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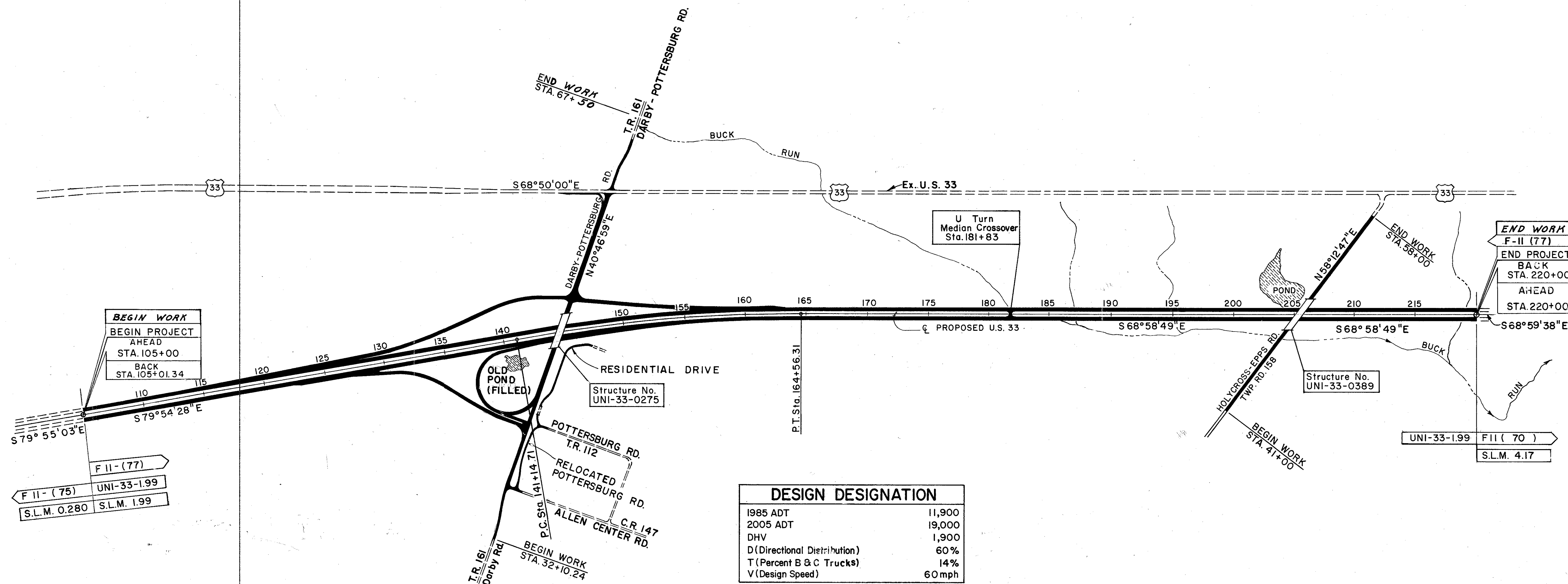
SCHEMATIC PLAN

0 400 800
SCALE IN FEET

F.H.W.A. REGION	STATE	PROJECT	
5	OHIO		

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245

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FOR CURVE DATA SEE SHEET NO. 63

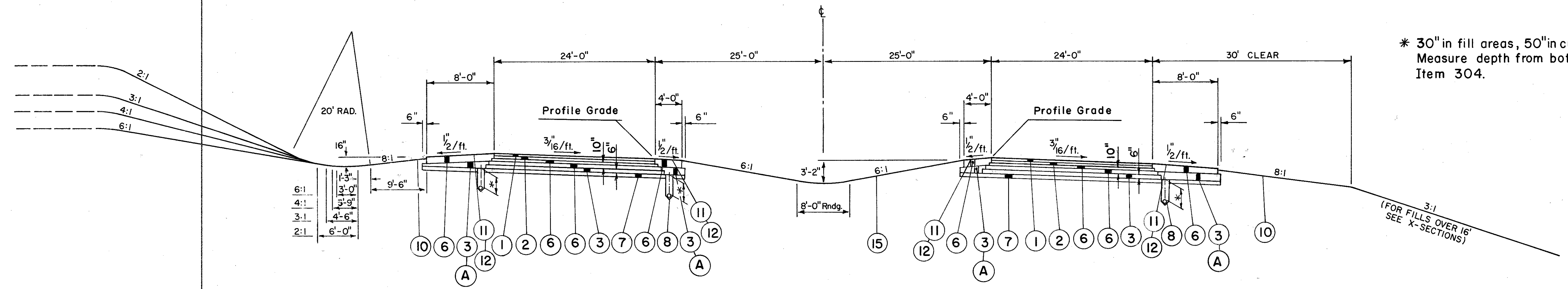
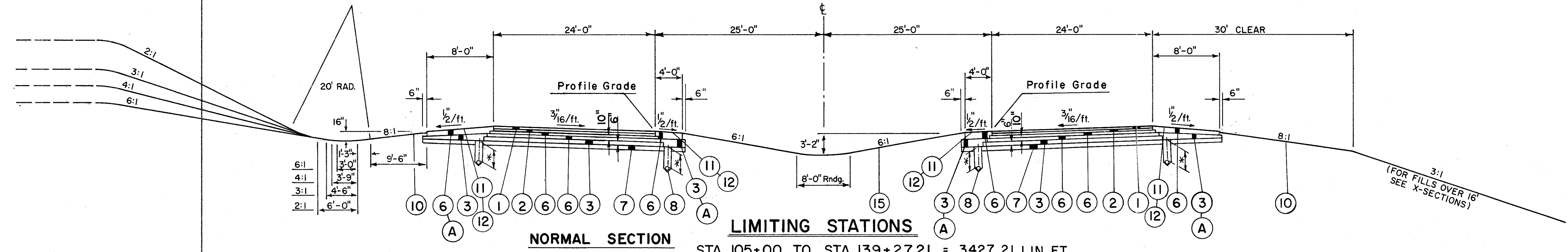
PARSONS BRINCKERHOFF QUADE & DOUGLAS
COLUMBUS, OHIO

SCHEMATIC PLAN & DESIGN DESIGNATION

Designed	Drawn	Traced	Checked	Reviewed	Date	Revised

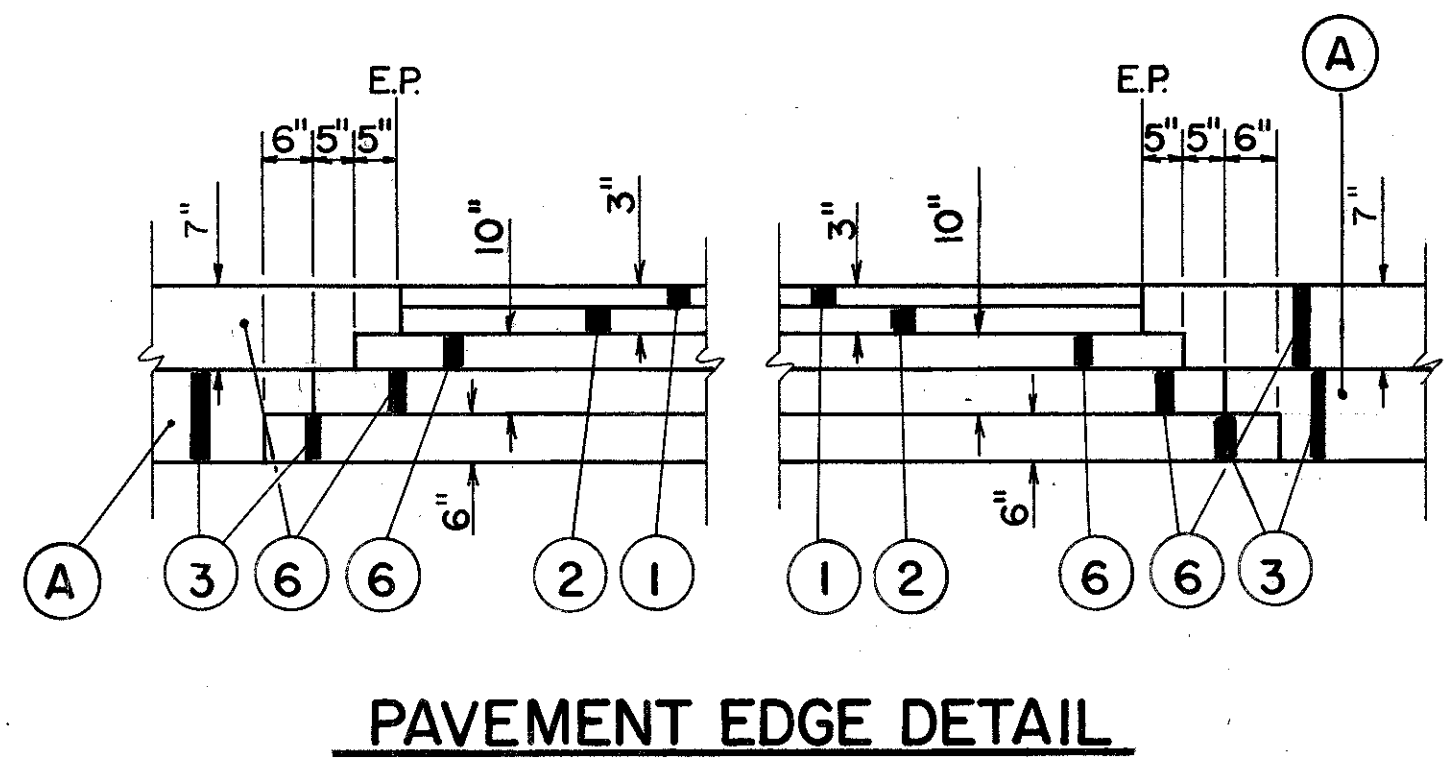
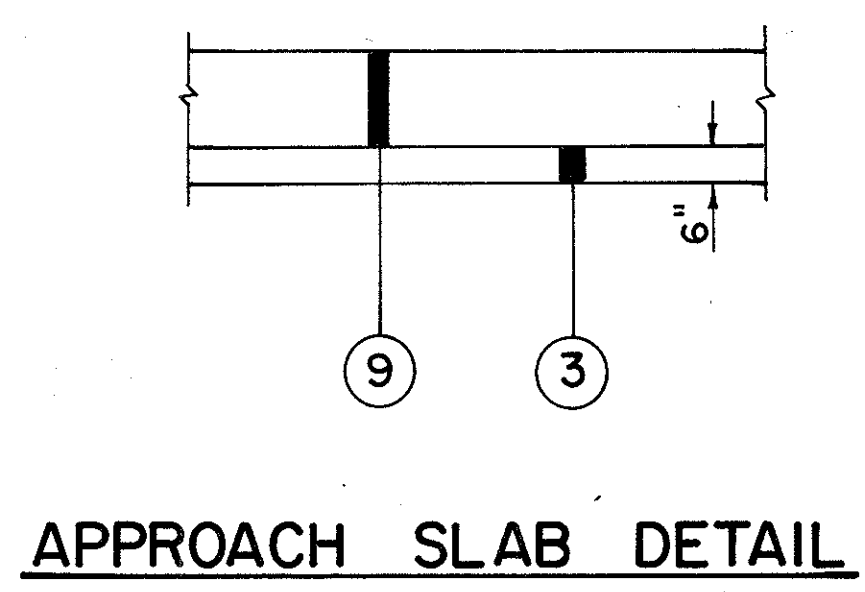
TYPICAL SECTIONS
TYPE 846 ON 301

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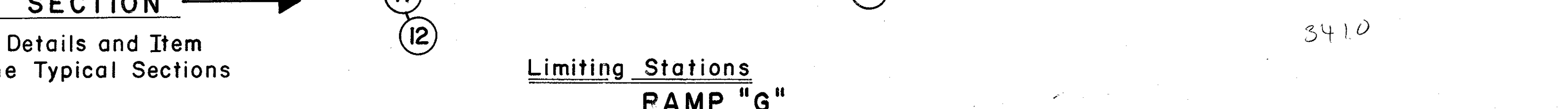
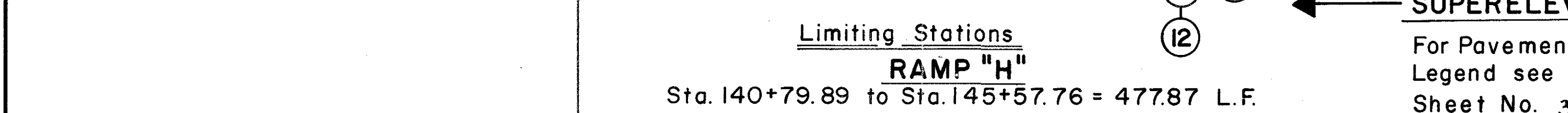
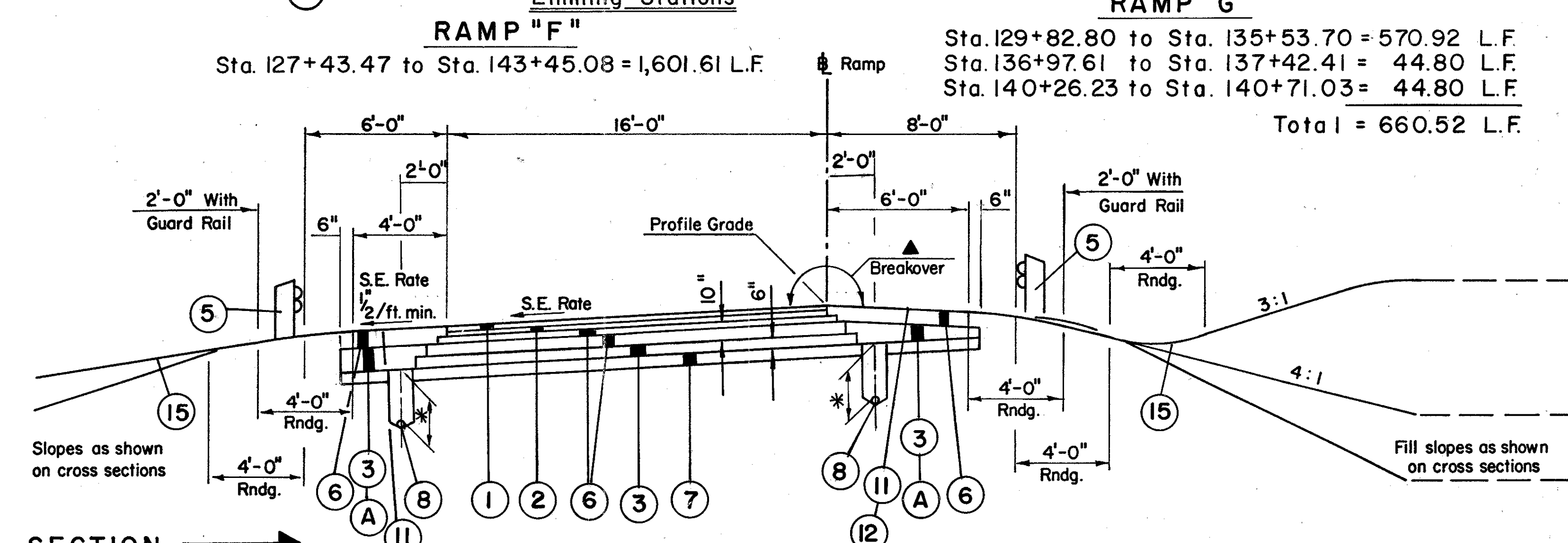
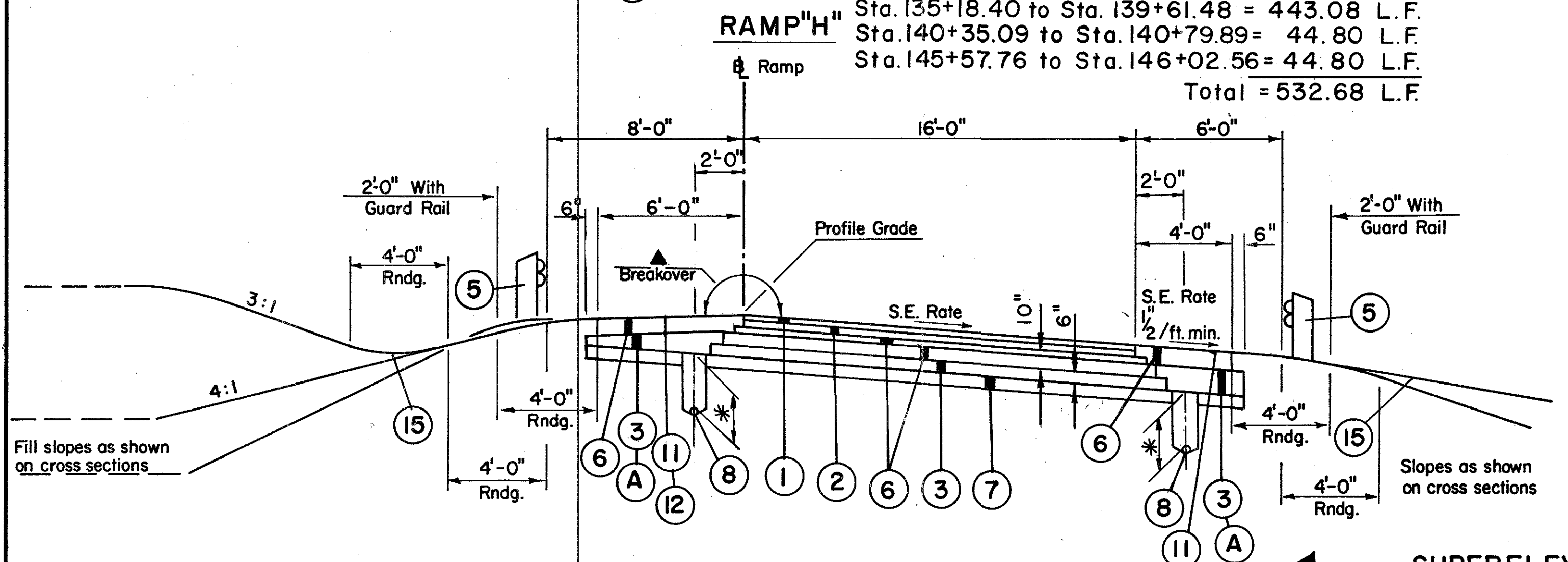
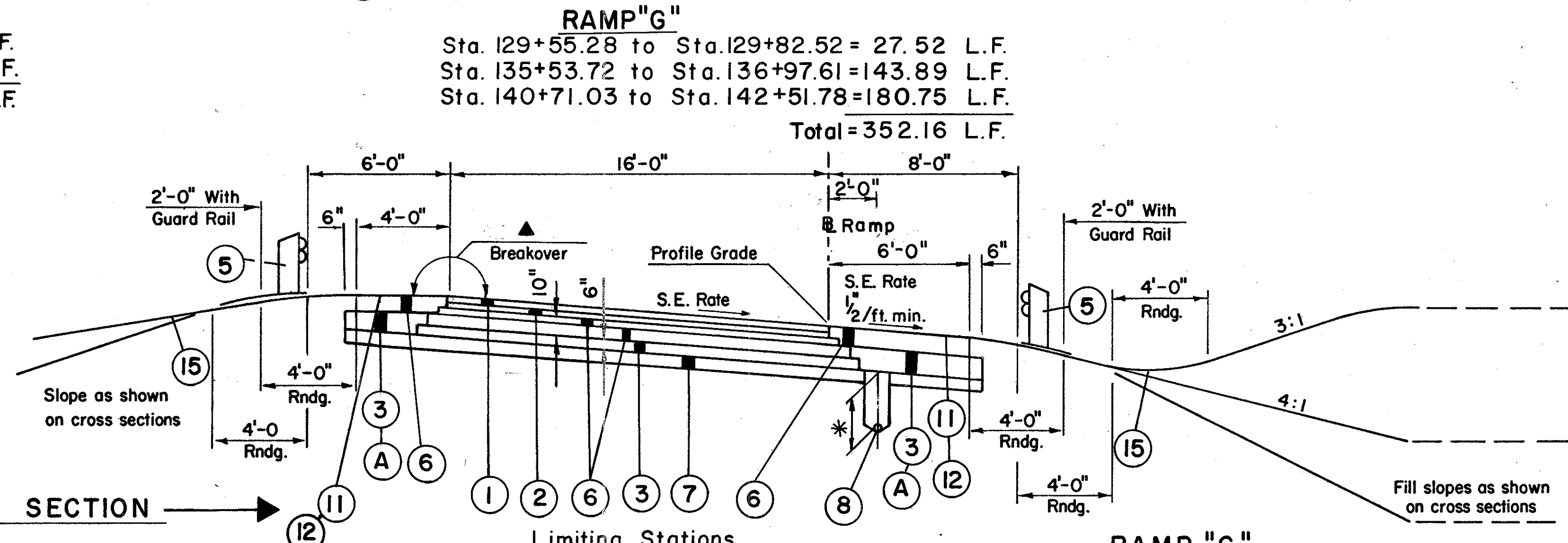
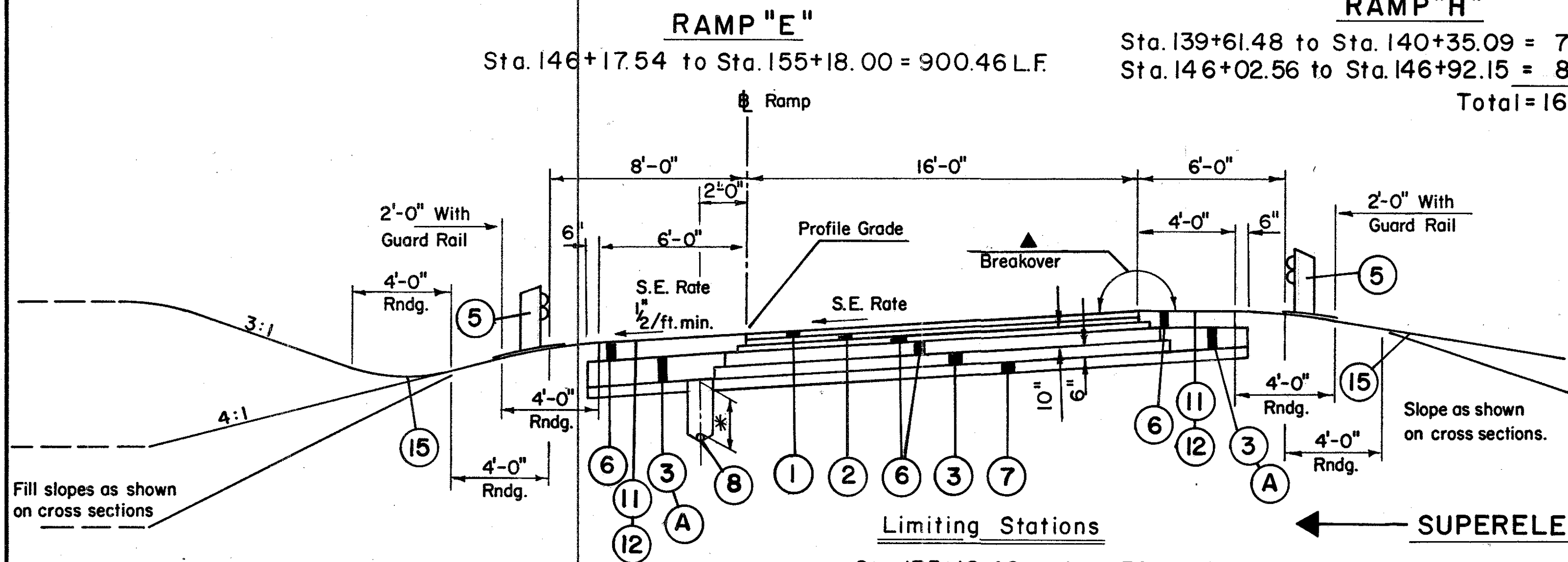
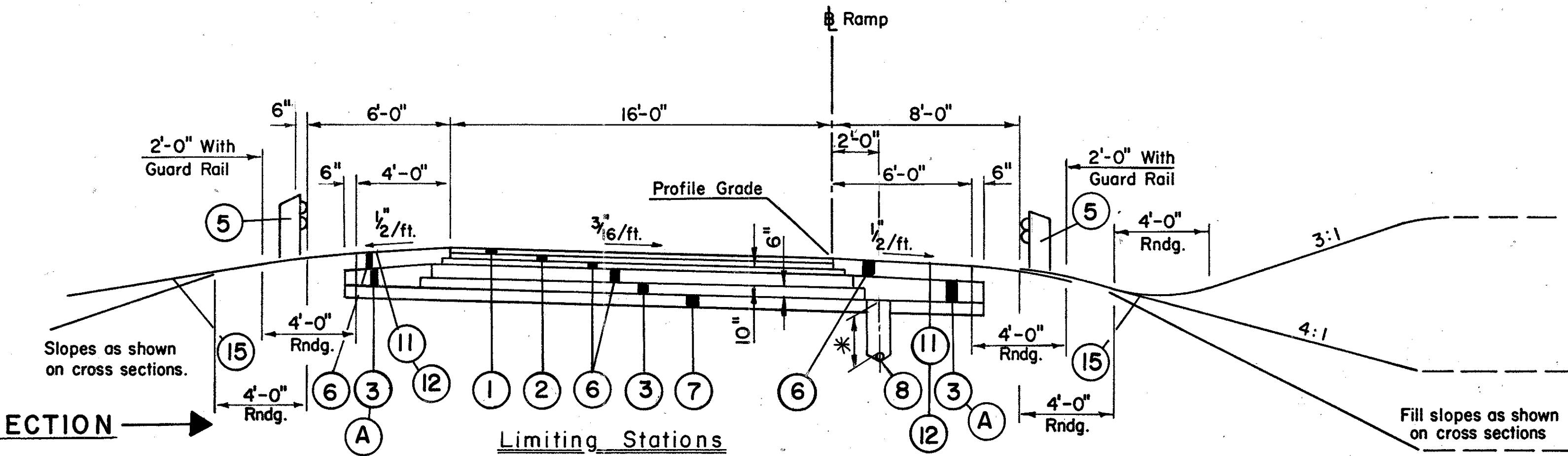
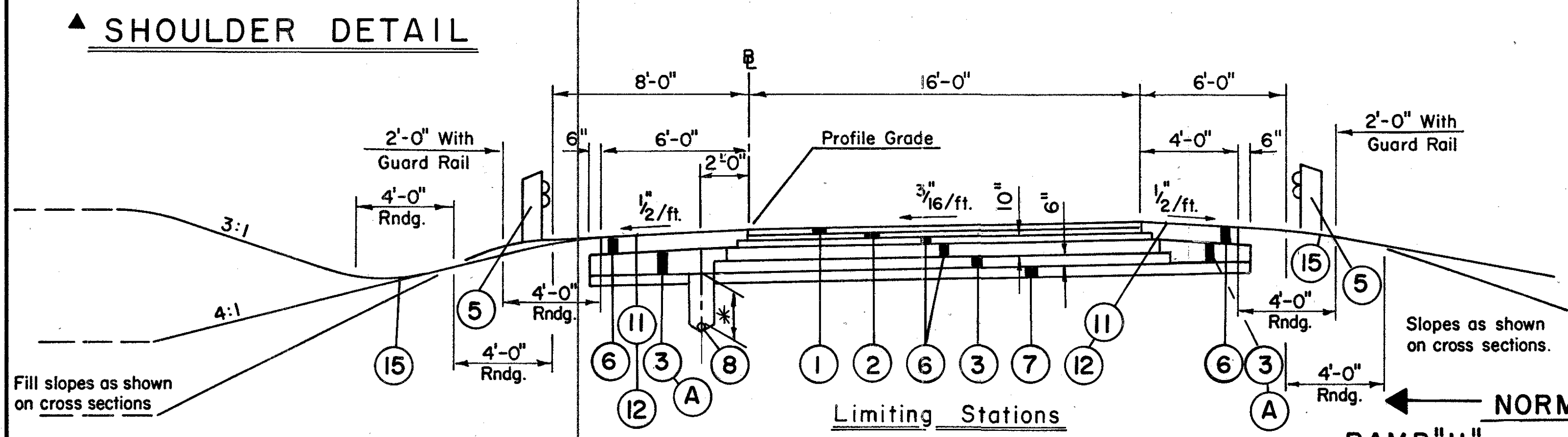
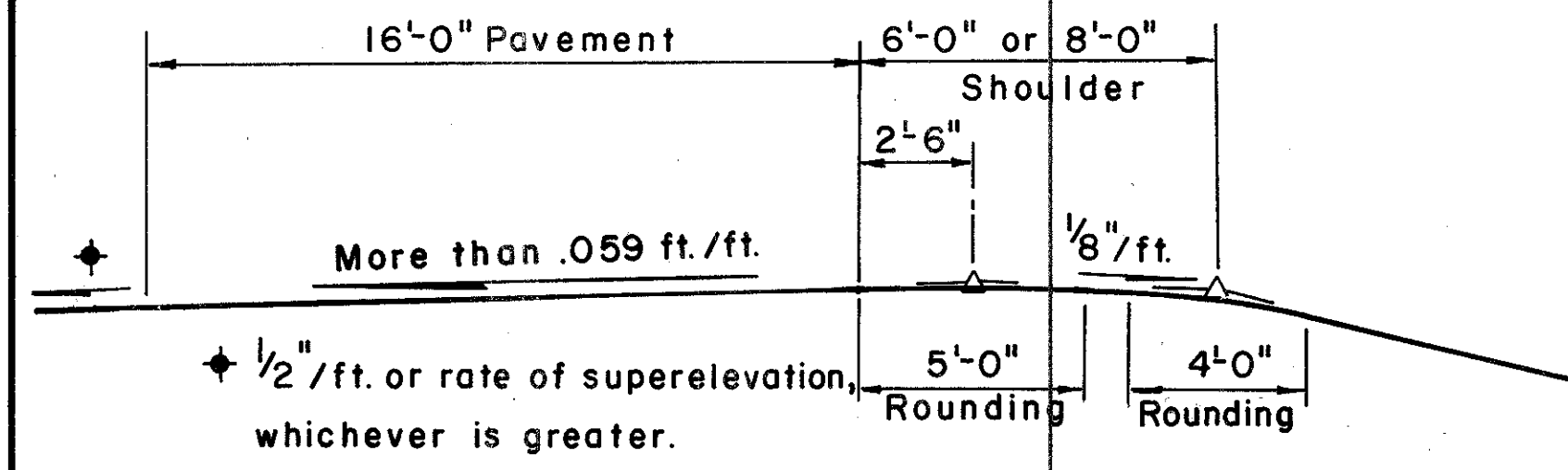
* 30" in fill areas, 50" in cut areas
Measure depth from bottom of
Item 304.

ITEM	DESCRIPTION
1	816 1-1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, AC-20
2	846 1-3/4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, AC-20
3	304 AGGREGATE BASE
4	310 SUBBASE
5	606 GUARDRAIL, TYPE 5
6	301 BITUMINOUS AGGREGATE BASE: AC-20, RT-11 OR RT-12
7	SPEC. 6" LIME SOIL STABILIZED SUBGRADE
8	605 6" PIPE UNDERDRAINS
9	611 15" REINFORCED CONCRETE APPROACH SLAB
10	659 SEEDING AND MULCHING FOR WILDLIFE
11	409 SEAL COAT BITUMINOUS MATERIAL AT 0.30 GAL. PER SQ. YD.
12	409 SEAL COAT COVER AGGREGATE NO. 8 AT 0.008 CU. YD. PER SQ. YD.
15	659 SEEDING AND MULCHING
A	QUANTITY OF 3 IN SHOULDER AREAS IS BASED ON LAYING 6 IN 6" AND 4" COURSES WITH THE 6" COURSE ON THE BOTTOM.



