BEL-70-23.79	OHIO
	FHWA REGION 5
IM-70-8(58)	FEDERAL PROJECT

1/97

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
BEL-70-23.79

VILLAGES OF BROOKSIDE AND BRIDGEPORT
PEASE TOWNSHIP
BELMONT COUNTY

DESIGN DESIGNATION

Current Year ADT (1994)	= 25,170
Design Year ADT (2004)	= 32,720
D H V (2004)	= 3,272
D	= 55%
T	= 10%
V	= 55 m.p.h.
LEGAL SPEED :	= 55 m.p.h.
FUNCTIONAL CLASSIFICATION :	Urban Interstate

DESIGN EXCEPTIONS	APPROVAL DATE
Shoulder Width	4-13-94
Bridge Width	4-13-94
Structural Capacity	4-13-94

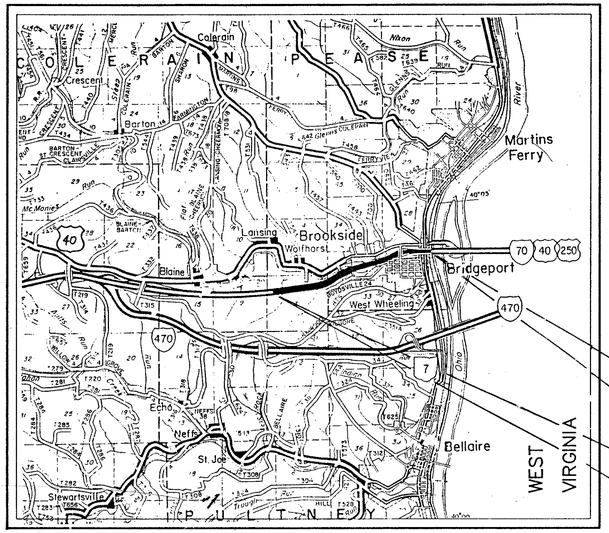
CONVENTIONAL SIGNS

County Line
Township Line
Section Line
Corporation Line
Fence Line (existing) (proposed)
Center Line
Trees, Stumps, (to be removed)
Utility Poles: Telephone, Power, Light
Limited Access (only) LA
Right of Way (only) RW
Limited Access & Right of Way LA&RW
Existing Right of Way EX RW
Property Line (in existing fence)
Railroad or
Guardrail (existing) (proposed)

INDEX OF SHEETS

LINE DATA

BEGIN PROJECT	STA. 1261+05.00
END PROJECT	STA. 357+45.50
EQUATIONS: Station 1339+48.48 BK. = Station 1339+57.48 AH., Deduct 9.00 L.F. Station 1394+21.90 BK. = Station 330+00 AH., Add 106,421.90 L.F.	
LENGTH OF PROJECT	16,053.40 L.F. = 3.040 MI.
ADD FOR WORK:	
IR-70 STA. 1259+80 TO STA. 1261+05	125 L.F.
IR-70 STA. 357+45.50 TO STA. 363+65.98	620.48 L.F.
WEST ST. STA. 14+16.25 TO STA. 20+05.75	589.50 L.F.
MARION ST. STA. 1+46.88 TO STA. 11+29.02	982.14 L.F.
TOTAL LENGTH OF WORK	19,370.52 L.F. = 3.479 MI.



LOCATION MAP

0 1 2 3 4
SCALE IN MILES

Portion to be Improved
State & Federal Routes
Other Roads

SCALES

Plan 0 50 100 200

UNDERGROUND UTILITIES
TWO WORKING DAYS
BEFORE YOU DIG
Call 800-362-2764 (Toll Free)
OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS
MUST BE CALLED DIRECTLY

LIMITED ACCESS

This improvement is especially designed fc through traffic and has been declared a limited access highway or freeway by action of the Director in accordance with the provisions of Section 5511.02 of the Revised Code of Ohio.

1995 SPECIFICATIONS

The standard specifications of the State of Ohio, Department of Transportation, including changes and supplemental specifications listed in the proposal shall govern this improvement.

I hereby approve these plans and declare that the making of this improvement will not require the closing to traffic of the highway, and that provisions for the maintenance and safety of traffic will be as set forth on the plans and estimates.

Under authority of Section 4511.21, Division (1) of the revised code of Ohio, the revised prima facie speed limits as indicated herein are determined to be reasonable and safe, and hereby established for the duration of this project. The prima facie speed limit or limits hereby established shall become effective when appropriate signs giving notice thereof are erected.

SUPPLEMENTAL SPECIFICATIONS			
802	3-23-95	910	7-17-95
820	6-14-95	931	7-17-95
815	7-17-95	933	7-17-95
		944	3-23-95

Approved John F. McClain
Date 3-27-95 District Deputy Director of Transportation

Approved Richard L Engel
Date 7/11/95 Engineer, Bureau of Bridges and Structural Design

Approved
Date Deputy Director. Design

Approved Jerry Wray
Date 7-19-95 Director, Department of Transportation

Rev. 9-12-95

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
APPROVED

DIVISION ADMINISTRATOR DATE

SUPPLEMENTAL PRINTS OF STANDARD CONSTRUCTION DRAWINGS											
BP-2.1	10-28-94	GR-1.1	5-6-91	MC-9.2	5-6-91	HL-30.11	5-1-87	MT-95.30	10-10-88	TC-41.10	8-29-84
BP-2.2	10-28-94	GR-1.2	10-30-92	MC-9.3	10-30-92	HL-30.22	5-1-87	MT-95.40	10-01-92	TC-41.20	6-21-94
BP-2.5	2-21-92	GR-1.3	2-21-92	MC-9.4	10-30-92	HL-30.31	5-1-87	MT-95.81	2-23-90	TC-52.10	4-03-79
BP-3.1	2-21-92	GR-2.1	5-6-91	MC-9	7-26-76	HL-40.10	5-1-87	MT-97.10	4-29-88	TC-52.20	4-03-79
BP-8.1	10-28-94	GR-3A	2-5-82	I-3A&B	4-01-80	HL-50.11	5-1-87	MT-98.12	6-24-93	TC-61.10	4-5-82
		GR-3.1	5-6-91			HL-60.11	5-1-87	MT-98.13	6-24-93	TC-65.10	2-1-90
F-1	11-10-83	GR-3.2	5-6-91	MC-11	8-01-78	HL-60.12	5-1-87	MT-98.14	6-24-93	TC-65.11	2-1-90
F-2	5-1-76	GR-4.1	5-6-91	LA-1	6-1-79	HL-60.31	5-1-87	MT-98.15	6-24-93	TC-71.10	9-10-91
F-3	5-1-76	GR-4.2	5-6-91	HL-10.11	5-1-87			MT-98.16	6-24-93	TC-72.20	2-26-82
F-5	5-1-76	GR-6	2-5-82	HL-10.12	5-1-87	TC-35.10	8-29-84	MT-99.10	11-14-86	TC-82.10	8-29-84
F-6	5-1-76	GR-8.1	1-31-94	HL-10.13	5-1-87			MT-99.20	4-29-83		
				HL-20.11	5-1-87			MT-105.10	7-01-92	EXJ-4-87	1-20-94
				HL-20.13	5-1-87			MT-105.11	7-01-92	SD-1-69	6-12-69

Project BEL-70-23.79 580-95
Date of Letting 11-8 19 95 Contract No.

Plan Prepared By:
THOMAS FOK & ASSOCIATES, LTD.
3896 MAHONING AVE.
YOUNGSTOWN, OHIO 44515
(216)-799-1501

SCHEMATIC PLAN

REGION	STATE	PROJECT		2 / 97
5	OHIO			

BEL–70–23.79

400 200 0 400
SCALE IN FEET

BEGIN PROJECT
BEL–70–23.79
STA. 1261+05
S.L.M. 23.79

IM–70–8(58)

BEGIN WORK
STA. 1259+80

CURVE DATA
P.I. = 1278+84.34
Δ = 6°–58'–20" Lt.
D_c = 1°–28'–00"
R = 3906.53'
T = 237.98'
L = 475.38'
S = 0.035 Ft./Ft.

P.C. STA. 1276+46.36
P.T. STA. 1281+21.74
P.C. STA. 1290+63.41
P.T. STA. 1303+78.60
P.C. STA. 1319+06.32

CURVE DATA
P.I. = 1329+51.31
Δ = 29°–57'–06" Lt.
D_c = 1°–28'–00"
R = 3906.53'
T = 1044.99'
L = 2042.16'
S = 0.035 Ft./Ft.

Deduct 9.00'
P.T. STA. 1339+48.48 Bk. =
P.T. STA. 1339+57.48 Ah.

MATCH LINE STA. 1345+00

1260+00 1270+00 1280+00 1290+00 1300+00 1310+00 1320+00 1330+00 1340+00

N 86°02'54" E
N 79°04'34" E
S 81°38'04" E

CURVE DATA
P.I. = 1297+27.29
Δ = 19°–17'–22" Rt.
D_c = 1°–28'–00"
R = 3906.53'
T = 663.88'
L = 1315.19'
S = 0.035 Ft./Ft.

END PROJECT
BEL–70–23.79
STA. 357+45.50
S.L.M. 26.82

IM–70–8(58)

END WORK
STA. 363+65.98

STA. 364+17.74
STATE LINE

BRIDGE No.
BEL–70–2684 L&R

Add 106,421.90'
STA. 1394+21.90 Bk. =
STA. 330+00.00 Ah.

BRIDGE No.
BEL–70–2633

U.S. ROUTE 40

GAS
20–8"

BROOKSIDE CORP. LINE
BRIDGEPORT

CURVE DATA
P.I. = 1361+38.55
Δ = 10°–04'–09" Lt.
D_c = 1°–28'–00"
R = 3906.53'
T = 344.15'
L = 686.53'
S = 0.035 Ft./Ft.

P.T. STA. 1364+80.92
P.C. STA. 1357+94.40

BROOKSIDE
PEASE TWP.

U.S. ROUTE 40
WEST

1350+00 1360+00 1370+00 1380+00 1390+00 340+00 350+00 360+00

N 68°24'49.7" E
N 65°54'21" E
S 86°04'44" E

RAMP "B"
RAMP "A"
RAMP "C"
RAMP "D"

T.S. STA. 331+69.60
S.C. STA. 334+19.60
C.S. STA. 345+70.36
S.T. STA. 348+20.36

CSX
R.R.
WHEELING CREEK
HOWARD STREET
MARION STREET
LINCOLN AVENUE
STATE ROUTE 7
CONRAIL R.R.

PLUM STREET

MATCH LINE STA. 1345+00

BRIDGE No.
BEL–70–2544 L&R

BRIDGE No.
BEL–70–2576 L&R

BRIDGE No.
BEL–70–2618

BRIDGE No.
BEL–70–2633A

BRIDGE No.
BEL–70–2633D

OHIO
WEST VIRGINIA

P.C. STA. 1372+80.31
P.T. STA. 1377+95.84

CURVE DATA
P.I. = 1375+38.45
Δ = 07°–33'–40" Rt.
D_c = 1°–28'–00"
R = 3906.53'
T = 258.14'
L = 515.53'
S = 0.035 Ft./Ft.

SPIRAL CURVE DATA
P.I. = 340+09.50
Δ = 28°–00'–55" Rt.
D_c = 2°–00'–00"
L_s = 250'
T_s = 839.90'
L_c = 1150.76'
E_s = 88.74'
S = 0.047 Ft./Ft.

PROJECT DESCRIPTION

THIS PROJECT CONSISTS OF, BUT NOT LIMITED TO, FOUR–LANE AND MEDIAN SHOULDER RESURFACING, FULL DEPTH RIGID REPAIR OF THE FAILED PAVEMENT JOINTS, INSTALLING SHALLOW PIPE UNDERDRAIN ADJACENT TO OUTSIDE LANES, CONSTRUCTING NEW CONCRETE MEDIAN, OUTSIDE, AND RAMP SHOULDERS, REPLACEMENT OF GUARDRAIL, PARTIAL REPLACEMENT OF RIGHT–OF–WAY FENCE AND LIGHTING, AND APPLYING NEW PAVEMENT MARKINGS. THE EXISTING ASPHALT CONCRETE WEARING SURFACE ON THE DECKS OF BRIDGE NO'S. BEL–70–2544, BEL–70–2576, AND BEL–70–2684 WILL BE REMOVED AND REPLACED WITH A MICRO–SILICA CONCRETE OVERLAY. BRIDGE NO. BEL–70–2618 REQUIRES PATCHING OF THE DECK AND APPROACH SLAB AND PROVIDING AN EPOXY OVERLAY. BRIDGE BEL–70–2663, BEL–70–2663–A, AND BEL–70–2663–D REQUIRES EPOXY SEAL TO CURBS AND RAILINGS.

EXIST. CENTER LINE MONUMENT LOCATIONS

STATION LOCATION	OFFSET FROM ℄ IR–70 LEFT FEET	OFFSET FROM ℄ IR–70 RIGHT FEET
P.O.T. 1265+00	55	47
P.O.T. 1270+00	55	47
P.C. 1276+46.36	55	47
P.T. 1281+21.74	55	47
P.O.T. 1285+00	55	47
P.C. 1290+63.41	55	47
P.O.C. 1295+00	55	47
P.O.C. 1300+00	55	47
P.T. 1303+78.60	64	47
P.O.T. 1309+00	55	47
P.O.T. 1314+00	55	47
P.C. 1319+06.32	47	47
P.O.C. 1325+00	47	47
P.O.C. 1330+00	47	47
P.O.C. 1335+00	47	47
P.T. EQ. 1339+48.48 Bk.= 1339+57.48 Ah.	47	59
P.O.T. 1345+00	47	47
P.O.T. 1351+00	47	47
P.C. 1357+94.40	47	47
P.O.C. 1361+00	47	59
P.C. 1372+80.31	47	47
P.T. 1377+95.84	47	47
P.O.T. 1380+00	47	47
P.O.T. 1385+00	47	47
P.O.T. 1389+94.23	47	47
P.O.T. EQ. 1394+21.90 Bk.= 330+00 Ah.	47	47
T.S. 331+68.60	50	54
S.C. 334+19.60	57.5	57
P.O.C. 340+00	84	––
C.S. 345+70.36	47	47
S.T. 348+20.36	53	47
P.O.T. 355+00	56	65

SCHEMAT. 1=400 09-22-94

SCHEMATIC PLAN

TYPICAL SECTIONS

TYPE 446 ON 301

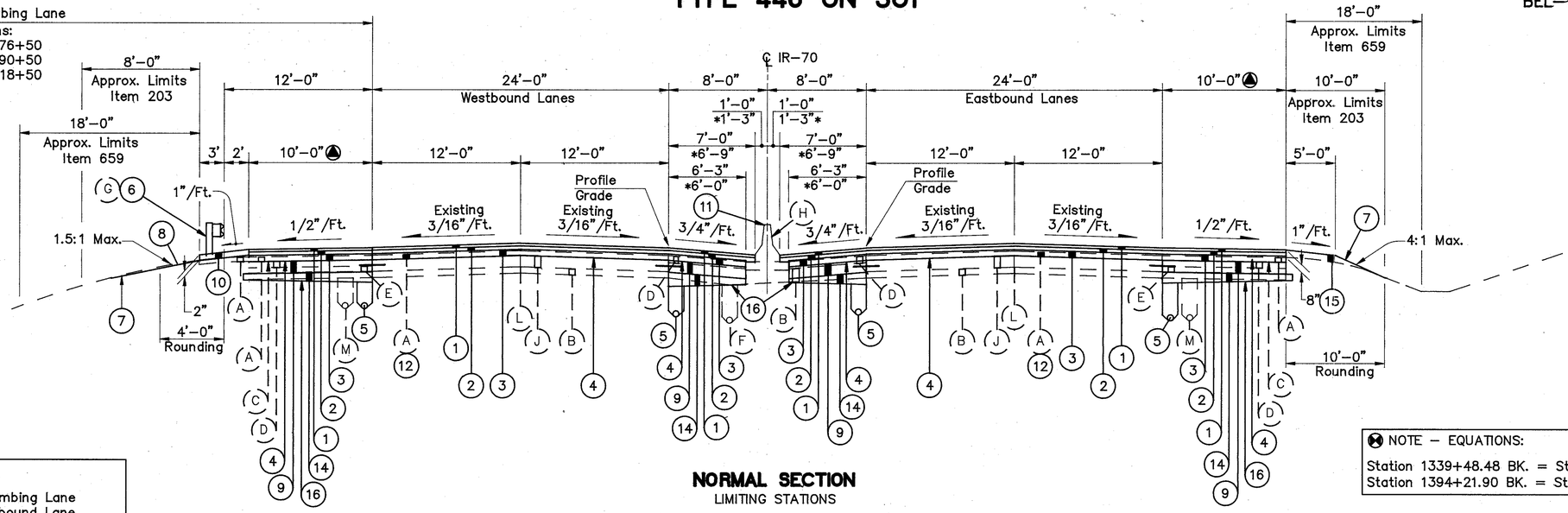
REGION	STATE	PROJECT		
5	OHIO			

3/97

BEL–70–23.79

⊛See Note This Sheet For Climbing Lane Between The Following Stations:
Sta. 1261+05 to Sta. 1276+50
Sta. 1281+25 to Sta. 1290+50
Sta. 1303+75 to Sta. 1318+50

NOTE:
▲ See Shoulder Detail on Sheet No. 5



⊛NOTE: For Details of Climbing Lane Adjacent to Westbound Lane, See Sheet No. 5.

NORMAL SECTION

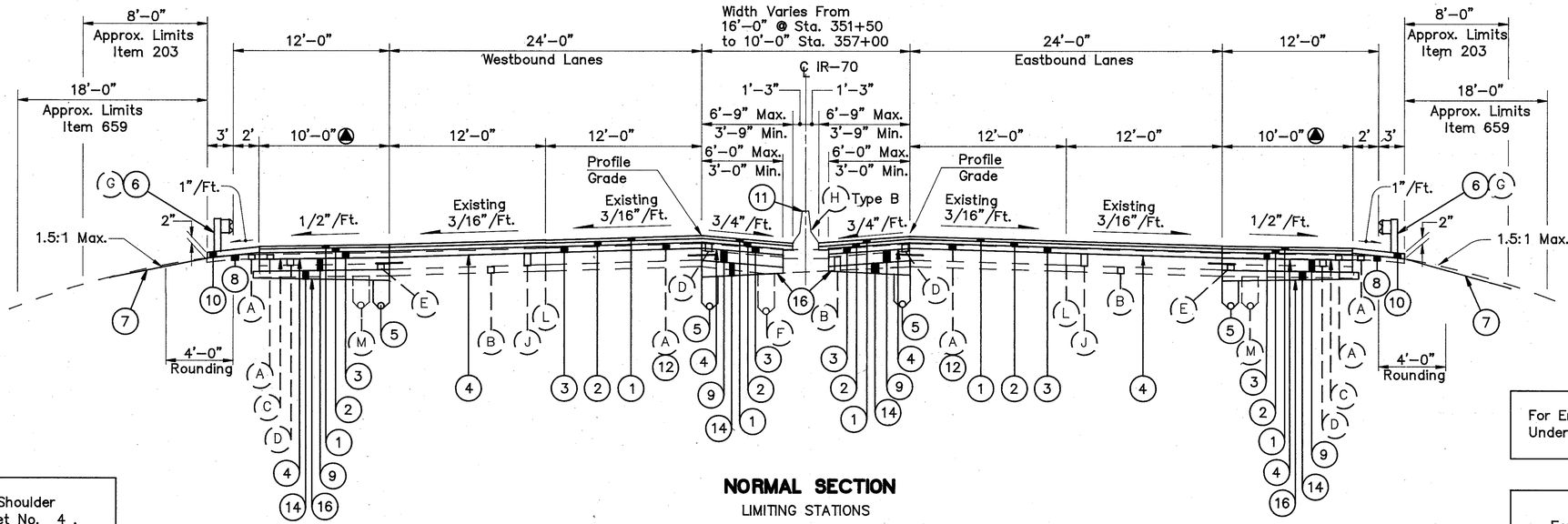
LIMITING STATIONS

Station 1261+05 to Station 1276+50 = 1545 L.F.
Station 1281+25 to Station 1290+50 = 926 L.F.
Station 1303+75 to Station 1319+00 = 1525 L.F.
⊗ Station 1339+57.48 to Station 1347+29.42 = 771.94 L.F.
4767.94 L.F.

Station 1347+29.42 to Station 1349+03.94 = 174.52 L.F. (Approach Slabs & BR. No. BEL–70–2544)
Station 1349+03.94 to Station 1358+00 = 896.06 L.F.
Station 1378+00 to Station 1384+65.00 = 665.00 L.F. ⊗
Station 1388+75.00 to Station 1394+21.90 = 546.90 L.F.
⊗ Station 330+00 to Station 330+95.35 = 95.35 L.F. (* Type B Modified Concrete Barrier Begins @ Sta. 330+13)
2377.83 L.F.

Total: 4767.94 + 2377.83 = 7145.77 L.F.

⊗ NOTE – EQUATIONS:
Station 1339+48.48 BK. = Station 1339+57.48 Ah.
Station 1394+21.90 BK. = Station 330+00 Ah.



NORMAL SECTION

LIMITING STATIONS

Station 352+00.00 to Station 357+20.50 = 520.50 L.F.
Station 357+20.50 to Station 363+65.98 = 645.48 L.F. (Approach Slab & BR. No. BEL–70–2684)
Total = 1165.98 L.F.

For Enlarged View of Median Shoulder Pavement, See Detail On Sheet No. 4.

For Enlarged View of Asphalt Paving Under Guardrail, See Detail Sheet No. 5.

For Legend, See Sheet No. 4.

TYPSEC15 1of5 10-10-84

NORMAL LANES – TYPICAL SECTIONS

TYPICAL SECTION

TYPE 446 ON 301

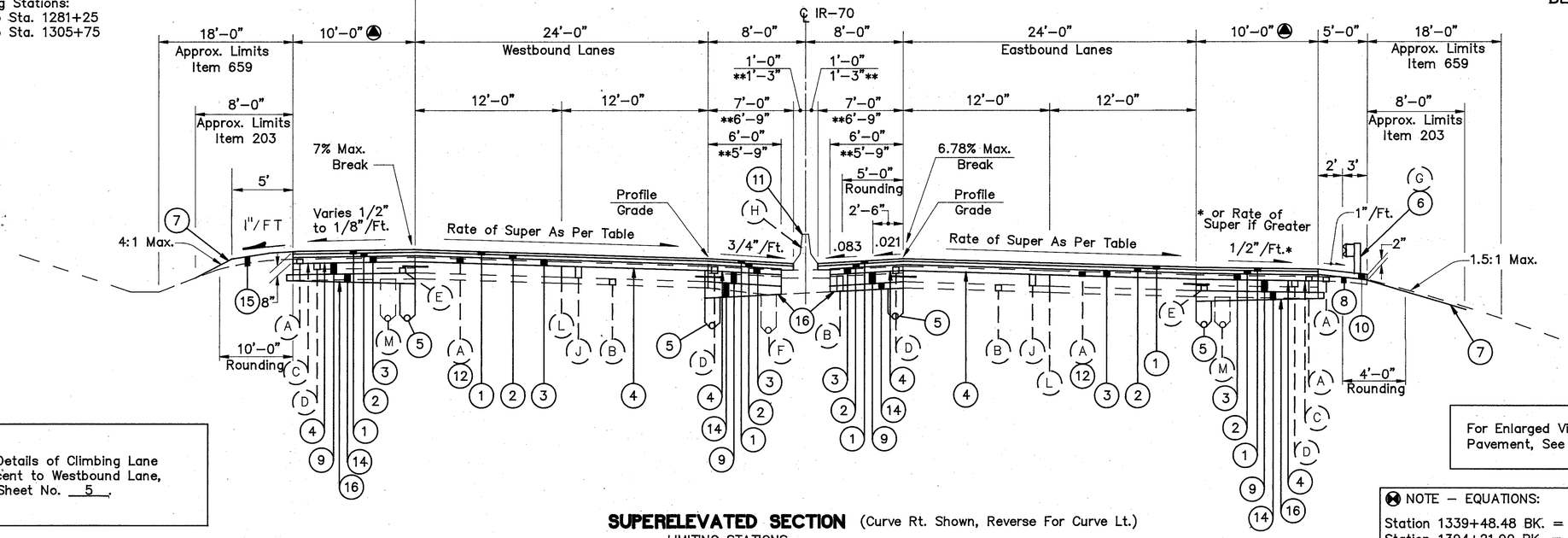
REGION	STATE	PROJECT		
5	OHIO			

4 / 97

BEL–70–23.79

⊗ See Note This Sheet For Climbing Lane
Between The Following Stations:
Sta. 1276+50 to Sta. 1281+25
Sta. 1290+50 to Sta. 1305+75

NOTE
▲ See Shoulder Detail on Sheet No. 5



⊗ NOTE: For Details of Climbing Lane Adjacent to Westbound Lane, See Sheet No. 5.

For Enlarged View of Median Shoulder Pavement, See Detail On Sheet No. 4.

⊗ NOTE – EQUATIONS:
Station 1339+48.48 BK. = Station 1339+57.48 Ah.
Station 1394+21.90 BK. = Station 330+00 Ah.

SUPERELEVATED SECTION (Curve Rt. Shown, Reverse For Curve Lt.)
LIMITING STATIONS

Station 1276+50 to Station 1281+25 = 475 L.F.
Station 1290+50 to Station 1303+75 = 1325 L.F.
Station 1319+00 to Station 1339+48.48 ⊗ = 2048.48 L.F.
Station 1358+00 to Station 1364+06.88 = 606.88 L.F.
4455.36 L.F.

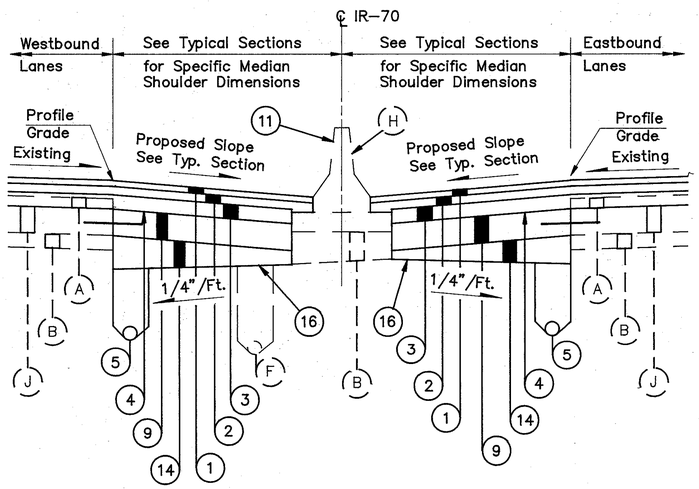
Station 1364+06.88 to Station 1371+58.81 = 751.93 L.F.(Approach Slabs & BR. No. BEL–70–2576)
Station 1371+58.81 to Station 1378+00 = 641.19 L.F.
Station 330+95.35 to Station 341+00.00 = 1,004.65 L.F.(** Ex. Type B Modified Concrete Barrier)
2,397.77 L.F.

Total: 4,455.36 + 2,397.77 = 6,853.13 L.F.

For Enlarged View of Asphalt Paving Under Guardrail, See Detail Sheet No. 5.

LEGEND – PROPOSED

1. Item 446 – 1 1/4" Asphalt Concrete Surface Course, Type 1, AC–20, As Per Plan, (See Sheet No. 12)
2. Item 446 – 1 3/4" Asphalt Concrete Intermediate Course, Type 2, AC–20
3. Item 301 – 5" Bituminous Aggregate Base, AC–20
4. Item 407 – Tack Coat (See General Note)
5. Item 605 – 4" Shallow Pipe Underdrain, As Per Plan, (See Sheet No. 37)
6. Item 606 – Guardrail, Type 5
7. Item 659 – Seeding and Mulching (See General Note)
8. Item 203 – Linear Grading, Method 2 (See General Note)
9. Item 305 – 9" Concrete Base, As Per Plan, (See Sheet No. 12)
10. Item 448 – 2" Asphalt Concrete Intermediate Course, Type 1, (Under Guardrail), As Per Plan, (See Sheet No. 12)
11. Item Spec. – Sealing of Concrete Surfaces (Epoxy)
12. Item 202 – Wearing Course Removed
13. Item 254 – Pavement Planing, Portland Cement Concrete
14. Item 304 – Aggregate Base
15. Item 203 – Linear Grading, Method 1 (See General Note)
16. Item 203 – Subgrade Compaction
17. Item 446 – 3 1/4" Asphalt Concrete Intermediate Course, Type 2, AC–20
18. Item 301 – 11" Bituminous Aggregate Base, AC–20
19. Item 622 – Concrete Barrier, Type C, As Per Plan, (See Sheet No. 11)
20. Item 408 – Bituminous Prime Coat, 0.40 Gal/S.Y.
21. Item Spec. – 1/4" Epoxy Overlay



MEDIAN SHOULDER DETAIL

NOTES:
1. Proposed Aggregate Base On The Normal Section And The Low Side Of The Superelevated Section Slopes to Drain Toward The Proposed Underdrain (Shown).
2. Proposed Aggregate Base On The High Side Of The Superelevated Section Slopes to Drain Under The Median Barrier Toward The Opposite Side Proposed Underdrain.

LEGEND – EXISTING

- A — Existing Asphalt Concrete Pavement
- B — Existing Subbase
- C — Existing Bituminous Treated Surface
- D — Existing Aggregate Bituminous Base
- E — 4" Avg. Existing Aggregate Base
- F — Existing 6" Shallow Pipe Underdrains (To Remain and Function)
- G — Existing Guardrail
- H — Existing Concrete Barrier, Type A, Modified & Type B, Modified
- I — 4" Existing Concrete Sidewalk
- J — 9" Existing Reinforced Concrete Pavement
- K — Existing Curb, Type 2A
- L — Existing Longitudinal Joint
- M — Existing 6" Shallow Pipe Underdrains (To Be Abandoned In Place)
- N — Existing Approach Slab

TYPE2018 I=5 10-10-94

SUPERELEVATED LANES – TYPICAL SECTION

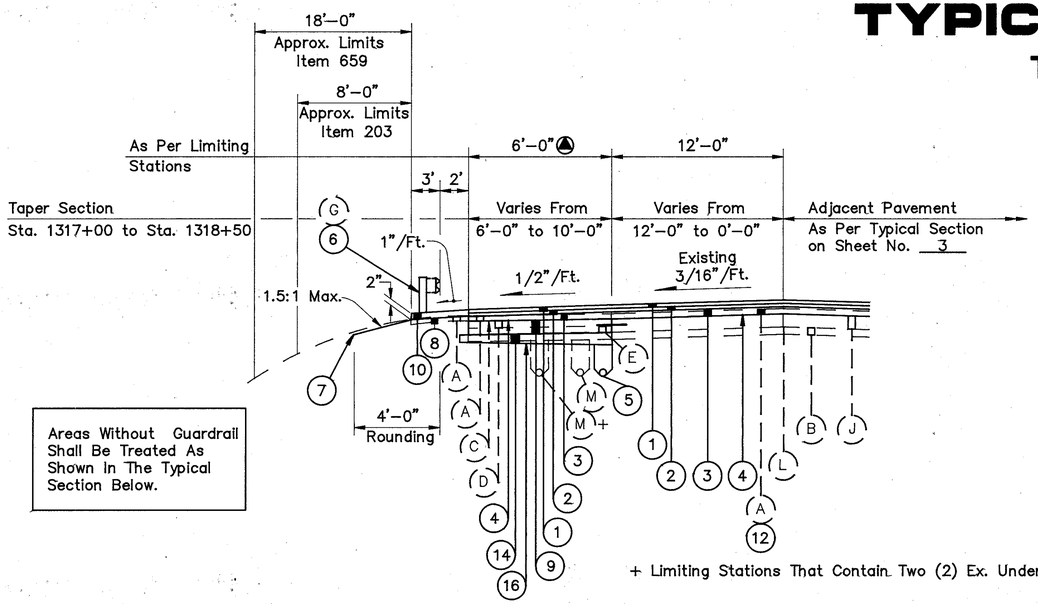
TYPICAL SECTIONS

TYPE 446 ON 301

REGION	STATE	PROJECT		
5	OHIO			

5/97

BEL-70-23.79



Areas Without Guardrail Shall Be Treated As Shown In The Typical Section Below.

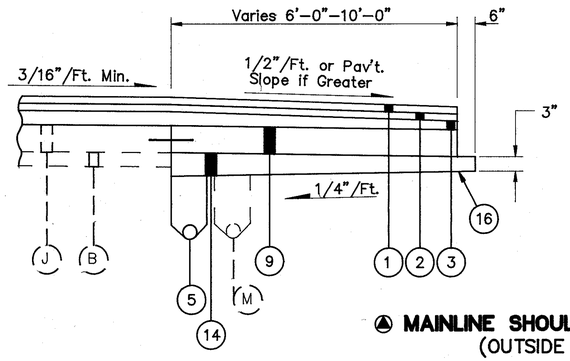
\+ Limiting Stations That Contain Two (2) Ex. Underdrains

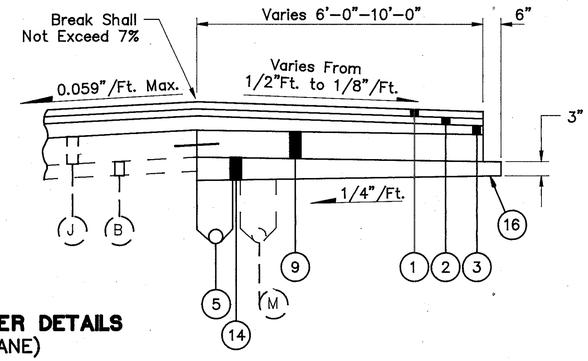
CLIMBING LANE – NORMAL

LIMITING STATIONS

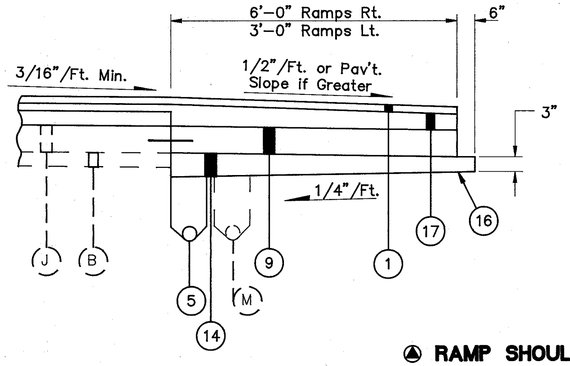
Station 1261+05 to Station 1274+00 = 1,295 L.F.
\+ Station 1274+00 to Station 1276+50 = 250 L.F.
\+ Station 1281+25 to Station 1289+00 = 775 L.F.
Station 1289+00 to Station 1290+50 = 150 L.F.
Station 1303+75 to Station 1317+00 = 1,325 L.F.

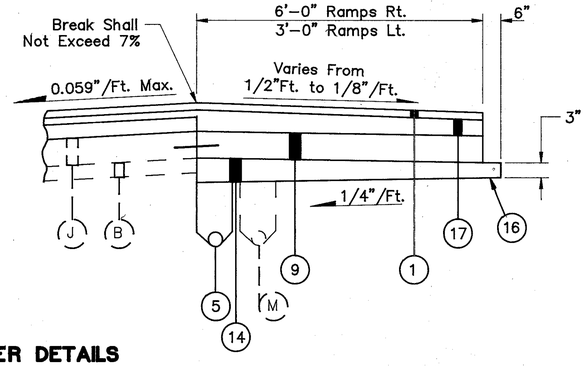
Total = 3,795 L.F.



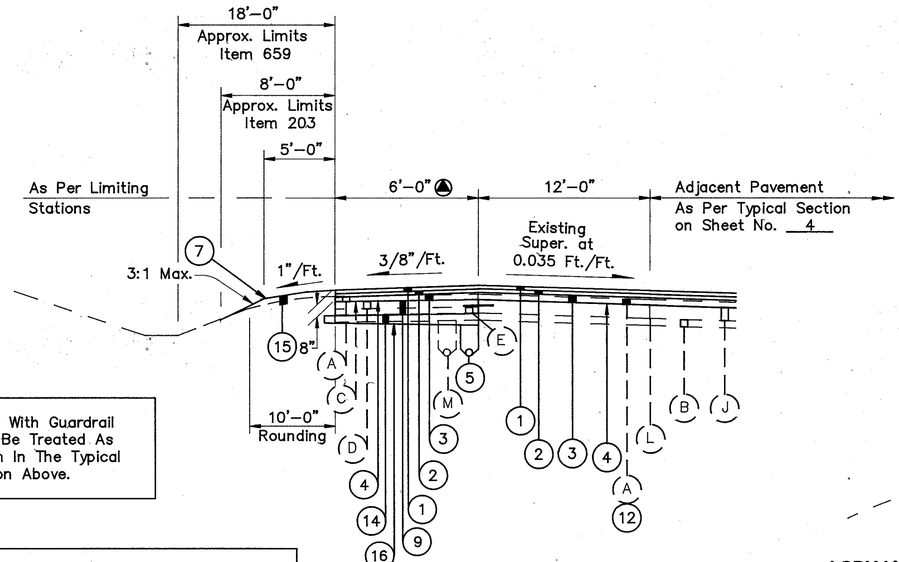


▲ MAINLINE SHOULDER DETAILS (OUTSIDE LANE)





▲ RAMP SHOULDER DETAILS



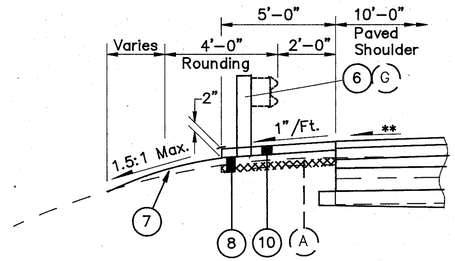
Areas With Guardrail Shall Be Treated As Shown In The Typical Section Above.

For Legend, See Sheet No. 4.

CLIMBING LANE – SUPER

LIMITING STATIONS

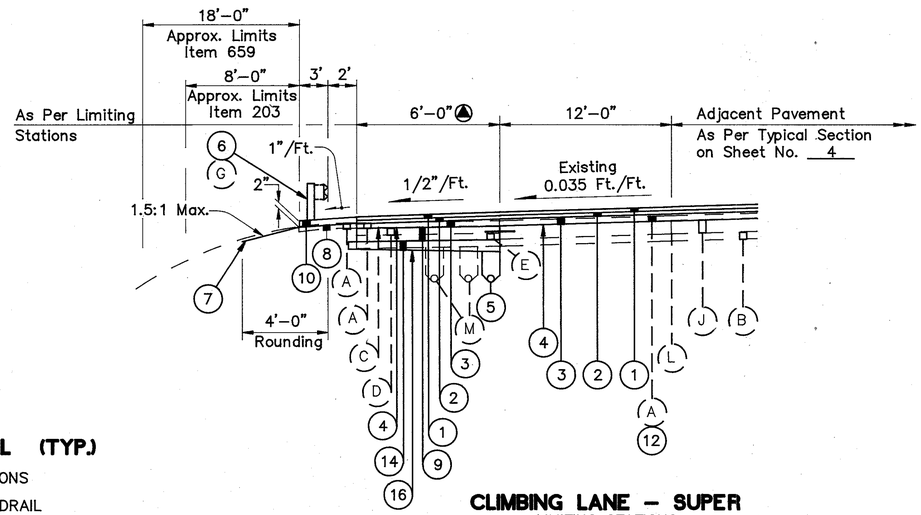
Station 1290+50 to Station 1303+75 = 1,325 L.F.



ASPHALT PAVING UNDER GUARDRAIL DETAIL (TYP.)

** SAME SHOULDER SLOPE AS ON TYPICAL SECTIONS

EXISTING 2" ASPHALT PAVING UNDER GUARDRAIL TO BE REMOVED UNDER 203 EXCAVATION



CLIMBING LANE – SUPER

LIMITING STATIONS

Station 1276+50 to Station 1281+25 = 475 L.F.

TYPSEC17 1=5 10-10-94

TYPICAL SECTIONS

TYPE 446 ON 301

NOTE:
▲ See Shoulder Detail on Sheet No. 5

For Enlarged View of Median Shoulder Pavement, See Detail On Sheet No. 4.

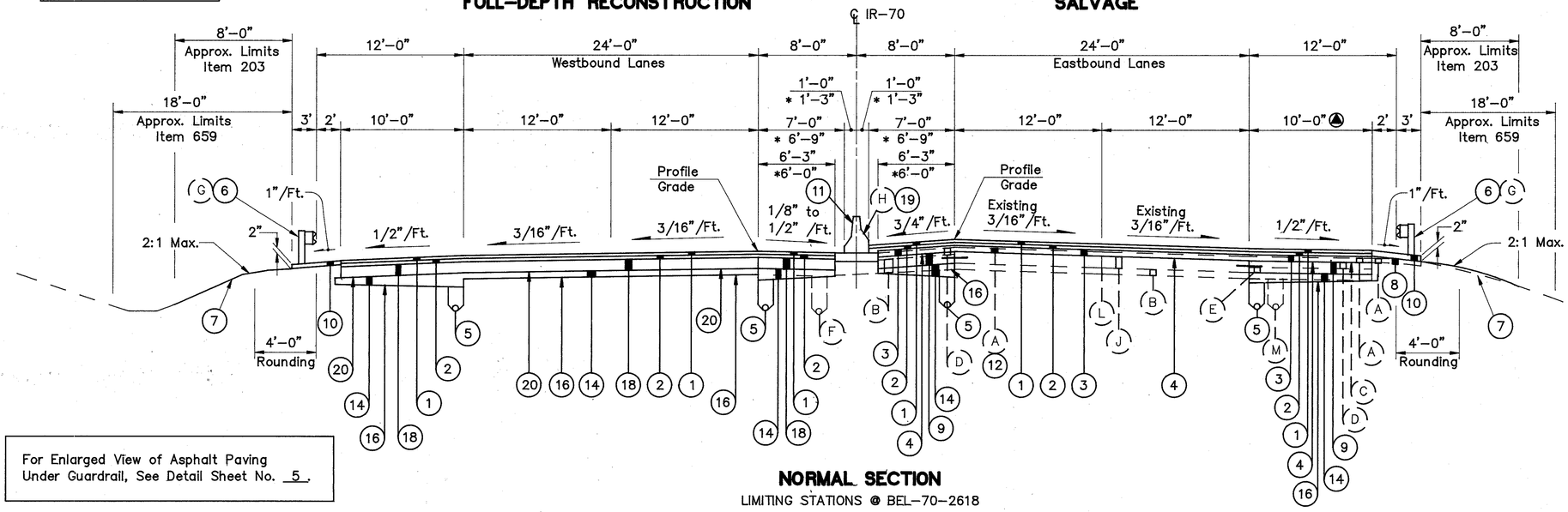
See Sheet No. 57 For Median Light Pole Foundation and Median Pull Box Locations

REGION	STATE	PROJECT		
5	OHIO			

6/97

BEL–70–23.79

FULL–DEPTH RECONSTRUCTION — SALVAGE



NORMAL SECTION

LIMITING STATIONS @ BEL–70–2618

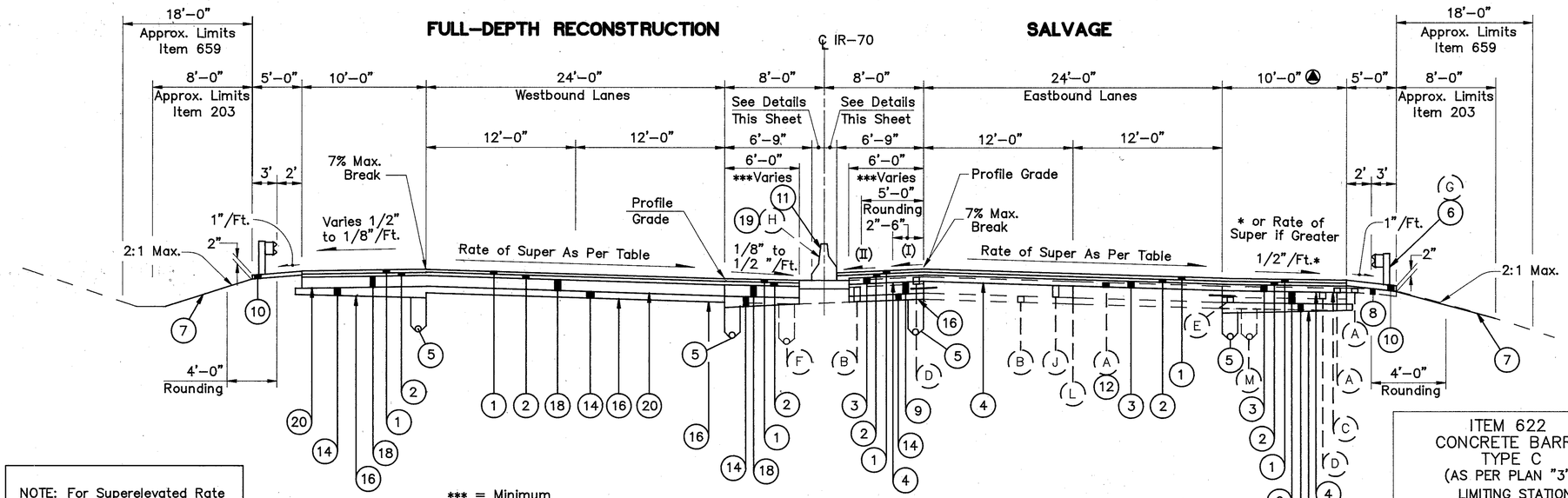
Station 1384+65.00 to Station 1388+75.00 = 410.00 L.F.
* Station 349+03.34 to Station 352+00.00 = 296.66 L.F.
TOTAL = 706.66 L.F.

For Enlarged View of Asphalt Paving Under Guardrail, See Detail Sheet No. 5.

For Legend, See Sheet No. 4.

For Profile, See Sheet No. 44.

FULL–DEPTH RECONSTRUCTION — SALVAGE



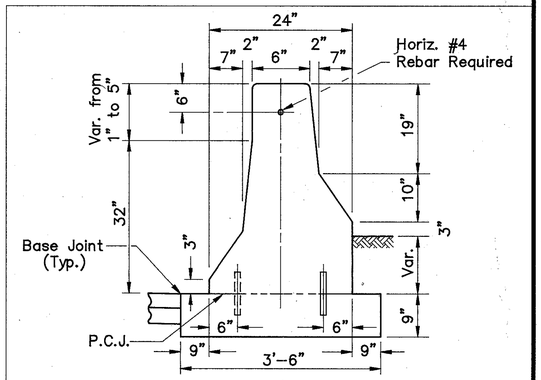
*** = Minimum

NOTE: For Superelevated Rate Table See Sheet No. 4

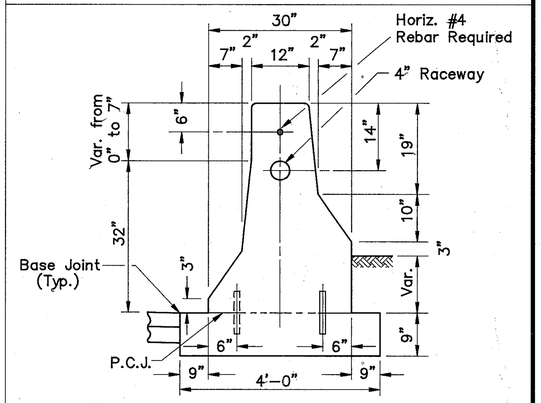
SUPERELEVATED SECTION

LIMITING STATIONS @ BEL–70–2663

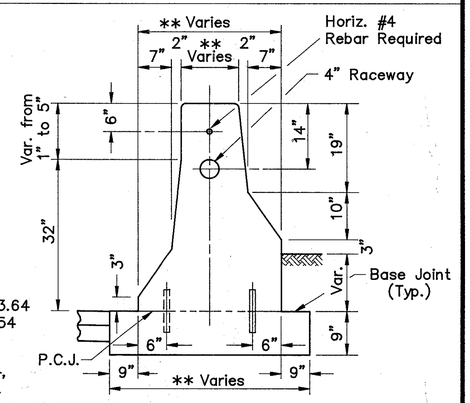
Station 341+00.00 to Station 349+03.34 = 803.34 L.F.
TOTAL = 803.34 L.F.



ITEM 622 – CONCRETE BARRIER, TYPE C
(AS PER PLAN "1")
LIMITING STATIONS
Sta. 1384+65.00 to Sta. 1386+08.14
Sta. 1387+33.64 to Sta. 1388+75.00



ITEM 622 – CONCRETE BARRIER, TYPE C
(AS PER PLAN "2")
LIMITING STATIONS
Sta. 341+00.00 to Sta. 346+10.54
Sta. 347+60.54 to Sta. 352+00.00



ITEM 622
CONCRETE BARRIER
TYPE C
(AS PER PLAN "3")
LIMITING STATIONS
Sta. 1386+08.14 to Sta. 1387+33.64
Sta. 346+10.54 to Sta. 347+60.54

** For Specific Dimensions and Details See Std. Dwg. MC–9.4, "Concrete Barrier Transitions".

NORMAL & SUPERELEVATED LANES – TYPICAL SECTIONS

TYPSEC14 1=5 10-10-94

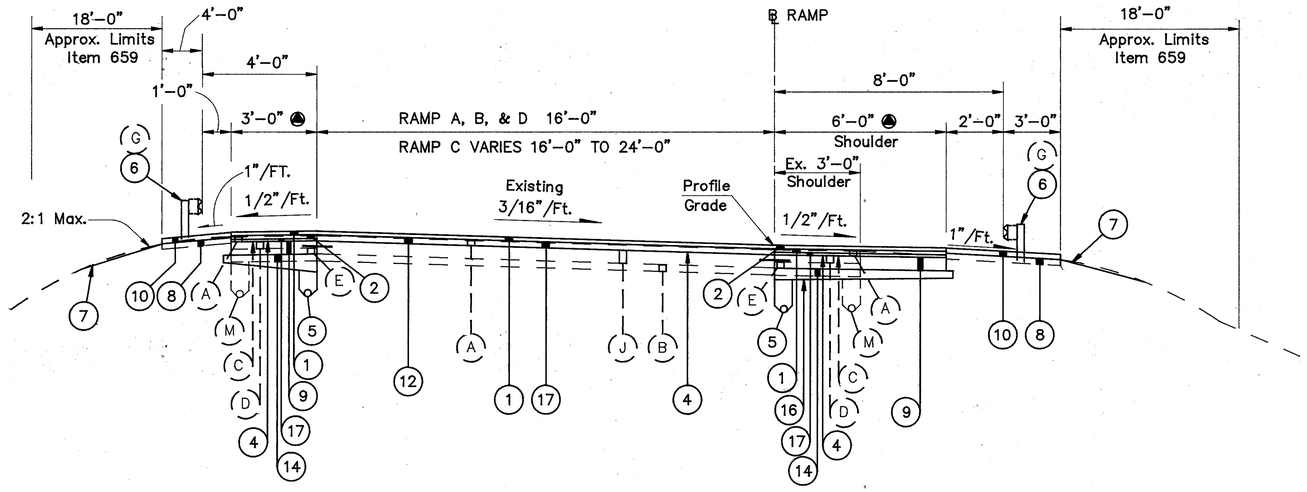
TYPICAL SECTIONS

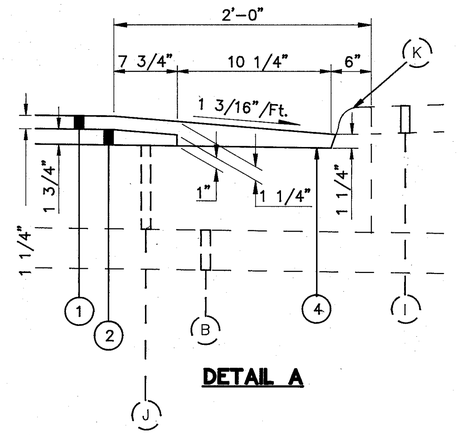
REGION	STATE	PROJECT		
5	OHIO			

7/97

BEL–70–23.79

TYPE 446 ON 301





DETAIL A

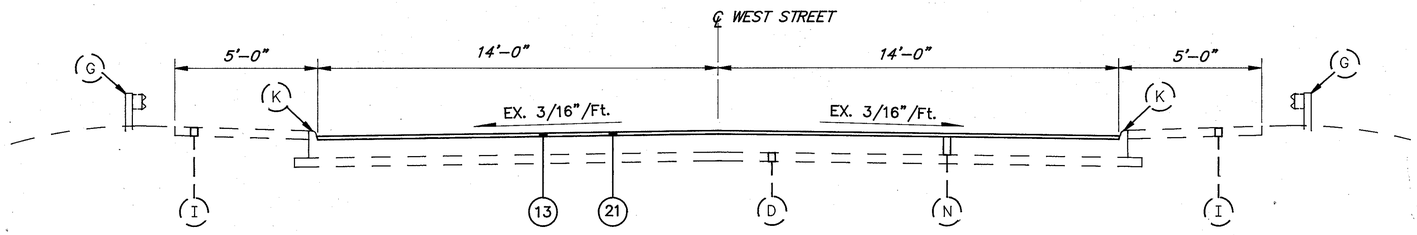
RAMP RESURFACING

MARION STREET INTERCHANGE – RAMPS A, B, C, & D

LIMITING STATIONS

RAMP A – STA. A9+90.42 to STA. A10+08.29	=	17.87 L.F.
RAMP B – STA. B39+47.00 to STA. B46+58.65	=	711.65 L.F.
RAMP C – STA. C47+38.38 to STA. C51+27.31	=	388.93 L.F.
RAMP D – STA. D51+57.76 to STA. D52+00.00	=	42.24 L.F.
Total	=	1,160.69 L.F.

▲ NOTE:
See Shoulder Detail on Sheet No. 5

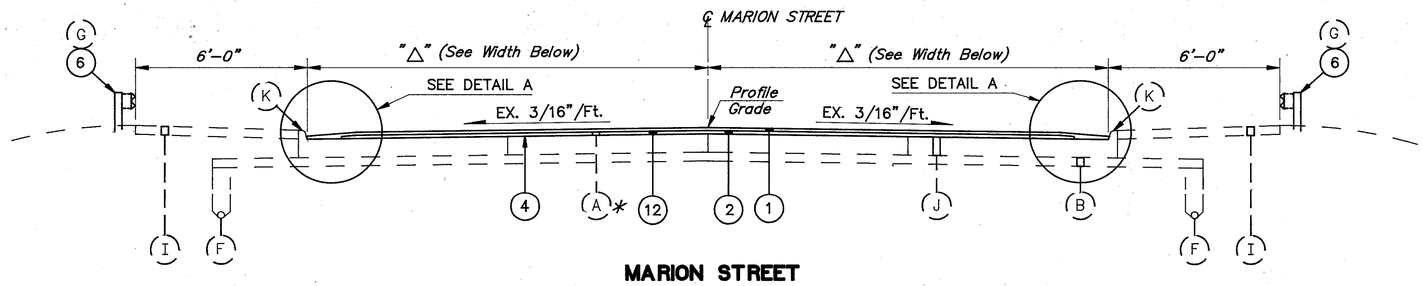


WEST STREET
(APPROACH SLAB)

LIMITING STATIONS

STA. 13+91.25 TO STA. 14+16.25 = 25.00 L.F.
STA. 20+05.75 TO STA. 20+30.75 = 25.00 L.F.
Total = 50.00 L.F.

TYPE 446



MARION STREET

LIMITING STATIONS

	"△"
STA. 1+76.88 TO STA. 3+43.33 = 166.45 L.F.	14'–0"
STA. 8+56.02 TO STA. 10+99.02 = 243.00 L.F.	26'–0"
Total = 409.45 L.F.	

* *Existing Asphalt Wearing Course* — STA. 3+22.75 TO STA. 3+48.33; STA. 8+51.60 TO STA. 9+80.00

For Enlarged View of Asphalt Paving Under Guardrail, See Detail Sheet No. 5.

For Legend, See Sheet No. 4.

NOTE: 1. DETAIL "A" SHALL BE APPLIED TO THE CURBED SECTIONS OF MARION STREET.
2. FOR ADDITIONAL MARION STREET PAVEMENT INFORMATION, SEE SHEET No. 50.

TYP5626 1=3 10-10-94

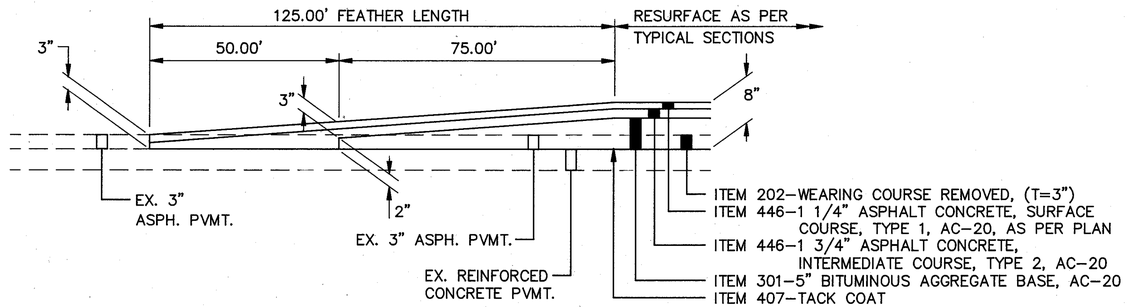
MARION STREET, WEST STREET & RAMP – TYPICAL SECTIONS

PAVEMENT TRANSITION DETAILS

REGION	STATE	PROJECT	
5	OHIO		

8/97

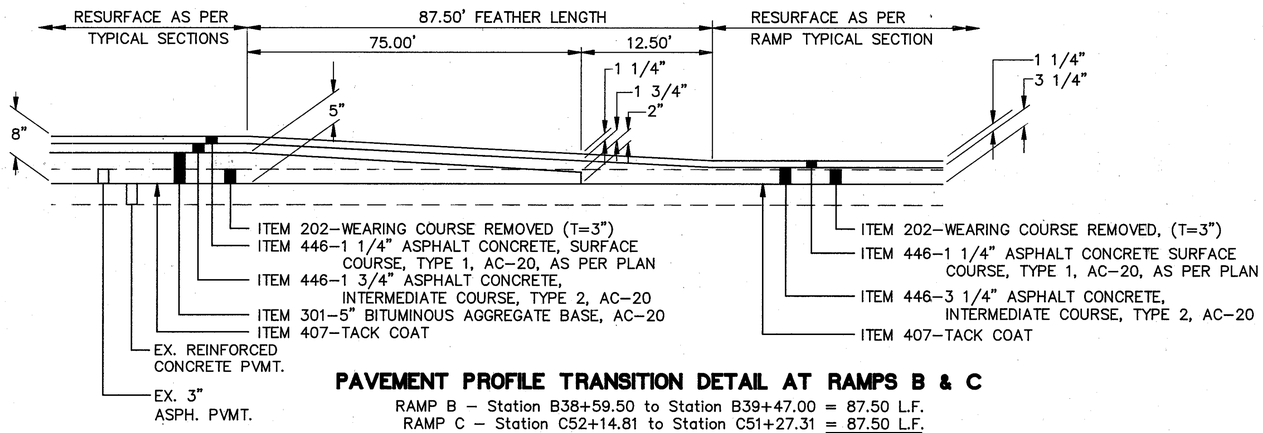
BEL-70-23.79



PAVEMENT PROFILE TRANSITION DETAIL AT BEGIN WORK

Station 1259+80.00 to Station 1261+05.00 = 125.00 L.F.

TOTAL = 125.00 L.F.

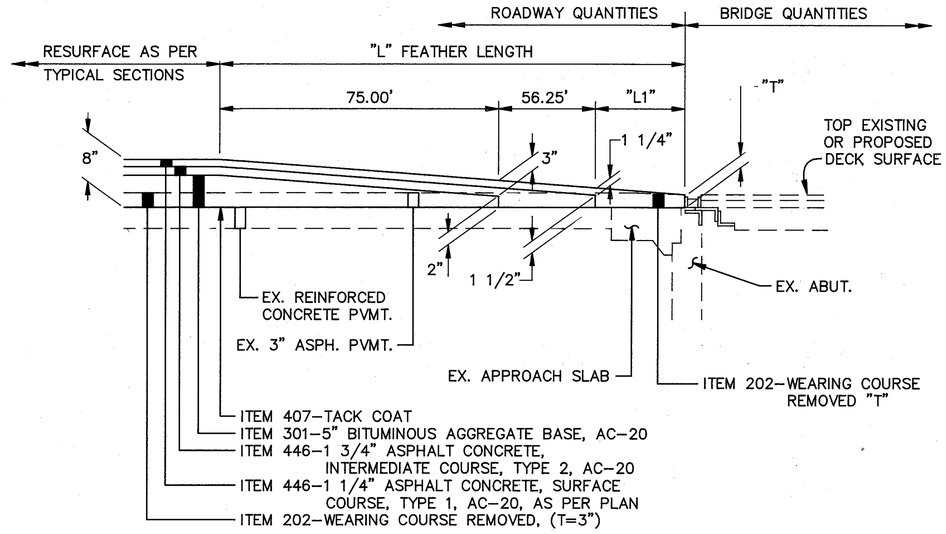


PAVEMENT PROFILE TRANSITION DETAIL AT RAMPS B & C

RAMP B - Station B38+59.50 to Station B39+47.00 = 87.50 L.F.

RAMP C - Station C52+14.81 to Station C51+27.31 = 87.50 L.F.

TOTAL = 175.00 L.F.



PAVEMENT PROFILE TRANSITION DETAIL AT BR. NO.'s BEL-70-2544* BEL-70-2576*, BEL-70-2663A, BEL-70-2663D, & BEL-70-2684*

* (EASTBOUND & WESTBOUND LANES)

BRIDGE	"T"	"L"	"L1"
BEL-70-2544	2 1/2"	137.50'	6.25'
BEL-70-2576	1 3/4"	156.25'	25.00'
BEL-70-2663A,D	2 1/2"	137.50'	6.25'
BEL-70-2684	2 1/4"	143.75'	12.50'

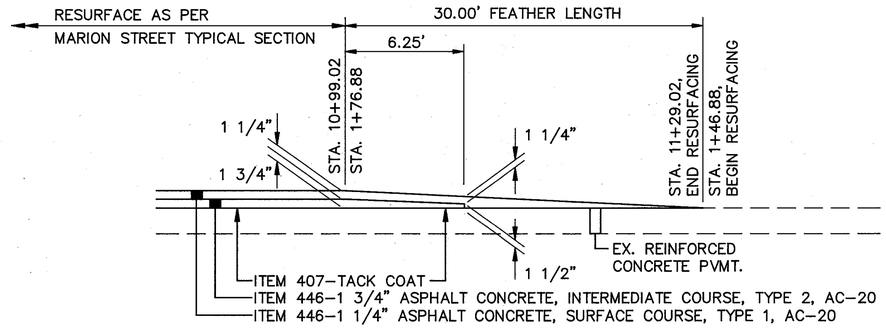
TYPSEC18 1=5 9-22-94

PAVEMENT TRANSITION DETAILS

REGION	STATE	PROJECT		
5	OHIO			

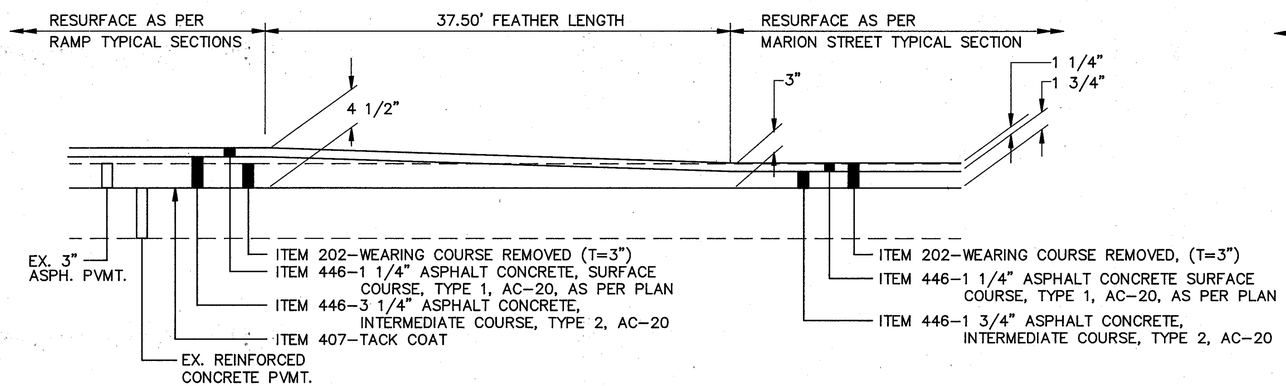
9/97

BEL–70–23.79



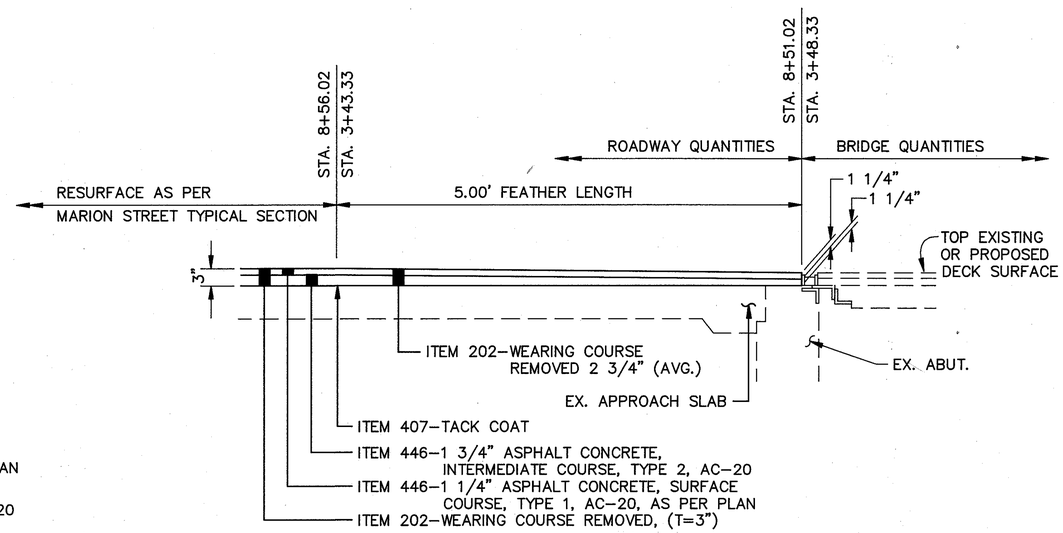
PAVEMENT TAPER EDGE FEATHER DETAIL AT MARION ST.

(U.S. 40 & HOWARD ST.)



PAVEMENT PROFILE FEATHER DETAIL
RAMP TO MARION STREET

RAMP B – Station B46+58.65 to Station B46+96.15 = 37.50 L.F.
RAMP C – Station C47+00.88 to Station C47+38.38 = 37.50 L.F.
TOTAL = 75.00 L.F.



PAVEMENT PROFILE TRANSITION DETAIL AT BR. NO BEL–70–2663

(MARION STREET)

TYP3R22S 1=5 09-22-94

MARION STREET – PAVEMENT TRANSITION DETAILS

GENERAL NOTES

	BY DATE	REGION	STATE	PROJECT		10
Calculated	W.H.F. 11-93					97
Checked	D.T.B. 11-93	5	OHIO			

BEL-70-23.79

UNDERGROUND UTILITIES
THE LOCATION OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE AS OBTAINED FROM THE OWNERS AS REQUIRED BY SECTION 153.64 O.R.C.

UTILITY OWNERSHIP
LISTED BELOW ARE ALL UTILITIES LOCATED WITHIN THE PROJECT CONSTRUCTION LIMITS TOGETHER WITH THEIR RESPECTIVE OWNERS.

OHIO POWER COMPANY
301 CLEVELAND AVENUE S.W.
CANTON, OHIO 44701
(216) 438-7040

OHIO DEPARTMENT OF TRANSPORTATION
1072 W. HIGH AVENUE EXT.
NEW PHILADELPHIA, OHIO 44663
(216) 339-6633

COLUMBIA GAS TRANSMISSION CORP.
P.O. BOX 1
159 NATIONAL ROAD
TRIDELPHIA, WEST VIRGINIA 26059
(304) 547-5033

COLUMBIA GAS OF OHIO
300 LURAY DRIVE
WINTERSVILLE, OHIO 43952
(614) 264-7385

AMERITECH
100 NORTON ROAD
LOWER LEVEL
COLUMBUS, OHIO 44328
(614) 870-5811

VILLAGE OF BRIDGEPORT-WATER
301 MAIN STREET
BRIDGEPORT, OHIO 43912
(614) 635-0729

TCI CABLEVISION OF OHIO-BROOKSIDE
P.O. BOX 469
908 NATIONAL ROAD
BRIDGEPORT, OHIO 43912
(614) 635-2854

AT&T COMMUNICATIONS
2315 SALEM ROAD
CONYERS, GEORGIA 30208
800-241-3624

CONTINGENCY QUANTITIES
THE CONTRACTOR SHALL NOT ORDER MATERIALS OR PERFORM WORK FOR ITEMS DESIGNATED BY PLAN NOTE TO BE USED "AS DIRECTED BY THE ENGINEER" UNLESS AUTHORIZED BY THE ENGINEER. THE ACTUAL WORK LOCATIONS AND QUANTITIES USED FOR SUCH ITEMS SHALL BE INCORPORATED INTO THE FINAL CHANGE ORDER GOVERNING COMPLETION OF THIS PROJECT.

PROFILE AND ALIGNMENT FOR RESURFACING PROJECTS
THE PROPOSED PAVEMENT RESURFACING SHALL FOLLOW THE ALIGNMENT AND PROFILE OF THE EXISTING PAVEMENT. THE PROPOSED ASPHALT CONCRETE OVERLAY SHALL BE AS SHOWN ON THE TYPICAL SECTIONS.

CONSTRUCTION PLANS, SHOWING THE ORIGINAL ALIGNMENT AND PROFILE, ARE AVAILABLE FOR INSPECTION AT THE DISTRICT 11 OFFICE.

BEL-40-23.89, 1962 CONSTRUCTION PLAN
BEL-40-26.43, 1964 CONSTRUCTION PLAN
BEL-70-26.92, 1965 CONSTRUCTION PLAN
BEL-70-23.81, 1983 UPGRADING PLAN

TEMPORARY SOIL EROSION AND SEDIMENT CONTROL:
THE FOLLOWING ESTIMATED QUANTITIES ARE TO BE USED AS DIRECTED BY THE ENGINEER, FOR TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES:

207	STRAW OR HAY BALES	350 EACH
207	FILTER FABRIC FENCE	2,000 L.F.

WORK LIMITS
THE WORK LIMITS SHOWN ON THESE PLANS ARE FOR PHYSICAL CONSTRUCTION ONLY. THE INSTALLATION AND OPERATION OF ALL TEMPORARY TRAFFIC CONTROL AND TEMPORARY TRAFFIC CONTROL DEVICES REQUIRED BY THESE PLANS SHALL BE PROVIDED BY THE CONTRACTOR WHETHER INSIDE OR OUTSIDE THESE WORK LIMITS.

EXAMINATION OF PROJECT
THE EXISTING PAVEMENT THICKNESSES SHOWN IN THE TYPICAL SECTIONS AND FEATHER DETAILS ARE NOMINAL ONLY AND MAY VARY.

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO EXAMINE THE PROJECT SITE AND VERIFY THE ACTUAL PAVEMENT THICKNESSES PRIOR TO SUBMITTING HIS BID PROPOSAL AS PER SECTION 102.05 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS.

THE CONTRACTOR SHALL PROVIDE HIS OWN TRAFFIC CONTROL IN ACCORDANCE WITH ALL REQUIREMENTS OF OMUTCD AND SHALL NOTIFY THE DISTRICT OPERATIONS ENGINEER AT LEAST FIVE WORKING DAYS IN ADVANCE OF SETTING UP TRAFFIC CONTROL FOR THE PURPOSE OF EXAMINING THE PAVEMENT AS STATED ABOVE.

ITEM 201 - CLEARING AND GRUBBING, AS PER PLAN
WORK UNDER THIS ITEM SHALL BE WITHIN THE AREAS TWO (2) FEET FOR TYPE 47 AND ONE (1) FOOT FOR TYPE CL ON EACH SIDE OF THE NEW FENCE LIMITS, AND SHALL CONSIST OF THE FOLLOWING:

1. THE REMOVAL OF ALL LITTER.
2. MOWING OF ALL VEGETATION TO A HEIGHT OF BETWEEN 3" AND 5".
3. TREATMENT OF THE REMOVAL AREA WITH THE FOLLOWING HERBICIDES WITHIN 24 HOURS AFTER VEGETATION IS CUT: 1 GALLON DOW "TORDON K" COMBINED WITH 2 QUARTS 2, 4 D-AMINE OR AN APPROVED EQUAL IN SUFFICIENT WATER TO MAKE 50 GALLONS OF TOTAL SPRAY MIX PER ACRE. AN ESTIMATED AREA OF 1.4 ACRES IS TO BE TREATED WITH THE HERBICIDE.

THE CONTRACTOR SHALL BE LICENSED BY THE OHIO DEPARTMENT OF AGRICULTURE AS A COMMERCIAL APPLICATOR AND ALL PERSONS INVOLVED IN THE ACTUAL HERBICIDAL SPRAYING SHALL BE LICENSED AS COMMERCIAL OPERATORS IN THE APPROPRIATE CATEGORY.

PAYMENT FOR THE ABOVE, SHALL BE INCLUDED IN THE LUMP SUM BID FOR CLEARING AND GRUBBING, AS PER PLAN.

EROSION CONTROL
ITEM 601 IS PROVIDED IN THE PLANS FOR EROSION CONTROL. ROCK OF A STABLE NATURE SHALL NOT BE REMOVED IN ORDER TO PLACE ANY OF THIS ITEM. THE ENGINEER SHALL CHECK AND NON- PERFORM QUANTITIES OR ADJUST LOCATIONS AND QUANTITIES OF THIS ITEM WHERE INDICATED BY FIELD CONDITIONS DURING CONSTRUCTION. IN ADDITION, THIS ITEM SHALL MEET THE REQUIREMENT OF 108.04.

REMOVAL OF TREES OR STUMPS
ALL TREES AND STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE CONSTRUCTION LIMITS SHALL BE REMOVED UNDER THE LUMP SUM BID FOR ITEM 201, CLEARING AND GRUBBING. THE FOLLOWING IS AN APPROXIMATE ESTIMATE OF THE NUMBER OF TREES AND STUMPS TO BE REMOVED:

SIZES	NO. TREES	NO. STUMPS	TOTAL
18"	64	0	64

ITEM 659, SEEDING AND MULCHING
SEEDING AND MULCHING SHALL BE APPLIED TO ALL AREAS OF EXPOSED SOIL FROM LINEAR GRADING, METHOD 1, AND LINEAR GRADING METHOD 2. QUANTITY CALCULATIONS FOR ITEM 659, SEEDING AND MULCHING, ARE BASED ON THESE LIMITS.

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY:

ITEM 659 - SEEDING AND MULCHING . . . . . 8711 SQ. YD.

ITEM 203 - LINEAR GRADING, METHOD A
THIS ITEM SHALL CONSIST OF EXCAVATING TOPSOIL AND PLACING GRANULAR MATERIAL IN ACCORDANCE WITH THE FOLLOWING:

REMOVE AND DISPOSE OF ALL COLLECTED DEBRIS AND TOPSOIL, INCLUDING RHIZOMES, ROOTS, AND OTHER VEGETATION MATERIAL, WITHIN THE LINEAR GRADING LIMITS ACCORDING TO SECTION 203.05

APPLY THIS WORK TO THE FOLLOWING AREAS:

1. ITEM 203 - LINEAR GRADING, METHOD A: MAINLINE OUTSIDE SHOULDERS AND RAMP SHOULDERS WITHOUT GUARDRAIL.

REPLACE THE REMOVED MATERIAL WITH COMPACTABLE GRANULAR MATERIAL CONFORMING TO SECTION 203.02, AND PLACE THE MATERIAL TO GRADE AS SHOWN ON THE TYPICAL SECTIONS.

PAYMENT TO PERFORM THIS WORK WILL BE MADE AT THE UNIT PRICE BID STATION FOR ITEM 203 - LINEAR GRADING, METHOD A INCLUDE THE COST OF ALL LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK.

RAISED PAVEMENT MARKERS REMOVED FOR STORAGE, AS PER PLAN
THE FOLLOWING QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR THE PURPOSE OF REMOVING RAISED PAVEMENT MARKERS; EXCEPT THE REQUIREMENT TO FILL THE DEPRESSIONS SHALL BE WAIVED:

ITEM 202 - RAISED PAVEMENT MARKERS REMOVED FOR STORAGE, AS PER PLAN ..... 567 EACH

WATERING AND MOWING PERMANENT SEEDED AREAS:
THE FOLLOWING ESTIMATED QUANTITIES ARE TO BE USED AS DIRECTED BY THE ENGINEER TO PROMOTE GROWTH AND TO CARE FOR THE PERMANENT SEEDED AREAS, AS PER 659.09:

8,711 S.Y.x 9x 2/1000x 1/1000x 120 = 18.82 M. GAL.

659 WATER ..... 19 M. GAL. USE 19 M.GAL.

8,711 S.Y.x 9x 2/4 x 1/1000 = 39.2 M. SQ.FT.

659 MOWING ..... 39 M. SQ. FT. USE 39 M. SQ. FT.

GENOTR 1=1 09-22-94

GENERAL NOTES

	BY DATE	REGION	STATE	PROJECT		
Calculated	W.H.F. 11-93	5	OHIO			11 97
Checked	D.T.B. 12-93					

BEL-70-23.79

GUARDRAIL REPLACEMENT
NO HAZARD SHALL BE LEFT UNPROTECTED EXCEPT FOR THE ACTUAL TIME NECESSARY TO REMOVE THE EXISTING GUARDRAIL, PREPARE THE SITE, AND INSTALL NEW GUARDRAIL IN A CONTINUOUS OPERATION. THE REMOVAL OF ALL GUARDRAIL SHALL AT ALL TIMES BE AS DIRECTED BY THE ENGINEER. NO GUARDRAIL SHALL BE REMOVED UNTIL THE REPLACEMENT MATERIAL IS ON THE SITE, READY FOR INSTALLATION. FAILURE TO COMPLY WITH THIS REQUIREMENT SHALL BE DEEMED SUFFICIENT CAUSE TO ORDER WORK SUSPENDED UNTIL SUCH TIME AS THE ENGINEER IS ASSURED OF COMPLIANCE.

ITEM 606 - ANCHOR ASSEMBLY, TYPE E
THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING AN ET-2000, OPTION "B", GUARDRAIL END TERMINAL AS MANUFACTURED BY SYRO STEEL COMPANY, 1170 N. STATE STREET, GIRARD, OHIO 44420 (TELEPHONE: 216-545-4373).

THE LENGTH OF THE ET-2000 SYSTEM IS CONSIDERED TO BE 50 FEET, INCLUSIVE OF TWO 25 FOOT LONG RAIL ELEMENTS. INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND AT THE LOCATIONS SHOWN IN THE PLANS.

PAYMENT FOR THE ABOVE WORK SHALL BE MAKE AT THE UNIT BID PRICE FOR ITEM 606, EACH, ANCHOR ASSEMBLY, TYPE E AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL ANCHOR ASSEMBLY SYSTEM, INCLUDING ALL RELATED HARDWARE, NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

EXISTING LOOP DETECTORS
THE CONTRACTOR SHALL NOTIFY THE ODOT DISTRICT TRAFFIC ENGINEER AT PHONE (216) 339-6633, EXT. 244, 14 DAYS PRIOR TO DISTURBING THE EXISTING LOOP DETECTOR ON MARION STREET AT APPROXIMATE STATION 9+15.

CONCRETE BARRIER REMOVED, AS PER PLAN
EXISTING CONCRETE BARRIER REMOVED UNDER THIS ITEM SHALL INCLUDE ANY EXCAVATION OR PLACEMENT OF SUBBASE REQUIRED TO GRADE THE BARRIER FLUSH WITH THE PROPOSED ELEVATION PER THE TYPICAL SECTION. ANY NECESSARY SUBBASE PLACEMENT SHALL CONFORM TO THE REQUIREMENTS OF ITEM 310, SUBBASE, TYPE II.

FOR LOCATIONS AND QUANTITIES, SEE SHEET NO. 34 .

PAYMENT TO PERFORM THIS WORK, INCLUDING EXCAVATION AND SUBBASE PLACEMENT, SHALL BE INCLUDED IN THE UNIT PRICE BID OF L.F. FOR ITEM 202 - CONCRETE BARRIER REMOVED, AS PER PLAN AND SHALL INCLUDE THE COST OF ALL LABOR, MATERIAL, EQUIPMENT, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK.

CONCRETE BARRIER, TYPE C, AS PER PLAN "1"
THIS ITEM OF WORK SHALL CONSIST OF CONSTRUCTING TYPE C CONCRETE BARRIER AS PER THE NOTES AND DETAILS IN STANDARD DRAWING MC-9.3, BUT SHALL CONFORM TO THE DIMENSIONS SHOWN IN THE DETAILS ON SHEET NO. 6 .

PAYMENT TO PERFORM THIS WORK WILL BE MADE AT THE UNIT PRICE BID OF LIN. FT. FOR ITEM 622 - CONCRETE BARRIER, TYPE C, AS PER PLAN "1" AND SHALL INCLUDE THE COST OF ALL LABOR, MATERIAL, EQUIPMENT, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK.

CONCRETE BARRIER, TYPE C, AS PER PLAN "2"
THIS ITEM OF WORK SHALL CONSIST OF CONSTRUCTING TYPE C CONCRETE BARRIER AS PER THE NOTES AND DETAILS IN STANDARD DRAWING MC-9.3, BUT SHALL CONFORM TO THE DIMENSIONS SHOWN IN THE DETAILS ON SHEET NO. 6 .

PAYMENT TO PERFORM THIS WORK WILL BE MADE AT THE UNIT PRICE BID OF LIN. FT. FOR ITEM 622 - CONCRETE BARRIER, TYPE C, AS PER PLAN "2" AND SHALL INCLUDE THE COST OF ALL LABOR, MATERIAL, EQUIPMENT, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK.

CONCRETE BARRIER, TYPE C, AS PER PLAN "3"
THIS ITEM OF WORK SHALL CONSIST OF CONSTRUCTING TYPE C CONCRETE BARRIER AS PER THE NOTES AND THE DETAIL "BRIDGE PIER TRANSITION" IN STANDARD DRAWING MC-9.4.

PAYMENT TO PERFORM THIS WORK WILL BE MADE AT THE UNIT PRICE BID OF LIN. FT. FOR ITEM 622 - CONCRETE BARRIER, TYPE C, AS PER PLAN "3" AND SHALL INCLUDE THE COST OF ALL LABOR, MATERIAL, EQUIPMENT, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK.

ITEM 202 - INLET CLEANOUT
THIS ITEM SHALL CONSIST OF REMOVING ALL FOREIGN MATERIAL, MATERIAL BUILDUP, AND OBSTRUCTIONS FROM THE INSIDE OF THE EXISTING MEDIAN INLETS WHICH ARE WITHIN THE PROJECT LIMITS.

THE CLEANOUT SHALL BE ACCOMPLISHED BY USING A HIGH PRESSURE WATER JET, VACU-JET, OR ANY OTHER METHOD AS APPROVED BY THE ENGINEER.

THE CONTRACTOR SHALL DISPOSE OF ALL COLLECTED MATERIAL AND DEBRIS AS PER 203.05

PAYMENT FOR THE ABOVE WORK WILL BE MADE AT THE CONTRACT PRICE FOR ITEM 202, EACH, INLET CLEANOUT, AND SHALL INCLUDE THE COST OF ALL LABOR, TOOLS, EQUIPMENT, MATERIALS AND INCIDENTIALS NECESSARY TO COMPLETE THE WORK.

THE FOLLOWING QUANTITY, TO BE USED AS DIRECTED BY THE ENGINEER, HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR THE PURPOSE OF CLEANING OUT EXISTING MEDIAN INLETS AS SPECIFIED ABOVE.

ITEM 202, INLET CLEANOUT .....39 EAGH

ITEM 607 FENCE, TYPE 47
WORK UNDER THIS ITEM SHALL INCLUDE FURNISHING AND ERECTING FENCE, TYPE 47 AND POST AND ANCHOR ASSEMBLIES IN ACCORDANCE WITH ITEM 607 AND THE APPROPRIATE STANDARD CONSTRUCTION DRAWINGS, EXCEPT AS OTHERWISE NOTED.

THE INTENT OF THE PLAN IS TO CONSTRUCT THE NEW FENCE IN THE SAME LOCATION AS THE EXISTING FENCE IN CURVES WHERE SECTION 607.06(a) OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS MAY APPLY.

IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO COMPLETELY REMOVE THE CORNER, END OR ANCHOR POST ASSEMBLIES INCLUDING THE CONCRETE ENCASEMENT. EXISTING METAL LINE POSTS SHALL BE REMOVED OR DRIVEN A MINIMUM OF SIX (6) INCHES BELOW THE EXISTING GROUND.

ANY AREA DISTURBED BY THE CONTRACTOR'S OPERATION SHALL BE REPAIRED AND SEEDED ACCORDING TO ITEM 659 AND INCLUDED IN ITEM 607 FOR PAYMENT. IN ADDITION TO THE QUANTITIES ALREADY SET UP IN THE PLAN, THE FOLLOWING ESTIMATED QUANTITIES OF ITEM 601 ARE CARRIED TO THE GENERAL SUMMARY TO BE USED AS DIRECTED BY THE ENGINEER FOR FENCE CROSSINGS.

ITEM 601 ROCK CHANNEL PROTECTION, TYPE B WITH FILTER 50 C.Y.

THE COST OF ALL THE ABOVE, EXCEPT ITEM 601, SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 607, FENCE, TYPE 47. MEASUREMENTS FOR FINAL QUANTITIES SHALL BE IN ACCORDANCE WITH 607.10.

FENCE GROUNDING
ANY RIGHT-OF-WAY FENCE CROSSING UNDER OVERHEAD ELECTRIC POWER LINES OR TRANSMISSION LINES SHALL BE GROUNDED IN ACCORDANCE WITH STANDARD DRAWING HL-50.11.

GROUND RODS SHALL BE USED AS DIRECTED BY THE ENGINEER. FOR LOCATIONS AND QUANTITIES SEE SHEET NO. 41 THRU 43.

UNDERDRAIN TRENCHING AND FULL-DEPTH PAVEMENT RECONSTRUCTION
THE CONTRACTOR SHALL TAKE CARE IN TRENCHING FOR UNDERDRAINS AND FULL-DEPTH PAVEMENT RECONSTRUCTION SO AS NOT TO DAMAGE ANY LIGHTING CONDUIT OR DUCT-CABLE AS SHOWN IN THE LIGHTING PLAN ON SHEET NO. 57 . ANY CONDUIT OR DUCT-CABLE DAMAGED SHALL BE REPLACED BY THE CONTRACTOR AT HIS OWN EXPENSE WHICH WOULD INCLUDE COSTS OF ALL MATERIALS, LABOR AND EQUIPMENT.

GENOTES1 1=1 09-22-94

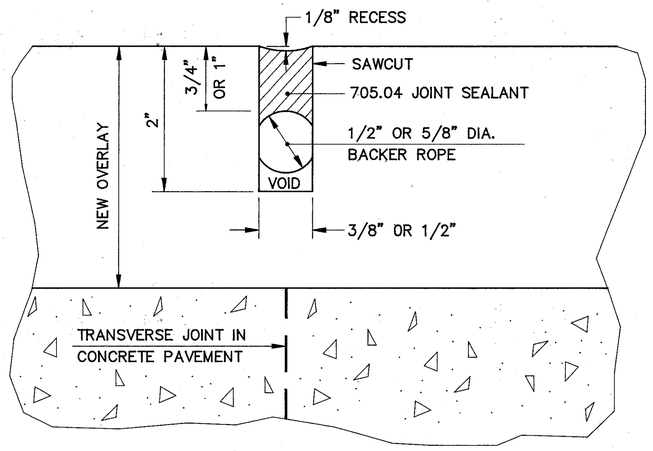
	BY	DATE	REGION	STATE	PROJECT		
Calculated	W.H.F.	11-93	5	OHIO			
Checked	D.T.B.	11-93					

BEL-70-23.79

GENERAL NOTES

ITEM 413 — SAWING AND SEALING ASPHALT CONCRETE PAVEMENT JOINTS, 705.04

THE CONTRACTOR SHALL SAW AND SEAL THE JOINTS ACCORDING TO THE DIMENSIONS SHOWN IN THE DETAIL BELOW. THE JOINTS SHALL BE SAWED WITHIN 24 HOURS AFTER PLACEMENT OF THE SURFACE COURSE. FOR QUANTITIES, SEE SHEET NOS. 51 & 52 .



DETAIL FOR TRANSVERSE JOINT IN NEW ASPHALT CONCRETE OVERLAY

ITEM 407 — TACK COAT
THE RATE OF APPLICATION OF 407 TACK COAT SHALL BE SUBJECT TO ADJUSTMENT AS DIRECTED BY THE ENGINEER. PLAN QUANTITIES INDICATE AN AVERAGE APPLICATION RATE OF 0.075 GALLONS PER SQUARE YARD OF TACK COAT FOR ESTIMATING PURPOSES ONLY.

SAME SEASON COMPLETION OF SURFACE COURSE
ANY LENGTH OF RESURFACING WORK STARTED IN A CONSTRUCTION SEASON SHALL HAVE THE SURFACE COURSE PLACED THAT SAME SEASON.

ITEM 446 — ASPHALT CONCRETE SURFACE COURSE, TYPE 1, AC-20, AS PER PLAN
MATERIALS FURNISHED FOR FINE AND COURSE AGGREGATE USE IN THIS ITEM SHALL EXCLUDE ALL STONE AND CRUSHED CARBONATE STONE.

ITEM SPECIAL — SEALING OF CONCRETE SURFACES (EPOXY)
AN EPOXY CONCRETE SEALER SHALL BE APPLIED TO THE FOLLOWING SURFACES AS SHOWN IN THE TYPICAL SECTIONS:

1) THE PROPOSED 622 TYPE C AND TYPE D CONCRETE BARRIER.

2) THE EXISTING TYPE A AND TYPE D CONCRETE BARRIER.

PRIOR TO APPLYING THE EPOXY SEALER, ANY LOOSE, SOFT, HONEYCOMBED, OR DISINTEGRATED CONCRETE AREAS ON THE CONCRETE BARRIER SHALL BE REMOVED, THE AREA PREPARED, AND PATCHING MATERIAL APPLIED IN ACCORDANCE WITH THE REQUIREMENTS OF ITEM 520, PNEUMATICALLY PLACED MORTAR.

THE SEALING OPERATIONS SHALL BE COMPLETED PRIOR TO MOUNTING THE 802 BARRIER REFLECTORS.

REFER TO THE PROPOSAL NOTE FOR SURFACE PREPARATION REQUIREMENTS, APPLICATION RATE, MATERIAL REQUIREMENTS, AND APPLICATION PROCEDURES.

THE FOLLOWING QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY TO PREPARE AND SEAL THE CONCRETE SURFACES AS SPECIFIED ABOVE:

ITEM 520 — PNEUMATICALLY PLACED MORTAR (TO BE USED AS DIRECTED). . .1144 S.F.

ITEM SPECIAL — SEALING OF CONCRETE SURFACES (EPOXY) . . . .11,435 S.Y.

DOWEL BASKET ASSEMBLIES
WHERE DOWEL BASKET ASSEMBLIES ARE USED BY THE CONTRACTOR, ALL SPACER WIRES (SHIPPING WIRES) SHALL BE REMOVED FROM THE BASKET ASSEMBLIES PRIOR TO PAVING. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO INSURE THE DOWEL BASKET ASSEMBLIES ARE STABLE AND HELD FIRMLY IN PLACE.

SUBBASE / SUBGRADE FAILURES
IF AFTER THE REMOVAL OF THE RIGID PAVEMENT, THE ENGINEER DETERMINES THAT THE SUBBASE OR SUBGRADE HAS FAILED OR IS PUMPING, HE SHALL DIRECT THE CONTRACTOR TO EXCAVATE THE UNSUITABLE MATERIAL AND REPLACE IT WITH ITEM 304 AGGREGATE BASE, AS PER PLAN.

FOR QUANTITIES SEE SHEET NO. 52A

PART WIDTH CONSTRUCTION
BECAUSE OF THE NECESSITY TO BUILD THIS PROJECT UNDER TRAFFIC AND CONSTRUCTING THE FULL PAVEMENT WIDTH IN STAGES, EXTREME CARE SHALL BE TAKEN TO PREVENT THE CONSTRUCTION OF A BUTT JOINT IN THE BASE COURSES. LONGITUDINAL JOINTS SHALL BE LAPPED AS SHOWN ON STD. CONST. DWG. BP-3.1.

ITEM 305 — CONCRETE BASE, AS PER PLAN
WHERE PROPOSED 305 BASE PAVEMENT IS TIED LONGITUDINALLY TO EXISTING PAVEMENT, TRANSVERSE JOINT SPACING AS REQUIRED IN BP-2.2 SHALL BE WAIVED. TRANSVERSE JOINTS IN THE ITEM 305 BASE PAVEMENT SHALL BE LOCATED AT ALL EXISTING TRANSVERSE JOINTS IN THE ADJACENT PAVEMENT. JOINTS SHALL BE CONSTRUCTED TO FORM A CONTINUOUS LINE IN THE SAME ALIGNMENT AS THE TRANSVERSE JOINT IN THE ADJACENT EXISTING PAVEMENT.

WHERE PROPOSED 305 BASE PAVEMENT IS NOT TIED LONGITUDINALLY TO EXISTING PAVEMENT, JOINT SPACING IN THE PROPOSED 305 BASE SHALL BE IN ACCORDANCE WITH THE APPLICABLE STANDARD DRAWING.

PAVING UNDER GUARDRAIL
THIS OPERATION SHALL INCLUDE PREPARATION OF THE SHOULDER USING 203, LINEAR GRADING METHOD B, AND PAVING UNDER THE GUARDRAIL USING 448, ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1 (UNDER GUARDRAIL), AS PER PLAN.

ITEM 203, LINEAR GRADING METHOD B, SHALL CONSIST OF EXCAVATION TOPSOIL, PLACING GRANULAR MATERIAL AND APPLYING HERBICIDE AS SPECIFIED IN THE PLANS AND IN ACCORDANCE WITH THE FOLLOWING:

ALL COLLECTED DEBRIS AND TOPSOIL, INCLUDING RHIZOMES, ROOTS AND OTHER VEGETATIVE PLANT MATERIAL SHALL BE REMOVED AND DISPOSED OF AS SPECIFIED IN 203.05.

