MINNESOTA DEPARTMENT OF TRANSPORTATION

THE COUNTY OF OLMSTED

CONSTRUCTION PLAN FOR GRADING, BASE, SURFACING & CURB AND GUTTER

LOCATED ON C.R. 133 **BETWEEN** 41st. S.W. ROCHESTER MN. **AND** 55th. S.W. ROCHESTER MN. **(GEOGRAPHIC DESCRIPTION)**

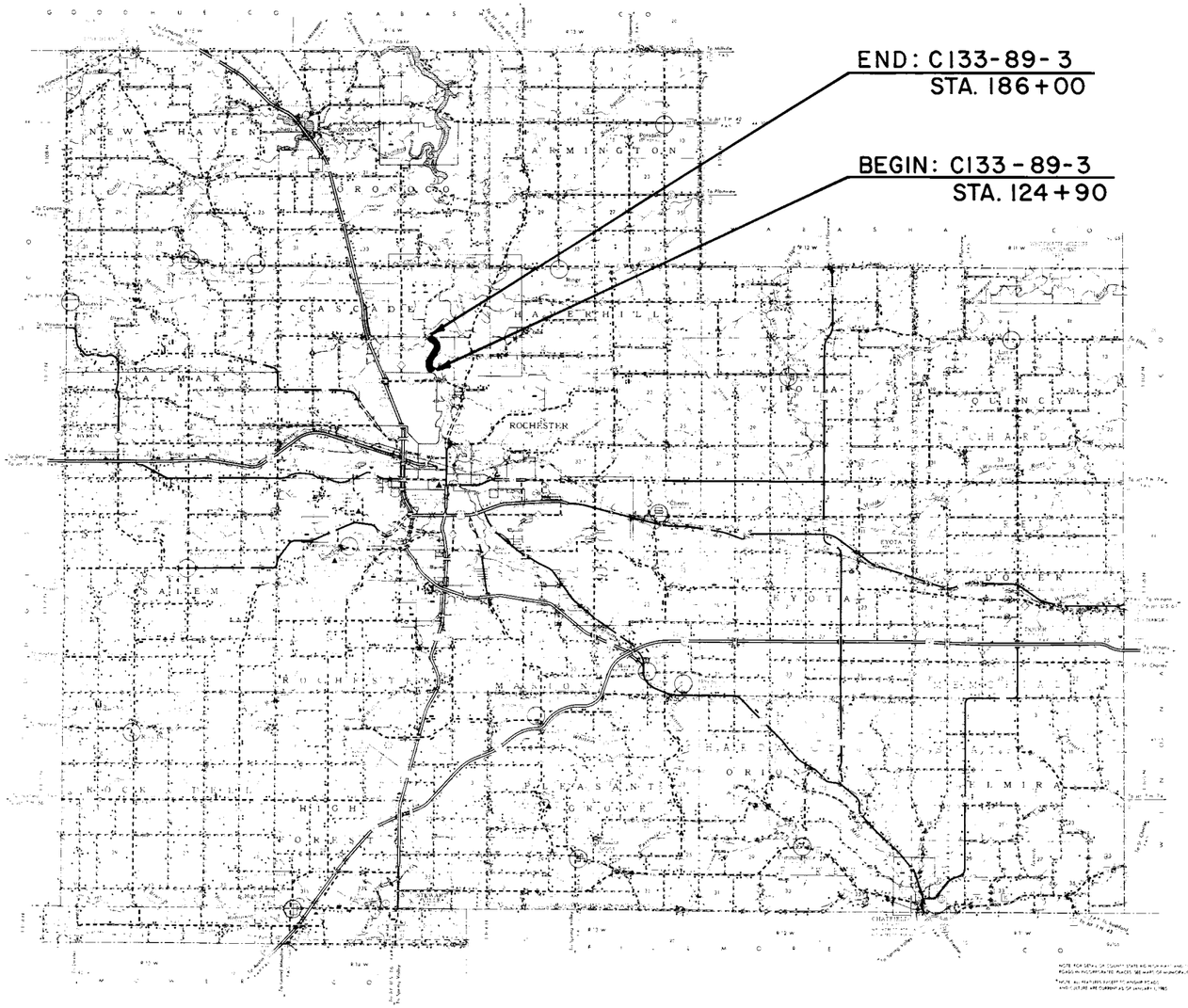
FROM 40.63' W. AND 56.46' N. OF N.E. 1/4, N.W. 1/4 SEC. 23 T. 107 N. - R. 14 W. **TO** 1,586.34' E. OF S.W. COR. SEC. 11 T. 107 N.-R14W. **(LEGAL DESCRIPTION)**

~~**STATE PROJ. NO.**~~ C133-89-3

GROSS LENGTH	6,161.46	FEET	1.167 MILES
BRIDGES-LENGTH	—	FEET	— MILES
EXCEPTIONS-LENGTH	—	FEET	— MILES
NET LENGTH	6,161.46	FEET	1.167 MILES

STATE PROJ. NO. _____

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



SCALES

PLAN	———	50 FEET
PROFILE	———	50' HORIZ. & 5' VERT.
INDEX MAP	———	10,560 FEET
CROSS SECTIONS	———	10 FEET

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
ELECTRICAL CABLE IN CONDUIT
TELEPHONE MANHOLE
ELECTRIC MANHOLE
BURIED TELEPHONE CABLE
BURIED ELECTRICAL CABLE
AERIAL TELEPHONE CABLE
SEWER (SANITARY OR STORM)
SEWER MANHOLE

MINN. PROJ. NO. _____

GOVERNING SPECIFICATIONS

THE 1988 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN.

INDEX

SHEET	NO. 1	TITLE SHEET
SHEET	NO. 2	ESTIMATE QUANTITIES
SHEET	NO. 3	TYPICAL SECTIONS
SHEETS	NO. 4-8	PLAN AND PROFILE
SHEETS	NO. 9-24	CROSS SECTIONS

DESIGN DESIGNATION

R _____ ΣN18(20) _____

ADT (Current Year) = 934 (1989) Design Speed 40 MPH

ADT (Future Year) = 1,680 (2009) Based on Stopping Sight Distance

DHV (Design Hr. Vol.) = _____ Height of eye 3.5 Height of object 0.5

D (Directional Distr.) = _____ %

T (Heavy Commercial) = _____ %

Design Speed not achieved at:

SOIL FACTOR 130

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

9 TON DESIGN

SHOULDER WIDTH 4'

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 4/4/90 REG. NO. 16397 ENGR. Michael Sheehan

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.**~~ C133-89-3 C.R. 133 OLMSTED COUNTY **SHEET NO.** 1 **OF** 24 **SHEETS**

