B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY	City	SHEET NO.	TOTAL SHEETS
I-96	82124-002	Wayne	Detroit	12	

SPECIAL PROVISIONS

SODDING
CLASS B SOD FOR THIS PROJECT SHALL BE OBTAINED FROM UPLAND GRASSED AREAS.

CLASS B SODDING IS CALLED FOR IN THESE PLANS; HOWEVER, THE BEDS SHALL BE TRIMMED WITHIN TOLERANCES SPECIFIED FOR CLASS A SLOPES.

WHERE PEGGING IS REQUIRED, THE SOD SHALL BE PEGGED WITH WOODEN PEGS.

OPEN HEARTH SLAG
OPEN HEARTH SLAG WILL NOT BE PERMITTED AS AN ALTERNATE FOR GRANULAR MATERIAL CLASS II DESIGNATED AS BACKFILL FOR SEWER TRENCHES WHERE OPEN JOINT SEWER HAS BEEN INSTALLED.

GRADES FOR INTERSECTIONS
ALL INTERSECTIONS ARE TO BE CONSIDERED AS COMPLETE UNITS AND THEIR GRADES DETERMINED BEFORE CONSTRUCTION IS STARTED.

TRANSVERSE JOINTS IN CONCRETE BASE COURSE
TRANSVERSE PLANE OF WEAKNESS JOINTS SHALL BE PLACED IN LINE AT ALL JOINTS IN THE EXISTING PAVEMENT. WHERE WIDTH OF BASE COURSE IS 8 FEET OR GREATER, ADDITIONAL PLANE OF WEAKNESS JOINTS SHALL BE PLACED IN THE WIDENING AT INTERVALS OF 30 FEET.

HAND FINISHING
HAND FINISHING ACCORDING TO 4.14.19-a-2 OF THE STANDARD SPECIFICATIONS WILL BE PERMITTED ON INTERSECTIONS OUTSIDE OF THE NORMAL TRAFFIC LANES.

UTILITY STRUCTURES
IF UTILITY STRUCTURES BUILT IN THIS CONTRACT REQUIRE LATER ADJUSTING OR RECONSTRUCTING TO MEET FINAL GRADE, THE ADJUSTING OR RECONSTRUCTING SHALL BE INCIDENTAL TO THE UTILITY STRUCTURE AND WILL NOT BE PAID FOR SEPARATELY, UNLESS OTHERWISE NOTED ON THE PLANS.

EXPANSION JOINTS IN CONCRETE CURB & GUTTER AND VALLEY GUTTER
ONE-INCH EXPANSION JOINTS SHALL BE PLACED IN THE CONCRETE CURB AND GUTTER OR VALLEY GUTTER AT ALL EXPANSION JOINTS, CONTRACTION JOINTS AND END OF POUR JOINTS IN THE ABUTTING CONCRETE PAVEMENT.

PUBLIC UTILITIES

THE EXISTING UTILITIES LISTED BELOW AND SHOWN ON THESE PLANS REPRESENT THE BEST INFORMATION AVAILABLE AS OBTAINED ON OUR SURVEYS DATED MAY, 1965. THIS INFORMATION DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY TO SATISFY HIMSELF AS TO THEIR ACCURACY OR OF HIS RESPONSIBILITY IN CASE UTILITIES HAVE BEEN CONSTRUCTED OR REMOVED SINCE THE ABOVE SURVEY DATE.

TYPE OF UTILITY	OWNER	
WATER MAINS	DEPARTMENT OF WATER SUPPLY	DETROIT
SEWERS	DEPARTMENT OF WATER SUPPLY	DETROIT
LIGHTING	PUBLIC LIGHTING COMMISSION	DETROIT
FIRE	DETROIT FIRE DEPARTMENT	DETROIT
POLICE	DETROIT POLICE DEPARTMENT	DETROIT
ELECTRIC	DETROIT EDISON COMPANY	DETROIT
TELEPHONE	MICHIGAN BELL TELEPHONE CO.	DETROIT
GAS	MICH. CONSOLIDATED GAS CO.	DETROIT

THE OWNERS OF EXISTING POLES AND OTHER SERVICE STRUCTURES THAT ARE WITHIN GRADING LIMITS AND THAT WILL INTERFERE WITH CONSTRUCTION OPERATIONS WILL MOVE THEM TO LOCATIONS DESIGNATED BY THE ENGINEER OR WILL REMOVE THEM ENTIRELY FROM THE HIGHWAY RIGHT OF WAY.

OWNERS OF PUBLIC UTILITIES WILL NOT BE REQUIRED BY THE DEPARTMENT TO MOVE ADDITIONAL POLES AND STRUCTURES THAT ARE NOT WITHIN GRADING OR STRUCTURE LIMITS IN ORDER TO FACILITATE THE OPERATION OF CONSTRUCTION EQUIPMENT, UNLESS IT IS DETERMINED BY THE ENGINEER THAT SUCH POLE LINE OR STRUCTURES CONSTITUTE A HAZARD TO THE PUBLIC OR ARE EXTRAORDINARILY DANGEROUS TO THE CONTRACTOR'S OPERATIONS.

GENERAL PLAN NOTES

POLES

NO POLES WILL BE PERMITTED WITHIN THE RIGHT OF WAY ALONG THIS PROJECT EXCEPT AS AUTHORIZED BY THE ENGINEER.

MISCELLANEOUS ESTIMATES

THE FOLLOWING ITEMS OF WORK SHALL BE DONE AS THEY APPLY THROUGHOUT THE PROJECT. THESE ITEMS ARE NOT DETAILED OR INCLUDED ON THE PLAN AND PROFILE SHEETS.

CONTROL SECTION	82124A	82194L	TOTALS	UNITS
FINAL TRIM AND CLEANUP	795	111.07	119.02	TOTAL STAS.
MAINTAINING TRAFFIC	LUMP SUM	LUMP SUM	LUMP SUM	LUMP SUM
CLASS I SEEDING * *				ACRES
UREA NITROGEN FERTILIZER * *				LBS.
WATER (1000 GAL UNITS)	14	148	162	UNITS
CHEMICAL FERTILIZER * *				LBS.
CALCIUM CHLORIDE	3	35	38	TONS
CONTRACTION JOINTS	430	1494	1924	LIN. FT.
EXPANSION JOINTS	507	1405	1912	LIN. FT.
END OF POUR JOINT	67	4	71	LIN. FT.
FIELD OFFICE - CONCRETE PROPORTIONING NON-FEDERAL PARTICIPATION		1	1	EACH
FIELD OFFICE - BRIDGE NON-FEDERAL PARTICIPATION		1	1	EACH
FIELD OFFICE - BITUMINOUS NON-FEDERAL PARTICIPATION		1	1	EACH
PROTECTIVE FENCE *		238	238	LIN. RODS

THE FOLLOWING ITEMS ARE ESTIMATED FOR THE ENTIRE PROJECT TO CORRECT POSSIBLE UNSTABLE SUBGRADE CONDITIONS WHERE DESIGNATED BY THE ENGINEER.

CONTROL SECTION	82124A	82194L	TOTALS	UNITS
SUBGRADE UNDERCUTTING	500	4500	5000	CYDS
SUBBASE (COMPACTED IN PLACE)	500	4500	5000	CYDS
6" EDGE DRAINS		350	350	LIN. FT.
6" BANK DRAINS		1000	1000	LIN. FT.
6" CLASS A SEWER, TRENCH DETAIL 1 (FOR BANK DRAINS & WEEPER DRAINS)		370	370	LIN. FT.
GRANULAR BLANKET	50	350	400	CYDS
SELECT CLAY BACKFILL (COMPACTED IN PLACE)				CYDS
GRANULAR MATERIAL-CLASS II (COMPACTED IN PLACE)				CYDS
WASTE	550	4850	5400	CYDS

* INCIDENTAL TO THE PROJECT

* * HIGHWAY BEAUTIFICATION ITEMS

NOTES APPLYING TO STANDARD PLANS

Where the following items are called for on plans, they are to be constructed according to the Standard Plan given below opposite each item unless otherwise Indicated.

Special Headwalls, Concrete Rings, Edge Drains And Bank Drains	E-4-A-9F	
Tree Well, Granular Blanket, Sodding And Ditch Turnout	E-4-A-10D	
Pavement Reinforcement	E-4-A-21G	
Track Crossings	E-4-A-22D	Except that the depth of the header shall be 8" instead of 15"
Grading Cross Sections (Rural)	E-4-A-26E	
Cover A	E-4-A-27A-3	
Cover C	E-4-A-27C-5	
Cover D	E-4-A-27D-4	
Cover E	E-4-A-27E-3	
Cover F And Monument Box (Monument Boxes Furnished By The State)	E-4-A-27F-3	
Cover G	E-4-A-27G-4	
Cover H	E-4-A-27H	
Cover J	E-4-A-27J	
Cover K	E-4-A-27K	
Cover L	E-4-A-27L	
Cover M	E-4-A-27M	
Cover P	E-4-A-27P	
Manholes, Catchbasins And Inlets	E-4-A-27R-4	
Treatment of Peat Marshes	E-4-A-28F	
Concrete Curb-Curb And Gutter-Gutter-Driveway Return And Header	E-4-A-29F	
Concrete Pavement Joints	Acc. to Spec. Details	
Beading And Filling Around Pipe Culverts	E-4-A-36C	
Utility Trenches	According to Special Detail	
Superelevation And Pavement Crowns	E-4-A-49C	Except that rate of superelevation is to be as called for on plans
Two Cable Guard Rail	E-4-A-75C-2	
Right of Way Markers	E-4-A-76A	
Mail Box Turnouts, 4" & 7" Concrete Sidewalk Concrete Pavement 7" Uniform, Cobble Gutters and Reverse Curves	E-4-A-110C	
Concrete Curve Header	E-4-A-125	
Typical Joint Layout	E-4-A-127C	
Concrete Shoulder Gutter and Spillway	E-4-A-128	
Sewer Trap	E-4-A-129A	
Dowel Bar Assemblies for Load Transfer at Transverse Joints	E-4-A-130G	
Concrete Steps	E-4-A-132A	
Bridge Approach Curb and Gutter	According to Special Details	
Location of Transverse Expansion & Contraction Joints in Concrete Pavement	E-4-A-135C	
Beam Guard Rail - Type A	According to Special Details	
Beam Guard Rail - Type B	According to Special Details	
Beam Guard Rail - Type BD	According to Special Details	
Corrugated Concrete Divider	E-4-A-141	
Location of Guard Rail at Strustures(Rural Highways)	According to Special Details	
Wooden Bumper Rail & Rest Area Guard Posts	E-4-A-143A	
Concrete Spillway Header	E-4-A-144	
Concrete Nose Detail for Urban Freeways	According to Special Details	
Manhole for Use With 48" to 120" Sewers	E-4-A-147A	
Beam Guard Rail - Type C	According to Special Details	
Beam Guard Rail - Type CD	According to Special Details	
Guard Rail Anchorage	According to Special Details	
Headwalls for 12" to 36" Diameter Circular Culverts	E-13-A-1E	
Headwalls for Reinforced Elliptical Conc. Culverts	E-13-A-2C	
Precast Concrete End Section for Pipe Culverts	E-13-A-3C	
Metal End Sections for Circular CMP	E-13-A-4B	
Headwalls for 42" to 48" Corrugated Metal & Rein. Circular Pipe Culvert	E-13-A-42-48B	
Headwalls for 54" to 60" Corrugated Metal & Rein. Circular Pipe Culvert	E-13-A-54-60B	
Headwalls for 72" to 84" Corrugated Metal & Reinf. Circular Pipe Culvert	According To Special Detail	
Concrete Slab Culverts	E-14-A Series	
Concrete Box Culverts	E-14-B Series	
Concrete Street Lighting Standards	E-18-A-1	
Aluminum Street Lighting Standards	E-18-A-2	
Steel Street Lighting Stanuards	E-18-A-3	
Electrical Conduit Details	E-18-A-4	
Barricades	According to Special Details	
Truss Foundation, Type B & C	According to Special Details	
Truss Foundation, Type D	According to Special Details	
Continuous Reinforced Concrete Pavement	According to Special Details	
Concrete Median Barrier	According to Special Details	
Structure Guard Rail Anchorage	According to Special Details	

NOTES AND SPECIAL PROVISIONS

82124-002	STATE PROJECT	ROUTE	SHEET NO.
	82124-002	I-96	12

C.B.M. #7 Elev. 121.88 DET. on Flange of Hydrant S.W. corner Myrtle St. and Williams Avenue.*

C.B.M. #6 Elev. 121.72 DET. on Flange of Hydrant S.W. corner Ash St. and Williams Avenue.*

S.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY		SHEET NO.	TOTAL SHEETS

S.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY	C-W	SHEET NO.	TOTAL SHEETS
I-96	82124002	Wayne	Contract	13	

CURVE DATA FOR N'BD JEFFRIES

Curve #2

Δ = 18°-27'-59"
D = 3°-00'-00"
R = 1909.86'
T = 310.47'
L = 615.55'
E = 25.07'
P.C. = 1290+58.06
P.I. = 1293+68.53
P.T. = 1296+73.61

CURVE DATA FOR S'BD JEFFRIES

Curve #2

Δ = 7°52'-52"
D = 2°-53'-17.06"
R = 1983.86'
T = 136.66'
L = 272.89'
E = 4.70'
P.C. = 1293+28.51
P.I. = 1294+65.17
P.T. = 1296+01.40

CURVE DATA FOR EAST SERVICE DR.

Curve #1	Curve #2
Δ = 17°-45'-01"	Δ = 4°-00'-42"
D = 8°-00'-00"	D = 5°-00'-00"
R = 716.20'	R = 1145.92'
T = 111.84'	T = 40.13'
L = 221.88'	L = 80.23'
E = 8.70'	E = 0.70'
P.C. = 1259+29.93	P.C. = 1267+09.84
P.I. = 1260+41.77	P.I. = 1267+49.97
P.T. = 1261+51.81	P.T. = 1267+90.07

CURVE DATA FOR WEST SERVICE DR.

Curve #1	Curve #2
Δ = 10°-45'-27"	Δ = 7°-26'-00"
D = 4°-22'-0886"	D = 4°-00'-00"
R = 1311.38'	R = 1432.39'
T = 123.47'	T = 93.05'
L = 246.22'	L = 185.83'
E = 5.80'	E = 3.02'
P.C. = 278+67.89	P.C. = 287+75.66
P.I. = 279+91.36	P.I. = 288+68.71
P.T. = 281+14.10	P.T. = 289+61.50

CURVE DATA FOR W'BD FISHER TO N'BD JEFFRIES

Curve #1

Δ = 2°-02'-36"
D = 3°-05'-11.62"
R = 1856.30'
T = 33.10'
L = 66.20'
E = 0.90'
P.C. = 0+00.00
P.I. = 0+33.10
P.T. = 0+66.20

CURVE DATA FOR MYRTLE ENT. RAMP

Curve #2

Δ = 7°-18'-18"
D = 6°-15'-00"
R = 916.73'
T = 58.52'
L = 116.88'
E = 1.87'
P.C. = 278+73.42
P.I. = 279+31.94
P.T. = 279+90.30

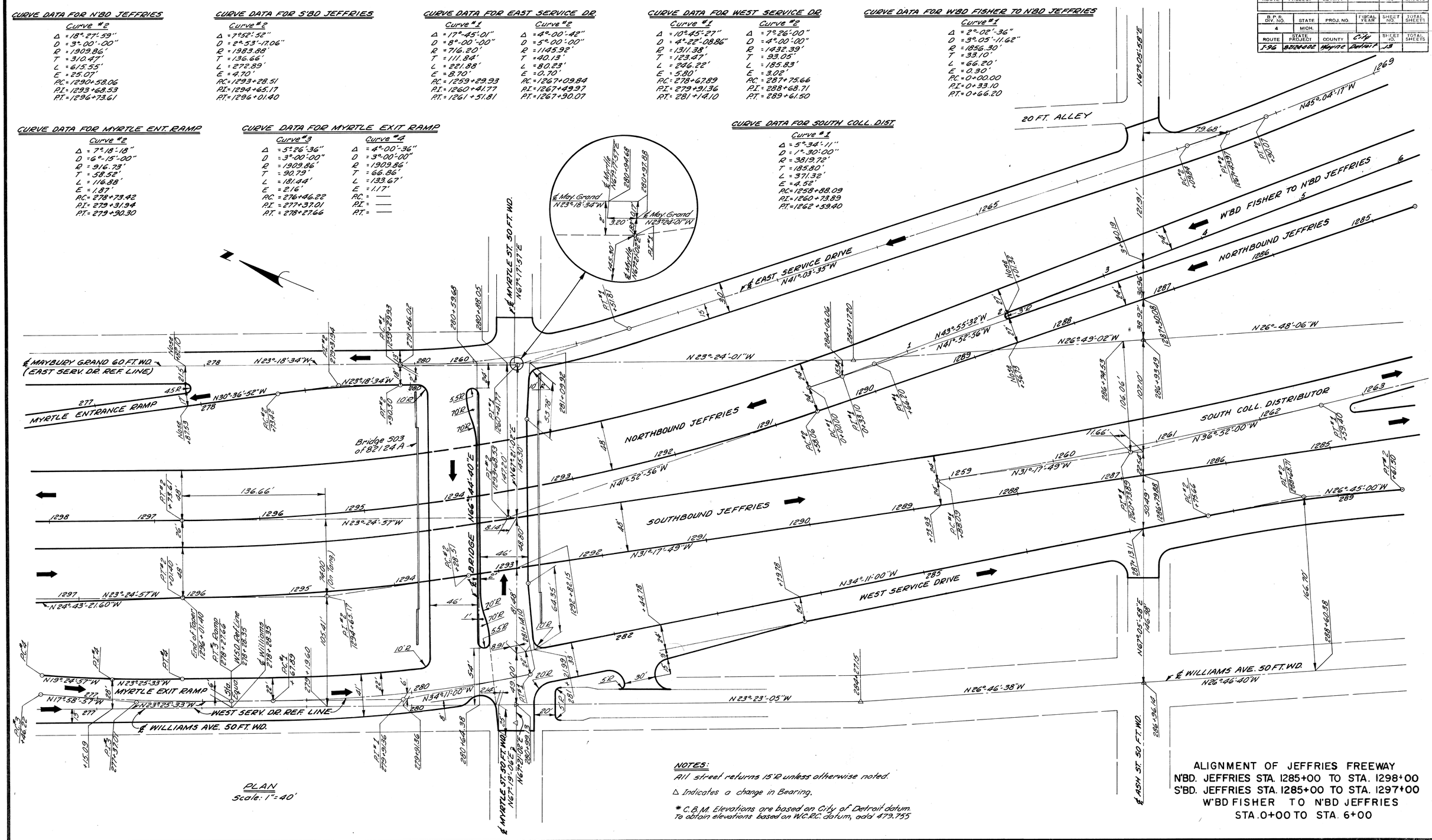
CURVE DATA FOR MYRTLE EXIT RAMP

Curve #3	Curve #4
Δ = 5°-26'-36"	Δ = 4°-00'-36"
D = 3°-00'-00"	D = 3°-00'-00"
R = 1909.86'	R = 1909.86'
T = 90.79'	T = 66.86'
L = 181.44'	L = 133.67'
E = 2.16'	E = 1.17'
P.C. = 276+46.22	P.C. = ——
P.I. = 277+37.01	P.I. = ——
P.T. = 278+27.66	P.T. = ——

CURVE DATA FOR SOUTH COLL. DIST.

Curve #1

Δ = 5°-34'-11"
D = 1°-30'-00"
R = 3819.72'
T = 185.80'
L = 371.32'
E = 4.52'
P.C. = 1258+88.09
P.I. = 1260+73.89
P.T. = 1262+59.40


℄ MAYBURY GRAND 60 FT. WD. (EAST SERV. DR. REF. LINE)
MYRTLE ENTRANCE RAMP
℄ MYRTLE ST. 50 FT. WD.
℄ EAST SERVICE DRIVE
NORTHBOUND JEFFRIES
W'BD FISHER TO N'BD JEFFRIES
20 FT. ALLEY
SOUTH COLL. DISTRIBUTOR
SOUTHBOUND JEFFRIES
WEST SERVICE DRIVE
MYRTLE EXIT RAMP
WEST SERV. DR. REF. LINE
℄ WILLIAMS AVE. 50 FT. WD.
℄ ASH ST. 50 FT. WD.
Bridge 503 of 82124A
℄ BRIDGE
N 23°-18'-34" W
N 23°-24'-01" W
N 30°-36'-52" W
N 41°-03'-35" W
N 41°-52'-56" W
N 31°-17'-49" W
N 26°-48'-06" W
N 26°-49'-02" W
N 26°-45'-00" W
N 34°-11'-00" W
N 23°-24'-57" W
N 23°-25'-33" W
N 23°-23'-05" W
N 26°-46'-38" W
N 26°-46'-40" W
N 24°-43'-21.60" W
N 19°-24'-57" W
N 11°-58'-57" W
N 67°-05'-58" E
N 67°-17'-57" E
N 66°-44'-40" E
N 45°-04'-17" W
N 36°-52'-00" W
N 54°-11'-00" W
N 62°-19'-04" E
N 62°-21'-02" E
℄ Myrtle 1607+73.52
℄ Mey. Grand N 23°-18'-34" W
℄ Mey. Grand N 23°-24'-01" W
℄ Myrtle N 67°-17'-57" E
P.C. #1 1260+25.93
P.T. #1 1260+86.02
P.C. #2 1293+28.51
P.T. #2 1296+01.40
P.C. #3 278+27.66
P.T. #3 278+73.42
℄ Williams 278+28.35
N.S.O. Per Line 278+28.35
P.C. #1 279+67.59
P.T. #1 279+90.30
End of Taper 1296+01.40
P.C. #1 1294+65.17
P.T. #1 1296+65.11
P.C. #2 1293+28.51
P.T. #2 1296+73.67
P.C. #1 1260+73.89
P.T. #1 1261+51.81
P.C. #2 1293+68.33
P.T. #2 1296+01.40
P.C. #1 1260+41.77
P.T. #1 1260+51.77
P.C. #2 1267+09.84
P.T. #2 1267+90.07
P.C. #1 1259+29.93
P.T. #1 1259+39.93
P.C. #1 1258+88.09
P.T. #1 1259+19.36
P.C. #2 1267+49.97
P.T. #2 1267+61.50
P.C. #1 1260+73.89
P.T. #1 1261+51.81
P.C. #2 1267+49.97
P.T. #2 1267+90.07
P.C. #1 1260+73.89
P.T. #1 1261+51.81
P.C. #2 1267+09.84
P.T. #2 1267+61.50

C.B.M.#1 Elev. 121.75 DET. on Flange of Hyd. N.E. corner Michigan Ave. & Tillman Ave.*

C.B.M.#2 Elev. 121.43 Arrow on Hydrant W side of Williams Ave. 345'5 of Butternut St.*

C.B.M.#5 Elev. 122.28 DET. on Flange of Hyd. W side of Williams Ave. 295'5 of Ash St.*

B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY		SHEET NO.	TOTAL SHEETS

B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY	City	SHEET NO.	TOTAL SHEETS
I-96	8924-002	Wayne	Detroit	14	

CURVE DATA FOR S'BD JEFFRIES

Curve #1

Δ = 21°-59'-45"
D = 2°-45'-00"
R = 2083.48'
T = 404.91'
L = 799.85'
E = 38.98'
P.C.= 1271+98.24
P.I.= 1276+03.15
P.T.= 1279+98.09

CURVE DATA FOR SOUTH COLL. DIST.

Curve #2

Δ = 35°-00'-00"
D = 4°-00'-00"
R = 1432.39'
T = 451.63'
L = 875.00'
E = 69.51'
P.C.= 1266+39.84
P.I.= 1270+91.47
P.T.= 1275+14.84

CURVE DATA FOR WEST SERVICE DR.

Curve #3

Δ = 7°-52'-00"
D = 15°-00'-00"
R = 381.97'
T = 26.26'
L = 52.44'
E = 0.90'
P.C.= 297+99.63
P.I.= 298+25.90
P.T.= 298+52.08

CURVE DATA FOR N'BD. JEFFRIES

Curve #1

Δ = 29°-58'-43"
D = 4°-45'-00"
R = 1206.23'
T = 322.97'
L = 631.13'
E = 42.49
P.C.= 1278+26.93
P.I.= 1281+49.90
P.T.= 1284+58.06

NOTES:

*C.B.M. Elevations are based on City of Detroit datum. To obtain elevations based on W.C.P.C. datum, add 479.755'.

All street returns 15'R unless otherwise noted.

All alley returns 10'R unless otherwise noted.

Δ Indicates a change in Bearing.

For Survey Points (Symbol ⊙) See Jeffries Freeway Horizontal Control Traverses.

PLAN
Scale: 1"=40'

ALIGNMENT OF JEFFRIES FREEWAY
N. COLL. DIST. TO N'BD JEFFRIES
STA. 1268+18.13 TO STA. 1273+00
W'BD FISHER TO N'BD JEFFRIES
STA. 6+00 TO STA. 11+00
S. COLL. DIST. STA. 1263+00 TO STA. 1271+00
N'BD & S'BD JEFFRIES
STA. 1272+00 TO STA. 1285+00

Auth # ___

FILE NO. 286 NO. 330 STENCIL		STATE PROJECT	FEDERAL PROJECT	SHEET NO.
	82124-002	8924-002	I-96	14

B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY		SHEET NO	TOTAL SHEETS

B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY	City	SHEET NO.	TOTAL SHEETS
I-96	82124-002	Wayne	Detroit	15	

C.B.M. #3 Elev. 123.08 Arrow on Hydrant N.E. corner Lawton St. & Butternut St. *

C.B.M. #4 Elev. 123.76 DET. on Flange of Hyd. S.E. corner Humboldt Ave. & Butternut St. *

E. LAWTON AVE. 60 FT. WD.
N 24°-08'-17" W

E. HUMBOLDT AVE. 60 FT. WD.
N 22°-42'-32" W

E. BUTTERNUT ST. 50 FT. WD.
N 61°-14'-13" E

18 TH ST. 60 FT. WD.

20 FT. ALLEY

By Auth. #

Traverse Line
N 67°-10'-58" E

Traverse Line
N 24°-07'-01" W

E. EAST SERVICE DR.

N. COLL. DIST. TO N'BD JEFFRIES

W'BD FISHER TO N'BD JEFFRIES

N. COLL. DIST. TO W'BD. FISHER

W'BD. FISHER

SOUTH COLLECTOR DISTRIBUTOR

N 88°-29'-05" W

N 89°-42'-07" W

N 87°-51'-46" E

N 71°-52'-00" W

N 36°-32'-00" W

N 14°-02'-00" E

N 63°-55'-32" W

N 24°-07'-01" W

To # 284

To # 273

P.C. 1273+55.66

P.T. #3 1274+46.45

P.T. #2 1273+50.43

P.T. #2 1270+91.47

P.C. #4 0+00.00

P.T. #3 1279+20.14

P.C. #2 1266+39.84

P.T. #3 1279+20.14

P.T. #4 2+26.73

P.T. #3 1283+14.85

P.T. #4 4+40.00

P.C. 1268+18.13

P.T. 1278+35.38

P.C. 1269+90.28

P.T. 1278+58.54

P.C. 6+66.79

P.T. 19+52.44

CURVE DATA FOR EAST SERVICE DR.

Curve # 3

Δ = 43°-24'-48"
D = 5°-00'-00"
R = 1145.92'
T = 456.17'
L = 868.27'
E = 87.46'
P.C. = 1269+90.28
P.I. = 1274+46.45
P.T. = 1278+58.54

CURVE DATA FOR N. COLL. DIST. TO N'BD. JEFFRIES

Δ = 45°-46'-35"
D = 4°-30'-00"
R = 1273.24'
T = 537.53'
L = 1017.25'
E = 108.82'
P.C. = 1268+18.13
P.I. = 1273+55.66
P.T. = 1278+35.38

CURVE DATA FOR W'BD. FISHER TO N'BD. JEFFRIES

Curve #2

Δ = 48°-12'-42"
D = 3°-45'-00"
R = 1527.89'
T = 683.64'
L = 1285.65'
E = 145.97'
P.C. = 6+66.79
P.I. = 13+50.43
P.T. = 19+52.44

CURVE DATA FOR SOUTH COLLECTOR DISTRIBUTOR

Curve #2	Curve #3	Curve #4
Δ = 35°-00'-00"	Δ = 22°-40'-01"	Δ = 34°-06'-00"
D = 4°-00'-00"	D = 2°-30'-00"	D = 7°-45'-00"
R = 1432.39'	R = 2022.20'	R = 739.30'
T = 451.63'	T = 405.30'	T = 226.73'
L = 875.00'	L = 800.01'	L = 440.00'
E = 69.51'	E = 40.22'	E = 33.99'
P.C. = 1266+39.84	P.C. = 1275+14.84	P.C. = 0+00.00
P.I. = 1270+91.47	P.I. = 1279+20.14	P.I. = 2+26.73
P.T. = 1275+14.84	P.T. = 1283+14.85	P.T. = 4+40.00

PLAN
Scale: 1" = 40'

NOTES:
All street returns 15'R unless otherwise noted.
All alley returns 10'R unless otherwise noted.
△ Indicates a change in Bearing.
For Survey Points (Symbol ⊙) See Jeffries Freeway Horizontal Control Traverses.
* C.B.M. Elevations are based on City of Detroit datum. To obtain elevations based on W.C.R.C. datum, add 479.755'.

ALIGNMENT OF JEFFRIES FREEWAY
N. COLL. DIST. TO N'BD JEFFRIES
STA. 1272+00 TO STA. 1283+00
W'BD. FISHER TO N'BD. JEFFRIES STA. 10+00 TO STA. 19+00
S. COLL. DIST. STA. 1271+00 TO STA. 1279+00

Auth. #

FILE NO. LINE NO. 350 STENCIL	82124-002	STATE PROJECT	FEDERAL PROJECT	SHEET NO
		82124-002	I-96	15

QUANTITIES THIS SHEET

ITEM	CONT. SECT. 82124-A	CONT. SECT. 82194-L	UNIT
Removing Trees 8"-12" Dia. Auth. 1025	3	34	Each
Removing Trees 13"-24" Dia.	—	45	Each
Removing Trees 25"-36" Dia. Auth. 1025	—	14	Each
Removing Stumps 8"-12" Dia. Auth. 1025	—	2	Each
Removing Stumps 13"-24" Dia. Auth. 1025	—	2	Each
*Removing Old Pavement Auth. 1025	2,621	7,453	Sq. Yds.
Removing Old Pavement (Patching) Auth. 1025	393	468	Sq. Yds.
Removing D.S.R. Track Strip Auth. 1025	351	—	Sq. Yds.
Removing Sidewalks Auth. 1025, 1026	456	2,654	Sq. Yds.
Removing Curb Auth. 1025, 1026	106	29	Lin. Ft.
Removing Underground Storage Tanks Auth. 1025	3	2	Each
Aggregate Base Auth. 1025	213	390	Tons
Abandoning Catch Basins	6	3	Each
Concrete Curb, Detail 'A' Auth. 1025, 1026, 1027, 1033	27	—	Lin. Ft.
Pavement Replacement Auth. 1030	49	4	Sq. Yds.
Patching Pavement with Bituminous Materials	32	58	Tons
Concrete Pavement Patching Auth. 1025, 1027	31	—	Sq. Yds.
Temporary Concrete Sidewalk Auth. 1025, 1027	298	385	Sq. Ft.

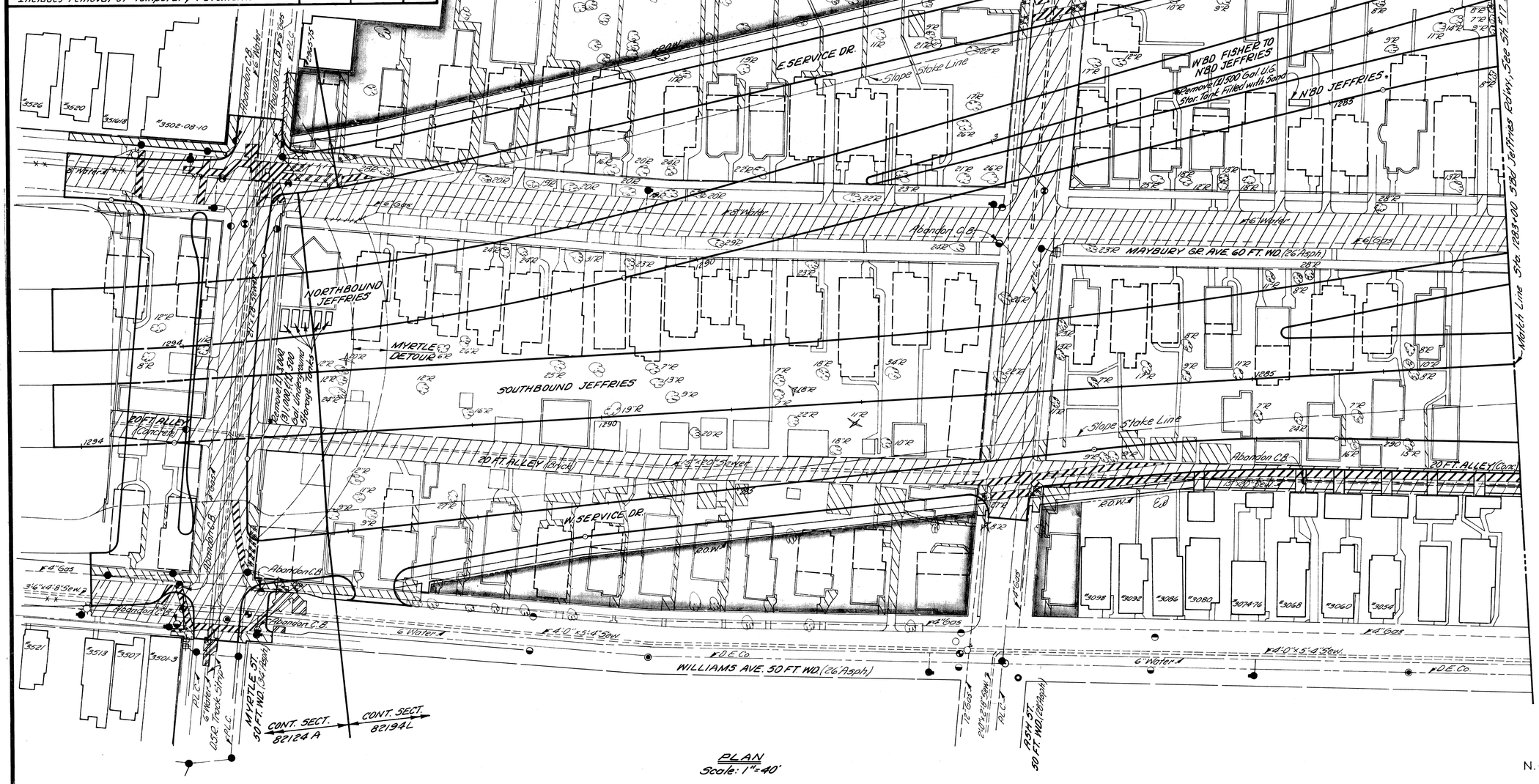
* Includes removal of Temporary Pavement.

NOTE "A": The following Items & Quantities are req'd. for the restoration of Areas adjacent to highway limits. These Quantities are included in Totals listed under Quantities this Sheet & "Earthwork."

ITEM	CONT. SECT. 82124-A	CONT. SECT. 82194-L	UNIT
Removing Old Pavement	—	53	Sq. Yds.
Removing Sidewalks	—	1,123	Sq. Yds.
EARTHWORK			
Earth Excav. (Incl. Debris Removal)	4	1,221	Cu. Yds.
Select Clay Backfill (C.I.P.)	4	1,221	Cu. Yds.

EARTHWORK

ITEM	CONT. SECT. 82124-A	CONT. SECT. 82194-L	UNIT
Earth Excav. (Incl. Debris Removal)	611	3,753	Cu. Yds.
Granular Matl. Class IV (C.I.P.)	59	20	Cu. Yds.
Select Clay Backfill (C.I.P.)	611	3,753	Cu. Yds.



PLAN
Scale: 1" = 40'

REMOVAL ITEMS
N. OF MYRTLE ST. TO S. OF ASH ST.

B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY		SHEET NO.	TOTAL SHEETS

B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY	City	SHEET NO.	TOTAL SHEETS
I-96	82124-002	Wayne	Detroit	16	

LEGEND FOR ALL REMOVAL SHEETS

- Removing Trees ..... (Size) R
- Removing Stumps ..... (Size) R
- Removing Curb
- Removing Old Pavt. (Patching) with 7" Conc. Sd'wk. Replacement
- Removing Old Pavement and Thick Slabs
- Removing Old Pavt. (Patching) with Pavement Replacement
- Removing Old Pavt. (Patching) with Conc. Pavement Patching
- Removing Old Pavt. (Patching) with Patching Pavt. with Bit. Matls.
- Removing Sidewalk
- Removing Sidewalk with Sidewalk Replacement
- Removing Sidewalk with Temp. Concrete Sidewalk Replacement
- Existing Foundation Wall
- Existing Basement
- Existing Concrete Slab
- Proposed Pavement
- Proposed Sidewalk
- Roadside Beautification Area (See Note "A")

NOTES:

1. The Removal of Trees less than 8" in Diameter, Various Posts, Poles & Columns is Incidental to the Cont.
2. For Typical Cross Sections of Embankment & Backfill, See Sh. # 11.
3. The location of Underground Storage Tanks Noted Thusly (**) is unknown.
4. For Utility Legend, See Sh. # 44.

FILE NO. USE NO. 350 STENCIL	82124-002	STATE PROJECT	FEDERAL PROJECT	SHEET NO.
		M44-082	I-96	16

PLANS PREPARED BY / CITY OF DETROIT / DEPT. OF PUBLIC WORKS / BUREAU OF ENGINEERS & / HIGHWAYS AND EXPRESSWAYS

3/68 W. McLean
3/68 W. Polito
3/68 R. Conn's
Allen Nelson

B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY		SHEET NO.	TOTAL SHEETS

B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY	City	SHEET NO.	TOTAL SHEETS
I-96	82124-002	Wayne	Detroit	17	

ALL WORK THIS SHEET CONTROL SECTION 82194 L

QUANTITIES THIS SHEET

A.1023	Removing Trees, 8"-12" Dia.	~~44~~ 36	Each
A.1023	Removing Trees, 13"-24" Dia.	~~53~~ 47	Each
A.1023	Removing Trees, 25"-36" Dia.	~~13~~ +	Each
A.1023	Removing Stumps, 8"-12" Dia.	0 +	Each
A.1023	Removing Stumps, 25"-36" Dia.	0 +	Each
A.1023	Removing Old Pavement	~~8585~~	Sq.Yds.
A.1023	Removing Old Pavt.(Patching)	~~479~~	Sq.Yds.
A.1023	Removing Masonry and Concrete Structures	~~46~~ 26	Cu.Yds.
A.1023	Removing Sidewalks	~~62~~ + 190	Sq.Yds.
A.1014	Abandoning Catch Basins	~~2~~ +	Each
A.1014	Abandoning Sewer Manholes	~~1~~ +	Each
A.1030	Pavement Replacement	~~22~~ +	Sq.Yds.
A.1028	Patching Pavement with Bituminous Materials	~~4~~ 61	Tons
A.1027	Temporary Conc. Sidewalk	~~8~~ 60	Sq.Ft.
A.1023	Aggregate Base	~~141~~	Tons
A.1023	Rem. Stumps-13-24"	4	

EARTHWORK:

Earth Excavation (Incl. Debris Removal) A.1030	~~516~~ 6,856	Cu.Yds.
Granular Matl. Cl II (C.I.P.)	13	Cu.Yds.
Select Clay Backfill (C.I.P.) A.1030	~~6,856~~ 516	Cu.Yds.

NOTE "A":

The following Items & Quantities are req'd. for the restoration of Areas adjacent to highway limits. These Quantities are listed in the totals above.

Removing Masonry and Concrete Structures	5 Cu.Yds.
Removing Sidewalks	39 Sq.Yds.

EARTHWORK:

Earth Excavation (Incl. Debris Removal)	399 Cu.Yds.
Select Clay Backfill (C.I.P.)	399 Cu.Yds.

NOTES:

1. The Removal of Trees less than 8" in Diameter, Various Posts, Poles and Columns is Incidental to the Contract.
2. For Typical Cross-Sections of Embankment & Backfill, See Sh. # 11.
3. For Utility Legend, See Sh. # 14.
4. For Removal Legend, See Sh. # 16.

Auth. # ____ .

REMOVAL ITEMS
S. OF ASH TO N. OF MICHIGAN AVE.

Auth. # ____

PLAN
Scale: 1" = 40'

FILE NO. USE NO. 350 STENCIL	82124-002	STATE PROJECT	FEDERAL PROJECT	SHEET NO.
		MICH.	I-96	17

PLANS PREPARED BY
CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
CITY ENGINEERING DIVISION
BUREAU OF HIGHWAYS AND EXPRESSWAYS

N. Wilson 3/68
M. Polito 3/68
P. Comfy 3/68
Allen & Sapper March

B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY		SHEET NO.	TOTAL SHEETS

B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY	City	SHEET NO.	TOTAL SHEETS
I-96	82124-002	Wayne	Detroit	18	

ALL WORK THIS SHEET
CONTROL SECTION 82194 L

QUANTITIES THIS SHEET

A.-1023	Removing Trees, 8"-12" Dia.	1 ~~14~~ Each
A.-1023	Removing Trees, 13"-24" Dia.	12 ~~11~~ Each
	Removing Trees, 25"-36" Dia.	2 Each
By Auth. #1023 →	Removing Old Pavement ~~4215~~ 4836 Sq.Yds.	
A.-1023	Removing Old Pav't (Patching) ~~88~~ 220 Sq.Yds.	
A.-1023	Removing Sidewalks 1299 ~~641~~ Sq.Yds.	
	Removing Underground Storage	
A.-1023	Tanks 0 ~~1~~ Each	
A.-1026	Removing Beam Guard Rail 0 ~~675~~ Lin.Ft.	
	Abandoning Catch Basins 3 Each	
	Abandoning Sewer Manholes 2 Each	
A.-1030	Pavement Replacement 20 ~~7~~ Sq.Yds.	
	Patching Pavement with	
A.-1028	Bituminous Materials ~~1.27~~ Tons	
A.-1027	Temporary Conc. Sidewalk 0 ~~375~~ Sq.Ft.	
A.-1032	4" Concrete Sidewalk 0 ~~50~~ Sq.Ft.	
A.-1030	Concrete Curb, Detail 2A 0 ~~10~~ Lin.Ft.	
A.-1028	Aggregate Base 60 ~~101~~ Tons	

EARTHWORK:

	Earth Excavation (Incl.	
A.-1026	Debris Removal) 371 ~~1659~~ Cu.Yds.	
A.-1032	Granular Mat'l, Cl. II, (C.I.P.) 32 ~~54~~ Cu.Yds.	
A.-1030	Select Clay Backfill (C.I.P.) 371 ~~1659~~ Cu.Yds.	

NOTE "A":

The following Items & Quantities are req'd. for the restoration of Areas adjacent to highway limits. These Quantities are listed in the totals above.

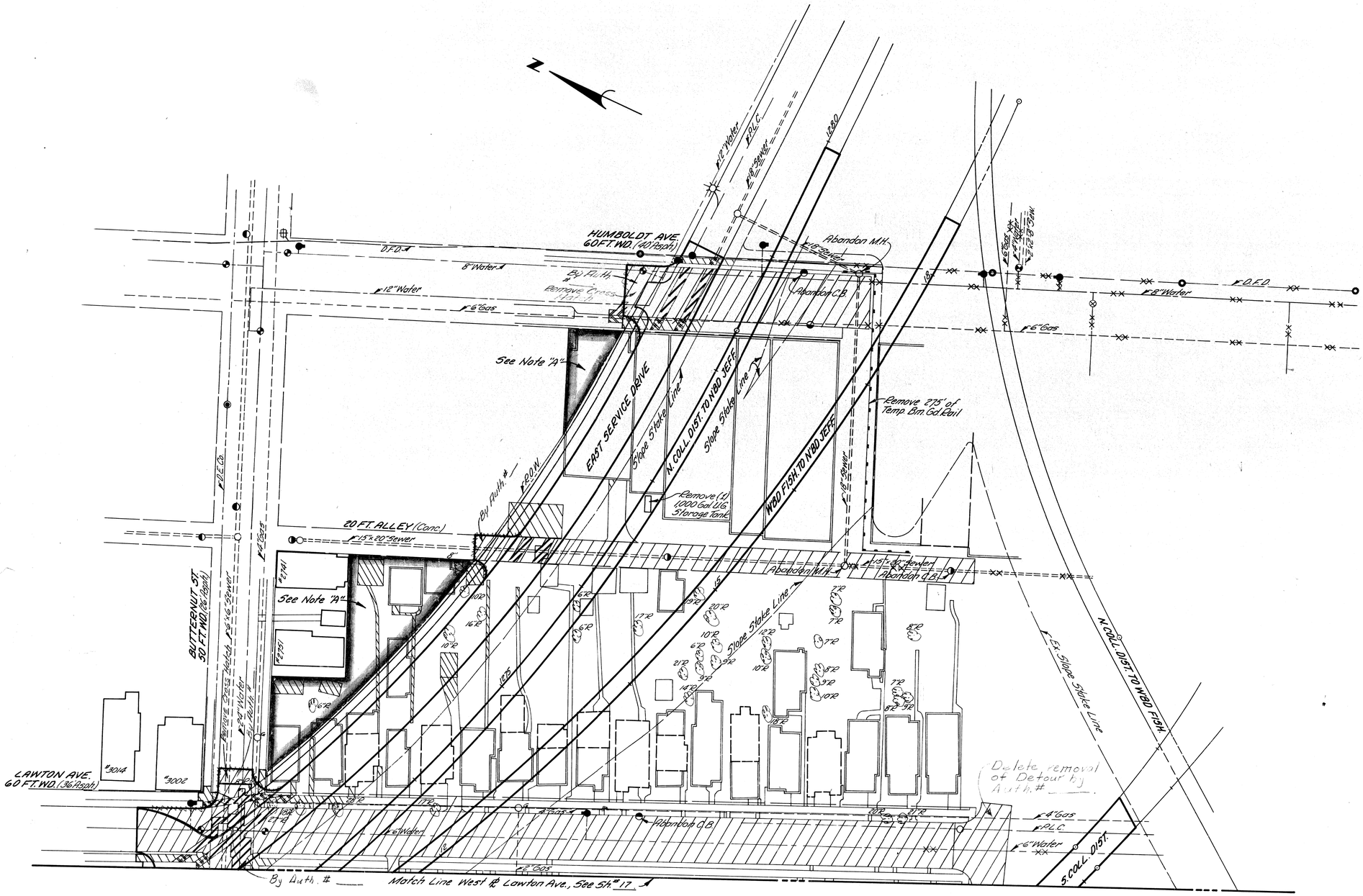
Removing Sidewalks ..... 127 Sq.Yds.

EARTHWORK:

Earth Excavation (Incl.
Debris Removal ..... 17 Cu.Yds.
Select Clay Backfill (C.I.P.) ..... 17 Cu.Yds.

NOTES:

1. The Removal of Trees less than 8" in Diameter, Various Posts, Poles and Columns is Incidental to the Cont.
2. For Typical Cross-Sections of Embankment & Backfill, See Sh.# 11.
3. For Utility Legend, See Sh.# 44.
4. For Removal Legend, See Sh.# 16.



PLAN
Scale: 1" = 40'

Auth. # ____.

REMOVAL ITEMS
W. ℄ LAWTON AVE. TO E. OF HUMBOLDT AVE.

Auth. # ____

PLANS PREPARED BY
CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
CITY ENGINEERS OFFICE
BUREAU OF HIGHWAYS AND EXPRESSWAYS

3/68 N. McLean
3/68 W. Parks
3/68 R. County
Allan E. Rogers

FILE NO. USE NO. 350 STENCIL	STATE PROJECT	FEDERAL PROJECT	SHEET NO.
	82124-002	I-96	18

PLANS PREPARED BY
CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
CITY ENGINEERS OFFICE
BUREAU OF HIGHWAYS AND EXPRESSWAYS

FOUNDATIONS FOR TRAFFIC SIGNS					
Location	Station	Fdng. for Type D Truss (Each)	Elev. of Top of Fdn. East	Elev. of Top of Fdn. West	Truss Span (Ft.)
5Bd Jeffries	1285+50	2	600.94	599.94	125'-0"

S.P. NO. DIV. NO.	STATE	PROJ. NO.		FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.					
ROUTE	STATE PROJECT	COUNTY			SHEET NO.	TOTAL SHEETS

S.P. NO. DIV. NO.	STATE	PROJ. NO.		FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.					
ROUTE	STATE PROJECT	COUNTY	City		SHEET NO.	TOTAL SHEETS
I 96	82124-002	Wayne	Detroit		19	

QUANTITIES THIS SHEET

Item	Cont. Sect. 82124A	Cont. Sect. 82194L	Unit	
Class "B" Sodding*	1.08	4.23	S.Y.	A.1032
Class 1 Seeding*	0.1	1.5	Acres	A.1027
Mulching*	—	2.8	Tons	A.1027
Topsoil Surface*	—	56	C.Y.	A.1027
Chemical Fertilizer*	67	1123	Lbs.	A.1027
Urea Nitrogen Fertilizer*	9.0	150	Lbs.	A.1027
Beam Guard Rail-Type A	25.0	75.0	Lin.Ft.	
End Shoes	2	4	Each	
48" Chain Link Fence	190	1419	Lin.Ft.	A.1028
6' Walk Gate for 48" Ch. Link Fen	—	3	Each	

*Highway Beautification Item

NOTE "A":
The following items & quantities are regd for the restoration of areas adjacent to highway limits. These quantities are included in the totals listed above under "Quantities this Sheet"

Item	Cont. Sect. 82124A	Cont. Sect. 82194L	Unit
Class 1 Seeding	0.1	1.5	Acres
Chemical Fertilizer	67	1000	Lbs.
Urea Nitrogen Fertilizer	9	132	Lbs.

NOTES
1. For Details of Beam Guard Rail, See Sh. #6 thru #11.
2. For Details of Traffic Sign Fdns. for Trusses, See Sh. #12 & #13.

PLAN
Scale: 1"=40'

GRADING PLAN
N. OF MYRTLE ST.
TO S. OF ASH ST.

FILE NO. USE STENCIL NO. 250	82124-002	STATE PROJECT	FEDERAL PROJECT	SHEET NO.
		Services	I-96	19

S.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY		SHEET NO.	TOTAL SHEETS

S.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY	City	SHEET NO.	TOTAL SHEETS
F.96	82124-002	Wayne	Detroit	20	

ALL WORK THIS SHEET
CONTROL SECTION 82194L

QUANTITIES THIS SHEET

Item		Quantity	Unit
Class B Sodding * A.-1032	12880	~~18,616~~	S.Y.
Class 1 Seeding * A.-1027		~~3.2548~~	Acres
Mulching * A.-1027		~~6.071~~	Tons
Topsoil Surface * A.-1027	1400	~~556~~	C.Y.
Chemical Fertilizer * A.1027	2000	~~3800~~	Lbs.
Urea Nitrogen Fertilizer * A.1027	0	~~760~~	Lbs.
Beam Guard Rail-Type 'A' A.-1027		67.0 ~~9525~~	Lin.Ft.
Beam Guard Rail-Type 'C' A.-1030		~~3125~~ 2725	Lin.Ft.
End Shoes		~~4~~ 2	Each
Structure Guard Rail Anch.-Type 'A'		2	Each
Structure Guard Rail Anch.-Type 'C'		2	Each
Guard Rail Anchorage-Type 1**		1	Each
Guard Rail Anchorage-Type 3**		1	Each
Guard Rail Anchorage-Type 5**		4	Each
48" Chain Link Fence A.1030		~~1028~~ 1028	Lin.Ft.
6' Walk Gate for 48" Chain Link Fence A.-1014		1 2	Each

* Highway Beautification Items

** These Item to be paid for as Guard Rail Anchorage-Single.

EARTH EXCAVATION	~~0 32~~ C.Y.
LOSSES	0
WASTE	32 C.Y.
EMBANKMENT + 25% (From Sh# 31)	6110 C.Y.

NOTES A THRU C:

Typical Placement where shown on the plans is:

A. Guard Rail Anchorage Detail 3, 100' of Beam Guard Rail Type 'C', 6'-3" of Beam Guard Rail Type 'A' & Structure Guard Rail Anchorage Type 'A'.

B. Guard Rail Anchorage Detail 1, 100 of Beam Guard Rail, Type 'C', 6'-3" of Beam Guard Rail Type 'A' & Structure Guard Rail Anchorage Type 'A'.

C. Guard Rail Anchorage Detail 5, 37'-6" Beam Guard Rail Type 'C' & Structure Guard Rail Anchorage Type 'C'.

NOTE D

D. The following Items & Quantities are required for the restoration of areas adjacent to highway limits. These quantities are included in the totals listed above under QUANTITIES THIS SHEET.

Item	Quantity	Unit
Class 1 Seeding	0.1	Acres
Chemical Fertilizer	67	Lbs.
Urea Nitrogen Fertilizer	9	Lbs.

NOTES

1. For Details of Beam Guard Rail, See Sh# 66 thru # 71.
2. For Details of Traffic Sign Foundations for Trusses, See Sh# 72 & # 73

FOUNDATIONS FOR TRAFFIC SIGNS

Location	Station	Fdns. for Type 'C' Truss (Each)	Elev. of Top of Fdn. Left	Elev. of Top of Fdn. Right	Truss Span (Ft.)
S. Coll. Dist.	1274+50	~~2~~ 0 A-1014	607.74	608.74	55'-0"

PLAN
Scale: 1"=40'

This Sheet voided by Auth.# ____
See New Sheet 20A

GRADING PLAN
S. OF ASH ST. TO
N. OF MICHIGAN AVE.

Auth. # ____

FILE NO. IS SAME AS ENGR'G	STATE PROJECT	FEDERAL PROJECT	SHEET NO.
82124-002	82124-002	F-96	20

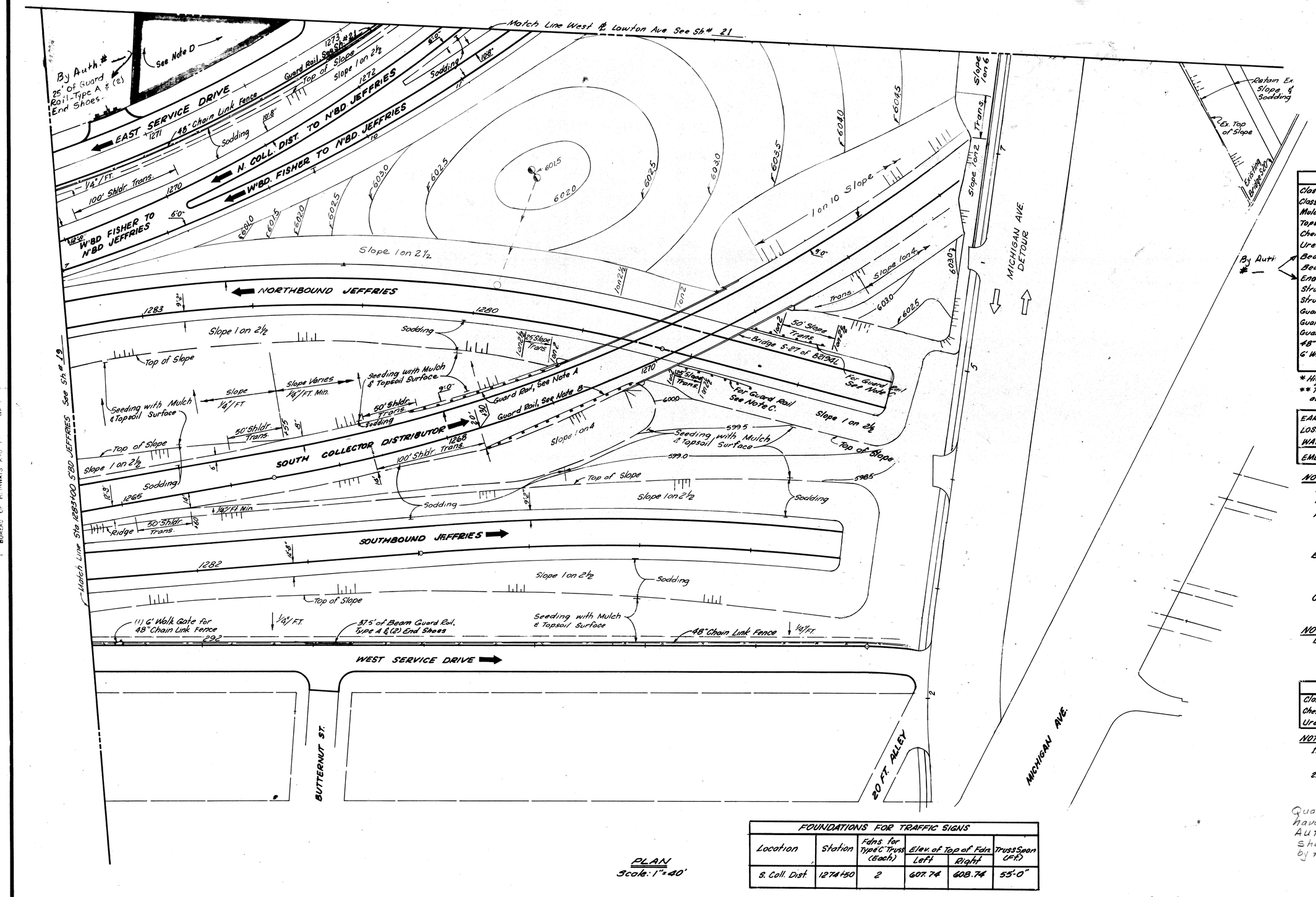
PLANS PREPARED BY
CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
CITY ENGINEERS OFFICE
BUREAU OF HIGHWAYS AND EXPRESSWAYS

3/68 3/68 3/68
N. McLEOD N. Costello E. Cooney
Asst. Engr. Asst. Engr. Engr. of Design

B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY		SHEET NO.	TOTAL SHEETS

B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY	City	SHEET NO.	TOTAL SHEETS
F96	82124-002	Wayne	Detroit	20	

ALL WORK THIS SHEET CONTROL SECTION 82194L



PLAN
Scale: 1"=40'

FOUNDATIONS FOR TRAFFIC SIGNS					
Location	Station	Fdns. for Type C Truss (Each)	Elev. of Top of Fdn. Left	Elev. of Top of Fdn. Right	Truss Span (Ft.)
S. Coll. Dist.	1274+50	2	607.74	608.74	55'-0"

QUANTITIES THIS SHEET

Item	Quantity	Unit
Class B Sodding*	18,676	S.Y.
Class 1 Seeding*	4.8	Acres
Mulching*	7.1	Tons
Topsoil Surface*	1556	C.Y.
Chemical Fertilizer*	3200	Lbs.
Urea Nitrogen Fertilizer*	422	Lbs.
Beam Guard Rail-Type A	75~~00~~	Lin. Ft.
Beam Guard Rail-Type C	3125	Lin. Ft.
End Shoes	4 ~~2~~	Each
Structure Guard Rail Anch.-Type A	2	Each
Structure Guard Rail Anch.-Type C	2	Each
Guard Rail Anchorage-Type 1**	1	Each
Guard Rail Anchorage-Type 3**	1	Each
Guard Rail Anchorage-Type 5**	4	Each
48" Chain Link Fence	1180	Lin. Ft.
6' Walk Gate for 48" Chain Link Fence	2	Each

* Highway Beautification Items

** These item to be paid for as Guard Rail Anchorage-Single.

EARTH EXCAVATION	32 C.Y.
LOSSES	0
WASTE	32 C.Y.
EMBANKMENT + 25% (from Sh# 31)	6110 C.Y.

NOTES A THRU C:

Typical Placement where shown on the plans is:

A. Guard Rail Anchorage Detail 3, 100' of Beam Guard Rail Type C, 6'-3" of Beam Guard Rail Type A & Structure Guard Rail Anchorage Type A.

B. Guard Rail Anchorage Detail 1, 100 of Beam Guard Rail, Type C, 6'-3" of Beam Guard Rail Type A & Structure Guard Rail Anchorage Type A.

C. Guard Rail Anchorage Detail 5, 37'-6" Beam Guard Rail Type C & Structure Guard Rail Anchorage Type C.

NOTE D

D. The following Items & Quantities are required for the restoration of areas adjacent to highway limits. These quantities are included in the totals listed above under QUANTITIES THIS SHEET.

Item	Quantity	Unit
Class 1 Seeding	0.1	Acres
Chemical Fertilizer	67	Lbs.
Urea Nitrogen Fertilizer	9	Lbs.

NOTES

1. For Details of Beam Guard Rail, See Sh# 66 thru # 71.
2. For Details of Traffic Sign Foundations for Trusses, See Sh# 72 & # 73

Quantities shown on this sheet have not been revised for Auth.# ____.
Sheet 20 has voided and replaced by this Sheet.

GRADING PLAN
S. OF ASH ST. TO
N. OF MICHIGAN AVE.

Auth. # ____

PLANS PREPARED BY
CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
CITY ENGINEER, OFFICE OF
BUREAU OF HIGHWAYS AND F...

3/68 3/68
N. McLean
N. LaSalle
E. Cook
Allen E. Cook

FILE NO. USE NO. 350 STENCIL	82124-002	STATE PROJECT 82124-002	FEDERAL PROJECT F-96	SHEET NO. 20A

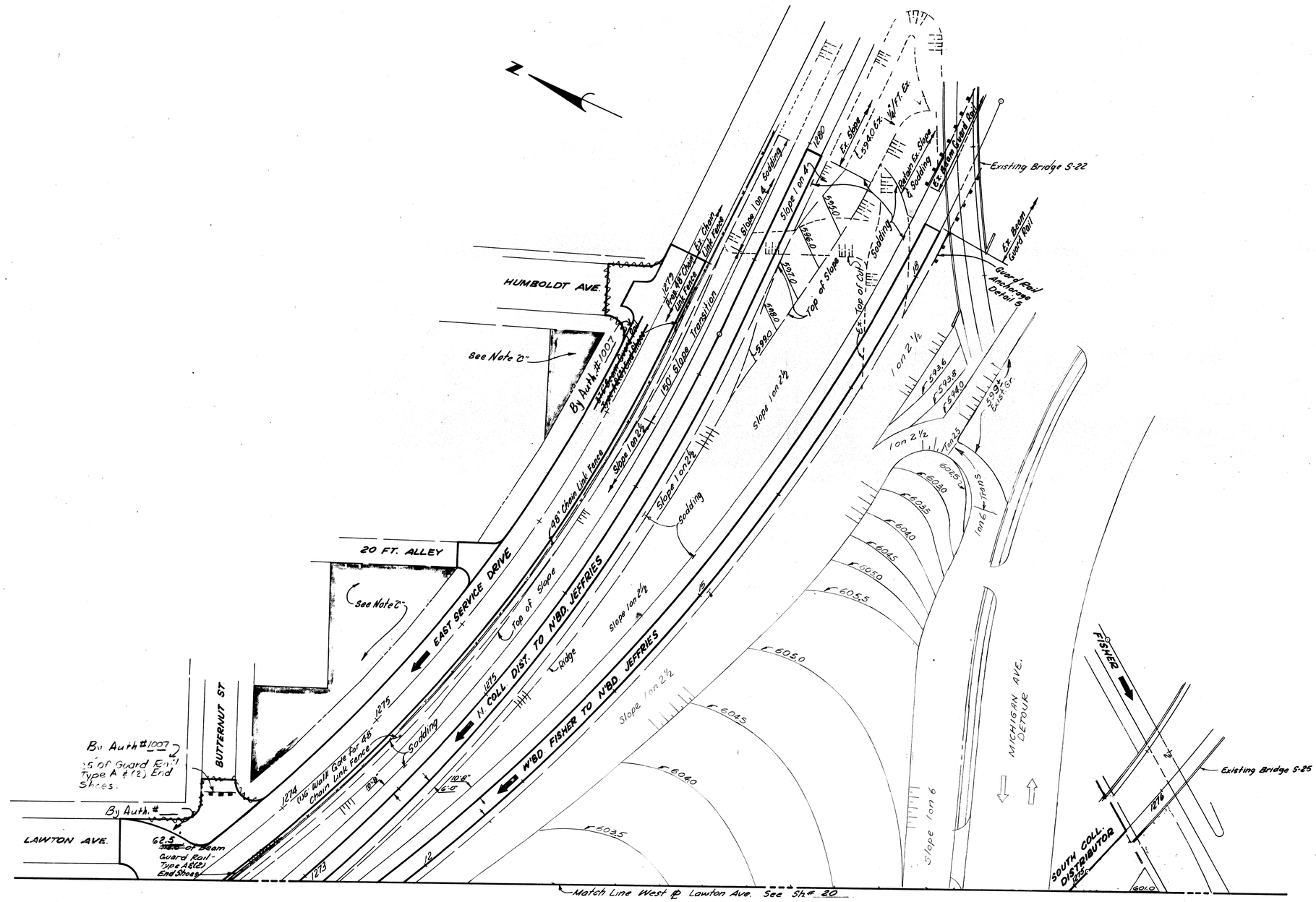
3

PLANS PREPARED BY
CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
CITY ENGINEERS DEPT.
BUREAU OF HIGHWAYS AND EXPRESSWAYS

S. P. R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY		SHEET NO.	TOTAL SHEETS

S. P. R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY	City	SHEET NO.	TOTAL SHEETS
I-96	82124-002	Wayne	Detroit	21	

ALL WORK THIS SHEET
CONTROL SECTION 82194-L



PLAN
Scale: 1" = 40'

QUANTITIES THIS SHEET

	Item	Quantity	Unit
A-1032	Class B Sodding* 9268	~~10,354~~	S.Y.
A-1027	Class 1 Seeding*	0.72~~2.0~~	Acres
A-1027	Mulching*	1.0 ~~2.7~~	Tons
A-1027	Topsoil Surface* 422	~~609~~	CY.
A-1027	Chemical Fertilizer* 587	~~1333~~	Lbs
A-1027	Urea Nitrogen Fertilizer*	0 ~~476~~	Lbs.
By Auth # 1027 →	Beam Guard Rail-Type A	875~~1300~~	Lin Ft.
A-1030	Beam Guard Rail-Type C	0 ~~2000~~	Lin Ft.
	End Shoes	4	Each
	Struct. Guard Rail Anch-Type C	2	Each
	Guard Rail Anchorage-Type 1**	1	Each
	Guard Rail Anchorage-Type 3**	1	Each
	Guard Rail Anchorage-Type 5**	1	Each
A-1028	48" Chain Link Fence 613	~~600~~	Lin. Ft.
	6' Walk Gate for 48" Ch. Link Fen.	1	Each

* Highway Beautification Items
** These items to be paid for as Guard Rail Anchorage-Single.

EARTH EXCAVATION A-1026	0 ~~313~~ C.Y.
LOSSES	0
WASTE	313 C.Y.
EMBANKMENT +25% (From Sh. # 31)	7203 C.Y.

NOTES A & B:

Typical placement where shown on the plans is:

A. Guard Rail Anchorage, Detail 2, 100' of Beam Guard Rail Type C & Structure Guard Rail Anchorage, Type C.

B. Guard Rail Anchorage, Detail 3, 100' of Beam Guard Rail Type C & Structure Guard Rail Anchorage, Type C.

NOTE C:

C. The following items & quantities are required for the restoration of areas adjacent to highway limits. These quantities are included in the totals listed above under QUANTITIES THIS SHEET.

Item	Quantity	Unit
Class 1 Seeding	0.2	ACRES
Chemical Fertilizer	133	LBS.
Urea Nitrogen Fertilizer	18	LBS.

NOTES:

1. For Details of Beam Guard Rail See Sh. # 66 thru # 71.

Quantities shown on this sheet have not been revised for Auth. # ____.

Sheet 21 has been Voided and replaced by this sheet.

GRADING PLAN
W. & E. OF LAWTON AVE.
TO E. OF HUMBOLDT AVE.

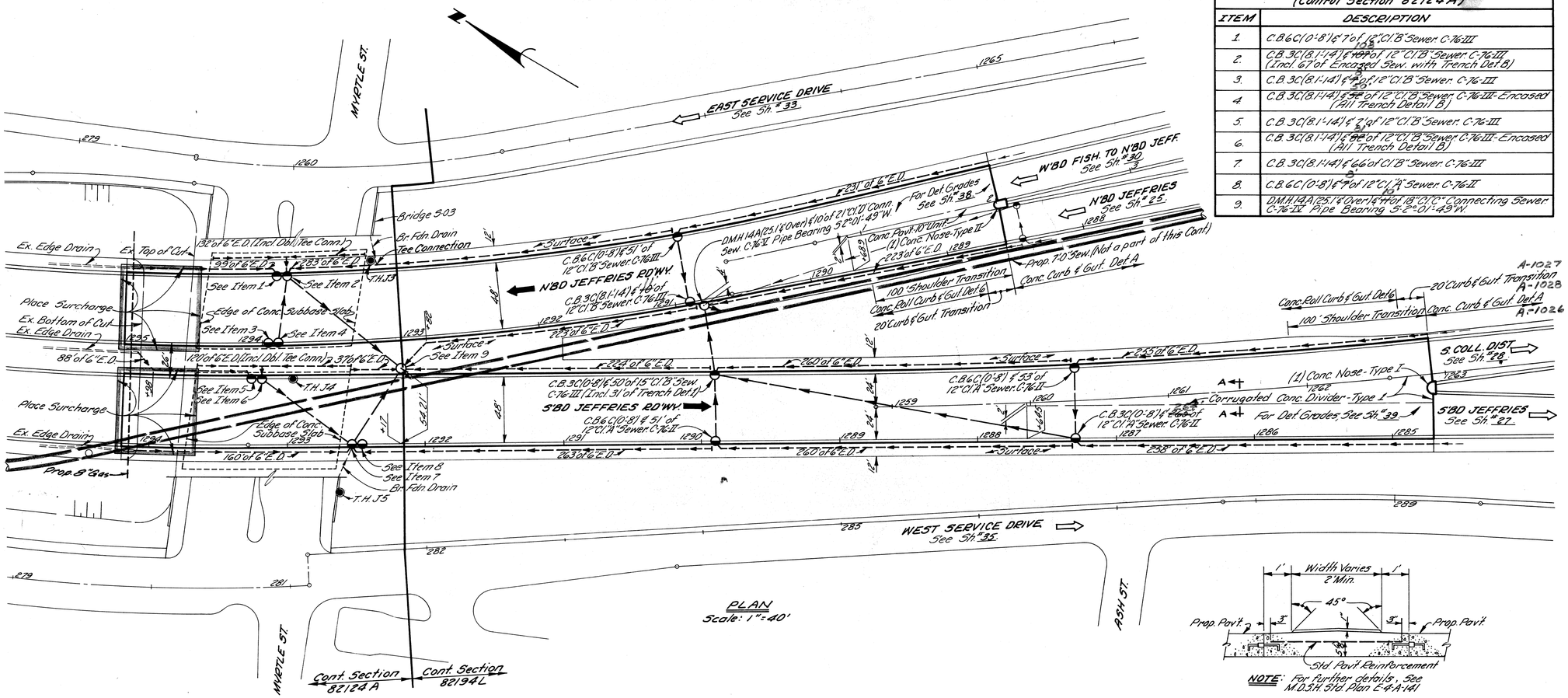
Auth. # ____

FILE NO. USE NO. 350 STENCIL	82124-002	STATE PROJECT	FEDERAL PROJECT	SHEET NO.
		82124-002	I-96	21 A

SCALE LEADER	3/68	N. Wet Lagan
SUPERVISOR	3/68	R. Leaville
DESIGNED BY	3/68	P. Conn
CHECKED BY		
QUANTITIES BY		

PLANS — PREPARED BY
CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
CITY ENGINEERS OFFICE
BUREAU OF HIGHWAYS AND EXPRESSWAYS

DESIGNED BY	N. McLean	3/68
DETAILED BY	M. Polito	3/68
CHECKED BY	R. Grosh	3/68
SUPV. ENGR.	Clarence E. Rayn	Mar. 68



PLAN
Scale: 1" = 40'

DRAINAGE STRUCTURE ITEMS (Control Section 82124A)

ITEM	DESCRIPTION
1.	C.B 6 C(0'-8')& 7' of 12" Cl 'B" Sewer C-76-III
2.	C.B 3 C(8'-1'-4")& ~~198~~ 196' of 12" Cl 'B" Sewer C-76-III (Incl 67' of Encased Sew. with Trench Det B)
3.	C.B 3 C(8'-1'-4")& ~~20~~ 18' of 12" Cl 'B" Sewer C-76-III
4.	C.B 3 C(8'-1'-4")& ~~50~~ 48' of 12" Cl 'B" Sewer C-76-III-Encased (All Trench Detail B)
5.	C.B 3 C(8'-1'-4")& 7' of 12" Cl 'B" Sewer C-76-III
6.	C.B 3 C(8'-1'-4")& ~~68~~ 66' of 12" Cl 'B" Sewer C-76-III-Encased (All Trench Detail B)
7.	C.B 3 C(8'-1'-4")& 66' of Cl 'B" Sewer C-76-III
8.	C.B 6 C(0'-8')& 7' of 12" Cl 'A" Sewer C-76-II
9.	DMH 14A(25'-6" Over)& 10' of 21" Cl 'A" Connecting Sewer C-76-II Pipe Bearing S 2°-01'-49" W.

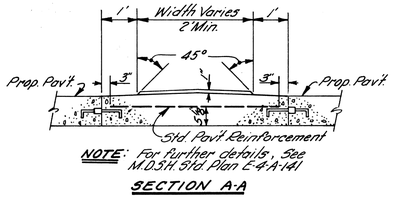
B. P. R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY		SHEET NO.	TOTAL SHEETS

B. P. R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY		SHEET NO.	TOTAL SHEETS
I-96	82124-002	Wayne	City of Detroit	22	

All Trenches on this sheet shall be Trench Det. 2, unless otherwise noted.

QUANTITIES THIS SHEET

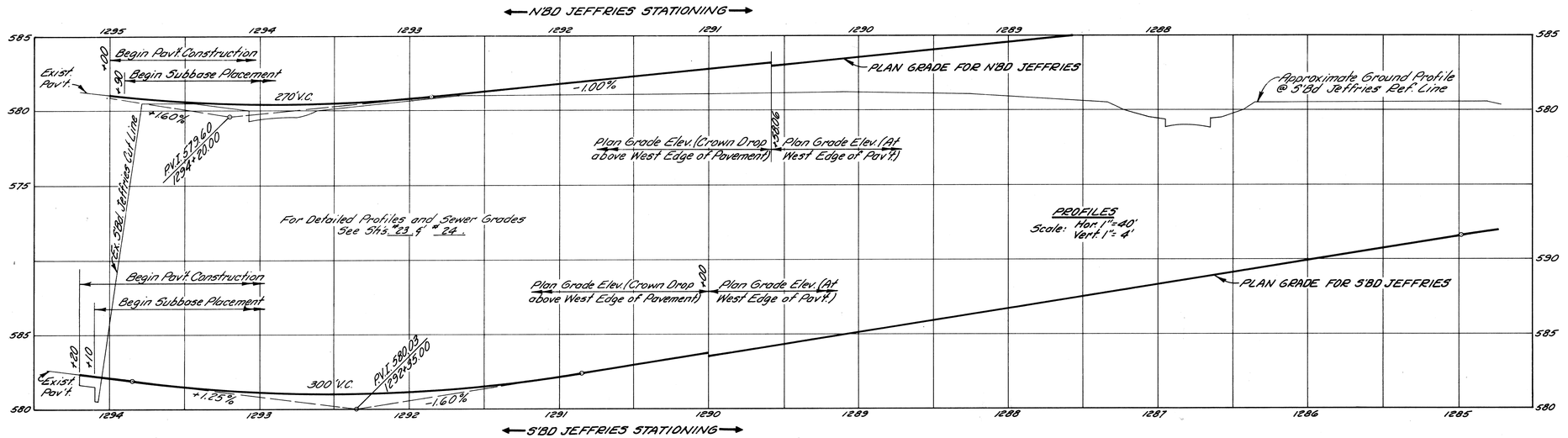
Item	Cont. 82124A	Sec'l. 82194L	Unit
Conc. Curb & Gut, Det. A	~~A-1026~~ A-1027	~~80~~ A-1028	Lin. Ft.
Conc. Roll Curb & Gut, Det. 6, Special A.D.T.	802	~~2363~~ 2363	Lin. Ft.
Concrete Nose	—	2	Each
Bit. Agg. Shlds.-Conc. Pavement	73	215	Tons
Bit. Prime Coat	~~200~~ 177	~~589~~ 350	Gals.
Class AA Shoulders	286	~~844~~ 501	Tons
Corrugated Concrete Divider - Type I	—	~~732~~ 273	Sq. Yds.



NOTE: For further details, See M.D.S.H. Std Plan E-4-A-141

SECTION A-A

NOTES:
1. For Alignment, See Sh. # 13.
2. For Guard Rail, See Sh. # 19.
3. For Fence, See Sh. # 19.
4. For Grading, Seeding & Sodding See Grading Plan, Sh. # 19.
5. For Log of Soil Borings (Symbol ◉) See Bridge S-03
6. For Concrete Median Barrier, See Sh. # 19.



JEFFRIES FREEWAY ITEMS
N. OF MYRTLE TO S. OF ASH

FILE NO. USE NO. 350 STENCIL	82124-002	STATE PROJECT	FEDERAL PROJECT	SHEET NO.
		82124-002	I-96	22

B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY		SHEET NO.	TOTAL SHEETS

B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY	City	SHEET NO.	TOTAL SHEETS
F-96	82124-002	Wayne	Detroit	23	

OPERATION	BY	DATE
SURVEYED		
PLAN PLOTTED		
PLAN CHECKED		
PROFILE PLOTTED		
PROFILE CHECKED		
CROSS SECTIONS		
GRADE INSPECTION		
FEDERAL INSPECTION		

PLANS PREPARED BY
CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
CITY ENGINEERS OFFICE
BUREAU OF HIGHWAYS AND EXPRESSWAYS

OPERATION	BY	DATE
PRELIMINARY R.O.W. CHECKED		
FINAL DESIGN CHECKED		
FINAL DESIGN CHECKED		
FINAL R.O.W. CHECK		
QUANTITIES		
QUANTITIES CHECKED		
SQUAD		

DESIGNED	N. McLean	3/68
DRAWN	M. Polito	3/68
TRACED		
CHECKED	R. Conly	3/68
QUANTITIES	Allen E. Dugan	4-6-68
CHIEF DRAFTSMAN		

SCALE: 1" = 10 FEET
DATUM: CITY OF DETROIT
CONTOUR INTERVAL: 1 FOOT

1295 1294 1293 1292 1291 1290 1289

500' Superel Trans. to r=∞

Full Superelevation

500' Superelevation Transition to r=∞

For Detailed Grades, See Sht. #38.

Ex. Pav't Constr. under Prior Cont.

Proposed Edge of Pavement Grade & Elevation for East Edge of N'bd Roadway

Subbase Slab

Ex. G.E.D.

G.E.D. (Level)

Ex. Inv. 574.8±

Prop. 8" Gas

Inv. 573.8

Inlet 573.6

Outlet 572.5

Inlet 572.9

Inlet 571.9

Outlet 571.7 for 12" Enc. Sew. @ 2.6% to S'bd. Roadway M.H.

Inlet 573.4

572.1

6"E.D.@-1.30%

6"E.D.@-1.50%

Inv. 580.6

Inlet 577.4

Outlet 576.7

Prop. Profile for Top of Conc. Median Barrier

S'bd Median Shldr. Profile @ Conc. Median Barrier

1 on 10 Slope

End of Conc. Median Bar. 1290+50.00

N'bd Median Shoulder Slope* 1/8" / Ft.

50' Transition to Tie Det. Lt. Shldr. Slope

Median Shldr. Slope 1/2" / Ft.

* S'bd Median Shldr. Slope is to be placed @ Normal Slope of 1/2" / Ft. throughout its entire length.

Plan Grade Elev. (Crown drop above W. Edge of Pav't.)

Plan Grade Elevation (@ W. Edge of Pavement)

PVI 579.60 1294+20.00

270' V.C.

-1.60%

-1.00%

Prop. 8" Gas

Subbase Slab

Outlet 573.1

Inlet 572.3

Outlet 572.7

Proposed Plan Grade & Elev. for Northbound Roadway

Inv. 576.2 (For Coal, See Sht. 24)

Inlet 576.4

Outlet 576.0

Inlet 575.7

Inlet 576.7 for 15" Sewer @ 1.00% from N'bd. Jeff. C.B.

Inlet 577.2 for 15" Sewer @ 1.60% from S'bd Jeff. C.B.

Inlet 577.4

6"E.D.@-1.00%

Inv. 580.6

21" Sewer

Proposed 7'-0" Sewer (Not a part of this Cont.)

Outlet 556.88

Inlet 556.78

PROFILES
Hor. 1"=40'
Vert. 1"=4'

CONTROL SECTION 82124A
N'BD & S'BD ROADWAYS

EARTH EXCAVATION		24,642 C.Y.
LOSSES		
Embankment + 25%		
This Sheet	115 C.Y.	
E.S.D. Sht.# 33	119 C.Y.	
Select Clay Backfill (C.I.P.)		
Removal Sht.# 16	611 C.Y.	
Surcharge for Temp. Anchorage		
This Sheet	924 C.Y.	
	1,769 C.Y.	1769 C.Y.
WASTE		24,873 C.Y.
*SUBBASE		1655 C.Y.
SELECTED SUBBASE		517 Tons

CONTROL SECTION 82194L
N'BD & S'BD ROADWAYS

EARTH EXCAVATION		~~69,521~~ C.Y.
LOSSES	A-1026	77,906
Embankment + 25%		
This Sheet	768 C.Y.	
Select Clay Backfill (C.I.P.)		
Removal Sht.# 16	3753 C.Y.	
	4521 C.Y.	4,521 C.Y.
WASTE		76,000 C.Y.
*SUBBASE	A-1026	8110 ~~6,345~~ C.Y.
SELECTED SUBBASE		1644 Tons

* 20" Min. Subbase Reqd. on these Sheets.

JEFFRIES FREEWAY
N'BD ROADWAY PROFILES
STA. 1288+56.73 TO STA. 1295+00

FILE NO. USE 3 SO. NO. 350 STENCIL	82124-002	STATE PROJECT 82124-002	FEDERAL PROJECT F-96	SHEET NO. 27

B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY		SHEET NO.	TOTAL SHEETS

B.P.R. DIV. NO.	STATE	PROJ. NO	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY	CITY	SHEET NO.	TOTAL SHEETS
I-96	8224-022	Wayne	Detroit	24	

OPERATION	BY	DATE
SURVEYED		
PLAN PLOTTED		
PLAN FINISHED		
PROFILE PLOTTED		
PROFILE CHECKED		
PRELIMINARY GRADE		
GRADE APPROVED		
FEDERAL INSPECTION		

OPERATION	BY	DATE
PRELIMINARY R.O.W. CHECKED		
FINAL DESIGN		
FINAL DESIGN CHECKED		
TRACED		
FINAL R.O.W. CHECK		
QUANTITIES		
QUANTITIES CHECKED		
SQUAD		

3168 N. McLean
3168 M. Pinto
3168 P. Comly
Wm. Lyon

Proposed Plan Grade & Elevations for Southbound Roadway

Proposed Plan Grade & Elevations for Southbound Roadway

400' Superelevation Transition fo i=0.04%

Superelevation = 0

For Detailed Grades, See Sh. #33

FOR EXCAVATION, SUBBASE ETC., See Sh. #23.

Subbase Slab

Exist 6"E.D.

6"E.D. (2 pvmt)

6"E.D.

Ex. Inv. 575.8±

Prop 8" Gas

Inv. 574.3

Inlet 5772

6"E.D.@ +0.40%

Inlet 574.3

Inlet ~~574.8~~

6"E.D.@ -1.40%

16"E.D.@ -1.00% Inv. 576.2 (For Continuation See Sh. 24)

Inlet ~~574.0~~ 574.4

Inlet ~~576.0~~ 569.9

Inlet ~~576.5~~ from W. Pavt. Edge C.B. 3C 564.3

Inlet ~~3630~~ from N'Bd Rdwy. C.B. 3C

Outlet 573.3

Inlet 573.4

Outlet 572.8

574.3

Inlet ~~574.8~~ 577.4

Outlet ~~578.6~~ for 15"Rewd 16"@ 16.00 Rdwy. D.M.H.

Inlet ~~578.6~~ from C.B. 3C Sta. 1287+90

Inlet 5796.4

6"E.D.@ -1.60%

6"E.D.@ -1.50%

Inv. 5876

Inlet 5838.5

Outlet 5829.7

Outlet 5827.4 to C.B. 3C @ Sta. 1289+90

Inlet 5838.4

Inlet 5826.4

Inv. 5876 for Cont. See Sh. 27

Inlet 5797.3

Outlet 5787

Inv. 577.5

Exist. Pavt. Consld under Prior Cont.

Outlet ~~587.95~~ 587.85

18" Sewer

Proposed 7'0" Sewer (Not a part of this Cont.)

Inlet 585720

Plan Grade Elev. (@ Crown Drop above W. Edge of Pavt.)

Plan Grade Elev. (@ West Edge of Pavt.)

300' V.C.

+1.25%

-1.60%

Bridge Fdn Drain Inlet 577.1

Inlet ~~576.5~~ 575.3

Ex. 6"E.D.

Ex. Inv. 577.22

Inv. 575.5

Prop 8" Gas

6"E.D.@ -1.00%

Inlet ~~575.0~~ 575.4

Outlet 576.1

Inlet 575.9

Inlet 572.9 for 12" Enc. Sewer from East Pavt. Edge C.B. 3C

Outlet 572.1 for 12" Sewer @ 2.60% To D.M.H. 14.0

PROFILES
Scale: Hor. 1"=40'
Vert. 1"=4'

JEFFRIES FREEWAY
S'BD ROADWAY PROFILES
STA. 1284+72.27 TO STA. 1294+20

FILE NO. USE NO. OSO STENCIL	82724-662	STATE PROJECT	FEDERAL PROJECT	SHEET NO.
		82174-022	I-96	24

AUTH.	DATE	REVISION
		FINAL R. O. W.

OPERATION	BY	DATE
PRELIMINARY R.O.W. CHECKED		
FINAL R.O.W. CHECKED		
FINAL DESIGN CHECKED		
TRACED		
FINAL R.O.W. CHECK		
QUANTITIES		
QUANTITIES CHECKED		
SQUAD		

PLANS PREPARED BY
CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
CITY ENGINEERS OFFICE
BUREAU OF HIGHWAYS AND EXPRESSWAYS

OPERATION	BY	DATE
SURVEYED		
PLAN PLOTTED		
PLAN CHECKED		
PROFILE PLOTTED		
PROFILE CHECKED		
PRELIMINARY GRADE		
GRADE INSPECTION		
FEDERAL INSPECTION		

SQUAD LEADER
INSPECTOR

B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY		SHEET NO.	TOTAL SHEETS

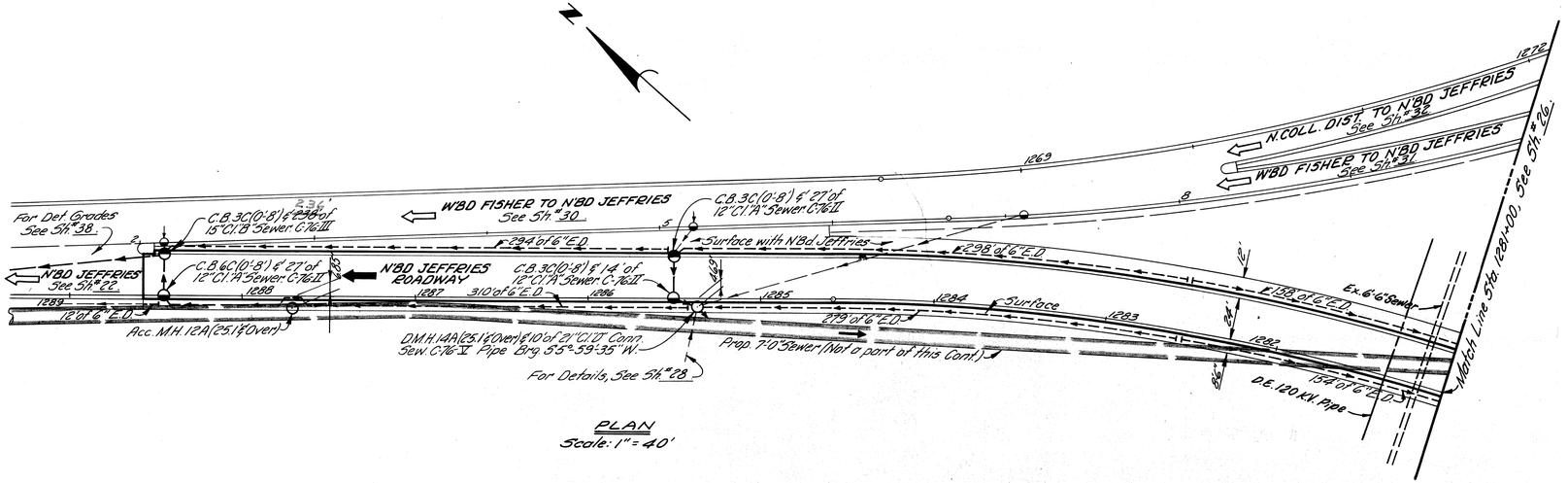
B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY	City	SHEET NO.	TOTAL SHEETS
I-96	82124-002	Wayne	Detroit	25	

ALL WORK THIS SHEET
CONTROL SECTION 82194L

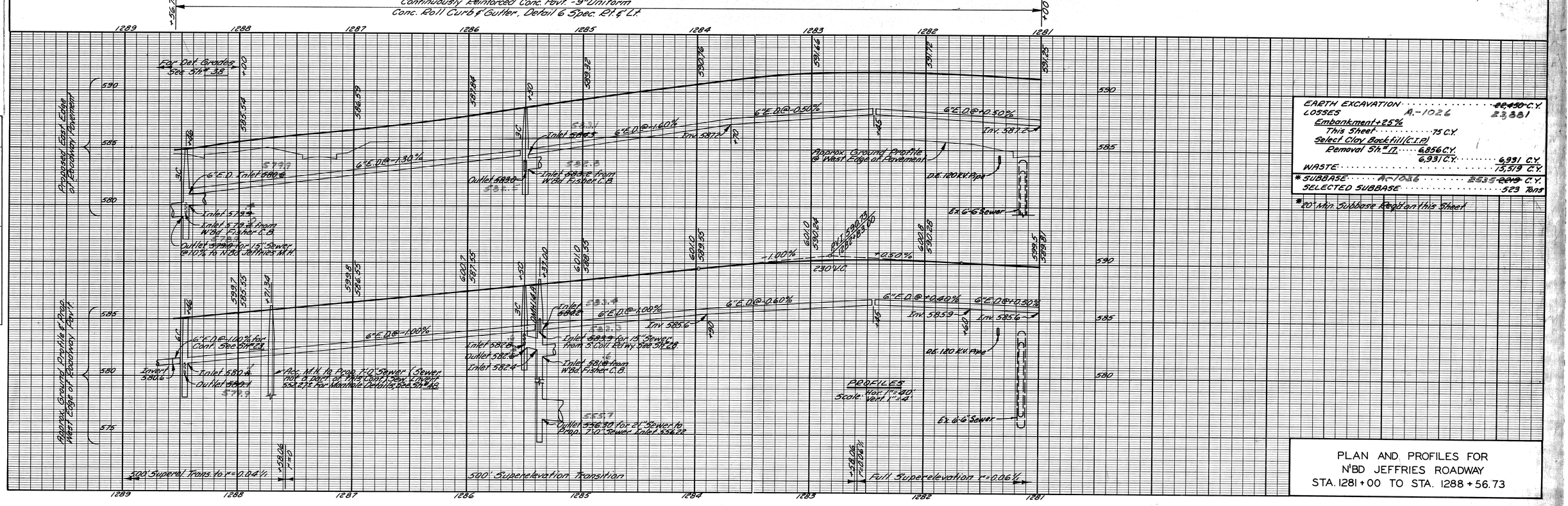
All Trenches on this sheet shall be Trench Det. 2 unless otherwise noted.

QUANTITIES THIS SHEET

A.-1024	Conc. Roll Curb & Gut, Det 6 Spec.	~~1513~~ 1127 Lin. Ft.
A.-1028	Bit. Agg. Shldrs. - Conc. Pvt.	~~125~~ ~~197~~ Tons
A.-1027	Bituminous Prime Coat	~~240~~ ~~448~~ Gals.
A.-1028	Class AA Shoulders	~~401~~ ~~621~~ Tons



NOTES:
1. For Alignment, See 5th #13.6 & #14
2. For Grading, Seeding & Sodding, See 5th #19 & #20



EARTH EXCAVATION		~~8450~~ C.Y.
LOSSES	A.-1026	23881
Embankment +25%		
This Sheet	75 C.Y.	
Select Clay Backfill (C.I.P.)		
Removal Sh. #17	6,856 C.Y.	
	6,931 C.Y.	6,931 C.Y.
WASTE		15,519 C.Y.
* SUBBASE A.-1026		~~3535~~ ~~3649~~ C.Y.
SELECTED SUBBASE		523 Tons

* 20" Min. Subbase Req'd on this Sheet

PLAN AND PROFILES FOR
N'BD JEFFRIES ROADWAY
STA. 1281+00 TO STA. 1288+56.73

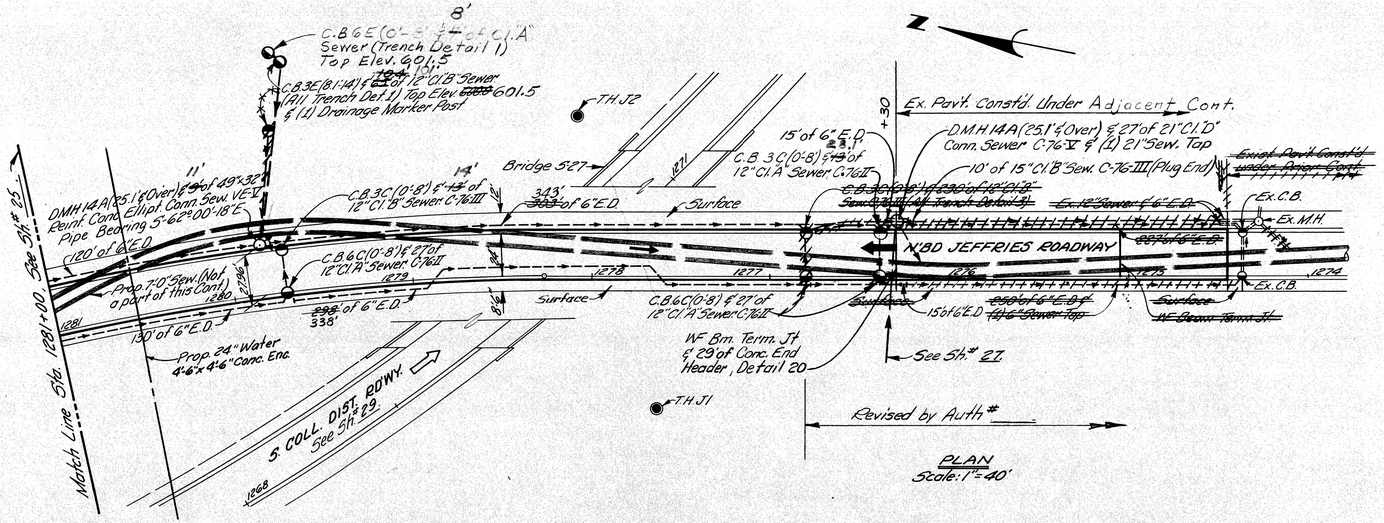
FILE NO. USE NO. 330 STENCIL	82124-002	STATE PROJECT	FEDERAL PROJECT	SHEET NO.
		~~82124~~	I-96	25

AUTH.	DATE	REVISION
		FINAL R. O. W.

OPERATION	BY	DATE
PRELIMINARY R.O.W. CHECKED		
FINAL DESIGN		
FINAL DESIGN CHECKED		
TRACED		
FINAL R.O.W. CHECK		
QUANTITIES CHECKED		
SQUAD		

PLANS PREPARED BY
CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
CITY ENGINEERS OFFICE
BUREAU OF HIGHWAYS AND EXPRESSWAYS

OPERATION	BY	DATE
SURVEYED	N. McLean	3/68
PLAN PLOTTED	W. Palma	3/68
PROFILE PLOTTED		
PROFILE CHECKED	R. Comly	3/68
PRELIMINARY GRADE	Allen E. Pryor	Mar. 68
FINAL GRADE		
FEDERAL INSPECTION		



B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY		SHEET NO.	TOTAL SHEETS

B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY	City	SHEET NO.	TOTAL SHEETS
I-96	82124-002	Wayne	Detroit	26	

ALL WORK THIS SHEET CONTROL SECTION 8219-4L

All Trenches on this sheet shall be Trench Det. 2, unless otherwise noted.

QUANTITIES THIS SHEET

A.-1026	Conc. Roll Curb & Gut, Det 6	~~2,770~~ Lin. Ft.
	Conc. Roll Curb & Gut, Det 6 Spec.	1,192 Lin. Ft.
A.-1028	Bit. Agg. Shldrs-Conc. Pavt.	~~80~~ 89 Tons
A.-1027	Bit. Prime Coat	223 ~~191~~ Gals.
A.-1028	Class AA Shoulders	382 Tons

NOTES:

1. For Alignment, See Sh.# 14.
2. For Grading, Seeding & Sodding, See Grading Plan Sh.# 20.
3. For Log of Soil Borings, Symbol (●) See Bridge S-27.

EARTH EXCAVATION A-1026 . . . 16,382 ~~17,783~~ C.Y.
LOSSES
Embankment + 25%
This Sheet . . . . . 223 C.Y.
S. Coll. Dist. Sh.# 29 . . . . 8,000 C.Y.
8,223 C.Y. . . . . 8,223 C.Y.
WASTE . . . . . 11,560 C.Y.
* SUBBASE . . . . . A-1026 . . . ~~1,837~~ ~~1,960~~ C.Y.
SELECTED SUBBASE . . . . . 453 Tons

* 20" Min. Subbase Regd. on this Sheet

Auth. #

PLAN AND PROFILES FOR N'BD JEFFRIES ROADWAY STA. 1274 + 45.00 TO STA. 1281+00

FILE NO. LINE NO. 350 STENCIL	82124-002	STATE PROJECT	FEDERAL PROJECT	SHEET NO.
		M-25-1(41)	I-96	26

AUTH.	DATE	REVISION
		FINAL R. O. W.

OPERATION	BY	DATE
PRELIMINARY R.O.W. CHECKED		
FINAL VERIFICATION		
FINAL DESIGN CHECKED		
TRACED		
FINAL R. O. W. CHECK		
QUANTITIES		
QUANTITIES CHECKED		
SQUAD		

PREPARED BY
PLANS
CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
CITY ENGINEERS OFFICE
BUREAU OF HIGHWAYS AND EXPRESSWAYS

OPERATION	BY	DATE
SURVEYED		
PLAN CHECKED		
PROFILE PLOTTED		
PROFILE CHECKED		
PRELIMINARY GRADE		
GRADE INSPECTION		
FEDERAL INSPECTION		

SQUAD LEADER	N. McLean
DESIGNED	M. Bailie
TRACED	
CHECKED	
CHECKED BY	S. Hart
SUPERVISOR	Allan V. Hagen

3/28
3/68
3/68
Rev. 6-7

B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY		SHEET NO.	TOTAL SHEETS

B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY	City	SHEET NO.	TOTAL SHEETS
F-96	82124-002	Wayne	Detroit	27	

ALL WORK THIS SHEET
CONTROL SECTION 82194L

All trenches on this sheet shall be Trench Def. 2 unless otherwise noted.

QUANTITIES THIS SHEET

A.1026	Conc. Roll Curb & Gut, Def. 6	~~0~~ Lin. Ft.
A.1024	Conc. Roll Curb & Gut, Def. 6 Spec.	~~2142~~ Lin. Ft.
A.1025	Bit. Agg. Shldrs. Conc. Pavt.	~~142~~ Tons
A.1027	Bit. Prime Coat	~~325~~ Gals.
A.1027	Class AA Shoulders	559 Tons

NOTES:

1. For Alignment, See Sh. # 14
2. For Fence, See Sh. # 19 & # 20
3. For Grading Seeding & Sodding, See Grading Plan Sh. # 19 & # 20

PLAN
Scale: 1" = 40'

PROFILES
Hor. 1" = 40'
Vert. 1" = 4'

EARTH EXCAVATION

Auth. 1024	~~36,781~~ C.Y.
LOSSES	26,746
Embankment + 25%	
This Sheet	1,123 C.Y.
S. Coll. Dist. Sh. # 28 & 29	13,580 C.Y.
	14,703 C.Y.
WASTE	18,078 C.Y.
SUBBASE Auth. 1022	~~3,203~~ 2,785 C.Y.
SELECTED SUBBASE	718 Tons

PLAN AND PROFILES FOR
S'BD JEFFRIES ROADWAY
STA. 1274 + 57.00 TO STA. 1284 + 72.27

Revised by Auth. # ____.

Auth. # ____

FILE NO. USE NO. 350 STENCIL	82124-002	STATE PROJECT	FEDERAL PROJECT	SHEET NO.
		F-96-1-77	F-96	27

AUTH.	DATE	REVISION
		FINAL R. O. W.

OPERATION	BY	DATE
PRELIMINARY R.O.W. CHECKED		
FINAL DESIGN CHECKED		
TRACED		
FINAL R.O.W. CHECK		
QUANTITIES		
QUANTITIES CHECKED		
SQUAD		

PLANS PREPARED BY
CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
CITY ENGINEER, OFFICE
BUREAU OF HIGHWAYS AND EXPRESSWAYS

OPERATION	BY	DATE
SURVEYED		
PLAN PLOTTED		
PLAN CHECKED		
PROFILE PLOTTED		
PROFILE CHECKED		
PRELIMINARY GRADE		
FINAL INSPECTION		
FEDERAL INSPECTION		

SQUAD LEADER: A. McLean 3/68; M. Bolio 3/68; P. Comis 3/68; Allen E. Hayes Mar. 68

B. P. R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY		SHEET NO.	TOTAL SHEETS

B. P. R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY	City	SHEET NO.	TOTAL SHEETS
I-96	82124-002	Wayne	Detroit	28	

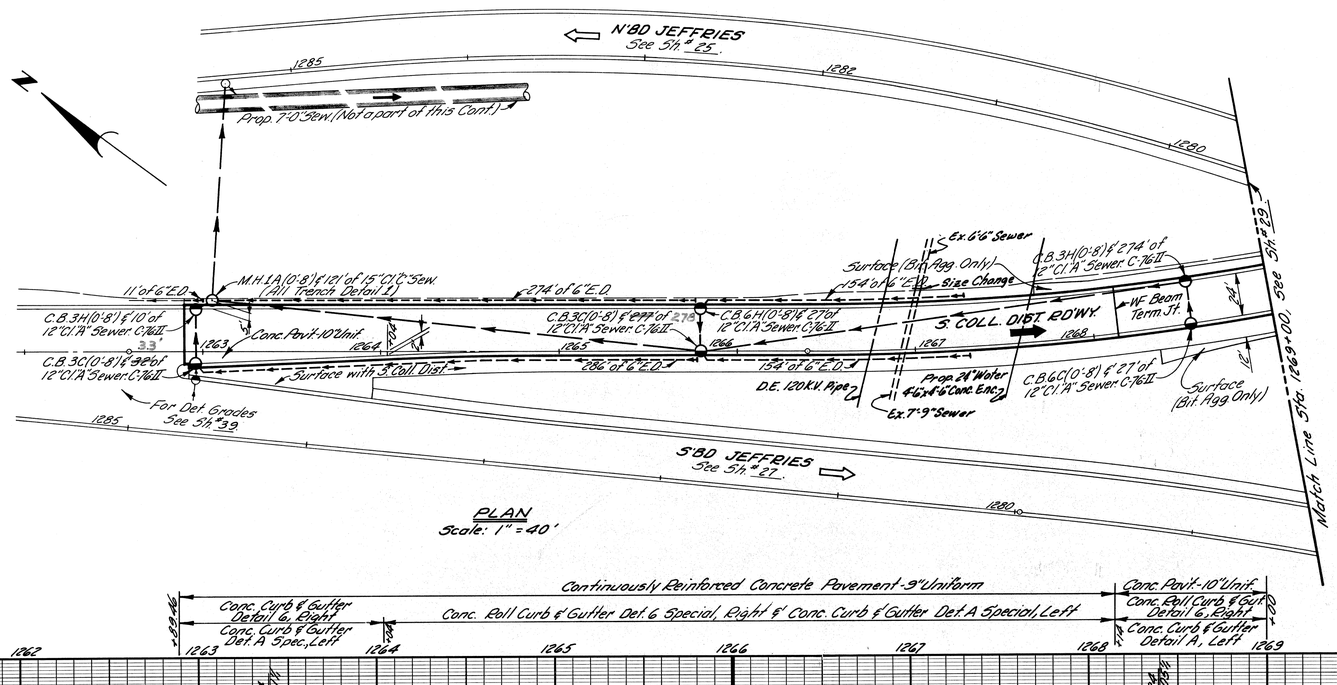
ALL WORK THIS SHEET CONTROL SECTION 82194L

All Trenches on this sheet shall be Trench Def. 2, unless otherwise noted.

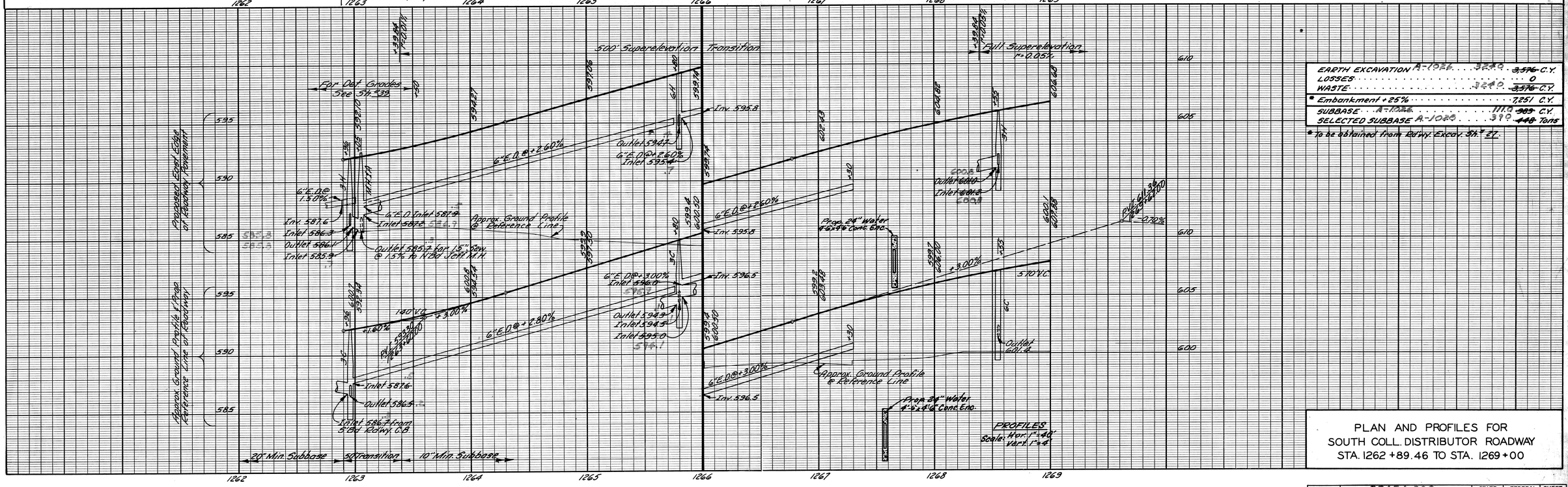
QUANTITIES THIS SHEET

A-1026	Conc. Curb & Gut., Def. A	~~72~~ ~~86~~ Lin.Ft.
	Conc. Roll Curb & Gut., Def. 6	~~199~~ Lin.Ft.
A-1024	Conc. Roll Curb & Gut., Def. 6 Spec.	~~215~~ ~~248~~ Lin.Ft.
A-1028	Bit. Agg. Shldrs.-Conc. Pav't.	~~3~~ ~~4~~ Tons
A-1027	Bit. Prime Coat	~~136~~ ~~233~~ Gals.
	Class AA Shoulders	227 Tons
A-1024	Conc. Curb & Gut., Def. A Spec.	~~315~~ Lin.Ft.

522



PLAN
Scale: 1" = 40'



EARTH EXCAVATION A-1026	~~3220~~ ~~3576~~ C.Y.
LOSSES	0
WASTE	~~3220~~ ~~3576~~ C.Y.
* Embankment + 25%	7251 C.Y.
SUBBASE A-1026	1118 ~~989~~ C.Y.
SELECTED SUBBASE A-1028	319 ~~448~~ Tons

* To be obtained from Roadway Excav. Sh.# 27.

NOTES:

1. For Alignment, See Sh.# 14.
2. For Guard Rail, See Sh.# 20.
3. For Grading, Seeding and Sodding, See Grading Plan Sh.# 19 & # 20.

PLAN AND PROFILES FOR
SOUTH COLL. DISTRIBUTOR ROADWAY
STA. 1262 +89.46 TO STA. 1269+00

FILE NO. USE NO. 350 STENCIL	82124-002	STATE PROJECT ~~8200-113~~	FEDERAL PROJECT I-96	SHEET NO. 28

B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY		SHEET NO.	TOTAL SHEETS

B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY	CONT	SHEET NO.	TOTAL SHEETS
I-96	82124-002	Wayne	Detroit	29	

ALL WORK THIS SHEET
CONTROL SECTION 82194L

All Trenches on this sheet shall be Trench Def. E unless otherwise noted.

QUANTITIES THIS SHEET

A-1026	Conc. Curb & Gut, Det. A	~~13~~ ~~443~~ Lin. Ft.
A-1026	Conc. Roll Curb & Gut, Det. G	~~9~~ ~~198~~ Lin. Ft.
A-1028	Bit. Agg. Shldrs.-Conc. Pavt.	~~12~~ ~~59~~ Tons
A-1027	Bit. Prime Coat	~~24~~ ~~154~~ Gals
A-1028	Class AA Shoulders	~~24~~ ~~172~~ Tons

NOTES:
1. For Alignment, See Sh.# 14 & 15.
2. For Guard Rail, See Sh.# 20 & 21.
3. For Grading, Seeding & Sodding, See Grading Plan Sh.# 20 & 21.
4. For Log of Soil Borings, (Symbol ◉) See Bridge 5-27.

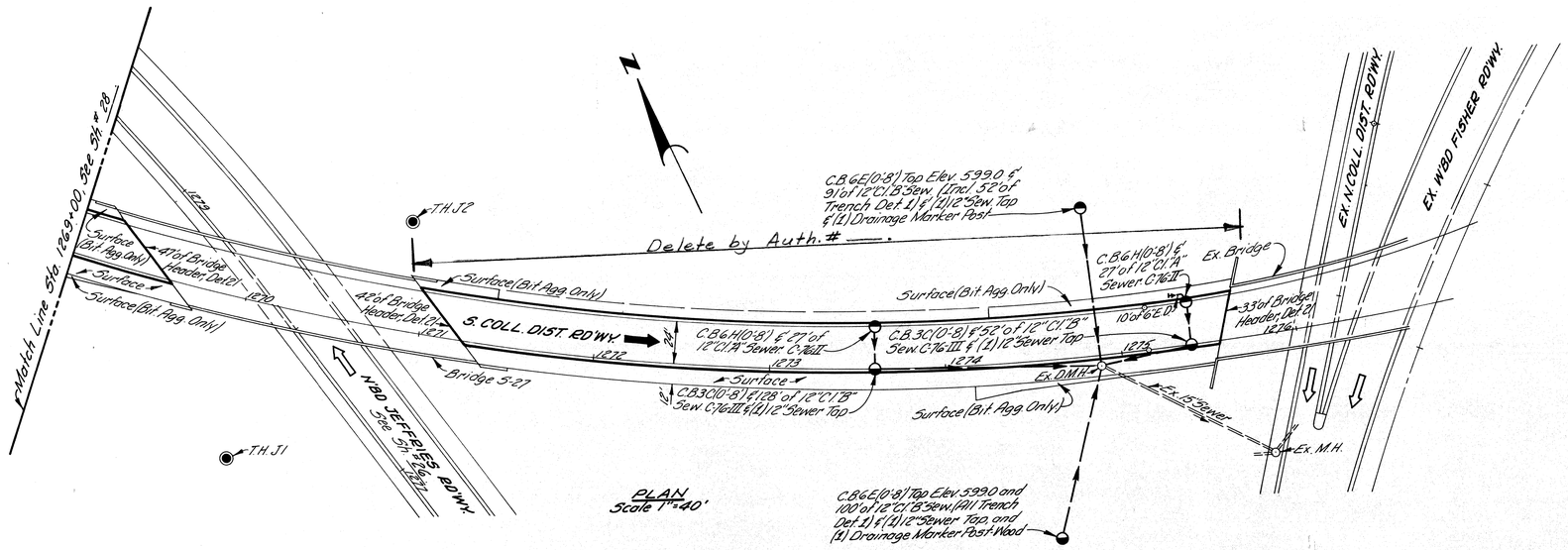
AUTH.	DATE	REVISION
		FINAL R. O. W.

OPERATION	BY	DATE
PRELIMINARY R.O.W. CHECKED		
FINAL DESIGN		
FINAL DESIGN CHECKED		
PROFILE PLOTTED		
FINAL R.O.W. CHECK		
QUANTITIES		
QUANTITIES CHECKED		
SQUAD		

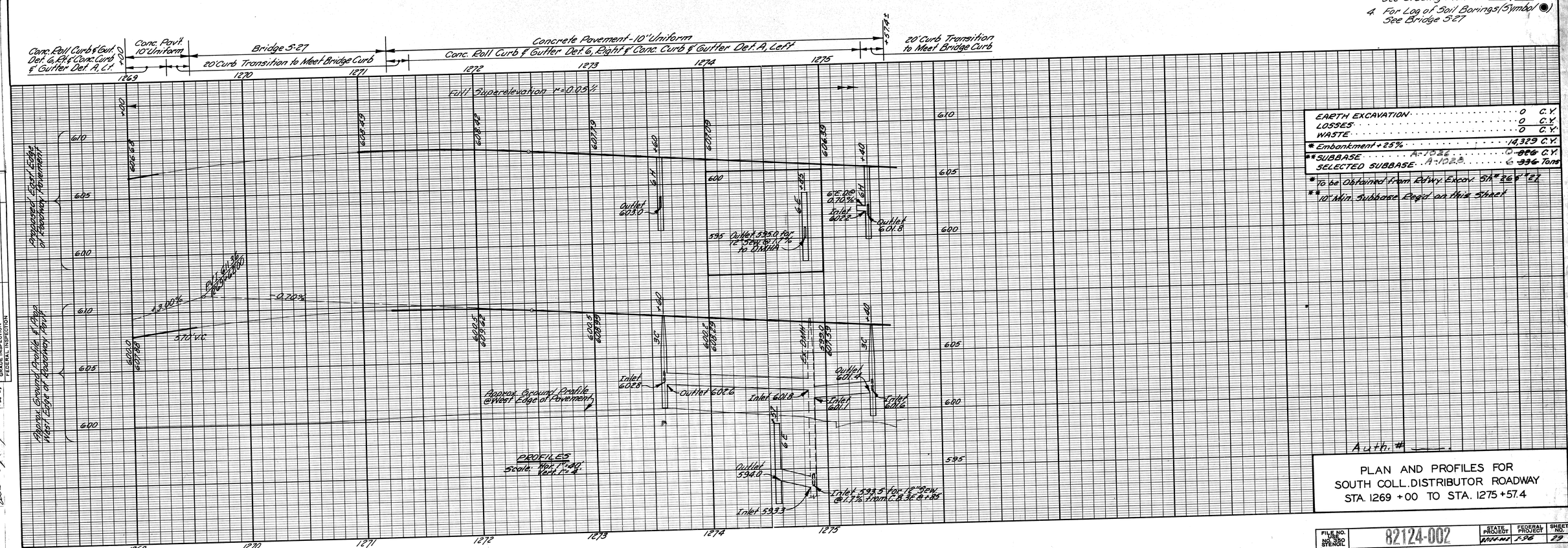
PLANS PREPARED BY
CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
CITY ENGINEERS OFFICE
BUREAU OF HIGHWAYS AND EXPRESSWAYS

OPERATION	BY	DATE
SURVEYED		
PLAN PLOTTED		
PLAN CHECKED		
PROFILE PLOTTED		
PROFILE CHECKED		
PRELIMINARY GRADE		
GRADE INSPECTION		
FIELD INSPECTION		

SQUAD LEADER		
DESIGNED BY	M. McLean	3/68
DETAILED BY	K. Hart	3/68
TRACED BY	R. Klatt	3/68
CHECKED BY	Allen E. Hayes	4-69



PLAN
Scale 1"=40'



EARTH EXCAVATION	0 C.Y.
LOSSES	0 C.Y.
WASTE	0 C.Y.
* Embankment + 25%	14,329 C.Y.
** SUBBASE A-1026	0 ~~886~~ C.Y.
** SUBBASE A-1028	6 ~~936~~ Tons
SELECTED SUBBASE	

* To be Obtained from Rdwy. Excav. Sh.# 26 & 27
** 10" Min. Subbase Reqd. on this Sheet

Auth. # ——

PLAN AND PROFILES FOR SOUTH COLL. DISTRIBUTOR ROADWAY STA. 1269 +00 TO STA. 1275 +57.4

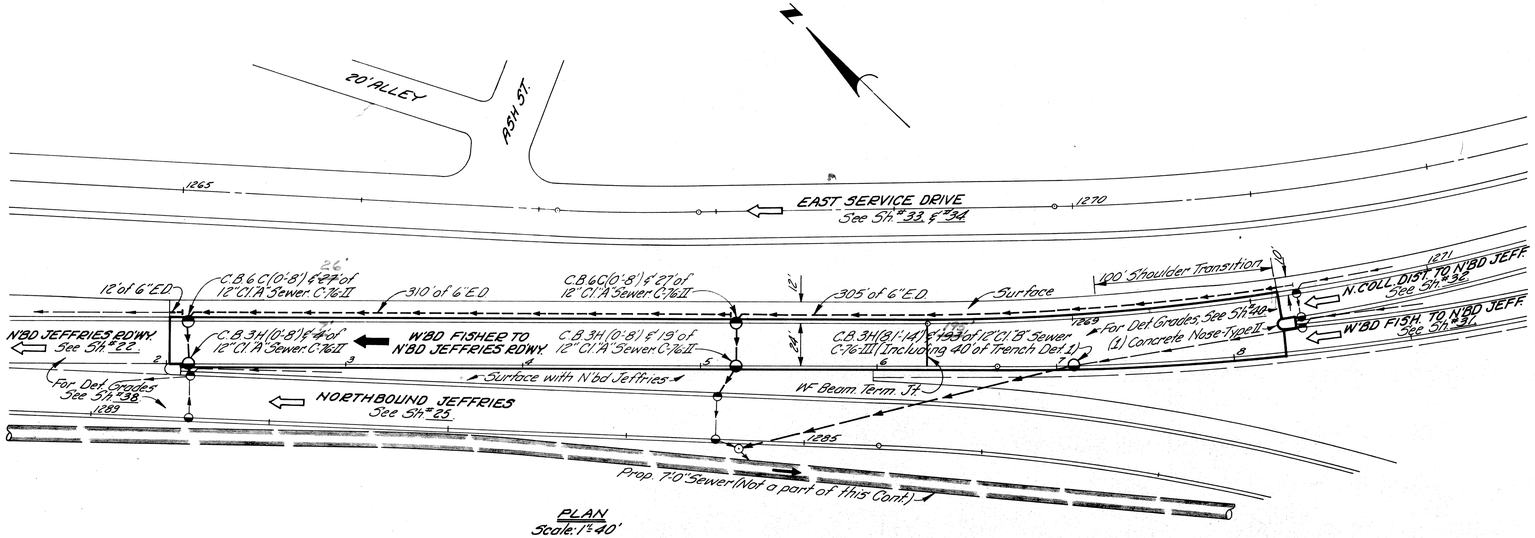
FILE NO. USE NO. 350 STENCIL	STATE PROJECT	FEDERAL PROJECT	SHEET NO.
82124-002	~~82124-002~~	I-96	29

AUTH.	DATE	REVISION
		FINAL R. O. W.

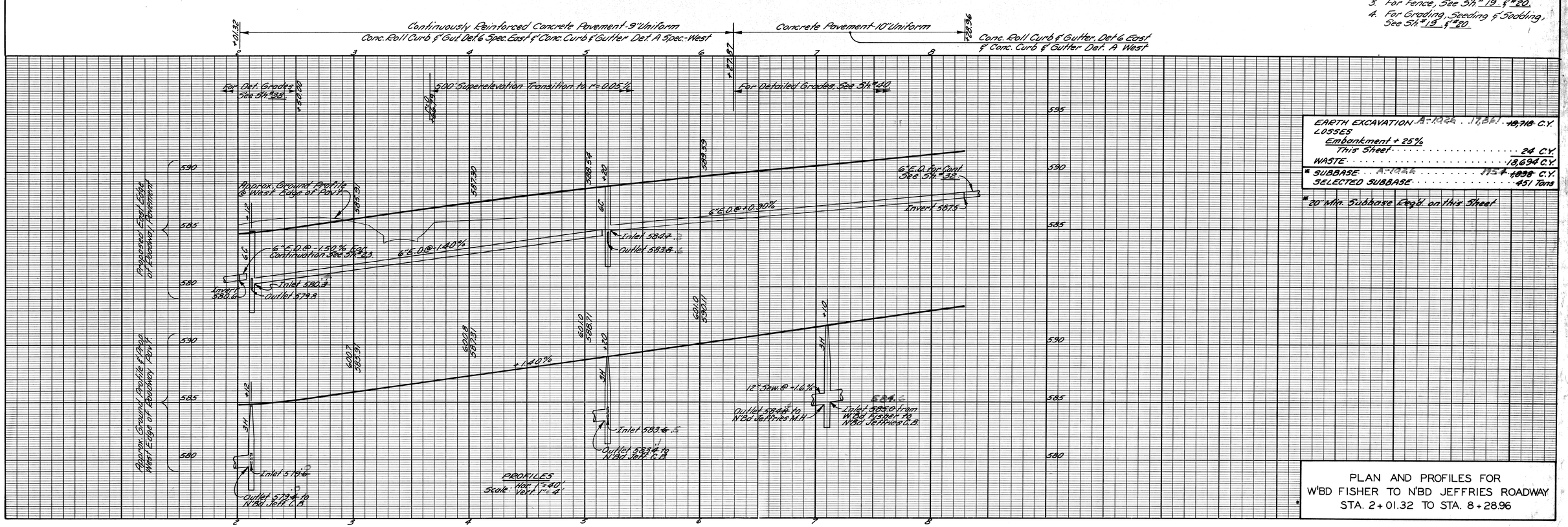
OPERATION	BY	DATE
PRELIMINARY R.O.W. CHECKED		
FINAL DESIGN		
FINAL DESIGN CHECKED		
PRICE ESTIMATED		
FINAL R. O. W. CHECK		
QUANTITIES		
QUANTITIES CHECKED		
SQUAD		

PLANS PREPARED BY
CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
CITY ENGINEERS OFFICE
BUREAU OF HIGHWAYS AND EXPRESSWAYS

OPERATION	BY	DATE
SURVEYED	N. McLean	3/68
PLAN PLOTTED	N. Pailie	3/68
PLAN CHECKED	R. Conly	
PROFILE PLOTTED		3/68
PROFILE CHECKED	Miller G	
PRELIMINARY GRADE		
GRADE INSPECTION		
FEDERAL INSPECTION		



PLAN
Scale: 1" = 40'



B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY		SHEET NO.	TOTAL SHEETS

B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY	City	SHEET NO.	TOTAL SHEETS
F-96	82124-002	Wayne	Detroit	30	

ALL WORK THIS SHEET
CONTROL SECTION 82194L

All Trenches on this sheet shall be Trench Def. 2, unless otherwise noted

QUANTITIES THIS SHEET

A-1026	Conc. Curb & Gut., Det. A	20~~200~~ Lin. Ft.
A-1024	Conc. Curb & Gut. Det. A Spec.	~~1,439~~ Lin. Ft.
A-1026	Conc. Roll Curb & Gut. Det. 6	~~199~~ Lin. Ft.
A-1024	Conc. Roll Curb & Gut. Det. 6 Spec.	~~2,357~~ Lin. Ft.
	Concrete Nose	1 Each
	Bit. Agg. Shldrs. Conc. Pavt.	55 Tons
A-1027	Bit. Prime Coat	~~125~~ 225 Gals.
A-1028	Class AA Shoulders	215 Tons

NOTES:
1. For Alignment, See Sh.# 13 & # 14
2. For Guard Rail, See Sh.# 19
3. For Fence, See Sh.# 19 & # 20.
4. For Grading, Seeding & Sodding, See Sh.# 19 & # 20

EARTH EXCAVATION A-1026 ~~17,881~~ 18,718 C.Y.
LOSSES
Embankment + 25%
This Sheet ~~4,470~~ 24 C.Y.
WASTE ~~13,411~~ 18,694 C.Y.
* SUBBASE A-1026 ~~1154~~ 1038 C.Y.
SELECTED SUBBASE 451 Tons

* 20" Min. Subbase Req'd. on this Sheet

PLAN AND PROFILES FOR
W'BD FISHER TO N'BD JEFFRIES ROADWAY
STA. 2+01.32 TO STA. 8+28.96

FILE NO. USE NO. 30 STENCIL	82124-002	STATE PROJECT	FEDERAL PROJECT	SHEET NO.
		82124-002	F-96	30

AUTH.	DATE	REVISION
		FINAL R. O. W.

OPERATION	BY	DATE
PRELIMINARY R. O. W. CHECKED		
FINAL DESIGN		
FINAL DESIGN CHECKED		
TRACED		
FINAL R. O. W. CHECK		
QUANTITIES		
QUANTITIES CHECKED		
SQUAD		

PREPARED BY
CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
CITY ENGINEERS OFFICE
BUREAU OF HIGHWAYS AND EXPRESSWAYS

OPERATION	BY	DATE
SURVEYED		
PLAN PLOTTED		
PLANIMETERED		
PROFILE PLOTTED		
PROFILE CHECKED		
PROFILE INTERFACE		
GRADE INSPECTION		
FEDERAL INSPECTION		

S. P. R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY		SHEET NO.	TOTAL SHEETS

S. P. R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY	City	SHEET NO.	TOTAL SHEETS
I-96	82124002	Wayne	Detroit	31	

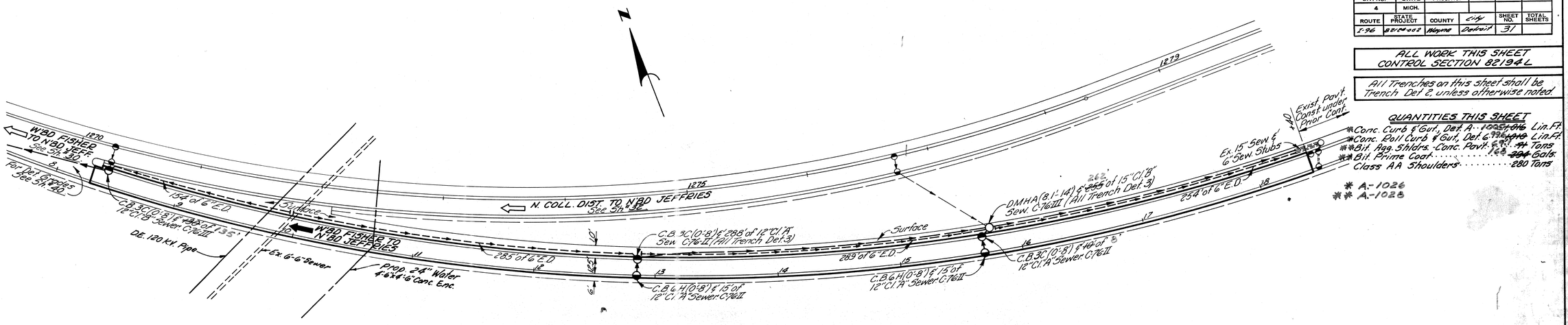
ALL WORK THIS SHEET
CONTROL SECTION 82194L

All Trenches on this Sheet shall be Trench Def C unless otherwise noted.

QUANTITIES THIS SHEET

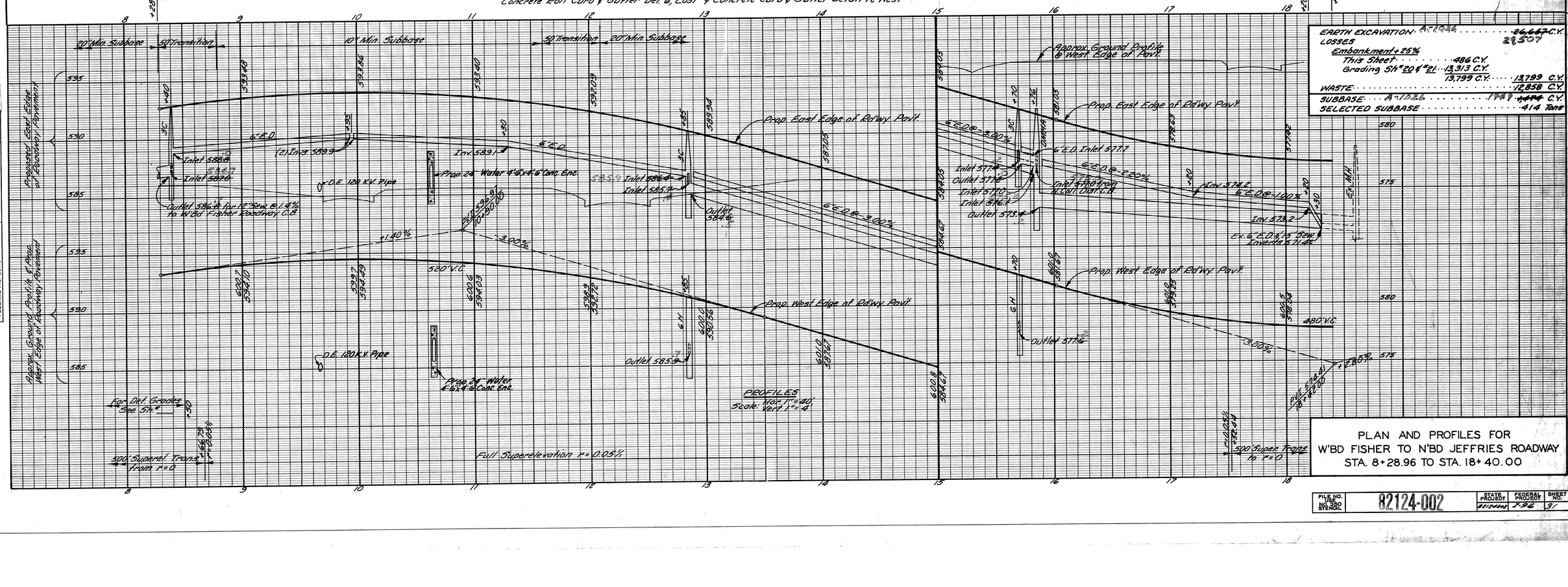
- *Conc. Curb & Gut., Det. A.: ~~1025~~ 1016 Lin. Ft.
- *Conc. Roll Curb & Gut., Det. C: ~~736~~ 1019 Lin. Ft.
- **Bit. Agg. Shldrs.-Conc. Pavt. ~~67~~ 71 Tons
- **Bit. Prime Coat ~~169~~ 204 Gals.
- Class AA Shoulders 280 Tons

* A-1026
** A-1028



PLAN
Scale: 1" = 40'

NOTES:
1. For Alignment, See Sh's 14 & 15.
2. For Grading, Seeding & Sodding See Grading Plan Sh's 20 & 21.



EARTH EXCAVATION

EARTH EXCAVATION: A-1026	26,667 C.Y.
LOSSES	21,507
Embankment + 25%	
This Sheet	486 C.Y.
Grading Sh's 20 & 21	13,313 C.Y.
	13,799 C.Y. 13,799 C.Y.
WASTE	12,858 C.Y.
SUBBASE A-1026	1741 1474 C.Y.
SELECTED SUBBASE	414 Tons

PLAN AND PROFILES FOR
W'BD FISHER TO N'BD JEFFRIES ROADWAY
STA. 8+28.96 TO STA. 18+40.00

FILE NO. USE NO. 350 STENCIL	82124-002	STATE PROJECT	FEDERAL PROJECT	SHEET NO.
		82124A2	I-96	31

N. McLean	3/08	
M. Polito	3/08	
S. Hoot	3/08	
Allen V. Rogers	4-48	

AUTH.	DATE	REVISION
		FINAL R. O. W.

