MINNESOTA DEPARTMENT OF TRANSPORTATION

THE COUNTY OF OLMSTED

CONSTRUCTION PLAN FOR GRADING AND SEEDING

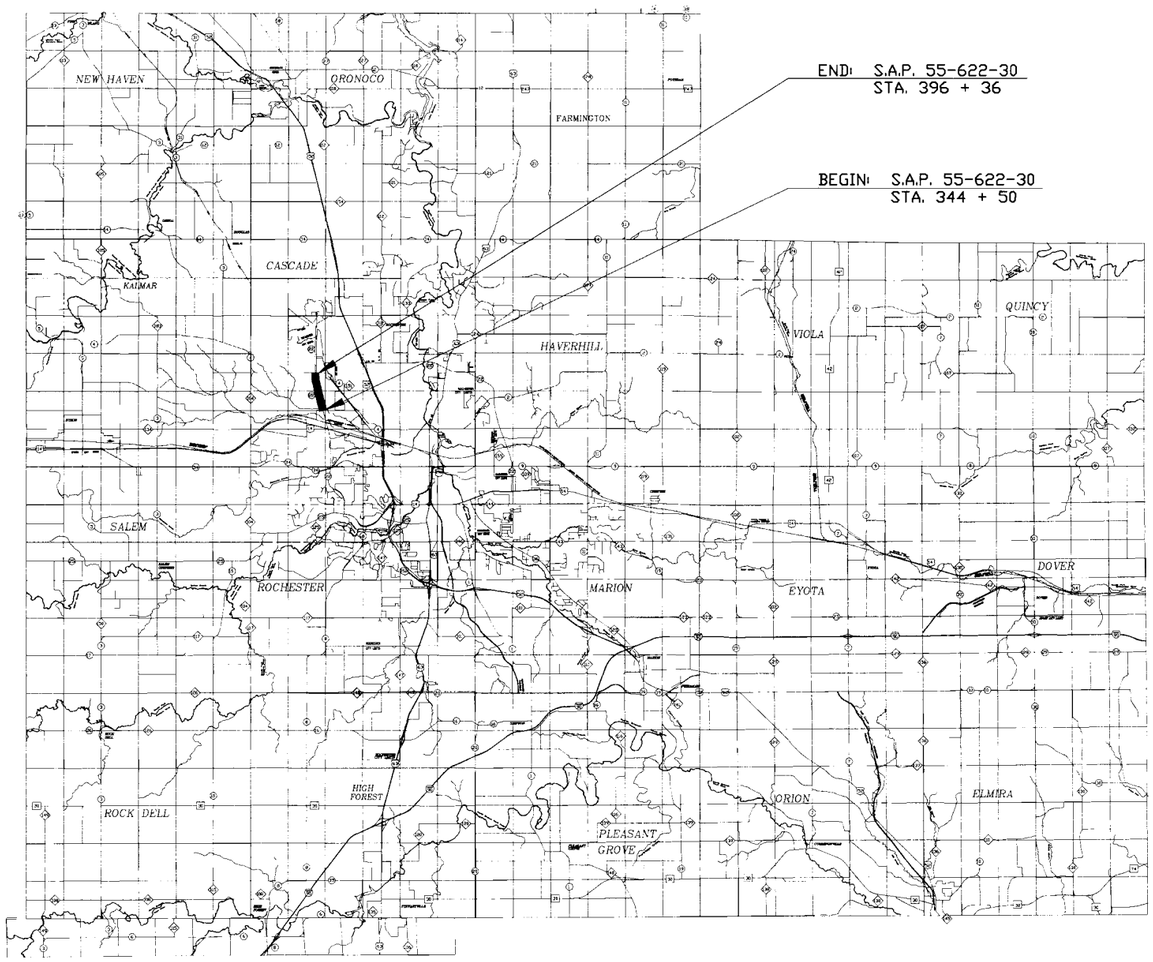
LOCATED ON C.S.A.H. 22 BETWEEN 19th ST. NW. ROCHESTER,MN AND C.S.A.H. 4 (GEOGRAPHIC DESCRIPTION)

FROM APPROX. 122' N. & 258' W. OF SE. COR. NE. 1/4 SEC. 29 T.107N.-R.14W. TO APPROX. 1324.85' W. & 272.50' S. OF THE NE. COR. SE. 1/4 SEC. 20 T.107N.-R.14W. (LEGAL DESCRIPTION)

S.A.P. NO.	55-622-30			
GROSS LENGTH	5,186.00	FEET	0.982	MILES
BRIDGE-LENGTH	0.00	FEET	0.000	MILES
EXCEPTIONS-LENGTH	0.00	FEET	0.000	MILES
NET LENGTH	5,186.00	FEET	0.982	MILES

S.A.P. NO.			
GROSS LENGTH	FEET		MILES
BRIDGE-LENGTH	FEET		MILES
EXCEPTIONS-LENGTH	FEET		MILES
NET LENGTH	FEET		MILES

AS BUILT PLANS



END: S.A.P. 55-622-30 STA. 396 + 36

BEGIN: S.A.P. 55-622-30 STA. 344 + 50

AS BUILT PLANS

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 50'
PROFILE 0 50' HORIZ. 0 10' VERT.
INDEX MAP 0 10,560'
CROSS SECTIONS 0 10'

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, SUPPLEMENTAL SPECIFICATION SHALL GOVERN.