THE REMOVED MATERIAL SHALL BE REPLACED WITH COMPACTABLE GRANULAR MATERIAL CONFORMING TO 203.02 PLACED TO GRADE AS DETAILED ON THE TYPICAL SECTION OR AS APPROVED BY THE ENGINEER. HERBICIDE SHALL BE TREFLAN E.C., SPIKE OR AN APPROVED EQUAL AND SHALL BE APPLIED TO THE PREPARED AREA AFTER FINAL LEVELING AND GRADING HAS BEEN COMPLETED. THE APPLICATION SHALL BE JUST PRIOR TO PAVING AND SHALL STRICTLY ADHERE TO THE MANUFACTURER'S INSTRUCTIONS.

ONLY PROPERLY LICENSED PERSONNEL SHALL APPLY HERBICIDES AS REQUIRED BY THE OHIO REVISED CODE.

ALL EQUIPMENT, MATERIALS AND LABOR REQUIRED TO PERFORM THE WORK OUTLINED ABOVE SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 203, LINEAR GRADING, METHOD 2.

PAVING UNDER GUARDRAIL SHALL CONSIST OF PLACING ITEM 448 TO THE DEPTH SPECIFIED USING THE FOLLOWING:

1) PLACE ITEM 448
2) BORE ASPHALT AT POST LOCATIONS (MAY BE OMITTED IF STEEL POSTS ARE USED)
3) SET GUARDRAIL POSTS
4) PATCH AROUND POSTS. THE MATERIAL USED FOR PATCHING SHALL BE BITUMINOUS CONCRETE APPROVED BY THE ENGINEER. PATCHED AREAS SHALL BE COMPACTED USING EITHER HAND OR MECHANICAL METHODS. FINISHED SURFACES SHALL BE SMOOTH AND SLOPED TO DRAIN AWAY FROM THE POST.

ALL EQUIPMENT, MATERIAL AND LABOR REQUIRED TO PERFORM THE WORK OUTLINED ABOVE, WITH THE EXCEPTION OF SETTING GUARDRAIL POSTS, SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 448, ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1 (UNDER GUARDRAIL) AS PER PLAN.

INLET, ADJUSTED TO GRADE, AS PER PLAN
THE PROVISIONS OF ITEM 604 AND STANDARD DRAWING I-3A & B SHALL GOVERN THE DETAILS REQUIRED FOR THOSE BARRIER MEDIAN INLETS INDICATED IN THE PLANS TO BE RECONSTRUCTED AND ADJUSTED. THE CONTRACTOR SHALL REPLACE THE EXISTING GRATE IF DAMAGED. PAYMENT FOR ALL WORK REQUIRED FOR THE REMOVAL AND REPLACEMENT OF DAMAGED MEDIAN INLET GRATES, SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE ABOVE LISTED 604 ITEM. THE CASTING DETAIL SHOWN ON STANDARD DWG. I-3A & B SHALL BE USED TO DETERMINE THE SIZE AND CONFIGURATION OF THESE GRATES, FOR ESTIMATING PURPOSES.

A CONTINGENCY QUANTITY OF TEN (10) HAS BEEN PROVIDED FOR THIS PROJECT. SPECIFIC LOCATIONS FOR GRATE REPLACEMENT SHALL BE DETERMINED IN THE FIELD, BY THE ENGINEER.

ALL SHOULDER RECONSTRUCTION WORK SHALL BE DONE PRIOR TO THE INLETS BEING ADJUSTED TO GRADE. DURING THIS PERIOD OF RECONSTRUCTION, THE CONTRACTOR SHALL MAINTAIN EXISTING DRAINAGE INTO THE STRUCTURE SO THAT NO STANDING WATER REMAINS ON THE PAVEMENT SURFACE.

THE COST OF THE ADDITIONAL MATERIAL, LABOR AND INCIDENTALS SHALL BE INCLUDED FOR PAYMENT IN THE CONTRACT UNIT PRICE BID FOR EACH ITEM 604, INLET ADJUSTED TO GRADE, AS PER PLAN. SEE SHEET NO. 45-47A FOR ADDITIONAL DETAILS.

GENOTES2 1=1 10-10-94

MAINTENANCE OF TRAFFIC NOTES

REGION	STATE	PROJECT		
5	OHIO			

13
97

BEL–70–23.79

ITEM 614 – MAINTAINING TRAFFIC

MAINLINE
AT LEAST ONE LANE OF TRAFFIC SHALL BE MAINTAINED IN EACH DIRECTION AT ALL TIMES. THE LENGTH OF RESTRICTED TRAFFIC LANES SHALL BE KEPT TO A MINIMUM CONSISTENT WITH THE SPECIFICATION REQUIREMENTS FOR THE PROTECTION OF WORK ITEMS WHICH NECESSITATE THE RESTRICTION. THE LIMITS AND DURATION OF LANE CLOSURES SHALL BE SUBJECT TO THE APPROVAL OF THE ENGINEER.

CONSTRUCTION WORK SHALL BE PERMITTED ON ONLY ONE SIDE OF THE DIRECTIONAL ROADWAY AT A TIME AND ANY OPEN PAVEMENT TRENCH SHALL BE ADEQUATELY MAINTAINED AND PROTECTED WITH BARRICADES, DRUMS OR VERTICAL PANELS. UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR BE PERMITTED TO HAVE WORK ZONES THAT ALTERNATELY CLOSE BOTH THE PASSING LANE AND THE TRAVEL LANE UNLESS THE DISTANCE BETWEEN THE LANE RESTRICTIONS EXCEEDS TWO (2) MILES.

FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID REPLACEMENT FOR CRACK AND/OR JOINT REPAIRS SHALL BE PERFORMED IN A CONTINUOUS OPERATION. THE TOTAL LENGTH OF THIS OPERATION SHALL NOT EXCEED 15,000 FEET FOR EACH DIRECTIONAL ROADWAY SECTION (EAST & WEST) AT ANY GIVEN TIME. (THESE RESTRICTIONS SHALL NOT APPLY TO FULL DEPTH PAVEMENT SAWING OPERATIONS).

THE CONTRACTOR SHALL UPON COMPLETION OF THE CONSTRUCTION OF ITEM 305, CONCRETE BASE IN THE MEDIAN SHOULDER, PLACE THE VARIOUS COURSES OF ASPHALT CONCRETE REQUIRED IN ONE CONTINUOUS OPERATION OVER THE ROADWAY SHOULDER AND MAINLINE PAVEMENT AREAS.

CLASS C CONCRETE SHALL BE USED FOR ALL MAINLINE FULL DEPTH PAVEMENT REPAIRS.

IN ADDITION TO CONSTRUCTING THE VARIOUS ITEMS AS DETAILED WITHIN THESE PLANS, THE PLANS ALSO PROVIDE DETAILS FOR MAINTAINING TRAFFIC ON I–70 INTO THE FOLLOWING PHASES:

PHASE — DESCRIPTION

PHASE 1
WORK AREA LIMITS:
STA. 1384+65 – STA. 1388+75 (LT.)
STA. 341+00 – STA. 352+00 (LT.)
TRAFFIC:
MAINTAIN 2 LANES OF TRAFFIC EASTBOUND
MAINTAIN 1 LANE (MIN.) OF TRAFFIC WESTBOUND (OUTSIDE LANE)
WORK
CONSTRUCT NEW PAVEMENT, MEDIAN BARRIER AND DRAINAGE ITEMS IN THE INSIDE LANES

PHASE 2
WORK AREA LIMITS:
STA. 1384+65 – STA. 1388+75 (LT.)
STA. 341+00 – STA. 352+00 (LT.)
TRAFFIC:
MAINTAIN 2 LANES OF TRAFFIC EASTBOUND
MAINTAIN 1 LANE (MIN.) OF TRAFFIC WESTBOUND (INSIDE LANE)
WORK
COMPLETE CONSTRUCTION OF NEW PAVEMENT AND SHOULDER WORK

MAINTENANCE OF TRAFFIC IN WEST VIRGINIA
THE CONTRACTOR SHALL NOTIFY THE DISTRICT SIX CONSTRUCTION ENGINEER OF THE WEST VIRGINIA DEPARTMENT OF TRANSPORTATION (W.V.D.O.T.) AT MOUNDSVILLE, WEST VIRGINIA, TELEPHONE 304–843–4008, A MINIMUM OF FOURTEEN (14) CALENDAR DAYS PRIOR TO IMPLEMENTING ANY LANE RESTRICTIONS ON I.R. 70 WITHIN THE PROJECT LIMITS, OR BEFORE PLACING ANY TRAFFIC CONTROL DEVICES IN WEST VIRGINIA.

THE CONTRACTOR SHALL INSTALL TEMPORARY TRAFFIC CONTROL DEVICES AS PER STANDARD CONSTRUCTION DRAWING MT–95.30 ON I.R. 70 IN WEST VIRGINIA, ON THE MARKET STREET AND MAIN STREET WESTBOUND ENTRANCE RAMPS, AND THE U.S. 250 WESTBOUND ENTRANCE RAMP (RAMP J) EAST OF THE TUNNEL AS SPECIFIED BY THE W.V.D.O.T. (SEE THE SCHEMATIC MAP ON SHEET NO. 15A).

ALL TEMPORARY TRAFFIC CONTROL DEVICES SHALL BE STRICTLY PROHIBITED IN THE WHEELING TUNNEL.

ALL SIGN PLACEMENT IN WEST VIRGINIA, INCLUDING SIGNS PLACED ON STRUCTURES, SHALL BE APPROVED BY THE APPROPRIATE W.V.D.O.T. REPRESENTATIVE SO AS TO ELIMINATE INTERFERENCE WITH TRAFFIC, AND DAMAGE TO THE STRUCTURES.

RAMPS
RAMP TRAFFIC SHALL BE MAINTAINED BY USE OF PORTIONS OF THE EXISTING PAVEMENT AND EXISTING OR WIDENED SHOULDERS.

RAMP TRAFFIC MAY BE STOPPED BY MEANS OF FLAGGERS FOR INTERMITTENT PERIODS NOT TO EXCEED TEN (10) MINUTES DURING RAMP PAVEMENT REPAIR OPERATIONS.

HOWEVER, IN NO CASE SHALL TRAFFIC BE PERMITTED TO FORM A QUEUE WHICH EXTENDS BEYOND THE LIMITS OF THE RAMP ONTO THE SPEED CHANGE LANE OR MAINLINE. THE LIMITS AND DURATION OF ANY TRAFFIC STOPPAGE SHALL AT ALL TIMES BE SUBJECT TO THE DIRECTION OF THE ENGINEER.

CLASS FS CONCRETE SHALL BE USED FOR ALL RAMP FULL DEPTH PAVEMENT REPAIRS.

REFERENCE IS MADE TO STANDARD DRAWINGS MT–98.12, MT–98.13, MT–98.14, MT–98.15, MT–98.16, PLAN INSERT SHEET No. 19 & 20 AND SHEET No. 21 FOR MAINTENANCE OF TRAFFIC WHILE REPAIRING AND RESURFACING ALL RAMPS. EXISTING EXIT SIGNS SHALL BE COVERED WHEN THE ABOVE DRAWINGS ARE IN EFFECT.

SPEED CHANGE LANES
SPEED CHANGE LANE TRAFFIC SHALL BE MAINTAINED AT ALL TIMES BY USE OF PORTIONS OF THE EXISTING PAVEMENT AND EXISTING SHOULDERS.

CLASS FS CONCRETE SHALL BE USED FOR ALL SPEED CHANGE LANE FULL DEPTH PAVEMENT REPAIRS.

CROSS–ROADS

WEST STREET:
DURING BRIDGE SEALING OPERATIONS OF BRIDGE NO. BEL–70–2618, ONE LANE OF TRAFFIC SHALL BE MAINTAINED IN EACH DIRECTION AT ALL TIMES BY MEANS OF FLAGGERS PER STANDARD CONSTRUCTION DRAWING MT–97.10.

MARION STREET:
ONE LANE OF TRAFFIC SHALL BE MAINTAINED IN EACH DIRECTION AT ALL TIMES BETWEEN U.S. 40 AND BRIDGE NO. BEL–70–2663. LAW ENFORCEMENT OFFICERS (L.E.O.'S) SHALL BE USED TO ENSURE THAT RAMP TRAFFIC DOES NOT QUEUE UP BEYOND THE EXIT RAMP GORE.

ALTERNATING ONE–WAY TRAFFIC SHALL BE MAINTAINED BETWEEN BRIDGE NO. BEL–70–2663 AND HOWARD STREET BY MEANS OF FLAGGERS PER STANDARD CONSTRUCTION DRAWING MT–97.10, AND SUPPLEMENTED BY L.E.O.'S AS DIRECTED BY THE ENGINEER TO ENSURE THAT RAMP TRAFFIC DOES NOT QUEUE UP BEYOND THE EXIT RAMP GORE.

PAVEMENT REPAIR OPERATIONS BETWEEN U.S. 40 AND BRIDGE NO. BEL–70–2663 SHALL NOT BE PERFORMED SIMULTANEOUSLY WITH PAVEMENT REPAIR OPERATIONS BETWEEN BRIDGE NO. BEL–70–2663 AND HOWARD STREET.

PAVEMENT REPAIR AND SEALING OPERATIONS ON BRIDGE NO. BEL–70–2663 SHALL BE PERFORMED AT NIGHT, BETWEEN THE HOURS OF 6:00 P.M. AND 6:00 A.M. DURING THE DAYTIME HOURS BETWEEN 6:00 A.M. AND 6:00 P.M., ALL LANES SHALL BE OPEN TO TRAFFIC, AND ALL CONSTRUCTION DEBRIS SHALL BE REMOVED.

CLASS FS CONCRETE SHALL BE USED FOR FULL DEPTH PAVEMENT REPAIRS.

MAINLINE STRUCTURES
BRIDGE TRAFFIC SHALL BE MAINTAINED AS PER STANDARD DRAWING MT–95.30.

TWO LANES OF TRAFFIC SHALL NOT BE PERMITTED ACROSS A DIRECTIONAL ROADWAY BRIDGE ON WHICH ONLY ONE LANE OF REHABILITATION HAS BEEN COMPLETED.

GENERAL
TRAFFIC SHALL BE MAINTAINED AS SPECIFIED BY USE OF THE EXISTING PAVEMENT AND/OR EXISTING OR PROPOSED SHOULDERS.

FULL DEPTH SAWING REPAIRS MUST NOT REMAIN UNCOMPLETED THROUGH THE WINTER WITH TRAFFIC ON THE SAWED JOINTS. IF THE CONTRACTOR CANNOT COMPLETE THE REPAIR BEFORE WINTER, THE PAVEMENT SHALL NOT BE SAWED.

ALL EXISTING LANES SHALL OPEN TO TRAFFIC BETWEEN NOVEMBER 15 AND MARCH 15. NOVEMBER 15 SHALL BE CONSIDERED TO CONSTITUTE AN INTERIM COMPLETION DATE, AND LIQUIDATED DAMAGES SHALL BE ASSESSED IN ACCORDANCE WITH SECTION 108.07 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS FOR EACH CALENDAR DAY THAT ALL LANES ARE NOT OPEN AND AVAILABLE TO TRAFFIC. PRIOR TO SHUTTING DOWN FOR THE WINTER, ANY RESURFACING WORK SHALL BE COMPLETE IN PLACE FOR THE FULL WIDTH OF THE PAVEMENT AND SHOULDERS FOR EACH DIRECTIONAL ROADWAY.

IF THE PROJECT IS SHUT DOWN FOR WINTER AND THE PERMANENT PAVEMENT MARKINGS HAVE NOT BEEN APPLIED, THEN CLASS I TEMPORARY EDGE LINES AND LANE LINES SHALL BE APPLIED TO EACH DIRECTIONAL ROADWAY FOR THE LENGTH OF THE PROJECT.

A MINIMUM OF ONE LANE OF TRAFFIC IN EACH DIRECTION SHALL BE MAINTAINED ON IR–70 AT ALL TIMES, AS PER PLAN DETAILS & NOTES, AND STANDARD DRAWINGS MT–95.30 & MT–95.40.

NO WORK SHALL BE PERFORMED AND ALL EXISTING LANES SHALL BE OPEN TO TRAFFIC DURING THE FOLLOWING DESIGNATED HOLIDAYS:

MEMORIAL DAY — LABOR DAY

THE PERIOD OF TIME THAT THE LANES ARE TO BE OPEN DEPENDS ON THE DAY OF THE WEEK ON WHICH THE HOLIDAY FALLS. THE TIME ALL LANES MUST BE OPEN TO TRAFFIC, FOR MONDAY, IS 12:00N FRIDAY THROUGH 12:00N TUESDAY.

NO EXTENSIONS OF TIME SHALL BE GRANTED FOR DELAYS IN MATERIAL DELIVERIES, UNLESS SUCH DELAYS ARE INDUSTRY–WIDE, OR FOR LABOR STRIKES, UNLESS SUCH STRIKES ARE AREA–WIDE.

SHOULD THE CONTRACTOR FAIL TO MEET ANY OF THESE REQUIREMENTS, THE CONTRACTOR SHALL BE ASSESSED LIQUIDATED DAMAGES IN ACCORDANCE WITH 108.07.

THE CONTRACTOR SHALL EMPLOY A LICENSED PROFESSIONAL ENGINEER, REGISTERED WITH THE STATE OF OHIO, WITH EXPERIENCE IN MAINTENANCE OF TRAFFIC ON MULTI–LANE HIGHWAY PROJECTS TO SUPERVISE AND IMPLEMENT THE MAINTENANCE OF TRAFFIC REQUIREMENTS OF THIS PROJECT. THE CONTRACTOR'S ENGINEER SHALL SUBMIT IN WRITING THE FOLLOWING: 1) A GENERAL MAINTENANCE OF TRAFFIC PLAN RELATIVE TO HIS PROPOSED WORK SCHEDULE FOR THE ENTIRE PROJECT AT THE PRE–CONSTRUCTION MEETING, AND 2) DETAILED SCHEDULES AND PLANS FOR EXECUTION OF SPECIFIC WORK ACTIVITIES WHICH IMPACT TRAFFIC OPERATIONS AT LEAST 28 DAYS PRIOR TO IMPLEMENTATION. ALL MAINTENANCE OF TRAFFIC PLANS SHALL BE SUBJECT TO THE APPROVAL OF THE ODOT ENGINEER. THE CONTRACTOR'S ENGINEER SHALL PERSONALLY SUPERVISE THE IMPLEMENTATION OF EACH MAINTENANCE OF TRAFFIC OPERATION. ANY NEEDED ADJUSTMENTS TO THE TRAFFIC CONTROL SHALL BE MADE PROMPTLY. ALL COSTS FOR THE CONTRACTOR'S ENGINEER SHALL BE INCLUDED IN ITEM 614, MAINTAINING TRAFFIC.

PAYMENT FOR ALL OF THE ABOVE, UNLESS SEPARATELY ITEMIZED IN THE PLAN, SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 614 – MAINTAINING TRAFFIC.

IN ADDITION, THE FOLLOWING ESTIMATED QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY TO BE USED AS DIRECTED BY THE ENGINEER FOR THE MAINTENANCE OF TRAFFIC:

ITEM 404 BITUMINOUS CONCRETE FOR MAINTAINING TRAFFIC 150 C.Y.

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS, AS WELL AS THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR 614, MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLAN.

MTNOTES 1of1 02-01-95

MAINTENANCE OF TRAFFIC NOTES

REGION	STATE	PROJECT		14
5	OHIO			97

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CONTRACTOR'S EQUIPMENT – OPERATION AND STORAGE
THE CONTRACTOR'S EQUIPMENT SHALL BE OPERATED IN THE DIRECTION OF TRAFFIC. A QUALIFIED FLAGGER SHALL BE EMPLOYED WHERE THE CONTRACTOR'S EQUIPMENT MUST MERGE WITH THE TRAFFIC STREAM. THE CONTRACTOR'S EQUIPMENT SHALL BE EQUIPPED WITH AT LEAST ONE (1) AMBER FLASHING LIGHT. PAVERS, ROLLERS AND OTHER EQUIPMENT MAY BE PARKED IN AREAS ALONG THE HIGHWAY WHEN PAVEMENT REPAIR OR PAVING OPERATIONS ARE SCHEDULED TO WITHIN THE NEXT WORKDAY; OTHERWISE THE EQUIPMENT SHALL BE STORED AT A STORAGE AREA, THE LOCATION OF WHICH SHALL HAVE PRIOR APPROVAL OF THE ENGINEER. WHEN PARKING ALONG THE HIGHWAY, THE EQUIPMENT SHALL BE PARKED EITHER THIRTY (30) FEET FROM THE OUTSIDE EDGE OF PAVEMENT OR SIX (6) FEET BEHIND GUARDRAIL WITH A MINIMUM OF 125 FEET OF GUARDRAIL PRECEDING THE EQUIPMENT. ALL OTHER EQUIPMENT, INCLUDING PRIVATE VEHICLES, SHALL BE STORED AT THE APPROVED CONTRACTOR'S STORAGE AREA.

THE CONTRACTOR SHALL DESIGNATE AN INDIVIDUAL, OTHER THAN THE SUPERINTENDENT AND SUBJECT TO THE APPROVAL OF THE ENGINEER, TO CONTINUOUSLY INSPECT ALL TRAFFIC CONTROL DEVICES WHENEVER CONSTRUCTION WORK IS BEING PERFORMED WITHIN THE WORK LIMITS OF THE PROJECT. THE DESIGNATED INDIVIDUAL SHALL ALSO INSPECT ALL TRAFFIC CONTROL DEVICES AT THE END OF EACH WORK DAY. THE DESIGNATED INDIVIDUAL SHALL ALSO BE AVAILABLE ON AN AROUND-THE-CLOCK BASIS TO REPAIR AND/OR REPLACE DAMAGED OR MISSING TRAFFIC CONTROL DEVICES. PAYMENT FOR THE TRAFFIC CONTROL INSPECTOR SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 614 – MAINTAINING TRAFFIC.

SPECIAL – REPLACEMENT SIGN
FLAT SHEET SIGNS FURNISHED BY THE CONTRACTOR IN ACCORDANCE WITH THE REQUIREMENTS OF THE PLANS, SPECIFICATIONS AND PROPOSAL WHICH BECOME DAMAGED BY TRAFFIC FOR REASONS BEYOND THE CONTROL OF THE CONTRACTOR SHALL BE REPLACED IN KIND WHEN ORDERED BY THE ENGINEER. REPLACEMENT SIGNS SHALL BE NEW. OTHER MATERIALS MAY BE IN USED BUT GOOD CONDITION SUBJECT TO APPROVAL BY THE ENGINEER.

PAYMENT FOR THE NEW SIGNS SHALL BE MADE AT THE BID PRICE PER SQUARE FOOT FOR ITEM SPECIAL, REPLACEMENT SIGN, AND SHALL INCLUDE THE COST OF REMOVING AND DISPOSING OF THE DAMAGED SIGNS, HARDWARE AND SUPPORTS, AND PROVIDING THE NECESSARY REPLACEMENT HARDWARE, SUPPORTS, ETC.

AN ESTIMATED QUANTITY OF 192 SQUARE FEET HAS BEEN PROVIDED IN THE MAINTENANCE OF TRAFFIC GENERAL SUMMARY.

SPECIAL – REPLACEMENT DRUM
DRUMS FURNISHED BY THE CONTRACTOR IN ACCORDANCE WITH THE REQUIREMENTS OF THE PLANS, SPECIFICATIONS AND PROPOSAL WHICH BECOME DAMAGED BY TRAFFIC FOR REASONS BEYOND THE CONTROL OF THE CONTRACTOR SHALL BE REPLACED IN KIND WHEN ORDERED BY THE ENGINEER. REPLACEMENT DRUMS SHALL BE NEW.

PAYMENT FOR THE NEW DRUMS SHALL BE MADE AT THE BID PRICE PER EACH FOR ITEM SPECIAL, REPLACEMENT DRUM, AND SHALL INCLUDE THE COST OF REMOVING AND DISPOSING OF THE DAMAGED DRUM, AND PROVIDING AND MAINTAINING THE REPLACEMENT DRUM IN ACCORDANCE WITH THE CONTRACT REQUIREMENTS FOR THE ORIGINAL DRUM.

AN ESTIMATED QUANTITY OF 100 EACH HAS BEEN PROVIDED IN THE MAINTENANCE OF TRAFFIC.

614 WORK ZONE SPEED LIMIT SIGN
THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN, COVER DURING SUSPENSION OF WORK, AND REMOVE WORK ZONE SPEED LIMIT SIGNS AND SUPPORTS (R-10-48) (55/45 MPH) WITHIN THE WORK LIMITS IN ACCORDANCE WITH THE FOLLOWING REQUIREMENTS. THE WORK ZONE SPEED LIMIT SHALL BE 55 MPH WEST OF MARION STREET, AND 45 MPH EAST OF MARION STREET.

THE CONTRACTOR SHALL COVER OR REMOVE ANY EXISTING SPEED LIMIT OR MINIMUM SPEED SIGNS WITHIN THE REDUCED SPEED ZONE. THESE SIGNS SHALL BE RESTORED DURING SUSPENSION OR TERMINATION OF THE REDUCED SPEED LIMIT. THE EXPENSE OF COVERING OR REMOVAL AND RESTORATION OF EXISTING SPEED LIMIT OR MINIMUM SPEED SIGNS IS INCIDENTAL TO THE PAY ITEM FOR THE WORK ZONE SPEED LIMIT SIGNS.

THE WORK ZONE SPEED LIMIT SIGNS MAY BE ERECTED AND COVERED PRIOR TO STARTING WORK OR MAY BE ERECTED UNCOVERED NO MORE THAN FOUR HOURS BEFORE THE ACTUAL START OF WORK. THE SIGNS SHALL BE REMOVED OR COVERED NO LATER THAN FOUR HOURS FOLLOWING RESTORATION OF ALL LANES TO TRAFFIC WITH NO RESTRICTIONS OR SOONER AS DIRECTED BY THE ENGINEER.

THE CONTRACTOR SHALL ERECT A WORK ZONE SPEED LIMIT SIGN IN ADVANCE OF ANY LANE RESTRICTION EXPECTED TO LAST AT LEAST 30 CONSECUTIVE CALENDAR DAYS OR AS DIRECTED BY THE ENGINEER. THE SIGN SHALL BE MOUNTED ON BOTH SIDES OF DIVIDED HIGHWAYS, 500 FEET IN ADVANCE OF THE LANE REDUCTION TAPER. THE SIGN SHALL BE MOUNTED ON THE RIGHT SIDE, 250 FEET IN ADVANCE OF THE LANE REDUCTION TAPER ON UNDIVIDED HIGHWAYS. THESE SIGNS SHALL ALSO BE ERECTED IMMEDIATELY AFTER EACH ENTRANCE RAMP WITHIN THE ZONE. A SIGN TO INDICATE THE RESUMPTION OF THE STATUTORY SPEED LIMIT SHALL BE ERECTED AT THE END OF ANY REDUCED SPEED ZONE. THIS SIGN SHALL BE AN R-8A-48.

THE CONTRACTOR MAY USE SIGNS AND SUPPORTS IN USED BUT GOOD CONDITION PROVIDED THE SIGNS MEET CURRENT ODOT SPECIFICATIONS. SIGN FACES SHALL BE REFLECTORIZED WITH TYPE G SHEETING COMPLYING WITH THE REQUIREMENTS OF 730.19 AND U.S. DEPARTMENT OF TRANSPORTATION SUPPLEMENTAL SPECIFICATION FOR TYPE III SHEETING, FP-85. WORK ZONE SPEED LIMIT SIGNS SHALL BE MOUNTED ON TWO (2)-ITEM 630 GROUND MOUNTED SUPPORTS, NO. 4 POSTS.

WORK ZONE SPEED LIMIT SIGN AND SUPPORTS WILL BE MEASURED AS THE NUMBER OF SIGN INSTALLATIONS, INCLUDING THE SIGN AND NECESSARY SUPPORTS. IF A SIGN AND SUPPORT COMBINATION IS REMOVED AND RE-ERECTED AT ANOTHER LOCATION WITHIN THE PROJECT DUE TO CHANGES IN THE SPEED ZONE DIRECTED BY THE ENGINEER, IT SHALL BE CONSIDERED ANOTHER UNIT.

PAYMENT FOR ACCEPTED QUANTITIES, COMPLETE IN PLACE, WILL BE MADE AT THE CONTRACT UNIT PRICE PER EACH. PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIALS, LABOR, INCIDENTALS AND EQUIPMENT FOR FURNISHING, ERECTION, MAINTENANCE, COVERING DURING SUSPENSION OF WORK, AND REMOVAL OF THE SIGNS AND SUPPORTS.

ITEM	NO	UNIT	DESCRIPTION
614	24	EACH	WORK ZONE SPEED LIMIT SIGN

LAW ENFORCEMENT OFFICER WITH PATROL CAR
IN ADDITION TO THE REQUIREMENTS OF 614 AND THE LATEST EDITION OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (OMUTCD), A UNIFORMED LAW ENFORCEMENT OFFICER (AND OFFICAL PATROL CAR WITH WORKING TOP MOUNTED EMERGENCY FLASHING LIGHTS) SHALL BE PROVIDED FOR CONTROLLING TRAFFIC FOR THE FOLLOWING TASKS:

- FOR LANE CLOSURES: DURING INITIAL SET-UP PERIODS, TEAR DOWN PERIODS, SUBSTANTIAL SHIFTS OF A CLOSURE POINT OR WHEN NEW LANE CLOSURE ARRANGEMENTS ARE INITIATED.
- TO DIRECT TRAFFIC AT THE INTERSECTIONS OF RAMP A/MARION STREET, AND RAMP C/MARION STREET TO ENSURE A SAFE TRAFFIC FLOW, AND TO PREVENT TRAFFIC FROM QUEUING ONTO MAINLINE I.R. 70.
- TO DIRECT TRAFFIC AT THE INTERSECTIONS OF U.S. 40/ MARION STREET, AND HOWARD STREET/MARION STREET AS DIRECTED BY THE ENGINEER.
- TO PATROL ANY OR ALL OF THE PROJECT AS DEEMED APPROPRIATE BY THE ENGINEER.

LAW ENFORCEMENT OFFICERS (L.E.O.'S) SHOULD NOT BE USED WHERE THE OMUTCD INTENDS THAT FLAGGERS BE USED. THE LEO'S ARE CONSIDERED TO BE EMPLOYED BY THE CONTRACTOR AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR THEIR ACTIONS. ALTHOUGH THEY ARE EMPLOYED BY THE CONTRACTOR, THE PROJECT ENGINEER SHALL HAVE CONTROL OVER THEIR PLACEMENT. THE OFFICIAL PATROL CAR SHALL BE A PUBLIC SAFETY VEHICLE AS REQUIRED BY THE OHIO REVISED CODE.

THE CONTRACTOR SHALL MAKE ARRANGEMENTS FOR THESE SERVICES WITH:

THE STATE HIGHWAY PATROL HEADQUARTERS
660 EAST MAIN STREET
COLUMBUS, OHIO 43205
PHONE: (216) 466-2660

THE WEST VIRGINIA STATE POLICE
725 JEFFERSON ROAD
SOUTH CHARLESTON, WEST VIRGINIA 25309
PHONE: (304)-746-2100

MAYOR OF BRIDGEPORT
301 MAIN STREET
BRIDGEPORT, OHIO 43912
PHONE: (614) 635-2424

CITY OF WHEELING
c\o CITY MANAGER
1500 CHAPLINE STREET
WHEELING, WEST VIRGINIA 26003
PHONE: (304) 234-3617

LAW ENFORCEMENT OFFICERS WITH PATROL CAR REQUIRED BY THE TRAFFIC MAINTENANCE TASKS ABOVE SHALL BE PAID FOR ON A UNIT PRICE (HOURLY) BASIS UNDER ITEM 614 -LAW ENFORCEMENT OFFICER WITH PATROL CAR. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY:

ITEM 614 LAW ENFORCEMENT OFFICER WITH PATROL CAR 1200 HOURS

THE HOURS PAID SHALL INCLUDE MINIMUM SHOW-UP TIME REQUIRED BY THE LAW ENFORCEMENT AGENCY INVOLVED.

IF THE CONTRACTOR WISHES TO UTILIZE LEO'S FOR FLAGGING AND TRAFFIC CONTROL OTHER THAN FOR THAT REQUIRED IN THESE PLANS, HE MAY DO SO AT HIS OWN EXPENSE. PAYMENT FOR THE EXCESS ABOVE THE CONTRACT REQUIREMENTS WILL BE INCLUDED UNDER ITEM 614 MAINTAINING TRAFFIC.

TEMPORARY WORK ZONE MARKINGS AND SIGNS
THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER FOR TEMPORARY WORK ZONE PAVEMENT MARKINGS AND SIGNS PER THE REQUIREMENTS OF THE STANDARD CONSTRUCTION DRAWINGS:

IR-70:
"NO EDGE LINES" OW-167-48 24 EACH

CROSSROADS:
"NO EDGE LINES" OW-167-48 4 EACH

TOTAL: 28 EACH

ITEM 614 WORK ZONE MARKING SIGNS 28 EACH

ITEM 614 – TEMPORARY LANE LINES, CLASS I, AS PER PLAN 7.82 MI.*
ITEM 614 – TEMPORARY GORE MARKINGS, CLASS II, AS PER PLAN 301 LF.*
ITEM 614 – TEMPORARY EDGE LINES, CLASS I, AS PER PLAN 13.77 MI.**

* THESE TEMPORARY PAVEMENT MARKINGS SHALL BE APPLIED TO EACH ASPHALT PAVEMENT COURSE OPEN TO TRAFFIC. SEE STANDARD DRAWING MT-99.10 FOR REQUIREMENTS.

** THESE MARKINGS SHALL BE APPLIED TO THE ITEM 446-INTERMEDIATE COURSE (6.9 MI. WHITE, 6.87 MI. YELLOW).

THESE QUANTITIES HAVE BEEN CALCULATED BY USING THE PERMANENT THERMOPLASTIC PAVEMENT MARKING QUANTITIES, SEE SHEET NO.'S 38 THRU 43 .

ITEM 614-TEMPORARY PAVEMENT MARKING, BY CLASS, AS PER PLAN
THE CONTRACTOR SHALL BE REQUIRED TO INSTALL TEMPORARY PAVEMENT MARKINGS ACCORDING TO THE FOLLOWING CRITERIA CONTINGENT UPON HIS SEQUENCE OF CONSTRUCTION.

TEMPORARY PAVEMENT MARKINGS SHALL BE 740.05, TYPE C PREFORMED MATERIAL OR 642.02 PAINT APPLIED USING THE FOLLOWING CRITERIA:

ALL TEMPORARY MARKINGS INSTALLED ON A PERMANENT BRIDGE DECK OR ON PERMANENT PAVEMENT SURFACE SHALL BE 740.05, TYPE C PREFORMED MATERIAL. PAINT MAY BE USE FOR TEMPORARY MARKINGS INSTALLED ON EXISTING BRIDGE DECKS TO BE REPLACED OR OVERLAID, OR ON EXISTING PAVEMENT THAT WILL BE RESURFACED OR FOR TEMPORARY MARKING PLACED IN THE PERMANENT MARKING LOCATIONS.

PAYMENT FOR THE ABOVE WILL BE TEMPORARY PAVEMENT MARKING, BY CLASS, WHICH WILL INCLUDE EITHER PAINT OR TAPE AS REQUIRED. TEMPORARY RAISED PAVEMENT MARKERS CANNOT BE USED TO SIMULATE (REPLACE) ANY OTHER TYPE OF TEMPORARY PAVEMENT MARKINGS.

REGION	STATE	PROJECT	
5	OHIO		

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MAINTENANCE OF TRAFFIC NOTES

ITEM SPECIAL - TEMPORARY IMPACT ATTENUATOR (G.R.E.A.T. TYPE)
THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING AN IMPACT ATTENUATOR AS REQUIRED IN THE PLANS, AND SHALL ALSO INCLUDE ALL RELATED HARDWARE, NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER TO CONSTRUCT A COMPLETE AND FUNCTIONAL G.R.E.A.T. IMPACT ATTENUATOR SYSTEM.

THE ATTENUATOR SHALL BE PLACED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS, AND IN REASONABLY CLOSE CONFORMITY AS SHOWN ON SHEET NO. 18 . THE ATTENUATOR SHALL BE MANUFACTURED BY ENERGY ABSORPTION SYSTEMS, INC., AND IS DISTRIBUTED BY BALDWIN & SOURS, 5263 TRAUBE ROAD, COLUMBUS, OHIO 43228 (TELEPHONE 614-851-8800).

THE NOSE COVER OF THE ATTENUATOR SHALL MEET THE REQUIREMENTS OF STANDARD CONSTRUCTION DRAWING MT-95.81.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING, REPAIRING AND OTHERWISE RESTORING THE ATTENUATOR IN ACCORDANCE WITH THE MANUFACTURER'S MAINTENANCE INSTRUCTIONS WHILE THE ATTENUATOR IS IN USE DURING CONSTRUCTION OF THE PROJECT. IF THE ATTENUATOR GETS DAMAGED BEYOND REPAIR DUE TO VEHICULAR IMPACT PRIOR TO ACCEPTANCE BY THE STATE, IT SHALL BE REPAIRED AS SPECIFIED IN THE PROPOSAL WITHIN 24 HOURS OF THE INCIDENT WHICH CAUSED DAMAGE TO THE ATTENUATOR. IN ADDITION TO ANY EXTRA UNITS SUPPLIED FOR THIS PROJECT, THE CONTRACTOR SHALL BE RESPONSIBLE FOR SUPPLYING ALL NECESSARY MATERIALS, LABOR, AND EQUIPMENT REQUIRED TO PERFORM THE ABOVE DESCRIBED RESTORATION OF THE ATTENUATOR.

THE ESTIMATED QUANTITY BELOW SHALL BE USED AS DIRECTED BY THE ENGINEER FOR USE IN THE ABOVE MENTIONED RESTORATION ONLY WHEN THE ENGINEER DECIDES THAT MINOR OR MAJOR REPAIRS CANNOT BE PERFORMED WITHIN THE 24 HOUR TIME LIMITATION:

ITEM SPECIAL, TEMPORARY IMPACT ATTENUATOR, G.R.E.A.T. TYPE (REPLACEMENT). . . . 1 EACH

TEMPORARILY INSTALLED IMPACT ATTENUATORS SHALL BE BID AS ITEM SPECIAL, EACH, TEMPORARY IMPACT ATTENUATOR, (G.R.E.A.T. TYPE).

THE MODEL NUMBER OF THE TEMPORARILY INSTALLED IMPACT ATTENUATOR, AND THE REPLACEMENT IMPACT ATTENUATOR SHALL BE MODEL NUMBER 200200NF6GCZ, BI-IDIRECTIONAL.

FOR THE LOCATION OF THE TEMPORARILY INSTALLED ATTENUATOR, SEE SHEET NO. 18 .

PAYMENT FOR THE ABOVE WORK, INCLUDING FURNISHING, INSTALLING, MAINTAINING, AND RESTORING THE ATTENUATOR AFTER EACH VEHICULAR IMPACT, WILL BE MADE AT THE RESPECTIVE CONTRACT PRICE FOR ITEM SPECIAL, EACH, TEMPORARY IMPACT ATTENUATOR, G.R.E.A.T. TYPE (REPLACEMENT), AND ITEM SPECIAL, EACH, TEMPORARY IMPACT ATTENUATOR, (G.R.E.A.T. TYPE), AND SHALL INCLUDE THE COST OF ALL LABOR, MATERIALS, EQUIPMENT, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK.

EXTRA ADVANCED WARNING SIGNS
AN EXTRA ADVANCED WARNING SIGN GROUP CONSISTS OF TWO OW-128 (ROAD CONSTRUCTION AHEAD) SIGNS, TWO OW-122 (OW-123) (RIGHT/LEFT LANE CLOSED AHEAD) SIGNS WITH OW-145A DISTANCE PLATES, AND TWO OW-166 (WATCH FOR STOPPED TRAFFIC) SIGNS AND REQUIRED WARNING LIGHTS. THE CONTRACTOR SHALL PROVIDE, ERECT, MAINTAIN AND REMOVE EXTRA ADVANCE WARNING SIGN GROUPS AS SHOWN IN MT-95.30 & MT-95.40 AT THE FOLLOWING DISTANCES IN ADVANCE OF THE LANE TAPERS WITH THE APPROPRIATE OW-145A DISTANCE PLATES. PROVIDE SIGN GROUPS AT 1 MILE, 1.5 MILES, AND 2 MILES AT THE FOLLOWING LANE TAPER LOCATIONS:

1.) STA. 364+72.50 WESTBOUND
2.) STA. 368+77.50 WESTBOUND
3.) STA. 1380+86.00 EASTBOUND

THE CONTRACTOR SHALL HAVE AN ADDITIONAL EXTRA ADVANCE WARNING SIGN GROUP (6 SIGNS AND 2 DISTANCE PLATES) AVAILABLE FOR USE WHEN DIRECTED BY THE ENGINEER. THE DISTANCE PLATES FOR THIS GROUP SHALL BE ABLE TO BE MODIFIED IN THE FIELD TO SHOW APPROPRIATE WHOLE MILES TO THE LANE TAPER.

PAYMENT FOR PROVIDING, ERECTING, MAINTAINING AND REMOVING EXTRA ADVANCE WARNING SIGN GROUPS SHALL BE INCLUDED IN THE LUMP SUM BID FOR 614 MAINTAINING TRAFFIC.

ITEM 614 - PORTABLE CHANGEABLE MESSAGE SIGN, BY CLASS, AS PER PLAN
THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN AND REMOVE, WHEN NO LONGER NEEDED, A CHANGEABLE MESSAGE SIGN, ON SITE, FOR THE DURATION OF THE PROJECT. THE SIGN SHALL BE OF A TYPE SHOWN ON A LIST OF APPROVED PCMS UNITS MAINTAINED BY THE DIRECTOR. THE LIST CURRENTLY CONTAINS CLASS III AND II UNITS WITH MINIMUM LEGIBILITY DISTANCES OF 650 FT. AND 850 FT. RESPECTIVELY.

EACH SIGN SHALL BE TRAILER MOUNTED AND EQUIPPED WITH A FUNCTIONAL DIMMING MECHANISM TO DIM THE SIGN DURING DARKNESS AND A TAMPER AND VANDAL PROOF ENCLOSURE. EACH SIGN SHALL BE PROVIDED WITH APPROPRIATE TRAINING AND OPERATION INSTRUCTIONS TO ENABLE ON-SITE PERSONNEL TO OPERATE AND TROUBLESHOOT THE UNIT. THE SIGN SHALL ALSO BE CAPABLE OF BEING POWERED BY AN ELECTRICAL SERVICE DROP FROM A LOCAL UTILITY COMPANY.

PLACEMENT, OPERATION, MAINTENANCE AND ALL ACTIVATION OF THE SIGNS BY THE CONTRACTOR SHALL BE AS DIRECTED BY THE ENGINEER. THE PCMS SHALL BE LOCATED IN A HIGHLY VISIBLE POSITION YET PROTECTED FROM TRAFFIC. THE CONTRACTOR SHALL, AT THE DIRECTION OF THE ENGINEER, RELOCATE THE PCMS TO IMPROVE VISIBILITY OR ACCOMMODATE CHANGED CONDITIONS. WHEN NOT IN USE, THE PCMS WILL BE OFF, FACING AWAY FROM ALL TRAFFIC AND SHALL DISPLAY ONE OR MORE HIGH INTENSITY YELLOW REFLECTIVE SHEETING SURFACES OF 9-INCH BY 15-INCH MINIMUM SIZE FACING TRAFFIC.

THE ENGINEER SHALL BE PROVIDED ACCESS TO EACH SIGN UNIT AND SHALL BE PROVIDED WITH APPROPRIATE TRAINING AND OPERATION INSTRUCTIONS TO ENABLE ODOT PERSONNEL TO OPERATE AND TROUBLESHOOT THE UNIT AND TO REVISE SIGN MESSAGES, IF NECESSARY.

ALL MESSAGES TO BE DISPLAYED ON THE SIGN WILL BE PROVIDED BY THE ENGINEER. A LIST OF ALL REQUIRED PREPROGRAMMED MESSAGES WILL BE GIVEN TO THE CONTRACTOR AT THE PROJECT PRECONSTRUCTION CONFERENCE OR WHEN AVAILABLE. THE SIGN SHALL HAVE THE CAPABILITY TO STORE UP TO 99 MESSAGES. MESSAGE MEMORY OR PRE-PROGRAMMED DISPLAYS SHALL NOT BE LOST AS A RESULT OF POWER FAILURES TO THE ON BOARD COMPUTER. THE SIGN LEGEND SHALL BE CAPABLE OF BEING CHANGED IN THE FIELD. THREE-LINE PRESENTATION FORMATS WITH UP TO SIX MESSAGE PHASES SHALL BE SUPPORTED, BUT NORMALLY, NOT MORE THAN TWO MESSAGE PHASES SHOULD BE EMPLOYED, ALTHOUGH THREE PHASES MAY BE USED IN UNUSUAL CONDITIONS. PCMS FORMAT SHALL PERMIT THE COMPLETE MESSAGE FOR EACH PHASE TO BE READ AT LEAST ONCE.

THE PCMS SHALL CONTAIN AN ACCURATE CLOCK AND PROGRAMMING LOGIC WHICH WILL ALLOW THE SIGN TO BE ACTIVATED, DEACTIVATED OR MESSAGES CHANGED AUTOMATICALLY AT DIFFERENT TIMES OF THE DAY FOR DIFFERENT DAYS OF THE WEEK.

THE PCMS UNIT SHALL BE MAINTAINED IN GOOD WORKING ORDER BY THE CONTRACTOR IN ACCORDANCE WITH THE PROVISIONS OF 614.03(C). THE CONTRACTOR SHALL, PRIOR TO ACTIVATING THE UNIT, MAKE ARRANGEMENTS WITH AN AUTHORIZED SERVICE AGENT FOR THE PCMS TO ASSURE PROMPT SERVICE IN THE EVENT OF FAILURE. ANY FAILURE SHALL NOT RESULT IN THE SIGN BEING OUT OF SERVICE FOR MORE THAN 12 HOURS INCLUDING WEEKENDS. FAILURE TO COMPLY MAY RESULT IN AN ORDER TO STOP WORK AND OPEN ALL TRAFFIC LANES AND/OR IN THE DEPARTMENT TAKING APPROPRIATE ACTION TO SAFELY CONTROL TRAFFIC AND THE ENTIRE COST TO CONTROL TRAFFIC ACCRUED BY THE DEPARTMENT WILL BE DEDUCTED FROM MONEYS DUE, OR TO BECOME DUE THE CONTRACTOR ON HIS CONTRACT.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR 24 HOURS PER DAY OPERATION AND MAINTENANCE OF THESE SIGNS ON THE PROJECT FOR THE DURATION OF THE PHASES WHEN THE PLAN REQUIRES THEIR USE.

THE REQUIREMENT TO FURNISH, INSTALL, MAINTAIN AND REMOVE A PCMS UNIT ON THIS PROJECT SHALL NOT IN ANY WAY RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITIES AS OUTLINED IN 104.04.

PAYMENT FOR THE ABOVE DESCRIBED ITEM SHALL BE AT THE CONTRACT UNIT PRICE BID PER SIGN-MONTH FOR EACH ITEM 614 PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN AND SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, FUELS, LUBRICATING OILS, SOFTWARE, HARDWARE AND INCIDENTALS TO PERFORM THE ABOVE DESCRIBED WORK.

THE CONTRACTOR SHALL IMPLEMENT A SYSTEM WHEREBY CHANGED MESSAGES WILL BE IMPLEMENTED WITHIN HOURS FOLLOWING TELEPHONE NOTIFICATION FROM THE PROJECT ENGINEER TO A DESIGNATED PHONE. THE FOLLOWING QUANTITY HAS BEEN CARRIED TO SHEET NO. 23A FOR THIS ITEM.

ITEM 614 PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN-----3 EACH

COVERING OF SIGNS
WHERE THE PLANS CALL FOR A PERMANENT SIGN TO BE COVERED, THE CONTRACTOR SHALL DO SO IN SUCH A MANNER AS TO AVOID DAMAGING THE PERMANENT SIGN WHEN THE COVER IS REMOVED. THE COVER SHALL BE TOTALLY OPAQUE. THE USE OF ADHESIVE TAPE APPLIED DIRECTLY TO A SIGN IS STRICTLY PROHIBITED.

NOTIFICATION OF WORK ZONE LANE RESTRICTIONS
THE CONTRACTOR SHALL NOTIFY THE ENGINEER AT LEAST EIGHTEEN (18) DAYS DAYS PRIOR TO IMPLEMENTING ANY WORK ZONE RESTRICTIONS WHICH WILL REDUCE THE WIDTH OR VERTICAL CLEARANCE OF ANY LANE ON WHICH TRAFFIC WILL BE MAINTAINED DURING CONSTRUCTION.

THE ENGINEER SHALL IMMEDIATELY NOTIFY THE DISTRICT OPERATIONS DEPARTMENT TO ADVISE THE BUREAU OF PERMITS AND COMMUNICATIONS OF THE RESTRICTIONS.

622 PORTABLE CONCRETE BARRIER
IT IS ANTICIPATED THAT THE SAME BARRIER WILL BE USED IN VARIOUS PHASES OF CONSTRUCTION. MOVEMENT OF THE CONCRETE BARRIER BETWEEN PHASES SHALL BE ACCOMPLISHED IN ONE WORKING DAY. FLAGGERS SHALL BE UTILIZED FOR PROTECTION OF VEHICULAR TRAFFIC UNTIL MOVEMENT OF THE BARRIER IS COMPLETE.

ALL COSTS INVOLVED IN REMOVING AND REINSTALLING THE CONCRETE BARRIER WILL BE INCLUDED IN THE CONTRACT PRICE FOR ITEM 622, PORTABLE CONCRETE BARRIER.

ITEM 614-BARRIER REFLECTORS
THESE REFLECTORS AND THEIR MOUNTINGS SHALL CONFORM TO SUPPLEMENTAL SPECIFICATION 802 EXCEPT THAT THE SPACING SHALL BE AS SHOWN ON THE SUB-SUMMARY TABLES. SEE SHEET No. 16 .

MTN0703 1=1 02-01-95

REGION	STATE	PROJECT	
5	OHIO		

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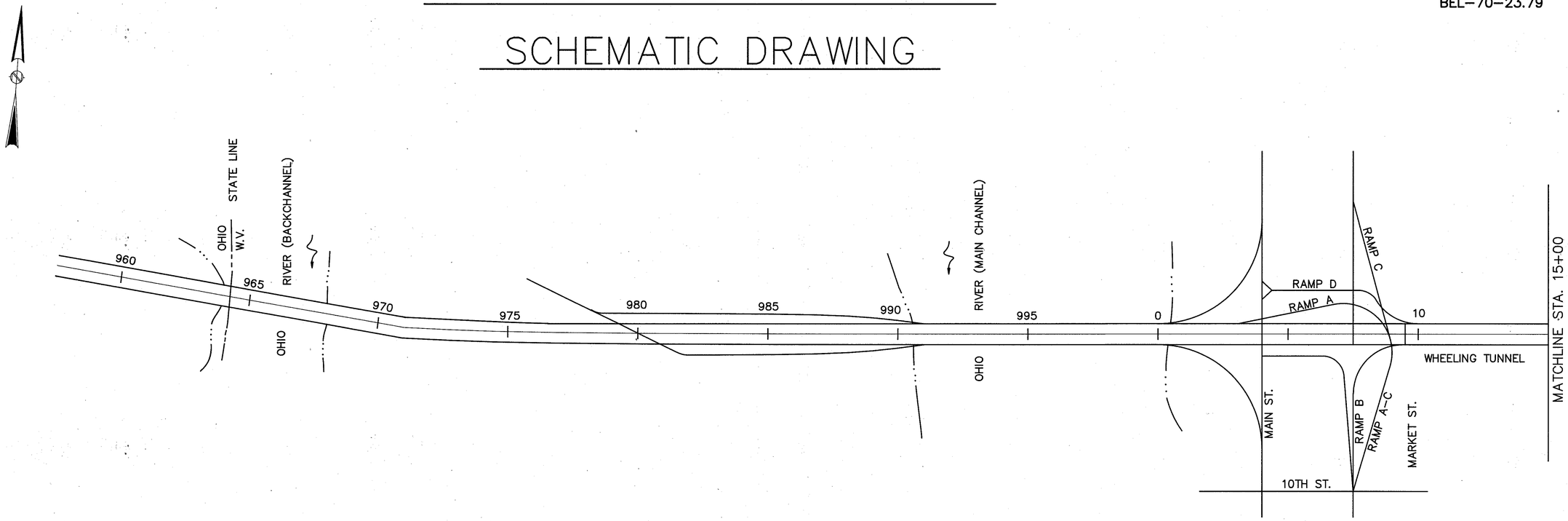
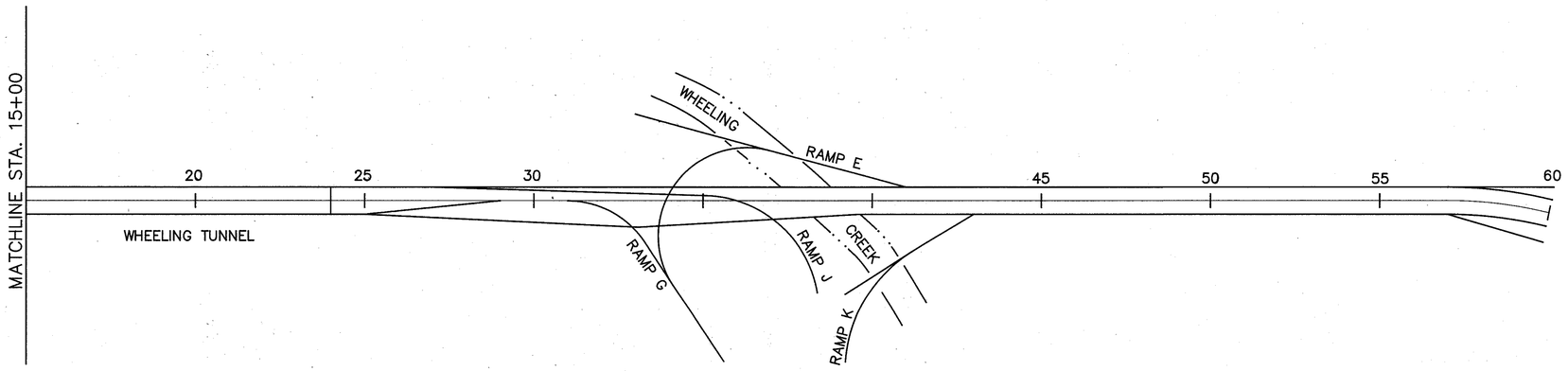
MAINTENANCE OF TRAFFIC

SCHEMATIC DRAWING





IR-70 OHIO STATE LINE TO WEST VIRGINIA OGLEBAY EXIT

MAINTENANCE OF TRAFFIC NOTES

MTNOTE4 1=1 02-03-95

MAINTENANCE OF TRAFFIC QUANTITIES

	BY	DATE	REGION	STATE	PROJECT	
Calculated	W.H.F.	12-93	5	OHIO		
Checked	D.T.B.	7-94				

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* TEMPORARY IMPACT ATTENUATOR
G.R.E.A.T. SYSTEM, MODEL NO.
200200NF6GCZ, BI-DIRECTIONAL

SHEET NO.	DESCRIPTION	STATION FROM	STATION TO	CALCULATION	ITEM 622 PORTABLE CONCRETE BARRIER, 32"	ITEM 614 TEMPORARY LANE LINE, CLASS I AS PER PLAN W	ITEM 614 TEMPORARY EDGE LINE, CLASS I AS PER PLAN W	ITEM 614 TEMPORARY EDGE LINE, CLASS I AS PER PLAN Y	ITEM 614 BARRIER REFLECTORS, TYPE B W	ITEM 614 BARRIER REFLECTORS, TYPE B Y	ITEM 614 OBJECT MARKER	ITEM SPEC. *TEMPORARY G.R.E.A.T. IMPACT ATTENUATOR			
					LIN. FT.	LF	LF	LF	EACH	EACH	EACH	EACH			
17	WESTBOUND	1383+07.00	356+13.00	3,727.9' = USE 3,728'			3,728								
	STA 1383+07.00 TO	1384+53.00	364+72.50	4,441.4' = USE 4,441'				4,441							
	STA. 364+72.50	1384+53.00	1392+93.00	840	840										
	PHASE 1	1384+53.00	1392+93.00	840'/25=33.6 USE 34 @ 25 SPA.						34					
		1384+53.00	1392+93.00	840'/25+1=34.6 USE 35 @ 25 SPA.							35				
		340+83.00	356+13.00	1,530'	1,530										
		340+83.00	356+13.00	1,530'/25=61.2 USE 61 @ 25' SPA.						69					
		340+83.00	356+13.00	1,530'/25+1=62.2 USE 62 @ 25' SPA.							70				
	EASTBOUND	1383+86.00	353+89.00	3,724.9' = USE 3,725'			3,725								
	STA 1380+86.00 TO	1383+86.00	353+89.00	3,724.9' = USE 3,725'				3,725							
	STA. 353+89.00	1383+86.00	353+89.00	3,724.9' = USE 3,725'		3,725									
	PHASE 1	1382+56.00	1388+86.00	630	630										
		1382+56.00	1388+86.00	630'/25=25.2 USE 25 @ 25 SPA.						25					
		1382+56.00	1388+86.00	630'/25+1=26.2 USE 26 @ 25 SPA.							26				
		339+00.00	352+10.00	1,310'	1,310										
		339+00.00	356+13.00	1,310'/25=52.4 USE 52 @ 25' SPA.						52					
		339+00.00	356+13.00	1,310'/25+1=53.4 USE 53 @ 25' SPA.							53				
18	WESTBOUND	1382+87.00	368+77.50	5,012.4' = USE 5,012'				5,012							
	STA 1381+82.50 TO	1384+49.00	B37+00.00	1,672.9' = USE 1,673'			1,673								
	STA. 357+72.50	B35+00.00	B38+58.00	358' = USE 358'				358							
	PHASE 2	335+00.00	368+77.50	3,377.5' = USE 3,378'			3,378								
		1384+49.00	1393+59.00	910'	910										
		1384+49.00	1393+59.00	910'/25=36.4 USE 36 @ 25 SPA.					36						
		1384+49.00	1393+59.00	910'/25+1=37.4 USE 37 @ 25 SPA.							37				
		340+90.00	353+70.00	1,280'	1,280										
		340+90.00	353+70.00	1,280'/25=51.2 USE 51 @ 25' SPA.					51						
		340+90.00	353+70.00	1,280'/25+1=52.2 USE 52 @ 25' SPA.							52				
		353+70.00										1			
		352+90.00	353+70.00	80'/25=3.2 USE 3 @ 25' SPA.						3					
		352+90.00	353+70.00	80'/25+1=4.2 USE 4 @ 25' SPA.							4				
	SUB-TOTAL THIS SHEET				6,500	3,725	12,504	13,536	87	183	277	1			
						0.71 Mi.	4.93 Mi.		270						

NOTE: SUBTOTAL CARRIED TO GENERAL SUMMARY SHEET No. 23

MTSCALE 1=1 10-11-94

	BY	DATE	REGION	STATE	PROJECT		
Calculated	WHF	1-94	5	OHIO			
Checked	DTB	7-94					

17/97

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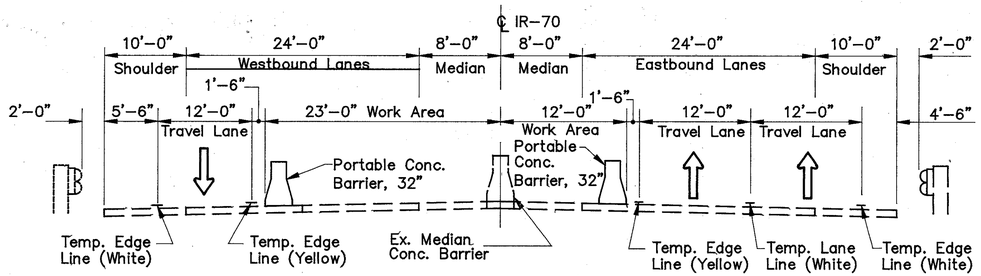
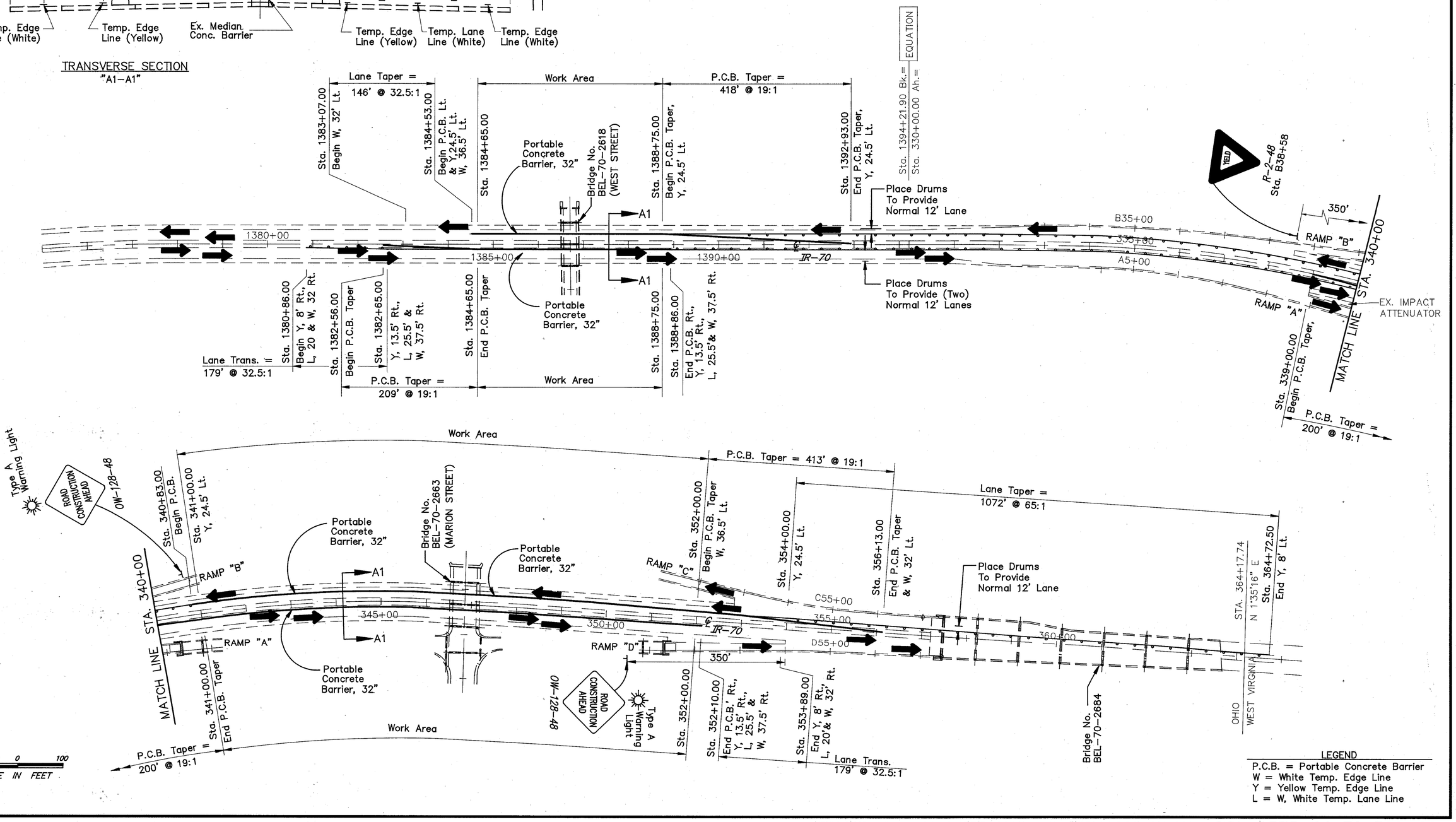


TRANSVERSE SECTION
"A1-A1"



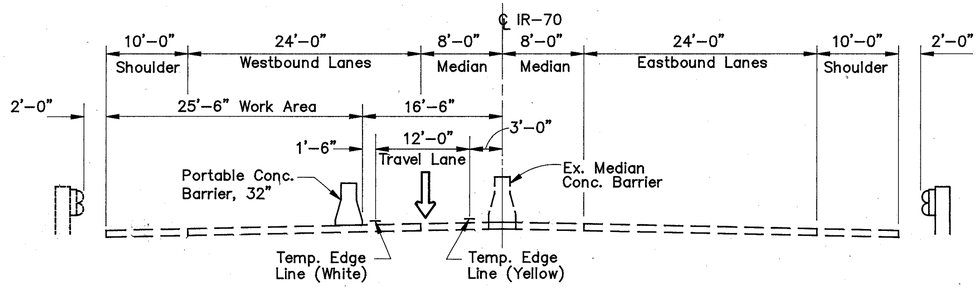
LEGEND
P.C.B. = Portable Concrete Barrier
W = White Temp. Edge Line
Y = Yellow Temp. Edge Line
L = W, White Temp. Lane Line

MTP1 1=100 10-11-94

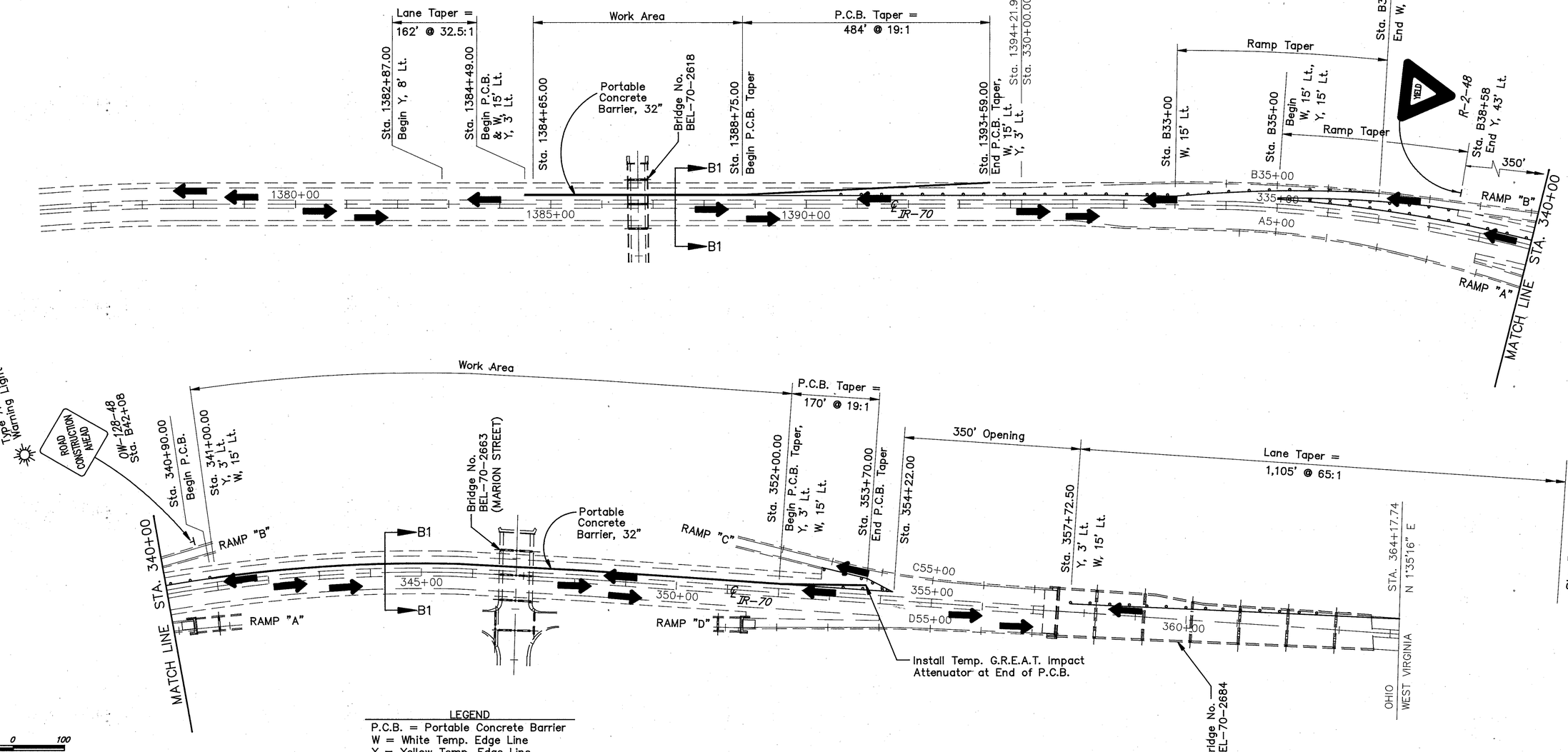
PHASE 1 — MAINTENANCE OF TRAFFIC PLAN STA. 1375+00 TO 366+00

	BY	DATE	REGION	STATE	PROJECT		
Calculated	WHF	1-94	5	OHIO			
Checked	DTB	7-94					

BEL-70-23.79



TRANSVERSE SECTION
"B1-B1"



LEGEND
P.C.B. = Portable Concrete Barrier
W = White Temp. Edge Line
Y = Yellow Temp. Edge Line

100 50 0 100
SCALE IN FEET

MTP2 1=100 10-11-94

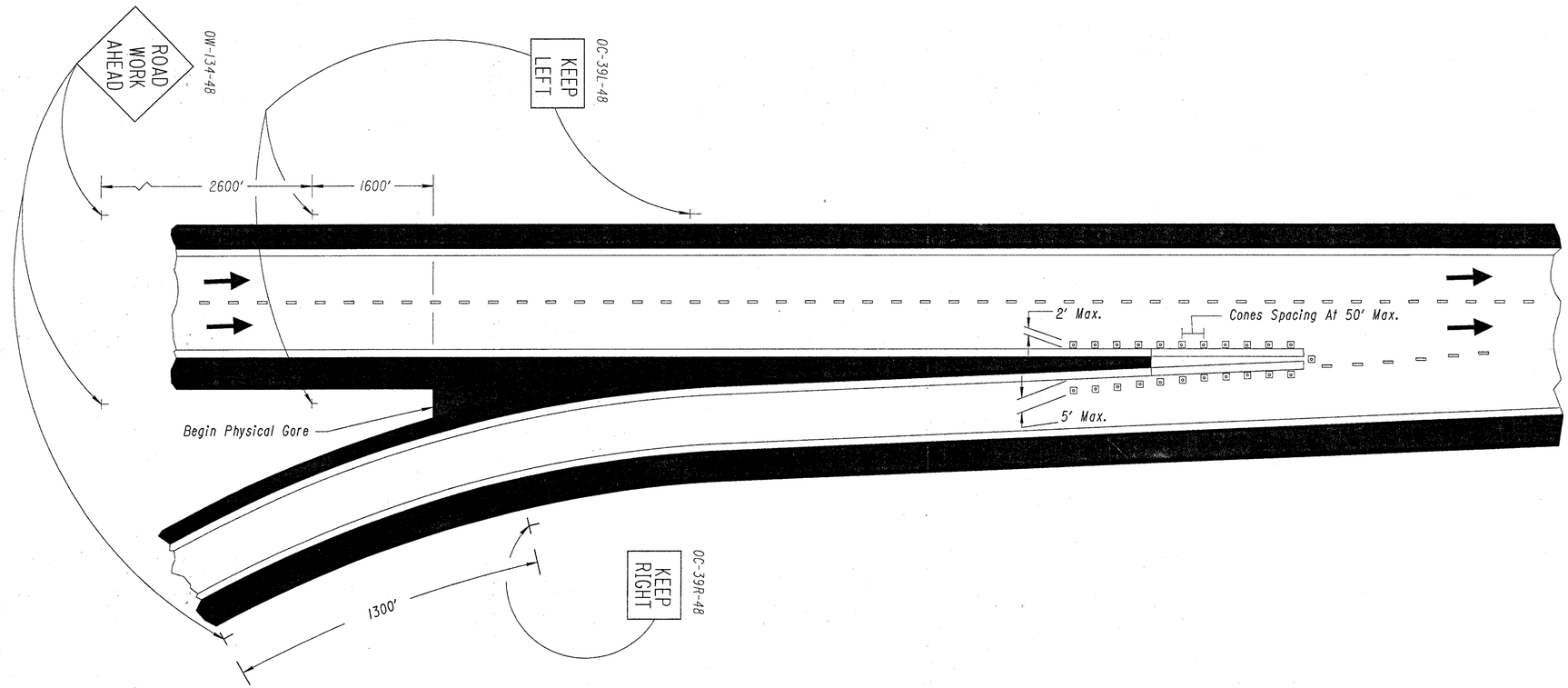
PHASE 2 – MAINTENANCE OF TRAFFIC PLAN STA. 1375+00 TO 366+00

FHWA REGION	STATE	PROJECT	
5	OHIO		

19
97

BEL -70 -23.79

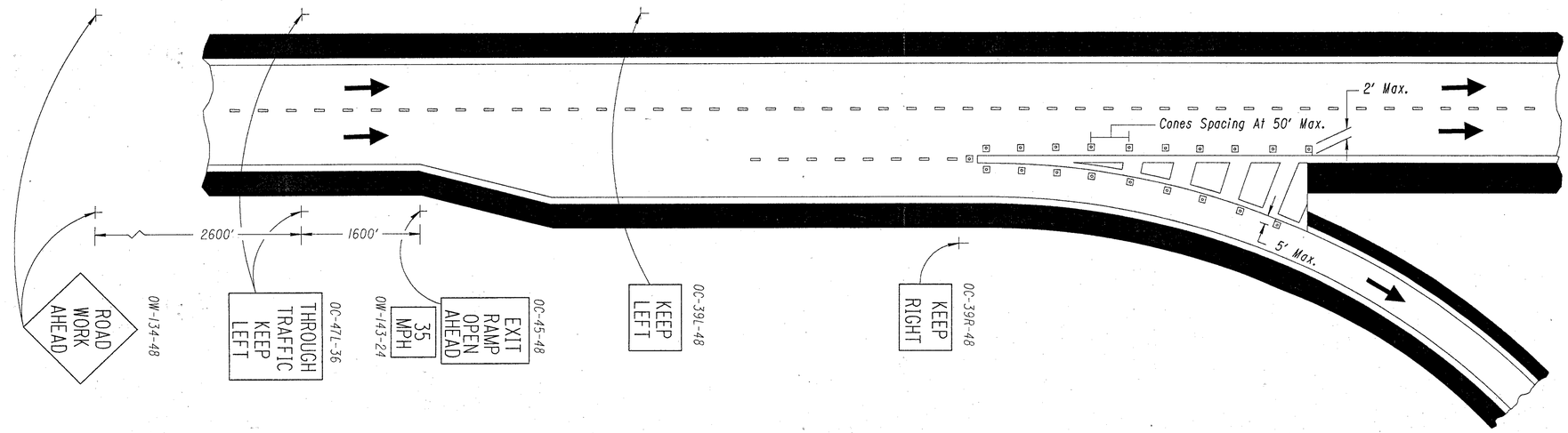
ENTRANCE GORE TRAFFIC CONTROL



General Notes

1. The requirements of the Traffic Control for Long Line Pavement Marking Operations SCD MT-99.20 shall apply in lieu of this detail where edge lines and/or channelizing lines are sprayed in moving operations separate from any other work.
2. Where the work in the gore area requires more positive traffic control or overnight work area protection, SCD MT-98.14, MT-98.15 should be employed.
3. The spacing between signs shown on this detail may be adjusted (increased or decreased) with the approval of the Engineer to position them no closer than 200 feet to existing signs which must remain in use.
4. At an isolated entrance gore area, a flashing arrow panel conforming to requirements in section 7G-8 of the OMUTCD and SCD TC-35.10 may be substituted for the advance OC-39-48 signs.
5. At an interchange where both exits and entrances are marked with traffic control in place at the same time, the OW-134-48 sign on the entrance ramp is not required.
6. For night closures, the OW-134-48 and the OC-47L-36 signs shall be lighted using type A flashing warning lights. Drums and steady burn lights shall be used in lieu of cones for night closures.

EXIT GORE TRAFFIC CONTROL



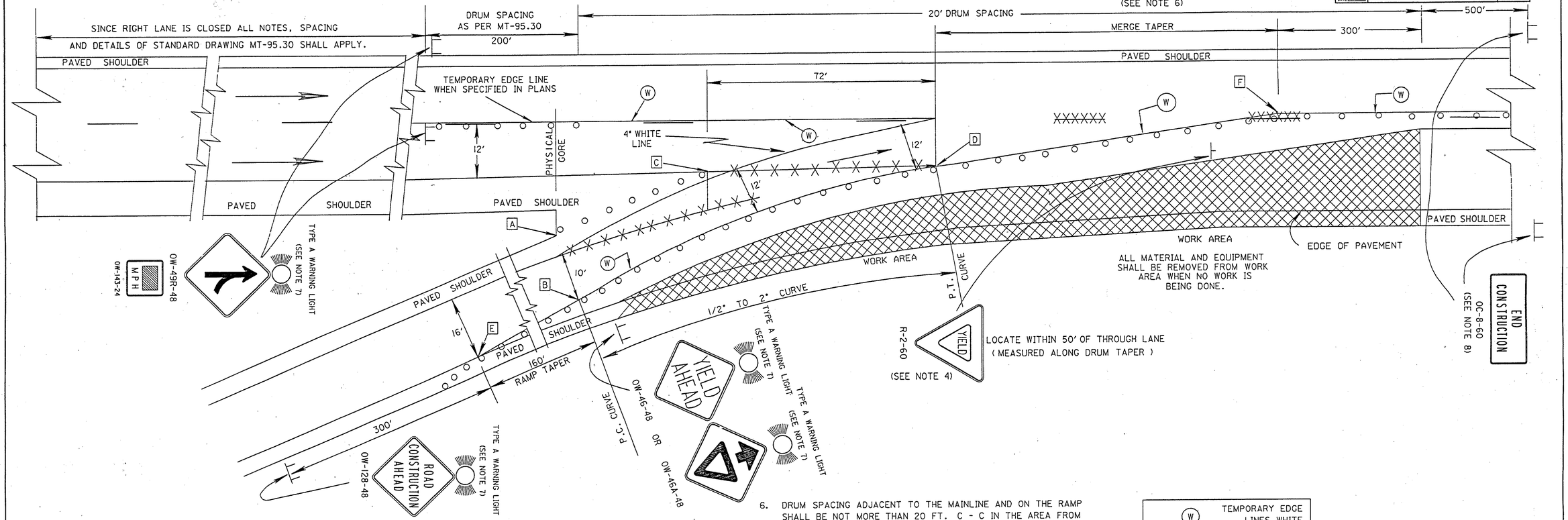
OHIO DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL FOR WORK IN GORE AREAS (PAVEMENT MARKING)

DATE
1/81
10/85
9/88
9/91

CALC BY DATE	BEL-70-23.79	OHIO
CHKD BY DATE		FHWA REGION 5

20/97



GENERAL NOTES

1. THIS WORK AREA TRAFFIC CONTROL APPLICATION SHALL BE EMPLOYED WHEN: (1) THE LATERAL CLEARANCE BETWEEN CHANNELIZING DEVICES AT THE RIGHT EDGE OF THE WORK AREA AND THE EDGE OF PAVEMENT IS LESS THAN 10 FT. (12 FT. IF THE SHOULDER PAVEMENT IS USED) AS SHOWN ON DRAWING MT-98.15, AND (2) THE REQUIRED RAMP TAPERS AND CURVES CAN BE PROVIDED AS SHOWN. IN THE EVENT THE WORK ZONE CONDITION WOULD PERMIT THE USE OF EITHER MT-98.15 OR MT-98.16, MT-98.15 SHALL BE USED. THIS TRAFFIC CONTROL MEASURE SHALL NOT BE PLACED IN EFFECT UNTIL IMMEDIATELY BEFORE THE CONTRACTOR IS FULLY PREPARED TO PERFORM THE WORK ON THE RAMP OR LANE ADJACENT TO IT. ONCE THIS MEASURE IS PLACED INTO EFFECT THE CONTRACTOR SHALL EXPEDITIOUSLY PURSUE THE WORK (WORKING CONTINUOUSLY WITH FULL CREW IN THE RAMP AREA ON ALL NORMAL WORKING DAYS) UNTIL IT IS COMPLETED AND SHALL IMMEDIATELY OPEN THE AREA TO NORMAL TRAFFIC OR, AS A MINIMUM, REVERT TO THE METHODS SHOWN ON MT-98.15. IT IS THE INTENT THAT THE LONGEST MERGING TAPER LENGTH POSSIBLE SHALL BE CHOSEN, COMMENSURATE WITH THE REQUIREMENTS OF CONSTRUCTION.

2. THE RAMP TAPER SHALL DESIRABLY BE LOCATED TO PROVIDE A 10' MINIMUM PATH BETWEEN DRUMS AND THE PAVED SHOULDER IN THE GORE. THE RAMP TRAFFIC MAY BE PLACED ON THE PAVED GORE AS SHOWN ABOVE ONLY IF (1) THE TRAFFIC WILL USE THE PAVED SHOULDER PAVEMENT LESS THAN ONE DAY AND THE SHOULDER PAVEMENT IS IN GOOD CONDITION AND IS LEVEL AND SMOOTH OR (2) IF THE SHOULDER PAVEMENT IS ADEQUATELY STRENGTHENED, LEVELED AND SMOOTHED TO CARRY THE ANTICIPATED LOAD. A MINIMUM OF 3 DRUMS SHALL BE USED IN THE RAMP SHOULDER TAPER.

3. RAMP SIGNS SHALL BE DUAL MOUNTED ON MULTI-LANE RAMPS. WHEN THE RAMP IS NOT LONG ENOUGH TO ALLOW PLACEMENT AS SPECIFIED ABOVE, THE SIGNS MAY BE SPACED PROPORTIONATELY WITHIN THE SPACE AVAILABLE AS DETERMINED BY THE ENGINEER (A 200 FOOT MINIMUM SPACING MUST BE MAINTAINED).

4. IT WILL BE NECESSARY TO MOVE THE LOCATION OF ANY EXISTING YIELD CONDITION. IN THESE CASES, THE PERMANENT R-2 SIGN INSTALLATION SHALL BE COVERED AND THE TEMPORARY INSTALLATION SHALL BE MOUNTED APPROPRIATELY. IF THE REQUIRED DISTANCES (RAMP TAPER, CURVE AND MERGE TAPER) CANNOT BE OBTAINED, THE ENGINEER MAY APPROVE SLIGHTLY LOWER VALUES FOR A SHORT TIME, IN WHICH CASE THE YIELD SIGN SHALL BE REMOVED AND A 36" STOP SIGN PLACED APPROPRIATELY TO BE VISIBLE TO RAMP TRAFFIC BUT NOT BE OBTRUSIVE TO MAINLINE TRAFFIC.

5. IF THE CONSTRUCTION OPERATION REQUIRES THE LANE CLOSURE FOR MORE THAN ONE DAY THEN THE EXISTING CONFLICTING PAVEMENT MARKINGS AND REFLECTORS FROM THE RAISED PAVEMENT MARKERS (RPM'S) SHALL BE REMOVED AND THE APPROPRIATE COLOR TEMPORARY EDGE LINES SHALL BE APPLIED ALONG THE TAPER. TEMPORARY EDGE LINES WHICH WOULD CONFLICT WITH FINAL TRAFFIC LANES SHALL BE REMOVABLE (947.03 TYPE-C) TAPE UNLESS THE AREA WILL BE RESURFACED IN THE NEXT WORK PHASE. AFTER COMPLETION OF THE WORK, TEMPORARY MARKINGS SHALL BE REMOVED IN ACCORDANCE WITH 621.134 AND THE ORIGINAL MARKINGS AND RAISED PAVEMENT MARKERS REFLECTORS SHALL BE RESTORED.

6. DRUM SPACING ADJACENT TO THE MAINLINE AND ON THE RAMP SHALL BE NOT MORE THAN 20 FT. C - C IN THE AREA FROM THE PHYSICAL GORE TO 300 FT. BEYOND THE MERGE TAPER. CONES HAVING A MINIMUM HEIGHT OF 28 INCHES MAY BE SUBSTITUTED FOR DRUMS FOR DAYTIME LANE CLOSURES. PROVISIONS SHALL BE MADE TO SAFELY STABILIZE THE CONES TO PREVENT THEM FROM BLOWING OVER. IF THIS CANNOT BE ACHIEVED, DRUMS SHALL BE USED. TYPE C STEADY BURNING WARNING LIGHTS SHALL BE ERECTED ON EACH DRUM FOR NIGHT LANE CLOSURE.

7. TYPE A FLASHING WARNING LIGHTS ARE REQUIRED ON THE ROAD CONSTRUCTION AHEAD (OW-128-48), MERGE (OW-49R-48), AND THE YIELD AHEAD (OW-46-48) SIGNS WHEN NIGHT LANE CLOSURE IS NECESSARY.

8. THE OC-8 SIGNS ARE ONLY REQUIRED FOR LANE CLOSURES OF MORE THAN ONE DAY AND MAY BE OMITTED IF THEY FALL WITHIN THE LIMITS OF A CONSTRUCTION PROJECT.

9. FROM THE END OF THE GORE AREA GRADED SHOULDER (POINT A), LOCATE THE PC OF THE CURVE BY MEASURING PERPINDICULAR TO THE RAMP CENTERLINE 10' OF RAMP PAVEMENT, NOT INCLUDING PAVED SHOULDER WIDTH (POINT B). FROM THE END OF THE GORE AREA PAVED SHOULDER (POINT C), LOCATE THE PT OF THE CURVE BY MEASURING 72' FROM POINT C ALONG THE EDGE OF PAVEMENT EXTENDED (POINT D).

10. PLACEMENT OF DRUMS SHALL BEGIN AT (POINT E) 160' UP THE RAMP FROM THE PREVIOUSLY LOCATED PC (POINT B) AND AT THE RIGHT EDGE OF RAMP PAVEMENT. FROM THIS POINT A DRUM TAPER SHALL BE PLACED TO THE PC (POINT B) AND THEN ALONG A CURVE AS SHOWN TO THE PT (POINT D) WHERE A 48:1 (MIN.) MERGE TAPER SHALL MEET MAINLINE TRAFFIC CONTROL (POINT F).

(W)	TEMPORARY EDGE LINES WHITE
[A]	LAYOUT POINTS
XXXXXXXXX	MARKINGS REMOVED

PRELIMINARY
PREPARED BY
TECHNICAL SUPPORT SECTION
ALF H. HANSEN P.E.
WALTER C. CHADWICK D.S.

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH 614 AND OTHER APPLICABLE PORTIONS OF THE C & M SPECIFICATIONS AS WELL AS IN ACCORDANCE WITH PART 7 OF OMUTCD. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS TO PROVIDE THIS METHOD OF TRAFFIC CONTROL SHALL BE INCLUDED IN THE LUMP SUM BID FOR 614 MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLAN.

REVISED BY:	DATE:
209816	DATE 04/03/90
LANE CLOSURE AT ENTRANCE RAMP PLAN B	
PLAN INSERT SHEET	

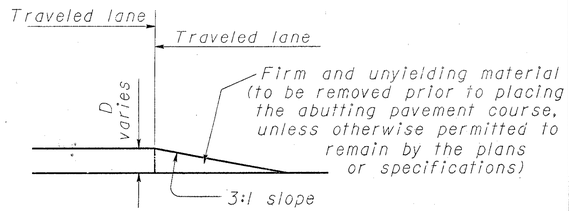
WCC

GENERAL NOTES

1. It is intended that this drawing be used for treatment of drop-offs that develop during construction operations, and that are not otherwise provided for in the construction plans. Where the plans do not provide specific items for labor, equipment, or materials to implement the drop-off treatments specified hereon, they shall be included for payment in the lump sum bid for Item 614 - Maintaining Traffic.
2. While the need for certain advisory signing is noted hereon, it is not intended that this be indicative of all signing that may be required to advise or warn motorists, and all requirements of the Ohio Manual of Uniform Traffic Control Devices (OMUTCD) must be fulfilled.
3. In urban or otherwise heavily developed areas where pedestrians and/or bicyclists may be present in significant numbers, additional signing and protective measures other than those shown hereon may be required.
4. The drop-off treatment selected for use at any given location shall be as appropriate for the prevailing conditions at the site.
5. Where concrete barrier is specified, it shall be in accordance with Standard Construction Drawing MC-9.2 and Item 622.
6. When drums are specified for a dropoff condition, a minimum number of four drums shall be used. Spacing shall be as indicated in the plans or as specified in the OMUTCD.
7. When OW-151 (Low Shoulder) signs or OW-171 (Uneven Lanes) and OWP-171 signs are required, they shall be placed 750' in advance of the condition, on all intersecting entrance ramps within the limits of the condition and immediately beyond all intersecting roadways within the limits of the condition. When the dropoff condition extends more than one-half mile, additional signs should be erected at intervals of one mile or less.
8. For locations, such as at ramps, lane shifts, lane closures, etc., where traffic is required to negotiate any difference in elevation between pavements, a 3:1 slope treatment similar to the Optional Wedge Treatment shall be provided.
9. Portable concrete barrier shall be placed on the same level as the traffic surface and shall not encroach on lane width(s) designated as the minimum required for traffic use. Where drums are used, and their presence would reduce traveled lane widths to less than 10', drums may be placed on the opposite level from that of traffic provided the dropoff depth does not exceed 5" and approval is granted by the Project Engineer.
10. Pavement Repairs (or similar work):
    a. Lengths greater than 60 feet - utilize appropriate treatment from Condition I.
    b. Lengths of 60 feet or less - repairs shall be effected in accordance with 255.08. Drums may be used as a separator adjacent to the traveled lane.

OPTIONAL WEDGE TREATMENT
(MILLING OR RESURFACING)

1. This treatment may be used when permitted for Condition I only.
2. OW-171 and OWP-171 signs required.

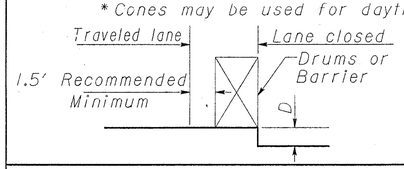


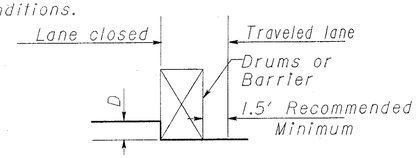
CONDITION I
DROPOFFS BETWEEN TRAVELED LANES

1. These treatments are to be used for resurfacing, pavement planing, excavation, etc. between or within traveled lanes.

D (In.).	Treatment
≤1½	Erect OW-171 and OWP-171 signs.
>1½-3	1) Lane closure utilizing drums* as shown below OR 2) Optional Wedge Treatment
>3-5	Lane closure utilizing drums as shown below.
>5	Lane closure utilizing portable concrete barrier as shown below.

*Cones may be used for daytime only conditions.



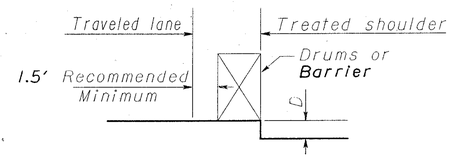


CONDITION II
DROPOFFS WITHIN GRADED SHOULDER AREA

1. The treatments indicated below are for use in conjunction with resurfacing, planing, or excavations within the graded shoulder area.
2. The graded shoulder area is that flat or gradually sloping area between the edge of a normally traveled lane and the more steeply sloping ditch foreslope or embankment slope. Its surface may be soil or turf, and/or it may be inclusive of a "treated" area (improved with aggregates, asphaltic materials, or concrete). For the purposes herein, its maximum width shall be considered to be twelve (12) feet.

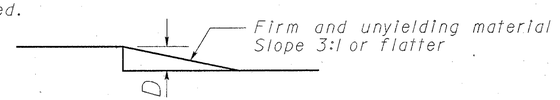
D (In.)	Treatment
≤1½	1) If edgelines are present, no treatment necessary OR 2) Erect OW-171 and OWP-171 signs.
>1½-5	1) If min. lane width* requirements can be met, maintain lanes utilizing drums as shown below OR 2) If min. lane width* requirements cannot be met, close adjacent lane utilizing drums OR 3) Optional Shoulder Treatment.
>5-12 Daylight only	If min. lane width* requirements can be met, maintain lanes utilizing drums as shown below.
>5-24	1) If min. lane width* requirements can be met, maintain lanes utilizing portable concrete barrier as shown below. OR 2) If min. lane width* requirements cannot be met, close adjacent lane utilizing drums.
>24	Lane closure utilizing portable concrete barrier as shown below.

*Minimum lane widths shall be 10' unless otherwise specified in the plans.



OPTIONAL SHOULDER TREATMENT

1. This treatment may not be used within a bituminous shoulder where a hot longitudnal joint per 401.15 is required.
2. OW-151 signs required.



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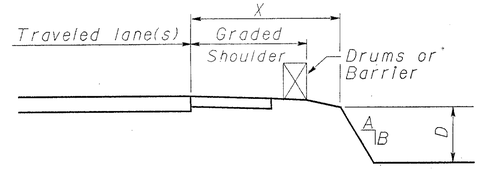
CONDITION III
DROPOFFS BEYOND GRADED SHOULDER OR BACK OF CURB

1. See Note 2 under Condition II.
2. Use Chart A or B below, as applicable.

CHART A

USE FOR:
1. Uncurbed Facilities.
2. Curbed Facilities, where:
   a. Curbs are less than 6" in height.
   b. Curbs are 6" or greater in height and the legal speed is greater than 40 mph.

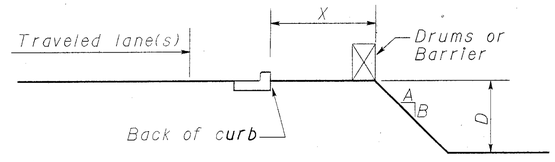


X (Ft.)	D (In.)	A/B	Treatment Required: Day	Treatment Required: Night
0-4	Any	Any	(a)	(a)
4-30	Any	3:1 or Flatter	None	None
4-12	≤3	Steeper than 3:1	None	None
4-12	>3-≤12	Steeper than 3:1	Drums	Drums
4-12	>12	Steeper than 3:1	Drums	Barrier
>12-20	≤12	Steeper than 3:1	None	None
>12-20	>12-≤24	Steeper than 3:1	Drums	Drums
>12-20	>24	Steeper than 3:1	Drums	Barrier
>20-30	≤24	Steeper than 3:1	None	Drums
>20-30	>24	Steeper than 3:1	Drums	Barrier
>30	Any	Any	None	None

(a) Use treatment specified under Condition II.

CHART B

USE FOR: Curbed facilities, where the curb is 6" or greater in height and the legal speed is 40 mph or less.