TYPICAL SECTIONS

TYPE 846 ON 301



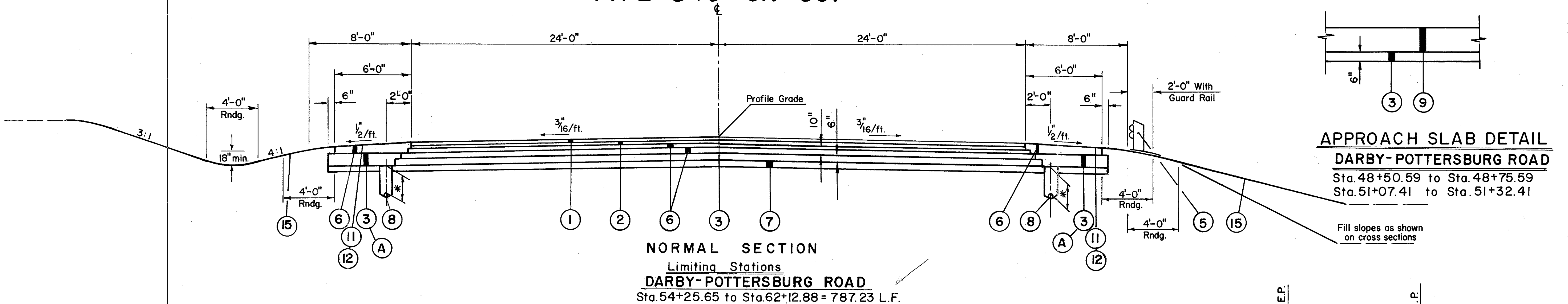
* 30" in fill areas, 50" in cut areas. Measure depth from bottom of Item 304.

TYPICAL SECTIONS

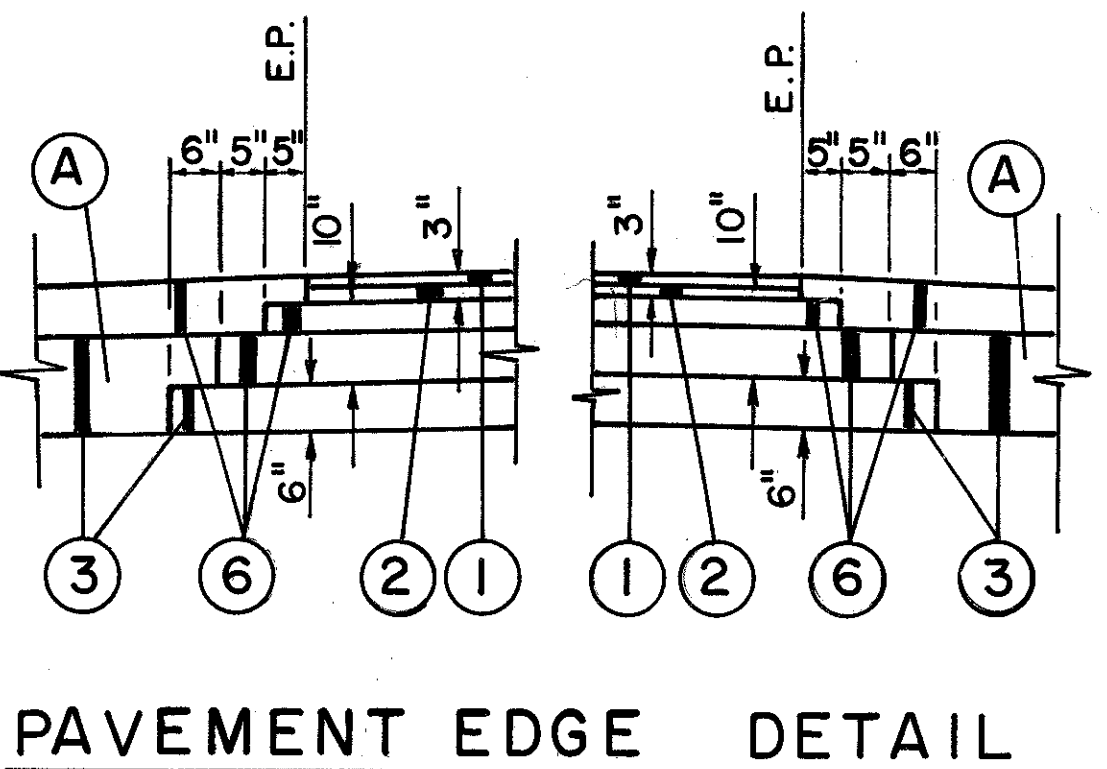
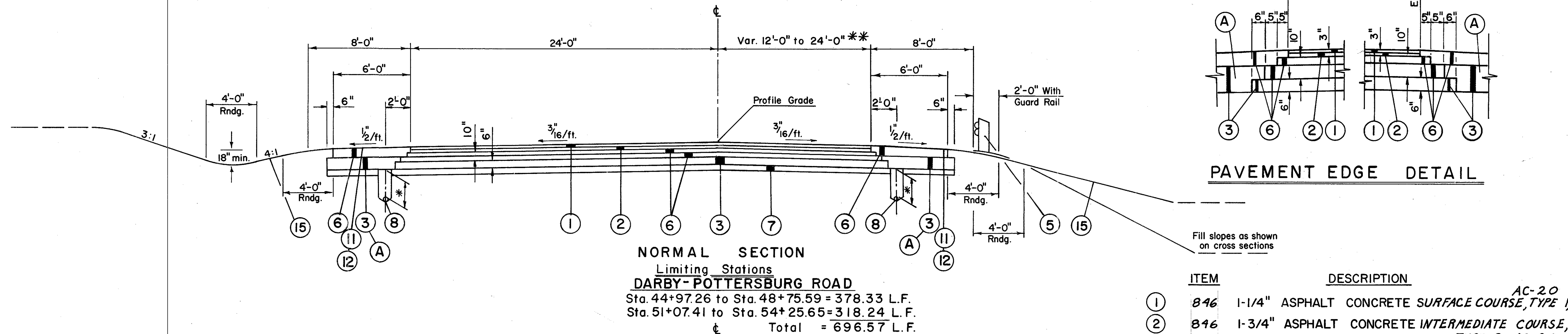
TYPE 846 ON 301

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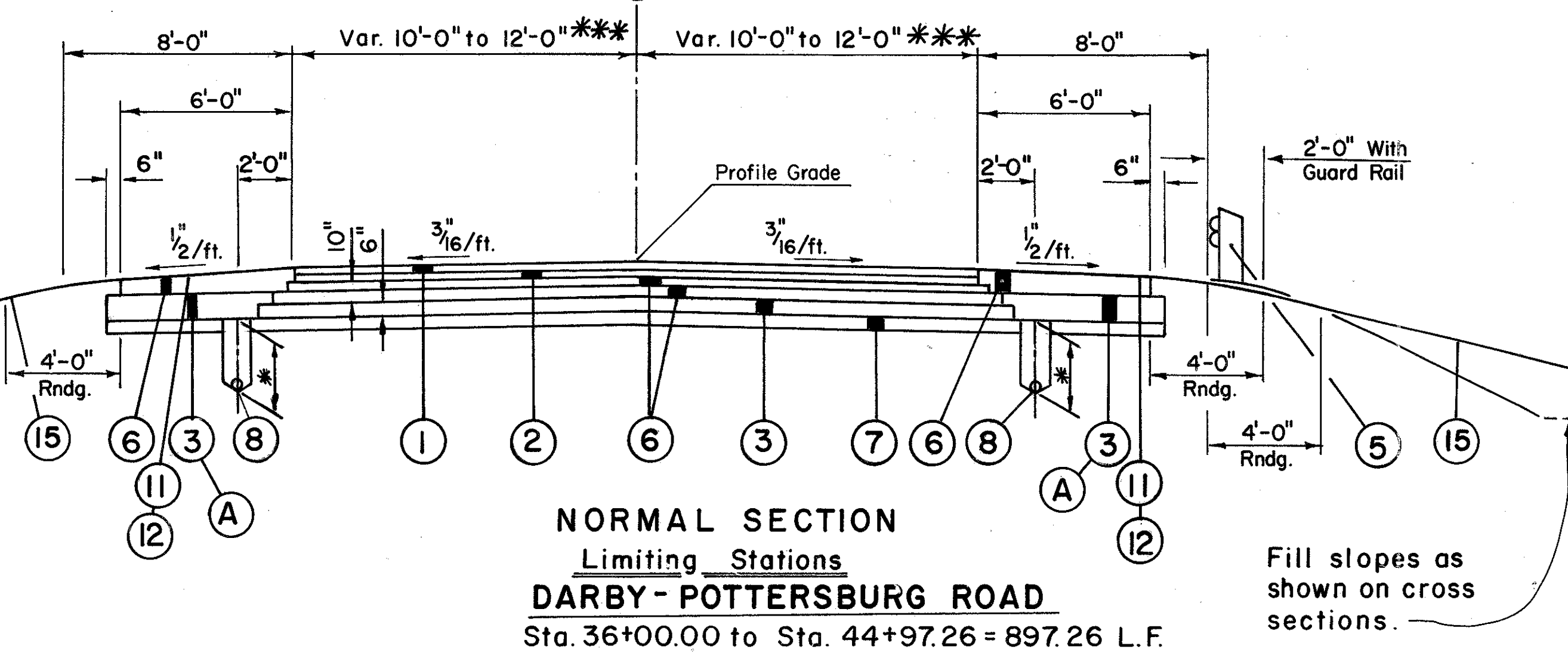
APPROACH SLAB DETAIL
DARBY-POTTERSBURG ROAD
Sta. 48+50.59 to Sta. 48+75.59
Sta. 51+07.41 to Sta. 51+32.41



* 30" in full areas 50" in cut areas. Measure depth from bottom of Item 304.

** Between Sta. 52+44.64 and Sta. 54+25.65 lane width varies from 12'-0" to 24'-0".

*** 10' at Sta. 36+00 Tapers to 12' at Sta. 37+00



ITEM	DESCRIPTION
①	846 1-1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, AC-20
②	846 1-3/4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, AC-20
③	304 AGGREGATE BASE
④	310 SUBBASE
⑤	606 GUARDRAIL, TYPE 5
⑥	301 BITUMINOUS AGGREGATE BASE; AC-20, RT-11 OR RT-12
⑦	SPEC. 6" LIME-SOIL STABILIZED SUBGRADE
⑧	605 6" PIPE UNDERDRAINS
⑨	611 15" REINFORCED CONCRETE APPROACH SLAB
⑪	409 SEAL COAT BITUMINOUS MATERIAL AT 0.30 GAL. PER SQ. YD
⑫	409 SEAL COAT COVER AGGREGATE NO. 8 AT 0.008 CU. YD. PER SQ. YD.
A	QUANTITY OF ③ IN SHOULDER AREAS IS BASED ON LAYING ⑥ IN 6" AND 4" COURSES WITH THE 6" COURSE ON THE BOTTOM.
⑮	659 SEEDING AND MULCHING

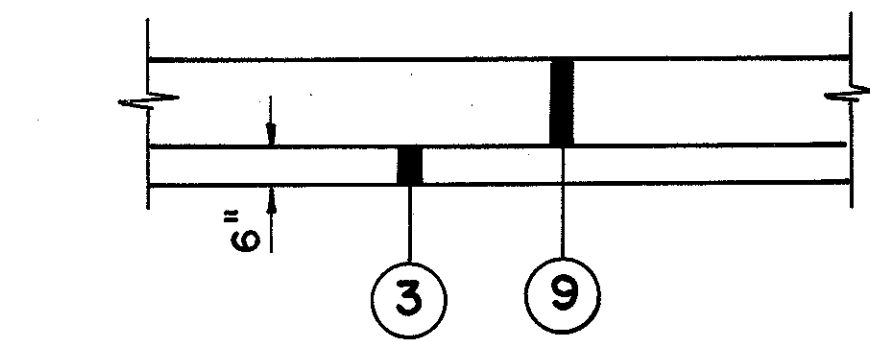
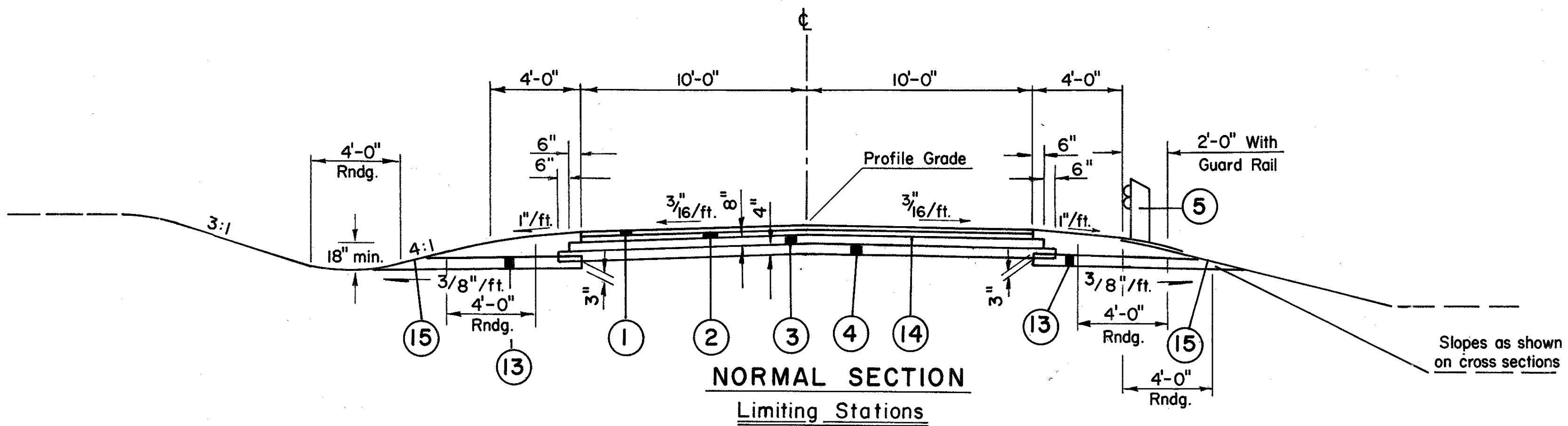
TYPICAL SECTIONS

TYPE 846

FED. RD. DIVISION	STATE	PROJECT
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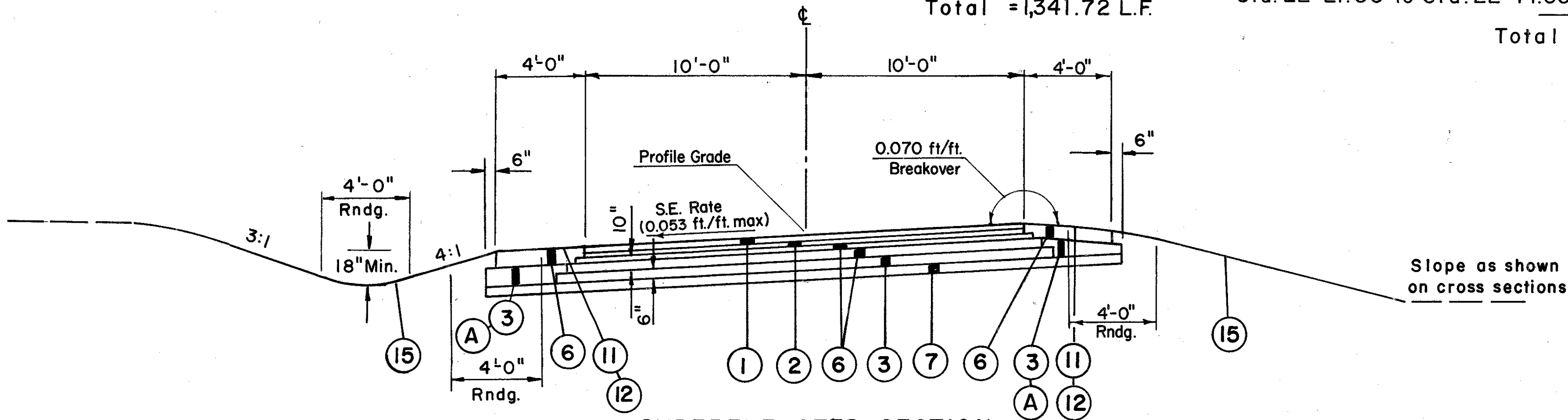


APPROACH SLAB DETAIL
HOLYCROSS-EPPS RD.
Sta. 48+58.36 to Sta. 48+83.36
Sta. 51+16.64 to Sta. 51+41.64

ALLEN CENTER ROAD
Sta. 8+85.70 to Sta. 9+88.00 = 102.30 L.F.

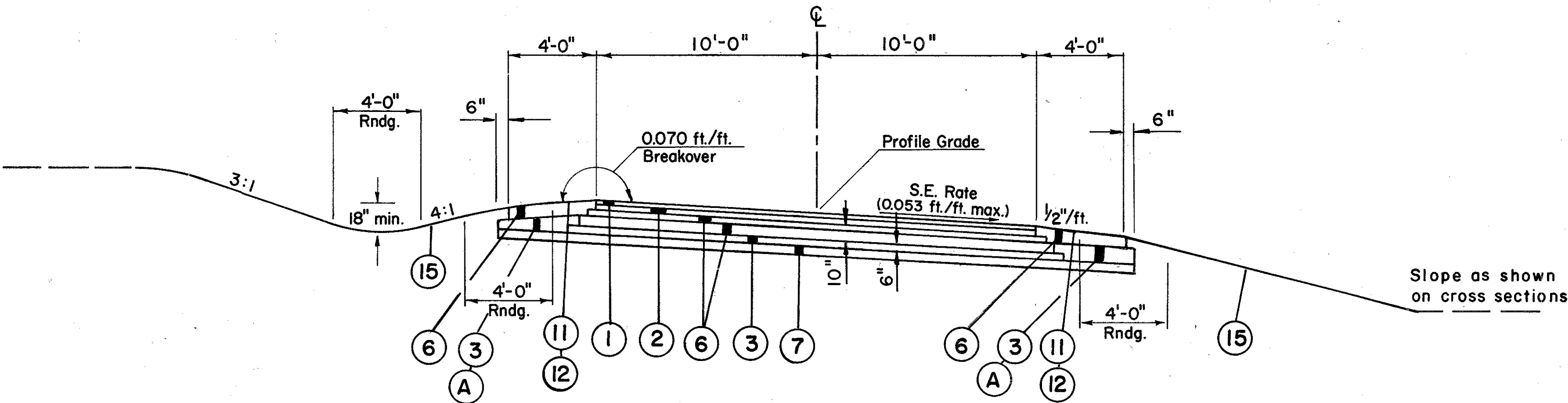
HOLYCROSS-EPPS ROAD
Sta. 41+50.00 to Sta. 48+83.36 = 733.36 L.F.
Sta. 51+41.64 to Sta. 57+50.00 = 608.36 L.F.
Total = 1,341.72 L.F.

RELOCATED POTTERSBURG ROAD
Sta. 16+41.67 to Sta. 17+00.00 = 58.33 L.F.
Sta. 19+52.24 to Sta. 21+14.25 = 162.01 L.F.
Sta. 22+27.35 to Sta. 22+77.35 = 50.00 L.F.
Total = 270.34 L.F.



SUPERELEVATED SECTION
Limiting Stations

DARBY - POTTERSBURG ROAD
Sta. 32+60.24 to Sta. 34+30.12 = 169.88 L.F.



SUPERELEVATED SECTION
Limiting Stations

DARBY - POTTERSBURG ROAD
Sta. 34+30.12 to Sta. 36+00.00 = 169.88 L.F.

- | ITEM | DESCRIPTION |
|------|---|
| ① | 846 1-1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, AC-20 |
| ② | 846 1-3/4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, AC-20 |
| ③ | 304 AGGREGATE BASE |
| ④ | 310 SUBBASE |
| ⑤ | 606 GUARDRAIL, TYPE 5 |
| ⑥ | 301 BITUMINOUS AGGREGATE BASE: AC-20, RT-II OR RT-12 |
| ⑦ | SPEC. 6" LIME-SOIL STABILIZED SUBGRADE |
| ⑧ | 605 6" PIPE UNDERDRAINS |
| ⑨ | 611 15" REINFORCED CONCRETE APPROACH SLAB |
| ⑩ | 659 SEEDING AND MULCHING FOR WILDLIFE |
| ⑪ | 409 SEAL COAT BITUMINOUS MATERIAL AT 0.30 GAL. PER SQ. YD. |
| ⑫ | 409 SEAL COAT COVER AGGREGATE NO. 8 AT 0.008 CU. YD. PER SQ. YD. |
| ⑬ | 605 AGGREGATE DRAINS |
| ⑭ | 408 BITUMINOUS PRIME COAT AT 0.4 GAL. PER SQ. YD. |
| ⑮ | 659 SEEDING AND MULCHING |
| (A) | QUANTITY OF ③ IN SHOULDER AREAS IS BASED ON LAYING ⑥ IN 6" AND 4" COURSES WITH THE 6" COURSE ON THE BOTTOM. |

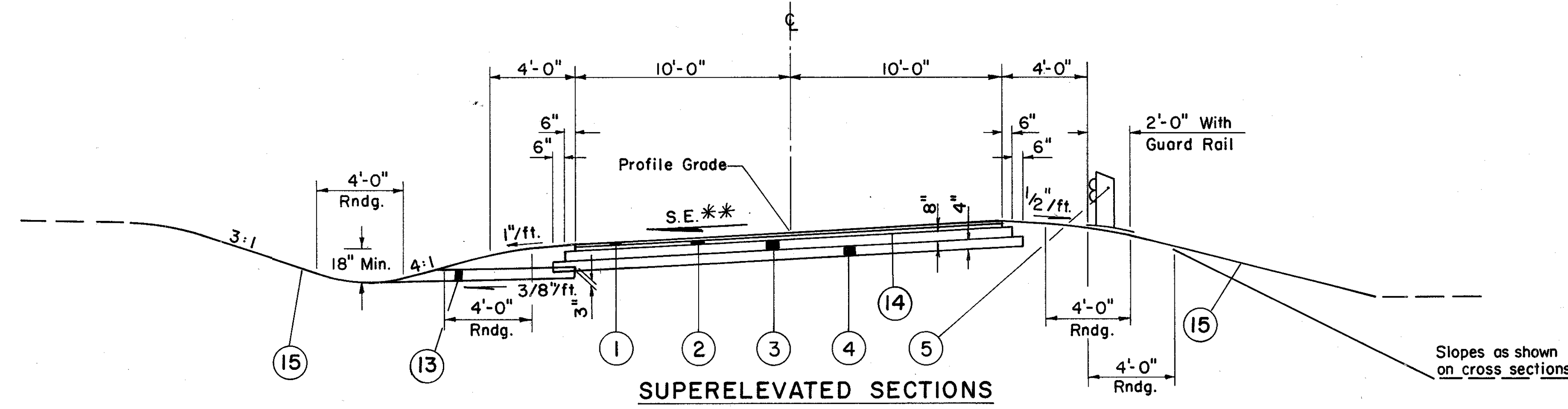
TYPICAL SECTIONS

TYPE 846

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SUPERELEVATED SECTIONS

Limiting Stations

RELOCATED POTTERSBURG ROAD

Sta. 17+00.00 to Sta. 18+26.12 = 126.12 L.F.

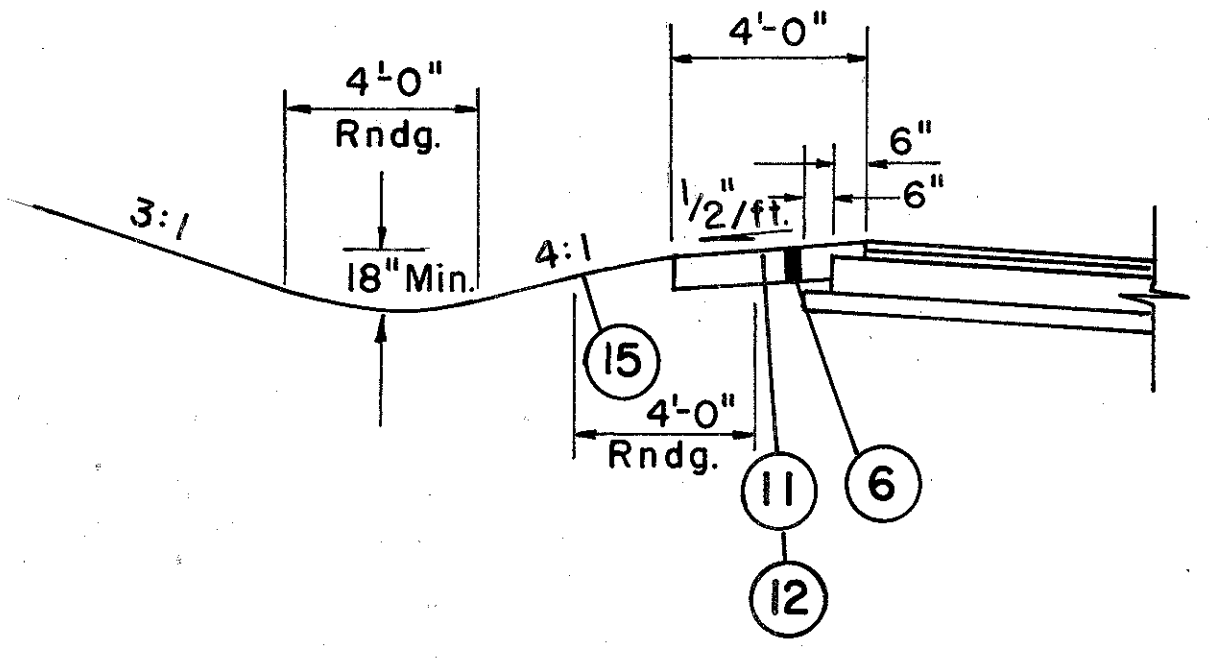
DARBY - POTTERSBURG ROAD

Sta. 65+19.88 to Sta. 66+89.76 = 169.88 L.F.

Total = 296.00 L.F.

** See Pavement Details

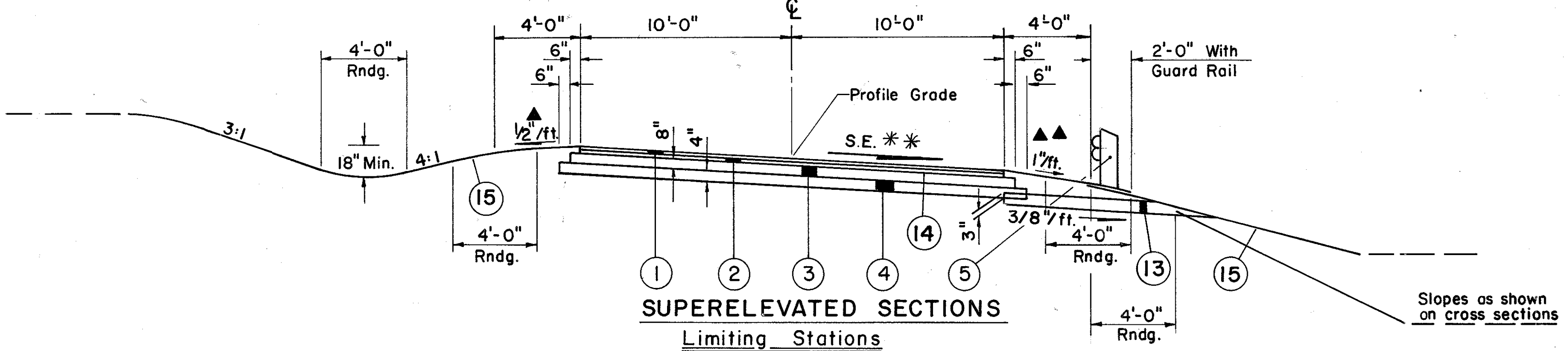
For Legend, See Previous Typical Section Sheet No. 6



DARBY - POTTERSBURG ROAD

Sta. 62+38.36 to Sta. 63+50 Left Side

For Pavement Edge Detail, See Prop. U.S. 33
Typicals



SUPERELEVATED SECTIONS

Limiting Stations

RELOCATED POTTERSBURG ROAD

Sta. 18+26.12 to Sta. 19+52.24 = 126.12 L.F.

Sta. 21+14.25 to Sta. 22+27.35 = 113.10 L.F.

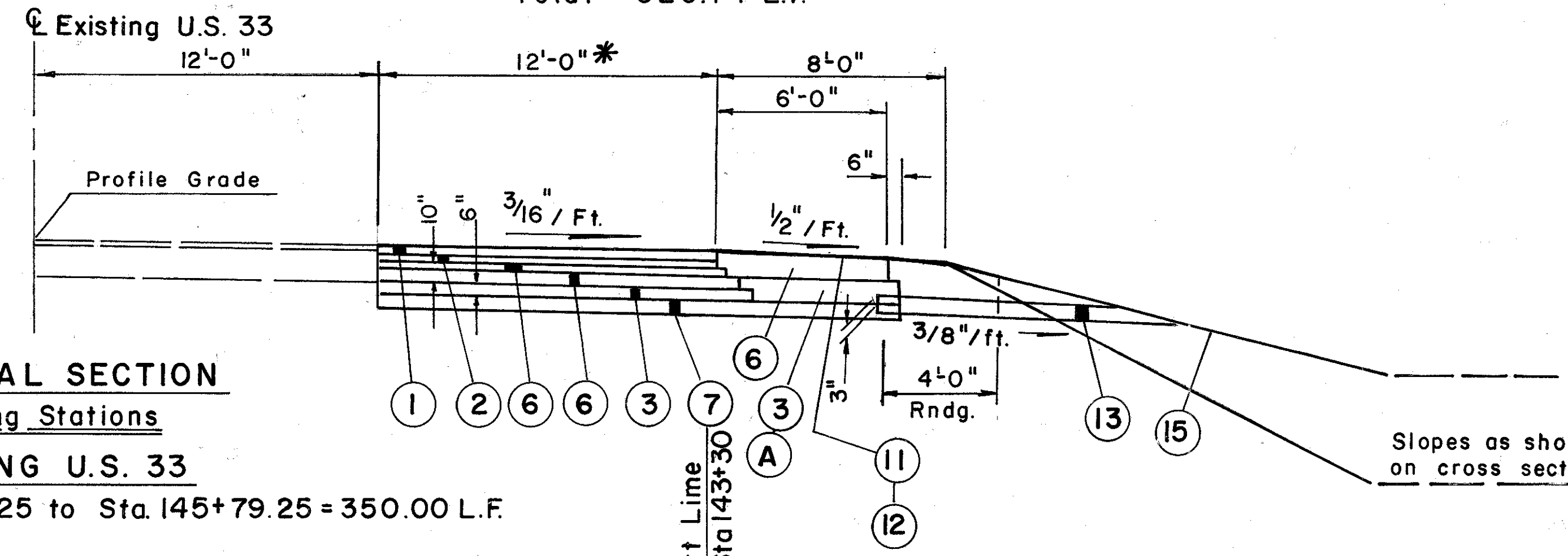
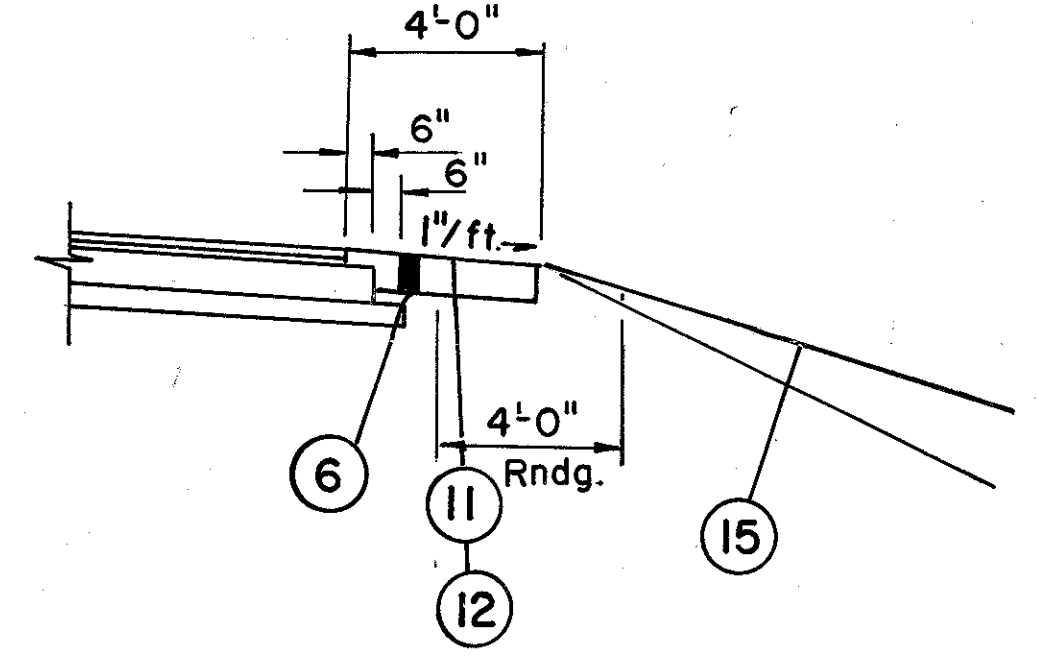
DARBY - POTTERSBURG ROAD

Sta. 62+38.36 to Sta. 65+19.88 = 281.52 L.F.