INDEX

SHEET 1	TITLE SHEET
SHEET 2	ESTIMATED QUANTITIES & TYPICAL SECTIONS
SHEET 3	TEMPORARY EROSION CONTROL
SHEET 4	TRAFFIC
SHEET 5	DROP OFF SHEET
SHEET 6-10	PLAN & PROFILE
SHEET 11-23	CROSS SECTIONS STA. 344+50 TO 396+36
SHEET 24-27	CROSS SECTIONS EXTENSION OF STA. 371+00 TO 383+00
SHEET 28	CROSS SECTIONS OF "LOOP NO. 1"

THIS PLAN CONTAINS 28 SHEETS.

* TRAFFIC PROJECTION YEAR 2016 A.D.T. 18,000 (FROM PROJECT DEVELOPMENT REPORT)

DESIGN DESIGNATION

R		EN18(20)	
ADT (Current Year)	= *	Design Speed	55 MPH
ADT (Future Year)	= *	Based on STOPPING Sight Distance	
DHV (Design Hr. Vol.)	=	Height of eye 3.5 Height of object 0.5	
D (Directional Distr.)	=	Design Speed not achieved at:	
T (Heavy Commercial)	= 6 %	STA. TO STA.	MPH
SOIL FACTOR	= 130	STA. TO STA.	MPH
TON DESIGN	10	STOPPING CONDITIONS:	
SHOULDER WIDTH	8'	C.S.A.H. 4 AT C.S.A.H. 22	
NO. OF TRAFFIC LANES	4		
NO. OF PARKING LANES	NONE	K=150 TST=EST. 5%	
FUNCTIONAL CLASSIFICATION:	PRINCIPAL ARTERIAL		

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 April 15, 1996 REG. NO. 19917 ENGR Kaye M Bierwiek

COUNTY OLMSTED

Approved 4/15 1996 Michael J Sheehan
OLMSTED COUNTY ENGINEER

Recommended for Approval 5/1 1996
DISTRICT STATE AID ENGINEER

Recommended for Approval 19

Recommended for Approval 19

Approved May 6 1997 Paul A Stine
for STATE AID ENGINEER

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
APPROVED

DIVISION ADMINISTRATOR DATE

STATE AID PROJ. NO. 55-622-30
~~STATE PROJ. NO.~~

ESTIMATED QUANTITIES

	SPECIFICATION NO.	ITEM	UNIT	PARTICIPATING	NON PARTICIPATING	TOTAL ESTIMATED QUANTITIES
①	2101.511	CLEARING AND GRUBBING	LUMP SUM	1		1
②	2105.515	UNCLASSIFIED EXCAVATION	CU. YD.	(P)206,836		206,836
	2501.511	18" C.S. PIPE CULVERT	LIN. FT.	66		66
	2501.511	24" C.S. PIPE CULVERT	LIN. FT.	274		274
	2501.511	36" R.C. PIPE CULVERT CLASS III	LIN. FT.	58		58
	2501.511	36" R.C. PIPE CULVERT CLASS IV	LIN. FT.	46		46
	2501.511	36" R.C. PIPE CULVERT CLASS V	LIN. FT.	240		240
	2501.515	24" C.S. PIPE APRON	EACH	8		8
	2501.515	36" R.C. PIPE APRON	EACH	2		2
	2501.521	22" SPAN R.C. PIPE-ARCH CULVERT CL. IIA	LIN. FT.	122		122
	2501.521	28" SPAN R.C. PIPE-ARCH CULVERT CL. IIA	LIN. FT.	192		192
	2501.525	22" SPAN R.C. PIPE-ARCH APRON	EACH	4		4
	2501.525	28" SPAN R.C. PIPE-ARCH APRON	EACH	6		6
	2501.567	18" C.S. SAFETY APRON & GRATE DES. 3128F	EACH	2		2
③	0504.603	24" STEEL CASING PIPE	LIN. FT.		450	450
④	2506.502	CONST. DRAINAGE STRUCTURE DESIGN SPECIAL	EACH	1		1
	0563.601	TRAFFIC CONTROL	LUMP SUM	1		1
⑤	2573.501	BALE CHECK	EACH	860		860
⑤	2573.502	SILT FENCE, TYPE HEAVY DUTY MAINTAINED	LIN. FT.	4,850		4,850
⑤	2573.502	SILT FENCE, TYPE PREASSEMBLED MAINTAINED	LIN. FT.	1,910		1,910
	2575.501	SEEDING	ACRE	(P) 20		20
	2575.502	SEEDING MIXTURE 500	POUND	1,000		1,000
	2575.502	SEEDING MIXTURE 1100	POUND	1,200		1,200
	2575.511	MULCH MATERIAL TYPE I	TON	40		40
	2575.519	DISK ANCHORING	ACRE	(P) 18		18
⑥	2575.523	WOOD FIBER BLANKET TYPE HIGH VELOCITY MAINTAINED	SQ.YD.	9,025		9,025
	2575.531	COMMERCIAL FERTILIZER ANALYSIS 10-10-10	TON	2		2

STANDARD PLATES

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

PLATE NO.	DESCRIPTION
	SPECIFICATION REFERENCE TO STANDARD PLATES
3000 L	REINFORCED CONCRETE PIPE
3007 B	SHEAR REINFORCEMENT FOR PRECAST DRAINAGE STRUCTURES
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
3123 J	METAL APRON FOR C.S. PIPE
3124 B	METAL APRON CONNECTION
3128 F	SAFETY APRON
3145 E	CONCRETE PIPE TIES
3221 C	CORRUGATED STEEL PIPE COUPLING BAND
4143 D	STOOL GRATE & CONCRETE FRAME
8000 I	STANDARD BARRICADES

① TREES FOR REMOVAL WILL BE DESIGNATED BY THE ENGINEER. (APPROXIMATELY 14 TREES.)

