

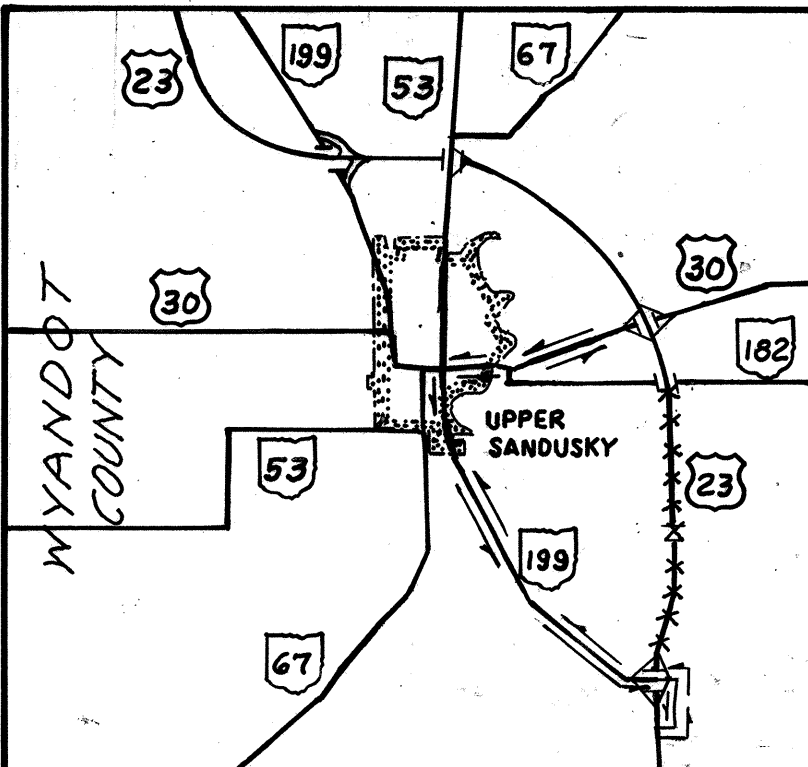
STATE OF OHIO DEPARTMENT OF TRANSPORTATION

FR-22(36)

OHIO	1
FHWA REGION 5	81
FEDERAL PROJECT	

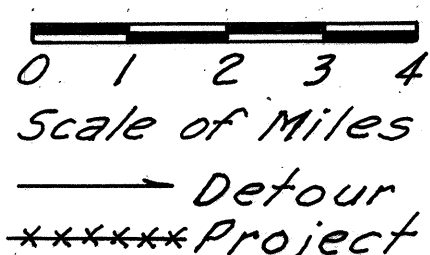
WYA-23-0.20
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WYANDOT COUNTY
WYA-23-0.20

WYA-23-0.20 ANTRIM, PITT & CRANE TOWNSHIPS WYANDOT COUNTY



MICROFILMED
OCT 25 1990

DETOUR MAP



CONVENTIONAL SIGNS

County Line _____ Township Line _____ Section Line _____ Corporation Line _____ Fence Line (existing) -x-x- (proposed) -x-x- Center Line _____ Trees (to be removed) Utility Poles: Telephone ϕ , Power ϕ , Light ϕ .	Limited Access (only) _____ LA _____ Right of Way (only) _____ RW _____ Limited Access & Right of Way _____ LA & RW _____ Existing Right of Way _____ Property Line _____ (in existing fence) -x-x- Railroad _____ Guardrail (existing) _____ (proposed) _____
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INDEX OF SHEETS

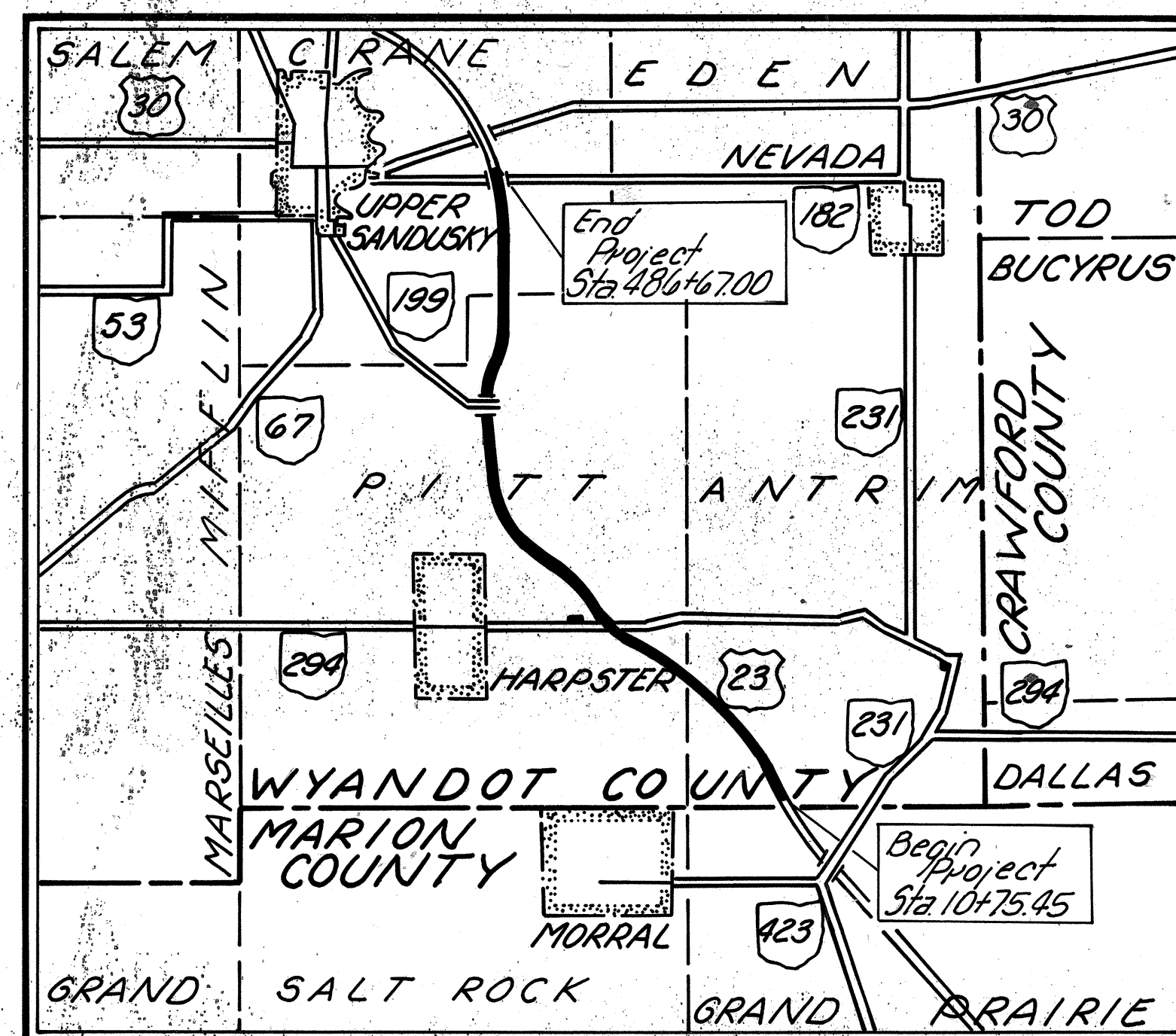
Title Sheet Schematic Plan & Design Designation Typical Sections General Notes Pavement Tables Pavement Computations Pavement Repair, Curb Removal Computations, Shoulder Replacement & Misc. Computations Miscellaneous Details General Summary Summary of Plan Sheet Quantities Plan Sheets Cross Sections Bridge Overlay Sheets Pavement Marking Traffic Control Details	1 2 3-6 7-8 9-10 11-15 16-17 17-27 28-29 30 31-57 58-65 66-70 71-75 & 72A 76-81
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LINE DATA

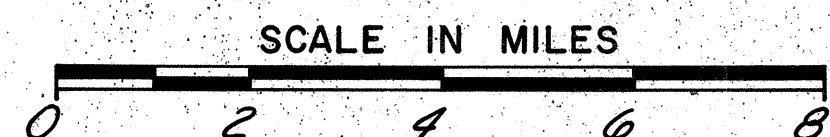
Begin Project Sta. 10+75.45
 End Project Sta. 486+67.00
 (Sta. 323+27.93 Bk = Sta. 265+18.48 Ahd.)
 Add for Station Equation = +5809.45 Lin.Ft.
 Total length of Project 53401.00 Lin.Ft. = 10.114 Miles

 Begin Work Sta. 1061+50
 End Work Sta. 527+28.18
 (Sta. 1063+00 Bk = Sta. 10+75.45 Ahd.)
 (Sta. 323+27.93 Bk = Sta. 265+18.48 Ahd.)
 Add for Station Equation = +5809.45 Lin.Ft.
 Total length of Work 57612.18 Lin.Ft. = 10.911 Miles

UNDERGROUND UTILITIES
 48 HOURS
BEFORE YOU DIG
 Call 800-362-2764 (Toll free)
 OHIO UTILITIES PROTECTION SERVICE
 NON-MEMBERS
 MUST BE CALLED DIRECTLY

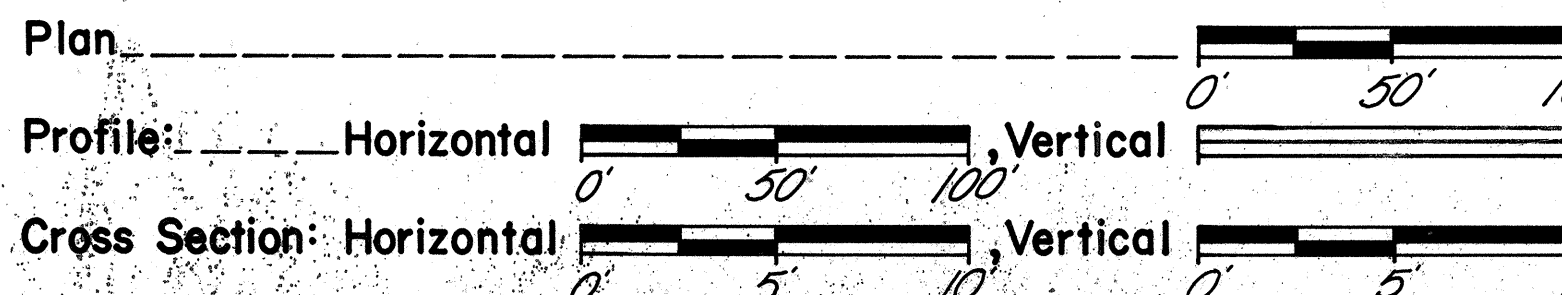


LOCATION MAP



Portion to be improved _____
 State & Federal Routes _____
 Other Roads _____

SCALES



SUPPLEMENTAL SPECIFICATIONS			
803	5-27-83		
845	1-13-84	921	12-4-72
848	2-17-83		
933	8-21-80		
953	8-21-80		
847	10-17-83		
939	6-28-82		
947	10-17-83		

SUPPLEMENTAL PRINTS OF STANDARD CONSTRUCTION DRAWINGS			
BP-5	7-16-81	GR-6A	2-5-82
BP-11	4-3-75	MC-3	6-1-73
CB-5	5-1-79	MC-4	7-26-76
CB-8	5-1-79		
GR-1	2-5-82	OBR-273	4-10-73
GR-2B	2-5-82	TC-35.10	10-5-77
GR-3	2-5-82	TC-61.10	4-5-82
GR-3A	2-5-82	TC-72.20	2-26-82
GR-3B	2-5-82		
GR-4	2-5-82	F-2	5-1-76
GR-4A	2-5-82	F-5	5-1-76
		F-6	5-1-76
GR-6	2-5-82		

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 in accordance with the provisions of Section 5311.02 of the Revised Code of Ohio.

1983 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, except as noted on Sheet 8, and that provisions for the maintenance and safety of traffic will be as set forth on the plans and estimates.

MICROFILM
AUG 25 1986

Approved: James L. Schmeck
 Date: 12-1-83 District Deputy Director of Transportation

Approved: Robert B. Pfeiffer
 Date: 1-17-84 Engineer, Bureau of Bridges and Structural Design

Approved: Wayne H. Kauble
 Date: 2-28-84 Chief Engineer, Planning & Design

Approved: Walter J. Smith
 Date: 2-28-84 Director, Department of Transportation

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED: _____
 DIVISION ADMINISTRATOR DATE

Project: WYA-23-0.20
 Date of Letting: _____ 19____, Contract No. _____
 LD0300 Rev. 1-1-81

Plan Prepared By:
 DISTRICT NO. 1
 OHIO DEPARTMENT
 OF TRANSPORTATION

SEAL

SCHEMATIC PLAN

WYA-23-0.20

SCALE: 0' 800' 1600' 2400'

FHWA REGION	STATE	PROJECT
5	OHIO	

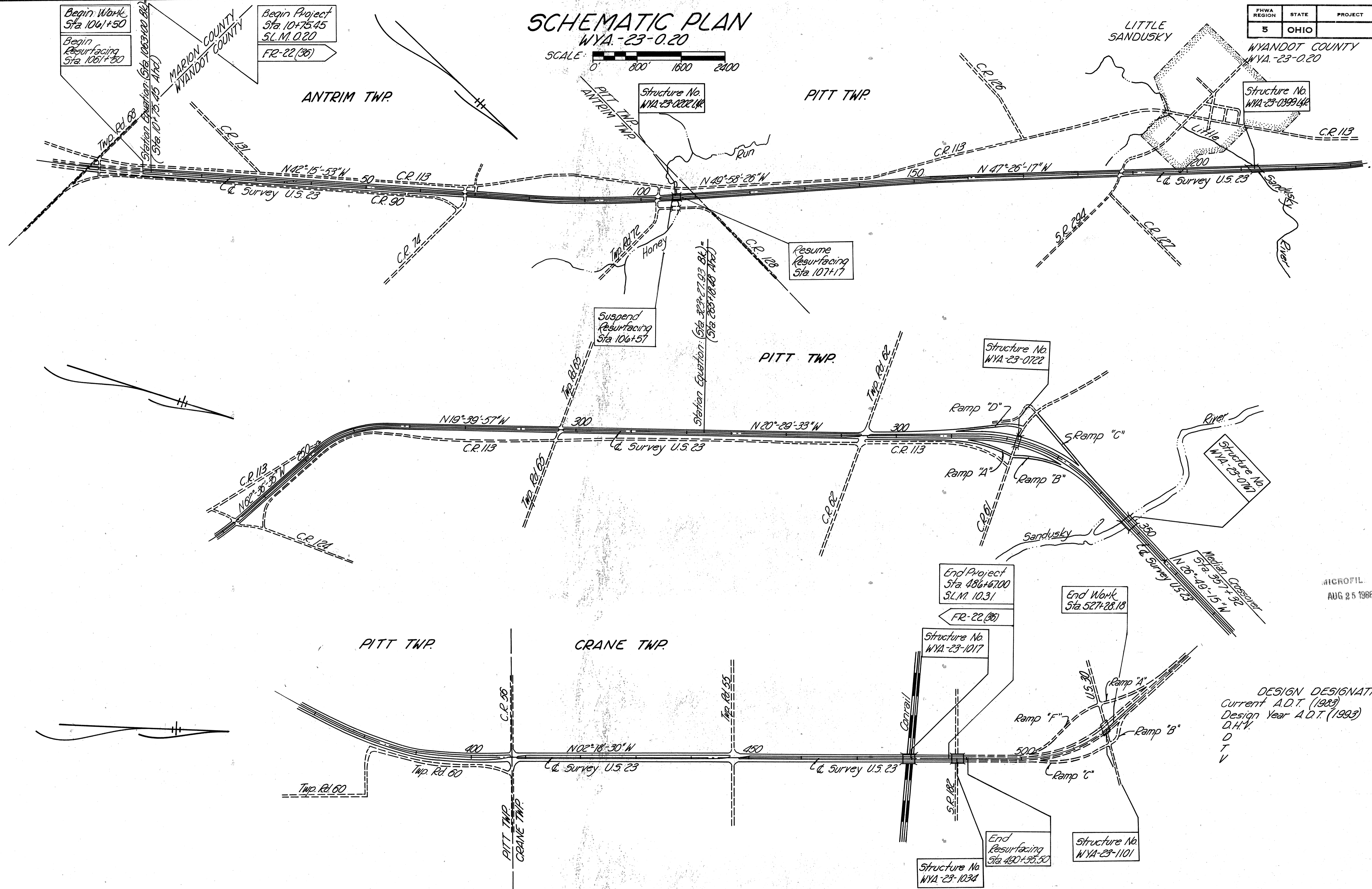
2/81

Begin Work
Sta. 106+150

Begin Resurfacing
Sta. 106+50

Begin Project
Sta. 10+75.45
S.L.M. 0.20

FR-22 (36)



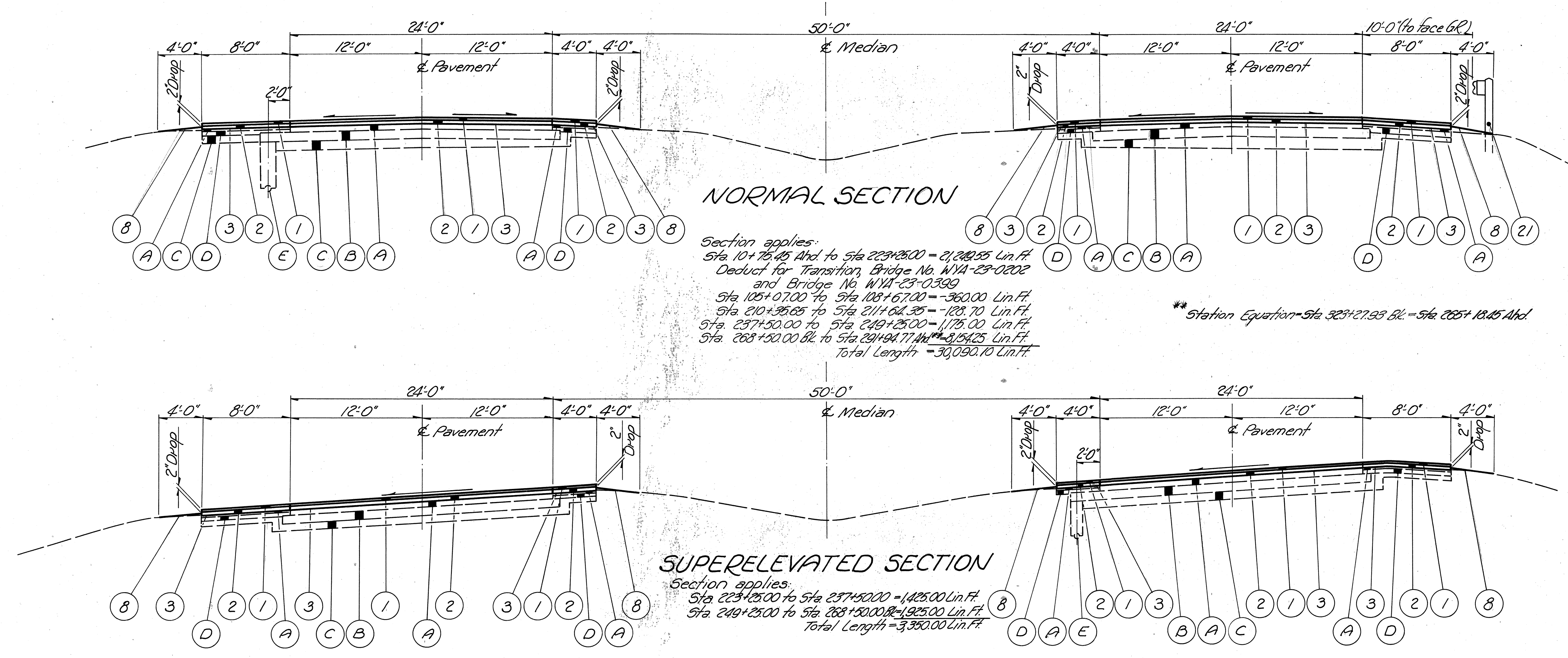
MICROFIL
AUG 25 1986

DESIGN DESIGNATION

Current A.D.T. (1983)	= 8721
Design Year A.D.T. (1993)	= 13,076
D.H.V.	= 1308
D	= 60%
T	= 15%
V	= 70 mph.

TYPICAL SECTIONS

TYPE 848



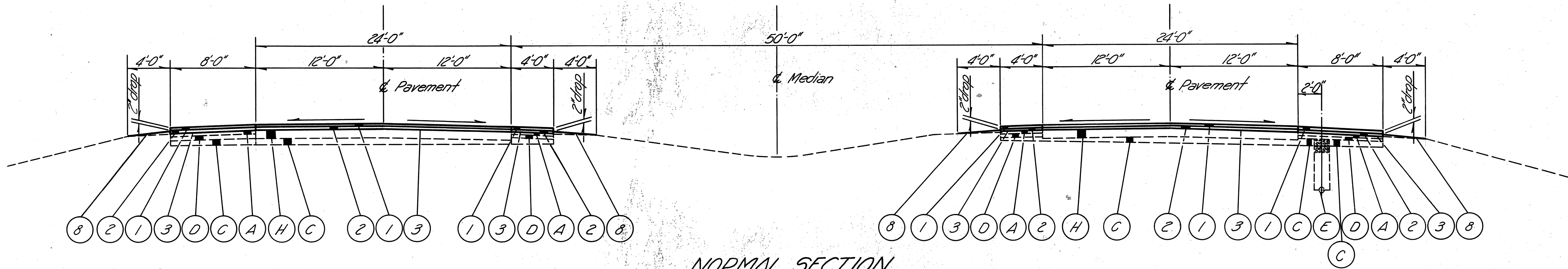
EXISTING LEGEND

- (A) Asphalt Concrete
- (B) Waterbound Macadam.
- (C) Subbase.
- (D) Aggregate Base.
- (E) Shallow Pipe Underdrain.

PROPOSED LEGEND

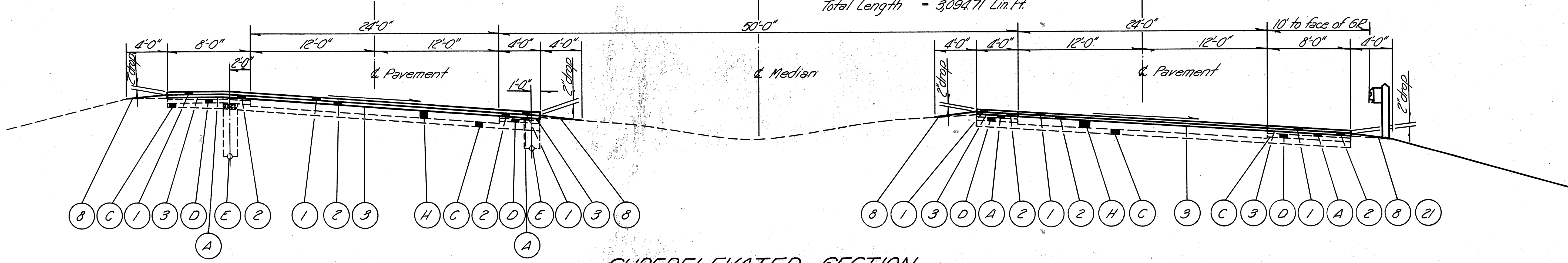
- (1) Item 848 1/4" Asphalt Concrete Surface Course, Type 1.
- (2) Item 848 1 3/4" Asphalt Concrete Intermediate Course, Type 2.
- (3) Item 407 Tack Coat with Cover Aggregate.
- (8) Item 617 Resurficing Shoulders, including Shoulder Preparation, Compacted Aggregate and Water.
- (21) Item 606 Guard Rail, Type 5.

TYPICAL SECTIONS TYPE 848



NORMAL SECTION

TYPICAL SECTION APPLIES
 Sta. 291+94.77 Ahd. to Sta. 313+75 Ahd. = 2180.23 Lin. Ft.
 Sta. 342+25.00 to Sta. 349+30.26 = 705.26 Lin. Ft.
 Deduct for Transition + Bridge No. Wya-23-0767
 Sta. 346+04.74 to Sta. 349+30.26 = -325.52 Lin. Ft.
 Sta. 480+32.26 to Sta. 486+67.00 = 634.74 Lin. Ft.
 Deduct for Transition
 Sta. 480+32.26 to Sta. 481+32.26 = -100.00 Lin. Ft.
 Total Length = 3094.71 Lin. Ft.



SUPERELEVATED SECTION

TYPICAL SECTION APPLIES
 Sta. 313+75.00 Ahd. to Sta. 342+25.00 = 2850.00 Lin. Ft.
 Deduct for Transition + Bridge No. Wya-23-0722
 Sta. 321+53.5 Ahd. to Sta. 324+66.64 = -313.14 Lin. Ft.
 Total Length = 2536.86 Lin. Ft.

EXISTING LEGEND

- (A) Asphalt Concrete
- (C) Subbase
- (D) Aggregate Base
- (E) Shallow Pipe Underdrains
- (H) 9" Reinforced Portland Cement Concrete

PROPOSED LEGEND

- (1) Item 848 1 1/4" Asphalt Concrete Surface Course, Type 1
- (2) Item 848 1 3/4" Asphalt Concrete Intermediate Course, Type 2
- (3) Item 407 Tack Coat with Cover Aggregate
- (8) Item 617 Reconditioning Shoulders, including Shoulder Preparation Compacted Aggregate and Water
- (21) Item 606 Guardrail, Type 5

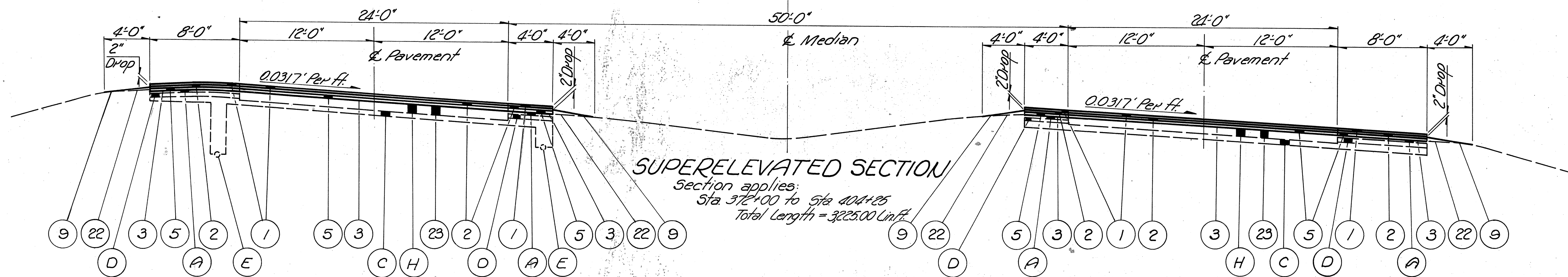
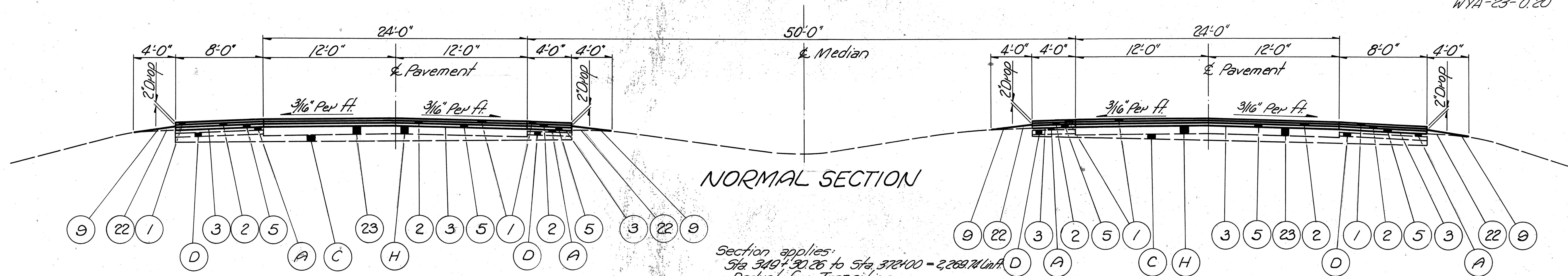
TYPICAL SECTIONS

TYPE 848 on 301

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EXISTING LEGEND

- (A) Asphalt Concrete.
- (C) Subbase.
- (D) Aggregate Base.
- (E) Shallow Pipe Underdrains.
- (H) 9" Reinforced Portland Cement Concrete.

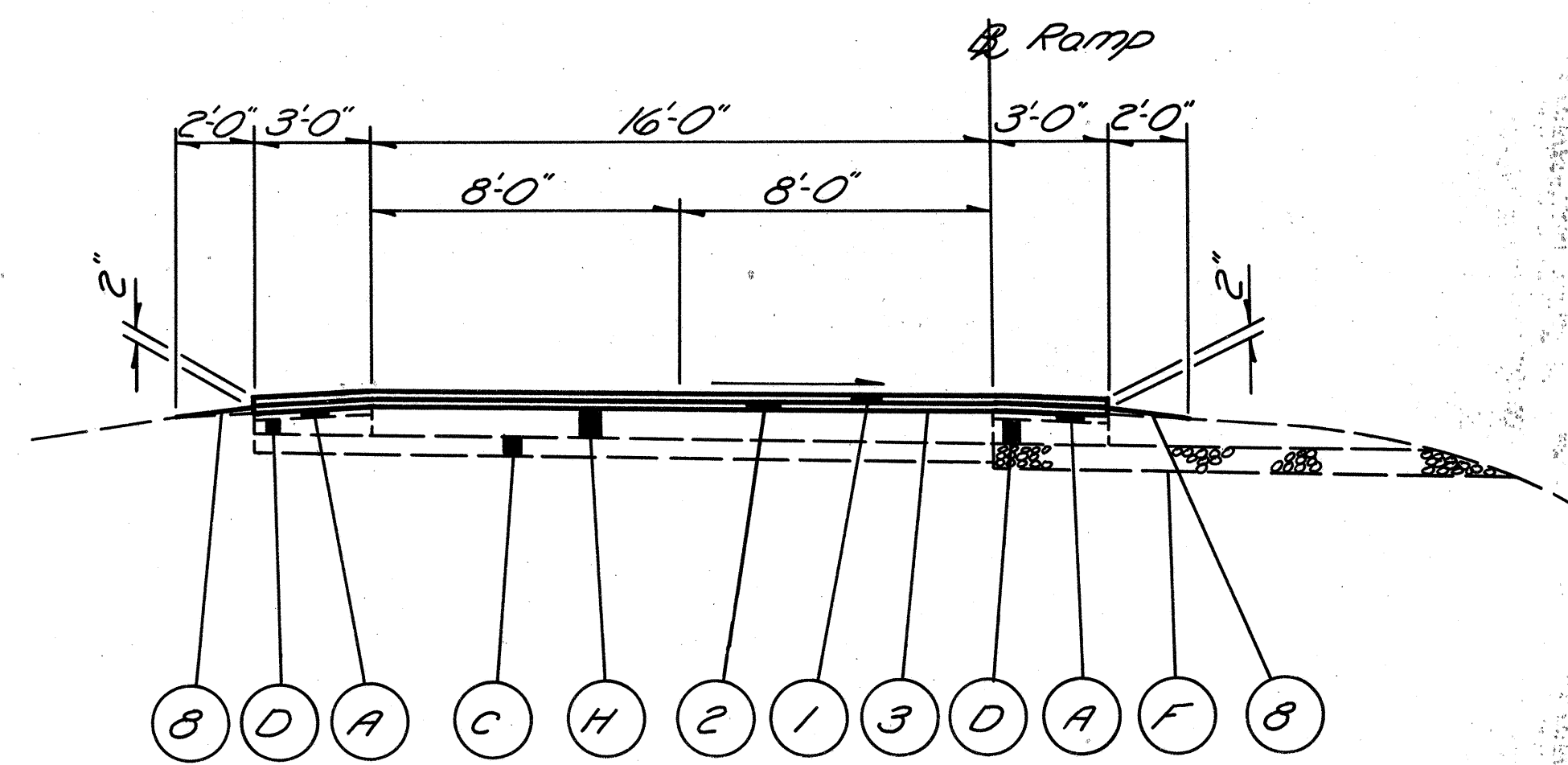
PROPOSED LEGEND

- (1) Item 848 1/4" Asphalt Concrete Surface Course, Type 1.
- (2) Item 848 1 3/4" Asphalt Concrete Intermediate Course, Type 2.
- (3) Item 407 Tack Coat with Cover Aggregate.
- (5) Item 301 3" Bituminous Aggregate Base, AC-20, RT-11 or RT-12.
- (9) Item 659 Seeding and Mulching.
- (22) Item 203 Linear Grading.
- (23) Item Special Cracking and Seating Existing Rigid Pavement (See Proposed Note).

TYPICAL SECTIONS TYPE 848

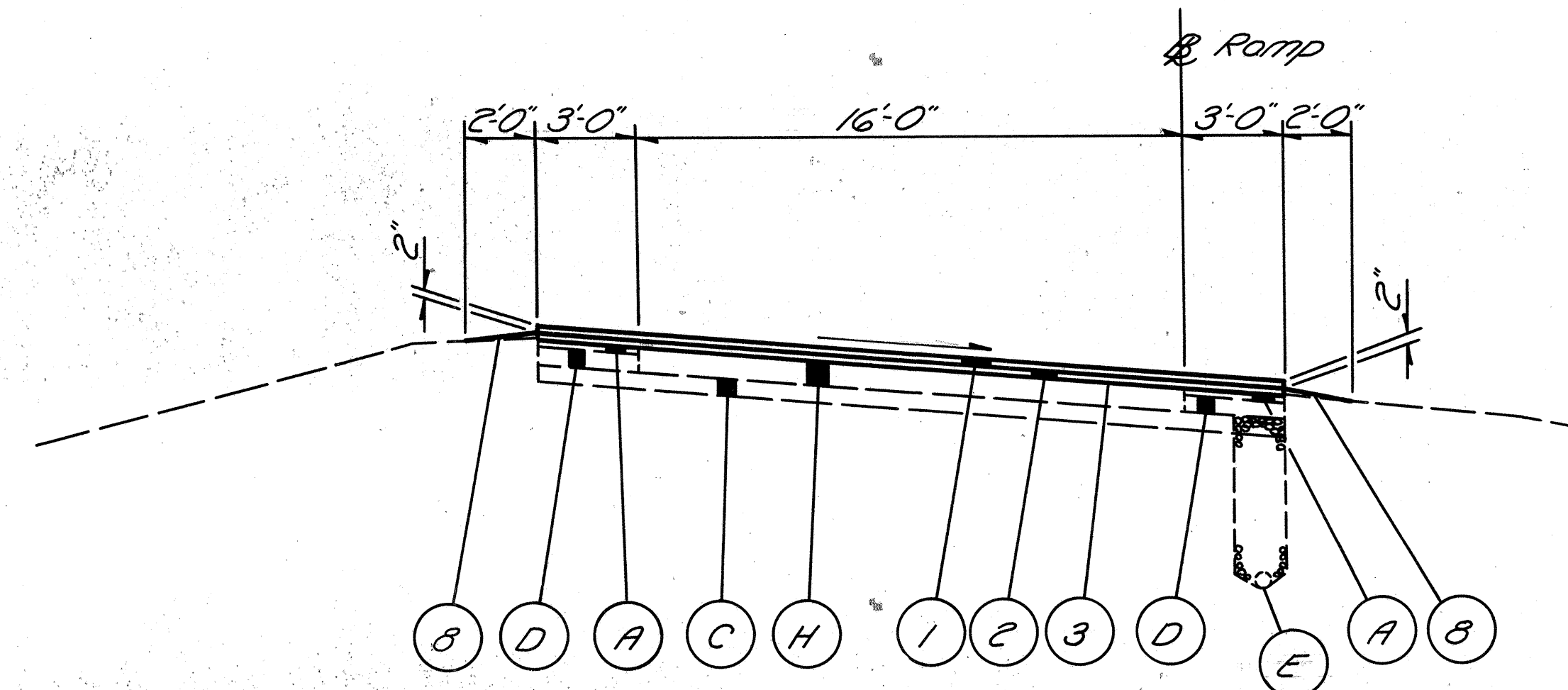
FHWA REGION	STATE	PROJECT
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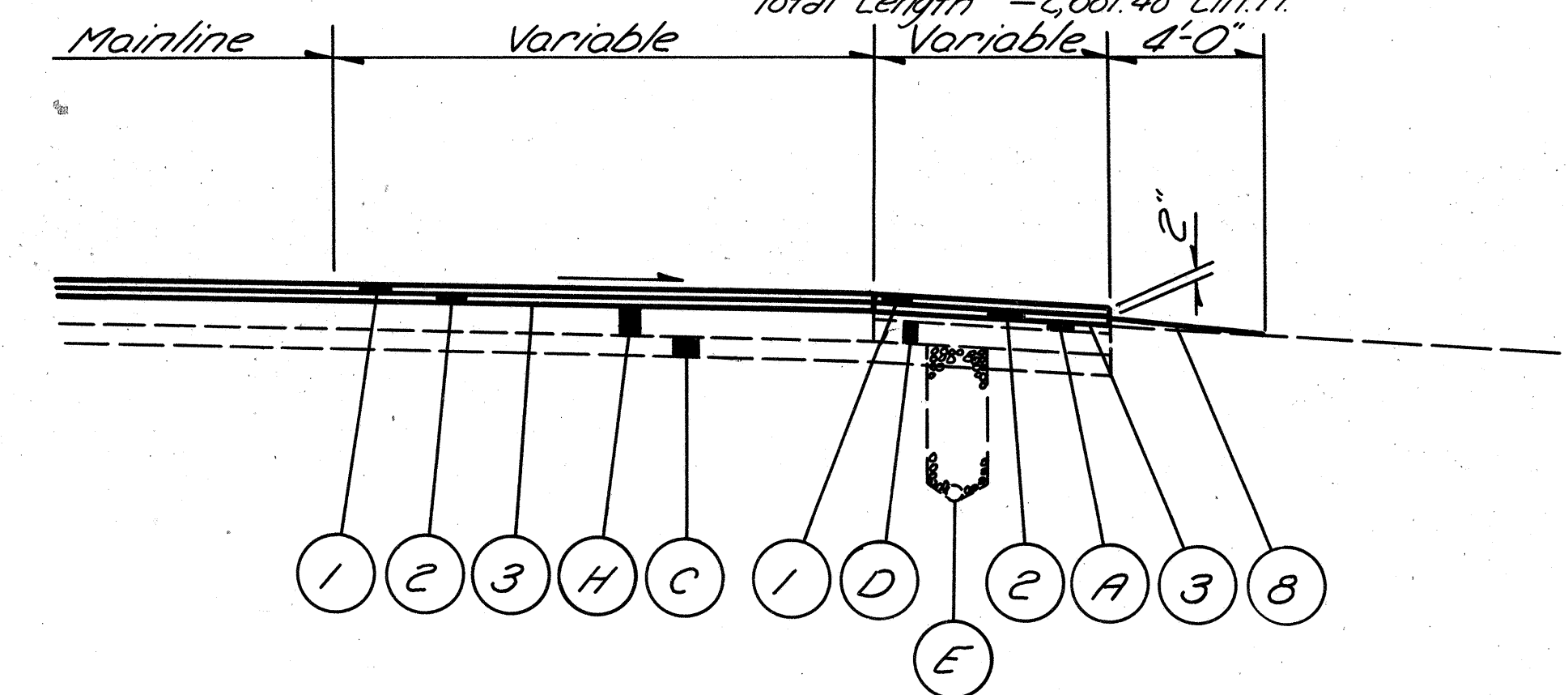
NORMAL RAMP SECTION

Section applies:
S.R. 199 Interchange: Ramp "A" Sta 11+13.25 to Sta 12+58.53 = 145.28 Lin. Ft.
Sta 13+16.88 to Sta 13+81.70 = 64.82 Lin. Ft.
Ramp "B" Sta 0+90.68 to Sta 5+44.26 = 453.58 Lin. Ft.
Ramp "C" Sta 0+87.00 to Sta 4+47.37 = 360.37 Lin. Ft.
Sta 10+70.63 to Sta 13+79.56 = 308.93 Lin. Ft.
Ramp "D" Sta 0+00.00 to Sta 3+00.00 = 300.00 Lin. Ft.
Sta 8+63.08 to Sta 9+78.00 = 114.92 Lin. Ft.
Sta 10+93.90 to Sta 11+58.22 = 64.32 Lin. Ft.
Total Length = 1,812.22 Lin. Ft.



SUPERELEVATED RAMP SECTION

Section applies:
S.R. 199 Interchange: Ramp "A" Sta 4+49.10 to Sta 11+13.25 = 664.15 Lin. Ft.
Sta 12+58.53 to Sta 13+16.88 = 58.35 Lin. Ft.
Ramp "B" Sta 5+44.26 to Sta 12+01.00 = 656.74 Lin. Ft.
Ramp "C" Sta 4+47.37 to Sta 10+70.63 = 623.26 Lin. Ft.
Ramp "D" Sta 3+00.00 to Sta 8+63.08 = 553.08 Lin. Ft.
Sta 9+78.00 to Sta 10+93.90 = 115.90 Lin. Ft.
Total Length = 2,681.48 Lin. Ft.



SPEED CHANGE LANE

For Ramp "A", "B", "C", & "D" of Interchange U.S.R. 23 and S.R. 199.

EXISTING LEGEND

- (A) Asphalt Concrete
- (C) Subbase
- (D) Aggregate Base
- (E) Shallow Pipe Underdrain
- (F) Stone Underdrain
- (H) 9" Reinforced Portland Cement Concrete

PROPOSED LEGEND

- (1) Item 848 ~ 1 1/4" Asphalt Concrete Surface Course, Type 1
- (2) Item 848 ~ 1 3/4" Asphalt Concrete Intermediate Course, Type 2
- (3) Item 407 ~ Tack Coat with Cover Aggregate
- (8) Item 617 ~ Reconditioning Shoulders, including Shoulder Preparation Compacted Aggregate and Water

GENERAL NOTES

Computations By Initials JGG Date 2-2-83
Computations Checked By Initials [Signature] Date 12-1-83
Final Revisions By Initials [Signature] Date

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STATIONING - The Stations within the limits of this project have been established from the plans of former construction projects. Copies of these plans are on file at the District One Office of the Ohio Department of Transportation, Lima, Ohio.

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. The actual work locations and quantities used at the Engineer's discretion shall be made a matter of record by incorporation into the final change order governing completion of this project.

FIELD OFFICE - The Contractor shall provide a suitable Field Office having a minimum of 800 Sq.Ft. of floor space. Payment shall be at the lump sum price bid for Item 619 Field Office.

PIPE UNDERDRAINS - Any Pipe Underdrains broken or damaged as a result of construction operations shall be replaced by the Contractor at no cost to the State of Ohio.

310 SUBBASE - In areas of pavement replacement where unsuitable subgrade material is encountered, the Engineer shall require the replacement of the unsuitable subgrade. Included in the General Summary is 400 Cu.Yd. of 310 Subbase Grading "A" to be used as directed by the Engineer for subgrade replacement. The cost of removing and disposing of the unsuitable subgrade and the reshaping of the subgrade will be included in the unit price bid for 310 Subbase, Type 1, Grading "A" as per plan.

ITEM SPECIAL PAVEMENT SAWING - The areas of joint repairs shall be outlined generally rectangular in shape, with paint prior to the start of pavement sawing. The existing rigid pavement shall be sawed full depth as detailed on Sheet 22. The Contractor may elect to make additional cuts to facilitate the removal of the pavement. However, only cuts designated by the Engineer will be measured for payment.
The unit price bid per Lin.Ft. for Item Special, Pavement Sawing shall be full compensation for completing the saw cuts at locations designated by the Engineer.

PAVEMENT REPAIR - Prior to the start of any construction on the project, the Engineer will have marked all pavement joints and fractures to be repaired. All joint and fracture repairs shall be 10 ft. in length. See Sheet 22.

ITEM SPECIAL, PARTIAL DEPTH PAVEMENT REPAIR - The small spalling areas where full depth pavement repair is not necessary, shall be chipped out, cleaned using compressed air and tacked in accordance with Item 407. The Area will be filled and compacted with asphaltic material such as Item 403 or 404. An estimated quantity of 200 Sq.Yds. is provided to be used at the direction of the Engineer. Payment for all of the above work shall be at the unit price bid for Item Special, Partial Depth Pavement Repair, measured in Square Yards of spalled area. See Proposal Note.

ITEM 617, COMPACTED AGGREGATE - In addition to the calculated quantities, an estimated quantity of 500 Cu.Yds. of Item 617 Compacted Aggregate is included to be used as directed by the Engineer for the purpose of filling ruts and depressions in the area adjacent to the paved shoulder.

RELIEF JOINTS - Pressure Relief Joints shall be placed at intervals of 1000' and also at the North and South ends of each mainline bridge Lt and Rt as per BP-11. Payment for the above shall be at the unit price bid for Item Special, Pressure Relief Joint Std. Type "D" measured in Lin.Ft. Aggregate Drains As Per Plan shall be placed at each Pressure Relief Joint Location.

WATERING PERMANENT SEEDING AREAS - The following estimated quantity is to be used as directed by the Engineer to promote growth and to care for the permanent seeded areas as per 659.09: 659 Water 5 M. Gallon.

ITEM 617 WATER (COMPACTING AGGREGATE) An estimated quantity of 50 M. Gallon of Water is included in this item to aid compaction. Its use shall be as directed by the Engineer.

ITEM 407 TACK COAT - The Tack Coat and Cover Aggregate Operation shall be determined as per Spec. 407.05. Plan quantities indicate application rates of 0.10 Gallons per Square Yard of Tack Coat and 7 Pounds per Square Yard of Cover Aggregate for estimating purposes only.

ITEM 848, ASPHALT CONCRETE - On this project, Supplemental Specification 848, Table 2-2, properties of mixtures for heavy traffic volumes shall apply.

GUARD RAIL REPLACEMENT - No hazard shall be left unprotected except for the actual time necessary to remove, grade and reinstall, Guard Rail in a continuous operation. The removal of all Guard Rail shall at all times be as directed by the Engineer. No Guard Rail shall be removed until the replacement material is on site, ready for installation. Failure to comply with this requirement shall be deemed sufficient cause to order work suspended on this project until such time that the Engineer is assured of said compliance.
For Guard Rail Replacement at Bridges, See "Traffic Maintenance" Note on Sheet 8 and "Temporary Guard Rail Protection at Bridges" Detail on Sheet 17.

ELEVATION DATUM - The Elevations shown in these plans are not based on USGS Datum. Rather they are based on assumed Bench Marks noted throughout the plans. The Elevations derived from one particular Bench Mark are not relative to any Elevations derived from another Bench Mark unless both Bench Marks are in the same general work area.

GUARD RAIL REMOVED FOR STORAGE - Guard Rail including all post and accessories designated for removal on this project shall be carefully dismantled and stored on the project for removal by State Forces. All material not considered salvageable shall be disposed of as directed. All post holes shall be carefully filled and tamped and the site cleaned and restored. The storage location shall be approved by the Engineer.
Payment for all of the above shall be at the unit price bid for Item 202, Guard Rail Removed for Storage measured by the linear foot center to center of the terminal posts.

UTILITY OWNERSHIP - The following Utilities and Owners are located within the work limits of this project:
Gas - Columbia Gas Transmission Corp, P.O. Box 1273, Charleston W.Va. 25325 304-357-3445
Telephone - General Telephone Co, 222 S. Prospect St, Marion, Oh. 43302 614-383-0436
Telephone - Ohio Bell Telephone Co, 1600 Madison Ave, Toledo, Oh. 43624 419-245-7218

UNDERGROUND UTILITIES - The locations of the Underground Utilities shown on the plans are as obtained from the owners of the utility as required by Section 153.64 ORC.

UTILITIES NOTIFICATION - At least two working days prior to commencing construction operations in an area which may involve underground utility facilities, the Contractor shall notify the Project Engineer, the registered utility protection service, and the owners of each underground utility facility shown in the plans.
The owner of the Underground Utility facility shall, within forty-eight hours, excluding Saturdays, Sundays and Legal Holidays after notice is received, stake, mark or otherwise designate the location of the underground utility facilities in the construction area in such a manner as to indicate their course together with the approximate depth at which they were installed. The marking or locating shall be coordinated to stay approximately two days ahead of the planned construction.

LOCATION OF GUARD RAIL - The locations of Guard Rail runs as shown in these plans are subject to adjustment prior to final acceptance. The Engineer shall be satisfied that all installations will afford maximum protection for traffic.

DECK OVERLAY - Surface preparation for concrete repair of bridge decks, deck patching and concrete overlay of bridge decks shall be performed in accordance with Supplemental Specification 845, unless such requirements are modified in these plans. Quantities shown for Latex Modified Concrete Overlay, Variable Thickness, and Full Depth Repair are estimated quantities to be used as directed by the Engineer after the deck has been sounded.

Placement of the concrete overlay shall be completed during the night between official sunset and sunrise, unless otherwise authorized by the Engineer. In the early Spring or late fall, the concrete overlay may be placed other than at night upon approval of the Engineer, if all of the following conditions are met and documented throughout the time of placement:
Maximum wind velocity - 10 M.P.H. Maximum concrete temperature - 70°F
Minimum humidity - 40% Maximum air temperature - 90°F
All other portions of Item 511 shall apply, except those which are in conflict with the above.
Longitudinal joints in the concrete overlay are permitted, but only to the extent necessary to accommodate the width of the finishing machine or to allow for maintenance of vehicular traffic or to facilitate changes in roadway crown except as approved by the Director or as indicated on the plans. Joints shall not be used adjacent to deck edge.

ITEM SPECIAL LIGHTING FOR NIGHT PLACEMENT OF CONCRETE DECK OVERLAY - The Contractor shall submit to the Director a plan for adequate lighting of the work areas at least fifteen (15) calendar days prior to placing the overlays and approval must be granted before the work begins.
Payment for this item shall be made at the contract price bid per unit and shall include all labor, generators, power supplies, fuel, electrical wiring, lights and all other incidentals necessary to complete this item. A unit shall be all the lighting necessary to complete all phases of the overlay operation on approximately one half of each structure. An estimated quantity of 6 units has been included in the General Summary for this purpose.

CONNECTION TO EXISTING PIPE - Where the plans provide for proposed conduit to be connected to, or to cross either over or under an existing sewer, it shall be the responsibility of the Contractor to locate the existing pipe both as to line and grade before he starts to lay the proposed conduit.
Payment for all operations described above shall be included in the unit price bid for the pertinent 603 Conduit Items.

GENERAL NOTES

Computations By	Initials	JG G	Date	11-22-83
Computations Checked By	Initials	JG G	Date	12-1-83
Final Revisions By	Initials		Date	

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FASTENING OF BRIDGE TERMINAL ASSEMBLIES ~ Bridge Terminal Assemblies which are to be fastened to existing concrete parapets by steel box blockouts shall be attached by means of through bolts. Expansion anchor bolts will not be permitted.

Where self-drilling anchors are permitted and are used, the holes shall be drilled with the tubular expansion shell rather than with a bit, to insure a proper fit. The anchors shall be installed flush with the surface of the concrete.

Where anchorage by expansion bolts to a deteriorated concrete surface would result in a questionable attachment, through bolts shall be used instead, at the discretion of the Engineer.

EROSION CONTROL PADS AND ANIMAL GUARDS ~ Erosion Control Pads and Animal Guards shall be provided at the outlet end of all pipe underdrains and farm drains, as per Standard Construction Drawing MC-4, except when they outlet into a drainage structure.

Payment for the Erosion Control Pads and the Animal Guards shall be included in the price bid for Item 603, 6" Conduit, Type F.

TRAFFIC MAINTENANCE ~ One lane traffic areas shall be controlled with temporary traffic control devices arranged as indicated in the "Ohio Manual of Uniform Traffic Control Devices for Streets and Highways" current edition and the application standard appearing in these plans. The Contractor shall furnish, place and maintain yellow alternating Flasher Beacon Lights on all "Road Construction Ahead" signs when and as directed by the Engineer. It shall be understood that the cost of Electrical Service shall be included in the lump sum bid for Item 614 Maintaining Traffic.

The Maximum length of any one lane traffic zone shall be two miles. The Minimum distance between one lane traffic zones shall be two miles.

No work on USR 23 Pavement or Berms shall be performed by the Contractor from 4:00 P.M. Friday to 6:00 A.M. Monday. Two-lane traffic in each direction shall be maintained during these periods. No work on USR 23 Pavement or Berms shall be performed by the Contractor 24 hours preceding or on a Legal Holiday, during which two-lane traffic in each direction shall be maintained.

Payment for providing watchmen, erecting, maintaining and removing signs, barricades, cones, markers, special lighting etc. shall be included in the lump sum bid Item 614 Maintaining Traffic.

There shall not be more than one proposed course placed on existing pavement or shoulder before adjacent courses are placed. Permanent pavement marking shall be placed within three weeks after completion of final surface courses.

All drums and barricades used as channelizing devices for traffic and placed adjacent to a lane in use by traffic shall be equipped with Type "C" steady burn barricade warning lights in accordance with O.M.U.T.C.D. Refer to lane closure drawings included in plans for further details of "set-ups" required for the above closures. Lane width for all phases shall be a minimum of 12 ft.

During the initial first day "set-up" period and the last day tear down period of each traffic control sequence a Law Enforcement Officer with Patrol Car shall be present to assist in traffic control operations. The Contractor may at his option use such a Law Enforcement Officer with Patrol Car to assist in traffic control at other times.

The use of the Law Enforcement Officer with Patrol Car for control as required by the plans shall be paid on a unit price (hourly) basis under the Item Special shown. A quantity of 800 hours of Item Special "Law Enforcement Officer with Patrol Car" has been included in the General Summary. All optional use of such a Law Enforcement Officer with Patrol Car, and all other labor, equipment, and materials required for traffic control shall be included in the lump sum price bid for Item 614 Maintaining Traffic.

USR 23 Traffic will be detoured for the Cracking and Sealing pavement rehabilitation program only. It shall not be permissible to detour both the Northbound and Southbound traffic at the same time. The detour shall be set up in such a way that only one direction of traffic shall be detoured onto SR 199 at a given time. The detour as shown on Sheet 1 shall not exceed a total of 60 consecutive calendar days. The Contractor shall notify the District 1 Operations Engineer 7 days prior to the beginning of the Cracking and Sealing operation so that detours can be provided.

Before removing existing Guard Rail from the bridge decks, Type 6 Guard Rail will be placed as temporary protection and remain in place until the installation of deep beam rail with tubular back-up has been completed. See "Temporary Guard Rail Protection at Bridges" detail on Sheet 17 for placement of Type 6 Guard Rail. A quantity of 2850.00 Lin. Ft. of Type 6 Guard Rail has been included in the General Summary for temporary protection at bridges. Type 6 Guard Rail may be re-used from location to location as the feasibility of the work schedule provides; however the unit price of Type 6 Guard Rail will include all labor, material, and equipment necessary to install and remove the temporary Guard Rail as well as the cost of traffic control in administering the temporary protection.

ITEM 203, LINEAR GRADING ~ This work shall consist of transitioning from the proposed 6" of new material placed on the paved berm, to the existing ground level at a distance of 4' from the edge of the paved berm. See Typical Sections, Sheet 5. Payment for grading of earth berms and all necessary embankment material shall be included in the contract price bid per "station" for Item 203 Linear Grading. The unit "station" referred to in the plans is equivalent to 100 Linear feet of directional roadway with berm on each side for a total berm length of 200 feet. The 659 Seeding and Mulching quantities have been included in the Pavement Computations.

PROFILE ~ The Profile of the proposed Asphalt Concrete shall be approximately 3" above that of the existing pavement except for the Cracking and Sealing from Sta. 351+80.26 to Sta. 476+35.74, where the pavement will be approximately 6" above that of the existing pavement, or where otherwise noted.

ALTERNATE METHODS ~ If the Contractor so elects, he may submit Alternate Methods for the Maintenance of Traffic provided the intent of the above provisions are followed & no additional inconvenience to the traveling public results therefrom. No Alternate plan shall be placed into effect until approval has been granted, in writing, by the Director of Transportation.

605 PIPE UNDERDRAINS, AS PER PLAN ~ 4" Unclassified Pipe Underdrains shall be installed at the locations shown in the plans using 4" diameter plastic and polyethylene corrugated drainage pipe or tubing, heavy duty, meeting the requirements of 707.15 and backfilled in accordance with 605.03.

The existing asphalt paved shoulder adjacent to the existing pavement shall be sawed 6" wide to the full depth of shoulder pavement then cut with a trenching machine to a 6" trench width down to the proposed grade. The 4" Underdrain Pipe shall then be laid into and if necessary, tamped into the 6" trench, care being taken not to damage the 4" Underdrain Pipe. Stone backfill as per 605.03 and Item 301 Bituminous Aggregate Base shall be placed as per the details shown on Sheet 24.

Payment for all of the above materials and operations shall be at the unit price bid for Item 605, 4" Unclassified Pipe Underdrains, as per plan.

CATCH BASIN REMOVED ~ Castings of catch basins to be removed shall be salvaged and remain the property of the State of Ohio. The castings shall be stored on the job in an area designated by the "Engineer" to be later removed by State Forces.

PRE-CAST CATCH BASINS ~ In the event the Contractor elects to use pre-cast catch basins, it shall be the responsibility of the Contractor to determine from the elevations on the plans whether or not the pre-cast catch basin top will clear the conduit in the catch basin. Should adequate clearance not exist, the contractor shall provide clearance by sawing the pre-cast top to fit over the conduit at no additional expense to the State.

PAVEMENT COMPUTATIONS

USR 23

Computations By	Initials JGG	Date 1-22-83
Computations Checked By	Initials [Signature]	Date 12-1-83
Final Revisions By	Initials [Signature]	Date

FHWA REGION	STATE	PROJECT
5	OHIO	

WYANDOT COUNTY
WYA-23-0.20

12
81

Sta 346+04.74 to Sta 347+04.74, ~ (Cont.) ~ (Mainline) ~

Outside Shoulder:
407 Tack Coat: (100)(3)(1/9)(0.10)(2) = 17.78 Gals.
407 Cover Aggregate: (100)(3)(1/9)(7/2000)(2) = 0.62 Ton

Inside Shoulder:
848 Type 1: [(37.50)(1.25) + (62.50)(1+2.25)(2)] / [(1/2)(2)] = 367 Cu.Yd
848 Type 2: (37.50)(1+1.75)(2) / [(1/2)(4)(1/27)(2)] = 1.27 Cu.Yd
407 Tack Coat: (100)(4)(1/9)(0.10)(2) = 8.89 Gals.
407 Cover Aggregate: (100)(4)(1/9)(7/2000)(2) = 0.31 Ton

Reconditioning Shoulders:
617 Shoulder Preparation: (100)(0.444444)(4) = 177.78 Sq.Yd
617 Compacted Aggregate: [(1/2)(4.5/12)(4) + (2.5/12)(4)(100)] / (4)(1/27) = 17.28 Cu.Yd

Sta 347+04.74 to Sta 349+30.26, Length = 225.52 Lin.Ft.
Bridge No. WYA-23-0767, For quantities, See Sheet 68.

Sta 349+30.26 to Sta 351+80.26, Length = 250.00' Pavement:

848 Type 1: [(75)(1.25) + (75)(1+2.5)(1/2)] (2)(1/12) / (1/27)(2) = 51.85 Cu.Yd
848 Type 2: [(75)(1.75) + (100)(3.25+1.25)(1/2)] / (24)(1/2)(1/27)(2) = 52.78 Cu.Yd
301: (75)(3+1.5)(1/2)(2)(1/12)(1/27)(2) = 25.00 Cu.Yd
407 Tack Coat: (250)(24)(1/9)(0.10)(2) = 133.33 Gals.
407 Cover Aggregate: (250)(24)(1/9)(7/2000)(2) = 4.67 Tons

Outside Shoulders:
848 Type 1: [(75)(1.25) + (75)(1+2.5)(1/2)] (3)(1/12) / (1/27)(2) = 17.28 Cu.Yd
848 Type 2: [(75)(1.75) + (100)(3.25+1.25)(1/2)] (3)(1/12) / (1/27)(2) = 17.59 Cu.Yd
301: (75)(3+1.5)(1/2)(3)(1/12)(1/27)(2) = 8.33 Cu.Yd
407 Tack Coat: (250)(3)(1/9)(0.10)(2) = 44.44 Gals.
407 Cover Aggregate: (250)(3)(1/9)(7/2000)(2) = 1.56 Tons

Inside Shoulders:
848 Type 1: [(75)(1.25) + (75)(1+2.5)(1/2)] (4)(1/12) / (1/27)(2) = 8.64 Cu.Yd
848 Type 2: [(75)(1.75) + (100)(3.25+1.25)(1/2)] (4) / (112)(1/27)(2) = 8.80 Cu.Yd
301: (75)(3+1.5)(1/2)(4)(1/12)(1/27)(2) = 4.17 Cu.Yd
407 Tack Coat: (250)(4)(1/9)(0.10)(2) = 22.22 Gals.
407 Cover Aggregate: (250)(4)(1/9)(7/2000)(2) = 0.78 Ton

203 Linear Grading: (2)(2.50) = 5.00 Sta
659 Seeding & Mulching: (4)(250)(4)(1/9) = 444.44 Sq.Yd

Sta 351+80.26 to Sta 476+35.74, Length = 12,455.48' Pavement:

Special ~ Crack and Seal: (2)(12,455.48)(24)(1/9) = 65,429.23 Sq.Yd
848 Type 1: (12,455.48)(0.092593)(2) = 2,306.38 Cu.Yd
848 Type 2: (12,455.48)(0.129632)(2) = 3,229.21 Cu.Yd
301: (12,455.48)(24)(3)(1/12)(1/27)(2) = 5,535.77 Cu.Yd
407 Tack Coat: (12,455.48)(0.266667)(2) = 6,642.23 Gals.
407 Cover Aggregate: (12,455.48)(0.009333)(2) = 232.49 Tons

Outside Shoulder:
848 Type 1: [(12,455.48)(2) - (114.24 + 114.34 + 114.23 + 114.23)(0.030864)] / (0.00311) = 754.75 Cu.Yd
848 Type 2: [(12,455.48)(2) - (457.04)] (0.043210) = 1,056.65 Cu.Yd
301: [(12,455.48)(2) - (457.04)] (3)(1/12)(1/27) = 1,811.40 Cu.Yd
407 Tack Coat: [(12,455.48)(2) - (457.04)] (0.088889) = 2,173.68 Gals.
407 Cover Aggregate: [(12,455.48)(2) - (457.04)] (0.00311) = 76.08 Tons

Inside Shoulder:
848 Type 1: [(2)(12,455.48) - (407.49 + 407.04 + 407.49 + 407.04)] (0.015432) = 359.29 Cu.Yd
848 Type 2: [(2)(12,455.48) - (1,629.06)] (0.0216025) = 503.01 Cu.Yd
301: [(2)(12,455.48) - (1,629.06)] (4)(3)(1/12)(1/27) = 862.29 Cu.Yd
407 Tack Coat: [(2)(12,455.48) - (1,629.06)] (0.044444) = 1,034.74 Gals.
407 Cover Aggregate: [(2)(12,455.48) - (1,629.06)] (0.001556) = 36.23 Tons

203 Linear Grading: (2)(12,455.48) = 24,911 Sta
659 Seeding & Mulching: (4)(12,455.48)(4)(1/9) = 22,143.08 Sq.Yd

Sta 476+35.74 to Sta 478+85.74, Length = 250.00' Pavement:

848 Type 1: [(75)(1.25) + (75)(1+2.5)(1/2)] (2)(1/12) / (1/27)(2) = 51.85 Cu.Yd
848 Type 2: [(75)(1.75) + (100)(3.25+1.25)(1/2)] (24) / (112)(1/27)(2) = 52.78 Cu.Yd
301: (75)(3+1.5)(1/2)(24)(1/12)(1/27)(2) = 25.00 Cu.Yd
407 Tack Coat: (250)(24)(1/9)(0.10)(2) = 133.33 Gals.
407 Cover Aggregate: (250)(24)(1/9)(7/2000)(2) = 4.67 Tons

Outside Shoulders:
848 Type 1: [(75)(1.25) + (75)(1+2.5)(1/2)] (3)(1/12) / (1/27)(2) = 17.28 Cu.Yd
848 Type 2: [(75)(1.75) + (100)(3.25+1.25)(1/2)] (3)(1/12) / (1/27)(2) = 17.59 Cu.Yd
301: (75)(3+1.5)(1/2)(3)(1/12)(1/27)(2) = 8.33 Cu.Yd
407 Tack Coat: (250)(3)(1/9)(0.10)(2) = 44.44 Gals.
407 Cover Aggregate: (250)(3)(1/9)(7/2000)(2) = 1.56 Tons

Inside Shoulders:
848 Type 1: [(75)(1.25) + (75)(1+2.5)(1/2)] (4)(1/12) / (1/27)(2) = 8.64 Cu.Yd
848 Type 2: [(75)(1.75) + (100)(3.25+1.25)(1/2)] (4) / (112)(1/27)(2) = 8.80 Cu.Yd
301: (75)(3+1.5)(1/2)(4)(1/12)(1/27)(2) = 4.17 Cu.Yd
407 Tack Coat: (250)(4)(1/9)(0.10)(2) = 22.22 Gals.
407 Cover Aggregate: (250)(4)(1/9)(7/2000)(2) = 0.78 Ton

203 Linear Grading: (2)(2.50) = 5.00 Sta
659 Seeding & Mulching: (4)(250)(4)(1/9) = 444.44 Sq.Yd

Sta 478+85.74 to Sta 480+32.26, Length = 146.52 Lin.Ft.
Bridge No. WYA-23-1017, For quantities, See Sheet 69.