Total = 520.74 L.F.

DARBY - POTTERSBURG ROAD

Sta. 62+38.36 to Sta. 63+50 Right Side



NORMAL SECTION

Limiting Stations

EXISTING U.S. 33

Sta. 142+29.25 to Sta. 145+79.25 = 350.00 L.F.

PARSONS BRINCKERHOFF QUADE & DOUGLAS
COLUMBUS, OHIO

TYPICAL SECTIONS SIDE ROADS

Designed	Drawn	Traced	Checked	Reviewed	Date	Revised

GENERAL NOTES

UNI-33-1.99

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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.

ROUNDING OF CORNERS SHOWN ON CROSS SECTIONS

THE ROUNDED CORNERS, SHOWN ON THE TYPICAL SECTIONS, APPLY TO ALL CROSS SECTIONS EVEN THOUGH OTHERWISE SHOWN ON THESE PLANS.

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.

UTILITY OWNERSHIP

THE FOLLOWING UTILITIES AND OWNERS ARE LOCATED WITHIN THE WORK LIMITS OF THIS PROJECT:

SANITARY SEWERS:	CITY OF MARYSVILLE 111 W. 6TH STREET MARYSVILLE, OHIO 43040 1-513-642-6015
TELEPHONE:	UNITED TELEPHONE COMPANY 127 NORTH MAIN STREET BELLEFONTAINE, OHIO 43311 1-513-599-4131
ELECTRIC:	UNION RURAL ELECTRIC COOP., INC. 906 E. FIFTH STREET P. O. BOX 393 MARYSVILLE, OHIO 43040 1-513-642-1947
NATURAL GAS:	COLUMBIA GAS OF OHIO 942 WEST GOODALE BOULEVARD COLUMBUS, OHIO 43212 1-614-460-2097

CONTINGENCY QUANTITIES

THE CONTRACTOR SHALL NOT ORDER MATERIALS OR PERFORM WORK LISTED IN THE GENERAL SUMMARY FOR ITEMS DESIGNATED BY PLAN NOTE TO BE USED "AS DIRECTED BY THE ENGINEER" UNLESS AUTHORIZED BY THE ENGINEER. THE ACTUAL WORK LOCATIONS AND QUANTITIES USED AT THE ENGINEER'S DISCRETION SHALL BE MADE A MATTER OF RECORD BY INCORPORATION INTO THE FINAL CHANGE ORDER GOVERNING COMPLETION OF THIS PROJECT.

REMOVAL OF TREES OR STUMPS

ALL TREES AND STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE CONSTRUCTION LIMITS OF THIS PROJECT SHALL BE REMOVED UNDER THE LUMP SUM PRICE BID FOR ITEM 201, CLEARING AND GRUBBING, EXCEPT THAT THOSE TREES FOR WHICH PROTECTION AND PRESERVATION WORK IS INDICATED ELSEWHERE IN THESE PLANS SHALL NOT BE REMOVED.

THE FOLLOWING IS AN APPROXIMATE ESTIMATE OF THE NUMBER OF TREES AND STUMPS TO BE REMOVED:

SIZES	NO. TREES	NO. STUMPS	TOTAL
18"	250	20	270
30"	45	5	50
48"	5	0	5
60"	1	0	1

THE ABOVE ESTIMATE IS APPROXIMATE AND THE STATE OF OHIO RESERVES THE RIGHT TO ORDER THE REMOVAL OF ADDITIONAL TREES OR STUMPS OUTSIDE OF THE LIMITS OF CONSTRUCTION BUT WITHIN THE RIGHT-OF-WAY AND/OR EASEMENT LINES.

PAYMENT FOR THE REMOVAL OF THESE ADDITIONAL TREES OR STUMPS SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 201, CLEARING AND GRUBBING.

GUARDRAIL OVER CULVERTS

WHEN SUFFICIENT POST DEPTH IS NOT AVAILABLE DUE TO A CULVERT, THE GUARDRAIL POSTS DIRECTLY OVER THE CULVERT SHALL NOT BE DRIVEN, BUT SET IN HOLES. IF THE DISTANCE BETWEEN THE GROUND LINE AND THE TOP OF THE CULVERT IS LESS THAN 3 FT., THE POST SHALL BE ENCASED IN A 4" MINIMUM THICKNESS OF CLASS C CONCRETE FOR THE FULL DEPTH OF THE POST. PAYMENT FOR THE ABOVE SHALL BE INCLUDED IN THE UNIT PRICE FOR ITEM 606, GUARDRAIL TYPE 6.

MONUMENTS

MONUMENTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH DETAILS SHOWN ON STANDARD CONSTRUCTION DRAWING MC-1. FOR LOCATIONS, SEE SHEET NO. 230.

LOCATION OF GUARDRAIL

THE LOCATIONS OF GUARDRAIL 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.

SEEDING

QUANTITIES FOR SEEDING ARE CALCULATED FOR THE SOIL AREAS BETWEEN TEN (10) FEET OUTSIDE THE WORK LIMITS, AS SHOWN ON THE CROSS SECTIONS, OR TO THE RIGHT-OF-WAY LIMITS, IF SUCH LINE IS LESS THAN TEN (10) FEET FROM THE WORK LIMITS.

ITEM 659, SEEDING AND MULCHING

ITEM 659 SEEDING AND MULCHING FOR WILDLIFE

THE SEEDING MIXTURES LISTED IN 659.09 WILL BE USED THROUGHOUT THE LIMITS OF THE PROJECT WITH THE FOLLOWING EXCEPTION.

ALL AREAS DESIGNATED TO BE SEED FOR WILDLIFE SHALL BE SEED WITH THE FOLLOWING MIXTURE AT THE RATE OF 2 POUNDS PER 1000 SQUARE FEET.

34% BROME GRASS (BROMUS INERMIS)
26% ALFALFA GRASS *(MEDICAGO SATIVA VAR. VERNAL)
18% RED CLOVER (TRIFOLIUM PRATENSE)
22% PERENNIAL RYE (LOLIUM PERENNE)

* WEEVIL RESISTANT STRAIN

PAYMENT FOR ACCEPTED QUANTITIES WILL BE MADE AT THE CONTRACT PRICE FOR:

ITEM 659 - SQ. YD. SEEDING AND MULCHING FOR WILDLIFE

(SEE SHEET NO. 15 FOR WILDLIFE SEEDING LIMITS)

ITEM 659 - AGRICULTURAL LIMING, AS PER PLAN

THE LOCATION AND NEED FOR AGRICULTURAL LIMING WILL BE DETERMINED BY LABORATORY TESTS, AFTER ROUGH GRADING OPERATIONS HAVE BEEN PERFORMED. QUANTITIES OF AGRICULTURAL LIMING, AS SHOWN ON THE PLANS, ARE SUFFICIENT FOR THE ENTIRE PROJECT, BUT WILL BE NON-PERFORMED FOR THE AREAS WHERE TESTS SHOW THAT THE LIMING IS NOT REQUIRED.

WATERING AND MOWING PERMANENT SEEDED AREAS

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

659 WATER	800 M GAL.
659 MOWING	200 M SQ. FT.

TEMPORARY SOIL EROSION AND SEDIMENT CONTROL

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

207 TEMPORARY SEEDING & MULCHING	65,500 SQ. YD.
207 STRAW OR HAY BALES	1,496 EACH
207 TEMPORARY SLOPE DRAINS	540 LIN. FT.
207 TEMPORARY BENCHES, DIKES	
DAMS AND SEDIMENT BASINS	3,755 CU. YD.
207 FILTER FABRIC FENCE	1,000 LIN. FT.
601 TYPE C ROCK CHANNEL PROTECTION	
WITHOUT FILTER	45 CU. YD.
659 MOWING	737 M SQ. FT.
659 COMMERCIAL FERTILIZER	14 TON
659 REPAIR SEEDING & MULCHING	16,375 SQ. YD.
659 WATER	142 M GAL.

ITEM SPECIAL - FILL AND PLUG EXISTING CULVERT

THIS ITEM SHALL CONSIST OF THE CONSTRUCTION OF BULKHEADS IN THE EXISTING CULVERT AND FILLING THE AREA THUS SEALED OFF WITH SAND OR OTHER GRANULAR MATERIAL APPROVED BY THE ENGINEER.

BULKHEADS SHALL BE LOCATED AT THE LIMITS OF THE AREA TO BE FILLED, AS INDICATED ON THE PLANS. THE BULKHEADS SHALL CONSIST OF BRICK OR CONCRETE MASONRY WITH A MINIMUM THICKNESS OF 12 INCHES.

THE FILL MATERIAL SHALL BE PUMPED INTO PLACE OR PLACED BY SOME OTHER MEANS APPROVED BY THE ENGINEER SO THAT, AFTER SETTLEMENT, AT LEAST 90 PERCENT OF THE CROSS-SECTIONAL AREA OF THE CULVERT, FOR ITS ENTIRE LENGTH, SHALL BE FILLED. THE FOOTAGE OF FILLED AND PLUGGED CULVERT TO BE PAID FOR SHALL BE THE ACTUAL NUMBER OF LINEAR FEET (MEASURED ALONG THE CENTERLINE OF THE CULVERT FROM OUTER FACE TO OUTER FACE OF BULKHEADS) FILLED AND PLUGGED AS DESCRIBED ABOVE.

IN LIEU OF FILLING AND PLUGGING THE EXISTING CULVERT, THE PIPE CAN BE CRUSHED AND BACKFILLED IN ACCORDANCE WITH THE PROVISIONS OF 203, OR IT CAN BE REMOVED.

THE FOOTAGE, MEASURED AS PROVIDED ABOVE, SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE BID PER LINEAR FOOT FOR "ITEM SPECIAL, FILL AND PLUG EXISTING CULVERT", FOR WHICH PRICE AND PAYMENT SHALL CONSTITUTE FULL COMPENSATION FOR FURNISHING, HAULING, AND PLACING ALL THE NECESSARY MATERIALS, AND FOR ALL LABOR, EQUIPMENT, TOOLS AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM.

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.

846 ASPHALT CONCRETE

SUBSEQUENT TO THE COMPLETION OF PLANS, THE ASPHALT CONCRETE USED ON THIS PROJECT HAS BEEN REVISED FROM ITEMS 402 AND 404 TO SUPPLEMENTAL SPECIFICATION 846. ALL REFERENCE TO 402 AND 404 APPEARING ON THE PLANS SHALL BE CONSIDERED TO READ AS FOLLOWS:

402 BECOMES 846 ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, AC-20
404 BECOMES 846 ASPHALT CONCRETE SURFACE COURSE, TYPE 1, AC-20

ITEM SPECIAL:- RAIL ROAD TRACK REMOVED SEE SH. 126

GENERAL NOTES

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PIPE CONNECTIONS TO CORRUGATED STEEL STRUCTURES

CONNECTIONS OF PROPOSED LONGITUDINAL DRAINAGE TO CORRUGATED STEEL STRUCTURES SHALL BE BY MEANS OF A SHOP FABRICATED OR FIELD WELDED STUB ON THE STRUCTURE. THE STUB SHALL MEET THE REQUIREMENTS OF 707 AND HAVE A MINIMUM LENGTH OF TWO FEET AND MINIMUM THICKNESS OF 0.064 INCHES.

LOCATION AND ELEVATION OF THE STUB ARE TO BE CONSIDERED APPROXIMATE AND MAY BE ADJUSTED BY THE ENGINEER TO AVOID CUTTING THROUGH JOINTS IN THE STRUCTURE.

THE FIELD WELDED JOINT, IF USED, SHALL BE THOROUGHLY CLEANED AND REGALVANIZED OR OTHERWISE SUITABLY REPAIRED. WELDING SHALL MEET THE REQUIREMENTS OF 513.17.

A CONCRETE COLLAR, AS PER STANDARD CONSTRUCTION DRAWING MC-4, WILL BE REQUIRED TO CONNECT THE LONGITUDINAL DRAINAGE TO THE STUB, WHEN PIPE OTHER THAN CORRUGATED STEEL IS PROVIDED FOR THE LONGITUDINAL DRAINAGE.

PAYMENT FOR CUTTING INTO THE STRUCTURE AND PROVIDING THE CONNECTION DESCRIBED, SHALL BE INCLUDED IN THE UNIT PRICE FOR ITEM 603 OR 522.

FARM DRAINS

ALL FARM DRAINS, WHICH ARE ENCOUNTERED DURING CONSTRUCTION, SHALL BE PROVIDED WITH UNOBSTRUCTED OUTLETS UNDER THE DIRECTION OF THE ENGINEER. EXISTING COLLECTORS WHICH ARE LOCATED BELOW THE ROADWAY DITCH ELEVATIONS, AND WHICH CROSS THE ROADWAY, SHALL BE REPLACED WITHIN THE CONSTRUCTION LIMITS BY ITEM 603 CONDUIT, TYPE B, ONE COMMERCIAL SIZE LARGER THAN THE EXISTING CONDUIT.

EXISTING COLLECTORS AND ISOLATED FARM DRAINS, WHICH ARE ENCOUNTERED ABOVE THE ELEVATION OF THE ROADWAY DITCHES, SHALL BE OUTLETTED INTO THE ROADWAY DITCH BY 603 TYPE F CONDUIT. THE OPTIMUM OUTLET ELEVATION SHALL BE, IF POSSIBLE, ONE FOOT ABOVE THE FLOW LINE ELEVATION OF THE DITCH. LATERAL TILE FIELDS WHICH CROSS THE ROADWAY SHALL BE INTERCEPTED BY 603, TYPE E CONDUIT, AND CARRIED IN A LONGITUDINAL DIRECTION TO AN ADEQUATE OUTLET OR ROADWAY CROSSING.

THE LOCATION, TYPE, SIZE AND GRADE OF REQUIRED REPLACEMENTS SHALL BE DETERMINED BY THE ENGINEER DURING CONSTRUCTION, AND PAYMENT SHALL BE MADE ON FINAL MEASUREMENTS.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR THE WORK NOTED ABOVE:

ITEM 603, 8" CONDUIT, TYPE B	150 LIN. FT.
ITEM 603, 10" CONDUIT, TYPE B	150 LIN. FT.
ITEM 603, 12" CONDUIT, TYPE B	150 LIN. FT.
ITEM 603, 15" CONDUIT, TYPE B	150 LIN. FT.
ITEM 603, 18" CONDUIT, TYPE B	150 LIN. FT.
ITEM 603, 12" CONDUIT, TYPE E	150 LIN. FT.
ITEM 603, 15" CONDUIT, TYPE E	150 LIN. FT.
ITEM 603, 18" CONDUIT, TYPE E	150 LIN. FT.
ITEM 603, 15" CONDUIT, TYPE F	150 LIN. FT.
ITEM 601, ROCK CHANNEL PROTECTION TYPE C WITH FILTER 20 CU. YDS.	

NECESSARY BENDS OR BRANCHES SHALL BE INCLUDED FOR PAYMENT IN THE PERTINENT CONDUIT ITEM.

NONE OF THE ABOVE MATERIALS SHALL BE ORDERED BY THE CONTRACTOR UNTIL AUTHORIZED BY THE ENGINEER.

EROSION CONTROL

ITEM 601, 660 and 670 ARE PROVIDED IN THE PLANS FOR EROSION CONTROL. ROCK OF A STABLE NATURE WILL NOT BE REMOVED IN ORDER TO PLACE ANY OF THESE ITEMS, AND TURF OF A STABLE NATURE WILL NOT BE REMOVED IN ORDER TO PLACE 660 OR 670. THE ENGINEER SHALL CHECK AND NON-PERFORM QUANTITIES OR ADJUST LOCATIONS AND QUANTITIES FOR THESE ITEMS WHERE INDICATED BY FIELD CONDITIONS DURING CONSTRUCTION.

TREATED SANITARY FLOW INTO HIGHWAY DRAINAGE SYSTEM

TREATED SANITARY FLOW MAY BE DISCHARGED INTO THE HIGHWAY DRAINAGE SYSTEM PROVIDED THE OWNER HAS SECURED THE APPROVAL OF THE LOCAL HEALTH AUTHORITIES AND HAS ACQUIRED FROM THE OHIO DEPARTMENT OF TRANSPORTATION, THE OFFICIAL PERMIT TO HAVE THE CONNECTION MADE.

IN EACH CASE WHERE A PERMIT HAS BEEN ISSUED FOR A SANITARY CONNECTION TO BE MADE INTO A HIGHWAY DRAINAGE CONDUIT, IT SHALL BE PROVIDED WITH AN INSPECTION WELL, IN ACCORDANCE WITH THE DETAIL SHOWN ON STANDARD DRAWING MC-8.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY, FOR USE AS DIRECTED BY THE ENGINEER, IN MAKING THE ABOVE DESCRIBED CONNECTIONS:

ITEM 603, 8" CONDUIT, TYPE C 100 LIN. FT.

NECESSARY BENDS OR BRANCHES SHALL BE INCLUDED FOR PAYMENT IN THE PERTINENT CONDUIT ITEM.

NONE OF THE ABOVE MATERIALS SHALL BE ORDERED BY THE CONTRACTOR UNTIL AUTHORIZED BY THE ENGINEER.

UNRECORDED SANITARY CONNECTIONS

ANY UNRECORDED ACTIVE CONNECTION TO A SANITARY SEWER ENCOUNTERED DURING CONSTRUCTION SHALL BE RECONNECTED TO THE EXISTING SEWER, AS DIRECTED BY THE ENGINEER. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR THE WORK NOTED ABOVE:

ITEM 603 -	100 LIN. FT. 15" CONDUIT, TYPE C 760.01, 706.02, 706.08 WITH JOINTS, AS PER 706.11 OR 706.12
ITEM 603 -	100 LIN. FT. 18" CONDUIT, TYPE B, 706.01 C1.3, 706.02 OR 706.08 WITH JOINTS, AS PER 706.11 OR 706.12

NONE OF THE ABOVE MATERIALS SHALL BE ORDERED BY THE CONTRACTOR UNTIL AUTHORIZED BY THE ENGINEER.

MANHOLES, CATCH BASINS AND INLETS REMOVED OR ABANDONED

THE CASTINGS SHALL BE CAREFULLY REMOVED AND STORED WITH THE RIGHT-OF-WAY FOR SALVAGE BY STATE FORCES.

PAYMENT FOR ALL OF THE ABOVE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE PERTINENT 202 ITEM.

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.

CONDUIT END TREATMENT

IMMEDIATELY AFTER PLACEMENT OF ANY CONDUITS, THE CONTRACTOR SHALL CONSTRUCT THE END TREATMENTS REQUIRED BY THE PLANS AT BOTH THE OUTLET AND INLET ENDS. THIS SHALL INCLUDE HEADWALLS, CONCRETE RIPRAP, ROCK CHANNEL PROTECTION, SODDING, ETC.

407 TACK COAT

THE TACK COAT AND COVER AGGREGATE OPERATION SHALL BE DETERMINED AS PER SPEC. 407.05. PLAN QUANTITIES INDICATE AVERAGE APPLICATION RATES OF 0.1 GALLONS PER SQUARE YARD OF TACK COAT AND .13 POUNDS PER SQUARE YARD OF COVER AGGREGATE FOR ESTIMATING PURPOSES ONLY.

ITEM 605 - AGGREGATE DRAINS

AGGREGATE DRAINS SHALL BE PLACED AT FIFTY (50) FOOT INTERVALS ON THE LOW SIDE ONLY OF THE SUPERELEVATED SECTIONS, EXCEPT WHERE ITEM 605 PIPE UNDERDRAINS HAVE BEEN PROVIDED.

CHANNEL EMBANKMENTS

PORTIONS OF THE EXISTING CHANNEL OUTSIDE THE ROADBED, SHALL BE FILLED AND SLOPED TO DRAIN, AS CALLED FOR ON THE PLANS. THE CONTRACTOR SHALL USE EITHER SUITABLE OR UNSUITABLE MATERIALS, TO THE EXTENT AVAILABLE, FOR CHANNEL EMBANKMENTS.

AREAS WHERE CHANNEL EMBANKMENTS ARE TO BE PLACED SHALL BE CLEARED OF WEEDS AND BRUSH.

THE REQUIREMENTS FOR MOISTURE, DENSITY CONTROL, BENCHING, AND SUITABLE MATERIALS SHALL BE WAIVED.

THE DEPTH OF LAYERS IN WHICH THE EMBANKMENTS ARE PLACED AND THEIR COMPACTION, SHALL IN LIEU OF THE REQUIREMENTS OF ITEM 203, CONFORM WITH ACCEPTABLE CONSTRUCTION PRACTICES AS DETERMINED BY THE ENGINEER.

NO PROVISIONS OF THE SPECIFICATIONS SHALL BE WAIVED FOR EMBANKMENTS WHICH SUPPORT ANY PORTION OF THE NEW ROADBED OR STRUCTURAL MEMBERS.

PAYMENT FOR ALL THE ABOVE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 203, EMBANKMENT.

ITEM 203 - GRANULAR EMBANKMENT, AS PER PLAN

THE LOCATION OF THE 18-INCH THICK GRANULAR BLANKETS ARE TO BE PLACED AT THE BASE OF THE EMBANKMENTS ADJACENT TO EACH OF THE BRIDGE STRUCTURES (UNI-33-0275 & 0389). THE GRANULAR BLANKET WILL DAYLIGHT TO BOTH THE FRONT AND SIDE SLOPES AND EXTEND 200 FEET PAST THE ABUTMENTS.

THE GRANULAR MATERIAL FOR THIS PAY ITEM SHALL MEET THE REQUIREMENTS OF 203.02 OF THE CONSTRUCTION AND MATERIALS SPECIFICATIONS, EXCEPT THAT THE GRANULAR MATERIAL SHALL BE MODIFIED TO REQUIRE NOT MORE THAN 15 PERCENT BY WEIGHT PASSING THE NO. 200 SIEVE.

PAYMENT FOR ACCEPTED QUANTITIES WILL BE MADE AT THE CONTRACT PRICE FOR:

203 CU. YD. GRANULAR EMBANKMENT, AS PER PLAN

ITEM SPECIAL - LIME-SOIL STABILIZED SUBGRADE

DESCRIPTION - THIS ITEM SHALL CONSIST OF AN ADMIXTURE OF HYDRATED LIME WITH THE SUBGRADE SOIL CONSTRUCTED IN ACCORDANCE WITH THESE SPECIFICATIONS AND IN CONFORMITY WITH THE LINES, GRADES, AND TYPICAL CROSS SECTIONS AS SHOWN ON THE PLANS. THIS ITEM SHALL BE MIXED, SPREAD, COMPACTED AND FINISHED READY FOR ACCEPTANCE. THE SUBGRADE SHALL BE TREATED TO THE LINES SHOWN ON THE PLANS.

MATERIALS - HYDRATED LIME SHALL MEET THE REQUIREMENTS PRESCRIBED IN STANDARD SPECIFICATION FOR HYDRATED LIME FOR MASONRY, A.S.T.M. DESIGNATION C-207-49, TYPE N FOR CHEMICAL COMPOSITION, RESIDUE, SAMPLING, INSPECTION, AND METHODS OF TEST. (SECTION 3-B, 4, AND 5 ARE NOT RELEVANT TO THE INTENDED USAGE.) THE QUANTITY USED SHALL BE BETWEEN 3 AND 8 PERCENT BY WEIGHT OF THE SUBGRADE SOIL AS DIRECTED BY THE ENGINEER.

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CONSTRUCTION METHODS - LIME STABILIZATION WORK SHALL BE DONE WHEN THE AIR TEMPERATURE IS 40 DEGREES FAHRENHEIT OR ABOVE; AND THE MATERIAL TO BE TREATED IS NOT FROZEN. NO WORK SHALL BE DONE DURING WET OR UNSUITABLE WEATHER. THE SUBGRADE IN THE AREAS TO BE STABILIZED WITH LIME SHALL BE SHAPED TO PLAN LINES PRIOR TO ADMIXTURE OF LIME SO AS TO PERMIT CONSTRUCTION OF A UNIFORM COMPACTED COURSE OF LIME TREATED SOIL OF THE THICKNESS SHOWN ON THE PLANS. THE LIME SHALL THEN BE APPLIED AT THE RATE SET BY THE ENGINEER USING A BULK DISTRIBUTOR, APPROVED HYDRAULIC METHODS, OR BY MANUAL METHODS. CARE SHALL BE EXERCISED DURING THE SPREADING AND MIXING OPERATION TO PREVENT EXCESSIVE LOSS OF LIME BY DUSTING. IMMEDIATELY AFTER SPREADING DRY LIME, IF THE BULK DISTRIBUTOR OR MANUAL METHODS ARE USED, THE LIME SHALL BE SPRINKLED WITH WATER USING A PRESSURE DISTRIBUTOR. THE SPREADING OF THE LIME SHALL BE FOLLOWED IMMEDIATELY BY AN INITIAL MIXING OPERATION. WATER SHALL BE ADDED, IF NECESSARY, TO BRING THE MIXED MATERIAL TO OPTIMUM. MIXING SHALL BE CONTINUED UNTIL THE LIME HAS BEEN THOROUGHLY INCORPORATED INTO THE MIX AND ALL SOIL CLODS HAVE BEEN REDUCED TO A MAXIMUM OF 2 INCHES.

FOLLOWING THE INITIAL MIXING, THE MATERIAL SHALL BE LIGHTLY COMPACTED WITH A STEEL-WHEELED OR PNEUMATIC-TIRED ROLLER TO SEAL IT AGAINST RAIN OR EXCESSIVE DRYING. THE PARTIALLY MIXED MATERIAL SHALL BE PERMITTED TO STAND FOR A PERIOD OF NOT LESS THAN 24 HOURS NOR MORE THAN 7 DAYS PRIOR TO THE FINAL MIXING. IF CONDITIONS DURING CONSTRUCTION ARE SUCH THAT MORE THAN 7 DAYS ELAPSE BETWEEN INITIAL MIXING AND FINAL COMPACTION, AN ADDITIONAL 1/2 PERCENT OF LIME SHALL BE ADDED DURING THE FINAL MIXING. THE ADDED LIME SHALL BE FURNISHED AT THE CONTRACTOR'S EXPENSE UNLESS THE DELAY BEYOND THE 7-DAY LIMIT IS CAUSED BY CONDITIONS BEYOND THE CONTROL OF THE CONTRACTOR. THE FINAL MIXING SHALL BE DONE WITH APPROVED POWER DRIVEN ROTARY TYPE EQUIPMENT UNTIL THE SOIL HAS BECOME COMPLETELY PULVERIZED WITH ALL CLODS REDUCED TO A MAXIMUM SIZE OF ONE INCH AND AT LEAST 60 PERCENT OF THE CLODS REDUCED TO SUCH A SIZE THAT THEY WILL PASS A NO. 4 SIEVE. MIXING SHALL BE CONTINUED UNTIL THE LIME HAS BEEN UNIFORMLY DISTRIBUTED THROUGH THE PULVERIZED SOIL. THE MIXTURE SHALL AGAIN BE BROUGHT TO OPTIMUM DURING THE FINAL MIXING; AND THE MIXTURE SHALL THEN BE SHAPED AND COMPACTED IN ACCORDANCE WITH THE REQUIREMENTS OF 203.13, EXCEPT THAT ON THIS PROJECT, SOILS WITH MAXIMUM LABORATORY DRY WEIGHTS OF NOT LESS THAN 90 POUNDS WILL BE PERMITTED IN SUBGRADE AND SHOULD BE COMPACTED TO 100 PERCENT OF LABORATORY MAXIMUM DRY WEIGHT. FINAL ROLLING SHALL BE DONE WITH A STEEL WHEELED ROLLER MEETING THE REQUIREMENTS OF 401.11. THE COMPACTED LIME SOIL MIXTURE SHALL BE SHAPED TO PLAN LINES WITHIN TOLERANCES SET UP IN 203.06 FOR SUBGRADE.

THE COMPACTED LIME STABILIZED SUBGRADE SHALL BE PERMITTED TO CURE FOR A PERIOD OF AT LEAST 5 DAYS PRIOR TO PLACEMENT OF THE SUBBASE. THE SURFACE SHALL BE LIGHTLY SPRINKLED DURING HOT, DRY WEATHER THROUGH THE CURING PERIOD TO PREVENT EXCESSIVE MOISTURE LOSS, AS DIRECTED BY THE ENGINEER. DURING THE CURING PERIOD, HEAVY EQUIPMENT SHOULD BE KEPT OFF THE TREATED SUBGRADE. THE LIME STABILIZED SUBGRADE SHALL BE COVERED BY THE OVERLYING PAVEMENT COURSE WITHIN FOUR WEEKS OF THE FINAL MIXING OPERATION, OR PROTECTED BY A BITUMINOUS PRIME COAT AT NO ADDITIONAL COST TO THE STATE IF MORE THAN FOUR WEEKS ELAPSE BEFORE PLACING THE OVERLYING COURSE. THE BITUMINOUS PRIME COAT SHALL CONSIST OF 0.2 GALLON PER SQUARE YARD OF 702.02 RC-70 OR RC-250, OR 702.04 RS-1.

MEASUREMENT AND PAYMENT - THE QUANTITIES TO BE PAID FOR SHALL BE AS FOLLOWS:

- A. ITEM SPECIAL, PER SQUARE YARD -

LIME SOIL

STABILIZED SUBGRADE.
- B. ITEM SPECIAL, PER TON --

HYDRATED LIME
- C. ITEM 616, PER THOUSAND GALLONS (M GAL.) WATER

PAYMENT FOR THE ABOVE ITEMS SHALL INCLUDE FULL COMPENSATION FOR FURNISHING LIME AND WATER, HAULING, SCARIFYING, BLADING, SPREADING, MIXING, SHAPING, AND COMPACTING LIME WITH THE SOIL, AND FOR ALL LABOR, EQUIPMENT, TOOLS, AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM.