ALBINSON MPLS 55409

ESTIMATED QUANTITIES

	SPECIFICATION NO.	ITEM	UNIT	TOTAL ESTIMATED QUANTITIES
	2101.501	CLEARING	ACRE	5.4
	2101.502	CLEARING	TREE	133
	2101.506	GRUBBING	ACRE	5.4
	2101.507	GRUBBING	TREE	99
	2104.501	REMOVE PIPE CULVERTS	LIN. FT.	214
	2104.505	REMOVE BITUMINOUS SURFACING	SQ.YD.	871
	2104.509	REMOVE BOX CULVERT	EACH	1
	2104.513	SAWING BITUMINOUS PAVEMENT	LIN. FT.	34
(11)	2104.525	ABANDON AND SEAL WELL SHAFT	EACH	1
(1)	2105.515	UNCLASSIFIED EXCAVATION (P)	CU.YD.	50,887
	2105.535	SALVAGED TOPSOIL (LV) (P)	CU.YD.	4,169
(2)	2130.501	WATER	M.GAL.	86
(3)	2211.501	AGGREGATE BASE CLASS 2	TON	8,410
	2211.501	AGGREGATE BASE CLASS 5 MODIFIED	TON	9,630
	2221.501	AGGREGATE SHOULDERING CLASS 2	TON	1,642
	2331.504	BITUMINOUS MATERIAL FOR MIXTURE	TON	504
*(4)	2331.508	WEARING COURSE MIXTURE MODIFIED	TON	2,705
***	2331.510	BINDER COURSE MIXTURE MODIFIED	TON	1,952
**	2331.514	BASE COURSE MIXTURE MODIFIED	TON	3,907
	2357.502	BITUMINOUS MATERIAL FOR TACK COAT	GALLON	2,099
	2501.511	18" C.S. PIPE CULVERT	LIN. FT.	28
	2501.511	24" R.C. PIPE CULVERT CLASS 2	LIN. FT.	72
	2501.511	24" R.C. PIPE CULVERT CLASS 3	LIN. FT.	118
	2501.511	36" R.C. PIPE CULVERT CLASS 2	LIN. FT.	230
	2501.515	18" G.S. PIPE APRONS	EACH	2
	2501.515	12" R.C. PIPE APRONS OUTLET	EACH	8
	2501.515	15" R.C. PIPE APRONS OUTLET	EACH	2
	2501.515	18" R.C. PIPE APRONS OUTLET	EACH	1
	2501.515	24" R.C. PIPE APRONS	EACH	4
	2501.515	30" R.C. PIPE APRONS OUTLET	EACH	1
	2501.515	36" R.C. PIPE APRONS	EACH	4
	2503.511	12" R.C. PIPE SEWER CLASS 4	LIN. FT.	524
	2503.511	15" R.C. PIPE SEWER CLASS 3	LIN. FT.	437
	2503.511	18" R.C. PIPE SEWER CLASS 3	LIN. FT.	56
	2503.511	21" R.C. PIPE SEWER CLASS 3	LIN. FT.	335
	2503.511	24" R.C. PIPE SEWER CLASS 3	LIN. FT.	289
	2503.511	30" R.C. PIPE SEWER CLASS 2	LIN. FT.	26
	2506.506	CONSTRUCT MANHOLE DESIGN 72-4020	LIN.FT.	5
	2506.508	CONSTRUCT MANHOLES DESIGN "C"	EACH	4
	2506.509	CONSTRUCT CATCHBASINS DESIGN "C"	EACH	20
	2511.501	RANDOM RIPRAP CLASS 3	CU.YD.	166
	2531.501	CONCRETE CURB & GUTTER DESIGN B624	LIN.FT.	6,406
	2575.501	ROADSIDE SEEDING	ACRE	7.0
(5)	2575.502	SEED MIXTURE 500	POUND	166
(6)	2575.502	SEED MIXTURE 1100	POUND	512
(7)	2575.502	SEED CROWN VETCH	POUND	66
	2575.505	SODDING, TYPE EROSION	SQ.YD.	16,169
(8)	2575.511	MULCH MATERIAL TYPE 1	TON	14
(9)	2575.519	DISC ANCHORING	ACRE	3.2
(10)	2575.532	COMMERCIAL FERT. ANALYSIS 12-12-12	POUND	1,400

QUANTITIES NOTES

(P) PLAN QUANTITY
(1) UNCLASSIFIED EXCAVATION INCLUDES SUBGRADE TREATMENT AS SHOWN ON PLAN AND PROFILE. APPROXIMATE EXCESS OF UNCLASSIFIED EXCAVATION 4,889 CU. YDS.
(2) WATER TO BE USED AS A DUST PREVENTATIVE AS DIRECTED BY THE ENGINEER.
(3) INCLUDES 6,079 TON FOR MAINLINE, 996 TON FOR BIKE PATH, 323 TON FOR RESIDENTIAL AND FEILD ENTRANCES.
(4) INCLUDES 1,771 TON FOR MAINLINE, 667 TON FOR BIKE PATH
(5) APPLICATION RATE 50 LBS. PER ACRE, APPLY TO SIDE SLOPES FLATTER THAN 2:1 AND DO NOT HAVE SOD.
(6) INCLUDES 264 LBS TO BE APPLIED WITH CROWN VETCH, 248 LBS. TO BE APPLIED WITH SEED MIXTURE 500 APPLICATION RATE 80 LBS. PER ACRE, APPLY TO AREAS THAT DO NOT HAVE SOD.
(7) APPLICATION RATE 20 LBS. PER ACRE, APPLY TO SIDE SLOPES 2:1 OR STEEPER.
(8) APPLICATION RATE 2 TONS PER ACRE, APPLY TO ALL SEEDED AREAS.
(9) DISC ANCHORING ON MULCHED AREAS 3:1 AND FLATTER SLOPES.
(10) APPLICATION RATE 200 LBS. PER ACRE, APPLY WITH ALL SEED MIXTURES.
(11) ABANDON AND SEAL WELL LOCATED APPROXIMATELY 34' LEFT OF STA. 163+20.

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

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

* NOTE: BITUMINOUS WEARING COURSE 2331 MODIFIED.
BITUMINOUS MATERIAL - 6.2% OF MIXTURE BY WEIGHT.
BITUMINOUS MIXTURE - 110 POUNDS/SQ.YD./INCH OF DEPTH.

** BITUMINOUS BASE COURSE 2331 MODIFIED.
BITUMINOUS MATERIAL - 5.5% OF MIXTURE BY WEIGHT.
BITUMINOUS MIXTURE - 110 POUNDS/SQ.YD./INCH OF DEPTH.

*** BITUMINOUS BINDER COURSE 2331 MODIFIED.
BITUMINOUS MATERIAL - 6.2% OF MIXTURE BY WEIGHT.
BITUMINOUS MIXTURE - 110 POUNDS/SQ.YD./INCH OF DEPTH.

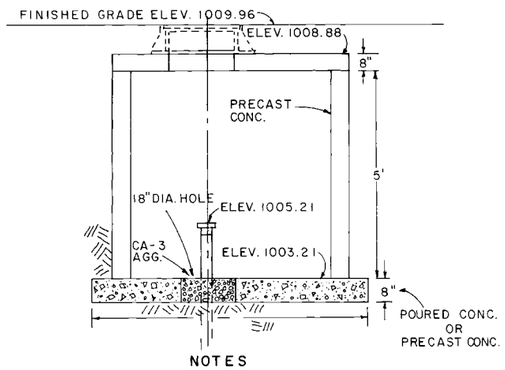
NOTE: THE SHRINKAGE FACTOR HAS BEEN INCLUDED IN THE EMBANKMENT QUANTITIES.