X (Ft.)	D (In.)	A/B	Treatment Required: Day	Treatment Required: Night
0-10	<12	Any	None	Drums
0-10	>12	Any	Drums	Drums
>10	Any	Any	None	None

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
BUREAU OF LOCATION AND DESIGN

DROPOFFS IN WORK ZONES

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED

GENERAL SUMMARY

	BY	DATE	REGION	STATE	PROJECT		22
Calculated	W.H.F.	11-93	5	OHIO			97
Checked	D.T.B.	2-95					

BEL-70-23.79

TOTAL FROM SHEET NO.																							ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION
ITEM		10	11	12			34	35	36	36A	38	39	40	41	42	43		45	46	47	47A	50	52A					
																											ROADWAY
201		LUMP																						201	11001	Lump		Clearing and Grubbing, As Per Plan, (See Sheet No. 10)
202							4035																	202	23000	4035	S.Y.	Pavement Removed
202							96515																	202	23500	96515	S.Y.	Wearing Course Removed
202							1390																	202	30700	1390	L.F.	Concrete Barrier Removed
202											1787.5	2857.32	5146.71	3273.43	5575	5093.97								202	38000	23733.93	L.F.	Guardrail Removed
202		567																						202	54101	567	EACH	Raised Pavement Marker Removed For Storage, As Per Plan, (See Sheet No. 10)
202												2207	1486	2609	3781	4588								202	75000	14671	L.F.	Fence Removed
202			39																					202	98100	39	EACH	*Inlet Cleanout *Removal Misc.:
203							30265	690															197	203	12000	31152	C.Y.	Excavation Not Including Embankment Construction
203							55748																	203	50000	55748	S.Y.	Subgrade Compaction
203								84																203	60200	84	STA.	Linear Grading, Method A
203								224																203	60204	224	STA.	Linear Grading, Method B
SPEC				11435																				SPEC	51267502	11435	S.Y.	Sealing Of Concrete Surfaces (Epoxy), (See Proposal Note)
520				1144																				520	11100	1144	S.F.	Pneumatically Placed Mortar
606											1682.15	2737.67	5133.21	3173.43	5228.33	4594.02								606	13000	22548.81	L.F.	Guardrail, Type 5
606																200								606	13050	200	L.F.	Guardrail, Type 5A
606															4	4								606	25000	8	EACH	Anchor Assembly, Type A
606											2	2		2		2								606	26100	8	EACH	Anchor Assembly, Type E
606											1	2	1	1		4								606	26500	9	EACH	Anchor Assembly, Type T
606																1								606	31500	1	EACH	Bridge Terminal Assembly, Type D
606											1			4	2	1								606	35000	8	EACH	Bridge Terminal Assembly, Type 1
606														4	6	6								606	35100	16	EACH	Bridge Terminal Assembly, Type 2
607											1321	3119	100	995	4216	1794								607	15000	11545	L.F.	Fence, Type 47
607													1386	2142	1670	2794								607	20000	7992	L.F.	Fence, Type CL
622							244.5																	622	23501	245	L.F.	Concrete Barrier, Type C, As Per Plan "1", (See Sheet No. 11)
622							930																	622	23501	930	L.F.	Concrete Barrier, Type C, As Per Plan "2", (See Sheet No. 11)
622							215.5																	622	23501	216	L.F.	Concrete Barrier, Type C, As Per Plan "3", (See Sheet No. 11)
622															164.78									622	24000	165	L.F.	Concrete Barrier, Type D
625														1	6	4								625	32000	11	EACH	Ground Rod
																											EROSION CONTROL
207		2000																						207	30000	2000	L.F.	Filter Fabric Fence, (See Proposal Note)
207		350																						207	70000	350	EACH	Straw or Hay Bales
601			50																					601	32100	50	C.Y.	Rock Channel Protection, Type B With Filter
659								8711																659	10000	8711	S.Y.	Seeding & Mulching
659								0.78																659	20000	0.78	TON	Commercial Fertilizer
659								3.92																659	30000	3.92	TON	Agricultural Liming
659								19																659	35000	19	MGAL.	Water
659								39																659	40000	39	M.S.F.	Mowing
																											DRAINAGE
603									273	1676														603	00406	1949	L.F.	4" Conduit, Type F 707.17 Non-perforated ASTM D-3034 SDR 35, Supplemental Specification 931, or 944
604																						5		604	09000	5	EACH	Catch Basin Adjusted to Grade
604																		29	4	3	3			604	20601	39	EACH	Inlet Adjusted to Grade, As Per Plan, (See Sheet No. 12)
605									24337	32095														605	05101	56432	L.F.	4" Shallow Pipe Underdrain, As Per Plan, (See Sheet No. 37)
SPEC										52														SPEC	60436600	52	EACH	Precast Reinforced Concrete Outlet, (See Sheet No. 37)

GENSUM1 1=1 2-20-95

GENERAL SUMMARY

	BY	DATE	REGION	STATE	PROJECT	
Calculated	W.H.F.	11-93	5	OHIO		
Checked	D.T.B.	2-95				

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ITEM	TOTAL FROM SHEET NO. 34	35	38	39	40	41	42	43	48	49	50	52	52A	ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION
																		PAVEMENT
251													925	251	01000	925	S.Y.	Partial Depth Pavement Repair
254	156													254	01010	156	S.Y.	Pavement Planing, Portland Cement Concrete
255												10591		255	10000	10591	S.Y.	Full Depth Pavement Removal and Rigid Replacement, Class C
255												1372		255	10100	1372	S.Y.	Full Depth Pavement Removal and Rigid Replacement, Class FS
255													40356	255	20000	40356	L.F.	Full Depth Pavement Sawing
301	19915													301	10002	19915	C.Y.	Bituminous Aggregate Base, AC-20
304	8206												197	304	20000	8403	C.Y.	Aggregate Base
305	51525													305	13001	51525	S.Y.	9" Concrete Base, As Per Plan, (See Sheet No. 12)
407	11339													407	10000	11339	GAL.	Tack Coat
408	2677													408	10000	2677	GAL.	Bituminous Prime Coat
413													24121	413	14000	24121	L.F.	Sawing and Sealing Asphalt Concrete Pavement Joints
446	8114													446	01200	8114	C.Y.	Asphalt Concrete Intermediate Course, Type 2, AC-20
446	5473													446	01401	5473	C.Y.	Asphalt Concrete Surface Course, Type 1, AC-20, As Per Plan, (See Sheet No. 12)
448		690												448	14101	690	C.Y.	Asphalt Concrete Intermediate Course, Type 1, (Under Guardrail), As Per Plan, (See Sheet No. 12)
SPEC												30330		SPEC	45012600	30330	L.F.	Longitudinal Joint Cleaning and Sealing, Class V, 705.04 (See Proposal Note)
SPEC												5350		SPEC	45012800	5350	L.F.	Longitudinal Joint Cleaning and Sealing, Class VI, 705.04 (See Proposal Note)
SPEC	156													SPEC	51272000	156	S.Y.	Epoxy Waterproofing Overlay (1/4" Thick) (See Proposal Note)
																		TRAFFIC CONTROL
620									91					620	10300	91	EACH	Delineator, Type C, Post Mounted
620									12					620	11000	12	EACH	Delineator, Type C, Bracket Mounted
620									13					620	15300	13	EACH	Delineator, Type D, Post Mounted
620									2					620	16000	2	EACH	Delineator, Type D, Bracket Mounted
620									118					620	31200	118	EACH	Delineator Removed For Disposal
621									567					621	00100	567	EACH	Raised Pavement Marker
632											71			632	27500	71	L.F.	Loop Detector Pavement Cutting
632											184			632	64900	184	L.F.	Loop Detector Wire, Type E
642			1.92	2.28	2.24	2.28	2.32	2.73						644	00100	13.77	MILE	Edge Line
642			1.44	1.71	1.16	1.14	1.26	1.01		0.10				644	00200	7.82	MILE	Lane Line
642										0.27				644	00300	0.27	MILE	Center Line
642							752.2	605.9		412				644	00400	1770	L.F.	Channelizing Line
642								134		78				644	00500	212	L.F.	Stop Line
642										1020				644	00600	1020	L.F.	Crosswalk Line
642										301				644	00700	301	L.F.	Transverse Line
642										4				644	01300	4	EACH	Lane Arrow
642										4				644	01410	4	EACH	Word on Pavement, 96"
802									241					802	00100	241	EACH	Barrier Reflector, Type A
802									349					802	00200	349	EACH	Barrier Reflector, Type B

GENSUM2 1=1 2-20-96

GENERAL SUMMARY

	BY	DATE	REGION	STATE	PROJECT	
Calculated	W.H.F.	11-93	5	OHIO		
Checked	D.T.B.	1-95				

23A 97

BEL-70-23.79

ITEM	TOTAL FROM SHEET NO. 13	14	15	16	67	ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION
										MAINTENANCE TRAFFIC
404	150					404	35000	150	C.Y.	Bituminous Concrete for Maintaining Traffic
614		28				614	12460	28	EACH	Work Zone Marking Sign
614		24				614	12470	24	EACH	Work Zone Speed Limit Sign
614				270		614	13300	270	EACH	Barrier Reflector, Type B
614				277		614	13350	277	EACH	Object Marker
614			3			614	18501	3	EACH	Portable Changeable Message Sign, As Per Plan, (See Sheet No. 15)
614		7.82		0.71		614	20001	8.53	MI.	Temporary Lane Lines, Class I, As Per Plan, (See Sheet No. 14)
614		13.77		4.93		614	22001	18.70	MI.	Temporary Edge Lines, Class I, As Per Plan, (See Sheet No. 14)
614		301				614	28001	301	L.F.	Temporary Gore Marking, Class II, As Per Plan, (See Sheet No. 14)
622				6500		622	40020	6500	L.F.	Portable Concrete Barrier, 32"
SPEC		1200				614	11100	1200	HOUR	Law Enforcement Officer With Patrol Car, (See Sheet No. 14)
SPEC		192				SPEC	61412500	192	S.F.	Replacement Sign, (See Sheet No. 14)
SPEC		100				SPEC	61412600	100	EACH	Replacement Drum, (See Sheet No. 14)
SPEC				1		614	12350	1	EACH	Temporary Impact Attenuator (G.R.E.A.T. Type), ⊙(See Sheet No. 15)
SPEC			1			614	12360	1	EACH	Temporary Impact Attenuator, G.R.E.A.T. Type (Replacement), ⊙(See Sheet No. 15)
										⊙ (MODEL NO. 200200NF66CZ, Bi-directional)
										LIGHTING
										For Lighting Quantities, See Sheet No. 54
										STRUCTURES OVER 20 FT. SPAN
										For Structure Quantities, See Sheet No's. 60, 69, 78, 82, & 89
SPEC.					LUMP	SPEC.	10000300	LUMP		PREMIUM ON RAILROAD'S PROTECTIVE LIABILITY AND PROPERTY
614	LUMP					614	11000	Lump		Maintaining Traffic DAMAGE LIABILITY INSURANCE
619						619	15010	Lump		Field Office, Type B
623						623	10000	Lump		Construction Layout Stakes
624						624	10000	Lump		Mobilization
						SPEC	25010 619	Lump		Computer Equipment for Type B or C Office

GENERAL SUMMARY

PAVEMENT CALCULATIONS

	BY	DATE	REGION	STATE	PROJECT	
Calculated	M.B.P.	8–93	5	OHIO		
Checked	D.T.B.	7–94				

BEL–70–23.79

NOTE: THE STATIONS LISTED BELOW REFLECT EACH AREA OF WORK REQUIRED FOR THE MAINLINE, SEE PAVEMENT CALCULATION INDEX ON THIS SHEET FOR ADDITIONAL AREA CALCULATIONS.

MAINLINE SALVAGE PAVEMENT

MAINLINE SALVAGE PAVEMENT AREA (EASTBOUND)

STATION	TO STATION	BASELINE LENGTH (FEET)	CALCULATION	AREA (S.Y.)	REMARKS
1259+80.00	1261+05.00			*	TRANSITION–(BEGIN WORK)
1261+05.00	1276+46.36	1,541.36	1,541.36x24.0x1/9=	4,110.29	SALVAGE
1276+46.36	1281+21.74	475.38x(3,926.53/3,906.53) =477.81	477.81x24.0x1/9=	1,274.16	SALVAGE–(CURVE) CORRECTED LENGTH
1281+21.74	1290+63.41	941.67	941.67x24.0x1/9=	2,511.12	SALVAGE
1290+63.41	1303+78.60	1,315.19x(3,886.53/3,906.53) =1,308.46	1,308.46x24.0x1/9=	3,489.23	SALVAGE–(CURVE) CORRECTED LENGTH
1303+78.60	1319+06.32	1,527.72	1,527.72x24.0x1/9=	4,073.92	SALVAGE
1319+06.32	1339+48.48 BK. 1339+57.48 AH.	2,042.16x(3,926.53/3,906.53) =2,052.62	2,052.62x24.0x1/9=	5,473.65	SALVAGE–(CURVE) CORRECTED LENGTH
1339+57.48	1346+15.17	657.69	657.69x24.0x1/9=	1,753.84	SALVAGE
1346+15.17	1347+52.67			*	TRANSITION–(BRIDGE) BRIDGE–[BEL–70–2544 RT]
1347+52.67	1348+77.19				
1348+77.19	1350+14.69			*	TRANSITION–(BRIDGE)
1350+14.69	1357+94.40	779.71	779.71x24.0x1/9=	2,079.23	SALVAGE
1357+94.40	1363+08.74	514.34x(3,926.53/3,906.53) =516.97	516.97x24.0x1/9=	1,378.59	SALVAGE–(CURVE) CORRECTED LENGTH
1363+08.74	1364+64.99			*	TRANSITION–(BRIDGE) BRIDGE–[BEL–70–2576 RT]
1364+64.99	1371+53.81				
1371+53.81	1373+10.06			*	TRANSITION–(BRIDGE)
1373+10.06	1377+95.84	485.78x(3,886.53/3,906.53) =483.29	483.29x24.0x1/9=	1,288.77	SALVAGE–(CURVE) CORRECTED LENGTH
1377+95.84	1394+21.90 BK. 330+00.00 AH.	1,626.06	1,626.06x24.0x1/9=	4,336.16	SALVAGE
330+00.00	331+69.60	169.60	169.60x24.0x1/9=	452.27	SALVAGE
331+69.60	334+19.60	250.00 =249.13	249.13x24.0x1/9=	664.35	SALVAGE–(SPIRAL) CORRECTED LENGTH
334+19.60	345+70.36	1,150.76x(2,844.64/2,864.89) =1,142.63	1,142.63x24.0x1/9=	3,047.01	SALVAGE–(CURVE) CORRECTED LENGTH
345+70.36	348+20.36	250.00 =249.13	249.13x24.0x1/9=	664.35	SALVAGE–(SPIRAL) CORRECTED LENGTH
348+20.36	356+01.75	781.39	781.39x24.0x1/9=	2,083.71	SALVAGE
356+01.75	357+45.50			*	TRANSITION–(BRIDGE) BRIDGE–[BEL–70–2684 RT]
357+45.50	363+65.98				
			SUBTOTALS	= 38,680.65 (S.Y.)	

ITEM 446 – ASPHALT CONCRETE, SURFACE COURSE, TYPE 1, AS PER PLAN, 1 1/4"=(1.25"/12)(1/3)(38,680.65) = 1,343.08 C.Y. USE 1,343 C.Y.

ITEM 446 – ASPHALT CONCRETE, INTERMEDIATE COURSE, TYPE 2, 1 3/4"=(1.75"/12)(1/3)(38,680.65) = 1,880.31 C.Y. USE 1,880 C.Y.

ITEM 301 – BITUMINOUS AGGREGATE BASE, AC–20 (ON PAVEMENT), 5"=(5.00"/12)(1/3)(38,680.65) = 5,372.31 C.Y. USE 5,372 C.Y.

ITEM 202 – WEARING COURSE REMOVED, 3" = 38,680.65 S.Y. USE 38,681 S.Y.

ITEM 407 – TACK COAT @ 0.075 GAL/S.Y. = (0.075)(38,680.65) =2,901.05 GAL. USE 2,901 GAL.

NOTE: * 1. AREA NOT ADDED INTO SUBTOTAL (SEE RESPECTIVE CALCULATION SHEET FOR SPECIFIC AREA SUBTOTAL)
2. QUANTITIES FROM THIS SHEET CARRIED TO PAVEMENT CALCULATION SUB–SUMMARY SHEET No. 34 .

MAINLINE SALVAGE PAVEMENT AREA (WESTBOUND)

STATION	TO STATION	BASELINE LENGTH (FEET)	CALCULATION	AREA (S.Y.)	REMARKS
1259+80.00	1261+05.00			*	TRANSITION–(BEGIN WORK)
1261+05.00	1276+46.36	1,541.36	1,541.36x36.0x1/9=	6,165.44	SALVAGE
1276+46.36	1281+21.74	475.38x(3,880.53/3,906.53) =472.22	472.22x36.0x1/9=	1,888.88	SALVAGE–(CURVE) CORRECTED LENGTH
1281+21.74	1290+63.41	941.67	941.67x36.0x1/9=	3,766.68	SALVAGE
1290+63.41	1303+78.60	1,315.19x(3,932.53/3,906.53) =1,323.94	1,323.94x36.0x1/9=	5,295.76	SALVAGE–(CURVE) CORRECTED LENGTH
1303+78.60	1317+00.00	1,321.40	1,321.40x36.0x1/9=	5,285.60	SALVAGE
1317+00.00	1318+50.00	150.00	150.00x30.0x1/9=	500.00	SALVAGE
1318+50.00	1319+06.32	56.32	56.32x24.0x1/9=	150.19	SALVAGE
1319+06.32	1339+48.48 BK. 1339+57.48 AH.	2,042.16x(3,886.53/3,906.53) =2,031.70	2,031.70x24.0x1/9=	5,417.87	SALVAGE–(CURVE) CORRECTED LENGTH
1339+57.48	1346+18.67	661.19	661.19x24.0x1/9=	1,763.17	SALVAGE
1346+18.67	1347+56.17			*	TRANSITION–(BRIDGE) BRIDGE–[BEL–70–2544 LT]
1347+56.17	1348+80.69				
1348+80.69	1350+18.19			*	TRANSITION–(BRIDGE)
1350+18.19	1357+94.40	776.21	776.21x24.0x1/9=	2,069.89	SALVAGE
1357+94.40	1362+42.52	448.12x(3,886.53/3,906.53) =445.83	445.83x24.0x1/9=	1,188.88	SALVAGE–(CURVE) CORRECTED LENGTH
1362+42.52	1363+98.77			*	TRANSITION–(BRIDGE) BRIDGE–[BEL–70–2576 LT]
1363+98.77	1371+13.81				
1371+13.81	1372+70.06			*	TRANSITION–(BRIDGE)
1372+70.06	1372+80.31	10.25	10.25x24.0x1/9=	27.33	SALVAGE
1372+80.31	1377+95.84	515.53x(3,926.53/3,906.53) =518.17	518.17x24.0x1/9=	1,381.79	SALVAGE–(CURVE) CORRECTED LENGTH
1377+95.84	1384+65.00	669.16	669.16x24.0x1/9=	1,784.43	SALVAGE
1384+65.00	1388+75.00			*	FULL–DEPTH RECONSTRUCTION
1388+75.00	1394+21.90 BK. 330+00.00 AH.	546.90	546.90x24.0x1/9=	1,458.40	SALVAGE
330+00.00	331+69.60	169.60	169.60x24.0x1/9=	452.27	SALVAGE
331+69.60	334+19.60	250.00 =250.87	250.87x24.0x1/9=	668.99	SALVAGE–(SPIRAL) CORRECTED LENGTH
334+19.60	341+00.00	680.40x(2,884.69/2,864.89) =685.10	685.10x24.0x1/9=	1,826.93	SALVAGE–(CURVE) CORRECTED LENGTH
341+00.00	352+00.00			*	FULL–DEPTH RECONSTRUCTION
352+00.00	356+01.75	401.75	401.75x24.0x1/9=	1,071.33	SALVAGE
356+01.75	357+45.50			*	TRANSITION–(BRIDGE)
357+45.50	363+65.98				BRIDGE–[BEL–70–2684 LT]
			SUBTOTALS	= 42,163.83 (S.Y.)	

ITEM 446 – ASPHALT CONCRETE, SURFACE COURSE, TYPE 1, AS PER PLAN, 1 1/4"=(1.25"/12)(1/3)(42,163.83) = 1,464.02 C.Y. USE 1,464 C.Y.

ITEM 446 – ASPHALT CONCRETE, INTERMEDIATE COURSE, TYPE 2, 1 3/4"=(1.75"/12)(1/3)(42,163.83) = 2,049.63 C.Y. USE 2,050 C.Y.

ITEM 301 – BITUMINOUS AGGREGATE BASE, AC–20 (ON PAVEMENT), 5"=(5.00"/12)(1/3)(42,163.83) = 5,856.09 C.Y. USE 5,856 C.Y.

ITEM 202 – WEARING COURSE REMOVED 3" = 42,163.83 S.Y. USE 42,164 S.Y.

ITEM 407 – TACK COAT @ 0.075 GAL/S.Y. = (0.075)(42,163.83) = 3,162.29 GAL. USE 3,162 GAL.

INDEX OF PAVEMENT CALCULATIONS

PAVEMENT CALCULATIONS

MAINLINE SALVAGE TRANSITION AREAS

	BY	DATE	REGION	STATE	PROJECT	
Calculated	W.H.F.	11-93				
Checked	D.T.B.	7-94	5	OHIO		

25
97

BEL-70-23.79

MAINLINE SALVAGE TRANSITION AREAS (BEGIN WORK)

STATION	TO STATION	BASELINE LENGTH (FEET)	CALCULATION	AREA (S.Y.)	REMARKS
1259+80.00	1261+05.00	125.00	(125.00)(24.00)(1/9)=	333.33	EASTBOUND
1259+80.00	1261+05.00	125.00	(125.00)(36.00)(1/9)=	500.00	WESTBOUND
			SUBTOTALS =	833.33	

ITEM 446 – ASPHALT CONCRETE, SURFACE COURSE, TYPE 1, AS PER PLAN, 1 1/4"=
(1.25"/12)(1/3)x833.33 = 28.94 C.Y. USE 29 C.Y.

ITEM 446 – ASPHALT CONCRETE, INTERMEDIATE COURSE, TYPE 2, 1 3/4"=
[(1.75"/12)(1/3)(833.33)]+[(0"+2"/2)(1/12)(50)(36)(1/27)+(0"+2"/2)(1/12)(50)(24)(1/27)]= 49.77 C.Y.
USE 50 C.Y.

ITEM 301 – BITUMINOUS AGGREGATE BASE, AC-20 = [(5"+2"/2)(1/12)(75)(36)+(5"+2"/2)(1/12)(75)(24)](1/27) = 48.61 C.Y.
USE 49 C.Y.

ITEM 202 – WEARING COURSE REMOVED, 3" = 833.33 S.Y. USE 833 S.Y.

ITEM 407 – TACK COAT @ 0.075 GAL/S.Y. = (0.075)(833.33) = 62.50 GAL. USE 63 GAL.

MAINLINE SALVAGE TRANSITION AREAS AT BRIDGE (BEL-70-2544 L/R)

STATION	TO STATION	BASELINE LENGTH (FEET)	CALCULATION	AREA (S.Y.)	REMARKS
1346+15.17	1347+52.67	137.50	(75'+56.25'+6.25')(24.00)(1/9)=	366.67	EASTBOUND
1348+77.19	1350+14.69	137.50	(75'+56.25'+6.25')(24.00)(1/9)=	366.67	EASTBOUND
1346+18.67	1347+56.17	137.50	(75'+56.25'+6.25')(24.00)(1/9)=	366.67	WESTBOUND
1348+80.69	1350+18.19	137.50	(75'+56.25'+6.25')(24.00)(1/9)=	366.67	WESTBOUND
			SUBTOTALS =	1,466.68	

ITEM 446 – ASPHALT CONCRETE, SURFACE COURSE, TYPE 1, AS PER PLAN, 1 1/4"=
(1.25"/12)(1,466.68)(1/3)+(1.25"+1.5"/2)(1/12)(6.25)(4)(24)(1/27) = 53.47 C.Y. USE 53 C.Y.

ITEM 446 – ASPHALT CONCRETE, INTERMEDIATE COURSE, TYPE 2, 1 3/4"=
(1.75"/12)(75.0)(4)(24)(1/27)+(3.75"+1.5"/2)(1/12)(56.75)(4)(24)(1/27) = 83.03 C.Y. USE 83 C.Y.

ITEM 301 – BITUMINOUS AGGREGATE BASE, AC-20 = (5"+2"/2)(1/12)(75)(4)(24)(1/27) = 77.78 C.Y. USE 78 C.Y.

ITEM 202 – WEARING COURSE REMOVED, 3" = 1,466.68 S.Y. USE 1,467 S.Y.

ITEM 407 – TACK COAT @ 0.075 GAL/S.Y. = (0.075)(1,466.68) = 110.00 GAL. USE 110 GAL.

MAINLINE SALVAGE TRANSITION AREAS AT BRIDGE (BEL-70-2684 L/R)

STATION	TO STATION	BASELINE LENGTH (FEET)	CALCULATION	AREA (S.Y.)	REMARKS
356+01.75	357+45.50	143.75	(75'+56.25'+12.50')(24.00)(1/9)=	383.33	EASTBOUND
356+01.75	357+45.50	143.75	(75'+56.25'+12.50')(24.00)(1/9)=	383.33	WESTBOUND
			SUBTOTALS =	766.66	

ITEM 446 – ASPHALT CONCRETE, SURFACE COURSE, TYPE 1, AS PER PLAN, 1 1/4"=
(1.25"/12)(766.66)(1/3)+(1.0"+1.5/2)(1/12)(12.5)(2)(24)(1/27)= 28.93 C.Y. USE 29 C.Y.

ITEM 446 – ASPHALT CONCRETE, INTERMEDIATE COURSE, TYPE 2, 1 3/4"=
(1.75"/12)(75.0)(2)(24)(1/27)+(3.75"+1.5"/2)(1/12)(56.25)(2)(24)(1/27)= 41.32 C.Y. USE 41 C.Y.

ITEM 301 – BITUMINOUS AGGREGATE BASE, AC-20, = (5"+2"/2)(1/12)(75)(2)(24)(1/27) = 38.89 C.Y. USE 39 C.Y.

ITEM 202 – WEARING COURSE REMOVED, 3" = 766.66 S.Y. USE 767 S.Y.

ITEM 407 – TACK COAT @ 0.075 GAL/S.Y. = (0.075)(766.66) = 57.50 GAL. USE 58 GAL.

MAINLINE SALVAGE TRANSITION AREAS AT BRIDGE (BEL-70-2576 L/R)

STATION	TO STATION	BASELINE LENGTH (FEET)	CALCULATION	AREA (S.Y.)	REMARKS
1363+08.74	1364+64.99	156.25	(75'+56.25'+25')(24.00)(1/9)=	416.67	EASTBOUND
1371+53.81	1373+10.06	156.25	(75'+56.25'+25')(24.00)(1/9)=	416.67	EASTBOUND
1362+42.52	1363+98.77	156.25	(75'+56.25'+25')(24.00)(1/9)=	416.67	WESTBOUND
1371+13.81	1372+70.06	156.25	(75'+56.25'+25')(24.00)(1/9)=	416.67	WESTBOUND
			SUBTOTALS =	1,666.68	

ITEM 446 – ASPHALT CONCRETE, SURFACE COURSE, TYPE 1, AS PER PLAN, 1 1/4"=
(1.25"/12)(1,666.68)(1/3)+(0.50"+1.5"/2)(1/12)(25)(4)(24)(1/27)= 65.28 C.Y. USE 65 C.Y.

ITEM 446 – ASPHALT CONCRETE, INTERMEDIATE COURSE, TYPE 2, 1 3/4"=
(1.75"/12)(75.0)(4)(24)(1/27)+(3.75"+1.5"/2)(1/12)(56.25)(4)(24)(1/27)= 82.64 C.Y. USE 83 C.Y.

ITEM 301 – BITUMINOUS AGGREGATE BASE, AC-20 = (5"+2"/2)(1/12)(75)(4)(24)(1/27) = 77.78 C.Y. USE 78 C.Y.

ITEM 202 – WEARING COURSE REMOVED, 3" = 1,666.68 S.Y. USE 1,667 S.Y.

ITEM 407 – TACK COAT @ 0.075 GAL/S.Y. = (0.075)(1,666.68) = 125.00 GAL. USE 125 GAL.

NOTE: 1. QUANTITIES FROM THIS SHEET CARRIED TO PAVEMENT CALCULATION SUB-SUMMARY SHEET No. 34 .

PAVCALS 1=1 09-23-94

PAVEMENT CALCULATIONS

	BY	DATE	REGION	STATE	PROJECT	
Calculated	W.H.F.	10-93	5	OHIO		
Checked	D.T.B.	7-94				

26
97

BEL-70-23.79

MAINLINE FULL-DEPTH OUTSIDE SHOULDERS

MAINLINE FULL-DEPTH OUTSIDE SHOULDER AREA (EASTBOUND)

STATION	TO STATION	BASELINE LENGTH (FEET)	CALCULATION	AREA (S.Y.)	REMARKS
1259+80.00	1261+05.00			*	TRANSITION (BEGIN WORK)
1261+05.00	1276+46.36	1,541.36	1,541.36x10.0x1/9=	1,712.62	RT.
1276+46.36	1281+21.74	475.38x(3,943.53/3,906.53) =479.88	479.88x10.0x1/9=	533.20	RT., CURVE CORRECTED LENGTH
1281+21.74	1290+63.41	941.67	941.67x10.0x1/9=	1,046.30	RT.
1290+63.41	1303+78.60	1,315.19x(3,869.53/3,906.53) =1,302.73	1,302.73x10.0x1/9=	1,447.48	RT., CURVE CORRECTED LENGTH
1303+78.60	1319+06.32	1,527.72	1,527.72x10.0x1/9=	1,697.47	RT.
1319+06.32	1339+48.48 BK. 1339+57.48 AH.	2,042.16x(3,943.53/3,906.53) =2,061.50	2,061.50x10.0x1/9=	2,290.56	RT., CURVE CORRECTED LENGTH
1339+57.48	1346+13.75	656.27	656.27x10.0x1/9=	729.19	RT.
1346+13.75	1347+51.25			*	TRANSITION-(BRIDGES)
1347+51.25	1348+75.77				BRIDGE-[BEL-70-2544 RT.]
1348+75.77	1350+13.27			*	TRANSITION-(BRIDGES)
1350+13.27	1357+94.40	781.13	781.13x10.0x1/9=	867.92	RT.
1357+94.40	1363+36.88	542.48x(3,943.53/3,906.53) =537.34	537.34x10.0x1/9=	597.04	RT., CURVE CORRECTED LENGTH
1363+36.88	1364+93.13			*	TRANSITION-(BRIDGES)
1364+93.13	1371+70.81				BRIDGE-[BEL-70-2576 RT.]
1371+70.81	1373+27.06			*	TRANSITION-(BRIDGES)
1373+27.06	1377+95.84	468.78x(3,869.53/3,906.53) =464.34	464.34x10.0x1/9=	515.93	RT., CURVE CORRECTED LENGTH
1377+95.84	1394+21.90 BK. 330+00.00 AH.	1,626.06	1,626.06x10.0x1/9=	1,806.73	RT.
330+00.00	331+00.00	100.00	100.00x10.0x1/9=	111.11	RT.
331+00.00	339+00.00			*	RAMP "A"
339+00.00	345+70.36	670.36x(2,827.64/2,864.89) =661.64	661.64x10.0x1/9=	735.16	RT., CURVE CORRECTED LENGTH
345+70.36	348+20.36	250.00 =249.13	249.13x10.0x1/9=	276.81	RT., SPIRAL CORRECTED LENGTH
348+20.36	354+00.00	579.64	579.64x10.0x1/9=	644.04	RT.
334+00.00	357+45.50			*	RAMP "D"
			SUBTOTALS	= 15,011.56 (S.Y.)	

ITEM 446 - ASPHALT CONCRETE, SURFACE COURSE, TYPE 1, AS PER PLAN, 1 1/4" = (1.25"/12)(1/3)(15,011.56) = 521.40 C.Y. USE 521 C.Y.
ITEM 446 - ASPHALT CONCRETE, INTERMEDIATE COURSE, TYPE 2, 1 3/4" = (1.75"/12)(1/3)(15,011.56) = 729.56 C.Y. USE 730 C.Y.
ITEM 301 - BITUMINOUS AGGREGATE BASE, AC-20, 5" = (5.00"/12)(1/3)(15,011.56) = 2,084.94 C.Y. USE 2,085 C.Y.
ITEM 407 - TACK COAT @ 0.075 GAL/S.Y. = (0.075)(15,011.56) = 1,125.87 GAL. USE 1,126 GAL.
ITEM 305 - 9" CONCRETE BASE = 15,011.56 = 15,012 S.Y.
ITEM 304 - AGGREGATE BASE, 6"-3" = (6"+3"/2)(1/12)(10.5'/10)(1/3)(15,011.56) = 1,970.28 C.Y. USE 1,970 C.Y.
ITEM 203 - EXCAVATION, NOT INCLUDING EMBANKMENT = (18.81 S.F. END AREA)(13,510.41 L.F.)(1/27) = 9,412.25 C.Y. USE 9,412 C.Y.
ITEM 203 - SUBGRADE COMPACTION @ 10' WIDTH = 15,011.56 USE 15,012 S.Y.

MAINLINE FULL-DEPTH OUTSIDE SHOULDER AREA (BETWEEN SHOULDER & CONCRETE BARRIER)

STATION	TO STATION	SIDE	BASELINE LENGTH
1260+00	1260+40	LT	40.00
1292+00	1302+00	RT	1000.00
1386+34.25	1387+05.25	LT	71.00
1386+31.68	1387+05.25	RT	73.57
		TOTAL =	1184.57

ITEM 446 - ASPHALT CONCRETE, SURFACE COURSE, TYPE 1, AS PER PLAN, 1 1/4" = (1.25"/12)(2.00)(1184.57)(1/27) = 9.14 C.Y. USE 9 C.Y.
ITEM 446 - ASPHALT CONCRETE, INTERMEDIATE COURSE, TYPE 2, 1 3/4" = (1.75"/12)(2.00)(1184.57)(1/27) = 12.80 C.Y. USE 13 C.Y.
ITEM 301 - BITUMINOUS AGGREGATE BASE, AC-20, 5" = (5.00"/12)(2.00)(1184.57)(1/27) = 36.56 C.Y. USE 37 C.Y.
ITEM 407 - TACK COAT @ 0.075 GAL/S.Y. = (1184.57)(2.00)(0.075)(1/9) = 19.74 GAL. USE 20 GAL.
ITEM 305 - 9" CONCRETE BASE = (1184.57)(1.50)(1/9) = 197.43 S.Y. USE 197 S.Y.
ITEM 304 - AGGREGATE BASE, 3" = (3")(1/12)(1.25)(1184.57)(1/27) = 13.71 C.Y. USE 14 C.Y.
ITEM 203 - EXCAVATION, NOT INCLUDING EMBANKMENT = (1184.57)(1.50)(1.75)((1/27) = 115.17 C.Y. USE 115 C.Y.
ITEM 203 - SUBGRADE COMPACTION @ 2' WIDTH = (1184.57)(1.50)(1/9) = 197.43 S.Y. USE 1197 S.Y.

MAINLINE FULL-DEPTH OUTSIDE SHOULDER AREA (WESTBOUND)

STATION	TO STATION	BASELINE LENGTH (FEET)	CALCULATION	AREA (S.Y.)	REMARKS
1259+80.00	1261+05.00			*	TRANSITION (BEGIN WORK)
1261+05.00	1276+46.36	1,541.36	1,541.36x6.0x1/9=	1,027.57	LT.
1276+46.36	1281+21.74	475.38x(3,859.53/3,906.53) =469.66	469.66x6.0x1/9=	313.11	LT., CURVE CORRECTED LENGTH
1281+21.74	1290+63.41	941.67	941.67x6.0x1/9=	627.78	LT.
1290+63.41	1303+78.60	1,315.19x(3,953.53/3,906.53) =1,331.01	1,331.01x6.0x1/9=	887.34	LT., CURVE CORRECTED LENGTH
1303+78.60	1317+00.00	1,321.40	1,321.40x6.0x1/9=	880.93	LT.
1317+00.00	1318+50.00	150.00	150.00x(10.0+6.0/2) x1/9=	133.33	LT.
1318+50.00	1319+06.32	56.32	56.32x10.0x1/9=	62.58	LT.
1319+06.32	1339+48.48 BK. 1339+57.48 AH.	2,042.16x(3,869.53/3,906.53) =2,022.82	2,022.82x10.0x1/9=	2,247.58	LT., CURVE CORRECTED LENGTH
1339+57.48	1346+20.09	662.61	662.61x10.0x1/9=	736.23	LT.
1346+20.09	1347+57.59			*	TRANSITION-(BRIDGE)
1347+57.59	1348+82.11				BRIDGE-[BEL-70-2544 LT.]
1348+82.11	1350+19.61			*	TRANSITION-(BRIDGE)
1350+19.61	1357+94.40	774.79	774.79x10.0x1/9=	860.88	LT.
1357+94.40	1362+14.38	419.98x(3,869.53/3,906.53) =416.00	416.00x10.0x1/9=	462.22	LT., CURVE CORRECTED LENGTH
1362+14.38	1363+70.63			*	TRANSITION-(BRIDGE)
1363+70.63	1370+96.81				BRIDGE-[BEL-70-2576 LT.]
1370+96.81	1372+53.06			*	TRANSITION-(BRIDGE)
1372+53.06	1372+80.31	27.25	27.25x10.0x1/9	30.28	LT.
1372+80.31	1377+95.84	515.53x(3,943.53/3,906.53) =520.41	520.41x10.0x1/9=	578.23	LT., CURVE CORRECTED LENGTH
1377+95.84	1384+65.00	669.16	669.16x10.0x1/9=	743.51	LT.
1384+65.00	1388+75.00			*	FULL-DEPTH RECONSTRUCTION
1388+75.00	1394+21.90 BK. 330+00.00 AH.	546.90	546.90x10.0x1/9=	607.67	LT.
330+00.00	338+50.02			*	RAMP "B"
338+50.02	341+00.00	249.98x(2,901.87/2,864.87) =253.21	253.21x10.0x1/9=	281.34	LT., CURVE CORRECTED LENGTH
341+00.00	352+00.00			*	FULL-DEPTH RECONSTRUCTION
352+00.00	352+81.60	81.60	81.60x10.0x1/9=	90.67	LT.
352+81.60	357+45.50			*	RAMP "C"
			SUBTOTALS	= 10,571.25 (S.Y.)	

ITEM 446 - ASPHALT CONCRETE, SURFACE COURSE, TYPE 1, AS PER PLAN, 1 1/4" = (1.25"/12)(1/3)(10,571.25) = 367.06 C.Y. USE 367 C.Y.
ITEM 446 - ASPHALT CONCRETE, INTERMEDIATE COURSE, TYPE 2, 1 3/4" = (1.75"/12)(1/3)(10,571.25) = 513.88 C.Y. USE 514 C.Y.
ITEM 301 - BITUMINOUS AGGREGATE BASE, AC-20, 5" = (5.00"/12)(1/3)(10,571.25) = 1,468.23 C.Y. USE 1,468 C.Y.
ITEM 407 - TACK COAT @ 0.075 GAL/S.Y. = (0.075)(10,571.25) = 792.84 GAL. USE 793 GAL.
ITEM 305 - 9" CONCRETE BASE = 10,571.25 = USE 10,571 S.Y.
ITEM 304 - AGGREGATE BASE, 6"-3" = (6"+3"/2)(1/12)(10.5'/10)(1/3)(10,571.25) = 1,387.48 C.Y. USE 1,387 C.Y.
ITEM 203 - EXCAVATION, NOT INCLUDING EMBANKMENT:
10.0' SHOULDER = (18.81 S.F. END AREA)(6,181.07 L.F.)(1/27) = 4,306.15 C.Y. USE 4,306 C.Y.
6.0' SHOULDER = (11.65 S.F. END AREA)(5,605.10 L.F.)(1/27) = 2,418.50 C.Y. USE 2,419 C.Y.
TOTAL = 6,725 C.Y.
ITEM 203 - SUBGRADE COMPACTION @ 10' WIDTH = 10,571.25 USE 10,571 S.Y.

NOTE: * 1. AREA NOT ADDED INTO SUBTOTAL (SEE RESPECTIVE CALCULATION SHEET FOR SPECIFIC AREA SUBTOTAL)
2. QUANTITIES FROM THIS SHEET CARRIED TO PAVEMENT CALCULATION SUB-SUMMARY SHEET No. 34 .

PAVCALC 1=1 09-23-94

PAVEMENT CALCULATIONS

	BY	DATE	REGION	STATE	PROJECT	
Calculated	W.H.F.	11-93	5	OHIO		
Checked	D.T.B.	7-94				

BEL-70-23.79

MAINLINE FULL-DEPTH AND SALVAGE OUTSIDE SHOULDER TRANSITION AREAS

MAINLINE FULL-DEPTH OUTSIDE SHOULDER TRANSITION AREAS AT BRIDGE (BEL-70-2544 L/R)

STATION	TO STATION	BASELINE LENGTH (FT.)	CALCULATION	AREA (S.Y.)	REMARKS
1346+13.75	1347+51.25	137.50	(75'+56.25'+6.25')(10.00)(1/9)=	152.78	EASTBOUND
1348+75.77	1350+13.27	137.50	(75'+56.25'+6.25')(10.00)(1/9)=	152.78	EASTBOUND
1346+20.09	1347+57.59	137.50	(75'+56.25'+6.25')(10.00)(1/9)=	152.78	WESTBOUND
1348+82.11	1350+19.61	137.50	(75'+56.25'+6.25')(10.00)(1/9)=	152.78	WESTBOUND
			SUBTOTALS =	611.12 (S.Y.)	

ITEM 446 - ASPHALT CONCRETE, SURFACE COURSE, TYPE 1, AS PER PLAN, 1 1/4" = (1.25"/12)(611.12)(1/3)+(1.25"+1.5"/2)(1/12)(6.25)(4)(10)(1/27) = 22.28 C.Y. USE 22 C.Y.

ITEM 446 - ASPHALT CONCRETE, INTERMEDIATE COURSE, TYPE 2, 1 3/4" = (1.75"/12)(75.0)(4)(10)(1/27)+(3.75"+1.5"/2)(1/12)(56.25)(4)(10)(1/27) = 34.43 C.Y. USE 34 C.Y.

ITEM 301 - BITUMINOUS AGGREGATE BASE, AC-20 = (5"+2"/2)(1/12)(75.0)(4)(10)(1/27) = 32.41 C.Y. USE 32 C.Y.

ITEM 304 - AGGREGATE BASE, 6"-3" @ 10.5' WIDTH = (6"+3"/2)(1/12)(611.12)(10.5'/10)(1/3) = 80.21 C.Y. USE 80 C.Y.

ITEM 305 - 9" CONCRETE BASE = 611.12 S.Y. USE 611 S.Y.

ITEM 407 - TACK COAT @ 0.075 GAL/S.Y. = (0.075)(611.12) = 45.83 GAL. USE 46 GAL.

ITEM 203 - SUBGRADE COMPACTION @ 10' WIDTH = 611.12 S.Y. USE 611 S.Y.

ITEM 202 - WEARING COURSE REMOVED, 3" = 611.12 S.Y. USE 611 S.Y.

MAINLINE FULL-DEPTH OUTSIDE SHOULDER TRANSITION AREAS AT BRIDGE (BEL-70-2576 L/R)

STATION	TO STATION	BASELINE LENGTH (FT.)	CALCULATION	AREA (S.Y.)	REMARKS
1363+36.88	1364+93.13	156.25	(75'+56.25'+25.0')(10.00)(1/9)=	173.61	EASTBOUND
1371+70.81	1373+27.06	156.25	(75'+56.25'+25.0')(10.00)(1/9)=	173.61	EASTBOUND
1362+14.38	1363+70.63	156.25	(75'+56.25'+25.0')(10.00)(1/9)=	173.61	WESTBOUND
1370+96.81	1372+53.06	156.25	(75'+56.25'+25.0')(10.00)(1/9)=	173.61	WESTBOUND
			SUBTOTALS =	694.44 (S.Y.)	

ITEM 446 - ASPHALT CONCRETE, SURFACE COURSE, TYPE 1, AS PER PLAN, 1 1/4" = (1.25"/12)(694.44)(1/3)+(0.5"+1.5"/2)(1/12)(25)(4)(10)(1/27) = 27.20 C.Y. USE 27 C.Y.

ITEM 446 - ASPHALT CONCRETE, INTERMEDIATE COURSE, TYPE 2, 1 3/4" = (1.75"/12)(75.0)(4)(10)(1/27)+(3.75"+1.5"/2)(1/12)(56.25)(4)(10)(1/27) = 34.43 C.Y. USE 34 C.Y.

ITEM 301 - BITUMINOUS AGGREGATE BASE, AC-20 = (5"+2"/2)(1/12)(75)(4)(10)(1/27) = 32.40 C.Y. USE 32 C.Y.

ITEM 304 - AGGREGATE BASE, 6"-3" @ 10.5' WIDTH = (6"+3"/2)(1/12)(694.44)(10.5'/10)(1/3) = 91.15 C.Y. USE 91 C.Y.

ITEM 305 - 9" CONCRETE BASE = 694.44 S.Y. USE 694 S.Y.

ITEM 407 - TACK COAT @ 0..075 GAL/S.Y. = (0.075)(694.44) = 52.08 GAL. USE 52 GAL.

ITEM 203 - SUBGRADE COMPACTION @ 10' WIDTH = 694.44 S.Y. USE 694 S.Y.

ITEM 202 - WEARING COURSE REMOVED, 3" = 694.44 S.Y. USE 694 S.Y.

NOTE: 1. QUANTITIES FROM THIS SHEET CARRIED TO PAVEMENT CALCULATION SUB-SUMMARY SHEET No. 34 .

MAINLINE SALVAGE OUTSIDE SHOULDER TRANSITION AREAS (BEGIN WORK)

STATION	TO STATION	BASELINE LENGTH (FT.)	CALCULATION	AREA (S.Y.)	REMARKS
1259+80.00	1261+05.00	125.00	(75.00+50.00)(10.00)x1/9=	138.89	EASTBOUND, OUTSIDE
1259+80.00	1261+05.00	125.00	(75.00+50.00)(6.00)x1/9=	83.33	WESTBOUND, OUTSIDE
			SUBTOTAL	= 222.22 (S.Y.)	

ITEM 446 - ASPHALT CONCRETE, SURFACE COURSE, TYPE 1, AS PER PLAN, 1 1/4"=(1.25"/12)(222.22)(1/3) = 7.72 C.Y. USE 8 C.Y.

ITEM 446 - ASPHALT CONCRETE, INTERMEDIATE COURSE, TYPE 2, 1 3/4" = [(1.75"/12)(222.22)(1/3)] +[(0"+2"/2)(1/12)(50)(10)(1/27)+(0"+2"/2)(1/12)(50)(6)(1/27)+(0"+2"/2(1/12)(50)(6.25)(2)(1/27)] = 15.20 C.Y. USE 15 C.Y.

ITEM 301 - BITUMINOUS AGGREGATE BASE, AC-20 = [(5+2/2)(1/12)(75)(10)(1/27)]+[(5+2/2)(1/12)(75)(6.25)(2)(1/27)]+ [(5"+2"/2)(1/12)(75)(6)(1/27)] = 39.58 C.Y. USE 40 C.Y.

ITEM 407 - TACK COAT @ 0.075 GAL/S.Y. = (0.075)(222.22) = 16.67 GAL. USE 17 GAL.

ITEM 202 - WEARING COURSE REMOVED = 222.22 S.Y. USE 222 S.Y.

PAVCALS 1of1 09-23-94

PAVEMENT CALCULATIONS

	BY	DATE	REGION	STATE	PROJECT		
Calculated	W.H.F.	10-93					
Checked	D.T.B.	7-94	5	OHIO			

28
97

BEL-70-23.79

MAINLINE FULL-DEPTH MEDIAN SHOULDERS

MAINLINE FULL-DEPTH MEDIAN SHOULDER AREA (EASTBOUND)

STATION	TO STATION	BASELINE LENGTH (FEET)	CALCULATION	AREA (S.Y.)	REMARKS
1259+80.00	1261+05.00			*	TRANSITION-(BEGIN WORK)
1261+05.00	1339+48.48 BK. 1339+57.48 AH.	7,843.48	7,843.48x6.25x1/9=	5,446.86	RT.
1339+57.48	1346+16.42	658.94	658.94x6.25x1/9=	457.60	RT.
1346+16.42	1347+53.92			*	TRANSITION-(BRIDGE)
1347+53.92	1348+79.44				BRIDGE-[BEL-70-2544 L/R]
1348+79.44	1350+16.94			*	TRANSITION-(BRIDGE)
1350+16.94	1362+74.84	1,257.90	1,257.90x6.25x1/9=	873.54	RT.
1362+74.84	1364+31.09			*	TRANSITION-(BRIDGE)
1364+31.09	1371+34.51				BRIDGE-[BEL-70-2576 L/R]
1371+34.51	1372+90.76			*	TRANSITION-(BRIDGE)
1372+90.76	1385+78.14	1,287.38	1,287.38x6.25x1/9=	894.01	RT.
1385+78.14	1386+48.14	70.00	70.00x(6.25+4.50/2) x1/9=	41.81	RT.
1386+48.14	1386+93.64	45.50	45.50x4.50x1/9=	22.75	RT.
1386+93.64	1387+63.64	70.00	70.00x(4.50+6.25/2) x1/9=	41.81	RT.
1387+63.64	1394+21.90 BK. 330+00.00 AH.	658.26	658.26x6.25x1/9=	457.13	RT.
330+00.00	330+13.00	13.00	13.00x6.25x1/9=	9.03	RT.
330+13.00	330+23.00	10.00	10.00x(6.25+6.00)/2 x1/9=	6.81	RT.
330+23.00	337+05.00	682.00	682.00x6.0x1/9=	454.67	RT.
337+05.00	337+45.00	40.00	40.00x(6.0+5.0/2) x1/9=	24.44	RT.
337+45.00	337+55.00	10.00	10.00x5.0x1/9=	5.56	RT.
337+55.00	337+95.00	40.00	40.00x(5.0+6.0/2) x1/9=	24.44	RT.
337+95.00	345+90.54	795.54	795.54x6.0x1/9=	530.36	RT.
345+90.54	346+50.54	60.00	60.00x(6.0+4.5/2) x1/9=	35.00	RT.
346+50.54	347+20.54	70.00	70.00x4.5x1/9=	35.00	RT.
347+20.54	347+80.54	60.00	60.00x(4.5+6.0/2) x1/9=	35.00	RT.
347+80.54	351+50.00	396.46	369.46x6.0x1/9=	246.31	RT.
351+50.00	353+30.00	180.00	180.00x(6.0+5.02/2) x1/9=	110.20	RT.
353+30.00	353+70.00	40.00	40.00x(5.02+3.80/2) x1/9=	19.60	RT.
353+70.00	353+80.00	10.00	10.00x(3.80+3.75/2) x1/9=	4.19	RT.
353+80.00	354+20.00	40.00	40.00x(3.75+4.53/2) x1/9=	18.40	RT.
354+20.00	356+01.75	181.75	181.75x(4.53+3.53/2) x1/9=	81.39	RT.
356+01.75	357+45.50			*	TRANSITION-(BRIDGE)
		14,520.21	SUBTOTALS	= 9,875.91 (S.Y.)	

MAINLINE FULL-DEPTH MEDIAN SHOULDER AREA (WESTBOUND)

STATION	TO STATION	BASELINE LENGTH (FEET)	CALCULATION	AREA (S.Y.)	REMARKS
1259+80.00	1261+05.00			*	TRANSITION-(BEGIN WORK)
1261+05.00	1339+48.48 BK. 1339+57.48 AH.	7,843.48	7,843.48x6.25x1/9=	5,446.86	LT.
1339+57.48	1346+16.42	658.94	658.94x6.25x1/9=	457.60	LT.
1346+16.42	1347+53.92			*	TRANSITION-(BRIDGE)
1347+53.92	1348+79.44				BRIDGE-[BEL-70-2544 L/R]
1348+79.44	1350+16.94			*	TRANSITION-(BRIDGE)
1350+16.94	1362+74.84	1,257.90	1,257.90x6.25x1/9=	873.54	LT.
1362+74.84	1364+31.09			*	TRANSITION-(BRIDGE)
1364+31.09	1371+34.51				BRIDGE-[BEL-70-2576 L/R]
1371+34.51	1372+90.76			*	TRANSITION-(BRIDGE)
1372+90.76	1384+65.00	1,174.24	1,174.24x6.25x1/9=	815.44	LT.
1384+65.00	1385+78.14			*	FULL-DEPTH RECONSTRUCTION
1385+78.14	1386+48.14			*	FULL-DEPTH RECONSTRUCTION
1386+48.14	1386+93.64			*	FULL-DEPTH RECONSTRUCTION
1386+93.64	1387+63.64			*	FULL-DEPTH RECONSTRUCTION
1387+63.64	1388+75.00			*	FULL-DEPTH RECONSTRUCTION
1388+75.00	1394+21.90 BK. 330+00.00 AH.	546.90	546.90x6.25x1/9=	379.79	LT.
330+00.00	330+13.00	13.00	13.00x6.25x1/9=	9.03	LT.
330+13.00	330+23.00	10.00	10.00x(6.25+6.00)/2 x1/9=	6.81	LT.
330+23.00	337+05.00	682.00	682.00x6.0x1/9=	454.67	LT.
337+05.00	337+45.00	40.00	40.00x(6.0+5.0/2) x1/9=	24.44	LT.
337+45.00	337+55.00	10.00	10.00x5.0x1/9=	5.56	LT.
337+55.00	337+95.00	40.00	40.00x(5.0+6.0/2) x1/9=	24.44	LT.
337+95.00	341+00.00	305.00	305.00x6.0x1/9=	203.33	LT.
341+00.00	345+90.54			*	FULL-DEPTH RECONSTRUCTION
345+90.54	346+50.54			*	FULL-DEPTH RECONSTRUCTION
346+50.54	347+20.54			*	FULL-DEPTH RECONSTRUCTION
347+20.54	347+80.54			*	FULL-DEPTH RECONSTRUCTION
347+80.54	351+50.00			*	FULL-DEPTH RECONSTRUCTION
351+50.00	352+00.00			*	FULL-DEPTH RECONSTRUCTION
352+00.00	353+30.00	130.00	130.00x(6.0+5.29/2) x1/9=	81.54	LT.
353+30.00	353+70.00	40.00	40.00x(5.29+3.80/2) x1/9=	20.20	LT.
353+70.00	353+80.00	10.00	10.00x(3.80+3.75/2) x1/9=	4.19	LT.
353+80.00	354+20.00	40.00	40.00x(3.75+4.53/2) x1/9=	18.40	LT.
354+20.00	356+01.75	181.75	181.75x(4.53+3.53/2) x1/9=	81.39	LT.
355+76.75	357+45.50			*	TRANSITION-(BRIDGE)
			SUBTOTALS	= 8907.23 (S.Y.)	

ITEM 446 - ASPHALT CONCRETE, SURFACE COURSE, TYPE 1, AS PER PLAN, 1 1/4" = (1.25"/12)(1/3)(9,875.91) + (1.25)(1/12)(.75)(14,520.21)(1/27) = 384.93 C.Y. USE 385 C.Y.

ITEM 446 - ASPHALT CONCRETE, INTERMEDIATE COURSE, TYPE 2, 1 3/4" = (1.75"/12)(1/3)(9,875.91) + (1.75/12)(.75)(14,520.21)(1/27) = 538.90 C.Y. USE 539 C.Y.

ITEM 301 - BITUMINOUS AGGREGATE BASE, AC-20, 5" = (5.00"/12)(1/3)(9,875.91) = 1,371.65 C.Y. USE 1,372 C.Y.

ITEM 407 - TACK COAT @ 0.075 GAL/S.Y. = (0.075)(9,875.91) + (.075)(.75)(14520.21)(1/9) = 831.44 GAL. USE 831 GAL.

ITEM 305 - 9" CONCRETE BASE = 9,875.91 S.Y. USE 9,876 S.Y.

ITEM 304 - AGGREGATE BASE, 6"-4.36" = (6"+4.36"/2)(1/12)(10.5'/10)(1/3)(9,875.91) = 1,492.09 C.Y. USE 1,492 C.Y.

ITEM 203 - EXCAVATION, NOT INCLUDING EMBANKMENT = (18'/12)(9,875.91)(1/3) = 4,937.96 C.Y. USE 4,938 C.Y.

ITEM 203 - SUBGRADE COMPACTION = 5446.86 + 457.60 + 873.54 + 894.01 + 457.13 + 9.03 + 6.81 + 454.67 + 530.36 + 246.31 = 9376.32 S.Y. USE 9376 S.Y.

ITEM 446 - ASPHALT CONCRETE, SURFACE COURSE, TYPE 1, AS PER PLAN, 1 1/4" = (1.25"/12)(1/3)(8,907.23) + (1.25/12)(.75)(12983.21)(1/27) = 346.85 C.Y. USE 347 C.Y.

ITEM 446 - ASPHALT CONCRETE, INTERMEDIATE COURSE, TYPE 2, 1 3/4" = (1.75"/12)(1/3)(8,907.23) + (1.75/12)(.75)(12983.21)(1/27) = 485.58 C.Y. USE 486 C.Y.

ITEM 301 - BITUMINOUS AGGREGATE BASE, AC-20, 5" = (5.00"/12)(1/3)(8,907.23) = 1,237.12 C.Y. USE 1,237 C.Y.

ITEM 407 - TACK COAT @ 0.075 GAL/S.Y. = (0.075)(8,907.23) + (.075)(.75)(12,983.21)(1/9) = 749.19 GAL. USE 749 GAL.

ITEM 305 - 9" CONCRETE BASE = 8,907.23 S.Y. USE 8907 S.Y.

ITEM 304 - AGGREGATE BASE, 6"-4.36" = (6"+4.36"/2)(1/12)(10.5'/10)(1/3)(8,907.23) = 1,345.73 C.Y. USE 1,346 C.Y.

ITEM 203 - EXCAVATION, NOT INCLUDING EMBANKMENT = (18'/12)(8,907.23)(1/3) = 4,453.62 C.Y. USE 4,454 C.Y.

ITEM 203 - SUBGRADE COMPACTION = 5446.86 + 457.60 + 873.54 + 815.44 + 379.79 + 9.03 + 6.81 + 454.67 + 203.33 = 8647.07 S.Y. USE 8647 S.Y.

NOTE: * 1. AREA NOT ADDED INTO SUBTOTAL (SEE RESPECTIVE CALCULATION SHEET FOR SPECIFIC AREA SUBTOTAL)
2. QUANTITIES FROM THIS SHEET CARRIED TO PAVEMENT CALCULATION SUB-SUMMARY SHEET No. 34 .

PAVCALS 1st 09-23-94

PAVEMENT CALCULATIONS

	BY	DATE	REGION	STATE	PROJECT	
Calculated	W.H.F.	12-93	5	OHIO		
Checked	D.T.B.	7-94				

BEL-70-23.79

MAINLINE FULL-DEPTH MEDIAN SHOULDER TRANSITION AREAS

MAINLINE FULL-DEPTH MEDIAN SHOULDER TRANSITION AREAS AT BRIDGE (BEL-70-2544 L/R)

STATION	TO STATION	BASELINE LENGTH (FT.)	CALCULATION	AREA (S.Y.)	REMARKS
1346+16.42	1347+23.92	107.50	(107.50)(6.25)x1/9=	74.65	EASTBOUND, MEDIAN
1347+23.92	1347+33.92	10.00	(10.00)(6.25+6.50/2)x1/9=	7.08	EASTBOUND, MEDIAN
1347+33.92	1347+53.92	20.00	(20.00)(6.50)x1/9=	14.44	EASTBOUND, MEDIAN
1348+79.44	1348+99.44	20.00	(20.00)(6.50)x1/9=	14.44	EASTBOUND, MEDIAN
1348+99.44	1349+09.44	10.00	(10.00)(6.50+6.25/2)x1/9=	7.08	EASTBOUND, MEDIAN
1349+09.44	1350+16.94	107.50	(107.50)(6.25)x1/9=	74.65	EASTBOUND, MEDIAN
1346+16.42	1347+23.92	107.50	(107.50)(6.25)x1/9=	74.65	WESTBOUND, MEDIAN
1347+23.92	1347+33.92	10.00	(10.00)(6.25+6.00/2)x1/9=	6.81	WESTBOUND, MEDIAN
1347+33.92	1347+53.92	20.00	(20.00)(6.00+5.00/2)x1/9=	12.22	WESTBOUND, MEDIAN
1348+79.44	1348+99.44	20.00	(20.00)(5.00+6.00/2)x1/9=	12.22	WESTBOUND, MEDIAN
1348+99.44	1349+09.44	10.00	(10.00)(6.00+6.25/2)x1/9=	6.81	WESTBOUND, MEDIAN
1349+09.44	1350+16.94	107.50	(107.50)(6.25)x1/9=	74.65	WESTBOUND, MEDIAN
		550.00	SUBTOTAL	= 379.70 (S.Y.)	

ITEM 446 - ASPHALT CONCRETE, SURFACE COURSE, TYPE 1, AS PER PLAN = (1.25"/12)(379.70)(1/3)+ (1.25"+1.5"/2)(1/12)(6.25)(6.25)(4)(1/27)+(550)(.75)(1.25/12)(1/27) = 15.74 C.Y. USE 16 C.Y.
ITEM 446 - ASPHALT CONCRETE, INTERMEDIATE COURSE, TYPE 2 = (1.75"/12)(75.0)(6.25)(4)(1/27) + (550)(.75)(1.25/12)(1/27) + (3.75+2.45/2)(1/12)(32.5)(6.25)(4)(1/27) + (2.45+2.05/2)(1/12)(10)(6.25+6.50/2)(4)(1/27) + (2.05+1.5/2)(1/12)(20)(6.5)(4)(1/27) = 24.11 USE 24 C.Y.
ITEM 301 - BITUMINOUS AGGREGATE BASE, AC-20 = (5"+2"/2)(1/12)(4)(75.0)(6.25)(1/27) = 20.25 C.Y. USE 20 C.Y.
ITEM 304 - AGGREGATE BASE, 6" = (6.00/12)(379.70)(1/3) = 63.28 C.Y. USE 63 C.Y.
ITEM 305 - 9" CONCRETE BASE = 379.70 S.Y. USE 380 S.Y.
ITEM 407 - TACK COAT @ 0.075 GAL/S.Y. = (0.075)(379.70) + 550(.75)(1/9)(.075) = 31.92 GAL. USE 32 GAL.
ITEM 203 - SUBGRADE COMPACTION = 379.70 - 2(12.22) =355.26 S.Y. USE 355 S.Y.
ITEM 203 - EXCAVATION, NOT INCLUDING EMBANKMENT = (379.70)(18"/12)(1/3) = 189.85 C.Y. USE 190 C.Y.

MAINLINE FULL DEPTH MEDIAN SHOULDER TRANSITION AREAS AT BRIDGE (BEL-70-2576 L/R)

STATION	TO STATION	BASELINE LENGTH (FT.)	CALCULATION	AREA (S.Y.)	REMARKS
1362+74.84	1364+01.07	126.23	(126.23)(6.25)x1/9=	87.66	EASTBOUND, MEDIAN
1364+01.07	1364+11.07	10.00	(10.00)(6.25+6.50/2)x1/9=	7.08	EASTBOUND, MEDIAN
1364+11.07	1364+31.09	20.02	(20.02)(6.50)x1/9=	14.46	EASTBOUND, MEDIAN
1371+34.51	1371+54.51	20.00	(20.00)(6.50)x1/9=	14.44	EASTBOUND, MEDIAN
1371+54.51	1371+64.51	10.00	(10.00)(6.50+6.25/2)x1/9=	7.08	EASTBOUND, MEDIAN
1371+64.51	1372+90.76	126.25	(126.25)(6.25)x1/9=	87.66	EASTBOUND, MEDIAN
1362+74.84	1364+01.07	126.23	(126.23)(6.25)x1/9=	87.66	WESTBOUND, MEDIAN
1364+01.07	1364+11.07	10.00	(10.00)(6.25+6.00/2)x1/9=	6.81	WESTBOUND, MEDIAN
1364+11.07	1364+31.09	20.02	(20.02)(6.00+5.00/2)x1/9=	12.23	WESTBOUND, MEDIAN
1371+34.51	1371+54.51	20.00	(20.00)(5.00+6.00/2)x1/9=	12.22	WESTBOUND, MEDIAN
1371+54.51	1371+64.51	10.00	(10.00)(6.00+6.25/2)x1/9=	6.81	WESTBOUND, MEDIAN
1371+64.51	1372+90.76	126.25	(126.25)(6.25)x1/9=	87.66	WESTBOUND, MEDIAN
		625.00	SUBTOTAL	= 431.77 (S.Y.)	

ITEM 446 - ASPHALT CONCRETE, SURFACE COURSE, TYPE 1, AS PER PLAN = (1.25"/12)(431.77)(1/3)+ (0.50+1.5/2)(1/12)(6.376+6.5/2)(4.98)(2)(1/27)+(.5+1.5/2)(1/12)(6.376+6.5/2)(5)(2)(1/27) + (.5+1.5/2)(1/12)(6.5)(20)(1/27)(2) + (.5+1.5/2)(1/12)(6.5)(20.02)(2)(1/27) + (625)(.75)(1.25/12)(1/27) = 18.80 C.Y. USE 19 C.Y.
ITEM 446 - ASPHALT CONCRETE, INTERMEDIATE COURSE, TYPE 2, AS PER PLAN = (1.75"/12)(75.0)(6.25)(4)(1/27)+ (3.75+1.7/2)(1/12)(6.25)(51.23)(2)(1/27) + (3.75+1.7/2)(1/12)(6.25)(51.25)(2)(1/27) + (1.7+1.5/2)(1/12)(5.02)(6.25+6.5/2)(4)(1/27) + (625)(.75)(1.25/12)(1/27) = 23.34 C.Y. USE 23 C.Y.
ITEM 301 - BITUMINOUS AGGREGATE BASE, AC-20 = (5"+2"/2)(1/12)(75.0)(4)(6.25)(1/27) = 20.25 C.Y. USE 20 C.Y.
ITEM 304 - AGGREGATE BASE, 6" = (6"/12)(431.77)(1/3) = 71.96 C.Y. USE 72 C.Y.
ITEM 305 - 9" CONCRETE BASE = 431.77 S.Y. USE 432 S.Y.
ITEM 407 - TACK COAT @ 0.075 GAL/S.Y. = (0.075)(431.77) + (.075)(625)(.75)(1/9) = 36.29 GAL. USE 36 GAL.
ITEM 203 - SUBGRADE COMPACTION = 431.77 - (12.23+12.22) = 407.32 S.Y. USE 407 S.Y.
ITEM 203 - EXCAVATION, NOT INCLUDING EMBANKMENT = (431.77)(18"/12)(1/3) = 215.89 C.Y. USE 216 C.Y.

MAINLINE FULL-DEPTH MEDIAN SHOULDER TRANSITION AREAS AT BRIDGE (BEL-70-2684 L/R)

STATION	TO STATION	BASELINE LENGTH (FT.)	CALCULATION	AREA (S.Y.)	REMARKS
356+01.75	357+00.00	98.25	(98.25)(3.53+3.0/2)x1/9=	35.64	EASTBOUND, MEDIAN
357+00.00	357+20.50	20.50	(20.50)(3.0)x1/9=	6.83	EASTBOUND, MEDIAN
356+01.75	357+00.00	98.25	(98.25)(3.53+3.0/2)x1/9=	35.64	WESTBOUND, MEDIAN
357+00.00	357+20.50	20.50	(20.50)(3.0)x1/9=	6.83	WESTBOUND, MEDIAN
		237.50	SUBTOTALS = 84.94 (S.Y.)		

ITEM 446 - ASPHALT CONCRETE, SURFACE COURSE, TYPE 1, AS PER PLAN = (1.25"/12)(84.94)(1/3) + (237.50)(.75)(1.25/12)(1/27) = 3.63 C.Y. USE 4 C.Y.
ITEM 446 - ASPHALT CONCRETE, INTERMEDIATE COURSE, TYPE 2 = (1.75"/12)(3.53'+3.09'/2)(75.0)(2)(1/27) + (3.75+3.07/2)(1/12)(3.09+3.0/2)(23.25)(2)(1/27) + (3.07+2.5/2)(1/12)(3.0)(20.5)(2)(1/27) + (237.5)(.75)(1.75/12)(1/27) = 6.18 C.Y. USE 6 C.Y.
ITEM 301 - BITUMINOUS AGGREGATE BASE, AC-20 = (5"+2"/2)(1/12)(2)(75)(3.47)(1/27) = 5.62 C.Y. USE 6 C.Y.
ITEM 304 - AGGREGATE BASE, 6" = (6.00"/12)(84.94)(1/3) = 14.16 C.Y. USE 14 C.Y.
ITEM 305 - 9" CONCRETE BASE = 84.94 S.Y. USE 85 S.Y.
ITEM 407 - TACK COAT @ 0.075 GAL/S.Y. = (0.075)(84.94) = (.075)(84.94) + (237.5)(.75)(.075)(1/9) = 7.85 GAL. USE 8 GAL.
ITEM 203 - EXCAVATION, NOT INCLUDING EMBANKMENT = (84.94)(18"/12)(1/3) = 42.47 C.Y. USE 42 C.Y.

MAINLINE FULL-DEPTH MEDIAN SHOULDER TRANSITION AREAS AT BRIDGE (BEL-70-2684 L/R)

STATION	TO STATION	BASELINE LENGTH (FT.)	CALCULATION	AREA (S.Y.)	REMARKS
357+20.50	357+45.50	25.00	(25.00)(3.0)x1/9=	8.33	EASTBOUND, MEDIAN
357+20.50	357+45.50	25.00	(25.00)(3.0)x1/9=	8.33	WESTBOUND, MEDIAN
		50.00	SUBTOTALS = 16.66 (S.Y.)		

ITEM 446 - ASPHALT CONCRETE, SURFACE COURSE, TYPE 1, AS PER PLAN, 1 1/4" = (1.25"+2.25"/2)(1/12)(16.66)(1/3) + (50)(.75)(1.25/12)(1/9) = 0.94 C.Y. USE 1 C.Y.
ITEM 407 - TACK COAT @ 0.075 GAL/S.Y. = (0.075)(16.66) = 1.25 GAL. USE 1 GAL.
ITEM 202 - WEARING COURSE REMOVED = 16.66 S.Y. USE 17 S.Y.

MAINLINE FULL-DEPTH MEDIAN SHOULDER TRANSITION AREAS (BEGIN WORK)

STATION	TO STATION	BASELINE LENGTH (FT.)	CALCULATION	AREA (S.Y.)	REMARKS
1259+80.00	1261+05.00	125.00	(75.00+50.00)(6.25)x1/9=	86.81	EASTBOUND, MEDIAN
1259+80.00	1261+05.00	125.00	(75.00+50.00)(6.25)x1/9=	86.81	WESTBOUND, MEDIAN
		250.00	SUBTOTALS = 173.62 (S.Y.)		

ITEM 446 - ASPHALT CONCRETE, SURFACE COURSE, TYPE 1, AS PER PLAN, 1 1/4"=(1.25"/12)(173.62)(1/3) + (250)(.75)(1.25/12)(1/27) = 6.75 C.Y USE 7 C.Y.
ITEM 446 - ASPHALT CONCRETE, INTERMEDIATE COURSE, TYPE 2, 1 3/4" = [(1.75"/12)(173.62)(1/3)] +[(0"+2"/2)(1/12)(50)(10)(1/27)+(0"+2"/2)(1/12)(50)(6)(1/27)+(0"+2"/2(1/12)(50)(6.25)(2)(1/27)] + (250.0)(.75)(1.75/12)(1/27) = 13.85 C.Y. USE 14 C.Y.
ITEM 301 - BITUMINOUS AGGREGATE BASE, AC-20 = (5+2/2)(1/12)(75)(6.25)(2)(1/27) = 10.13 C.Y. USE 10 C.Y.
ITEM 407 - TACK COAT @ 0.075 GAL/S.Y. = (0.075)(173.62) = 13.02 GAL. USE 13 GAL.
ITEM 202 - WEARING COURSE REMOVED = 173.62 S.Y. USE 174 S.Y.

NOTE: 1. QUANTITIES FROM THIS SHEET CARRIED TO PAVEMENT CALCULATION SUB-SUMMARY SHEET No. 34 .

PAVCALC 1st1 09-23-94

PAVEMENT CALCULATIONS

RAMPS A,B,C, & D SALVAGE PAVEMENT & FULL-DEPTH SHOULDER AREAS

	BY	DATE	REGION	STATE	PROJECT		
Calculated	W.H.F.	11-93	5	OHIO			30 97
Checked	D.T.B.	7-94					

BEL-70-23.79

RAMPS - SALVAGE PAVEMENT AREA AT RAMPS A, B, C, & D

STATION	TO STATION	BASELINE LENGTH (FEET)	CALCULATION	AREA (S.Y.)	REMARKS
A1+00.00	A2+00.00	100.00	(100.00)(0.0+12.0/2)x1/9=	66.67	RAMP "A"
A2+00.00	A4+29.04	229.04(2,826.86/2,864.89) =226.00	(226.00)x12.0x1/9=	301.33	RAMP "A" CORRECTED LENGTH
A4+29.04	A8+90.42	461.38	PLANIMETERED AREA =	1,090.00	RAMP "A"
A8+90.42	A8+95.79	5.37(3,608.64/3,600) =5.38	(5.38)(18.0+17.89/2)x1/9=	10.73	RAMP "A"
A8+95.79	A9+90.42			*	TRANSITION - (BRIDGE)
A9+90.42	A10+15.83			*	TRANSITION - (BRIDGE)
A10+15.83	A10+33.29			*	TRANSITION - (BRIDGE)
B30+00.00	B38+59.50	859.50	PLANIMETERED AREA =	1,100.00	RAMP "B"
B38+59.50	B39+47.00			*	TRANSITION
B39+47.00	B39+59.50	12.50	(12.50)(16.19+16.5/2)1/9=	22.70	RAMP "B"
B39+59.50	B40+59.50	100.00	(100.00)(14.0+16.0/2)1/9=	166.67	RAMP "B"
B40+59.50	B41+36.97	77.47	(77.47)x16.0x1/9=	137.72	RAMP "B"
B41+36.97	B45+47.75	410.78(1,292/1,300) =408.25	(408.25)x16.0x1/9=	725.78	RAMP "B" CORRECTED LENGTH
B45+47.75	B46+36.15	88.40	(88.40)x16.0x1/9=	157.16	RAMP "B"
B46+36.15	B46+96.15	60.00	RETURN AREA =	193.00	RAMP "B"
C47+00.88	C47+60.88	60.00	RETURN AREA =	246.00	RAMP "C"
C47+60.88	C47+99.88	39.00	(39.00)x24.0x1/9=	104.00	RAMP "C"
C47+99.88	C49+54.88	155.00(1,496/1,500) =154.59	(154.59)x24.0x1/9=	412.24	RAMP "C" CORRECTED LENGTH
C49+54.88	C51+27.31	172.43(1,494/1,500) =171.74	(171.74)x(24.0+16.0/2)x1/9=	381.64	RAMP "C" CORRECTED LENGTH
C51+27.31	C52+14.81			*	TRANSITION
C52+14.81	C53+16.81	102.00	102.00(16.0+18.0/2)(1/9)=	192.67	RAMP "C"
C52+81.64	C53+14.00	32.40	(32.40)x10.5x1/9=	37.80	RAMP "C"
C53+14.00	C55+76.00	262.00	(262.00)x(35.0+12.0/2)x1/9=	684.11	RAMP "C"
355+76.00	357+20.50	144.50	(144.50)x12.0x1/9=	192.67	MAINLINE
357+20.50	357+45.50	25.00	(25.00)x12.0x1/9=	33.33	MAINLINE
D51+32.76	D51+50.26			*	TRANSITION - (BRIDGE)
D51+50.26	D52+03.95			*	TRANSITION - (BRIDGE)
D52+03.95	D52+70.26			*	TRANSITION - (BRIDGE)
D52+70.26	D53+00.00	29.74	(29.74)x(14.62+14.0/2)x1/9=	47.29	RAMP "D"
D53+00.00	D54+00.00	100.00	(100.00)x(16.5+14.0/2)x1/9=	169.44	RAMP "D"
D54+00.00	D57+20.50	320.50	(320.50)x(25.0+16.0/2)x1/9=	730.03	RAMP "D"
D57+20.50	D57+45.50	25.00	(25.00)x(16.0+15.3/2)x1/9=	43.47	RAMP "D"
			SUBTOTALS	= 7,246.45 (S.Y.)	

ITEM 446 - ASPHALT CONCRETE, SURFACE COURSE, TYPE 1, AS PER PLAN, 1 1/4" = (1.25"/12)(1/3)x7,246.45 = 251.61 C.Y. USE 252 C.Y.

ITEM 446 - ASPHALT CONCRETE, INTERMEDIATE COURSE, TYPE 2, 3 1/4" = (3.25"/12)(1/3)x7,246.45 = 654.10 C.Y. USE 654 C.Y.

ITEM 202 - WEARING COURSE REMOVED, 3" = 7,246.45 S.Y. USE 7,246 S.Y.

ITEM 407 - TACK COAT @ 0..075 GAL/S.Y. = (0.075)(7,246.45) = 543.48 GAL. USE 543 GAL.

NOTE: * 1. AREA NOT ADDED INTO SUBTOTAL (SEE RESPECTIVE CALCULATION SHEET FOR SPECIFIC AREA SUBTOTAL)

2. QUANTITIES FROM THIS SHEET CARRIED TO PAVEMENT CALCULATION SUB-SUMMARY SHEET No. 34 .

RAMPS - FULL-DEPTH SHOULDER AREA AT RAMPS A, B, C, & D

STATION	TO STATION	BASELINE LENGTH (FEET)	CALCULATION	AREA (S.Y.)	REMARKS
A1+00.00	A2+00.00	100.72	(100.72)x(10+8/2)x1/9=	100.72	RAMP "A", RT.
A2+00.00	A4+29.19	229.19	(229.19)x8.0x1/9=	203.72	RAMP "A", RT.
A4+29.09	A7+38.57	304.48(1,646/1,650) = 303.74	(303.74)x8.0x1/9=	270.00	RAMP "A", RT. CORRECTED LENGTH
A7+38.57	A10+08.25	269.69(3,596/3,600) =269.39	(269.39)x8.0x1/9=	239.46	RAMP "A", RT. CORRECTED LENGTH
A10+08.25	A10+33.29	25.04(3,596.25/3,600) =25.01	(25.01)x8.0+7.0/2)x1/9=	20.84	RAMP "A", RT. CORRECTED LENGTH
A8+90.42	A9+90.42	100.00(3,581.64/3,600) =99.49	(99.49)x3.0x1/9=	33.16	RAMP "A", LT. CORRECTED LENGTH
A9+90.42	A10+33.29	42.87(3,582.37/3,600) =42.66	(42.66)x3.0x1/9=	14.22	RAMP "A", LT. CORRECTED LENGTH
B30+00.00	B30+68.05	68.05	(68.05)x(10.0+8.0/2)x1/9=	68.05	RAMP "B", LT.
B30+68.05	B32+21.78	153.73	(153.73)x8.0x1/9=	136.65	RAMP "B", LT.
B32+21.78	B37+99.72	578.72(3,604/3,600) =579.36	(579.36)x8.0x1/9=	514.99	RAMP "B", LT. CORRECTED LENGTH
B37+99.72	B38+59.50	59.78	(59.78)x8.0x1/9=	59.78	RAMP "B", LT.
B38+59.50	B40+59.50	200.00	(200.00)x(8.0+6.0/2)x1/9=	155.56	RAMP "B", LT.
B40+59.50	B41+36.97	77.47	(77.47)x6.0x1/9=	51.65	RAMP "B", LT.
B41+36.97	B45+47.75	410.78(1,303.00/1,300) =411.73	(411.73)x6.0x1/9=	274.49	RAMP "B", LT. CORRECTED LENGTH
B45+47.75	B46+36.15	88.40	(88.40)x6.0x1/9=	58.93	RAMP "B", LT.
B40+13.94	B41+36.97	123.03	(123.03)x3.0x1/9=	41.01	RAMP "B", RT.
B41+36.97	B45+47.75	410.78(1,282.5/1,300) =405.25	(405.25)x3.0x1/9=	135.08	RAMP "B", RT. CORRECTED LENGTH
B45+47.75	B46+36.15	88.40	(88.40)x3.0x1/9=	29.47	RAMP "B", RT.
C47+60.88	C47+99.88	39.00	(39.00)x6.0x1/9=	26.00	RAMP "C", LT.
C47+99.88	C49+54.88	155(1,511.0/1,500) =156.14	(156.14)x6.0x1/9=	104.09	RAMP "C", LT. CORRECTED LENGTH
C49+54.88	C49+89.20	34.32(303.0/300) =34.66	(34.66)x6.0x1/9=	23.11	RAMP "C", LT. CORRECTED LENGTH
C49+89.20	C53+14.81	425.61	(425.61)x6.0x1/9=	283.74	RAMP "C", LT.
C53+14.81	C53+19.20	4.39	(4.39)x(3.0+3.08)x1/9=	2.97	RAMP "C", LT.
C53+19.20	C55+76.00	256.80(1,497.00/1,500) =256.29	(256.29)x6.0x1/9=	170.86	RAMP "C", LT. CORRECTED LENGTH
C55+76.00	C56+82.19	38.31	(38.31)x6.0x1/9=	25.54	RAMP "C", LT.
C47+60.88	C47+99.88	39.00	(39.00)x3.0x1/9=	13.00	RAMP "C", RT.
C47+99.88	C51+27.61	327.33(1,482.52/1,500) =323.91	(323.91)x3.0x1/9=	107.97	RAMP "C", RT. CORRECTED LENGTH
C51+27.61	C52+83.56	155.95	(155.95)x3.0x1/9=	51.98	RAMP "C", RT.
D51+32.76	D52+00.32	67.56(2,982.68/3,000) =67.17	(67.17)x3.0x1/9=	22.39	RAMP "D", LT. CORRECTED LENGTH
D52+00.32	D52+03.95	3.63	(3.63)x3.0x1/9=	1.21	RAMP "D", LT.
D52+03.95	D53+00	96.05	(96.05)x(3.0+2.0/2)x1/9=	26.68	RAMP "D", LT.
D51+32.76	D51+57.73	24.97(3,003.75/3,000) =25.00	(25.00)x(7.0+8.0/2)x1/9=	20.83	RAMP "D", RT. CORRECTED LENGTH
D51+57.73	D52+00.32	42.59(3,004/3,000) =42.65	(42.65)x8.0x1/9=	37.91	RAMP "D", RT. CORRECTED LENGTH
D52+00.32	D53+99.99	199.67	(199.67)x8.0x1/9=	177.48	RAMP "D", RT.
D53+99.99	D54+22.51	82.52(1,996/2,000) =82.35	(82.35)x(8.0)x1/9=	73.20	RAMP "D", RT. CORRECTED LENGTH
D54+82.15	D55+75	92.49	(92.49)x(8.0)x1/9=	82.21	RAMP "D", RT.
D55+75	D56+81.15	106.15	(106.15)x8.0x1/9=	94.36	RAMP "D", RT.
D65+81.15	D57+20.50	39.35	(39.35)x(9.75+5.6)x1/9=	33.56	RAMP "D", RT.
		LENGTH = 5,553.17 (L.F.)	SUBTOTALS	= 3,786.87 (S.Y.)	

ITEM 446 - ASPHALT CONCRETE, SURFACE COURSE, TYPE 1, AS PER PLAN, 1 1/4" = (1.25"/12)(1/3)(3,786.87) = 131.49 C.Y. USE 132 C.Y.

ITEM 446 - ASPHALT CONCRETE, INTERMEDIATE COURSE, TYPE 2, 3 1/4" = (3.25"/12)(1/3)(3,786.87) = 341.87 C.Y. USE 342 C.Y.

ITEM 407 - TACK COAT @ 0.075 GAL/S.Y. = (0.075)(3,786.87) = 284.02 GAL. USE 284 GAL.

ITEM 305 - 9" CONCRETE BASE = 3,786.87 S.Y. USE 3,787 S.Y.

ITEM 304 - AGGREGATE BASE, 6" = (6.00"/12)(1/3)(3,786.87) = 631.14 C.Y. USE 631 C.Y.

ITEM 203 - EXCAVATION NOT INCLUDING EMBANKMENT = (11.65 S.F. END AREA)(5,553.17 L.F.)1/27 = 2,396.09 C.Y. USE 2,396 C.Y.

ITEM 203 - SUBGRADE COMPACTION = 3786.87 - (33.16 + 14.22 + 41.01 + 135.08 + 29.47 + 2.97 + 13.00 + 107.97 + 51.98 + 22.39 + 1.21 + 26.68) = 3428.70 S.Y. USE 3429 S.Y.

PAVCALC 1=1 09-23-94

PAVEMENT CALCULATIONS

	BY	DATE	REGION	STATE	PROJECT	
Calculated	W.H.F.	11-93	5	OHIO		
Checked	D.T.B.	7-94				

BEL-70-23.79

RAMP SALVAGE TRANSITION AREAS

RAMPS – SALVAGE TRANSITION AREAS AT BRIDGES (BEL-70-2663 A&D)

STATION	TO STATION	BASELINE LENGTH (FEET)	CALCULATION	AREA (S.Y.)	REMARKS
A8+95.79	A9+90.42	94.63(3,608.64/3,600) =94.86	(94.86)x(17.89+16.0/2)x1/9=	178.60	RAMP "A"
A9+90.42	A10+15.83	25.41(3,609/3,600) =25.47	(25.47)x16.0x1/9=	45.28	RAMP "A"
A10+15.83	A10+33.29	17.46(3,608/3,600) =17.52	(17.52)x16.0x1/9=	31.15	RAMP "A"
D51+32.76	D51+50.26	17.50	(17.50)x16.0x1/9=	31.11	RAMP "D"
D51+50.26	D52+03.95	53.69	(53.69)x16.0x1/9=	95.45	RAMP "D"
D52+03.95	D52+70.26	66.31	(66.31)x(16.0+14.62/2)x1/9=	112.80	RAMP "D"

SUBTOTALS = 494.39 (S.Y.)

ITEM 446 – ASPHALT CONCRETE, SURFACE COURSE, TYPE 1, AS PER PLAN, 1 1/4" =
(1.25"/12)(494.39)(1/3)+(2)(1.25"+1.5"/2)(1/12)(6.25)(16)(1/27) = 18.02 C.Y. USE 18 C.Y.

ITEM 446 – ASPHALT CONCRETE, INTERMEDIATE COURSE, TYPE 2, 1 3/4" =
(2)(1.75"/12)(75.0)(16)(1/27)+(2)(3.75"+1.5"/2)(1/12)(56.25)(16)(1/27) = 27.55 C.Y. USE 28 C.Y.

ITEM 301 – BITUMINOUS AGGREGATE BASE, AC-20 = (5"+2"/2)(1/12)(75)(16)(1/27)(2) = 25.93 C.Y. USE 26 C.Y.

ITEM 407 – TACK COAT @ 0.075 GAL/S.Y. = (0.075)(494.39) = 37.08 GAL. USE 37 GAL.

ITEM 202 – WEARING COURSE REMOVED, 3" = 494.39 S.Y. USE 494 S.Y.

RAMPS – SALVAGE TRANSITION AREAS AT MARION STREET

STATION	TO STATION	BASELINE LENGTH (FEET)	CALCULATION	AREA (S.Y.)	REMARKS
B46+58.65	B46+96.15	37.50	PLANIMETERED AREA x 1/9=	152.79	RAMP "B"
C47+00.88	C47+38.38	37.50	PLANIMETERED AREA x 1/9=	187.52	RAMP "C"

SUBTOTALS = 340.31 (S.Y.)

ITEM 446 – ASPHALT CONCRETE, SURFACE COURSE, TYPE 1, AS PER PLAN, 1 1/4" =
(1.25"/12)(340.31)(1/3) = 11.82 C.Y. USE 12 C.Y.

ITEM 446 – ASPHALT CONCRETE, INTERMEDIATE COURSE, TYPE 2, AS PER PLAN =
(3.25"+1.75"/2)(1/12)(340.31)(1/3) = 23.63 C.Y. USE 24 C.Y.

ITEM 407 – TACK COAT @ 0.075 GAL/S.Y. = (0.075)(340.31) = 25.52 GAL USE 26 GAL.

ITEM 202 – WEARING COURSE REMOVED, 3" = 340.31 S.Y. USE 340 S.Y.

RAMPS – SALVAGE TRANSITION AREAS AT RAMP B & C

STATION	TO STATION	BASELINE LENGTH (FEET)	CALCULATION	AREA (S.Y.)	REMARKS
B38+59.50	B39+47.00	87.50	(87.50)x(14.0+16.19/2)x1/9=	146.76	RAMP "B"
C51+27.31	C52+14.81	87.50	(87.50)x(16.0)x1/9=	155.56	RAMP "C"

SUBTOTALS = 302.32 (S.Y.)

ITEM 446 – ASPHALT CONCRETE, SURFACE COURSE, TYPE 1, AS PER PLAN, 1 1/4" =
(1.25"/12)(302.32)(1/3) = 10.50 C.Y. USE 11 C.Y.

ITEM 446 – ASPHALT CONCRETE, INTERMEDIATE COURSE, TYPE 2, 1 3/4" =
(1.75"/12)(302.32)(1/3)+(1.5"+2.0"/2)(1/12)(12.50)(16)(1/27) = 15.78 C.Y. USE 16 C.Y.

ITEM 301 – BITUMINOUS AGGREGATE BASE, AC-20 = (5"+2"/2)(1/12)(75)(15.5)(1/27) = 12.56 C.Y. USE 13 C.Y.

ITEM 407 – TACK COAT @ 0.075 GAL/S.Y. = (0.075)(302.32) = 22.67 GAL. USE 23 GAL.

ITEM 202 – WEARING COURSE REMOVED, 3" = 302.32 S.Y. USE 302 S.Y.

NOTE: 1. QUANTITIES FROM THIS SHEET CARRIED TO PAVEMENT CALCULATION SUB-SUMMARY SHEET No. 34 .

PAVCALS 1of1 08-23-94

PAVEMENT CALCULATIONS

	BY	DATE	REGION	STATE	PROJECT	
Calculated	W.H.F.	10-93	5	OHIO		
Checked	D.T.B.	7-94				

32
97

BEL-70-23.79

MAINLINE FULL-DEPTH RECONSTRUCTION AND FULL-DEPTH RECONSTRUCTION SHOULDERS

MAINLINE FULL-DEPTH RECONSTRUCTION (WESTBOUND)

STATION	TO STATION	BASELINE LENGTH (FEET)	CALCULATION	AREA (S.Y.)	REMARKS
1384+65.00	1388+75.00	410.00	(410.00)(24.00)(1/9)=	1,093.33	UNDER BRIDGE [BEL-70-2618]
341+00.00	345+70.36	(470.36)(2884.29/2864.29) =473.64	(473.64)(24.00)(1/9)=	1,263.04	CORRECTED LENGTH
345+70.36	352+00.00	629.64	(629.64)(24.00)(1/9)=	1,679.04	UNDER BRIDGE [BEL-70-2663]
			SUBTOTALS	= 4,035.41	

ITEM 446 - ASPHALT CONCRETE, SURFACE COURSE, TYPE 1, 1 1/4"=(1.25"/12)(4,035.41)(1/3) = 140.12 C.Y. USE 140 C.Y.
ITEM 446 - ASPHALT CONCRETE, INTERMEDIATE COURSE, TYPE 2, 1 3/4"= (1.75"/12)(4,035.41)(1/3) = 196.17 C.Y. USE 196 C.Y.
ITEM 301 - BITUMINOUS AGGREGATE BASE, AC-20, 11" = (11"/12)(4,035.41)(1/3) = 1,233.04 C.Y. USE 1,233 C.Y.
ITEM 408 - BITUMINOUS PRIME COAT @ 0.40 GAL/S.Y. = (0.40)(4,035.41) = 1,614.16 GAL. USE 1,614 GAL.
ITEM 304 - AGGREGATE BASE, 6" = (6"/12)(4,035.41)(1/3) = 672.57 C.Y. USE 673 C.Y.
ITEM 203 - SUBGRADE COMPACTION = 4,035.41 S.Y. USE 4,035 S.Y.
ITEM 202 - PAVEMENT REMOVED = 4,035.41 S.Y. USE 4,035 S.Y.
ITEM 203 - EXCAVATION, NOT INCLUDING EMBANKMENT = (4"/12)(4,035.41)(1/3) = 448.38 C.Y. USE 448 C.Y.

MAINLINE FULL-DEPTH RECONSTRUCTION OUTSIDE SHOULDER AREA

STATION	TO STATION	BASELINE LENGTH (FEET)	CALCULATION	AREA (S.Y.)	REMARKS
1384+65.00	1388+75.00	410.00	(410.00)(10.00)(1/9)=	455.56	UNDER BRIDGE [BEL-70-2618]
341+00.00	345+70.36	(470.36)(2901.29/2864.29) =476.44	(476.44)(10.00)(1/9)=	529.38	CORRECTED LENGTH
345+70.36	352+00.00	629.64	(629.64)(10.00)(1/9)=	699.60	UNDER BRIDGE [BEL-70-2663]
			SUBTOTALS	= 1,684.54	

ITEM 446 - ASPHALT CONCRETE, SURFACE COURSE, TYPE 1, AS PER PLAN, 1 1/4"=(1.25"/12)(1/3)(1684.54) = 58.49 C.Y. USE 58 C.Y.
ITEM 446 - ASPHALT CONCRETE, INTERMEDIATE COURSE, TYPE 2, 1 3/4"= (1.75"/12)(1/3)(1684.54) = 81.89 C.Y. USE 82 C.Y.
ITEM 301 - BITUMINOUS AGGREGATE BASE, AC-20, 11" = (11"/12)(1/3)(1684.54) = 514.72 C.Y. USE 515 C.Y.
ITEM 408 - BITUMINOUS PRIME COAT @ 0.40 GAL/S.Y. = (0.40)(1,684.54) = 673.82 GAL. USE 674 GAL.
ITEM 304 - AGGREGATE BASE, 3"-6" = (6"+3"/2)(1/12)(1/3)(1684.54) = 210.57 C.Y. USE 211 C.Y.
ITEM 203 - SUBGRADE COMPACTION = 1,684.54 S.Y. USE 1,685 S.Y.
ITEM 203 - EXCAVATION, NOT INCLUDING EMBANKMENT = (18"/12)(1/3)(1684.54) = 842.27 C.Y. USE 842 C.Y.

