STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

PAVEMENT REPAIR

652-92

FHWA REGION	STATE	PROJECT	
5	OHIO		

1/31

PLAN NO. 395

PART	COUNTY	ROUTE	SECTIONS	PROJECT TERMINI BEGIN	PROJECT TERMINI END	NET LENGTH MILES	TOWNSHIP	CITY	VILLAGE
1	CUY	IR-271	(6.04 - 8.18)	6.04	9.92	3.70			

652

The Standard 1991 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 3/23/92 — Bryan J. Hosler, District Deputy Director of Transportation

JEM

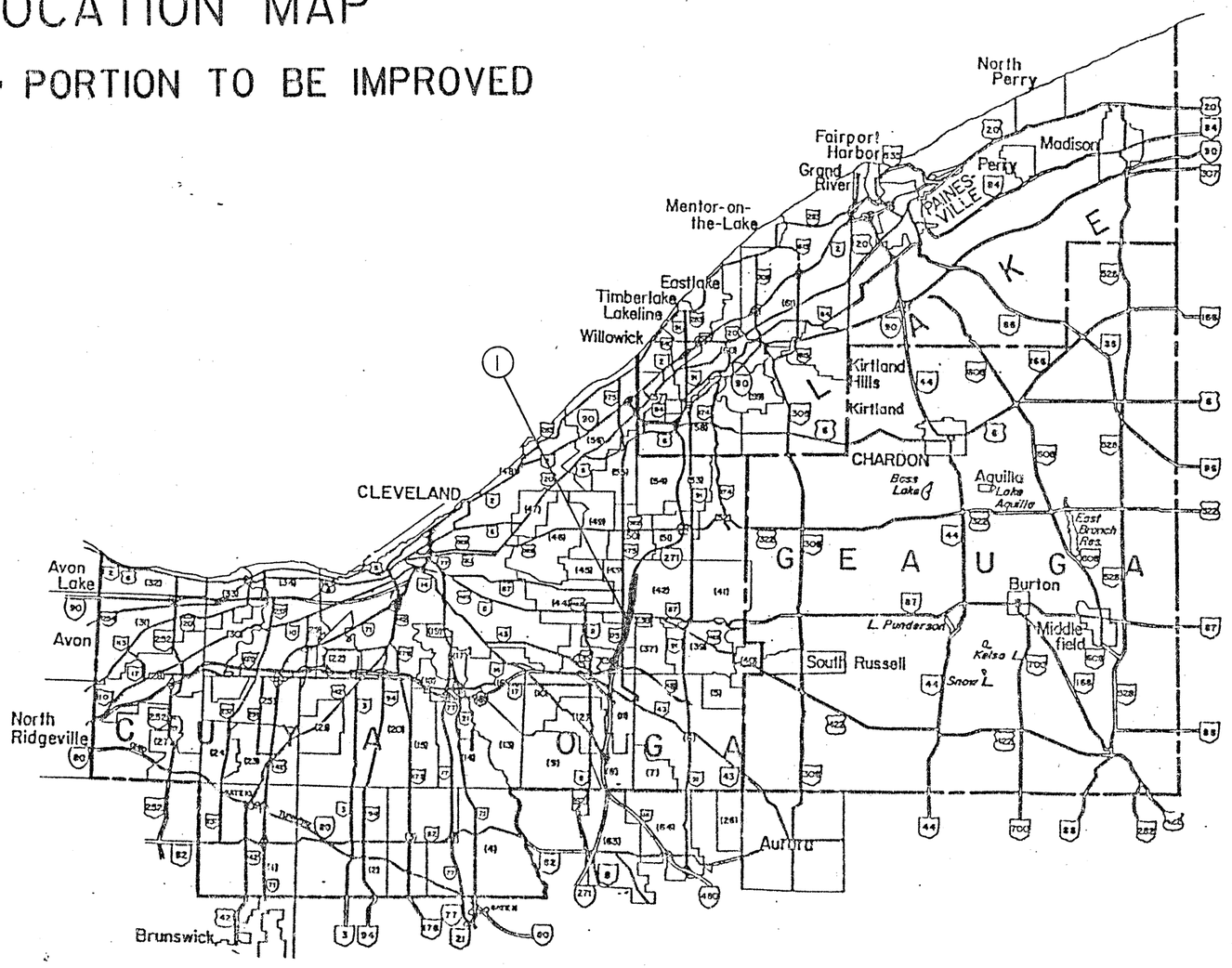
Approved Date 4-15-92 — B.D. Hamilton, Engineer, Bureau of Bridges and Structural Design

Approved Date 5-5-92 — Alexander H. Hyndo, Deputy Director, Operations

Approved Date 5-5-92 — Jerry Wray, Director, Department of Transportation

LOCATION MAP

— PORTION TO BE IMPROVED



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UNDERGROUND UTILITIES

2 WORKING DAYS
BEFORE YOU DIG
CALL TOLL FREE 800-362-2764
OHIO UTILITIES PROTECTION SERVICE
NON MEMBERS
MUST BE CALLED DIRECTLY

STANDARD DRAWINGS		STANDARD DRAWINGS	
BP-5	10-1-87	TC-65.10	2-1-90
MT-98.12	8-25-89	TC-65.11	2-1-90
MT-98.13	8-25-89	TC-65.12	2-1-90
MT-98.14	8-25-89	TC-65.13	2-1-90
MT-98.15	8-25-89	TC-72.20	2-26-82
MT-99.10	11-14-86		
MT-99.20	04-29-88		
TC-35.10	08-29-84		

SUPPLEMENTAL SPECIFICATIONS		SUPPLEMENTAL SPECIFICATIONS	
862	12-16-88		
962	1-23-90		

26-L-92

ZFA2:[200,005]MR707.DGN

SCHEMATIC PLAN

PLAN NO. 395

FHWA REGION	STATE	PROJECT		
5	OHIO			

2/31

CUYAHOGA COUNTY
CUY - 271 - 6.04

SCALE
0 200 400 800

I-480 N

BEGIN PROJECT
STA. 337+00
S.L.M. 6.04

P.T. STA 332+79.72

P.C. STA. 334+44.43

BRIDGE NO
CUY-271-0610

BRIDGE NO
CUY-271-0626

MILES AVE

RAMP H-2

LANE E S

LANE S E

WARRENSVILLE BEDFORD HTS.

RAMP H-1

LANE W N

LANE E N

LANE N W

LANE N E

WARRENSVILLE HTS.

HIGHLAND HILLS

RICHMOND RD SR 175

RAMP G-1

RAMP G-2

I-271

ORANGE WARRENSVILLE HTS.

BEACHWOOD WARRENSVILLE HTS.

MATCH LINE STA 415+00

BRIDGE NO
CUY-271-0720L

BRIDGE NO
CUY-271-0720R

HARVARD RD

BEACHWOOD

P.T. STA 420+33.70

P.C. STA 432+67.26

CHAGRIN BLVD. USR 422

RAMP F-1

RAMP F-2

RAMP F-3

RAMP F-4

RAMP F-5

BRIDGE NO
CUY-271-0813

PEPPER PIKE

BRIDGE NO
CUY-271-0885L

BRIDGE NO
CUY-271-0885R

BRIDGE NO
CUY-271-0916L

BRIDGE NO
CUY-271-0916R

S. WOODLAND RD

SHAKER BLVD E.

SHAKER BLVD W.

P.C. STA 516+69.97

P.T. STA 527+51.47

BRIDGE NO
CUY-271-0973

FAIRMOUNT BLVD

END PROJECT
STA. 542+00
S.L.M. 9.92

MATCH LINE STA 415+00

ORANGE BEACHWOOD

PEACHWOOD ORANGE

P.T. STA 451+22.87

WOODMERE

PEPPER PIKE

SCHEMATIC PLAN

M & R

ASPHALT CONCRETE

PLAN NO. 395
CUY - 271 - 0604

* Harvard Rd., S. Woodland and Shaker Blvd. Bridge Lengths Deducted.
** RPM is an abbreviation for Raised Pavement Marker.
Differences in pavement areas are due to changing pavement widths; recycled areas are not equal to entire existing pavement area or the entire pavement area to be resurfaced.

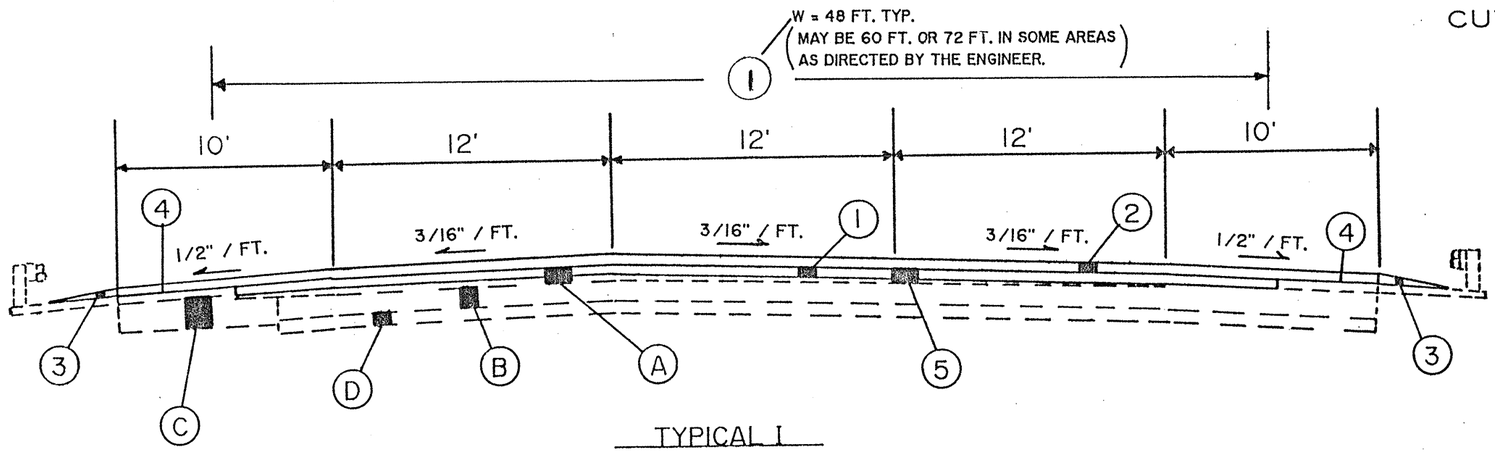
PAVEMENT DATA

PART	ROUTE	LOG POINT TO LOG POINT	LENGTH MI	LENGTH LIN.FT.	WIDTH FEET	TYPE	EXIST	407 PAVEMENT AREA SQ. YD.	407 TACK COAT @.10 GAL/SQ YD GALLON	446 THICK. INCHES	446 CU. YD.	251 PARTIAL DEPTH PVMT REPAIR SQ. YD.	825 CRACK SEALING TYPE 1 POUND	617 COMPACTED AGGREGATE TYPE A CU. YD.	SPECIAL ## ASPH. CONC. HEATER RECYCLING SQ. YD.	SPECIAL ASPHALT REJUVENATING AGENT GALLON	202 WEARING COURSE REMOVED SQ. YD.	202 **RPM REMOVED FOR STORAGE EACH, APP	644 REMOVAL OF PAVEMENT MARKINGS LIN. FT.
1	I-271 NB	6.04-9.92	3.70*	19536*	VAR	I	848	129936	2651	1.25	4512	3248		302	103432	10344	2270	510	76000
		Lane E-N	(.07)	(356)	VAR	II	848	1504	8	1.25	52	75		6	1424	143	211		712
		Ramp G-2	(.34)	(1788)	VAR	III	848	1860	140	1.25	65	93	397	28			244	26	
		Ramp F-2	(.30)	(1564)	VAR	III	848	3960	297	1.25	138	198	844	24			122	32	
		Ramp F-4	(.26)	(1384)	VAR	III	848	4551	341	1.25	158	228	970	21			583	31	
		Ramp F-6	(.30)	(1568)	VAR	III	848	3957	297	1.25	137	198	844	24			122	42	
	I-271 SB	Ramp G-1	(.11)	(601)	VAR	III	848	1598	120	1.25	55	80	341	9			511	35	
		Ramp F-1	(.26)	(1349)	VAR	III	848	3385	254	1.25	118	169	722	21			261	44	
		Ramp F-3	(.24)	(1275)	VAR	III	848	4584	344	1.25	159	229	977	20			472	31	
		Ramp F-5	(.25)	(1326)	VAR	III	848	3305	248	1.25	115	165	705	20			261	40	
	TOTALS PART 1		3.70*					158640	4700		5509	4683	5800	475	104856	10487	5057	791	76712

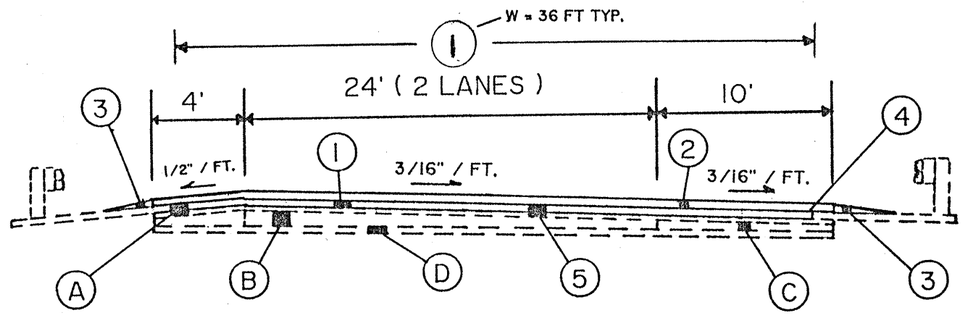
TYPICAL SECTIONS

PLAN NO. 395

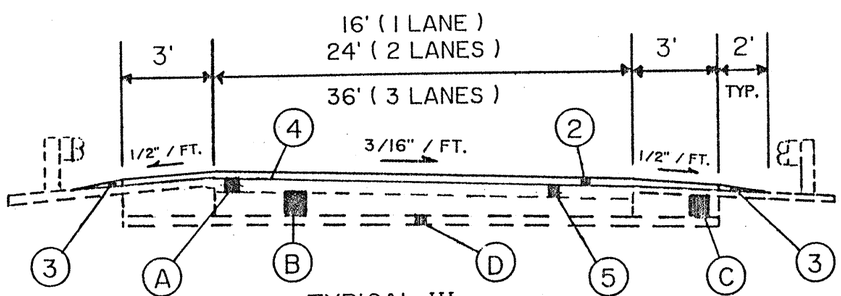
CUY - 271 - 6.04



TYPICAL I
3 - LANE NORMAL SECTION



TYPICAL II
2 - LANE NORMAL SECTION



TYPICAL III
NORMAL RAMP

NOTE :

(1) WHERE ITEM SPECIAL - ASPHALT CONCRETE PAVEMENT SURFACE HEATER RECYCLING IS TO BE USED, ITEM SPECIAL - ASPHALT REJUVENATING AGENT. SHALL ALSO BE USED.

