

MICHIGAN
 STATE HIGHWAY DEPARTMENT
 JOHN C. MACKIE
 STATE HIGHWAY COMMISSIONER

THE IMPROVEMENTS COVERED BY THESE PLANS SHALL BE DONE IN ACCORDANCE WITH THE MICHIGAN STATE HIGHWAY DEPARTMENT CURRENT STANDARD SPECIFICATIONS AND SUPPLEMENTAL SPECIFICATIONS.

B. P. R. DIV. NO.	STATE	MICH. PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.	U 442(4)			
ROUTE	CONTROL SECTION	COUNTY	CITY	SHEET NO.	TOTAL SHEETS
M-97	82171	Wayne	Detroit	1	
B. P. R. DIV. NO.	STATE	MICH. PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	CONTROL SECTION	COUNTY	TWP.	SHEET NO.	TOTAL SHEETS

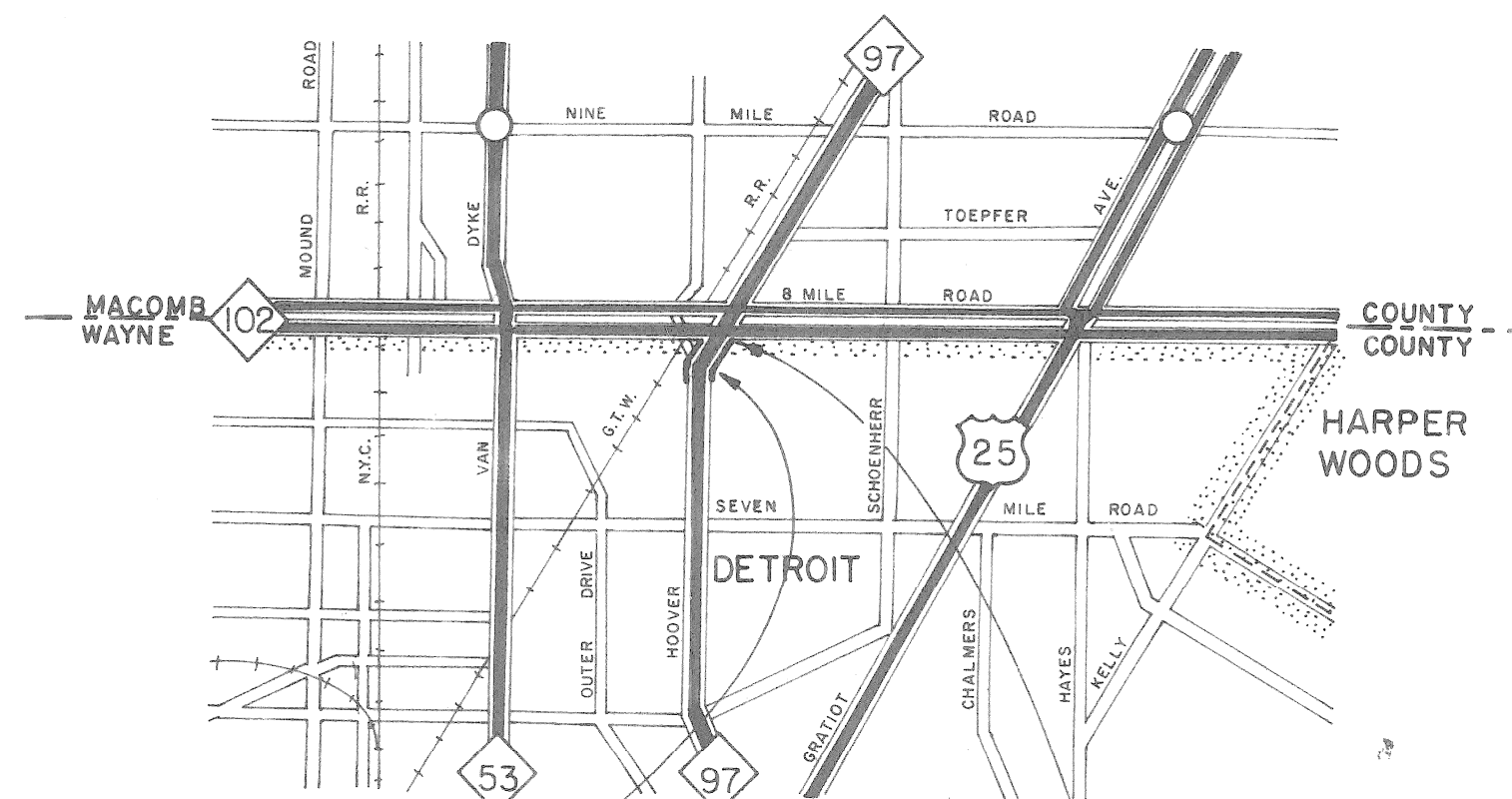
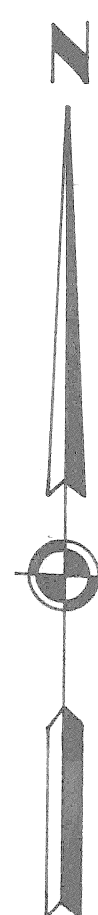
PLANS OF PROPOSED
 MICHIGAN PROJECT U442(4)
 CONTROL SECTION Ub82171F C7U
 GUNSTON-HOOVER ROAD
 WAYNE COUNTY
 CITY OF DETROIT