MAINLINE FULL-DEPTH RECONSTRUCTION MEDIAN SHOULDER AREA (WESTBOUND)

STATION	TO STATION	BASELINE LENGTH (FEET)	CALCULATION	AREA (S.Y.)	REMARKS
1384+65.00	1385+78.14	113.14	(113.14)(6.25)(1/9)=	78.57	UNDER BRIDGE [BEL-70-2618]
1385+78.14	1386+48.14	70.00	(70.00)(6.25+4.5/2)(1/9)=	41.81	
1386+48.14	1386+93.64	45.50	(45.50)(4.5)(1/9)=	22.75	
1386+93.64	1387+63.64	70.00	(70.00)(4.5+6.25/2)(1/9)=	41.81	
1387+63.64	1388+75.00	111.36	(111.36)(6.25)(1/9)=	77.33	
341+00.00	345+90.54	490.54	(490.54)(6.0)(1/9)=	327.03	UNDER BRIDGE [BEL-70-2663]
345+90.54	346+50.54	60.00	(60.00)(6.0+4.5/2)(1/9)=	35.00	
346+50.54	347+20.54	70.00	(70.00)(4.5)(1/9)=	35.00	
347+20.54	347+80.54	60.00	(60.00)(4.5+6.0/2)(1/9)=	35.00	
347+80.54	351+50.00	369.46	(369.46)(6.0)(1/9)=	246.31	
351+50.00	352+00.00	50.00	(50.00)(6.0+5.72/2)(1/9)=	32.56	
			SUBTOTALS	= 973.17	

ITEM 446 - ASPHALT CONCRETE, SURFACE COURSE, TYPE 1, AS PER PLAN, 1 1/4" = (1.25"/12)(1/3)(973.17) = 33.79 C.Y. USE 34 C.Y.
ITEM 446 - ASPHALT CONCRETE, INTERMEDIATE COURSE, TYPE 2, 1 3/4" = (1.75"/12)(1/3)(973.17) = 47.31 C.Y. USE 47 C.Y.
ITEM 301 - BITUMINOUS AGGREGATE BASE, AC-20, 11" = (11.00"/12)(1/3)(973.17) = 297.36 C.Y. USE 297 C.Y.
ITEM 407 - TACK COAT @ 0.075 GAL/S.Y. = (0.075)(973.17) = 72.99 GAL. USE 73 GAL.
ITEM 305 - 9" CONCRETE BASE = 973.17 S.Y USE 973 S.Y.
ITEM 304 - AGGREGATE BASE, 6" = (6")(1/12)(1/3)(973.17) = 162.20 C.Y. USE 162 C.Y.
ITEM 203 - SUBGRADE COMPACTION = (78.57 + 77.33 + 327.03 + 246.31) = 729.24 S.Y. USE 729 S.Y.
ITEM 203 - EXCAVATION, NOT INCLUDING EMBANKMENT = (18"/12)(973.17)(1/3) = 486.59 C.Y. USE 487 C.Y.
ITEM 408 - BITUMINOUS PRIME COAT @ 0.40 GAL/S.Y. = (.40)(973.17) = 389.27 GAL. USE 389 GAL.

NOTE: 1. QUANTITIES FROM THIS SHEET CARRIED TO PAVEMENT CALCULATION SUB-SUMMARY SHEET No. 34

PAVCALS 1=1 09-23-94

PAVEMENT CALCULATIONS

	BY	DATE	REGION	STATE	PROJECT	
Calculated	W.H.F.	11-93	5	OHIO		
Checked	D.T.B.	7-94				

BEL-70-23.79

33
97

MARION STREET AND WEST STREET

MARION ST.- SALVAGE AREAS

STATION	TO STATION	BASELINE LENGTH (FEET)	CALCULATION	AREA (S.Y.)	REMARKS
3+22.75	3+43.33	20.58	(20.58)x(28.0)x1/9=	64.03	MARION ST.
8+56.02	9+82.00	125.98	(125.98)x(52.0)x1/9=	727.88	MARION ST.
			SUBTOTALS =	791.91 (S.Y.)	

ITEM 446 - ASPHALT CONCRETE, SURFACE COURSE, TYPE 1, AS PER PLAN, 1 1/4" =
(1.25"/12)(791.91)(1/3) = 27.50 C.Y. USE 28 C.Y.

ITEM 446 - ASPHALT CONCRETE, INTERMEDIATE COURSE, TYPE 2, 1 3/4" =
(1.75"/12)(791.91)(1/3) = 38.50 C.Y. USE 38 C.Y.

ITEM 407 - TACK COAT @ 0.075 GAL/S.Y. = (0.075)(791.91) = 59.39 GAL. USE 59 GAL.

ITEM 202 - WEARING COURSE REMOVED, 3" = 791.91 S.Y. USE 792 S.Y.

MARION ST.- SALVAGE PAVEMENT AREAS

STATION	TO STATION	BASELINE LENGTH (FEET)	CALCULATION	AREA (S.Y.)	REMARKS
1+76.88	3+22.75	145.87	PLANIMETERED AREA x 1/9 =	466.80	MARION ST.
9+82.00	10+99.02	117.02	PLANIMETERED AREA x 1/9 =	796.85	MARION ST.
			SUBTOTALS =	1,263.65 (S.Y.)	

ITEM 446 - ASPHALT CONCRETE, SURFACE COURSE, TYPE 1, AS PER PLAN, 1 1/4" =
(1.25"/12)(1263.65)(1/3) = 43.88 C.Y. USE 44 C.Y.

ITEM 446 - ASPHALT CONCRETE, INTERMEDIATE COURSE, TYPE 2, 1 3/4" =
(1.75"/12)(1263.65)(1/3) = 61.43 C.Y. USE 61 C.Y.

ITEM 407 - TACK COAT @ 0.075 GAL/S.Y. = (0.075)(1263.65) = 94.75 USE 95 GAL.

MARION ST. - SALVAGE TRANSITION AREAS AT BR. NO. BEL-70-2663

STATION	TO STATION	BASELINE LENGTH (FEET)	CALCULATION	AREA (S.Y.)	REMARKS
3+43.33	3+48.33	5.0	(5.0)x(28.0)x1/9=	15.56	MARION ST.
8+51.02	8+56.02	5.0	(5.0)x(52.0)x1/9=	28.89	MARION ST.
			SUBTOTALS =	44.45 (S.Y.)	

ITEM 446 - ASPHALT CONCRETE, SURFACE COURSE, TYPE 1, AS PER PLAN, 1 1/4" =
(1.25"/12)(44.45)(1/3) = 1.54 C.Y. USE 2 C.Y.

ITEM 446 - ASPHALT CONCRETE, INTERMEDIATE COURSE, TYPE 2, AS PER PLAN =
(1.75"+1.25"/2)(1/12)(44.45)(1/3) = 1.85 C.Y. USE 2 C.Y.

ITEM 407 - TACK COAT @ 0.075 GAL/S.Y. = (0.075)(44.45) = 3.33 GAL. USE 3 GAL.

ITEM 202 - WEARING COURSE REMOVED, 2 3/4" (AVG.) = 44.45 S.Y. USE 44 S.Y.

MARION ST. - PAVEMENT FEATHER AREAS

STATION	TO STATION	BASELINE LENGTH (FEET)	CALCULATION	AREA (S.Y.)	REMARKS
1+46.88	1+70.63	23.75	PLANIMETERED AREA x 1/9 =	205.59	HOWARD ST.
1+70.63	1+76.88	6.25	PLANIMETERED AREA x 1/9 =	33.56	HOWARD ST.
10+99.02	11+05.27	6.25	PLANIMETERED AREA x 1/9 =	79.56	U.S. 40
11+05.27	11+29.02	23.75	PLANIMETERED AREA x 1/9 =	394.12	U.S. 40
			SUBTOTALS =	712.83 (S.Y.)	

ITEM 446 - ASPHALT CONCRETE, SURFACE COURSE, TYPE 1, AS PER PLAN =
(1.25"/12)(33.56+79.56)(1/3)+(2.75"+0.0"/2)(1/12)(205.59+394.12)(1/3) = 26.84 C.Y. USE 27 C.Y.

ITEM 446 - ASPHALT CONCRETE, INTERMEDIATE COURSE, TYPE 2, AS PER PLAN =
(1.75"+1.5"/2)(1/12)(33.56+79.56)(1/3) = 5.11 C.Y. USE 5 C.Y.

ITEM 407 - TACK COAT @ 0.075 GAL/S.Y. = (0.075)(712.83) = 53.46 GAL. USE 53 GAL.

WEST ST. - SALVAGE APPROACH SLAB

STATION	TO STATION	BASELINE LENGTH (FEET)	CALCULATION	AREA (S.Y.)	REMARKS
13+91.25	14+16.25	25.0	(25.0)x(28.0)x1/9=	77.78	WEST ST.
20+05.75	20+30.75	25.0	(25.0)x(28.0)x1/9=	77.78	WEST ST.
			SUBTOTALS =	155.56 (S.Y.)	

ITEM 254 - PAVEMENT PLANING, PORTLAND CEMENT CONCRETE = 155.56 S.Y. USE 156 S.Y.
ITEM Spec. - 1/4" EPOXY WATERPROOFING OVERLAY = 155.56 S.Y. USE 156 S.Y.

NOTE: 1. QUANTITIES FROM THIS SHEET CARRIED TO PAVEMENT CALCULATION SUB-SUMMARY SHEET No. 34 .

PAVCALC 1=1 09-23-94

CALCULATIONS AND
PAVEMENT QUANTITY SUB-SUMMARY

	BY	DATE	REGION	STATE	PROJECT		
Calculated	J.S.L.	1-94	5	OHIO			
Checked	D.T.B.	12-93					

34/97

BEL-70-23.79

ITEM 622 – CONCRETE BARRIER, TYPE C (AS PER PLAN "1")
LIMITING STATIONS: STA. 1384+65.00 TO STA. 1386+08.14 = 143.14
STA. 1387+33.64 TO STA. 1388+75.00 = 141.36
DEDUCT FOR BARRIER MEDIAN INLET
STA. 1385+14 TO STA. 1385+34 = 20.00
STA. 1388+15 TO STA. 1388+35 = 20.00

NET BARRIER LENGTH: (143.14+141.36–20.00–20.00) = 244.50 L.F.
SUB–TOTAL = 244.50 L.F.

ITEM 622 – CONCRETE BARRIER, TYPE C (AS PER PLAN "2")
LIMITING STATIONS: STA. 341+00.00 TO STA. 346+10.54 = 510.54
STA. 347+60.54 TO STA. 352+00.00 = 439.46
DEDUCT FOR BARRIER MEDIAN INLET
STA. 345+65 TO STA. 345+85 = 20.00

NET BARRIER LENGTH: (510.54+439.46–20.00) = 930.00 L.F.
SUB–TOTAL = 930.00 L.F.

ITEM 622 – CONCRETE BARRIER, TYPE C (AS PER PLAN "3")
LIMITING STATIONS: STA. 1386+08.14 TO STA. 1387+33.64 = 125.50
STA. 346+10.54 TO STA. 347+60.54 = 150.00
DEDUCT FOR BARRIER MEDIAN INLET
STA. 1386+70.00 TO STA. 1386+90.00 = 20.00
STA. 346+30.54 TO STA. 346+50.54 = 20.00
STA. 347+20.54 TO STA. 347+40.54 = 20.00

NET BARRIER LENGTH: (125.50+150.00–20.00–20.00–20.00) = 215.50 L.F.
SUB–TOTAL = 215.50 L.F.

ITEM 202 – CONCRETE BARRIER REMOVED

LIMITING STATIONS: STA. 1384+65.00 TO STA. 1388+75.00 = 410.00
STA. 341+00.00 TO STA. 352+00.00 = 1100.00
SUB–TOTAL = 1,510.00 L.F.

DEDUCT FOR BARRIER MEDIAN INLET
STA. 1385+14 TO STA. 1385+34 = 20.00
STA. 1388+15 TO STA. 1388+35 = 20.00
STA. 345+65 TO STA. 345+85 = 20.00
STA. 1386+70.00 TO STA. 1386+90.00 = 20.00
STA. 346+30.54 TO STA. 346+50.54 = 20.00
STA. 347+20.54 TO STA. 347+40.54 = 20.00
SUB–TOTAL = 120.00 L.F.

NET BARRIER LENGTH: (1,510.00 – 120.00) = 1,390.00 L.F.
SUB–TOTAL = 1,390.00 L.F.

SHEET No.	202 WEARING COURSE REMOVED S.Y.	202 PAVEMENT REMOVED S.Y.	203 EXCAVATION, NOT INCLUDING EMBANKMENT CONSTRUCTION CY.	203 SUBGRADE COMPACTION S.Y.	254 PAVEMENT PLANING, PORTLAND CEMENT CONCRETE S.Y.	301 BITUMINOUS AGGREGATE BASE, AC-20 CY.	304 AGGREGATE BASE CY.	305 9" CONCRETE BASE AS PER PLAN S.Y.	407 TACK COAT @ 0.075 GAL./S.Y. GAL.	408 BITUMINOUS PRIME COAT @ 0.40 GAL./S.Y. GAL.	446 ASPHALT CONCRETE SURFACE COURSE TYPE 1, AS PER PLAN CY.	446 ASPHALT CONCRETE INTERMEDIATE COURSE TYPE 2 CY.	SPEC 1/4" EPOXY OVERLAY S.Y.						SHEET No.
24	38,681					5,372			2,901		1,343	1,880							24
24	42,164					5,856			3,162		1,464	2,050							24
25	833					49			63		29	50							25
25	1,467					78			110		53	83							25
25	767					39			58		29	41							25
25	1,667					78			125		65	83							25
26			9,412	15,012		2,085	1,970	15,012	1,126		521	730							26
26			6,725	10,571		1,468	1,387	10,571	793		367	514							26
26																			26
26			115	197		37	14	197	20		9	13							26
27	611			611		32	80	611	46		22	34							27
27	694			694		32	91	694	52		27	34							27
27	222					40			17		8	15							27
28			4,938	9376		1,372	1,492	9,876	831		385	539							28
28			4,454	8,647		1,237	1,346	8,907	749		347	486							28
29			190	355		20	63	380	32		15	24							29
29			216	407		20	72	432	36		19	23							29
29			42			6	14	85	8		4	6							29
29	17								1		1								29
29	174					10			13		7	14							29
30	7,246								543		252	654							30
30			2,396	3,429			631	3,787	284		132	342							30
31	494					26			37		18	28							31
31	340								26		12	24							31
31	302					13			23		11	16							31
32		4,035	448	4,035		1,233	673			1,614	140	196							32
32			487	729		297	162	973	73	389	34	47							32
32			842	1685		515	211			674	58	82							33
33	792								59		28	38							33
33									95		44	61							33
33	44								3		2	2							33
33									53		27	5							33
33					156								156						
SUB–TOTAL	96,515	4,035	30,265	55,748	156	19,915	8,206	51,525	11,339	2,677	5,473	8,114	156						

SUB–TOTALS CARRIED TO GENERAL SUMMARY, SEE SHEET No. 22 & 23 .

RDSUM2 1=1 10-11-94

LINEAR GRADING QUANTITIES

	BY	DATE	REGION	STATE	PROJECT		
Calculated	W.H.F.	11-93					
Checked	D.T.B.	12-93	5	OHIO			

35/97

BEL-70-23.79

LINEAR GRADING, METHOD B & GUARDRAIL PAVING

SHEET REF. No.	GUARDRAIL REF. No.	STATIONS OF PAVING (±) FROM	TO	LANE	SIDE	LENGTH	203 LINEAR GRADING, METHOD B	448 AREA	448 2" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1 (UNDER GUARDRAIL) AS PER PLAN	203 AREA	203 EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION
						LIN. FT.	STA.	SQ. YD.	CU. YD.	SQ. YD.	CU. YD.
38	GR-1	1260+17	1261+92	WB	Lt.	175	1.75	97.22	5.40	97.22	5.40
	GR-2	1275+37.5	1285+00	WB	Lt.	957.15	9.57	531.75	29.54	531.75	29.54
	GR-3	1278+53	1285+00	EB	Rt.	650	6.50	361.11	20.06	361.11	20.06
39	GR-1	1285+00	1293+02.66	WB	Lt.	805.35	8.05	447.42	24.86	447.42	24.86
	GR-2	1285+00	1285+87.50	EB	Rt.	87.50	0.87	48.61	2.70	48.61	2.70
	GR-3	1305+41.18	1315+00	WB	Lt.	958.82	9.59	532.68	29.59	532.68	29.59
	GR-4	1304+90	1315+00	EB	Rt.	1010	10.10	561.11	31.17	561.11	31.17
40	GR-1	1315+00	1345+00	WB	Lt.	2968.21	29.68	1649.01	91.61	1649.01	91.61
	GR-2	1315+00	1336+57.77	EB	Rt.	2177.5	21.77	1209.72	67.21	1209.72	67.21
41	GR-1	1345+00	1347+46.97	WB	Lt.	246.97	2.47	137.21	7.62	137.21	7.62
	GR-2	1345+76.76	1347+39.26	EB	Rt.	162.5	1.62	90.28	5.02	90.28	5.02
	GR-3	1348+94.10	1363+15.31	WB	Lt.	1415.34	14.15	786.30	43.68	786.30	43.68
	GR-4	1348+86.39	1355+11.39	EB	Rt.	625	6.25	347.22	19.29	347.22	19.29
	GR-5	1363+41.11	1364+77.08	EB	Rt.	137.5	1.37	76.39	4.24	76.39	4.24
	GR-6	1371+10.90	1375+00	WB	Lt.	391.57	3.92	217.54	12.09	217.54	12.09
	GR-7	1371+90.48	1375+00	EB	Rt.	307.05	3.07	170.58	9.48	170.58	9.48
42	GR-4	1387+04.81	A9+86.97	EB	Rt.	1701.02	17.01	945.01	52.50	945.01	52.50
	GR-1	1375+00	1386+33.78	WB	Lt.	1139.68	11.40	633.16	35.18	633.16	35.18
	GR-2	1375+00	1386+33.78	EB	Rt.	1130	11.30	627.78	34.88	627.78	34.88
	GR-3	1387+03.15	B40+12.81	WB	Rt.	1013.43	10.13	563.02	31.28	563.02	31.28
43	GR-1	340+00	B46+34.35	RAMP "B"	Lt.	624.07	6.24	346.71	19.26	346.71	19.26
	GR-3	B42+64.70	B46+81.55	RAMP "B"	Rt.	412.50	4.12	229.17	12.73	229.17	12.73
	GR-2	C47+17.80	C52+22.17	RAMP "C"	Rt.	500	5.00	277.78	15.43	277.78	15.43
	GR-4	C47+59.06	357+32.85	RAMP "C"	Lt.	934.18	9.34	518.99	28.83	518.99	28.83
	GR-5	346+06	348+29.08	WB	Lt.	225	2.25	125	6.94	125	6.94
	GR-6	340+01	351+49.16	EB	Rt.	1138.50	11.38	632.50	35.14	632.50	35.14
	GR-7	A9+86.97	A10+23.45	RAMP "A"	Rt.	36.48	0.36	20.27	1.13	20.27	1.13
	GR-8	D51+45.18	D55+74.84	RAMP "D"	Rt.	432.47	4.32	240.26	13.35	240.26	13.35
TOTALS:							223.59	12,423.80	690.21	12,423.80	690.21
USE:							224	XXXXXX	690	XXXXXX	690

TOTALS FROM THIS SHEET CARRIED TO GENERAL SUMMARY SHEET NO. 22-23

LINEAR GRADING, METHOD A

STATIONS OF PAVING (±) FROM	TO	LANE	SIDE	LENGTH	203 LINEAR GRADING, METHOD 1
				LIN. FT.	STA.
1259+80	1278+53	EASTBOUND	RT.	1873	18.73
1285+87.5	1292+00	EASTBOUND	RT.	612.5	6.13
1302+00	1304+90	EASTBOUND	RT.	290	2.90
1336+57.77	1345+76.76	EASTBOUND	RT.	918.99	9.19
1355+11.39	1363+41.11	EASTBOUND	RT.	829.72	8.28
1261+92	1275+37.5	WESTBOUND	LT.	1345.5	13.46
1293+02.66	1305+41.18	WESTBOUND	LT.	1238.52	12.39
339+00	346+06	WESTBOUND	LT.	706.0	7.06
347+29.08	352+81	WESTBOUND	LT.	551.92	5.52
			TOTALS:		83.66
			USE:		84

FOR DESCRIPTION OF EACH LINEAR GRADING METHOD, SEE GENERAL NOTES ON SHEET NO. 10 AND 12

ITEM 659

SEEDING AND MULCHING

LINEAR GRADING, METHOD 1 (MAINLINE):
84 STA. x 100 L.F./STA. x 4' WIDTH x 1/9 = 3,733 S.Y.

LINEAR GRADING, METHOD 2:
224 STA. x 100 L.F./STA. x 2' WIDTH x 1/9 = 4,978 S.Y.

TOTALS: = 8,711 S.Y.

COMMERCIAL FERTILIZER

$\left(\frac{8{,}711 \text{ S.Y.} \times 9 \times 20}{2000 \times 1000}\right)$ = 0.78 TON

AGRICULTURAL LIMING

$\left(\frac{8{,}711 \text{ S.Y.} \times 9 \times 100}{2000 \times 1000}\right)$ = 3.92 TON

WATER

$2 \times \left(\frac{8{,}711 \text{ S.Y.} \times 9 \times 120}{1000 \times 1000}\right)$ = 18.82 M. GAL. USE 19 M. GAL.

MOWING

$2 \times \left(\frac{8{,}711 \text{ S.Y.} \times 9}{1000 \times 4}\right)$ = 39.20 M. SQ. FT. USE 39 M. SQ. FT.

LINGRADE 1m1 10-10-94

UNDERDRAIN QUANTITIES

(FOR UNDERDRAIN DETAILS, SEE SHEET No. 37)

	BY	DATE	REGION	STATE	PROJECT	
Calculated	W.H.F.	5-94	5	OHIO		
Checked	D.T.B.	7-94				

36
97

BEL-70-23.79

EQUATIONS:
Station 1339+48.48 BK. = Station 1339+57.48 AH., Deduct 9.00 L.F.
Station 1394+21.90 BK. = Station 330+00 AH., Add 106,421.90 L.F.

STATION LIMITS FROM	STATION LIMITS TO	LANE	SIDE	605 4" SHALLOW PIPE UNDERDRAIN, 707.15, AS PER PLAN	603 4" TYPE F CONDUIT, 707.17 NON-PERFORATED ASTM D-3034 SDR 35, SS 931 OR SS 944		OUTLET STATION	PLUG STATION	OUTLET FITTINGS 4" x 90° BEND	OUTLET FITTINGS 4" X 4" TEE	REMARKS
FROM	TO			LIN. FT.	LIN. FT.				EACH	EACH	
1261+05	1276+00	WESTBOUND	MEDIAN	1495	7		1270+02			1	OUTLET TO C.B. @ 1270+02, RT.
					7		1276+00		1		OUTLET TO C.B. @ 1276+00, RT.
1281+25	1318+00			3678				1281+25			
					7		1285+01			1	OUTLET TO C.B. @ 1285+01
					7		1290+00			1	OUTLET TO C.B. @ 1290+00
					4		1294+00			1	OUTLET TO C.B. @ 1294+00
					4		1297+91			1	OUTLET TO C.B. @ 1297+91
					4		1301+95			1	OUTLET TO C.B. @ 1301+95
					4		1306+00			1	OUTLET TO C.B. @ 1306+00
					7		1312+01			1	OUTLET TO C.B. @ 1312+01
					7		1318+00		1		OUTLET TO C.B. @ 1318+00
1335+92	1346+25			1024	7		1335+92		1		OUTLET TO C.B. @ 1335+92
					4		1345+00			1	OUTLET TO C.B. @ 1345+00
					4		1345+79			1	OUTLET TO C.B. @ 1345+79
					4		1346+25		1		OUTLET TO C.B. @ 1346+25
1349+06	1357+50			844	4		1349+06		1		OUTLET TO C.B. @ 1349+06
					4		1353+01			1	OUTLET TO C.B. @ 1353+01
								1357+50			
1371+65	1386+80			1515				1371+65			
					4		1372+03			1	OUTLET TO C.B. @ 1372+03
					4		1376+52			1	OUTLET TO C.B. @ 1376+52
					7		1380+02			1	OUTLET TO C.B. @ 1380+02
					7		1385+28			1	OUTLET TO C.B. @ 1385+28
					7		1386+80			1	OUTLET TO C.B. @ 1386+28
1386+80	337+00			1445			1386+80				OUTLET TO C.B. @ 1386+80
					7		1388+25			1	OUTLET TO C.B. @ 1388+25
					7		1391+93			1	OUTLET TO C.B. @ 1391+93
					4		336+03			1	OUTLET TO C.B. @ 336+03
					4		337+00			1	OUTLET TO C.B. @ 337+00
337+00	346+40			942			337+00				OUTLET TO C.B. @ 337+00
					4		338+02			1	OUTLET TO C.B. @ 338+02
					4		345+75			1	OUTLET TO C.B. @ 345+75
					4		346+40.54			1	OUTLET TO C.B. @ 346+40.54
346+40	357+15			1075			346+40.54				OUTLET TO C.B. @ 346+40.54
					4		347+30.54			1	OUTLET TO C.B. @ 347+30.54
							352+07			1	OUTLET TO C.B. @ 352+07
								357+15			
SUB-TOTALS THIS COLUMN				12,018	152				5	25	

STATION LIMITS FROM	STATION LIMITS TO	LANE	SIDE	605 4" SHALLOW PIPE UNDERDRAIN, 707.15, AS PER PLAN	603 4" TYPE F CONDUIT, 707.17 NON-PERFORATED ASTM D-3034 SDR 35 SS 931 OR SS 944	SPECIAL PRECAST REINFORCED CONCRETE OUTLET	OUTLET STATION	PLUG STATION	OUTLET FITTINGS 4" x 90° BEND	OUTLET FITTINGS 4" X 4" TEE	REMARKS
FROM	TO			LIN. FT.	LIN. FT.	EACH			EACH	EACH	
1261+05	1290+00	EASTBOUND	MEDIAN	2895	4		1270+02			1	OUTLET TO C.B. @ 1270+02
					4		1276+00			1	OUTLET TO C.B. @ 1276+00
					4		1280+00			1	OUTLET TO C.B. @ 1280+00
					4		1285+01			1	OUTLET TO C.B. @ 1285+01
					4		1290+00		1		OUTLET TO C.B. @ 1290+00
1303+75	1330+89			2716			1303+75				
					7		1306+00			1	OUTLET TO C.B. @ 1306+00
					4		1312+01			1	OUTLET TO C.B. @ 1312+01
					4		1318+00			1	OUTLET TO C.B. @ 1318+00
					4		1322+00			1	OUTLET TO C.B. @ 1322+00
					4		1326+00			1	OUTLET TO C.B. @ 1326+00
					4		1330+89			1	OUTLET TO C.B. @ 1330+89
1330+89	1346+25			1529			1330+89				OUTLET TO C.B. @ 1330+89
					7		1331+49			1	OUTLET TO C.B. @ 1331+49
					4		1385+92			1	OUTLET TO C.B. @ 1335+92
					7		1345+79			1	OUTLET TO C.B. @ 1345+79
					7		1346+25			1	OUTLET TO C.B. @ 1346+25
1346+25	1347+20			95			1346+25				OUTLET TO C.B. @ 1346+25
								1347+20			
1349+06	1364+02			1497	7		1349+06			1	OUTLET TO C.B. @ 1349+06
					7		1353+01			1	OUTLET TO C.B. @ 1353+01
					4		1361+00			1	OUTLET TO C.B. @ 1361+00
					4		1364+02		1		OUTLET TO C.B. @ 1364+02
1378+00	1386+80			880				1378+00			
					4		1380+02			1	OUTLET TO C.B. @ 1380.02
					4		1385+28			1	OUTLET TO C.B. @ 1385+28
					4		1386+80			1	OUTLET TO C.B. @ 1386+80
1386+80	331+00			1722			1386+80				OUTLET TO C.B. @ 1386.80
					4		1388+25			1	OUTLET TO C.B. @ 1388+25
					4		1391+93			1	OUTLET TO C.B. @ 1391+93
								331+00			
347+30	357+15			985	7		347+30			1	OUTLET TO C.B. @ 347+30.54
							352+07			1	OUTLET TO C.B. @ 352+07
								357+15			
SUB-TOTALS THIS COLUMN				12,319	121				4	22	
SUB-TOTALS LEFT COLUMN				12,018	152				5	25	
TOTALS				24,337	273				9	47	

TOTALS CARRIED TO GENERAL SUMMARY, SEE SHEET NO. 22

UNDDR02 1=1 09-23-94

UNDERDRAIN QUANTITIES

(FOR UNDERDRAIN DETAILS, SEE SHEET No. 37)

	BY	DATE	REGION	STATE	PROJECT	
Calculated	T.J.M.	5-94	5	OHIO		
Checked	R.S.K.	7-94				

36A / 97

BEL-70-23.79

EQUATIONS:
Station 1339+48.48 BK. = Station 1339+57.48 AH., Deduct 9.00 L.F.
Station 1394+21.90 BK. = Station 330+00 AH., Add 106,421.90 L.F.

STATION LIMITS FROM	STATION LIMITS TO	LANE	SIDE	605 4" SHALLOW PIPE UNDERDRAIN, 707.15, AS PER PLAN	603 4" TYPE F CONDUIT, 707.17 NON-PERFORATED ASTM D-3034 SDR 35, SS 931 OR SS 944	SPECIAL PRECAST REINFORCED CONCRETE OUTLET	OUTLET STATION	PLUG STATION	OUTLET FITTINGS 4" x 90° BEND	OUTLET FITTINGS 4" X 4" TEE	REMARKS
				LIN. FT.	LIN. FT.	EACH			EACH	EACH	
1261+05	1347+20	WESTBOUND	OUTSIDE	8599	30	1	1261+05		1		
					30	1	1269+50			1	
					30	1	1275+90			1	
					30	1	1280+00			1	
					30	1	1290+00			1	
					43	1	1296+00			1	
					30	-0-	1301+90			1	CONNECT TO EX. CB AT STA. 1301+90
					30	1	1311+90			1	
					30	1	1321+90			1	
					30	1	1330+90			1	
					30	1	1340+40			1	
					30	1	1345+75	1347+20		1	
1349+10	1363+00			1386	30	1	1349+10			1	
					30	1	1354+50			1	
					30	1	1363+00			1	
1371+25	1394+20			2299	30	1	1376+00	1371+25		1	
					30	1	1381+00			1	
					30	1	1386+45			1	
					30	1	1390+30			1	
338+60	352+10			1359	10	-0-	338+60		1		CONNECT TO EX. CB AT STA. 338+60
					43	-0-	346+47			1	
					-0-	-0-	346+47	352+10			
B30+00	B34+24	RAMP "B"	LEFT	424	30	1	B30+00	B34+24	1		
B34+28	B37+08			280	30	1	B37+08	B34+28		1	
B37+08	B38+70			162	-0-	-0-	B37+08	B38+70	1		
B38+90	B40+27			137	30	1	B38+90	B40+27	1		
B40+60	B44+10			350	30	1	B40+60	B44+10	1		
B44+25	B45+40			115	30	1	B44+25	B45+40	1		
B45+50	B46+33			83	30	1	B45+50	B46+33	1		
B41+00	B46+00	RAMP "B"	RIGHT	495	30	1	B41+00	B46+00	1		
C47+65	C52+05	RAMP "C"	LEFT	441	30	1	C52+05	C47+65			
C52+05	C55+85			380			C52+05	C55+85		1	
C47+65	C51+06	RAMP "C"	RIGHT	338	30	1	C51+06	C47+65		1	
C51+06	C52+17			111	-0-	-0-	C51+06	C52+17			
SUB-TOTALS THIS COLUMN				16,959	906	27			8	22	

STATION LIMITS FROM	STATION LIMITS TO	LANE	SIDE	605 4" SHALLOW PIPE UNDERDRAIN, 707.15, AS PER PLAN	603 4" TYPE F CONDUIT, 707.17 NON-PERFORATED ASTM D-3034 SDR 35, SS 931 OR SS 944	SPECIAL PRECAST REINFORCED CONCRETE OUTLET	OUTLET STATION	PLUG STATION	OUTLET FITTINGS 4" x 90° BEND	OUTLET FITTINGS 4" X 4" TEE	REMARKS
				LIN. FT.	LIN. FT.	EACH			EACH	EACH	
1261+05	1347+20	EASTBOUND	OUTSIDE	8616	30	1	1261+05		1		
					30	1	1270+00			1	
					30	1	1278+00			1	
					30	1	1284+90			1	
					30	1	1290+00			1	
					10	-0-	1301+90			1	CONNECT TO EX. CB AT STA. 1301+90
					30	1	1311+50			1	
					30	1	1317+90			1	
					30	1	1325+90			1	
					10	-0-	1330+90			1	CONNECT TO EX. CB AT STA. 1330+88
					30	1	1335+90			1	
					30	1	1345+80	1347+20		1	
1349+10	1364+55			1550	30	1	1349+10		1		
					30	1	1355+80			1	
					30	1	1360+80			1	CONNECT TO EX. CB AT STA. 1360+80
1372+32	330+98				30	1	1364+55			1	
				2284	30	1	1379+41	1372+32		1	
					30	1	1386+70			1	
340+50	354+00				30	1	330+10			1	
				1342	30	1	340+50		1		
					30	1	346+22			1	Add 106,421.90 L.F.
					30	1	346+48			1	
					30	1	347+53			1	
					-0-	-0-	347+50	354+00			
355+82	357+18						355+82	357+18			OUTLET @ D55+82
A1+05	A6+82	RAMP "A"	RIGHT	577	30	1	A6+82	A1+05		1	
A6+82	A6+92			10	-0-	-0-	A6+82	A6+92			
A6+97	A7+06			9	30	1	A7+06	A6+97		1	
A7+06	A8+92			186	-0-	-0-	A7+06	A8+92			
A8+97	A9+12			15	30	1	A9+12	A8+97		1	
A9+12	A10+27			115	-0-	-0-	A9+12	A10+27			
D51+50	D51+57	RAMP "D"	RIGHT	7	30	1	D51+57	D51+50		1	
D51+57	D55+82			425	-0-	-0-	D51+57	D55+82			
SUB-TOTALS THIS COLUMN				15,136	770	25			3	24	
SUB-TOTALS LEFT COLUMN				16,959	906	27			8	22	
TOTALS				32,095	1,676	52			11	46	

TOTALS CARRIED TO GENERAL SUMMARY, SEE SHEET NO. 22

UNDERDR1 1=1 09-23-94

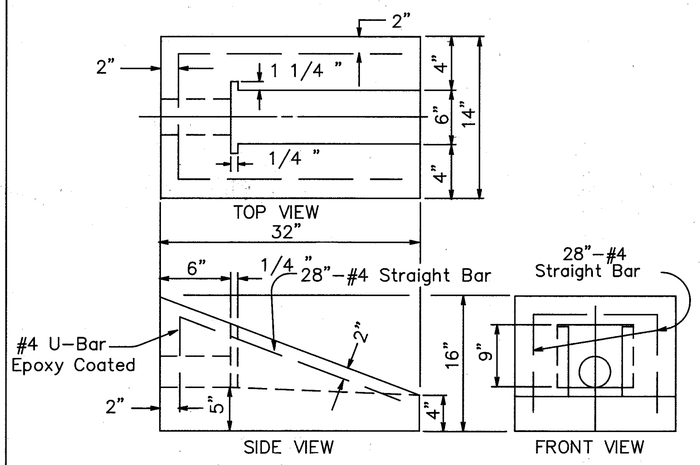
FHWA REGION	STATE	PROJECT	
5	OHIO		

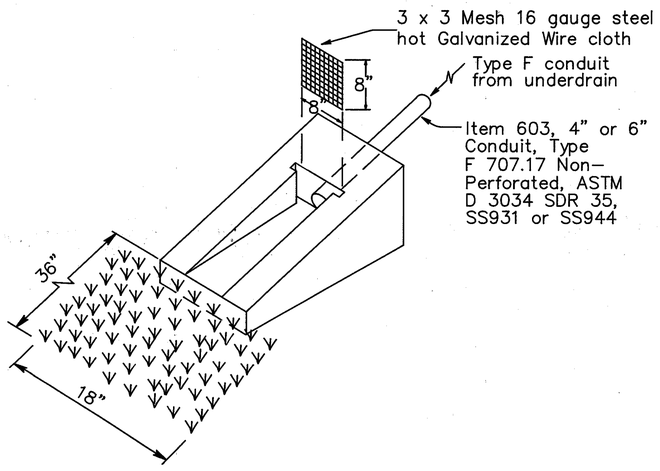
37
97

BEL-70-23.79

ITEM SPECIAL – PRECAST REINFORCED CONCRETE OUTLET

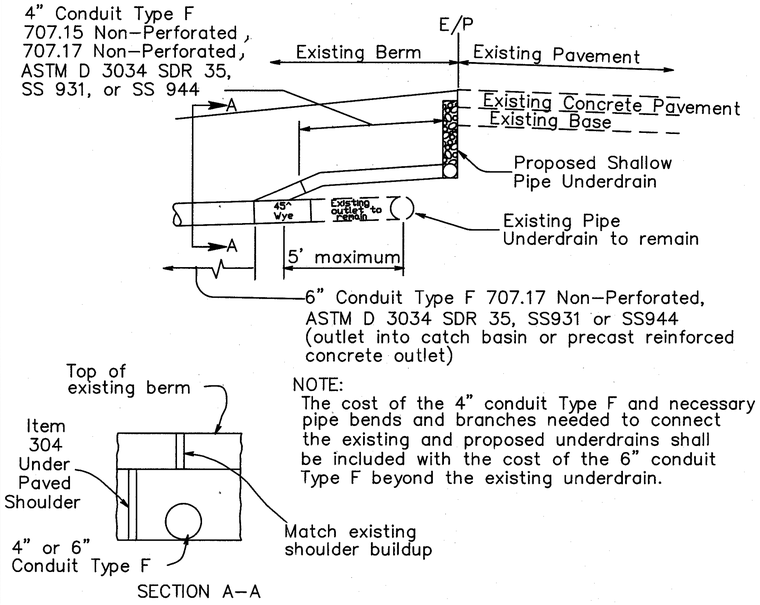
The Concrete outlet shall meet the requirements of Item 604 in the Construction & Materials Specifications. Payment shall be made on an Each basis. Payment shall include the cost of the Sod & Wire Cloth.



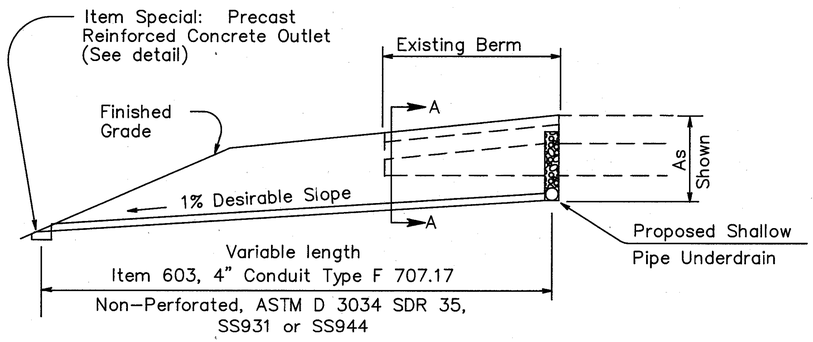


NOTE: The Sod shall be in accordance with Item 660 and staked at each corner approximately 3 inches in from the edge.

OUTLET DETAILS

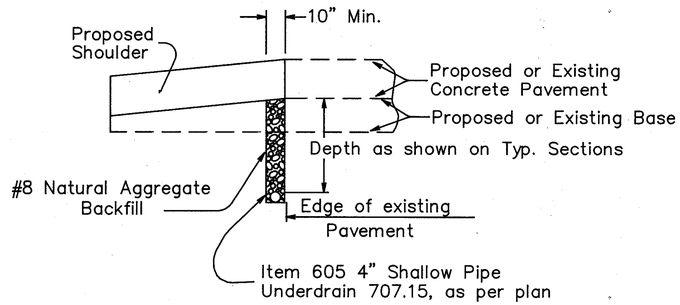


NOTE:
The cost of the 4" conduit Type F and necessary pipe bends and branches needed to connect the existing and proposed underdrains shall be included with the cost of the 6" conduit Type F beyond the existing underdrain.



NOTE: For underdrain outlets into catch basins the above Type F Conduit shall be used between the underdrain & catch basin.

PIPE UNDERDRAIN DETAIL



DESCRIPTION: This item shall consist of furnishing and installing a pipe underdrain system in accordance with the specifications, details as shown on the plans, and as directed by the Engineer.

MATERIALS: The underdrain shall be a pipe underdrain system per Item 605

The outlets for the underdrain system shall be constructed as soon as possible after placement of the underdrain to drain the subbase & subgrade. All pipe bends & branches needed to connect the proposed underdrain to the proposed outlet or to an existing underdrain shall be manufactured fittings.

METHOD OF MEASUREMENT: Completed and accepted underdrains will be measured by the linear foot in place.

BASIS OF PAYMENT: Work completed and accepted under this item and measured will be paid for at the contract unit price bid per linear foot for Item 605 4" Shallow Pipe Underdrain 707.15, as per plan.

The price shall be full compensation for excavation and backfill; for furnishing materials, including material for outlet fittings, for all labor, tools, equipment, and incidentals necessary to complete the work.

ITEM 605 4" SHALLOW PIPE UNDERDRAIN 707.15, AS PER PLAN

DATE 2-5-93

TMX0209 1=1 08-27-94

	BY	DATE	REGION	STATE	PROJECT		
Calculated	W.H.F.	11-93	5	OHIO			
Checked	D.T.B.	12-93					

38
97

BEL-70-23.79

FENCE LEGEND

- A — Abutment Connection
- C — Corner Post Assembly
- I — Intermediate Anchor Post Assembly
- E — End Post Assembly
- ⏚ — Fence Ground Rod
- T2 — Crossing, Type 2
- TA — Terminal Assembly, Type A

For Fence Details, See Standard Construction Drawings, F-1, F-2, F-3, F-5, & F-6

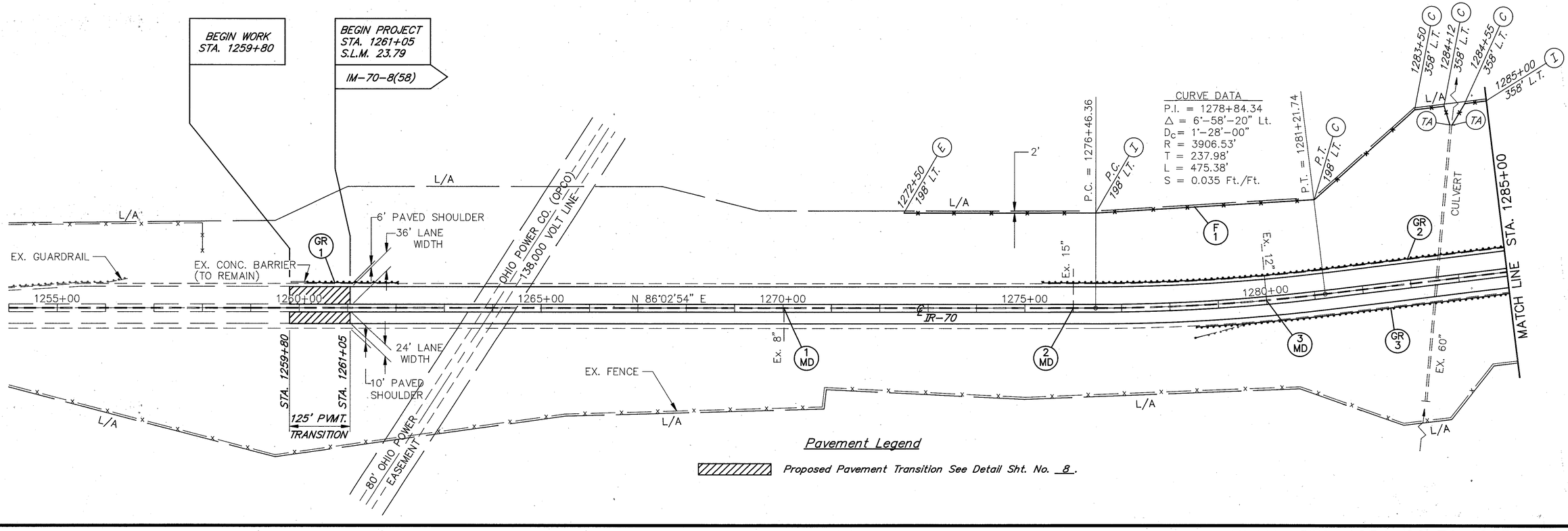
TRAFFIC CONTROL QUANTITIES

Station To Station	Side	ITEM 644 White Edge Line	ITEM 644 Yellow Edge Line	ITEM 644 White Lane Line
		Mi.	Mi.	Mi.
1259+80 – 1285+00	WB	0.48	0.48	0.48x2 = 0.96
1259+80 – 1285+00	EB	0.48	0.48	0.48
TOTAL		0.96	0.96	1.44

ROADWAY QUANTITIES

Ref. No.	Station To Station	Side	202 Guardrail Removed	606 Guardrail, Type 5	606 Anchor Assembly, Type E	606 Anchor Assembly, Type T	606 Bridge Term. Assembly, Type 1	607 Fence, Type 47
			LF.	LF.	EA.	EA.	EA.	LF.
GR-1	1260+17-1262+04.5	Lt.	175	137.5	1		1	
GR-2	1275+37.5-1285+00	Lt.	962.5	944.65		1		
GR-3	1278+53-1285+00	Rt.	650	600	1			
F-1	1272+50-1285+00	Lt.						1321
TOTAL			1787.5	1682.15	2	1	1	1321

QUANTITIES CARRIED TO GENERAL SUMMARY SHEET NO. 22, 23, & 23A
FOR BARRIER MEDIAN INLET DETAILS (MD), AND QUANTITIES SEE SHEET NO. 45-47A



Pavement Legend

Proposed Pavement Transition See Detail Sht. No. 8.

PLAN101 1=100 2-15-95

PLAN STA. 1254+00 TO 1285+00

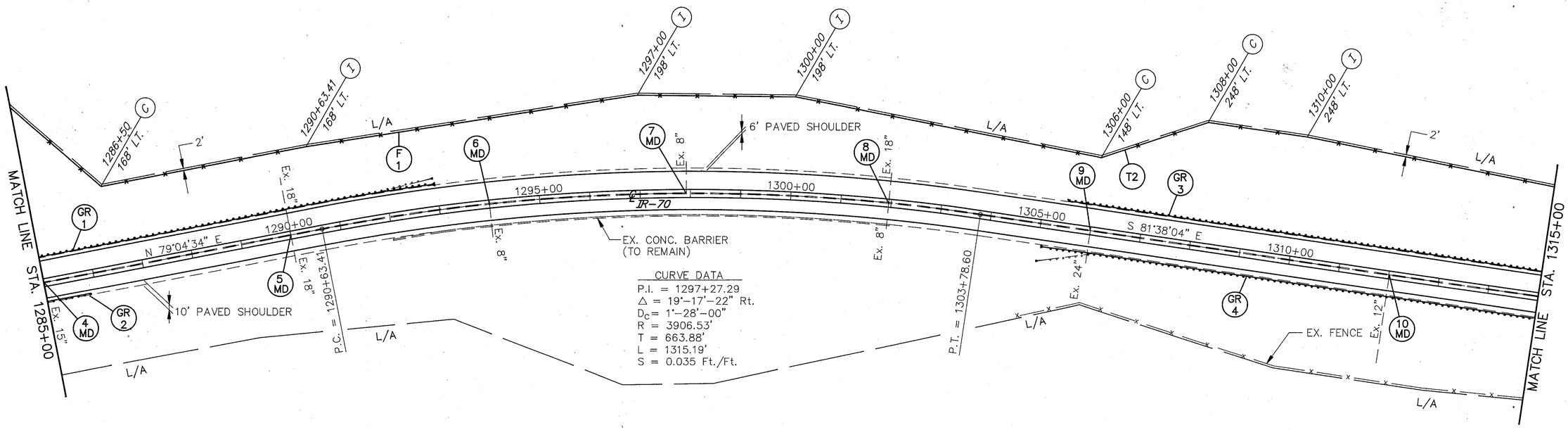
	BY	DATE	REGION	STATE	PROJECT		
Calculated	W.H.F.	11–93	5	OHIO			
Checked	D.T.B.	12–93					

BEL–70–23.79

TRAFFIC CONTROL QUANTITIES				
Station To Station	Side	ITEM 644 White Edge Line	ITEM 644 Yellow Edge Line	ITEM 644 White Lane Line
		Mi.	Mi.	Mi.
1285+00 – 1315+00	WB	0.57	0.57	0.57x2 = 1.14
1285+00 – 1315+00	EB	0.57	0.57	0.57
TOTAL		1.14	1.14	1.71

ROADWAY QUANTITIES											
Ref. No.	Station To Station	Side	202 Guardrail Removed	202 Fence Removed	606 Guardrail, Type 5		606 Anchor Assembly, Type E	606 Anchor Assembly, Type T		607 Fence, Type 47	
			LF.	LF.	LF.		EA.	EA.		LF.	
GR–1	1285+00–1293+02.66	Lt.	800		755.35		1				
GR–2	1285+00–1285+87.50	Rt.	87.5		75			1			
GR–3	1305+40.18–1315+00	Lt.	959.82		947.32			1			
GR–4	1304+90–1315+00	Rt.	1010		960		1				
F–1	1285+00–1315+00	Lt.		2207						3119	
TOTAL			2857.32	2207	2737.67		2	2		3119	

QUANTITIES CARRIED TO GENERAL SUMMARY SHEET NO. 22, 23, & 23A
FOR FENCE LEGEND SEE SHEET NO. 38
FOR BARRIER MEDIAN INLET DETAILS (MD), AND QUANTITIES SEE SHEET NO. 45–47A



PLAN STA. 1285+00 TO 1315+00

RPLAN102 1=100 2-19-95

	BY	DATE	REGION	STATE	PROJECT		
Calculated	W.H.F.	11–93					
Checked	D.T.B.	12–93	5	OHIO			

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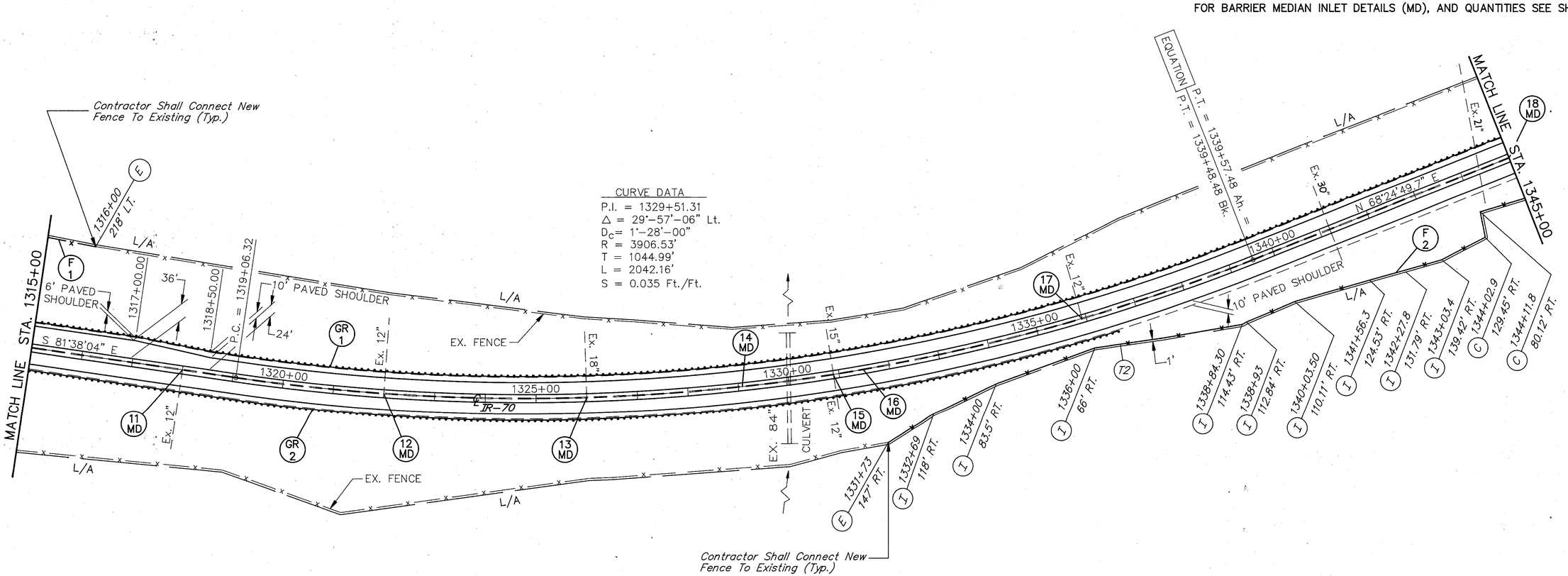
BEL–70–23.79

TRAFFIC CONTROL QUANTITIES				
Station To Station	Side	ITEM 644 White Edge Line	ITEM 644 Yellow Edge Line	ITEM 644 White Lane Line
		Mi.	Mi.	Mi.
1315+00–1339+48.48	WB	0.46	0.46	0.46
1315+00–1317+00	WB			0.04
1339+57.48 – 1345+00	WB	0.10	0.10	0.10
1315+00–1339+48.48	EB	0.46	0.46	0.46
1339+57.48 – 1345+00	EB	0.10	0.10	0.10
TOTAL		1.12	1.12	1.16

ROADWAY QUANTITIES											
Ref. No.	Station To Station	Side	202 Guardrail Removed	202 Fence Removed	606 Guardrail, Type 5		606 Anchor Assembly, Type T			607 Fence, Type 47	607 Fence, Type CL
			LF.	LF.	LF.		EA.			LF.	LF.
GR–1	1315+00–1345+00	Lt.	2968.21		2968.21						
GR–2	1315+00–1336+57.77	Rt.	2177.5		2165		1				
F–1	1315+00–1315+96	Lt.		100						100	
F–2	1331+80–1345+00	Rt.		1386							1386
TOTAL			5145.71	1486	5133.21		1			100	1386

QUANTITIES CARRIED TO GENERAL SUMMARY SHEET NO. 22, 23, & 23A
FOR FENCE LEGEND SEE SHEET NO. 38
FOR BARRIER MEDIAN INLET DETAILS (MD), AND QUANTITIES SEE SHEET NO. 45–47A



PLAN STA. 1315+00 TO 1345+00

PRJNT03 1=100 2-15-95

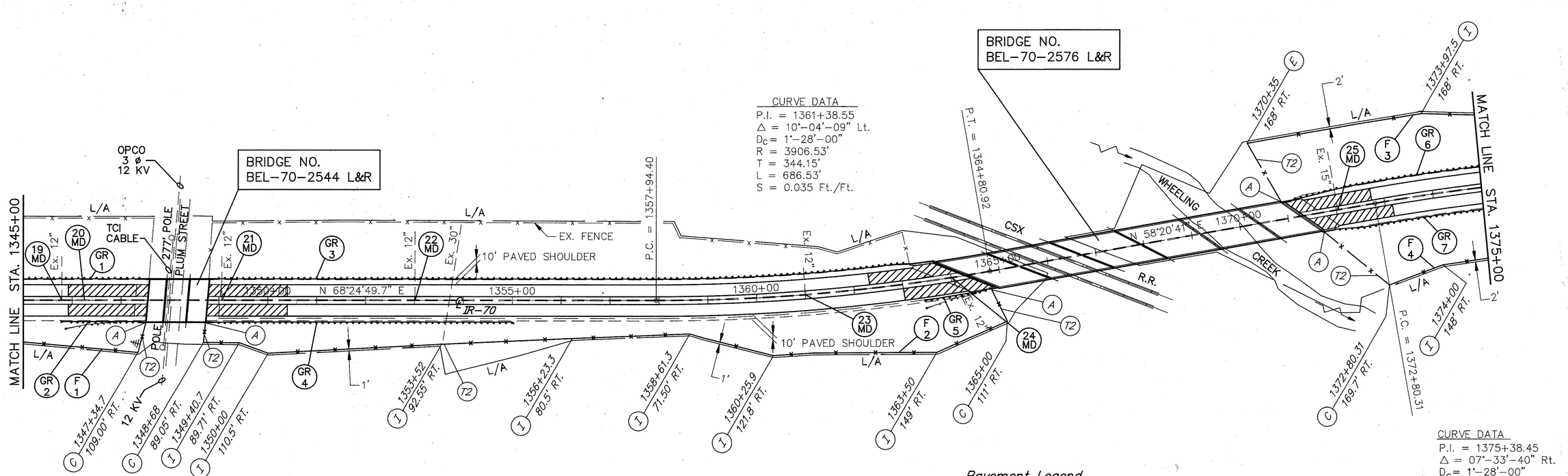
	BY	DATE	REGION	STATE	PROJECT		
Calculated	W.H.F.	11-93					
Checked	D.T.B.	12-93	5	OHIO			

BEL-70-23.79

TRAFFIC CONTROL QUANTITIES				
Station To Station	Side	ITEM 644 White Edge Line	ITEM 644 Yellow Edge Line	ITEM 644 White Lane Line
		Mi.	Mi.	Mi.
1345+00 – 1375+00	WB	0.57	0.57	0.57
1345+00 – 1375+00	EB	0.57	0.57	0.57
TOTAL		1.14	1.14	1.14

ROADWAY QUANTITIES												
Ref. No.	Station To Station	Side	202 Guardrail Removed	202 Fence Removed	606 Guardrail, Type 5	606 Anchor Assembly, Type E	606 Anchor Assembly, Type T	606 Bridge Term. Assembly, Type 1	606 Bridge Term. Assembly, Type 2	607 Fence, Type CL	607 Fence, Type 47	625 Ground Rod
			LF.	LF.	LF.	EA.	EA.	EA.	EA.	LF.	LF.	EA.
GR-1	1345+00-1347+46.97	Lt.	246.97		246.97				1			
GR-2	1345+76.76-1347+39.26	Rt.	150		112.50	1		1				
GR-3	1348+94.10-1363+15.31	Lt.	1415.34		1415.34			1	1			
GR-4	1348+86.39-1355+11.39	Rt.	625		612.5		1		1			
GR-5	1363+41.11-1364+77.08	Rt.	137.5		87.5	1		1				
GR-6	1371+10.90-1375+00	Lt.	391.57		391.57			1				
GR-7	1371+90.48-1375+00	Rt.	307.05		307.05				1			
F-1	1345+00-1348+02	Rt.		386						386		1
F-2	1348+70-1365+16	Rt.		1756						1756		
F-3	1370+44-1375+00	Lt.		467							611	
F-4	1372+02-1375+00	Rt.									384	
TOTAL			3273.43	2609	3173.43	2	1	4	4	2142	995	1

QUANTITIES CARRIED TO GENERAL SUMMARY SHEET NO. 22, 23, & 23A
FOR FENCE LEGEND SEE SHEET NO. 38
FOR BARRIER MEDIAN INLET DETAIL (MD) AND QUANTITIES SEE SHEET NO. 45-47A



CURVE DATA
P.I. = 1375+38.45
Δ = 07°-33'-40" Rt.
Dc = 1°-28'-00"
R = 3906.53'
T = 258.14'
L = 515.53'

Pavement Legend

▨ *Proposed Pavement Transition See Detail, Sht. No. 8.*

PLAN104 1=100 2-18-95

PLAN STA. 1345+00 TO 1375+00

	BY	DATE	REGION	STATE	PROJECT		
Calculated	W.H.F.	11-93	5	OHIO			
Checked	D.T.B.	12-93					

BEL-70-23.79

TRAFFIC CONTROL QUANTITIES

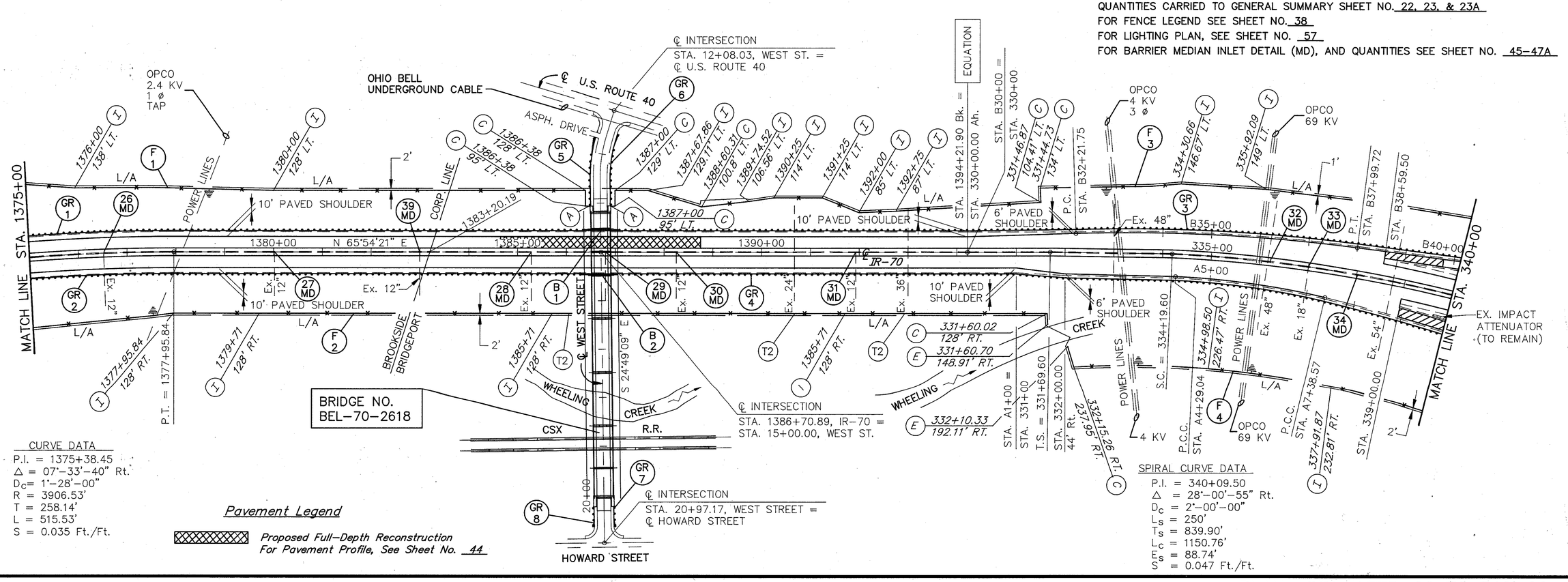
Station To Station	Side	ITEM 644 White Edge Line	ITEM 644 Yellow Edge Line	ITEM 644 White Lane Line	ITEM 644 Channelizing Line
		Mi.	Mi.	Mi.	LF.
1375+00 – 1394+21.90	WB	0.36	0.36	0.36	
1375+00 – 1394+21.90	EB	0.36	0.36	0.36	
330+00 – 340+00	WB		0.19	0.19	
330+00 – 340+00	EB		0.19	0.19	
330+00 – 336+66.69	EB			0.13	
336+66.69 – 339+00	EB				646.6
339+00 – 340+00	EB	0.02			
A0+00 – A9+89.32	EB	0.19			
A8+91.14 – A9+89.32	EB		0.02		
B38+59.50 – B40+12.92	WB		0.03		
B30+00 – B40+12.92	WB	0.19			
B37+52.12 – B38+59.50	WB				105.6
B35+74.67 – B37+52.12	WB	0.05			
337+41.63 – 340+00	WB			0.03	
TOTAL		1.17	1.15	1.26	752.2

FOR ITEM 644 – TRANSVERSE LINE QUANTITIES, SEE SHEET NO. 49 .

ROADWAY QUANTITIES

Ref. No.	Station To Station	Side	202 Guardrail Removed	202 Fence Removed	606 Guardrail, Type 5		606 Bridge Terminal Assembly Type 1	622 Concrete Barrier Type D, (See Std. Dwg. GR-8.1)	607 Fence, Type CL	607 Fence, Type 47	625 Ground Rod	606 Bridge Terminal Assembly Type 2		606 Anchor Assembly Type A
			LF.	LF.	LF.		EA.	LF.	LF.	LF.	EA.	EA.		EA.
GR-1	1375+00–1386+17.60	Lt.	1175		1120.93							1		
GR-2	1375+00–1386+33.78	Rt.	1175		1130.45		1							
GR-3	1387+03.15–B40+12.81	Lt.	1050		1013.43		1							
GR-4	1387+04.81–A9+86.97	Rt.	1733		1701.02							1		
GR-5	12+43.00-14+02.00	Rt.	150		112.5							1		1
GR-6	12+52.00–14+02.00	Lt.	158		125							1		1
GR-7	20+22.50–20+60.00	Lt.	67		12.5							1		1
GR-8	20+22.50–20+60.00	Rt.	67		12.5							1		1
B-1	1386+15.60–1387+05.25	Lt.						89.65						
B-2	1386+31.68–1387+06.81	Rt.						75.13						
F-1	1375+00.00–1386+38.00	Lt.		1280						1280	1			
F-2	1375+00.00–331+60.70	Rt.								2105	1			
F-3	1387+00.00–340+00.00	Lt.		1670					1670		2			
F-4	332+10.33–340+00.00	Rt.		831						831	2			
	TOTAL		5575	3781	522833		2	164.78	1670	4216	6	6		4

QUANTITIES CARRIED TO GENERAL SUMMARY SHEET NO. 22, 23, & 23A
FOR FENCE LEGEND SEE SHEET NO. 38
FOR LIGHTING PLAN, SEE SHEET NO. 57
FOR BARRIER MEDIAN INLET DETAIL (MD), AND QUANTITIES SEE SHEET NO. 45-47A



CURVE DATA

P.I. = 1375+38.45
△ = 07°-33'-40" Rt.
D_c = 1°-28'-00"
R = 3906.53'
T = 258.14'
L = 515.53'
S = 0.035 Ft./Ft.

SPIRAL CURVE DATA

P.I. = 340+09.50
△ = 28°-00'-55" Rt.
D_c = 2°-00'-00"
L_s = 250'
T_s = 839.90'
L_c = 1150.76'
E_s = 88.74'
S = 0.047 Ft./Ft.

Pavement Legend

Proposed Full-Depth Reconstruction For Pavement Profile, See Sheet No. 44

PRJANTOS 1=100 2-16-95

PLAN STA. 1375+00 TO 340+00

	BY	DATE	REGION	STATE	PROJECT		
Calculated	W.H.F.	11-93					
Checked	D.T.B.	12-93	5	OHIO			

BEL-70-23.79

TRAFFIC CONTROL QUANTITIES

Station To Station	Side	ITEM 644 White Edge Line	ITEM 644 Yellow Edge Line	ITEM 644 White Lane Line	ITEM 644 Channelizing Line	ITEM 64 Stop Line
		Mi.	Mi.	Mi.	LF.	LF.
340+00 – 363+65.98	WB		0.45	0.45		
340+00 – 352+83.83	WB	0.24				
352+83.83 – 354+40.41	WB				268.5	
354+40.41 – 357+36.44	WB			0.06		
357+00 – 363+65.98	WB	0.13				
340+00 – 363+65.98	EB		0.45	0.45		
340+00 – 354+00	EB	0.27				
354+00 – 540+73.19	EB				337.4	
357+48 – 363+65.98	EB	0.12				
340+73.19 – 343+08.77	EB			0.05		
C47+50 – C57+00	WB	0.18				
C47+50 – C52+84	WB		0.10			
B40+12.92 – B46+50	WB	0.12	0.12			
C47+12	WB					67
A9+89.32 – A16+10	EB	0.12	0.12			
A16+23.38	EB					67
D47+70 – D54+00	EB		0.12			
D47+70 – D57+47.25	EB	0.19				
TOTAL		1.37	1.36	1.01	605.9	134

FOR ITEM 644-TRANSVERSE LINE QUANTITIES, SEE SHEET NO. 49

ROADWAY QUANTITIES

Ref. No.	Station To Station	Side	202 Guardrail Removed	202 Fence Removed	606 Guardrail, Type 5	606 Guardrail, Type 5A	606 Anchor Assembly, Type A	606 Anchor Assembly, Type E	606 Anchor Assembly, Type T	606 Bridge Term. Assembly, Type 1	606 Bridge Term. Assembly, Type 2	606 Bridge Term. Assembly, Type D	607 Fence, Type CL	607 Fence, Type 47	625 Ground Rod
			LF.	LF.	LF.	LF.	EA.	EA.	EA.	EA.	EA.	EA.	LF.	LF.	EA.
GR-1	340+00-10+70.70	Lt.	937		911.57		1								
GR-2	C47+17.80-C52+22.17	Lt.	500		450			1			1				
GR-3	B42+64.70-B46+81.55	Lt.	400		387.5				1		1				
GR-4	10+66.2-357+32.85	Lt.	1175		1150		1				1				
GR-5	346+06-348+29.08	Lt.	225		62.5	100		1	1						
GR-6	340+01-351+49.16	Rt.	1113.5		988.5	100			2						
GR-7	A9+86.97-A10+23.45	Rt.	36		36.48							1			
GR-8	D51+45.18-D55+74.84	Lt.	432.47		432.47					1	1				
GR-9	2+18.75-3+31.25	Rt.	137.5		87.5		1				1				
GR-10	2+18.75-3+31.25	Lt.	137.5		87.5		1				1				
F-1	340+00-345+92.84	Lt.		794									794		1
F-2	347+79.09-358+46.00	L/R		1391									1391		1
F-3	340+00-359+05.39	Rt.		1794										1794	
F-4	1+68-3+78	L/R		609									609		2
TOTAL			5093.97	4588	4594.02	200	4	2	4	1	6	1	2794	1794	4

QUANTITIES CARRIED TO GENERAL SUMMARY SHEET NO. 22, 23, & 23A
FOR FENCE LEGEND SEE SHEET NO. 38
FOR LIGHTING PLAN, SEE SHEET NO. 57
FOR BARRIER MEDIAN INLET DETAILS AND QUANTITIES (MD), SEE SHEET NO. 45-47A

BRIDGE NO.
BEL-70-2684 L&R

BRIDGE NO.
BEL-70-2633A

BRIDGE NO.
BEL-70-2633

BRIDGE NO.
BEL-70-2633D

IM-70-8(58)

END PROJECT
STA. 357+45.50
S.L.M. 26.82

END WORK
STA. 363+65.98

NOTE: FOR PROPOSED PAVEMENT WORK ON MARION STREET, SEE SHEET NO. 50

℄ INTERSECTION
STA. 11+42.02, MARION STREET =
℄ U.S. ROUTE 40

℄ INTERSECTION
STA. B47+22.15, RAMP "B" =
STA. 8+82.00, MARION STREET =
STA. ℄46+74.88, RAMP "C"

℄ INTERSECTION
STA. 346+85.54, IR-70 =
STA. 7+65.85, MARION ST.

℄ INTERSECTION
STA. A16+58.54, RAMP "A" =
STA. 6+75.00, MARION STREET =
STA. D46+87.51, RAMP "D"

℄ INTERSECTION
STA. 1+36.88, MARION STREET =
℄ HOWARD STREET

SPIRAL CURVE DATA
P.I. = 340+09.50
Δ = 28°-00'-55" Rt.
D_C = 2°-00'-00"
L_S = 250'
T_S = 839.90'
L_C = 1150.76'
E_S = 88.74'

OHIO BELL UNDERGROUND CABLE

U.S. ROUTE 40

MARION STREET

HOWARD STREET

RAMP "A"

RAMP "B"

RAMP "C"

RAMP "D"

IR-70

MATCH LINE STA. 340+00

WHEELING CREEK

CSX R.R.

CONRAIL R.R. (WEST TRACK)

CSX R.R. (EAST TRACK)

LINCOLN AVENUE

STATE ROUTE 7

OHIO WEST VIRGINIA

OPCO 12 KV 3 ø

GAS 20-8"

POWER LINES

EX. CULVERT

10' PAVED SHOULDER

6' PAVED SHOULDER

3' PAVED SHOULDER

Pavement Legend

Proposed Full-Depth Reconstruction For Pavement Profile, See Sheet No. 44

Proposed Pavement Transition

PLAN STA. 340+00 TO 366+00

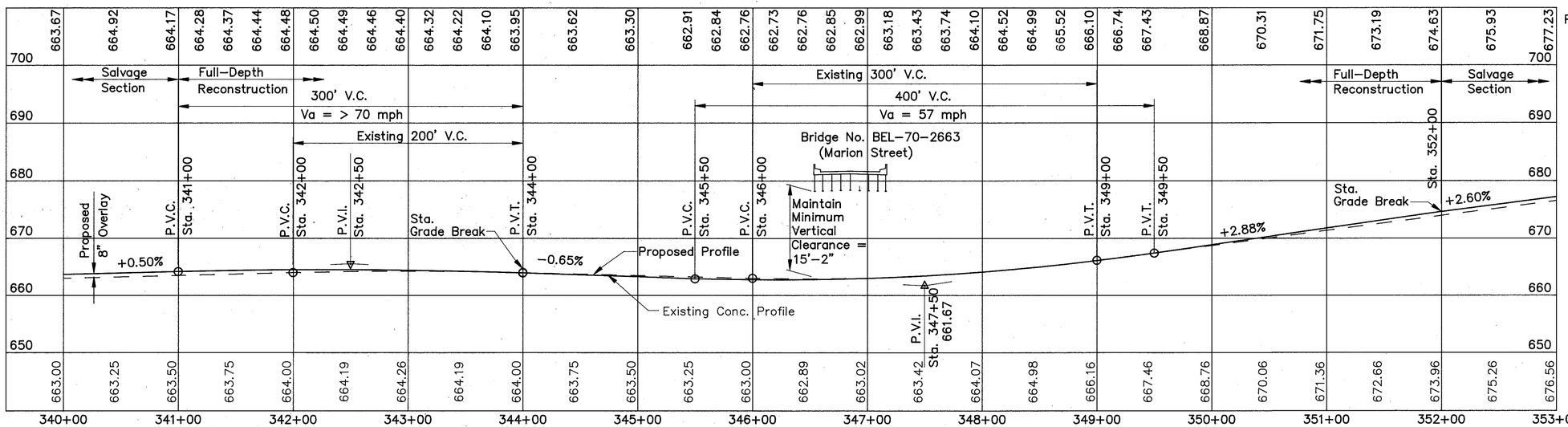
FPLAN106 1=100 2-18-95

	BY	DATE	REGION	STATE	PROJECT		
Calculated	W.J.S.	1-94	5	OHIO			
Checked	W.H.F.	7-94					

BEL-70-23.79

PROFILE IR-70 WESTBOUND UNDER BEL-70-2663

PROFILE SHOWN AT ℄ WESTBOUND LANES

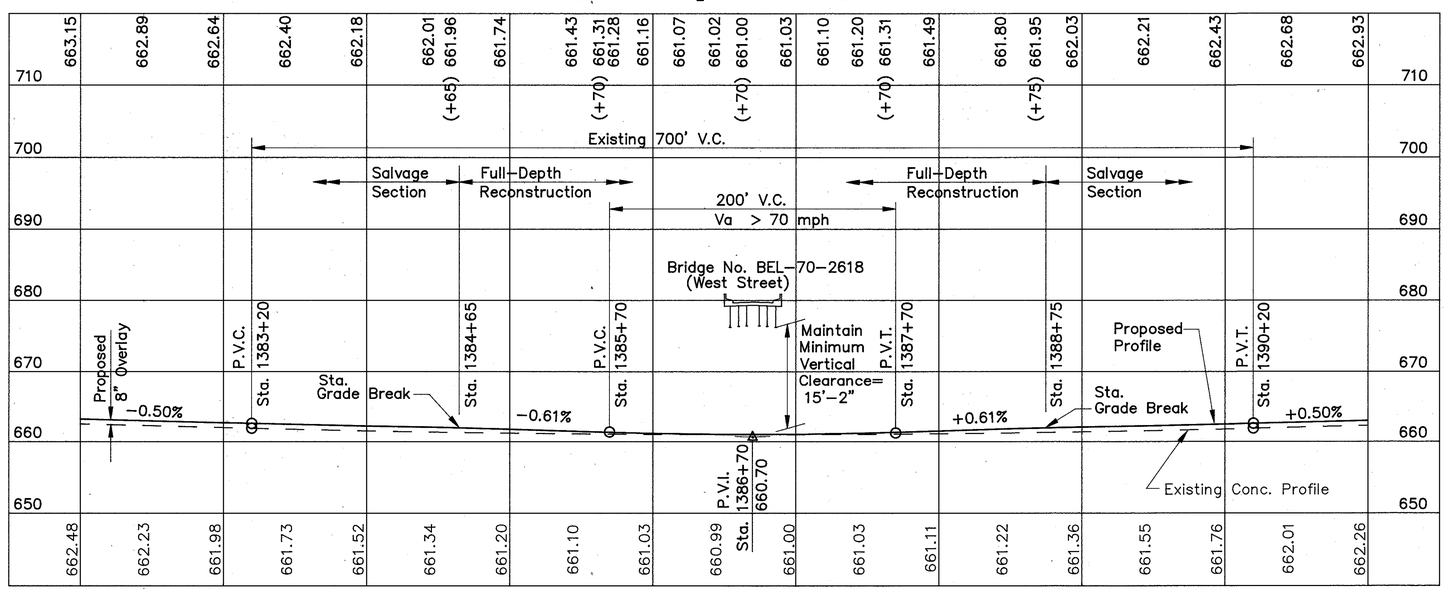


NOTE:
The existing top of concrete elevations shown in these profiles are based upon BEL-40-26.43 plans and are to be field verified by the contractor before using. Although proposed finished grade elevations are shown, the contractor shall maintain a minimum vertical clearance of 15'-2" under the existing structure.

Existing top of concrete profile grade as per BEL-40-26.43 Plans (To be field verified by contractor prior to construction)

PROFILE IR-70 WESTBOUND UNDER BEL-70-2618

PROFILE SHOWN AT ℄ WESTBOUND LANES



NOTE:
The existing top of concrete elevations shown in these profiles are based upon BEL-40-23.89 plans and are to be field verified by the contractor before using. Although proposed finished grade elevations are shown, the contractor shall maintain a minimum vertical clearance of 15'-2" under the existing structure.

Existing top of concrete profile grade as per BEL-40-23.89 Plans (To be field verified by contractor prior to construction)

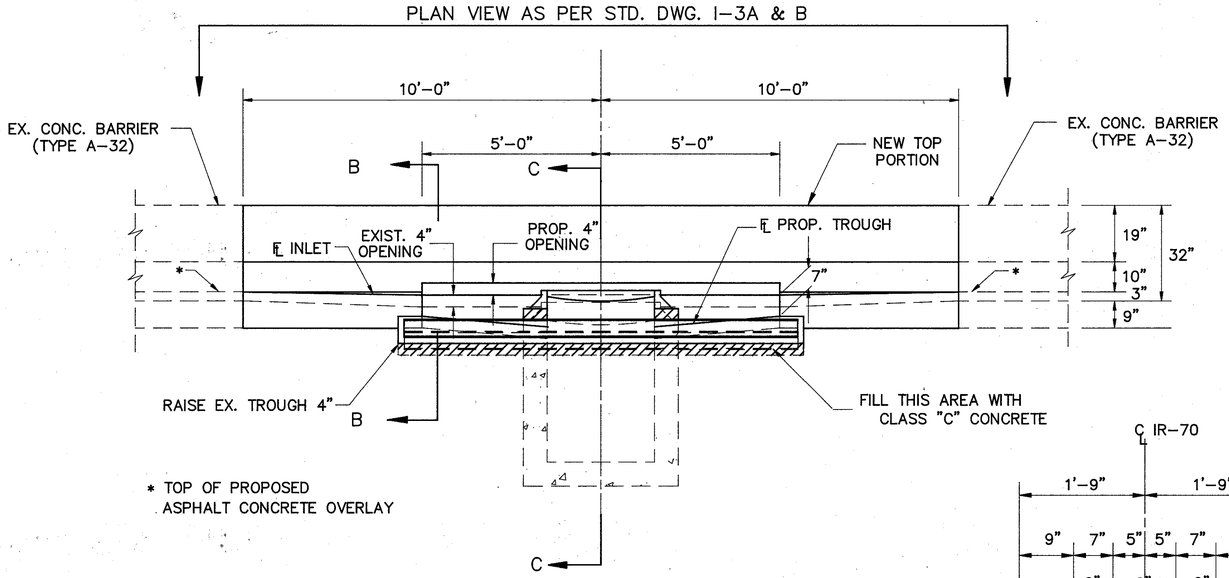
WESTPROF 1=50 09-26-94

PROFILE IR-70 WESTBOUND UNDER BEL-70-2618 & BEL-70-2663

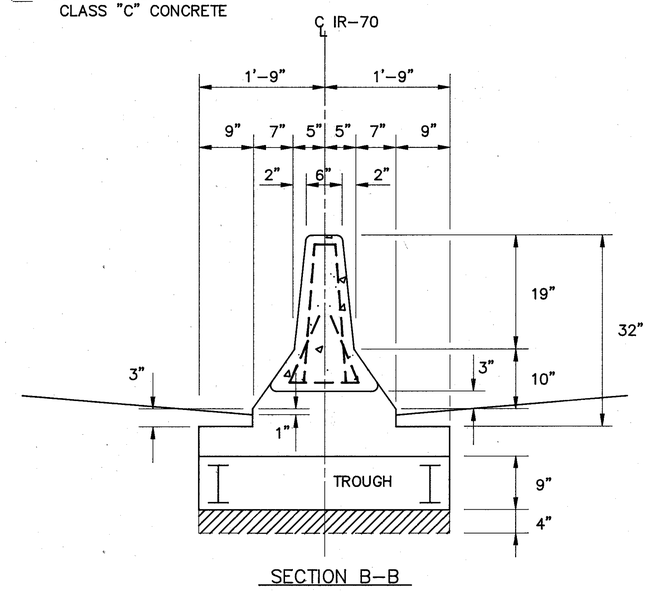
BARRIER MEDIAN INLET DETAILS

	BY	DATE	REGION	STATE	PROJECT		
Calculated	W.H.F.	11-93	5	OHIO			45 / 97
Checked	D.T.B.	12-93					

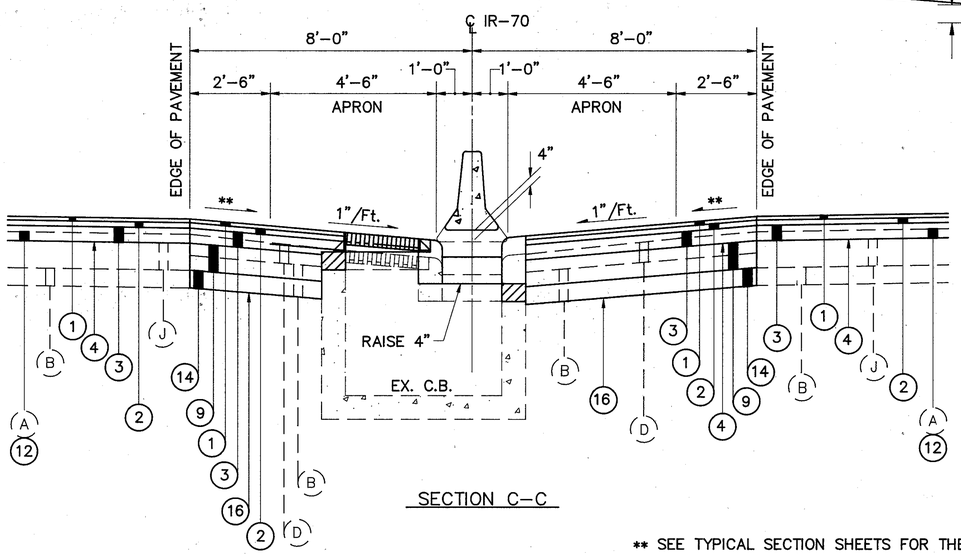
BEL-70-23.79



ELEVATION A-A



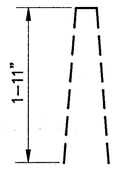
SECTION B-B



SECTION C-C

STATION	SIDE	REF. NO.	SHEET NO.	604 INLET ADJUSTED TO GRADE, AS PER PLAN
1270+02	Rt.	1-MD	38	1
1276+00	Rt.	2-MD	38	1
1280+00	Rt.	3-MD	38	1
1285+01	Rt.	4-MD	39	1
1290+00	Rt.	5-MD	39	1
1294+00	Lt.	6-MD	39	1
1297+91	Lt.	7-MD	39	1
1301+95	Lt.	8-MD	39	1
1306+00	Lt.	9-MD	39	1
1312+01	Rt.	10-MD	39	1
1318+00	Rt.	11-MD	40	1
1322+00	Rt.	12-MD	40	1
1326+00	Rt.	13-MD	40	1
1330+24	Lt.	14-MD	40	1
1330+89	Rt.	15-MD	40	1
1331+49	Lt.	16-MD	40	1
1335+92	Rt.	17-MD	40	1
1345+00	Lt.	18-MD	40	1
1345+79	Lt.	19-MD	41	1
1346+25	Lt.	20-MD	41	1
1349+06	Lt.	21-MD	41	1
1353+01	Lt.	22-MD	41	1
1361+00	Rt.	23-MD	41	1
1364+02	Rt.	24-MD	41	1
1372+03	Lt.	25-MD	41	1
1376+52	Lt.	26-MD	42	1
1380+02	Rt.	27-MD	42	1
1391+93	Rt.	31-MD	42	1
1383+02	Rt.	39-MD	42	1
TOTAL CARRIED TO GENERAL SUMMARY				29

M-4-A



M-4-C

WORK REQUIRED

1. REMOVE 20' OF EXISTING INLET AND EXISTING CONCRETE APRONS AS SHOWN.
2. ADJUST EXISTING INLET CASTING AND TROUGH TO GRADE.
3. CONSTRUCT NEW TOP PORTION OF INLET AS SHOWN.
4. STEEL REINFORCING, OTHER DETAILS AND NOTES TO BE AS SHOWN ON STD. DWG. I-3A & B. EXCEPT FOR THE SIZES SHOWN FOR THE RE-BARS ABOVE.
5. PAYMENT FOR ALL MATERIAL, LABOR AND EQUIPMENT NECESSARY TO COMPLETE THE WORK LISTED ABOVE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR "ITEM 604 – INLET ADJUSTED TO GRADE, AS PER PLAN".

– FILL VOID AREAS WITH CLASS "C" CONCRETE

FOR LEGEND, SEE SHEET NO. 4

** SEE TYPICAL SECTION SHEETS FOR THE APPROPRIATE CROSS-SLOPE, SHEET NO. 3-4

BMDET 1=1 09-28-94

BARRIER MEDIAN INLET DETAILS

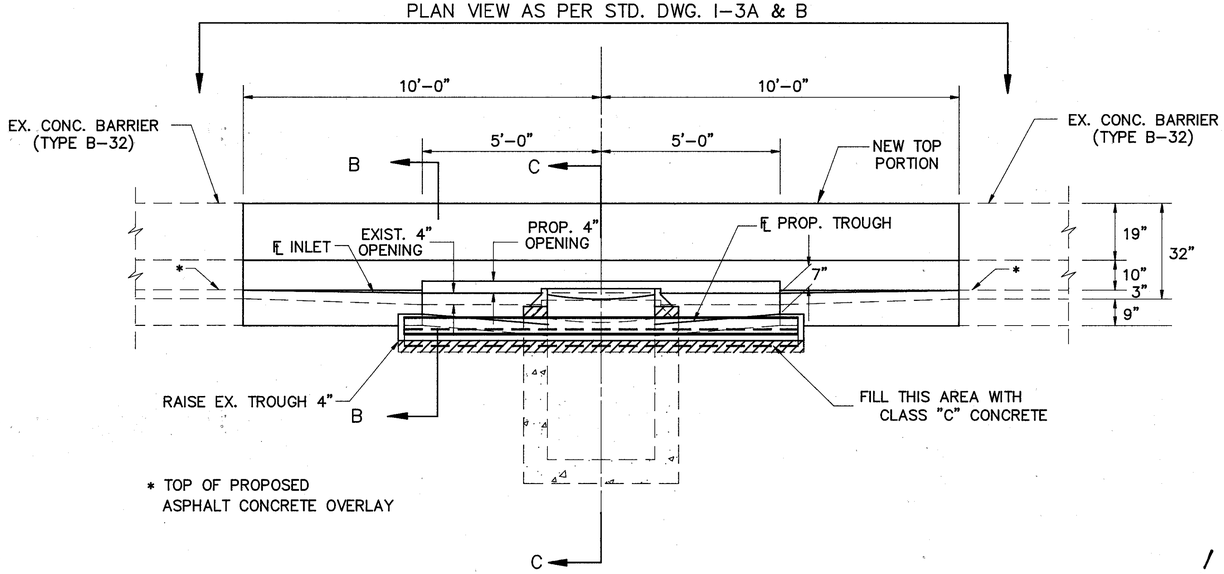
BARRIER MEDIAN INLET DETAILS

	BY	DATE	REGION	STATE	PROJECT	
Calculated	W.H.F.	11-93				
Checked	D.T.B.	12-93	5	OHIO		

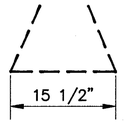
46
97

BEL-70-23.79

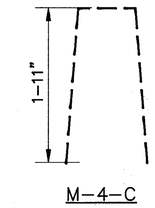
PLAN VIEW AS PER STD. DWG. I-3A & B



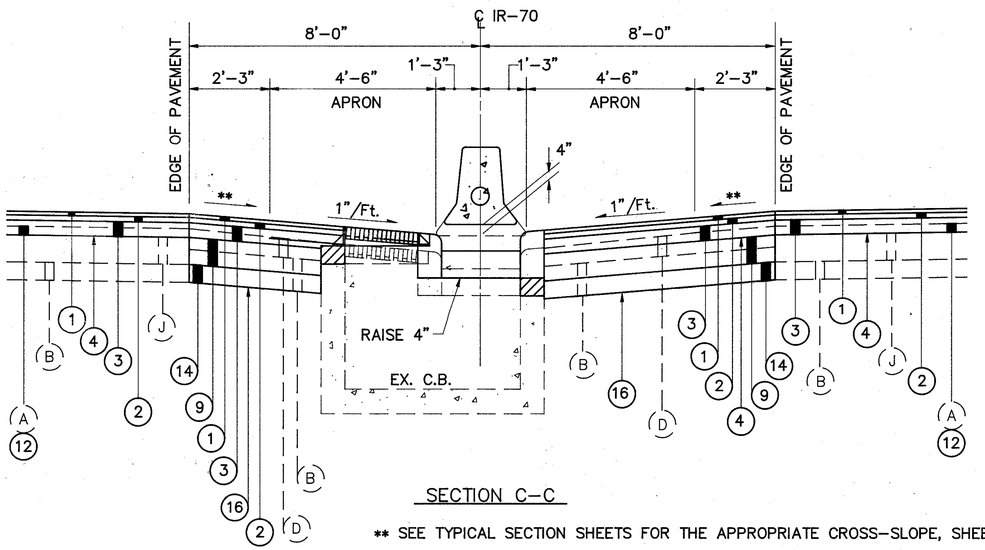
ELEVATION A-A



M-4-A

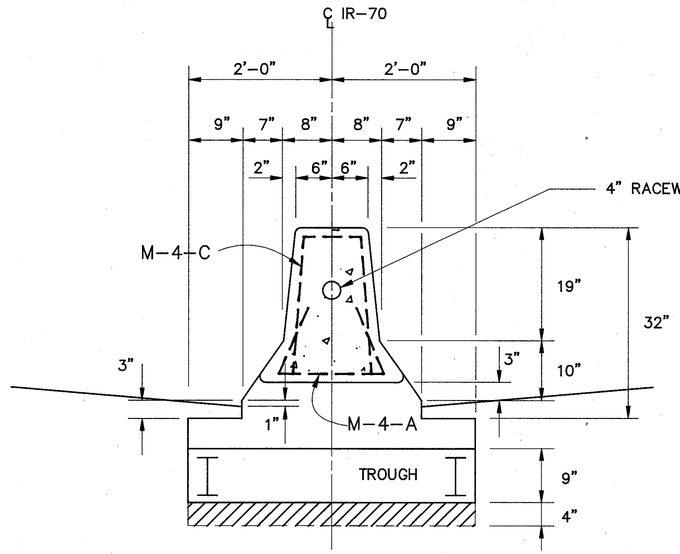


M-4-C



SECTION C-C

** SEE TYPICAL SECTION SHEETS FOR THE APPROPRIATE CROSS-SLOPE, SHEET NO. 3-4 .



SECTION B-B

BARRIER MEDIAN INLET REMOVAL AND REPLACEMENT TABLE

STATION	SIDE	REF. NO.	SHEET NO.	604 INLET ADJUSTED TO GRADE, BARRIER TYPE B, AS PER PLAN
336+03	Lt.	32-MD	42	1
337+00	Lt.	33-MD	42	1
338+02	Lt.	34-MD	42	1
352+07	Rt.	38-MD	43	1
TOTAL CARRIED TO GENERAL SUMMARY				4

WORK REQUIRED

1. REMOVE 20' OF EXISTING INLET AND EXISTING CONCRETE APRONS AS SHOWN.
2. ADJUST EXISTING INLET CASTING AND TROUGH TO GRADE.
3. CONSTRUCT NEW TOP PORTION OF INLET AS SHOWN.
4. STEEL REINFORCING, OTHER DETAILS AND NOTES TO BE AS SHOWN ON STD. DWG. I-3A & B. EXCEPT FOR THE SIZES SHOWN FOR THE RE-BARS ABOVE.
5. PAYMENT FOR ALL MATERIAL, LABOR AND EQUIPMENT NECESSARY TO COMPLETE THE WORK LISTED ABOVE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR "ITEM 604 – INLET ADJUSTED TO GRADE, AS PER PLAN".