EXISTING

(A) 3" ASPHALT CONCRETE

(B) REINFORCED PORTLAND CEMENT CONCRETE

(C) AGGREGATE BASE

(D) SUBBASE

PROPOSED

(1) ITEM SPECIAL - ASPHALT CONCRETE PAVEMENT SURFACE HEATER RECYCLING

(2) ITEM 446 - ASPHALT CONCRETE SURFACE COURSE, TYPE I, AC - 20

(3) ITEM - 617 COMPACTED AGGREGATE, TYPE A (2' X $1\frac{1}{4}$")

(4) ITEM 407 - TACK COAT

(5) ITEM 251 - PARTIAL DEPTH PAVEMENT REPAIR

GENERAL NOTES

PLAN NO. 395

CUY - 271 - 0604

GENERAL :

It is the intent of this project to repair and/or eliminate various pavement surface irregularities including deteriorated joints, potholes, cracks, and raveling areas of the asphalt concrete surface course and to restore the riding quality of the Interstate highway. The repair of the existing surface course will be accomplished through the implementation of an asphalt pavement surface heater recycling operation with an asphalt concrete rejuvenating agent. The recycled pavement will then be resurfaced with 1.25 inches of asphalt concrete.

Pavement repairs shall be performed at locations as directed by the Engineer prior to recycling, crack sealing or resurfacing operations. On I-271 mainline pavement, the intent is to repair severely deteriorated asphalt pavement areas and very large areas previously repaired with cold mix asphalt concrete. Minor deterioration ie. potholes, cracks and ravelling will be repaired through the recycling operation.

Both north and southbound ramps shall be repaired, crack sealed and overlayed with the appropriate plan items. The ramp pavement will not be recycled.

The recycling operation shall either begin or suspend work at the areas designated for butt joints, particularly prior to and after bridge decks with concrete wearing surfaces. In other words, areas designated for wearing course removal shall not be recycled.

GENERAL SCHEDULE OF OPERATIONS FOR RECYCLING AND PAVING :

Asphalt concrete pavement recycling and the paving operations shall be scheduled and coordinated so that the recycling crews are no more than two days ahead of the paving operations. In other words, the recycled pavement shall not be left open and exposed to traffic for more than two days before paving operations take place.

The contractor shall make every attempt to coordinate and schedule his paving operations in order to minimize the length and time that a longitudinal paving joint is left exposed to traffic. It shall be the responsibility of the contractor to remove, if and as directed by the Engineer, any loose aggregate on the travelled roadway pavement resulting from traffic traversing this exposed joint. Any additional costs associated with maintaining a clear and clean pavement shall be included in the lump sum bid under ITEM 614 - MAINTAINING TRAFFIC.

All temporary pavement markings must be complete and in place both after pavement recycling and after paving operations, prior to opening any lanes to traffic.

EXISTING PAVEMENT :

Existing pavement thicknesses and areas have been taken from the records and are believed to represent the existing pavement, but the state does not guarantee the accuracy of the same.

For further information in regard to the existing pavement, the contractor shall refer to the previous construction plans. These plans may be reviewed at the Ohio Department of Transportation, District 12 Office, 5500 Transportation Blvd., Garfield Hts., Ohio 44125: (216) 581-2100.

CONTINGENCY QUANTITIES :

The contractor shall not order materials or perform work for plan items set up to be used "as directed by the Engineer" unless authorized by the Engineer.

ITEM 202 - RAISED PAVEMENT MARKERS REMOVED FOR STORAGE, as per plan :

Raised pavement markers shall be removed in a manner that prevents damage to the castings. Removed markers shall be collected, stored and then delivered to the ODOT Warrensville Yard - 25609 Emery Rd., Warrensville Hts., Oh 44128 (SR-175 @ intersection of I-271 & Emery Rd.), by the contractor, as directed by the Engineer. The Project Engineer shall give the Maintenance Department (581-2100) 24 hr. notice prior to any deliveries and the Project Engineer shall be responsible for furnishing all necessary transfer/receiving documentation to the Yard. An estimated quantity of 791 markers have been carried over to the General Summary. All costs associated with the removal, storage and delivery of these markers shall be included in the unit price bid for ITEM 202 - RAISED PAVEMENT MARKERS REMOVED FOR STORAGE, as per plan.

ITEM 407 - TACK COAT :

This item is provided to be used only on areas of the mainline pavement, shoulders and ramps that are not recycled.

ITEM 644 - REMOVAL OF PAVEMENT MARKINGS :

Immediately prior to the heater recycling operations the contractor shall remove the existing affected thermoplastic lane, edge, channelizing and/or transverse lines, as directed by the Engineer, at the work locations specified in these plans. The method of removal shall be approved by the Engineer prior to any removal operations actually taking place. At no time shall any pavement be opened to traffic without the existing and/or the temporary replacement markings complete and in place. The unit of measure for this item of work shall be linear feet (including the gaps associated with lane lines). Any pavement markings that have at one time been reapplied and were installed next to, partially overlapping or in some way slightly offset from the original markings shall be considered as one unit and shall be included in the linear foot measurement for each lane line, edge line etc. It is the responsibility of the contractor to inspect the Project prior to bidding so that equipment capable of removing the appropriate width of pavement marking is considered. All necessary labor, equipment and materials required for the removal of these pavement markings shall be included in the unit price bid for ITEM 644 - REMOVAL OF PAVEMENT MARKINGS.

BUTT JOINTS :

Item 202 - Wearing Course Removed shall be used for the construction of all butt joints. All butt joints specified in this plan shall typically be 50 ft. in length. Particular care shall be taken in achieving a smooth and level transition in the construction of all butt joints at both forward and trailing bridge approaches.

The time between wearing course removal and resurfacing shall be kept to the absolute minimum and in no way shall be more than 24 hours, OR A WEDGE SHALL BE CONSTRUCTED AT THE BUTT JOINT LOCATION. A QUANTITY OF 50 CU. YD. BITUMINOUS CONCRETE FOR MAINTAINING TRAFFIC HAS BEEN PROVIDED IN THE GENERAL SUMMARY.

GENERAL NOTES

PLAN NO. 395
CUY - 271 - 0604

ITEM 614 - MAINTAINING TRAFFIC :

Generally, the contractor shall conduct his operations so as to construct the proposed pavement repairs, crack sealing, pavement surface recycling and paving with a minimum of hazard, delay and inconvenience to the motorist using the highway affected by the work done under this contract. In addition to the ODOT Construction and Material Specifications, the Ohio Manual of Uniform Traffic Control Devices for Streets and Highways and the plan sheets, the following provisions shall apply :

I. NOTIFICATION

Since functional traffic is a major concern on this project, it is essential that the motoring public be adequately forewarned of future lane and ramp closures and traffic constrictions. The contractor shall submit a work schedule to the Ohio Department of Transportation indicating the locations and dates of each lane/ramp closure at least 3 days prior to the implementation of any such closure.

II. SCHEDULE OF OPERATIONS - DAY/NIGHT TIME WORK :

The Contractor will be required to limit his hours of operation for most operations to night time hours. Lane closures for daytime hours will only be permitted as noted below. All nighttime work shall be done between 7:00 PM and 6:30 AM Sunday through Thursday. All traffic control devices will be removed from the pavement prior to the commencement of rush hours.

Limited daytime work will be permitted based upon the following requirements :

1) Absolutely no lane closures are permitted between the hours of 6:30 - 9:30 A.M. or between 3:30 - 7:00 P.M. Mon. thru Fri.
2) Work on Saturday and Sunday and between 9:30 A.M. and 3:30 P.M. Mon. thru Fri. will be restricted to closing one out of three lanes only. A minimum of two lanes shall be maintained open to traffic during all daytime hours.
3) Traffic must be maintained on all ramps during daytime hours.

The Engineer shall have the authority to adjust and limit the hours of operation for any unusual traffic conditions. ALL LANES SHALL BE OPEN AND NO WORK IS TO BE PERFORMED THE SATURDAY BEFORE UNTIL THE TUESDAY AFTER LABOR DAY.

III. NIGHT TIME ILLUMINATION :

The Contractor is responsible for providing adequate night illumination for construction and inspection procedures. The Engineer shall have the authority to have the Contractor provide additional lighting if necessary for proper construction and inspection and/or if it is determined beneficial in promoting safety for the motoring public and the Contractor.

IV. ADDITIONAL RESTRICTIONS :

All through traffic lanes shall be kept open at all times except as noted here and in the maintenance of traffic plans. At least one through lane shall be maintained at all times unless noted previously or below.

Traffic shall be maintained on the ramps. The Project Engineer shall have the authority to adjust traffic control along ramps in order to perform crack sealing, and paving operations, and to promote efficient traffic flow. Any anticipated temporary closures shall require prior approvals from the District Operations Engineer. Any closures determined necessary shall be kept to the absolute minimum time period necessary to perform the work. Reopening shall occur immediately after the material has cured and/or the pavement has cooled sufficiently and any affected pavement markings are restored completely. The Engineer reserves the right to request additional signing in these situations to be supplied by the contractor and included in the Lump Sum bid for ITEM 614 - MAINTAINING TRAFFIC.

The Contractor shall not route traffic on both sides of a lane closure.

Within the length of the closure, provision shall be made to control the traffic entering and exiting on ramps as necessary to prevent wrong movements and to keep off the crack sealed, recycled or resurfaced pavement not ready for traffic.

The Project Engineer has the authority to adjust the length of any lane closures if extreme traffic delays result from the work specified in this plan.

V. SIGN PLACEMENT :

In the event a ramp closure is required, the contractor shall furnish and install an OC-45-48 SPECIAL "EXIT RAMP CLOSED AHEAD" sign and an OC-46-48 "EXIT RAMP CLOSED" sign or an OC-46-48 SPECIAL "ENTRANCE RAMP CLOSED" sign to be placed as directed by the Engineer.

VI. 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 determines it necessary, especially where a grade, curve or merge condition exists, he may direct that additional devices be used.

B. CONDITIONS

During all parts of this project, signing, barrels, etc. shall be located as indicated in the plans. The number of lanes maintained shall be as indicated in the traffic control notes and sheets.

C. ADVANCE WARNING SIGNS

All advance warning signs for any conditions which restrict 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" and Std. Dwg. TC-35.10.

GENERAL NOTES

PLAN NO. 395
CUY - 271 - 0604

E. LAW ENFORCEMENT OFFICER WITH PATROL CAR

The Engineer shall determine the number of officers and cars required for this purpose. The officer(s) shall move their patrol car(s) as necessary to maximize their effect on traffic. The contractor shall make all arrangements regarding scheduling of and payment for the officer(s) and patrol car(s). An estimated quantity of 120 hours has been carried over to the General Summary to be used as directed by the Engineer. It is not the intent of this project to provide an officer with patrol car for every lane closure associated with all items of work on this project. The Project Engineer, with imput from the contractor, shall determine when the use of this Item is required and/or most beneficial. Payment for the above shall be included in the unit price bid for ITEM SPECIAL - LAW ENFORCEMENT OFFICER WITH PATROL CAR.

G. FAILURE TO COMPLY

If there is any failure to comply with 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 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.

VII. 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 least 1 foot above the pavement. Supports shall also be adequate in mass and stability to prevent the signs from being blown over by wind or vehicular generated air turbulence.

C. FLASHING ARROWS

The electric flashing arrow(s) shall be Type A, as shown in Standard Construction Drawing TC-35.10. Payment for these shall be included under ITEM 614 - MAINTAINING TRAFFIC.

D. BARRELS

Barrels shall be located as indicated on the traffic control plans and the applicable Standard Drawings. Reflectorized plastic barrels (meeting ODOT Specifications) are required for all nightime work. Therefore, it is imperative that the barrels used for traffic control be in very good condition, clean and free from any material impairing their visibility and effectiveness. Particular attention is directed to the condition of the reflectorized tape on the barrels. The Project Engineer reserves the right to have the contractor remove and replace (at no additional cost to the State) any barrels he determines to be in any condition compromising their reflectivity and/or effectiveness. All costs for installing, maintaining and subsequent removal of said barrels shall be included in the lump sum price bid for ITEM 614 - MAINTAINING TRAFFIC.

VIII. TEMPORARY PAVEMENT MARKINGS

[redacted]

The temporary pavement markings specified in this plan are intended to be used after both the pavement recycling and resurfacing operations prior to opening the lane(s) and ramp(s) to traffic and prior to the installation of the permanent pavement markings. The temporary markings shall be installed after compaction operations and sufficient cooling of the pavement. It is imperative that these temporary markings are in place prior to opening any lanes to traffic. PRIOR TO ANY HEATER RECYCLING AND PAVING OPERATIONS, THE CONTRACTOR IS RESPONSIBLE FOR CONDUCTING A FIELD SURVEY OF THE EXISTING MARKINGS. ANY STAKING OR MARKING REQUIRED TO ESTABLISH CONTROL POINTS TO INSURE THAT EXISTING MARKINGS ARE ACCURATELY REPLACED WITH BOTH TEMPORARY AND PERMANENT MARKINGS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. All temporary markings shall be replaced in the exact location and dimensions of the existing markings. It is also the responsibility of the contractor to insure that these temporary markings are visible and effective. The plan quantity has been increased to provide an additional application, if necessary, particularly if the first application is absorbed into the recycled asphalt pavement. If these markings are absorbed into the recycled or resurfaced pavement or their effectiveness is impaired in any way, it shall be the responsibility of the contractor to reapply or to touch up the markings as directed by the Project Engineer. These temporary markings shall be maintained to the satisfaction of the Engineer until the permanent markings are complete and in place. All costs associated with the above described work shall be included in the unit price bid for each individual applicable Temporary Pavement Marking Item.

IX. PERMANENT PAVEMENT MARKINGS

Prior to any recycling and paving operations, the contractor is responsible for conducting a field survey of the existing permanent markings. Any staking or marking required to establish control points to insure that existing markings are accurately replaced shall be the responsibility of the contractor. All permanent markings shall be replaced exactly as the original existing markings. All permanent pavement marking locations and layout shall be verified with the Project Engineer prior to the actual installation.