Sta 480+32.26 to Sta 481+32.26, Length = 100.00' Pavement:

848 Type 1: [(37.50)(1.25) + (62.50)(1+2.25)(2)] / (24)(1/2)(1/27)(2) = 21.99 Cu.Yd
848 Type 2: (37.50)(1+1.75)(2) / [(1/2)(24)(1/27)(2)] = 7.64 Cu.Yd
407 Tack Coat: (100)(24)(1/9)(0.10)(2) = 53.33 Gals.
407 Cover Aggregate: (100)(24)(1/9)(7/2000)(2) = 1.87 Tons

Outside Shoulder:
848 Type 1: [(37.50)(1.25) + (62.50)(1+2.25)(2)] / (8)(1/12)(1/27)(2) = 7.33 Cu.Yd
848 Type 2: (37.50)(1+1.75)(2) / [(1/2)(8)(1/27)(2)] = 2.55 Cu.Yd
407 Tack Coat: (100)(8)(1/9)(0.10)(2) = 17.78 Gals.
407 Cover Aggregate: (100)(8)(1/9)(7/2000)(2) = 0.62 Ton

Inside Shoulders:
848 Type 1: [(37.50)(1.25) + (62.50)(1+2.25)(2)] (4) / (112)(1/27)(2) = 3.67 Cu.Yd
848 Type 2: (37.50)(1+1.75)(2) / [(1/2)(4)(1/27)(2)] = 1.27 Cu.Yd
407 Tack Coat: (100)(4)(1/9)(0.10)(2) = 8.89 Gals.
407 Cover Aggregate: (100)(4)(1/9)(7/2000)(2) = 0.31 Ton

Reconditioning Shoulders:
617 Shoulder Preparation: (100)(0.444444)(4) = 177.78 Sq.Yd
617 Compacted Aggregate: [(1/2)(2.5/12)(4) + (2.5/12)(4)(100)] / (4)(1/27) = 17.28 Cu.Yd

Sta 481+32.26 to Sta 486+67.00, Length = 534.74' Pavement:

848 Type 1: (534.74)(0.092593)(2) = 99.03 Cu.Yd
848 Type 2: (534.74)(0.129632)(2) = 139.64 Cu.Yd
407 Tack Coat: (534.74)(0.266667)(2) = 285.20 Gals.
407 Cover Aggregate: (534.74)(0.009333)(2) = 9.98 Tons

Outside Shoulders:
848 Type 1: [(2)(534.74) - 292.00] (0.030864) = 24.00 Cu.Yd
848 Type 2: [(2)(534.74) - 292.00] (0.043210) = 33.59 Cu.Yd
407 Tack Coat: [(2)(534.74) - 292.00] (0.088889) = 69.11 Gals.
407 Cover Aggregate: [(2)(534.74) - 292.00] (0.00311) = 2.42 Tons

Inside Shoulders:
848 Type 1: [(2)(534.74) - 292.00] (0.015432) = 16.50 Cu.Yd
848 Type 2: [(2)(534.74) - 292.00] (0.0216025) = 23.11 Cu.Yd
407 Tack Coat: [(2)(534.74) - 292.00] (0.044444) = 47.53 Gals.
407 Cover Aggregate: [(2)(534.74) - 292.00] (0.001556) = 1.66 Tons

Sta 481+32.26 to Sta 486+67.00 ~ (Cont.) ~

Reconditioning Shoulders:
617 Shoulder Preparation: [(2)(534.74) - 292.00] (0.444444) = 820.87 Sq.Yd
617 Compacted Aggregate: [(2)(534.74) - 292.00] (0.055556) = 102.61 Cu.Yd

Sta 486+67.00 to Sta 487+67.00, Length = 100.00' Pavement:

848 Type 1: [(37.50)(1.25) + (62.50)(1+2.25)(2)] / [(1/2)(24)(1/27)(2)] = 21.99 Cu.Yd
848 Type 2: (37.50)(1+1.75)(2) / [(1/2)(24)(1/27)(2)] = 7.64 Cu.Yd
407 Tack Coat: (100)(24)(1/9)(0.10)(2) = 53.33 Gals.
407 Cover Aggregate: (100)(24)(1/9)(7/2000)(2) = 1.87 Tons

Outside Shoulder:
848 Type 1: [(37.50)(1.25) + (62.50)(1+2.25)(2)] / [(1/2)(8)(1/27)(2)] = 3.67 Cu.Yd
848 Type 2: (37.50)(1+1.75)(2) / [(1/2)(8)(1/27)(2)] = 1.27 Cu.Yd
407 Tack Coat: (100)(8)(1/9)(0.10)(2) = 8.89 Gals.
407 Cover Aggregate: (100)(8)(1/9)(7/2000)(2) = 0.31 Ton

Inside Shoulder:
848 Type 1: [(37.50)(1.25) + (62.50)(1+2.25)(2)] / [(1/2)(4)(1/27)(2)] = 3.67 Cu.Yd
848 Type 2: (37.50)(1+1.75)(2) / [(1/2)(4)(1/27)(2)] = 1.27 Cu.Yd
407 Tack Coat: (100)(4)(1/9)(0.10)(2) = 8.89 Gals.
407 Cover Aggregate: (100)(4)(1/9)(7/2000)(2) = 0.31 Ton

Reconditioning Shoulders:
617 Shoulder Preparation: (100)(0.444444)(3) = 133.33 Sq.Yd
617 Compacted Aggregate: [(1/2)(2.5/12)(4) + (2.5/12)(4)(100)] / (4)(1/27) = 12.96 Cu.Yd

Sta 487+67.00 to Sta 488+85.50, Length = 118.50 Lin.Ft.
Bridge No. WYA-23-1034, For quantities, See Sheet 70.

Sta 488+85.50 to Sta 489+80.50, Length = 75.00' Pavement:

848 Type 1: (75)(24)(1)(1/12)(2)(1/27) = 11.11 Cu.Yd
407 Tack Coat: (75)(24)(2)(1/9)(0.10) = 40.00 Gals.
407 Cover Aggregate: (75)(24)(2)(1/9)(7/2000) = 1.40 Tons

Outside Shoulder:
848 Type 1: (75)(8)(1)(1/12)(1)(1/27) = 1.85 Cu.Yd
407 Tack Coat: (75)(8)(1)(1/9)(0.10) = 6.67 Gals.
407 Cover Aggregate: (75)(8)(1)(1/9)(7/2000) = 0.23 Ton

Inside Shoulder:
848 Type 1: (75)(4)(1)(1/12)(1)(1/27) = 1.85 Cu.Yd
407 Tack Coat: (75)(4)(2)(1/9)(0.10) = 6.67 Gals.
407 Cover Aggregate: (75)(4)(2)(1/9)(7/2000) = 0.23 Ton

Reconditioning Shoulders:
617 Shoulder Preparation: (75)(3)(0.444444) = 100.00 Sq.Yd
617 Compacted Aggregate: (2.5/12)(4)(75) / (1/27)(3) = 6.94 Cu.Yd

Sta 489+80.50 to Sta 490+35.50, Length = 75.00' Pavement:

848 Type 1: (75)(24)(1)(1/12)(2)(1/27) = 5.56 Cu.Yd
407 Tack Coat: (75)(24)(2)(1/9)(0.10) = 40.00 Gals.
407 Cover Aggregate: (75)(24)(2)(1/9)(7/2000) = 1.40 Tons

Outside Shoulder:
848 Type 1: (75)(8)(1)(1/12)(1)(1/27) = 0.93 Cu.Yd
407 Tack Coat: (75)(8)(1)(1/9)(0.10) = 6.67 Gals.
407 Cover Aggregate: (75)(8)(1)(1/9)(7/2000) = 0.23 Ton

Inside Shoulder:
848 Type 1: (75)(4)(1)(1/12)(1)(1/27) = 0.93 Cu.Yd
407 Tack Coat: (75)(4)(2)(1/9)(0.10) = 6.67 Gals.
407 Cover Aggregate: (75)(4)(2)(1/9)(7/2000) = 0.23 Ton

Reconditioning Shoulders:
617 Shoulder Preparation: (75)(3)(0.444444) = 100.00 Sq.Yd
617 Compacted Aggregate: [(1/2)(2.5/12)(75)(4)] / (1/27)(3) = 3.47 Cu.Yd

PAVEMENT REPAIR COMPUTATIONS

Computations By Initials: JGG Date: 11-27-83	FHWA REGION	STATE	PROJECT	16
Computations Checked By Initials: JGG Date: 12-1-83	5	OHIO		81
Final Revisions By Initials: Date:	WYANDOT COUNTY WVA-23-0,20			

ESTIMATED PAVEMENT REPAIR TABLE

Location	Lane	Estimated No. of Removals	Length FF	Width FF	202		305		605		Special Pavement Sawing	
					Pavement Removed Sq. Yd.		Variable Thick- ness Portland Cement Conc. Base Sq. Yd.	15" Portland Cement Conc. Base Sq. Yd.	Longitudinal Aggregate Drain, as Drain, as per plan Lin. Ft.	Aggregate Drain, as per plan Lin. Ft.		
Northbound U.S.R. 23												
	Driving	164	10	12	2,186.67			2,186.67	1,323.05		3,936.00	
	Passing	63	10	12	840.00		492.74	347.26	25.15	1,249.68	1,512.00	
	Ramps	10	10	16	177.78			177.78	92.82	46.86	320.00	
	Acceleration	10	10	12	133.33			133.33			240.00	
	Sub-Total				3,357.78		492.74	2,845.04	1,441.02	1,296.54	6,008.00	
Southbound U.S.R. 23												
	Driving	165	10	12	2,200.00			2,200.00	274.75		3,960.00	
	Passing	78	10	12	1,040.00		610.06	429.94	261.35	1,952.68	1,872.00	
	Ramps	10	10	16	177.78			177.78	31.08	215.25	320.00	
	Acceleration	10	10	12	133.33			133.33			240.00	
	Sub-Total				3,551.11		610.06	2,941.05	567.18	2,167.93	6,392.00	
	Totals				6,888.89		1,102.80	5,786.09	2,008.20	3,464.47	12,400.00	

PAVEMENT REPAIR

Limits of Pavement Repair: Sta. 291+94.77 Ahd
to Sta. 351+80.26
Sta. 476+35.74 to
Sta. 490+35.50

Estimated Number of Removals ~

- Northbound ~**
 Driving Lane: 131 x 1.25 = 164 Repairs
 Passing Lane: 50 x 1.25 = 63 Repairs
 Ramps ~ (16' Width): 8 x 1.25 = 10 Repairs
 Acceleration Lane ~ (12' Width): 8 x 1.25 = 10 Repairs
- Southbound ~**
 Driving Lane: 132 x 1.25 = 165 Repairs
 Passing Lane: 62 x 1.25 = 78 Repairs
 Ramps ~ (16' Width): 8 x 1.25 = 10 Repairs
 Acceleration Lane ~ (12' Width): 8 x 1.25 = 10 Repairs

- Per Repair Factors ~**
 202 Pavement Removed: (19)(10)(12) = 13,333,333 Sq. Yd. per
 Mainline Repair
 202 Pavement Removed: (19)(10)(16) = 17,777,778 Sq. Yd. per
 Ramp Repair
 (16' Width)
 202 Pavement Removed: (19)(10)(12) = 13,333,333 Sq. Yd. per
 Acceleration
 Lane Repair
 305 Portland Cement Concrete Base,
 (19)(10)(12) = 13,333,333 Sq. Yd. per
 Mainline Repair
 305 Portland Cement Concrete Base,
 (19)(10)(16) = 17,777,778 Sq. Yd. per
 Ramp Repair
 (16' Width)
 305 Portland Cement Concrete Base
 (19)(10)(12) = 13,333,333 Sq. Yd. per
 Acceleration
 Lane Repair
 Item Special ~ Pavement Sawing: (2)(12) = 24 Lin. Ft./Mainline
 Repairs
 Item Special ~ Pavement Sawing: (2)(16) = 32 Lin. Ft./Ramp
 Repair: (16' Width)
 Item Special ~ Pavement Sawing: (2)(12) = 24 Lin. Ft./Acceleration
 Lane Repair

Per Repair Factors ~ (Cont.) ~

- Length of Aggregate Drain, as per plan = 18' (Outside Shoulder)
 Mainline
 Length of Aggregate Drain, as per plan = 18' (Inside Shoulder)
 Mainline
 Length of Longitudinal Aggregate Drain,
 as per plan per Repair = 11'
 Length of Aggregate Drain, as per plan = 15' Ramp Repairs
 Note: Aggregate Drains, as per plan &
 Longitudinal Aggregate Drains, as
 per plan for Acceleration Lanes
 (12' Width) included in computations
 for Driving Lane.

NORTHBOUND ~

- Driving Lane ~
 Total length (Minus Bridges) = 6,894.71 Lin. Ft.
 Length of Super-elevated Curve (High Side) = 0 Lin. Ft.
 Total length of Driving Lane w/ drains = 6,894.71 Lin. Ft.
 Number of Repairs with drains:
 ((6,894.71 - 0) / 6,894.71) / 164 = 164 Repairs
 Total length of existing pipe underdrains = 3,056.71 Lin. Ft.
 Total length of proposed pipe underdrains = 1,323.00 Lin. Ft.
 Percentage of Repairs drained w/ existing
 pipe underdrains: (3,056.71 / 6,894.71)(100) = 73.34 %
 Percentage of Repairs drained w/ proposed
 pipe underdrains: (1,323.00 / 6,894.71)(100) = 26.66 %
 Percentage of Repairs drained with
 Aggregate Drains, as per plan: (100 - 73.34
 - 26.66) = 0 %
- Quantities ~**
 202 Pavement Removed: (164)(13,333,333) = 2,186.67 Sq. Yd.
 305 ~ 15" Portland Cement Concrete
 Base (164)(13,333,333) = 2,186.67 Sq. Yd.
 605 Longitudinal Aggregate Drain, as
 per plan: (0.7334)(11)(164) = 1,323.05 Lin. Ft.
 Item Special ~ Pavement Sawing: (164)
 (24) = 3,936.00 Lin. Ft.
- Passing Lane ~
 Total length (Minus Bridge) = 6,894.71 Lin. Ft.
 Length of Super-elevated Curve (High Side) = 2,850.00 Lin. Ft.
 Total length of Passing Lane w/ drains:
 6,894.71 - 2,850.00 = 4,044.71 Lin. Ft.

NORTHBOUND ~ (Cont.) ~

- Passing Lane ~ (Cont.) ~
 Number of Repairs w/ drains: (6,894.71
 - 2,850) / 6,894.71 (63) = 37 Repairs
 Total length of existing pipe underdrains = 250 Lin. Ft.
 Total length of proposed pipe underdrains = 0 Lin. Ft.
 Percentage of Repairs drained with existing
 pipe underdrains: (250 / 4,044.71)(100) = 6.18 %
 Percentage of Repairs drained with proposed
 pipe underdrains = 0 %
 Percentage of Repairs drained with Aggregate
 Drains, as per plan: (100 - 6.18 - 0) = 93.82 %
 Percentage of Repairs with 15" Portland Cement
 Concrete Base, (Super-elevated Section):
 (2,850 / 6,894.71) = 41.34 %
 Percentage of Repairs with Variable Thickness
 Portland Cement Concrete Base
 (Normal Section): (100 - 41.34) = 58.66 %
- Quantities ~**
 202 Pavement Removed: (63)(13,333,333) = 840.00 Sq. Yd.
 305 ~ 15" Portland Cement Concrete Base
 (0.4134)(63)(13,333,333) = 347.26 Sq. Yd.
 305 ~ Variable Thickness Portland Cement
 Concrete Base (0.5866)(63)
 (13,333,333) = 492.74 Sq. Yd.
 605 Longitudinal Aggregate Drain, as per
 plan: (0.0618)(11)(37) = 25.15 Lin. Ft.
 605 Aggregate Drain, as per plan ~ (Two per Repair):
 (0.9382)(19)(37)(2) = 1,249.68 Lin. Ft.
 Item Special ~ Pavement Sawing: (63)(24) = 1,512.00 Lin. Ft.
- Ramps ~ (16' Width) ~
 Total length = 1,969.49 Lin. Ft.
 Total length of existing pipe underdrains = 1,661.79 Lin. Ft.
 Total length of proposed pipe underdrains = 0 Lin. Ft.
 Percentage of Repairs drained with existing
 pipe underdrains: (1,661.79 / 1,969.49)(100) = 84.38 %
 Percentage of Repairs drained with Aggregate
 Drains, as per plan: (100 - 84.38) = 15.62 %
- Quantities ~**
 202 Pavement Removed: (10)(17,777,778) = 177.78 Sq. Yd.
 305 ~ 15" Portland Cement Concrete Base
 (10)(17,777,778) = 177.78 Sq. Yd.
 605 Longitudinal Aggregate Drains, as per
 plan: (0.8438)(11)(10) = 92.82 Lin. Ft.
 605 Aggregate Drain, as per plan: (Two per Repair):
 (0.1562)(15)(10)(2) = 46.86 Lin. Ft.
 Item Special ~ Pavement Sawing: (10)(32) = 320.00 Lin. Ft.
- Acceleration Lane ~ (12' Width) ~
Quantities ~
 202 Pavement Removed: (10)(13,333,333) = 133.33 Sq. Yd.
 305 ~ 15" Portland Cement Concrete Base
 (10)(13,333,333) = 133.33 Sq. Yd.
 Drainage quantities included with Mainline
 Computations.
 Item Special ~ Pavement Sawing: (24)(10) = 240.00 Lin. Ft.
- SOUTHBOUND ~**
 Driving Lane ~
 Total length (Minus Bridges) = 6,894.71 Lin. Ft.
 Length of Super-elevated Curve (High Side) = 2,850.00 Lin. Ft.
 Total length of Driving Lane w/ drains = 4,044.71 Lin. Ft.
 Number of Repairs w/ drains:
 (6,894.71 - 2,850) / 6,894.71 (63) = 37 Repairs
 Total length of existing pipe underdrains = 1,044.71 Lin. Ft.
 Total length of proposed pipe underdrains = 3,003.00 Lin. Ft.
 Percentage of Repairs drained with existing
 pipe underdrains: (1,044.71 / 4,044.71)(100) = 25.75 %
 Percentage of Repairs drained with proposed
 pipe underdrains: (3,003.00 / 4,044.71)(100) = 74.25 %
 Percentage of Repairs drained with Aggregate
 Drains, as per plan: (100 - 25.75 - 74.25) = 0 %
- Quantities ~**
 202 Pavement Removed: (165)(13,333,333) = 2,200.00 Sq. Yd.
 305 ~ 15" Portland Cement Concrete Base
 (165)(13,333,333) = 2,200.00 Sq. Yd.

SOUTHBOUND ~ (Cont.) ~

- Driving Lane ~ (Cont.) ~
Quantities ~
 605 Longitudinal Aggregate Drain, as per
 plan: (0.2575)(11)(97) = 274.75 Lin. Ft.
 Item Special ~ Pavement Sawing: (165)(24) = 3,960.00 Lin. Ft.
- Passing Lane ~
 Total length (Minus Bridges) = 6,894.71 Lin. Ft.
 Length of Super-elevated Curve (High Side) = 0 Lin. Ft.
 Total length of Passing Lane w/ drains:
 (6,894.71 - 0) = 6,894.71 Lin. Ft.
 Number of Repairs w/ drains: (6,894.71 - 0) / 6,894.71
 (78) = 78 Repairs
 Total length of existing pipe underdrains = 2,100.00 Lin. Ft.
 Total length of proposed pipe underdrains = 0 Lin. Ft.
 Percentage of Repairs drained with existing
 pipe underdrains: (2,100 / 6,894.71)(100) = 30.46 %
 Percentage of Repairs drained with Aggregate
 Drains, as per plan: (100 - 30.46) = 69.54 %
 Percentage of Repairs with 15" Portland Cement
 Concrete Base (Super-elevated Section):
 (2,850 / 6,894.71) = 41.34 %
 Percentage of Repairs with Variable Thickness
 Portland Cement Concrete Base
 (Normal Section): (100 - 41.34) = 58.66 %
- Quantities ~**
 202 Pavement Removed: (78)(13,333,333) = 1,040.00 Sq. Yd.
 305 ~ 15" Portland Cement Concrete Base
 (0.4134)(78)(13,333,333) = 429.94 Sq. Yd.
 305 Variable Thickness Portland Cement
 Concrete Base (0.5866)
 (78)(13,333,333) = 610.06 Sq. Yd.
 605 Longitudinal Aggregate Drain, as
 per plan: (0.3046)(11)(78) = 261.35 Lin. Ft.
 605 Aggregate Drain, as per plan
 (Two per Repair): (0.6954)(18)(78)(2) = 1,952.68 Lin. Ft.
 Item Special ~ Pavement Sawing: (78)(24) = 1,872.00 Lin. Ft.
- Ramps ~ (16' Width) ~
 Total length = 2,060.05 Lin. Ft.
 Total length of existing pipe underdrains = 582 Lin. Ft.
 Total length of proposed pipe underdrains = 0 Lin. Ft.
 Percentage of Repairs drained with existing
 pipe underdrains: (582 / 2,060.05)(100) = 28.25 %
 Percentage of Repairs drained with Aggregate
 Drains, as per plan: (100 - 28.25) = 71.75 %
- Quantities ~**
 202 Pavement Removed: (10)(17,777,778) = 177.78 Sq. Yd.
 305 ~ 15" Portland Cement Concrete Base
 (10)(17,777,778) = 177.78 Sq. Yd.
 605 Longitudinal Aggregate Drains, as per
 plan: (0.2825)(11)(10) = 31.08 Lin. Ft.
 605 Aggregate Drain, as per plan (Two per Repair):
 (0.7175)(15)(10)(2) = 215.25 Lin. Ft.
 Item Special ~ Pavement Sawing: (10)(32) = 320.00 Lin. Ft.
- Acceleration Lane ~ (12' Width) ~
Quantities ~
 202 Pavement Removed: (10)(13,333,333) = 133.33 Sq. Yd.
 305 ~ 15" Portland Cement Concrete Base
 (10)(13,333,333) = 133.33 Sq. Yd.
 Drainage quantities included with Mainline
 Computations.
 Item Special ~ Pavement Sawing: (24)(10) = 240.00 Lin. Ft.

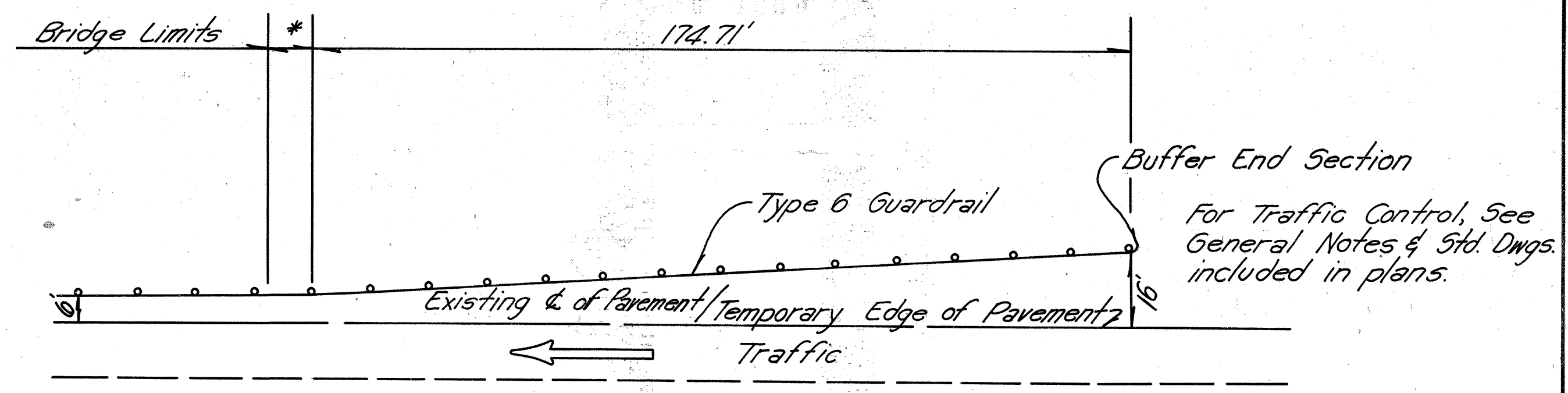
Computations By
Initials J.G.G. Date 11-22-83
Computations Checked By
Initials J.G.G. Date 12-1-83
Final Revisions By
Initials Date

OUTSIDE SHOULDER REPLACEMENT TABLE

Station	From	To	203		301	304	310	408
			Excavation Cu. Yd.	Subgrade Compaction Sq. Yd.	Bituminous Aggregate Base Cu. Yd.	Aggregate Base Cu. Yd.	Subbase Cu. Yd.	Bituminous Prime Coat Gals.
Northbound								
481+50.00	487+67.00		228.52	548.44	45.70	91.41	91.41	219.38
Southbound								
476+35.74	487+67.00		364.72	875.32	72.94	145.89	145.89	350.13
Totals			593.24	1,423.76	118.64	237.30	237.30	569.51

Note ~ 301 quantities in "Cracking & Sealing" Transition and all 848 quantities included in Pavement Computations.

TEMPORARY GUARDRAIL PROTECTION AT BRIDGES



Structure Number	Bridge Limits	*	Length per side	Total Length per Bridge
WYA-23-020204	60'	2.50'	237.50'	950.00'
WYA-23-020904	128.70'	8.80'	312.50'	1250.00'
WYA-23-076704	225.52'	11.98'	412.50'	1,650.00'
			Total	3,850.00'

OUTSIDE SHOULDER REPLACEMENT

NORTHBOUND ~
Sta 481+50.00 to Sta 487+67.00, Length = 617.00 Lin.Ft.
203 Excavation: (617.00)(3)(15/12)(1/27) = 228.52 Cu.Yd.
203 Subgrade Compaction: (617.00)(3)(1/19) = 548.44 Sq.Yd.
301: (617.00)(3)(3/12)(1/27) = 45.70 Cu.Yd.
304: (617.00)(3)(6/12)(1/27) = 91.41 Cu.Yd.
310: (617.00)(3)(6/12)(1/27) = 91.41 Cu.Yd.
408: (617.00)(3)(1/19)(0.40) = 219.38 Gals.

SOUTHBOUND ~
Sta 476+35.74 to Sta 487+67.00, Length = 984.74 Lin.Ft.
(Deduct 146.52' for Bridge No. WYA-23-1017)
203 Excavation: (984.74)(3)(15/12)(1/27) = 364.72 Cu.Yd.
203 Subgrade Compaction: (984.74)(3)(1/19) = 875.32 Sq.Yd.
301: (984.74)(3)(3/12)(1/27) = 72.94 Cu.Yd.
304: (984.74)(3)(6/12)(1/27) = 145.89 Cu.Yd.
310: (984.74)(3)(6/12)(1/27) = 145.89 Cu.Yd.
408: (984.74)(3)(1/19)(0.40) = 350.13 Gals.

Southbound Exit Ramp ~ U.S.R. 199 Interchange ~ Ramp "C" ~
Sta 335+04.00 to Sta 336+06.00 ~
202 Curb Removed, as per plan "A" = 70.00 Lin.Ft.
202 Curb Removed, as per plan "B" = 137.00 Lin.Ft.
203 Subgrade Compaction: (1/2)(4+12.33)(35) = 31.75 Sq.Yd.
203 Excavation: (1/2)(4+12.33)(35)(6/12)(1/27) = 5.29 Cu.Yd.
304: (6)(1/12)(1/3)(31.75) = 5.29 Cu.Yd.
408: (31.75)(0.40) = 12.70 Gals.
848, Type 1: (1.25)(1/12)(1/3)(31.75) = 1.10 Cu.Yd.
848, Type 2: (1.75)(1/12)(1/3)(31.75) = 1.54 Cu.Yd.
659 Seeding & Mulching: (12.33+25)(1/2)(62.50)(1/19) = 142.06 Sq.Yd.

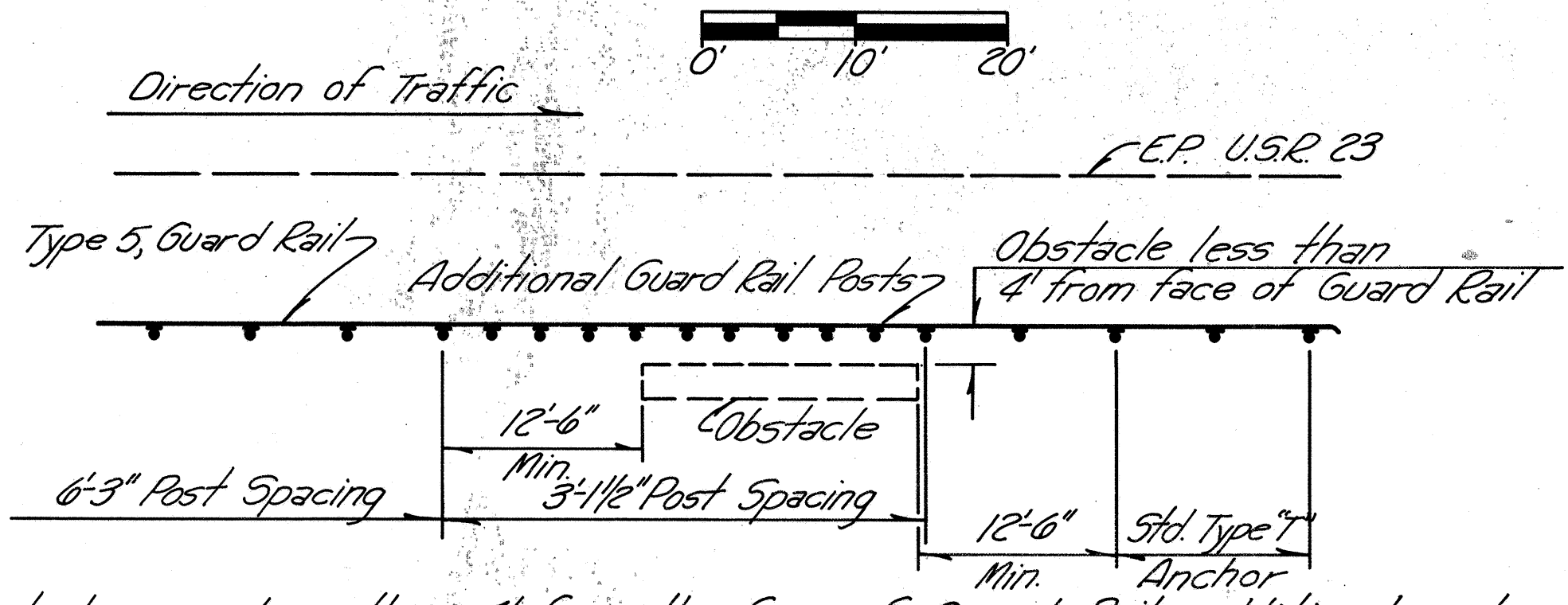
CURB REMOVAL

Southbound Entrance Ramp ~ U.S.R. 199 Inter-section ~ Ramp "D" ~
Sta 312+50.00 to Sta 318+34.00 ~
301: (436)(3)(7/12)(1/27) + (154)(3/12)(9/12)(1/27) = 31.11 Cu.Yd.
304: (436)(3)(6/12)(1/27) = 24.22 Cu.Yd.
408: (436)(3)(1/19)(0.40) = 43.60 Gals.
202 Curb Removed = 436.00 Lin.Ft.
202 Curb Removed, as per plan "C" = 154.00 Lin.Ft.
203 Excavation: ((20)(1.083)(436)+(10)(0.50)(436))(1/27) = 43.05 Cu.Yd.
203 Subgrade Compaction: ((3)(436)+(154)(3/12)(1/19)) = 156.74 Sq.Yd.
659 Seeding & Mulching: (154)(10)(1/19) = 171.11 Sq.Yd.
848 Quantities included with Ramp Calculations.

Northbound Entrance Ramp ~ U.S.R. 199 Interchange ~ Ramp "B" ~
Sta 7+01.00 to Sta 12+01.00 ~
202 Curb Removed = 230.00 Lin.Ft.
202 Curb Removed, as per plan "C" = 270.00 Lin.Ft.
203 Excavation: (2.00)(13/12)(230)(1/27) + (1.00)(230)(0.50)(1/27) = 22.72 Cu.Yd.
203 Subgrade Compaction: ((3)(230)+(270)(3/12)(1/19)) = 96.67 Sq.Yd.
301: (230)(3)(7/12)(1/27) + (270)(3/12)(9/12)(1/27) = 19.91 Cu.Yd.
304: (230)(3)(6/12)(1/27) = 12.78 Cu.Yd.
408: (230)(3)(1/19)(0.40) = 30.67 Gals.
659: (270)(10)(1/19) = 300.00 Sq.Yd.
848 Quantities included with Ramp Calculations.

Northbound Exit Ramp ~ U.S.R. 199 Interchange ~ Ramp "A" ~
Sta 313+08.00 to Sta 314+11.00 ~
202 Curb Removed, as per plan "A" = 80.00 Lin.Ft.
202 Curb Removed, as per plan "B" = 122.00 Lin.Ft.
203 Subgrade Compaction: (1/2)(4+12.33)(40) = 36.29 Sq.Yd.
203 Excavation: (36.29)(6/12)(1/13) = 6.05 Cu.Yd.
304: (6)(1/12)(1/13)(36.29) = 6.05 Cu.Yd.
408: (36.29)(0.40) = 14.52 Gals.
848, Type 1: (1.25)(1/12)(1/13)(36.29) = 1.26 Cu.Yd.
848, Type 2: (1.75)(1/12)(1/13)(36.29) = 1.76 Cu.Yd.
659 Seeding & Mulching: (12.33+25)(1/2)(61)(1/19) = 126.51 Sq.Yd.

GUARD RAIL TYPE 5, 3-1/2" POST SPACING DETAIL



When obstacles are less than 4' from the face of Guard Rail, additional posts will be installed to obtain 3-1/2" post spacing in front of the obstacle and for a minimum distance of 12'-6" from the approach end of the obstacle.
Payment for all additional Guard Rail Posts, spacer blocks, hardware and labor necessary to install the additional Guard Rail Posts shall be included in the unit price of Item 606 Guard Rail, Type 5.
For Locations where additional Guard Rail Post are necessary, See Sheet 46.

SEEDING

Sheet	659	
	Seeding & Mulching	Sq. Yd.
58	1,877	
59	1,214	
60	1,129	
61	758	
62	371	
63	1,398	
64	833	
65	770	
Total	8,350	

EARTHWORK

Sheet	203	
	Excavation	Embankment
	Cu. Yd.	Cu. Yd.
58	55	66
59	8	281
60	0	166
61	8	360
62	0	71
63	221	194
64	30	96
65	16	175
Totals	338	1,409

MISCELLANEOUS COMPUTATIONS

659 Seeding & Mulching ~
From Seeding Table = 8,350 Sq.Yd.
From Sheet 10 = 28,222 Sq.Yd.
From Sheet 30 = 740 Sq.Yd.
Deduct for Piers & Sodding = -21 Sq.Yd.
Net Seeding & Mulching = 37,291 Sq.Yd.

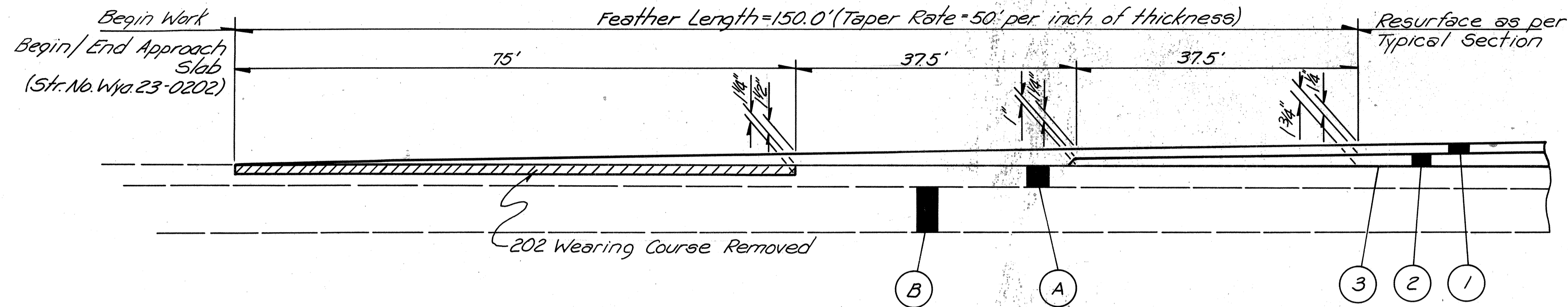
659 Commercial Fertilizer ~
Net Seeding & Mulching = 37,291 Sq.Yd.
Quantity: 37,291 x 9 x 1/1000 x 20 x 1/2000 = 3.36 Tons

PAVEMENT TRANSITION DETAIL

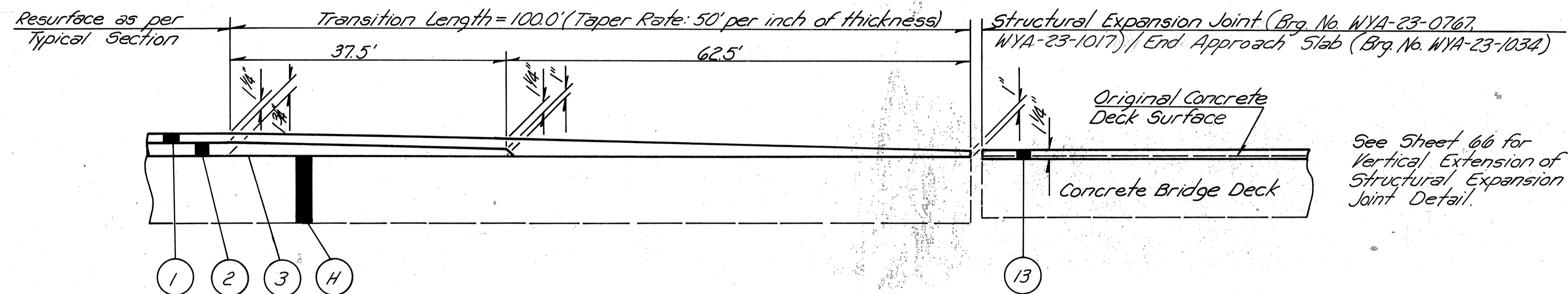
FHWA REGION	STATE	PROJECT
5	OHIO	

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WYANDOT COUNTY
WYA-23-020



FEATHER AT BEGIN WORK AND AT BRIDGE NO. WYA-23-0202 L&R



TRANSITION AT STRUCTURES

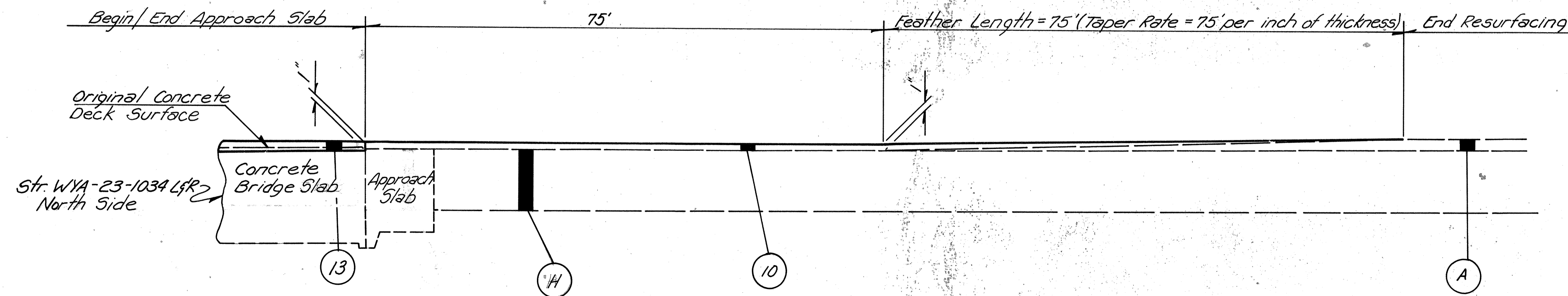
Bridge No. WYA-23-0767 L&R South side only
WYA-23-1017 L&R North side only
WYA-23-1034 L&R South side only

EXISTING LEGEND

- (A) Asphalt Concrete
- (B) Water-bound Macadam
- (H) 9" Reinforced Portland Cement Concrete Pavement

PROPOSED LEGEND

- (1) Item 848 1 1/4" Asphalt Concrete Surface Course, Type 1
- (2) Item 848 1 3/4" Asphalt Concrete Intermediate Course, Type 2
- (3) Item 407 Tack Coat with Cover Aggregate
- (10) Item 848 Asphalt Concrete Surface Course, Variable Thickness
- (13) Item 845 1 1/4" Latex Modified Concrete Overlay



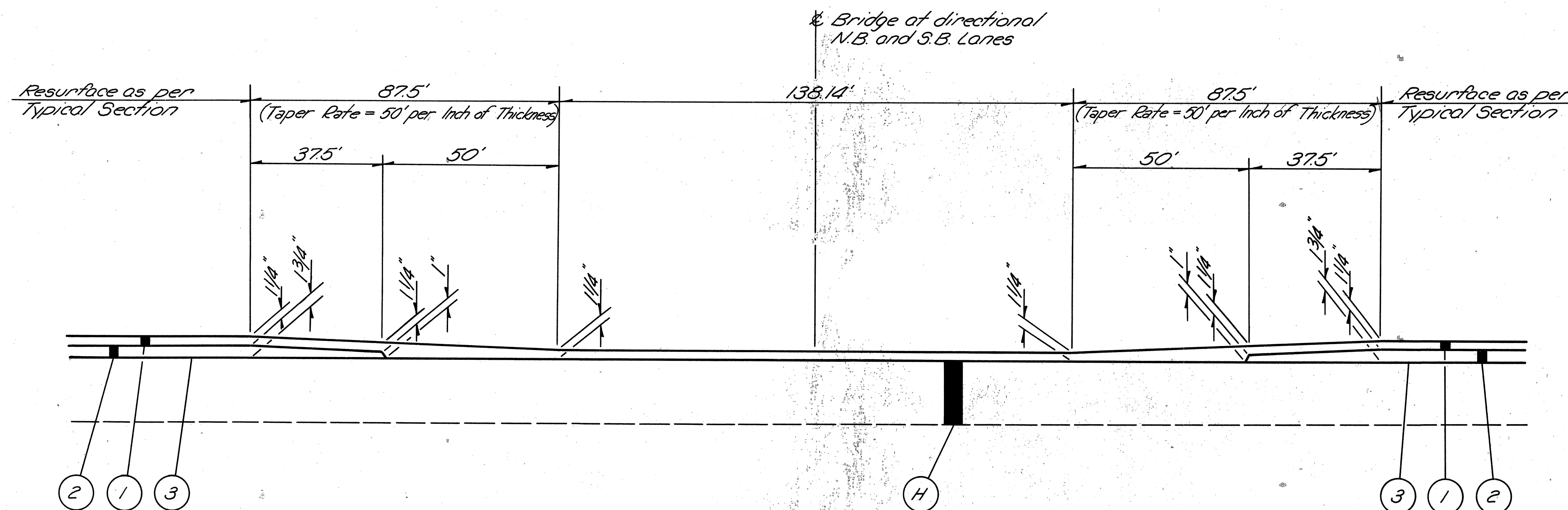
FEATHER AT END RESURFACING

FHWA REGION	STATE	PROJECT	
5	OHIO		

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WYANDOT COUNTY
WYA-23-0.20

TRANSITION DETAILS



TRANSITION AT OVERHEAD BRIDGE

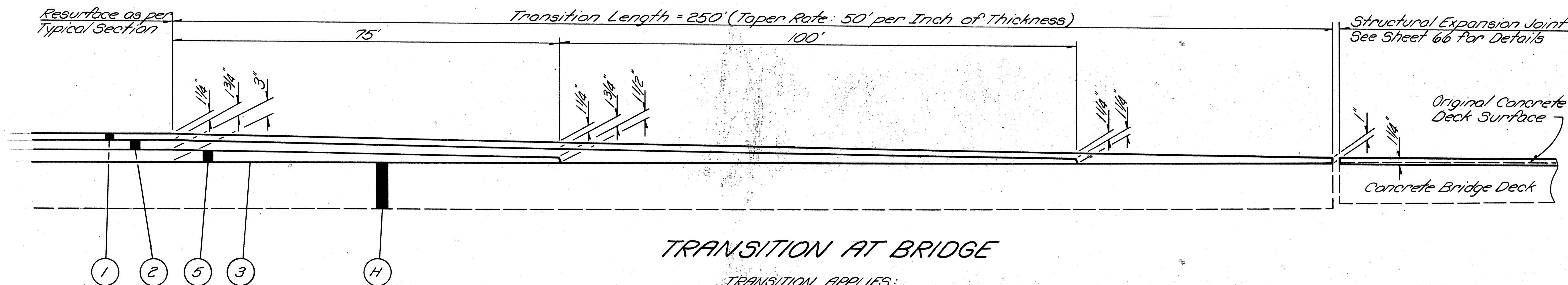
TRANSITION APPLIES:
Bridge No. WYA-23-0722

PROPOSED LEGEND

- ① Item 848 ~ 1 1/4" Asphalt Concrete Surface Course, Type 1.
- ② Item 848 ~ 1 3/4" Asphalt Concrete Intermediate Course, Type 2.
- ③ Item 407 ~ Tack Coat with Cover Aggregate
- ⑤ Item 301 ~ 3" Bituminous Aggregate Base, AC-20, RT-11 or RT-12.

EXISTING LEGEND

- (A) Asphalt Concrete
- (H) 9" Reinforced Portland Cement Concrete



TRANSITION AT BRIDGE

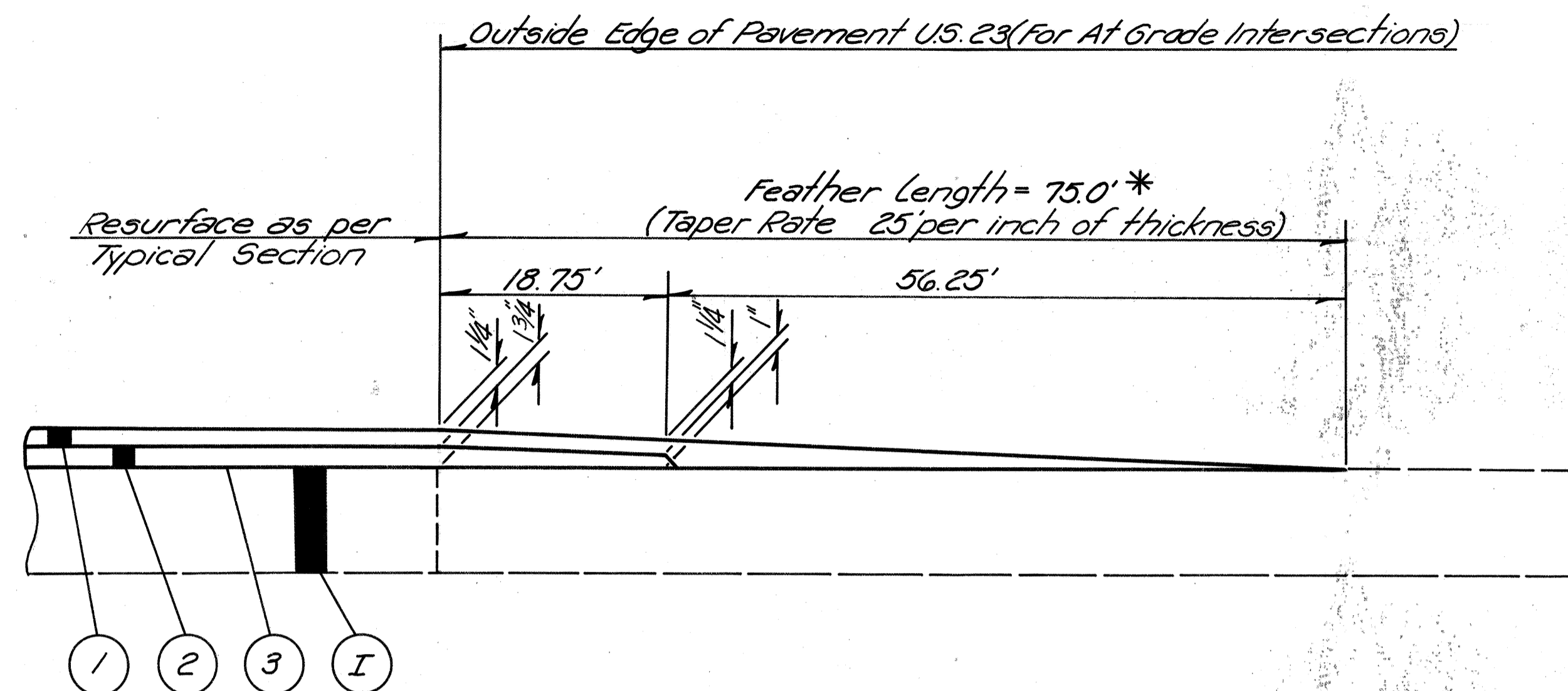
TRANSITION APPLIES:
Bridge No. WYA-23-0767 Lt. & Rt. North Side
Bridge No. WYA-23-1017 Lt. & Rt. South Side

PAVEMENT TRANSITION DETAIL

FHWA REGION	STATE	PROJECT	
5	OHIO		

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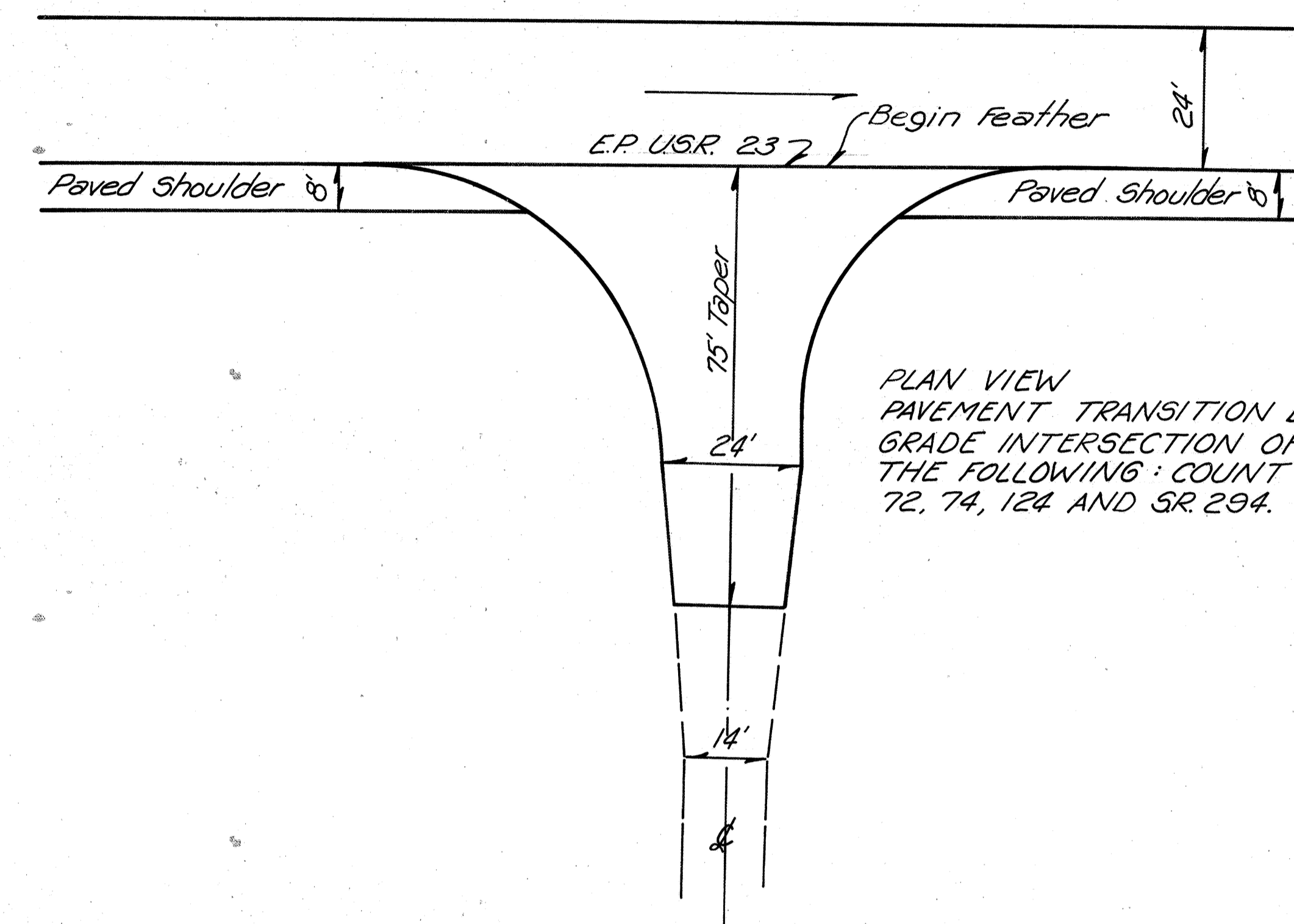
WYANDOT COUNTY
WYA-23-0.20



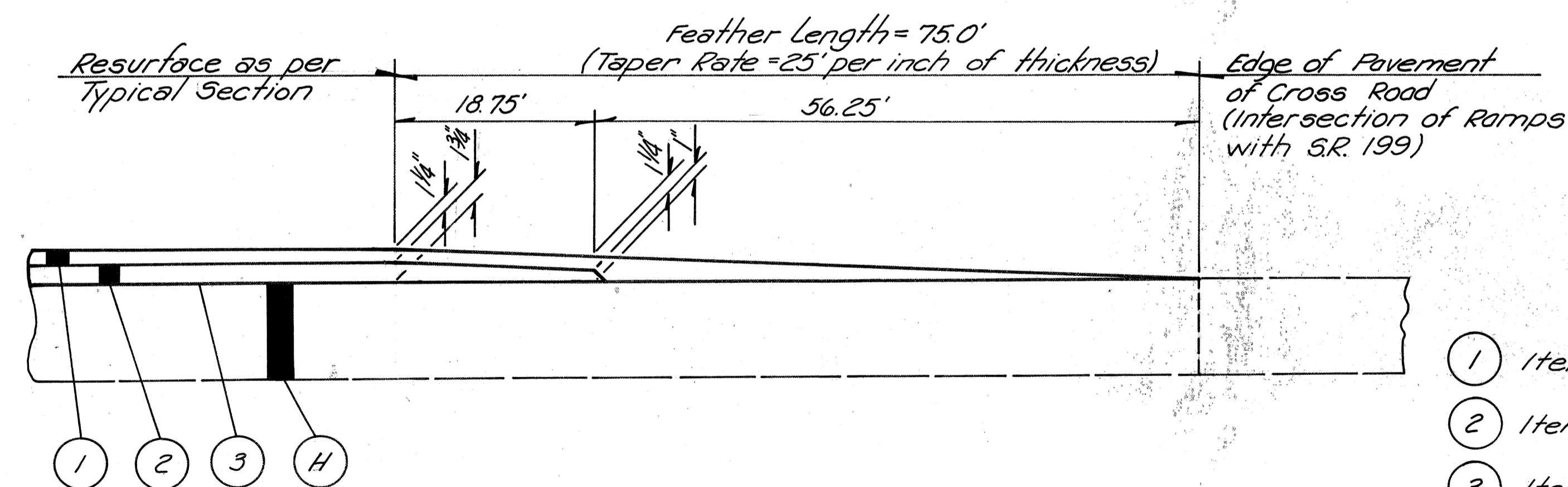
PAVEMENT TRANSITION DETAIL FOR: AT GRADE INTERSECTIONS ON U.S. 23

County Road 62
County Road 65
County Road 72
County Road 74
County Road 124
State Route 294

* At the intersection of northbound USR 23 and County Road 62 the Feather Length = 50' Taper Rate = 16.67 per inch of Thickness and Item 848 Type 2 is tapered from 1 3/4" to 1" in 12.5'



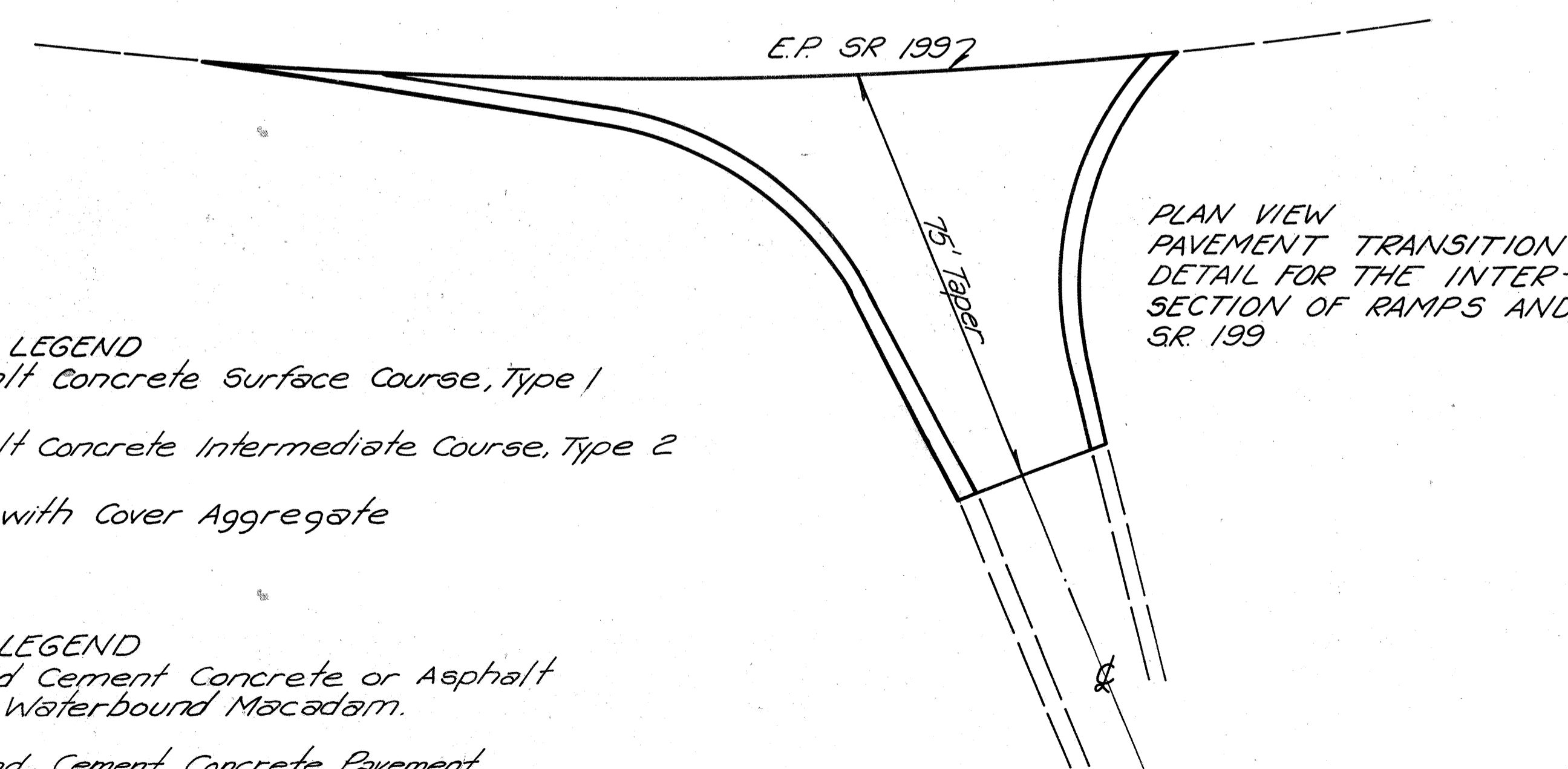
PLAN VIEW
PAVEMENT TRANSITION DETAIL FOR AT
GRADE INTERSECTION OF USR 23 AND
THE FOLLOWING: COUNTY ROAD 62, 65,
72, 74, 124 AND SR 294.