② UNCLASSIFIED EXCAVATION INCLUDES SUBGRADE TREATMENT AS SHOWN ON CROSS SECTION. APPROXIMATELY 6,302 CU. YDS. ARE TO BE SALVAGED FOR TOPSOIL AND PLACED ON SLOPES, MEDIANS AND DISTURBED AREAS FROM STA. 344+50 TO STA. 396+36 INCLUDING LOOP NO. 1.

③ TO INCLUDE ALL MATERIALS, LABOR AND EQUIPMENT TO FURNISH AND INSTALL CAPED ENDS

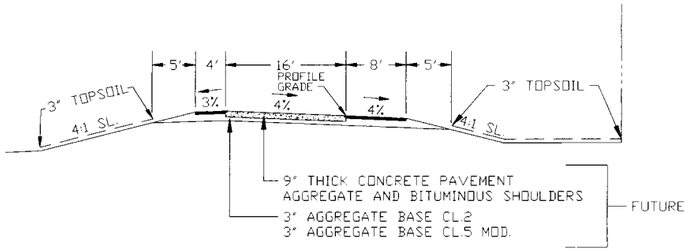
④ TO INCLUDE ALL MATERIALS, LABOR AND EQUIPMENT TO FURNISH AND INSTALL A 24" X 4' R.C. PIPE RISER AND STOOL GRATE AND CONCRETE FRAME 4143D. AT STA. 384+00 SEE CROSS SECTION SHEET NO. 19.

⑤ BALE CHECKS AND SILT FENCE TO BE INSTALLED IN LOCATIONS AS INDICATED ON PLAN SHEET NO. 3 AND AS DIRECTED BY THE ENGINEER.

⑥ WOOD FIBER BLANKET TO BE INSTALLED ON 2:1 SLOPES AS INDICATED BY STATIONING ON SHEET NO. 3 AND AS DIRECTED BY THE ENGINEER.

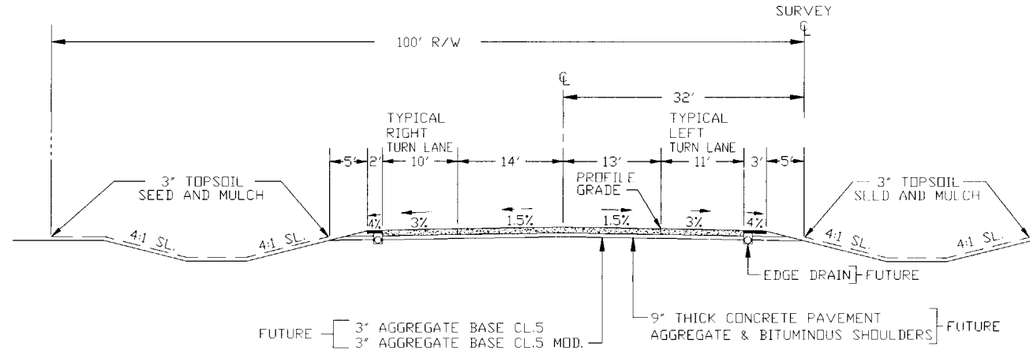
BASIS OF PLANNED QUANTITIES

SEED MIXTURE 500 -	50 LBS. / ACRE
SEED MIXTURE 1100 -	60 LBS. / ACRE
MULCH MATERIAL -	2 TONS / ACRE
COMMERCIAL FERTILIZER -	200 LBS. / ACRE
DISC ANCHOR -	ALL SEEDED AREA'S FLATTER THAN 2:1 SLOPES



