MINNESOTA DEPARTMENT OF TRANSPORTATION

THE COUNTY OF OLMSTED

CONSTRUCTION PLAN FOR GRADING & AGGREGATE BASE

LOCATED ON C.R. 116 **BETWEEN** C.S.A.H. 16 **AND** 0.6 MILES SOUTH & EAST **(GEOGRAPHIC DESCRIPTION)**

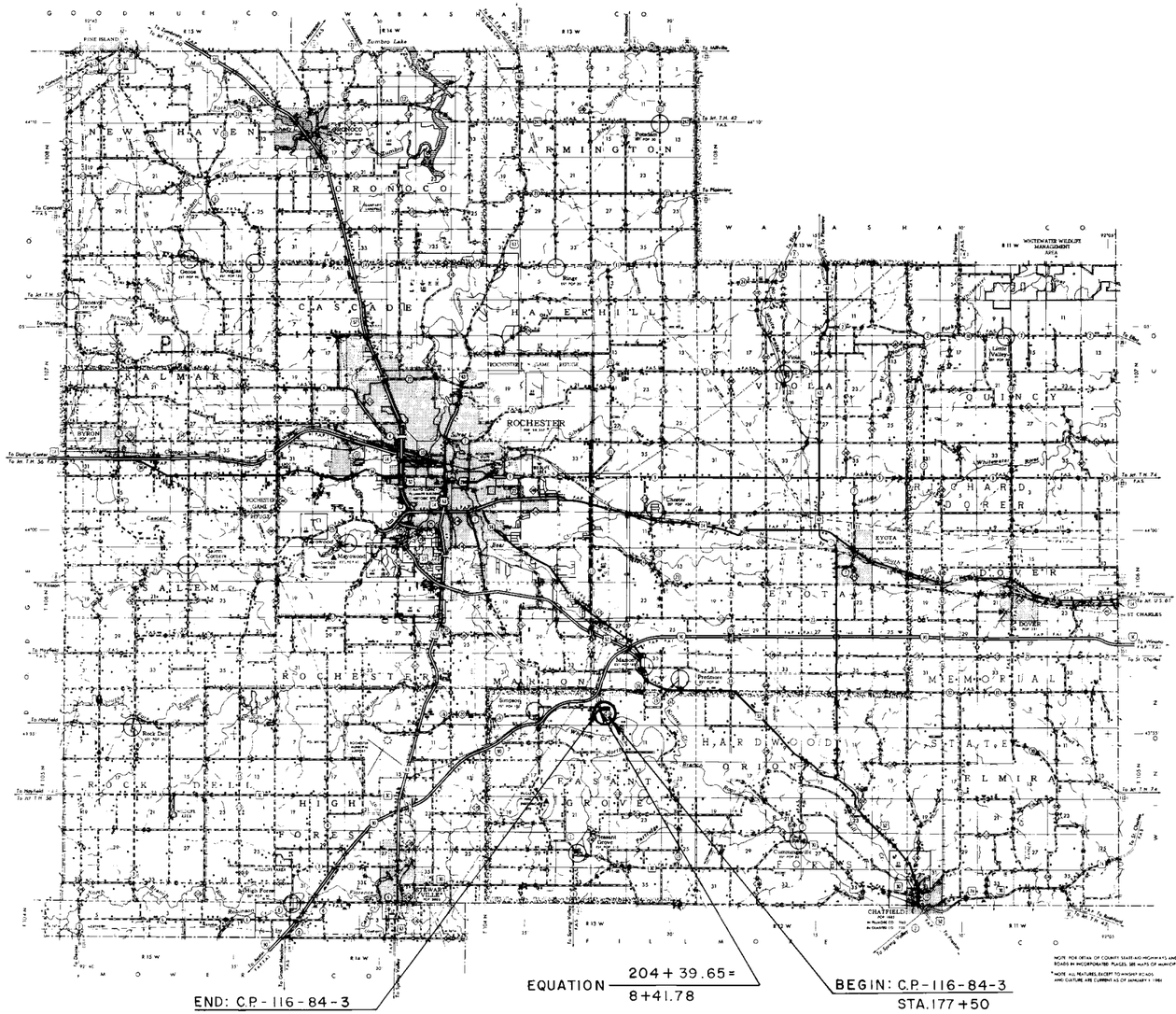
FROM 1478'S. CENTER SEC.3 T.105N.-R.13W. **TO** 1595.87' W. CENTER SEC.3 T.105N.-R.13W. **(LEGAL DESCRIPTION)**

~~**STATE PROJ. NO.**~~ CP-116-84-3

GROSS LENGTH	3,073.87 FEET	0.582 MILES
BRIDGES-LENGTH	FEET	MILES
EXCEPTIONS-LENGTH	FEET	MILES
NET LENGTH	FEET	MILES

STATE PROJ. NO.