OPERATION	BY	DATE
PRELIMINARY R.O.W. CHECKED		
FINAL DESIGN		
FINAL DESIGN CHECKED		
FINAL R.O.W.		
FINAL R.O.W. CHECK		
QUANTITIES		
QUANTITIES CHECKED		
SQUAD		

PLANS PREPARED BY
CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
CITY ENGINEERS OFFICE
BUREAU OF HIGHWAYS AND EXPRESSWAYS

OPERATION	BY	DATE
SURVEYED		
PLAN PLOTTED		
PLAN CHECKED		
PROFILE PLOTTED		
PROFILE CHECKED		
PROFILE APPROVED		
GRADE INSPECTION		
FEDERAL INSPECTION		

SQUAD LEADER
CHECKED BY
DRAWN BY
TRACED BY

M. Nelson	3/68	
M. Patla	3/68	
R. Combs	3/68	
Allen Hayes	Mar 68	

B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY		SHEET NO.	TOTAL SHEETS

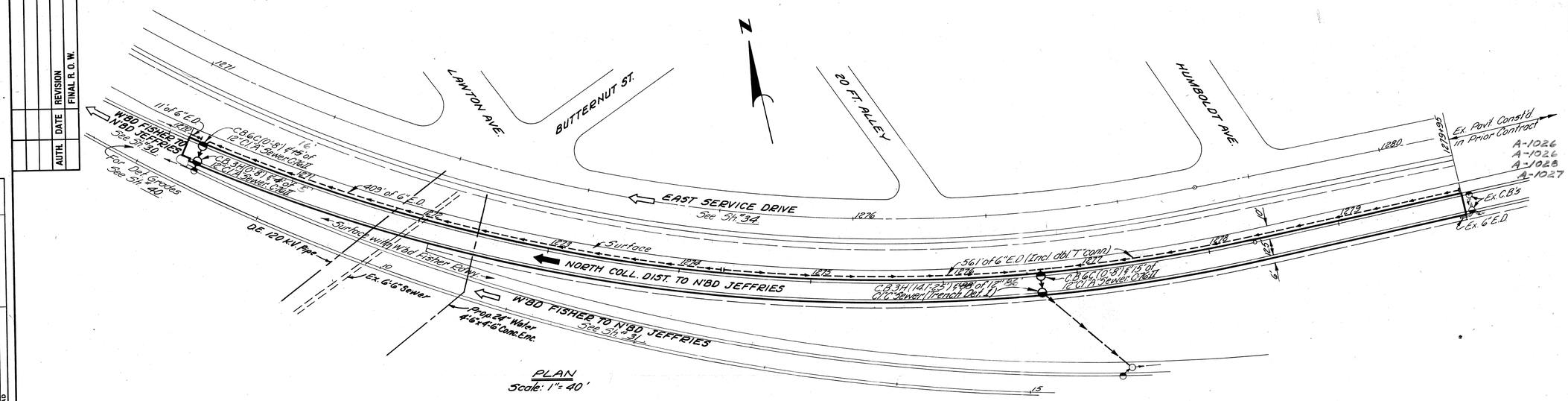
B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY	City	SHEET NO.	TOTAL SHEETS
F-96	82124-002	Wayne	Detroit	32	

ALL WORK THIS SHEET
CONTROL SECTION 82134L

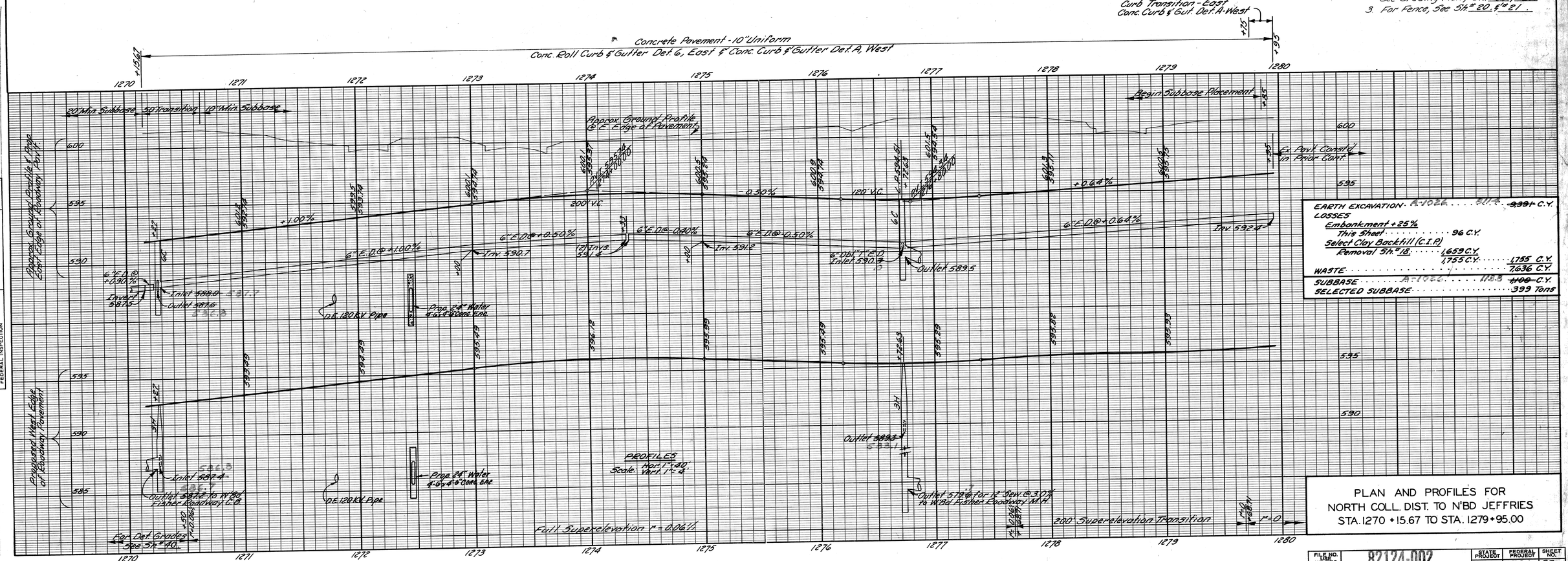
All trenches on this sheet shall be Trench Detail 2, unless otherwise noted.

QUANTITIES THIS SHEET

Conc. Curb & Gut. Det. A		782 ~~979~~ Lin. Ft.
Conc. Roll Curb & Gut. Det. 6		274 ~~379~~ Lin. Ft.
Bit. Agg. Shldrs.- Conc. Pavt.		60 ~~69~~ Tons
Bit. Prime Coat		164 ~~286~~ Gal.
Class AA Shoulders		272 Tons
EARTH EXCAVATION	A-1026	311 ~~9391~~ C.Y.
LOSSES		
Embankment +25%		
This Sheet		96 C.Y.
Select Clay Backfill (C.I.P.)		
Removal Sh. #18		1,659 C.Y.
		1,755 C.Y. 1,755 C.Y.
WASTE		7,636 C.Y.
SUBBASE	A-1026	1185 ~~1400~~ C.Y.
SELECTED SUBBASE		399 Tons



NOTES:
1. For Alignment, See Sh. #14 & #15.
2. For Grading, Seeding and Sodding See Grading Plan, Sh. #20 & #21.
3. For Fence, See Sh. #20 & #21.



PLAN AND PROFILES FOR
NORTH COLL. DIST. TO N'BD JEFFRIES
STA. 1270 + 15.67 TO STA. 1279 + 95.00

FILE NO. USE NO. 350 STENCIL	82124-002	STATE PROJECT	FEDERAL PROJECT	SHEET NO.
		82124-002	F-96	32

B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY		SHEET NO.	TOTAL SHEETS

B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY	City	SHEET NO.	TOTAL SHEETS
I-96	8214-002	Wayne	Detroit	33	

Utility Trenches on this sheet shall be Trench Det 9, unless otherwise noted.

OPERATION	BY	DATE
PRELIMINARY R.O.W. CHECKED		
FINAL DESIGN		
FINAL DESIGN CHECKED		
FINAL R.O.W.		
FINAL R.O.W. CHECK		
QUANTITIES		
QUANTITIES CHECKED		
SIGNED		

PLANS PREPARED BY
CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
HIGHWAYS AND STRUCTURES

OPERATION	BY	DATE
SURVEYED		
PLAN PLOTTED		
PLAN CHECKED		
PROFILE PLOTTED		
PROFILE CHECKED		
PRELIMINARY GRADE		
OFFICE INSPECTION		
FEDERAL INSPECTION		

3/68 N. McCann
3/68 W. Collins
3/68 R. Conroy
Wm. C. Hogan

C.B.M #6 Elev. 601.48 DET. on Flange of Hydrant S.W. Corner of Ash Street & Williams Avenue

C.B.M #3 Elev. 602.84 Arrow on Hydrant N.E. corner of Lawton St. & Butternut St.

Control Section 82124A | Control Section 82194L

Const. Under Prior Contract

Begin Pavt. Const.

MYRTLE ST. 34 Hspb.

ASH ST. 30' Hspb. 2' S of Conc. Curb Det 2A

E. SER. DR. REF. LINE

20 FT. ALLEY (Conc.) Ex. 15.00 ROW

1' TO property line

2' TO property line

Varies
3dwk. Expansion Joint (Typical)
Slope to drain
4" Concrete Sidewalk
Ex. Ground
Prop. Pavt (Typ.)
Gran. Matl. Cl. III
9" Conc. Curb Det. 2 (Typ.)
SECTION A-A

Sidewalk
Class 'A' Sodding
For Def. Grades See Sht. #
Surface
R.O.W.
Prop. 5 M.H.
Prop. 24" San. Sewer
Prop. 27" San. Sewer
Cont. Joint (Incidental) Sidewalk
37' to Bridge Header Det 2A
Bridge 503
240 Bit. Conc. Curb for details see Sketch below (For Continuation See Sht. #35)
NORTHBOUND JEFFRIES See Sht. # 22
WBD FISHER TO NBD JEFFRIES See Sht. #30
NORTHBOUND JEFFRIES See Sht. #25
EAST SERVICE DRIVE
Match Line Sta. 1269+00 See Sht. #34

C.B.3M (8.1-14) & 330' of 12" Cl. B Sewer C-76-III
C.B.3M (8.1-14) & 460' of 12" Cl. B Sewer
C.B.3MT (0-8) & 220' of 12" Cl. A Sewer C-76-II
C.B.3MT (8.1-14) & 330' of 12" Cl. A Sewer C-76-II
C.B.3MT (14.1-25) & 140' of 12" Cl. B Sewer
C.B.6M (0-8) & 290' of 12" Cl. A Sewer C-76-II
C.B.3MT (0-8) & 350' of 12" Cl. A Sewer C-76-II
C.B.3MT (8.1-14) & 260' of 12" Cl. B Sewer C-76-III
C.B.6M (0-8) & 290' of 12" Cl. A Sewer C-76-II

PLAN
Scale: 1"=40'

Conc. Pavt - 9" Uniform
Conc. Pavt - 9" Unif. Spec. High Early Str.
Concrete Pavement - 9" Uniform
7" Conc. Curb Det 2, Left
Conc. Curb & Gut. Det A, Left
7" Concrete Curb Detail 2, Right & Left
Conc. Curb & Gut. Det A, Right

Approx. Ground Profile & R.O.W.
Prop. Top of East Curb
Prop. Pavt Crown @ ℄ Pavt
Prop. Top of West Curb
For Detailed Grades, See Sht. # 41
+0.50%
-2.60%
-0.40%
+0.40%
30' V.C.
Prop. 5 M.H.
Prop. 24" San. Sewer
Ex. 2'0" x 2'8" San. Sewer Invert 588.93

PROFILES
Scale: Hor. 1"=40' Vert. 1"=4'

Bit. Conc. Curb Detail "L"
Prop. Pavt.
Bit. Bond Coat Est. 0.10 gal/sq. yd.

NOTES:
1. For Alignment, See Sht. # 13
2. For Guard Rail, See Sht. # 19
3. For Fence, See Sht. # 19
4. Existing Sidewalk to remain
5. Remove Bit. Surface to provide for a smooth connection and to adjust crown. Replace with Bit. Conc. Pavt.

QUANTITIES THIS SHEET

Item	Cont. Sect. 82124A	Cont. Sect. 82194L	Unit
Conc. Curb, Det. 2	402	1,613	Lin. Ft.
Conc. Curb, Det. 2A	—	22	Lin. Ft.
Conc. Curb & Gut., Det. A	71	60	Lin. Ft.
4" Conc. Sidewalk	2227	4016	Sq. Ft.
Bit. Conc. Leveling Course	2	2	Tons
Bit. Conc. Wearing Course 3 1/4A	2	2	Tons
Bit. Agg. Shldrs. - Conc. Pavt.	4	10	Tons
Bit. Bond Coat	50	70	Gals.
Class A Sodding	90	160	Sq. Yds.
Removing Bit. Surface	2920	5320	Sq. Yds.
Bit. Conc. Curb, Det. L	227	446	Lin. Ft.

CONTROL SECT. 82194 L

EARTH EXCHANGE A-1026	C.Y.
LOSSES	1986
Embankment +25%	
This Sheet	260 C.Y.
WASTE	1,714 C.Y.

CONTROL SECT. 82124 A

EARTH EXCAVATION	93 C.Y.
LOSSES	0
WASTE	93 C.Y.
* Embankment +25%	119 C.Y.

* To be Obtained from Roadway Excav., Sht. # 23

PLAN AND PROFILES FOR EAST SERVICE DRIVE NORTH OF MYRTLE ST. TO STA. 1269+00

FILE NO. USE NO. 350 STENCIL	82124-002	STATE PROJECT	FEDERAL PROJECT	SHEET NO.
		M-I-96-4(81)	I-96	33

C.B.M.#3 Elev. 602.84 Arrow on Hydrant N.E. corner Lawton Ave. & Butternut St.

C.B.M.#4 Elev. 603.52 DET on Flange of Hydrant S.E. corner Humboldt Ave. and Butternut St.

AUTH.	DATE	REVISION
		FINAL R. O. W.

OPERATION	BY	DATE
PRELIMINARY R. O. W. CHECKED		
FINAL DESIGN		
FINAL DESIGN CHECKED		
PROFILE		
FINAL R. O. W. CHECK		
QUANTITIES		
QUANTITIES CHECKED		
SQUAD		

OPERATION	BY	DATE
SURVEYED	3 GB	3/68
PLAN PLOTTED	3 GB	3/68
PLAN CHECKED		
PROFILE PLOTTED		
PROFILE CHECKED		
PRELIMINARY GRADE		
GRADE INSPECTION		
FEDERAL INSPECTION		

PLANS PREPARED BY
CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
CITY ENGINEERING OFFICE
BUREAU OF HIGHWAYS AND TRAFFIC

N. McLEOD
W. POLLO
S. HOLZ
WILLIAM C. HOGAN

B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY		SHEET NO.	TOTAL SHEETS

B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY	City	SHEET NO.	TOTAL SHEETS
7.96	82124-002	Wayne	Detroit	34	

ALL WORK THIS SHEET
CONTROL SECTION 82124 L

Utility Trenches on this sheet shall be Trench Def 9, unless otherwise noted.

QUANTITIES THIS SHEET

Conc. Curb, Det. 2 A-1027 ~~2371~~ 2049 Lin. Ft.
4" Conc. Sidewalk A-1032 ~~5674~~ 5341 Sq. Ft.
* Bit. Conc. Leveling Course 5.5 6 Tons
* Bit. Conc. Wearing Course, 3 1/2 A ~~5~~ 7.5 Tons
* Bit. Agg. Shldrs. - Conc. Pav't. ... ~~23~~ 20 Tons
* Bit. Bond Coat. A-1042 ... 0 ~~13~~ 23 Gals.
* Class A Sodding ... 78.9 ~~660~~ 56 Sq. Yds.
* Removing Bit. Surface 20 ~~113~~ 113 Sq. Yds.
Conc. Dr'wy. Returns, Det. 15 32 ~~45~~ Lin. Ft.
* 7" Concrete Side Walk ... 320 Sq. Ft.
* By Auth. # ____
* A-1028

NOTES:
1. For Alignment, See Sh. # 14 & 15.
2. For Guard Rail, See Sh. # 20 & 21.
3. For Fence, See Sh. # 20 & 21.
4. ■ Existing Sidewalk to remain.
5. ▨ Remove Bit. Surface to provide for a smooth connection & to adjust crown. Replace with Bit. Conc. Pav't.
6. ▨ Surfacing

PLAN
Scale: 1" = 40'

Concrete Pavement - 9" Uniform
7" Concrete Curb Detail 2, Right & Left

PROFILES
Hor. 1" = 40'
Scale: Vert. 1" = 4'

EARTH EXCAVATION A-1026 ... ~~2757~~ C.Y.
LOSSES 2,519
Embankment +25%
This Sheet ... 250 C.Y.
WASTE ... 2,507 C.Y.

Auth. #

PLAN AND PROFILES FOR
EAST SERVICE DRIVE
STA. 1269+00 TO HUMBOLDT AVE.

FILE NO. USE NO. 230 STENCIL	STATE PROJECT	FEDERAL PROJECT	SHEET NO.
82124-002	(MICH)	F-96	34

B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY		SHEET NO.	TOTAL SHEETS

B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY	City	SHEET NO.	TOTAL SHEETS
I-96	82124-002	Wayne	Detroit	35	

Utility Trenches on this sheet shall be Trench Detail 9, unless otherwise noted

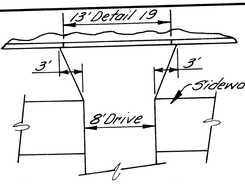
QUANTITIES THIS SHEET

Item	Cont. Sect. 82124A	Cont. Sect. 82194L	Unit	
Conc. Curb, Det. 2	490	~~1,539~~ 1,049	Lin. Ft.	A-1032
Conc. Curb & Gut, Det. A	~~2,730~~ 2,730	~~2,721~~ 2,721	Lin. Ft.	A-1026
4" Conc. Sidewalk	2,996	~~8,706~~ 5,710	Sq. Ft.	A-1032
7" Conc. Sidewalk	~~3,390~~ 3,390	~~4,454~~ 1,064	Sq. Ft.	A-1027
Bit. Conc. Leveling Course	2	2	Tons	
Bit. Conc. Wearing Course, 3/4A	2	2	Tons	
Bit. Agg. Slkfrs.-Conc. Pavt.	3	~~20~~ 23	Tons	A-1028
Bit. Bond Coat	8.0	7.0	Gals.	A-1027
Class A Sodding	135	~~595~~ 576	Sq. Yds.	A-1027
Removing Bit. Surface	38	~~33~~ 20	Sq. Yds.	A-102.3

NOTES:

1. For Alignment, See Sh. # 13
2. For Guard Rail, See Sh. # 19
3. For Fence, See Sh. # 19
4. Existing Sidewalk to remain
5. Removing Bit. Surface to provide for a smooth connection and to adjust crown. Replace with Bit. Conc. Pavt.
6. A total of 26 Lin. Ft. of Drwy. Opening Def. 19, has been incl. on this sheet.

13' Detail 19



DRIVEWAY DETAIL

C.B.M. #7 Elev. 601.64 DET. on Flange of Hydrant S.W. corner Myrtle Street & Williams Avenue

C.B.M. #6 Elev. 601.48 DET. on Flange of Hydrant S.W. corner Ash Street and Williams Avenue

Control Section 82124A | Control Section 82194L

SOUTHBOUND JEFFRIES See Sh. # 22

SOUTH COLL. DISTRIBUTOR See Sh. # 28

SOUTHBOUND JEFFRIES See Sh. # 27

WEST SERVICE DRIVE

W. SERV. DR.

WILLIAMS AVE. 26' Asph.

MYRTLE ST. 32' Asph.

ASH ST. 30' Asph.

Bit. Conc. Curb, See Sh. # 33

Bridge 5.03

97' of Bridge Header Det. 2

Sidewalk

C.B. 3M(8.1/4B) & 1/10 of 12 Cl. B Sew. C-76-III

C.B. 3M(8.1/4B) & 1/10 of 12 Cl. A Sewer C-76-III

C.B. 3M T(8'-1") & 330 of 12 Cl. A Sewer C-76-II

C.B. 3M(10'-8") & 46 of 12 Cl. A Sewer C-76-II

C.B. 3M T(10'-8") & 33 of 12 Cl. A Sewer C-76-II

C.B. 3M(10'-8") & 92' of 12 Cl. A Sewer C-76-II

C.B. 3M T(10'-8") & 75' of 12 Cl. A Sewer C-76-II

C.B. 6M(10'-8") & 23' of 12 Cl. A Sewer C-76-II

C.B. 3M(8'-1 1/4") & 82' of 12 Cl. B Sewer C-76-III

C.B. 6M(10'-8") & 16.12 of 12 Cl. A Sewer

C.B. 32T(8'-1 1/4") & 66' of 12 Cl. B Sewer C-76-III

C.B. 32T(10'-8") & 55' of 12 Cl. B Sewer C-76-III

D.M.H. 24A0(8'-1 1/4")

D.M.H. 24A0(8'-1")

Const. Under Prior Cont.

Surface

See Sh. #

For Det. Grades, See Sh. # 4

Ex. 21"x28" Sewer

Ex. 30"x44" B Sewer

Ex. 42"x70" B Sewer

Class "A" Sodding

Sidewalk

R.O.W.

Gar.

7' Conc. Sdwk. See Driveway Detail

Ex. 15"x20" Sew.

Match Line Sta. 283+50 Sh. #

PLAN Scale: 1"=40'

Concrete Pavement - 9" Uniform

7" Concrete Curb Detail 2, Right and Left

Conc. Pavt. - 9" Unif. Spec. High Early Str.

Conc. Curb & Gut, Det. A Lt.

7" Conc. Curb, Det. 2 Rt.

Conc. Pavt. 9" Unif. Spec. High Early Str.

Bond Line

+00 | +20 | +33.00

For Detailed Grades, See Sh. # 4

Prop. Top of East Curb

Prop. Pavt. Crown @ ℄ Pavt.

Approx. Ground Profile @ R.O.W.

Prop. Top of West Curb

+0.80% | -0.70% | +0.60%

40 V.C. | 40 V.C.

Inlet 594.8 | Outlet 594.6 | Inlet 594.2 | Outlet 594.0 | Inlet 593.9 | Outlet 593.7 | Inlet 593.7 from West C.B. | Outlet 593.5 | Inlet 593.4 | Outlet 593.2 | Inlet 593.0 | Outlet 592.8 | Inlet 592.6 | Outlet 592.4 | Inlet 592.2 | Outlet 592.0 | Inlet 591.8 | Outlet 591.6 | Inlet 591.4 | Outlet 591.2 | Inlet 591.0 | Outlet to D.M.H. 390A | Inlet 590.8 | Outlet 590.4

Ex. 21"x28" Sewer Invert 586.2±

Outlet 593.2 to D.M.H. | Inlet 593.4

Outlet 593.8 | Inlet 593.5 | Inlet 593.0 | Outlet 592.6

Ex. 15"x20" Sewer

Ex. Inv. 588.5±

PROFILES Hor. 1"=40' Scale: Vert. 1"=4

CONTROL SECT. 82194L	
EARTH EXCAVATION	~~1,500~~ C.Y. 925
LOSSES	
Embankment + 25%	
This Sheet	326 C.Y.
WASTE	1,174 C.Y.

CONTROL SECT. 82124A	
EARTH EXCAVATION	437 C.Y.
LOSSES	
Embankment + 25%	
This Sheet	45 C.Y.
WASTE	392 C.Y.

PLAN AND PROFILES FOR WEST SERVICE DRIVE STA. 280+00 TO STA. 289+50

FILE NO. USE NO. 350 STENCIL	82124-002	STATE PROJECT	FEDERAL PROJECT	SHEET NO.
		82124A	I-96	35

PLANS PREPARED BY
CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
CITY ENGINEER'S OFFICE
BUREAU OF HIGHWAYS AND EXPRESSWAYS

OPERATION	BY	DATE
PRELIMINARY R.O.W. CHECKED		
FINAL R.O.W. CHECKED		
FINAL DESIGN CHECKED		
TRACED		
PRINTS & NEG. CHECK		
QUANTITIES CHECKED		
SQUAD		

AUTH.	DATE	REVISION
		FINAL R.O.W.

OPERATION	BY	DATE
SURVEYED		
PLAN PLOTTED		
PLAN CHECKED		
PROFILE PLOTTED		
PROFILE CHECKED		
PRELIMINARY INSPECTION		
FINAL INSPECTION		
FEDERAL INSPECTION		

SENIOR LEADER	N. McCargo	3/68
DESIGNED	M. Zolfo	3/68
TRACED		
CHECKED	P. Conly	3/68
SUPERVISOR	Allen E. Pryor	Mar 68

C.B.M.#5 Elev. 602.04 DET on Flange of Hydrant
West Side of Williams Ave. 295' South of Ash St.

C.B.M.#2 Elev. 601.25 Arrow on Hydrant
W. Side of Williams Ave. 345' S. of Butternut St.

B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY		SHEET NO.	TOTAL SHEETS

B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY	City	SHEET NO.	TOTAL SHEETS
I-96	82124-082	Wayne	Detroit	36	

ALL WORK THIS SHEET
CONTROL SECTION 82194L

Utility Trenches on this sheet shall be Trench Def. 9, unless otherwise noted

QUANTITIES THIS SHEET

A-1032	Conc. Curb, Def. 2	~~1751~~ 1949 Lin. Ft.
A-1030	Conc. Curb, Def. 2A	~~0~~ 16 Lin. Ft.
A-1032	4" Conc. Sidewalk	3663 ~~5976~~ Sq. Ft.
	Bit. Conc. Leveling Course	2 Tons
	Bit. Conc. Wearing Course, 3 1AA	2 Tons
A-1028	Bit. Agg. Shldrs. - Conc. Pavt.	~~38~~ 20 Tons
A-1027	Bit. Bond Coat	~~6~~ 0 Gals
	Class AA Shoulders	30 Tons
A-1027	Class A Sodding	665 ~~1033~~ Sq. Yds.
A-1023	Removing Bit. Surface	10 ~~32~~ Sq. Yds.
A-1026	Conc. Drwy. Returns, Def. 15	~~45~~ Lin. Ft.
	Adjusting Manhole Covers	0 ~~1~~ Each
A-1014	Reconstructing Manholes	0 ~~1~~ Each
A-1027	7" Conc. Sidewalk	3201 ~~5911~~ Sq. Ft.

SOUTHBOUND JEFFRIES
See Sh.# 27

Match Line Sta. 289+50 See Sh.# 35

C.B.6M(0-8)E 23 of 12" Cl. A Sewer C.76II

7" Concrete Sidewalk See Drwy. Detail Sh.#

Ex. 15"x20" Sewer

C.B.3MT(14.1-25") E Prof. 12" Cl. B Sewer E (1.1) 12" Sewer Top

Cl. A Sodding

Sidewalk

Adjust Ex. S.M.H.

C.B.3MT(8.1-14") E 13' of 12" Cl. B" Sewer C.76III E (1.1) 12" Sewer Top.

WEST SERVICE DRIVE

C.B.6M(0-8) E 23' of 12" Cl. A" Sewer C.76II

42'

C.B.3MT(0-8) E 38' of 12" Cl. A" Sewer C.76II E (1.1) 12" Sewer Top

Ex. 15"x20" Sewer

Delete by Auth. #

Sidewalk

Def. 15.2

Reconst. Ex. M.H.

Cl. A Sodding

Sidewalk 20' W

Conc. Pavt. 8" Uniform

Cl. AA Shldrs.

Ex. 24" Sewer

20 FT. ALLEY (One Way)

MICHIGAN AVE. 90' Asph.

Sidewalk

WILLIAMS AVE. 26' Asph.

BUTTERNUT ST. 26' Asph.

Ex. 7'8" Sewer

Ex. 15'x20" Sewer

Gar.

#3040

#3039

NOTE: Location of Driveways shown on the plan are approximate only. Final locations of Driveways and P.L.C. Poles, are to be as directed by the Engineer.

PLAN
Scale: 1" = 40'

Concrete Pavement - 9" Uniform
7" Concrete Curb Detail 2, Right & Left

4" Conc. Sdwk. & 15' of Conc. Curb, Def. 2A

NOTES:

1. For Alignment, See Sh.# 14.
2. For Guard Rail, See Sh.# 20.
3. For Fence, See Sh.# 20.
4. ▬ Existing Sidewalk to remain.
5. ▨ Remove Bit. Surface, to provide for a smooth connection & to adjust crown. Replace with Bit. Concrete Pavement.
6. A total of 208 Lin. Ft. of Drwy. Opening Def. 19, has been incl. on this sheet.

Prop. Top of East Curb

Prop. Pavt. Crown @ ℄ of Pavt.

Approx. Ground Profile @ R.O.W.

Prop. Top of West Curb

Outlet 593.2

Inlet 592.4

Outlet 592.4

Ex. 15"x20" Sewer

Outlet 586.7±

592.4

Ex. 15"x20" Sewer

Inlet 586.5±

PROFILES
Scale: Hor. 1" = 40'
Vert. 1" = 4'

Meet Ex. Pavt.

Prop. Top of Curb

Prop. Pavt. Edge

Proposed Top of Curb

Inlet 593.0

Inlet 592.6

Outlet 592.8

593.1

EARTH EXCAVATION A-1026 ..... 2016. ~~2,098~~ C.Y.
LOSSES
Embankment +25%
This Sheet ..... 590 C.Y.
WASTE ..... 1,492 C.Y.

Auth. # _____

PLAN AND PROFILES FOR
WEST SERVICE DRIVE
STA. 289+50 TO MICHIGAN AVE.

FILE NO. USE NO. 330 STENCIL	82124-002	STATE PROJECT	FEDERAL PROJECT	SHEET NO.
		MICHIGAN	I-96	36

OPERATION	BY	DATE
PRELIMINARY R.O.W. CHECKED		
FINAL DESIGN		
FINAL DESIGN CHECKED		
FINAL R.O.W.		
FINAL R.O.W. CHECK		
QUANTITIES		
QUANTITIES CHECKED		
SQUAD		

PLANS PREPARED BY
CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
CITY ENGINEERS OFFICE
BUREAU OF HIGHWAYS AND EXPRESSWAYS

OPERATION	BY	DATE
SURVEYED		
PLAN PLOTTED		
PLAN CHECKED		
PROFILE PLOTTED		
PROFILE CHECKED		
PRELIMINARY GRADE		
GRADE INSPECTION		
FINAL INSPECTION		

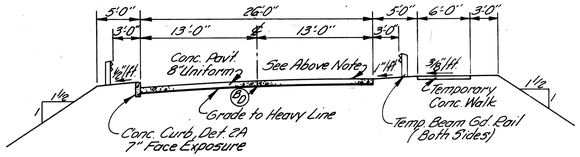
SQUAD LEADER	M. McLean	3/68
TRACED BY	M. Pollio	3/68
DESIGNED BY	R. Cramp	3/68
CORRECT	Allen E. Sayer	Mar 68

B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY		SHEET NO.	TOTAL SHEETS

B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY	City	SHEET NO.	TOTAL SHEETS
I-96	82124-002	Wayne	Detroit	37	

ALL WORK THIS SHEET
CONTROL SECTION 82124L

NOTE: As an option the detour may be poured to a 24' width with the additional width being cast as an integral curb or the integral curb alternate, See Sh. # 11. The detour will be paid for as 26 pavement & concrete curb detail 2A regardless of method of construction.



TYPICAL SECTION FOR DETOUR ROADWAY

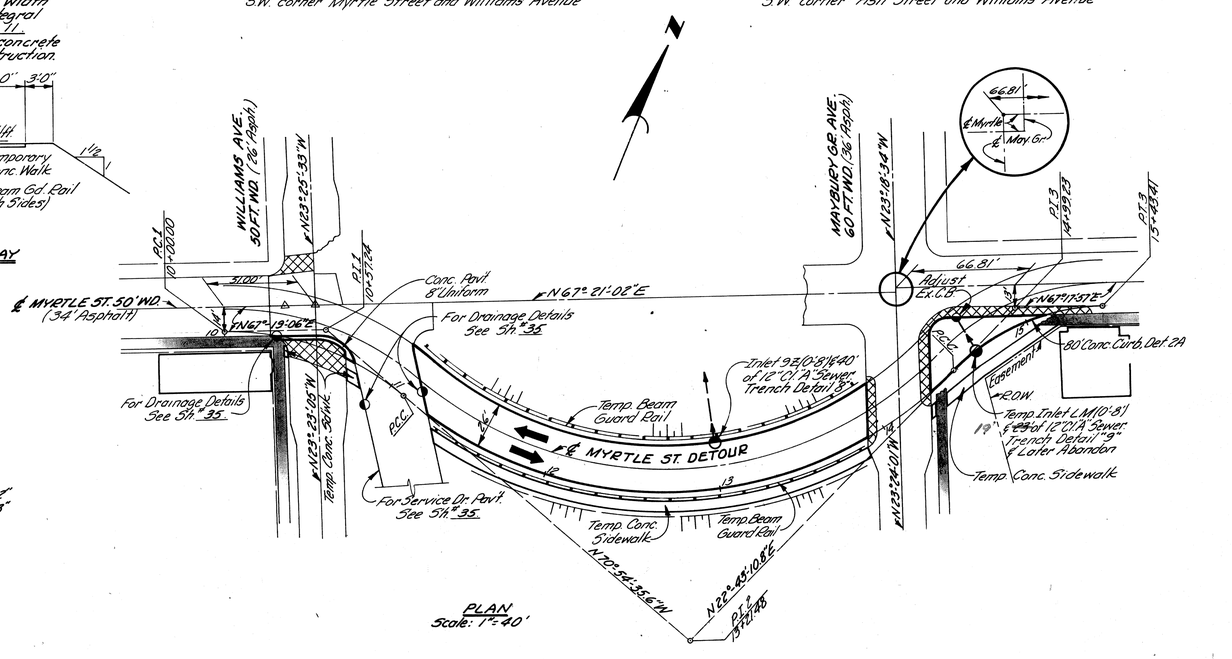
On TEMPORARY CONCRETE PAVEMENT omit Transverse Expansion & Contraction Joints and place at 50 foot intervals, Transverse Plane of Weakness Joints according to Detail No. 5 of Std. Plan E-4-A-33J. Omit Longitudinal Lane Tie Bars at D Joints. Transverse Expansion Joints will be required at both ends of Temp. Pavement.

CURVE DATA FOR MYRTLE ST. DETOUR

Curve #1	Curve #2	Curve #3
Δ = 41°-46'-18.4"	Δ = 86°-27'-13.6"	Δ = 44°-34'-46.2"
D = 38°-11'-49.9"	D = 25°-21'-01.6"	D = 47°-44'-47.3"
R = 150.00'	R = 226.00'	R = 120.00'
T = 57.84'	T = 212.12'	T = 49.19'
L = 109.36'	L = 340.68'	L = 93.37'
E = 10.55'	E = 83.95'	E = 9.69'
PC. = 10+00.00	PC. = 11+09.36	PC. = 14+50.04
P.I. = 10+57.84	P.I. = 13+21.48	P.I. = 14+99.23
P.T. = 11+09.36	P.T. = 14+50.04	P.T. = 15+43.41

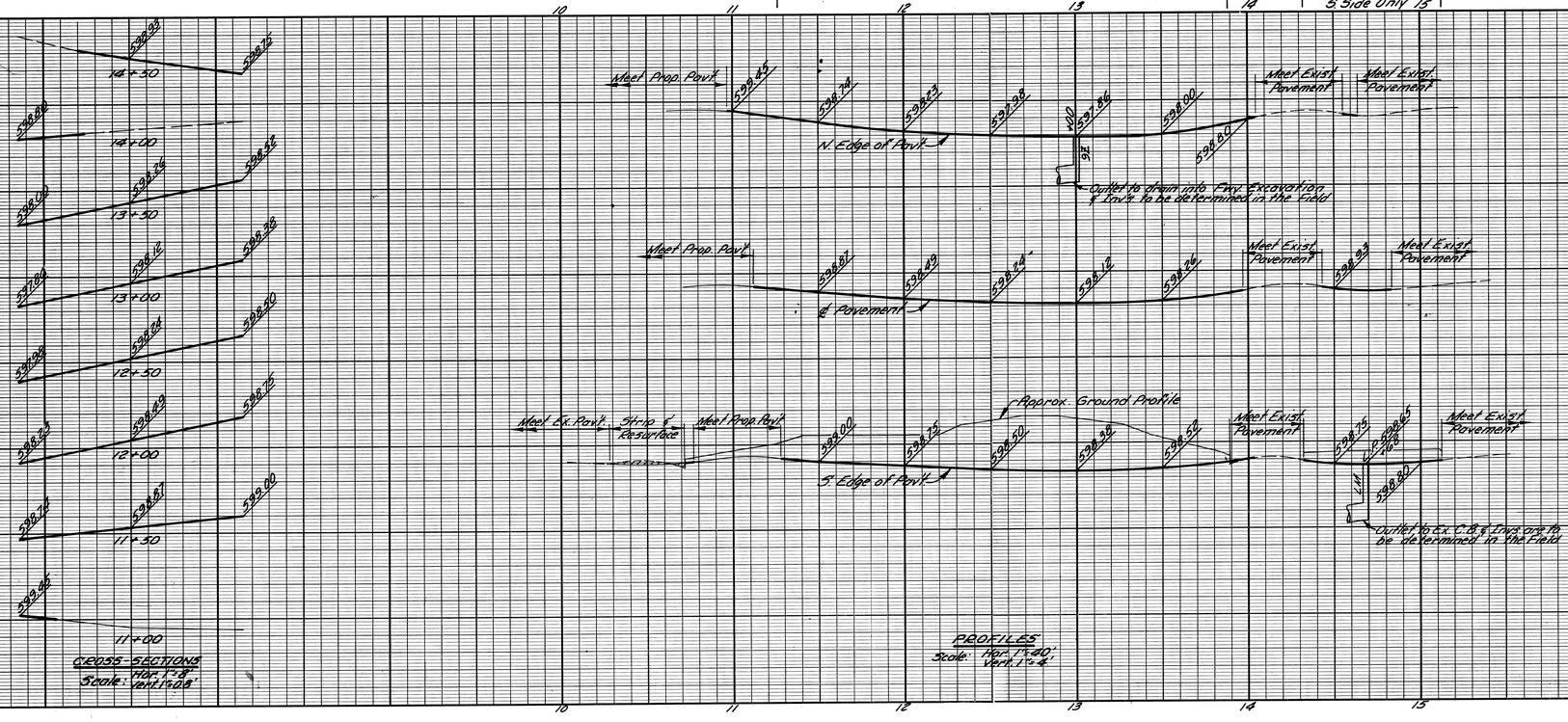
C.B.M. #7 Elev. 601.64 DET. on Flange of Hydrant S.W. corner Myrtle Street and Williams Avenue

C.B.M. #6 Elev. 601.48 DET. on Flange of Hydrant S.W. corner Ash Street and Williams Avenue



PLAN
Scale: 1"=40'

Prop. or Exist. Pavt.	Temp. Conc. Pavt. 8" Uniform 7" Conc. Curb Det. 2A-N. Side Only	Ex. Pav't.	Temp. Conc. Pavt. 8" Unif. Conc. Curb, Det. 2A S. Side Only	Exist. Pavt.
10	11 12 13	14	15	



CROSS-SECTIONS
Scale: Hor. 1"=8'
Vert. 1"=8'

PROFILES
Scale: Hor. 1"=40'
Vert. 1"=4'

EARTH EXCAVATION A-1026 ... 113 ~~108~~ C.Y.
LOSSES ... 0
WASTE ... 108 C.Y.

QUANTITIES THIS SHEET

	A-1030	Concrete Curb, Det. 2A ... ~~367~~ ~~356~~ Lin. Ft.
* 2417	A-1027	Temp. Concrete Sidewalk ... * ~~2446~~ Sq. Ft.
		Bit. Conc. Leveling Course ... 3 Tons
	A-1028	Bit. Conc. Wearing Course, 3 1AA ... ~~2~~ 11 Tons
	A-1027	Bit. Bond Coat ... 0 ~~44~~ Gals.
	A-1023	Removing Bit. Surface ... 0 ~~478~~ Sq. Yds.
		Adjusting Catch Basin Covers ... 1 Each

See Sh. # 3 for Billing of
1. All Barricades
2. Temporary Beam Guard Rail
3. Bit. Matls. req'd to maintain traffic during stage const. of approaches.

NOTES:
1. Final Trim & Cleanup on this Detour Shall be incidental to the project.
2. For Myrtle St. Bridge, See 503 of 82124A
3. For Pavt. Joint Legend, See Sh. # 11.
4. For Const. Sequence & Barricade Placement, See Shs. # 3 & 4.
5. ■ Existing Sidewalk to remain.
6. ▨ Remove Bit. Surface & Replace with Bit. Conc. Pavt.

PLANS PREPARED BY
CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
CITY ENGINEERS OFFICE
BUREAU OF HIGHWAYS AND EXPRESSWAYS

OPERATION	BY	DATE
PRELIMINARY PLAN CHECKED		
FINAL DESIGN		
FINAL DESIGN CHECKED		
FINAL QUANTITIES		
FINAL H. & O. W. CHECK		
QUANTITIES		
QUANTITIES CHECKED		
SQUAD		

OPERATION	BY	DATE
SURVEYED		
PLAN PLOTTED		
PLAN CHECKED		
PROFILE PLOTTED		
PROFILE CHECKED		
PRELIMINARY GRADE		
GRADE INSPECTION		
FEDERAL INSPECTION		

SCALE FEMER
20 10 0
25 15 0 BY
30 20 0
CONTOUR

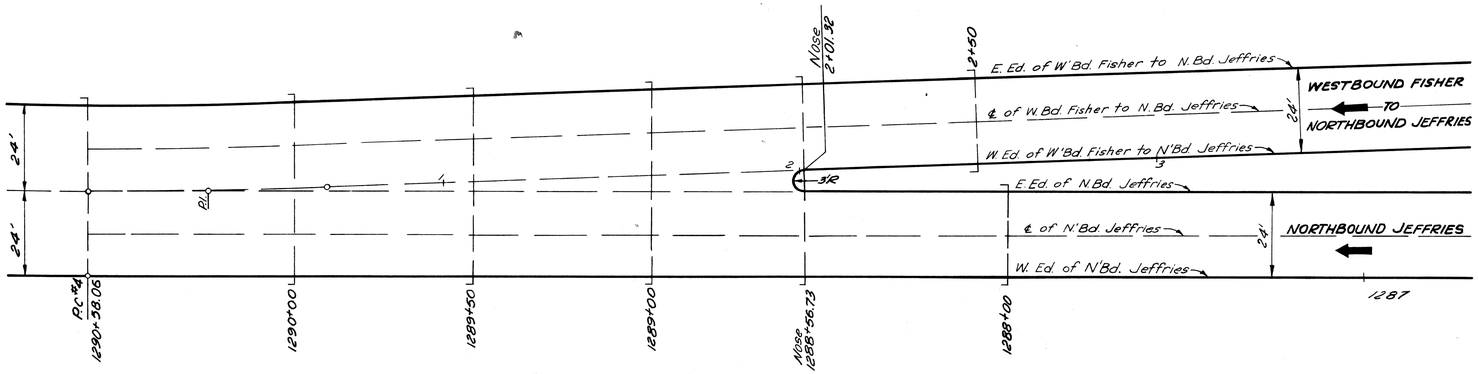
H. McLean 3/68
E. Lord 3/68
R. Kost
Wm. E. Logan 4-6-68

PLAN AND PROFILES FOR MYRTLE STREET DETOUR

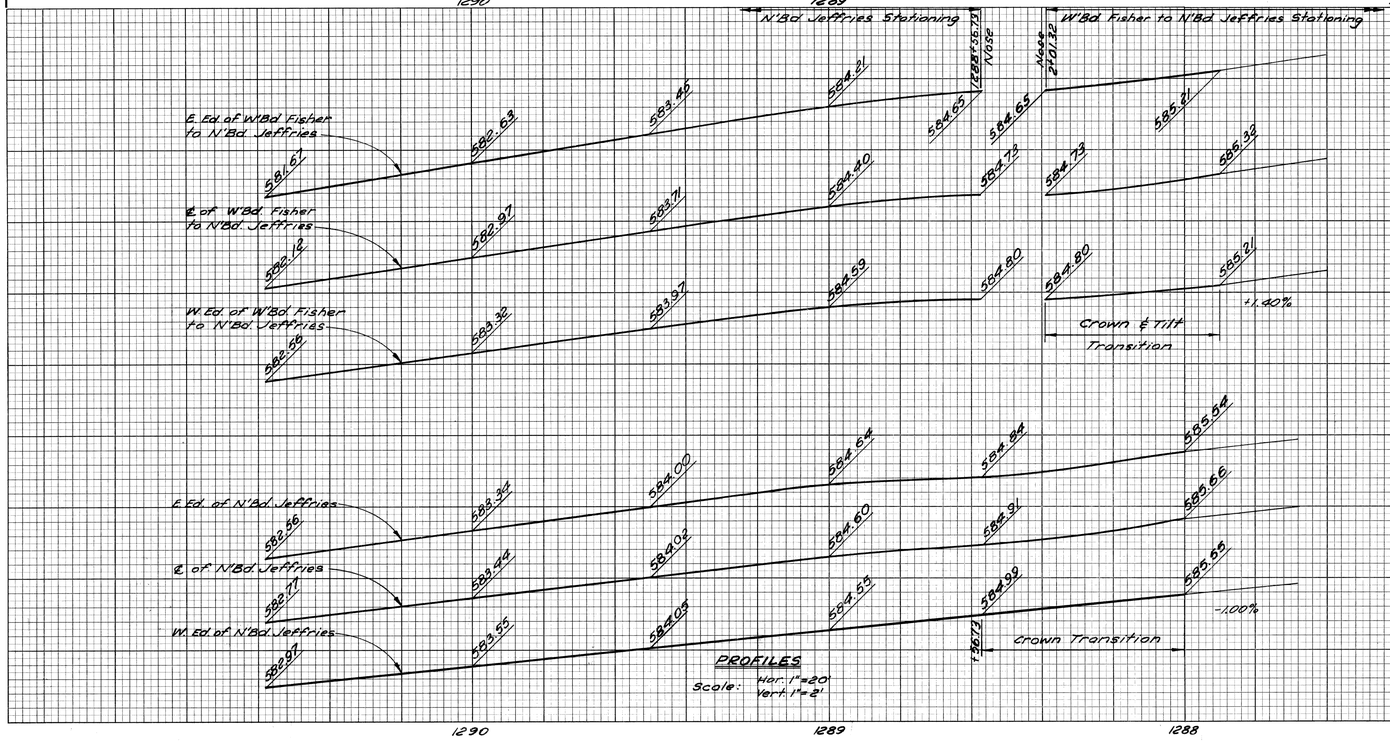
FILE NO. USE NO. 380 STENCIL	82124-002	STATE PROJECT	FEDERAL PROJECT	SHEET NO.
		~~STP-002~~	F-96	37

B. P. R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY		SHEET NO.	TOTAL SHEETS

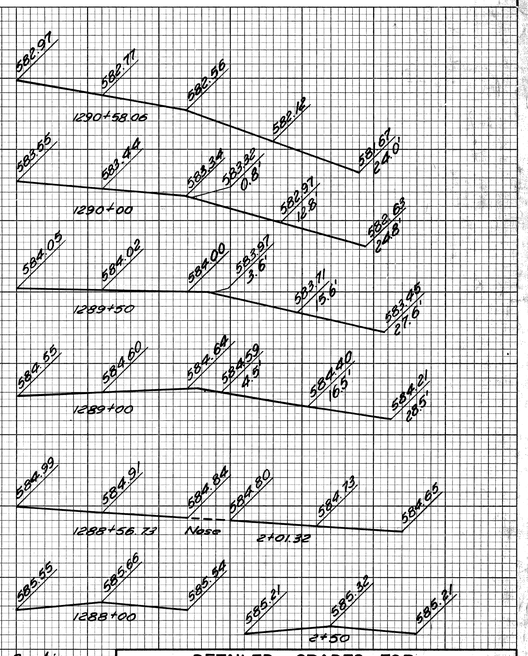
B. P. R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY	CITY	SHEET NO.	TOTAL SHEETS
I-96	82124-002	WAYNE	DETROIT	38	



PLAN
Scale: 1" = 20'



PROFILES
Scale: Hor. 1"=20'
Vert. 1"=2'



Cross Sections
Scale: Hor. 1"=10'
Vert. 1"=1'

DETAILED GRADES FOR W'BD FISHER TO N'BD JEFFRIES AT N'BD JEFFRIES

OPERATION	BY	DATE
PRELIMINARY R.O.W. CHECKED		
FINAL ROW		
FINAL DESIGN CHECKED		
TRACED		
FINAL R.O.W. CHECK		
QUANTITIES		
QUANTITIES CHECKED		
SQUAD		

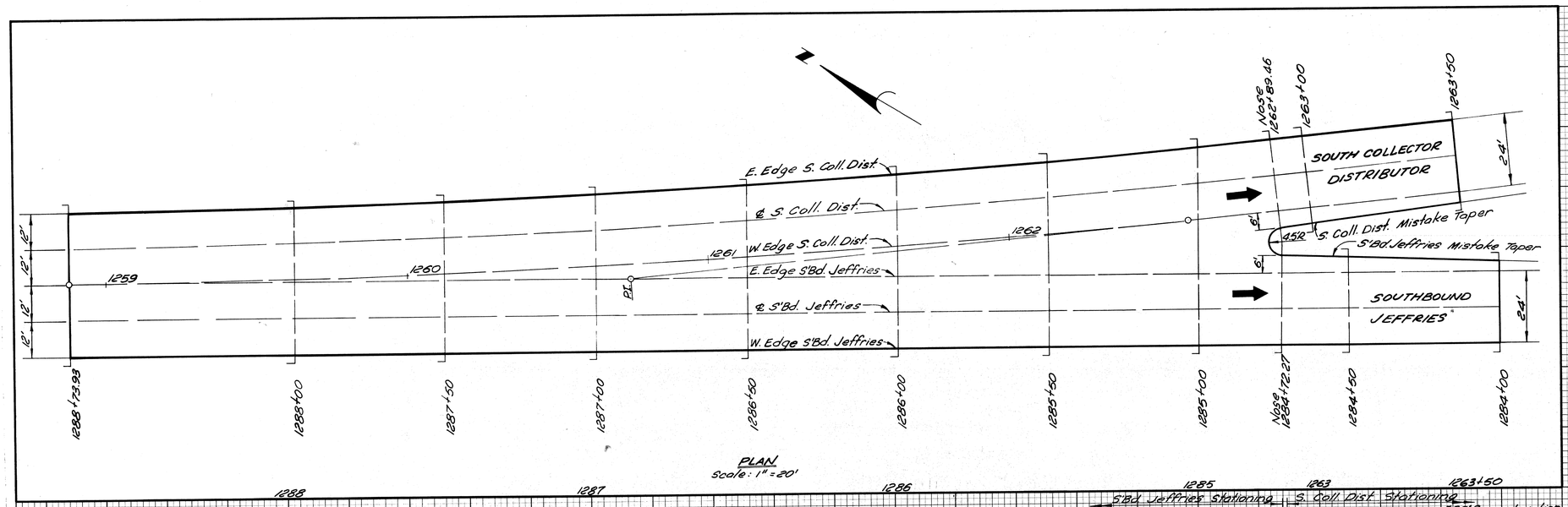
OPERATION	BY	DATE
SURVEYED		
PLAN PLOTTED		
PLAN TRACED		
PROFILE PLOTTED		
PROFILE CHECKED		
PROFILE TYPING CHECKED		
GRADE INSPECTION		
FEDERAL INSPECTION		

PLANS PREPARED BY
CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
CITY ENGINEERS OFFICE
BUREAU OF HIGHWAYS AND EXPRESSWAYS

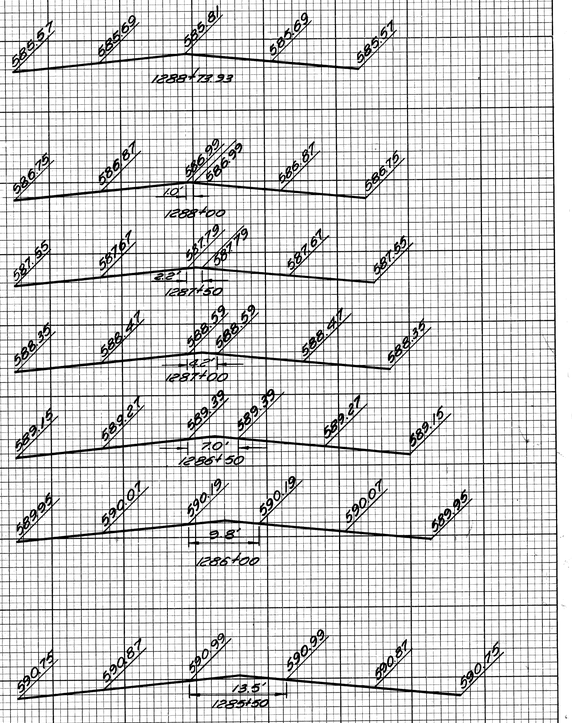
N. Nelson 3/68
R. LaSalle 3/68
R. Kloft 3/68
Allen E. Poage 3/68

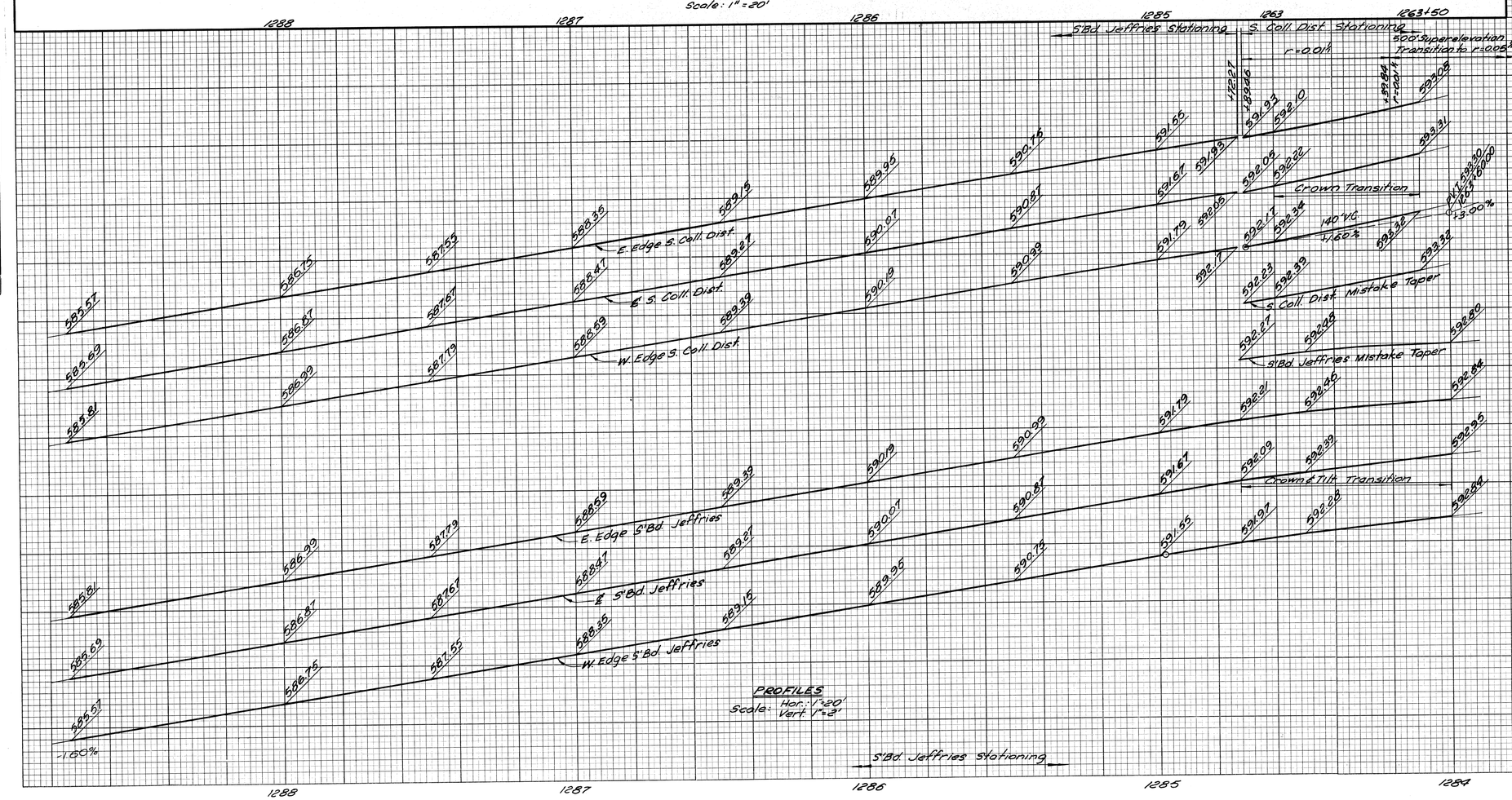
FILE NO. 138 NO. 330 STENCIL	82124-002	STATE PROJECT 82124-002	FEDERAL PROJECT I-96	SHEET NO. 38

B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY	TWP.	SHEET NO.	TOTAL SHEETS
I-96	82124-002	Wayne	Detroit	39	

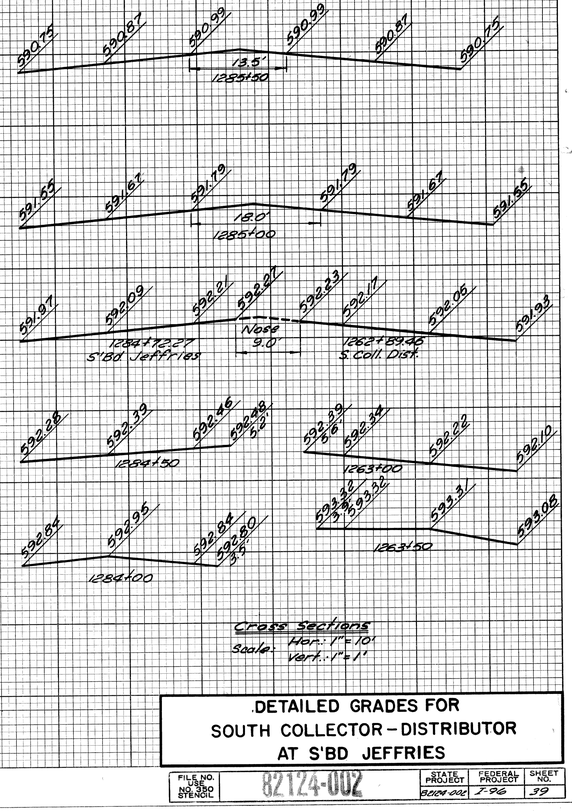


PLAN
Scale: 1" = 20'





PROFILES
Scale: Hor.: 1"=20'
Vert. 1"=2'



Cross Sections
Scale: Hor.: 1"=10'
Vert.: 1"=1'

DETAILED GRADES FOR
SOUTH COLLECTOR – DISTRIBUTOR
AT S'BD JEFFRIES

FILE NO. USC NO. 330 STENCIL	82124-002	STATE PROJECT	FEDERAL PROJECT	SHEET NO.
		82124-002	I-96	39

DATE | BY
PLOTTED
COMPUTED
CHECKED

3/68 N. McLean
3/68 N. Lasalle
3/68 R. Combs
Mar. 67 Glenn J. Rogers

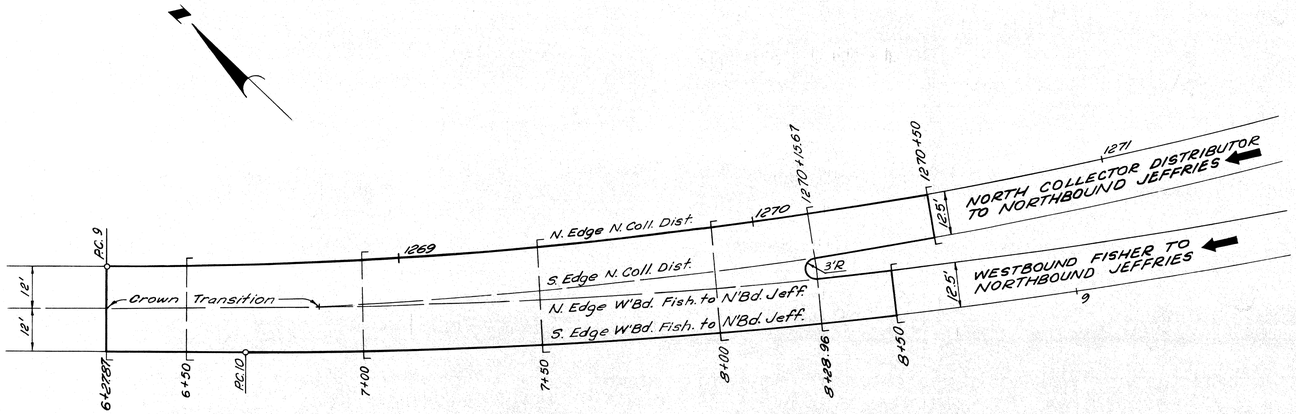
B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY		SHEET NO.	TOTAL SHEETS

B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY	City	SHEET NO.	TOTAL SHEETS
I-96	82124-002	Wayne	Detroit	40	

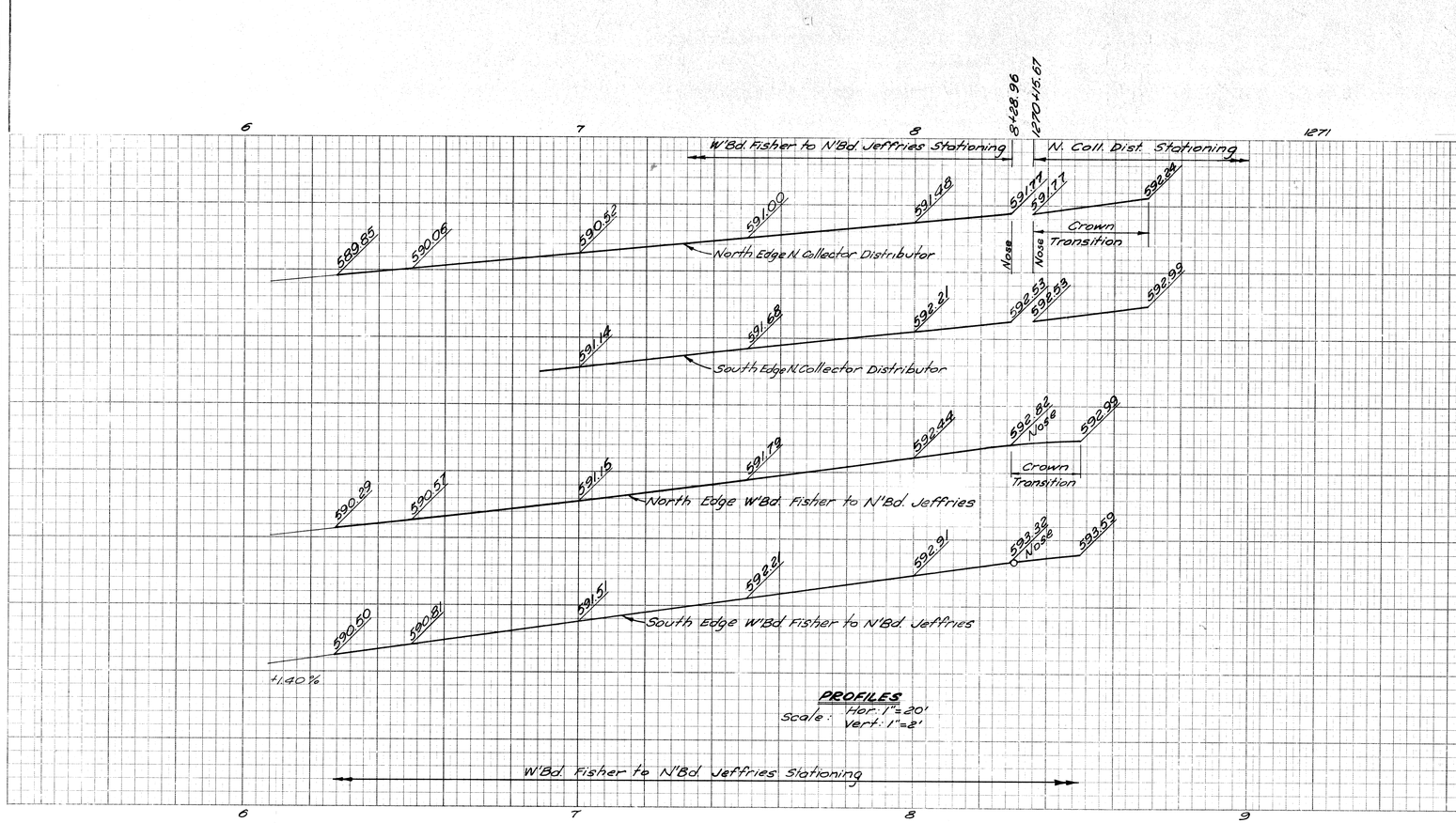
OPERATION	BY	DATE
PRELIMINARY R.O.W. CHECKED		
FINAL DESIGN CHECKED		
FINAL DESIGN CHECKED		
TRACED		
FINAL R.O.W. CHECK		
QUANTITIES		
QUANTITIES CHECKED		
CHECKED		

OPERATION	BY	DATE
SURVEYED		
PLAN PLOTTED		
PLAN CHECKED		
PROFILE PLOTTED		
PROFILE CHECKED		
PRELIMINARY GRADE		
GRADE INSPECTION		
FEDERAL INSPECTION		

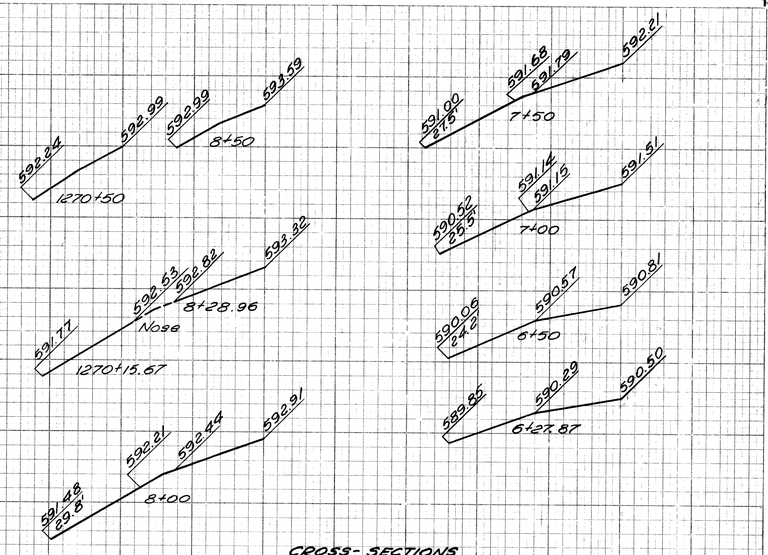
3/68 N. McLeod
3/68 L. Sobbe
Mar. 67 P. Comly
Allen E. Sayen



PLAN
Scale: 1"=20'



PROFILES
Scale: Hor. 1"=20'
Vert. 1"=2'



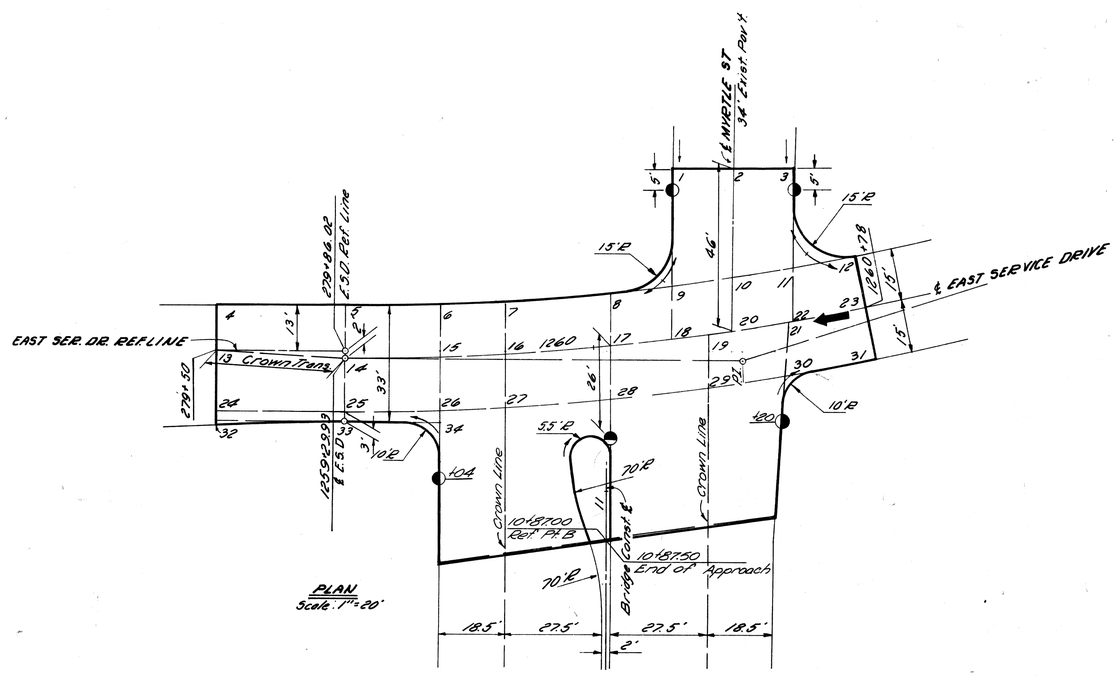
CROSS-SECTIONS
Scale: Hor. 1"=10'
Vert. 1"=1'

DETAILED GRADES FOR N'BD COLLECTOR-DISTRIBUTOR AT W'BD FISHER TO N'BD JEFFRIES

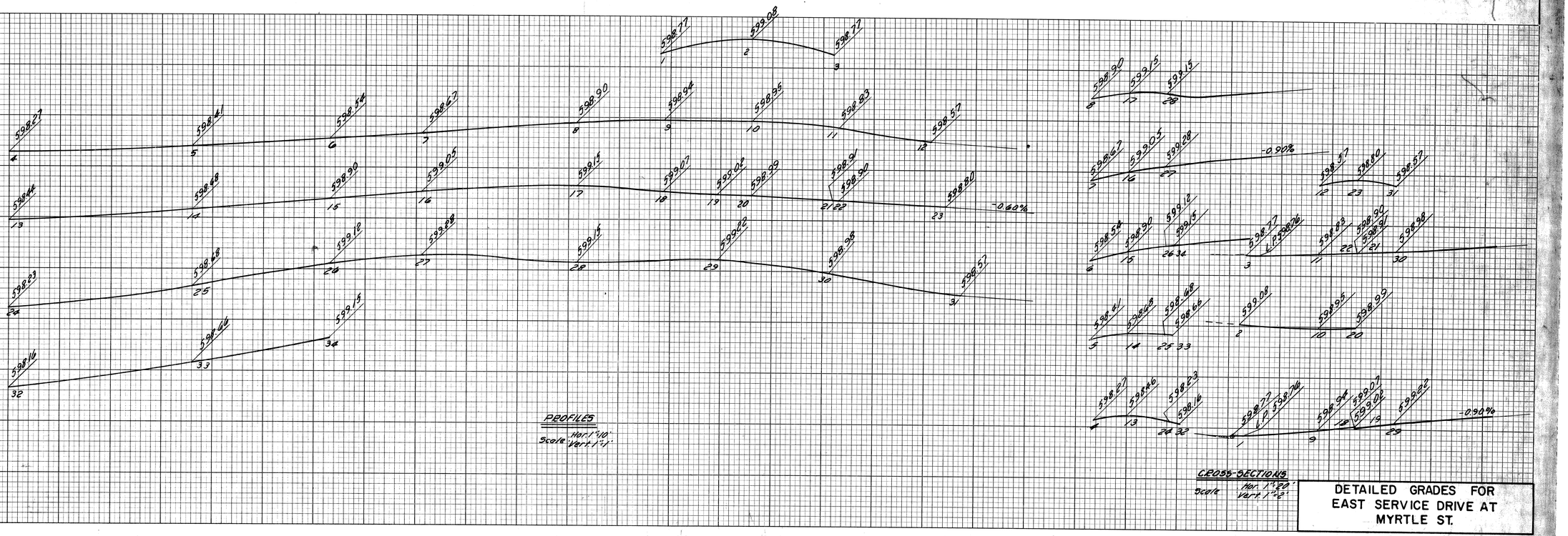
FILE NO. USE NO. 350 STENCIL	82124-002	STATE PROJECT	FEDERAL PROJECT	SHEET NO.
		82124-002	I-96	40

B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY		SHEET NO.	TOTAL SHEETS

B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY	City	SHEET NO.	TOTAL SHEETS
F-96	82124002	Wayne	Detroit	41	



PLAN
Scale: 1"=20'



PROFILES
Scale Hor. 1"=10'
Vert. 1"=1'

CROSS-SECTIONS
Scale Hor. 1"=20'
Vert. 1"=2'

DETAILED GRADES FOR EAST SERVICE DRIVE AT MYRTLE ST.

OPERATION	BY	DATE
PRELIMINARY R.O.W. CHECKED		
FINAL DESIGN		
FINAL DESIGN CHECKED		
TRACED		
FINAL R.O.W. CHECK		
COMPUTED		
QUANTITIES CHECKED		
SQUAD		

PLANS PREPARED BY
CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
CITY ENGINEERS OFFICE
BUREAU OF HIGHWAYS AND EXPRESSWAYS

OPERATION	BY	DATE
SURVEYED	N. Pestegan	3/68
PLAN PLOTTED	N. Bastile	3/68
PLAN CHECKED	P. Conoly	
PROFILE PLOTTED	Allan E. Fenger	3/68
PROFILE CHECKED		
PRELIMINARY GRADE		
GRADE INSPECTION		
FEDERAL INSPECTION		

FILE NO. USE NO. 330 STENCIL	82124-002	STATE PROJECT	FEDERAL PROJECT	SHEET NO.
		82124002	F-96	41

B. P. R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY		SHEET NO.	TOTAL SHEETS

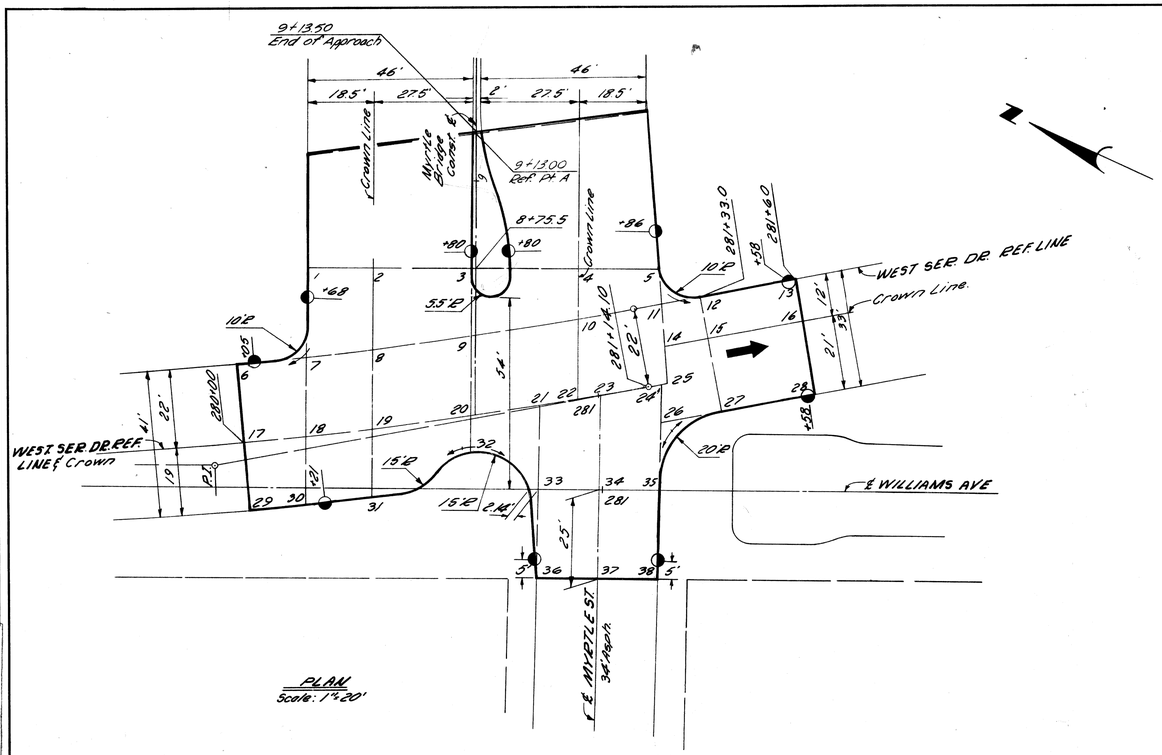
B. P. R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY	City	SHEET NO.	TOTAL SHEETS
F.96	82124-002	Wayne	Detroit	42	

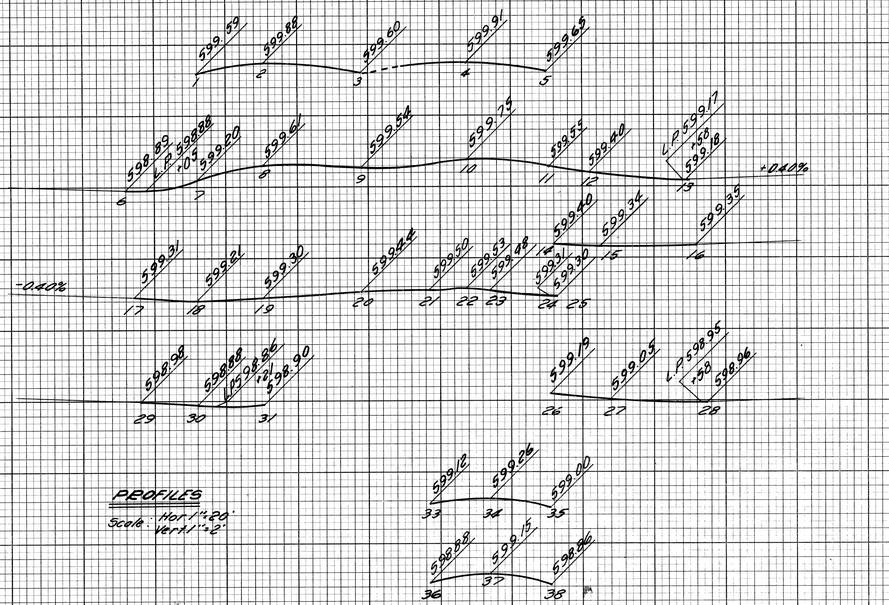
OPERATION	BY	DATE
PRELIMINARY R.O.W. CHECKED		
FINAL R.O.W. CHECKED		
FINAL DESIGN CHECKED		
TRACED		
FINAL R.O.W. CHECK		
QUANTITIES		
QUANTITIES CHECKED		
SQUAD		

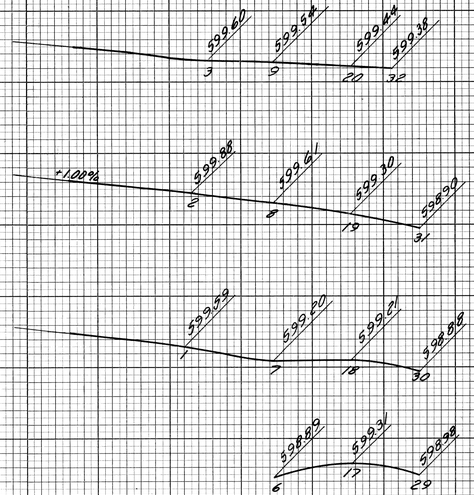
PLANS PREPARED BY
CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
CITY ENGINEERS OFFICE
BUREAU OF HIGHWAYS AND EXPRESSWAYS

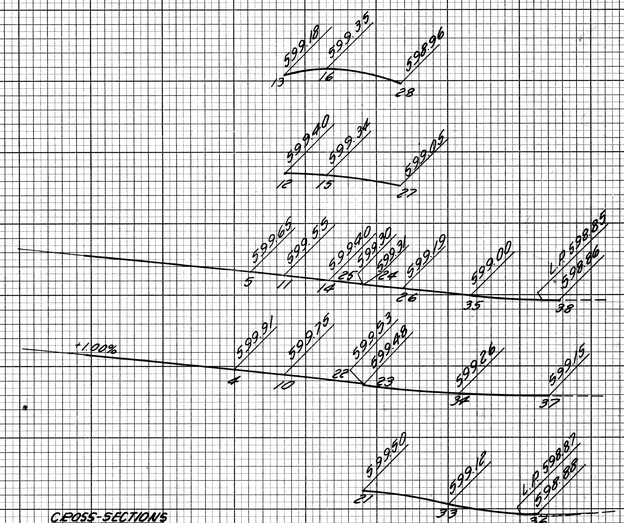
OPERATION	BY	DATE
SURVEYED		3/68
PLAN PLOTTED		3/68
PLAN CHECKED		
PROFILE PLOTTED		3/68
PROFILE CHECKED		
PROFILE APPROVED		
GRADE INSPECTION		
FEDERAL INSPECTION		

SOIL ENGINEER: A. McLean
APPROVED BY: A. Lo 3/2/68
TESTED BY:
CHECKED: P. Conly
COMPUTED: Allan V. Sayer 3/68







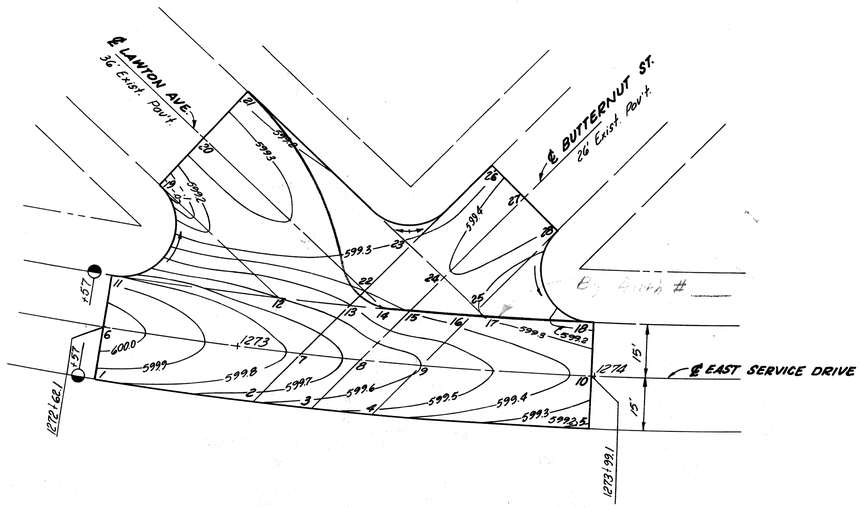


DETAILED GRADES FOR WEST SERVICE DRIVE AT MYRTLE ST.

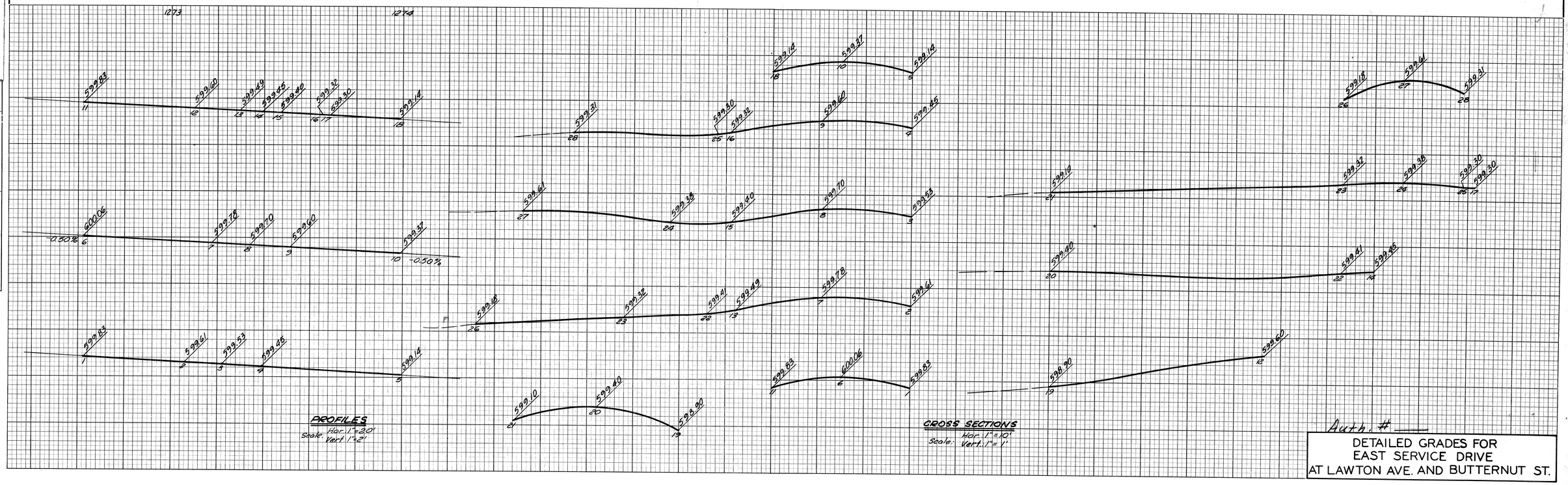
FILE NO. USE NO. 1350 STENCIL		STATE PROJECT	FEDERAL PROJECT	SHEET NO.
		82124-002	F-96	42

B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY		SHEET NO.	TOTAL SHEETS

B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY	City	SHEET NO.	TOTAL SHEETS
F-96	82124-002	Wayne	Detroit	43	



PLAN
Scale: 1"=20'



PROFILES
Scale: Hor. 1"=30'
Vert. 1"=2'

CROSS SECTIONS
Scale: Hor. 1"=10'
Vert. 1"=1'

Auth. #

DETAILED GRADES FOR
EAST SERVICE DRIVE
AT LAWTON AVE. AND BUTTERNUT ST.

FILE NO. USE NO. 350 STENCIL	82124-002	STATE PROJECT	FEDERAL PROJECT	SHEET NO.
		82124-002	F-96	43

PLANS PREPARED BY
CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
CITY ENGINEERS OFFICE
BUREAU OF HIGHWAYS AND EXPRESSWAYS

OPERATION	BY	DATE
PRELIMINARY R.O.W. OKEDOKED		
FINAL DESIGN		
FINAL DESIGN CHECKED		
TRACED		
FINAL R.O.W. CHECK		
QUANTITIES		
QUANTITIES CHECKED		
SQUAD		

OPERATION	BY	DATE
SURVEYED		
PLAN PLOTTED		
PLAN TRACED		
PROFILE PLOTTED		
PROFILE CHECKED		
PRELIMINARY GRADE		
GRADE INSPECTION		
FEDERAL INSPECTION		

3/68 W. McCabe
3/68 A. Cobble
3/68 R. Combs
Mar 68 Allan G. Ferguson

SOIL LEGEND
CLAY
SAND
GRAVEL
CONCRETE

S.F.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY		SHEET NO.	TOTAL SHEETS

S.F.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY	City	SHEET NO.	TOTAL SHEETS
I-96	82124-002	Wayne	Detroit	42	

UTILITY LEGEND

UNDERGROUND

Exist. / Prop.

- Sewer & Manhole
- Sewer Inlet or Catch Basin
- Water Main & Gate Well & Valve
- P.L.C. Cable & Manhole
- P.L.C. Handhole
- D.E. Co. Cable & Manhole
- Steam Line & Valve
- M.B.T. Cable & Manhole
- Gas Main & Manhole
- D.F.D. Cable & Manhole
- Telegraph Cable & Manhole
- Utilities Aband.-This Cont.
- Utilities Aband.-Prior Cont.

ABOVE GROUND

- D.S.R. Pole
- M.B.T. Pole
- Traffic Signal or R.R. Flasher
- D.F.D. Alarm Box
- Fire Hydrant
- D.E. Co. Pole
- P.L.C. Pole (Without Light)
- P.L.C. Lightpole
- Police Box
- Traffic Signal Box

PLANS PREPARED BY
CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
CITY ENGINEER
BUREAU OF HIGHWAYS AND EX-OFFICIO

SQUARE / RENDER		
CITY ENGR.	K. Nielsen	3/28
SUPV. ENGR.	L. Hart	3/28
DESIGNED	K. Nielsen	3/28
DRAWN	Mike E. Rogic	11-67
TRACED		
CHECKED		

20 FT. ALLEY
15"x20" Sewer
6" Water
6" Gas
MBT on D.E. Pole
12"x18" Sewer
4" Gas
P.L.
Prop 27" Sewer
1270
EAST SERVICE DRIVE
Prop. P.L.C.
Prop. 12" Water
1265
Prop 24" Sewer
W'BD. FISHER TO N'BD. JEFFRIES
3
N'BD. JEFFRIES
1285
Prop. 8" Gas
P.L.C.
12" Water
5" Water
1261
8" Water
1290
MAYBURY GRAND AVE.
60 FT. WD.
S. COLL. DISTRIBUTOR
S'BD. JEFFRIES
1294
Match Line Sta 1283+00 for Ford Jeffries Roadways, See Sh #45.
WEST SERVICE DRIVE
290
285
282
Prop. 12" Water
3'6"x5'8" Sewer
4" Gas
4'0"x5'4" Sewer
WILLIAMS AVE.
50 FT. WD.
MYRTLE ST.
50 FT. WD.
ASH ST.
50 FT. WD.
D.F.D.

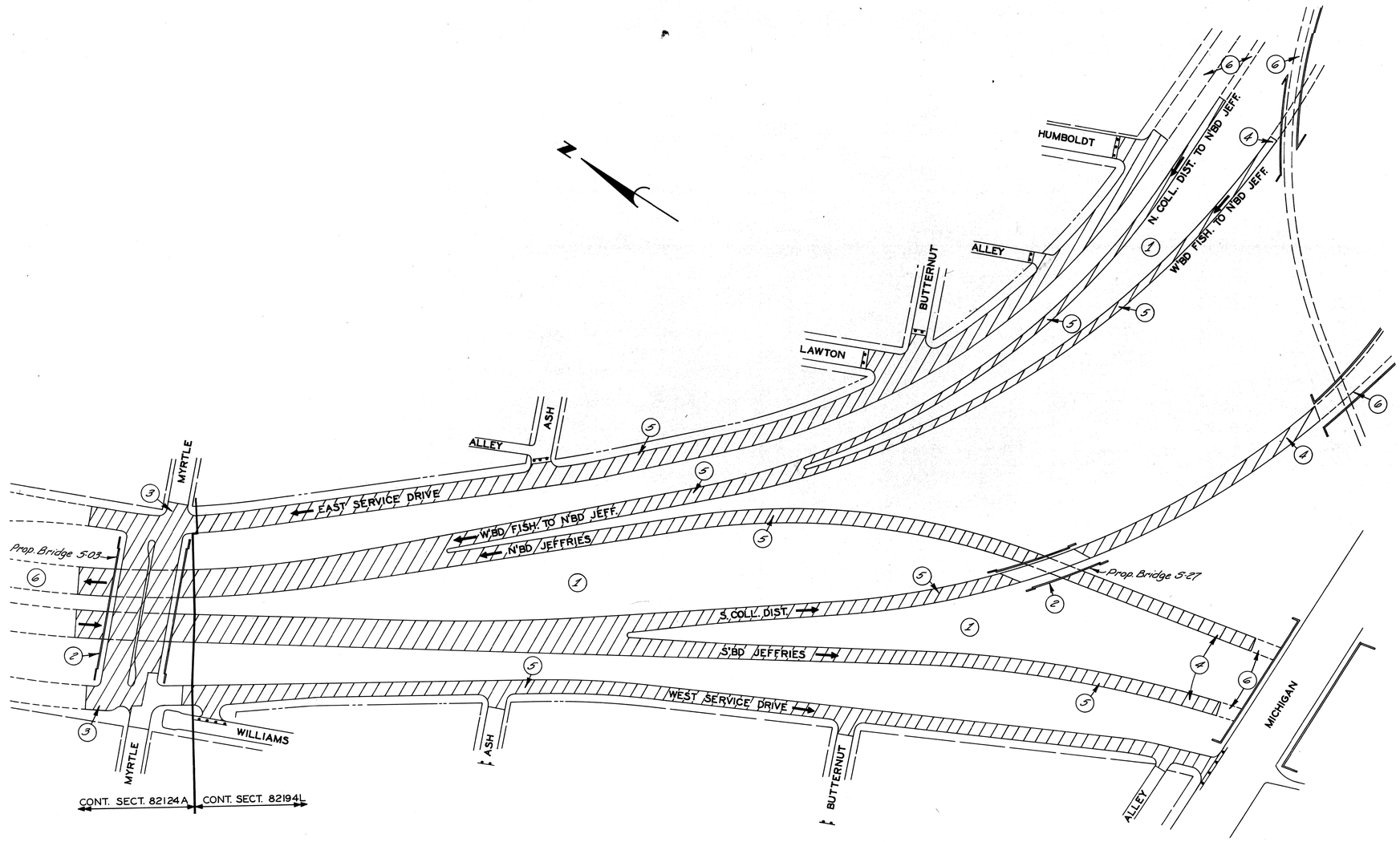
PLAN
Scale: 1"=40'

GENERAL UTILITY PLAN
N. OF MYRTLE ST. TO S. OF ASH ST.

FILE NO. USE NO. 350 STENCIL	82124-002	STATE PROJECT 82124-002	FEDERAL PROJECT I-96	SHEET NO. 42

S.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY		SHEET NO.	TOTAL SHEETS

S.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY	City	SHEET NO.	TOTAL SHEETS
I-96	82124-002	Wayne	Detroit	4	



STAGE II

STAGE II

1. Start excavation of Roadways after completion of necessary utility alterations.
2. Complete Myrtle Bridge (S-03) & Turning Rd'wy. Bridge (S-27)
3. Complete paving of Myrtle Intersections.
4. Complete excavation
5. Pave Roadways
6. Contractor is required to co-ordinate work with Contractors to the North & South of this contract.

Pavement Construction

NOTE:
For Additional Legend & Myrtle St. Staging, See Sh.# 5.

CONSTRUCTION SEQUENCE

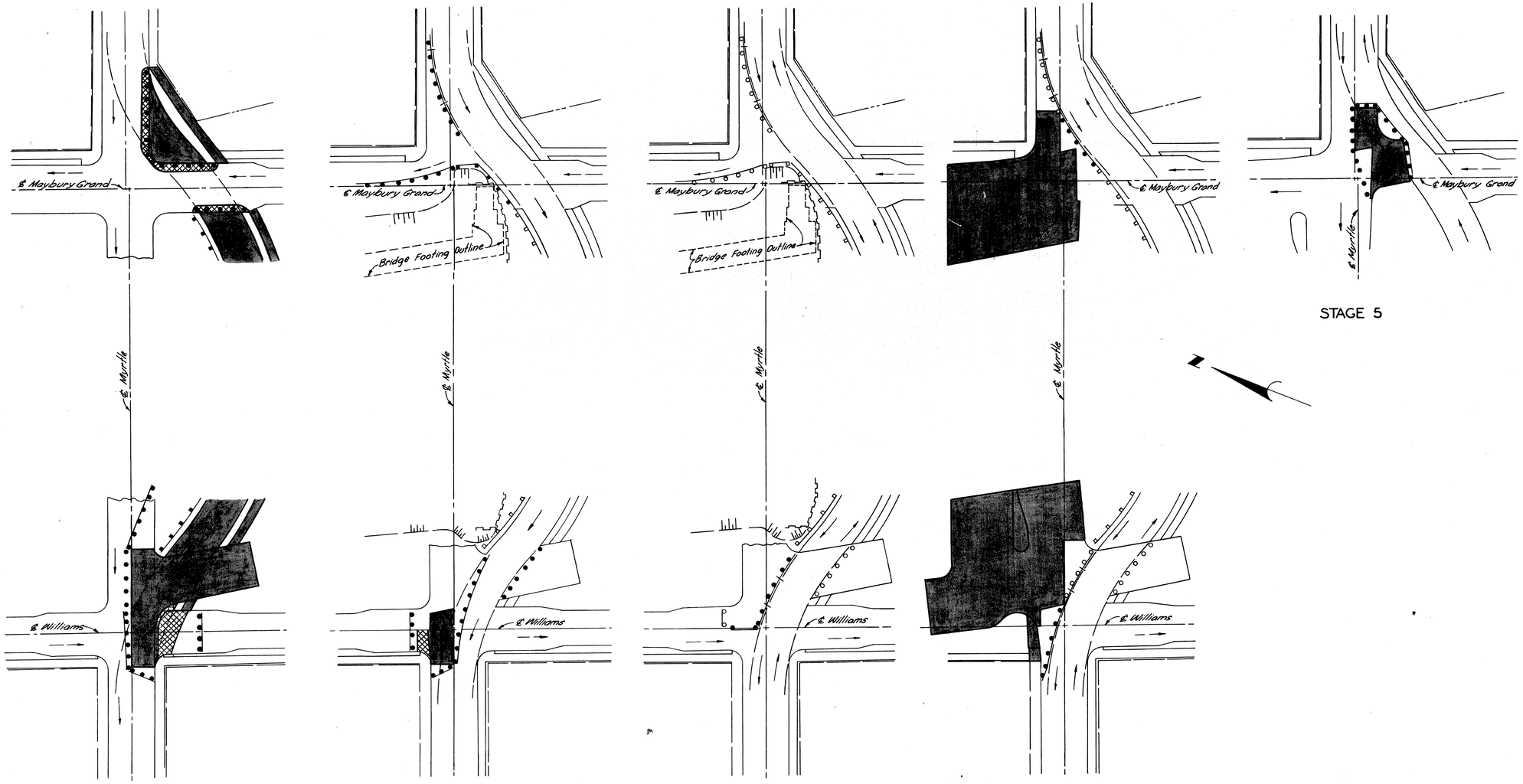
PLANS PREPARED BY
CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
CITY ENGINEERS OFFICE
BUREAU OF HIGHWAYS AND EXPRESSWAYS

SQUAD LEADER	N. McLeod	3/68
DRAWN BY	M. Bibb	3/68
TRACED BY		
CHECKED BY	N. McLeod	3/68
APPROVED	Allen E. Krieger	Mgr. Cr

FILE NO. I.B.M. NO. 350 STENCIL	82124-002	STATE PROJECT	FEDERAL PROJECT	SHEET NO.
		82124-002	I-96	4

B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY		SHEET NO.	TOTAL SHEETS

B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY	CITY	SHEET NO.	TOTAL SHEETS
I-96	82124-002	Wayne	Detroit	3	



STAGE 1

STAGE 2

STAGE 3

STAGE 4

STAGE 5

LEGEND

- Proposed Pavement or Sidewalk
- Proposed Concrete Pavement, 8" Uniform
- Proposed Stripping & Resurfacing
- S-40 Barricade
- S-40 Barricade with Lights
- Existing S-40 Barricade
- Temporary Beam Guard Rail
- Existing Temporary Beam Guard Rail
- Incidential Barricades
- Existing Incidential Barricade
- Direction of Traffic (Normal)
- Direction of Traffic (Local)
- Steel Sheet Piling
- Proposed Standard Barricade

PLANS PREPARED BY
CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
CITY ENGINEERS OFFICE
BUREAU OF HIGHWAYS AND EXPRESSWAYS

N. McLean	3/68
N. DeSalle	3/68
E. Cooley	3/68
Allen E. Hague	Mc 68

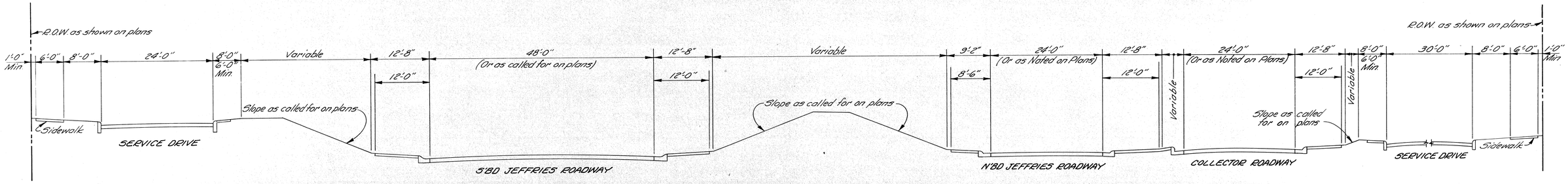
MYRTLE CONSTRUCTION SEQUENCE

FILE NO. LINE NO. 350 STENCIL	82124-002	STATE PROJECT	FEDERAL PROJECT	SHEET NO.
			I-96	

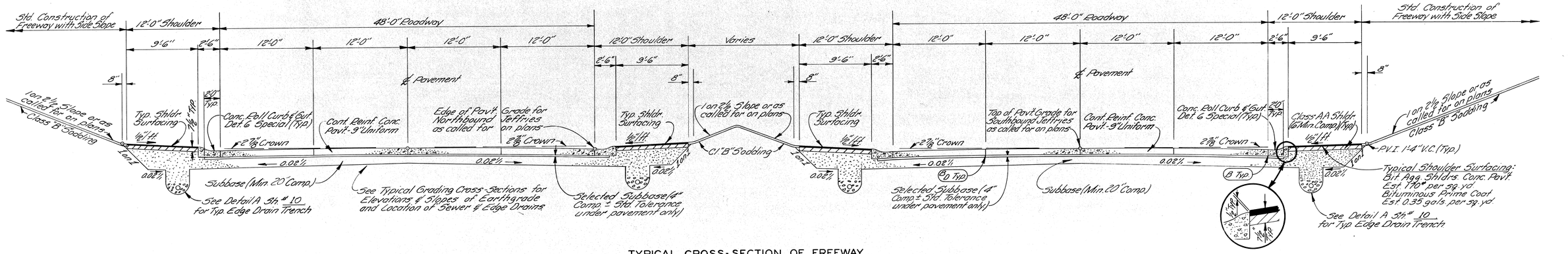
TYPICAL CROSS-SECTIONS

B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY		SHEET NO.	TOTAL SHEETS

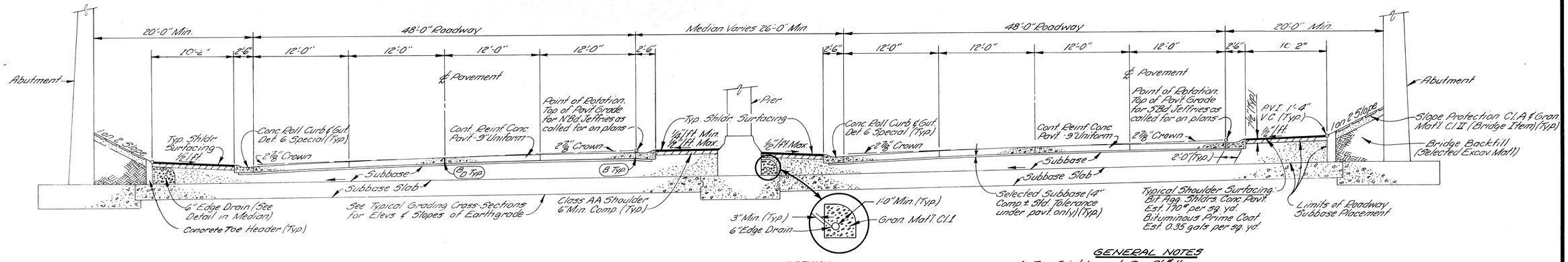
B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY	City	SHEET NO.	TOTAL SHEETS
I-96	82124-002	Wayne	Detroit	6	



GENERAL TYPICAL CROSS-SECTION



TYPICAL CROSS-SECTION OF FREEWAY
(SOUTH OF MYRTLE BRIDGE)*



TYPICAL CROSS-SECTION OF FREEWAY
(UNDER MYRTLE BRIDGE)*

* For Typ. Median Section N. of Myrtle Bridge, See Sh.# 11.

GENERAL NOTES

1. For Joint Legend, See Sh.# 11
2. Class 'A' Slopes are required on this project.

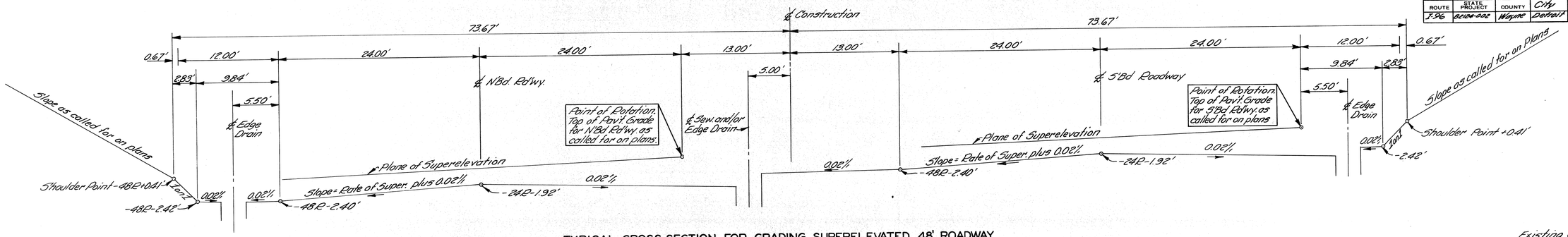
SECTIONS OF FINISHED ROADWAYS

FILE NO. USE NO. 350 STENCIL	82124-002	STATE PROJECT	FED'L. PROJECT	SHEET NO.
		82124-002	I-96	6

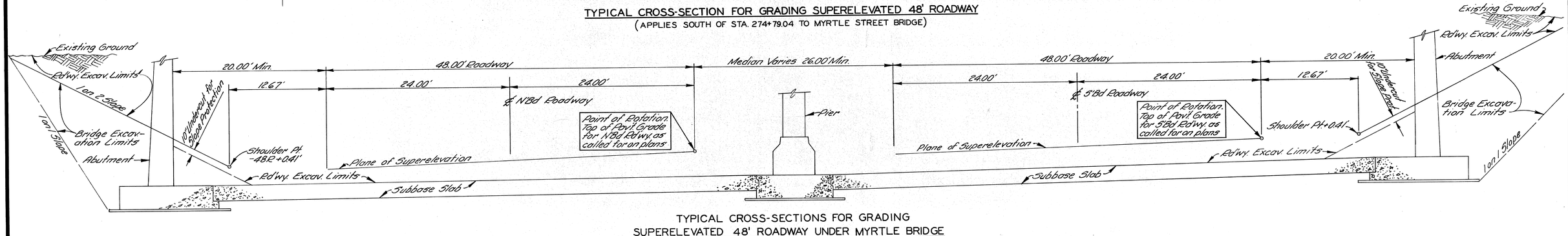
TYPICAL CROSS-SECTIONS

B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY		SHEET NO.	TOTAL SHEETS

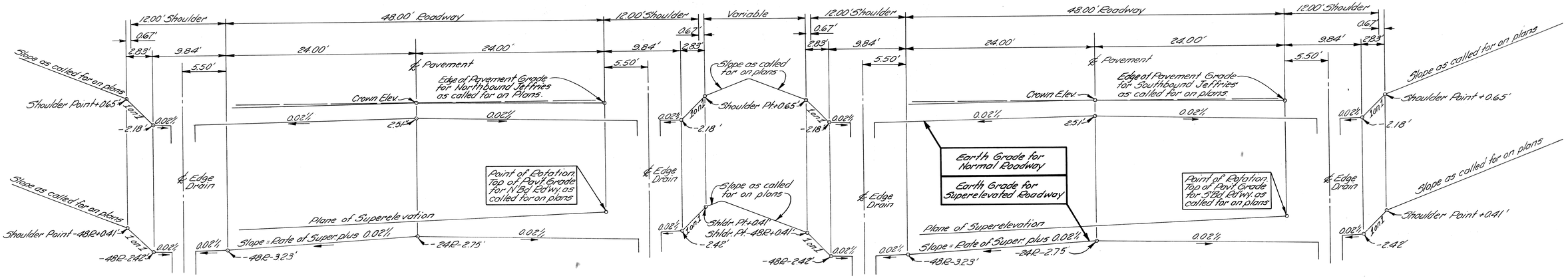
B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY	City	SHEET NO.	TOTAL SHEETS
I-96	82124-002	Wayne	Detroit	7	



TYPICAL CROSS-SECTION FOR GRADING SUPERELEVATED 48' ROADWAY
(APPLIES SOUTH OF STA. 274+79.04 TO MYRTLE STREET BRIDGE)



TYPICAL CROSS-SECTIONS FOR GRADING
SUPERELEVATED 48' ROADWAY UNDER MYRTLE BRIDGE



TYPICAL CROSS-SECTIONS FOR GRADING
NORMAL AND SUPERELEVATED 48' ROADWAYS
(APPLIES SOUTH OF MYRTLE STREET BRIDGE)

GENERAL NOTES

1. Class A Slopes are required on this on this project.
2. Symbol (R) denotes rate of Superelevation.
3. (+) and/or (-) numbers of grading points denote distances above or below Edge of Pavement Grade or Top of Pavement Grade, whichever is called for on plans.

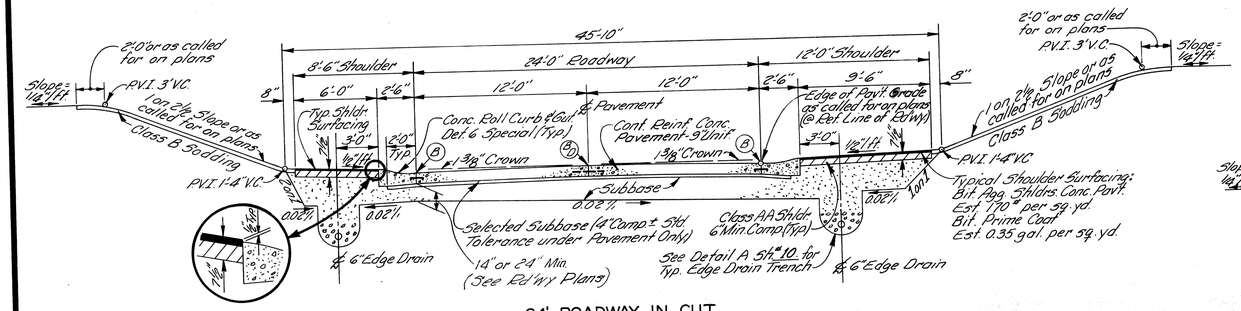
GRADING SECTIONS FOR 48' ROADWAYS

FILE NO. USED NOT USED STENCIL	82124-002	STATE PROJECT 82124-002	FEDERAL PROJECT I-96	SHEET NO. 7

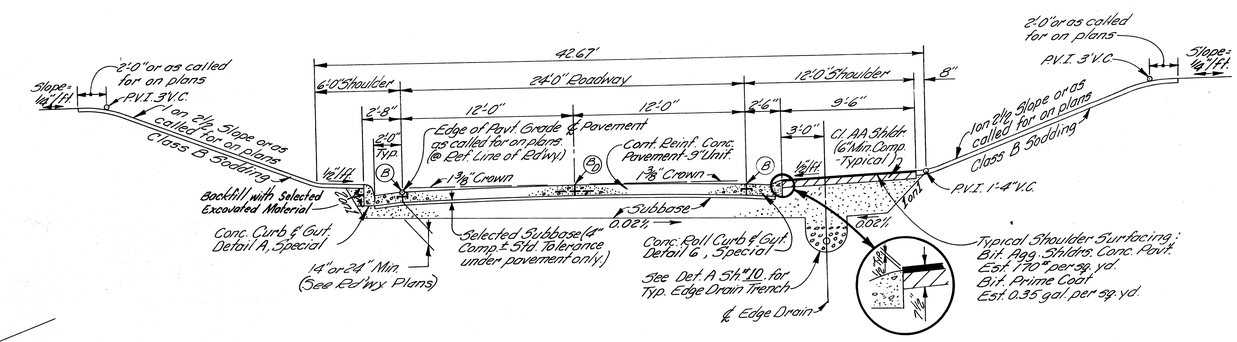
TYPICAL CROSS-SECTIONS

B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY		SHEET NO.	TOTAL SHEETS

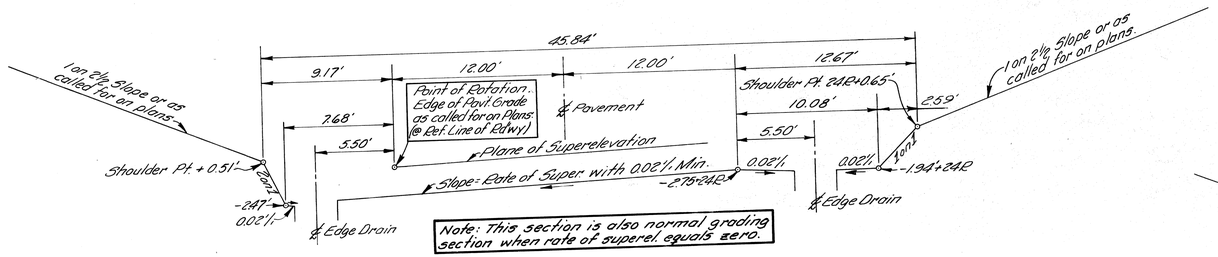
B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY	City	SHEET NO.	TOTAL SHEETS
I-96	82124-002	Wayne	Detroit	8	



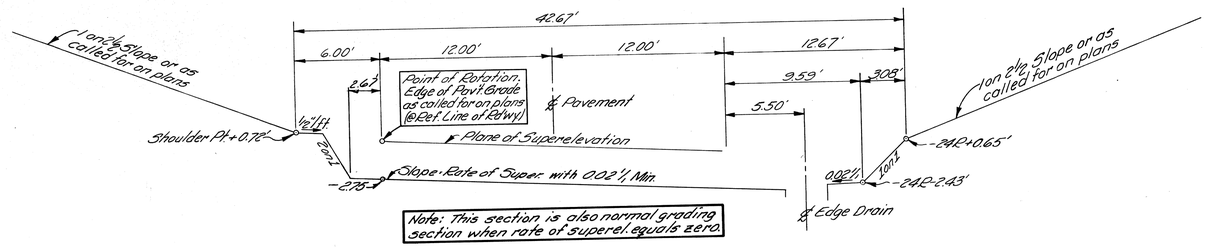
24' ROADWAY IN CUT



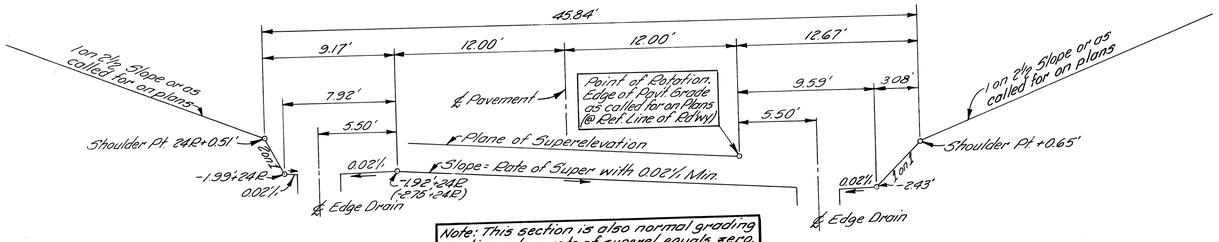
24' ROADWAY IN CUT



GRADING FOR SUPERELEVATED 24' ROADWAY
(NORTHBOUND JEFFRIES ROADWAY)



GRADING FOR SUPERELEVATED 24' ROADWAY
(W'BD FISHER TO N'BD JEFFRIES)



GRADING FOR SUPERELEVATED 24' ROADWAY
(SOUTHBOUND JEFFRIES ROADWAY)

GENERAL NOTES:

1. For Joint Legend, See Sht. 11
2. Class A Slopes are required on this project.
3. Symbol (2) denotes rate of Superelevation
4. (+) and/or (-) numbers of grading points denote distances above or below Edge of Pavement Grade

SECTIONS OF 24' ROADWAY

FILE NO. USE NO. 350 STENCIL	82124-002	STATE PROJECT	FEDERAL PROJECT	SHEET NO.
		82124-002	I-96	8

B. P. R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY		SHEET NO.	TOTAL SHEETS

B. P. R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY	City	SHEET NO.	TOTAL SHEETS
I-96	82124-002	Wayne	Detroit	45	

PLANS PREPARED BY
CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
CITY ENGINEERS OFFICE
BUREAU OF HIGHWAYS AND EXPRESSWAYS

N. McLean	L. Hart	N. McLean
Asst. Engr.	Engr. of Design	Chief Engr.
3/68	3/68	3/68

Match Line W. R. Lawton Ave, See Sh.# 46.

Match Line Sta 128+00 Std Jeffries Rdwy, See Sh.# 44

PROP. 12" WATER
PROP. 8" SEWER
PROP. PLC
E. EAST SERVICE DRIVE
N. COLL. DIST. TO N'BD JEFF.
W'BD FISH. TO N'BD JEFF.
PROP. HIGH TENSION D.E.
20 FT. ALLEY
15"x20" SEWER
NORTHBOUND JEFFRIES
BUTTERNUT ST.
50 FT. WD.
6" WATER
8" WATER
6"x6" SEWER
PROP. 24" ENC. WATER
SOUTH COLLECTOR DISTRIBUTOR
MAYBURY GRAND AVE.
60 FT. WD.
6" GAS
SOUTHBOUND JEFFRIES
WEST SERVICE DRIVE
PROP. PLC
D.E. CO.
20" SEWER
WILLIAMS AVE.
50 FT. WD.
4" GAS
4'-0"x5'-4" SEWER
18"x24" SEWER
MICHIGAN AVE.
120 FT. WD.
12" WATER
12" GAS
12" SEWER
PLC
MBT
E.44x66" SEWER

For Legend See Sh.# 44

PLAN
Scale: 1"=40'

GENERAL UTILITY PLAN
S. OF ASH ST. TO N. OF MICH AVE.

FILE NO. USE NO. 350 STENCIL	82124-002	STATE PROJECT	FEDERAL PROJECT	SHEET NO.
		82124-002	I-96	45

B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY		SHEET NO.	TOTAL SHEETS

B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY		SHEET NO.	TOTAL SHEETS
I-96	82124-002	Wayne	City of Detroit	46	

PLANS PREPARED BY
CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
CITY ENGINEERS OFFICE
BUREAU OF HIGHWAYS AND EXPRESSWAYS

N

Prop. PL.
12" Water
PLC.
18" Sewer
1280
D.F.D.
8" Water
12" Water
6" Gas
1279
Prop 18" Sewer
High Tension O.E.
6"x6" Sewer
24" Water
4" Gas
15"x20" Sewer
15"x20" Sewer
15" Sewer
PERRY AVE.
50 FT. WD.
D.F.D.
6" Gas
8" Water
2'-6"x4'-0" Sewer
HUMBOLDT AVE.
60 FT. WD.
D.F.D.
8" Water
6" Gas
18
N. COLL. DIST. TO W'BD. FISHER
20 FT. ALLEY
20 FT. ALLEY
MICHIGAN AVE.
120 FT. WD.
BUTTERNUT ST.
50 FT. WD.
Prop. PL.
Prop. High Tension O.E.
Prop 24" Water
1275
EAST SERVICE DRIVE
1276
N. COLL. DIST. TO N'BD. JEFFRIES
W'BD. FISHER TO N'BD. JEFFRIES
15
S. COLL. DIST.
1276
LAWTON AVE.
60 FT. WD.
6" Water
Prop 12" Water
1273
12
2" Gas
4" Gas
PL C.
6" Water
1275
Match Line W. PL LAWTON AVE. See Sh. #45

For Legend See Sh. #44.

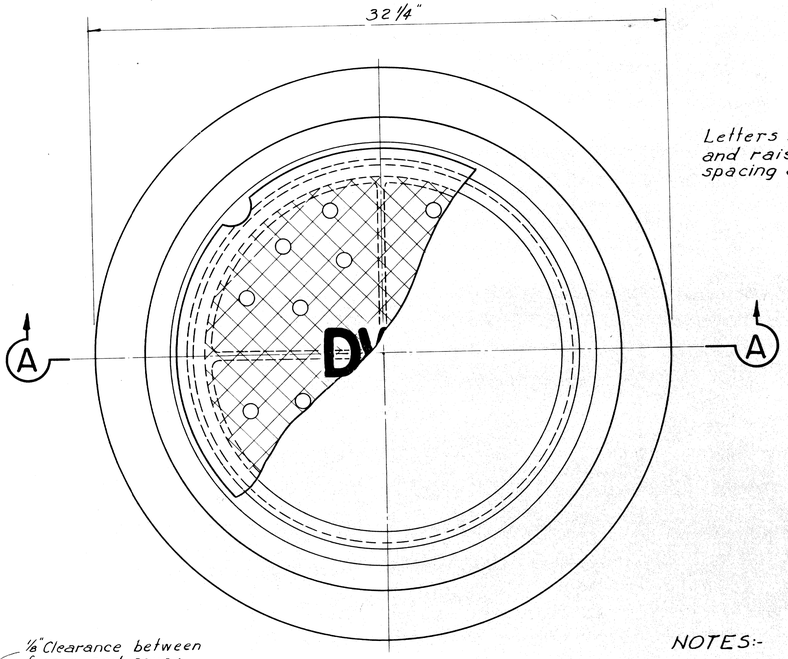
PLAN
Scale: 1" = 40'

GENERAL UTILITY PLAN
W. PL LAWTON AVE. TO E. OF HUMBOLDT AVE.

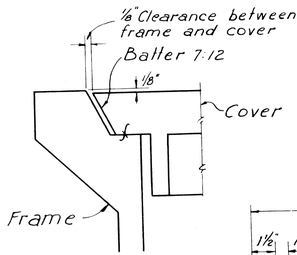
FILE NO. USE NO. 350 STENCIL	82124-002	STATE PROJECT 82124-002	FEDERAL PROJECT I-96	SHEET NO. 46

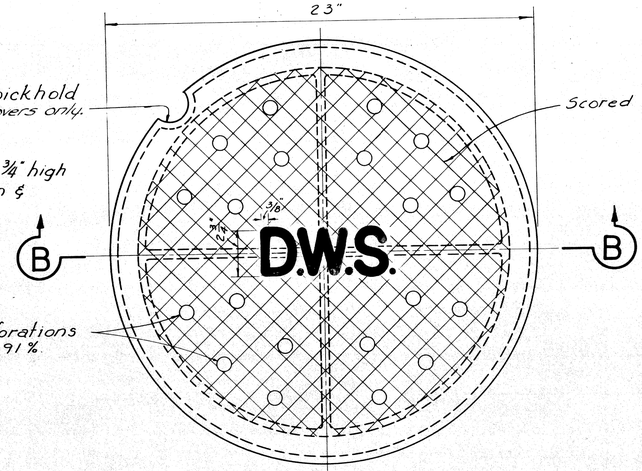
B. P. R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY		SHEET NO.	TOTAL SHEETS

B. P. R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY	City	SHEET NO.	TOTAL SHEETS
I-96	82124-082	Wayne	Detroit	47	

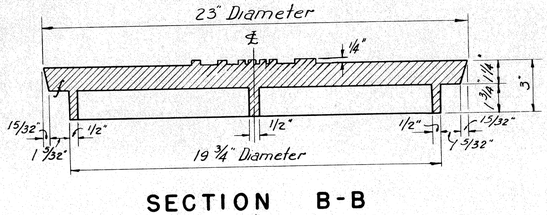


PLAN VIEW OF FRAME





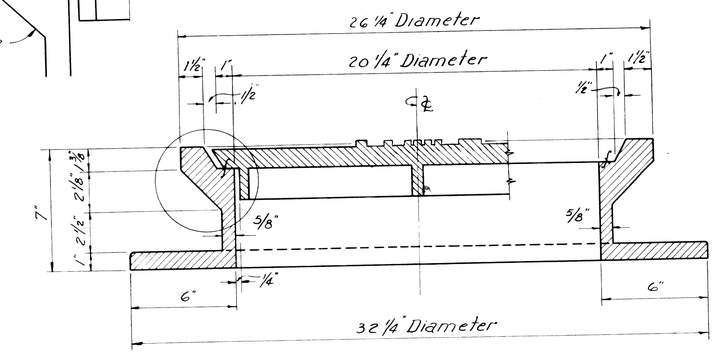
PLAN VIEW OF COVER



SECTION B-B

NOTES:-

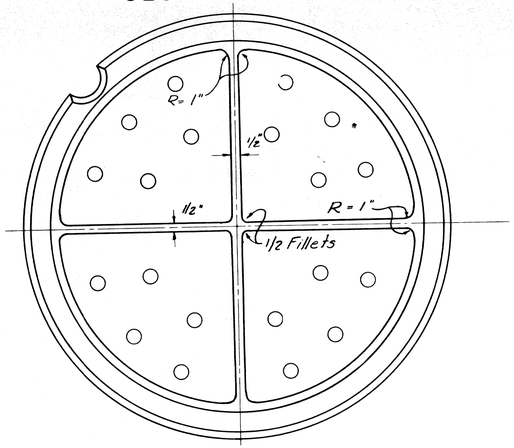
Frame and cover to be gray iron castings.
Total weight = 409# (Perf cover)
Manhole frame = 262#
Cover (Perf) = 147#
Cover (Blank) = 157#



SECTION A-A

The seating face of the cover and the seat for same on the frame shall be machine finished so that the cover shall have an even bearing on its seat at all points without rocking or tilting.

SCALE 3" = 1'



BOTTOM VIEW OF COVER

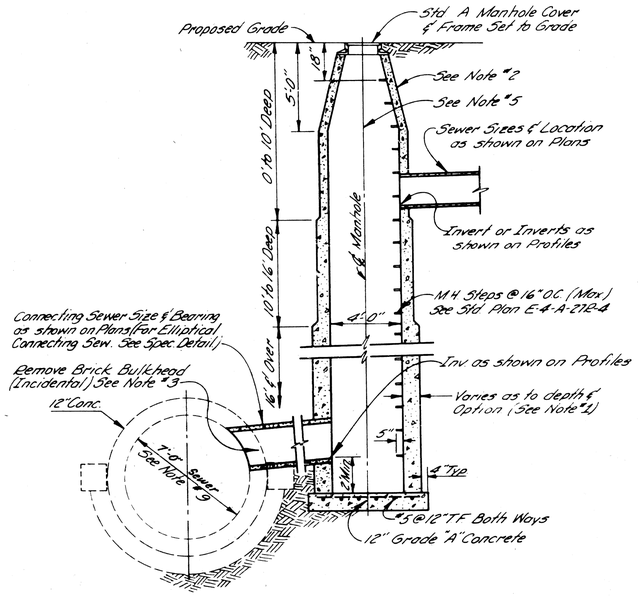
	D	Deleted Manhole step Details				
	C	Lettering Changed From D.P.W. to D.W.S.				
	B	Added Specs for C.I. Manhole Steps	S.S.	J.L.	J.N.O.	1-93
	A	Deleted "Mild Steel" From M.H. Steps	S.S.	J.L.	J.N.O.	1-93
Name By		DESCRIPTIONS	DRW.	CKD.	APRD.	DATE
		REVISIONS				

SPECIAL DETAIL OF MANHOLE FRAME AND COVER AD

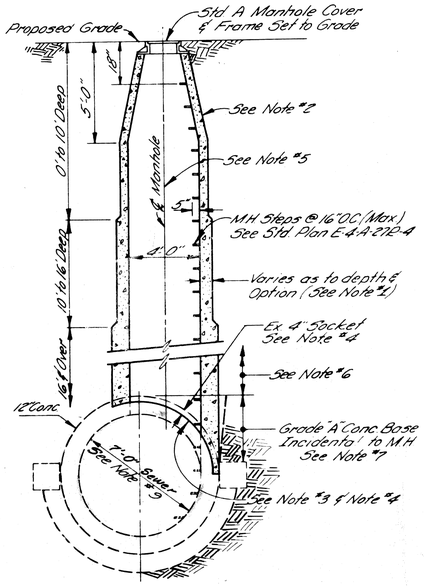
FILE No. USE No. 350 STENCIL		STATE PROJECT	FED. SEC.	SHEET NO.
	82124-082	82124-082	I-96	47

B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY		SHEET NO.	TOTAL SHEETS

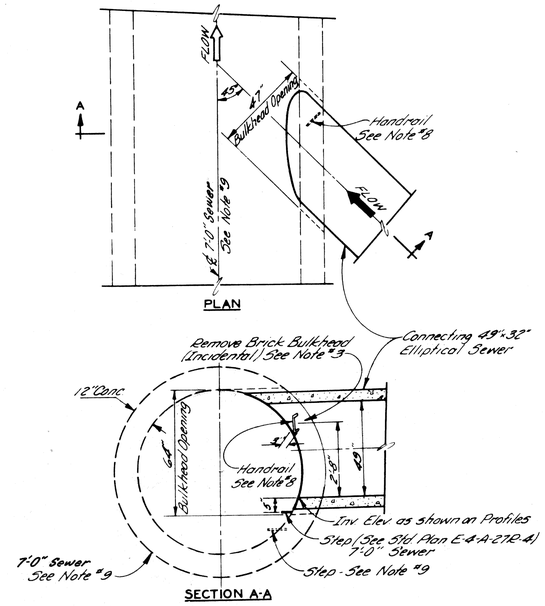
B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY	City	SHEET NO.	TOTAL SHEETS
I-96	82124-002	Wayne	Detroit	48	



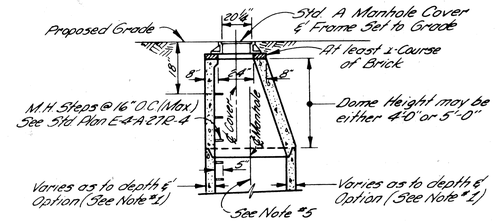
TYPICAL DROP MANHOLE 14A
AND CONNECTION DETAILS



TYPICAL ACCESS MANHOLE 12A
ON EXISTING CYLINDER SEWER



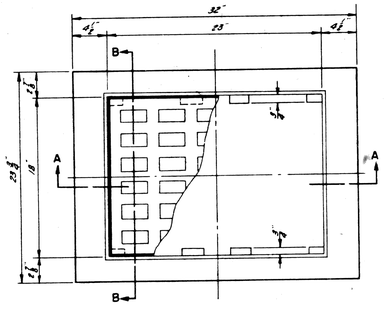
TYPICAL DETAIL OF 49"x 32"
ELLIPTICAL CONNECTING SEWER

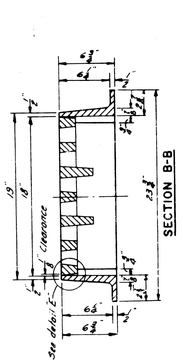


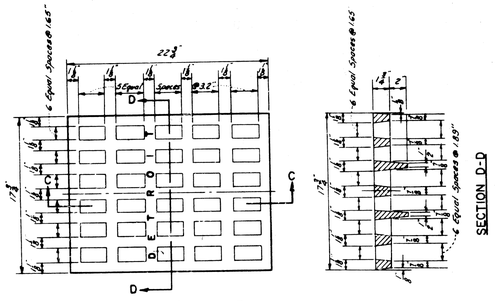
TYPICAL OFFSET CONE DETAIL

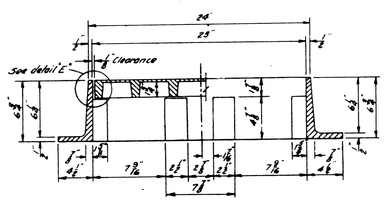
NOTES:

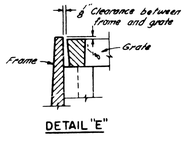
1. For Details, See M.D.S.H. Std. Plan E-4-A-27P-4 Detail 1. Options for 16'-25' depth may be used for depths over 25'.
2. Offset Cones, may be required to locate covers within shoulders, See detail this sheet.
3. Removal of Falsework, Grout and all other Material shall be incidental to "Manhole."
4. The 4'-0" Dia opening thru the Sewer Wall, the 4" Socket, and the Manhole Steps in the Sewer will be in place.
5. Dimensions shown on Plans for location of Manholes are to the ℄ of Manhole.
6. Pay Limits for Access Manholes are from the top of the Manhole Cover to the top of the Sewer.
7. If the Brick Option is used, Flair outside wall of Grade "A" Concrete Base to 16" width.
8. For Handrail use steps as shown on Std. Plan E-4-A-27P-4.
9. Not a part of this Contract.