PAVEMENT TRANSITION DETAIL FOR: INTERSECTION OF RAMP & SR. 199

- PROPOSED LEGEND
- ① Item 848 1 1/4" Asphalt Concrete Surface Course, Type 1
 - ② Item 848 1 3/4" Asphalt Concrete Intermediate Course, Type 2
 - ③ Item 407 Tack Coat with Cover Aggregate

- EXISTING LEGEND
- Ⓡ Reinforced Portland Cement Concrete or Asphalt Concrete with Water-bound Macadam.
 - Ⓜ 9" Reinforced Portland Cement Concrete Pavement



PLAN VIEW
PAVEMENT TRANSITION DETAIL FOR THE INTER-
SECTION OF RAMPS AND
SR. 199

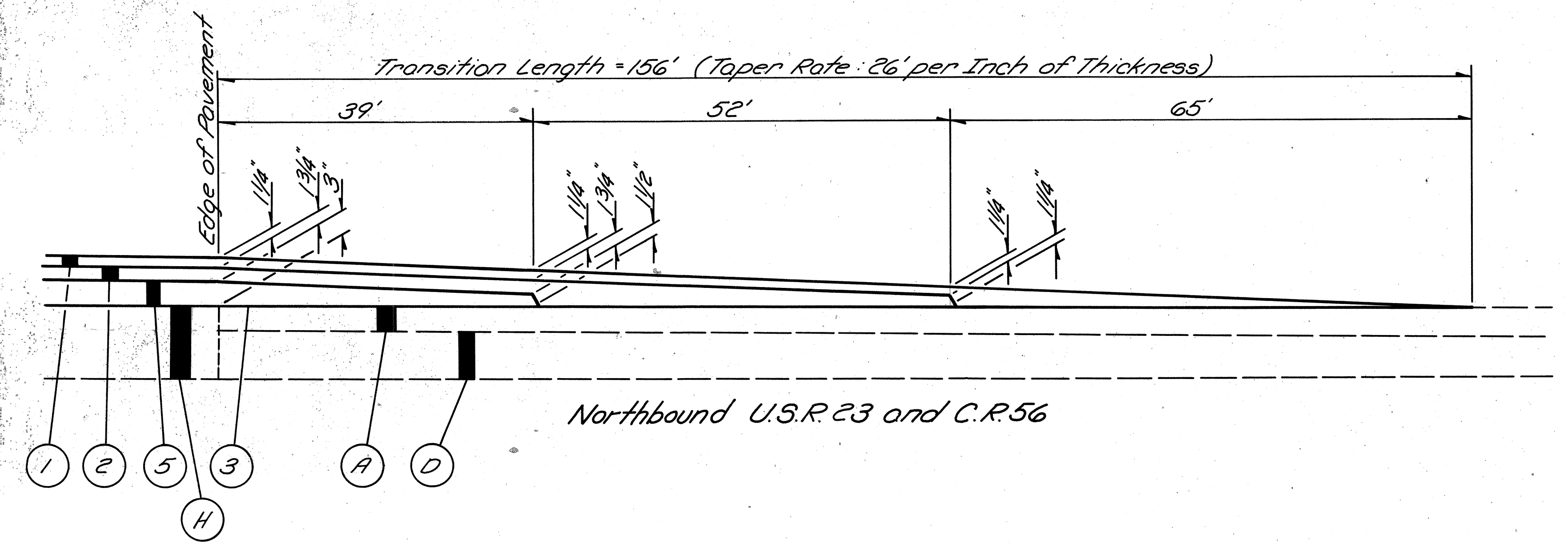
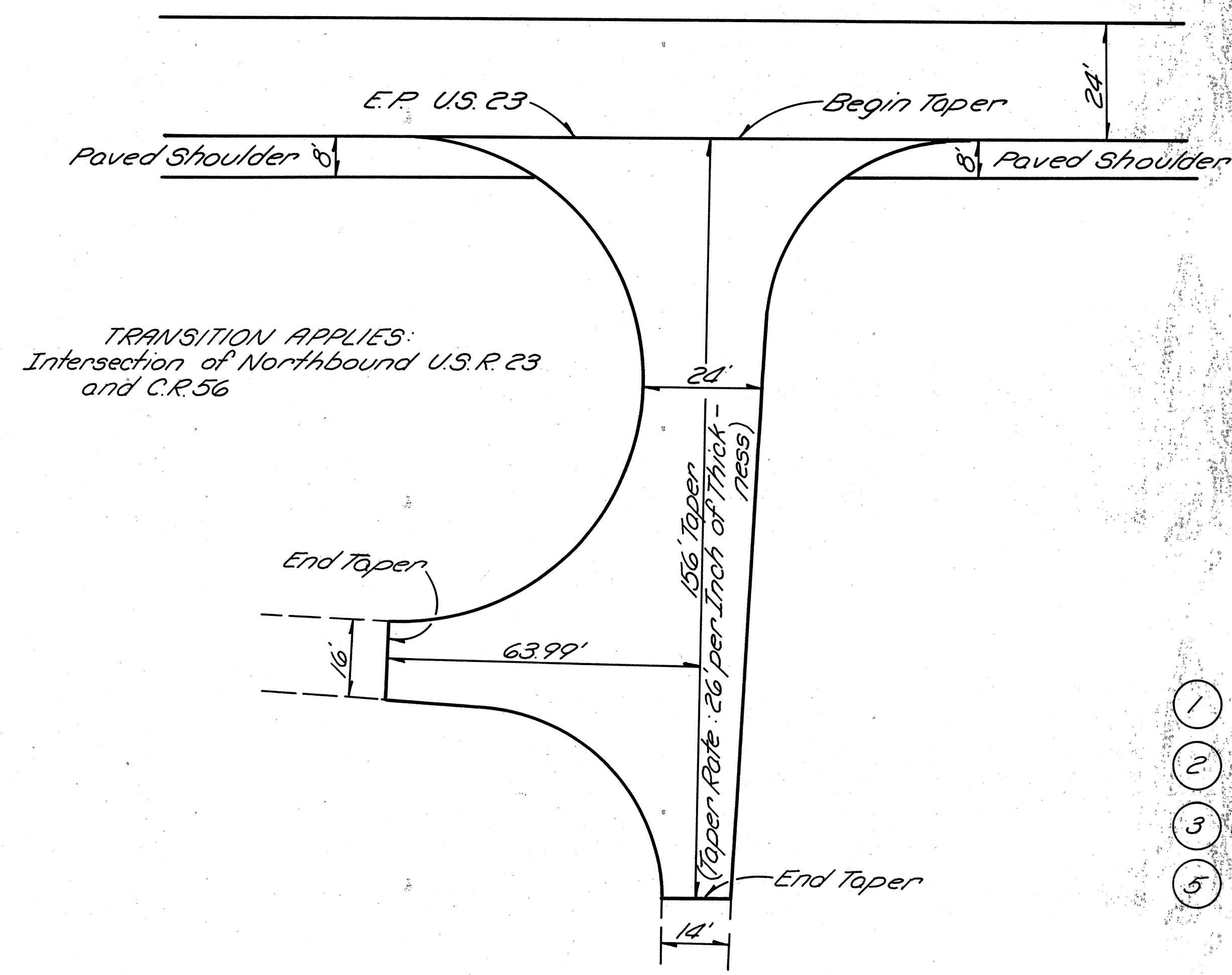
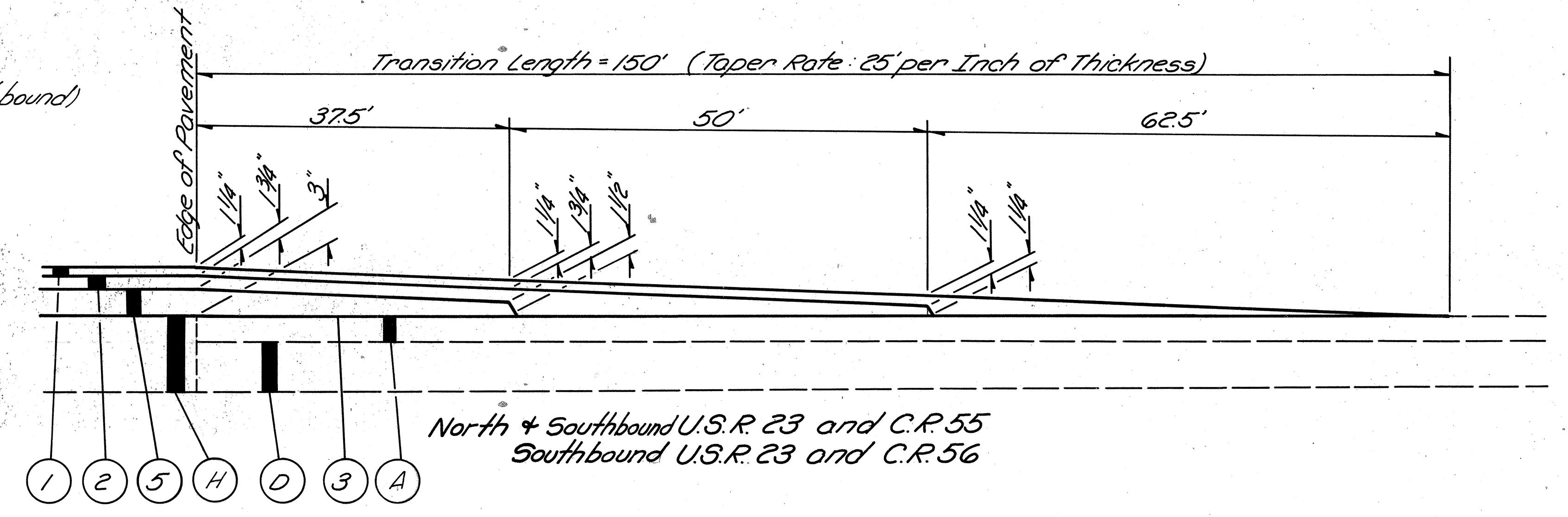
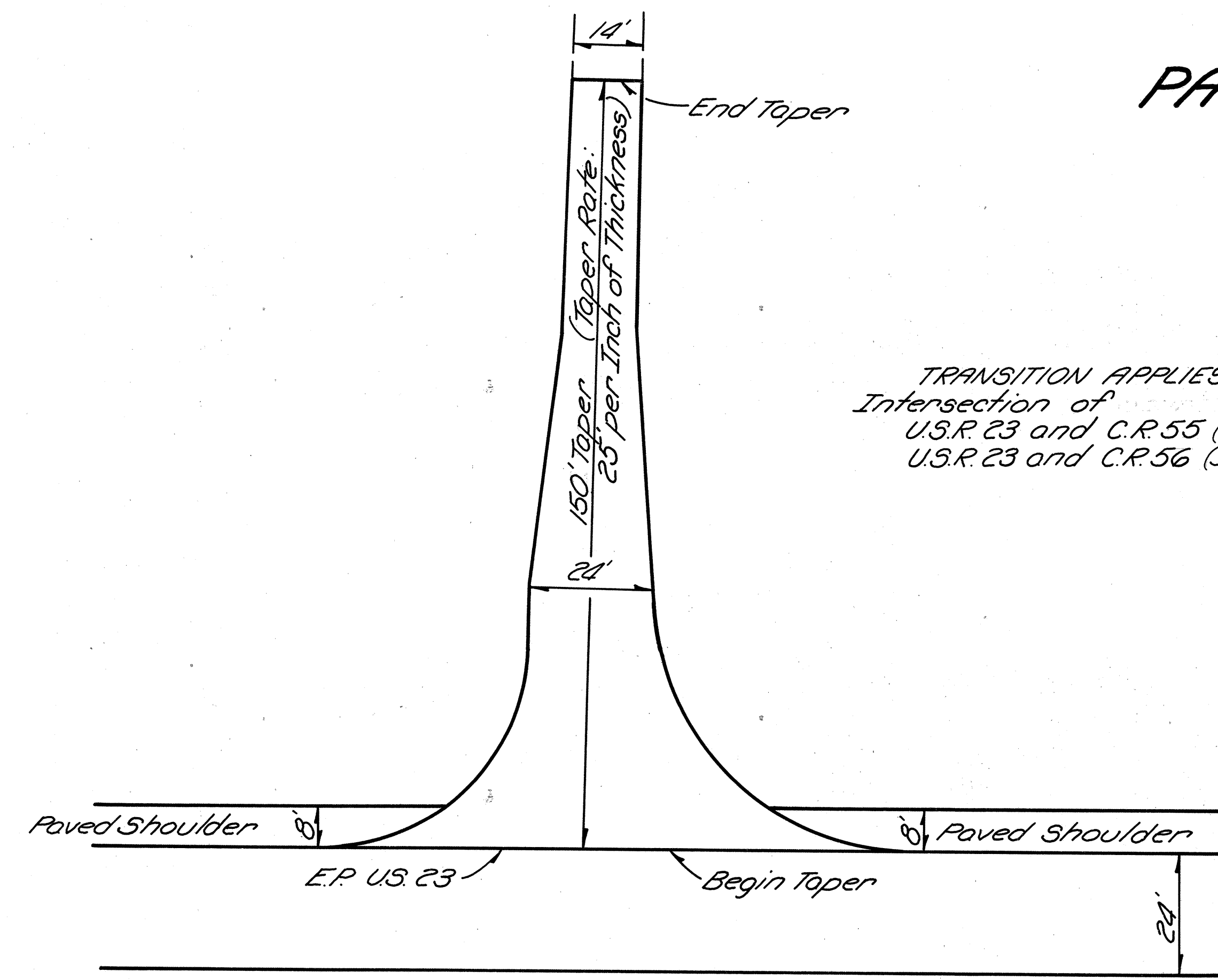
FHWA REGION	STATE	PROJECT
5	OHIO	

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WYANDOT COUNTY
WVA-23-0.20

PAVEMENT TRANSITION DETAILS

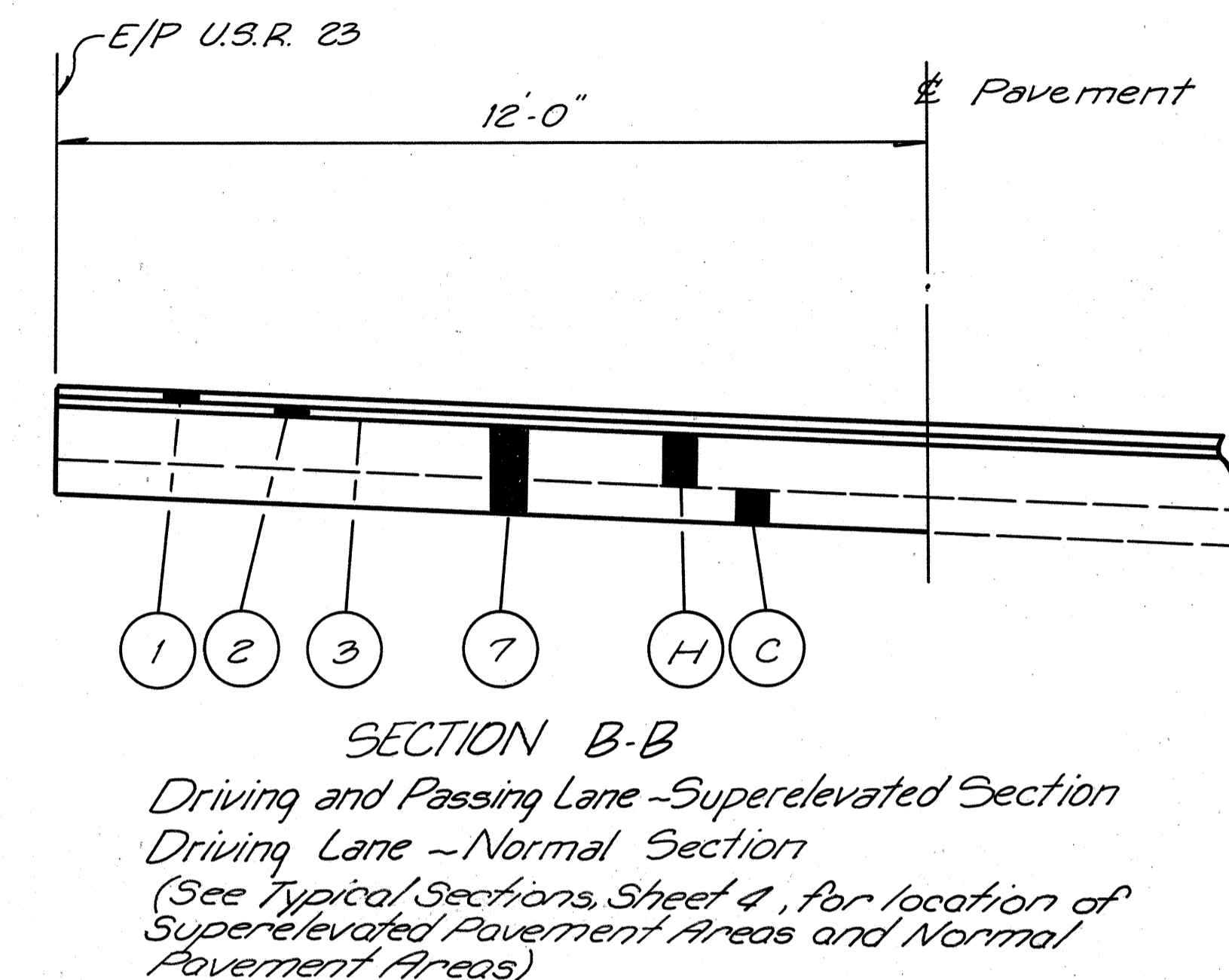
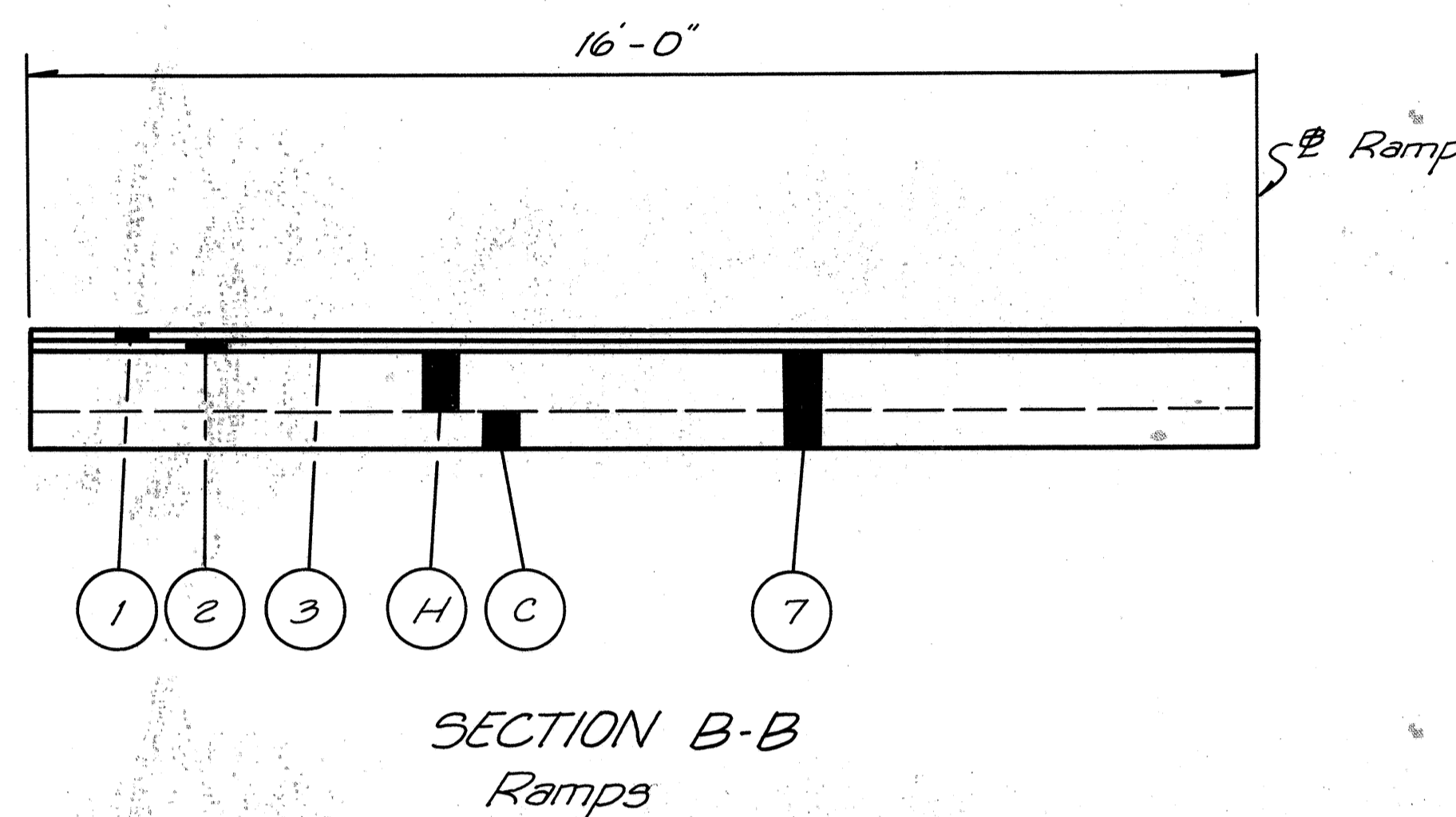
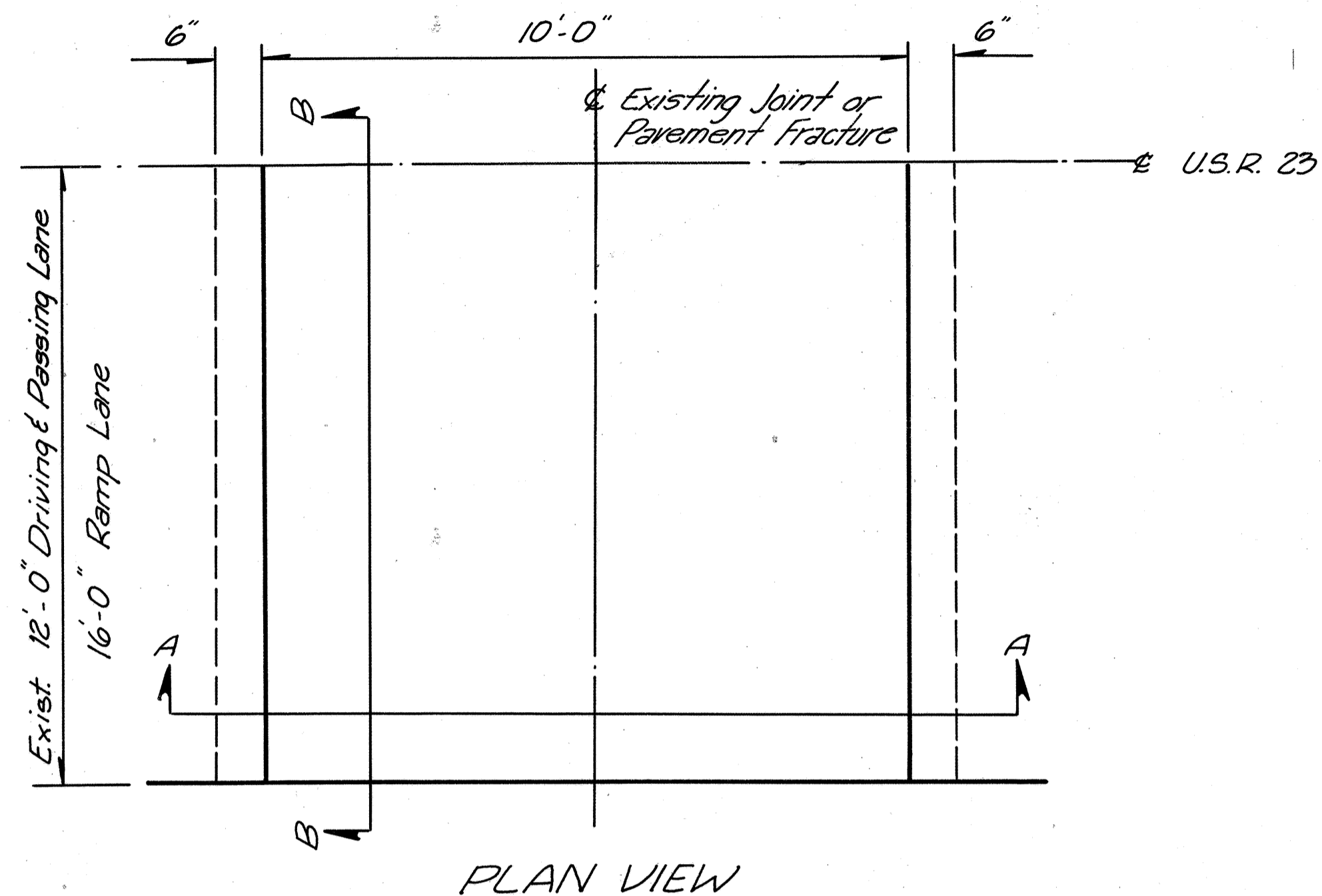
TRANSITION APPLIES:
Intersection of
U.S.R. 23 and C.R. 55 (North & Southbound)
U.S.R. 23 and C.R. 56 (Southbound)



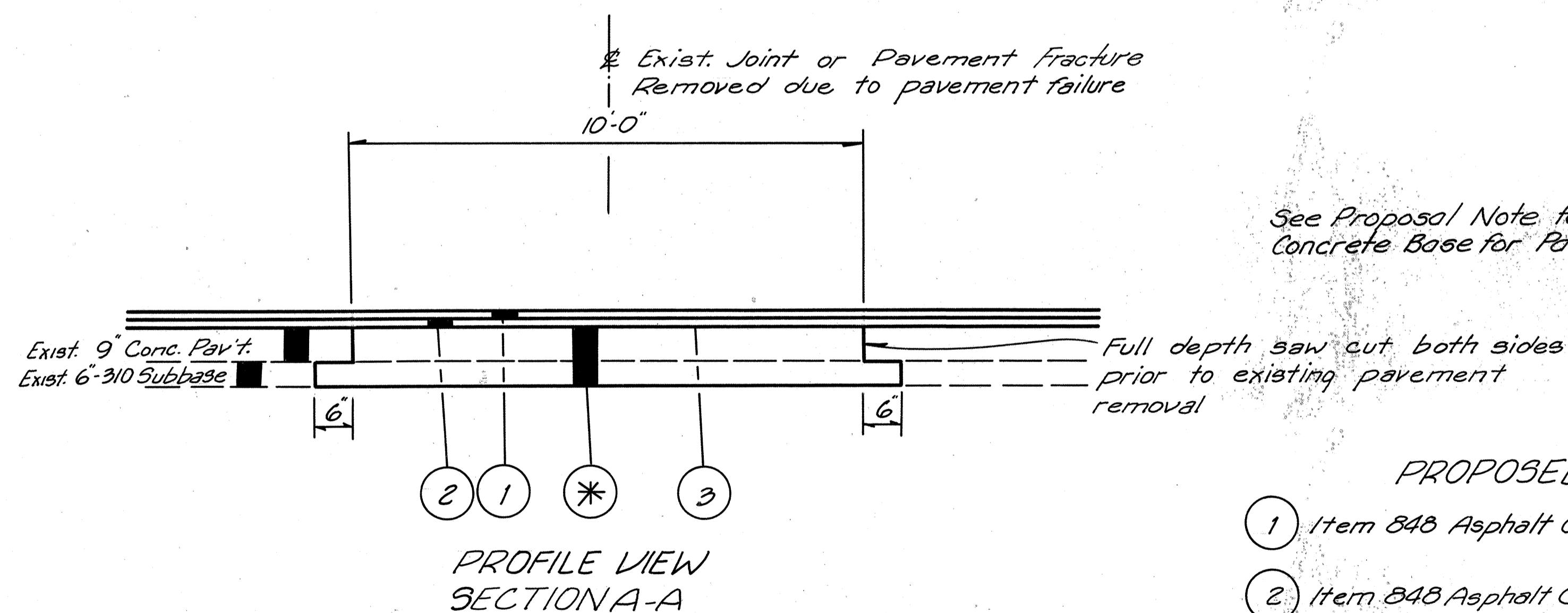
- PROPOSED LEGEND
- 1 Item 848 ~ 1 1/4" Asphalt Concrete Surface Course, Type 1
 - 2 Item 848 ~ 1 3/4" Asphalt Concrete Intermediate Course, Type 2
 - 3 Item 407 ~ Tack Coat with Cover Aggregate
 - 5 Item 301 ~ 3" Bituminous Aggregate AC-20, RT-11 or RT-12
- EXISTING LEGEND
- A Asphalt Concrete
 - D Aggregate Base
 - H 9" Reinforced Portland Cement Concrete Pavement

PAVEMENT REPAIR

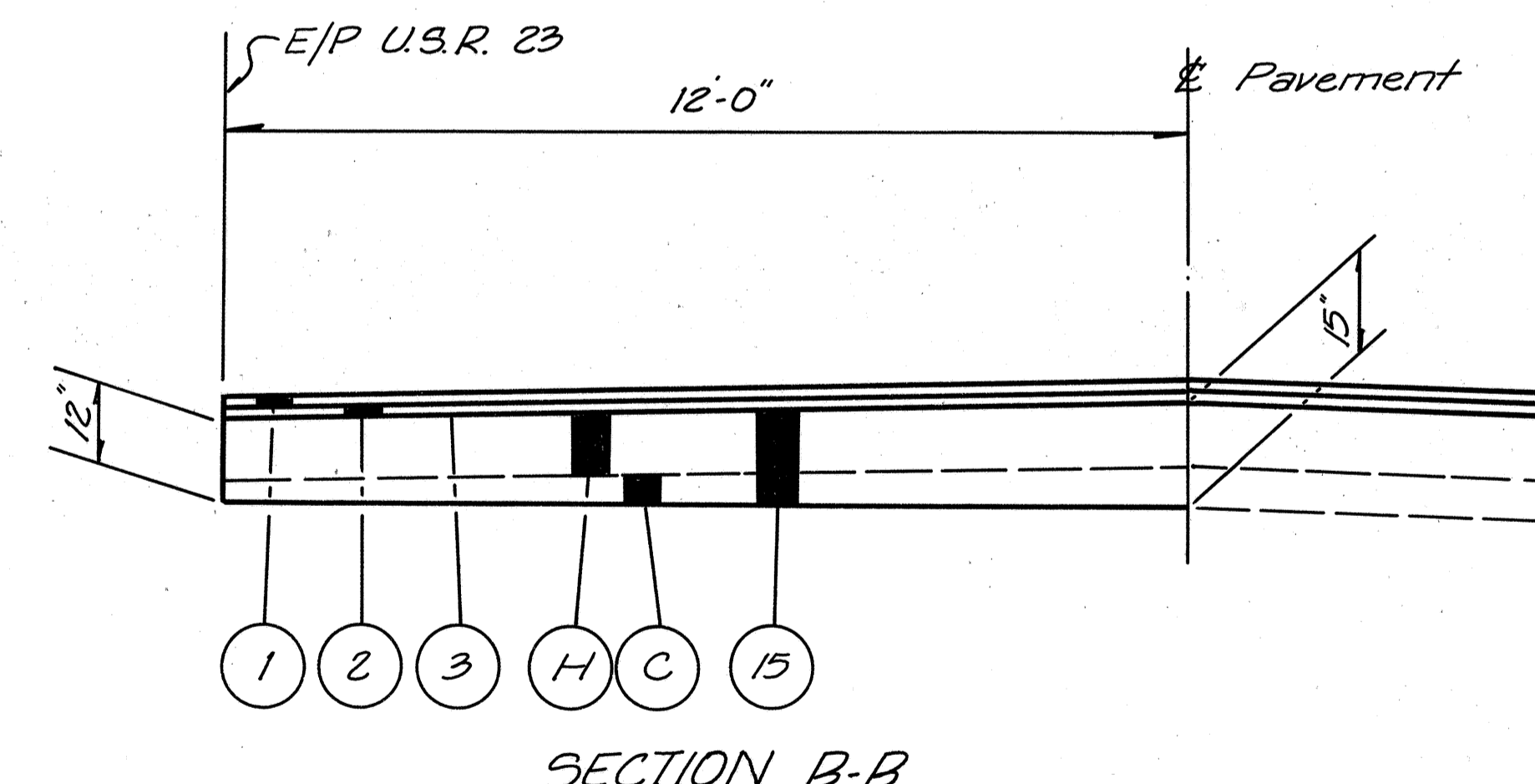
TYPICAL PAVEMENT JOINT REPAIR



ALL PAVEMENT REPAIRS SHALL BE 10' IN LENGTH



See Proposal Note for Item 305, Portland Cement Concrete Base for Pavement Replacement



PROPOSED LEGEND

- ① Item 848 Asphalt Concrete Surface Course, Type 1.
- ② Item 848 Asphalt Concrete Intermediate Course, Type 2.
- ③ Item 407 Tack Coat with Cover Aggregate.
- ⑦ Item 305 15" Portland Cement Concrete Base (See Proposal Note)
- ⑮ Item 305 Variable Thickness Portland Cement Concrete Base (See Proposal Note)

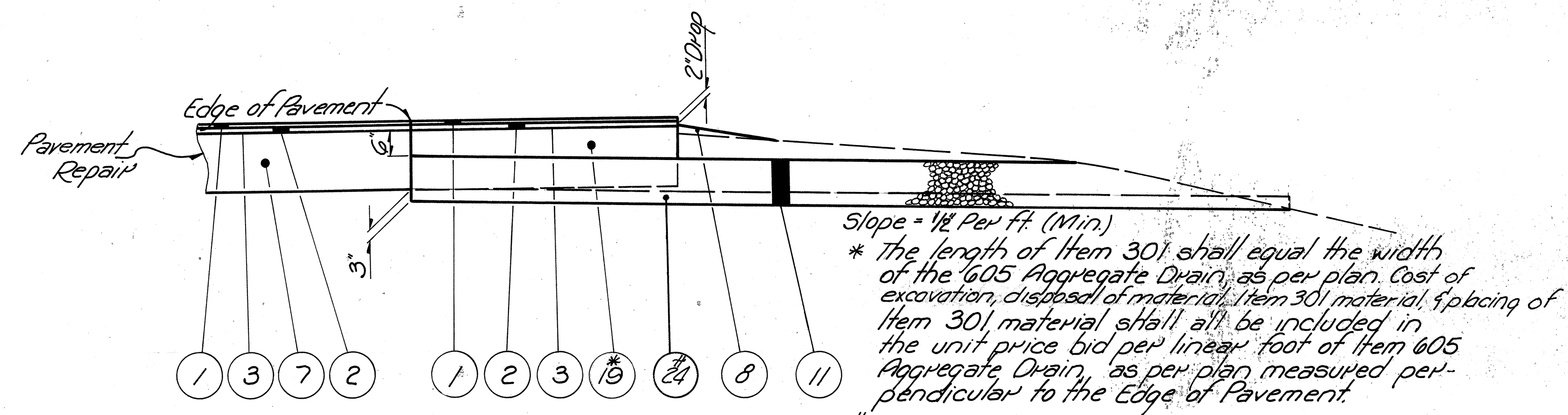
EXISTING LEGEND

- ⓐ Subbase.
- Ⓜ 9" Reinforced Portland Cement Concrete.

NOTE: All locations of part repairs will be marked by the "Engineer" prior to the start of any construction.

* Item 7, U.S.R. 23 Driving Lane and Passing Lane - Superelevated Section, Ramps
Item 15, U.S.R. 23 Passing Lane - Normal Section

AGGREGATE DRAIN "AS PER PLAN"



Slope = 1/2 Per Ft (Min)
 * The length of Item 301 shall equal the width of the 605 Aggregate Drain, as per plan. Cost of excavation, disposal of material, Item 301 material, & placing of Item 301 material shall all be included in the unit price bid per linear foot of Item 605 Aggregate Drain, as per plan measured perpendicular to the Edge of Pavement.
 * The 3" Drainage Tubing shall be centered on the 605 Aggregate Drain, As Per Plan.

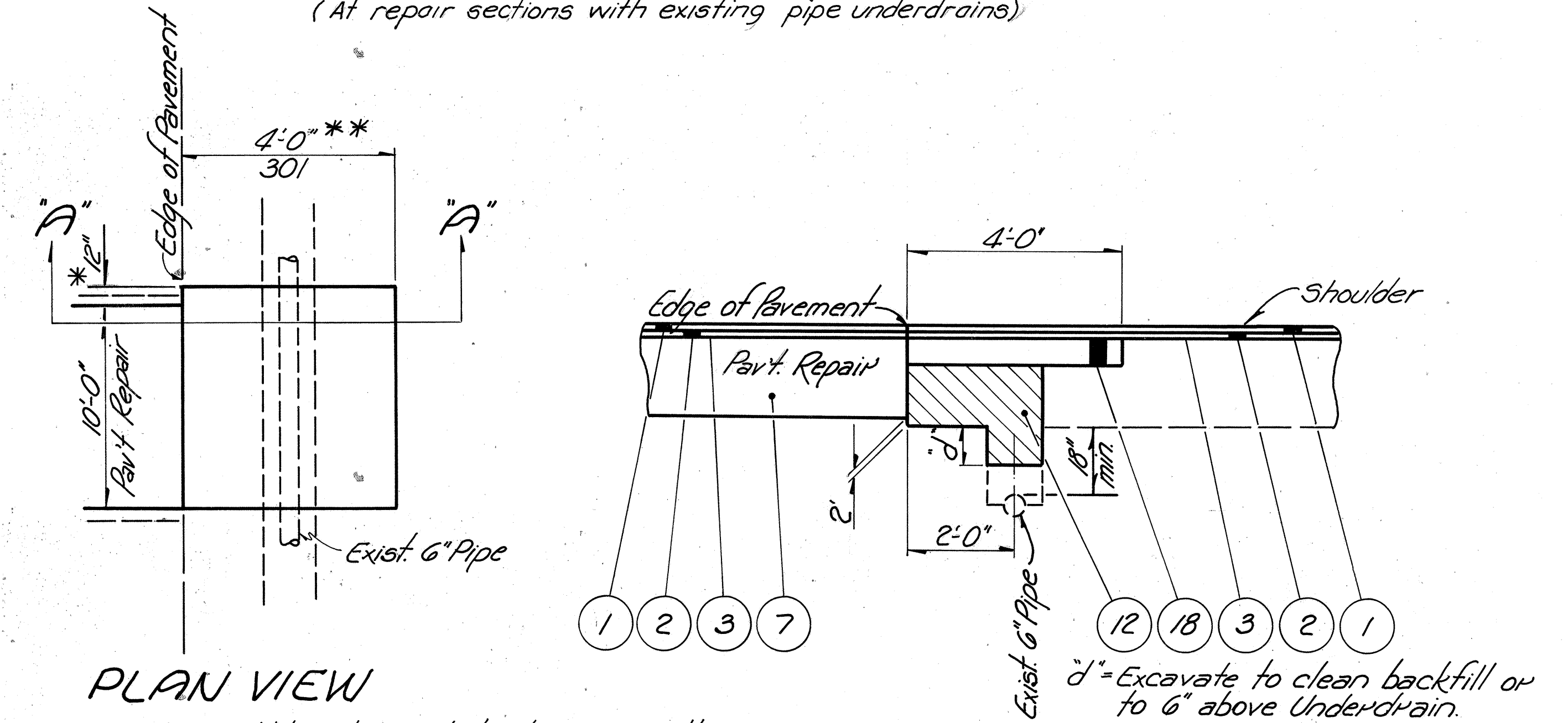
Note:
 An Aggregate Drain, As Per Plan, shall be placed at both ends of Part. Repair Sections where existing or proposed pipe underdrains are not present.
 An Aggregate Drain, As Per Plan shall also be placed at Pressure Relief Joint Locations. See Std. Dwg. BP-11.

PROPOSED LEGEND

- ① Item 848 Asphalt Concrete Surface Course, Type 1.
- ② Item 848 Asphalt Concrete Intermediate Course, Type 2.
- ③ Item 407 Tack Coat with Cover Aggregate.
- ⑦ Item 305 15" Portland Cement Concrete Base (See Proposal Note)
- ⑧ Item 617 Reconditioning Shoulders, including Shoulder Preparation, Compacted Aggregate and Water.
- ⑪ Item 605 Aggregate Drain, as per plan.
- ⑫ Item 605 Longitudinal Aggregate Drain, as per plan.
- ⑱ Item 301 6" Bituminous Aggregate Base AC-20, RT-11 or RT-12 (to be included in the unit price bid for Item 605 Longitudinal Aggregate Drains, as per plan.)
- ⑲ Item 301 6" Bituminous Aggregate Base AC-20, RT-11 or RT-12. (to be included in the unit price bid for 605 Aggregate Drain, as per plan.)
- ⑳ Item 605 3" Perforated Corrugated Polyethylene Drainage Tubing, 707.15 (to be included in the unit price bid for 605 Aggregate Drain, as per plan.)

LONGITUDINAL AGGREGATE DRAINS "AS PER PLAN"

(At repair sections with existing pipe underdrains)



PLAN VIEW

* The 12" additional Longitudinal Drain Length shall apply at the upgrade end of the Pavement Repair Area.
 * * Mainline; 3'-0" on Ramps.

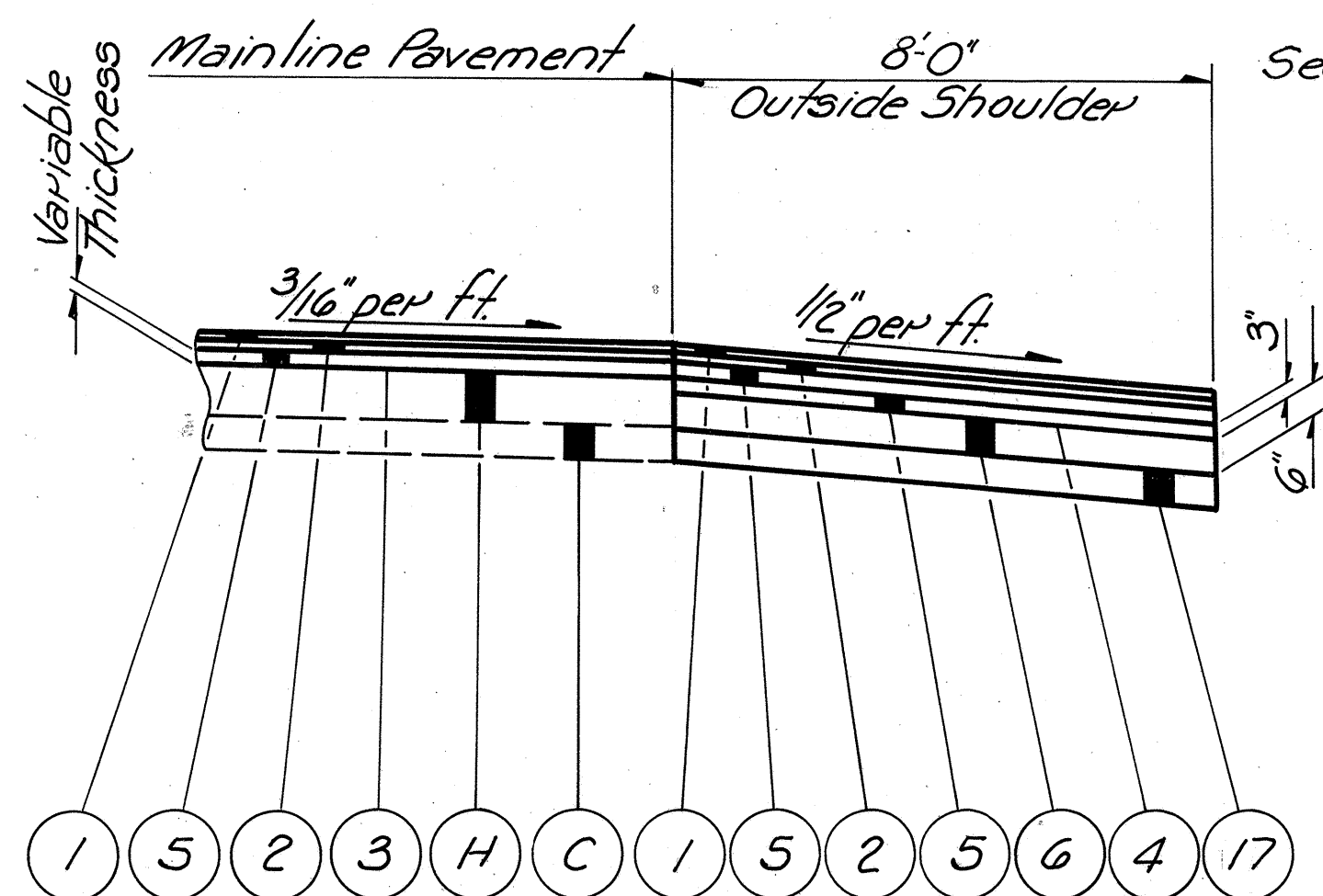
605 LONGITUDINAL AGGREGATE DRAINS, AS PER PLAN ~ In addition to the provision of Item 605, the following shall apply to this item.

The Cross-Hatched area noted above shall be excavated to a depth "d" and back filled with No. 8 Aggregate. Payment for the above excavation, disposal of excavated material, No. 8 Aggregate, placing of No. 8 Aggregate, Item 301 Material and placing of Item 301 Material shall all be included in the unit price bid per linear foot of Item 605 Longitudinal Aggregate Drain, As Per Plan" measured parallel to the pavement edge.
 For locations of existing pipe underdrains, see Plan Sheets 31-57.

EXISTING LEGEND

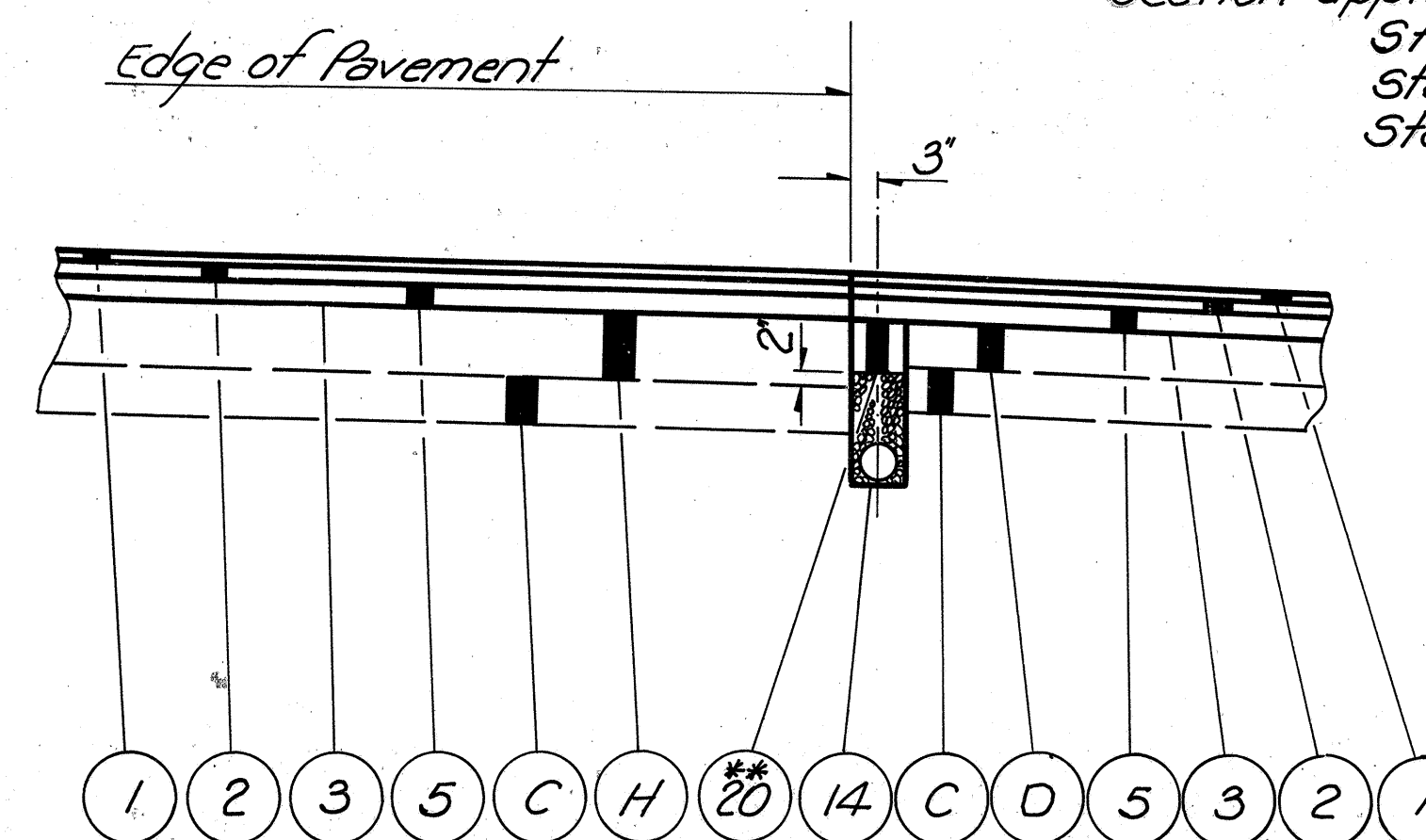
- (C) Subbase.
- (D) Aggregate Base.
- (H) 9" Reinforced Portland Cement Concrete.

SHOULDER REPLACEMENT

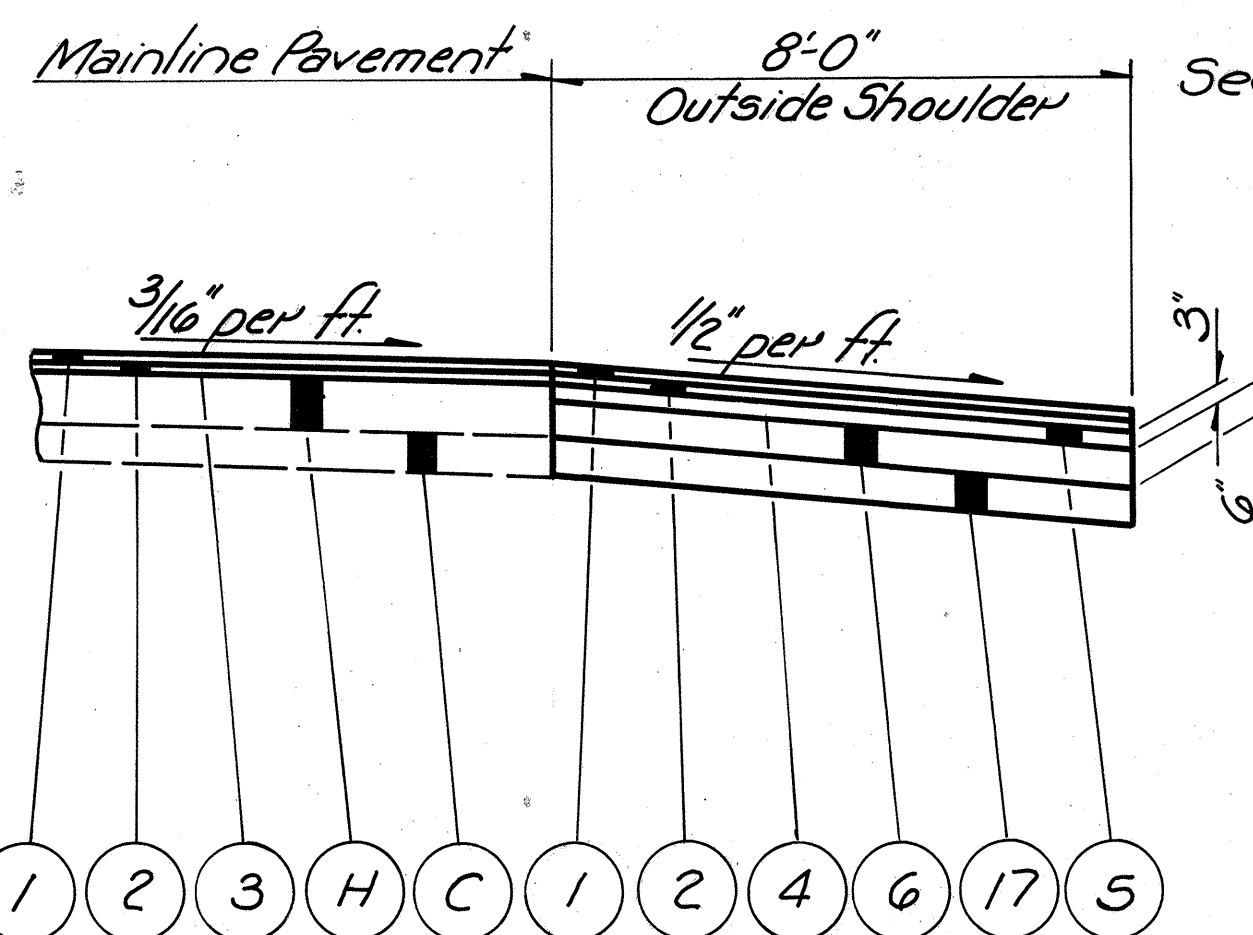


Section applies:
Sta. 476+35.74 to Sta. 478+85.74 SB = 250.00 Lin.Ft.
Total Length = 250.00 Lin.Ft.

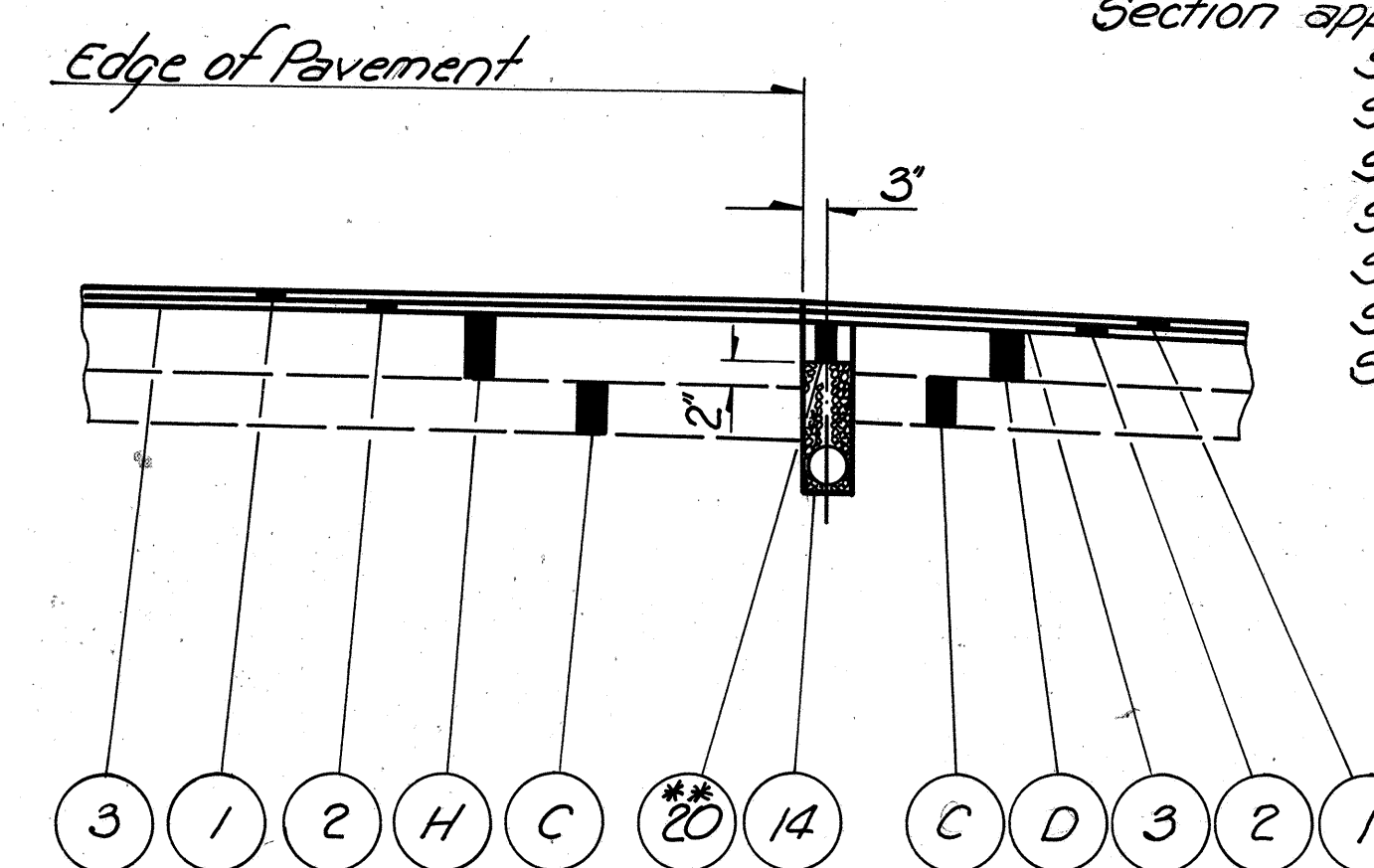
4" UNCLASSIFIED PIPE UNDERDRAINS AS PER PLAN



Section applies:
Sta. 350+00 to Sta. 407+50 SB
Sta. 351+00 to Sta. 355+00 NB
Sta. 409+00 to Sta. 478+80 SB



Section applies:
Sta. 481+50 to Sta. 487+67.00 NB = 67.00 Lin.Ft.
Sta. 478+85.74 to Sta. 487+67.00 SB = 88.26 Lin.Ft.
Deduct for Bridge No. Wya 23-1017 = -146.52 Lin.Ft.
Sta. 478+85.74 to Sta. 480+32.26 = 135.74 Lin.Ft.
Total Length = 135.74 Lin.Ft.



Section applies:
Sta. 289+00 BK to Sta. 297+00 BK SB
Sta. 296+00 AH to Sta. 312+00 AH SB
Sta. 296+00 AH to Sta. 305+00 AH NB
Sta. 344+00 to Sta. 347+00 SB
Sta. 343+00 to Sta. 347+00 NB
Sta. 481+00 to Sta. 487+03 SB
Sta. 480+50 to Sta. 485+04 NB

PROPOSED LEGEND

- ① Item 848 1 1/4" Asphalt Concrete Surface Course, Type 1.
- ② Item 848 1 3/4" Asphalt Concrete Intermediate Course, Type 2.
- ③ Item 407 Tack Coat with Cover Aggregate.
- ④ Item 408 Bituminous Prime Coat applied at the rate of 0.40 Gals. per Sq. Yd.
- ⑤ Item 301 Bituminous Aggregate Base, AC-20, RT-11 or RT-12.
- ⑥ Item 304 Aggregate Base, thickness as shown.
- ⑭ Item 605 4" Unclassified Pipe Underdrains, as per plan.
- ⑰ Item 310 6" Subbase.
- ⑳ Item 301 Bituminous Aggregate Base, AC-20, RT-11 or RT-12 (Cost to be included with unit price bid for 605 4" Unclassified Pipe Underdrains, as per plan.)

** Note:
The Cost of Item 301 Material and Cost of placing Item 301 Material shall be included in the unit price bid of Item 605, 4" Unclassified Pipe Underdrain as per plan.

EXISTING LEGEND

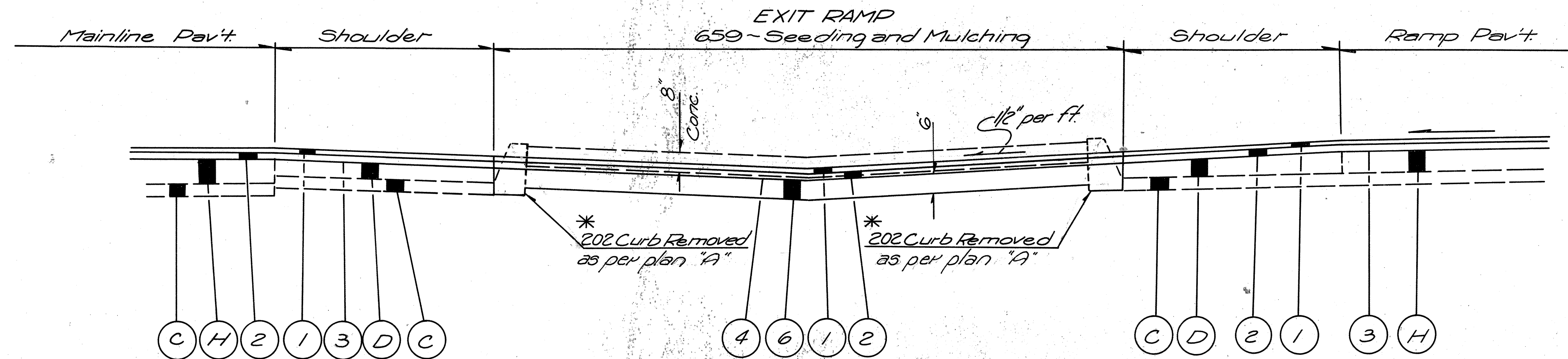
- ⓐ Subbase.
- ⓓ Aggregate Base.
- ⓗ 9" Reinforced Portland Cement Concrete.

CLIRB REMOVAL DETAIL

FHWA REGION	STATE	PROJECT	
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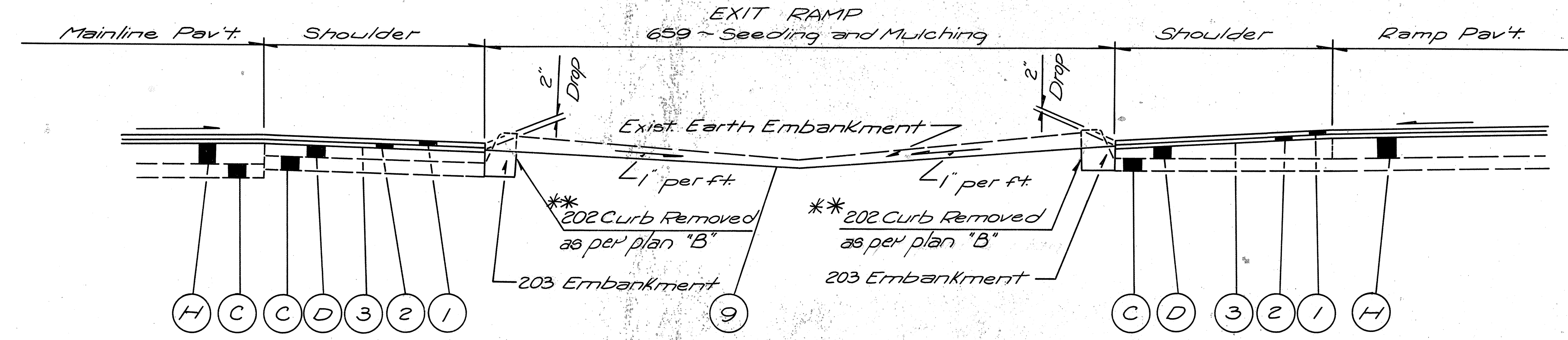
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WYANDOT COLINTY
WYA-23-020



* Cost of removing Concrete Gore will be included in the unit price bid of 202 Curb Removed as per plan "A"

SECTION ABOVE APPLIES
Interchange
Ramp "A" Sta 313+08AH to Sta 313+48AH
Ramp "C" Sta 335+73 to Sta 336+06



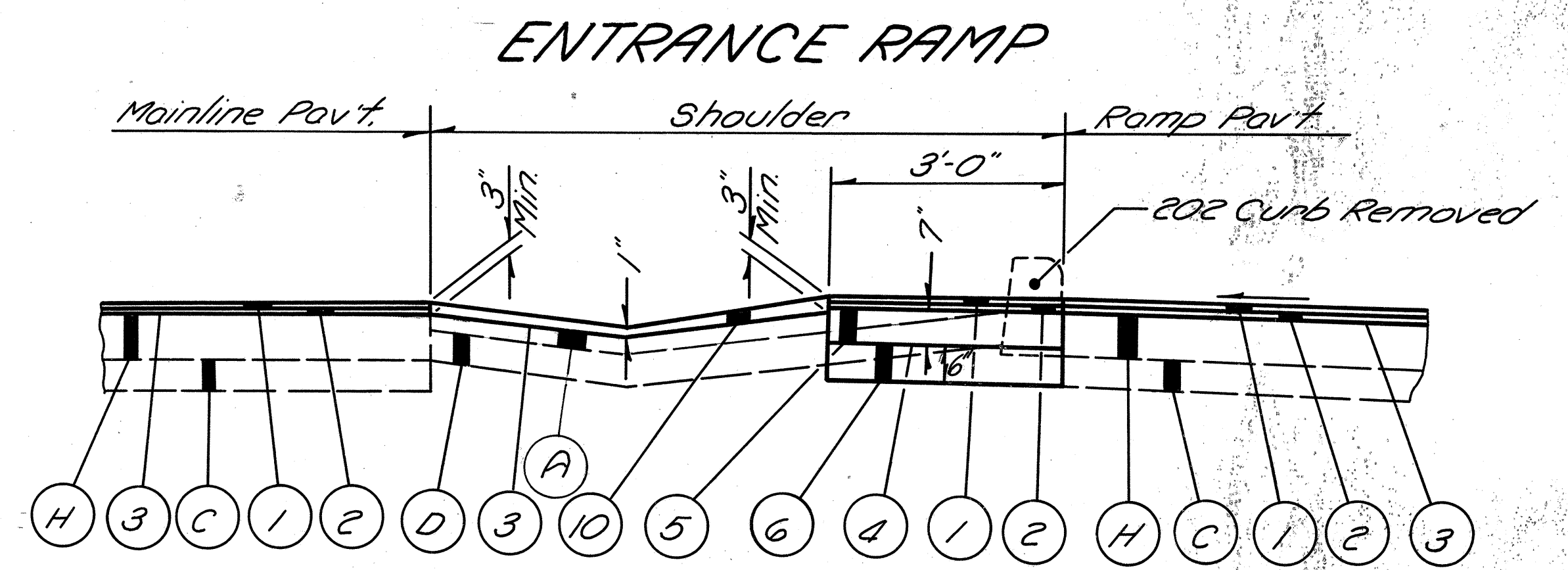
** Cost of removing Curb, excavation between Curbs and Embankment beneath Curbs will all be included in the unit price bid of 202 Curb Removed as per plan "B"

SECTION ABOVE APPLIES
Interchange
Ramp "A" Sta 313+48AH to Sta 314+11AH
Ramp "C" Sta 335+04 to Sta 335+73

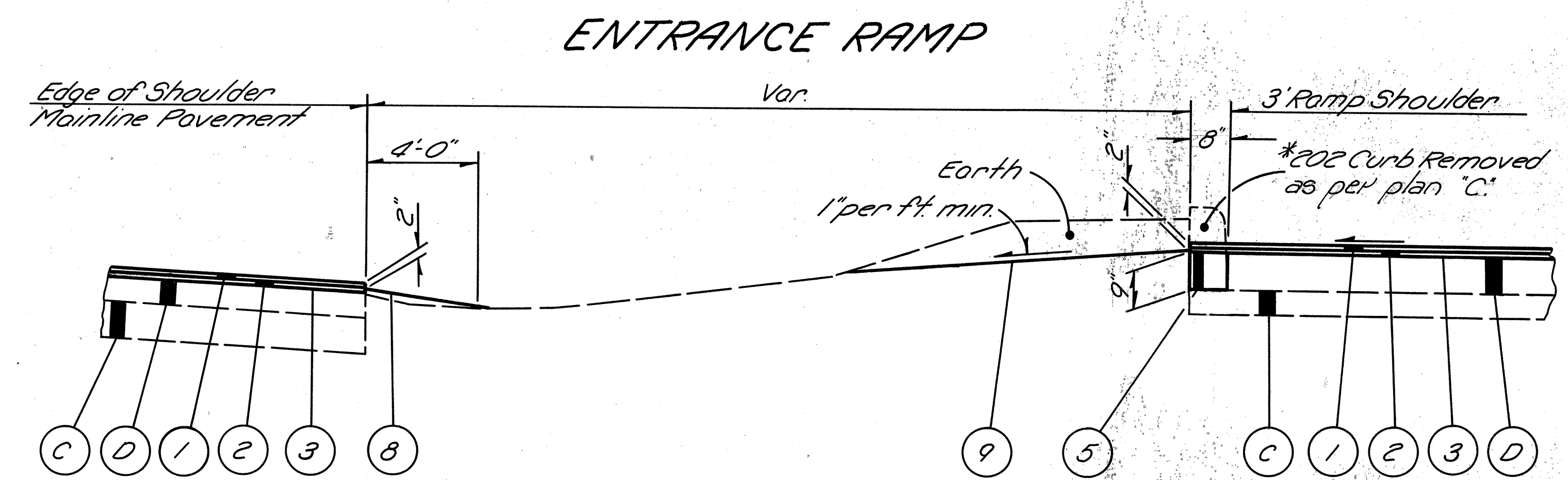
- PROPOSED LEGEND
- ① Item 848 1 1/4" Asphalt Concrete Surface Course, Type 1
 - ② Item 848 3/4" Asphalt Concrete Intermediate Course, Type 2
 - ③ Item 407 Tack Coat with Cover Aggregate
 - ④ Item 408 Bituminous Prime Coat applied at the rate of 0.40 Gals. per Sq. Yd.
 - ⑥ Item 304 Aggregate Base
 - ⑨ Item 659 Seeding and Mulching

- EXISTING LEGEND
- ⓐ Subbase
 - ⓓ Aggregate Base
 - ⓗ 9" Reinforced Portland Cement Concrete

CURB REMOVAL DETAIL



SECTION ABOVE APPLIES:
Interchange
Ramp "B" from Sta. 332+66 to Sta. 335+05
Ramp "D" from Sta. 312+50 to Sta. 316+88AH



SECTION ABOVE APPLIES:
Interchange
Ramp "B" from Sta. 329+89 to Sta. 332+66
Ramp "D" from Sta. 316+88AH to Sta. 318+34AH

* Excavation cost shall be included with unit bid price of 202 Curb Removed, as per plan "C."