SOD LOCATION

LEFT			RIGHT		
STA. 124+90	TO	STA. 135+50	STA. 124+90	TO	STA. 136+00
STA. 135+70	TO	STA. 138+67	STA. 162+50	TO	STA. 163+88
STA. 138+97	TO	STA. 148+90	STA. 164+08	TO	STA. 165+13
STA. 149+10	TO	STA. 164+28	STA. 165+33	TO	STA. 166+06
STA. 164+48	TO	STA. 165+00	STA. 166+26	TO	STA. 166+87
			STA. 167+07	TO	STA. 167+81
DITCH LINER			STA. 168+01	TO	STA. 168+10
STA. 165+00	TO	STA. 186+00	STA. 168+30	TO	STA. 169+60
			STA. 169+80	TO	STA. 170+58
			STA. 171+45	TO	STA. 172+47
			STA. 172+67	TO	STA. 173+40
			STA. 173+60	TO	STA. 174+62
			STA. 174+82	TO	STA. 175+50
			DITCH LINER		
			STA. 175+50	TO	STA. 186+00

TEST WELL SECTION 4020E

ITEM NO. 2506.506 DESIGN 72-4020

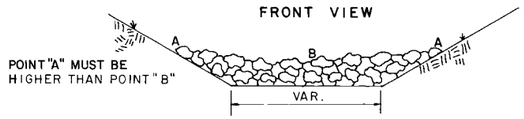


NOTES

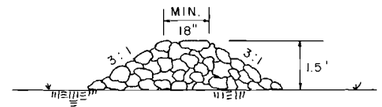
1. DETAIL IS IN REFERANCE TO STD. PLATE 4020 E
2. WELL PIPE IS TO BE CUT OFF AND RECAPED 2' ABOVE M.H. FLOOR

ROCK OR STONE DITCH CHECK SECTIONS

FRONT VIEW



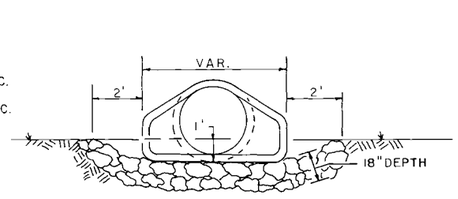
SIDE VIEW



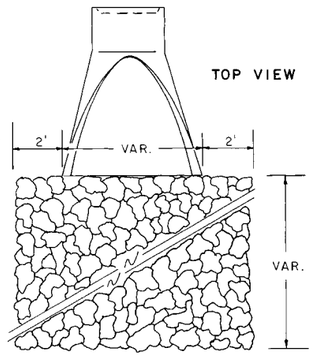
NOTES FOR ROCK DITCH CHECKS

1. DITCH CHECKS MAY BE CONSTRUCTED WITH ROCKS OR STONE OBTAINED FROM THIS PROJECT.
2. DITCH CHECKS SHALL BE LEFT IN PLACE.
3. BASIS OF PAYMENT FOR DITCH CHECKS SHALL BE UNDER ITEM NO. 2511.501 RANDOM RIPRAP CLASS 3
4. DITCH CHECKS SHALL BE CONSTRUCTED AT LOCATIONS DESIGNATED BY THE ENGINEER DURING CONSTRUCTION.

RIPRAP DETAIL AT STORM SEWER OUTLET



END VIEW



NOTES

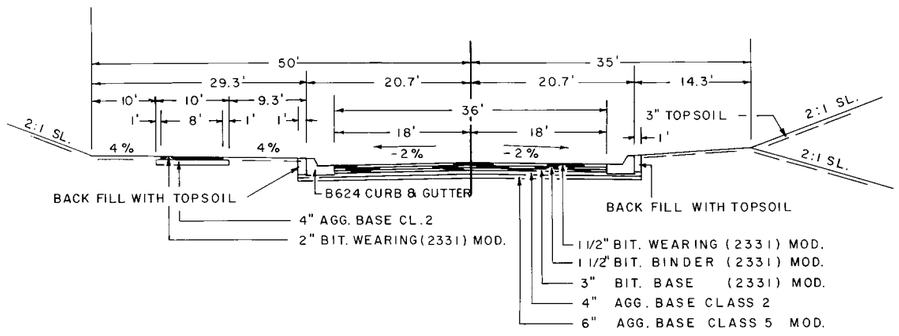
1. BASIS OF PAYMENT SHALL BE UNDER ITEM NO. 2511.501 RANDOM RIPRAP CL 3
2. LENGTH AND WIDTH AT EACH LOCATION SHALL BE DESIGNATED BY THE ENGINEER DURING CONSTRUCTION.

STANDARD PLATES

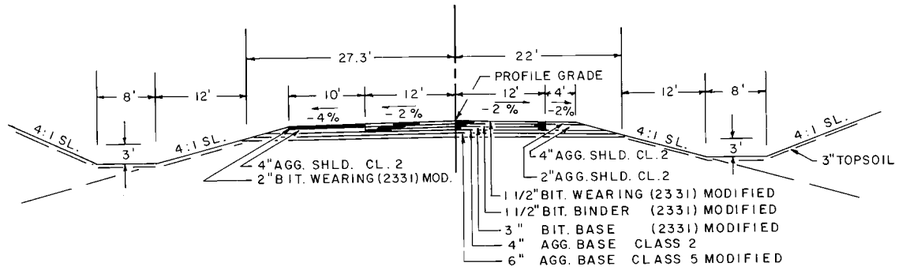
THE FOLLOWING STANDARD PLATES APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION, SHALL APPLY ON THIS PROJECT.

PLATE NO.		DESCRIPTION	PLATE NO.		DESCRIPTION
0005	A	SPECIFICATION REFERANCE TO STANDARD PLATES	4101	C	RING CASTING FOR MANHOLE OR CATCH BASIN
3000	K	REINFORCED CONCRETE PIPE	4110	D	COVER CASTING FOR MANHOLE
3007	B	SHEAR REINFORCEMENT FOR PRECAST DRAINAGE STRUCT.	4129	F	CATCH BASIN FRAME CASTING
3040	F	CORRUGATED METAL PIPE CULVERT	4151	B	GRATE CASTING FOR CATCH BASIN
3100	G	CONCRETE APRON FOR REINFORCED CONCRETE PIPE	4160	D	CURB BOX CASTING FOR CATCH BASIN
3123	I	METAL APRON FOR C.S. PIPE	7035	J	CONCRETE WALK & CURB RETURNS AT ENTRANCE
3124	B	METAL APRON CONNECTION	7100	F	CONCRETE CURB AND GUTTERS
3145	E	CONCRETE PIPE JOINT TIES	7110	E	CURB AND GUTTER CONSTRUCTION AT CATCH BASIN
3221	C	CORRUGATED STEEL PIPE COUPLING BAND	7111	G	INSTALLATION & REINF. OF CATCH BASIN CASTINGS
4002	E	MANHOLE OR CATCH BASIN DESIGN C	8000	I	STANDARD BARRICADES
4006	K	MANHOLE OR CATCH BASIN DESIGN G	8003	B	BREAKAWAY SIGN SUPPORT
4010	G	CONC. SHORT CONE & ADJUSTING RING	9000	B	APPROACHES AND ENTRANCES
4011	D	PRECAST CONCRETE BASE			
4020	E	MANHOLE OR CATCH BASIN 72-4020			