ANY WATER REQUIRED FOR THIS ITEM SHALL BE MEASURED AND PAID FOR IN ACCORDANCE WITH THE REQUIREMENTS OF ITEM 616, EXCEPT THAT WATER USED FOR SPREADING LIME HYDRAULICALLY SHALL NOT BE MEASURED FOR PAYMENT IF IT BRINGS THE SOIL TO MORE THAN FIVE PERCENT ABOVE OPTIMUM IMMEDIATELY AFTER THE APPLICATION OF THE LIME. ALL PAY QUANTITIES SHALL BE DETERMINED BY FINAL MEASUREMENT.

TEST ROLLING PRIOR TO LIME STABILIZATION

THE SUBGRADE IN AREAS OF LIME STABILIZATION SHALL BE TEST ROLLED AFTER ROUGH GRADING AND PRIOR TO THE ADDITION OF LIME, USING A GRADER HAVING A MINIMUM WEIGHT OF 15 TONS. AREAS LACKING SUFFICIENT STABILITY IN THE OPINION OF THE ENGINEER, SHALL BE TREATED AS SOFT SUBGRADE. THE COST OF THE TEST ROLLING SHALL BE INCLUDED IN THE UNIT PRICE BID FOR 203 EXCAVATION AND 203 EMBANKMENT.

WOODY PLANTINGS FOR WILDLIFE (PLANTING SHRUBS)

SILKY DOGWOOD	CORNUS AMOMUM
GRAY DOGWOOD	CORNUS RACEMOSA
BLACK CHOKEBERRY	PYRUS MELANOCARPA
BLACKBERRY	RUBUS SP.
WILD CURRANT	RIBES AMERICANUM
HAZELNUT	CORYLUS AMERICANA
WILD PLUM	PRUNUS AMERICANA
MAPLE LEAVED ARROWWOOD	VIBURNUM ACERIFOLIUM
AMERICAN CRANBERRY BUSH	VIBURNUM TRILOBUM
ELDERBERRY	SAMBUCUS CANADENSIS
FRAGRANT SUMAC	RHUS AROMATICA

THREE OR MORE OF THE ABOVE NAMED SPECIES SHALL BE PLANTED IN A RANDOM FASHION ON APPROXIMATELY THREE (3) TO FOUR (4) FOOT CENTERS IN THE AREA DESIGNATED ON THE PLANS (NOT LESS THAN ONE (1) PLANT PER 1.5 SQUARE YARDS). NO SINGLE SPECIES SHALL CONSTITUTE MORE THAN 40 PERCENT OF THE TOTAL NUMBER OF PLANTS TO BE PLANTED. THE PLANTS SHALL BE NURSERY STOCK IN ACCORDANCE WITHH SECTION 662.04 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS. PLANTING MAY BE DONE WITH A DIBBLE OR A SHOVEL; HOWEVER, MULCHING SHALL BE DONE IN ACCORDANCE WITH SECTION 662.19 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS. THE ACTUAL PLANTING SHALL NOT BE PERFORMED BETWEEN THE DATES OF JUNE 1 AND OCTOBER 1, NOR AT ANY TIME WHEN THE SOIL IS NOT IN A FRIABLE OR WORKABLE CONDITION.

PAYMENT FOR ACCEPTED QUANTITIES WILL BE MADE AT THE CONTRACT PRICE FOR:

662 EACH PLANTING SHRUBS

ITEM 207 FILTER FABRIC FENCE

FILTER FABRIC SHALL MEET THE REQUIREMENTS OF ITEM 207.02. THE BOTTOM OF THE FENCE SHALL BE BURIED 6" BELOW THE GROUND. THE FENCE SHALL BE HIGH ENOUGH TO RETAIN SEDIMENT-LADEN WATER AND ADEQUATELY SUPPORTED TO PREVENT COLLAPSE OR BURSTING. THE FILTER FABRIC FENCE SHALL, AT THE DIRECTION OF THE ENGINEER, BE MAINTAINED TO BE FUNCTIONAL. THIS SHALL INCLUDE REMOVAL OF TRAPPED SEDIMENT AND REQUIRED CLEANING, REPAIR, AND/OR REPLACEMENT OF THE FILTER FABRIC. THE COST OF ALL MATERIALS, CONSTRUCTION, MAINTENANCE, AND REMOVAL REQUIRED SHALL BE PAID FOR UNDER :

ITEM 207 LIN. FT. FILTER FABRIC FENCE

605 AGGREGATE DRAINS					
DARBY-POTTERSBURG ROAD			HOLYCROSS-EPPS ROAD		
STATION	SIDE &	LIN. FT.	STATION	SIDE &	LIN. FT.
35+00	Rt.	17	42+00	Lt.	12
35+50	Rt.	14	42+50	Lt.	12
62+50	Lt.	13	43+00	Lt.	11
63+75	Rt.	12	43+50	Lt.	11
63+00	Lt.	13	43+75	Rt.	12
63+25	Rt.	13	44+00	Lt.	11
63+50	Lt.	13	44+25	Rt.	12
63+75	Rt.	13	44+75	Rt.	12
64+25	Rt.	12	45+00	Lt.	11
64+75	Rt.	11	45+25	Rt.	11
SUB-TOTAL		131	45+50	Lt.	10
RELOCATED POTTERSBURG RD.			45+75	Rt.	10
STATION	SIDE &	LIN. FT.	46+00	Lt.	9
16+50	Rt.	12	46+25	Rt.	9
17+00	Rt.	12	46+50	Lt.	9
18+50	Rt.	12	46+75	Rt.	9
19+00	Rt.	12	47+00	Lt.	9
19+50	Rt.	12	47+25	Rt.	9
20+00	Rt.	12	47+50	Lt.	9
20+50	Rt.	12	47+75	Rt.	9
21+00	Rt.	12	48+00	Lt.	9
21+50	Rt.	12	48+25	Rt.	9
22+00	Rt.	12	48+50	Lt.	9
22+50	Rt.	12	48+75	Rt.	9
SUB-TOTAL		132	51+25	Lt.	11
ALLEN CENTER ROAD			51+50	Rt.	11
STATION	SIDE &	LIN. FT.	51+75	Lt.	11
9+00	Lt.	12	52+00	Rt.	11
9+50	Lt.	12	52+25	Lt.	11
SUB-TOTAL		24	52+50	Rt.	11
EXISTING U.S. 33			52+75	Lt.	11
STATION	SIDE &	LIN. FT.	53+00	Rt.	11
143+50	Rt.	15	53+25	Lt.	11
144+00	Rt.	16	53+50	Rt.	11
144+50	Rt.	16	53+75	Lt.	11
145+00	Rt.	18	54+00	Rt.	11
145+50	Rt.	22	54+25	Lt.	11
146+00	Rt.	23	54+50	Rt.	11
146+50	Rt.	24	54+75	Lt.	11
SUB-TOTAL		134	55+00	Rt.	12
SUMMARY			55+25	Lt.	11
ROAD		LIN. FT.	55+50	Rt.	12
DARBY-POTTERSBURG		131	55+75	Lt.	12
RELOC. POTTERSBURG		132	56+25	Lt.	12
ALLEN CENTER		24	56+50	Rt.	12
EXISTING U.S. 33		134	56+75	Lt.	12
HOLYCROSS-EPPS		503	57+00	Rt.	12
TOTAL TO SUMMARY		924	SUB-TOTAL		503

PARSONS BRINCKERHOFF QUADE & DOUGLAS
COLUMBUS, OHIO

GENERAL NOTES
AND CALCULATIONS

Designed	Drawn	Traced	Checked	Reviewed	Date	Revised

CALC. BY _____ DATE _____	UNION COUNTY UNI - 33 - 1.99	OHIO	
		FHWA REGION 5	

[illegible]

CALC. BY _____ DATE _____	UNION COUNTY UNI-33-1.99	OHIO	
CHKD. BY _____ DATE _____		FHWA REGION 5	

BRUNING 44-560 29600

CALC. BY _____ DATE _____	UNION COUNTY UNI-33 - 1.99	OHIO	
CHKD. BY _____ DATE _____		FHWA REGION 5	

CALCULATIONS

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STATION TO STATION	LENGTH (FT.)	PAVEMENT AREA IN SQUARE YARDS									
		404		402		301		304		SPEC.(Lime Subgrade)	
		WIDTH	SY	WIDTH	SY	WIDTH	SY	WIDTH	SY	WIDTH	SY
Proposed U.S. 33											
105+00 ~ 220+00	11500	48'	61,333.3	48'	61,333.3	49.33'	63,032.8	50.67'	64,745.0	50.67'	64,745.0
Ramp G											
121+54.43 ~ 122+54.43	100	0'-12'	66.7	0'-12'	66.7	0'-12'	66.7	0'-12'	66.7	0'-12'	66.7
122+54.43 ~ 125+00	245.57	12'	327.4	12'	327.4	12'	327.4	12'	327.4	12'	327.4
125+00 ~ 129+55.28	455.28	12'-39.13'	1293.2	12'-39.13'	1293.2	12'-39.13'	1293.2	12'-39.13'	1293.2	12'-39.13'	1293.2
129+55.28 ~ 142+51.78	1296.50	16'	2304.9	16'	2304.9	17.33'	2496.5	18.67'	2689.0	18.67'	2689.0
Ramp Fillet and Tapers, Rt.			217.0		217.0		221.7		227.0		227.0
Adjacent to Ramp F & Fillet, Lt.			88.6		88.6		88.9		89.1		89.1
Ramp H											
121+00 ~ 133+00	1200	0'-25'	1666.7	0'-25'	1666.7	0'-25'	1666.7	0'-25'	1666.7	0'-25'	1666.7
133+00 ~ 146+88.01	1388.01	16'	2467.6	16'	2467.6	17.33'	2672.7	18.67'	2879.3	18.67'	2879.3
Ramp Fillet, Lt.			69.20		69.20		73.4		78.1		78.14
Ramp Fillet, Rt.			121.7		121.7		121.2		119.9		119.9
Ramp F											
128+43.59 ~ 143+45.08	1501.49	16'	2669.3	16'	2669.3	17.33'	2891.2	18.67'	3114.8	18.67'	3114.8
143+45.08 ~ 155+45.08	1200	0'-25'	1666.7	0'-25'	1666.7	0'-25'	1666.7	0'-25'	1666.7	0'-25'	1666.7
44+97.26 ~ 45+97.26	100	16'	177.8	16'	177.8	17.33'	192.6	18.67'	207.4	18.67'	207.4
45+97.26 ~ 48+39.91	242.65	16'-12'	377.5	16'-12'	377.5	16'-12'	377.5	16'-12'	377.5	16'-12'	377.5
Ramp E											
146+17.54 ~ 155+18.00	900.46	16'	1600.8	16'	1600.8	17.33'	1733.9	18.67'	1868.0	18.67'	1868.0
155+18.00 ~ 160+00	482	39.13'-12'	1369.1	39.13'-12'	1369.1	39.13'-12'	1369.1	39.13'-12'	1369.1	39.13'-12'	1369.1
160+00 ~ 162+20.00	220	12'	293.3	12'	293.3	12'	293.3	12'	293.3	12'	293.3
162+20.00 ~ 163+20.00	100	12'-0'	66.7	12'-0'	66.7	12'-0'	66.7	12'-0'	66.7	12'-0'	66.7
Fillet Area, Rt. 146+39			20.2		20.2		20.7		21.3		21.3
Fillet Area & Taper, Lt. 147+15			229.4		229.4		232.8		236.5		236.5
Darby Pottersburg											
32+10.24 ~ 32+60.24 ▲	50'	14'-20'	94.4			1.33'-7.33'	24.1	2.67'-8.67'	31.5	2.67'-8.67'	31.5
32+60.24 ~ 36+00	339.76	20.0'	755.0	20.0'	755.0	21.33'	806.2	22.67'	855.2	22.67'	855.2
36+00 ~ 45+97.26	997.26	24.0'	2659.4	24.0'	2659.4	25.33'	2808.7	26.67'	2995.2	26.67'	2995.2
45+97.26 ~ 48+50.59	253.33	24.0'	875.6	24.0'	875.6	24.67'	694.3	25.33'	713.0	25.33'	713.0
51+28.85 ~ 53+06.12	177.27	36.0'	709.1	36.0'	709.1	37.33'	735.3	38.67'	761.6	38.67'	761.6
53+06.12 ~ 54+20.50	114.38	48.0'	610.0	48.0'	610.0	48.0'	610.0	48.0'	610.0	48.0'	610.0
54+20.50 ~ 60+68.13	647.63	48.0'	3454.0	48.0'	3454.0	49.33'	3549.7	50.67'	3646.2	50.67'	3646.2
60+68.13 ~ 62+12.88	144.75	48.0'	772.0	48.0'	772.0	48.67'	782.7	49.33'	793.4	49.33'	793.4
Fillet Area, Rt.			36.4		36.4		39.2		42.2		42.4
Fillet Area & Tapers, Lt.			355.1		355.1		360.6		366.7		366.7
US 33 (Existing)											
142+29.25 ~ 143+29.25	100.0	0.0'-12.0'	66.7	0.0'-12.0'	66.7	0.58'-12.58'	73.1	1.33'-13.33'	81.5		
143+29.25 ~ 145+79.25	250	12.0'	333.3	12.0'	333.3	12.58'	349.4	13.33'	370.3	13.33'	370.3
145+79.25 ~ 147+04.84	125.59	12.0'	167.5	12.0'	167.5	12.0	167.5	12.0	167.5	12.0	167.5
SIDE ROAD TYPICAL SECTION		404		402		304		310		203	
*Darby Pottersburg Road											
*Fillet Area, Rt.			36.4		36.4		39.2		42.2		45.3
*Fillet Area & Tapers, Lt.			355.1		355.1		360.6		366.7		372.9
* 62+38.36 ~ 66+89.76	451.40	20.0	1003.1	20.0	1003.1	21.0	1053.3	22.0'	1103.4	23.0'	1153.6
* 66+89.76 ~ 67+39.76 ▲	50.0	20.0-14.0	94.4			1.0'-7.0	22.2	2.0'-8.0'	27.8	3.0'-9.0'	33.3
*Holy Cross Epps Road											
* 41+00 ~ 41+50 ▲	50.0	14.0'-20.0'	94.4			1.0'-7.0'	22.2	2.0'-8.0'	27.8	3.0'-9.0'	33.3
* 41+50 ~ 48+58.36	708.36	20.0'	1574.1	20.0'	1574.1	21.0'	1652.8	22.0'	1731.5	23.0'	1810.3
* 51+41.64 ~ 57+50	608.36	20.0'	1351.9	20.0'	1351.9	21.0'	1419.5	22.0'	1487.1	23.0'	1554.7
* 57+50 ~ 58+00 ▲	50.0	20.0'-14.0'	94.4			7.0'-1.0	22.2	8.0'-2.0'	27.8	9.0'-3.0'	33.3
*Allen Center Road											
* 8+60.70 ~ 8+85.70 ▲	25	14'-20'	47.2			1.0'-7.0'	11.1	2.0'-8.0'	13.9	3.0'-9.0'	16.7

STATION TO STATION	LENGTH	PAVEMENT AREA IN SQUARE YARDS									
		404		402		304		310		203	
		WIDTH	SY	WIDTH	SY	WIDTH	SY	WIDTH	SY	WIDTH	SY
* 8+85.70 ~ 9+88	102.3	20.0'	227.3	20.0'	227.3	20.5'	233.0	21.0'	238.7	21.5'	244.4
*Fillet Area, Lt., 9+52±			34.0		34.0		35.6		37.5		39.5
*Fillet Area, Rt., 9+56±			25.0		25.0		26.5		28.0		29.6
*Relocated Pottersburg Road											
* 16+41.67 ~ 22+77.35	635.68	20.0'	1412.6	20.0'	1412.6	21.0'	1483.3	22.0'	1553.9	23.0'	1624.5
* 22+77.35 ~ 23+27.35 ▲	50.0	20.0'-14.0'	94.4			7.0'-1.0'	22.2	8.0'-2.0'	27.8	9.0'-3.0'	33.3
*Fillet Area, Lt., 16+50±			17.3		17.3		18.7		20.1		21.6
*Fillet Area, Rt., 16+50±			12.8		12.8		14.0		15.2		16.4
Total -		404		402		301		304		SPECIAL	
Mainline Typical Section		89,115.6 sy		89,021.2 sy		91,903.5 sy		94,837.0 sy		94,755.7 sy	
Total -		404		402		304		310		203	
Side Road Typical Section		6,474.4 sy		6,049.6 sy		6,436.4 sy		6,749.4 sy		7,062.7 sy	

* = Side Road Pavement Structure
▲ = Feathering Area

404- ASPHALT CONCRETE

Mainline Typical Section Subtotal:
Side Road Typical Section Subtotal:

$89,115.6 \text{ sy} \times 1.25" \div 36 = 3094.3 \text{ cy}$
 $6,474.4 \text{ sy} \times 1.25" \div 36 = 224.8 \text{ cy}$
 3319.1 cy

402- ASPHALT CONCRETE

Mainline Typical Section Subtotal:
Side Road Typical Section Subtotal:

$89,021.2 \text{ sy} \times 1.75" \div 36 = 4327.4 \text{ cy}$
 $6,049.6 \text{ sy} \times 1.75" \div 36 = 294.1 \text{ cy}$
 4621.5 cy

301- BITUMINOUS AGGREGATE BASE

Mainline Typical Section Subtotal:

$91,903.5 \text{ sy} \times 10" \div 36 = 25,528.8 \text{ cy}$

304- AGGREGATE BASE

Mainline Typical Section Subtotal:
Side Road Typical Section Subtotal:

$94,837.0 \text{ sy} \times 6" \div 36 = 15,806.2 \text{ cy}$
 $6,436.4 \text{ sy} \times 8" \div 36 = 1,430.3 \text{ cy}$
 $17,236.5 \text{ cy}$

310- SUBBASE

Side Road Typical Section Subtotal:

$6,749.4 \text{ sy} \times 4" \div 36 = 749.9 \text{ cy}$

SPECIAL - LIME SOIL STABILIZED SUBGRADE

Mainline Typical Section Subtotal:
SPECIAL - HYDRATED LIME FOR LIME SOIL MIX:

$94,755.7 \text{ sy}$
 $94,755.7 \text{ sy} \times 36 \text{ LB/sy} \div 2000 = 1705.6 \text{ Tons}$
 $94,755.7 \text{ sy} \times 2.7 \text{ Gal./sy} \div 1000 = 255.8 \text{ M.Gal.}$
 $7,062.7 \text{ sy}$

GIG- WATER

203- SUBGRADE COMPACTION

Side Road Typical Section Subtotal:

408- BITUMINOUS PRIME COAT

Side Road Typical Section Subtotal:

$6,436.4 \text{ sy} \times 0.40 \text{ Gal./sy} = 2574.6 \text{ Gal.}$

407- TACK COAT

Feathering Areas

$(140+20.0) \times 50 \div 9 \times 4 = 377.8 \text{ sy}$

$(140+20.0) \times 25.0 \div 9 \times 2 = 94.4$
 472.2 sy

$472 \text{ sy} \times 0.10 \text{ Gal./sy} = 47.2 \text{ Gal.}$

407- COVER AGGREGATE

Feathering Areas =

472.2 sy

$472.2 \text{ sy} \times 7 \text{ Lbs/sy} \div 2000 = 1.7 \text{ Tons}$

PARSONS BRINCKERHOFF QUAE & DOUGLAS
COLUMBUS, OHIO

PAVEMENT
CALCULATIONS

Designed	Drawn	Traced	Checked	Reviewed	Date	Revised
MB	L.H.	L.H.				

CALCULATIONS

UNI-33-1.99

FED. RD. DIVISION	STATE	PROJECT	
	OHIO		

14
245

STATION TO STATION	SIDE	LENGTH FT	SHOULDER QUANTITIES							
			409		301		304		SPEC.(Lime Subgrade)	
			WIDTH FT	SY	END AREA SF	CY	END AREA SF	CY	WIDTH FT	SY
Proposed US 33	Med. Lt, Rt									
105+00 ~ 139+27.21	Lt. & Rt.	685+42	4.0	3046.4	2.19	556.0	3.24	822.5	3.167	2412.0
139+27.21 ~ 166+43.31	Med. Lt.	2716.10	4.0	1207.2	2.19	220.3	3.24	325.9	3.167	955.8
139+27.21 ~ 166+43.31	Med. Rt.	2716.10	4.0	1207.2	2.19	220.3	3.03	304.8	3.167	955.8
166+43.31 ~ 220+00.0	Med. Lt & Rt	10,713.38	4.0	4761.5	2.19	869.0	3.24	1285.6	3.167	3769.9
105+00 ~ 121+54.43	EB Rt.	1654.43	8.0	1470.6	4.53	277.6	5.73	351.1	7.167	1317.5
121+54.43 ~ 122+54.43	EB Rt.	100.0	8.0-6.0	77.8	3.70	13.7	5.36	19.9	6.167	68.5
122+54.43 ~ 129+55.28	EB Rt. G	700.85	6.0	467.2	3.36	87.2	4.50	116.8	5.167	402.4
129+54.43 ~ 139+27.21	EB Rt.	972.78	8.0	864.7	4.53	163.2	5.73	206.4	7.167	774.7
139+27.21 ~ 143+45.08	EB Rt. Gore	417.87	9.0-23.0	654.5		127.3		218.2		654.5
139+27.21 ~ 143+45.08	EB Rt. F	417.87	6.0	278.6	2.86	44.3	5.21	80.6	5.167	239.9
143+45.08 ~ 154+49.08	EB Rt.	1104.0	6.0	736.0	3.36	137.4	4.99	204.0	5.167	633.8
154+49.08 ~ 155+45.08	EB Rt.	96.00	6.0-8.0	74.7	3.70	13.2	5.82	20.7	6.167	65.8
155+45.08 ~ 166+43.31	EB Rt.	1098.23	8.0	976.2	4.53	184.3	6.65	270.5	7.167	874.6
166+43.31 ~ 220+00	EB Rt.	5356.69	8.0	4761.5	4.53	898.7	5.73	1136.8	7.167	4265.7
105+00 ~ 121+00	WB Lt.	1600.0	8.0	1422.2	4.53	268.4	5.73	339.6	7.167	1274.1
121+00 ~ 122+00	WB Lt.	100.0	8.0-6.0	77.8	3.95	14.6	5.12	19.0	6.167	68.5
122+00 ~ 133+00	WB Lt.	1100.0	6.0	733.3	3.36	136.9	4.50	183.3	5.167	631.5
133+00 ~ 136+91	WB Lt. Gore	391.0	9.0-22.43	593.8		115.5		197.9		593.8
136+91 ~ 139+27.21	WB Lt.	236.21	8.0	210.0	4.53	39.6	5.73	50.1	7.167	188.1
139+27.21 ~ 155+18.00	WB Lt.	1590.79	8.0	1414.0	4.53	266.9	5.73	337.6	7.167	1266.8
155+18.00 ~ 162+20	WB Lt.	702.0	6.0	468.0	3.36	87.4	4.50	117.0	5.167	403.0
162+20 ~ 163+20	WB Lt.	100.0	6.0-8.0	77.8	3.95	14.6	5.12	19.0	6.167	68.5
163+20 ~ 166+43.31	WB Lt.	323.31	8.0	287.4	4.53	54.2	5.73	68.6	7.167	257.5
166+43.31 ~ 220+00	WB Lt.	5356.69	8.0	4761.5	4.53	898.7	5.73	1136.8	7.167	4265.7
Ramp G										
129+55.28 ~ 129+82.80	Rp G Rt.	27.52	6.0	18.3	3.36	3.4	4.85	4.9	5.167	15.8
129+82.80 ~ 135+53.72	Rp G Rt.	570.92	6.0	380.6	3.36	71.0	5.36	113.3	5.167	327.8
135+53.72 ~ 136+97.61	Rp G Rt.	143.89	6.0	95.9	3.36	17.9	5.01	26.7	5.167	82.6
136+97.61 ~ 137+42.41	Rp G Rt.	44.80	6.0	29.9	3.36	5.6	4.47	7.4	5.167	25.7
137+42.41 ~ 140+26.23	Rp G Rt.	283.82	6.0	189.2	3.36	35.3	4.47	47.0	5.167	162.9
140+26.23 ~ 140+71.03	Rp G Rt.	44.80	6.0	29.9	3.36	5.6	4.89	8.1	5.167	25.7
140+71.03 ~ 142+51.78	Rp G Rt.	244.59	6.0	163.1	3.36	30.4	4.99	45.2	5.167	140.4
129+55.28 ~ 129+82.80	Rp G Lt.	27.52	4.0	12.2	2.19	2.2	3.02	3.1	3.167	9.7
129+82.80 ~ 135+53.72	Rp G Lt.	570.92	4.0	253.7	2.19	46.3	3.37	71.3	3.167	200.9
135+53.72 ~ 136+97.61	Rp G Lt.	143.89	4.0	64.0	2.19	11.7	3.02	16.1	3.167	50.6
136+97.61 ~ 137+42.41	Rp G Lt.	44.80	4.0	19.9	2.19	3.6	3.02	5.0	3.167	15.8
137+42.41 ~ 140+26.23	Rp G Lt.	283.82	4.0	126.1	2.19	23.0	3.31	34.8	3.167	99.9
140+26.23 ~ 140+71.03	Rp G Lt.	44.80	4.0	19.9	2.19	3.6	3.02	5.0	3.167	15.8
140+71.03 ~ 142+51.78	Rp G Lt.	181.75	4.0	80.8	2.19	14.7	3.03	20.4	3.167	64.0
Ramp H										
133+00 ~ 140+17.88	Rp H Rt.	717.88	4.0	319.1	2.19	58.2	3.02	80.3	3.167	252.6
140+17.88 ~ 146+41.96	Rp H Rt.	624.08	4.0	277.4	2.19	50.6	3.33	77.0	3.167	219.6
146+41.96 ~ 146+92.15	Rp H Rt.	108.75	4.0	48.3	2.19	8.8	3.02	12.2	3.167	38.3
133+00 ~ 140+17.88	Rp H Lt.	717.88	6.0	478.6	3.36	89.3	5.30	140.9	5.167	412.1
140+17.88 ~ 146+41.96	Rp H Lt.	624.08	6.0	416.0	3.36	77.7	4.47	103.3	5.167	358.3
146+41.96 ~ 146+92.15	Rp H Lt.	72.04	6.0	48.0	3.36	9.0	4.85	12.9	5.167	41.4
Ramp F										
127+43.47 ~ 130+00	Rp F Rt.	256.53	6.0	171.0	3.36	31.9	5.32	50.5	5.167	147.3
130+00 ~ 139+27.21	Rp F Rt.	927.21	6.0	618.1	3.36	115.4	5.42	186.1	5.167	532.3
127+43.47 ~ 130+00	Rp F Lt.	256.53	4.0	114.0	2.19	20.8	3.02	28.7	3.167	90.3

STATION TO STATION	SIDE	LENGTH FT	SHOULDER QUANTITIES							
			409		301		304		SPEC.(Lime Subgrade)	
			WIDTH FT	SY	END AREA SF	CY	END AREA SF	CY	WIDTH FT	SY
130+00 ~ 139+27.21	Rp F Lt.	927.21	4.0	412.1	2.19	75.2	3.02	103.7	3.167	326.3
Ramp E										
146+17.54 ~ 155+18.00	Rp E Rt.	906.65	4.0	403.0	2.19	73.5	3.03	101.7	3.167	319.0
146+17.54 ~ 155+18.00	Rp E Lt.	948.75	6.0	632.5	3.36	118.1	4.99	175.3	5.167	544.7
Darby Pottersburg Road										
32+60.24 ~ 34+30.12	Lt.	169.88	4.0	75.5	2.19	13.8	3.19	20.1	3.167	59.8
34+30.12 ~ 36+00	Lt.	169.88	4.0	75.5	2.19	13.8	2.95	18.6	3.167	59.8
36+00 ~ 37+00	Lt.	100	4.0-6.0	55.6	2.78	10.3	4.13	15.3	4.167	46.3
37+00 ~ 48+50.59	Lt.	992.96	6.0	662.0	3.36	123.6	5.00	183.9	5.167	570.1
51+28.85 ~ 62+12.88	Lt.	981.72	6.0	654.5	3.36	122.2	5.00	181.8	5.167	563.6
32+60.24 ~ 34+30.12	Rt.	169.88	4.0	75.5	2.19	13.8	2.95	18.6	3.167	59.8
34+30.12 ~ 35+89.15	Rt.	159.03	4.0	70.7	2.19	12.9	3.23	19.0	3.167	56.0
36+19.02 ~ 48+50.59	Rt.	1171.57	6.0	781.0	3.36	145.8	5.00	217.0	5.167	672.6
51+28.85 ~ 62+12.88	Rt.	971.64	6.0	647.8	3.36	120.9	5.00	179.9	5.167	557.8
62+38.36 ~ 63+50	Lt & Rt.	244	4.0	108.4	2.17	19.0				
U.S. 33 (Exist.)										
142+29.25 ~ 145+79.25	Rt.	350	6.0	233.3	3.36	43.6	5.00	64.8	5.167	200.9
TOTALS				39,491.3		7,352.4		10,232.6		33,774.9

301- Bituminous Aggregate Base

7,352.4 C.Y.

304- Aggregate Base

10,232.6 C.Y.

409- Seal Coat Bituminous Material 39,491.3 SY X 0.30 Gal/SY =

11,847.4 Gal.

409- Seal Coat Cover Aggregate No. 8 39,491.3 SY X 0.008 CY/SY =

315.9 C.Y.

SPECIAL - Lime Soil Stabilized Subgrade

33,774.9 S.Y.

SPECIAL - Hydrated Lime for Lime Soil Stabilized Subgrade

33,774.9 S.Y. X 36 Lb. / S.Y. ÷ 2000 =

607.9 Ton (Based on a soil with a dry weight of 100 pcf and 8% Lime)

GIG - Water

33,774.9 S.Y. X 2.7 Gal / S.Y. ÷ 1000

= 91.2 M. Gal.

