



CUY-90-14.90

PID 77332/85531

APPENDIX EX-26

CUY-090-1621 PID 2.209

(Reference Document)

State of Ohio
Department of Transportation
Jolene M. Molitoris, Director

**Innerbelt Bridge
Construction Contract Group 1 (CCG1)**

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

I-UI-90-1 (108) 29 CUYAHOGA COUNTY
CUY-90-16.21



Prof 447-77

PART	COUNTY	ROUTE	SECTIONS	WORK TERMINI		NET LENGTH MILES	TOWNSHIP	CITY	VILLAGE
				BEGIN	END				
I	CUY	I-90		16.21	16.70	0.49		CLEVELAND	

REC'D. L & D 4-15-77
 T. M. K.
 R. J. B.
 RWL
 CONST. V7SETS
 UH

LIMITED ACCESS: This improvement is especially designed for through traffic and has been declared a limited access highway or freeway by action of the Director of Transportation in accordance with the provisions of Section 55102 of the Revised Code of Ohio.

The Standard 1977 Specifications of the State of Ohio, Department of Transportation, including changes and Supplemental Specifications listed in the plans and proposal shall govern these improvements.

I hereby approve these plans and declare that the making of these improvements will require the closing of the highways to traffic on Parts No. **NONE** and that detours will be provided by State forces. The closing to traffic of the highways will not be required on Parts No. **1** and provisions for the maintenance and safety of traffic will be as indicated in the proposal.

Approved Date 2-11-77

Thomas M. Trace
District Deputy Director of Transportation

Approved Date 3-9-77

Robert B. Pfeiffer
Engineer, Bureau of Bridges

Approved Date 3-31-77

W. J. [unclear]
Engineer, Bureau of Location and Design

Approved Date 3-31-77

John C. Ellis
Assistant Deputy Director For Highway Design

Approved Date 3-31-77

[Signature]
Assistant Deputy Director For Real Estate

Approved Date 3-31-77

[Signature]
Assistant Deputy Director For Program Development

Approved Date 3-31-77

R. E. [unclear]
Chief Engineer, Design

Approved Date _____

Chief Engineer, Construction

Approved Date _____

Chief Engineer, Operations

Approved Date 3/31/77

[Signature]
Assistant Director, Department of Transportation

Approved Date 3-31-77

David J. [unclear]
Director, Department of Transportation

PART I STRUCTURE CUY-90-1651 FEATURE EAST 14th ST.

LENGTH OF WORK = 2527 LIN. FT. = 0.49 MI. LENGTH OF PROJECT = 0.00 LIN. FT. = 0.00 MI.

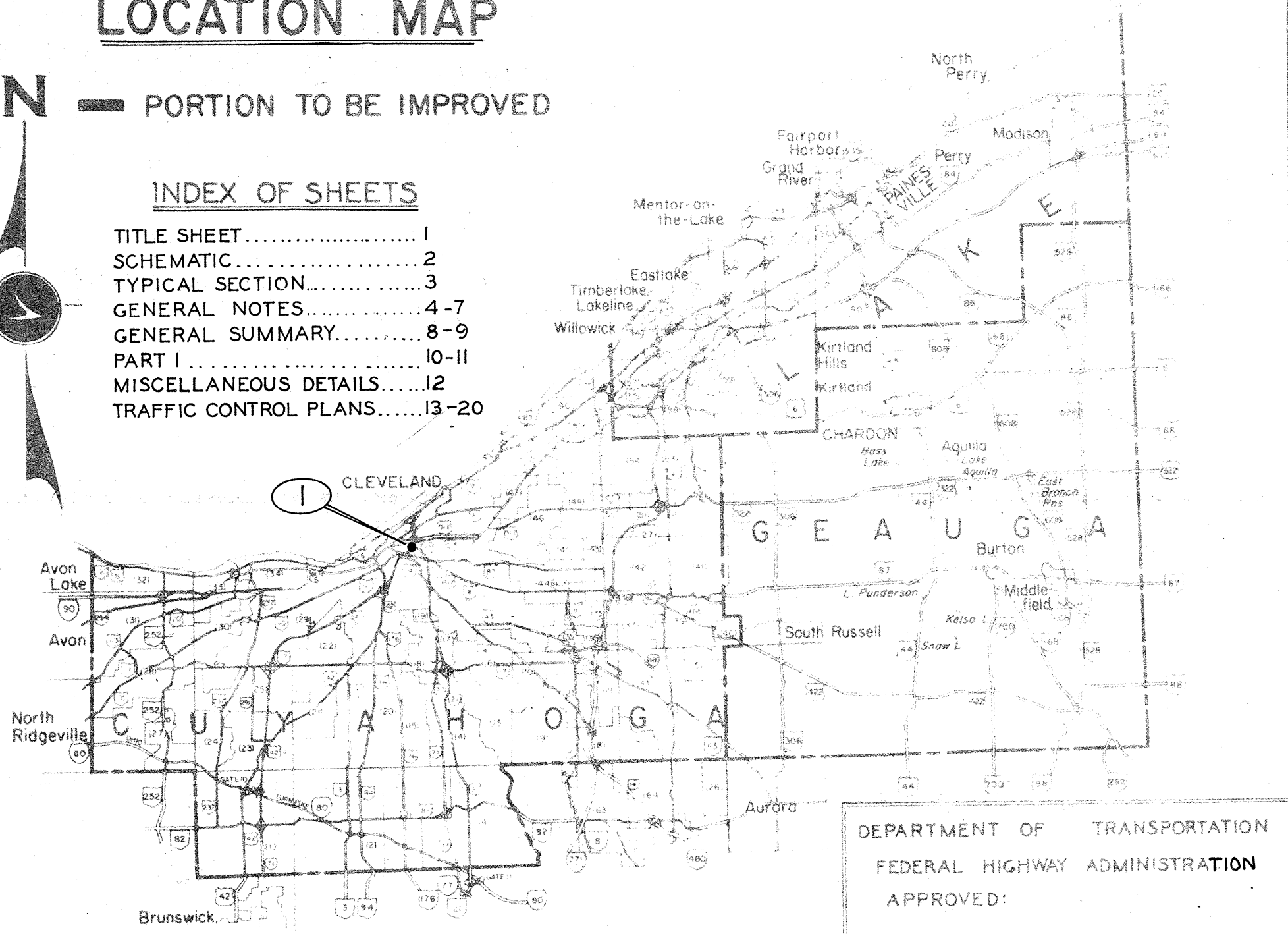
LOCATION MAP



PORTION TO BE IMPROVED

INDEX OF SHEETS

- TITLE SHEET..... 1
- SCHEMATIC..... 2
- TYPICAL SECTION..... 3
- GENERAL NOTES..... 4-7
- GENERAL SUMMARY..... 8-9
- PART I..... 10-11
- MISCELLANEOUS DETAILS..... 12
- TRAFFIC CONTROL PLANS..... 13-20



DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
APPROVED:
DIVISION ADMINISTRATOR DATE

STANDARD DRAWINGS		SUPPLEMENTAL SPECIFICATIONS	
BP-5	8-11-75	836	3-12-75
		844	11-8-74
MC-3	6-1-73	847	4-3-76
		1001	1-3-77

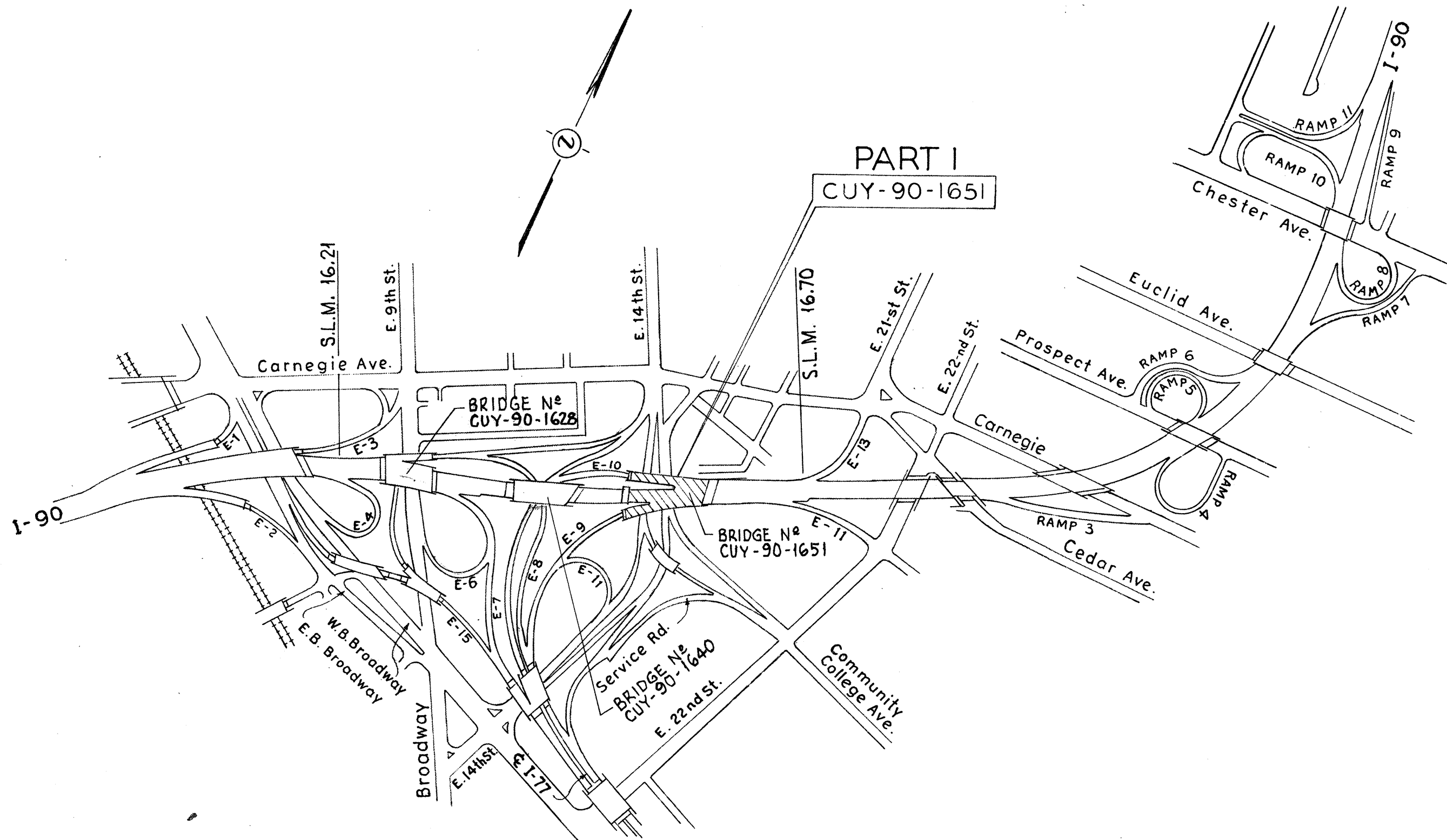
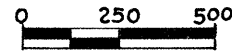
5-17-77

SCHEMATIC PLAN

CUYAHOGA COUNTY
CUY-90-16.21

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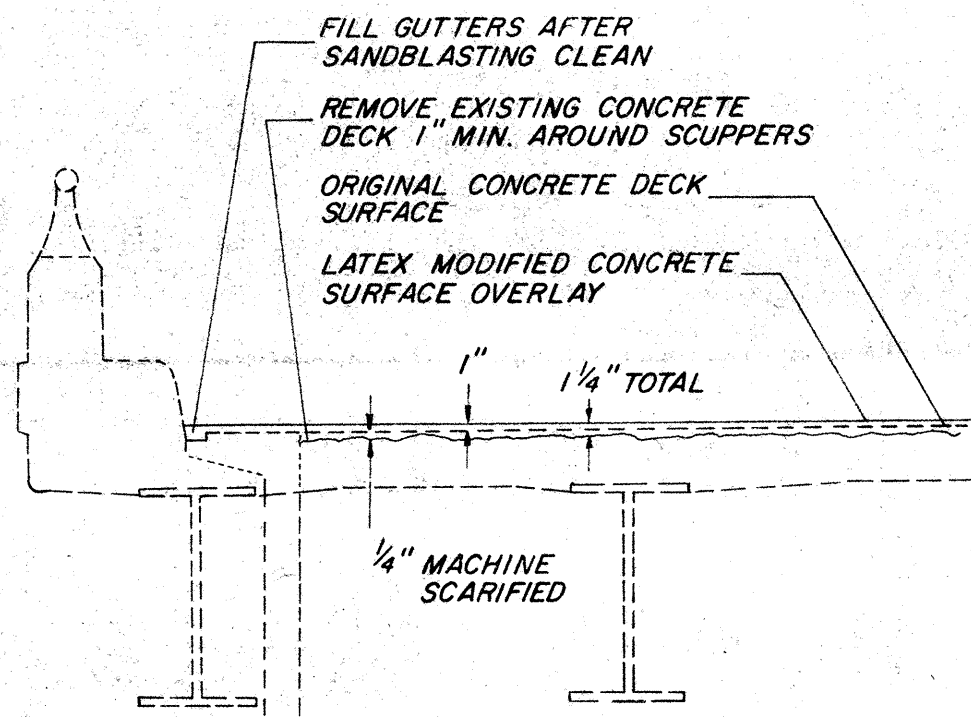
SCALE 1" = 500'



