILT FENCE

MOVE LT. STA. 148+75
24"x 50' C.S. PIPE CULV.
2 - 24" G.S. PIPE APRON

80th ST. S.W. LT. STA. 153+31
NO CULV. INPL.
NO CULV. REQ'D

F.E ON 80th ST. S.W.
84' FROM INTERSECTION
INPL. 15"x 26' C.M.P
NO APRON
REMOVE 26 LIN. FT.

MOVE
F.E. 120' FROM INTERSECTION
18"x 32' C.S. PIPE CULV
2 - 18" G.S. PIPE APRON

+90 WEST FROM CSAH 3 R/W

F.E. Rt. +84
18" x 32' C.S. Pipe Culv
2-18" G.S. Pipe Aprons

SAW BIT.
EXIST BIT TO SIDEWALK

RES. ENT. RT. STA. 140+83
INPL. 18"x 28' C.M.P
NO APRON
REMOVE 28 LIN. FT.

18"x 52' C.S. PIPE CULV.
2 - 18" G.S. PIPE APRON

BRIDGE NO. 88711 STA. 144+90 SKEW 29°
INPL. 2 - 10' x 8' X 41' CAST INPLACE
CONC. BOX WITH WINGWALLS
REMOVE OLD BRIDGE

BRIDGE NO. 55J30
STA 144+81.88 & STA. 144+98.12 SKEW 28°
2 - 10'x 7'x 96' PRECAST CONC. BOX
4 - 10'x 7' PRECAST CONC. END SECTION
PLACE BARREL SECT. ONLY ON
136 CU. YDS. GRANULAR BEDDING
OUTLET RIPRAP CL. III 105 CU. YDS.
INLET RIPRAP CL. III 7 CU. YDS.
PLACE RIPRAP ON 9" GRANULAR FILTER
OR GEOTEXTILE MATERIAL, THIS
WORK SHALL BE INCIDENTAL TO RIPRAP

80th ST. S.W. RT STA. 153+25
NO CULV. INPL.
NO CULV. REQ'D

P.I. STA. 153+16.17
RT. 0° 30' 11"

T.105N R.15W 17 8 16 9 T.105N R.15W

33' R/W

80th ST. S.W.

DESIGN SUBGRADE
ORIGINAL GROUND

1232.96 1232.11 1231.15 1230.08 1228.90 1226.46 1225.45 1224.62 1223.97 1223.50 1223.22 1223.12 1223.21 1223.47 1223.92 1224.54 1225.83 1226.36 1226.82 1227.39 1227.51 1227.52 1227.43 1227.28 1226.94

140+00 141+00 142+00 143+00 144+00 145+00 146+00 147+00 148+00 149+00 150+00 151+00 152+00 153+00 154+00 155+00

1270 1260 1250 1240 1230 1220 1210 1200 1190 1180

P.V.C. STA. 143+00.00
EL. 1227.40

2.50%

P.V.T. STA. 143+07.50
EL. 1228.71

INLET EL. 1211.00
OUTLET EL. 1210.80

P.I. STA. 146+20.00
EL. 1220.90
V.C. 520.00
F = 2.47

P.V.T. STA. 148+80.00
EL. 1224.88

1.30%

P.V.C. STA. 149+77.60
EL. 1225.65

1.62%

P.I. STA. 153+20.00
EL. 1230.00
V.C. 685.00
F = 2.50

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1235.10 1231.59 1227.53 1224.23 1222.95 1222.58 1223.25 1224.05 1225.13 1226.82 1227.91 1228.88 1229.60 1230.08 1229.74

140+00 141+00 142+00 143+00 144+00 145+00 146+00 147+00 148+00 149+00 150+00 151+00 152+00 153+00 154+00 155+00

C.S.A.H. 3 | CERTIFIED BY Kare M Buenich PROFESSIONAL ENGINEER REG. NO. 19917 10/26 2000 | S.A.P. 55-603-30 | SHEET 13 OF 123 SHEETS

F.E RT STA. 154+41
NO CULV. INPL.
MOVE F.E. ~~RT. STA.154+55~~ +84 TWP. RD
18"x 38' C.S. PIPE CULV.
2 – 18" G.S. PIPE APRONS

RES. DR. RT. STA. ~~160+38~~ 160+60
INPL. 15"x 30' C.M.P
NO APRONS
REMOVE 30 LIN. FT.
18"x 38' C.S. PIPE CULV.
2 – 18" G.S. PIPE APRONS

℄ CULV. STA. 164+05 SKEW 4°
INPL. CAST INPLACE 4' x 6' x 46' CONC. BOX
WITH CONC. APRONS
REMOVE 62' LIN. FT.
STA. 164+14 ℄ CULV.
36"x 136' R.C. PIPE CULV. CL. IV SKEW 10°
1 –36" R.C. PIPE APRON
DRAINAGE STRUCTURE DES 60–4020 (SEE SHEET NO. 8)
66' LT. ON 10° SKEW 9 LIN. FT.
36" R.C.P. PLACE ON 6" CL. "B" BEDDING
BEDDING THIS WORK SHALL BE INCIDENTAL TO THE PIPE
SEE PLATE 3133C FOR OUTLET RIPRAP CL. III 14 CU. YDS.
INLET RIPRAP CL. III 5 CU. YDS. (SEE SHEET NO. 8)
PLACE RIPRAP ON 9" GRANULAR FILTER
OR GEOTEXTILE MATERIAL, THIS WORK
SHALL BE INCIDENTAL TO RIPRAP

F.E. LT. STA. 165+00
INPL. 15"x 28' C.M.P.
ROCK HEADWALLS BOTH ENDS
NO APRONS
REMOVE 28 LIN. FT
MOVE LT. STA. 166+19
24"x 28' C.S. PIPE CULV.
2 – 24" G.S. PIPE APRON

RES. DR. RT. STA. 166+19
INPL. 15"x 24' C.M.P.
NO APRONS
REMOVE 24 LIN. FT.
24"x 56' C.S. PIPE CULV.
2 – 24" G.S. PIPE APRON

SILT FENCE
SILT FENCE
SILT FENCE
HOUSE
SHED

DESIGN SUBGRADE
ORIGINAL GROUND

UNCLASSIFIED EXC. 11,802 CU. YDS.
EMBANKMENT 8,941 CU. YDS.

P.V.C. STA. 158+05.00
EL. ~~1222.15~~ 1222.67
-1.62%
P.V.T. STA. 156+82.50
EL. ~~1224.18~~ 1224.26
72.00
P.I. STA. 162+15.00
EL. 1215.52
V.C. 820.00
E = 6.27
M.H. INLET EL. 1213.00
PIPE INLET EL. 1204.59
OUTLET EL. 1203.69
P.V.C. STA. 166+27.00
EL. 1234.06
4.50%
P.V.T. STA. 166+26.00
EL. 1233.97

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C.S.A.H. 3 | CERTIFIED BY Kevin Bierwirth PROFESSIONAL ENGINEER REG. NO. 19917 10/26 2000 | S.A.P. 55-603-30 | SHEET 14 OF 123 SHEETS

RES. DR. LT. STA. 179+81
INPL. 18"x 28' C.M.P.
ROCK HEADWALLS INLET
NO APRONS
REMOVE 28 LIN. FT
18"x 52' C.S. PIPE CULV.
2 – 18" G.S. PIPE APRONS

FARM ENT. RT STA. 172+10
INPL. 15"x 24' C.M.P.
ROCK HEADWALLS BOTH
NO APRONS
REMOVE 24 LIN. FT.
18"x 52' C.S. PIPE CULV.
2 – 18" G.S. PIPE APRONS

60' R/W
60' R/W
168+00
169+00
170+00
171+00
172+00
173+00
174+00
175+00
176+00
177+00
178+00
179+00
180+00
181+00
182+00
183+00
+50
85' T.E.
+10
5' T.E.
+40
+70
METAL SHED
+41
40' T.E.
+21
+8
P.I. STA. 179+63.24
RT. 0° 9' 11"

DESIGN SUBGRADE
ORIGINAL GROUND
1244.20
1245.59
1246.83
1247.94
1248.89
1249.71
1250.38
1250.90
1251.28
1251.52
1251.61
1251.56
1251.37
1251.03
1250.54
1249.91
1249.14
1248.22
1247.16
1245.96
1244.61
1243.12
1241.48
1239.70
1237.77
1235.70
1233.50
1249.62
1254.84
1257.05
1257.56
1257.06
1256.39
1255.66
1253.55
1250.40
1246.27
1241.84
1237.65
1233.84
1230.07
+47.9
P.I. STA. 174+02.00
EL. 1268.94
V.C. 1550.00
E = 17.32
(50 MPH)
P.V.T. STA. 181+77.00
EL. 1234.52
-4.44%
UNCLASSIFIED EXC. 10,353 CU. YDS.
EMBANKMENT 7,843 CU. YDS.
1290
1280
1270
1260
1250
1240
1230
1220
1210
1200
168+00
169+00
170+00
171+00
172+00
173+00
174+00
175+00
176+00
177+00
178+00
179+00
180+00
181+00
182+00
183+00

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C.S.A.H. 3 | CERTIFIED BY Kaye M Bremer PROFESSIONAL ENGINEER REG. NO. 19917 10/26 2000 | S.A.P. 55-603-30 | SHEET 15 OF 123 SHEETS

P.I. STA. 191+33.34
Δ =22° 54' 54.77"
Do = 04°46'29"
T = 243.22
R = 1200.00
L = 479.94
C = 476.74
6° SUPER

F.E. RT. STA. 183+85
INPL. 15"x 24' C.M.P.
ROCK HEADWALLS BOTH ENDS
NO APRONS
REMOVE 24 LIN. FT.

18"x 40' C.S. PIPE CULV.
2 – 18" G.S. PIPE APRON

P.C. STA. 188+90.12

F.E. RT STA. 192+58
NO CULV INPL.

MOVE RT. STA. 194+00
18"x 32' C.S. PIPE CULV.
2 – 18" G.S. PIPE APRON

P.T. STA. 193+70.05

P.C. STA. 196+40.73

BRIDGE NO. 88710 195+31.32 SKEW 13°
INPL. 10' x 8' x 46' SINGLE SPAN
CAST INPL. BOX WITH WINGWALLS
REMOVE OLD BRIDGE

BRIDGE NO. 55J31
STA 196+30 SKEW 43°
12'x 7'x 122' PRECAST CONC. BOX CL. III
2 – 12'x 7' PRECAST CONC. END SECTION
PLACE WEIR ON INLET
PLACE BARREL SECT. ONLY ON
97 CU. YDS. GRANULAR BEDDING
OUTLET RIPRAP CL. III 77 CU. YDS.
INLET RIPRAP CL. III 6 CU. YDS.
PLACE RIPRAP ON 9" GRANULAR FILTER
OR GEOTEXTILE MATERIAL, THIS
WORK SHALL BE INCIDENTAL TO RIPRAP

SILT FENCE

SPRING

SHED

-4.44%

P.V.C. STA. 195+39.19
EL. 1174.03

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NOTE: SEE SHEET 17 FOR CONC BOX INLET & OUTLET EL.

C.S.A.H. 3 | CERTIFIED BY Kay M Bruner PROFESSIONAL ENGINEER REG. NO. 19917 11/9 2000 | S.A.P. 55-603-30 | SHEET 16 OF 123 SHEETS

RES. ENT. LT. STA. 197+44
INPL. 14"x 22' R.C.P.
INPL. STONE HEADWALLS BOTH ENDS
NO APRON
REMOVE 22 LIN. FT.
REMOVE ENT.

RES. ENT. LT. STA. 198+55
INPL. 15"x 24' C.M.P.
LIME STONE HEADWALL OULET
NO APRON
REMOVE 24 LIN. FT.
NO. CULV. REQ'D

RES. ENT. LT STA. 199+07
INPL. 15"x 24' C.M.P.
ROCK HEADWALLS BOTH ENDS
NO APRON
REMOVE 24 LIN. FT.
NO CULV REQ'D

RES. ENT. LT STA. 199+99
INPL. 15"x 24' C.M.P
NO APRON
REMOVE 24 LIN. FT.
NO CULV. REQ'D

RES. ENT. LT. STA. 201+55
NO CULV INPL
NO CULV. REQ'D

RES. ENT LT. STA. 202+47
NO CULV INPL.
NO CULV. REQ'D

ROCK DELL MEATS & PROCESSING
LT. STA. 204+39 TO STA. 205+00
NO CULV INPL.
ENT. LT. STA. 204+66
NO CULV. REQ'D

C.B.1 STA 206+04 LT.21.25'
DESIGN A TOP EL. 1160.~~70~~ .45
OUTLET N.E. EL..1155.00

STORM SEWER FROM C.B.1 TO C.B.2
15"x ~~78~~ 75' R.C. SEWER PIPE CL. IV

C.S.A.H. 26 STA. 206+65
NO CULV INPL.

STORM SEWER & M.H. LT STA. 206+32
INPL. 24" R.C. STORM SEWER PIPE
REMOVE 65 LIN. FT
& REMOVE M.H.

NOTE:
4" P.V.C. SANITARY SEWER
WITH INSULATION TO BE LOCATED
IN FIELD BY OWNER.

HOUSE
GARAGE
SHED
INPL. RETAINING WALL
33' R/W
ROCK DELL MEATS
SAW BIT.
ROCK
BIT. C.B. NO. 1
M.H.
C.B. NO. 2
50' R/W
SEPTIC PORTS
TILE
RECYCLING SHED
OLMSTED COUNTY SHOP
SAW BIT.
7' T.E.
80' R/W
WELL
SILT FENCE
F.E. RT. STA. 197+38
NO CULV. INPL.
REMOVE
NO CULV. REQ'D
RES. ENT RT. STA. 202+47
NO CULV INPL.
NO CULV. REQ'D
RES. ENT RT. STA. 205+00
NO CULV INPL.
NO CULV. REQ'D
RES. ENT RT STA. 205+72
NO CULV INPL.
NO CULV. REQ'D
OLMSTED CO. SHOP ENT.
RT. STA. 208+05
NO CULV INPL.
MOVE ENT. RT. STA. 208+34
NO CULV. REQ'D
RES. ENT RT STA. 209+34
NO CULV INPL.
NO CULV. REQ'D
P.C. STA. 196+40.73
P.T. STA. 201+60.92
P.C. STA. 204+26.91
P.T. STA. 209+01.91
C.S.A.H. 3 STA. 206+65.45 =
C.R. 26 STA. 10+00
C.C. STA. 210+64.11
35'
30.83'
120'

P.I STA. 199+07.46
Δ = 31° 12' 31.97"
Da = 06° 00' 00"
T = 266.72
R = 955
L = 520.19'
SUPER 5.0%
(40 MPH)

P.I STA 206+64.78
Δ 6° 27' 18.21"
Da = 1° 35' 10"
T = 237.75
R = 4216.15
L = 475'

STORM SEWER FROM C.B 2
TO APRON OUTLET
18"x 40' R.C. SEWER PIPE CL. III
1-18" R.C. PIPE APRON
END APRON RT. STA. 207+04
@ 54.75, OUTLET EL. 1153.05
SEE PLATE 3133C FOR CL. III RIPRAP

C.B.2 STA 206+65 RT. 21.25'
DESIGN A TOP EL. 1159.~~39~~ .74
INLET S.W. EL..1154.08
OUTLET N.E. EL..1153.75

1210
1200
1190
1180
1170
1160
1150
1140
1130
1120

DESIGN SUBGRADE
ORIGINAL GROUND
Existing Grade Change

1168.57 1167.55 1166.86 1166.49 1166.44 1167.08 1167.36 1167.80 1168.46 1167.71 1167.02 1167.62 1165.22 1166.12 1163.42 1164.32 1161.62 1162.22 1160.47 1160.77 1159.31 1158.15 1156.99 1155.84

1162.59 1166.28 1168.43 1168.47 1169.72 1168.80 1166.99 1164.91 1163.36 1162.46 1161.37 1160.20 1158.88 1156.88

P.I. STA. 197+39.19
EL. 1165.15
V.C. 400.00
E = 2.59
(40 MPH)

P.V.T. STA. 199+39.19
EL. 1166.63

P.I. STA. 201+39.19
EL. 1168.11
V.C. 105.00
E = 0.33
(35 MPH)

P.V.C. STA. 200+86.69
EL. 1167.72

P.V.T. STA. 201+91.69
EL. 1167.17

P.I. STA. 204+99.19
EL. 1161.63
V.C. 0.00

4.44%
0.74%
-1.80%
-1.16%

WEIR EL. 1156.00
INLET EL. 1154.80
OUTLET EL. 1154.50

OUTLET EL. 1153.75

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196+00 197+00 198+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