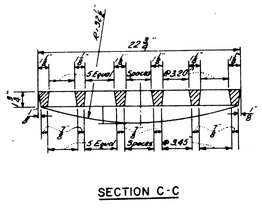




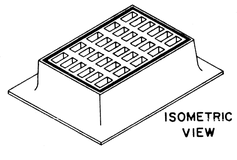




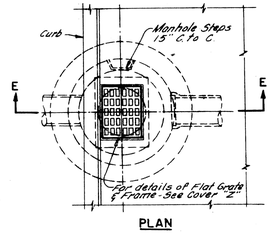


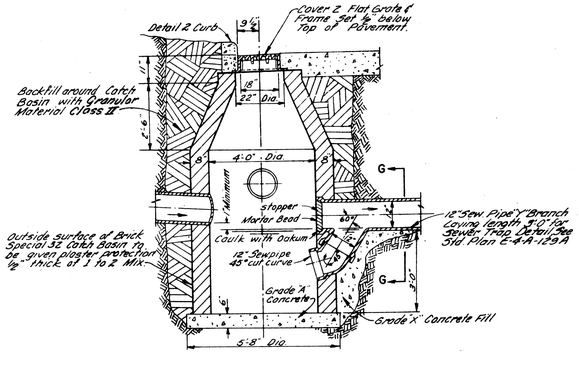


Notes:
Frame and Grate to be gray iron castings
Total Weight ----- 267# Minimum
Frame ----------- 152# Minimum
Grate ----------- 115# Minimum

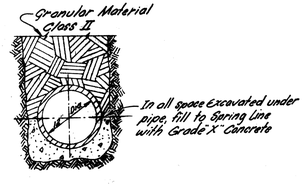


DETAILS OF COVER Z





SPECIAL 3Z CATCH BASIN

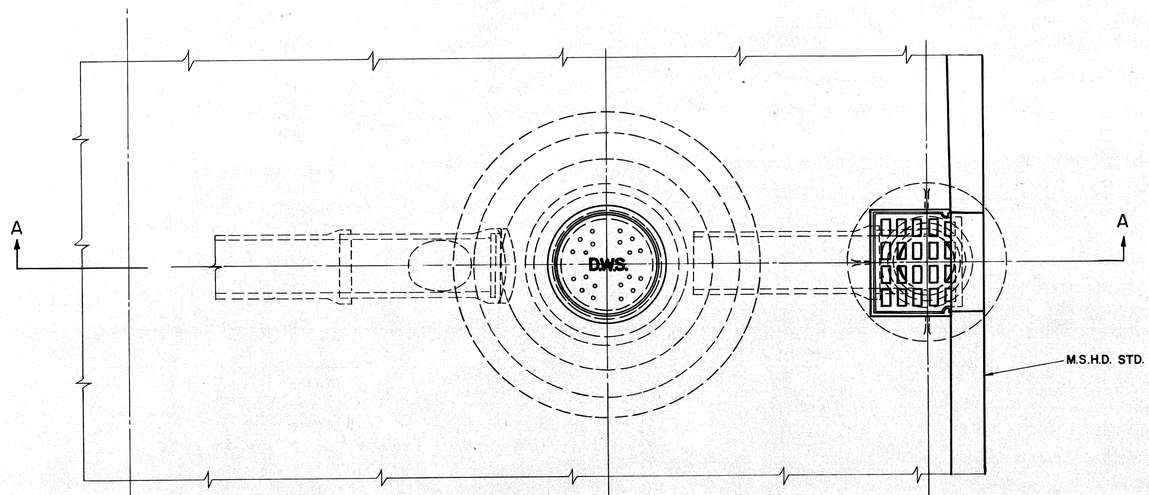


MISCELLANEOUS SEWER DETAILS

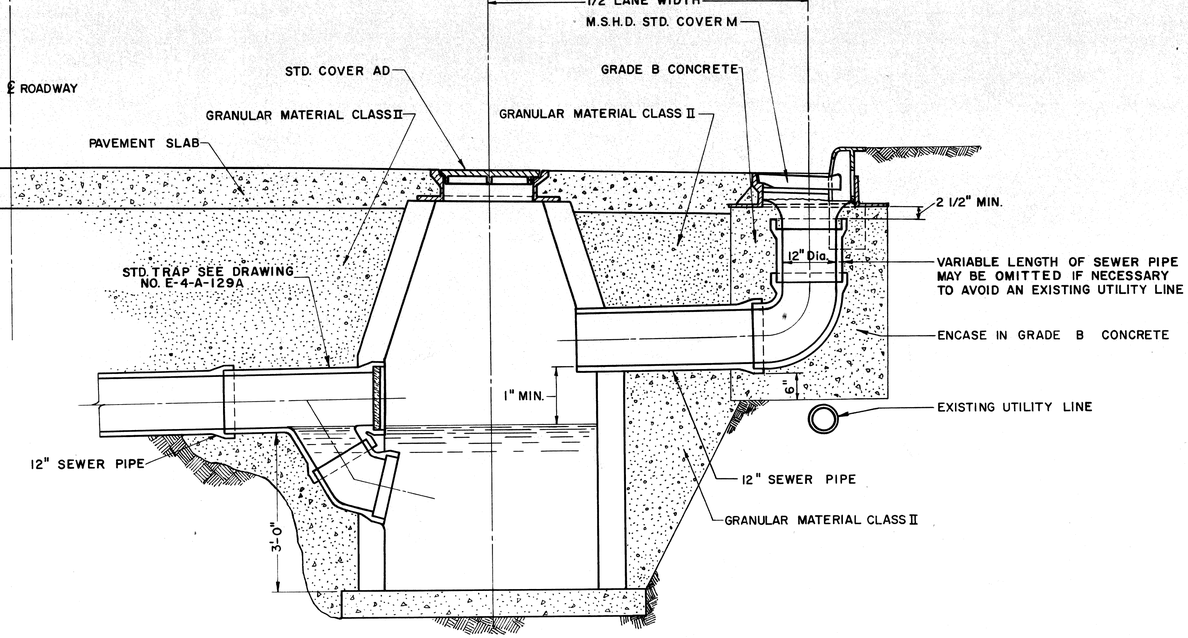
FILE NO. USN NO. 350 STENCIL	82124-002	STATE PROJECT	FEDERAL PROJECT	SHEET NO.
		82124-002	I-96	48

B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY		SHEET NO.	TOTAL SHEETS

B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY	City	SHEET NO.	TOTAL SHEETS
I-96	82124-002	Wayne	Detroit	49	



PLAN VIEW



SECTION A-A

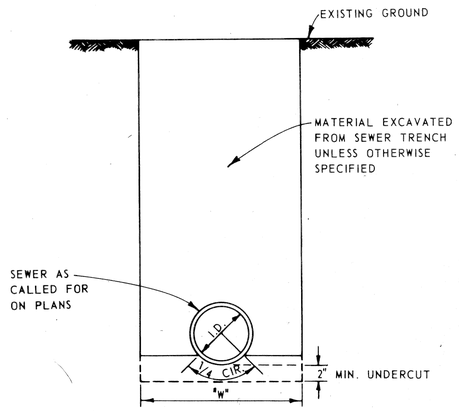
SCALE : 3/4"= 1'-0"

NOTES:

THE CATCH BASIN CB 3AD MAY BE OMITTED IF INLET LM CAN BE DRAINED TO ANOTHER TRAPPED CATCH BASIN.

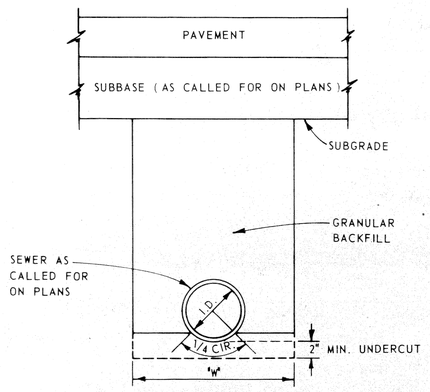
CATCH BASIN 3AD WITH INLET LM

FILE NO. USE NO. 350 STENCIL	82124-002	STATE PROJECT	FEDERAL PROJECT	SHEET NO.
		82124-002	I-96	49



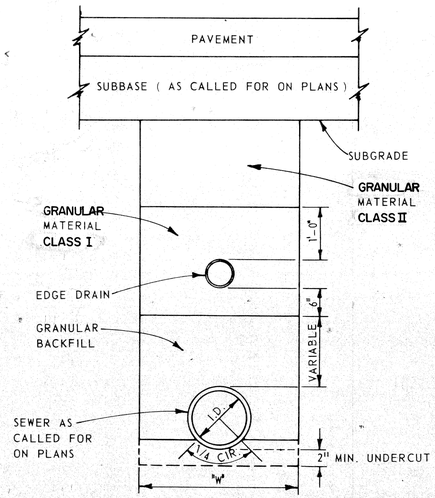
SEWER - NOT UNDER ROADBED

(1)



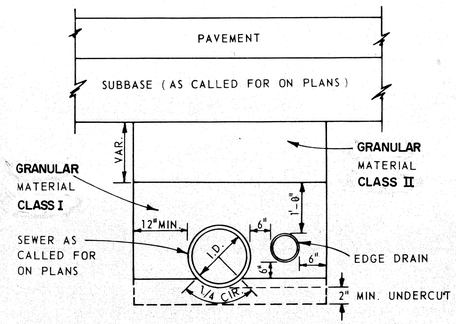
SEWER - UNDER ROADBED

(2)



SEWER WITH UNDERDRAIN UNDER ROADBED

(3)



SEWER WITH UNDERDRAIN UNDER ROADBED

(FOR SHALLOW SEWERS)

(4)

NOTES:

ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE CURRENT STANDARD SPECIFICATIONS.

WHERE GRANULAR BACKFILL IS SPECIFIED THE FOLLOWING OPTIONS ARE ALLOWED, **GRANULAR MATERIAL CLASS I, II, III OR IV**

BEDDING UNDER THE UTILITY SHALL BE AS SHOWN OR THE TRENCH MAY BE UNDERCUT BELOW THE UTILITY AND THE UNDERCUT MATERIAL REPLACED WITH GRANULAR BACKFILL. BACKFILLING SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS. ALL WORK AND MATERIAL NECESSARY IN UNDERCUTTING AND BACKFILLING SHALL BE CONSIDERED AS INCIDENTAL TO LAYING THE UTILITY. (UNDERCUT DIMENSIONS ARE TO BARREL OF PIPE.)

BACKFILL OF UTILITY TRENCHES

A. GRANULAR MATERIAL SHALL BE USED FOR BACKFILL WITHIN THE LIMITS OF THE ROADBED. (ROADBED IS DEFINED AS THAT PORTION OF ROADWAY BETWEEN THE OUTSIDE EDGES OF FINISHED SHOULDERS, OR THE OUTSIDE EDGES OF BERMS BACK OF CURBS OR GUTTERS WHEN CONSTRUCTED, EXCEPT, WHERE BARRIER TYPE CURBS ARE USED, THE ROADBED LIMITS SHALL BE DEFINED AS TWO FOOT OUTSIDE THE CURB.)

B. BACKFILL FOR THE UTILITIES OUTSIDE THE LIMITS OF THE ROADBED SHALL BE THE MATERIAL EXCAVATED FROM THE UTILITY TRENCH UNLESS OTHERWISE SPECIFIED. (EXCEPT AS NOTED BELOW)

C. UTILITY TRENCHES OUTSIDE THE ROADBED BUT WITHIN THE ZONE OF LOAD INFLUENCE OR UNDER SIDEWALKS SURFACED AREAS SHALL BE BACKFILLED WITH THE MATERIAL EXCAVATED FROM THE TRENCH AND COMPACTED TO NOT LESS THAN 90% MAXIMUM UNIT WEIGHT. IF THE REQUIRED COMPACTION CAN NOT BE OBTAINED, GRANULAR BACKFILL WILL BE REQUIRED. THE ZONE OF LOAD INFLUENCE IS THE ZONE WHICH LIES INSIDE A 1 ON 1 LINE OUT FROM THE EDGE OF PAVEMENT.

THE TRENCH SHALL BE OF SUFFICIENT WIDTH TO PROVIDE FREE WORKING SPACE AND TO PERMIT RAMMING AND COMPACTING THE BACKFILL AROUND THE PIPE.

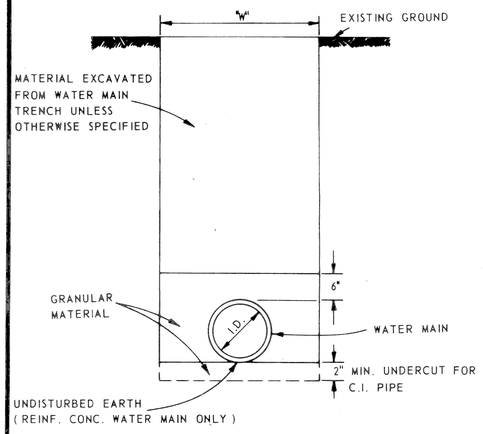
THE FOLLOWING TRENCH WIDTHS ARE TO BE USED AS A GUIDE ONLY.

I.D. PIPE SIZE(INCHES)	12	15	18	21	24	27	30	33	36	42	48	54	60	66	72	78	84	90	96	102	108
"W" TRENCH WIDTH (FEET)	3.0	3.0	3.0	3.5	4.0	4.5	5.0	5.5	6.0	7.0	8.0	9.5	10.0	10.5	11.0	11.5	12.0	12.5	13.0	13.5	14.0

TRENCH WIDTH "W" IS ESTIMATED TO BE 3.0' WIDTH FOR ALL PIPE SIZES 18" OR SMALLER. PAVEMENT REMOVAL WIDTH IS ESTIMATED TO BE TRENCH WIDTH " W" PLUS 1.0' EACH SIDE OF THE TRENCH. (PAV'T. REMOVAL "W" + 2.0')

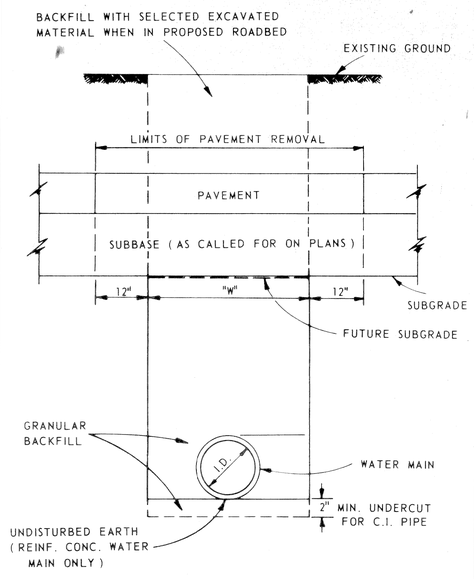
REMOVAL AND REPLACEMENT OF PAVEMENT, CURB, CURB AND GUTTER, AND SIDEWALK WILL BE PAID FOR SEPARATELY, BASED ON THE STANDARD TRENCH SECTIONS. QUANTITIES ARE INCLUDED IN THE PLANS.

ALL EXCAVATION, DISPOSAL OF SURPLUS EXCAVATED MATERIALS, AND ALL TYPES OF BACKFILL MATERIAL **(GRANULAR MATERIAL CLASS I, II, III & IV)**, TRENCH BACKFILL - SPECIAL, SELECTED EXCAVATED MATERIAL, GRANULAR BACKFILL, SAND LIME MIXTURE, DRY MIX INCLUDING CEMENT, ETC.) REQUIRED FOR THE UTILITY CONSTRUCTION WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE CONSIDERED INCIDENTAL TO THE UTILITY.



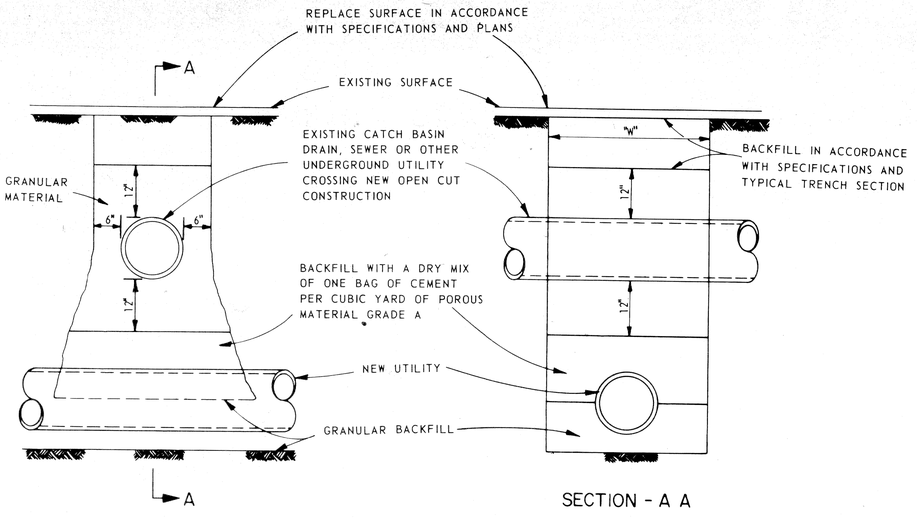
CAST IRON & REINFORCED CONCRETE WATER MAINS NOT UNDER ROADBED

(5)



CAST IRON & REINFORCED CONCRETE WATER MAINS UNDER ROADBED

(6)



TYPICAL DETAIL AT CROSSING UNDER EXISTING UTILITIES

NOTE: MINIMUM CLEARANCE BETWEEN UTILITIES SHALL BE 12"

(7)

STATE OF MICHIGAN
DEPARTMENT OF STATE HIGHWAYS
STANDARD PLAN FOR

UTILITY TRENCHES

DIVISION APPROVAL

CHECKED — ENGINEER OF DESIGN — 7-6-66 DATE

RECOMMENDED FOR APPROVAL — TRAFFIC ENGINEER — 7-11-66 DATE

RECOMMENDED FOR APPROVAL — ENGINEER OF BRIDGE AND ROAD DESIGN — 7-11-66 DATE

OFFICES OF DESIGN AND CONSTRUCTION

APPROVED — CONSTRUCTION ENGINEER — 7-13-66 DATE

APPROVED — CHIEF OF DESIGN AND TRAFFIC — 7/12/66 DATE

DEPARTMENT OF STATE HIGHWAYS APPROVAL

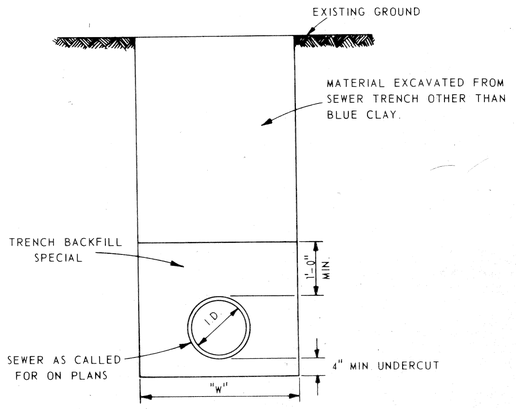
APPROVED

BY — DEPUTY DIRECTOR - ENGINEERING — 7-13-66 DATE

DRAWN BY D.F.M. CHECKED BY V.R. TRACED BY _____ APPROVED B.P.R. 5-7-66

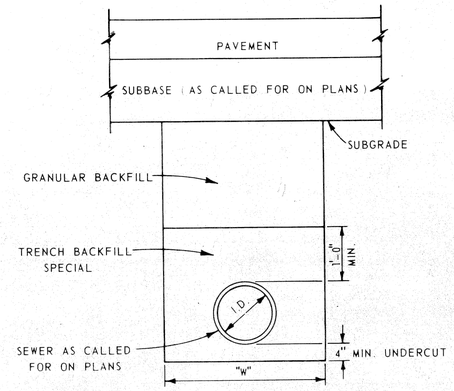
82124-002 1 of 2 E-4-A-37

50



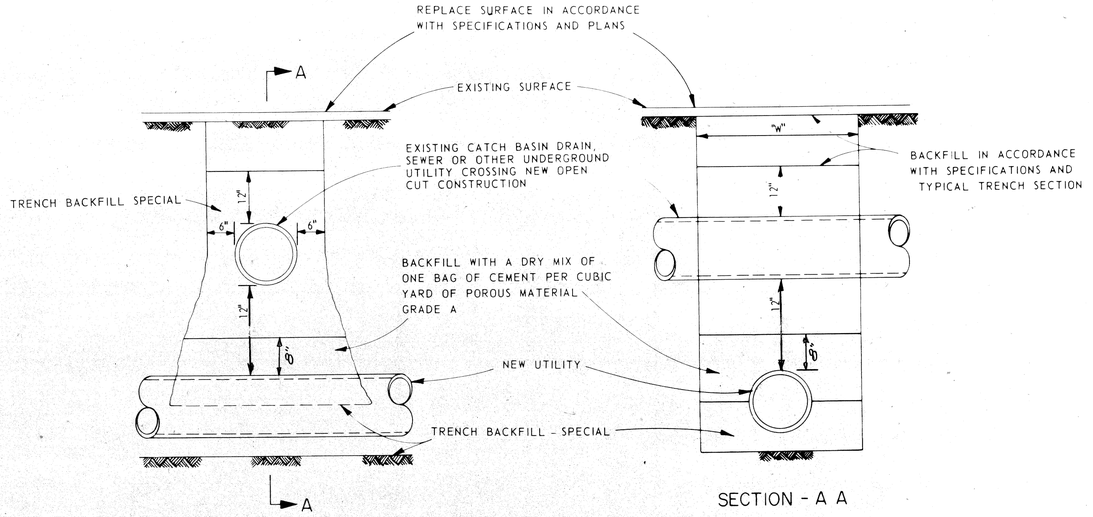
SEWER - NOT UNDER ROADBED

8



SEWER - UNDER ROADBED

9

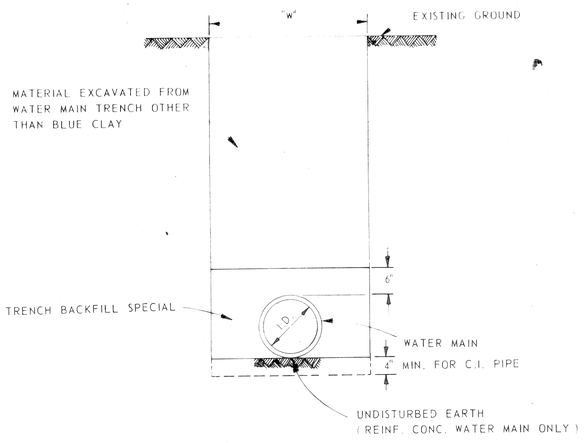


SECTION - A A

NOTE: MINIMUM CLEARANCE BETWEEN UTILITIES SHALL BE 12".

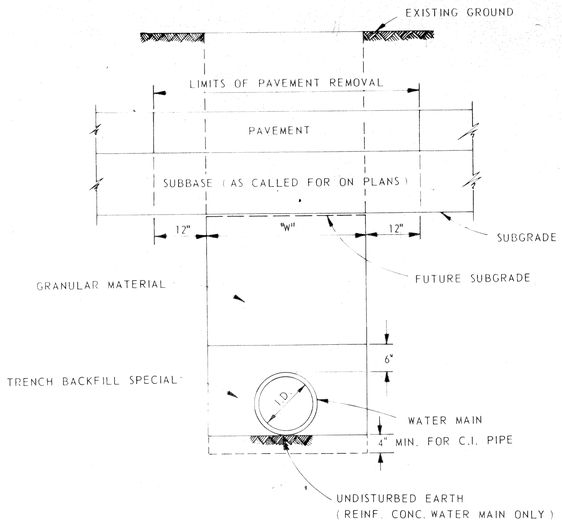
TYPICAL DETAIL AT CROSSING UNDER EXISTING UTILITIES

10



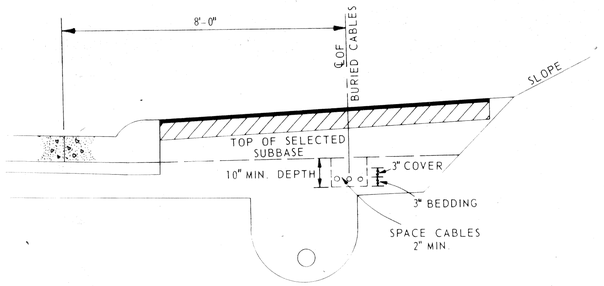
CAST IRON & REINFORCED CONCRETE WATER MAINS NOT UNDER ROADBED

11



CAST IRON & REINFORCED CONCRETE WATER MAINS UNDER ROADBED

12



LOCATION OF PARKWAY LIGHTING CABLE ON DETROIT METROPOLITAN FREEWAYS

13

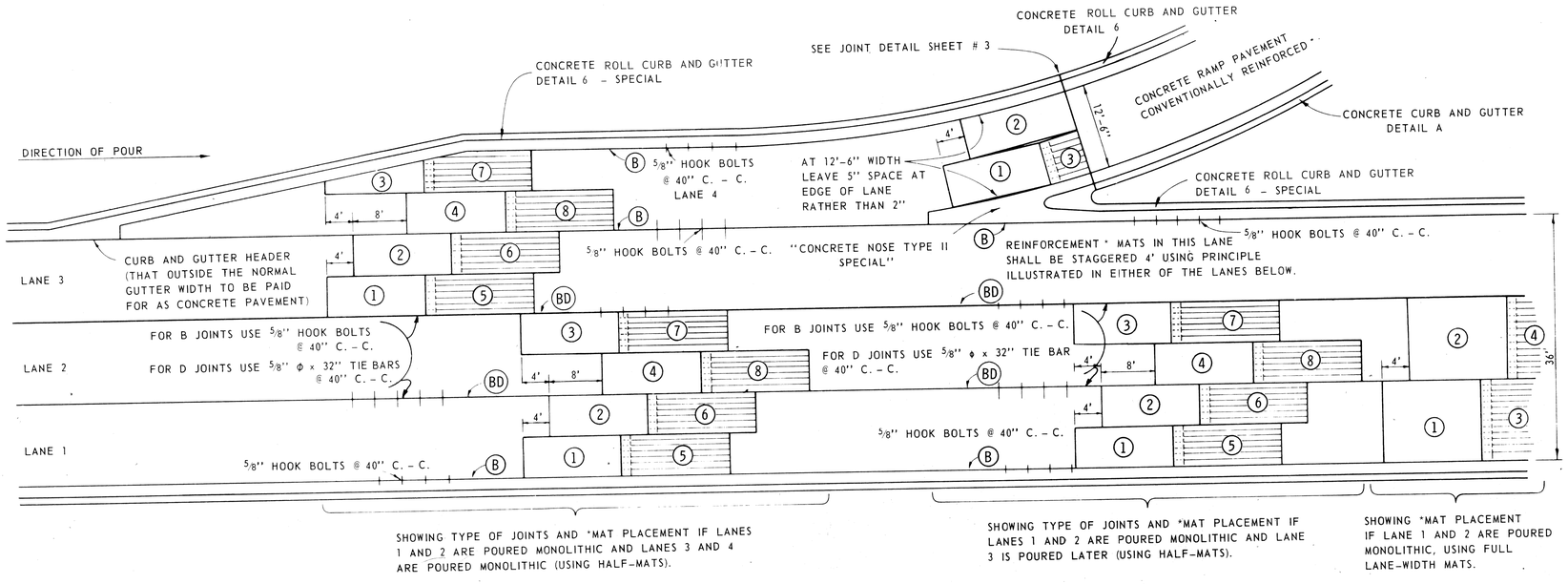
STATE OF MICHIGAN
DEPARTMENT OF STATE HIGHWAYS
STANDARD PLAN FOR

UTILITY TRENCHES

(THIS SHEET TO APPLY ON CITY OF DETROIT UTILITIES)

DRAWN BY D.F.M. CHECKED BY V.R. TRACED BY _____ APPROVED B.P.R. 9-7-66

82124-002 2 of 2 E-4-A-37



SHOWING TYPE OF JOINTS AND *MAT PLACEMENT IF LANES 1 AND 2 ARE POURED MONOLITHIC AND LANES 3 AND 4 ARE POURED MONOLITHIC (USING HALF-MATS).

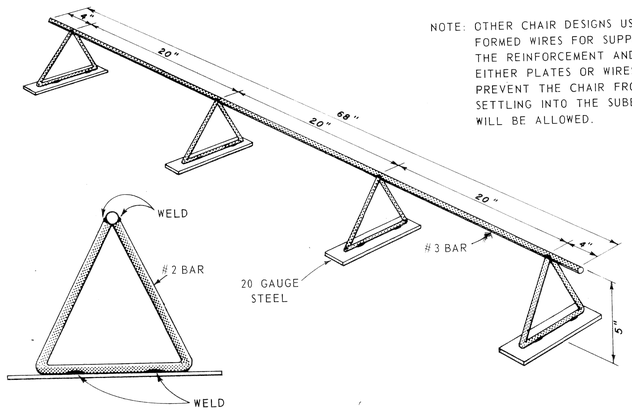
SHOWING TYPE OF JOINTS AND *MAT PLACEMENT IF LANES 1 AND 2 ARE POURED MONOLITHIC AND LANE 3 IS POURED LATER (USING HALF-MATS).

SHOWING *MAT PLACEMENT IF LANE 1 AND 2 ARE POURED MONOLITHIC, USING FULL LANE-WIDTH MATS.

* THE TERM "MAT" IS INTENDED TO INCLUDE DEFORMED WIRE MESH REINFORCING, AN ALTERNATE OPTIONAL WITH THE CONTRACTOR.

SKETCH SHOWING TIE BAR SPACING AND METHOD OF PLACING PAVEMENT REINFORCEMENT

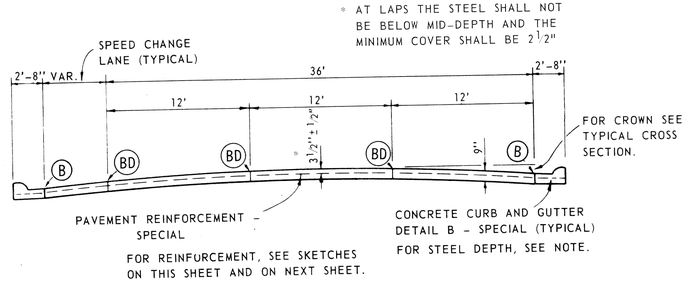
Not to scale



NOTE: OTHER CHAIR DESIGNS USING FORMED WIRES FOR SUPPORTING THE REINFORCEMENT AND HAVING EITHER PLATES OR WIRES TO PREVENT THE CHAIR FROM SETTLING INTO THE SUBBASE WILL BE ALLOWED.

CHAIR SUPPORT FOR BAR MAT REINFORCEMENT

NOT TO SCALE



FOR REINFURCEMENT, SEE SKETCHES ON THIS SHEET AND ON NEXT SHEET.

FOR JOINTS, SEE JOINT LEGEND.

CONCRETE PAVEMENT – SPECIAL 9" UNIFORM

JOINT LEGEND

B – LONGITUDINAL BULKHEAD CONSTRUCTION JOINT, ACCORDING TO SPECIAL DETAIL E-4-A-33K, DETAIL 2, EXCEPT THAT HOOK BOLT SIZE AND SPACING SHALL BE AS SHOWN.

D – LONGITUDINAL LANE TIE JOINTS WITH TIE BARS ACCORDING TO SPECIAL DETAIL E-4-A-33K, DETAIL 1, EXCEPT THAT TIE BAR SIZE AND SPACING SHALL BE AS SHOWN.

BD–OPTIONAL B OR D.

NOTES

JOINT HOOK BOLTS – JOINT HOOK BOLTS SHALL MEET THE REQUIREMENTS OF ARTICLE 7.16.14 OF THE STANDARD SPECIFICATIONS (1967), EXCEPT THAT THE BAR USED IN THE JOINT SHALL BE NOT LESS THAN NOMINAL 9/16" IN DIAMETER WITH 5/8" ROLLED THREADS. THE TENSILE STRENGTH OF THE HOOK BOLTS AND THE COUPLING IN THE ASSEMBLY UNIT SHALL BE NOT LESS THAN 20,000 POUNDS.

THE NOMINAL STEEL PERCENTAGE SHALL BE 0.7 UNLESS OTHERWISE SPECIFIED.

STATE OF MICHIGAN
DEPARTMENT OF STATE HIGHWAYS
STANDARD PLAN FOR

CONTINUOUS REINFORCED CONCRETE PAVEMENT

APPROVALS

CHECKED _____ ENGINEER OF DESIGN _____ DATE

RECOMMENDED FOR APPROVAL _____ DIRECTOR – DESIGN DIVISION _____ DATE

RECOMMENDED FOR APPROVAL _____ DIRECTOR – TRAFFIC DIVISION _____ DATE

RECOMMENDED FOR APPROVAL _____ DIRECTOR – CONSTRUCTION DIVISION _____ DATE

RECOMMENDED FOR APPROVAL _____ CHIEF – BUREAU OF ENGINEERING _____ DATE

DEPARTMENT OF STATE HIGHWAYS

APPROVED HENRIK E. STAFSETH – ACTING STATE HIGHWAY DIRECTOR

BY _____ DEPUTY STATE HIGHWAY DIRECTOR _____ DATE

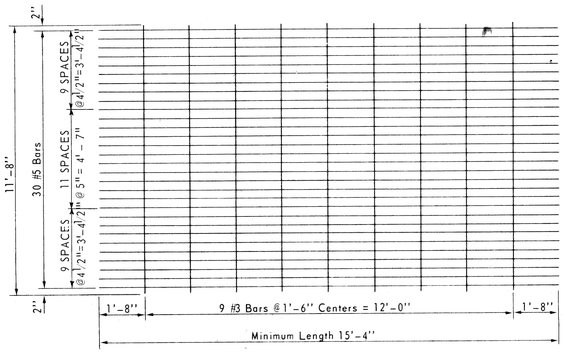
DRAWN BY S.T.E. CHECKED BY _____ TRACED BY S.T.E. APPROVED B.P.R. _____

REV. 6-23-67
REV. 10-16-67
REV. 1-10-68

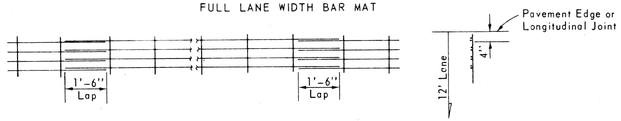
82124-002

SHEET 1 of 6

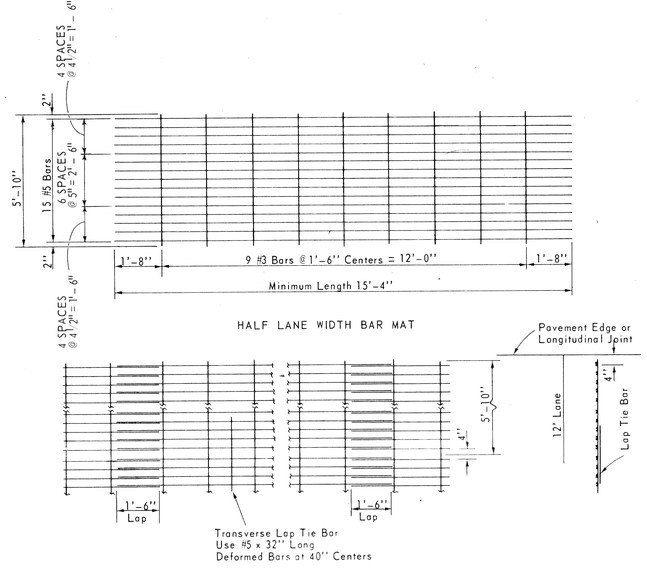
BAR MATS



FULL LANE WIDTH BAR MAT



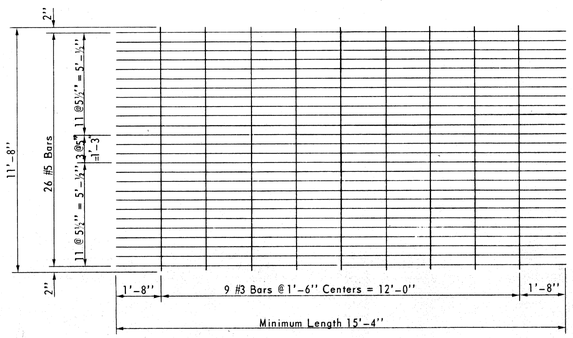
LAP DETAILS



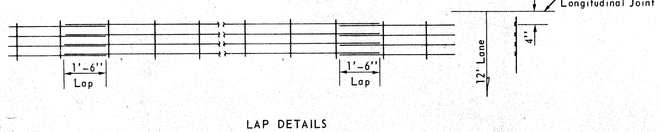
HALF LANE WIDTH BAR MAT

LAP DETAILS

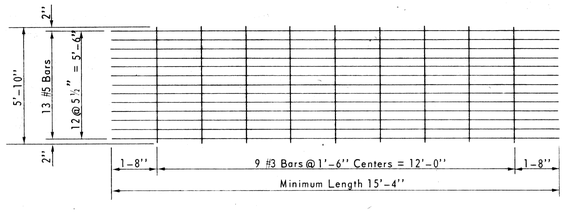
REINFORCEMENT DESIGN AND LAP DETAILS FOR 9" UNIFORM PAVEMENT
(NOMINAL STEEL PERCENTAGE- 0.7)



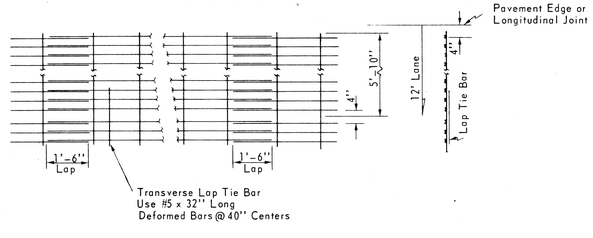
FULL LANE WIDTH BAR MAT



LAP DETAILS



HALF LANE WIDTH BAR MAT



LAP DETAILS

REINFORCEMENT DESIGN AND LAP DETAILS FOR 9" UNIFORM PAVEMENT
(NOMINAL STEEL PERCENTAGE- 0.6)

LOAD TRANSFER AT TRANSVERSE CONSTRUCTION JOINTS SHALL BE PROVIDED BY PLACING A #5 DEFORMED BAR 4 FT. IN LENGTH WITH 2 FT. EMBEDMENT EACH SIDE OF THE JOINT AND SPACED EVERY OTHER LONGITUDINAL BAR OF THE REINFORCEMENT BAR MAT. THE DEFORMED BARS SHALL BE PLACED BELOW AND SECURELY WIRED TO THE REINFORCE MENT STEEL. THESE BARS SHALL BE CONSIDERED INCIDENTAL TO THE PLACING OF THE CONCRETE PAVEMENT. THE CONCRETE ALONG THE ENTIRE JOINT SHALL BE HAND VIBRATED TO INSURE PROPER CONSOLIDATION.

THE LONGITUDINAL REINFORCEMENT SHALL BE LAPPED 18 INCHES AND TWO MATS SHALL BE MAINTAINED IN THE SAME HORIZONTAL PLANE BY PLACING CORRESPONDING BARS OF EACH MAT ADJACENT TO EACH OTHER AS SHOWN. THE STEEL SHALL BE TIED AT LAPS.

THE LENGTH OF THE FIRST LAP FOLLOWING A TRANSVERSE CONSTRUCTION JOINT SHALL BE 3'- 0". TO MAINTAIN THE REINFORCEMENT IN THE SAME HORIZONTAL PLANE, THE LAST TRANSVERSE BAR OF THE MAT CARRIED THROUGH THE JOINT SHALL BE REMOVED IF THE MATS ARE PLACED WITH THE TRANSVERSE STEEL ON TOP OF THE LONGITUDINAL STEEL. IN CASE THE MATS ARE PLACED WITH THE TRANSVERSE STEEL ON THE BOTTOM OF THE LONGITUDINAL STEEL, THE FIRST TRANSVERSE BAR OF THE FIRST MAT FOLLOWING THE JOINT SHALL BE REMOVED TO MAINTAIN THE REINFORCEMENT IN THE SAME HORIZONTAL PLANE.

CHAIR SUPPORTS SHOWN IN THE CENTER OF THE LAP FOLLOWING THE CONSTRUCTION JOINT SHALL BE ADJUSTED IN HEIGHT, IF NECESSARY TO INSURE BOTH MATS ARE AT THE SAME ELEVATION. WHEN MORE THAN 5 FT. OF REINFORCEMENT EXTENDS THROUGH THE JOINT, ADDITIONAL ROWS OF CHAIRS SHALL BE USED TO MAINTAIN PROPER ELEVATION OF THE STEEL. CHAIR SUPPORTS SHALL BE PLACED ON 3'- 4" CENTERS ±. 2".

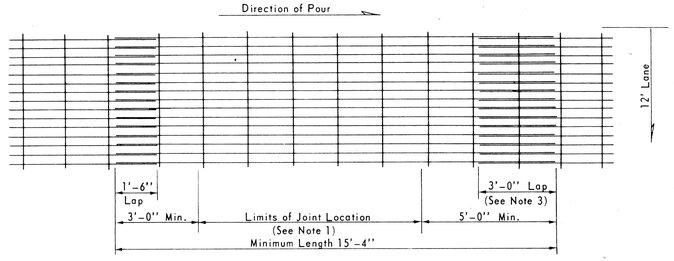
TRANSVERSE STEEL CONTINUITY, WHERE HALF LANE WIDTH MATS ARE USED, SHALL BE MAINTAINED BY USING NO. 5 DEFORMED BARS, 32 INCHES LONG AT 40-INCH SPACING. THESE LAP TIE BARS SHALL BE PLACED UNDER THE REINFORCEMENT MAT.

MAT LENGTHS SHOWN ARE MINIMUM ONLY AND MAY BE INCREASED IN INCREMENTS OF 1'- 6" AS DESIRED.

THE DEPTH OF STEEL BELOW THE FINISHED PAVEMENT SURFACE SHALL BE 3 1/2 INCHES ± 1/2 INCH, MEASURED TO THE CENTER OF THE LONGITUDINAL REINFORCEMENT.

WEIGHT OF MINIMUM SIZE MATS, LBS.

NOMINAL STEEL PERCENTAGE	DEFORMED BAR FULL MAT	DEFORMED BAR HALF MAT
0.6	455	228
0.7	519	260



LONGITUDINAL LAP DETAILS AT TRANSVERSE CONSTRUCTION JOINTS

DETAIL FOR CONTINUOUS REINF. CONCRETE PAVEMENT

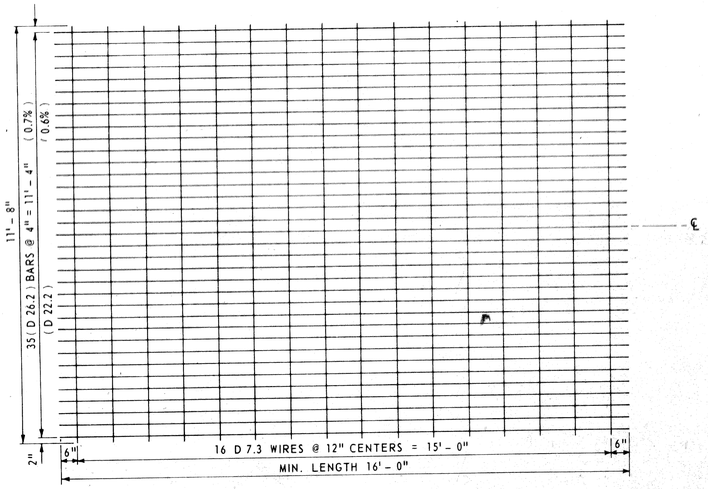
REV. 6-23-67
REV. 8-2-67
REV. 10-16-67
REV. 1-10-68

82124-002

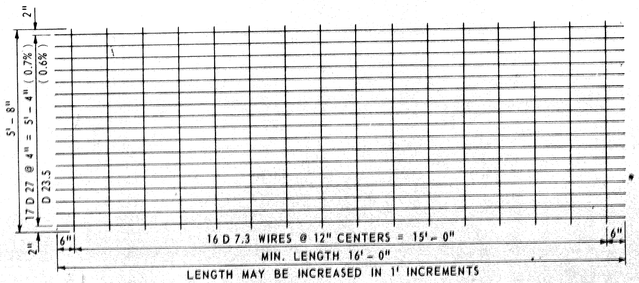
REINFORCEMENT DESIGN AND LAP DETAILS FOR 9" UNIFORM PAVEMENT

(NOMINAL STEEL PERCENTAGE - 0.7 AND 0.6)

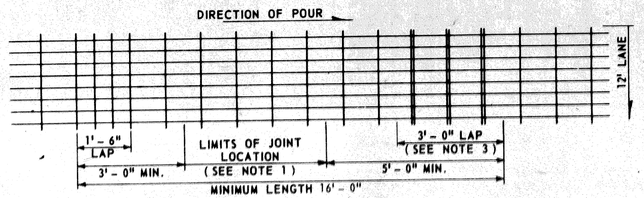
WIRE MESH



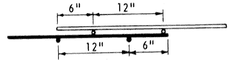
FULL LANE DEFORMED WELDED WIRE MAT



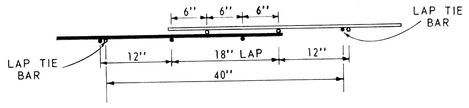
HALF LANE WIDTH MAT



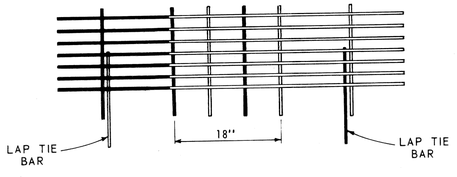
LONGITUDINAL LAP DETAILS AT TRANSVERSE CONSTRUCTION JOINTS



LAP DETAIL FOR FULL MAT

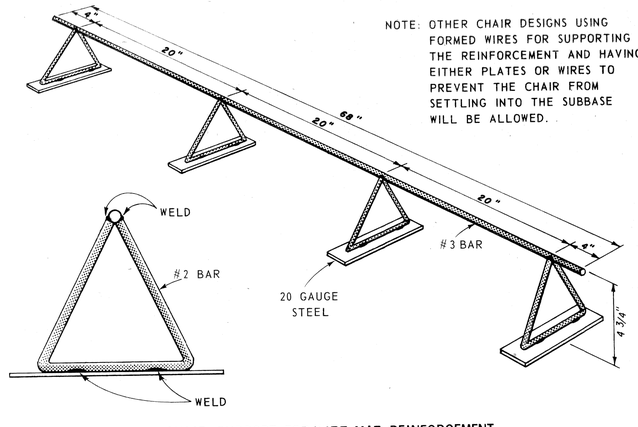


LAP DETAIL FOR HALF MAT



LAP DETAIL

FOR HALF-LANE WIDTH MATS ONLY



NOTE: OTHER CHAIR DESIGNS USING FORMED WIRES FOR SUPPORTING THE REINFORCEMENT AND HAVING EITHER PLATES OR WIRES TO PREVENT THE CHAIR FROM SETTLING INTO THE SUBBASE WILL BE ALLOWED.

CHAIR SUPPORT FOR WIRE MAT REINFORCEMENT

NOT TO SCALE

NOTES:

1. LOAD TRANSFER AT TRANSVERSE CONSTRUCTION JOINTS SHALL BE PROVIDED BY PLACING A #5 DEFORMED BAR 4 FT. IN LENGTH WITH 2 FT. EMBEDMENT EACH SIDE OF THE JOINT, AND SPACED EVERY OTHER LONGITUDINAL BAR OF THE REINFORCEMENT WIRE MAT. THE DEFORMED BARS SHALL BE PLACED BELOW AND SECURELY WIRED TO THE REINFORCEMENT STEEL. THESE BARS SHALL BE CONSIDERED INCIDENTAL TO THE PLACING OF THE CONCRETE PAVEMENT. THE CONCRETE ALONG THE ENTIRE JOINT SHALL BE HAND VIBRATED TO INSURE PROPER CONSOLIDATION.
2. THE LONGITUDINAL REINFORCEMENT SHALL BE LAPPED 18" AND SHALL BE MAINTAINED IN THE SAME VERTICAL PLANE. THE MATS SHALL BE PLACED WITH TRANSVERSE WIRES BELOW THE LONGITUDINAL BARS. THE STEEL SHALL BE TIED AT LAPS.
3. THE LENGTH OF THE FIRST LAP FOLLOWING A TRANSVERSE CONSTRUCTION JOINT SHALL BE 3' - 0". THIS LAP SHALL BE FORMED SIMILAR TO AN 18" LAP AS IN NOTE 2.
4. CHAIR SUPPORTS SHOWN IN THE CENTER OF THE LAP FOLLOWING THE CONSTRUCTION JOINT SHALL BE ADJUSTED IN HEIGHT, IF NECESSARY, TO INSURE BOTH MATS ARE AT THE PROPER ELEVATION. WHEN MORE THAN 5 FT. OF REINFORCEMENT EXTENDS THROUGH THE JOINT, ADDITIONAL ROWS OF CHAIRS SHALL BE USED TO MAINTAIN PROPER ELEVATION OF THE STEEL. CHAIR SUPPORTS SHALL BE ON 3' - 4" CENTERS ± 2".
5. TRANSVERSE STEEL CONTINUITY, WHERE HALF LANE WIDTH MATS ARE USED, SHALL BE MAINTAINED BY USING NO. 5 DEFORMED BARS, 32 INCHES LONG AT 40-INCH SPACING. THESE LAP TIE BARS SHALL BE PLACED UNDER THE REINFORCEMENT MAT.
6. MAT LENGTHS SHOWN ARE MINIMUM ONLY AND MAY BE INCREASED IN INCREMENTS OF 1' - 0" AS DESIRED.
7. THE DEPTH OF STEEL BELOW THE FINISHED PAVEMENT SURFACE SHALL BE 3 1/2 INCHES ± 1/2 INCH, MEASURED TO THE CENTER OF ANY LONGITUDINAL REINFORCEMENT.

NOMINAL STEEL RATIO - 0.7%

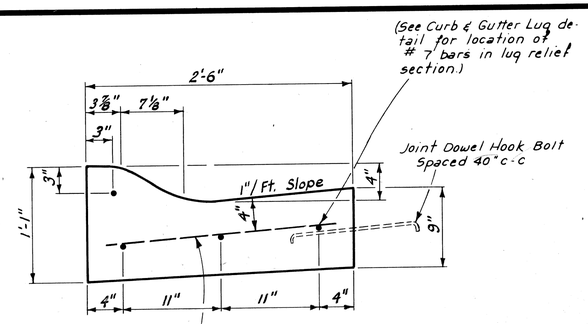
	WIRE SPACING (IN.)	NO. OF BARS	LONGITUDINAL BAR SIZE	TRANSVERSE WIRE OVERHANG (IN.)	EDGE OF SLAB CLEARANCE (IN.)	WEIGHT OF MIN. SIZE MAT (LBS.)	
FULL LANE WIDTH MATS	4	36	D 25.5	1	1	543	OPTIONAL *
	4	35	D 26.2	2	2	542	THIS DESIGN
HALF LANE WIDTH MATS	4	18	D 25.5	1	1	272	OPTIONAL *
	4	17	D 27	2	2	271	THIS DESIGN

NOMINAL STEEL RATIO - 0.6%

	WIRE SPACING (IN.)	NO. OF BARS	LONGITUDINAL BAR SIZE	TRANSVERSE WIRE OVERHANG (IN.)	EDGE OF SLAB CLEARANCE (IN.)	WEIGHT OF MIN. SIZE MAT (LBS.)	
FULL LANE WIDTH MATS	4	36	D 22.2	1	1	479	OPTIONAL *
	4	35	D 22.8	2	2	477	THIS DESIGN
HALF LANE WIDTH MATS	4	18	D 22.2	1	1	239	OPTIONAL *
	4	17	D 23.5	2	2	238	THIS DESIGN

* USE OPTIONAL DESIGN WHEN 1" OVERHANG AND 1" EDGE OF SLAB CLEARANCE IS DESIRED.

DETAIL FOR CONTINUOUS REINFORCED CONCRETE PAVEMENT



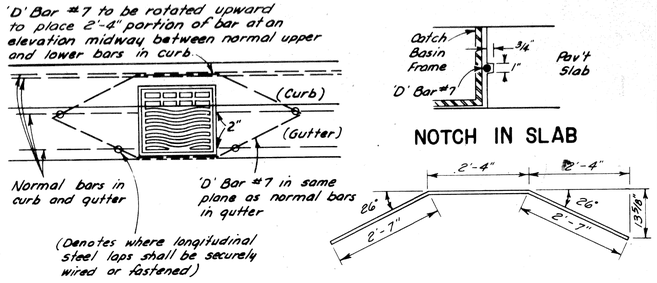
A bar mat may be substituted for the lower tier of bars

See detail below.

Quantities per lineal foot of curb & gutter
Concrete Grade A = 0.0886 cu. yds.
*Steel Reinforcement = 8.176 lbs.

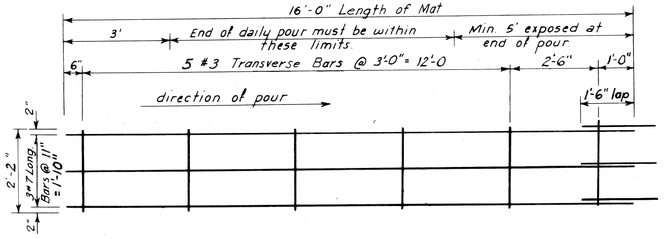
*Does not include Hook Bolts

CONCRETE ROLL CURB & GUTTER
DET. 6 — SPECIAL



NOTCH IN SLAB

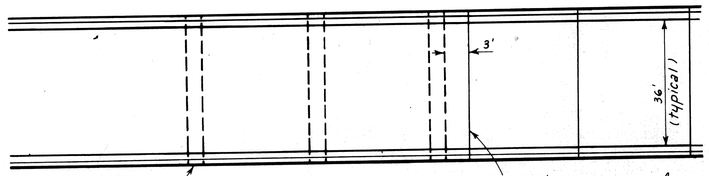
DETAIL OF CURB AND GUTTER STEEL AT CATCH BASINS

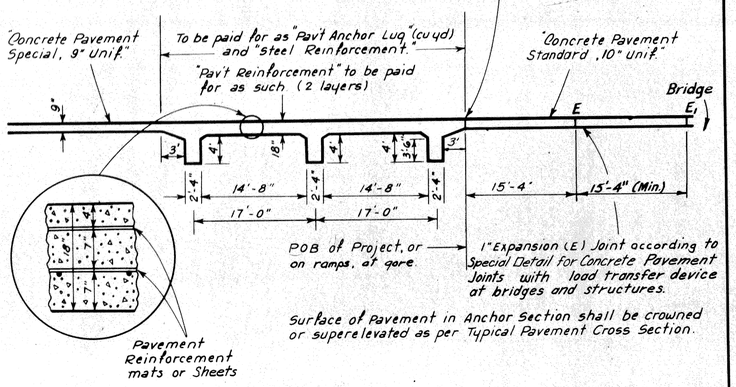


Weight of #7 Longitudinal Bars: 98.11 #
Weight of #3 Transverse Bars = 4.07 #
Weight per Mat 102.18 #

OPTIONAL

BAR MAT REINFORCEMENT FOR CONCRETE CURB & GUTTER
DET. 6 — SPECIAL





Surface of Pavement in Anchor Section shall be crowned or superelevated as per Typical Pavement Cross Section.

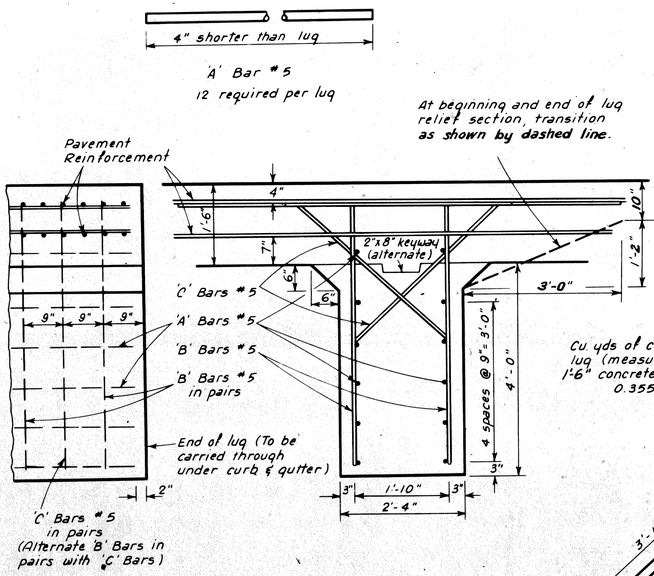
PLAN AND ELEVATION OF TYPICAL ANCHOR SECTION

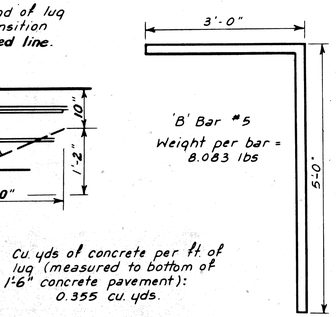
UNIT	"A" BARS (#5) PER ANCHOR			"B" BARS (#5) PER ANCHOR			"C" BARS (#5) PER ANCHOR			BAR MAT CURB REINF. (inc. laps) lbs.		WEIGHT REINF STEEL (lbs)	PAV'T ANCHOR CONC. (cu. yds.)
	Length	No.	Wt.	Length	No.	Wt.	Length	No.	Wt.	7 #7 46'-10"	34 #3 2'-2"		
2'-6" curb	2'-2"	30	68	8'-0"	12	100	8'-6"	12	106	670	28	* 972	5.68
12' lane	11'-8"	36	438	8'-0"	48	401	8'-6"	42	372			** 1265	40.60
12'-6" Ramp	12'-2"	36	457	8'-0"	54	451	8'-6"	48	426			1334	42.29

* All reinf. in curb section thru-out Anchor is included in this quantity. (Hook bolts not included.)

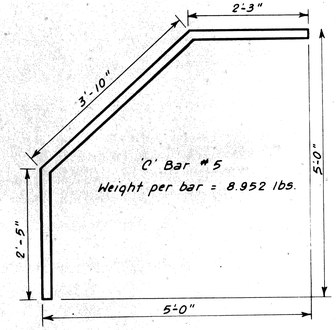
** Pav't reinf. thru-out Anchor not included. (To be paid for as Pavement Reinforcement.)

STEEL & CONCRETE QUANTITIES FOR VARIOUS ANCHOR LENGTHS





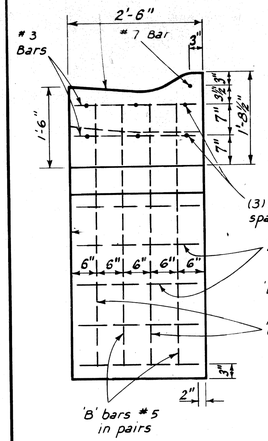
Cu yds of concrete per ft. of lug (measured to bottom of 1'-6" concrete pavement): 0.355 cu. yds.



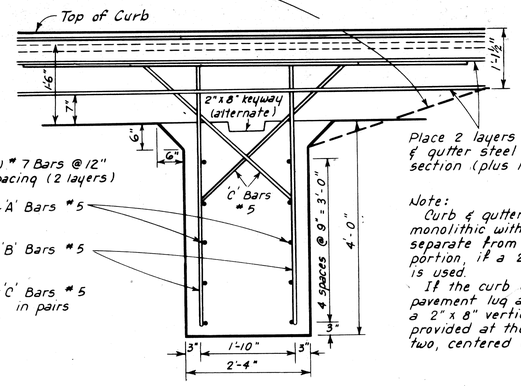
Cubic yards of concrete per foot of lug (measured to a point 1'-10" below top of curb: 0.355 cu. yd.

DETAIL OF ANCHOR LUG

For curb & gutter detail, see 'Concrete Curb & Gutter Det. 6 - Special' at left.



At beginning and end of lug relief section, transition as shown by dashed line.



Place 2 layers of longitudinal curb & gutter steel through lug relief section (plus normal #7 bar in curb)

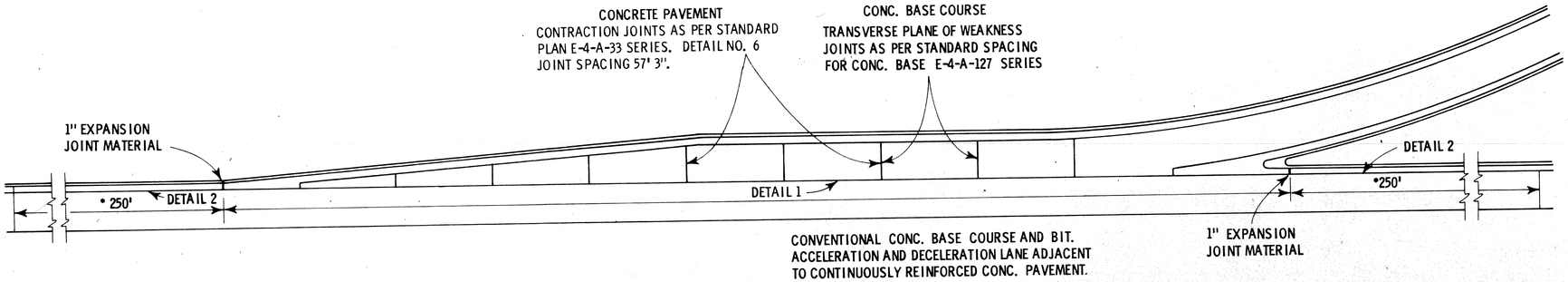
Note:
Curb & gutter lug may be poured monolithic with pavement lug, but separate from the 1'-6" uniform portion, if a 2"x8" horizontal keyway is used.
If the curb & gutter lug and the pavement lug are poured separately, a 2"x8" vertical keyway shall be provided at the joint between the two, centered on the 2'-4" width.

DETAIL OF CURB & GUTTER LUG

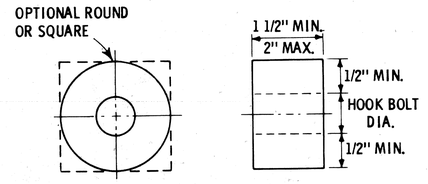
DETAIL FOR CONTINUOUS REINF. CONCRETE PAVEMENT
SHEET 4 of 6

82124-002

55

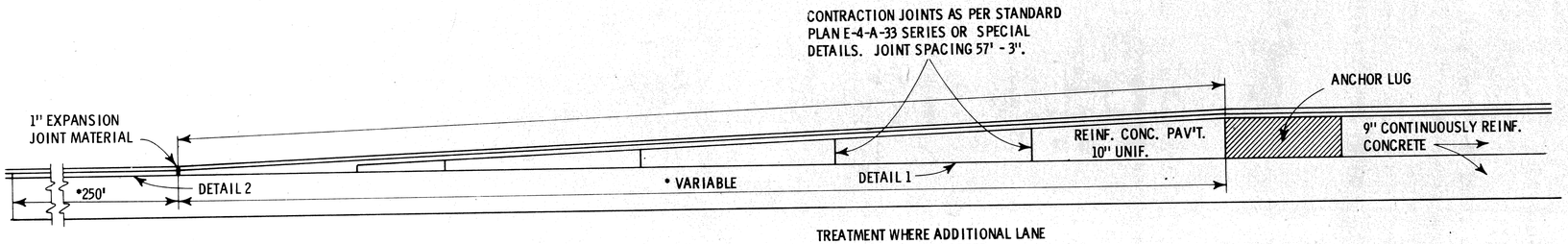


CONVENTIONAL CONC. BASE COURSE AND BIT. ACCELERATION AND DECELERATION LANE ADJACENT TO CONTINUOUSLY REINFORCED CONC. PAVEMENT.



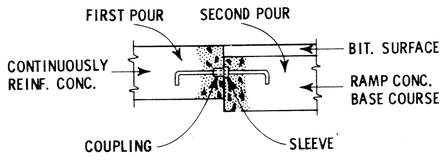
SLEEVE DETAIL
INCIDENTAL TO HOOK BOLTS

SLEEVE TO HAVE A MINIMUM OF 1/2" WALL THICKNESS AND BE A DEPTH OF 1 1/2" TO 2". TO BE MADE OF SOFT RUBBER, CORK, POLYSTYRENE OR OTHER COMPRESSIBLE MATERIAL. MATERIAL SLEEVE MUST BE PLACED ADJACENT TO FIRST POUR.

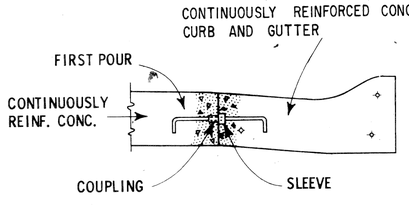


TREATMENT WHERE ADDITIONAL LANE IS PICKED UP OR DROPPED.

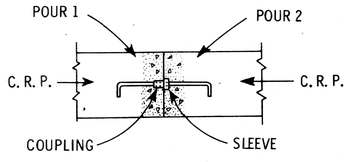
• PLACE SLEEVES IN THESE AREAS. SEE DETAIL FOR SLEEVE DETAILS. HOOK BOLT SPACING IS TO BE ACCORDING TO PLANS.



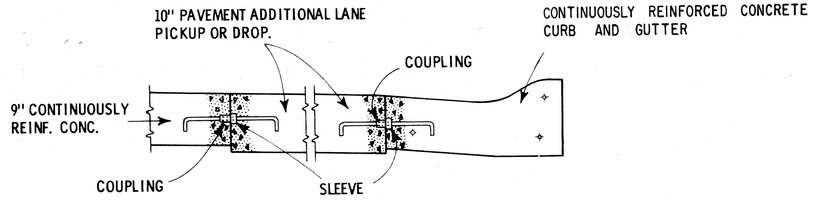
DETAIL 1
DETAIL OF JOINT DOWEL HOOK BOLT WITH SLEEVE BETWEEN EXPRESSWAY AND RAMP



DETAIL 2
DETAIL OF JOINT DOWEL HOOK BOLT WITH SLEEVE BETWEEN EXPRESSWAY AND CONTINUOUSLY REINFORCED CONCRETE CURB AND GUTTER



DETAIL 3
DETAIL OF JOINT HOOK BOLT WITH SLEEVE BETWEEN MULTIPLE LANE POURS.

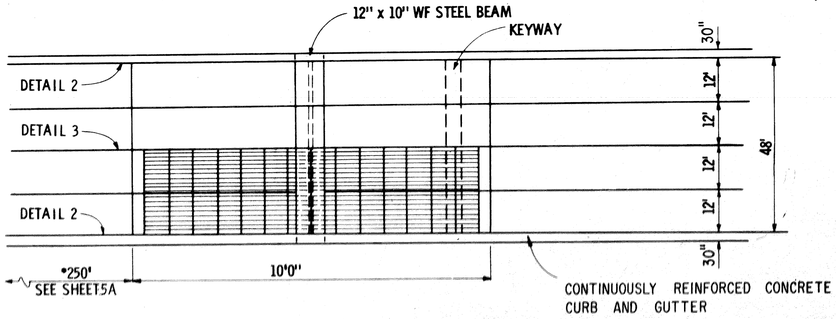


DETAIL 4

PLIABLE EXPANSION SLEEVES ON THE LONGITUDINAL JOINT HOOK BOLT FOR CONTINUOUSLY REINF. CONC. PAV'T.

DETAIL FOR CONTINUOUS REINF. CONCRETE PAVEMENT
SHEET 5 of 6

82124-002



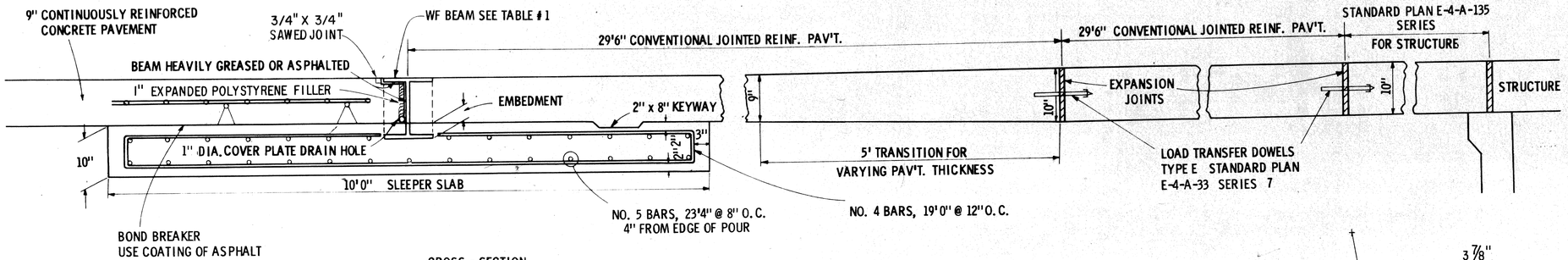
LONGITUDINAL SECTION

TABLE #1

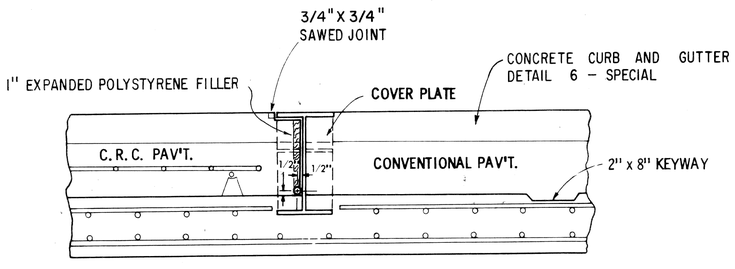
PAV'T. THICKNESS IN INCHES	EMBEDMENT IN SLEEPER SLAB - INCHES	STEEL BEAM WEIGHT (LBS)
7	3	10 WF....54
8	4	12 WF....58
9	3	12 WF....58
10	4	14 WF....61

BEAM CAMBER

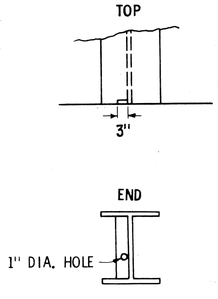
PAV'T. WIDTH	CROWN BEAM CAMBER
24'	1 3/8"
36'	2 1/8"
48'	2 7/8"
60'	3 5/8"

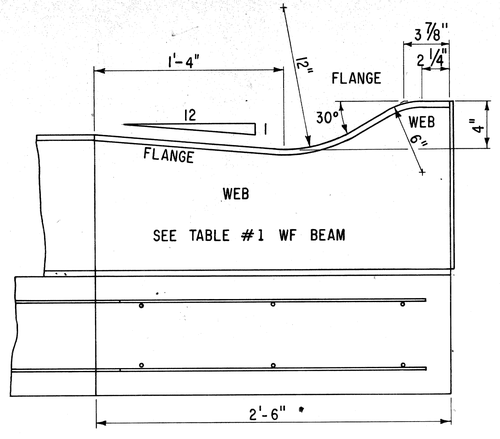


CROSS - SECTION
WITHOUT CURB



CROSS - SECTION
SHOWING CURB JOINT





PREFABRICATED BEAM DETAILS TO FIT CONCRETE CURB AND GUTTER DETAIL 6-SPECIAL

CONSTRUCT CURB SECTION OF BEAM AS SHOWN

ALL WEB AND FLANGE PARTS TO BE SAME DIMENSIONS AS BEAM

DETAILS OF FABRICATION SUBJECT TO APPROVAL OF ENGINEER

NOTES FOR STANDARD
"WIDE FLANGE BEAM TERMINAL JOINT"

THE BEAM LENGTH SHALL BE THE WIDTH OF PAVEMENT BEING POURED AND PRECAMBERED ACCORDING TO CROWN TABLE SHOWN. FOR THREE, FOUR, ETC., LANE PAVEMENT WIDTHS, THE CONTRACTOR MAY ELECT TO CONSTRUCT THE TERMINAL BEAM JOINT IN SECTIONS CORRESPONDING TO THE PAVEMENT POUR WIDTH. IF SO, THE BEAMS AFTER CAMBERING MAY BE CUT AT THE APPROPRIATE JOINT AND MATCH MARKED TO MAINTAIN THE REQUIRED CROWN AND ALIGNMENT.

WELD 1/4" STEEL COVER PLATES ON OUTSIDE ENDS OF BEAM, WHERE BEAM IS ADJACENT TO SHOULDER. COVER PLATE DRAIN HOLES TO BE DRILLED ON SLIP SIDE OF BEAM. TO PREVENT INTRUSIONS OF EXTRANEOUS MATERIAL BETWEEN ADJACENT POURS A 1/4" x 2" WIDE STEEL STIFFENER WILL BE WELDED TO FLANGE AND WEB.

THE WIDE FLANGE STEEL SHAPES SHALL COMFORM TO THE REQUIREMENTS OF ASTM A-242 WITH MATERIALLY GREATER ATMOSPHERIC CORROSION RESISTANCE THAN STRUCTURAL CARBON STEEL WITH COPPER AND SHALL BE SUITABLE FOR WELDING. AN EXAMPLE OF SEVERAL TYPES WHICH ARE SATISFACTORY TO THE DEPARTMENT ARE BETHLEHEM "MAYARI R" OR USS "COR-TEN" OR YOUNGSTOWN "YOLOY".

THE SURFACE OF THE SLEEPER SLAB SHALL BE STEEL TROWELED UNDER CONTINUOUSLY REINFORCED CONCRETE PAVEMENT ONLY. AS A BOND BREAKER, ASPHALT RC-70 OR RC-250 MAY BE USED OR A POLYETHYLENE TEREPHTHALATE SHEETING MAY BE USED.

IF CONTINUOUSLY REINFORCED CONCRETE PAVEMENT IS USED ON BOTH SIDES OF THE BEAM, THE CROSS-SECTION ON THE CONTINUOUSLY REINFORCED CONCRETE PAVEMENT SIDE APPLIES.

THE WIDE FLANGE BEAM SHALL BE POSITIONED TO MAINTAIN THE ALIGNMENT AND GRADE. APPROVED CHAIRS WILL BE PERMITTED.

ALL SHOP AND FIELD WELDING SHALL BE IN ACCORDANCE WITH CURRENT MDSH ROAD AND BRIDGE CONSTRUCTION SPECIFICATIONS FOR WELDING STEEL BRIDGE CONSTRUCTION.

THE 30" WIDE FLANGE CURB SECTION IS TO BE PREFABRICATED SEPARATELY. WHEN PLACING THIS SECTION IT WILL BE ALIGNED WITH THE WIDE FLANGE PAVEMENT BEAM.

THE WF STEEL BEAM, COVER PLATE, 3" STIFFENER, CONCRETE SLEEPER SLAB, SLEEPER SLAB REINFORCEMENT, CHAIRS, ASPHALT, GREASE AND SHEETING ARE ALL INCIDENTAL TO THE WIDE FLANGE BEAM TERMINAL JOINT.

IF CONTRACTOR ELECTS TO CONSTRUCT THE TERMINAL JOINT IN SECTIONS, ALL SECTIONS OF THE SLEEPER SLAB SHALL BE KEYED TOGETHER, INCLUDING CURB AND GUTTER SLAB, AND THE TRANSVERSE REINFORCING STEEL SHALL EXTEND 30 BAR DIAS. THROUGH THE KEY. AN ALTERNATE METHOD THAT MAY BE USED WILL BE JOINT DOWEL HOOK BOLTS, USING THE SAME SPACING AS THE TRANSVERSE BARS. SEE DETAIL 2, SHEET 5A.

A 1" EXPANDED POLYSTYRENE FILLER STRIP 2.3 POUNDS PER CUBIC FOOT IN ACCORDANCE WITH ART. 7.16.03 C OF THE CURRENT STANDARD SPECIFICATIONS SHALL BE PLACED ALONG THE WEB OF THE BEAM ADJACENT TO THE CONTINUOUSLY REINFORCED CONCRETE PAVEMENT.

A 3/4" JOINT SHALL BE SAWED ADJACENT TO THE FLANGE OF THE WIDE-FLANGE TERMINAL JOINT IN THE CONTINUOUSLY REINFORCED CONCRETE PAVEMENT AND FILLED WITH HOT POURED RUBBER ASPHALT-TYPE JOINT SEALING COMPOUND IN ACCORDANCE WITH ART. 7.16.07 OF THE CURRENT STANDARD SPECIFICATIONS.

REV. 1-10-68

DETAIL FOR WIDE FLANGE BEAM TERMINAL JOINT

SHEET 6 of 6 SHEET 57

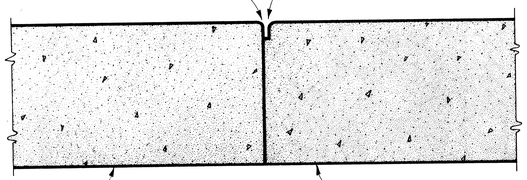
82124-002

METHOD OF EDGING

WHERE ONE SLAB IS POURED AGAINST ANOTHER IN PLACE

THE FIRST SLAB SHALL BE EDGED WITH AN EDGER HAVING A 1/2" LIP AND A RADIUS OF 1/8" TO 1/4".

EDGING TOOL SHALL BE 6"x 12" AND SHALL HAVE A 3/4" LIP WITH A RADIUS OF 1/8" TO 1/4". IT IS TO BE GUIDED AND RESTED ON THE HARDENED CONCRETE AT THE FIRST POUR.



SLAB POURED FIRST (EDGED AND HARDENED)

SECOND SLAB

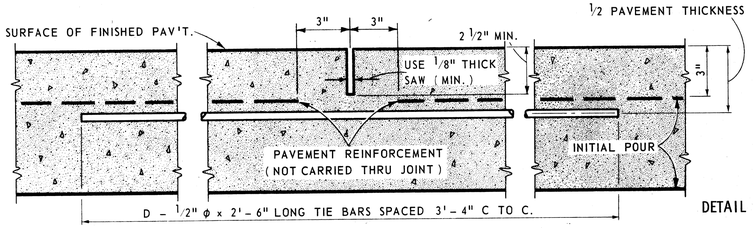
NOTE: WHEN WIDENING TO AN EXISTING SLAB PREVIOUSLY EDGED, THE SECOND SLAB SHALL BE EDGED WITH A LONG LIP EDGER WITH 3/8" TO 1/2" R.

LONGITUDINAL LANE TIE JOINT

SYMBOL (D)

AFTER THE FIRST COURSE HAS BEEN POURED AND STRUCK OFF, D & D 1 TIE BARS SHALL BE PLACED ON THE SURFACE OF THE FIRST COURSE AT THE PROPER SPACING LONGITUDINALLY AND TRANSVERSELY AT 90° WITH THE JOINT AND THEN DEPRESSED TO 1/2 THE PAVEMENT THICKNESS. THE REINFORCEMENT SHALL THEN BE PLACED AND PROPERLY SPACED.

THE JOINT SHALL BE FILLED WITH AN APPROVED JOINT SEALING MATERIAL.

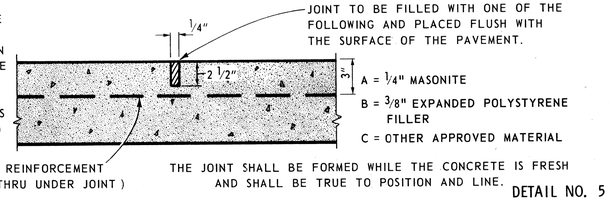


DETAIL NO. 1

TRANSVERSE PLANE OF WEAKNESS JOINT FOR BASE COURSE

SYMBOL (U)

NOTE: A BULKHEAD JOINT SHALL BE CONSTRUCTED AT THE END OF THE DAY'S POUR OR WHEN THERE IS AN UNAVOIDABLE INTERRUPTION OF THE WORK FOR MORE THAN ONE-HALF HOUR. THE STEEL REINFORCEMENT SHALL EXTEND AT LEAST 18 INCHES BEYOND THE BULKHEAD JOINT INTO THE SUCCEEDING POUR.



JOINT TO BE FILLED WITH ONE OF THE FOLLOWING AND PLACED FLUSH WITH THE SURFACE OF THE PAVEMENT.

A = 1/4" MASONITE

B = 3/8" EXPANDED POLYSTYRENE FILLER

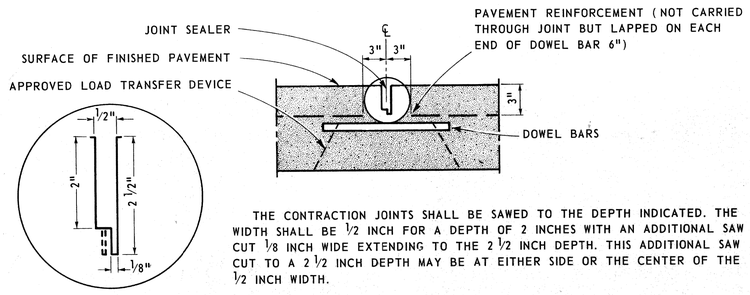
C = OTHER APPROVED MATERIAL

THE JOINT SHALL BE FORMED WHILE THE CONCRETE IS FRESH AND SHALL BE TRUE TO POSITION AND LINE.

DETAIL NO. 5

TRANSVERSE CONTRACTION JOINT (SAWED)

SYMBOL (C)



THE CONTRACTION JOINTS SHALL BE SAWED TO THE DEPTH INDICATED. THE WIDTH SHALL BE 1/2 INCH FOR A DEPTH OF 2 INCHES WITH AN ADDITIONAL SAW CUT 1/8 INCH WIDE EXTENDING TO THE 2 1/2 INCH DEPTH. THIS ADDITIONAL SAW CUT TO A 2 1/2 INCH DEPTH MAY BE AT EITHER SIDE OR THE CENTER OF THE 1/2 INCH WIDTH.

TO PREVENT UNCONTROLLED CRACKING OF THE PAVEMENT BEFORE THE FULL WIDTH OF CONTRACTION JOINTS ARE SAWED, THE CONTRACTOR MAY BE REQUIRED TO MAKE A SINGLE 1/8 INCH SAW CUT, 2 1/2 INCHES DEEP, AND LATER RESAW EACH JOINT GROOVE TO THE REQUIRED WIDTH AND DEPTH. WHEN THIS METHOD IS USED, THE FINAL WIDTH OF THE GROOVE SHALL BE 1/2 INCH PLUS THE WIDTH OF ANY CRACK WHICH MAY HAVE DEVELOPED BETWEEN THE TIME OF THE TWO SAWING OPERATIONS, AS DIRECTED BY THE ENGINEER.

DETAIL NO. 6

TRANSVERSE END OF POUR JOINT

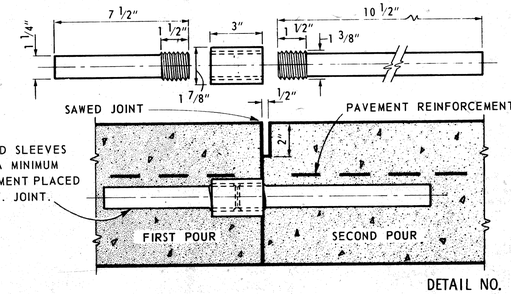
PRIOR TO PLACING CONCRETE IN FIRST POUR, THE SLEEVED DOWELS AND CONTRACTION OR EXPANSION BASKET ASSEMBLY WITH BULKHEAD SHALL BE FIRMLY SECURED TO THE SUBGRADE, TRUE TO LINE AND POSITION.

THE BULKHEAD SHALL BE SUFFICIENTLY RIGID TO PREVENT DEFORMATION WHEN CONCRETE IS PLACED AND SHALL CONFORM TO THE CROWN OF THE FINISHED PAVEMENT. THE DAY AFTER PLACING THE FIRST POUR, THE HALF OF BASKET AND DOWELS OUTSIDE THE FIRST POUR SHALL BE CAREFULLY REMOVED TO AVOID RUPTURING THE FRESH CONCRETE. THE OPEN END OF THE SLEEVE SHALL BE PLUGGED IN THE SAME MANNER AS REQUIRED FOR JOINT DOWEL HOOK BOLTS.

PRIOR TO PLACING CONCRETE IN SECOND POUR, THE DOWELS TO THE SECOND POUR SHALL BE SCREWED INTO THE SLEEVES AND COATED. THE CONTRACTOR PLACING THE SECOND POUR SHALL BE RESPONSIBLE FOR CLEANING OUT OF THE SLEEVES AND TOPPING IF NECESSARY, SUPPLYING THE DOWELS AND SEALER FOR THE SECOND POUR, AND SUPPLYING PREFORMED FIBER FILLER AND DOWEL CAPS FOR ALL DOWEL BARS IF THE LOCATION REQUIRES AN EXPANSION JOINT. AFTER THE SECOND POUR THE JOINT SHALL BE FINISHED ACCORDING TO CURRENT SPECIFICATIONS FOR CONTRACTION OR EXPANSION JOINTS.

THIS DETAIL SHALL BE USED FOR ALL TRANSVERSE JOINTS WHEN IT IS ANTICIPATED THAT THE SECOND POUR WILL BE PLACED MORE THAN SEVEN (7) DAYS AFTER THE FIRST POUR.

WHEN THE CONSTRUCTION (SECOND POUR) OF THE PAVEMENT WILL CONTINUE WITHIN SEVEN (7) DAYS, THE 2-PIECE DOWELS WILL NOT BE REQUIRED AND THE JOINT WILL BE TREATED AS A STANDARD CONTRACTION OR EXPANSION JOINT.



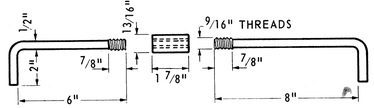
LOAD TRANSFER DOWELS AND SLEEVES SPACED 1'–0" C TO C AND A MINIMUM OF 6" FROM EDGE OF PAVEMENT PLACED AT RIGHT ANGLES TO PAV'T. JOINT.

DETAIL NO. 9

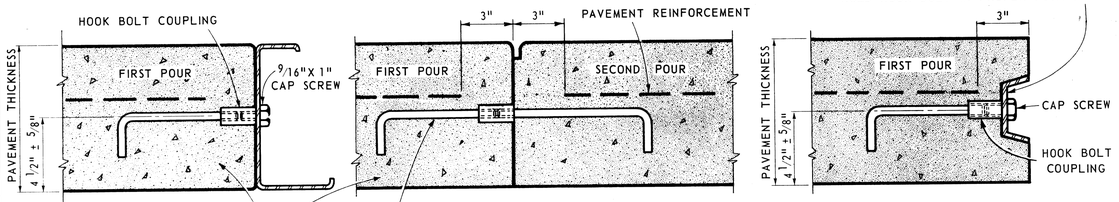
LONGITUDINAL BULKHEAD JOINT JOINT DOWEL HOOK BOLT

SYMBOL (B)
1/2" HOOK BOLT

OTHER METHODS OF HOLDING THE FIRST HALF OF THE HOOK BOLT IN POSITION WILL BE PERMITTED, IF APPROVED BY THE ENGINEER.



APPROX. 1 1/2" x 3" KEYWAY OR VARIATIONS AS APPROVED BY THE ENGINEER. METAL FORM TO BE OF SUFFICIENT RIGIDITY TO HOLD HOOK BOLT IN PROPER POSITION.



DETAIL NO. 2

LONGITUDINAL BULKHEAD JOINT
FOR FUTURE PAVEMENT WIDENING

SYMBOL (L)

THIS JOINT SHALL BE CONSTRUCTED ACCORDING TO DETAIL NO. 2 EXCEPT THAT THE "SECOND POUR" AND THE "SECOND HALF" OF THE JOINT DOWEL HOOK BOLT SHALL BE OMITTED. THE THREADED HOLE IN THE HOOK BOLT COUPLING SHALL BE TREATED WITH A RUST PREVENTIVE OIL AND PLUGGED WITH A NEOPRENE OR PLASTIC PLUG. THE PLUG SHALL BE OF PROPER DIMENSION TO COMPLETELY SEAL THE HOLE AND SHALL NOT PROJECT MORE THAN 3/8" AFTER INSERTING.

DETAIL NO. 3

LONGITUDINAL BULKHEAD JOINT
FOR WIDENING EXISTING CONCRETE PAVEMENT WHERE JOINT DOWEL HOOK BOLTS HAVE PREVIOUSLY BEEN PROVIDED

SYMBOL (L1)

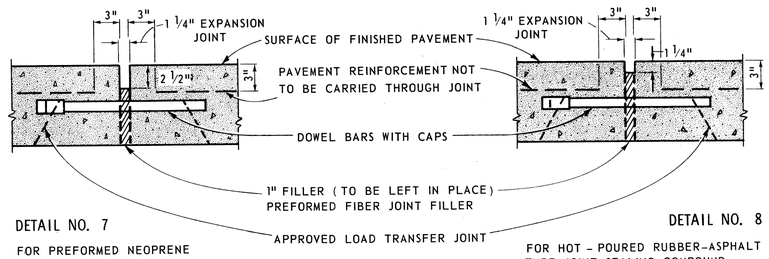
THIS JOINT SHALL BE CONSTRUCTED ACCORDING TO DETAIL NO. 2, EXCEPT THAT THE "FIRST POUR" AND THE "FIRST HALF" OF THE JOINT DOWEL HOOK BOLT HAS PREVIOUSLY BEEN PROVIDED. THE PLUG SHALL BE REMOVED, THE THREADS OF THE COUPLING SHALL BE RETAPPED AND THE "SECOND HALF" OF THE JOINT DOWEL HOOK BOLT SHALL BE PROVIDED AND INSTALLED.

DETAIL NO. 4

TRANSVERSE EXPANSION JOINT (SAWED) WITH LOAD TRANSFER

SYMBOL (E)

THE TRANSVERSE EXPANSION JOINT SHALL BE SAWED TO A DEPTH AS SHOWN AND A WIDTH OF 1 1/4", UNLESS OTHERWISE SPECIFIED. THE SAWING SHALL BE DONE BEFORE ANY TRANSVERSE CRACK DEVELOPS. TO PREVENT UNCONTROLLED CRACKING OF THE PAVEMENT BEFORE THE FULL WIDTH OF EXPANSION JOINTS ARE SAWED, THE CONTRACTOR MAY BE REQUIRED TO MAKE A SINGLE 1/8" SAW CUT, OF THE DEPTH REQUIRED, AND LATER RESAW EACH JOINT GROOVE TO THE REQUIRED WIDTH AND DEPTH.



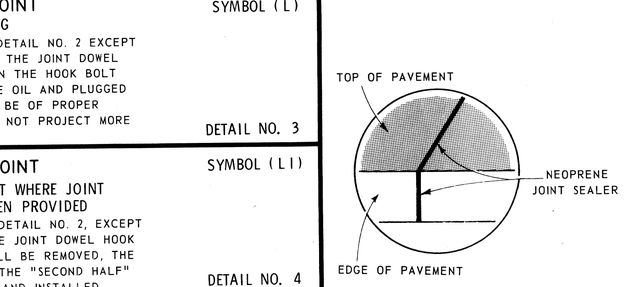
DETAIL NO. 7

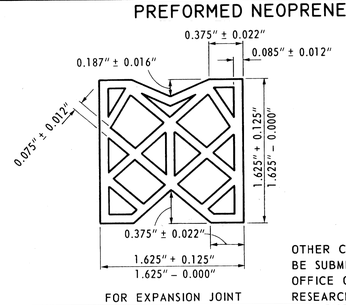
FOR PREFORMED NEOPRENE JOINT SEALER

DETAIL NO. 8

FOR HOT – POURED RUBBER-ASPHALT TYPE JOINT SEALING COMPOUND

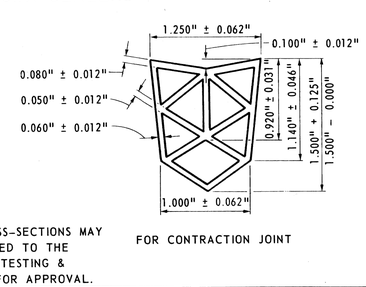
PREFORMED NEOPRENE JOINT SEALERS





FOR EXPANSION JOINT

OTHER CROSS-SECTIONS MAY BE SUBMITTED TO THE OFFICE OF TESTING & RESEARCH FOR APPROVAL.



FOR CONTRACTION JOINT

GENERAL NOTES:

MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH CURRENT STANDARD SPECIFICATIONS.

ALL STEEL BARS, BOLTS, AND FILLER USED IN PAVEMENT JOINTS WILL BE CONSIDERED INCIDENTAL TO THE CONSTRUCTION OF THE JOINT. TIE BARS SHALL BE DEFORMED.

FOR DOWEL BAR SIZES FOR 8", 9", AND 10" PAVEMENT AND PLACEMENT, SEE CURRENT STANDARD PLAN E-4-A-130 SERIES.

STATE OF MICHIGAN
DEPARTMENT OF STATE HIGHWAYS
STANDARD PLAN FOR

CONCRETE PAVEMENT JOINTS

APPROVALS

CHECKED — ENGINEER OF DESIGN — DATE

RECOMMENDED FOR APPROVAL — DESIGN DIVISION — DATE

RECOMMENDED FOR APPROVAL — TRAFFIC DIVISION — DATE

RECOMMENDED FOR APPROVAL — CONSTRUCTION DIVISION — DATE

RECOMMENDED FOR APPROVAL — CHIEF – BUREAU OF ENGINEERING — DATE

DEPARTMENT OF STATE HIGHWAYS

APPROVED — HENRIK E. STAFSETH – STATE HIGHWAY DIRECTOR

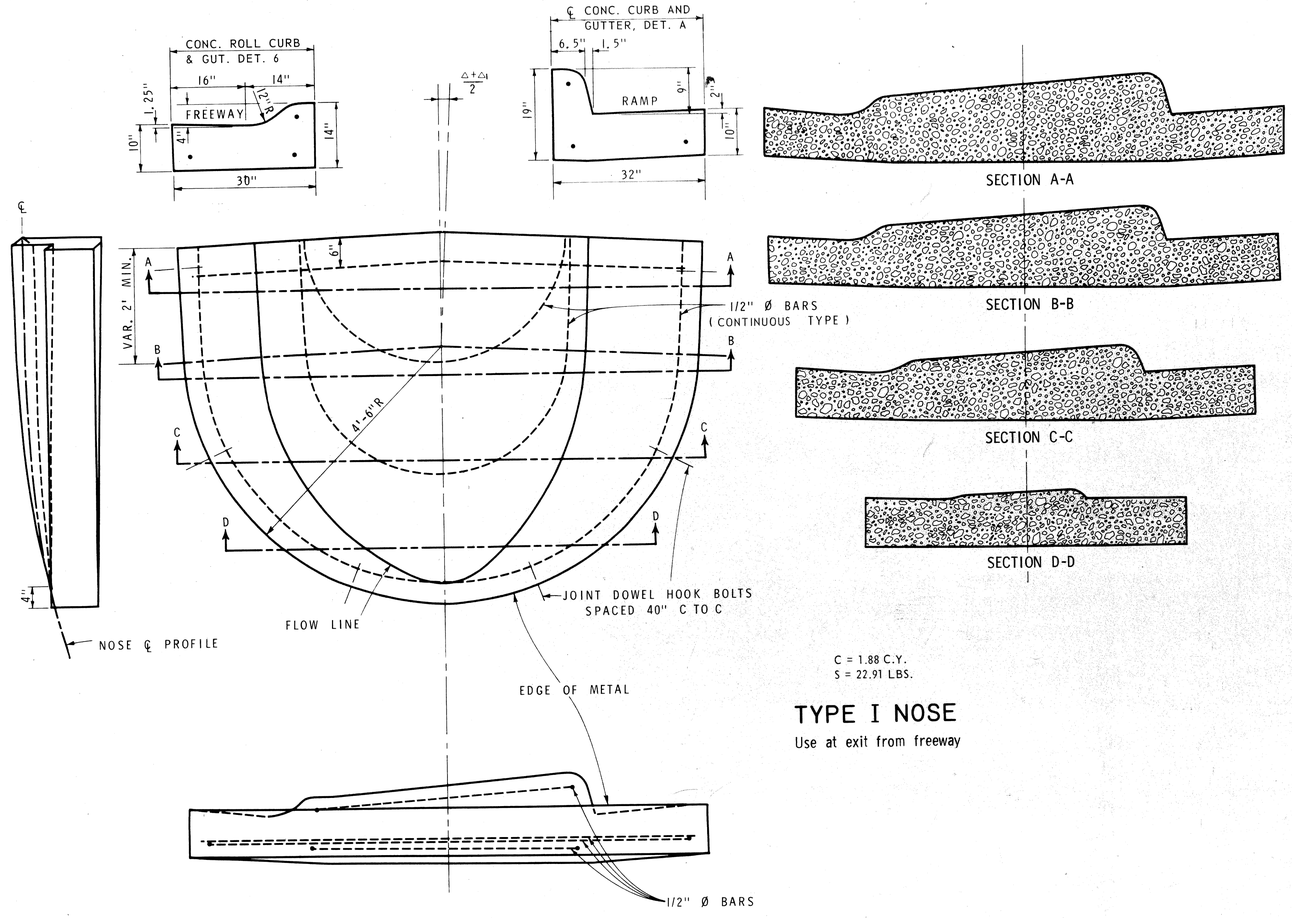
BY — DEPUTY STATE HIGHWAY DIRECTOR — DATE

DRAWN BY _____ CHECKED BY _____ TRACED BY _____ APPROVED B.P.R. _____

REVISED SEPT. 15, 1967

82124-002

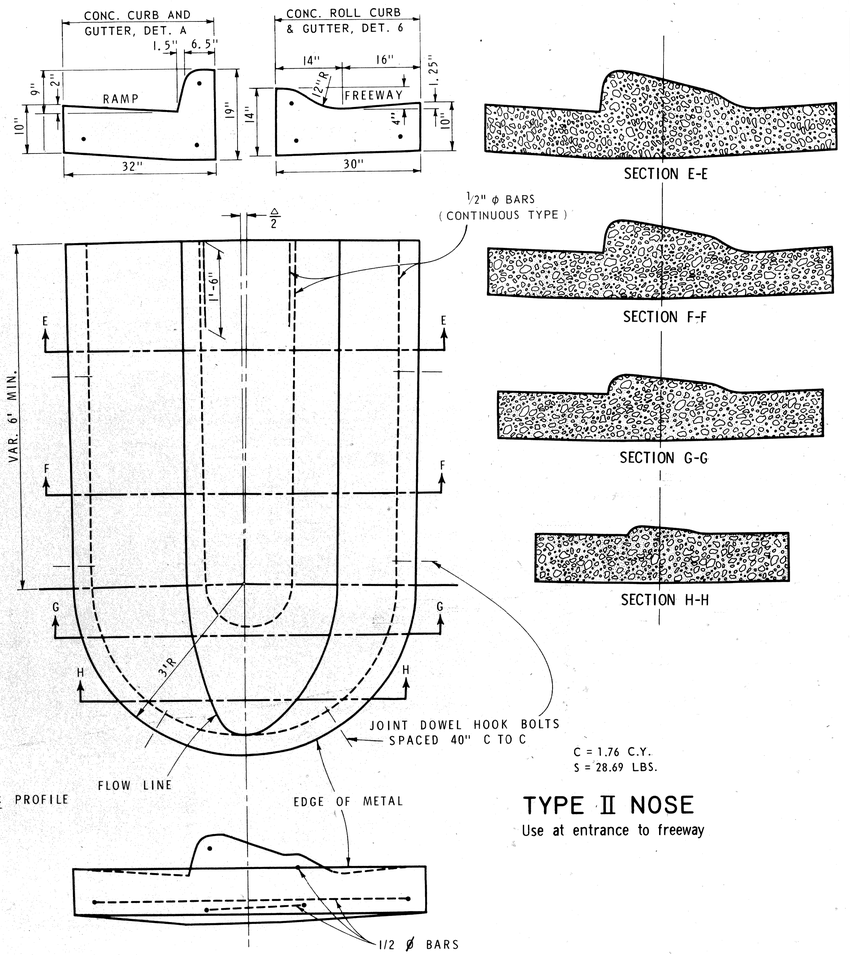
E-4-A-33K 58



C = 1.88 C.Y.
S = 22.91 LBS.

TYPE I NOSE

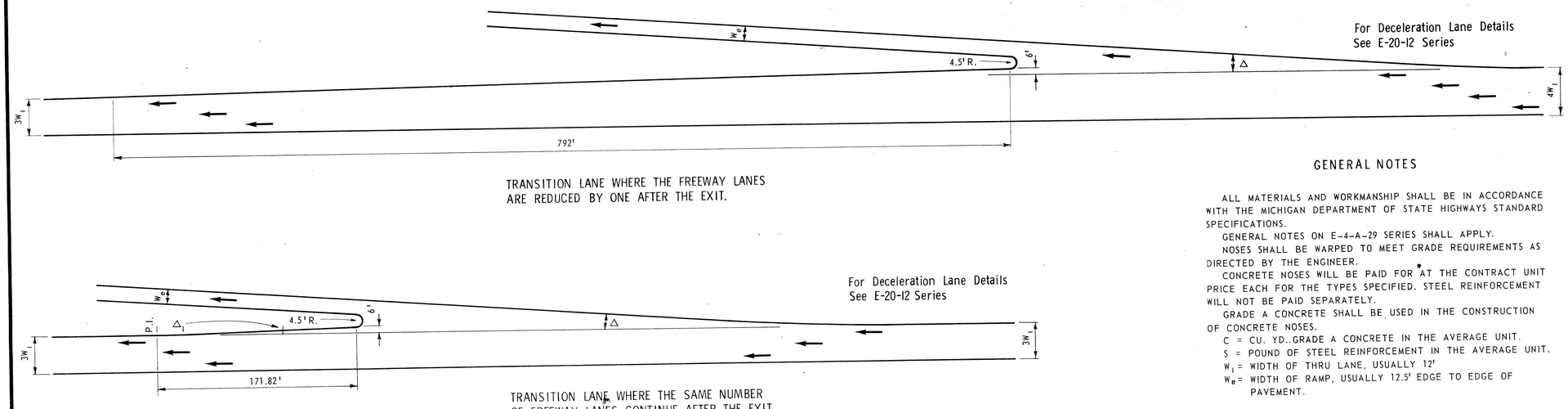
Use at exit from freeway



C = 1.76 C.Y.
S = 28.69 LBS.

TYPE II NOSE

Use at entrance to freeway



TRANSITION LANE WHERE THE FREEWAY LANES ARE REDUCED BY ONE AFTER THE EXIT.

TRANSITION LANE WHERE THE SAME NUMBER OF FREEWAY LANES CONTINUE AFTER THE EXIT

GENERAL NOTES

ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE MICHIGAN DEPARTMENT OF STATE HIGHWAYS STANDARD SPECIFICATIONS.

GENERAL NOTES ON E-4-A-29 SERIES SHALL APPLY.

NOSES SHALL BE WARPED TO MEET GRADE REQUIREMENTS AS DIRECTED BY THE ENGINEER.

CONCRETE NOSES WILL BE PAID FOR AT THE CONTRACT UNIT PRICE EACH FOR THE TYPES SPECIFIED. STEEL REINFORCEMENT WILL NOT BE PAID SEPARATELY.

GRADE A CONCRETE SHALL BE USED IN THE CONSTRUCTION OF CONCRETE NOSES.

C = CU. YD. GRADE A CONCRETE IN THE AVERAGE UNIT.
S = POUND OF STEEL REINFORCEMENT IN THE AVERAGE UNIT.
W_1 = WIDTH OF THRU LANE, USUALLY 12'
W_e = WIDTH OF RAMP, USUALLY 12.5' EDGE TO EDGE OF PAVEMENT.

STATE OF MICHIGAN
DEPARTMENT OF STATE HIGHWAYS
STANDARD PLAN FOR

CONCRETE NOSE DETAIL FOR URBAN FREEWAYS

DIVISION APPROVAL

CHECKED	ENGINEER OF DESIGN	DATE
RECOMMENDED FOR APPROVAL	TRAFFIC ENGINEER	DATE
RECOMMENDED FOR APPROVAL	ENGINEER OF BRIDGE AND ROAD DESIGN	DATE

OFFICES OF DESIGN AND CONSTRUCTION

APPROVED	CONSTRUCTION ENGINEER	DATE
APPROVED	CHIEF OF DESIGN AND TRAFFIC	DATE

DEPARTMENT OF STATE HIGHWAYS APPROVAL

APPROVED

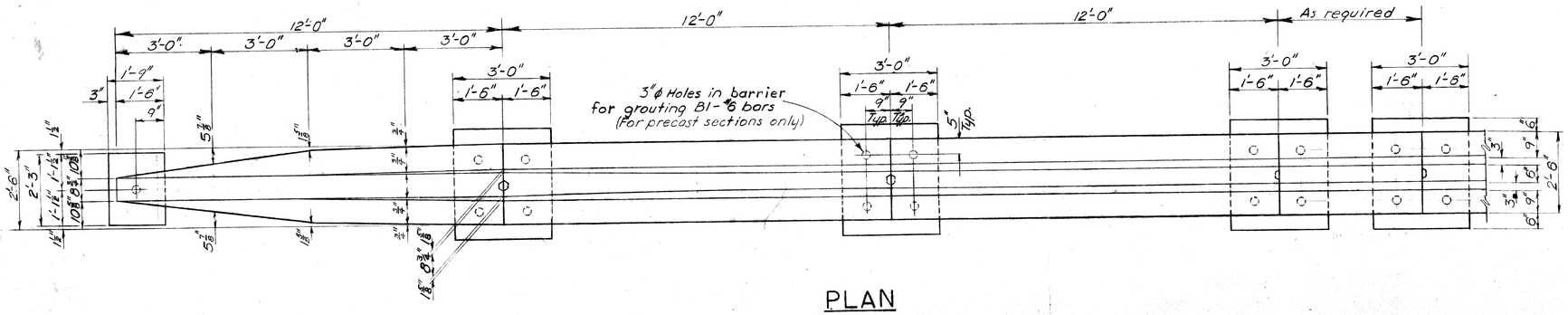
BY

DEPUTY DIRECTOR - ENGINEERING DATE

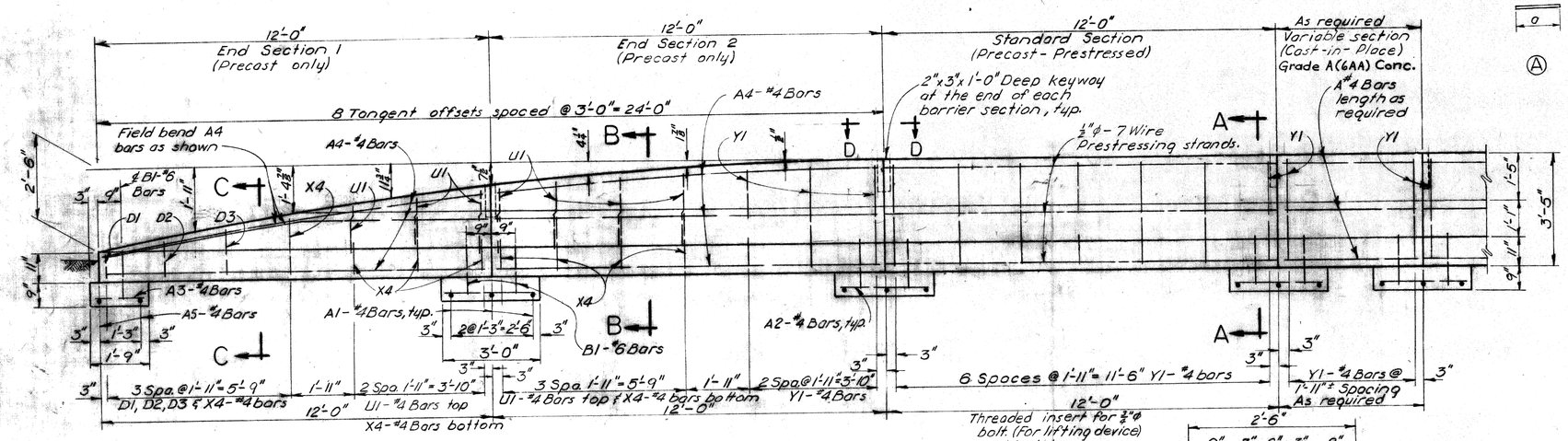
DRAWN BY CHECKED BY TRACED BY APPROVED B.P.R.

82124-002

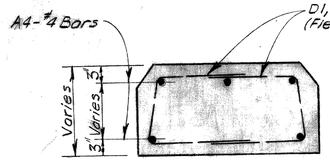
E-4-A-145A



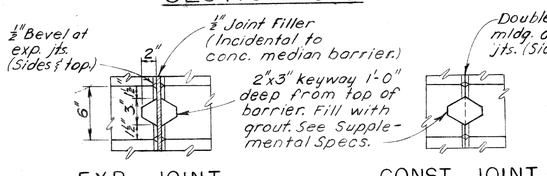
PLAN



ELEVATION

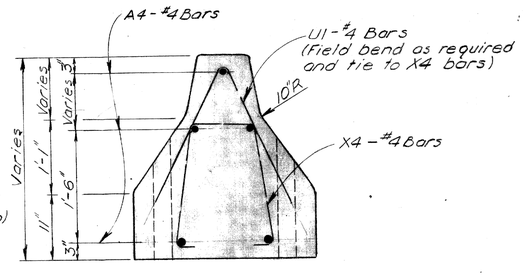


SECTION C-C



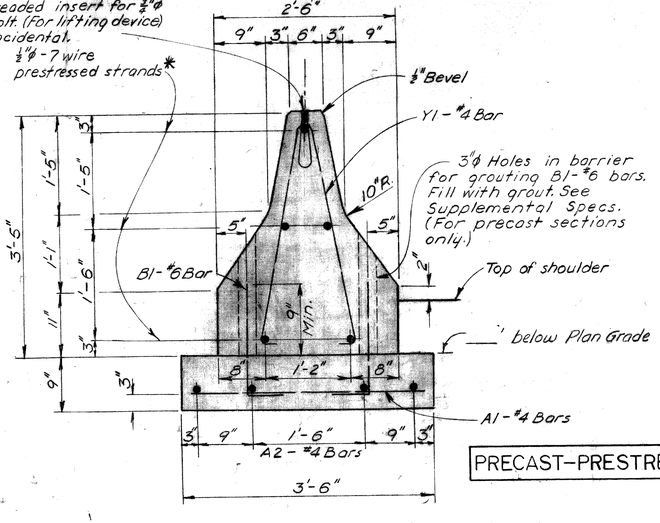
EXP. JOINT CONST. JOINT

VIEW D-D



SECTION B-B

Note:
After the precast sections have been placed in the field, the threaded inserts for the lifting devices shall be filled with tar. (Incidental to concrete median barrier.)

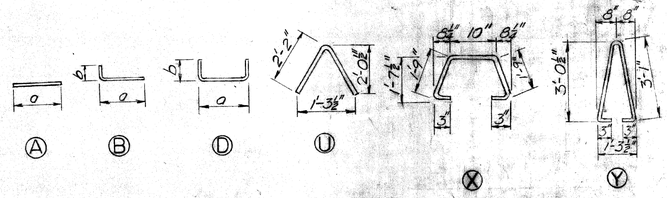


SECTION A-A

PRECAST-PRESTRESSED

STEEL REINFORCEMENT QUANTITIES*

BAR	DIMENSIONS a	b		End Sect. 1 size	length	No.	Wt.	End Sect. 2 No.	Wt.	Standard Section No.	Wt.	End Footing No.	Wt.	Standard Footing No.	Wt.
A1	3'-0"			#4	3'-0"									3	6
A2	2'-6"			#4	2'-6"									4	7
A3	1'-3"			#4	1'-3"							3	3		
A4	11'-6"			#4	11'-6"	5	38	5	38						
A5	1'-9"			#4	1'-9"							2	2		
B1	1'-4⅜"	5"		#6	1'-9"							1	3	4	11
D1	5"	8⅛"		#4	1'-9"	2	2								
D2	1'-0"	1'-0⅛"		#4	3'-0"	2	4								
D3	1'-2"	1'-4⅛"		#4	3'-10"	2	5								
U1				#4	4'-3"	3	9	4	11						
X4				#4	4'-8"	4	13	4	13						
Y1				#4	6'-5"			3	13	7	31				
Total rein. wt per section						71"		75"		31"		8"		24"	



BAR BENDING DIAGRAMS

CONCRETE QUANTITIES*

	Item	Grade	Unit	Amount	Approx. Wt.
Barrier	End Section 1	A(6AA)	Cu. Yds.	1.4	2.8 Tons
	End Section 2	A(6AA)	Cu. Yds.	2.3	4.6 Tons
	Standard Section	A(6AA)	Cu. Yds.	2.3	4.6 Tons
Footings	End Footing	A(6A)	Cu. Yds.	0.1	
	Standard Footing	A(6A)	Cu. Yds.	0.3	

* Included in the Item "Concrete Median Barrier - Lin. Ft."

Notes:

Fabrication: Michigan Department of State Highways Standard Specifications for Road and Bridge Construction - 1967 Edition. Applicable portions of Sec. 513 shall apply to all precast units, except that concrete shall be Grade A(6AA).

Where the horizontal alignment of the median is curved, the barrier is to be constructed on 12-foot long chords.

A mortar bed is to be used where required to assure proper seating and alignment of precast units. (Inc. to Conc. Med. Barrier)

Transverse expansion joints with ½" joint filler shall be provided in the barrier every 4th joint. The joint filler shall be recessed ½" in from faces and top of barrier.

The finished surface of the barrier shall be smooth, dense, and relatively free of pits, air bubble pockets, depressions and honeycomb.

Except for those sections shown, the barrier is to be precast concrete with ½" ϕ - 7 wire prestressed strands. These strands are to be given an initial prestressing stress of 55000 pounds per square inch.

Threaded inserts are to be embedded to develop sufficient capacity to lift the sections safely, and shall be placed at 1'-0" ± from each end of the precast section during its fabrication. Details of this device and its method of anchorage are subject to the approval of the Michigan Department of State Highways.

Linseed oil shall be applied to the complete area of the barrier above footings after erection (including all grouting) has been completed. See Supplemental Specifications. Incidental to concrete median barrier.

2-1-68

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

CONCRETE MEDIAN BARRIER

STANDARD SECTION & END SECTIONS

REVISIONS

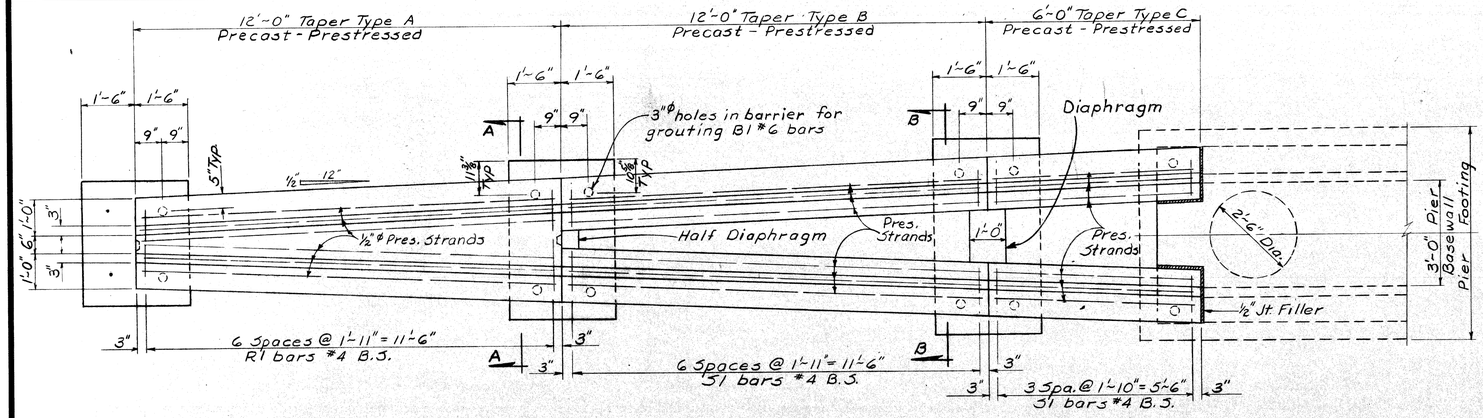
NO.	DESCRIPTION	DATE	BY

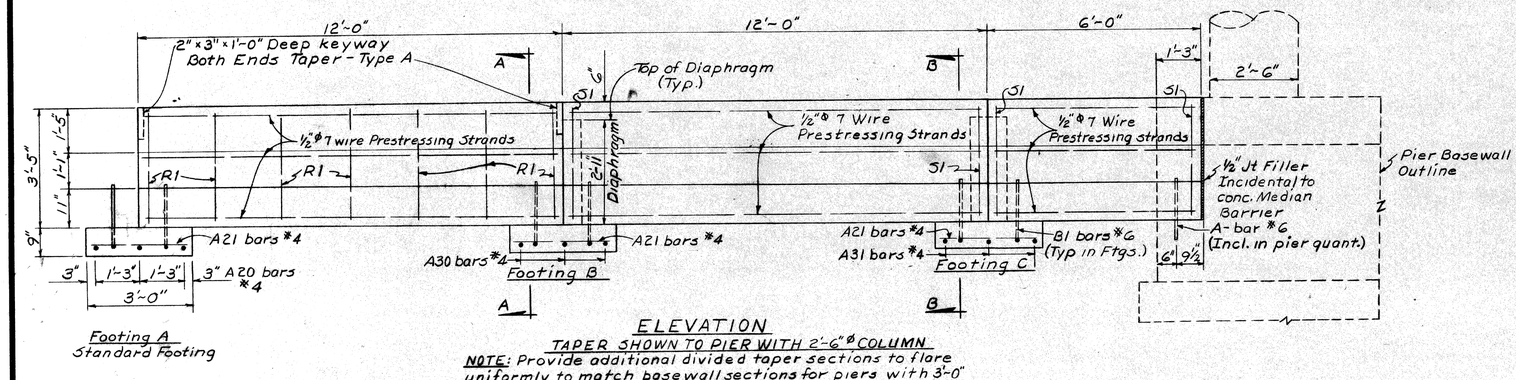
SQUAD BOSS	Rieger	5-9-67
DRAWN BY	RISCH	4-18-67
TRACED BY	RN	5-1-67
CHECKED BY	BE	5-12-67

SHEET 1 OF 6

CMB-1

82124-002



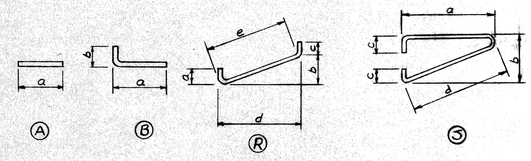


NOTE: Provide additional divided taper sections to flare uniformly to match basewall sections for piers with 3'-0" columns or larger.
For Tapers required at Truss sign support Foundation -- see Sheet C.M.B.-5
For Tapers required at light standard Foundation - see Sheet C.M.B.-6

Footing A
Standard Footing

STEEL REINFORCEMENT QUANTITIES *

Bar	Dimensions a	b	c	d	e	f	g	Size	Length	Taper A No.	Taper A Wt.	Taper B No.	Taper B Wt.	Taper C No.	Taper C Wt.	Footing A No.	Footing A Wt.	Footing B No.	Footing B Wt.	Footing C No.	Footing C Wt.
A20	3'-0"							#4	3'-0"							3	6#				
A21	2'-6"							#4	2'-6"							4	7	5	8	5	8
A30								#4	4'-0"									3	8		
A31								#4	5'-0"											3	10
B1	1'-4¾"	5"						#6	1'-9"							4	11	4	11	4	11
R1	3"	8"	3"	3'-0"	3'-1"			#4	3'-6"	14	33										
51	3'-0"	8"	3"	3'-1"				#4	6'-6"			14	61	8	35						
								Totals -			33		61		35		24		27		29

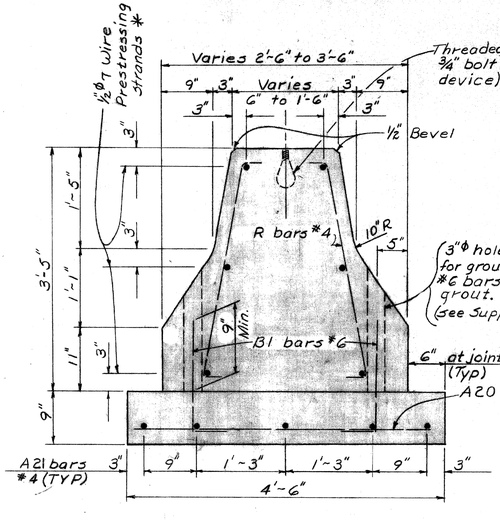


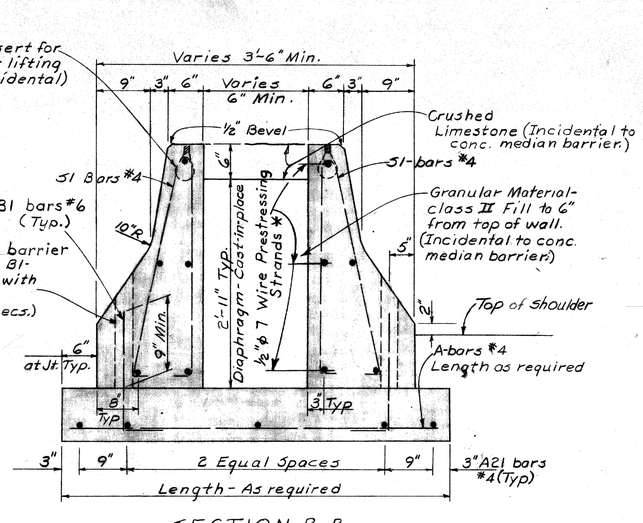
BAR BENDING DIAGRAM

CONCRETE QUANTITIES *

	Item	Grade	Unit	Amount	Appr. Wt.
Barrier	Taper A	A(6AA)	Cu. Yd.	3.1	6.3 T
	Taper B	A(6AA)	Cu. Yd.	3.1	3.2 T/unit
	Taper C	A(6AA)	Cu. Yd.	1.6	1.6 T/unit
	Item	Grade	Unit	Ftg. Amt.	Dfm. Amt.
Footings & Diaphragms	Footing A	A(6A)	Cu. Yd.	0.3	
	Footing B & Half Diaphragm	A(6A)	Cu. Yd.	0.4	0.1
	Footing C & Diaphragm	A(6A)	Cu. Yd.	0.5	0.2

NOTE: Footing lengths will increase 1'-0" thru each 12'-0" Taper.
Footing widths will remain at 3'-0".
* Steel reinforcement and concrete quantities are included in the item, "Concrete Median Barrier - Lin.Ft."





NOTES:
F.S. denotes Far Side
N.S. denotes Near Side
Threaded inserts are to be embedded to develop sufficient capacity to lift the sections safely and shall be placed at 1'-0" (±) from each end of the precast section during its fabrication. Details of this device and its method of anchorage are subject to the approval of the Michigan Department of State Highways.
After the precast sections have been placed in the field, the threaded inserts for the lifting devices shall be filled with tar. (Incidental)
For keyway details see sheet * CMB-1

For Additional Notes see Sheet CMB-1.

2-1-68

PRECAST - PRESTRESSED

MICHIGAN DEPARTMENT OF STATE HIGHWAYS
CONCRETE MEDIAN BARRIER
TAPER SECTIONS

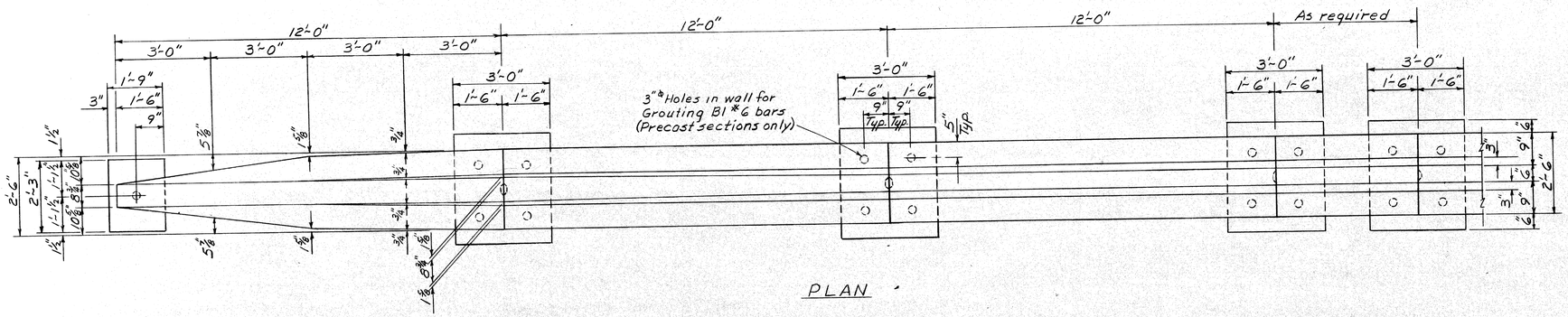
SQUAD BOSS	Rieger	3-9-67
DRAWN BY	DEJ	4-28-67
TRACED BY		
CHECKED BY	Risch	5-5-67
SHEET	2 OF 6	

REVISIONS

NO.	DESCRIPTION	DATE	BY

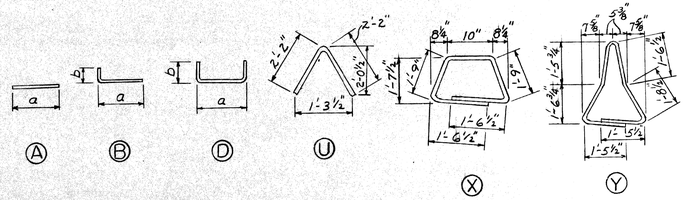
CMB-2

82124-002

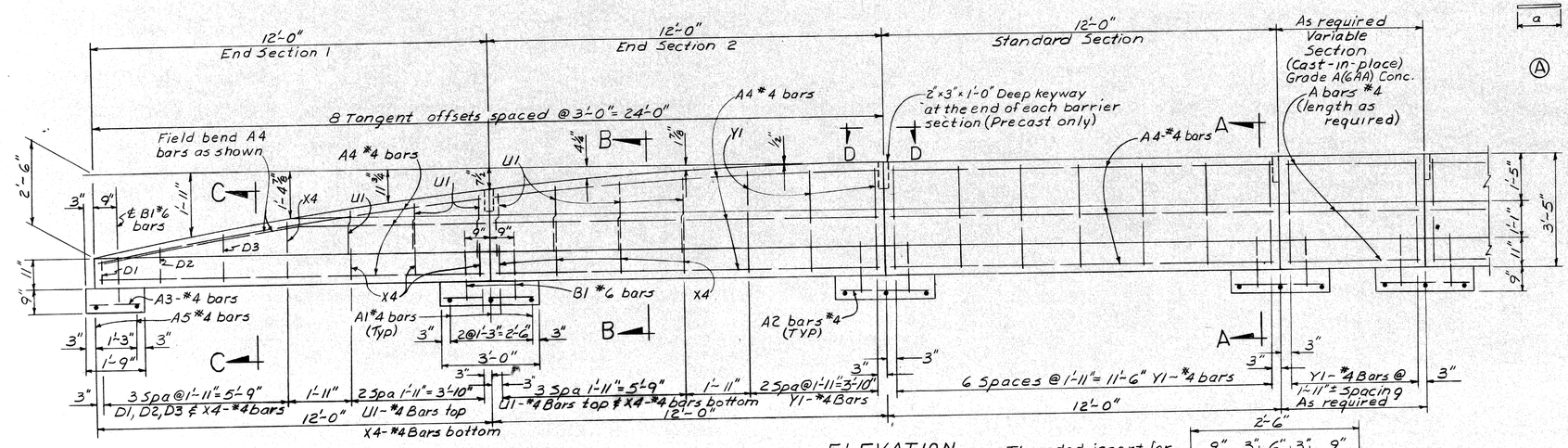


STEEL REINFORCEMENT QUANTITIES*

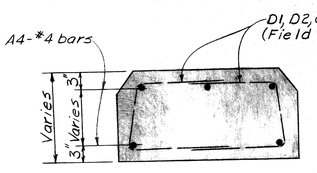
BAR	DIMENSIONS a	b		size	length	End Sect. 1 No.	Wt.	End Sect 2 * No.	Wt.	Standard Section No.	Wt.	End Footing No.	Wt.	Standard Footing No.	Wt.
A1	3'-0"			#4	3'-0"									3	6
A2	2'-6			#4	2'-6"									4	7
A3	1'-3"			#4	1'-3"							3	3		
A4	11'-6"			#4	11'-6"	5	38	5	38	5	38				
A5	1'-9"			#4	1'-9"							2	2		
B1	1'-4¾"	5"		#6	1'-9"							1	3	4	11
D1	5"	8½"		#4	1'-9"	2	2								
D2	1'-0"	1'-0½"		#4	3'-0"	2	4								
D3	1'-2"	1'-4½"		#4	3'-10"	2	5								
U1				#4	4'-3"	3	9	4	11						
X4				#4	7'-3"	4	19	4	19						
Y1				#4	9'-3"			3	19	7	43				
Total rein wt. per section							77*		87*		81*		8*		24*



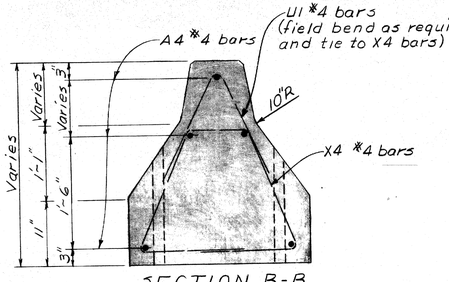
BAR BENDING DIAGRAMS



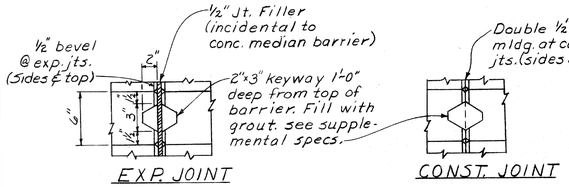
ELEVATION



SECTION C-C



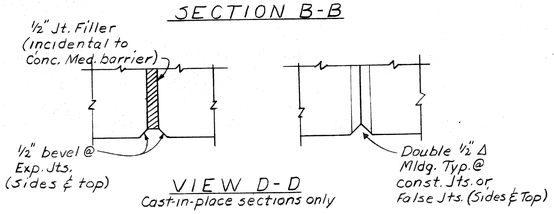
SECTION B-B



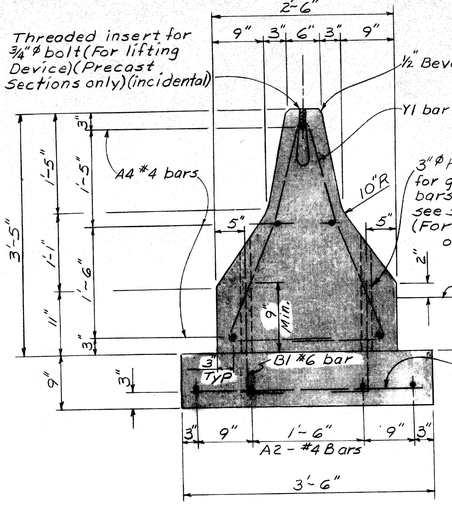
EXP. JOINT

CONST. JOINT

VIEW D-D
Precast Sections only



VIEW D-D
Cast-in-place sections only



SECTION A-A

NOTE: After the precast sections have been placed in the field, the threaded inserts for the lifting devices shall be filled with tar. (incidental to concrete median barrier)

CONCRETE QUANTITIES*

	Item	Grade	Unit	Amount	Approx. Wt.
Barrier	End Section 1	A(6AA)	Cu. Yds.	1.4	2.8 Tons
	End Section 2	A(6AA)	Cu. Yds.	2.3	4.6 Tons
	Standard Section	A(6AA)	Cu. Yds.	2.3	4.6 Tons
Footings	End Footing	A(6A)	Cu. Yds.	0.1	
	Standard Footing	A(6A)	Cu. Yds.	0.3	

*Included in the item "Concrete Median barrier - Lin. Ft.

NOTES:

The barrier may be precast concrete or cast-in-place concrete at the option of the contractor.

The barrier is to be cast in 12-foot long sections. If the barrier is cast in place, metal bulkheads may be used, and the contractor, at his option, may pour up to 24 feet, or two complete sections, without a construction Jt.

Where the horizontal alignment of the barrier is curved, the barrier is to be constructed on 12' long chords.

A mortar bed is to be used where required to assure proper seating and alignment of precast units. (Incid. to Conc. Med. Bar.)

Transverse Expansion Joints with ½" Joint Filler shall be provided in the barrier every fourth Joint. The Joint filler shall be recessed ½" from from faces & top of barrier. (See view D-D)

The finished surface of the barrier shall be smooth, dense, and relatively free of pits, air bubble pockets, depressions and honeycomb.

Threaded inserts are to be embedded to develop sufficient capacity to lift the sections safely, and shall be placed at 1'-0" ± from each end of the precast section during its fabrication. Details of this device and its method of onchorage are subject to the approval of the Michigan Department of State Highways.

Linseed oil shall be applied to the complete area of the barrier above footings after erection (including all grouting) has been completed. See Supplemental Specifications. (Incidental to concrete median barrier.)

Fabrication: Michigan Department of State Highways Standard Specifications for Road and Bridge Construction.- 1967 Edition. Applicable portions of section 5.13 shall apply to all precast units except that Concrete shall be Gr. A(6AA). 2-1-68

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

CONCRETE MEDIAN BARRIER

STANDARD SECTIONS & END SECTIONS

REVISIONS

NO.	DESCRIPTION	DATE	BY

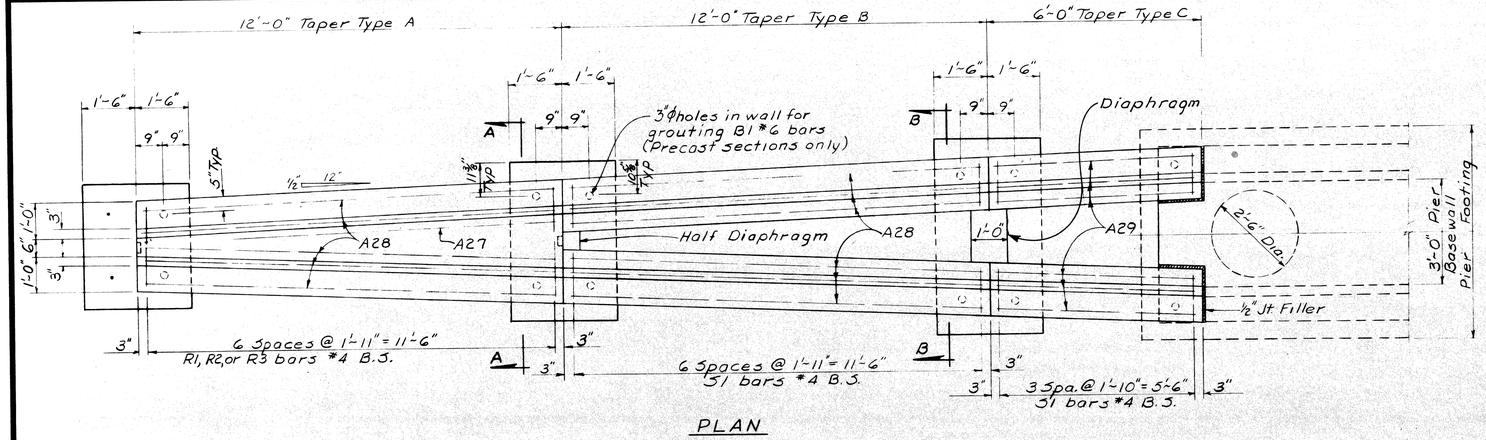
SQUAD BOSS	Rieger	
DRAWN BY	DFJ	9-6-67
TRACED BY		
CHECKED BY	RISCH	9-7-67
SHEET	3 OF 6	

CMB-3

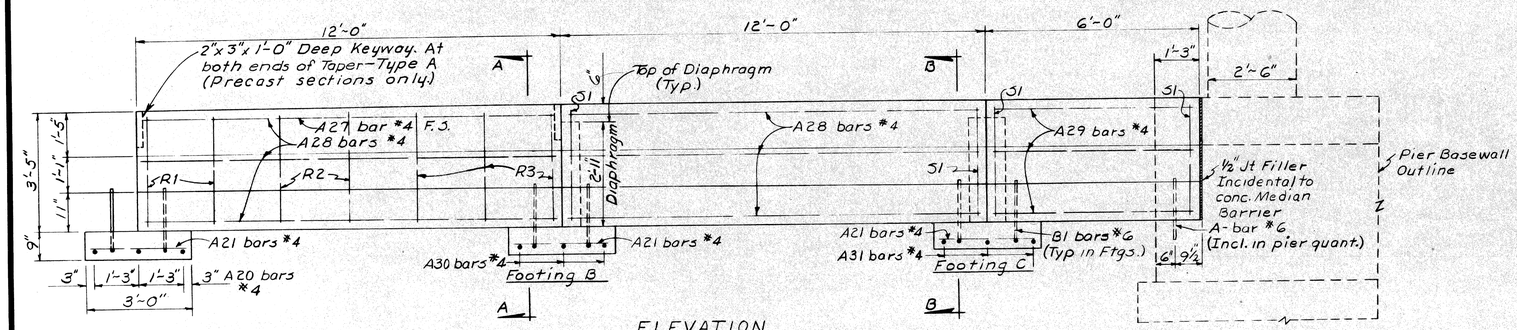
PRECAST OR CAST-IN-PLACE

82124-002

62



PLAN



Footing A
Standard Footing

ELEVATION

TAPER SHOWN TO PIER WITH 2'-6" ϕ COLUMN

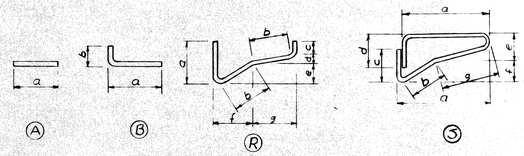
NOTE: Provide additional divided taper sections to flare uniformly to match basewall sections for piers with 3'-0" columns or larger.