EXISTING LEGEND

- (A) Asphalt Concrete
- (C) Subbase
- (D) Aggregate Base
- (H) 9" Reinforced Portland Cement Concrete

PROPOSED LEGEND

- (1) Item 848 - 1 1/4" Asphalt Concrete Surface Course, Type 1
- (2) Item 848 - 1 3/4" Asphalt Concrete Intermediate Course, Type 2
- (3) Item 407 - Tack Coat with Cover Aggregate
- (4) Item 408 - Bituminous Prime Coat applied at the rate of 0.40 Gal per Sq. Yd.
- (5) Item 301 - Bituminous Aggregate Base, AC-20, RT-11 or RT-12
- (6) Item 304 - Aggregate Base
- (8) Item 617 - Reconditioning Shoulders, including Shoulder Preparation, Compacted Aggregate and Water
- (9) Item 659 - Seeding and Mulching
- (10) Item 848 - Asphalt Concrete Surface Course, Type 1, Var. Thickness

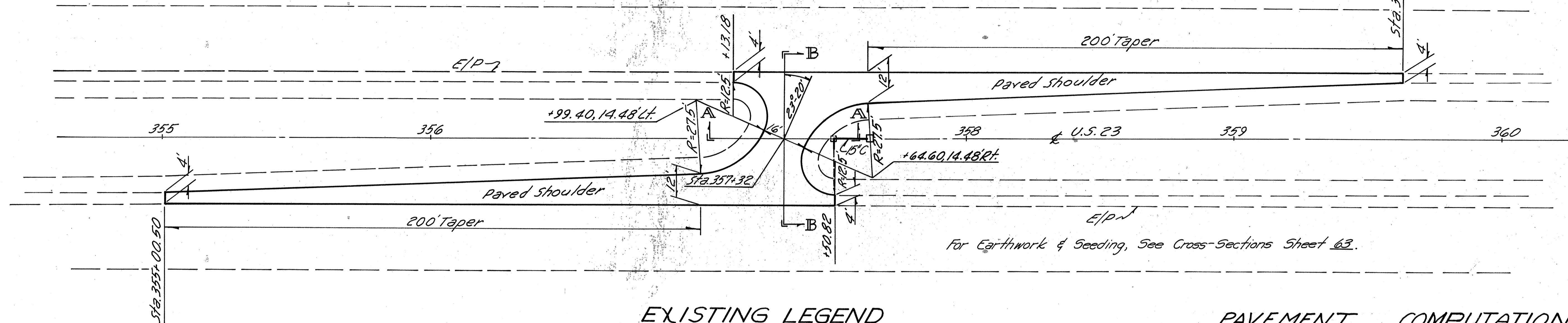
MEDIAN CROSSOVER

Computations By
Initials J.G.C. Date 11-27-83
Computations Checked By
Initials J.B. Date 12-1-83
Final Revisions By
Initials Date

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For Earthwork & Seeding, See Cross-Sections Sheet 63.

EXISTING LEGEND

- (C) Subbase
- (H) Reinforced Portland Cement Concrete

PROPOSED LEGEND

- (1) Item 848 1 1/4" Asphalt Concrete Surface Course, Type 1
- (2) Item 848 1 3/4" Asphalt Concrete Intermediate Course Type 2
- (3) Item 407 Tack Coat with Cover Aggregate
- (4) Item 408 Bituminous Prime Coat applied at the rate of 0.40 Gals. per Sq.Yd.
- (5) Item 301 3" Bituminous Aggregate Base AC-20, RT-11 or RT-12
- (6) Item 304 Aggregate Base, thickness as shown
- (9) Item 659 seeding and Mulching
- (17) Item 310 6" Subbase

PAVEMENT COMPUTATIONS

Item 848 Type 1: $(2) \left[\frac{1}{2} (4+12)(200) + \frac{1}{2} (39.48+16.5)(51.42) - \frac{1}{2} (13.33/360)(\pi)(12.5)^2 - \frac{1}{2} (64.38/360)(\pi)(27.5)^2 - \frac{1}{2} (12+39.48)(1.10) \right] (1.25)(1/12)(1/27) = 18.76 \text{ Cu.Yd.}$

Item 848 Type 2: $(2) \left[\frac{1}{2} (4+12)(200) + \frac{1}{2} (39.48+16.5)(51.42) - \frac{1}{2} (13.33/360)(\pi)(12.5)^2 - \frac{1}{2} (64.38/360)(\pi)(27.5)^2 - \frac{1}{2} (12+39.48)(1.10) \right] (1.75)(1/12)(1/27) = 26.27 \text{ Cu.Yd.}$

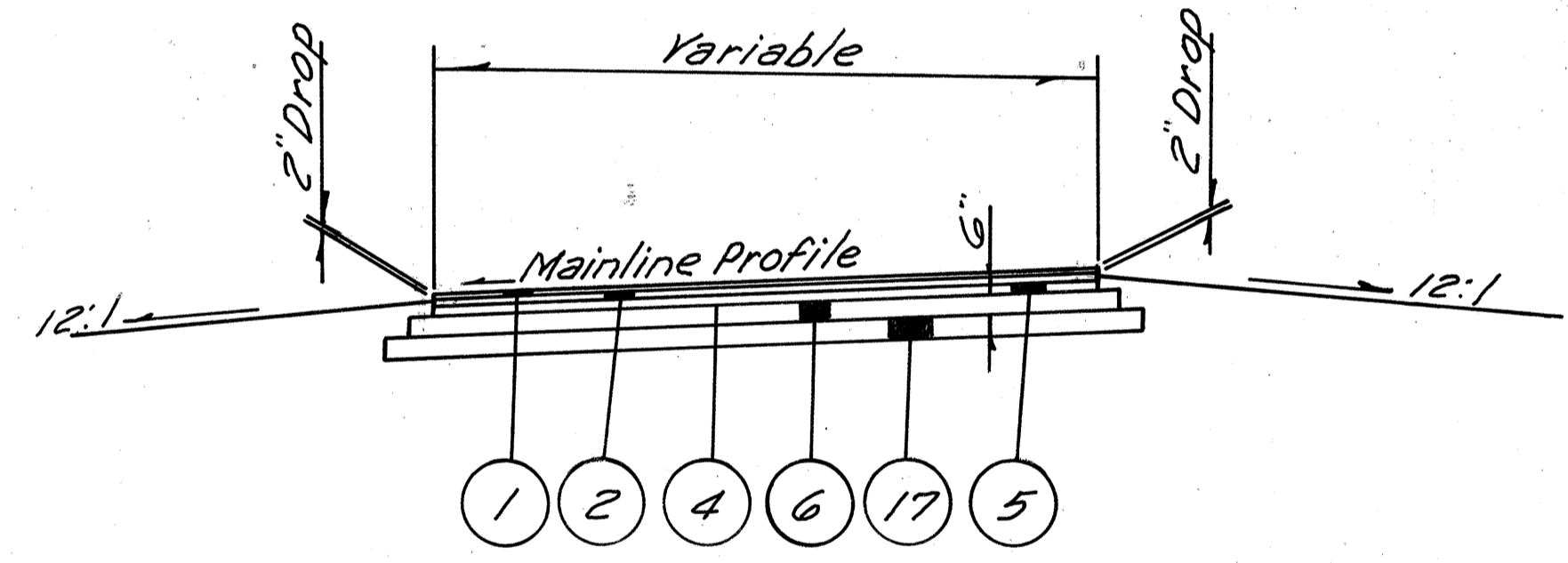
Item 301: $(2) \left[\frac{1}{2} (4.5+12.5)(200) + \frac{1}{2} (39.48+16.5)(51.42) - \frac{1}{2} (13.33/360)(\pi)(12)^2 - \frac{1}{2} (64.38/360)(\pi)(27)^2 - \frac{1}{2} (12+39.48)(1.10) \right] (3/12)(1/27) = 47.39 \text{ Cu.Yd.}$

Item 408: $(2) \left[\frac{1}{2} (4.5+12.5)(200) + \frac{1}{2} (39.48+16.5)(51.42) - \frac{1}{2} (13.33/360)(\pi)(12)^2 - \frac{1}{2} (64.38/360)(\pi)(27)^2 - \frac{1}{2} (12+39.48)(1.10) \right] (1/12)(0.40) = 227.46 \text{ Gal.}$

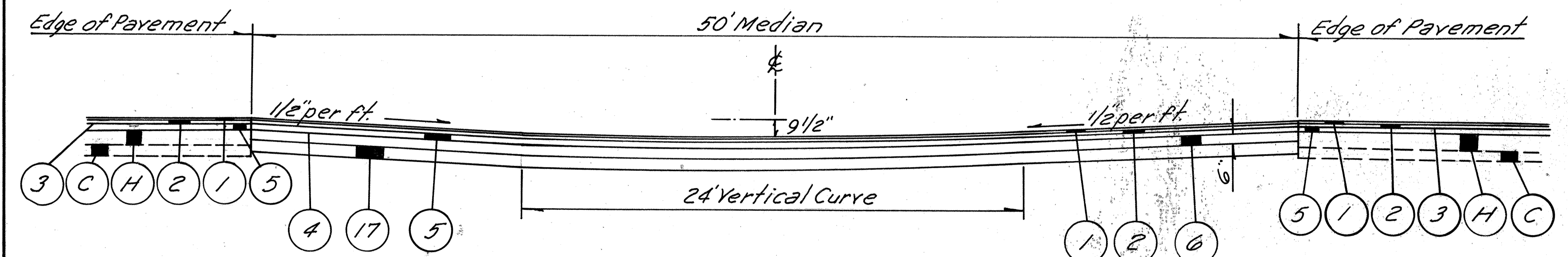
Item 304: $(2) \left[\frac{1}{2} (5+13)(200) + \frac{1}{2} (39.48+16.5)(51.42) - \frac{1}{2} (13.33/360)(\pi)(11.5)^2 - \frac{1}{2} (64.38/360)(\pi)(26.5)^2 - \frac{1}{2} (12+39.48)(1.10) \right] (6/12)(1/27) = 99.47 \text{ Cu.Yd.}$

Item 310: $(2) \left[\frac{1}{2} (5+13.5)(200) + \frac{1}{2} (39.48+16.5)(51.42) - \frac{1}{2} (13.33/360)(\pi)(11)^2 - \frac{1}{2} (64.38/360)(\pi)(26)^2 - \frac{1}{2} (12+39.48)(1.10) \right] (6/12)(1/27) = 104.13 \text{ Cu.Yd.}$

Item 203 Subgrade Compaction: $(2) \left[\frac{1}{2} (4.0+12.0)(200) + \frac{1}{2} (39.48+16.5)(51.42) - \frac{1}{2} (13.33/360)(\pi)(12.5)^2 - \frac{1}{2} (64.38/360)(\pi)(27.5)^2 - \frac{1}{2} (12+39.48)(1.10) \right] (1/9) = 540.34 \text{ Sq.Yd.}$



SECTION A-A



SECTION B-B

GENERAL SUMMARY

Computations By
 Initials JGG Date 12-22-83
 Computations Checked By
 Initials AdB Date 12-1-83
 Final Revisions By
 Initials Date

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ITEM	SHEET NUMBER											ITEM	TOTAL	UNIT	DESCRIPTION		
	7	8	10	16	17	27	30	67	68								
																	ROADWAY
201														201	lump	Lump	Clearing and Grubbing
202			1687											202	1687	Sq.Yd.	Wearing Course Removed
202				6889										202	6889	Sq.Yd.	Pavement Removed
202							666							202	666	Lin.Ft.	Curb Removed
202							150							202	150	Lin.Ft.	Curb Removed, as per plan "A"
202							259							202	259	Lin.Ft.	Curb Removed, as per plan "B"
202							424							202	424	Lin.Ft.	Curb Removed, as per plan "C"
202							18,383.12	514.80	902.08					202	19,800.00	Lin.Ft.	Guard Rail, Removed for Storage
202							837.50							202	837.50	Lin.Ft.	Guard Rail, Barrier Design, Removed for Storage
202							5							202	5	Each	Catch Basin or Inlet Removed
202							1							202	1	Each	Catch Basin or Inlet Abandoned
203							931							203	1008	Cu.Yd.	Excavation not including Embankment Construction
203							1409							203	1430	Cu.Yd.	Embankment
203			274											203	274	Station	Linear Grading
203							1424	540	321					203	2285	Sq.Yd.	Subgrade Compaction
606							20,779.70							606	20,779.70	Lin.Ft.	Guard Rail, Type 5
606							250.00							606	250.00	Lin.Ft.	Guard Rail, Barrier Design, Type 5
606			3,850.00											606	3,850.00	Lin.Ft.	Guard Rail, Type 6
606							27							606	27	Each	Anchor Assembly, Std. Type "A"
606							10							606	10	Each	Anchor Assembly Barrier Design, Std. Type "A"
606							35							606	35	Each	Anchor Assembly, Std. Type "T"
606							24							606	24	Each	Bridge Terminal Assembly, Std. Type "B"
606							4							606	4	Each	Bridge Terminal Assembly, Std. Type "C"
606							4							606	4	Each	Bridge Terminal Assembly, Std. Type "D"
606							4							606	4	Each	Bridge Terminal Assembly, Std. Type "E"
606							4							606	4	Each	Bridge Terminal Assembly, Std. Type "J"
607							34,353							607	34,353	Lin.Ft.	Fence, Type 47
																	EROSION CONTROL
601							38							601	38	Cu.Yd.	Rock Channel Protection, Type "C" w/ Filter (See Proposal Note)
659							37,291							659	37,291	Sq.Yd.	Seeding and Mulching
659							3.36							659	3.36	Tons	Commercial Fertilizer
659			5											659	5	M.Gals.	Water
660							170							660	170	Sq.Yd.	Sodding
																	DRAINAGE
603							54							603	54	Lin.Ft.	6" Conduit, Type "C"
603							8							603	8	Lin.Ft.	8" Conduit, Type "C"
603							16							603	16	Lin.Ft.	12" Conduit, Type "C"
603							38							603	38	Lin.Ft.	15" Conduit, Type "C"
603							12							603	12	Lin.Ft.	18" Conduit, Type "C"
603							450							603	450	Lin.Ft.	6" Conduit Type "F"
604							2							604	2	Each	Catch Basin, Standard No. 5 without Apron
604							4							604	4	Each	Catch Basin, Standard No. 8 without Apron
604							1							604	1	Each	Catch Basin Adjusted to grade
605			759				3464							605	4223	Lin.Ft.	Aggregate Drains, as per plan
605							2008							605	2008	Lin.Ft.	Longitudinal Aggregate Drain, as per plan
605							18,219							605	18,219	Lin.Ft.	4" Unclassified pipe underdrains, as per plan

GENERAL SUMMARY

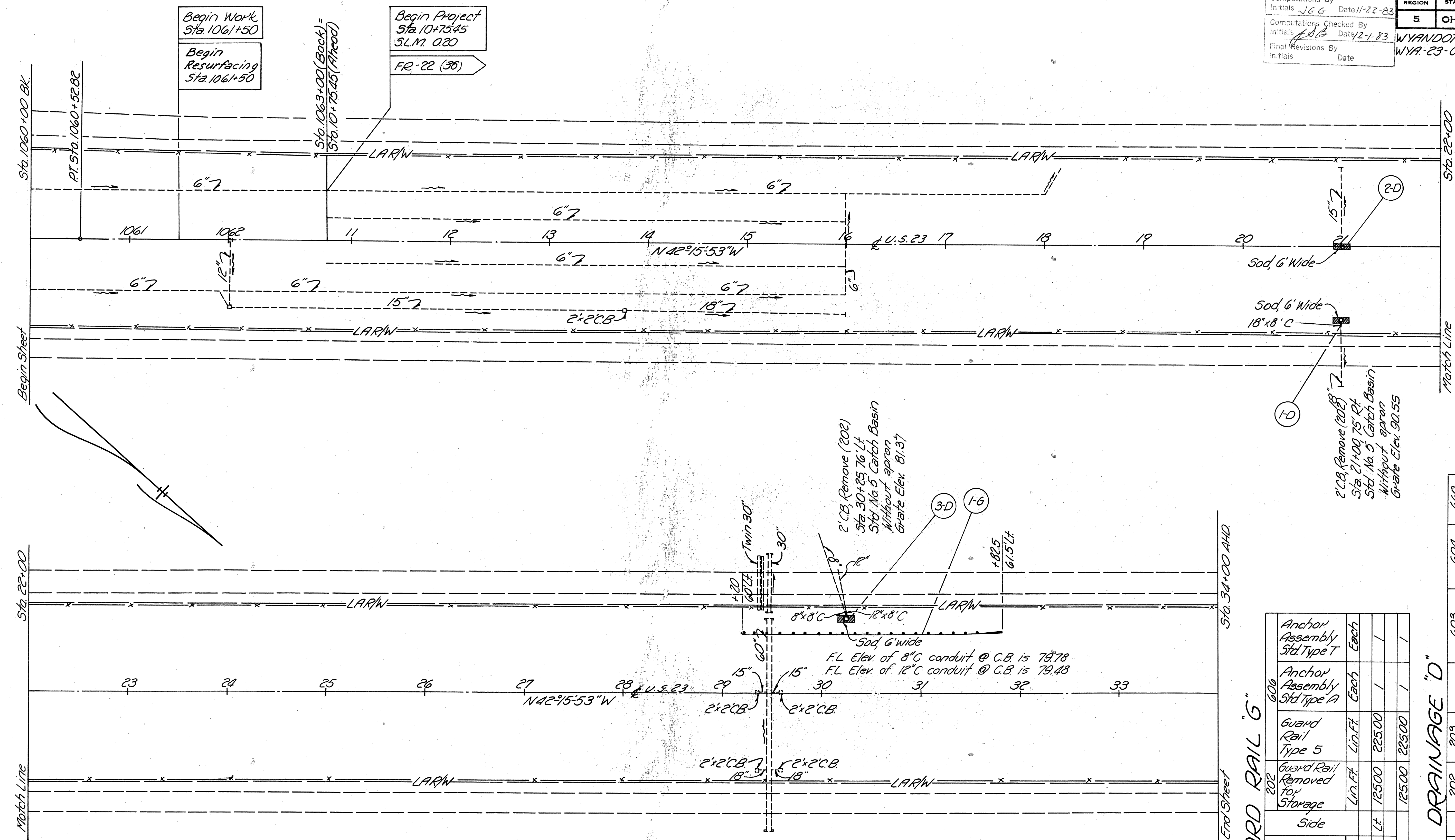
Computations By
 Initials JGC Date 1-22-83
 Computations Checked By
 Initials ALB Date 12-1-83
 Final Revisions By
 Initials Date

FHWA REGION	STATE	PROJECT
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ITEM	SHEET NUMBER																ITEM	TOTAL	UNIT	DESCRIPTION
	7	8	10	16	17	27	30	67	68	69	70	71	72	74	75					
PAVEMENT																				
301			8538			119	47	51									301	8755	Cu.Yd.	Bituminous Aggregate Base AC-20, RT-11 or RT-12.
304						237	99	48									304	384	Cu.Yd.	Aggregate Base.
305					5786												305	5786	Sq.Yd.	18" Portland Cement Concrete Base. (See Proposal Note).
305					1103												305	1103	Sq.Yd.	Variable Thickness Portland Cement Concrete Base (See Proposal Note).
310	400					237	104										310	741	Cu.Yd.	Subbase, Type I, Grading "A" as per plan.
404									95								404	95	Cu.Yd.	Asphalt Concrete, AC-20
407			45,748														407	45,748	Gals.	Tack Coat.
407			1602														407	1602	Tons	Cover Aggregate.
408						570	227	116									408	913	Gals.	Bituminous Prime Coat.
Spec.					12,400												Spec.	12,400	Lin.Ft.	Pavement Sawing.
617			72,698														617	72,698	Sq.Yd.	Shoulder Preparation.
617	500		8884														617	9384	Cu.Yd.	Compacted Aggregate.
617	50																617	50	M.Gals.	Water.
Spec.			668														Spec.	668	Lin.Ft.	Pressure Relief Joints Std. Type "D".
Spec.	200																Spec.	200	Sq.Yd.	Partial Depth Pavement Repair. (See Proposal Note).
848			15,967			19	2										848	15,988	Cu.Yd.	Asphalt Concrete Surface Course, Type 1, AC-20.
848			21,544			26	4										848	21,574	Cu.Yd.	Asphalt Concrete Intermediate Course Type 2, AC-20.
Spec.			66,429														Spec.	66,429	Sq.Yd.	Cracking and Sealing Existing Rigid Pavement. (See Proposal Note).
BRIDGE REPAIR																				
516									185	121	153						516	459	Lin.Ft.	Vertical Extension of Structural Expansion Joints.
517											902.08						517	902.08	Lin.Ft.	Railing (Deep Beam Rail with Steel Tubular back-up & W6x25 Steel Post & Bolts) as per plan.
517						240.00			514.80								517	754.80	Lin.Ft.	Railing (Deep Beam Rail with Steel Tubular back-up & Type 2 Steel Posts & Bolts) as per plan.
Spec.									1144								Spec.	1144	Sq.Yd.	Membrane Waterproofing. (See proposal note).
Spec.									401								Spec.	401	Sq.Ft.	Steel drip strip.
Spec.									141								Spec.	141	Sq.Yd.	Patching Concrete Bridge Deck Type II. (See Proposal Note).
845									1481	1217	1098						845	3796	Sq.Yd.	Latex Modified Concrete Overlay, (1 1/4" thick).
845									25	28	18						845	71	Cu.Yd.	Latex Modified Concrete Overlay, (Var thickness).
845									7	6	12						845	25	Cu.Yd.	Full depth Repair.
TRAFFIC CONTROL																				
614																40.59	614	40.59	Miles	Temporary Lane Lines, Class II, Tape.
614																0.19	614	0.19	Miles	Temporary Channelizing Lines, Class II, Tape.
614																400	614	400	Lin.Ft.	Temporary Gore Marking, Class II, Tape.
620																128	620	128	Each	Delineators, Type C, Flexible Post Mounted, as per plan.
621																42.31	621	42.31	Miles	Edge Lines, Polyester, as per plan.
621																20.29	621	20.29	Miles	4" Lane Lines, Polyester, as per plan.
621																1480	621	1480	Lin.Ft.	Channelizing Lines, Polyester, as per plan.
621																829	621	829	Lin.Ft.	Transverse Lines, Polyester, as per plan.
621																0.19	621	0.19	Miles	Center Lines, Polyester, as per plan.
Spec.															1238	Spec.	1238	Sq.Ft.	Stop Lines, preformed plastic pavement marking, installed, in aid.	
Spec.			800														Spec.	800	Hours	Law Enforcement Officer with Patrol Car.
614			Lump														614	Lump	Lump	Maintaining Traffic.
619			Lump														619	Lump	Lump	Field Office.
623			Lump														623	Lump	Lump	Construction Layout Stakes.
624			Lump														624	Lump	Lump	Mobilization.



Begin Work
Sta 1061+50

Begin Resurfacing
Sta 1061+50

Sta 1063+00 (Back) =
Sta 107+75.25 (Ahead)

Begin Project
Sta 10+75.45
S.L.M. 0.20

FR-22 (36)

B.M. Sta 16+00
East E.P. N.B. 23
Elev. 100.00

B.M. Sta 18+00
East E.P. N.B. 23
Elev. 97.30

B.M. Sta 21+00
East E.P. N.B. 23
Elev. 93.58

Ref No	Station	Side		Lin. Ft.	Each	Total
		From	To			
1-6	20+20	31+82.5	Lt.	125.00	1	125.00
Total						

DRAINAGE "D"

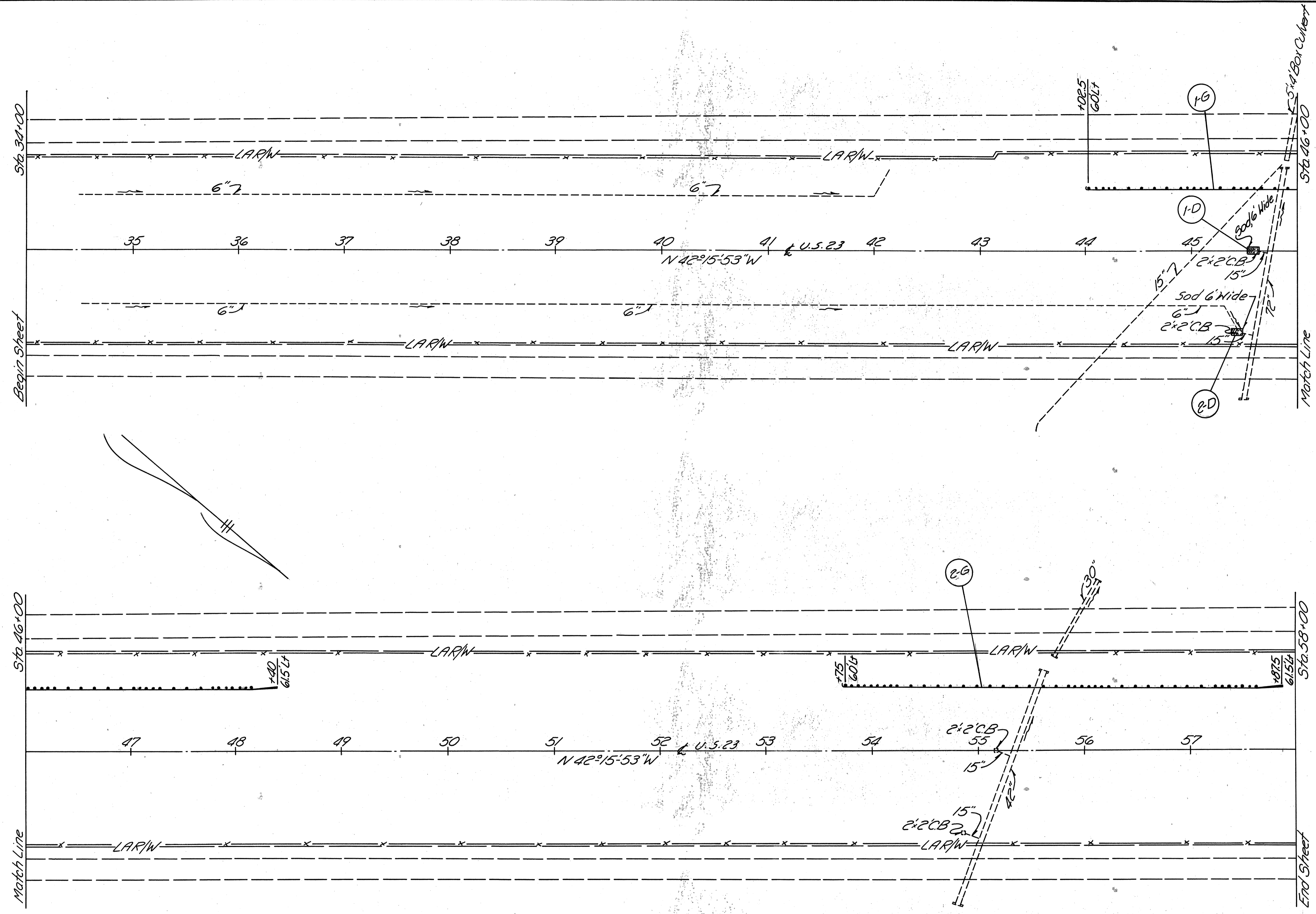
Ref No	Station	Side		Type	Each	Total
		From	To			
1-D	20+92.5	21+07.5	Rt.	8	1	8
2-D	20+92.5	21+07.5	Lt.	8	1	8
3-D	30+17.5	30+82.5	Lt.	8	1	8
Totals						

* Castings to be salvaged and to remain the property of the State of Ohio.

Computations By
 Initials JGG Date 1-22-83
 Computations Checked By
 Initials JLB Date 12-1-83
 Final Revisions By
 Initials Date

FHWA REGION	STATE	PROJECT
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WYANDOT COUNTY
 WYA-23-020

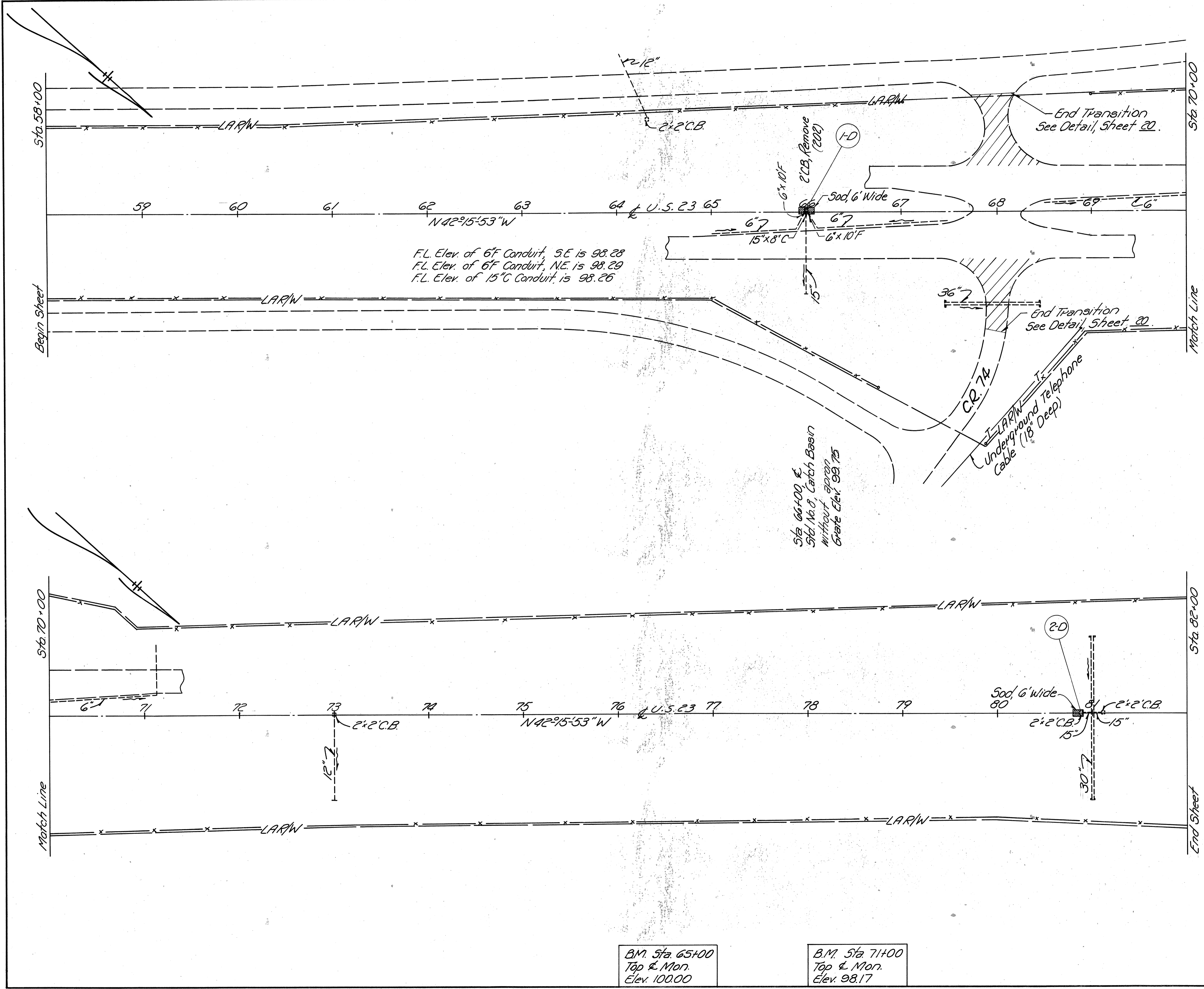


GUARDRAIL "G"

Reference No.	Station	From	To	Side	
				LT	RT
606	Anchor Assembly Std. Type T	Lin. Ft.	Each	Each	2
607	Guardrail Type 5	Lin. Ft.	400.00	375.00	775.00
Totals					

DRAINAGE "D"

Reference No.	Station	From	To	Side	
				Cu. Yd.	Sq. Yd.
660	Sodding	45+52.5	45+61.5	1.00	5.00
Totals				2.00	10.00



DRAINAGE "D"

Ref. No.	Station	Side	Description	Units	Conduit Lin. Ft.		Each	Sq. Yd.	Totals
					C	F			
1-D	65+92.5	66+07.5	Embarkment	1.00	8	20	1	9.00	14.00
2-D	80+80.5	80+89.5	Catch Basin Removed*	1.00	8	20	1	5.00	
			Sodding						
			Std. No. 8 Catch Basin Without apron						
			Conduit						
			15" 6"						
			8"						
			8"						
			Totals	2.00	8	20	1	14.00	

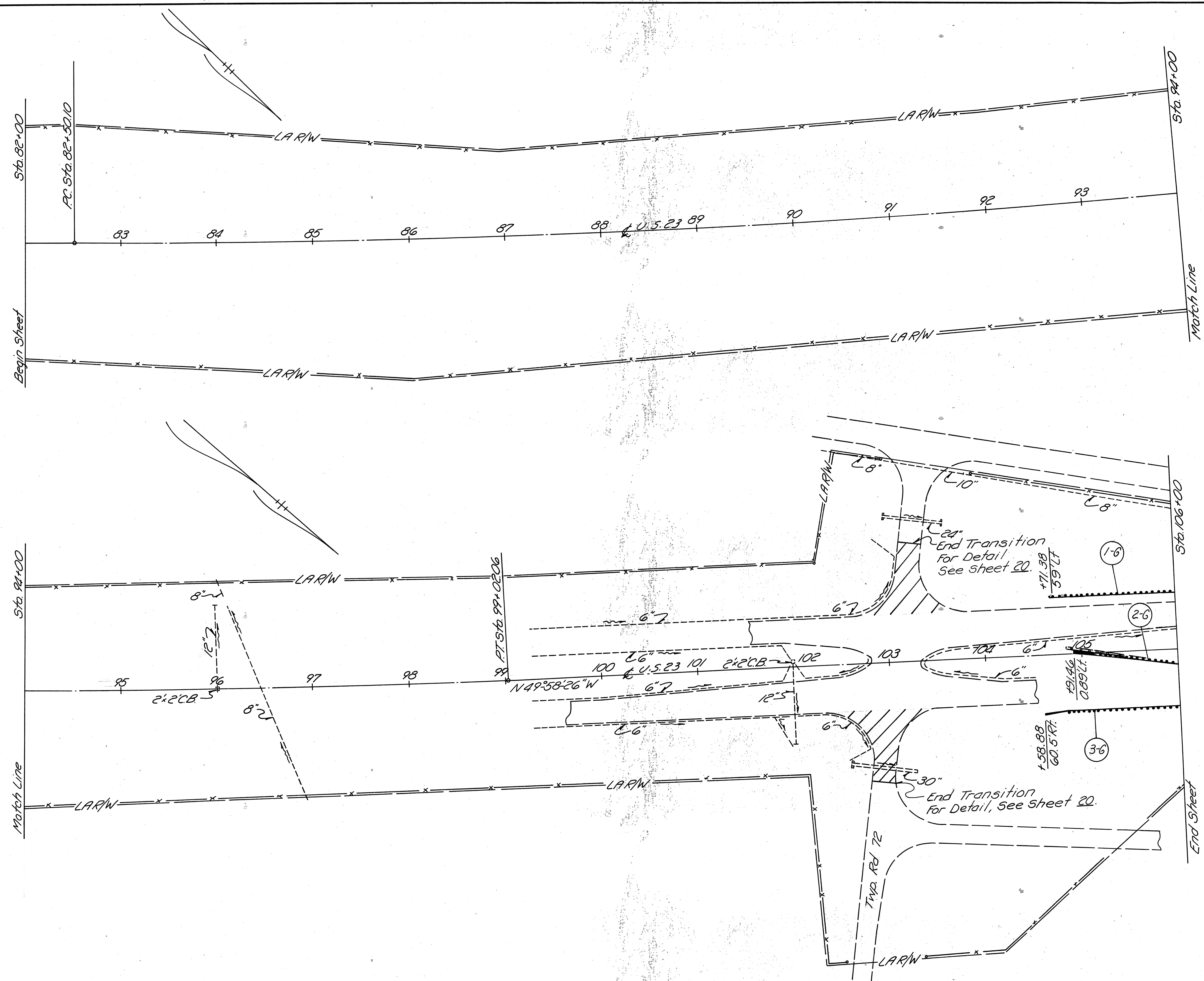
* Existing Casting to be salvaged and to remain the property of the State of Ohio.

Computations By
 Initials JGG Date 11-22-83
 Computations Checked By
 Initials [Signature] Date 12-1-83
 Final Revisions By
 Initials Date

FHWA REGION	STATE	PROJECT
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WYANDOT COUNTY
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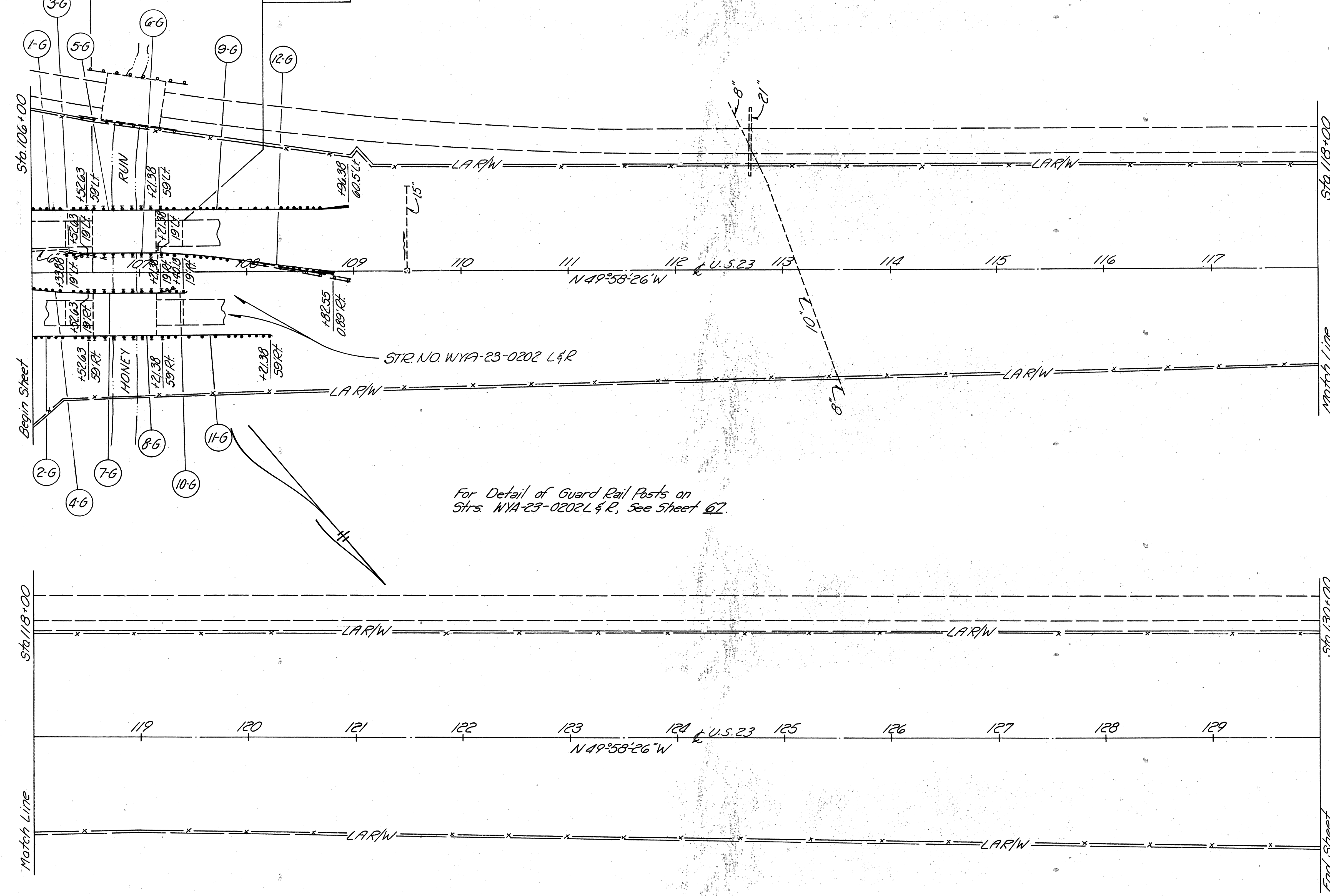


GUARDRAIL "G"

Ref. No	Station	Side	From	To	Guardrail Type 5		Guardrail Barrier Design Type 5		Anchor Assembly	
					Lin. Ft.	Each	Lin. Ft.	Each	Std. Type A	Std. Type B
1-6	104+71.38	Lt	106+00	116.12	1	116.12	1			
2-6	104+79.50	Lt	106+00	58.14	1	58.14	1			
3-6	104+58.88	Rt	106+00	116.12	1	116.12	1			
	Total			302.74		290.38	25.00			

Suspend Resurfacing Sta. 106+57

Resume Resurfacing Sta. 107+17



For Detail of Guard Rail Posts on Strs. WYA-23-0202 L&R, See Sheet 62.

* The earthwork for the Guard Rail Dikes are based on this assumed Bench Mark. See Sheet 59 for X-Sections

* B.M. Sta. 105+00
Top & Monument
Elev. 100.00

Computations By Initials JGG Date 11-22-83		FHWA REGION 5	STATE OHIO	PROJECT	35 81
Computations Checked By Initials JAB Date 12-1-83		WYANDOT COUNTY WYA-23-020			
Final Revisions By Initials _____ Date _____					

GUARD RAIL "G"

Ref. No.	Station		Side	Guard Rail Removed for Storage	Guard Rail Barrier Design Removed for Storage	Guard Rail Type 5	Guard Rail Barrier Design Type 5	Anchor Assembly			Bridge Terminal Assembly Standard Type "B"
	From	To						Std. Type A	Barrier Design Std. Type A	Std. Type B	
1-6	106+00	106+57.00	Lt	57.00		57.00					1
2-6	106+00	106+57.00	Rt	57.00		57.00					1
3-6	106+33.88	106+57.00	Lt	23.12		23.12					1
4-6	106+00	106+57.00	Rt	57.00		57.00					1
5-6	106+57.00	107+17.00	Lt	60.00		60.00					1
6-6	106+57.00	107+17.00	Rt	60.00		60.00					1
7-6	106+57.00	107+17.00	Lt	60.00		60.00					1
8-6	106+57.00	107+17.00	Rt	60.00		60.00					1
9-6	107+17.00	108+22.55	Lt	55.55		55.55					1
10-6	107+17.00	108+22.55	Rt	55.55		55.55					1
11-6	107+17.00	108+22.55	Lt	55.55		55.55					1
12-6	107+17.00	108+22.55	Rt	55.55		55.55					1
Totals				784.76	87.50	557.12	25.00	25.00	1	3	8

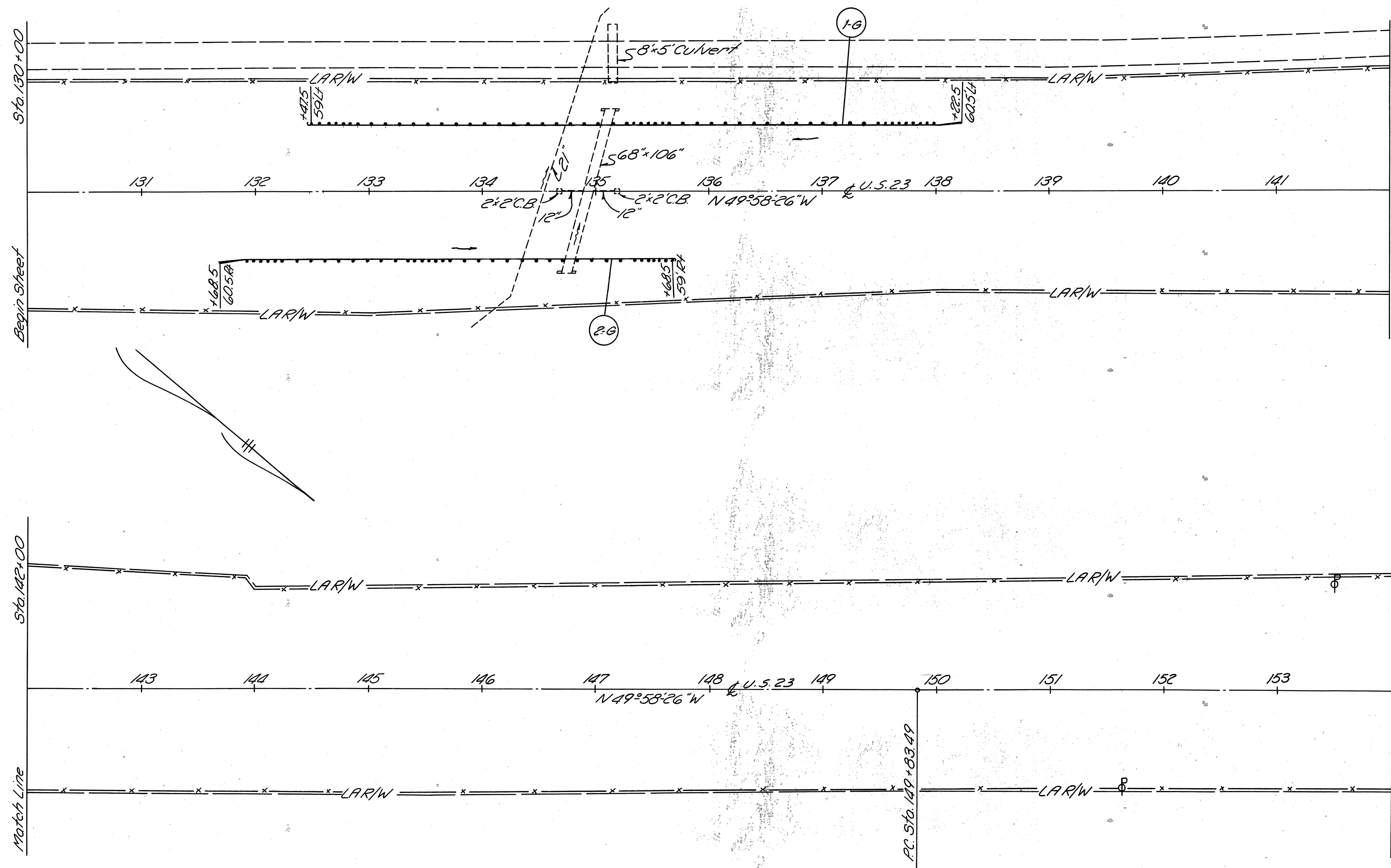
Sta 106+00 to Sta 130+00

Computations By
 Initials JGG Date 11-22-83
 Computations Checked By
 Initials JLB Date 12-1-83
 Final Revisions By
 Initials Date

FHWA REGION	STATE	PROJECT
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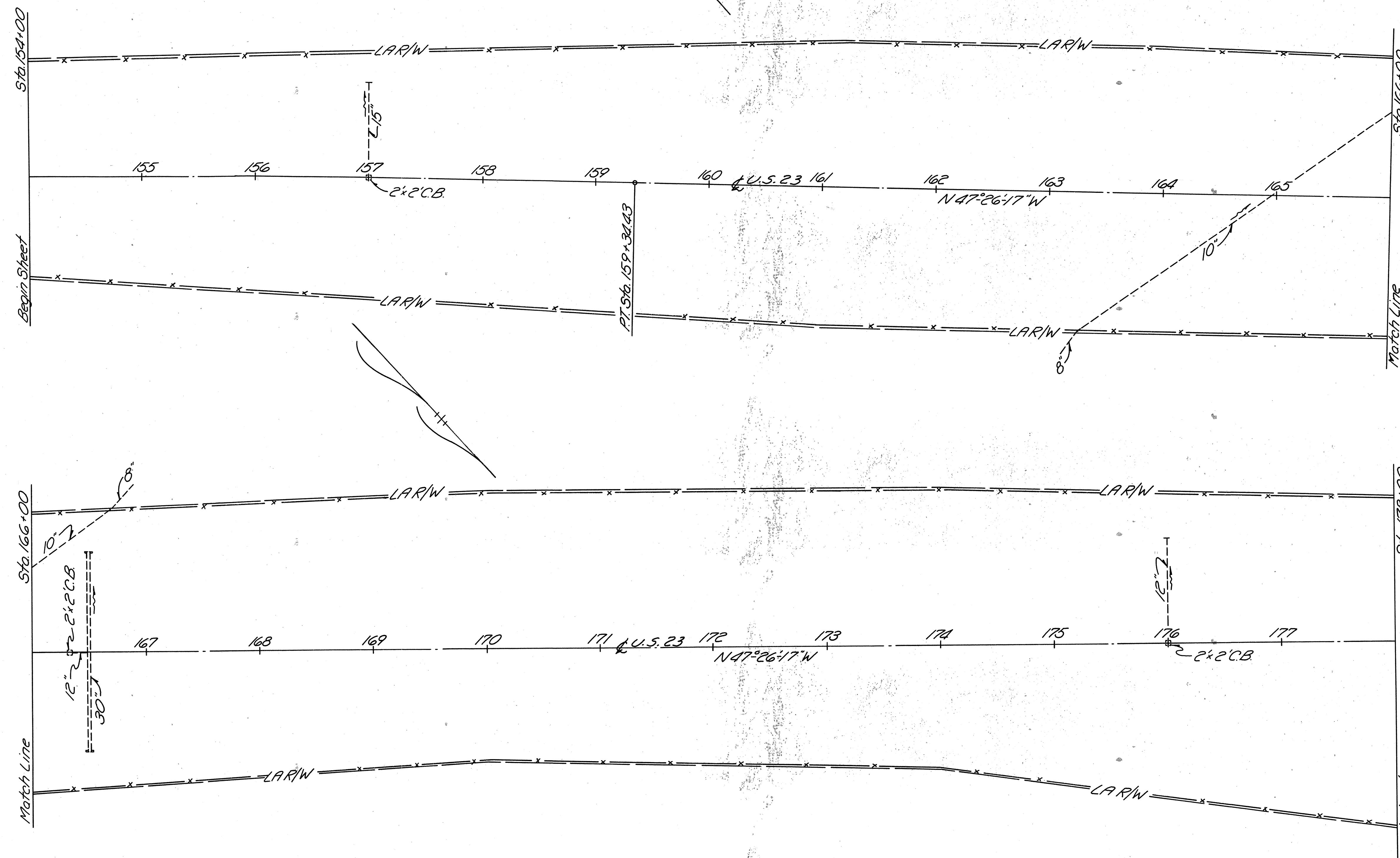
GUARDRAIL "G"

Station	From	To	Side	
			Lin Ft	Each
606	130+00	135+68.5	597.50	1
	135+68.5	135+68.5	362.50	1
Totals			960.00	2
608	130+00	135+68.5	450.00	1
	135+68.5	135+68.5	225.00	1
Totals			675.00	2
Guardrail Removed for Storage				
Totals			675.00	2

FHWA REGION	STATE	PROJECT
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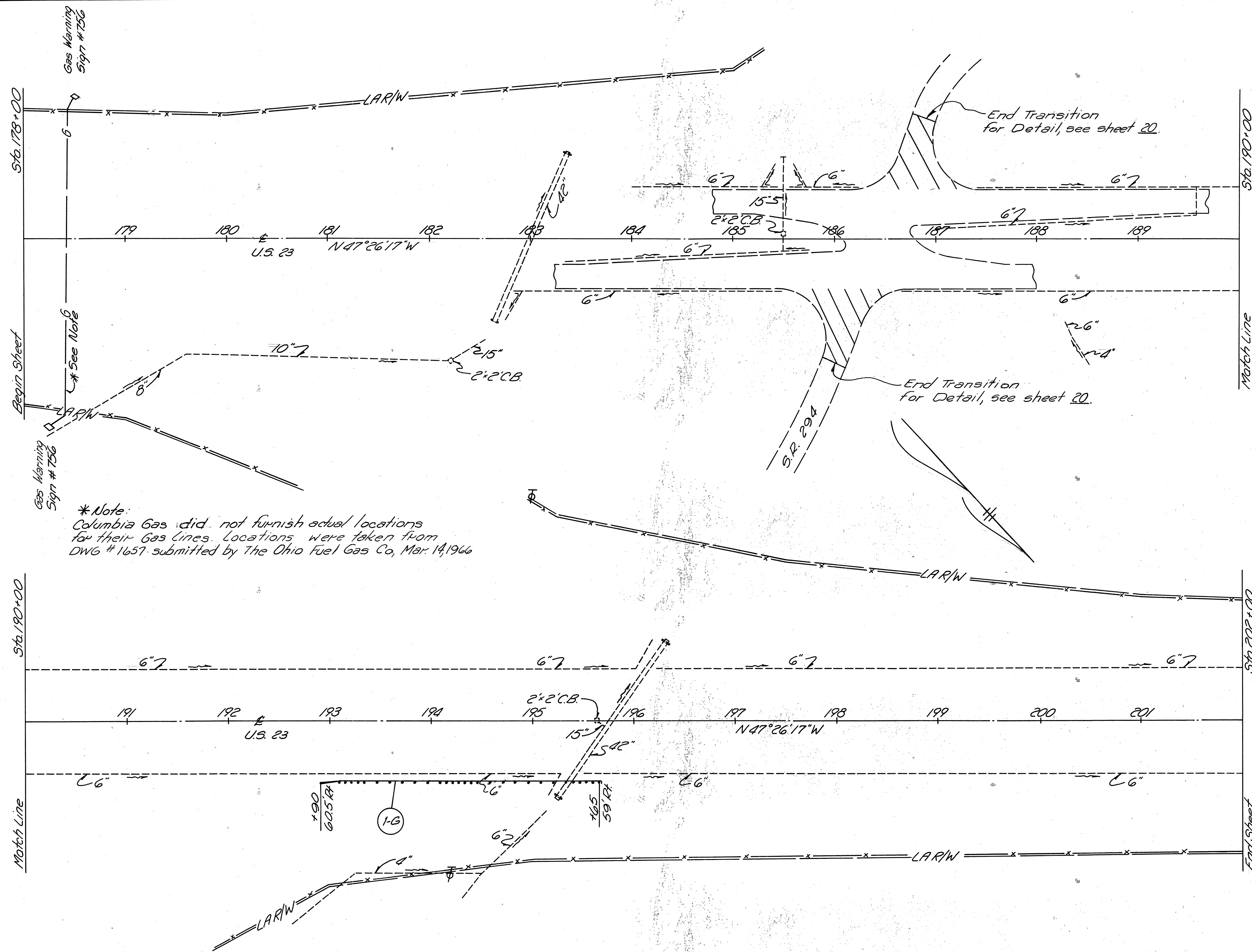


Computations By
Initials JGG Date 11-22-83
Computations Checked By
Initials JAB Date 12-1-83
Final Revisions By
Initials Date

FHWA REGION	STATE	PROJECT
5	OHIO	

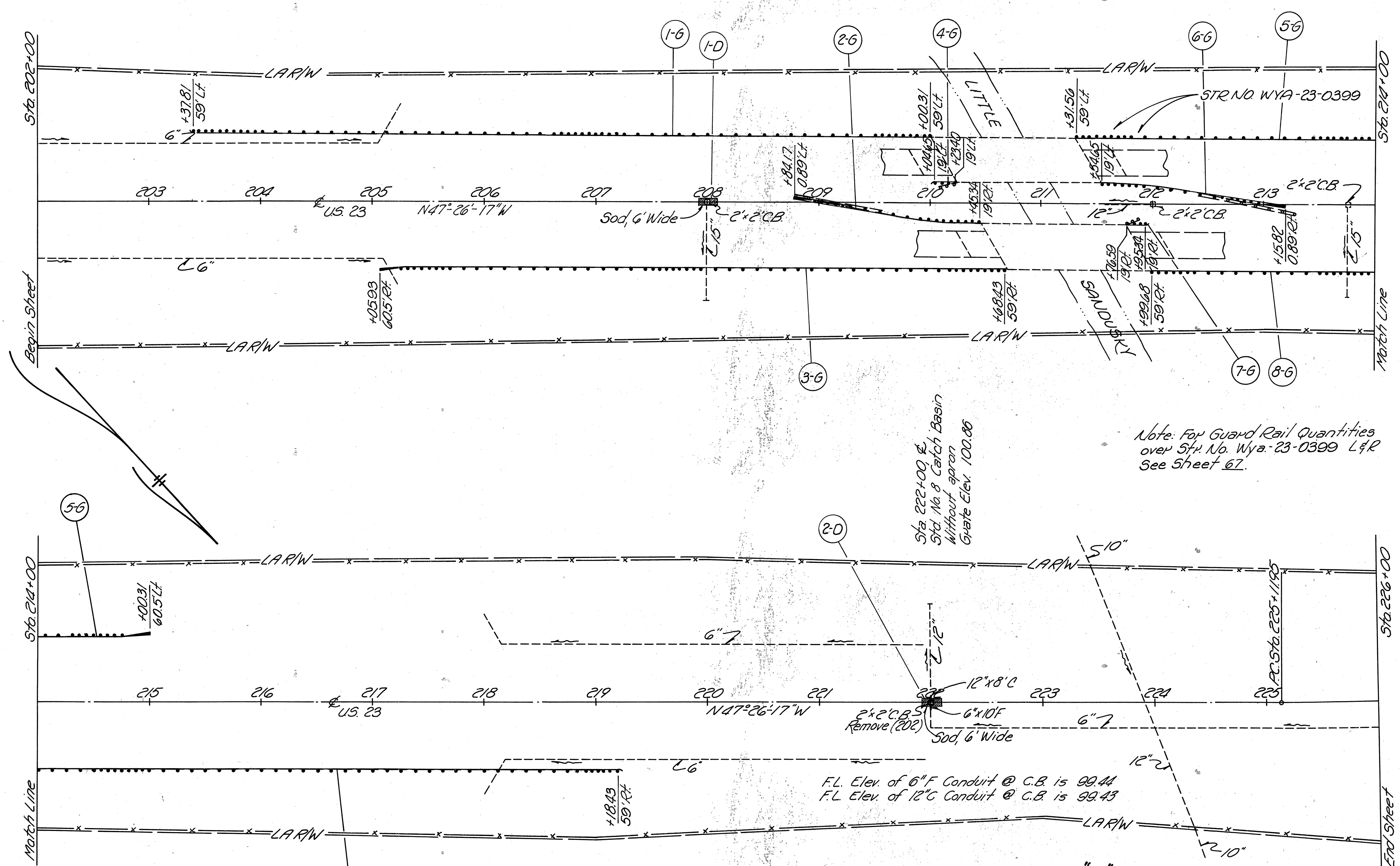
WYANDOT COUNTY
WYA-23-0.20

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GUARDRAIL "G"

Ref. No.	Station		Side	Lin. Ft.	Each
	From	To			
1-G	192+90	195+65	R	237.50	1
	Totals			237.50	1



Note: For Guard Rail Quantities over Sta. No. Wya-23-0399 L&R See Sheet 67.

F.L. Elev. of 6\"/>

* Bench Marks at Sta. 209+00 and Sta. 215+00 are correlated to each other but not to any other elevations in these plans. See Sheet 60 for earthwork @ Guard Rail Dikes.

* Bench Marks at Sta. 220+00 and Sta. 225+11.95 are correlated to each other but not to any other elevations in these plans.

B.M. Sta. 209+00 Top & Monument Elev. 100.00 *	B.M. Sta. 215+00 Top & Monument Elev. 98.82 *	B.M. Sta. 220+00 Top & Monument Elev. 100.00 #	B.M. Sta. 225+11.95 Top & Monument Elev. 103.11 #
--	---	--	---

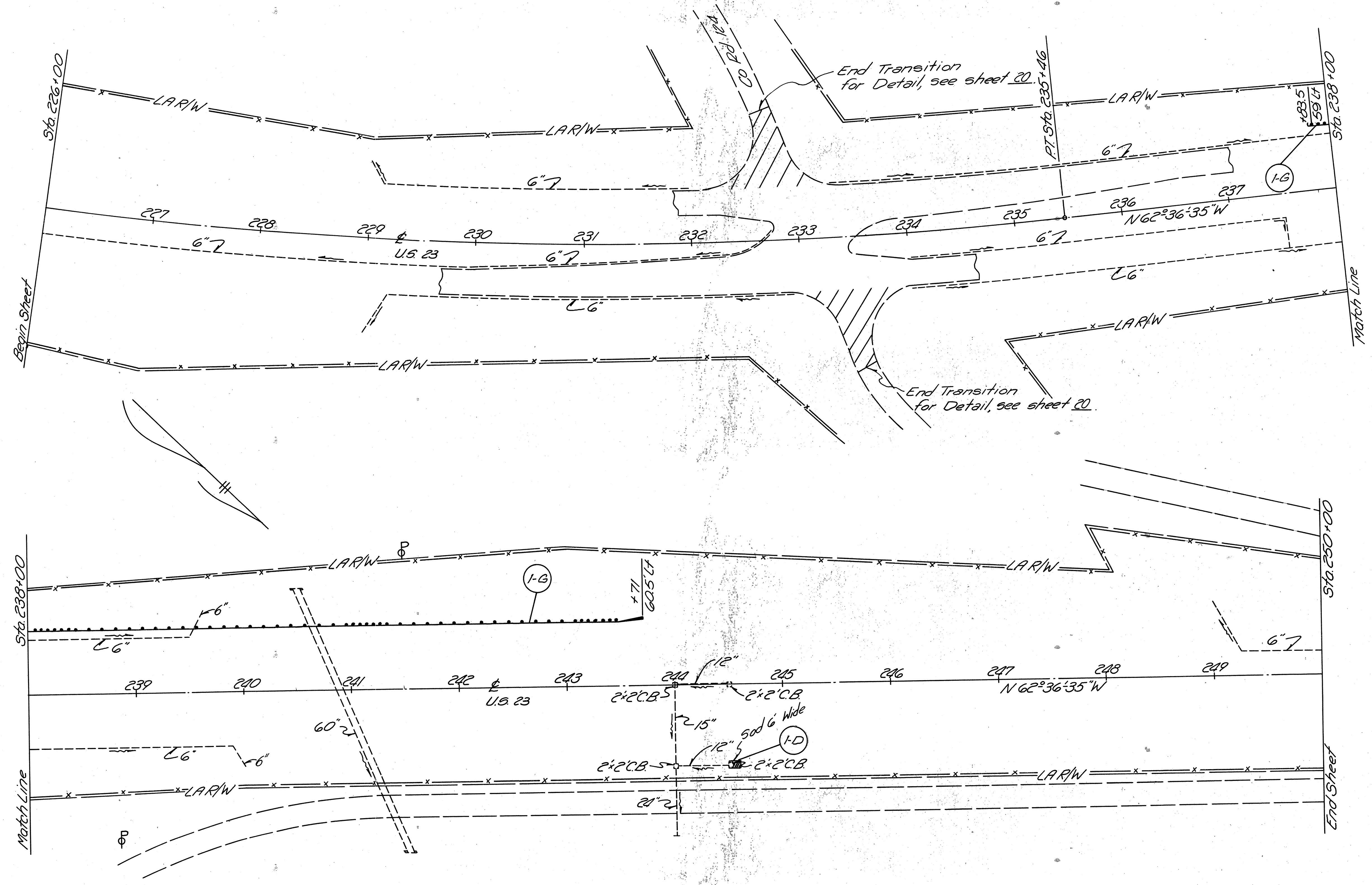
DRAINAGE "D"

Ref. No.	Station		Side	Catch Basin Removed*	Embankment	Conduit Lin. Ft.		Sta. No. 8 Catch Basin Without apron	Sodding
	From	To				Type			
						C	F		
1-D	207+925	208+075	R		1.00				9.00
2-D	221+925	222+075	R	1			8	10	9.00
Totals				1	1.00		8	10	18.00

GUARD RAIL "G"

Station	From	To	Anchor Assembly		Guard Rail Barrier Design Type 5	Guard Rail Type 5	Guard Rail Barrier Design Removed for Storage	Guard Rail Removed for Storage	Side
			Std. Type "A"	Std. Type "B"					
606			Each	Each	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	
202	1-G	203+3781			651.88	651.88			L
	2-G	208+8417			113.78	113.78	25.00		R
	3-G	205+0593			538.78	538.78			R
	4-G	210+0465			7.53	7.53			L
	5-G	210+3029			345.02	345.02			L
	6-G	211+5338			113.77	113.77	25.00		R
	7-G	211+7532			7.52	7.52			R
	8-D	211+9841			707.52	707.52			R
					2122.70	2122.70	175.00	2485.20	
									2
									2
									4
									8

* Castings to be salvaged and to remain the property of the State of Ohio.