GROSS LENGTH	FEET	MILES
BRIDGES-LENGTH	FEET	MILES
EXCEPTIONS-LENGTH	FEET	MILES
NET LENGTH	FEET	MILES



NOTE: FOR OPTIMA OF COUNTY STATE AID HIGHWAYS AND COUNTY ROADS IN INCORPORATED PLACES, SEE MAPS OF MUNICIPALITIES.

*NOTE: ALL FEATURES, EXCEPT TOWNSHIP ROADS AND CULTURE, ARE CURRENT AS OF JANUARY 1, 1986.

PLANS 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 LINE
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 POLES
ON TELEPHONE POLES
ANCHOR
STEEL TOWER
STREET LIGHT
PEDESTAL (TELEPHONE CABLE TERMINAL)
GAS MAIN
WATER MAIN
CONDUIT
TELEPHONE CABLE IN CONDUIT
ELECTRIC CABLE IN CONDUIT
TELEPHONE MANHOLE
ELECTRIC MANHOLE
BURIED TELEPHONE CABLE
BURIED ELECTRIC CABLE
AERIAL TELEPHONE CABLE
SEWER, (SANITARY OR STORM)
SEWER MANHOLE

SCALES

PLAN	100 FEET
PROFILE	100 FEET HORZ. 10' VERT.
INDEX MAP	10,560 FEET
GENERAL LAYOUT	10 FEET

STATE AID TITLE SHEET AI 19DSON MPLS 15-1400

MINN. PROJ. NO.

SPECIFICATIONS REFERENCE

The 1978 Edition of the Minnesota Department of Transportation "Standard Specifications For Highway Construction" Shall Govern.

INDEX

SHEET	NO. 1	TITLE SHEET
"	NO. 2	ESTIMATE OF QUANITIES & TYPICAL SECTIONS.
"	NO. 3&4	PLAN & PROFILE SHEETS.
"	NO. 5 TO 10	X SECTION SHEETS

DESIGN DESIGNATION

R

ADT (Current Year)	=	157	
ADT (Future Year)	=	283	
DHV (Design Hr. Vol.)	=		
D (Directional Distr.)	=		%
T (Heavy Commercial)	=		%
SOIL FACTOR		130	

ΣN18 (20)

Design Speed 35 MPH

Based on Stopping Sight Distance

Height of eye 3.75 Height of object 0.5

Design Speed not achieved at:

STA.	TO STA.	MPH
STA.	TO STA.	MPH
STA.	TO STA.	MPH

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 9-7-84 REG. NO. 1773 ENGR. [signature]

COUNTY Olmsted

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

Recommended for Approval ..... 19 .....
STATE AID PLANS AND SPECS ENGINEER

Approved ..... 19 .....
STATE AID ENGINEER

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED

DIVISION ADMINISTRATOR ..... DATE .....