FOR LEGEND, SEE SHEET NO. 4

– FILL VOID AREAS WITH CLASS "C" CONCRETE

BMDET1 1=1 09-29-94

BARRIER MEDIAN INLET DETAILS

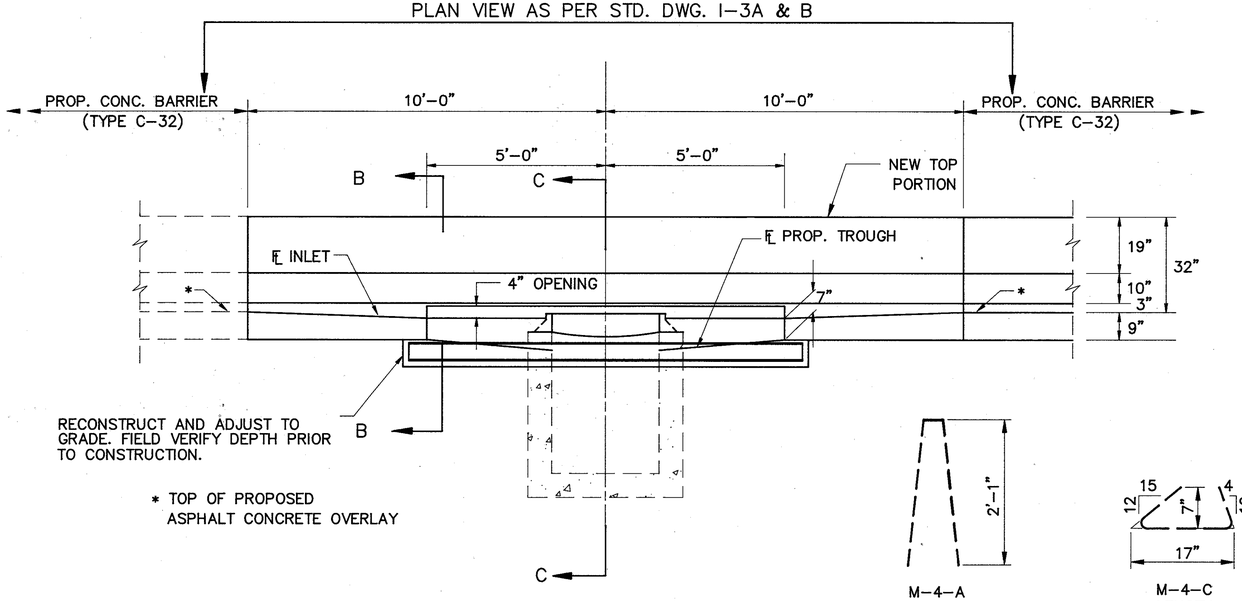
BARRIER MEDIAN INLET DETAILS

	BY	DATE	REGION	STATE	PROJECT		
Calculated	W.H.F.	11–93	5	OHIO			
Checked	D.T.B.	12–93					

47/97

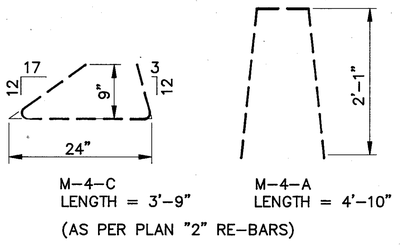
BEL–70–23.79

PLAN VIEW AS PER STD. DWG. I–3A & B

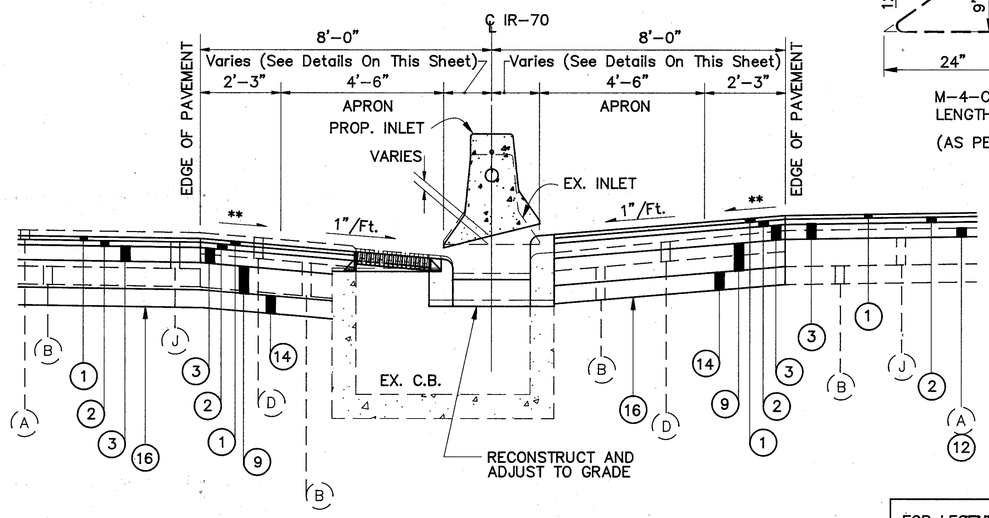


ELEVATION A–A

(AS PER PLAN "1" RE–BARS)



(AS PER PLAN "2" RE–BARS)



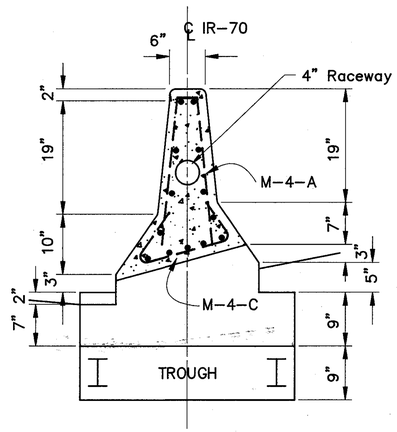
SECTION C–C

FOR LEGEND, SEE SHEET NO. 4

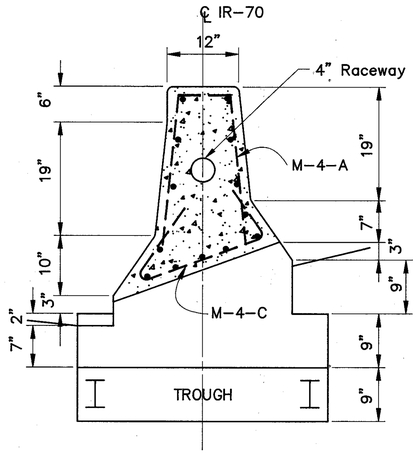
** SEE TYPICAL SECTION SHEETS FOR THE APPROPRIATE CROSS–SLOPE, SHEET NO. 6.

BARRIER MEDIAN INLET REMOVAL AND REPLACEMENT TABLE

STATION	SIDE	REF. NO.	SHEET NO.	604 INLET ADJUSTED TO GRADE, AS PER PLAN	PROPOSED CONCRETE BARRIER TYPE C
1385+28	Rt.	28–MD	42	1	AS PER PLAN "1"
1388+25	Rt.	30–MD	42	1	AS PER PLAN "1"
345+75	Lt.	35–MD	43	1	AS PER PLAN "2"
TOTAL CARRIED TO GENERAL SUMMARY				3	



SECTION B–B
(AS PER PLAN "1")



SECTION B–B
(AS PER PLAN "2")

WORK REQUIRED

1. REMOVE 20' OF EXISTING INLET AND EXISTING CONCRETE APRONS AS SHOWN.
2. ADJUST EXISTING INLET CASTING AND TROUGH TO GRADE.
3. CONSTRUCT NEW TOP PORTION OF INLET AS SHOWN.
4. STEEL REINFORCING, OTHER DETAILS AND NOTES TO BE AS SHOWN ON STD. DWG. I–3A & B. EXCEPT FOR THE SIZES SHOWN FOR THE RE–BARS ABOVE.
5. PAYMENT FOR ALL MATERIAL, LABOR AND EQUIPMENT NECESSARY TO COMPLETE THE WORK LISTED ABOVE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR "ITEM 604 – INLET ADJUSTED TO GRADE, AS PER PLAN".

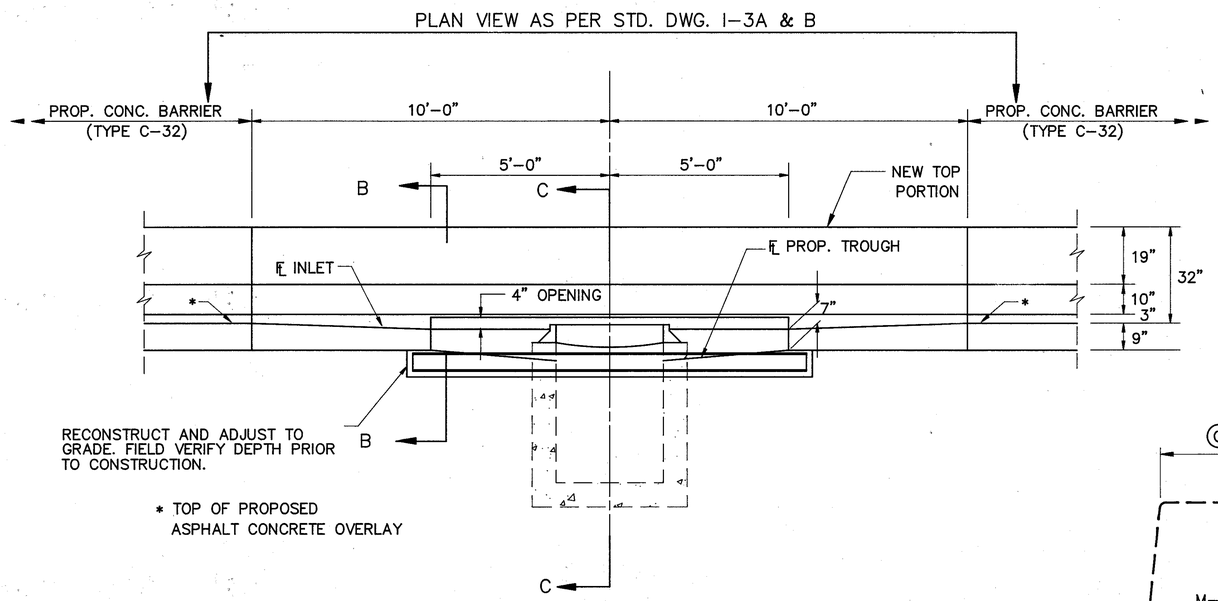
BMDETA 1m1 09-28-94

BARRIER MEDIAN INLET DETAILS

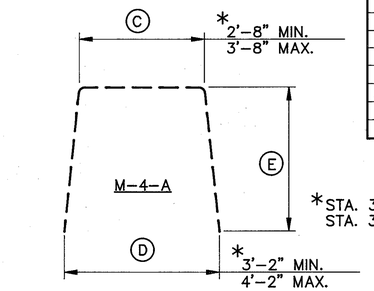
BARRIER MEDIAN INLET DETAILS

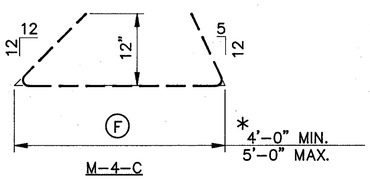
	BY	DATE	REGION	STATE	PROJECT		47A / 97
Calculated	W.H.F.	11-93					
Checked	D.T.B.	12-93	5	OHIO			

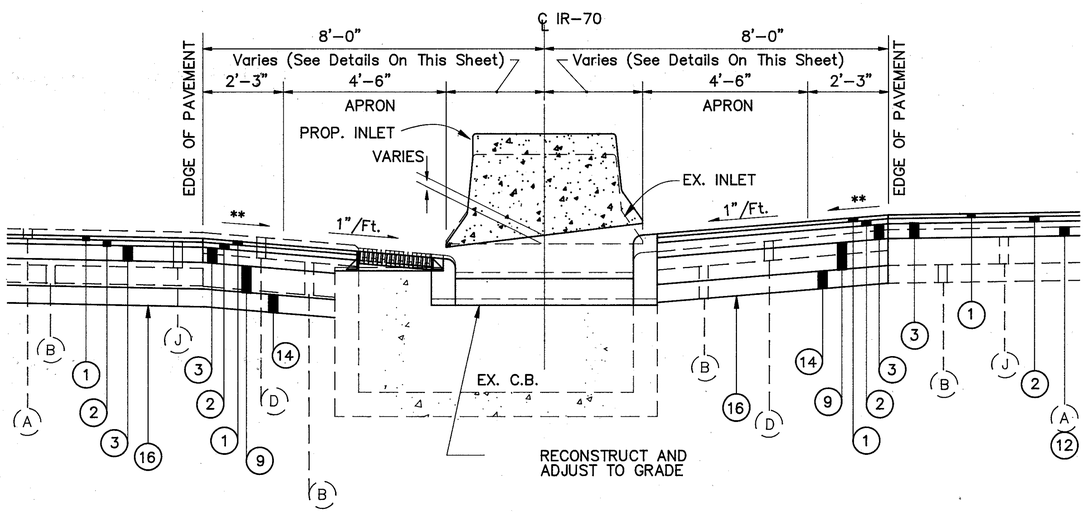
BEL-70-23.79



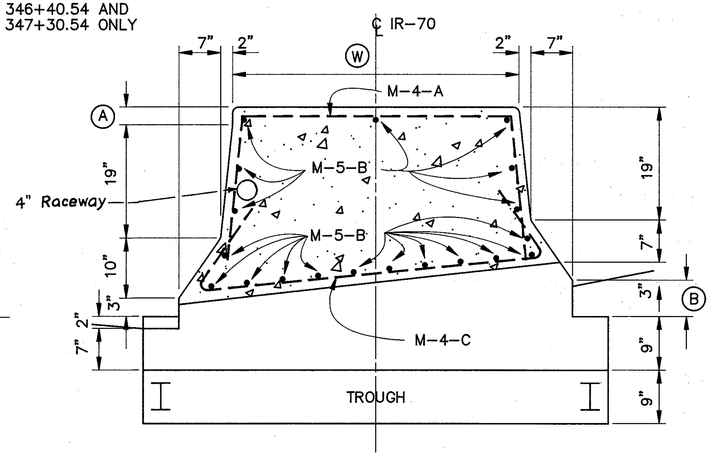
ELEVATION A-A







SECTION C-C



SECTION B-B
(AS PER PLAN "3")

BARRIER MEDIAN INLET REMOVAL AND REPLACEMENT TABLE

STATION	SIDE	REF. NO.	SHEET NO.	604 INLET ADJUSTED TO GRADE, AS PER PLAN	PROPOSED CONCRETE BARRIER TYPE C A	B	
1386+80	Rt.	29-MD	42	1	3"	6"	AS PER PLAN "3"
346+40.54	Lt.	36-MD	43	1	5"	8"	AS PER PLAN "3"
347+30.54	Lt.	37-MD	43	1	3"	6"	AS PER PLAN "3"
TOTAL CARRIED TO GENERAL SUMMARY				3			

STEEL LIST

INLET STATION	REF. NO.	W	M-4-A NO.	C	D	E	LENGTH	M-4-C NO.	F	LENGTH	M-5-B NO.	LENGTH
1386+80	29-MD	4'-0"	10	3'-8"	4'-2"	2'-0"	7'-8"	10	5'-0"	7'-2"	19	19'-8"
346+40.54	36-MD	VARIES FROM 3'-0" TO 4'-0"	10	SEE BELOW	SEE BELOW	2'-2"	VARIES FROM 6'-10" TO 7'-10"	10	SEE BELOW	VARIES FROM 6'-2" TO 7'-2"	19	19'-8"
347+30.54	37-MD	VARIES FROM 3'-0" TO 4'-0"	10	SEE BELOW	SEE BELOW	2'-0"	VARIES FROM 6'-8" TO 7'-8"	10	SEE BELOW	VARIES FROM 6'-2" TO 7'-2"	19	19'-8"

FOR LEGEND, SEE SHEET NO. 4

** SEE TYPICAL SECTION SHEETS FOR THE APPROPRIATE CROSS-SLOPE, SHEET NO. 6.

WORK REQUIRED

1. REMOVE 20' OF EXISTING INLET AND EXISTING CONCRETE APRONS AS SHOWN.
2. ADJUST EXISTING INLET CASTING AND TROUGH TO GRADE.
3. CONSTRUCT NEW TOP PORTION OF INLET AS SHOWN.
4. STEEL REINFORCING, OTHER DETAILS AND NOTES TO BE AS SHOWN ON STD. DWG. I-3A & B AND STD. DWG. MC-9.4 EXCEPT FOR THE SIZES SHOWN FOR THE RE-BARS ABOVE.
5. PAYMENT FOR ALL MATERIAL, LABOR AND EQUIPMENT NECESSARY TO COMPLETE THE WORK LISTED ABOVE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR "ITEM 604 – INLET ADJUSTED TO GRADE, AS PER PLAN".

BARRIER MEDIAN INLET DETAILS

PAVEMENT MARKING QUANTITIES

	BY	DATE	REGION	STATE	PROJECT		
Calculated	W.H.F.	11-93	5	OHIO			48/97
Checked	D.T.B.	12-93					

BEL-70-23.79

802 — BARRIER REFLECTORS

SHEET No.	REF. No.	STATIONS (±) FROM	STATIONS (±) TO	LANE	SIDE	LENGTH	TYPE A	TYPE B
						LIN. FT.	EACH	EACH
GUARD RAIL								
38	GR-1	1260+17	1261+92	WB	Lt.	175	3	
38	GR-2	1275+37.5	1285+00	WB	Lt.	962.5	11	
38	GR-3	1279+62	1285+00	EB	Rt.	538	6	
39	GR-1	1285+00	1292+00	WB	Lt.	700	8	
39	GR-2	1285+00	1285+87	EB	Rt.	87	2	
39	GR-3	1305+52	1315+00	WB	Lt.	948	11	
39	GR-4	1306+30	1315+00	EB	Rt.	870	10	
40	GR-1	1315+00	1345+00	WB	Lt.	3000	31	
40	GR-2	1315+00	1336+55	EB	Rt.	2155	23	
41	GR-1	1345+00	1347+50	WB	Lt.	250	4	
41	GR-2	1347+00	1347+39	EB	Rt.	39	2	
41	GR-3	1348+96	1363+28	WB	Lt.	1432	15	
41	GR-4	1348+87	1355+05	EB	Rt.	618	7	
41	GR-5	1364+00	1364+83	EB	Rt.	83	2	
41	GR-6	1371+08	1375+00	WB	Lt.	392	5	
41	GR-7	1371+88	1375+00	EB	Rt.	312	4	
42	GR-1	1375+00	340+00	WB	Lt.	2322	24	
42	GR-2	1375+00	340+00	EB	Rt.	2322	24	
43	GR-1	340+00	346+36.15	RAMP "B"	Lt.	636.15	7	
43	GR-3	342+60	346+36.15	RAMP "B"	Rt.	376.15	5	
43	GR-2	347+60.88	352+24	RAMP "C"	Rt.	463.12	6	
43	GR-4	347+60.88	357+34	RAMP "C"	Lt.	973.12	11	
43	GR-5	346+06	347+15	WB	Lt.	109	2	
43	GR-6	340+01	351+48	EB	Rt.	1147	12	
43	GR-7	340+00	340+29	RAMP "A"	Rt.	29	1	
43	GR-8	351+43	355+74	RAMP "D"	Rt.	431	5	
CONCRETE BARRIER								
		1261+05.00	1339+48.48 AH. = 1339+57.48 BK.	EB		7843.48		79
		1339+57.48	1394+21.90 AH. = 330+00 BK.	EB		5464.42		56
		330+00	363+65.98	EB		3365.98		34
		1261+05.00	1339+48.48 AH. = 1339+57.48 BK.	WB		7843.48		79
		1339+57.48	1394+21.90 AH. = 330+00 BK.	WB		5464.42		56
		330+00	363+65.98	WB		3365.98		34
		1292+00	1302+00	EB	Rt.	1000.00		11
						TOTALS:	241	349

ITEM 620 — DELINEATORS

LANE OR RAMP	STATION FROM	STATION TO	DISTANCE	TYPE C POST MOUNTED	TYPE C BRACKET MOUNTED	TYPE D POST MOUNTED	TYPE D BRACKET MOUNTED	SPACING	DELINEATOR REMOVED FOR DISPOSAL
	FROM	TO	LIN. FT.	EACH	EACH	EACH	EACH	LIN. FT.	EACH
IR-70 EASTBOUND	1259+80	1292+00	3,220.00	9				400	41
	1302+00	1339+48.48 BK	3,748.48	10				400	
	1339+57.48 AH	1394+21.90 BK =330+00 AH	5,464.42	14	3			400	
	330+00.00 AH	331+00.00	100	1				400	
	339+00.00	354+00.00	1,500.00	4				400	
IR-70 WESTBOUND	1259+80	1339+48.48 BK	7,968.48	20				400	41
	1339+57.48 AH	1394+21.90 BK =330+00 AH	5,464.42	14	3			400	
	338+50.00	352+83.00	1,433.00	4				400	
RAMP "A"	A1+00.00	A8+92.00	792	1	3			200	8
	A8+92.00	A16+10.00	718			4		200	
RAMP "B"	B30+00.00	B46+40.00	1,640.00	9				200	13
	B38+60.00	B46+40.00	780			4		200	
RAMP "C"	C52+80.00	C57+00.00	420	3				200	6
	C47+50.00	C52+80.00	530			3		200	
RAMP "D"	D47+75.00	D57+00.00	950	2	3			200	9
	D47+75.00	D54+00.00	650			2	2	200	
TOTALS:				91	12	13	2		118

ITEM 862 — RAISED PAVEMENT MARKERS

LANE OR RAMP	STATION FROM	STATION TO	LENGTH	EDGE LINE WHITE	EDGE LINE YELLOW	LANE LINE WHITE	LANE LINE WHITE/RED	CHANNELIZING LINE WHITE	SPACING
	FROM	TO	LIN. FT.	EACH	EACH	EACH	EACH	EACH	LIN. FT.
IR-70 EASTBOUND	1259+80.00	1339+48.48 BK	7,968.48			100			80
	1339+57.48 AH	1387+21.90	4,764.42			60			80
	1387+21.90	1394+21.90 BK =330+00.00 AH	700.00				9		80
	330+00.00 AH	339+00.00	900.00				12		80
	339+00.00	357+45.50	1,845.50			23			80
	335+30.00	339+00.00	370.00					19	20
	339+00.00	339+80.00	80.00	2					40
	353+60.00	355+70.00	210.00	6					40
IR-70 WESTBOUND	1259+80.00	1317+00	5,720.00			72x2=144			80
	1317+00	1339+48.48 BK	2,248.48			28			80
	1339+57.48 AH	1394+21.90 BK =330+00.00 AH	5,464.42			69			80
	330+00.00 AH	352+84.00	2,284.00			29			80
	352+84.00	357+45.50	465.50				6		80
	337+53.00	338+60.00	170	5					40
	338+60.00	339+40.00	80.00	2					40
	352+04.00	352+84.00	80.00	2					40
	352+84.00	354+40.00	156.00					8	20
RAMP "A"	A6+00.00	A8+92.00	292	15					20
	A8+92.00	A9+72	80.00		2				40
RAMP "B"	B36+00.00	B38+59.50	259.50	7					40
	B38+59.50	B39+84.50	125		3				40
RAMP "C"	C52+04.00	C52+84.00	80.00		2				40
	C52+84.00	C54+40.00	156	8					20
RAMP "D"	D52+75.00	D54+00.00	125.00		4				40
	D54+00.00	D54+74.00	74.00	2					40
SUB-TOTALS				49	11	453	27	27	
TOTAL = 49 + 11 + 453 + 27 + 27 = 567									

NOTE: QUANTITIES FROM THIS SHEET CARRIED TO GENERAL SUMMARY, SHEET No. 23

PVMTMAR1 1=1 10-11-94

PAVEMENT MARKING QUANTITIES

	BY	DATE	REGION	STATE	PROJECT	
Calculated	W.H.F.	11-93				
Checked	D.T.B.	12-93	5	OHIO		

BEL-70-23.79

ITEM 644- TRANSVERSE LINE

LOCATION	STATION FROM	STATION TO	CALCULATION (L.F.)	SUB-TOTAL (L.F.)	REMARKS
RAMP "A"	A6+51.56	A8+91.05	2.43+5.29+7.95+10.41+12.36 +14.24+16.05+17.79+19.47 +21.09+22.65+24.15+10.25	= 184.13	
RAMP "C"	C52+82.86	C54+05.36	3+6.75+10.58+14.41+18.25 +22.08+25.91+15.60	= 116.58	
				TOTAL = 300.71 (L.F.)	USE 301 (L.F.)

ITEM 644- STOP LINE

LOCATION	STATION	CALCULATION (L.F.)	SUB-TOTAL (L.F.)	REMARKS
MARION ST.	1+60	18	18	℄/Lt.
MARION ST.	11+16	60	60	℄/Rt.
			TOTAL = 78 (L.F.)	

ITEM 644- CHANNELIZING LINE

LOCATION	STATION FROM	STATION TO	CALCULATION (L.F.)	SUB-TOTAL (L.F.)	REMARKS
MARION ST.	10+25 to 11+16		91	91	Rt.
RAMP "A"	A15+15 to A16+21.5		106.5	106.5	Lt.
RAMP "C"	C47+11 to C49+25		214	214	Lt.
				TOTAL = 411.5 (L.F.)	USE 412 (L.F.)

ITEM 644- LANE LINE

LOCATION	STATION FROM	STATION TO	CALCULATION (L.F.)	SUB-TOTAL (L.F.)	REMARKS
MARION ST.	7+10 to 8+50		140	140	Rt.
MARION ST.	9+15 to 10+25		110	110	Rt.
MARION ST.	7+10 to 8+50		140	140	Lt.
MARION ST.	9+15 to 10+75		160	160	Lt.
				TOTAL = 550 L.F./(5280 L.F./MILE) = USE 0.10 MILE	

ITEM 644- CENTER LINE

LOCATION	STATION FROM	STATION TO	CALCULATION (L.F.)	SUB-TOTAL (L.F.)	REMARKS
MARION ST.	1+60 to 6+50		490	490	℄
MARION ST.	7+10 to 8+50		140	140	℄
MARION ST.	9+15 to 11+16		201	201	℄
WEST ST.	14+16 to 20+06		590	590	℄
				TOTAL = 1,421 L.F./(5280 L.F./MILE) = USE 0.27 MILE	

ITEM 644- WORD ON PAVEMENT, 96 INCH

LOCATION	STATION	CALCULATION (EA.)	SUB-TOTAL (EA.)	REMARKS
MARION ST.	10+46	1	1	Rt.,"ONLY"
MARION ST.	10+46	1	1	Rt.,"ONLY"
RAMP "A"	A15+51.5	1	1	Rt.,"ONLY"
RAMP "C"	C47+81	1	1	Rt.,"ONLY"
			TOTAL = 4 (EA.)	

ITEM 644- CROSSWALK LINE

LOCATION	STATION	CALCULATION (L.F.)	SUB-TOTAL (L.F.)	REMARKS
MARION ST.	11+25	176	176	Lt./Rt.
MARION ST.	11+19	121	121	Lt./Rt.
MARION ST.	1+51	106	106	Lt./Rt.
MARION ST.	1+57	75	75	Lt./Rt.
RAMP "A"	A16+30.5	89	89	Lt./Rt.
RAMP "A"	A16+24.5	67	67	Lt./Rt.
RAMP "B"	B46+94	66	66	Lt./Rt.
RAMP "B"	B46+88	46	46	Lt./Rt.
RAMP "C"	C47+02	80	80	Lt./Rt.
RAMP "C"	C47+08	56	56	Lt./Rt.
RAMP "D"	D47+15.5	80	80	Lt./Rt.
RAMP "D"	D47+21.5	58	58	Lt./Rt.
			TOTAL = 1,020 (L.F.)	

ITEM 644- LANE ARROW

LOCATION	STATION	CALCULATION (EA.)	SUB-TOTAL (EA)	REMARKS
MARION ST.	10+86	1	1	Rt./"Lt. Hand Turn"
MARION ST.	10+86	1	1	Rt./"Rt. Hand Turn"
RAMP "A"	A15+91.5	1	1	Rt./"Rt. Hand Turn"
RAMP "C"	C47+41	1	1	Rt./"Rt. Hand Turn"
			TOTAL = 4 (EA)	

NOTE: QUANTITIES FROM THIS SHEET CARRIED TO PAVEMENT CALCULATION SUB-SUMMARY SHEET No. 23 .

PVMTMAR 1=1 10-11-94

	BY	DATE	REGION	STATE	PROJECT	
Calculated	J.S.L.	12-93	5	OHIO		
Checked	D.T.B.	2-95				

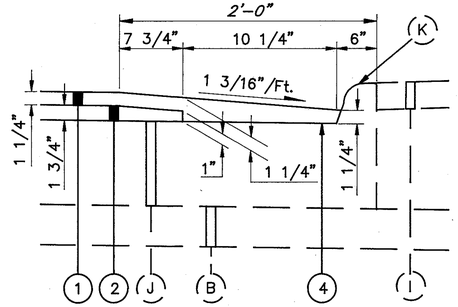
BEL-70-23.79

STATION	SIDE	ITEM 632 LOOP DETECTOR WIRE, TYPE E L.F.	ITEM 632 LOOP DETECTOR PAVEMENT CUTTING L.F.
9+20	RT.	184	
9+20	RT.		71
TOTAL		184	71

TOTALS CARRIED TO GENERAL SUMMARY SHEET

NOTE: 1.) THE NEW LOOP DETECTOR WIRE, TYPE E SHALL BE CONNECTED TO THE EXISTING LOOP DETECTOR LEAD IN CABLE IN THE EXISTING PULL BOX.

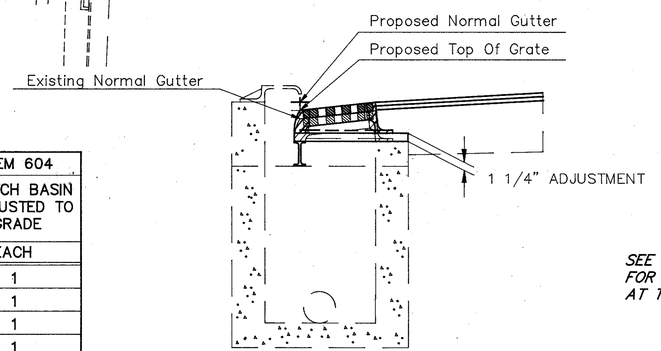
2.) THE CONTRACTOR SHALL INSTALL THE NEW 6'x20' LOOP WITHIN 24 HOURS AFTER THE PAVEMENT GRINDING HAS BEEN COMPLETED IN THIS AREA.



SECTION B-B

NOTE: FOR PAVEMENT COMPOSITION, SEE LEGEND ON SHEET No. 4

FOR PAVEMENT REQUIREMENTS OF RAMP "B & C", REFER TO DETAIL ON SHEET NO. 9.



SECTION A-A

(ADJUST EXISTING FRAME & GRATE TO GRADE DETAIL)
1 1/4" ABOVE EXISTING

STATION	SIDE	ITEM 604 CATCH BASIN ADJUSTED TO GRADE EACH
2+12	LT.	1
2+12	RT.	1
10+38	RT.	1
10+67	LT.	1
10+91	RT.	1
TOTAL		5

TOTALS CARRIED TO GENERAL SUMMARY SHEET

SEE "SECTION B-B" ON THIS SHEET FOR PROPOSED PAVEMENT CROSS-SLOPE AT THE CURB AREA.

JOINT TYPE LEGEND

- (Y) TYPE Y - CONTRACTION
- (L) LONGITUDINAL JOINT
- (L) EXISTING LONGITUDINAL JOINT

FOR ADDITIONAL DETAILS AND NOTES, SEE STANDARD CONSTRUCTION DRAWING BP-2.5.

FOR PAVEMENT CALCULATIONS AND QUANTITIES, SEE SHEET NO. 33.

LEGEND

- EXISTING ASPHALT CONCRETE TO BE REMOVED USING ITEM 202, WEARING COURSE REMOVED.
- AREA TO BE RESURFACED USING 1 1/4" 446 SURFACE COURSE, AS PER PLAN ON 1 3/4" 446 INTERMEDIATE COURSE, AND 407 TACK COAT.
- PAVEMENT PROFILE TRANSITION AREA, SEE DETAIL ON SHEET NO. 9.
- TAPER AREA, SEE TAPER EDGE FEATHER DETAIL ON SHEET NO. 9.

PPLAN108 1=20 2-16-95

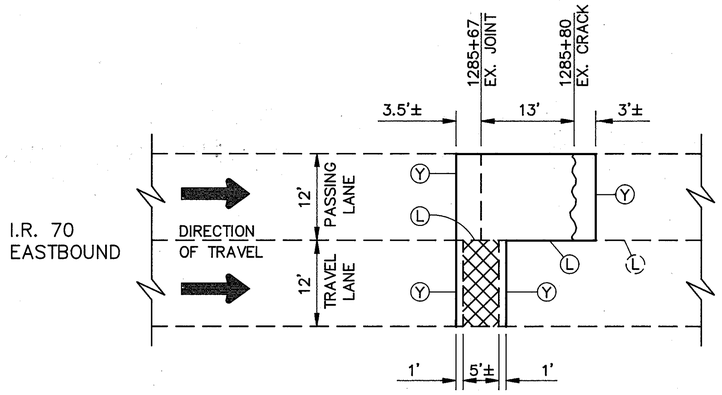
MARION STREET-PAVEMENT REPAIR

	BY	DATE	REGION	STATE	PROJECT		
Calculated	W.H.F.	12-93	5	OHIO			51/97
Checked	D.T.B.	7-94					

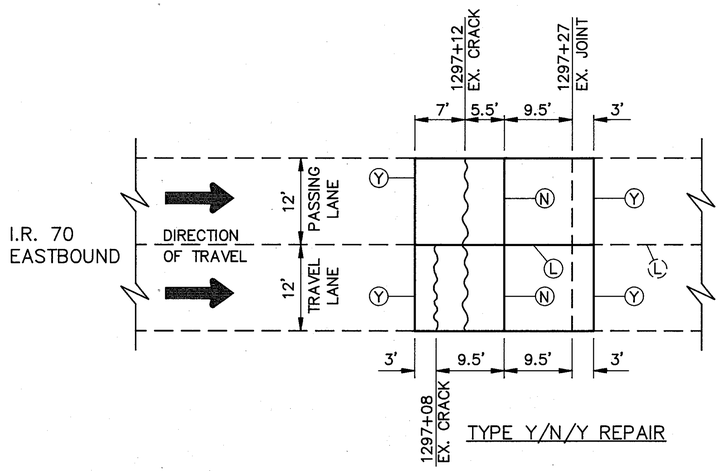
BEL-70-23.79

10 0 10
SCALE IN FEET

PAVEMENT REPAIR DETAILS



TYPE Y/Y REPAIR



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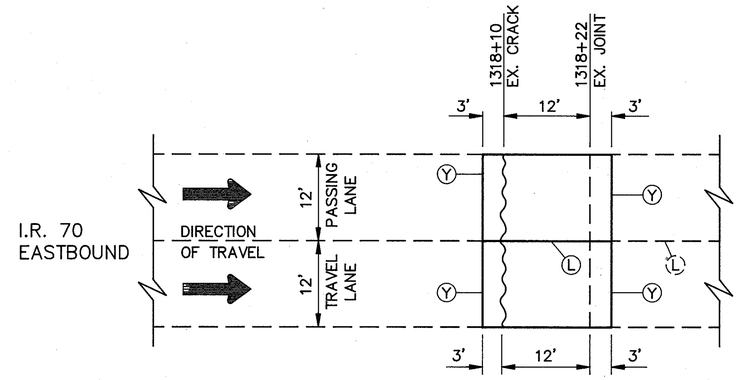
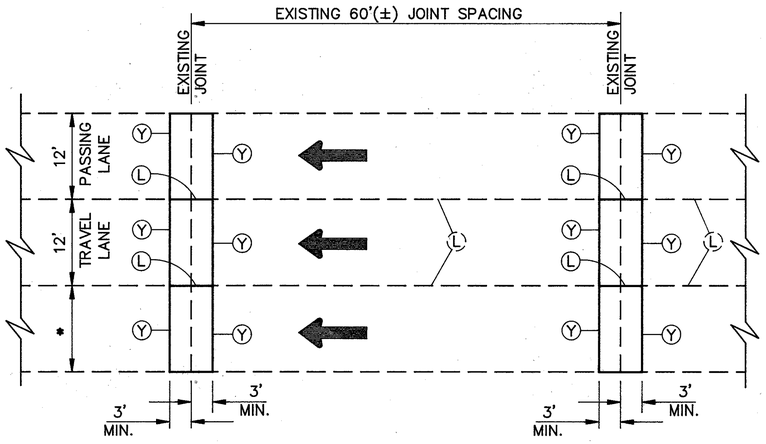
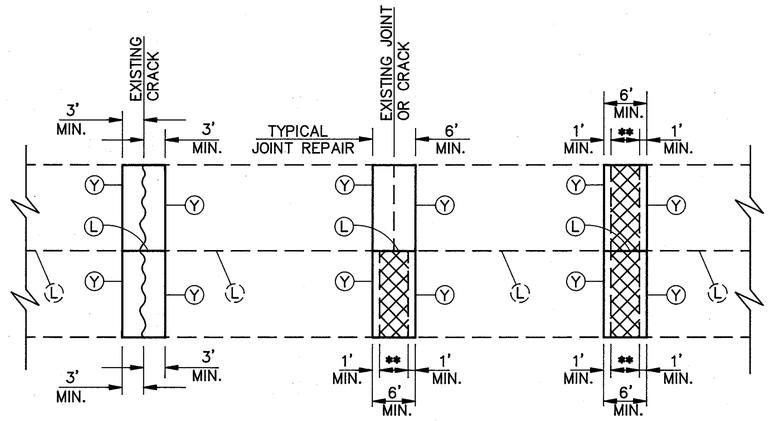


TYPE Y/Y REPAIR



JOINT REPAIR



CRACK REPAIR

JOINT REPAIR
WITH EXISTING
FLEXIBLE PATCH
IN ONE LANE

EXISTING
FLEXIBLE PATCH
IN BOTH LANES

JOINT TYPE LEGEND	
Ⓨ	TYPE Y – CONTRACTION
Ⓝ	TYPE N – CONTRACTION
Ⓛ	LONGITUDINAL JOINT
(Ⓛ)	EXISTING LONGITUDINAL JOINT

FOR ADDITIONAL DETAILS AND NOTES, SEE STANDARD CONSTRUCTION DRAWING BP-2.5.

FOR QUANTITIES, SEE SHEET NO. 52-52A .

** 12' TRUCK LANE OR VARIABLE WIDTH SPEED CHANGE LANE, WHERE PRESENT.*

*** VARIES FROM 3' TO 20'.*

EXISTING FULL DEPTH FLEXIBLE PATCH

SPECIFIC CRACK REPAIR AREAS

DIRECTION	STENCIL STATION	PASSING LANE	TRAVEL LANE	TRUCK LANE	SPEED CHANGE LANE
EB	1262+95	X	X		
EB	1305+87		X		
EB	1317+98	X	X		
EB	337+24				X
WB	345+10	X	X		
WB	338+57	X	X		
WB	1394+10	X			
WB	1356+61	X			
WB	1286+92			X	

X – DENOTES TYPICAL 6' LONG PATCH

REPLOTTED 1=10 09-22-94

PAVEMENT REPAIR QUANTITIES

	BY	DATE	REGION	STATE	PROJECT		
Calculated	W.H.F.	01/94	5	OHIO			
Checked	D.T.B.	07/94					

52/97

BEL-70-23.79

(QUANTITIES CARRIED TO SHEET No. 22 & 23)

1. TRANSVERSE JOINT CALCULATIONS

A) MAINLINE

EASTBOUND

STA. 1261+05.00 TO STA. 1339+48.48 BK. = 7,843.48
= 1339+57.48 AH.
STA. 1339+57.48 TO STA. 1394+21.90 BK. = 5,464.42
= 330+00.00 AH.
STA. 330+00.00 TO STA. 363+65.98 = 3,365.98

DEDUCT FOR BRIDGES AND APPROACH SLABS
BRIDGE NO. BEL-70-2544, RT: 124.52' + 50' = 174.52
BRIDGE NO. BEL-70-2576, RT: 688.82' + 50' = 738.82
BRIDGE NO. BEL-70-2684, RT: 620.48' + 25' = 645.48

NET PAVEMENT LENGTH:
(7,843.48+5,464.42+3,365.98-174.52-738.82-645.48) = 15,115.06 L.F.

WESTBOUND

STA. 1261+05.00 TO STA. 1339+48.48 BK. = 7,843.48
= 1339+57.48 AH.
STA. 1339+57.48 TO STA. 1394+21.90 BK. = 5,464.42
= 330+00.00 AH.
STA. 330+00.00 TO STA. 363+65.98 = 3,365.98

DEDUCT FOR BRIDGES AND APPROACH SLABS
BRIDGE NO. BEL-70-2544, RT: 124.52' + 50' = 174.52
BRIDGE NO. BEL-70-2576, RT: 715.04' + 50' = 765.04
BRIDGE NO. BEL-70-2684, RT: 620.48' + 25' = 645.48
DEDUCT FOR FULL-DEPTH RECONSTRUCTION
STA. 1384+65.00 TO STA. 1388+75.00 = 410.00
STA. 341+00.00 TO STA. 352+00.00 = 1,100.00

NET PAVEMENT LENGTH:
(7,843.48+5,464.42+3,365.98-174.52-765.04-645.48
-410.00-1,100.00) = 13,578.84 L.F.

NET EASTBOUND + NET WESTBOUND:
15,115.06 + 13,578.84 = 28,693.90 L.F.
TOTAL = (28,693.90/60) + 10 = 514 JOINTS OF 24' WIDTH

B) TRUCK LANE

STA. 1261+05.00 TO STA. 1317+00.00 = 5,595.00
TOTAL = (5,595.00/60) + 2 = 95 JOINTS OF 12' WIDTH

STA. 1317+00.00 TO STA. 1318+50.00 = 150.00
TOTAL = (150.00 x 1/60) = 3 JOINTS OF AVG. 6' WIDTH

C) RAMPS

A 8+90.42 TO A 10+08.24 = 117.87' AVG. 16' WIDTH

B 38+59.50 TO B 39+59.50 = 100.00' AVG. 16.35' WIDTH
B 39+59.50 TO B 40+59.50 = 100.00' AVG. 15' WIDTH
B 40+59.50 TO B 41+36.97 = 77.47' AVG. 16' WIDTH
B 41+36.97 TO B 46+36.15 = 499.18' AVG. 16' WIDTH
B 46+36.15 TO B 46+96.15 = 60.00' AVG. 36' WIDTH

C 47+00.88 TO C 47+60.88 = 60.00' AVG. 36' WIDTH
C 47+60.88 TO C 49+54.88 = 194.00' AVG. 24' WIDTH
C 49+54.88 TO C 51+27.31 = 172.43' AVG. 20' WIDTH
C 51+27.31 TO C 52+14.81 = 87.50' AVG. 16' WIDTH
C 52+14.81 TO C 54+00.00 = 185.19' AVG. 17' WIDTH

D 51+57.76 TO D 53+00.00 = 142.24' AVG. 14' WIDTH
D 53+00.00 TO D 54+00.00 = 100.00' AVG. 15.25' WIDTH

14' WIDTH: 142.24'
15' WIDTH: 100.00'
15.25' WIDTH: 100.00'
16' WIDTH: (117.87+77.47+499.18+87.50) = 782.02'
16.35' WIDTH: 100.00'
17' WIDTH: 185.19'
20' WIDTH: 172.43'
24' WIDTH: 194.00'
36' WIDTH: (60.00+60.00) = 120.00'

(142.24'x1/60)+1 = 4 JOINTS OF 14' WIDTH
(100.00'x1/60)+1 = 3 JOINTS OF 15' WIDTH
(100.00'x1/60)+1 = 3 JOINTS OF 15.25' WIDTH
(782.02'x1/60)+4 = 17 JOINTS OF 16' WIDTH
(100.00'x1/60)+1 = 3 JOINTS OF 16.35' WIDTH
(185.19'x1/60)+1 = 4 JOINTS OF 17' WIDTH
(172.43'x1/60)+1 = 4 JOINTS OF 20' WIDTH
(194.00'x1/60)+1 = 5 JOINTS OF 24' WIDTH
(120.00'x1/60)+2 = 4 JOINTS OF 36' WIDTH

D) SPEED CHANGE LANES

A 1+00.00 TO A 2+00.00 = 100.00' AVG. 6' WIDTH
A 2+00.00 TO A 4+29.04 = 229.04' AVG. 12' WIDTH
A 4+29.04 TO A 8+90.42 = 461.38' AVG. 22' WIDTH
B 30+00.00 TO B 38+59.50 = 859.50' AVG. 12.5' WIDTH
C 54+00.00 TO C 57+20.50 = 320.50' AVG. 17.5' WIDTH
D 54+00.00 TO D 57+20.50 = 320.50' AVG. 20.5' WIDTH

(100.00'x1/60)+1 = 3 JOINTS OF 6' WIDTH
(229.04'x1/60)+1 = 5 JOINTS OF 12' WIDTH
(859.50'x1/60)+1 = 16 JOINTS OF 12.5' WIDTH
(320.50'x1/60)+1 = 7 JOINTS OF 17.5' WIDTH
(320.50'x1/60)+1 = 7 JOINTS OF 20.5' WIDTH
(461.38'x1/60)+1 = 9 JOINTS OF 22' WIDTH

E) MARION STREET

4 JOINTS OF 14' WIDTH
1 JOINT OF 17' WIDTH
1 JOINT OF 21 WIDTH
3 JOINTS OF 13' WIDTH
1 JOINT OF 15' WIDTH
1 JOINT OF 26' WIDTH

2. FULL DEPTH PAVEMENT REPAIR

A) TRANSVERSE JOINTS

(514 JOINTS x 24.0')+(95 JOINTS x 12')+(3 JOINTS x 6')+
(4 JOINTS x 14')+(3 JOINTS x 15')+(3 JOINTS x 15.25') +
(17 JOINTS x 16')+(3 JOINTS x 16.35')+(4 JOINTS x 17') +
(4 JOINTS x 20')+(5 JOINTS x 24')+(4 JOINTS x 36') +
(3 JOINTS x 6')+(5 JOINTS x 12')+(16 JOINTS x 12.5') +
(7 JOINTS x 17.5')+(7 JOINTS x 20.5')+(9 JOINTS x 22') +
(5 JOINTS x 52.0')+(4 JOINTS x 28.0')+(1 JOINT x 27.0') +
(1 JOINT x 40.0') = 15,474.8 L.F.

15,474.8' x 6' PATCH LENGTH x 1/9 = 10,316.5 S.Y.
USE 10,317 S.Y.

B) AREA TO REPLACE THE EXISTING FULL DEPTH FLEXIBLE PATCHES

FOR REFERENCE ONLY

	EX. PATCH LENGTH	REPAIR LENGTH	x QUANTITY	x WIDTH	= AREA (S.F.)
MAINLINE	3'	6'	10	24'	1,440
	4'	6'	47	24'	6,768
	5'	7'	88	24'	14,784
	6'	8'	125	24'	24,000
	7'	9'	37	24'	7,992
	8'	10'	36	24'	8,640
	10'	12'	20	24'	5,760
	12'	14'	6	24'	2,016
	14'	16'	4	24'	1,536
	20'	22'	1	24'	528
				SUM AREA =	73,464 S.F.
				73,464 x (1/9) =	8,162.67 S.Y.
SPEED CHANGE LANES	4'	6'	1	16'	96
	4'	6'	1	17'	102
	5'	7'	1	3'	21
	5'	7'	1	12'	84
	5'	7'	2	16'	224
	6'	8'	1	16'	128
	8'	10'	1	16'	160
				SUM AREA =	815 S.F.
				815 x (1/9) =	90.56 S.Y.
TRUCK LANE	4'	6'	1	12'	72
	5'	7'	17	12'	1,428
	6'	8'	22	12'	2,112
	7'	9'	3	12'	324
	8'	10	3	12'	360
	10'	12'	3	12'	432
	12'	14'	3	12'	504
				SUM AREA =	5,232 S.F.
				5,232 x (1/9) =	581.33 S.Y.

NOTE: THE FULL DEPTH FLEXIBLE PATCHES HAVE BEEN INCLUDED IN SECTION 2A, TRANSVERSE JOINTS, FULL DEPTH PAVEMENT REPAIR.

3. ITEM 255 - FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS C

(A 15% INCREASE IS ADDED TO PROVIDE FOR FURTHER DETERIORATION WHICH MAY OCCUR BETWEEN THE TIME OF INSPECTION AND THE TIME OF CONSTRUCTION.)

A) MAINLINE: (514 JOINTS) x 24.0' WIDE x 6.0' LONG x 1/9 x 1.15 = 9457.6 S.Y.
B) TRUCK LANE: (95 JOINTS) x 12.0' WIDE x 6.0' LONG x 1/9 x 1.15 = 874 S.Y.
(3 JOINTS) x 6.0' WIDE x 6.0' LONG x 1/9 x 1.15 = 13.8 S.Y.
C) SPECIFIC PAVEMENT CRACK REPAIR AREAS FROM SHEET NO. 51
STA. 1285+63.5 TO 1285+70.5 = 12.0' WIDE x 7.0' LONG x 1/9 = 9.33 S.Y.
STA. 1285+63.5 TO 1285+83.0 = 12.0' WIDE x 19.5' LONG x 1/9 = 26 S.Y.
STA. 1297+05 TO 1297+30 = 24.0' WIDE x 25.0' LONG x 1/9 = 66.67 S.Y.
STA. 1318+07 TO 1318+25 = 24.0' WIDE x 18.0' LONG x 1/9 = 48 S.Y.
STA. 1262+95 = 24.0' WIDE x 6.0' LONG x 1/9 = 16 S.Y.
STA. 1305+87 = 12.0' WIDE x 6.0' LONG x 1/9 = 8 S.Y.
STA. 1317+98 = 24.0' WIDE x 6.0' LONG x 1/9 = 8 S.Y.
STA. 337+24 = 12.0' WIDE x 6.0' LONG x 1/9 = 8 S.Y.
STA. 345+10 = 24.0' WIDE x 6.0' LONG x 1/9 = 16 S.Y.
STA. 338+57 = 24.0' WIDE x 6.0' LONG x 1/9 = 16 S.Y.
STA. 1394+10 = 12.0' WIDE x 6.0' LONG x 1/9 = 8 S.Y.
STA. 1356+61 = 12.0' WIDE x 6.0' LONG x 1/9 = 8 S.Y.
STA. 1286+92 = 12.0' WIDE x 6.0' LONG x 1/9 = 8 S.Y.
TOTAL = 10,591.4 S.Y. USE 10,591 S.Y.

4. ITEM 255 - FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS FS

(A 15% INCREASE IS ADDED TO PROVIDE FOR FURTHER DETERIORATION WHICH MAY OCCUR BETWEEN THE TIME OF INSPECTION AND THE TIME OF CONSTRUCTION.)

A) RAMPS: (4 JOINTS) x 14.0' WIDE x 6.0' LONG x 1/9 x 1.15 = 42.9 S.Y.
(3 JOINTS) x 15.0' WIDE x 6.0' LONG x 1/9 x 1.15 = 34.5 S.Y.
(3 JOINTS) x 15.25' WIDE x 6.0' LONG x 1/9 x 1.15 = 35.1 S.Y.
(17 JOINTS) x 16.0' WIDE x 6.0' LONG x 1/9 x 1.15 = 208.5 S.Y.
(3 JOINTS) x 16.35' WIDE x 6.0' LONG x 1/9 x 1.15 = 37.6 S.Y.
(4 JOINTS) x 17.0' WIDE x 6.0' LONG x 1/9 x 1.15 = 52.1 S.Y.
(4 JOINTS) x 20.0' WIDE x 6.0' LONG x 1/9 x 1.15 = 61.3 S.Y.
(5 JOINTS) x 24.0' WIDE x 6.0' LONG x 1/9 x 1.15 = 92 S.Y.
(4 JOINTS) x 36.0' WIDE x 6.0' LONG x 1/9 x 1.15 = 110.4 S.Y.
B) SPEED CHANGE LANES: (3 JOINTS) x 6.0' WIDE x 6.0' LONG x 1/9 = 13.8 S.Y.
(5 JOINTS) x 12.0' WIDE x 6.0' LONG x 1/9 x 1.15 = 46 S.Y.
(16 JOINTS) x 12.5' WIDE x 6.0' LONG x 1/9 x 1.15 = 153.3 S.Y.
(7 JOINTS) x 17.5' WIDE x 6.0' LONG x 1/9 x 1.15 = 93.9 S.Y.
(7 JOINTS) x 20.5' WIDE x 6.0' LONG x 1/9 x 1.15 = 110 S.Y.
(9 JOINTS) x 22.0' WIDE x 6.0' LONG x 1/9 x 1.15 = 151.8 S.Y.
C) MARION STREET: (2 JOINTS) x 14.0' WIDE x 6.0' LONG x 1/9 = 18.7 S.Y.
(1 JOINT) x 19.0' WIDE x 8.0' LONG x 1/9 = 16.9 S.Y.
(1 JOINT) x 13.0' WIDE x 6.0' LONG x 1/9 = 8.7 S.Y.
(1 JOINT) x 28.0' WIDE x 13.0' LONG x 1/9 = 40.4 S.Y.
(1 JOINT) x 28.0' WIDE x 14.0' LONG x 1/9 = 43.6 S.Y.
TOTAL = 1,371.5 S.Y. USE 1,372 S.Y.

5. ITEM SPECIAL - LONGITUDINAL JOINT CLEANING AND SEALING, 705.04

(SEE NOTE IN PROPOSAL)

A) LONGITUDINAL JOINT IN CENTER OF 24' PAVEMENT: TOTAL LENGTH FROM NO. 1A = 28,693.90 L.F.
B) LONGITUDINAL JOINT BETWEEN MAINLINE AND TRUCK LANE: TOTAL LENGTH FROM NO. 1B = 5,745.00 L.F.
C) LONGITUDINAL JOINT IN CENTER OF RAMP:
RAMP"A" A8+90.42 TO A10+08.29 = 117.87 L.F.
RAMP"B" B38+59.50 TO B46+96.15 = 836.65 L.F.
RAMP"C" C47+00.88 TO C53+14.81 = 613.93 L.F.
RAMP"D" D51+57.76 TO D54+00.00 = 242.24 L.F.
D) LONGITUDINAL JOINT AT SPEED CHANGE LANES:
RAMP"A" A1+00.00 TO A8+90.42 = 790.42 L.F.
A5+55.15 TO A8+90.42 = 335.27 L.F.
A7+63.57 TO A8+90.42 = 126.85 L.F.
RAMP"B" B30+00.00 TO B38+59.50 = 859.50 L.F.
B35+75.00 TO B38+59.50 = 284.50 L.F.
RAMP"C" C53+14.01 TO C57+00.00 = 385.19 L.F.
C57+00.00 TO 357+20.50 = 20.50 L.F.
C53+14.81 TO C53+71.85 = 57.04 L.F.
C53+14.81 TO C54+98.58 = 183.77 L.F.
RAMP"D" D54+00.00 TO D57+20.50 = 320.50 L.F.
D54+00.00 TO D57+20.50 = 320.50 L.F.
E) DEDUCT JOINTS SEALED AS PART OF FULL DEPTH PAVEMENT REPAIRS:
TOTAL AMOUNT OF REPAIR JOINTS = 709 JOINTS x 6.0' = 4,254 L.F.
TOTAL = (39,933.63' - 4,254') = 35,679.63 L.F.

ITEM SPECIAL - LONGITUDINAL JOINT CLEANING AND SEALING, CLASS V, 705.04
35,679.63' x 0.85 = 30,327.7 L.F. USE 30,330 L.F.

ITEM SPECIAL - LONGITUDINAL JOINT CLEANING AND SEALING, CLASS VI, 705.04
35,679.63' x 0.15 = 5,351.9 L.F. USE 5,350 L.F.

PAVEMENT REPAIR QUANTITIES

(QUANTITIES CARRIED TO SHEET No. 22 & 23)

	BY DATE	REGION	STATE	PROJECT	
Calculated	W.H.F. 01/94	5	OHIO		
Checked	D.T.B. 07/94				

52A
97

BEL-70-23.79

6. ITEM SPECIAL – SAWING AND SEALING ASPHALT CONCRETE PAVEMENT JOINTS, 705.04
(SEE NOTE IN PROPOSAL AND GENERAL NOTE ON SHEET NO. 12)

TRANSVERSE JOINTS, MAINLINE
(514 JOINTS) x 24.0' WIDE + (416 JOINTS) x 10.0' WIDE + (514 JOINTS) x 6.0' WIDE = 19,580 L.F.

TRANSVERSE JOINTS, TRUCK LANE
(95 JOINTS) x 12.0' WIDE + (95 JOINTS) x 6.0' WIDE = 1,710 L.F.
(3 JOINTS) x 6.0' WIDE + (3 JOINTS) x 6.0' WIDE = 36 L.F.

TRANSVERSE JOINTS, RAMPS
(4 JOINTS) x 14.0' WIDE + (4 JOINTS) x 6.0' WIDE + (4 JOINTS) x 3.0' WIDE = 92 L.F.
(3 JOINTS) x 15.0' WIDE + (3 JOINTS) x 6.0' WIDE + (3 JOINTS) x 3.0' WIDE = 72 L.F.
(3 JOINTS) x 15.25' WIDE + (3 JOINTS) x 6.0' WIDE + (3 JOINTS) x 3.0' WIDE = 72.75 L.F.
(17 JOINTS) x 16.0' WIDE + (17 JOINTS) x 6.0' WIDE + (17 JOINTS) x 3.0' WIDE = 425 L.F.
(3 JOINTS) x 16.35' WIDE + (3 JOINTS) x 6.0' WIDE + (3 JOINTS) x 3.0' WIDE = 76.05 L.F.
(4 JOINTS) x 17.0' WIDE + (4 JOINTS) x 6.0' WIDE + (4 JOINTS) x 3.0' WIDE = 104 L.F.
(4 JOINTS) x 20.0' WIDE + (4 JOINTS) x 6.0' WIDE + (4 JOINTS) x 3.0' WIDE = 116 L.F.
(5 JOINTS) x 24.0' WIDE + (5 JOINTS) x 6.0' WIDE + (5 JOINTS) x 3.0' WIDE = 165 L.F.
(4 JOINTS) x 36.0' WIDE + (4 JOINTS) x 6.0' WIDE + (4 JOINTS) x 3.0' WIDE = 180 L.F.

TRANSVERSE JOINTS, SPEED CHANGE LANE
(3 JOINTS) x 6.0' WIDE + (3 JOINTS) x 10.0' WIDE = 48 L.F.
(5 JOINTS) x 12.0' WIDE + (5 JOINTS) x 10.0' WIDE = 110 L.F.
(16 JOINTS) x 12.5' WIDE + (16 JOINTS) x 10.0' WIDE = 360 L.F.
(7 JOINTS) x 17.5' WIDE + (7 JOINTS) x 10.0' WIDE = 192.5 L.F.
(7 JOINTS) x 20.5' WIDE + (7 JOINTS) x 10.0' WIDE = 213.5 L.F.
(9 JOINTS) x 22.0' WIDE + (9 JOINTS) x 10.0' WIDE = 288 L.F.

CONTRACTION JOINTS, (SEE SHEET NO. 51)
STA. 1285+63.5 = (1 JOINT) x 24.0' WIDE + (1 JOINT) x 10.0' WIDE + (1 JOINT) x 6.0' WIDE = 40 L.F.
STA. 1285+70.5 = (1 JOINT) x 12.0' WIDE + (1 JOINT) x 10.0' WIDE = 22 L.F.
STA. 1285+83.0 = (1 JOINT) x 12.0' WIDE + (1 JOINT) x 6.0' WIDEE = 18 L.F.
STA. 1297+05.0 = (1 JOINT) x 24.0' WIDE + (1 JOINT) x 10.0' WIDE + (1 JOINT) x 6.0' WIDE = 40 L.F.
STA. 1297+17.5 = (1 JOINT) x 24.0' WIDE + (1 JOINT) x 10.0' WIDE + (1 JOINT) x 6.0' WIDE = 40 L.F.
STA. 1297+30.0 = (1 JOINT) x 24.0' WIDE + (1 JOINT) x 10.0' WIDE + (1 JOINT) x 6.0' WIDE = 40 L.F.
STA. 1318+07.0 = (1 JOINT) x 24.0' WIDE + (1 JOINT) x 10.0' WIDE + (1 JOINT) x 6.0' WIDE = 40 L.F.
STA. 1218+25.0 = (1 JOINT) x 24.0' WIDE + (1 JOINT) x 10.0' WIDE + (1 JOINT) x 6.0' WIDE = 40 L.F.

TOTAL = 24,120.80 L.F. USE 24,121 L.F.

7. ITEM 251 – PARTIAL DEPTH PAVEMENT REPAIR
(ESTIMATED 10% OF THE MAINLINE PAVEMENT AREA)
(MAINLINE + SPEED CHANGE LANES) x 0.10 = PARTIAL DEPTH PAV'T REPAIR
(8,224 S.Y. + 760 S.Y.) x 0.10 = 898.4 S.Y

MARION STREET
STA. 10+10 TO 11+29 = 119 L.F. x 2' WIDTH x 1/9 = 26.4 S.Y.

TOTAL = (898.4 + 26.4) = 924.8 S.Y. USE 925 S.Y.

8. FABRIC REINFORCEMENT
(THIS ITEM SHALL BE PAID FOR UNDER ITEM 255 – FULL DEPTH RIGID PAVEMENT REMOVAL AND REPLACEMENT, CLASS C AND IS SHOWN HERE FOR REFERENCE ONLY)

MAINLINE

PATCH LENGTH	x QUANTITY	x WIDTH	= AREA (S.F.)
10'	20	24'	4,800
12'	6	24'	1,728
14'	4	24'	1,344
20'	1	24'	480
19.5'	1	12'	234
25'	1	24'	600
18'	1	24'	432

SUM AREA = 9,618 S.F.

TRUCK LANE

PATCH LENGTH	x QUANTITY	x WIDTH	= AREA (S.F.)
10'	3	12'	360
12'	3	12'	432

SUM AREA = 792 S.F.

MARION STREET

PATCH LENGTH	x QUANTITY	x WIDTH	= AREA (S.F.)
28'	2	13'	728

SUM AREA = 728 S.F.

TOTAL AREA = (9,618 + 792 + 728) = 11,138 S.F.

9. ITEM 255 – FULL DEPTH PAVEMENT SAWING
(A 15% INCREASE IS ADDED TO PROVIDE FOR FURTHER DETERIORATION WHICH MAY OCCUR BETWEEN THE TIME OF INSPECTION AND THE TIME OF CONSTRUCTION.)

TRANSVERSE JOINTS, MAINLINE
(514 JOINTS) x 24.0' WIDE x 2 x 1.15 = 28,372.8 L.F.

TRANSVERSE JOINTS, TRUCK LANE
(95 JOINTS) x 12.0' WIDE x 2 x 1.15 = 2,622 L.F.
(3 JOINTS) x 6.0' WIDE x 2 x 1.15 = 41.4 L.F.

TRANSVERSE JOINTS, RAMPS
(4 JOINTS) x 14.0' WIDE x 2 x 1.15 = 128.8 L.F.
(3 JOINTS) x 15.0' WIDE x 2 x 1.15 = 103.5 L.F.
(3 JOINTS) x 15.25' WIDE x 2 x 1.15 = 105.2 L.F.
(17 JOINTS) x 16.0' WIDE x 2 x 1.15 = 625.6 L.F.
(3 JOINTS) x 16.35' WIDE x 2 x 1.15 = 112.8 L.F.
(4 JOINTS) x 17.0' WIDE x 2 x 1.15 = 156.4 L.F.
(4 JOINTS) x 20.0' WIDE x 2 x 1.15 = 184 L.F.
(5 JOINTS) x 24.0' WIDE x 2 x 1.15 = 276 L.F.
(4 JOINTS) x 36.0' WIDE x 2 x 1.15 = 331.2 L.F.

TRANSVERSE JOINTS, SPEED CHANGE LANE
(3 JOINTS) x 6.0' WIDE x 2 x 1.15 = 41.4 L.F.
(5 JOINTS) x 12.0' WIDE x 2 x 1.15 = 138 L.F.
(16 JOINTS) x 12.5' WIDE x 2 x 1.15 = 460 L.F.
(7 JOINTS) x 17.5' WIDE x 2 x 1.15 = 281.8 L.F.
(7 JOINTS) x 20.5' WIDE x 2 x 1.15 = 330.1 L.F.
(9 JOINTS) x 22.0' WIDE x 2 x 1.15 = 455.4 L.F.

TRANSVERSE JOINTS, MARION STREET
(1 JOINT) x 21.0' WIDE = 21 L.F.
(4 JOINTS) x 14.0' WIDE = 56 L.F.
(1 JOINT) x 17.0' WIDE = 17 L.F.
(3 JOINTS) x 13.0' WIDE = 36 L.F.
(1 JOINT) x 26.0' WIDE = 26 L.F.
(1 JOINT) x 15.0' WIDE = 15 L.F.

TRANSVERSE JOINTS, SPECIFIC CRACK AREAS (FROM SHEET NO. 51)
(7 JOINTS) x 12.0' WIDE = 84 L.F.
(10 JOINTS) x 24.0' WIDE = 240 L.F.

LONGITUDINAL JOINTS, MAINLINE
(514 JOINTS) x 6.0' LONG x 1.15 = 3,546.6 L.F.

LONGITUDINAL JOINTS, TRUCK LANE
(95 JOINTS) x 6.0' LONG x 1.15 = 655.5 L.F.
(3 JOINTS) x 6.0' LONG x 1.15 = 20.7 L.F.

LONGITUDINAL JOINTS, RAMPS
(4 JOINTS) x 6.0' LONG x 1.15 = 27.6 L.F.
(3 JOINTS) x 6.0' LONG x 1.15 = 20.7 L.F.
(3 JOINTS) x 6.0' LONG x 1.15 = 20.7 L.F.
(17 JOINTS) x 6.0' LONG x 1.15 = 117.3 L.F.
(3 JOINTS) x 6.0' LONG x 1.15 = 20.7 L.F.
(4 JOINTS) x 6.0' LONG x 1.15 = 27.6 L.F.
(4 JOINTS) x 6.0' LONG x 1.15 = 27.6 L.F.
(5 JOINTS) x 6.0' LONG x 1.15 = 34.5 L.F.
(4 JOINTS) x 6.0' LONG x 1.15 = 27.6 L.F.

LONGITUDINAL JOINTS, SPEED CHANGE LANE
(3 JOINTS) x 6.0' LONG x 1.15 = 20.7 L.F.
(5 JOINTS) x 6.0' LONG x 1.15 = 34.5 L.F.
(16 JOINTS) x 6.0' LONG x 1.15 = 110.4 L.F.
(7 JOINTS) x 6.0' LONG x 1.15 = 48.3 L.F.
(7 JOINTS) x 6.0' LONG x 1.15 = 48.3 L.F.
(9 JOINTS) x 6.0' LONG x 1.15 = 62.1 L.F.

LONGITUDINAL JOINTS, MARION STREET
(3 JOINTS) x 6.0' LONG = 18 L.F.
(1 JOINT) x 25.0' LONG = 25 L.F.
(1 JOINT) x 8.0' LONG = 8 L.F.
(2 JOINT) x 28.0' LONG = 56 L.F.

LONGITUDINAL JOINTS, SPECIFIC CRACK AREAS (FROM SHEET NO. 51)
(1 JOINT) x 7.0' LONG = 7 L.F.
(1 JOINT) x 12.5' LONG = 12.5 L.F.
(1 JOINT) x 25.0' LONG = 25 L.F.
(1 JOINT) x 18.0' LONG = 18 L.F.
(9 JOINTS) x 6.0' LONG = 54 L.F.

TOTAL = 40,356.3 L.F. USE 40,356 L.F.

10. ITEM 203 – EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION
(ESTIMATED 10% OF MAINLINE PAVEMENT REPAIR AREA)
(SEE NOTE IN PROPOSAL AND SUBBASE/SUBGRADE FAILURES NOTE ON SHEET No. 12 .)

TRANSVERSE JOINT
A) MAINLINE: (514 JOINTS) x 0.10 = 51.4 USE 52 JOINTS @ 24.0' WIDTH
24.0' WIDE x 6.0' LONG x 0.5' DEEP x 1/27 = 2.7 C.Y. PER JOINT
52 JOINTS x 2.7 C.Y. = 140.4 C.Y.
B) TRUCK LANE: (95 JOINTS) x 0.10 = 9.5 USE 10 JOINTS @ 12.0' WIDTH
12.0' WIDE x 6.0' LONG x 0.5' DEEP x 1/27 = 1.33 C.Y. PER JOINT
10 JOINTS x 1.33 C.Y. = 13.3 C.Y.
TRUCK LANE: (3 JOINTS) x 0.10 = 0.3 USE 1 JOINTS @ 6.0' WIDTH
6.0' WIDE x 6.0' LONG x 0.5' DEEP x 1/27 = 0.67 C.Y. PER JOINT
1 JOINTS x 0.67 C.Y. = 0.67 C.Y.
C) SPECIFIC CRACK AREAS (FROM SHEET NO. 51)
12.0' WIDE x 7.0' LONG x 0.5' DEEP x 1/27 = 1.56 C.Y.
12.0' WIDE x 19.5' LONG x 0.5' DEEP x 1/27 = 4.33 C.Y.
24.0' WIDE x 25.0' LONG x 0.5' DEEP x 1/27 = 11.11 C.Y.
24.0' WIDE x 18.0' LONG x 0.5' DEEP x 1/27 = 8.0 C.Y.
(5) x 12.0' WIDE x 6.0' LONG x 0.5' DEEP x 1/27 = 6.67 C.Y.
(4) x 24.0' WIDE x 6.0' LONG x 0.5' DEEP x 1/27 = 10.67 C.Y.

TOTAL = 196.71 C.Y. USE 197 C.Y. *

11. ITEM 304 – AGGREGATE BASE
(ESTIMATED 10% OF MAINLINE PAVEMENT REPAIR AREA)
(SEE SUBBASE/SUBGRADE FAILURES NOTE ON SHEET No. 12 .)

TRANSVERSE JOINT
A) MAINLINE: (514 JOINTS) x 0.10 = 51.4 USE 52 JOINTS @ 24.0' WIDTH
24.0' WIDE x 6.0' LONG x 0.5' DEEP x 1/27 = 2.7 C.Y. PER JOINT
52 JOINTS x 2.7 C.Y. = 140.4 C.Y.
B) TRUCK LANE: (95 JOINTS) x 0.10 = 9.5 USE 10 JOINTS @ 12.0' WIDTH
12.0' WIDE x 6.0' LONG x 0.5' DEEP x 1/27 = 1.33 C.Y. PER JOINT
10 JOINTS x 1.33 C.Y. = 13.3 C.Y.
TRUCK LANE: (3 JOINTS) x 0.10 = 0.3 USE 1 JOINTS @ 6.0' WIDTH
6.0' WIDE x 6.0' LONG x 0.5' DEEP x 1/27 = 0.67 C.Y. PER JOINT
1 JOINTS x 0.67 C.Y. = 0.67 C.Y.
C) SPECIFIC CRACK AREAS (FROM SHEET NO. 51)
12.0' WIDE x 7.0' LONG x 0.5' DEEP x 1/27 = 1.56 C.Y.
12.0' WIDE x 19.5' LONG x 0.5' DEEP x 1/27 = 4.33 C.Y.
24.0' WIDE x 25.0' LONG x 0.5' DEEP x 1/27 = 11.11 C.Y.
24.0' WIDE x 18.0' LONG x 0.5' DEEP x 1/27 = 8.0 C.Y.
(5) x 12.0' WIDE x 6.0' LONG x 0.5' DEEP x 1/27 = 6.67 C.Y.
(4) x 24.0' WIDE x 6.0' LONG x 0.5' DEEP x 1/27 = 10.67 C.Y.

TOTAL = 196.71 C.Y. USE 197 C.Y. *

* TO BE USED AS DIRECTED BY THE ENGINEER

	DATE	REGION	STATE	PROJECT	
Calculated	W.H.F. 11-93				
Checked	D.T.B. 2-95	5	OHIO		

55
97

BEL-70-23.79

LIGHTING GENERAL NOTES

ITEM 202 - EXISTING CONDUIT CLEANED, AS PER PLAN:
THIS ITEM OF WORK SHALL CONSIST OF REMOVAL OF EXISTING CIRCUIT CABLE FROM CONDUIT SO THAT NEW CABLES CAN BE INSTALLED. THE MATERIALS REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR. PAYMENT WILL BE MADE FOR EACH FOOT OF CONDUIT CLEANED, AND SHALL INCLUDE CLEANING AND REMOVAL OF MUD AND DEBRIS FROM THE CONDUIT.

LIGHT POLE REMOVED FOR STORAGE, AS PER PLAN:
THIS ITEM OF WORK SHALL CONSIST OF REMOVING AN EXISTING LIGHT POLE, INCLUDING THE BRACKET AND TRANSFORMER BASE (IF USED), AND POLE & BRACKET CABLE. THE CONTRACTOR SHALL STORE THE POLES, BRACKETS AND TRANSFORMER BASES ON-SITE, AS DIRECTED BY THE ENGINEER, FOR RE-ERECTION.

PAYMENT WILL BE MADE AT THE UNIT PRICE BID FOR EACH ITEM 202 "LIGHT POLE REMOVED FOR STORAGE, AS PER PLAN."

LUMINAIRE REMOVED, AS PER PLAN:
THIS ITEM OF WORK SHALL CONSIST OF REMOVING THE EXISTING LUMINAIRES. THE LUMINAIRES SHALL BECOME THE PROPERTY OF THE CONTRACTOR TO BE DISPOSED OF OFF THE PROJECT SITE.

PAYMENT WILL BE MADE AT THE UNIT BID PRICE FOR EACH ITEM 202 "LUMINAIRE REMOVED, AS PER PLAN".

LUMINAIRE:
STYLE B LUMINAIRES SHALL BE RATED:

VOLT, WATT	LOCATION
120/240 VOLT, 250 WATT	MARION STREET
240/480 VOLT, 200 WATT	RAMPS
240/480 VOLT, 310 WATT	I-70 MEDIAN

WITH INTEGRAL REGULATOR BALLASTS FOR USE WITH HIGH PRESSURE SODIUM LAMPS AND SHALL BE GENERAL ELECTRIC M400, CROUSE HINDS OVM, AMERICAN 25/26, OR EQUAL APPROVED BY THE ENGINEER.

POLE IDENTIFICATION:
ALL LIGHT POLES THAT ARE TO BE REVISED AND RE-ERECTED, OR INSTALLED (ALTERNATE BID), SHALL BE RELABELED TO CORRESPOND TO THE POLE NUMBER SHOWN IN THE PLANS IF THE EXISTING POLE NUMBER DOES NOT MATCH THE PROPOSED NUMBER. RELABELING SHALL CONFORM TO 625.23.

THE COST OF THIS WORK SHALL BE INCIDENTAL TO THE ITEMS BID.

CIRCUIT IDENTIFICATION:
ALL EXISTING CIRCUITS THAT ARE TO REMAIN ACTIVE SHALL BE RETAGGED IF THE EXISTING CIRCUIT NUMBER DOES NOT CORRESPOND TO THE CIRCUIT IDENTIFICATION SHOWN IN THE PLAN. TAGGING SHALL CONFORM TO 625.14.

THE COST OF THIS WORK SHALL BE INCIDENTAL TO THE ITEMS BID.

LAMPS:
HIGH PRESSURE SODIUM LAMPS SHALL BE GENERAL ELECTRIC "LUCALOX", PHILLIPS "CERAMALUX", SYLVANIA "LUMALUX", OR APPROVED BY THE ENGINEER.

EXISTING SIGNS ATTACHED TO LIGHT POLES:
ALL EXISTING SIGNS, BRACKETS, AND RELATED HARDWARE ATTACHED TO THE EXISTING LIGHT POLES SHALL BE CAREFULLY REMOVED AND STORED ON SITE. THE EXISTING SIGNS, BRACKETS, AND HARDWARE SHALL BE REATTACHED TO THE RE-ERECTED LIGHT POLES.

THE COST OF THIS WORK SHALL BE INCIDENTAL TO THE ITEMS BID.

POWER SERVICE:
THE POWER SUPPLYING AGENCY FOR THIS PROJECT IS:

OHIO POWER COMPANY
301 CLEVELAND AVENUE S.W.
CANTON, OHIO 44701
(216) 438-7040

SERVICE: 120/240 VOLTS, 3-WIRE, GROUNDED NEUTRAL (BRIDGEPORT)
240/480 VOLTS, 3-WIRE, GROUNDED NEUTRAL (O.D.O.T.)

ELECTRICAL ENERGY FROM EXISTING POWER SERVICES SHALL CONTINUE TO BE CHARGED TO THE MAINTAINING AGENCY. THE CONTRACTOR SHALL PAY ELECTRICAL ENERGY CHARGES FOR NEW POWER SERVICES ESTABLISHED BY THIS PROJECT. AFTER ACCEPTANCE OF THE LIGHTING WORK, POWER SERVICE ELECTRICAL ENERGY ACCOUNTS SHALL BE TRANSFERRED TO THE MAINTAINING AGENCIES NOTED IN THE PLANS. THIS SHALL INCLUDE NEW POWER SERVICE ESTABLISHED BY THIS PROJECT AS WELL AS REASSIGNMENT OF EXISTING SERVICE DUE TO WORK PERFORMED BY THIS PROJECT.

REERECT EXISTING LIGHT POLE, AS PER PLAN:
THIS ITEM OF WORK SHALL CONSIST OF THE REERECTION OF AN EXISTING LIGHT POLE RETURNED TO THE PROJECT FROM STORAGE. THE POLE SHALL BE WASHED AND RESTORED TO WORKING ORDER BEFORE ERECTION. IF THE POLE IS OF PAINTED FINISH, IT SHALL BE SPOT PRIMED AND GIVEN ONE COAT OF FINISH PAINT. LUMINAIRE, POLE WIRING, CONNECTOR KITS, GROUND ROD, AND FOUNDATION SHALL BE PAID SEPARATELY. ANCHOR BOLTS SHALL BE INCIDENTAL TO THIS ITEM.

PAYMENT SHALL BE MADE FOR EACH ITEM 625 "REERECT EXISTING LIGHT POLE, AS PER PLAN."

HIGH VOLTAGE DIRECT CURRENT TEST:
A HIGH VOLTAGE DIRECT CURRENT TEST AS DESCRIBED IN THE SPECIFICATIONS SHALL BE PERFORMED.

PAYMENT FOR THIS TEST IS INCLUDED IN THE GENERAL SUMMARY.

PULL BOX REMOVED, AS PER PLAN:
THIS ITEM OF WORK WILL CONSIST OF REMOVING AN EXISTING PULL BOX WHICH SHALL THEN BE PROPERLY DISPOSED OF. THE RESULTANT OPENING SHALL THEN BE BACKFILLED TO GRADE WITH SUITABLE COMPACTED SOIL AND RESTORED TO MATCH THE SURROUNDING AREA.

PAYMENT WILL BE MADE FOR EACH ITEM 202 "PULL BOX REMOVED, AS PER PLAN."

PULL BOX REMOVED AND REPLACED, AS PER PLAN:
THIS ITEM OF WORK WILL CONSIST OF REMOVING AN EXISTING PULL BOX AND INSTALLING A CONCRETE PULL BOX IN THE SAME LOCATION. THE 24" CONCRETE PULL BOX SHALL BE INSTALLED PER STANDARD CONSTRUCTION DRAWING HL-30.11. THE EXISTING PULL BOX SHALL BE PROPERLY DISPOSED OF OFF SITE.

PAYMENT WILL BE MADE FOR EACH ITEM 202 "PULL BOX REMOVED AND REPLACED, AS PER PLAN."

LIGHT POLE FOUNDATION REMOVED, AS PER PLAN:
THIS ITEM OF WORK WILL CONSIST OF REMOVING AN EXISTING LIGHT POLE FOUNDATION TO A MINIMUM OF ONE FOOT BELOW FINISHED GRADE, BACKFILLING THE RESULTANT DEPRESSION WITH COMPACTED SOIL AND RESTORING THE DISTURBED AREA.

PAYMENT WILL BE MADE FOR EACH ITEM 202 "LIGHT POLE FOUNDATION REMOVED, AS PER PLAN."

ITEM 202 - REMOVAL MISC.: SIGNAL POLE:
THIS ITEM OF WORK WILL CONSIST OF REMOVING AN EXISTING SIGNAL POLE, FOUNDATION (AS REQUIRED), SIGNAL CABLE, CAPPING OF THE EXISTING CONDUIT, AND INSTALLING ANCHOR BOLT COVERS ON THE THE EXPOSED BOLTS AT THE FOLLOWING LOCATIONS:

STA. 6+09, 35' LT.
STA. 7+11, 34' RT.
STA. 9+19, 48' LT.

THE EXISTING CONCRETE FOUNDATION AT STA. 9+19, 48' RT. SHALL BE REMOVED PER THE REQUIREMENTS OF NOTE "LIGHT POLE FOUNDATION REMOVED, AS PER PLAN," ON THIS SHEET.

ALL EXISTING SIGNAL CONDUIT SHALL BE CLOSED WITH A CAPPED BUSHING OR OTHERWISE SEALED IN AN APPROVED MANNER TO COMPLETELY KEEP ALL MOISTURE AND FOREIGN MATTER OUT OF THE EXISTING CONDUIT.

ALL REMAINING BOLTS LEFT EXPOSED AT STA. 6+09, 35' LT. AND STA. 7+11, 34' RT. SHALL BE PROTECTED PER THE "ANCHOR BOLT COVER" DETAIL ON STANDARD CONSTRUCTION DRAWING DETAIL HL-10.13.

THE EXISTING SIGNAL CABLE CONNECTED TO THESE POLES AND FOUNDATIONS SHALL REMOVED.

ALL EXISTING SIGNAL POLES, SIGNAL POLE FOUNDATION, AND SIGNAL CABLE REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR TO BE DISPOSED OF OFF THE PROJECT SITE.

PAYMENT FOR ALL WORK DESCRIBED ABOVE WILL BE MADE AS FOLLOWS:

ITEM 202 - REMOVAL MISC.: SIGNAL POLE. . . . 3 EACH

THIS QUANTITY HAS BEEN CARRIED TO LIGHTING GENERAL SUMMARY SHEET.

ITEM 625 - POWER SERVICE, AS PER PLAN:
THIS ITEM OF WORK SHALL INCLUDE FURNISHING ALL EQUIPMENT AND MATERIALS NECESSARY TO PROVIDE AN ELECTRICAL SERVICE AND INSTALLING IT ON A NEW POWER POLE FOR CIRCUIT "A & B" AT THE MARION STREET INTERCHANGE. THE POWER POLE SHALL BE PART OF THIS PAY ITEM AND SHALL BE LOCATED ADJACENT TO THE EXISTING POWER SERVICE. SEE STANDARD CONSTRUCTION DRAWINGS HL-40.10 AND HL-60.31 FOR ADDITIONAL DETAILS AND NOTES. ALSO, SEE ADDITIONAL DETAILS ON SHEET No. 57 & 57A.

PAYMENT WILL BE MADE FOR EACH ITEM 625 "POWER SERVICE, AS PER PLAN."

ALTERNATE BID ITEMS:
THE FOLLOWING ITEMS SHALL BE INCLUDED WITH THE ALTERNATE BID:

{ ITEM 625 - LIGHT POLE, DESIGN AT10B34.2 (ALTERNATE BID)
ITEM 625 - LIGHT POLE, DESIGN AT15B34.2 (ALTERNATE BID)
ITEM 625 - LIGHT POLE, DESIGN A10BB40 (ALTERNATE BID) }

INCLUDED WITH EACH ALTERNATE BID ITEM LISTED ABOVE SHALL BE THE COST TO REMOVE THE EXISTING LIGHT POLE, INCLUDING THE BRACKET ARM AND TRANSFORMER BASE (IF USED), AND POLE & BRACKET CABLE. THE MATERIALS REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR TO BE DISPOSED OF OFF THE PROJECT SITE.

THE ABOVE LISTED THREE ALTERNATE BID ITEMS CONSTITUTE ONE ALTERNATE BID ITEM TO THE FOLLOWING GROUP OF ITEMS:

{ ITEM 202 - LIGHT POLE REMOVED FOR STORAGE, AS PER PLAN
ITEM 625 - REERECT EXISTING LIGHT POLE AS PER PLAN
ITEM 625 - LIGHTING MISC. LIGHT POLE PAINTED, AS PER PL }

LTGNOTE 1=1 2-23-95

LIGHTING GENERAL NOTES

	BY	DATE	REGION	STATE	PROJECT		
Calculated	W.H.F.	11-93	5	OHIO			
Checked	D.T.B.	12-94					

53A
97

BEL-70-23.79

ITEM 625 – LIGHTING MISC.: LIGHT POLE PAINTED, AS PER PLAN:
THE PAINTING OF LIGHT POLES SHALL BE A FIVE PART PROCESS CONSISTING OF A TWO PART SURFACE PREPARATION FOLLOWED BY A THREE COAT PAINT SYSTEM.

THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO COMPLY WITH POLLUTION LAWS, RULES OR REGULATIONS OF FEDERAL STATE OR LOCAL AGENCIES. THE MATERIALS AND WORK SPECIFIED CAN BE HAZARDOUS TO THE HEALTH OF THE APPLICATOR IF THE MANUFACTURER'S INSTRUCTIONS ARE NOT FOLLOWED. THE CONTRACTOR SHALL FOLLOW THE DATA SHEET AND THE LABEL ON THE PAINT CONTAINERS. THESE PRECAUTIONS SHALL INCLUDE THE USE OF RESPIRATORS AND EYE AND SKIN PROTECTION AS SPECIFIED. THE CONTRACTOR SHALL ALSO INSURE THAT HIS OPERATIONS AND LOCATIONS WILL NOT ENDANGER OR ADVERSELY AFFECT THE PUBLIC IN GENERAL. THE ENGINEER SHALL BE NOTIFIED 24 HOURS PRIOR TO ANY CLEANING OR COATING OPERATIONS SO THAT INSPECTION SERVICES CAN BE PROVIDED.

THE PROPOSED CLEANING AND COATING OPERATIONS SHALL BE PERFORMED ONLY WHEN THE AMBIENT TEMPERATURE IS 50 DEGREES F OR ABOVE.

THE TWO PART SURFACE PREPARATION SYSTEM SHALL CONSIST OF A SOLVENT CLEANING FOLLOWED BY AN ABRASIVE BLAST CLEANING.

SURFACE PREPARATION SHALL BE DONE UNDER THE CONDITIONS OF TEMPERATURE AND HUMIDITY SPECIFIED BY THE MANUFACTURER OF THE EPOXY–PRIME COAT MATERIAL TO BE APPLIED IMMEDIATELY AFTER THE PREPARATION OPERATIONS.

EXISTING, WEATHERED, GALVANIZED STEEL SHALL BE PREPARED FOR COATING BY A SOLVENT CLEANING CONFORMING TO SPECIFICATION SP–1 PUBLISHED BY THE STEEL STRUCTURES PAINTING COUNCIL (SSPC) FOLLOWED BY A COMMERCIAL BLAST CLEANING (SSPC–SP6).

NEW UNWEATHERED GALVANIZED STEEL SHALL BE PREPARED FOR COATING BY A SOLVENT CLEANING (SSPC–SP1) FOLLOWED BY A BRUSH–OFF BLAST CLEANING (SSPC–SP7).

THE PRIME COAT SHALL BE APPLIED BEFORE THE PREPARED SURFACE DEGRADES FROM THE PRESCRIBED STANDARDS. IN EVERY CASE, THE SURFACE SHALL BE COATED WITH EPOXY PRIME COAT ON THE SAME DAY AS THE SURFACE PREPARATION.

THE THREE COAT PAINT SYSTEM SHALL CONSIST OF AN EPOXY PRIME COAT, AN EPOXY INTERMEDIATE COAT AND A URETHANE TOP COAT, WITH EACH COAT BEING A DIFFERENT COLOR.

PAINT SHALL NOT BE APPLIED WHEN THE RELATIVE HUMIDITY IS GREATER THAN 85%. PAINT SHALL NOT BE APPLIED WHEN THE STEEL SURFACE TEMPERATURE IS LESS THAN 5 DEGREES F ABOVE THE DEW POINT. PAINT SHALL NOT BE APPLIED TO WET OR DAMP SURFACES; OR ON FROSTED OR ICE–COATED SURFACES; OR DURING RAIN, FOG, OR MIST.

BEFORE EACH COATING IS APPLIED, IT SHALL BE MIXED WITH AN APPROVED POWER MECHANICAL MIXER TO A UNIFORM CONSISTENCY WHICH SHALL BE MAINTAINED DURING ITS APPLICATION. THINNING OF PAINT IS STRICTLY PROHIBITED. PAINT NOT CAPABLE OF BEING APPLIED AS SPECIFIED SHALL NOT BE USED.

EACH COAT SHALL BE APPLIED IN A WORKMANLIKE MANNER AS A CONTINUOUS FILM OF UNIFORM THICKNESS WHICH IS FREE OF HOLIDAYS, PORES, RUNS, OR SAGS. ALL COATS SHALL BE APPLIED BY BRUSH. THE COATING SHALL PENETRATE ALL JOINTS AND CONNECTIONS.

THE PRIME COAT SHALL CONSIST OF THE APPLICATION OF ONE COAT OF AN EPOXY PRIMER. THE TOTAL DRY FILM THICKNESS OF THIS COAT SHALL BE BETWEEN 1.5 TO 2.0 MILS. IF MORE THAN ONE PASS IS NECESSARY TO OBTAIN THE REQUIRED THICKNESS, THE COST SHALL BE BORNE BY THE CONTRACTOR. THE COLOR OF THIS COAT SHALL BE NOTICEABLE DIFFERENT FROM THE BASE MATERIAL AND OTHER PROPOSED COATS.

THE EPOXY PRIME COAT SHALL IN ALL CASES BE APPLIED OVER SURFACES THAT WERE PREPARED EARLIER THAT SAME DAY.

THE INTERMEDIATE COAT SHALL CONSIST OF THE APPLICATION ON ONE COAT OF EPOXY. THE TOTAL DRY FILM THICKNESS OF THIS COAT SHALL NOT BE LESS THAN 6 MILS. IF MORE THAN ONE PASS IS NECESSARY TO OBTAIN THE REQUIRED THICKNESS, THAT COST SHALL BE BORNE BY THE CONTRACTOR. THE COLOR OF THIS COAT SHALL BE LIGHT GREY.

AT LEAST 24 HOURS BUT NO MORE THAN THREE (3) DAYS SHALL ELAPSE AFTER THE APPLICATION OF THE EPOXY PRIME COAT AND BEFORE THE APPLICATION OF THE EPOXY INTERMEDIATE COAT. SURFACES SHALL IN ALL CASES BE CLEAN BEFORE THE INTERMEDIATE COAT IS APPLIED.

THE TOP COAT SHALL CONSIST OF THE APPLICATION OF ONE COAT OF URETHANE TO SUPPORT SECTIONS. THE TOTAL DRY FILM THICKNESS OF THIS COAT SHALL NOT BE LESS THAN 1.5 MILS. IF MORE THAN ONE PASS IS NECESSARY TO OBTAIN THE REQUIRED THICKNESS, THAT COST SHALL BE BORNE BY THE CONTRACTOR. THE COLOR OF THIS COAT SHALL BE MEDIUM GREY.

AT LEAST 24 HOURS BUT NO MORE THAN THREE (3) DAYS SHALL ELAPSE AFTER THE APPLICATION OF THE EPOXY INTERMEDIATE COAT AND BEFORE THE APPLICATION OF THE URETHANE TOP COAT. SURFACES SHALL IN ALL CASES BE CLEAN BEFORE THE TOP COAT IS APPLIED.

PAINTED ITEMS SHALL BE CAREFULLY HANDLED AND STORED TO PREVENT ANY SCRAPING, MARRING, OR OTHER DAMAGE TO THE PAINTED SURFACES.

THE COATING MATERIALS USED SHALL BE THOSE LISTED FROM ONE OF THE FOLLOWING MANUFACTURERS:

1. AMERON
   210 NORTH BERRY STREET
   BREA, CALIFORNIA 92621

   PRIME COAT: AMERCOAT 71
   INTERMEDIATE COAT: AMERLOCK 400 (LIGHT GREY)
   TOP COAT: AMERCOAT 450 HS (MEDIUM GREY)

2. THE GLIDDEN COMPANY
   16651 SPRAGUE ROAD
   STRONGSVILLE, OHIO 44136

   PRIME COAT: GLID–GUARD CORROSION RESISTANT HS EPOXY NO. 5465
   INTERMEDIATE COAT: GLID–GUARD CORROSION RESISTANT HS EPOXY NO. 5466
   TOP COAT: GLID–THANE II POLYURETHANE 6200 SERIES

3. PORTER PAINT COMPANY
   400 SOUTH THIRTEENTH STREET
   LOUISVILLE, KY 40201

   PRIME COAT: PORTER PAINTS MCR 4300
   INTERMEDIATE COAT: PORTER PAINTS MCR 4300 (OFF WHITE)
   TOP COAT: PORTER PAINTS HYTHANE

4. POLY–CARB, INC.
   33095 BAINBRIDGE ROAD
   CLEVELAND, OHIO 44139

   PRIME COAT: MARK–60 ULTRAPOX
   INTERMEDIATE COAT: MARK–60 ULTRAPOX (LIGHT GREY)
   TOP COAT: MARK–73 ULTRAKOTE (MEDIUM GREY)

5. SHERWIN WILLIAMS COMPANY
   761 BETA DRIVE
   MAYFIELD VILLAGE, OHIO 44143

   PRIME COAT: TILE–CLAD II HI–BILD PRIMER
   INTERMEDIATE: HI–SOLIDS CATALYZED EPOXY (SLATE GREY)
   TOP COAT: HI–BILD ALIPHATIC POLYURETHANE ENAMEL

ALL THREE COATS OF THE SYSTEM SHALL BE MANUFACTURED BY THE SAME COMPANY TO INSURE COMPATIBILITY AMONG COATS.

PRIOR TO USE, THE CONTRACTOR SHALL SUBMIT TO THE DIRECTOR COPIES OF THE MANUFACTURER'S CERTIFIED TEST DATA SHOWING THAT THE MATERIAL COMPLIES WITH THE REQUIREMENTS OF THIS SPECIFICATION. THE TEST DATA SHALL INCLUDE THE BRAND NAME OF THE PAINT, NAME OF MANUFACTURER, NUMBER OF THE LOT TESTED AND DATE OF MANUFACTURE. THE STATE RESERVES THE RIGHT TO SAMPLE AND TEST DELIVERED LOTS FOR COMPLIANCE.

PAYMENT WILL BE MADE AT THE CONTRACT BID PRICE FOR EACH POLE PAINTED AND SHALL BE FULL COMPENSATION FOR ALL LABOR MATERIALS AND EQUIPMENT REQUIRED TO PAINT THE POLE, BRACKET ARM, AND TRANSFORMER BASE (IF USED).

ITEM 625 - MAINTENANCE OF EXISTING LIGHTING

The Contractor shall construct the new lighting system in such a manner that the roadway will be without lighting for a minimum amount of time as approved by the Engineer. The Contractor will be expected to submit his plans to the Engineer for constructing the lighting system so only portions of the interchange will be without lighting for not longer than ten (10) calender days. The Engineer shall approve the method of construction prior to beginning work. The Contractor shall provide any temporary connections to maintain the lighting including all labor, material and equipment necessary.

The Contractor shall have either existing or new highway lighting operational during the holiday weekends of New Years (Jan. 1), Memorial Day, Labor Day, Thanksgiving and Christmas (Dec. 25).

During construction should the Contractor need any existing buried lighting electrical cable located for any reason, he will locate the lighting electrical cable as part of this item of work.

Payment for all of the above work shall be as a Lump Sum bid for Item 625 Maintenance Of Existing Lighting.

SEPARATION OF PHYSICAL PLANT

THIS PROJECT WILL PROVIDE PHYSICAL SEPARATION OF THE MAINLINE AND RAMP LIGHTING FROM THE MARION STREET LIGHTING IN SUCH A MANNER THAT EACH SYSTEM IS ENTIRELY SEPARATED INCLUDING PHYSICALLY SEPARATE POWER SERVICES, CONDUIT, PULL BOXES, AND DUCTS.