C.S.A.H. 3 | CERTIFIED BY Kaye M Bienieh PROFESSIONAL ENGINEER REG. NO. 19917 11/9 2000 | S.A.P. 55-603-30 | SHEET 17 OF 123 SHEETS

RES. ENT. LT. STA. 209+34
NO CULV INPL.
MOVE RT. STA. 209+28
24" x 42" C.S. PIPE CULV.
2 – 24" G.S. PIPE APRON

F.E. LT. STA. 213+65
INPL. 18"x 28' C.M.P.
INPL. 2– 18" G.S. APRONS
REMOVE 33 LIN. FT.
24"x 28' C.S. PIPE CULV.
2 – 24" G.S. PIPE APRON

P.I. STA. 216+62.26
Δ = 17° 47' 59.64"
Do = 01° 30' 00"
T = 598.15
R = 3819.73
L = 1186.66

SAW BIT.
SEPTIC PORTS
TILE
P.C. STA. 210+64.11
50' R/W
SAW BIT.
END GRADING & MATCH EXIST GRADE STA. 213+65
P.T. STA. 222+50.77
HOUSE
GARAGE
HOUSE
GARAGE
HOUSE
33' R/W
7'T.E.
40'T.E.
SPLIT RAIL FENCE REMOVED BY OTERS
CREAMERY
SAW BIT.
7'T.E.
SAW BIT.
30°
9+00
210+00
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+
+34
+56
+91
+80
+80
+30
+65

RES. RT. STA. 210+56
NO CULV INPL.
NO CULV. REQ'D

RES. RT. STA. 211+91
NO CULV INPL.
NO CULV. REQ'D

~~C.B.3 STA. 213+61 RT. 21.25~~
~~DESIGN C. TOP EL. 1152.00~~
~~OUTLET EL. 1148.40~~
Eliminated

~~15" x 50' R.C. SEWER PIPE CL. III~~
~~FROM C.B.3 TO OUTLET APRON.~~
~~END OF APRON RT.~~
~~STA. 213+77 @ 76~~
~~OUTLET EL. 1148.20~~
Eliminated

POWER SUB-STATION

C.S.A.H. 126

BRIDGE NO. 55543 STA. 220+17
NO CHANGE

CREAMERY ENT. RT STA. 213+30
NO CULV INPL.
NO CULV. REQ'D

C.R 126 LT. STA. 214+17.8
NO CULV INPL.
NO CULV. REQ'D

1190
1180
1170
1160
1150
1140
1130
1120
1110
1100

DESIGN SUBGRADE
1155.83
1154.68
1153.52
1152.36
1151.78
+65
1.16%
OUTLET EL. 1148.20
END STA. 213+65.00
EL. 1151.78
UNCLASSIFIED EXC. 32,266 CU. YDS.
EMBANKMENT 17,955 CU. YDS.
ORIGINAL GROUND
1156.88
1155.05
1153.38
1153.52
1153.28
+65

209+00
210+00
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

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C.S.A.H. 3

CERTIFIED BY Kaye M Bienieh PROFESSIONAL ENGINEER REG. NO. 19917 10/26 2000

S.A.P. 55–603–30

SHEET 18 OF 123 SHEETS

FARM DR. RT. STA. 232+44
INPL. 30"x 32' C.S. PIPE CULV.
INPL. 2-30" G.S. PIPE APRONS

NO CHANGE

P.C. STA. 229+57.36

EXIST. R/W VAR.

BEGIN GRADEING & MATCH EXIST. GRADE
P.T. STA. 233+31.59

+00 TAPER TO MATCH EXIST.

50. R/W

SAW BIT

223+00 224+00 225+00 226+00 227+00 228+00 229+00 231+00 232+00 233+00 234+00 235+00 236+00 237+00 238+00

+46

+03

FARM DR. RT. 225+46
INPL. 2-49" SPAN x 32' C.S. PIPE-ARCH CULV.
INPL. 4-49" SPAN G.S. PIPE-ARCH APRONS

NO CHANGE

EXIST. R/W VAR.

F.E. RT. STA. 233+03
INPL. 49" SPAN x 28' C.S. PIPE-ARCH CULV
INPL. 2-49" SPAN G.S. PIPE APRONS

NO CHANGE

P.I. STA. 231+44.50
Δ 2° 19' 11"
Dc= 0° 37' 10"
T= 187.14
R= 9248.16
L= 374.23

DESIGN SUBGRADE
+ 31.59 1161.76

1162.19 1162.79 1163.22 1163.42 1163.92 1164.61 1165.50

P.V.C. STA. 235+72.26
EL. 1163.22

0.60%

BEGIN GRADING 233+31.59
EL. 1161.76

ORIGINAL GROUND
1160.26
+31.64

1163.54 1164.40 1165.49 1166.91

1190 1180 1170 1160 1150 1140 1130 1120 1110 1100

223+00 224+00 225+00 226+00 227+00 228+00 229+00 230+00 231+00 232+00 233+00 234+00 235+00 236+00 237+00 238+00

AS-BUILT
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C.S.A.H. 3

CERTIFIED BY Dave M Biesiek PROFESSIONAL ENGINEER REG. NO. 19917 10/26 2000

S.A.P. 55-603-30

SHEET 19 OF 123 SHEETS

F.E. LT. STA. 238+71
INPL.18" x 28' C.M.P. CULV
NO APRONS
REMOVE 28' LIN. FT.
24"x 32' C.S. PIPE CULV.
2 – 24" G.S. PIPE APRON

F.E. RT. STA. 238+33
INPL. 22" x 26' R.C.P. CULV
NO APRONS
REMOVE 26 LIN. FT.
21" SPAN x 28' C.S. PIPE–ARCH CULV.
2 – 21" G.S. PIPE–ARCH APRON

CEMETARY ENT. RT. STA. 239+75
INPL. 30" x 36' C.M.P. CULV.
LIMESTONE HEADWALL OUTLET
NO APRONS
REMOVE 36 LIN. FT.
21" SPAN x 36' C.S. PIPE–ARCH CULV.
2 – 21" G.S. PIPE–ARCH APRON

CEMETARY ENT. RT. STA. 240+50
INPL. 22" x 16' R.C.P. CULV
NO APRONS
REMOVE 16 LIN. FT.
21" SPAN x 28' C.S. PIPE–ARCH CULV.
2 – 21" SPAN G.S. PIPE–ARCH APRON

RES. ENT. LT. STA. 248+42
NO CULV INPL.
NO CULV. REQ'D

CEMETERY ENT LT STA. 248+95
NO CULV INPL.
NO CULV. REQ'D

CHURCH PARKING RT.
FROM STA. 246+55 TO STA. 249+10
NO CULV. INPL.
NO CULV. REQ'D

CHURCH DR. RT STA. 249+23
NO CULV INPL.
NO CULV. REQ'D

BIT. REMOVAL

P.I. STA. 238+72.26
EL. 1165.02
V.C. 600'
E. = 3.45

P.V.I. STA. 241+72.26
EL. 1180.62

P.V.C. STA. 245+54.26
EL. 1200.48

P.I. STA. 249+29.26
EL. 1219.98
V.C. 750'
E. = -8.81
(40 MPH)

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MAR 03 2003
ENGINEERING

C.S.A.H. 3 | CERTIFIED BY Paul M Poirier PROFESSIONAL ENGINEER REG. NO. 19917 11/16 2000 | S.A.P. 55–603–30 | SHEET 20 OF 123 SHEETS

CEMETERY ENT LT. STA. 253+45
INPL. 18"x 36' C.M.P. CULV
INPL. 2-18" G.S. APRONS
REMOVE 41 LIN. FT.

18"x 92' C.S. PIPE CULV.
2 - 18" G.S. PIPE ARON

SILT FENCE

60th ST. S.W. LT STA. 259+76.58
NO CULV. INPL.
SEE SHEET NO. 33

℄ CULV. STA. 259+99.5
INPL. 30"x 44' C.M.P. CULV
NO APRONS
REMOVE 44 LIN. FT.

MOVE STA. 260+40
36" x 80' R.C. PIPE CULV.
2 - 36" R.C. PIPE APRONS
SEE PLATE 3133C FOR CL.III RIPRAP.
RIPRAP OUTLET & INLET THE SAME.
PLACE ON CL. "B" BEDDING, & THIS WORK SHALL BE INCIDENTAL TO THE PIPE.

P.I. STA. 259+75.91 C.S.A.H. 3 =
P.I. STA. 510+47.08 60th ST. S.W.
LT - 0° 15' 17"

F.E. RT. STA. 254+70
INPL. 15"x 28' C.M.P. CULV
ROCK HEADWALL INLET
NO APRONS
REMOVE 28 LIN. FT.

MOVE RT. STA. ~~258+50~~ 250+00
24"x 44' C.S. PIPE CULV.
2 - 24" G.S. PIPE APRON

60th ST. S.W. RT. STA. 259+76.58
INPL. 30"x 38' C.M.P. CULV
NO APRONS
SEE SHEET NO. 33

F.E. RT STA. 260+55
NO CULV INPL.

MOVE F.E. RT. STA. 2761+00
NO CULV. REQ'D

℄ CULV. STA. 264+81.5
INPL. 30"x 42' C.M.P CULV
NO APRONS
REMOVE 42 LIN. FT.

36" x 80' R.C. PIPE CULV.
2 - 36" R.C. PIPE APRON
~~PLACE WEIR ON INLET END~~
SEE PLATE 3133C FOR CL. III RIPRAP
USE PLATE 3133C ON INLET & OUTLET
PLACE ON CL. "B" BEDDING, & THIS WORK SHALL BE INCIDENTAL TO THE PIPE

DESIGN SUBGRADE
ORIGINAL GROUND

P.V.T. STA. 253+04.26
EL. 1204.23

P.V.C. STA. 257+89.26
EL. 1183.86

-4.20%

P.I. STA. 260+89.26
EL. 1171.26
V.C. 600.00
E. = 3.30

INLET EL. 1171.06
OUTLET EL. 1169.89

P.V.T. STA. 263+89.26
EL. 1171.86

0.20%

INLET EL. 1167.00
OUTLET EL. 1166.27

AS-BUILT
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ENGINEERING

C.S.A.H. 3

CERTIFIED BY Kurt M Bauerle PROFESSIONAL ENGINEER REG. NO. 19917 10/26 2000

S.A.P. 55-603-30

SHEET 21 OF 123 SHEETS

NOTE: EXIST. DRAINAGE WAY ON OUTLET
MAKE SURE WHEN STAKING NEW CULV.
THAT OUTLETS CENTER ON DRAINAGE WAY.

F.E. RT. STA. 272+77
INPL. 36"x 26' C.M.P. CULV.
ROCK HEADWALL INLET
NO APRONS
REMOVE 26 LIN. FT.

NO CULV. REQ'D

TILE CROSSING APPROX. STA. 271+95.91
EXIST 8" SUBMAIN TILE

~~RELOCATION OF TILE CROSSING~~
~~8" x 150' PERF. P.E. WITH INSPECTION TEE~~
~~LOCATION OF INSPECTION TEE TO BE DESIGNATED~~
~~IN THE FIELD BY THE ENGINEER AND TO BE~~
~~CONSIDERED INCIDENTAL TO 8" PERF P.E. TILE~~
Not Found

BRIDGE NO. 88709 STA. 273+07
INPL. 6' x 4' x 32' DOUBLE SPAN
CAST INPLACE CONC. BOX
WITH WINGWALLS
REMOVE OLD BRIDGE
BRIDGE NO. 55J32
STA 273+20.57 & STA. 273+39.43 SKEW 30°
2 – 12'x 4'x 90' PRECAST CONC. BOX
4 – 12'x 4' PRECAST CONC. END SECTION
PLACE BARREL SECT. ONLY ON
145 CU. YDS. GRANULAR BEDDING
OUTLET RIPRAP CL. III 128 CU. YDS.
INLET RIPRAP CL. III 4 CU. YDS.
PLACE RIPRAP ON 9" GRANULAR FILTER
OR GEOTEXTILE MATERIAL, THIS
WORK SHALL BE INCIDENTAL TO RIPRAP

RES. ENT. RT. STA. 275+41
INPL. 36"x 36' C.M.P. CULV
INPL. 2–36" G.S. APRONS
REMOVE 46 LIN. FT.
2 – ~~35"~~ 57" SPAN x 36' C.S. PIPE–ARCH CULV.
4 – ~~35"~~ 57" SPAN G.S. PIPE–ARCH APRON

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C.S.A.H. 3

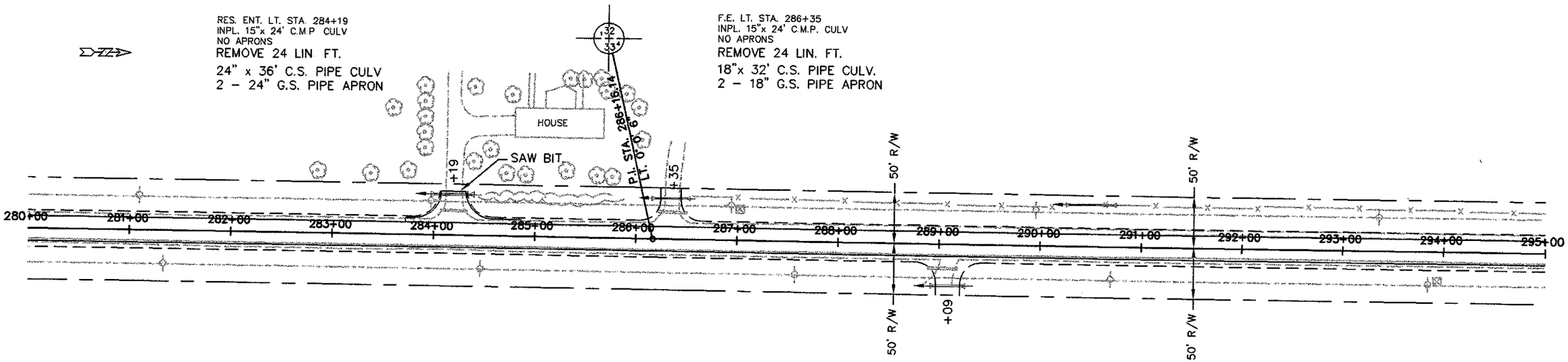
CERTIFIED BY Kaye M Bruemmer PROFESSIONAL ENGINEER REG. NO. 19917 10/26 2000

S.A.P. 55–603–30

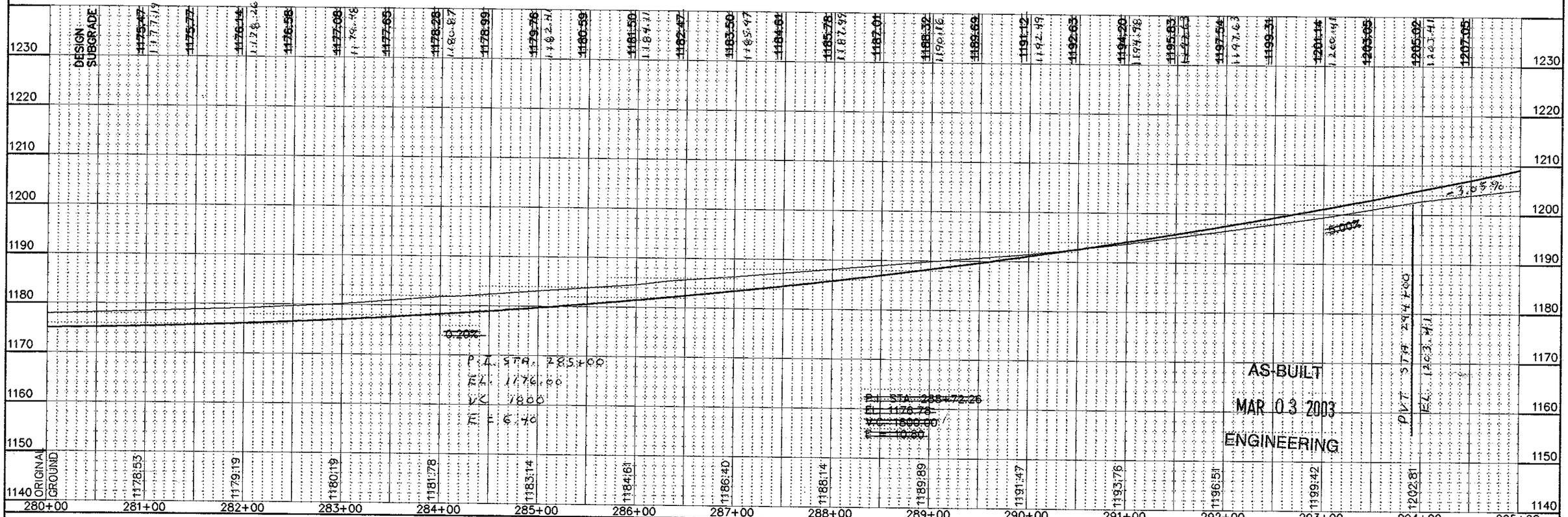
SHEET 22 OF 123 SHEETS

RES. ENT. LT. STA. 284+19
INPL. 15"x 24' C.M.P CULV
NO APRONS
REMOVE 24 LIN. FT.
24" x 36' C.S. PIPE CULV
2 – 24" G.S. PIPE APRON

F.E. LT. STA. 286+35
INPL. 15"x 24' C.M.P. CULV
NO APRONS
REMOVE 24 LIN. FT.
18"x 32' C.S. PIPE CULV.
2 – 18" G.S. PIPE APRON



F.E. RT. STA. 289+09
INPL. 18"x 28' C.M.P CULV.
NO APRONS
REMOVE 28 LIN. FT.
21" ~~18"~~ x 30' C.S. PIPE-ARCH CULV.
2 – ~~18"~~ 21" SPAN G.S. PIPE-ARCH APRON



C.S.A.H. 3

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SHEET 23 OF 123 SHEETS

F.E. LT. STA. 298+42
INPL. 15"x 20' C.M.P CULV.
NO APRONS
REMOVE 20 LIN. FT.
REMOVE F.E.