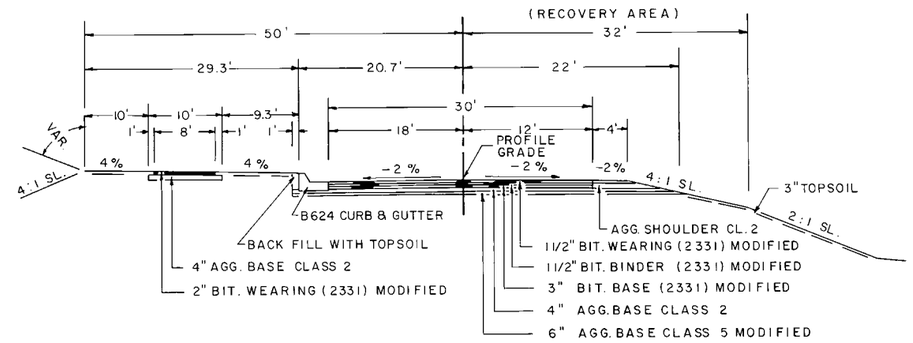
TYPICAL SECTIONS & DETAILS



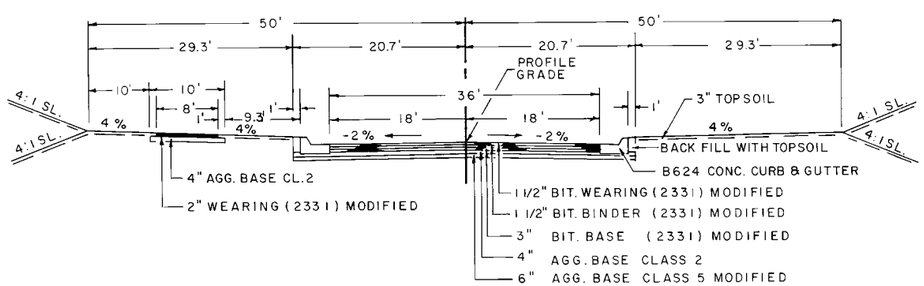
STA. 162+50 TO STA. 165+00



STA.175+50 TO STA. 186+00

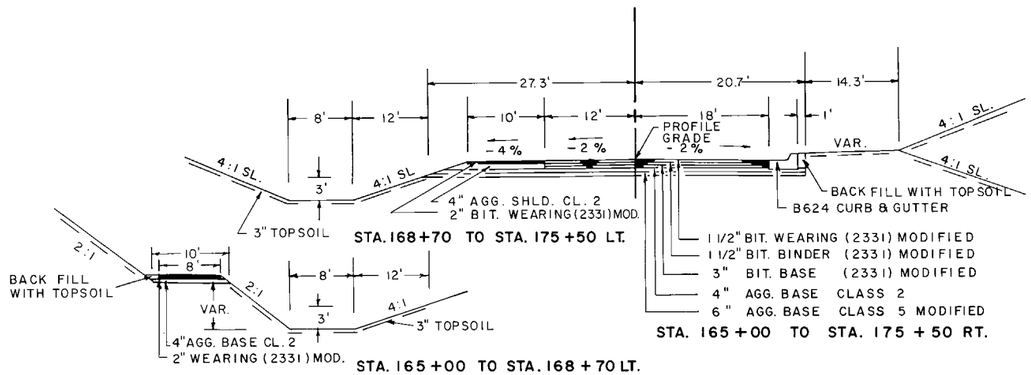


STA. 136+00 TO STA. 162+50

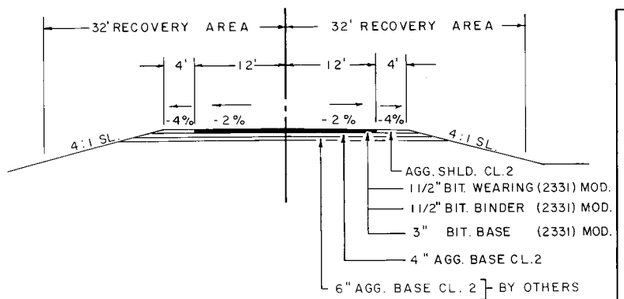


STA.124+90 TO STA. 136+00

NOTE: ALL DIMENSION ON TYPICAL ARE APPROXIMATE



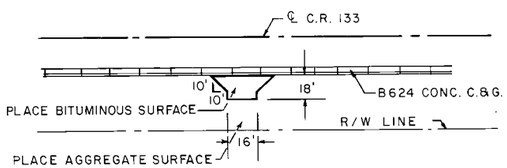
STA. 165+00 TO STA. 168+70 LT.



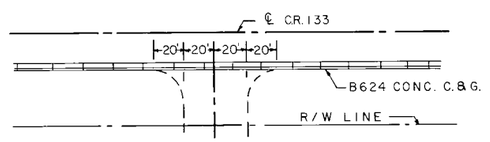
C.R.133 STA.186+00 TO STA.193+25.33

TWP. RD. STA. 0+51.20 TO STA. 3+00

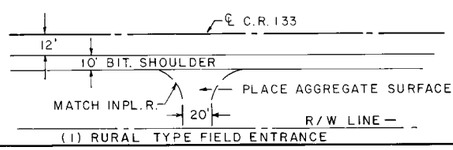
APPROACHES & ENTRANCES



(15) URBAN TYPE ENTRANCES

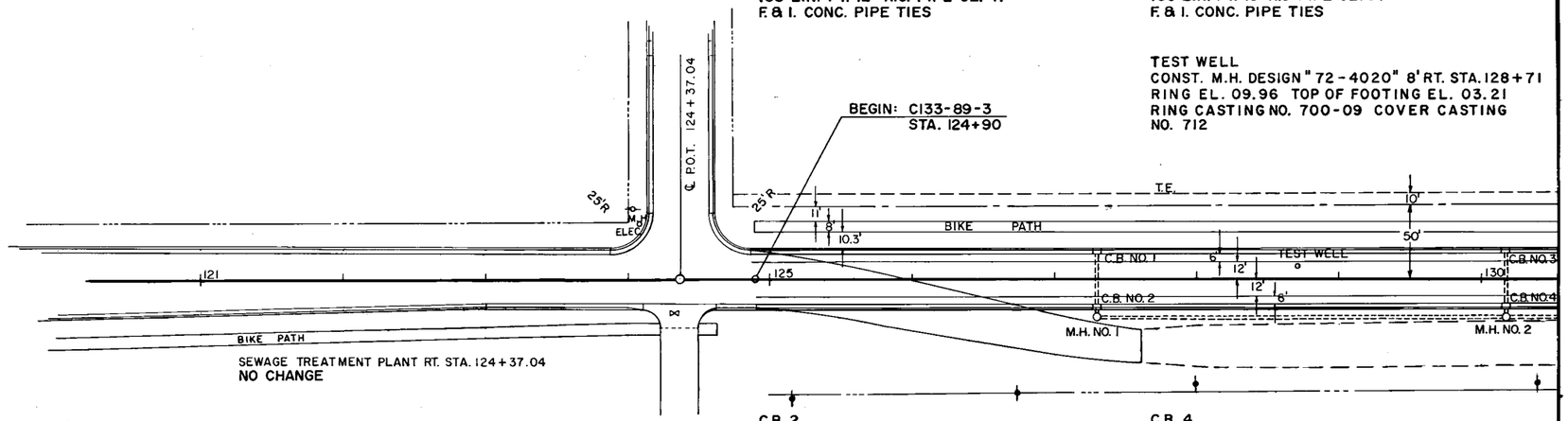


(1) URBAN TYPE FUTURE ENTRANCE AT STA. 133+10.64



(1) RURAL TYPE FIELD ENTRANCE

41st. LT. STA. 124 + 37.04
NO CHANGE



SEWAGE TREATMENT PLANT RT. STA. 124+37.04
NO CHANGE

C.B. 1
CONST. C.B. DESIGN "C" 19' LT. STA. 127+28
GRATE EL. 11.32 OUTLET EL. E. 07.22
GRATE FRAME NO. 802A GRATE NO. 811
CURB BOX NO. 823A
(38 LIN. FT. 12" R.C. PIPE CL. 4)
F. & I. CONC. PIPE TIES