ITEM 825 - CRACK SEALING, TYPE 1 :

This item is provided to be used, as directed by the Engineer, to seal cracks on all ramps after the partial depth pavement repairs have been made and prior to resurfacing.

PLAN SHEET

PLAN NO. 395

CUYAHOGA COUNTY

CUY - 271 -6.04

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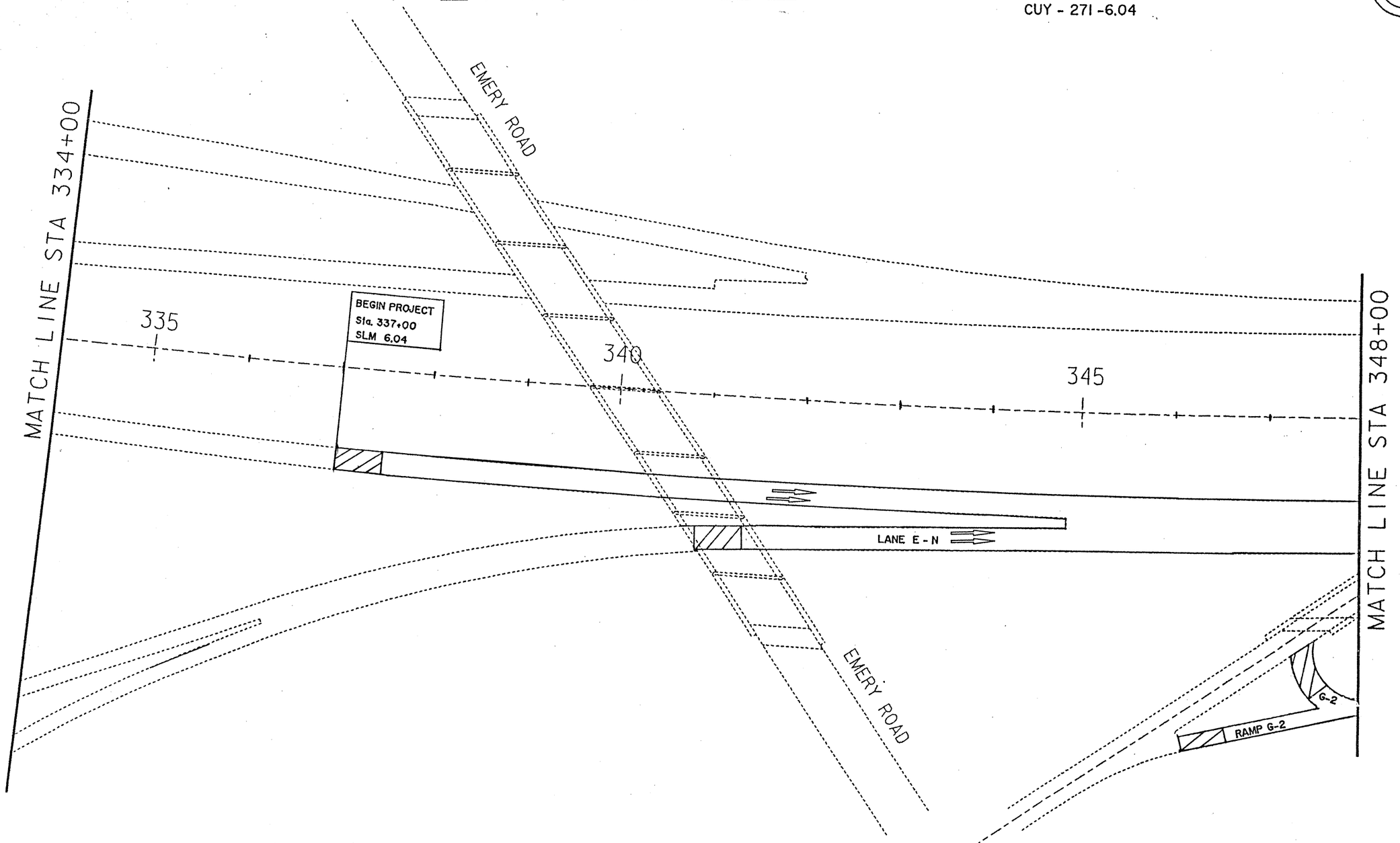
31



SCALE
1" = 100'

BUTT JOINTS (TYP.)

Sta. 337+00 TO Sta. 348+00

PLAN SHEET

PLAN NO. 395

CUYAHOGA COUNTY

CUY - 271 - 6.04

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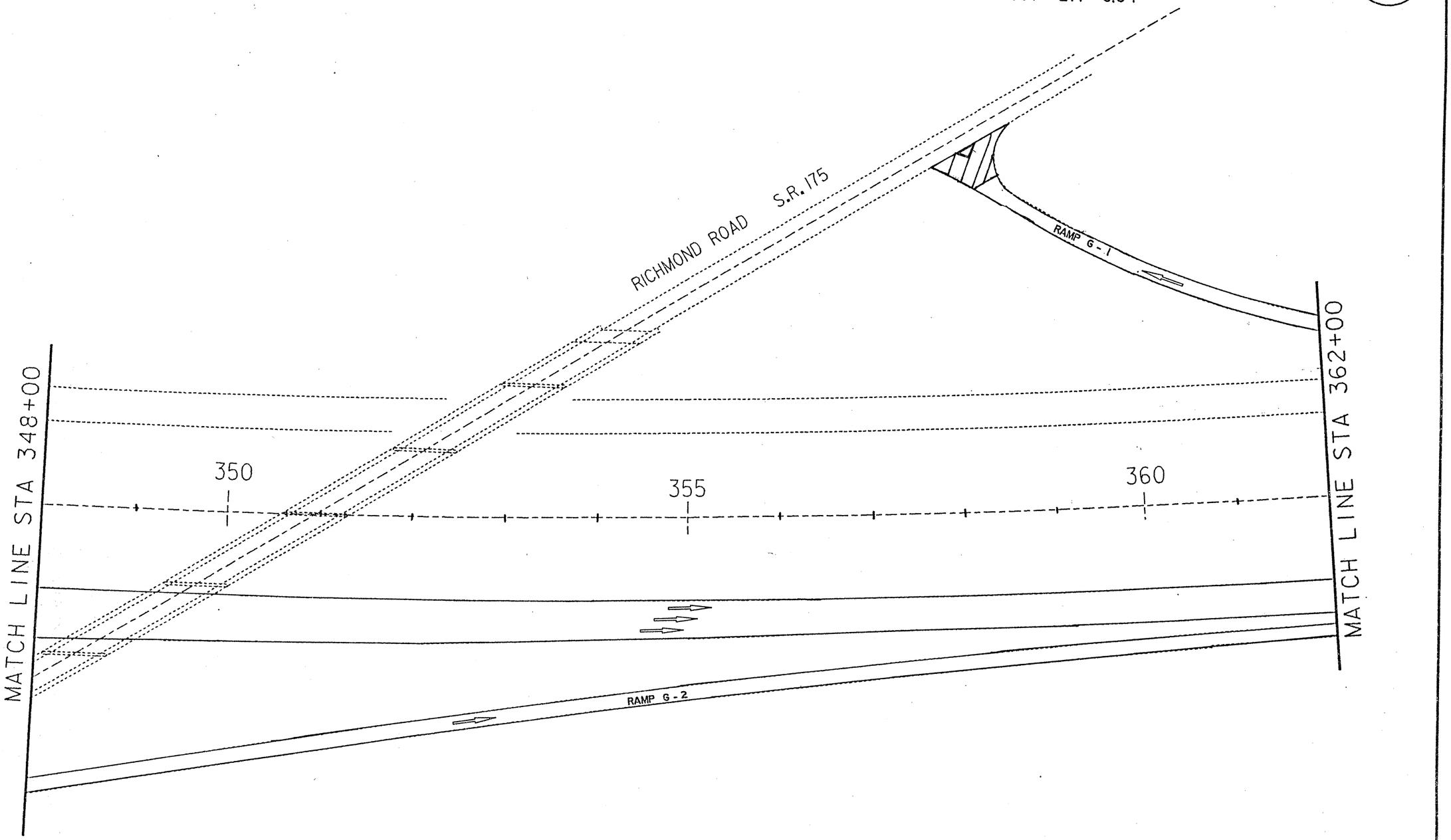
31



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PLAN SHEET

PLAN NO. 395

CUYAHOGA COUNTY

CUY - 271 - 6.04

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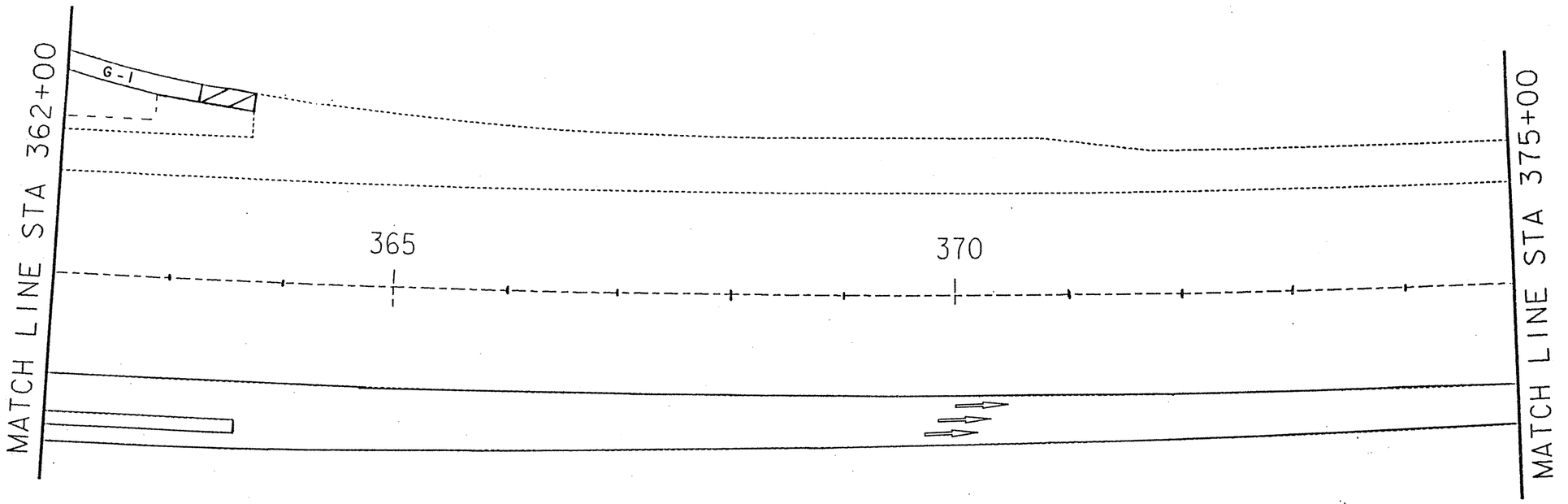
31



Sta. 362+00 TO Sta. 375+00

PLAN SHEET

PLAN NO. 395

CUYAHOGA COUNTY

CUY - 271 - 6.04

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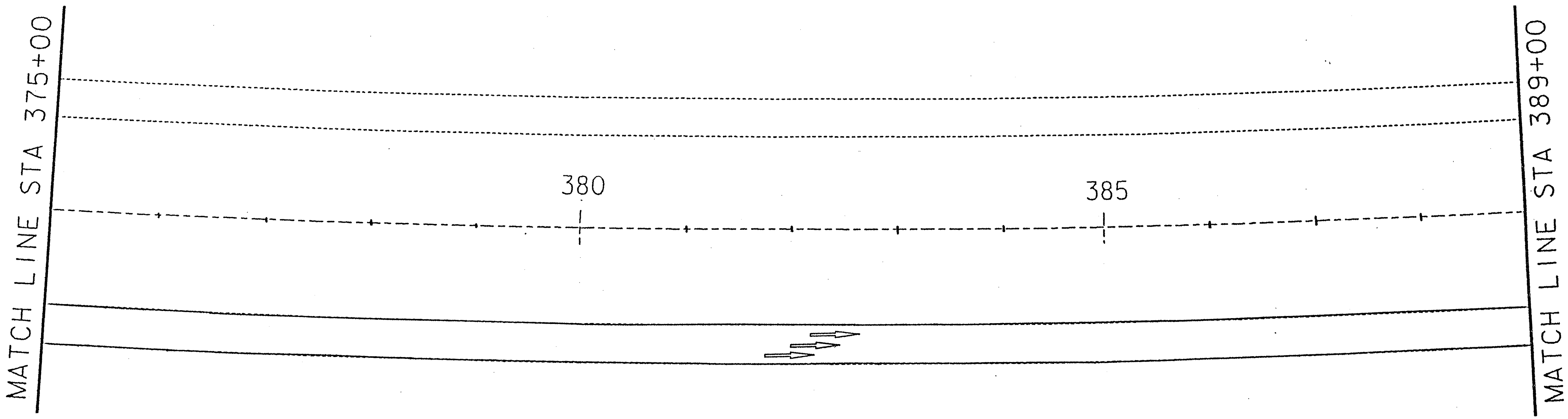
31



SCALE
1" = 100'