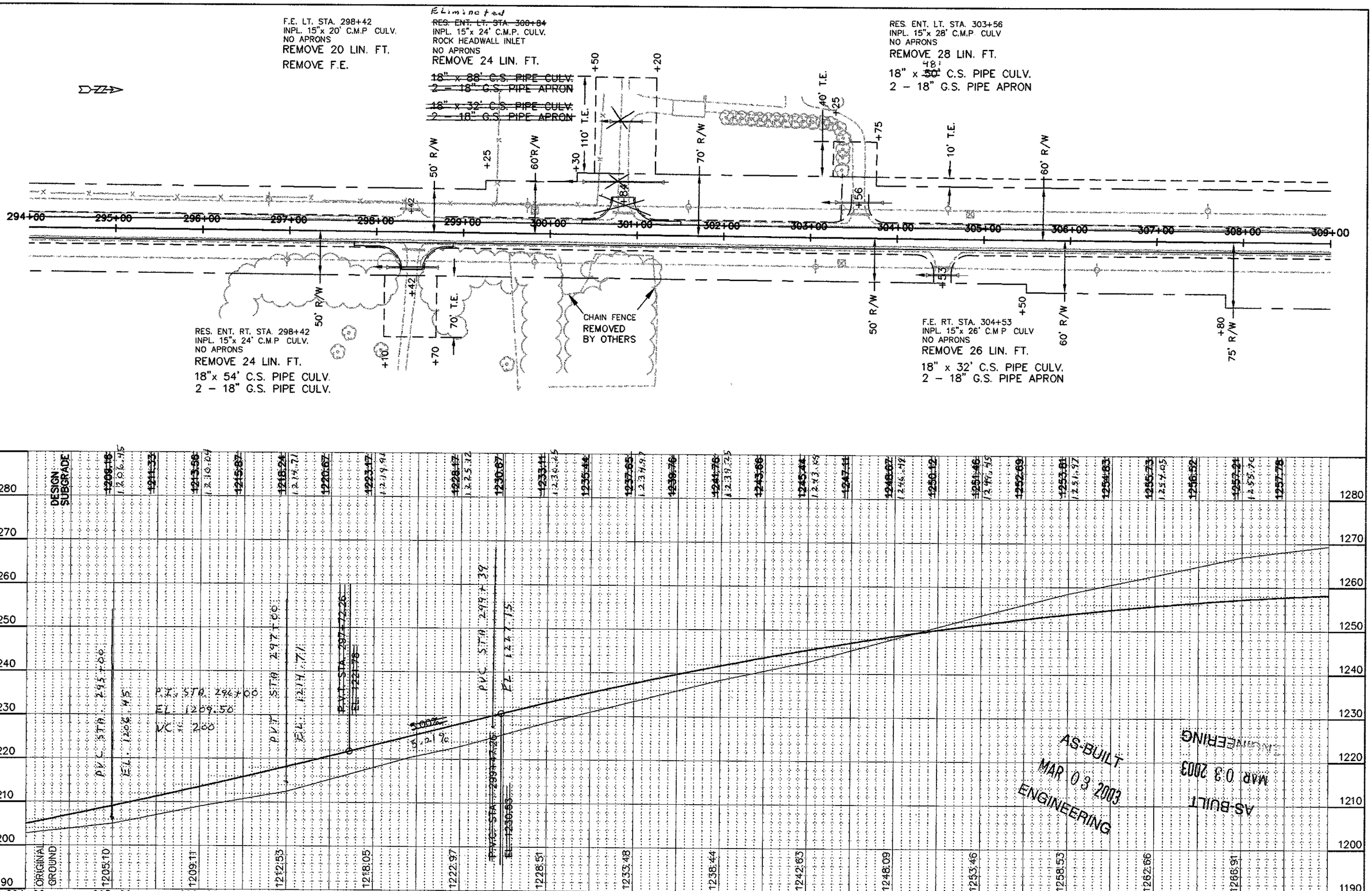
Eliminated
~~RES. ENT. LT. STA. 300+84~~
INPL. 15"x 24' C.M.P. CULV.
ROCK HEADWALL INLET
NO APRONS
REMOVE 24 LIN. FT.
~~18" x 88' C.S. PIPE CULV.~~
~~2 - 18" C.S. PIPE APRON~~
~~18" x 32' C.S. PIPE CULV.~~
~~2 - 18" G.S. PIPE APRON~~

RES. ENT. LT. STA. 303+56
INPL. 15"x 28' C.M.P CULV
NO APRONS
REMOVE 28 LIN. FT.
18" x ~~50'~~ 48' C.S. PIPE CULV.
2 - 18" G.S. PIPE APRON

RES. ENT. RT. STA. 298+42
INPL. 15"x 24' C.M.P CULV.
NO APRONS
REMOVE 24 LIN. FT.
18"x 54' C.S. PIPE CULV.
2 - 18" G.S. PIPE CULV.

CHAIN FENCE
REMOVED
BY OTHERS

F.E. RT. STA. 304+53
INPL. 15"x 26' C.M.P CULV
NO APRONS
REMOVE 26 LIN. FT.
18" x 32' C.S. PIPE CULV.
2 - 18" G.S. PIPE APRON



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C.S.A.H. 3

CERTIFIED BY Kevin M Buemich REG. NO. 19917 10/26 2000
PROFESSIONAL ENGINEER

S.A.P. 55-603-30

SHEET 24 OF 123 SHEETS

T.105N. R.15W. 32 29 33 28 T.104N. R.15W.

C.S.A.H. 17 LT. STA. 312+48.32
NO CULV. INPL.
SEE SHEET NO. 34

F.E. LT. STA. 317+57
INPL. 18"x 30' C.M.P. CULV
WITH 18" G.S. APRONS
REMOVE 35 LIN FT.
24"x 38' C.S. PIPE CULV.
2 – 24" G.S. PIPE APRON

FARM ENT. LT. STA. 320+25
INPL. 18"x 30' C.M.P. CULV.
WITH 18" G.S. APRONS
REMOVE 35 LIN. FT.
24"x 48' C.S. PIPE CULV.
2 – 24" G.S. PIPE APRON

4" DRAIN TILE STA. 321+19 LT.
RELOCATE TILE OULET IN THE FIELD

50th ST. S.W. RT. STA. 312+51.15
INPL. 18"x 36' C.M.P.
INPL. 2–18" G.S. APRONS
SEE SHEET NO. 34

℄ CULV. STA. 321+19
INPL. 36"x 72' C.M.P. CULV.
WITH 36" G.S. APRONS
REMOVE 82 LIN. FT.

42"x 98' R.C. PIPE CULV.
2 – 42" R.C. PIPE APRON
SEE PLATE 3133C FOR CL. III RIPRAP
PLACE ON CL. "B" BEDDING, & THIS WORK
SHALL BE INCIDENTAL TO THE PIPE

P.I. STA. 309+29
EL. 1278.70
V.C. 1980.00

P.I. STA. 320+22.26
EL. 1240.52
V.C. ~~175.00~~ 2.06
m = ~~0.32~~ 0.67

P.V.T. STA. 318+37.26
EL. 1246.62

P.V.C. STA. 319+19.46
EL. ~~1243.41~~ 1244.78

P.V.T. STA. 321+09.76
EL. ~~1239.75~~ 1239.59

P.V.C. STA. 322+07.26
EL. 1238.85

-3.30%

-0.90%

END GRADE CHANGE

INLET EL. 1230.59
OUTLET EL. 1224.75

AS-BUILT
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S.A.P. 55–603–30

SHEET 25 OF 123 SHEETS

F.E. LT STA. 322+97
NO CULV INPL.
NO CULV. REQ'D
Move To Sta. 322+15

SILT FENCE

60' R/W +50

70' R/W +00

90' R/W +00

80' R/W +00

70' R/W +00

60' R/W +00

50' R/W +00

+15

+90

322+00 323+00 324+00 325+00 326+00 327+00 328+00 329+00 330+00 331+00 332+00 333+00 334+00 335+00 336+00 337+00

60' R/W

+50

50' R/W

SILT FENCE

SILT FENCE

+50

65' R/W

+50

75' R/W

RES. ENT. RT. STA. 331+32
INPL. 18" x 30' C.M.P.
WITH 18" G.S. APRONS
REMOVE 35 LIN. FT.
MOVE STA. 331+41
24"x 30' C.S. PIPE CULV.
2 – 24" G.S. PIPE APRON

P.C. STA. 330+23.48

+20

+32

+41

FARM ENT. LT STA. 334+33
NO CULV. INPL.
MOVE STA. 333+54
NO CULV. REQ'D

+54

+33

C.R 150 LT. STA. 335+97
NO CULV. INPL.
NO CULV. REQ'D

P.I. STA. 338+78.12
Δ = 90° 22' 46.20"
Da = 06° 44' 55"
T = 854.64
R = 849.00
L = 1339.23
C = 1204.64
6% SUPER
(50 MPH)

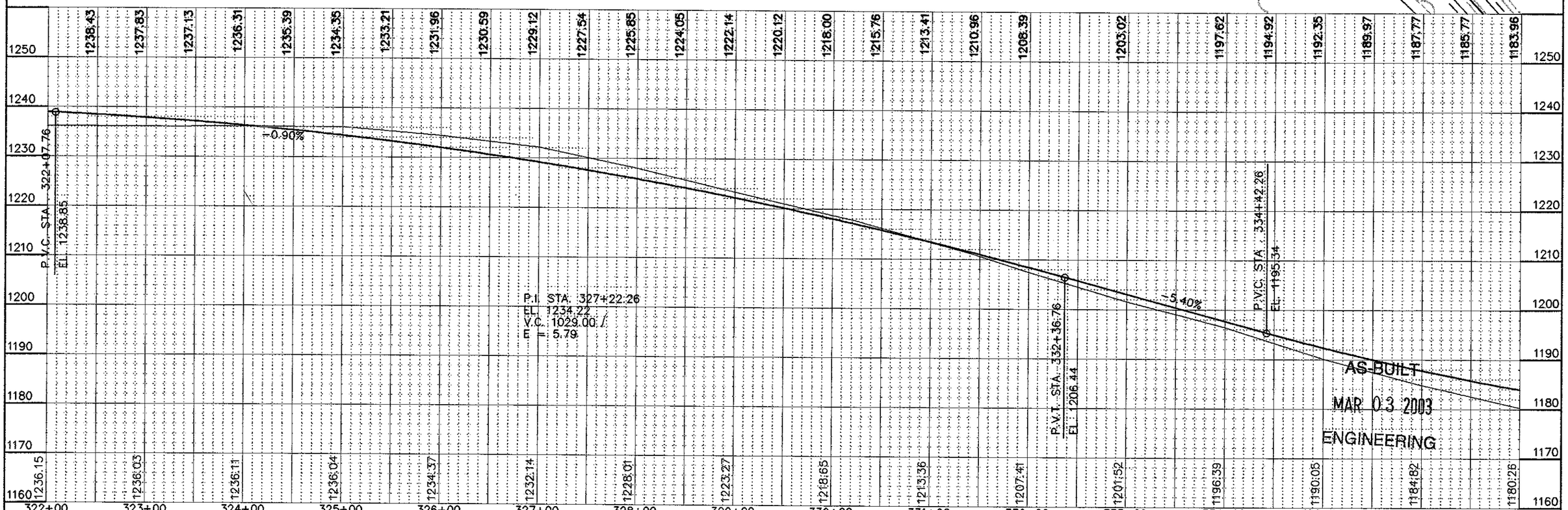
50' R/W

50' R

C.R. 150

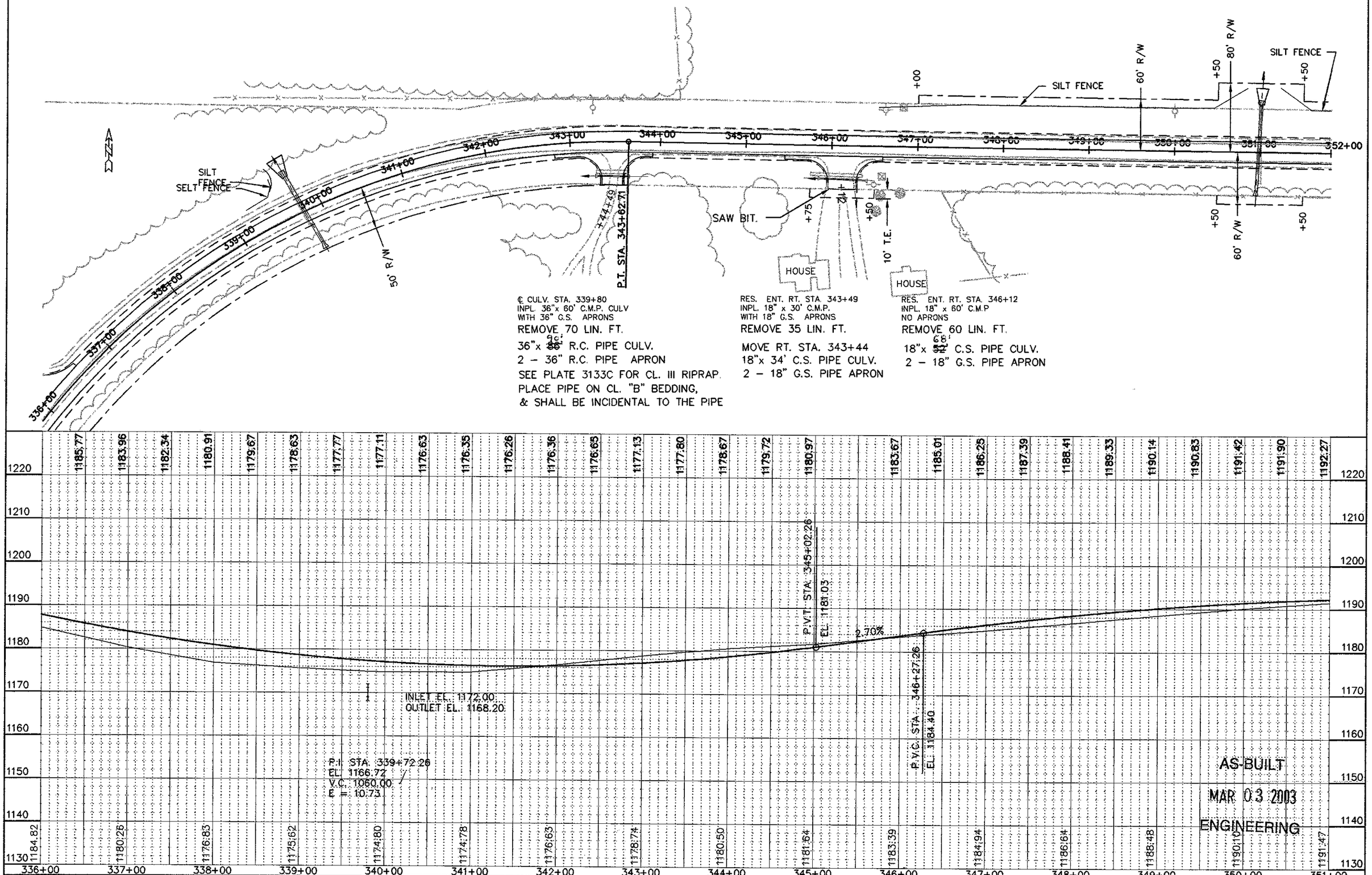
50' R

97



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C.S.A.H. 3 | CERTIFIED BY Kaye M Bolenich PROFESSIONAL ENGINEER REG. NO. 19917 10/26 2000 | S.A.P. 55-603-30 | SHEET 26 OF 123 SHEETS