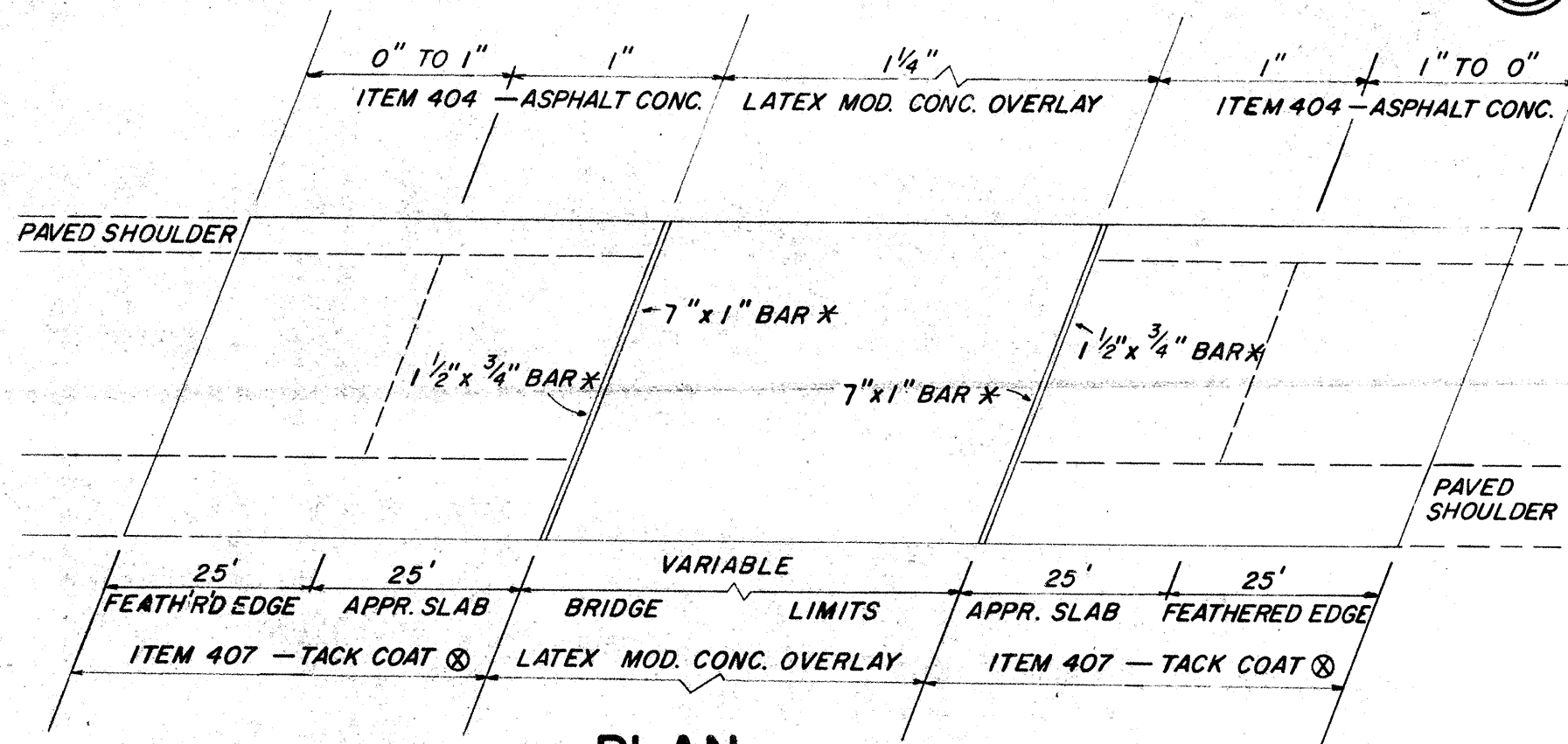
SCHEMATIC PLAN

RESURFACING DETAILS

CUYAHOGA COUNTY
CUY-90-16.21



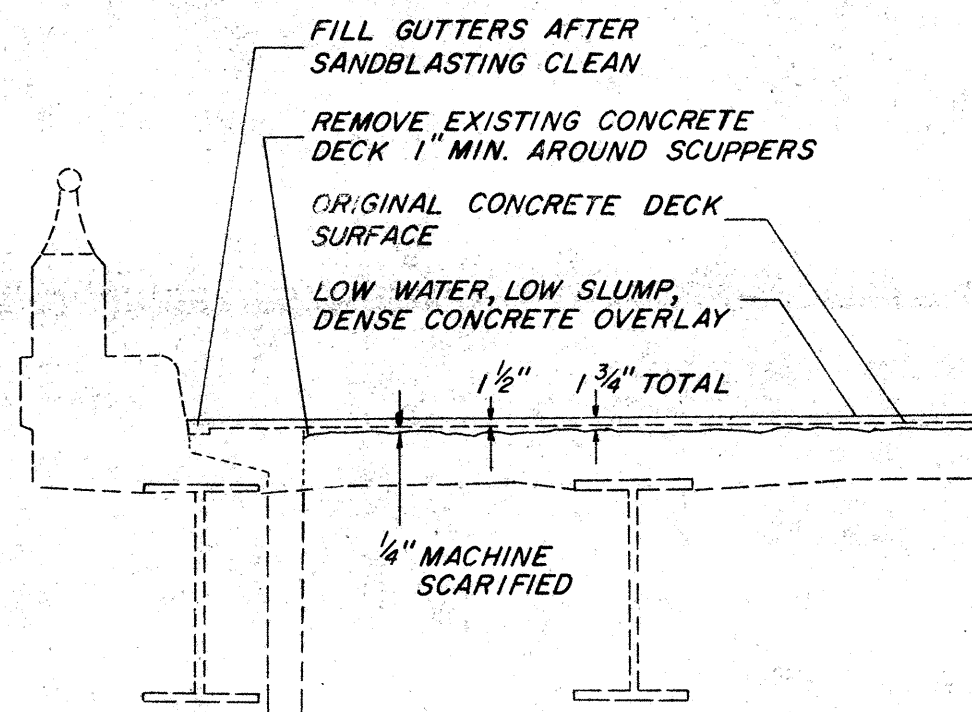
TYPICAL SECTION



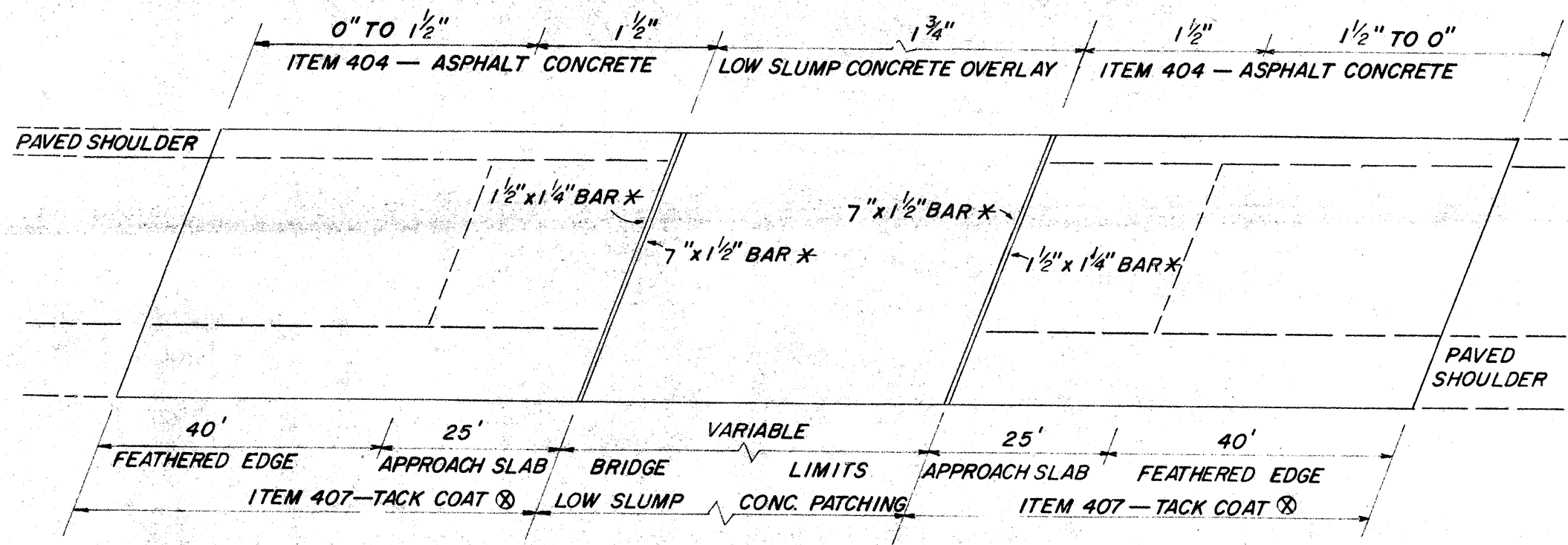
PLAN

* (WIDTH X HEIGHT)

ALT A - LATEX MOD. CONCRETE
ALT B - LOW SLUMP CONCRETE



TYPICAL SECTION



PLAN

⊗ TACK COAT; 702.04, SS-1, SS-1h, MS-2 OR RS-1;
OR 702.02, RC-250, APPLIED AT THE RATE OF
0.10 GAL. PER SQ. YD. & COVER AGGREGATE.

GENERAL NOTES

CUYAHOGA COUNTY
CUY-90-16.21

4
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COMPUTED BY: J.L.B. 2-11-77
CHECKED BY: E.N.F. 2-11-77

ESTIMATED QUANTITIES

SPECIFIC LOCATIONS AND USAGE OF THE ESTIMATED QUANTITIES SET UP ON THIS PLAN TO BE USED "AS DIRECTED BY THE ENGINEER" SHALL BE MADE A MATTER OF RECORD BY INCORPORATION INTO THE FINAL CHANGE ORDER GOVERNING COMPLETION OF THIS PROJECT. ESTIMATED QUANTITIES OF MATERIALS SHALL NOT BE ORDERED FOR DELIVERY TO THE PROJECT UNLESS AUTHORIZED BY THE ENGINEER.

ALTERNATE A OR B

"ALTERNATE" A OR B SHOWN THROUGHOUT PLAN SHOULD READ "DESIGN" A OR B RESPECTIVELY.

ALTERNATES A & B

ALTERNATE "A" CONSISTS OF REPAIRING THE BRIDGE DECKS WITH LATEX MODIFIED CONCRETE AND ALL NECESSARY INCIDENTALS.

ALTERNATE "B" CONSISTS OF REPAIRING THE BRIDGE DECKS WITH LOW WATER LOW SLUMP DENSE CONCRETE AND ALL NECESSARY INCIDENTALS.

FOR ADDITIONAL DETAILS OF ALTERNATES A & B SEE TYPICAL SECTION, SHEET NUMBERED 3.

THE CONTRACTOR SHALL SUBMIT A BID FOR ONE ALTERNATE ONLY, SEE PROPOSAL.

SEQUENCE OF OPERATIONS

THE WORK DONE UNDER EACH PART OF THIS CONTRACT SHALL BE PERFORMED IN PHASES. THE PHASES SHALL BE IMPLEMENTED ACCORDING TO THE TRAFFIC CONTROL PLANS AND NOTES. TRAFFIC SHALL NOT BE EXPOSED TO ANY LONGITUDINAL VERTICAL FACE OF NEW CONSTRUCTION EXCEPT WHEN THE LANE CLOSURE IS BEING MOVED FROM ONE SIDE TO THE OTHER. EXPOSURE OF TRAFFIC TO THE LONGITUDINAL VERTICAL FACE SHALL BE LESS THAN 2 HOURS.

PAVING WIDTHS FOR EACH BRIDGE, UNDER EACH TRAFFIC CONTROL PHASE, ARE SHOWN ON THE TRAFFIC CONTROL PLANS.

DURING BOTH TRAFFIC CONTROL PHASES FOR IR-90 W.B. THE "ON" RAMP FROM E. 21st. ST. SHALL BE CLOSED TO TRAFFIC. THE CONTRACTOR SHALL IMPLEMENT THIS CLOSURE AT THE RAMP ENTRANCE AT CARNEGIE AVE. USING A 48" x 30" MIN. BLACK ON ORANGE "RAMP CLOSED" SIGN MOUNTED ON A TYPE III BARRICADE WITH RED WARNING LIGHTS. (SEE PLATE C-5 IN THE "MANUAL".)

ITEM 202 - REMOVAL OF FLEXIBLE POSTS, AS PER PLAN

THIS ITEM OF WORK SHALL CONSIST OF THE REMOVAL OF THE EXISTING FLEXIBLE RUBBER POSTS MOUNTED IN ALUMINUM BASES. PAYMENT FOR THIS ITEM SHALL BE MADE FOR EACH BASE REMOVED, REGARDLESS OF THE EXISTENCE OF THE RUBBER POST INSERT. ALL POSTS AND BASES REMOVED SHALL BE GIVEN TO THE PROJECT ENGINEER TO BE RETURNED TO THE DISTRICT TRAFFIC ENGINEER. THE FOLLOWING ESTIMATED QUANTITY IS INCLUDED IN THE GENERAL SUMMARY TO BE USED AS OUTLINED ABOVE.

ITEM 202 - REMOVAL OF FLEXIBLE POSTS
AS PER PLAN.
PARTICIPATION CODE I

40 EACH

ITEM 301 - BITUMINOUS AGGREGATE BASE, AS PER PLAN

THIS ITEM SHALL BE USED ON ALL BERMS PRIOR TO MOVING TRAFFIC ONTO THEM. THIS WORK SHALL INCLUDE THE REMOVAL OF 6" OF THE EXISTING SHOULDER MATERIAL AND THE CONSTRUCTION OF A 6" COURSE OF ITEM 301 ON THE EXISTING SUBBASE OR SUBGRADE. THIS ITEM OF WORK SHALL BE PERFORMED FOR THE WIDTHS SHOWN ON THE TRAFFIC CONTROL PLANS. ALL COST OF EXCAVATION AND INSTALLATION SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 301 - BITUMINOUS AGGREGATE BASE, AS PER PLAN. THE CONTRACTOR SHALL PERFORM THE ABOVE WORK BETWEEN THE HOURS OF 9:00 A.M. AND 3:00 P.M. AND SHALL NOT CLOSE MORE THAN ONE LANE IN EACH DIRECTION AT ANY ONE TIME. SEE SHEET NO. 13 FOR ESTIMATED QUANTITIES TO BE USED FOR THE MAINTENANCE OF TRAFFIC AS OUTLINED ABOVE.

ITEM 310 - SUBBASE, AS PER PLAN

THIS ITEM SHALL BE USED TO REPLACE EXISTING UNSUITABLE SUBBASE PRIOR TO THE PLACEMENT OF ITEM 301. ALL COSTS OF EXCAVATION AND INSTALLATION SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 310 - SUBBASE, AS PER PLAN. THE FOLLOWING ESTIMATED QUANTITY IS INCLUDED IN THE GENERAL SUMMARY TO BE USED AS OUTLINED ABOVE.

ITEM 310 - SUBBASE, AS PER PLAN
PARTICIPATION CODE I

25 CU.YDS.

ITEM 404 - ASPHALT CONCRETE OR AN APPROVED BITUMINOUS PREMIXED SURFACE COURSE FOR MAINTAINING TRAFFIC (SEE NOTE IN PROPOSAL)

THIS ITEM SHALL BE USED TO TEMPORARILY REPAIR HOLES IN THE BRIDGE DECKS, TO REPAIR BERMS WHICH ARE DAMAGED DURING THE CLOSURE AND TO RELEVEL AND BRING THE SHOULDERS BACK TO GRADE AT THE END OF THE PROJECT WORK. THE CONTRACTOR SHALL USE THIS ITEM TO MAINTAIN THE HIGHWAY ACCORDING TO SEC. 614.02. THE CONTRACTOR SHALL PERFORM THE ABOVE WORK BETWEEN THE HOURS OF 9 A.M. AND 3 P.M. AND SHALL NOT CLOSE MORE THAN ONE ADDITIONAL LANE TO DO THIS WORK. THE FOLLOWING ESTIMATED QUANTITY IS INCLUDED IN THE GENERAL SUMMARY FOR THE MAINTENANCE OF TRAFFIC AS OUTLINED ABOVE, TO BE USED AS DIRECTED BY THE ENGINEER ON ALL PARTS OF THIS PROJECT.