Sta. 375+00 TO Sta. 389+00

PLAN SHEET

PLAN NO. 395

CUYAHOGA COUNTY
CUY - 271 - 6.04

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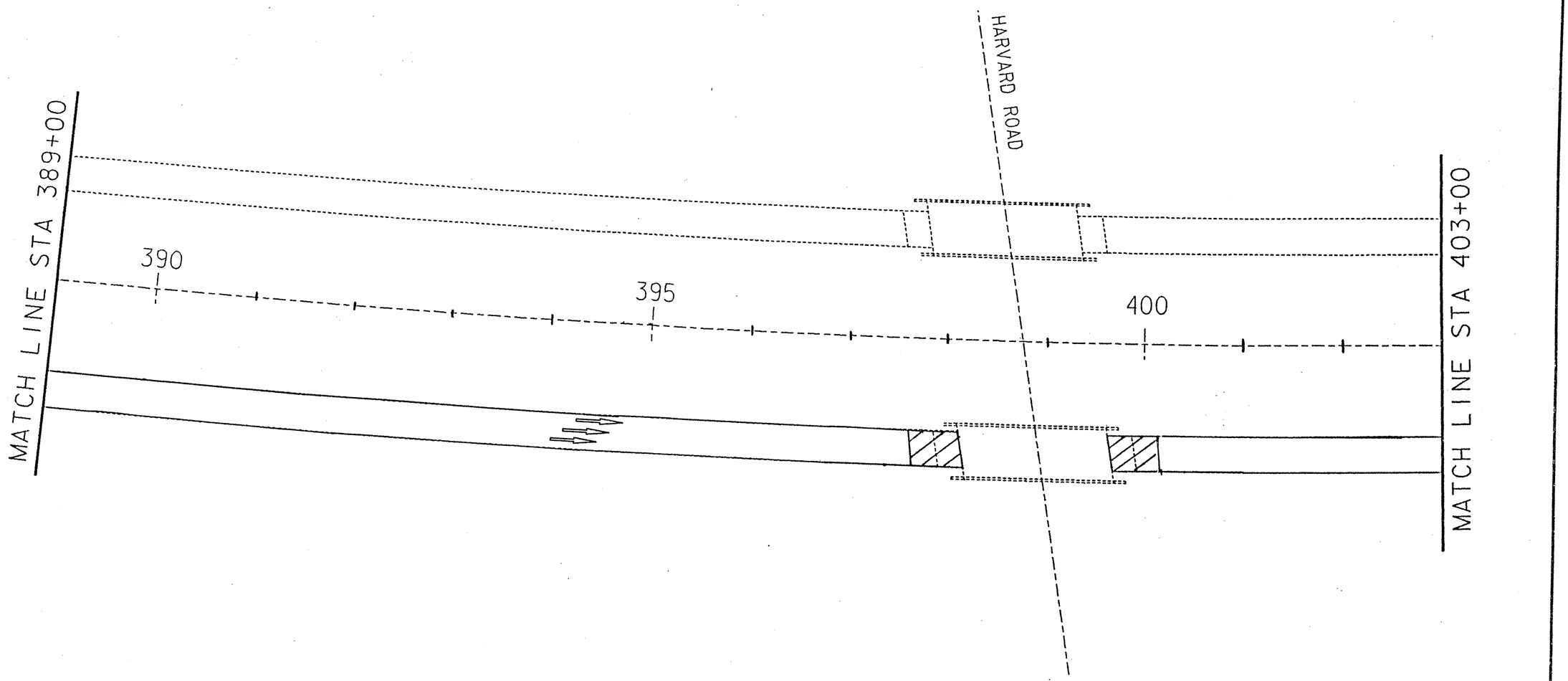
31



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PLAN SHEET

PLAN NO. 395

CUYAHOGA COUNTY
CUY - 271 - 6.04

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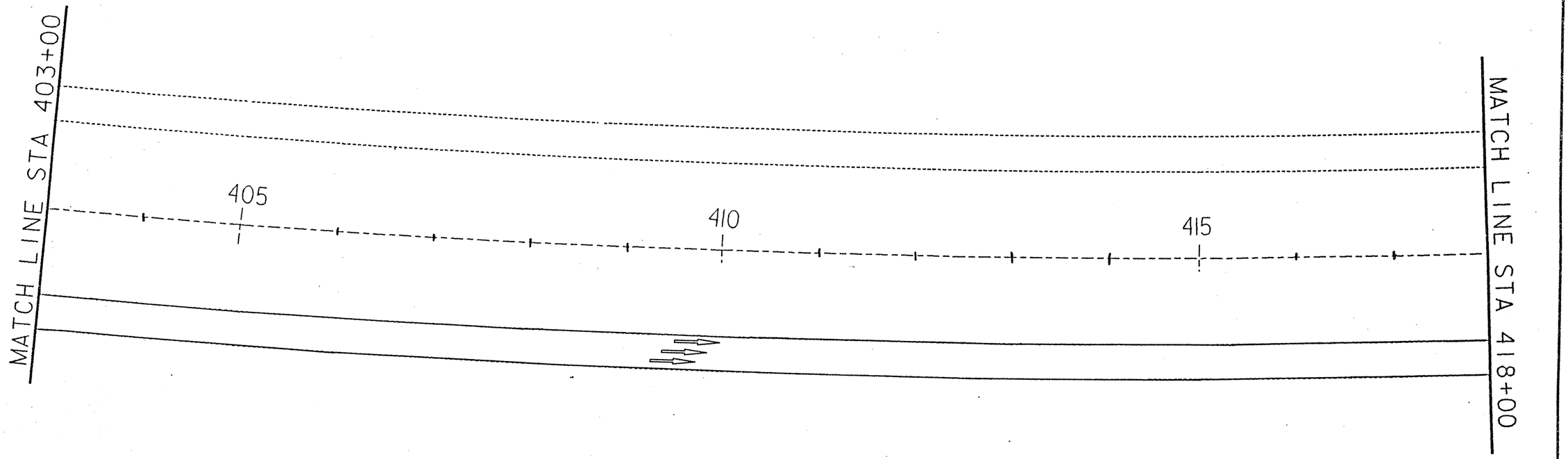
31



Sta. 403+00 TO Sta. 418+00

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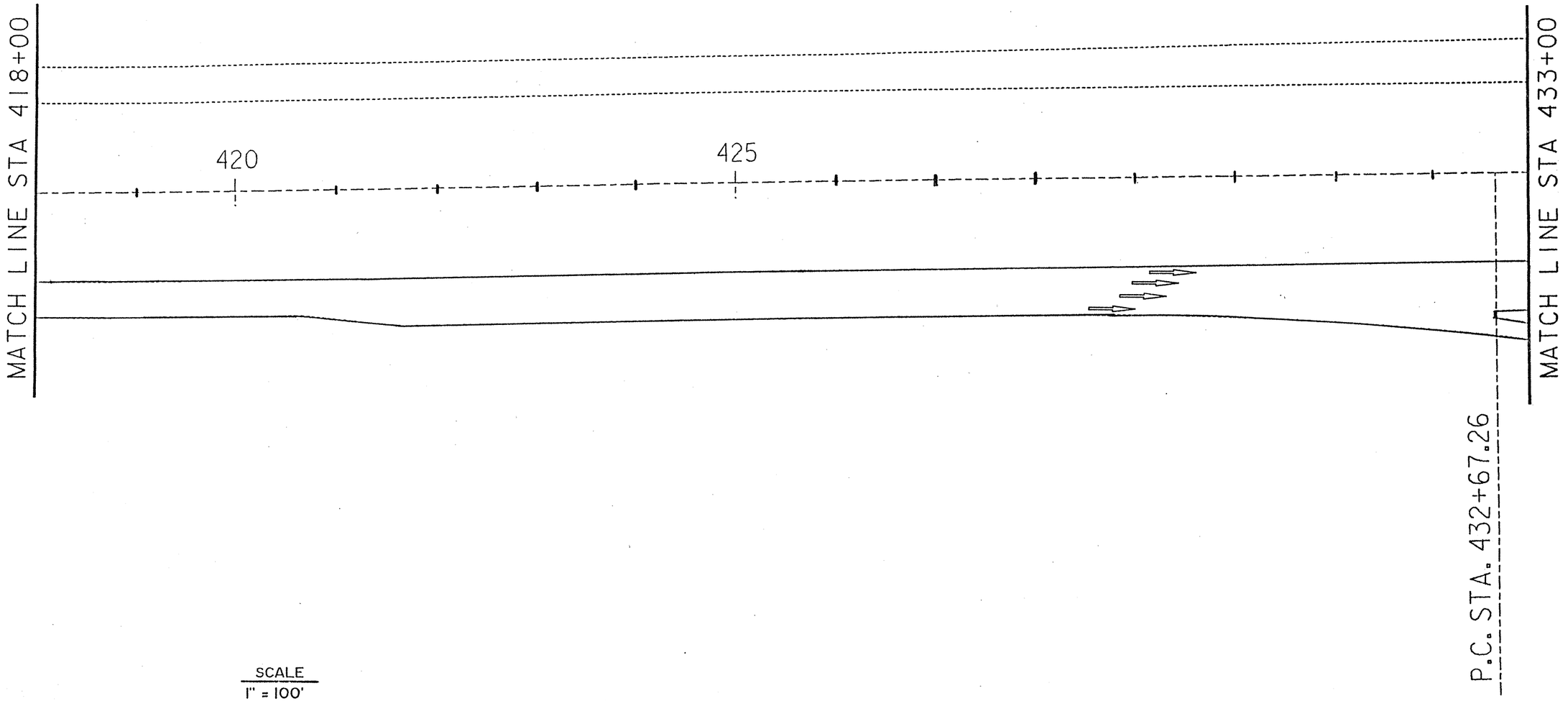
PLAN SHEET

PLAN NO. 395

CUYAHOGA COUNTY

CUY - 271 - 6.04

14
31



SCALE
1" = 100'