For Tapers required at **truss sign support Foundation** -- see Sheet C.M.B.-5

For Tapers required at light standard **Foundation** - see Sheet C.M.B-6

STEEL REINFORCEMENT QUANTITIES*

Bar	Dimensions a	b	c	d	e	f	g	Size	Length	Taper A No.	Taper A Wt.	Taper B No.	Taper B Wt.	Taper C No.	Taper C Wt.	Footing A No.	Footing A Wt.	Footing B No.	Footing B Wt.	Footing C No.	Footing C Wt.
A20								#4	3'-0"							3	6#				
A21								#4	2'-6"							4	7	5	8	5	8
A27								#4	9'-0"	1	6#										
A28								#4	11'-6"	5	38	10	77#								
A29								#4	5'-6"					10	37#						
A30								#4	4'-0"									3	8		
A31								#4	5'-0"											3	10
B1	1'-4¾"	5"						#6	1'-9"							4	11	4	11	4	11
R1	1'-5"	1'-7½"	2"	5⅜"	7⅝"	1'-6¾"	1'-5¾"	#4	4'-9"	4	13										
R2	1'-10"	1'-7½"	6"	5⅜"	7⅝"	1'-6¾"	1'-5¾"	#4	5'-6"	4	15										
R3	2'-1"	1'-7½"	10"	5⅜"	7⅝"	1'-6¾"	1'-5¾"	#4	6'-1"	6	24										
S1	3'-1"	1'-8½"	11"	11"	7"	7½"	1'-6¾"	#4	8'-0"			14	75	8	43						
Totals -											96#		152#		80#		24#		27#		29#

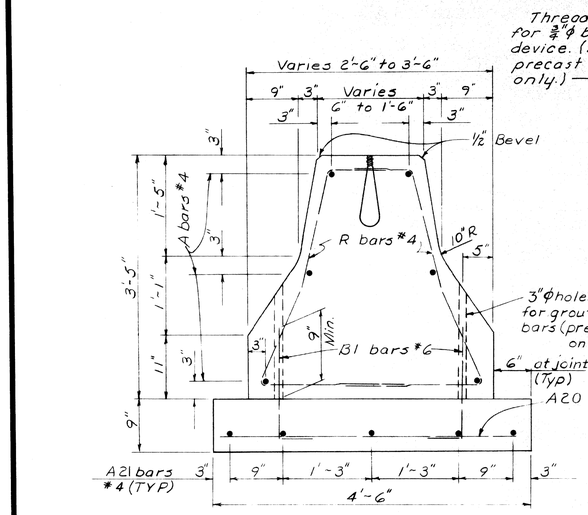


BAR BENDING DIAGRAM

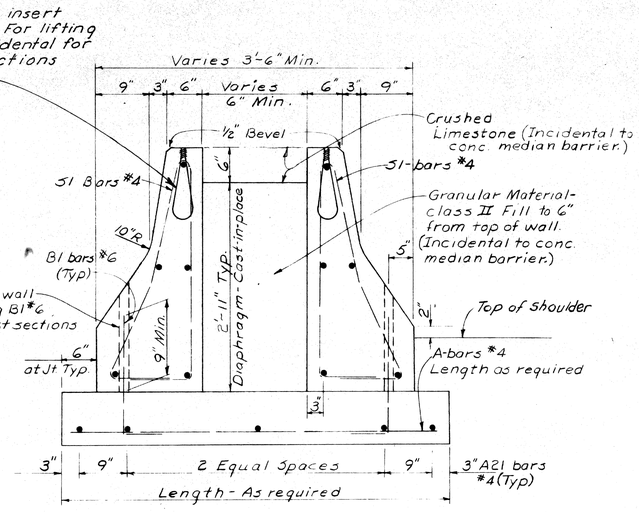
CONCRETE QUANTITIES*

	Item	Grade	Unit	Amount	Appr. Wt.
Barrier	Taper A	A(6AA)	Cu. Yd	3.1	6.3 T
	Taper B	A(6AA)	Cu. Yd.	3.1	3.2 T/unit
	Taper C	A(6AA)	Cu. Yd.	1.6	1.6 T/unit
	Item	**Grade**	**Unit**	**Ftg. Amt.**	**Dfm. Amt.**
Footings & Diaphragms	Footing A	A(6A)	Cu. Yd.	0.3	
	Footing B & Half Diaphragm	A(6A)	Cu. Yd.	0.4	0.1
	Footing C & Diaphragm	A(6A)	Cu. Yd.	0.5	0.2

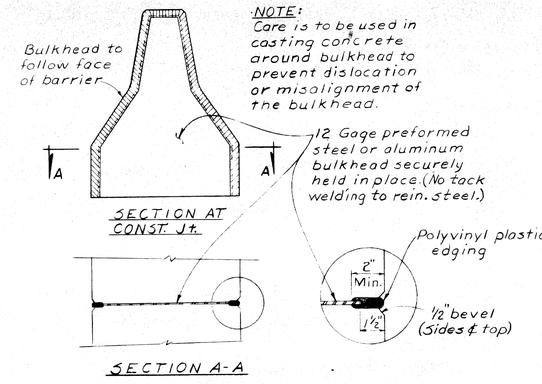
NOTE: Footing lengths will increase 1'-0" thru each 12'-0" Taper.
Footing widths will remain at 3'-0".
* Steel reinforcement and concrete quantities are included in the item, "Concrete Median Barrier - Lin.Ft."



SECTION A-A



SECTION B-B



NOTE: Care is to be used in casting concrete around bulkhead to prevent dislocation or misalignment of the bulkhead.

DETAILS OF METAL BULKHEAD

The metal bulkhead may be used as alternate construction joint at the contractor's Expense.

Notes:

F.S. denotes for side.

B.S. denotes both sides.

Threaded inserts are to be embedded to develop sufficient capacity to lift the sections safely, and shall be placed at 1'-0" ± from each end of the precast section during its fabrication. Details of this device and its method of anchorage are subject to the approval of the Michigan Department of State Highways.

After the precast sections have been placed in the field, the threaded inserts for the lifting devices shall be filled with tar. (Incidental to concrete median barrier.)

Work this sheet with sheets CMB-3, CMB-5, CMB-6

PRECAST OR CAST-IN-PLACE

2-1-68

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

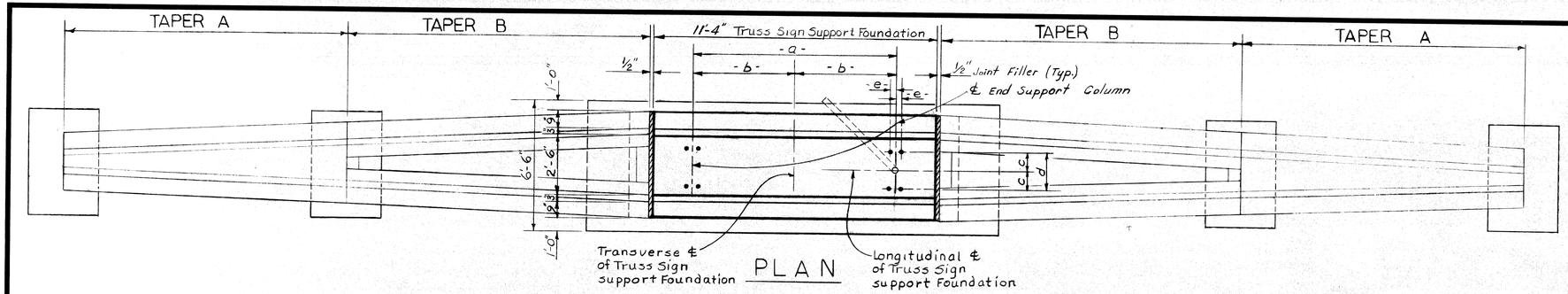
CONCRETE MEDIAN BARRIER TAPER SECTIONS

REVISIONS			
NO	DESCRIPTION	DATE	BY

SQUAD BOSS	Rieger	5-3-67
DRAWN BY	DEJ	4-28-67
TRACED BY		
CHECKED BY	RISCH	5-5-67
SHEET	4 OF 6	

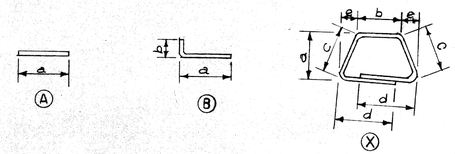
CMB-4

82124-002

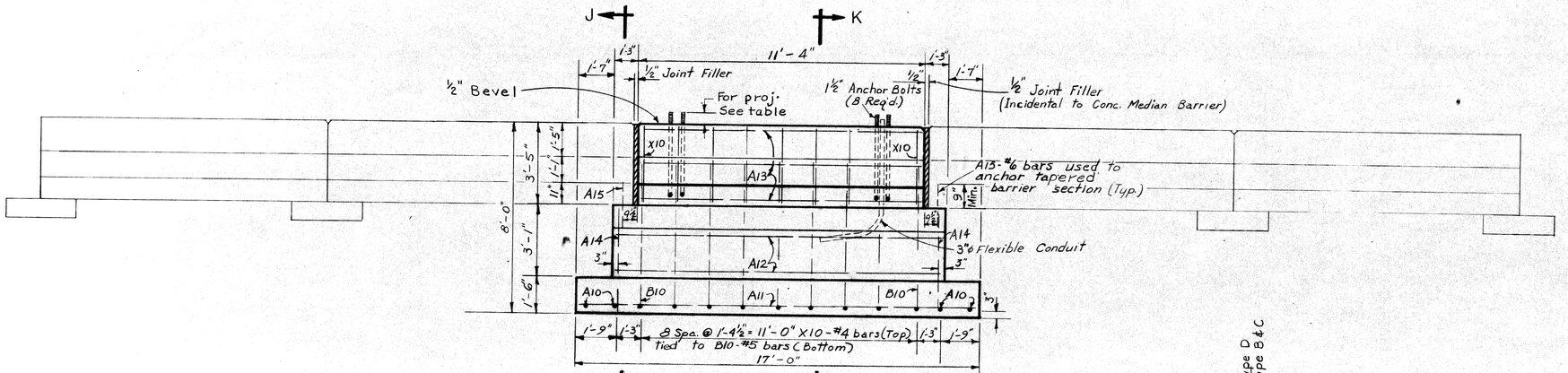


PLAN

STEEL REINFORCEMENT									
BAR	DIMENSIONS a	b	c	d	e	SIZE	LENTH	NO REQ'D	TOTAL WT.
A 10	6'-0"					#4	6'-0"	4	16
A 11	18'-6"					#4	16'-6"	5	55
A 12	13'-6"					#4	13'-6"	4	36
A 13	11'-0"					#4	11'-0"	8	59
A 14	4'-3"					#5	4'-3"	4	18
A 15	2'-0"					#6	2'-0"	4	12
B 10	6'-3⅜"	5'-0"				#5	11'-3"	18	211
X 10	3'-0¾"	2'-0½"	3'-1½"	2-3¾"	6¾"	#4	12'-9"	9	77
TOTAL REIN. PER TRUSS SIGN SUPPORT FOUNDATION									484#

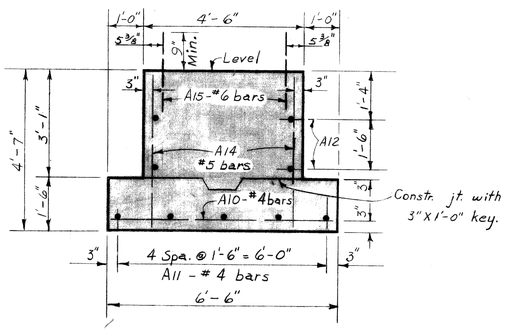


BAR BENDING DIAGRAM

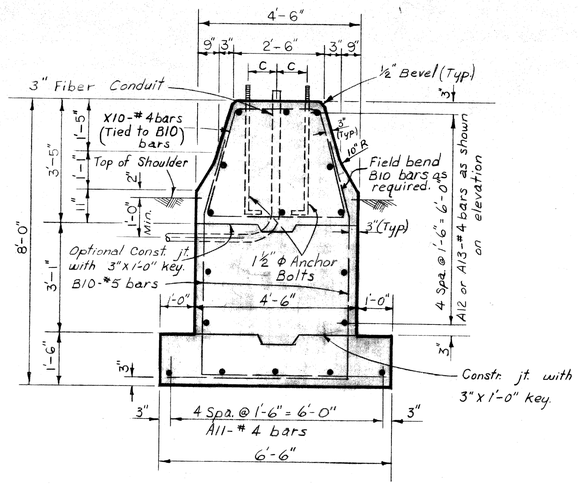


ELEVATION

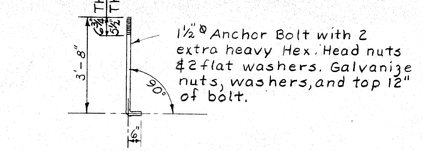
ANCHOR BOLT DIMENSIONS						
	a	b	c	d	e	Proj.
Type B	5'-4"	2'-8"	6½"	1'-1"	2¼"	5¼"
Type C	6'-11"	3'-5½"	9½"	1'-7"	2¼"	5¼"
Type D	8'-8"	4'-4"	9½"	1'-7"	3"	6½"



SECTION J-J

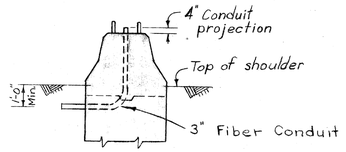


SECTION K-K



ANCHOR BOLT DETAIL

(8 Required per foundation)
(Incidental to "Truss Sign Support Foundation")



CONDUIT DETAIL

CONCRETE QUANTITIES			
Item	Grade	Unit	Amount
Foundation Wall	A (6AA)	Cu. Yds.	12.3
Footing	A (6A)	Cu. Yds.	6.1

NOTES

Foundation Excavation, Concrete, Steel Reinforcement, Anchor Bolts, and Conduit are incidental to the item "Truss Sign Support Foundation - Each".

Anchor Bolts shall be A-307 steel with a minimum ultimate strength of 85,000 p.s.i.

Nuts shall be heavy hexagon head (galvanized).

Washers shall be 1½"ø standard flat washers (galvanized).

When a Truss Sign Support falls within a taper section, adjust the widths of these details to match the taper width.

For details of taper sections, see sheet CMB-2.

Linseed Oil shall be applied to the top and sides (to 3'-6" below top) of the Truss Sign Support Foundation. (See Suppl. Specs.) Incidental to concrete median barrier.

CAST-IN-PLACE

2-1-68

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

CONCRETE MEDIAN BARRIER

TRUSS SIGN SUPPORT FOUNDATION

TYPE "B", "C", OR "D"

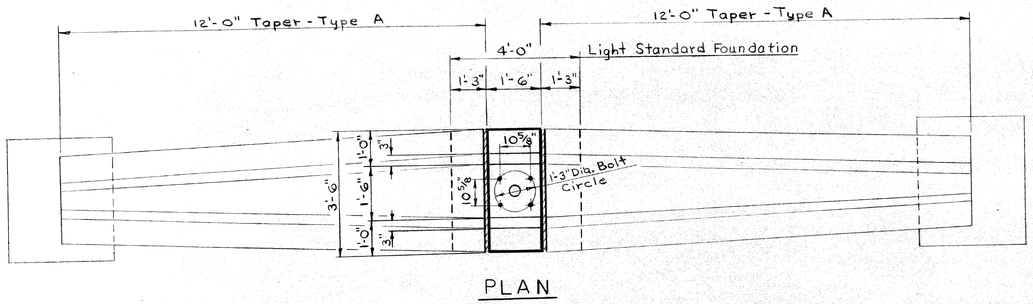
REVISIONS

NO.	DESCRIPTION	DATE	BY

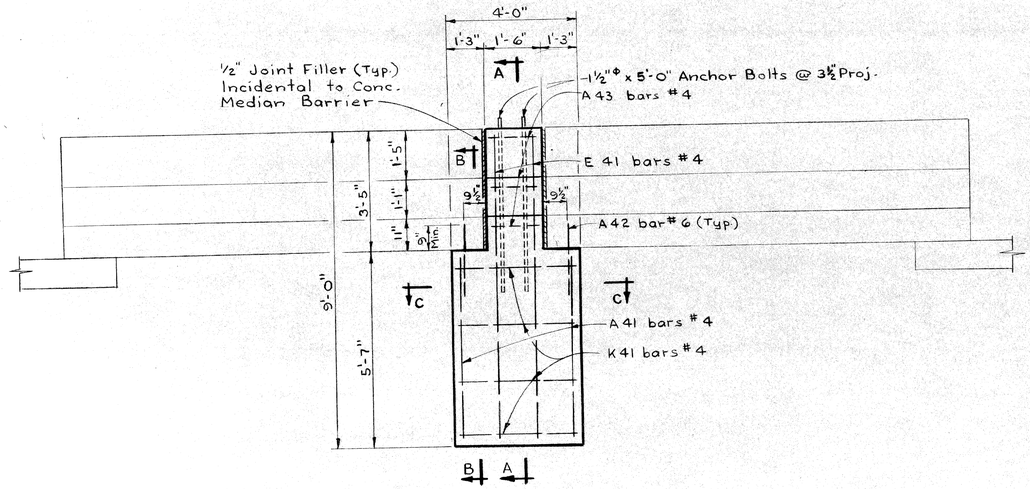
SQUAD BOSS	Rieger	5-9-67
DRAWN BY	J.R.	4-26-67
TRACED BY	G.F.	4-27-67
CHECKED BY	N.N.	5-3-67
SHEET	5 OF 6	

CMB-5

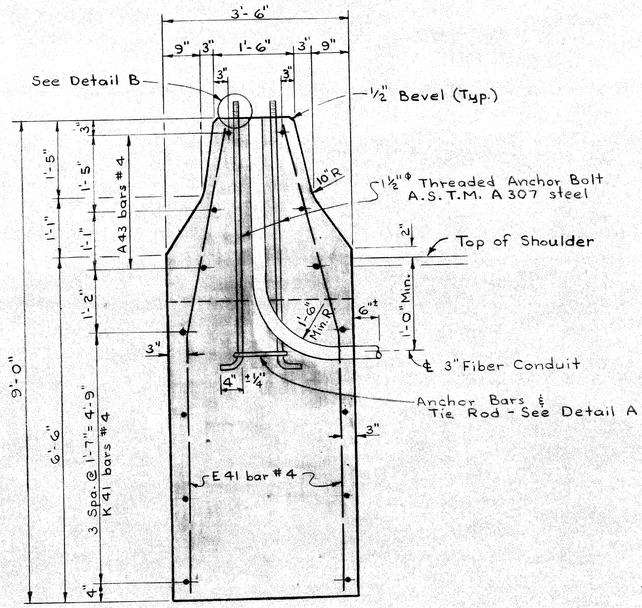
82124-002



PLAN

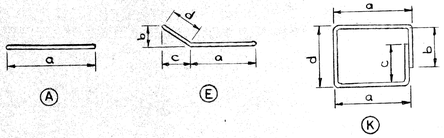


ELEVATION



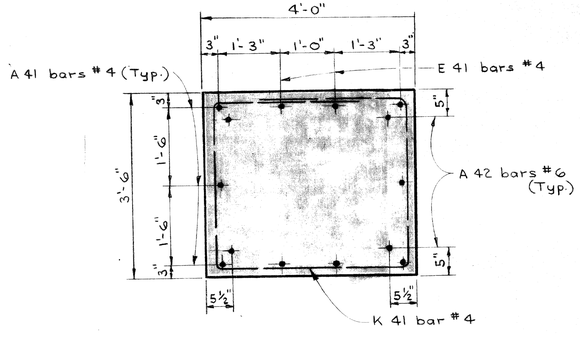
SECTION A-A

STEEL REINFORCEMENT QUANTITIES											
Bar	DIMENSIONS a	b	c	d	e	f	g	Size	Length	No.	Wt.
A41	5'-3"							#4	5'-3"	6	21
A42	1'-9"							#6	1'-9"	4	11
A43	1'-2"							#4	1'-2"	6	5
E41	5'-1"	0'-11"	3'-9"	3'-11"				#4	9'-0"	4	24
K41	3'-1½"	2'-2¼"	2'-2¼"	3'-7½"				#4	14'-2"	4	38
TOTAL WEIGHT PER SECTION — 99 Lbs.											

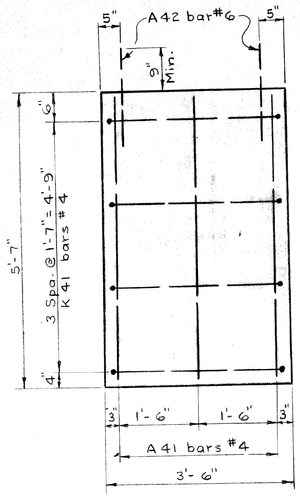


BAR BENDING DIAGRAM

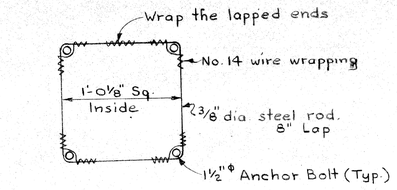
Grade A (GAA) Concrete — 3.4 Cu.Yds.



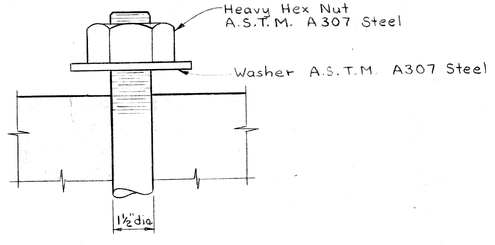
SECTION C C



SECTION B-B



DETAIL A



DETAIL B

CAST-IN-PLACE

NOTES:

See Sheet CMB-2 for Details of Taper Sections.

When a light standard falls within a Taper Section, adjust the widths of these details to match the Taper width. Adjust the "a" dimension of the K 41 bar to fit this width.

The width, as detailed on this sheet, is the minimum width allowed for the Light Standard Foundation Section.

The Foundation Excavation, Steel Reinforcement, Anchor Bolt Assembly, 3" Fiber Conduit and Concrete are incidental to the item "Light Standard Foundation - Each"

Nuts, washers and 8" of threaded ends of anchor bolts shall be (Hot-Dip) zinc coated per A.S.T.M. A153.

Linseed Oil shall be applied to the top and sides (to 3'-6" below top) of the Light Standard Foundation. (See Supplemental Specifications) Incidental to Concrete Median Barrier. 2-1-68

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

CONCRETE MEDIAN BARRIER

LIGHT STANDARD FOUNDATION

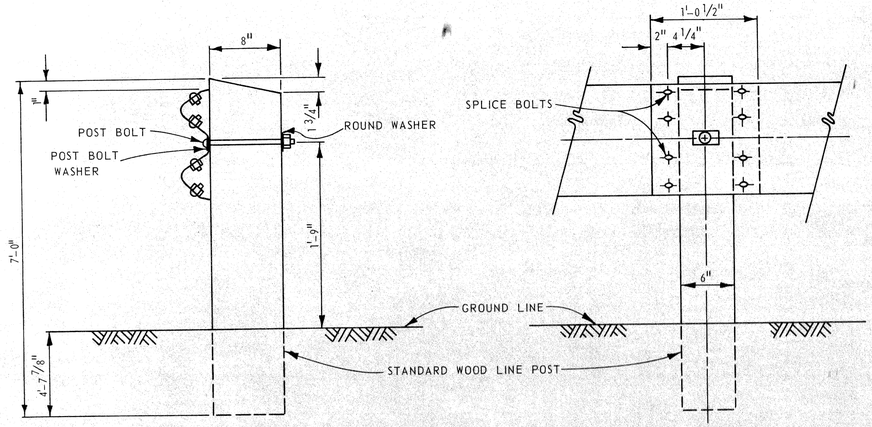
REVISIONS			
NO.	DESCRIPTION	DATE	BY

SQUAD BOSS	Rieger	5-3-67
DRAWN BY	W.L.	4-27-67
TRACED BY	W.L.	4-28-67
CHECKED BY	RISCH	5-3-67
SHEET	6 OF 6	

CMB-6

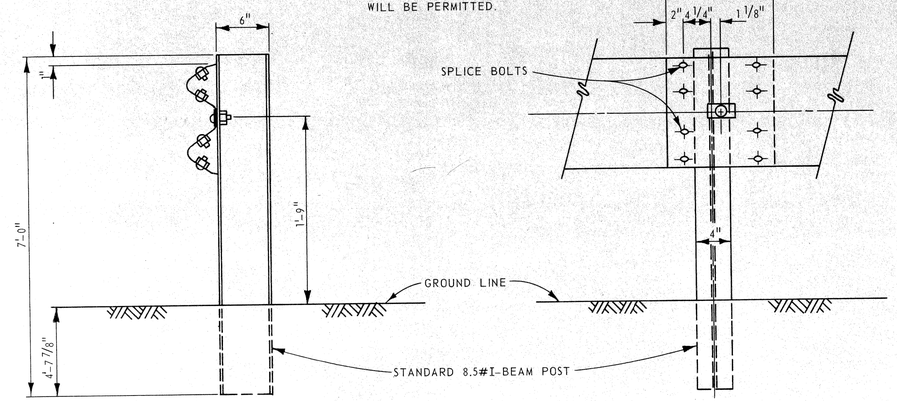
82124-002

60

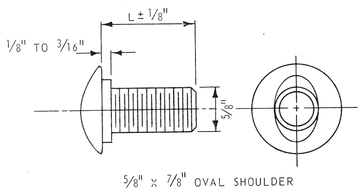


DETAIL SHOWING SPLICE & ATTACHMENT TO WOOD POSTS

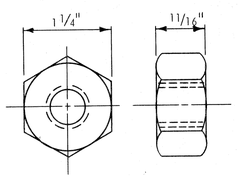
NOTE:
STEEL POSTS THAT HAVE BEEN PUNCHED IN BOTH FLANGES WILL BE PERMITTED.



DETAIL SHOWING SPLICE & ATTACHMENT TO STEEL POSTS



BOLT



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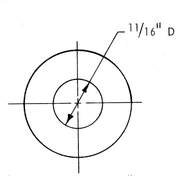
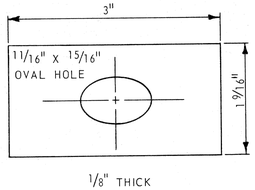
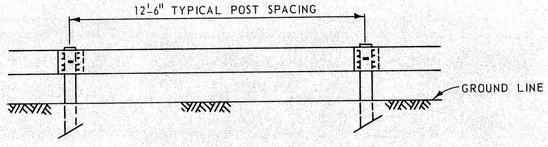


1 1/2" DIAMETER X 0.134" THICK
ROUND WASHER

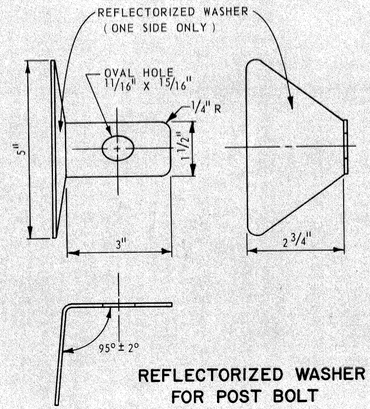


1/8" THICK
POST BOLT WASHER
1 REQ'D. PER POST BOLT

SPLICE BOLT (BEAM)	L = 1 1/4"	– 8	REQ'D. PER SPLICE
SPLICE BOLT (END SHOE)	L = 1 1/4"	– 4	REQ'D. PER END SHOE
POST BOLT (WOOD)	L = 9 1/2"	– 1	REQ'D. PER POST
POST BOLT (STEEL)	L = 2"	– 1	REQ'D. PER POST

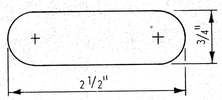


PLAN SHOWING POST SPACING

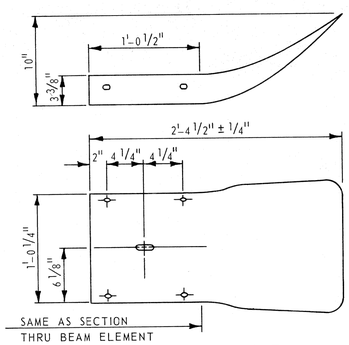


REFLECTORIZED WASHER FOR POST BOLT

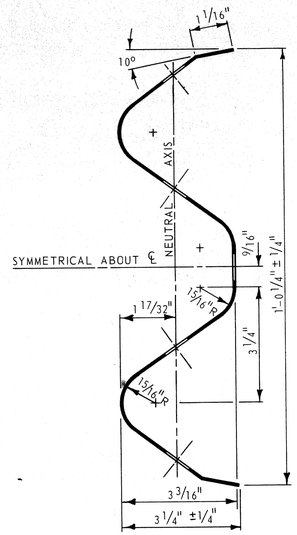
SPLICE BOLT SLOT



POST BOLT SLOT



SINGLE END SHOE



SECTION THRU BEAM ELEMENT

NOTES:

MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE CURRENT STANDARD SPECIFICATIONS.

ALL WOOD POSTS SHALL CONFORM TO DIMENSIONS SHOWN AND SHALL BE MADE FROM DOUGLAS FIR, NORWAY PINE, NORTHERN WHITE PINE, SOUTHERN YELLOW PINE, WEST COAST HEMLOCK, RED OAK, WHITE OAK, WHITE ASH, SUGAR MAPLE, RED MAPLE, SOFT ELM, YELLOW BIRCH, HICKORY, BEECH OR OTHER APPROVED WOOD. WHEN STEEL POSTS ARE USED, THEY SHALL CONFORM TO DIMENSIONS SHOWN AND TO CURRENT SPECIFICATIONS FOR STRUCTURAL STEEL ASTM DESIGNATION: A 36 AND SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: A 123.

THE BEAM ELEMENTS AND END SHOES SHALL BE 12 GAGE STEEL AND GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: A 93 OR A 123 WITH COATING CLASS 2.50.

BEAM ELEMENTS SHALL BE LAPPED IN THE DIRECTION OF TRAFFIC.

ALL FITTINGS, INCLUDING BOLTS, NUTS, AND WASHERS SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

THE BOLTING PATTERN FOR BEAM ELEMENT SPLICE JOINTS MAY BE OPTIONAL TO CONFORM TO TENSILE STRENGTH REQUIREMENTS FOR ASSEMBLED BEAM ELEMENTS IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

BEAM ELEMENTS SHALL BE SHOP BENT TO PLAN RADIUS FOR CURVE RADII LESS THAN 150 FEET. A TAG IDENTIFYING THE CURVATURE OF THE SHOP BENT SECTION WILL BE REQUIRED FOR EACH CURVED ELEMENT.

POST BOLT SLOTS WILL BE ALLOWED AT 6'-3" INTERVALS.

REFLECTORIZED WASHERS, WHEN REQUIRED, SHALL BE SPACED AT THE FOLLOWING INTERVALS:

A) 50 FOOT ON TANGENT SECTIONS AND CURVES OF 5 DEGREES OR LESS
B) 25 FOOT ON CURVES OF MORE THAN 5 DEGREES.

ON THE APPROACHING END, FOUR REFLECTORIZED WASHERS SHALL BE USED AT 12'-6" INTERVALS STARTING AT THE POST NEXT TO THE CONCRETE ANCHOR BLOCK.

AT THE DEPARTING END, A REFLECTORIZED WASHER SHALL BE USED ON THE LAST POST, OR THE FIRST POST OF THE GUARD RAIL ANCHORAGE.

REFLECTORIZED WASHERS WILL FACE TRAFFIC IN THE FOLLOWING MANNER:

A) ONE-WAY TRAFFIC: LEFT (MEDIAN) AND RIGHT SIDE
B) TWO-WAY TRAFFIC: RIGHT SIDE ONLY

REFLECTORIZED WASHERS ARE NOT TO BE USED IN AREAS WITH ROADWAY LIGHTING. POST BOLT WASHER IS NOT REQUIRED IN ADDITION TO REFLECTORIZED WASHER.

STATE OF MICHIGAN
DEPARTMENT OF STATE HIGHWAYS
STANDARD PLAN FOR

BEAM GUARD RAIL-TYPE A

DIVISION APPROVAL

CHECKED — ENGINEER OF DESIGN — DATE
RECOMMENDED FOR APPROVAL — TRAFFIC ENGINEER — DATE
RECOMMENDED FOR APPROVAL — ENGINEER OF BRIDGE AND ROAD DESIGN — DATE

OFFICES OF DESIGN AND CONSTRUCTION

APPROVED — ROAD CONSTRUCTION ENGINEER — DATE
APPROVED — CHIEF OF DESIGN AND TRAFFIC — DATE

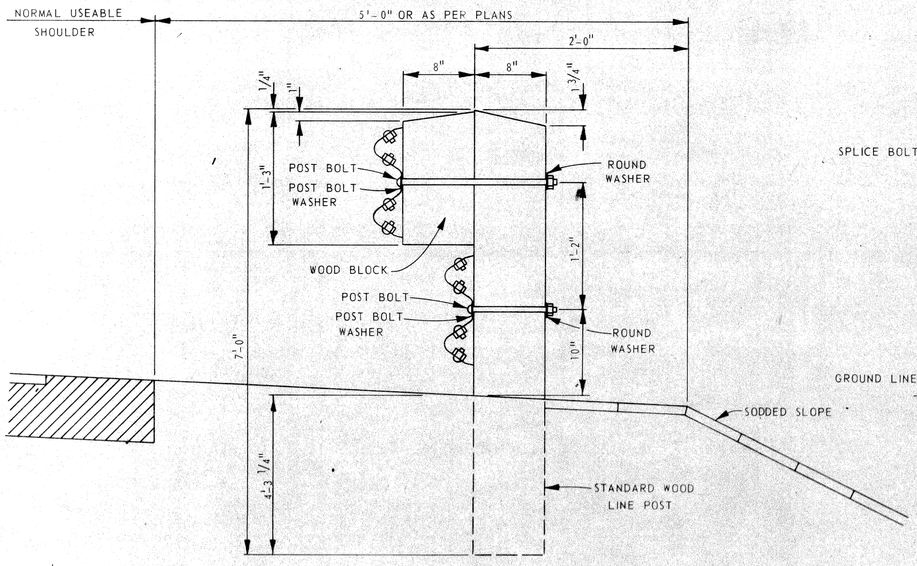
DEPARTMENT OF STATE HIGHWAYS APPROVAL

APPROVED
BY — DEPUTY DIRECTOR – ENGINEERING — DATE

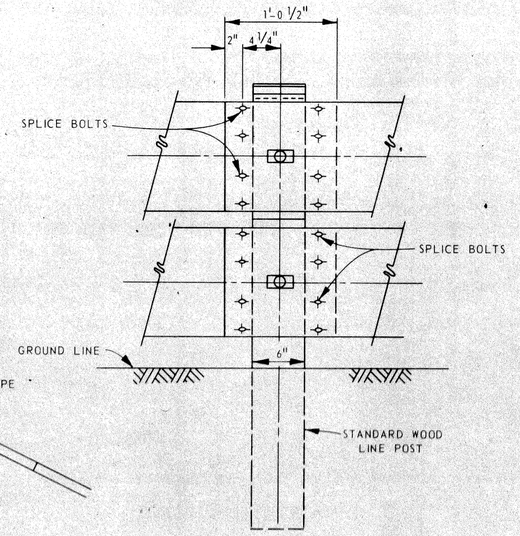
DRAWN BY — CHECKED BY — TRACED BY — APPROVED B.P.R.

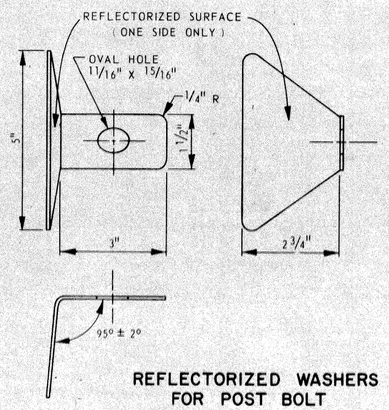
82124-002

E-4-A-137G 66

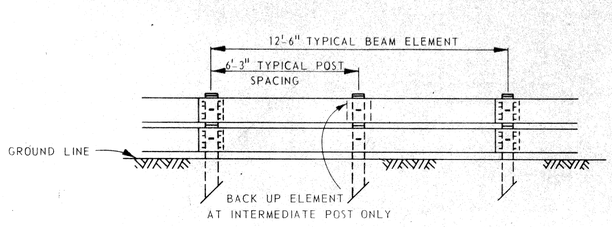


DETAIL SHOWING SPLICES & ATTACHMENT TO WOOD POSTS

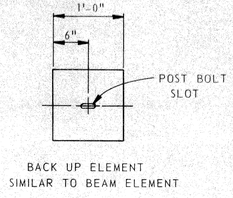




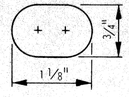
REFLECTORIZED WASHERS FOR POST BOLT



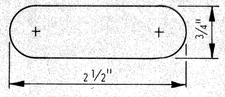
PLAN SHOWING POST SPACING



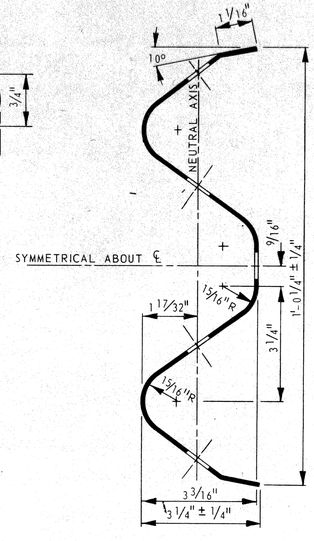
BACK UP ELEMENT



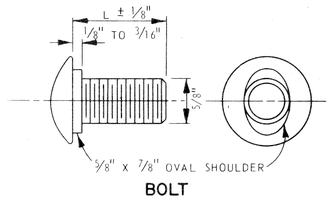
SPLICE BOLT SLOT



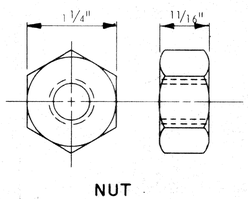
POST BOLT SLOT



SECTION THRU BEAM ELEMENT



BOLT



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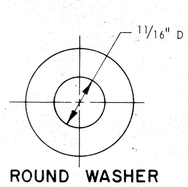
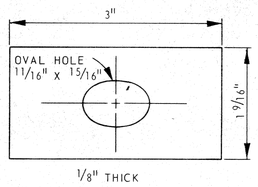
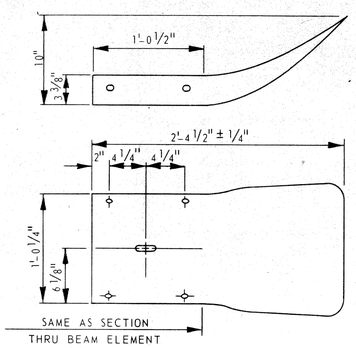


ROUND WASHER
1 1/2" DIA. X 0.134" THICK



1/8" THICK
POST BOLT WASHER
1 REQUIRED PER POST BOLT



SINGLE END SHOE

SPLICE BOLT (BEAM)	L = 1 1/4"	— 8	REQ'D.	PER	SPLICE
SPLICE BOLT (END SHOE)	L = 1 1/4"	— 4	REQ'D.	PER	END SHOE
POST BOLT (LOWER)	L = 9 1/2"	— 1	REQ'D.	PER	POST
POST BOLT (UPPER)	L = 18"	— 1	REQ'D.	PER	POST

(3" MIN. THREAD LENGTH)

NOTES:

MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE CURRENT STANDARD SPECIFICATIONS.

ALL WOOD POSTS AND BLOCKS SHALL CONFORM TO DIMENSIONS SHOWN AND SHALL BE MADE FROM DOUGLAS FIR, NORWAY PINE, NORTHERN WHITE PINE, SOUTHERN YELLOW PINE, WEST COAST HEMLOCK, RED OAK, WHITE OAK, WHITE ASH, SUGAR MAPLE, RED MAPLE, SOFT ELM, YELLOW BIRCH, HICKORY, BEECH OR OTHER APPROVED WOOD.

THE BEAM AND BACK UP ELEMENTS (AND END SHOE, WHEN USED) SHALL BE 12 GAGE STEEL AND GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: A93 OR A123 WITH COATING CLASS 2.50.

BEAM ELEMENTS SHALL BE LAPPED IN THE DIRECTION OF TRAFFIC.

ALL BRACKETS AND FITTINGS, INCLUDING BOLTS, NUTS, AND WASHERS SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

THE BOLTING PATTERN FOR BEAM ELEMENT SPLICE JOINTS MAY BE OPTIONAL TO CONFORM TO TENSILE STRENGTH REQUIREMENTS FOR ASSEMBLED BEAM ELEMENTS IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

BEAM ELEMENTS SHALL BE SHOP BENT TO PLAN RADIUS FOR CURVE RADII LESS THAN 150 FEET. A TAG IDENTIFYING THE CURVATURE OF THE SHOP BENT SECTION WILL BE REQUIRED FOR EACH CURVED ELEMENT.

GUARD RAIL ANCHORAGE SHALL CONFORM TO THE CURRENT STANDARD PLAN E-4-A-152 SERIES.

REFLECTORIZED WASHERS, WHEN REQUIRED, SHALL BE SPACED AT THE FOLLOWING INTERVALS:

A) 50 FOOT ON TANGENT SECTIONS AND CURVES OF 5 DEGREES OR LESS
B) 25 FOOT ON CURVES OF MORE THAN 5 DEGREES

ON THE APPROACHING END, FOUR REFLECTORIZED WASHERS SHALL BE USED AT 12'-6" INTERVALS STARTING AT THE POST NEXT TO THE CONCRETE ANCHOR BLOCK.

AT THE DEPARTING END, A REFLECTORIZED WASHER SHALL BE USED ON THE LAST POST, OR THE FIRST POST OF THE GUARD RAIL ANCHORAGE.

REFLECTORIZED WASHERS ARE TO BE USED ON THE UPPER BEAM ELEMENT ONLY.

REFLECTORIZED WASHERS WILL FACE TRAFFIC IN THE FOLLOWING MANNER:

A) ONE-WAY TRAFFIC: LEFT (MEDIAN) AND RIGHT SIDE
B) TWO-WAY TRAFFIC: RIGHT SIDE ONLY

REFLECTORIZED WASHERS ARE NOT TO BE USED IN AREAS WITH ROADWAY LIGHTING. POST BOLT WASHERS ARE NOT REQUIRED IN ADDITION TO REFLECTORIZED WASHERS.

STATE OF MICHIGAN
DEPARTMENT OF STATE HIGHWAYS
STANDARD PLAN FOR

BEAM GUARD RAIL - TYPE C

DIVISION APPROVAL

CHECKED — ENGINEER OF DESIGN — DATE

RECOMMENDED FOR APPROVAL — TRAFFIC ENGINEER — DATE

RECOMMENDED FOR APPROVAL — ENGINEER OF BRIDGE AND ROAD DESIGN — DATE

OFFICES OF DESIGN AND CONSTRUCTION

APPROVED — CHIEF CONSTRUCTION ENGINEER — DATE

APPROVED — CHIEF OF DESIGN AND TRAFFIC — DATE

DEPARTMENT OF STATE HIGHWAYS APPROVAL

APPROVED

BY — DEPUTY DIRECTOR - ENGINEERING — DATE

DRAWN BY ..... - CHECKED BY ..... TRACED BY ..... APPROVED B.P.R. .....

82124-002

E-4-A-148E 67

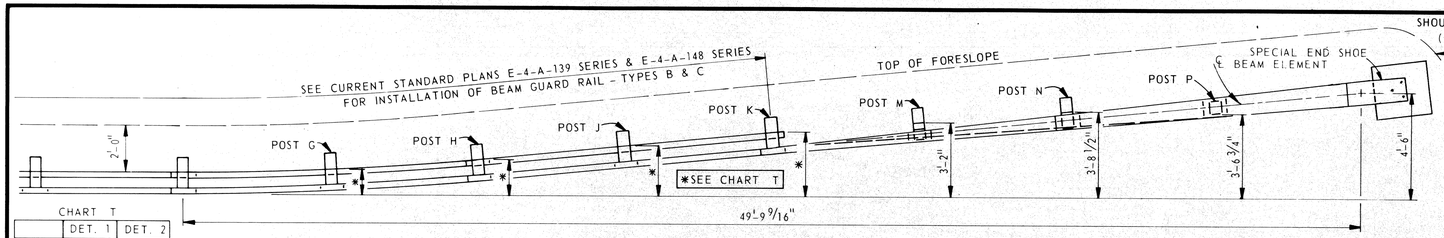
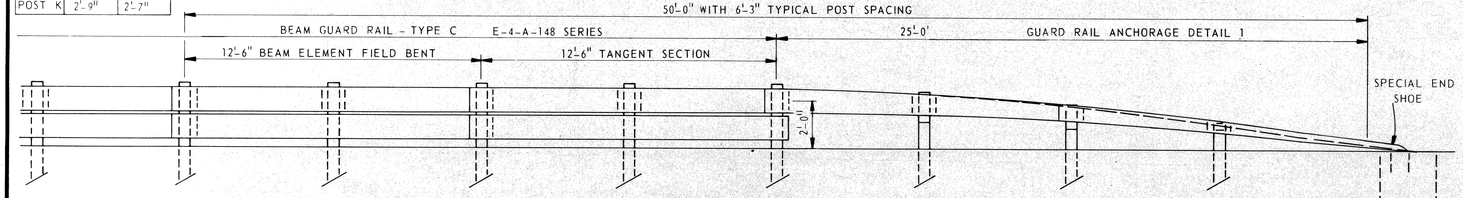


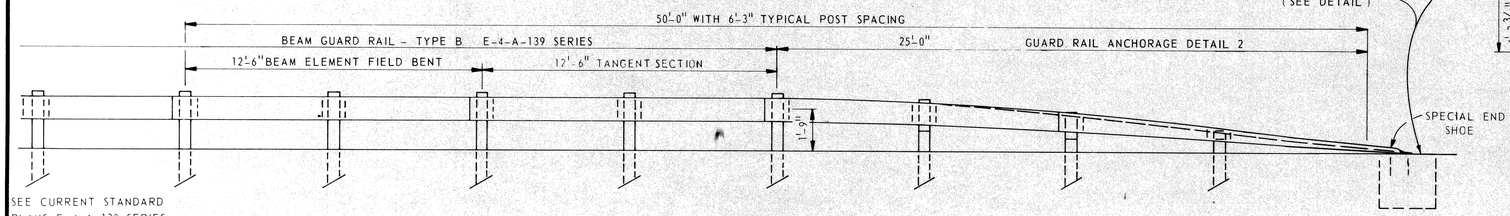
CHART T

	DET. 1	DET. 2
POST G	1'-0 1/16"	10 1/16"
POST H	1'-6 1/2"	1'-4 1/2"
POST J	2'-1 3/4"	1'-11 3/4"
POST K	2'-9"	2'-7"

PLAN SHOWING GUARD RAIL ANCHORAGE ON APPROACH END
(Beam Guard Rail - Type C Shown)

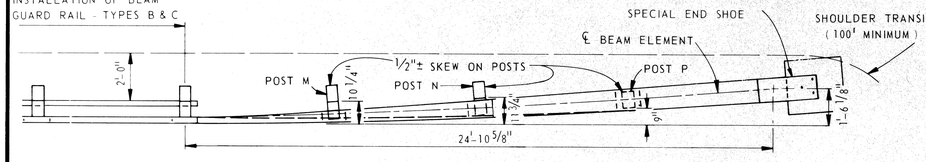


ELEVATION SHOWING GUARD RAIL ANCHORAGE ON APPROACH END FOR BEAM GUARD RAIL - TYPE C

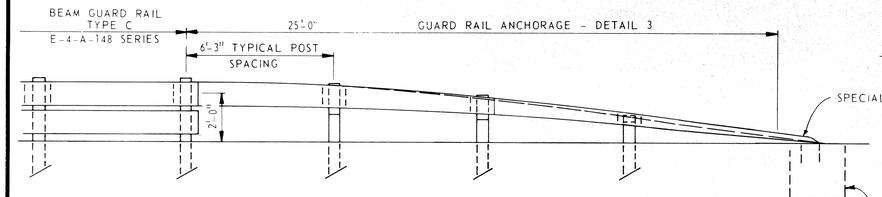


ELEVATION SHOWING GUARD RAIL ANCHORAGE ON APPROACH END FOR BEAM GUARD RAIL - TYPE B

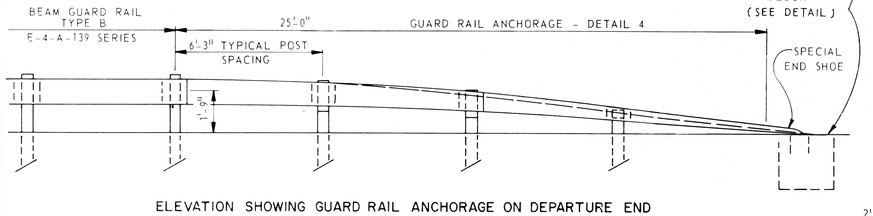
SEE CURRENT STANDARD PLANS E-4-A-139 SERIES & E-4-A-148 SERIES FOR INSTALLATION OF BEAM GUARD RAIL - TYPES B & C



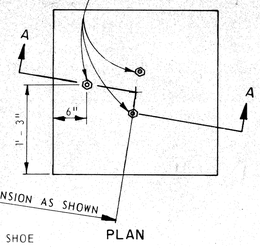
PLAN SHOWING GUARD RAIL ANCHORAGE ON DEPARTURE END
(Beam Guard Rail - Type C Shown)



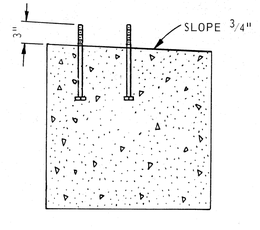
ELEVATION SHOWING GUARD RAIL ANCHORAGE ON DEPARTURE END FOR BEAM GUARD RAIL - TYPE C



ELEVATION SHOWING GUARD RAIL ANCHORAGE ON DEPARTURE END FOR BEAM GUARD RAIL - TYPE B



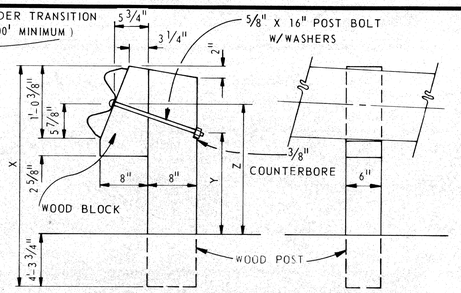
PLAN



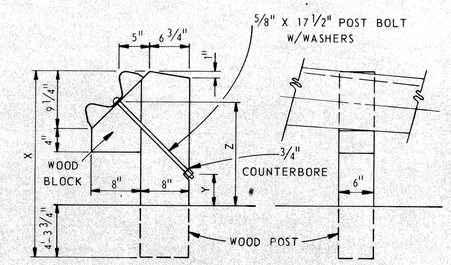
SECTION A-A

DETAIL OF BOLT PLACEMENT IN CONCRETE ANCHOR BLOCK
2'-4" CUBE OR 2'-8" DIA. x 2'-5" CYLINDER (1/2 CU. YD.)

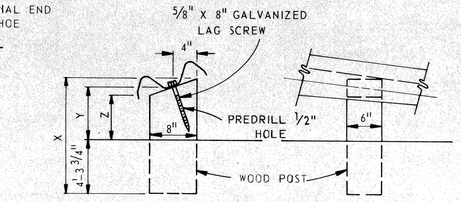
GUARD RAIL ANCHORAGE POST DIMENSIONS			
		DETAIL 1 & 3	DETAIL 2 & 4
POST M	X	6'-8 1/2"	6'-5 3/4"
	Y	1'-5"	1'-2 1/4"
	Z	1'-10"	1'-7 1/4"
POST N	X	6'-1 3/4"	5'-11 1/4"
	Y	5 1/4"	3 1/4"
	Z	1'-5"	1'-3"
POST P	X	5'-2 1/2"	5'-1 1/4"
	Y	9"	8 1/4"
	Z	7 1/2"	7"



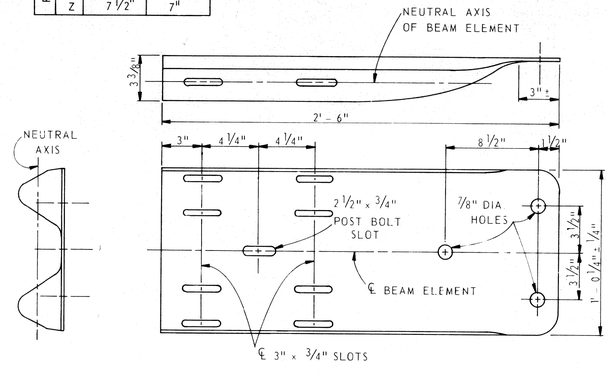
POST M



POST N



POST P



SPECIAL END SHOE

NOTES:

MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE CURRENT STANDARD SPECIFICATIONS.

ALL WOOD POSTS AND BLOCKS, BEAM AND BACK UP ELEMENTS, FITTINGS: INCLUDING BOLTS, NUTS, AND WASHERS SHALL CONFORM TO THE DIMENSIONS AND SPECIFICATIONS SHOWN ON THE CURRENT STANDARD PLANS E-4-A-139, E-4-A-140, E-4-A-148, OR E-4-A-149 SERIES WHERE APPLICABLE, EXCEPT AS SHOWN ON THIS STANDARD.

BOLTING PATTERN FOR SPLICE JOINTS MAY BE OPTIONAL TO CONFORM TO THE TENSILE STRENGTH REQUIREMENTS FOR ASSEMBLED RAIL IN ACCORDANCE WITH THE CURRENT STANDARD SPECIFICATIONS.

GUARD RAIL ANCHORAGE (SINGLE) WHICH INCLUDES CONCRETE ANCHOR BLOCK AND SPECIAL END SHOE SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE, WHICH PRICE INCLUDES PAYMENT IN FULL FOR ALL WORK & MATERIALS.

SECTIONS OF BEAM ELEMENT REQUIRED TO BE TWISTED FOR USE IN ANCHORAGE SHALL BE FIELD BENT.

CONCRETE ANCHOR BLOCK MAY BE PRECAST AND SHALL CONFORM WITH SECTION 6.17 OF THE CURRENT STANDARD SPECIFICATIONS.

PLANS WILL SHOW APPLICABLE ANCHORAGE DETAIL TO GO WITH INDIVIDUAL GUARD RAIL INSTALLATIONS. THE PAY ITEM FOR ANCHORAGE DETAILS SHOWN ON THIS SHEET WILL BE GUARD RAIL ANCHORAGE (SINGLE)

BACK UP ELEMENTS SHALL BE INSTALLED ON POSTS M AND P OF GUARD RAIL ANCHORAGE.

STATE OF MICHIGAN
DEPARTMENT OF STATE HIGHWAYS
STANDARD PLAN FOR

GUARD RAIL ANCHORAGE
(SINGLE)

DIVISION APPROVAL

CHECKED — Gordon J Fellows — ENGINEER OF DESIGN — DATE 7-13-67

RECOMMENDED FOR APPROVAL — H H Cooper — TRAFFIC ENGINEER — DATE 7-24-67

RECOMMENDED FOR APPROVAL — [illegible] — ENGINEER OF BRIDGE AND ROAD DESIGN — DATE 7-24-67

OFFICES OF DESIGN AND CONSTRUCTION

APPROVED — [illegible] — CONSTRUCTION ENGINEER — DATE 7-25-67

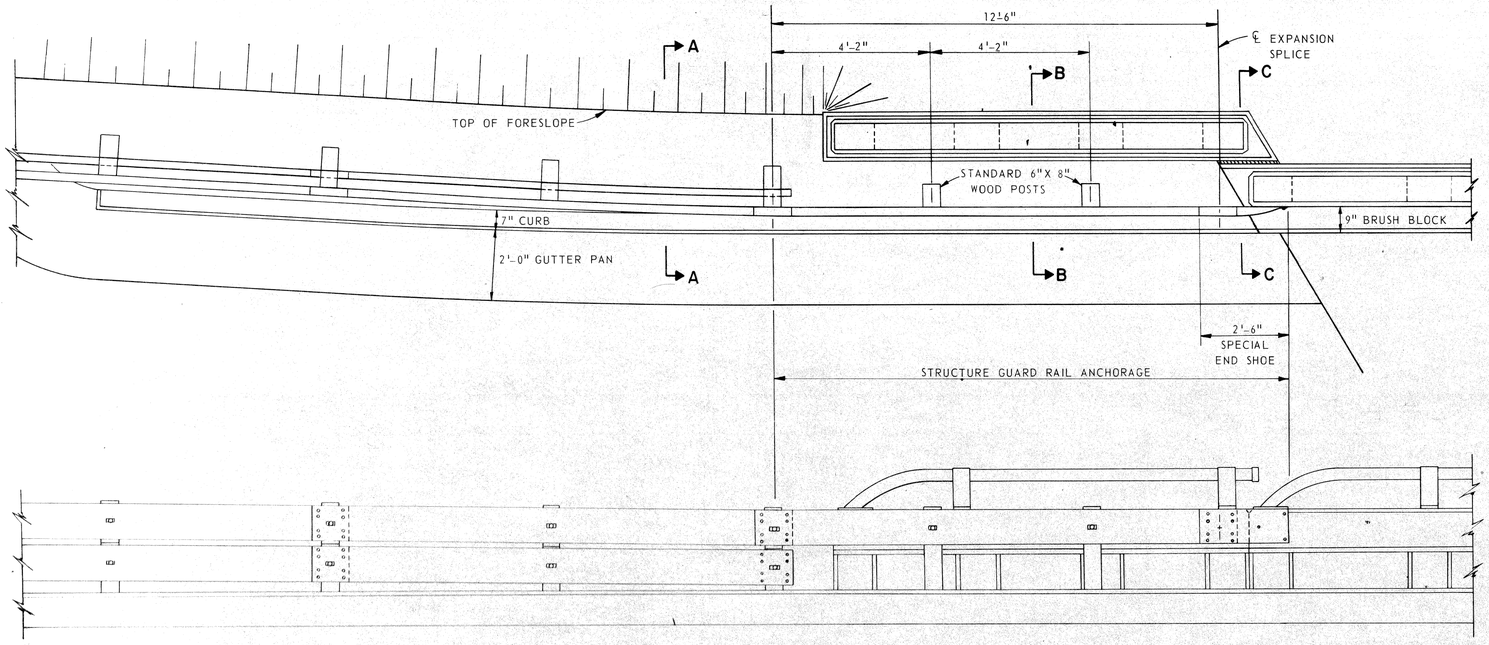
APPROVED — J J McCarthy — CHIEF OF DESIGN AND TRAFFIC — DATE 7-13-67

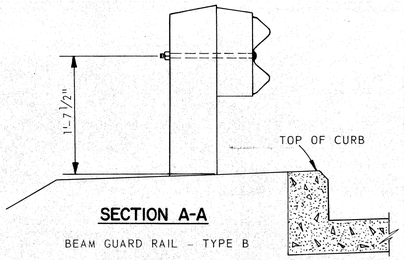
DEPARTMENT OF STATE HIGHWAYS APPROVAL

APPROVED BY — G E Meyer — DEPUTY DIRECTOR - ENGINEERING — DATE 7-13-67

DRAWN BY Haw CHECKED BY T.L. TRACED BY APPROVED B.P.R.

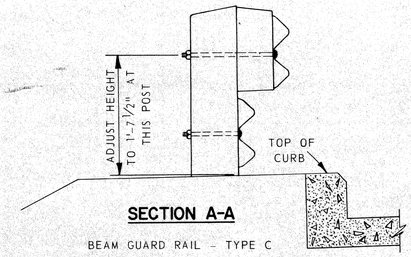
82124-002 REV 1-10-68 E-4-A-152B 68





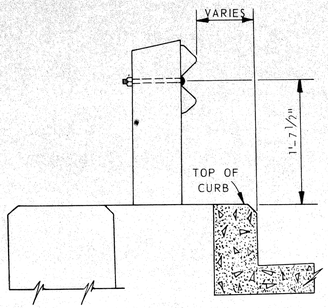
SECTION A-A

BEAM GUARD RAIL - TYPE B

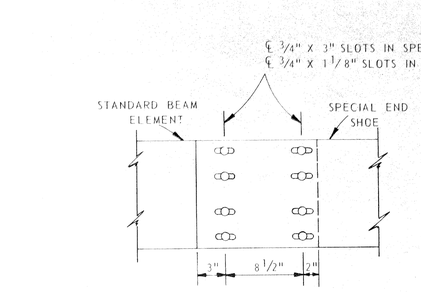


SECTION A-A

BEAM GUARD RAIL - TYPE C

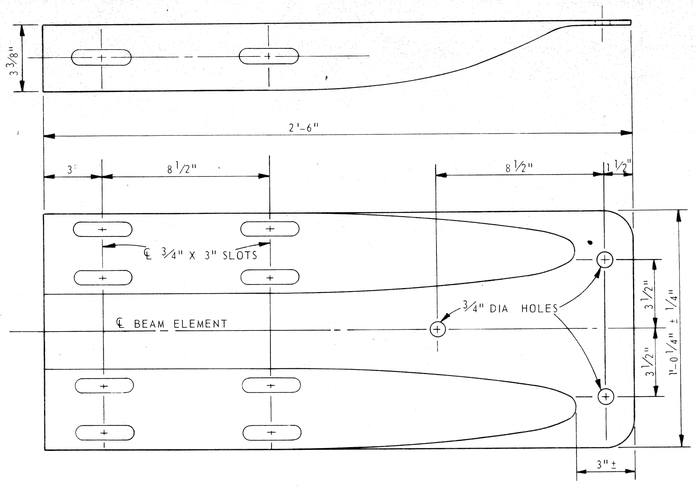


SECTION B-B

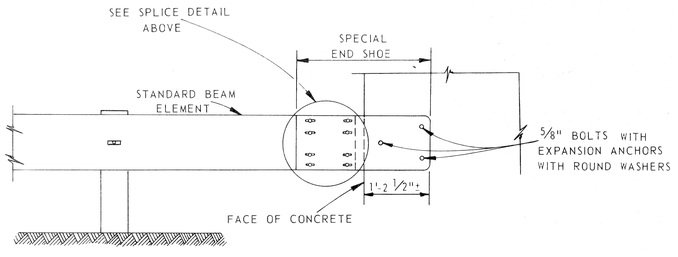


SPLICE DETAIL

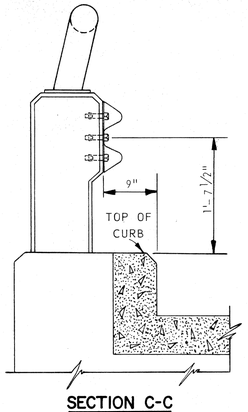
NOTE:
USE STANDARD SPLICE BOLTS. SPLICE BOLTS TO BE TIGHTENED TO ONLY A SNUG FIT TO ALLOW FOR LONGITUDINAL MOVEMENT OF BEAM ELEMENTS.



SPECIAL END SHOE



INSTALLATION



SECTION C-C

NOTES:

MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE CURRENT STANDARD SPECIFICATIONS.

ALL WOOD POSTS AND BLOCKS, RAIL ELEMENTS, PLATES, FITTINGS INCLUDING BOLTS, NUTS, AND WASHERS SHALL CONFORM TO THE DIMENSIONS AND SPECIFICATIONS SHOWN ON THE CURRENT STANDARD PLANS E-4-A-139, E-4-A-140, E-4-A-148 AND E-4-A-149 SERIES WHERE APPLICABLE, EXCEPT AS SHOWN ON THIS STANDARD.

STRUCTURE GUARD RAIL ANCHORAGE OF THE DETAIL SPECIFIED SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE EACH, WHICH PRICE INCLUDES PAYMENT IN FULL FOR ALL WORK AND MATERIALS.

THE BEAM ELEMENTS AND SPECIAL END SHOE SHALL BE 12 GAGE STEEL AND GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: A93 OR A123 WITH COATING CLASS 2.50.

BEAM ELEMENTS SHALL BE LAPPED IN THE DIRECTION OF TRAFFIC.

EXPANSION ANCHORS OF THE SIZE INDICATED SHALL BE BETHLEHEM MINE ROOF EXPANSION TYPE WITH K-1 SHELL, PHILLIPS RED HEAD ANCHOR, CHICAGO EXPANSION BOLT. CO. - SPECIAL FLUSH SELF DRILLING ANCHOR OR APPROVED EQUAL.

OPTIONAL THREADED STEEL INSERT DESIGNED FOR STANDARD 5/8" BOLT. INSERT INSTALLED AT MANUFACTURERS RECOMMENDED DEPTH.

STATE OF MICHIGAN
DEPARTMENT OF STATE HIGHWAYS
STANDARD PLAN FOR

STRUCTURE GUARD RAIL ANCHORAGE
(TYPE A)

DIVISION APPROVAL

CHECKED	Gordon J Fellows ENGINEER OF DESIGN	7-13-67 DATE
RECOMMENDED FOR APPROVAL	[illegible] TRAFFIC ENGINEER	8-2-67 DATE
RECOMMENDED FOR APPROVAL	N E Spaw. ENGINEER OF BRIDGE AND ROAD DESIGN	8-2-67 DATE

OFFICES OF DESIGN AND CONSTRUCTION

APPROVED	[illegible] CONSTRUCTION ENGINEER	1-2-67 DATE
APPROVED	S Jane Cassidy CHIEF OF DESIGN AND TRAFFIC	7/13/67 DATE

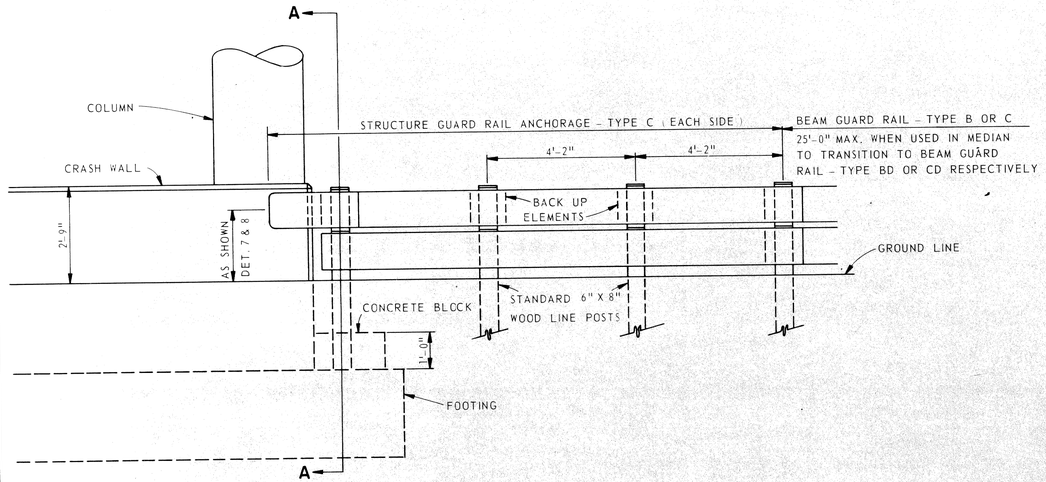
DEPARTMENT OF STATE HIGHWAYS APPROVAL

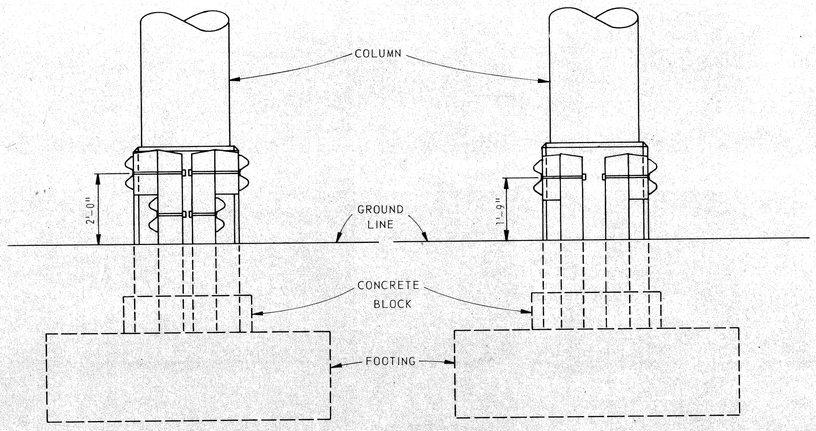
APPROVED

BY G E Meyer — DEPUTY DIRECTOR - ENGINEERING — 7-13-67 DATE

DRAWN BY D.F.M. CHECKED BY T.L. TRACED BY _____ APPROVED B.P.R. _____

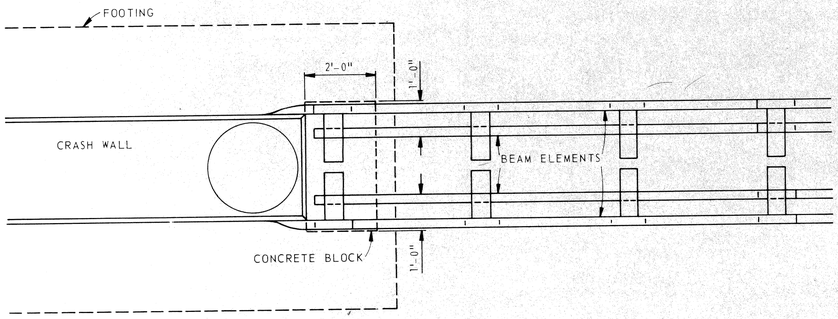
82124-002 E-4-A-153 69

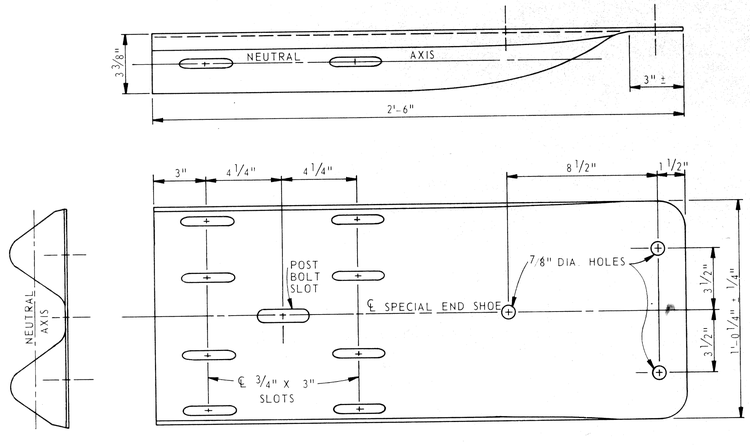




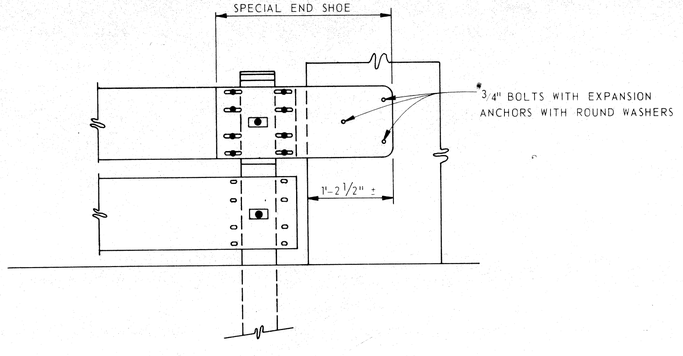
SECTION A-A
(Detail 7)

SECTION A-A
(Detail 8)





SPECIAL END SHOE



INSTALLATION

NOTES:

MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE CURRENT STANDARD SPECIFICATIONS.

ALL WOOD POSTS AND BLOCKS, BEAM AND BACK UP ELEMENTS, FITTINGS INCLUDING BOLTS, NUTS, AND WASHERS SHALL CONFORM TO THE DIMENSIONS AND SPECIFICATIONS SHOWN ON THE CURRENT STANDARD PLANS E-4-A-139 SERIES AND E-4-A-148 SERIES BEAM GUARD RAIL – TYPES B AND C RESPECTIVELY WHERE APPLICABLE, EXCEPT AS SHOWN ON THIS STANDARD.

PLANS WILL SHOW APPLICABLE ANCHORAGE DETAIL TO GO WITH INDIVIDUAL GUARD RAIL INSTALLATIONS. THE PAY ITEM FOR STRUCTURE ANCHORAGE DETAILS SHOWN ON THIS SHEET WILL BE STRUCTURE GUARD RAIL ANCHORAGE (TYPE C).

STRUCTURE GUARD RAIL ANCHORAGE (TYPE C) WHICH INCLUDES SPECIAL END SHOE SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE WHICH PRICE INCLUDES PAYMENT IN FULL FOR ALL WORK AND MATERIALS.

EXPANSION ANCHORS OF THE SIZE INDICATED SHALL BE BETHLEHEM MINE ROOF EXPANSION TYPE WITH K-1 SHELL, PHILLIPS RED HEAD ANCHOR, CHICAGO EXPANSION BOLT CO. – SPECIAL FLUSH SELF DRILLING ANCHOR OR APPROVED EQUAL.

OPTIONAL THREADED STEEL INSERT DESIGNED FOR STANDARD 3/4" BOLT INSERT INSTALLED AT MANUFACTURES RECOMMENDED DEPTH.

STATE OF MICHIGAN
DEPARTMENT OF STATE HIGHWAYS
STANDARD PLAN FOR

STRUCTURE GUARD RAIL ANCHORAGE

(TYPE C)

DIVISION APPROVAL

CHECKED — ENGINEER OF DESIGN — DATE

RECOMMENDED FOR APPROVAL — TRAFFIC ENGINEER — DATE

RECOMMENDED FOR APPROVAL — ENGINEER OF BRIDGE AND ROAD DESIGN — DATE

OFFICES OF DESIGN AND CONSTRUCTION

APPROVED — CONSTRUCTION ENGINEER — DATE

APPROVED — CHIEF OF DESIGN AND TRAFFIC — DATE

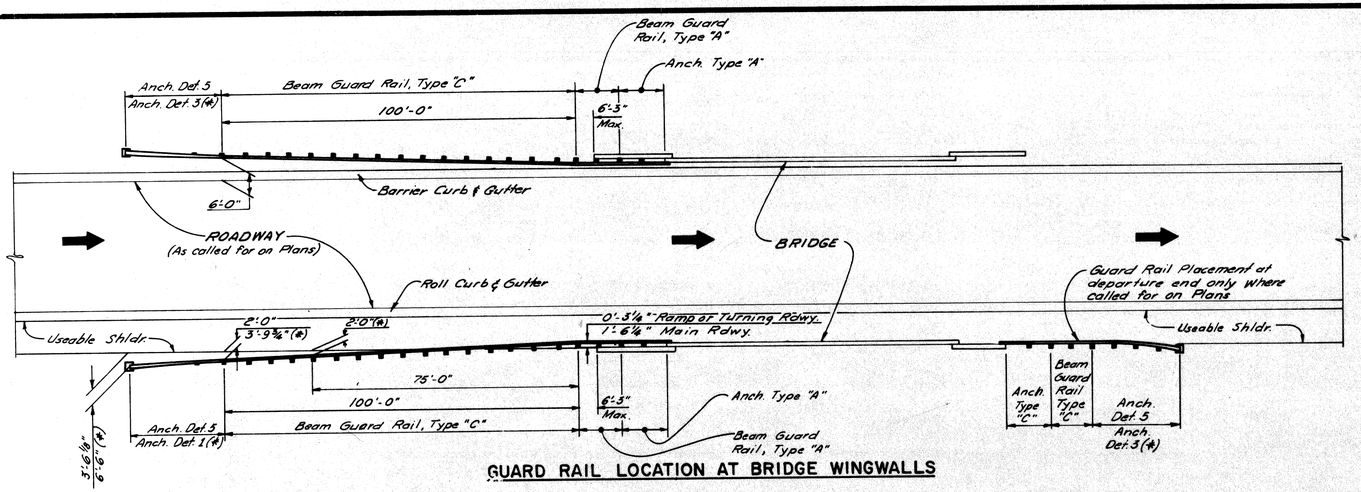
DEPARTMENT OF STATE HIGHWAYS APPROVAL

APPROVED

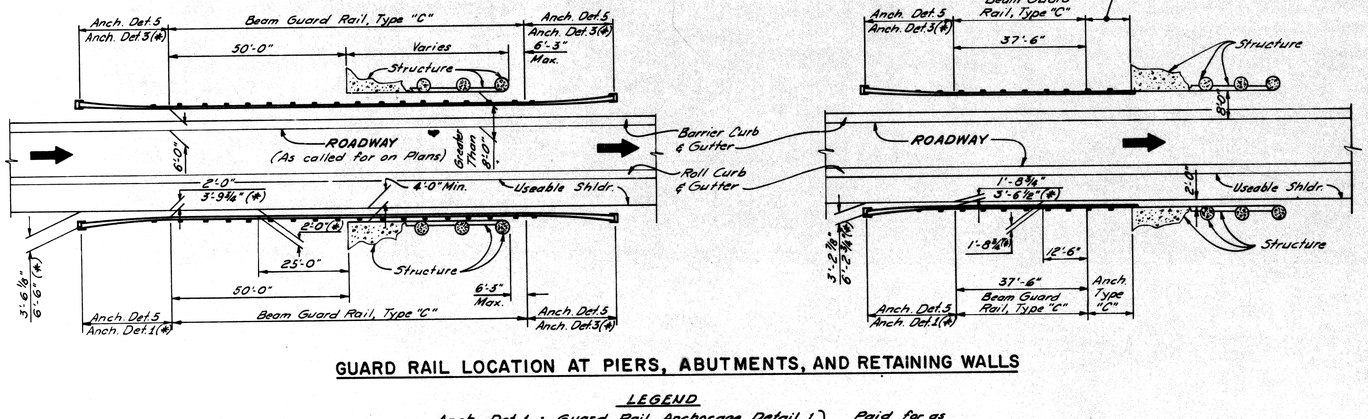
BY — DEPUTY DIRECTOR AND MANAGING — DATE

DRAWN BY — CHECKED BY — TRACED BY — APPROVED B.P.R.

82124-002 E-4-A-156



GUARD RAIL LOCATION AT BRIDGE WINGWALLS



GUARD RAIL LOCATION AT PIERS, ABUTMENTS, AND RETAINING WALLS

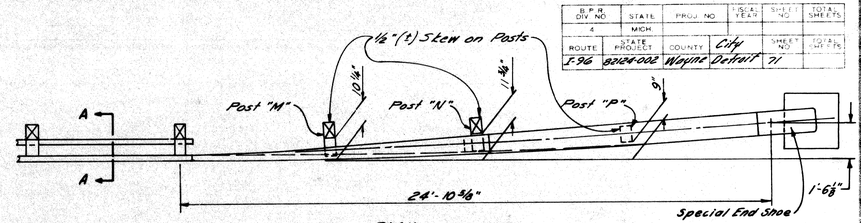
LEGEND

Anch. Def. 1 : Guard Rail Anchorage, Detail 1
Anch. Def. 3 : Guard Rail Anchorage, Detail 3
Anch. Def. 5 : Guard Rail Anchorage, Detail 5
} Paid for as Guard Rail Anchorage (Single)

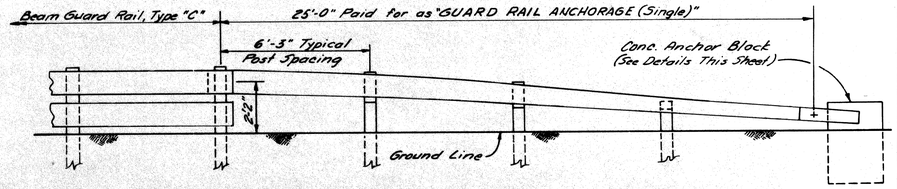
Anch. Type "A" : Structure Guard Rail Anchorage, Type "A"
Anch. Type "C" : Structure Guard Rail Anchorage, Type "C"

(#) For Embankment Section Only

B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY	City	SHEET NO.	TOTAL SHEETS
I-96	82124-002	Wayne	Detroit	71	

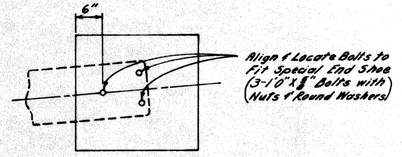


PLAN

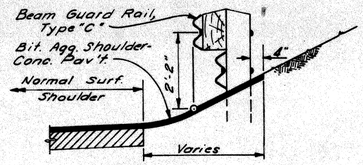


ELEVATION

POST DIMENSIONS			
Post	X	Y	Z
"M"	6'-10"	1'-6⅝"	1'-11⅝"
"N"	6'-3⅜"	0'-6⅝"	1'-6⅛"
"P"	5'-6⅝"	1'-1"	0'-11⅝"

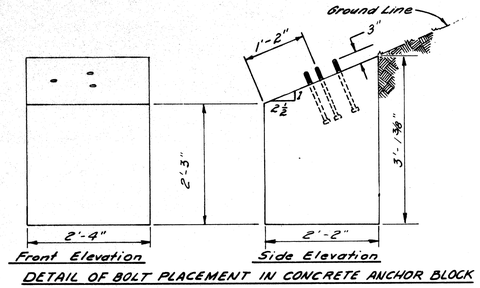


Plan



SECTION A-A

NOTE:
For Details of Posts M, N & P, and Special End Shoe See Guard Rail Anchorage (Single) Sheet No. ____



DETAIL OF BOLT PLACEMENT IN CONCRETE ANCHOR BLOCK

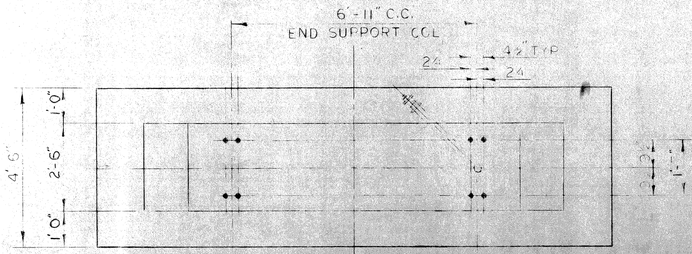
GUARD RAIL ANCHORAGE, DETAIL 5

GENERAL NOTES

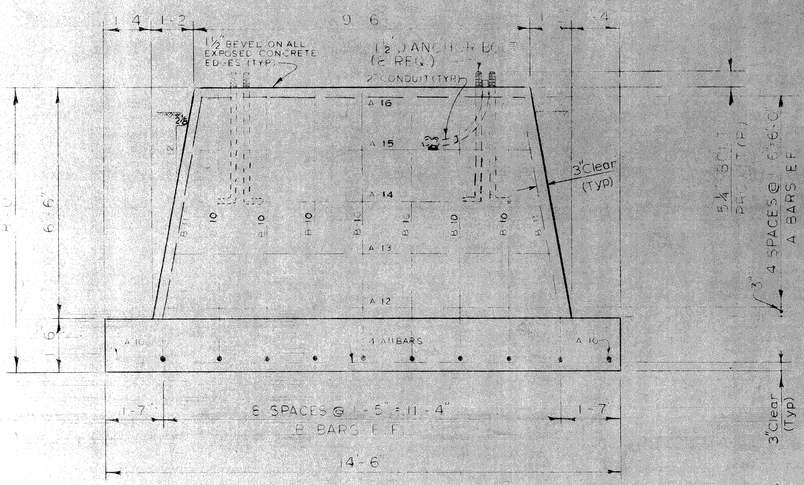
1. Work this sheet with Sheets ____ to ____ inclusive.
2. Materials and workmanship shall be in accordance with the current Michigan Department of State Highways' Standard Specifications.

MISCELLANEOUS BEAM GUARD RAIL DETAILS

FILE NO. USE NO. 350 STENCIL		STATE PROJECT	FEDERAL PROJECT	SHEET NO.
	82124-002	82124-002	I-96	71



PLAN



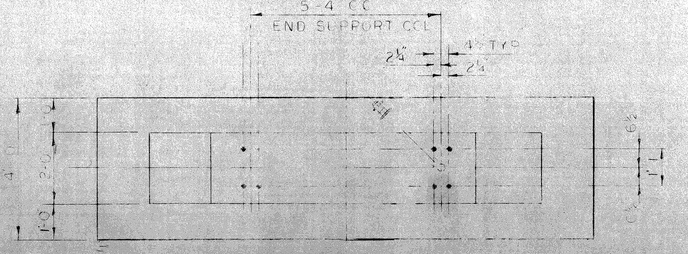
ELEVATION

STEEL REINFORCEMENT			
BAR	SIZE	DIMENSIONS	NO. REQ.
A-10	#4	4'-0"	2
A-11	#4	14'-0"	2
A-12	#4	11'-3"	2
A-13	#4	10'-8"	2
A-14	#4	10'-2"	2
A-15	#4	9'-7"	2
A-16	#4	9'-1"	2
B-10	#4	7'-6" / 3'-0"	14
B-11	#4	7'-7" / 3'-0"	4

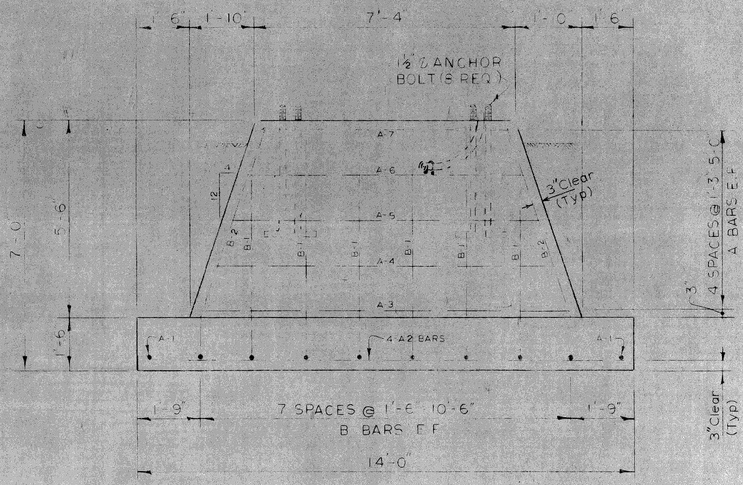
10.0 CU. YDS. CONC
237 # REINF. STEEL

REV. #3

TYPE C
SCALE ½" = 1'-0"



PLAN



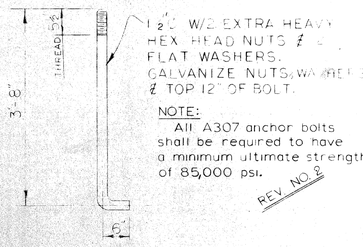
ELEVATION

STEEL REINFORCEMENT			
BAR	SIZE	DIMENSIONS	NO. REQ.
A-1	#4	3'-5"	2
A-2	#4	13'-6"	4
A-3	#4	10'-4"	2
A-4	#4	9'-6"	2
A-5	#4	8'-8"	2
A-6	#4	7'-10"	2
A-7	#4	7'-0"	2
B-1	#4	6'-6" / 2'-6"	12
B-2	#4	6'-9" / 2'-6"	4

6.82 CU. YDS. CONC
196 # REINF. STEEL

REV. #3

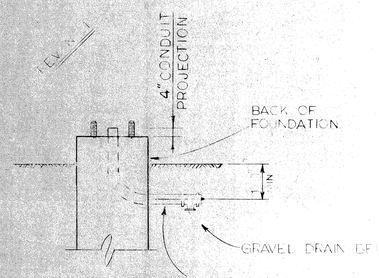
TYPE B
SCALE ½" = 1'-0"



NOTE:
All A307 anchor bolts shall be required to have a minimum ultimate strength of 85,000 psi.

REV. NO. 2

ANCHOR BOLT DETAIL



CONDUIT DETAIL

NOTES:
1) CONDUIT SHALL BE INSTALLED IN RIGHT FOUNDATION OR AS OTHERWISE SPECIFIED BY THE ENGINEER.
2) TOP OF CONC. SHALL BE 3" MIN. ABOVE GROUND (DESIRABLE)

MICHIGAN STATE HIGHWAY DEPARTMENT

TRUSS FOUNDATION
TYPE B, C

REVISIONS

NO	DESCRIPTION	DATE	BY
1	WIRE ENTRANCE	1-7-66	TMW
2	Anchor bolt strength note	3-3-67	TMW
3	Re-bar dimension changes	3/20/67	TMW

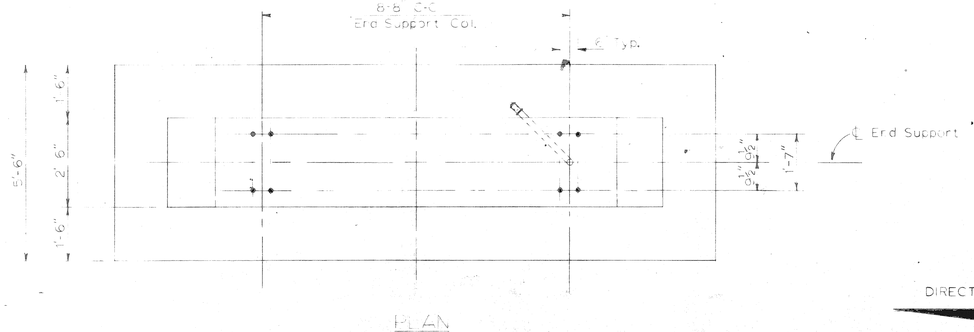
SQUAD BOSS		
DRAWN BY	R.D.S.	7-64
TRACED BY		
CHECKED BY	D.M.C.	

SHEET 1 OF 1

S8.10

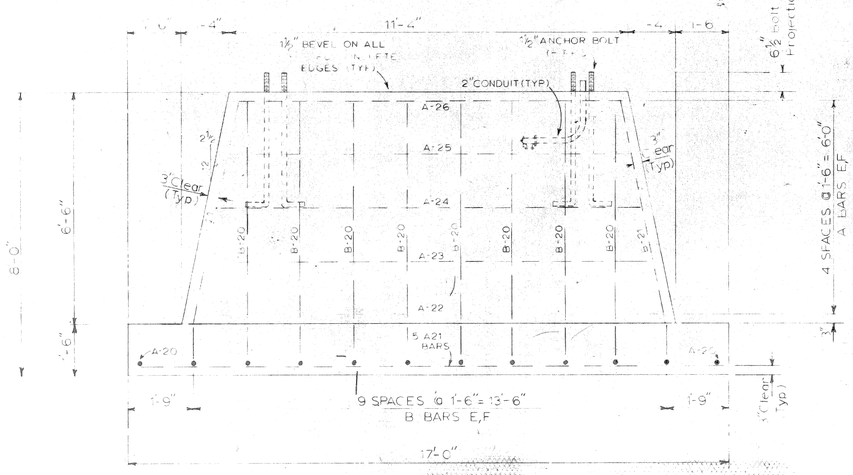
82124-002

22

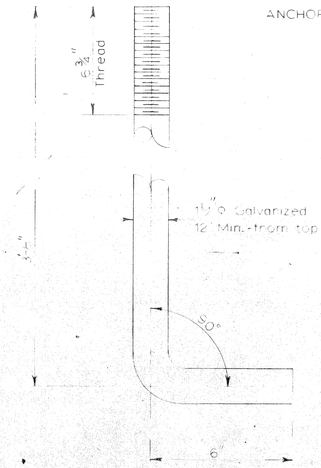


PLAN

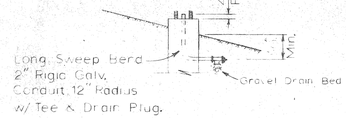
DIRECTION OF TRAFFIC



ELEVATION



DETAIL of ANCHOR BOLT



CONDUIT DETAIL

NOTES
1) Conduit shall be installed in the right foundation or as otherwise specified by the Engineer.
2) Top of conc. shall be 3" min. above ground (desirable).

STEEL REINFORCEMENT

BAR	SIZE	DIMENSIONS	NO. REQ.
A-20	#4	1'-0"	2
A-21	#4	16'-6"	5
A-22	#4	13'-5"	2
A-23	#4	12'-9"	2
A-24	#4	12'-2"	2
A-25	#4	11'-6"	2
A-26	#4	10'-11"	2
B-20	#5	2'-1" 1'-6"	16
B-21	#5	2'-1" 1'-6"	4

2.84 Cu. Yds. Conc.
373# Reinf. Steel

SCALE: ½" = 1'-0"

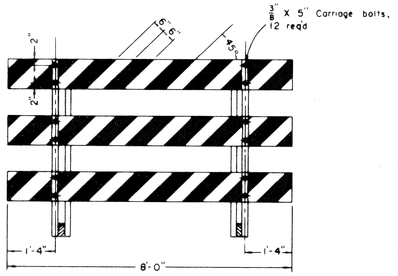
MICHIGAN DEPARTMENT OF STATE HIGHWAYS

I.P. SS FOUNDATION TYPE D

REVISIONS			
NO.	DESCRIPTION	DATE	BY

SQUAD BOSS
DRAWN BY
TRACED BY
CHECKED BY
SHEET OF

82124-002



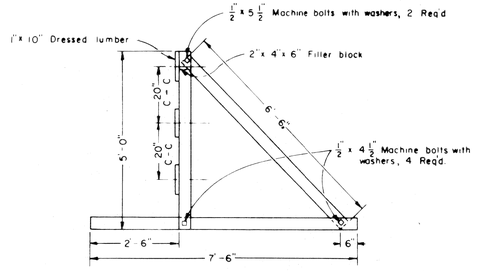
PLAN VIEW
Scale None
(LEFT DIRECTIONAL)

SPECIFICATIONS

1 Sign Panel 1" x 10" and 2" x 4" dressed lumber
2 Sign Face
- (a) Legend, Black and silver striping as shown
- (b) Color, Black and silver alternating diagonal stripes
- (c) Reflectorization, Silver sheeting

REVISIONS

NO	DESCRIPTION	DATE

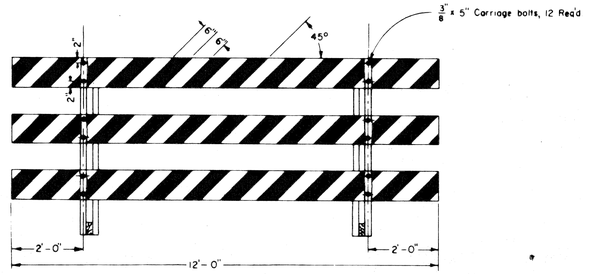


END VIEW
Scale none

(RIGHT DIRECTIONAL)

(BI-DIRECTIONAL)

W13-15 CLASS I BARRICADE	AUTH NO.		DRAWN M.S.I.G.
	CONT. SEC.		DATE 3-17-64
	REP.		SCALE None
	SHEET	PLAN W13-15	



PLAN VIEW
Scale none
(LEFT DIRECTIONAL)

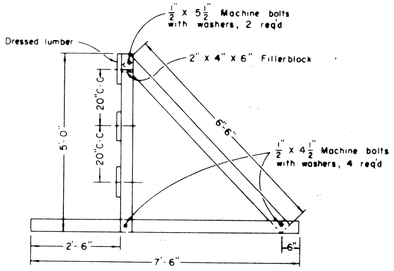
SPECIFICATIONS

1 Sign Panel 1" x 10" and 2" x 4" dressed lumber
2 Sign Face
- (a) Legend, Black and silver striping as shown
- (b) Color, Black and silver alternating diagonal stripes
- (c) Reflectorization, Silver sheeting.

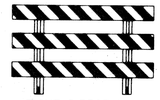
Note All framing material shall be 2" x 4" stock

REVISIONS

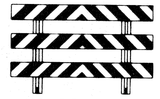
NO	DESCRIPTION	DATE



END VIEW
Scale None



(RIGHT DIRECTIONAL)



(BI-DIRECTIONAL)

W13-15 CLASS I BARRICADE	AUTH NO.		DRAWN L.T.B.
	CONT. SEC.		DATE 3-17-64
	REP.		SCALE NONE
	SHEET	PLAN W13-15	

STATE OF MICHIGAN
DEPARTMENT OF STATE HIGHWAYS
STANDARD PLAN FOR

BARRICADES

DIVISION APPROVAL

CHECKED _____ ENGINEER OF DESIGN _____ DATE

RECOMMENDED FOR APPROVAL _____ TRAFFIC ENGINEER _____ DATE

RECOMMENDED FOR APPROVAL _____ ENGINEER OF BRIDGE AND ROAD DESIGN _____ DATE

OFFICES OF DESIGN AND CONSTRUCTION

APPROVED _____ CONSTRUCTION ENG. _____ DATE

APPROVED _____ CHIEF OF DESIGN AND TRAFFIC _____ DATE

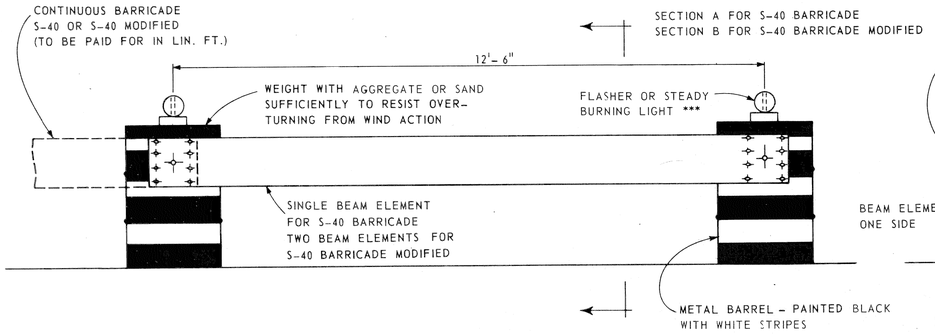
DEPARTMENT OF STATE HIGHWAYS APPROVAL

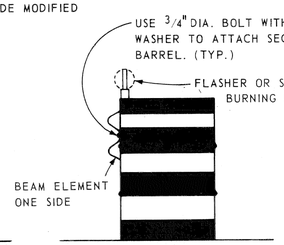
APPROVED

BY _____ DEPUTY DIRECTOR - ENGINEERING _____ DATE

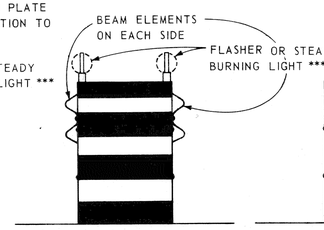
DRAWN BY _____ CHECKED BY _____ TRACED BY _____ APPROVED B.P.R.

82124-002 E-6-A-56

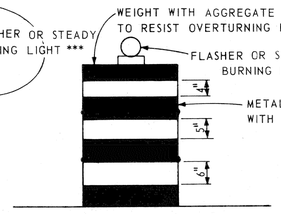




SECTION A
S - 40 BARRICADE

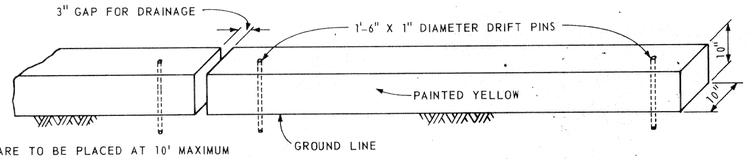


SECTION B
S - 40 BARRICADE MODIFIED



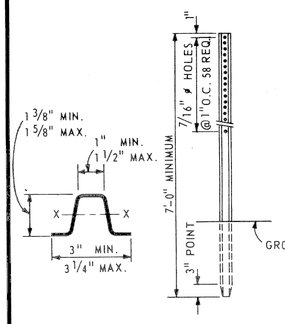
INCIDENTAL BARRICADE

ADJUSTMENTS DUE TO ODD SIZE DRUMS SHOULD BE DIVIDED BETWEEN THE UPPER AND LOWER STRIPES



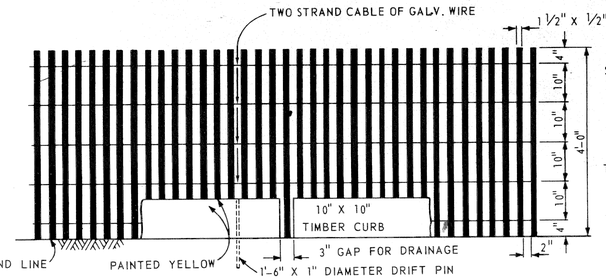
NOTE: DRIFT PINS ARE TO BE PLACED AT 10' MAXIMUM INTERVALS EXCEPT THAT A PIN MUST BE LOCATED 1' FROM EACH END OF TIMBERS.

TIMBER CURB



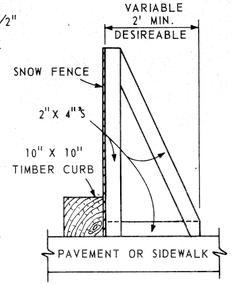
WEIGHT 2#/FT. MINIMUM
SECTION MODULUS X-X 0.19^3 MINIMUM

SNOW FENCE POST



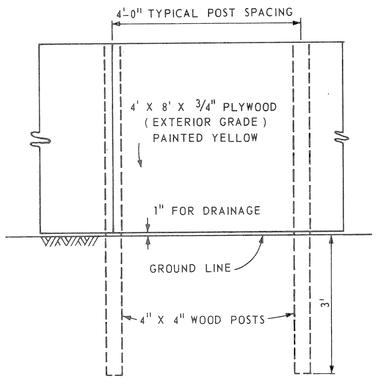
NOTE: SNOW FENCE SHALL BE SECURELY FASTENED TO THE TIMBER CURB AND SNOW FENCE POSTS (APPROX. 16.5' APART) OR TO THE TIMBER CURB AND THE WOODEN SUPPORTS (APPROX. 8' APART) IN A MANNER ACCEPTABLE TO THE ENGINEER.

TIMBER CURB & SNOW FENCE

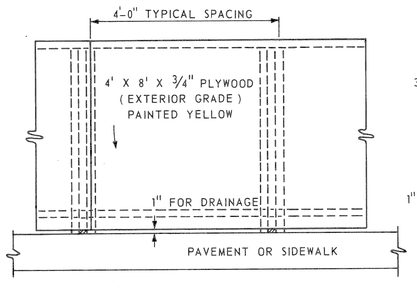


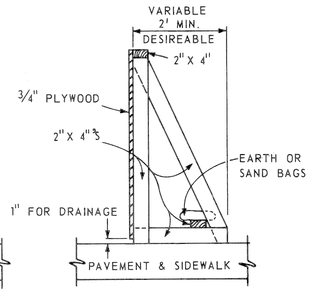
TO APPLY:
NEW OR PERMANENT CONCRETE PAVEMENT

WOODEN SUPPORT



SPLASH BOARDS





TO APPLY:
NEW OR PERMANENT CONCRETE PAVEMENT

WOODEN SUPPORT

LEGEND:

PROPOSED STANDARD BARRICADE (E-4-A-55 SERIES)	EACH	FURNISHED & INSTALLED / RELOCATED * / REMOVED
EXISTING STANDARD BARRICADE		
TEMPORARY BEAM GUARD RAIL	LIN. FT.	FURNISHED & INSTALLED / RELOCATED * / REMOVED
EXISTING TEMPORARY BEAM GUARD RAIL		
S-40 BARRICADE	EACH OR LIN. FT.	FURNISHED & INSTALLED / RELOCATED * / REMOVED
S-40 BARRICADE WITH LIGHTS **		
EXISTING S-40 BARRICADE		
S-40 BARRICADE MODIFIED	EACH OR LIN. FT.	FURNISHED & INSTALLED / RELOCATED * / REMOVED
S-40 BARRICADE MODIFIED WITH LIGHTS **		
EXISTING S-40 BARRICADE MODIFIED		
TIMBER CURB	LIN. FT.	FURNISHED & INSTALLED / RELOCATED * / REMOVED
EXISTING TIMBER CURB		
TIMBER CURB & SNOW FENCE	LIN. FT.	FURNISHED & INSTALLED / RELOCATED * / REMOVED
EXISTING TIMBER CURB & SNOW FENCE		
SPLASH BOARDS (SB SB)	LIN. FT.	FURNISHED & INSTALLED
INCIDENTAL BARRICADE	INCIDENTAL TO MAINTAINING TRAFFIC	
EXISTING INCIDENTAL BARRICADE		

* RELOCATING SHALL ONLY BE A PAY ITEM WHERE THE BARRICADE IS REQUIRED TO BE LOADED ON A VEHICLE AND HAULED TO A NEW LOCATION.

** ELECTRIC LIGHTS (OTHER THAN PORTABLE) SHALL BE PAID FOR SEPARATELY FROM THE BARRICADE AS A LUMP SUM PAY ITEM.

*** STEADY BURNING LIGHTS ARE TO BE USED ON ANY BARRICADES PLACED FOR CHANNELIZATION OF TRAFFIC. FLASHERS ARE TO BE USED TO MARK SPOT HAZARDS.

NOTES AND SPECIFICATIONS:

BEAM GUARD RAIL SECTION (BEAM ELEMENT) SHALL CONFORM WITH CURRENT STANDARD SPECIFICATIONS AND CURRENT STANDARD PLAN E-4-A-137 SERIES.

FACE OF GUARD RAIL SHALL BE REFLECTORIZED IN ACCORDANCE WITH EITHER OF THE FOLLOWING REQUIREMENTS:

a FACE SHALL BE ENTIRELY REFLECTORIZED BY DROPPING GLASS BEADS, WHICH CONFORM WITH DEPARTMENT OF STATE HIGHWAY SPECIFICATIONS, ONTO FRESHLY APPLIED WHITE PAINT OR ACCEPTABLE EQUIVALENT METHOD.

b FACE SHALL BE PARTIALLY REFLECTORIZED WITH WHITE OR SILVER BEADED SHEET MATERIAL COVERING 25% OF SURFACE AREA PLACED IN THE FORM OF HORIZONTAL (1 1/2"- 2" WIDTH) OR VERTICAL (4"- 6" WIDTH) STRIPES. REMAINING PORTION SHALL BE PAINTED WHITE.

BARRICADE SUPPORTS (S-40) SHALL BE 30-55 GALLON BARRELS PAINTED BLACK WITH WHITE STRIPES (NON REFLECTORIZED AND PROVIDED WITH DRAIN HOLES.

WHERE S-40 BARRICADES ARE USED CONTINUOUSLY FOR TRAFFIC CHANNELIZATION, ONLY ONE BARREL WILL BE REQUIRED AT JOINTS IN THE GUARD RAIL.

INCIDENTAL BARRICADES SHALL BE 30 - 55 GALLON BARRELS- CONSPICUOUSLY MARKED WITH AT LEAST TWO HORIZONTAL CIRCUMFERENTIAL REFLECTORIZED WHITE STRIPES 4"- 6" WIDE.

WHERE CONTINUOUS BARRICADES ARE REQUIRED FOR THE CHANNELIZATION OF TRAFFIC, STEADY BURNING LIGHTS (YELLOW) ON THE BARRICADE PROTECTING THE WORK AREA ARE TO BE SPACED NO MORE THAN 25 FEET APART ON AN ARC OR TAPER ACROSS THE PATH OF THE ONCOMING TRAFFIC AND 50 FEET APART IN THE LONGITUDINAL ROW OR AT NON CONVERGING TRAFFIC LOCATIONS.

WARNING LIGHTS SHALL BE PLACED IN ACCORDANCE WITH THE CURRENT STANDARD SPECIFICATION FOR BARRICADES USED IN ROAD CLOSURES, ON THE ENDS OF ALL CONTINUOUS BARRICADE, HAZARDOUS LOCATIONS, AND ON INCIDENTAL BARRICADES.

TIMBER CURB, TIMBER CURB AND SNOW FENCE AND SPLASH BOARDS SHALL BE PAINTED WITH TWO COATS OF YELLOW EXTERIOR PAINT OVER THE ENTIRE STRUCTURE.

PAY ITEMS WILL BE SHOWN ON THE PROJECT PLANS AND IN THE PROPOSAL.

BARRELS PAINTED FOR INCIDENTAL BARRICADES MAY BE USED FOR S40 TYPE BARRICADE SUPPORTS.

STATE OF MICHIGAN
DEPARTMENT OF STATE HIGHWAYS
STANDARD PLAN FOR

BARRICADES

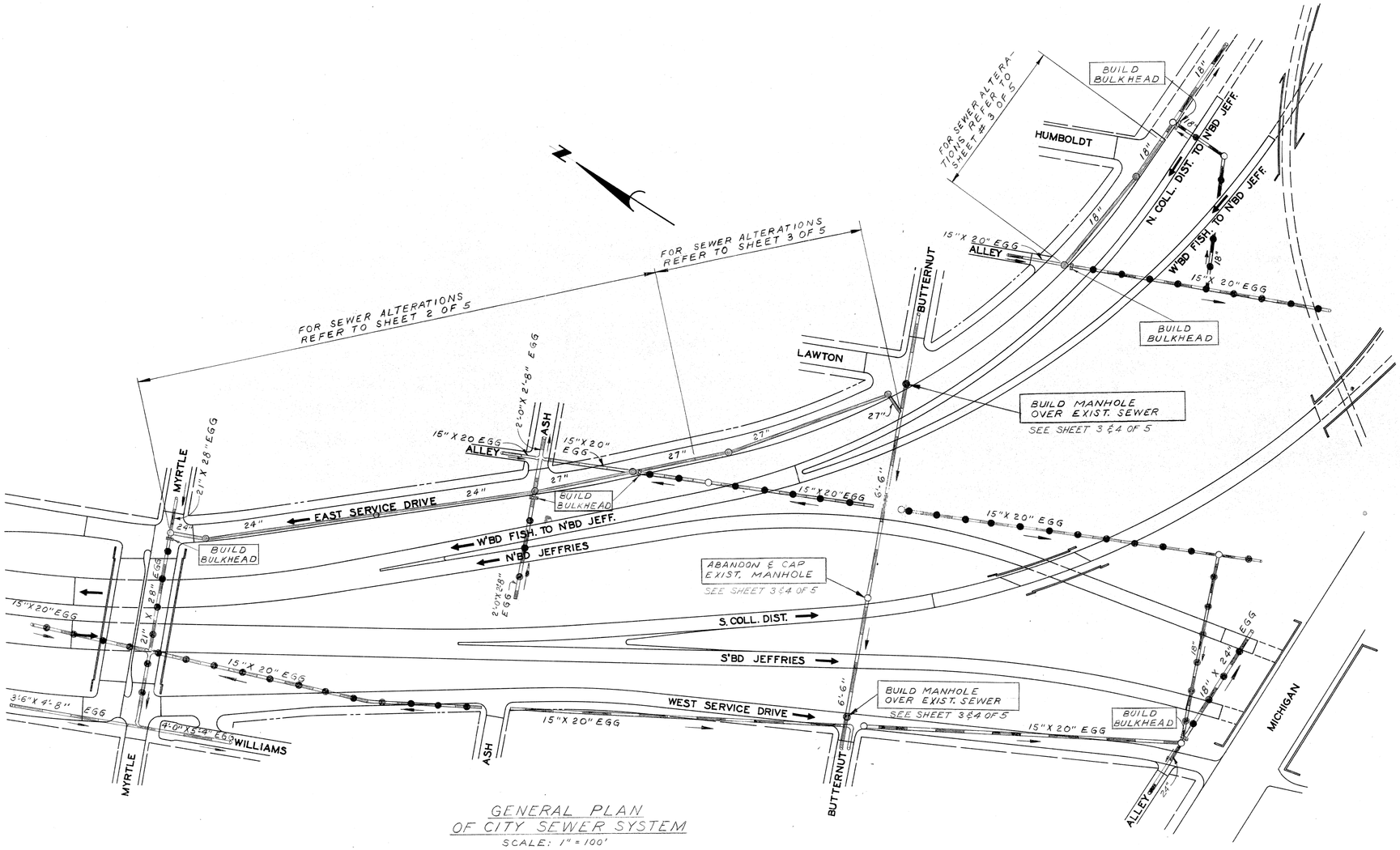
DRAWN BY _____ CHECKED BY _____ TRACED BY _____ APPROVED B.P.R. _____

B.P.R. DIV. NO.	STATE	PROJ. NO.		FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.					
ROUTE	STATE PROJECT	COUNTY			SHEET NO.	TOTAL SHEETS

B.P.R. DIV. NO.	STATE	PROJ. NO.		FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.					
ROUTE	STATE PROJECT	COUNTY	City		SHEET NO.	TOTAL SHEETS
I-96	82124-002	Wayne	Detroit	76		

GENERAL NOTES:

1. ALL SEWERS OF RECORD HAVE BEEN SHOWN ON THE PLANS. SHOULD ANY ADDITIONAL LIVE SEWERS BE ENCOUNTERED, THEY SHALL BE CONNECTED TO THE NEW SEWER, IF FEASIBLE, IF SUCH IS NOT PRACTICABLE, THE MATTER SHALL BE REFERRED TO THE SEWER DESIGN OFFICE OF THE DETROIT METROPOLITAN WATER SERVICES. ALL SUCH WORK NOT BID ON OR OTHERWISE COVERED SHALL BE PAID FOR IN ACCORDANCE WITH CURRENT M.D.S.H. SPECIFICATIONS FOR EXTRA WORK.
2. FOR DRAINAGE STRUCTURES AND SEWERS FOR THE FREEWAY, RAMPS AND SERVICE ROADS, SEE ROADWAY PLANS.
3. DRY WEATHER AND STORM FLOW SHALL BE MAINTAINED DURING CONSTRUCTION AS APPROVED BY THE ENGINEER.
4. ALL ELEVATIONS SHOWN FOR CITY SEWER ALTERATIONS ARE CITY OF DETROIT DATUM. TO CONVERT TO U.S.G.S. DATUM, ADD 479.755 TO ELEVATIONS SHOWN.
5. FOR DISPOSITION OF SEWERS AND MANHOLES TO BE ABANDONED, SEE BRIDGE AND ROAD PLANS.
6. OTHER UTILITY ALTERATIONS HAVE NOT BEEN SHOWN ON THE SEWER ALTERATION DRAWINGS. THE WATER SYSTEM AND PUBLIC LIGHTING COMMISSION ALTERATION DRAWINGS SHOULD BE REFERRED TO ELSEWHERE IN THESE CONTRACT DRAWINGS, INCLUDING THE WATER SYSTEM SEQUENCE OF OPERATIONS CONTAINED IN THE SUPPLEMENTAL SPECIFICATIONS. THE OTHER UTILITIES SHOULD BE CONSULTED REGARDING THEIR ALTERATIONS.
7. FORMER OR EXISTING BUILDINGS SHOWN THUS: [---]. ONLY BUILDINGS THAT WERE, OR ARE, IN CLOSE PROXIMITY TO NEW SEWER CONSTRUCTION ARE SHOWN.



GENERAL PLAN
OF CITY SEWER SYSTEM
SCALE: 1" = 100'

LEGEND

EXISTING SEWER — MANHOLE — DIRECTION OF FLOW

EXISTING SEWER TO BE ABANDONED

PROPOSED SEWER

NOTE:
THE ITEMS "BUILD BULKHEAD" INDICATED ON THIS SHEET ARE INCIDENTAL TO SEWER ALTERATION ITEMS AND WILL NOT BE PAID FOR SEPARATELY.

PLANS PREPARED BY:
DETROIT WATER SERVICE
POLLUTION CONTROL

CORRECT J. S. Dreher	APPROVED H. E. Wells Jr. CHIEF SANITARY ENGINEER	APPROVED R. L. Ide SANITARY ENGINEER
CHECKED A. Stephens		
DATE 3-6-68	DRAWING NO. 1 OF 5	JOB NO. 136-1002-46

J5

MICHIGAN DEPARTMENT OF STATE HIGHWAYS
JEFFRIES FREEWAY (I-96) - SEWER ALTERATIONS
MYRTLE TO HUMBOLDT

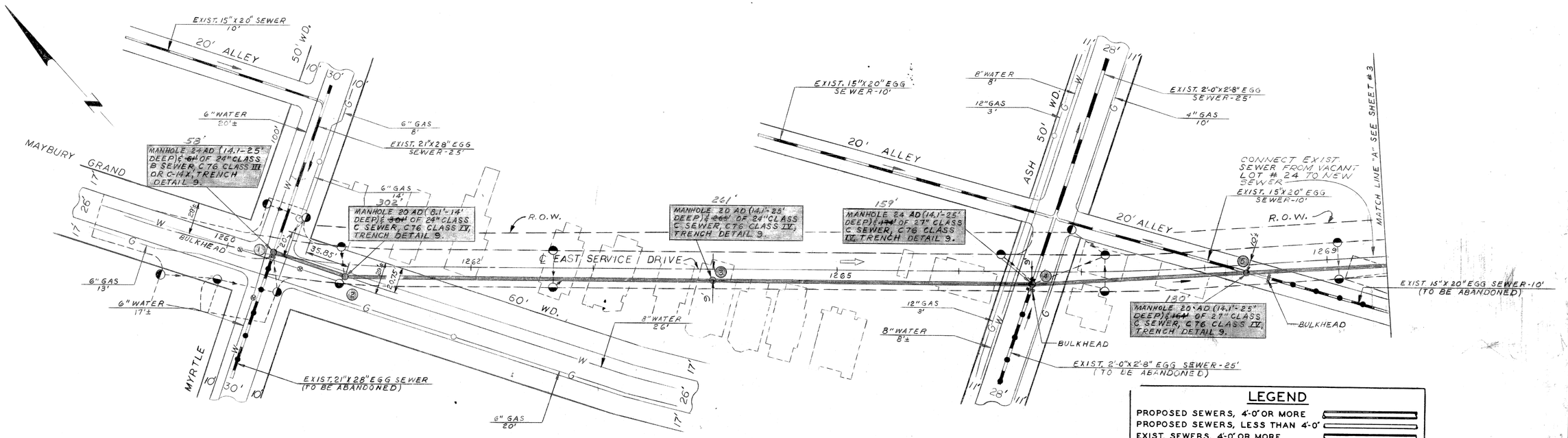
LOCATION PLAN

REVISIONS			
NO	DESCRIPTION	DATE	BY

SQUAD BOSS		
DRAWN BY		
TRACED BY		
CHECKED BY		

SHEET OF

FILE NO. USE NO. 350 STENCIL	82124-002	STATE PROJECT	FEDERAL PROJECT	SHEET NO.
		82124-002	I-96	76

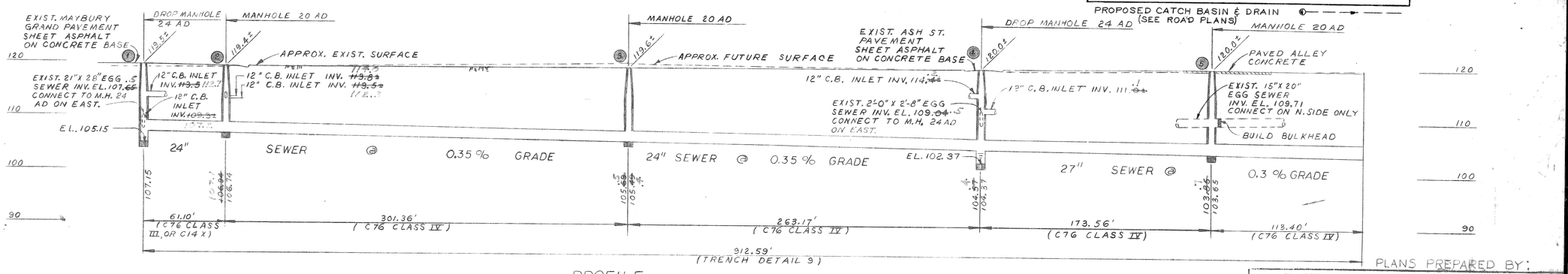


PLAN
SCALE: 1" = 40'

LEGEND

- PROPOSED SEWERS, 4'-0" OR MORE
- PROPOSED SEWERS, LESS THAN 4'-0"
- EXIST. SEWERS, 4'-0" OR MORE
- EXIST. SEWERS, LESS THAN 4'-0"
- CATCH BASIN & DRAIN (NOT SHOWN) (EXISTING)
- WATER, OVER 12" — W —
- WATER, 12" OR LESS — W —
- GAS — G —
- D.E.CO. CONDUIT — E —
- M.B.T. CONDUIT — T —
- P.L.C. CONDUIT — L —

PROPOSED CATCH BASIN & DRAIN (SEE ROAD PLANS)



PROFILE
SCALE: HORZ. 1"=40'
VERT. 1"=10'
A-1022
A-1015 & 1022

QUANTITIES THIS SHEET

24" CLASS "B" SEWER (C14X OR C76, CLASS III) TRENCH DETAIL 9	~~59~~ 57 LF
24" CLASS "C" SEWER (C76 CLASS IV) TRENCH DETAIL 9	~~437~~ 564 LF
27" CLASS "C" SEWER (C76 CLASS IV) TRENCH DETAIL 9	287 LF
MANHOLE 20 AD (8.1'-14' DEEP)	1 EA.
MANHOLE 20 AD (14.1'-25' DEEP)	2 EA.
MANHOLE 24 AD (14.1-25' DEEP)	2 EA.

PLANS PREPARED BY:
DETROIT WATER SERVICE
POLLUTION CONTROL

CORRECT J. Hutter
CHECKED J. Hutter
DATE 3-6-68
APPROVED H. E. Hoffmann ASSISTANT CHIEF ENGINEER
APPROVED R. Bonnell SANITARY ENGINEER
DRAWING NO. 2 OF 5
JOB NO. 136-1002-46

J5

MICHIGAN STATE HIGHWAY DEPARTMENT
JEFFRIES FREEWAY (I-96) SEWER ALTERATIONS
MYRTLE TO HUMBOLDT

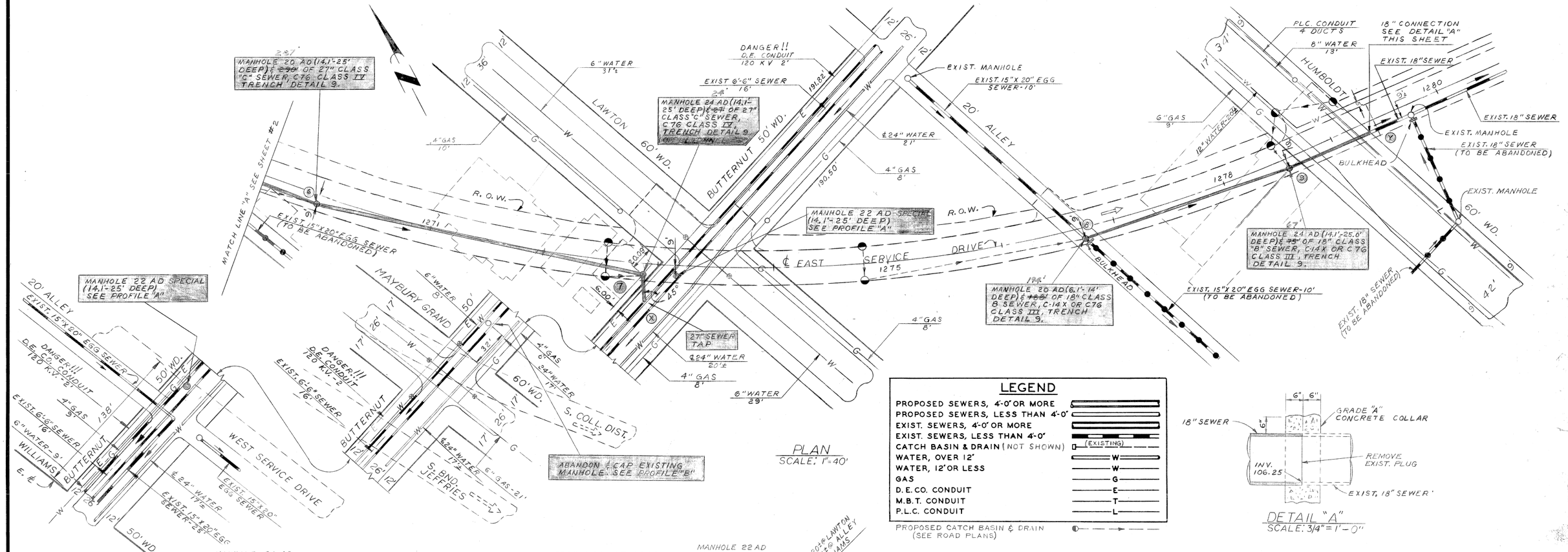
24" & 27" SEWER IN E. SERVICE DRIVE
MYRTLE TO N. OF BUTTERNUT

REVISIONS

NO.	DESCRIPTION	DATE	BY

SQUAD BOSS	
DRAWN BY	
TRACED BY	
CHECKED BY	

SHEET 77 OF
82124-002



QUANTITIES THIS SHEET

18" CLASS "B" SEWER (C14X OR C76 CLASS III) TRENCH DETAIL 9	~~261~~ 263 LF	A-1022
27" CLASS "C" SEWER (C76 CLASS IV) TRENCH DETAIL 9	~~339~~ 341 LF	A-1022
27" CLASS "C" SEWER (C76 CLASS IV) TRENCH DETAIL 9 OR IN TUNNEL	~~24~~ 27 LF	A-1022
MANHOLE 20 AD (8.1'-14' DEEP)	1 EA.	
MANHOLE 20 AD (14.1'-25' DEEP)	1 EA.	
DROP MANHOLE 24 AD (14.1'-25' DEEP)	2 EA.	
MANHOLE 22 AD SPECIAL (14.1'-25' DEEP)	2 EA.	
ABANDON AND CAP EXISTING MANHOLE	1 EA.	
27" SEWER TAP	1 EA.	

PLANS PREPARED BY:
DETROIT WATER SERVICE
POLLUTION CONTROL

CORRECT	APPROVED	APPROVED	
CHECKED	ASSISTANT ENGINEER	SANITARY ENGINEER	
DATE 3-6-68	DRAWING NO. 3 OF 5	JOB NO. 136-1002-46	

J5

MICHIGAN STATE HIGHWAY DEPARTMENT

JEFFRIES FREEWAY (I-96) SEWER ALTERATIONS
MYRTLE TO HUMBOLDT

18" & 27" SEWER IN EAST SERVICE DRIVE
N. OF BUTTERNUT, TO HUMBOLDT

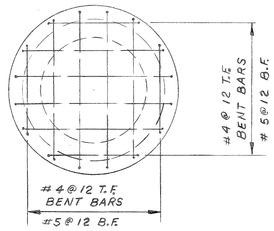
REVISIONS

NO.	DESCRIPTION	DATE	BY

SQUAD BOSS			
DRAWN BY			
TRACED BY			
CHECKED BY			

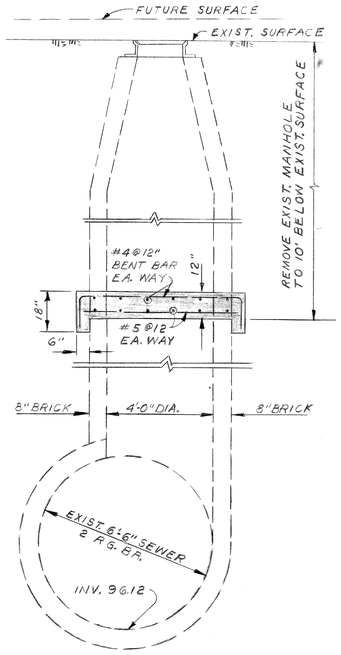
SHEET 7B OF

82124-002



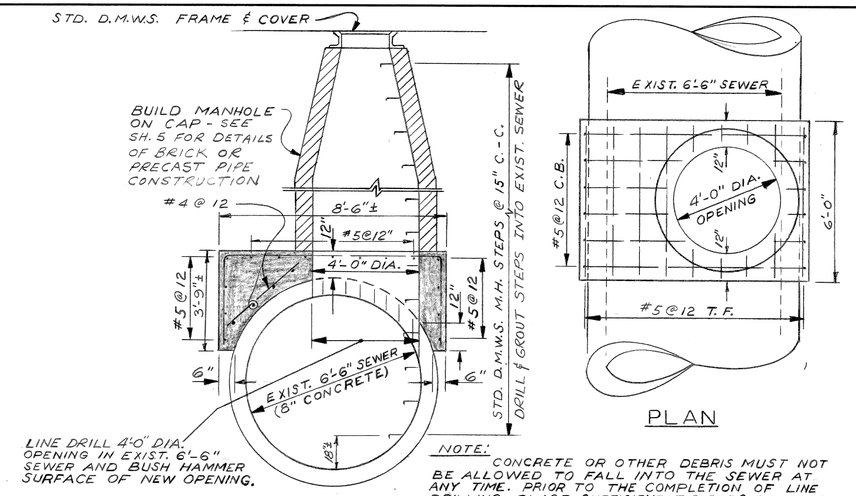
CAP PLAN

SCALE $\frac{3}{8}$" = 1'-0"



DETAIL OF REINF CONC. CAP OVER EXIST. MANHOLE ON EXIST. 6'-6" SEWER

SCALE $\frac{3}{8}$" = 1'-0"

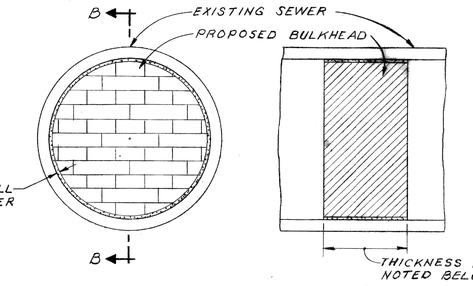


NOTE:
CONCRETE OR OTHER DEBRIS MUST NOT BE ALLOWED TO FALL INTO THE SEWER AT ANY TIME. PRIOR TO THE COMPLETION OF LINE DRILLING, PLACE SUFFICIENT TIE RODS, OR OTHER MEANS OF SUPPORT, TO THE PORTION OF THE WALL TO BE REMOVED.

DETAIL "A" - MANHOLE 22 AD SPECIAL

SCALE: $\frac{3}{8}$" = 1'-0"

PLAN

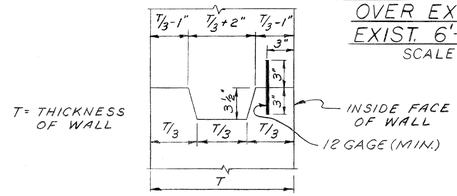


SECTION B-B

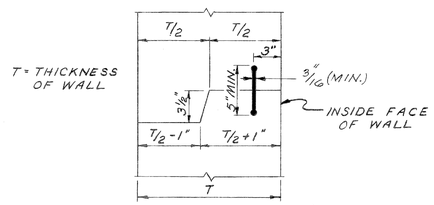
TYPICAL BULKHEAD DETAIL

NO SCALE

GENERAL NOTES:
1. ALL BULKHEADS SHALL BE BUILT OF BRICK. THE THICKNESS OF EACH BULKHEAD SHALL EQUAL $\frac{1}{2}$ THE DIAMETER OF THE EXISTING SEWER BUT NOT LESS THAN 12".
2. SURFACE OF CONTACT BETWEEN EXISTING SEWER AND NEW BULKHEAD SHALL BE THOROUGHLY WIRE BRUSHED, CLEANED, AND WETTED BEFORE BUILDING BULKHEAD.
3. CARE SHALL BE EXERCISED IN PLACING BULKHEADS TO INSURE A TIGHT SEAL.
4. NO BRICK OR BRICK FRAGMENT SHALL BE IN CONTACT WITH THE WALL OF THE SEWER TO BE BULKHEADED.



(SHOWING METAL TYPE WATERSTOP)



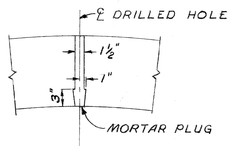
(SHOWING RUBBER TYPE WATERSTOP)

NOTE:
EITHER TYPE OF WATERSTOP MAY BE USED WITH EITHER TYPE OF CONSTRUCTION JOINT.

ALTERNATE CONSTRUCTION JOINTS AND WATERSTOP DETAIL

NO SCALE

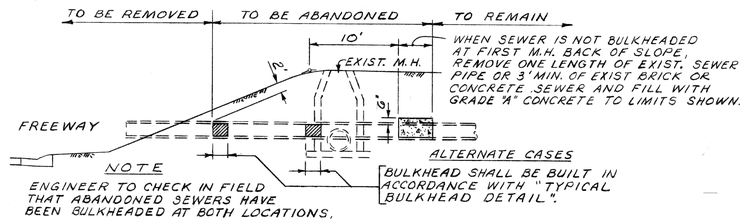
NOTE:
WATERSTOPS REQUIRED ONLY WHERE SPECIFIED ELSEWHERE IN THESE PLANS



ALTERNATE GROUT HOLE

NO SCALE

SEE NOTE BELOW



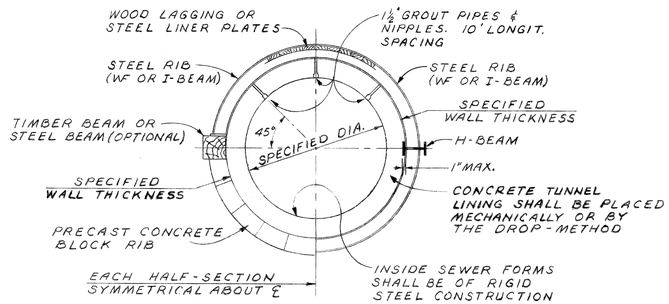
WHEN SEWER IS NOT BULKHEADED AT FIRST M.H. BACK OF SLOPE, REMOVE ONE LENGTH OF EXIST. SEWER PIPE OR 3' MIN. OF EXIST BRICK OR CONCRETE SEWER AND FILL WITH GRADE "A" CONCRETE TO LIMITS SHOWN.

SKETCH SHOWING METHOD FOR BULKHEADING EXISTING SEVERED SEWERS

NO SCALE

NOTES
EITHER FULL RING OF STEEL RIBS & LAGGING OR ½ RING OF STEEL RIBS & LAGGING AND ½ RING OF CONCRETE BLOCK CONSTRUCTION METHOD MAY BE USED.

PROTRUSION OF STEEL RIBS & TIMBER BEAMS INTO THE SEWER WALL WILL NOT BE PERMITTED. PROTRUSION OF H-BEAM INTO THE SEWER WALL SHALL NOT EXCEED 1".



STEEL ARCH WITH CONCRETE BLOCK INVERT

COMPLETE STEEL RIBS

TYPICAL TUNNEL SECTION

NO SCALE

NOTE:
"MANHOLE 22 AD SPECIAL" WILL BE PAID FOR AS A LUMP SUM, WHICH PRICE SHALL BE PAYMENT IN FULL FOR ALL LABOR, EQUIPMENT, AND MATERIALS REQUIRED FOR EXCAVATION, BRACING, REMOVAL OF A PORTION OF EXISTING CONCRETE SEWER, FORMWORK, REINFORCED CONCRETE, ALL MATERIALS FOR THE MANHOLE UNIT AND APPURTENANCES, BACKFILL, PAVEMENT REMOVAL AND REPLACEMENT, DISPOSAL OF WASTE MATERIAL AND ALL OTHER INCIDENTAL ITEMS OF WORK TO CONSTRUCT THE STRUCTURE COMPLETE AS DETAILED.