GUARDRAIL "C"

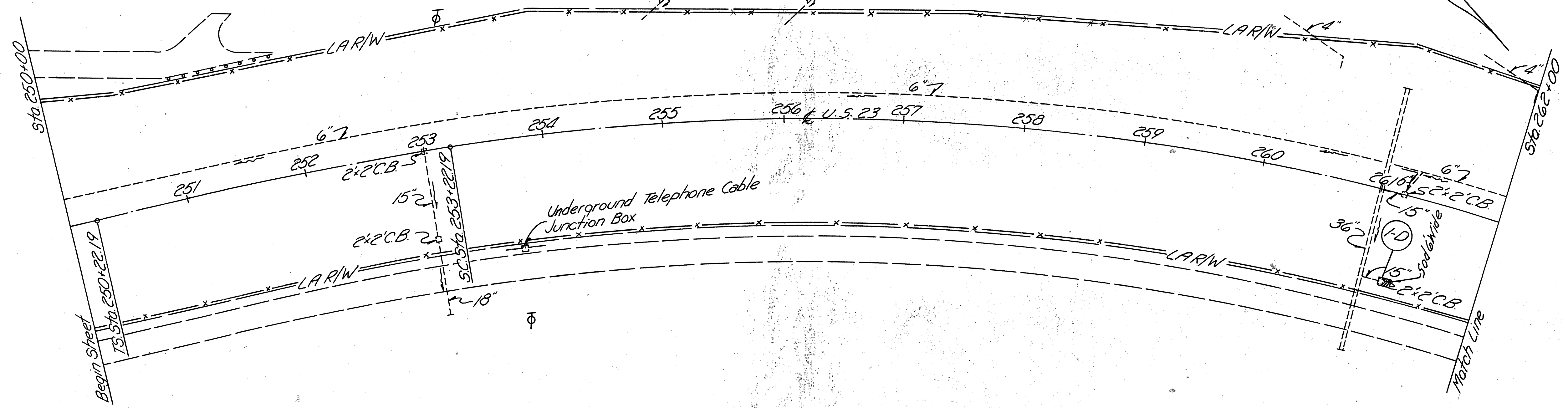
Station	From		To		Totals
	From	To	From	To	
606			Anchor Assembly Std. Type T		1
			Anchor Assembly Std. Type A		1
202			Guardrail Type 5		550.00
			Guardrail Removed for Storage		550.00
Side				LT	550.00
Ref. No.		1-G		237+83.5	243+71
				LT	550.00

DRAINAGE "D"

Station	From		To		Totals
	From	To	From	To	
660			Sodding		5.00
			Embankment		1.00
Side				RT	1.00
Ref. No.		1-D		244+48.5	244+57.5
				RT	1.00

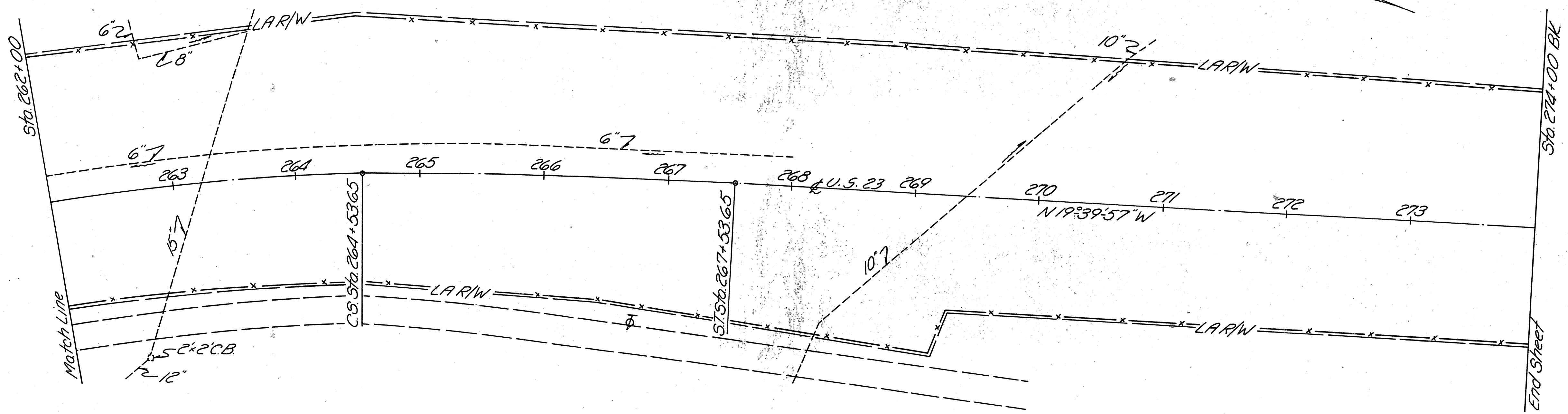
Computations By
 Initials JGG Date 11-22-83
 Computations Checked By
 Initials AB Date 12-1-83
 Final Revisions By
 Initials Date

FHWA REGION	STATE	PROJECT
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DRAINAGE 'D'

Reference No.	Station		Side	203	660
	From	To		Embankment Cu. Yd.	Soading Sq. Yd.
I-D	261+18.5	261+27.5	RT	1.00	5.00
	Total			1.00	5.00



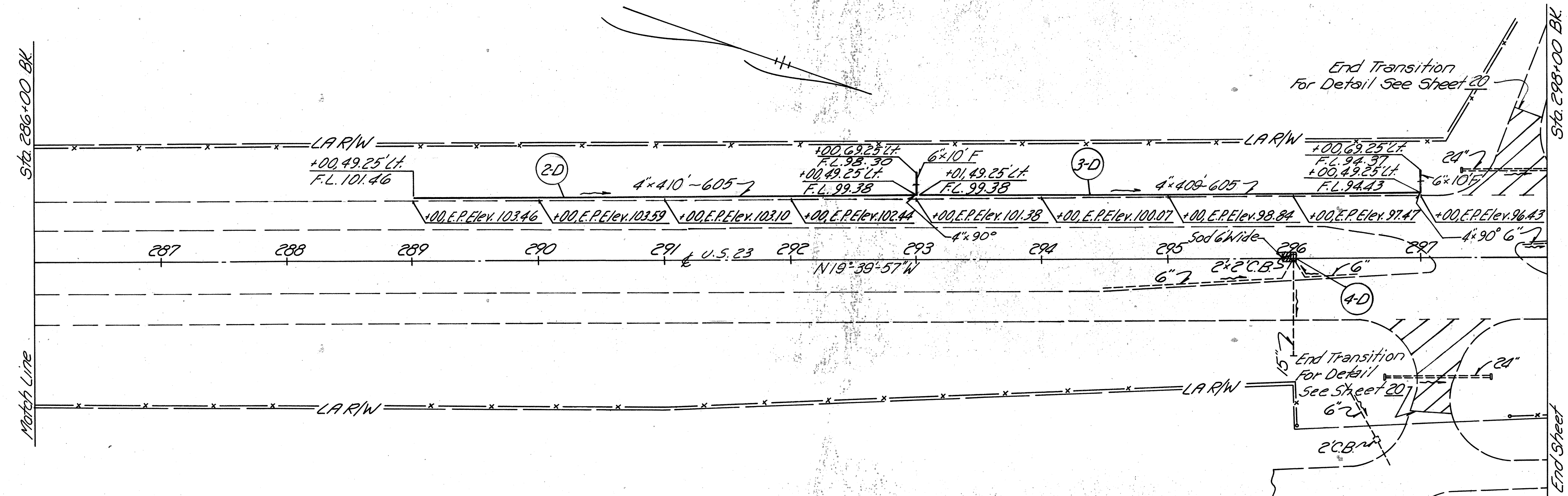
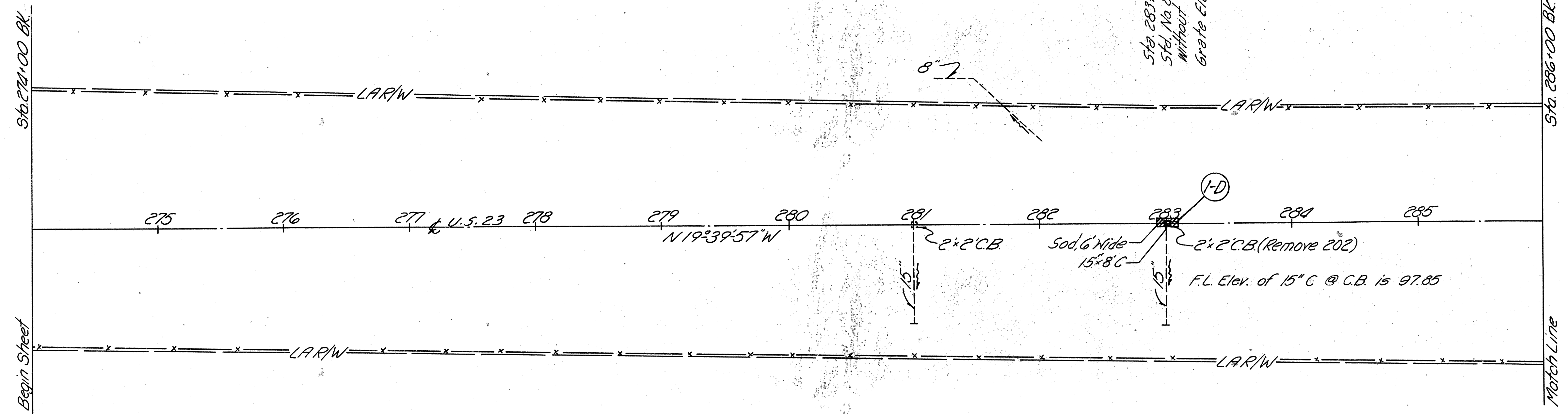
Sta. 250+00 to Sta. 274+00

Computations By
Initials JGG Date/1-22-83
Computations Checked By
Initials JAB Date 12-1-83
Final Revisions By
Initials Date

FHWA REGION	STATE	PROJECT
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Note: All E.P. Elevations are existing elevations and are not based on U.S.G.S. Datum. All Elevations within a proposed Underdrain Area are relative to all other Elevations within the same Area but are not relative to any elevations in any other Underdrain Area.

B.M. Sta. 278+00
Top & Mon.
Elev. 100.00

B.M. Sta. 284+00
Top & Mon.
Elev. 99.36

B.M. Sta. 290+00
Top & Mon.
Elev. 100.65

DRAINAGE "D"

Station	From	To	Side		Ref. No.
			Each	Cu. Yd.	
Bends and Branches					
	660	Sodding	9.00		
	605	4" Unclassified Pipe Underdrains as per plan	410		
	604	Std. No. 8 Catch Basin without apron	409		
Conduit	603	15" 6" C	8		
	603	15" 6" F	10		
Embankment	203			1.00	
	202	Catch Basin * Removed		1.00	
Totals				14.00	

* Casting to be salvaged and to remain the property of the State of Ohio.

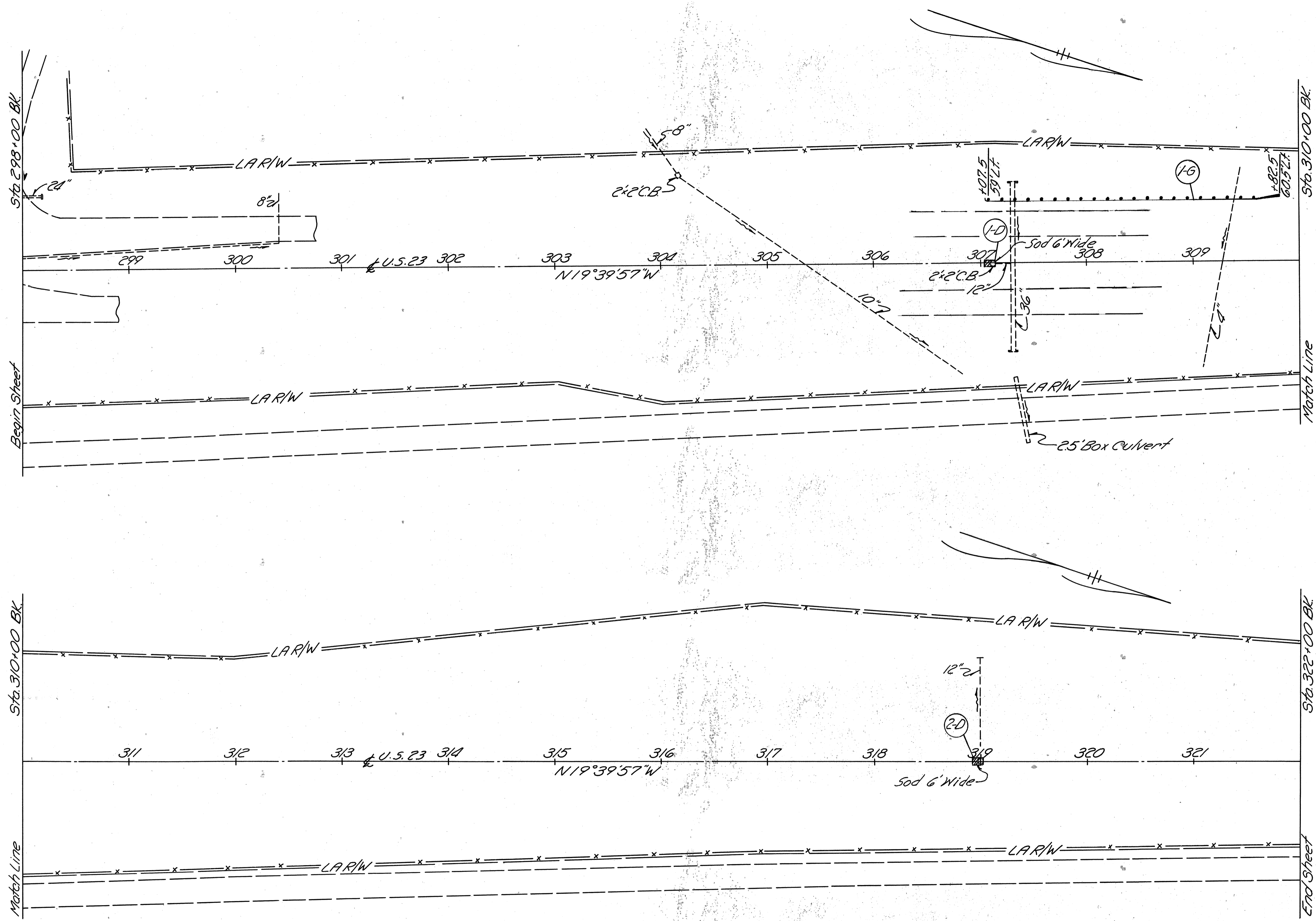
Sta. 274+00 BK to Sta. 298+00 BK

Computations By
 Initials JGG Date 1-22-83
 Computations Checked By
 Initials *[Signature]* Date 2-1-83
 Final Revisions By
 Initials Date

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GUARD RAIL "G"

Ref. No.	station		Side	606		
	From	To		Guard Rail Type 5 Lin. Ft.	Anchor Assembly Std. Type A Each	Anchor Assembly Std. Type T Each
1-G	307+07.50	309+82.50	Lt.	237.50	1	1
Totals				237.50	1	1

DRAINAGE "D"

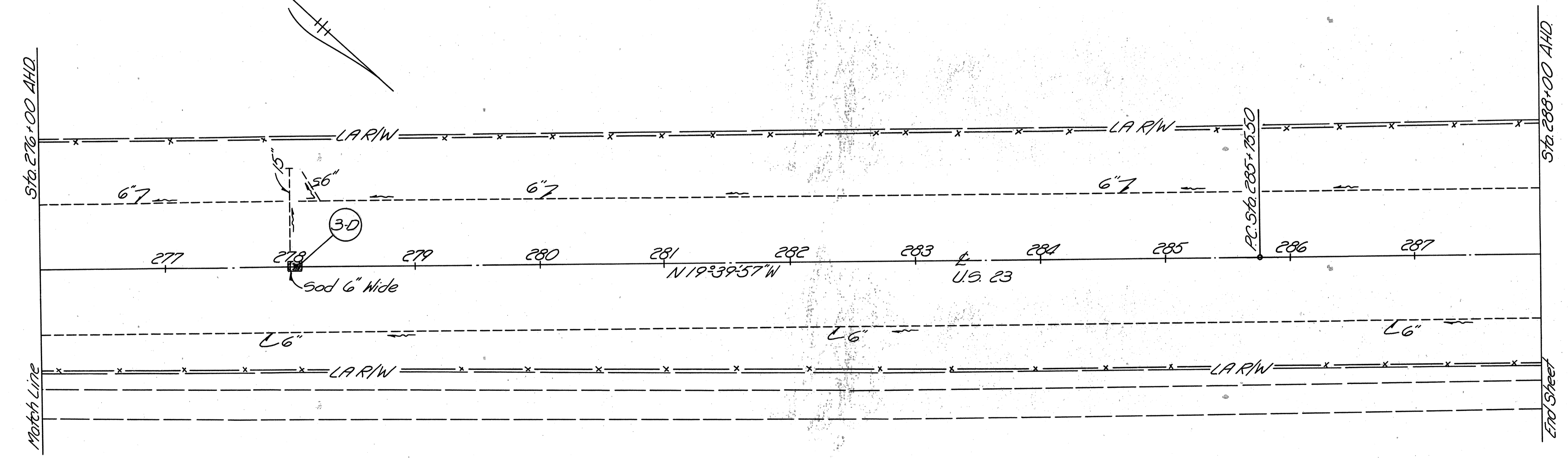
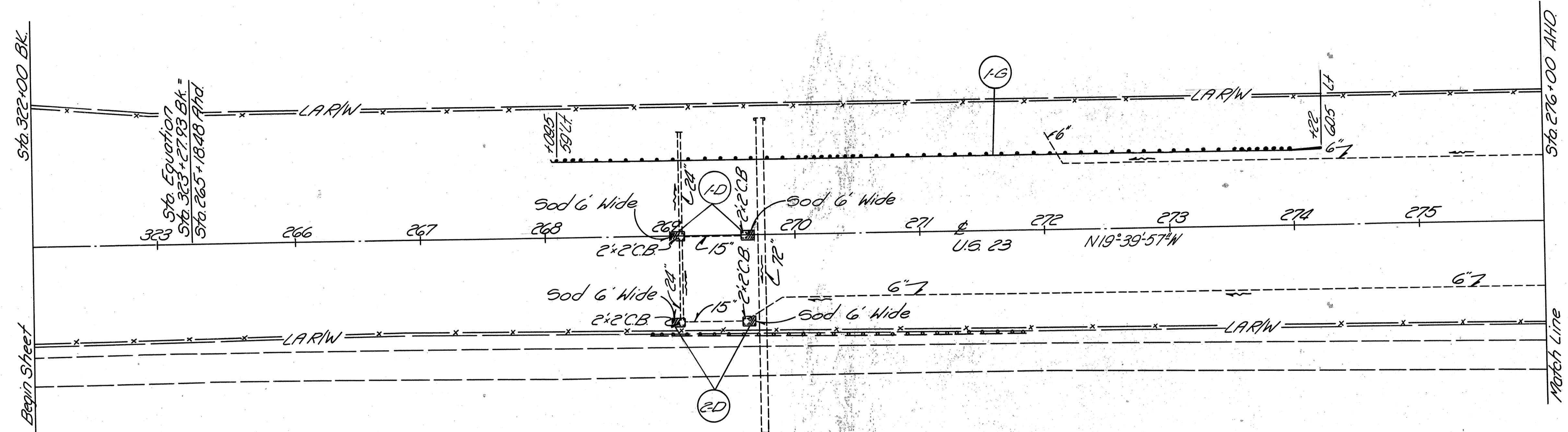
Ref. No.	station		Side	203		660	
	From	To		Embankment Cu. Yd.	Sodding Sq. Yd.		
1-D	307+4.50	307+13.50	C.	1.00	5.00		
2-D	318+92.50	319+01.50	C.	1.00	5.00		
Total				2.00	10.00		

Computations By
Initials: JGG Date: 1-22-83
Computations Checked By
Initials: JAB Date: 2-1-83
Final Revisions By
Initials: Date:

FHWA REGION	STATE	PROJECT
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GUARDRAIL "G"

Station	From	To	LT	RT
	268+03.54H	274+22.14H		
Side				
Guardrail Type 5		Lin. Ft.	575.00	575.00
Anchor Assembly Std. Type F		Each	1	1
Anchor Assembly Std. Type R		Each	1	1
Guardrail Removed for Storage		Lin. Ft.	575.00	575.00
Totals				
Ref. No.			1-G	2-G

DRAINAGE "D"

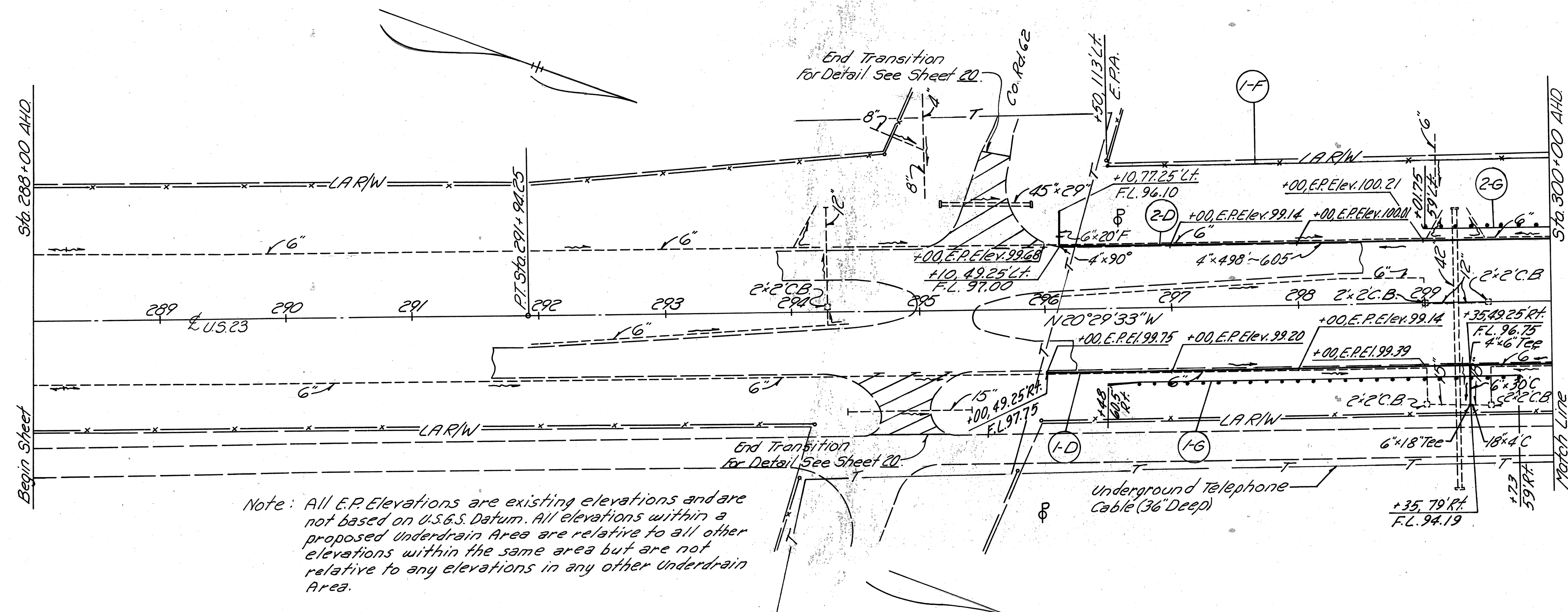
Station	From	To	Qty	Cost
	269+02.54H	269+16.75AH	10.00	
Side				
Embankment		Cu Yd	2.00	2.00
Sodding		Sq. Yd	10.00	10.00
Totals			5.00	12.00
Ref. No.			1-D	2-D

Computations By
Initials JGG Date 1-22-83
Computations Checked By
Initials JAB Date 12-1-83
Final Revisions By
Initials Date

FHWA REGION	STATE	PROJECT
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WYANDOT COUNTY
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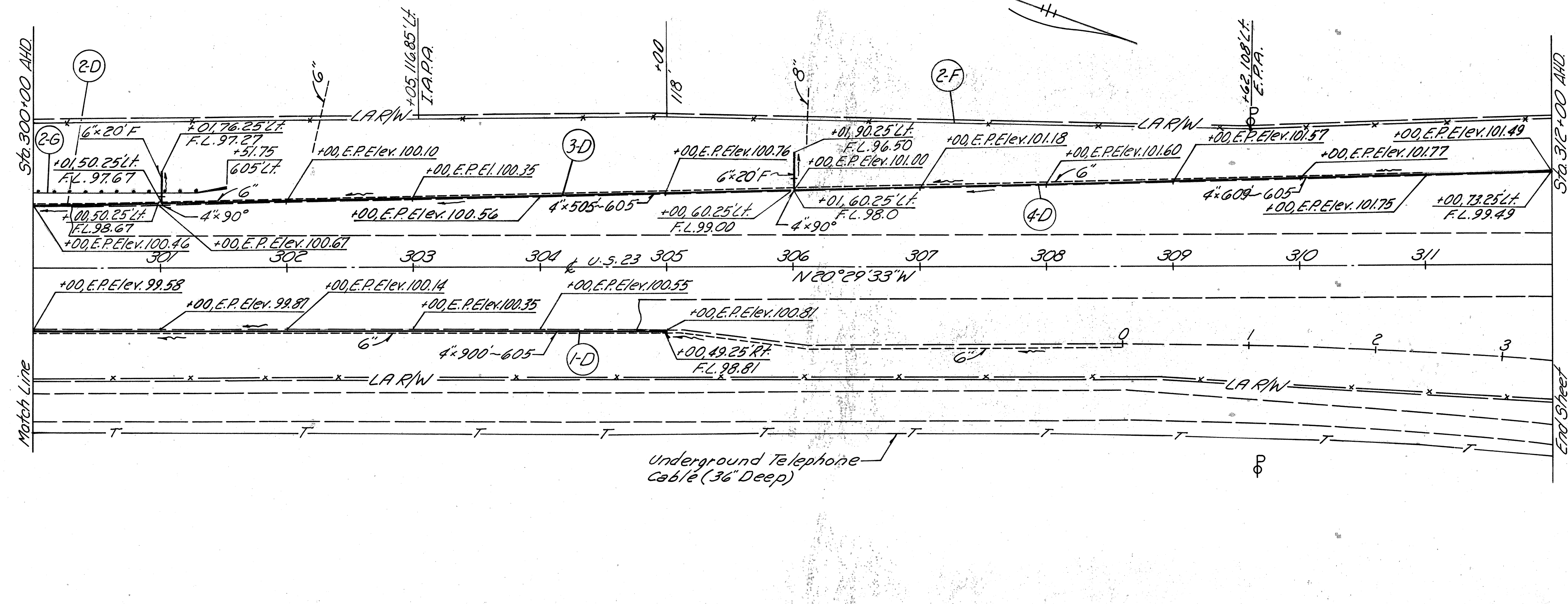


FENCE "F"

Ref. No.	Station		Side	Fence Type	607
	From	To			
1-F	296+50AH	300+00AH LT.		47	350
2-F	300+00AH	309+62AH LT.		47	962
Total					1312

GUARD RAIL "G"

Ref. No.	Station		Side	Guard Rail Type	606	
	From	To			Lin. Ft.	Anchor Assy. Std. Type A Each
1-G	296+48AH	299+73AH RT.		Type 5	287.50	1
2-G	299+01.75AH	301+51.75AH LT.		Type 5	212.50	1
Totals					500.00	2



DRAINAGE "D"

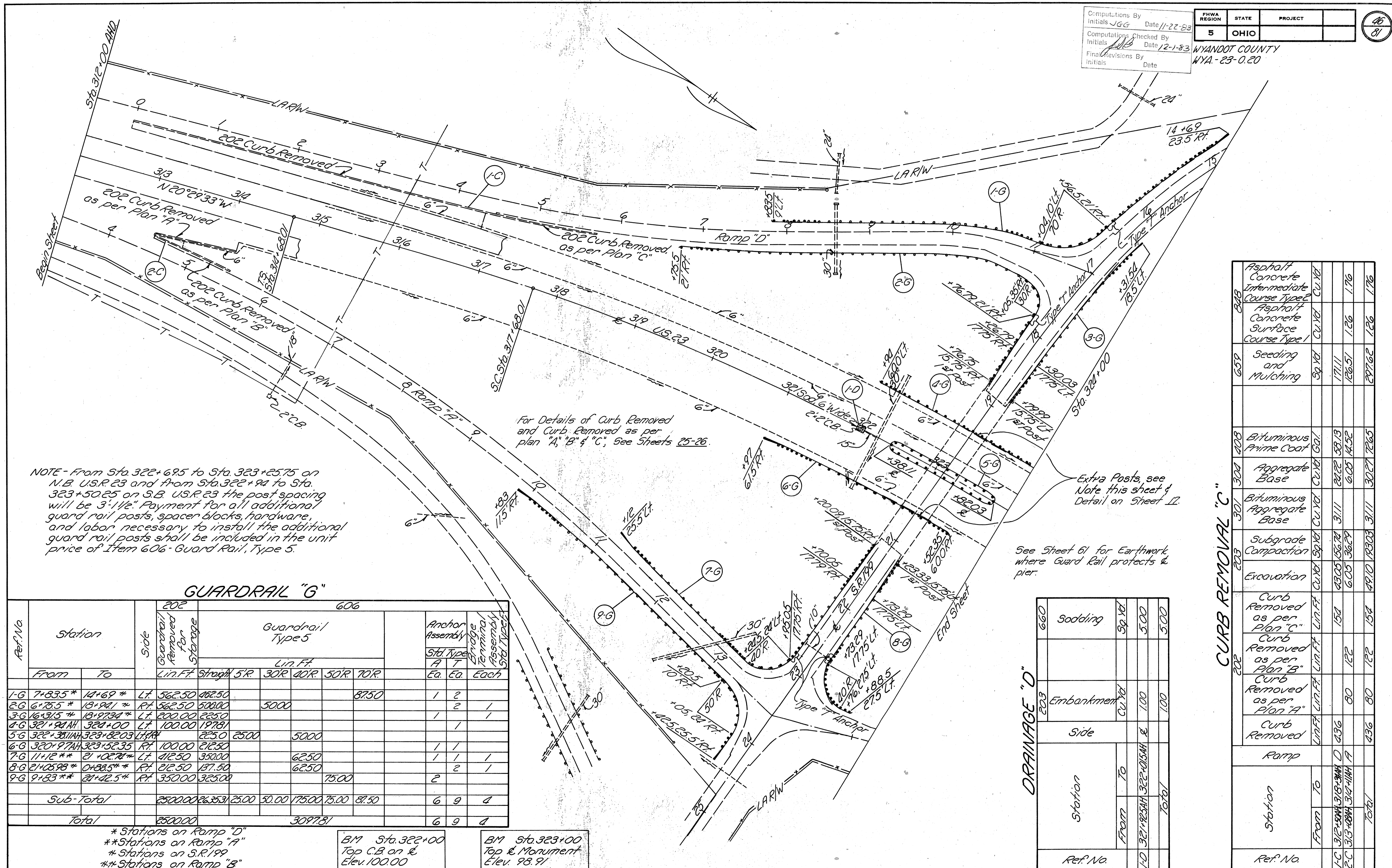
Ref. No.	Station		Side	603		605
	From	To		Conduit Lin. Ft.	Bends and Branches	
1-D	296+00AH	305+00AH RT.		30	2	900
2-D	296+00AH	301+00AH LT.		4	1	498
3-D	301+00AH	306+00AH LT.		20	1	505
4-D	306+00AH	312+00AH LT.		20	1	609
Totals						2512

B.M. Sta. 291+94.77
Top & Mon.
Elev. 100.0

B.M. Sta. 302+00
Top & Mon.
Elev. 97.21

B.M. Sta. 308+00
Top & Mon.
Elev. 98.61

Sta. 288+00 AHD to Sta. 312+00 AHD.



NOTE - From Sta. 322+69.5 to Sta. 323+25.75 on N.B. US.R.23 and from Sta. 322+94 to Sta. 323+50.25 on S.B. US.R.23 the post spacing will be 3'-1 1/2". Payment for all additional guard rail posts, spacer blocks, hardware, and labor necessary to install the additional guard rail posts shall be included in the unit price of Item 606 - Guard Rail, Type 5.

For Details of Curb Removed and Curb Removed as per plan "A", "B" & "C", See Sheets 25-26.

Extra Posts, see Note this sheet & Detail on Sheet 12.

See Sheet 61 for Earthwork where Guard Rail protects & pier.

Ref.No	Station		Side	202		606					Anchor Assembly	Bridge Terminal Assembly	Std. Type			
				Guardrail Removed for Storage	Lin. Ft.	Guardrail Type 5								Eq.	Eq.	Each
						Lin. Ft.	5'R	30'R	40'R	50'R						
1-G	7+83.5*	14+69*	LT	562.50	462.50								1	2		
2-G	6+75.5*	13+94.1*	RT	562.50	500.00	5000							1	2	1	
3-G	16+31.5*	18+97.34*	LT	200.00	225.0								1		1	
4-G	321+94.1#	324+00	LT	100.00	197.81								1			
5-G	322+38.11#	323+82.03	LT		225.0	2500		5000								
6-G	320+97.41#	323+52.35	RT	100.00	212.50								1	1		
7-G	11+12**	21+02.74**	LT	412.50	350.00			62.50					1	1	1	
8-G	21+02.98*	0+88.5**	RT	212.50	187.50			62.50					2		1	
9-G	9+83**	21+42.5#	RT	350.00	325.00				75.00				2			
Sub-Total				2500.00	2635.31	2500	50.00	175.00	75.00	81.50			6	9	4	
Total				2500.00				3097.81					6	9	4	

* Stations on Ramp "D"
 ** Stations on Ramp "A"
 # Stations on S.R.199
 ## Stations on Ramp "B"

BM Sta. 322+00
 Top C.B. on E
 Elev. 100.00
 BM Sta. 323+00
 Top E. Monument
 Elev. 98.91

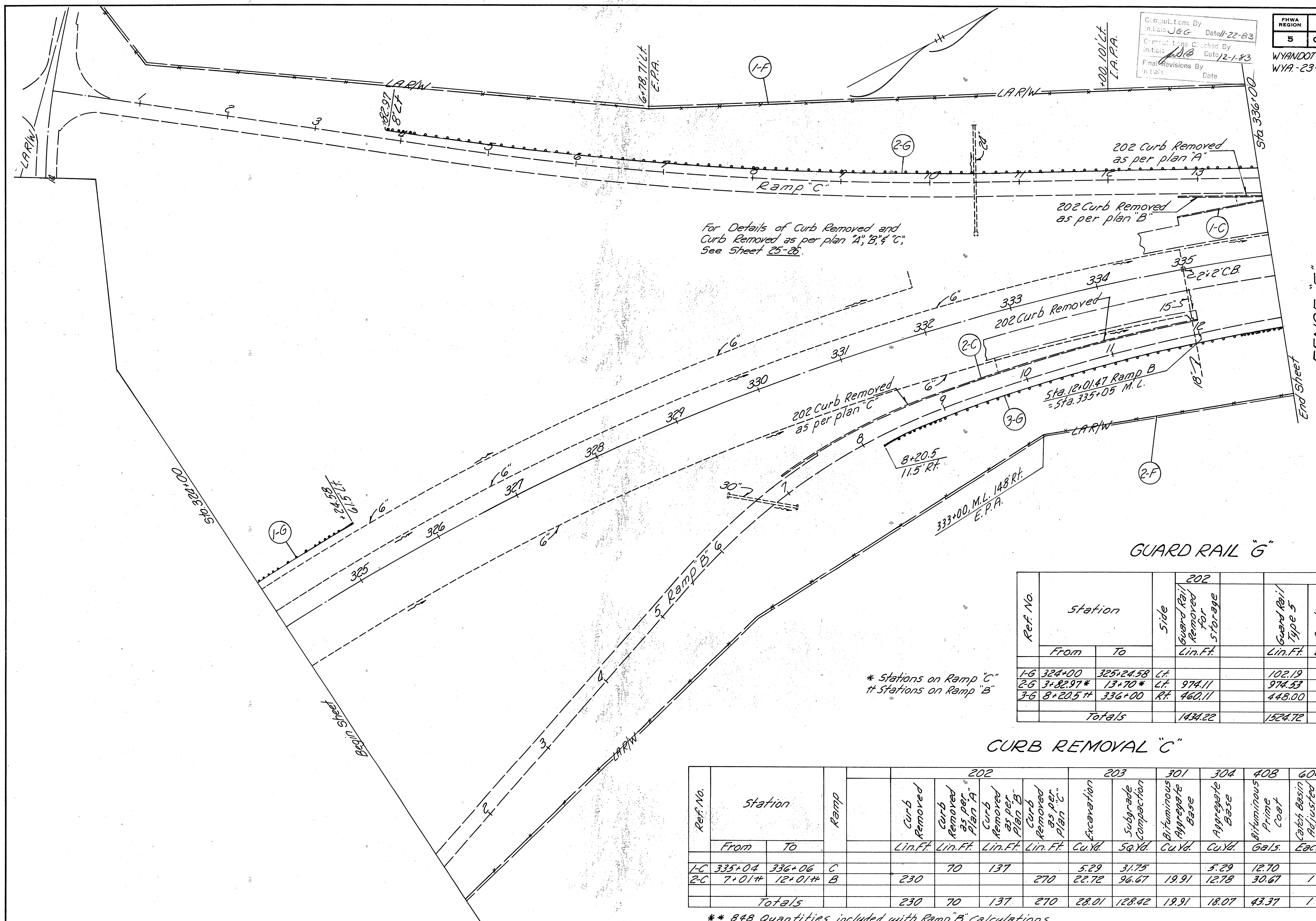
Station	From	To	Description	660	
				Sq. Yd.	5.00
203	322+92.34#	322+02.54#	Sodding	5.00	5.00
			Embankment	1.00	1.00
202	322+92.34#	322+02.54#	Side		
			Ramp		
202	322+92.34#	322+02.54#	Curb Removed as per Plan "C"		
			Curb Removed as per Plan "B"		
202	322+92.34#	322+02.54#	Curb Removed as per Plan "A"		
			Curb Removed		
202	322+92.34#	322+02.54#	Total		

Station	From	To	Description	606	
				Sq. Yd.	1.76
202	322+92.34#	322+02.54#	Asphalt Concrete Intermediate Course Type C	1.76	1.76
			Asphalt Concrete Surface Course Type I	1.76	1.76
202	322+92.34#	322+02.54#	Seeding and Mulching	1.76	1.76
			Bituminous Prime Coat	1.76	1.76
202	322+92.34#	322+02.54#	Aggregate Base	1.76	1.76
			Bituminous Aggregate Base	1.76	1.76
202	322+92.34#	322+02.54#	Subgrade Compaction	1.76	1.76
			Excavation	1.76	1.76
202	322+92.34#	322+02.54#	Curb Removed as per Plan "C"		
			Curb Removed as per Plan "B"		
202	322+92.34#	322+02.54#	Curb Removed as per Plan "A"		
			Curb Removed		
202	322+92.34#	322+02.54#	Total		

CURB REMOVAL "C"

DRAINAGE "D"

Calculations By: JGG Date: 11-22-83
 Checked By: JAB Date: 12-1-83
 Final Revisions By: Date:



For Details of Curb Removed and Curb Removed as per plan "A", "B", & "C"; See Sheet 25-26.

607	Fence Type 47	Lin. Ft.	675	286	961
Side					
Station	From	To	336+00 LT	336+00 RT	Total
	1-F	6+78*			
Ref. No.	2-F	333+00			

* Sta. on Ramp "C"

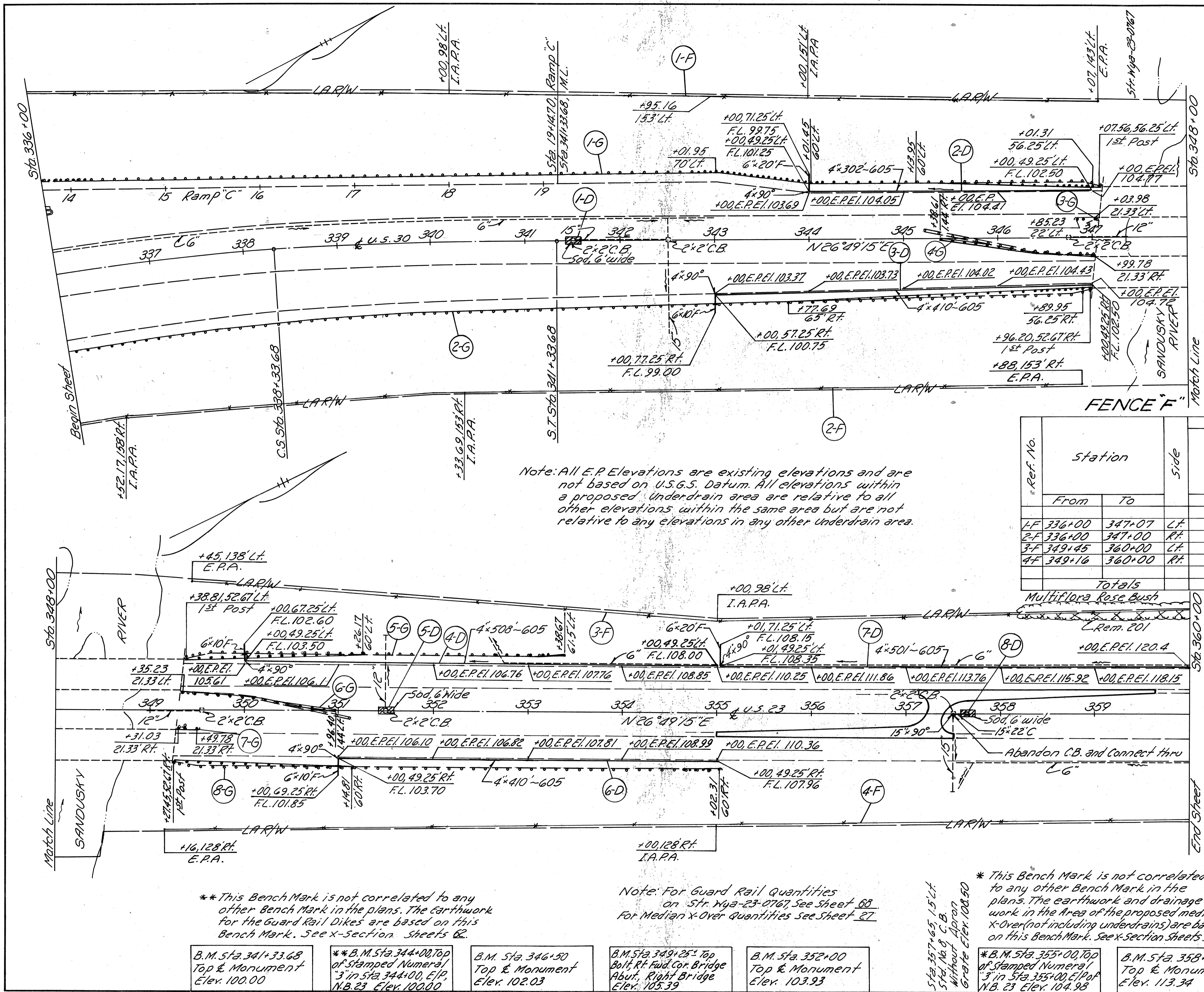
Ref. No.	Station		Side	202 Guard Rail Removed for Storage Lin. Ft.	606 Guard Rail Type 5 Lin. Ft.	Anchor Assembly Std. Type A Each	Anchor Assembly Std. Type T Each
	From	To					
1-G	324+00	325+24.58 LT			102.19	1	
2-G	3+82.97*	13+70* LT		974.11	974.53		1
3-G	8+20.5†	336+00 RT		460.11	448.00	1	
Totals				1434.22	1524.72	2	1

* Stations on Ramp "C"
 † Stations on Ramp "B"

CURB REMOVAL "C"

Ref. No.	Station		Ramp	202				203		301	304	408	604	659	848	
	From	To		Curb Removed Lin. Ft.	Curb Removed as per Plan "A" Lin. Ft.	Curb Removed as per Plan "B" Lin. Ft.	Curb Removed as per Plan "C" Lin. Ft.	Excavation Cu. Yd.	Subgrade Compaction Sq. Yd.	Bituminous Aggregate Base Cu. Yd.	Aggregate Base Cu. Yd.	Bituminous Prime Coat Gals.	Catch Basin Adjusted to grade Each	Seeding and Mulching Sq. Yd.	Asphalt Conc. Surface Course Type 1 Cu. Yd.	Asphalt Conc. Intermediate Course Type 2 Cu. Yd.
1-C	335+04	336+06	C		70	137		5.29	31.75		5.29	12.70		142.06	1.10	1.54
2-C	7+01†	12+01†	B	230		270		22.72	96.67	19.91	12.78	30.67	1	300.00	**	**
Totals				230	70	137	270	28.01	128.42	19.91	18.07	43.37	1	442.06	1.10	1.54

** 848 Quantities included with Ramp "B" Calculations



Note: All E.P. Elevations are existing elevations and are not based on U.S.G.S. Datum. All elevations within a proposed Underdrain area are relative to all other elevations within the same area but are not relative to any elevations in any other Underdrain area.

Note: For Guard Rail Quantities on Str. Wya-23-0767, See Sheet 68. For Median X-Over Quantities see Sheet 27.

** This Bench Mark is not correlated to any other Bench Mark in the plans. The earthwork for the Guard Rail Dikes are based on this Bench Mark. See X-section Sheets 62.

* This Bench Mark is not correlated to any other Bench Mark in the plans. The earthwork and drainage work in the Area of the proposed median X-Over (not including underdrains) are based on this Bench Mark. See X-section Sheets 63.

- B.M. Sta. 341+33.68 Top & Monument Elev. 100.00
- ** B.M. Sta. 344+00, Top of Stamped Numerical 3" in Sta. 344+00, E.P. N.B. 23 Elev. 100.00
- B.M. Sta. 346+50 Top & Monument Elev. 102.03
- B.M. Sta. 349+25 Top Bolt, Rt. Fwd. Cor. Bridge Abut. Right Bridge Elev. 105.39
- B.M. Sta. 352+00 Top & Monument Elev. 103.93
- B.M. Sta. 355+00, Top of Stamped Numerical 3" in Sta. 355+00, E.P. N.B. 23 Elev. 104.98
- B.M. Sta. 358+00 Top & Monument Elev. 113.34

Ref. No.	Station		Side	Fence Type 47	Lin. Ft.
	From	To			
1-F	336+00	347+07	LT.		1133
2-F	336+00	347+00	RT.		1062
3-F	349+45	360+00	LT.		1058
4-F	349+16	360+00	RT.		1084
Totals					4337

GUARD RAIL "G"

* Sta on Ramp "C"

Ref. No.	Station	From	To	Side	Fence Type	Quantity		
						Lin. Ft.	Each	
1-G	336+00	347+07	LT.		47	1	1	
2-G	336+00	347+00	RT.		47	1	1	
3-G	349+45	360+00	LT.		47	1	1	
4-G	349+16	360+00	RT.		47	1	1	
Totals							175.00	4

DRAINAGE "D"

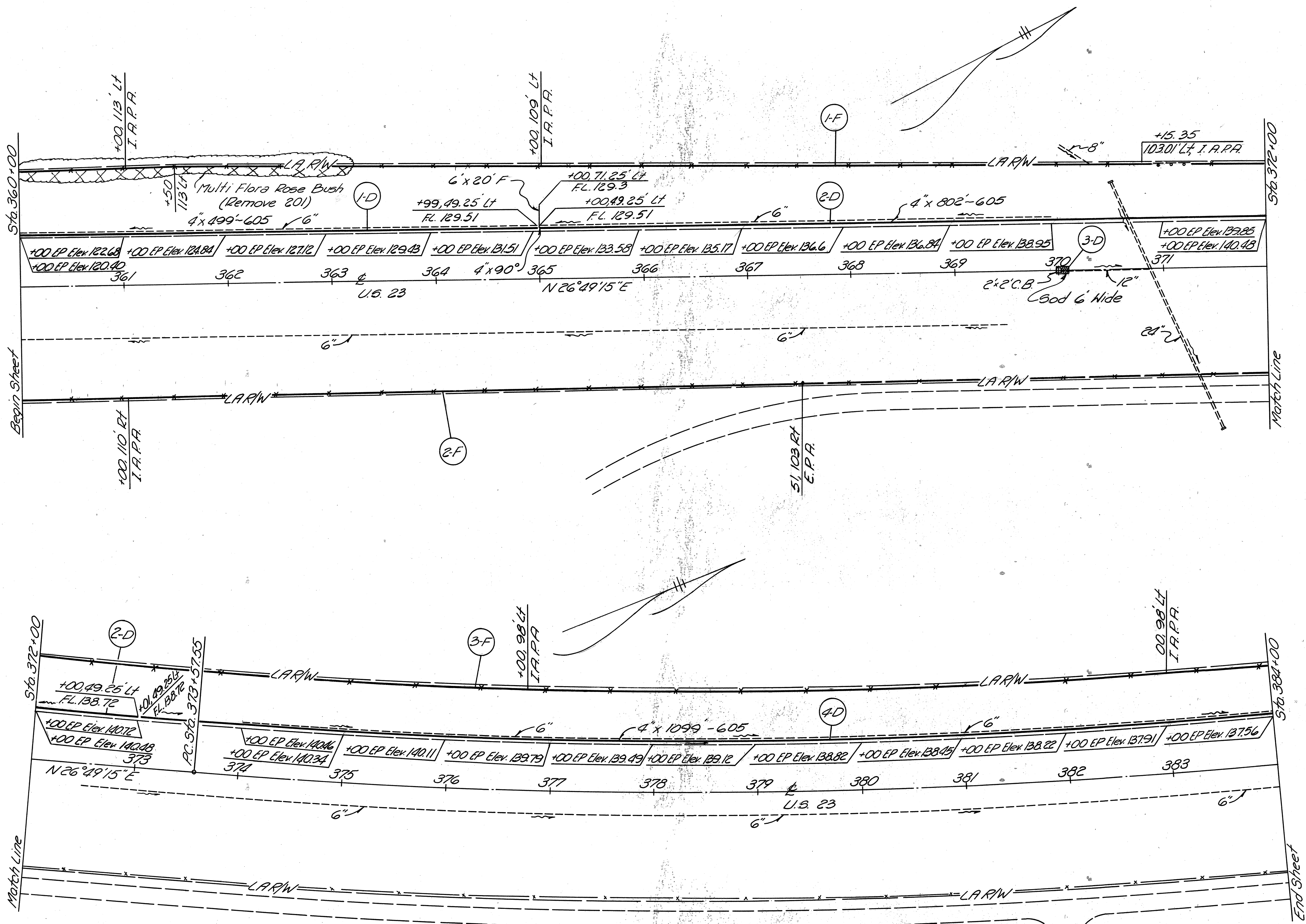
Ref. No.	Station	From	To	Side	Quantity	Quantity		
						Lin. Ft.	Each	
1-D	341+42.5	341+57.5	LT.		1	1		
2-D	344+00	347+00	RT.		1	1		
3-D	349+00	347+00	RT.		1	1		
4-D	350+00	355+00	LT.		1	1		
5-D	351+42.5	351+57.5	LT.		1	1		
6-D	351+00	355+00	RT.		1	1		
7-D	355+01	360+00	LT.		1	1		
8-D	357+50	357+25	RT.		1	1		
Totals							8	8

Computations By
 Initials JGG Date 11-22-83
 Computations Checked By
 Initials Date 12-1-83
 Final Revisions By
 Initials Date

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FENCE "F"

Station	Side		Lin. Ft.	Type
	From	To		
602				47
	1-F 360+00	372+00	1200	
	2-F 360+00	367+51	751	
	3-F 372+00	384+00	1182	
	Totals		3133	

DRAINAGE "D"

Station	Side		Cu. Yd.	Type
	From	To		
203				Embarkment
	1-D 360+00	364+99	17	
	2-D 365+00	373+00	17	
	3-D 369+98.5	370+01.5	1.00	
	4-D 373+01	384+00	1.00	
	Totals		1.00	

- BM #5 Sta 364+00
Top & Monument
Elev. 126.63
- BM #6 Sta 369+75
Top & Monument
Elev. 136.75
- BM #7 Sta 373+57.55
Top & Monument
Elev. 138.30
- BM #8 Sta 380+00
Top & Monument
Elev. 136.99

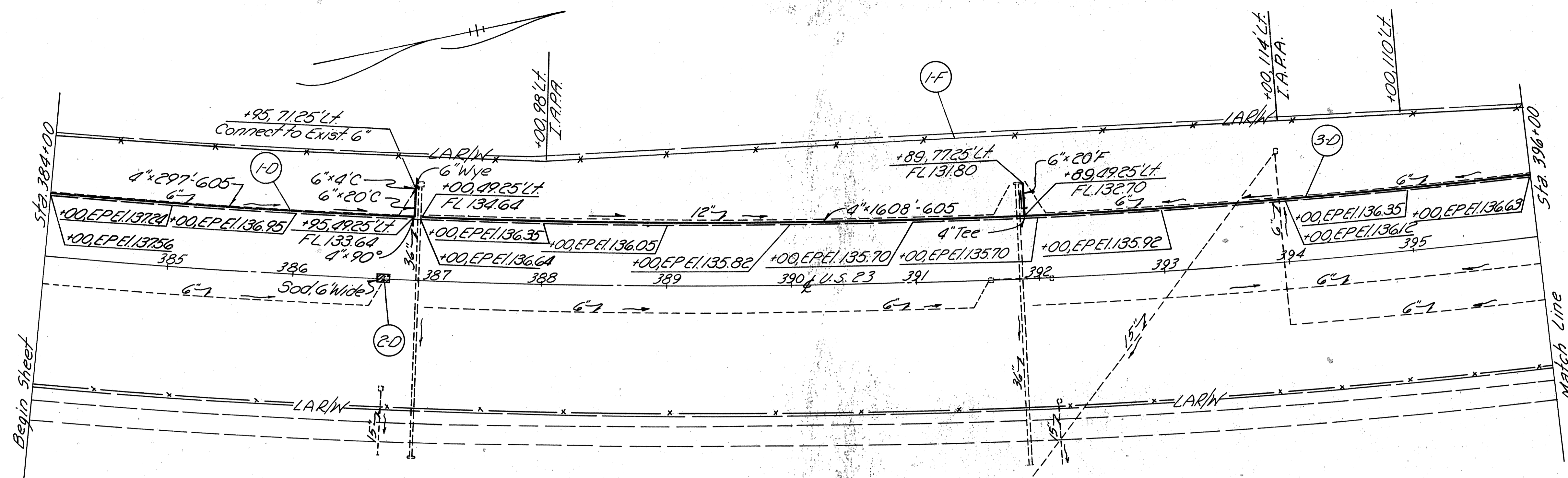
Note: All E.P. Elevations are existing elevations and are not based on U.S.G.S. Datum. All Elevations within a proposed underdrain Area are relative to all other Elevations within the same Area but are not relative to any elevations in any other Underdrain Area.

Computations By
Initials JEG Date 11-22-83
Computations Checked By
Initials JAB Date 12-1-83
Final Revisions By
Initials Date

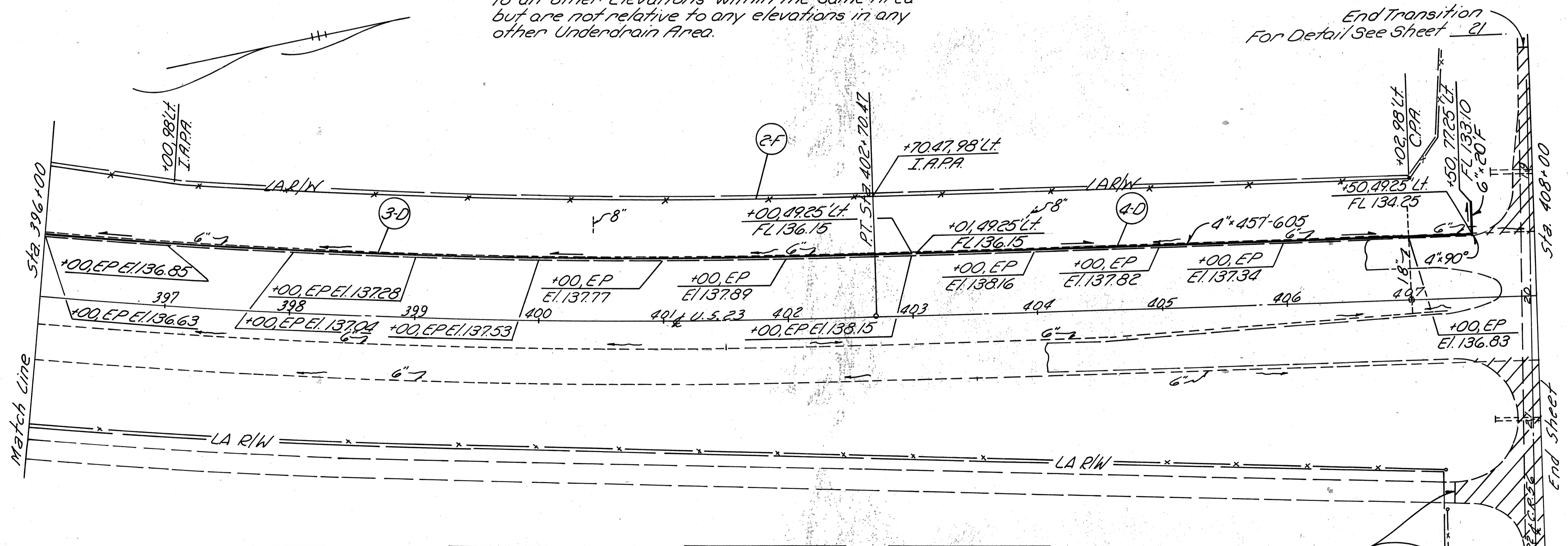
FHWA REGION	STATE	PROJECT
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Note: All E.P. Elevations are existing elevations and are not based on U.S.G.S. Datum. All Elevations within a proposed underdrain Area are relative to all other Elevations within the same Area but are not relative to any elevations in any other Underdrain Area.



BM #9 Sta. 386+00
Top & Monument
Elev. 134.82

BM #10 Sta. 392+00
Top & Monument
Elev. 134.32

BM #11 Sta. 398+00
Top & Monument
Elev. 135.06

BM #12 Sta. 402+00
Top & Monument
Elev. 136.13

End Transition
For Detail See Sheet 21

DRAINAGE "D"

Bends and Branches				
660	Sodding	Sq. Yd.	2	
605	4" unclassified pipe underdrains as per plan	Lin. Ft.	297	5.00
603	Corrugated	Lin. Ft.	20	160.8
		Type	20	45.7
		C	24	40
		6" 6"		
203	Embankment	Cu. Yd.	1.00	
			1.00	
	Side			
Station	From	To		
	384+00	386+25	LT	
	386+25	386+26.5	0	
	387+00	403+00	LT	
	403+01	407+50	LT	
		Total		236.2
Ref. No.				

FENCE "F"

607	Fence Type 17	Lin. Ft.	1176	
			1091	
	Side			
Station	From	To		
	384+00	396+00	LT	
	396+00	408+00	LT	
		Total		2267
Ref. No.				

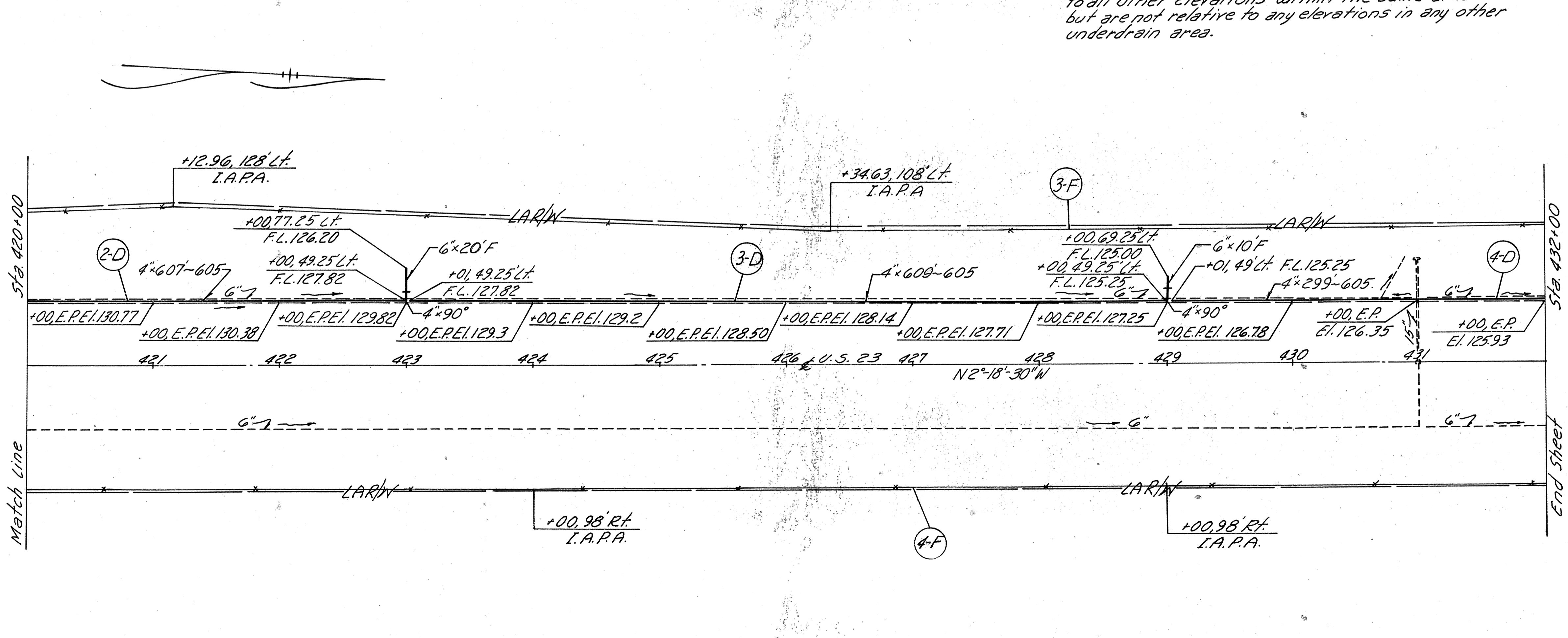
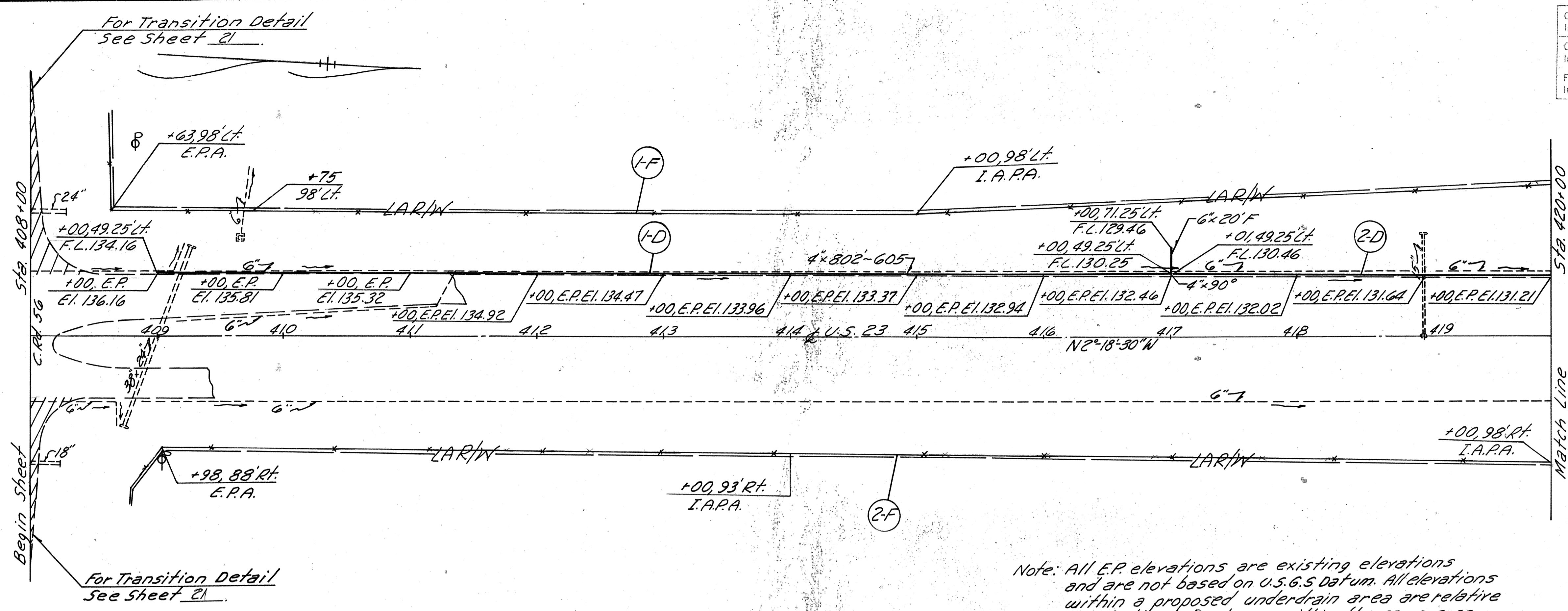
Sta. 384+00 to Sta. 408+00

Computations By
Initials JGG Date 11-22-83
Computations Checked By
Initials JLB Date 12-1-83
Final Revisions By
Initials Date

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DRAINAGE "D"

Bends and Branches	Type	Lin. Ft.	Station				Totals
			From	To	LT	RT	
Unclassified pipe Underdrains as per plan	605	802	409+00	417+00	LT		2317
Conduit	603	20	417+01	423+00	LT		
		10	423+01	429+00	LT		
		299	429+01	432+00	LT		
						Totals	2317

Note: All E.P. elevations are existing elevations and are not based on U.S.G.S Datum. All elevations within a proposed underdrain area are relative to all other elevations within the same area but are not relative to any elevations in any other underdrain area.