Sta. 418+00 TO Sta. 433+00

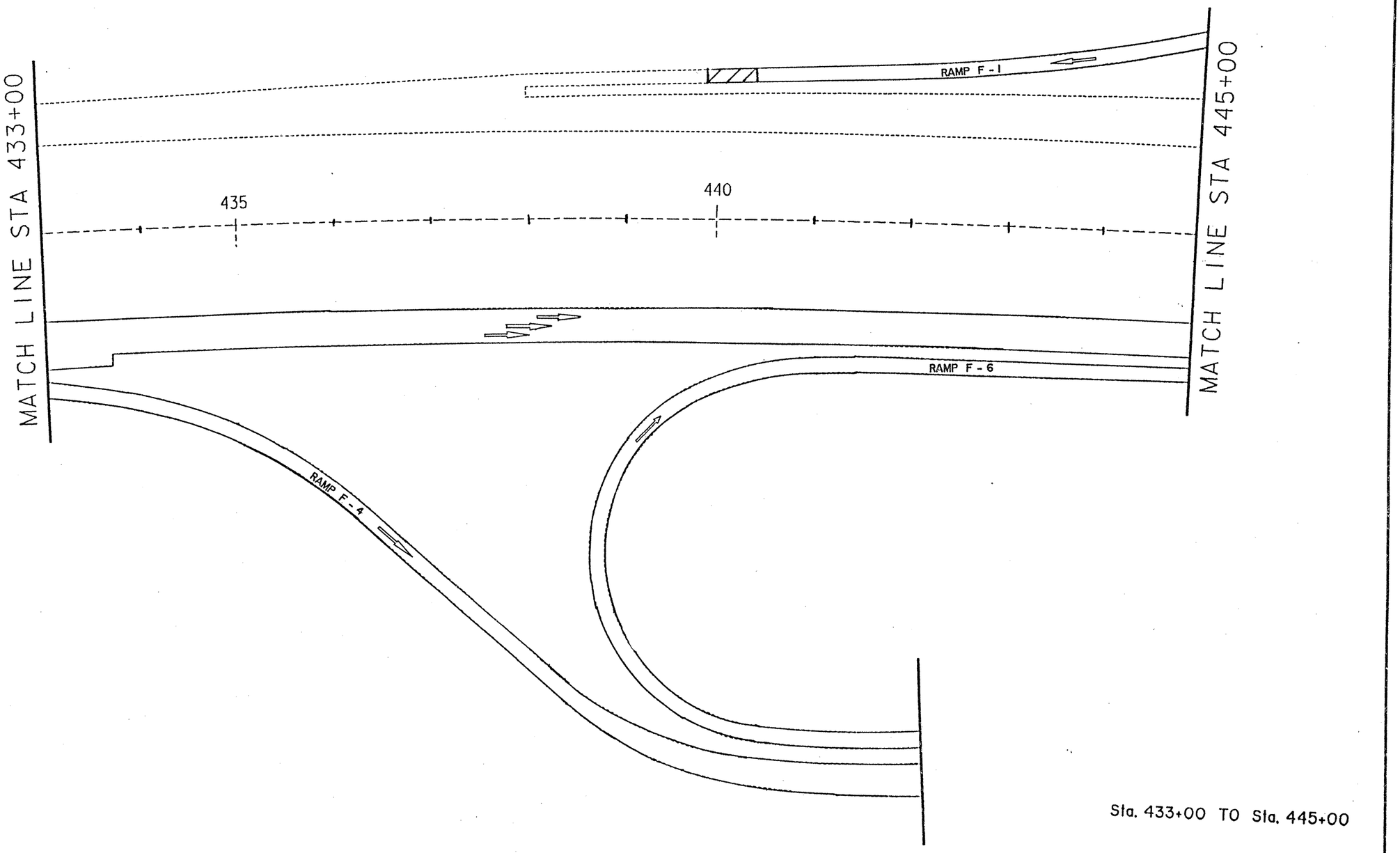
PLAN SHEET

PLAN NO. 395

CUYAHOGA COUNTY

CUY - 271 - 6.04

15
31



Sta. 433+00 TO Sta. 445+00

PLOTTED FROM: /usr2/od1m271/mad6.dgn

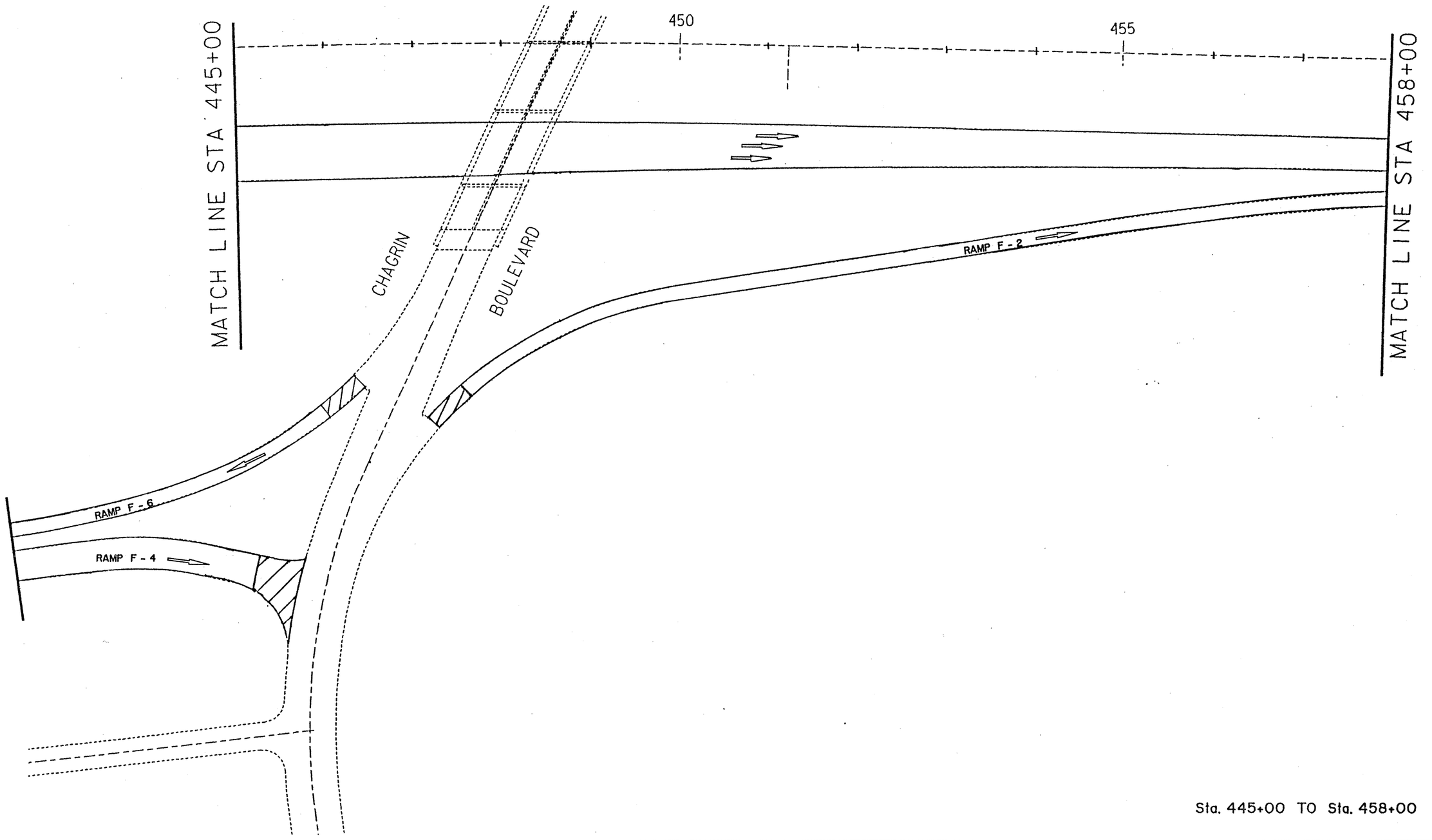
PLAN SHEET

PLAN NO. 395

CUYAHOGA COUNTY

CUY - 271 - 6.04

16
31



Sta. 445+00 TO Sta. 458+00

PLOTTED FROM: /usr2/odot271/map6.dgn filename.dgn

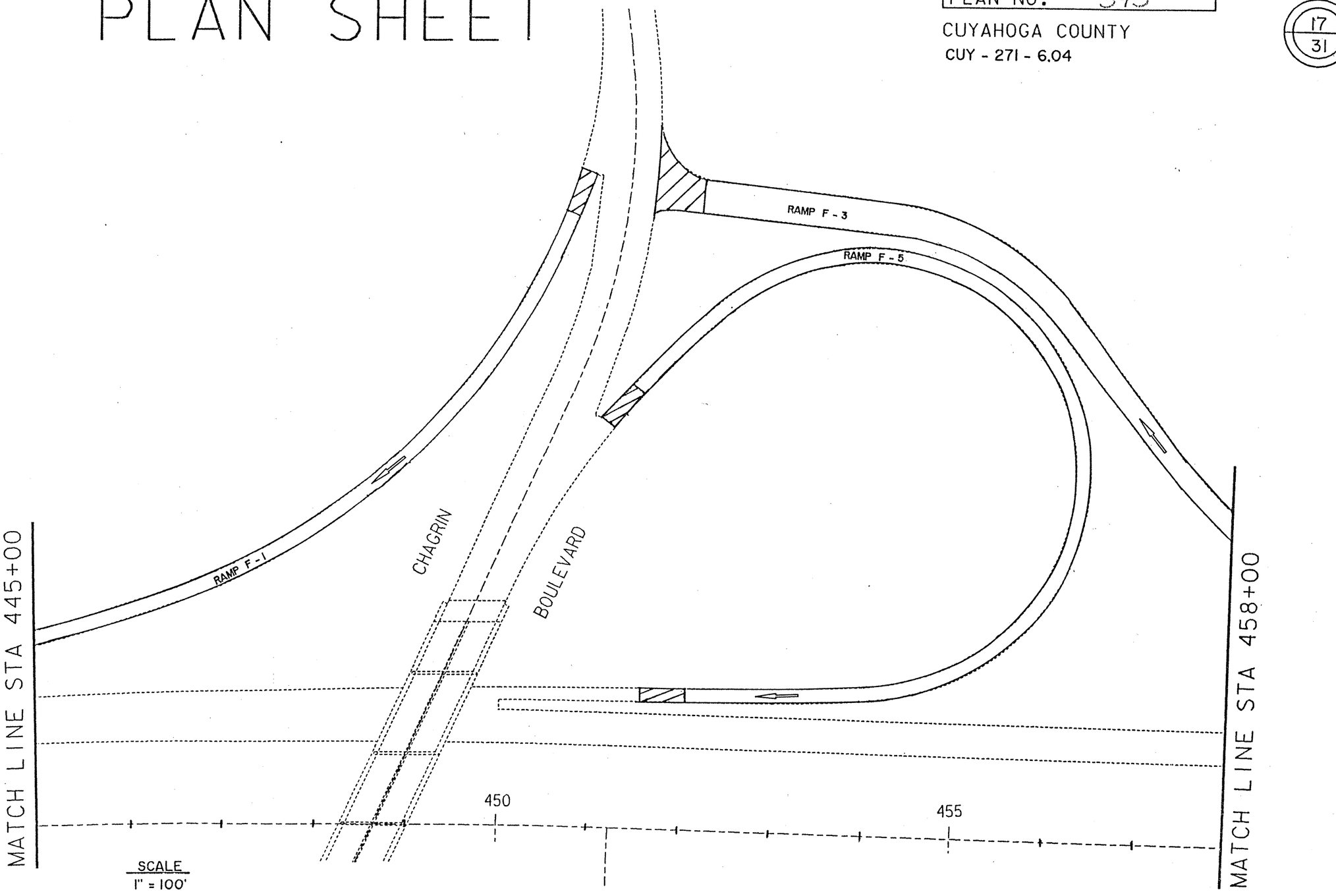
PLAN SHEET

PLAN NO. 395

CUYAHOGA COUNTY

CUY - 271 - 6.04

17
31



Sta. 445+00 TO Sta. 458+00.

PLOTTED FROM: /usr2/oo im211/mad6.dan

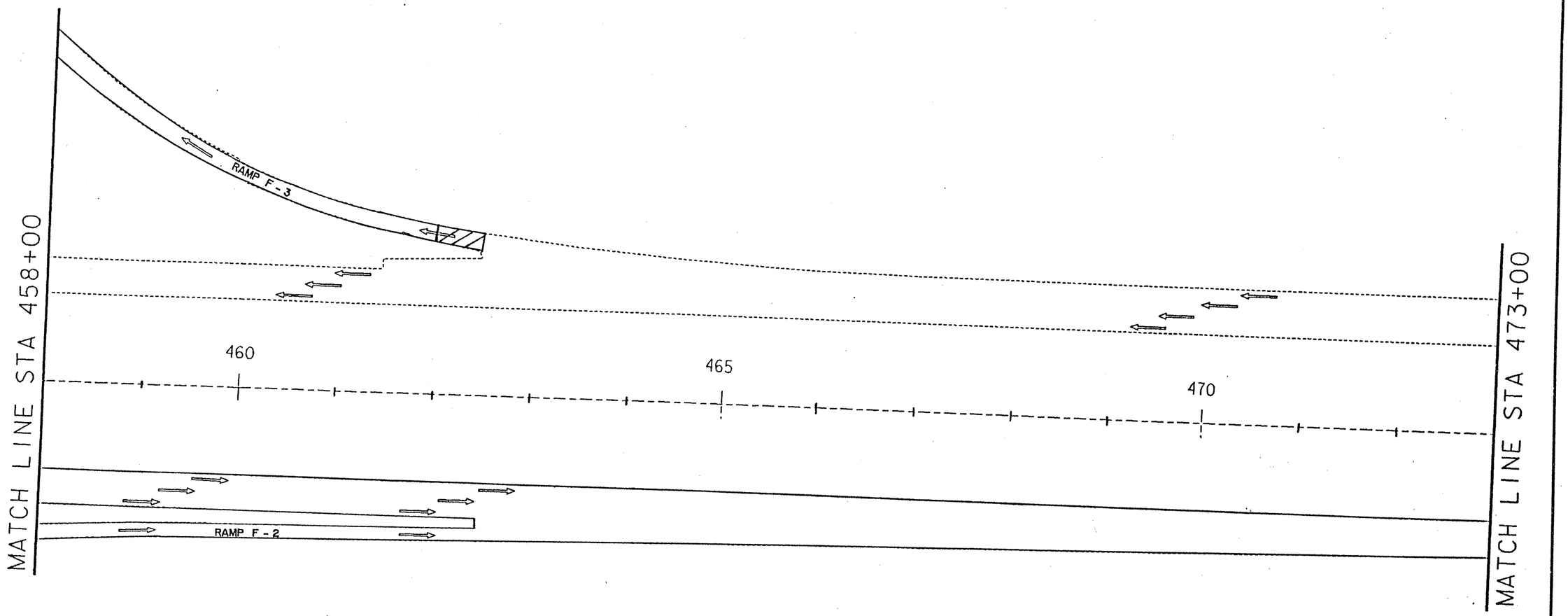
PLAN SHEET

PLAN NO. 395

CUYAHOGA COUNTY

CUY - 271 - 6.04

18
31



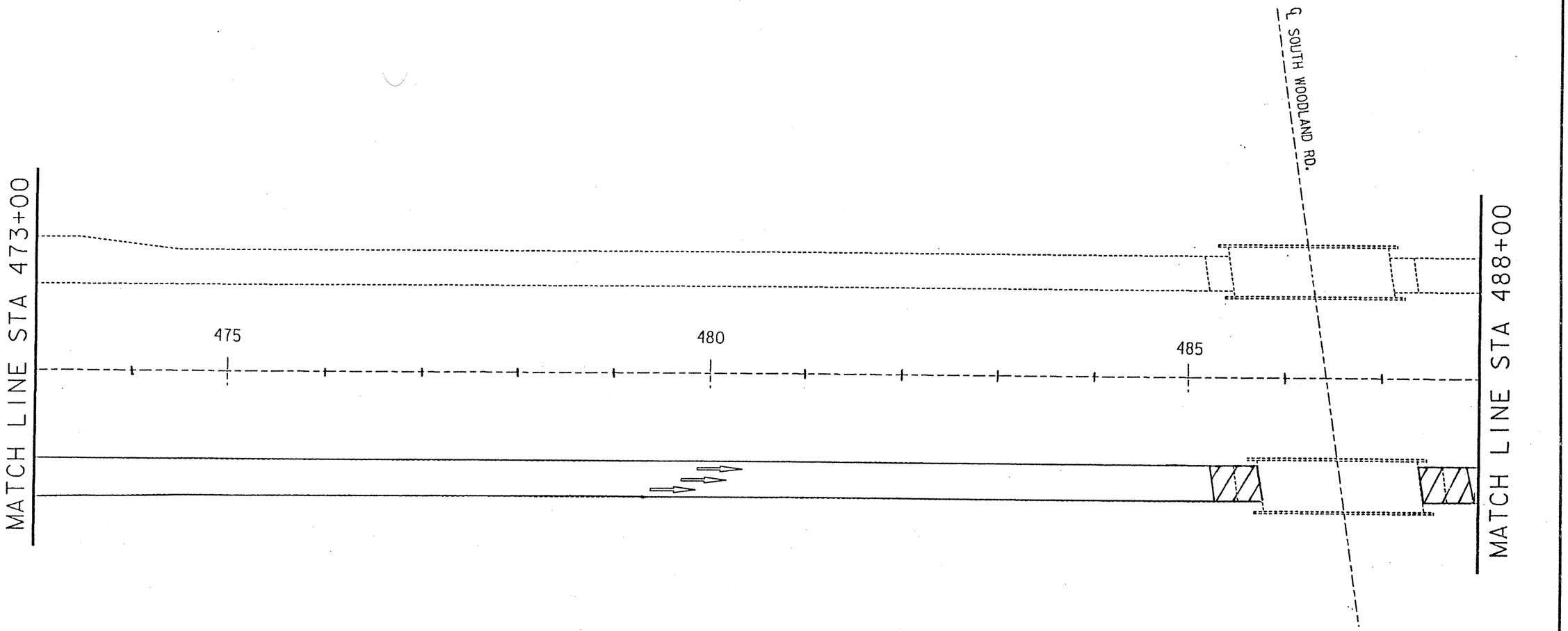
Sta. 458+00 TO Sta. 473+00

PLAN SHEET

PLAN NO. 395

CUYAHOGA COUNTY
CUY - 271 - 6.04

19
31



Sta. 473+00 TO Sta. 488+00

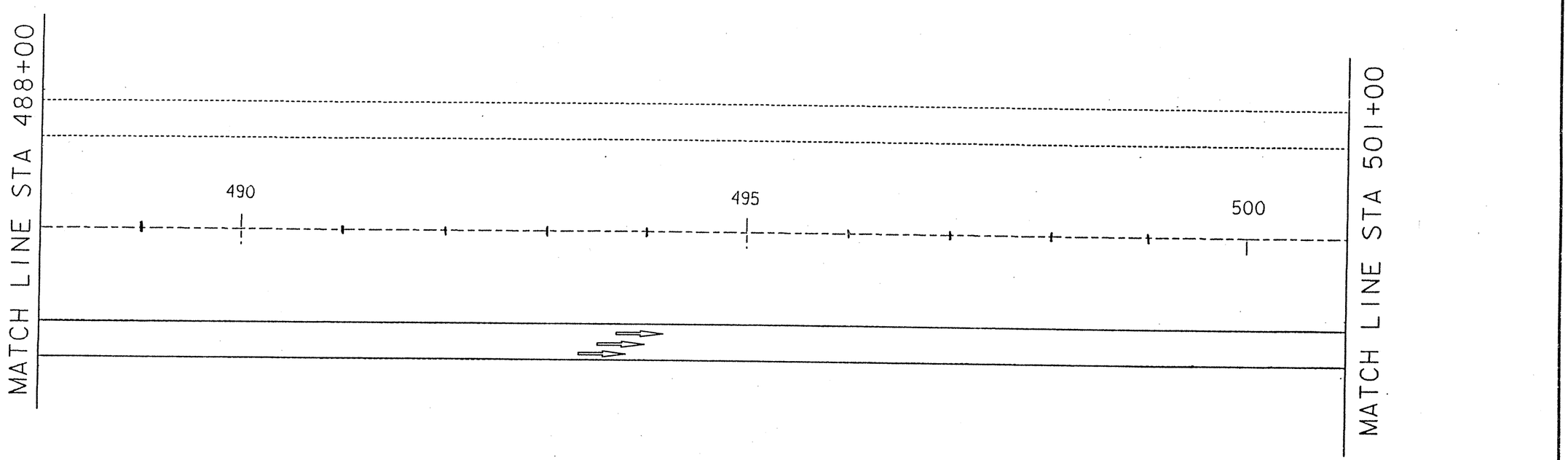
LOTTED FROM: /usr2/od1m271/map6.dgn
tilename.dgn