C.B. 3
CONST. C.B. DESIGN "C" 19' LT. STA. 130+17
GRATE EL. 07.28 OUTLET EL. E. 03.18
GRATE FRAME NO. 802A GRATE NO. 811
CURB BOX NO. 823A
(38 LIN. FT. 15" R.C. PIPE CL. 3)
F. & I. CONC. PIPE TIES

TEST WELL
CONST. M.H. DESIGN "72-4020" 8' RT. STA. 128+71
RING EL. 09.96 TOP OF FOOTING EL. 03.21
RING CASTING NO. 700-09 COVER CASTING
NO. 712

C.B. 2
CONST. C.B. DESIGN "C" 19' RT. STA. 127+28
GRATE EL. 11.32 INLET EL. W. 07.00
OUTLET EL. E. 06.75 GRATE FRAME NO. 802A
GRATE NO. 811 CURB BOX NO. 823A
(8 LIN. FT. 15" R.C. PIPE CL. 3)

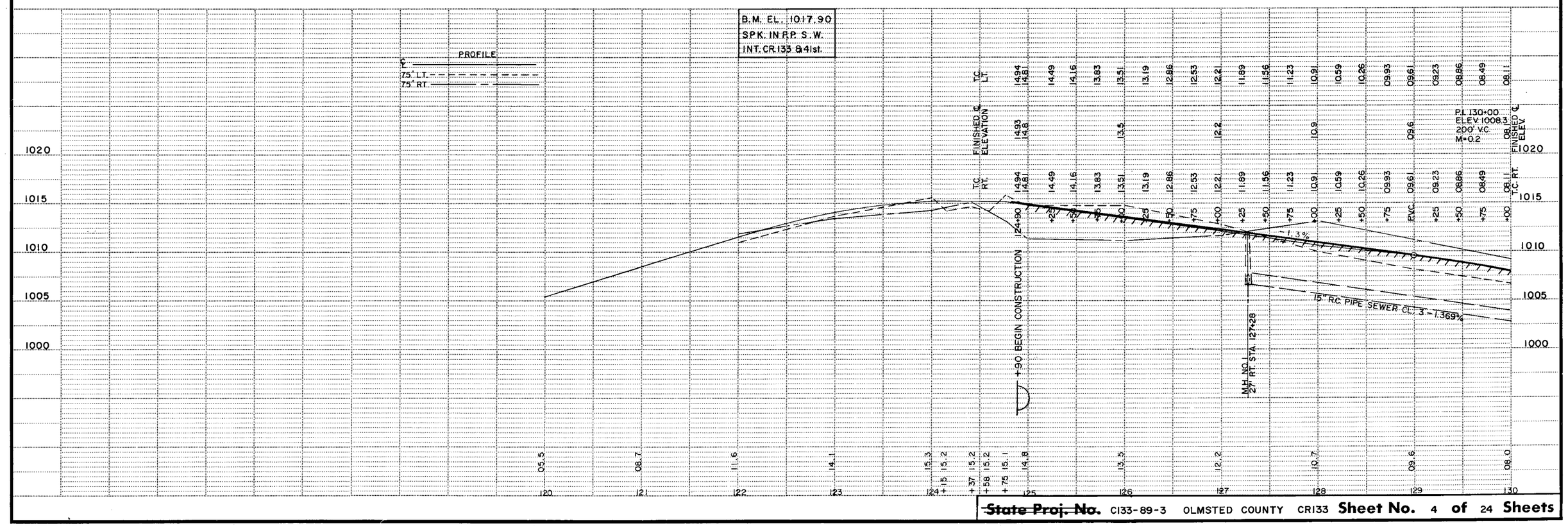
C.B. 4
CONST. C.B. DESIGN "C" 19' RT. STA. 130+17
GRATE EL. 07.28 INLET EL. W. 02.82
OUTLET EL. E. 02.57 GRATE FRAME NO. 802A
GRATE NO. 811 CURB BOX NO. 823A
(8 LIN. FT. 18" R.C. PIPE CL. 3)

M.H. 1
CONST. M.H. DESIGN "C" 27' RT. 127+28
RING EL. 12.09 INLET EL. W. 06.70
OUTLET EL. N. 06.60 RING CASTING NO. 700-9
COVER CASTING NO. 712
(289 LIN. FT. 15" R.C. PIPE CL. 3)
F. & I. CONC. PIPE TIES

M.H. 2
CONST. M.H. DESIGN "C" 27' RT. STA. 130+17
RING EL. 08.05 INLET EL. W. 02.42
INLET EL. S. 02.67 OUTLET EL. N. 02.17
RING CASTING NO. 700-9 COVER CASTING NO. 712
(289 LIN. FT. 21" R.C. PIPE CL. 3)
F. & I. CONC. PIPE TIES

B.M. EL. 1017.90
SPK. IN P.P. S.W.
INT. CR 133 & 41st.

PROFILE
℄
75' LT.
75' RT.



F.E. LT. STA. 135+60
INPL. 18"x 26' CMP
NO APRONS
REMOVE

NO F. ENT. REQ'D

RES. DR. LT. STA. 138+51
INPL. 18"x 28' CMP
NO APRONS
REMOVE

MOVE DRIVE TO STA. 138+82

℄ CULV. STA. 138+72
INPL. 24"x CMP

REMOVE

MOVE CULV. TO STA. 138+45
24"x 118' R.C. PIPE CULV. CL. 3
2-24" R.C. PIPE APRONS
(7 CU. YDS. CL. 3 RIPRAP 15" DEPTH AT APRON OUTLET)
PLACE CULV. ON "B" BEDDING
F. & I. CONC. PIPE TIES

C.B. 10
CONST. C.B. DESIGN "C" 19' LT. STA. 141+80
GRATE EL. 987.63 OUTLET EL. E. 983.53
GRATE FRAME NO. 802A GRATE NO. 811
CURB BOX NO. 823A APRON OUTLET EL. 982.47
(48 LIN. FT. 15" R.C. PIPE CL. 3)
(1-15" R.C. PIPE OUTLET APRON)
(13 CU. YDS. CL. 3 RIPRAP AT 18" DEPTH APRON OUTLET)
F. & I. CONC. PIPE TIES

C.B. 9 MOBILE HOME
CONST. C.B. DESIGN "C" 19' LT. STA. 139+25
GRATE EL. 991.49 OUTLET EL. E. 987.39
GRATE FRAME NO. 802A GRATE NO. 811
CURB BOX 823A APRON OUTLET EL. 986.37
(46 LIN. FT. 12" R.C. PIPE CL. 4)
(1-12" R.C. PIPE OUTLET APRON)
(13 CU. YDS. CL. 3 RIRRAP 18" DEPTH APRON OUTLET)
F. & I. CONC. PIPE TIES