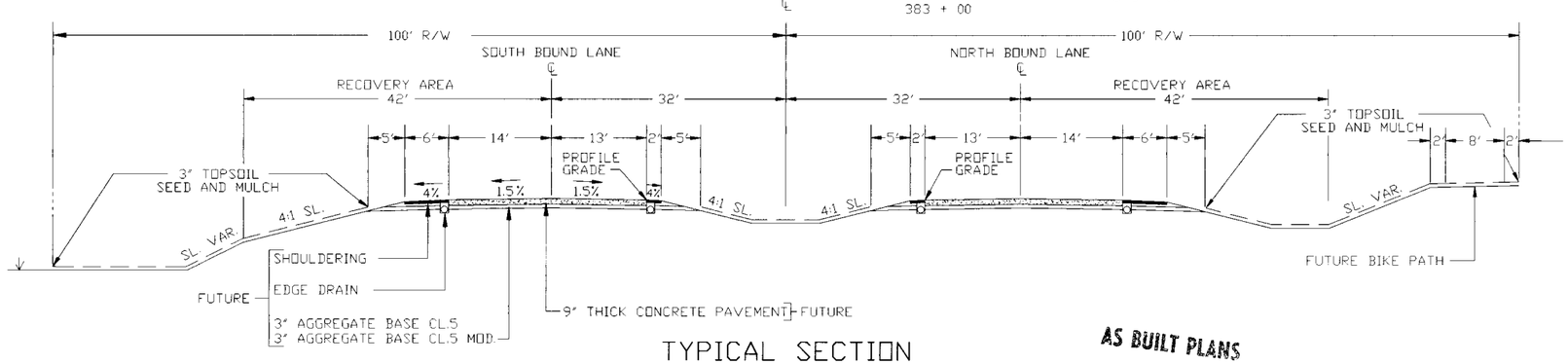
TYPICAL LOOP SECTION

AS BUILT PLANS



TYPICAL TURN LANE & STATIONING

S.B.L.	N.B.L.
STA. 345 + 00	STA. 353 + 00
357 + 00	368 + 00
373 + 00	378 + 00
383 + 00	



TYPICAL SECTION

C.S.A.H. 22 S.A.P. 55-622-30

STA. 344+50 TO STA. 396+36

AS BUILT PLANS

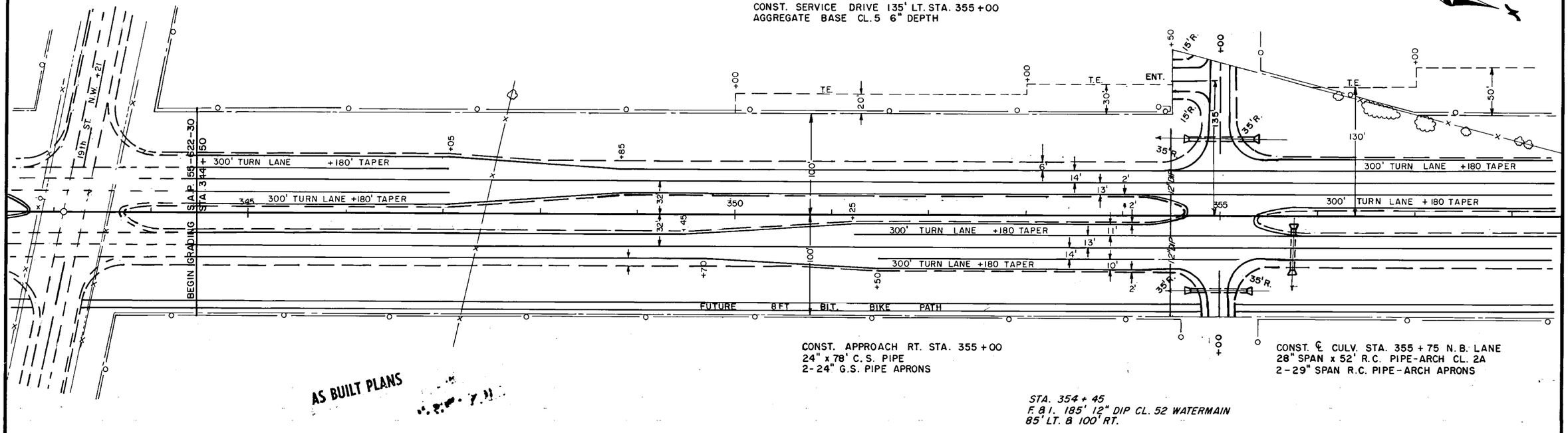
CERTIFIED BY Kayl M Bierwerk (PROFESSIONAL ENGINEER) REG. NO. 19917 DATE 5/19/96