~~**STATE AID PROJ. NO.**~~

~~**STATE PROJ. NO.**~~ C.P. - 116 - 84 - 3 **SHEET NO.** 1 **OF** 10 **SHEETS**

ESTIMATED QUANTITIES

	SPECIFICATION NO.	ITEM	UNIT	MUNICIPAL	RURAL	TOTAL ESTIMATED QUANTITIES
	2021.501	MOBILIZATION	LUMP SUM		1	1
	2101.501	CLEARING	ACRE		0.75	0.75
	2101.502	CLEARING	TREE		29	29
	2101.506	GRUBBING	ACRE		0.75	0.75
	2101.507	GRUBBING	TREE		32	32
①	2104.501	REMOVE PIPE CULVERT	LIN. FT.		108	108
	2104.521	SALVAGE PIPE CULVERT	LIN. FT.		24	24
	2105.501	COMMON EXCAVATION (P)	CU. YD.		10,006	10,006
	2105.503	ROCK EXCAVATION	CU. YD.		3,587	3,587
	2105.507	SUBGRADE EXCAVATION	CU. YD.		923	923
	2105.535	SALVAGED TOPSOIL (EV) (P)	CU. YD.		1,358	1,358
②	2123.501	COMMON LABORER	HOUR		4	4
②	2123.503	MOTOR GRADER	HOUR		4	4
②	2123.506	14 CU. YD. SCRAPER	HOUR		8	8
②	2123.509	DOZER	HOUR		8	8
③	2211.501	AGGREGATE BASE CL. 2	TON		3,718	3,718
	2501.511	18" C.S. PIPE CULVERT	LIN. FT.		116	116
	2501.511	24" C.S. PIPE CULVERT	LIN. FT.		60	60
	2501.511	30" C.S. PIPE CULVERT	LIN. FT		28	28
	2501.511	24" R.C. PIPE CULVERT CL. III.	LIN. FT.		46	46
	2501.515	18" G.S. PIPE APRONS	EACH		8	8
	2501.515	24" G.S. PIPE APRONS	EACH		4	4
	2501.515	30" G.S. PIPE APRONS	EACH		2	2
	2501.515	24" R.C. PIPE APRONS	EACH		2	2
	2501.521	73" SPAN R.C. PIPE-ARCH CL. III A	LIN. FT.		78	78
	2501.525	73" SPAN R.C. PIPE-ARCH APRONS	EACH		2	2
	2511.501	RANDOM RIP-RAP CLASS III.	CU. YD.		28	28
	2511.511	GRANULAR FILTER	CU. YD.		14	14
	2575.501	ROADSIDE SEEDING (P)	ACRE		5	5
	2575.502	SEED MIXTURE CL. 5	POUND		250	250
	2575.503	SEED MIXTURE CL. 2	POUND		500	500
	2575.511	MULCH MATERIAL TYPE 1	TON		10	10
	2575.519	DISC ANCHOR (P)	ACRE		4	4
	2575.531	COMMERCIAL FERTILIZER ANALYSIS 12-12-12	TON		0.5	0.5

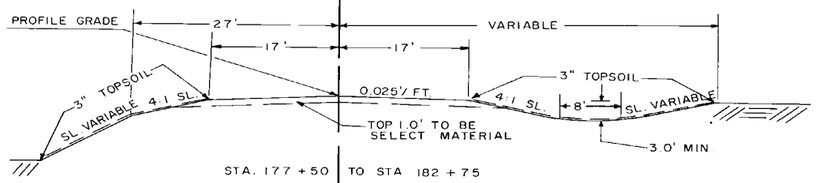
① TO INCLUDE REMOVAL OF CONCRETE HEADWALLS ON ℄ CULV. STA. 200 + 68
② EQUIPMENT HOURS TO BE USED TO OBLITERATE OLD ROAD AS SHOWN IN PLANS
③ INCLUDES 3443 TON FOR ROADWAY AND 275 TON FOR 8 APPROACHES.
(P) PLAN QUANTITY.

STANDARD PLATES

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

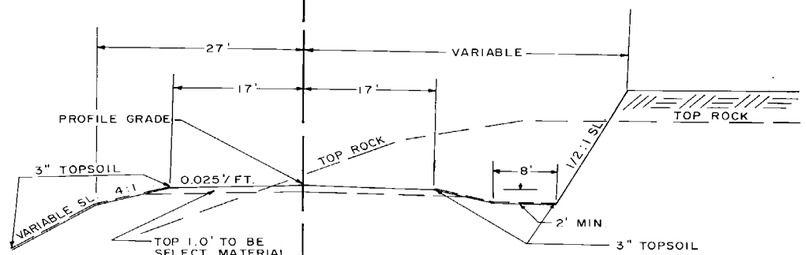
PLATE NO	DESCRIPTION
0003 A	SPECIFICATION REFERENCE TO STANDARD PLATES.
3000 H	REINFORCED CONCRETE PIPE.
3014 J	REINFORCED CONCRETE PIPE-ARCH.
3040 F	CORRUGATED METAL PIPE CULVERT.
3100 F	CONCRETE APRON FOR REINFORCED CONCRETE PIPE.
3110 F	CONCRETE APRON FOR REINFORCED CONCRETE PIPE-ARCH.
3123 H	METAL APRON FOR C.M. PIPE.
3124 B	METAL APRON CONNECTION.
3133 A	RIPRAP AT R.C.P. OUTLETS.
3145 C	CONCRETE PIPE TIES. (EYE BOLT TIES)
3221 C	CORRUGATED STEEL PIPE COUPLING BAND.
3007 A	SHEAR REINFORCEMENT FOR PRECAST DRAINAGE STRUCTURES.
9000 B	APPROACHES AND ENTRANCES.
8000 H	STANDARD BARRICADES.