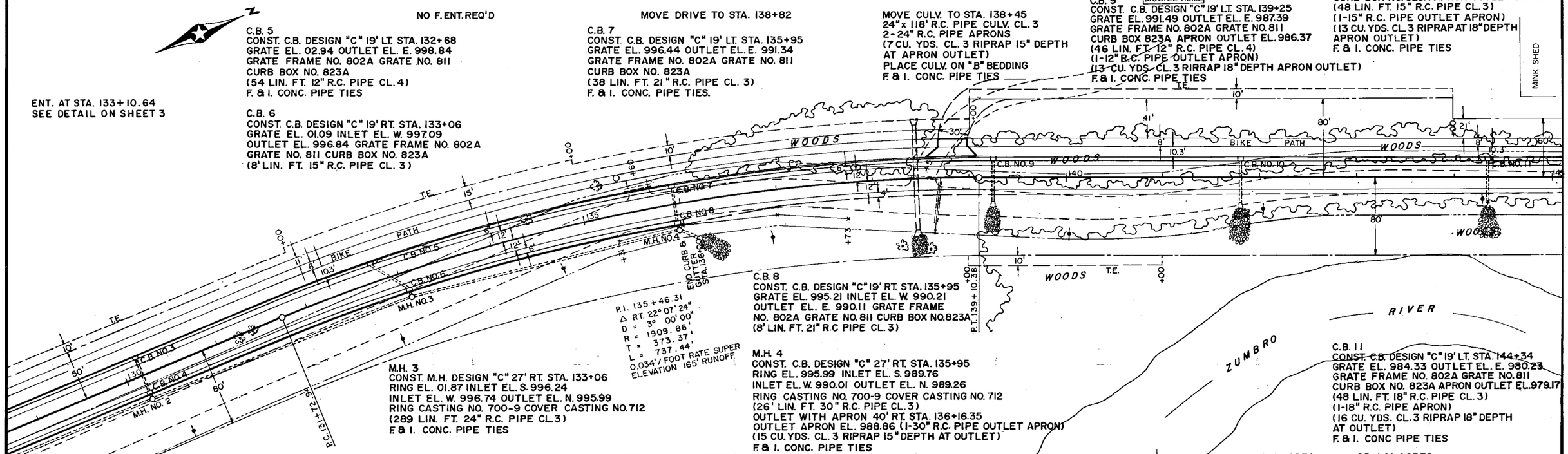
MINK SHED

C.B. 5
CONST. C.B. DESIGN "C" 19' LT. STA. 132+68
GRATE EL. 02.94 OUTLET EL. E. 998.84
GRATE FRAME NO. 802A GRATE NO. 811
CURB BOX NO. 823A
(54 LIN. FT. 12" R.C. PIPE CL. 4)
F. & I. CONC. PIPE TIES

ENT. AT STA. 133+10.64
SEE DETAIL ON SHEET 3

C.B. 6
CONST. C.B. DESIGN "C" 19' RT. STA. 133+06
GRATE EL. 01.09 INLET EL. W. 997.09
OUTLET EL. 996.84 GRATE FRAME NO. 802A
GRATE NO. 811 CURB BOX NO. 823A
(8' LIN. FT. 15" R.C. PIPE CL. 3)

C.B. 7
CONST. C.B. DESIGN "C" 19' LT. STA. 135+95
GRATE EL. 996.44 OUTLET EL. E. 991.34
GRATE FRAME NO. 802A GRATE NO. 811
CURB BOX NO. 823A
(38 LIN. FT. 21" R.C. PIPE CL. 3)
F. & I. CONC. PIPE TIES.



C.B. 8
CONST. C.B. DESIGN "C" 19' RT. STA. 135+95
GRATE EL. 995.21 INLET EL. W. 990.21
OUTLET EL. E. 990.11 GRATE FRAME
NO. 802A GRATE NO. 811 CURB BOX NO. 823A
(8' LIN. FT. 21" R.C PIPE CL. 3)

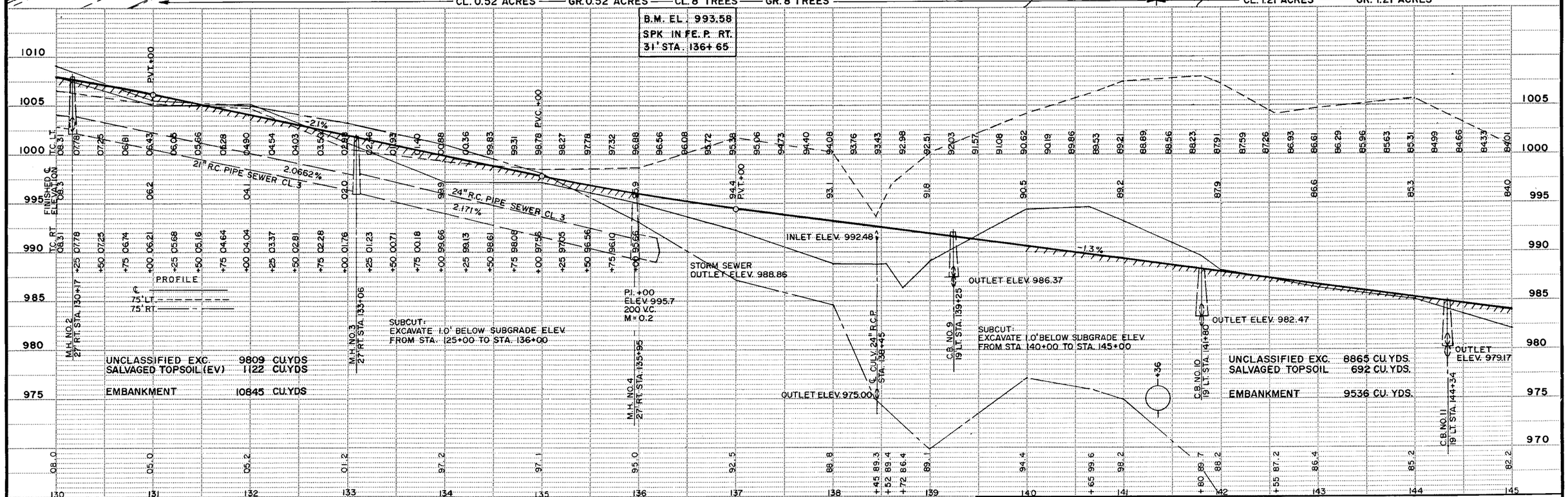
M.H. 3
CONST. M.H. DESIGN "C" 27' RT. STA. 133+06
RING EL. 01.87 INLET EL. S. 996.24
INLET EL. W. 996.74 OUTLET EL. N. 995.99
RING CASTING NO. 700-9 COVER CASTING NO. 712
(289 LIN. FT. 24" R.C. PIPE CL. 3)
F. & I. CONC. PIPE TIES