PLAN SHEET

PLAN NO. 395

CUYAHOGA COUNTY
CUY - 271 - 6.04

20
31



SCALE
1" = 100'

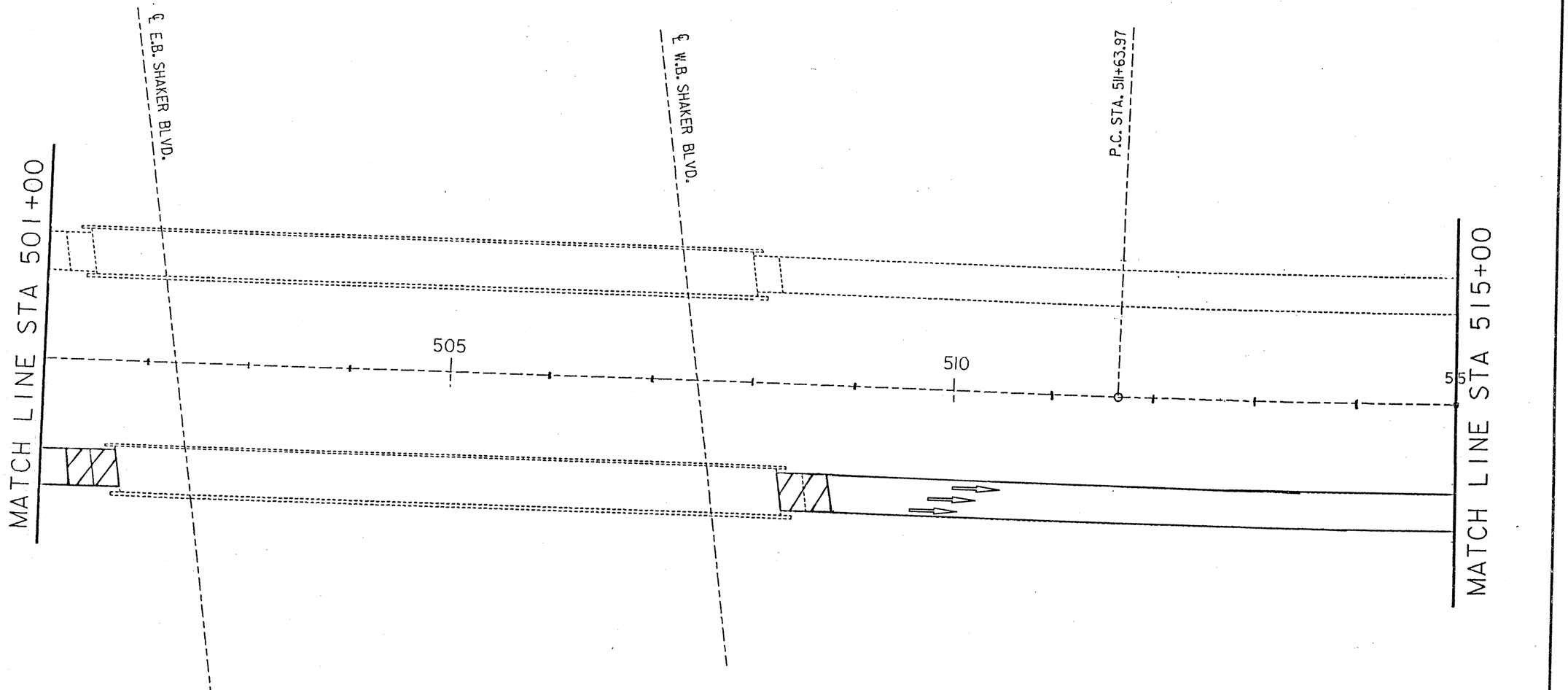
Sta. 488+00 TO Sta. 501+00.

PLAN SHEET

PLAN NO. 395

CUYAHOGA COUNTY
CUY - 271 - 6.04

21
31



Sta. 501+00 TO Sta. 515+00

PLOTTED FROM: /usr2/od lm271/map6.dgn

filename.dgn

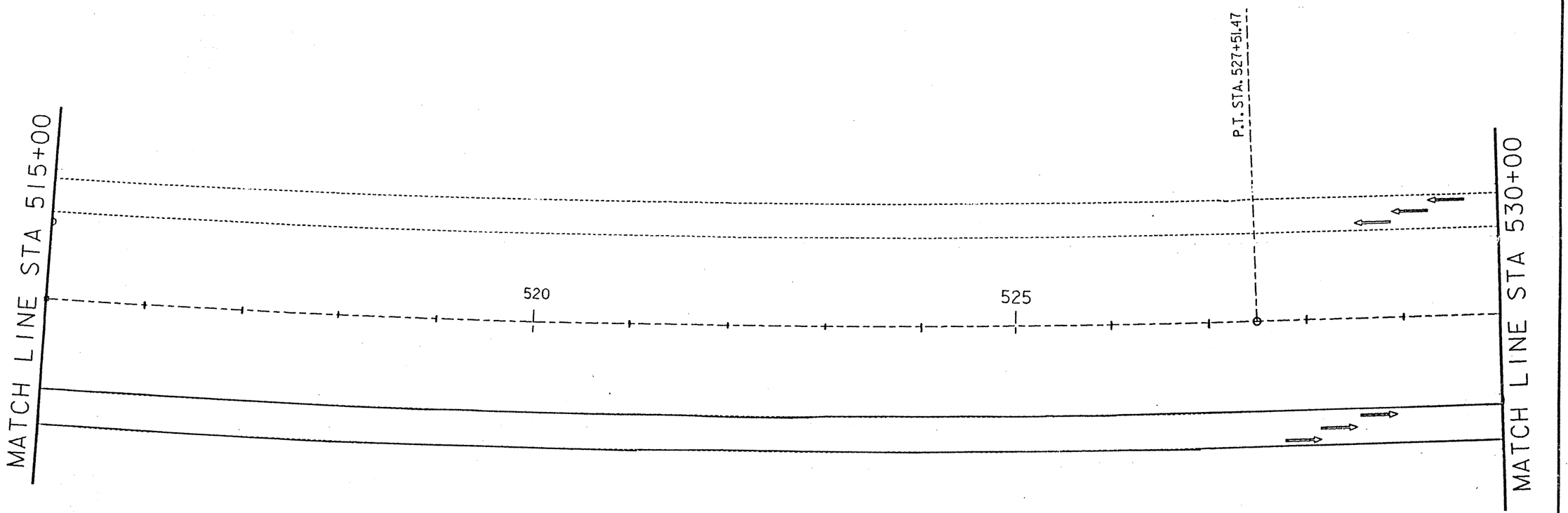
PLAN SHEET

PLAN NO. 395

CUYAHOGA COUNTY

CUY - 271 - 6.04

22
31



Sta. 515+00 TO Sta. 530+00

PLOTTED FROM: /usr2/od lm211/mapb.dgn

Filename.dgn

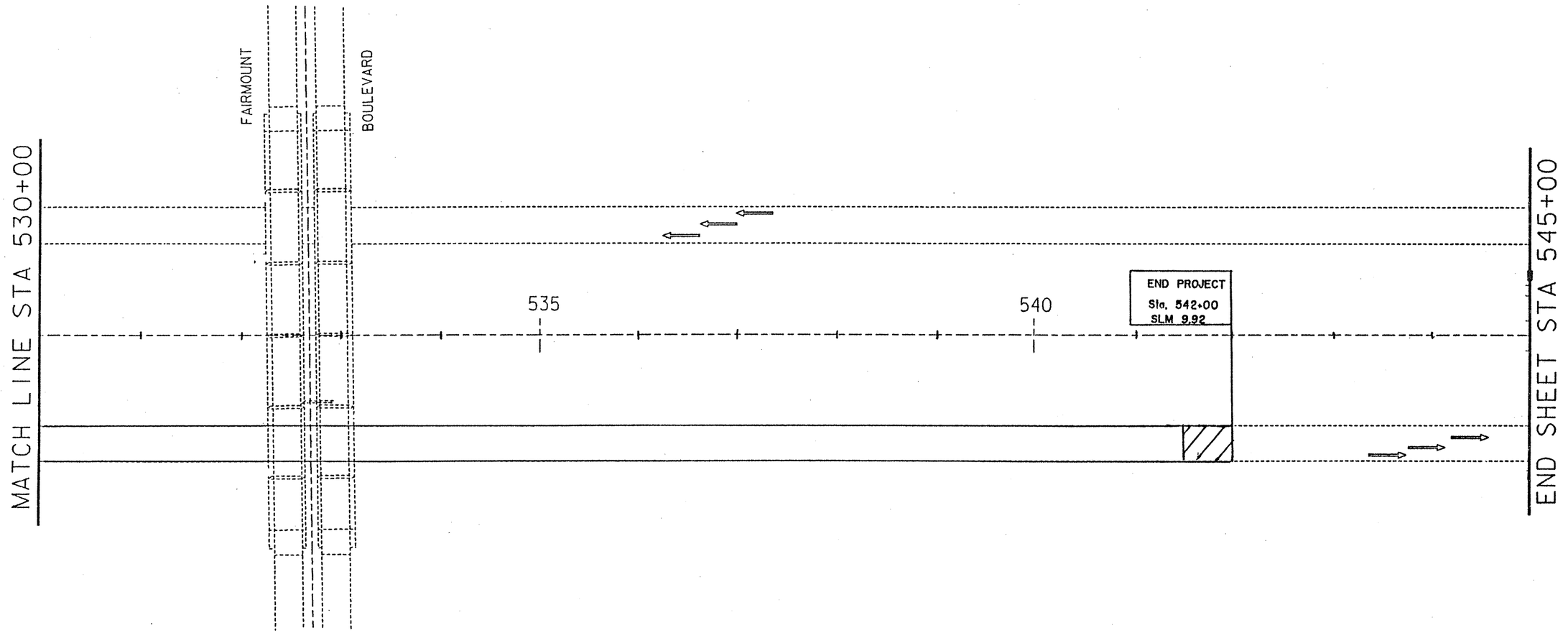
PLAN SHEET

PLAN NO. 395

CUYAHOGA COUNTY

CUY - 271 - 6.04

23
31



SCALE
1" = 100'

Sta. 530+00 TO Sta. 542+00

PAVEMENT MARKING DATA

PLAN NO. 395

24/31

CUY - 271 - 6.04

LOCATION	EDGE LINE (WHITE) LIN. FT.	EDGE LINE (YELLOW) LIN. FT.	4" LANE LINE LIN. FT.	8" CHANNEL LINE (WHITE) LIN. FT.	24" TRANSVERSE LINE (WHITE) LIN. FT.	LANE ARROWS EACH	WORD "ONLY" ON PVMT. EACH	24" STOP LINE LIN FT.
I-271 NB MAINLINE								
Sta. 337+00 TO Sta. 542+00	21275	20500	40959	1755	220			
I-271 N-B RAMPS								
G-2	1583	1583						
F-2	1560	1560						
F-4	1640	1380	491	448	0	6	2	70
F-6	1563	1563						
I-271 S-B RAMPS								
G-1	1030	659				1		38
F-1	1531	1531						
F-3	1540	1270	380	420	0	3	3	75
F-5	1470	1470						
RAMP TOTAL	11925	11015	871	868	0	10	5	183
GRAND TOTAL LIN. FT.	33200	31515	41830	2623	220	10	5	183
GRAND TOTAL MILES	6.29	5.97	7.92					

TEMPORARY PAVEMENT MARKING DATA

* QUANTITIES FOR TEMPORARY PAVEMENT MARKINGS HAVE BEEN TRIPLED

LOCATION	EDGE LINE (WHITE) LIN. FT.	EDGE LINE (YELLOW) LIN. FT.	4" LANE LINE LIN. FT.	8" CHANNEL LINE (WHITE) LIN. FT.	
I-271 NB AND NB & SB RAMPS	99600	94545	125490	7869	
TOTAL MILES	18.86	17.91	23.77		

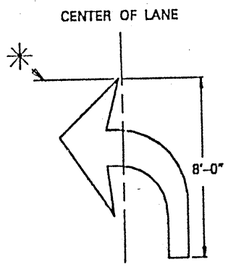
WORD AND SYMBOL MARKING DETAILS

FED RD DIVISION	STATE	PROJECT	
5	OHIO		

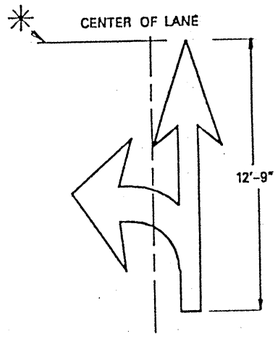
25/31

PLAN NO. 395

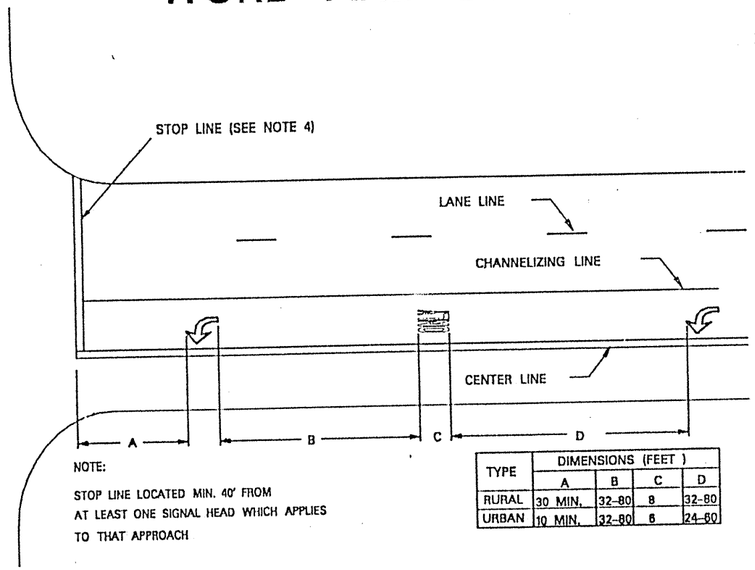
CUY - 271 - 6.04



TURN ARROW
(LEFT ARROW SHOWN
RIGHT ARROW OPPOSITE)

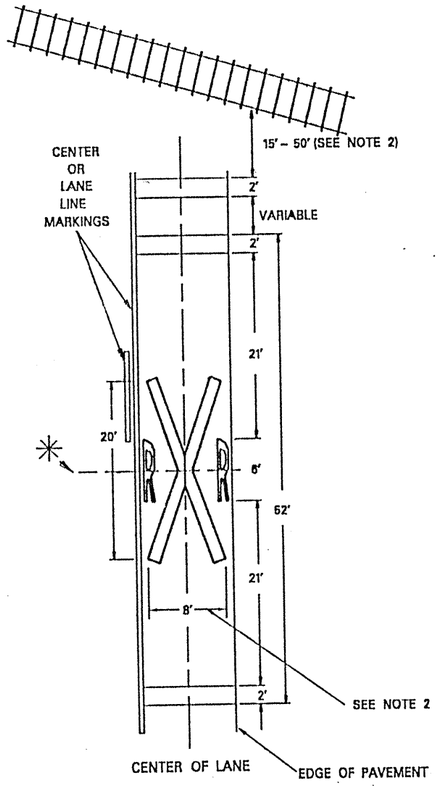


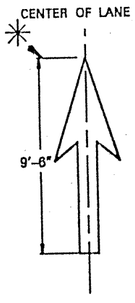
COMBINED ARROW
(THREE HEAD DIRECTIONAL ARROWS
CAN BE ACHIEVED BY THE COMBINATION
OF TURN ARROWS.)