ESTIMATE OF QUANTITIES AND TYPICAL SECTIONS

S.A.P. 55-622-30 | OLMSTED COUNTY | Sheet 2 of 28 Sheets

CONST. APPROACH LT. STA. 355 + 00
24" x 68' C.S. PIPE
2-24" G.S. PIPE APRONS

CONST. SERVICE DRIVE 135' LT. STA. 355 + 00
AGGREGATE BASE CL.5 6" DEPTH

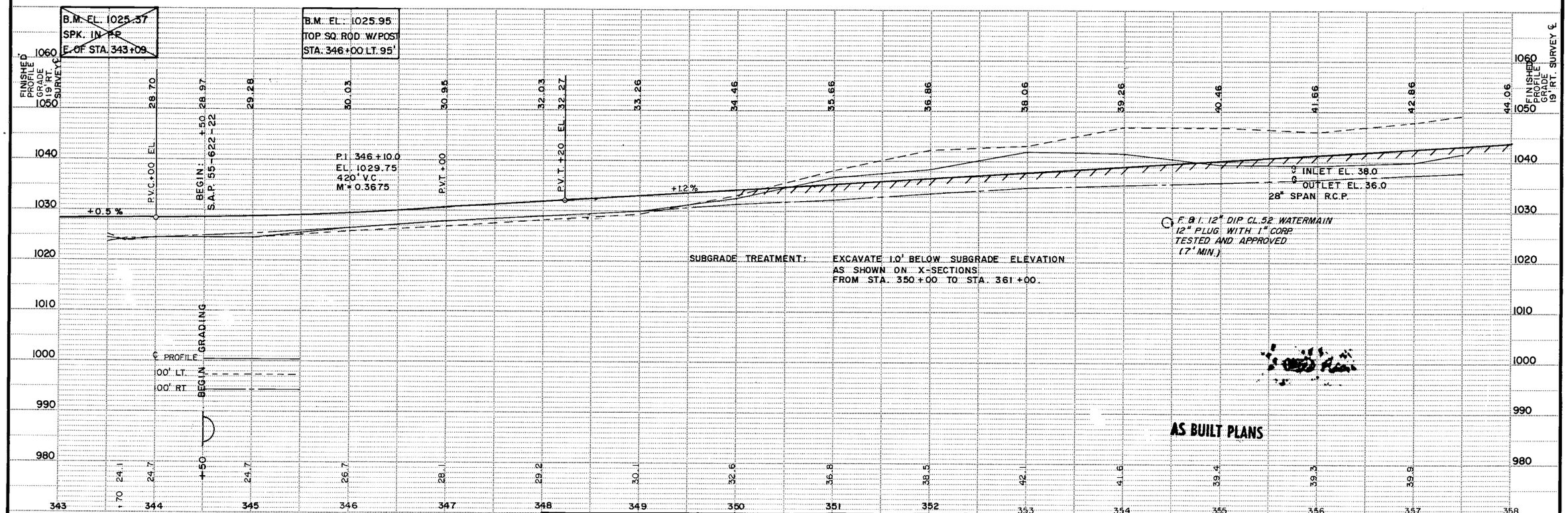


CONST. APPROACH RT. STA. 355 + 00
24" x 78' C.S. PIPE
2-24" G.S. PIPE APRONS

CONST. ℄ CULV. STA. 355 + 75 N.B. LANE
28" SPAN x 52' R.C. PIPE-ARCH CL. 2A
2-29" SPAN R.C. PIPE-ARCH APRONS

STA. 354 + 45
F.&I. 185' 12" DIP CL. 52 WATERMAIN
85' LT. & 100' RT.

AS BUILT PLANS



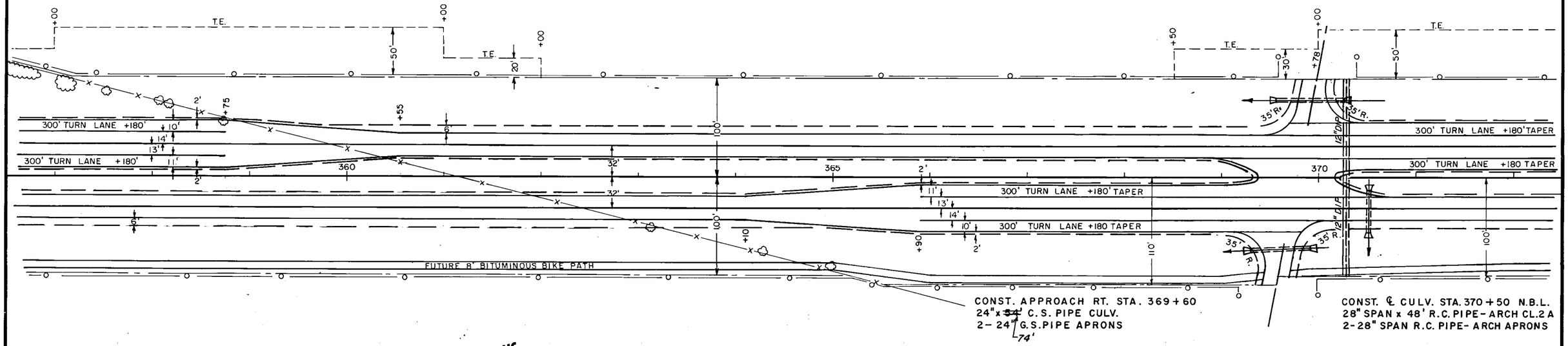
AS BUILT PLANS

CERTIFIED BY Gary M Bieniek PROFESSIONAL ENGINEER REG. NO. 19917 4/15 1996

State Proj. No. S.A.P. 55-622-30 OLMSTED CO. **Sheet No.** 6 **of** 28 **Sheets**

CONST. APPROACH LT. STA. 370+00
24"x 74' C.S. PIPE CULV.
2-24" G. S. PIPE APRONS

F.&I. 24"x 200' CASING STEEL PIPE SAN. SEWER STA. 370+30
EL. 1065.00 100' RT.
EL. 1065.52 100' LT.



CONST. APPROACH RT. STA. 369+60
24"x ~~54'~~ 74' C.S. PIPE CULV.
2-24" G.S. PIPE APRONS

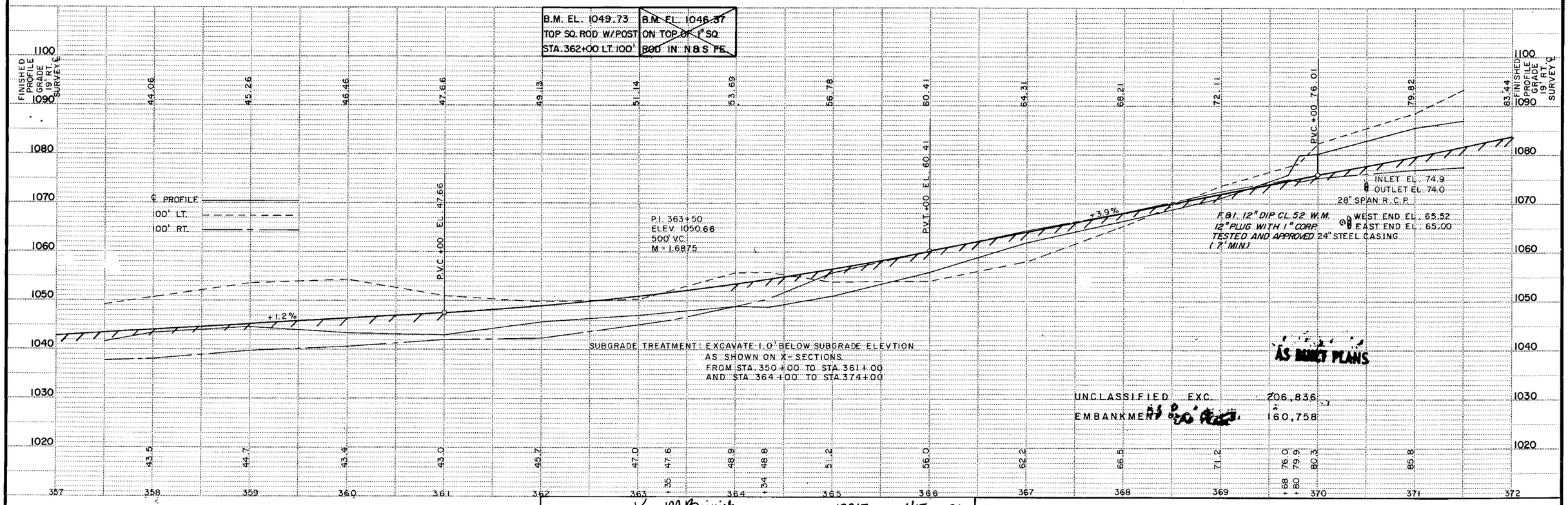
CONST. ℄ CULV. STA. 370+50 N.B.L.
28" SPAN x 48' R.C. PIPE-ARCH CL. 2 A
2-28" SPAN R.C. PIPE-ARCH APRONS