PARSONS BRINCKERHOFF QUADE & DOUGLAS
COLUMBUS, OHIO

PAVEMENT
CALCULATIONS

Designed	Drawn	Traced	Checked	Reviewed	Date	Revised
ME	RAY	RSY				

UNI-33-1.99

SUPERELEVATION TABLE

Dc=00 28 00

P.I. Sta = 152+89.070

S = .0156 f/f

Station	-----LT-----		P/G	-----RT-----	
	24	12		12	24
139 + 27.21	1088.45	1088.46	1088.28	1088.46	1088.65
139 + 50.00	1088.60	1088.41	1088.22	1088.38	1088.55
139 + 75.00	1088.54	1088.35	1088.16	1088.30	1088.44
140 + 0.00	1088.48	1088.29	1088.10	1088.21	1088.33
140 + 25.00	1088.42	1088.23	1088.04	1088.13	1088.22
140 + 50.00	1088.36	1088.17	1087.98	1088.04	1088.11
140 + 75.00	1088.30	1088.11	1087.92	1087.96	1088.00
141 + 0.00	1088.24	1088.05	1087.86	1087.87	1087.89
141 + 14.71	1088.20	1088.01	1087.83	1087.83	1087.83
141 + 25.00	1088.18	1087.99	1087.80	1087.79	1087.78
141 + 50.00	1088.12	1087.93	1087.74	1087.70	1087.67
141 + 75.00	1088.06	1087.87	1087.68	1087.62	1087.56
142 + 0.00	1088.00	1087.81	1087.62	1087.53	1087.45
142 + 25.00	1087.94	1087.75	1087.56	1087.45	1087.34
142 + 50.00	1087.88	1087.69	1087.50	1087.36	1087.23
142 + 75.00	1087.82	1087.63	1087.44	1087.28	1087.12
143 + 0.00	1087.76	1087.57	1087.38	1087.19	1087.01
143 + 2.21	1087.75	1087.56	1087.38	1087.19	1087.00
143 + 25.00	1087.70	1087.51	1087.32	1087.13	1086.95
143 + 50.00	1087.64	1087.45	1087.26	1087.07	1086.89
143 + 75.00	1087.58	1087.39	1087.20	1087.01	1086.83
144 + 0.00	1087.52	1087.33	1087.14	1086.95	1086.77
144 + 25.00	1087.46	1087.27	1087.08	1086.89	1086.71
144 + 50.00	1087.40	1087.21	1087.02	1086.83	1086.65
144 + 75.00	1087.34	1087.15	1086.96	1086.77	1086.59
145 + 0.00	1087.28	1087.09	1086.90	1086.71	1086.53
145 + 25.00	1087.22	1087.03	1086.84	1086.65	1086.47
145 + 50.00	1087.16	1086.97	1086.78	1086.59	1086.41
145 + 75.00	1087.10	1086.91	1086.72	1086.53	1086.35
146 + 0.00	1087.04	1086.85	1086.66	1086.47	1086.29
146 + 25.00	1086.98	1086.79	1086.60	1086.41	1086.23
146 + 50.00	1086.92	1086.73	1086.54	1086.35	1086.17
146 + 75.00	1086.86	1086.67	1086.48	1086.29	1086.11
147 + 0.00	1086.80	1086.61	1086.42	1086.23	1086.05
147 + 25.00	1086.74	1086.55	1086.36	1086.17	1085.99
147 + 50.00	1086.68	1086.49	1086.30	1086.11	1085.93
147 + 75.00	1086.62	1086.43	1086.24	1086.05	1085.87
148 + 0.00	1086.56	1086.37	1086.18	1085.99	1085.81
148 + 25.00	1086.50	1086.31	1086.12	1085.93	1085.75
148 + 50.00	1086.44	1086.25	1086.06	1085.87	1085.69
148 + 75.00	1086.38	1086.19	1086.00	1085.81	1085.63
149 + 0.00	1086.32	1086.13	1085.94	1085.75	1085.57
149 + 25.00	1086.26	1086.07	1085.88	1085.69	1085.51
149 + 50.00	1086.20	1086.01	1085.82	1085.63	1085.45
149 + 75.00	1086.14	1085.95	1085.76	1085.57	1085.39
150 + 0.00	1086.08	1085.89	1085.70	1085.51	1085.33
150 + 25.00	1086.02	1085.83	1085.64	1085.45	1085.27
150 + 50.00	1085.96	1085.77	1085.58	1085.39	1085.21
150 + 75.00	1085.90	1085.71	1085.52	1085.33	1085.15
151 + 0.00	1085.84	1085.65	1085.46	1085.27	1085.09
151 + 25.00	1085.78	1085.59	1085.40	1085.21	1085.03
151 + 50.00	1085.72	1085.53	1085.34	1085.15	1084.97
151 + 75.00	1085.66	1085.47	1085.28	1085.09	1084.91
152 + 0.00	1085.60	1085.41	1085.22	1085.03	1084.85
152 + 25.00	1085.54	1085.35	1085.16	1084.97	1084.79
152 + 50.00	1085.48	1085.29	1085.10	1084.91	1084.73
152 + 75.00	1085.42	1085.23	1085.04	1084.85	1084.67
153 + 0.00	1085.36	1085.17	1084.98	1084.79	1084.61
153 + 25.00	1085.30	1085.11	1084.92	1084.73	1084.55
153 + 50.00	1085.24	1085.05	1084.86	1084.67	1084.49
153 + 75.00	1085.18	1084.99	1084.80	1084.61	1084.43
154 + 0.00	1085.12	1084.93	1084.74	1084.55	1084.37
154 + 25.00	1085.06	1084.87	1084.68	1084.49	1084.31
154 + 50.00	1085.00	1084.81	1084.62	1084.43	1084.25
154 + 75.00	1084.94	1084.75	1084.56	1084.37	1084.19
155 + 0.00	1084.88	1084.69	1084.50	1084.31	1084.13
155 + 25.00	1084.82	1084.63	1084.44	1084.25	1084.07
155 + 50.00	1084.76	1084.57	1084.38	1084.19	1084.01
155 + 75.00	1084.70	1084.51	1084.32	1084.13	1083.95
156 + 0.00	1084.64	1084.45	1084.26	1084.07	1083.89
156 + 25.00	1084.58	1084.39	1084.20	1084.01	1083.83
156 + 50.00	1084.52	1084.33	1084.14	1083.95	1083.77
156 + 75.00	1084.46	1084.27	1084.08	1083.89	1083.71
157 + 0.00	1084.40	1084.21	1084.02	1083.83	1083.65
157 + 25.00	1084.34	1084.15	1083.96	1083.77	1083.59
157 + 50.00	1084.28	1084.09	1083.90	1083.71	1083.53
157 + 75.00	1084.22	1084.03	1083.84	1083.65	1083.47
158 + 0.00	1084.16	1083.97	1083.78	1083.59	1083.41
158 + 25.00	1084.10	1083.91	1083.72	1083.53	1083.35
158 + 50.00	1084.04	1083.85	1083.66	1083.47	1083.29
158 + 75.00	1083.98	1083.79	1083.60	1083.41	1083.23
159 + 0.00	1083.92	1083.73	1083.54	1083.35	1083.17
159 + 25.00	1083.86	1083.67	1083.48	1083.29	1083.11
159 + 50.00	1083.80	1083.61	1083.42	1083.23	1083.05
159 + 75.00	1083.74	1083.55	1083.36	1083.17	1082.99
160 + 0.00	1083.68	1083.49	1083.30	1083.11	1082.93
160 + 25.00	1083.62	1083.43	1083.24	1083.05	1082.87
160 + 50.00	1083.56	1083.37	1083.18	1082.99	1082.81
160 + 75.00	1083.50	1083.31	1083.12	1082.93	1082.75

NOTES: Superelevation Transition Rate is 1:500.
At P.C., P.T. Stations, Slope = 0.

161 + 0.00	1083.44	1083.25	1083.06	1082.87	1082.69
161 + 25.00	1083.38	1083.19	1083.00	1082.81	1082.63
161 + 50.00	1083.32	1083.13	1082.94	1082.75	1082.57
161 + 75.00	1083.26	1083.07	1082.88	1082.69	1082.51
162 + 0.00	1083.20	1083.01	1082.82	1082.63	1082.45
162 + 25.00	1083.14	1082.95	1082.76	1082.57	1082.39
162 + 50.00	1083.08	1082.89	1082.70	1082.51	1082.33
162 + 68.81	1083.03	1082.84	1082.66	1082.47	1082.28
162 + 75.00	1083.02	1082.83	1082.64	1082.46	1082.28
163 + 0.00	1082.96	1082.77	1082.58	1082.42	1082.27
163 + 25.00	1082.90	1082.71	1082.52	1082.39	1082.24
163 + 50.00	1082.84	1082.65	1082.46	1082.35	1082.25
163 + 75.00	1082.78	1082.59	1082.40	1082.32	1082.24
164 + 0.00	1082.72	1082.53	1082.34	1082.28	1082.23
164 + 25.00	1082.66	1082.47	1082.28	1082.25	1082.22
164 + 50.00	1082.60	1082.41	1082.22	1082.21	1082.21
164 + 56.31	1082.58	1082.39	1082.21	1082.21	1082.21
164 + 75.00	1082.54	1082.35	1082.16	1082.18	1082.20
165 + 0.00	1082.48	1082.29	1082.10	1082.14	1082.19
165 + 25.00	1082.42	1082.23	1082.04	1082.11	1082.18
165 + 50.00	1082.36	1082.17	1081.98	1082.07	1082.17
165 + 75.00	1082.30	1082.11	1081.92	1082.04	1082.16
166 + 0.00	1082.24	1082.05	1081.86	1082.00	1082.15
166 + 25.00	1082.18	1081.99	1081.80	1081.97	1082.14
166 + 43.31	1082.13	1081.94	1081.76	1081.94	1082.13

EARTHWORK AND SEEDING QUANTITIES

STATION TO STATION	203		659
	EXCAVATION	EMBANKMENT	SEEDING
	CU. YD.	CU. YD.	SQ. YD.
<i>Proposed U.S. 33</i>			
105+00 -- 110+00	3151	11364	10050
110+00 -- 120+00	2525	19736	19056
120+00 -- 130+00	3750	20006	18497
130+00 -- 140+00	10101	8730	17361
140+00 -- 150+00	23534	1583	16256
150+00 -- 155+00	13054	0	7094
155+00 -- 160+00	26297	0	9922
160+00 -- 170+00	69765	0	22266
170+00 -- 180+00	27406	22	20399
180+00 -- 190+00	3233	17776	17711
190+00 -- 200+00	5042	14492	17740
200+00 -- 210+00	24605	14126	26656
210+00 -- 220+00	1924	38183	18529
<i>Ramp E</i>			
	3971	14145	9816
<i>Ramp F</i>			
	7583	2387	9173
<i>Ramp G</i>			
	2573	2407	10489
<i>Ramp H</i>			
	4966	24675	13978
Darby - Pottersburg Rd. 32+10.24 to 67+39.76	18,170	60,439(F)	40348
Relocated Pottersburg Rd. 16+31.67 to 23+27.56	788	181	3542
Allen Center Rd. 8+60.70 to 9+88.00	110	256	429
Existing U.S. 33 142+29.25 to 147+12.74	600	429	1798
Holycross - Epps Rd. 41+00.00 to 58+00.00	* 1,154	* 33,620	* 16,923
SUB-TOTAL			
	257,302	284,557	330,033
DEDUCT SODDING			
			1862
TOTALS			
	257,302	284,557	328,171

* Includes channel work at Holycross Epps.

COMPUTATION FOR:

659 - WILDLIFE SEEDING MIX

U.S. 33 105+00 -- 130+00 = 47603 SQ. YD.
U.S. 33 155+00 -- 220+00 = 132423 SQ. YD.

Deduct Median

105+00 to 130+00 = 2500 L.F.
155+00 to 220+00 = 6500 L.F.
9000 L.F.

9000' x 42' ÷ 9 = - 42000 SQ. YD.

Total for Special Mix = 138026 SQ. YD.

659 Seeding Total = 328,171 SQ. YD.

Deduct Special Mix = 138026 SQ. YD.

Total for Standard Mix = 190,145 SQ. YD.

Quantities carried to General Summary

659 COMMERCIAL FERTILIZER

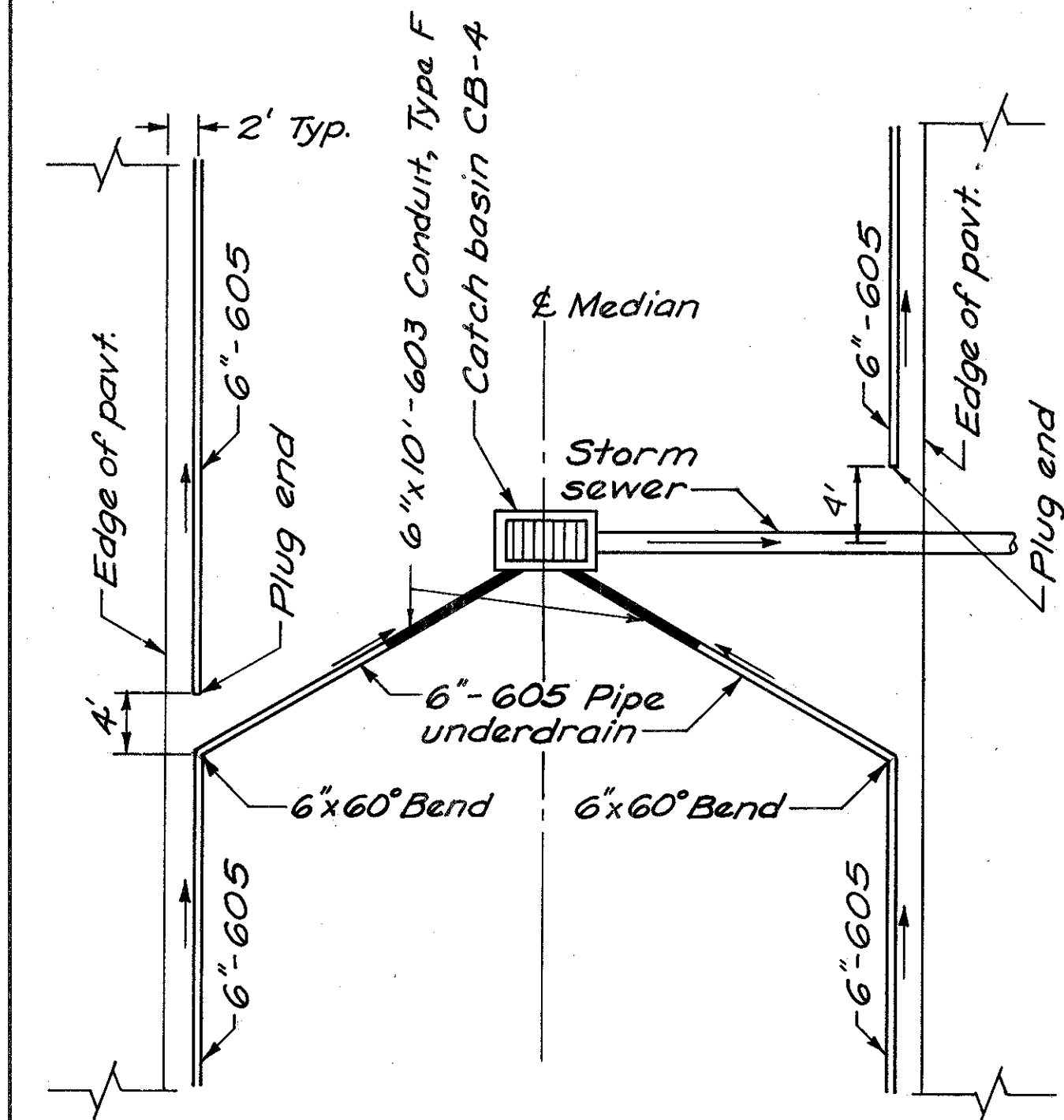
659 Seeding Total = 330,033 SQ. YD.

330,033 SQ. YD. x $\frac{9 \text{ SQ. FT.}}{\text{SQ. YD.}}$ x $\frac{20 \#}{1000 \text{ SQ. FT.}}$ x $\frac{1 \text{ TON}}{2000 \#}$ = 29.7 TON

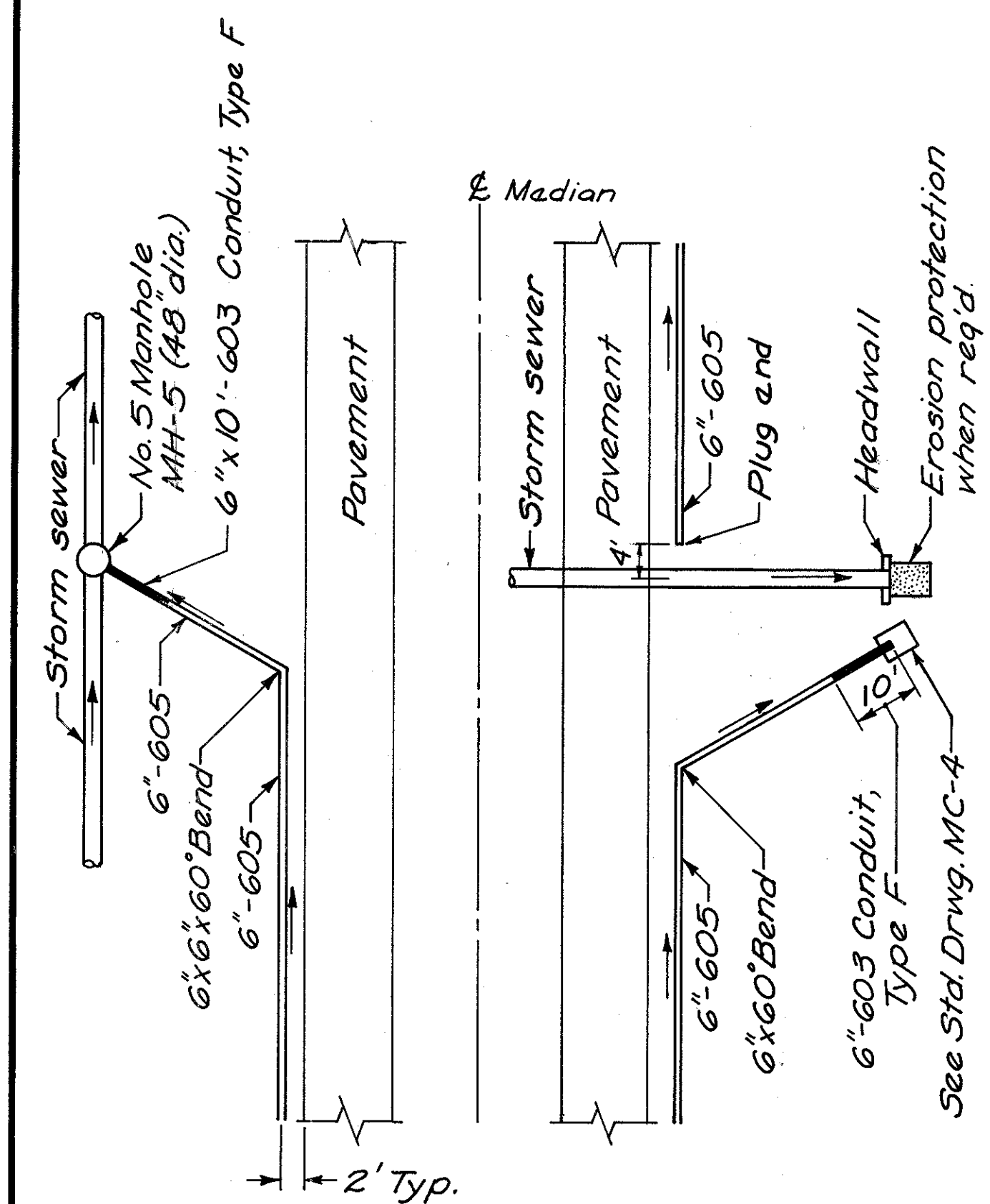
659 AGRICULTURAL LIMING, AS PER PLAN

33

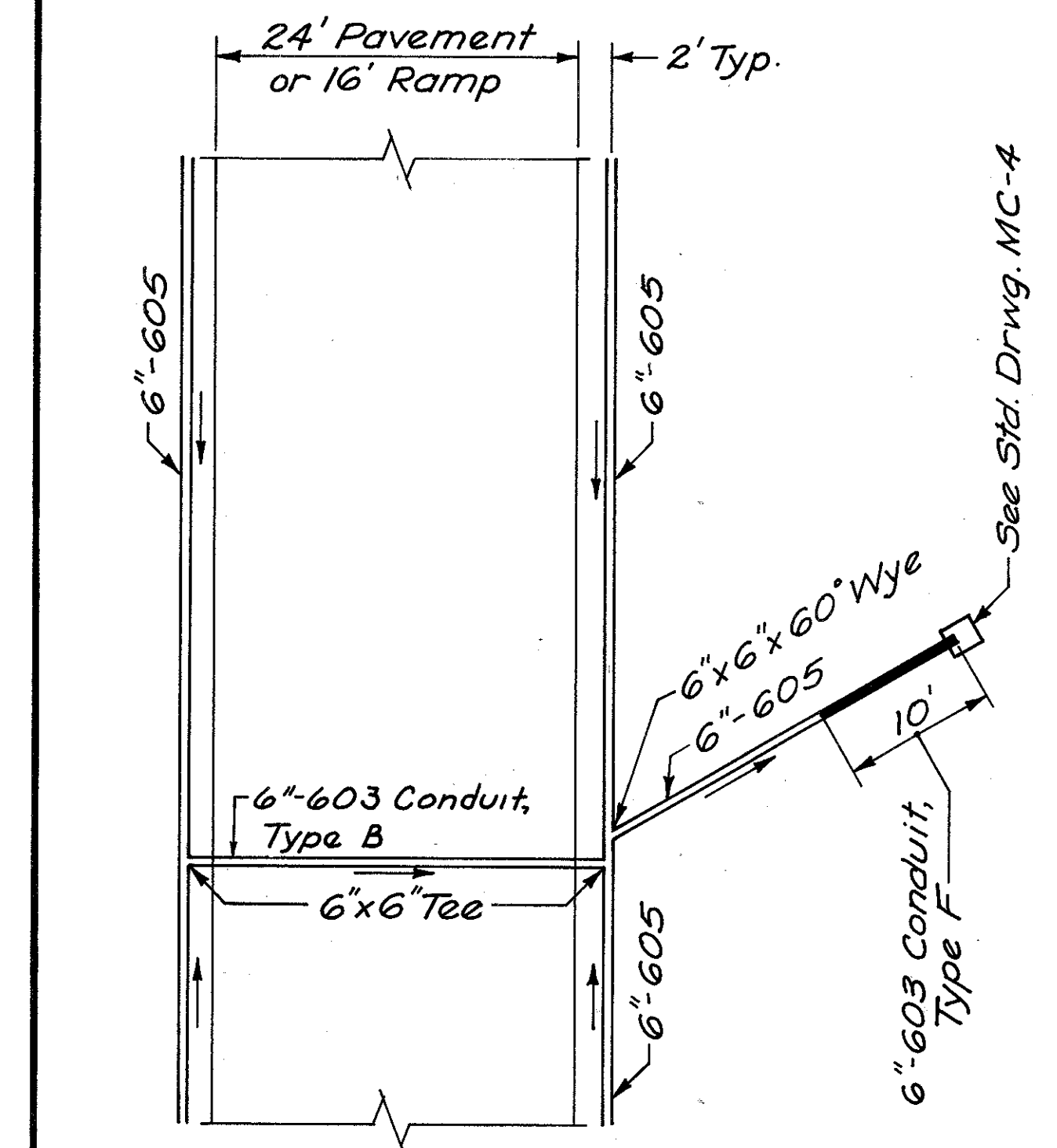
UNI-33-1.99



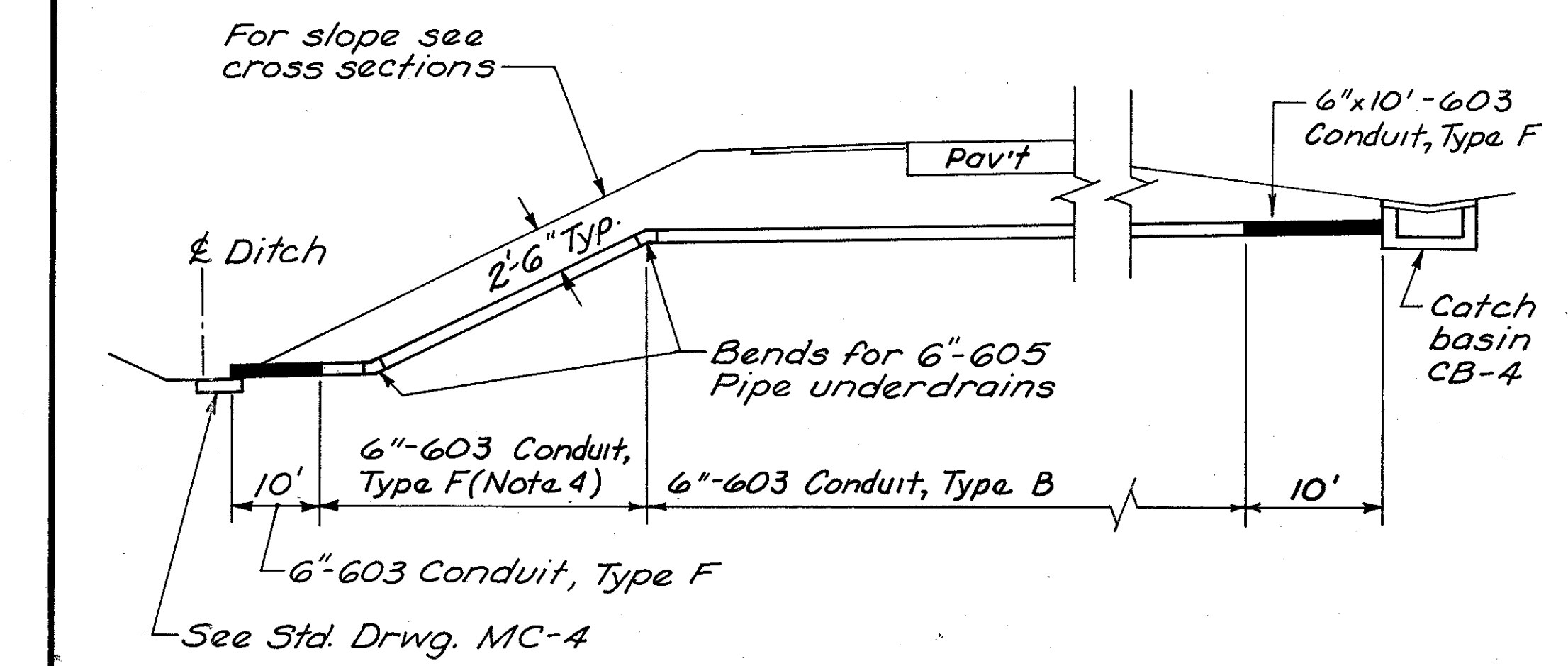
DETAIL A



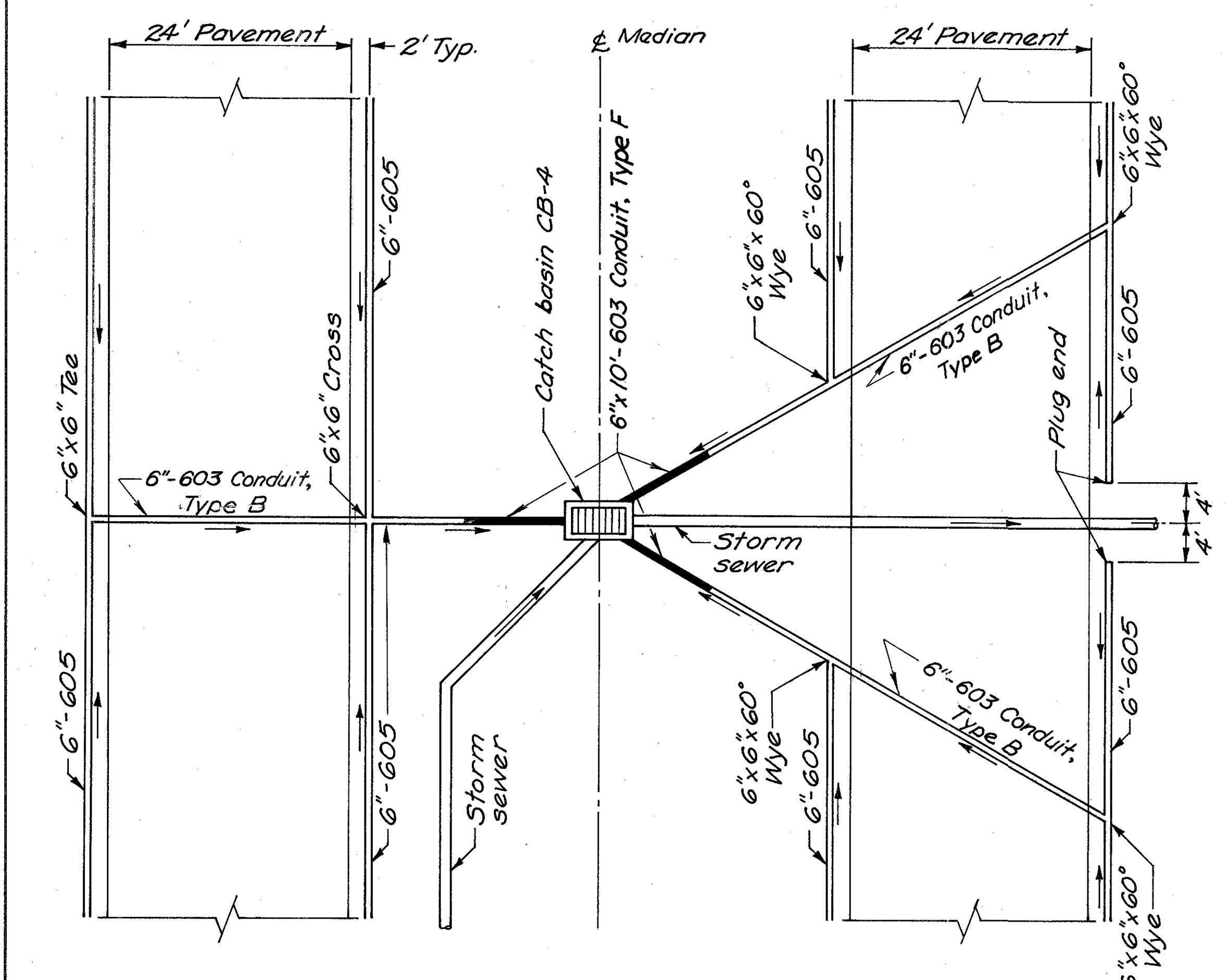
DETAIL B



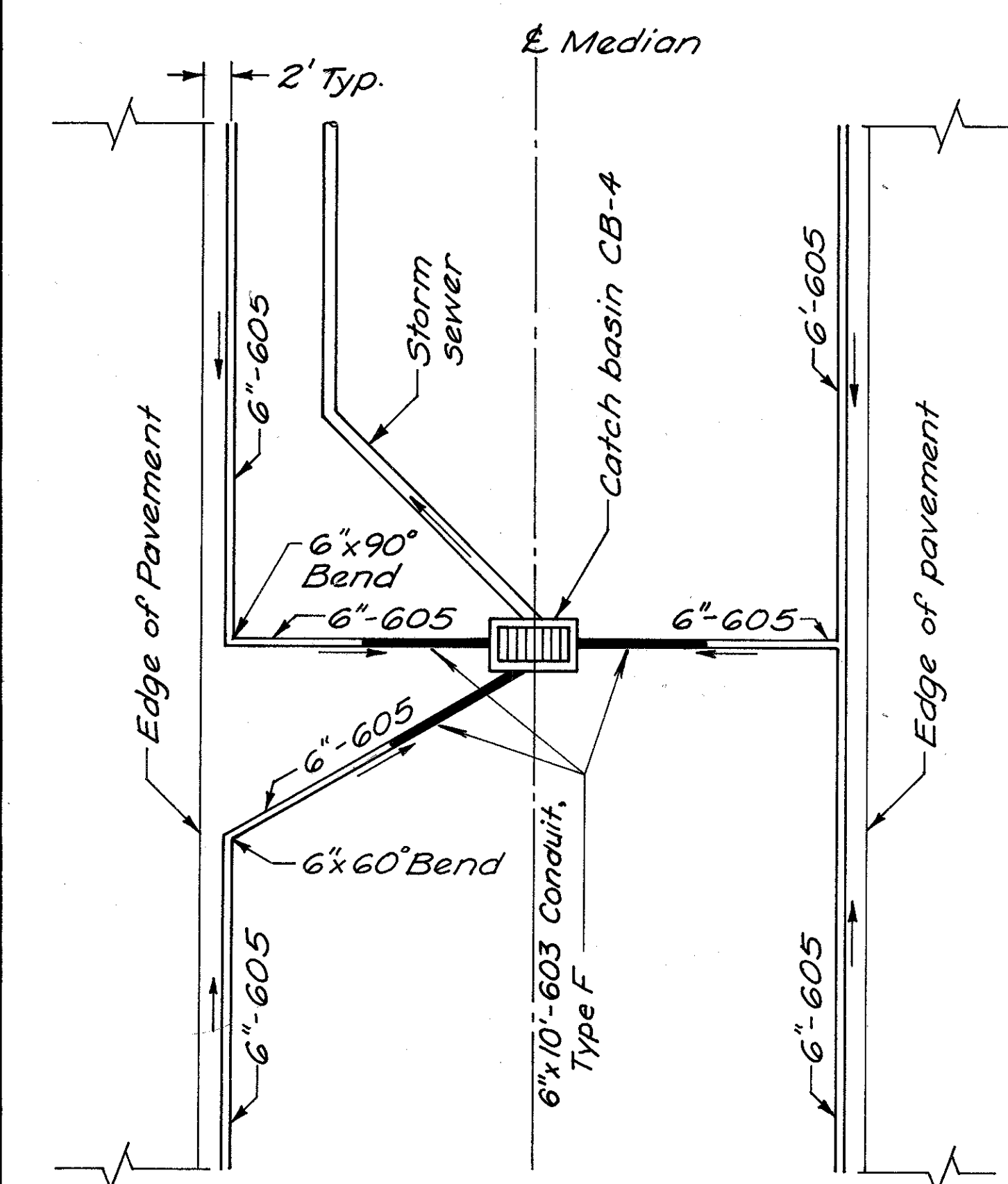
DETAIL C



DETAIL D



DETAIL E



DETAIL F

NOTES

1. When it is desirable to continue the underdrain across a transverse pipe, and if the vertical clearance between the pipes is less than 1'-0", then a 10' length of 6"-603 Conduit, Type F shall be used.
2. The advantages of matching the crown of pipes in the catch basin should be considered.
3. Wherever 6"-605 is shown on this drawing it stands for 6"-605 Pipe underdrains.
4. If slope is flatter than 4:1 (i.e. 6:1 or more) then continue 6"-603 Conduit, Type B to the 10' Outlet Pipe.