LTRSHEETS 1×1 2-17-95

LIGHTING GENERAL NOTES

	BY	DATE	REGION	STATE	PROJECT	
	W.H.F.	11-93				
Checked	D.T.B.	12-94	5	OHIO		

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ITEM 202. POWER SERVICE REMOVED, AS PER PLAN

THIS ITEM OF WORK INCLUDES THE REMOVAL OF THE LIGHTING CONTACTOR AND ENCLOSURE, AND ALL OTHER PORTIONS OF THE EXISTING POWER SERVICE NOT BEING REUSED. EXISTING UNDERGROUND CONDUIT AND WIRING MAY BE ABANDONED IN PLACE EXCEPT WHERE NEW WIRING IS TO BE PLACED IN EXISTING CONDUITS OR PULL BOXES. IN THIS LATTER CASE, THE OLD WIRES SHALL BE REMOVED. REMOVED MATERIALS SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE PROJECT SITE. ALL DISTURBED AREAS SHALL BE RESTORED SO AS TO MATCH THE SURROUNDINGN AREA.

THIS ITEM SHALL ALSO COMPENSATE THE CONTRACTOR FOR COORDINATING WITH THE POWER COMPANY TO INSURE THAT THEY DISCONNECT AND REMOVE ANY OF THEIR ITEMS THAT ARE PART OF THE POWER SERVICE. IT ALSO INCLUDES RETURNING TO THE POWER COMPANY ANY ITEM BELONGING TO THEM THAT WERE REMOVED BY THE CONTRACTOR, SUCH AS THE METER BASE.

PAYMENT WILL BE MADE FOR EACH ITEM "POWER SERVICE REMOVED, AS PER PLAN" AND SHALL BE FULL COMPENSATION INCLUDING ALL LABOR, MATERIALS, AND INCIDENTALS REQUIRED TO COMPLETE THE INSTALLATION IN A SATISFACTORY WORKMAN-LIKE MANNER.

ITEM 631 - SIGN LUMINAIRE BALLAST REMOVAL AND REPLACEMENT

THIS ITEM OF WORK SHALL CONSIST OF REMOVING AN EXISTING 480 VOLT BALLAST FROM AN EXISTING SIGN LIGHTING LUMINAIRE AND FURNISHING AND INSTALLING A NEW 240 VOLT BALLAST INTO THAT SAME LUMINAIRE.

BALLASTS REMOVED FROM THE EXISTING LUMINAIRE SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE PROPERLY DISPOSED OF OFF THE PROJECT SITE.

PAYMENT WILL BE MADE AT THE UNIT PRICE BID FOR EACH "ITEM 631 - SIGN LUMINAIRE BALLAST REMOVAL AND REPLACEMENT" WHICH SHALL BE FULL COMPENSATION FOR ALL MATERIAL, LABOR, AND INCIDENTALS REQUIRED TO PERFORM THIS ITEM OF WORK IN A WORKMANLIKE MANNER.

ITEM SPECIAL - DISCONNECT EXISTING CIRCUIT

THIS ITEM OF WORK SHALL CONSIST OF DISCONNECTING AN EXISTING CIRCUIT IN AN EXISTING LIGHT POLE, PULL BOX, OR JUNCTION BOX..

DISCONNECTION IN A LIGHT POLE SHALL CONSIST OF REMOVING THE ENDS OF CABLES OF CIRCUIT(S) TO BE ABANDONED. THOSE ENDS OF CONNECTOR KITS FROM WHICH THE ABANDONED CABLES ARE REMOVED SHALL BE PLUGGED AND TAPED SHUT.

DISCONNECTION IN A PULLBOX OR JUNCTION BOX SHALL CONSIST OF CUTTING CIRCUIT CABLES AND REMOVING SPLICE KITS, OR CONNECTOR KITS, AND CABLES OF CIRCUIT(S) TO BE ABANDONED. CABLES OF CIRCUIT(S) TO BE REUSED SHALL BE CUT IN SUCH A MANNER THAT SUFFICIENT CABLE REMAINS FOR MAKING NEW SPLICES.

PAYMENT WILL BE MADE AT THE UNIT PRICE BID FOR EACH "ITEM SPECIAL - DISCONNECT EXISTING CIRCUIT" WHICH SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS, AND INCIDENTALS REQUIRED FOR COMPLETING THE WORK IN A SATISFACTORY WORKMANLIKE MANNER.

PAYMENT FOR CIRCUIT CONNECTIONS IS INCIDENTAL TO THE PRICE BID FOR EACH ITEM 625 CONNECTOR KIT OR EACH ITEM 625 CABLE SPLICING KIT.

ITEM SPECIAL - DISCONNECT SWITCH REWIRED

THIS ITEM OF WORK SHALL CONSIST OF REWIRING THE SIGN DISCONNECT SWITCH FROM ITS EXISTING GROUNDED SERVICE CONFIGURATION TO AN UNGROUNDED SERVICE CONFIGURATION AS DIAGRAMMED IN STANDARD DRAWING TC - 32.10.

PAYMENT WILL BE MADE AT THE UNIT PRICE BID FOR EACH "ITEM SPECIAL - DISCONNECT SWITCH REWIRED" WHICH SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS, AND INCIDENTALS REQUIRED TO COMPLETE THIS ITEM OF WORK IN A WORKMANLIKE MANNER.

LIGHTING GENERAL SUMMARY

	BY	DATE	REGION	STATE	PROJECT		
Calculated	W.H.F.	11-93					54
Checked	D.T.B.	2-95	5	OHIO			97

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TOTAL FROM SHEET NO.								ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION
53	53A	55	56	56A								LIGHTING
		1						202	75510	1	Each	Power Service Removed
			1					202	75301	1	Each	Pull Box Removed, As Per Plan, (See Sheet No. 53)
		18	9	13				202	75403	40	Each	Light Pole Removed For Storage, As Per Plan, (See Sheet No. 53)
		4	5	4				202	75501	13	Each	Light Pole Foundation Removed, As Per Plan, (See Sheet No. 53)
		29	9	13				202	75507	51	Each	Luminaire Removed, As Per Plan, (See Sheet No. 53)
		2269	1052	1394				202	75711	4715	L.F.	Existing Conduit Cleaned, As Per Plan
3								202	98100	3	Each	Removal Misc.: Signal Pole, (See Sheet No. 53)
		36	18	26				625	00500	80	Each	Connector Kit, Type II
		3						625	01000	3	Each	Connector Kit, Type VII A
		3	3	9				625	01004	15	Each	Connector Kit, Type VII B
		15	18	12				625	01500	45	Each	Cable Splicing Kit
				3				625	01800	3	Each	Connector Kit, Type VII C
			8	7				625	04200	15	Each	Light Pole, Design AT10B34.2(Alternate Bid)ø(See Sheet No. 53)
		7	1	6				625	04400	14	Each	Light Pole, Design AT15B34.2(Alternate Bid)ø(See Sheet No. 53)
		11						625	05715	11	Each	Light Pole, Design A10BB40 (Alternate Bid)ø(See Sheet No. 53)
												ø As Per Plan
			5	4				625	14000	9	Each	Light Pole Foundation, 24" x 6' Deep
		4						625	14300	4	Each	Median Light Pole Foundation, 8' Deep
		10062	2583	4742				625	23200	17387	L.F.	No. 4 AWG 5000 Volt Distribution Cable
		2337	775	1165				625	23400	4277	L.F.	No. 10 AWG Pole and Bracket Cable
		490	2063	1353				625	24320	3906	L.F.	1 1/2" Duct Cable With Three No. 4 AWG 5000 Volt Cables
			95					625	25900	95	L.F.	Conduit, Jacked or Drilled Under Pavement, 3"
			9	7				625	26200	16	Each	Luminaire, Style B, Type II, 200 Watt High Pressure Sodium, 713.11, 480 Volt
		7						625	26490	7	Each	Luminaire, Style B, Type III, 250 Watt High Pressure Sodium, 713.11, 240 Volt
		22		6				625	26504	28	Each	Luminaire, Style B, Type III, 310 Watt High Pressure Sodium, 713.11, 480 Volt
		430	1908	1263				625	29002	3601	L.F.	Trench, 24" Deep
			2					625	30706	2	Each	Pull Box, 713.08, 24"
			1	1				625	31500	2	Each	Median Pull Box
		6	5	4				625	31507	15	Each	Pull Box Removed and Replaced, As Per Plan, (See Sheet No. 53)
		4	5	4				625	32000	13	Each	Ground Rod
	LUMP							625	98200	LUMP	LUMP	Lighting Misc: Maintenance of Existing Lighting
		1	1					625	34001	2	Each	Power Service, As Per Plan, (See Sheet No. 57A, Power Service Data)
		18	9	13				625	35001	40	Each	Reerect Existing Light Pole, As Per Plan, (See Sheet No. 53)
		LUMP	LUMP					625	38000	LUMP	LUMP	High Voltage Test
		18	9	13				625	98000	40	Each	Lighting, Misc.: Light Pole Painted, As Per Plan, (See Sheet No. 54)
		2	2	2				SPEC.	625E40020	6	Each	Disconnect Existing Circuit (See Sh.No. 53B)
		2						631	34420	2	Each	* Sign Luminaire Ballast Removal and Replacement (Sh.No. 53B)
												* Removal Misc:
		2	2	2				SPEC.	631E85320	6	Each	Disconnect Switch Rewired (See Sh. No. 53B)

GENSMS Ini 2-22-95

LIGHTING QUANTITIES SUB-SUMMARY

	BY	DATE	REGION	STATE	PROJECT		
Calculated	W.H.F.	11-93	5	OHIO			55/97
Checked	D.T.B.	2-95					

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Location	Station to Station	Side	202 Pull Box Removed, As Per Plan Each	202 Light Pole Removed For Storage, As Per Plan Each	202 Light Pole Foundation Removed, As Per Plan Each	202 Luminaire Removed, As Per Plan Each	625 Connector Kit, Type II Each	625 Connector Kit Type VII A (IN-LINE) Each	625 Connector Kit, Type VII B Each	625 Cable Splicing Kit Each	Spec. Disconnect Existing Circuit Each	625 Light Pole, Design AT15B342 (Alternate Bid) Each	625 Light Pole, Design A10BB40 (Alternate Bid) Each	631 Sign Luminaire Ballast Removal and Replacement Each	625 Median Light Pole Foundation, 8' Deep Each	625 No. 4 AWG 5000 Volt Distribution Cable L.F.	625 No. 10 AWG Pole and Bracket Cable L.F.	625 1 1/2" Duct Cable With Three No. 4 AWG 5000 V Cables L.F.	Spec. Disconnect Switch Rewired Each	625 Luminaire, Style B, Type III, 250 W HPS 713.11, 240 V Each	625 Luminaire, Style B, Type III, 310 W HPS 713.11, 480 V Each	625 Trench, 24" Deep L.F.	625 Conduit, 3", 713.04 L.F.	625 Pull Box Removed and Replaced, As Per Plan Each	625 Ground Rod Each	625 Power Service, As Per Plan Each	625 Reerect Existing Light Pole, As Per Plan Each	625 High Voltage Test LUMP	625 Lighting, Misc.: Light Pole Painted, As Per Plan Each	202 Power Service Removed Each	202 Existing Conduit Cleaned, As Per Plan L.F.	Remarks
Marion St.	2+20	Rt.		1		1	2					1					95			1						1		1			Pole C-7
	2+20 to 2+35	Rt.																25					15									
	2+35	Rt.								3															1							Pull Box
	2+35 to 2+35	R/L														144															38	
	2+35	Lt.								3															1							Pull Box
	2+35 to 3+11	Lt.																86					76									
	3+11	Lt.		1		1	2					1					95			1						1		1			Pole C-6
	3+11 to 4+82	Lt.														543															171	
	4+82	Lt.		1		1	2					1					95			1						1		1			Pole C-5
	4+82 to 6+03	Lt.														393															121	
	6+03	Lt.		1		1	2					1					95			1						1		1			Pole C-4
	6+03 to 6+10	Lt.														51															7	
	6+10	Lt.							3																							Jct. Box
	6+10 to 6+10	L/R														210															60	
	6+10	Rt.						3			1																					Jct. Box
	5+80	Rt.												1					1													Overhead Sign
	6+10 to 7+69	Lt.														507															159	
	7+69	Lt.		1		1	2					1					95			1						1		1			Pole C-3
	7+69 to 8+57	Lt.														294															88	
	8+57	Lt.								3															1							Pull Box
	8+57 to 9+35	Lt.														264															78	
	9+35	Lt.								3	1														1							Pull Box
	9+48	Lt.												1					1													Overhead Sign
	9+35 to 10+80	Lt.																155					145									
	10+75	Lt.		1		1	2					1					95			1						1		1			Pole C-1
	10+75 to 10+80	Lt.																15					5									5	
	10+80	Lt.								3															1							Pull Box
	10+80 to 10+80	L/R														246								10							72	
	10+80	Rt.																							1							Pull Box
	10+80	Rt.																50					40				1		LUMP		1		Existing Power Service
	10+80 to 9+31	Rt.																159					149									
	9+31	Rt.		1		1	2					1					95			1						1		1			Pole C-2
IR-70	330+20	MED.		1		2	2						1				152				2					1		1			Pole A-14
	330+20 to 332+90	MED.														840															270	
	332+90	MED.		1		2	2						1				152				2					1		1			Pole A-13
	332+90 to 335+50	MED.														810															260	
	335+50	MED.		1		2	2						1				152				2					1		1			Pole A-12
	335+50 to 338+15	MED.														825															265	
	338+15	MED.		1		2	2						1				152				2					1		1			Pole A-11
	338+15 to 340+58	MED.														759															243	
	340+58	MED.		1		2	2						1				152				2					1		1			Pole A-10
	340+58 to 341+10	MED.														156															42	
	343+00	MED.		1	1	2	2						1		1		152				2				1		1	1			Pole B-20
	343+00 to 345+50	MED.														780																
	345+50	MED.		1	1	2	2						1		1		152				2				1		1	1			Pole B-19
	345+50 to 348+10	MED.														810																
	348+10	MED.		1	1	2	2						1		1		152				2				1		1	1			Pole B-18
	348+10 to 350+70	MED.														810																
	350+70	MED.		1	1	2	2						1		1		152				2				1		1	1			Pole B-17
	350+70 to 351+90	MED.														390																
	351+90 to 353+28	MED.														414															128	
	353+28	MED.		1		2	2						1				152				2					1		1			Pole B-16
	353+28 to 355+90	MED.														816															262	
	355+90	MED.		1		2	2						1				152				2					1		1			Pole B-15
	TOTALS:			18	4	29	36	3	3	15	2	7	11	2	4	10,062	2337	490	2	7	22	430	10	6	4		18	LUMP	18	1	2269	

TOTALS CARRIED TO THE LIGHTING GENERAL SUMMARY, SEE SHEET No. 54.

LIGHTING SUB-SUMMARY

LTSSMI 1=1 2-06-95

LIGHTING QUANTITIES SUB-SUMMARY

	BY	DATE	REGION	STATE	PROJECT		
Calculated	W.H.F.	11-93	5	OHIO			
Checked	D.T.B.	2-95					

BEL-70-23.79

56/97

Location	Station to Station	Side	202 Pull Box Removed, As Per Plan Each	202 Light Pole Removed For Storage, As Per Plan Each	202 Light Pole Foundation Removed, As Per Plan Each	202 Luminaire Removed, As Per Plan Each	625 Connector Kit, Type II Each	Spec. Disconnect Existing Circuit Each	625 Connector Kit, Type VII B Each	625 Cable Splicing Kit Each	625 Light Pole, Design ATI0B34.2 (Alternate Bid) Each	625 Light Pole, Design ATI5B34.2 (Alternate Bid) Each	Spec. Disconnect Switch Rewired Each	625 Light Pole Foundation, 24" x 6' Deep Each	625 Median Light Pole Foundation, 8' Deep Each	625 No. 4 AWG 5000 Volt Distribution Cable L.F.	625 No. 10 AWG Pole and Bracket Cable L.F.	625 1 1/2" Duct Cable With three No. 4 AWG 5000 V Cables L.F.	625 Luminaire, Style B, Type II, 200 W HPS 713.11, 480 V Each	625 Pull Box, 713.08, 24" Each	625 Conduit, Jacked or Drilled Under Pavement, 3" L.F.	625 Trench, 24" Deep L.F.	625 Median Pull Box Each	625 Pull Box Removed and Replaced, As Per Plan Each	625 Ground Rod Each	625 Power Service, As Per Plan Each	625 Reerect Existing Light Pole, As Per Plan Each	625 High Voltage Test LUMP	625 Lighting, Misc.: Light Pole Painted, As Per Plan Each	625 Conduit, 3", 713.04 L.F.	202 Existing Conduit Cleaned, As Per Plan L.F.	Remarks
Ramp A	330+69	Rt.											1																			Overhead Sign
	330+75	Rt.						1		3														1								Pull Box
	330+75 to 337+55	Rt.																690				680										
	337+50	Rt.											1																			Overhead Sign
	337+55	Rt.						1		3														1								Pull Box
	337+55 to 340+14	Rt.																269				259										
	340+14 to A10+55	Rt.																65														55
	A10+55	Rt.		1		1	2				1						85		1								1		1			Pole A-6
	A10+55 to A12+25	Rt.														540															170	
	A12+25	Rt.		1		1	2				1						85		1								1		1			Pole A-7
	A12+25 to A13+95	Rt.														540															170	
	A13+95	Rt.		1		1	2				1						85		1								1		1			Pole A-8
	A13+95 to A15+67	Rt.														546															172	
	A15+67	Rt.		1		1	2				1						85		1								1		1			Pole A-9
	A15+67 to 6+10	R/L																													110	Conduit Aband. in Place
Conduit/Cable Crossing Under Pavement (Ramp A to Ramp B)	340+14 to 340+14	Rt.														150															40	
	340+14, 50' RT	Rt.								3														1								Pull Box
	340+14, 50' RT. to 341+10, 48' RT.	Rt.																106													96	
	340+14, 90' RT									3																						
	341+10	Rt.								3														1								Pull Box
	341+10 to 341+10	R/℄														162														10	44	
	341+10	℄						3															1									Median Pull Box
	341+10 to B41+29.5	℄/L														330														10	100	
Ramp B	B33+63	Lt.	1																													Pull Box
	B39+32	Lt.		1	1	1	2					1		1			95		1						1		1		1			Pole A-5
	B39+32 to B41+22	Lt.																200				190										
	B41+22	Lt.		1	1	1	2				1			1			85		1						1		1		1			Pole A-4
	B41+22 to B41+29.5	Lt.																18				8										
	B41+29.5	Lt.								3														1								Pull Box
	B41+29.5 to B42+79	Lt.																160				150										
	B42+79	Lt.		1	1	1	2				1			1			85		1						1		1		1			Pole A-3
	B42+79 to B44+45	Lt.																176				166										
	B44+45	Lt.		1	1	1	2				1			1			85		1						1		1		1			Pole A-2
	B44+45 to B46+10	Lt.																175				165										
	B46+10	Lt.		1	1	1	2				1			1			85		1						1		1		1			Pole A-1
	B46+10 to 9+35	Lt.																													95	Conduit Aband. in Place
	B46+10 to 10+85	Lt.																260				250										
	10+85	Lt.																		1												Pull Box
MARION STREET	10+85 to 10+85	L/R														315					95									10		
	10+85	Rt.																		1												Pull Box
	10+85	Rt.																50				40				1		LUMP				Power Service
TOTALS:			1	9	5	9	18	2	3	18	8	1	2	5	X	2583	775	2169	9	2	95	1908	1	5	5	1	9	LUMP	9	30	1052	

TOTALS CARRIED TO THE LIGHTING GENERAL SUMMARY, SEE SHEET No. 54.

LTSSUM1 1=1 2-22-95

LIGHTING SUB-SUMMARY

LIGHTING QUANTITIES SUB-SUMMARY

	BY	DATE	REGION	STATE	PROJECT	
Calculated	W.H.F.	11-93				
Checked	D.T.B.	2-95	5	OHIO		

56A / 97

BEL-70-23.79

Location	Station to Station	Side	202 Pull Box Removed, As Per Plan Each	202 Light Pole Removed For Storage, As Per Plan Each	202 Light Pole Foundation Removed, As Per Plan Each	202 Luminaire Removed, As Per Plan Each	625 Connector Kit, Type II Each	625 Connector Kit, Type VII C Each	625 Connector Kit, Type VII B Each	625 Cable Splicing Kit Each	625 Light Pole, Design AT10B34.2 (Alternate Bid) Each	625 Light Pole, Design AT15B34.2 (Alternate Bid) Each	Spec. Disconnect Existing Circuit Each	625 Light Pole Foundation, 24" x 6' Deep Each	625 Median Light Pole Foundation, 8' Deep Each	625 No. 4 AWG 5000 Volt Distribution Cable L.F.	625 No. 10 AWG Pole and Bracket Cable L.F.	625 1 1/2" Duct Cable With Three No. 4 AWG 5000 V Cables L.F.	625 Luminaire, Style B, Type II, 200 W HPS 713.11, 480 V Each	Spec. Disconnect Switch Rewired Each	625 Luminaire, Style B, Type III, 310 W HPS 713.11, 480 V Each	625 Trench, 24" Deep L.F.	625 Median Pull Box Each	625 Pull Box Removed and Replaced, As Per Plan Each	625 Ground Rod Each	625 Power Service, As Per Plan Each	625 Reerect Existing Light Pole, As Per Plan Each	625 High Voltage Test LUMP	625 Lighting Misc.: Light Pole Painted, As Per Plan Each	625 Conduit, 3", 713.04 L.F.	202 Existing Conduit Cleaned, As Per Plan L.F.	Remarks
Ramp C	10+80	Rt.																50				40						LUMP				Power Service Components
	10+80	Rt.								*														1								Pull Box
	10+80 to C48+25	Rt.																270				260										
	C48+25	Lt.		1	1	1	2				1			1			85		1					1		1		1			Pole B-1
	C48+25 to C49+96	Lt.																181				171										
	C49+34	Lt.		1	1	1																										Ex. Pole B-2 (Relocated)
	C49+96	Lt.					2				1			1			85		1					1		1		1			Prop. Pole B-2
	C49+96 to C51+66	Lt.																119				109										
	C51+66	Lt.		1	1	1	2				1			1			85		1					1		1		1			Pole B-3
	C51+66 to C51+75	Lt.																19				9										
	C51+75	Lt.								3														1								Pull Box
	C51+75 to C53+80	Lt.																215				205										
	353+75	Lt.																			1											Overhead Sign
	C53+80	Lt.								3			1											1								Pull Box
	C53+80 to 357+00	Lt.																330				320										
IR-70	357+00	Lt.		1	1	1	2					1		1			95				1				1		1		1			Pole B-4
	357+00 to 358+25	Lt.														405															125	
	358+25	Lt.							3																							Pull Box
	358+25 to 359+69	Lt.														460															144	
	359+69	Lt.		1		1	2					1					95				1						1		1			Pole B-5
	359+69 to 360+49	Lt.														270														80		Pull Box
	360+45	Lt.																			1											Overhead Sign
	360+49	Lt.							3				1																			Pull Box
	360+49 to 361+11.5	Lt.														220															62.5	
	361+11.5	Lt.							3																							Pull Box
	361+11.5 to 362+52	Lt.														450															140.5	
	362+52	Lt.		1		1	2					1					95				1						1		1			Pole B-6
	362+52 to 363+95	Lt.														460															143	
	363+95	Lt.								3																						Pull Box
	363+95 to 363+95	L/R														200															56	
	363+95	Rt.		1		1	2					1					95				1						1		1			Pole B-9
Conduit/Cable Crossing Under Pavement (Ramp C to Ramp D)	D51+88 to 351+90	R/℄														294														10	88	
	351+90	℄						3															1									Median Pull Box
	351+90 to C51+75	℄/L														348														10	106	
Ramp D	361+03	Rt.		1		1	2					1					95				1						1		1			Pole B-8
	361+03 to 361+11.5	R/L														270															80	
	358+29	Rt.		1		1	2					1					95				1						1		1			Pole B-7
	358+29 to 358+25	R/L														330															100	
	D53+10	Rt.		1		1	2				1						85		1								1		1			Pole B-13
	D53+10 to D51+88	Rt.																132				122										
	D51+88	Rt.								3														1								Pull Box
	D51+88 to D51+61	Rt.																37				27										
	D51+61	Rt.		1		1	2				1						85		1								1		1			Pole B-12
	D51+61 to D49+95	Rt.														528															166	
	D49+95	Rt.		1		1	2				1						85		1								1		1			Pole B-11
	D49+95 to D48+36	Rt.														507															159	
	D48+36	Rt.		1		1	2				1						85		1								1		1			Pole B-10
	D48+36 to 6+10 M.S.T.	Rt.																													110	Conduit Aband. in Place
	TOTALS:			13	4	13	26	3	9	12	7	6	2	4		4742	1165	1353	7	2	6	1263	1	4	4		13	LUMP	13	20	1394	

TOTALS CARRIED TO THE LIGHTING GENERAL SUMMARY, SEE SHEET No. 54.

* STRIP DUCT FROM DUCT CABLE & PULL CABLE THROUGH CONDUIT TO CONTROL CENTER WITHOUT SPLICES IN PULL BOX.

LTSSM42 1-1 2-22-95

	BY	DATE	REGION	STATE	PROJECT	
Calculated	W.H.F.	2-94	5	OHIO		
Checked	D.T.B.	2-95				

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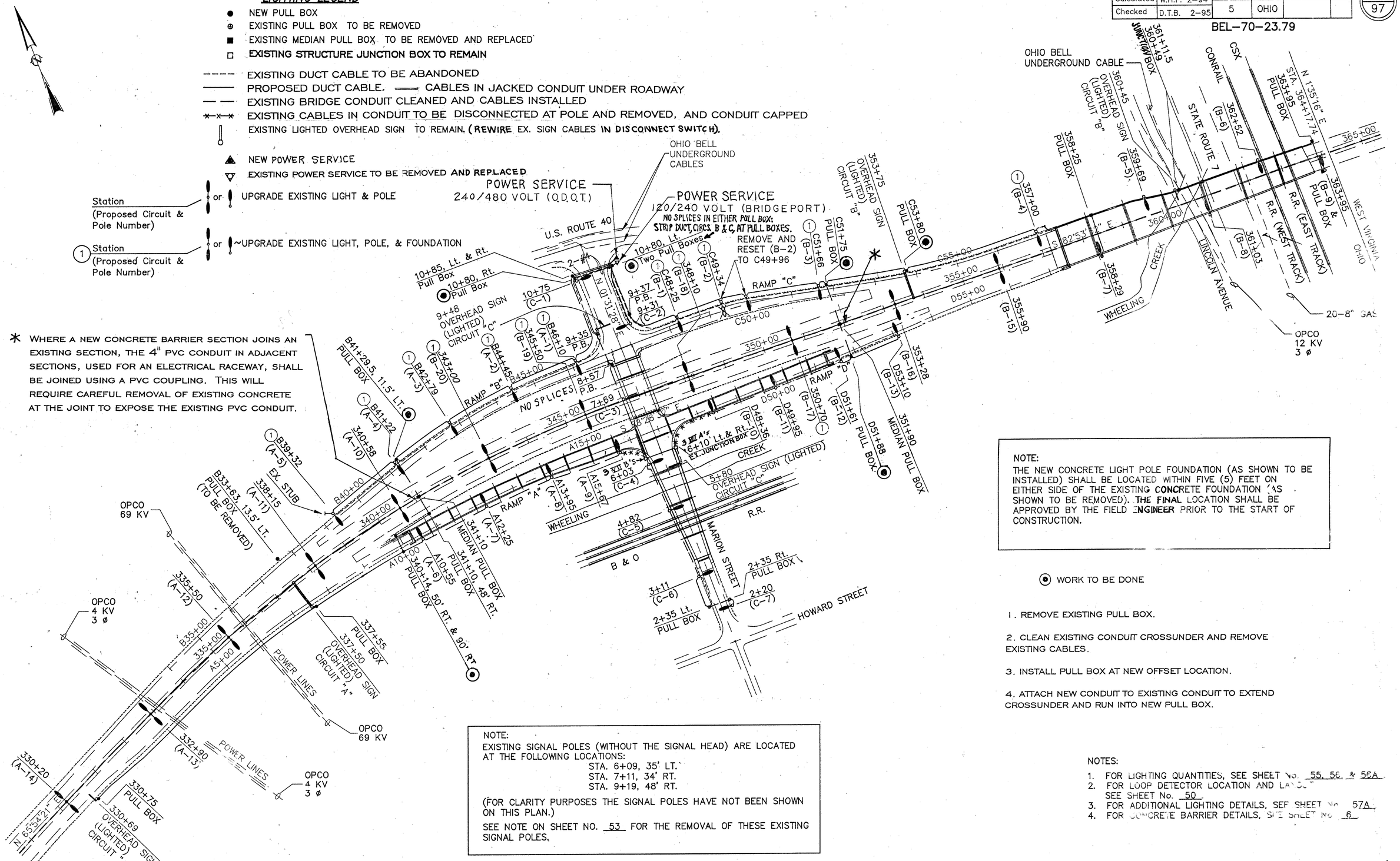
LIGHTING LEGEND

- NEW PULL BOX
- EXISTING PULL BOX TO BE REMOVED
- EXISTING MEDIAN PULL BOX TO BE REMOVED AND REPLACED
- EXISTING STRUCTURE JUNCTION BOX TO REMAIN
- EXISTING DUCT CABLE TO BE ABANDONED
- PROPOSED DUCT CABLE. —— CABLES IN JACKED CONDUIT UNDER ROADWAY
- EXISTING BRIDGE CONDUIT CLEANED AND CABLES INSTALLED
- EXISTING CABLES IN CONDUIT TO BE DISCONNECTED AT POLE AND REMOVED, AND CONDUIT CAPPED
- EXISTING LIGHTED OVERHEAD SIGN TO REMAIN. (REWIRE EX. SIGN CABLES IN DISCONNECT SWITCH).
- NEW POWER SERVICE
- EXISTING POWER SERVICE TO BE REMOVED AND REPLACED
- Station (Proposed Circuit & Pole Number) or UPGRADE EXISTING LIGHT & POLE
- (1) Station (Proposed Circuit & Pole Number) or ~UPGRADE EXISTING LIGHT, POLE, & FOUNDATION

* WHERE A NEW CONCRETE BARRIER SECTION JOINS AN EXISTING SECTION, THE 4" PVC CONDUIT IN ADJACENT SECTIONS, USED FOR AN ELECTRICAL RACEWAY, SHALL BE JOINED USING A PVC COUPLING. THIS WILL REQUIRE CAREFUL REMOVAL OF EXISTING CONCRETE AT THE JOINT TO EXPOSE THE EXISTING PVC CONDUIT.



NOTE:
EXISTING SIGNAL POLES (WITHOUT THE SIGNAL HEAD) ARE LOCATED AT THE FOLLOWING LOCATIONS:
STA. 6+09, 35' LT.
STA. 7+11, 34' RT.
STA. 9+19, 48' RT.

(FOR CLARITY PURPOSES THE SIGNAL POLES HAVE NOT BEEN SHOWN ON THIS PLAN.)

SEE NOTE ON SHEET NO. 53 FOR THE REMOVAL OF THESE EXISTING SIGNAL POLES.

NOTE:
THE NEW CONCRETE LIGHT POLE FOUNDATION (AS SHOWN TO BE INSTALLED) SHALL BE LOCATED WITHIN FIVE (5) FEET ON EITHER SIDE OF THE EXISTING CONCRETE FOUNDATION (AS SHOWN TO BE REMOVED). THE FINAL LOCATION SHALL BE APPROVED BY THE FIELD ENGINEER PRIOR TO THE START OF CONSTRUCTION.

◉ WORK TO BE DONE

1. REMOVE EXISTING PULL BOX.
2. CLEAN EXISTING CONDUIT CROSSUNDER AND REMOVE EXISTING CABLES.
3. INSTALL PULL BOX AT NEW OFFSET LOCATION.
4. ATTACH NEW CONDUIT TO EXISTING CONDUIT TO EXTEND CROSSUNDER AND RUN INTO NEW PULL BOX.

NOTES:
1. FOR LIGHTING QUANTITIES, SEE SHEET No. 55, 56, & 56A
2. FOR LOOP DETECTOR LOCATION AND LAYOUT SEE SHEET No. 50
3. FOR ADDITIONAL LIGHTING DETAILS, SEE SHEET No. 57A
4. FOR CONCRETE BARRIER DETAILS, SEE SHEET No. 6

LIGHTING; IR-70 &

LIGHTING DETAILS

	BY	DATE	REGION	STATE	PROJECT	
Calculated	W.H.F.	2-95	5	OHIO		
Checked	R.I.B.	2-95				

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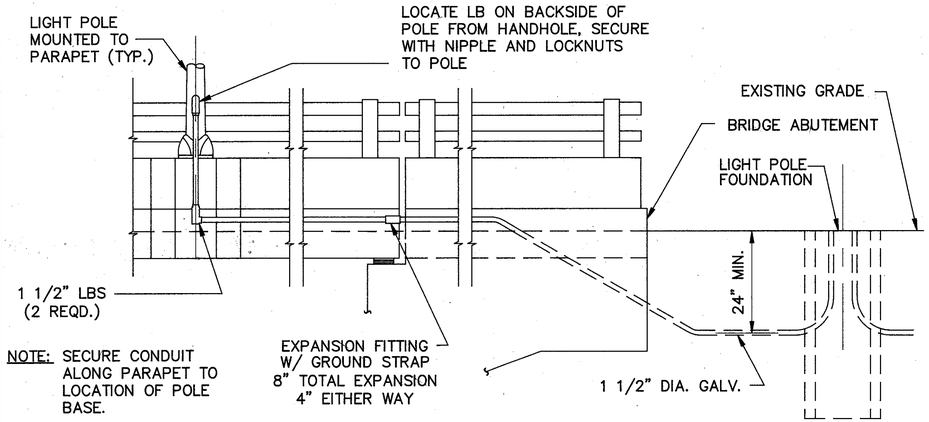
POWER SERVICE DATA

POWER SERVICE	CONNECTED LOAD KVA	SERVICE ENTRANCE CONDUCTOR SIZE – AWG	ENCLOSURE RATING AMPS.	CIRCUIT NUMBER	CIRCUIT FUSE SIZE AMPS.	CIRCUIT CONDUCTOR SIZE – AWG	MAINTAINING AGENCY
PS –#1 240/480V, 3W	17.20	#4	60	A	30	#4	STATE OF OHIO
				B	30	#4	
PS –#2 120/240V, 3W	3.12	#4	60	C	20	#4	VILLAGE OF BRIDGEPORT



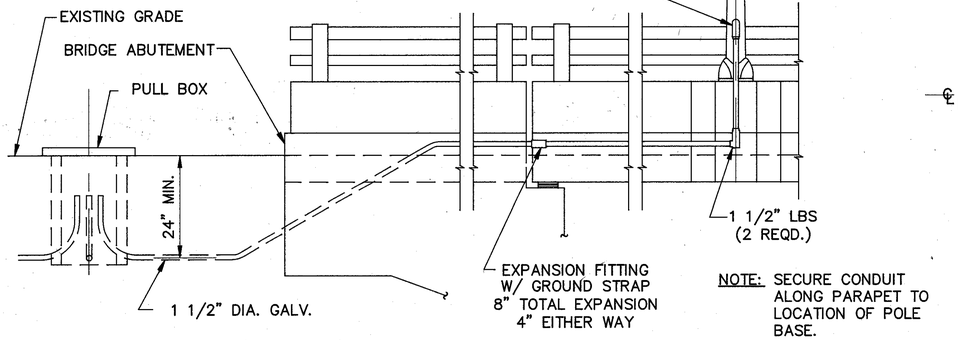
CONDUIT DETAIL AT BRIDGE, FROM LIGHT POLE TO LIGHT POLE

N.T.S.

LOCATION

STA. D49+95 TO STA. D51+61, RAMP "D"

NOTE:
THE CONTRACTOR SHALL SUPPLY ALL EQUIPMENT, MATERIALS, AND LABOR NECESSARY TO CONNECT NEW CONDUIT AND CABLE FROM PULL BOX TO LIGHT POLE OR LIGHT POLE TO LIGHT POLE AS SHOWN IN THESE DETAILS.
THE COST OF THIS WORK SHALL BE INCIDENTAL TO THE ITEMS BID.

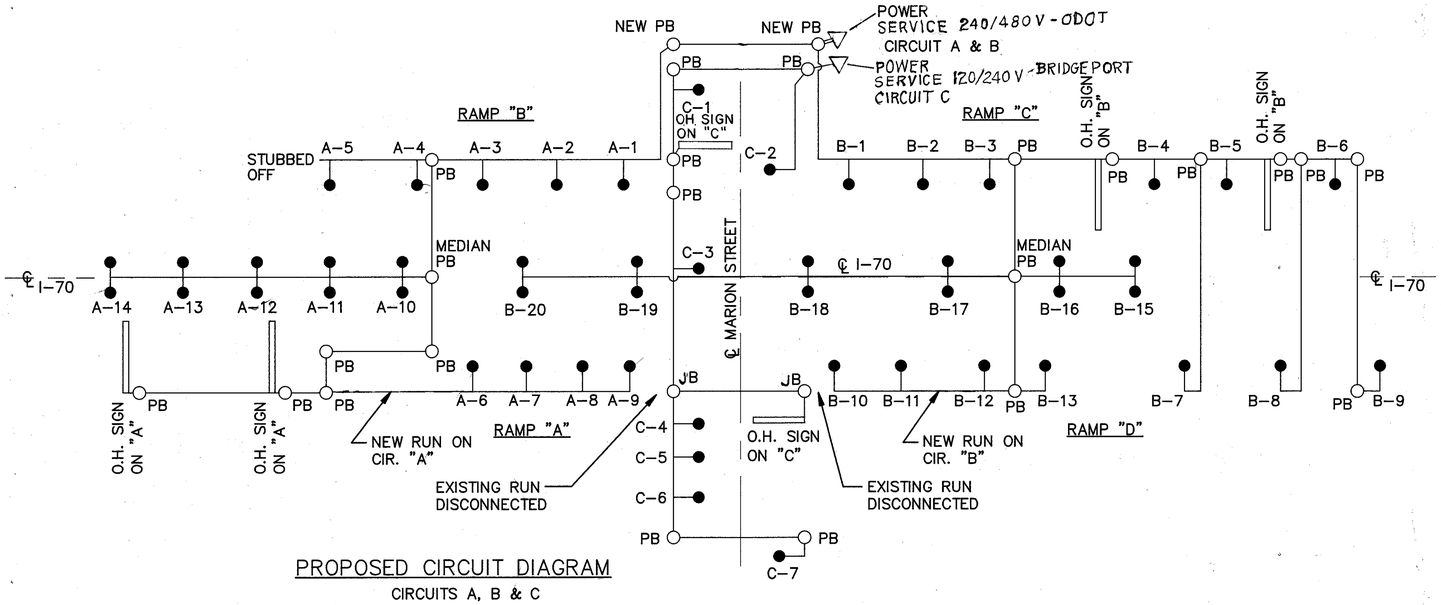


CONDUIT DETAIL AT BRIDGE, FROM PULL BOX TO LIGHT POLE

N.T.S.

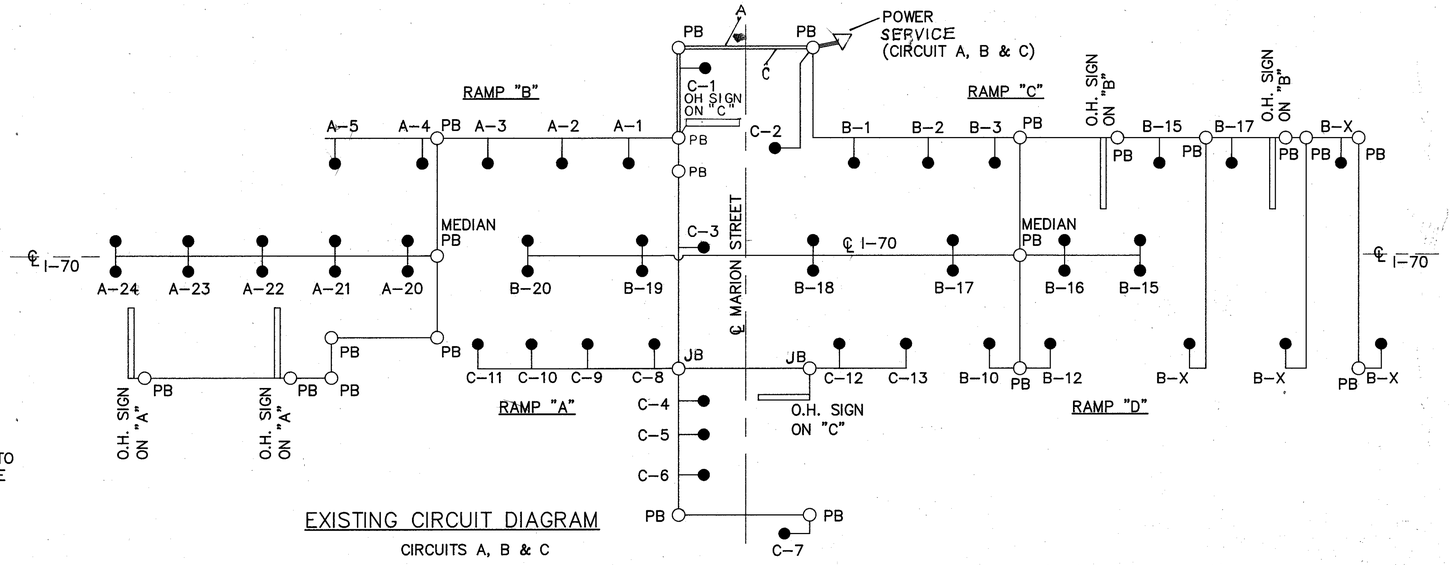
LOCATION

STA. 340+14 TO STA. A10+55, RAMP "A"



PROPOSED CIRCUIT DIAGRAM

CIRCUITS A, B & C



EXISTING CIRCUIT DIAGRAM

CIRCUITS A, B & C

LIGHTING DETAILS

LIGHTDT1 1=1 2-20-95

REGION	STATE	PROJECT		58
5	OHIO	*		97

BELMONT COUNTY
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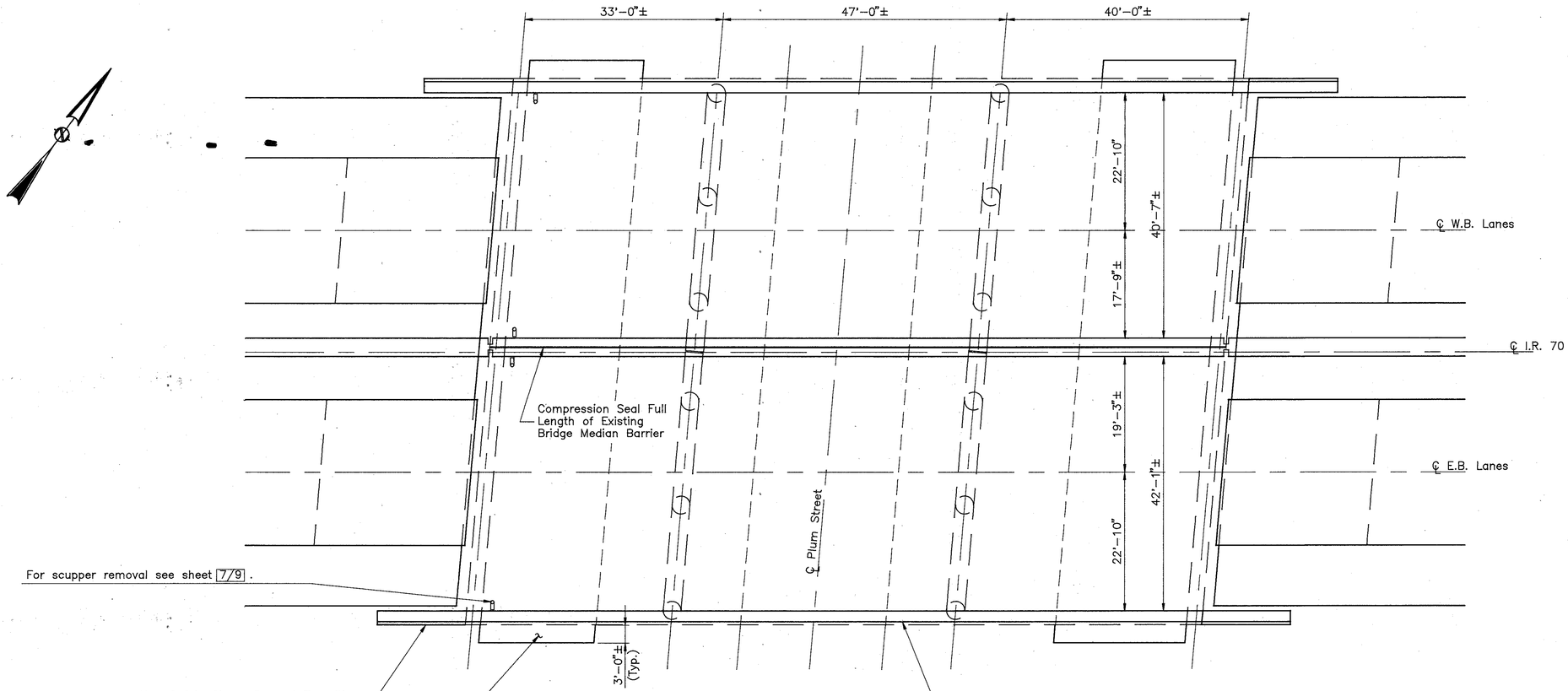
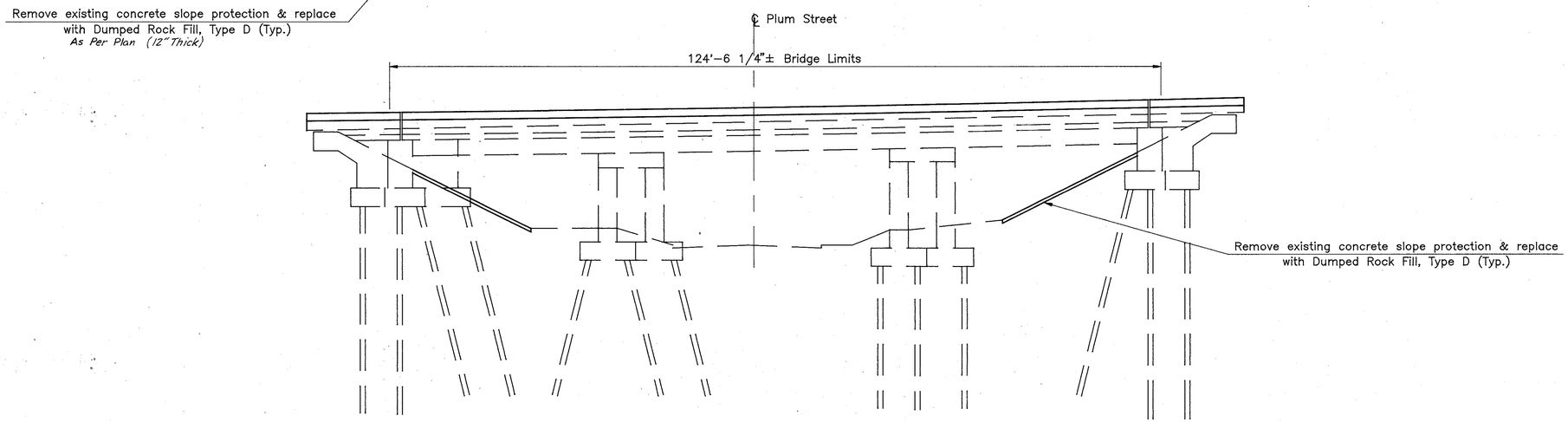


PLAN



ELEVATION

1 / 9

THOMAS FOK & ASSOCIATES, LTD.
CONSULTING ENGINEERS, SURVEYORS & PLANNERS
3896 MAHONING AVE. YOUNGSTOWN, OHIO

GENERAL PLAN

BRIDGE NO. BEL-70-2544
I.R. 70 OVER PLUM STREET

BELMONT COUNTY OHIO

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED
K.O.S. 2-94	K.O.S. 2-94		J.D.V. 2-94	T.F. 2-94	

REGION	STATE	PROJECT		
5	OHIO			

59
97

BELMONT COUNTY
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STRUCTURE GENERAL NOTES

REFERENCE shall be made to Standard Drawings:
SD–1–69 Dated 6–12–69

and to Supplemental Specifications:
~~832~~ ~~Dated 7-[illegible]~~
910 Dated 5–20–91
933 Dated 7–22–94

DESIGN SPECIFICATIONS: This structure conforms to "Standard Specifications for Highway Bridges" adopted by the American Association of State Highway and Transportation Officials, 1992, including the 1993 interim specifications, and the ODOT Bridge Design Manual.

DESIGN DATA:

Concrete Class S – compressive strength 4500 p.s.i. (superstructure)

Reinforcing steel – ASTM A615, A616 or A617
Grade 60 minimum yield strength 60,000 p.s.i.

Structural Steel
ASTM A36 – yield strength 36,000 p.s.i.

DECK PROTECTION METHOD:
1 3/4" concrete cover and 2 1/2" micro–silica concrete overlay.

ITEM SPECIAL, SEALING OF CONCRETE SURFACES (EPOXY): An epoxy concrete sealer shall be applied to the concrete surfaces shown on sheet 4/9, 5/9, and 6/9. See proposal note for surface preparation requirements, application rates, material requirements and application procedures.

CUT LINE CONSTRUCTION JOINT PREPARATION: Saw cut boundaries of proposed concrete removals 1" deep. Remove concrete to a rough surface. Where practicable, the existing reinforcing steel where required in the plans shall be left in place. Install dowel bars if specified. Prior to concrete placement abrasively clean joint surface and exposed reinforcement to remove loose and disintegrated concrete and loose rust. Then, the joint surface and exposed reinforcement shall be thoroughly cleaned of all dirt, dust, or other foreign material by the use of water, air under pressure, or other methods that produce satisfactory results. Concrete bonding surfaces shall be wet without free water as concrete is placed.

EXISTING STRUCTURE VERIFICATION: Details and dimensions shown on these plans pertaining to the existing structure have been obtained from plans of the existing structure and from field observations and measurements. Consequently, they are indicative of the existing structure and the proposed work but they shall be considered tentative and approximate. The Contractor is referred to CMS Sections 102.05, and 105.02.

Contract bid prices shall be based upon a recognition of the uncertainties described above and upon a prebid examination of the existing structure by the Contractor. However, all project work shall be based upon actual details and dimensions which have been verified by the Contractor in the field.

EXISTING BRIDGE PLANS: The original construction plans of the existing bridge are available upon request at the District 11 office of the OHIO DEPARTMENT OF TRANSPORTATION, New Philadelphia, Ohio.

WORK LIMITATIONS: No concrete deck overlays shall be placed before April 15. The Contractor shall schedule the work so that all deck overlays are placed before October 15. If for some unforseen circumstances, the deck overlays or portions of deck overlay are not placed by October 15, regardless of the work remaining, the full depth repairs shall be completed as per 511 and the unfinished deck shall be resurfaced with Item 448 Asphalt Concrete and opened to traffic. The Contractor shall place and maintain at his expense the asphalt wearing surface until removed at his expense the following spring when the deck overlay can be placed after April 15.

REPLACEMENT OF EXISTING REINFORCING STEEL: Any existing reinforcing bars which are to be incorporated into the new work and which are made unusable by the Contractor's concrete removal operations shall be replaced with new steel at their cost. Any existing reinforcing bars deemed by the Engineer to be unusable because of corrosion shall be replaced with new steel. An allowance 100 pounds is included in Item 509 for this purpose, listed in the "General" column of the Estimated Quantities table.

REINFORCING BAR SPLICE LENGTHS shall conform to 509.08 unless otherwise shown or noted on the plans.

UTILITY LINES: All expenses involved in relocating the affected utility lines shall be borne by the Owners. The Contractor and Owners are requested to cooperate by arranging their work in such a manner that inconvenience to either will be held to a minimum.

PORTIONS OF STRUCTURE REMOVED, AS PER PLAN shall include the elements indicated in the plans and general notes and are not separately listed for payment, except for wearing course removal. Items to be removed include all existing materials being replaced by new construction and miscellaneous items that are not shown to be incorporated into the final construction and miscellaneous items that are not shown to be incorporated into the final construction and are directed to be removed by the Engineer. The removal of the existing concrete slope protection is also included in this item. The use of explosives, headache balls and/or hoe–rams will not be permitted. The method of removal and the weight of the hammer shall be approved by the Engineer. All work shall be done in a manner that will not cut, elongate or damage the existing reinforcing steel to be preserved. Chipping hammers shall not be heavier than the nominal 90–pound class. Pnuematic hammers shall not be placed in direct contact with reinforcing steel that is to be retained in the rebuilt structure.

ITEM 513 – STRUCTURAL STEEL FOR REHABILITATION, AS PER PLAN: This item includes the replacement of deteriorated members, plates, and appurtenances of the existing end crossframes, as directed by the Engineer. All members, plates, and connections are to be replaced in kind. Steel members to be fabricated under this item will not require shop drawings prior to fabrication. The Contractor shall make necessary measurements and prepare sketches, drawings, tables, etc. The Engineer shall have authority and responsibility for ensuring that the fabricated steel is acceptable. Technical assistance will be provided on request by the Bureau of Bridges. Mill test reports and shipping documents shall be submitted to the Engineer for review and approval prior to incorporating steel items into the work, as required by 501.07. After fabrication, the Contractor shall submit shop drawings to the Engineer for review and approval to ensure that the drawings depict the steel as actually incorporated into the work. The Engineer will then send one approved set to the Bureau of Bridges for information. Pay weights shall be computed in compliance with 513 of the Construction and Material Specifications and submitted to the Engineer for his review and approval. The fabricator shall furnish a 35 millimeter microfilm copy of each shop drawing, which shall be mounted on an aperture card as specified in 501.05.

All labor, tools, equipment, materials and incidentals necessary to complete this work are included under the unit price bid per pound for Item 513, Structural Steel for Rehabilitation, as per plan.

PAINTING OF STRUCTURAL STEEL: New steel shall be cleaned and prime painted in the shop and field painted with an intermediate and finish coat of paint using System IZEU. Existing steel shall be field cleaned and painted with a prime, intermediate, and finish coat of paint using System OZEU. For pay purposes, cleaning and prime painting new steel is included in 513, intermediate and finish painting of new steel in 815, and field cleaning and painting existing steel in the several OZEU items. The surface area pay quantities are based on the surface area of main members increased be 10 percent to account for the area of crossframes, bearings, and other steel incidentals being cleaned and painted.

DECK JOINT PAINTING: After cleaning in the field as directed, and preferably after installation of joint seals, all upper exposed steel surfaces excluding roadway surfaces in travelled lanes shall be field painted with a System OZEU prime, intermediate, and finish coat of paint as described in the proposal note for OZEU painting. Cost for field cleaning and painting shall be included in the price bid per square foot for the appropriate items under Item 815, Field Painting of Existing Steel, System OZEU.

ITEM 510 – DOWEL HOLE, AS PER PLAN: This item shall be performed as indicated on the plans or as directed by the Engineer and shall be used to replace the deteriorated bars which were to remain, or to place new dowel bars where a new concrete section is being attached to the remaining portions of existing concrete. The grout shall be epoxy and shall conform to 705.20 and the installation shall conform to Supplemental Specification 852. The dowel bars are to be paid for under "ITEM 509 – EPOXY COATED REINFORCING STEEL, GRADE 60" and the dowel holes are to be paid for under "ITEM 510 – DOWEL HOLE, AS PER PLAN."

ITEM 601 – DUMPED ROCK FILL, TYPE D, AS PER PLAN: Dumped rock fill (12" thick) is to extend through the ditches as indicated in the plans. The replacement and grading of all washed out embankment is included for payment in this item. The removal of the existing concrete slope protection is included in Item 202, Portions of Structures Removed, as per plan, for payment. However, the existing concrete may be used in accordance with 601 of the Construction and Materials Specifications. Payment for all the above described labor and materials will be made at the contract price bid for Item 601 – Dumped Rock Fill, Type D, as per plan.

RAISED CONCRETE MEDIAN BARRIER SEAL:

DESCRIPTION: This work shall consist of furnishing and installing Elastomeric Sheeting at the bridge median joint in the form of a seal for drainage protection.

Sheeting shall be furnished in one continuous piece unless a vulcanized (with heat and pressure) shop or field splice, or an unbonded field splice is indicated on the Plans or approved by the Director.

MATERIALS: Elastomeric Sheeting shall be 3/32 inch thick general purpose. Heavy duty Neoprene Sheet with Nylon Fabric reinforcement. The Sheeting shall be "Fairprene Number NN–0003" as manufactured by the Goodyear Tire and Rubber Company, or an approved equal. Sheeting shall conform to the following:

Description of Test	ASTM Method	Requirement
Thickness, inches	D751	0.094 ± 0.010
Breaking Strength, Grab WXF Lbs, Min.	D751	700 x 700
Adhesive, 1 inch strip 2 inch Min., Lbs. Min.	D751	9
Burst Strength (Mullen), PSI, Min.	D751	1400 PSI, Min.
Heat Aging, 70 hours 212 F, 480 Bend	D2136	No cracking of Coating
Low Temperature Brittleness 1 Hour at –40 F 1/4 inch mandrel	D2136	No cracking of Coating

Connections for sheeting, including all clamp bars and nails, shall be galvanized according to 711.02. Field holes in sheeting shall be drilled and cuts made in the field shall be sawn. Any galvanized coating which has been cut or damaged in any way, such that the base metal is exposed, shall be replaced with a cold galvanizing compound such as that manufactured by Z.R.C. Product Company of Quincy, Massachusetts, "Galvicon" by Kenco Division of Southern Coating, Incorporated of Sumpter, South Carolina, or an approved equal, applied in accordance with the Manufacturer's recommendations.

SAMPLING AND TESTING: Each lot of sheeting shall be tested by an Independent Laboratory to endure compliance with these provisions. Two certified copies of the Qualification Test Data indicating that the tested materials comply with these provisions shall be submitted to the ODOT Testing Laboratory. Sampling, when requested, shall be in accordance with 106.3 except that where sheeting is to be fabricated according to Plan requirements, samples shall be made available prior to fabrication. The sample from each lot and for each project shall be one piece, 3 feet long.

Material acceptance shall be based upon ODOT Testing Laboratory evaluation of certified test data and tested samples.

Basis of Payment: Unless otherwise specified on the Project Plans, payment for all material and labor for the Joint Seal including galvanized clamp bars and nails shall be made at the Contract price for:

Item	Extension	Unit	Description
516	14600	Lin. ft.	Structural Joint or Joint Sealer, Misc. Concrete Median Barrier Seal

For "Proposed Work" note, see Sheet 3/9.

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3896 MAHONING AVE. YOUNGSTOWN, OHIO

GENERAL NOTES

BRIDGE NO. BEL–70–2544
I.R. 70 OVER PLUM STREET

BELMONT COUNTY OHIO

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED
K.O.S. 1–94	K.O.S. 1–94		J.D.V. 1–94	T.F. 1–94	

ESTIMATED QUANTITIES

REGION	STATE	PROJECT		60
5	OHIO			97

BELMONT COUNTY
BEL–70–23.79

ESTIMATED QUANTITIES

CALCULATED K.O.S. CHECKED J.D.V.

ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	SUPER.	ABUT.	PIER	GEN'L
202	11203	Lump	Lump	Portions of Structures Removed, as per plan, over 20 foot span				Lump
202	23500	1102	Sq. Yd.	Wearing Course Removed	1102			
202	38500	300	Lin. Ft.	Bridge Railing Removed	243	57		
509	15830	4824	Pound	Epoxy Coated Reinforcing Steel, Grade 60	3236	1488		100
510	11101	504	Each	Dowel Hole, as per plan	400	104		
Spec.	51149000	LUMP	LUMP	High Performance Concrete Trial Mix *	Lump			
Spec.	51148020	40	Cu. Yd.	High Performance Concrete, Superstructure (Parapet) *	28	12		
Spec.	51149010	LUMP	LUMP	High Performance Concrete Testing *	Lump			
Spec.	51267502	539	Sq. Yd.	Sealing of Concrete Surfaces (Epoxy) *	202	219	118	
513	16001	1700	Pound	Structural Steel for Rehabilitation, as per plan	1700			
815	00050	11,950	Sq. Ft.	Surface Preparation of Existing Steel, System OZEU *	11,950			
815	00056	11,950	Sq. Ft.	Field Painting of Existing Steel, Prime Coat, System OZEU *	11,950			
815	00060	11,950	Sq. Ft.	Field Painting of Existing Steel, Intermediate Coat, System OZEU *	11,950			
815	00066	11,950	Sq. Ft.	Field Painting of Existing Steel, Finish Coat, System OZEU *	11,950			
815	00508	1128	Lin. Ft.	Grinding Flange Edges *	1128			
514	00610	1700	Pound	Field Painting of New Steel, System IZEU *	1700			
516	14600	122.5	Lin. Ft.	Structural Joint or Joint Sealer, Misc. Concrete Median Barrier Seal	122.5			
519	11100	10	Sq. Ft.	Patching Concrete Structure		5	5	
Spec.	51912600	13	Lin. Ft.	Concrete Repair by Epoxy Injection *		8	5	
Spec.	51922006	1121	Sq. Yd.	Micro–Silica Modified Concrete Overlay (2.50") *	1121			
Spec.	51922100	24	Cu. Yd.	Micro–Silica Modified Concrete Overlay (variable thickness) *	24			
Spec.	51922200	1	Cu. Yd.	Full Depth Repair, (Micro–Silica Modified Concrete) *	1			
Spec.	51922300	Lump	Lump	Test Slab *				Lump
601	28001	175	Cu. Yd.	Dumped Rock Fill, Type D, as per plan				175

* See Proposal Note

PROPOSED WORK

1. Set traffic control devices for part width construction.
2. Remove portions of existing abutments, railing, existing bulb angles, scuppers, safety curbs and existing asphalt wearing surface as noted on the plans.
3. Replace end cross frames.
4. Repair damaged concrete on abutments and piers as per plan.
5. Prepare deck surface and place new 2 1/2" micro–silica modified concrete overlay.
6. Patch underside of deck at median joint and seal joint.
7. Seal concrete surfaces as noted on plans.
8. Paint new and existing structural steel as per plan.
9. Remove traffic control devices and open structure to traffic.

Rev. 9-12-95

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ESTIMATED QUANTITIES
BRIDGE NO. BEL–70–2544
I–70 OVER PLUM STREET

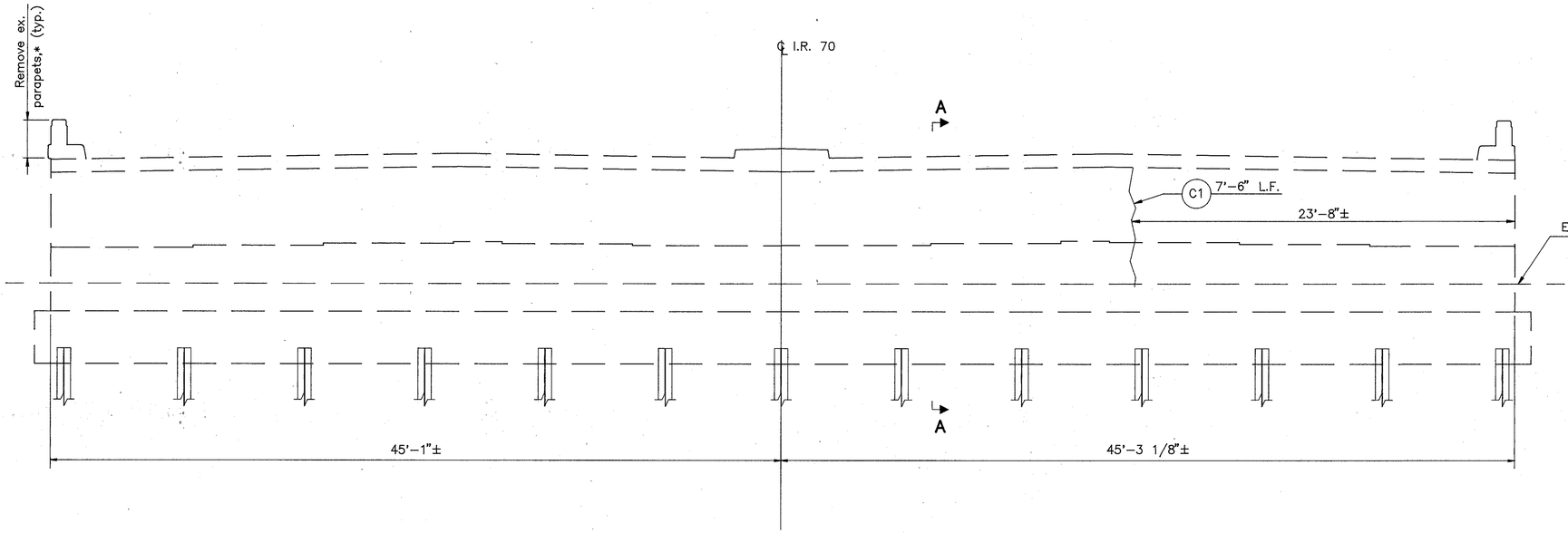
BELMONT COUNTY OHIO

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED
K.O.S. 2–94	K.O.S. 2–94		J.D.V. 2–94	T.F. 2–94	

REGION	STATE	PROJECT	
5	OHIO		

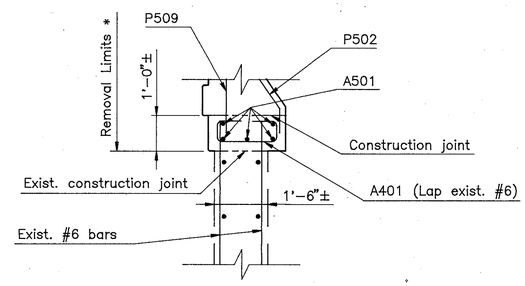
61
97

BELMONT COUNTY
BEL–70–23.79



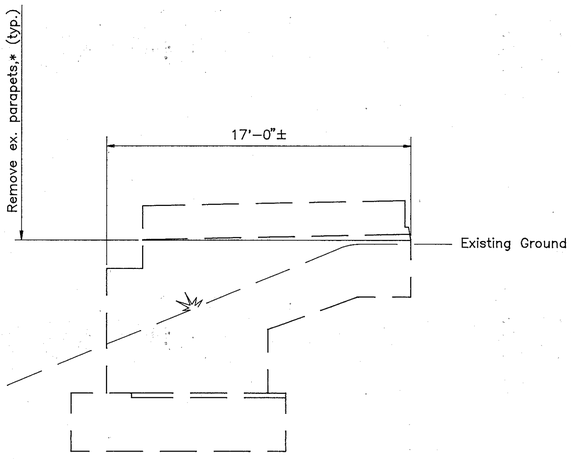
REAR ABUTMENT ELEVATION

FORWARD ABUTMENT ELEVATION SIMILAR



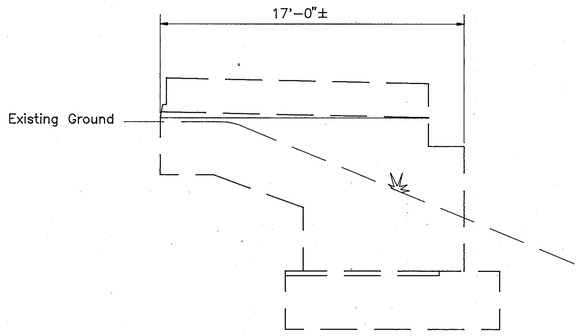
DETAIL A

* Remove existing parapet & safety curbs to construction joint and preserve existing #6 vertical bars.



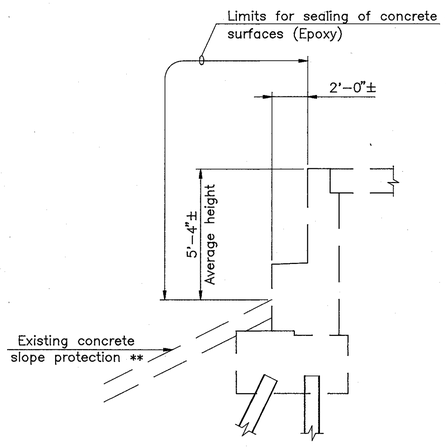
SOUTH WINGWALL ELEVATION, FORWARD ABUTMENT

NORTH ELEVATION, REAR ABUTMENT SIMILAR



SOUTH WINGWALL ELEVATION, REAR ABUTMENT

NORTH ELEVATION, FORWARD ABUTMENT SIMILAR



SECTION A–A

LIMITS FOR SEALING OF CONCRETE SURFACES

** Remove and replace with Dumped Rock Fill, Type D, *As Per Plan (Typ.)*.

LEGEND	
S_ S.F.	– Approximate area Estimated for Patching
	– Epoxy inject cracks per proposal note, Rear Abutment
	– Epoxy inject cracks per proposal note, Forward Abutment
C_ L.F.	– Approximate Lin. Ft. Estimated for Crack Repair

Note: No spalled areas were found on the abutments.

Existing ground line shown is approximate. Field verify dimensions as necessary. Rear Abutment dimensions shown. Forward Abutment dimensions similar.

Epoxy seal all surfaces as shown on the elevation to the limits shown in Section A–A. Also seal the wingwalls from the existing ground line to the lower parapet construction joint. Seal the parapet transitions with the same material as the parapet retrofit is sealed with.

See sheet 8/9, for parapet retrofit details.

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ABUTMENT REPAIRS

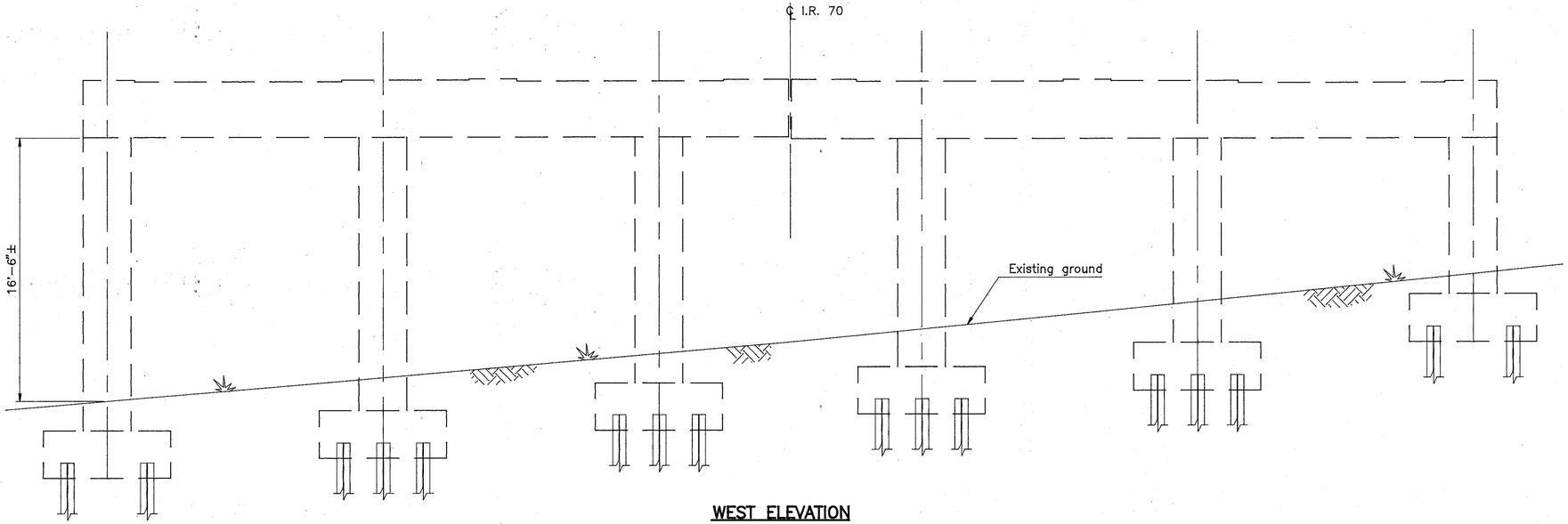
BRIDGE NO. BEL–70–2544
I.R. 70 OVER PLUM STREET

BELMONT COUNTY OHIO

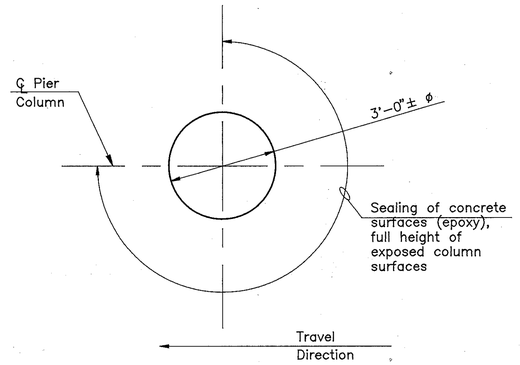
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED
K.O.S.	B.E.I.		J.D.V.	T.F.	
1–94	2–94		2–94	2–94	

REGION	STATE	PROJECT		62
5	OHIO			97

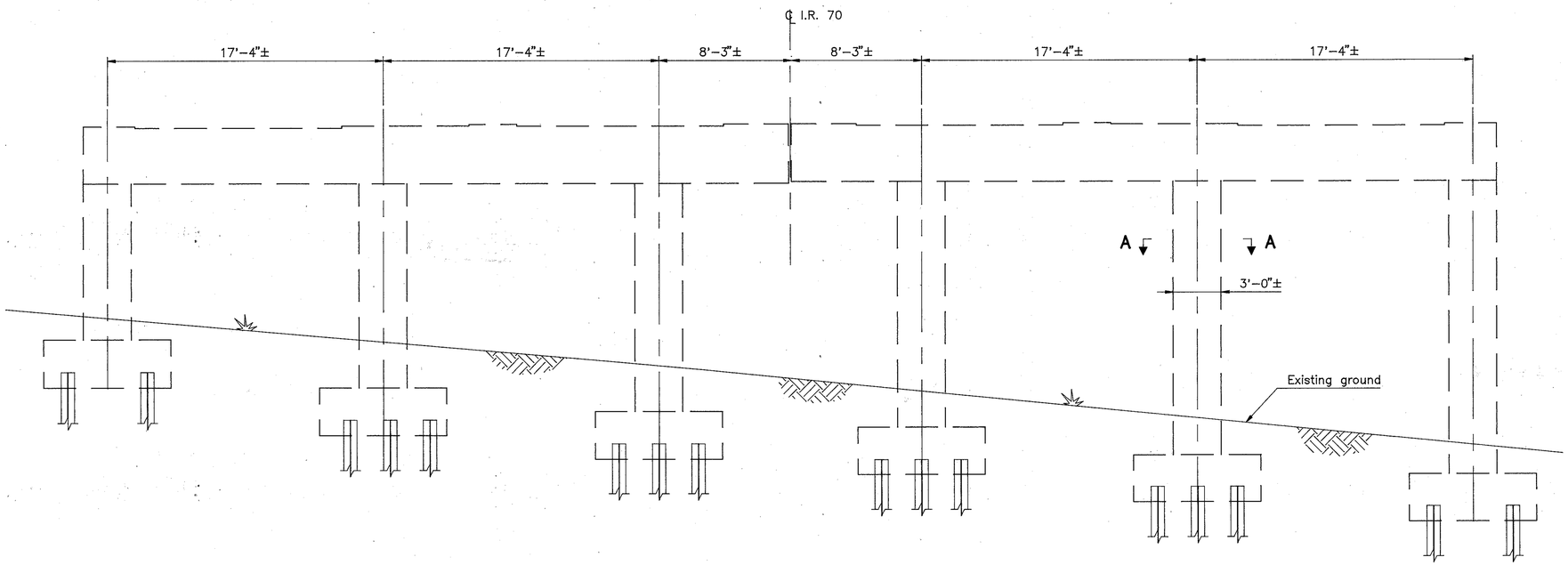
BELMONT COUNTY
BEL–70–23.79



WEST ELEVATION
(LOOKING EAST)



SECTION A–A
Typical on all exposed column surfaces



EAST ELEVATION
(LOOKING WEST)

Existing ground line shown is approximate for Pier 1. Field verify dimensions as necessary. Pier 1 dimensions shown. Pier 2 dimensions similar.

Epoxy seal all columns as shown in Section A–A.

No cracks or spalled areas were found on piers.

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PIER 1 AND PIER 2 ELEVATIONS

BRIDGE NO. BEL–70–2544
I.R. 70 OVER PLUM STREET

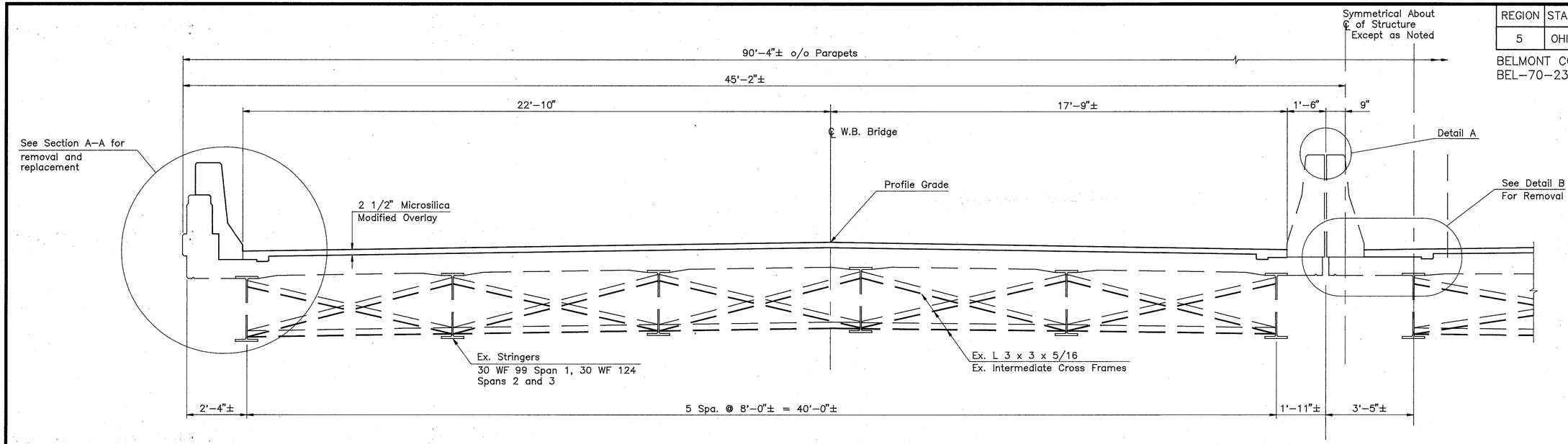
BELMONT COUNTY OHIO

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED
K.O.S. 2–94	B.E.I. 2–94		J.D.V. 2–94	T.F. 2–94	

REGION	STATE	PROJECT	
5	OHIO		

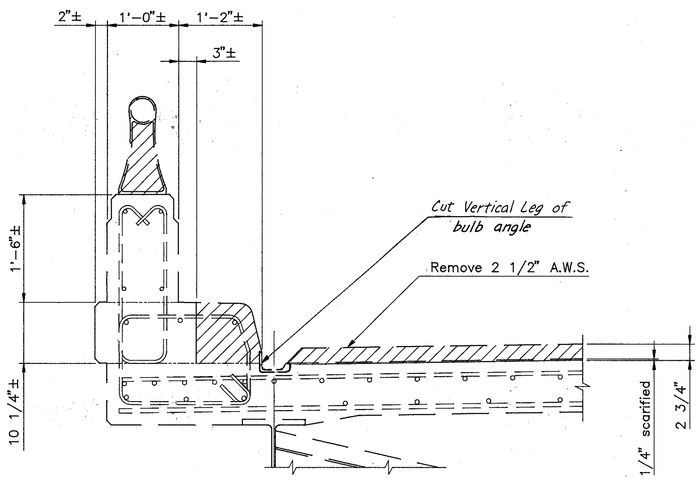
63
97

BELMONT COUNTY
BEL–70–23.79



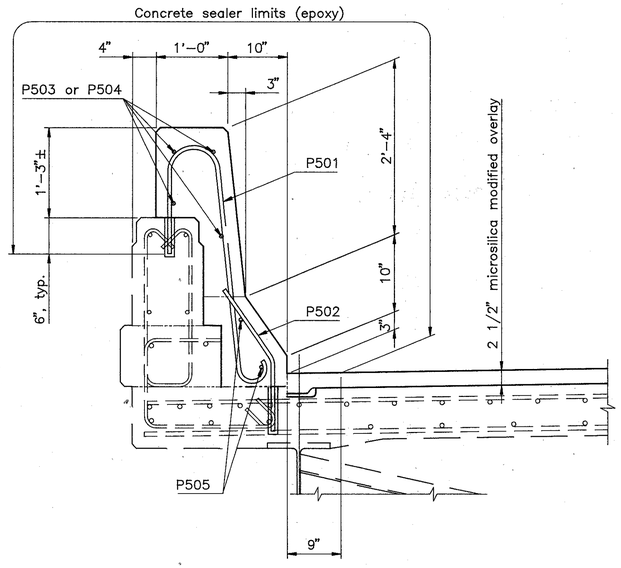
TRANSVERSE SECTION

* Reinforcing steel not shown



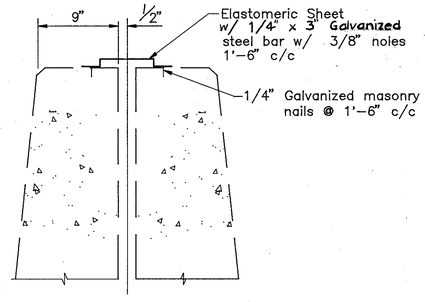
SECTION A–A

REMOVAL SECTION

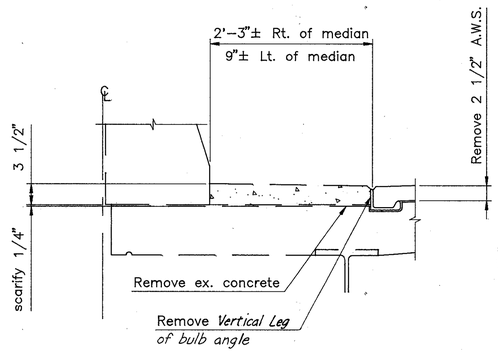


SECTION A–A

REPLACEMENT SECTION



DETAIL A



DETAIL B

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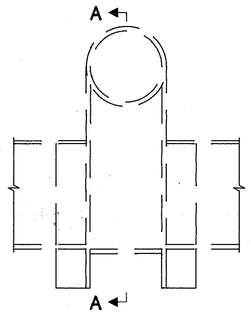
TRANSVERSE SECTION

BRIDGE NO. BEL–70–2544
I.R. 70 OVER PLUM STREET

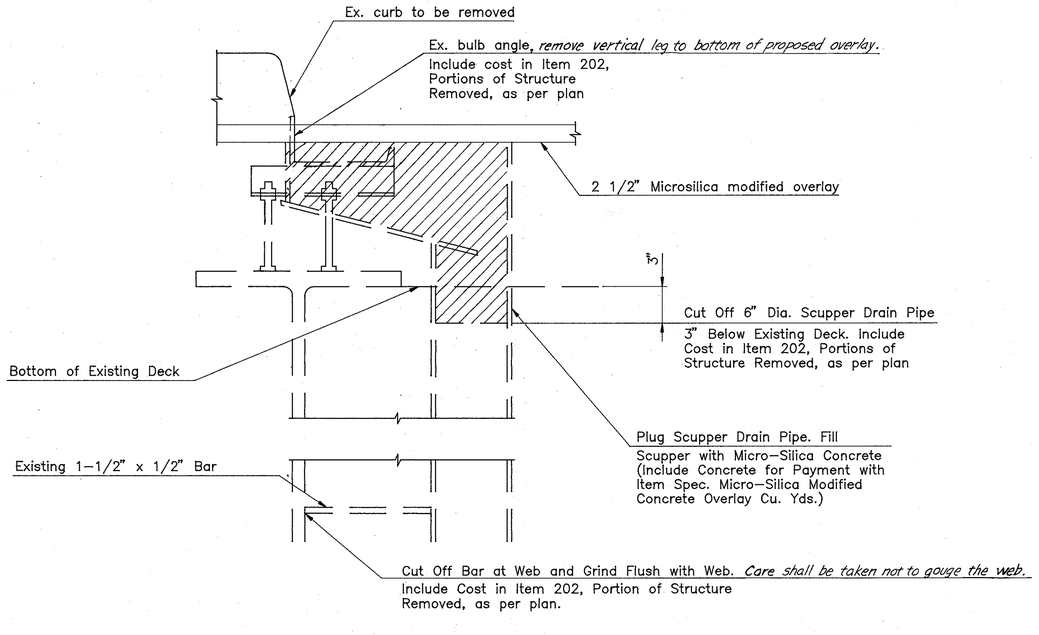
BELMONT COUNTY OHIO

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED
K.O.S.	B.E.I.		J.D.V.	T.F.	
1–94	1–94		1–94	1–94	



PLAN

Existing Scupper and bulb angle plan



SECTION A–A

BULB ANGLE, AND SCUPPER *TREATMENT*

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STRUCTURE DETAILS

BRIDGE NO. BEL–70–2544
I.R. 70 OVER PLUM STREET

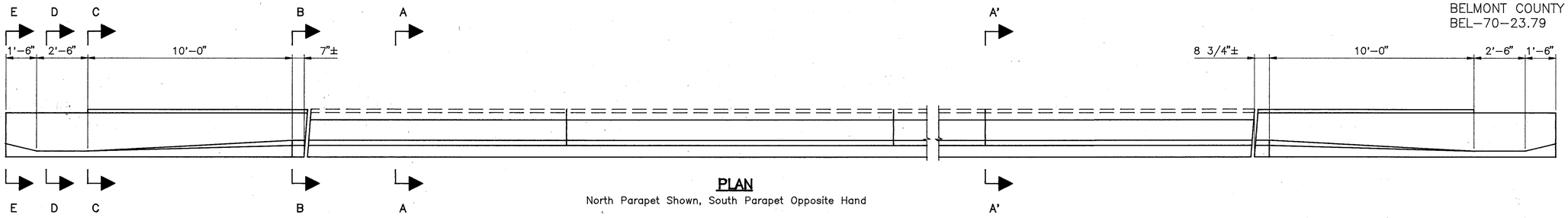
BELMONT COUNTY OHIO

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED
K.O.S. 1–94	K.O.S. 1–94		J.D.V. 1–94	T.F. 1–94	

REGION	STATE	PROJECT	
5	OHIO		

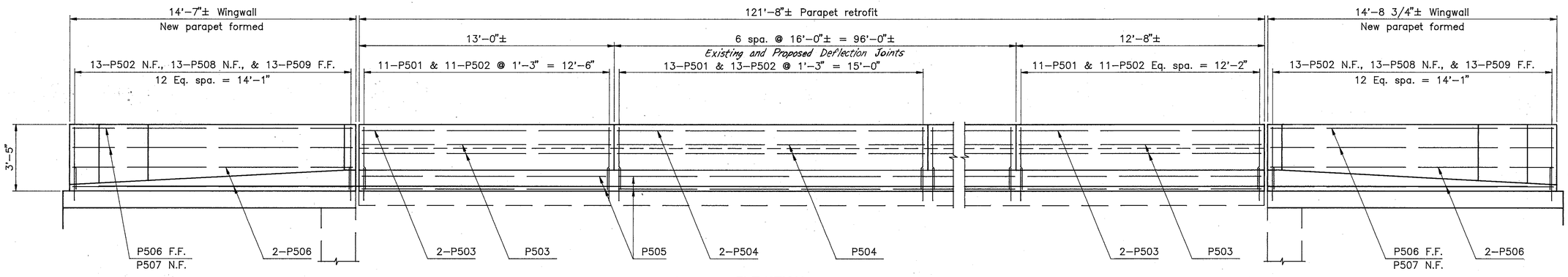
65
97

BELMONT COUNTY
BEL–70–23.79



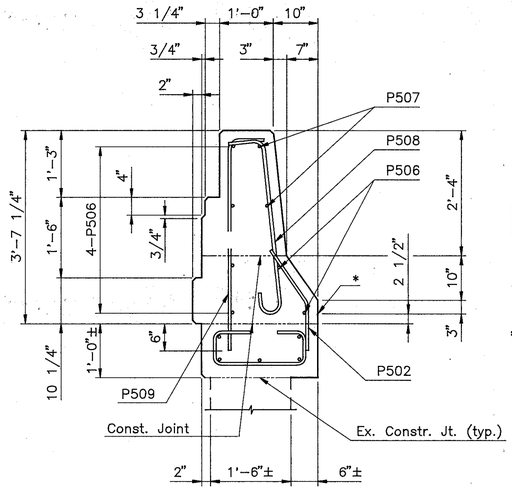
PLAN

North Parapet Shown, South Parapet Opposite Hand

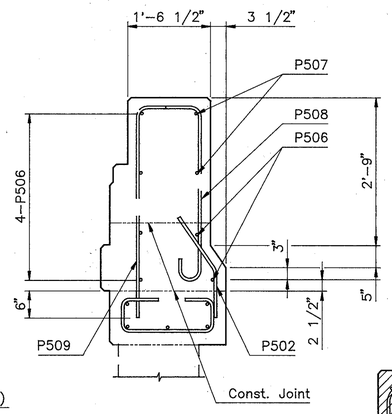


ELEVATION

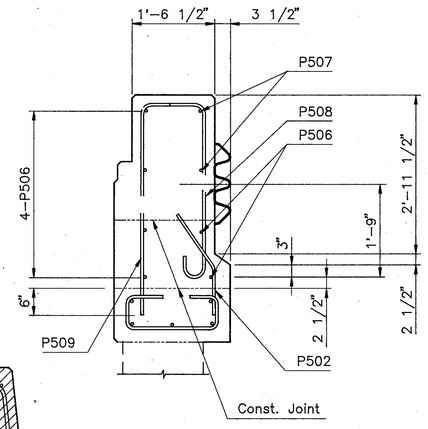
North Parapet Shown, South Parapet Opposite Hand



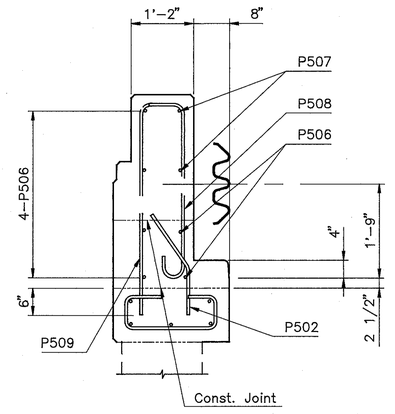
SECTION B–B



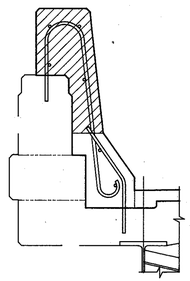
SECTION C–C



SECTION D–D



SECTION E–E



SECTION A'–A'

Deflection Joints shall be extended completely through the proposed facing and the new joints shall be formed. The 1/4" joints shall be sealed 3/4" deep (min.) with an impregnated precompressed expanding foam sealant tape known as Will–Seal manufactured by ILLBUCK/USA Inc., Minn. or a low density closed cell crosslinked Ethylene Vinyl Acetate Foam known as Evazote 50 manufactured by E–POXY Industries, Ravenna, N.Y. Include with Item 511 Class S Concrete, Parapet, As Per Plan for Payment.

* Top of proposed shoulder line extended from edge of shoulder to toe of parapet, (typ.)

1. Existing reinforcing steel locations are approximate.
2. Existing reinforcing steel may be cut off or bent out of the way.
3. Removal limits shall provide 2 inch minimum clearance around all new reinforcing bars.
4. Space all reinforcing steel at 1'–3" c/c maximum. Provide a 3 inch minimum clearance between vertical reinforcing steel and existing expansion joints.
5. Make all longitudinal steel reinforcing steel continuous with minimum lap lengths of 2'–9" unless noted.
6. Provide 2 inch minimum concrete cover unless noted.
7. For additional notes, see "General Notes", sheet 2/9 .
8. All loose and unsound concrete in the area of the parapet to be faced, shall be removed. All remaining sound concrete shall then be mechanically scarified 1/4" deep.
9. For Reinforcing steel dimensions, see "Reinforcing Steel", sheet 9/9 .
10. See "Transeverse Section", sheet 6/9 , for Section A–A.

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PARAPET RETROFIT

BRIDGE NO. BEL–70–2544
I.R. 70 OVER PLUM STREET

BELMONT COUNTY OHIO

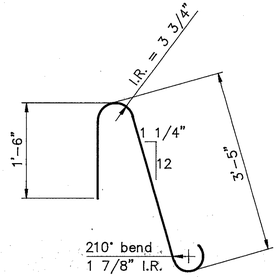
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED
K.O.S.	K.O.S.		J.D.V.	T.F.	
1–94	1–94		1–94	1–94	

REGION	STATE	PROJECT		66
5	OHIO			97

BELMONT COUNTY
BEL–70–23.79

REINFORCING STEEL LIST

MARK	NO. REQD.	LENGTH	TYPE	DIMENSIONS A	B	C	D	INCRM.	SUPERSTRUCTURE NO. REQD.	SUPERSTRUCTURE WEIGHT	ABUTMENTS NO. REQD.	ABUTMENTS WEIGHT	TOTAL WEIGHT
A401	40	3'–10"	3	7"	1'–8"	8"					40	102	102
A501	20	14'–2"	ST								20	296	296
P501	200	5'–9"	1						200	1200			1200
P502	252	2'–5"	2						200	504	52	131	635
P503	16	12'–4"	ST						16	206			206
P504	48	15'–8"	ST						48	784			784
P505	16	32'–6"	ST						16	542			542
P506	24	14'–3"	ST								24	357	357
P507	8	14'–1"	6	10'–4"							8	118	118
P508	52	4'–5"	4								52	240	240
P509	52	4'–6"	5	3'–11"	8"						52	244	244
								TOTALS		3236		1488	4724



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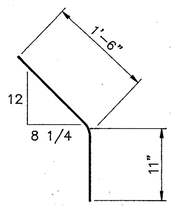

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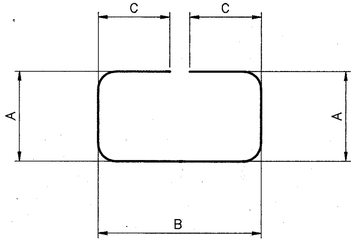

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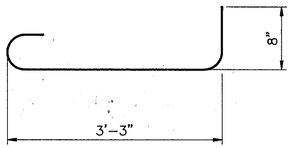

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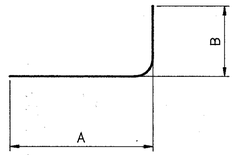

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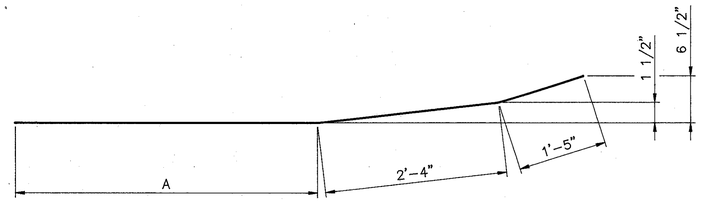

TYPE 6

NOTES

BAR SIZE: The bar size is indicated in the bar mark. The first digit where three digits are used, and the first two digits where four are used, indicate the bar size number. For example: A506 is No. 5 size bar and P1101 is a No. 11 size bar.