ITEM 404 - ASPHALT CONCRETE OR AN APPROVED BITUMINOUS PREMIXED
SURFACE COURSE FOR MAINTAINING TRAFFIC 20 CU.YD.
PARTICIPATION CODE I

ITEM 404 - ASPHALT CONCRETE (FINISH COURSE)

ITEM 404 - ASPHALT CONCRETE SHALL BE PLACED ON THE APPROACHES FROM FACE TO FACE OF THE CURBS OR FROM EDGE TO EDGE OF THE PAVED SHOULDERS. QUANTITIES INCLUDED IN ITEM 404 ARE TO LEVEL ANY LOW AREAS ON OR ADJACENT TO THE APPROACH SLABS AND TO FEATHER THE RAISED BRIDGE DECK WEARING SURFACE TO THE EXISTING ROADWAY PAVEMENT. (SEE SHEET NO. 3). THE FOLLOWING ESTIMATED QUANTITY IS INCLUDED IN THE GENERAL SUMMARY TO RAISE THE APPROACH SLAB AREAS BACK TO ORIGINAL GRADE WHERE SETTLEMENT HAS OCCURED.

ITEM 404 - ASPHALT CONCRETE
PARTICIPATION CODE I

10 CU. YD.

GENERAL NOTES

GENERAL NOTES

CUYAHOGA COUNTY
CUY-90-16.21

5
20

COMPUTED BY: J.L.B. 2-11-77
CHECKED BY: E.N.F. 2-11-77

ITEM 407 - TACK COAT

THE TACK COAT OPERATION SHALL BE AS DETERMINED AT A PRE-CONSTRUCTION CONFERENCE AS PER SECTION 407.05, AND APPLICATION RATE SHALL NOT EXCEED 0.10 GAL. PER SQUARE YARD. THE TACK COAT SHALL BE APPLIED ONLY ON THE APPROACH ROADWAY WHERE ITEM 404 ASPHALT CONCRETE IS TO BE PLACED.

ITEM 509 - REINFORCING STEEL, AS PER PLAN

THIS ITEM SHALL BE USED TO REPLACE REINFORCING STEEL WHICH IS BENT, ELONGATED, MISSING, OR EXTREMELY CORRODED. BARS SHALL BE THE SAME SIZE AS THE ORIGINAL BARS AND SHALL BE PLACED AS NEAR AS POSSIBLE TO THEIR ORIGINAL PLAN LOCATION. BARS SHALL BE LAPPED ACCORDING TO SEC. 509.08. PAYMENT FOR THIS ITEM SHALL INCLUDE THE COST OF ALL MATERIALS AND LABOR NECESSARY TO COMPLETE THE ABOVE WORK, INCLUDING REMOVAL OF THE EXISTING STEEL.

THE FOLLOWING ESTIMATED QUANTITY OF REINFORCING STEEL IS TO BE USED WHERE AND AS DIRECTED BY THE ENGINEER.

ITEM 509 - REINFORCING STEEL, AS PER PLAN 500 POUNDS
PARTICIPATION CODE II

ITEM 605 - AGGREGATE DRAIN

THE FOLLOWING ESTIMATED QUANTITY IS INCLUDED IN THE GENERAL SUMMARY TO BE USED WHERE AND AS DIRECTED BY THE ENGINEER TO DRAIN SUBBASE MATERIAL WHICH HAS BECOME SATURATED.

ITEM 605 - AGGREGATE DRAIN
PARTICIPATION CODE II 30 LIN. FT.

ITEMS SPECIAL - SURFACE PREPARATION FOR LATEX MODIFIED CONCRETE REPAIRS

- LATEX MODIFIED CONCRETE SURFACE OVERLAY 1 1/8" THICK
- LATEX MODIFIED CONCRETE DECK PATCHING
- FULL DEPTH REPAIR FOR LATEX MODIFIED CONCRETE REPAIRS
- SURFACE PREPARATION FOR LOW WATER LOW SLUMP DENSE CONCRETE REPAIRS
- LOW WATER LOW SLUMP DENSE CONCRETE OVERLAY 1 3/4" THICK
- LOW WATER LOW SLUMP DENSE CONCRETE DECK PATCHING
- FULL DEPTH REPAIR FOR LOW WATER LOW SLUMP DENSE CONCRETE REPAIRS

SEE NOTES IN PROPOSAL DESCRIBING MATERIALS AND WORK FOR THE ABOVE ITEMS.

TACK WELDS & TIES

THE PURPOSE OF THIS ITEM IS TO TIE EXPOSED STEEL REINFORCING BARS WHICH ARE IN CROSS CONTACT OR ARE LAPPED. TACK WELDING SHALL *not be permitted*. THIS WORK SHALL BE PERFORMED WHERE AND AS DETERMINED BY THE ENGINEER TO RESTRICT THE RELATIVE MOVEMENT OF THE REINFORCING BARS.

PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE UNIT BID PRICE FOR EITHER:

- ALTERNATE "A" - ITEM SPECIAL - LATEX MODIFIED CONCRETE DECK PATCHING
OR
- ALTERNATE "B" - ITEM SPECIAL - LOW WATER, LOW SLUMP, DENSE CONCRETE DECK PATCHING

MINOR BACKWALL REPAIR

PORTIONS OF THE TOPS OF SEVERAL BACKWALLS IN THIS PROJECT ARE UNSOUND (APPROXIMATELY 3" TO 12" DEEP). THE UNSOUND CONCRETE SHALL BE REMOVED AND REPLACED. ALL NECESSARY WORK INCLUDING CHIPPING OUT THE UNSOUND CONCRETE, SANDBLASTING, PLACING FRESH CONCRETE, ETC. SHALL BE PAID FOR AT THE UNIT PRICE BID FOR EITHER:

- ALTERNATE "A": ITEM SPECIAL - LATEX MODIFIED CONCRETE DECK PATCHING
OR
- ALTERNATE "B": ITEM SPECIAL - LOW WATER, LOW SLUMP DENSE CONCRETE DECK PATCHING

FULL DEPTH BRIDGE DECK REPAIRS

THE FOLLOWING ESTIMATED QUANTITIES ARE INCLUDED IN THE GENERAL SUMMARY FOR FULL DEPTH BRIDGE REPAIRS;

- ALTERNATE "A" - ITEM SPECIAL - FULL DEPTH REPAIR FOR LATEX MODIFIED CONCRETE REPAIRS.
PARTICIPATION CODE II 20 SQ. YDS.
OR
- ALTERNATE "B" - ITEM SPECIAL - FULL DEPTH REPAIR FOR LOW WATER LOW SLUMP DENSE CONCRETE REPAIRS.
PARTICIPATION CODE II 20 SQ. YDS.

MATERIAL AND EQUIPMENT STORAGE

NO MATERIALS, VEHICLES OR EQUIPMENT EXCEPT THOSE WHICH ARE BEING USED TO PERFORM THE CONTRACT WORK SHALL BE STORED WITHIN THE MEDIAN, THE CLOSURE OR WITHIN THIRTY (30) FEET OF THE OUTSIDE EDGE OF THE EXISTING PAVEMENT. THIS NOTE ESPECIALLY APPLIES TO ALL PRIVATE VEHICLES WHICH SHALL NOT BE PARKED WITHIN THE RIGHT OF WAY.

RIGHT OF WAY

ALL WORK WILL BE PERFORMED WITHIN THE EXISTING RIGHT OF WAY.

GENERAL NOTES

GENERAL NOTES

CUYAHOGA COUNTY
CUY-90-16.21

6
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ITEM 614 - MAINTAINING TRAFFIC

GENERALLY THE CONTRACTOR SHALL CONDUCT HIS OPERATIONS AS TO MAKE THE PROPOSED DECK REPAIR WITH A MINIMUM OF HAZARD, DELAY AND INCONVENIENCE TO THE MOTORISTS USING THE HIGHWAY AFFECTED BY THE WORK DONE UNDER THIS CONTRACT; FURTHERMORE, THE FOLLOWING SPECIFIC PROVISIONS ARE MANDATORY.

I. NOTIFICATION

SINCE FUNCTIONAL TRAFFIC CONTROL IS A MAJOR CONCERN ON THIS PROJECT IT IS ESSENTIAL THAT THE MOTORING PUBLIC BE ADEQUATELY FORWARDED OF FUTURE LANE CLOSURES AND TRAFFIC CONSTRUCTIONS. THEREFORE, THE CONTRACTOR SHALL SUBMIT A SCHEDULE TO THE OHIO DEPARTMENT OF TRANSPORTATION INDICATING THE LOCATION AND DATE OF EACH LANE CLOSURE AT LEAST THREE DAYS PRIOR TO THE IMPLEMENTATION OF ANY SUCH CLOSURES.

II. NIGHTTIME WORK

NIGHTTIME WORK SHALL BE PERMITTED. A PLAN FOR LIGHTING FOR NIGHTTIME OPERATIONS SHALL BE PRESENTED TO AND APPROVED BY THE ENGINEER. IN ORDER TO ASSURE THE SAFEST CONDITIONS DURING NIGHTTIME WORK THE CONTRACTOR SHALL PROVIDE FLOOD LIGHTING OF THE WORK AREA.

III. TRAFFIC CONTROL SYSTEMS

A. WHEN REQUIRED

WHENEVER ANY PART OF THE TRAVELED SURFACE IS BEING WORKED UPON OR IS OTHERWISE NOT SUITABLE FOR SAFE AND CONVENIENT USE BY VEHICLES, TRAFFIC CONTROL DEVICES SUFFICIENT TO PROTECT SUCH AREAS TO ASSURE THE SAFE AND CONVENIENT PASSAGE OF VEHICULAR TRAFFIC SHALL BE INSTALLED AND MAINTAINED. SUCH TRAFFIC CONTROL DEVICES AND THE MANNER IN WHICH THEY ARE USED SHALL BE CONSISTENT WITH THESE PLANS AND THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS. HEREINAFTER REFERRED TO AS THE "MANUAL". THE TRAFFIC CONTROL DEVICE SYSTEM SHALL CONSTITUTE THE MINIMUM PROVISIONS FOR TRAFFIC CONTROL FOR EACH PARTICULAR SITUATION. WHENEVER THE ENGINEER DEEMS IT NECESSARY ESPECIALLY WHERE A GRADE, CURVE, OR MERGE CONDITION EXISTS, HE MAY DIRECT THAT ADDITIONAL OR ALTERNATIVE DEVICES BE USED. ALSO THE CONTRACTOR SHALL PROVIDE SUFFICIENT ADDITIONAL BARRICADES, ETC. TO PROTECT THE FRESH CONCRETE DURING THE CURING PERIOD FROM ANY VEHICLES WHICH DRIVE AROUND OR THROUGH THE TRAFFIC CONTROL.

B. CONDITIONS

DURING ALL PARTS OF THIS PROJECT, SIGNING, BARRICADES, TEMPORARY PAVEMENT MARKINGS, ETC. SHALL BE LOCATED AS INDICATED ON SHEETS NUMBERED 14 THROUGH 19. THE NUMBER OF LANES AND THE MINIMUM LANE WIDTHS MAINTAINED SHALL BE AS INDICATED ON THE TRAFFIC CONTROL SHEETS.

C. ADVANCE WARNING SIGNS

ALL ADVANCE WARNING SIGNS FOR ANY CONDITION WHICH RESTRICTS TRAFFIC SHALL BE ERECTED BEFORE ANY SUCH RESTRICTION IS PUT INTO EFFECT. ALL SUCH SIGNS SHALL BE COVERED OR REMOVED FROM THE VIEW OF TRAFFIC WHENEVER THEY ARE NOT APPLICABLE.

D. FLASHING ARROW REQUIREMENT

WHENEVER ANY PART OF THE TRAVELED SURFACE IS CLOSED, THE MOTORISTS SHALL BE WARNED AND DIRECTED BY THE CONTRACTOR THROUGH THE USE OF ONE FLASHING ARROW FOR EACH LANE CLOSED IN ADDITION TO THOSE PROVISIONS SET FORTH IN THE "MANUAL".

E. DECK CONDITION

NO TRAFFIC SHALL BE PERMITTED ON ANY PORTION OF THE DECK WHICH HAS BEEN MACHINE SCARIFIED.

F. BERM TRAFFIC

THE CONTRACTOR SHALL PLACE TRAFFIC CONTROL DEVICES, (SIGNS, BARRICADES, ETC.) AS DIRECTED BY THE ENGINEER, TO PROHIBIT THE MOVEMENT OF TRAFFIC ON THE BERMS IN APPROACH OF THE TRAFFIC CONTROL AREAS.

G. TAPER RATES

ALL TAPER RATES ARE RELATIVE TO THE C OF IR 90 UNLESS SPECIFICALLY STATED AS BEING MEASURED TO A GIVEN EDGE OF PAVEMENT.

H. FAILURE TO COMPLY

IF THERE IS ANY FAILURE TO COMPLY WITH THE PROVISIONS FOR TRAFFIC CONTROL SET OUT IN THESE PLANS AND NOTES, OR WITH THE PROVISIONS OF THE "MANUAL", THE HIGHWAY IN THE VICINITY OF THE WORK AREA SHALL NOT BE CONSIDERED IN A CONDITION FOR THE SAFE AND CONVENIENT USE BY THE TRAVELING PUBLIC. ANY FAILURE TO KEEP THE HIGHWAY IN THE VICINITY OF THE WORK AREA IN A CONDITION FOR THE SAFE AND CONVENIENT USE BY THE TRAVELING PUBLIC SHALL BE CONSIDERED A BREACH OF THIS CONTRACT. WORK SHALL BE SUSPENDED UNTIL THE CONTRACTOR COMPLIES WITH THE PROVISIONS OF THE AFOREMENTIONED ITEMS.

IV. TRAFFIC CONTROL MATERIAL

A. SIGNS

SIGN DIMENSIONS AND SPECIFICATIONS, INCLUDING LETTER SIZES, SHALL BE AS PROVIDED IN THE "MANUAL", OR IN SIGN DESIGN DRAWINGS PROVIDED BY THE DEPARTMENT OF TRANSPORTATION. THE SIGNS SHALL BE SUBJECT TO APPROVAL OF THE ENGINEER PRIOR TO THE START OF THE PROJECT.

B. SIGN SUPPORTS

SIGN SUPPORTS SHALL BE OF SUFFICIENT SIZE AND HEIGHT AS TO SUPPORT THE SIGNS AT THE HEIGHT INDICATED IN THE "MANUAL" ON PLATE C-1. SUPPORTS SHALL ALSO BE ADEQUATE IN MASS AND STABILITY TO PREVENT THE SIGNS BEING BLOWN OVER BY WIND OR VEHICULAR GENERATED AIR TURBULENCE.

GENERAL NOTES

GENERAL NOTES

CUYAHOGA COUNTY
CUY-90-16.21

7
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C. LIGHTING DEVICES

FLASHERS SHALL BE 12 VOLT BATTERY-OPERATED MODELS WITH 7 INCH DIAMETER YELLOW LENSES ILLUMINATED BY RAPID INTERMITTENT FLASHES OF SHORT DURATION AND SHALL BE PLACED ON ALL SIGNS AT ALL TIMES.