FENCE "F"

Ref. No.	Station		Side	Fence Type 47	Lin. Ft.
	From	To			
1-F	408+63	420+00	LT		1138
2-F	408+98	420+00	RT		1102
3-F	420+00	432+00	LT		1201
4-F	420+00	432+00	RT		1200
Totals					4641

B.M.#13 Sta. 408+50
Top & Monument
Elev. 135.52

B.M.#14 Sta. 415+00
Top & Monument
Elev. 130.48

B.M.#15 Sta. 421+00
Top & Monument
Elev. 128.23

B.M.#16 Sta. 427+00
Top & Monument
Elev. 125.18

Sta. 408+00 to Sta. 432+00

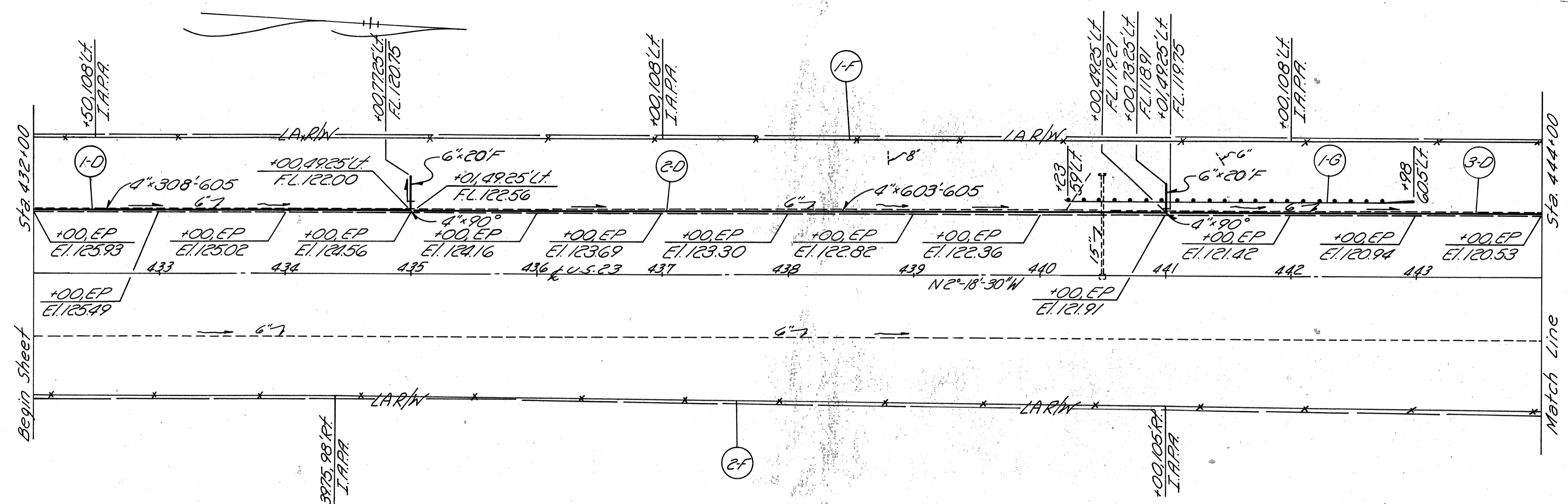
Computations By
Initials JGG Date 11-22-83

Computations Checked By
Initials JAB Date 12-1-83

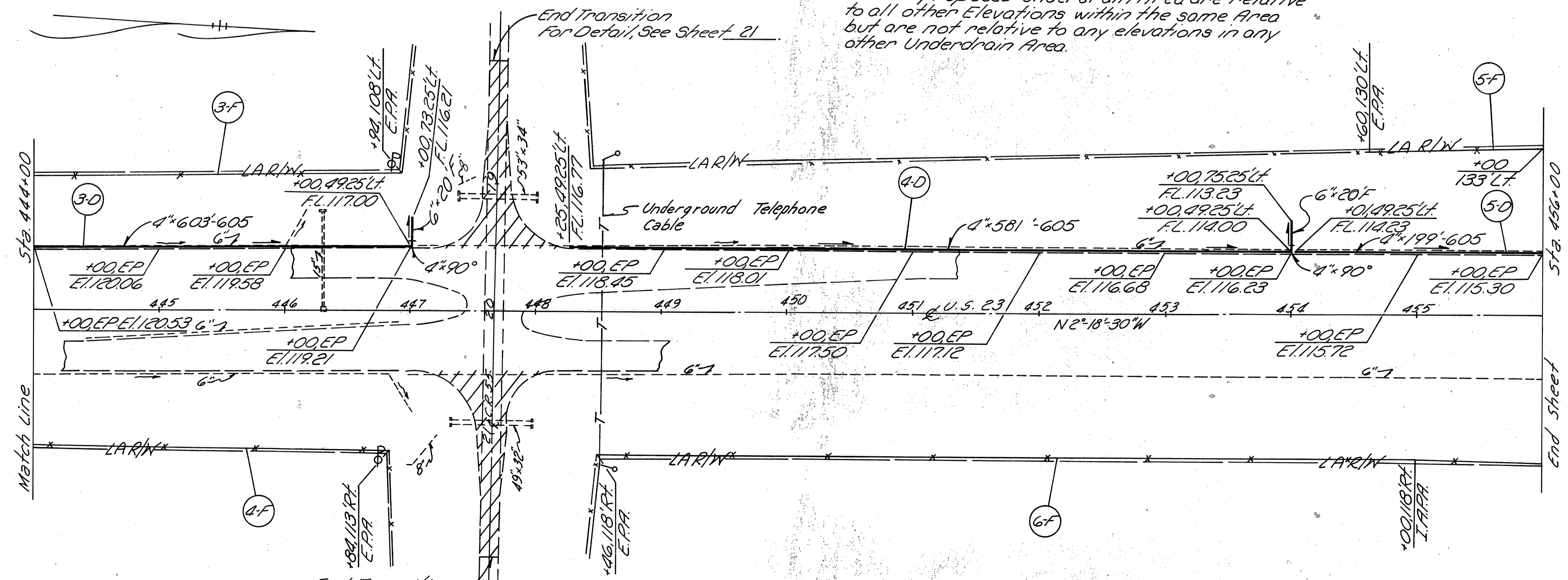
Final Revisions By
Initials Date

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Note: All E.P. Elevations are existing elevations and are not based on USGS Datum. All Elevations within a proposed underdrain Area are relative to all other Elevations within the same Area but are not relative to any elevations in any other Underdrain Area.



BM #17 Sta. 433+00
Top & Monument
Elev. 122.62

BM #18 Sta. 439+00
Top & Monument
Elev. 119.92

BM #19 Sta. 445+00
Top & Monument
Elev. 117.37

BM #20 Sta. 451+00
Top & Monument
Elev. 115.04

DRAINAGE "D"

Bends and Branches	4" unclassified Pipe underdrains as per plan	6" Conduit Lin. Ft.	Type		Total
			6"	1 1/2"	
1-D	308	20			328
2-D	603	20			623
3-D	603	20			623
4-D	581	20			601
5-D	199	20			219
					2294

GUARD RAIL "G"

Ref. No.	Station		Side	Guard Rail Type 5	Anchor Assembly Sht. Type A	Anchor Assembly Sht. Type T
	From	To				
1-G	440+23.00	442+98.00	LT	237.50	1	1
	Total			237.50	1	1

FENCE "F"

Ref. No.	Station		Side	Fence Type 47	Lin. Ft.
	From	To			
1-F	432+00	444+00	LT		1200
2-F	432+00	444+00	RT		1200
3-F	444+00	446+94	LT		294
4-F	444+00	446+84	RT		284
5-F	454+60	456+00	LT		140
6-F	448+46	456+00	RT		754
	Total				3872

Computations By
Initials JGG Date 11-27-83
Computations Checked By
Initials ALB Date 12-1-83
Final Revisions By
Initials Date

FHWA REGION	STATE	PROJECT
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FENCE "F"

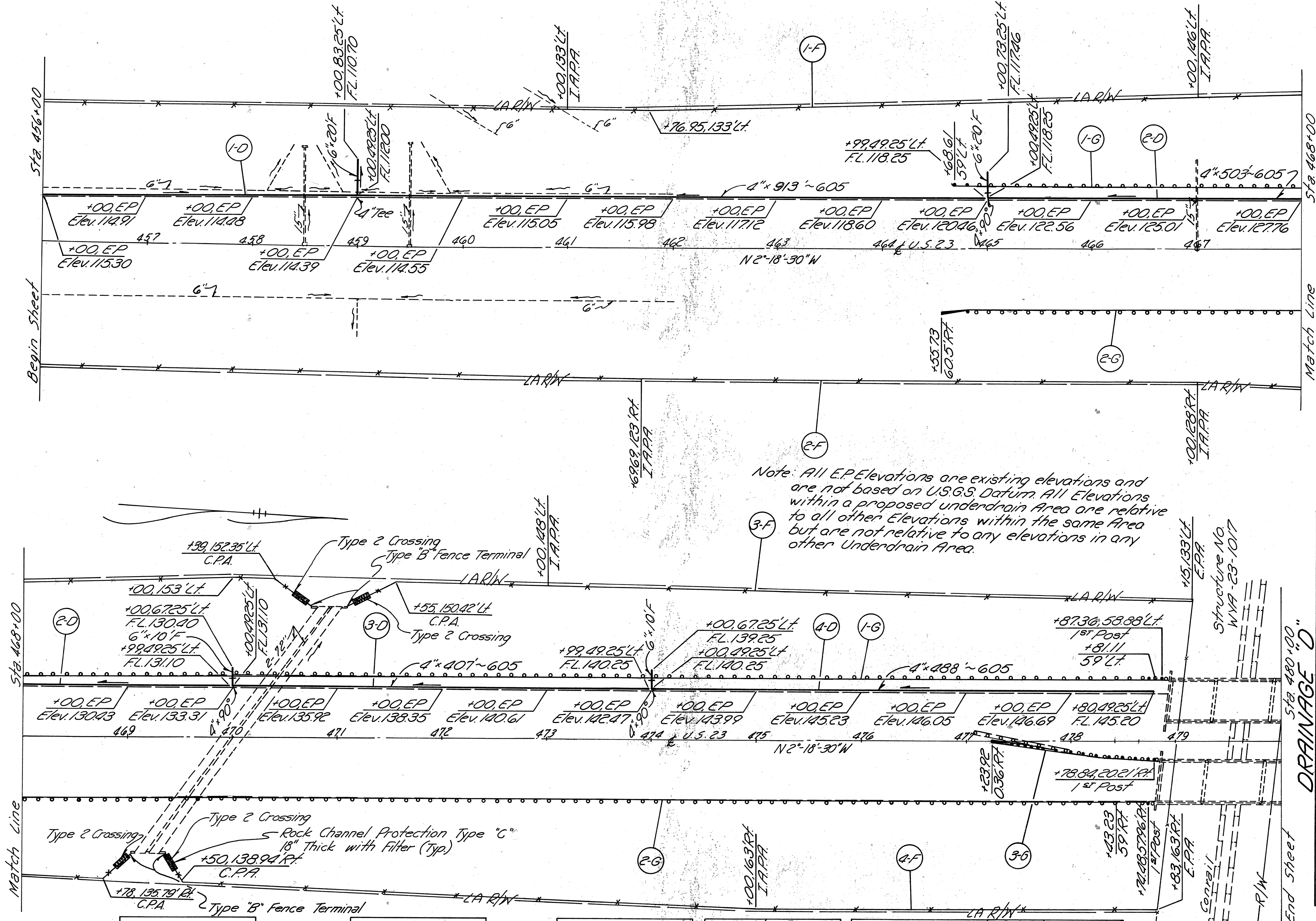
Ref. No.	Station		Side	Rock Channel Protection Type 'C' #/Filter	Fence Type	47
	From	To				
1-F	456+00	468+00	Lt		1200	
2-F	456+00	468+00	Rt		1200	
3-F	468+00	479+15	Lt	11	1105	
4-F	468+00	478+83	Rt	11	1082	
Total					22	4587

Ref. No.	Station	Side	Anchor Assembly	Bridge Terminal Assembly		Guard Rail Barrier Design Type 5	Guard Rail Type 5	Guard Rail Barrier Design Removed for Storage	Guard Rail Removed for Storage
				Std. Type A	Std. Type C				
606			Anchor Assembly	Std. Type A	Std. Type C				
Total				1	1	1	1	1	2

GUARD RAIL "G"

Ref. No.	Station	Side	Bends and Branches		2" unclassified Pipe underdrains as per plan	Conduit Lin. Ft.
			6"	4"		
605						
603						
Total				60	2311	

DRAINAGE "D"

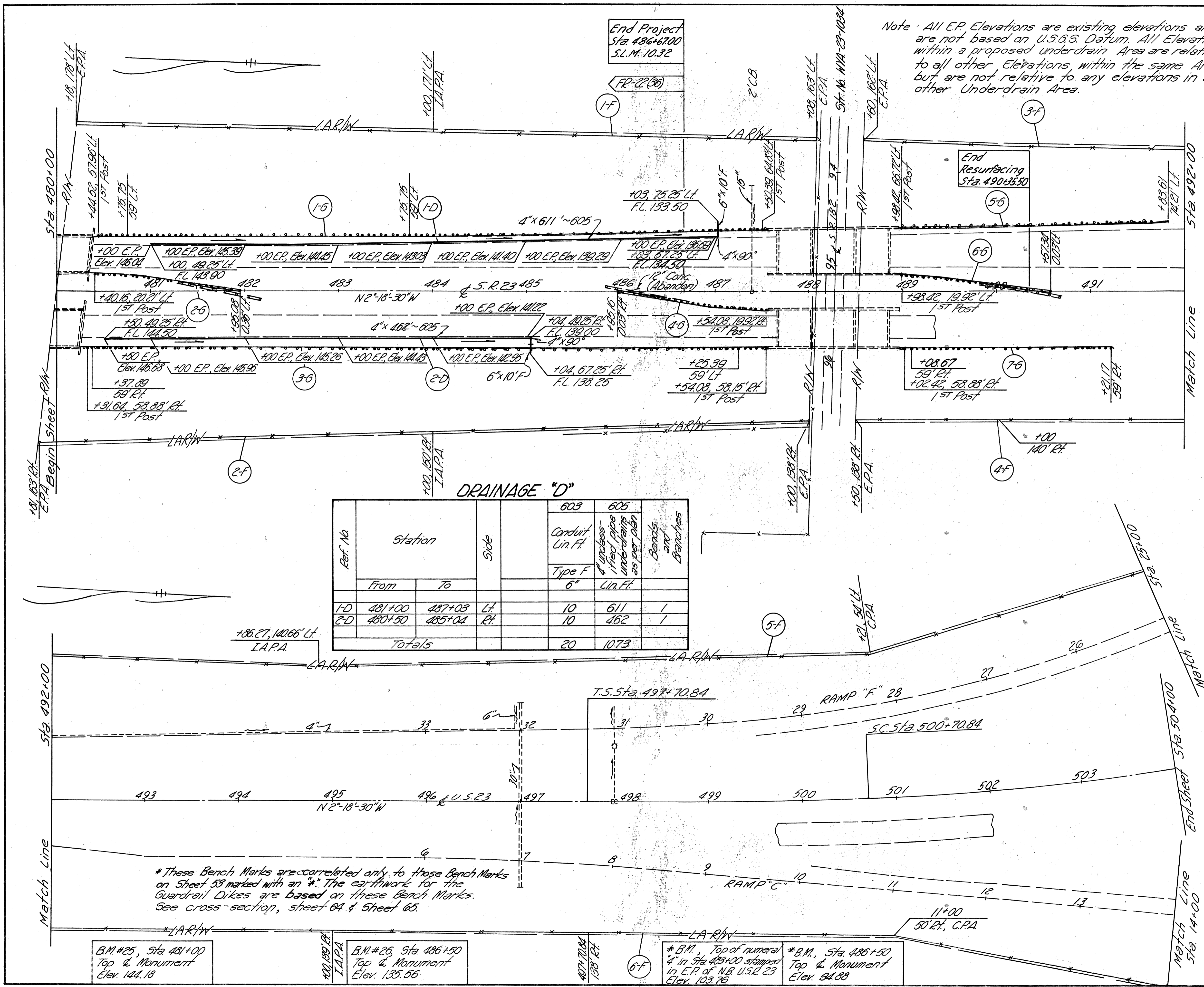


Note: All E.P. Elevations are existing elevations and are not based on U.S.G.S. Datum. All Elevations within a proposed underdrain Area are relative to all other Elevations within the same Area but are not relative to any elevations in any other Underdrain Area.

- BM #21 Sta. 457+00 Top & Monument Elev. 112.15
- BM #22 Sta. 463+00 Top & Monument Elev. 114.41
- BM #23 Sta. 469+00 Top & Monument Elev. 127.37
- * BM Sta. 473+00 Top of "A" in Sta. 473+00 stamped in N.B. 23 E.P. Elev. 100.00
- BM #24 Sta. 475+00 Top & Monument Elev. 141.06
- * BM Sta. 475+00 Top of "A" in Sta. 475+00 Stamped in N.B. 23 E.P. Elev. 103.43

* These Bench Marks are correlated only to those Bench Marks on Sheet 54 marked with a "*". The earthwork for the Guard Rail Dikes are based on these Bench Marks. See x-section sheet 64 & Sheet 65.

Note: All E.P. Elevations are existing elevations and are not based on U.S.G.S. Datum. All Elevations within a proposed underdrain Area are relative to all other Elevations within the same Area but are not relative to any elevations in any other Underdrain Area.



FENCE "F"

Ref. No.	Station		Side	Fence Type 47	Lin. Ft.
	From	To			
1-F	480+18	483+08	Lt		790
2-F	479+81	488+00	Rt		819
3-F	488+60	492+00	Lt		340
4-F	488+50	492+00	Rt		350
5-F	492+00	25+00*	Lt		1178
6-F	492+00	14+00**	Rt		1197
Totals					4674

* Station on Ramp "F"
 ** Station on Ramp "C"

DRAINAGE "D"

Ref. No.	Station		Side	603		605		Bends and Branches
	From	To		Conduit Lin. Ft.	Type F	4" unclashed 1" fixed pipe underdrains 50 per diam	Lin. Ft.	
1-D	481+00	487+03	Lt	10	6	1		
2-D	480+50	485+04	Rt	10	4	1		
Totals				20	10	2		

GUARDRAIL "G"

Ref. No.	Station	Side	Anchor Assembly		Guard Rail Barrier Design Type 5		Guard Rail Removed for Storage	
			Sta. Design Type 1	Sta. Design Type 2	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.
1-6	480+30.25	Lt			712.50	718.19*		
2-6	480+31.50	Lt			87.50	112.50	25.00	
3-6	480+28.00	Rt			725.00	730.69**		
4-6	482+02.00	Rt			87.50	112.50	25.00	
5-6	488+04.25	Lt			202.50	202.50		
6-6	488+04.25	Lt			87.50	112.50	25.00	
7-6	488+04.44	Rt			202.50	212.50		
Totals					2162.50	2261.58	75.00	

* Last panel is 18.15' in length
 ** Last panel is 18.45' in length

* These Bench Marks are correlated only to those Bench Marks on Sheet 53 marked with an *. The earthwork for the Guardrail Dikes are based on these Bench Marks. See cross-section, sheet 64 & Sheet 65.

B.M. #25, Sta 481+00
 Top & Monument
 Elev. 144.18

B.M. #26, Sta 486+50
 Top & Monument
 Elev. 135.56

487+70.84
 139' Rt.

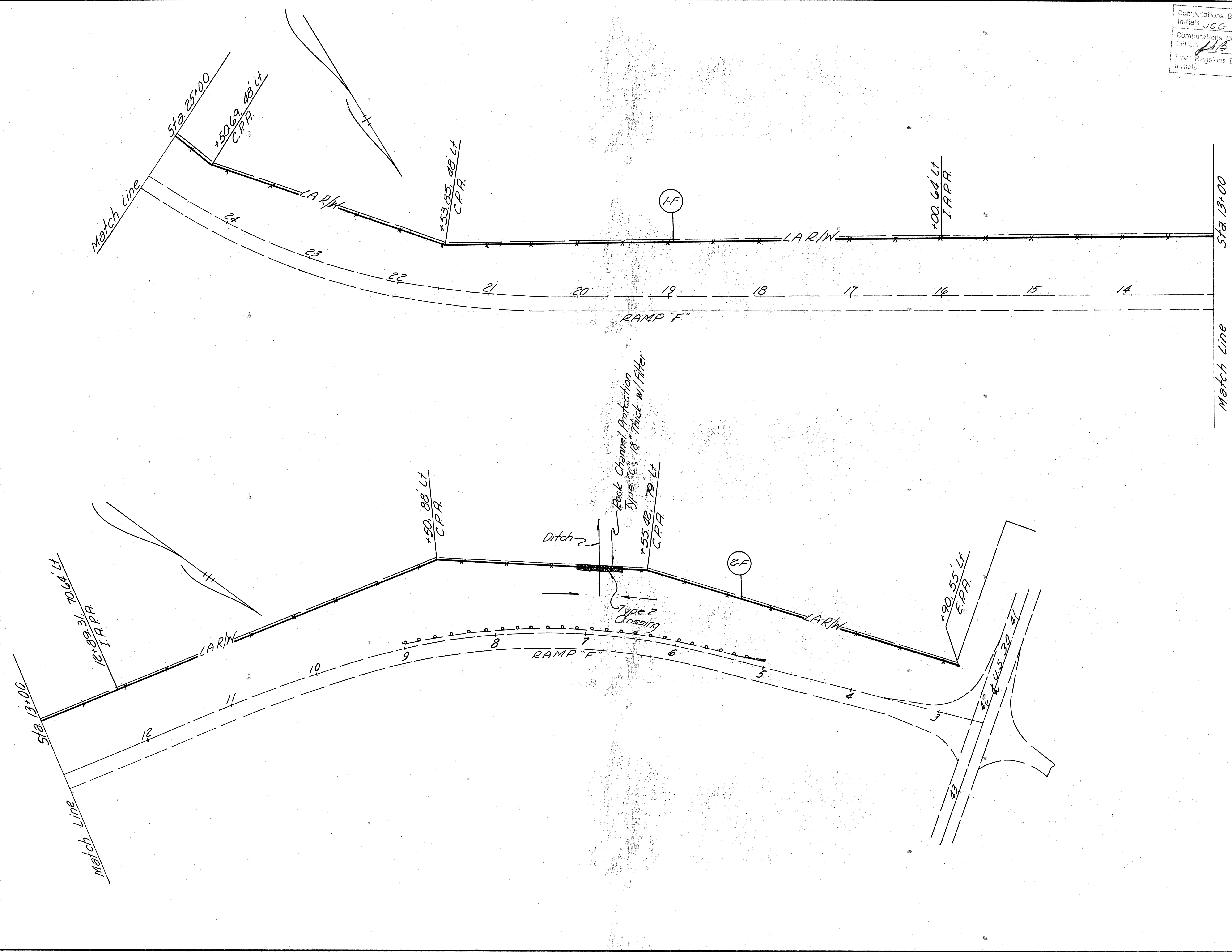
* B.M., Top of numeral 4 in Sta 489+20 stamped in E.P. of N.B. U.S.E. 23
 Elev. 103.76

* B.M., Sta. 486+50
 Top & Monument
 Elev. 94.88

Computations By
Initials *JGG* Date *11-22-83*
Computations Checked By
Initials *JLB* Date *12-1-83*
Final Revisions By
Initials _____ Date _____

FHWA REGION	STATE	PROJECT
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FENCE "F"

Ref. No	Station	From	To	Side	Qu. Vol.	Lin. Ft.
		13+00*	17+00*	Lt		1168
		13+00*	17+00*	Lt	16	1060
	Total				16	2228

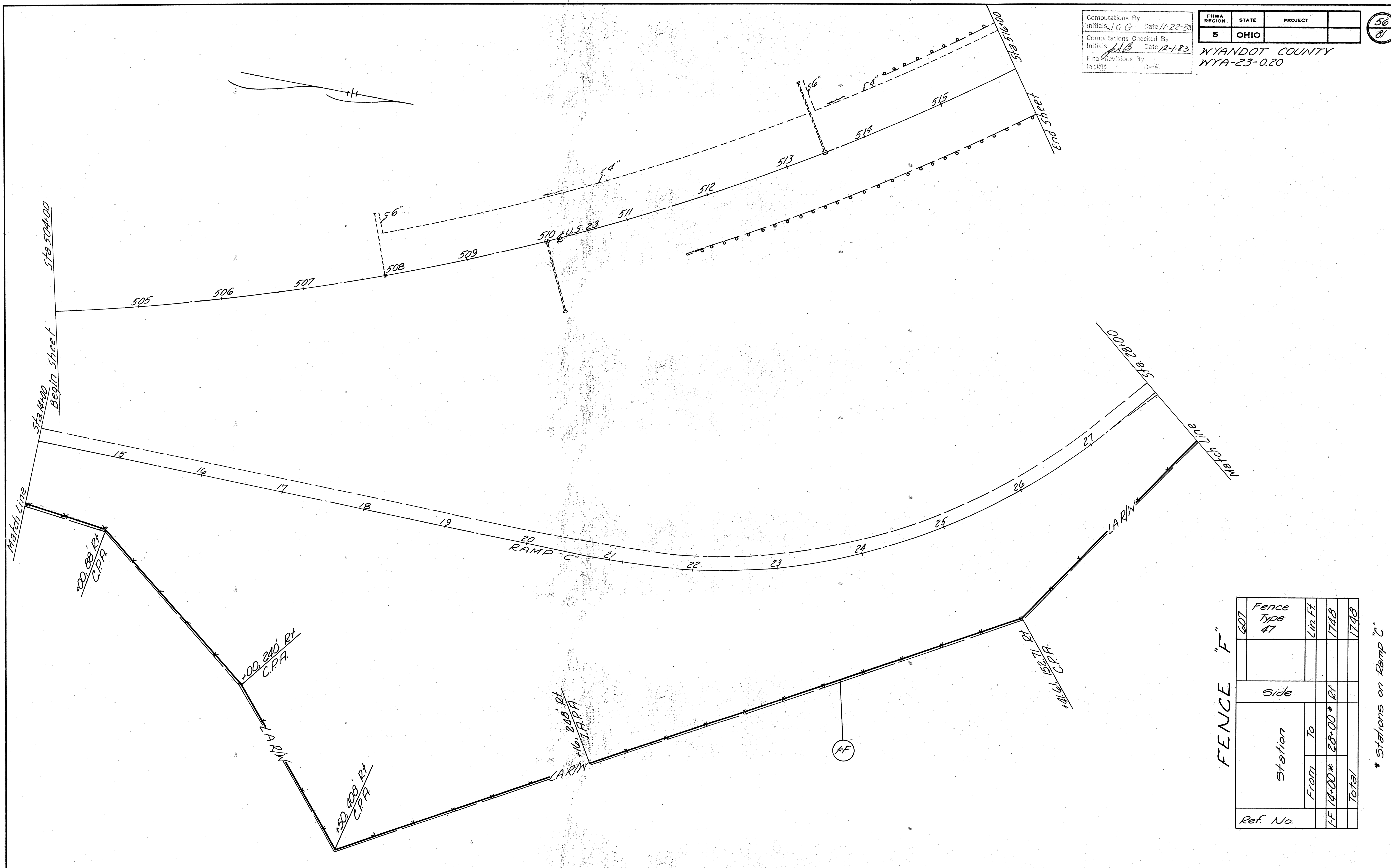
* Stations on Ramp "F"

Computations By
Initials JGG Date 11-22-83
Computations Checked By
Initials JAB Date 12-1-83
Final Revisions By
Initials Date

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FENCE "F"

Ref. No.	Station		Side	Fence Type	Lin. Ft.
	From	To			
1.F	14+00*	28+00*	RT	47	1748
	Total				1748

* Stations on Ramp "C"

Sta. 504+00 to Sta. 516+00

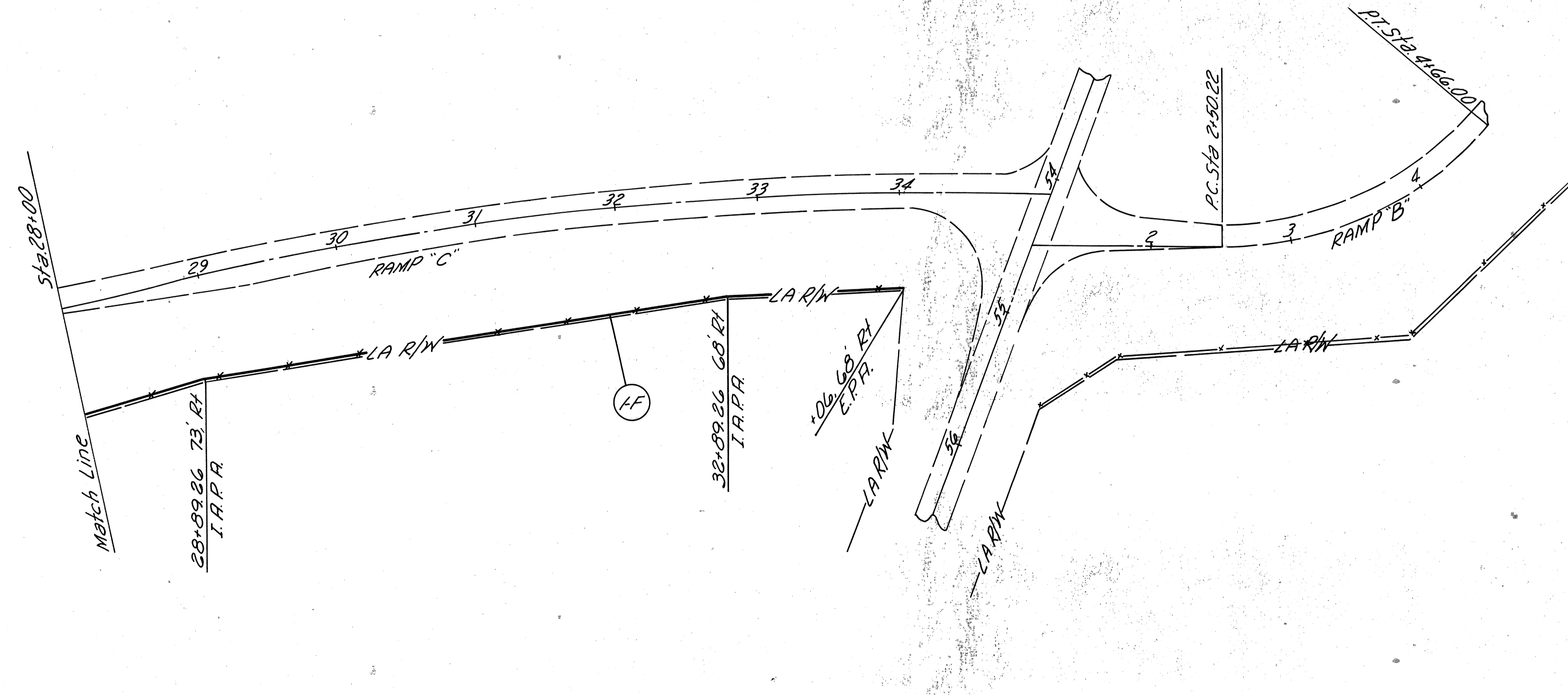
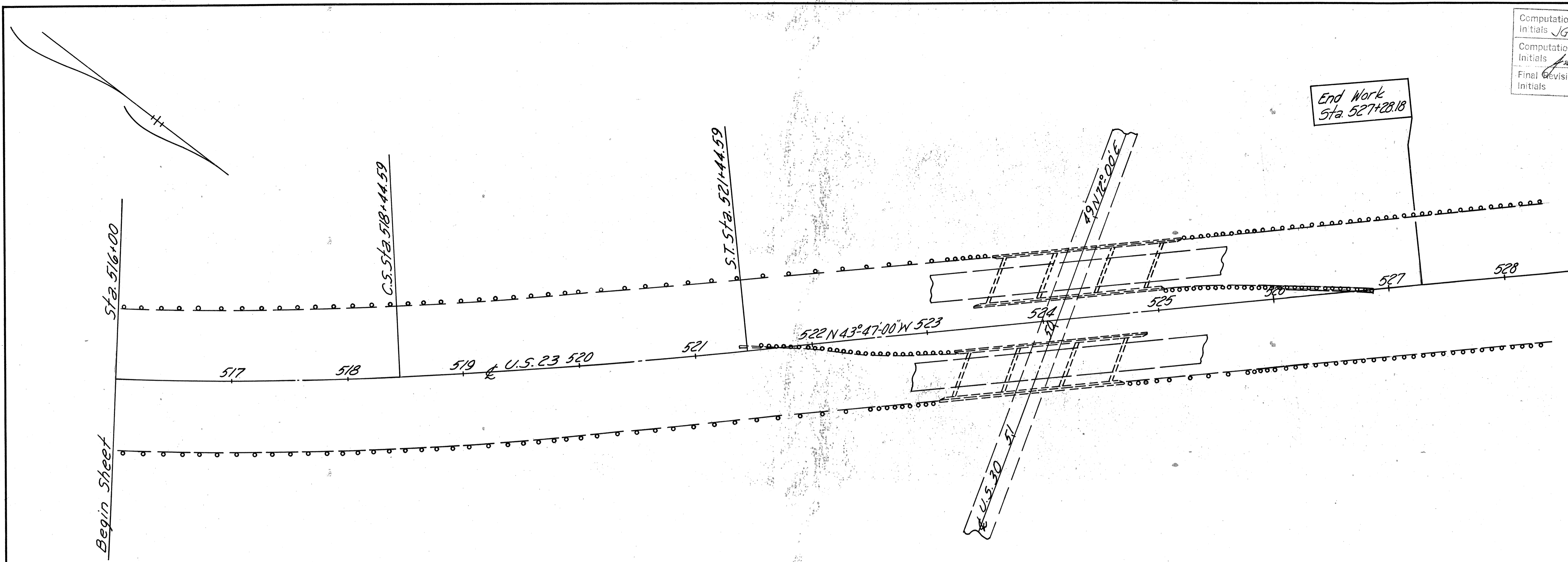
Computations By
 Initials JGG Date 11-2-83
 Computations Checked By
 Initials JLB Date 12-1-83
 Final Revisions By
 Initials Date

FHWA REGION	STATE	PROJECT
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End Work
 Sta. 527+28.18

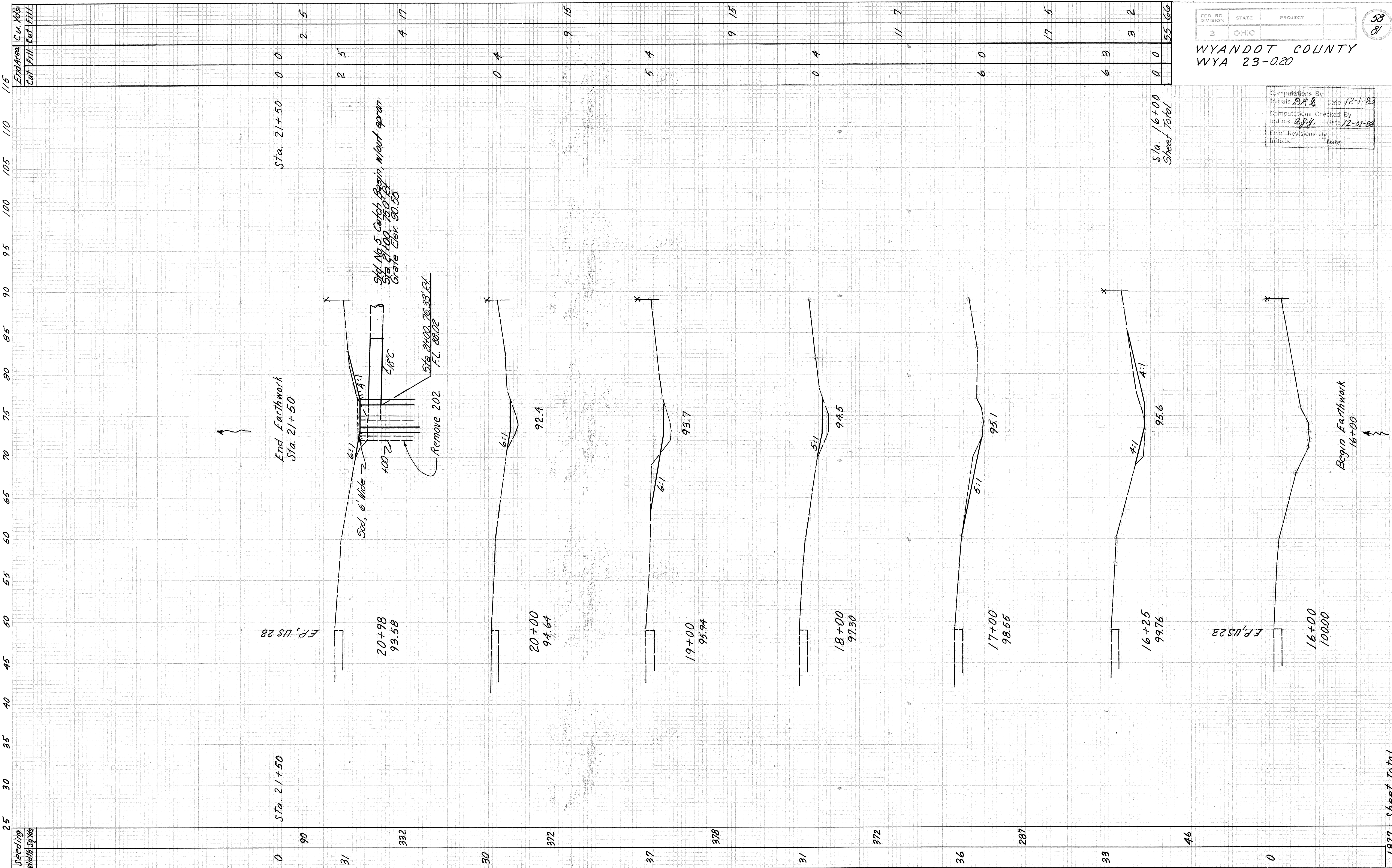


FENCE F

Ref. No.	Station	Side	From	To	Fence Type	Lin. Ft.
	1F 28+00			34+06	RH	593
						593
						593

* Stations on Ramp 'C'

Sta. 516+00 to Sta. 526+00



End Area	Cut	Fill	Cut	Fill
115	0	0	2	5
110	0	0	2	5
105	0	0	2	5
100	0	0	2	5
95	0	0	2	5
90	0	0	2	5
85	0	0	2	5
80	0	0	2	5
75	0	0	2	5
70	0	0	2	5
65	0	0	2	5
60	0	0	2	5
55	0	0	2	5
50	0	0	2	5
45	0	0	2	5
40	0	0	2	5
35	0	0	2	5
30	0	0	2	5
25	0	0	2	5
Sheet Total	0	0	6	3
1877	0	0	55	66

Computations By
Initials: *SAB* Date: 12-1-83

Computations Checked By
Initials: *DFY* Date: 12-01-83

Final Revisions By
Initials: _____ Date: _____

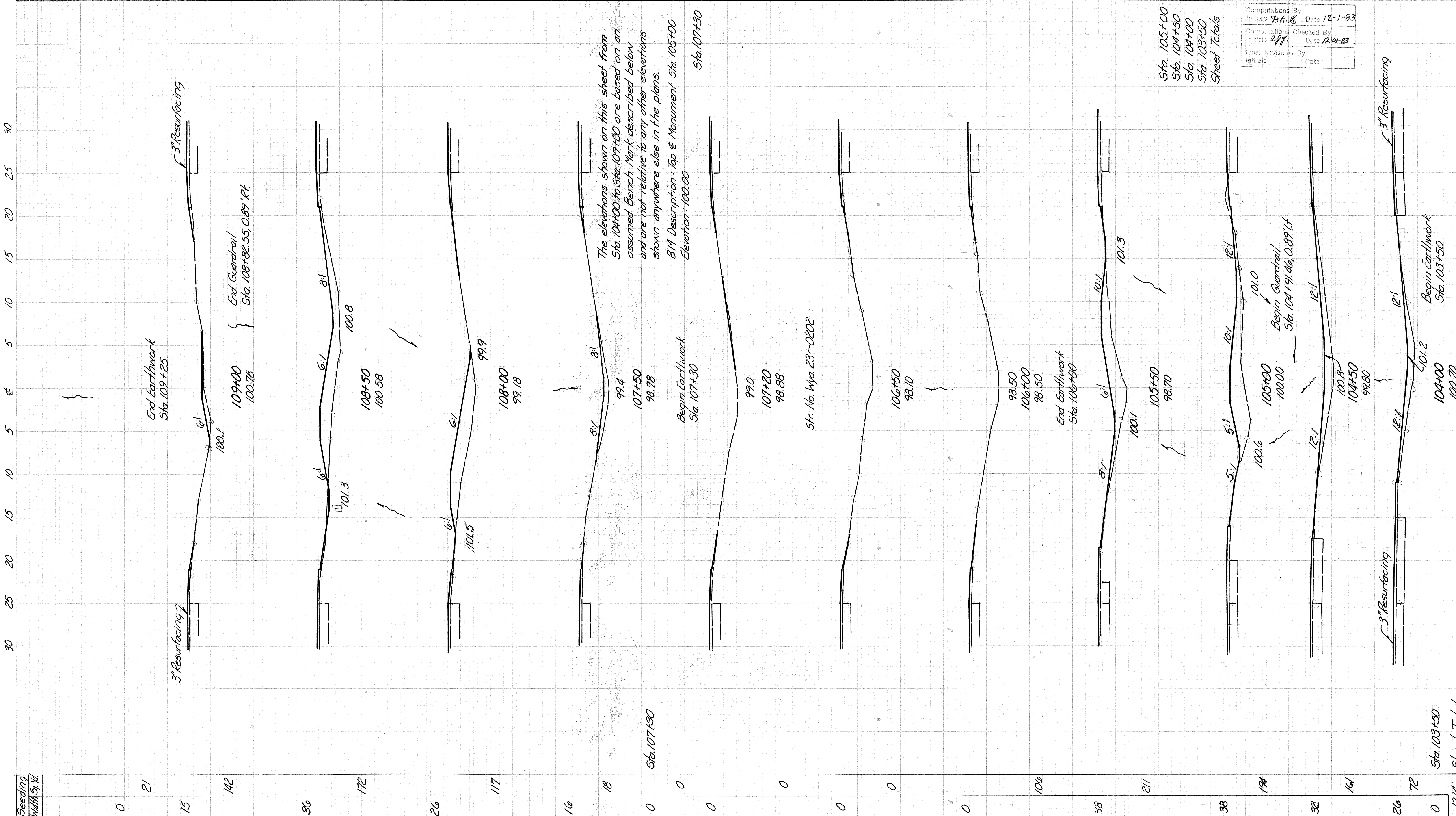
Sta. 16+00
Sheet Total

Seedling Width 5'-6"	End Area Cut	End Area Fill	Cu. Yd. Cut	Cu. Yd. Fill
0	0	0	0	0
21	0	0	0	0
15	0	0	0	0
142	0	7	1	35
36	1	31	1	52
172	0	25	0	33
26	0	10	0	4
117	0	0	0	0
16	0	0	0	0
18	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
106	0	0	1	20
38	1	21	2	46
211	1	28	2	43
38	1	18	1	31
194	0	15	0	14
32	0	0	0	0
164	0	0	0	0
26	0	0	0	0
72	0	0	0	0
0	0	0	0	0
1214	8	287	8	287

FED. RD. DIVISION: 2, STATE: OHIO, PROJECT: WYANDOT COUNTY WYA-23-0.20

Computations By: Initials B.R.K., Date 12-1-83
 Computations Checked By: Initials J.P.P., Date 12-21-83
 Final Revisions By: Initials, Date

Sta. 105+00
 Sta. 104+50
 Sta. 104+00
 Sta. 103+50
 Sheet Totals



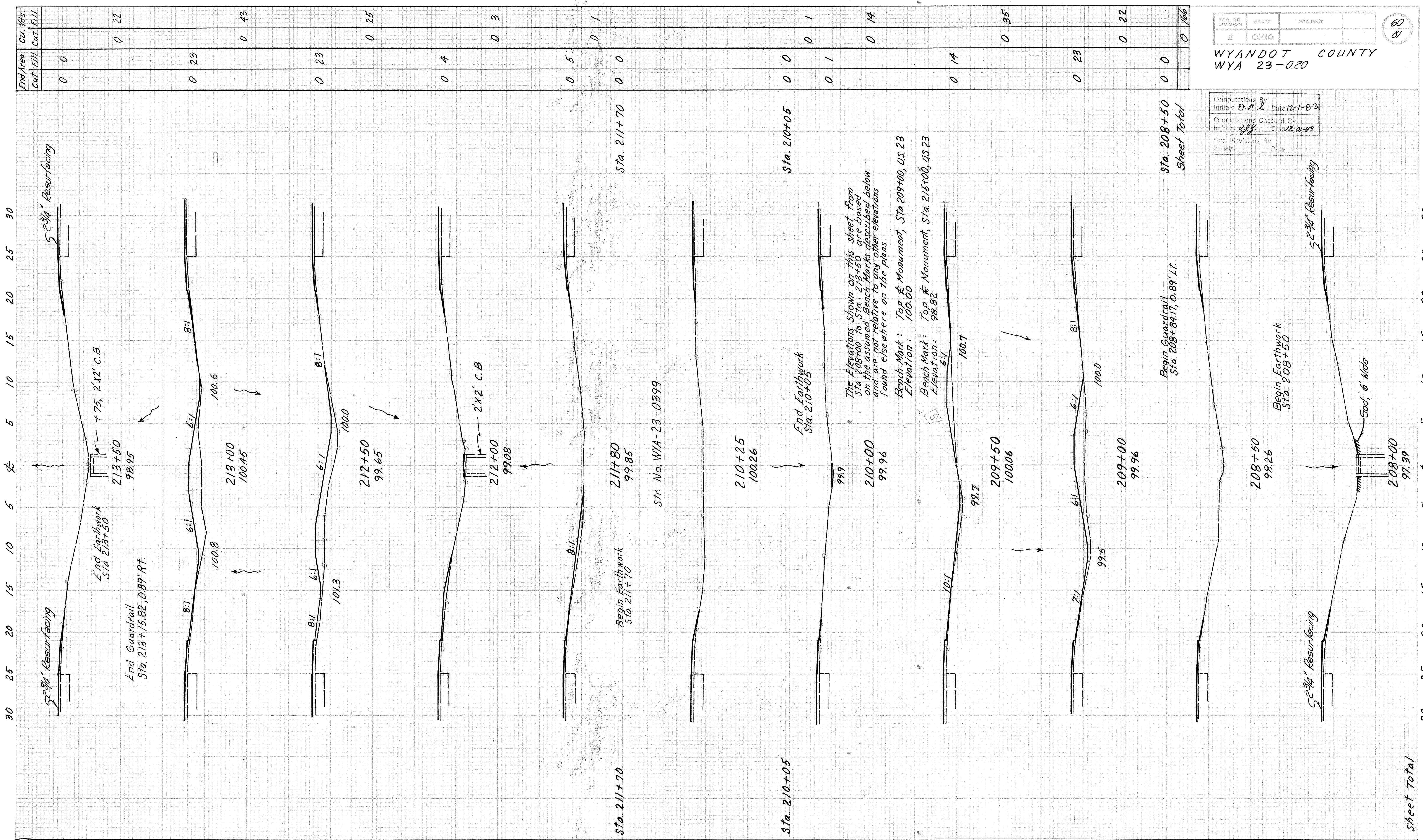
The elevations shown on this sheet from Sta. 104+00 to Sta. 109+00 are based on an assumed Bench Mark described below and are not relative to any other elevations shown anywhere else in the plans.
 BM Description: Top of Monument Sta. 105+00
 Elevation: 100.00

Sta. 104+50 to Sta. 109+00

Sta. 103+50
 Sheet Total

Seeding Width Sq. Yds.	End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
0	0	0	0	0
114	0	0	0	22
41	0	23	0	43
228	0	23	0	25
41	0	4	0	3
22	0	5	0	1
57	0	0	0	0
29	0	0	0	0
16	0	0	0	0
0	0	0	0	0
0	0	0	0	0
8	0	0	0	1
27	0	1	0	1
189	0	14	0	14
41	0	23	0	22
228	0	0	0	0
41	0	0	0	0
114	0	0	0	0
0	0	0	0	0
1129	0	0	0	166

Computations By: Initials *B.A.L.* Date *12-1-83*
 Computations Checked By: Initials *ggy* Date *12-01-83*
 Final Revisions By: Initials _____ Date _____



Sta. 208+00 to Sta. 213+50

Sheet Total

Sta. 208+50
Sheet Total

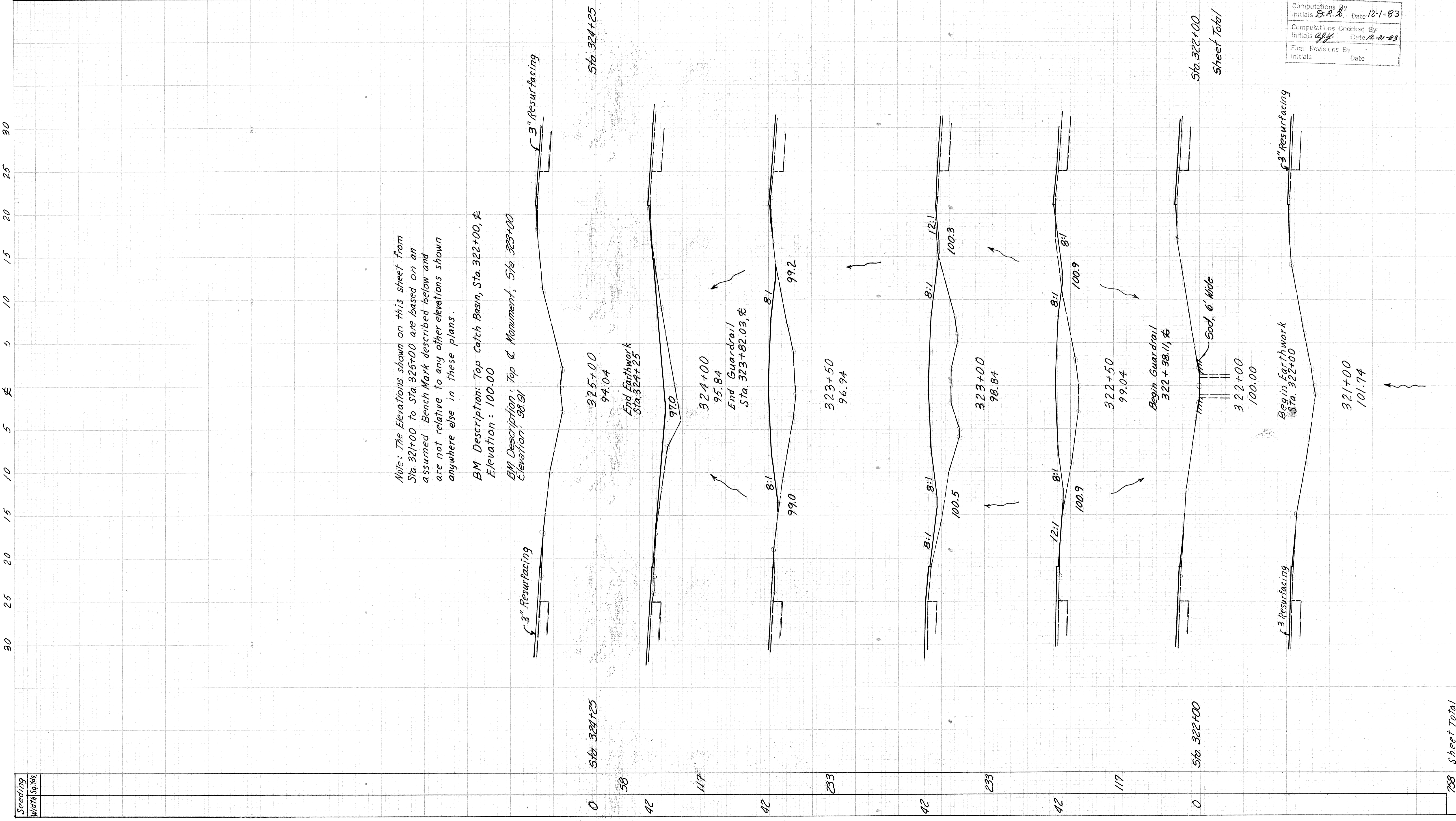
Sta. 211+70

Sta. 210+50

The Elevations Shown on this sheet from
 Sta. 208+00 to Sta. 213+50 are based
 on the assumed Bench Marks described below
 and are not relative to any other elevations
 found elsewhere on the plans.
 Bench Mark: Top of Monument, Sta. 209+00, U.S. 23
 Elevation: 100.00
 Bench Mark: Top of Monument, Sta. 215+00, U.S. 23
 Elevation: 98.82

Sta	End Area	Cu Yds.
Sta 324+25	0	0
Sta 325+00	0	0
Sta 326+00	0	0
Sta 327+00	0	0
Sta 328+00	0	0
Sta 329+00	0	0
Sta 330+00	0	0
Sta 331+00	0	0
Sta 332+00	0	0
Sta 333+00	0	0
Sta 334+00	0	0
Sta 335+00	0	0
Sta 336+00	0	0
Sta 337+00	0	0
Sta 338+00	0	0
Sta 339+00	0	0
Sta 340+00	0	0
Sta 341+00	0	0
Sta 342+00	0	0
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Sta 346+00	0	0
Sta 347+00	0	0
Sta 348+00	0	0
Sta 349+00	0	0
Sta 350+00	0	0
Sta 351+00	0	0
Sta 352+00	0	0
Sta 353+00	0	0
Sta 354+00	0	0
Sta 355+00	0	0
Sta 356+00	0	0
Sta 357+00	0	0
Sta 358+00	0	0
Sta 359+00	0	0
Sta 360+00	0	0

Computations By Initials *B.R.B.* Date 12-1-83
 Computations Checked By Initials *QY* Date 12-21-83
 Final Revisions By Initials Date



Note: The Elevations shown on this sheet from Sta. 321+00 to Sta. 325+00 are based on an assumed Bench Mark described below and are not relative to any other elevations shown anywhere else in these plans.

BM Description: Top Catch Basin, Sta. 322+00, \$ Elevation: 100.00

BM Description: Top of Monument, Sta. 323+00 Elevation: 98.91

Sta 324+25

58

42

117

42

233

42

233

42

117

Sta 322+00

758 Sheet Total

Sta. 321+00 to Sta. 325+00

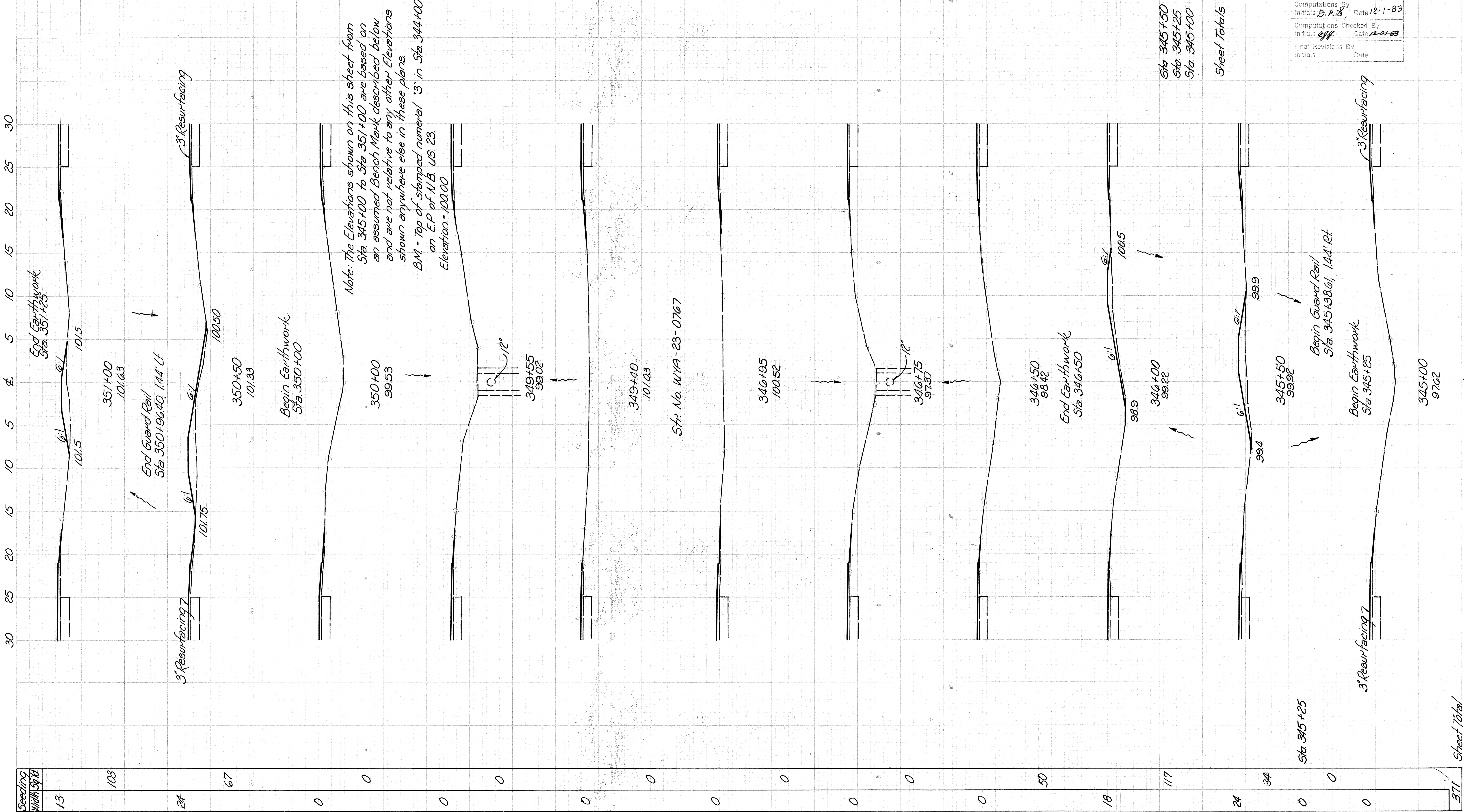
WYANDOT COUNTY
WYA-23-020

Computations By
Initials B.R.D. Date 12-1-83

Computations Checked By
Initials gff Date 12-01-83

Final Revisions By
Initials _____ Date _____

End Area Cut/Fill	Cu Yd Cut/Fill
0	0
0	8
0	22
0	16
0	0
0	0
0	0
0	0
0	0
0	0
0	0
0	0
0	0
0	8
0	26
0	20
0	0
0	0
0	7



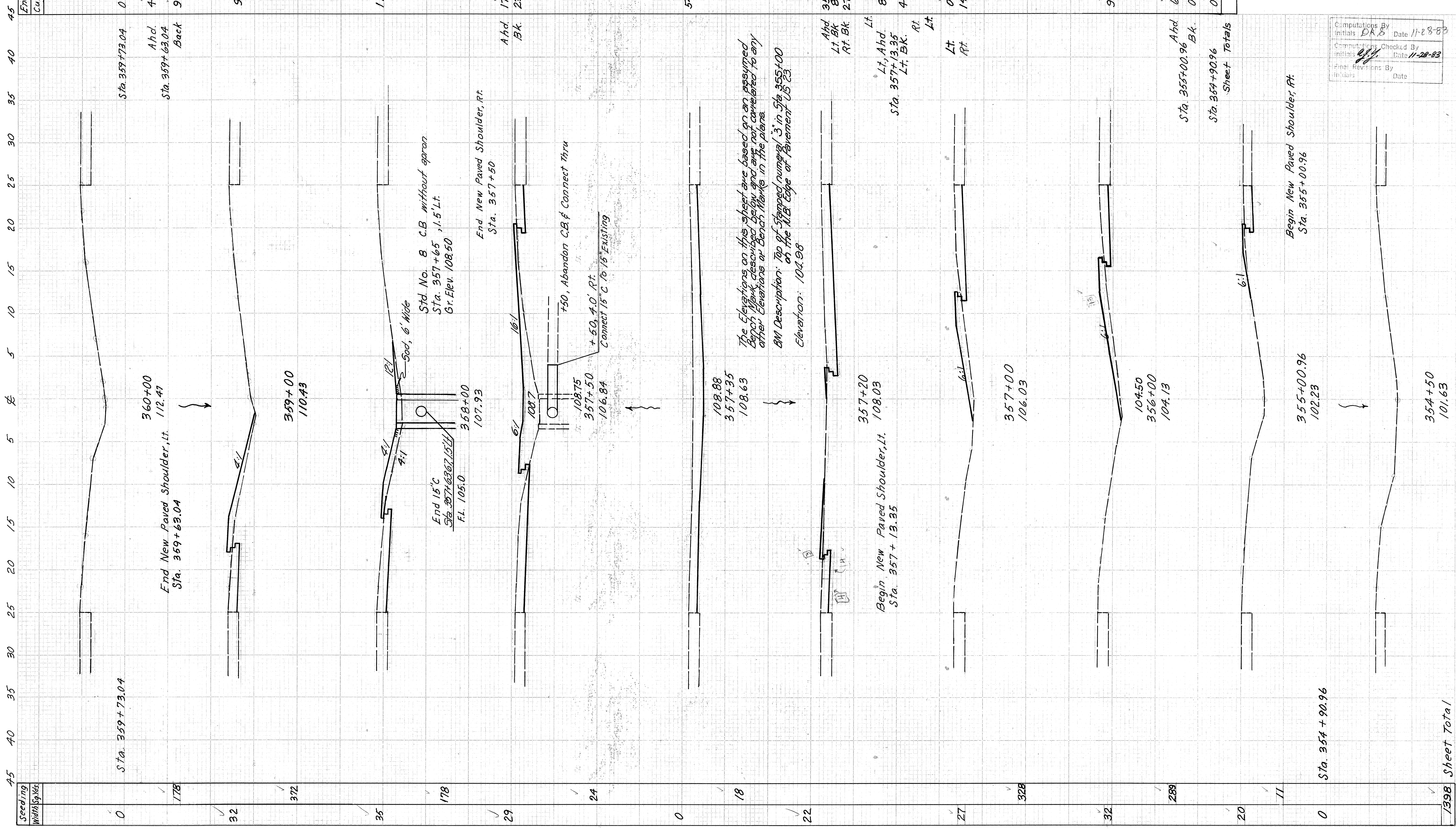
Sta 345+50
Sta 345+25
Sta 345+00

Sheet Totals

13	103	24	67	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	18	117	24	34	0	0	0	371
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Sta 345+00 to Sta 351+00

Sheet Total



Seedling Width Sp. Nos.	End Area	Cur. Yds.
0	0	0
32	4	3
35	9	6
178	21	21
29	9	9
24	17	21
0	23	8
18	54	25
22	4	1
27	8	3
328	4	3
32	3	1
289	4	3
20	15	5
11	1	1
0	0	0
1398	14	13
	9	13
	6	2
	0	2
	0	0
	0	0
	22	194

FED. RD. DIVISION 2 STATE OHIO PROJECT

WYANDOT COUNTY
WYA 23-020

Computations By: Initials DRB Date 11-28-83
 Checked By: Initials [Signature] Date 11-28-83
 Final Revisions By: Initials [Signature] Date

Sta. 354+50 to Sta. 360+00

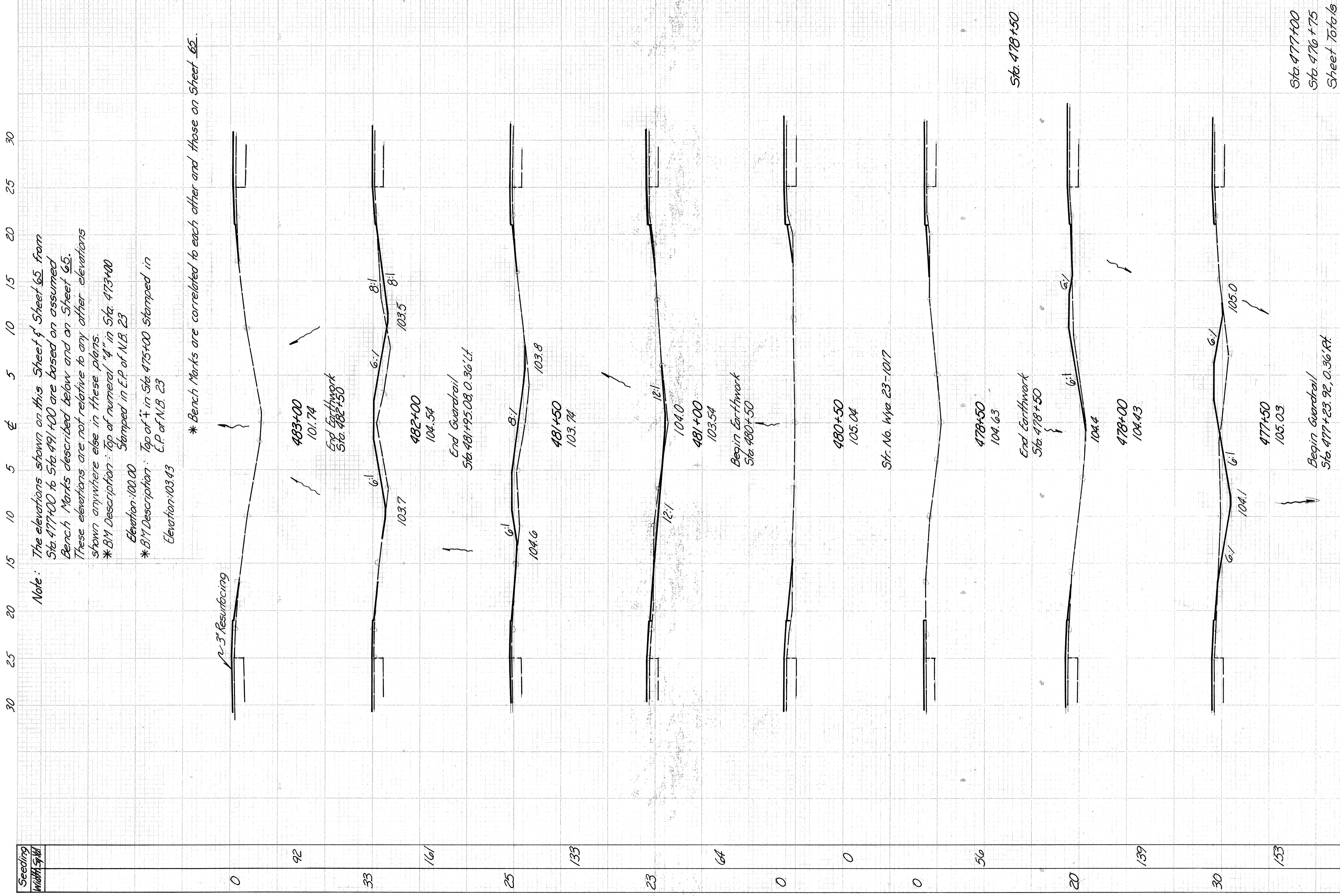
Sheet Total

End Area	Cu. Yd.	Cut	Fill	Cut	Fill
0	0	0	0	0	0
33	3	15	3	14	3
161	3	28	0	15	0
25	2	16	2	2	2
133	2	2	0	0	0
23	2	2	0	0	0
64	2	2	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
56	0	5	0	5	0
20	8	10	8	14	8
139	3	5	3	2	3
30	0	0	0	0	0
153	30	96	30	96	30

Computations By
Initials *D.R.S.* Date 12-1-83

Computations Checked By
Initials *A.S.H.* Date 12-01-83

Final Revisions By
Initials _____ Date _____



Sta. 477+00 to Sta. 483+00

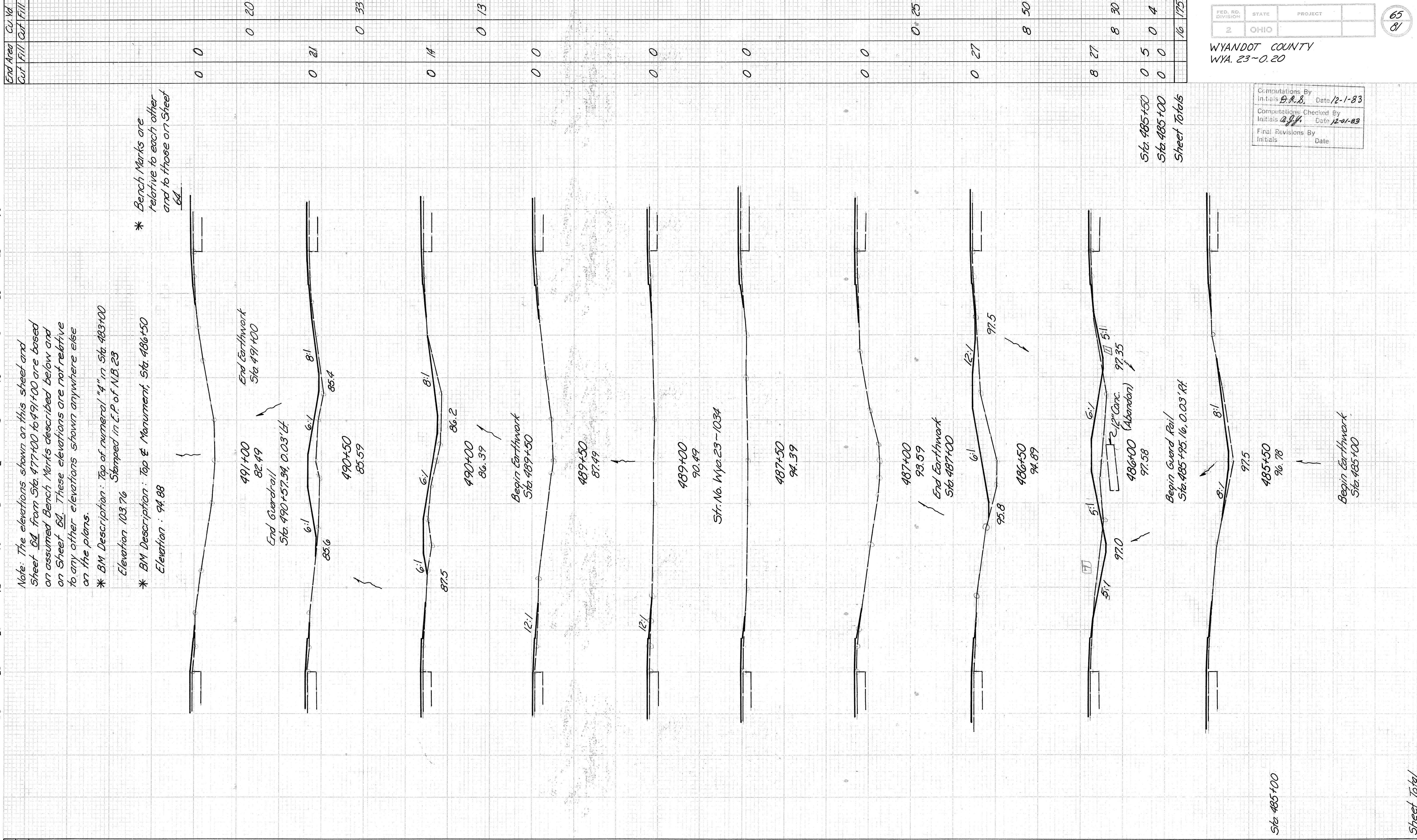
Seeding	Width	Sp. Yd.
0	92	33
0	161	25
0	133	23
0	64	0
0	0	0
0	56	20
0	139	30
0	153	25
0	35	0
0	0	0
833	833	833

Sheet Total

Seeding
Width
Sq. Ft.