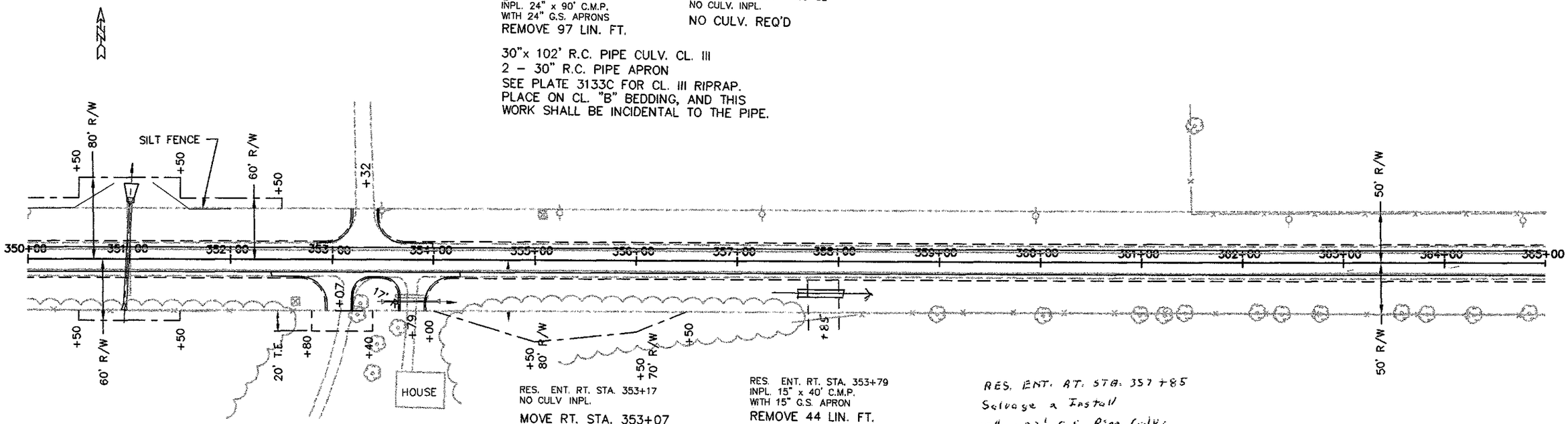


C.S.A.H. 3 | CERTIFIED BY Kaye M Brenick PROFESSIONAL ENGINEER REG. NO. 19917 10/26 2000 | S.A.P. 55-603-30 | SHEET 27 OF 123 SHEETS

℄ CULV. STA. 350+98
INPL. 24" x 90' C.M.P.
WITH 24" G.S. APRONS
REMOVE 97 LIN. FT.

RES. ENT. LT. STA. 353+32
NO CULV. INPL.
NO CULV. REQ'D

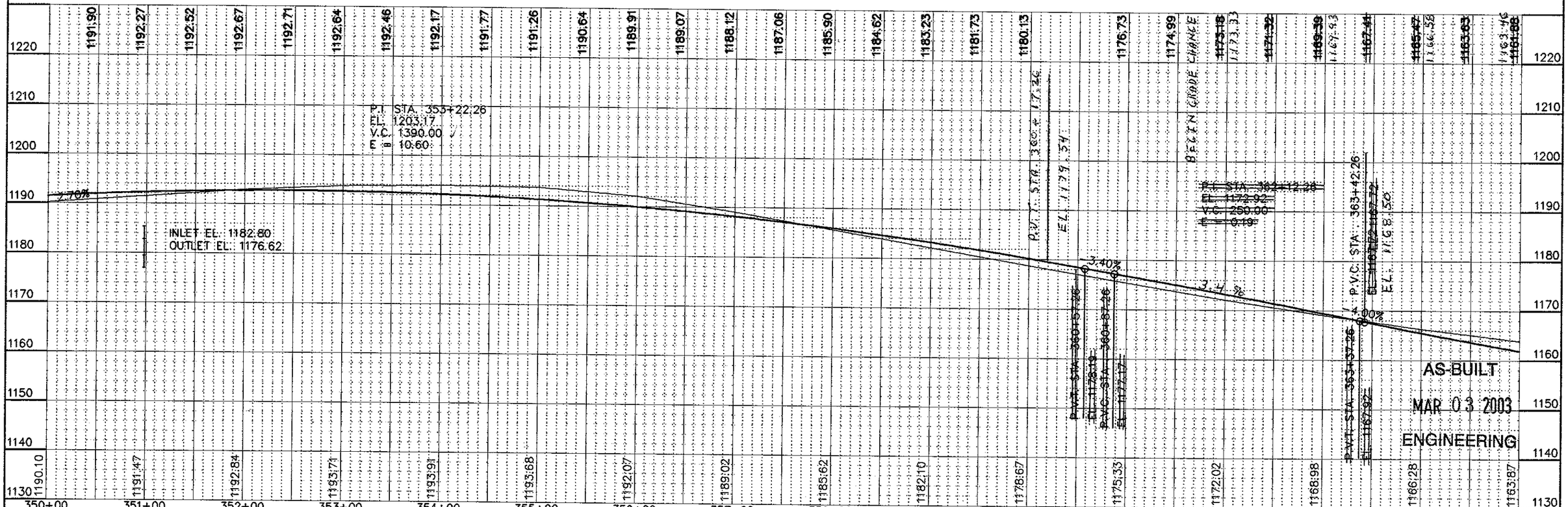
30"x 102' R.C. PIPE CULV. CL. III
2 – 30" R.C. PIPE APRON
SEE PLATE 3133C FOR CL. III RIPRAP.
PLACE ON CL. "B" BEDDING, AND THIS
WORK SHALL BE INCIDENTAL TO THE PIPE.



RES. ENT. RT. STA. 353+17
NO CULV INPL.
MOVE RT. STA. 353+07
NO CULV. REQ'D

RES. ENT. RT. STA. 353+79
INPL. 15" x 40' C.M.P.
WITH 15" G.S. APRON
REMOVE 44 LIN. FT.
18"x 54' C.S. PIPE CULV.
2 – 18" G.S. PIPE ARPON

RES. ENT. AT STA. 357+85
Salvage & Install
18" x 32' C.S. Pipe Culv.
2 - 18" GS. Pipe Aprons



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RES. ENT. LT. STA. 366+45
INPL. 24" x 30' C.M.P
WITH 24" G.S. APRON
REMOVE 37 LIN. FT.
24"x 46' C.S. PIPE CULV.
2 – 24" G.S. PIPE APRON

RES. ENT. LT. STA. 373+27
INPL. 18" x 30' C.M.P
WITH 18" G.S. APRON
REMOVE 35 LIN. FT.
24"x 50' C.S PIPE CULV.
2 – 24" G.S. PIPE APRON

FARM ENT. LT. STA. 374+89
INPL. 24" x 30' C.M.P.
WITH 24" G.S. APRON
REMOVE 37 LIN. FT.
24"x 50' C.S. PIPE CULV.
2 – 24" G.S. PIPE APRON

PROPANE TANK

STONE FOUNDATION REMOVE

Move to Sta. 366+45

F.E. RT. STA. 367+53
NO CULV. INPL.
NO CULV. REQ'D

F.E. RT. STA. 374+84
INPL. 18" x 28' C.M.P.
NO APRONS
REMOVE 28 LIN. FT.
28" SPAN x 26' C.S. PIPE-ARCH CULV.
2 – 28" SPAN G.S. PIPE-ARCH APRON

P.I. STA. 365+92.26
EL. ~~1157.72~~ 1158.00
V.C. 500.00
E = ~~1.19~~ 0.88

P.V.T. STA. 368+42.26
EL. ~~1152.75~~ 1153.75

P.V.C. STA. 371+82.26
EL. 1139.03

P.V.C. STA. 377+99.26
EL. 1134.76

-2.10%

-0.70%

P.I. STA. ~~377+32.26~~ 378+99.26
EL. ~~1133.78~~ 1132.66
V.C. ~~500.00~~ 500.00
E = ~~0.88~~

AS-BUILT
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C.S.A.H. 3	CERTIFIED BY Kurt M Poenick PROFESSIONAL ENGINEER REG. NO. 19917 10/26 2000	S.A.P. 55-603-30	SHEET 29 OF 123 SHEETS

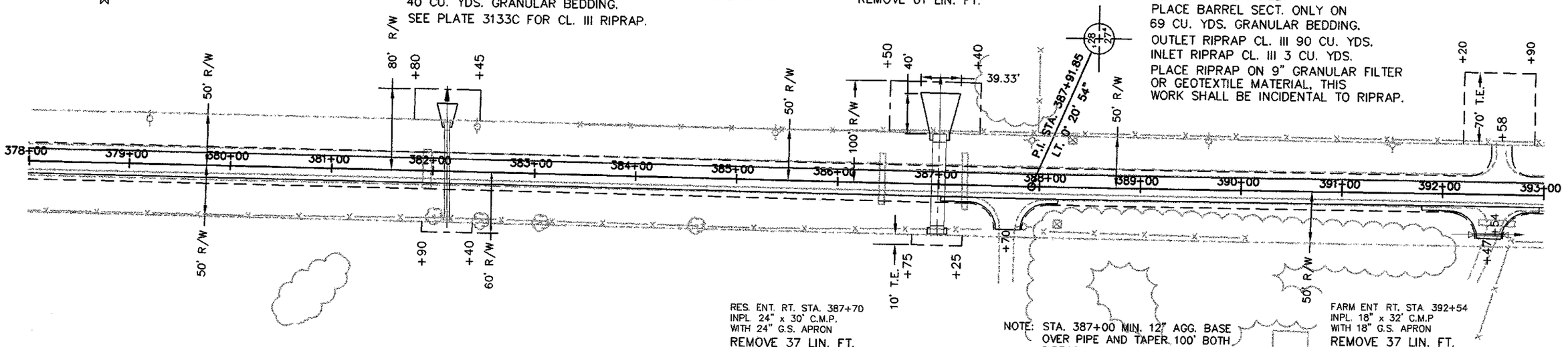
℄ CULV. STA. 381+94
INPL. 8' x 4' x 36' CONC. BOX
WITH WING WALLS
REMOVE 36 LIN. FT.

CONST. ℄ CULV. STA. 382+14
51" SPAN x 80' R.C. PIPE-ARCH CULV.
2 – 51" SPAN R.C. PIPE-ARCH APRON
PLACE BARREL SECT. ONLY ON
40 CU. YDS. GRANULAR BEDDING.
SEE PLATE 3133C FOR CL. III RIPRAP.

℄ CULV. STA. 386+44
INPL. 24" x 50' C.M.P.
WITH 24" G.S. APRONS
REMOVE 57 LIN. FT.

℄ CULV. STA. 387+26.5
INPL. 24"x 54" C.M.P.
WITH 24" G.S. APRONS
REMOVE 61 LIN. FT.

BRIDGE NO. 55J33 STA. 387+00
12'x 4'x 82' PRECAST CONC. BOX
2 – 12'x 4' PRECAST CONC. END SECTION
PLACE WEIR ON INLET
PLACE BARREL SECT. ONLY ON
69 CU. YDS. GRANULAR BEDDING.
OUTLET RIPRAP CL. III 90 CU. YDS.
INLET RIPRAP CL. III 3 CU. YDS.
PLACE RIPRAP ON 9" GRANULAR FILTER
OR GEOTEXTILE MATERIAL. THIS
WORK SHALL BE INCIDENTAL TO RIPRAP.

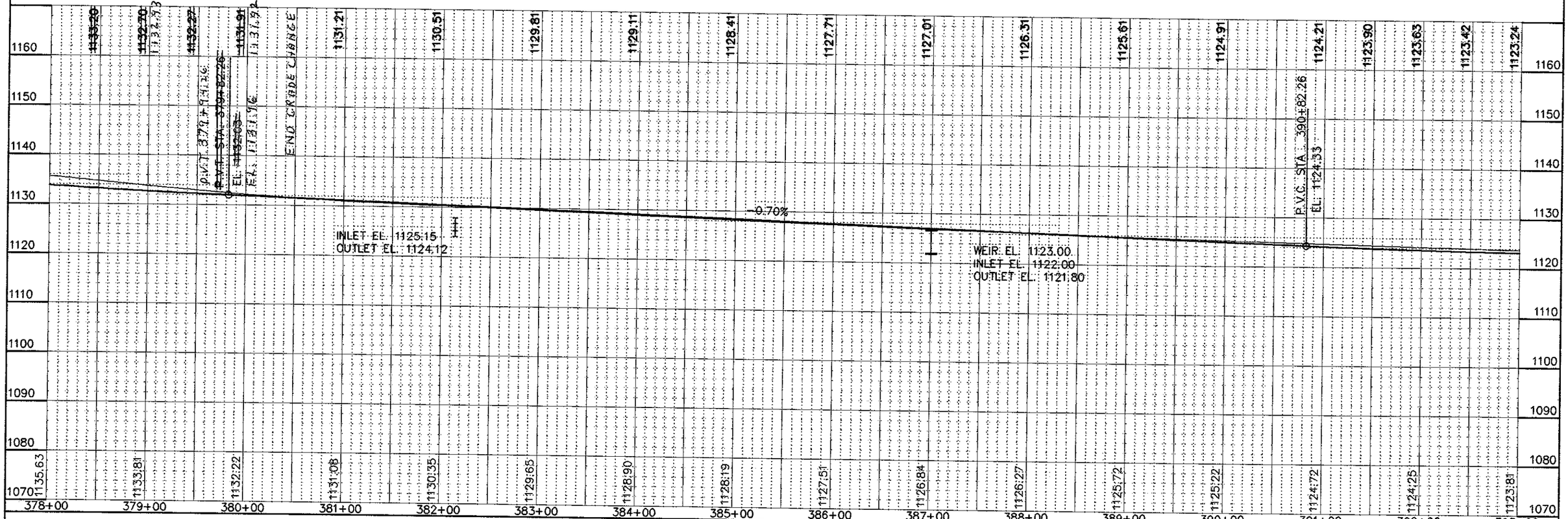


RES. ENT. RT. STA. 387+70
INPL. 24" x 30' C.M.P.
WITH 24" G.S. APRON
REMOVE 37 LIN. FT.
NO CULV. REQ'D

NOTE: STA. 387+00 MIN. 12" AGG. BASE OVER PIPE AND TAPER 100' BOTH DIRECTIONS.

FARM ENT RT. STA. 392+54
INPL. 18" x 32' C.M.P
WITH 18" G.S. APRON
REMOVE 37 LIN. FT.

MOVE RT. STA. 392+47
18"x 32' C.S. PIPE CULV.
2 – 18" G.S. PIPE APRON



F.E. LT. STA. 392+58
NO CULV. INPL.
NO CULV. REQ'D

RES. ENT LT. STA. 396+98
INPL. 18" x 30' C.M.P
WITH 18" G.S. APRON
REMOVE 35 LIN. FT.

18"x 48' C.S. PIPE CULV.
2 – 18" G.S. PIPE APRON

F.E. LT. STA. 397+51
INPL. 15" x 26' C.M.P
NO APRONS
REMOVE 26 LIN. FT.

MOVE LT. STA. 397+75
18"x 44' C.S. PIPE CULV.
2 – 18" G.S. PIPE APRON

Saw Bit.
Sta. 403+70

6" DRAIN TILE

℄ CULV. STA. 393+98
INPL. 6' x 4' x 36' CAST
INPLACE WITH CONC. WING WALLS
REMOVE 36 LIN. FT.

MOVE STA. 393+93
88" SPAN x 80' R.C. PIPE–ARCH
2 – 88" SPAN R.C. PIPE–ARCH APRON
PLACE WEIR ON INLET
PLACE BARREL SECT. ONLY ON
52 CU. YDS. GRANULAR BEDDING
OUTLET RIPRAP CL. III 79 CU. YDS.
INLET RIPRAP CL. III 3 CU. YDS.
PLACE RIPRAP ON 9" GRANULAR FILTER
OR GEOTEXTILE MATERIAL, THIS WORK
SHALL BE INCIDENTAL TO RIPRAP

6" DRAIN TILE RT. STA. 394+41
RELOCATE TILE OUTLET TO INLET OF
88" SPAN STA. 393+93.
THIS WORK SHALL BE INCIDENTAL
TO THE TILE ITEM NO. 2502.541

℄ CULV. STA. 394+40 SKEW 4°
INPL. 24" x 74' C.M.P.
24" G.S. SOUTH SIDE ONLY
REMOVE 77 LIN. FT.

F.E. LT STA. 401+24
NO CULV INPL.