TYPICAL GRADING SECTIONS



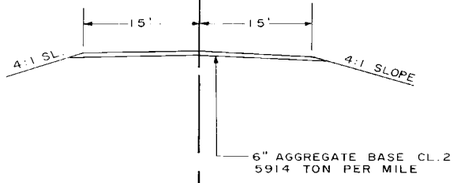
STA. 177 + 50 | TO STA 182 + 75

STA. 185 + 25 | TO STA. 12 + 08



STA. 182 + 75 | TO STA. 185 + 25

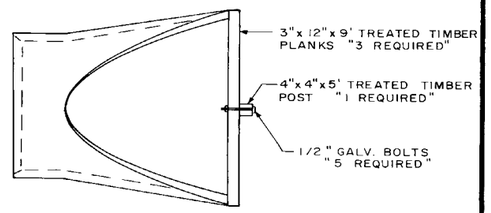
TYPICAL BASE SECTION



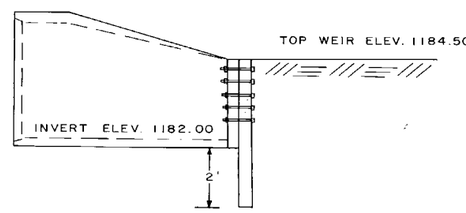
STA. 177 + 50 | TO STA. 12 + 08

INCIDENTAL ITEM: TIMBER WEIR CONSTRUCTION AT INLET. 73" SPAN R.C. PIPE-ARCH APRON ON ℄ CULVERT STA. 200 + 93.
(NOT DRAWN TO SCALE)

TOP VIEW



SIDE VIEW



NOTE: ALL DIMENSIONS AND SLOPES SHOWN ON TYPICAL SECTIONS ARE APPROXIMATE.

NOTE: PLACE PIPE CULVERTS ON BEDDING AS SHOWN IN THE PLANS, OR AS DIRECTED BY THE ENGINEER. BEDDING SHALL BE CONSIDERED INCIDENTAL AND NO DIRECT COMPENSATION SHALL BE MADE THEREFOR.

NOTE: TIMBER WEIR CONSTRUCTION SHALL BE CONSIDERED INCIDENTAL AND WILL BE INCLUDED FOR PAYMENT UNDER UNIT PRICE FOR 73" SPAN R.C.P.-ARCH CLASS III.A

NOTE: SALVAGED TOPSOIL TO BE PLACED ON SLOPES AS SHOWN ON PLANS AND AS DIRECTED BY THE ENGINEER.

NOTE: SUBGRADE TREATMENT:
EXCAVATE 1.0' BELOW PROFILE GRADE FOR COMPACTION, AS SHOWN ON THE PLAN AND PROFILE SHEETS. EXCAVATION HAS BEEN COMPUTED AND IS LISTED AS SUBGRADE EXCAVATION. BACKFILL WITH SELECT MATERIAL FROM THE R.O.W. TAPERS SHALL BE 50:1 IN ALL CASES.

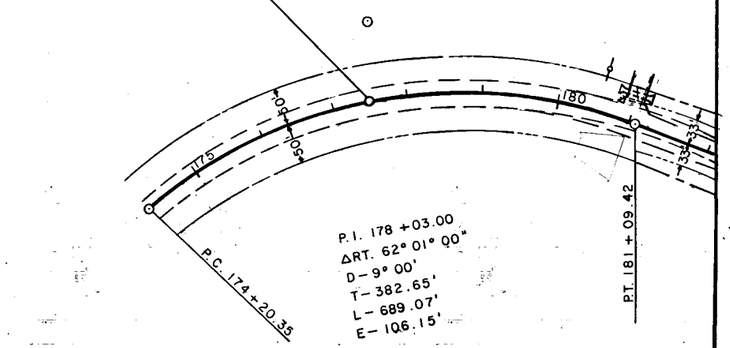
~~S.A.P.~~
~~State Proj. No.~~ C.P. 116-84-3 OLMSTED COUNTY **Sheet No.** 2 **of** 10 **Sheets**