End Area
Cut
Cu. Yd.

0	88	31	164	28	78	0	0	0	0	0	0	64	23	170	38	156	18	50	0	770
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Note: The elevations shown on this sheet and Sheet 64 from Sta. 477+00 to 491+00 are based on assumed Bench Marks described below and on Sheet 64. These elevations are not relative to any other elevations shown anywhere else on the plans.

* BM Description: Top of numeral "4" in Sta. 483+00 Stamped in L.P. of N.B. 23

Elevation: 103.76

* BM Description: Top of Monument, Sta. 486+50

Elevation: 94.88

* Bench Marks are relative to each other and to those on Sheet 64.

Sta. 485+50
Sta. 485+00
Sheet Totals

Computations By: Initials *B.A.B.* Date: 12-1-83
 Computations Checked By: Initials *B.J.Y.* Date: 12-01-83
 Final Revisions By: Initials _____ Date: _____

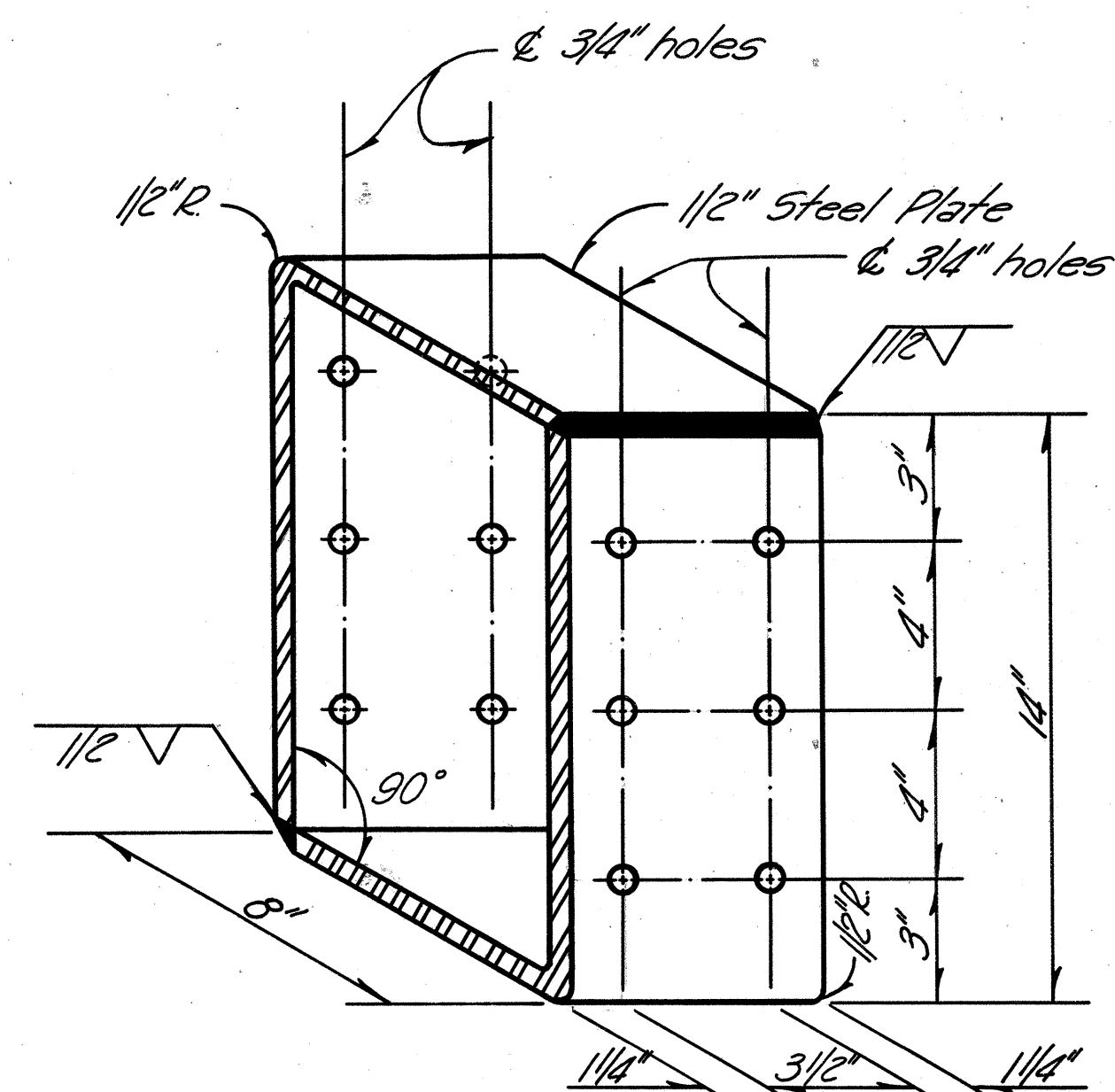
FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

WYANDOT COUNTY
WYA. 23-0.20

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81

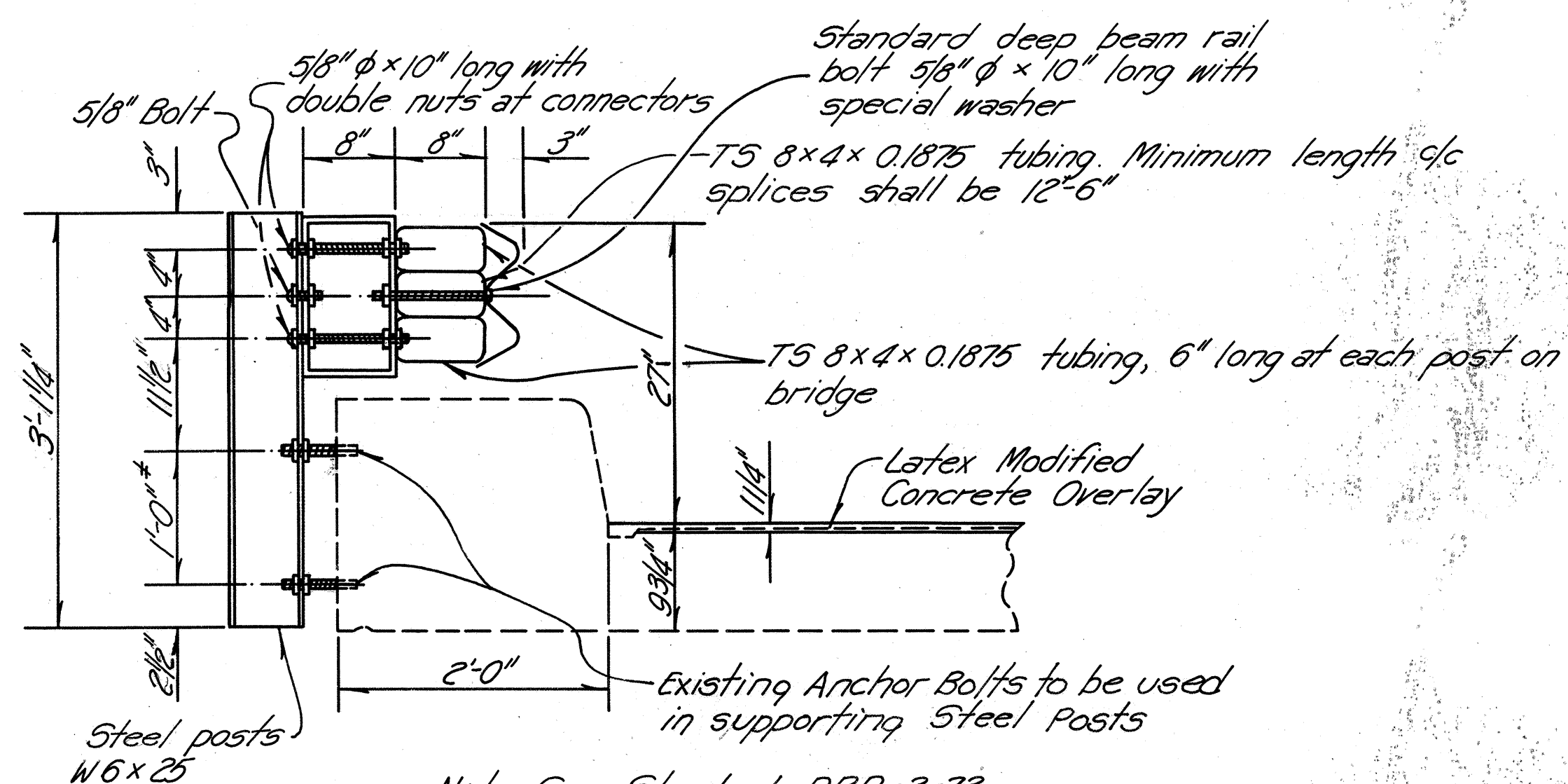
Sta. 485+50 to Sta. 491+00

Sheet Total



STEEL BOX DETAIL

Note - Cost of Steel Box and all necessary hardware for hook-up will be included in the unit price bid for Item 517 - Deep Beam Rail w/ Steel Tubular Backup, W6x25 Steel Posts & Bolts, as per plan.

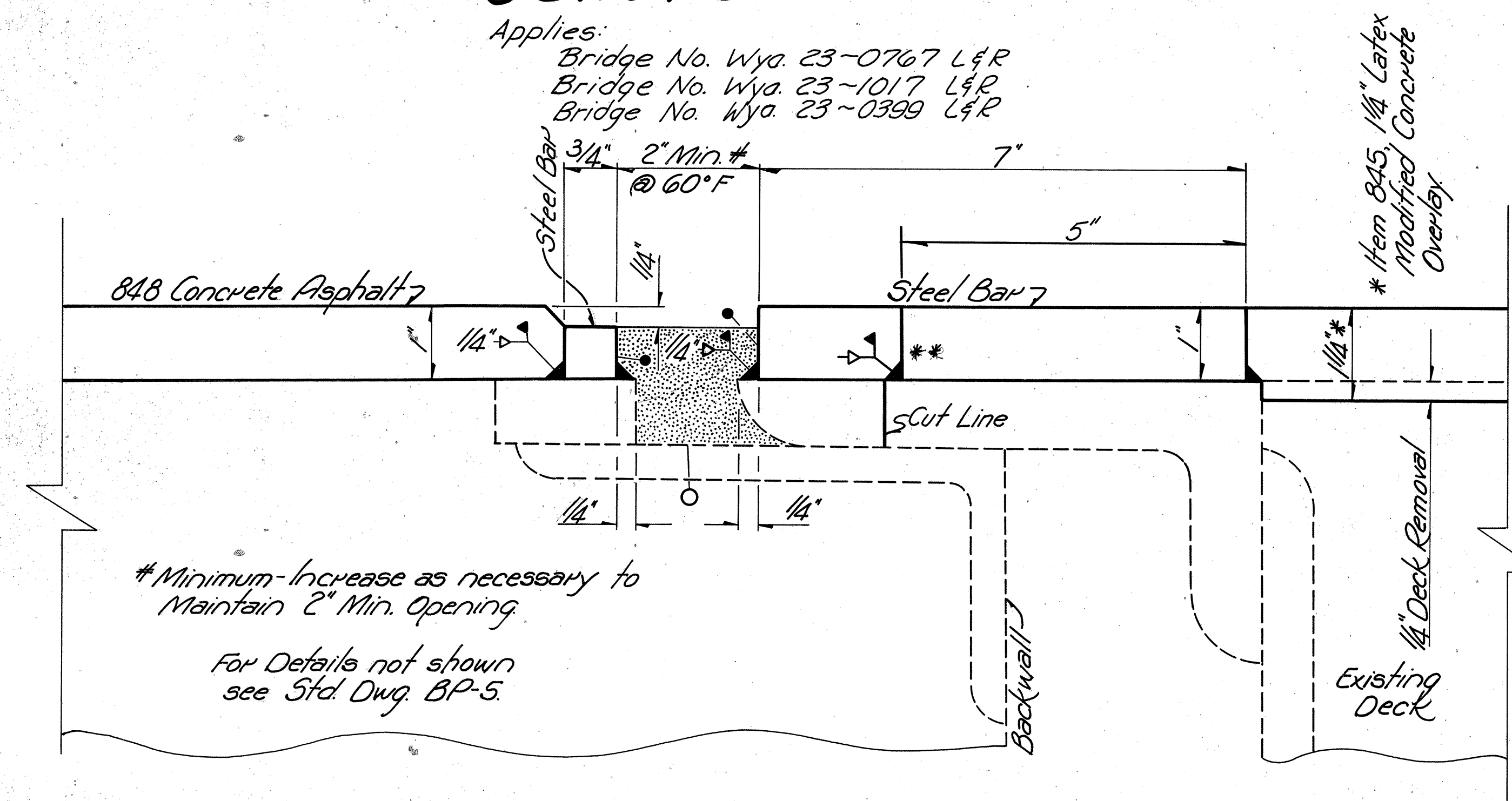


Note: See Standard DBR-2-73 for additional details
* Field verify before fabricating new posts

GUARD RAIL DETAIL
BRIDGE NO. WYA-23-0767

VERTICAL EXTENSION OF STRUCTURAL EXPANSION JOINTS

Applies:
Bridge No. Wya 23-0767 L&R
Bridge No. Wya 23-1017 L&R
Bridge No. Wya 23-0399 L&R



* Minimum-Increase as necessary to Maintain 2" Min. Opening.

For Details not shown see Std. Dwg. BP-5.

** = For Bridge No. WYA 23-1017 the Steel angle will have 2" removed before a 5" Steel Bar extension is welded to the surface.

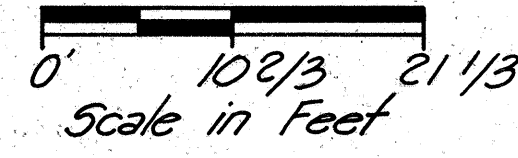
- Surfaces indicated thus shall be sandblasted and wiped clean. Joints shall be filled before rust forms. If rust forms, surface shall be re-sandblasted.
- o - Bond to this horizontal surface shall be prevented by use of foil or other suitable bond breaker barrier satisfactory to the Engineer. Care shall be taken not to displace this barrier when placing joint sealer.
- = Joint Sealer Material shall be a hot-applied bridge deck waterproofing material which meets the requirements of 70501.

Cost of cleaning the steel, furnishing and placing the joint sealer shall be included in the cost of Item 516, Vertical Extension of Structural Expansion Joints.

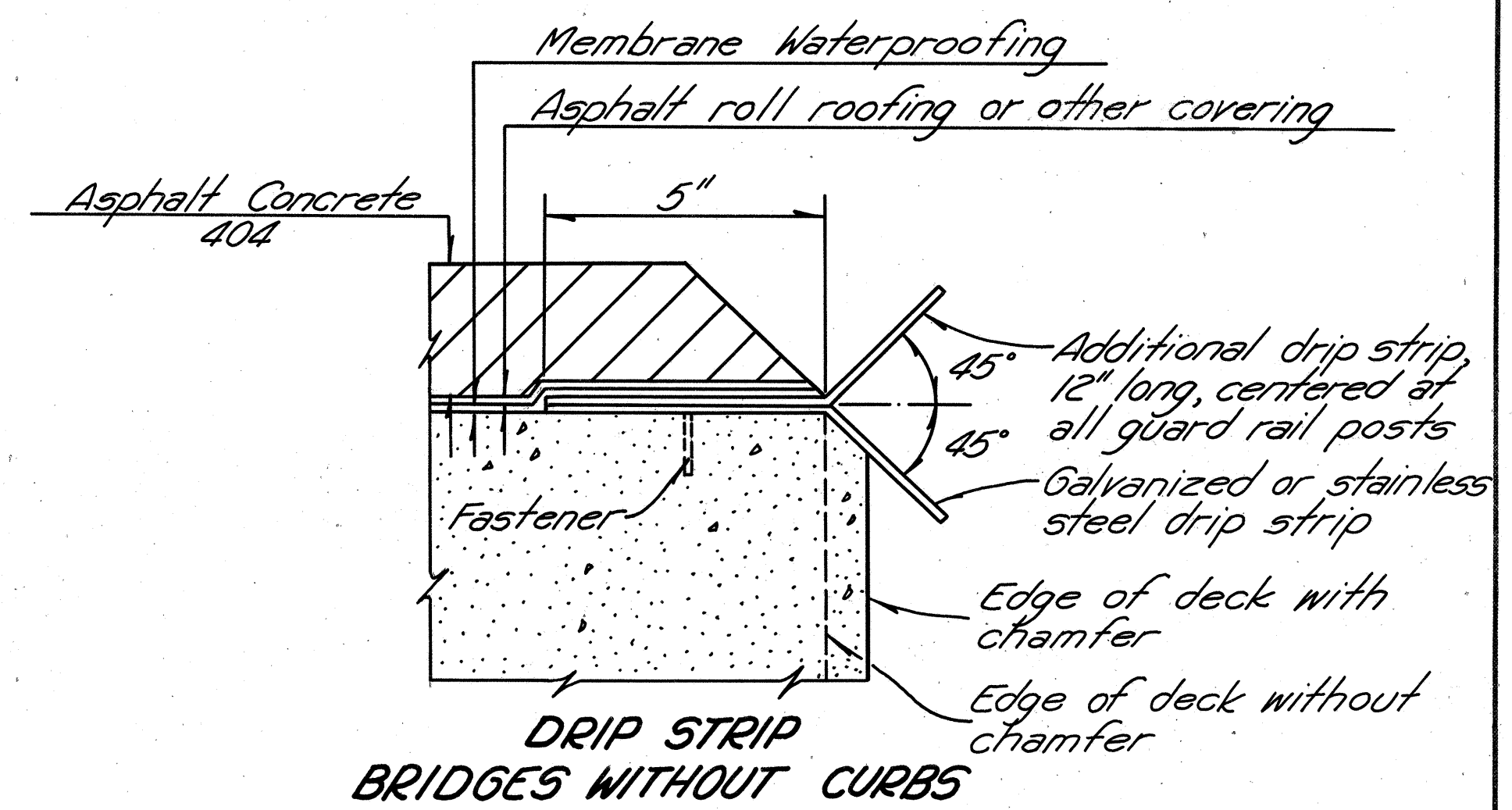
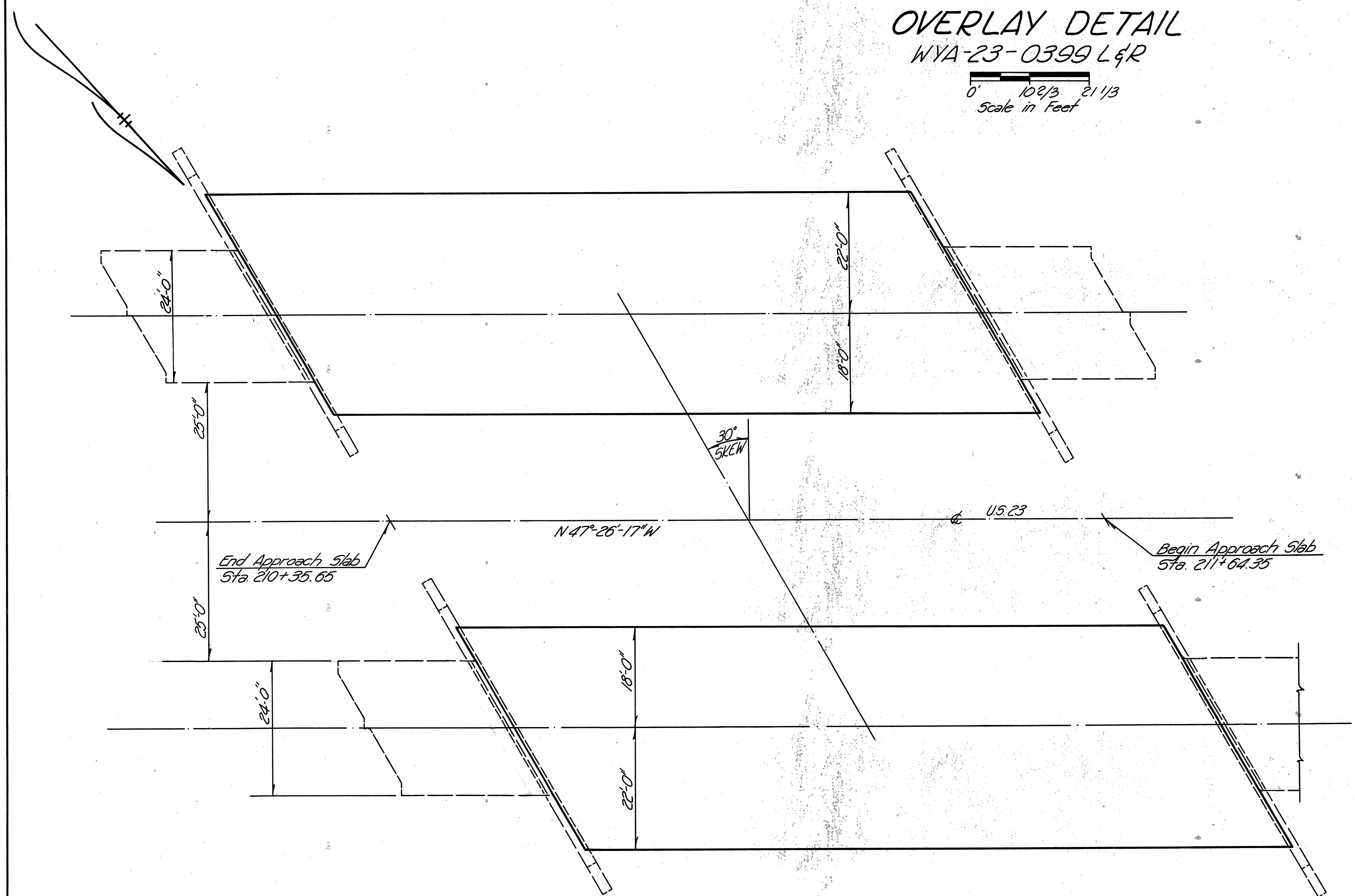
MAINTENANCE OF TRAFFIC - Generally the bars shall be welded while the lane is closed for resurfacing. However if traffic is routed over the bars before resurfacing, temporary ramps shall be constructed to the tops of the bars using 402 or 404 feathering at a maximum slope of 1" in 6 ft. The ramps shall be removed prior to resurfacing. Cost of placing and removing the ramps shall be included with Item 614 for Payment.

OVERLAY DETAIL

WYA-23-0399 L&R



Computations By Initials JGG Date 11-22-83	FHWA REGION 5	STATE OHIO	PROJECT	67 81
Computations Checked By Initials JAB Date 2-1-83	WYANDOT COUNTY			
Final Revisions By Initials Date	WYA-23-020			



DRIP STRIP: Prior to applying deck membrane waterproofing, a bent drip strip shall be installed along the edges of the deck as shown. The strips shall be fastened at 1'-6" c/c maximum with 1/4" x 5/32" x 1/4" flat head drive pin and washer. (Length x Shank Dia x Head Dia) or #10 galvanized screws and expansion anchors, subject to the approval of the Engineer. The strips shall be placed the full length of the deck, ending at the face of the abutment wingwall or steel end dam angle. Where splices are required a 3" (Min) lap shall be used with a fastener through the lap. Steel for galvanized strips shall be 8" x 0.105" and shall meet the requirements of ASTM A563. Galvanizing shall be in accordance with 71.02. Stainless steel shall be 20 gauge ASTM A167, Type 304, mill finish. Payment shall be at the contract price bid for item Special, Sq. Ft., Steel Drip Strip, which shall include all materials, labor, tools and incidentals necessary to complete the item.

MICROFIL
AUG 25 1986

ESTIMATED QUANTITIES

- * Item 404 : (40)(128.70)(3.00)(1/12)(1/27)(2) = 95.33 Cu.Yd.
Item Special; Membrane Waterproofing (See proposal note)
A=(40)(128.70)(2)(1/19) = 1144.00 Sq. Yd.
- Item Special; Steel Drip Strip : (4)(128.70+21)(0.67) = 401.20 Sq. Ft.
- Item Special; Patching Concrete Bridge Deck Type II (proposal note) (Area from Sounding Report) A=(52+89) = 141.00 Sq. Yd.
- 517 Railing (Deep Beam Rail with Steel Tubular backup & Type C Steel posts & bolts) as per plan (4)(128.7) = 514.80 Lin. Ft.
- 202 Guardrail Removed for Storage (4)(128.7) = 514.80 Lin. Ft.
- 516 Vertical Extension of Structural Expansion Joints : (4)(40/cos 30) = 184.75 Lin. Ft.

EXISTING STRUCTURE

Type: Continuous Steel Beam Bridge w/Concrete Deck and Sub-structure
Spans: 38'-0" - 47'-6" - 38'-0"
Load Frequency: CF 2000(57)
Roadway: 40'-0" F/F Guardrail
Skew: 30°-00'-00" R.F.
Wearing Surface: 1" Monolithic
Approach Slab: AS-1-54 (25'-0" long)
Alignment: Tangent

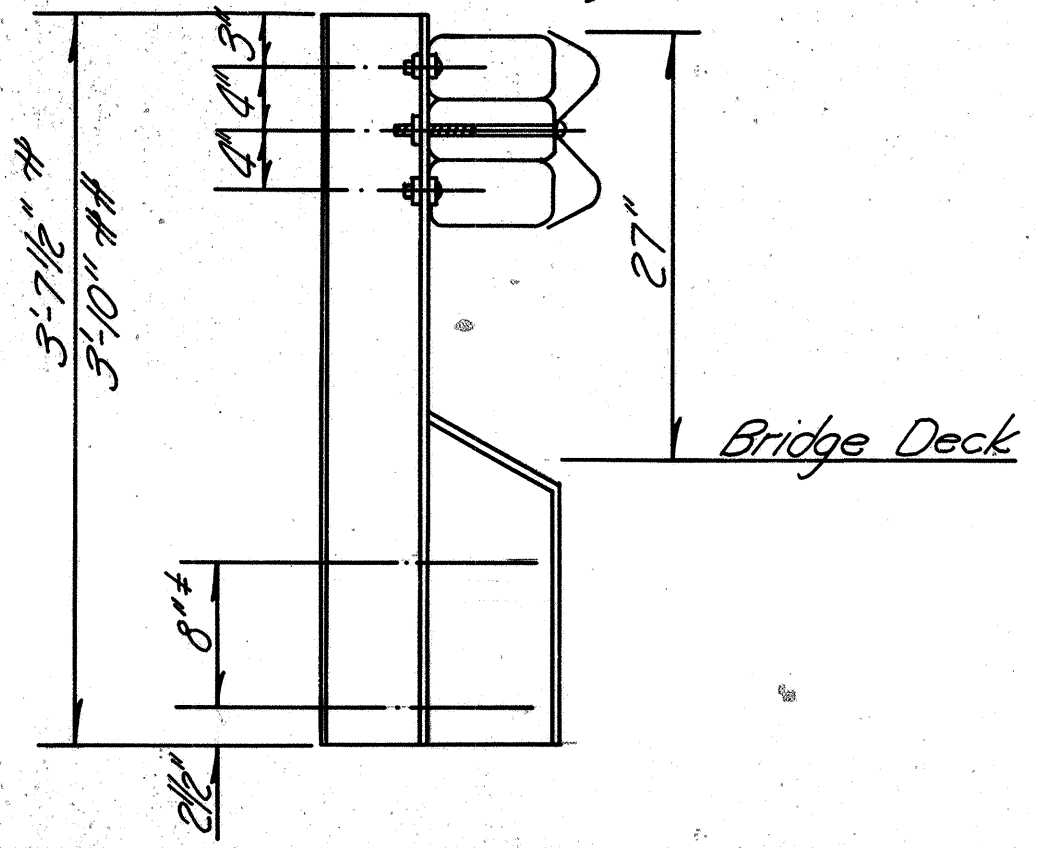
Note - Existing Guard Rail Post Anchor Bolts in Deck Edge to be used in Supporting Type 2 Posts. See Standard DBR-2-73 for additional details.
* Field verify before fabricating new posts.

Guard Rail Post Height for Str. WYA-23-0202 L&R
Guard Rail Post Height for Str. WYA-23-0399 L&R

Guard Rail Quantities for Str. No. WYA-23-0202 carried on Sheet 35.

GUARD RAIL DETAIL

(Applies to Strs WYA-23-0202 L&R & Str. WYA-23-0399 L&R)



Note: For details for Vertical Extension of Structural Expansion Joints See Sheet 66.

* Note: Item 404 is to be applied in two layers.

OVERLAY DETAIL

WYA-23-0767 L&R

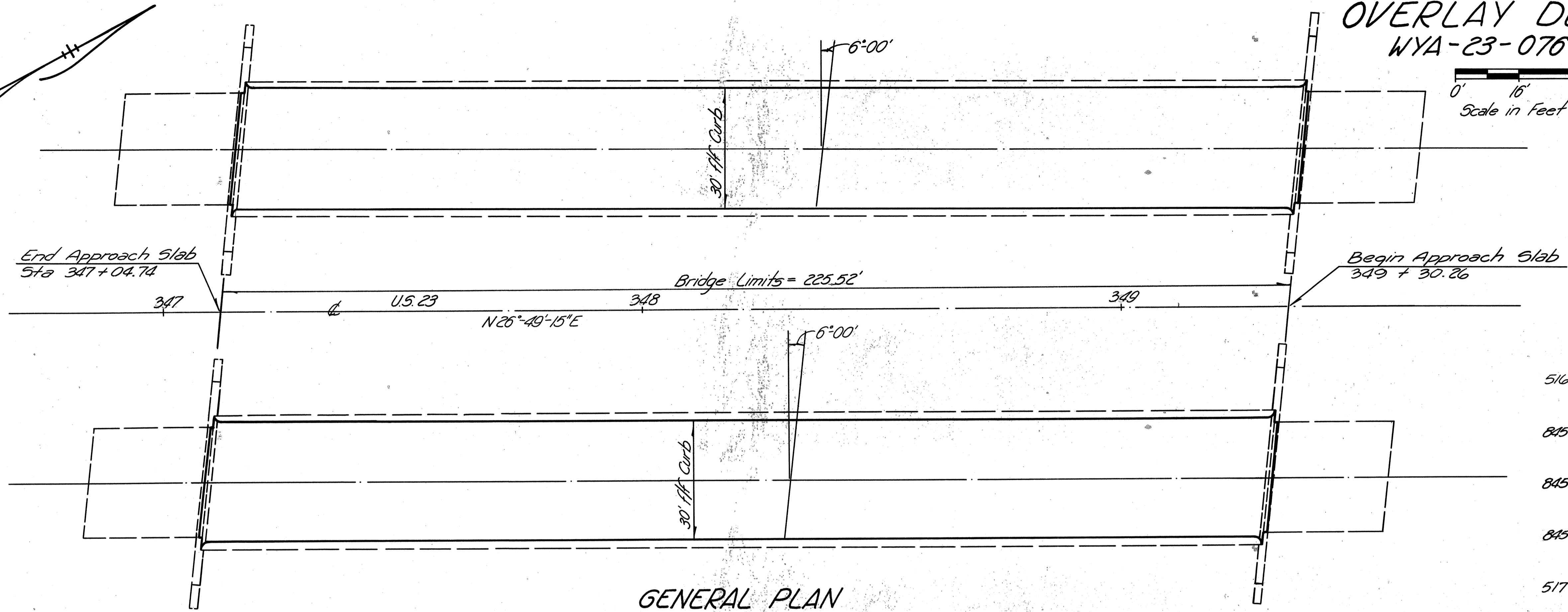
FHWA REGION	STATE	PROJECT
5	OHIO	

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WYANDOT COUNTY
WYA-23-020

0' 16' 32'
Scale in Feet

Computations By
Initials J.G.G. Date 11-22-83
Computations Checked By
Initials J.A.B. Date 12-1-83
Final Revisions By
Initials Date



GENERAL PLAN

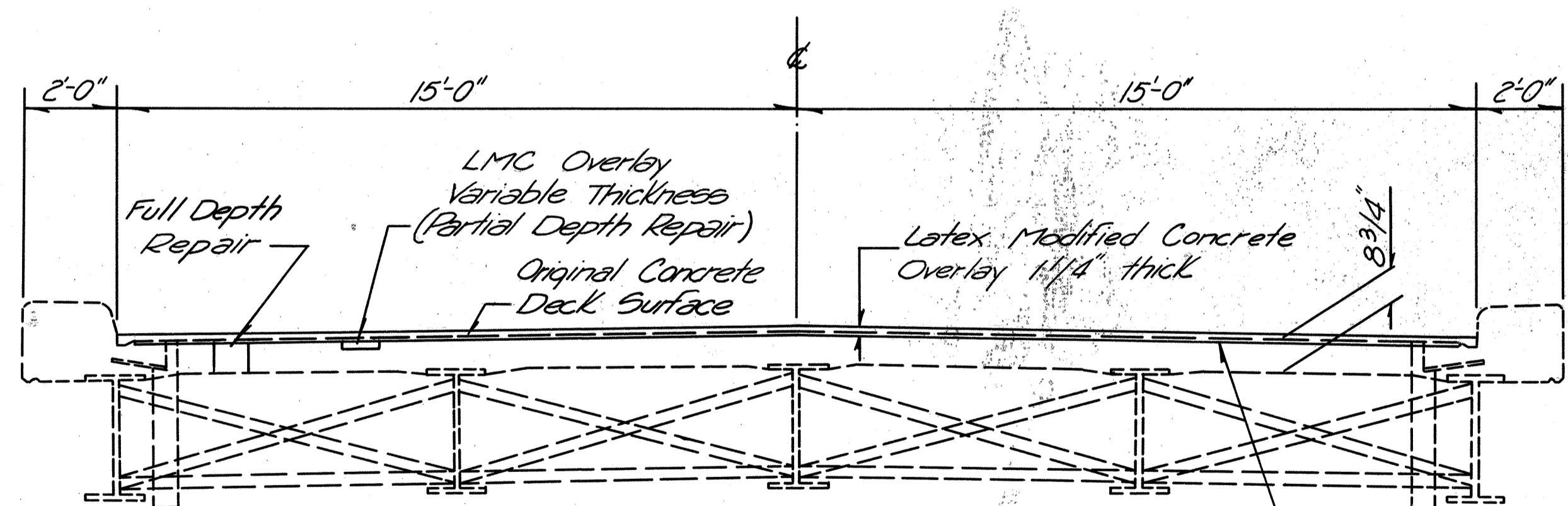
ESTIMATED QUANTITIES

- WYA-23-0767 L&R
- 516 Vertical Extension of Structural Expansion Joints
(4)(30/cos 6°) = 120.66 Lin.Ft.
 - 845 Latex Modified Concrete Overlay (1 1/4" thick)
(30)(222.17)(2)(1/9) = 148.13 Sq.Yd.
 - 845 Latex Modified Concrete Overlay (var. thickness)
(92 + 134)(4/12)(1/3) = 25.11 Cu.Yd.
 - 845 Full depth repair
(30)(222.17)(2)(0.02)(8.75/12)(1/27) = 7.20 Cu.Yd.
 - 517 Railing (Deep Beam Rail with Steel Tubular back-up & W6x25 Steel posts & bolts) as per plan.
(4)(225.52) = 902.08 Lin.Ft.
 - 202 Guardrail Removed for Storage (4)(225.52) = 902.08 Lin.Ft.
- Note: For details for Vertical Extension of Structural Expansion Joints & 517 Railing as per plan see sheet 66.

EXISTING STRUCTURE

Type: Continuous Steel Beam Bridge with Concrete Deck and Substructure
Spans: 68'-0" - 86'-0" - 68'-0"
Load Frequency: CF 2000 (57)
Roadway: 30'-0" F.F. 2'-0" Safety Curb
Skew: 6'-00'-00" L.F.
Wearing Surface: 1" Monolithic Concrete
Approach Slab: AS-1-54 (25'-0" Long)
Alignment: Tangent

MICROFIL
AUG 25 1986



TRANSVERSE SECTION

Note: Remove existing concrete to a minimum depth of 1" and slope concrete overlay 1" in 6" around scuppers.

Deck Removal line; Machine Scarify 1/4" minimum of Existing concrete deck surface. No traffic shall be permitted on scarified surface.

Note: Quantity for partial depth repair using Latex Modified Concrete (Variable Thickness) is based on an average thickness of 4 inches. Area of repair was obtained from Deck Sounding Reports. Quantity for full depth repair is based on 2% of the deck area being in need of repair and a thickness of 8 3/4".

OVERLAY DETAIL

WYA-23-1017 L&R

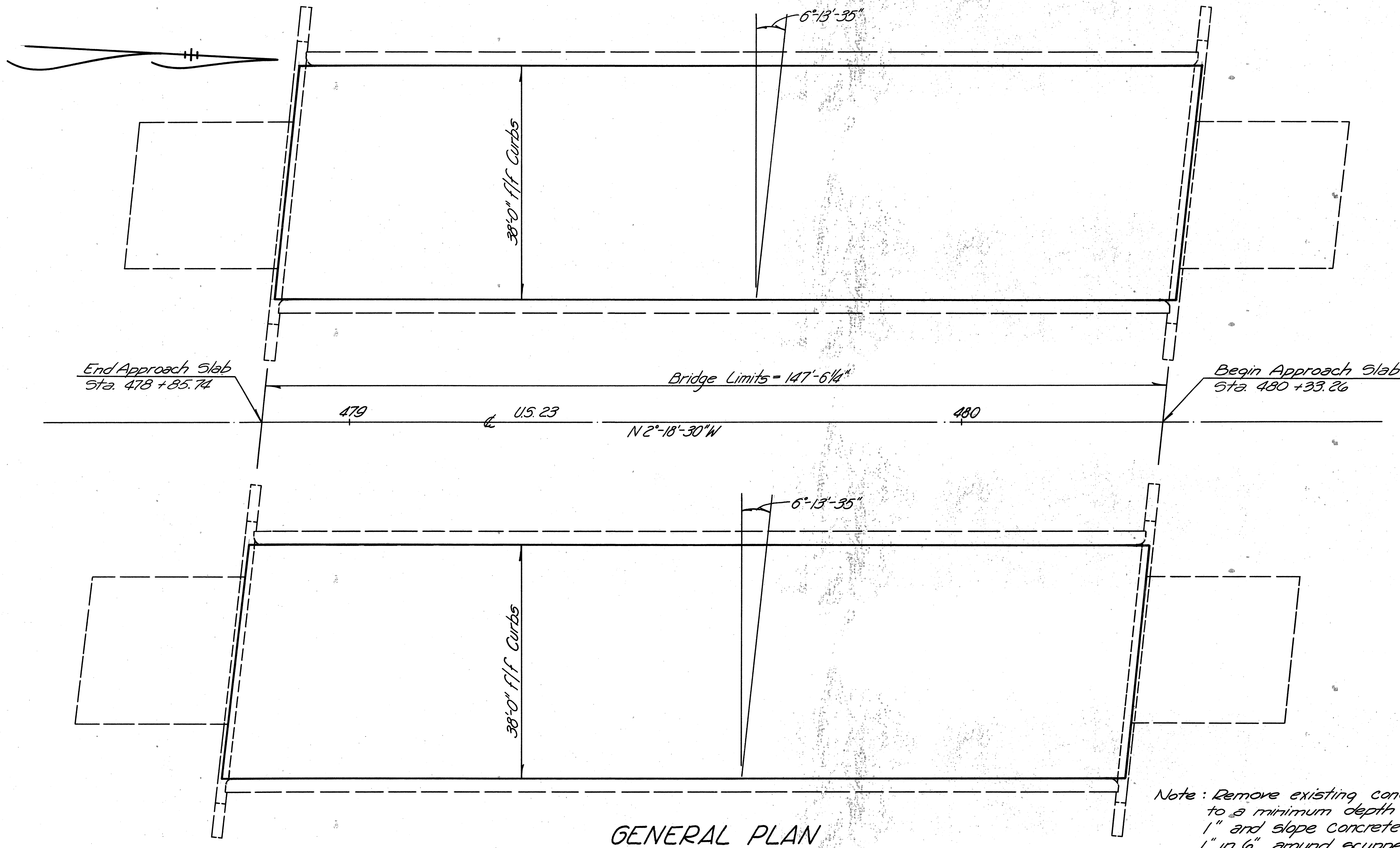
FHWA REGION	STATE	PROJECT
5	OHIO	

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WYANDOT COUNTY
WYA-23-0.20

0' 10' 20'
Scale in Feet

Computations By	Date
Initials JGL	11-22-83
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Initials AB	12-1-83
Final Revisions By	Date
Initials	



GENERAL PLAN

Note: Remove existing concrete to a minimum depth of 1" and slope concrete overlay 1" in 6" around scuppers.

ESTIMATED QUANTITIES

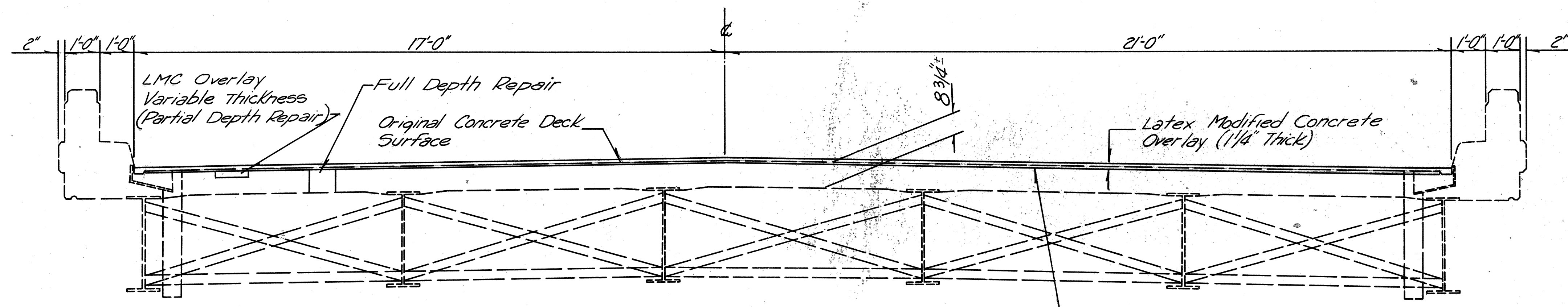
WYA-23-1017 L&R

- 516 Vertical Extension of Structural Expansion Joints
(4)(38/cos 6.23°) = 152.90 Lin Ft
- 845 Latex Modified Concrete Overlay (1 1/4" thick)
(38)(144.17)(2)(1/9) = 1217.44 Sq Yd
- 845 Latex Modified Concrete Overlay (Var. Thickness)
(108 + 147)(4/12)(1/3) = 28.33 cu Yd
- 845 Full depth repair
(38)(144.17)(2)(0.02)(8.75/12)(1/27) = 5.92 cu Yd

Note: For details for Vertical Extension of Structural Expansion Joints, see sheet 66.

EXISTING STRUCTURE: WYA-23-1017
Type: Continuous Steel Beam with Concrete Deck and Substructure
Spans: 44'-0" - 55'-0" - 44'-0"
Roadway: 40'-0" f/f of parapet
Load Frequency: C.F. 2000(57)
Skew: 6°-13'-35" L.F.
Wearing Surface: 1" Monolithic Concrete
Approach Slab: AS-1-54 (25'-0" long)
Alignment: Tangent

REVISION
AUG 25 1986



TRANSVERSE SECTION

Deck Removal Line; Machine Scarify 1/4" minimum of existing concrete deck surface. No traffic shall be permitted on scarified surface.

Note: Quantity for partial depth repair using Latex Modified Concrete (Variable Thickness) is based on an average thickness of 4 inches. The Area of repair was obtained from Deck Sounding Reports. Quantity for full depth repair is based on 2% of the deck area being in need of repair and a thickness of 8 3/4"

OVERLAY DETAIL

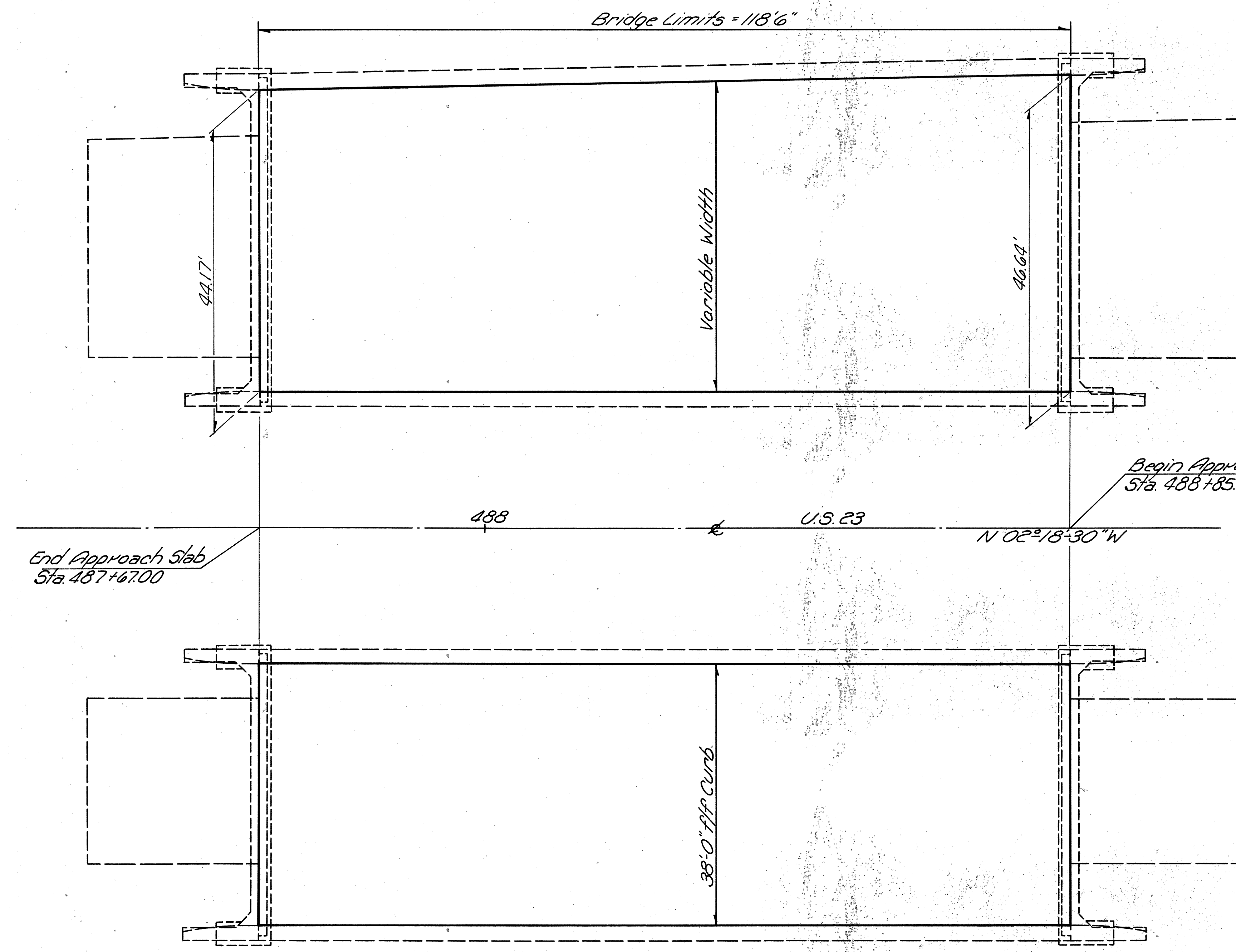
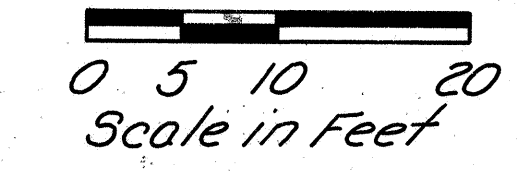
WYA-23-1034 L & R

Computations By Initials JGG	Date 11-22-83
Computations Checked By Initials JLB	Date 12-1-83
Final Revisions By Initials	Date

FHWA REGION	STATE	PROJECT
5	OHIO	

WYANDOT COUNTY
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GENERAL PLAN

ESTIMATED QUANTITIES

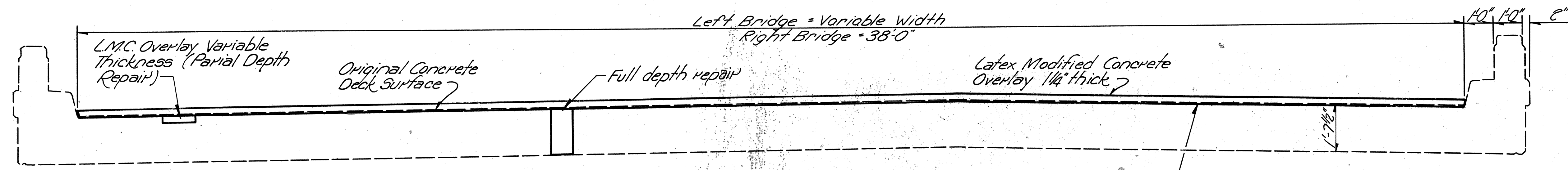
845 Latex Modified Concrete Overlay (1 1/4" thick) [(38)(118.5) + (1/2)(44.17 + 46.64)(118.5)](1/3) =	1098.17 Sq. Yd.
845 Latex Modified Concrete Overlay (Var. thickness) (100 + 59)(4/6)(1/3) =	17.67 Cu. Yd.
845 Full-depth Repair (1098.17)(0.02)(1.625)(1/3) =	11.90 Cu. Yd.

Note: Remove existing concrete to a minimum depth of 1" and slope concrete overlay 1" in 6" around scuppers.

NOTE: Quantity for partial depth repair using Latex Modified Concrete (variable thickness) is based on an average thickness of repair being 4 inches. The area of repair was obtained from Deck Sounding Reports. Quantity for full depth repair is based on 2% of the deck area being in need of repair and a thickness of 1'-7 1/2".

EXISTING STRUCTURE
 Type: Continuous Concrete Slab Bridge with Concrete Substructure
 Spans: 36'-0", 45'-0", 36'-0"
 Roadway: 38'-0" Aff. of Curb Right Bridge
 Left Bridge Varies
 Load Frequency: CF 2000
 Skew: None
 Wearing Surface: 1" Monolithic Concrete
 Approach Slabs: AS-1-54 (25'-0" Long)
 Alignment: Tangent

INCA/PTL
AUG 25 1986



TRANSVERSE SECTION

Deck Removal Line; Machine Scarify 1/4" minimum of Existing Concrete deck surface. No traffic shall be permitted on Scarified surface.

TEMPORARY PAVEMENT MARKINGS

NOTE B

Computations By Initials <i>JGG</i> Date <i>11-22-83</i>	FHWA	STATE	PROJECT		
Computations Checked By Initials <i>GAU</i> Date <i>12-1-83</i>	5	OHIO			
Final Revisions By Initials _____ Date _____	WYANDOT COUNTY WYA-23-020				

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GENERAL

THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN, AND WHEN NECESSARY, REMOVE TEMPORARY RETROREFLECTIVE PAVEMENT MARKINGS ON EXISTING, RECONSTRUCTED, RESURFACED OR TEMPORARY ROADS WITHIN THE WORK LIMITS, IN ACCORDANCE WITH THE FOLLOWING REQUIREMENTS.

THE MARKINGS SHALL BE MAINTAINED IN GOOD CONDITION DURING THE REQUIRED SERVICE PERIOD TO PROVIDE DAY AND NIGHT VISIBILITY. THE MARKINGS SHALL BE REPAIRED OR REPLACED AS DIRECTED BY THE ENGINEER TO MAINTAIN REQUIRED VISIBILITY AND/OR REFLECTIVITY AT NO ADDITIONAL COST TO THE STATE.

MATERIALS

UNLESS OTHERWISE INDICATED ON THE PLANS, TEMPORARY PAVEMENT MARKINGS MAY BE OF PAINT, PAVEMENT MARKING TAPE OR REMOVABLE PAVEMENT MARKING TAPE (TYPE R TAPE).

A. PAINT

PAINT SHALL COMPLY WITH 708.14 AND SHALL BE APPLIED IN ACCORDANCE WITH 621 EXCEPT AS MODIFIED HEREIN.

B. PAVEMENT MARKING TAPE

FLEXIBLE RETROREFLECTIVE PREFORMED PRESSURE SENSITIVE TAPE SHALL HAVE STRAIGHT EDGES AND BE FREE OF CRACKS. THE TAPE SHALL CONSIST OF PIGMENT AND FILLERS WITH SUFFICIENT BINDER AND PLASTICIZER TO RETAIN GLASS BEADS HAVING A REFRACTIVE INDEX MEETING THE MINIMUM REFLECTIVE INTENSITY STANDARD STATED IN THE MANUFACTURERS INFORMATION. THE TAPE SHALL BE FLEXOLITE "WET REFLECTIVE", 3M "SCOTCHLANE", OR AN APPROVED EQUAL.

THE GLASS BEADS SHALL BE DISTRIBUTED UNIFORMLY THROUGHOUT THE TAPE WITH SUFFICIENT SURFACE BEADS TO PROVIDE OPTIMUM REFLECTORIZATION AT ALL TIMES.

PAVEMENT MARKING TAPE SHALL COMPLY WITH THE COLOR REQUIREMENTS OF 708.14.

THE TAPE SHALL HAVE A PRECOATED ADHESIVE LAYER FOR PAVEMENT APPLICATION WITHOUT THE USE OF HEAT, SOLVENTS OR ADDITIONAL ADHESIVES. THE ADHESIVE SHALL BE SUFFICIENT TO RETAIN COMPLETE MARKINGS ON THE PAVEMENT SURFACE THROUGHOUT THE USEFUL LIFE OF THE MARKINGS.

IN ADDITION TO THE FOREGOING, ALL TEMPERATURE APPLICATION REQUIREMENTS AND OTHER APPLICABLE MANUFACTURERS MATERIAL AND APPLICATION INSTRUCTIONS SHALL BE FOLLOWED.

WHEN APPROVED BY THE ENGINEER THE CONTRACTOR MAY USE REMOVABLE PAVEMENT MARKING TAPE (TYPE R TAPE), IN LIEU OF THAT DESCRIBED ABOVE, TO FACILITATE REMOVAL OF MARKINGS.

C. REMOVABLE PAVEMENT MARKING TAPE (TYPE R TAPE)

THE MARKING MATERIAL SHALL BE A MIXTURE OF POLYMERIC MATERIALS, PIGMENTS, REINFORCING MEDIUM TO FACILITATE REMOVAL, GLASS BEADS THROUGHOUT THE PIGMENTED PORTION, AND A RETROREFLECTIVE LAYER OF GLASS BEADS BONDED TO THE TOP SURFACE.

THE TAPE SHALL BE PRECOATED WITH A PRESSURE SENSITIVE ADHESIVE CAPABLE OF TEMPORARILY BONDING TO ASPHALT CONCRETE OR PORTLAND CEMENT CONCRETE PAVEMENT AT AN AMBIENT TEMPERATURE OF NOT LESS THAN 50° F AND RISING, AT A PAVEMENT TEMPERATURE OF NOT LESS THAN 50° F NOR MORE THAN 150° F, WITHOUT THE USE OF HEAT, SOLVENTS, AND ADDITIONAL ADHESIVES OR ACTIVATORS.

MATERIALS SHALL CONFORM TO THE COLOR REQUIREMENTS OF 708.14.

THE TAPE SHALL BE REMOVABLE FROM ASPHALT AND PORTLAND CEMENT CONCRETE INTACT OR IN LARGE PIECES AT TEMPERATURES ABOVE 40° F WITHOUT USE OF HEAT, SOLVENTS, GRINDING, OR SANDBLASTING. REMOVAL SHALL NOT RESULT IN DAMAGE TO OR OBJECTIONABLE STAINING OF THE PAVEMENT.

GLASS BEADS SHALL BE PROVIDED IN A PROPER SIZE, QUANTITY AND DISTRIBUTION TO ASSURE OPTIMUM RETROREFLECTIVITY AS THE FILM WEARS. THE FOLLOWING INITIAL AVERAGE REFLECTANCE VALUES AT 86.0 ENTRANCE ANGLE AS MEASURED IN ACCORDANCE WITH THE TESTING PROCEDURES OF FEDERAL TEST METHOD 370 SHALL BE CERTIFIED:

	WHITE	YELLOW
OBSERVATION ANGLE	0.2 0.5	0.2 0.5
SPECIFIC LUMINANCE (MCD/FT ²)/FC	1770 1270	1310 810

THE TAPE SHALL BE 3-M COMPANY'S "STAMARK, DETOUR GRADE (SERIES 57L0, 57H1, 6270, 62H1)" OR AN APPROVED EQUAL.

THE CONTRACTOR SHALL FURNISH TO THE ENGINEER CERTIFICATION THAT THE MATERIAL SUPPLIED MEETS THE PROPERTIES SPECIFIED HEREIN.

LAYOUT

THE TEMPORARY MARKINGS SHALL BE ACCURATELY LAID OUT IN CONFORMANCE WITH 621.051 AND SHALL BE LOCATED IN A TRUE LINE ON THE CENTER LINE, LANE LINE, EDGE LINE, OR CHANNELIZING LINE WHERE PERMANENT MARKINGS WOULD LIE UNLESS OTHERWISE SPECIFIED IN THE PLANS.

PLACEMENT

TEMPORARY MARKINGS SHALL BE PLACED IN ACCORDANCE WITH LAYOUTS ON SHEETS AND THE FOLLOWING REQUIREMENTS, UNLESS OTHERWISE SPECIFIED IN THE PLANS.

TEMPORARY MARKINGS SHALL BE COMPLETE AND IN PLACE ON ALL PAVEMENT PRIOR TO EXPOSING IT TO TRAFFIC. WHEN TEMPORARY MARKINGS ARE NO LONGER NEEDED, THEY SHALL BE REMOVED BY THE CONTRACTOR IN ACCORDANCE WITH 621.134 AND NECESSARY PAVEMENT MARKINGS WOULD LIE UNLESS OTHERWISE SPECIFIED IN THE PLANS.