TRAFFIC DATA

YEAR	1960	1981
A.D.T.	15,100	27,180
D.H.V.	1,510	2,720
% Comm.	18 %	

INDEX of SHEETS

- SHEET # 1 - Title
 2 - Typical Cross-Section
 3 - Notes
 4-5 - Plan & Profile
 6 - Quantities



MICH. PROJ. U 442(4)
 CONT. SECT. Ub 82171F C7U
 BEGINS STA. 46+05.39

MICH. PROJ. U 442(4)
 CONT. SECT. Ub 82171F C7U
 ENDS STA. 59+05

TITLE SHEET LEGEND

PROPOSED PROJECT	EXISTING CONDITION
T.L. OR F.A. PAVED	GRAVEL
T.L. OR F.A. BITUMINOUS	UNIMPROVED
T.L. OR F.A. GRAVEL	BITUMINOUS
T.L. OR F.A. UNIMPROVED	RELOCATION
NON T.L. OR F.A. PAVED	PAVED
NON T.L. OR F.A. BITUMINOUS	
NON T.L. OR F.A. GRAVEL	
NON T.L. OR F.A. UNIMPROVED	
COUNTY LINE	
CITY OR VILLAGE LIMITS	
TOWNSHIP LINE	
SECTION LINE	
RAILROADS	ELECTRIC STEAM

BLUE PRINT SECTION
 JUN 1 - 1961
 MICHIGAN STATE HIGHWAY DEPT.

ITEM NO. 406
 CONTRACT FOR 10' Conc. Base Crse. Wdng. Rt. & Lt with C & G, 60' Bit. Cons. Surf.

DIVISION APPROVAL

CHECKED *M. Babin* ENGINEER OF DESIGN DATE 5-23-61
 RECOMMENDED FOR APPROVAL *Harold J. Bauerle* TRAFFIC ENGINEER DATE 5-26-61
 RECOMMENDED FOR APPROVAL *A. E. Cash* ACT. ENGINEER OF BRIDGE AND ROAD DESIGN DATE 5-23-61

OFFICES OF DESIGN AND CONSTRUCTION

APPROVED *[Signature]* CONSTRUCTION ENGINEER DATE 5-23-61
 APPROVED *[Signature]* CHIEF DESIGN ENGINEER DATE 5/24/61

STATE HIGHWAY DEPARTMENT APPROVAL

APPROVED JOHN C. MACKIE, STATE HIGHWAY COMMISSIONER
 BY *[Signature]* DIRECTOR OF ENGINEERING - CHIEF ENGINEER DATE 5/24/61