REVISIONS	

K&E 17-0153 5-64•

PLANS PREPARED BY:

DETROIT WATER SERVICE
POLLUTION CONTROL

CORRECT R.E. Burke	APPROVED R.S. Weisman ASSISTANT CHIEF ENGINEER	APPROVED R. Bonnell SANITARY ENGINEER	
CHECKED L. Hughes	DRAWING NO. 4 OF 5	JOB NO. 136-1002-46	
DATE 3-6-68			

JS

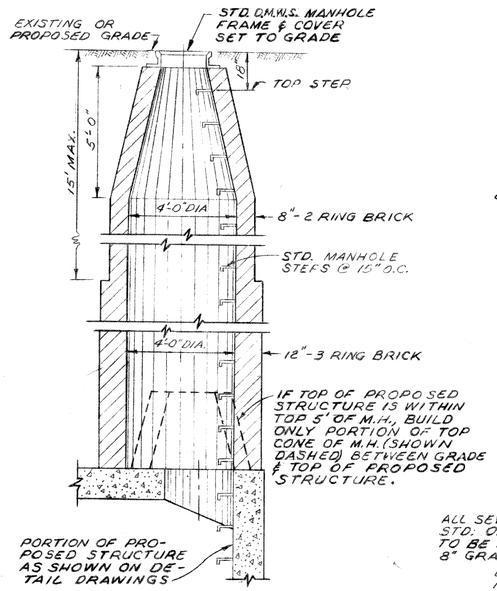
MICHIGAN STATE HIGHWAY DEPARTMENT

JEFFRIES FREEWAY (I-96) SEWER ALTERATIONS
MYRTLE TO HUMBOLDT

MISCELLANEOUS SEWER DETAILS

ISSUE NO.	DATE
COUNTY JOB	SHEET NO. 79
STATE PROJECT	

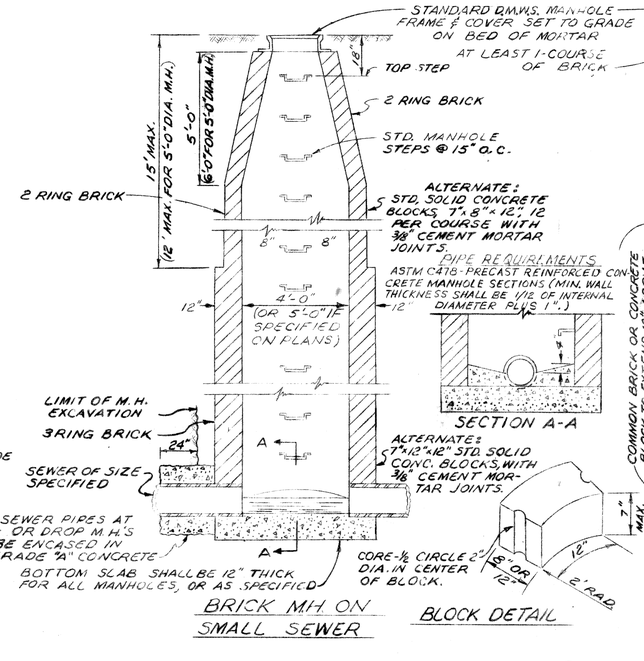
82124-002



TYPICAL MANHOLE ON BOX SECTION

SCALE: 3/8"=1'-0"

(MANHOLE 21 AD)



BRICK MH ON SMALL SEWER

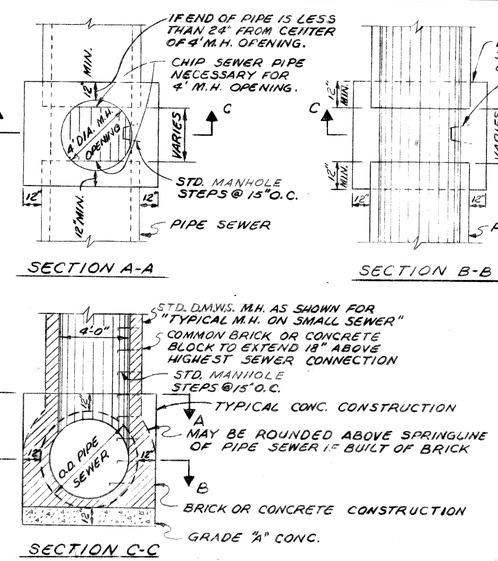
BLOCK DETAIL

PRECAST M.H. ON SMALL SEWER

ALTERNATE CONSTRUCTION

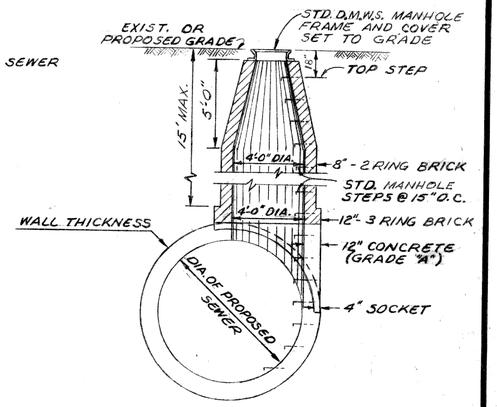
SCALE: 3/8"=1'-0"

(MANHOLE 20 AD)



TYPICAL MANHOLE ON LARGE PIPE SEWERS

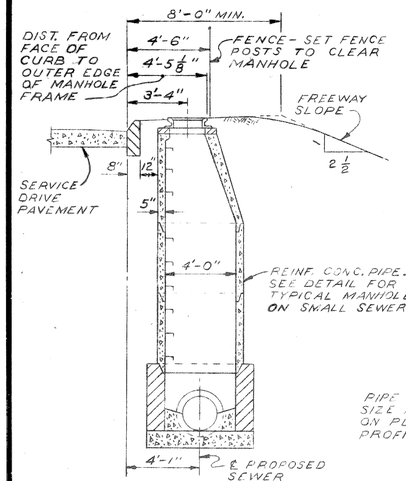
SCALE: 1/4"=1'-0"



TYPICAL MANHOLE ON CIRCULAR SECTION

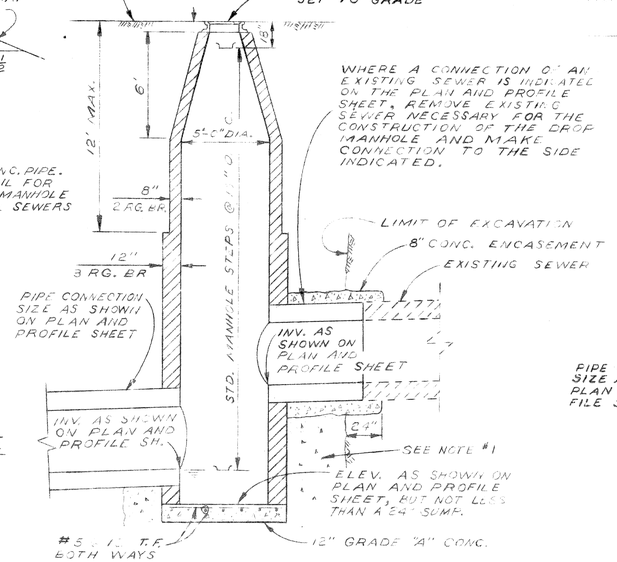
SCALE: 1/4"=1'-0"

(MANHOLE 22 AD)



DETAIL OF TYPICAL MANHOLE LOCATION BACK OF SERVICE DRIVE

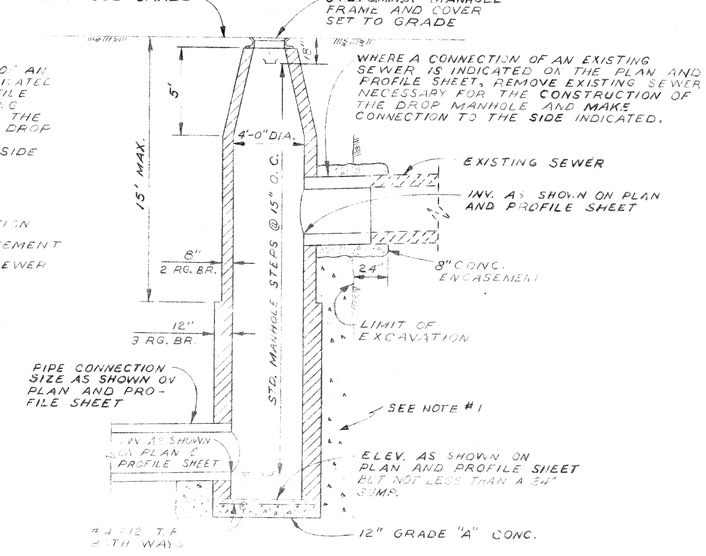
SCALE: 1/4"=1'-0"



TYPICAL DROP MANHOLE (5'-0" DIA.) AND CONNECTION DETAILS

SCALE: 1/4"=1'-0"

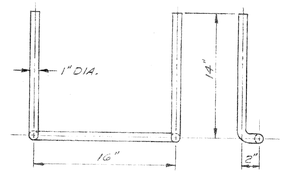
(DROP MANHOLE 23 AL-1'-0" DIA.)



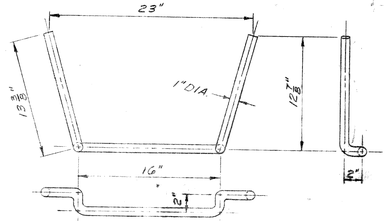
TYPICAL DROP MANHOLE AND CONNECTION DETAILS

SCALE: 1/4"=1'-0"

(DROP MANHOLE 24 AD)



FOR USE WITH PRECAST PIPE MANHOLE ONLY



FOR USE WITH ALL CONSTRUCTION OTHER THAN PRECAST PIPE

STANDARD MANHOLE STEP

SCALE 1 1/2"=1'-0"

NOTES:

1. GRADE "X" CONCRETE BACKFILL OR OPTIONAL MASONRY PIER SUPPORT SHALL BE CONSTRUCTED UNDER ALL UNSUPPORTED CONNECTIONS INTO MANHOLES.
2. MANHOLES BUILT OF BRICK OR CONCRETE BLOCK MASONRY SHALL BE COATED ON THE OUTSIDE WITH MORTAR, 1/2" THICK.

D.M.W.S. SPECIAL DETAIL FOR MANHOLES

REVISED 6-23-67

B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY		SHEET NO.	TOTAL SHEETS

B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY	67-68	SHEET NO.	TOTAL SHEETS
I-96	82124-002	Wayne	Detroit	80	

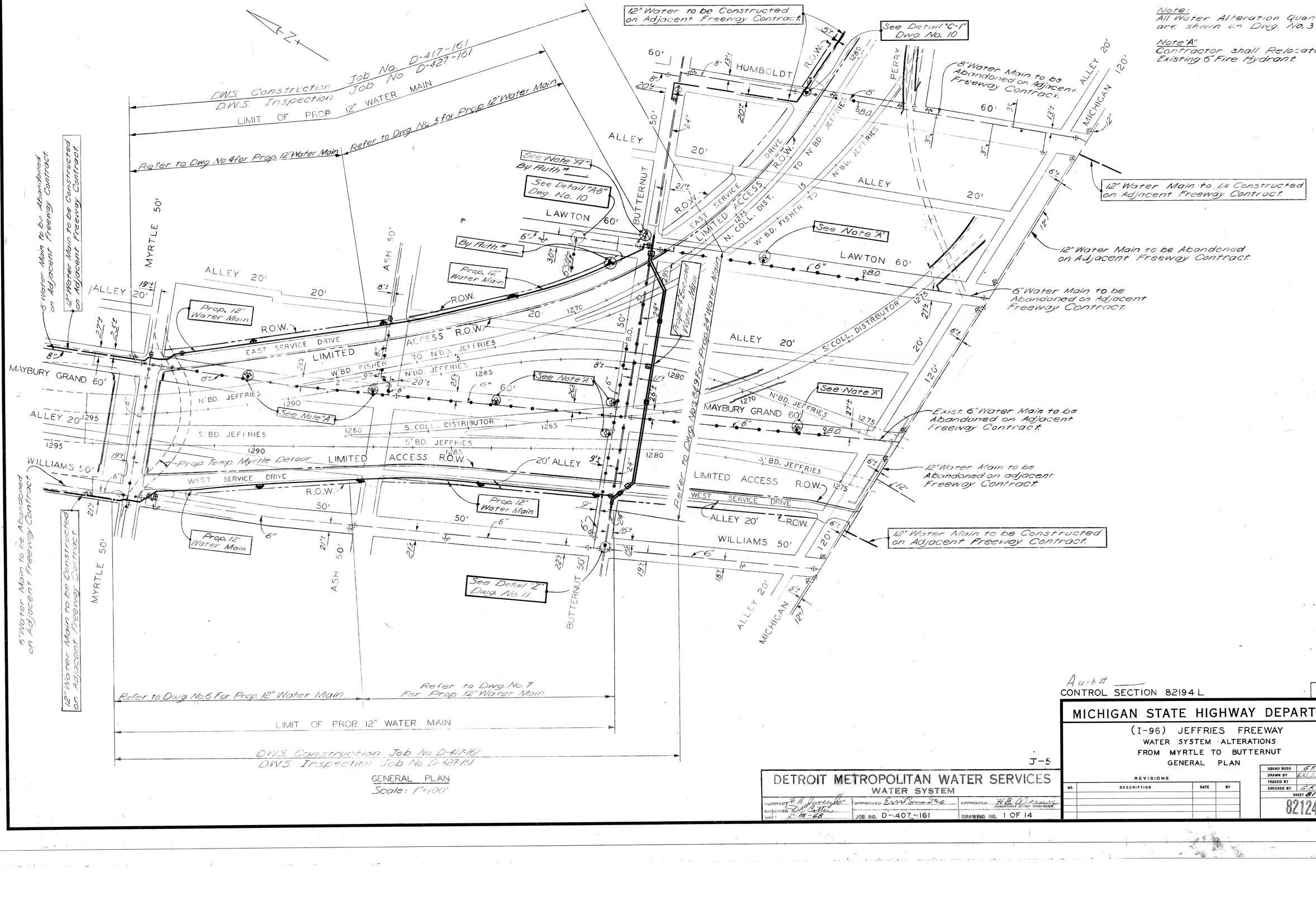
PLANS PREPARED BY:

DETROIT WATER SERVICE
POLLUTION CONTROL

CORRECT	APPROVED H.E. Weaver, ASSISTANT CHIEF ENGINEER	APPROVED R. Smith, SANITARY ENGINEER	
CHECKED			
DATE 3-6-68	DRAWING NO. 5 OF 5	JOB NO. 136-1002-46	

J5

FILE NO. USE NO. 380 STENCIL	82124-002	STATE PROJECT	FEDERAL PROJECT	SHEET NO.
		APPROVED	398	50



GENERAL PLAN
Scale: 1"=100'

Note:
All Water Alteration Quantities are shown on Dwg. No. 3

Note "A"
Contractor shall Relocate Existing 6" Fire Hydrant.

Auth #

CONTROL SECTION 82194 L

18-I

J-5

DETROIT METROPOLITAN WATER SERVICES
WATER SYSTEM

SURVEYED	H. H. Jones Jr.	APPROVED	Ernest Bruce 3-6-68
CHECKED	W. Cotter	APPROVED	H. B. Wrenn ASSISTANT CHIEF ENGINEER
DATE	2-15-68	JOB NO.	D-407-161
		DRAWING NO.	1 OF 14

MICHIGAN STATE HIGHWAY DEPARTMENT

(I-96) JEFFRIES FREEWAY
WATER SYSTEM ALTERATIONS
FROM MYRTLE TO BUTTERNUT
GENERAL PLAN

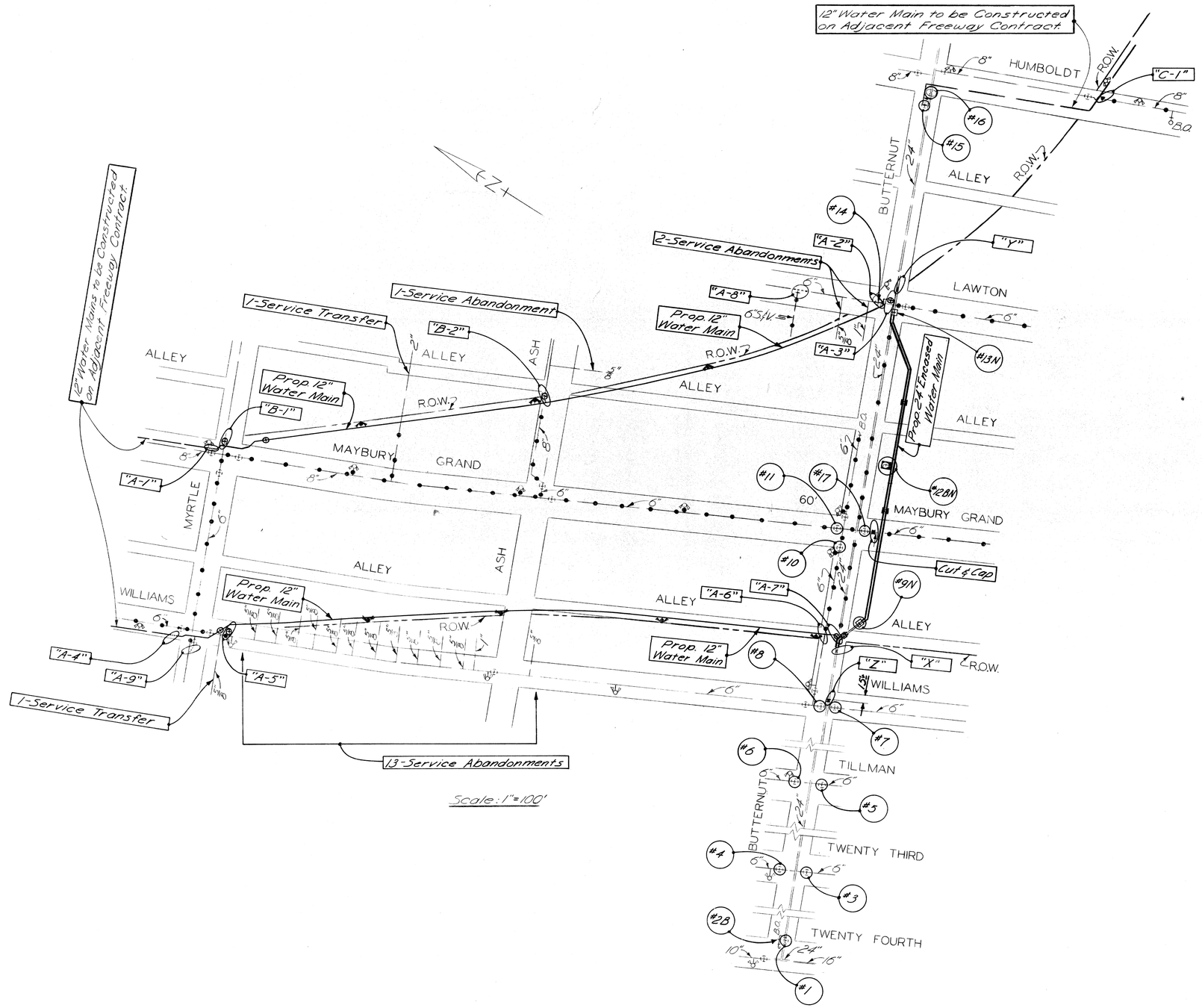
REVISIONS

NO.	DESCRIPTION	DATE	BY

SQUAD BOSS	G.F.L.	2-68
DRAWN BY	V.W.J.C.C.E.	1-68
TRACED BY		
CHECKED BY	G.F.L.	2-68

SHEET 81 OF

82124-002



Note
All Water Alteration Quantities are shown on Dwg. No. 3.

NOTES FOR VALVING AND SEQUENCE OF OPERATIONS

Valve No's (#) shown on this Dwg. refer to the valves mentioned in the "Sequence of Operations" portion of the Water Main Alteration Specifications which are included in the Proposal.

Valves indicated with the suffix "B" refer to Blow-off Valves; those with the suffix "N" refer to new valves.

Boxed numbers and/or letters indicate Connections. Refer to Dwg. No's. 10 & 11.

NOTES FOR WATER SERVICES

Services larger than 2" in Diameter are Water Mains (Not Services) insofar as this Contract is concerned.

Excavation and backfilling for the entire work shall be done by the Contractor. "Service Abandonments" shall be as specified in the proposal.

The Contractor shall furnish and install all waterworks material required for the entire Contract, except for service connection materials.

Existing service connections in the vicinity of Contractor's trench are shown in accordance with D.W.S. records and no guarantee is made as to Completeness or accuracy.

Service Abandonments - 16 each
Service Transfers - 2 each

J-5

DETROIT METROPOLITAN WATER SERVICES
WATER SYSTEM

CORRECT		APPROVED	APPROVED
CHECKED			ASSISTANT CHIEF ENGINEER
DATE 2-15-68		JOB NO. D-407-161	DRAWING NO. 2 OF 14

CONTROL SECTION 82194 L

18-I

MICHIGAN STATE HIGHWAY DEPARTMENT

(I-96) JEFFRIES FREEWAY
WATER SYSTEM ALTERATIONS
WATER SERVICES AND VALVING FOR SEQUENCE OF OPERATIONS

REVISIONS			
NO.	DESCRIPTION	DATE	BY

SQUAD BOSS	G.F.L.	2-68
DRAWN BY		
TRACED BY		1-68
CHECKED BY	G.F.L.	2-68

SHEET 82 OF

82124-002

GENERAL NOTES

Existing Water Mains, as shown, indicate approximate location only as shown by D.W.S. records and no guarantee is made as to completeness or accuracy.

Elevations of Existing Water Mains are not known. Approximate elevations shown on the profiles are based on the assumption of average depth. The grades of the Proposed Water Mains are subject to change to suit actual elevations of Existing Water Mains.

Excavation and backfilling for the entire work shall be done by the Contractor. "Service Abandonments" shall be as specified in the Proposal.

The Contractor shall furnish and install all water-works material required for the entire Contract, except for service connections.

All Water Main connections shall be made by the Contractor.

Services larger than 2" in diameter are "Water Mains" (Not Services) insofar as this Contract is concerned

Refer to Dwg. No. 2 for Water Service Abandonments and Transfers.

The locations and elevations of existing utilities are shown in accordance with available data. The Contractor shall expose these utilities, where required, to determine actual locations.

Other utilities may be making alterations to their existing systems in the vicinity of the Water Main construction shown on the plans. These utilities should be consulted for the latest information regarding the location of their facilities.

A minimum clearance of one foot vertically and three and one half feet horizontally shall be maintained between the Water Main and other utilities, unless otherwise shown on the plans or approved by the Engineer. If a conflict is indicated between the Water Main and any other utility, that utility should be consulted.

The Reference Numbers called for on the water plans refer to Detroit Department of Water Supply drawing numbers.

The location of Fire Hydrants, as shown, are approximate. D.F.D. will give exact location of Proposed Fire Hydrants prior to installation.

Final choice of Existing Fire Hydrants to be relocated will be subject to D.F.D. approval prior to relocation.

Elevation Datum is U.S.G.S. Datum

See Structural Plans for details and location of bridge piers, bridge abutments, and retaining walls.

See Road Plans for location of proposed detours.

Encasement Details are shown on Dwg. No's 11 & 12.

All Water Alteration Quantities are shown on this Drawing

Valving for Detroit Sequence of Operations is shown on Dwg. No. 2.

Elevations of the Proposed Water Mains shown on the drawings are Subgrade Elevations unless shown otherwise.

Existing and Proposed Surface Elevations shown on the Drawings are along the Center Line of the Proposed Water Mains.

PRESTRESSED CONCRETE PIPE DESIGN NOTES

Prestressed Pipe for Water Mains shall be designed for a minimum earth cover of 10 feet based on ordinary bedding using a load factor of 1.5.

Refer to the Water Main portion of the Supplemental Specifications for additional pipe design requirements.

CONSTRUCTION NOTES

Encasements and Thrust Blocks shall be poured against undisturbed earth. Bottom 3" of Encasement may be poured separate from Encasement and used as a sub-footing.

All Encasements and Thrust Blocks shall terminate at the face of pipe bells.

Removal of abandoned Water Mains as required for clearance to construct the Proposed Water Mains is incidental to Water Main construction.

Sheeting and bracing, where required, shall be installed by the Contractor as incidental to Water Main construction.

Contractor shall construct all Concrete Thrust Blocks and Gate Wells.

Scheduling of the connections shall be governed by the "Sequence of Operations" and "Flushing and Chlorination" specifications which are included in the Water Main portion of the Proposal.
Hydrants are to be a minimum of 6' from face of curb unless otherwise noted on the plans.

Dimensions given from curb are from Pavement Joint Line which is at face of curb.

LEGEND

New Water Main	under 24"	24" and over
Existing Water Main	under 24"	24" and over
Future Water Main	under 24"	24" and over

New Water Main Connection by D.W.S.
Water Mains to be abandoned
New Gate Valve and Well
Existing Gate Valve and Well
New Hydrant or Relocated Hydrant
Existing Hydrant

Existing Sewer or Drain — under 24" — 24" and over

Gas Main
Telephone or Telegraph Conduit or Underground Cable
Electric Power Conduit or Underground Cable
Petroleum Products Line
Steam Line — Size
Trees — Owner
Utility Pole
Boulevard Light
Police or Fire Alarm Box — P.B. — F.B.
Traffic Signal
Mail Box, Parking Meter, or small sign
Large Sign
Gas Stop or Drip
Catch Basin — Proposed — Existing
Sewer Manhole — Proposed — Existing
Pole Anchor
Elevation Control Monument — x B.M.
Existing Ditch
Section Line
Freeway Right of Way Line
Fence
Prop. or Future P.L.C. Pole

WATER SYSTEM ALTERATION QUANTITIES		AS CONSTRUCTED	
ITEM	82194L AMOUNT	82194L AMOUNT	
Concrete Grade "A" (For Water Main Structures)	~~377~~ cu. yds.	379.5	By Auth. #1007-1032 A-1032
Steel Reinforcement (For Water Main Structures)	17,100 lbs.	17580	
Abandoning Gate Wells	5 each	5	
Relocating Hydrants 8	7 each	8	By Auth. #1007
Reconstructing Manholes	1 each	1	
6" C.I. Water Main (Trench Detail-11) ~~64~~	~~56~~ lin. ft.	0	By Auth. #1025 A-1034
6" C.I. Water Main (Trench Detail-12)	~~90~~ lin. ft.	128	A-1025
8" C.I. Water Main (Trench Detail-12)	12 lin. ft.	9	
12" C.I. Water Main (Trench Detail-12) ~~2646~~	~~2641~~ lin. ft.	2688	By Auth. #1025 A-1025
24" C.I. Water Main (Trench Detail-12)	~~15~~ lin. ft.	16.8	
24" Prestressed Conc. Embedded Cyl. Water Main (Trench Detail-11)	420 lin. ft.	399	A-1025
24" Prestressed Conc. Embedded Cyl. Water Main (Trench Detail-12)	298 lin. ft.	319	A-1025
6" Gate Wells	3 each	3	
8" Gate Wells	1 each	1	
12" Gate Wells	4 each	4	
Special 6" Blow-off Wells	1 each	1	
24" Cone Valve Wells	2 each	2	
6" Gate Valves	3 each	3	
8" Gate Valves	1 each	1	
12" Gate Valves	2 each	2	
12" Flanged Gate Valves	2 each	2	
24" Cone Valves	2 each	2	
6" Permanent Blow-offs	1 each	1	
6" Gate Valves and Boxes 8	~~7~~ each	8	By Auth. #1007
Air Valve Wells	3 each	3	
4" C.I. Pipe Drain	63 lin. ft.	70	A-1025
Contractors Connections (16" Dia. and smaller) 14	~~12~~ each	14	By Auth. #1007
Contractors Connections (24" Dia.)	3 each	3	
Service Abandonments	16 each	13	A-1025

Auth. #____
CONTROL SECTION 82194L

DETROIT METROPOLITAN WATER SERVICES
WATER SYSTEM

CORRECT F. A. Jaworski — APPROVED ____ — APPROVED R. E. Warner, ASSISTANT CHIEF ENGINEER
CHECKED D. R. C. Cole
DATE 2-15-68
JOB NO. D-407-161
DRAWING NO. 3 OF 14

J-5

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

GENERAL NOTES AND QUANTITIES

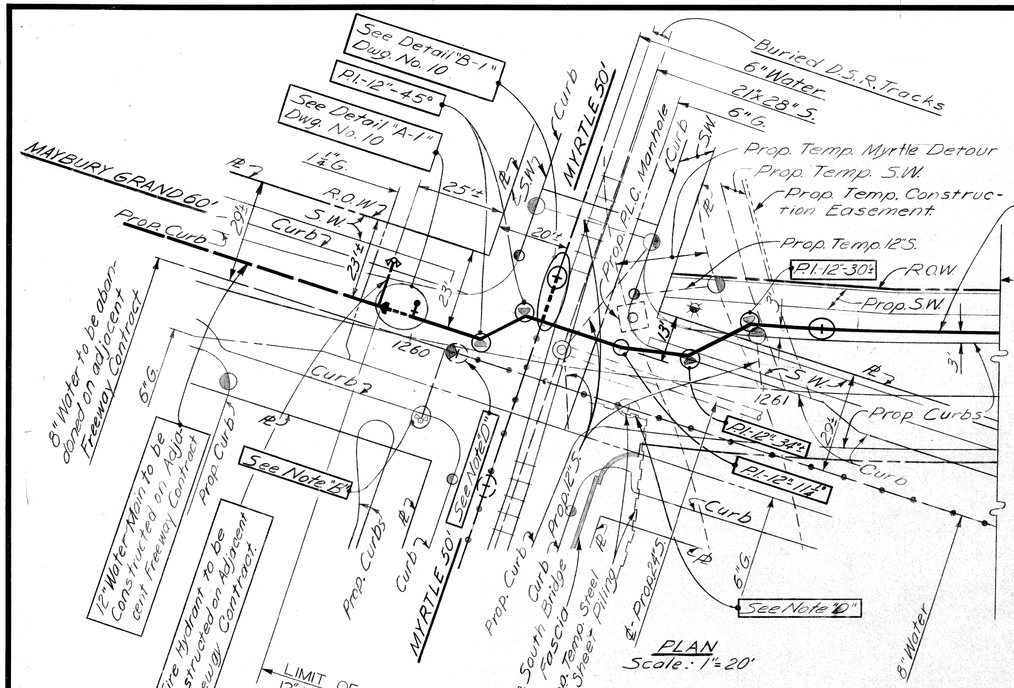
REVISIONS

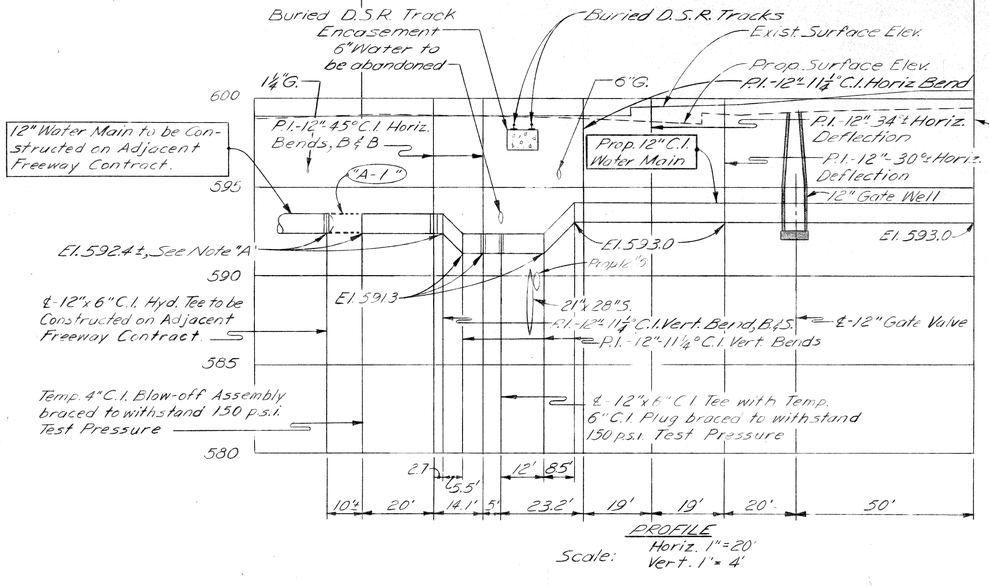
NO.	DESCRIPTION	DATE	BY

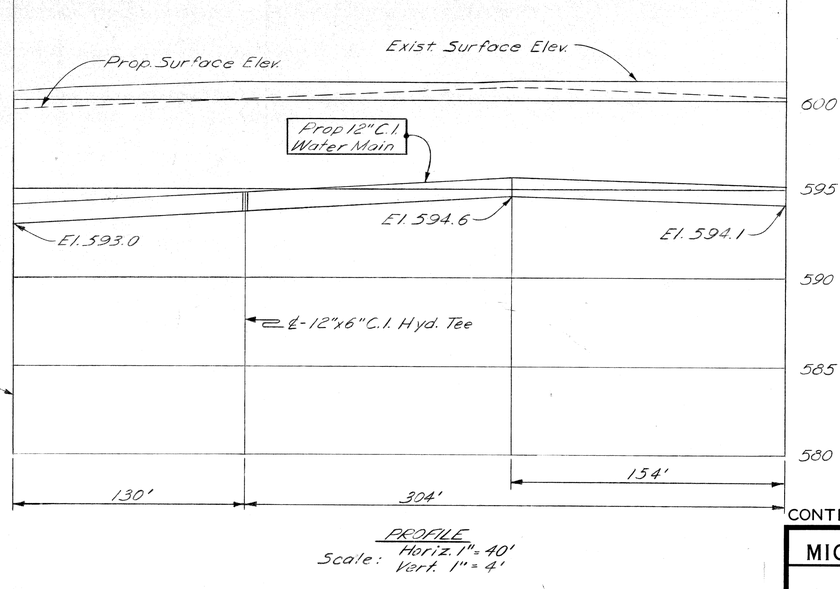
SQUAD BOSS	G.F.L.	2-68
DRAWN BY	G.F.L.	1-68
TRACED BY		
CHECKED BY	G.F.L.	2-68

SHEET 13 OF

82124-002







Notes
All Water Alteration Quantities are shown on Dwg. No. 3.

Dimensions given from curb are from Pavement Joint Line which is at face of curb.

Note "A"
℄-Prop. Water Main shall meet ℄-Exist. Water Main.

Note "B"
Exist. 6" Fire Hydrant to be abandoned on Adjacent Freeway Contract.

Note "C"
Contractor shall install 6" Relocated Fire Hydrant at 6' Min. from face of curb in 8'± of Trench Detail-11.

Note "D"
Contractor shall abandon existing Gate Well.

REFERENCE DRAWINGS

General Plan	Dwg. No. 1
Water Services	Dwg. No. 2
General Notes	Dwg. No. 3
Quantities	Dwg. No. 3
Connection Details	Dwg. No. 10
Miscellaneous Details	Dwg. No. 14

J-5

DETROIT METROPOLITAN WATER SERVICES
WATER SYSTEM

CORRECT	APPROVED	APPROVED ASSISTANT CHIEF ENGINEER
CHECKED D.K. Cotton		
DATE 2-15-68	JOB NO. D-407-161	DRAWING NO. 4 OF 14

CONTROL SECTION 82194 L

18-I

MICHIGAN STATE HIGHWAY DEPARTMENT

(I-96) JEFFRIES FREEWAY
WATER SYSTEM ALTERATIONS EAST SIDE OF FREEWAY
12" WATER MAIN IN EAST SERVICE DRIVE FROM 25' NORTH OF MYRTLE TO 47'N. OF ASH

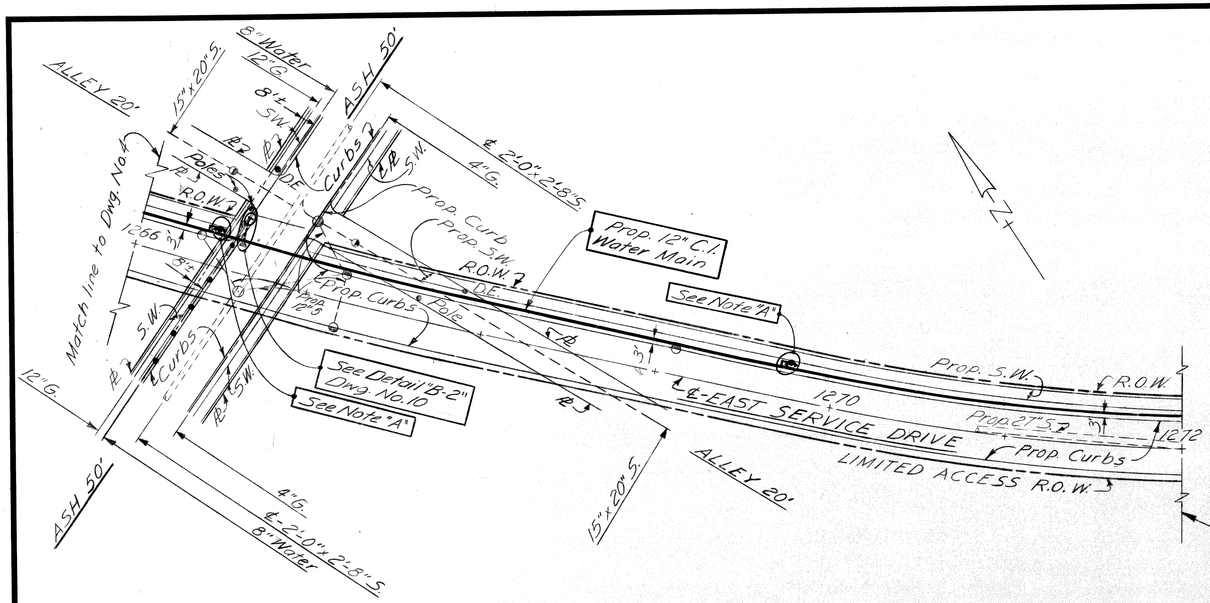
REVISIONS

NO.	DESCRIPTION	DATE	BY

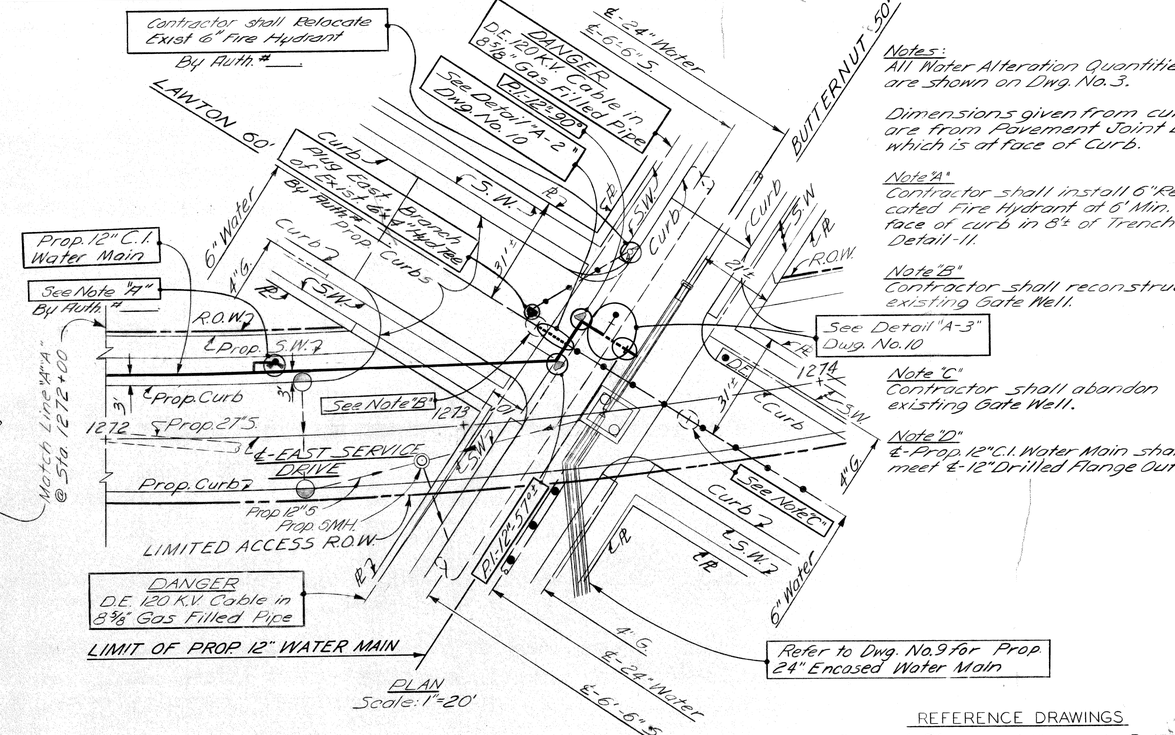
SQUAD BOSS	G.F.L.	2-68
DRAWN BY	J.S., C.E.	1-68
TRACED BY		
CHECKED BY	G.F.L.	2-68

SHEET 84 OF

82124-002



PLAN
Scale: 1"=40'



PLAN
Scale: 1"=20'

Notes:
All Water Alteration Quantities are shown on Dwg. No. 3.

Dimensions given from curb are from Pavement Joint Line which is at face of Curb.

Note "A"
Contractor shall install 6" Relocated Fire Hydrant at 6' Min. from face of curb in 8'± of Trench Detail-11.

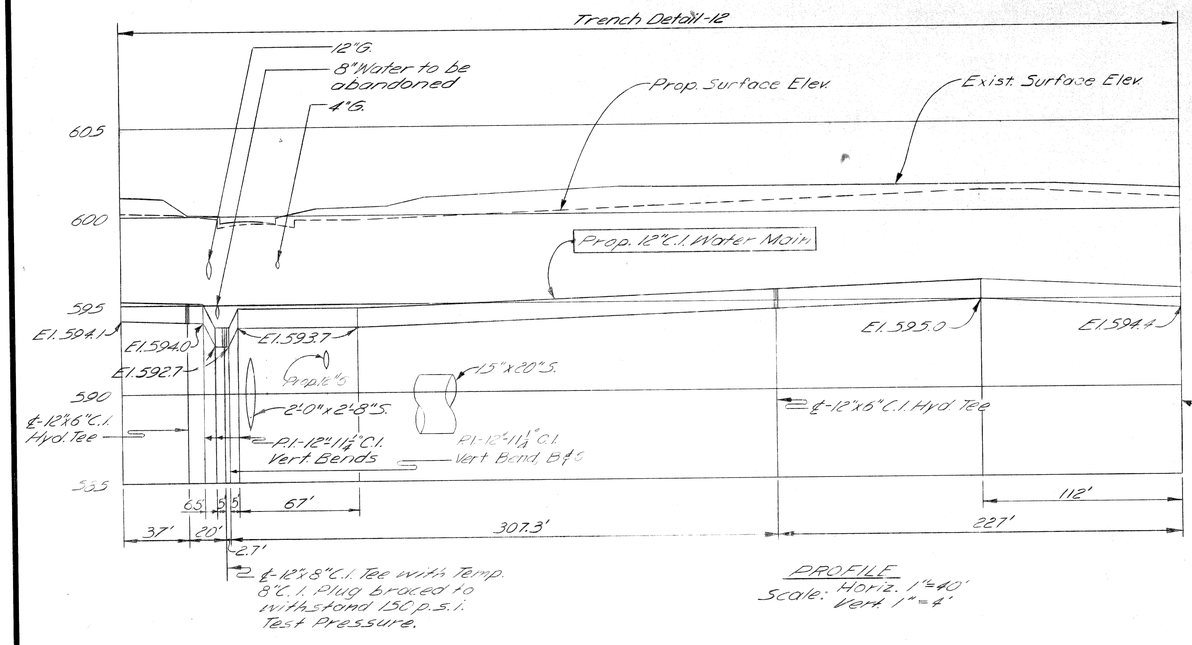
Note "B"
Contractor shall reconstruct existing Gate Well.

Note "C"
Contractor shall abandon existing Gate Well.

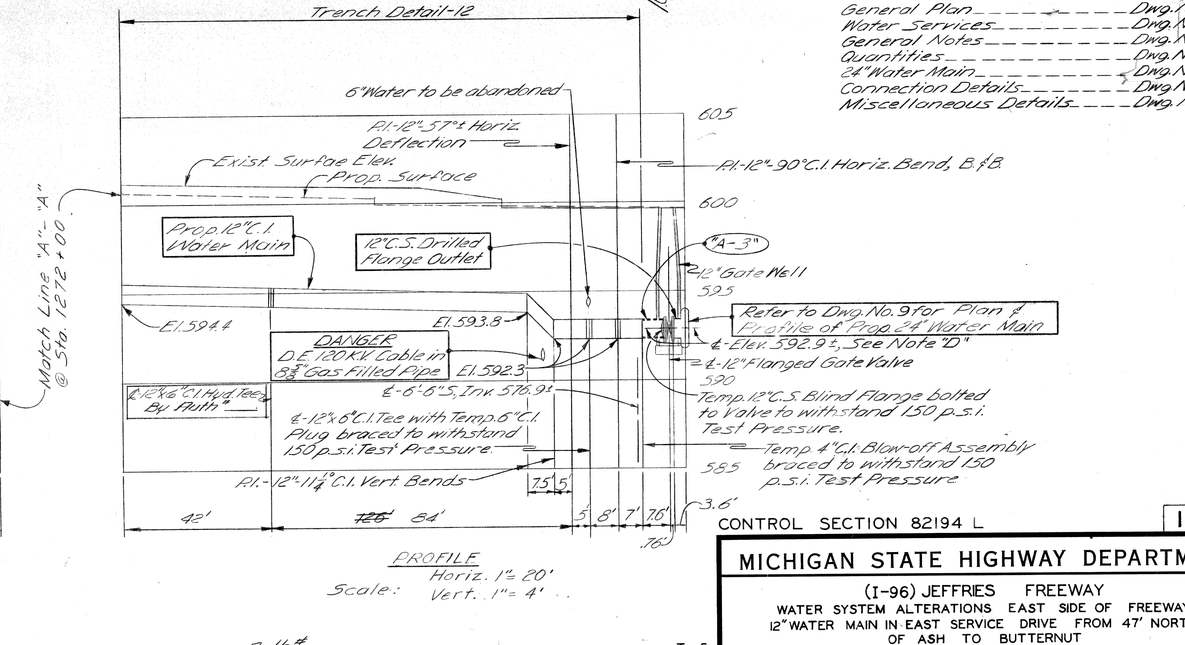
Note "D"
℄-Prop. 12" C.I. Water Main shall meet ℄-12" Drilled Flange Outlet.

REFERENCE DRAWINGS

General Plan	Dwg. No. 1
Water Services	Dwg. No. 2
General Notes	Dwg. No. 3
Quantities	Dwg. No. 3
24" Water Main	Dwg. No. 9
Connection Details	Dwg. No. 10
Miscellaneous Details	Dwg. No. 14



PROFILE
Scale: Horiz. 1"=40'
Vert. 1"=4'



PROFILE
Horiz. 1"= 20'
Scale:
Vert. 1"= 4'

CONTROL SECTION 82194 L

18-I

Auth. # ____ J-5

DETROIT METROPOLITAN WATER SERVICES
WATER SYSTEM

CORRECT [signature]	APPROVED [signature]	APPROVED [signature] ASSISTANT CHIEF ENGINEER
CHECKED F.R. Cutler		
DATE 2-15-68	JOB NO. D-407-161	DRAWING NO. 5 OF 14

MICHIGAN STATE HIGHWAY DEPARTMENT

(I-96) JEFFRIES FREEWAY
WATER SYSTEM ALTERATIONS EAST SIDE OF FREEWAY
12" WATER MAIN IN EAST SERVICE DRIVE FROM 47' NORTH OF ASH TO BUTTERNUT

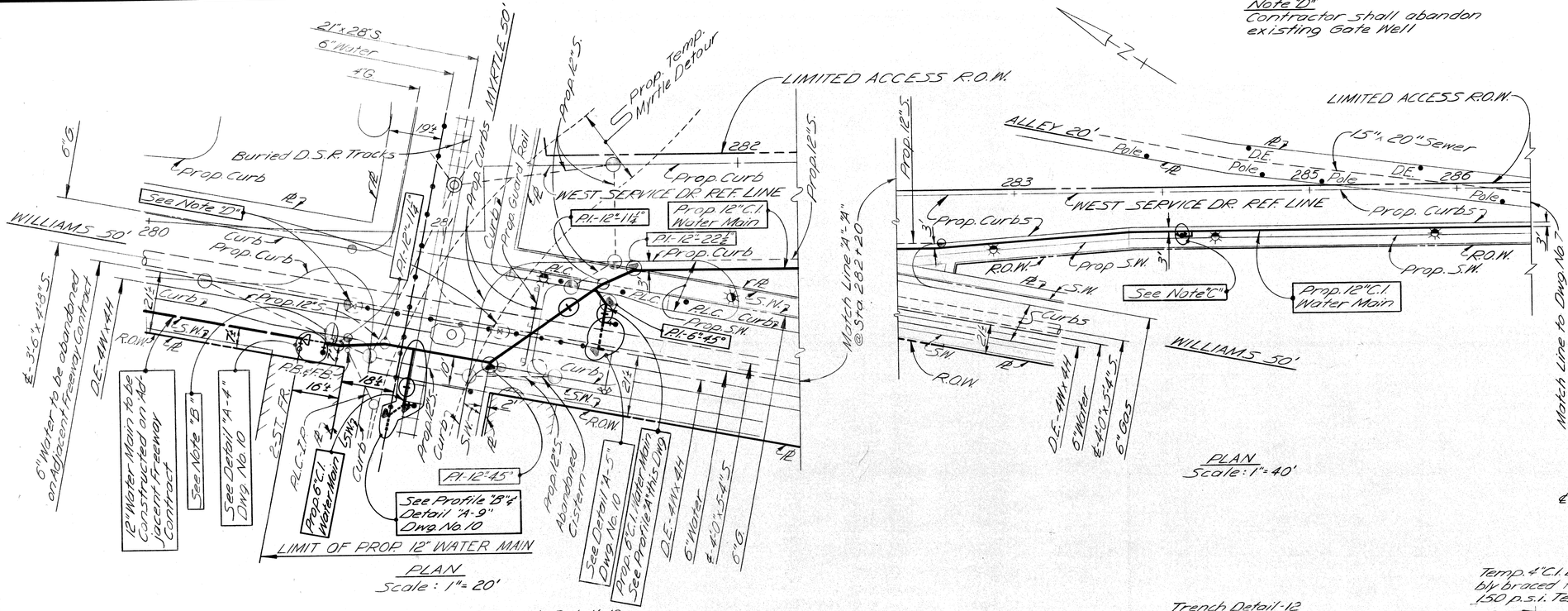
REVISIONS

NO.	DESCRIPTION	DATE	BY

SQUAD BOSS	G.F.L.	2-68
DRAWN BY	J.S./E.D.W.	1-68
TRACED BY		
CHECKED BY	G.F.L.	2-68

SHEET 85 OF

82124-002



REFERENCE DRAWINGS

General Plan	Dwg. No. 1
Water Services	Dwg. No. 2
General Notes	Dwg. No. 3
Quantities	Dwg. No. 3
Connection Details	Dwg. No. 10
Miscellaneous Details	Dwg. No. 14

J-5

CONTROL SECTION 82194 L

18-I

MICHIGAN STATE HIGHWAY DEPARTMENT

(I-96) JEFFRIES FREEWAY

WATER SYSTEM ALTERATIONS WEST SIDE OF FREEWAY 12" WATER MAIN IN WEST SERVICE DRIVE FROM 16' NORTH OF MYRTLE TO 31' N. OF ASH

REVISIONS

NO.	DESCRIPTION	DATE	BY

SQUAD BOSS	G.F.L.	2-68
DRAWN BY	G.F.L.	1-68
TRACED BY		
CHECKED BY	G.F.L.	2-68

SHEET 86 OF

82124-002

DETROIT METROPOLITAN WATER SERVICES

WATER SYSTEM

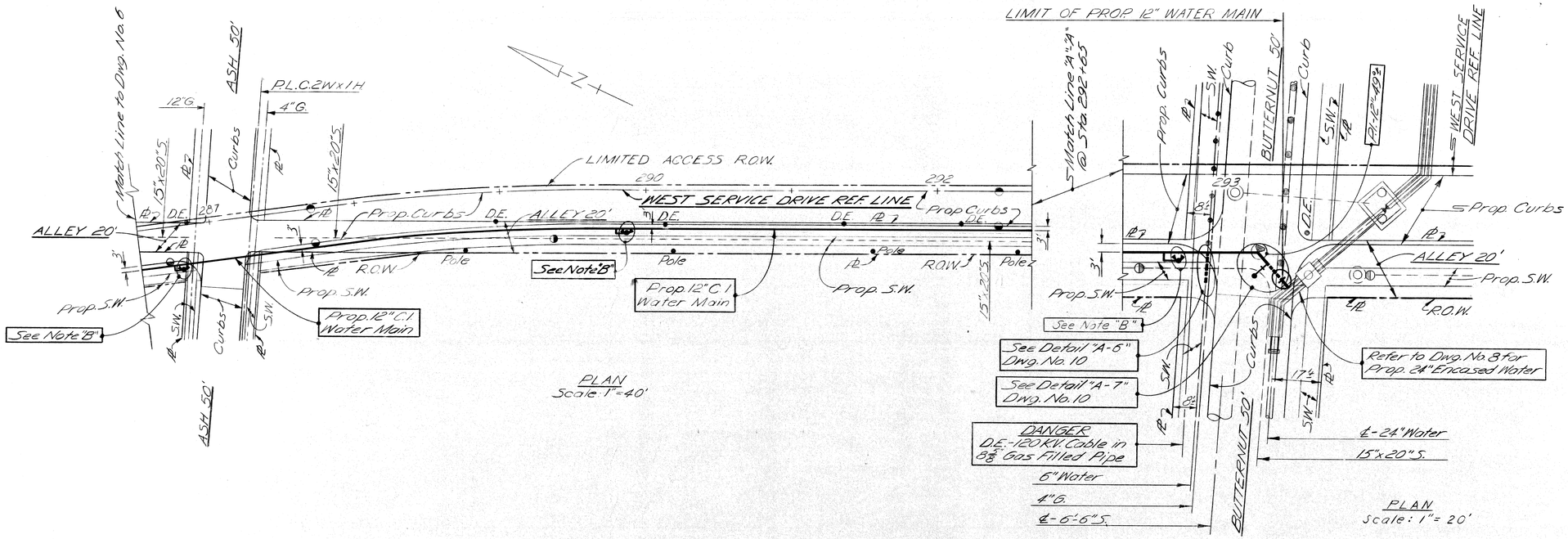
CORRECT H.A. Jentzsch
CHECKED D.P. Catlin
DATE 2-15-68

APPROVED C.W.D.

APPROVED H.E. Wagoner ASSISTANT CHIEF ENGINEER

JOB NO. D-407-161

DRAWING NO. 6 OF 14



PLAN
Scale: 1"=40'

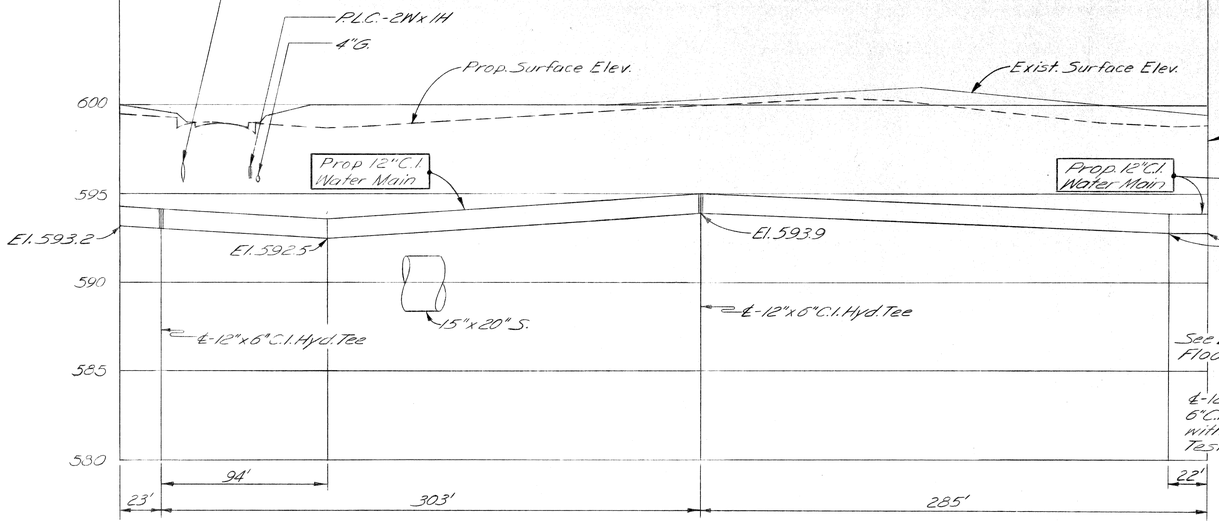
PLAN
Scale: 1"= 20'

Notes:
All Water Alteration Quantities are shown on Dwg. No. 3.

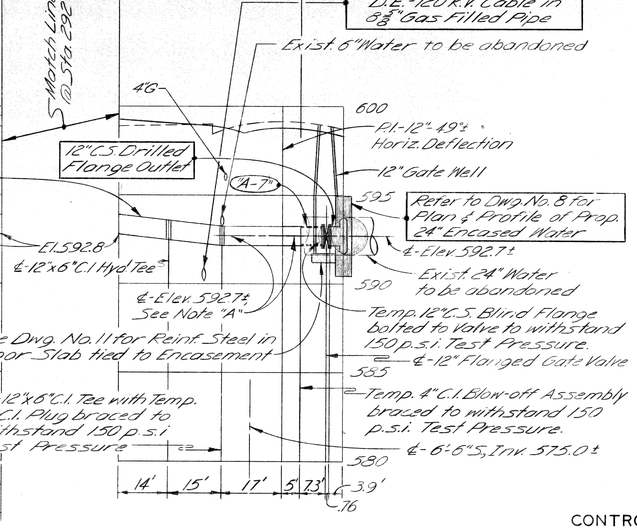
Dimensions given from Curb are from Pavement Joint Line which is at face of curb.

Note "A"
℄-Prop. 12"C.I. Water Main shall meet ℄-Prop. 12" Drilled Flange Outlet.

Note "B"
Contractor shall install 6" Relocated Fire Hydrant at 6' Min. from face of Curb in 8'± of Trench Detail-11.



PROFILE
Scale: Horiz. 1"= 40'
Vert. 1"= 4'



PROFILE
Scale: Horiz. 1"= 20'
Vert. 1"= 4'

REFERENCE DRAWINGS

General Plan	Dwg. No. 1
Water Services	Dwg. No. 2
General Notes	Dwg. No. 3
Quantities	Dwg. No. 3
24" Water Main	Dwg. No. 8
Connection Details	Dwg. No. 10
Well Floor tied to Encasement	Dwg. No. 11
Miscellaneous Details	Dwg. No. 14

J-5

DETROIT METROPOLITAN WATER SERVICES
WATER SYSTEM

CORRECT [illegible]	APPROVED [illegible]	APPROVED [illegible] ASSISTANT CHIEF ENGINEER
CHECKED [illegible]		
DATE 2-15-68	JOB NO. D-407-161	DRAWING NO. 7 OF 14

CONTROL SECTION 82194 L

18-I

MICHIGAN STATE HIGHWAY DEPARTMENT

(I-96) JEFFRIES FREEWAY
WATER SYSTEM ALTERATIONS WEST SIDE OF FREEWAY
12" WATER MAIN IN WEST SERVICE DRIVE FROM 31' NORTH OF ASH TO BUTTERNUT

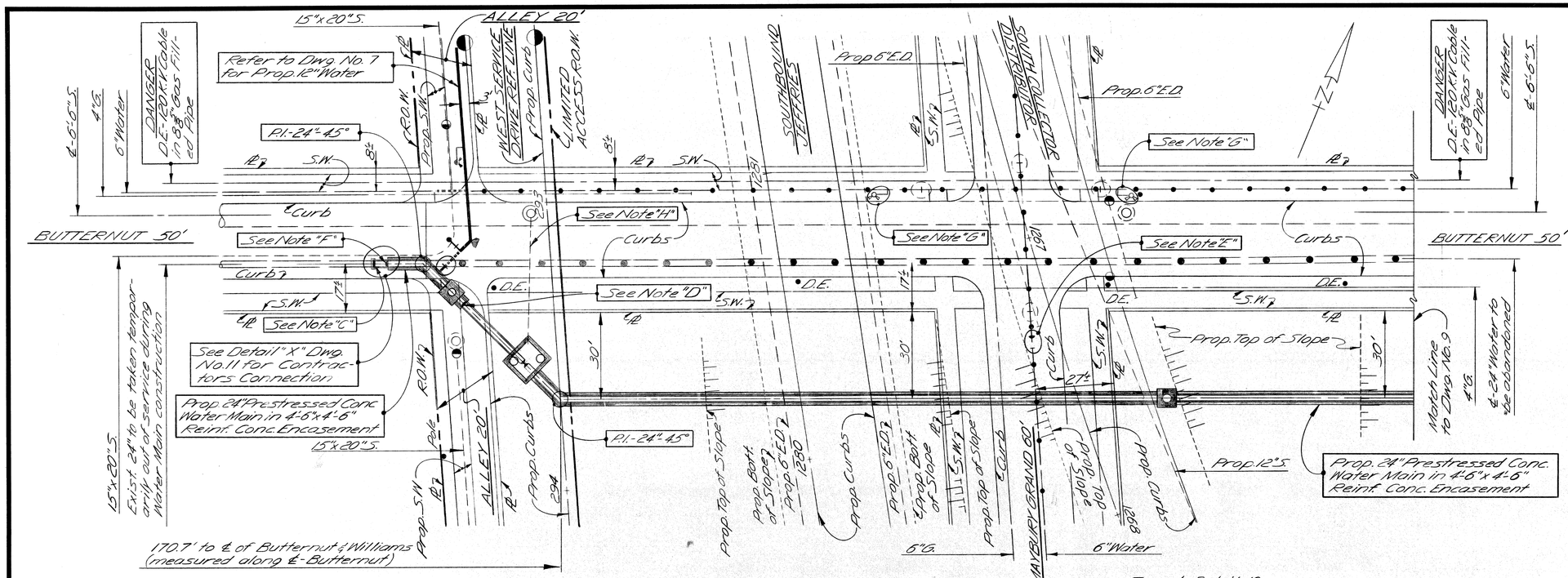
REVISIONS

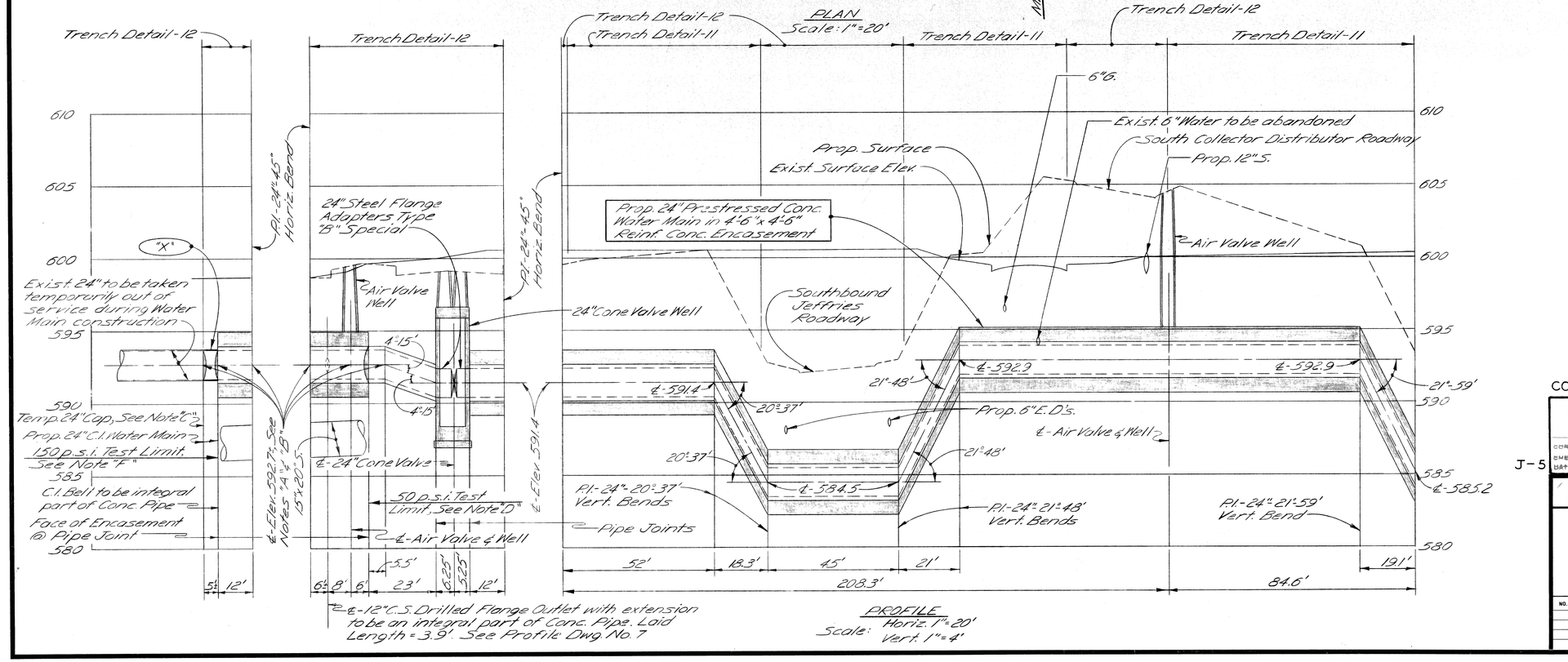
NO.	DESCRIPTION	DATE	BY

SQUAD BOSS	G.F.L.	2-68
DRAWN BY	G.F.L.	1-68
TRACED BY	C.E.	1-68
CHECKED BY	G.F.L.	1-68

SHEET 87 OF

82124-002





PROFILE
Scale: Horiz. 1"=20'
Vert. 1"=4'

Note:
All Water Alteration Quantities are shown on Dwg. No. 3

Note "A"
℄-Prop. Water Main shall meet ℄-Exist. Water Main

Note "B"
Contractor shall expose Exist. 24" Water Main at point of connection and verify the existing location prior to fabrication of pipe.

Note "C"
Contractor shall provide and install Temp. 24" Cap to prevent water and/or foreign material from entering the existing 24" Water Main.

Note "D"
Temp. 24" Conc. Plug or Cap braced to withstand 50 p.s.i. Test Pressure.

Note "E"
Contractor shall Cut and Cap 6" Water Main for construction of Prop. 24" Water Main as mentioned in the "Sequence of Operations."

Note "F"
Temp. 24" C.I. Plug braced to withstand 150 p.s.i. Test Pressure.

Note "G"
Contractor shall Relocate Exist. 6" Fire Hydrant.

Note "H"
Contractor shall construct 4" C.I. Pipe Drain from 24" Cone Valve Well to proposed Sewer Manhole in 43'± of Trench Detail-12. Pitch to be as directed by the Engineer.

REFERENCE DRAWINGS

General Plan ——— Dwg. No. 1
Water Services ——— Dwg. No. 2
General Notes ——— Dwg. No. 3
Quantities ——— Dwg. No. 3
12" Water Main ——— Dwg. No. 7
Pipe Jack Details ——— Dwg. No. 10
Connection Details ——— Dwg. No. 11
Encasement Details ——— Dwg. No. 11
Air Valve Well Details ——— Dwg. No. 12
24" Cone Valve Well Details ——— Dwg. No. 13

CONTROL SECTION 82194 L

18-I

J-5

DETROIT METROPOLITAN WATER SERVICES
WATER SYSTEM

CORRECT	APPROVED	APPROVED
CHECKED		ASSISTANT CHIEF ENGINEER
DATE 2-15-68	JOB NO. D-407-161	DRAWING NO. 8 OF 14

MICHIGAN STATE HIGHWAY DEPARTMENT

(I-96) JEFFRIES FREEWAY
WATER SYSTEM ALTERATIONS
24" WATER MAIN CROSSING FREEWAY 30'S. OF S.P.L. OF BUTTERNUT

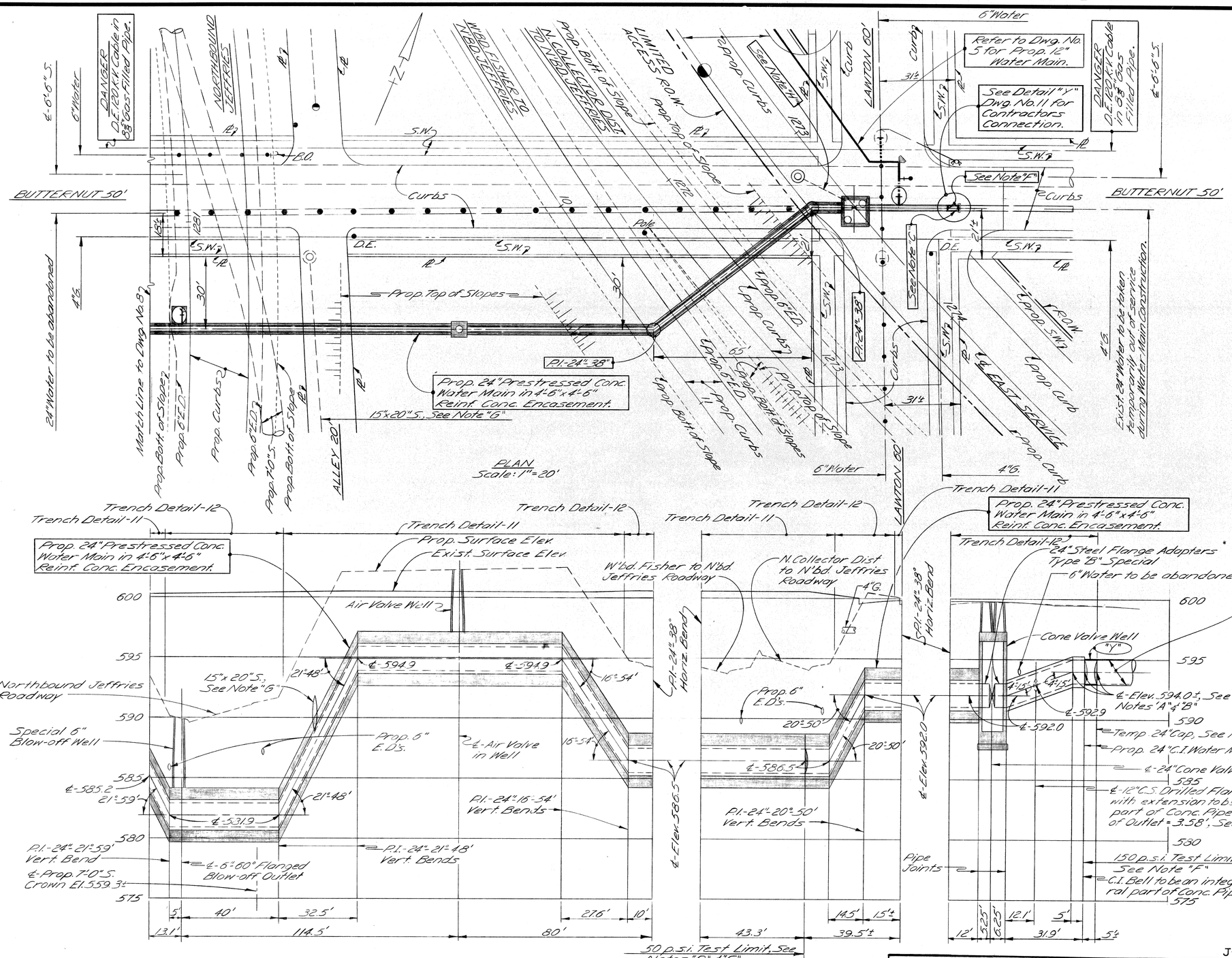
REVISIONS

NO.	DESCRIPTION	DATE	BY

SQUAD BOSS	G.F.C.	2-68
DRAWN BY	G.F.C.	1-68
TRACED BY		
CHECKED BY	G.F.C.	2-68

SHEET 88 OF

82124-002



PROFILE
Scale: Horiz. 1" = 20'
Vert. 1" = 4'

Note:
All Water Alteration Quantities are shown on Dwg. No. 3

Note "A"
℄-Prop. Water Main shall meet ℄-Exist. Water Main.

Note "B"
Contractor shall expose Exist. 24" Water Main at point of connection and verify the existing location prior to fabrication of pipe.

Note "C"
Contractor shall provide and install Temp. 24" Cap to prevent water and/or foreign material from entering the existing 24" Water Main.

Note "D"
Temp. 24" Conc. Plug or Cap braced to withstand 50 p.s.i. Test Pressure.

Note "E"
Construction Joint shall be placed at a Pipe Joint and shall have a 2" x 4" keyway centered on longitudinal Steel.

Note "F"
Temp. 24" C.I. Plug braced to withstand 150 p.s.i. Test Pressure.

Note "G"
Sewer flow must be maintained until Sewer is abandoned.

Note "H"
Contractor shall Construct 4" C.I. Pipe Drain from 24" Cone Valve Well to proposed Sewer Manhole in 20'± of Trench Detail-12. Pitch to be as directed by the Engineer.

REFERENCE DRAWINGS

General Plan	Dwg. No. 1
Water Services	Dwg. No. 2
General Notes	Dwg. No. 3
Quantities	Dwg. No. 3
12" Water Main	Dwg. No. 5
Pipe Jack Details	Dwg. No. 10
Connection Details	Dwg. No. 11
Encasement Details	Dwg. No. 11
Special 6" Blow-off Well and Air Valve Well Details	Dwg. No. 12
24" Cone Valve Well Details	Dwg. No. 13

J-5

DETROIT METROPOLITAN WATER SERVICES
WATER SYSTEM

CORRECT: H. H. Hunsinger	APPROVED: [illegible]	APPROVED: H. E. Mercer, Assistant Chief Engineer	
CHECKED: R. B. C. T.	JOB NO. D-407-161	DRAWING NO. 9 OF 14	
DATE: 2-15-68			

CONTROL SECTION 82194L

18-I

MICHIGAN STATE HIGHWAY DEPARTMENT

(I-96) JEFFRIES FREEWAY
WATER SYSTEM ALTERATIONS
24" WATER MAIN CROSSING FREEWAY 30'S. OF S.P.L. OF BUTTERNUT

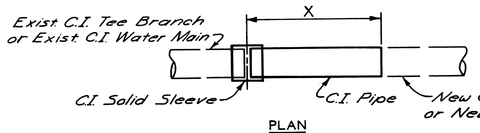
REVISIONS

NO.	DESCRIPTION	DATE	BY

SQUAD BOSS	G.F.L.	2-68
DRAWN BY	G.H.L.	1-68
TRACED BY		
CHECKED BY	G.F.L.	2-68

SHEET 89 OF

82124-002



PLAN

DETAILS A-1 THRU A-9

(No Scale)

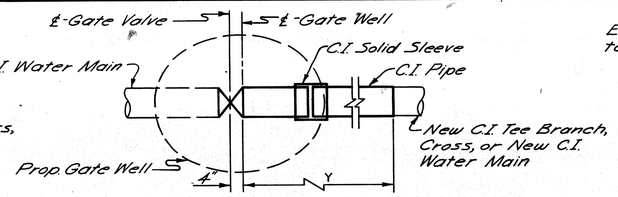
SCHEDULE FOR DETAIL "A"

DETAIL NO.	FROM DWG. NO.	NEW WATER MAIN SIZE	NEW TEE SIZE	SIZE OF C.I. PIPE	X	TRENCH DETAIL
A-1	4	12"	——	12"	10'	12
A-2 ①	5	——	12"x6"	6"	10'	12
A-3 ②	5	12"	——	12"	7'	12
A-4 *	6	12"	——	12"	8'	12
A-5 ③	6	6"	——	6"	10'	12
A-6 ④	7	——	12"x6"	6"	10'	12
A-7 ②	7	12"	——	12"	8'	12
A-8	1	Exist. 6"	——	6"	5'	12
A-9 ⑤	6	6"	——	6"	11'	12

*Connection "A-4" shall be tied into the existing 6" Water Main to be abandoned on Adjacent Freeway Contract, if the 12" Water Main to be constructed on Adjacent Freeway Contract is not in service.

ITEMS INCLUDED IN CONNECTIONS

① 2-22½° Vert. Bends
② 12" C.I. Flanged Pipe
③ 1-90° Horiz. Bend
④ 2-11¼° Vert. Bends
⑤ 2-45° Horiz. Bends
⑥ 1-22½° Horiz. Bend



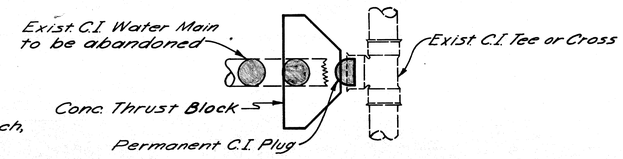
PLAN

DETAILS B-1 THRU B-2

(No Scale)

SCHEDULE FOR DETAIL "B"

DETAIL NO.	FROM DWG. NO.	NEW WATER MAIN SIZE	NEW TEE SIZE	SIZE OF C.I. PIPE	SIZE OF GATE VALVE	Y	TRENCH DETAIL
B-1 ①	4	——	12"x6"	6"	6"	13'	12
B-2 ⑥ ①	5	——	12"x8"	8"	8"	12'	12



PLAN

DETAIL - C-1

(No Scale)

SCHEDULE FOR DETAIL "C"

DETAIL NO.	FROM DWG. NO.	PORTION OF TEE OR CROSS TO BE PLUGGED	SIZE OF TEE OR CROSS	PLUG SIZE	TRENCH DETAIL
C-1	1	South Branch	12"x8"	8"	12

NOTES FOR CONTRACTOR'S CONNECTIONS

Contractor's Connections are shown by solid lines. Adjacent contractors work and/or existing Water Mains are indicated by dashed lines.

Contractor shall cut & cap or plug existing Water Mains to remain in service where required in accordance with supplemental specifications.

4" C.I. Blow-off Assemblies, C.I. plugs and caps to be installed and/or removed by Contractor have not been shown.

Contractor shall install and later remove all temporary C.I. Plugs, Tees and Blow off assemblies.

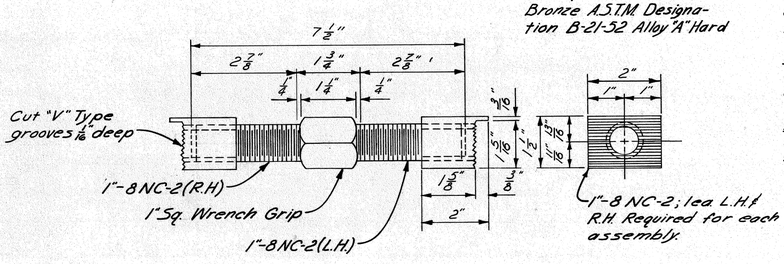
Contractor shall furnish and install C.I. Pipe and Fittings necessary to complete the connections shown.

Contractor shall construct all Concrete Thrust Blocks and Gate Wells.

Contractor shall install all Temporary bracing for Water Main work.

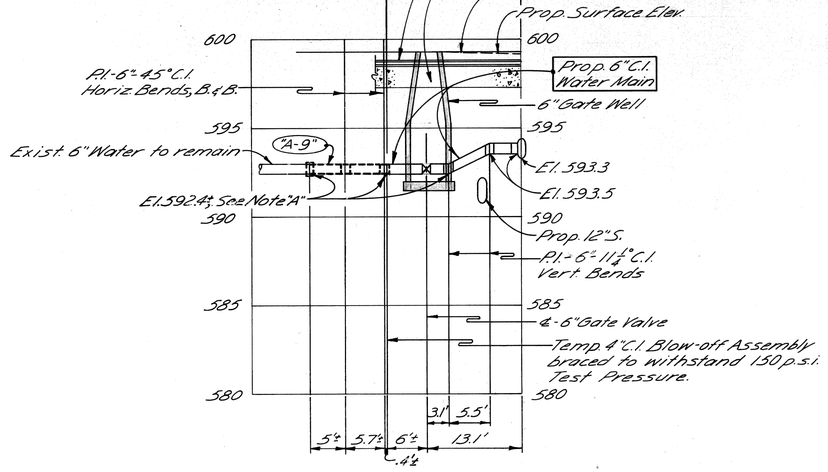
It is not normally anticipated that bends requiring Thrust Blocks will be required for Connections unless otherwise shown.

Note "A"
℄-Prop. Water Main shall meet ℄-Exist. Water Main.



DETAIL OF 1" PIPE JACK

Scale: Half Size As Reqd



PROFILE "B" FROM DWG. NO. 6

Scale: Horiz. 1"=10'
Vert. 1"=4'

CONTROL SECTION 82194L

J-5

DETROIT METROPOLITAN WATER SERVICES
WATER SYSTEM

CORRECT J. H. Jarvis Jr. | APPROVED E.W.B. | APPROVED H.B.W. ASSISTANT CHIEF ENGINEER
CHECKED D.R. Adler | JOB NO. D-407-161 | DRAWING NO. 10 OF 14
DATE 2-12-68

MICHIGAN STATE HIGHWAY DEPARTMENT

CONTRACTORS CONNECTION DETAILS NO. 1

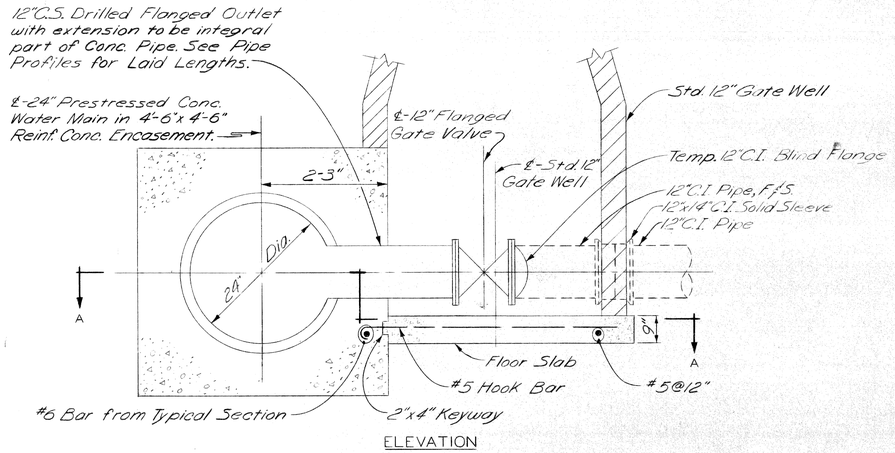
REVISIONS

NO.	DESCRIPTION	DATE	BY

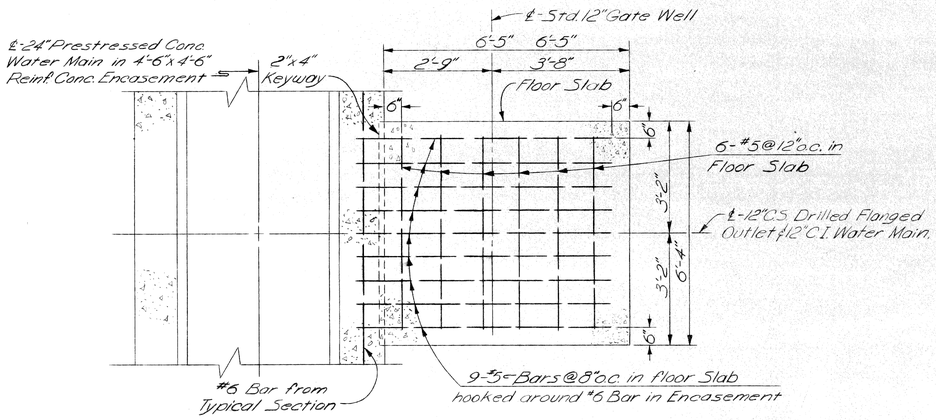
SQUAD BOSS	G.F.L.	2-68
DRAWN BY	G.E.	1-68
TRACED BY		
CHECKED BY	G.F.L.	2-68

SHEET 90 OF

82124-002



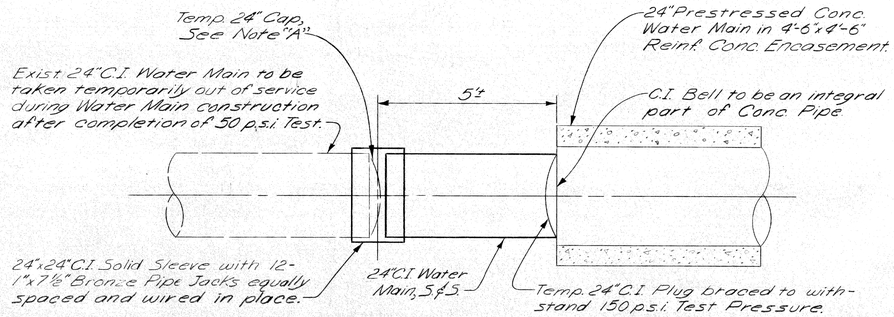
ELEVATION



SECTION A-A

REINFORCEMENT STEEL DETAILS FOR 12" GATE WELL FLOOR SLAB
TIED TO 24" WATER MAIN IN ENCASEMENT

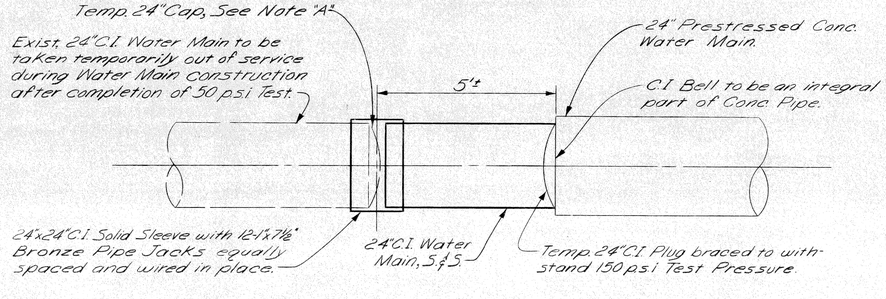
No Scale



PLAN

DETAIL "X" FROM DWG. NO. 8
CONNECTION OF PROP. 24" PRESTRESSED
CONC. WATER MAIN TO EXIST. 24" C.I. WATER MAIN
IN BUTTERNUT AT ALLEY EAST OF WILLIAMS

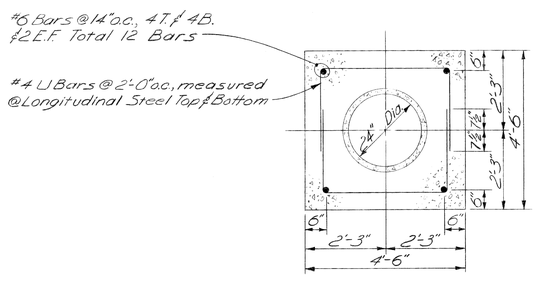
No Scale



PLAN

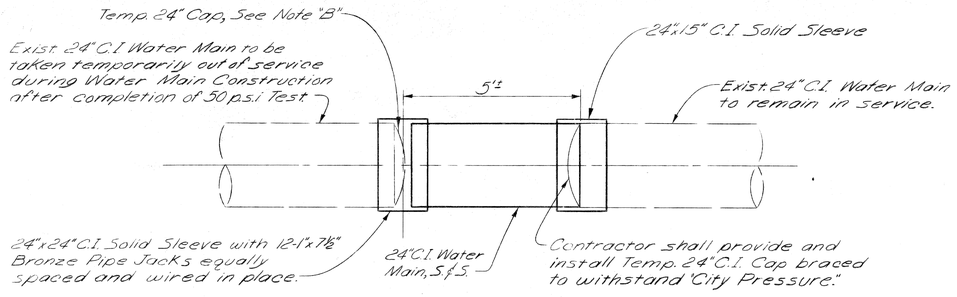
DETAIL "Y" FROM DWG. NO. 9
CONNECTION OF PROP. 24" PRESTRESSED
CONC. WATER MAIN TO EXIST. 24" C.I. WATER MAIN
IN BUTTERNUT AT LAWTON

No Scale



TYPICAL SECTION OF 24" PRESTRESSED
CONCRETE WATER MAIN IN 4'-6" x 4'-6"
REINFORCED CONCRETE ENCASEMENT

No Scale



PLAN

DETAIL "Z" FROM DWG. NO. 1
IN BUTTERNUT AT WILLIAMS

No Scale

Notes:
All Water Alteration Quantities are shown on Dwg. No. 3.

NOTES FOR CONTRATORS CONNECTIONS

See "NOTES FOR CONTRATOR'S CONNECTIONS," Drawing No. 10, for notes which also apply to this Drawing.

Note "A"
Contractor shall provide & install 24" Plug or Cap to prevent trench water and/or foreign material from entering Existing 24" C.I. Water Main.

Note "B"
Contractor shall provide and install Temp. 24" Cap with Temp. 4" C.I. Blow-off Assembly braced to withstand "City Pressure."

NOTES FOR TYPICAL SECTIONS

2"x4" Keyway required at all Construction Joints.

Construction Joints shall be placed only at Pipe Joints.

Refer to Dwg. No. 12 for Reinforcing Steel at Air Valve Wells.

CONTROL SECTION 82194L

J-5

DETROIT METROPOLITAN WATER SERVICES
WATER SYSTEM

CORRECT	APPROVED	APPROVED	
CHECKED D.P. Carter		ASSISTANT CHIEF ENGINEER	
DATE 2-15-68	JOB NO. D-407-161	DRAWING NO. 11 OF 14	

MICHIGAN STATE HIGHWAY DEPARTMENT

(I-96) JEFFRIES FREEWAY
WATER SYSTEM ALTERATIONS
CONTRACTOR'S CONNECTION DETAILS NO. 2
AND ENCASEMENT DETAILS

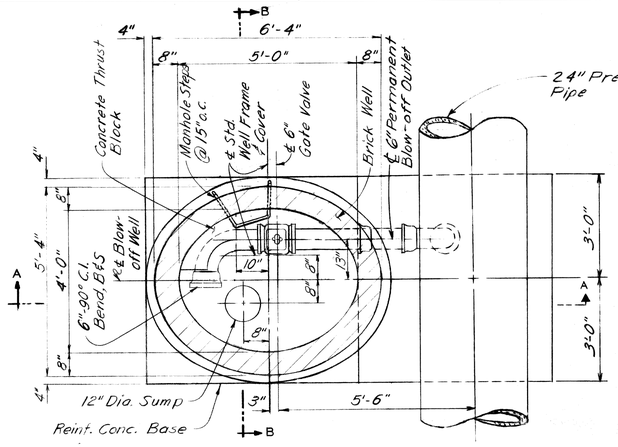
REVISIONS

NO.	DESCRIPTION	DATE	BY

SQUAD BOSS	G.F.L.	2-68
DRAWN BY	C.C.	2-68
TRACED BY		
CHECKED BY	G.F.L.	2-68

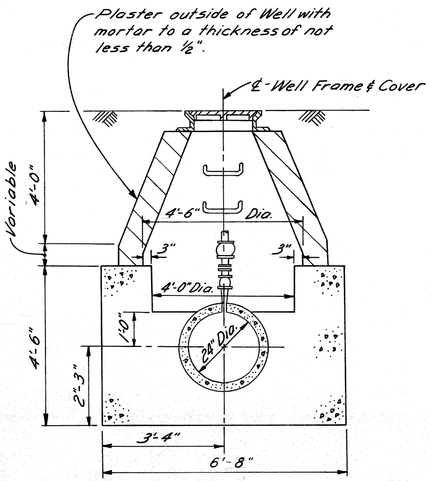
SHEET 91 OF

82124-002

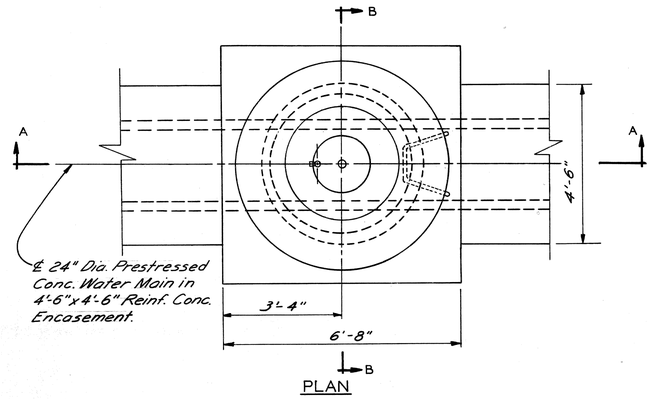


PLAN

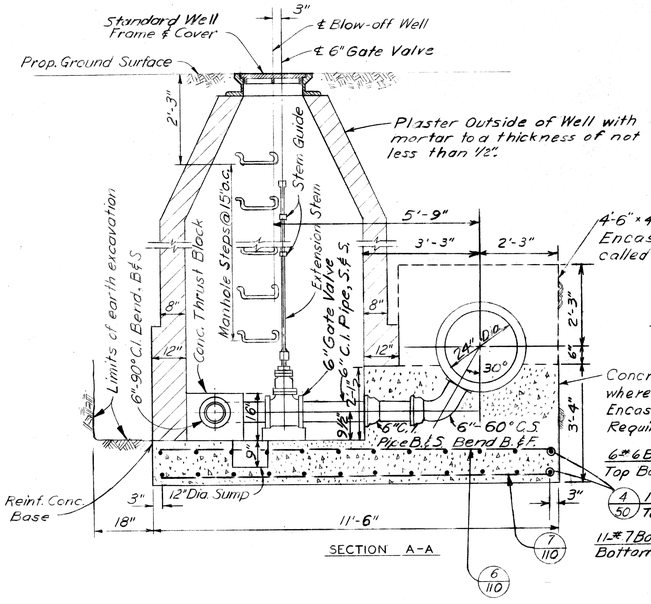
BILL OF REINFORCING BARS				
Mark	No.	Size	Length	Remarks
4-50	24	#4	5'-0"	Straight
6-110	6	#6	11'-0"	"
7-110	11	#7	11'-0"	"



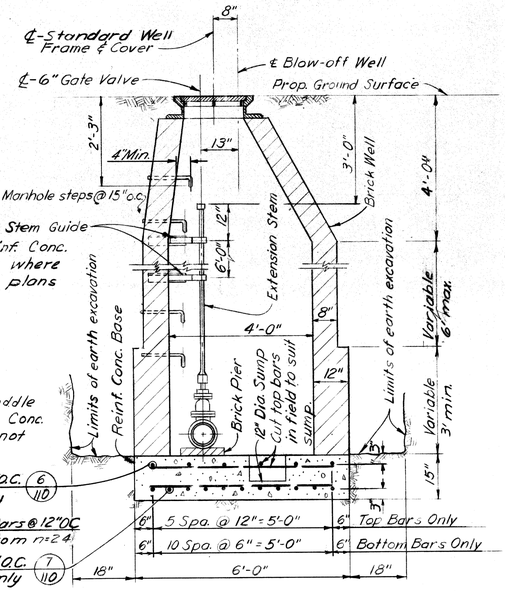
SECTION B-B



PLAN



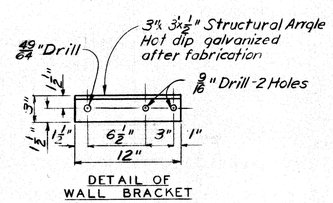
SECTION A-A



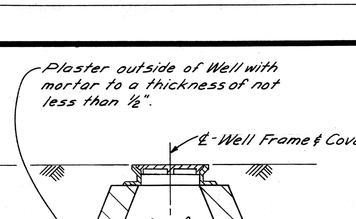
SECTION B-B

DETAIL OF SPECIAL 6" BLOW-OFF WELL FOR 24" WATER MAIN

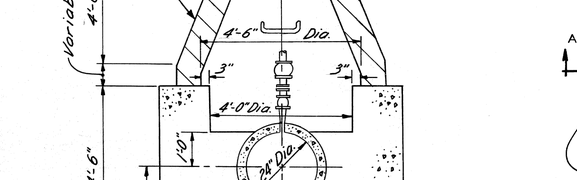
No Scale



DETAIL OF WALL BRACKET



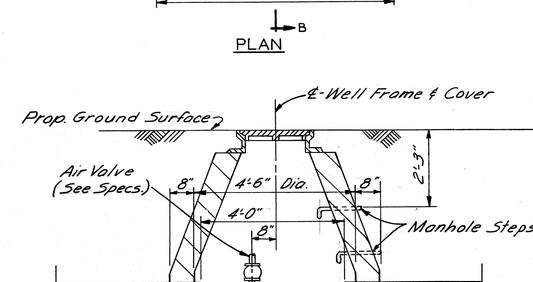
DETAIL OF BAR



ASSEMBLY

DETAIL OF EXTENSION STEM GUIDE

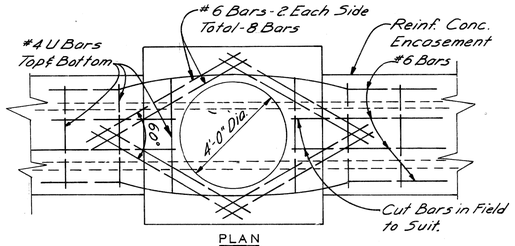
Scale: 1½" = 1'-0" 1 Req'd



SECTION A-A

DETAIL OF AIR VALVE AND WELL FOR 24" ENCASED WATER MAIN

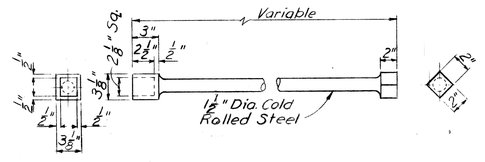
No Scale



PLAN

STEEL DETAILS AT AIR VALVE WELL FOR 24" WATER MAIN IN ENCASEMENT

Scale: 3/8" = 1'-0"



DETAIL OF EXTENSION STEM FOR 6" BLOW-OFF WELLS

Scale: 1½" = 1'-0" 1 Req'd

CONTROL SECTION 82194 L

J-5

DETROIT METROPOLITAN WATER SERVICES
WATER SYSTEM

CORRECT H. A. Jarrabee	APPROVED Ernst	APPROVED H. E. Wessels, ASSISTANT CHIEF ENGINEER
CHECKED D. R. Ellis		
DATE 2-12-68	JOB NO. D-407-161	DRAWING NO. 12 OF 14

MICHIGAN STATE HIGHWAY DEPARTMENT

(I-96) JEFFRIES FREEWAY
SPECIAL 6" BLOW-OFF WELL AND AIR VALVE WELL DETAILS FOR 24" WATER MAIN

WATER SYSTEM ALTERATIONS

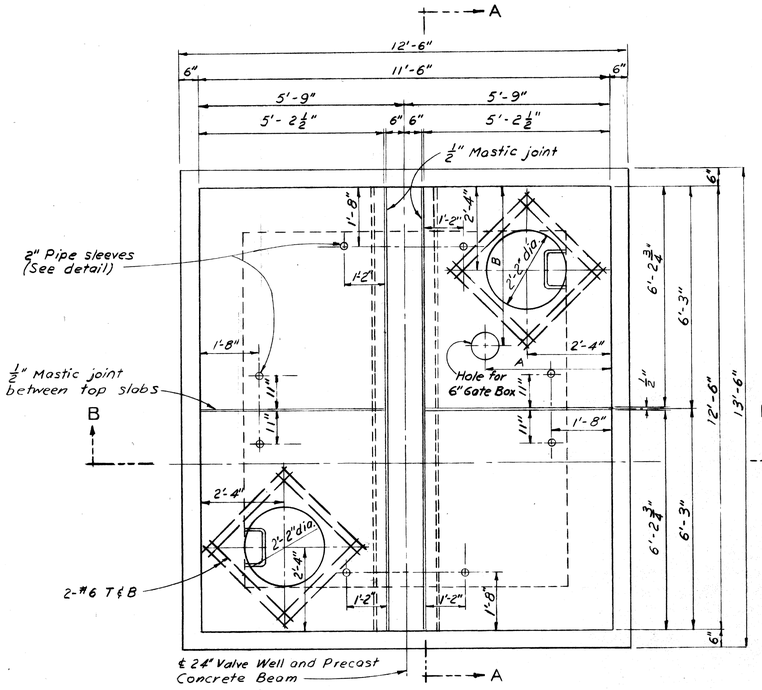
REVISIONS

NO.	DESCRIPTION	DATE	BY

SQUAD BOSS	G.F.L.	2-68
DRAWN BY	C.B.	2-27-61
TRACED BY	F.S.C.	2-28-68
CHECKED BY	G.F.L.	2-68

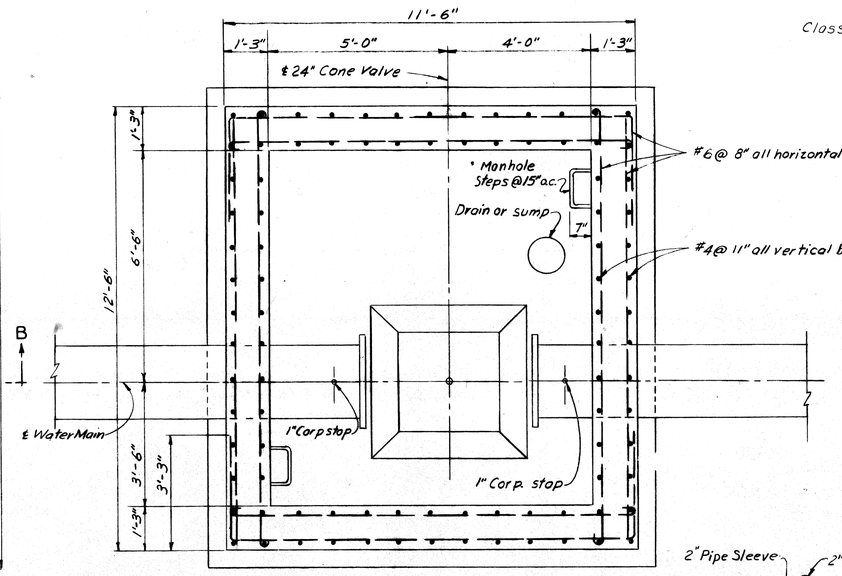
SHEET 25 OF

82124-002



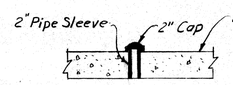
PLAN OF ROOF SLABS

Scale: ½" = 1'-0"



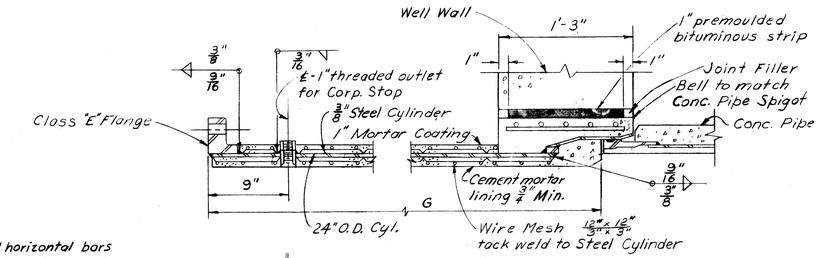
PLAN BELOW ROOF SLAB

Scale: ½" = 1'-0"

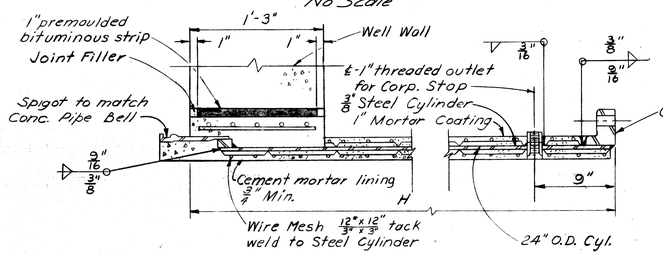


DETAIL OF PIPE SLEEVES

Scale ½" = 1'-0"



No Scale



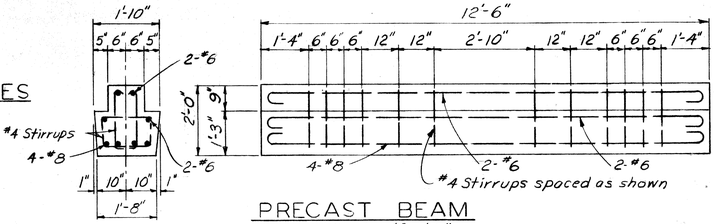
No Scale

24" STEEL FLANGE ADAPTER

A.W.W.A. TYPE B SPECIAL

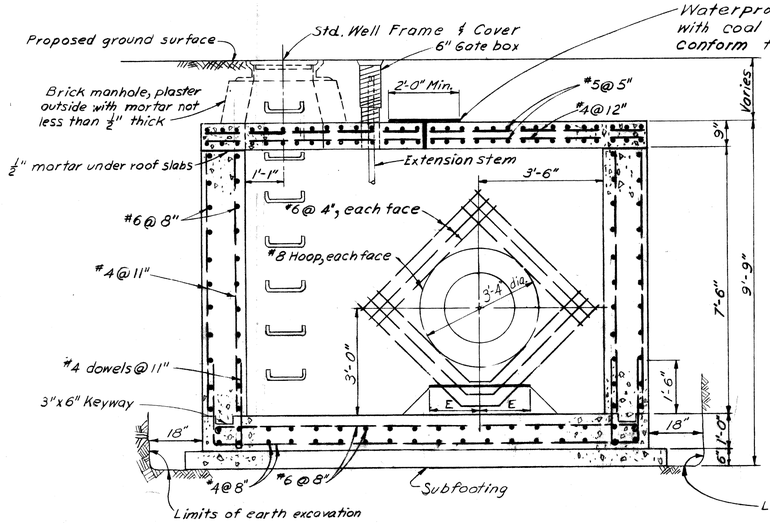
NOTE

Finish beam surface 15 inches from ends to truly plane surfaces.



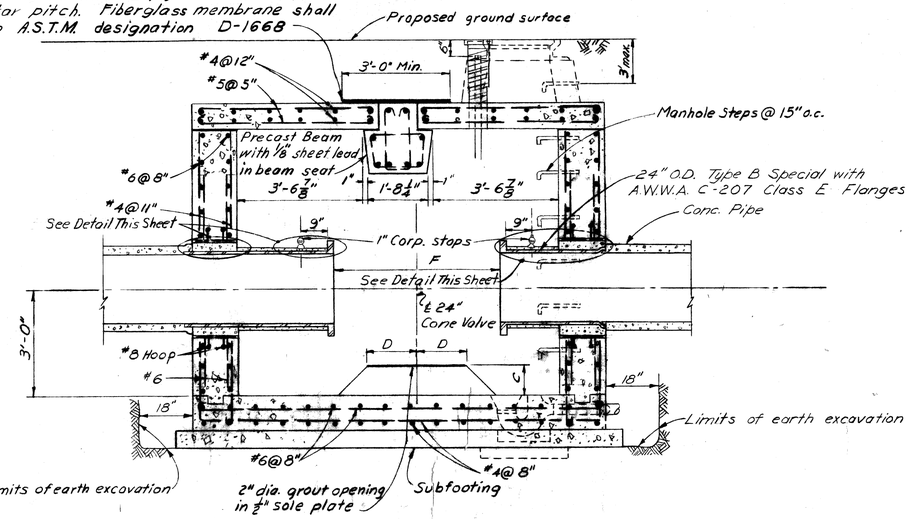
PRECAST BEAM

Scale: ½" = 1'-0"



SECTION A-A

Scale: ½" = 1'-0"



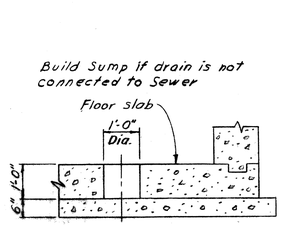
SECTION B-B

Scale: ½" = 1'-0"

NOTE

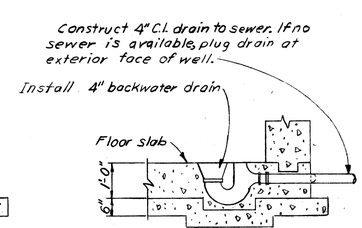
Dimensions A, B, C, D, E, F, G, H to suit Valve dimensions.

Direction of Pitch of Floor and Location of Sump and Drain to be directed by the Engineer



DETAIL OF SUMP

Scale: ½" = 1'-0"



DETAIL OF DRAIN

Scale: ½" = 1'-0"

CONTROL SECTION 82194L

MICHIGAN STATE HIGHWAY DEPARTMENT

(I-96) JEFFRIES FREEWAY

24" CONE VALVE WELL DETAILS

WATER SYSTEM ALTERATIONS

REVISIONS

NO.	DESCRIPTION	DATE	BY

SQUAD BOSS	G.F.L.	2-68
DRAWN BY	F.R.J.	5-14-68
TRACED BY		
CHECKED BY	D.K.C.	6-24-68

SHEET 93 OF

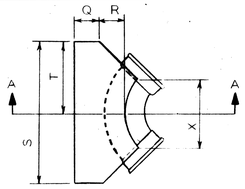
82124-002

J-5

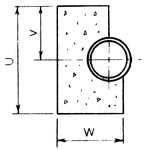
DETROIT METROPOLITAN WATER SERVICES

WATER SYSTEM

CORRECT	A. Jarvis Jr.	APPROVED	
CHECKED	R. Cutler	APPROVED	H. E. Warren, ASSISTANT CHIEF ENGINEER
DATE	2-15-68	JOB NO. D-407-161	DRAWING NO. 13 OF 14



PLAN

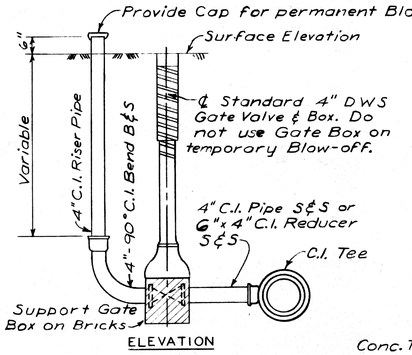


SECTION A-A

SCHEDULE OF THRUST BLOCK DIMENSIONS								
BEND SIZE	CODE							
	Q	R	S	T	U	V	W	X
6"ϕ 8" 90°	0' 9"	1' 0"	3' 4"	1' 8"	2' 6"	1' 3"	1' 11"	1' 2"
12" 90°	0' 9"	1' 4"	5' 6"	2' 9"	3' 0"	1' 6"	2' 4"	1' 8"
16" 90°	1' 0"	1' 8"	6' 0"	3' 0"	5' 0"	2' 6"	3' 0"	2' 8"
6"ϕ 8" 45°	0' 9"	1' 0"	2' 4"	1' 2"	2' 0"	1' 0"	1' 11"	1' 4"
12" 45°	0' 9"	1' 4"	3' 6"	1' 9"	2' 6"	1' 3"	2' 4"	1' 4"
16" 45°	1' 0"	1' 8"	5' 4"	2' 8"	3' 0"	1' 6"	3' 0"	2' 6"
6,8ϕ12" 22½	0' 9"	1' 0"	2' 6"	1' 3"	2' 0"	1' 0"	2' 0"	1' 4"
16" 22½	1' 0"	1' 8"	3' 4"	1' 8"	2' 6"	1' 3"	3' 0"	1' 2"

DETAIL OF STANDARD THRUST BLOCKS FOR BENDS

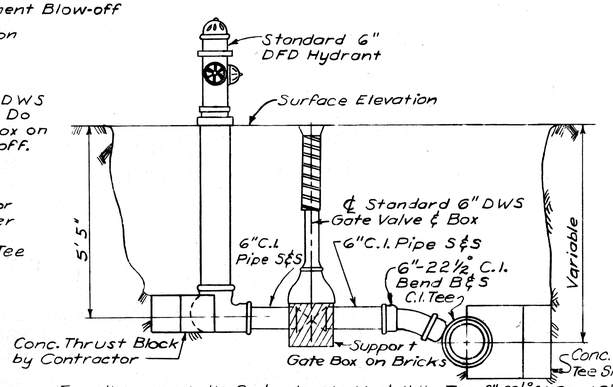
No Scale



ELEVATION

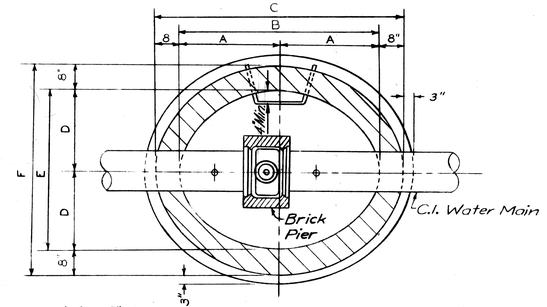
DETAIL OF 4" C.I. BLOW-OFF

No Scale

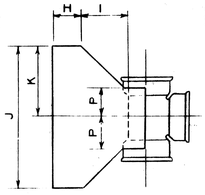


From the new main the Contractor shall install the Tee, 6"-22½° C.I. Bend B&S, 6" C.I. Pipe, 6" D.W.S. Gate Valve & Box, 6" C.I. Pipe, Concrete Thrust Blocks, and Hydrant.
From any existing main the complete Hydrant installation shall be done by the Contractor.

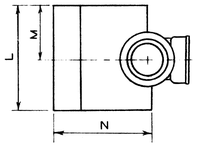
Hydrants to be a minimum of 6' behind Curb, unless otherwise noted on the drawings.
Dimensions given from the Curb are from Pavement Joint line which is at face of Curb.



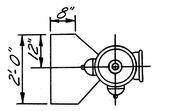
PLAN SECTION



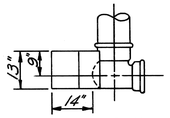
PLAN



ELEVATION



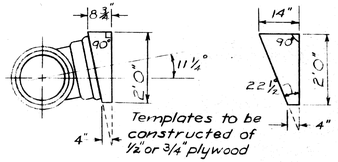
PLAN



ELEVATION

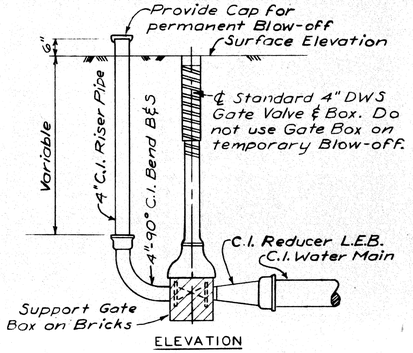
THRUST BLOCK FOR 6" HYDRANT

No Scale



TEMPLATE FOR SETTING TEES AT 11¼° & 22½° ANGLES

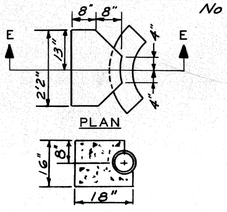
No Scale



ELEVATION

DETAIL OF 4" C.I BLOW-OFF

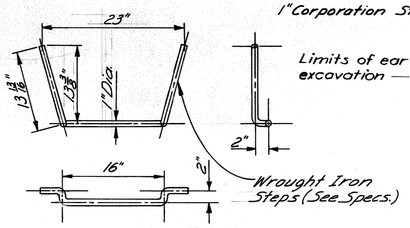
No Scale



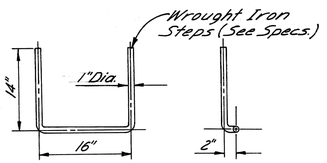
SECTION E-E

THRUST BLOCK FOR 6" HYDRANT BEND

No Scale



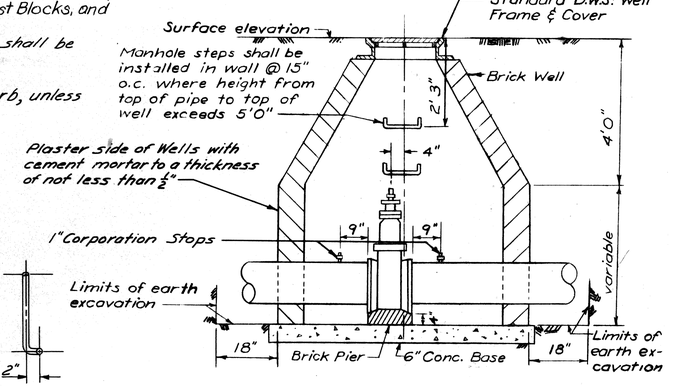
FOR USE IN BRICK WELLS



FOR USE IN CONCRETE WELLS

DETAIL OF MANHOLE STEPS

Scale: 1"=1'-0"



SECTION THROUGH GATE WELL

SCHEDULE OF GATE WELL DIMENSIONS						
SIZE	A	B	C	D	E	F
6"	2'6"	5'0"	6'4"	2'0"	4'0"	5'4"
8"	2'6"	5'0"	6'4"	2'0"	4'0"	5'4"
12"	2'9"	5'6"	6'10"	2'3"	4'6"	5'10"
16"	3'0"	6'0"	7'4"	2'9"	5'6"	6'10"

DETAIL OF STANDARD GATE WELLS

No Scale

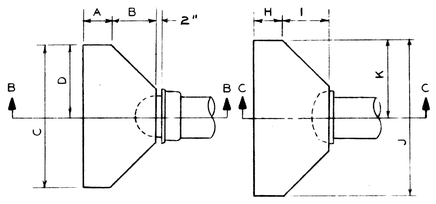
SCHEDULE OF THRUST BLOCK DIMENSIONS										
TEE SIZE	CODE									
	H	I	J	K	L	M	N		P	
8"x 8"	0'9"	1'0"	3'0"	1'6"	2'0"	1'0"	8"	2'3"	8"	0'6"
12"x 8"							12"	2'3"	12"	0'6"
16"x 8"							16"	2'9"	16"	0'6"
12"x12"	0'9"	1'4"	4'0"	2'0"	3'0"	1'6"	12"	2'9"	8"	0'8"
16"x12"							16"	3'1"	16"	0'8"
16"x16"	1'0"	1'8"	5'0"	2'6"	4'0"	2'0"	16"	3'8"	16"	0'11"

DETAIL OF STANDARD THRUST BLOCKS FOR TEES

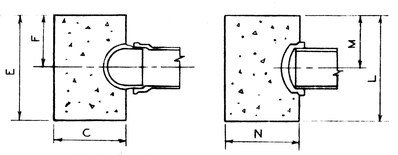
No Scale

NOTES

The bearing face of all thrust blocks shall be poured against undisturbed earth.
Thrust Blocks will be required on all C.I. Bends 6 inches in Diameter or larger and greater than 11¼°.



PLAN PLAN

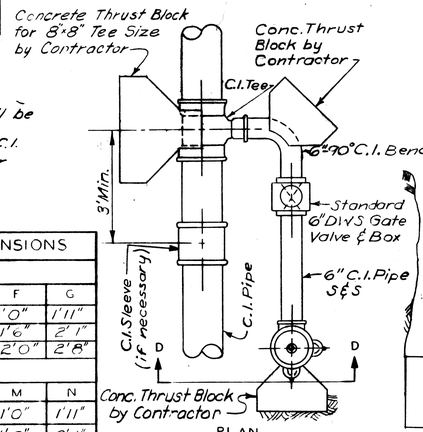


SECTION B-B SECTION C-C

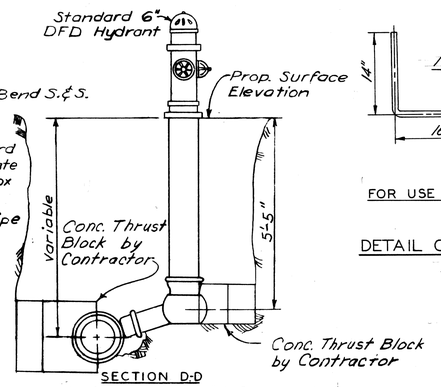
SCHEDULE OF THRUST BLOCK DIMENSIONS							
PLUG SIZE	CODE						
	A	B	C	D	E	F	G
6"ϕ 8"	0'9"	1'2"	3'0"	1'6"	2'0"	1'0"	1'11"
12"	0'9"	1'4"	4'0"	2'0"	3'0"	1'6"	2'1"
16"	1'0"	1'8"	5'0"	2'6"	4'0"	2'0"	2'8"
CAP SIZE	CODE						
	H	I	J	K	L	M	N
6"ϕ 8"	0'9"	1'2"	3'0"	1'6"	2'0"	1'0"	1'11"
12"	0'9"	1'4"	4'0"	2'0"	3'0"	1'6"	2'1"
16"	1'0"	1'8"	5'0"	2'6"	4'0"	2'0"	2'8"

DETAIL OF STANDARD THRUST BLOCKS FOR PLUGS & CAPS

No Scale



PLAN



SECTION D-D

From the new main the Contractor shall install the Tee, 6"-90° C.I. Bend S.&S., 6" C.I. Pipe, 6" D.W.S. Gate Valve & Box, 6" C.I. Pipe Concrete Thrust Blocks and Hydrant.
From any existing main the complete Hydrant installation shall be done by the Contractor.

Hydrants to be a minimum of 6' behind the Curb, unless otherwise shown on the drawings.
Dimensions given from Curb are from Pavement Joint line which is at face of Curb.

DETAIL OF 6" HYDRANT INSTALLATION

No Scale

CONTROL SECTION 82194 L

DETROIT METROPOLITAN WATER SERVICES
WATER SYSTEM

CORRECT	APPROVED	APPROVED	
CHECKED			ASSISTANT CHIEF ENGINEER
DATE 2-15-68	JOB NO. D-407-161	DRAWING NO. 14 OF 14	

J-5

MICHIGAN STATE HIGHWAY DEPARTMENT

(I-96) JEFFRIES FREEWAY
MISCELLANEOUS DETAILS

WATER SYSTEM ALTERATIONS

REVISIONS

NO.	DESCRIPTION	DATE	BY

SQUAD BOSS	G.F.L.	2-68
DRAWN BY	R.J.B.	3-24-67
TRACED BY		
CHECKED BY	G.F.L.	2-68

SHEET 20 OF

82124-002

* USE DRAWINGS 2 THRU 17 WITH THIS SHEET *

UNDERGROUND

- M.H.1234 — EXISTING P.L.C. MANHOLE (2-WAY)
- M.H.5678 — EXISTING P.L.C. MANHOLE (3-WAY)
- M.H.9012 — EXISTING P.L.C. MANHOLE (CORNER)
- M.H.3456 — EXISTING P.L.C. MANHOLE (4-WAY)
- M.H.7890 — BUILD NO.1 MANHOLE (2-WAY)
- M.H.1234 — BUILD NO.1 MANHOLE (3-WAY)
- M.H.5678 — BUILD NO.1 MANHOLE (CORNER)
- M.H.9012 — BUILD NO.1 MANHOLE (4-WAY)
- H.T.M.H. 1234 — BUILD HIGH TENSION MANHOLE (2-WAY)
- H.T.M.H. 5678 — BUILD HIGH TENSION MANHOLE (3-WAY)
- H.T.M.H. 9012 — BUILD HIGH TENSION MANHOLE (CORNER)
- H.T.M.H. 3456 — BUILD HIGH TENSION MANHOLE (4-WAY)
- EXISTING P.L.C. HANDHOLE
- BUILD STREET TYPE "D" HANDHOLE
- F — EXISTING FIRE OR POLICE CALL BOX (FIRE SHOWN)
- P — BUILD POLICE OR FIRE CALL BOX PEDESTAL FOUNDATION (POLICE SHOWN)
- 4-3" — EXISTING P.L.C. DUCT RUN (4-3" SHOWN)
- 2-3" — ABANDON EXISTING P.L.C. DUCT RUN (2-3" SHOWN)
- BUILD 1-3" ENCASED CONDUIT (EXCEPT AS OTHERWISE INDICATED)
- 4-4" — BUILD MULTIPLE ENCASED CONDUIT (4-4" SHOWN)
- 2-3" — GALVANIZED IRON PIPE CONDUIT. JACKING-BORING (2-3" SHOWN)
- P.L.C. DUCT RUN-"NOT A PART OF ELECTRICAL CONTRACT"
- EXISTING DIRECT BURIAL OR PARKWAY CABLE
- REMOVE DIRECT BURIAL OR PARKWAY CABLE
- ABANDON DIRECT BURIAL OR PARKWAY CABLE
- INSTALL DIRECT BURIAL CABLE (NO. & SIZE AS INDICATED)
- BUILD TRAFFIC SIGNAL CONTROLLER FOUNDATION
- BUILD TRAFFIC SIGNAL MAST ARM STANDARD FOUNDATION
- BUILD TRAFFIC SIGNAL PEDESTAL FOUNDATION
- BUILD TRAFFIC SIGNAL STEEL SHAFT FOUNDATION
- P — INSTALL COMMUNICATION PARKWAY CABLE (NO. & SIZE AS INDICATED)
- BUILD 6" CLASS "B" SEWER
- FUTURE U.G.-FED ST. LTG. UNIT
- EXISTING U.G.-FED ST. LTG. UNIT
- REMOVE U.G.-FED ST. LTG. UNIT & FOUNDATION
- INSTALL SALVAGED U.G.-FED ST. LTG. UNIT ON NEW FOUNDATION
- U.G. FED 250 W. TYPE II CLEAR MERCURY VAPOR ANCHOR BASE ST. LTG. UNIT WITH 6 FT. ARM ON NEW FDN. WITH 30 FT. MOUNTING HEIGHT. (EXCEPT WHERE OTHERWISE NOTED).
- U.G.-FED 400 W. TYPE III CLEAR MERCURY VAPOR ANCHOR BASE ST. LTG. UNIT WITH 6FT. ARM ON NEW FDN. WITH 30 FT. MOUNTING HEIGHT. (EXCEPT WHERE OTHERWISE NOTED).
- U.G.-FED 400 W. TYPE III CLEAR MERCURY VAPOR ANCHOR BASE ST. LTG. UNIT WITH 6 FT. ARM ON BRIDGE WITH 30FT. MOUNTING HEIGHT. (EXCEPT WHERE OTHERWISE NOTED)
- U.G.-FED 400 W. TYPE III CLEAR MERCURY VAPOR ANCHOR BASE ST. LTG. UNIT WITH 17 FT. ARM ON NEW FDN. WITH 30 FT. MOUNTING HEIGHT. (EXCEPT WHERE OTHERWISE NOTED).
- WALL MOUNTED MERCURY VAPOR U.B. LTG. UNIT.
- BETWEEN BEAMS MOUNTED MERCURY VAPOR U.B. LTG. UNIT.
- "FB" — INDICATES STEEL ST. LTG. STD. WITH FRANGIBLE BASE.
- "WL" — INDICATES ST. LTG. STD. WITHOUT LUMINAIRE
- U.G.-FED 700 W. TYPE IV CLEAR MERCURY VAPOR ANCHOR BASE ST. LTG. UNIT WITH 17 FT. ARM ON NEW FDN. (EXCEPT WHERE OTHERWISE NOTED)

OVERHEAD

- E — EXISTING WOOD POLE (D.E.CO. POLE SHOWN)
- C — REMOVE WOOD POLE (P.L.C. POLE SHOWN)
- REPLACE WOOD POLE (HEIGHT & CLASS AS INDICATED)
- INSTALL WOOD POLE (HEIGHT & CLASS AS INDICATED) (USE SALVAGED POLE WHERE INDICATED)
- EXISTING OVERHEAD ST. LTG. UNIT
- REMOVE OVERHEAD ST. LTG. UNIT
- INSTALL OVERHEAD ST. LTG. UNIT WITH 6 FT. ARM. (LUMINAIRE & LAMP SIZE AS INDICATED)-(USE SALVAGED UNIT WHERE INDICATED)
- STA.-24 (2-#6) — EXISTING OVERHEAD LINE (2-#6 OF STANTON-24 SHOWN)
- 3-#2 (STA.-662) — REMOVE OVERHEAD LINE (3-#2 OF STANTON-662 SHOWN)
- 2-#6 (STA.-24) — INSTALL OVERHEAD LINE (2-#6 OF STANTON-24 SHOWN)
- 3-#6 (MULT.) — INSTALL & LATER REMOVE OVERHEAD LINE (3-#6 MULT. ST. LTG. SHOWN)
- 1/2" — INSTALL GUY & ANCHOR (1/2" GUY SHOWN)
- REMOVE GUY & ANCHOR ROD
- 1/2"P — INSTALL POLE GUY (1/2" GUY SHOWN)
- 3/8"A — INSTALL ARM GUY (3/8" GUY SHOWN)
- P OR A — REMOVE GUY (TYPE AS INDICATED)
- IN — MATERIAL TO BE INSTALLED
- RM — MATERIAL TO BE REMOVED
- MSS — MAKE WOOD POLE SELF-SUPPORTING IN CONCRETE
- XYZ — PHASES OF P.L.C. DISTRIBUTION WIRES OR EQUIPMENT
- E — D.E.CO. DISTRIBUTION WIRE
- es — D.E.CO. SECONDARY WIRE
- C.P. — CABLE POLE
- INSTALL SUSPENSION INSULATOR
- EXISTING → C / PROPOSED — C — P.L.C. DISTRIBUTION WIRE
- EXISTING → CS / PROPOSED — CS — P.L.C. SECONDARY WIRE
- EXISTING → A / PROPOSED — A — P.L.C. STREET LIGHTING WIRE
- EXISTING → M / PROPOSED — M — P.L.C. MULTIPLE STREET LIGHTING WIRE

WIRING DIAGRAMS & DUCT ALLOCATION

U.G.-FED ST. LTG. STD. SYMBOLS SAME AS UNDERGROUND LEGEND OF THIS SHEET.

- M.H.1234 — PROPOSED MANHOLE
- M.H.5678 — EXISTING MANHOLE
- H.H. — PROPOSED HANDHOLE
- H.H. — EXISTING HANDHOLE
- SECTION OF PROPOSED DUCT
- SECTION OF EXISTING DUCT
- SECTION OF EXISTING DUCT WITH EXISTING CABLE
- BREAK OUT DUCT IN HANDHOLE
- SECTION OF DUCT FOR TEMPORARY USE ONLY
- REPLACEMENT IN KIND OF EXISTING DUCT
- INSTALL U.G. CABLE (NO. & SIZE AS INDICATED)
- EXISTING U.G. CABLE
- U.G. CABLE TO BE ABANDONED
- U.G. CABLE TO BE REMOVED
- 2 — INDICATES DRWG. NO. OF AREA (APPLIES TO U.G. CABLE ITEMS ONLY)

TRAFFIC SIGNAL

- INSTALL 3-SECTION TRAFFIC SIGNAL (1-WAY SHOWN)
- INSTALL 3-SECTION TRAFFIC SIGNAL WITH SALVAGED HEADS (2-WAY SHOWN)
- REMOVE 3-SECTION TRAFFIC SIGNAL (3-WAY SHOWN)
- EXISTING 3-SECTION TRAFFIC SIGNAL (4-WAY SHOWN)
- INSTALL 2-SECTION PEDESTRIAN (WALK-DON'T WALK) TRAFFIC SIGNAL (2-WAY SHOWN)
- INSTALL 2-SECTION PEDESTRIAN (WALK-DON'T WALK) TRAFFIC SIGNAL WITH SALVAGED HEAD (1-WAY SHOWN)
- REMOVE 2-SECTION PEDESTRIAN (WALK-DON'T WALK) TRAFFIC SIGNAL (1-WAY SHOWN)
- EXISTING 2-SECTION PEDESTRIAN (WALK-DON'T WALK) TRAFFIC SIGNAL (1-WAY SHOWN)
- INSTALL JUNCTION BOX
- INSTALL SALVAGED JUNCTION BOX
- REMOVE JUNCTION BOX
- EXISTING JUNCTION BOX
- INSTALL OVERHEAD PLASTIC JACKETED CABLE
- EXISTING OVERHEAD PLASTIC JACKETED CABLE
- REMOVE OVERHEAD PLASTIC JACKETED CABLE
- INSTALL TRAFFIC SIGNAL CONTROLLER (NEW OR SALVAGED AS INDICATED)
- 25' — INSTALL TRAFFIC SIGNAL MAST ARM STANDARD & MAST ARM (25 FT. LENGTH SHOWN)
- INSTALL 8 FT. TRAFFIC SIGNAL PEDESTAL
- 30' — INSTALL STEEL SHAFT POLE (30 FT. HEIGHT SHOWN)
- EXISTING TRAFFIC SIGNAL CONTROLLER
- EXISTING MAST ARM STANDARD
- EXISTING PEDESTAL
- EXISTING STEEL SHAFT POLE
- INSTALL SPAN WIRE TYPE DBL. FLASHER SIGNAL
- REMOVE SPAN WIRE TYPE DBL. FLASHER SIGNAL

GENERAL

- R.O.W. — RIGHT OF WAY LINE
- L.A.R.O.W. — LIMITED ACCESS RIGHT OF WAY LINE
- PROPERTY LINE
- FUTURE PAVEMENT LIMIT
- EXISTING PAVEMENT LIMIT
- PROPOSED / EXISTING — PROPOSED & EXISTING SIDEWALK
- S — SEWER RUN AND MANHOLE (OTHER U.G. UTILITIES SIMILAR).
- PROPOSED FACE OF CURB OR PAVEMENT JOINT LINE LIMIT
- FENCE LINE
- 19 — INDICATES SECTION NUMBER OF TOPOGRAPHICAL MAP OF CITY OF DETROIT

DESIGN CRITERIA
I.O F.C. INITIAL
4 TO 1 UNIFORMITY RATIO

GENERAL NOTES

1. CONTRACTOR TO NOTIFY MICH. CONS. GAS CO. AT WO-5-8000 IF PROTECTIVE COATED GAS MAIN IS EXPOSED OR DAMAGED.
2. TRAFFIC SIGNAL FOUNDATIONS SHOWN ON GENERAL PLANS, ARE LOCATED, AND INCLUDED IN LIST OF MATERIAL ON TRAFFIC SIGNAL SHEET.
3. ALL MANHOLES SHALL BE PROVIDED WITH M.H. SUMP EXCEPT WHERE 6" SEWER IS SHOWN ON PLANS.
4. UNDERGROUND CABLE QUANTITIES ARE ITEMIZED ON GENERAL PLANS.
5. ALL MULTIPLE ST. LTG. CABLE GROUPS TO BE 2-1/C #6 D.B. CABLES & 1-#6 NEOPRENE - (EXCEPT WHERE OTHERWISE NOTED). #6 GROUND WIRE WHERE SHOWN SHALL BE INCIDENTAL TO D.B. CABLE ITEM.
6. WHERE ABANDONING OF U.G. CABLES IS CALLED FOR ON PLANS OR DIAGRAMS, CONTRACTOR SHALL CUT AND REMOVE CABLES WITHIN MANHOLES & HANDHOLES.
7. WORK DUCT ALLOCATION SHEETS WITH GENERAL PLANS FOR DUCT BREAK-OUT IN HANDHOLES.
8. STEEL LIGHT STANDARDS AND BRACKET ARMS ARE TO BE FIELD PAINTED, SEE SUPPLEMENTAL SPECIFICATIONS.
9. PROPOSED U.G.-FED ST. LTG. UNITS SHALL BE IN ACCORDANCE WITH DETAILS FOR ALUMINUM OR STEEL LTG. STANDARD INCLUDED IN THESE PLANS. GROUNDING SHALL BE AS SPECIFIED IN THE DETAILS FOR P.L.C. POST FOUNDATION. (UNLESS OTHERWISE NOTED).
10. ALL MERCURY VAPOR LUMINAIRES SHALL BE PROVIDED WITH 460 V. BALLASTS-(EXCEPT AS OTHERWISE NOTED).
11. ALL CONDUITS, CROSSING PAVEMENTS, SHALL EXTEND 4' BACK OF CURB OR PAVEMENT JOINT LINES. (EXCEPT AS OTHERWISE NOTED). ALL UNUSED CONDUITS SHALL BE PLUGGED.
12. ALL EXISTING STREET LIGHTING, TRAFFIC SIGNAL, PRIMARY ETC. CIRCUITS SHALL ALWAYS BE MAINTAINED IN AN OPERATIONAL CONDITION (EXCEPT WHERE OTHERWISE NOTED).
13. INSTALLATION OF ARMS FOR EQUIPMENT, CUTOUTS, POTHEADS, TRANSFORMERS, ETC. ARE NOT SHOWN ON NEW CABLE AND TRANSFORMER POLES. THEY SHALL BE INSTALLED AS PER THE DETAIL DRWG. REQUIREMENT AND SHALL BE INCIDENTAL TO FITTING-UP THE CABLE AND/OR TRANSFORMER POLE.
14. ALL TRANSFORMER POLES AND CABLE POLES SHALL BE FITTED UP WITH 120" ARMS (EXCEPT WHERE OTHERWISE NOTED).
15. O.H. WIRE REMOVAL, INSTALLATION AND CIRCUIT CONNECTION REVISIONS SHALL BE AS CALLED FOR ON THE PLANS OR COORDINATED WITH THE ENGINEER WHERE REQUIRED.
16. ALL NEW ANCHOR GUYS SHALL BE INSTALLED ON AN 1:1 RATIO OR AS NEARLY AS POSSIBLE. (EXCEPT WHERE OTHERWISE NOTED, STRUT GUYS ARE EXCEPTED).
17. ALL POTHEADS ON PRIMARY DISTRIBUTION CABLE POLES SHALL BE FLAT, DIVERGENT DISCONNECTING TYPE.
18. EXISTING O.H. AND T.S. FACILITIES ARE NOT NECESSARILY SHOWN ON PLANS.
19. 6" CLASS "B" SEWER SHALL INCLUDE EXCAVATION, BACKFILL, DISPOSAL OF EXCESS & GRANULAR MATERIAL.
20. "INSTALL SALVAGED UNDERGROUND FED STREET LTG. UNIT ON NEW FOUNDATION" SHALL INCLUDE CONSTRUCTION OF THE FOUNDATION AND THE ERECTION OF THE SALVAGED LIGHTING STANDARD AND LUMINAIRE READY FOR OPERATION.
21. "REMOVE U.G.-FED ST. LTG. UNIT" SHALL INCLUDE ST. LTG. STANDARD, LUMINAIRE & FOUNDATION.
22. ALL TRAFFIC SIGNAL ITEMS AS CALLED FOR ON PLANS SHALL INCLUDE AS INCIDENTAL ALL CABLES FROM THE CONTROLLER TO THE TRAFFIC SIGNALS & FOUNDATIONS AS INDICATED.
23. "FIRE" OR "POLICE CALL BOX PEDESTAL" SHALL INCLUDE FOUNDATION.
24. "OVERHEAD STREET LIGHTING UNIT" & "REMOVE OVERHEAD STREET LIGHTING UNIT" SHALL INCLUDE AS INCIDENTAL IN ADDITION TO THE STREET LIGHTING UNIT, #8 TWIN FEED TO OVERHEAD STREET LIGHTING UNIT.
25. ALL PROPOSED & EXISTING U.G.-FED ST. LTG. UNITS SHALL BE STENCILLED AS SHOWN ON PLANS. (INCIDENTAL TO INSTALLATION OF PROPOSED U.G.-FED ST. LTG. UNITS).
26. ALL OVERHEAD WIRES AND UNDERGROUND CABLES SHALL CONSIST OF COPPER CONDUCTORS AS PER THE SPECIFICATIONS.
27. ALL TREE TRIMMING REQUIRED TO CLEAR NEW U.G.-FED ST. LTG. UNITS SHALL BE INCIDENTAL TO INSTALLATION OF U.G.-FED ST. LTG. UNITS.
28. FOR LOCATIONS OF P.L.C. INSTALLATIONS ON STRUCTURES SUCH AS CONDUIT, CONDUIT SLEEVES, HANDHOLES, G.I. PIPE & ST. LTG. STD. ANCHOR BOLTS SEE STRUCTURE PLANS.