WHERE PERMANENT PAVEMENT MARKINGS ARE CALLED FOR IN THE PLANS, THE CONTRACTOR SHALL FURNISH AND PLACE THE PERMANENT MARKINGS WITHIN 30 CALENDAR DAYS FOLLOWING COMPLETION OF ALL SURFACE COURSES IN A SINGLE ROADWAY OR PRIOR TO THE END OF THE CONSTRUCTION SEASON, WHICHEVER COMES FIRST. PERMANENT MARKINGS SHALL NOT BE PLACED OVER ANY TAPE MARKINGS.

A. CLASS I MARKINGS

CLASS I MARKINGS SHALL BE AS DEFINED IN 621, EXCEPT AS FOLLOWS:

- 1) LANE LINES SHALL BE 4-INCHES IN WIDTH.
- 2) TRANSVERSE LINES SHALL BE 8-INCHES IN WIDTH.
- 3) STOP LINES SHALL BE 12-INCHES IN WIDTH.
- 4) CROSS WALK LINES SHALL BE 8-INCHES IN WIDTH.

GORE MARKINGS SHALL CONSIST OF TWO CHANNELIZING LINES PLACED AT THE THEORETICAL OR TEMPORARY GORE OF RAMPS AND DIVERGING OR CONVERGING ROADWAYS.

THE PAINT APPLICATION RATE SHALL BE NOT LESS THAN 16 GALLONS PER MILE FOR SOLID 4-INCH LINES, 24 GALLONS PER MILE FOR SOLID 6-INCH LINES, 48 GALLONS PER MILE FOR SOLID 12-INCH LINES, AND 4 GALLONS PER MILE FOR 4-INCH DASHED LINES.

B. CLASS II MARKINGS

CENTER LINES SHALL CONSIST OF SINGLE, YELLOW 12-INCH BY 4-INCH DASHES SPACED AT A MAXIMUM OF 40-FOOT INTERVALS.

LANE LINES SHALL CONSIST OF WHITE 12-INCH BY 4-INCH DASHES SPACED AT A MAXIMUM OF 40-FOOT INTERVALS.

CHANNELIZING LINES SHALL CONSIST OF WHITE 12-INCH BY 4-INCH DASHES SPACED AT A MAXIMUM OF 20-FOOT INTERVALS.

GORE MARKINGS SHALL BE TWO CONTINUOUS, WHITE 50-FOOT BY 4-INCH LINES PLACED AT THE THEORETICAL GORE OF AN EXIT RAMP OR DIVERGING ROADWAYS.

THE PAINT APPLICATION RATE SHALL BE NOT LESS THAN 16 GALLONS PER MILE FOR GORE MARKINGS, 0.8 GALLONS PER MILE FOR CHANNELIZING LINE, AND 0.4 GALLONS PER MILE FOR LANE LINE AND CENTER LINE.

CONFLICTING MARKINGS

THE CONTRACTOR SHALL, PRIOR TO PLACING TEMPORARY MARKINGS, REMOVE ALL EXISTING CONFLICTING MARKINGS VISIBLE TO THE TRAVELING PUBLIC DURING DAYLIGHT OR NIGHTTIME HOURS IN ACCORDANCE WITH 621.134. THE COST FOR REMOVAL OF CONFLICTING MARKINGS SHALL BE INCIDENTAL TO THE VARIOUS PAY ITEMS.

METHOD OF MEASUREMENT

TEMPORARY PAVEMENT MARKINGS WILL BE MEASURED COMPLETE IN PLACE, BY CLASS AND MATERIAL, IN THE UNITS DESIGNATED. DASHED LINE QUANTITIES WILL BE THE LENGTH OF THE COMPLETED STRIPE, INCLUDING GAPS, INTERSECTIONS, AND OTHER SECTIONS OF PAVEMENT NOT NORMALLY MARKED, IN ACCORDANCE WITH 621.15.

TEMPORARY PAVEMENT MARKINGS WILL INCLUDE THE LAYOUT, APPLICATION AND REMOVAL OF THE MARKINGS, WHEN REQUIRED.

BASIS OF PAYMENT

PAYMENT FOR ACCEPTED QUANTITIES COMPLETE IN PLACE WILL BE MADE AT THE CONTRACT UNIT PRICE. PAYMENT SHALL BE FULL

COMPENSATION FOR ALL MATERIALS, LABOR, INCIDENTALS AND EQUIPMENT FOR PLACEMENT, MAINTENANCE AND NECESSARY REMOVAL OF THE MARKINGS.

ITEM	UNIT	DESCRIPTION
614	40.59 MILES	TEMPORARY LANE LINES, CLASS <u>II</u> , (PAINT, TAPE OR TYPE R TAPE)
614	MILES	TEMPORARY CENTER LINES, CLASS _____, (PAINT, TAPE OR TYPE R TAPE)
614	<u>0.19</u> MILES	TEMPORARY CHANNELIZING LINES, CLASS <u>II</u> , (PAINT, TAPE OR TYPE R TAPE)
614	MILES	TEMPORARY EDGE LINES, CLASS I, (PAINT, TAPE OR TYPE R TAPE)
614	<u>400</u> LIN. FT.	TEMPORARY GORE MARKING, CLASS II, (PAINT, TAPE OR TYPE R TAPE)
614	LIN. FT.	TEMPORARY STOP LINES, CLASS I, (PAINT, TAPE OR TYPE R TAPE)
614	LIN. FT.	TEMPORARY CROSSWALK LINES, CLASS I, (PAINT, TAPE OR TYPE R TAPE)
614	EACH	TEMPORARY LANE ARROWS, CLASS I, (PAINT, TAPE OR TYPE R TAPE)
614	EACH	TEMPORARY WORD "ONLY" ON PAVEMENT, 72-INCH, CLASS I, (PAINT OR TAPE)
614	LIN. FT.	TEMPORARY TRANSVERSE LINES, CLASS I, (PAINT, TAPE OR TYPE R TAPE)

ITEM 614 TEMPORARY PAVEMENT MARKING

Computations By
Initials *R.J.M.* Date *2-1-83*
Computations Checked By
Initials *P.W.O.* Date *2-1-83*
Final Revisions By
Initials _____ Date _____

FHWA REGION	STATE	PROJECT
5	OHIO	

WYANDOT COUNTY
WYA-23-0.20

LANE LINE 4"x12" (40'9/c)		
Location	Station	Lin. Ft.
U.S. 23 N.B.	1061+50 to 1063+00 Bk.	300
" " " "	10+75.45 to 67+40 Ah.	11,330
" " " "	68+65 to 102+30	6,730
" " " "	103+50 to 185+40	16,380
" " " "	186+75 to 232+85	9,220
" " " "	234+05 to 296+45	12,480
" " " "	297+85 to 323+27.93 Bk.	5,086
" " " "	265+18.48 to 294+25 Ah.	5,814
" " " "	295+40 to 407+35	22,390
" " " "	408+55 to 447+00	7,690
" " " "	448+20 to 490+35.50	8,432
U.S. 23 S.B.	1061+50 to 1063+00 Bk.	300
" " " "	10+75.45 to 67+40 Ah.	11,330
" " " "	68+70 to 102+50	6,760
" " " "	103+85 to 186+25	16,480
" " " "	187+40 to 232+00	8,920
" " " "	233+50 to 297+15	12,730
" " " "	298+40 to 323+27.93 Bk.	4,976
" " " "	265+18.48 to 294+95 Ah.	5,954
" " " "	296+20 to 407+40	22,240
" " " "	408+60 to 447+15	7,710
" " " "	448+30 to 490+35.50	8,412
Exit Ramp A N.B.	308+55 to 310+95	480
Ent. Ramp B " "	338+35 to 341+75	680
Exit Ramp C S.B.	338+00 to 341+00	600
Ent. " D " "	306+50 to 310+90	880
	Total Lin. Ft.	214,304
	Total Miles	40.59 *

CHANNELIZING LINE 4"x12" (20'9/c)		
Location	Station	Lin. Ft.
Ent. Ramp B N.B.	335+05 to 338+35	660
" " D S.B.	310+90 to 312+50	320
	Total Lin. Ft.	980
	Total Miles	0.19 *

GORE LINES 2-4"x50' CONTINUOUS		
Location	Station	Lin. Ft.
Exit Ramp A N.B.	310+95 to 313+55	200
" " C S.B.	335+65 to 338+00	200
	Total Lin. Ft.	400 *

* Note: Quantities shown are for a two course application.
First Course Class II Tape
Second Course Class II Tape
Quantities carried to Sheet 71.

620 DELINEATORS								
Location	Station	Side	Interval	Type		No. to be Removed	No. to be Replaced	
				C	Flexible Post Mounted, as per plan			
								Each
U.S. 23 N.B.	10+75.45 to 322+27.45	Rt.	528	59		0	59	
" " "	Station Equation							
	323+27.93 Bk. =							
	265+18.48 Ahd.							
U.S. 23 N.B.	265+10 to 291+94.77	Rt.	528	5		0	5	
U.S. 23 S.B.	10+75.45 to 320+85	Rt.	528	59		0	59	
" " "	Station Equation							
	323+27.93 Bk. =							
	265+18.48 Ahd.							
U.S. 23 S.B.	266+75.00 to 291+94.77	Rt.	528	5		0	5	
	Totals			128		0	128	

CALC. BY _____		OHIO	72A
DATE _____		FHWA REGION 5	81
CHKD. BY _____			
DATE _____			

WYANDOT COUNTY
WYA-23-0.20

620 Delineators, By Type, Flexible Post Mounted, As Per Plan

This item shall consist of furnishing and installing delineators as specified. The reflectors shall be either Type C or D and shall be approximately 3 inches by 6 inches with a minimum area of 18 square inches. The reflector shall be reflective sheeting bonded directly to the delineator post (not screwed or bolted).

The Seal Test as described in 620.03 shall not apply.

The flexible posts shall be white non-metallic, ultraviolet resistant, and designed to withstand repeated automobile impacts at 55 MPH and return to a vertical position with little or no damage to the vehicle. The posts shall be capable of being hand driven. Where adverse soil conditions cause the delineator post to exceed 1/4 inch per foot out of plumb in any direction, the Contractor may drive a pilot shaft before driving the post.

Flexible delineator posts shall be one of the following designs or approved equal:

1. Design 1 flexible post shall be manufactured from lexan with a 24 inch length of No. 1 steel drive post bolted to the bottom of the flexible portion. The total length of the composite post shall be 78 inches. The width of the post shall be 3.25 inches.
2. Design 2 flexible post shall be manufactured from fiberglass reinforced plastic with a T cross-section. The post shall be 72 inches long and 3.60 inches wide.
3. Design 3 flexible post shall be manufactured from fiberglass reinforced plastic with a curved cross-section. The post shall be 72 inches long and 3.60 inches wide.
4. Design 4 flexible post shall be manufactured from fiberglass reinforced plastic with a curved cross-section. The post shall be 27 inches long and 3.25 inches in width. These posts may be installed by the Contractor in lieu of Designs 1, 2 or 3 when delineators would be placed behind guardrail. These posts shall be installed on the front of the wooden guardrail blockouts facing approaching traffic by installing either two 5/16 inch diameter by 1 1/2 inch long, zinc coated lag screws with zinc coated 5/16 inch flat washers or two 5/16 inch diameter by 1 1/2 inch long, zinc coated indented hex washer-head lag screws.

Payment will be at the contract unit price for each delineator which shall include furnishing and installing the post and all necessary hardware, labor and equipment.

620 EACH DELINEATORS, TYPE (C OR D), FLEXIBLE POST MOUNTED, AS PER PLAN

621 PAVEMENT MARKING, POLYESTER, AS PER PLAN

CALC. BY		OHIO	73
DATE		FHWA	81
CHKD. BY		REGION 5	
DATE			

WYANDOT COUNTY
WYA-23-0.200

621 PAVEMENT MARKING, POLYESTER, AS PER PLAN

POLYESTER PAVEMENT MARKINGS SHALL CONFORM TO 621 EXCEPT AS FOLLOWS:

ALL REFERENCES TO PAINT SHALL BE CONSIDERED TO READ POLYESTER MATERIAL.

ITEM 621.02 IS DELETED AND THE FOLLOWING SUBSTITUTED:

MATERIALS:

MATERIAL SUPPLIED UNDER THIS SPECIFICATION SHALL BE A TWO-COMPONENT POLYESTER SYSTEM CAPABLE OF BEING APPLIED BY TRUCK-MOUNTED SPRAY EQUIPMENT AT AMBIENT TEMPERATURES DOWN TO 50° F. THE MATERIAL SHALL BE CAPABLE OF RETAINING REFLECTIVE GLASS SPHERES OF THE DROP OR SPRAY ON TYPE AND SHALL BE SUITABLE FOR APPLICATION TO ALL TYPES OF BITUMINOUS PAVEMENT EXCEPT FOR 805 RUBBERIZED SAND ASPHALT, 833 SAND ASPHALT CONCRETE USING EMULSIFIED ASPHALT, 412 ASPHALT CONCRETE, OPEN GRADED ASPHALT, OR SLURRY SEAL.

POLYESTER PAVEMENT MARKINGS SHALL BE STANDARD HIGHWAY WHITE OR YELLOW AS SPECIFIED ON THE PLANS. WHITE POLYESTER PAVEMENT MARKING MATERIAL SHALL BE FREE OF TINT AND SHALL HAVE A DAYLIGHT REFLECTANCE, AT INCIDENT ANGLES FROM PERPENDICULAR TO 45 DEGREES, WHICH IS NOT LESS THAN 80 PERCENT OF THAT OF MAGNESIUM OXIDE. YELLOW POLYESTER PAVEMENT MARKING MATERIAL SHALL CONFORM, WITHIN 5 NATIONAL BUREAU OF STANDARD UNITS, TO COLOR NUMBER 35538 OF FEDERAL STANDARD 595.

THE CATALYTIC COMPONENT OF THE SYSTEM SHALL BE ANY COMMERCIALY AVAILABLE TYPE RECOMMENDED BY THE MANUFACTURER OF THE POLYESTER.

THE VISCOSITY OF THE UNCATALYZED POLYESTER MATERIAL SHALL BE 80 PLUS OR MINUS 10 KREBS UNITS AT 25° C DETERMINED IN ACCORDANCE WITH ASTM-D-562-55.

MARKING MATERIAL CONTAINERS OR PACKAGING SHALL BE PLAINLY MARKED WITH THE CODE NUMBER AND AN INDICATION OF THE MATERIAL COLOR. CONTAINERS SHALL ALSO BE MARKED WITH AN IDENTIFICATION NUMBER OF THE PRODUCTION BATCH OR LOT OF THE MATERIAL.

THE CATALYZED SYSTEM SHALL HAVE A NUMERICAL RATING OF NOT LESS THAN 6 WHEN TESTED FOR BLEEDING IN ACCORDANCE WITH ASTM-D-969.

GLASS BEADS SHALL CONFORM TO 712.05. THE CONTRACTOR SHALL PROVIDE STORAGE FOR ALL MATERIALS AND SHALL TRANSPORT MATERIALS TO THE SITE WHERE USED. GLASS BEADS SHALL BE KEPT DRY DURING STORAGE AND PRIOR TO USE.

EQUIPMENT FOR APPLYING THE POLYESTER PAVEMENT MARKING MATERIALS SHALL BE CAPABLE OF MIXING THE COMPONENTS IN PROPORTIONS RECOMMENDED BY THE MANUFACTURER AND APPLYING GLASS BEADS AT THE TIME OF LINE PLACEMENT.

THE MARKING EQUIPMENT USED SHALL BE CAPABLE OF APPLYING POLYESTER MATERIAL AT A UNIFORM THICKNESS OF NOT LESS THAN 15 MILS AT A SPEED OF NOT LESS THAN 7 MPH.

MATERIAL PREQUALIFICATION AND SAMPLING:

MARKING MATERIALS SHALL BE OF A FORMULATION PREQUALIFIED BY THE BUREAU OF TESTS AND IDENTIFIED BY A MANUFACTURER'S CODE NUMBER. PREQUALIFICATION OF MARKING MATERIALS SHALL REQUIRE THAT THE MATERIALS PASS A SERVICE TEST IN ACCORDANCE WITH 708.14 SERVICE TEST. IN LIEU OF THE REQUIREMENTS OF 708.14, THE VISCOSITY AND DRYING TIME SHALL BE AS SPECIFIED HEREIN. PAVEMENT MARKING MATERIAL FURNISHED UNDER THE CODE NUMBER SHALL HAVE THE SAME COMPOSITION AND PHYSICAL PROPERTIES AS THE MATERIAL APPROVED BY PREQUALIFICATION.

THE BUREAU OF TESTS WILL FURNISH UPON REQUEST A LIST OF MANUFACTURERS AND CORRESPONDING CODE NUMBERS OF PREQUALIFIED MARKING MATERIALS.

POLYESTER PAVEMENT MARKING MATERIALS PREQUALIFIED BY SERVICE TEST MAY BE TESTED BY THE BUREAU OF TESTS TO DETERMINE FORMULATION SIMILARITY TO PREQUALIFIED MATERIAL AND COMPLIANCE WITH PHYSICAL PROPERTIES SPECIFIED HEREIN. SAMPLES OF MARKING MATERIALS MAY BE REQUESTED FROM THE CONTRACTOR OR SUPPLIER. IN LIEU OF SAMPLES, CERTIFIED TEST DATA FURNISHED BY THE MANUFACTURER OR AN INDEPENDENT TESTING LABORATORY WILL, UPON APPROVAL BY THE BUREAU OF TESTS, BE ACCEPTABLE. FAILURE OF TESTING OR CERTIFIED TEST DATA TO SHOW FORMULATION SIMILARITY TO PREQUALIFIED MATERIAL OR COMPLIANCE WITH SPECIFIED PHYSICAL PROPERTIES SHALL BE CAUSE FOR REMOVAL OF THE MATERIAL FROM THE PREQUALIFIED LIST.

ITEM 621.05 APPLICATION IS HEREBY MODIFIED AS FOLLOWS:

PARAGRAPH 1 THE FIFTH SENTENCE IS DELETED AND THE FOLLOWING SUBSTITUTED:

PAVEMENT MARKINGS SHALL BE APPLIED ONLY WHEN THE SURFACE IS CLEAN AND DRY AND WHEN THE AIR TEMPERATURE IS ABOVE 50° F.

PARAGRAPH 4 IS HEREBY DELETED.

THE APPLICATION RATE TABLE IS HEREBY DELETED AND THE FOLLOWING SUBSTITUTED:

THE MATERIAL SHALL BE APPLIED AT THE RATE OF 16 GALLONS PER MILE FOR A SOLID LINE OF 4 INCHES IN WIDTH TO PROVIDE A UNIFORM WET FILM THICKNESS OF 15 MILS. APPLICATION RATES FOR DASHED OR DOTTED LINES AND FOR LINES WIDER THAN 4 INCHES SHALL BE PROPORTIONAL TO THE SOLID LINE RATES.

PARAGRAPH 5 IS HEREBY MODIFIED AS FOLLOWS:

GLASS BEADS SHALL BE APPLIED TO THE WET POLYESTER SO THAT THE BEADS ARE EMBEDDED AND RETAINED IN THE POLYESTER AND UNIFORMLY COVER THE POLYESTER SURFACE. THE RATE OF APPLICATION SHALL BE 22 POUNDS OF GLASS BEADS PER GALLON OF POLYESTER MATERIAL APPLIED.

PARAGRAPH 6 IS HEREBY DELETED AND THE FOLLOWING SUBSTITUTED:

THE MARKING MATERIAL SHALL DRY TO A "NO-TRACKING" CONDITION IN NOT MORE THAN FORTY-FIVE (45) MINUTES.

NEW ASPHALTIC CONCRETE SHALL BE IN PLACE FOR A PERIOD OF NOT LESS THAN TWO WEEKS PRIOR TO APPLICATION OF POLYESTER PAVEMENT MARKINGS.

PAVEMENT MARKINGS SHALL NOT BE PLACED ON EXISTING PAVEMENT SURFACES THAT SHOW VISIBLE EVIDENCE OF CRACKING, CHIPPING, SPALLING, OR FAILURE OF UNDERLYING BASE MATERIAL AS DETERMINED BY THE ENGINEER.

ITEM 621.051 LAYOUT AND PREMARKING IS MODIFIED BY THE FOLLOWING ADDITIONAL REQUIREMENTS:

(A) THE GAPS NOT MARKED AS A RESULT OF TEMPLATE USE SHALL BE FILLED WITH MARKING MATERIAL AFTER TEMPLATE REMOVAL.

(B) "T" MARKING OF CENTERLINE NO PASSING ZONES SHALL BE CONSIDERED INCIDENTAL TO APPLYING THE LINE.

ITEM 621.14 DEDUCTION FOR DEFICIENCY SHALL BE MODIFIED BY THE FOLLOWING ADDITIONAL REQUIREMENTS:

A DAY'S APPLIED QUANTITY OF LESS THAN 5 GALLONS OF MARKING MATERIAL MAY BE INCLUDED IN THE NEXT DAY'S APPLIED MARKINGS FOR THE PURPOSE OF COMPUTING MARKING MATERIAL AND BEAD APPLICATION RATES.

THE CONTRACTOR SHALL PROVIDE A CALIBRATED MEASURING DEVICE TO MEASURE THE POLYESTER RESIN IN THE TANKS.

THE QUANTITY OF POLYESTER MARKING MATERIAL USED SHALL BE DETERMINED BY MEASURING THE POLYESTER RESIN IN THE TANKS BEFORE AND AFTER MARKING MATERIAL IS APPLIED. THE CONTRACTOR SHALL PERMIT THE ENGINEER TO TAKE MEASUREMENTS WHENEVER REQUESTED. THE MARKING MATERIAL APPLICATION RATE SHALL BE DETERMINED BY DIVIDING THE TOTAL GALLONS USED BY THE APPROPRIATE MARKING UNIT OF MEASURE. ANY DETERMINATION OF PAY DEDUCTION RESULTING FROM SHORTAGES IN MARKING MATERIALS SHALL BE BASED ON THE MEASUREMENTS OBTAINED BY THIS METHOD. THE AMOUNT OF GLASS BEADS APPLIED SHALL BE ASCERTAINED BY THE ENGINEER BY OBSERVATION AND FROM INFORMATION SUPPLIED BY THE CONTRACTOR AS TO QUANTITY USED.

ITEM 621.16 BASIS OF PAYMENT SHALL BE MODIFIED BY ADDING THE WORDS "POLYESTER, AS PER PLAN" TO EACH ITEM DESCRIPTION.

EQUIPMENT

THE CONTRACTOR'S STRIPER SHALL BE EQUIPPED WITH AN ODOMETER GRADUATED TO 1/100 OF A MILE. THE ENGINEER SHALL DETERMINE THE DEGREE OF ACCURACY OF THE CONTRACTOR'S ODOMETER AND ESTABLISH AN ADJUSTMENT FACTOR AS MAY BE REQUIRED TO ACCURATELY DETERMINE THE PAY ITEM QUANTITIES. THE ENGINEER SHALL PERIODICALLY CHECK THE ODOMETER OPERATION TO ASSURE MAINTENANCE OF ACCURATE MEASUREMENTS.

FAILURE OF THE ODOMETER TO FUNCTION PROPERLY SHALL BE CAUSE TO STOP THE WORK UNTIL THE ODOMETER IS MADE TO FUNCTION PROPERLY. IF MEASUREMENT OF THE WORK HAS TO BE PERFORMED THE DEPARTMENT, THE COST OF THE DEPARTMENT LABOR AND EQUIPMENT PLUS 10 PERCENT SHALL BE DEDUCTED FROM PAYMENT DUE THE CONTRACTOR FOR THE WORK.

THE PAVEMENT MARKING EQUIPMENT SHALL BE EQUIPPED WITH A PRESSURE REGULATED AIR JET WHICH SHALL REMOVE ALL DEBRIS FROM THE PAVEMENT IN ADVANCE OF THE APPLICATOR GUN. THE AIR JET SHALL OPERATE WHEN MARKING MATERIAL IS BEING APPLIED AND SHALL BE SYNCHRONIZED WITH MARKING MATERIAL APPLICATION OR REMAIN "ON" AT ALL TIMES.

THE CONTRACTOR SHALL USE AN ACCURATE DASHING MECHANISM, CAPABLE OF BEING EASILY ADJUSTED, TO RETRACE EXISTING LANE OR CENTERLINE MARKINGS AS SPECIFIED IN THE PLANS OR AS DIRECTED BY THE ENGINEER.

PROVISIONS FOR THE DESCRIBED SPECIAL EQUIPMENT BY THE CONTRACTOR SHALL BE INCIDENTAL TO THE APPLICATION.

GH:j15

AUGUST 10, 1979
NOVEMBER 10, 1980
JANUARY 2, 1982
JANUARY 21, 1983

GENERAL NOTES

PREFORMED PLASTIC PAVEMENT MARKINGS

Computations By Initials <i>JGG</i> Date <i>11-22-83</i>
Computations Checked By Initials <i>G.A.A.</i> Date <i>12-1-83</i>
Final Revisions By Initials _____ Date _____

FED RD DIVISION	STATE	PROJECT	
5	OHIO		

74
81

WYANDOT COUNTY
WYA-23-020

General

The installation of preformed plastic pavement markings shall conform to SUPPLEMENTAL SPECIFICATION 847 and as required herein.

Description

This work shall consist of the application of Department furnished preformed plastic pavement marking material on newly resurfaced pavement surfaces by rolling it into the new surface during the finish rolling operation, in accordance with the lines and dimensions shown on the plans or as described herein.

The Contractor shall furnish all equipment necessary for the required pavement preparation and marking application. All pavement markings shall conform with the requirements of the Ohio Manual of Uniform Traffic Control Devices.

The Engineer will designate the limits of the highway section being marked and will furnish a log or schematic and details of the type and location of markings to be applied at the pre-construction conference.

Materials

The Contractor shall be informed at the pre-construction conference of the location of the Department furnished preformed plastic pavement marking material. The Contractor shall be responsible for all arrangements necessary to facilitate the pick-up of Department furnished preformed plastic pavement marking material at this location for transport to the work site or the Contractor's storage facility. The Contractor shall notify the Engineer in writing at least 5 calendar days prior to pickup of the preformed plastic pavement marking material. The Contractor shall provide receiving tickets to the Department for all preformed plastic pavement marking material received. Procedures for documenting receipt will be furnished to the Contractor at the pre-construction conferences. The Contractor shall store and transport the preformed plastic pavement marking materials to the site where used.

Layout and Premarking

The Contractor shall lay out the location of all lines, words and other symbols to assure their proper placement. When applying longitudinal or transverse lines, the Contractor shall use construction joints or premarking to guide his application equipment.

Premarking shall be located from schematic forms provided at the pre-construction conference.

The layout and premarking lines shall be approved by the Engineer before marking operations are started. Layout and premarking shall be incidental to application of markings.

Placement Tolerance

Line placement tolerance shall conform to 621.052.

Marking Descriptions

Markings applied under this specification shall conform to applicable portions of 621 as follows:

Edge Lines.....	621.06
Lane Lines.....	621.05 and .07
Center Lines.....	621.05 and .08
Channelizing Lines.....	621.09
Stop Lines and Crosswalk Lines.....	621.10
Transverse Lines.....	621.11
Island Marking.....	621.12
Lane Arrows.....	621.131
Word on Pavement.....	621.132
Dotted Lines.....	621.05 and .133
Railroad Symbol on Pavement shall conform to.....	*

* RAILROAD SYMBOL ON PAVEMENT

The standard Railroad Symbol shall consist of the following items:

1. One white 16" crossbuck and the white letters "RR". The size of these crossbucks shall be 7', 8' and 10', as specified.
2. Two 24" solid white transverse lines; one ahead of and one behind the crossbuck.
3. One 24" solid white stop line in advance of the railroad crossing.

Where the word "paint" appears in 621 the words "preformed plastic pavement marking material" shall be substituted, and application rates shall not apply to preformed plastic material.

Method of Measurement

Preformed plastic pavement markings will be measured complete in place in the units designated for preformed plastic pavement marking, installed, inlaid.

Basis of Payment

Payment for accepted quantities complete in place will be made at the contract unit prices bid and shall be full compensation for all labor, incidentals and equipment necessary to inlay the preformed plastic pavement markings.

<u>Item</u>	<u>Unit</u>	<u>Description</u>
Special 1238	Sq. Ft.	preformed plastic pavement marking, installed, inlaid

ITEM 621 TRAFFIC ZONE PAVEMENT MARKING

Computations By Initials G.V.A. Date 12-1-83
Computations Checked By Initials P.W.O. Date 12-1-83
Final Revisions By Initials Date

FHWA REGION 5 STATE OHIO PROJECT WYANDOT COUNTY WYA-23-020

4" EDGE LINE

Table with 4 columns: Location, Station, White, Yellow. Lists pavement marking details for U.S. 23 N.B., U.S. 23 S.B., and Exit Ramps A, B, C, D.

4" EDGE LINE CONTINUED

Table with 4 columns: Location, Station, White, Yellow. Continues pavement marking details for U.S. 23 N.B., U.S. 23 S.B., and Exit Ramps A, B, C, D.

847-24" STOP LINE

Table with 3 columns: Location, Station, Lin. Ft. Lists stop line locations for C.R. 74 E. Bound, C.R. 72 E. Bound, C.R. 65 E. Bound, C.R. 62 E. Bound, C.R. 56 N. Bound, C.R. 55 E. Bound, S.R. 294 E., and Exit Ramps A, B, C.

* Quantity carried to Sheet 74.

4" WHITE LANE LINE (10'-30")

Table with 3 columns: Location, Station, Lin. Ft. Lists white lane line details for U.S. 23 N.B., U.S. 23 S.B., Exit Ramps A, B, C, and D.

4" DOUBLE YELLOW CENTER LINE

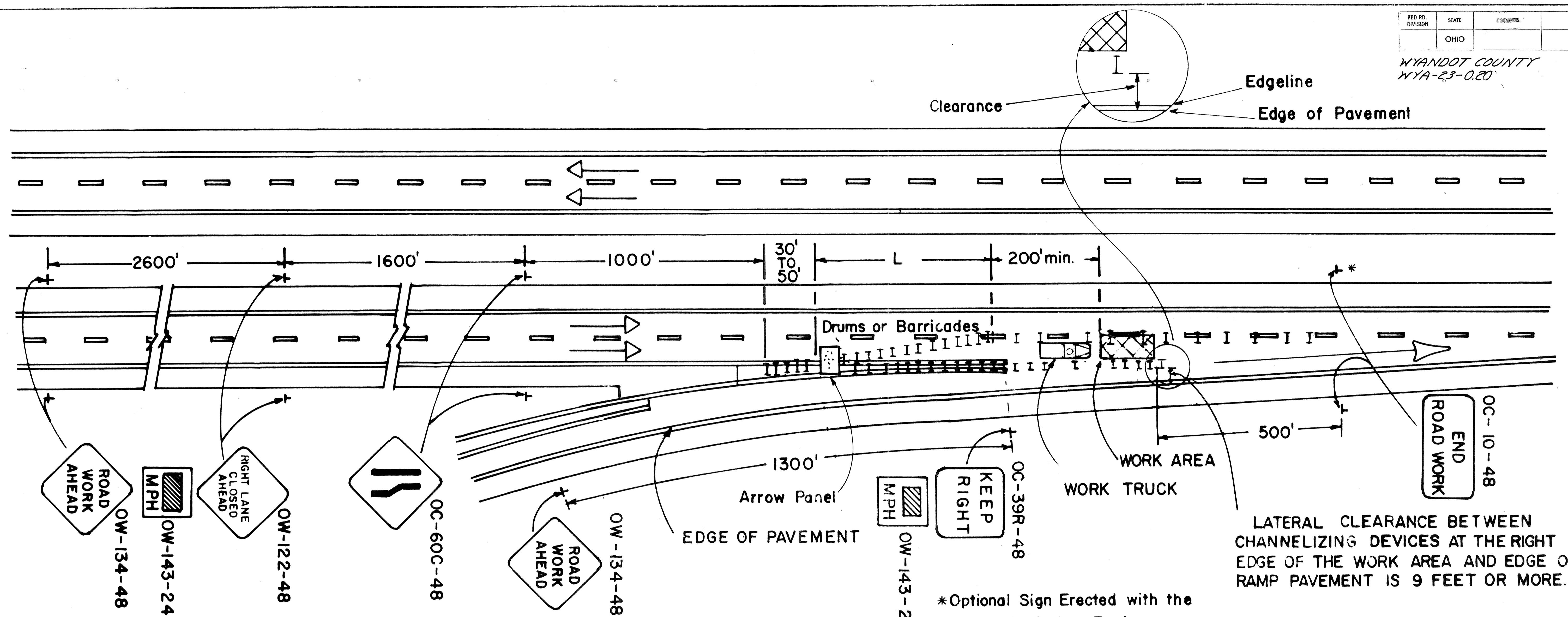
Table with 3 columns: Location, Station, Lin. Ft. Lists double yellow center line details for C.R. 74 E. Bound, C.R. 72 E. Bound, C.R. 65 E. Bound, C.R. 62 E. Bound, C.R. 56 E. Bound, C.R. 55 E. Bound, C.R. 124 E., S.R. 294 E., and Exit Ramps A, B, C.

24" BROAD TRANSVERSE LINES (W)

Table with 3 columns: Location, Station, Lin. Ft. Lists broad transverse line details for Exit Ramps A and C.

8" CHANNELIZING LINE

Table with 3 columns: Location, Station, Lin. Ft. Lists channelizing line details for Exit Ramps A, B, C, and D, with a total of 1,480 Lin. Ft.



LATERAL CLEARANCE BETWEEN CHANNELIZING DEVICES AT THE RIGHT EDGE OF THE WORK AREA AND EDGE OF RAMP PAVEMENT IS 9 FEET OR MORE.

*Optional Sign Erected with the Approval of the Engineer

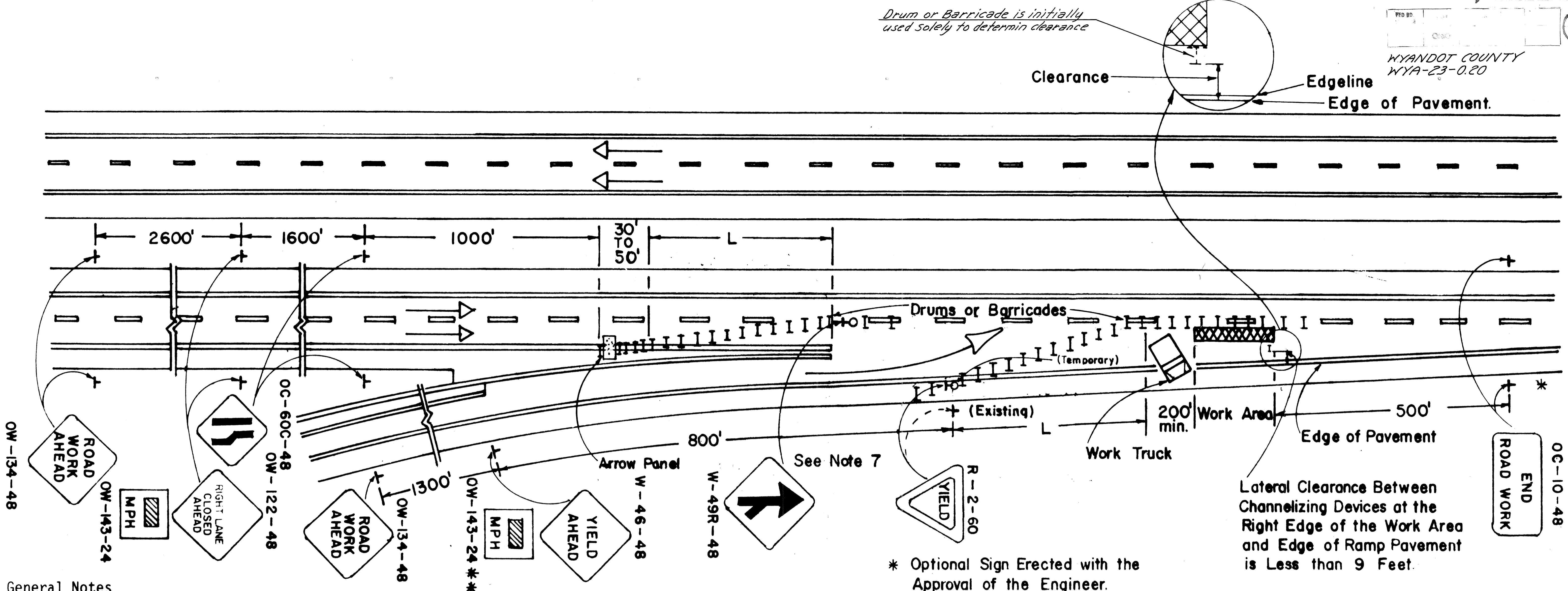
GENERAL NOTES

- THIS WORK AREA TRAFFIC CONTROL APPLICATION SHALL BE EMPLOYED WHEN THE LATERAL CLEARANCE BETWEEN THE CHANNELIZING DEVICES AT THE RIGHT EDGE OF THE WORK AREA AND THE EDGE OF THE RAMP PAVEMENT IS 9 FEET OR MORE. WHEN THE CLEARANCE IS LESS THAN 9 FEET, THE TRAFFIC CONTROL ON "LANE CLOSURE AT ENTRANCE RAMP: PLAN B" SHOULD BE USED, OR THE RAMP SHOULD BE CLOSED, OR ALLOWING RAMP TRAFFIC TO USE THE BERM SHOULD BE CONSIDERED PROVIDED THE OPERATION IS "SHORT" IN DURATION. WHEN THE RAMP IS CLOSED, APPROPRIATE DETOUR SIGNS SHALL BE PROVIDED.
- THIRTEEN (13) DRUMS OR BARRICADES SHALL BE USED TO FORM THE LANE TRANSITION TAPER IN ADVANCE OF THE WORK AREA. FIVE (5) CHANNELIZING DEVICES SHALL BE USED TO FORM THE TAPER ON THE SHOULDER. DRUMS, OR BARRICADES SHALL BE SPACED AT 50 FOOT CENTERS. CONES MAY BE SUBSTITUTED FOR BARRICADES OR DRUMS FOR THE LANE CLOSURES DURING DAYLIGHT HOURS ONLY.
- RAMP SIGNS SHALL BE DUAL MOUNTED ON MULTILANE RAMPS.
- THE FLASHING OR SEQUENCING ARROW PANEL SHALL BE IN ACCORDANCE WITH TC-35.10.
- THE WORK TRUCK SHOWN AT THE BEGINNING OF THE WORK AREA SHALL BE IN PLACE AND UNOCCUPIED WHENEVER MEN ARE WORKING WITHIN THE WORK AREA. THIS TRUCK SHALL BE MOVED FROM THE PAVEMENT WHENEVER WORKMAN ARE NOT IN THE WORK AREA. OTHER PROTECTIVE DEVICES MAY BE USED IN LIEU OF WORK TRUCK SHOWN WHEN APPROVED BY THE ENGINEER. A TRUCK MOUNTED IMPACT ATTENUATOR MAY BE EMPLOYED.
- TYPE C STEADY BURNING BARRICADE WARNING LIGHTS SHALL BE ERECTED ON DRUMS OR BARRICADES FOR NIGHT LANE CLOSURES. MAXIMUM SPACING SHALL BE 50' CENTER TO CENTER IN ADVANCE OF THE WORK AREA AND 200' CENTER TO CENTER WITHIN THE LIMITS OF THE WORK AREA.
- TAPER FORMULAE:
 $L = S \times W$ FOR SPEEDS OF 45 OR MORE.
 $L = WS^2/60$ FOR SPEEDS OF 40 OR LESS.
 WHERE:
 L = MINIMUM LENGTH OF TAPER.
 S = NUMERICAL VALUE OF POSTED SPEED LIMIT PRIOR TO WORK OR 85 PERCENTILE SPEED.
 W = WIDTH OF OFFSET.
- THE SPACINGS BETWEEN CONSTRUCTION AND MAINTENANCE SIGNS SHOWN ON THIS DETAIL MAY REQUIRE ADJUSTMENTS (INCREASES OR DECREASES) TO ASSURE THAT THEY ARE POSITIONED NO CLOSER THAN 200 FEET TO EXISTING SIGNS AS DETERMINED BY THE ENGINEER.

OHIO DEPARTMENT OF TRANSPORTATION	
LANE CLOSURE AT ENTRANCE RAMP: PLAN A	DATE 8-3-79

Drum or Barricade is initially used solely to determine clearance

WYANDOT COUNTY
WYA-23-0.20



General Notes

1. This work area traffic control application shall be employed when the lateral clearance between channelizing devices at the right edge of the work area and the edge of the ramp pavement is less than 9 feet. When the clearance is more than 9 feet, the traffic control on "Lane Closure at Entrance Ramp: Plan A" should be used, or the ramp should be closed. When the ramp is closed, appropriate detour signs shall be provided.
2. Thirteen (13) drums or barricades shall be used to form the lane transition taper in advance of the work area. Five (5) channelizing devices shall be used to form the taper on the shoulder. drums, or barricades shall be spaced at 50 foot centers. Cones may be substituted for barricades or drums for the lane closures during daylight hours only.
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 propor-

- tionately within the space available as determined by the Engineer (a 200' minimum spacing must be maintained).
4. The flashing or sequencing arrow panel shall be in accordance with TC-35.10.
5. The work truck shown at the beginning of the work area shall be in place and unoccupied whenever men are working within the work area. This truck shall be moved from the pavement whenever workmen are not in the work area. Other protective devices may be used in lieu of work truck shown when approved by the Engineer.
6. Type C steady burning barricade warning lights shall be erected on drums or barricades for night lane closures. Maximum spacing shall be 50' center to center in advance of the work area and 200' center to center within the limits of the work area.

* Optional Sign Erected with the Approval of the Engineer.

7. It may be necessary to move the location of an existing Yield condition. In these cases, the permanent R-2 sign installation shall be covered and the temporary installation shall be mounted upon a drive post which shall be banded to a drum with stainless steel strapping material or other techniques subject to the approval of the Engineer.

8. Taper Formulae:
 $L = S \times W$ for Speeds of 45 or more.
 $L = WS^2/60$ for Speeds 40 or less.

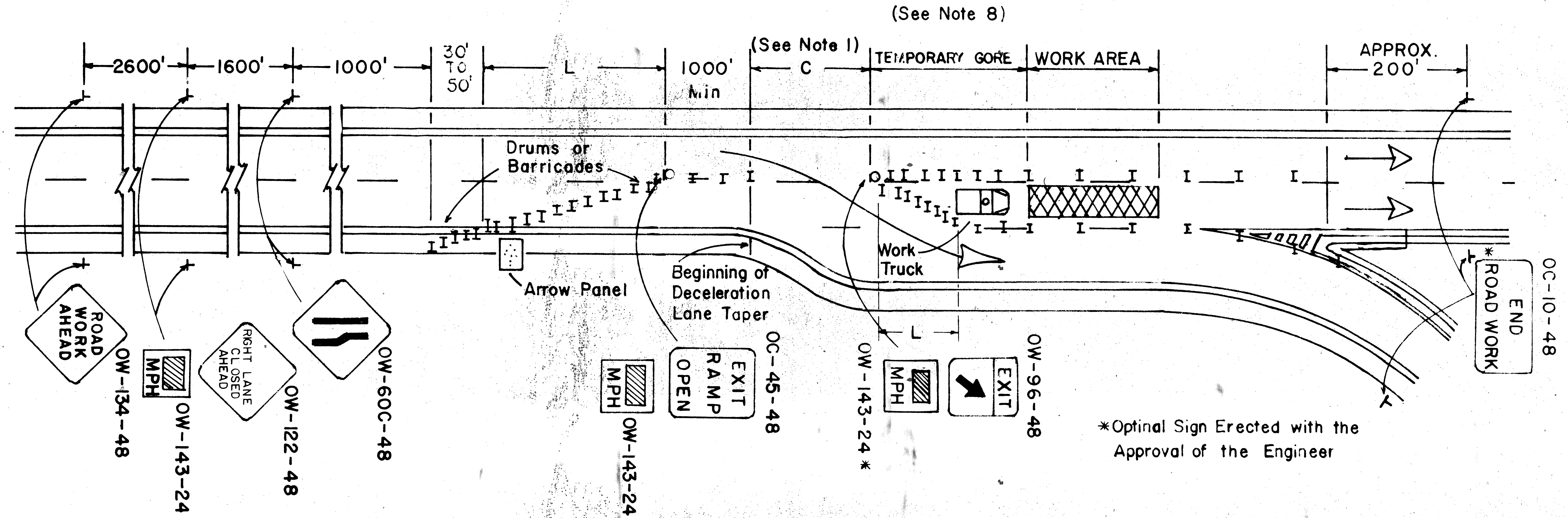
Where:

L = Minimum length of taper.
 S = Numerical value of posted speed limit prior to work or 85 percentile speed.
 W = Width of offset.

9. THE SPACINGS BETWEEN CONSTRUCTION AND MAINTENANCE SIGNS SHOWN ON THIS DETAIL MAY REQUIRE ADJUSTMENTS (INCREASES OR DECREASES) TO ASSURE THAT THEY ARE POSITIONED NO CLOSER THAN 200 FEET TO EXISTING SIGNS AS DETERMINED BY THE ENGINEER.

Lateral Clearance Between Channelizing Devices at the Right Edge of the Work Area and Edge of Ramp Pavement is Less than 9 Feet.

OHIO DEPARTMENT OF TRANSPORTATION	
LANE CLOSURE AT ENTRANCE RAMP PLAN B	DATE 8-3-79



GENERAL NOTES

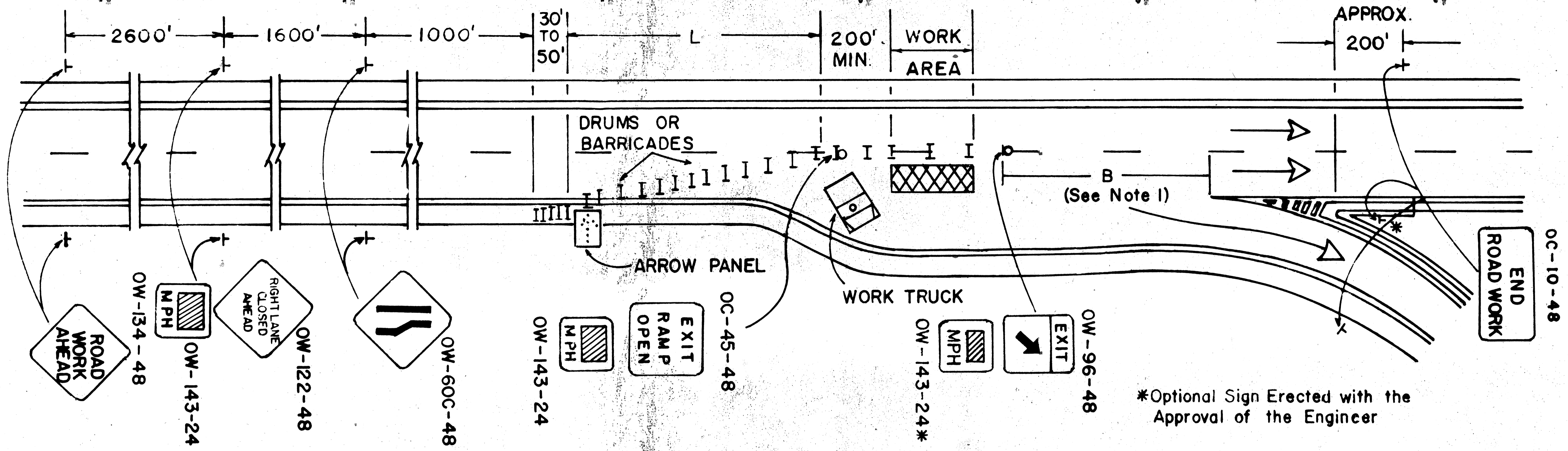
1. THIS WORK AREA TRAFFIC CONTROL APPLICATION SHALL ONLY BE USED WHEN THE DISTANCE "C" IS 100 FEET OR GREATER. WHEN "C" IS LESS THAN 100 FEET, THE TRAFFIC CONTROL SHOWN ON THE "LANE CLOSURE BEFORE EXIT GORE" DETAIL SHOULD BE USED, OR THE EXIT SHOULD BE CLOSED, OR THE TRAFFIC CONTROL ON THIS DRAWING MAY BE USED WITH APPROVAL OF THE ENGINEER. WHEN THE EXIT IS CLOSED, APPROPRIATE DETOUR SIGNS SHALL BE PROVIDED.
2. WHEN WORK IS BEING PERFORMED IN ONLY THE LANE ADJACENT TO THE MEDIAN ON A DIVIDED HIGHWAY, REFER TO THE TYPICAL WORK AREA TRAFFIC CONTROL SHOWN IN FIGURE C-21 OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
3. THE WORK TRUCK SHOWN AT THE BEGINNING OF THE WORK AREA SHALL BE IN PLACE AND UNOCCUPIED WHENEVER MEN ARE WORKING WITHIN THE WORK AREA. THIS TRUCK SHALL BE MOVED FROM THE PAVEMENT WHENEVER WORKMEN ARE NOT IN THE WORK AREA. OTHER PROTECTIVE DEVICES MAY BE USED IN LIEU OF THE WORK TRUCK SHOWN WHEN APPROVED BY THE ENGINEER. A TRUCK MOUNTED IMPACT ATTENUATOR MAY BE EMPLOYED.

4. THE FLASHING ARROW PANEL SHALL BE IN ACCORDANCE WITH TC-35.10.
5. THIRTEEN (13) DRUMS OR BARRICADES SHALL BE USED TO FORM THE LANE TRANSITION TAPER IN ADVANCE OF THE WORK AREA. FIVE (5) CHANNELIZING DEVICES SHALL BE USED TO FORM THE TAPER ON THE SHOULDER. DRUMS, OR BARRICADES SHALL BE SPACED AT 50 FOOT CENTERS. CONES MAY BE SUBSTITUTED FOR BARRICADES OR DRUMS FOR THE LANE CLOSURES DURING DAYLIGHT HOURS ONLY.
6. TYPE C STEADY BURNING BARRICADE WARNING LIGHTS SHALL BE ERECTED ON DRUMS OR BARRICADES FOR NIGHT LANE CLOSURES. MAXIMUM SPACING SHALL BE 50' CENTER TO CENTER IN ADVANCE OF THE WORK AREA AND 200' CENTER TO CENTER WITHIN THE LIMITS OF THE WORK AREA.

7. TAPER FORMULAE:
 $L = S \times W$ FOR SPEEDS OF 45 OR MORE.
 $L = WS^2/60$ FOR SPEEDS OF 40 OR LESS.
 WHERE:
 L = MINIMUM LENGTH OF TAPER.
 S = NUMERICAL VALUE OF POSTED SPEED LIMIT PRIOR TO WORK OR 85 PERCENTILE SPEED.
 W = WIDTH OF OFFSET.
8. WHEN CREATING A TEMPORARY GORE, CHANNELIZING DEVICES SHOULD BE SPACED 25' CENTER TO CENTER SO AS TO CREATE A "SOLID GORE" EFFECT.

9. THE SPACINGS BETWEEN CONSTRUCTION AND MAINTENANCE SIGNS SHOWN ON THIS DETAIL MAY REQUIRE ADJUSTMENTS (INCREASES OR DECREASES) TO ASSURE THAT THEY ARE POSITIONED NO CLOSER THAN 200 FEET TO EXISTING SIGNS AS DETERMINED BY THE ENGINEER.

OHIO DEPARTMENT OF TRANSPORTATION	
LANE CLOSURE AT EXIT GORE	
	DATE 8-3-79



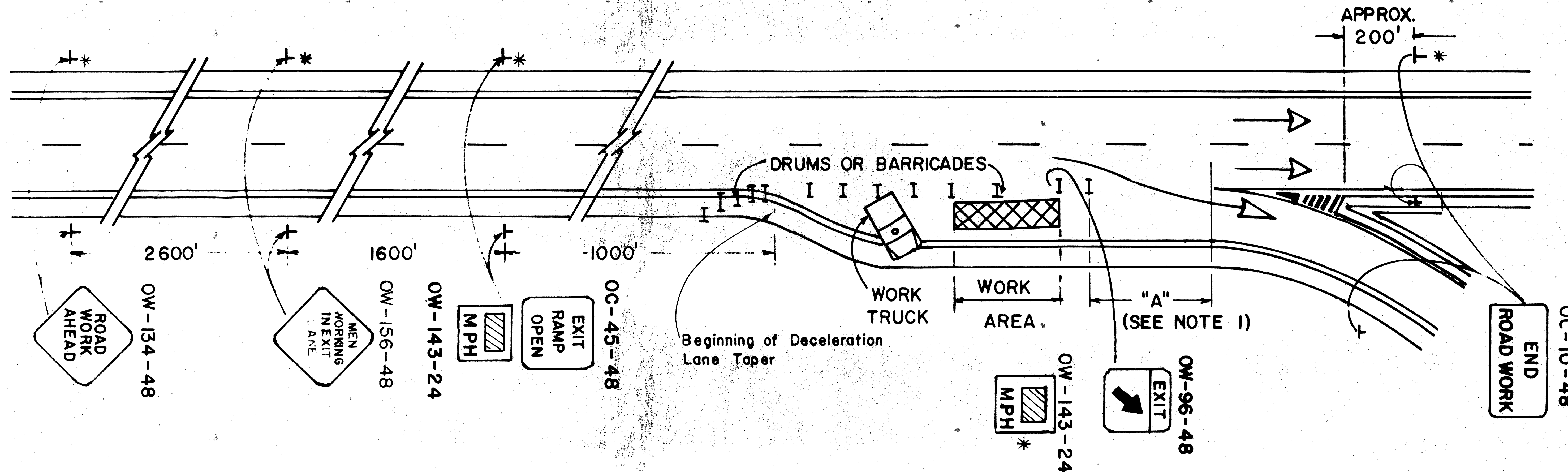
GENERAL NOTES

1. THIS WORK AREA TRAFFIC CONTROL APPLICATION SHALL ONLY BE USED WHEN THE DISTANCE "B" IS 100 FEET OR GREATER. WHEN "B" IS LESS THAN 100 FEET, THE TRAFFIC CONTROL SHOWN ON THE "LANE CLOSURE AT EXIT GORE" DETAIL SHOULD BE USED, OR THE EXIT SHOULD BE CLOSED, OR THE TRAFFIC CONTROL ON THIS DRAWING MAY BE USED WITH APPROVAL OF THE ENGINEER. WHEN THE EXIT IS CLOSED, APPROPRIATE DETOUR SIGNS SHALL BE PROVIDED.
2. WHEN WORK IS BEING PERFORMED IN THE LANE ADJACENT TO THE MEDIAN ON A DIVIDED HIGHWAY, REFER TO THE TYPICAL WORK AREA TRAFFIC CONTROL SHOWN IN FIGURE C-21 OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
3. THE WORK TRUCK SHOWN AT THE BEGINNING OF THE WORK AREA SHALL BE IN PLACE AND UNOCCUPIED WHENEVER MEN ARE WORKING WITHIN THE WORK AREA. THIS TRUCK SHALL BE MOVED FROM THE PAVEMENT WHENEVER WORKMEN ARE NOT IN THE WORK AREA. OTHER PROTECTIVE DEVICES MAY BE USED IN LIEU OF THE WORK TRUCK SHOWN WHEN APPROVED BY THE ENGINEER.

4. THE FLASHING ARROW PANEL SHALL BE IN ACCORDANCE WITH TC-35.10.
5. THIRTEEN (13) DRUMS OR BARRICADES SHALL BE USED TO FORM THE LANE TRANSITION TAPER IN ADVANCE OF THE WORK AREA. FIVE (5) CHANNELIZING DEVICES SHALL BE USED TO FORM THE TAPER ON THE SHOULDER. DRUMS, OR BARRICADES SHALL BE SPACED AT 50 FOOT CENTERS. CONES MAY BE SUBSTITUTED FOR BARRICADES OR DRUMS FOR THE LANE CLOSURES DURING DAYLIGHT HOURS ONLY.
6. TYPE C STEADY BURNING BARRICADE WARNING LIGHTS SHALL BE ERECTED ON DRUMS OR BARRICADES FOR NIGHT LANE CLOSURES. MAXIMUM SPACING SHALL BE 50' CENTER TO CENTER IN ADVANCE OF THE WORK AREA AND 200' CENTER TO CENTER WITHIN THE LIMITS OF THE WORK AREA.

7. TAPER FORMULAE:
 $L = S \times W$ FOR SPEEDS OF 45 OR MORE.
 $L = WS^2/60$ FOR SPEEDS OF 40 OR LESS.
 WHERE:
 L = MINIMUM LENGTH OF TAPER.
 S = NUMERICAL VALUE OF POSTED SPEED LIMIT PRIOR TO WORK OR 85 PERCENTILE SPEED.
 W = WIDTH OF OFFSET.
8. THE SPACINGS BETWEEN CONSTRUCTION AND MAINTENANCE SIGNS SHOWN ON THIS DETAIL MAY REQUIRE ADJUSTMENTS (INCREASES OR DECREASES) TO ASSURE THAT THEY ARE POSITIONED NO CLOSER THAN 200 FEET TO EXISTING SIGNS AS DETERMINED BY THE ENGINEER.

*Optional Sign Erected with the Approval of the Engineer



* OPTIONAL SIGN ERECTED WITH THE APPROVAL OF THE ENGINEER.

GENERAL NOTES.

1. THIS WORK AREA TRAFFIC CONTROL APPLICATION SHALL ONLY APPLY WHEN THE DISTANCE "A" IS GREATER THAN 100'. WHEN DISTANCE "A" IS LESS THAN 100', THE RAMP SHALL BE CLOSED. WHEN THE RAMP IS CLOSED, THE TRAFFIC CONTROL SHALL INCLUDE DETOUR SIGNING FOR EXIT RAMP CLOSURES IN ACCORDANCE WITH OMTCD.
2. DRUMS OR BARRICADES SHALL BE SPACED AT 50 FOOT CENTERS. CONES MAY BE SUBSTITUTED FOR BARRICADES OR DRUMS FOR THE LANE CLOSURES DURING DAYLIGHT HOURS ONLY.
3. TYPE C STEADY BURNING BARRICADE WARNING LIGHTS SHALL BE ERECTED ON DRUMS OR BARRICADES FOR NIGHT LANE CLOSURES. MAXIMUM SPACING SHALL BE 50' CENTER TO CENTER IN ADVANCE OF THE WORK AREA AND 200' CENTER TO CENTER WITHIN THE LIMITS OF THE WORK AREA.
4. THE WORK TRUCK SHOWN AT THE BEGINNING OF THE WORK AREA SHALL BE IN PLACE AND UNOCCUPIED WHENEVER MEN ARE WORKING WITHIN THE WORK AREA. THIS TRUCK SHALL BE MOVED FROM THE PAVEMENT WHENEVER WORKMEN ARE NOT IN THE WORK AREA. OTHER PROTECTIVE DEVICES MAY BE USED IN LIEU OF THE WORK TRUCK SHOWN WHEN APPROVED BY THE ENGINEER.
5. THE SPACINGS BETWEEN CONSTRUCTION AND MAINTENANCE SIGNS SHOWN ON THIS DETAIL MAY REQUIRE ADJUSTMENTS (INCREASES OR DECREASES) TO ASSURE THAT THEY ARE POSITIONED NO CLOSER THAN 200 FEET TO EXISTING SIGNS AS DETERMINED BY THE ENGINEER.

WYANDOT COUNTY
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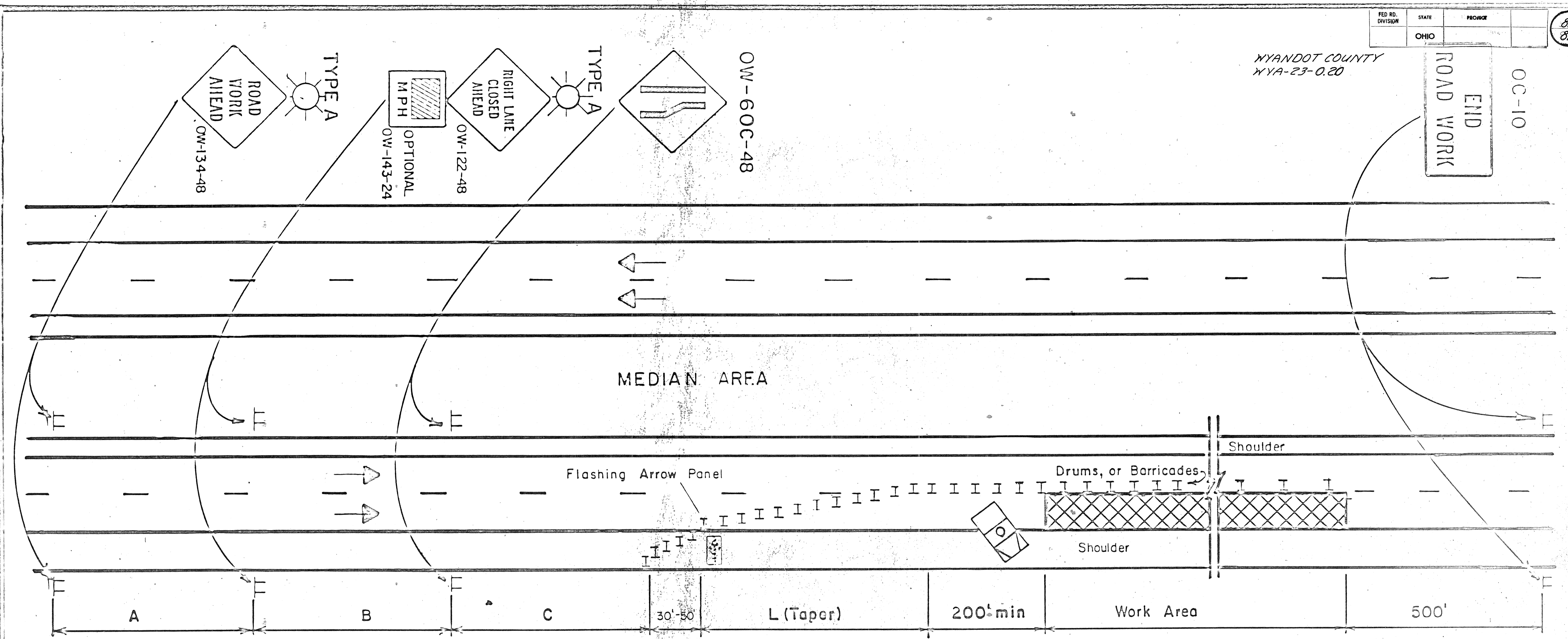
OC-10
END
ROAD WORK

OW-60C-48

OW-122-48

OPTIONAL
MPH
OW-143-24

OW-134-48



GENERAL NOTES:

- The taper length (L) shall be in accordance with Section 7F-17 of the OAJTCD. The location of the transition signs should be adjusted to provide for adequate sight distance for the existing vertical and horizontal roadway alignment. In order to determine the minimum number of channelizing devices for the transition taper see Table 7-5 OAJTCD. For a 55 MPH prevailing speed and a 12 ft. lane, not less than thirteen (13) drums or barricades shall be used to form the lane transition taper in advance of the work area. Not less than five (5) drums or barricades shall be used to form the taper on the shoulder. Drums or barricades shall be spaced approximately 50' to 60' center to center for the first 1000 feet of the work area and at a maximum of 100 to 120 feet for the balance of the work area. Cones may be substituted for barricades or drums for short term lane closures during daylight hours only.
- The major standard level warning sign sizes may be used on divided streets or highways that are not classified as freeways or expressways.
- When work is being performed in the lane adjacent to the median on a divided highway an OW-123-48 sign(s) shall be substituted for the OW-122-48 sign(s) and an OW-60D-48 sign(s) shall be substituted for the OW-60C sign(s).
- The work vehicle shown at the beginning of the work area shall be in place and unoccupied whenever workers are in the work area. This work vehicle shall be removed from the pavement whenever workers are not in the work area. Other protective devices may be used in lieu of the work vehicle shown when approved by the Engineer. The vehicle shall be equipped with a 360° rotating or flashing amber beacon clearly visible in all directions a minimum of 2 miles.
- The flashing arrow panel shall meet requirements of TC-35.10.
- Type C steady burning barricade warning lights shall be erected on drums or barricades for night lane closures. The maximum spacing shall be identical to the channelizing device spacing requirements described in Note 1.
- Type A flashing barricade warning lights shown on the "Road Work Ahead" and the "Right Lane Closed Ahead" signs are required whenever a night lane closure is necessary.
- Some work area locations may require more than just static or conventional signs to enhance communication with the driver. At these locations Portable Changeable Message Signs (PCMS) units are recommended. These devices should be located approximately 3/4 mile in advance of a lane closure or other point of required action. See Section 7G-8.1, OAJTCD for further guidance on use of PCMS units.

MINIMUM DISTANCE	A	B	C
MAJOR STANDARD	500'	500'	500'
URBAN FREEWAY & EXPRESSWAY	500' TO 1000'	500' TO 1000'	500' TO 1000'
RURAL FREEWAY & EXPRESSWAY	750'	1000'	1000'

OHIO DEPARTMENT OF TRANSPORTATION
CLOSING ONE LANE OF A FOUR LANE DIVIDED HIGHWAY
DATE: 2/82

APP-1 - AWW - 148