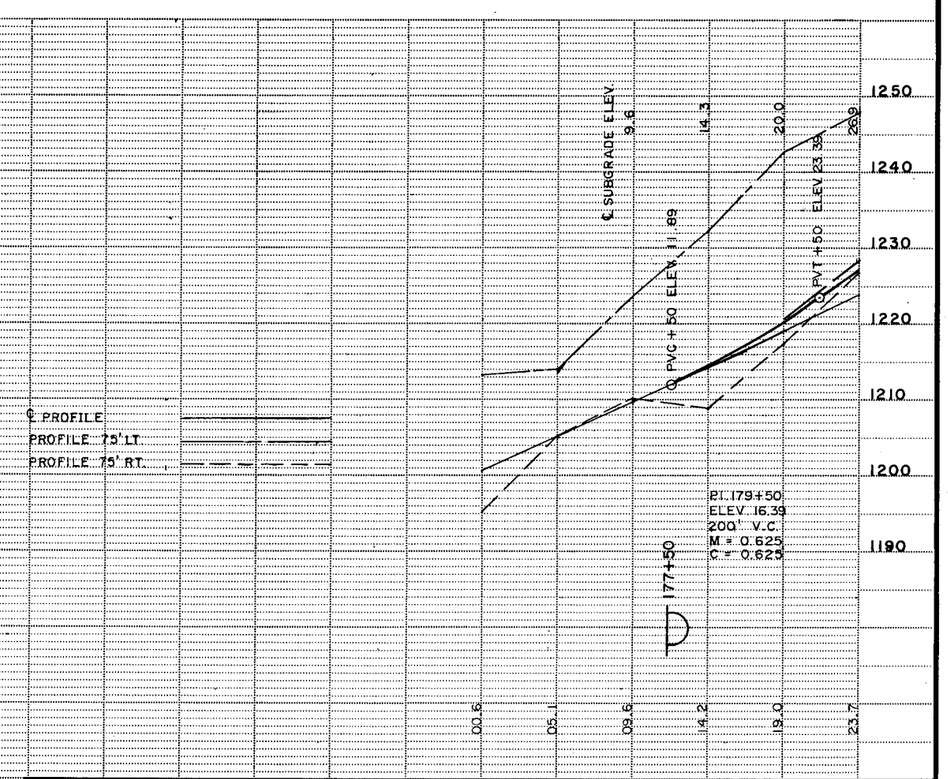
AS BUILT PLANS

ALBINSON, INC. MINNEAPOLIS 3A-23

F.E. LT. 180+95
IN PL. 24"x 24' CMP
SALVAGE
30"x 28' C.S.P. CULV.
2-30" G.S.P. APRONS

BEGIN: C-116-84-3
STA. 177+50





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AS BUILT PLANS

Fed. Proj. No.

Drwy. Rt. 185+81
Inpl. 13"X 24" CMP
REMOVE
24"x 32' C.S. PIPLE CULV.
2-18" G.S. PIPE APRONS

℄ Old Rd. 193+12
Inpl. 13"X 30' CMP
REMOVE
CONST. ℄ CULV. STA. 188+75
24"x 46' R.C.P. CULV. CL. III
2-24" R.C.P. CULV. APRONS
F&I. APPROVED JOINT TIES
PLACE ON "B" BEDDING
SKEW 15°

F.E. Lt. ~~196+09~~ 197+14
No Culv. Inpl.
~~NO CULV. REQ'D.~~
18"x 28' C.S.P. CULV.
2 - 18" G. S. P. APRONS

℄ Culv. 200+68
36"X 30' CMP
W/Wingwalls
REMOVE

FM. E. Lt. 202+37
Inpl. X 24' CMP
REMOVE
18"x 32' C.S.P. CULV.
2-18" G.S.P. APRONS

RES. DR. LT. 208+51
NO CULV. INPL.
NO CULV. REQ'D.