PLANS PREPARED BY MICHIGAN STATE HIGHWAY DEPARTMENT

DEPARTMENT OF COMMERCE BUREAU OF PUBLIC ROADS

APPROVED *[Signature]* DIVISION ENGINEER DATE

GUNSTON - HOOVER RD

CONTROL SECTION Ub 82171F C7U

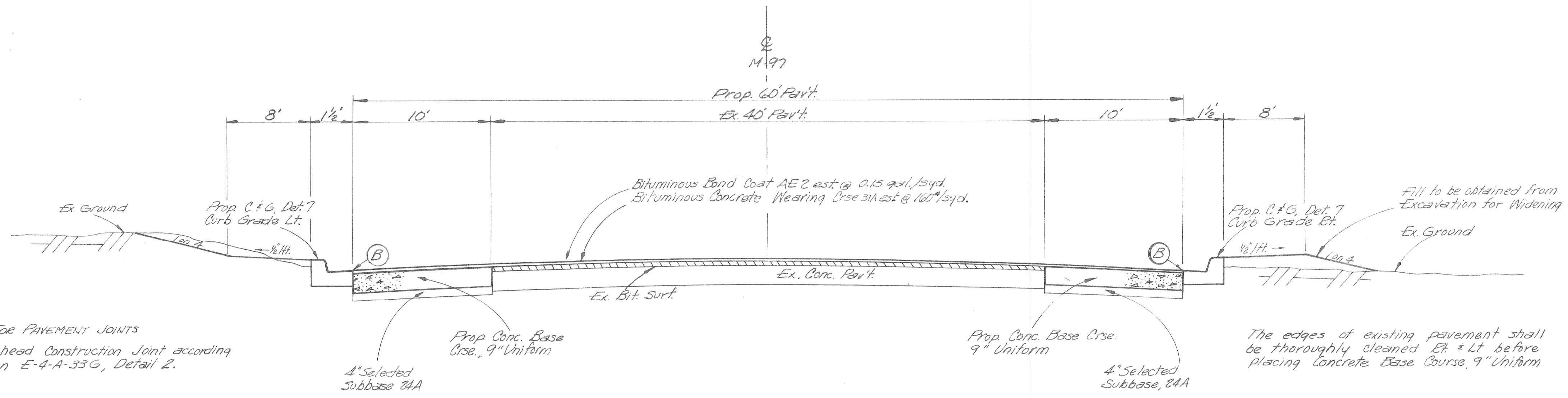
82171F C7U

CONTROL SECTION NO. 82171F U442(4) SHEET NO. 1

Drawn by: R. L. Smith
 Squad: F. C. Marsh

TYPICAL CROSS-SECTIONS

B.F.R. DIV. NO.	STATE	MICH. PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.	U442(4)			
ROUTE	CONTROL SECTION	COUNTY	CITY	SHEET NO.	TOTAL SHEETS
M-97	82171	Washtenaw	Detroit	2	6
B.F.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY		SHEET NO.	TOTAL SHEETS

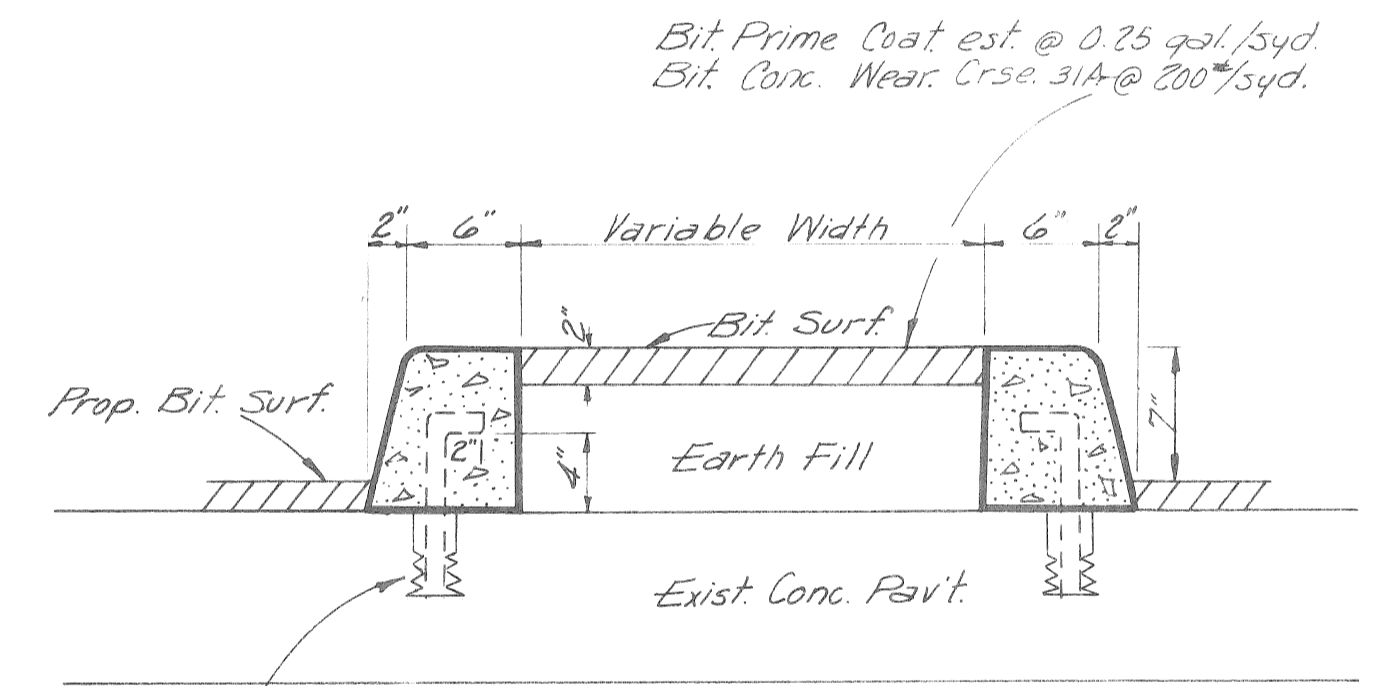


Note: JOINT LEGEND FOR PAVEMENT JOINTS
 B - Longitudinal Bullhead Construction Joint according to Standard Plan E-4-A-33G, Detail 2.