All Reinforcing Steel is epoxy coated.

ST = Straight

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REINFORCING STEEL LIST

BRIDGE NO. BEL–70–2544
I.R. 70 OVER PLUM STREET

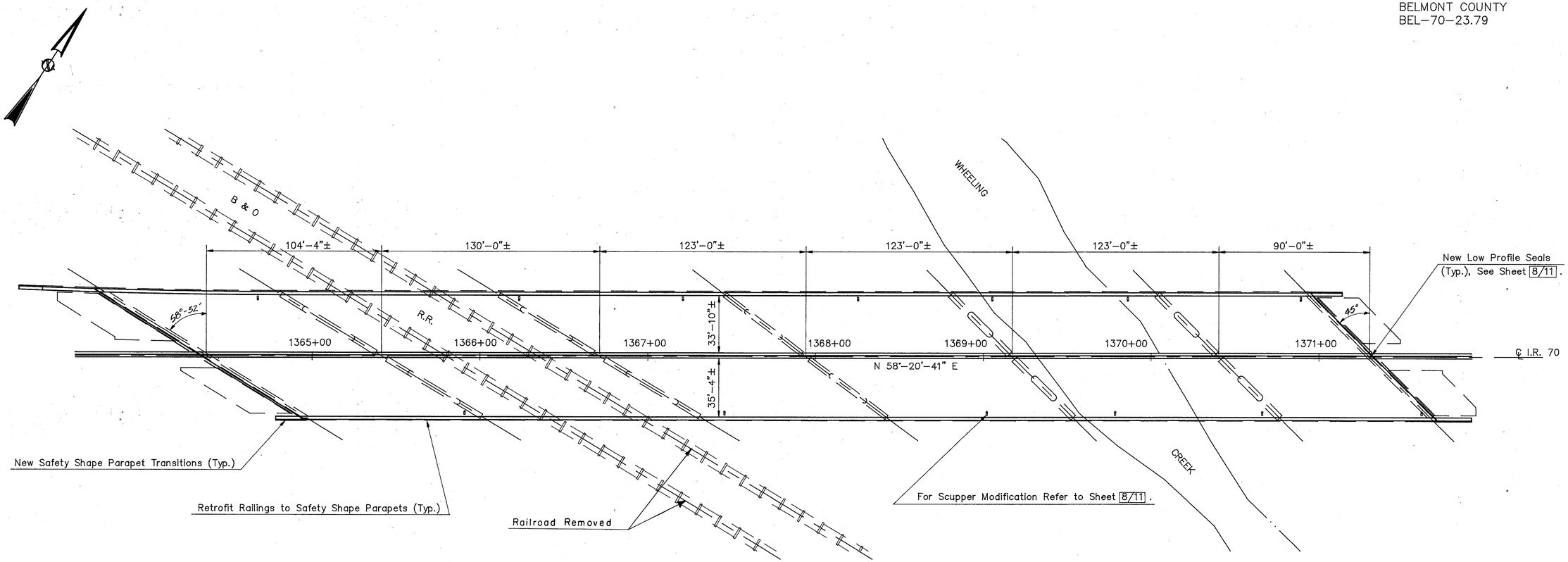
BELMONT COUNTY OHIO

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED
K.O.S. 1–94	K.O.S. 1–94		J.D.V. 1–94	T.F. 1–94	

REGION	STATE	PROJECT	
5	OHIO		

67
97

BELMONT COUNTY
BEL–70–23.79



PLAN

1 / 11

THOMAS FOK & ASSOCIATES, LTD.
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3896 MAHONING AVE. YOUNGSTOWN, OHIO

GENERAL PLAN

BRIDGE NO. BEL–70–2576
I.R. 70
AND WHEELING CREEK

BELMONT COUNTY OHIO

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED
K.R.M. 1–94	K.R.M. 2–94		J.D.V. 2–94	T.F. 2–94	

REGION	STATE	PROJECT		68
5	OHIO			97

BELMONT COUNTY
BEL–70–23.79

STRUCTURE GENERAL NOTES

REFERENCE shall be made to Standard Drawings:
SD–1–69 Dated 6–12–69
EXJ-4-87 Dated 1-20-94
and to Supplemental Specifications:

910 Dated 5–20–91
933 Dated 7–22–94

DESIGN SPECIFICATIONS: This structure conforms to "Standard Specifications for Highway Bridges" adopted by the American Association of State Highway and Transportation Officials, 1992, including the 1993 interim specifications, and the ODOT Bridge Design Manual.

DESIGN DATA:

Concrete Class S – compressive strength 4500 p.s.i. (superstructure)

Reinforcing steel – ASTM A615, A616 or A617
Grade 60 minimum yield strength 60,000 p.s.i.

Structural Steel
ASTM A36 – yield strength 36,000 p.s.i.

DECK PROTECTION METHOD:
1 3/4" concrete cover and 1 3/4" micro–silica concrete overlay.

ITEM SPECIAL, SEALING OF CONCRETE SURFACES (EPOXY): An epoxy concrete sealer shall be applied to the concrete surfaces shown on sheets 5/11, 6/11, and 7/11. See proposal note for surface preparation requirements, application rates, material requirements and application procedures.

CUT LINE CONSTRUCTION JOINT PREPARATION: Saw cut boundaries of proposed concrete removals 1" deep. Remove concrete to a rough surface. Where practicable, the existing reinforcing steel where required in the plans shall be left in place. Install dowel bars if specified. Prior to concrete placement abrasively clean joint surface and exposed reinforcement to remove loose and disintegrated concrete and loose rust. Then, the joint surface and exposed reinforcement shall be thoroughly cleaned of all dirt, dust, or other foreign material by the use of water, air under pressure, or other methods that produce satisfactory results. Concrete bonding surfaces shall be wet without free water as concrete is placed.

EXISTING STRUCTURE VERIFICATION: Details and dimensions shown on these plans pertaining to the existing structure have been obtained from plans of the existing structure and from field observations and measurements. Consequently, they are indicative of the existing structure and the proposed work but they shall be considered tentative and approximate. The Contractor is referred to CMS Sections 102.05, and 105.02.

Contract bid prices shall be based upon a recognition of the uncertainties described above and upon a prebid examination of the existing structure by the Contractor. However, all project work shall be based upon actual details and dimensions which have been verified by the Contractor in the field.

EXISTING BRIDGE PLANS: The original construction plans of the existing bridge are available upon request at the District 11 office of the OHIO DEPARTMENT OF TRANSPORTATION, New Philadelphia, Ohio.

WORK LIMITATIONS: No concrete deck overlays shall be placed before April 15. The Contractor shall schedule the work so that all deck overlays are placed before October 15. If for some unforseen circumstances, the deck overlays or portions of deck overlay are not placed by October 15, regardless of the work remaining, the full depth repairs shall be completed as per 511 and the unfinished deck shall be resurfaced with Item 448 Asphalt Concrete and opened to traffic. The Contractor shall place and maintain at his expense the asphalt wearing surface until removed at his expense the following spring when the deck overlay can be placed after April 15.

REPLACEMENT OF EXISTING REINFORCING STEEL: Any existing reinforcing bars which are to be incorporated into the new work and which are made unusable by the Contractor's concrete removal operations shall be replaced with new steel at their cost. Any existing reinforcing bars deemed by the Engineer to be unusable because of corrosion shall be replaced with new steel. An allowance 100 pounds is included in Item 509 for this purpose, listed in the "General" column of the Estimated Quantities table.

REINFORCING BAR SPLICE LENGTHS shall conform to 509.08 unless otherwise shown or noted on the plans.

UTILITY LINES: All expenses involved in relocating the affected utility lines shall be borne by the Owners. The Contractor and Owners are requested to cooperate by arranging their work in such a manner that inconvenience to either will be held to a minimum.

PORTIONS OF STRUCTURE REMOVED, AS PER PLAN shall include the elements indicated in the plans and general notes and are not separately listed for payment, except for wearing course removal. Items to be removed include all existing materials being replaced by new construction and miscellaneous items that are not shown to be incorporated into the final construction and miscellaneous items that are not shown to be incorporated into the final construction and are directed to be removed by the Engineer. The use of explosives, headache balls and/or hoe–rams will not be permitted. The method of removal and the weight of the hammer shall be approved by the Engineer. All work shall be done in a manner that will not cut, elongate or damage the existing reinforcing steel to be preserved. Chipping hammers shall not be heavier than the nominal 90–pound class. Pnuematic hammers shall not be placed in direct contact with reinforcing steel that is to be retained in the rebuilt structure.

ITEM 516 – VERTICAL EXTENSION OF STRUCTURAL EXPANSION JOINT, INCLUDING ELASTOMERIC STRIP SEALS, AS PER PLAN:
This item includes the replacement of the existing vertical extensions at the expansion joints, with new low profile sealed joints as shown on the plans. Steel members to be fabricated under this item will not require shop drawings prior to fabrication. The Contractor shall make necessary measurements and prepare sketches, drawings, tables, etc. The Engineer shall have authority and responsibility for ensuring that the fabricated steel is acceptable. Technical assistance will be provided on request by the Bureau of Bridges. Mill test reports and shipping documents shall be submitted to the Engineer for review and approval prior to incorporating steel items into the work, as required by 501.07. After fabrication, the Contractor shall submit shop drawings to the Engineer for review and approval to ensure that the drawings depict the steel as actually incorporated into the work. The Engineer will then send one approved set to the Bureau of Bridges for information. Pay weights shall be computed in compliance with 513 of the Construction and Material Specifications and submitted to the Engineer for his review and approval. The fabricator shall furnish a 35 millimeter microfilm copy of each shop drawing, which shall be mounted on an aperture card as specified in 501.05.

All labor, tools, equipment, materials and incidentals necessary to complete this work are included under Item 516, Vertical Extension of Structural Expansion Joint, as per plan.

DECK JOINT PAINTING: After cleaning in the field as directed, and preferably after installation of joint seals, all upper exposed steel surfaces excluding roadway surfaces in travelled lanes shall be field painted with a System OZEU prime, intermediate, and finish coat of paint as described in the Supp. Spec. for OZEU painting. Cost for field cleaning and painting shall be included in the price bid per square foot for the appropriate items under Item Special, Field Painting of Existing Steel, System OZEU.

ITEM 513 – STRUCTURAL STEEL FOR REHABILITATION, AS PER PLAN: This item includes the replacement of deteriorated members, plates, and appurtenances of the existing end crossframes, as directed by the Engineer. All members, plates, and connections are to be replaced in kind. Steel members to be fabricated under this item will not require shop drawings prior to fabrication. The Contractor shall make necessary measurements and prepare sketches, drawings, tables, etc. The Engineer shall have authority and responsibility for ensuring that the fabricated steel is acceptable. Technical assistance will be provided on request by the Bureau of Bridges. Mill test reports and shipping documents shall be submitted to the Engineer for review and approval prior to incorporating steel items into the work, as required by 501.07. After fabrication, the Contractor shall submit shop drawings to the Engineer for review and approval to ensure that the drawings depict the steel as actually incorporated into the work. The Engineer will then send one approved set to the Bureau of Bridges for information. Pay weights shall be computed in compliance with 513 of the Construction and Material Specifications and submitted to the Engineer for his review and approval. The fabricator shall furnish a 35 millimeter microfilm copy of each shop drawing, which shall be mounted on an aperture card as specified in 501.05.

All labor, tools, equipment, materials and incidentals necessary to complete this work are included under the unit price bid per pound for Item 513, Structural Steel for Rehabilitation, as per plan.

PAINTING OF STRUCTURAL STEEL: New steel shall be cleaned and prime painted in the shop and field painted with an intermediate and finish coat of paint using System IZEU. Existing steel shall be field cleaned and painted with a prime, intermediate, and finish coat of paint using System OZEU. For pay purposes, cleaning and prime painting new steel is included in 513, intermediate and finish painting of new steel in 815., and field cleaning and painting existing steel in the several OZEU items. The surface area pay quantities are based on the surface area of main members increased be 10 percent to account for the area of crossframes, bearings, and other steel incidentals being cleaned and painted.

ITEM 510 – DOWEL HOLE, AS PER PLAN: This item shall be performed as indicated on the plans or as directed by the Engineer and shall be used to replace the deteriorated bars which were to remain, or to place new dowel bars where a new concrete section is being attached to the remaining portions of existing concrete. The grout shall be epoxy and shall conform to 705.20 and the installation shall conform to Supplemental Specification 852. The dowel bars are to be paid for under "ITEM 509 – EPOXY COATED REINFORCING STEEL, GRADE 60" and the dowel holes are to be paid for under "ITEM 510 – DOWEL HOLE, AS PER PLAN."

ITEM 518 – SCUPPER LENGTHENING, AS PER PLAN: This item includes removal of existing vertical extensions at the scuppers, repairs to the scuppers and extending the scupper outlets to a minimum of 8" below the stringers as shown on the plans. All labor, equipment and materials necessary to complete this work are included under the unit price bid per each for Item 518, Scupper Lengthening, as per plan.

PROPOSED WORK

1. Set traffic control devices for part width construction.
2. Remove portions of existing abutments, railing, existing bulb angles, existing vertical extensions at joints and scuppers, safety curbs and existing asphalt wearing surface as noted on the plans.
3. Repair and extend scuppers, and install new vertical extensions at expansion joints as shown on the plans.
4. Repair damaged concrete on abutments and piers as per plan.
5. Prepare deck surface and place new 1 3/4" micro–silica modified concrete overlay and place styrations in deck surface.
6. Seal concrete surfaces as noted on plans.
7. Paint existing structural steel as per plan.
8. Remove traffic control devices and open structure to traffic.

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GENERAL NOTES

BRIDGE NO. BEL–70–2576
I.R. 70
AND WHEELING CREEK

BELMONT COUNTY OHIO

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED
K.R.M.	K.R.M.		J.D.V.	T.F.	
1–94	2–94		2–94	2–94	

REGION	STATE	PROJECT		69
5	OHIO			97

BELMONT COUNTY
BEL-70-23.79

ESTIMATED QUANTITIES

ESTIMATED QUANTITIES					CALCULATED K.R.M.		CHECKED J.D.V.	
ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	SUPER.	ABUT.	PIER	GEN'L
202	11203	Lump	Lump	Portions of Structures Removed, as per plan, over 20 foot span				Lump
202	23500	5183	Sq. Yd.	Wearing Course Removed	5183			
202	38500	1498	Lin. Ft.	Bridge Railing Removed	1397	101		
509	15830	22,068	Pound	Epoxy Coated Reinforcing Steel, Grade 60	19,337	2631		100
510	11101	2636	Each	Dowel Hole, as per plan	2460	176		
Spec.	51149000	Lump	Lump	High Performance Concrete Trial Mix **	Lump			
Spec.	51148020	181	Cu. Yd.	High Performance Concete, Superstructure (Parapet)*	151	30		
Spec.	51149010	Lump	Lump	High Performance Concrete, Testing *	Lump			
Spec.	51267502	1607	Sq. Yd.	Sealing of Concrete Surfaces (Epoxy) *	1194	413		
513	16001	2500	Pound	Structural Steel for Rehabilitation, as per plan **	2500			
815	00050	122,000	Sq. Ft.	Surface Preparation of Existing Steel, System OZEU *	122,000			
815	00056	122,000	Sq. Ft.	Field Painting of Existing Steel, Prime Coat, System OZEU *	122,000			
815	00060	122,000	Sq. Ft.	Field Painting of Existing Steel, Intermediate Coat, System OZEU *	122,000			
815	00066	122,000	Sq. Ft.	Field Painting of Existing Steel, Finish Coat, System OZEU *	122,000			
514	00610	2500	Pound	△Painting of New Steel, System IZEU ** △ Field	2500			
516	11801	245	Lin. Ft.	Vertical Extension of Structural Expansion Joint, As Per Plan	245			
518	12901	27	Each	Scupper Lengthening, as per Plan	27			
519	11100	10	Sq. Ft.	Patching Concrete Structure		5	5	
Spec.	51912600	63	Lin. Ft.	Concrete Repair by Epoxy Injection *		58	5	
Spec.	51922006	5380	Sq. Yd.	Micro-Silica Modified Concrete Overlay (1.75") *	5380			
Spec.	51922100	106	Cu. Yd.	Micro-Silica Modified Concrete Overlay (variable thickness) *	106			
Spec.	51922200	1	Cu. Yd.	Full Depth Repair, (Micro-Silica Modified Concrete)*	1			
Spec.	51922300	Lump	Lump	Test Slab *				

* See Proposal Note

** Item may be non-performed as directed by the Engineer.

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ESTIMATED QUANTITIES

BRIDGE NO. BEL-70-2576
I.R. 70
AND WHEELING CREEK

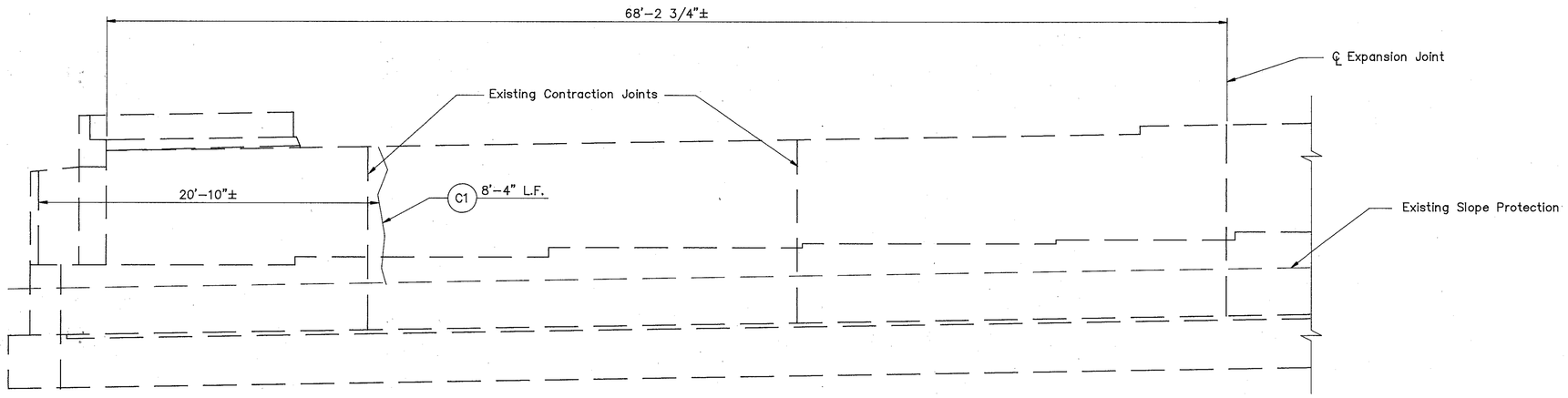
BELMONT COUNTY OHIO

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED
K.R.M.	K.R.M.		J.D.V.	T.F.	
2-94	2-94		2-94	2-94	

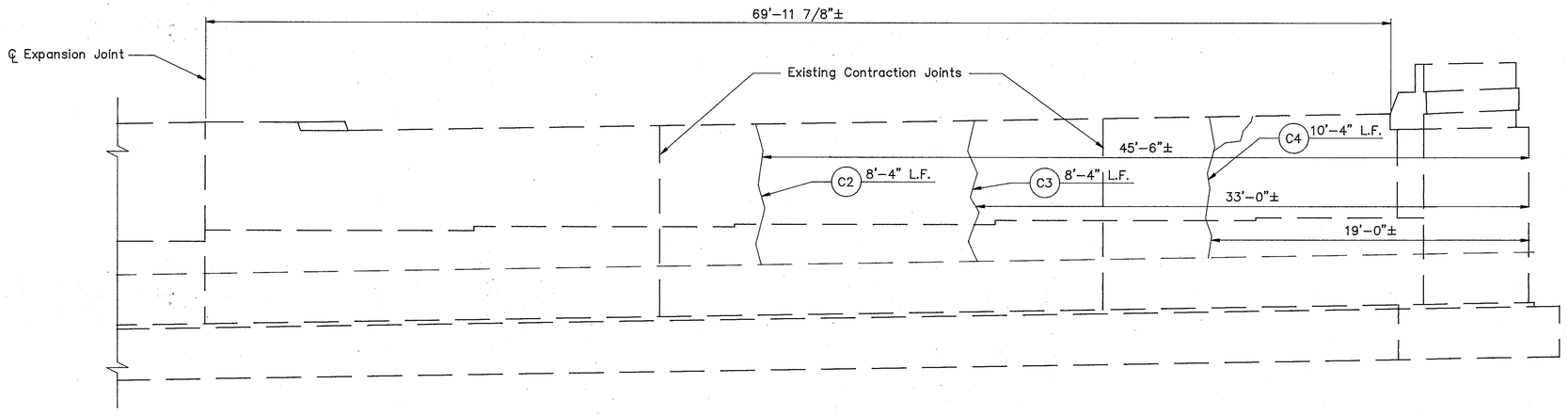
REGION	STATE	PROJECT	
5	OHIO		

70
97

BELMONT COUNTY
BEL–70–23.79



REAR ABUTMENT ELEVATION



REAR ABUTMENT ELEVATION

(Note: Piles not shown)

LEGEND

- (S_) S.F. – Approximate area Estimated for Patching
- ⌇ – Epoxy inject cracks per proposal note, Rear Abutment
- (C_) L.F. – Approximate Lin. Ft. Estimated for Crack Repair

Note: No spalled ares were found on abutments.

Existing ground line shown is approximate. Field verify dimensions as necessary. Rear Abutment dimensions shown.

Epoxy seal all surfaces as shown on the elevation to the limits shown in Section A–A, sheet 5/11. Also seal the wingwalls from the existing ground line to the lower parapet construction joint. Seal the parapet transitions with the same material as the parapet retrofit is sealed with.

See sheets 9/11, and 10/11 for parapet retrofit details.

For additional abutment details, see sheets 5/11 and 6/11.

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REAR ABUTMENT REPAIRS

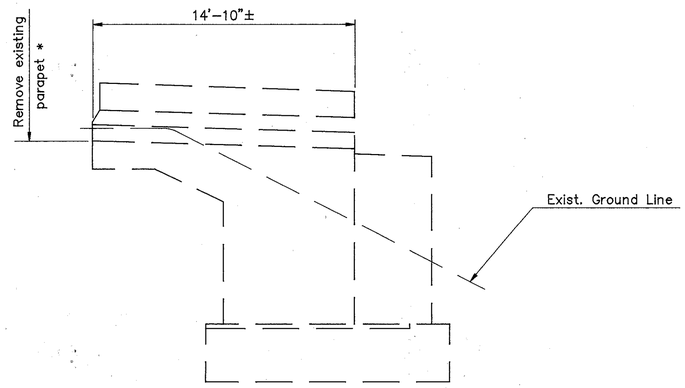
BRIDGE NO. BEL–70–2576
I.R. 70
AND WHEELING CREEK

BELMONT COUNTY OHIO

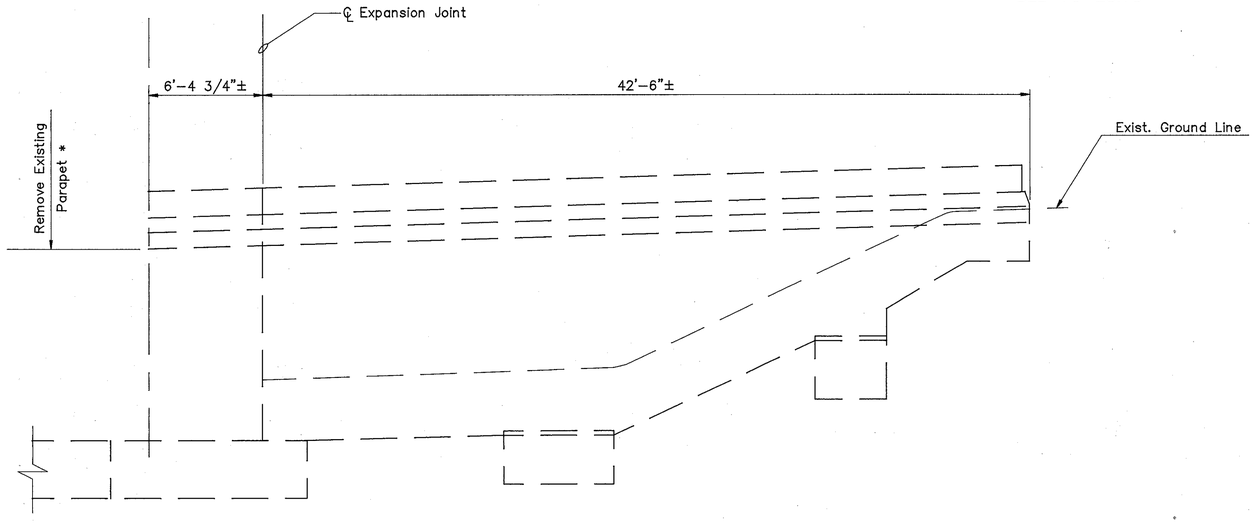
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED
K.R.M.	K.R.M.		J.D.V.	T.F.	
1–94	2–94		2–94	2–94	

REGION	STATE	PROJECT		71
5	OHIO	-		97

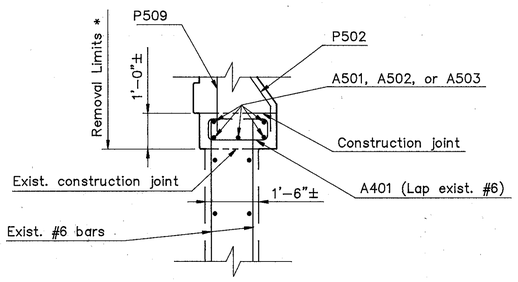
BELMONT COUNTY
BEL-70-23.79



SOUTH WINGWALL ELEVATION - REAR ABUTMENT

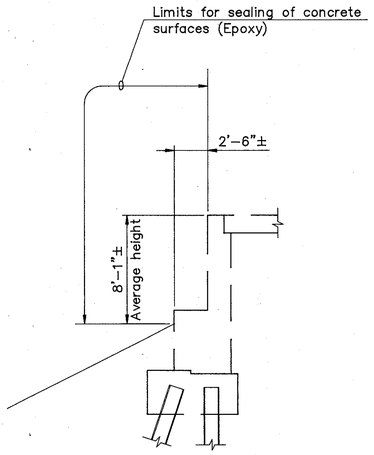


NORTH WINGWALL ELEVATION - REAR ABUTMENT



DETAIL B

* Remove existing parapet & safety curbs to construction joint and preserve existing #6 vertical bars.



SECTION A-A
LIMITS FOR SEALING OF CONCRETE SURFACES

LEGEND	
(S_) S.F.	Approximate area Estimated for Patching
⌇	Epoxy inject cracks per proposal note, Rear Abutment
(C_) L.F.	Approximate Lin. Ft. Estimated for Crack Repair

Note: No spalled areas were found on abutments.

Existing ground line shown is approximate. Field verify dimensions as necessary. Rear Abutment dimensions shown.

Epoxy seal all surfaces as shown on the elevation to the limits shown in Section A-A. Also seal the wingwalls from the existing ground line to the lower parapet construction joint. Seal the parapet transitions with the same material as the parapet retrofit is sealed with.

See sheets 9/11 , and 10/11 for parapet retrofit details.

For additional abutment details, see sheets 4/11 and 6/11 .

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REAR ABUTMENT REPAIRS

BRIDGE NO. BEL-70-2576
I.R. 70
AND WHEELING CREEK

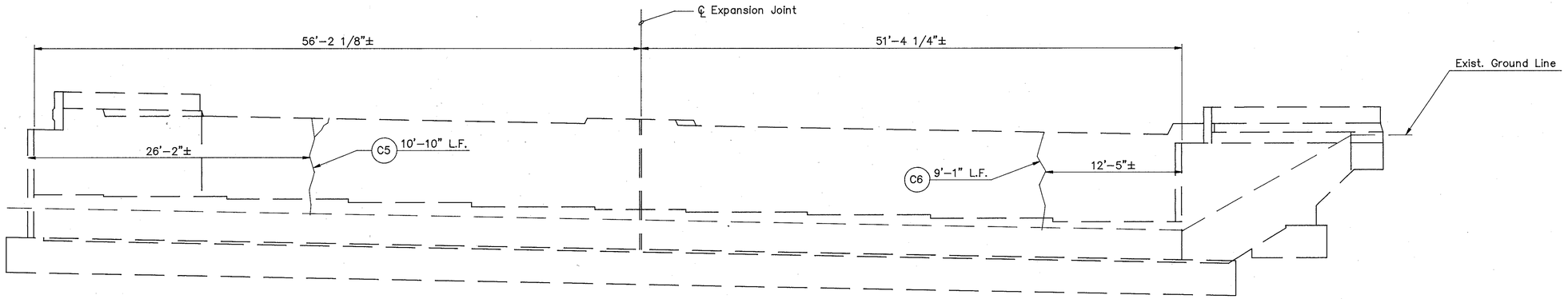
BELMONT COUNTY OHIO

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED
K.R.M. 1-94	K.R.M. 2-94		J.D.V. 2-94	T.F. 2-94	

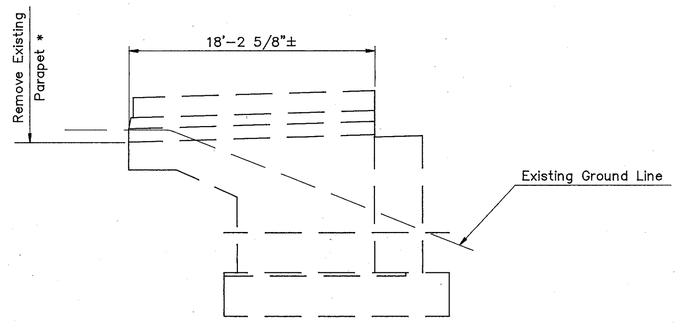
REGION	STATE	PROJECT	
5	OHIO		

72
97

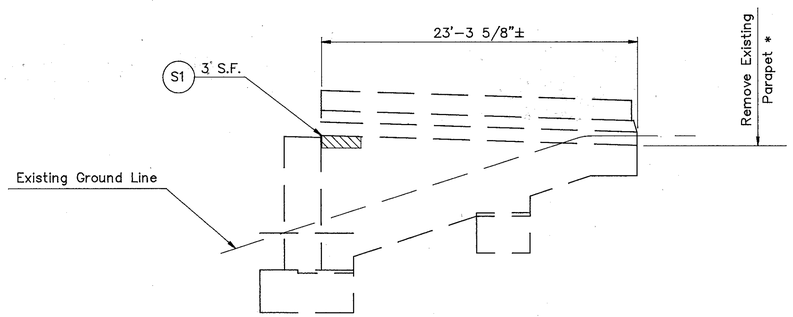
BELMONT COUNTY
BEL–70–23.79



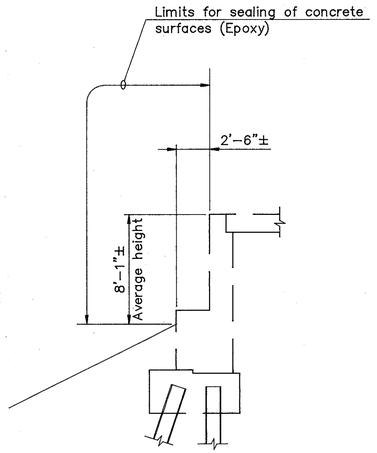
ELEVATION



NORTH WINGWALL ELEVATION – EAST ABUTMENT

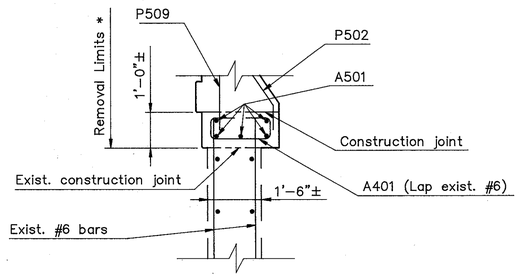


SOUTH WINGWALL ELEVATION – EAST ABUTMENT



SECTION A–A

LIMITS FOR SEALING OF CONCRETE SURFACES



DETAIL B

* Remove existing parapet & safety curbs to construction joint and preserve existing #6 vertical bars.

LEGEND

- ▨ – Indicates limits of concrete patching for Forward Abutment
- (S_) S.F. – Approximate area Estimated for Patching
- ⌇ – Epoxy inject cracks per proposal note, Forward Abutment
- (C_) L.F. – Approximate Lin. Ft. Estimated for Crack Repair

Existing ground line shown is approximate. Field verify dimensions as necessary. Forward Abutment dimensions shown.

Epoxy seal all surfaces as shown on the elevation to the limits shown in Section A–A. Also seal the wingwalls from the existing ground line to the lower parapet construction joint. Seal the parapet transitions with the same material as the parapet retrofit is sealed with.

See sheets 9/11, and 10/11 for parapet retrofit details.

For additional abutment details, see sheets 4/11 and 5/11.

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FORWARD ABUTMENT REPAIRS

BRIDGE NO. BEL–70–2576
I.R. 70
AND WHEELING CREEK

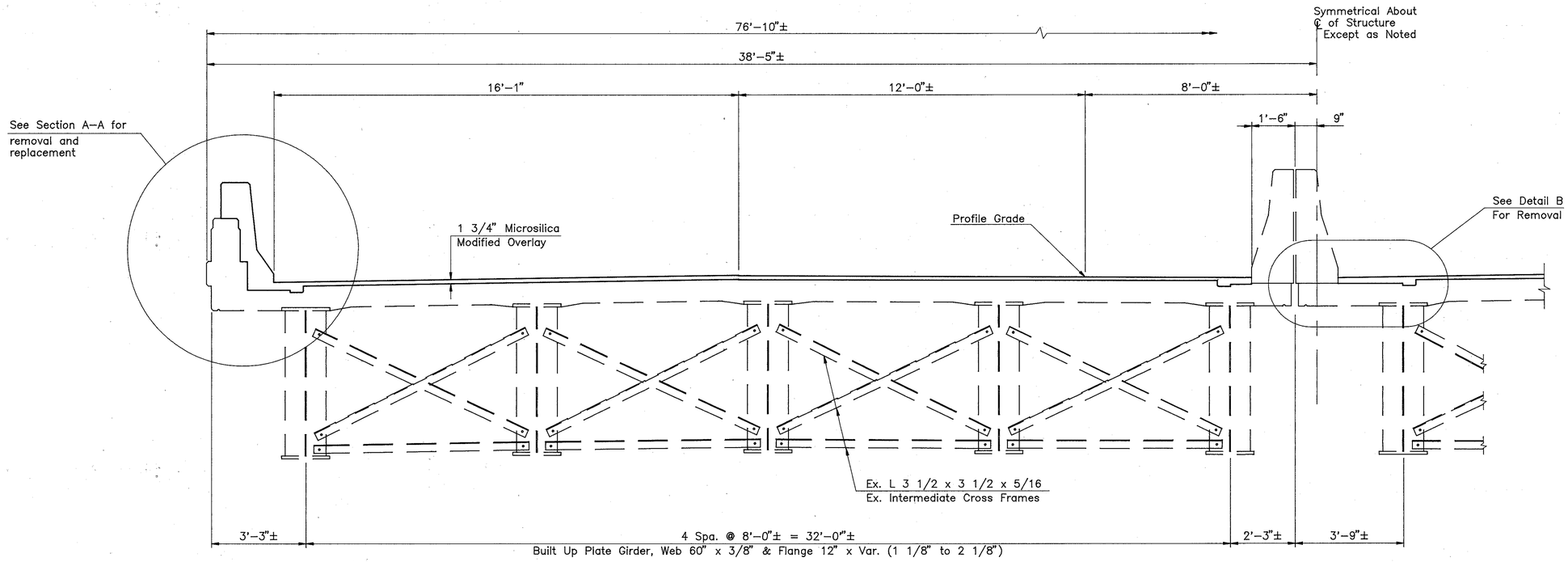
BELMONT COUNTY OHIO

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED
K.R.M. 1–94	K.R.M. 2–94		J.D.V. 2–94	T.F. 2–94	

REGION	STATE	PROJECT		
5	OHIO			

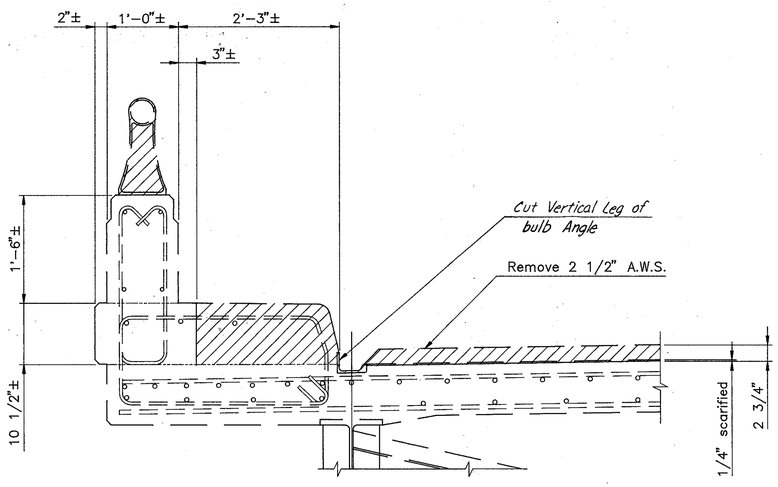
73
97

BELMONT COUNTY
BEL–70–23.79

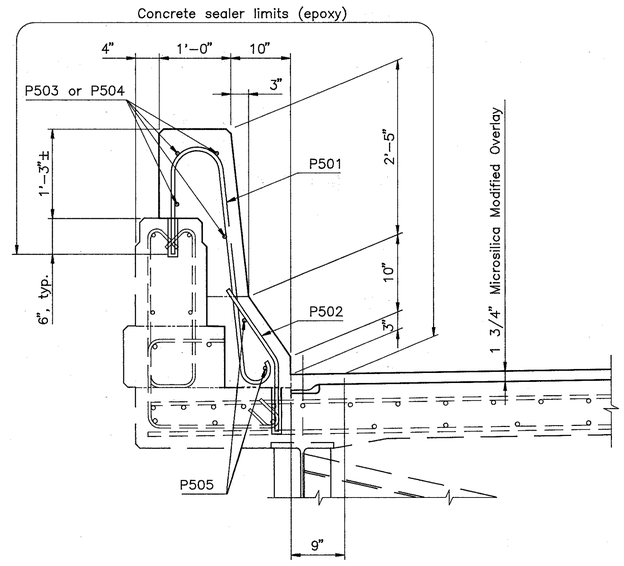


TRANSVERSE SECTION

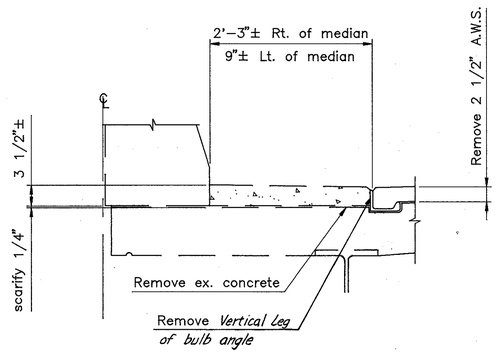
* Reinforcing steel not shown



SECTION A–A
REMOVAL SECTION



SECTION A–A
REPLACEMENT SECTION



DETAIL B

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TRANSVERSE SECTION

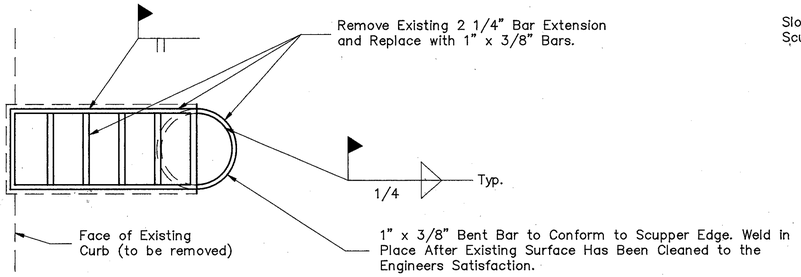
BRIDGE NO. BEL–70–2576
I.R. 70
AND WHEELING CREEK

BELMONT COUNTY OHIO

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED
K.R.M.	K.R.M.		J.D.V.	T.F.	
1–94	2–94		2–94	2–94	

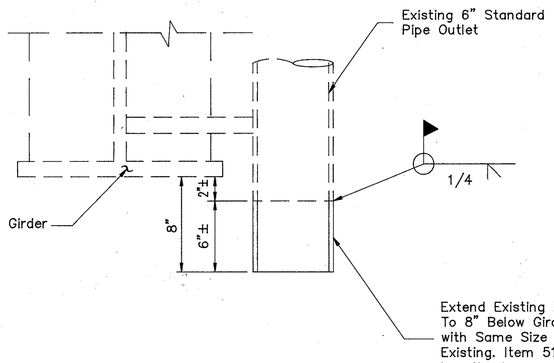
REGION	STATE	PROJECT		74
5	OHIO			97

BELMONT COUNTY
BEL–70–23.79

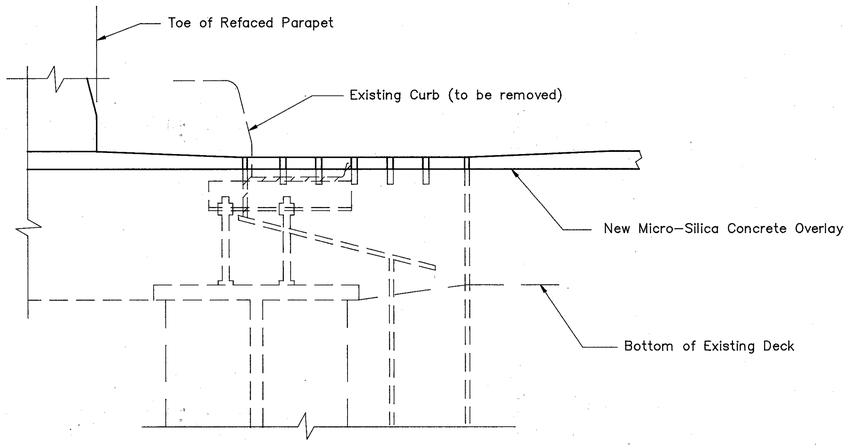


SCUPPER BAR REPLACEMENT & VERTICAL EXTENSION

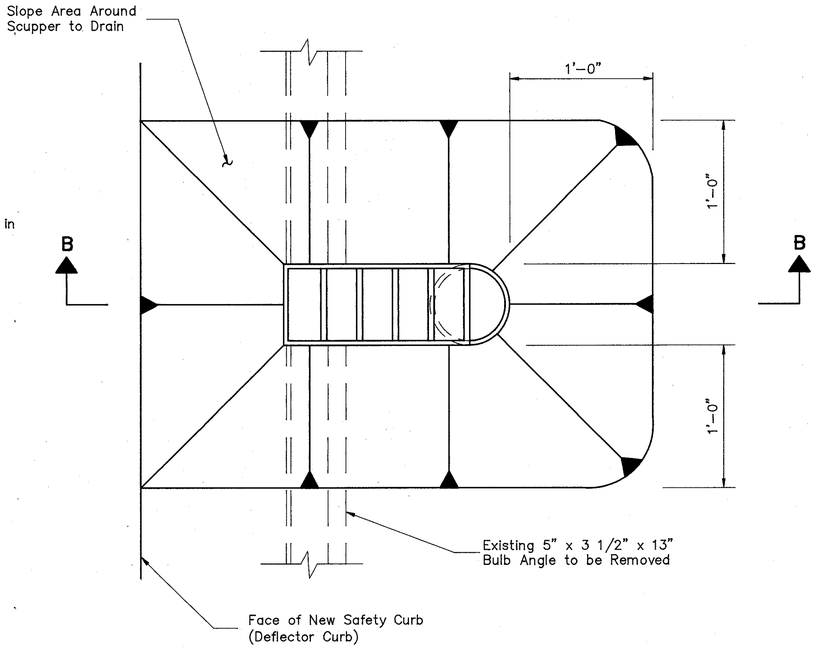
(All Material and Work to Complete These Items Shall be Included for Payment with Item 518, Scupper, Lengthening, as per plan.)



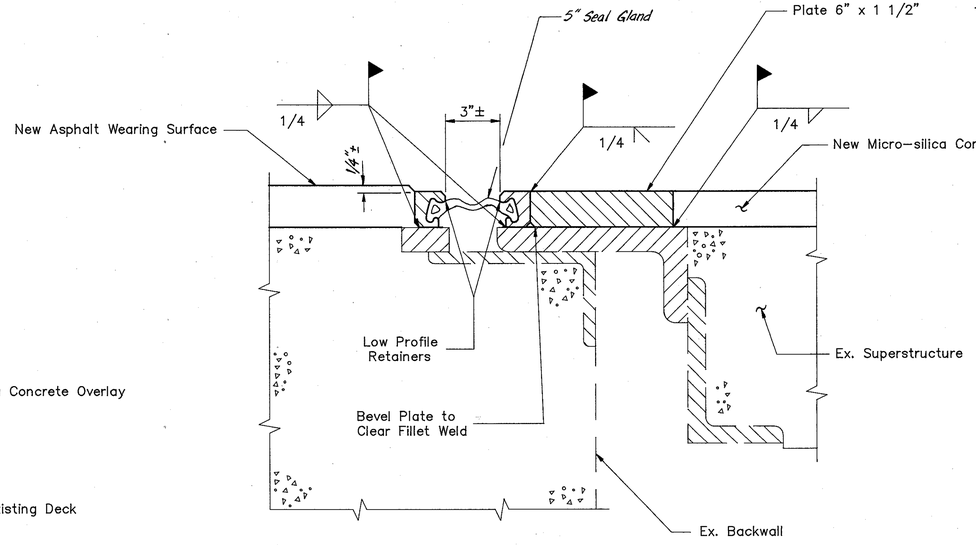
SCUPPER LENGTHENING



SECTION B–B

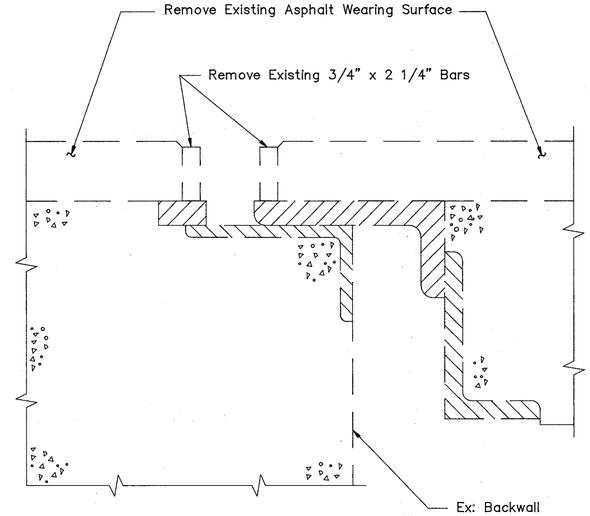


PLAN AT SCUPPER



VERTICAL EXTENSION OF STRUCTURAL EXPANSION JOINTS INCLUDING ELASTOMERIC STRIP SEALS

(See Detail A For Removal Detail)



DETAIL A

8 / 11

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MISCELLANEOUS DETAILS

BRIDGE NO. BEL–70–2576
I.R. 70
AND WHEELING CREEK

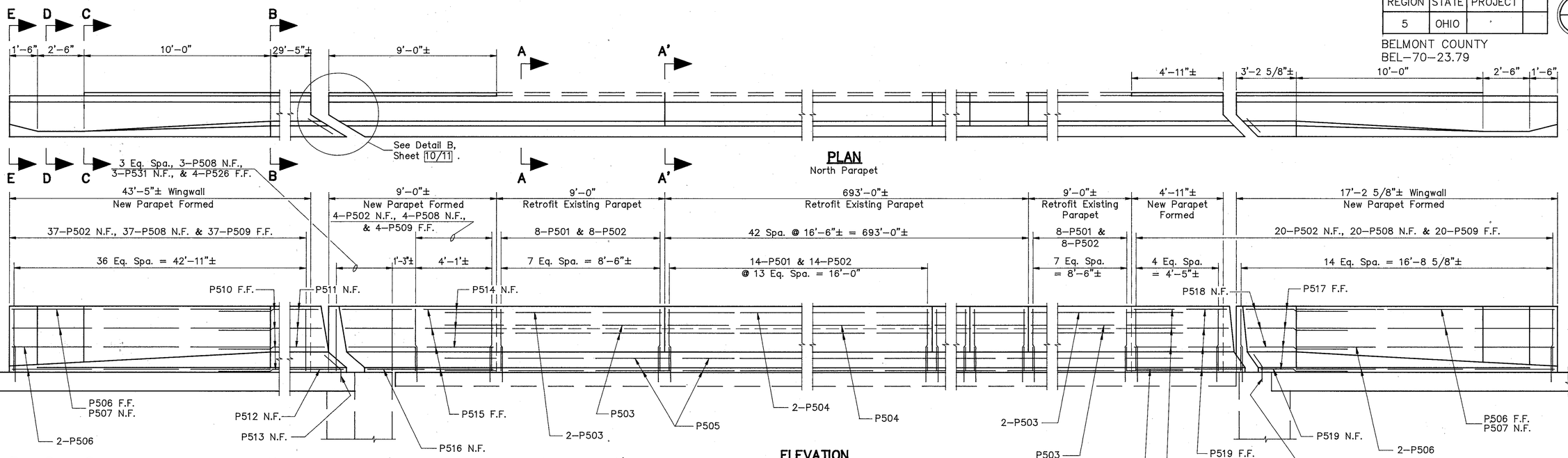
BELMONT COUNTY OHIO

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED
K.R.M. 1–94	K.R.M. 2–94		J.D.V. 2–'94	T.F. 2–94	

REGION	STATE	PROJECT		
5	OHIO			

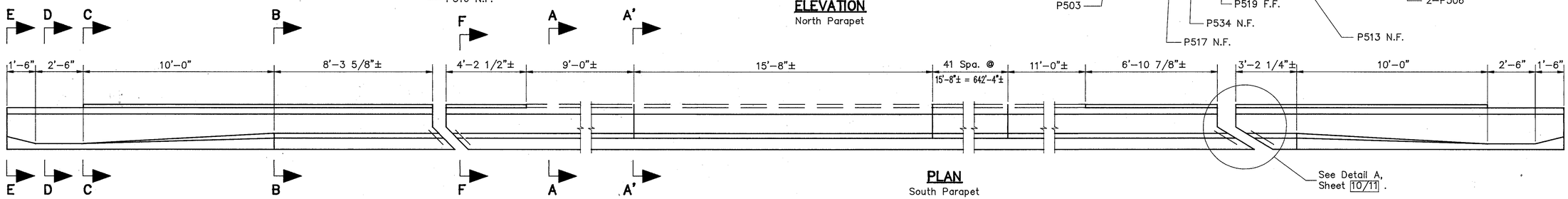
75
97

BELMONT COUNTY
BEL–70–23.79



PLAN
North Parapet

ELEVATION
North Parapet



PLAN
South Parapet

ELEVATION
South Parapet

Refer to Sheet 7/11 For Section A–A.
Refer to Sheet 10/11 For Parapet Sections.

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PARAPET RETROFIT

BRIDGE NO. BEL–70–2576
I.R. 70
AND WHEELING CREEK

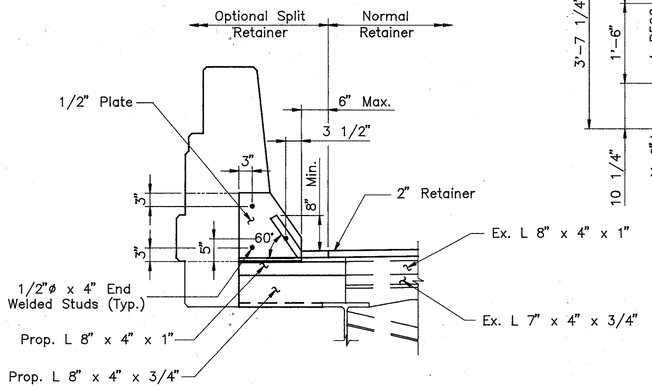
BELMONT COUNTY OHIO

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED
K.R.M.	K.R.M.		J.D.V.	T.F.	
1–94	2–94		2–94	2–94	

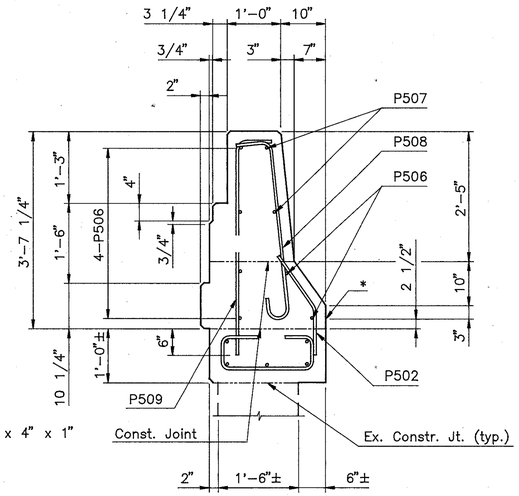
REGION	STATE	PROJECT		
5	OHIO			

76
97

BELMONT COUNTY
BEL–70–23.79

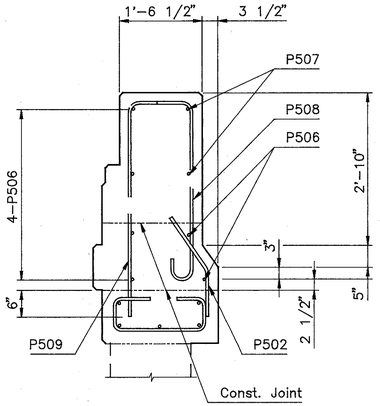


SECTION J–J
Superstructure Side
North Parapet Shown, South Parapet Opposite Hand

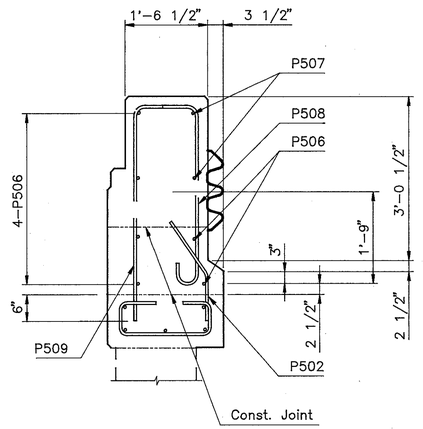


SECTION B–B

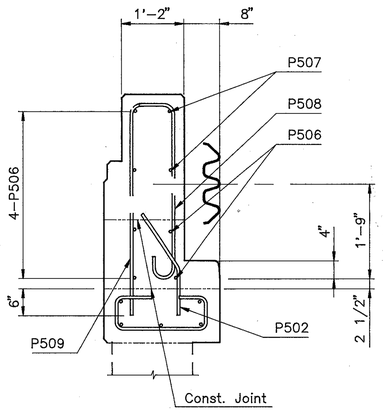
* Top of proposed shoulder line extended from edge of shoulder to toe of parapet, (typ.)



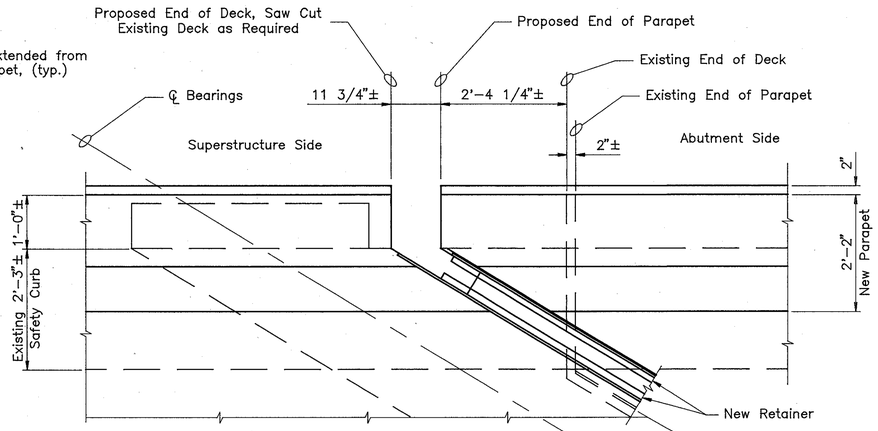
SECTION C–C



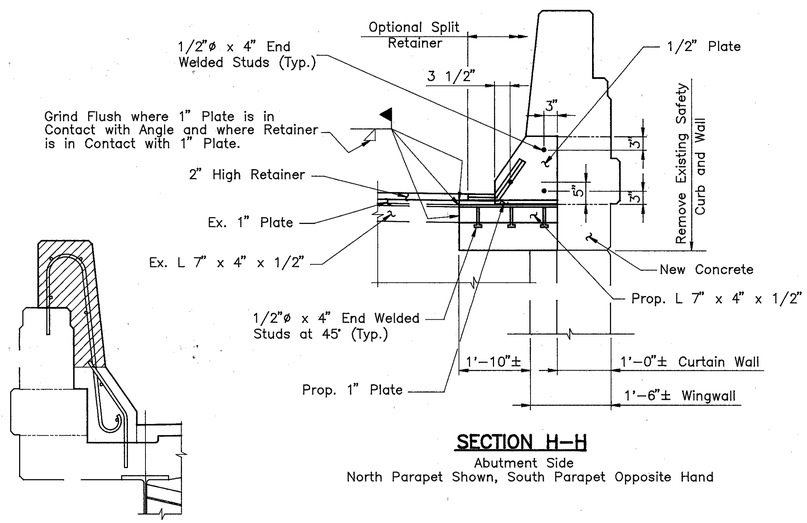
SECTION D–D



SECTION E–E



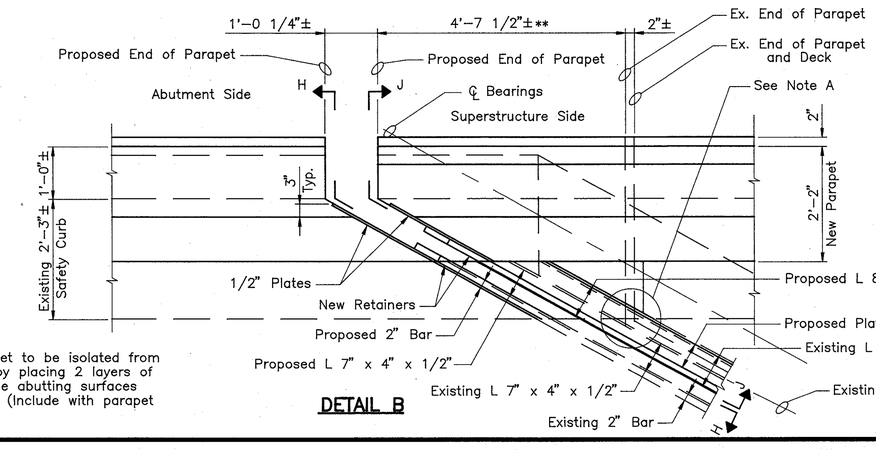
DETAIL A
FOR DETAILS NOT SHOWN, SEE DETAIL B



SECTION H–H
Abutment Side
North Parapet Shown, South Parapet Opposite Hand

SECTION A'–A'

NOTE A: The proposed 6" x 1 1/2" plate to be widened is to lap the existing edge of deck at least 2".



DETAIL B

1. Existing reinforcing steel locations are approximate.
2. Existing reinforcing steel may be cut off or bent out of the way.
3. Removal limits shall provide 2 inch minimum clearance around all new reinforcing bars.
4. Space all reinforcing steel at 1'–3" c/c maximum. Provide a 3 inch minimum clearance between vertical reinforcing steel and existing expansion joints.
5. Make all longitudinal steel reinforcing steel continuous with minimum lap lengths of 2'–9" unless noted.
6. Provide 2 inch minimum concrete cover unless noted.
7. For additional notes, see "General Notes", sheet 2/11 .
8. All loose and unsound concrete in the area of the parapet to be faced, shall be removed. All remaining sound concrete shall then be mechanically scarified 1/4" deep.
9. For Reinforcing steel dimensions, see "Reinforcing Steel", sheet 11/11 .
10. See "Transverse Section", sheet 7/11 , for Section A–A.
11. For "Vertical Extension of Structural Expansion Joints", see sheet 8/11 .

Deflection Joints shall be extended completely through the proposed facing and the new joints shall be formed. The 1/4" joints shall be sealed 3/4" deep (min.) with an impregnated precompressed expanding foam sealant tape known as Will–Seal manufactured by ILLBUCK/USA Inc., Minn. or a low density closed cell crosslinked Ethylene Vinyl Acetate Foam known as Evazote 50 manufactured by E–POXY Industries, Ravenna, N.Y. Include with Item 511 Class S Concrete, Parapet, As Per Plan for Payment.

** This portion of proposed parapet to be isolated from the abutment concrete below by placing 2 layers of sheet Asbestos packing with the abutting surfaces lubricated with flake graphite. (Include with parapet concrete for payment.)

10/11

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PARAPET RETROFIT
BRIDGE NO. BEL–70–2576
I.R. 70
AND WHEELING CREEK

BELMONT COUNTY OHIO

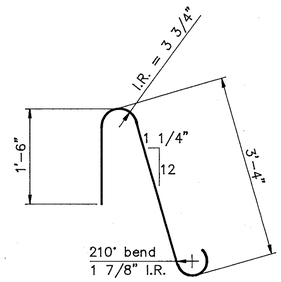
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED
K.R.M.	K.R.M.		J.D.V.	T.F.	
1–94	2–94		2–94	2–94	

REGION	STATE	PROJECT		77
5	OHIO			97

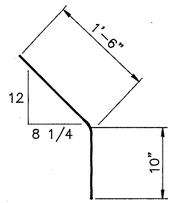
BELMONT COUNTY
BEL–70–23.79

REINFORCING STEEL LIST

MARK	NO. REQD.	LENGTH	TYPE	DIMENSIONS A	B	C	D	INCRM.	SUPERSTRUCTURE NO. REQD.	SUPERSTRUCTURE WEIGHT	ABUTMENTS NO. REQD.	ABUTMENTS WEIGHT	TOTAL WEIGHT
A401	71	3'–10"	3	7"	1'–8"	8"					71	182	182
A501	10	16'–10"	ST								10	176	176
A502	5	21'–10"	ST								5	114	114
A503	10	23'–0"	ST								10	240	240
P501	1210	5'–8"	1						1210	7152			7152
P502	1315	2'–3"	2						1229	2884	86	202	3086
P503	12	11'–6"	ST						12	144			144
P504	168	16'–2"	ST						168	2833			2833
P505	86	35'–5"	ST						86	3177			3177
P506	24	13'–10"	ST								24	346	346
P507	8	13'–6"	6	9'–9"							8	113	113
P508	108	4'–5"	4						22	102	86	396	498
P509	105	4'–5"	5	3'–10"	8"				19	88	86	396	484
P510	4	32'–0"	ST								4	134	134
P511	3	32'–9"	ST								3	103	103
P512	1	33'–6"	ST								1	35	35
P513	6	2'–6"	7						2	5	4	11	16
P514	4	7'–9"	ST						4	32			32
P515	4	8'–8"	ST						4	36			36
P516	1	6'–10"	ST						1	7			7
P517	9	5'–9"	ST						1	6	8	48	54
P518	3	5'–6"	ST								3	17	17
P519	5	4'–8"	ST						4	19	1	5	24
P520	3	11'–4"	ST								3	35	35
P521	4	10'–10"	ST								4	45	45
P522	1	11'–10"	ST								1	13	13
P523	3	3'–4"	ST						3	10			10
P524	4	3'–8"	ST						4	15			15
P525	1	2'–8"	ST						1	3			3
P526	4	5'–3"	8	8"	3'–4"	1'–6"			4	22			22
P527	3	5'–0"	ST								3	16	16
P528	1	4'–3"	ST								1	4	4
P529	3	7'–1"	ST						3	22			22
P530	4	6'–4"	ST						4	26			26
P531	3	2'–3"	9	8"	3"	1'–6"			3	7			7
P532	168	15'–4"	ST						168	2687			2687
P533	4	10'–8"	ST						4	45			45
P534	3	4'–10"	ST						3	15			15
								TOTALS		19,337		2631	21,968



TYPE 1



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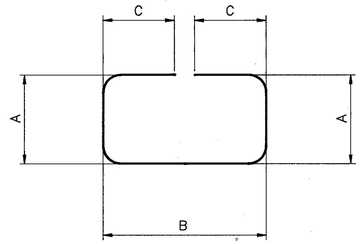
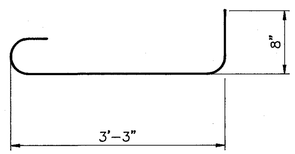


TYPE 3



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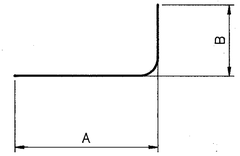

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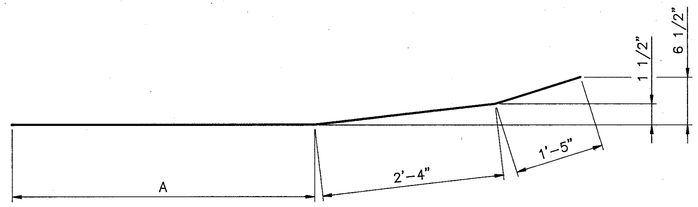
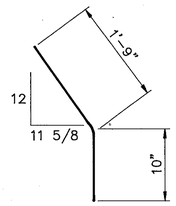


TYPE 6



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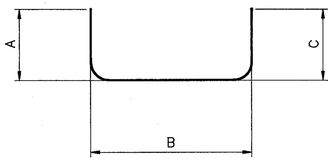
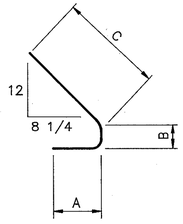


TYPE 8



TYPE 9

NOTES

BAR SIZE: The bar size is indicated in the bar mark. The first digit where three digits are used, and the first two digits where four are used, indicate the bar size number. For example: A506 is No. 5 size bar and P1101 is a No. 11 size bar.

All Reinforcing Steel is epoxy coated.

ST = Straight

11 / 11

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REINFORCING STEEL LIST
BRIDGE NO. BEL–70–2576
I.R. 70
AND WHEELING CREEK

BELMONT COUNTY OHIO

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED
K.R.M.	K.R.M.		J.D.V.	T.F.	
1–94	2–94		2–94	2–94	

REGION	STATE	PROJECT		78
5	OHIO			97

BELMONT COUNTY
BEL-70-23.79

STRUCTURE GENERAL NOTES

REFERENCE shall be made to Supplemental Specifications:

910 Dated 5-20-91
933 Dated 7-22-94

DESIGN SPECIFICATIONS: This structure conforms to "Standard Specifications for Highway Bridges" adopted by the American Association of State Highway and Transportation Officials, 1992, including the 1993 interim specifications, and the ODOT Bridge Design Manual.

DECK PROTECTION METHOD:
1/4" epoxy deck overlay.
Sealing of concrete surfaces (epoxy).

ITEM SPECIAL, SEALING OF CONCRETE SURFACES (EPOXY): An epoxy concrete sealer shall be applied to the concrete surfaces shown on sheet [2/4]. See proposal note for surface preparation requirements, application rates, material requirements and application procedures.

EXISTING STRUCTURE VERIFICATION: Details and dimensions shown on these plans pertaining to the existing structure have been obtained from plans of the existing structure and from field observations and measurements. Consequently, they are indicative of the existing structure and the proposed work but they shall be considered tentative and approximate. The Contractor is referred to CMS Sections 102.05, and 105.02.

Contract bid prices shall be based upon a recognition of the uncertainties described above and upon a prebid examination of the existing structure by the Contractor. However, all project work shall be based upon actual details and dimensions which have been verified by the Contractor in the field.

EXISTING BRIDGE PLANS: The original construction plans of the existing bridge are available upon request at the District 11 office of the OHIO DEPARTMENT OF TRANSPORTATION, New Philadelphia, Ohio.

WORK LIMITATIONS: No epoxy deck overlays shall be placed before April 15. The Contractor shall schedule the work so that all deck overlays are placed before October 15. If for some unforseen circumstances, the deck overlays or portions of deck overlay are not placed by October 15, regardless of the work remaining, the unfinished deck shall be resurfaced with Item 448 Asphalt Concrete and opened to traffic. The Contractor shall place and maintain at his expense the asphalt wearing surface until removed at his expense the following spring when the deck overlay can be placed after April 15.

DECK JOINT PAINTING: After cleaning in the field as directed, and preferably after installation of joint seals, all upper exposed steel surfaces excluding roadway surfaces in travelled lanes shall be field painted with a System OZEU prime, intermediate, and finish coat of paint as described in the proposal note for OZEU painting. Cost for field cleaning and painting shall be included in the price bid per square foot for the appropriate items under Item , Field Painting of Existing Steel, System OZEU.

PROPOSED WORK

1. Set traffic control devices for part width construction.
2. Patch deteriorated areas of existing deck and prepare surface for 1/4" epoxy overlay.
3. Repair deteriorated concrete on abutments and piers as per plan.
4. Install joint trough at the intermediate expansion joint as shown.
5. Place epoxy overlay and epoxy seal curbs, sidewalks, railings, piers, and abutment backwalls and seats. Apply non-skid surface on sidewalks.
6. Paint existing structural steel as per plan.
7. Remove traffic control devices and open structure to traffic.

ESTIMATED QUANTITIES

CALCULATED J.D.V. CHECKED K.R.M.

ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	SUPER.	ABUT.	PIER	GEN'L
Spec.	51267502	1496	Sq. Yd.	Sealing of Concrete Surfaces (Epoxy) *	1330	71	95	
Spec.	51272000	1825	Sq. Yd.	Epoxy Waterproofing Overlay (1/4" Thick) *	1825			
Spec.	51272500	Lump	Lump	Test Patch *	Lump			
815	00050	50,650	Sq. Ft.	Surface Preparation of Existing Steel, System OZEU *	50,650			
815	00056	50,650	Sq. Ft.	Field Painting of Existing Steel, Prime Coat, System OZEU *	50,650			
815	00060	50,650	Sq. Ft.	Field Painting of Existing Steel, Intermediate Coat, System OZEU *	50,650			
815	00066	50,650	Sq. Ft.	Field Painting of Existing Steel, Finish Coat, System OZEU *	50,650			
815	00508	1146	Lin. Ft.	Grinding Flange Edges *	1146			
516	46701	18	Each	Reset Bearing, as per Plan **				18
516	47001	Lump	Lump	Jacking and Temporary Support of Superstructure, As Per Plan **				Lump
518	61201	28	Lin. Ft.	Trough, Horizontal Conductor, as per plan	28			
519	11100	10	Sq. Ft.	Patching Concrete Structure		5	5	
Spec	51912304	100	Sq. Yd.	Patching Concrete Bridge Deck - Type C*	100			
Spec.	51912600	22	Lin. Ft.	Concrete Repair by Epoxy Injection *		17	5	

* See Proposal Note
** *Item may be non-performed as directed by the Engineer*

ITEM 516 - RESET BEARING, AS PER PLAN: This item shall include resetting all existing rockers tilted beyond the limits of their normal rotation as directed by the Engineer. Included shall be replacement of any damaged sheet lead (711.19), installation of any necessary steel shims of the same size as the bearings to provide a snug fit, any realignment of the upper bearing plate by removing existing welds and rewelding so that the bearings are vertically aligned at 60 degrees F. The Contractor shall be sure that all bearings are shimmed adequately and that no beams and/or bearing devices are "floating". All works shall be to the satisfaction of the Engineer. The estimated quantity in the plans is based on resetting all rockers. Final payment will be based on the actual amount of rockers reset. All labor, material and equipment necessary to reset the bearings will be included for payment with "ITEM 516 - RESET BEARING, AS PER PLAN."

ITEM 516 - JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN

This item shall include all work necessary to jack and adequately support the existing superstructure.

The Contractor shall be responsible for the design, installation and operation of an adequate jacking system, including any temporary or permanent supports, to perform the work described in the project plans. Three (3) sets of jacking and support plans, procedures and loading calculations, performed and stamped by a registered professional engineer, shall be submitted to the Director for approval at least (30) days before actual work is to begin. Submittals shall include at least the following:

Physical dimensions and capacity of the jacking systems along with the actual positions, including dimensions, defining where the jacking systems will be physically located on the structure to perform the required lifts.

Physical dimensions, materials, fabrication details and design calculations for any temporary or permanent supports along with actual details of their installed locations on the structure. Horizontal movement restraints shall be designed and detailed. Lateral and longitudinal design loads and supporting design calculations shall be included.

A jacking plan sheet layout, with adequate details to show all jacking points, calculated loadings at those points, locations of jacking equipment and temporary or permanent supports shall be included in the submittal. Any phased construction, special traffic requirements, clearance requirements, railroad details or special construction details that affect the jacking operation and any other details the Contractor deems necessary to adequately visually describe the jacking operation shall also be included in the jacking plan sheet.

The plan sheet shall include a step by step jacking procedure detailing all steps in the operation including the required work described in the project plans.

Jacking operations are limited to a maximum differential jacking height between adjacent bearings of 1/4 inch.

At a minimum, a jacking operation shall lift all bearings at any one abutment or pier simultaneously. Maximum differential jacking height between any adjacent abutments or piers shall be limited by stresses induced in the affected structural members. Calculations detailing all stresses induced in the affected structural members. Calculations detailing all stresses induced in the affected members and limited by allowable stresses of 136.5% of normal design stresses, shall be included in the jacking procedure submittal. The only exception to the simultaneous jacking requirement is when actual project work requires individual bearings to be replaced or rehabilitated, no permanent shimming is required and the height of the total lift does not exceed 1/4 inch.

All labor, tools, equipment, materials and incidentals necessary to complete this work are included under Item 516, Lump Sum, Jacking and Temporary Support of Superstructure, As Per Plan.

Rev. 9-12-95 1 / 4

THOMAS FOK & ASSOCIATES, LTD.
CONSULTING ENGINEERS, SURVEYORS & PLANNERS
3896 MAHONING AVE. YOUNGSTOWN, OHIO

GENERAL NOTES AND ESTIMATED QUANTITIES

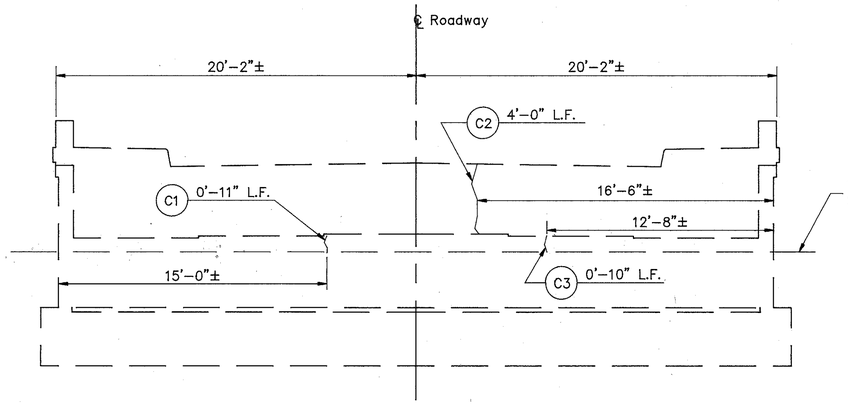
BRIDGE NO. BEL-70-2618
RELOCATED WEST STREET OVER I.R. 70, WHEELING CREEK
BELMONT COUNTY OHIO

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED
K.O.S. 5-94	K.O.S. 5-94		J.D.V. 5-94	T.F. 6-94	

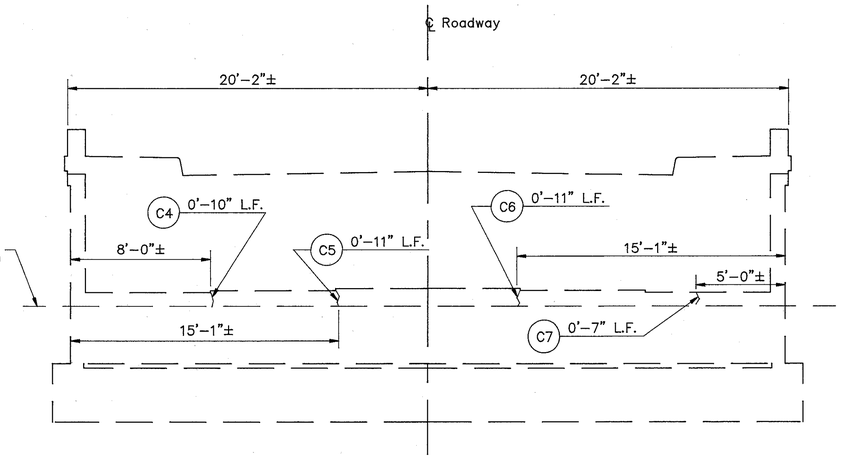
REGION	STATE	PROJECT		
5	OHIO			

79
97

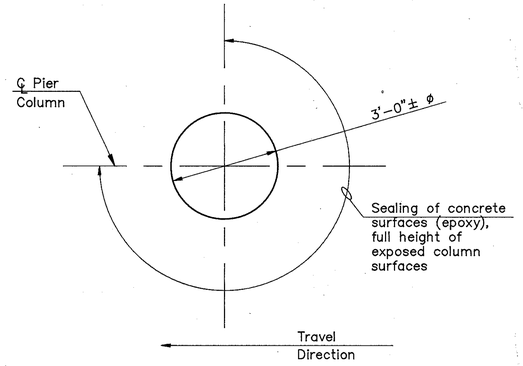
BELMONT COUNTY
BEL–70–23.79



REAR ABUTMENT ELEVATION

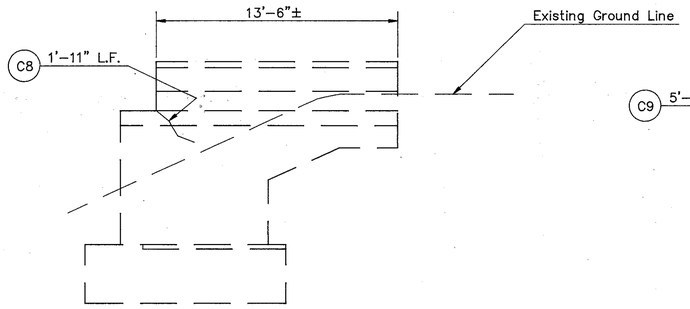


FORWARD ABUTMENT ELEVATION



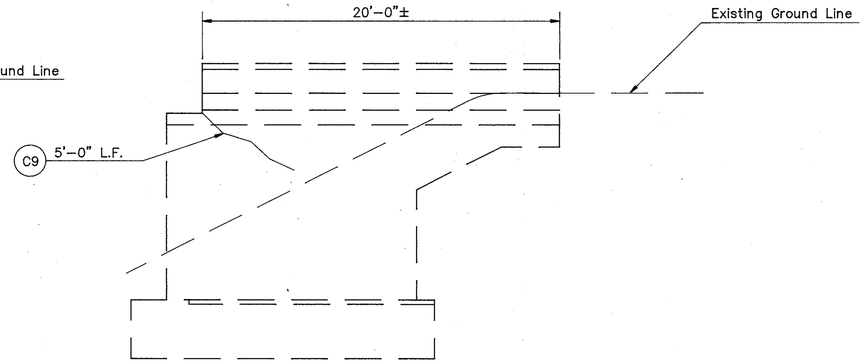
SECTION A–A

Typical on column surfaces adjacent to I.R. 70.



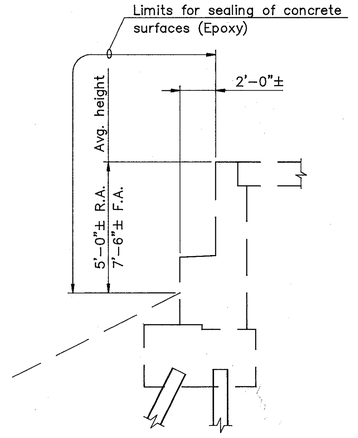
NORTH WINGWALL ELEVATION, REAR ABUTMENT

SOUTH WINGWALL ELEVATION, OPPOSITE HAND



SOUTH WINGWALL ELEVATION, FORWARD ABUTMENT

NORTH WINGWALL ELEVATION, OPPOSITE HAND



SECTION A–A

LIMITS FOR SEALING OF CONCRETE SURFACES

LEGEND

S_ S.F.	Approximate area Estimated for Patching
	Epoxy inject cracks per proposal note, Rear Abutment
	Epoxy inject cracks per proposal note, Forward Abutment
C_ L.F.	Approximate Lin. Ft. Estimated for Crack Repair

Note: No spalled areas were found on abutments.

Existing ground line shown is approximate. Field verify dimensions as necessary.

Epoxy seal curbs and sidewalks, and provide a non–skid surface. Epoxy seal railings, and abutment backwalls and seats (as shown in Section A–A). Epoxy seal pier columns adjacent to I.R. 70 as shown in Detail B.

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THOMAS FOK & ASSOCIATES, LTD.
CONSULTING ENGINEERS, SURVEYORS & PLANNERS
3896 MAHONING AVE. YOUNGSTOWN, OHIO

ABUTMENT REPAIRS

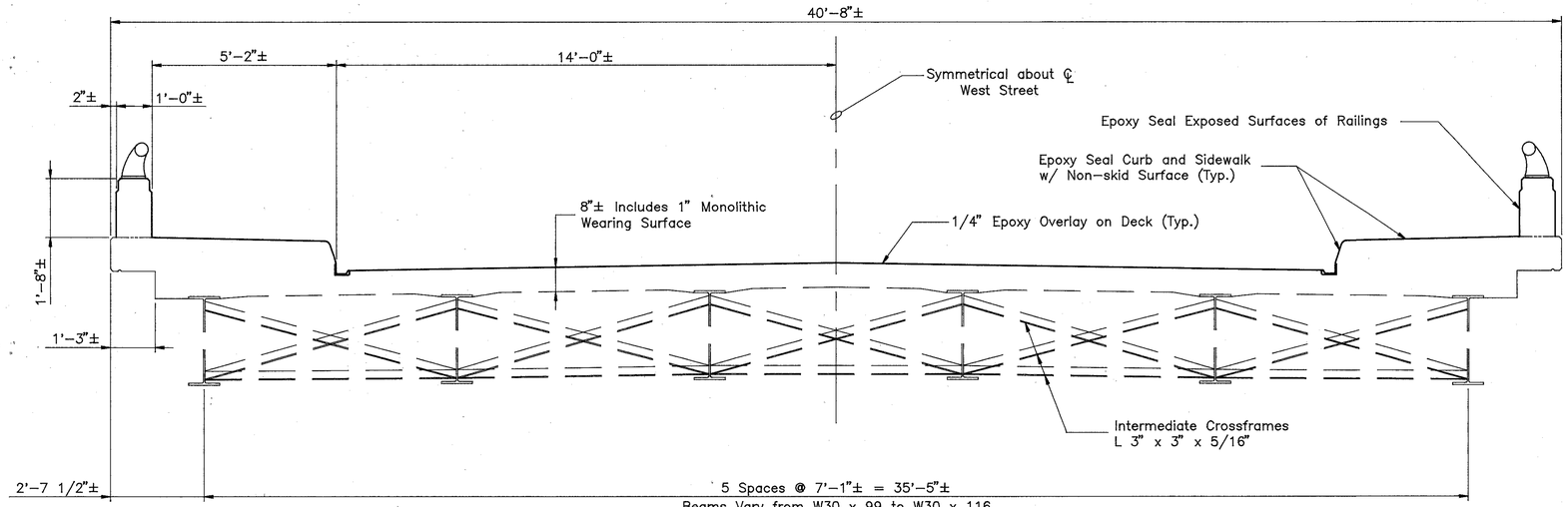
BRIDGE NO. BEL–70–2618
RELOCATED WEST STREET OVER I.R. 70, WHEELING CREEK

BELMONT COUNTY OHIO

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED
K.R.M. 1–94	K.R.M. 2–94		J.D.V. 2–94	T.F. 2–94	

REGION	STATE	PROJECT		80
5	OHIO			97

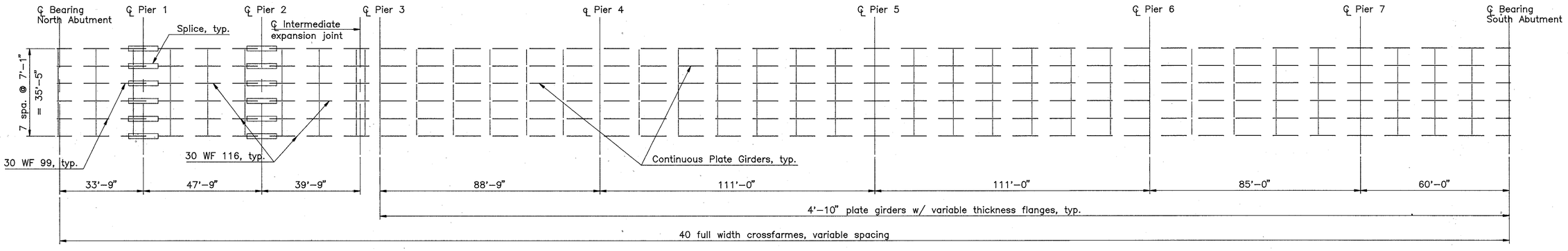
BELMONT COUNTY
BEL-70-23.79



Beams Vary from W30 x 99 to W30 x 116
Girders vary from 16" x 3/4" to 16" x 2" flanges with 58" x 3/8" webs (unit 2)

TRANSVERSE SECTION

* Reinforcing steel not shown



FRAMING PLAN

3 / 4

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3896 MAHONING AVE. YOUNGSTOWN, OHIO

TRANSVERSE SECTION

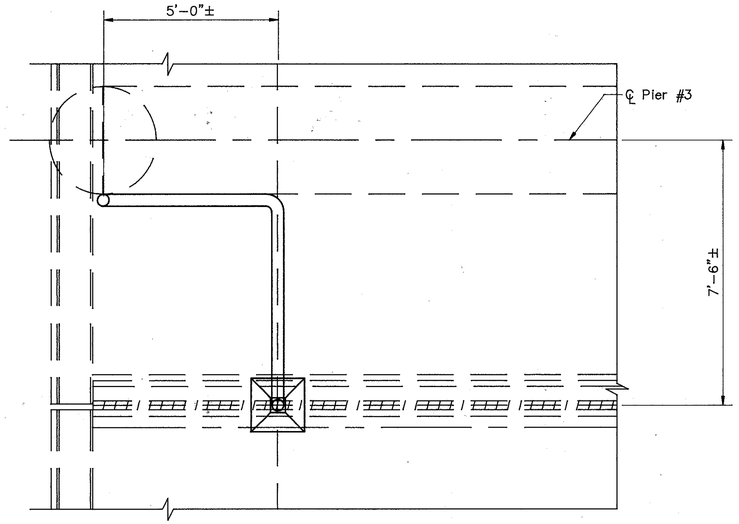
BRIDGE NO. BEL-70-2618
RELOCATED WEST STREET OVER I.R. 70, WHEELING CREEK

BELMONT COUNTY OHIO

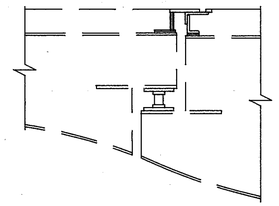
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED
K.O.S. 4-94	K.R.M. 4-94		J.D.V. 4-94	T.F. 4-94	

REGION	STATE	PROJECT		81
5	OHIO			97

BELMONT COUNTY
BEL–70–23.79



JOINT TROUGH PLAN



EXISTING JOINT

JOINT TROUGH INSTALLATION:

1. Remove portions of the existing steel sliding plate.
2. Weld the 1" x 1" steel plate or remove the remainder of the existing steel sliding plate.
3. Abrasive blast all exposed surfaces in accordance with the proposal note for System OZEU surface preparation procedures (SSPC near white metal finish).
4. Apply adhesive according to the Manufacturer's recommendations. Prepare neoprene surfaces to receive adhesive and place as shown.
5. Install trough catch basin as shown and install 4" PVC drain to the nearest catch basin and securely fasten to the structure at 6' maximum intervals.
6. The catch basin is to be between 1'–6" and 2'–0" square. Shop drawings must also show sufficient anchorage to the deck underside to resist a minimum of 150 pounds vertically. It must be capable of containing the appropriate runoff flows without leakage and shall properly fit the 4" diameter PVC drain pipe. All steel components shall be galvanized or stainless steel. Approved materials for fabrication are metal and high impact plastic compounds.

Material properties:

Neoprene, Shore A hardness, 50 durometer, 1/8" thick

Adhesive, non–shrink epoxy, compatible with steel and neoprene, high–strength, high modulus

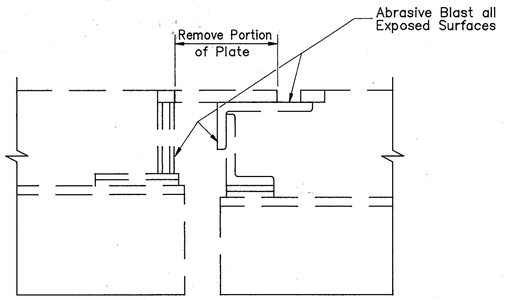
Preapproved Manufacturers:
Sika Products
Master Builders

Sheet metal, galvanized, 14 gage

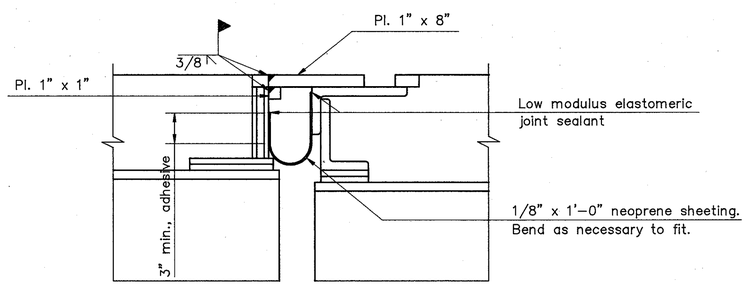
Expansion anchors, 1/2" nominal diameter with stainless steel screws

Pipe, 4" nominal diameter, PVC, heavy duty

NOTE: Care must be taken to protect the adjacent materials from heat damage. The use of pyrometric sticks is required.



REMOVAL DETAIL



NOTE: Paint All Exposed Steel Surfaces

JOINT TROUGH DETAIL

4 / 4

THOMAS FOK & ASSOCIATES, LTD.
CONSULTING ENGINEERS, SURVEYORS & PLANNERS
3896 MAHONING AVE. YOUNGSTOWN, OHIO

JOINT RETROFIT

BRIDGE NO. BEL–70–2618
RELOCATED WEST STREET OVER I.R. 70,
WHEELING CREEK,

BELMONT COUNTY OHIO

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED
K.O.S. 5–94	K.O.S. 5–94		J.D.V. 5–94	T.F. 5–94	

REGION	STATE	PROJECT	
5	OHIO		

82
97

BELMONT COUNTY
BEL–70–23.79

STRUCTURE GENERAL NOTES

REFERENCE shall be made to Standard Drawings:
EXJ–4–87 Dated 1–20-94

and to Supplemental Specifications:
933 Dated 7–22–94

DESIGN SPECIFICATIONS: This structure conforms to "Standard Specifications for Highway Bridges" adopted by the American Association of State Highway and Transportation Officials, 1992, including the 1993 interim specifications, and the ODOT Bridge Design Manual.

DECK PROTECTION METHOD:
2 1/2"± Superplastized Dense Concrete Overlay

ITEM SPECIAL, SEALING OF CONCRETE SURFACES (EPOXY): An epoxy concrete sealer shall be applied to the concrete surfaces shown. See proposal note for surface preparation requirements, application rates, material requirements and application procedures.

EXISTING STRUCTURE VERIFICATION: Details and dimensions shown on these plans pertaining to the existing structure have been obtained from plans of the existing structure and from field observations and measurements. Consequently, they are indicative of the existing structure and the proposed work but they shall be considered tentative and approximate. The Contractor is referred to CMS Sections 102.05, and 105.02.

Contract bid prices shall be based upon a recognition of the uncertainties described above and upon a prebid examination of the existing structure by the Contractor. However, all project work shall be based upon actual details and dimensions which have been verified by the Contractor in the field.

EXISTING BRIDGE PLANS: The original construction plans of the existing bridge are available upon request at the District 11 office of the OHIO DEPARTMENT OF TRANSPORTATION, New Philadelphia, Ohio.

ITEM 516, ELASTOMERIC STRIP SEAL WITHOUT STEEL EXTRUSIONS: This item shall include all materials, labor and equipment necessary to remove the existing strip seals and install new strip seal glands in the prepared existing steel retainers as per all requirements of Standard Drawing EXJ–4–87 at the expansion joints as noted in the plans.

ITEM 513 – STRUCTURAL STEEL FOR REHABILITATION, AS PER PLAN: This item includes the replacement of deteriorated members, plates, and appurtenances of the existing end crossframes, as directed by the Engineer. All members, plates, and connections are to be replaced in kind. Steel members to be fabricated under this item will not require shop drawings prior to fabrication. The Contractor shall make necessary measurements and prepare sketches, drawings, tables, etc. The Engineer shall have authority and responsibility for ensuring that the fabricated steel is acceptable. Technical assistance will be provided on request by the Bureau of Bridges. Mill test reports and shipping documents shall be submitted to the Engineer for review and approval prior to incorporating steel items into the work, as required by 501.07. After fabrication, the Contractor shall submit shop drawings to the Engineer for review and approval to ensure that the drawings depict the steel as actually incorporated into the work. The Engineer will then send one approved set to the Bureau of Bridges for information. Pay weights shall be computed in compliance with 513 of the Construction and Material Specifications and submitted to the Engineer for his review and approval. The fabricator shall furnish a 35 millimeter microfilm copy of each shop drawing, which shall be mounted on an aperture card as specified in 501.05.

All labor, tools, equipment, materials and incidentals necessary to complete this work are included under the unit price bid per pound for Item 513, Structural Steel for Rehabilitation, as per plan.

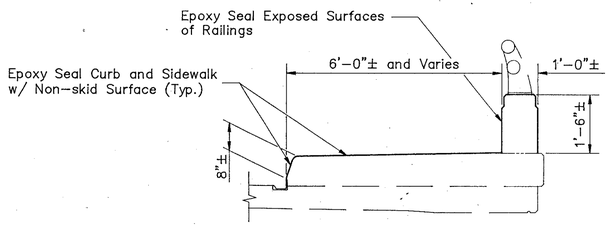
PAINTING OF STRUCTURAL STEEL:
New steel shall be cleaned and prime painted in the shop and field painted with an intermediate and finish coat of paint using System IZEU. Existing steel shall be field cleaned and painted with a prime, intermediate, and finish coat of paint using System OZEU. For pay purposes, cleaning and prime painting new steel is included in 513, intermediate and finish painting of new steel in 514. The pay quantities are based on the pounds of structural steel for rehabilitation of crossframes, bearings, and other steel incidentals being cleaned and painted. Paint color of Urethane Top Coat shall be Blue, Federal Standard No. FS-595A-15450.