PARSONS BRINCKERHOFF QUADE & DOUGLAS
COLUMBUS, OHIO

PIPE UNDERDRAIN OUTLET DETAILS

Designed	Drawn	Traced	Checked	Reviewed	Date	Revised
J.P.	J.P.	M.J.B.			10/19/83	

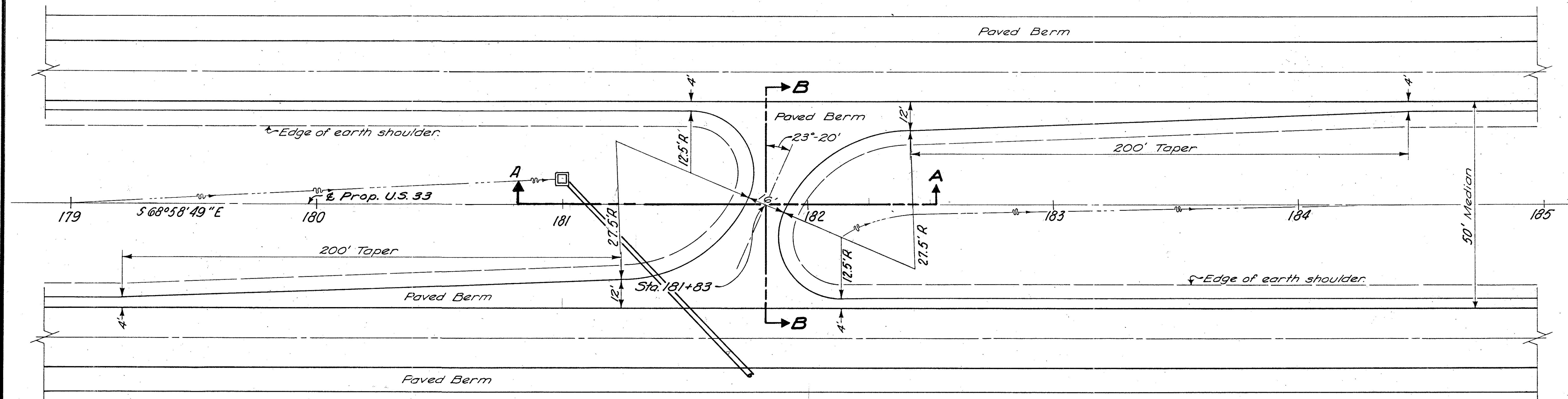
NOTE: See Sheet 150
For Box Culvert Under
Crossover.

CALC.	
BY	
DATE	
CHKD.	
BY	
DATE	

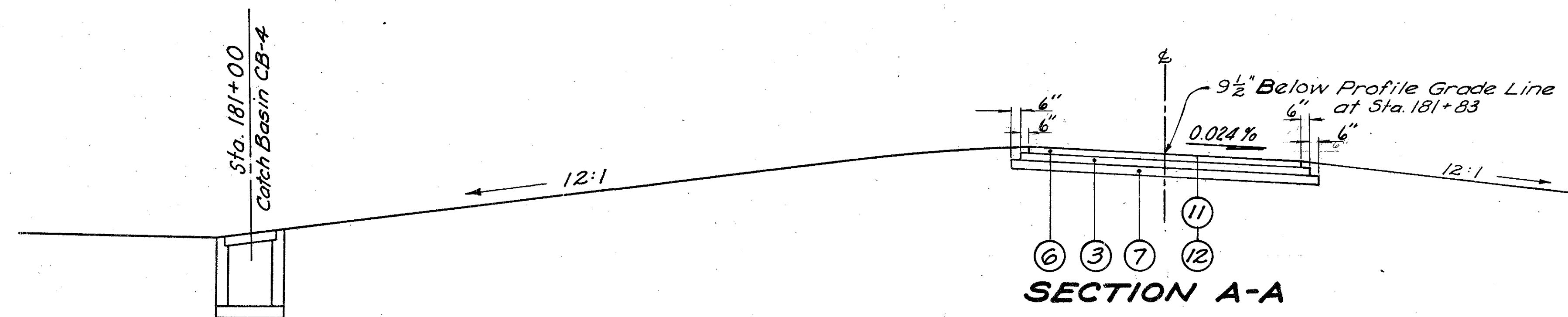
UNI - 33 - 1.99

OHIO
FHWA
REGION 5

17
245

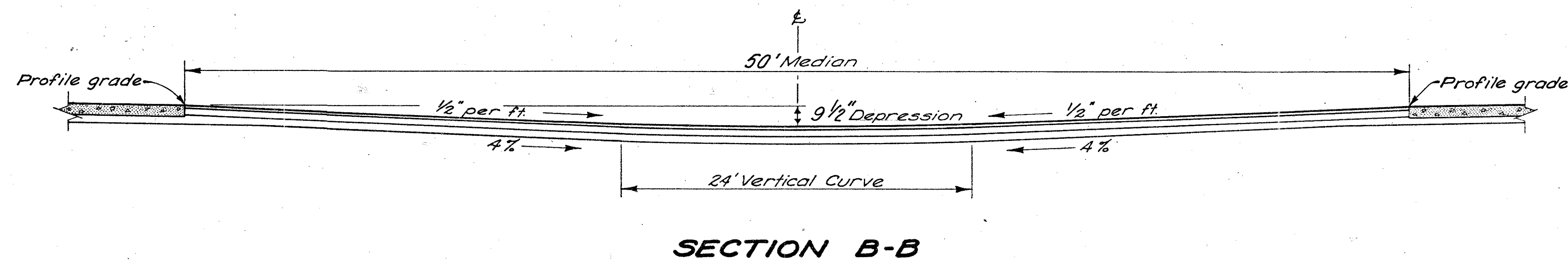


U-TURN MEDIAN CROSSOVER



LEGEND

- (3) 304 6" Aggregate base
- (6) 301 7" Bituminous aggregate base: AC-20, RT-11 or RT-12
- (7) Spec. 6" Lime - Soil stabilized subgrade
- (11) 409 Seal coat bituminous material at 0.50 gal. per sq. yd.
- (12) 409 Seal coat cover aggregate No. 8 at 0.008 cu. yd. per sq. yd.

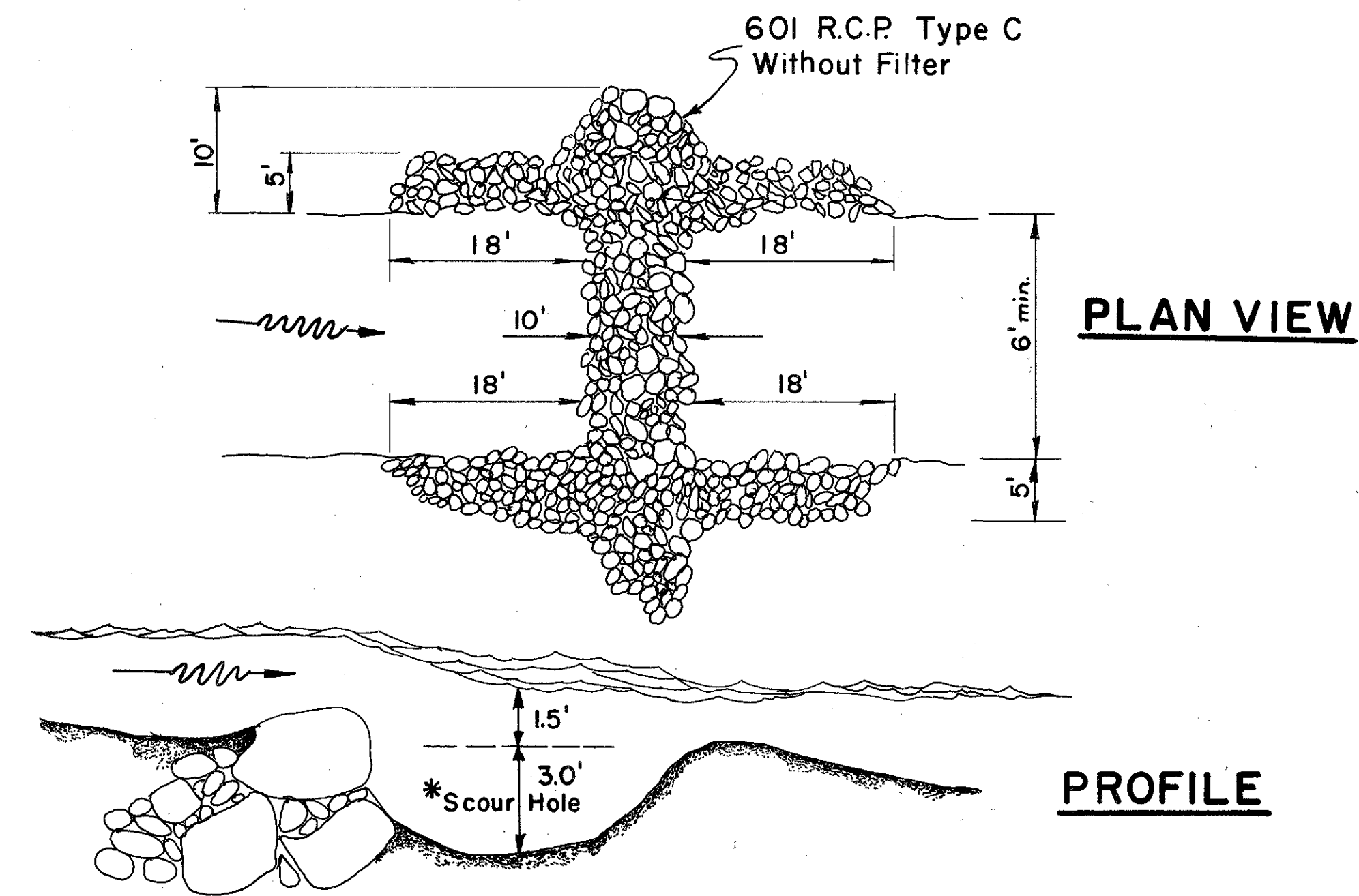


Not To Scale

PARSONS BRINCKERHOFF QUADE & DOUGLAS
COLUMBUS, OHIO

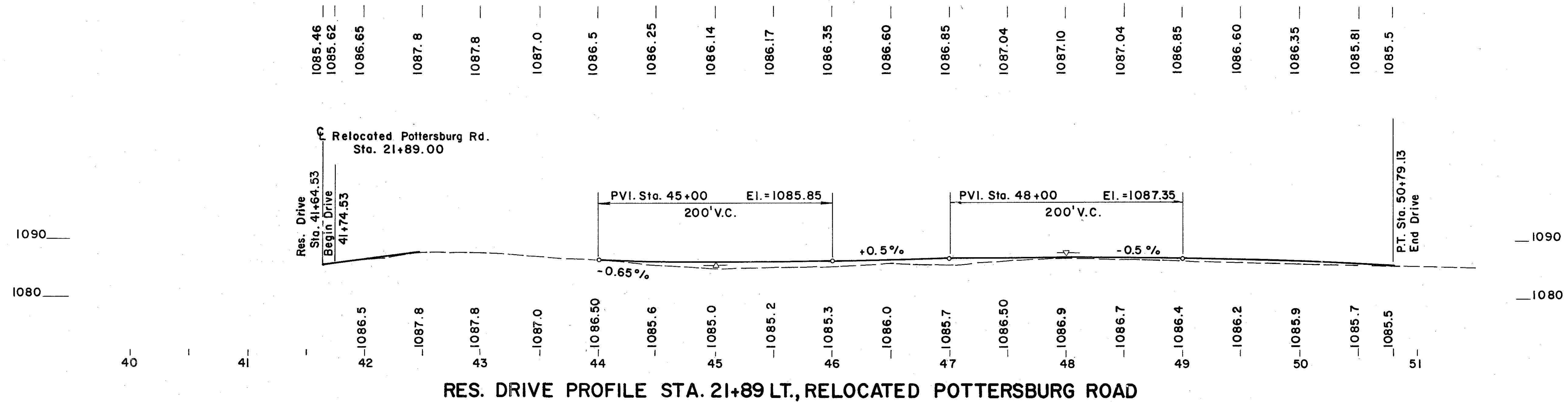
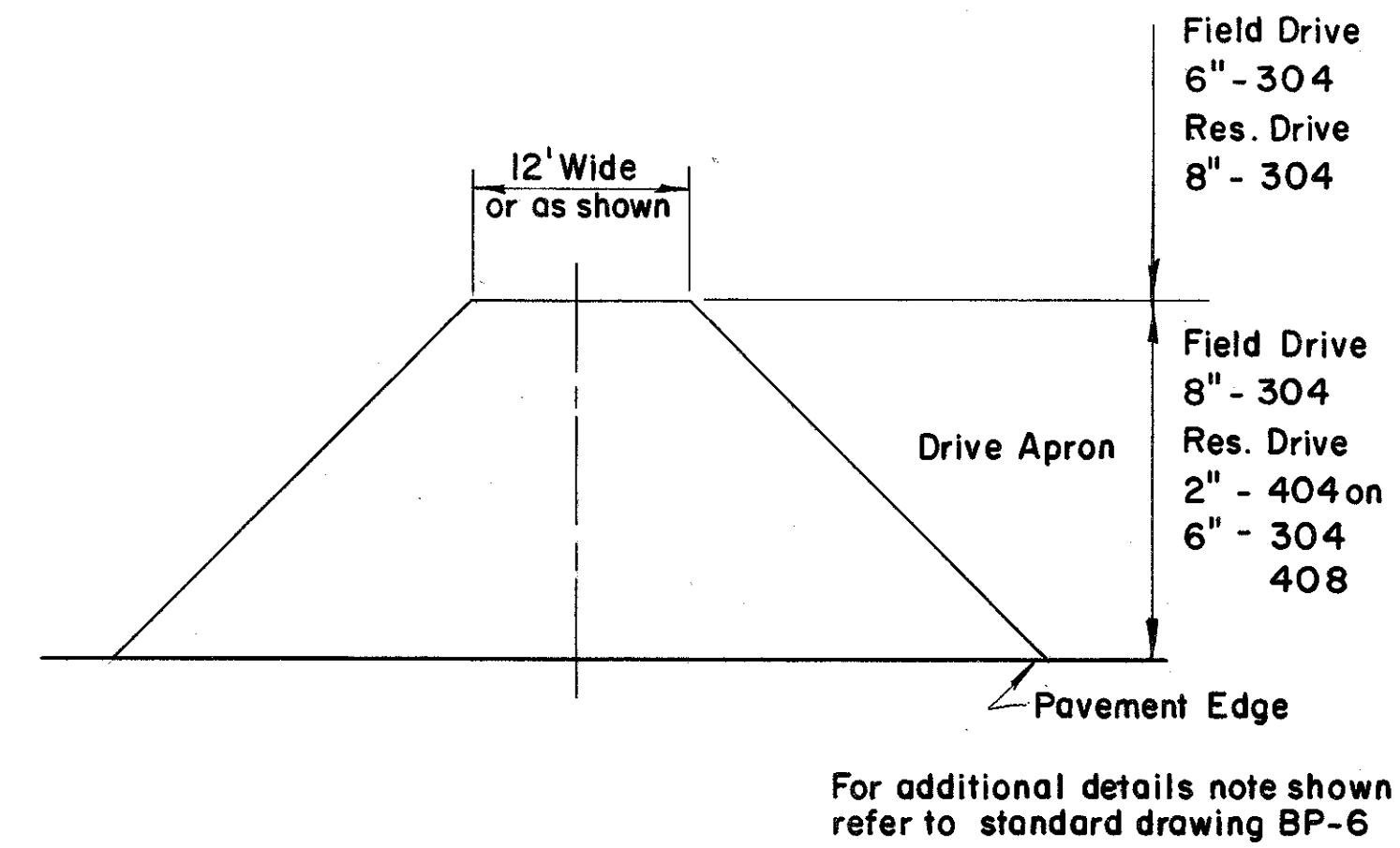
U-TURN MEDIAN CROSSOVER

Designed	Drawn	Traced	Checked	Reviewed	Date	Revised
0001	MJB	MJB				



RIFFLE DETAIL
Not to Scale

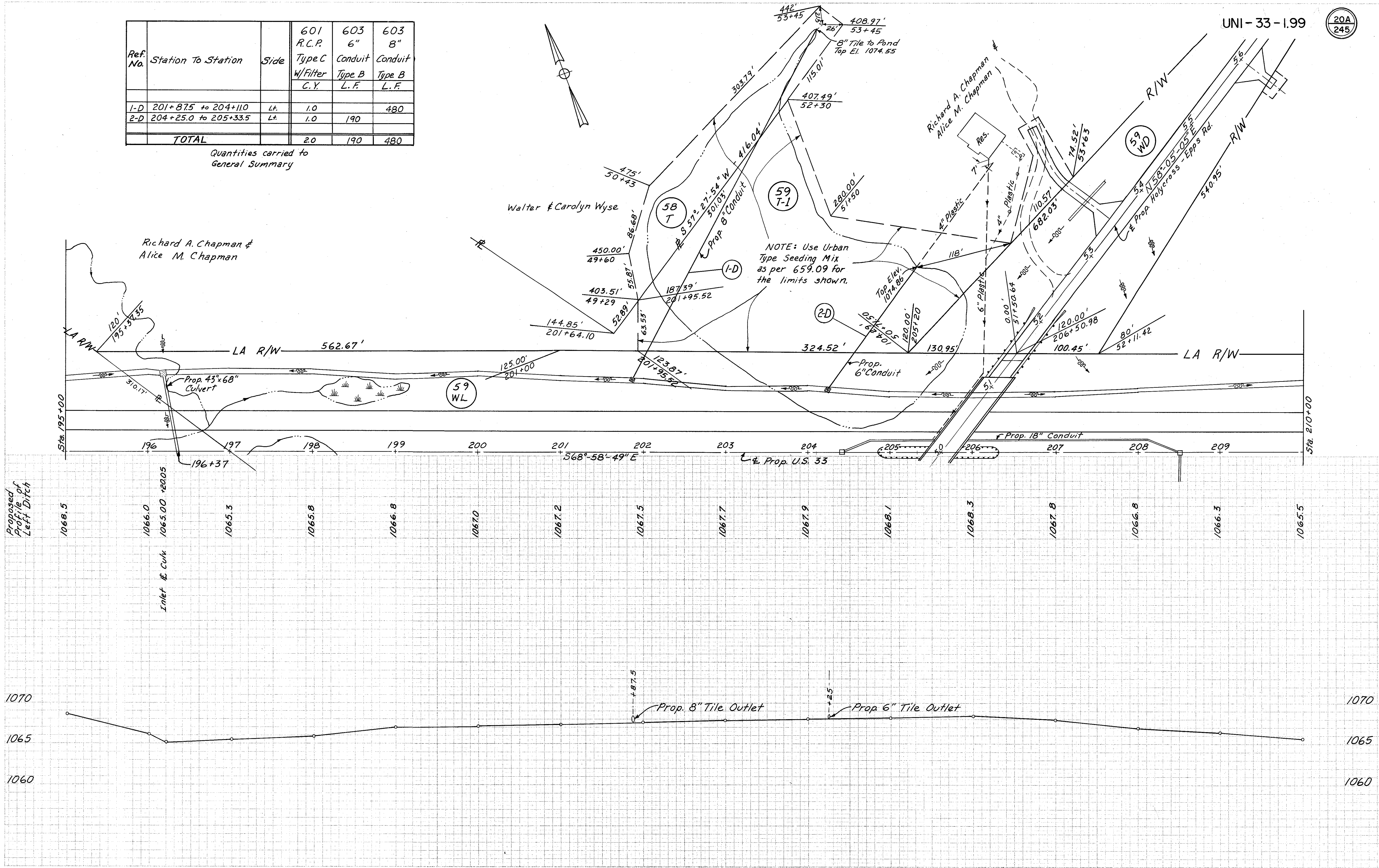
* SCOUR HOLE TO BE CREATED BY FLOW ACTION, NOT BY CONTRACTOR.



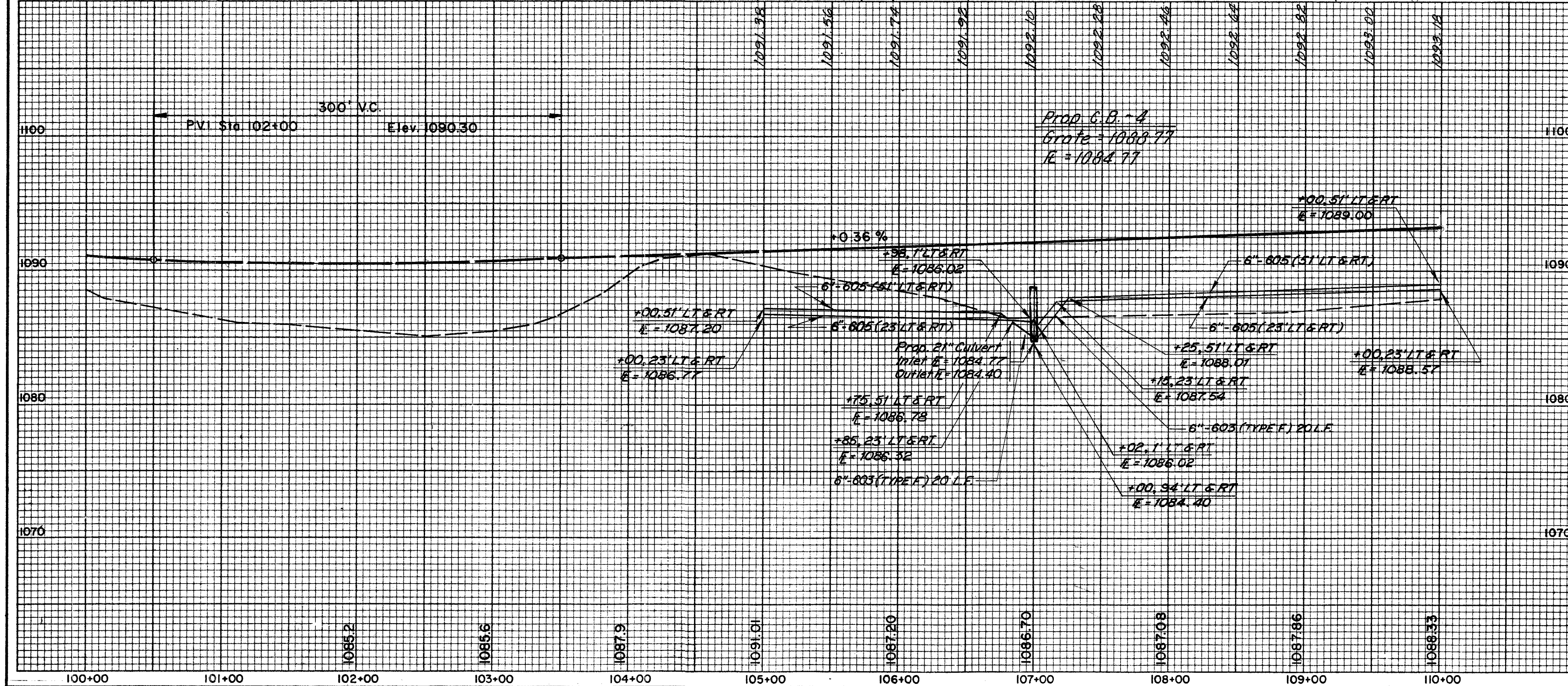
PARSONS BRINCKERHOFF QUADE & DOUGLAS COLUMBUS, OHIO						
MISCELLANEOUS DETAILS						
Designed	Drawn	Traced	Checked	Reviewed	Date	Revised

Ref. No.	Station To Station	Side	601 R.C.P. Type C W/Filter C.Y.	603 6" Conduit Type B L.F.	603 8" Conduit Type B L.F.
1-D	201+87.5 to 204+110	Lt.	1.0		480
2-D	204+25.0 to 205+33.5	Lt.	1.0	190	
TOTAL			2.0	190	480

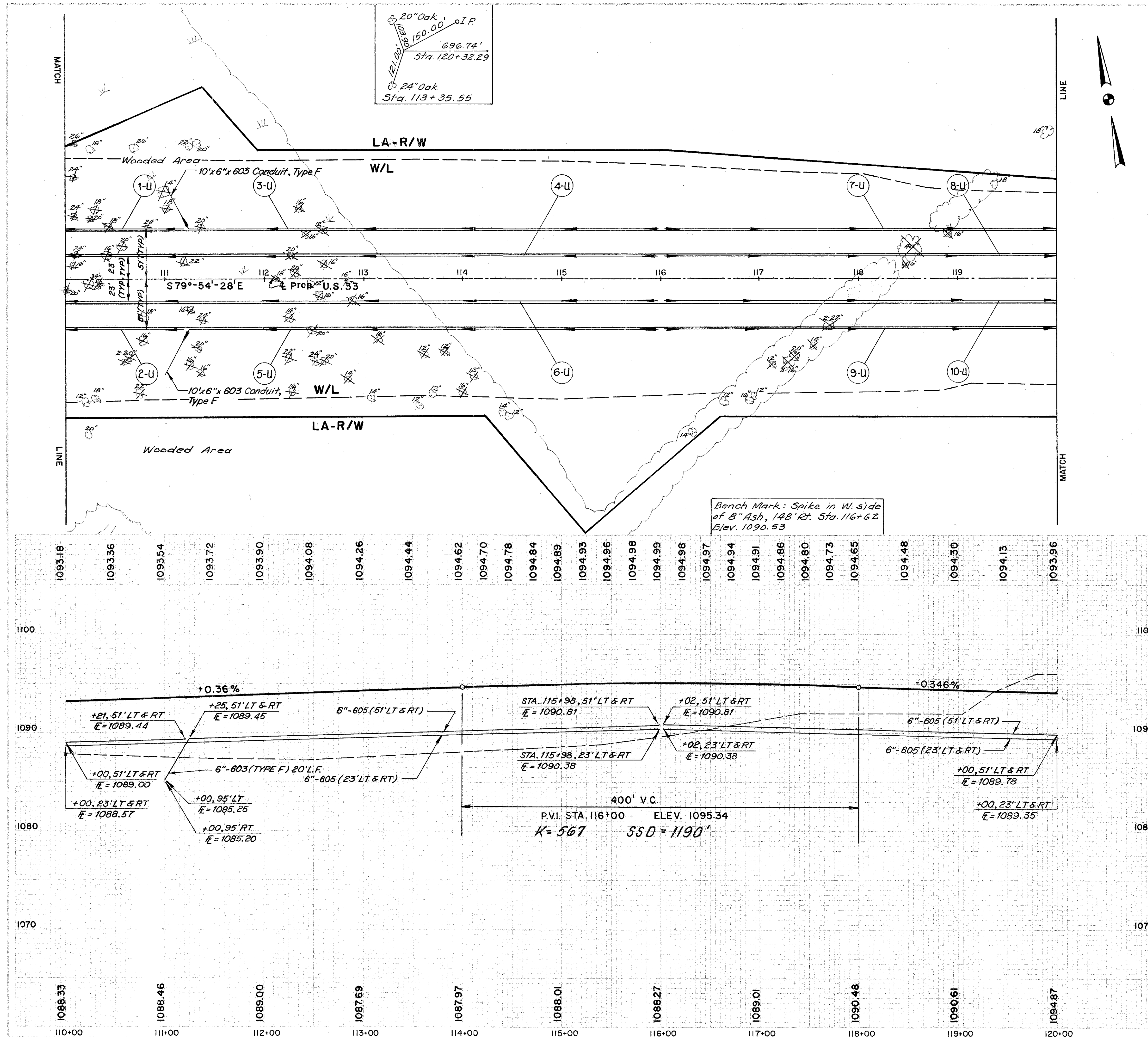
Quantities carried to General Summary



21
245

[illegible]