21" SPAN x 40' C.S. PIPE–ARCH CULV.
2 – 21" SPAN G.S. PIPE–ARCH APRON

END: S.A.P. 55–603–30
P.C. STA. 406+02.40

P.V.T. STA. 397+82.26
EL. 1123.99

P.I. STA. 394+32.26
EL. 1121.88
V.C. 700.00
E = 1.14

WEIR EL. 1117.31
INLET EL. 1115.7
OUTLET EL. 1115.40

-0.70%
0.60%

END STA. : 406+02.40
EL. 1128.84

AS-BUILT
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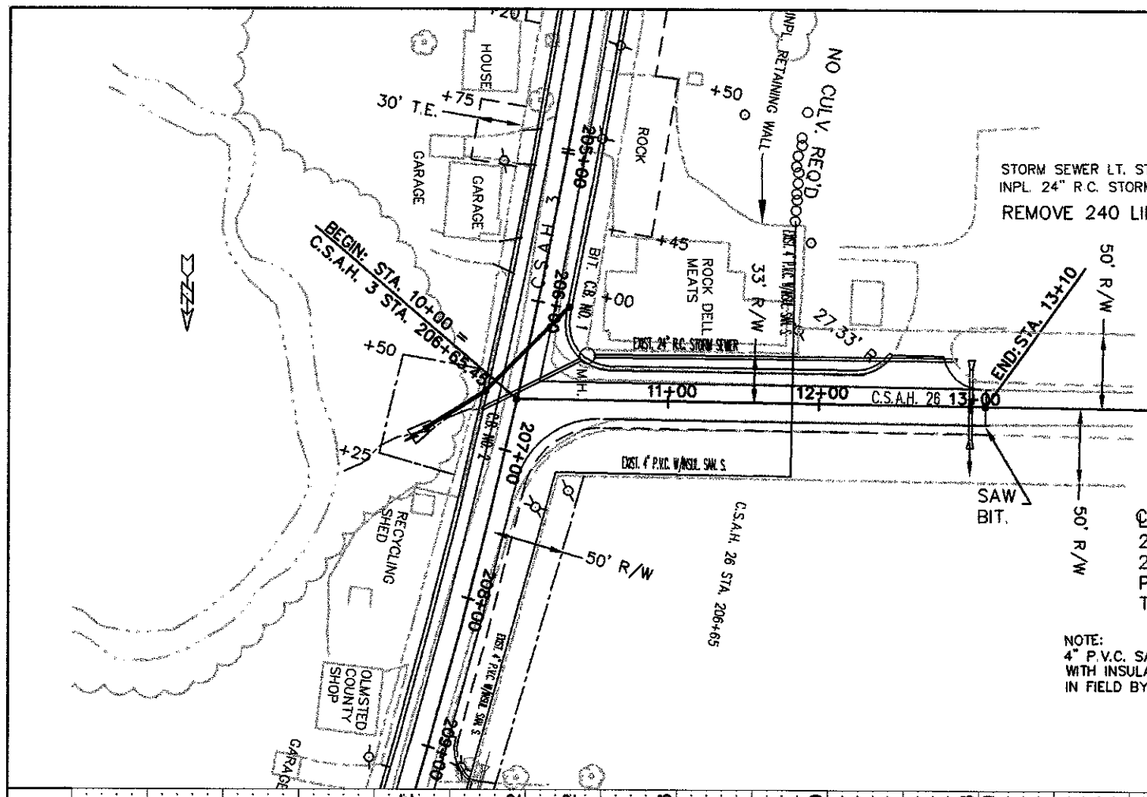
UNCLASSIFIED EXC. 86,716 CU. YDS.
EMBANKMENT 107,155 CU. YDS.

C.S.A.H. 3

CERTIFIED BY Kyle M Bunch PROFESSIONAL ENGINEER REG. NO. 19917 10/26 2000

S.A.P. 55–603–30

SHEET 31 OF 123 SHEETS

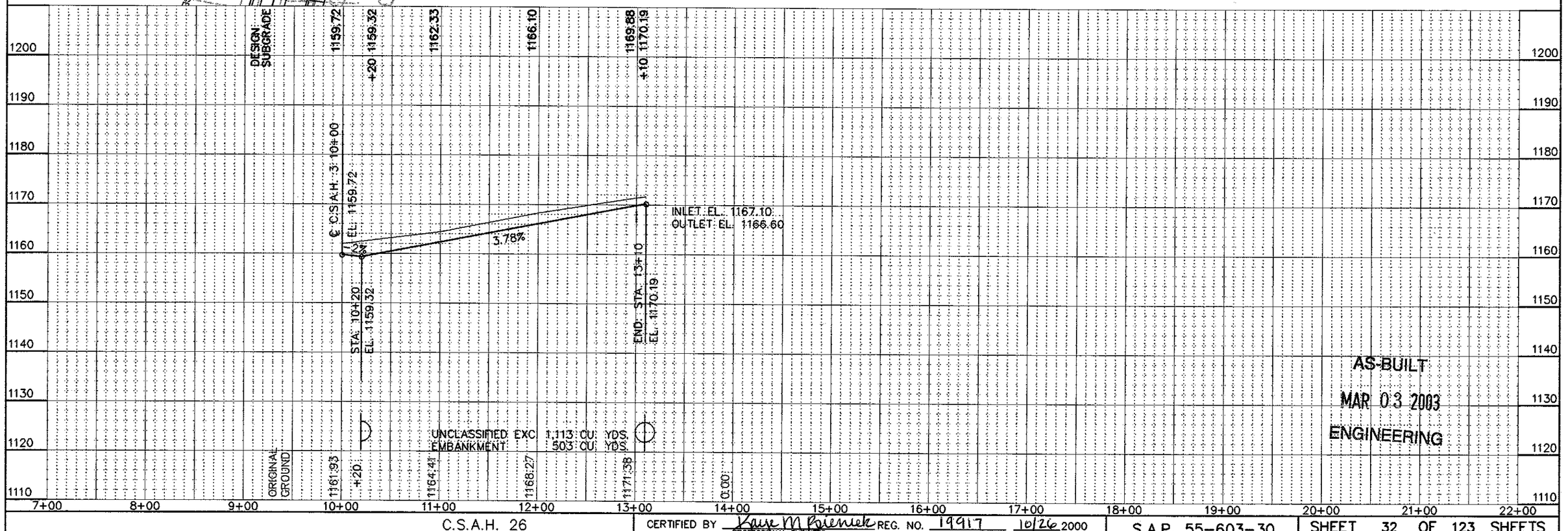


STORM SEWER LT. STA. 10+48 TO STA. 12+88
INPL. 24" R.C. STORM SEWER PIPE
REMOVE 240 LIN. FT.

ROCK DELL MEATS & PROCESSING
RT. STA. 12+64
NO CULV INPL.
ENT. LT. STA. 204+64

℄ CULV. STA.13+00
28" SPAN x 50' R.C. PIPE-ARCH CULV.
2 - 28" SPAN R.C. PIPE-ARCH APRONS
PLACE PIPE ON CL. "B" BEDDING AND
THIS WORK SHALL BE INCIDENTAL TO THE PIPE.

NOTE:
4" P.V.C. SANITARY SEWER
WITH INSULATION TO BE LOCATED
IN FIELD BY UTILITIES.



AS-BUILT
MAR 03 2003
ENGINEERING

C.S.A.H. 26

CERTIFIED BY Kaye M Prienek PROFESSIONAL ENGINEER REG. NO. 19917 10/26 2000

S.A.P. 55-603-30

SHEET 32 OF 123 SHEETS

F.E. LT. STA. 505+74
INPL. 30"x 30' C.M.P CULV
NO APRONS
REMOVE 30 LIN. FT.
36"x 30' C.S. PIPE CULV.
2 - 36" G.S. PIPE APRON

BEGIN: 60 TH ST. S.W.
STA. 504+00

40'T.E.

60' R/W

P.I. STA. 510+47.06 60th ST. S.W.
P.I. STA. 259+75.91 C.S.A.H. 3

60' R/W

C.S.A.H. 3

60' R/W

+20
20' T.E.
+80

50' R/W

END: 60 TH ST. S.W.
STA. 517+00

503+00 504+00 505+00 506+00 507+00 508+00 509+00 510+00 511+00 512+00 513+00 514+00 515+00 516+00 517+00

60th ST. S.W. 60th ST. S.W.

GARAGE HOUSE SEPTIC

+43 +70

F.E. RT. STA. 504+43
INPL. 18"x 26' C.M.P CULV
NO APRONS
REMOVE 26 LIN. FT.
18" x 26' C.S. PIPE CULV.
2 - 18" G.S. PIPE APRON

60' R/W

+50
5' T.E.
50' R/W

C.S.A.H. 3

+95
50' T.E.
+05

50' R/W +50

℄ CULV STA. 510+74
INPL. 30"x 38' C.M.P. CULV
NO APRONS
REMOVE 38 LIN. FT.
MOVE STA. 511+00
36"x 46' R.C. PIPE CULV.
2 - 36" R.C. PIPE APRON
SEE PLATE 3133C FOR CL.III RIPRAP
PLACE ON CL. "B" BEDDING AND THIS WORK
SHALL BE INCIDENTAL TO THE PIPE

DESIGN SUBGRADE
ORIGINAL GROUND

1210 1200 1190 1180 1170 1160 1150 1140 1130 1120

1169.24 1171.54 1172.68 1173.72 1174.65 1175.46 1176.16 1176.74 1177.20 1177.56 1177.79 1177.91 1177.93 1178.29 1177.93 1177.93 1177.93 1177.93 1177.93 1177.93 1177.97 1178.05 1178.17 1178.52

1167.44 1169.05 1170.86 1172.03 1172.69 1173.09 1173.20 1173.90 1176.93 1176.93 1174.88 1175.30 1175.29 1175.94 1176.74 1177.85 1179.02

P.I. STA. 507+78.00
EL. 1177.93
V.C. 500.00
E = 1.44
(50 MPH)

BEGIN: 504+00.00
EL. 1166.94

2.30%

P.V.C. STA. 505+28.00
EL. 1172.18

+00

P.V.T. STA. 510+28.00
EL. 1177.93

+29.06 +47.06 +65.06

STA. 510+29.06 SUBGRADE C.S.A.H. 3
EL. 1176.93
℄ C.S.A.H. 3 STA. 510+47.06 EL. 1177.29
STA. 510+65.06 SUBGRADE C.S.A.H. 3
EL. 1176.93

INLET EL. 1172.94
OUTLET EL. 1171.06

0.00%

P.V.C. STA. 514+34.33
EL. 1177.93

P.V.T. STA. 516+34.33
EL. 1178.29

0.36%

END: 517+00.00
EL. 1178.52

P.I. STA. 515+34.33
EL. 1177.93
V.C. 200.00
E = 0.09

NOTE: SEE TYP SECTION SHEET NO. 6
60th ST. S.W. 6" AGG. SURFACE

UNCLASSIFIED EXC. 1,523 CU. YDS.
EMBANKMENT 7,197 CU. YDS.

502+00 503+00 504+00 505+00 506+00 507+00 508+00 509+00 510+00 511+00 512+00 513+00 514+00 515+00 516+00 517+00

60th ST. S.W.

CERTIFIED BY Kaye M Brienek PROFESSIONAL ENGINEER REG. NO. 19917 10/26 2000

S.A.P. 55-603-30

SHEET 33 OF 123 SHEETS

RES. ENT. LT. STA. 10+04
INPL. 15"x 18' C.M.P.
INPL. 2–15" G.S. APRONS
NO CHANGE

℄ CULV. STA. 12+75 SKEW 4°
INPL. 15"x 94' C.M.P.
INPL. 2–15" G.S. APRONS
REMOVE 106 LIN. FT
24" x ~~90'~~ 98' R.C. PIPE CULV. SKEW 4°
2– 24" R.C. PIPE APRON
PLACE ON CL. "B" BEDDING AND THIS WORK SHALL BE INCIDENTAL TO THE PIPE
SEE PLATE 3133C FOR CL. III RIPRAP

F.E. LT. STA. 17+09
INPL. 18"x 26' C.M.P.
INPL. 2–18" G.S. APRONS
REMOVE 31 LIN. FT.
MOVE LT. STA. 14+50
18"x 34' C.S. PIPE CULV.
2 – 18" G.S. PIPE APRON

F.E. L
NO CI

BEGIN: 55–617–03 (C.S.A.H. 17)
STA. 10+00 MATCH EXIST.

50' R/W
60'R/W
70' R/W
80' R/W
5' T.E.
10' T.E.
15' T.E.
40' T.E.

END: 55–617–03
P.I. STA. 20+47.96 =
P.I. STA. 312+50.48 C.S.A.H. 3
RT. 0° 12" 48"

C.S.A.H.17
50TH ST. S.W.
C.S.A.H. 3

RES. ENT RT. STA. 11+74
NO CULV. INPL.

WOOD FENCE

SAW BIT 22 LIN. FT.

RES. ENT. RT. STA. 15+12
INPL. 15"x 26' C.M.P.
INPL. 2–15" G.S. APRONS
REMOVE 30 LIN. FT.
~~15"x 40' C.S. PIPE CULV.~~
~~2 – 18" G.S. PIPE APRON~~
Dry

℄ CULV. STA. 20+00
28" SPAN x ~~26~~ 29' R.C. PIPE–ARCH CULV
2 – 28" SPAN R.C. PIPE–ARCH APRON
PLACE ON CL. "B" BEDDING, & SHALL BE INCIDENTAL TO THE PIPE

50th ST. S.W. RT. STA. 312+51 15
INPL. 18"x 36' C.M.P.
INPL. 2–18" G.S. APRONS
REMOVE 41 LIN. FT.
28" SPAN x 42' R.C. PIPE–ARCH CULV
2 – 28" SPAN R.C. PIPE–ARCH APRON
PLACE ON CL. "B" BEDDING, & SHALL BE INCIDENTAL TO THE PIPE

DESIGN SUBGRADE
ORIGINAL GROUND

BEGIN STA. 10+00.00
P.V.C. STA. 10+00
EL. 1243.54

BEGIN GRADE CHANGE
P.V.C. STA. 10+97
EL. 1249.17

P.I. STA. 13+86.90
EL. ~~1261.67~~ 1266.16
V.C. ~~700'~~ 580'
E = ~~5.22~~ 5.35
(45 MPH)

INLET EL. 1248.78
OUTLET EL. 1241.80
4.80%

P.V.T. STA. 16+83.40

P.V.C. STA. 17+66.00
EL. 1259.41

P.V.C. STA. 18+41.00
EL. 1258.86

P.I. STA. 19+11
EL. 1258.39
V.C. 140'
E = 0.67

P.V.T. STA. 19+81
EL. 1257.78

P.V.C. STA. 18+60.80
EL. 1257.71

P.I. STA. 19+20
EL. 1258.21
V.C. 120'
E = 0.12

INLET EL. 1255.50
OUTLET EL. 1255.00
0.70%

P.V.C. STA. 20+47.96
EL. 1255.40

P.V.T. STA. 20+78.86
EL. 1255.30

P.V.C. STA. 20+78.86
EL. 1255.40

0.00%

INLET EL. 1255.40
OUTLET EL. 1255.00

NOTE: 50TH ST. S.W. IS AGG. SURFACE ONLY. SEE TYP. SHEET NO. 6

P.I. STA. 22+10.96
EL. 1272.12
V.C. 175'
E = 0.53

P.V.T. STA. 22+53.46
EL. 1261.14

P.I. 22+15.96
EL. 1259.04
V.C. 300'
E = 1.16

P.V.T. STA. 23+65.96
EL. 1265.67

AS-BUILT
MAR 03 2003
ENGINEERING

1290 1280 1270 1260 1250 1240 1230 1220 1210 1200

9+00 10+00 11+00 12+00 13+00 14+00 15+00 16+00 17+00 18+00 19+00 20+00 21+00 22+00 23+00 24+00

C.S.A.H. 17 AND 50 TH ST. S.W.