NOTE:
STOP LINE LOCATED MIN. 40' FROM
AT LEAST ONE SIGNAL HEAD WHICH APPLIES
TO THAT APPROACH

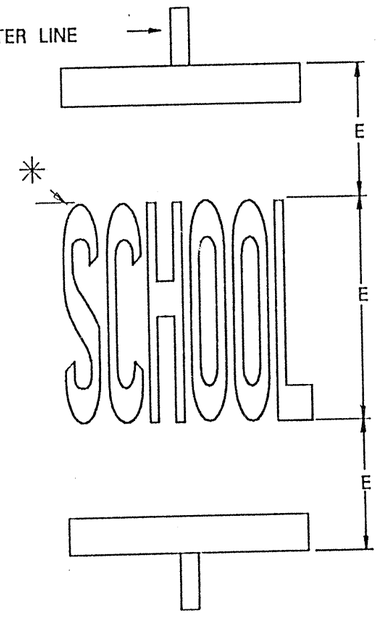
TYPE	DIMENSIONS (FEET)			
	A	B	C	D
RURAL	30 MIN.	32-80	8	32-80
URBAN	10 MIN.	32-80	6	24-60





THROUGH ARROW

LANE OR CENTER LINE



TYPE	INCHES
	E
RURAL	96
URBAN	72

CENTER OF LANE

NOTES:

1. ON MULTI-LANE APPROACHES, THE TRANSVERSE LINES USED WITH THE RAILROAD SYMBOLS SHALL EXTEND ACROSS ALL APPROACH LANES AND SYMBOLS SHALL BE PLACED IN EACH APPROACH LANE.

2. THE RAILROAD SYMBOL SHALL BE LOCATED SO THAT THE W-94, "RAILROAD ADVANCE WARNING SIGN", IS WITHIN THE TWO TRANSVERSE BOUNDRY LINES OF THE RAILROAD SYMBOL. THE STOP LINE SHALL BE LOCATED FOR BEST SIGHT DISTANCE WITHIN 15 FEET TO 50 FEET OF THE NEAR EDGE OF THE TRACKS. STOP LINES SHALL BE PERPENDICULAR TO THE CENTER LINE OF THE ROADWAY. WIDTH OF "X" MAY VARY ACCORDING TO LANE WIDTH.

3. ON MULTI-LANE APPROACHES, THE TRANSVERSE LINES USED WITH THE WORD "SCHOOL" SHALL EXTEND ACROSS ALL APPROACH LANES WITH A SINGLE WORD "SCHOOL" CENTERED ACROSS THE APPROACH LANES. ON TWO LANE ROADWAYS, THE TRANSVERSE LINES SHALL EXTEND ACROSS THE ROADWAY WITH THE WORD "SCHOOL" CENTERED ACROSS THE ROADWAY. CENTER OR LANE LINES SHALL NOT PASS THROUGH THE "SCHOOL" MARKING.

4. THE STOP LINE SHOULD BE PLACED WHERE CROSS-CORNER VISION IS MAXIMUM, IN NO CASE MORE THAN 30 FEET OR LESS THAN 4 FEET FROM THE NEAREST EDGE OF THE INTERSECTING ROADWAY. FOR NORMAL INTER-SECTIONS A MAXIMUM DISTANCE OF 10 FEET IS RECOMMENDED.

   IF A MARKED CROSSWALK IS PRESENT, THE STOP LINE SHOULD BE PLACED 4 FEET IN ADVANCE OF AND PARALLEL TO THE NEAREST CROSSWALK.

5. FOR TRAFFIC PAINT AND POLYESTER APPLICATION, TEMPLATE GAPS SHALL BE FILLED WITH MARKING MATERIAL IN ACCORDANCE WITH 641.03. FOR EXTRUDED THERMOPLASTIC MATERIAL, THESE GAPS MAY REMAIN UNFILLED IN ACCORDANCE WITH 644.03.

6. USE STANDARD DIMENSIONS CONFORMING TO REQUIREMENTS OF OMUTCD SECTION 3B-40 THROUGH 3B-43 INCLUSIVE. (THAT IS THE 1977 METRIC EDITION STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKING WITH ERRATA.)

✳ INDICATES STATION REFERENCE POINT

FHWA REGION	STATE	PROJECT	
5	OHIO		

26
31

PLAN NO. 395

CUY - 271 - 6.04

Standard Alphabet and Symbols for Highway Pavement Markings

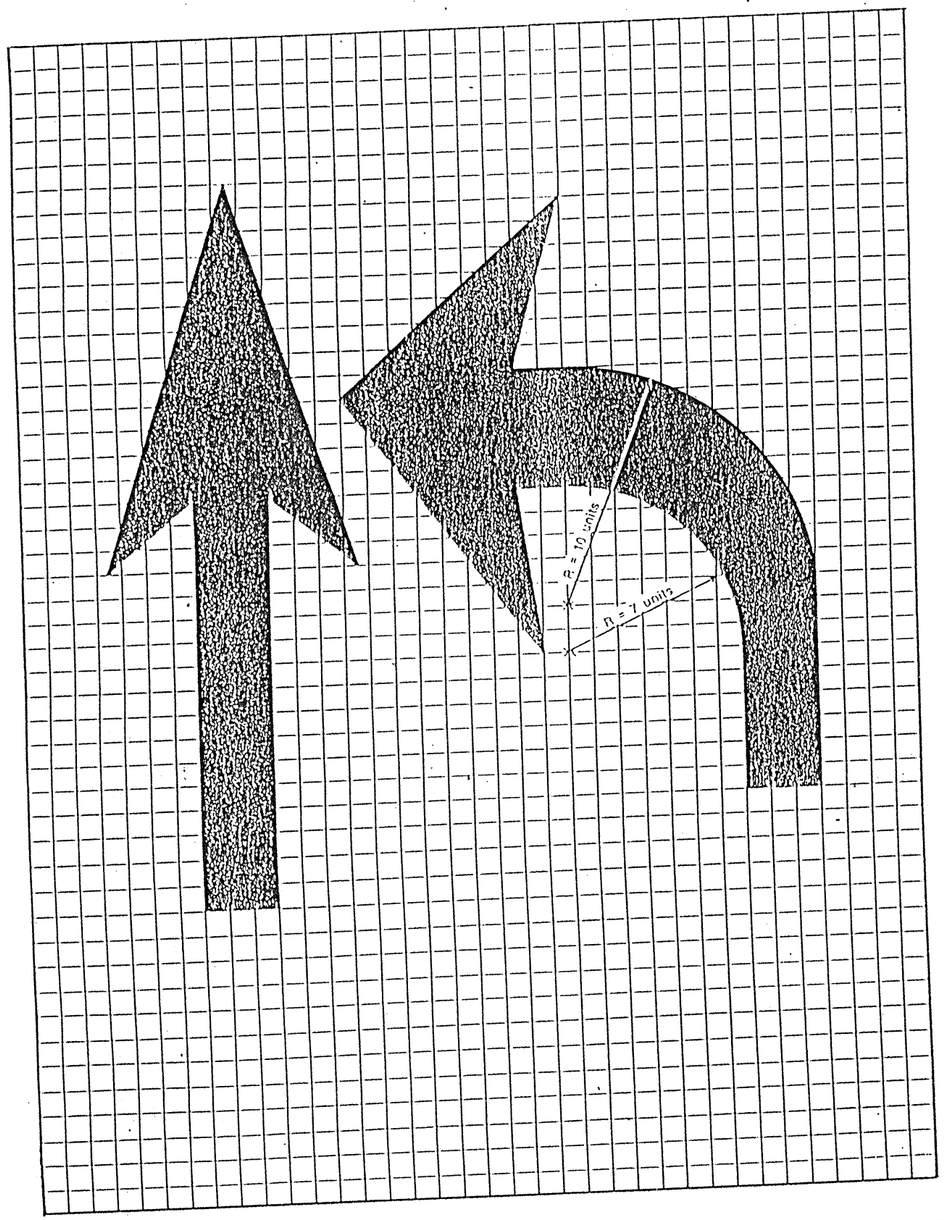
The Standard Pavement Marking Alphabet and Symbols was prepared by the Federal Highway Administration at the request of the National Advisory Committee on Uniform Traffic Control Devices.

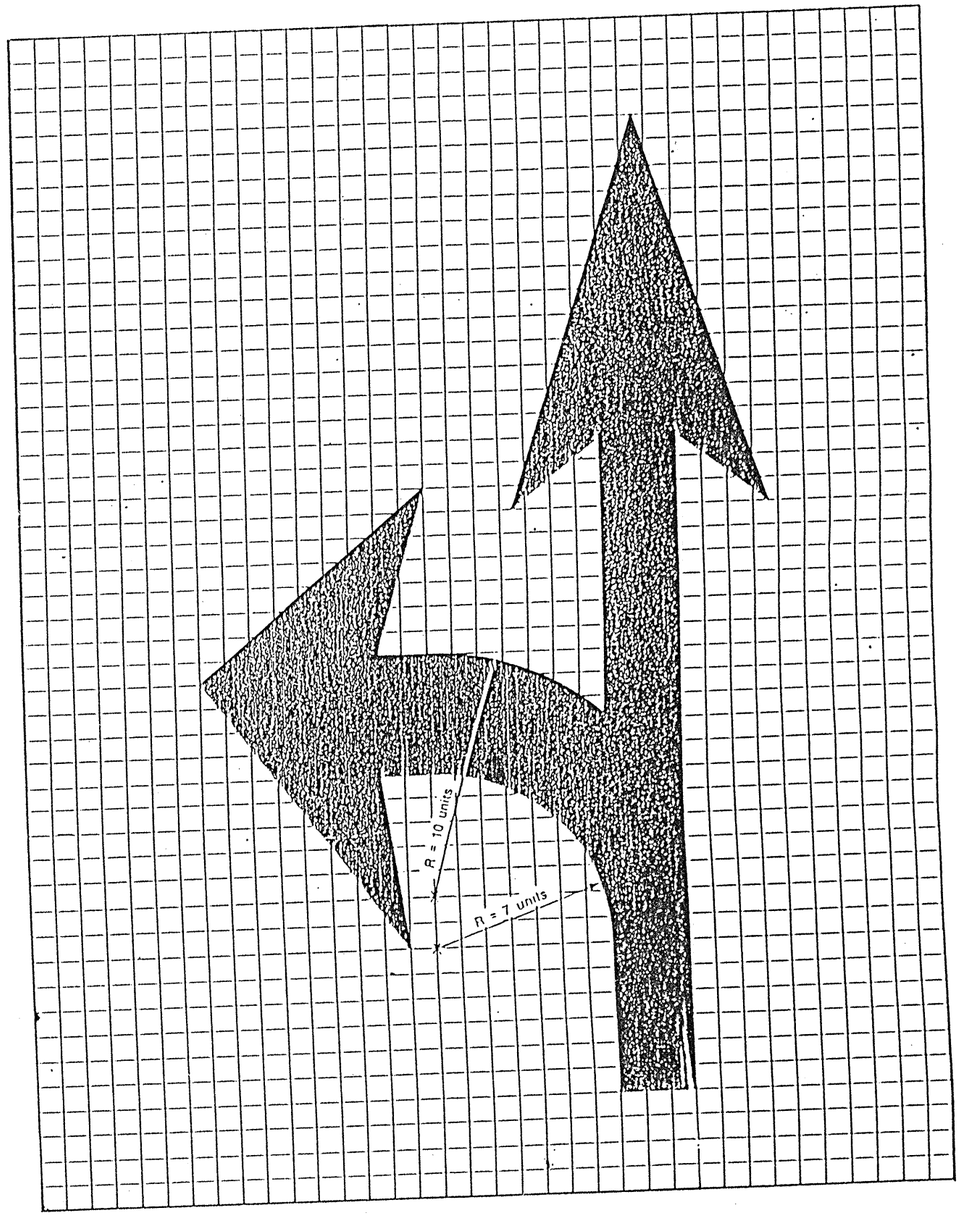
The design of the standard alphabet, numbers, and symbols for pavement marking is shown in exact detail on a 5mm grid to facilitate enlarging. The characters and symbols may be enlarged to the desired size by any conventional process and will remain in proper proportion. To obtain characters of any height, divide the desired height in millimeters by 25 and use this value for this side dimension of the grid unit. For example, characters 2.5 meters high will require a grid unit dimension of 100 millimeters. Similar means may be used to enlarge the symbols.

Standard characters are 25 grid units high and 4 units wide. Horizontal strokes are 4 units wide and vertical strokes are 1 unit wide. The space between characters should be 1 unit, but optical spacing may be used. All characters having an arc at the top or bottom are extended slightly above or below the grid lines. An indentical set of curves is used for "B", "D", and similar characters. Another identical set of curves is used for "C", "G", "2" etc.