STA.100+00 TO STA.110+00



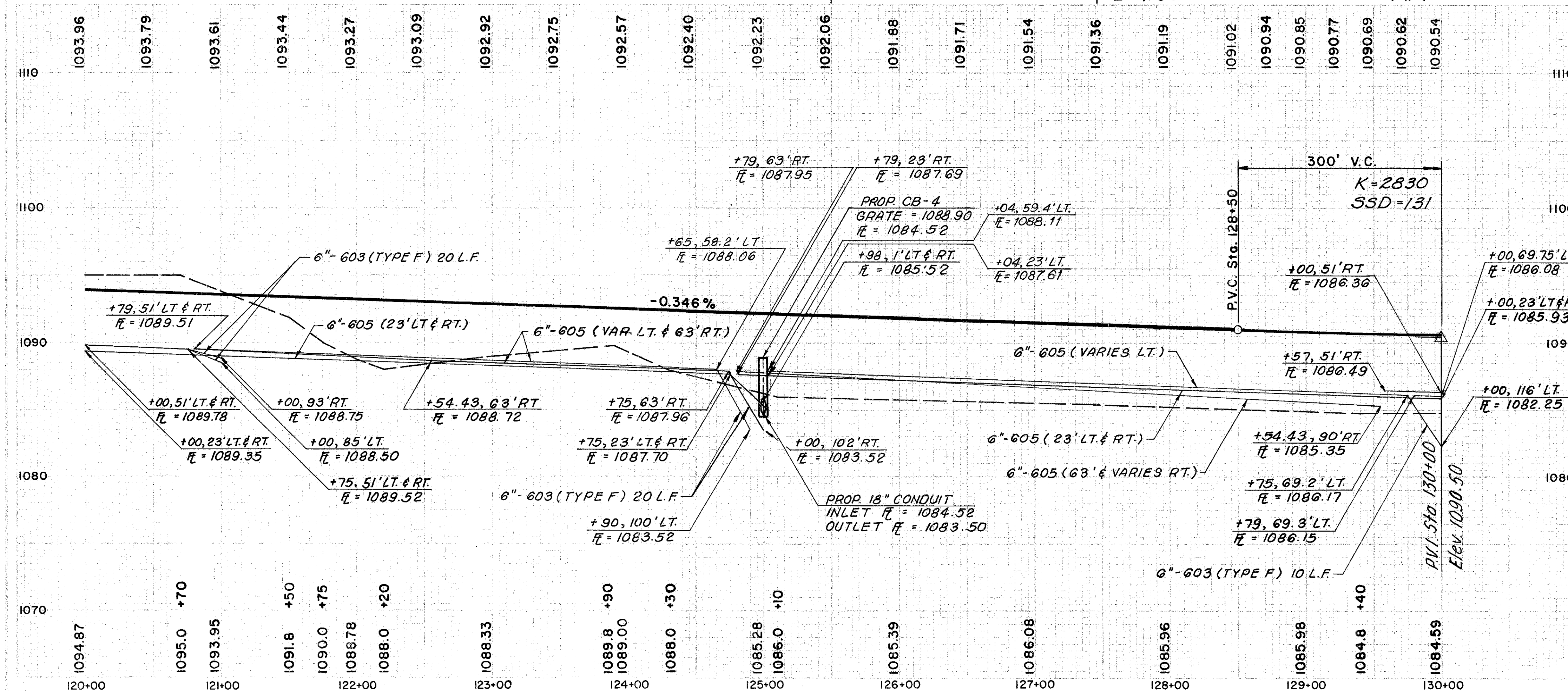
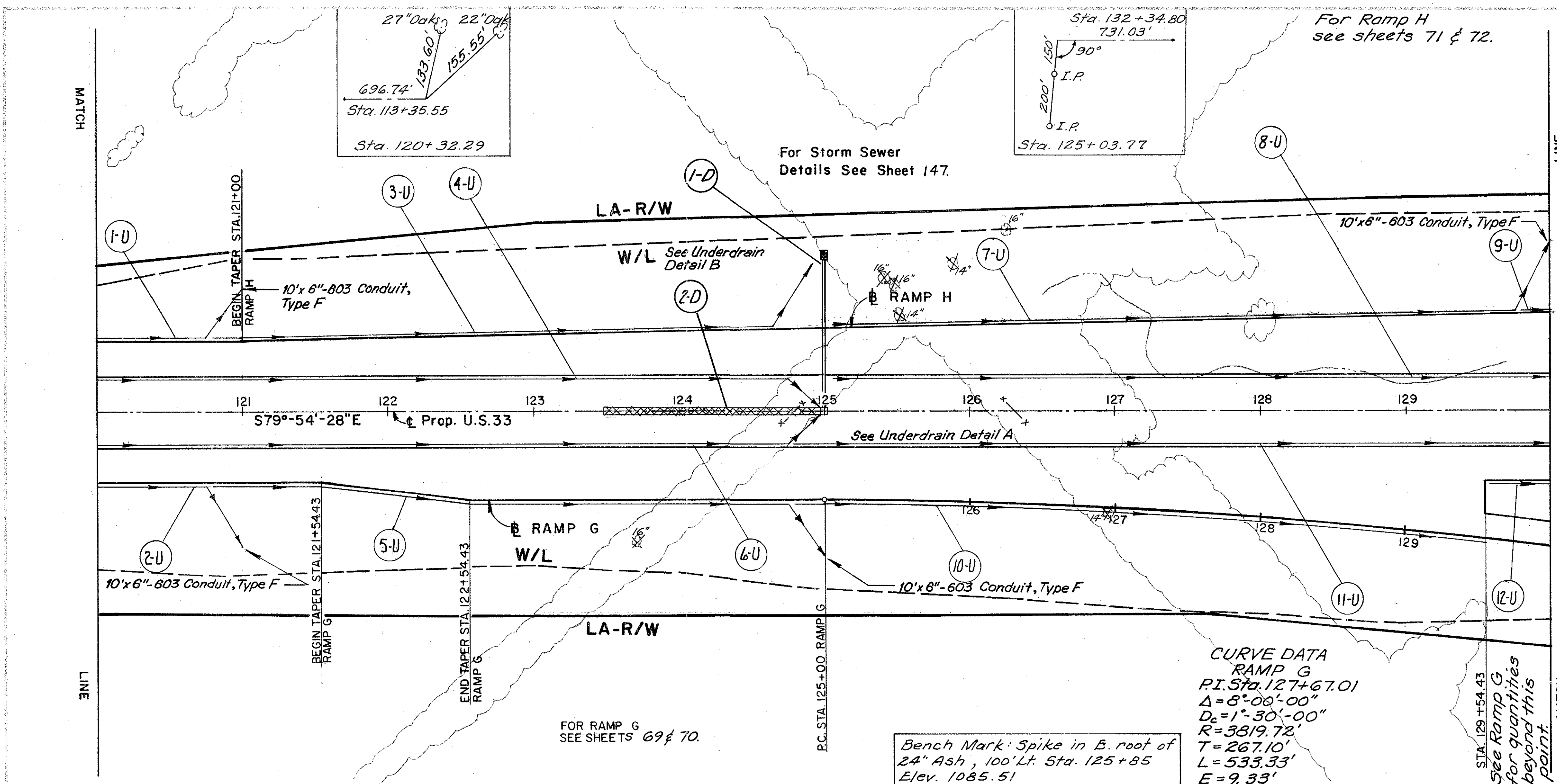
ESTIMATED QUANTITIES

603 605 6' Conduit 5' Shol Type F Pipe Branches	L.F.	U.D's	Ea
1-U 110+00 TO 111+21	121		
2-U 110+00 TO 111+21	121		
3-U 111+00 TO 115+98	10		
4-U 110+00 TO 115+98	10		
5-U 110+00 TO 115+98	398		
6-U 110+00 TO 115+98	398		
7-U 116+02 TO 120+00	398		
8-U 116+02 TO 120+00	398		
9-U 116+02 TO 120+00	398		
10-U 116+02 TO 120+00	398		

STA. 110+00 TO STA. 120+00

20 4056

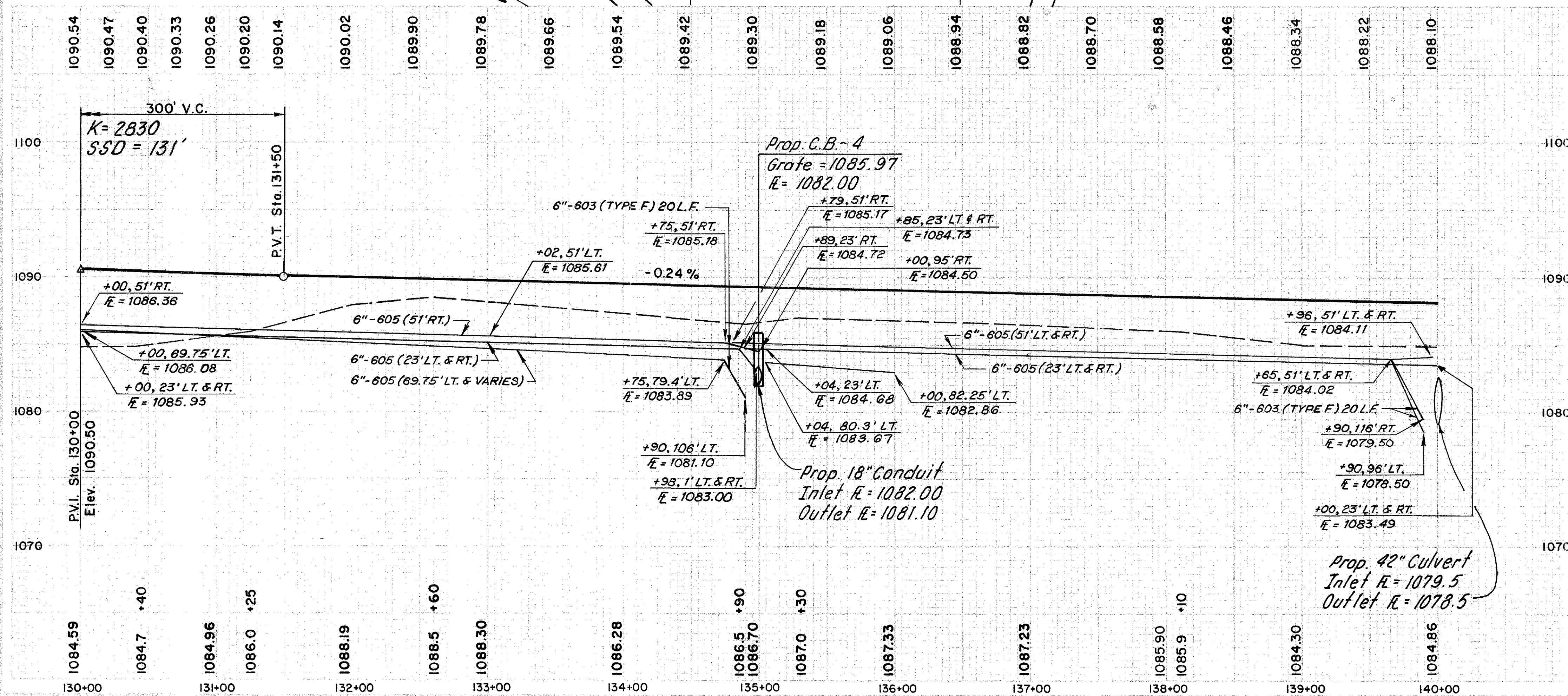
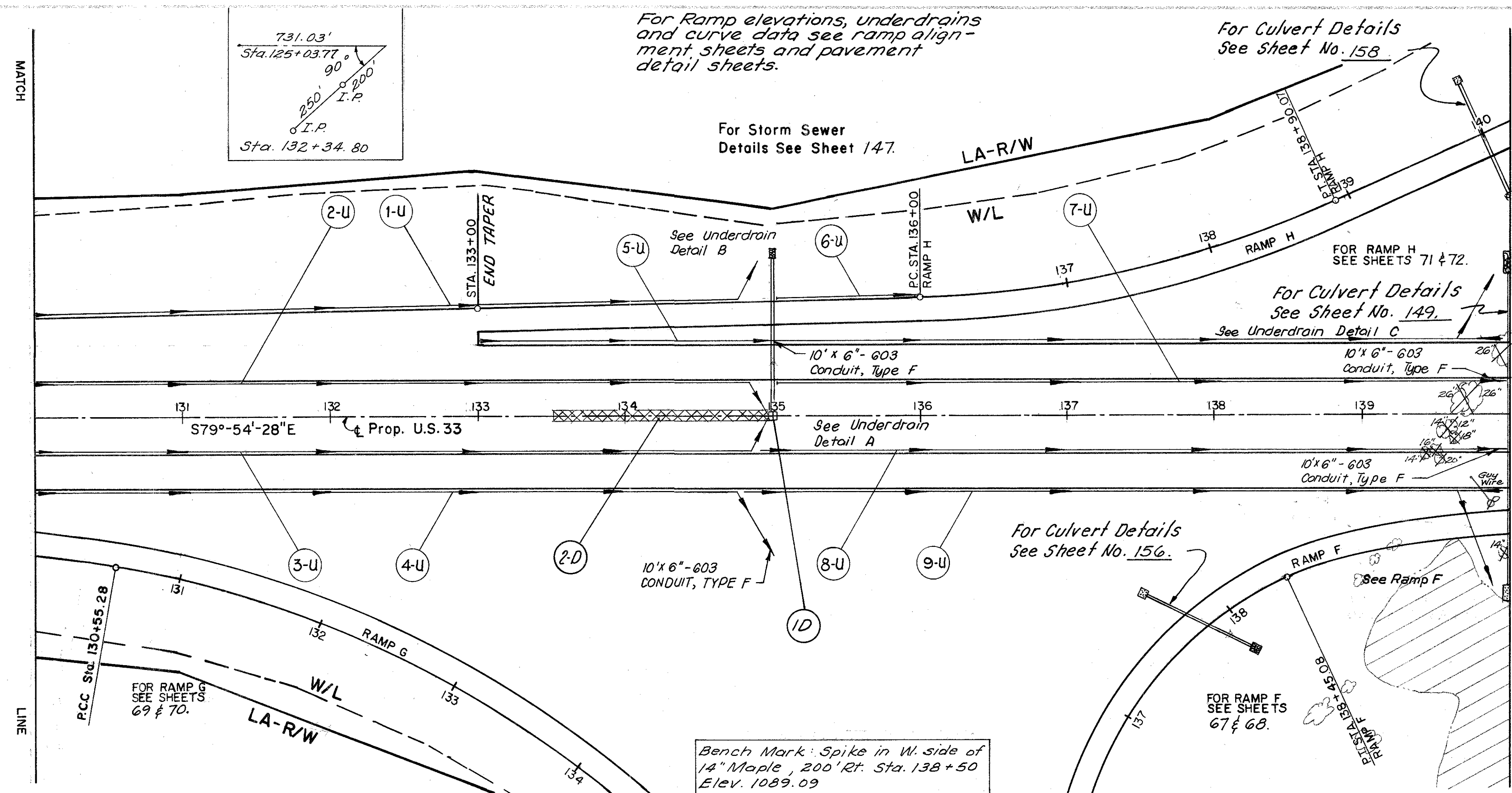
UNI-33-1.99

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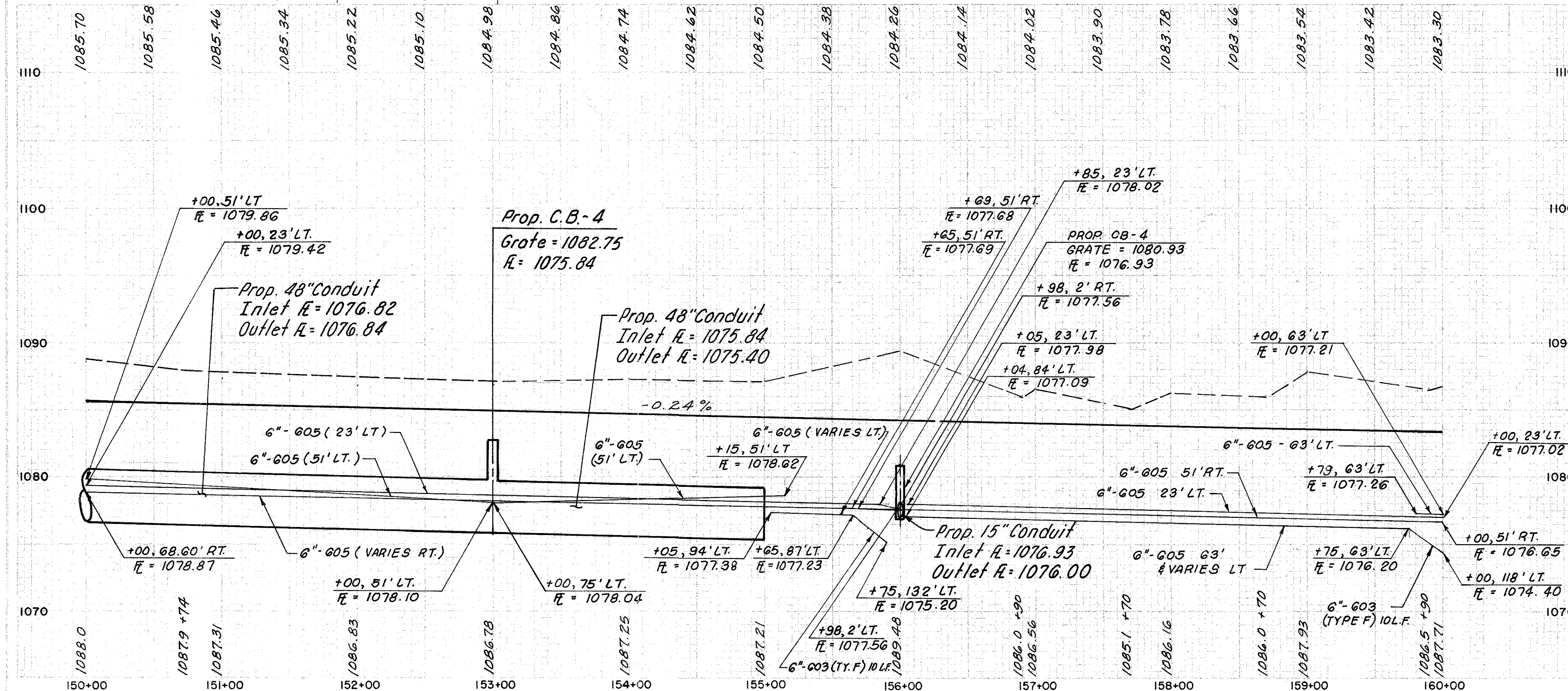
SEE W/	STATION TO STATION	SEE	602 CONC Mason	603 Type F	603 Type B	604 Basin No. 4	605 Pipe U.D.'s	Bends and Branches	601 R.C.P. Type C w/ filter	Cu. Yd.
			C. Y	L. F.	L. F.	Ea.	L. F.	Ea.		
	1-U 120+00 TO 121+00	Lt		10			108	/		
	2-U 120+00 TO 121+00	Rt		10			113	/		
	3-U 120+79 TO 124+98	Lt		10			424	/		
	4-U 120+00 TO 124+98	Lt		10			495	/		
	5-U 120+79 TO 125+00	Rt		10			432	/		
	6-U 120+00 TO 124+98	Rt		10			495	/		
	7-U 125+04 TO 130+00	Lt		10			515	/		
	8-U 125+04 TO 130+00	Lt		10			496			
	9-U 129+69 TO 130+00	Lt					21			
	10-U 124+79 TO 129+57	Rt					475			
	11-U 124+79 TO 130+00	Rt					521			
	12-U 129+57 TO 130+00	Rt					43			
			0.33		102	/				1.0
	1-D 125+00	Lt								
	2-D 123+50 TO 125+00	Lt								

STA. 120+00 TO STA. 130+00

0.33	70	102	1	4138	1.0
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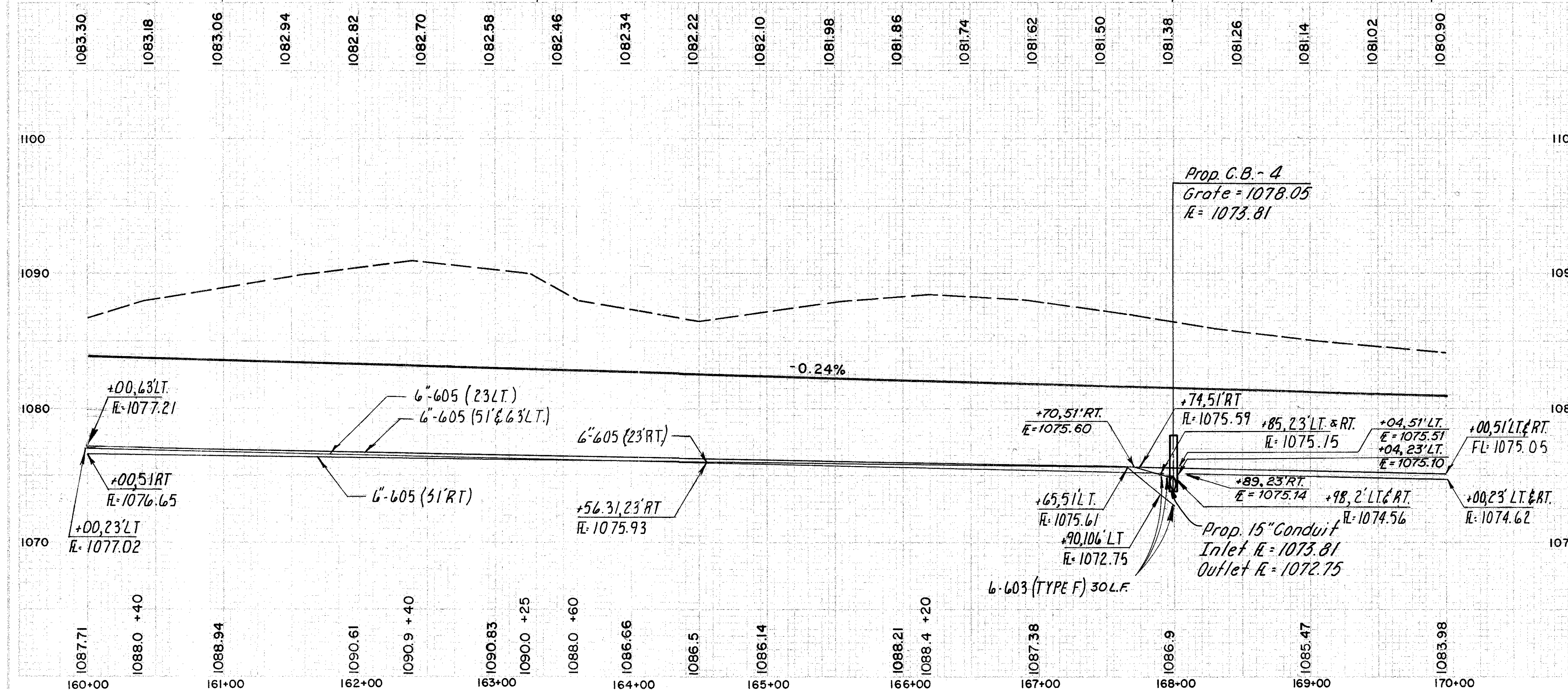
[illegible]

STA. 130+00 TO STA. 140+00



ESTIMATED QUANTITIES													SEE SHEET NO.
CITY NO.	STATION TO STATION	SIZE	601 R.C.P. Type C W/Filter CY	602 Conc. Moson CY	603 6" Cond. Type B L.F.	603 6" Cond. Type B L.F.	603 15" Cond. Type B L.F.	603 48" Cond. Type C L.F.	604 Catch Basin No. & L.F.	605 6" Deep Pipe L.F.	Bends and Branches Ea.	670 Ditch Erosion Prof. S.Y.	
	1-U 150+00 to 155+15	Lt			10					528	1		
	2-U 150+00 to 155+98	Lt			10					600	1		
	3-U 150+00 to 155+98	Rt			10					565	1		
	4-U 155+05 to 155+90	Lt			10					103	1		
	5-U 156+04 to 160+00	Lt			10					398	1		
	6-U 156+05 to 160+00	Lt								395			
	7-U 155+69 to 160+00	Rt								431			
	8-U 159+79 to 160+00	Lt								21			
	1-D 150+00 to 153+00	Lt					300		1				
	2-D 153+00 to 155+00	Lt	3.56	1.10		220			1				
	3-D 156+00	Lt		0.27		132						125	
	4-D 154+50 to 156+00	Lt										125	
	5-D 151+50 to 153+00	Lt											
			3.56	1.37	53	132	220	300	2	3041		250	

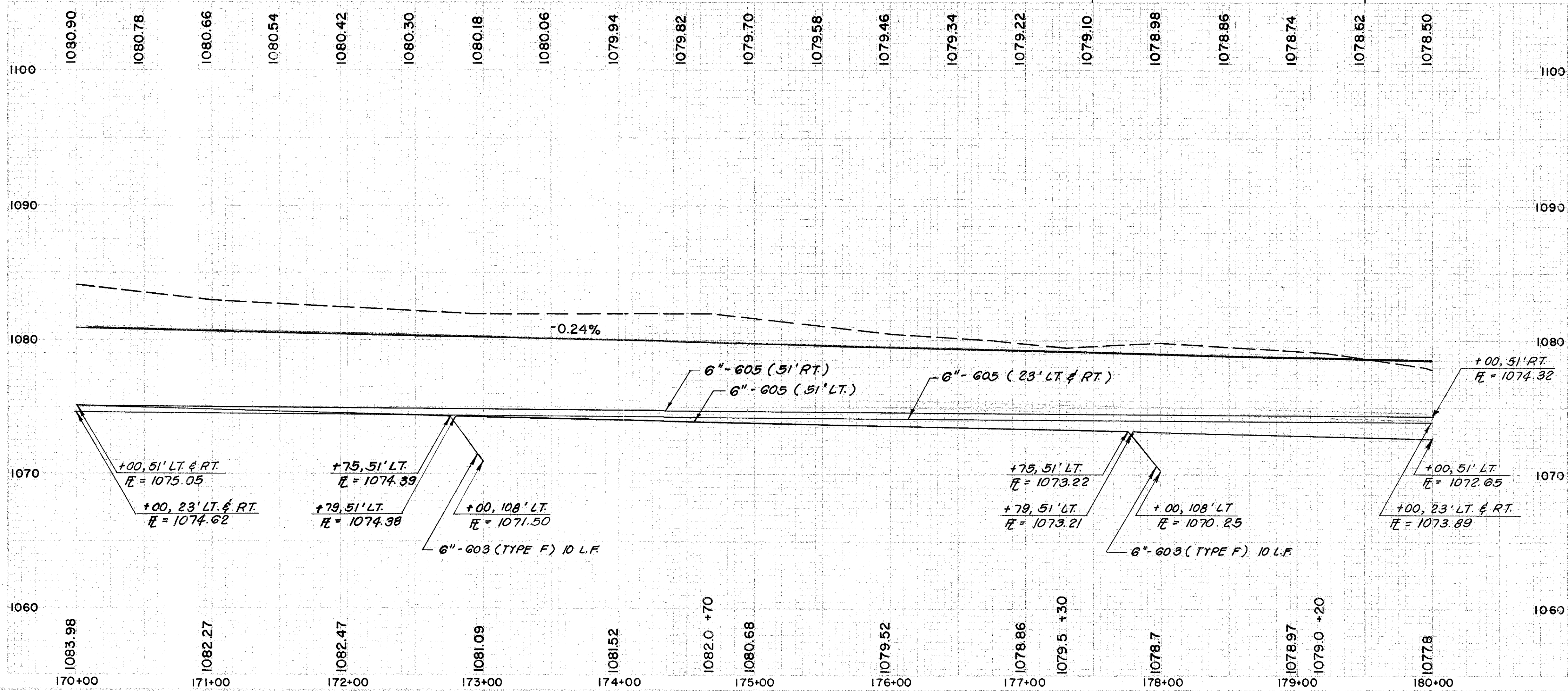
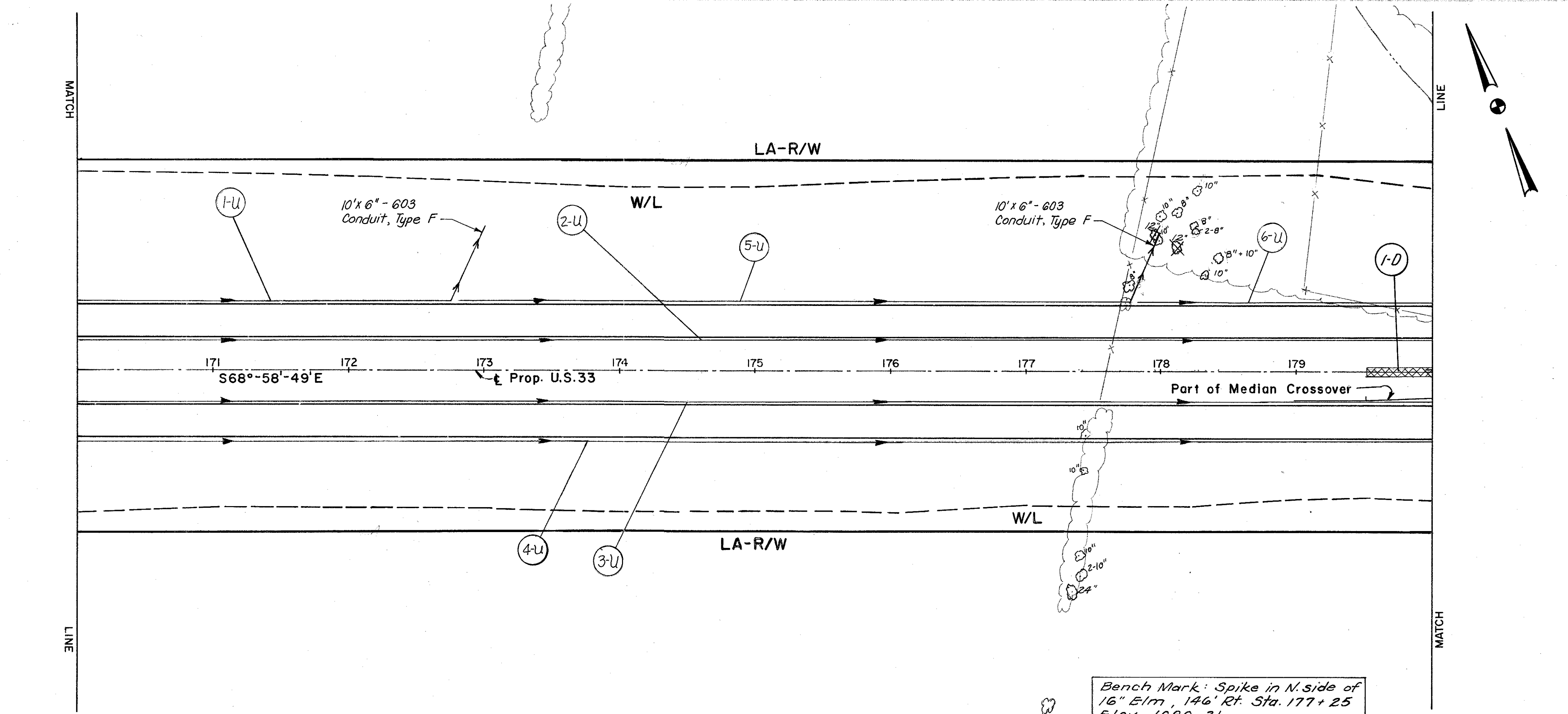
STA.150+00 TO STA.160+00



REF. NO.	STATION TO STATION	602 Conc. Mason Cond. C.Y.	603 6" Cond. Type F L.F.	603 15" Cond. Type B L.F.	604 Catch Basin No. 4 Eq.	605 6" Deep Pipe U.D.'s L.F.	605 Bends and 6" Cond. Bench-type B Eq.	670 Ditch Erosion Prot. S.V.	SEE SHEET NO.
1-U	160+00 TO 167+90	Lt	10			815	1		
2-U	160+00 TO 167+98	Lt	10			800	1		
3-U	160+00 TO 167+85	Rt				770	1	34	
4-U	164+56 TO 167+98	Rt	10			344	1		
5-U	168+04 TO 170+00	Lt				196			
6-U	168+04 TO 170+00	Lt				196			
7-U	167+74 TO 170+00	Rt				226			
8-U	167+89 TO 170+00	Rt				211			
1-D	168+00	Lt		106	1			125	
2-D	166+50 TO 168+00	Eq							
		0.27	30	106	1	3558	34	125	