The edges of existing pavement shall be thoroughly cleaned Et & Lt before placing Concrete Base Course, 9" Uniform

SECTION TO APPLY

Sta. 46 + 05.39	to	Sta. 56 + 00 (60')
Sta. 56 + 00	to	Sta. 57 + 00 (60' to 72')
Sta. 57 + 00	to	Sta. 59 + 05 (72')



Special Concrete Curb is to be tied to the existing pav't with $\frac{1}{2}$ " Expansion Hook Bolts. The concrete anchors shall be Bethlehem Mine Roof Expansion Shell Type K-1, The Phillips Red Head Anchor Type S-58 or an approved equal. Spacing of Hook Bolts to be 30" c-c and they shall be incidental to the item of Special Concrete Curb.
 Earth Fill is incidental to Special Concrete Curb. Earth Fill is to be compacted as directed by the Engineer.
 DETAIL OF SPECIAL CONCRETE CURB (TRAFFIC ISLAND)

B.P.R. DIV. NO.	STATE	MICH. PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.	0442()			
ROUTE	CONTROL SECTION	COUNTY	CITY	SHEET NO.	TOTAL SHEETS
M-47	8217	Wayne	Detroit	3	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

Ub 82171F, C7U

SPECIAL PROVISIONS

TRANSVERSE JOINTS IN CONCRETE BASE COURSE

In the concrete base course widening, transverse plane of weakness joints shall be placed in line with expansion joints in the existing concrete pavement.

PAVEMENT REINFORCEMENT

The pavement reinforcement shall conform to Standard Plan E-4-A-21F except that the length of sheet or mat for 12-foot lanes may be 15'-0" instead of 10'-0". The laying lap for 15-foot length sheet or mat shall be 13 inches. The computed weight of steel per standard sheet is as follows:

Type of Reinforcement	Weight per 15-foot length of Standard Sheet for 12-foot lane in lbs.
Mesh.....	128.9
Bar Mat.....	142.2
Expanded Metal.....	138.0

Ub 82171F, C7U

The following items are estimated for the entire project to correct possible unstable subgrade conditions where designated by the Engineer.

Frost Heave Excavation	400 Cu.Yds.
Porous Material - Grade A	500 Cu.Yds.
6" Edge Drains	500 Lin.Ft.

Ub 82171F, C7U

PUBLIC UTILITIES

The following Public Utilities are represented on this project:

Type of Utility	Owner
Electric	Detroit Edison
Telephone	Michigan Bell Telephone
Gas	Michigan Consolidated Gas.Co.
Water & Street Lighting	City of 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 in order to facilitate the operation of construction equipment.

Ub 82171F, C7U

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.

Cross references on Standard Plans shall be understood to refer to the latest approved Standard Plan for the detail in question.

Edge Drains	E-4-A-9D, Detail 5
Pavement Reinforcement	E-4-A-21F
Manholes, Catch Basins & Inlets	E-4-A-27R-3
Cover A	E-4-A-27A-3
Cover B	Optional - E-4-A-27B-3 or E-4-A-27B-4
Concrete Curb, Roll Curb and Curb and Gutter	E-4-A-29F
Driveway Returns and Driveway Openings	E-4-A-29F
Pavement Joints	E-4-A-33G
4" Concrete Sidewalk	E-4-A-110B, Detail 2
Concrete Pavement 7" Uniform	E-4-A-110B, Detail 4
Base Plates for Transverse Pavement Joints	E-4-A-138 (except that spot welds may be substituted for rivets to attach the 1" angle)

S.P.R. DIV. NO.	STATE	Mich. PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.	U 442(4)		4	6
ROUTE	CONTROL SECTION	COUNTY	CITY	SHEET NO.	TOTAL SHEETS
M-97	82171	Wayne	Detroit	4	6
S.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY		SHEET NO.	TOTAL SHEETS

Witnesses to PI Sta 46+05.39
 P.K. Nail and Cap
 S. 53°E - Tele. Pole - 32.85'
 S. 24°W - Power Pole - 60.04'
 N. 52°W - Power Pole - 28.38'

NOTE: All work done on the east side of Hoover Rd. will be considered incidental to Cont. Sect. Ub 82171 F C7U. Driveway Openings, Detail 19 shall be placed on the entire project with position and size of opening as directed by the Engineer.