SPECIAL NOTE

THESE PLANS APPROVED FOR THE PUBLIC LIGHTING COMMISSION EXCEPT FOR THE FRANGIBLE BASES.

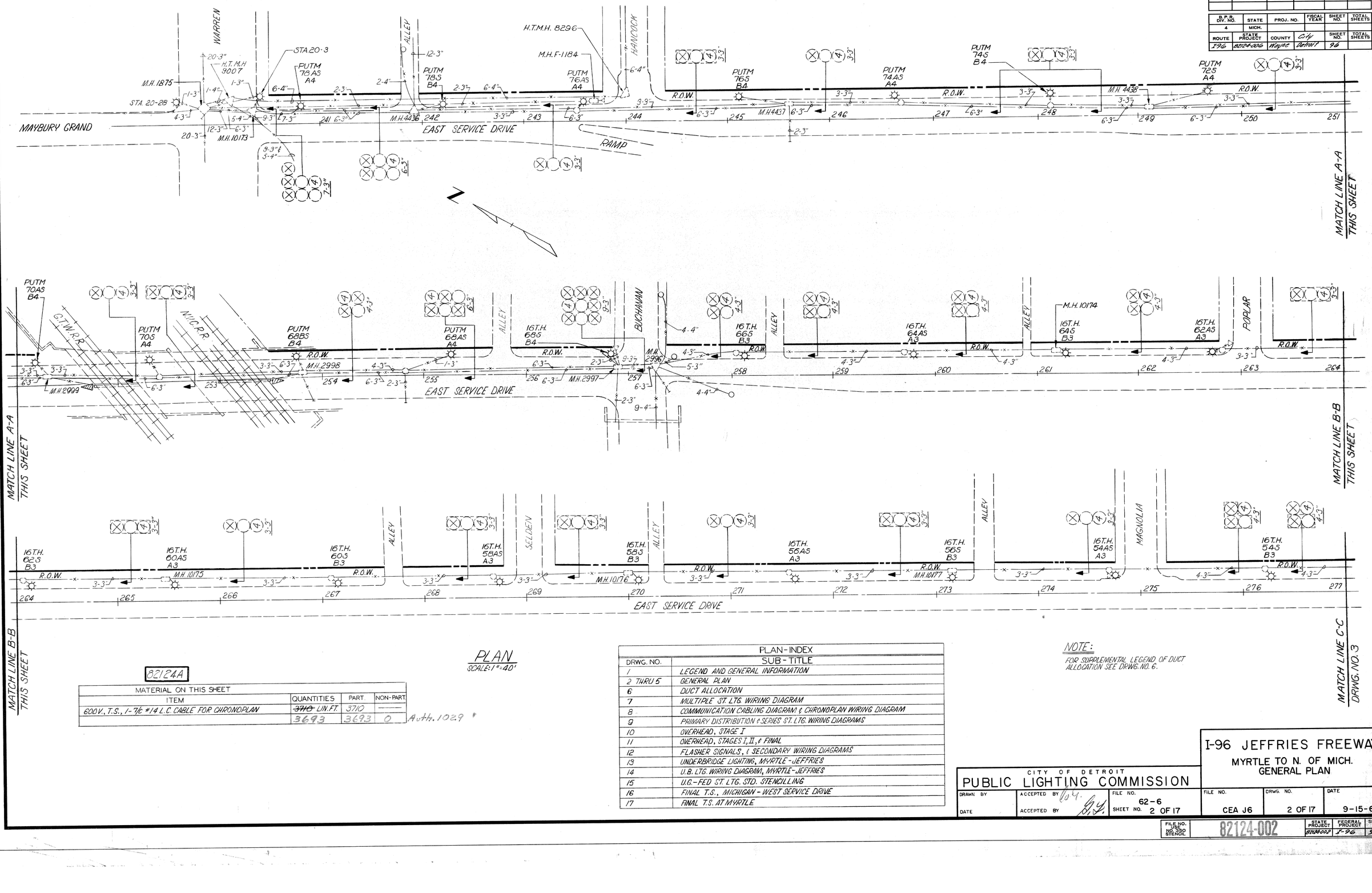
Lou Gruenfeld

DRAWN BY CEA	PLAN PREPARED BY CONSULTING ENGINEERING ASSOCIATES INC. ENGINEERING CONSULTANTS 16580 WYOMING DETROIT, MICH. 48221	I-96 JEFFRIES FREEWAY MYRTLE TO N. OF MICH.	
CHECKED BY		LEGEND AND GENERAL INFORMATION	
APPROVED BY			
CITY OF DETROIT PUBLIC LIGHTING COMMISSION			
DRAWN BY / DATE	ACCEPTED BY / ACCEPTED BY	FILE NO. 62-6 SHEET NO. 1 OF 17	FILE NO. CEA J6 / DRWG. NO. 1 OF 17 / DATE 9-15-67

FILE NO. I.D. NO. 350 STENCIL | 82124-002 | STATE PROJECT M 96 (67) | FEDERAL PROJECT I-96 | SHEET NO. 25

B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY		SHEET NO.	TOTAL SHEETS

B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY	C-H	SHEET NO.	TOTAL SHEETS
I-96	82124-002	Wayne	Detroit	96	



PLAN
SCALE: 1"=40'

82124A

MATERIAL ON THIS SHEET			
ITEM	QUANTITIES	PART.	NON-PART.
600V., T.S., 1-7/c #14 L.C. CABLE FOR CHRONOPLAN	~~3710~~ LIN.FT.	3710	———
	3693	3693	0

Auth. 1029 "

PLAN-INDEX	
DRWG. NO.	SUB-TITLE
1	LEGEND AND GENERAL INFORMATION
2 THRU 5	GENERAL PLAN
6	DUCT ALLOCATION
7	MULTIPLE ST. LTG. WIRING DIAGRAM
8	COMMUNICATION CABLING DIAGRAM & CHRONOPLAN WIRING DIAGRAM
9	PRIMARY DISTRIBUTION & SERIES ST. LTG. WIRING DIAGRAMS
10	OVERHEAD, STAGE I
11	OVERHEAD, STAGES I, II, & FINAL
12	FLASHER SIGNALS, & SECONDARY WIRING DIAGRAMS
13	UNDERBRIDGE LIGHTING, MYRTLE-JEFFRIES
14	U.B. LTG. WIRING DIAGRAM, MYRTLE-JEFFRIES
15	U.G.-FED ST. LTG. STD. STENCILLING
16	FINAL T.S., MICHIGAN-WEST SERVICE DRIVE
17	FINAL T.S. AT MYRTLE

NOTE:
FOR SUPPLEMENTAL LEGEND OF DUCT ALLOCATION SEE DRWG. NO. 6.

CITY OF DETROIT
PUBLIC LIGHTING COMMISSION

I-96 JEFFRIES FREEWAY
MYRTLE TO N. OF MICH.
GENERAL PLAN

DRAWN BY	ACCEPTED BY	FILE NO.	FILE NO.	DRWG. NO.	DATE
DATE	ACCEPTED BY	62-6 SHEET NO. 2 OF 17	CEA J6	2 OF 17	9-15-67

FILE NO. NO. 390 STENCIL	82124-002	STATE PROJECT	FEDERAL PROJECT	SHEET NO.
		82124-002	I-96	96

B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY		SHEET NO.	TOTAL SHEETS

B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY	CITY	SHEET NO.	TOTAL SHEETS
I-96	82124-002	Wayne	Detroit	~~96~~ 97	

82194 L

MATERIAL ON THIS SHEET

ITEM		QUANTITIES	PART.	NON-PART.
1-3" ENCASED CONDUIT	A-1029	~~220~~ 220		
2-3" ENCASED CONDUIT	A-1029	~~420~~ LIN.FT.	~~184~~ 184	~~286~~ 286
3-3" ENCASED CONDUIT	A-1029	~~166~~ LIN.FT.	~~77~~ 77	~~89~~ 89
8-4" ENCASED CONDUIT	A-1029	~~1065~~ LIN.FT.	~~580~~ 580	~~530~~ 530
STREET TYPE "D" HANDHOLE		~~198~~ LIN.FT.	~~198~~ 198	~~3~~ 3
#1 TWO-WAY MANHOLE		4 EACH	—	4
LTG. STD. WITH 6 FT. ARM ON NEW FDN.		3 EACH	3	—
LTG. STD. WITH 6 FT. ARM ON BRIDGE		11 EACH	—	11
LTG. STD. WITH FRANGIBLE BASE & 17 FT. ARM ON NEW FDN.		4 EACH	—	4
INSTALL SALVAGED 400W. CLEAR MERCURY VAPOR LUMINAIRE		7 EACH	7	—
250 W. CLEAR MERCURY VAPOR LUMINAIRE		~~0~~ 5 EACH	0 5	—
400 W. CLEAR MERCURY VAPOR LUMINAIRE		9 EACH	—	9
COMMUNICATION CABLE, 16 GA., PLASTIC JACKETED, 3 PR.		6 EACH	—	6
COMMUNICATION CABLE, 16 GA., PLASTIC JACKETED, 6 PR.		~~510~~ 510 LIN.FT.	~~511~~ 511	~~510~~ 510
600 V., T.S., 1-7/0 #14 L.C. CABLE FOR CHRONOPLAN		~~491~~ 491 LIN.FT.	~~478~~ 478	~~491~~ 491
600 V., 2-1/0 #6 L.C. CABLES	A-1029	~~1161~~ 1161 LIN.FT.	~~1917~~ 1917	~~1161~~ 1161
600 V., 2-1/c #6 L.C. CABLES & 1-#6 NEOPRENE	A-1029	201 207 LIN.FT.	~~201~~ 201	~~201~~ 201
600 V., 1-1/c #6 D.B. CABLE IN CONDUIT	A-1029	~~240~~ 240 LIN.FT.	~~296~~ 296	~~240~~ 240
600 V., 2-1/c #6 D.B. CABLES IN CONDUIT	A-1029	~~410~~ LIN.FT.	~~351~~ 351	~~410~~
600 V., 1-1/c #6 D.B. CABLE & 1-#6 NEOPRENE IN CONDUIT	A-1029	34 ~~44~~ LIN.FT.	34	~~44~~
600 V., 2-1/c #6 D.B. CABLES & 1-#6 NEOPRENE IN CONDUIT	A-1029	~~284~~ ~~251~~ LIN.FT.		~~284~~ ~~251~~
600 V., 3-1/c #6 D.B. CABLES & 1-#6 NEOPRENE IN CONDUIT	A-1029	1538 LIN.FT.		~~1599~~ 1538
600 V., 1-1/c #6 D.B. CABLE & 1-#6 NEOPRENE IN EARTH	A-1029	~~198~~ ~~197~~ LIN.FT.	~~196~~ 196	~~197~~ 197
600 V., 2-1/c #6 D.B. CABLES & 1-#6 NEOPRENE IN EARTH	A-1029	~~436~~ LIN.FT.	~~436~~ 436	~~436~~ 436
5000 V., 1-3/c # 4/0 L.C. PRIMARY DISTRIBUTION CABLE	A-1029	~~692~~ LIN.FT.	~~692~~ 692	~~692~~ 692
7500 V., 2-1/c # 8 L.C. ST. LTG. CABLES	A-1029	~~618~~ LIN.FT.	~~613~~ 613	~~618~~ 618
REMOVE CALL BOX PEDESTAL	1007	~~1006~~ LIN.FT.	~~1006~~ 1006	~~1006~~ 1006
CALL BOX PEDESTAL ON NEW FDN.		1 EACH	1	—
6" CLASS "B" SEWER	A-1029	1 EACH	1	—
ADJUST HANDHOLE	A-1029	~~0~~ LIN.FT.	~~0~~ 0	~~0~~ 0
ADJUST MANHOLE	A-1029	3 EACH	3	—
		~~2~~ 3 EACH	~~2~~ 3	—

NOTE:

1. INSTALL SALVAGED ~~400~~ 400W. CLEAR MERCURY VAPOR LUMINAIRE (FROM OLD MICH. TEMP. RD.). DO NOT CONNECT #8 POST WIRES TO LUMINAIRE.

Delete item by Auth. # ___

NOTE:
All meas. shown are center to center.

82124A

MATERIAL ON THIS SHEET

ITEM	QUANTITIES	PART.	NON-PART.	
600 V., T.S. 1-1/c #14 L.C. CABLE FOR CHRONOPLAN	250 LIN.FT.	250	—	#included above
600 V., 1-1/c #6 D.B. CABLE IN CONDUIT	205 LIN.FT.	205	—	#included above

Auth. # ___.

CITY OF DETROIT
PUBLIC LIGHTING COMMISSION

I-96 JEFFRIES FREEWAY
MYRTLE TO N. OF MICH.
GENERAL PLAN

DRAWN BY	ACCEPTED BY	FILE NO.	SHEET NO.
DATE	ACCEPTED BY	62-6	3 OF 17

FILE NO.	DRWG. NO.	DATE
CEA J6	3 OF 17	9-15-67

FILE NO. PLS NO 350 STENCIL	STATE PROJECT	FEDERAL PROJECT	SHEET NO.
	82124-002	RAM-IM-I-96	97

PLAN
SCALE: 1" = 40'

S.F.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY		SHEET NO.	TOTAL SHEETS

S.F.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY	City	SHEET NO.	TOTAL SHEETS
I-96	82124-002	Wayne	Detroit	98	

82194 L

MATERIAL ON THIS SHEET					
ITEM			QUANTITIES	PART.	NON-PART.
1-3" ENCASED CONDUIT	A-1029	290	~~332~~ LIN.FT.	18 ~~20~~	272 ~~312~~
2-3" ENCASED CONDUIT	A-1018-1029	997	~~934~~ LIN.FT.	35 ~~98~~	962 ~~904~~
3-3" ENCASED CONDUIT	A-1029	742	~~778~~ LIN.FT.	371 ~~389~~	371 ~~389~~
4-3" ENCASED CONDUIT	A-1029	#387	~~316~~ LIN.FT.	129 ~~42~~	258 ~~144~~
STREET TYPE "D" HANDHOLE			8 EACH	—	8
#1 TWO-WAY MANHOLE			4 EACH	2	2
LTG. STD. WITH 6 FT. ARM ON NEW FDN.			13 EACH	—	13
LTG. STD. WITH FRANGIBLE BASE & 10 FT. ARM ON NEW FDN.			7 EACH	7	—
LTG. STD. WITH 10 FT. ARM ON NEW FDN.			1 EACH	1	—
LTG. STD. WITH FRANGIBLE BASE & 17 FT. ARM ON NEW FDN.			13 EACH	13	—
250 W. CLEAR MERCURY VAPOR LUMINAIRE			13 EACH	—	13
COMMUNICATION CABLE, 16 GA., PARKWAY, 3 PR.		532	~~542~~ LIN.FT.	—	~~542~~ 542
COMMUNICATION CABLE, 16 GA., PLASTIC JACKETED, 3 PR.			92 LIN.FT.	92	—
COMMUNICATION CABLE, 16 GA., PLASTIC JACKETED, 6 PR.			225 LIN.FT.	—	225
600V., T.S., 1-7/c #14 L.C. CABLE FOR CHRONOPLAN		983	~~900~~ LIN.FT.	983 ~~900~~	—
600V., 1-1/c #6 D.B. CABLE & 1-#6 NEOPRENE IN CONDUIT			~~51~~ LIN.FT.	75 ~~51~~	75 ~~51~~
600V., 2-1/c #6 D.B. CABLES & 1-#6 NEOPRENE IN CONDUIT			~~2591~~ LIN.FT.	~~277~~	~~2314~~
600V., 3-1/c #6 D.B. CABLES & 1-#6 NEOPRENE IN CONDUIT			~~20~~ LIN.FT.	15 ~~20~~	15 ~~20~~
600V., 1-1/c #6 D.B. CABLE & 1-#6 NEOPRENE IN EARTH			316 LIN.FT.	316	—
600V., 2-1/c #6 D.B. CABLES & 1-#6 NEOPRENE IN EARTH			~~2288~~ LIN.FT.	~~2288~~	—
600V., 3-1/c #6 D.B. CABLES & 1-#6 NEOPRENE IN EARTH		198	~~202~~ LIN.FT.	198 ~~202~~	—
FURNISHING POLICE CALL BOX			2 EACH	—	2
REMOVE CALL BOX PEDESTAL			1 EACH	1	—

See Auth. 1018 & 1029 for Changes.
* Includes Sheet 99.

NOTE: All meas. shown are center to center.

SALVAGED FIRE CALL BOX NO. 377 ON ST. LTG. STD. SEE COMM. CABLING DIAGRAM DRWG. NO. 8

EXIST. FIRE CALL BOX NO. 377 TO BE REMOVED BY COMM. DIV. SEE COMM. CABLING DIAGRAM DRWG. NO. 8.

REMOVE CALL BOX PEDESTAL & BREAK DOWN FOUNDATION.

NEW POLICE CALL BOX NO. 402 ON ST. LTG. STD. SEE COMM. CABLING DIAGRAM, DRWG. NO. 8

NEW POLICE CALL BOX NO. 401 ON ST. LTG. STD. SEE COMM. CABLING DIAGRAM, DRWG. NO. 8

LOCATION OF ST. LTG. STD'S ALONG WEST SERV. DR. MAY NEED TO BE ADJUSTED IN THE FIELD TO CLEAR PROPOSED DRIVEWAYS. COORDINATE WITH THE ENGINEER.

MATCH LINE E-E DRWG. NO. 5

MATCH LINE F-F DRWG. NO. 5

MATCH LINE D-D DRWG. NO. 3

Delete by Auth. #

Add 15' of 1-3" duct by Auth #

Delete by Auth. #

2-1/c #6 D.B. CABLES & 1-#6 NEOPRENE TO ENTER DUCT IN BRIDGE SLAB

PLAN
SCALE: 1" = 40'

Auth. # ____

CITY OF DETROIT
PUBLIC LIGHTING COMMISSION

I-96 JEFFRIES FREEWAY
MYRTLE TO N. OF MICH.
GENERAL PLAN

DRAWN BY	ACCEPTED BY	FILE NO.	DRWG. NO.	DATE
DATE	ACCEPTED BY	62-6	CEA J6	4 OF 17	9-15-67
		SHEET NO. 4 OF 17		

FILE NO. (FED. AID PROJ. STENCIL)	STATE PROJECT	FEDERAL PROJECT	SHEET NO.
82124-002		I-96	98

B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY		SHEET NO.	TOTAL SHEETS

B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY		SHEET NO.	TOTAL SHEETS
FPE	82124-002	Wayne	City of Detroit	99	

82194L

MATERIAL ON THIS SHEET

ITEM		QUANTITIES	PART.	NON-PART.
1-3" ENCASED CONDUIT	A-1029	60 ~~52~~ LIN.FT.	—	60 ~~52~~
2-3" ENCASED CONDUIT	A-1014-1029	385 ~~425~~ LIN.FT.	0 ~~6~~ 385	~~419~~
4-3" ENCASED CONDUIT	A-1029	387 ~~156~~ LIN.FT.	129 ~~52~~ 258	~~104~~
STREET TYPE "D" HANDHOLE		3 EACH	—	3
#1 TWO-WAY MANHOLE		1 EACH	—	1
LTG. STD. WITH 6 FT. ARM ON NEW FDN.	A-1014	4 ~~5~~ EACH	—	4 ~~5~~
LTG. STD. WITH 10 FT. ARM ON NEW FDN.	A-1014	0 + EACH	0 +	—
LTG. STD. WITH FRANGIBLE BASE & 10 FT. ARM ON NEW FDN.		6 ~~8~~ EACH	6 ~~8~~	—
LTG. STD. WITH FRANGIBLE BASE & 17 FT. ARM ON NEW FDN.		2 ~~3~~ EACH	2 ~~3~~	—
250 W. CLEAR MERCURY VAPOR LUMINAIRE		4 ~~5~~ EACH	—	4 ~~5~~
COMMUNICATION CABLE, 16 GA., PLASTIC JACKETED, 6 PR.		282 ~~290~~ LIN.FT.	—	282 ~~290~~
600 V., T.S., 1-7/c #14 L.C. CABLE FOR CHRONOPLAN		284 ~~384~~ LIN.FT.	~~384~~ 284	—
600 V., 2-1/c #6 L.C. CABLES		454 ~~452~~ LIN.FT.	~~452~~ 454	—
600 V., 1-1/c #6 D.B. CABLE IN CONDUIT		258 ~~269~~ LIN.FT.	—	258 ~~269~~
600 V., 1-1/c #6 D.B. CABLE & 1-#6 NEOPRENE IN CONDUIT	A-1029	132 ~~159~~ LIN.FT.	—	132 ~~159~~
600 V., 2-1/c #6 D.B. CABLES & 1-#6 NEOPRENE IN CONDUIT	A-1029	709 ~~606~~ LIN.FT.	0 ~~28~~ 709	~~578~~
600 V., 1-#6 NEOPRENE IN EARTH	A-1014-1029	258 ~~308~~ LIN.FT.	~~308~~ 258	—
600 V., 1-1/c #6 D.B. CABLE & 1-#8 NEOPRENE IN EARTH	A-1014-1029	407 ~~974~~ LIN.FT.	407 ~~974~~	—
600 V., 2-1/c #6 D.B. CABLES & 1-#6 NEOPRENE IN EARTH	A-1014-1029	407 ~~906~~ LIN.FT.	407 ~~906~~	—
LTG. STD. WITH 17FT. ARM ON NEW FDN.	A-1014	0 + EACH	0 +	—
1-4" ENCASED CONDUIT	A-1014	0 ~~32~~ LIN.FT.	0 ~~32~~	—
RECONSTRUCT MANHOLE	A-1014	0 + EACH	0 +	—
ADJUST HANDHOLE	A-1014	0 + EACH	0 +	—

LOCATION OF ST. LTG. STD'S. ALONG WEST SERV. DR. MAY NEED TO BE ADJUSTED IN THE FIELD TO CLEAR PROPOSED DRIVEWAYS. COORDINATE WITH THE ENGINEER.

PLAN
SCALE: 1"=40'

NOTE:
All meas. shown are center to center.

Auth. # 1014

CITY OF DETROIT
PUBLIC LIGHTING COMMISSION

I-96 JEFFRIES FREEWAY
MYRTLE TO N. OF MICH.
GENERAL PLAN

DRAWN BY	ACCEPTED BY	FILE NO.	FILE NO.	DRWG. NO.	DATE
DATE	ACCEPTED BY	62-6	CEA J6	5 OF 17	9-15-67
		SHEET NO. 5 OF 17			

FILE NO. DRN. NO. 1350 STENCIL	82124-002	STATE PROJECT 82124-002	FEDERAL PROJECT I-96	SHEET NOS. 99

B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY		SHEET NO.	TOTAL SHEETS

B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY	City	SHEET NO.	TOTAL SHEETS
I-96	82124-002	Wayne	Detroit	100	

DUCT ALLOCATION OF AREA NORTH CONTINUED ON DRWG. NO. 3.

SUPPLEMENTAL LEGEND:

1. MULTIPLE STREET LIGHTING.
2. COMMUNICATION.
3. TRAFFIC SIGNAL POWER OR FLASHER POWER.
4. CHRONOPLAN.
5. TRAFFIC SIGNAL.
6. UNDERBRIDGE LIGHTING POWER.
7. PRIMARY DISTRIBUTION, STANTON-666.
8. SERIES STREET LIGHTING, STANTON-2.
9. SERIES STREET LIGHTING, STANTON-25.

E. FUTURE TRAFFIC SIGNAL.

MYRTLE
ASH
LAWTON
BUTTERNUT
HUMBOLDT
MICHIGAN
ALLEY
MYRTLE BRIDGE
JEFFRIES FREEWAY
N. BD. JEFFRIES
S. BD. JEFFRIES
E. SERV. DR.
W. SERV. DR.
C.P.
H.H.
M.H. 10181
M.H. 10179
M.H. 10180
M.H. 10192
M.H. 10183
M.H. 10184
M.H. 10185
M.H. 10155
M.H. 10156
M.H. 2728
M.H. 10157
M.H. 10158
M.H. 10159
M.H. 10160
M.H. 10161
M.H. 1810
M.H. 10162

DUCT ALLOCATION

CITY OF DETROIT
PUBLIC LIGHTING COMMISSION

I-96 JEFFRIES FREEWAY
MYRTLE TO N. OF MICH.
DUCT ALLOCATION

DRAWN BY	ACCEPTED* BY	FILE NO.	FILE NO.	DRWG NO.	DATE
DATE	ACCEPTED	SHEET NO. 6 OF 17	CEA J6	6 OF 17	9-15-67

FILE NO. USE NO. 350 STENCIL	82124-002	STATE PROJECT	FEDERAL PROJECT	SHEET NO.
		82124-002	I-96	100

B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY		SHEET NO.	TOTAL SHEETS

B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY	City	SHEET NO.	TOTAL SHEETS
I-96	82124-002	Wayne	Detroit	101	

SUPPLEMENTAL LEGEND:
(FOR THIS SHEET ONLY)

- PROPOSED — 2-1/C #6 D.B. CABLES & 1-#6 NEOPRENE IN CONDUIT
- EXISTING — (EXCEPT AS OTHERWISE NOTED.)
- PROPOSED — 2-1/C #6 D.B. CABLES & 1-#6 NEOPRENE IN EARTH
- EXISTING — (EXCEPT AS OTHERWISE NOTED.)
- (1-N.) — INDICATES 1-#6 NEOPRENE
- (1-#6) — INDICATES 1-1/C #6 D.B. CABLE
- (3/1) — INDICATES 3-1/C #6 D.B. CABLES & 1-#6 NEOPRENE (OTHERS SIMILAR)
- GW — INDICATES #6 BARE GROUNDWIRE CONNECTING LTG. STD.(S) ON BRIDGE TO GROUNDING LUG IN BASE OF LTG. STD. ON NEW FDN.

NOTES:
1. UNCOVER & UNCOIL EXIST. D.B. CABLES, BRING INTO PROPOSED ST. LTG. STD.'S & CONNECT AS SHOWN

WHEN LTG. STD. IS INSTALLED WITHOUT LUMINAIRE ("WL") SEAL POST WIRES FOR FUTURE LUMINAIRE CONNECTION.

3-#6 MULT. O.H. TO BE REMOVED UPON COMPLETION OF MULT. LTG. SYSTEM IN E. SERV. DR. FROM THE SOUTH.

EAST SERVICE DRIVE
NORTHBOUND JEFFRIES
W. BD. FISHER TO N. BD. JEFFRIES
Delete by Auth. # 1014
S. BD. JEFFRIES TO E. BD. FISHER
WEST SERVICE DRIVE
SOUTHBOUND JEFFRIES
Delete by Auth # 1014
Delete by Auth. # 1014
Delete by Auth. # 1014
Delete by Auth. # 1014
MYRTLE BRIDGE
BRIDGES
MULTIPLE ST. LTG. WIRING DIAGRAM

Auth. # 1014

CITY OF DETROIT
PUBLIC LIGHTING COMMISSION

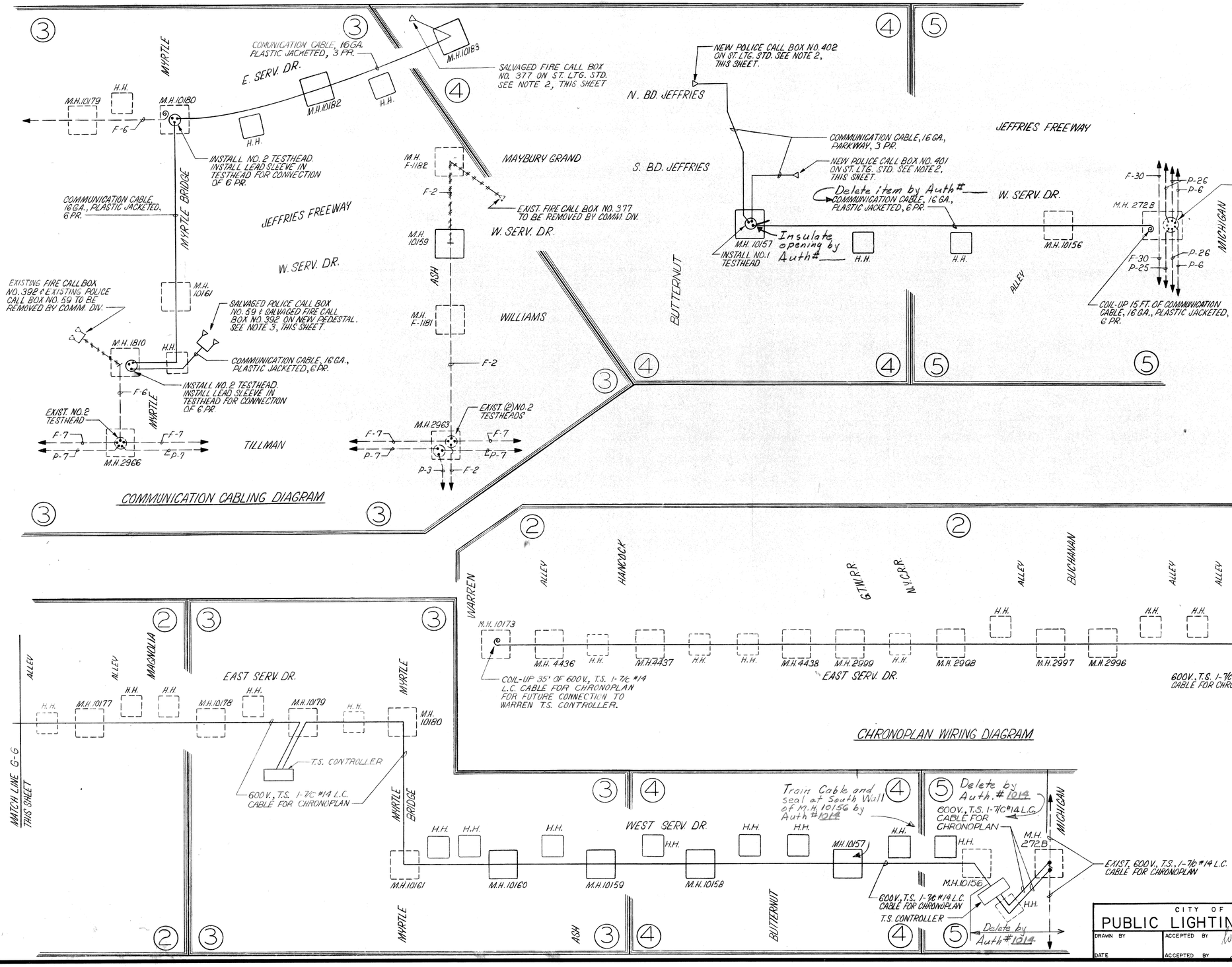
I-96 JEFFRIES FREEWAY
MYRTLE TO N. OF MICH.
MULT. ST. LTG. WIRING DIAGRAM

DRAWN BY	ACCEPTED BY	FILE NO.	FILE NO.	DRWG. NO.	DATE
DATE	ACCEPTED BY	62-6	CEA J6	.7 OF 17	9-15-67
		SHEET NO. 7 OF 17			

FILE NO. USE NO. 250 STENCIL	STATE PROJECT	FEDERAL PROJECT	SHEET NO.
82124-002	82124-002	I-96	101

B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY		SHEET NO.	TOTAL SHEETS

B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY	City	SHEET NO.	TOTAL SHEETS
I-96	82124-002	Wayne	Detroit	102	



COMMUNICATION CABLING DIAGRAM

CHRONOPLAN WIRING DIAGRAM

NOTES:

1. ALL CONNECTIONS & DISCONNECTIONS OF EXISTING COMM. DIV. FACILITIES TO BE MADE BY COMM. DIV.
2. COIL 6 FT. OF SLACK IN ST. LTG. STD. SHAFT FOR CONNECTION TO CALL BOX. CALL BOX TO BE INSTALLED & CONNECTIONS TO BE MADE BY COMM. DIV.
3. COIL 6 FT. OF SLACK IN CALL BOX PEDESTAL FOR CONNECTION TO TERMINAL STRIP. CALL BOX TO BE INSTALLED & CONNECTIONS TO BE MADE BY COMM. DIV.

Auth. # ____.

CITY OF DETROIT
PUBLIC LIGHTING COMMISSION

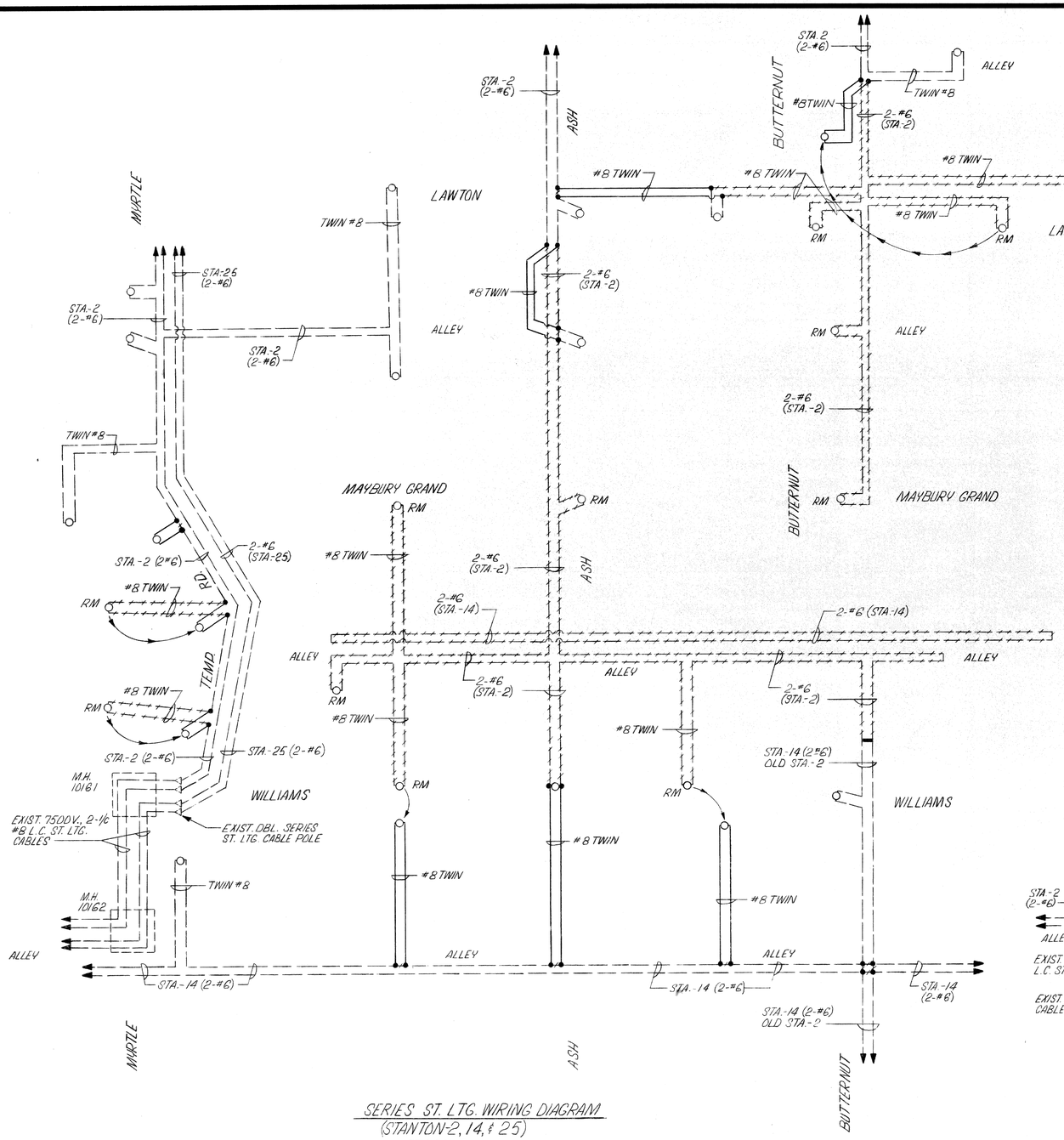
I-96 JEFFRIES FREEWAY
MYRTLE TO N. OF MICH.
COMMUNICATION CABLING DIAGRAM & CHRONOPLAN WIRING DIAGRAM

DRAWN BY	ACCEPTED BY	FILE NO.	DRWG. NO.	DATE
DATE	ACCEPTED BY	62-6	CEA J6	9-15-67
		SHEET NO. 8 OF 17	8 OF 17	

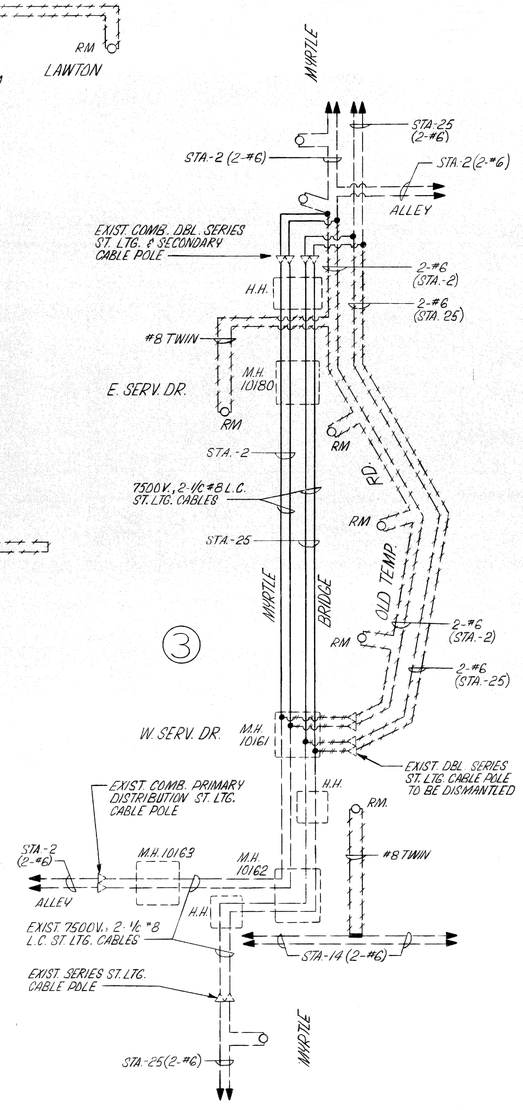
FILE NO. USE NO. 350 STENCIL	STATE PROJECT	FEDERAL PROJECT	SHEET NO.
82124-002	82124-002	I-96	102

S.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY		SHEET NO.	TOTAL SHEETS

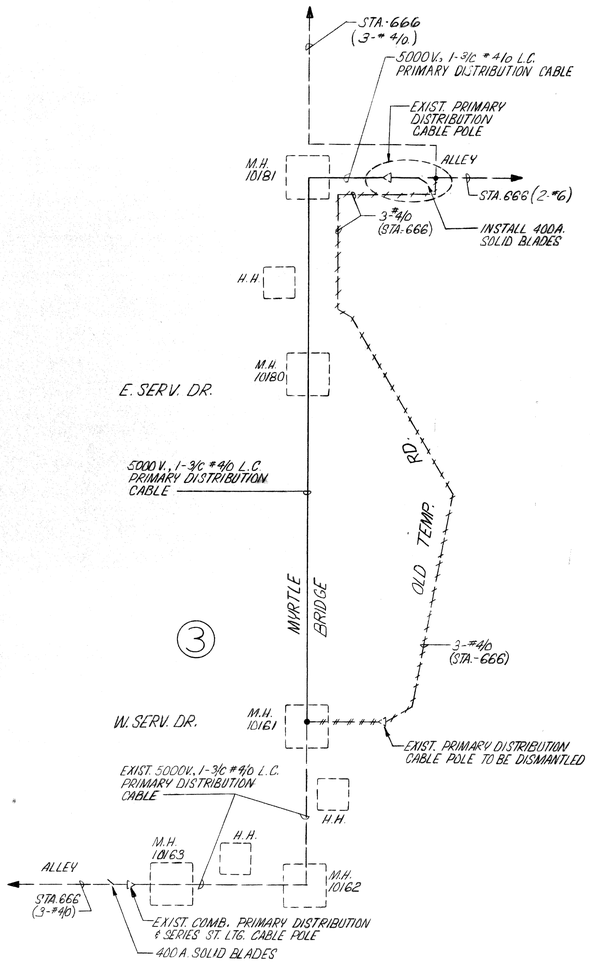
S.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY	City	SHEET NO.	TOTAL SHEETS
I-96	8224-002	Wayne	Detroit	103	



SERIES ST. LTG. WIRING DIAGRAM
(STANTON-2, 14, & 25)
STAGE I



SERIES ST. LTG. WIRING DIAGRAM
(STANTON-2, 14, & 25)
STAGE II & FINAL



PRIMARY DISTRIBUTION WIRING DIAGRAM
(STANTON-666)

CITY OF DETROIT
PUBLIC LIGHTING COMMISSION

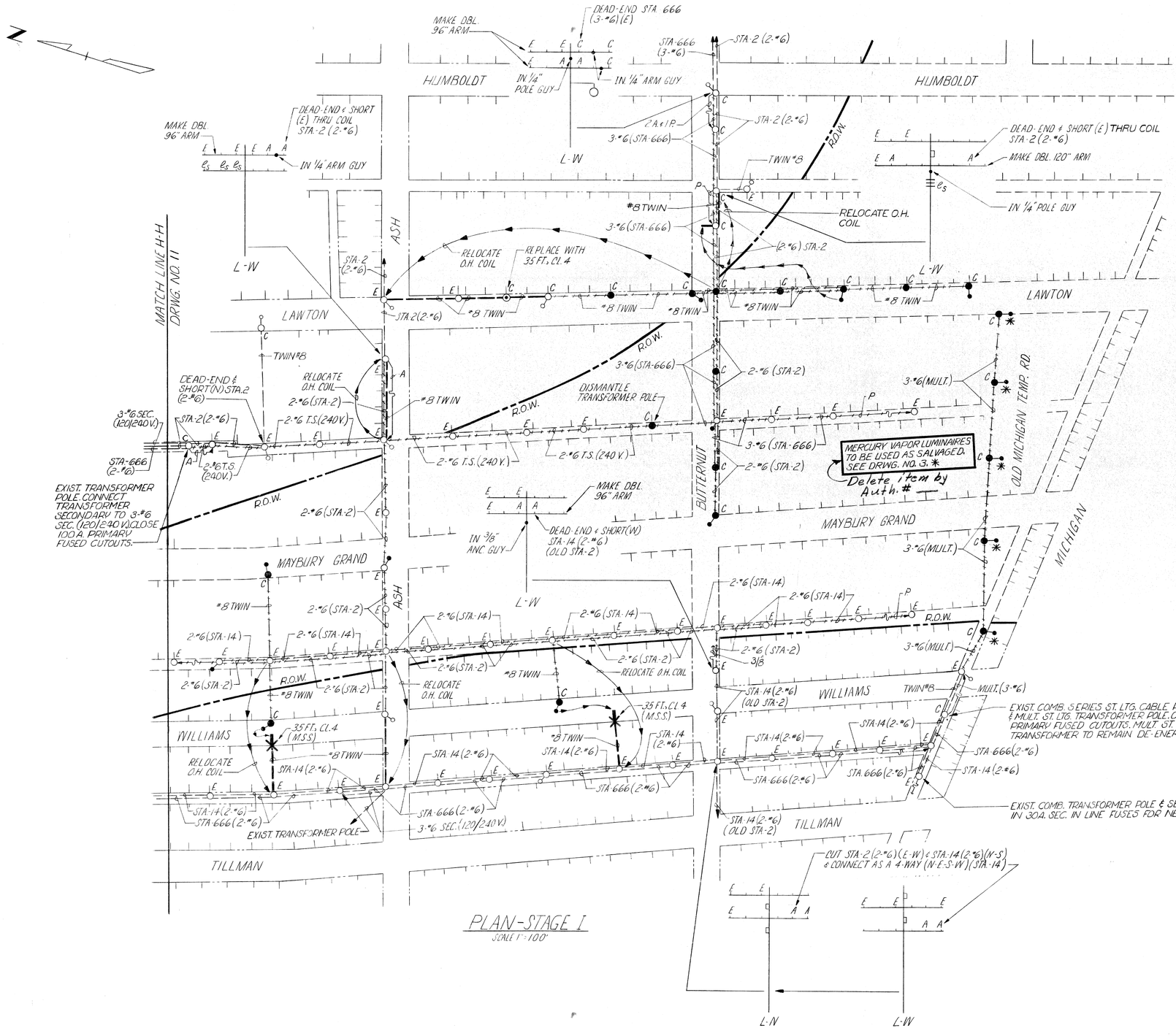
I-96 JEFFRIES FREEWAY
MYRTLE TO N. OF MICH.
PRIMARY DISTRIBUTION &
SERIES ST. LTG. WIRING DIAGRAMS

DRAWN BY	ACCEPTED BY	FILE NO 62-6	FILE NO.	DRWG. NO.	DATE
DATE	ACCEPTED BY	SHEET NO. 9 OF 17	CEA J6	9 OF 17	9-15-67

FILE NO. USE NO. 050 STENCIL	82124-002	STATE PROJECT	FEDERAL PROJECT	SHEET NO.
		82124-002	I-96	103

B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY		SHEET NO.	TOTAL SHEETS

B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY	City	SHEET NO.	TOTAL SHEETS
I-96	82124-002	Wayne	Detroit	10d	



PLAN-STAGE I
SCALE 1"=100'

821941

MATERIAL ON THIS SHEET			
ITEM	QUANTITIES	PART.	NON-PART.
REMOVE WOOD POLE A-1014	15 ~~20~~ EACH	15 ~~20~~	
REMOVE 2-#6 O.H. LINE A-1029	4541 ~~4572~~ LIN. FT.	~~4572~~ 4541	
REMOVE 3-#6 O.H. LINE A-1014-1029	1056 ~~1772~~ LIN. FT.	~~1772~~ 1056	
DISMANTLE TRANSFORMER POLE	1 EACH	~~1~~ 1	
35 FT., CLASS 4 WOOD POLE	3 EACH	3	
REMOVE O.H. ST. LTG. UNIT A-1014-1030	10 ~~14~~ EACH	10 ~~14~~	
INSTALL SALVAGED O.H. ST. LTG. UNIT	3 EACH	3	

Auth. # ____.

CITY OF DETROIT
PUBLIC LIGHTING COMMISSION

I-96 JEFFRIES FREEWAY
MYRTLE TO N. OF MICH.
OVERHEAD
STAGE I

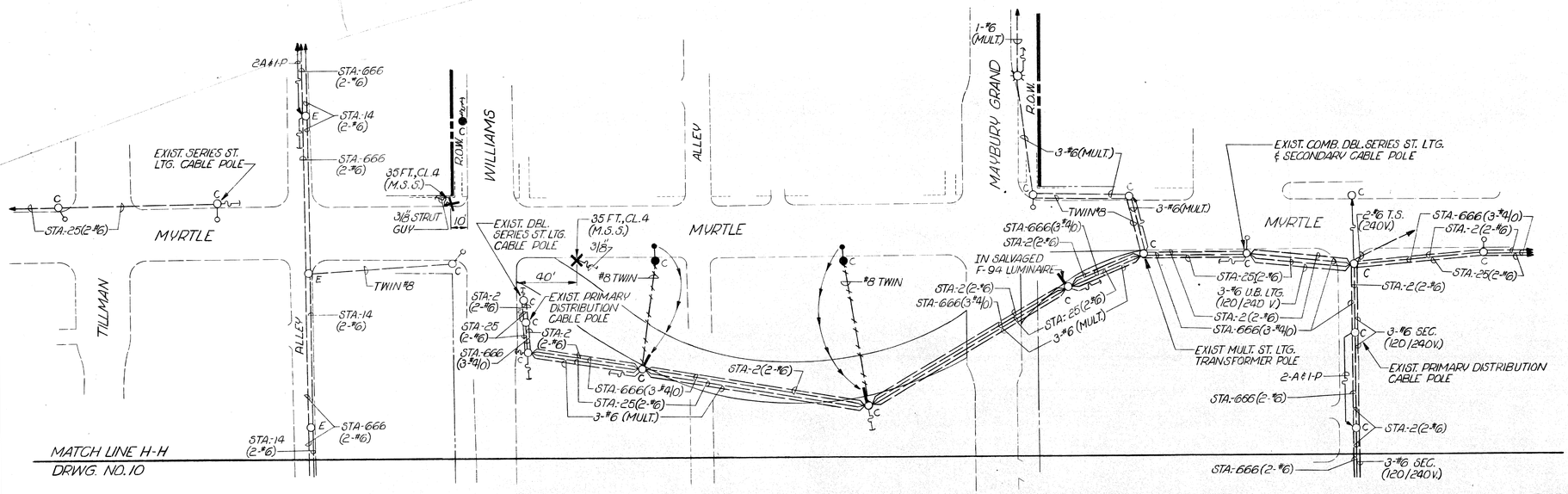
DRAWN BY	ACCEPTED BY	FILE NO. 62-6	FILE NO.	DRWG. NO.	DATE
DATE	ACCEPTED BY	SHEET NO. 10 OF 17	CEA J6	10 OF 17	9-15-67

FILE NO. USE NO. 350 STENCIL	82124-002	STATE PROJECT	FEDERAL PROJECT	SHEET NO.
		82124-002	I-96	10d

B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY		SHEET NO.	TOTAL SHEETS

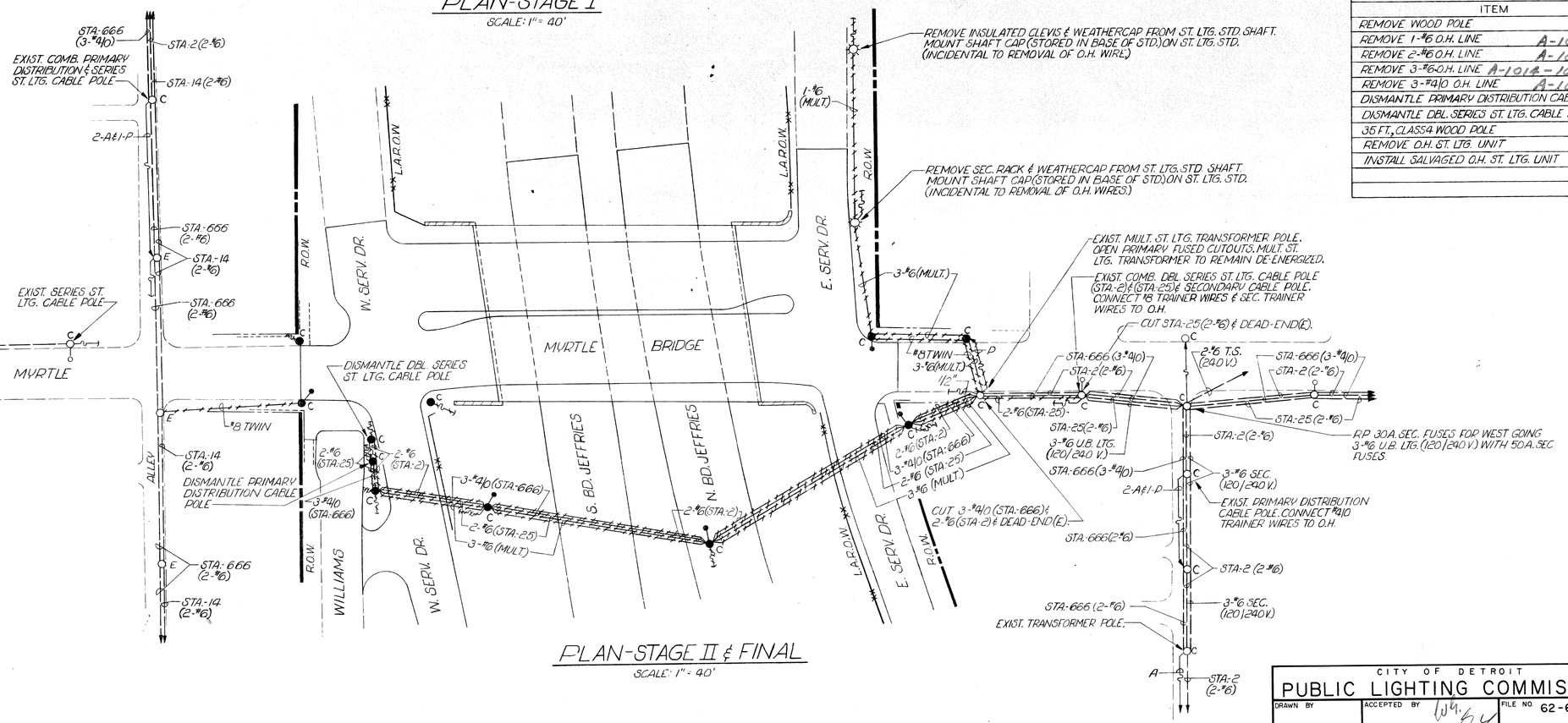
B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY	City	SHEET NO.	TOTAL SHEETS
I-96	82124-002	Wayne	Detroit	105	

19



PLAN-STAGE I

SCALE: 1" = 40'



PLAN-STAGE II & FINAL

SCALE: 1" = 40'

82194L

MATERIAL ON THIS SHEET

ITEM		QUANTITIES	PART.	NON-PART.
REMOVE WOOD POLE		14 EACH	14	
REMOVE 1-#6 O.H. LINE	A-1029	114 ~~115~~ LIN.FT.	114 ~~115~~	
REMOVE 2-#6 O.H. LINE	A-1029	1206 ~~973~~ LIN.FT.	1206 ~~973~~	
REMOVE 3-#6 O.H. LINE	A-1014-1029	605 ~~603~~ LIN.FT.	605 ~~603~~	
REMOVE 3-#4/0 O.H. LINE	A-1029	441 ~~460~~ LIN.FT.	~~460~~ 441	
DISMANTLE PRIMARY DISTRIBUTION CABLE POLE		1 EACH	1	
DISMANTLE DBL. SERIES ST. LTG. CABLE POLE		1 EACH	1	
35 FT., CLASS 4 WOOD POLE		2 EACH	2	
REMOVE O.H. ST. LTG. UNIT		7 EACH	7	
INSTALL SALVAGED O.H. ST. LTG. UNIT		3 EACH	3	

CITY OF DETROIT
PUBLIC LIGHTING COMMISSION

DRAWN BY	ACCEPTED BY	FILE NO. 62-6
DATE	ACCEPTED BY	SHEET NO. 11 OF 17

I-96 JEFFRIES FREEWAY
MYRTLE TO N. OF MICH.
OVERHEAD
STAGES I, II & FINAL

FILE NO.	DRWG. NO.	DATE
CEA J6	11 OF 17	9-15-67

FILE NO. USE NO. 350 STENCIL	STATE PROJECT	FEDERAL PROJECT	SHEET NO.
	82124-002	I-96	105

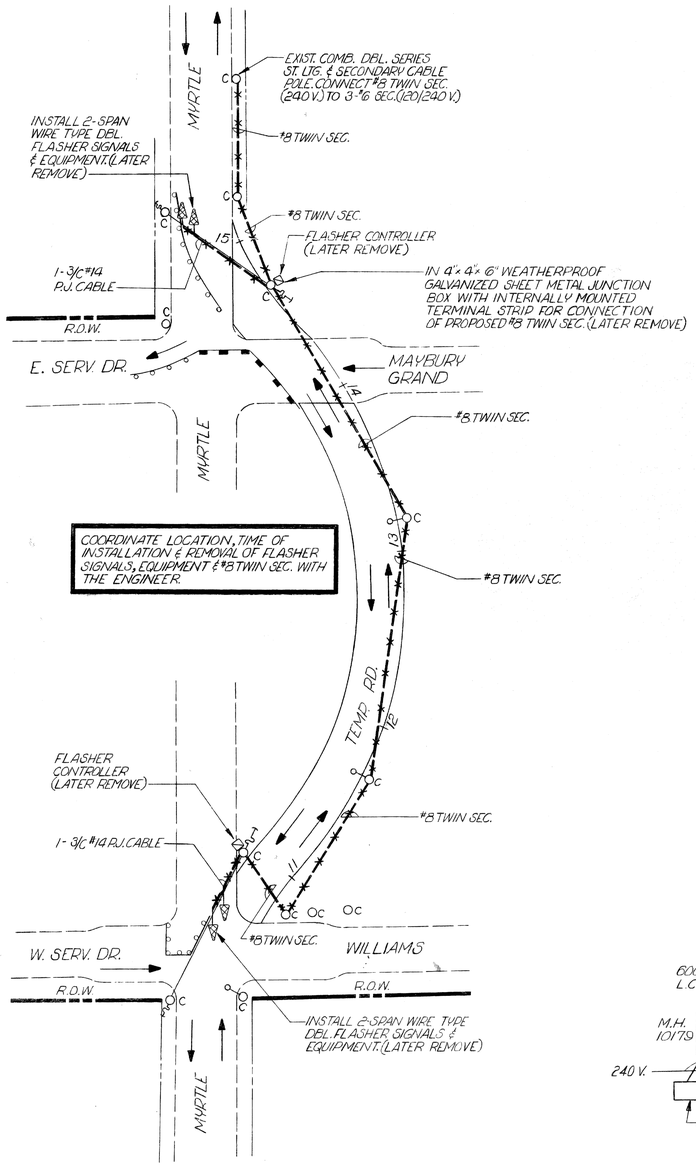
S.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY		SHEET NO.	TOTAL SHEETS

S.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY	City	SHEET NO.	TOTAL SHEETS
I-96	82124-002	Wayne	Detroit	106	

82194L

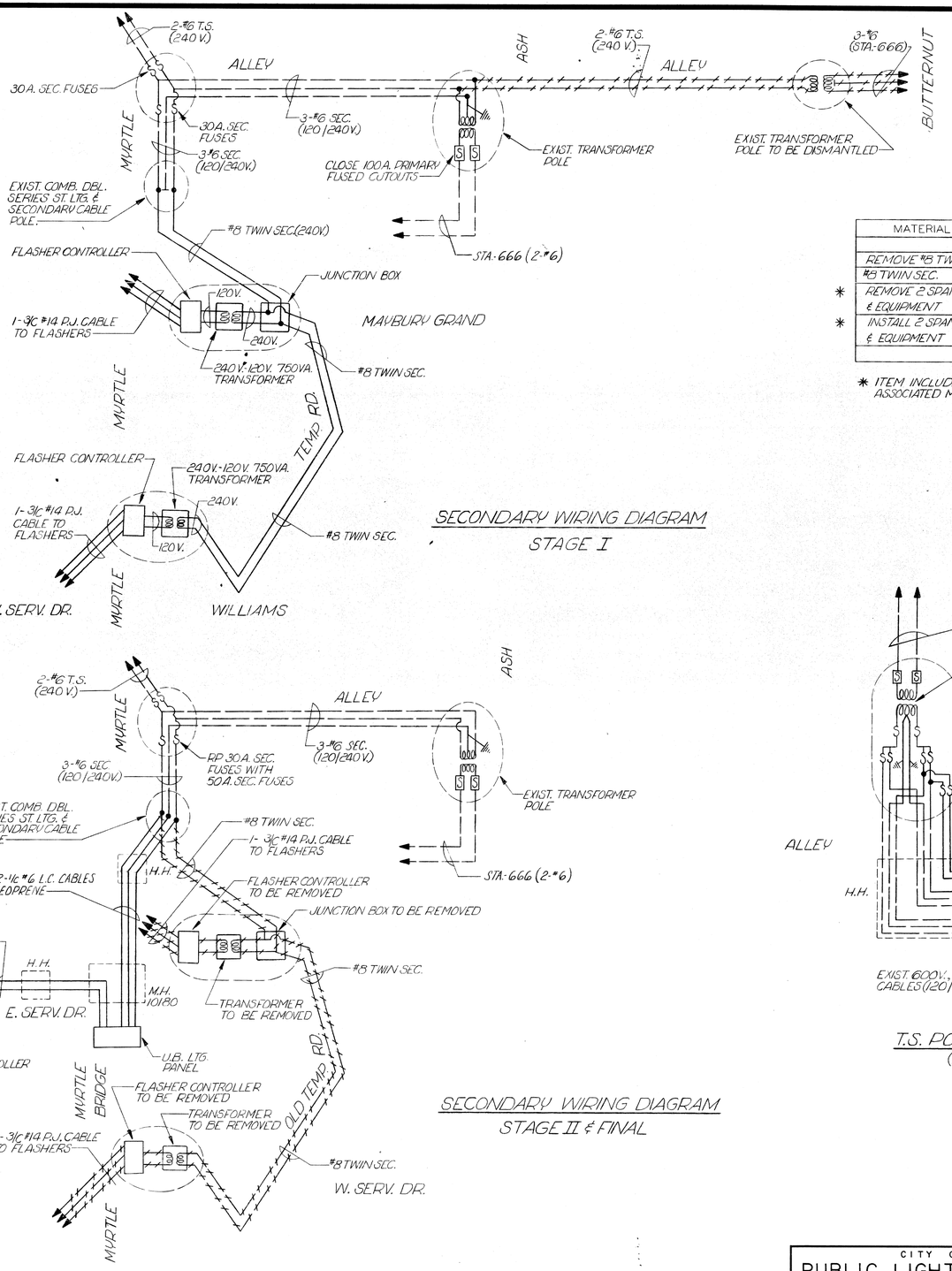
MATERIAL ON THIS SHEET				
ITEM		QUANTITIES	PART.	NON-PART.
REMOVE #8 TWIN SEC.	A-1029 516	~~554~~ LINFT.	~~554~~ 516	—
#8 TWIN SEC.	A-1029 516	~~884~~ LINFT.	~~554~~ 516	—
* REMOVE 2 SPAN WIRE TYPE DBL. FLASHER SIGNALS & EQUIPMENT		2 EACH	2	—
* INSTALL 2 SPAN WIRE TYPE DBL. FLASHER SIGNALS & EQUIPMENT		2 EACH	2	—

* ITEM INCLUDES ALL FLASHER SIGNALS, CONTROLLER, WIRING, SPAN WIRES, & ASSOCIATED MATERIAL FROM CONTROLLER TO FLASHER SIGNALS.



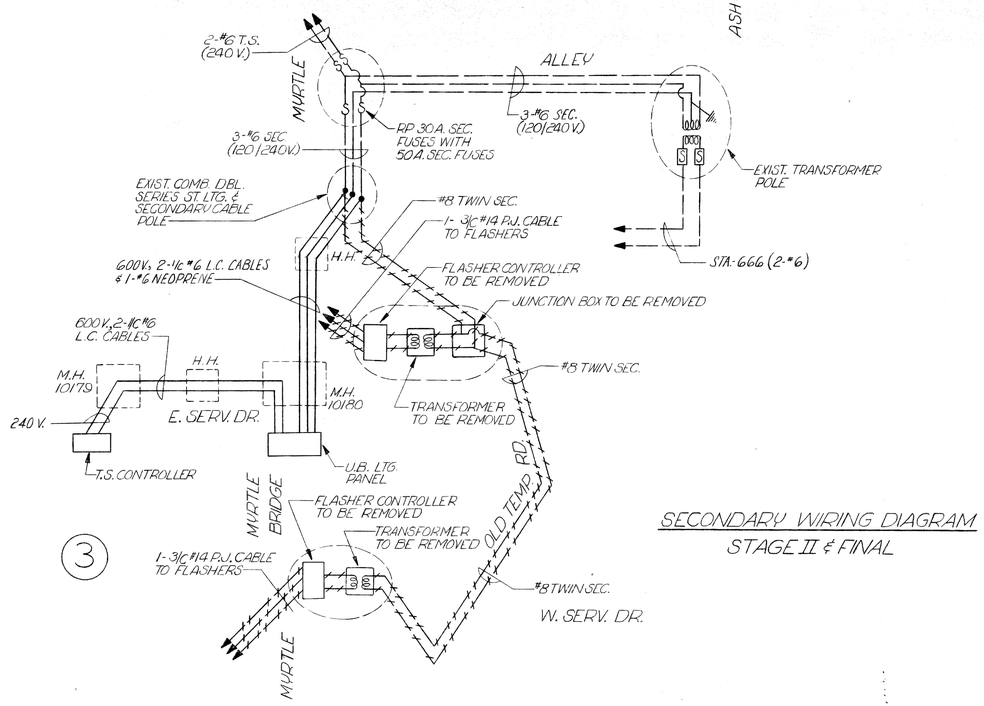
COORDINATE LOCATION, TIME OF INSTALLATION & REMOVAL OF FLASHER SIGNALS, EQUIPMENT & #8 TWIN SEC. WITH THE ENGINEER.

PLAN
SCALE: 1" = 40'



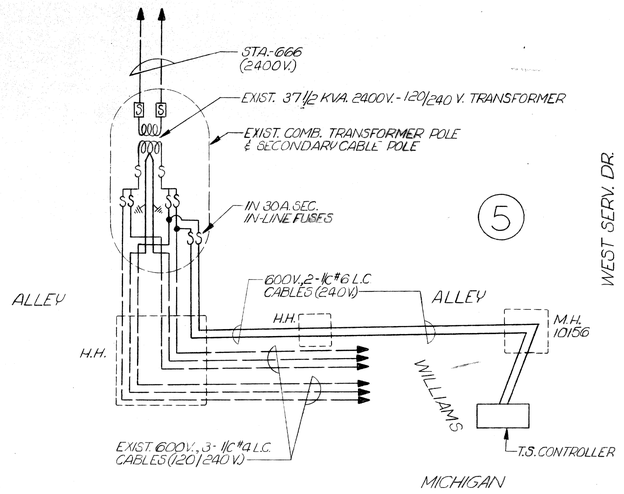
3

SECONDARY WIRING DIAGRAM
STAGE I



3

SECONDARY WIRING DIAGRAM
STAGE II & FINAL



T.S. POWER FEED WIRING DIAGRAM
(MICHIGAN - W. SERV. DR.)

CITY OF DETROIT
PUBLIC LIGHTING COMMISSION

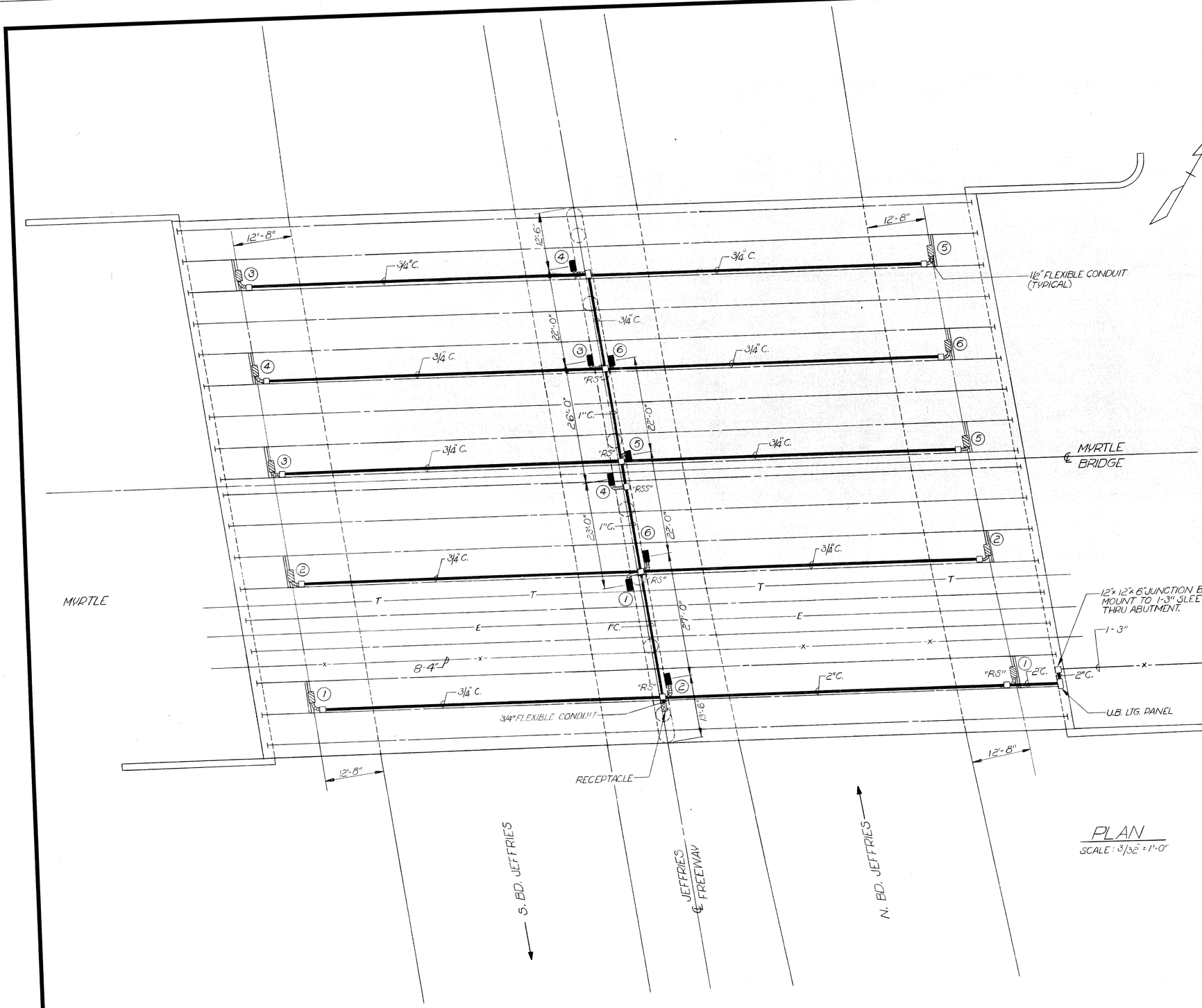
I-96 JEFFRIES FREEWAY
MYRTLE TO N. OF MICH.
FLASHER SIGNALS

DRAWN BY	ACCEPTED BY	FILE NO. 62-6	FILE NO.	DRWG. NO.	DATE
DATE	ACCEPTED BY	SHEET NO. 12 OF 17	CEA J6	12 OF 17	9-15-67

FILE NO. USE NO. 350 STENCIL	STATE PROJECT	FEDERAL PROJECT	SHEET NO.
	82124-002	I-96	106

B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY		SHEET NO.	TOTAL SHEETS

B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY		SHEET NO.	TOTAL SHEETS
I-96	82124-002	Wayne	Detroit	107	



PLAN
SCALE: 3/32" = 1'-0"

82194L

MATERIAL ON THIS SHEET ITEM	QUANTITIES	PART.	NON-PART.
UNDERBRIDGE LIGHTING UNITS MOUNTED ON BRIDGE PIER.	* 0 ~~8~~ EACH	0 ~~8~~	——
UNDERBRIDGE LIGHTING UNITS MOUNTED BETWEEN THE BEAMS.	* 0 ~~10~~ EACH	0 ~~10~~	——
* UNDERBRIDGE LIGHTING WIRING SYSTEM (MYRTLE OVER JEFFRIES FREEWAY).	* 0 ~~LUMP SUM~~	0 ~~LUMP SUM~~	——

* Deleted per Auth. 1021
* UNDERBRIDGE LIGHTING WIRING SYSTEM SHALL INCLUDE CONDUIT, JUNCTION BOXES, LTG. PANEL, RECEPTACLE, GROUND WIRE, & ALL WIRING FROM LTG. PANEL TO U.B. LTG. UNITS.

NOTES:

1. JUNCTION BOXES TO BE TYPE "FD" TWO GANG WITH ONE COVER OPENING. (EXCEPT AS OTHERWISE NOTED.)
2. ALL UNDERBRIDGE LIGHTING WIRING FROM THE LTG. PANEL TO THE JUNCTION BOXES, & U.B. LTG. UNITS SHALL BE TYPE THW. (EXCEPT AS OTHERWISE NOTED.)
3. ALL UNDERBRIDGE LIGHTING UNITS SHALL BE MERCURY VAPOR. (SEE SPECIFICATIONS.)

WORK WITH DRW'G NO. 14

CITY OF DETROIT
PUBLIC LIGHTING COMMISSION

DRAWN BY
DATE
ACCEPTED BY
ACCEPTED BY
FILE NO. 62-6
SHEET NO. 13 OF 17

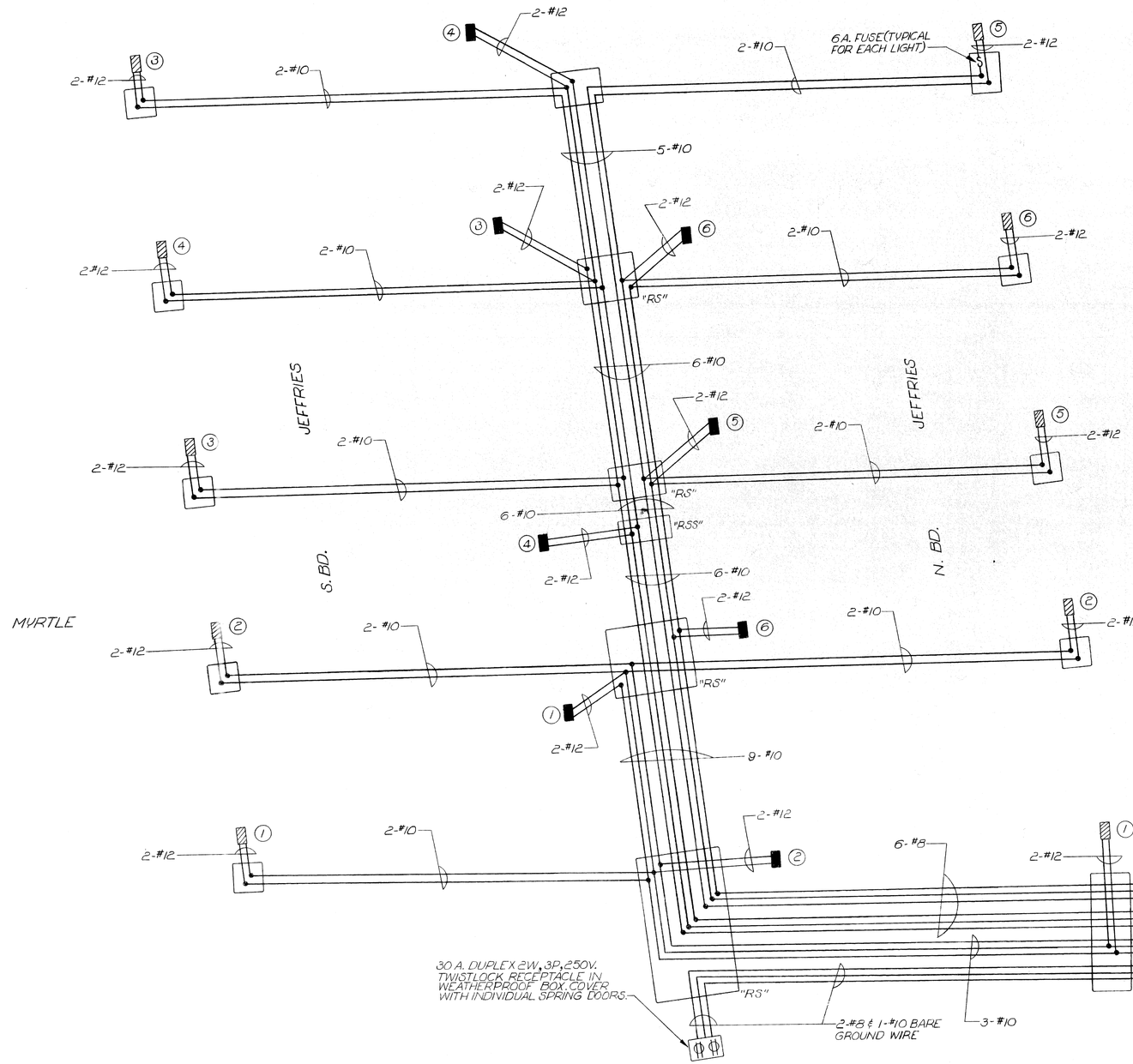
I-96 JEFFRIES FREEWAY
MYRTLE TO N. OF MICH.
UNDERBRIDGE LIGHTING
MYRTLE – JEFFRIES

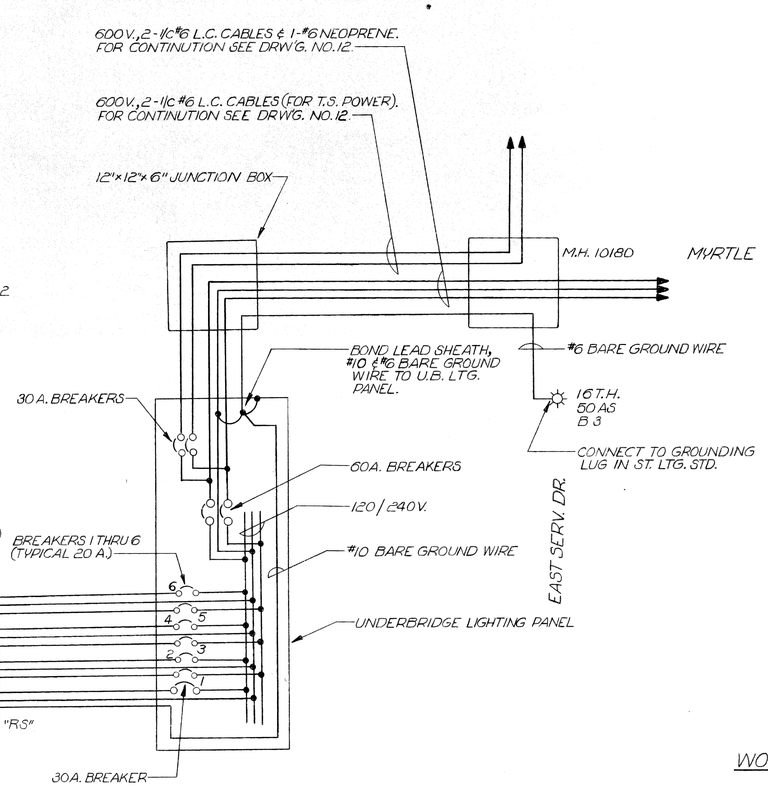
FILE NO.	DRWG NO.	DATE
CEA J6	13 OF 17	9-15-67

FILE NO. NO. 250 STENCIL	82124-002	STATE PROJECT 82124-002	FEDERAL PROJECT I-96	SHEET NO. 107

B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY		SHEET NO.	TOTAL SHEETS

B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY	City	SHEET NO.	TOTAL SHEETS
F-96	82124-002	Wayne	Detroit	108	





WORK WITH DRW'G. NO. 13

UNDERBRIDGE LIGHTING WIRING DIAGRAM

CITY OF DETROIT
PUBLIC LIGHTING COMMISSION

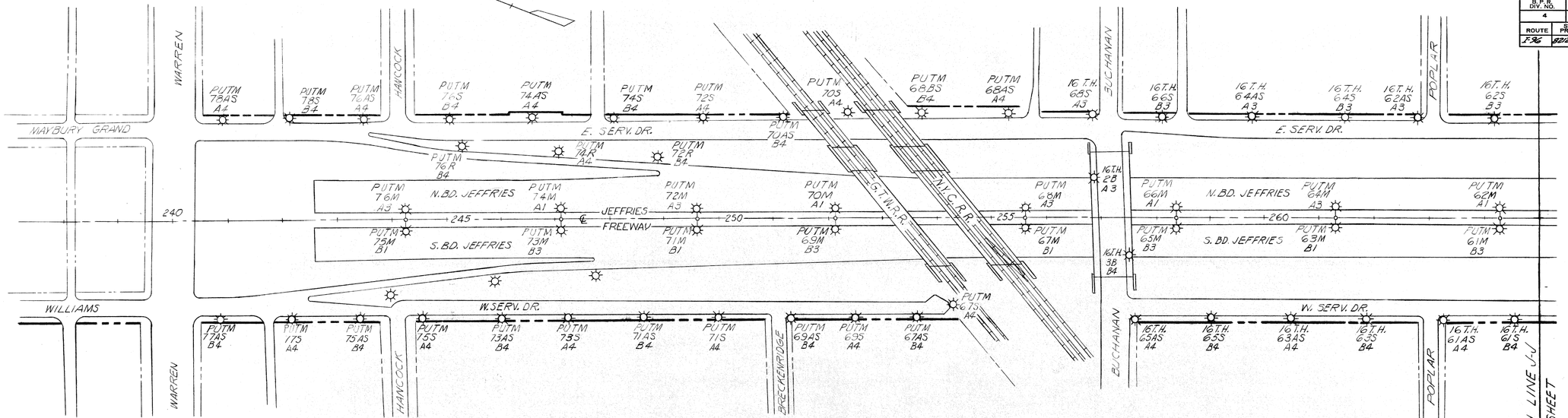
I-96 JEFFRIES FREEWAY
MYRTLE TO N. OF MICH.
U.B.-LTG. WIRING DIAGRAM
MYRTLE - JEFFRIES

DRAWN BY	ACCEPTED BY	FILE NO. 62-6	FILE NO.	DRWG. NO.	DATE
DATE	ACCEPTED BY	SHEET NO. 14 OF 17	CEA J6	14 OF 17	9-15-67

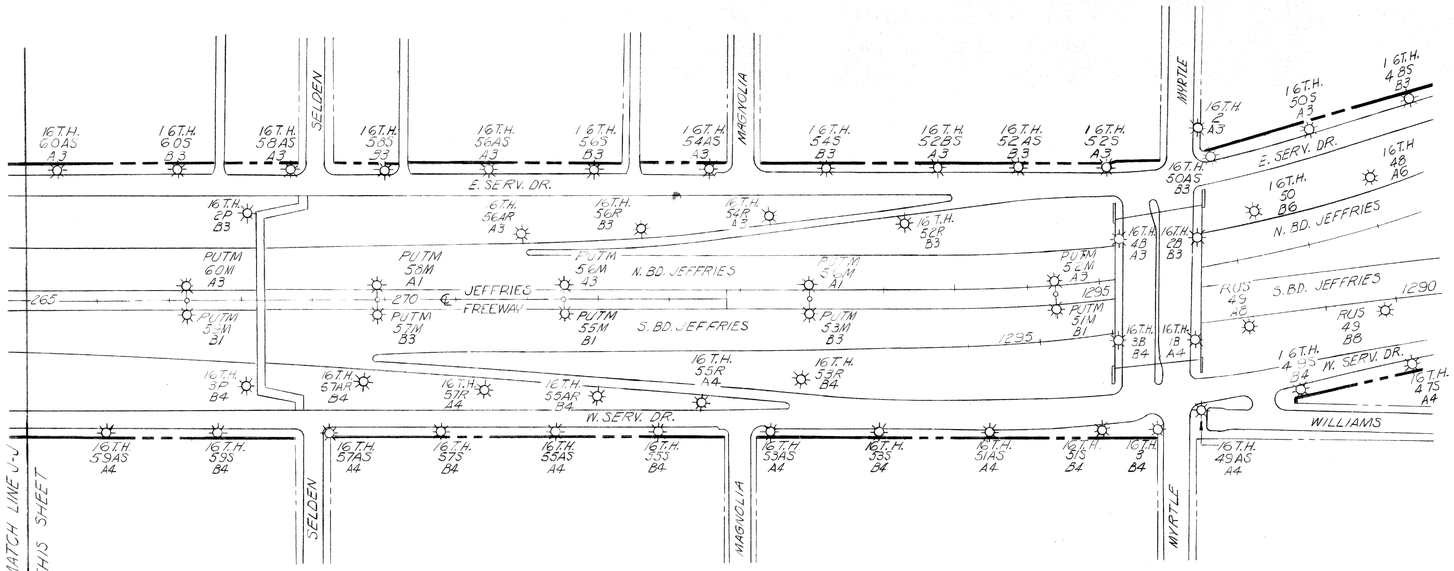
FILE NO. USE NO. 350 STENCIL	82124-C02	STATE PROJECT	FEDERAL PROJECT	SHEET NO.
		BRRRR	F-96	108

B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY		SHEET NO.	TOTAL SHEETS

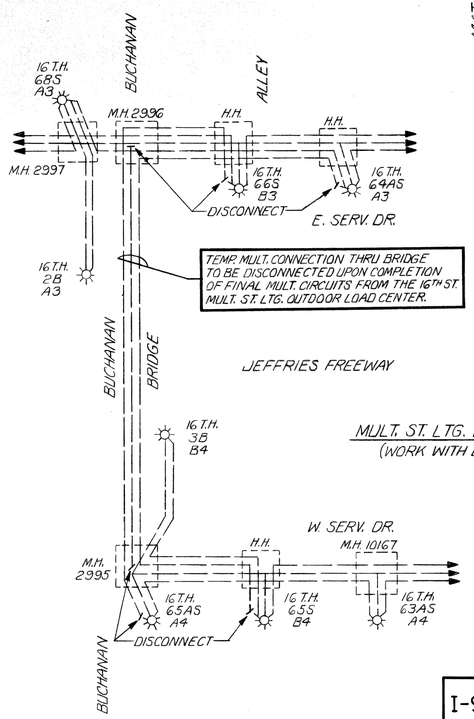
B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY	City	SHEET NO.	TOTAL SHEETS
F96	82124-002	Wayne	Detroit	109	



PLAN
SCALE: 1" = 100'



PLAN
SCALE: 1" = 100'



MULT. ST. LTG. WIRING DIAGRAM
(WORK WITH DRWG NO. 7)

I-96 JEFFRIES FREEWAY
MYRTLE TO N. OF MICH.
U.G.-FED ST. LTG. STD. STENCILLING

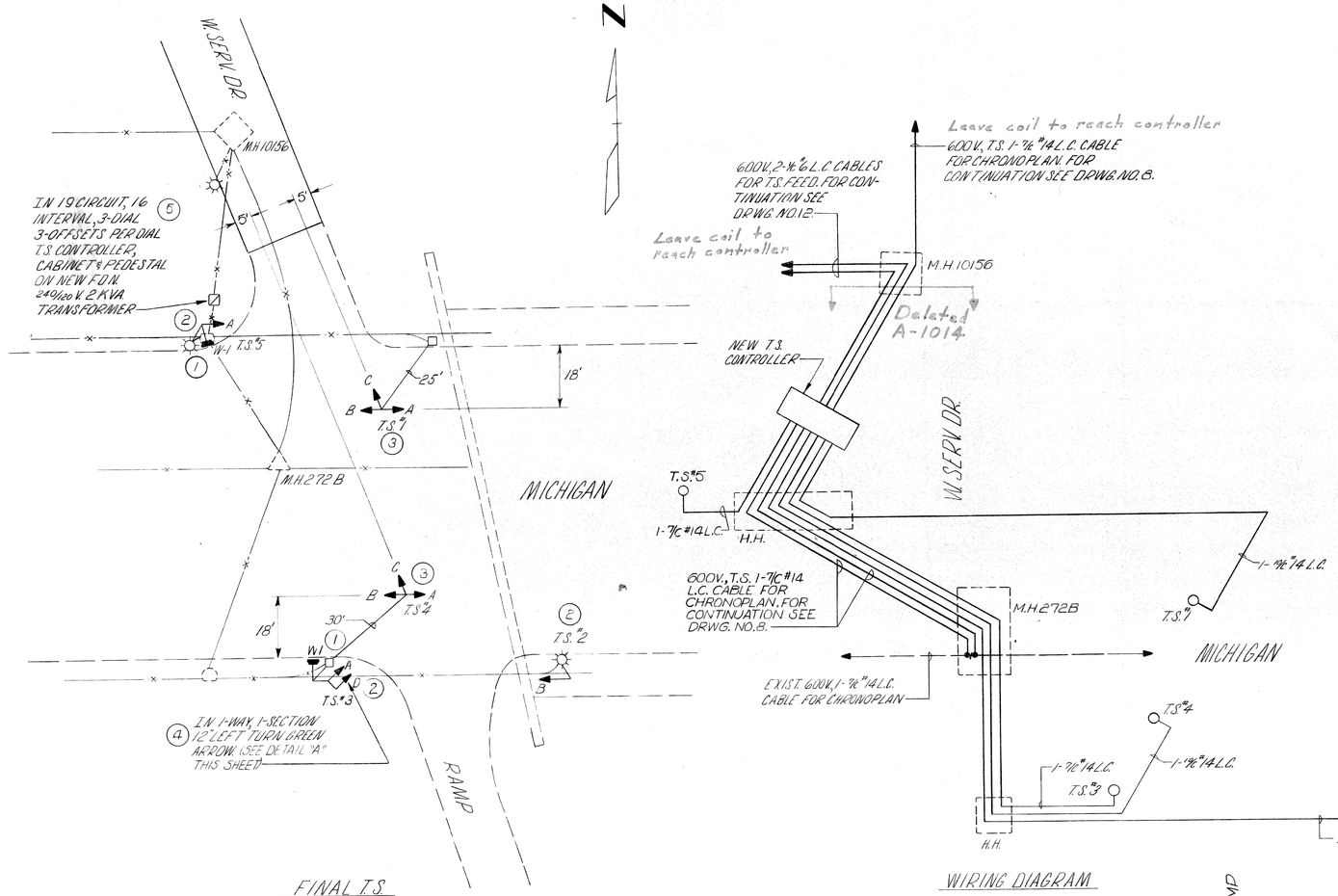
CITY OF DETROIT
PUBLIC LIGHTING COMMISSION

DRAWN BY	ACCEPTED BY	FILE NO. 62-6	FILE NO.	DRWG. NO.	DATE
DATE	ACCEPTED BY	SHEET NO. 15 OF 17	CEA-J6	15 OF 17	9-15-67

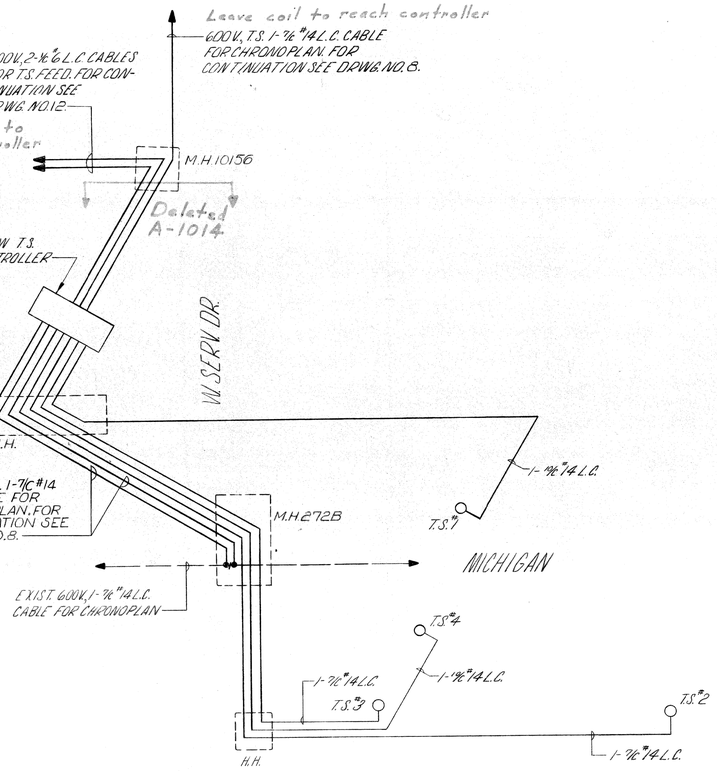
FILE NO. USE NO. 330 STENCIL	82124-002	STATE PROJECT 82124-002	FEDERAL PROJECT F96	SHEET NO. 109

B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY		SHEET NO.	TOTAL SHEETS

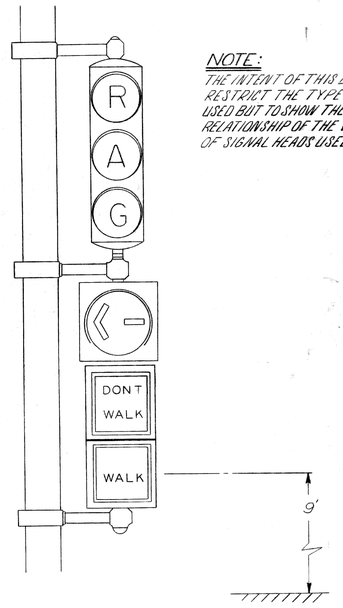
B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY	City	SHEET NO.	TOTAL SHEETS
FAS	82124002	Wayne	Detroit	110	



FINAL T.S.
SCALE: 1"=20'



WIRING DIAGRAM
FINAL T.S.



DETAIL "A"
N.T.S.

NOTE:
THE INTENT OF THIS DETAIL IS NOT TO RESTRICT THE TYPE OF BRACKETS USED BUT TO SHOW THE VERTICAL POSITION RELATIONSHIP OF THE VARIOUS TYPES OF SIGNAL HEADS USED.

82194L

MATERIAL ON THIS SHEET					
NO.	ITEM	QUANTITIES	PART	NON-PART	
1	1-WAY PEDESTRIAN BRACKET ARM T.S.	0 ~~1~~ EACH	0 ~~1~~	0 +	A-1014
2	1-WAY BRACKET ARM T.S.	0 ~~3~~ EACH	0 ~~2~~	0 +	A-1014
3	3-WAY MAST ARM T.S. MAST ARM & STD. ON NEW F.D.N.	0 ~~2~~ EACH	+	+	A-1014
4	1-WAY TURN SIGNAL	0 + EACH	+	—	A-1014
5	T.S. CONTROLLER CABINET & PEDESTAL ON NEW F.D.N.	0 + EACH	~~1~~	~~1~~	A-1014

25 FT. MAST ARM & MAST ARM STANDARD ON THIS SHEET ONLY SHALL BE SIMILAR TO TYPE FOR 30 FT. MAST ARM STANDARD.

Delete this sheet by Auth.# 1014.

Auth.# _____.

CITY OF DETROIT
PUBLIC LIGHTING COMMISSION

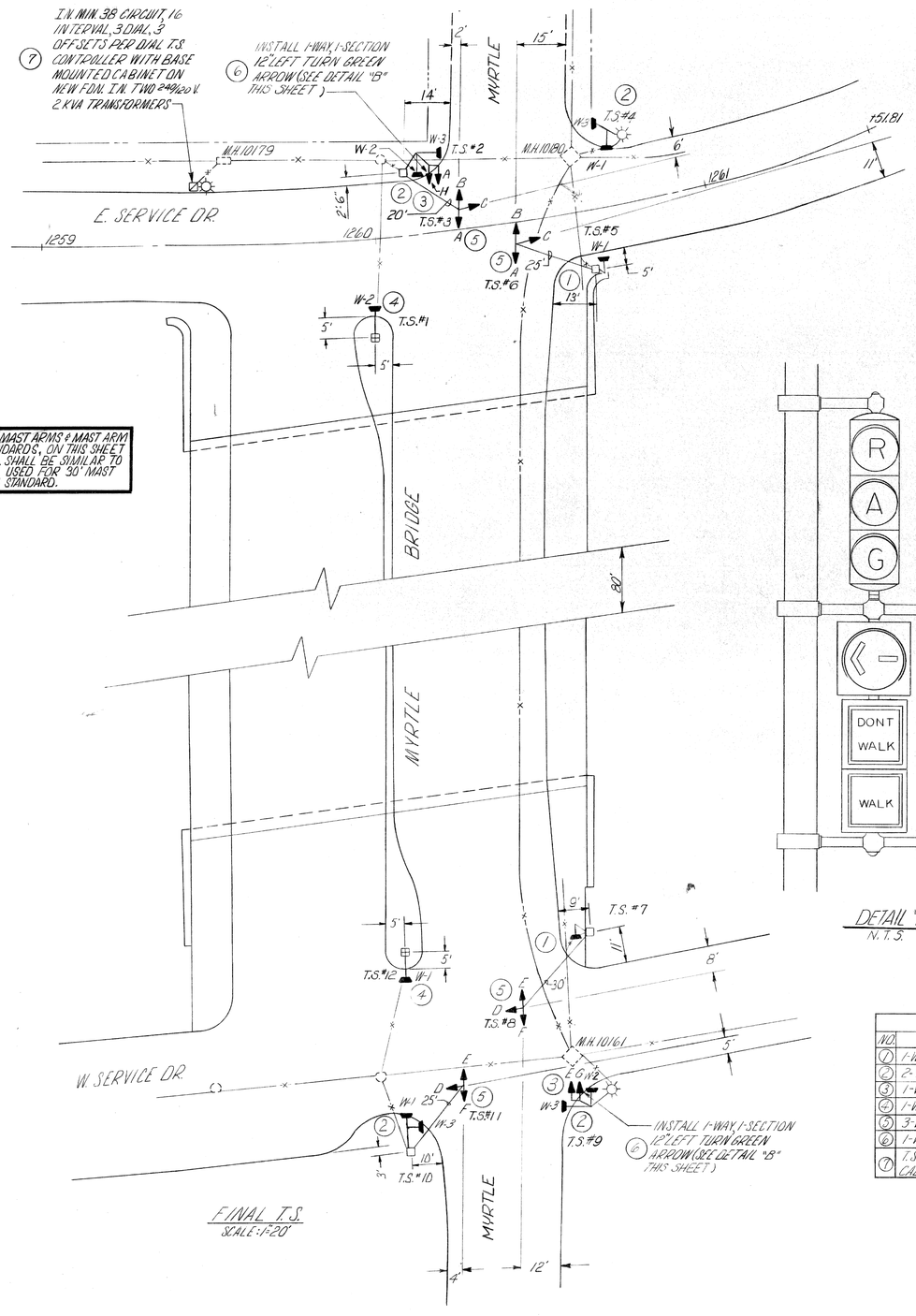
I-96 JEFFRIES FREEWAY
MYRTLE TO N. OF MICH.
FINAL T.S.
MICH. - WEST SERV. DR.

DRAWN BY	ACCEPTED BY	FILE NO. 62-6	DRWG. NO.	DATE
DATE	ACCEPTED BY	SHEET NO. 16 OF	CEA J6	16 OF 17	9-15-67

FILE NO. USE NO. 350 STENCIL	82124-002	STATE PROJECT ~~82124-002~~	FEDERAL PROJECT I-96	SHEET NO. 110

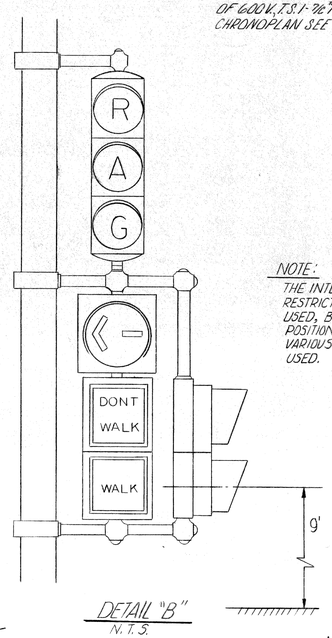
B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY		SHEET NO.	TOTAL SHEETS

B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY		SHEET NO.	TOTAL SHEETS
F96	82124-002	Wayne	Detroit	111	



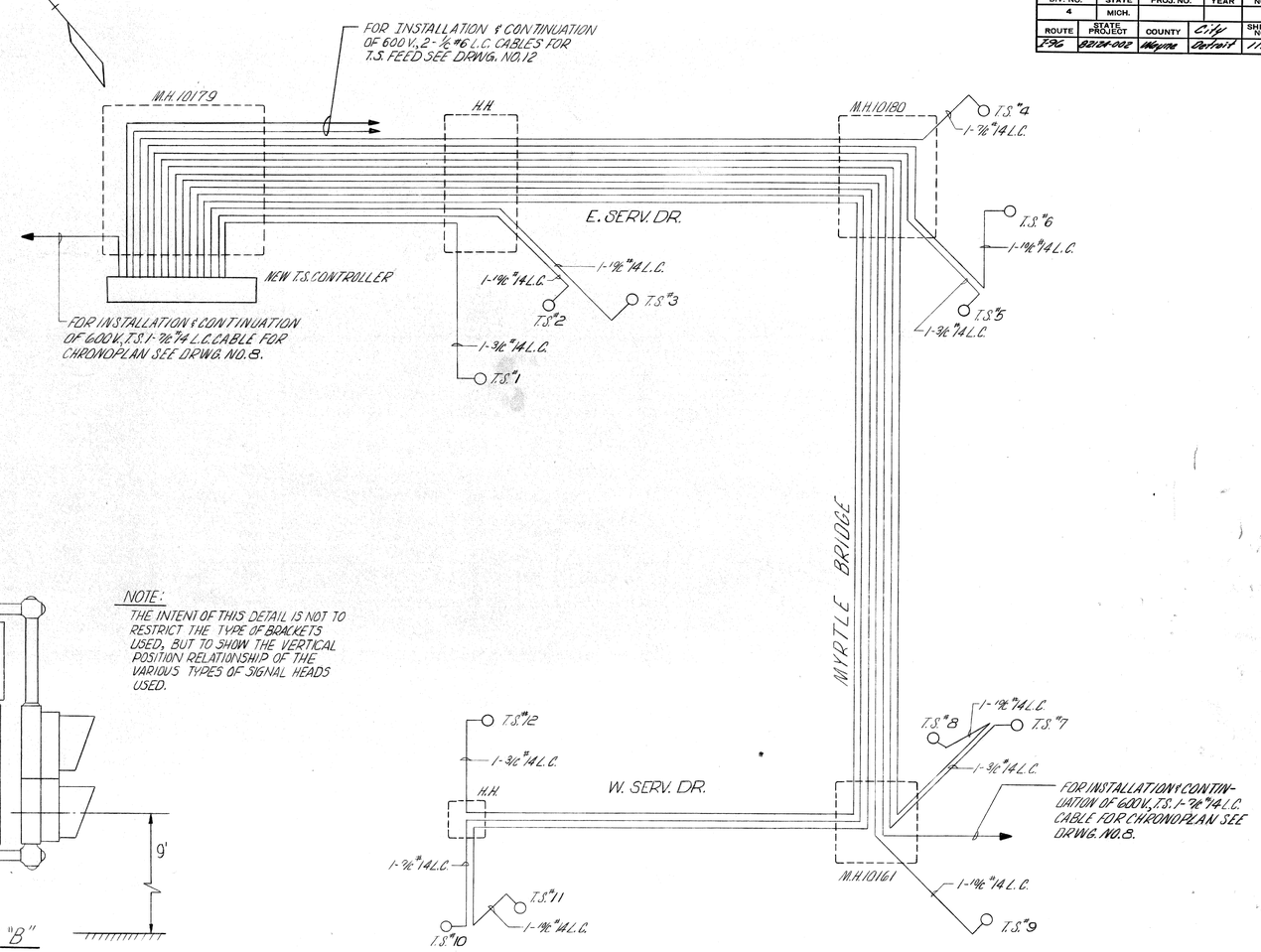
ALL MAST ARMS & MAST ARM STANDARDS, ON THIS SHEET ONLY, SHALL BE SIMILAR TO TYPE USED FOR 30' MAST ARM STANDARD.

FINAL T.S.
SCALE: 1"=20'



DETAIL "B"
N.T.S.

NOTE:
THE INTENT OF THIS DETAIL IS NOT TO RESTRICT THE TYPE OF BRACKETS USED, BUT TO SHOW THE VERTICAL POSITION RELATIONSHIP OF THE VARIOUS TYPES OF SIGNAL HEADS USED.



WIRING DIAGRAM
FINAL T.S.

82194 L

MATERIAL ON THIS SHEET

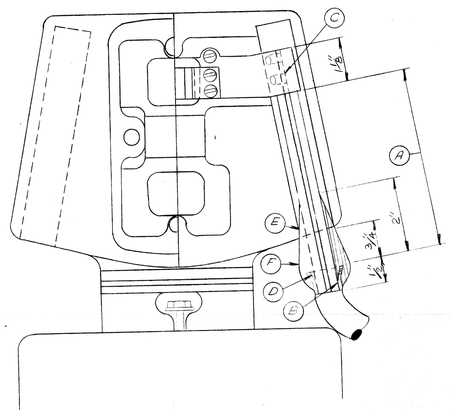
NO.	ITEM	QUANTITIES	PART	NON-PART
(1)	1-WAY PEDESTRIAN BRACKET ARM T.S.	2 EACH	2	—
(2)	2-WAY PEDESTRIAN BRACKET ARM T.S.	4 EACH	4	—
(3)	1-WAY BRACKET ARM T.S.	2 EACH	2	—
(4)	1-WAY PEDESTRIAN T.S. ON 8 F.T. PEDESTAL ON NEW FDN.	2 EACH	2	—
(5)	3-WAY MAST ARM T.S., MAST ARM & STD. ON NEW FDN.	4 EACH	3⅓	⅔
(6)	1-WAY TURN SIGNAL	2 EACH	2	—
(7)	T.S. CONTROLLER WITH BASE MOUNTED CABINET ON NEW FDN.	1 EACH	93%	7%

CITY OF DETROIT
PUBLIC LIGHTING COMMISSION

I-96 JEFFRIES FREEWAY
MYRTLE TO N. OF MICH.
FINAL T.S. AT MYRTLE

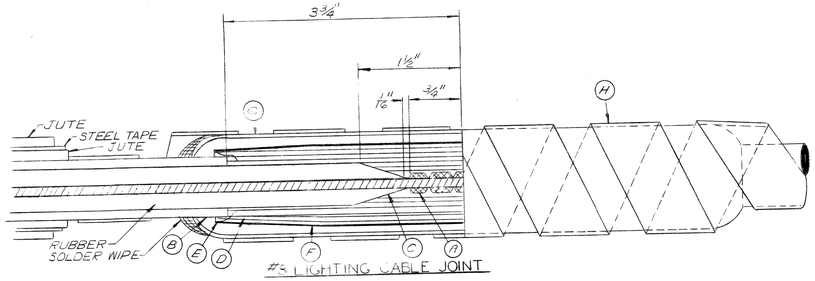
DRAWN BY	ACCEPTED BY	FILE NO. 62-6	FILE NO.	DRWG. NO.	DATE
DATE	ACCEPTED BY	SHEET NO. 17 OF 17	CEA J6	17 OF 17	9-15-67

FILE NO. USE NO. 350 STENCIL	STATE PROJECT	FEDERAL PROJECT	SHEET NO.
	82124-002	F-96	111



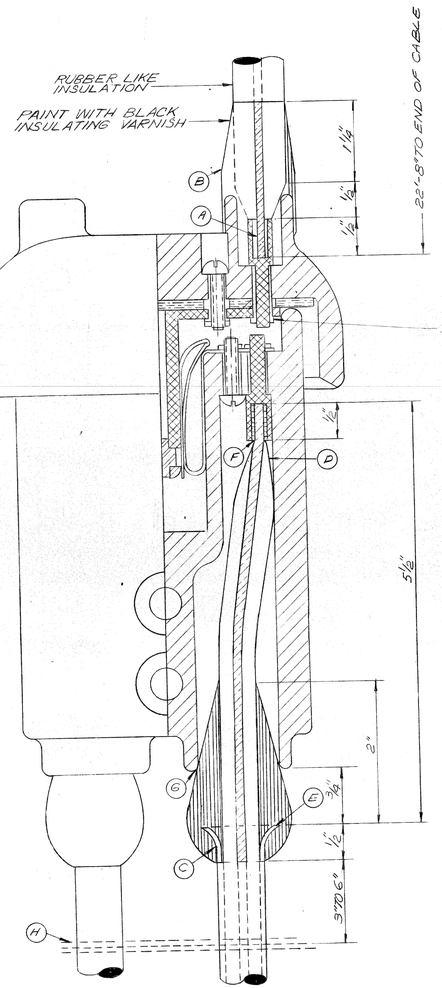
CABLE CONNECTION TO SERIES CUTOUT ON COMBINATION COIL

A- THIS DISTANCE VARIES DEPENDING UPON MANUFACTURE OF COIL, 3 3/4 OR 5" NOT INCLUDING BARED CONDUCTOR.
B- USE TUBE CUTTER TO SCORE LEAD SHEATH AND CHIP OFF WITH CHIPPING IRON DO NOT BREAK BY BENDING.
C- REMOVE INSULATION AT END FOR CONNECTION.
D- BELL LEAD SHEATH EVENLY, REMOVE TAPE FROM INSULATION, INCLUDING AS MUCH AS POSSIBLE FROM WITHIN BELLED LEAD SHEATH. FILL SHEATH CAVITY WITH ELECTRICAL GRADE RUBBER CEMENT.
E- APPLY RUBBER TAPE #1 OVER BELL TO FORM A TIGHT FIT INTO PORCELAIN.
F- COVER TAPE #1 WITH TO LAYERS OF TAPE #2 TO APPROX. 3/4" FROM UPPER END OF TAPE #1 PAINT TAPE OVERALL WITH BLACK INSULATING VARNISH.



#3 LIGHTING CABLE JOINT

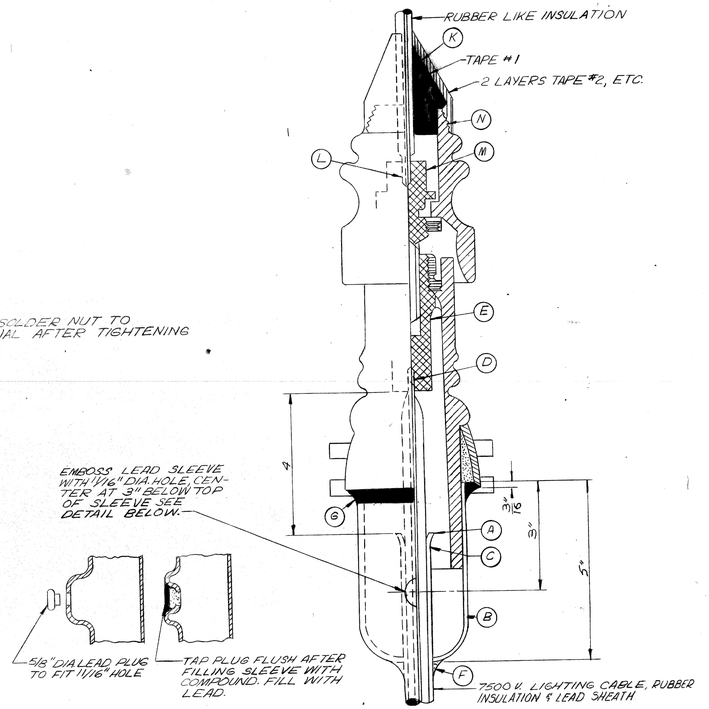
A- 1/2" #8 TINNED COPPER SLEEVE, 2 CIRCUMFERENTIAL CRIMPS ON EACH END.
B- SCORE LEAD SHEATH WITH TUBE CUTTER & CHIP OFF WITH CHIPPING IRON. DO NOT BREAK OF BY BENDING.
C- CUT INSULATION & PENCIL SMOOTHLY AS SHOWN, AFTER REMOVING TAPE.
D- APPLY TAPE #1 TO APPROXIMATELY 1" DIAMETER OVERALL.
E- OVERLAP WITH TAPE #1 APPROXIMATELY 1/4" FROM END OF LEAD OF LEAD SHEATH, AT LEAST 2 LAYERS OF TAPE AT THIS POINT.
G- 1 1/4" x 8" 1/16" LEAD SLEEVE
H- TWO LAYERS OF TAPE #2 HALF LAP, ON ARMORED PARKWAY CABLE ONLY.



CONNECTION FOR SERIES CUTOUT

A- SWEAT TERMINAL & PENCIL RUBBER INSULATION TO FIT SNUGLY IN PORCELAIN CAP OPENING SO THAT THE CONNECTOR NUT IS TIGHTENED THE OPENING IS COMPLETELY & TIGHTLY FILLED.
B- BUILD UP WITH #1 TAPE AS SHOWN & COVER WITH 2 LAYERS, HALF LAP, WITH #2 TAPE. PAINT WITH ONE COAT OF BLACK INSULATING VARNISH.
C- USE TUBE CUTTER TO SCORE LEAD SHEATH & CHIP OFF WITH CHIPPING IRON. DO NOT BREAK OFF BY BENDING.
D- CUT INSULATION & PENCIL SMOOTHLY.
E- BELL LEAD SHEATH. REMOVE TAPE COMPLETELY, INCLUDING AS MUCH CAN BE REMOVED INSIDE OF BELL. FILL SHEATH CAVITY WITH RUBBER CEMENT.
F- SWEAT CONDUCTOR INTO TERMINAL.
G- APPLY TAPE #1 OVER BELL AS SHOWN TO FORM A TIGHT FIT BETWEEN INSULATION AND PORCELAIN AT "G" WHEN NUT IS TIGHTENED, COVER TAPE #1 WITH 2 LAYERS OF TAPE #2 APPROX. 3/4" FROM END OF TAPE #1.
H- #18 SERVICE WIRE OR BRAID 4 WRAPS BETWEEN CABLES & SWEATED TO LEAD SHEATH FOR BOND TIE TO GROUND WIRE.

NOTES:
1. FOR PARKWAY CABLE, STRIP JUTE & STEEL TAPE DOWNWARD TO DUCT ENTRANCE.
2. THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER FOR APPROVAL A LIST OF ALL SPLICING MATERIALS HE PROPOSES TO USE WITH SUPPORTING DATA THAT THE MATERIAL IS SUITABLE FOR THE APPLICATION AS SHOWN ON THE DRAWINGS.



CONNECTIONS FOR I/C 7500 POTHEAD

A- USE TUBE CUTTER TO SCORE LEAD SHEATH AND CHIP OFF WITH CHIPPING IRON. DO NOT BREAK OFF BY BENDING. 4" OF INSULATION TO REMAIN, NOT INCLUDING BARED CONDUCTOR.
B- FORM BOTTOM OF EMBOSSED SLEEVE & SLIP OVER CABLE, HOLE IN FRONT.
C- BELL LEAD SHEATH, REMOVE TAPE FROM INSULATION, INCLUDING AS MUCH AS MUCH AS POSSIBLE FROM WITHIN BELLED SHEATH.
D- SWEAT CONDUCTOR INTO TERMINAL & PENCIL INSULATION SMOOTHLY FOR 3/4".
E- MOUNT TERMINAL FIRMLY INTO PORCELAIN.
F- PUSH SLEEVE INTO CAST IRON COLLAR AND WIPE SMOOTHLY TO LEAD SHEATH.
G- INWEET & FILL JOINT BETWEEN IRON COLLAR AND SLEEVE WITH EPOXY RESIN.
H- LAY POTHEAD HORIZONTAL & FILL COMPLETELY WITH APPROVED COMPOUND
I- INSERT LEAD PLUG INTO EMBOSSED HOLE, TAP FLUSH & FILL WITH LEAD.
J- TRAIN CABLE & MOUNT POTHEAD ON CROSSARM.
K- SLIP THE CONE SHAPED RUBBER BUSHING ON THE RUBBER INSULATED CABLE FIRST.
L- SWEAT CONDUCTOR INTO TERMINAL FIRMLY INTO THE POTHEAD CAP.
M- MOUNT THE TERMINAL FIRMLY INTO THE POTHEAD CAP.
N- BUILD UP WITH TAPE #1 AND CARRY 2 LAYERS OVER THE CAP TO POINT "N" AS SHOWN, COVED WITH 2 LAYERS TYPE #2- HALF LAP. PAINT WITH BLACK INSULATION VARNISH.

MATERIAL TYPES

TAPE #1- CORONA RESISTING HIGH VOLTAGE RUBBER TAPE ONLY.
TAPE #2- BLACK PLASTIC ELECTRICAL TAPE

DRAWN BY J.C.B.	PLAN PREPARED BY CONSULTING ENGINEERING ASSOCIATES INC. ENGINEERING CONSULTANTS 16580 WYOMING DETROIT, MICH. 48221	
CHECKED BY		
APPROVED BY		
DATE 9-15-67	DRAWING NO.	FILE NO. CEA J6

CITY OF DETROIT
PUBLIC LIGHTING COMMISSION

DRAWN BY	APPROVED 10-21-67	FILE NO. 62-6
DATE	APPROVED 10/2/1967	SHEET NO. 1

MICHIGAN STATE HIGHWAY DEPARTMENT

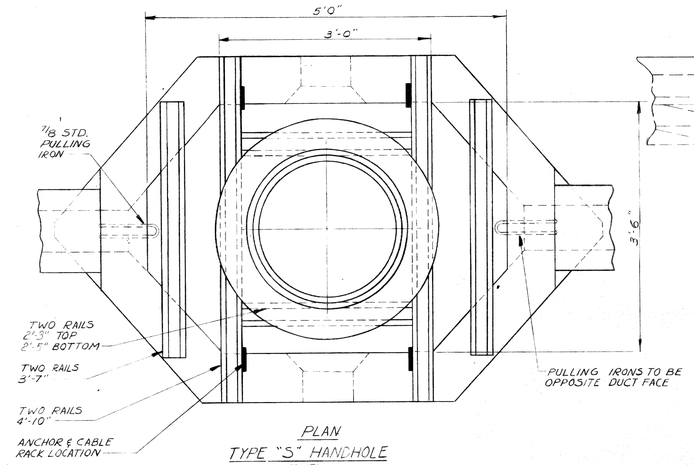
P.L.C. DETAILS
CABLE SPLICES & CONNECTIONS
(RUBBER INSULATION, LEAD SHEATH)

ISSUE NO.	DATE
COUNTY JOB	SHEET NO. 112
STATE PROJECT	

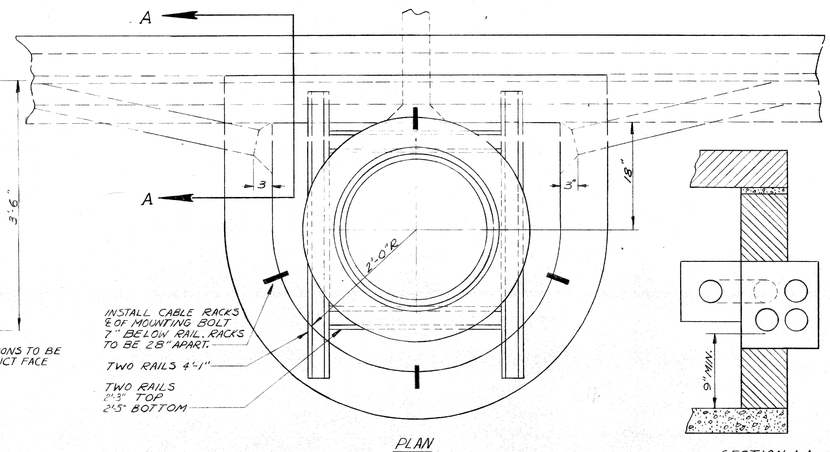
82124-002

REVISIONS		

K&E 17-0153 5-64+

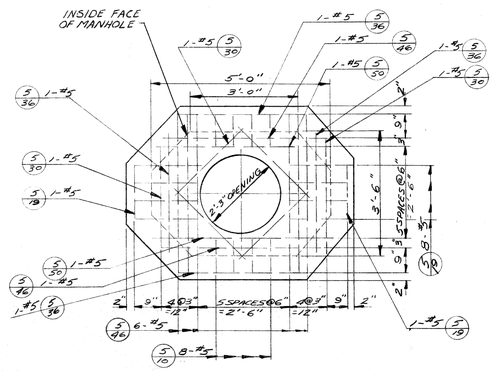


PLAN
TYPE "S" HANDHOLE
1"=1'-0"

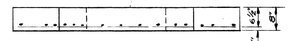


PLAN
TYPE "D" HANDHOLE
1"=1'-0"

SECTION A-A



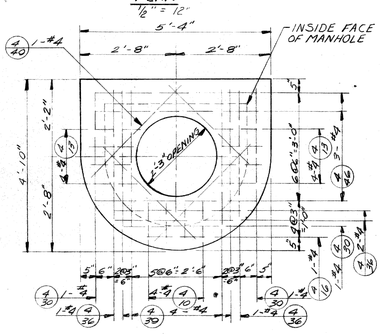
PLAN
1/2"=1'-0"



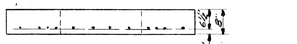
ELEVATION
ALTERNATE ROOF-TYPE "S" HANDHOLE
MSHD GRADE A(6B) CONCRETE

USE FOR STANDARD TYPE "S" H.H. ONLY

TABLE FOR #5 BARS		
MARK	NO.	LENGTH
5-50	2	5'-0"
5-46	8	4'-6"
5-36	4	3'-6"
5-30	6	3'-0"
5-19	10	21"
5-10	8	12"



PLAN
1/2"=1'-0"

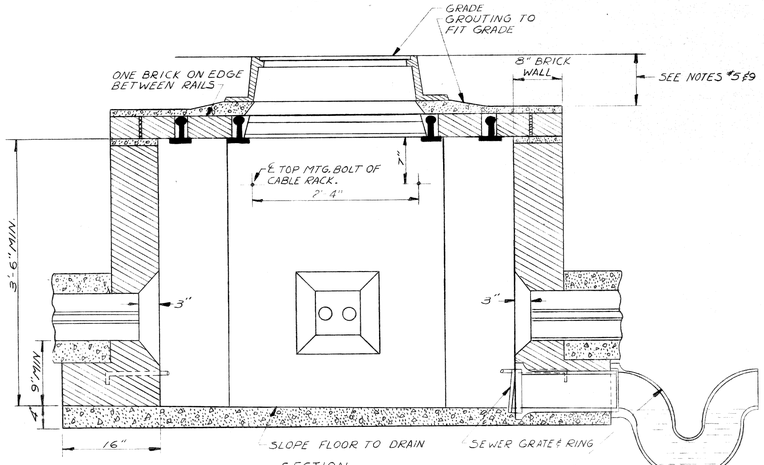


ELEVATION
ALTERNATE ROOF TYPE "D" HANDHOLE
MSHD GRADE A. (6B) CONCRETE

TABLE FOR #4 BARS		
MARK	NO	LENGTH
4-46	3	4'-6"
4-40	4	4'-0"
4-39	4	3'-9"
4-36	4	3'-6"
4-30	3	3'-0"
4-16	1	18"
4-13	8	15"
4-10	4	12"

NOTES:

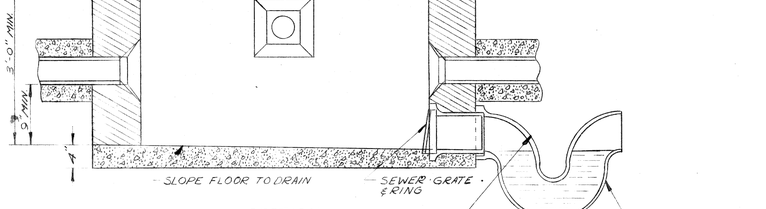
1. DUCT ENTRANCE TO BE BUILT AS REQUIRED.
2. ALL RAILS TO BE 60 # Y.P. OR HIGHVISD.
3. CABLE PULLING IRONS TO BE GALVANIZED.
4. CABLE RACKS AND ARMS TO BE GALVANIZED
5. IN PAVEMENT PROVIDE AT LEAST 3" BETWEEN ROOF AND BASE OF PAVEMENT. WHERE EXISTING GRADE IS HIGHER THAN PROP. FUTURE GRADE INSTALL BRICK RING OR GROUT (AS REQ'D.) UNDER FRAME TO ALLOW FOR FUTURE FRAME ADJUSTMENT.
6. BAR NUMBERS DENOTE THE SIZE OF BAR REQUIRED IN ACCORDANCE WITH CURRENT USAGE SPECIFIED BY THE CONCRETE REINFORCING STEEL INSTITUTE.
7. EXCAVATION LIMITS FOR PUBLIC LIGHTING COMMISSION HANDHOLES SHALL BE ON VERTICAL PLANES OF THE FOOTING OUTLINE.
8. INSTALL ANCHORS & CABLE-RACKS AS SHOWN.
9. WHERE HANDHOLES ARE LOCATED BACK OF CURB, ROOF MUST BE BUILT 18" BELOW CURB GRADE, TO PROVIDE FOR FUTURE WIDENING.



SECTION
TYPE "S" STREET HANDHOLE
1"=1'-0"

6" CONCRETE OR GLAZED CROCK DRAIN TO SEWER ONLY WHERE SPECIFIED

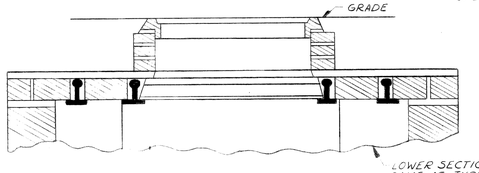
DRAIN ENTRANCE IN HANDHOLE LOCATE TO FIT JOB



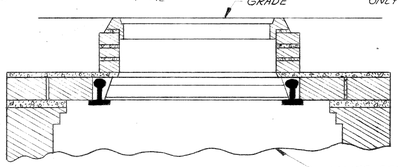
SECTION
TYPE "D" STREET HANDHOLE
1"=1'-0"

6" CONCRETE OR GLAZED CROCK DRAIN TO SEWER ONLY WHERE SPECIFIED

DRAIN ENTRANCE IN HANDHOLE LOCATE TO FIT JOB



SECTION
TYPE "S" SIDEWALK HANDHOLE



SECTION
TYPE "D" SIDEWALK HANDHOLE

REVISIONS			

K&E 17-0153 5-64+

DRAWN BY C.J.B.	PLAN PREPARED BY CONSULTING ENGINEERING ASSOCIATES INC. ENGINEERING CONSULTANTS 16580 WYOMING DETROIT, MICH. 48221
CHECKED BY JS	
APPROVED BY WMB	
DATE 9-15-67	DRAWING NO. / FILE NO. CEA J6

CITY OF DETROIT
PUBLIC LIGHTING COMMISSION

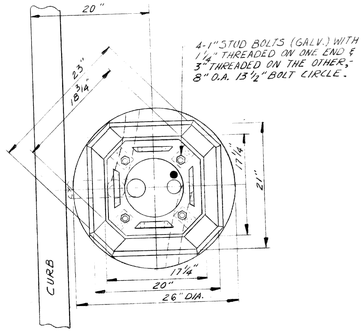
DRAWN BY	APPROVED 10-21-64	FILE NO. 62-6
DATE	APPROVED 10/21/64	SHEET NO. 2

MICHIGAN STATE HIGHWAY DEPARTMENT

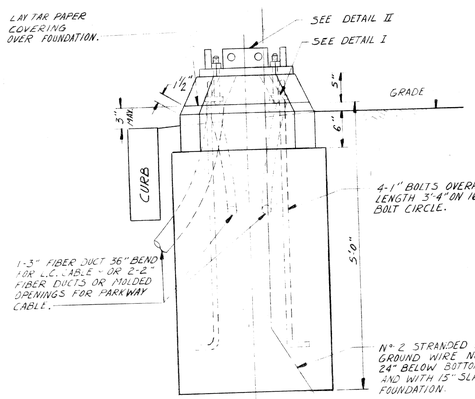
P.L.C. DETAILS
HANDHOLES

ISSUE NO.	DATE
COUNTY JOB	SHEET NO. 113
STATE PROJECT	

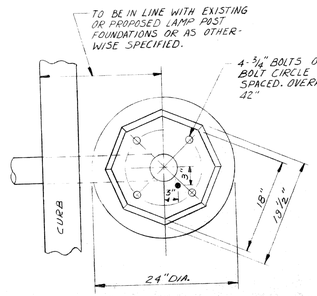
32124-002

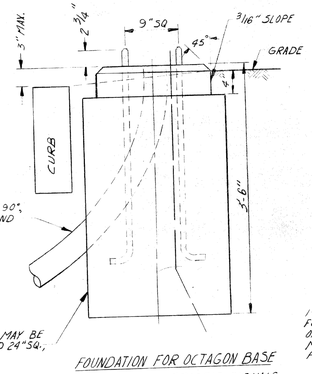


LAY TAR PAPER COVERING OVER FOUNDATION.



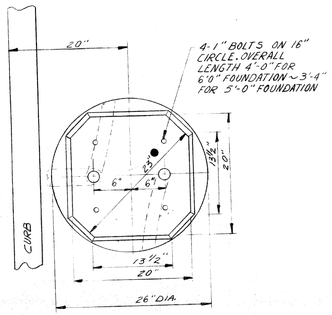
LAMP POST FOUNDATION ADAPTED TO WOOD SHAFT (O.P.) STANDARD

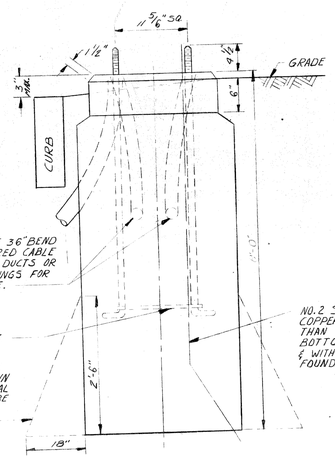




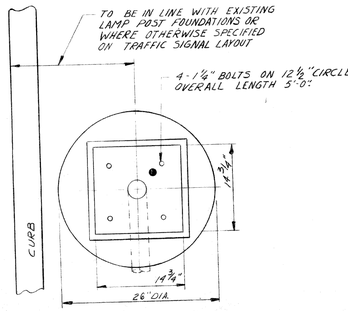
FOUNDATION FOR OCTAGON BASE PEDESTAL FOR TRAFFIC SIGNALS OR CONTROLLER

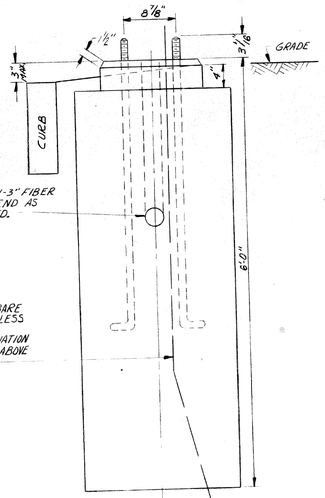
SCALE 1" = 1'-0"



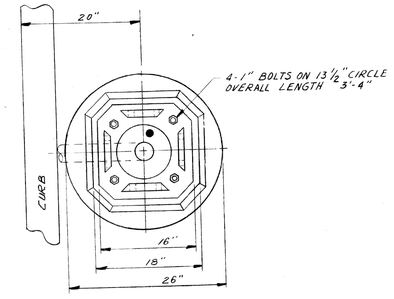


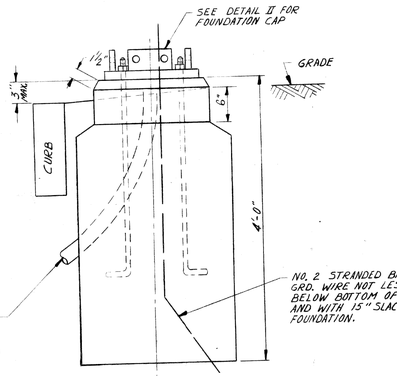
LAMP POST FOUNDATION FOR 18" SQ. BASE STEEL STANDARD





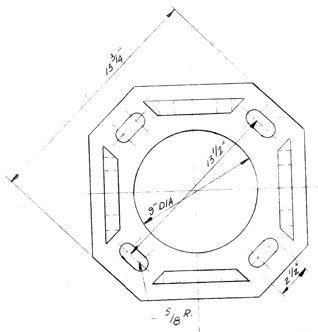
TWIN ARM SIGNAL PEDESTAL AND MAST ARM STANDARD FOUNDATION 20 FT. & 25 FT. GUY ROD TYPE ONLY



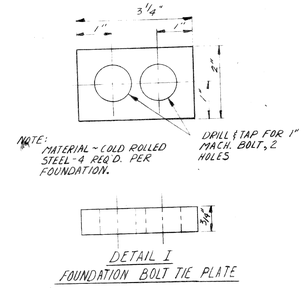


LAMP POST FOUNDATION FOR WOOD SHAFT (O.P) STANDARD

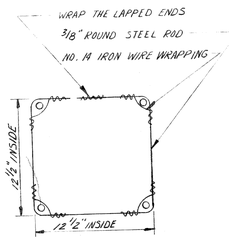
NOTE:
TYPICAL CABLE ENTRANCE DUCT SHOWN. ACTUAL LOCATION TO FIT JOB. USE EXPANSION JOINT FELT WHERE NECESSARY.