CONTINUOUS BURN LIGHTS SHALL BE 12 VOLT BATTERY-OPERATED MODELS WITH MINIMUM 7 INCH DIAMETER YELLOW LENSES. THEY SHALL BE PLACED ABOVE THE GROUND ON THE TOPS OF ALL DRUMS BEING USED FOR TRAFFIC CONTROL. CONTINUOUS BURN LIGHTS AS DESCRIBED ABOVE SHALL BE REQUIRED WHENEVER ANY PORTION OF THE TRAVELED SURFACE IS CLOSED DURING TWILIGHT OR NIGHTTIME HOURS.

D. FLASHING ARROWS

THE ELECTRIC FLASHING ARROW SHALL CONSIST OF A RECTANGULAR PANEL WITH MINIMUM DIMENSIONS OF 8' BY 4' PAINTED FLAT BLACK AND SUPPORTED SO THAT THE BOTTOM OF THE PANEL IS A MINIMUM OF 8' ABOVE THE PAVEMENT. A MINIMUM OF TEN (10) LIGHTS SHALL BE ARRANGED IN THE PANEL SO AS TO FORM A LARGE ARROW. FOR ADDITIONAL DETAILS SEE SHEET NO. 20.

E. DRUMS

WHENEVER DRUMS ARE REQUIRED THEY SHALL BE THE 55 GALLON CAPACITY SIZE. DRUMS SHALL BE LOCATED AS SHOWN ON THE TRAFFIC CONTROL PLANS. ALL COSTS FOR INSTALLING, MAINTAINING AND SUBSEQUENT REMOVAL OF SAID DRUMS SHALL BE INCLUDED IN THE LUMP SUM BID PRICE FOR ITEM 614 - MAINTAINING TRAFFIC.

V. PERMANENT PAVEMENT MARKINGS

WHITE THERMOPLASTIC LANE LINES 6" WIDE AND WHITE AND YELLOW EDGE LINES 4" WIDE SHALL BE PLACED BY THE CONTRACTOR WITHIN THE LIMITS ON THE TRAFFIC CONTROL PLANS FOR THE ENTIRE WIDTH OF THE ROADWAY. THIS WORK IS SUMMARIZED ON SHEET NO. 13 UNDER THE FOLLOWING ITEMS:

ITEM 621 - 4" EDGE LINES

ITEM 847 - 6" LANE LINES, WHITE

THESE MARKINGS SHALL BE PLACED WITHIN 24 HOURS AFTER THE TRAFFIC CONTROL SYSTEM IS REMOVED. PAINTED LANE LINES (ITEM 621) MAY BE USED AS A TEMPORARY METHOD TO MEET THE FOREMENTIONED TIME RESTRICTION. ALL COSTS FOR INTERIM PAINTED LANE LINES SHALL BE INCLUDED IN THE UNIT BID PRICE FOR ITEM 847 - 6" LANE LINES, WHITE.

VI. ITEM 847 - TEMPORARY PLASTIC PAVEMENT MARKINGS

A. WORK REQUIRED

THE TEMPORARY PAVEMENT MARKINGS SHALL BE LOCATED AS SHOWN ON THE TRAFFIC CONTROL SHEETS.

PAYMENT FOR THE TEMPORARY PAVEMENT MARKINGS SHALL INCLUDE THE COST OF REMOVING ALL CONFLICTING EXISTING PAVEMENT MARKINGS AS PER 847.17. THE WORK WILL NOT BE CONSIDERED ACCEPTABLE UNLESS THE PAVEMENT MARKINGS ARE REMOVED.

ALL TEMPORARY PAVEMENT MARKINGS SHALL BE MAINTAINED FOR THE DURATION OF THE PARTICULAR CLOSURE AT NO ADDITIONAL COST TO THE STATE.

ALL TEMPORARY PAVEMENT MARKINGS SHALL BE REMOVED CONCURRENTLY WITH THE REMOVAL OF EACH TRAFFIC CLOSURE, UNLESS THEY ARE TO BE USED IN THE FOLLOWING PHASE.

WORK SHALL INCLUDE ALL MATERIALS, LABOR, TOOLS AND EQUIPMENT NECESSARY TO PERFORM THE VARIOUS ITEMS OF WORK WITHIN UNIT BID PRICE FOR:

ITEM 847 - 4" TEMPORARY WHITE EDGE LINE, AS PER PLAN, 847.10, TYPE B.

ITEM 847 - 6" TEMPORARY CONTINUOUS LANE LINE, AS PER PLAN, 847.10, TYPE B.

ITEM 847 - 8" TEMPORARY BROAD TRANSVERSE LINES, AS PER PLAN, 847.10, TYPE B.

B. IMPLEMENTATION

THE CONTRACTOR MAY REDUCE THE NUMBER OF THROUGH TRAFFIC LANES BY 50% IN ORDER TO REMOVE PAVEMENT MARKINGS OR TO INSTALL PAVEMENT MARKINGS. HE SHALL LIMIT THE AFOREMENTIONED CLOSURE TO BETWEEN THE HOURS OF 9:00 A.M. AND 3:00 P.M. ALL TEMPORARY PAVEMENT MARKINGS FOR A PARTICULAR CLOSURE SHALL BE INSTALLED THE SAME DAY AND THE CORRESPONDING CLOSURE AS DETAILED ON THE TRAFFIC CONTROL SHEETS SHALL BE IMPLEMENTED IMMEDIATELY.

VII. SEQUENCE OF TRAFFIC CONTROL PHASES

THE TRAFFIC CONTROL PHASES SHALL BE IMPLEMENTED IN ALPHABETICAL ORDER. ALL PAVEMENT MARKINGS WHICH ARE COMMON TO BOTH PHASE "A" AND "B" OR PHASE "B" AND "C" SHALL NOT BE REMOVED AFTER THE INITIAL PHASE. THE CONTRACTOR SHALL NOT RECEIVE ANY COMPENSATION UNDER THE SECOND PHASE TO PLACE TEMPORARY PAVEMENT MARKINGS WHICH ARE COMMON TO BOTH PHASES.

GENERAL NOTES

GENERAL SUMMARY

CUYAHOGA COUNTY
CUY - 90 - 16.21

8
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DESIGN "A"

PARTICIPATION CODE
I= I Fed. Funds
II= UI Fed Funds

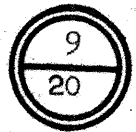
COMPUTED BY: J.L.B. 2-11-77
CHECKED BY: E.N.F. 2-11-77

SHEET NO.	4			5			11			13			ITEM	TOTAL			GRAND TOTAL	UNITS	TYPE CODE 6706 DESCRIPTION	
	PART NO.	1			1			1			1			I	II					
		GENERAL NOTES			GENERAL NOTES			CUY - 90 - 1651			TRAFFIC CONTROL									
ITEM	I	II		I	II		I	II		I	II									
202	40												202	40		40	EACH	REMOVAL OF FLEXIBLE POSTS, AS PER PLAN		
301										454			301	454		454	CU.YD.	BITUMINOUS AGGREGATE BASE, AS PER PLAN 702.01, AC-20; OR 702.09 RT-11 OR RT-12		
310	25												310	25		25	CU.YD.	SUBBASE, AS PER PLAN		
404	10						35						404	45		45	CU.YD.	ASPHALT CONCRETE, AC-20		
404	20												404	20		20	CU.YD.	ASPHALT CONCRETE OR AN APPROVED BITUMINOUS PRE-MIXED SURFACE COURSE FOR MAINTAINING TRAFFIC		
407							169						407	169		169	GAL.	TACK COAT; 702.04, SS-1, SS-1h, MS-2 OR RS-1; OR 702.02 RC-250		
509					500								509		500	500	LB.	REINFORCING STEEL, AS PER PLAN		
516							241						516	241		241	LIN.FT.	VERTICAL EXTENSION OF STRUCTURAL EXPANSION JOINTS, AS PER PLAN		
516							70						516	70		70	LIN.FT.	VERTICAL EXTENSION OF LONGITUDINAL JOINT, AS PER PLAN		
407							6						407	6		6	TONS	COVER AGGREGATE		
605					30								605		30	30	LIN.FT.	AGGREGATE DRAIN		
615										363			615	363		363	SQ.YDS.	TEMPORARY PAVEMENT, CLASS B, AS PER PLAN		
621										2.10			621	2.10		2.10	MI.	4" EDGE LINES		
847										1.83			847	1.83		1.83	MI.	6" LANE LINES		
847										17775			847	17775		17775	LIN.FT.	4" TEMPORARY WHITE EDGE LINE, AS PER PLAN, 847.10 TYPE B		
847										8082			847	8082		8082	LIN.FT.	6" TEMPORARY CONTINUOUS LANE LINE, AS PER PLAN, 847.10 TYPE B		
847										215			847	215		215	LIN.FT.	8" TEMPORARY BROAD TRANSVERSE LINE, AS PER PLAN, 847.10 TYPE B		
SPEC.							5023						SPEC.	5023		5023	SQ.YD.	SURFACE PREPARATION FOR LATEX MODIFIED CONCRETE REPAIRS		
SPEC.							5023						SPEC.	5023		5023	SQ.YD.	LATEX MODIFIED CONCRETE SURFACE OVERLAY 1 1/4" THICK		
SPEC.								502					SPEC.		502	502	CU.YD.	LATEX MODIFIED CONCRETE DECK PATCHING		
SPEC.					20								SPEC.		20	20	SQ.YD.	FULL DEPTH REPAIR FOR LATEX MODIFIED CONCRETE REPAIRS		
614													614	LUMP		LUMP	LUMP	MAINTAINING TRAFFIC		

GENERAL SUMMARY

GENERAL SUMMARY

CUYAHOGA COUNTY
CUY-90-16.21



DESIGN 'B'

PARTICIPATION CODE
I= I Fed. Funds
II= UI Fed. Funds

COMPUTED BY: J.L.B. 2-11-77
CHECKED BY: E.N.F. 2-11-77

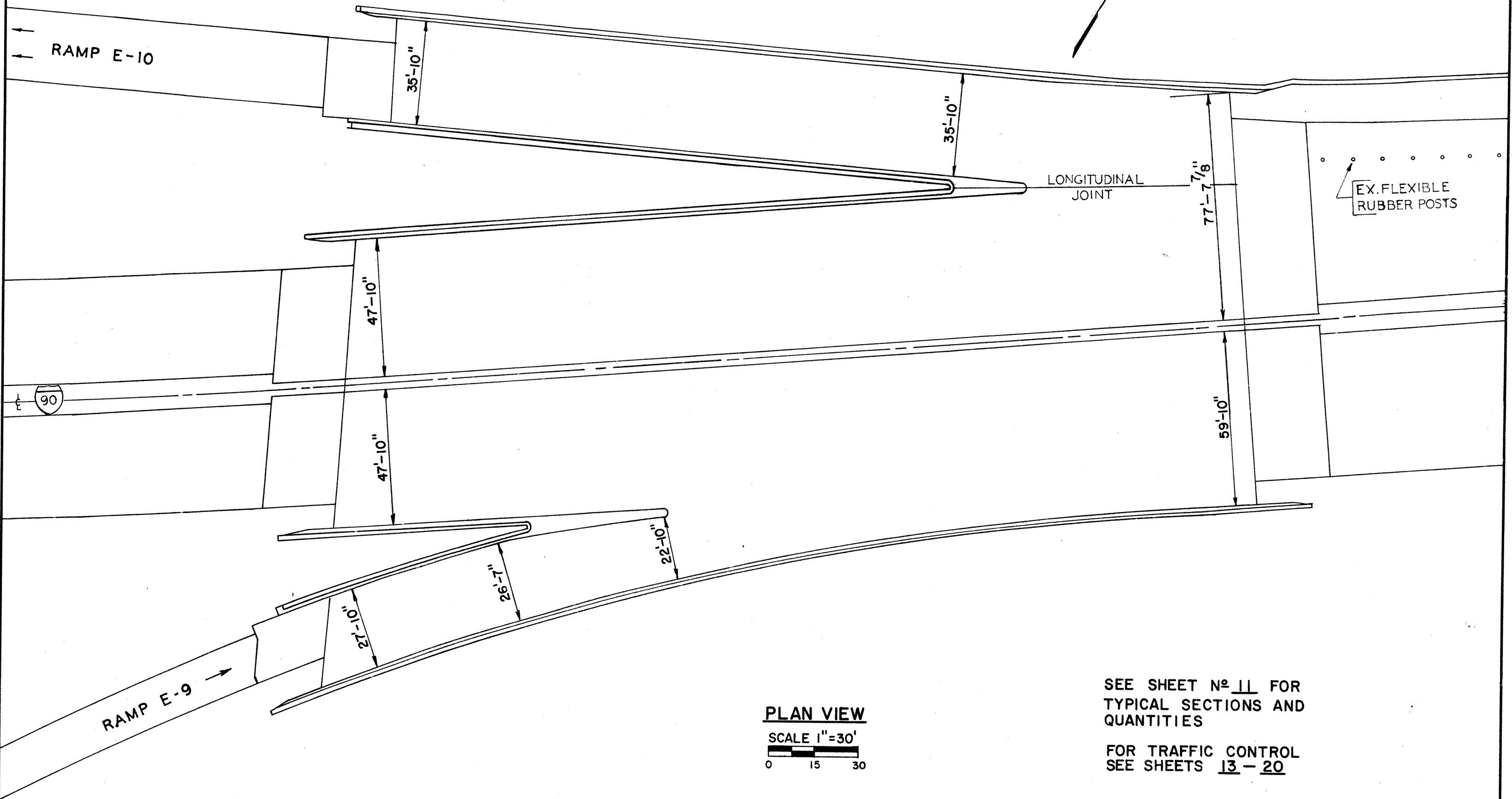
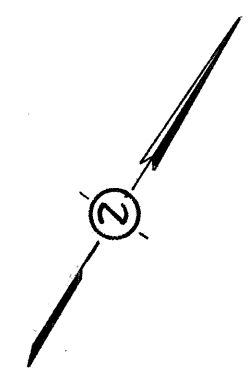
SHEET NO.	4			5			11			13			ITEM	TOTAL			GRAND TOTAL	UNITS	TYPE CODE 6706 DESCRIPTION	
	PART NO.	1			1			1			1			I	II					
		GENERAL NOTES			GENERAL NOTES			CUY - 90 - 1651			TRAFFIC CONTROL									
ITEM	I	II		I	II		I	II		I	II		I	II						
202	40												202	40		40	EACH	REMOVAL OF FLEXIBLE POSTS, AS PER PLAN		
301										454			301	454		454	CU.YD.	BITUMINOUS AGGREGATE BASE, AS PER PLAN 702.01, AC-20; OR 702.09 RT-11 OR RT-12		
310	25												310	25		25	CU.YD.	SUBBASE, AS PER PLAN		
404	10						63						404	73		73	CU.YD.	ASPHALT CONCRETE, AC-20		
404	20												404	20		20	CU.YD.	ASPHALT CONCRETE OR AN APPROVED BITUMINOUS PRE-MIXED SURFACE COURSE FOR MAINTAINING TRAFFIC		
407							219						407	219		219	GAL.	702.04, SS-1, SS-1h, MS-2 OR TACK COAT; RS-1; OR 702.02 RC-250		
509					500								509		500	500	LB.	REINFORCING STEEL, AS PER PLAN		
516							241						516	241		241	LIN.FT.	VERTICAL EXTENSION OF STRUCTURAL EXPANSION JOINTS, AS PER PLAN		
516							70						516	70		70	LIN.FT.	VERTICAL EXTENSION OF LONGITUDINAL JOINT, AS PER PLAN		
407							8						407	8		8	TONS	COVER AGGREGATE		
605					30								605		30	30	LIN.FT.	AGGREGATE DRAIN		
615										363			615	363		363	SQ.YDS.	TEMPORARY PAVEMENT, CLASS B, AS PER PLAN		
621										2.10			621	2.10		2.10	MI.	4" EDGE LINES		
847										1.83			847	1.83		1.83	MI.	6" LANE LINES		
847										17775			847	17775		17775	LIN.FT.	4" TEMPORARY WHITE EDGE LINE, AS PER PLAN, 847.10 TYPE B		
847										8082			847	8082		8082	LIN.FT.	6" TEMPORARY CONTINUOUS LANE LINE, AS PER PLAN, 847.10 TYPE B		
847										215			847	215		215	LIN.FT.	8" TEMPORARY BROAD TRANSVERSE LINE, AS PER PLAN, 847.10 TYPE B		
SPEC.							5023						SPEC.	5023		5023	SQ.YD.	SURFACE PREPARATION FOR LOW WATER, LOW SLUMP, DENSE CONCRETE REPAIRS		
SPEC.							5023						SPEC.	5023		5023	SQ.YD.	LOW WATER, LOW SLUMP, DENSE CONCRETE OVERLAY 1 3/4" THICK		
SPEC.								502					SPEC.		502	502	CU.YD.	LOW WATER, LOW SLUMP, DENSE CONCRETE DECK PATCHING		
SPEC.					20								SPEC.		20	20	SQ.YD.	FULL DEPTH REPAIR FOR LOW WATER, LOW SLUMP, DENSE CONCRETE REPAIRS		
614													614	LUMP		LUMP	LUMP	MAINTAINING TRAFFIC		