F.E. RT. 8+68
NO CULV. INPL.
18"x 28' C.S.P. CULV.
2-18" G.S.P. APRONS

END: C.P. 116-84-3
STA. 12+26

Pl. - 178+03.0
Δ Rt. - 62°01'
D - 9°00'
T - 382.65'
L - 689.07'
E - 106.15'
PT. 181+09.42

P.C. 182+69.95'

Pl. - 185+65.60'
Δ Lt. - 20°28'30"
D - 3°30'
T - 295.65'
L - 585.00'
E - 29.49'

OBLITERATE OLD ROAD

Tele. Cable Markers

PT. 188+54.95

PC. 188+94.31

CONST. F.E. RT. 188+50
NO CULV. REQ'D.

Pl. - 192+28.8
Δ Lt. - 82°25'
D - 15°00'
T - 334.49'
L - 549.44'
E - 125.75'

Tele. Cable Marker

PT. 194+45.75

OBLITERATE OLD ROAD

F.E. RT. 202+78
NO CULV. INPL.
18"x 28' C.S. PIPE CULV.
2-18" G.S. PIPE APRONS

CONST. F.E. RT. 194+50
18"x 28' C.S. PIPE CULV.
2-18" G.S. PIPE APRONS

192+50
F.E. RT. ~~191+75~~
NO CULV. INPL.
24"x 28' C.S. PIPE CULV.
2-24" G.S. PIPE APRONS.

CONST. ℄ CULV. STA. 200+93
73"SPAN x 78' R.C.P.-ARCH CL. III A
SKEW 30° LEFT
2-73"SPAN R.C.P.-ARCH APRONS
F&I. APPROVED JOINT TIES
PLACE ON "B" BEDDING
CONST. 3" TREATED TIMBER WEIR
SEE WEIR DETAIL ON PLAN SHEET NO. 2
28 CU. YD. RIPRAP CL. III 18" DEPTH
14 CU. YD. GRANULAR FILTER 9" DEPTH

Pl. 10+00.0
Rt. - 45°00'
D - 15°00'
T - 158.22'
L - 300.0'

P.T. 11+41.78'

EQUATION P.O.T. 204+39.65 = P.C. 8+41.78'

Mobile Hq.

Tele. Cable Marker

Woods

Gravy

CL. 0.75 ACRE - GR. 0.75 ACRE — CL. 29 TREES — GR. 32 TREES

B.M. EL. 1164.37
Spk. in P.P.
15' Rt. Sta. 185+60

B.M. EL. 1200.41
Stk. in FE. Line
Lt. Sta. 195+00

Profile Lt. 75'
Profile Rt. 75'

℄ SUBGRADE ELEV.

INLET ELEV. 76.0
OUTLET ELEV. 74.5

FROM 179 TO 193 RAISED GRADE +7.0%

Pl. 185+86.36
ELEV. 67.94
300' V.C.
M = 1.2375

P.V.C. +36.36 ELEV. 57.43

P.V.T. +36.36 ELEV. 73.49

+3.7%

P.V.C. +00 ELEV. 98.04

Pl. +00
ELEV. 05.44
400' V.C.
M = 3.85

P.V.T. +00 ELEV. 97.44

P.V.C. +66.19 ELEV. 94.79

Pl. +16.19
ELEV. 84.792
500' V.C.
M = 6.5625

P.V.T. +66.19 ELEV. 101.04

-4.0%

TOP WEIR ELEV. 84.5.0
INLET ELEV. 82.0
OUTLET ELEV. 78.5

+0.5%

+6.5%

P.V.C. +62.50 ELEV. 20.1668

Pl. +12.50
ELEV. 23.4168
100' V.C.
M = 0.75

P.V.T. +72.50 ELEV. 23.667

SUBGRADE TREATMENT
EXCAVATE 1.0' BELOW PROFILE GRADE
STA. 189+50 TO STA. 191+25
STA. 192+90 TO STA. 197+25
STA. 203+25 TO STA. 11+00

COMMON EXC.	10,006	
ROCK EXC.	3,587	EMB 10,727
SUBGRADE EXC.	923	
SALVAGE TOPSOIL (EV)	1,358	

EQUATION 204+39.65 = 19+41.78

~~State Proj. No.~~ C.P. 116-84-3

Sheet No. 4 of 10 Sheets

AS BUILT PLANS