PLAN NO.: 395

CUY - 271 - 6.04





RPM REMOVAL AND REPLACEMENT SUB-SUMMARY

FED RD DIVISION	STATE	PROJECT	
5	OHIO		

PLAN NO. 395

CUY - 271 - 6.04

202 RPM REMOVED FOR STORAGE, AS PER PLAN

LOCATION				RPM REMOVED	REMARKS
COUNTY	ROUTE	S L M SECTION FROM	S L M SECTION TO		
CUY	I-271	6.04	9.92	510	MAINLINE PAVEMENT
CUY	I-271	6.04	9.92	281	RAMPS: G-1, G-2, F-1, F-2, F-3, F-4, F-5, F-6

DETAIL	DESCRIPTION
1	TYPICAL SPACING
2	TAPERED ACCELERATION LANE
3	DECELERATION LANE
4	PARALLEL ACCELERATION LANE
5	MULTILANE DIVIDED/EXPRESSWAY
6	STOP APPROACH
7	ONE LANE APPROACH W/LT TURN LANE
8	THRU APPROACH
9	TWO LANE APPROACH W/LT TURN LANE
10	4 LANE DIVIDED TO 2 LANE TRANSITION
11	4 LANE UNDIVIDED TO 2 LANE TRANSITION
12	TWO LANE NARROW BRIDGE
13	TWO WAY LEFT TURN
14	ONE LANE BRIDGE
15	HORIZONTAL CURVE
16	HORIZONTAL CURVE ALTERNATE
17	STOP APPROACH ALTERNATE
GAP	CENTERLINE AT 80 FT. TYPICAL

RPM REPLACEMENT

SUPLEMENTAL SPECIFICATION		STANDARD CONSTRUCTION DWG	
862	12-16-88	TC65.10 2-1-90	TC65.12 2-1-90
962	1-23-90	TC65.11 2-1-90	TC65.13 2-1-90

LOCATION				DETAIL	RPM	PRISMATIC RETRO-REFLECTOR COLORS					REMARKS
						ONE-WAY		TWO-WAY			
COUNTY	ROUTE	S L M SECTION FROM	S L M SECTION TO			WHITE	YELLOW	WHITE/ WHITE	YELLOW/ YELLOW	WHITE/ RED	
CUY	I-271	6.04	9.92	5	510	450				60	
CUY	I-271	RAMPS									
		G-1		3	35	33	2				
		G-2		2	26	19	7				
		F-1		2	44	34	10				
		F-2		2	32	23	9				
		F-3		3	31	29	2				
		F-4		3	31	29	2				
		F-5		2	40	35	5				
		F-6		2	42	28	14				
TOTALS					791	680	51			60	

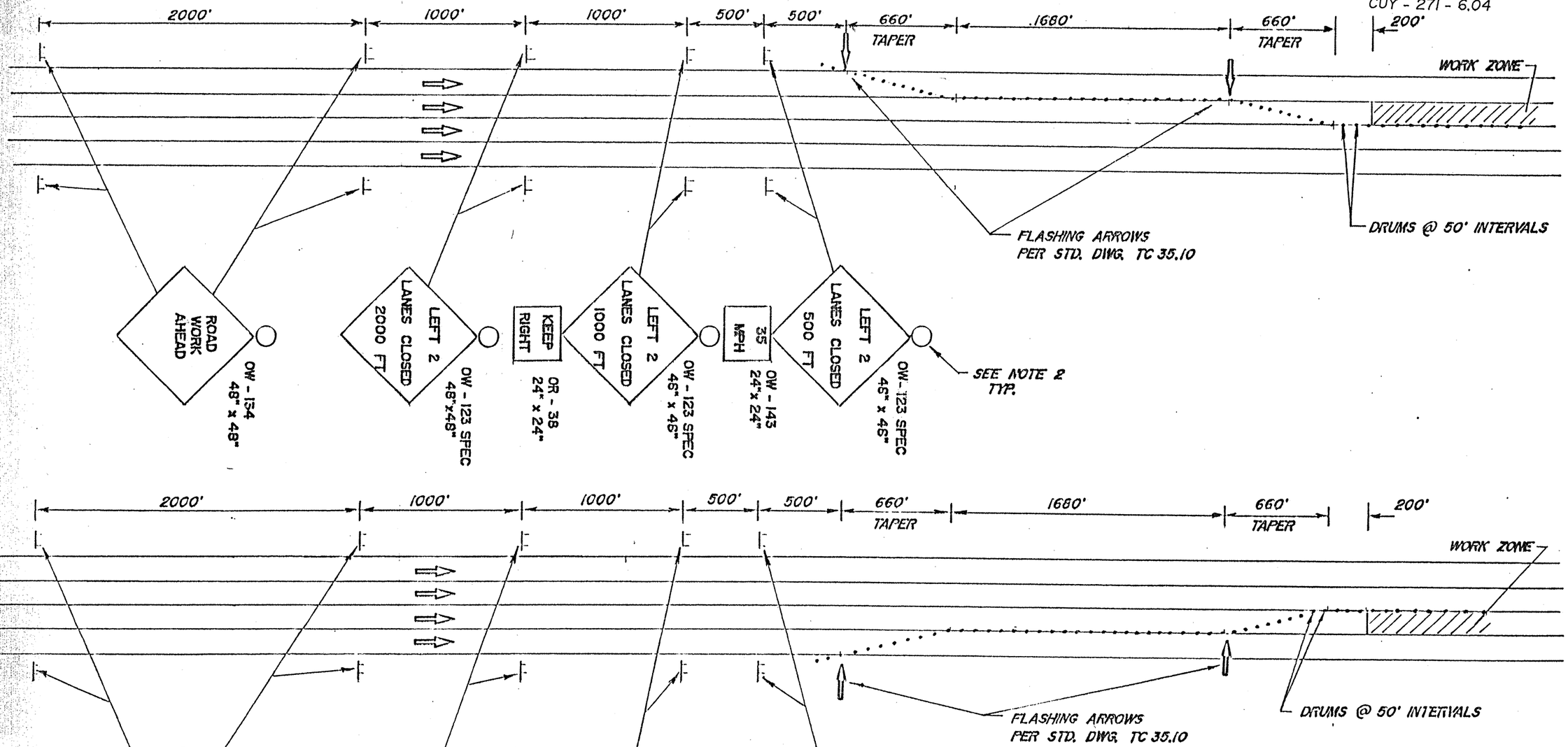
NOTE TO INSPECTOR: PLEASE REVISE AND SEND "AS BUILT" TO DISTRICT TRAFFIC

TRAFFIC CONTROL DETAIL

PLAN NO. 395

29/31

CUY - 271 - 6.04



NOTES

1. THE CONTRACTOR MAY, WITH THE PERMISSION OF THE ENGINEER, SUBSTITUTE 36" x 36" SIGNS WHERE NARROW LEFT BERMS WILL NOT PERMIT THE USE OF 48" x 48" SIGNS.
2. A TYPE "A" WARNING LIGHT SHALL BE INSTALLED ON EACH SIGN
3. EXTRA ADVANCE WARNING SIGNS MAY BE REQUIRED AS DIRECTED BY THE ENGINEER. SEE NOTE 15 OF STANDARD DRAWING MT-95.30.

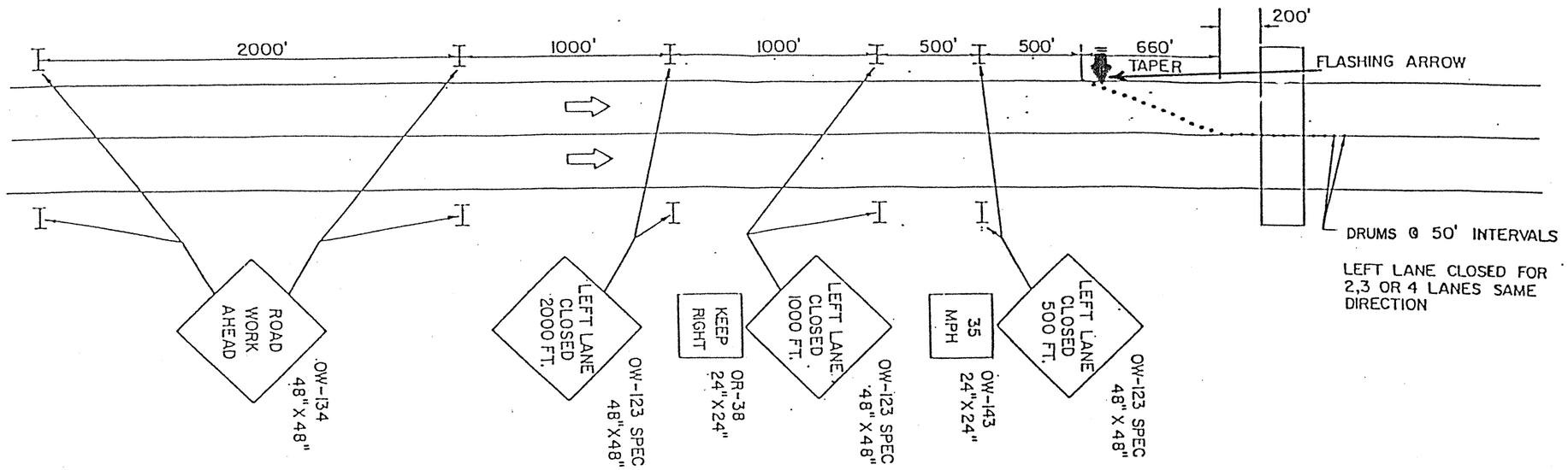
CLOSING TWO LANES OF A MULTILANE DIVIDED HIGHWAY WITH DRUMS

TRAFFIC CONTROL DETAILS

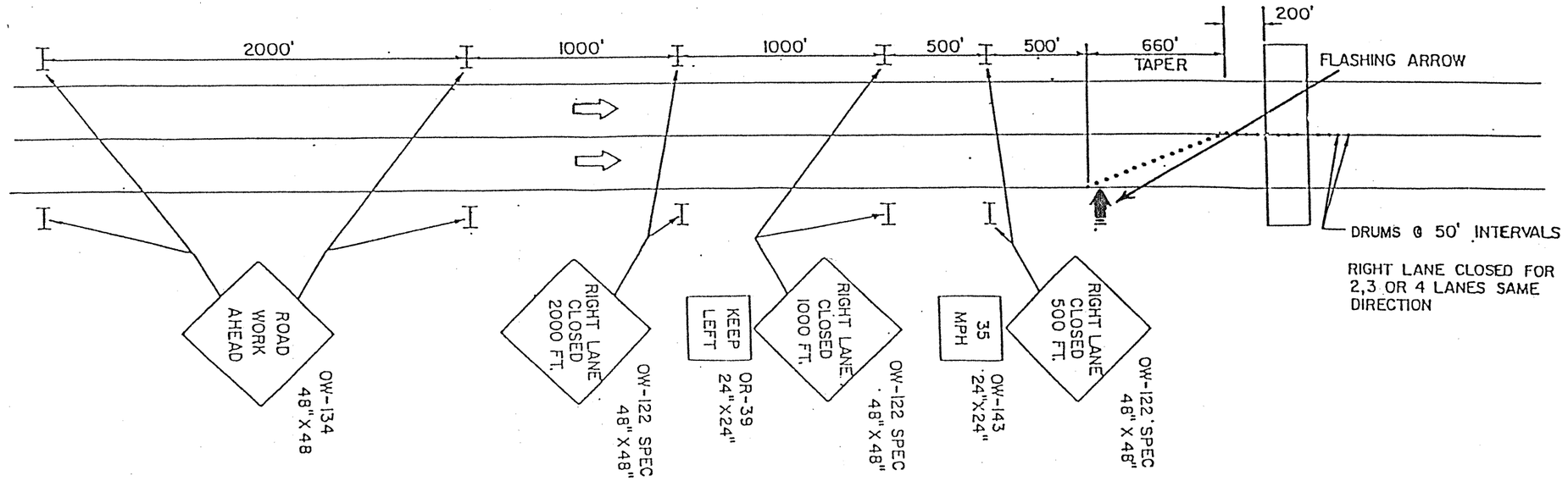
PLAN NO. 395

CUY - 271 - 6.04

30/31



LEFT LANE CLOSED FOR 2,3 OR 4 LANES SAME DIRECTION



RIGHT LANE CLOSED FOR 2,3 OR 4 LANES SAME DIRECTION

CLOSING ONE LANE ON A MULTILANE DIVIDED HIGHWAY WITH DRUMS

M & R

GENERAL SUMMARY

PLAN NO. 395
CUY - 271 - 0604

ITEM		PART 1				ITEM	ITEM EXTENSION	GRAND TOTAL	UNIT	DESCRIPTION
202		5057				202	23500	5057	SQ. YD.	WEARING COURSE REMOVED
202		791				202	54100	791	EACH	RAISED PAVEMENT MARKERS REMOVED FOR STORAGE, as per plan
251		4683				251	01000	4683	SQ. YD.	PARTIAL DEPTH PAVEMENT REPAIR
SPECIAL		104856				SPECIAL	40465000	104856	SQ. YD.	ASPHALT CONCRETE PAVEMENT SURFACE HEATER RECYCLING
SPECIAL		10487				SPECIAL	40466000	10487	GALLON	ASPHALT REJUVENATING AGENT
404		50				404	35000	50	CU. YD.	BITUMINOUS CONCRETE FOR MAINTAINING TRAFFIC
407		4700				407	10000	4700	GALLON	TACK COAT
446		5509				446	01400	5509	CU. YD.	ASPHALT CONCRETE, SURFACE COURSE, TYPE I, AC-20
614		36.77				614	22100	36.77	MILE	TEMPORARY EDGE LINE, CLASS I, 642 PAINT
614		23.77				614	20100	23.77	MILE	TEMPORARY LANE LINE, CLASS II, 642 PAINT
614		7869				614	23200	7869	LIN. FT.	TEMPORARY CHANNELIZING LINE, CLASS I, 642 PAINT
614		LUMP				614	11000	LUMP	LUMP	MAINTAINING TRAFFIC
SPECIAL		120				SPECIAL	61411100	120	HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR
617		475				617	10100	475	CU. YD.	COMPACTED AGGREGATE, TYPE A
624		LUMP				624	10000	LUMP	LUMP	MOBILIZATION
644		76712				644	30000	76712	LIN. FT.	REMOVAL OF PAVEMENT MARKINGS
644		12.26				644	00100	12.26	MILE	EDGE LINE
644		7.92				644	00200	7.92	MILE	LANE LINE
644		2623				644	00400	2623	LIN. FT.	CHANNELIZING LINE
644		220				644	00700	220	LIN. FT.	TRANSVERSE LINE
645		183				645	00500	183	LIN. FT.	STOP LINE, TYPE A
645		10				645	01300	10	EACH	LANE ARROW, TYPE A
645		5				645	01410	5	EACH	WORD "ONLY" ON PAVEMENT, 72 - in., TYPE A
825		5800				825	00100	5800	POUND	CRACK SEALING, TYPE 1
862		791				862	00100	791	EACH	RAISED PAVEMENT MARKER