GENERAL SUMMARY

CUY-90-1651
I.R. 90 OVER E. 14th STREET

CUYAHOGA COUNTY
CUY-90-16.21

10
20



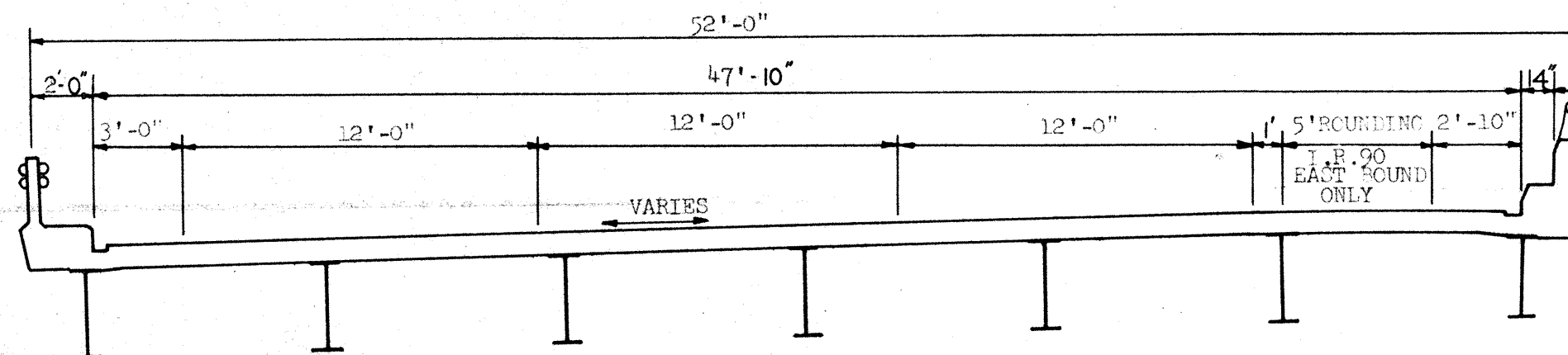
PLAN VIEW
SCALE 1"=30'
0 15 30

SEE SHEET N^o 11 FOR
TYPICAL SECTIONS AND
QUANTITIES

FOR TRAFFIC CONTROL
SEE SHEETS 13 - 20

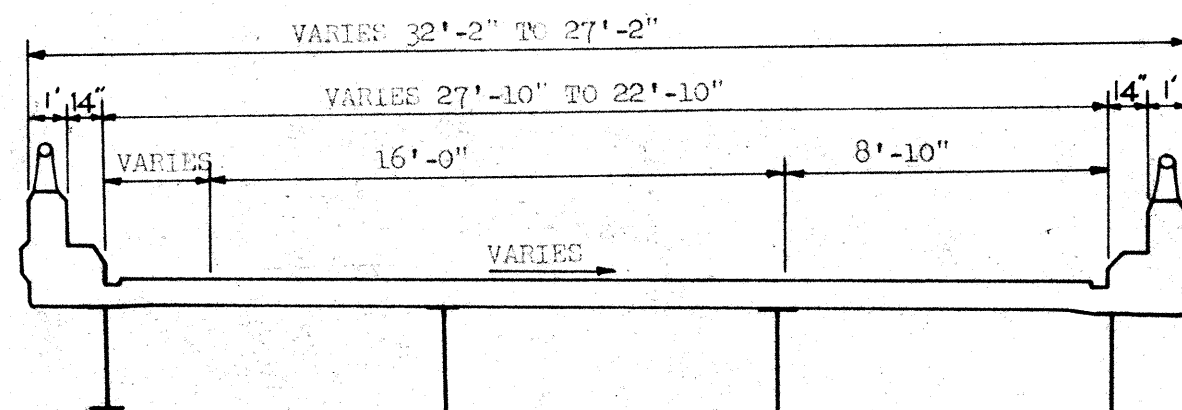
CUY-90-1651

I. R. 90 OVER EAST 14th ST.

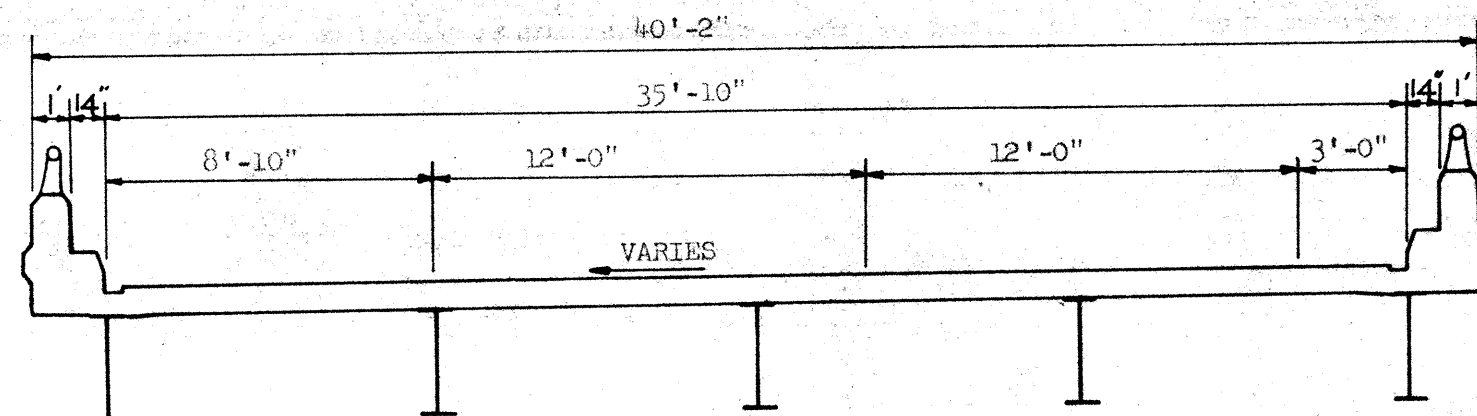


CUY-90-1651 (WESTERLY END)

COMPUTED BY: J.L.B. 2-11-77
 CHECKED BY: E.N.F. 2-11-77



RAMP E-9



RAMP E-10

ESTIMATED QUANTITIES - PART 1

ITEM	DESCRIPTION	ALT. A		ALT. B		UNITS
		CUY 90 1651		CUY 90 1651		
		I	II	I	II	
404	ASPHALT CONCRETE, AC-20	35		63		CUYD
407	TACK COAT; 702.04 SS-1, SS-1h, MS-2 OR RS-1; OR 702.02 RC-250	169		219		GAL.
516	VERTICAL EXTENSION OF STRUCTURAL EXPANSION JOINTS, AS PER PLAN	241		241		LIN.FT.
516	VERTICAL EXTENSION OF LONGITUDINAL JOINT, AS PER PLAN	70		70		LIN.FT.
407	COVER AGGREGATE	6		8		TONS
SPEC	SURFACE PREPARATION FOR LATEX MODIFIED CONCRETE REPAIRS	5023				SQYD.
SPEC	LATEX MODIFIED CONCRETE SURFACE OVERLAY 1 1/4" THICK	5023				SQYD.
SPEC	LATEX MODIFIED CONCRETE DECK PATCHING		502			CUYD.
SPEC	SURFACE PREPARATION FOR LOW WATER LOW SLUMP, DENSE CONCRETE REPAIRS			5023		SQYD.
SPEC	LOW WATER, LOW SLUMP, DENSE CONCRETE OVERLAY 1 3/4" THICK			5023		SQYD.
SPEC	LOW WATER, LOW SLUMP, DENSE CONCRETE DECK PATCHING				502	CUYD.

TYPICAL SECTIONS
 SCALE: 3/16" = 1'-0"
 CUY-90-1651

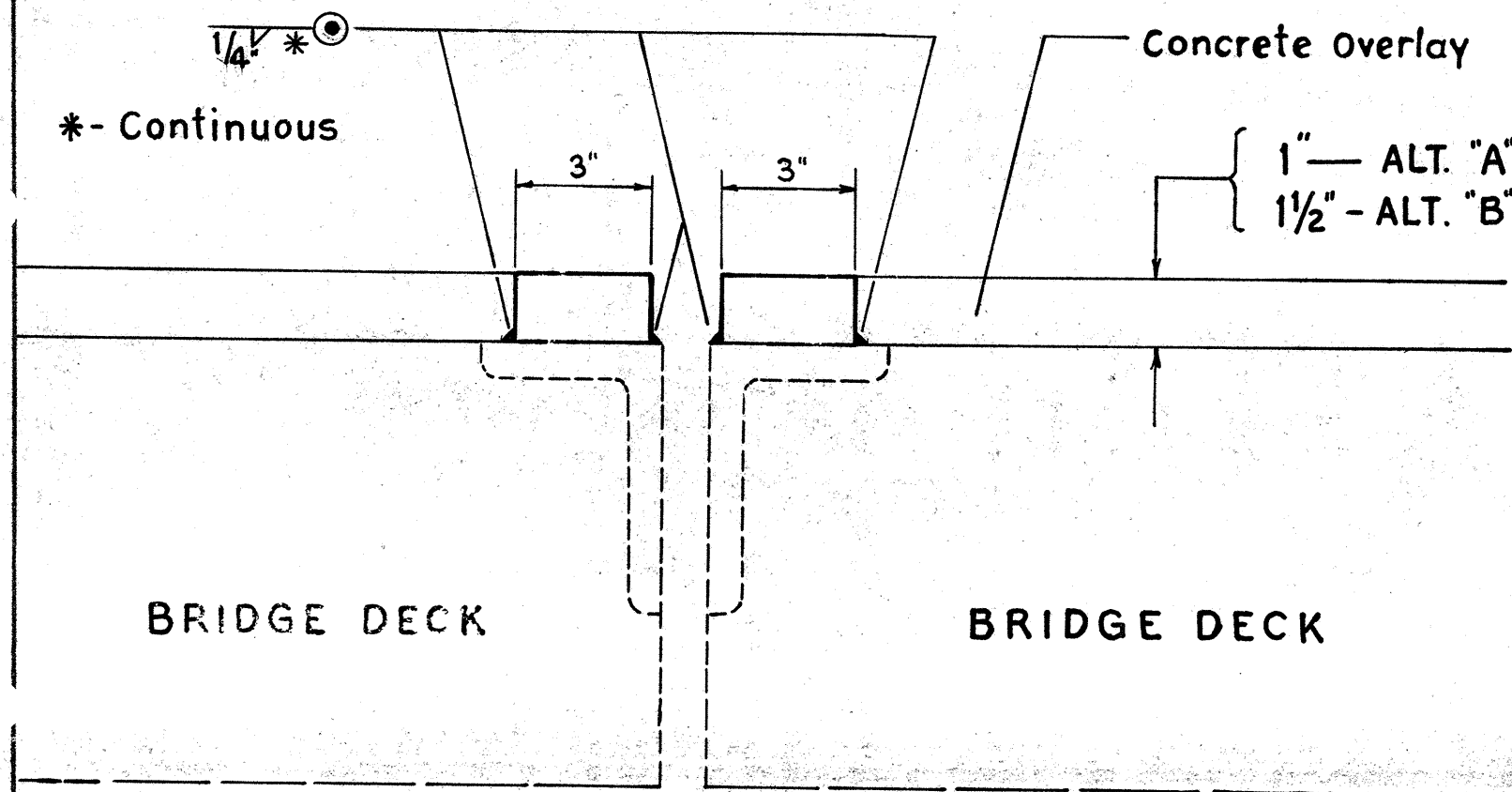
MISCELLANEOUS DETAILS

CUYAHOGA COUNTY
CUY-90-16.21



VERTICAL EXTENSION OF LONGITUDINAL JOINT, AS PER PLAN

The Contractor shall furnish and weld with a continuous bead, steel bars to the existing longitudinal joint. For details not shown see Standard Construction Drawing BP-5. All cost of materials and installation shall be included in the unit price bid for Item 516 - Vertical Extension of Longitudinal Joint, as per Plan.