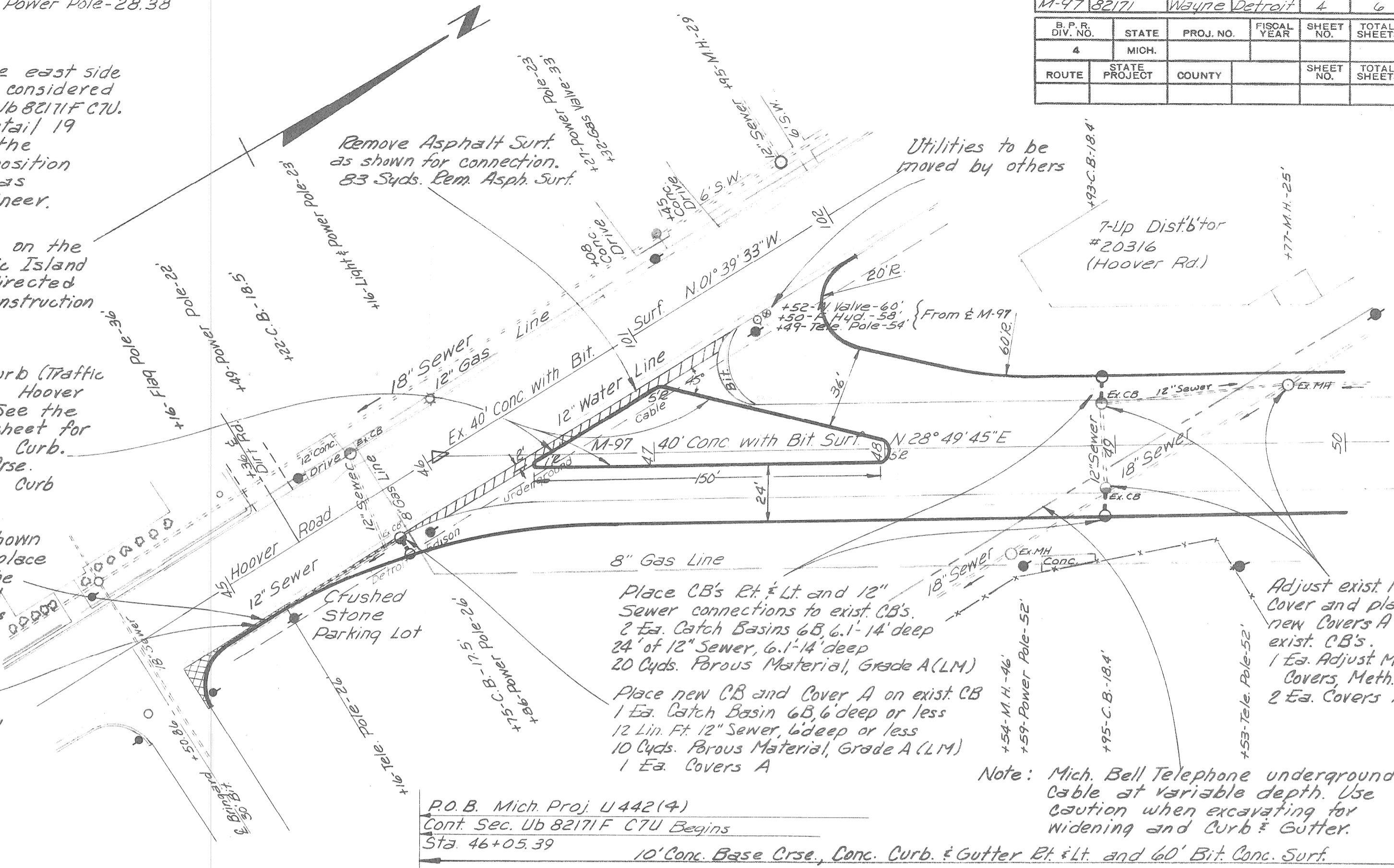
The Bituminous Surface on the interior of the Traffic Island shall be crowned, as directed by the Engineer, on construction

Place Special Concrete Curb (Traffic Island) as shown at the Hoover Rd. & M-97 Intersection. See the Typical Cross-Section sheet for a detail drawing of the Curb.
 30 Tons Bit. Conc. Wear Crse.
 340 Lin. Ft. Special Concrete Curb
 75 Gals. Bit. Prime Coat

Remove Old Pavement shown cross-hatched and replace with Conc. Base Crse. The Conc. Base Crse. is included in the surfacing quantities
 21 Syds. Rem. Old Pavt.