M.H. 4
CONST. C.B. DESIGN "C" 27' RT. STA. 135+95
RING EL. 995.99 INLET EL. S. 989.76
INLET EL. W. 990.01 OUTLET EL. N. 989.26
RING CASTING NO. 700-9 COVER CASTING NO. 712
(26' LIN. FT. 30" R.C. PIPE CL. 3)
OUTLET WITH APRON 40' RT. STA. 136+16.35
OUTLET APRON EL. 988.86 (1-30" R.C. PIPE OUTLET APRON)
(15 CU. YDS. CL. 3 RIPRAP 15" DEPTH AT OUTLET)
F. & I. CONC. PIPE TIES

C.B. 11
CONST. C.B. DESIGN "C" 19' LT. STA. 144+34
GRATE EL. 984.33 OUTLET EL. E. 980.23
GRATE FRAME NO. 802A GRATE NO. 811
CURB BOX NO. 823A APRON OUTLET EL. 979.17
(48 LIN. FT. 18" R.C. PIPE CL. 3)
(1-18" R.C. PIPE APRON)
(16 CU. YDS. CL. 3 RIPRAP 18" DEPTH AT OUTLET)
F. & I. CONC PIPE TIES

CL. 0.52 ACRES — GR. 0.52 ACRES — CL. 8 TREES — GR. 8 TREES — CL. 1.21 ACRES — GR. 1.21 ACRES

B.M. EL. 993.58
SPK IN FE. P. RT.
31' STA. 136+65



SUBCUT:
EXCAVATE 1.0' BELOW SUBGRADE ELEV.
FROM STA. 125+00 TO STA. 136+00

SUBCUT:
EXCAVATE 1.0' BELOW SUBGRADE ELEV.
FROM STA. 140+00 TO STA. 145+00

UNCLASSIFIED EXC. 9809 CU. YDS
SALVAGED TOPSOIL (EV) 1122 CU. YDS
EMBANKMENT 10845 CU. YDS

UNCLASSIFIED EXC. 8865 CU. YDS.
SALVAGED TOPSOIL 692 CU. YDS.
EMBANKMENT 9536 CU. YDS.

℄ CULV. STA. 148+35
INPL. 4'x6'x30' MASONARY
REMOVE MASONARY BOX CULV.

36"x 118' R.C. PIPE CULV. CL. 3
2-36" R.C. PIPE APRONS
(11 CU. YDS. CL. 3 RIPRAP 18" DEPTH
AT APRON OUTLET.
PLACE CULV. ON "B" BEDDING
F. & I. CONC. PIPE TIES

FARM DR. LT. STA. 149+09
NO CULV. INPL.

NO CULV. REQ'D

C.B. 13
CONST. C.B. DESIGN "C" 19' LT. STA. 149+25
GRATE EL. 978.64 OUTLET EL. E. 974.54
GRATE FRAME NO. 802A GRATE NO. 811
CURB BOX NO. 823A
APRON OUTLET EL. 973.52
(46 LIN. FT. 12" R.C. PIPE CL. 4) (1-12" R.C.P. OUTLET APRON)
(12 CU. YDS. CL. 3 RIPRAP 18" DEPTH AT APRON OUTLET)
F. & I. CONC. PIPE TIES

℄ CULV. STA. 155+53
INPL. 15"x 52' CMP
REMOVE

36" x 112' R.C. PIPE CULV. CL. 3
2-36" R.C. PIPE APRONS
(5 CU. YDS. CL. 3 RIPRAP 18" DEPTH
AT APRON OUTLET)
PLACE CULV. ON "B" BEDDING
F. & I. CONC. PIPE TIES

C.B. 15
CONST. C.B. DESIGN "C" 19' LT. STA. 156
GRATE EL. 981.78 OUTLET EL. E. 977.78
GRATE FRAME NO. 802A GRATE NO. 811
CURB BOX NO. 823A
APRON OUTLET EL. 976.66
(46 LIN. FT. 12" R.C. PIPE CL. 4)
(1-12" R.C. PIPE OUTLET APRON)
(5 CU. YDS. CL. 3 RIPRAP 18" DEPTH AT
APRON OUTLET)
F. & I. CONC. PIPE TIES

C.B. 16
CONST. C.B. DESIGN "C" 19' LT. STA. 159+74
GRATE EL. 986.51 OUTLET EL. E. 982.48
GRATE FRAME NO. 802A GRATE NO. 811
CURB BOX NO. 823A
APRON OUTLET EL. 981.46
(46 LIN. FT. 15" R.C. PIPE CL. 3)
(1-15" R.C. PIPE OUTLET APRON)
(13 CU. YDS. CL. 3 RIPRAP 18" DEPTH
AT APRON OUTLET
F. & I. CONC. PIPE TIES

C.B. 12
CONST. C.B. DESIGN "C" 19' LT. STA. 147+14
GRATE EL. 980.70 OUTLET EL. E. 976.60
GRATE FRAME NO. 802A GRATE NO. 811
CURB BOX NO. 823A
APRON OUTLET E. 975.54
(48 LIN. FT 12" R.C. PIPE CL. 4)
(1-12" R.C. PIPE OUTLET APRON)
(12 CU. YDS. CL. 3 RIPRAP 18" DEPTH
AT APRON OUTLET)
F. & I. CONC. PIPE TIES

C.B. 14
CONST. C.B. DESIGN "C" 19' LT. STA. 153+22
GRATE EL. 980.58 OUTLET EL. E 976.48
GRATE FRAME NO. 802A GRATE NO. 811
CURB BOX NO. 823A
APRON OUTLET EL. 975.54
(42 LIN. FT. 12" R.C. PIPE CL. 4)
(1-12" R.C. PIPE OUTLET APRON)
(12 CU. YDS. CL. 3 RIPRAP 18" DEPTH
AT APRON OUTLET)
F. & I. CONC. PIPE TIES

P.I. 152+94.16
RT. 26° 22' 40"
D - 4° 00' 00"
R - 1432.40'
T - 335.67'
L - 659.45'
E - 38.81'
0.04 I /FT RATE OF SUPERELEVATION
200' RUNOFF

P.C. 149+58.48

P.T. 156+17.93

MINK SHED · HOUSE · WOODS · BIKE PATH · C.B. 12 · C.B. 13 · C.B. 14 · C.B. 15 · C.B. 16 · ZUMBRO R. · RIVER · 10' T.E.

CL. 14 TREES — GR. 15 TRESS — CL. 0.2 ACRES / GR. 0.2 ACRES — CL. 1.19 ACRES GR. 1.19 ACRES — CL. 1.27 ACRES — GR. 1.27 ACRES

B.M. EL. 978.67
SPK IN P.P. LT.
34' STA. 149+44

PROFILE
℄
75' LT.
75' RT.

FINISHED ℄ ELEV.

P.I. + 50.0
ELEV. 978.15
200' V.C.
M = 0.45

P.V.C.

P.V.T.