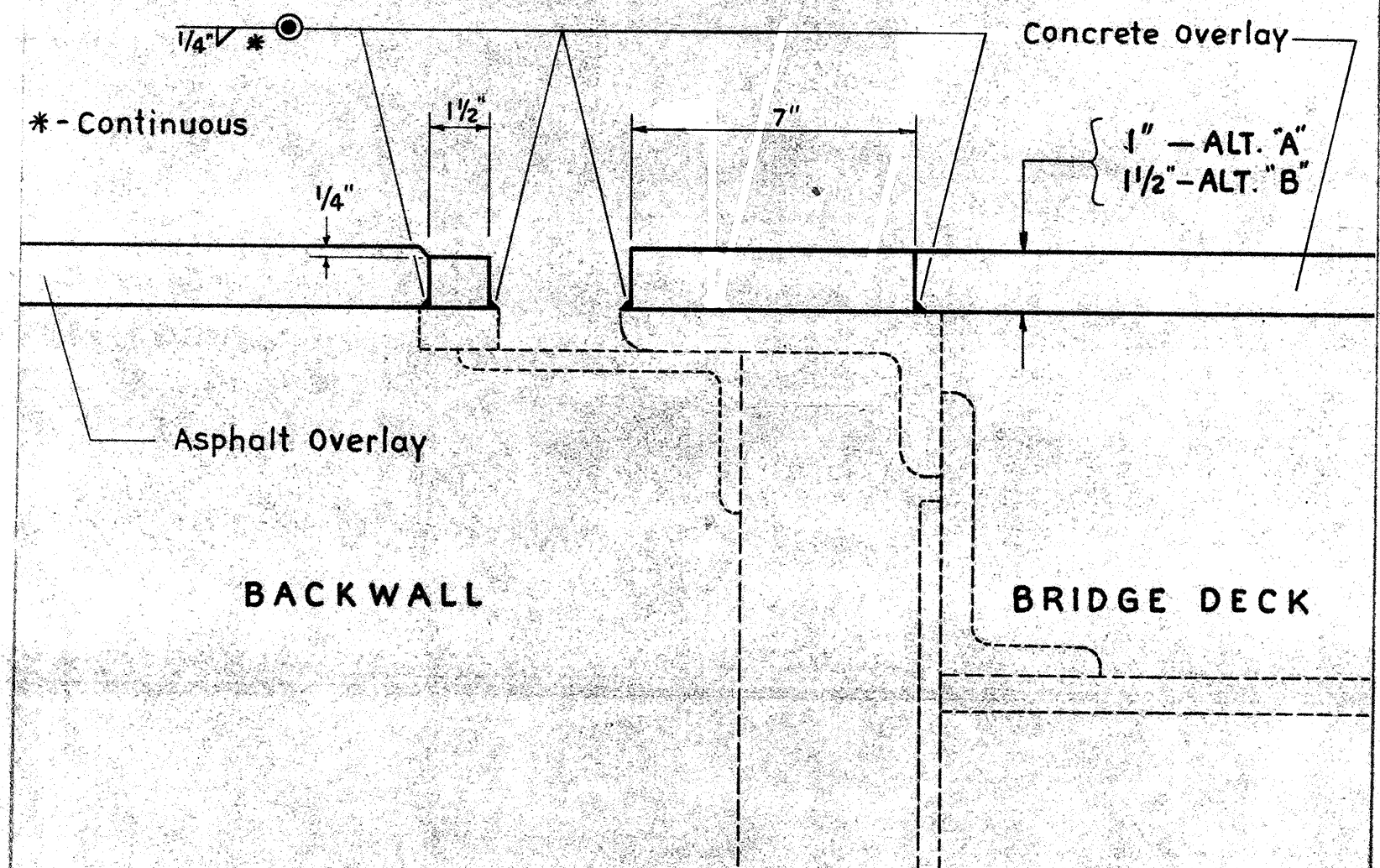


VERTICAL EXTENSION OF LONGITUDINAL JOINT, AS PER PLAN

SCALE 1/4" = 1'-0"

VERTICAL EXTENSION OF STRUCTURAL EXPANSION JOINTS, AS PER PLAN

The Contractor shall furnish and weld with a continuous bead, steel bars to the existing end dam plates. For details not shown see std. construction drawing BP-5. Bars shall conform to the dimensions shown on the resurfacing detail sheet no. 3. All cost of materials and installation shall be included in the unit price bid for Item 516 - Vertical Extension of Structural Expansion Joints, As per Plan.



VERTICAL EXTENSION OF STRUCTURAL EXPANSION JOINTS, AS PER PLAN

SCALE 1/4" = 1'-0"

TRAFFIC CONTROL

CUYAHOGA COUNTY
CUY-90-16.21

13
20

COMPUTED BY: E.N.F. 2-11-77
CHECKED BY: G.M.V.R. 2-11-77

SIGNING

SHOULDER WORK

PAVEMENT MARKINGS

SIGN SEQUENCE N ^o 1				
DIST.	SIDE	SIGN	SIZE	DESCRIPTION
500'	BOTH	OW-122 MOD	48"x48"	RIGHT LANE EXIT ONLY
		OW-143	30"x30"	35 MPH
1000'	BOTH	OW-122 MOD	48"x48"	RIGHT LANE EXIT ONLY
		OW-143	30"x30"	35 MPH
1500'	BOTH	OW-134 MOD	48"x48"	ROAD WORK 1500 FT.
SEE DETAIL	RIGHT	OW-SPEC-1	10'x2'	(SEE DETAIL-OPPOSITE SIDE)
2500'	BOTH	OW-134 MOD	48"x48"	ROAD WORK 2500 FT.

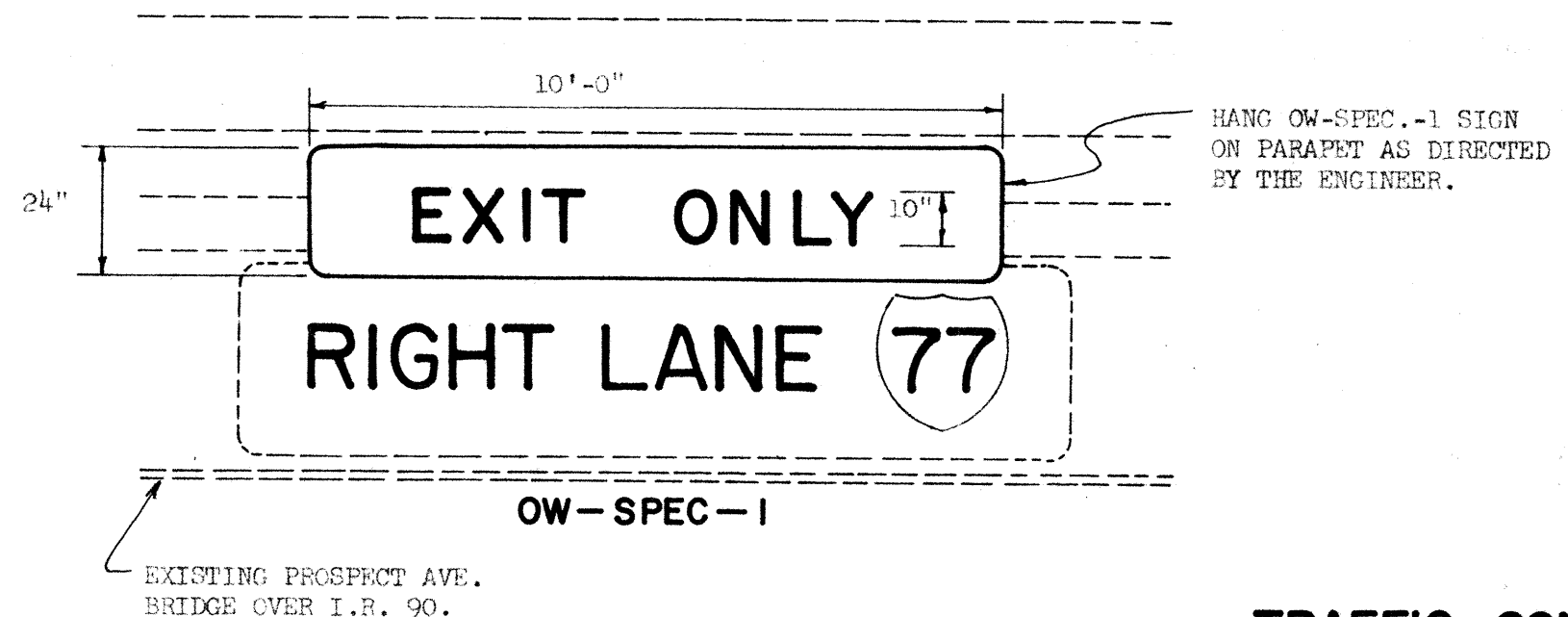
SIGN SEQUENCE N ^o 2				
DIST.	SIDE	SIGN	SIZE	DESCRIPTION
500'	BOTH	OW-123 MOD	48"x48"	LEFT LANE CLOSED 500 FT.
		OW-143	30"x30"	35 MPH
1000'	BOTH	OW-123 MOD	48"x48"	LEFT LANE CLOSED 1000 FT.
2000'	BOTH	OW-123 MOD	48"x48"	LEFT LANE CLOSED 2000 FT.
4000'	BOTH	OW-134	48"x48"	ROAD WORK AHEAD

SIGN SEQUENCE N ^o 3				
DIST.	SIDE	SIGN	SIZE	DESCRIPTION
300'	BOTH	OW-46	48"x48"	YIELD AHEAD
700'	BOTH	OW-134 MOD	48"x48"	ROAD WORK 700 FT.
		OW-143	30"x30"	35 MPH

SIGN SEQUENCE N ^o 4				
DIST.	SIDE	SIGN	SIZE	DESCRIPTION
0'	BOTH	OW-128 MOD	48"x48"	CONSTRUCTION AREA
		OW-143	30"x30"	20 MPH
400'	BOTH	OW-134 MOD	48"x48"	ROAD WORK 400 FT.

PART	PHASE	BERMS	ROADWAY	PERMANENT**		TEMPORARY		
		301	615	621	847	847	847	847
		BITUMINOUS AGGREGATE BASE, AS PER PLAN 702.01 AC-20 OR 702.09 RT-11 OR RT-12	TEMPORARY PAVEMENT, CLASS B, AS PER PLAN	4" EDGE LINES *	6" LANE LINES	4" TEMPORARY WHITE EDGE LINE, AS PER PLAN, 847.10 TYPE B	6" TEMPORARY CONTINUOUS LANE LINE, AS PER PLAN, 847.10 TYPE B	8" TEMPORARY BROAD TRANSVERSE LINES, AS PER PLAN, 847.10 TYPE B
		CU. YDS.	SQ. YDS.	MILES	MILES	LIN. FT.	LIN. FT.	LIN. FT.
1 I.R. 90 WB	A	90	-	0.12	0.06	3535	1052	215
	B	166	-	0.97	1.03	4515	3710	-
1 I.R. 90 EB	A	83	-	0.74	0.74	3535	1660	-
	B	34	363	0.27	-	4425	1660	-
	C	81	-	-	-	1765	-	-
TOTAL		454	363	2.10	1.83	17775	8082	215

* WHITE OR YELLOW AS PER EXISTING.
** PERMANENT PAVEMENT MARKINGS ARE TABULATED UNDER THE TRAFFIC CONTROL PHASE WHICH HAS THE GREATEST LENGTH.
NOTE: ALL ITEMS ARE PARTICIPATION CODE 1 UNLESS OTHERWISE NOTED.

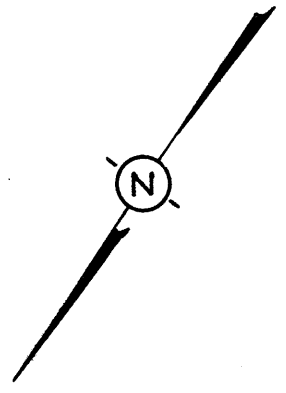


TRAFFIC CONTROL

TRAFFIC CONTROL-I.R. 90 WB-PHASE "A"

CUYAHOGA COUNTY
CUY-90-16.21

14
20



I. R.-90 WB

EX. 3' BERM

EX. 10' BERM

From E. 21st St.
(Close Ramp,
see Gen. Notes)

Sign sequence No. 1
measured back from
here, see sheet No. 13

Remove and Replace Permanent Pavement Markings

350'-Rebuild Left Shoulder 3' wide
Using 6"-Item 301, as per Plan

3' Berm + 17' Conc.
= 2-10' Lanes

307.02'
Bridge Limits

Pave 23'-11" of
27'-10" closed

350'
50:1 Taper, Right Edge Line
8" Temp. Broad Transverse Lines

2-10' Lanes
MATCH LINE - SEE BELOW

3-12' Lanes

R=1000±

4" Temp. White
Edge Line

Flashing Arrow
(Double)

5' Conc. + 9' Berm
= 1-14' Lane

CUY-90-1651
OVER E. 14th ST.

Pave 17'-11" of
21'-10" closed

5' Conc. + 9' Berm
= 1-14' Lane

Remove and Replace Permanent Pav't Markings
350'
50:1 Taper, Right Edge Line
215'
2-12' Lanes
6" Temp. Continuous
Lane Line
EX. 10' BERM
315'
35:1 Taper, Right Edge Line
315'- Rebuild Right Shoulder 10' wide
Using 6"-Item 301, as per Plan
1-12' Lane
5' Conc. + 9' Berm =
1-14' Lane
Remove and Replace
Permanent Pavement Markings

CUY-90-1640
OVER RAMPS

From E. 14th ST.
or I.R.-77 NB

CUY-90-1628
OVER E. 9th ST.