AS BUILT PLANS

STA. 370+27
F.&I. 12" x 200' DIP CL. 52 WATERMAIN
100' LT. & 100' RT.
SINGLE TRENCH WITH 24" SAN. SEWER CASING

B.M. EL. 1049.73
TOP SQ. ROD W/POST
STA. 362+00 LT. 100'

~~B.M. EL. 1046.37~~
~~ON TOP OF 1" SQ.~~
~~BOD IN N&S FE~~



SUBGRADE TREATMENT: EXCAVATE 1.0' BELOW SUBGRADE ELEVTION
AS SHOWN ON X-SECTIONS.
FROM STA. 350+00 TO STA. 361+00
AND STA. 364+00 TO STA. 374+00

AS BUILT PLANS

UNCLASSIFIED EXC. 206,836 C.Y.
EMBANKMENT ~~85 %~~ 80 % Place 160,758

CERTIFIED BY Lance M Brimick PROFESSIONAL ENGINEER REG. NO. 19917 4/15 19 96

~~State Proj. No.~~ SAP 55-622-30 OLMSTED CO. **Sheet No.** 7 **of** 28 **Sheets**

CONST. APPROACH LT. STA. 380+00
NO CULV. REQ'D.

F.&I. 24"x 250' CASING STEEL PIPE SAN. SEWER STA. 384+~~10~~ 20
EL. 1075.40 125'LT.
EL. 1078.00 125'RT.

P.O.T. 37+05.28

300' TURN LANE +180' TAPER

300' TURN LANE +180' TAPER

300' TURN LANE +180' TAPER

300' TURN LANE +180' TAPER

FUTURE 8' BITUMINOUS BIKE PATH

PRECAST MEDIAN DRAIN 4015A

AS BUILT PLANS

CONST. APPROACH RT. STA. 380+00
NO CULV. REQ'D.

CONST. ℄ CULV. STA. 380+75 N.B. LANE
SKEW 14°
28" SPAN x 92' R.C. PIPE-ARCH CL. 2A.
2-28" SPAN R.C. PIPE-ARCH APRONS

STA. 379+30
F.&I. 185 LIN. FT. 12" DIP CL. 52 WATERMAIN
85' LT. & 100' RT.

CONST. ℄ CULV. STA. 384+00
36" x ~~240~~ *230'* R.C. PIPE CULVERT
2-**36"** R.C. PIPE CULVERT APRONS
(240' ~~88~~ *86* CL. III, 46' CL. IV, 136' CL. V)
PLACE ON "B" BEDDING.
CONST. MEDIAN DRAIN 95' RT. STA. 384+00
FURNISH, INSTALL & CONNECT 24"x 4' R.C. PIPE RISER
I-4015A PRECAST CONCRETE MEDIAN DRAIN WITHOUT
ACCESS. SEE SHEET NO. 19 FOR X-SECTION DETAIL.

B.M. EL. ~~1108.66~~
ON TOP OF ~~RE-ROD~~
STA. 377+05.28

B.M. EL. 1086.39
ON TOP OF 1" SQ.
ROD BY COR. POST

FINISHED PROFILE GRADE 19' RT. SURVEY ℄

INLET EL. 04.2
28" SPAN R.C.P.
OUTLET EL. 95.0

℄ F.&I. 12" DIP CL. 52 WATERMAIN
12" PLUG W/1" CORP
TESTED AND APPROVED
(7' MIN.)

MEDIAN DRAIN INLET EL. 94.5
24" R.C. PIPE RISER
APRON INLET EL. 87.0
APRON OUTLET EL. 84.4
36" R.C. PIPE CULV.
EAST END EL. 1078.00
WEST END EL. 1075.40
24" CASING STEEL PIPE

SUBGRADE TREATMENT: EXCAVATE 1.0' BELOW SUBGRADE ELEVATION
AS SHOWN ON X-SECTIONS.
FROM STA. 364+00 TO STA. 374+00 AND
FROM STA. 376+00 TO STA. 380+50

℄ PROFILE
100' LT.
100' RT.