Entire Project:
 Bituminous Binder Course for Widening to be placed as directed by the Engineer.
 500 Tons Bit. Binder Course

Remove existing Curb on the Lt. between Bringard and M-97 as shown.
 125 Lin. Ft. Removing Curb

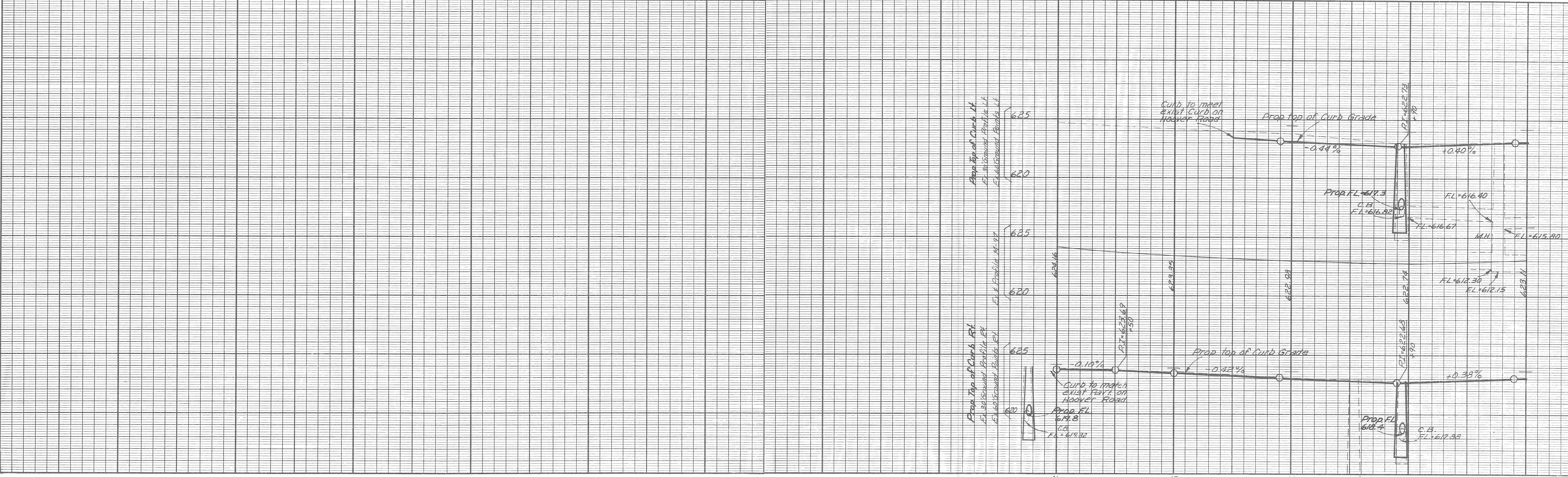


P.O.B. Mich. Proj. U 442(4)
 Cont. Sec. Ub 82171 F C7U Begins
 Sta 46+05.39
 10' Conc. Base Crse., Conc. Curb & Gutter Rt. & Lt. and 60' Bit. Conc. Surf.

Note: Mich. Bell Telephone underground Cable at variable depth. Use caution when excavating for widening and curb & gutter.

OPERATION	BY	DATE
PRELIMINARY P.O.W. CHECKED		
FINAL DESIGN CHECKED		
TRACED		
FINAL P.O.W. CHECK		
QUANTITIES CHECKED		
SQUAD	F. Mearns	1961

OPERATION	BY	DATE
SURVEYED	R. L. Baugh	2-61
PLAN CHECKED	R. L. Smith	3-61
PROFILE PLOTTED	R. L. Smith	3-61
PRELIMINARY GRADE		
FEDERAL INSPECTION		



OPERATION	DATE
PRELIMINARY R.O.W. CHECKED	1961
FINAL DESIGN CHECKED	
TRACED	
FINAL R.O.W. CHECK	
QUANTITIES CHECKED	
SAVED	

OPERATION	DATE
SURVEYED	2-61
PLAN PLOTTED	3-61
PROFILE CHECKED	
PRELIMINARY GRADE	3-61
GRADE INSPECTION	
FEDERAL INSPECTION	