CERTIFIED BY Kaye M Prenich PROFESSIONAL ENGINEER REG. NO. 19917 11/2 2000

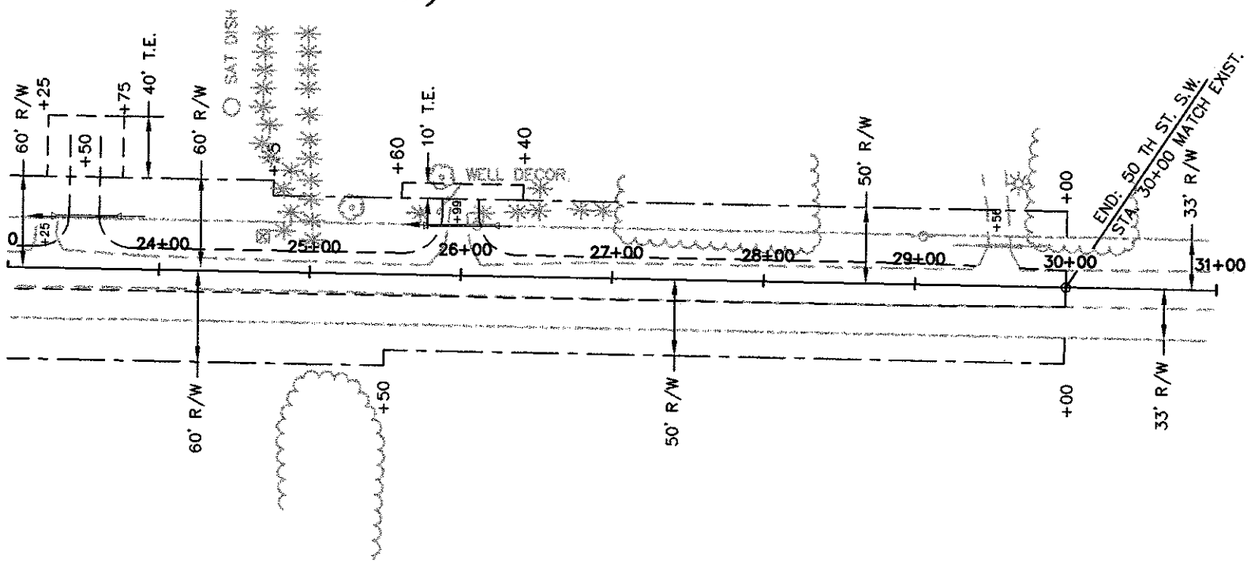
S.A.P. 55–603–30 & 55–617–03

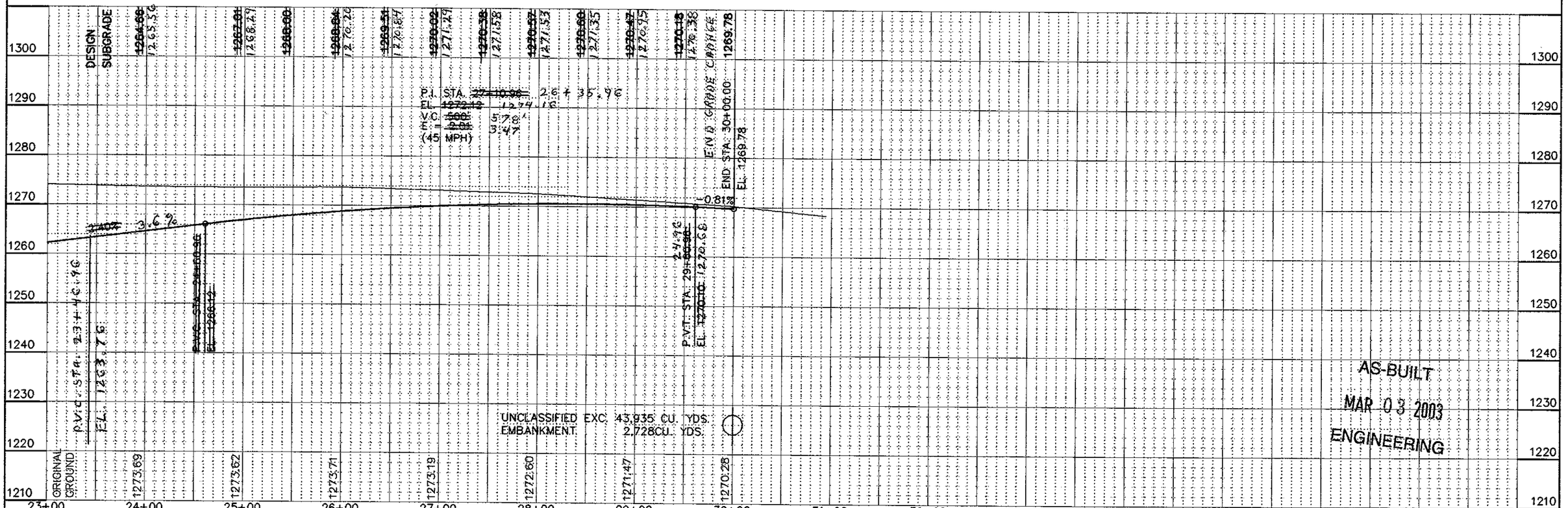
SHEET 34 OF 123 SHEETS

F.E. LT STA. 23+25
NO CULV. INPL.
18"x ~~48'~~ 29' C.S. PIPE CULV.
2 – 18" G.S. PIPE APRON

RES. ENT LT. STA. 25+99
NO CULV. INPL.
~~18"x 44' C.S. PIPE CULV.~~
~~2 – 18" G.S. PIPE APRON~~
Dry

RES. ENT. LT. STA. 29+56
INPL. 15"x 24' C.M.P.
INPL. 2–15" G.S. APRONS
NO CHANGE





50 TH ST. S.W.

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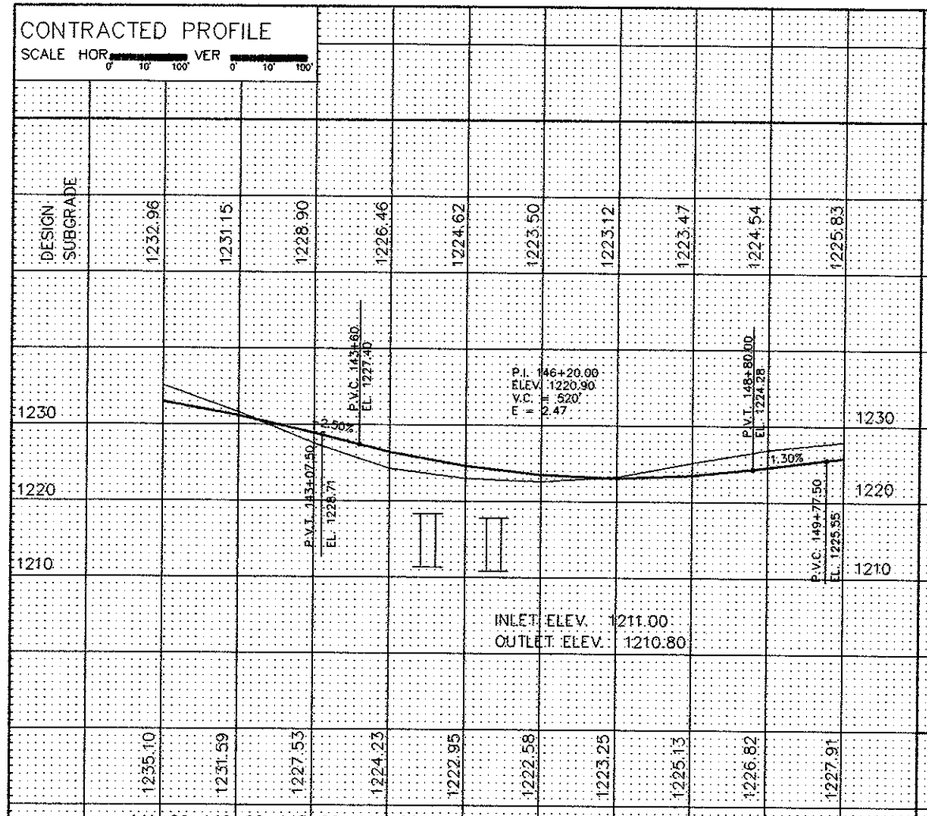
S.A.P. 55-603-30

SHEET 35 OF 123 SHEETS

Fed. Proj. No.

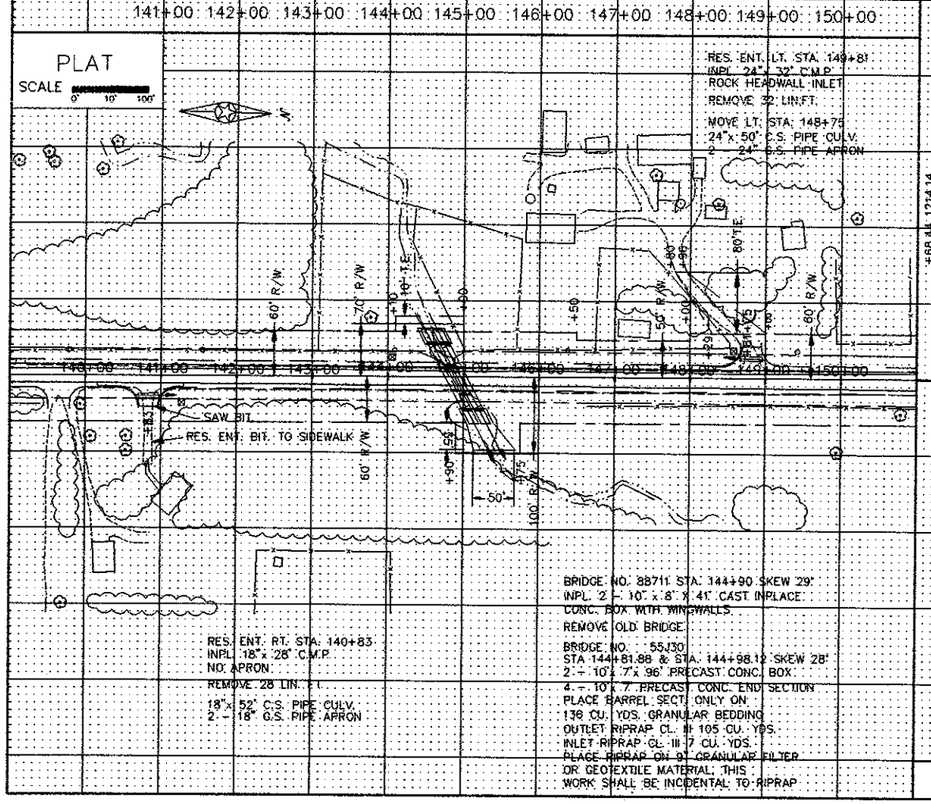
CONTRACTED PROFILE

SCALE HOR 0' 10' 100' VER 0' 10' 100'



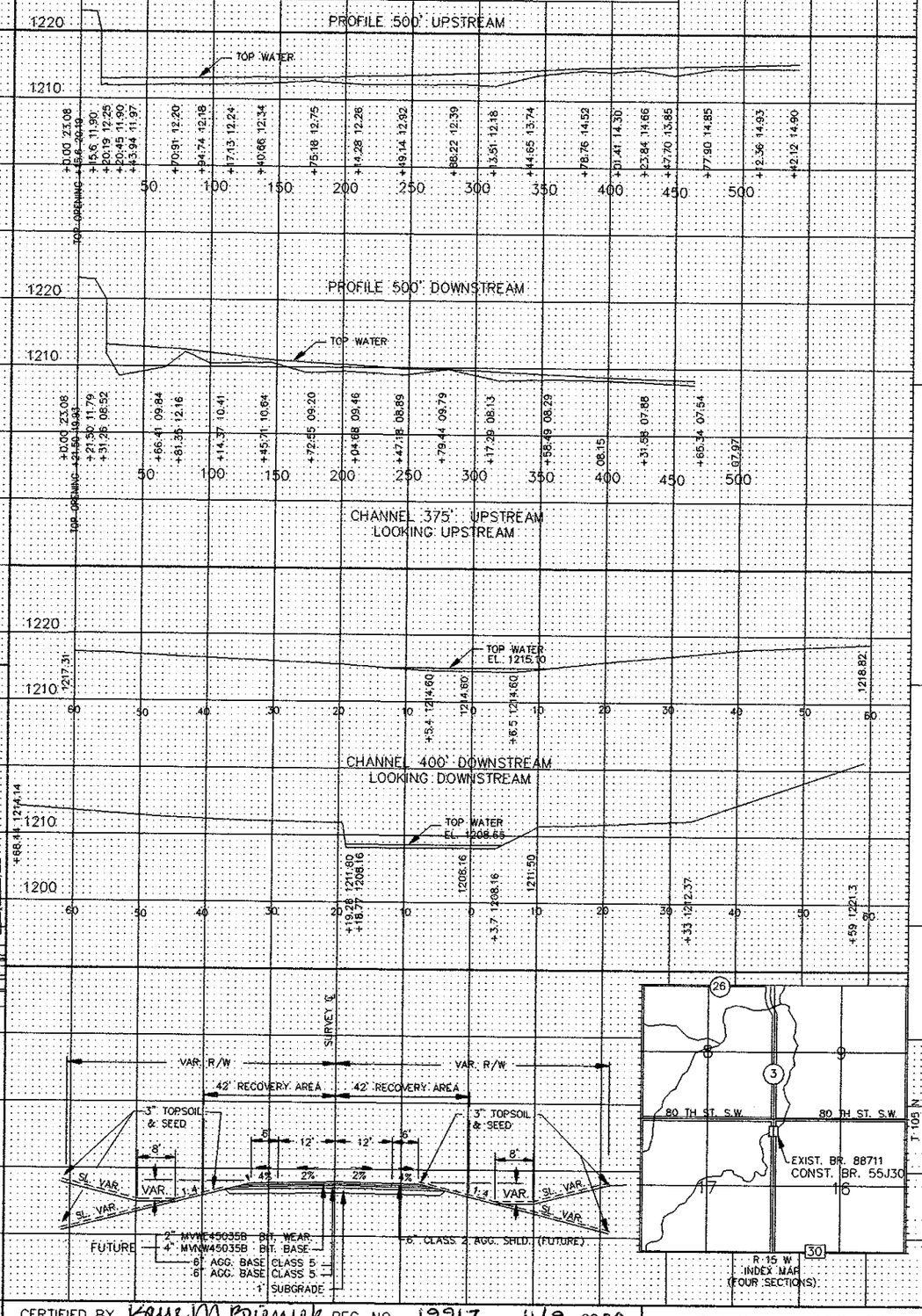
PLAT

SCALE 0' 10' 100'



TYPICAL SECTIONS & PERTINENT DATA

SCALE AS SHOWN



1. Special Features: Waterfalls, dams, floods, ice, debris, sliding banks, recreational boating.

2. Other bridges or culverts over the same stream (particularly structures which carry high water without overflow of roadway) -Given location, type, length, height above high water, cross-sectional area etc.

3. Apparent highwater elevation ..... Obtained from .....

4. Other data: Approx. velocity of water at time of survey .....

HYDRAULIC ENGINEERS RECOMMENDATION

DATE 4/25/00

Stream or ditch designation UNNAMED

Drainage area 3.0 SQ. MILES

Max. flood on record UNK Design flood (25 yr freq.) 750 C.F.S.

Max. observed highwater elevation UNK Design highwater elevation 1217.35

Design mean velocity through structure 7.1 F.P.S.

Low superstructure at or above elevation .....

Flowline 1211.0 Skew angle 28°

Waterway area req'd. below elevation ..... = ... Sq. Ft. at Rt. angles to channel

In the interest of flood plain zoning the regional flood (100 yr freq.) is 1360 C.F.S. at stage 1220.1 and mean velocity of 10.3 F.P.S. with 1.7 Ft. swellhead. The above recommendation will provide a structure of adequate waterway to pass the regional flood within criteria established by the Dept. of National Resources.

FOUNDATION ENGINEERS RECOMMENDATION

DATE .....

AS-BUILT

MAR 03 2003

ENGINEERING

Bridge survey sheets made from: .....

Bench mark elevation ..... (M.S.L. 1929 Adj.)

Location: .....

MINNESOTA
DEPARTMENT OF TRANSPORTATION

BRIDGE SURVEY

AT MILE POINT 0.8 ON C.S.A.H. 3 (T.H., C.S.A.H., C.R. etc.)