V.C. 3800'
M = 3
G_1 = +3.9%
G_2 = -3.1%

AS BUILT PLANS

CERTIFIED BY Kay M Bjerke PROFESSIONAL ENGINEER REG. NO. 19917 4/15 1996

~~State Proj. No.~~ SAP 55-622-30 OLMSTED CO. **Sheet No.** 8 **of** 28 **Sheets**

CONST. ℄ CULV. STA. 395+75 N.B. LANES
22" SPAN x 68' R.C. PIPE-ARCH CL. 2A
2-22" SPAN R.C. PIPE-ARCH APRONS

SURVEY ℄ P.C. 386+87.32
S.B.L. P.C. 386+87.32
N.B.L. P.C. 386+87.32
125'
100'
32'
385
390
395
+00
+90
10'
8' BITUMINOUS
FUTURE
BIKE PATH
SURVEY ℄ P.I. 390+71.14 Δ RT. 12°44'28" D = 1°40'00" T = 383.82' L = 764.47' R = 3437.75'
391+45
239.92'
393+84.92
P.C. 394+12.56
N.B.L. P.T. 394+44.67= N.B.L. P.O.T. 394+51.79
S.B.L. P.T. 394+58.90= S.B.L. P.O.T. 394+51.79 (SURVEY ℄ P.T. 394+51.79) EQUA
12" DIP
16'
27.64'
1140.56'
STA. 395+80 END GRADING S.B. LANE
STA. 396+56 END GRADING N.B. LANE
66'
INPL. CONC. PAVEMENT
POT 396+58.09
300' TURN LANE ⌀180 TAPER
360
130'
+30
30' R
10' R
"LOOP NO. 1"
P.I. 396+12.69
Δ = 97°20'00"
L = 195.59'
T = 316.05'
R = 115.00'
"BIKE PATH"
P.I. 395+35.79
Δ = 16°00'00"
= 22°00'00"
= 212°00'00"
= 281.48'
= 165.79'
EQUA. = PT 397+28.61 = POT 362+34.18
100'
+50
C.S.A.H. 4 INPL. CONC. PAVEMENT
P.T. 396+51.48 = P.O.T. 1362+76.00
EQUA

"LOOP NO. 1"
CONST. CULV. STA. 396+00
22" SPAN x 54' R.C. PIPE-ARCH CL. 2A
2-22" SPAN R.C. PIPE-ARCH APRONS
INLET EL. 1108.3 OUTLET EL. 1104.3

STA. 394+15
F. 81. 180 LIN. FT. 12" DIP CL 52 WATERMAIN.
80' LT. & 100' RT.

P.C. 393+70.00

AS BUILT PLANS

B.M. EL. 1109.77
TOP SQ. ROD W/POST
STA. 390+00 LT. 95'

B.M. EL. 1111.22
TOP 1" SQ. ROD
P.I. 390+71.18

B.M. EL. 1112.86
TOP P.K. NAIL
P.O.T. 396+58.09

B.M. EL. 1109.17
TOP SQ. ROD W/POST
STA. 398+00 LT. 100'

FINISHED PROFILE GRADE 19' RT. SURVEY ℄

14.22 14.72 15.36 16.22 16.70 16.99 17.09 17.02 16.75 16.30 15.66 14.84 14.36

P.I. 389+00
ELEV. 1150.02
3800' V.C.
M = 3
G_1 = +3.9%
G_2 = -3.1%

"LOOP NO. 1" FINISHED PROFILE GRADES
BEGIN LOOP STA. 391+45 EL. 1116.13
16.92 15.42 14.89 14.62 13.92 13.03 11.84 10.35 08.56
LOOP P.V.C. +17 EL. 1114.75
+50
LOOP P.V.T. +33.05 EL. 1107.21
"LOOP NO. 1" FINISHED PROFILE GRADES

INLET EL. 11.7 OUTLET EL. 08.0 22" SPAN R.C.P.

℄ F & I. 12" DIP CL. 52 WATERMAIN
12" PLUG W/1" CORP.
TESTED AND APPROVED

SUBGRADE TREATMENT: EXCAVATE 1.0' BELOW SUBGRADE EXCAVATION AS SHOWN ON X-SECTIONS FROM STA. 392+00 TO STA. 395+00. (7' MIN)

"LOOP NO. 1"
P.I. +75
EL. 1113.96
V.C. 316
M = 1.489

END GRADING

P.V.T. 408+00
EL. 1090.56

℄ PROFILE
100' LT.
100' RT.