B.P.R. DIV. NO.	STATE	MICH. PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.	U442(4)		5	6

B.P.R. DIV. NO.	STATE	MICH. PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
M-97	MI.	82171		5	6

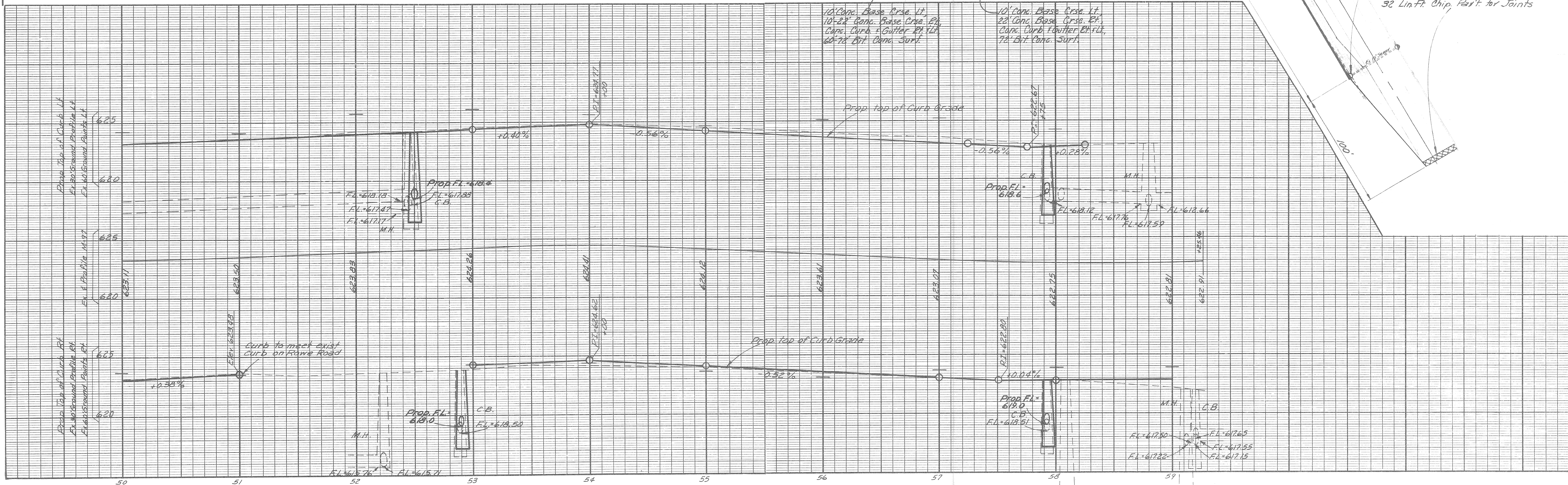
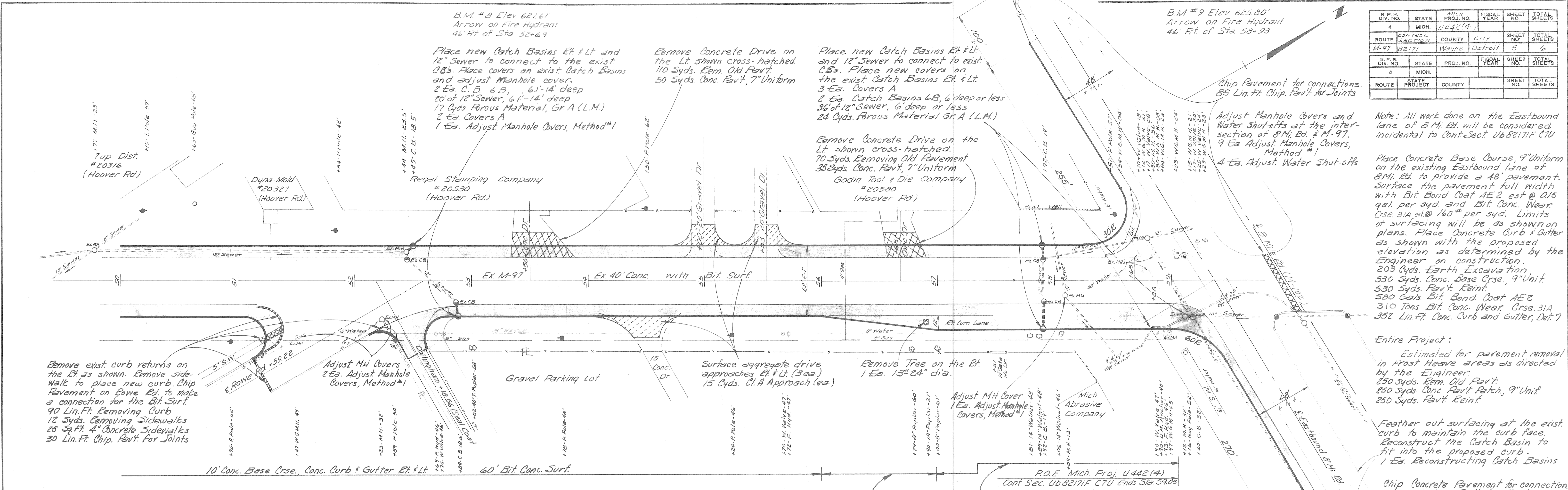
Note: All work done on the Eastbound lane of B.M. Ed. will be considered incidental to Cont. Sect. U682171F C7U