SCALE 1"=100'
0 50 100

Ⓐ Rebuild Left Shoulder 3' wide
Using 6"-Item 301, as per Plan

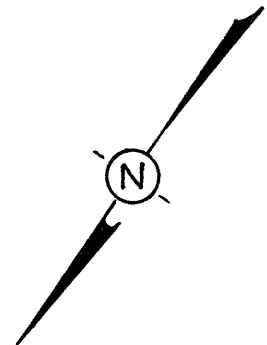
	DECK REPAIR AREA
	DRUMS SPACED 25' OR 50' ON CENTERS AS SHOWN

TRAFFIC CONTROL-I.R. 90 WB-PHASE "A"

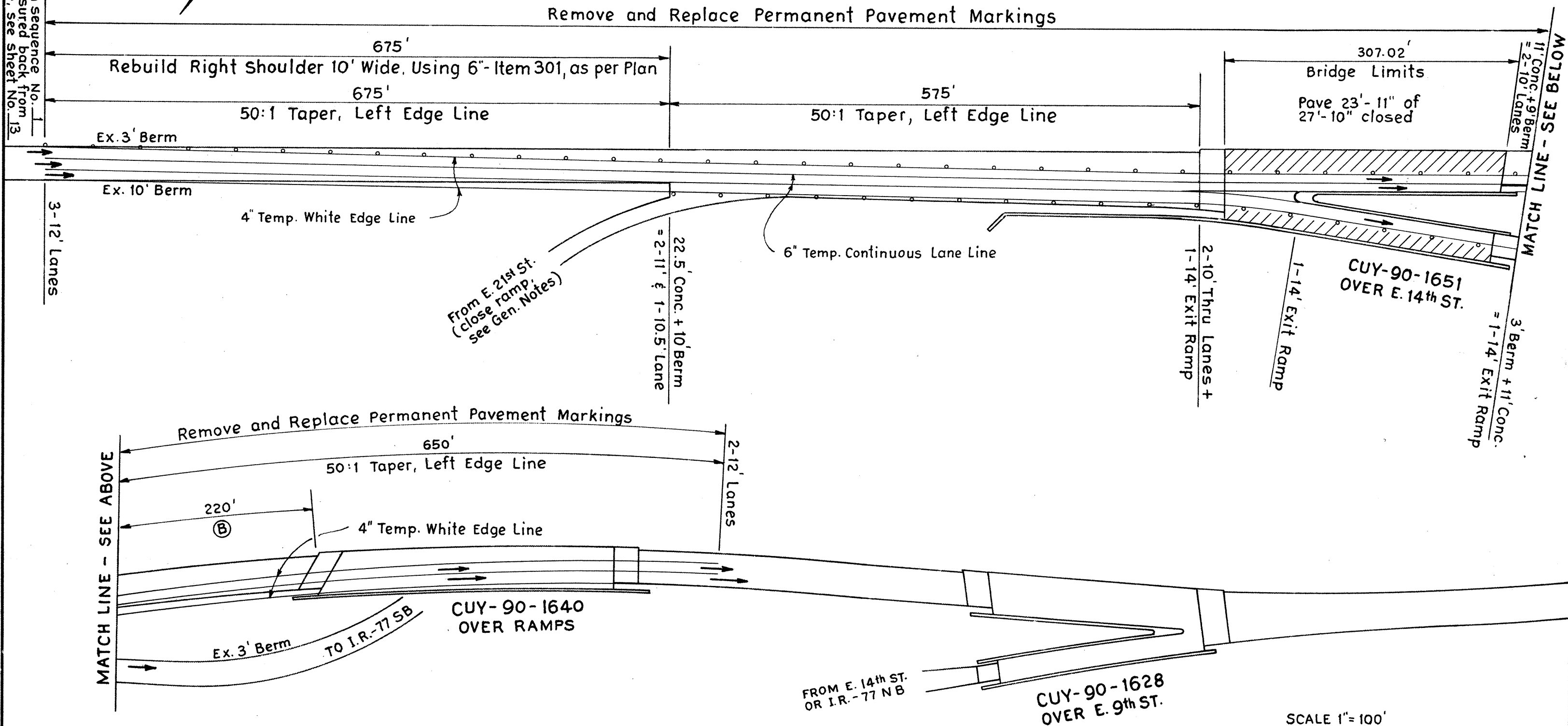
TRAFFIC CONTROL - I.R. 90 WB - PHASE "B"

CUYAHOGA COUNTY
CUY-90-16.21

15
20



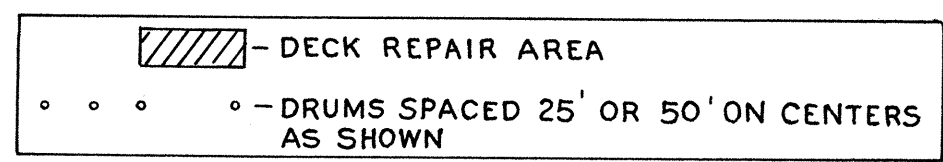
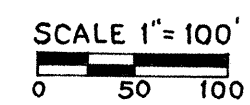
Sign sequence No. 1
measured back from here, see sheet No. 13



MATCH LINE - SEE ABOVE

MATCH LINE - SEE BELOW

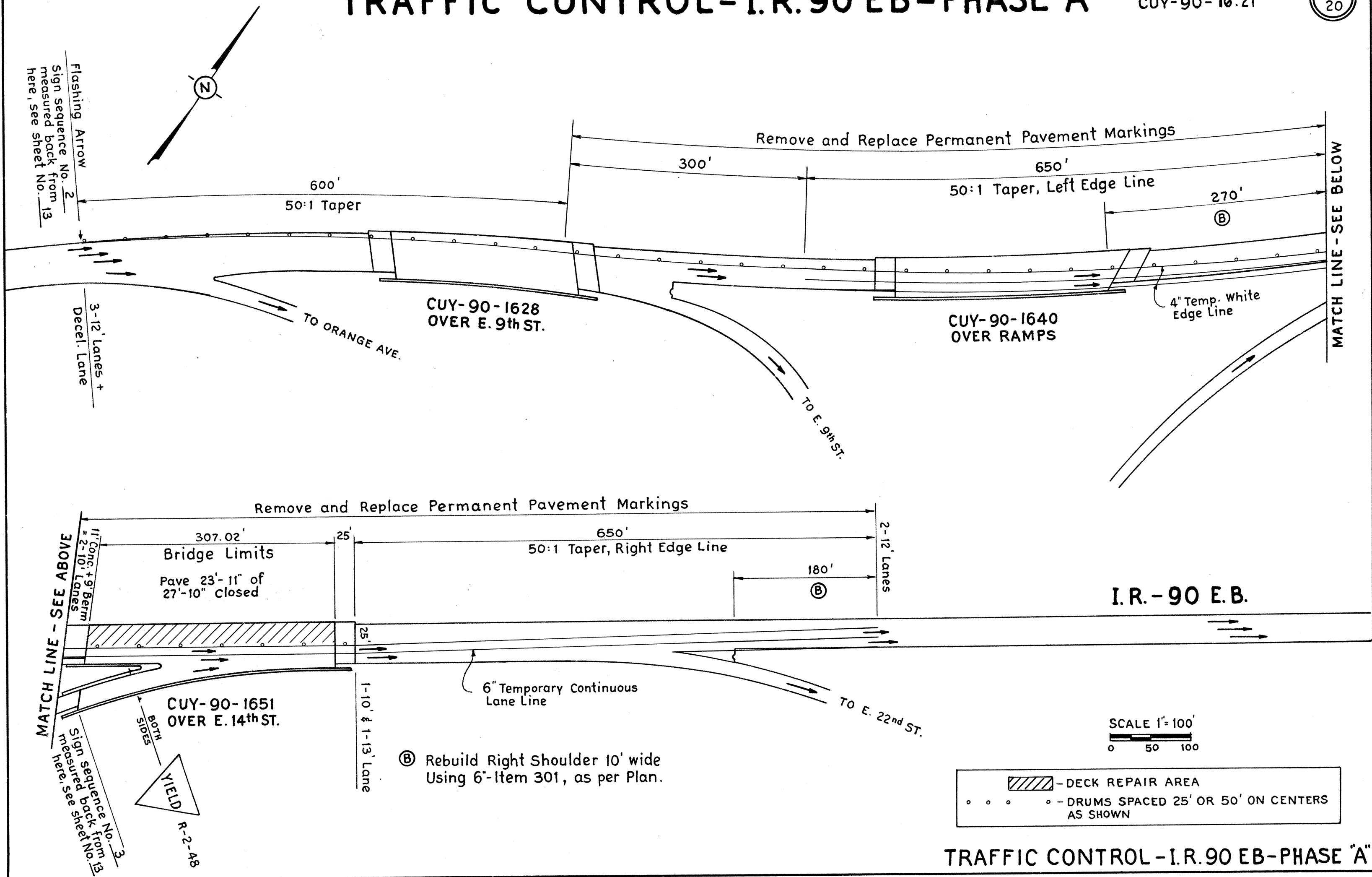
Ⓑ Rebuild Right Shoulder 10' wide using 6" Item 301, as per Plan.



TRAFFIC CONTROL-I.R.90 EB-PHASE "A"

CUYAHOGA COUNTY
CUY-90-16.21

16
20



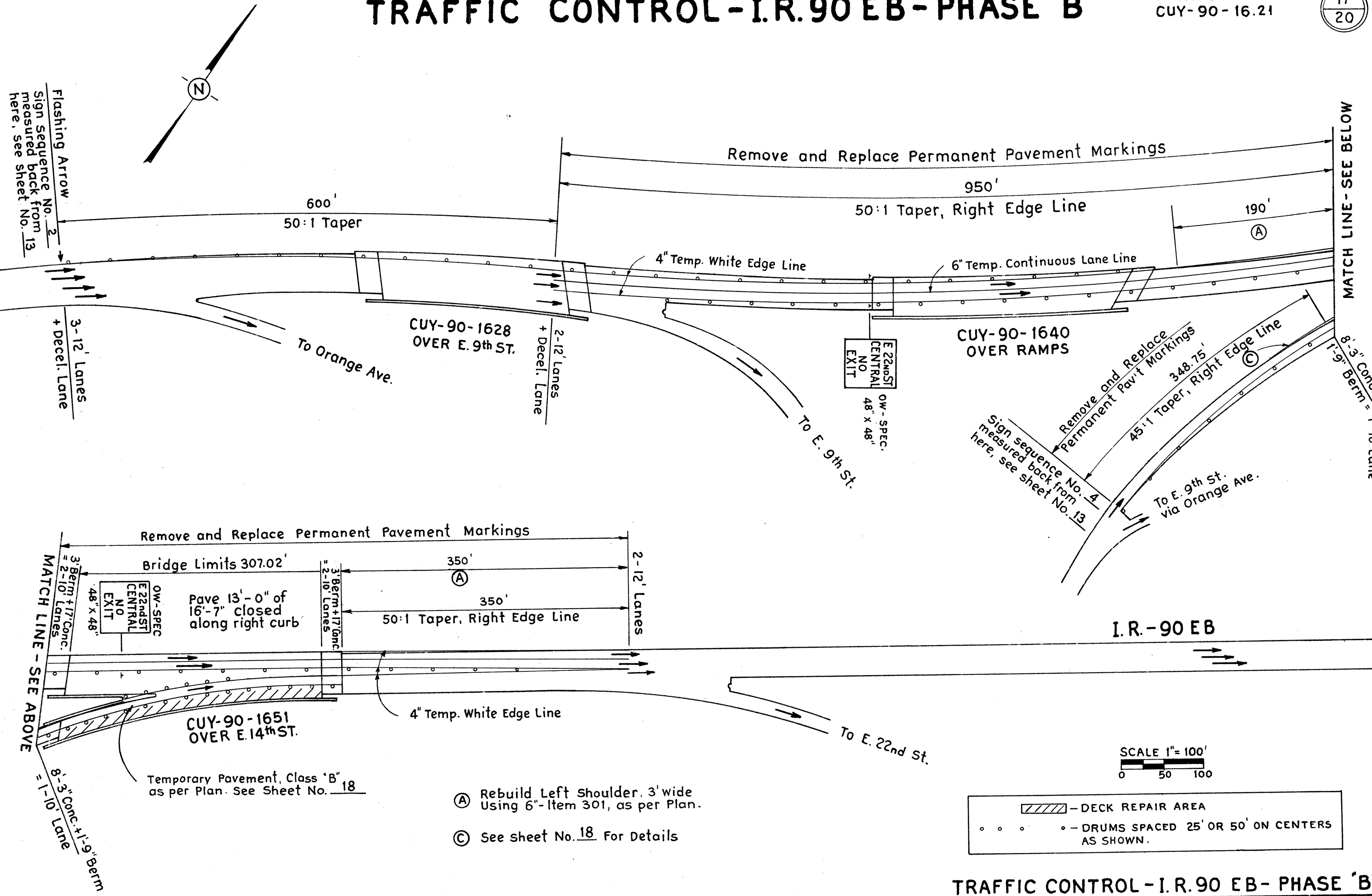
ⓑ Rebuild Right Shoulder 10' wide Using 6"-Item 301, as per Plan.

TRAFFIC CONTROL-I.R.90 EB-PHASE "A"

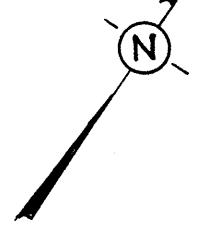
TRAFFIC CONTROL - I.R. 90 EB - PHASE "B"

CUYAHOGA COUNTY
CUY-90-16.21

17
20



Flashing Arrow
Sign Sequence No. 2
measured back from 13
here, see sheet No. 13



MATCH LINE - SEE BELOW

MATCH LINE - SEE ABOVE

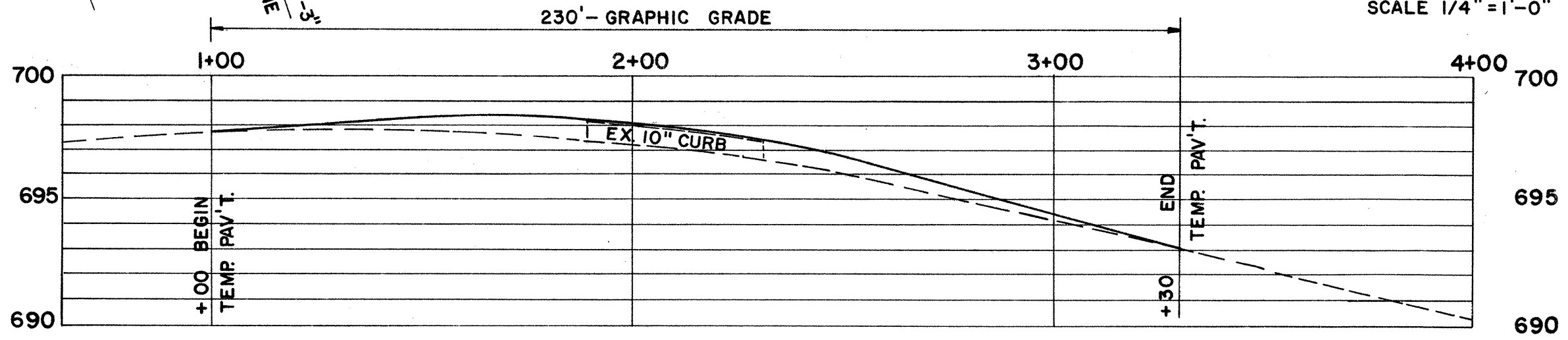
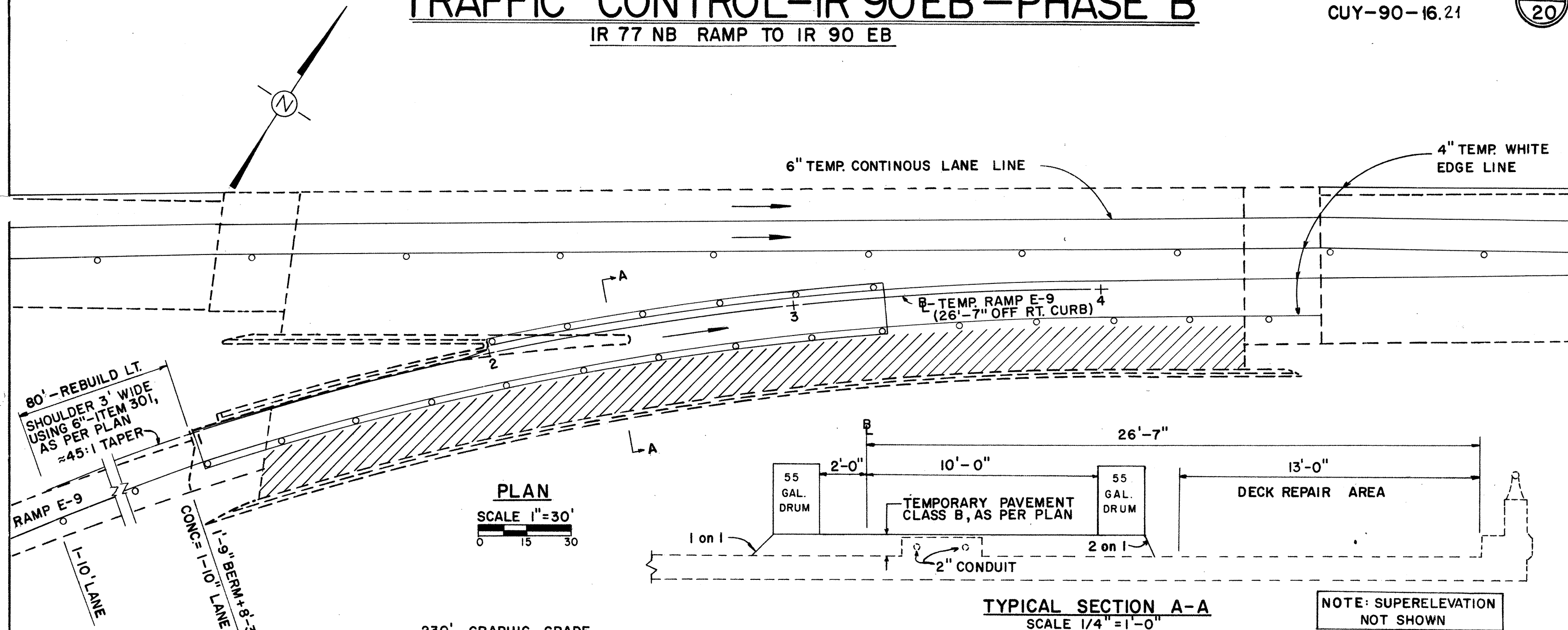
TRAFFIC CONTROL - I.R. 90 EB - PHASE "B"