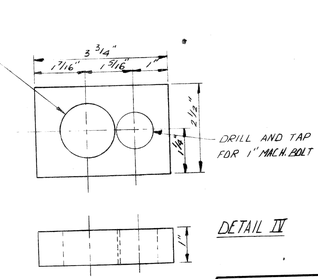
DETAIL II
FOUNDATION CAP



DETAIL I
FOUNDATION BOLT TIE PLATE



DETAIL III
FOUNDATION BOLT AND TIE ROD



DETAIL IV
FOUNDATION BOLT TIE PLATE

DRAWN BY C.J.B.	PLAN PREPARED BY CONSULTING ENGINEERING ASSOCIATES INC. ENGINEERING CONSULTANTS 16580 WYOMING DETROIT, MICH. 48221
CHECKED BY WS GP	
APPROVED BY WS	DRAWING NO. — FILE NO. CEA J6
DATE 9-15-67	

CITY OF DETROIT
PUBLIC LIGHTING COMMISSION

DRAWN BY	APPROVED 10-21-64 FILE NO. 62-6
DATE	APPROVED 10/21/64 SHEET NO. 3

MICHIGAN STATE HIGHWAY DEPARTMENT

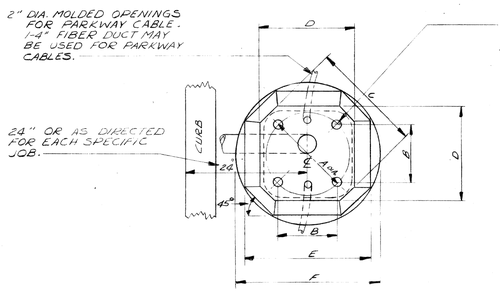
P.L.C. DETAILS
POST FOUNDATIONS

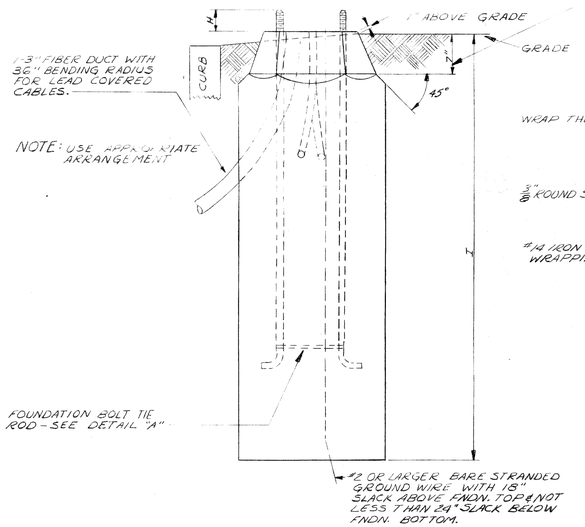
ISSUE NO.	DATE
COUNTY JOB	SHEET NO. 114
STATE PROJECT	

82124-002

REVISIONS

K&E 17-0153 5-64

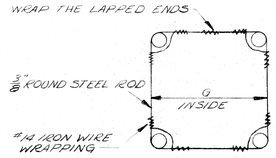




TYPICAL LAMP POST FOUNDATION

SCALE 1"=1'-0"

THIS DIMENSION VARIES FOR FDNS. LOCATED ON RAMPS & EXPRESSWAYS. SEE DETAILS A & B ON P.L.C. FILE 55-3F SHEET 3A "POST FDNS." FOR CONTROL DIMENSIONS.



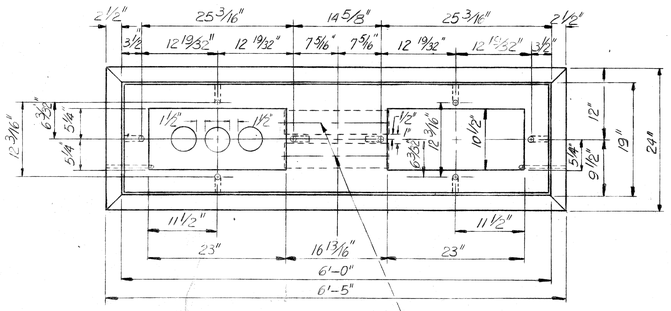
DETAIL "A"

FOUNDATION BOLT TIE ROD

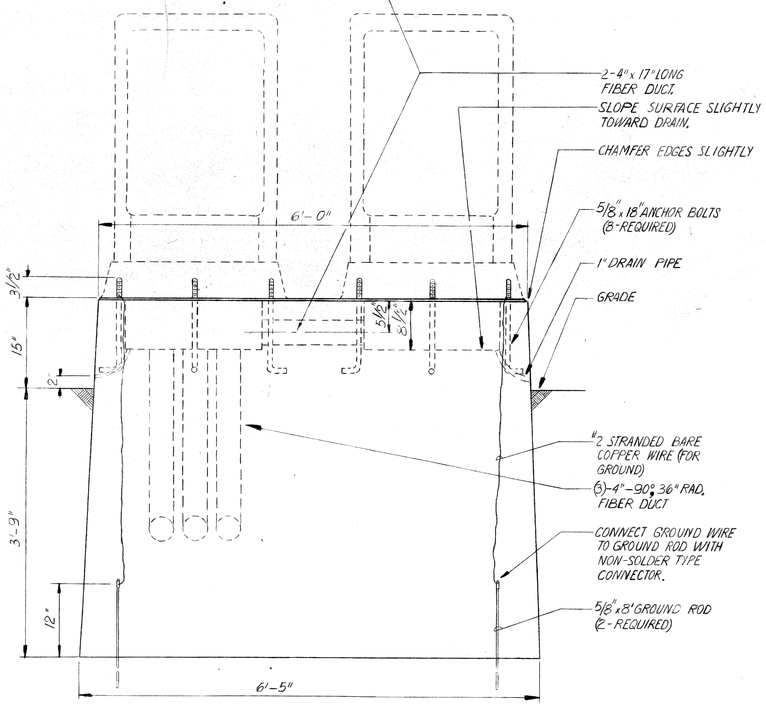
SCALE 1½"=1'-0"

	A	B	C	D	E	F	G	H	I	J
INCANDESCENT COMB. TRANS'F. BASE, 30 FT. MTG. HT. & 6 FT. BRACKET ARM										
MERCURY VAPOR LAMP ANCHOR BASE 30 FT. MTG. HT. & 6 FT. BRACKET ARM - FOR SERVICE ROADS	11"	7¾"	16¼"	13½"	21½"	26"	8¾"	2 11/16"	60"	1"x60" 1"x40"
* MERCURY VAPOR COMB. STD. 30 FT. MTG. HT. & 6 FT. OR 10 FT. ARM - FOR SERVICE ROADS. ANCHOR BASE	13⅜"	9 9/16"	19½"	16⅝"	21⅜"	30"	11/16"	3⅜"	72"	1½"x60"
MERCURY VAPOR ANCHOR BASE 30FT. MTG. HT. & 15 FT. BRACKET ARM - FOR EXPRESSWAY.	11"	7¾"	16¼"	13½"	21½"	26"	8¾"	2 11/16"	72"	1"x60"
FLUORESCENT ANCHOR BASE 30 FT. MTG. HT. & 8 FT. BRACKET ARM (RAMP & EXP'WAY)	11"	7¾"	16¼"	13½"	21⅝"	26"	9"	2⅜"	72"	1¼"x48"
MERCURY VAPOR TRANF'S. BASE 30 FT. MTG. HT. (NOMINAL) 6 FT. BRACKET ARM FOR SERVICE RDS.	15"	10 9/16"		18"	20 9/16"	26"	11 5/8"	3"	60"	1"x40"
T.S. STD. & 30 FT. STRUT TYPE MAST ARM	13½	9 9/16	19½	16⅛	21⅛	33"	11/16	3⅜	96	1½ x 60

* FOR USE WITH 20 FT OR 25 FT. T.S. ARM ONLY.



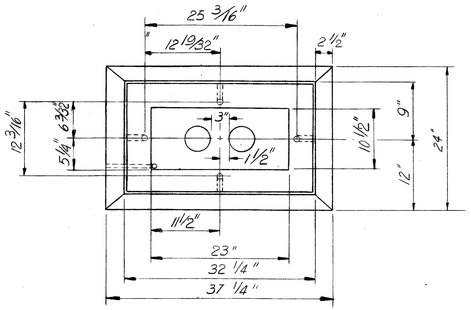
PLAN



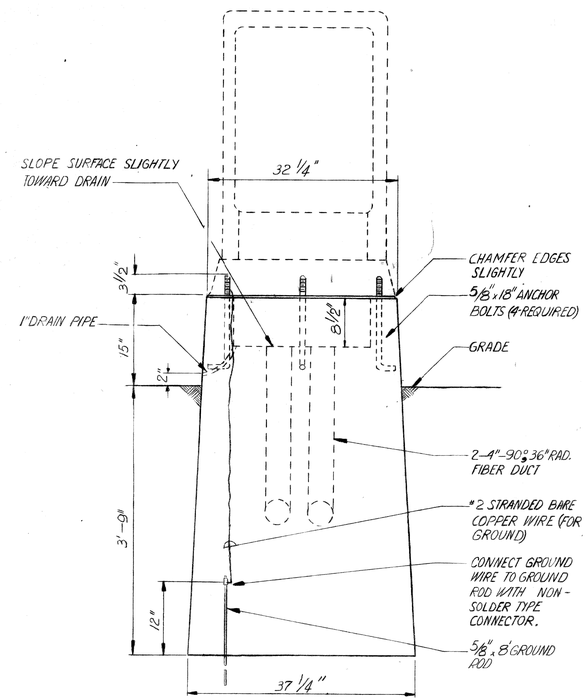
ELEVATION

SCALE: 1"=1'-0"

DOUBLE CABINET TRAFFIC SIGNAL CONTROLLER FOUNDATION WITH 3-4" ENTRANCE DUCTS



PLAN



ELEVATION

SCALE: 1"=1'-0"

BASE MOUNTED TRAFFIC SIGNAL CONTROLLER FOUNDATION WITH 2-4" ENTRANCE DUCTS

DRAWN BY C.J.B.	PLAN PREPARED BY CONSULTING ENGINEERING ASSOCIATES INC. ENGINEERING CONSULTANTS
CHECKED BY [illegible]	16580 WYOMING DETROIT, MICH. 48221
APPROVED BY [illegible]	
DATE 9-15-67	DRAWING NO. / FILE NO. CEA J6

CITY OF DETROIT

PUBLIC LIGHTING COMMISSION

DRAWN BY	APPROVED [illegible]	FILE NO. 62-6
DATE	APPROVED	SHEET NO. 3-B

MICHIGAN STATE HIGHWAY DEPARTMENT

P.L.C. DETAIL
POST FOUNDATIONS

ISSUE NO.	DATE
COUNTY JOB	SHEET NO. 115
STATE PROJECT	

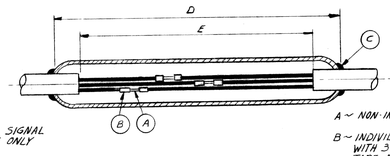
REVISIONS

K&E 17-0153 5-64•

82124-002

	D/M D	D/M E	I.D. SLEEVE	WALL THICK
1/c #6	6"	4 1/2"	5/8"	1/16"
1/c #8	6"	4 1/2"	5/8"	1/16"
2/c #14	6"	4 1/2"	5/8"	1/16"
3/c #14	6"	4 1/2"	5/8"	1/16"
3/c #14	8"	6 1/2"	3/4"	5/64"
7/c #14	8"	6 1/2"	3/4"	5/64"
10/c #14	8"	6 1/2"	3/4"	5/64"

5/8" SLEEVE = 0.75 #/FT.
3/4" SLEEVE = 1.00 #/FT.



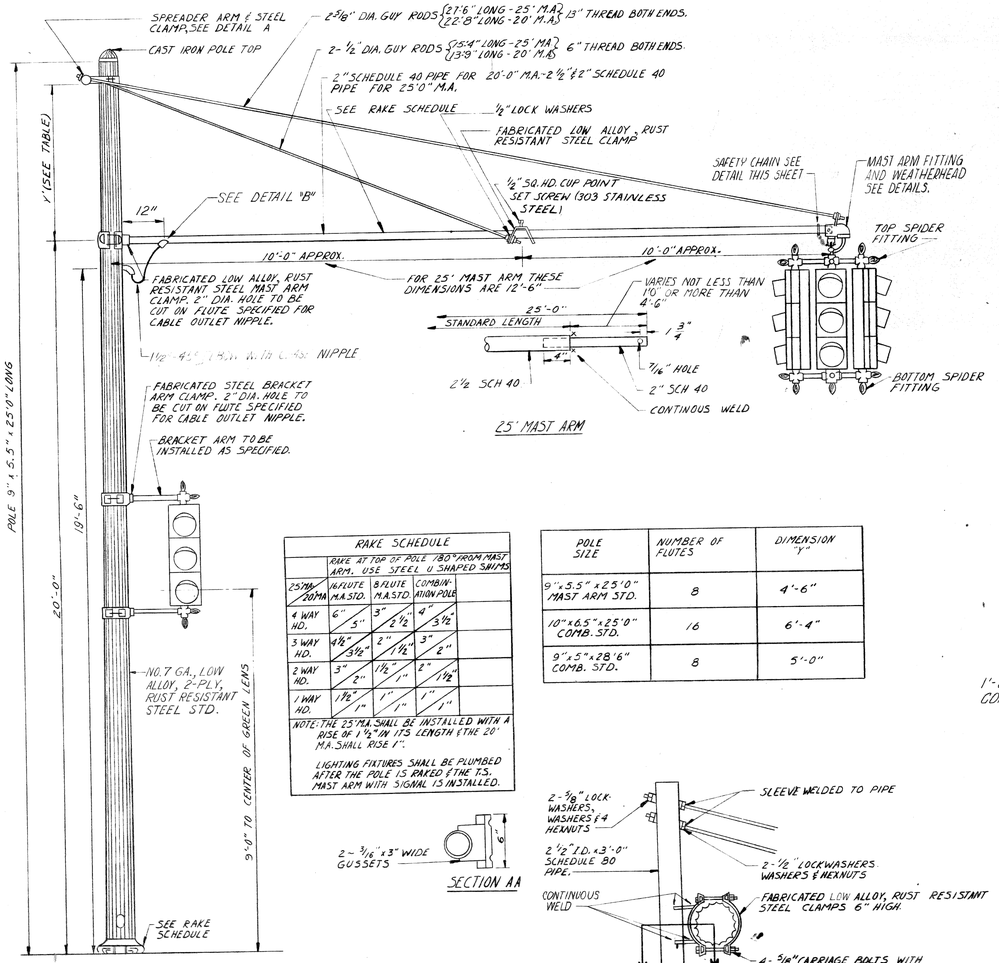
NOTE:
SPLICES IN TRAFFIC SIGNAL CABLE TO BE MADE ONLY IF SPECIFIED.

A ~ NON-INSULATED CRIMP CONNECTOR.

B ~ INDIVIDUAL CONNECTORS TO BE TAPED WITH 3 LAYERS OF APPROVED PLASTIC TAPE AND OVERALL ONE LAYER OF HALF LAP APPROVED PLASTIC TAPE, FROM LEAD TO LEAD. CONNECTIONS TO BE STAGGERED AROUND PERIPHERY OF JOINT.

C ~ FLOW SUFFICIENT SOLDER BETWEEN END OF SLEEVE AND CABLE TO MAKE SEAL, AND COOL WITH WATER.
CAUTION
USE MINIMUM HEAT POSSIBLE ON WHEN CONDUCTOR INSULATION IS PLASTIC.

T.S. CABLE SPLICE



25' MAST ARM

MAST ARM SIGNAL
WITH BRACKET ARM SIGNAL ADDED

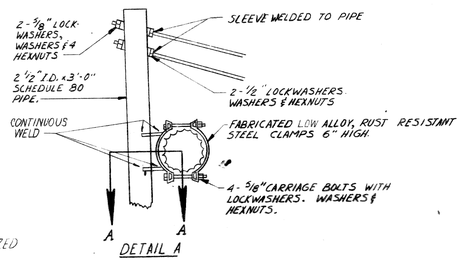
RAKE SCHEDULE				
	RAKE AT TOP OF POLE 180° FROM MAST ARM. USE STEEL U SHAPED SHIMS			
25MA/20MA	16 FLUTE M.A.STD.	8 FLUTE M.A.STD.	COMBINATION POLE	
4 WAY HD.	6" / 5"	3" / 2 1/2	4" / 3 1/2	
3 WAY HD.	4 1/2" / 3 1/2	2" / 1 1/2	3" / 2"	
2 WAY HD.	3" / 2"	1 1/2 / 1"	2" / 1 1/2	
1 WAY HD.	1 1/2 / 1"	1" / 1"	1" / 1"	

NOTE: THE 25'MA. SHALL BE INSTALLED WITH A RISE OF 1 1/2" IN ITS LENGTH & THE 20' M.A. SHALL RISE 1".

LIGHTING FIXTURES SHALL BE PLUMBED AFTER THE POLE IS PLACED & THE T.S. MAST ARM WITH SIGNAL IS INSTALLED.

POLE SIZE	NUMBER OF FLUTES	DIMENSION "Y"
9"x5.5"x25'0" MAST ARM STD.	8	4'-6"
10"x8.5"x25'0" COMB. STD.	16	6'-4"
9"x5"x28'6" COMB. STD.	8	5'-0"

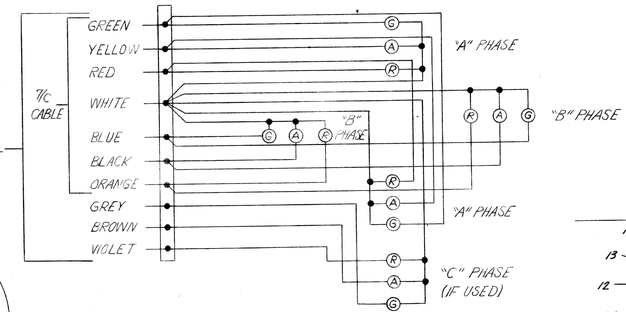
SECTION AA



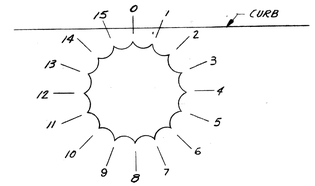
DETAIL A

NOTE:
ALL PARTS OF MAST ARM ASSEMBLY SHALL BE GALVANIZED UNLESS OTHERWISE INDICATED.

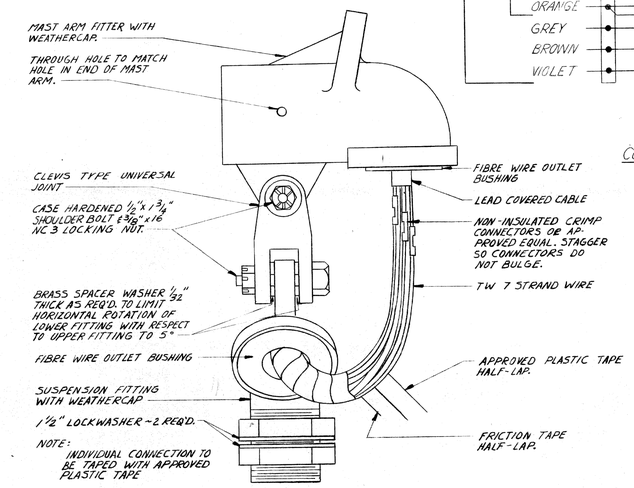
THE INCOMING CABLE FROM THE CONTROLLER IS TO BE CONNECTED TO THE TERMINAL BLOCK IN ONE HEAD OF THE SIGNAL ASSEMBLY. THE OTHER HEADS IN THE ASSEMBLY ARE TO BE CONNECTED TO THIS TERMINAL BLOCK BY #14 TW WIRES ROUTED THROUGH THE ASSEMBLY FRAMEWORK.



COLOR CODING & CABLE CONNECTIONS
FOR TRAFFIC SIGNAL LAMPS

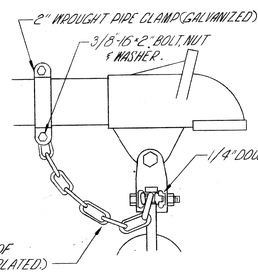


ZERO FLUTE TIP SHALL BE IDENTIFIED AS THE ONE PERPENDICULAR TO THE FACE OF THE CURB. FACE THE FLUTED STANDARD FROM THE ZERO FLUTE TIP SIDE AND COUNT CLOCKWISE; THE FIRST FLUTE TIP TO THE LEFT SHALL BE FLUTE TIP No. 1 ECT.
(B) THIS METHOD OF FLUTE IDENTIFICATION APPLIES TO ALL MULTIFLUTED STANDARDS. THE 16 FLUTED STD. SHOWN IS FOR ILLUSTRATION ONLY.

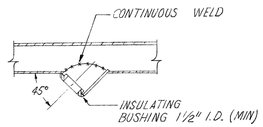


MAST ARM FITTING & WEATHERHEAD DETAIL

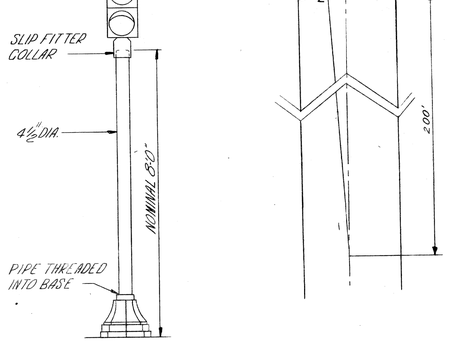
NOTE:
USE BALANCE ADJUSTER WHERE NECESSARY SO SIGNALS HANG VERTICALLY.



SAFETY CHAIN DETAIL



DETAIL "B"



OCTAGON BASE PEDESTAL

'W' FACES TO BE DIRECTED TO INTERSECT A POINT ON THE CENTERLINE OF THE STREET THEY CONTROL 200' FROM THE STOP LINE.

'X' FACES TO BE DIRECTED PARALLEL TO THE CENTERLINE OF THE STREET THEY CONTROL.

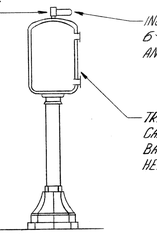
'Y' FACES USED AS STARTING SIGNALS WITH NEAR SIDE MAST-ARMS, TO BE DIRECTED TO INTERSECT A POINT ON THE OPPOSITE STOP LINE APPROX. 4' FROM THE CURB.

'Z' FACES USED AS PEDESTRIAN SIGNALS TO BE DIRECTED ALONG CROSSWALKS.

NOTE:
WHERE FIELD CONDITIONS REQUIRE DEVIATION FROM THESE STANDARDS, THE P.L.C. WILL FURNISH SPECIFIC DIRECTIONAL SETTINGS FOR SIGNALS AT TIME OF INSTALLATION.

STANDARDS FOR DIRECTIONAL SETTINGS
OF TRAFFIC SIGNALS

WHERE CONTROLLERS ARE INTERCONNECTED I.E.I. NOT REQUIRED.



SINGLE CABINET CONTROLLER
OCTAGON BASE
N.T.S.

DRAWN BY R.M.	PLAN PREPARED BY CONSULTING ENGINEERING ASSOCIATES INC. ENGINEERING CONSULTANTS
CHECKED BY	16580 WYOMING DETROIT, MICH. 48221
APPROVED BY	
DATE 9-15-67	DRAWING NO. / FILE NO. CEA J6

CITY OF DETROIT
PUBLIC LIGHTING COMMISSION

DRAWN BY	APPROVED 10-21-64	FILE NO. 62-6
DATE	APPROVED 10/21/64	SHEET NO. 4

MICHIGAN STATE HIGHWAY DEPARTMENT

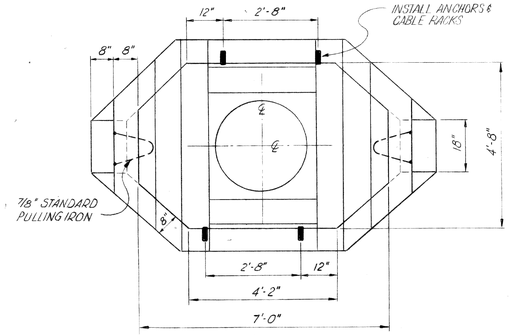
P.L.C. DETAILS
TRAFFIC SIGNALS

ISSUE NO.	DATE
COUNTY JOB	SHEET NO. 116
STATE PROJECT	

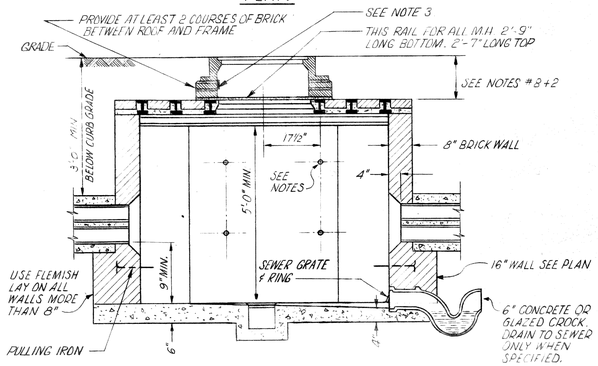
REVISIONS		

K&E 17-0133 5-64

92124-002



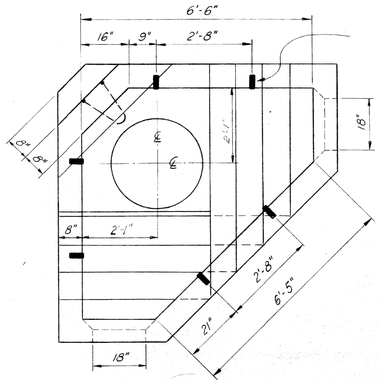
PLAN



ELEVATION

NO.1 2-WAY MANHOLE

Scale: 1/2" = 1"



PLAN

NO.1 CORNER MANHOLE

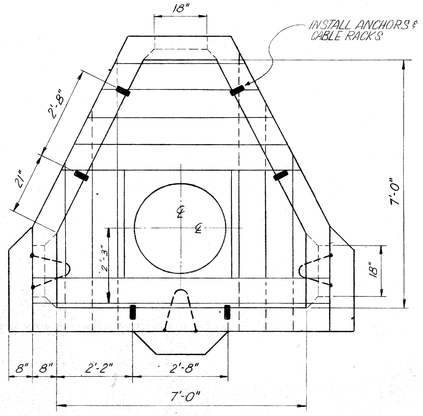
Scale: 1/2" = 1'-0"

RAILS REQUIRED							
2-WAY M.H.		CORNER M.H.		3-WAY M.H.		4-WAY M.H.	
NO.	LENGTH	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH
2	SPECIAL*	1	4'-0"	2	SPECIAL*	2	SPECIAL*
2	4'-8"	2	4'-3"	1	3'-8"	4	3'-9"
2	6'-0"	1	4'-9"	1	4'-5"	4	5'-3"
2	6'-3"	2	4'-10"	2	4'-10"	4	6'-10"
		2	5'-8"	1	5'-2"	4	8'-4"
		2	6'-5"	1	5'-11"	4	9'-10"
				2	6'-3"		
				1	6'-8"		
				1	7'-9"		
				1	8'-4"		

* SPECIAL RAIL DIMENSIONS: 2'-7" LONG TOP, 2'-5" LONG BOTTOM

NOTES:

1. MANHOLE ROOF TO HAVE 60 #/YD. OR HEAVIER "T" RAILS SPACED ONE BRICK APART WITH ONE ROW OF BRICKS ON EDGE BETWEEN RAILS.
2. WHERE MANHOLES ARE LOCATED BACK OF CURB, ROOF MUST BE BUILT 18" BELOW CURB GRADE, TO PROVIDE FOR FUTURE WIDENING.
3. MANHOLE NUMBER TO BE INSTALLED ON CHIMNEY.
4. BOLTS, RACKS AND PULLING IRONS TO BE HOT DIP GALVANIZED.
5. MANHOLES TO HAVE 5'-0" MIN. HEADROOM EXCEPT WHERE MORE THAN SIX DUCTS ARE USED, IN WHICH CASE HEADROOM TO BE 5'-6".
6. MOUNTING HEIGHT FOR LOWER BOLT OF THE CABLE RACKS SHALL BE THE AVERAGE HEIGHT OF THE BOTTOM OF LOWEST DUCTS IN THE MAIN CONDUITS. INSTALL RACKS ON ALL WALLS.
7. ℄ OF RAILS UNDER M.H. FRAME FLANGE TO BE APPROX. 18" FROM ℄'S OF FRAME.
8. IN PAVEMENT, PROVIDE AT LEAST 3" BETWEEN ROOF AND BASE OF PAVEMENT. WHERE EXISTING GRADE IS HIGHER THAN PROPOSED FUTURE GRADE, INSTALL BRICK RING OR GROUT (AS REQUIRED) UNDER FRAME TO ALLOW FOR FUTURE FRAME ADJUSTMENT.
9. 8" THICK BRICK CHIMNEYS WHERE SPECIFIED SHALL BE INCIDENTAL TO APPLICABLE M.H. ITEM.



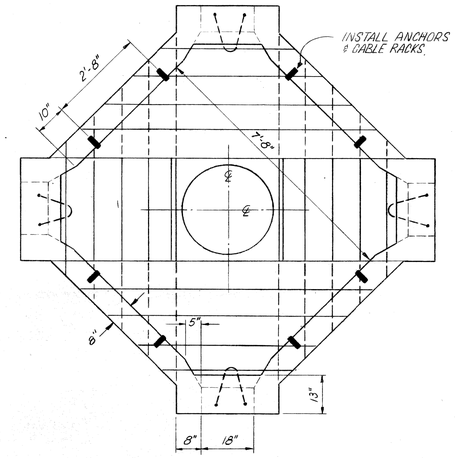
PLAN

NO.1 3-WAY MANHOLE

Scale: 1/2" = 1'-0"

NOTE:

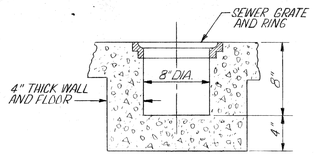
EXCAVATION LIMITS FOR PUBLIC LIGHTING COMMISSION MANHOLES SHALL BE ON VERTICAL PLANES ON THE FOOTING OUTLINE.



PLAN

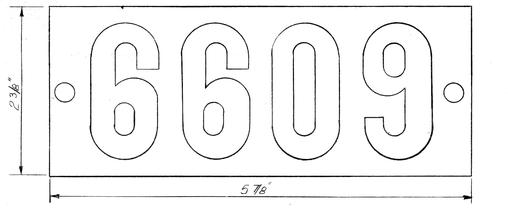
NO.1 4-WAY MANHOLE

Scale: 1/2" = 1'-0"



SUMP DETAIL

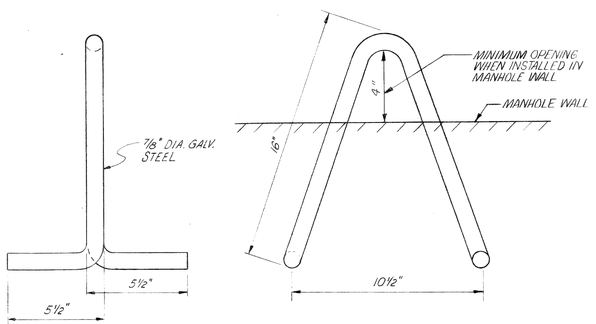
TO BE INSTALLED IN ALL MANHOLES



MANHOLE NUMBER DETAIL

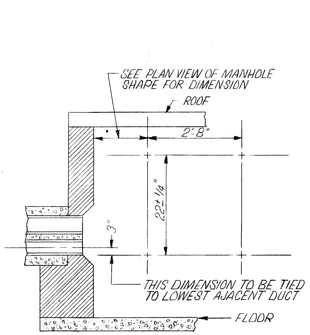
SCALE - FULL

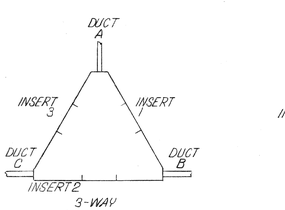
(LEAD)



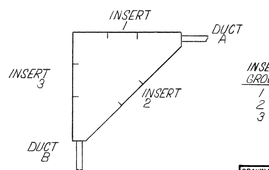
PULLING IRON

Scale: 1/4" = 1"





INSERT GROUP	INSERT LOCATION CONTROLLED BY LOWEST DUCT IN GROUP
1	A OR B
2	B OR C
3	A OR C



CORNER

INSERT GROUP	INSERT LOCATION CONTROLLED BY LOWEST DUCT IN GROUP
1	A
2	A OR B
3	B

TYPICAL DIMENSIONS FOR RACK MOUNTING INSERTS

DRAWN BY	R.M.	PLAN PREPARED BY CONSULTING ENGINEERING ASSOCIATES INC. ENGINEERING CONSULTANTS	
CHECKED BY		16580 WYOMING DETROIT, MICH. 48221	
APPROVED BY			
DATE	9-15-67	DRAWING NO.	FILE NO. CEA J6

CITY OF DETROIT

PUBLIC LIGHTING COMMISSION

DRAWN BY		APPROVED	10-21-64 FILE NO. 62-6
DATE		APPROVED	10/21/64 SHEET NO. 7

MICHIGAN STATE HIGHWAY DEPARTMENT

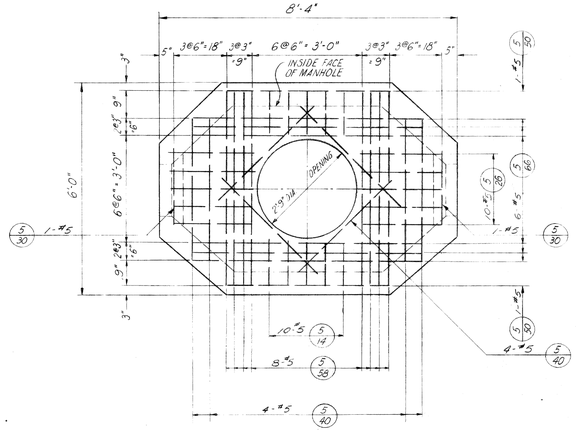
P.L.C. DETAILS
MANHOLES

ISSUE NO.	DATE
COUNTY JOB	SHEET NO. 117
STATE PROJECT	

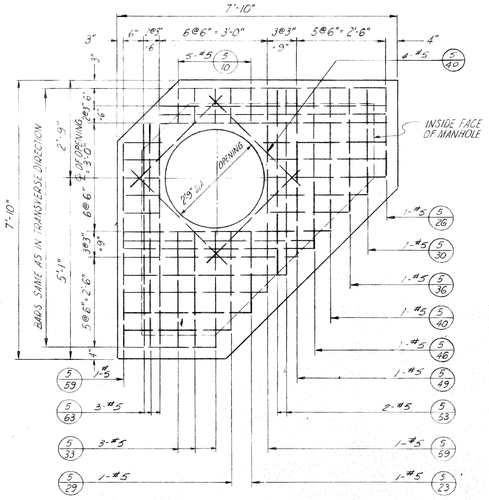
82124-002

REVISIONS			

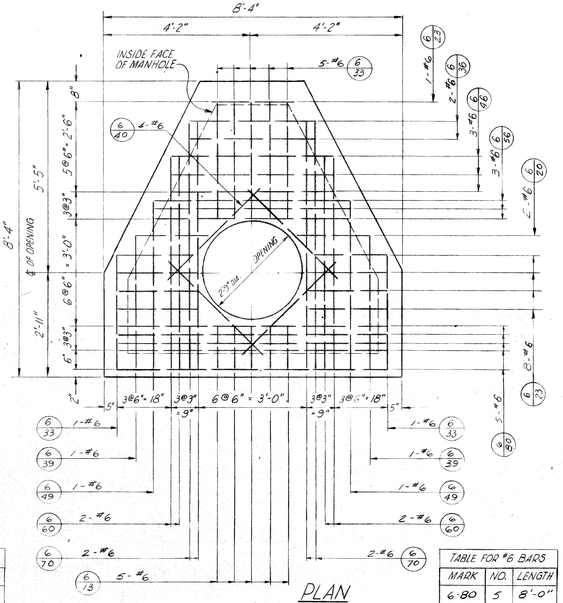
K&E 17-0153 5-64•



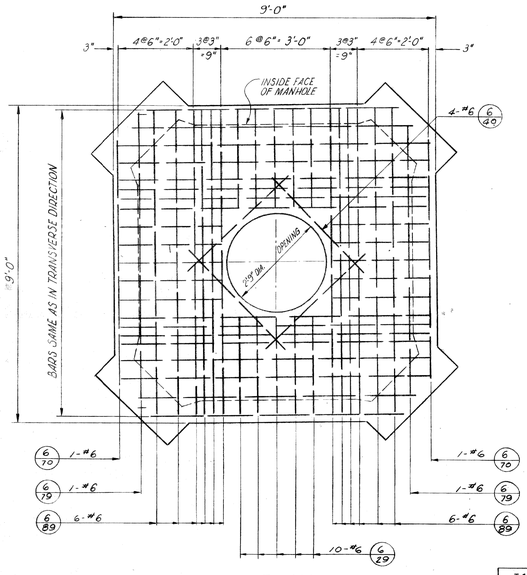
PLAN



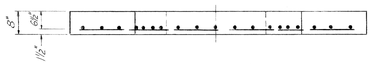
PLAN



PLAN

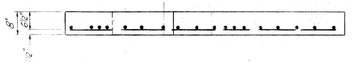


PLAN



ELEVATION
FOR NO.1 2-WAY MANHOLE
Scale: 1/2" = 1'

TABLE FOR #5 BARS		
MARK	NO.	LENGTH
5-66	6	6'-6"
5-58	8	5'-8"
5-50	2	5'-0"
5-40	8	4'-0"
5-30	2	3'-0"
5-26	2	2'-6"
5-14	10	1'-4"



ELEVATION
FOR NO.1 CORNER MANHOLE
Scale: 1/2" = 1'

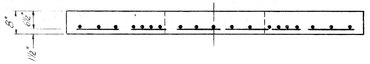
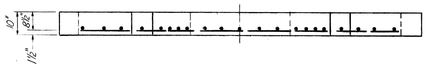
TABLE FOR #5 BARS		
MARK	NO.	LENGTH
5-63	6	6'-3"
5-59	4	5'-9"
5-53	1	5'-3"
5-49	2	4'-9"
5-46	2	4'-6"
5-40	6	4'-0"
5-36	2	3'-6"
5-33	6	3'-3"
5-30	2	3'-0"
5-29	2	2'-9"
5-26	2	2'-6"
5-23	2	2'-3"
5-13	10	1'-0"

ELEVATION
FOR NO.1 3-WAY MANHOLE
Scale: 1/2" = 1'

TABLE FOR #6 BARS		
MARK	NO.	LENGTH
6-80	5	8'-0"
6-70	4	7'-0"
6-60	4	6'-0"
6-56	3	5'-6"
6-49	2	4'-3"
6-46	3	4'-6"
6-40	4	4'-0"
6-39	2	3'-9"
6-36	2	3'-6"
6-33	7	3'-3"
6-23	9	2'-3"
6-20	2	2'-0"
6-13	5	1'-3"



ELEVATION
FOR NO.1 4-WAY MANHOLE
Scale: 1/2" = 1'

TABLE FOR #6 BARS		
MARK	NO.	LENGTH
6-89	24	8'-9"
6-83	4	8'-3"
6-73	4	7'-3"
6-40	4	4'-0"
6-29	20	2'-9"

NOTES:
1. WORK THIS SHEET WITH P.L.C. DETAILS MANHOLES.
2. ALL CONCRETE IS M3HD GRADE A (6B).
3. BAR NUMBERS DENOTE THE SIZE OF BAR REQUIRED IN ACCORDANCE WITH CURRENT USAGE SPECIFIED BY THE CONCRETE REINFORCING STEEL INSTITUTE.

REVISIONS			

K&E 17-0153 5-64

DRAWN BY R.M.	PLAN PREPARED BY CONSULTING ENGINEERING ASSOCIATES INC. ENGINEERING CONSULTANTS
CHECKED BY W.C.	16580 WYOMING DETROIT, MICH. 48221
APPROVED BY W.B. M.J.	
DATE 9-15-67	DRAWING NO. / FILE NO. CEA J6

CITY OF DETROIT
PUBLIC LIGHTING COMMISSION

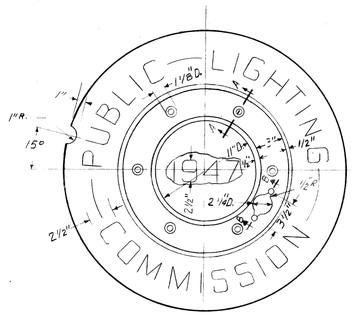
DRAWN BY	APPROVED 10-21-64	FILE NO. 62-6
DATE	APPROVED 10/21/64	SHEET NO. 7A

MICHIGAN STATE HIGHWAY DEPARTMENT

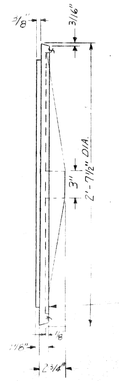
P.L.C. DETAILS
ALTERNATE MANHOLE ROOFS

ISSUE NO.	DATE
COUNTY JOB	SHEET NO. 118
STATE PROJECT	

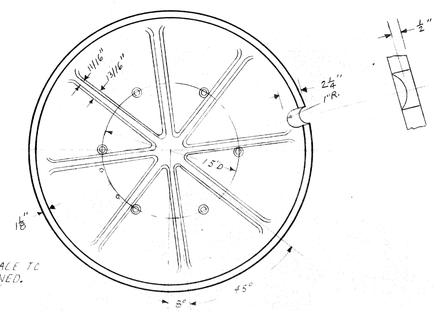
82124-002



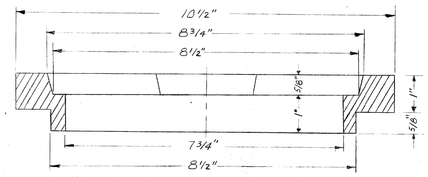
LETTERING & BEAD RAISED 3/16" ABOVE FACE.
YEAR ON COVER TO BE YEAR OF CASTING.
CONTRACTOR TO CHANGE PATTERN IF REQUIRED.



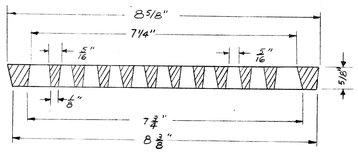
THIS SURFACE TO BE MACHINED.



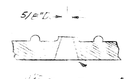
A.S.T.M. CLASS 30 GREY IRON
P.L.C. PATT. NO 418
APPROX. WT. - 245#



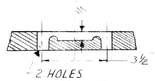
SECTION D-D



SECTION E-E



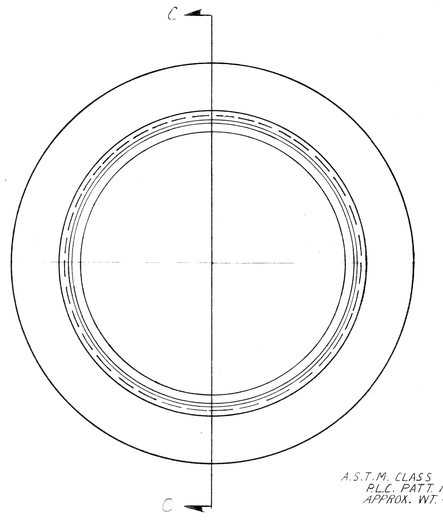
SECTION A-A

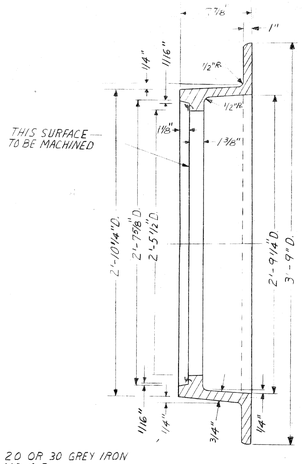


SECTION B-B

MANHOLE COVER

SCALE 1 1/2" = 1'-0"





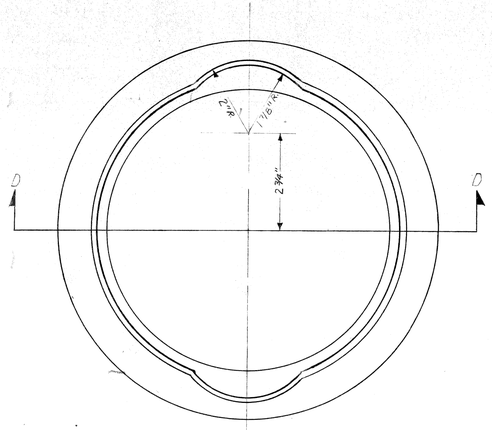
A.S.T.M. CLASS 20 OR 30 GREY IRON
P.L.C. PATT. NO. 417
APPROX. WT. - 410 #

SECTION C-C

MANHOLE FRAME

SCALE 1 1/2" = 1'-0"

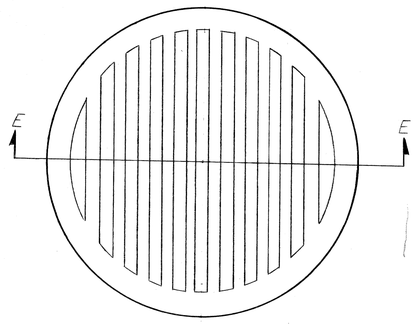
NOTE:
FRAMES MAY BE A.S.T.M. CLASS 30 GR'L'Y IRON IF THE CONTRACTOR SO ELECTS.



A.S.T.M. CLASS 20 OR 30 GREY IRON
P.L.C. PATT. NO. 318-A
APPROX. WT. 9#

SEWER RING

SCALE: HALF-SIZE



A.S.T.M. CLASS 20 OR 30 GREY IRON
P.L.C. PATT. NO. 318
APPROX. WT. - 4.5#

SEWER GRATE

SCALE: HALF SIZE

DRAWN BY J.C.B.	PLAN PREPARED BY CONSULTING ENGINEERING ASSOCIATES INC. ENGINEERING CONSULTANTS	
CHECKED BY [illegible]		
APPROVED BY [illegible]	16580 WYOMING DETROIT, MICH. 48221	
DATE 9-15-67	DRAWING NO.	FILE NO. CEA J6

CITY OF DETROIT
PUBLIC LIGHTING COMMISSION

DRAWN BY	APPROVED [illegible] 10/21/64	FILE NO. 62-6
DATE	APPROVED [illegible] 10/21/64	SHEET NO. 8

MICHIGAN STATE HIGHWAY DEPARTMENT

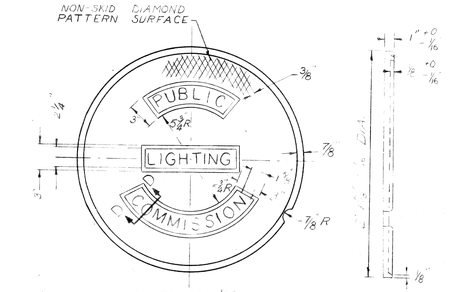
P.L.C. DETAILS
MANHOLE FRAME & COVER
SEWER GRATE & RING

ISSUE NO.	DATE
COUNTY JOB	SHEET NO. 119
STATE PROJECT	

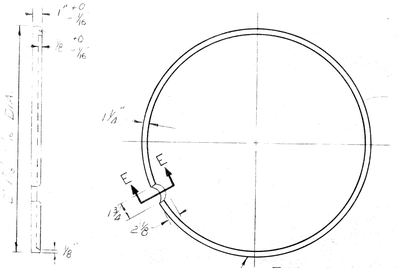
REVISIONS

K&E 17-0153 5-64•

02124-002

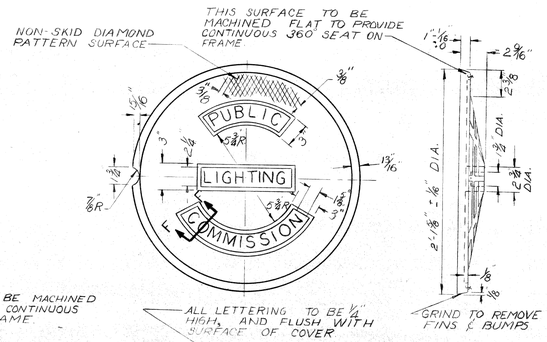


SECTION D-D



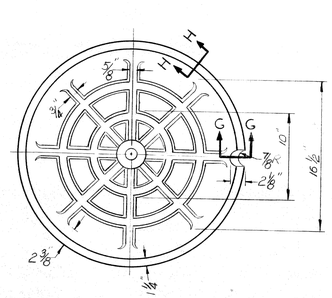
SECTION E-E

P.L.C. PATTERN NO. 41P
A.S.T.M. CLASS 30 GRAY IRON
SIDEWALK TYPE COVER
TO BE USED IN SIDEWALKS & DIRT AREAS

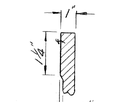


SECTION F-F

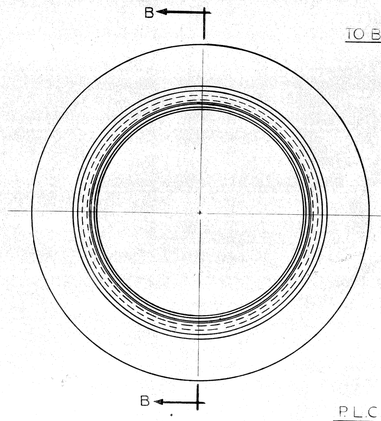
P.L.C. PATTERN NO. 2A
A.S.T.M. CLASS 30 GRAY IRON
APPROX. WT. 145 LBS.
STREET COVER
TO BE USED IN STREETS & DRIVES

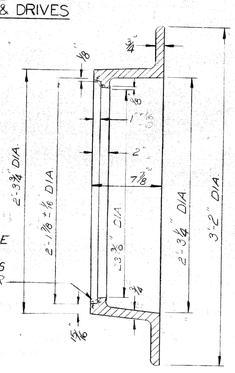


SECTION G-G



SECTION H-H

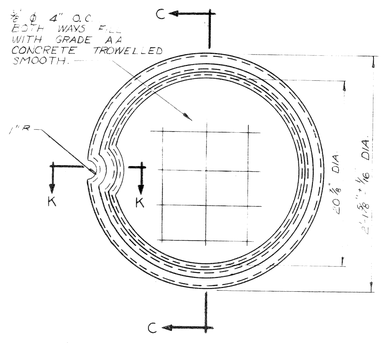


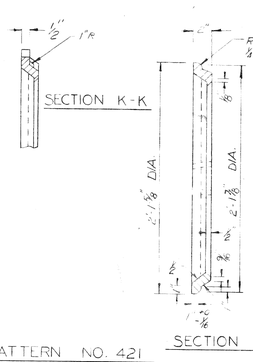


SECTION B-B

P.L.C. PATTERN NO. 1A
A.S.T.M. CLASS 20 OR 30 GRAY IRON
APPROX. WT. 251 LBS.
HANDHOLE FRAME

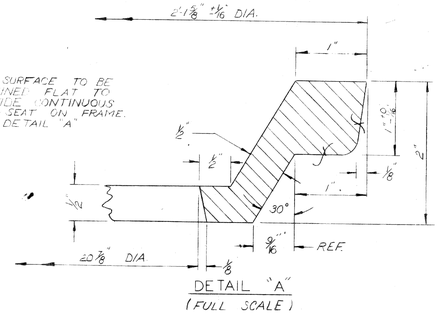
ALL FILLETS ARE 1/2" RADIUS.
ALL ROUNDS ARE 1/4 RADIUS.





P.L.C. PATTERN NO. 421
A.S.T.M. CLASS 30 GRAY IRON
APPROX. WT. 44 LBS.
SIDEWALK TYPE
CONCRETE FILLED COVER

NOTE:
FRAMES MAY BE A.S.T.M. CLASS 30 GRAY IRON IF THE CONTRACTOR SO ELECTS.



DETAIL "A"
(FULL SCALE)

REVISIONS

K&E 17-0153 5-64+

DRAWN BY	PLAN PREPARED BY CONSULTING ENGINEERING ASSOCIATES INC. ENGINEERING CONSULTANTS 16580 WYOMING DETROIT, MICH. 48221
CHECKED BY	
APPROVED BY	
DATE 9-15-67	DRAWING NO. / FILE NO. CEA J6

CITY OF DETROIT
PUBLIC LIGHTING COMMISSION

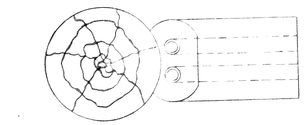
DRAWN BY	APPROVED 10-21-64	FILE NO. 62-6
DATE	APPROVED 10/21/64	SHEET NO. 9

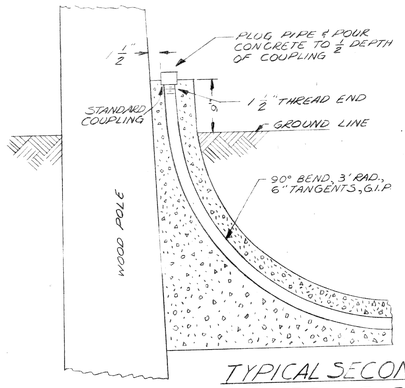
MICHIGAN STATE HIGHWAY DEPARTMENT

P.L.C. DETAILS
HANDHOLE FRAMES & COVERS

ISSUE NO.	DATE
COUNTY JOB	SHEET NO. 120
STATE PROJECT	

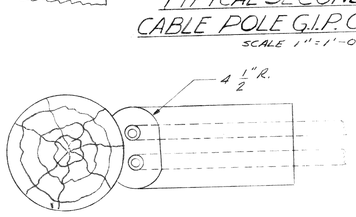
82124-002





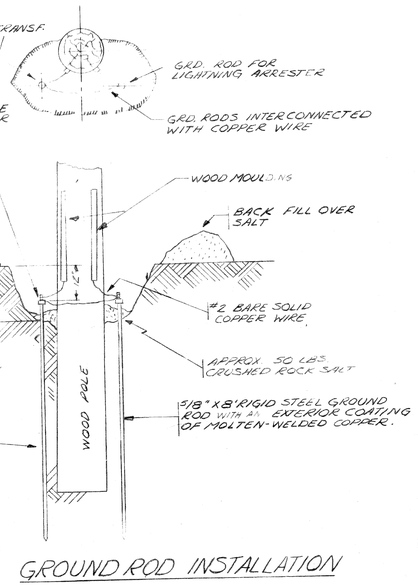
TYPICAL SECONDARY CABLE POLE G.I.P. CONN.

SCALE 1"=1'-0"



2"-3" OR 4" STD. CONDUIT TO CABLE POLE CONN.

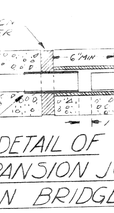
SCALE 1"=1'-0"



GROUND ROD INSTALLATION

SCALE 1/2"=1'-0"

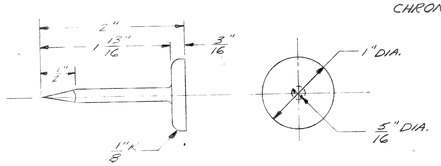
DETAIL OF EXPANSION JOINT ON BRIDGE



MADE IN 10'0" LENGTHS & LONGER

CYPRESS MOULDING

FULL SCALE

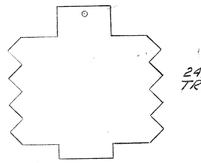


CAST BRONZE POLE MARKER ① FOR ALL WOOD POLES

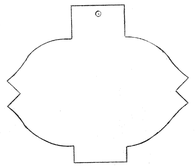
TYPICAL MARKING

C 45 — PLC 45' POLE
60 — SET IN 1960

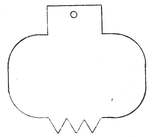
USE 1" STEEL STAMP FOR LETTERING PIN SET MARKER 7'-0" ABOVE GRADE
FACE OF HEAD TO BE ROUGH-GROUND. P.L.C. PATTERN PROVIDES FOR 40 MARKERS PER POURING



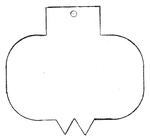
24,000 VOLT TRUNK LINE



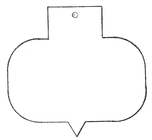
24,000 VOLT FEEDER



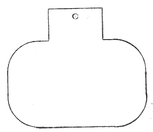
7200 VOLT FEEDER



4800 VOLT & 3300 VOLT FEEDER



2400 VOLT FEEDER



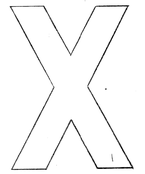
MISCELLANEOUS

SUBSTATION NAMES ON IDENTIFICATION TAGS SHALL BE SPELLED AS FOLLOWS

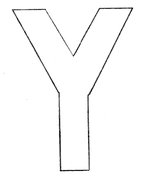
ATWTR	
BI	TRNTY
BUTZL	TRBLY
CNFLD	TURNR
CONNR	VERNR
CUSTER	WALTN
GRNFD	WAKRN
HUDSN	WD.TER.
J. CAMP	
JOY RD.	
LA. BEL	
LTHRD	
LUDDN	
MAPLE	
MCRDY	
MTRSE	
PAL. PK.	
PHILP	
PORTER	
STJHN	
STONE	

MULTIPLE INC. LTG.

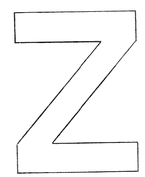
O.H. LINE PHASE TAG



O.H. LINE PHASE TAG

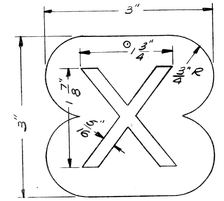


O.H. LINE PHASE TAG

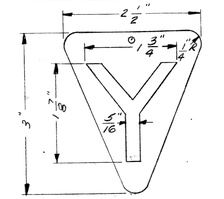


O.H. LINE OR POTHEAD PHASE TAG

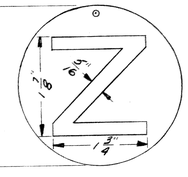
NOTE
OVERHEAD LINE OR POTHEAD PHASE MARKERS
MATERIAL LEAD .093" THICK, RAISED LETTERS .093" THICK



O.H. LINE OR POTHEAD PHASE TAG



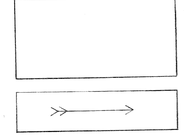
O.H. LINE OR POTHEAD PHASE TAG



SECONDARY POWER SAFETY ISLANDS & TRAFFIC SIGNALS

TRAFFIC SIGNALS

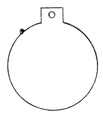
TRAFFIC SIGNAL CHRONOLIZER



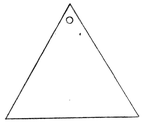
SUPERVISORY CONTROL

CIRCUIT DIRECTION

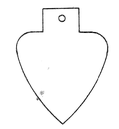
ST. LTG. COND. NO. (FROM B/C CABLE)



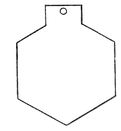
ST. LTG. CIRC. NUMBER



DEAD CABLE



B COND. CABLE



MULTIPLE LTG. CONTROL

IDENTIFICATION TAGS

MATERIAL LEAD
SCALE 3/4":1"

NOTE:

CABLE TAG MARKINGS SUCH AS SUBSTATION OR CABLE MARKINGS WILL BE AS SHOWN ON PLANS OR WILL BE FURNISHED BY P.L.C.

REVISIONS

DRAWN BY J.C.B.	PLAN PREPARED BY CONSULTING ENGINEERING ASSOCIATES INC. ENGINEERING CONSULTANTS	
CHECKED BY J.C.	16580 WYOMING DETROIT, MICH. 48221	
APPROVED BY [illegible]		
DATE 9-15-67	DRAWING NO.	FILE NO. CEA J6

CITY OF DETROIT
PUBLIC LIGHTING COMMISSION

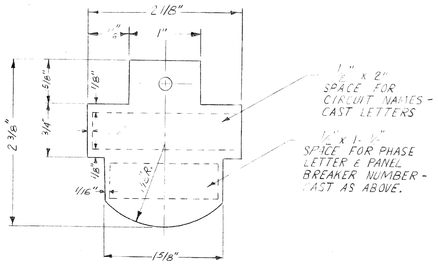
DRAWN BY	APPROVED [illegible] 10-21-64	FILE NO. 62-6
DATE	APPROVED [illegible] 10/21/64	SHEET NO. 10

MICHIGAN STATE HIGHWAY DEPARTMENT

P.L.C. DETAILS
CABLE POLE & CABLE MARKING TAGS

ISSUE NO.	DATE
COUNTY JOB	SHEET NO. 127
STATE PROJECT	

82124-002



SUBSTATION NAMES ON IDENTIFICATION TAGS SHALL BE SPELLED AS FOLLOWS:

CONSTANCE	CONST.
FULLERTON	FULTN.
KEELER	KEELR.
7-MILE	7-MILE
MEYERS	MEYRS.
SCHAFFER	SCHFR.
FREELAND	FRELD.
WATSON	WATSN.
CONGRESS	CNGRS.
MONTCALM	MTCLM.
FERRY	FERRY
HOLBROOK	HOLBK.
FORD	FORD

TRANSCLOSURE:

FORD
8-MILE

MULTIPLE MERCURY LIGHTING
IDENTIFICATION TAGS
FREEWAYS

REVISIONS			

K&E 17-0153 5-64

DRAWN BY B.A.	PLAN PREPARED BY
CHECKED BY	CONSULTING ENGINEERING ASSOCIATES INC.
APPROVED BY	ENGINEERING CONSULTANTS
DATE 9-15-67	16580 WYOMING DETROIT, MICH. 48221
DRAWING NO.	FILE NO. CEA J6

CITY OF DETROIT
PUBLIC LIGHTING COMMISSION

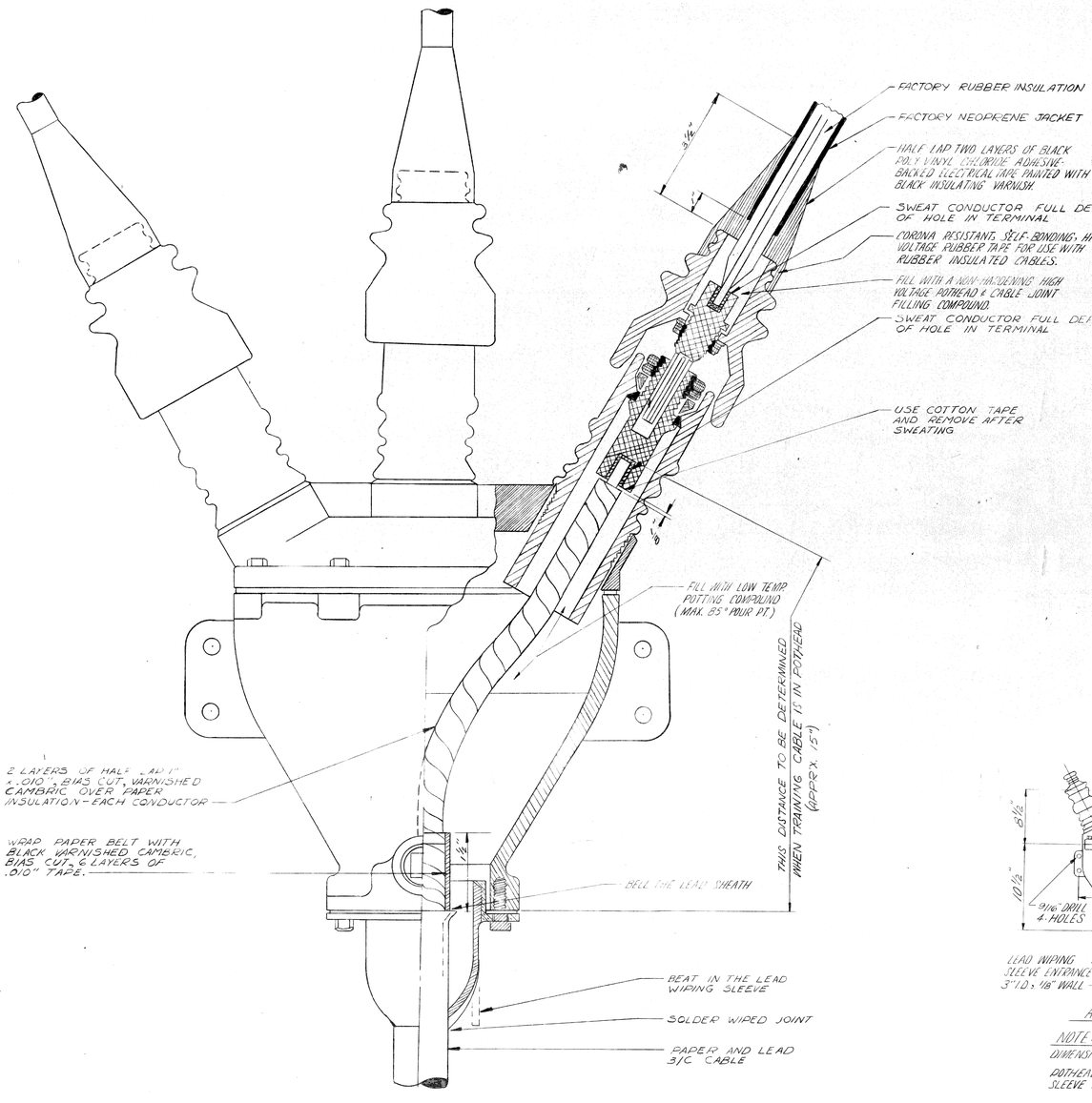
DRAWN BY	APPROVED	FILE NO. 62-6
DATE	APPROVED 10/21/64	SHEET NO. 10-A

MICHIGAN STATE HIGHWAY DEPARTMENT

P.L.C. DETAILS
CABLE MARKING TAGS

ISSUE NO.	DATE
COUNTY JOB	SHEET NO. 12
STATE PROJECT	

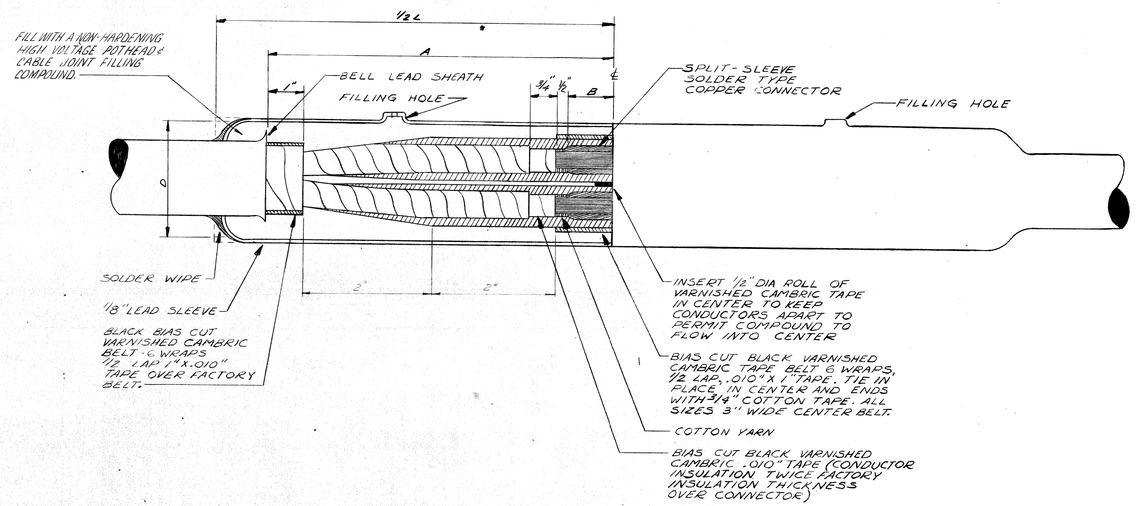
82124-002



5000 & 7500V 3/C DISC. POTHEAD

NOT TO SCALE

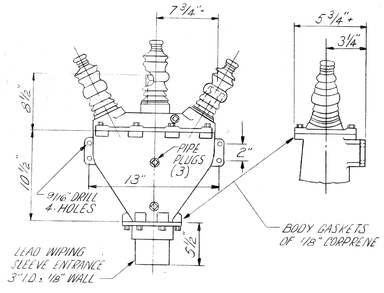
NOTE:
FOR COMPLETE DETAILS ON MAKING THIS SPLICE SEE SPECIFICATIONS & P.L.C. DETAIL SHEET 11-A.



3 CONDUCTOR 5000 OR 7000 VOLT PAPER & LEAD SPLICE

NOT TO SCALE

	#4/0 CABLE	#2 CABLE	350 MCM CABLE	#2/0 CABLE
A	9½"	7½"	10½"	9½"
B	1¼"	1"	1¼"	1"
D	3½"	3"	4"	3½"
L	24"	18"	24"	24"



ASSEMBLED POTHEAD

NOTE:
DIMENSIONS APPLY TO BOTH 250 A. & 500 A. POTHEADS.
POTHEADS FURNISHED SHALL INCLUDE ENTRANCE SLEEVE & CAPS.

NOTES:
1. SEE SPECIFICATIONS OR P.L.C., WHERE REQUIRED, FOR MATERIAL SPECIFICATIONS
2. THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER FOR APPROVAL A LIST OF ALL SPLICING MATERIALS HE PROPOSES TO USE WITH SUPPORTING DATA THAT THE MATERIAL IS SUITABLE FOR APPLICATION AS SHOWN ON THE DRAWINGS.

REVISIONS	

DRAWN BY J.C.B.	PLAN PREPARED BY CONSULTING ENGINEERING ASSOCIATES INC. ENGINEERING CONSULTANTS
CHECKED BY	16580 WYOMING DETROIT, MICH. 48221
APPROVED BY	
DATE 9-15-67	DRAWING NO. / FILE NO. CEA J6

CITY OF DETROIT
PUBLIC LIGHTING COMMISSION

DRAWN BY	APPROVED 10-21-64	FILE NO. 62-6
DATE	APPROVED 10/21/64	SHEET NO. 11

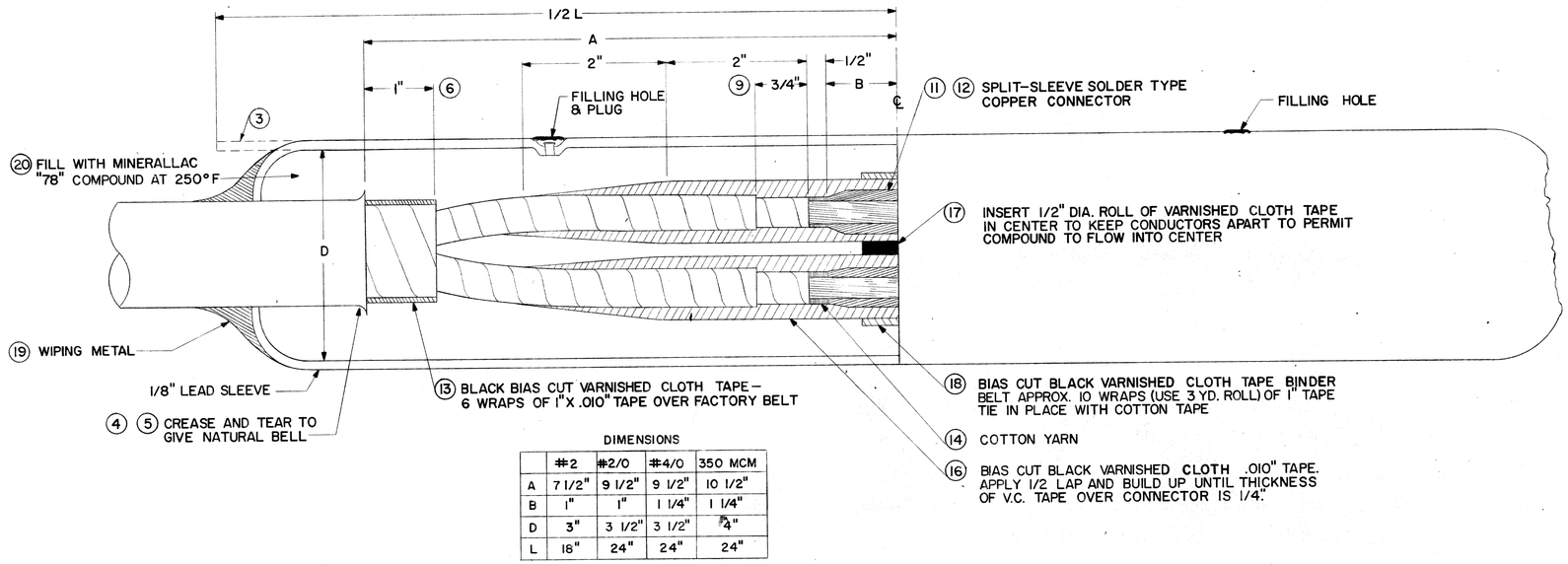
MICHIGAN STATE HIGHWAY DEPARTMENT

P.L.C. DETAILS
5000 V. - 7000 V. POTHEADS & CABLE SPLICES

ISSUE NO.	DATE
COUNTY JOB	SHEET NO. 123
STATE PROJECT	

82124-002

K&E 17-0153 5-64•

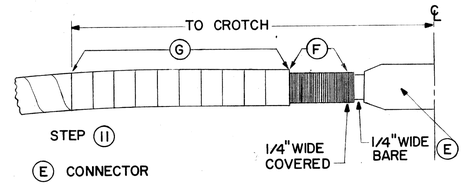


DIMENSIONS

	#2	#2/0	#4/0	350 MCM
A	7 1/2"	9 1/2"	9 1/2"	10 1/2"
B	1"	1"	1 1/4"	1 1/4"
D	3"	3 1/2"	3 1/2"	4"
L	18"	24"	24"	24"

INSTRUCTIONS FOR 3/C 5.0 & 7.0 KV. P.&L. BELTED CABLE JOINTS

1. TRAIN CABLE. DO NOT BEND TO RADIUS LESS THAN THE FOLLOWING SPECIFIED MINIMUM: #2 AND #2/0–16", #4/0–17", 350 MCM–20".
2. ESTABLISH CENTERLINE OF JOINT. CUT CABLES THRU CENTERLINE.
3. CLEAN AND CANDLE OUTSIDE OF SLEEVE FOR 2" AT BELL ENDS. SLIDE SLEEVE OVER CABLE.
4. CREASE LEAD SHEATHS THE SPECIFIED DISTANCE FROM CABLE END (DIM. A) CLEAN AND PROTECT SURFACES OF SHEATH WITH STEARINE WHERE WIPES ARE TO BE MADE.
5. REMOVE SHEATHS TO CREASES, TEAR SO AS TO GIVE THE SHEATH A NATURAL BELL.
6. REMOVE ALL BINDER TAPES TO 1" FROM END OF SHEATH.
7. REMOVE FILLERS FROM CROTCH, CUTTING WITH KNIFE DIRECTED AWAY FROM INSULATION.
8. TEST FILLER FOR MOISTURE. (IN PARAFFIN AT 250°F.)
9. STEP INSULATION BY USE OF GILLING TWINE. FOR THE SINGL STEP REMOVE HALF OF FACTORY INSULATION THICKNESS.
10. REMOVE INSULATION FROM CONDUCTOR FOR THE CONNECTOR BY CUTTING SQUARE WITHOUT NICKING CONDUCTOR.
11. PUT CONNECTORS IN PLACE WITH SPLIT OPENINGS TURNED UPWARD. COVER BARE CONDUCTOR AND FIRST STEPS WITH ASBESTOS ROVING COVER PAPER INSULATION WITH HALF-LAPPED COTTON TAPE. SEE DETAIL "A".
12. SWEAT CONNECTORS IN PLACE. REMOVE ANY SHARP EDGES OF THE CONNECTOR OR SOLDER. REMOVE COTTON TAPE AND ASBESTOS ROVING. BEING CAREFUL TO KEEP METAL PARTICLES OFF OF CONDUCTOR AND PAPER INSULATION.
13. APPLY 6 WRAPS OF 1" BLACK V.C. TAPE OVER THE FACTORY BELT ON EACH END OF THE SPLICE.
14. APPLY STRANDED COTTON YARN BOILED IN PETROLATUM TO FILL IN BETWEEN INSULATION AND CONNECTOR TO LEVEL OF FIRST STEP.
15. ALSO APPLY BOILED COTTON YARN OVER STEPS TO HOLD PAPER TAPE IN PLACE WHILE APPLYING V.C. INSULATION. SEE DETAIL "B".
16. APPLY V.C. TAPE HALF-LAPPED TO EACH CONDUCTOR, BUILDING UP TO A THICKNESS OF 1/4" OVER THE CONNECTOR, TAPERING ENDS AS SHOWN AND HAND WIPING THIN COATING OF PETROLATUM BETWEEN LAYERS OF V.C. TAPE.
17. INSTALL 1/2" DIA. SPACER ROLL OF 1" BLACK V.C. TAPE IN CENTER OF CONDUCTORS.
18. INSTALL BINDER BELT OF 1" BLACK V.C. TAPE APPROX. 10 LAYERS (USE 3YD. ROLL) TIE IN PLACE WITH COTTON TAPE.
19. PULL UP AND CENTER SLEEVE. WIPE SLEEVE TO CABLE SHEATHS. DO NOT USE STEARINE FOR COOLING AT THIS STAGE.
20. FILL JOINT WITH COMPOUND AT 250°F. COOL FOR 45 MINUTES, REFILL, AND COOL FOR 15 MINUTES REPEAT REFILLS TWICE IF NECESSARY.
21. WHILE JOINT IS COOLING, ATTACH BONDING CONNECTION, FIREPROOF CABLE AND ATTACH CABLE TAG.
22. SEAL FILLING HOLES AND FINISH FIREPROOFING.

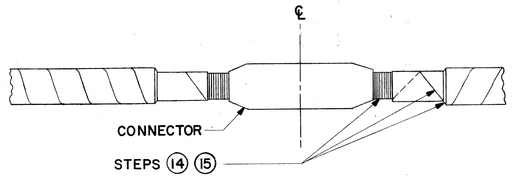


(E) CONNECTOR

(F) WRAP ASBESTOS ROVING OVER BARE CONDUCTOR AND FIRST STEP OF INSULATION.

(G) WRAP COTTON TAPE 1/2 LAPPED OVER FACTORY PAPER INSULATION.

DETAIL "A"
STEP 11



BOILED COTTON YARN IN STEP CORNERS, ONE TURN TO HOLD PAPER AND OVER CONDUCTOR TO LEVEL OF FIRST STEP.

DETAIL "B"
STEP 15

SEE STD. DETAIL SH. #66 FOR CABLE FIRE PROOFING.

REVISIONS	

DRAWN BY: M.J.P.	PLAN PREPARED BY CONSULTING ENGINEERING ASSOCIATES INC. ENGINEERING CONSULTANTS 16580 WYOMING DETROIT, MICH. 48221
CHECKED BY:	
APPROVED BY:	
DATE: 9-15-67	DRAWING NO. / FILE NO. CEA J6

CITY OF DETROIT
PUBLIC LIGHTING COMMISSION

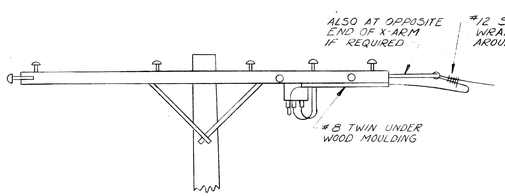
DRAWN BY MJP	ACCEPTED BY	FILE NO. 62-6
DATE	ACCEPTED BY	SHEET NO. 11A

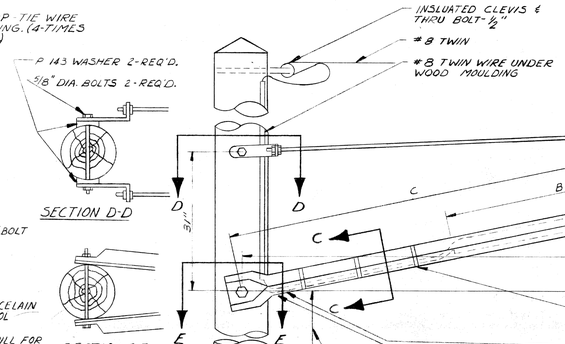
MICHIGAN STATE HIGHWAY DEPARTMENT

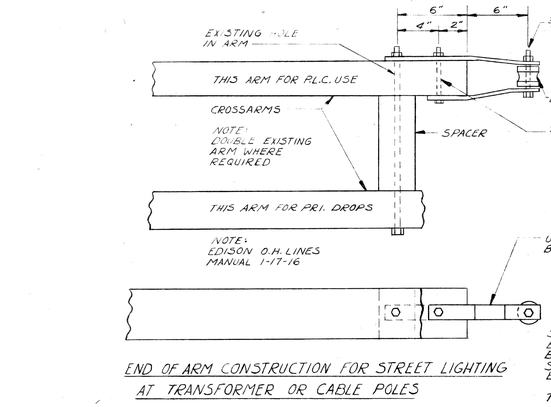
SPECIFICATIONS FOR MAKING 3/C, 5000 V. & 7000 V. BELTED P.&L. CABLE JOINT

ISSUE NO.	DATE
COUNTY JOB	SHEET NO. 15A
STATE PROJECT	

82124-002

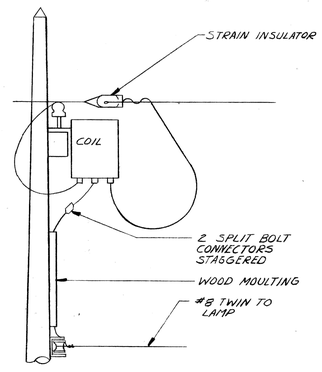






DIMENSIONS			
A	B	C	D
16'-0"	48"	96"	18"
18'-0"	60"	108"	20"
20'-0"	72"	120"	22"

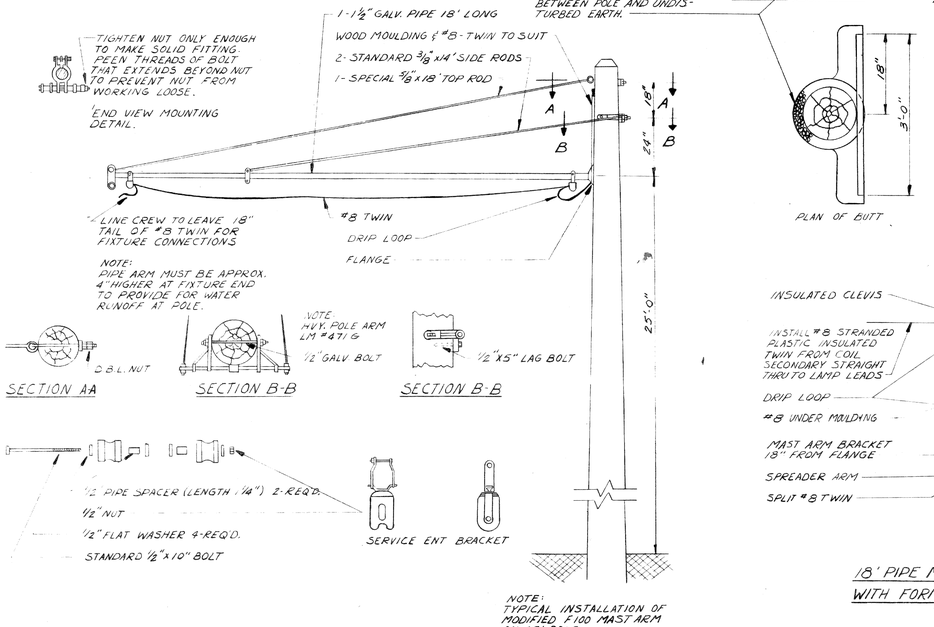
NOTE:
TIPS TO BE CRIMPED TO PLASTIC WIRE AND STAGGERED JOINTS TO BE WRAPPED WITH TWO HALF LAPPED LAYER OF PLASTIC TAPE "20 (P.V.C.) (1-TIP-12" & 1-TIP-14")

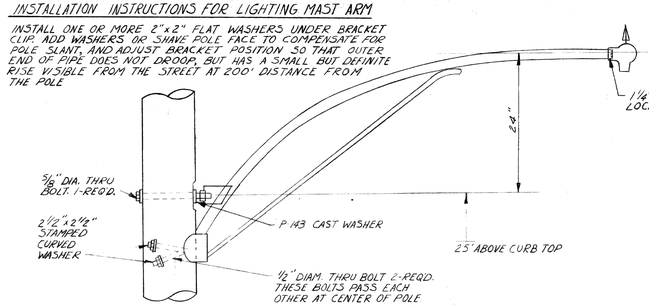


TYPICAL COIL INSTALLATION

INSTALLATION INSTRUCTIONS FOR LIGHTING MAST ARM

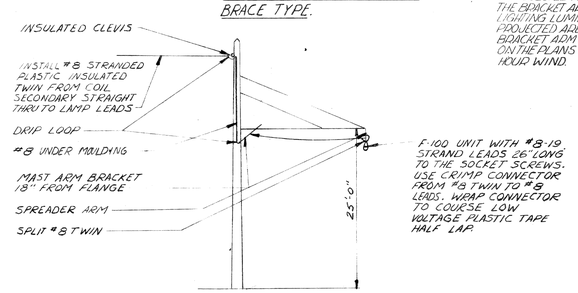
INSTALL ONE OR MORE 2"x2" FLAT WASHERS UNDER BRACKET CLIP. ADD WASHERS OR SHAVE POLE FACE TO COMPENSATE FOR POLE SLANT, AND ADJUST BRACKET POSITION SO THAT OUTER END OF PIPE DOES NOT DROOP, BUT HAS A SMALL BUT DEFINITE RISE VISIBLE FROM THE STREET AT 200' DISTANCE FROM THE POLE



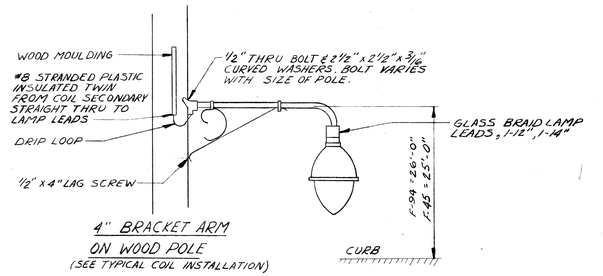


6 FT. OR 10 FT. UPSWEEP STREET LIGHTING BRACKET - PIPE & BRACE TYPE.

THIS DETAIL IS ONLY FOR USE WITH INCANDESCENT LUMINAIRES WITH A LUMINAIRE WEIGHT OF 90 LBS. AND A PROJECTED AREA OF 2.7 SQ. FT. THE BRACKET ARM DESIGN FOR A MECURY VAPOR STREET LIGHTING LUMINAIRE WITH A WEIGHT OF 70 LBS. AND A PROJECTED AREA OF 3.3 SQ. FT. SHALL HAVE THE PROPER BRACKET ARM DESIGN FOR THE LENGTH ARM CALLED FOR ON THE PLANS TO WITHSTAND A ONE HUNDRED MILE PER HOUR WIND.



18' PIPE MAST ARM ON SEPARATE WOOD POLE WITH FORM NO. 100 LUMINAIRE



4" BRACKET ARM ON WOOD POLE
(SEE TYPICAL COIL INSTALLATION)

REVISIONS		
ADDED NOTE FOR MERC. VAPOR BRACKET ARM.		5-24-67

DRAWN BY C.I.B.	PLAN PREPARED BY CONSULTING ENGINEERING ASSOCIATES INC. ENGINEERING CONSULTANTS
CHECKED BY	16580 WYOMING DETROIT, MICH. 48221
APPROVED BY	
DATE 9-15-67	DRAWING NO. / FILE NO. CEA J6

CITY OF DETROIT
PUBLIC LIGHTING COMMISSION

DRAWN BY	APPROVED 10-21-64	FILE NO. 62-6
DATE	APPROVED 10/21/64	SHEET NO. 14

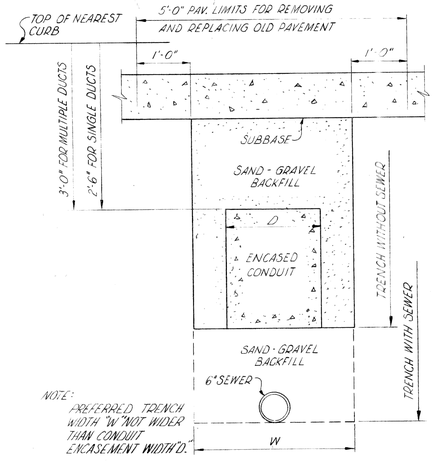
MICHIGAN STATE HIGHWAY DEPARTMENT

P.L.C. DETAILS
STREET LIGHTING MAST ARM

ISSUE NO.	DATE
COUNTY JOB	SHEET NO. 125
STATE PROJECT	

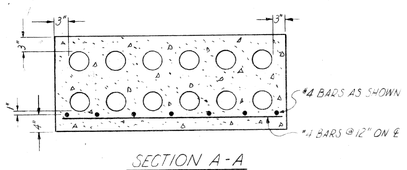
82124-002

K&E 17-0153 5-64



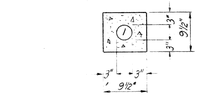
TYPICAL SECTION OF TRENCH

Scale: 3/4" = 1'-0"

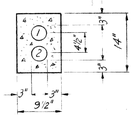


SECTION A-A

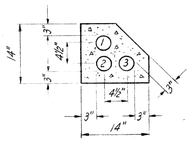
SECTION THROUGH BACKWALL SHOWING SUPPORTS FOR 12-4" ENCASED CONDUIT & EXPANSION JOINTS



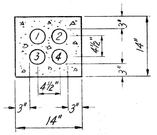
1-3" DUCT



2-3" DUCTS



3-3" DUCTS



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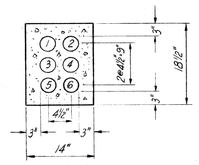
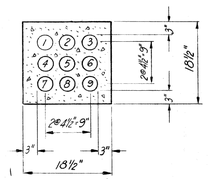
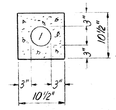


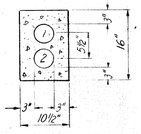
6-3" DUCTS



9-3" DUCTS



1-4" DUCT



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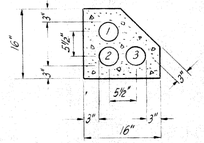

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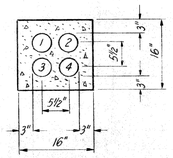
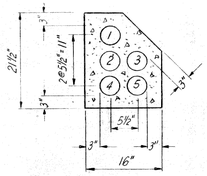
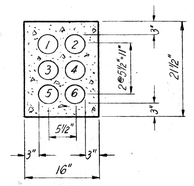


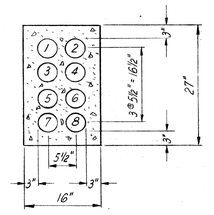
4-4" DUCTS



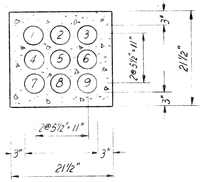
5-4" DUCTS



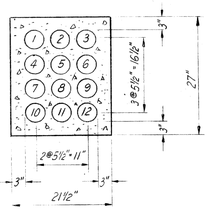
6-4" DUCTS



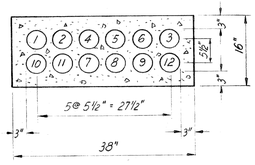
8-4" DUCTS



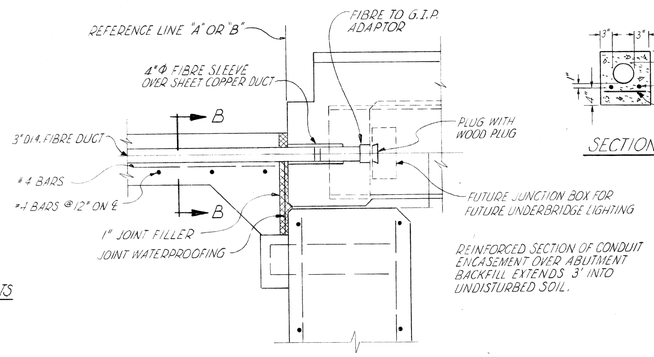
9-4" DUCTS



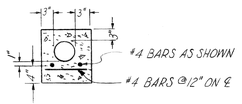
12-4" DUCTS



12-4" IN BRIDGE APPROACH



SECTION THROUGH BACKWALL SHOWING SUPPORTS FOR 1-3" ENCASED CONDUIT & EXPANSION JOINTS FOR UNDERBRIDGE LIGHTING



SECTION B-B

REVISIONS			

K&E 17-0153 5-64

DRAWN BY C.J.B.	PLAN PREPARED BY CONSULTING ENGINEERING ASSOCIATES INC. ENGINEERING CONSULTANTS	
CHECKED BY R.K. Sp	16580 WYOMING DETROIT, MICH. 48221	
APPROVED BY R.K.S.		
DATE 9-15-67	DRAWING NO.	FILE NO. CEA J6

CITY OF DETROIT

PUBLIC LIGHTING COMMISSION

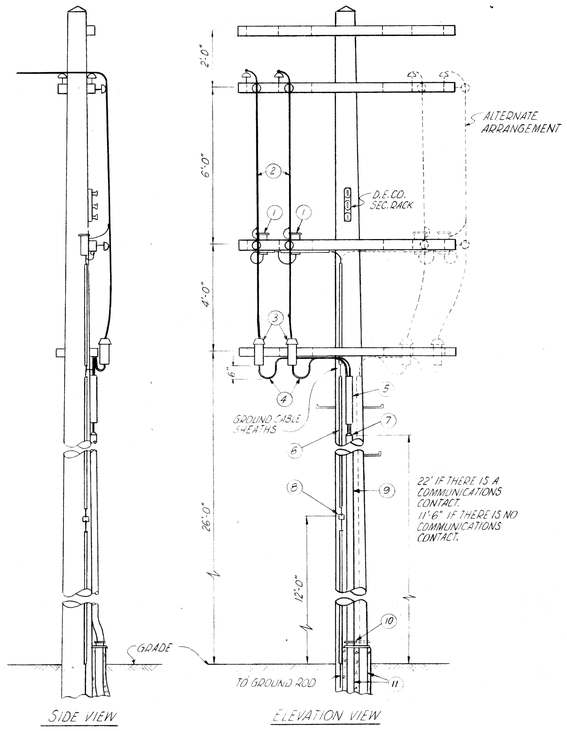
DRAWN BY	APPROVED	FILE NO. 62-6
DATE	APPROVED	SHEET NO. 24

MICHIGAN STATE HIGHWAY DEPARTMENT

P.L.C. DETAIL
MISCELLANEOUS DUCT SECTION

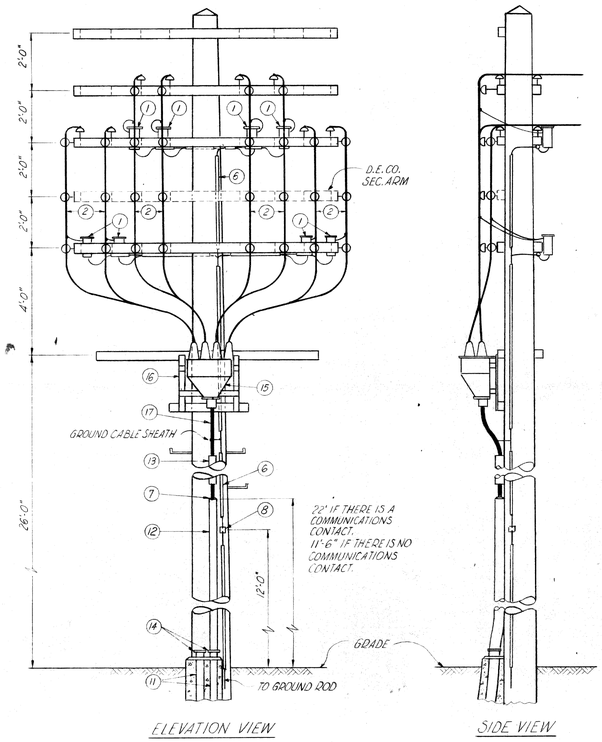
ISSUE NO.	DATE
COUNTY JOB	SHEET NO. 126
STATE PROJECT	

82124-002



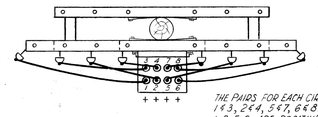
TYPICAL STREET LIGHTING CABLE POLE

NOT TO SCALE



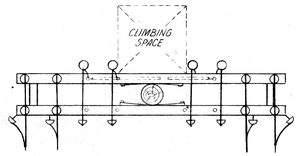
TYPICAL 8/c STREET LIGHTING CABLE POLE

NOT TO SCALE

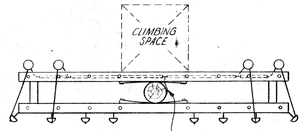


THE PAIRS FOR EACH CIRCUIT ARE 1 & 3, 2 & 4, 5 & 7, 6 & 8. 1, 2, 5, 6 ARE POSITIVE.

PLAN AT FIFTH GAIN INCLUDING 8/c POTHEAD



PLAN AT THIRD ARM

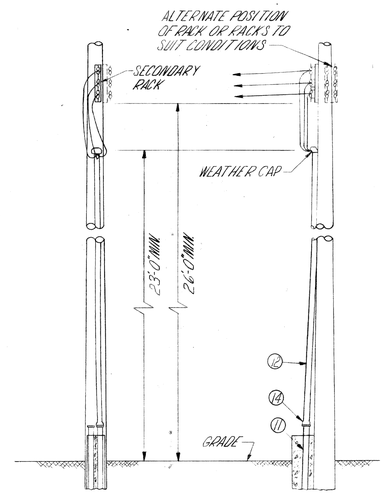


NOTE: COVER ALL GROUND WIRE NOT COVERED WITH MOULDING, WITH PLASTIC TREE GUARD.

PLAN AT FIFTH ARM

NOTES:

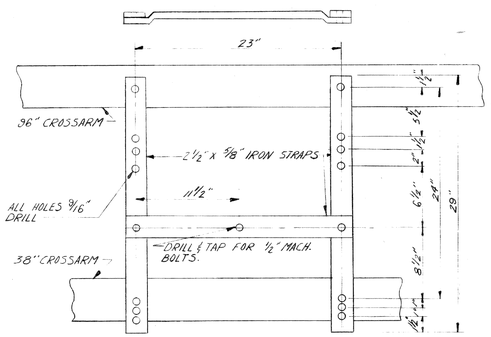
1. SEE SHEET 10 OF P.L.C. DETAILS FOR GROUND ROD AND CONDUIT INSTALLATION.
2. INSTALL STEPS ON POLE FROM 8'-0" ABOVE GROUND TO 48" BELOW POTHEAD ARM.
3. INSTALL BRASS TAG ON EACH P.H. CAP & P.H. BODY. TAGS TO BE STAMPED WITH THE FOLLOWING INFORMATION: STREET LIGHTING CIRCUIT NUMBER & "PLUS" TO INDICATE POSITIVE LEAD.
4. THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER FOR APPROVAL A LIST OF ALL SPLICING MATERIALS HE PROPOSES TO USE WITH SUPPORTING DATA THAT THE MATERIAL IS SUITABLE FOR THE APPLICATION AS SHOWN ON THE DRAWINGS.



SECONDARY CABLE POLE

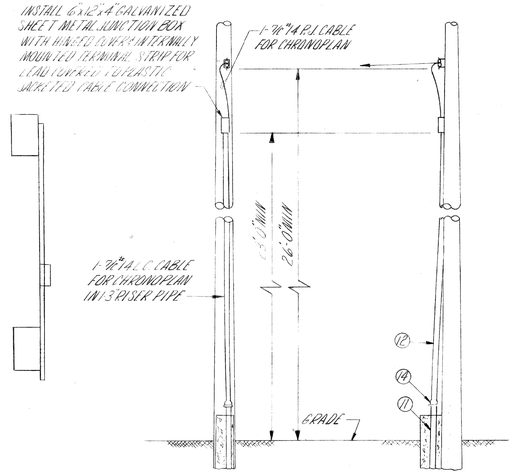
NOT TO SCALE

DETAIL ITEMS	
1	LIGHTNING ARRESTER
2	#6 OVERHEAD TRAINING WIRE
3	1/c POT-HEAD
4	1/c #8 L.C. CABLE
5	3" SPLIT FIBRE DUCT ABOVE G.I.P. "O.B" BELOW CROSSARM
6	#6 GROUND WIRE UNDER WOOD MOULDING
7	LEAD WEATHERCAP & GALV. BUSHING
8	FOUR SCREW CONNECTOR
9	2½" G.I.P. RISER
10	2½" x 4" REDUCER ADAPTER
11	4" FIBRE CONDUIT
12	3" G.I.P. RISER
13	4" SPLIT FIBRE DUCT
14	3" x 4" REDUCER ADAPTER
15	8/c POTHEAD
16	8/c POTHEAD MOUNTING BRACKET-(SEE DETAIL "A")
17	8/c L.C. CABLE



BRACKET FOR 8/c POLE TYPE POTHEAD

DETAIL "A"



CHRONOPLAN CABLE POLE

NOT TO SCALE

REVISIONS		

K&E 17-0153 5-64+

DRAWN BY R.M.	PLAN PREPARED BY CONSULTING ENGINEERING ASSOCIATES INC. ENGINEERING CONSULTANTS
CHECKED BY J.C.	16580 WYOMING DETROIT, MICH. 48221
APPROVED BY H.H.B.	
DATE 9-15-67	DRAWING NO. / FILE NO. CEA J6

CITY OF DETROIT

PUBLIC LIGHTING COMMISSION

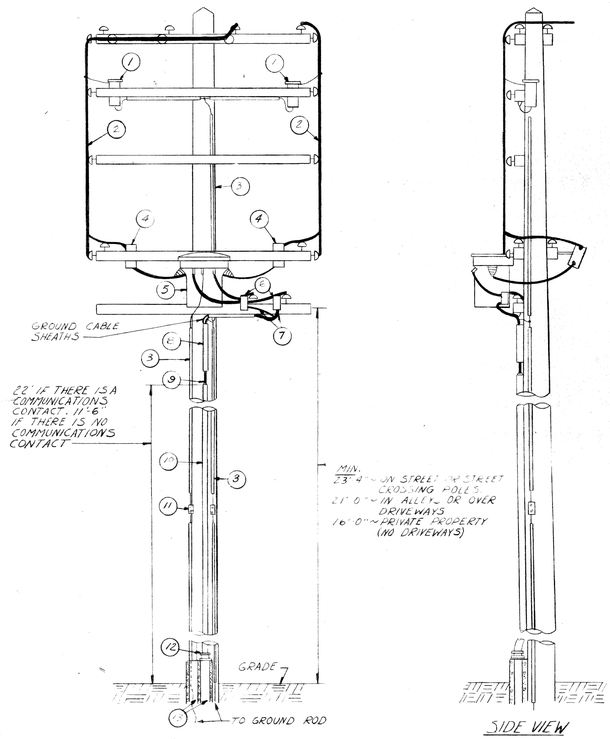
DRAWN BY	APPROVED [signature] 10-21-64	FILE NO. 62-6
DATE	APPROVED [signature] 10/21/64	SHEET NO. 26

MICHIGAN STATE HIGHWAY DEPARTMENT

P.L.C. DETAILS
CABLE POLES

ISSUE NO.	DATE
COUNTY JOB	SHEET NO. 12"
STATE PROJECT	

82124-002

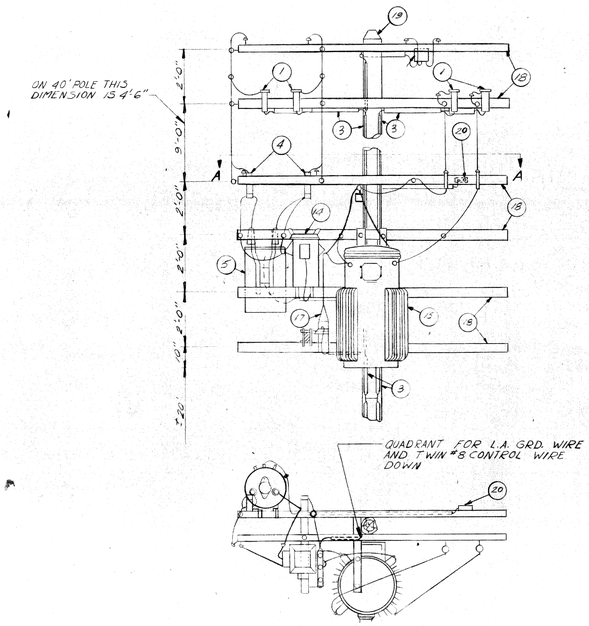


ELEVATION VIEW

TYPICAL DISTRIBUTION TRANSFORMER POLE

N.T.S.

SIDE VIEW



SECTION A-A

TYPICAL POLE MOUNTED C.C. REGULATOR OH. STREET LIGHTING CIRCUIT

DETAIL ITEMS	
1	LIGHTNING ARRESTER
2	OVERHEAD TRAINING WIRE (#8-#2-#2/0 - #4/0 AS SPECIFIED)
3	#2 GROUND WIRE UNDER WOOD MOULDING
4	PRIMARY FUSE CUTOUT
5	1 Ø DISTRIBUTION TRANSFORMER
6	KEARNEY TYPE "A" SECONDARY FUSE CUTOUT
7	1/0 L.C. SECONDARY CABLE
8	3" SPLIT FIBRE DUCT ABOVE G.I.P. TO 8" BELOW CROSSARM
9	LEAD WEATHER CAP & 1½" GALV. BUSHING
10	G.I.P. RISER (SIZE TO CABLE OR AS SPECIFIED)
11	FOUR SCREW CONNECTOR
12	1½" X 4" REDUCER ADAPTER
13	4" FIBRE CONDUIT
14	R.C.D.C. RELAY
15	30 K.W. C.C. REGULATOR
16	6¾ POLE COIL
17	CAPACITOR
18	120" X-ARM
19	45' HEAVY CL. 2 POLE UNLESS 40' POLE IS SPECIFIED; SELF-SUPPORT IN GRAVEL.
20	TEST BLOCK (FOUR RECEPTACLE TYPE; KEYLESS SCREW SHELL LAMP RECEPTACLE; 15 A. PLUG FUSE)

(5) & (15) VOLTAGE RATING OF EQUIPMENT AND SIZE OF TRANSFORMERS SHALL BE AS SHOWN ON THE PLAN DRAWINGS.

NOTES:

1. SEE SHEET 10 OF P.L.C. DETAILS FOR GROUND ROD & CONDUIT INSTALLATION.
2. THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER FOR APPROVAL A LIST OF ALL SPLICING MATERIALS HE PROPOSES TO USE WITH SUPPORTING DATA THAT THE MATERIAL IS SUITABLE FOR APPLICATION AS SHOWN ON THE DRAWINGS.

REVISIONS	

DRAWN BY C.J.B.	PLAN PREPARED BY CONSULTING ENGINEERING ASSOCIATES INC. ENGINEERING CONSULTANTS 16580 WYOMING DETROIT, MICH. 48221
CHECKED BY J.S. S.R.	
APPROVED BY M.B.S. M.B.S.	
DATE 9-15-67	DRAWING NO. / FILE NO. CEA J6

CITY OF DETROIT

PUBLIC LIGHTING COMMISSION

DRAWN BY	APPROVED 10-21-64	FILE NO. 62-6
DATE	APPROVED 10/21/64	SHEET NO. 27

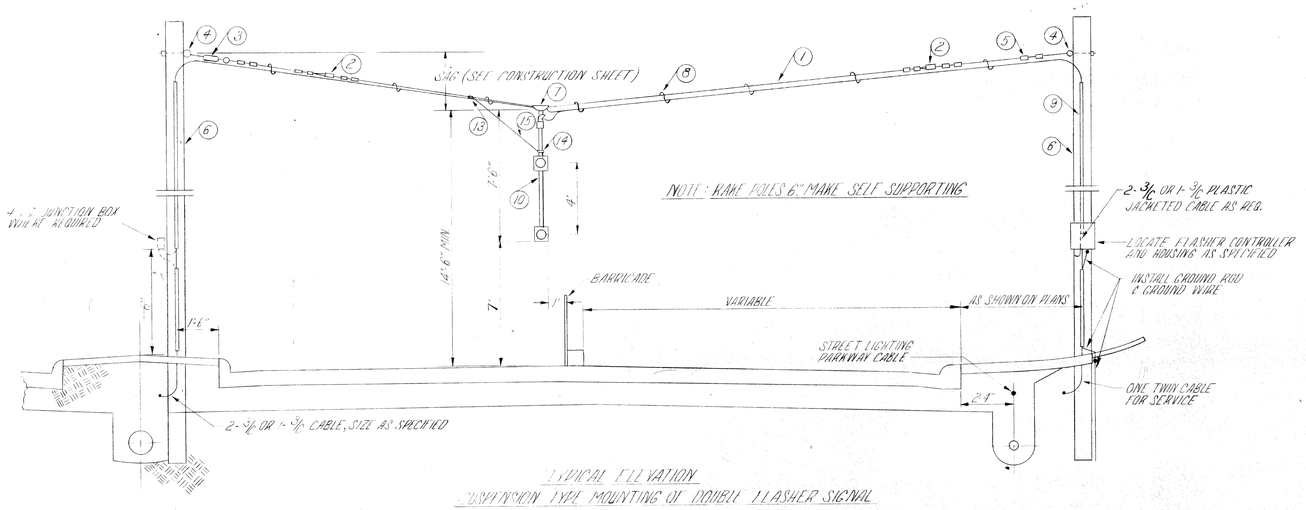
MICHIGAN STATE HIGHWAY DEPARTMENT

P.L.C. DETAILS
OVERHEAD TRANSFORMER INSTALLATION

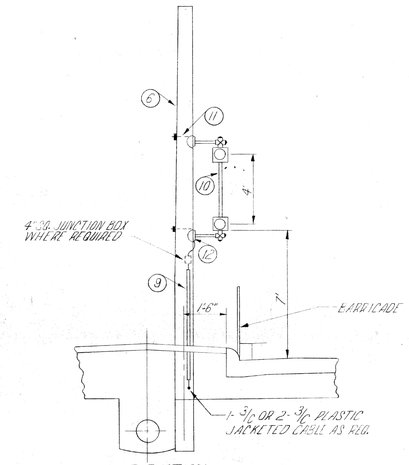
ISSUE NO.	DATE
COUNTY JOB	SHEET NO. 128
STATE PROJECT	

K&E 17-0153 5-64•

82124-002

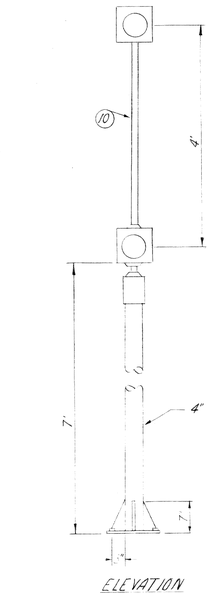


TYPICAL ELEVATION
SUSPENSION TYPE MOUNTING OF DOUBLE FLASHER SIGNAL
DETAIL "A"
N.T.S.

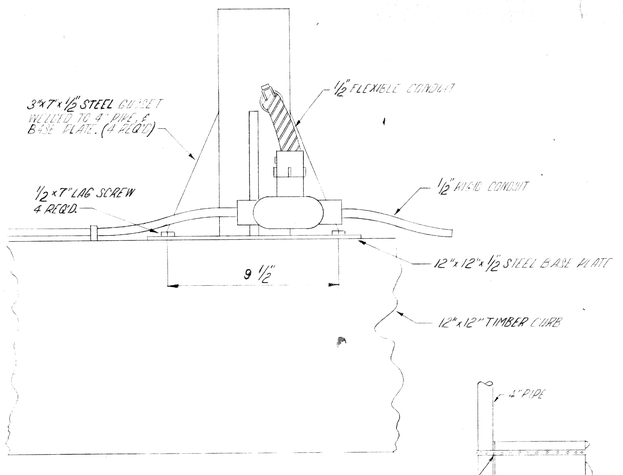


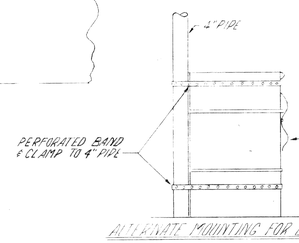
ELEVATION
BRACKET TYPE MOUNTING OF DOUBLE FLASHER SIGNAL
DETAIL "B"
N.T.S.

DETAIL NOTES	
NO.	DESCRIPTION
1	3/16" GUY WIRE (EXCEPT AS OTHERWISE NOTED ON PLANS)
2	STRAIN INSULATOR
3	5/8"x18" TURNBUCKLE
4	5/16" EYE BOLT
5	WIRE CLIPS
6	WOOD POLE, SIZE & CLASS SHOWN ON PLANS.
7	SPAN WIRE HANGER
8	PREFORMED STEEL LASHINGS
9	WOOD MOULDING
10	DOUBLE FLASHER ASSEMBLY
11	1/2"x16" THRU-BOLT AT TOP OF POLE PLATE AND 1/2"x5" LAG SCREWS AT SIDES
12	POLE PLATE FOR 1-1/2" PIPE WITH BUSHED CABLE ENTRANCE
13	ONE BOLT GUY CLAMP
14	1-1/2" PIPE CLAMP - 1/4"x1" MATERIAL
15	60"x3/16"x3/4" GALVANIZED IRON BAR

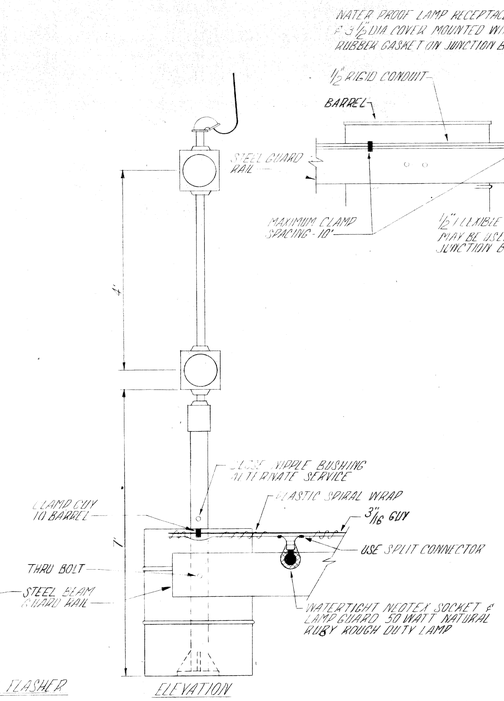


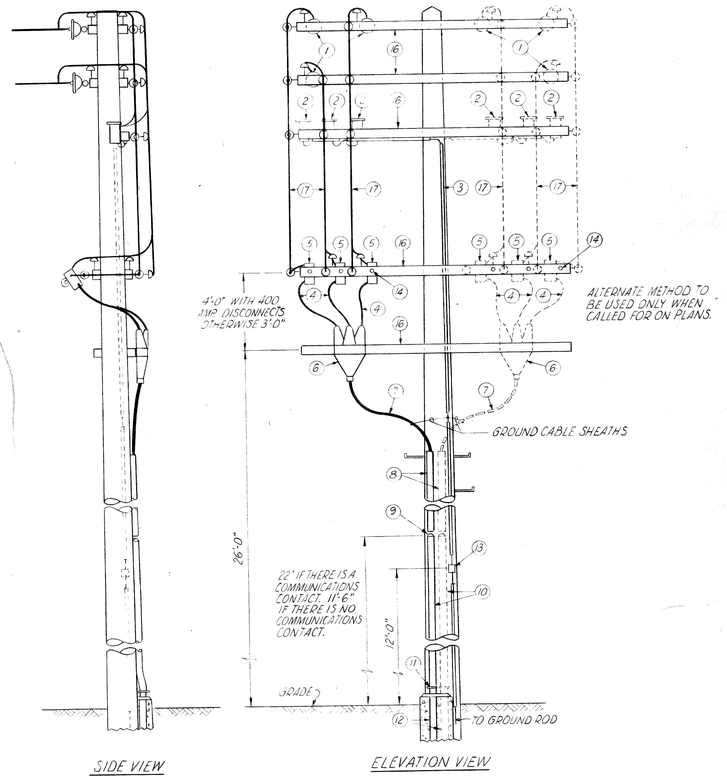
ELEVATION
PEDESTAL TYPE MOUNTING OF DOUBLE FLASHER SIGNAL
DETAIL "C"
N.T.S.





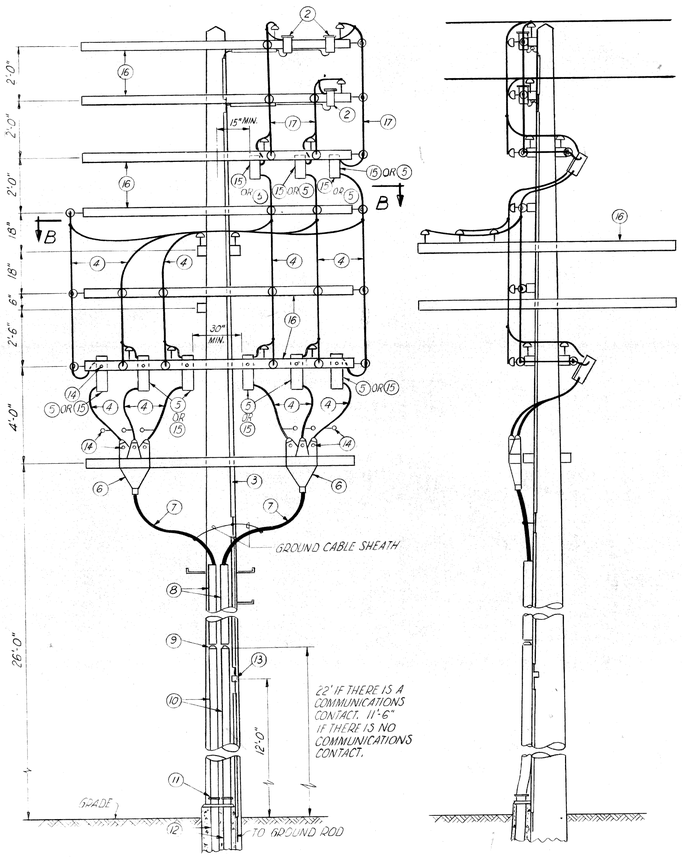
ALTERNATE MOUNTING FOR DBL. FLASHER


WATER PROOF LAMP RECEPTACLE & 3/8" DIA COVER MOUNTED WITH RUBBER GASKET ON JUNCTION BOX
1/2" RIGID CONDUIT
BARREL
40 WATT RED LAMP
STEEL GUARD RAIL
MAXIMUM CLAMP SPACING - 10'
1/2" FLEXIBLE CONDUIT MAY BE USED AT JUNCTION BOX
4'
4'
1'-6"
1'-6"
1'-6"



SIDE VIEW — ELEVATION VIEW

TYPICAL DISTRIBUTION CABLE POLE
NOT TO SCALE

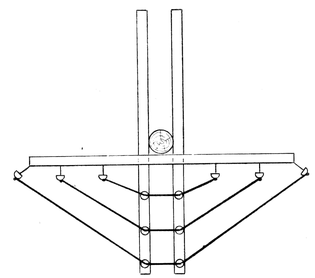


ELEVATION VIEW — SIDE VIEW

TYPICAL LOOP DISTRIBUTION CABLE POLE
NOT TO SCALE

	DETAIL ITEMS
1	SUSPENSION INSULATOR
2	LIGHTNING ARRESTER
3	#2 GROUND WIRE UNDER WOOD MOULDING
4	FLEXIBLE TRAINING WIRE - 4/0 AWG - EXCEPT AS OTHERWISE NOTED.
5	PRIMARY SOLID BLADE DISCONNECT
6	3/C POTHEAD
7	L.C. CABLE
8	4" SPLIT FIBRE DUCT ABOVE G.I.P.
9	LEAD WEATHERCAP & GALVANIZED BUSHING
10	3" G.I.P. RISER
11	3"X 4" REDUCER ADAPTER
12	4" FIBRE CONDUIT
13	FOUR SCREW CONNECTOR
14	PHASING TAGS
✶ 15	FUSED DISCONNECTS
16	120" 8 PIN STANDARD CROSSARM
17	FLEXIBLE TRAINING WIRE FOR O.H. - SIZE AS INDICATED ON PLANS

✶ SEE WIRING DIAGRAM ON PLANS FOR FUSE SIZE & ORIENTATION OF FUSED OR SOLID BLADE DISCONNECTS



SECTION B - B
NOT TO SCALE

NOTES:
1. SEE SHEET 16 OF P.L.C. DETAILS FOR GROUND ROD & CONDUIT INSTALLATION.
2. KEEP ALL ELECTRICAL EQUIPMENT OUTSIDE OF THE 37" L.V. WIRING ZONE.
3. INSTALL STEPS ON POLE FROM 8'-0" ABOVE GROUND TO 48" BELOW CROSSARM.
4. THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER FOR APPROVAL A LIST OF ALL SPLICING MATERIALS HE PROPOSES TO USE WITH SUPPORTING DATA THAT THE MATERIAL IS SUITABLE FOR THE APPLICATION AS SHOWN ON THE DRAWINGS.

REVISIONS		

DRAWN BY R.M.	PLAN PREPARED BY CONSULTING ENGINEERING ASSOCIATES INC. ENGINEERING CONSULTANTS 16580 WYOMING DETROIT, MICH. 48221
CHECKED BY	
APPROVED BY	
DATE 9-15-67	DRAWING NO. / FILE NO. CEA J6

CITY OF DETROIT
PUBLIC LIGHTING COMMISSION

DRAWN BY	APPROVED 10-21-69	FILE NO. 62-6
DATE	APPROVED 10/21/69	SHEET NO. 30

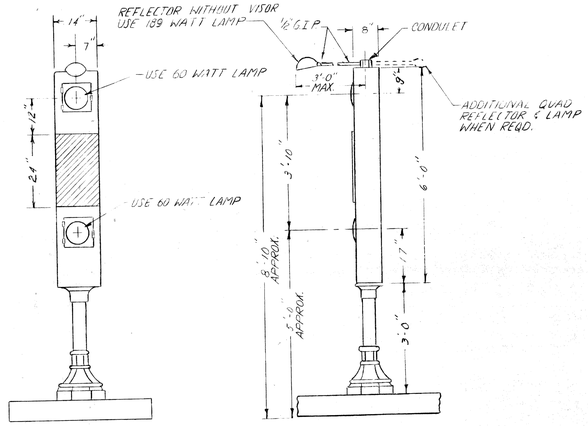
MICHIGAN STATE HIGHWAY DEPARTMENT

P.L.C. DETAILS
5000 V. DISTRIBUTION CABLE POLE

ISSUE NO.	DATE
COUNTY JOB	SHEET NO. 130
STATE PROJECT	

82124-002

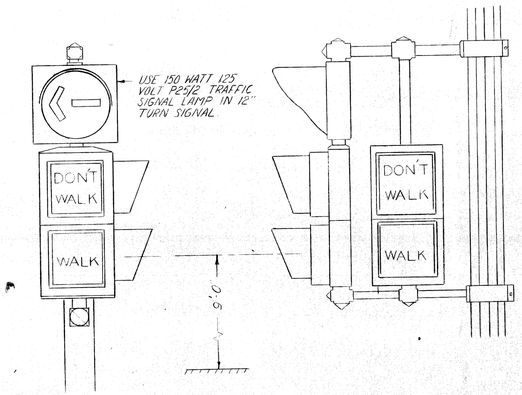
K&E 17-0153 5-64+



FLASHER WARNING PANEL - PEDESTAL MOUNTED

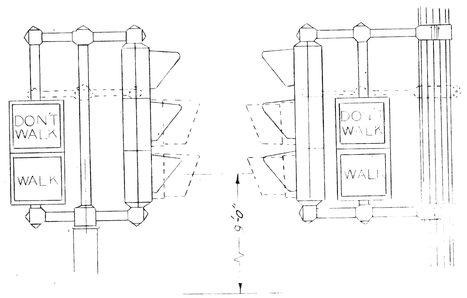
NOTES:

1. 750 VA., 240/120 V. TRANSF. TO BE USED WITH FLASHER WHEN SPECIFIED.
2. PANEL FUSED AS CALLED FOR ON PLANS INSTALL FUSES ON 2 POLE PORCELAIN BLOCK
3. USE #14 TW FOR ALL INTERNAL WIRING.
4. MOUNT INTERNALLY 2 CKT. "TIME-O-MATIC" MODEL NO 3 FLASHER.

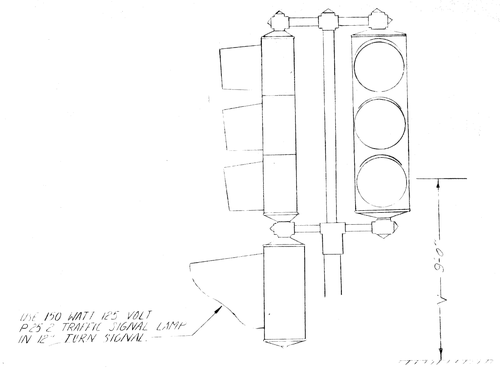


12" TURN SIGNALS MOUNTED WITH PEDESTRIAN SIGNALS

TRAFFIC SIGNAL DETAILS



TRAFFIC SIGNAL DETAILS



12" TURN SIGNAL MOUNTED WITH VEHICLE SIGNALS

TRAFFIC SIGNAL DETAILS

DRAWN BY R.M.	PLAN PREPARED BY CONSULTING ENGINEERING ASSOCIATES INC. ENGINEERING CONSULTANTS 16580 WYOMING DETROIT, MICH. 48221	
CHECKED BY RS SC		
APPROVED BY HMM		
DATE 9-15-67	DRAWING NO.	FILE NO. CEA J6

CITY OF DETROIT

PUBLIC LIGHTING COMMISSION

DRAWN BY	APPROVED 10-21-64	FILE NO. 62-6
DATE	APPROVED 10/21/64	SHEET NO. 41

MICHIGAN STATE HIGHWAY DEPARTMENT

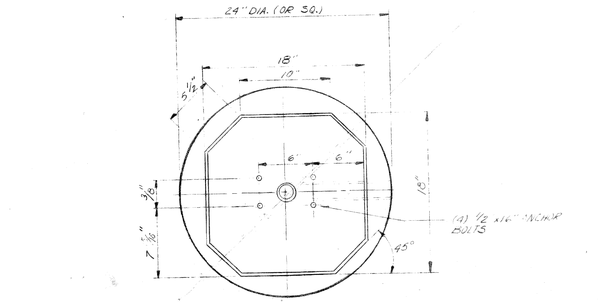
P.L.C. DETAILS
TRAFFIC SIGNALS

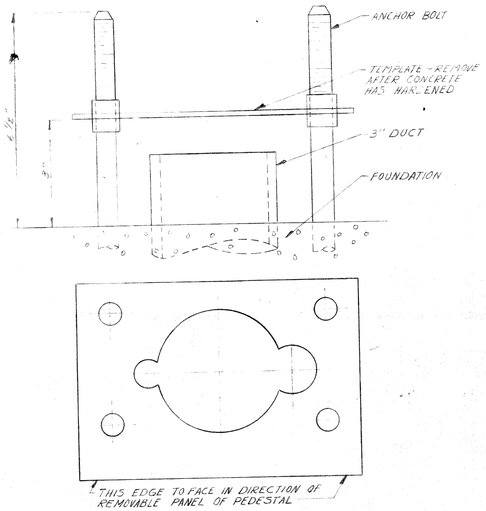
ISSUE NO.	DATE
COUNTY JOB	SHEET NO. 131
STATE PROJECT	

82124-002

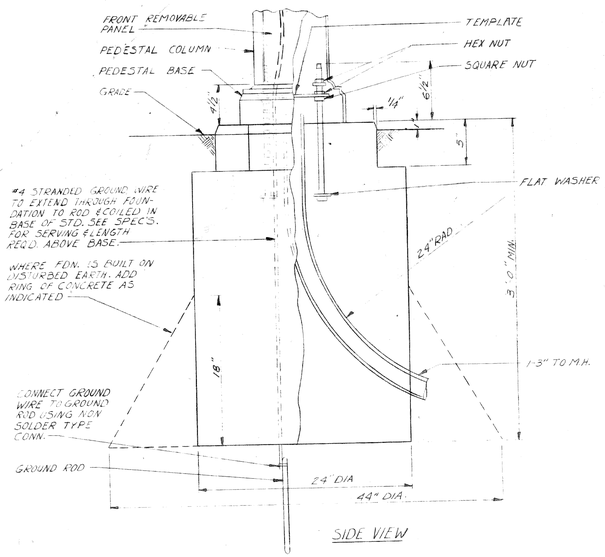
REVISIONS		

K&E 17-0153 5-64+



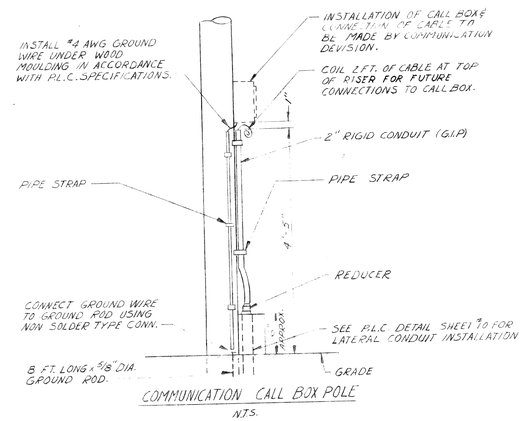


TEMPLATE DETAILS

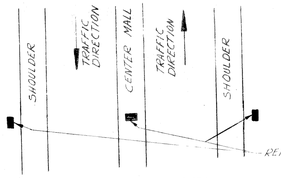


SIDE VIEW

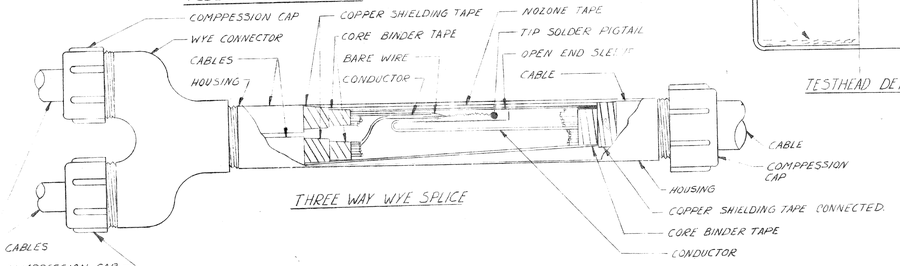
CALL BOX FOUNDATION DETAIL
SCALE: ½"=1'-0"



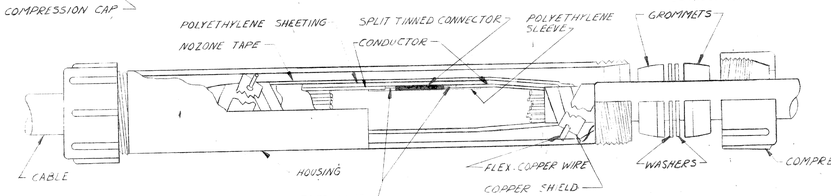
COMMUNICATION CALL BOX POLE
N.T.S.