Place Concrete Base Course, 9" Uniform on the existing Eastbound lane of B.M. Ed. to provide a 48' pavement. Surface the pavement full width with Bit Bond Coat AE2 est @ 0.15 gal. per sqd. and Bit Conc. Wear Crse 31A est @ 160th per sqd. Limits of surfacing will be as shown on plans. Place Concrete Curb & Gutter as shown with the proposed elevation as determined by the Engineer on construction.
 203 Cyds. Earth Excavation
 530 Syds. Conc. Base Crse, 9" Unit
 530 Syds. Pav't. Reinf.
 580 Gals. Bit Bond Coat AE2
 310 Tons Bit Conc. Wear Crse 31A
 352 Lin. Ft. Conc. Curb and Gutter, Det. 7

Entire Project:
 Estimated for pavement removal in Frost Heave areas as directed by the Engineer.
 250 Syds. Rem. Old Pav't.
 250 Syds. Conc. Pav't. Patch, 9" Unit
 250 Syds. Pav't. Reinf.

Feather out surfacing at the exist curb to maintain the curb face. Reconstruct the Catch Basin to fit into the proposed curb.
 1 Ea. Reconstructing Catch Basins

Chip Concrete Pavement for connection.
 32 Lin. Ft. Chip. Pav't. for Joints



QUANTITY SHEET - E

SURFACING

QUANTITIES

AS PER PLANS

AS CONSTRUCTED

Sta. to Sta.	Length	Width	Earth Excavation	Selected Subbase	Concrete Sub-base	Concrete On Center	Concrete Pavement	Concrete	Pavement	Bituminous Binder	Bituminous Base Course	Bituminous Surface Course	Bituminous	Dist. Oil	Water	Maintaining Traffic		
			Cyds.	Cyds.	Lin. Ft.	Syds.	Syds.	Syds.	Tons	Tons	Gals.	Tons	Units	Units	Miles			
46+05.39	56+00	99.46'	60'	1010	363	1870		2330	2330					552	1035	1.74	6.87	0.182
56+00	57+00	100'	60-72'	110	40	200		289	289					59	110	0.19	0.77	0.019
57+00	59+05	205'	72'	298	109	482		785	785					143	268	0.52	2.09	0.039
8 Mile Road	Hoover Road	725'	48	203	74	352		530	530					310	580	0.35	1.42	0.197
46+50	48+00	(Traffic Island)				65		22	22					2	3			
Entire Project								250	250					30				
TOTALS				1621	586	2969	250	3956	4206	500	1096	1996	3	11	0.38			

Sta. to Sta.	Length	Width	Earth Excavation	Selected Subbase	Concrete On Center	Concrete Pavement	Concrete	Pavement	Bituminous Binder	Bituminous Base Course	Bituminous Surface Course	Bituminous	Dist. Oil	Water	Maintaining Traffic
			Cyds.	Cyds.	Lin. Ft.	Syds.	Syds.	Syds.	Tons	Tons	Gals.	Tons	Units	Units	Miles
TOTALS															

(AS PER PLANS)

MISCELLANEOUS

QUANTITIES

(AS CONSTRUCTED)

Sta. to Sta.	Concrete	Bituminous	Asphalt	Pavement	Excavation	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other
Hoover Road																		
46+50																		
48+95																		
49+77																		
51+25																		
52+25																		
52+45																		
52+85																		
53+50																		
54+50																		
55+80																		
56+70																		
57+90																		
58+10																		
59+05																		
Entire Project																		
TOTALS																		

Sta. to Sta.	Concrete	Bituminous	Asphalt	Pavement	Excavation	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other
TOTALS																		