PROPOSED BRIDGE LOCATED .85 MILES NORTH OF T.H. 30

SEC. 16 TWP. 105N R 15W

TOWNSHIP ROCKDELL COUNTY OLMSTED

BRIDGE NO. 55J30

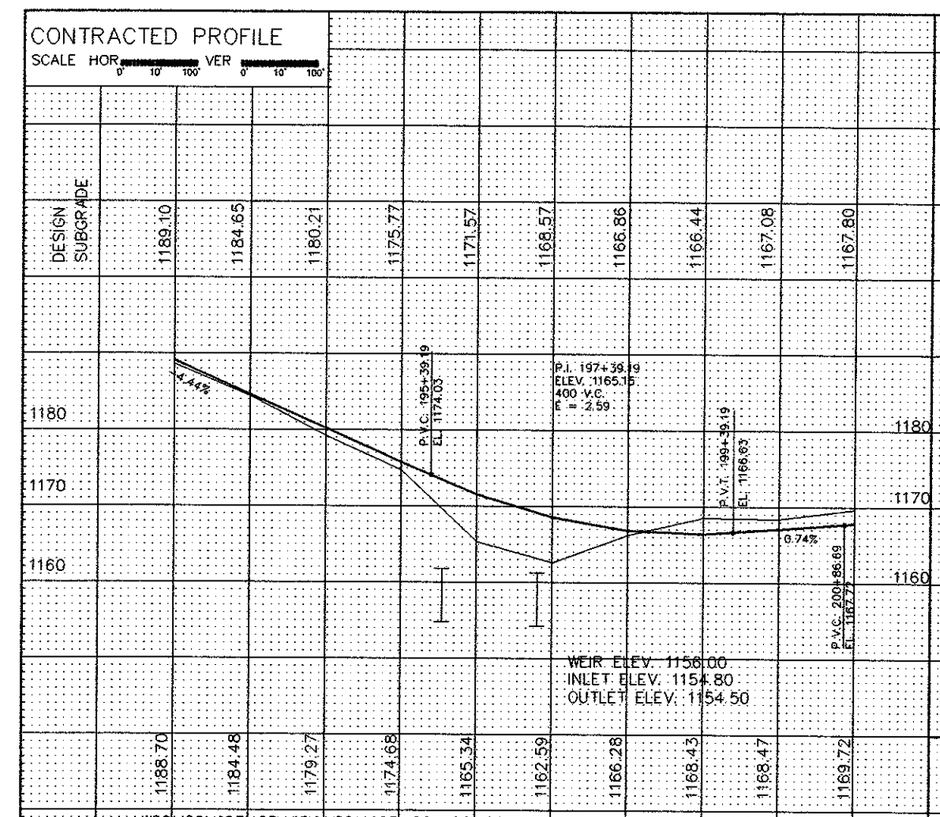
CERTIFIED BY Kaye M Poirier REG. NO 19917 11/9 2000
PROFESSIONAL ENGINEER

S.A.P. 55-603-30

SHEET 103 OF 123 SHEETS

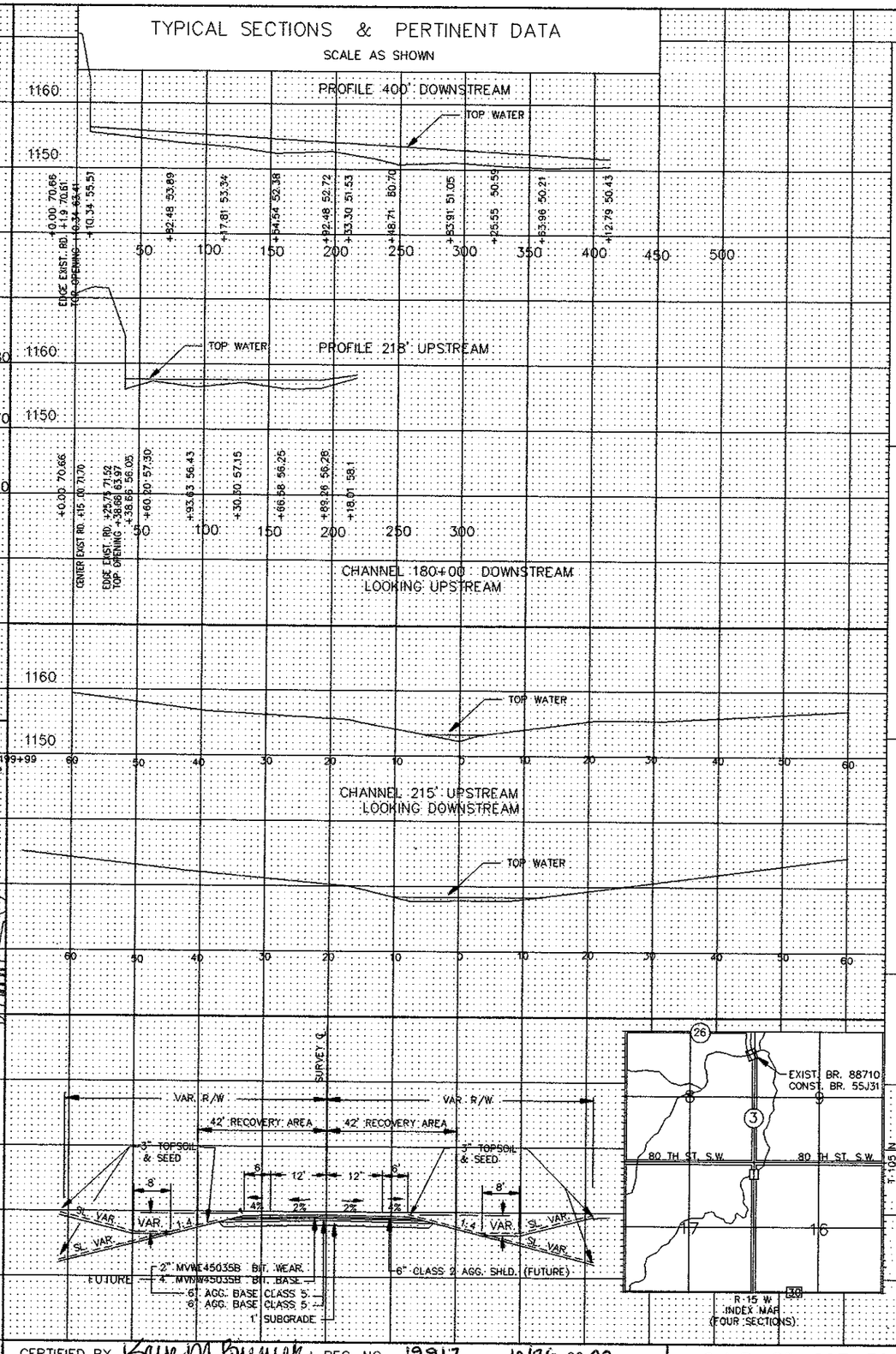
CONTRACTED PROFILE

SCALE HOR 0' 10' 100' VER 0' 10' 100'



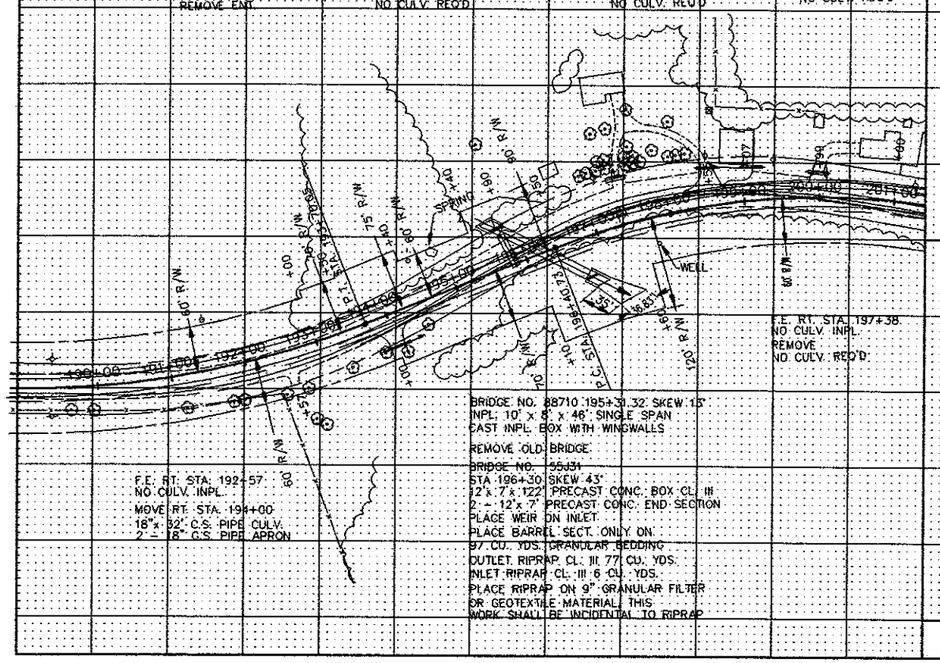
TYPICAL SECTIONS & PERTINENT DATA

SCALE AS SHOWN



PLAT

SCALE 0' 10' 100'



Fed. Proj. No.

1 Special Features: Waterfalls, dams, floods, ice, debris, sliding banks, recreational boating.

2. Other bridges or culverts over the same stream (particularly structures which carry high water without overflow of roadway) Given location, type, length, height above high water, cross-sectional area etc.

3. Apparent highwater elevation ..... Obtained from .....

4. Other data: Approx. velocity of water at time of survey .....

HYDRAULIC ENGINEER'S RECOMMENDATION

DATE 4/27/00

Stream or ditch designation UNNAMED

Drainage area 1.4 SQ. MILES

Max. flood on record UNK Design flood (25 yr. freq.) 520 C.F.S.

Max. observed highwater elevation UNK Design highwater elevation 1161.8

Design mean velocity through structure 11.4 F.P.S.

Low superstructure at or above elevation .....

Flowline 1154.8 Skew angle 43°

Waterway area req'd. below elevation ..... = ... Sq. Ft. at Rt. angles to channel

In the interest of flood plain zoning the regional flood (100 yr freq.) is 850 C.F.S. at stage 1164.1 and mean velocity of 13.9 F.P.S. with 0.3 Ft. swellhead. The above recommendation will provide a structure of adequate waterway to pass the regional flood within criteria established by the Dept. of National Resources.

FOUNDATION ENGINEERS RECOMMENDATION

DATE .....

AS-BUILT

MAR 03 2003

ENGINEERING

Bridge survey sheets made from: .....

Bench mark elevation ..... (M.S.L. 1929 Adj.)

Location: .....

MINNESOTA
DEPARTMENT OF TRANSPORTATION

BRIDGE SURVEY

AT MILE POINT 1.8 ON C.S.A.H. 3 (T.H., C.S.A.H., C.R. etc.)

PROPOSED BRIDGE LOCATED 1.8 MILES NORTH OF T.H. 30

SEC. 8 TWP. 105N R 15W

TOWNSHIP ROCKDELL COUNTY OLMSTED

BRIDGE NO. 55J31

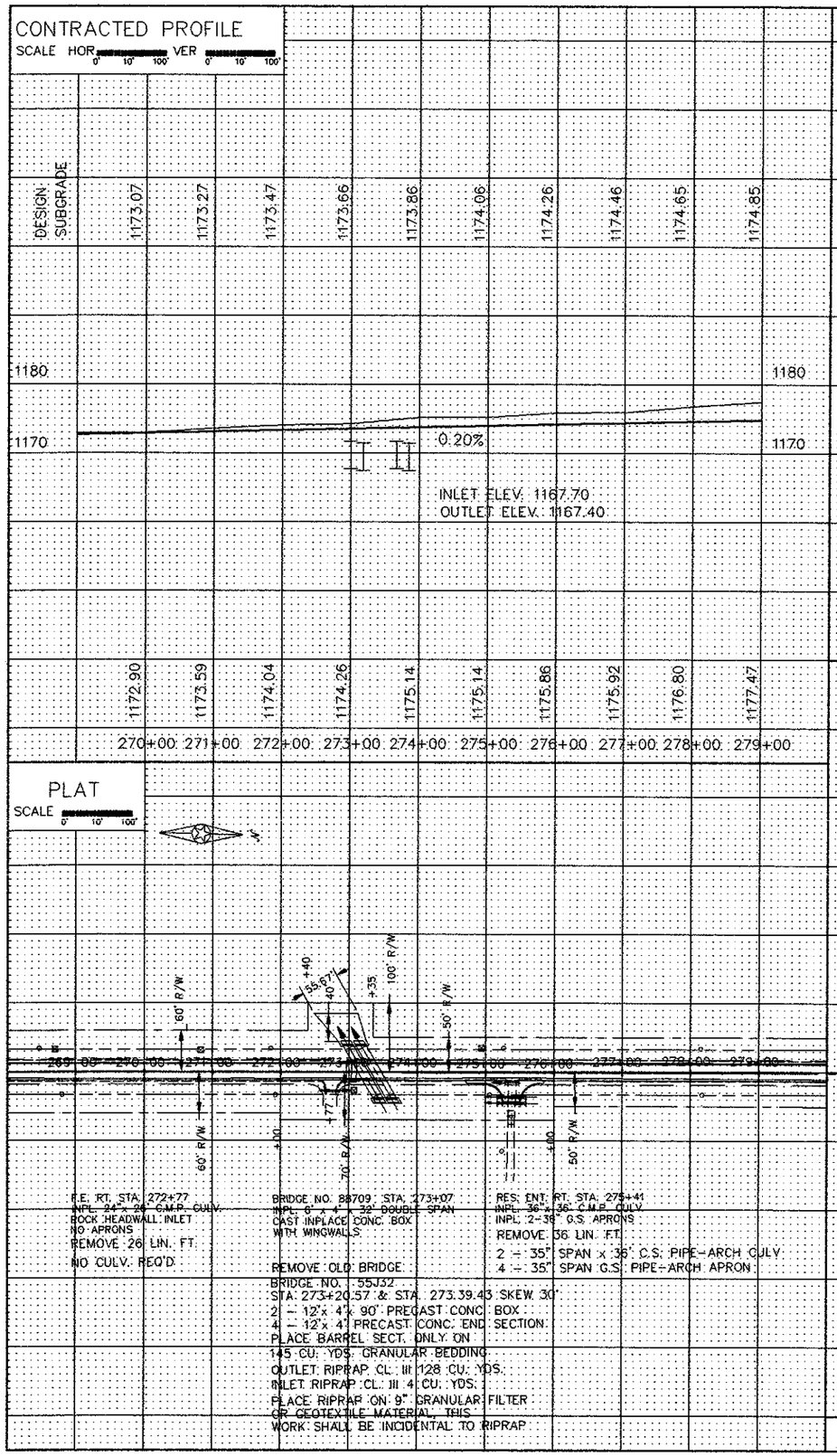
CERTIFIED BY Kaye M Brenner REG NO 19917 10/26 20 00
PROFESSIONAL ENGINEER

S.A.P. 55-603-30

SHEET 108 OF 123 SHEETS

CONTRACTED PROFILE

SCALE HOR 0' 10' 100' VER 0' 10' 100'



PLAT

SCALE 0' 10' 100'

R.E. RT. STA. 272+77
INPL. 24" x 26" C.M.P. CULV.
ROCK HEADWALL INLET
NO APRONS
REMOVE 26 LIN. FT.
NO CULV. REQ'D.

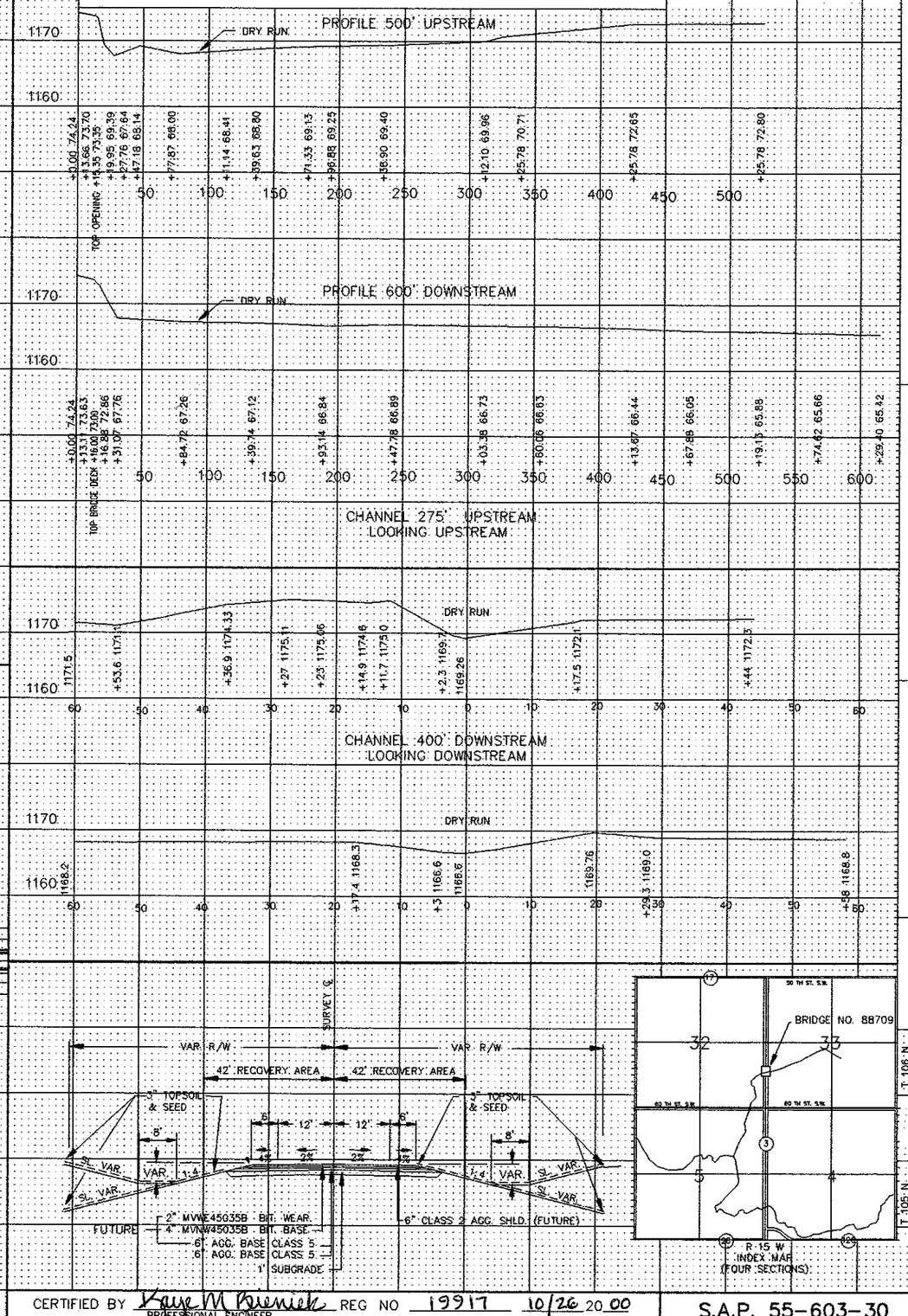
BRIDGE NO. 88709 STA. 273+07
INPL. 6' x 4' x 32' DOUBLE SPAN
CAST INPLACE CONC. BOX
WITH WINGWALLS.