PEDESTAL LOCATION DETAIL

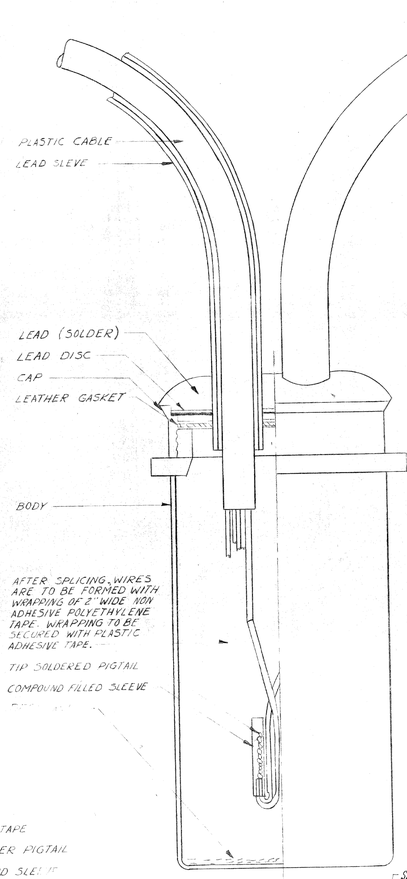


THREE WAY WYE SPLICE

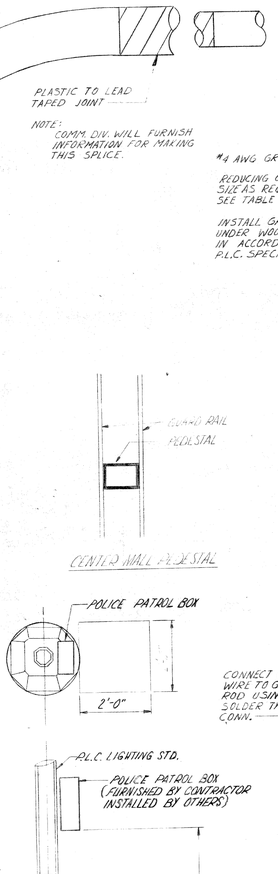


STRAIGHT SPLICE

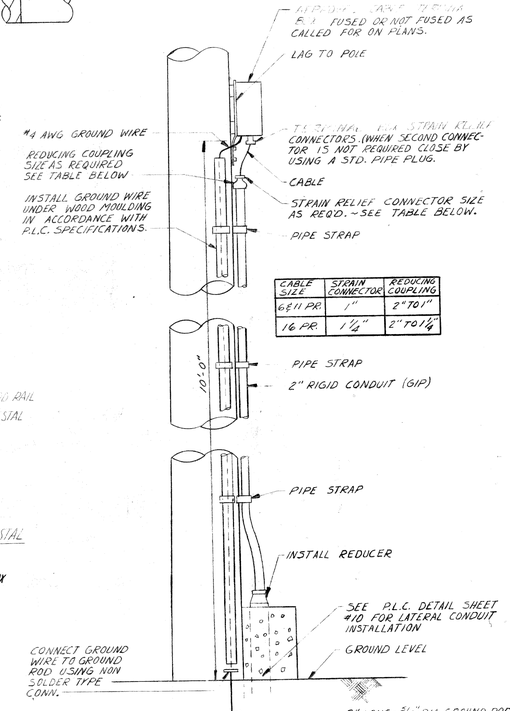
PLASTIC SPLICE DETAILS



TESTHEAD DETAIL

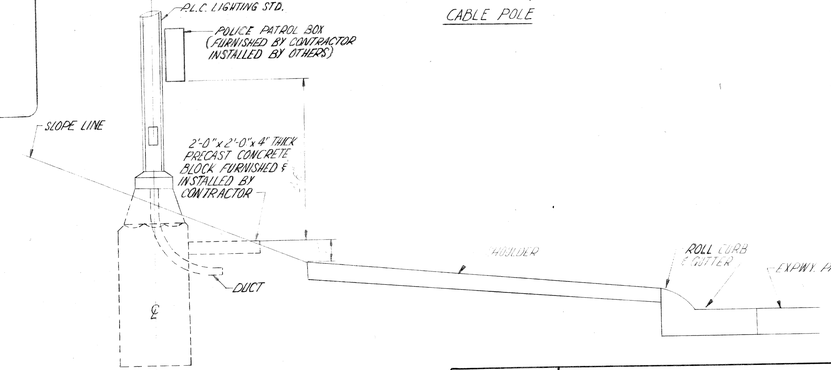


CENTER WALL PEDESTAL



CABLE SIZE	STRAIN CONNECTOR	REDUCING COUPLING
6 & 11 PR.	1"	2"TO1"
16 PR.	1¼"	2"TO1¼"

CABLE POLE



POLICE PATROL BOX INSTALLATION ON LIGHTING STD. ON DEPRESSED FREEWAY
SCALE: 1"=2'-0"

DRAWN BY C.I.B.	PLAN PREPARED BY CONSULTING ENGINEERING ASSOCIATES INC. ENGINEERING CONSULTANTS 16580 WYOMING DETROIT, MICH. 48221
CHECKED BY W. Sg.	
APPROVED BY LIBBY	
DATE 9-15-67	DRAWING NO. / FILE NO. CEA J6

CITY OF DETROIT
PUBLIC LIGHTING COMMISSION

DRAWN BY	APPROVED T M M 10/21/64	FILE NO. 62-6
DATE	APPROVED 10/21/64	SHEET NO. 43

MICHIGAN STATE HIGHWAY DEPARTMENT

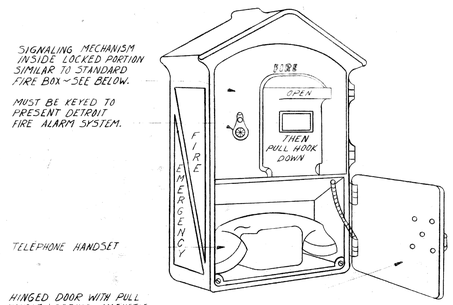
P.L.C. DETAILS
COMMUNICATIONS DIVISION
SPECIAL DETAILS

ISSUE NO.	DATE
COUNTY JOB	SHEET NO. 132
STATE PROJECT	

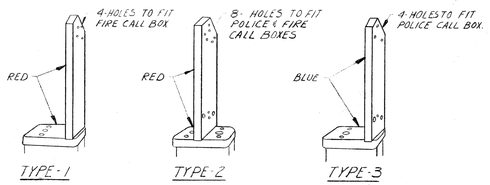
82124-002

REVISIONS

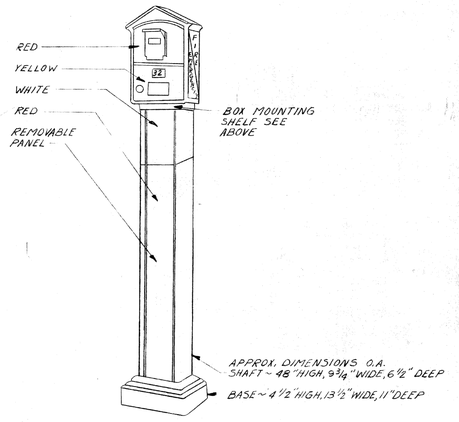
K&E 17-0153 5-64*



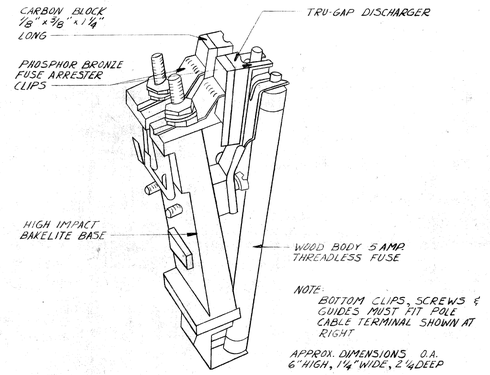
FIRE ALARM BOX WITH TELEPHONE - TYPE B
DETROIT FIRE DEPT. SYSTEM



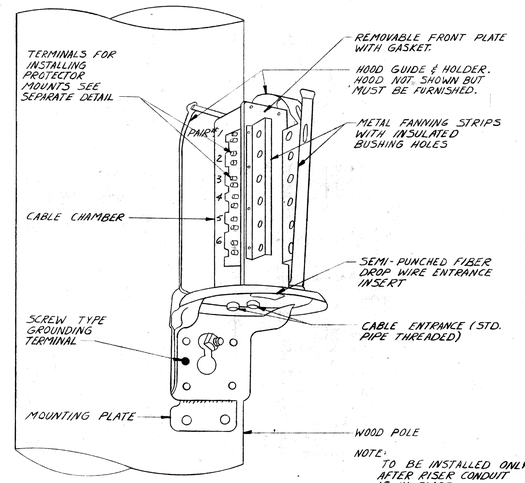
APPROX. DIMENSIONS O.A. 16 1/2" HIGH, 9 3/4" WIDE, & 6 1/2" DEEP



FIRE & POLICE CALL BOX PEDESTAL



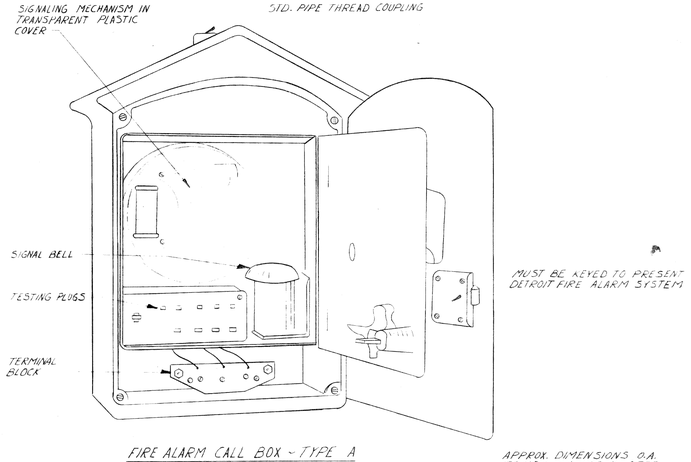
DUAL-GAP PROTECTOR MOUNT



NOTE: TO BE INSTALLED ONLY AFTER RISER CONDUIT IS IN PLACE.

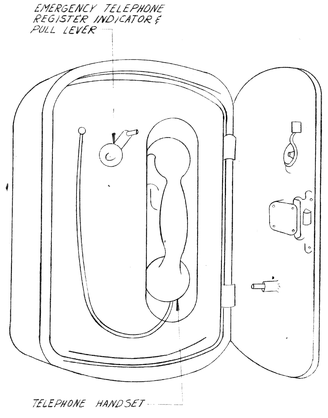
POLE CABLE TERMINAL

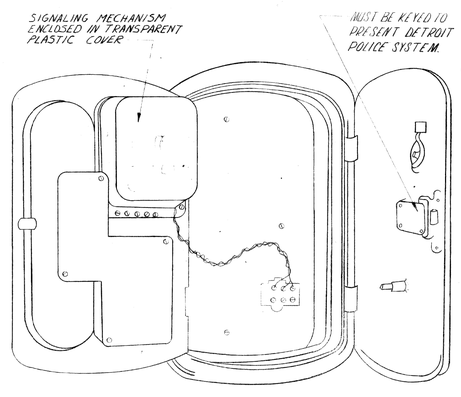
APPROX. DIMENSIONS O.A.
6 PR. - 12" HIGH, 9" DIA.
11 PR. - 15" HIGH, 9" DIA.
16 PR. 19" HIGH, 9" DIA.



FIRE ALARM CALL BOX - TYPE A
DETROIT FIRE DEPT. SYSTEM

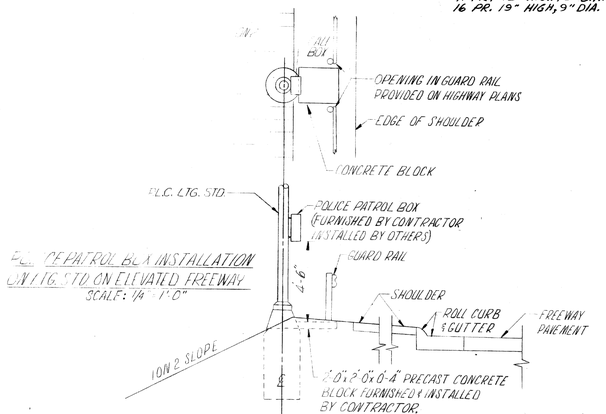
APPROX. DIMENSIONS O.A. 17" HIGH, 11" WIDE, 5" DEEP





APPROX. DIMENSIONS O.A. 16" HIGH, 11" WIDE, 6" DEEP

POLICE CALL BOX
DETROIT POLICE DEPT. SYSTEM



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CHECKED BY		
APPROVED BY	16580 WYOMING DETROIT, MICH. 48221	
DATE 9-15-67	DRAWING NO.	FILE NO. CEA J6

CITY OF DETROIT
PUBLIC LIGHTING COMMISSION

DRAWN BY	APPROVED T.M.H. 10/21/64	FILE NO. 62-6
DATE	APPROVED 10/21/64	SHEET NO. 43-A

MICHIGAN STATE HIGHWAY DEPARTMENT

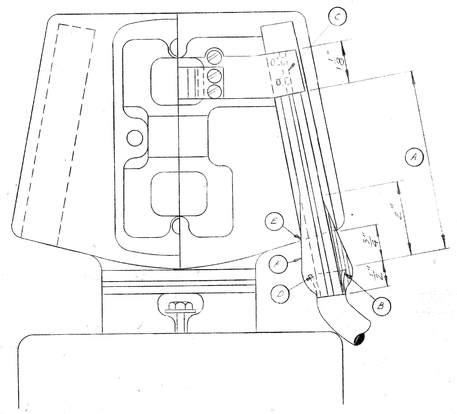
P.L.C. DETAILS
COMMUNICATIONS DIVISION
SPECIAL DETAILS

ISSUE NO.	DATE
COUNTY JOB	SHEET NO. 133
STATE PROJECT	

82124-002

REVISIONS

K&E 17-0153 5-64+



CABLE CONNECTION TO SERIES CUTOUT ON COMBINATION COIL

A - THIS DISTANCE VARIES DEPENDING ON MANUFACTURER'S COIL 3¾" TO 5", NOT INCLUDING TAPERED TERMINAL.

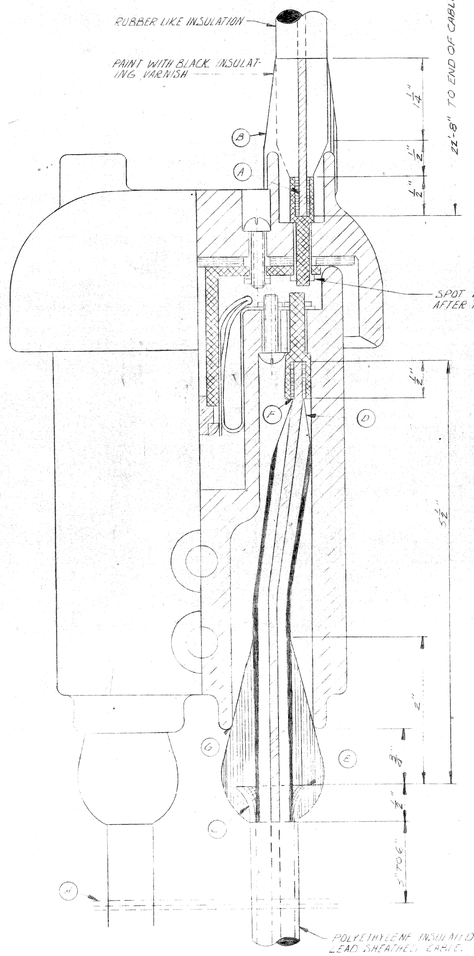
B - USE TUBE CUTTER TO SCORE LEAD SHEATH AND CHIP OFF WITH CHIPPING IRON. DO NOT BREAK OFF BY BENDING.

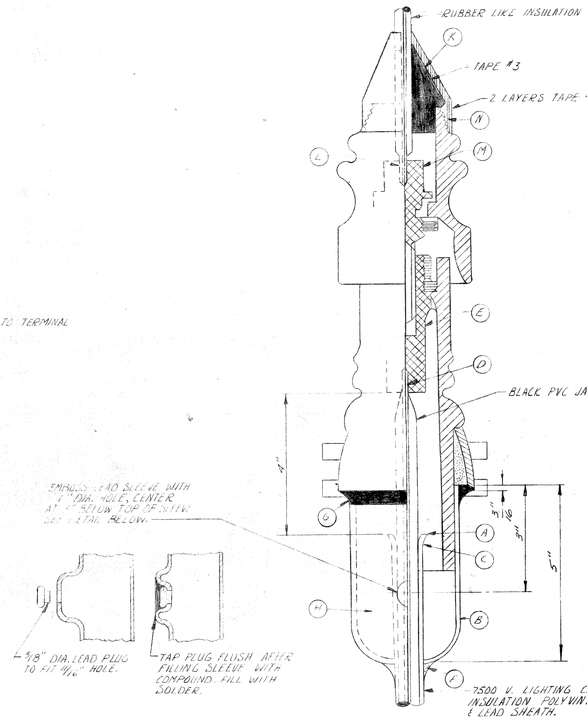
C - REMOVE INSULATION AT END FOR CONNECTION.

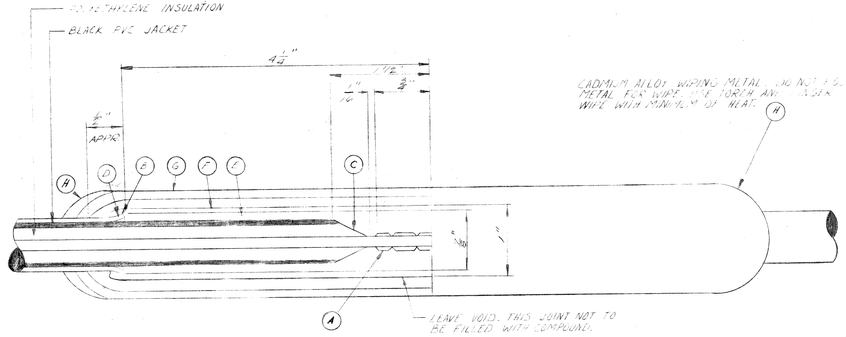
D - BELL LEAD SHEATH EVENLY AND FILL SHEATH CAVITY WITH APPROVED ADHESIVE

E - APPLY TAPE #1 OVER BELL TO FORM A TIGHT FIT INTO PORCELAIN.

F - COVER TAPE #1 WITH 2 LAYERS OF TAPE #2 TO APPROX. ¾" FROM UPPER END OF TAPE #1.







#8 LIGHTING CABLE JOINT

A - 1-½" "8 TINNED COPPER SLEEVE, 2 CIRCUMFERENTAL CRIMPS ON EACH END.

B - SCORE LEAD SHEATH WITH TUBE CUTTER AND CHIP OFF WITH CHIPPING IRON. DO NOT BREAK OFF BY BENDING.

C - CUT INSULATION AND BEVEL SMOOTHLY AS SHOWN.

D - BELL LEAD SHEATH TO DIAMETER SHOWN AND FILL SHEATH CAVITY WITH APPROVED ADHESIVE.

E - APPLY TAPE #1 OVER PVC JACKET AND BELLED SHEATH TO A DIA. OF 1" OVERLAP BELLED SHEATH WITH TAPE APPROX. ¼".

F - 2 LAYERS TAPE #2 HALF LAP.

G - 1¼" SLEEVE 10 LONG, ⅛ WALL, ⅞" INSIDE DIAMETER

H - SPECIAL LOW TEMPERATURE CADMIUM ALLOY WIPING METAL

CONNECTIONS FOR 1/6 7500 V. POTHEAD

A - USE TUBE CUTTER TO SCORE LEAD SHEATH AND CHIP OFF WITH CHIPPING IRON. DO NOT BREAK OFF BY BENDING. 4" OF INSULATION TO REMAIN, NOT INCLUDING BARED CONDUCTOR.

B - FORM BOTTOM OF EMBOSSED LEAD SLEEVE AND SLIP OVER CABLE HOLE IN FRONT.

C - BELL LEAD SHEATH.

D - SWEAT CONDUCTOR INTO TERMINAL AND PENCIL INSULATION SMOOTHLY FOR ¾"

E - MOUNT TERMINAL FIRMLY INTO PORCELAIN HOUSING.

F - PUSH SLEEVE INTO CAST IRON COLLAR AND SWEAT SLEEVE TO CABLE SHEATH WITH WITH LOW TEMPERATURE SOLDER IN ALLOY USE MINIMUM OF HEAT. DO NOT POUR METAL.

G - INSERT & FILL JOINT BETWEEN IRON COLLAR AND LEAD SLEEVE WITH APPROVED EPOXY RESIN.

H - LAY POTHEAD HORIZONTAL & FILL WITH APPROVED COMPOUND. DO NOT HEAT COMPOUND MORE THAN NECESSARY FOR POURING.

I - INSERT ⅜" DIA. LEAD PLUG INTO SLEEVE HOLE, TAP FLUSH, AND FILL IN WITH SOLDER.

J - TRAIN IN CABLE AND MOUNT THE POTHEAD ON CROSSARM.

K - SLIP THE CONE SHAPED RUBBER BUSHING ON THE RUBBER INSULATED CABLE RISER.

L - LACE CONDUCTOR INTO TERMINAL "E" AND PENCIL INSULATION AS SHOWN.

M - MOUNT THE TERMINAL FIRMLY INTO THE POTHEAD CAP.

N - BUILD UP WITH TAPE #3 AND CARRY 2 LAYERS OVER THE END OF THE CAP TO POINT "N" AS SHOWN. COVER WITH 2 LAYERS TAPE #2 HALF LAP. PAINT WITH APPROVED BLACK INSULATING VARNISH.

CONNECTION FOR SERIES CUTOUT

A - SWEAT TERMINAL AND PENCIL INSULATION TO FIT SNUGLY IN PORCELAIN OPENING SO THAT AS NUT IS DRAWN UP TIGHT THE OPENING IS COMPLETELY AND TIGHTLY FILLED.

B - BUILD UP WITH TAPE #3 AS SHOWN AND COVER WITH 2 LAYERS ½" HALF LAP, TAPE #2 PAINT AS NOTED.

C - USE TUBE CUTTER TO SCORE LEAD SHEATH AND CHIP OFF WITH CHIPPING IRON DO NOT BREAK OFF BY BENDING.

D - CUT INSULATION AND PENCIL SMOOTHLY FOR CONNECTION.

E - BELL LEAD SHEATH AND FILL SHEATH CAVITY WITH APPROVED ADHESIVE.

F - SWEAT CONDUCTOR INTO TERMINAL

G - APPLY TAPE #1 OVER BELL SUFFICIENTLY TO FORM A TIGHT FIT BETWEEN CABLE AND PORCELAIN AT G. COVER TAPE #1 WITH 2 LAYERS OF TAPE #2 TO ABOUT ¼" FROM END OF TAPE #1.

H - #18 SERVICE WIRE OR BRAID, 4 WRAPS BETWEEN CABLES AND SWEATED TO LEAD SHEATH FOR BOND TIE TO GROUND WIRE

MATERIAL & SPECIAL PRECAUTIONS

1. TAPE #1 - LEVEL MOISTURE PROOF TAPE, USE THICK X ½ WIDE
   TAPE #2 - BLACK PVC PLASTIC ELECTRICAL TAPE
   TAPE #3 - [illegible] TAPE
   ADHESIVE - [illegible]
   SEALING COMPOUND - APPROVED COMPOUND
   SOLDER - 50% WIPING ALLOY, WHOLESALE LEAD, TEMPERATURE CADMIUM ALLOY
   FLUX - NO. 1 ACID FLUX
2. USE SMALL HAND TORCH FOR WIPING JOINTS, AT MINIMUM TEMPERATURE.
3. WHEN IT IS NECESSARY TO SPLICE POLYETHYLENE INSULATED CABLE TO RUBBER CABLE, USE ABOVE MATERIALS.
4. APPLY ADHESIVE INSIDE BELLED SHEATH CAVITY ONLY. APPLY TAPE AT ½" ADHESIVE HAS BECOME TACKY.

NOTE:

THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER FOR APPROVAL A LIST OF ALL SPLICING MATERIALS HE PROPOSES TO USE WITH SUPPORTING DATA THAT THE MATERIAL IS SUITABLE FOR APPLICATION AS SHOWN ON THE DRAWINGS.

REVISIONS

DRAWN BY C.J.B.	PLAN PREPARED BY CONSULTING ENGINEERING ASSOCIATES INC. ENGINEERING CONSULTANTS 16580 WYOMING DETROIT, MICH. 48221		
CHECKED BY J.E.			
APPROVED BY [illegible]			
DATE 9-15-67	DRAWING NO.	FILE NO. CEA J6	

CITY OF DETROIT
PUBLIC LIGHTING COMMISSION

DRAWN BY	APPROVED [illegible] 11-21-67	FILE NO. 62-6	
DATE	APPROVED [illegible] 10/24/67	SHEET NO. 47	

MICHIGAN STATE HIGHWAY DEPARTMENT

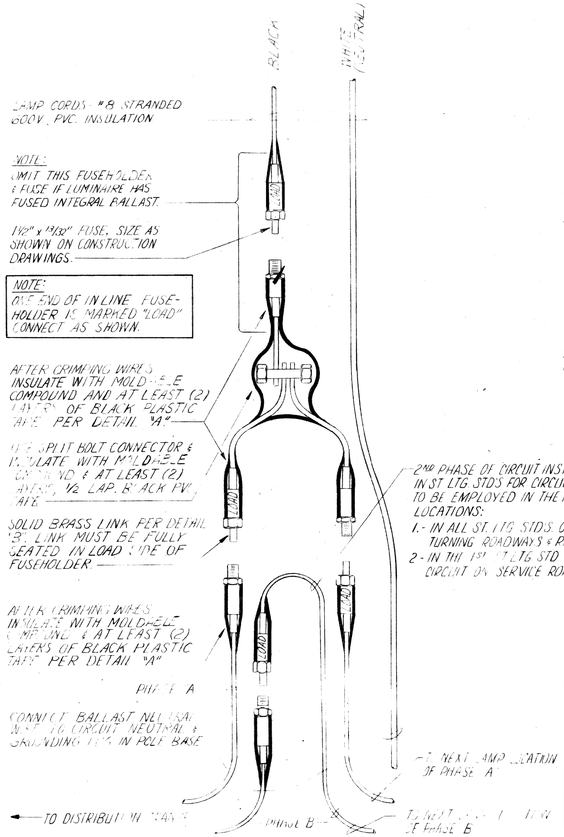
P.L.C. DETAILS
POLYETHYLENE INSULATED, POLYVINYLCHLORIDE JACKETED, LEAD SHEATHED CABLE CONNECTION SPECIFICATIONS

ISSUE NO.	DATE
COUNTY JOB	SHEET NO. 134
STATE PROJECT	

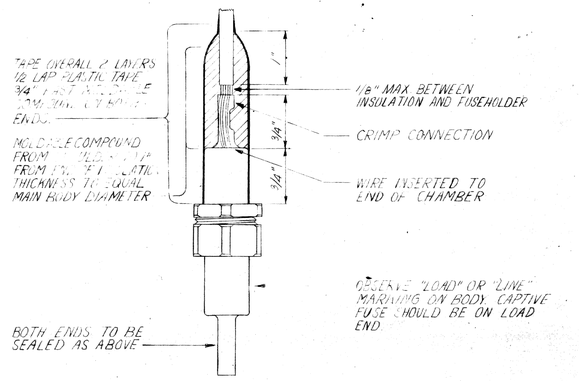
82124-002

K&E 17-0153 5-64

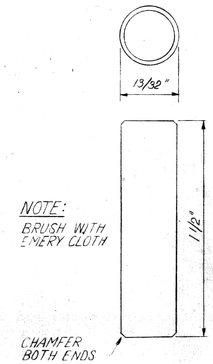
BRUNING 44224



MULTIPLE STREET LIGHTING
CONNECTION IN POLE BASE
NO MULT. ST. LTG. IN LINE FUSEHOLDERS
NO SCALE



DETAIL "A"
MULTIPLE STREET LIGHTING
LINE CONNECTION
NO SCALE

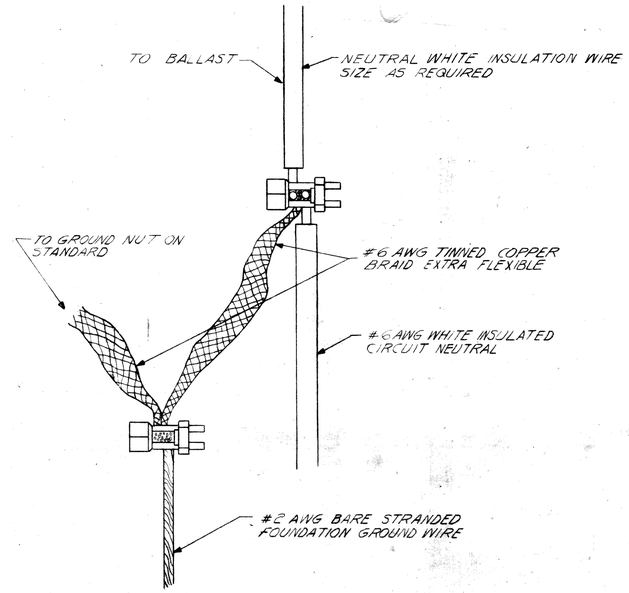


MATERIAL REQUIRED
BRASS ROD

DETAIL "B"
SOLID FUSE LINK FOR MULT. ST. LTG. IN LINE FUSEHOLDER
NO SCALE

MULT. ST. LTG. IN LINE FUSIBLE CONNECTOR (600 V., 30 AMP.)

FUSEHOLDER SYMBOL	TERMINALS SYMBOL	TERMINALS SIZE INCHES	AWG COPPER WIRE SIZE TERMINAL WILL TAKE
FOR 13/32 x 1 1/2 FUSES AND 1/4 x 1 3/8 FUSES	A	.102	ONE #14, #12, #10 OR #8 SOLID OR STRANDED WIRE TWO #14 SOLID OR STRANDED WIRE
DESIGNATION	B	.220	ONE #8 OR #6 STRANDED WIRE ONE #8 OR #6 SOLID WIRE TWO #10 SOLID OR STRANDED WIRE
	C	.278	TWO #8 SOLID OR STRANDED WIRE
	D	.375	TWO #6 SOLID OR STRANDED WIRE
WIRE SYMBOL	E	.437	TWO #4 SOLID OR STRANDED WIRE.



NOTE:
THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER FOR APPROVAL A LIST OF ALL SPLICING MATERIALS HE PROPOSES TO USE WITH SUPPORTING DATA THAT THE MATERIAL IS SUITABLE FOR THE APPLICATION AS SHOWN ON THE DRAWINGS.

ADD THIS SHEET
AUTH. #
3-6-69

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APPROVED BY		
DATE	DRAWING NO.	FILE NO.

CITY OF DETROIT
PUBLIC LIGHTING COMMISSION

DRAWN BY	ACCEPTED BY	FILE NO.
DATE	ACCEPTED BY	SHEET NO. 49-C

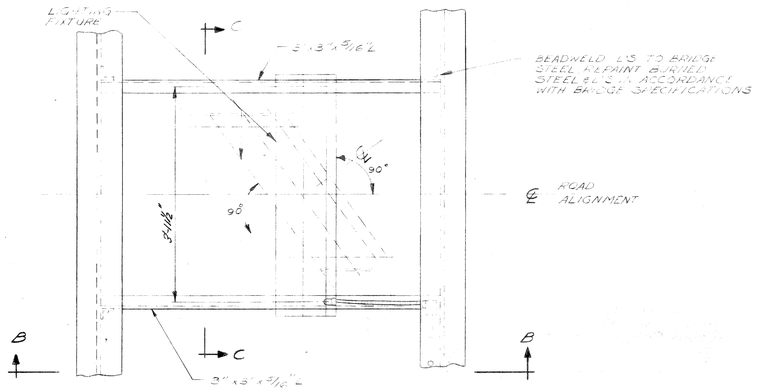
MICHIGAN DEPARTMENT OF STATE HIGHWAYS

P.L.C. DETAILS
TYPICAL MULTIPLE CIRCUIT LIGHTING CONNECTION IN BASE OF STANDARD

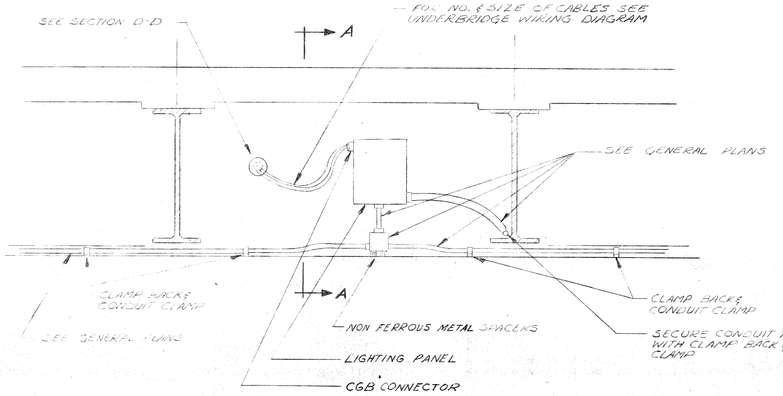
ISSUE NO.	DATE
COUNTY JOB	SHEET NO. 135A
STATE PROJECT	

REVISIONS

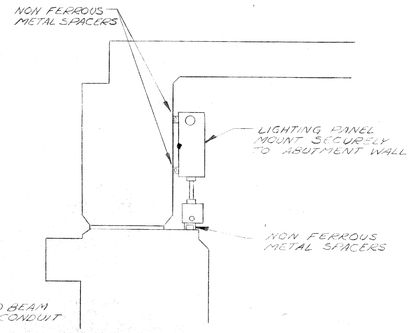
82124-002



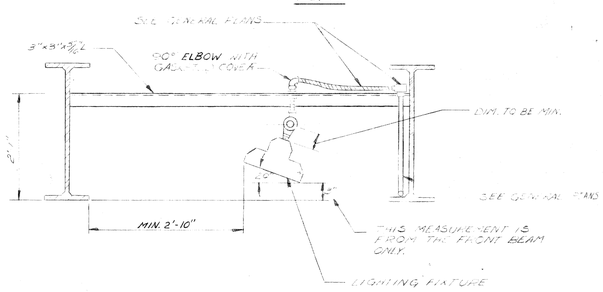
PLAN



MOUNTING OF UNDERBRIDGE LIGHTING PANEL



SECTION A-A



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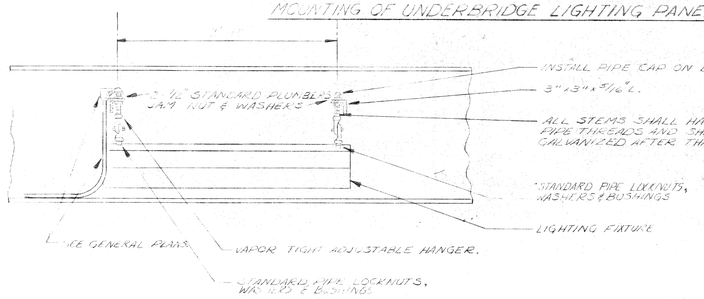

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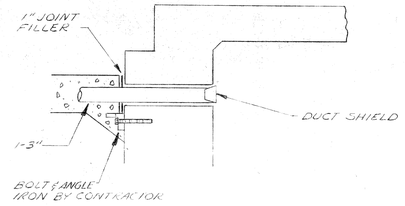

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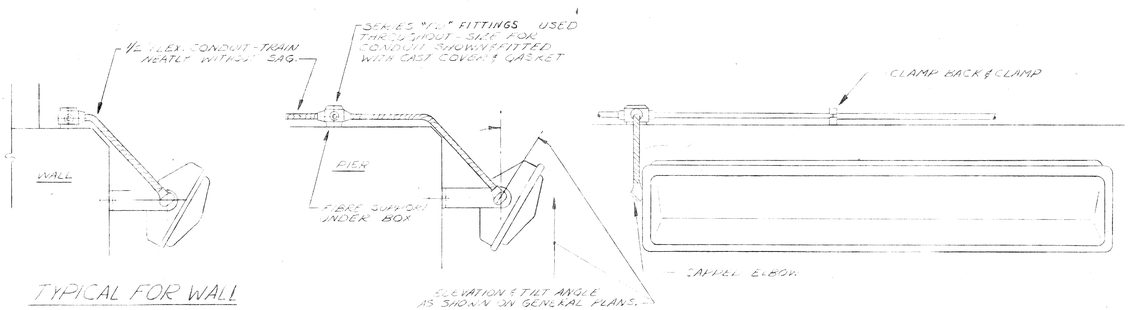
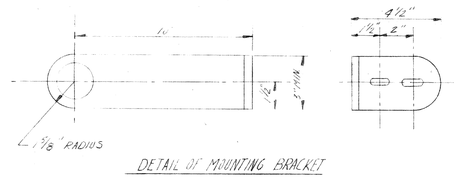


TYPICAL FOR WALL

TYPICAL FOR PIER



DETAIL OF MOUNTING BRACKET

FIXTURE MOUNTING DETAILS - WALL & PIER

NOT TO SCALE

REVISIONS		

K&E 17-0133 5-64+

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CHECKED BY J.K.	
APPROVED BY [illegible]	
DATE 9-15-67	DRAWING NO. / FILE NO. CEA J6

CITY OF DETROIT
PUBLIC LIGHTING COMMISSION

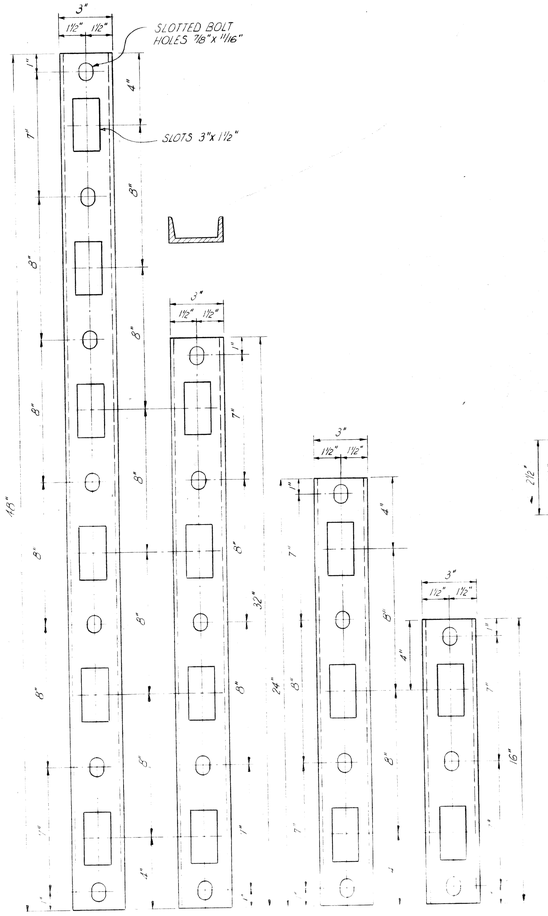
DRAWN BY	APPROVED [illegible] 10-21-64	FILE NO. 62-6
DATE	APPROVED [illegible] 10/21/64	SHEET NO. 54

MICHIGAN STATE HIGHWAY DEPARTMENT

P.L.C. DETAILS
UNDERBRIDGE LIGHTING

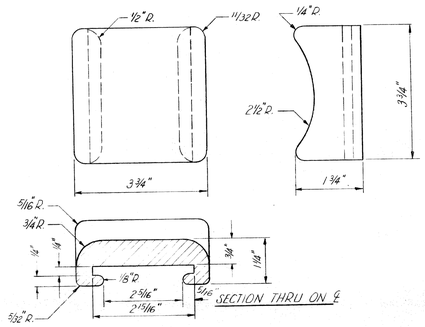
ISSUE NO.	DATE
COUNTY JOB	SHEET NO. 136
STATE PROJECT	

82124-002

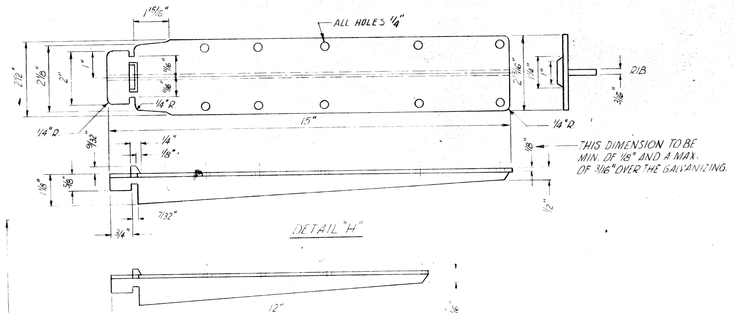


DETAIL "A" DETAIL "B" DETAIL "C" DETAIL "D"

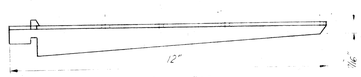
CABLE RACKS
3" STD. 4.1# CHANNEL
Scale: 1/4" = 1"



DETAIL "I"
CABLE ARM INSULATOR
WHITE GLAZED PORCELAIN WET PROCESS
Scale: 1/2" = 1"



DETAIL "H"



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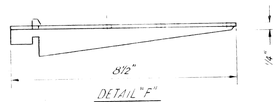

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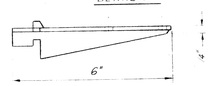


DETAIL "E"

CABLE ARMS
MALLEABLE CAST IRON
Scale: 3/8" = 1"

CABLE RACKS, CABLE ARMS, AND CABLE ARM INSULATORS
Scale: AS SHOWN

NOTE:
CABLE RACKS SHALL BE GALV. AFTER FAB. IN ACCORDANCE WITH ASTM A-123.
CABLE ARMS SHALL BE GALV. AFTER FAB. IN ACCORDANCE WITH ASTM A-153 53.
ARMS MUST FIT ON INSIDE & OUTSIDE OF RACKS & MUST ALLOW INSULATOR TO FIT LOOSELY.
USE 1/2" GALV. SUPPORTING BOLTS AND EXPANSION ANCHORS.

REVISIONS			

K&E 17-0153 5-64

DRAWN BY R.M.	PLAN PREPARED BY CONSULTING ENGINEERING ASSOCIATES INC. ENGINEERING CONSULTANTS 16580 WYOMING DETROIT, MICH. 48221
CHECKED BY [illegible]	
APPROVED BY [illegible]	
DATE 9-15-67	DRAWING NO. / FILE NO. CEA J6

CITY OF DETROIT
PUBLIC LIGHTING COMMISSION

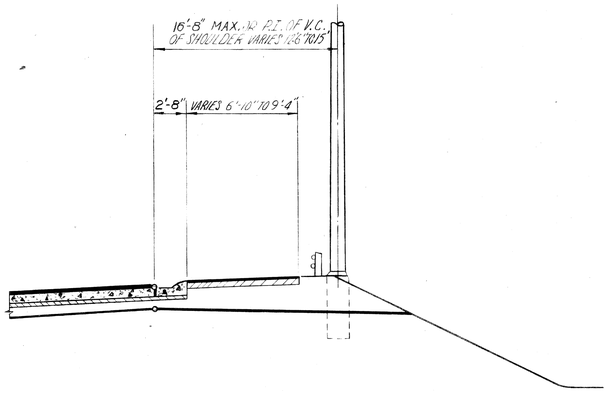
DRAWN BY	APPROVED [illegible] 10-21-64	FILE NO. 62-6
DATE	APPROVED [illegible] 10/21/64	SHEET NO. 56

MICHIGAN STATE HIGHWAY DEPARTMENT

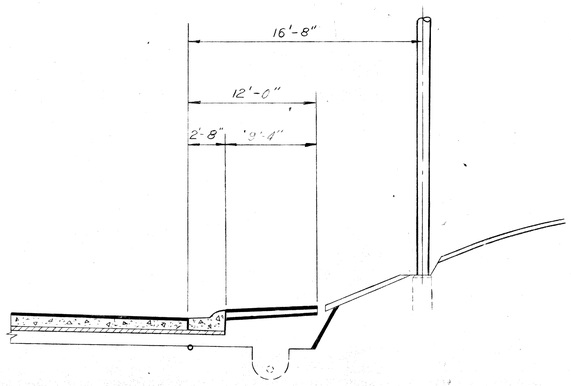
P.L.C. DETAILS
MISCELLANEOUS DETAILS
CABLE RACKS & ARMS

ISSUE NO.	DATE
COUNTY JOB	SHEET NO. 137
STATE PROJECT	

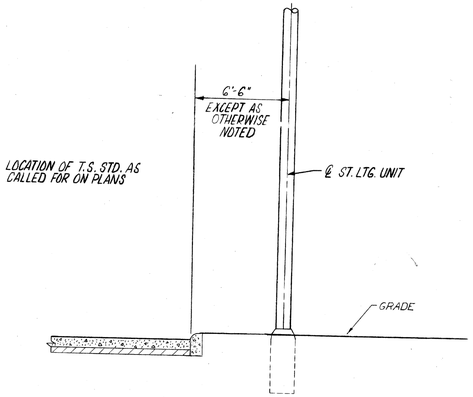
82124-002



TYPICAL MAIN ROADWAY IN FILL

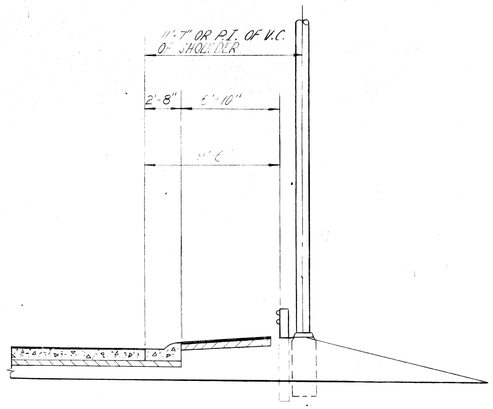


TYPICAL MAIN ROADWAY IN CUT

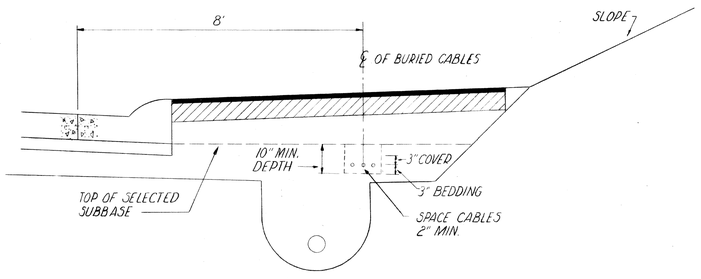


TYPICAL SERVICE ROADWAY

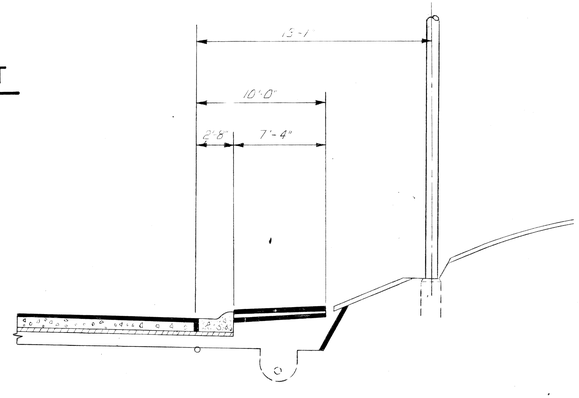
TYPICAL RAMP IN CUT



TYPICAL RAMP IN FILL



LOCATION OF DIRECT BURIAL CABLES



TYPICAL TURNING ROADWAY

REVISIONS		

DRAWN BY R.M.	PLAN PREPARED BY CONSULTING ENGINEERING ASSOCIATES INC. ENGINEERING CONSULTANTS 16580 WYOMING DETROIT, MICH. 48221
CHECKED BY [illegible]	
APPROVED BY H.P.S. W.S.	
DATE 9-15-67	DRAWING NO. / FILE NO. CEA J6

CITY OF DETROIT
PUBLIC LIGHTING COMMISSION

DRAWN BY	APPROVED	FILE NO. 62-6
DATE	APPROVED [illegible] 10/21/64	SHEET NO. 57

MICHIGAN STATE HIGHWAY DEPARTMENT

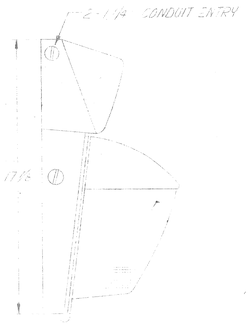
P.L.C. DETAILS
LOCATION OF LIGHTING UNITS
ON
RAMPS AND ROADWAYS

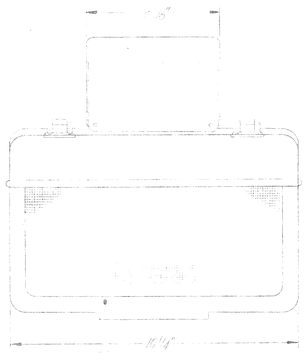
ISSUE NO.	DATE
COUNTY JOB	SHEET NO. 138
STATE PROJECT	

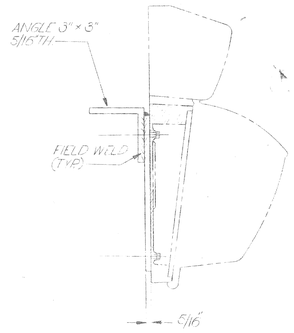
K&E 17-0153 5-64•

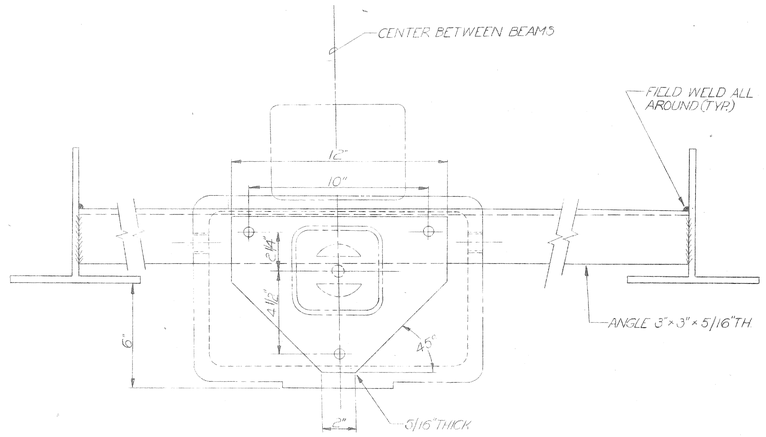
82124-002

EDCO • 127 4-65









WORK THIS SHEET WITH P.L.C. DETAIL SHEET NO. 54

DRAWN BY DK	PLAN PREPARED BY CONSULTING ENGINEERING ASSOCIATES INC. ENGINEERING CONSULTANTS	
CHECKED BY		
APPROVED BY	16580 WYOMING DETROIT, MICH. 48221	
DATE 9-15-67	DRAWING NO.	FILE NO. CEA J6

CITY OF DETROIT
PUBLIC LIGHTING COMMISSION

DRAWN BY	APPROVED	FILE NO. 62-6
DATE	APPROVED	SHEET NO. 60

MICHIGAN STATE HIGHWAY DEPARTMENT

P.L.C. DETAILS
UNDERBRIDGE LIGHTING

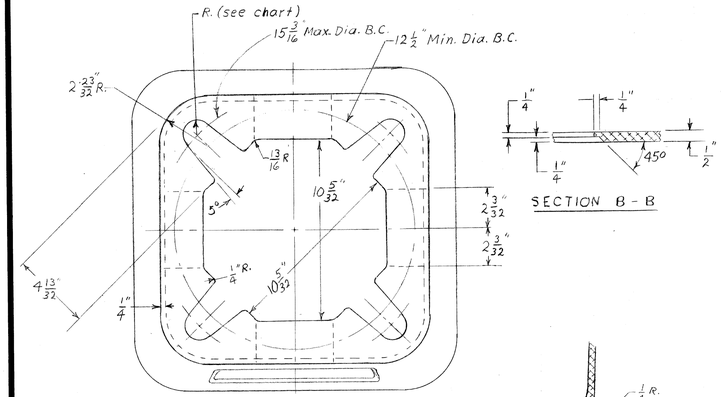
ISSUE NO.	DATE
COUNTY JOB	SHEET NO. 138A
STATE PROJECT	

PLAN APPROVAL BY THE BOARD OF WAYNE COUNTY ROAD COMMISSIONERS

CHECKED BY DATE
APPROVED
ENGINEER OF DESIGN, STRUCTURES AND EXPRESSWAYS

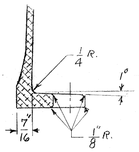
REVISIONS

BRUNING 1081



TOP VIEW

SECTION B - B



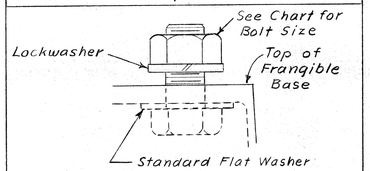
SECTION C-C

TYPE OF MOUNTING	BOLT SIZE Ø IN INCHES	BOLT LENGTH IN INCHES	SLOT RADIUS (R) IN INCHES
A	1	3 1/2	5/8
B	1 1/4	4	3/4
C	1 1/2	4 3/4	7/8

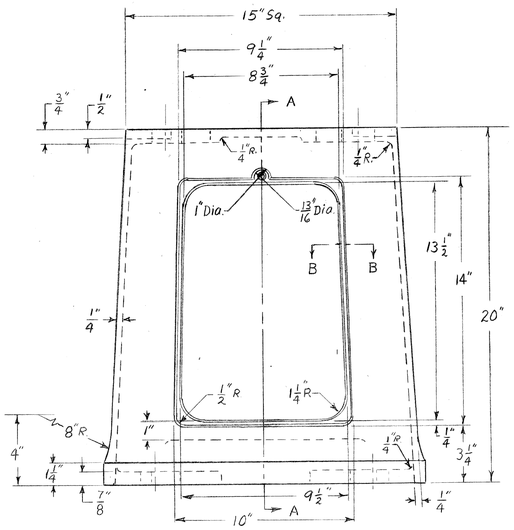
A - 30' nom. mounting height M.V. luminaire with single or double bracket arm up to 15 ft.

B - 30' nom. mounting height M.V. luminaire with single or double 17 ft. bracket arm, or fluorescent luminaire with single or double bracket arm up to 6 ft.

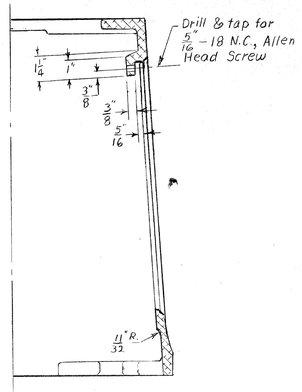
C - 40' & 45' nom. mounting height M.V. luminaire with single or double bracket arm up to 17 ft.



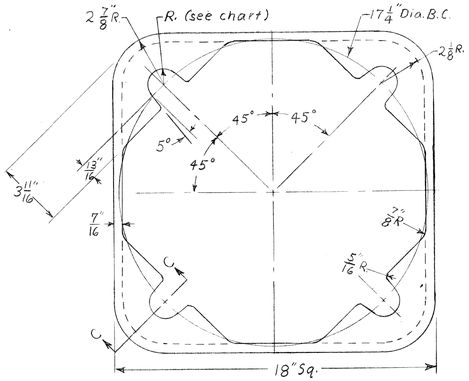
Typical Bolt and Washer Detail



FRONT VIEW

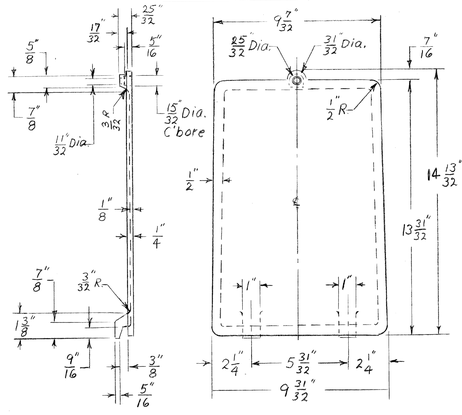


SECTION A-A



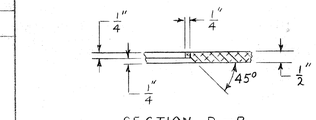
BOTTOM VIEW

NOT TO SCALE

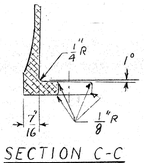


DOOR DETAILS

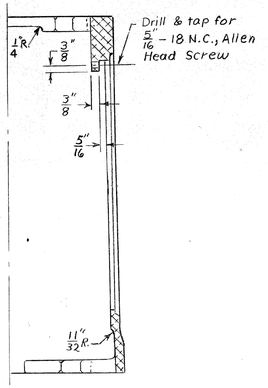
BASE FOR 40' & 45' MOUNTING HEIGHTS



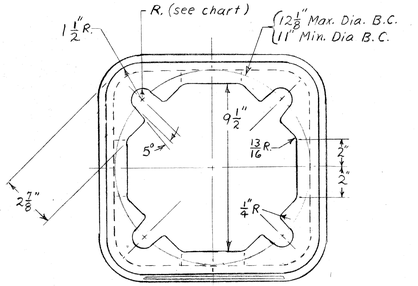
SECTION B - B



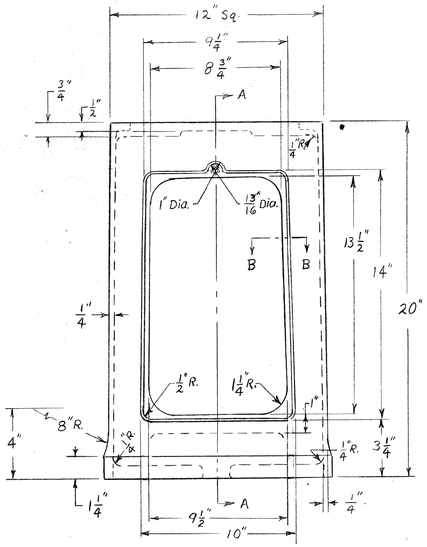
SECTION C-C



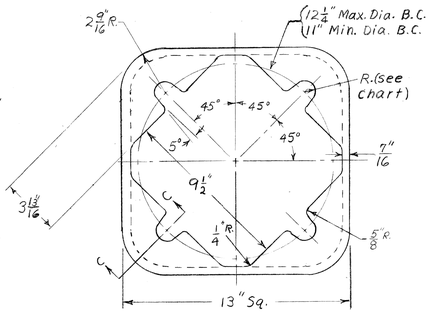
SECTION A-A



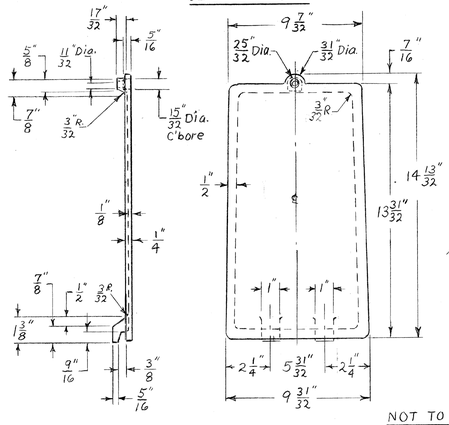
TOP VIEW



FRONT VIEW



BOTTOM VIEW



DOOR DETAILS

NOT TO SCALE

BASE FOR 30' MOUNTING HEIGHT

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

FRANGIBLE TRANSFORMER BASE DETAILS

FOR 30', 40' & 45' NOMINAL MOUNTING HEIGHTS

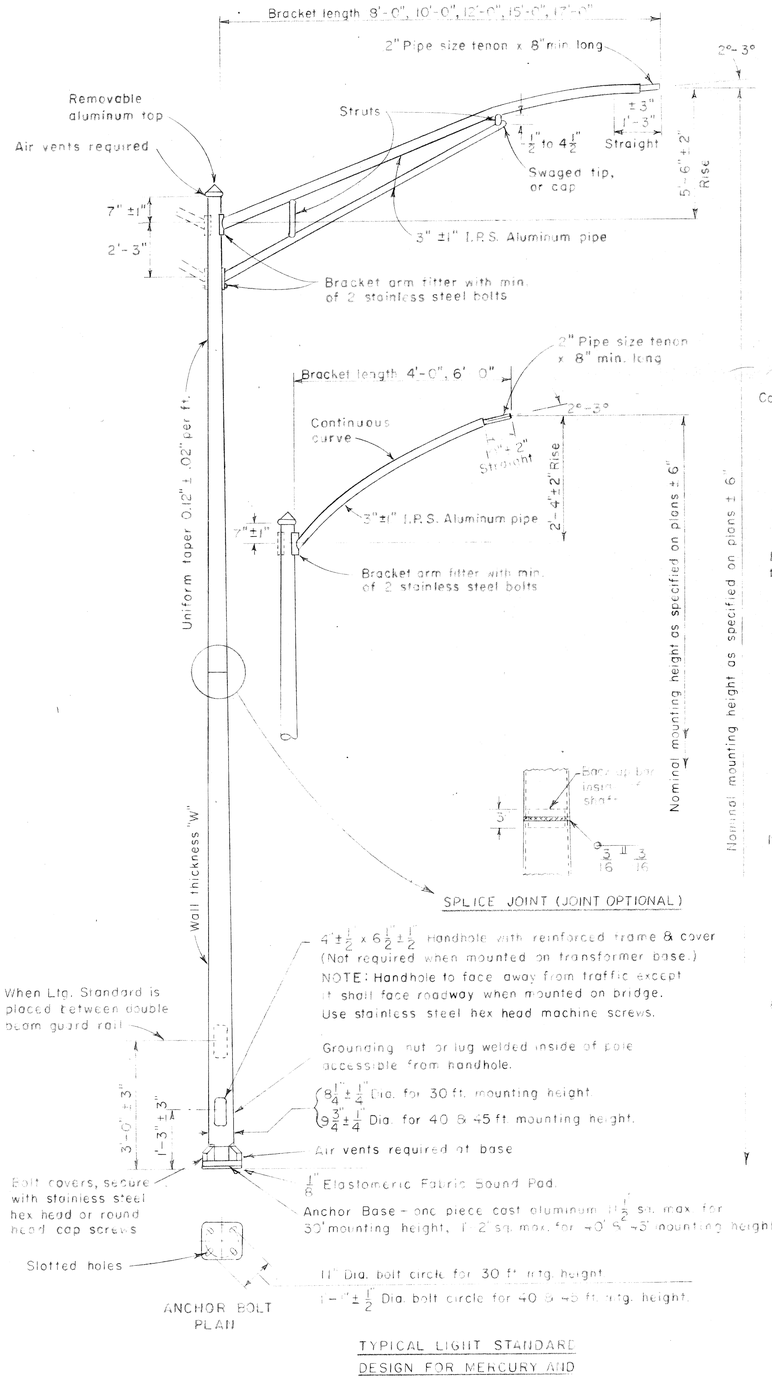
LIGHT STANDARDS

REVISIONS

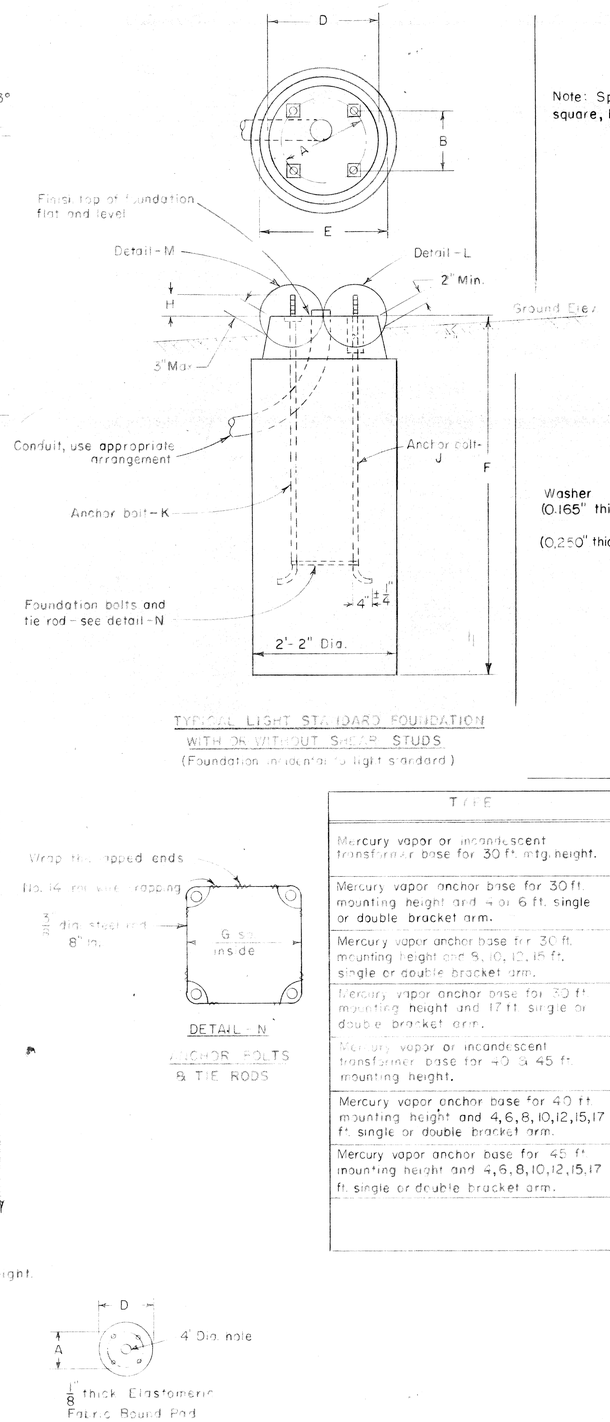
NO.	DESCRIPTION	DATE	BY

SQUAD BOSS	T. Jilek	1968
DRAWN BY		
TRACED BY	D W	1-5-68
CHECKED BY	H.E.P. & L.N.T.	1-8-68
SHEET 138-B OF		

82124-002



TYPICAL LIGHT STANDARD DESIGN FOR MERCURY AND INCANDESCENT LUMINAIRES

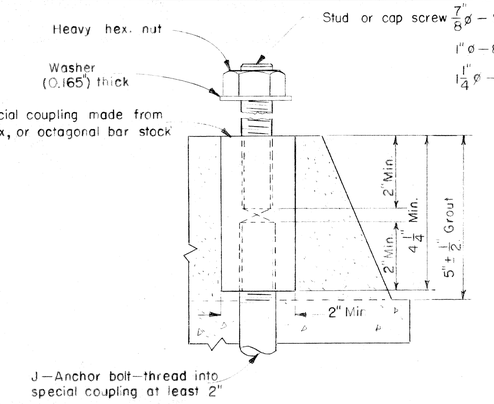


TYPICAL LIGHT STANDARD FOUNDATION WITH OR WITHOUT SHEAR STUDS

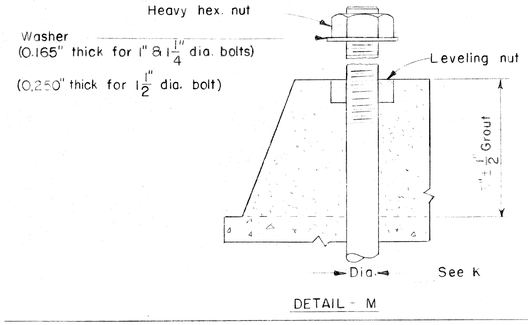
(Foundation incidental to light standard.)

DETAIL - N

ANCHOR BOLTS & TIE RODS



DETAIL - L (SHEAR STUD)



DETAIL - M

NOTES:

1. All materials and workmanship shall be in accordance with the current Michigan Department of State Highways Supplemental Specifications For Electrical Construction.
2. Use detail **"M"** anchor bolts, unless shear studs are specified in the plans. Anchor bolt length "J" or "K" is length before bending. Final Standard adjustment shall be leveled by use of galvanized sheet steel shims if required.
3. Supply bracket arm fitters only for each arm used.
4. Place ⅛" Elastomeric Fabric Bound Pad for mounting only between street light standard base and foundation.
5. Standards mounted on transformer bases shall have the same dimensions as anchor base types.
6. Use same anchor bolts for transformer base as for corresponding anchor base types.
7. For grounding Light Standards see Light Standard Grounding Details sheet.

TYPE	A	B	D	E	F	G	H	W min.	J	K
Mercury vapor or incandescent transformer base for 30 ft. mtg. height.	11"	7¾"	1'-7"	1'-9"	6'-0"	8¾"	2⅝"	see note 5		see note 6
Mercury vapor anchor base for 30 ft. mounting height and 4 or 6 ft. single or double bracket arm.	11"	7¾"	1'-4"	1'-9"	5'-0"	8¾"	2⅝"	.188"	1"ø x 3'-4"	1"ø x 3'-9"
Mercury vapor anchor base for 30 ft. mounting height and 8, 10, 12, 15 ft. single or double bracket arm.	11"	7¾"	1'-4"	1'-9"	6'-0"	8¾"	2⅝"	.188" sgl. bkt. arm .219" dbl. bkt. arm	1"ø x 5'-0"	1"ø x 5'-0"
Mercury vapor anchor base for 30 ft. mounting height and 17 ft. single or double bracket arm.	11"	7¾"	1'-4"	1'-9"	6'-0"	9"	3"	.188" sgl. bkt. arm .219 dbl. bkt. arm		1¼"ø x 5'-0"
Mercury vapor or incandescent transformer base for 40 & 45 ft. mounting height.	1'-5¼"	1'-0⅝"	2'-0"	2'-2"	8' 6"	1'-1 11/16"	3½"	see note 5		see note 6
Mercury vapor anchor base for 40 ft. mounting height and 4, 6, 8, 10, 12, 15, 17 ft. single or double bracket arm.	1'-1"	9¼"	1'-8"	2'-0"	8'-6"	10¾"	3½"	.188 for single bracket arm .219 for double bracket arm		1½"ø x 5'-0"
Mercury vapor anchor base for 45 ft. mounting height and 4, 6, 8, 10, 12, 15, 17 ft. single or double bracket arm.	1'-1"	9¼"	1'-8"	2'-0"	8'-6"	10¾"	3½"	.219" lower section .188" upper section		1½"ø x 5'-0"

⅛" thick Elastomeric Fabric Bound Pad

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

ELECTRICAL DETAILS

ALUMINUM LIGHT STANDARDS

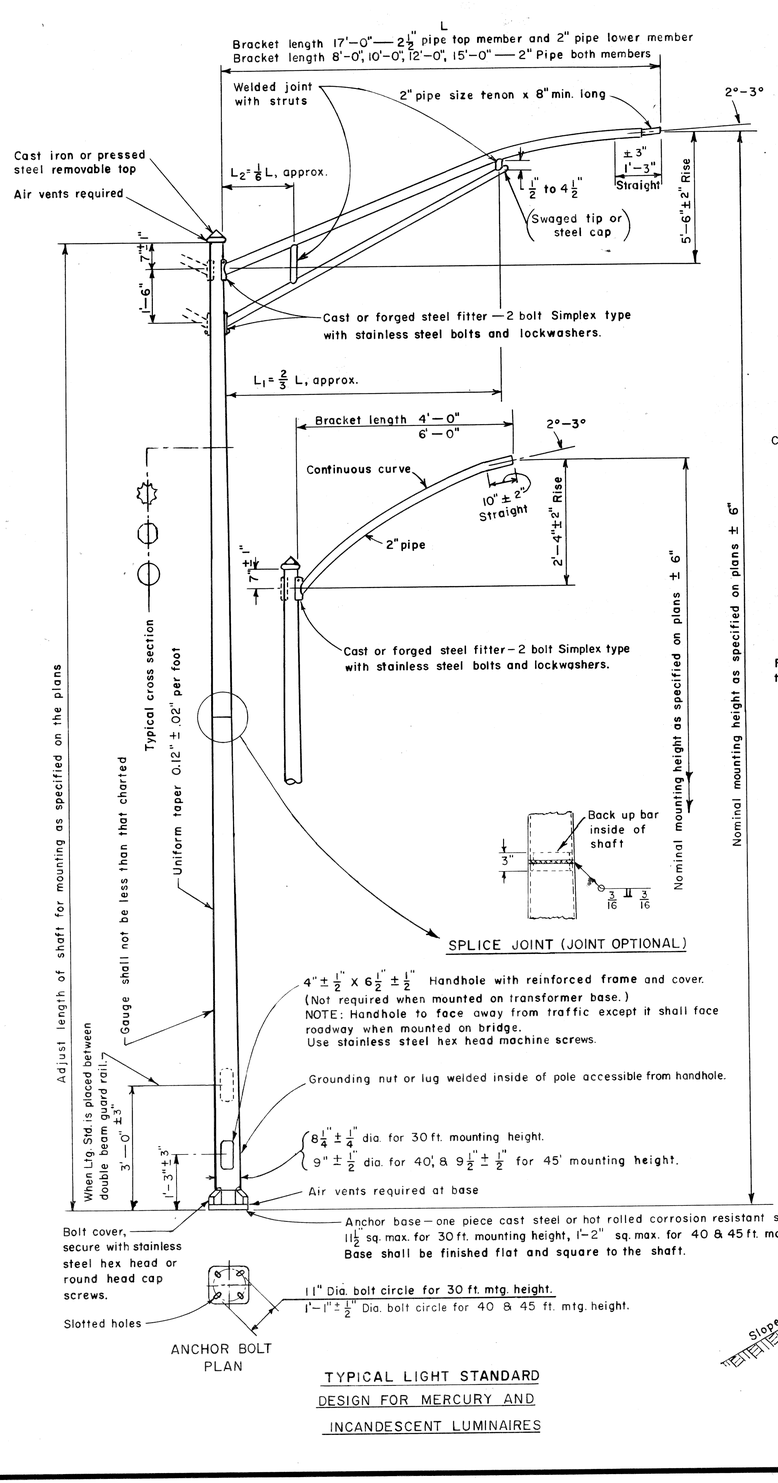
FOR 30, 40, & 45 FT. MOUNTING HEIGHTS

REVISIONS			
NO	DESCRIPTION	DATE	BY

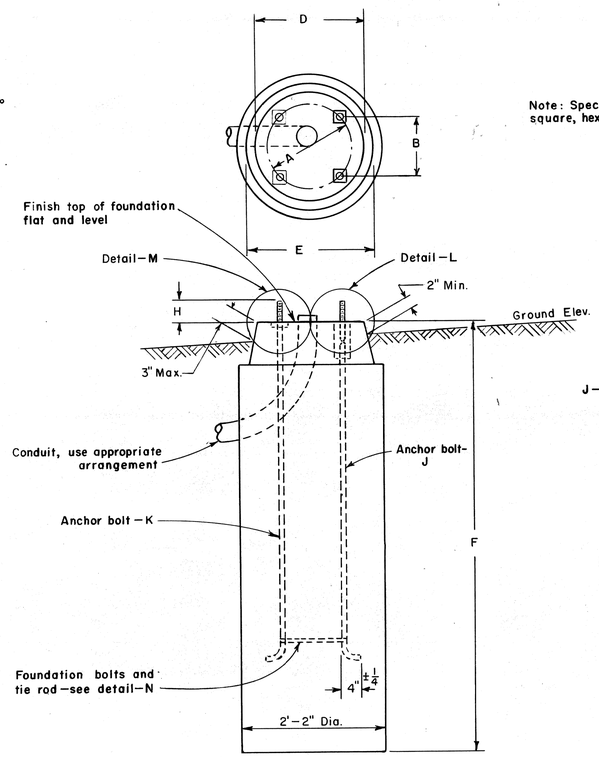
SQUAD BOSS	T. Jilderk	1968
DRAWN BY		
TRACED BY	D.W.	1-8-68
CHECKED BY		

SHEET 138-C OF

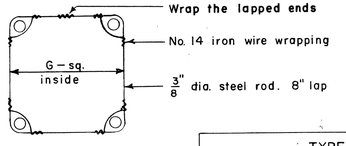
82124-002



TYPICAL LIGHT STANDARD
DESIGN FOR MERCURY AND
INCANDESCENT LUMINAIRES

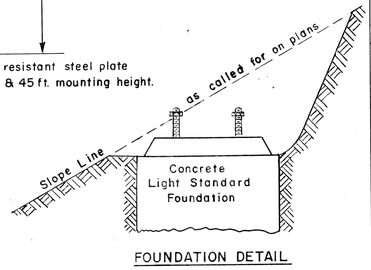


TYPICAL LIGHT STANDARD FOUNDATION
WITH OR WITHOUT SHEAR STUDS
(FOUNDATION INCIDENTAL TO LIGHT STANDARD)

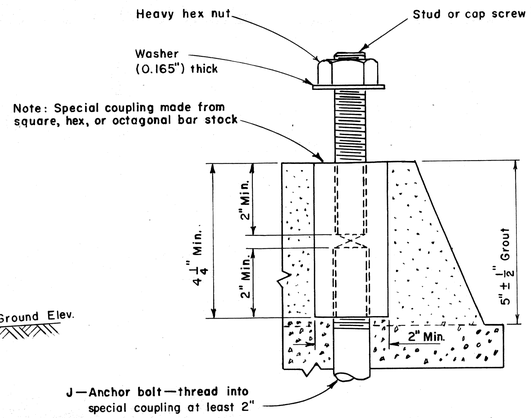


DETAIL — N

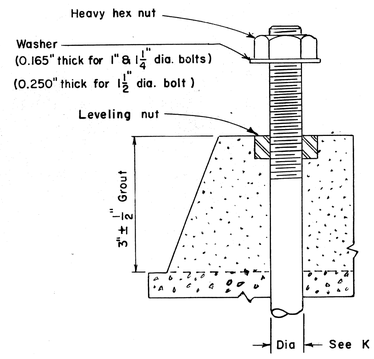
ANCHOR BOLTS
& TIE ROD



FOUNDATION DETAIL
(ON FILL OR CUT SLOPE)



DETAIL — L
(SHEAR STUD)

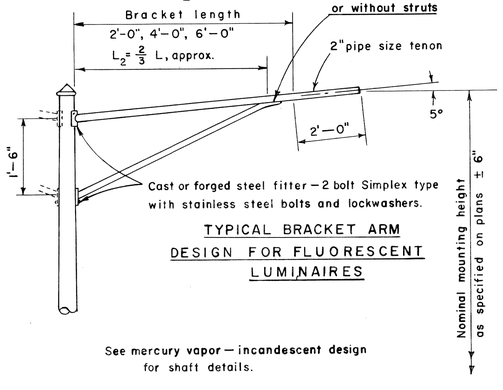


DETAIL — M

NOTES:

1. All materials and workmanship shall be in accordance with the current Michigan Department of State Highways Supplemental Specifications For Electrical Construction.
2. Use detail "M" anchor bolts unless shear studs are specified in the plans. Anchor bolt length "J" or "K" is length before bending. Final Standard adjustment shall be leveled by use of galvanized sheet steel shims if required.
3. Supply bracket arm fitters for each arm used only.
4. Supply ⅛" elastomeric fabric bound pad for mounting between street light standard base and foundation on bridge mounted units only (incidental).
5. Cast steel or hot rolled plate anchor bases shall have a thickness equal to the diameter of the anchor bolts.
6. Standards mounted on transformer bases shall have the same dimensions as anchor base types.
7. Use the same anchor bolts for transformer base as for corresponding anchor base types.
8. For grounding Light Standards see Light Standard Grounding Details sheet.

TYPE	A	B	D	E	F	G	H	Ga. (min.)	J	K
Mercury vapor or incandescent transformer base for 30 ft. mounting height.	11"	7 3/4"	1'-7"	1'-9"	6'-0"	8 3/4"	2 5/8"	see note 6		see note 7
Mercury vapor anchor base for 30 ft. mounting height and 4 or 6 ft. single or double bracket arm.	11"	7 3/4"	1'-4"	1'-9"	5'-0"	8 3/4"	2 5/8"	11	1"ϕ x 3'-4"	1"ϕ x 3'-9"
Mercury vapor anchor base for 30 ft. mounting height and 8, 10, 12 ft. single or double bracket arm.	11"	7 3/4"	1'-4"	1'-9"	6'-0"	8 3/4"	2 5/8"	11	1"ϕ x 5'-0"	1"ϕ x 5'-0"
Mercury vapor anchor base for 30 ft. mounting height and 17 ft. single or double bracket arm.	11"	7 3/4"	1'-4"	1'-9"	6'-0"	9"	3"	7		1¼"ϕ x 5'-0"
Mercury vapor anchor base ft. 30 ft. mounting height and 15 ft. single or double bracket arm.	11"	7 3/4"	1'-4"	1'-9"	6'-0"	8 3/4"	2 5/8"	7	1"ϕ x 5'-0"	1"ϕ x 5'-0"
Mercury vapor or incandescent transformer base for 40 & 45 ft. mounting height.	1'-5¼"	1'-0 3/16"	2'-0"	2'-2"	8'-6"	1'-1 11/16"	3 1/2"	see note 6		see note 7
Mercury vapor anchor base for 40 & 45 ft. and 4, 6, 8, 10, 12, 15, 17 ft. single or double bracket arm.	1'-1"	9 1/4"	1'-8"	2'-0"	8'-6"	10 3/4"	3 1/2"	11 Ga. up to 15' Brkt. Arm 7 Ga. for 17' Brkt. Arm		1½"ϕ x 5'-0"
Fluorescent anchor base, 30 ft. mounting height — single bracket arm.	11"	7 3/4"	1'-4"	1'-9"	6'-0"	9"	2 5/8"	11		1¼"ϕ x 4'-0"
Fluorescent anchor base, 30 ft. mounting height — double bracket arm.	11"	7 3/4"	1'-4"	1'-9"	6'-0"	9"	2 5/8"	7		1¼"ϕ x 4'-0"



TYPICAL BRACKET ARM
DESIGN FOR FLUORESCENT
LUMINAIRES

See mercury vapor — incandescent design for shaft details.

EDI

MICHIGAN DEPARTMENT OF STATE HIGHWAYS
ELECTRICAL DETAILS
STEEL LIGHT STANDARDS
FOR 30, 40, & 45 FT. MOUNTING HEIGHTS

REVISIONS

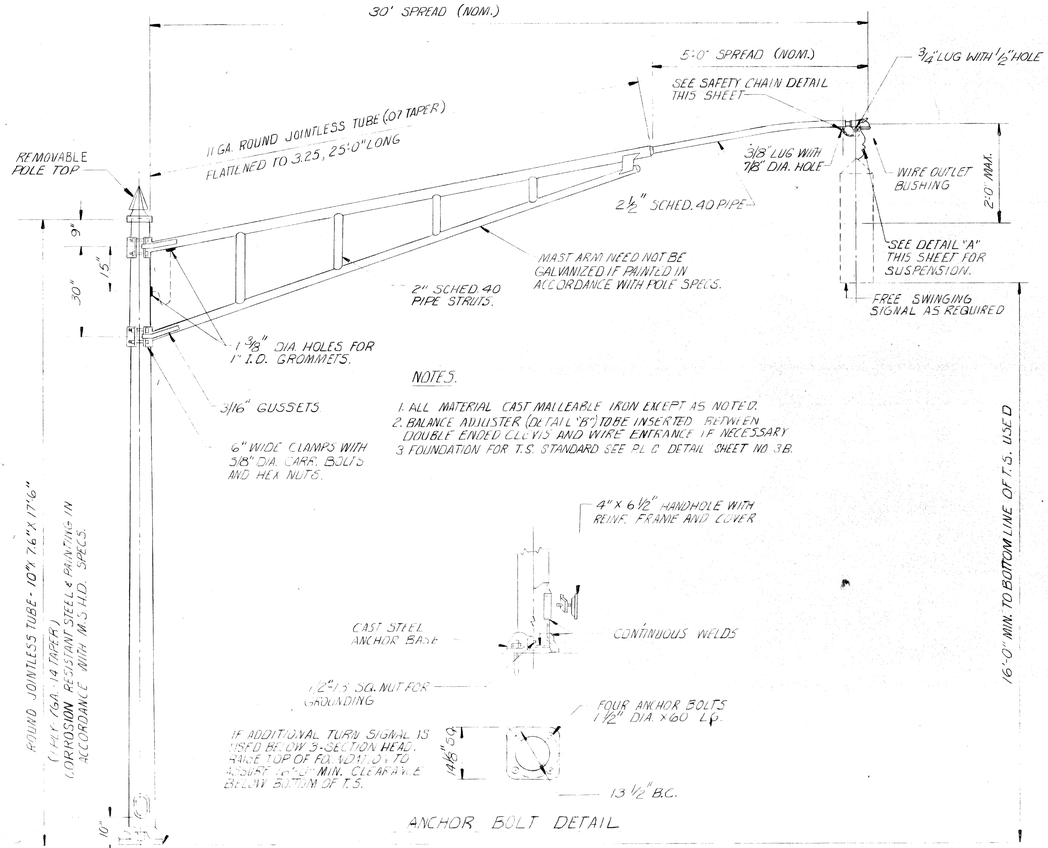
NO	DESCRIPTION	DATE	BY

SQUAD BOSS	T. Jildeh	1967
DRAWN BY		
TRACED BY	D Wiegar	7-11-67
CHECKED BY	H.E.P.	8-11-67
SHEET 138-D OF		

82124-002

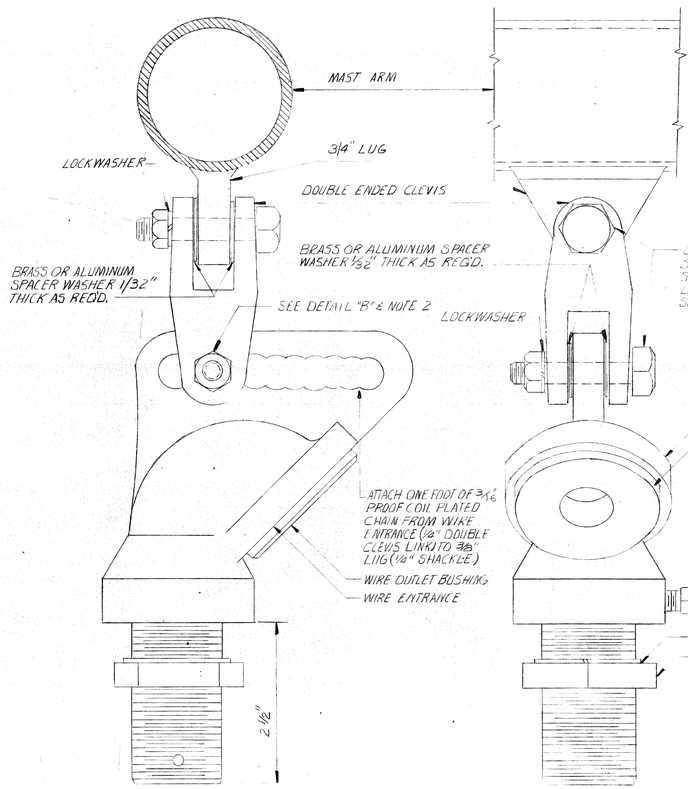
② Revised 1-8-68 (B.C. for 40' & 45' M.H. & Alum. T.B for 30' M.H.)
① Revised 12-8-67

EDCO• 127 4-65



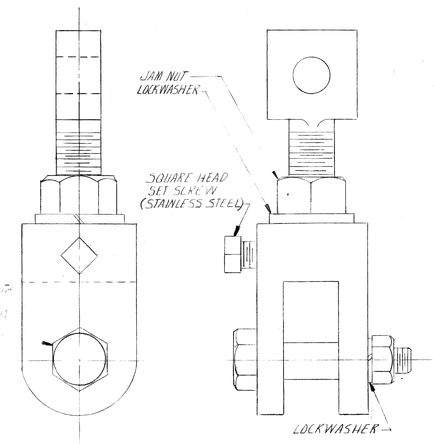
ANCHOR BOLT DETAIL

TYPICAL 30' MAST ARM STANDARD
N.T.S.



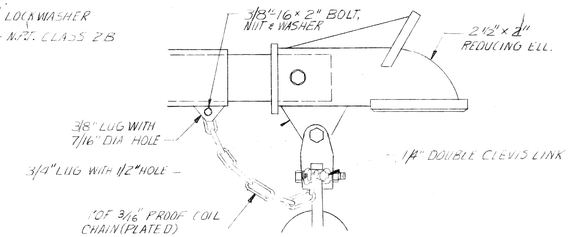
TYPICAL MAST ARM SUSPENSION ASSEMBLY

DETAIL "A"
N.T.S.

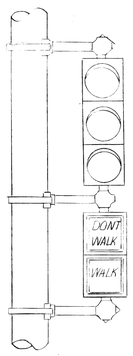


TYPICAL BALANCE ADJUSTER

DETAIL "B"
FULL SIZE

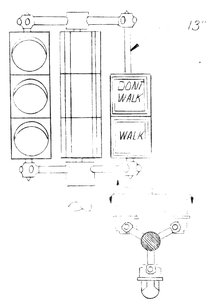


SAFETY CHAIN DETAIL



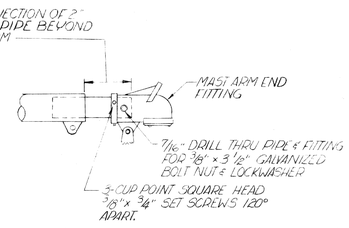
BRACKET ARM STACKING

DETAIL "C"
N.T.S.



PEDESTAL STACKING

DETAIL "D"
N.T.S.



REVISIONS	
REVISED MAST ARM END FITTING	5-24-67

PLAN APPROVAL BY THE BOARD OF WAYNE COUNTY ROAD COMMISSIONERS

CHECKED BY _____ DATE _____

APPROVED _____

ENGINEER OF DESIGN, STRUCTURES AND EXPRESSWAYS

DRAWN BY	PLAN PREPARED BY CONSULTING ENGINEERING ASSOCIATES INC. ENGINEERING CONSULTANTS 16580 WYOMING DETROIT, MICH. 48221
CHECKED BY	
APPROVED BY	
DATE 9-15-67	DRAWING NO.
	FILE NO. CEA J6

CITY OF DETROIT
PUBLIC LIGHTING COMMISSION

DRAWN BY _____	ACCEPTED BY J.J.L.	FILE NO. 62-6
DATE _____	ACCEPTED BY _____	SHEET NO. 61

MICHIGAN STATE HIGHWAY DEPARTMENT

P. L. C. DETAILS

TRAFFIC SIGNALS

ISSUE NO.	DATE
COUNTY JOB	SHEET NO. 139
STATE PROJECT	

BRUNING 62228

FIG. 1.

BUTT WRAP METHOD "A"

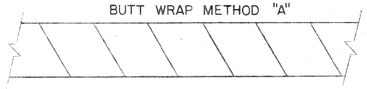


FIGURE 1.
FELTED ASBESTOS INITIAL WRAP BUTT WRAP.

FIG. 2.

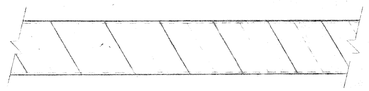


FIGURE 2.
SECOND WRAP FLAME RETARDANT ELASTOMER OFFSET BUTT WRAP.

FIG. 3.

FIGURE 3.
RANDOM WRAP OUTER LAYER WITH A PRESSURE SENSITIVE FIBERGLASS ADHESIVE TAPE TO PREVENT UNRAVELLING.

FIG. 4.

HALF LAP METHOD "B"

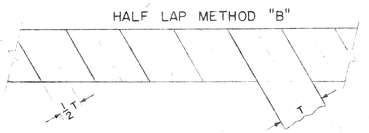


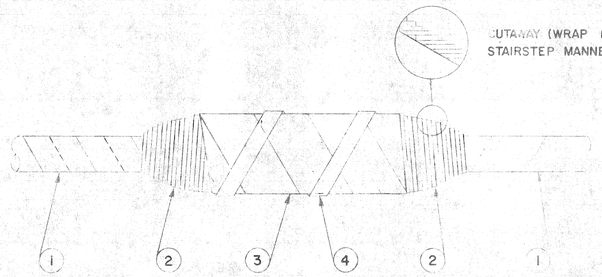
FIGURE 4.
ONE WRAP FLAME RETARDANT ELASTOMER 1/2 OVERLAPPED RANDOM WRAP WITH PRESSURE SENSITIVE FIBERGLASS ADHESIVE TAPE.

NOTE: ELASTOMER TAPE TO BE APPLIED WITH SMOOTH SIDE ON CABLE (ROUGH OR FABRIC SIDE OUT).

APPROXIMATE QUANTITIES REQUIRED PER MANHOLE

METHOD "A"
5 ROLLS 3" X 15'-0" FELTED ASBESTOS TAPE
4 ROLLS 3" X 20'-0" ELASTOMER TAPE
1 ROLL FIBERGLASS TAPE

METHOD "B"
8 ROLLS 3" X 20'-0" ELASTOMER TAPE (FLAME RETARDANT)
1 ROLL FIBERGLASS TAPE



(1) WRAP CABLE WITH 3" WIDE TAPE METHOD "A" OR "B".

(2) WRAP WIPE WITH 1 1/2" WIDE ELASTOMER TAPE AS SHOWN (SPLIT 3" TAPE WITH SKINNING KNIFE FOR THIS STEP).

(3) WRAP SPLICE SLEEVE WITH 3" WIDE TAPE THE SAME AS IN #1 ABOVE.

(4) RANDOM WRAP FIBERGLASS TAPE TO HOLD IN PLACE.

NOTE: WRAP CABLE ON BOTH SIDES OF SPLICE FIRST. NEXT WRAP BOTH WIPES AND THEN COVER THE SPLICE SLEEVE.

REVISIONS

DRAWN BY	PREPARED BY CONSULTING ENGINEERING ASSOCIATES INC. ENGINEERING CONSULTANTS 16596 WYOMING DETROIT, MICH. 48221
TRACED BY	
CHECKED BY	
DATE 9-15-67	JACKET NO. / FILE NO. CEA J6

CITY OF DETROIT
PUBLIC LIGHTING COMMISSION

DRAWN BY	APPROVED	FILE NO. 62-6
DATE	APPROVED	SHEET NO. 66

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

P.L.C. DETAILS
CABLE FIREPROOFING

ISSUE NO.	DATE
COUNTY JOB	SHEET NO. 140
STATE PROJECT	

82124-007

QUANTITY SHEET – E

GRADING

B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY	City	SHEET NO.	TOTAL SHEETS
F-96	82124003	Wayne	Detroit	141	

SHEET NO.	LOCATION	AS PER PLANS: SURCHARGE FOR TEMPORARY ANCHORAGE	SUBGRADE UNDERCUTTING	EARTH EXCAVATION	EMBANKMENT + SHRINKAGE + LOSS	SELECT CLAY BACKFILL (C.I.P.)	LOSSES TO OTHER SHEETS	TOTAL LOSSES	WASTE	GRANULAR MATERIAL CLASS (C.A.P.) III	GRANULAR MATERIAL CLASS (C.A.P.) IV	GRANULAR BLANKET	SUBBASE (C.I.P.)	SELECTED SUBBASE ALT. A	AS CONSTRUCTED: SURCHARGE FOR TEMPORARY ANCHORAGE	SUBGRADE UNDERCUTTING	EARTH EXCAVATION	EMBANKMENT + SHRINKAGE + LOSS	SELECT CLAY BACKFILL (C.I.P.)	LOSSES TO OTHER SHEETS	TOTAL LOSSES	WASTE	GRANULAR MATERIAL CLASS (C.I.P.) III	GRANULAR MATERIAL CLASS (C.I.P.) IV	GRANULAR BLANKET	SUBBASE (C.I.P.)	SELECTED SUBBASE ALT. A
		CU. YDS.												TONS	CU. YDS.												TONS
	CONTROL SECTION 82124A																										
12	NOTES AND SPECIAL PROVISIONS		500						550			50	500														
	REMOVAL ITEMS																										
16	N. OF MYRTLE ST. TO S. OF ASH ST.			611		611			611		59																
	MAIN ROADWAY ITEMS																										
23	N. OF MYRTLE TO S. OF ASH	924		26642	115		730	1769	24873				1655	517													
	SERVICE DRIVES																										
33	EAST - N. OF MYRTLE ST. TO STA.1269+00			93	119				93																		
35	WEST-STA.280 + 00 to STA.289 + 50			437	45			45	392																		
	TOTAL THIS CONTROL SECTION	924	500	27783	279	611	730	1814	26519		59	50	2155	517													
	CONTROL SECTION 82194L																										
12	NOTES AND SPECIAL PROVISIONS		4500						4850			350	4500														
	REMOVAL ITEMS																										
16	N. OF MYRTLE ST. TO S. OF ASH ST.			3753		3753			3753		20																
17	S. OF ASH ST. TO N. OF MICH. AVE.			6856		6856			6856		13																
18	W.P.L. LAWTON AVE. TO E.OF HUMBOLDT			1659		1659			1659		54																
	GRADING PLANS																										
20	S. OF ASH ST. TO N. OF MICH. AVE.			32	6110				32																		
21	W.P.L. LAWTON AVE. TO E.OF HUMBOLDT			313	7203				313																		
	MAIN ROADWAY ITEMS																										
23	N. OF MYRTLE TO S. OF ASH			80521	768		3753	4521	76000				6343	1644													
	TURNING ROADWAYS																										
25	N'BD JEFFRIES STA.1281+00 to 1288+56.73			22450	75		6856	6931	15519				2213	523													
26	N'BD JEFFRIES STA.1274+45 to 1281+00			19783	223		8000	8223	11560				1960	453													
27	S'BD JEFFRIES STA.1274+57 to 1284+72.27			32781	1123		13580	14703	18078				2785	718													
28	S.COLL.DIST.RD'WY.STA.1262+89.46 to 1269+00			3576	7251				3576				983	448													
29	S.COLL.DIST.RD'WY.STA.1269+00 to 1275+57.4				14329								826	336													
30	W'BD.FISH.TO N'BD.JEFF.STA.2+01.32 to 8+28.96			18718	24			24	18694				1838	451													
31	W'BD.FISH.TO N'BD.JEFF.STA.8+28.96 to 18+440			26657	486		13313	13799	12858				1474	414													
32	N.COLL.DIST.TO N'BD.JEFF.STA.1270+15.67 to 1279+95			9391	96		1659	1755	7636				1100	399													
	SERVICE DRIVES																										
33	EAST-N.OF MYRTLE ST.TO STA.1269+00			1374	260			260	1714																		
34	EAST-STA.1269+00 to HUMBOLDT AVE.			2757	250			250	2507																		
35	WEST-STA.280+00 to STA.289+50			1500	326			326	1174																		
36	WEST-STA.289+50 to MICHIGAN AVENUE			2082	530			530	1432																		
	DETOUR																										
37	MYRTLE ST.			108					108																		
	BRIDGE S27									1370																	
	TOTALS THIS CONTROL SECTION		4500	234911	39114	12268	47161	51382	188379	1370	87	350	24028	5386													
	TOTALS THIS CONTRACT	924	5000	262694	39393	12879	47891	53196	214898	1370	146	400	26183	5903													
														6787*													

* *OPEN HEARTH SLAG ALT. B (TONS)

PLAN ESTIMATE BY _____ DATE _____ CHECKED BY _____ DATE _____ DATE _____ DATA COMPLETED _____ PROJ. ENG. DATE _____ HISTORY CHECKED ENTERED ON PLANS BY _____ DATE _____

*OPEN HEARTH SLAG ALT.B (TONS)

FILE NO. USE NO. 350 STENCIL	STATE PROJECT	FEDERAL PROJECT	SHEET NO.
	82124003	F 96	141

QUANTITY SHEET – E

DRAINAGE

AS PER PLANS

B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY		SHEET NO.	TOTAL SHEETS
F-96	82124-002	Wayne	City of Detroit	142	

| SHEET NO. | LOCATION | MISCELLANEOUS (EACH): Abandoning C.B. | Abandoning Manhole | Reconstruct M.H. | Adjust C.B. Cover | Adjust M.H. Cover | INLETS, CATCH BASINS & MANHOLES (EACH): 0-8' DEEP: Inlet LM | Inlet 9Z | C. B. 6C | C. B. 6H | C. B. 6E | C. B. 6M | C. B. 3C | C. B. 3H | C. B. 3M | C. B. 3Z | M. H. 1A | 8.1'-14' DEEP: C. B. 3C | C. B. 3H | C. B. 3E | C. B. 3M | C. B. 3Z | D.M.H. A | D.M.H. 24A0 | 14.1'-25' DEEP: C. B. 3H | C. B. 3M | D. M. H. 24A0 | 25.1' & OVER: D. M. H. 14A | ACCESS M.H. 12A | SEWERS (LIN. FT.) TRENCH DETAIL 1: 6" Cl. "A" | 12" Cl. "B" | 12" Cl. "C" | 12" Cl. "B" C-76-III | 15" Cl. "C" | 15" Cl. "B" C-76-III | 2: 12" Cl. "A" C-76-II | 12" Cl. "B" C-76-III | 15" Cl. "B" C-76-III | 3: 12" Cl. "A" C-76-II | 12" Cl. "B" C-76-III | 15" Cl. "B" C-76-III | B: 12" Cl. "B" C-76-III | 8: 12" Cl. "A" | 9: 12" Cl. "A" | 12" Cl. "B" | 12" Cl. "A" C-76-II | 12" Cl. "B" C-76-III | IN TUNNEL: 18" Cl. "C" CONN. C-76M | 21" CL. "D" CONN. C-76-V | 49"x32" REINF. CONC. ELLIPTICAL CONN. VE-5 | MISCELLANEOUS (EACH): 6" EDGE DRAIN | 6" BANK DRAIN | 6" SEWER TAPS | 12" SEWER TAPS | 12" SEWER TRAPS | DRAINAGE MARKER POSTS |
|---|---|---|---|---|---

QUANTITY SHEET – E

DRAINAGE

AS CONSTRUCTED

B. P. R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY		SHEET NO.	TOTAL SHEETS
I-96	82124-002	Wayne	Detroit	#3	

| SHEET NO. | LOCATION | MISCELLANEOUS: ABANDONING C.B. | MISCELLANEOUS: ABANDONING MANHOLE | MISCELLANEOUS: RECONSTRUCT M.H. | MISCELLANEOUS: ADJUST C.B. COVER | MISCELLANEOUS: ADJUST M.H. COVER | INLETS, CATCH BASINS & MANHOLES: 0-8' DEEP: INLET LM | INLET 9Z | C. B. 6C | C. B. 6H | C. B. 6E | C. B. 6M | C. B. 3C | C. B. 3H | C. B. 3M | C. B. 3Z | M. H. 1A | INLETS, CATCH BASINS & MANHOLES: 8.1'-14' DEEP: C. B. 3C | C. B. 3H | C. B. 3E | C. B. 3M | C. B. 3Z | D.M.H. A | D.M.H. 24AD | INLETS, CATCH BASINS & MANHOLES: 14.1'-25' DEEP: C. B. 3H | C. B. 3M | INLETS, CATCH BASINS & MANHOLES: 25.1' & OVER: D. M. H. 24AD | D. M. H. 14A | ACCESS M.H. 12A | SEWERS: TRENCH DETAIL: 1: 6" Cl. 'A' | 12" Cl. 'B' | 2: 12" Cl. 'C' | 12" Cl. 'B' C-76-III | 3: 15" Cl. 'C' | 15" Cl. 'B' C-76-III | 1½: 12" Cl. 'A' C-76-II | 12" Cl. 'B' C-76-III | 8: 15" Cl. 'B' C-76-III | 9: 12" Cl. 'A' C-76-II | 12" Cl. 'B' C-76-III | SEWERS: IN TUNNEL: 12" Cl. 'A' | 12" Cl. 'B' | 12" Cl. 'A' C-76-II | 12" Cl. 'B' C-76-III | 18" Cl. 'C' CONN. C-76M | 21"CL.'D' CONN. C-76-V | 49"x32" REINF. CONC. ELLIPTICAL CONN. VE-32 | MISCELLANEOUS: 6" EDGE DRAIN | 6" BANK DRAIN | 6" SEWER TAPS | 12" SEWER TAPS | 12" SEWER TRAPS | DRAINAGE MARKER POSTS |
|---|---|---|---|---|---

QUANTITY SHEET – E

SURFACING

AS PER PLANS

B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY	City	SHEET NO.	TOTAL SHEETS
I-96	82124-002	Wayne	Detroit	144	144

SHEET NO.	LOCATION	CONCRETE PAVEMENT 8" UNIF	9" UNIF.	9" UNIF. (SPEC. HIGH EARLY STRENGTH)	CONTINUOUSLY REINFORCED 9" UNIF.	10" UNIF.	CORRUGATED CONC. DIVIDER TYPE I	WIDE FLANGE BEAM TERMINAL JOINT	PAVEMENT REINFORCEMENT	0.7%	CONCRETE NOSE	CONCRETE DRIVEWAY RETURN DETAIL 15	BITUM. CONC. LEVELING COURSE ALT. A	BITUM. CONC. WEARING COURSE ALT. A	BIT. AGG. SHOULDERS CONC. PAVEMENT ALT. A	CLASS AA SHOULDERS ALT. A	BITUM. BOND COAT	BITUM. PRIME COAT	CONC. CURB DETAIL 2	CONC. CURB DETAIL 2A	CONC. CURB & GUTTER DETAIL "A"	CONC. CURB & GUTTER DETAIL "A" SPECIAL	BITUM. CONC. CURB DETAIL "L"	CONC. ROLL CURB & GUTTER DETAIL 6	CONC. ROLL CURB & GUTTER DETAIL 6 SPECIAL	PATCHING PAVEMENT WITH BIT. MATERIAL ALT. A	AGGREGATE BASE ALT. A	CONCRETE SIDEWALK TEMP.	4"	7"	REMOVING BITUM. SURFACE	CONCRETE PAVEMENT PATCHING	PAVEMENT REPLACEMENT		
		SQ. YDS.						LIN. FT.	SQ. YDS.		EACH	LIN. FT.	TONS				GALS		LIN. FT.							TONS		SQ. FT.			SQ. YDS.				
	CONTROL SECTION 82124A																																		
	REMOVAL ITEMS																																		
16	N. OF MYRTLE TO S. OF ASH ST.																		27								32	213	298			31	42		
	MAIN ROADWAY																																		
22	N. OF MYRTLE TO S. OF ASH				2139				2139						73	286		300						802										
	SERVICE DRIVES																																		
33	EAST - N. OF MYRTLE ST. TO STA. 1269 + 00		660	534					1254				2	2	4		8		402	22	60		240					2224		38				
35	WEST - STA. 280 + 00 TO STA. 289 + 50		578	833					1477				2	2	3		8		490		20							2296		38				
	TOTALS THIS CONTROL SECTION		1238	1433	2139				2731	2139			4	4	80	286	16	300	892	43	80		240		302	32	213	298	5220		76	31	42		
	CONTROL SECTION 82194L																																		
	REMOVAL ITEMS																																		
16	N. OF MYRTLE ST. TO S. OF ASH ST.																										58	390	385				4		
17	S. OF ASH ST. TO N. OF MICH. AVE.																										21	141	60				11		
18	W. P.L. LAWTON AVE. TO E. OF HUMBOLDT. AVE.																		10								27	181	375	50			7		
	MAIN ROADWAY ITEMS																																		
22	N. OF MYRTLE TO S. OF ASH				6342	49	373		49	6342	2				215	841		883			20			2349										
	TURNING ROADWAYS																																		
25	N'BD. JEFFRIES STA. 1281 + 00 to 1288 + 56.73				2018					2018					107	421		442						1513										
26	N'BD. JEFFRIES STA. 1274 + 45 TO 1281 + 00				1589	157		29	157	1589					87	382		401						1132	116									
27	S'BD. JEFFRIES STA. 1274 + 57 TO 1284 + 22.22				2556	209		29	209	2556					143	559		587						1808	231									
28	S. COLL.DIST.RD'WY STA. 1262 + 85.46 to 1269+00				1405	280		23	280	1405					67	227		239			86	525		410	129									
29	S. COLL.DIST.RD'WY STA. 1269 + 00 to 1275 + 57.4					1293			1293						58	172		181			483				483									
30	W'BD. FISHER TO N'BD.JEFF.RD'WY STA.2+01.32 to STA. 8 + 28.96				1139	611		29	611	1139	1				55	215		225			202	422			138	427									
31	W'BD.FISHER TO N'BD.JEFF.RD'WY.STA.8 + 28.96 to STA. 18 + 45					1411			1411						71	280		294			1016				1010									
32	N.COLL.DIST.TO N'BD.JEFF.STA.1270 + 15.67 to STA. 1279 + 95					1360			1360						69	272		286			979				979									
	SERVICE DRIVES																																		
33	EAST - N. OF MYRTLE ST. TO STA. 1269 + 00			2748					2748				2	2	23		7		1613									4816		33				
34	EAST - STA. 1269 + 00 TO HUMBOLDT AVE.	57		4062					4062			45	6	6	29		23		2049									5341		113				
35	WEST - STA. 280 + 00 TO STA. 289 + 50			2348					2348				2	2	23		7		1553									4454	264	33				
36	WEST - STA. 289 + 50 TO MICHIGAN AVE.	414		2732					2732			45	2	2	28	30	6		1949	15								5976	2944	23				
	DETOUR																																		
37	MYRTLE ST.	913											9	9			34			356									2046		172				
	TOTALS THIS CONTROL SECTION	1384	11890		15049	5370	373	116	17260	15049	3	90	21	21	385	3399	77	3538	7164	381	2786	947		3222	7699	106	712	2866	20637	3208	380		22		
	TOTALS THIS CONTRACT	1384	13128	1493	17188	5370	373	116	19931	17188	3	90	25	25	1065	3685	93	3838	8056	430	2866	947	240	3222	8501	138	925	3164	25857	3208	456	31	71		
													24*	24*	1012**	4238**										131*	1064**								

* Blast Furnace Slag Alternate B (Tons)

** Open Hearth Slag Alternate B (Tons)

PLAN ESTIMATE BY_____ DATE_____ CHECKED BY_____ DATE_____ DATE_____ DATA COMPLETED_____ DATE_____ HISTORY CHECKED ENTERED ON PLANS BY_____ DATE_____

PROJ. ENG.

FILE NO. USE NO. 330 STENCIL	82124-002	STATE PROJECT 82124-002	FEDERAL PROJECT I-96	SHEET NO. 144

QUANTITY SHEET – E

SURFACING

AS CONSTRUCTED

B. P. R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY	CITY	SHEET NO.	TOTAL SHEETS
I-96	82124-002	Wayne	Detroit	125	

SHEET NO.	LOCATION	CONCRETE PAVEMENT: 8" UNIF	9" UNIF.	9" UNIF. (SPEC. HIGH EARLY STRENGTH)	CONTINUOUSLY REINFORCED 9" UNIF.	10" UNIF.	CORRUGATED CONC. DIVIDER TYPE 1	WIDE FLANGE BEAM TERMINAL JOINT	PAVEMENT REINFORCEMENT		CONCRETE NOSE	CONCRETE DRIVEWAY RETURN DETAIL 15	BITUM. CONC.: LEVELING COURSE ALT. A	WEARING COURSE ALT. A	BIT. AGG. SHOULDERS CONC. PAVEMENT ALT. A	CLASS AA SHOULDERS ALT. A	BITUM. BOND COAT	BITUM. PRIME COAT	CONC. CURB: DETAIL 2	DETAIL 2A	CONC. CURB & GUTTER: DETAIL "A"	DETAIL "A" SPECIAL	BITUM. CONC. CURB DETAIL "L"	CONC. ROLL CURB & GUTTER: DETAIL 6	DETAIL 6 SPECIAL	PATCHING PAVEMENT WITH BIT. MATERIAL ALT. A	AGGREGATE BASE ALT. A	CONCRETE SIDEWALK: TEMP.	4"	7"	REMOVING BITUM. SURFACE	CONCRETE PAVEMENT PATCHING	PAVEMENT REPLACEMENT		
		SQ. YDS.						LIN. FT.	SQ. YDS.	0.7%	EACH	LIN. FT.	TONS				GALS		LIN. FT.							TO NS		SQ. FT.			SQ. YDS.				
	CONTROL SECTION 82124A																																			
	REMOVAL ITEMS																																			
16	N. OF MYRTLE TO S. OF ASH ST.																																			
	MAIN ROADWAY																																			
22	N. OF MYRTLE TO S. OF ASH																																			
	SERVICE DRIVES																																			
33	EAST - N. OF MYRTLE ST. TO STA. 1269 + 00																																			
35	WEST - STA. 280 + 00 TO STA. 289 + 50																																			
	TOTALS THIS CONTROL SECTION																																			
	CONTROL SECTION 82194L																																			
	REMOVAL ITEMS																																			
16	N. OF MYRTLE ST. TO S. OF ASH ST.																																			
17	S. OF ASH ST. TO N. OF MICH. AVE.																																			
18	W. P.L. LAWTON AVE. TO E. OF HUMBOLDT.AVE.																																			
	MAIN ROADWAY ITEMS																																			
22	N. OF MYRTLE TO S. OF ASH																																			
	TURNING ROADWAYS																																			
25	N'BD. JEFFRIES STA. 1281 + 00 to 1288 + 56.73																																			
26	N'BD. JEFFRIES STA. 1274 + 45 TO 1281 + 00																																			
27	S'BD. JEFFRIES STA. 1274 + 57 TO 1284 + 77.27																																			
28	S. COLL.DIST.RD'WY STA. 1262 + 85.46 to 1269+00																																			
29	S. COLL.DIST.RD'WY STA. 1269 + 00 to 1275 + 57.4																																			
30	W'BD. FISHER TO N'BD.JEFF.RD'WY STA.2+01.32 to STA. 8 + 28.96																																			
31	W'BD.FISHER TO N'BD.JEFF.RD'WY.STA.8 + 28.96 to STA. 18 + 45																																			
32	N.COLL.DIST.TO N'BD.JEFF.STA.1270 + 15.67 to STA. 1279 + 95																																			
	SERVICE DRIVES																																			
33	EAST - N. OF MYRTLE ST. TO STA. 1269 + 00																																			
34	EAST - STA. 1269 + 00 TO HUMBOLDT AVE.																																			
35	WEST - STA. 280 + 00 TO STA. 289 + 50																																			
36	WEST - STA. 289 + 50 TO MICHIGAN AVE.																																			
	DETOUR																																			
37	MYRTLE ST.																																			
	TOTALS THIS CONTROL SECTION																																			
	TOTALS THIS CONTRACT																																			

PLAN ESTIMATE BY _____ DATE _____ CHECKED BY _____ DATE _____ DATA COMPLETED _____ PROJ. ENG. DATE _____ HISTORY CHECKED ENTERED ON PLANS BY _____ DATE _____

FILE NO. USE NO. 330 STENCIL	82124-002	STATE PROJECT	FEDERAL PROJECT	SHEET NO.
		WAYNE 082	I-96	125

QUANTITY SHEET - E

B. P. R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.			-	
ROUTE	STATE PROJECT	COUNTY	CITY	SHEET NO.	TOTAL SHEETS
I-96	82124-002	Wayne	Detroit	146	

REMOVING MASONRY AND CONCRETE

SHEET NO.	LOCATION	AS PER PLANS: REMOVING OLD PAVEMENT (PATCHING) SQ. YDS.	REMOVING OLD PAVEMENT SQ. YDS.	REMOVING CURB LIN. FT.	REMOVING SIDEWALK SQ. YDS.	REMOVING MASONRY & CONCRETE STRUCTURES CU. YDS.	REMARKS	AS CONSTRUCTED: REMOVING OLD PAVEMENT (PATCHING) SQ. YDS.	REMOVING OLD PAVEMENT SQ. YDS.	REMOVING CURB LIN. FT.	REMOVING SIDEWALK SQ. YDS.	REMOVING MASONRY & CONCRETE STRUCTURES CU. YDS.	EXPLANATION OF CHANGES
	CONTROL SECTION 82124A												
	REMOVAL ITEMS												
16	N. OF MYRTLE ST. TO S. OF ASH ST.	333	2621	106	456								
	TOTALS THIS CONTROL SECTION	333	2621	106	456								
	CONTROL SECTION 82194L												
	REMOVAL ITEMS												
16	N. OF MYRTLE ST. TO S. OF ASH ST.	468	7453	29	2654								
17	S. OF ASH ST. TO N. OF MICHIGAN AVE.	179	8585		1192	26							
18	W.P.L. LAWTON AVE. TO E. OF HUMBOLDT. AVE.	222	4836		641								
	TOTALS THIS CONTROL SECTION	869	20874	29	4487	26							
	TOTALS THIS CONTRACT	1202	23495	135	4943	26							

FENCING, GUARD RAIL AND SODDING

SHEET NO.	LOCATION	AS PER PLANS: 48" CHAIN LINK FENCE LIN. FT.	6' WALK GATE FOR 48" CHAIN LINK FEN. EACH	SODDING CLASS A SQ. YDS.	SODDING CLASS B SQ. YDS.	CLASS 1 SEEDING ACRES	MULCHING TONS	TOP SOIL SURF. FURN. & PL. CU. YDS. LOOSE	FERTILIZER CHEMICAL LBS.	FERTILIZER UREA NITROGEN LBS.	BEAM GUARD RAIL TYPE A LIN. FT.	BEAM GUARD RAIL TYPE C LIN. FT.	STRUCT. GUARD RAIL ANCH. TYPE A EACH	STRUCT. GUARD RAIL ANCH. TYPE C EACH	GUARD RAIL ANCHORAGE SINGLE EACH	AS CONSTRUCTED: 48" CHAIN LINK FENCE LIN. FT.	6' WALK GATE FOR 48" CHAIN LINK FEN. EACH	SODDING CLASS A SQ. YDS.	SODDING CLASS B SQ. YDS.	CLASS 1 SEEDING ACRES	MULCHING TONS	TOP SOIL SURF. FURN. & PL. CU. YDS. LOOSE	FERTILIZER CHEMICAL LBS.	FERTILIZER UREA NITROGEN LBS.	BEAM GUARD RAIL TYPE A LIN. FT.	BEAM GUARD RAIL TYPE C LIN. FT.	STRUCT. GUARD RAIL ANCH. TYPE A EACH	STRUCT. GUARD RAIL ANCH. TYPE C EACH	GUARD RAIL ANCHORAGE SINGLE EACH	EXPLANATION OF CHANGES
	CONTROL SECTION 82124A																													
	GRADING PLAN																													
19	N. OF MYRTLE ST. TO S. OF ASH ST.	190			1082	0.1			67	3	25.0																			
	SERVICE DRIVES																													
33	EAST - N. OF MYRTLE ST. TO STA. 1269 + 00			90																										
35	WEST - STA. 280 + 00 to STA. 289 + 50			135																										
	TOTALS THIS CONTROL SECTION	190		225	1082	0.1			67	9	25.0																			
	CONTROL SECTION 82194L																													
	GRADING PLANS																													
19	N. OF MYRTLE ST. TO S. OF ASH ST.	1810	3		14031	2.0	0.8	161	1333	176	75.0																			
20	S. OF ASH ST. TO N. OF MICHIGAN AVE.	1180	2		18676	4.8	7.1	1556	3200	422	50.0	312.5	2	2	6															
21	W.P.L. LAWTON AVE. TO E. OF HUMBOLDT. AVE.	608	1		10354	2.0	2.7	609	1333	176	150.0	200.0		2	3															
	SERVICE DRIVES																													
33	EAST - N. OF MYRTLE ST. TO STA. 1269 + 00			602																										
34	EAST - STA. 1269 + 00 TO HUMBOLDT AVE.			660																										
35	WEST - STA. 280 + 00 to STA. 289 + 50			576																										
36	WEST - STA. 289 + 50 TO MICHIGAN AVE.			1033																										
	TOTALS THIS CONTROL SECTION	3598	6	2871	43061	8.8	10.6	2326	5866	774	275.0	512.5	2	4	9															
	TOTALS THIS CONTRACT	3788	6	3096	44143	8.9	10.6	2326	5933	783	300.0	512.5	2	4	9															

MISCELLANEOUS

ITEM	UNIT	AS PER PLANS: QUANTITIES CONTROL SECTION 82124A	CONTROL SECTION 82194L	TOTAL THIS CONT.	AS CONSTRUCTED: QUANTITIES CONTROL SECTION 82124A	CONTROL SECTION 82194L	TOTAL THIS CONT.	EXPLANATION OF CHANGES
MAINTAINING TRAFFIC	LUMP SUM	LUMP	SUM					
FINAL TRIM AND CLEANUP	STATIONS	7.95	111.07	119.02				
WATER - 1000 GALLON UNITS	UNITS	14	148	162				
CALCIUM CHLORIDE	TONS	3	35	38				
REMOVING TREES 8" - 12" DIA	EACH	3	84	87				
REMOVING TREES 13" - 24" DIA.	EACH		103	103				
REMOVING TREES 25" - 36" DIA.	EACH		27	27				
REMOVING STUMPS 8" - 12" DIA.	EACH		3	3				
REMOVING STUMPS 13" - 24" DIA.	EACH		2	2				
REMOVING STUMPS 25" - 36" DIA.	EACH		1	1				
REMOVING UNDERGROUND STORAGE TANKS-INCL. BACKFILL	EACH	3	3	6				
*PROTECTIVE FENCE	RODS		238	238				
TRUSS FOUNDATION FOR TYPE "C" TRUSS	EACH		2	2				
TRUSS FOUNDATION FOR TYPE "D" TRUSS	EACH		2	2				
TEMPORARY BEAM GUARD RAIL	LIN. FT.		575	575				
REMOVING BEAM GUARD RAIL	LIN. FT.		850	850				
END SHOES	EACH	2	14	16				
TIMBER CURB & SNOW FENCE - FURNISH & INSTALL	LIN. FT.		100	100				
TIMBER CURB & SNOW FENCE - RELOCATE	LIN. FT.		100	100				
TIMBER CURB & SNOW FENCE - REMOVE	LIN. FT.		100	100				
BARRICADE - FURNISH & INSTALL	EACH		9	9				
BARRICADE - RELOCATE	EACH		6	6				
BARRICADE - REMOVE	EACH		9	9				
*INCIDENTAL BARRICADE - FURNISH & INSTALL	LIN. FT.		180	180				
*INCIDENTAL BARRICADE - RELOCATE	LIN. FT.		110	110				
*INCIDENTAL BARRICADE - REMOVE	LIN. FT.		180	180				
S-40 BARRICADE - FURNISH & INSTALL	LIN. FT.		675.0	675.0				
S-40 BARRICADE-RELOCATE	LIN. FT.		625.0	625.0				
S-40 BARRICADE - REMOVE	LIN. FT.		675.0	675.0				
EXPANSION JOINT - 8" PAVEMENT THICKNESS	LIN. FT.		52	52				
EXPANSION JOINT - 9" PAVEMENT THICKNESS	LIN. FT.	507	802	1309				
EXPANSION JOINT - 10" PAVEMENT THICKNESS	LIN. FT.		551	551				
CONTRACTION JOINT - 9" PAVEMENT THICKNESS	LIN. FT.	430	1121	1551				
CONTRACTION JOINT - 10" PAVEMENT THICKNESS	LIN. FT.		373	373				
END OF POUR CONST. JOINT - 9" PAVEMENT THICKNESS	LIN. FT.	67	4	71				
FIELD OFFICE - BRIDGE	EACH		1	1				
FIELD OFFICE - BITUMINOUS	EACH		1	1				
FIELD OFFICE - CONCRETE PROPORTIONING	EACH		1	1				
REMOVING D. S. R. TRACK STRIP	SQ. YDS.	351		351				
*BRIDGE HEADER - DETAIL 21	LIN. FT.	194	122	316				
CONCRETE MEDIAN BARRIER	LIN. FT.	86	252	338				

* INCIDENTAL ITEMS

FILE NO. USE NO. 350 STENCIL	STATE PROJECT	FEDERAL PROJECT	SHEET NO.
82124-002	82124-002	I-96	146

QUANTITY SHEET – E

ALTERATIONS TO CITY SEWERS

B. P. R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY	City	SHEET NO.	TOTAL SHEETS
I-96	82124-00B	Wayne	Detroit	147	

	AS PER PLANS				AS CONSTRUCTED	
	ITEM	CONTROL SECTION 82124A	UNIT	CONTROL SECTION 82124A		
1.	18" Class "B" Sewer (C-14X or C-76, Cl. III) Trench Detail 9	263	Lin. Ft.			
2.	24" Class "B" Sewer (C-14X or C-76, Cl. III) Trench Detail 9	61	Lin. Ft.			
3.	24" Class "C" Sewer (C-76, Cl. IV) Trench Detail 9	564	Lin. Ft.			
4.	27" Class "C" Sewer (C-76, Cl. IV) Trench Detail 9	628	Lin. Ft.			
5.	27" Class "C" Sewer (C-76, Cl. IV) Trench Detail 9 or In Tunnel	27	Lin. Ft.			
6.	Manhole 20 AD (8.1' – 14' Deep)	2	Each			
7.	Manhole 20 AD (14.1'-25' Deep)	3	Each			
8.	Drop Manhole 24 AD (14.1' -25' Deep)	4	Each			
9.	Manhole 22 AD Special (14.1'-25' Deep)	2	Each			
10.	Abandon & Cap Existing Manhole	1	Each			
11.	27" Sewer Top	1	Each			

PLAN ESTIMATE BY_____ DATE_____ CHECKED BY_____ DATE_____ DATE_____ DATA COMPLETED_____ PROJ. ENG. DATE_____ HISTORY CHECKED ENTERED ON PLANS BY_____ DATE_____

FILE NO. I-96 NO. 330 STENCIL	STATE PROJECT	FEDERAL PROJECT	SHEET NO.
	82124-00B	I-96	147

QUANTITY SHEET – E

WATER MAIN ALTERATIONS

S. P. R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY	CITY	SHEET NO.	TOTAL SHEETS
F-96	82124-002	Wayne	Detroit	148	

	AS PER PLANS	CONTROL SECTION 82124A	UNITS	AS CONSTRUCTED CONTROL SECTION 82124A
1	CONCRETE GRADE "A" (FOR WATER MAIN STRUCTURES)	377	CU. YDS.	
2	STEEL REINFORCEMENT (FOR WATER MAIN STRUCTURES)	17,100	LBS.	
3	ABANDONING GATE WELLS	5	EACH	
4	RELOCATING HYDRANTS	7	EACH	
5	RECONSTRUCTING MANHOLES	1	EACH	
6	6" C. I. WATER MAIN (TRENCH DETAIL-11)	56	LIN. FT.	
7	6" C. I. WATER MAIN (TRENCH DETAIL-12)	90	LIN. FT.	
8	8" C. I. WATER MAIN (TRENCH DETAIL-12)	12	LIN. FT.	
9	12" C. I. WATER MAIN (TRENCH DETAIL-12)	2,641	LIN. FT.	
10	24" C. I. WATER MAIN (TRENCH DETAIL-12)	15	LIN. FT.	
11	24" PRESTRESSED CONC. EMBEDDED CYL. WATER MAIN (TRENCH DETAIL-11)	420	LIN. FT.	
12	24" PRESTRESSED CONC. EMBEDDED CYL. WATER MAIN (TRENCH DETAIL-12)	298	LIN. FT.	
13	6" GATE WELLS	3	EACH	
14	8" GATE WELLS	1	EACH	
15	12" GATE WELLS	4	EACH	
16	SPECIAL 6" BLOW-OFF WELLS	1	EACH	
17	24" CONE VALVE WELLS	2	EACH	
18	6" GATE VALVES	3	EACH	
19	8" GATE VALVES	1	EACH	
20	12" GATE VALVES	2	EACH	
21	12" FLANGED GATE VALVES	2	EACH	
22	24" CONE VALVES	2	EACH	
23	6" PERMANENT BLOW-OFFS	1	EACH	
24	6" GATE VALVES AND BOXES	7	EACH	
25	AIR VALVE WELLS	3	EACH	
26	4" C. I. PIPE DRAIN	63	LIN. FT.	
27	CONTRACTORS CONNECTIONS (16" DIA. AND SMALLER)	12	EACH	
28	CONTRACTORS CONNECTIONS (24" DIA.)	3	EACH	
29	SERVICE ABANDONMENTS	16	EACH	

PLAN ESTIMATE BY_____ DATE_____ CHECKED BY_____ DATE_____ DATE_____

DATA COMPLETED_____ PROJ. ENG. DATE_____

HISTORY CHECKED ENTERED ON PLANS BY_____ DATE_____

FILE NO. NOTED ON DRAWING	STATE PROJECT	FISCAL YEAR	SHEET NO.
82124-002	DRAWING	F96	148

QUANTITY SHEET – E

B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY		SHEET NO.	TOTAL SHEETS
I-96	82124-002	Wayne	City of Detroit	149	

AS PER PLANS	UNIT	82194 L FED PART.	82194 L FED-NON PART.	82124 A FED PART.	82124 A FED-NON PART.	TOTAL	AS CONSTRUCTED
1-3" ENCASED CONDUIT	LIN. FT.	154	650	--	--	804	
2-3" ENCASED CONDUIT	LIN. FT.	173	1408	--	--	1581	
3-3" ENCASED CONDUIT	LIN. FT.	922	921	--	--	1843	
4-3" ENCASED CONDUIT	LIN. FT.	124	248	--	--	372	
8-4" ENCASED CONDUIT	LIN. FT.	138	--	--	--	138	
STREET TYPE "D" HANDHOLE	EACH	--	15	--	--	15	
#1 TWO-WAY MANHOLE	EACH	5	3	--	--	8	
1-4" ENCASED CONDUIT	LIN. FT.	32	--			32	
LTG. STD. WITH 6 FT. ARM ON NEW FDN.	EACH	--	29	--	--	29	
LTG. STD. WITH 6 FT. ARM ON BRIDGE	EACH	--	4	--	--	4	
LTG. STD. WITH 10 FT. ARM ON NEW FDN.	EACH	2	--	--	--	2	
LTG. STD. WITH FRANGIBLE BASE & 10 FT. ARM ON NEW FDN.	EACH	15	--	--	--	15	
LTG. STD. WITH 17 FT. ARM ON NEW FDN.	EACH	1	--	--	--	1	
LTG. STD. WITH FRANGIBLE BASE & 17 FT. ARM ON NEW FDN.	EACH	23	--	--	--	23	
INSTALL SALVAGED 400W. CLEAR MERCURY VAPOR LUMINAIRE	EACH	5	--	--	--	5	
250W. CLEAR MERCURY VAPOR LUMINAIRE	EACH	--	27	--	--	27	
400W. CLEAR MERCURY VAPOR LUMINAIRE	EACH	--	6	--	--	6	
FURNISHING POLICE CALL BOX	EACH	--	2	--	--	2	
CALL BOX PEDESTAL ON NEW FDN.	EACH	1	--	--	--	1	
COMMUNICATION CABLE, 16 GA., PARKWAY, 3 PR.	LIN. FT.	--	542	--	--	542	
COMMUNICATION CABLE, 16 GA., PLASTIC JACKETED, 3 PR.	LIN. FT.	632	--	--	--	632	
COMMUNICATION CABLE, 16 GA., PLASTIC JACKETED, 6 PR.	LIN. FT.	491	515	--	--	1006	
600V., T.S. 1-7/C #14 L.C. CABLE FOR CHRONOPLAN	LIN. FT.	2505	--	3960	--	6465	
600V., 2-1/C #6 L.C. CABLES	LIN. FT.	659	--	--	--	659	
600V., 2-1/C #6 L.C. CABLES & 1-#6 NEOPRENE	LIN. FT.	240	--	--	--	240	
600V., 1-1/C #6 D.B. CABLE IN CONDUIT	LIN. FT.	119	269	205	--	593	
600V., 1-1/C #6 D.B. CABLE & 1-#6 NEOPRENE IN CONDUIT	LIN. FT.	--	491	--	--	491	
600V., 2-1/C #6 D.B. CABLES IN CONDUIT	LIN. FT.	44	--	--	--	44	
600V., 2-1/C #6 D.B. CABLES & 1-#6 NEOPRENE IN CONDUIT	LIN. FT.	305	4130	--	--	4435	
600V., 3-1/C #6 D.B. CABLES & 1-#6 NEOPRENE IN CONDUIT	LIN. FT.	--	217	--	--	217	
600V., 1-#6 NEOPRENE IN EARTH	LIN. FT.	308	--	--	--	308	
600V., 1-1/C #6 D.B. CABLE & 1-#6 NEOPRENE IN EARTH	LIN. FT.	1728	--	--	--	1728	
600V., 2-1/C #6 D.B. CABLES & 1-#6 NEOPRENE IN EARTH	LIN. FT.	4876	--	--	--	4876	
600V., 3-1/C #6 D.B. CABLES & 1-#6 NEOPRENE IN EARTH	LIN. FT.	202	--	--	--	202	
5000V., 1-3/C #4/0 L.C. PRIMARY DISTRIBUTION CABLE	LIN. FT.	618	--	--	--	618	
7500V., 2-1/C #8 L.C. ST. LTG. CABLES	LIN. FT.	1006	--	--	--	1006	
6" CLASS "B" SEWER	LIN. FT.	8	--	--	--	8	
REMOVE CALL BOX PEDESTAL	EACH	2	--	--	--	2	
UNDERBRIDGE LIGHTING UNITS MOUNTED BETWEEN BRIDGE BEAMS	EACH	10	--	--	--	10	
UNDERBRIDGE LIGHTING UNITS MOUNTED ON BRIDGE PIER	EACH	8	--	--	--	8	
UNDERBRIDGE LIGHTING WIRING SYSTEM (MYRTLE OVER JEFFRIES)	LUMP SUM	LUMP SUM	--	--	--	LUMP SUM	
REMOVE WOOD POLE	EACH	34	--	--	--	34	
REMOVE 1-#6 O.H. LINE	LIN. FT.	115	--	--	--	115	
REMOVE 2-#6 O.H. LINE	LIN. FT.	5545	--	--	--	5545	
REMOVE 3-#6 O.H. LINE	LIN. FT.	2375	--	--	--	2375	
REMOVE 3-#4/0 O.H. LINE	LIN. FT.	460	--	--	--	460	
REMOVE #8 TWIN SEC.	LIN. FT.	554	--	--	--	554	
DISMANTLE TRANSFORMER POLE	EACH	1	--	--	--	1	
DISMANTLE PRIMARY DISTRIBUTION CABLE POLE	EACH	1	--	--	--	1	
DISMANTLE DBL. SERIES ST. LTG. CABLE POLE	EACH	1	--	--	--	1	
35 FT. CLASS 4 WOOD POLE	EACH	5	--	--	--	5	
#8 TWIN SEC.	LIN. FT.	554	--	--	--	554	
REMOVE O.H. ST. LTG. UNIT	EACH	21	--	--	--	21	
INSTALL SALVAGED O.H. ST. LTG. UNIT	EACH	5	--	--	--	5	
REMOVE 2 SPAN WIRE TYPE DOUBLE FLASHER SIGNALS & EQUIPMENT	EACH	2	--	--	--	2	
INSTALL 2 SPAN WIRE TYPE DOUBLE FLASHER SIGNALS & EQUIPMENT	EACH	2	--	--	--	2	
1-WAY PEDESTRIAN BRACKET ARM T.S.	EACH	3	1	--	--	4	
2-WAY PEDESTRIAN BRACKET ARM T.S.	EACH	4	--	--	--	4	
1-WAY PEDESTRIAN T.S. ON 8 FT. PEDESTAL ON NEW FDN.	EACH	2	--	--	--	2	
1-WAY BRACKET ARM T.S.	EACH	4	1	--	--	5	
3-WAY MAST ARM T.S., MAST ARM & STD. ON NEW FDN.	EACH	4 1/3	1 2/3	--	--	6	
1-WAY TURN SIGNAL	EACH	3	--	--	--	3	
T.S. CONTROLLER, CABINET & PEDESTAL ON NEW FDN.	EACH	1/2	1/2	--	--	1	
T.S. CONTROLLER WITH BASE MOUNTED CABINET ON NEW FDN.	EACH	93%	7%	--	--	1	
ADJUST HANDHOLE	EACH	4	--	--	--	4	
ADJUST MANHOLE	EACH	3	--	--	--	3	
RECONSTRUCT MANHOLE	EACH	1	--	--	--	1	

PLAN ESTIMATE BY _____ DATE _____ CHECKED BY _____ DATE _____ DATA COMPLETED _____ DATE _____ HISTORY CHECKED ENTERED ON PLANS BY _____ DATE _____

FILE NO. USE NO. 350 STENCIL **82124-002** STATE PROJECT 82124-002 FEDERAL PROJECT I-96 SHEET NO. 149