-1.3%

+0.5%

+1.9%

OUTL. ELEV. 75.54

OUTL. ELEV. 73.52

INLET ELEV. 69.85

OUTL. ELEV. 61.11

INLET ELEV. 80.0

OUTL. ELEV. 75.54

ELEV. 81.4

P.I. + 00
ELEV. 981.9
200' V.C.
M = 0.35

OUTL. ELEV. 76.66

+00 ELEV. 83.8

OUTL. ELEV. 81.46

C.B. NO. 12
19' LT. STA. 147+14

36" R.C. PIPE CULV.
STA. 148+35

C.B. NO. 13
19' LT. STA. 149+25

C.B. NO. 14
19' LT. STA. 153+22

36" R.C. PIPE CULV.
STA. 155+53

C.B. NO. 15
19' LT. STA. 156+48

C.B. NO. 16
19' LT. STA. 159+74

SUBCUT
EXCAVATE 1.0' BELOW SUBGRADE ELEV.
FROM STA. 145+00 TO 147+00

SUBCUT
EXCAVATE 1.0' BELOW SUBGRADE ELEV.
FROM STA. 151+00 TO 154+00

UNCLASSIFIED EXC. 949 CU. YDS.
SALVAGED TOPSOIL 92 CU. YDS.
EMBANKMENT 1024 CU. YDS.

UNCLASSIFIED EXC.	6122 CU. YDS.
SALVAGED TOPSOIL	346 CU. YDS.
EMBANKMENT	6464 CU. YDS.

995 · 990 · 985 · 980 · 975 · 970 · 965 · 960 · 955

(40 MPH)
P.I. 162+93.81
Δ LT. 53°38'57"
D 11° 15'
T 257.54'
L 476.88'
E 61.41'
R 509.2958'
0.06'/FT. RATE SUPERELEVATION
290' RUNOFF

RES. DR. LT. 164+
NO CULV. INPL.
NO CULV. REQ'D.

RES. DR. RT. 165+
NO CULV. INPL.
NO CULV. REQ'D.

RES. DR. RT. 166+16
NO CULV. INPL.
NO CULV. REQ'D.

RES. DR. RT. 166+97
NO CULV. INPL.
NO CULV. REQ'D.

RES. DR. RT. 167+91
NO CULV. INPL.
NO CULV. REQ'D.

C.B. 17
CONST. C.B. DESIGN "C" 19' LT. STA. 164+95
GRATE EL. 987.40 OUTLET EL. N. 983.79
GRATE FRAME NO. 802A GRATE NO. 811
CURB BOX NO. 823A
APRON OUTLET EL. 982.69
(50 LIN. FT. 12" R.C. PIPE CL.4) (1-12" R.C.P. OUTLET APRON)
F. & I. CONC. PIPE TIES

BIKE PATH LT. 168+70
INPL. 12" x 16' C.M.P.
REMOVE

RES. DR. RT. 170+68
NO CULV. INPL.
NO CULV. REQ'D.

RES. DR. RT. 163+98
NO CULV. INPL.

RES. DR. RT. 168+20
NO CULV. INPL.
NO CULV. REQ'D.

RES. DR. RT. 169+70
NO CULV. INPL.
NO CULV. REQ'D.

RES. DR. RT. 171+35
NO CULV. INPL.
NO CULV. REQ'D.

HOUSE C.B. 18
CONST. C.B. DESIGN "C" 19' RT. STA. 168+73
GRATE EL. 978.97 OUTLET EL. W. 974.87
GRATE FRAME NO. 802A GRATE NO. 811
CURB BOX NO. 823A
APRON OUTLET EL. 974.30
(52 LIN. FT. 12" R.C. PIPE CL.4) (1-12" R.C.P. OUT. APRON)
F. & I. CONC. PIPE TIES

C.B. 19
CONST. C.B. DESIGN "C" 19' RT. STA. 172+09
GRATE EL. 973.53 OUTLET EL. W. 969.43
GRATE FRAME NO. 802A GRATE NO. 811
CURB BOX NO. 823A
APRON OUTLET EL. 968.73
(52 LIN. FT. 12" R.C. PIPE CL.4) (1-12" R.C.P. OUT. APRON)
F. & I. CONC. PIPE TIES

B.M. EL. 988.89
SPK. IN T.P. RT.
23' STA. 164+73

B.M. EL. 981.76
SPK. IN T.P. RT.
37' STA. 168+75

PROFILE
75' LT. — — — — —
75' RT. ———————

RES. DR. RT. 172+57
NO CULV. INPL.
NO CULV. REQ'D.

RES. DR. RT. 173+50
NO CULV. INPL.
NO CULV. REQ'D.

GARAGE DR. RT. 174+72
NO CULV. INPL.
NO CULV. REQ'D.

F.E. LT. 184+53
INPL. 18"x32' CMP
NO APRONS
REMOVE

18"x28' C.S. PIPE CULV.
2-18" G.S. PIPE APRONS

P.I. 175+60.94
LT. 58° 09' 00"
D-11° 15' 00"
T-283.18'
L-516.89'
E-73.43'
0.06'/FOOT RATE OF SUPERELEVATION
290' RUN OFF

P.C. 172+77.76

CONST. ℄ CULV. STA. 180+00
24"x72' R.C. PIPE CULV. CL. 2
2-24" R.C. PIPE APRONS
PLACE CULV. ON "B" BEDDING
F&I. CONC. PIPE TIES.

P.T. 177+94.65 = EQUATION 177+43.10

P.C. 185+16.06

P.I. 187+40.46
ΔLT. 26° 26' 53"
D-6° 00'
L-440.80'
T-224.40'
E-26.01'
0.06'/FOOT RATE OF SUPER EL.
290' RUN OFF

END: C133-89-3
STA. 186+00

BERM DRAIN RT. 178+74
INPL. 15"x10' CMP
NO APRONS
REMOVE
NO CULV. REQ'D.

C.B. NO. 19

C.B. NO. 20

C.B. 20
CONST. C.B. DESIGN "C" 19' RT. STA. 175+45
GRATE EL. 968.31 OUTLET EL.W. 964.21
GRATE FRAME NO. 802A GRATE NO. 811
CURB BOX NO. 823A
APRON OUTLET EL. 962.00
(50 LIN. FT. 12" R.C. PIPE CL 4)(1-12" R.C.P. OUTLET APRON)
F&I. CONC. PIPE TIES.

WOODS
RIVER
ZUMBRO
HOUSE
T.B.
E.W.
10' T.E.
15' T.E.

CL. I. 01 ACRES — GR. 1.01 ACRES — CL. 111 TREES — GR. 76 TREES

B.M. EL. 974.53
SPK IN T.P. RT.
37' STA. 173+00

B.M. EL. 957.66
TOP 6" H BEAM
N.W. COR. WING 190196

PROFILE
℄
75' LT.
75' RT.

OUTLET ELEV. 968.73

OUTLET ELEV. 962.00

-1.8 %

-0.46 %

P.V.C. 177+43.53

P.V.T. 179+82.07

P.V.C. 180+00

P.I. 178+42.07
ELEV. 61.1650
300' V.C.
M=0.5025

P.I. 186+00
ELEV. 957.63
300' V.C.
M=0.585

TOP OF WATER

TOP OF RIVER BANK

INLET ELEV. 954.0 ℄
OUTLET ELEV. 953.6

24" R.C.P. CULV.
STA. 180+00

END CONST. STA. 186+00

UNCLASSIFIED EXC. 24,794 CU. YDS.
SALVAGED TOPSOIL 1,917 CU. YDS.
APPROX. EXCESS UNCL. EXC. 4,698 CU. YDS.
EMBANKMENT 22,013 CU. YDS.

SUB CUT
EXCAVATE 1.0' BELOW SUBGRADE ELEV.
FROM STA. 182+00 TO STA. 186+00