CALCULATED J.D.V. CHECKED K.R.M.

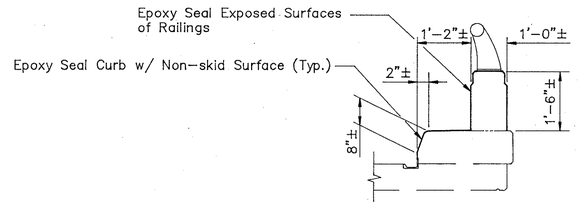
ESTIMATED QUANTITIES

ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	MARION ST. (2663)			RAMP A (2663 A)			RAMP D (2663 D)		
					SUPER.	ABUT.	PIER	SUPER.	ABUT.	PIER	SUPER.	ABUT.	PIER
Spec.	51267502	1085	Sq. Yd.	Sealing of Concrete Surfaces (Epoxy) (Curbs) *	692			231			162		
Spec.	51267502	1337	Sq. Yd.	Sealing of Concrete Surfaces (Epoxy) (Railing) *	416			541			380		
513	16001	4100	Pound	Structural Steel for Rehabilitation, as per plan	1700			1200			1200		
514	00610	4100	Pound	Field Painting of New Steel, System IZEU *	1700			1200			1200		
516	01300	277	Lin. Ft.	Elastomeric Strip Seal Without Steel Extrusions	85			100			92		
519	11100	84	Sq. Ft.	Patching Concrete Structure	30	9	5	10	5	5	10	5	5
Spec.	51912304	1352	Sq. Yd.	Patching Concrete Bridge Deck- Type C *	960			247			145		
Spec.	51912600	138	Lin. Ft.	Concrete Repair by Epoxy Injection *	15	88	5	5	5	5	5	5	5

* See Proposal Note



MARION STREET
(2663)



RAMPS A & D
(2663 A & D)

PROPOSED WORK

1. Set traffic control devices for part width construction.
2. Patch deteriorated concrete on curbs and railings.
3. Place epoxy seal on curbs, and railings. Apply non–skid surface on curbs.
4. Remove existing seals in expansion joints and place new strip seals in existing retainers.
5. Remove traffic control devices and open structure to traffic.

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THOMAS FOK & ASSOCIATES, LTD.
CONSULTING ENGINEERS, SURVEYORS & PLANNERS
3896 MAHONING AVE. YOUNGSTOWN, OHIO

GENERAL NOTES AND ESTIMATED QUANTITIES

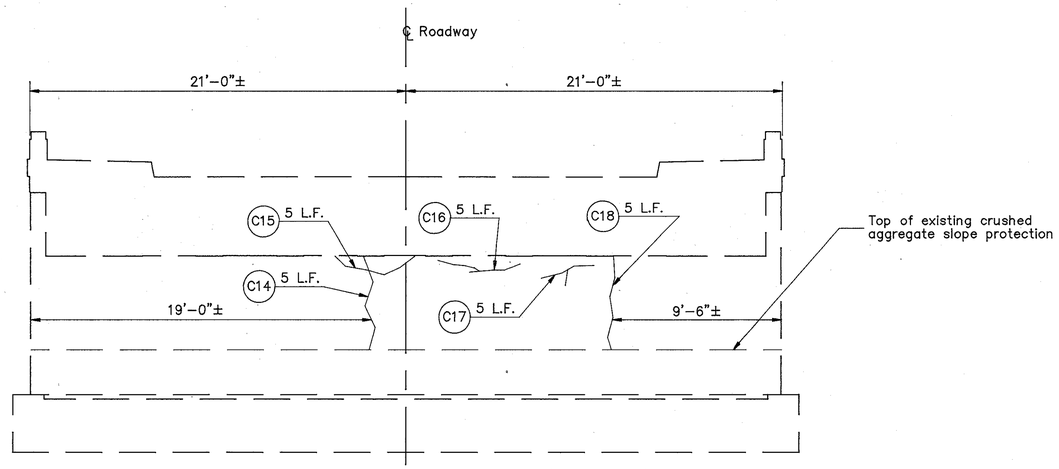
BRIDGE NO. BEL–70–2663, 2663 A, & 2663 D
MARION STREET INTERCHANGE
MARION STREET OVERPASS
BELMONT COUNTY OHIO

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED
K.R.M. 5–94	K.R.M. 5–94		J.D.V. 5–94	T.F. 6–94	

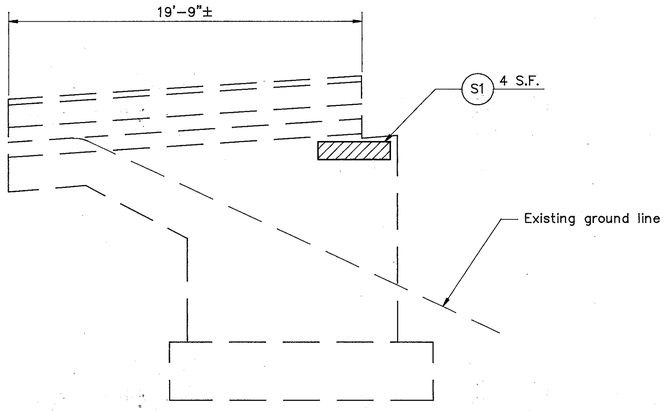
REGION	STATE	PROJECT		
5	OHIO			

83
97

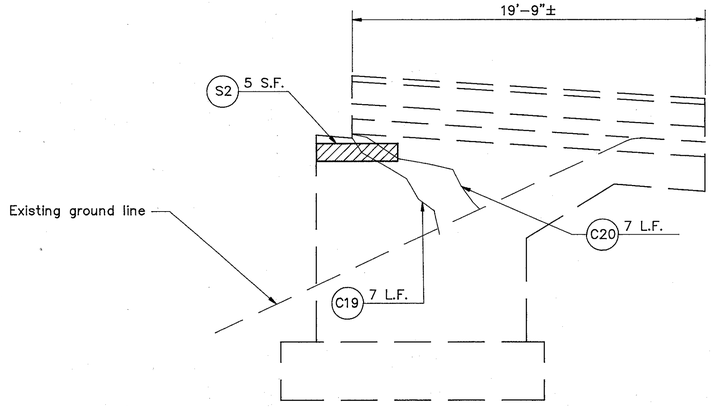
BELMONT COUNTY
BEL–70–23.79



REAR ABUTMENT ELEVATION
(SOUTH ABUTMENT)



EAST WINGWALL ELEVATION



WEST WINGWALL ELEVATION

LEGEND

- ▨ – Indicates limits of concrete patching for Rear Abutment
- (S_) S.F. – Approximate area Estimated for Patching
- ⌇ – Epoxy inject cracks per proposal note, Rear Abutment
- (C_) L.F. – Approximate Lin. Ft. Estimated for Crack Repair

Existing ground line shown is approximate. Field verify dimensions as necessary.

Epoxy seal curbs and railings. Provide a non–skid surface on the curbs.

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3896 MAHONING AVE. YOUNGSTOWN, OHIO

REAR ABUTMENT DETAILS

BRIDGE NO. BEL–70–2663
MARION STREET INTERCHANGE
MARION STREET OVERPASS

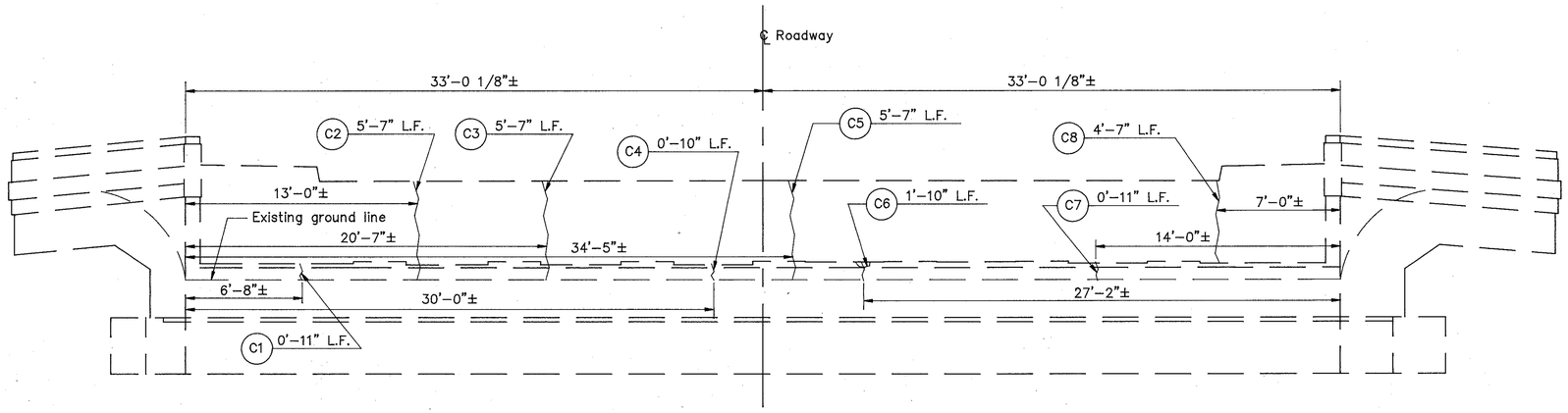
BELMONT COUNTY OHIO

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED
K.R.M. 1–94	K.R.M. 2–94		J.D.V. 2–94	T.F. 2–94	

REGION	STATE	PROJECT		
5	OHIO			

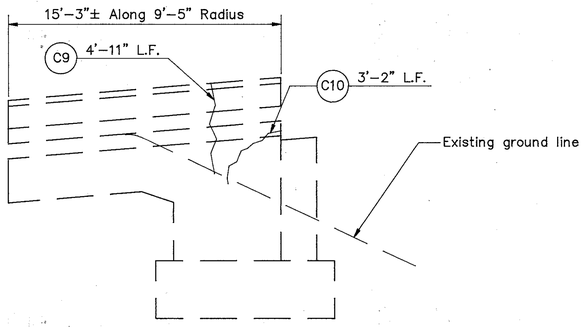
84
97

BELMONT COUNTY
BEL–70–23.79

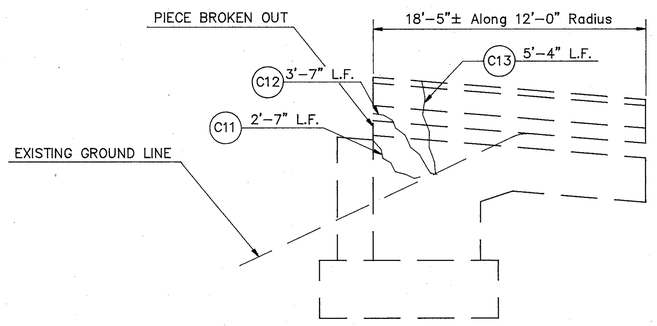


FORWARD ABUTMENT ELEVATION

(NORTH ABUTMENT)



WEST WINGWALL ELEVATION



EAST WINGWALL ELEVATION

LEGEND

S_ S.F.	– Approximate area Estimated for Patching
~	– Epoxy inject cracks per proposal note, Forward Abutment
C_ L.F.	– Approximate Lin. Ft. Estimated for Crack Repair

Note: No spalled areas were found on this abutment.

Existing ground line shown is approximate. Field verify dimensions as necessary.

Epoxy seal curbs and railings, and provide a non–skid surface on the curbs.

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3896 MAHONING AVE. YOUNGSTOWN, OHIO

FORWARD ABUTMENT DETAILS

BRIDGE NO. BEL–70–2663
MARION STREET INTERCHANGE
MARION STREET OVERPASS

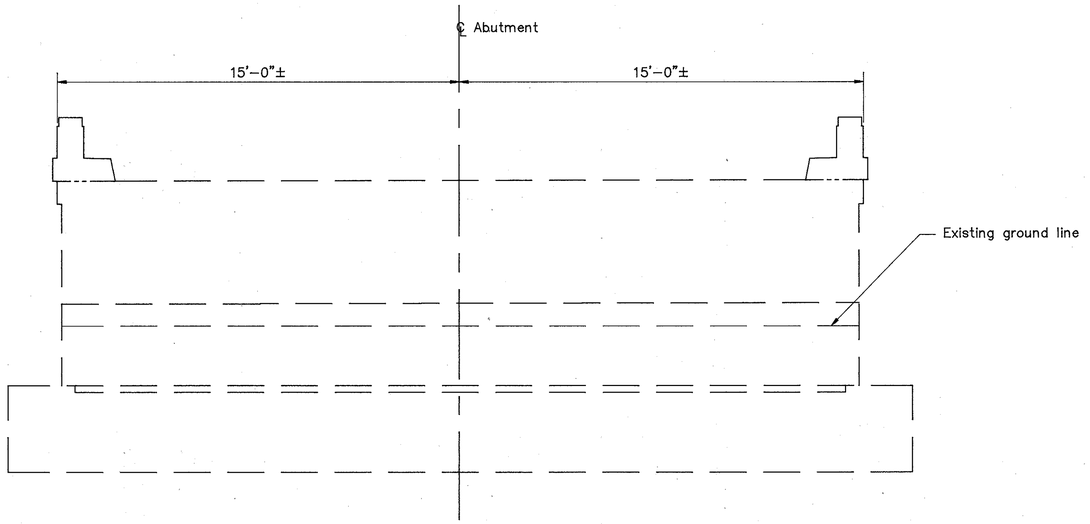
BELMONT COUNTY OHIO

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED
K.R.M. 1–94	K.R.M. 2–94		J.D.V. 2–94	T.F. 2–94	

REGION	STATE	PROJECT		
5	OHIO			

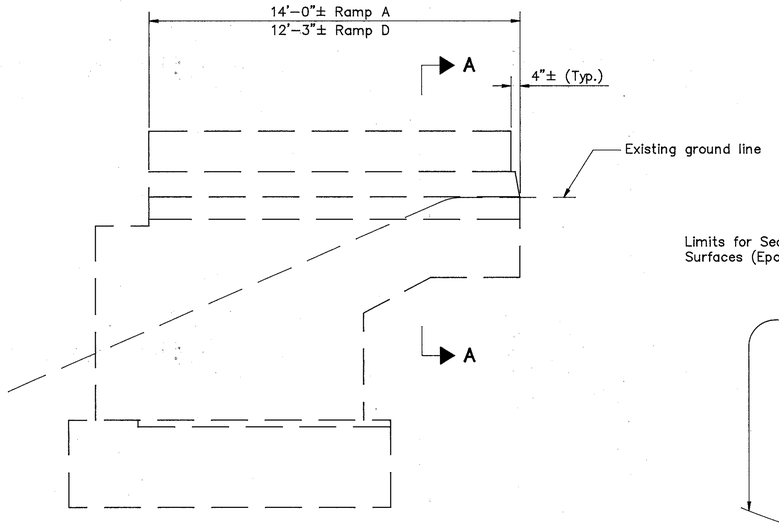
85
97

BELMONT COUNTY
BEL–70–23.79



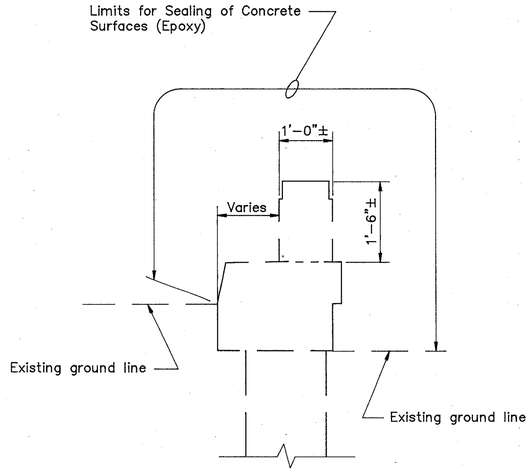
REAR ABUTMENT ELEVATION – RAMP A

(FORWARD ABUTMENT ELEVATION – RAMP D SIMILIAR)

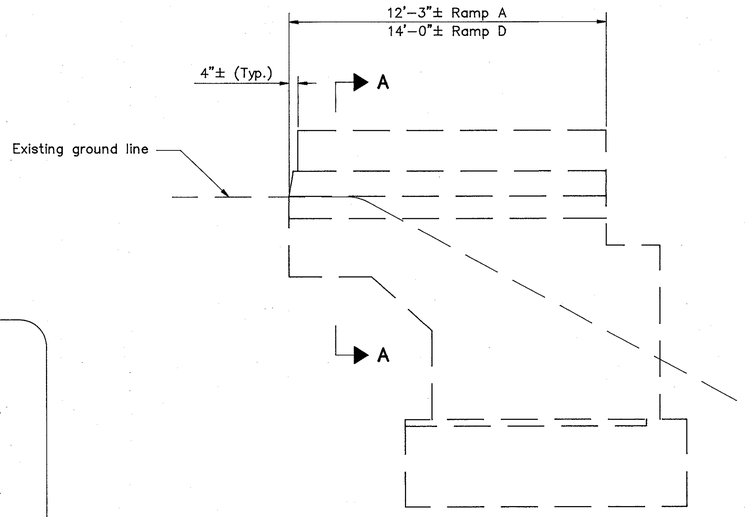


NORTH WINGWALL ELEVATION – RAMP A

(SOUTH WINGWALL ELEVATION – RAMP D AS NOTED)



SECTION A–A



SOUTH WINGWALL ELEVATION – RAMP A

(NORTH WINGWALL ELEVATION – RAMP D AS NOTED)

LEGEND

- (S_) S.F. – Approximate area Estimated for Patching
- – Epoxy inject cracks per proposal note, Ramp A
- – Epoxy inject cracks per proposal note, Ramp D
- (C_) L.F. – Approximate Lin. Ft. Estimated for Crack Repair

Note: No spalled areas were found on these abutments.

Existing ground line shown is approximate. Field verify dimensions as necessary.

Epoxy seal existing concrete curbs and parapets as shown in Section A–A. Provide non–skid surface on curbs.

For additional abutment details, See sheets 2/5, & 3/5.

4/5

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ABUTMENT DETAILS

BRIDGE NO. BEL–70–2663 A & D
MARION STREET INTERCHANGE
MARION STREET OVERPASS

BELMONT COUNTY OHIO

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED
K.R.M. 1–94	K.R.M. 2–94		J.D.V. 2–94	T.F. 2–94	

REGION	STATE	PROJECT		
5	OHIO			

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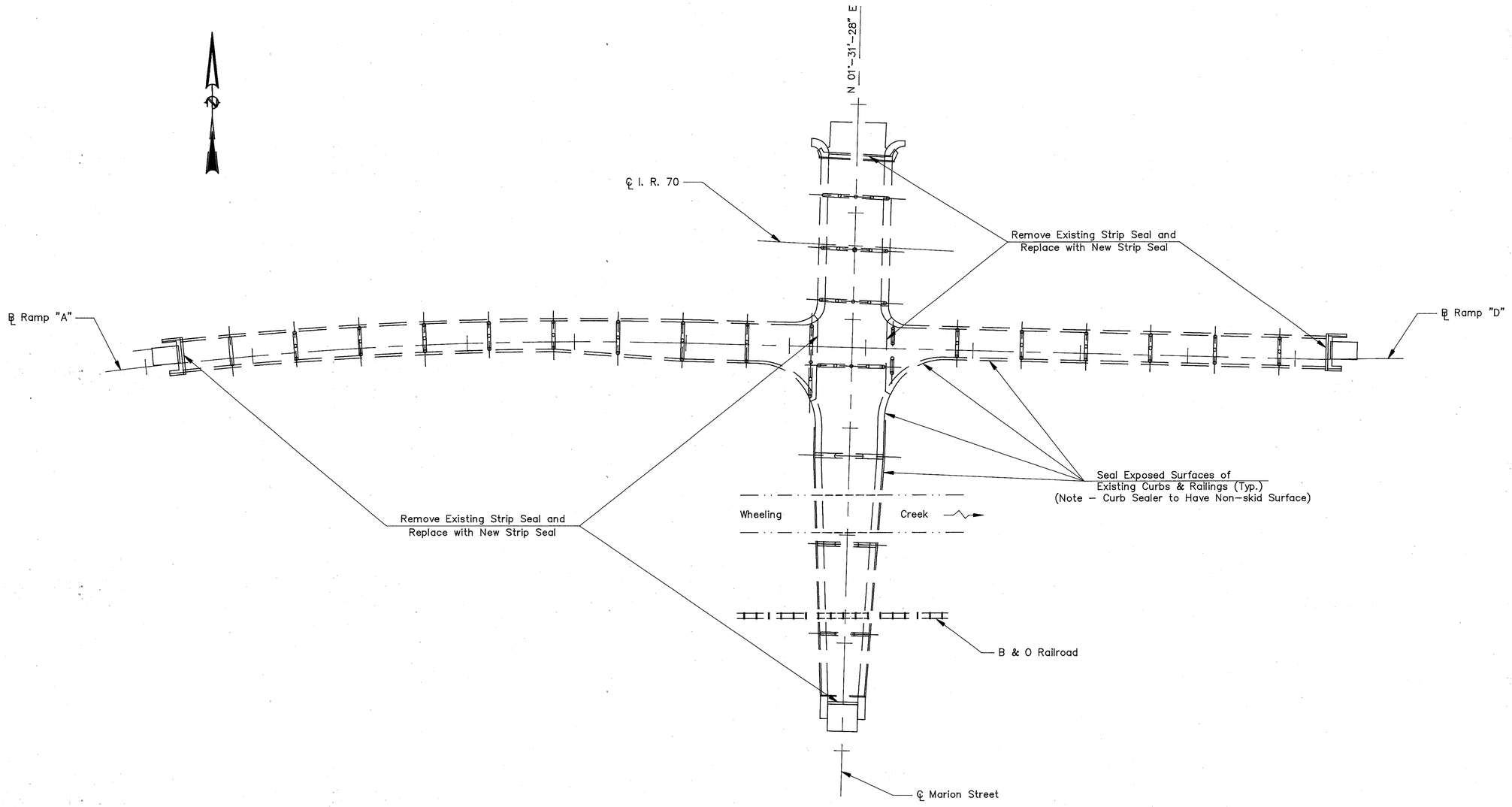
BELMONT COUNTY
BEL–70–23.79



DECKPLAN

5 / 5

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DECKPLAN

BRIDGE NOS. BEL–70–2663, 2663 A, & 2663 D
MARION STREET INTERCHANGE
MARION STREET OVERPASS

BELMONT COUNTY OHIO

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED
K.R.M.	K.R.M.		J.D.V.	T.F.	
5–94	5–94		5–94	5–94	

REGION	STATE	PROJECT	
5	OHIO		

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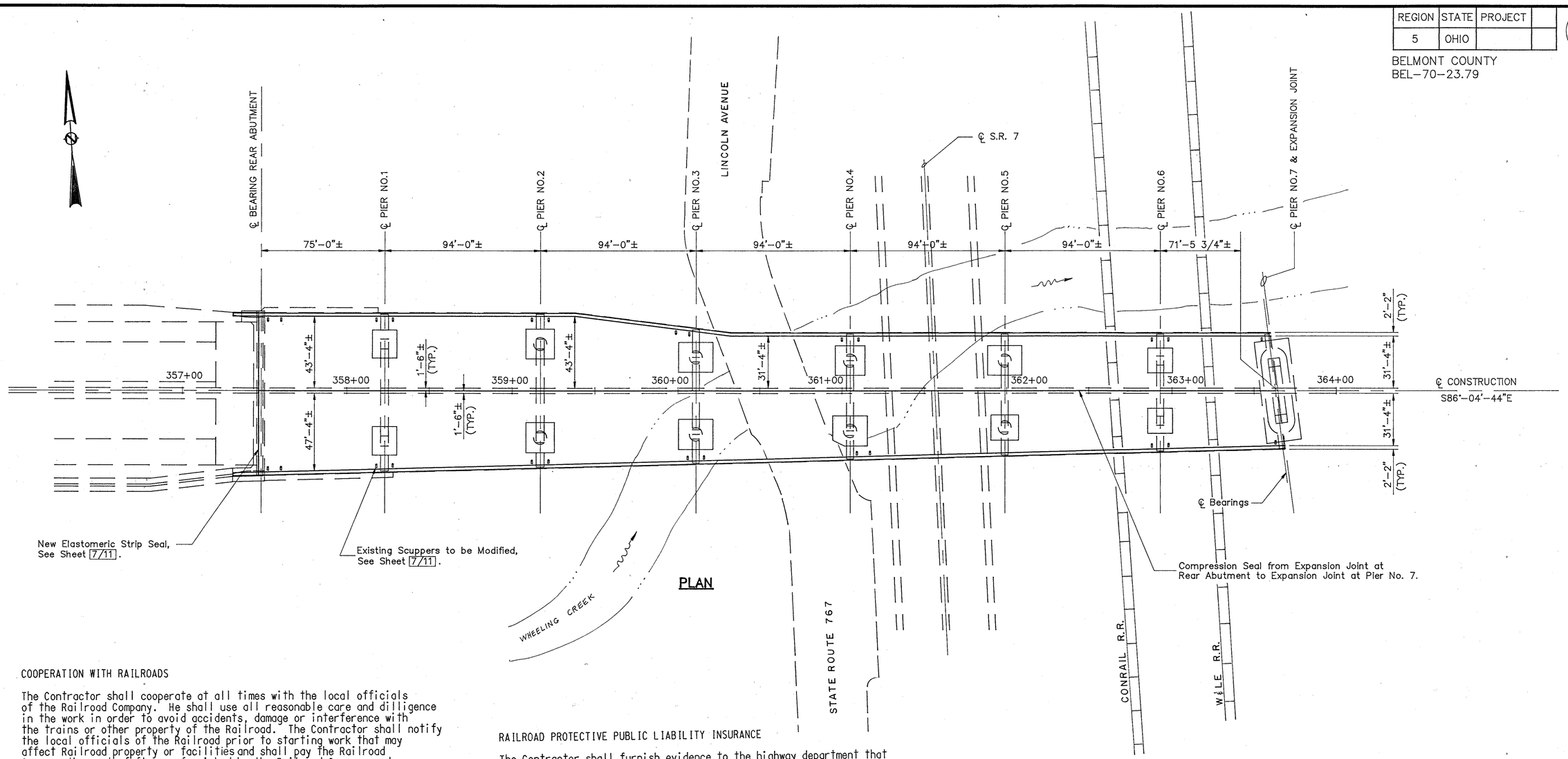
BELMONT COUNTY
BEL-70-23.79



PLAN

COOPERATION WITH RAILROADS

The Contractor shall cooperate at all times with the local officials of the Railroad Company. He shall use all reasonable care and dilligence in the work in order to avoid accidents, damage or interference with the trains or other property of the Railroad. The Contractor shall notify the local officials of the Railroad prior to starting work that may affect Railroad property or facilities and shall pay the Railroad Company the cost of flagmen furnished by the Railroad Company and made necessary because of any of the Contractors operations over or adjacent to the tracks.
No scaffold, planks or other equipment shall be suspended or erected above or within 10 feet of a rail over which trains are operating without prior written approval of the Cheif Engineer, or his authorized representative of the Railroad Company.
Methods and procedures for performing work on property of the Consolidated Rail Corporation, must be approved by Mr. M.W. Weidner, Area Engineer, Consolidated Rail Corporation, Suite 213 Conrail Building, Holiday Drive, Pittsburgh, PA 15220.
Methods and procedures for performing work on property of the Wheeling & Lake Erie Railway Corporation must be approved by Mr. Steven W. Waite, Vice President Operations, 100 East First Street, Brewster, Ohio 44613.
Failure to notify the railroad company as noted above shall be cause for stopping work until all provisions for protecting Railroad property have been provided.

RAILROAD PROTECTIVE PUBLIC LIABILITY INSURANCE

The Contractor shall furnish evidence to the highway department that with resect to the operations he or any of his sub-contractors perform, he has provided for and in behalf of the Consolidated Rail Corporation, 12th Floor, 15 North 32nd Street, Philadelphis, PA 19104 a Railroad Protective Liability policy of insurance providing a combined single limit for damages arising out of the Railroad Company in the amount of $2,000,000.00 per occurrence and subject to that limit per occurrence, an aggregate limit in the amount of $6,000,000.00 for each annual period. The above railroad protective policy of insurance shall comform to the Railroad Liability requirements prescribed by the Federal Highway Administration in FHPM: 6-6-2-2 as amended.
The insurance hereinbefore specified shall be with an acceptable insurance company authorized to do business in the State of Ohio, and shall be taken out before execution of the Contract by the Director and kept in effect until all work rquired to be performed under the terms of the contract is satisfactorily completed as evidenced by the formal acceptance by the State. Such policy shall include a thirty (30) day canceling notice.
"Evidence" as above set forth shall consist of furnishing the Director of Transportation one (1) original and two (2) certified copies of the policy. Payment will be made at the contract price bid under Item Special - Premium on Railroad's Protective Public Liability and Property Damage Liability Insurance.

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THOMAS FOK & ASSOCIATES, LTD.
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3896 MAHONING AVE. YOUNGSTOWN, OHIO

GENERAL PLAN

BRIDGE NO. BEL-70-2684
I.R. 70 OVER LINCOLN AVE.,
S.R. 7, & W&LE & CONRAIL

BELMONT COUNTY OHIO

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED
K.R.M.	K.R.M.		J.D.V.	T.F.	
1-94	2-94		2-94	2-94	

REGION	STATE	PROJECT		
5	OHIO			

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BELMONT COUNTY
BEL-70-23.79

STRUCTURE GENERAL NOTES

REFERENCE shall be made to Standard Drawings:
SD-1-69 Dated 6-12-69
EXJ-4-87 Dated 1-20-94
and to Supplemental Specifications:

910 Dated 5-20-91
933 Dated 7-22-94

DESIGN SPECIFICATIONS: This structure conforms to "Standard Specifications for Highway Bridges" adopted by the American Association of State Highway and Transportation Officials, 1992, including the 1993 interim specifications, and the ODOT Bridge Design Manual.

DESIGN DATA:

Concrete Class S – compressive strength 4500 p.s.i. (superstructure)

Reinforcing steel – ASTM A615, A616 or A617
Grade 60 minimum yield strength 60,000 p.s.i.

Structural Steel
ASTM A36 – yield strength 36,000 p.s.i.

DECK PROTECTION METHOD:
1 1/2" concrete cover and 1 1/4" micro-silica concrete overlay.

ITEM SPECIAL, SEALING OF CONCRETE SURFACES (EPOXY): An epoxy concrete sealer shall be applied to the concrete surfaces shown on sheet 6/11 . See proposal note for surface preparation requirements, application rates, material requirements and application procedures.

CUT LINE CONSTRUCTION JOINT PREPARATION: Saw cut boundaries of proposed concrete removals 1" deep. Remove concrete to a rough surface. Where practicable, the existing reinforcing steel where required in the plans shall be left in place. Install dowel bars if specified. Prior to concrete placement abrasively clean joint surface and exposed reinforcement to remove loose and disintegrated concrete and loose rust. Then, the joint surface and exposed reinforcement shall be thoroughly cleaned of all dirt, dust, or other foreign material by the use of water, air under pressure, or other methods that produce satisfactory results. Concrete bonding surfaces shall be wet without free water as concrete is placed.

EXISTING STRUCTURE VERIFICATION: Details and dimensions shown on these plans pertaining to the existing structure have been obtained from plans of the existing structure and from field observations and measurements. Consequently, they are indicative of the existing structure and the proposed work but they shall be considered tentative and approximate. The Contractor is referred to CMS Sections 102.05, and 105.02.

Contract bid prices shall be based upon a recognition of the uncertainties described above and upon a prebid examination of the existing structure by the Contractor. However, all project work shall be based upon actual details and dimensions which have been verified by the Contractor in the field.

EXISTING BRIDGE PLANS: The original construction plans of the existing bridge are available upon request at the District 11 office of the OHIO DEPARTMENT OF TRANSPORTATION, New Philadelphia, Ohio.

WORK LIMITATIONS: No concrete deck overlays shall be placed before April 15. The Contractor shall schedule the work so that all deck overlays are placed before October 15. If for some unforseen circumstances, the deck overlays or portions of deck overlay are not placed by October 15, regardless of the work remaining, the full depth repairs shall be completed as per 511 and the unfinished deck shall be resurfaced with Item 448 Asphalt Concrete and opened to traffic. The Contractor shall place and maintain at his expense the asphalt wearing surface until removed at his expense the following spring when the deck overlay can be placed after April 15.

REPLACEMENT OF EXISTING REINFORCING STEEL: Any existing reinforcing bars which are to be incorporated into the new work and which are made unusable by the Contractor's concrete removal operations shall be replaced with new steel at their cost. Any existing reinforcing bars deemed by the Engineer to be unusable because of corrosion shall be replaced with new steel. An allowance 100 pounds is included in Item 509 for this purpose, listed in the "General" column of the Estimated Quantities table.

REINFORCING BAR SPLICE LENGTHS shall conform to 509.08 unless otherwise shown or noted on the plans.

UTILITY LINES: All expenses involved in relocating the affected utility lines shall be borne by the Owners. The Contractor and Owners are requested to cooperate by arranging their work in such a manner that inconvenience to either will be held to a minimum.

PORTIONS OF STRUCTURE REMOVED, AS PER PLAN shall include the elements indicated in the plans and general notes and are not separately listed for payment, except for wearing course removal. Items to be removed include all existing materials being replaced by new construction and miscellaneous items that are not shown to be incorporated into the final construction and miscellaneous items that are not shown to be incorporated into the final construction and are directed to be removed by the Engineer. The use of explosives, headache balls and/or hoe-rams will not be permitted. The method of removal and the weight of the hammer shall be approved by the Engineer. All work shall be done in a manner that will not cut, elongate or damage the existing reinforcing steel to be preserved. Chipping hammers shall not be heavier than the nominal 90-pound class. Pnuematic hammers shall not be placed in direct contact with reinforcing steel that is to be retained in the rebuilt structure.

ITEM 516 - VERTICAL EXTENSION OF STRUCTURAL EXPANSION JOINT, INCLUDING ELASTOMERIC STRIP SEALS, AS PER PLAN:
This item includes the replacement of the existing vertical extensions at the expansion joints, with new low profile sealed joints as shown on the plans. Steel members to be fabricated under this item will not require shop drawings prior to fabrication. The Contractor shall make necessary measurements and prepare sketches, drawings, tables, etc. The Engineer shall have authority and responsibility for ensuring that the fabricated steel is acceptable. Technical assistance will be provided on request by the Bureau of Bridges. Mill test reports and shipping documents shall be submitted to the Engineer for review and approval prior to incorporating steel items into the work, as required by 501.07. After fabrication, the Contractor shall submit shop drawings to the Engineer for review and approval to ensure that the drawings depict the steel as actually incorporated into the work. The Engineer will then send one approved set to the Bureau of Bridges for information. Pay weights shall be computed in compliance with 513 of the Construction and Material Specifications and submitted to the Engineer for his review and approval. The fabricator shall furnish a 35 millimeter microfilm copy of each shop drawing, which shall be mounted on an aperture card as specified in 501.05.

All labor, tools, equipment, materials and incidentals necessary to complete this work are included under Item 516 Vertical Extension of Structural Expansion Joint, as per plan.

DECK JOINT PAINTING: After cleaning in the field as directed, and preferably after installation of joint seals, all upper exposed steel surfaces excluding roadway surfaces in travelled lanes shall be field painted with a System OZEU prime, intermediate, and finish coat of paint as described in the Supp. Spec. for OZEU painting. Cost for field cleaning and painting shall be included in the price bid per square foot for the appropriate items under Item 815 , Field Painting of Existing Steel, System OZEU.

ITEM 510 – DOWEL HOLE, AS PER PLAN: This item shall be performed as indicated on the plans or as directed by the Engineer and shall be used to replace the deteriorated bars which were to remain, or to place new dowel bars where a new concrete section is being attached to the remaining portions of existing concrete. The grout shall be epoxy and shall conform to 705.20 and the installation shall conform to Supplemental Specification 852. The dowel bars are to be paid for under "ITEM 509 – EPOXY COATED REINFORCING STEEL, GRADE 60" and the dowel holes are to be paid for under "ITEM 510 – DOWEL HOLE, AS PER PLAN."

ITEM 518 – SCUPPER LENGTHENING, AS PER PLAN: This item includes removal of existing vertical extensions at the scuppers, repairs to the scuppers and extending the scupper outlets to a minimum of 8" below the stringers as shown on the plans. All labor, equipment and materials necessary to complete this work are included under the unit price bid per each for Item 518, Scupper Lengthening, as per plan.

ITEM 516 - RESET BEARING, AS PER PLAN: See Note on Sheet No. 78.
For Resetting all rockers at the rear abutment and pier no. 7.

ITEM 516 - JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN:
See Note on Sheet No. 78.

RAISED CONCRETE MEDIAN BARRIER SEAL:

DESCRIPTION: This work shall consist of furnishing and installing Elastomeric Sheeting at the bridge median joint in the form of a seal for drainage protection.

Sheeting shall be furnished in one continuous piece unless a vulcanized (with heat and pressure) shop or field splice, or an unbonded field splice is indicated on the Plans or approved by the Director.

MATERIALS: Elastomeric Sheeting shall be 3/32 inch thick general purpose. Heavy duty Neoprene Sheet with Nylon Fabric reinforcement. The Sheeting shall be "Fairprene Number NN-0003" as manufactured by the Goodyear Tire and Rubber Company, or an approved equal. Sheeting shall conform to the following:

Description of Test	ASTM Method	Requirement
Thickness, inches	D751	0.094 ± 0.010
Breaking Strength, Grab WXF Lbs, Min.	D751	700 x 700
Adhesive, 1 inch strip 2 inch Min., Lbs. Min.	D751	9
Burst Strength (Mullen), PSI, Min.	D751	1400 PSI, Min.
Heat Aging, 70 hours 212 F, 480 Bend	D2136	No cracking of Coating
Low Temperature Brittleness 1 Hour at -40 F 1/4 inch mandrel	D2136	No cracking of Coating

Connections for sheeting, including all clamp bars and nails, shall be galvanized according to 711.02. Field holes in sheeting shall be drilled and cuts made in the field shall be sawn. Any galvanized coating which has been cut or damaged in any way, such that the base metal is exposed, shall be replaced with a cold galvanizing compound such as that manufactured by Z.R.C. Product Company of Quincy, Massachusetts, "Galvicon" by Kenco Division of Southern Coating, Incorporated of Sumpter, South Carolina, or an approved equal, applied in accordance with the Manufacturer's recommendations.

SAMPLING AND TESTING: Each lot of sheeting shall be tested by an Independent Laboratory to endure compliance with these provisions. Two certified copies of the Qualification Test Data indicating that the tested materials comply with these provisions shall be submitted to the ODOT Testing Laboratory. Sampling, when requested, shall be in accordance with 106.3 except that where sheeting is to be fabricated according to Plan requirements, samples shall be made available prior to fabrication. The sample from each lot and for each project shall be one piece, 3 feet long.

Material acceptance shall be based upon ODOT Testing Laboratory evaluation of certified test data and tested samples.

Basis of Payment: Unless otherwise specified on the Project Plans, payment for all material and labor for the Joint Seal including galvanized clamp bars and nails shall be made at the Contract price for:

Item	Extension	Unit	Description
516	14600	Lin. ft.	Structural Joint or Joint Sealer, Misc. Concrete Median Barrier Seal

For "PROPOSED WORK" note, refer to Sheet 3/11 .

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2/11

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3896 MAHONING AVE. YOUNGSTOWN, OHIO

GENERAL NOTES

BRIDGE NO. BEL-70-2684
I.R. 70 OVER LINCOLN AVE.,
S.R. 7, &CONRAIL & W & LE

BELMONT COUNTY OHIO

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED
K.R.M. 1-94	K.R.M. 2-94		J.D.V. 2-94	T.F. 2-94	

REGION	STATE	PROJECT	
5	OHIO		

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BELMONT COUNTY
BEL–70–23.79

ESTIMATED QUANTITIES

ESTIMATED QUANTITIES					CALCULATED K.R.M.		CHECKED J.D.V.	
ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	SUPER.	ABUT.	PIER	GEN'L
202	11203	Lump	Lump	Portions of Structures Removed, as per plan, over 20 foot span				Lump
202	23500	5065	Sq. Yd.	Wearing Course Removed	5065			
202	38500	1270	Lin. Ft.	Bridge Railing Removed	1238	32		
509	15830	17,995	Pound	Epoxy Coated Reinforcing Steel, Grade 60	17,062	833		100
510	11101	2222	Each	Dowel Hole, as per plan	2158	64		
Spec.	51149000	Lump	Lump	High Performance Concrete Trial Mix **	Lump			
Spec.	51148020	149	Cu. Yd.	**High Performance Concrete, Superstructure (Parapet)** *	139	10		
Spec.	51149010	Lump	Lump	High Performance Concrete Testing *	Lump			
Spec.	51267502	1690	Sq. Yd.	Sealing of Concrete Surfaces (Epoxy) *	1646	44		
515	00050	94,000	Sq. Ft.	Surface Preparation of Existing Steel, System OZEU *	94,000			
515	00056	94,000	Sq. Ft.	Field Painting of Existing Steel, Prime Coat, System OZEU *	94,000			
515	00060	94,000	Sq. Ft.	Field Painting of Existing Steel, Intermediate Coat, System OZEU *	94,000			
515	00066	94,000	Sq. Ft.	Field Painting of Existing Steel, Finish Coat, System OZEU *	94,000			
515	00508	2444	Lin. Ft.	Grinding Flange Edges *	2444			
516	11801	95	Lin. Ft.	Vertical Extension of Structural Expansion Joint, As Per Plan	95			
516	14600	620	Lin. Ft.	Structural Joint or Joint Sealer, Misc. Concrete Barrier Seal	620.3			
516	46701	13	Each	Reset Bearing, as per Plan				13
516	47001	Lump	Lump	Jacking and Temporary Support of Superstructure, As Per Plan				Lump
518	12901	26	Each	Scupper Lengthening, as per Plan	26			
519	11100	10	Sq. Ft.	Patching Concrete Structure		5	5	
Spec.	51912600	26	Lin. Ft.	Concrete Repair by Epoxy Injection *		21	5	
Spec.	51922006	5180	Sq. Yd.	Micro–Silica Modified Concrete Overlay (1.25") *	5180			
Spec.	51922100	191	Cu. Yd.	Micro–Silica Modified Concrete Overlay (variable thickness) *	191			
Spec.	51922200	1	Cu. Yd.	Full Depth Repair, Micro–Silica Modified Concrete *	1			

* See Proposal Note

** Item may be non-performed as directed by the Engineer.

PROPOSED WORK

1. Set traffic control devices for part width construction.
2. Remove portions of existing abutments, railing, portions of existing scuppers, safety curbs and existing latex modified concrete overlay as noted on the plans.
3. Modify and extend scuppers, and install new expansion joints as shown on the plans.
4. Repair damaged concrete on abutments as per plan.
5. Prepare deck surface and place new 1 1/4" micro–silica modified concrete overlay and place styrations in deck surface.
6. Seal concrete surfaces as noted on plans.
7. Paint existing structural steel as per plan.
8. Remove traffic control devices and open structure to traffic.

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3896 MAHONING AVE. YOUNGSTOWN, OHIO

ESTIMATED QUANTITIES

BRIDGE NO. BEL–70–2684
I.R. 70 OVER LINCOLN AVE.,
S.R. 7, & W&LE & CONRAIL

BELMONT COUNTY OHIO

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED
K.R.M. 2–94	K.R.M. 2–94		J.D.V. 2–94	T.F. 2–94	

REGION	STATE	PROJECT		
5	OHIO			

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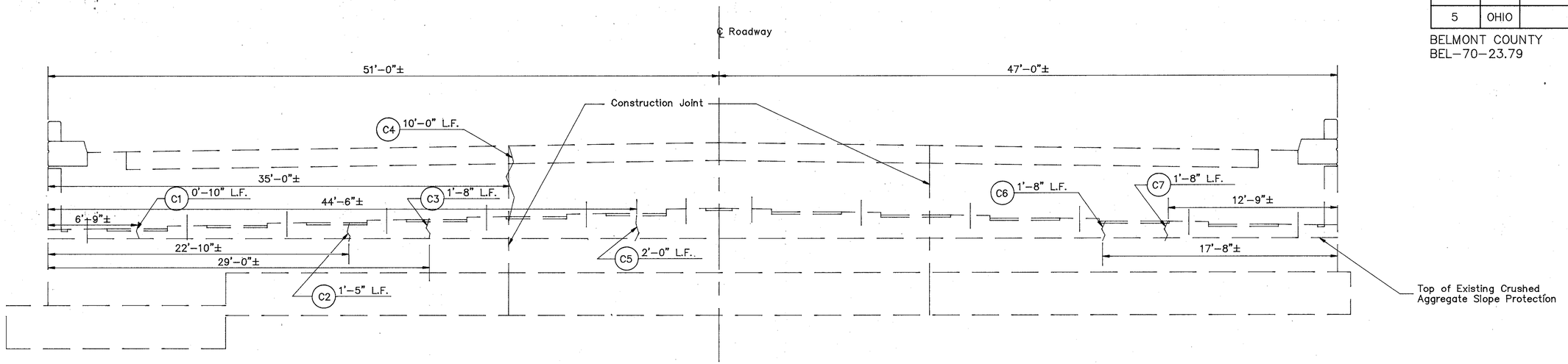
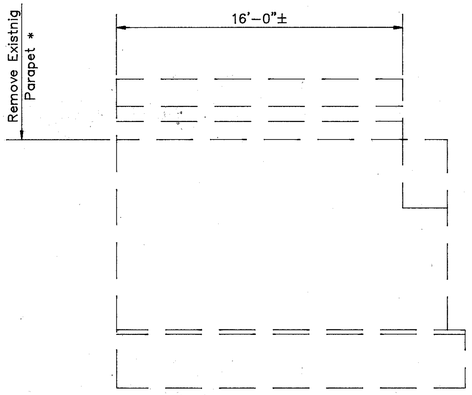
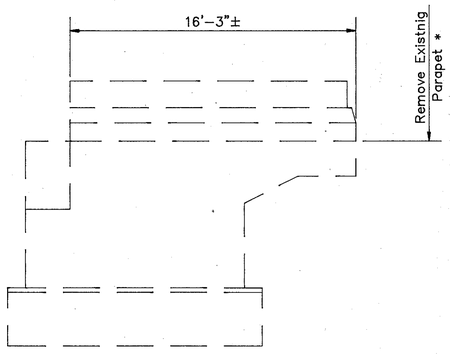
BELMONT COUNTY
BEL–70–23.79



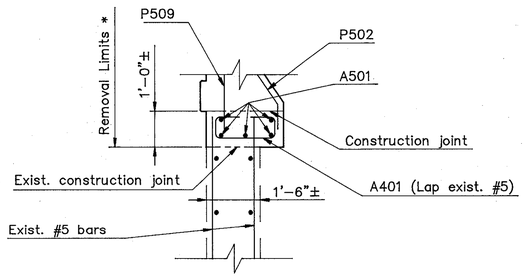
REAR ABUTMENT ELEVATION



SOUTH WINGWALL



NORTH WINGWALL



DETAIL B

* Remove existing parapet & safety curbs to construction joint and preserve existing #5 vertical bars.

LEGEND

S_ S.F.	Approximate area Estimated for Patching
	Epoxy inject cracks per proposal note, Rear Abutment
C_ L.F.	Approximate Lin. Ft. Estimated for Crack Repair

Note: No spalled areas were found on abutment.

Existing ground line shown is approximate. Field verify dimensions as necessary.

Epoxy seal median and parapets. Seal the parapet transitions with the same material as the parapet retrofit is sealed with.

See sheets 8/11, 9/11 and 10/11 for parapet retrofit details.

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REAR ABUTMENT REPAIRS

BRIDGE NO. BEL–70–2684
I.R. 70 OVER LINCOLN AVE.,
S.R. 7, & W&LE & CONRAIL

BELMONT COUNTY OHIO

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED
K.R.M. 1–94	K.R.M. 2–94		J.D.V. 2–94	T.F. 2–94	

REGION	STATE	PROJECT	
5	OHIO		

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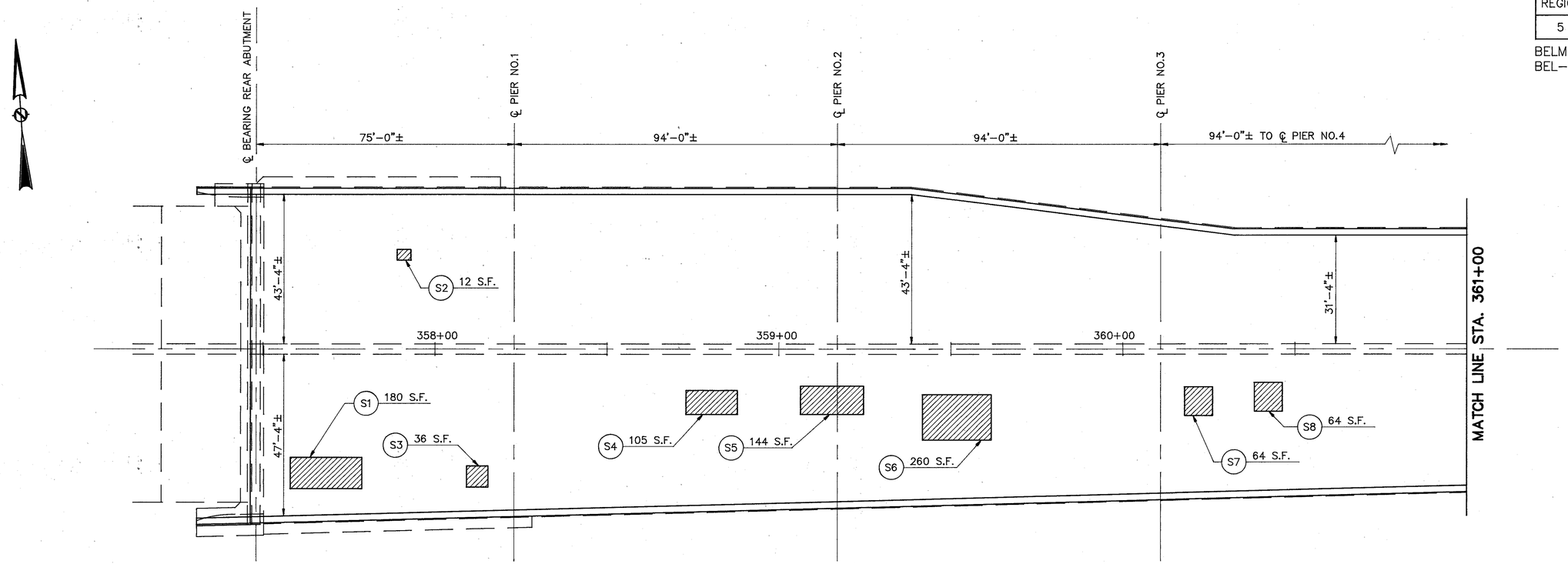
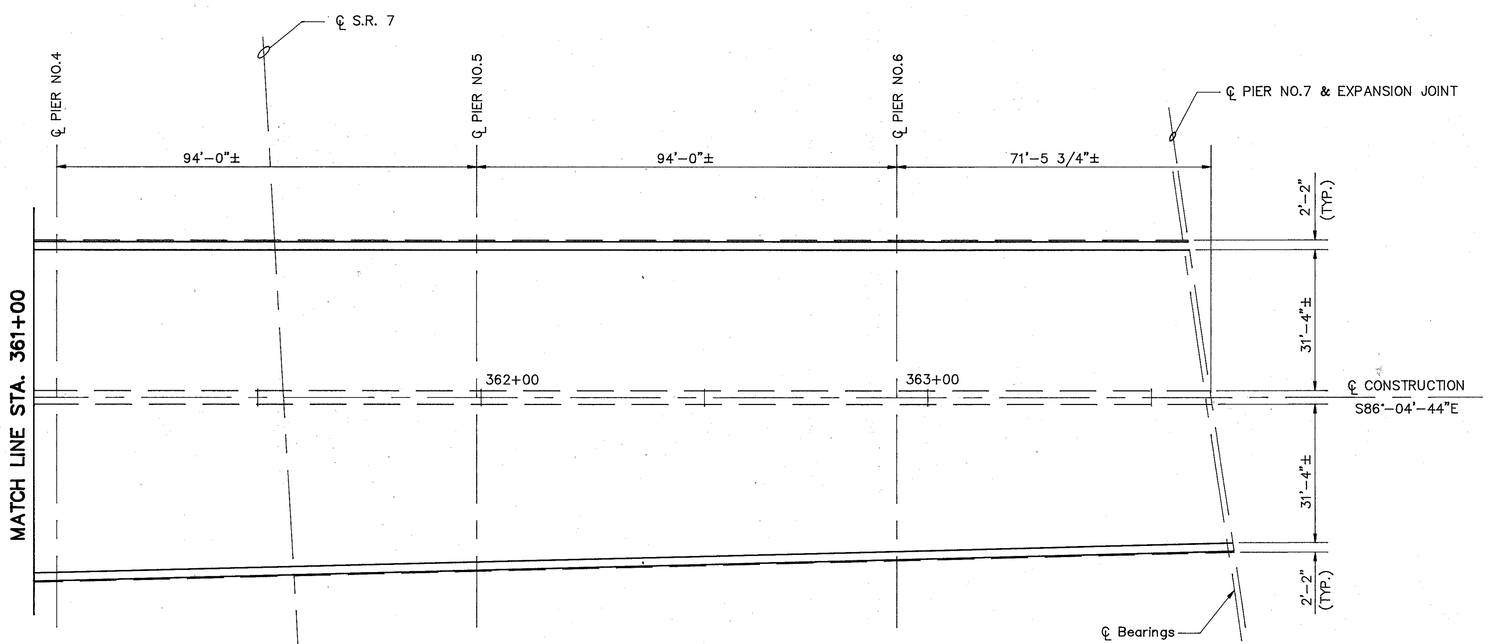
BELMONT COUNTY
BEL-70-23.79





LEGEND

- ▨ – Indicates *limits* of concrete patching for Deck *
- (S_ S.F.) – Approximate area Estimated for Patching
- ∿ – Epoxy inject cracks per proposal note, Deck
- (C_ L.F.) – Approximate Lin. Ft. Estimated for Crack Repair

* *Sounding to be done after removal of existing overlay. Additional areas of concrete patching may be added.*

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3896 MAHONING AVE. YOUNGSTOWN, OHIO

DECK PLAN

BRIDGE NO. BEL-70-2684
I.R. 70 OVER LINCOLN AVE.,
S.R. 7, & W&LE & CONRAIL

BELMONT COUNTY OHIO

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED
K.R.M. 1-94	K.R.M. 2-94		J.D.V. 2-94	T.F. 2-94	

REGION	STATE	PROJECT		
5	OHIO			

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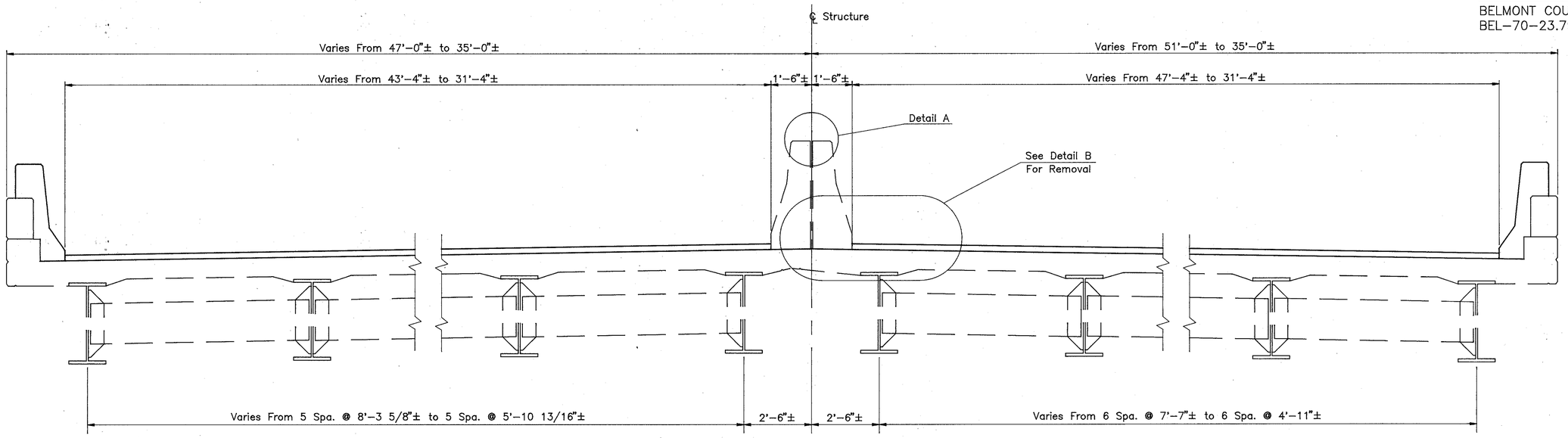
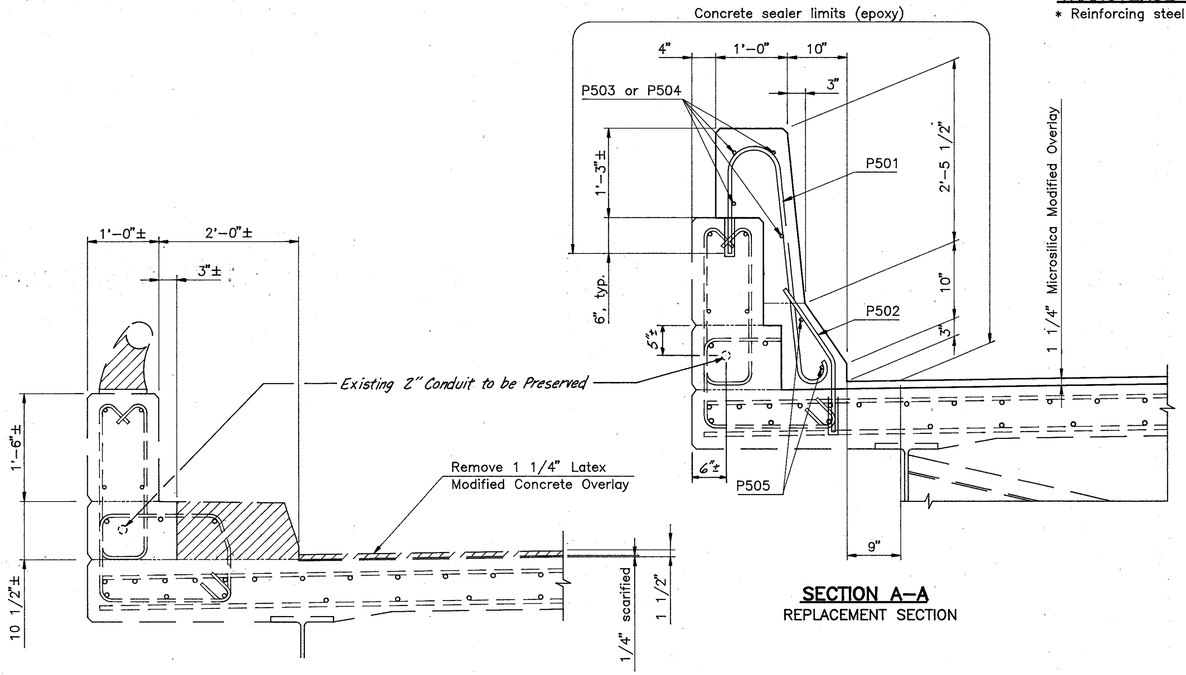
97

BELMONT COUNTY
BEL–70–23.79



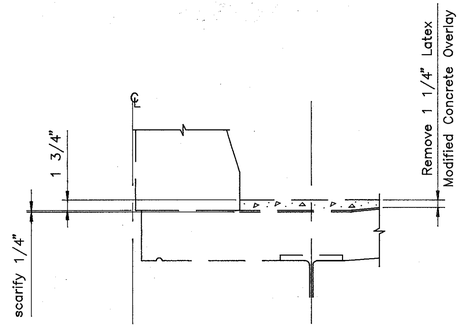
TRANSVERSE SECTION

* Reinforcing steel not shown

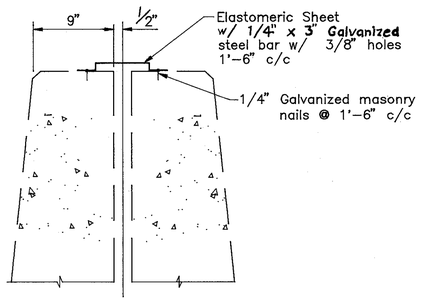


SECTION A–A
REPLACEMENT SECTION

SECTION A–A
REMOVAL SECTION



DETAIL B



DETAIL A

Refer to Sheet 10/11 for Additional Parapet Details.

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3896 MAHONING AVE. YOUNGSTOWN, OHIO

TRANSVERSE SECTION

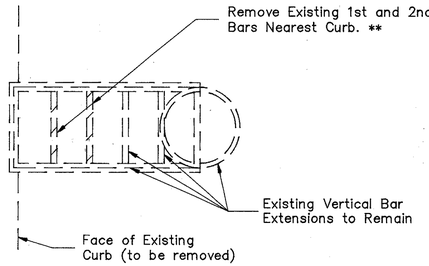
BRIDGE NO. BEL–70–2684
I.R. 70 OVER LINCOLN AVE.,
S.R. 7, & W&LE & CONRAIL

BELMONT COUNTY OHIO

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED
K.R.M.	K.R.M.		J.D.V.	T.F.	
1–94	2–94		2–94	2–94	

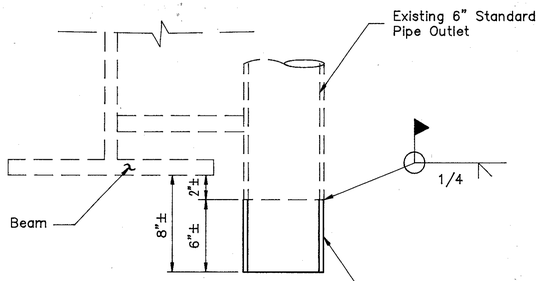
REGION	STATE	PROJECT		93
5	OHIO			97

BELMONT COUNTY
BEL–70–23.79

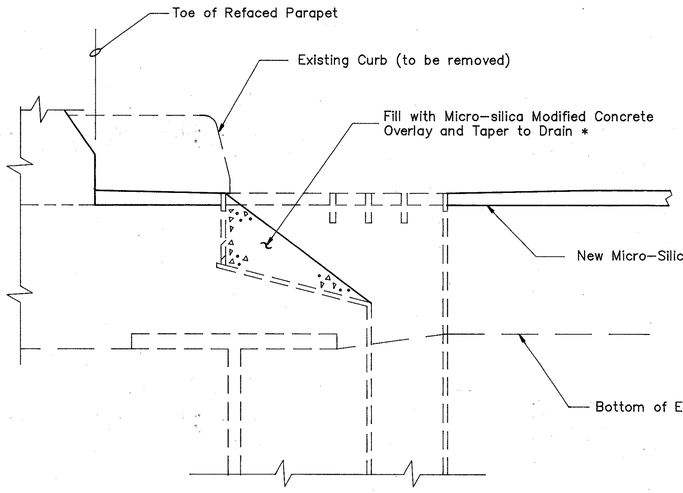


SCUPPER BAR MODIFICATION

** Include Bar Removal for Payment with Item 202, Portions of Structures Removed, as per plan.

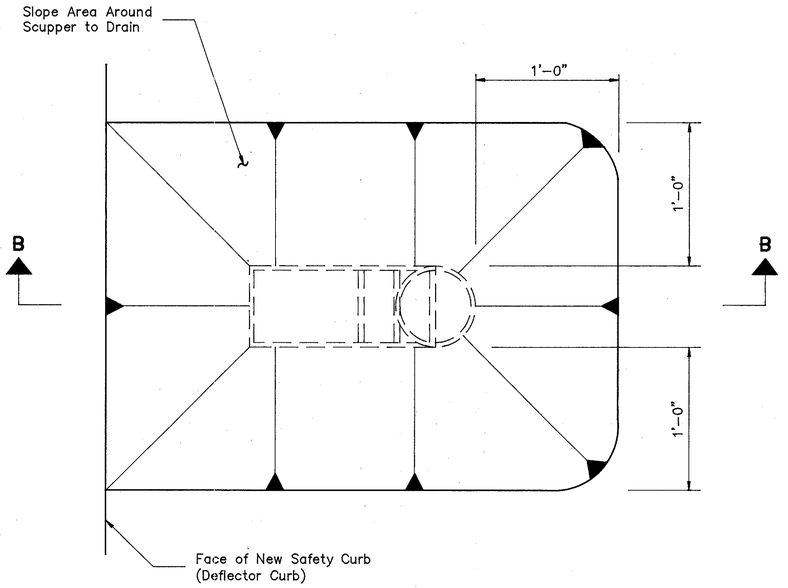


SCUPPER LENGTHENING

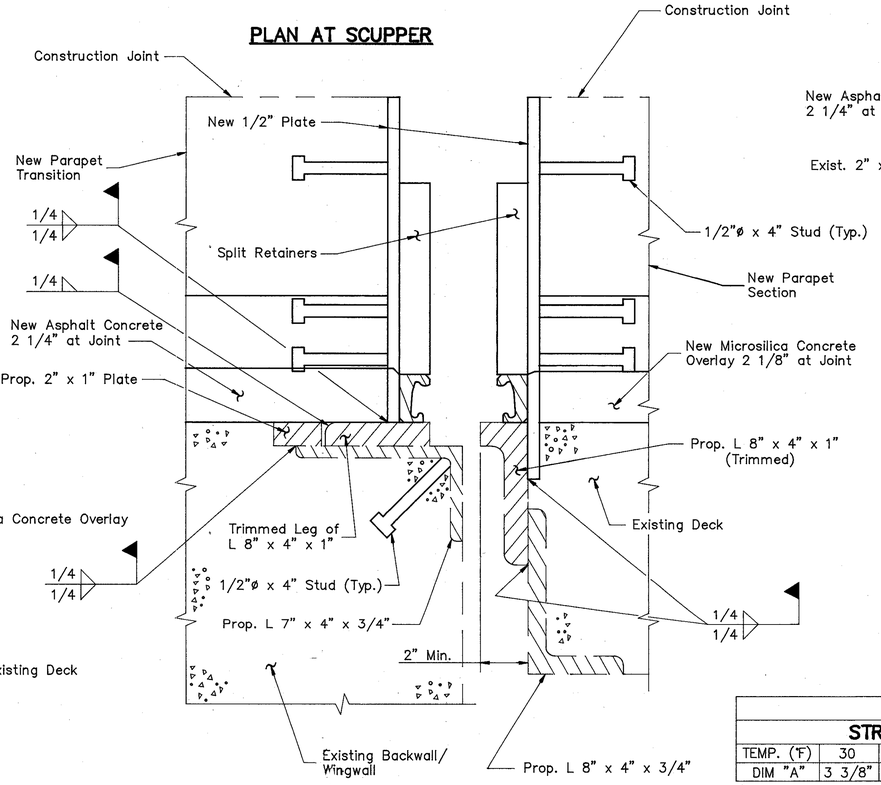


SECTION B–B

* Include Micro–silica Concrete for Payment with Item Special, Micro–silica Modified Concrete Overlay (Variable Thickness).

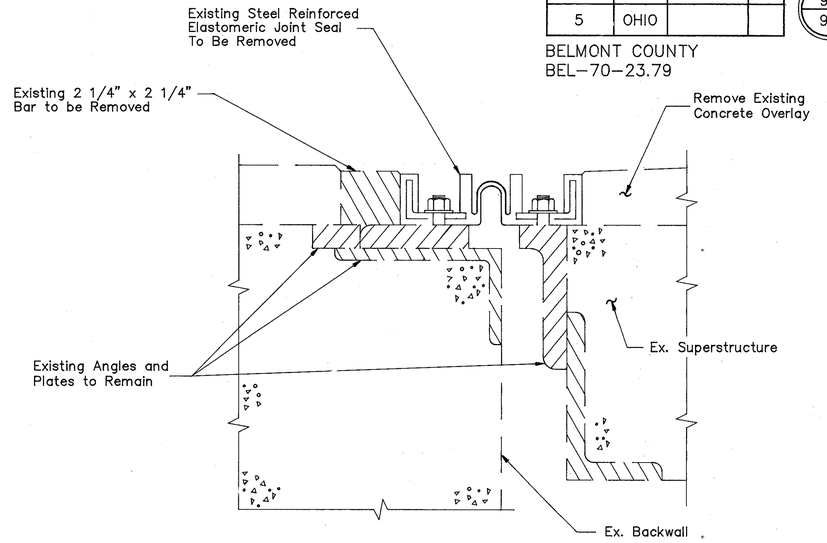


PLAN AT SCUPPER

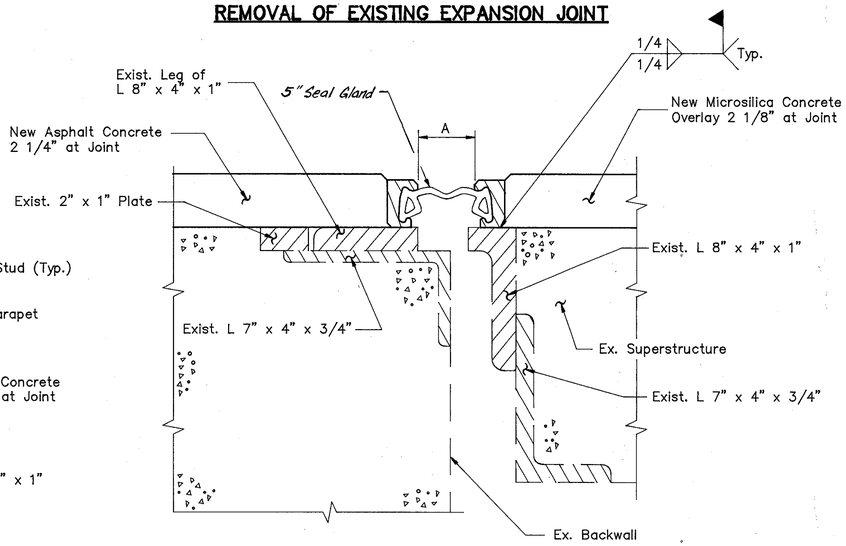


SECTION K–K

North Parapet Shown, South Parapet Opposite Hand
For Location, see Sheets 8/11 and 9/11.



REMOVAL OF EXISTING EXPANSION JOINT



VERTICAL EXTENSION OF STRUCTURAL EXPANSION JOINTS INCLUDING ELASTOMERIC STRIP SEALS

TABLE "A" STRIP SEAL JOINT OPENING							
TEMP. (F)	30	40	50	60	70	80	90
DIM "A"	3 3/8"	3 1/8"	2 7/8"	2 5/8"	2 3/8"	2 1/8"	1 7/8"

Refer to Sheet 10/11 for Additional Expansion Joint Sections .

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THOMAS FOK & ASSOCIATES, LTD.
CONSULTING ENGINEERS, SURVEYORS & PLANNERS
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MISCELLANEOUS DETAILS

BRIDGE NO. BEL–70–2684
I.R. 70 OVER LINCOLN AVE.,
S.R. 7, & W&LE & CONRAIL

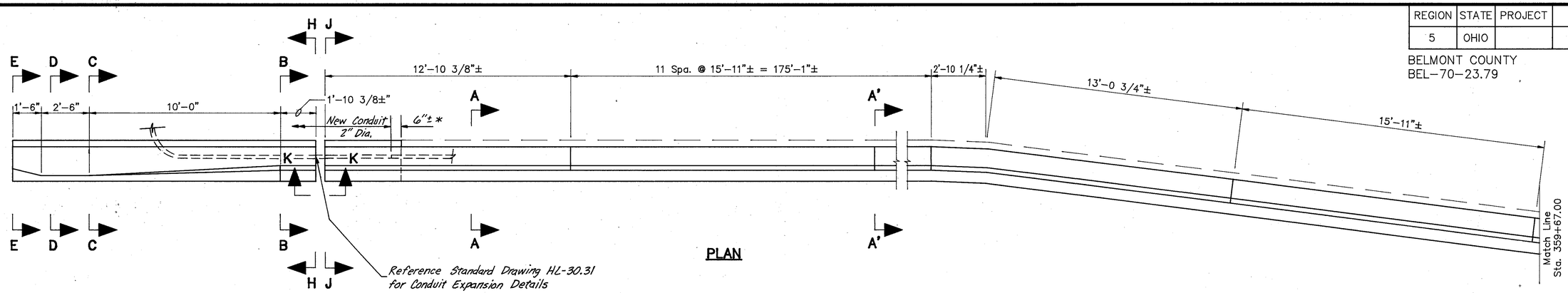
BELMONT COUNTY OHIO

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED
K.R.M. 1–94	K.R.M. 2–94		J.D.V. 2–94	T.F. 2–94	

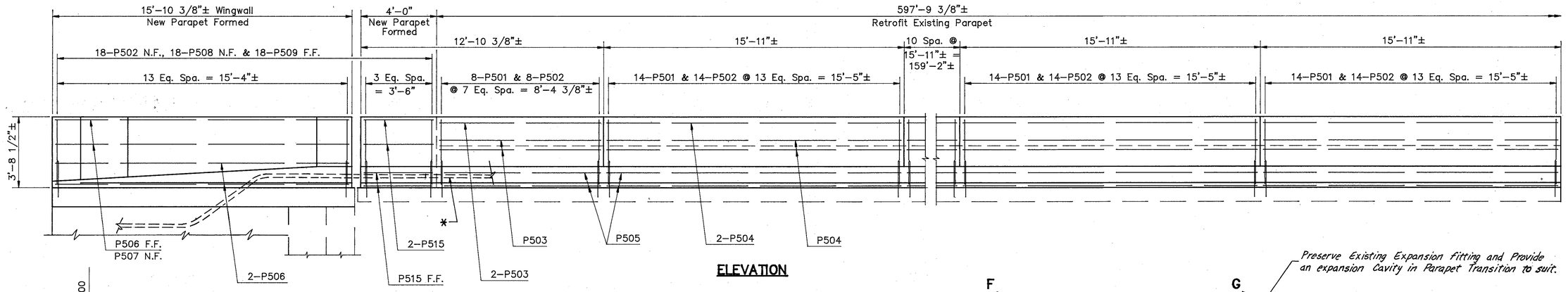
REGION	STATE	PROJECT		
5	OHIO			

94
97

BELMONT COUNTY
BEL–70–23.79



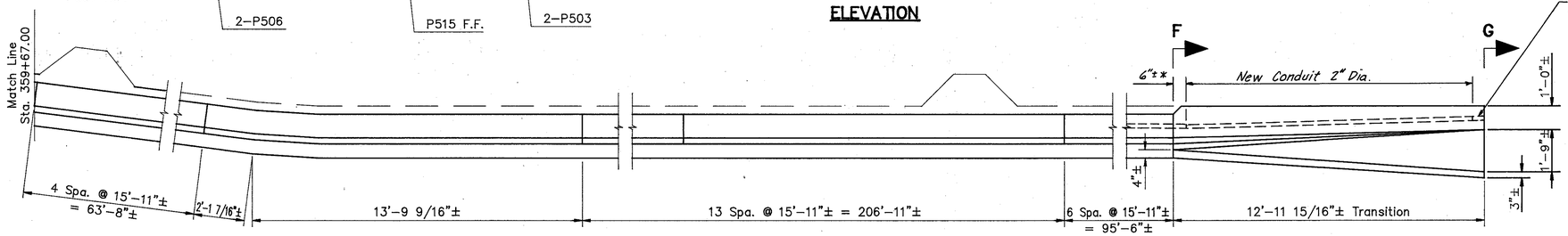
PLAN



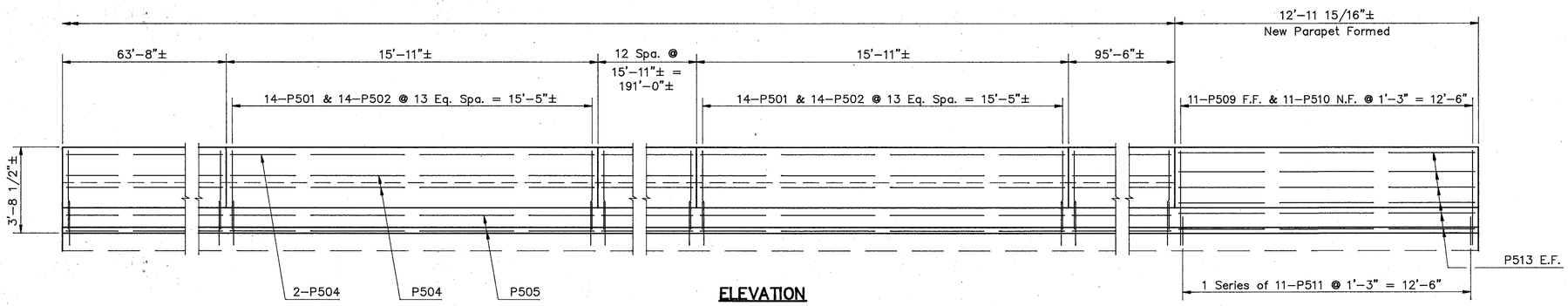
ELEVATION

Preserve Existing Expansion Fitting and Provide an expansion Cavity in Parapet Transition to suit.

* Preserve a Portion of Existing Conduit to Connect New Conduit.



PLAN



ELEVATION

Refer to Sheet 10/11 For Transition Section.
Refer to Sheet 10/11 For Section H–H, & J–J.
Refer to Sheet 7/11 For Section K–K.

8/11

THOMAS FOK & ASSOCIATES, LTD.
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3896 MAHONING AVE. YOUNGSTOWN, OHIO

NORTH PARAPET RETROFIT

BRIDGE NO. BEL–70–2684
I.R. 70 OVER LINCOLN AVE.,
S.R. 7, & W&LE & CONRAIL

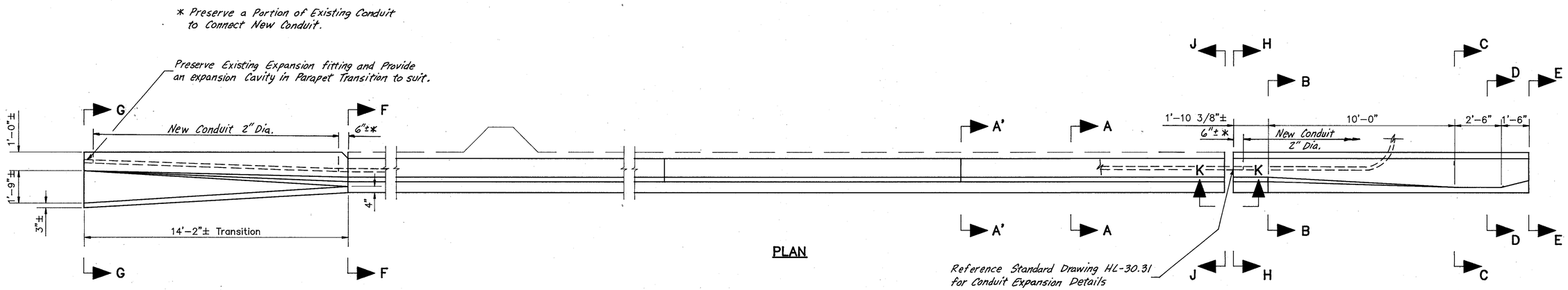
BELMONT COUNTY OHIO

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED
K.R.M.	K.R.M.		J.D.V.	T.F.	
1–94	2–94		2–94	2–94	

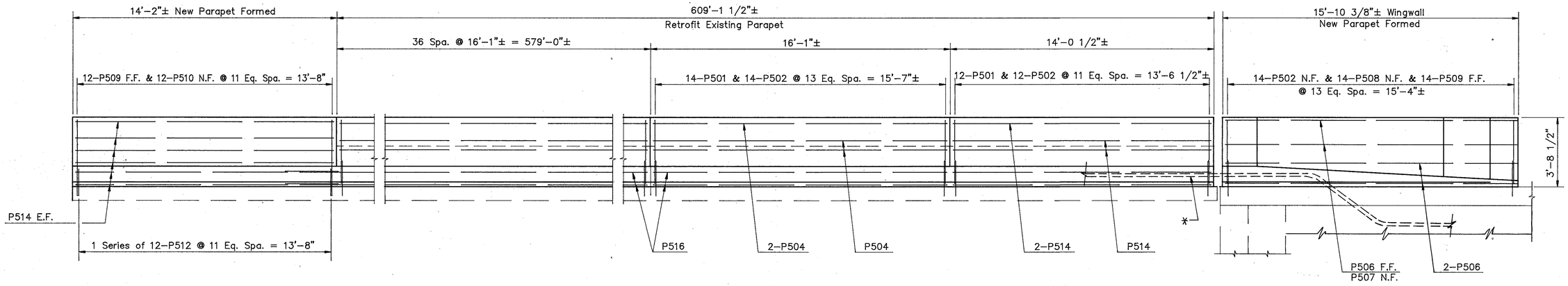
REGION	STATE	PROJECT	
5	OHIO		

95
97

BELMONT COUNTY
BEL-70-23.79



PLAN



ELEVATION

Refer to Sheet 10/11 For Transition Section.
Refer to Sheet 10/11 For Sections H-H & J-J.
Refer to Sheet 7/11 For Section K-K.

9 / 11

THOMAS FOK & ASSOCIATES, LTD.
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3896 MAHONING AVE. YOUNGSTOWN, OHIO

SOUTH PARAPET RETROFIT

BRIDGE NO. BEL-70-2684
I.R. 70 OVER LINCOLN AVE.,
S.R. 7, & W&LE & CONRAIL

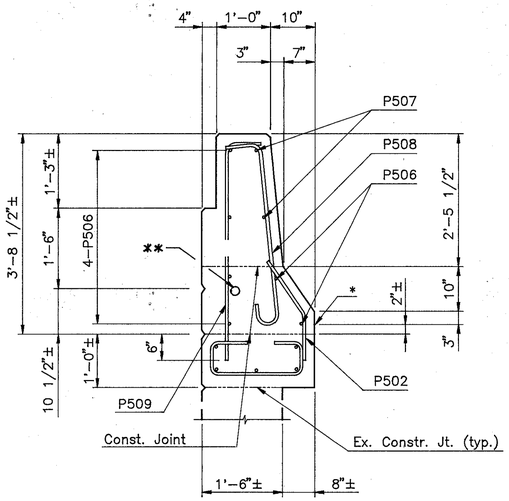
BELMONT COUNTY OHIO

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED
K.R.M.	K.R.M.		J.D.V.	T.F.	
1-94	2-94		2-94	2-94	

REGION	STATE	PROJECT		
5	OHIO			

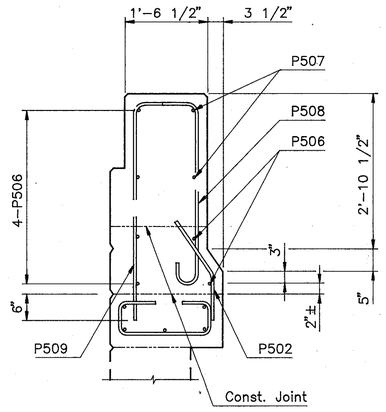
96
97

BELMONT COUNTY
BEL–70–23.79

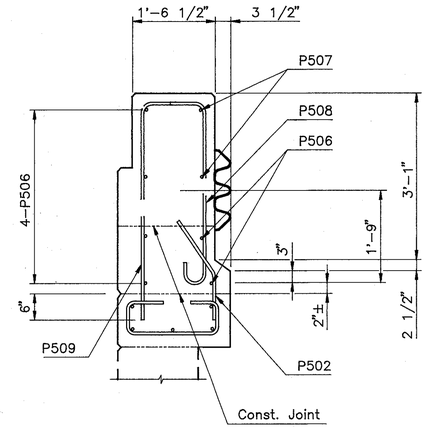


SECTION B–B

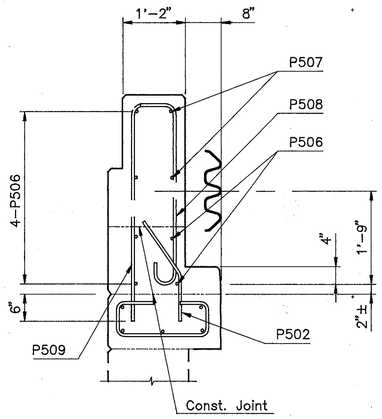
* Top of proposed shoulder line extended from edge of shoulder to toe of parapet, (typ.)



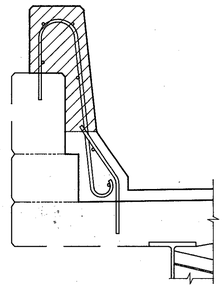
SECTION C–C



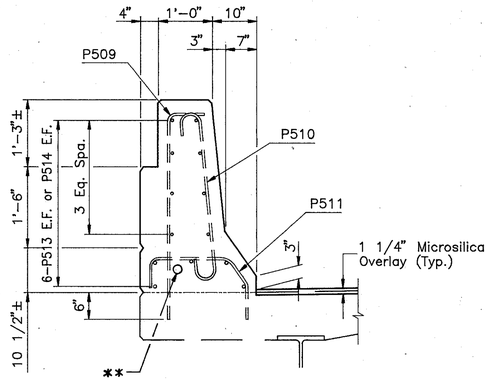
SECTION D–D



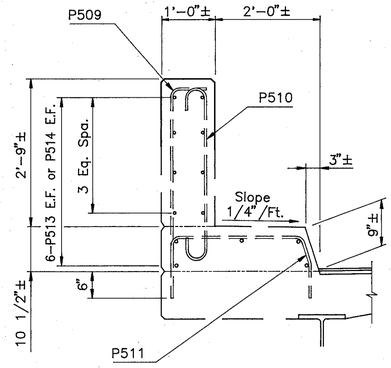
SECTION E–E



SECTION A'–A'



SECTION F–F

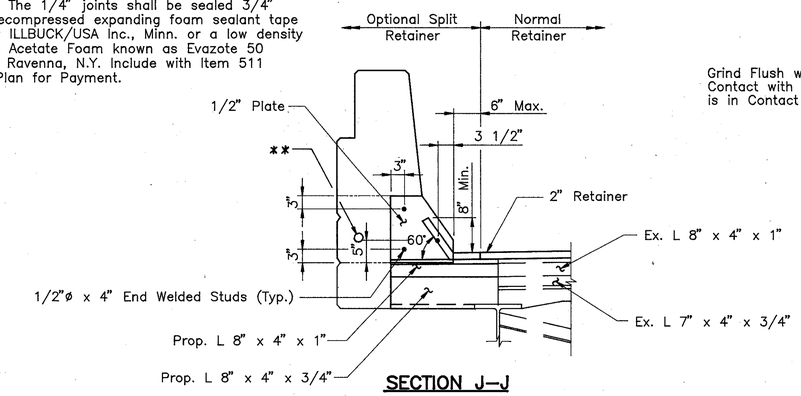


SECTION G–G

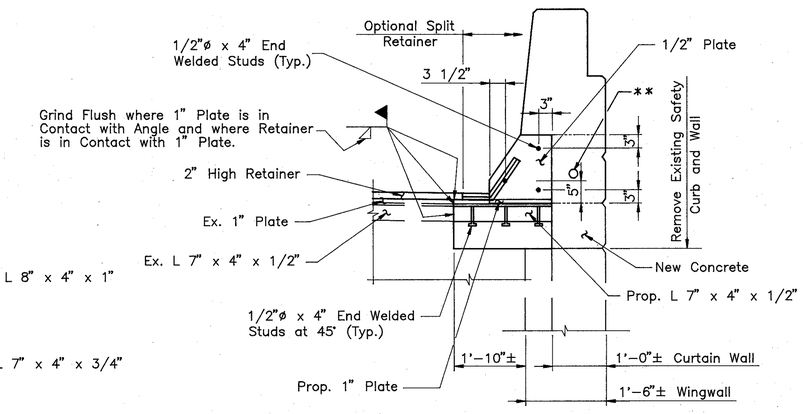
1. Existing reinforcing steel locations are approximate.
2. Existing reinforcing steel may be cut off or bent out of the way.
3. Removal limits shall provide 2 inch minimum clearance around all new reinforcing bars.
4. Space all reinforcing steel at 1'–3" c/c maximum. Provide a 3 inch minimum clearance between vertical reinforcing steel and existing expansion joints.
5. Make all longitudinal reinforcing steel continuous with minimum lap lengths of 2'–9" unless noted.
6. Provide 2 inch minimum concrete cover unless noted.
7. For additional notes, see "General Notes", sheet 2/11 .
8. All loose and unsound concrete in the area of the parapet to be faced, shall be removed. All remaining sound concrete shall then be mechanically scarified 1/4" deep.
9. For Reinforcing steel dimensions, see "Reinforcing Steel", sheet 11/11 .
10. See "Transverse Section", sheet 6/11 , for Section A–A.
11. For additional parapet details see sheets 8/11 & 9/11 .

*** New 2" Conduit to be connected to Existing. Refer to Sheets 6/11, 8/11 and 9/11 for additional details.*

Deflection Joints shall be extended completely through the proposed facing and the new joints shall be formed. The 1/4" joints shall be sealed 3/4" deep (min.) with an impregnated precompressed expanding foam sealant tape known as Will–Seal manufactured by ILLBUCK/USA Inc., Minn. or a low density closed cell crosslinked Ethylene Vinyl Acetate Foam known as Evazote 50 manufactured by E–POXY Industries, Ravenna, N.Y. Include with Item 511 Class S Concrete, Parapet, As Per Plan for Payment.



SECTION J–J
Superstructure Side
North Parapet Shown, South Parapet Opposite Hand



SECTION H–H
Abutment Side
North Parapet Shown, South Parapet Opposite Hand

10/11

THOMAS FOK & ASSOCIATES, LTD.
CONSULTING ENGINEERS, SURVEYORS & PLANNERS
3896 MAHONING AVE. YOUNGSTOWN, OHIO

PARAPET RETROFIT

BRIDGE NO. BEL–70–2684
I.R. 70 OVER LINCOLN AVE.,
S.R. 7, & W&LE & CONRAIL

BELMONT COUNTY OHIO

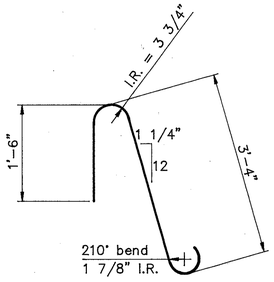
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED
K.R.M.	K.R.M.		J.D.V.	T.F.	
1–94	2–94		2–94	2–94	

REGION	STATE	PROJECT		97
5	OHIO			97

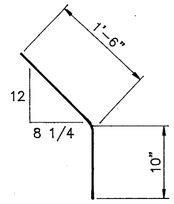
BELMONT COUNTY.
BEL-70-23.79

REINFORCING STEEL LIST

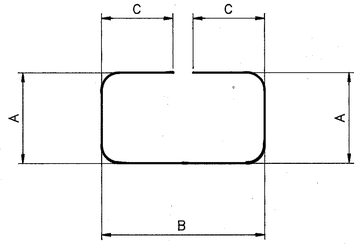
MARK	NO. REQD.	LENGTH	TYPE	DIMENSIONS A	B	C	D	INCRM.	SUPERSTRUCTURE NO. REQD.	WEIGHT	ABUTMENTS NO. REQD.	WEIGHT	TOTAL WEIGHT
A401	32	3'-10"	3	7"	1'-8"	8"					32	82	82
A501	10	15'-6"	ST								10	162	162
P501	1056	5'-8"	1						1056	6242			6242
P502	1088	2'-3"	2						1060	2487	28	66	2553
P503	4	8'-6"	ST						4	35			35
P504	296	15'-7"	ST						296	4811			4811
P505	38	34'-5"	ST						38	1364			1364
P506	12	15'-6"	ST								12	194	194
P507	4	15'-5"	6	11'-8"							4	64	64
P508	32	4'-6"	4						4	19	28	131	150
P509	55	4'-7"	5	4'-0"	8"				27	129	28	134	263
P510	23	4'-6"	7	3'-4"					23	108			108
P511	1 Series	Varies From	8	Varies From				1"	1 Series	37			37
	of 11	2'-10" to 3'-8"		1'-4" to 2'-2"					of 11				
P512	1 Series	Varies From	8	Varies From				7/8"	1 Series	41			41
	of 12	2'-10" to 3'-8 1/2"		1'-4" to 2'-2 1/2"					of 12				
P513	12	12'-7"	ST						12	157			157
P514	16	13'-8"	ST						16	228			228
P515	6	3'-8"	ST						6	23			23
P516	38	34'-10"	ST						38	1381			1381
TOTALS										17,062		833	17,895



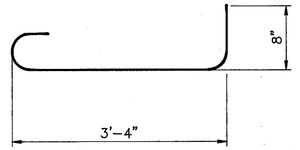
TYPE 1



TYPE 2



TYPE 3



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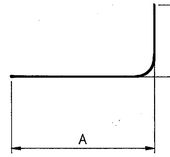
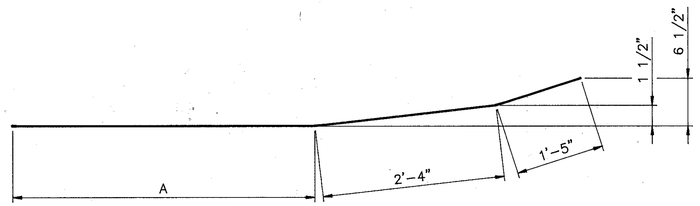
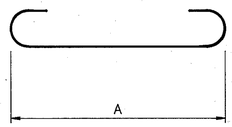


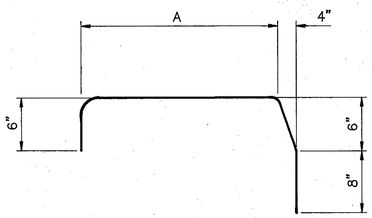
TYPE 5



TYPE 6



TYPE 7



TYPE 8

NOTES

BAR SIZE: The bar size is indicated in the bar mark. The first digit where three digits are used, and the first two digits where four are used, indicate the bar size number. For example: A506 is No. 5 size bar and P1101 is a No. 11 size bar.

All Reinforcing Steel is epoxy coated.

ST = Straight

11 / 11

THOMAS FOK & ASSOCIATES, LTD.
CONSULTING ENGINEERS, SURVEYORS & PLANNERS
3896 MAHONING AVE. YOUNGSTOWN, OHIO

REINFORCING STEEL LIST
BRIDGE NO. BEL-70-2684
I.R. 70 OVER LINCOLN AVE.,
S.R. 7, & W&LE & CONRAIL

BELMONT COUNTY OHIO

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED
K.R.M. 1-94	K.R.M. 2-94		J.D.V. 2-94	T.F. 2-94	