REMOVE OLD BRIDGE
BRIDGE NO. 55J32
STA. 273+20.57 & STA. 273.39.43 SKEW 30°
2 - 12'x 4'x 90' PRECAST CONC. BOX
4 - 12'x 4' PRECAST CONC. END SECTION
PLACE BARREL SECT. ONLY. ON
145 CU. YDS. GRANULAR BEDDING
OUTLET RIPRAP CL. III 128 CU. YDS.
INLET RIPRAP CL. III 4 CU. YDS.
PLACE RIPRAP ON 9" GRANULAR FILTER
OR GEOTEXTILE MATERIAL. THIS
WORK SHALL BE INCIDENTAL TO RIPRAP

RES. ENT. RT. STA. 275+41
INPL. 36" x 36" C.M.P. CULV.
INPL. 2-35" G.S. APRONS
REMOVE 36 LIN. FT.
2 - 35" SPAN x 36" C.S. PIPE-ARCH CULV
4 - 35" SPAN G.S. PIPE-ARCH APRON

TYPICAL SECTIONS & PERTINENT DATA

SCALE AS SHOWN



Fed. Proj. No.

1. Special Features: Waterfalls, dams, floods, ice, debris, sliding banks, recreational boating.

2. Other bridges or culverts over the same stream (particularly structures which carry high water without overflow of roadway) -Given location, type, length, height above high water, cross-sectional area etc.

3. Apparent highwater elevation ..... Obtained from .....

4. Other data: Approx. velocity of water at time of survey .....

HYDRAULIC ENGINEERS RECOMMENDATION

DATE 5/01/00

Stream or ditch designation UNNAMED
Drainage area 0.62 SQ. MILES
Max. flood on record UNK. Design flood (25 yr. freq.) 363 C.F.S.
Max. observed highwater elevation UNK. Design highwater elevation 1171.3
Design mean velocity through structure 5.2 F.P.S.
Low superstructure at or above elevation .....
Flowline 1167.7 Skew angle 30°
Waterway area req'd. below elevation ..... = ... Sq. Ft. at Rt. angles to channel

In the interest of flood plain zoning the regional flood (100 yr. freq.) is 615 C.F.S. at stage 1172.0 and mean velocity of 5.0 F.P.S. with 0.7 Ft. swellhead. The above recommendation will provide a structure of adequate waterway to pass the regional flood within criteria established by the Dept. of National Resources.

FOUNDATION ENGINEERS RECOMMENDATION

DATE .....

AS-BUILT

MAR 03 2003

ENGINEERING

Bridge survey sheets made from: .....

Bench mark elevation .....(M.S.L. 1929 Adj.)
Location: .....

CERTIFIED BY Kaye M Bruneck REG NO 19917 10/26 20 00
PROFESSIONAL ENGINEER

MINNESOTA
DEPARTMENT OF TRANSPORTATION

BRIDGE SURVEY

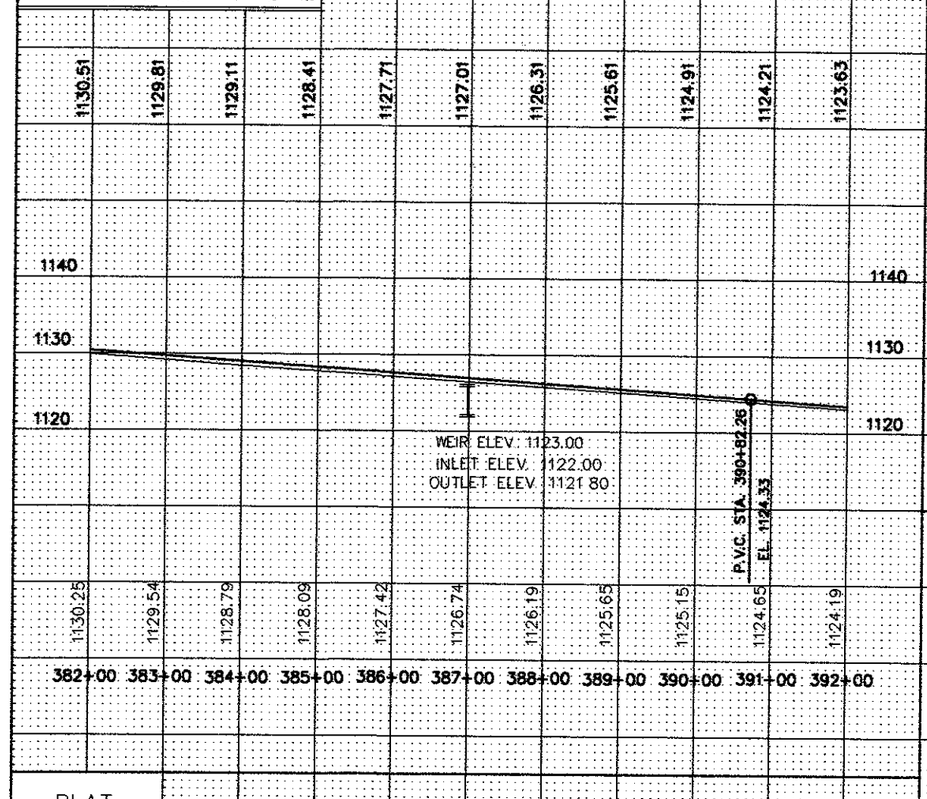
AT MILE POINT 3.28 ON C.S.A.H. 3
PROPOSED BRIDGE LOCATED .075 (T.H., C.S.A.H., C.R. etc.) MILES SOUTH OF JCT C.S.A.H. 17
SEC. 33 TWP. 106N R. 15W
TOWNSHIP SALEM COUNTY OLMSTED
BRIDGE NO. 55J32

S.A.P. 55-603-30

SHEET 113 OF 123 SHEETS

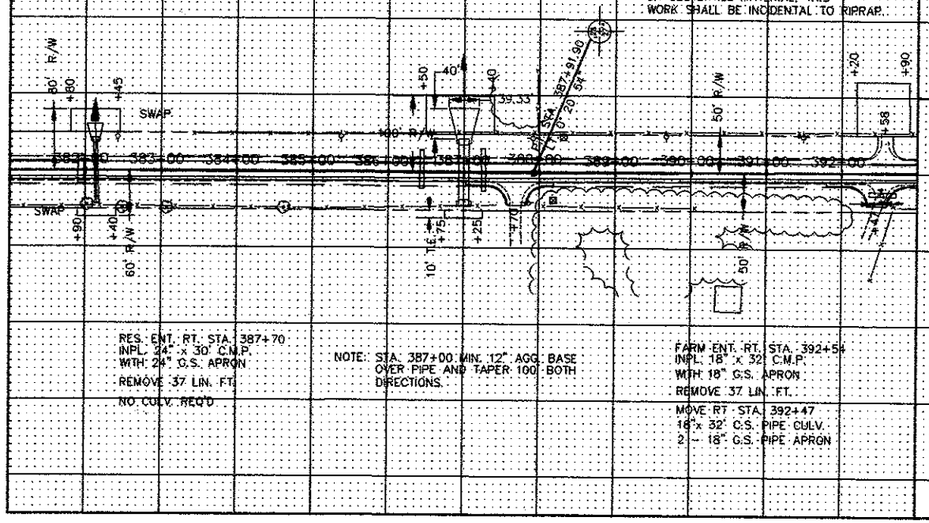
CONTRACTED PROFILE

SCALE HOR 0' 10' 100' VER 0' 10' 100'



PLAT

SCALE 0' 10' 100'



CONST. ℄ CULV. STA. 382+14
51" SPAN x 80' R.C. PIPE-ARCH CULV.
2 - 51" SPAN R.C. PIPE-ARCH APRON
PLACE BARREL SECT. ONLY ON
40 CU. YDS. GRANULAR BEDDING.
SEE PLATE 3133C FOR CL. III RIPRAP.

℄ CULV. STA. 386+44
INPL. 24" x 50' C.M.P.
WITH 24" G.S. APRONS
REMOVE 57 LIN. FT.

℄ CULV. STA. 387+26.5
INPL. 24" x 54" C.M.P.
WITH 24" G.S. APRONS
REMOVE 61 LIN. FT.

BRIDGE NO. 55J33 STA. 387+00
12' x 4' x 82' PRECAST CONC. BOX
2 - 12' x 4' PRECAST CONC. END SECTION
PLACE WEIR ON INLET
PLACE BARREL SECT. ONLY ON
69 CU. YDS. GRANULAR BEDDING
OUTLET RIPRAP CL. III 90 CU. YDS.
INLET RIPRAP CL. III 13 CU. YDS.
PLACE RIPRAP ON 9" GRANULAR FILTER
OR GEOTEXTILE MATERIAL. THIS
WORK SHALL BE INCIDENTAL TO RIPRAP.

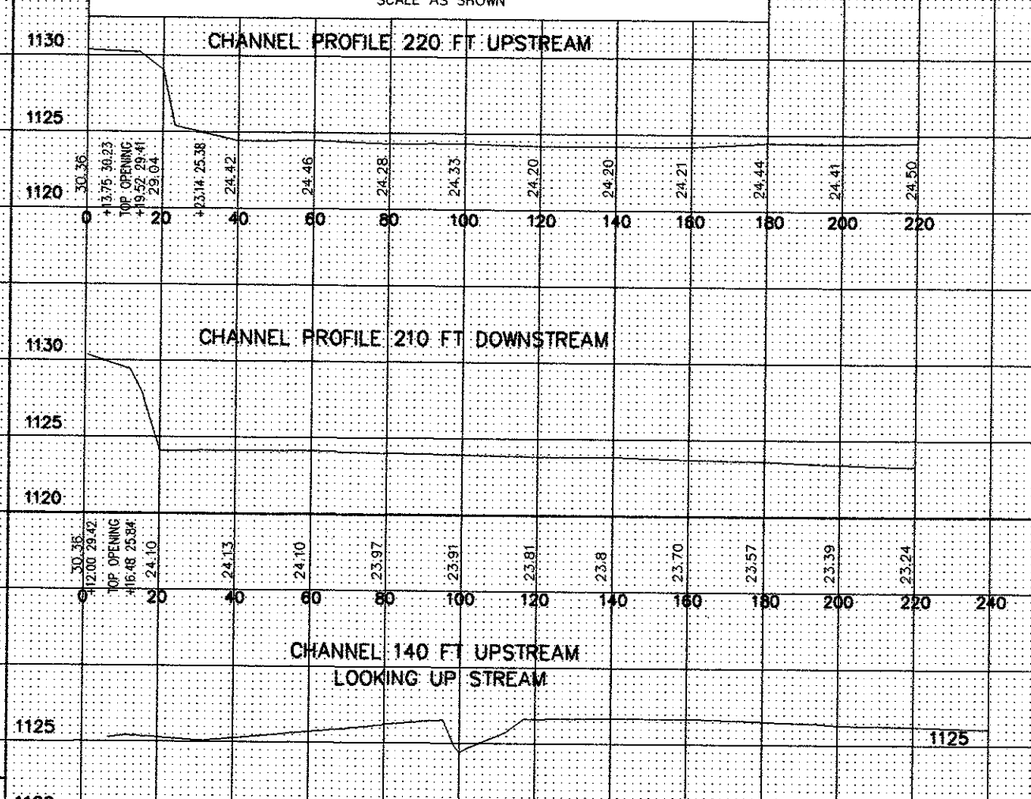
RES. ENT. RT. STA. 387+70
INPL. 24" x 30' C.M.P.
WITH 24" G.S. APRON
REMOVE 37 LIN. FT.
NO. CULV. REQ'D

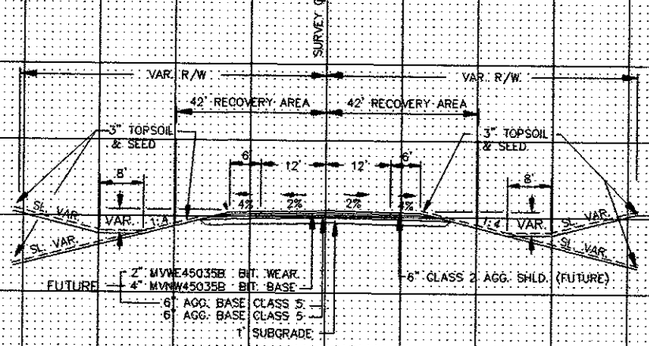
NOTE: STA. 387+00 MIN. 12" AGG. BASE OVER PIPE AND TAPER 100' BOTH DIRECTIONS.

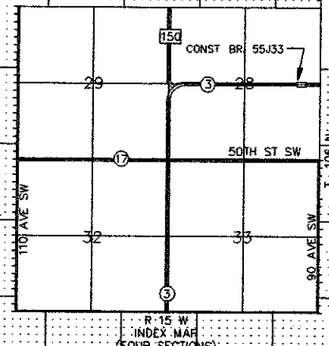
FARM ENT. RT. STA. 392+54
INPL. 18" x 32' C.M.P.
WITH 18" G.S. APRON
REMOVE 37 LIN. FT.
MOVE RT. STA. 392+47
18" x 32' C.S. PIPE CULV.
2 - 18" G.S. PIPE APRON

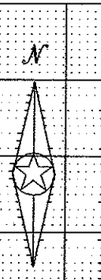
TYPICAL SECTIONS & PERTINENT DATA

SCALE AS SHOWN









Fed. Proj. No.

1. Special Features: Waterfalls, dams, floods, ice, debris, sliding banks, recreational boating.

2. Other bridges or culverts over the same stream (particularly structures which carry high water without overflow of roadway) · Given location, type, length, height above high water, cross-sectional area etc.

3. Apparent highwater elevation ..... Obtained from .....

4. Other data: Approx. velocity of water at time of survey .....

HYDRAULIC ENGINEERS RECOMMENDATION

DATE 5/05/00

Stream or ditch designation UNNAMED

Drainage area 0.66 SQ. MILES

Max. flood on record UNK Design flood (25 yr. freq.) 330 C.F.S.

Max. observed highwater elevation UNK Design highwater elevation 1126.6

Design mean velocity through structure 9.4 F.P.S.

Low superstructure at or above elevation .....

Flowline 1122.0 Skew angle .....

Waterway area req'd. below elevation ..... = ... Sq. Ft. at Rt. angles to channel

In the interest of flood plain zoning the regional flood (100 yr freq.) is 550 C.F.S. at stage 1127.55 and mean velocity of 10.3 F.P.S. with 2.35 Ft. swellhead. The above recommendation will provide a structure of adequate waterway to pass the regional flood within criteria established by the Dept. of National Resources.

FOUNDATION ENGINEERS RECOMMENDATION

DATE .....

AS-BUILT

MAR 03 2003

ENGINEERING

Bridge survey sheets made from: .....

Bench mark elevation ..... (M.S.L. 1929 Adj.)

Location: .....

MINNESOTA
DEPARTMENT OF TRANSPORTATION

BRIDGE SURVEY

AT MILE POINT 5.43 ON C.S.A.H. 3 (T.H., C.S.A.H., C.R. etc.)

PROPOSED BRIDGE LOCATED 1.4 MILES NORTH OF C.S.A.H. 17

SEC. 28 TWP. 106N R 15W

TOWNSHIP SALEM COUNTY OLMSTED

BRIDGE NO. 55J33

CERTIFIED BY Kaye M Bruneck REG. NO. 19917 10/26 2000
PROFESSIONAL ENGINEER

S.A.P. 55-603-30

SHEET 118 OF 123 SHEETS