TRAFFIC CONTROL-IR 90EB-PHASE "B"

IR 77 NB RAMP TO IR 90 EB

CUYAHOGA COUNTY
CUY-90-16.21

18
20



DRUMS SPACED 25' OR 50' ON CENTERS AS SHOWN.

DECK REPAIR AREA

TEMPORARY RAMP E-9 B PROFILE

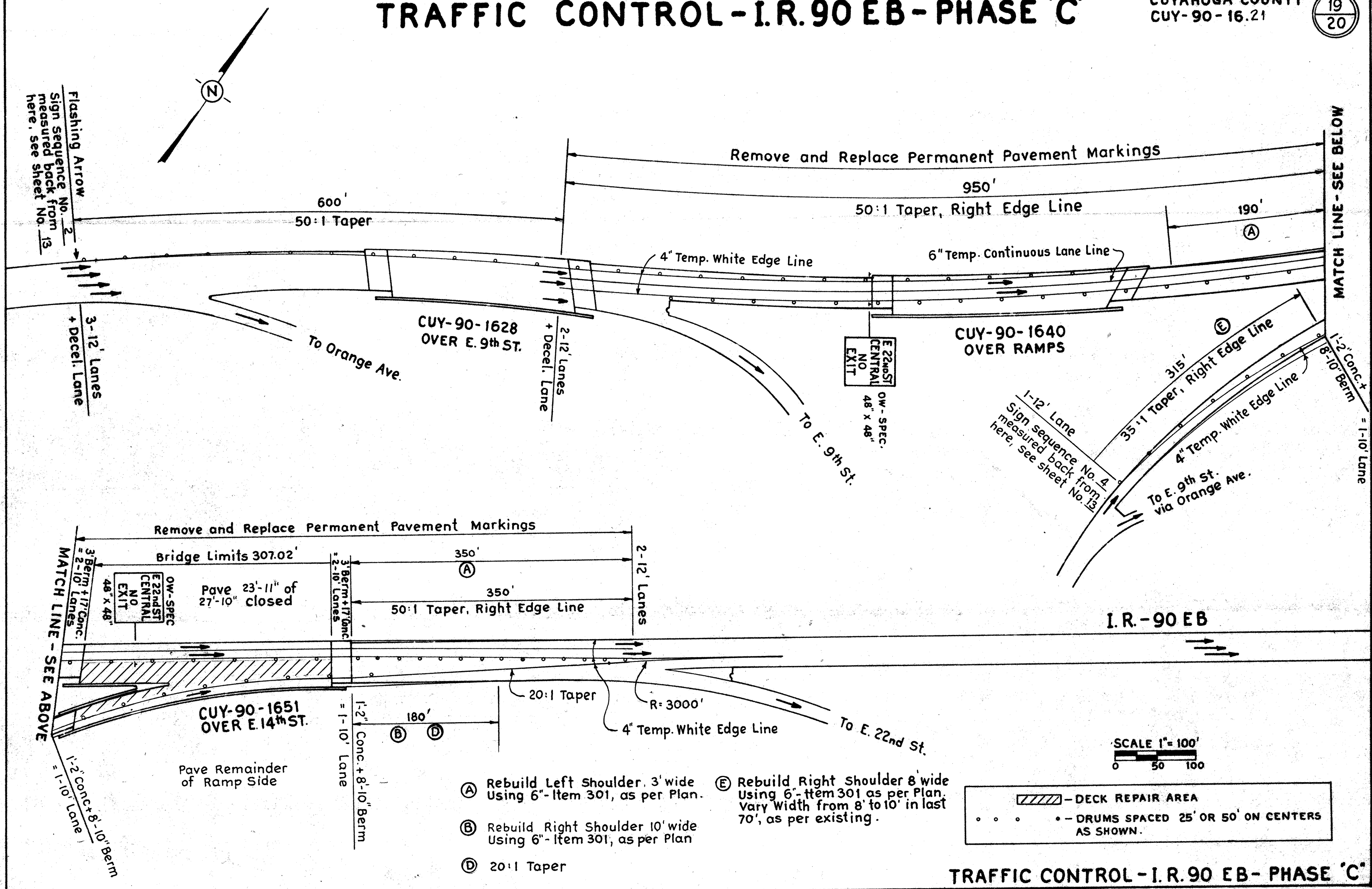
ITEM 615- TEMPORARY PAVEMENT, CLASS "B", as per plan
THE TEMPORARY PAVEMENT SHALL CONSIST OF 1"-ITEM 404 ON 0"to 10"- ITEM 301.

TRAFFIC CONTROL-IR 90EB-PHASE "B"
TEMPORARY RAMP E-9

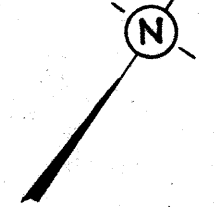
TRAFFIC CONTROL - I.R. 90 EB - PHASE 'C'

CUYAHOGA COUNTY
CUY-90-16.21

19
20



Flashing Arrow
Sign Sequence No. 2
measured back from
here, see sheet No. 13



MATCH LINE - SEE BELOW

MATCH LINE - SEE ABOVE

- (A) Rebuild Left Shoulder, 3' wide Using 6"- Item 301, as per Plan.
- (B) Rebuild Right Shoulder 10' wide Using 6"- Item 301, as per Plan
- (C) 20:1 Taper
- (E) Rebuild Right Shoulder 8' wide Using 6"- Item 301 as per Plan. Vary Width from 8' to 10' in last 70', as per existing.

TRAFFIC CONTROL - I.R. 90 EB - PHASE 'C'

FED. RD. DIVISION	STATE	PROJECT
5	OHIO	

This item of work shall consist of providing, operating, maintaining and subsequently removing a flashing arrow barricade as herein described.

The barricade shall consist of the following components.

- A. Flasher board with lamps.
- B. Flasher control and dimmer.
- C. Power Supply
- D. Trailer and framework

Component Specifications

A. Flasher board with lamps

The flasher board shall be a minimum size of 8' wide by 4' high and shall be constructed according to the requirements of 844.11.

Fifteen hooded flasher lenses shall be mounted into the board with the pattern and approximate dimensions shown on the detail. Hoods shall be at least five inches long. Flashers shall be sealed beam units with amber lenses and nominal input of approximately 35 watts, similar to 44-12A par. 46.

B. Flasher control and dimmer

The flasher control shall be designed to provide the following separate displays on the message board and each display shall be composed of the reference numbered flasher units as tabulated and shown on the detail.

- (1) Left arrow - consisting of flasher units No's. 1, 3, 4, 5, 6, 7, 8, 9, 10, 11.
- (2) Right arrow - consisting of flasher units No's. 1, 2, 3, 4, 5, 7, 12, 13, 14, 15.
- (3) Double arrow - consisting of flasher units No's. 1, 3, 4, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15.
- (4) Bar - consisting of flasher units No's. 1, 3, 4, 5, 7.

The above displays shall be separately selectable by a switch(es), and when selected shall flash with approximately 50% on time and 50% off time.

All flasher lamps shall be illuminated to a uniform intensity and the intensity shall be variable by means of a photocell controlled dimmer circuit which shall reduce lamp output during low ambient light conditions. Both the photocell circuit and the dimmer circuit shall be externally adjustable.

All controls and switches shall be housed in a locked weather-proof cabinet.

C. Power Supply

The power supply shall consist of a generator and a 4 cycle gasoline engine designed for heavy continuous duty. The engine generator set shall be of adequate capacity to supply electrical energy to all flasher units, to the control circuitry, and to charge a storage battery.

The engine shall be of modern design to provide low emission of pollutants, shall be properly muffled in order that it will not produce excessive noise and shall be weatherproof. It shall be provided with an electric starter operated from the storage battery and with a fuel tank of sufficient size to provide un-attended operation for a minimum of 24 hours.

The generator shall be weatherproof and quiet in operation.

The engine - generator set shall be enclosed in a lockable mesh enclosure to prevent accidental or malicious tampering and to reduce hazard of moving parts, shocks, or burns. The fuel tank shall have a lockable cap.

D. Trailer and Framework

The foregoing components shall be mounted on a trailer of adequate capacity to support the components. The trailer shall have warning devices in conformance with the Ohio Revised Code as applicable to use on highways within the State of Ohio. The trailer shall be equipped with leveling jacks to provide stable support of the components when the trailer is not hitched to a vehicle. The entire configuration shall, by itself, be stable in winds exerting a force up to 20 PSF in any direction.

The framework shall provide secure mounting for all components and the flasher board shall be located in a vertical position at a minimum distance of 10ft. from ground line to centerline of arrow during operation. The flasher board shall fold flat for storage or trailering. The unit shall be so designed to easily permit one man to raise and lower the flasher board.

General Requirements

The entire barricade shall be designed for operation in extremes of humidity up to 100% and temperature from -30 degrees to +120 degrees. The barricade shall present no hazards, of moving parts, electrical shock, fire, burns, or sharp edges.

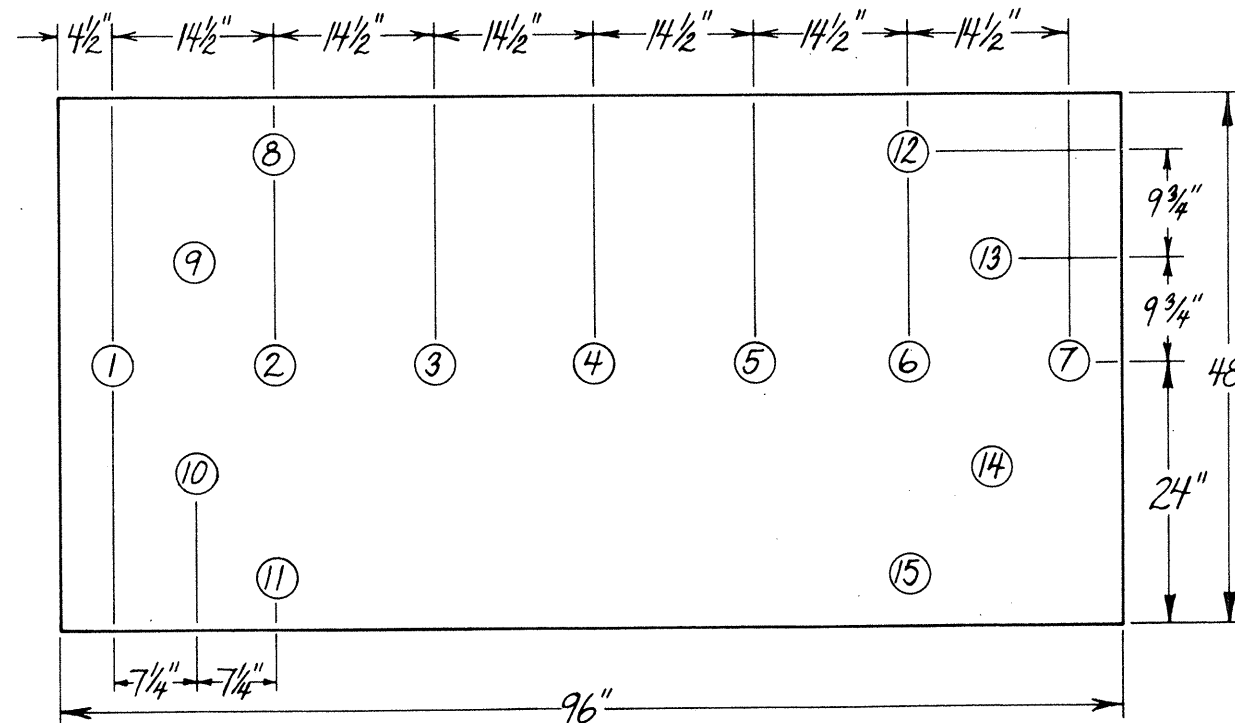
Use and Operation

The barricades shall be located as shown in the maintenance of traffic drawings or as directed by the engineer and operated continuously during traffic maintained periods. The contractor shall supply all fuel, lubricants and parts necessary to obtain continuous operation and shall provide all service. The contractor shall arrange, with the engineer, an acceptable method of obtaining service for a malfunctioning barricade within 30 minutes of reported malfunction. In the event that service to the malfunctioning unit is not provided within the allotted time, the (City/State) may elect to perform the necessary service and bill the contractor for cost of parts, commodities equipment rental and labor required to repair the barricade and/or to provide temporary protection of traffic.

When not in use, the barricade shall be stored at a location which will not be hazardous to traffic or pedestrians.

At the completion of the project the barricade shall be removed and disposed of by the contractor.

The payment for item 844 flashing arrow barricade will be included in the Lump Sum price for Item 614 Maintaining Traffic including maintenance and operation as required, and removal which shall include all labor, equipment, fuels, oils and parts required to obtain the specified operation.



Bureau of Design Services Ohio Department of Transportation	
FLASHING ARROW BARRICADE	Date 6-11-76
Standard Construction Drawing	
Approved _____	