87.3 89.3 92.7 93.0 96.8 03.3 08.8 14.3 18.3 21.5 20.1 15.0 14.1 13.8 13.9 13.9

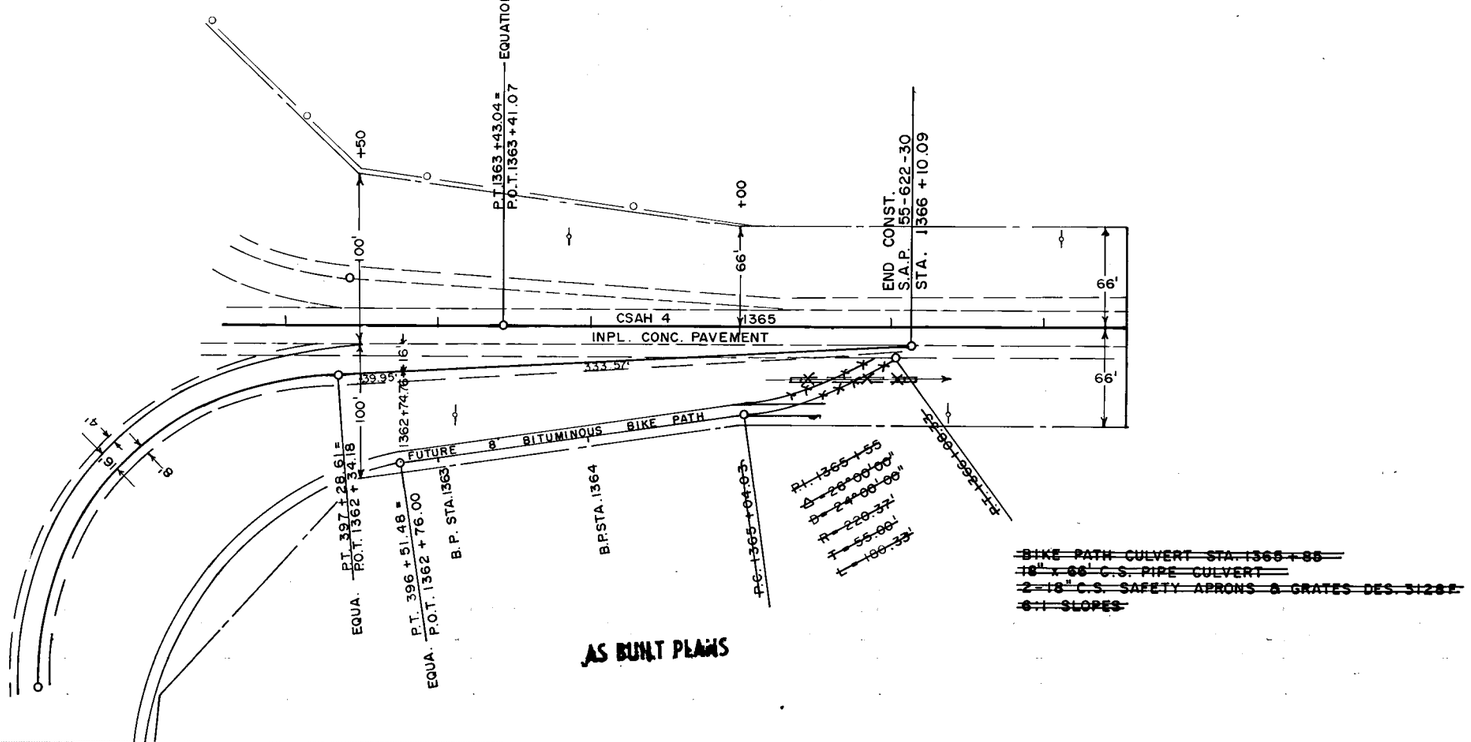
385 386 387 388 389 390 391 392 393 394 395 396 397

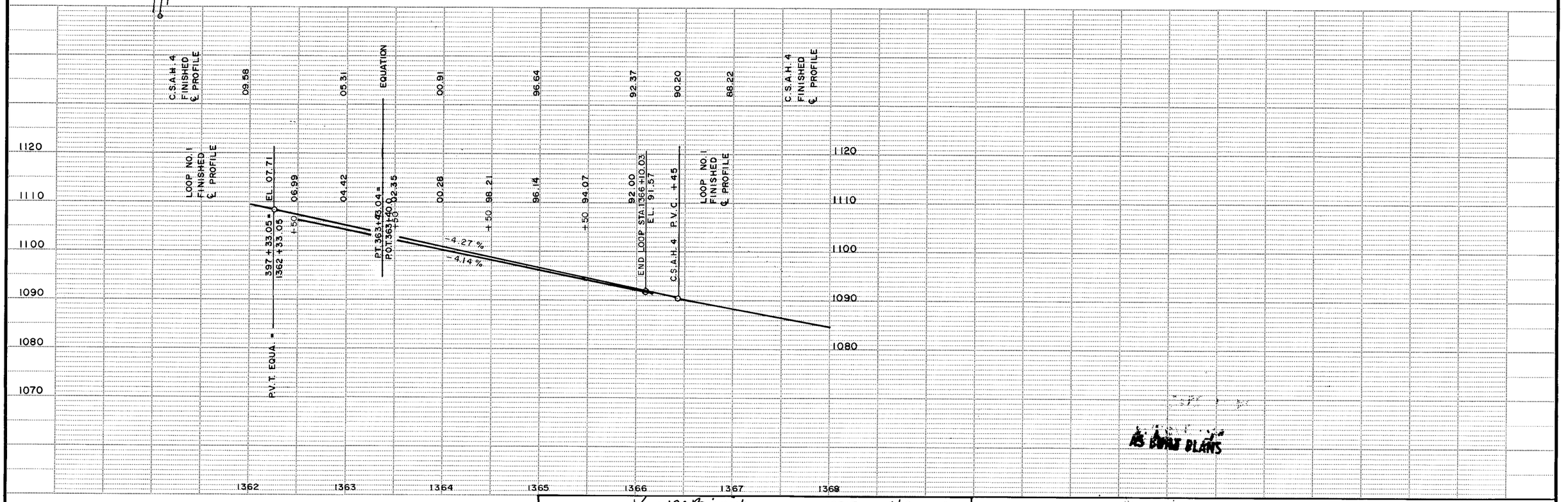
1140 1130 1120 1110 1100 1090 1080 1070

AS BUILT PLANS

CERTIFIED BY Kaye M Bierwirth PROFESSIONAL ENGINEER REG. NO. 19917 4/15 1996

~~State Proj. No.~~ SAP 55-622-30 OLMSTED CO. **Sheet No. 9 of 28 Sheets**





CERTIFIED BY Kenneth M Brinnick PROFESSIONAL ENGINEER REG. NO. 19917 4/15 19 96

~~State Proj. No.~~ S.A.P. 55-622-30