STA.160+00 TO STA.170+00

UNI-33-1.99



ESTIMATED QUANTITIES

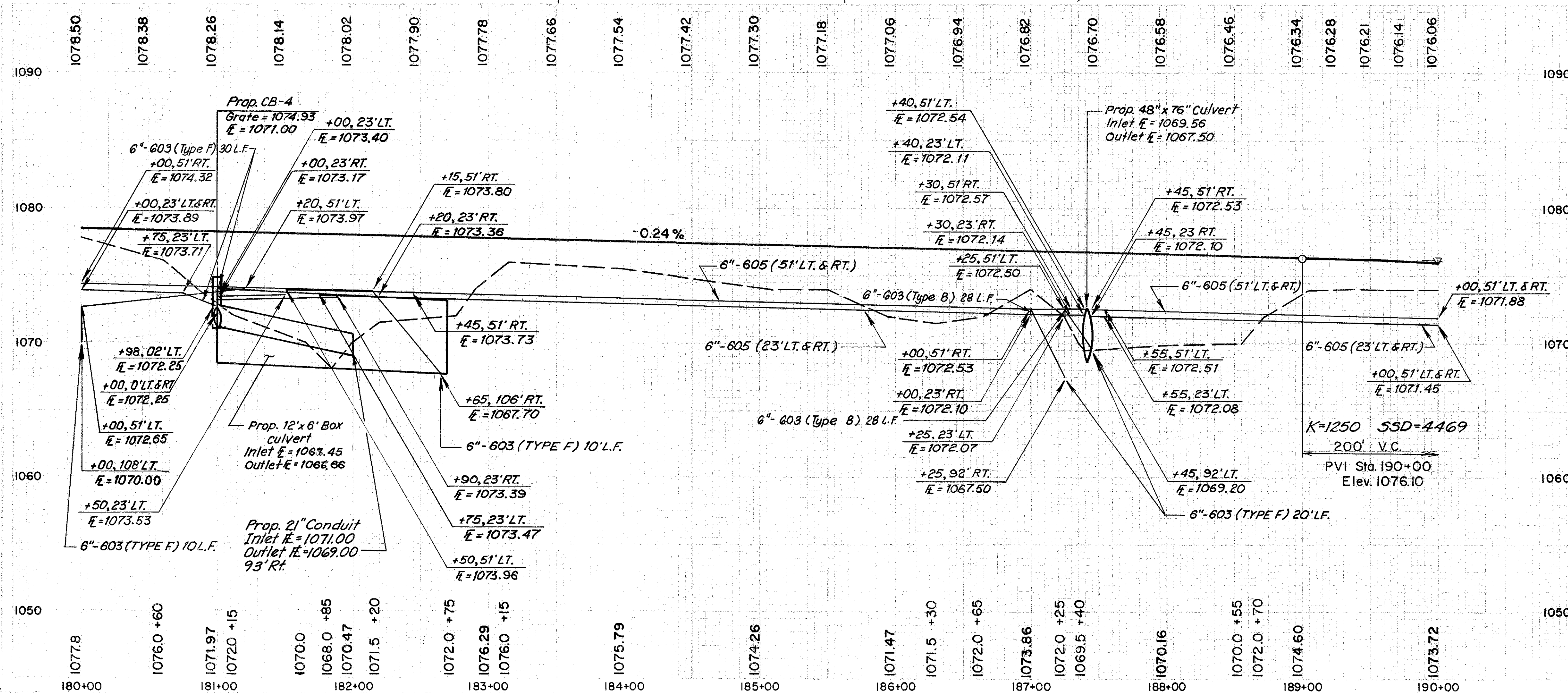
ITEM	STATION TO STATION	SOE	6" Uncl. and Concl. Fied Pipe Branches Type F U.D.S. L.F.	6"05 Bends L.F.	6"05 and 6"03 Tee Pipe Branches Type F U.D.S. L.F.
1-U	170+00 TO 173+00	LT.	10	327	1
2-U	170+00 TO 180+00	LT.	1000	1000	
3-U	170+00 TO 180+00	RT.	1000	1000	
4-U	170+00 TO 180+00	RT.	10	548	1
5-U	172+79 TO 178+00	LT.	10	221	
6-U	177+79 TO 180+00	LT.			
1-D	179+50 TO 180+00	E			

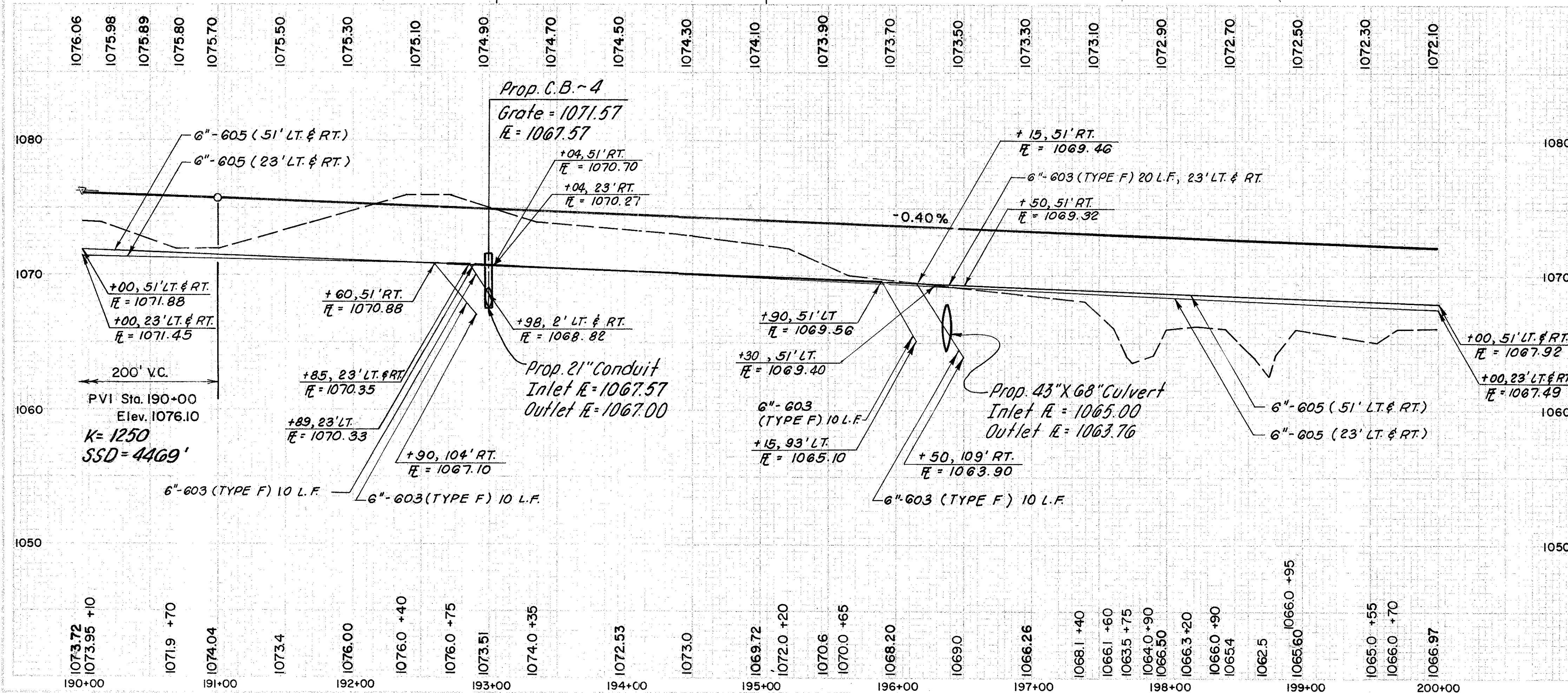
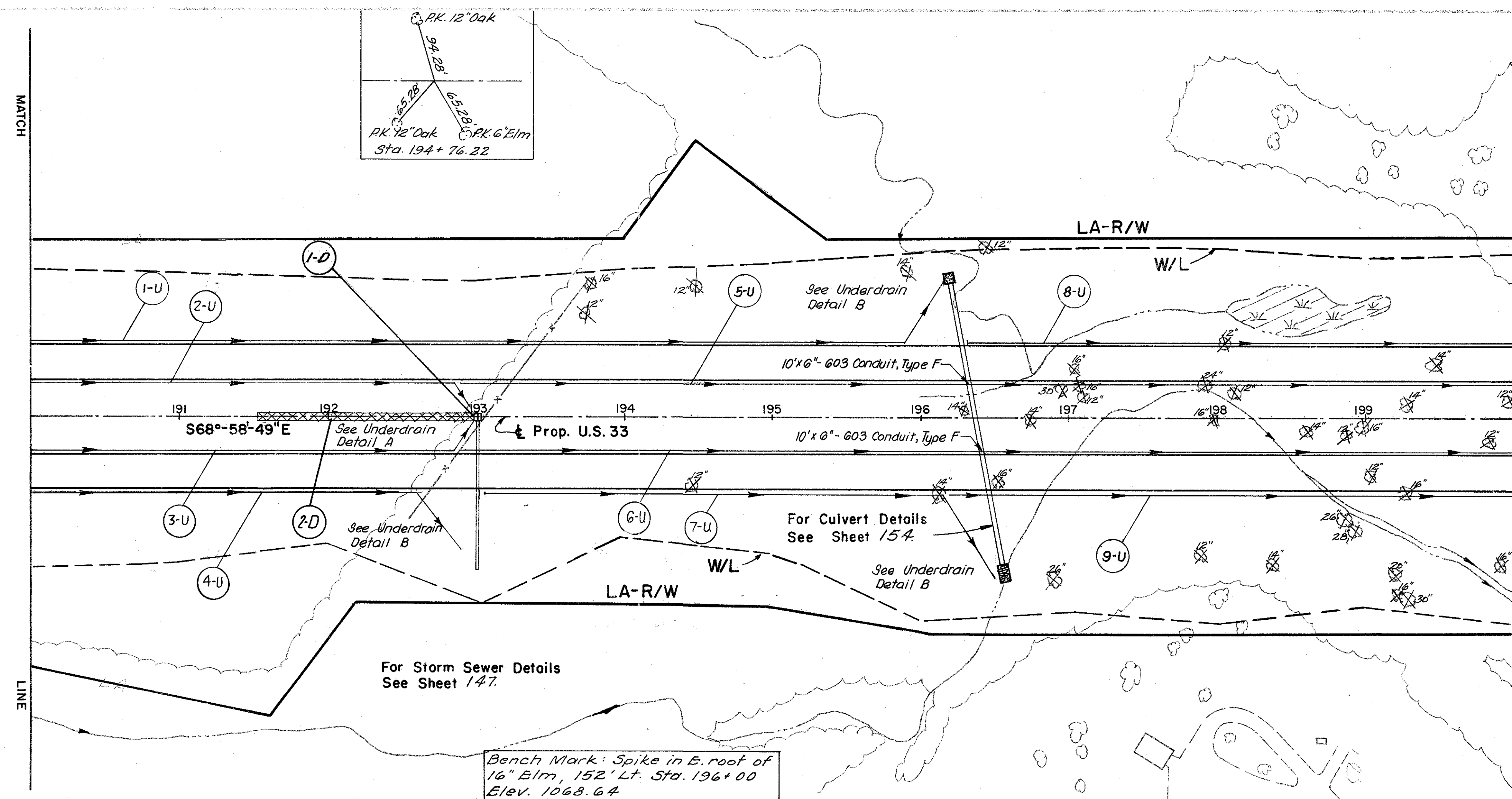
STA.170+00 TO STA.180+00

42

20 4096

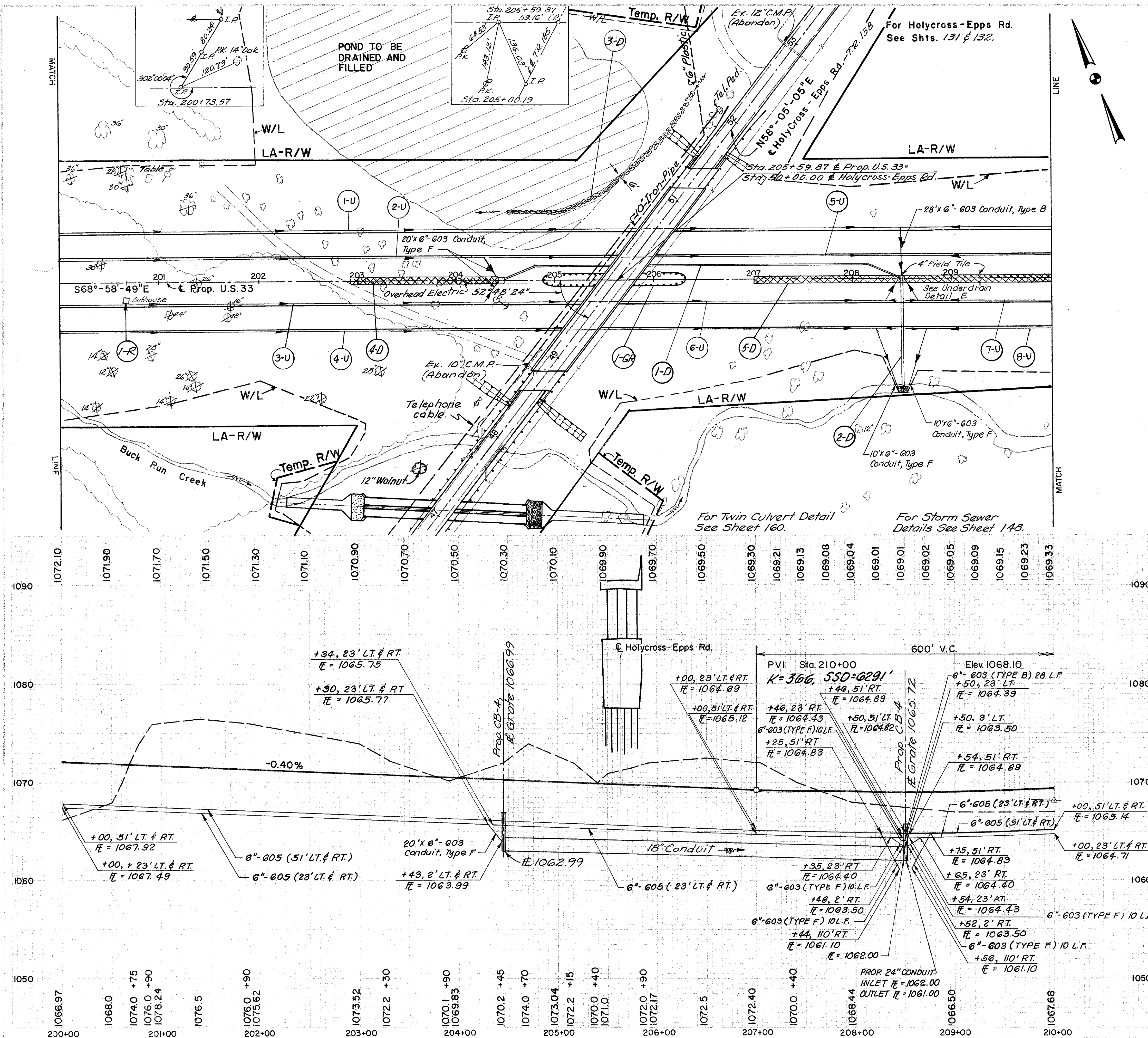
STA.180+00 TO STA.190+00

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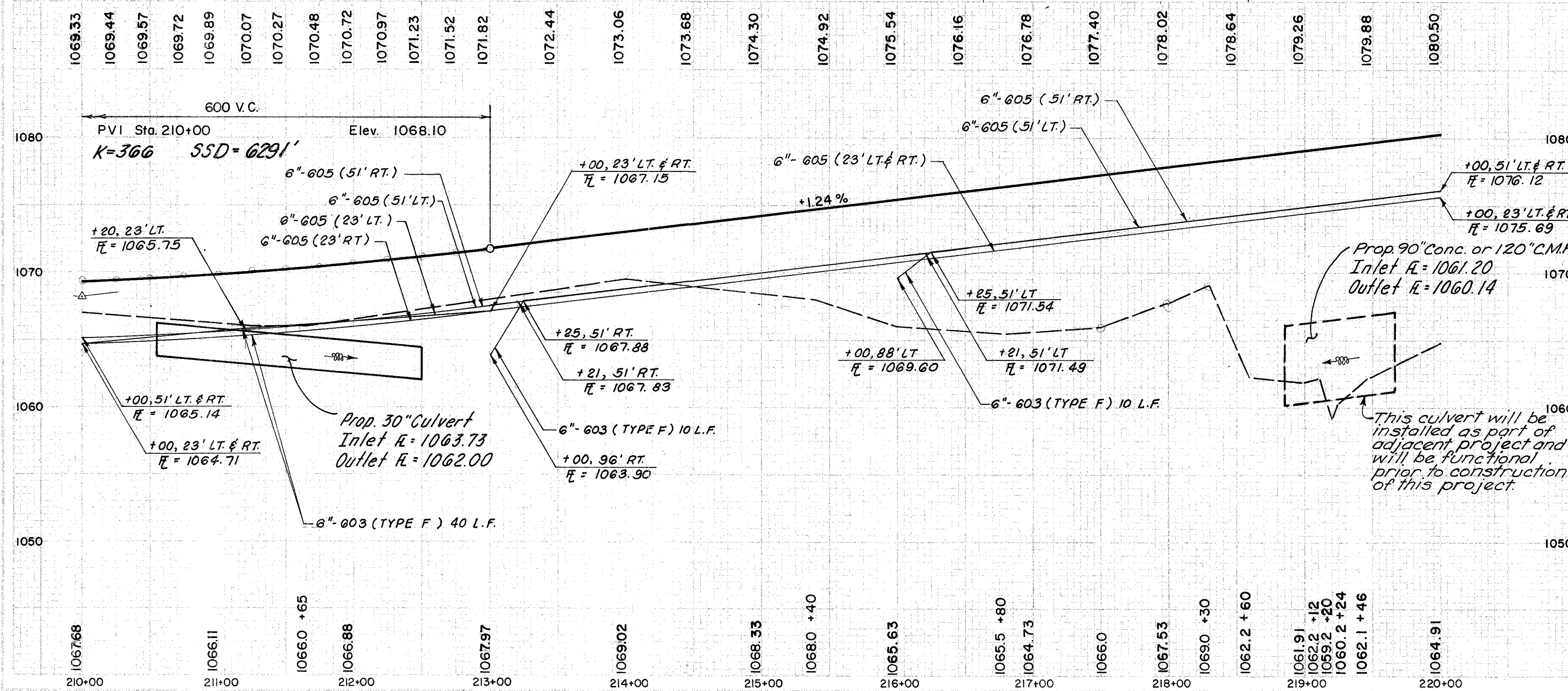
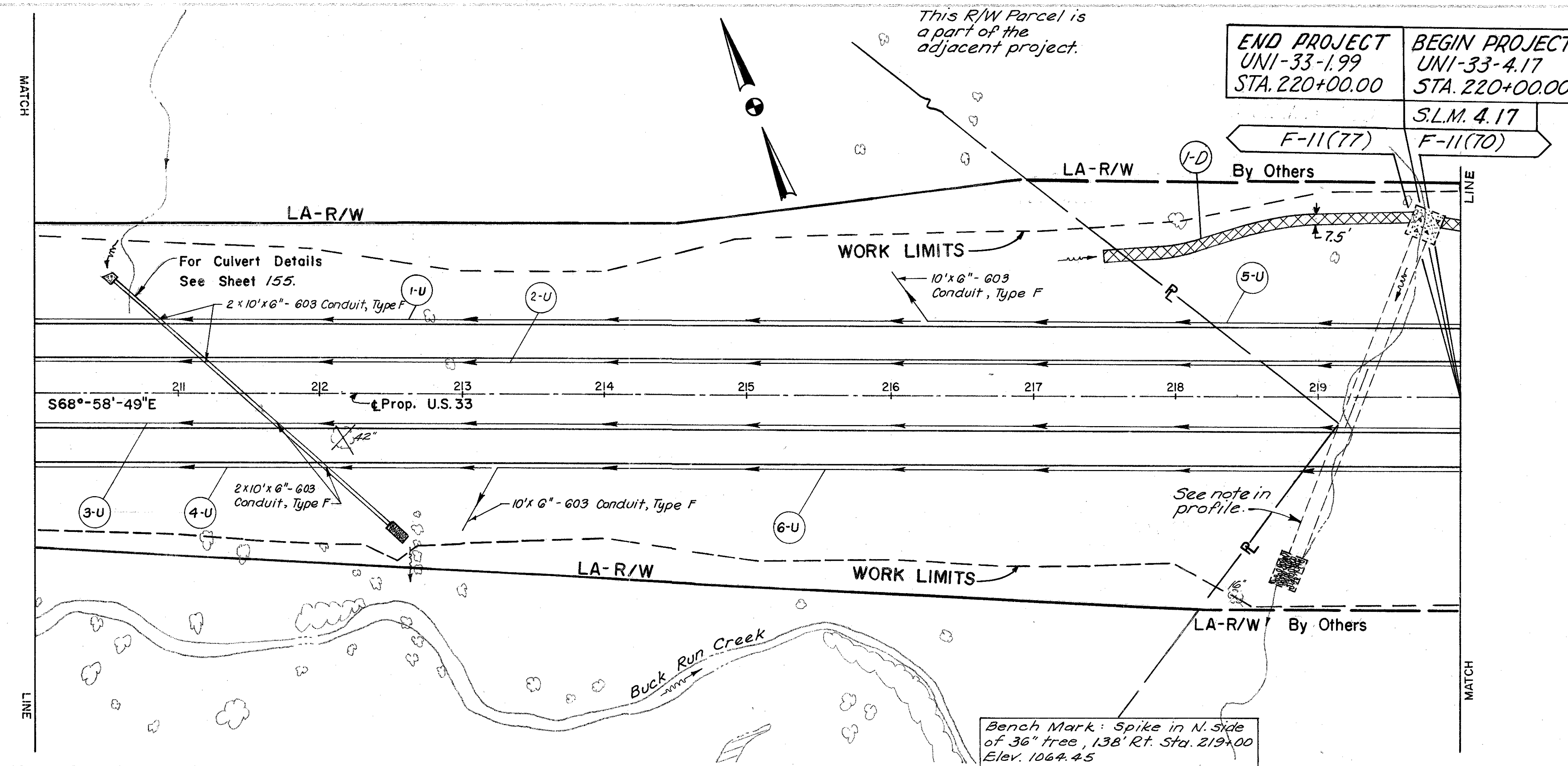


ESTIMATED QUANTITIES

ITEM	DESCRIPTION	UNIT	QUANTITIES			
			QTY	UNIT PRICE	TOTAL	REMARKS
602	6" 603 (TYPE F) 10 L.F.	L.F.	10	10	100	
603	6" 605 (51' LT. & RT.)	L.F.	10	10	100	
604	21" Conduit Inlet	EA	1	114	114	
605	43" x 68" Culvert	EA	1	0.39	0.39	
610	Ditch Erosion Prof.	S.Y.	1	4018	4018	

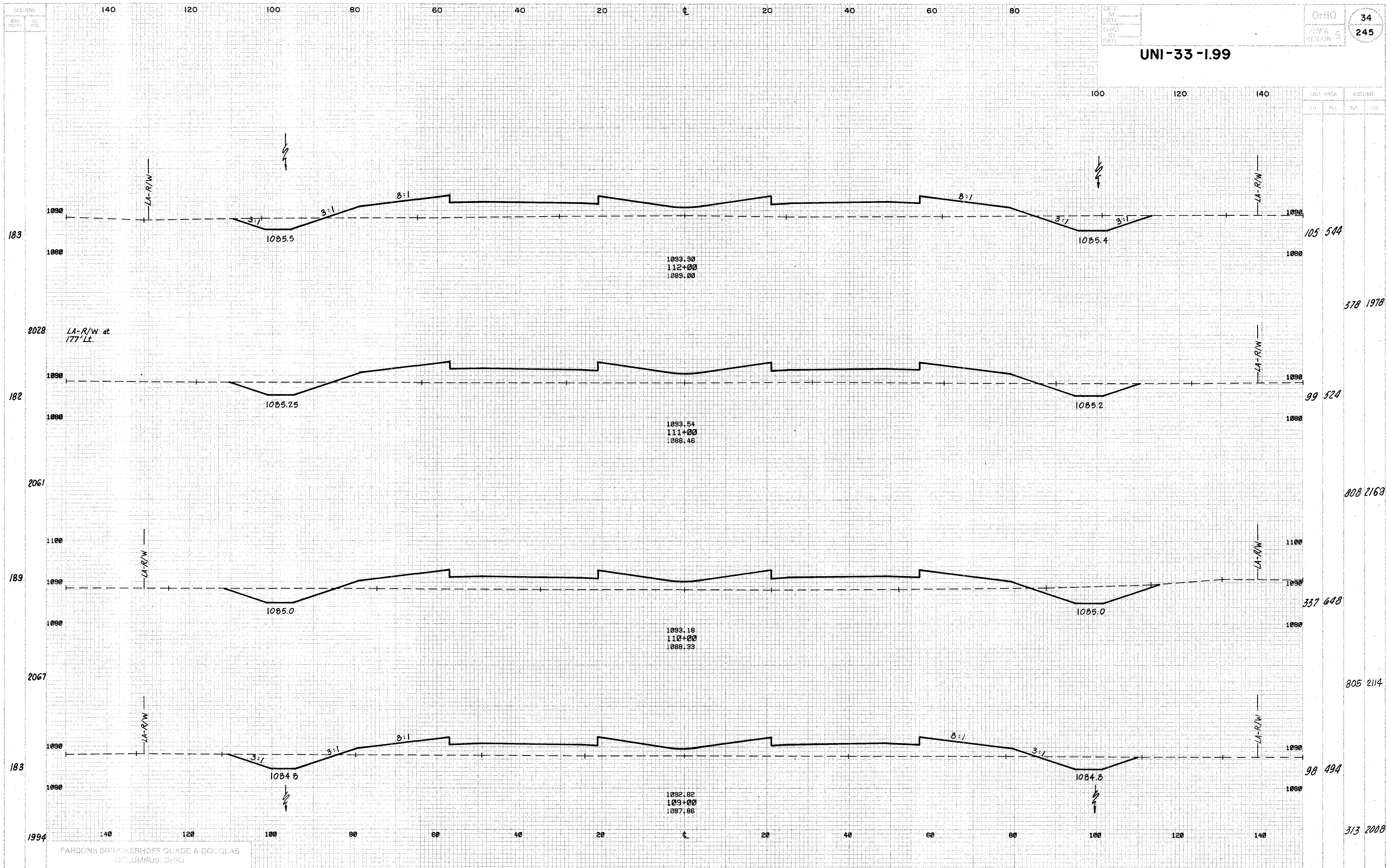


ESTIMATED QUANTITIES									
ITEM NO.	DESCRIPTION	UNIT	QTY	UNIT PRICE	TOTAL	ITEM NO.	DESCRIPTION	UNIT	QTY
1-U	200+00 TO 210+00	LF	1000			1-D	204+45 TO 208+50	LF	405
2-U	200+00 TO 204+43	LF	443			2-D	208+50 TO 209+43	LF	93
3-U	200+00 TO 204+43	LF	443			3-D	204+43 TO 206+43	LF	200
4-U	200+00 TO 208+46	LF	846			4-D	206+43 TO 204+45	LF	188
5-U	204+34 TO 210+00	LF	566			5-D	204+45 TO 210+00	LF	555
6-U	208+54 TO 210+00	LF	146			6-D	208+54 TO 210+00	LF	146
7-U	208+54 TO 210+00	LF	146			7-D	208+54 TO 210+00	LF	146
8-U	208+54 TO 210+00	LF	146			8-D	208+54 TO 210+00	LF	146
1-R	200+67	RT	1			1-R	200+67	RT	1

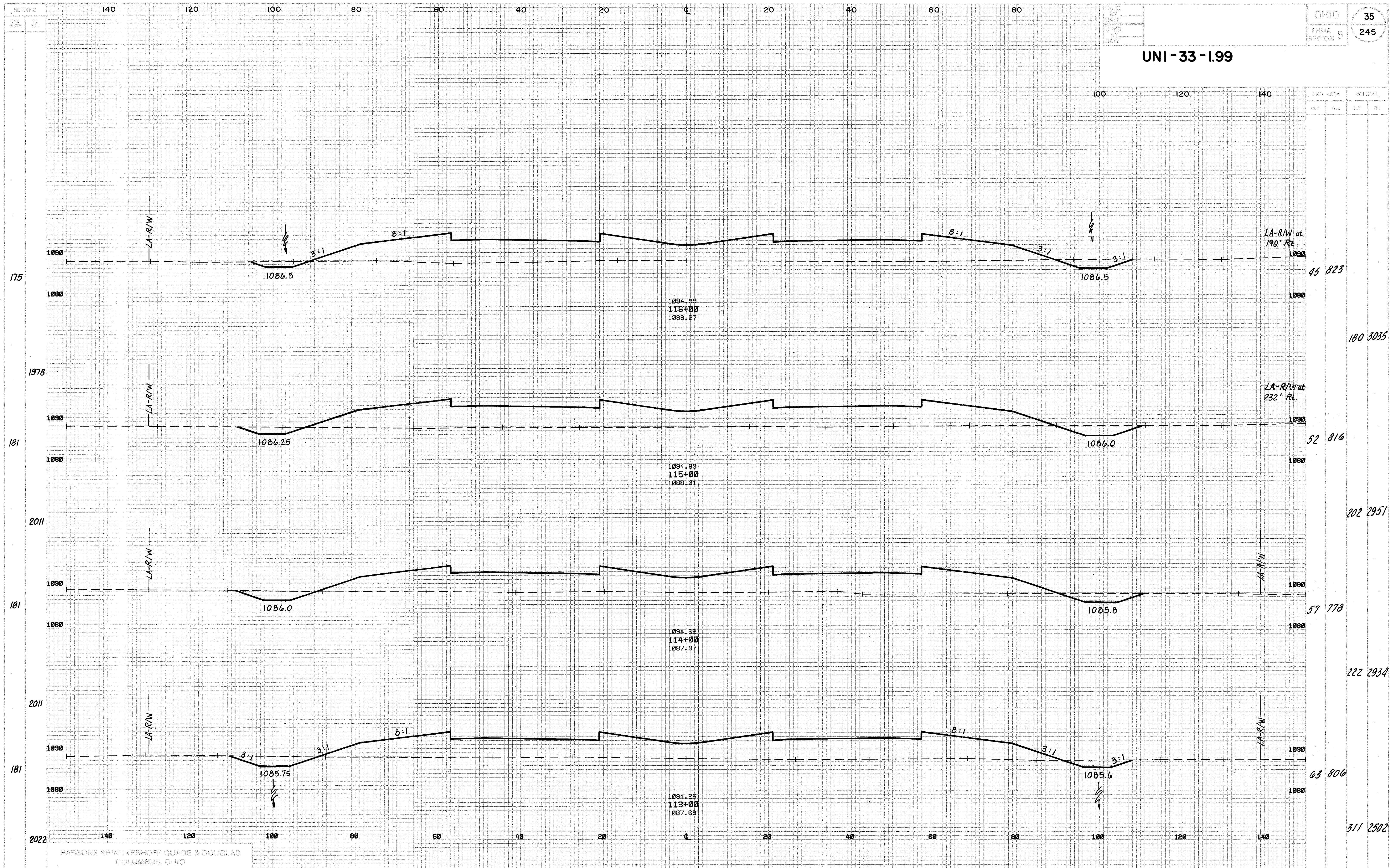


ESTIMATED QUANTITIES

ITEM	STATION TO STATION	SIZE	603	605	Bends	and	Ditch	Erosion	Prot.	S.Y.
1-U	210+00 TO 216+31	Lt								
2-U	210+00 TO 220+00	Lt								
3-U	210+00 TO 220+00	Rt								
4-U	210+00 TO 213+21	Rt								
5-U	216+00 TO 220+00	Lt								
6-U	213+00 TO 220+00	Rt								
1-D	217+50 TO 220+00	Lt								



U.S. 33 - STA.109+00 TO STA.112+00



U.S. 33 - STA. 113+00 TO STA. 116+00

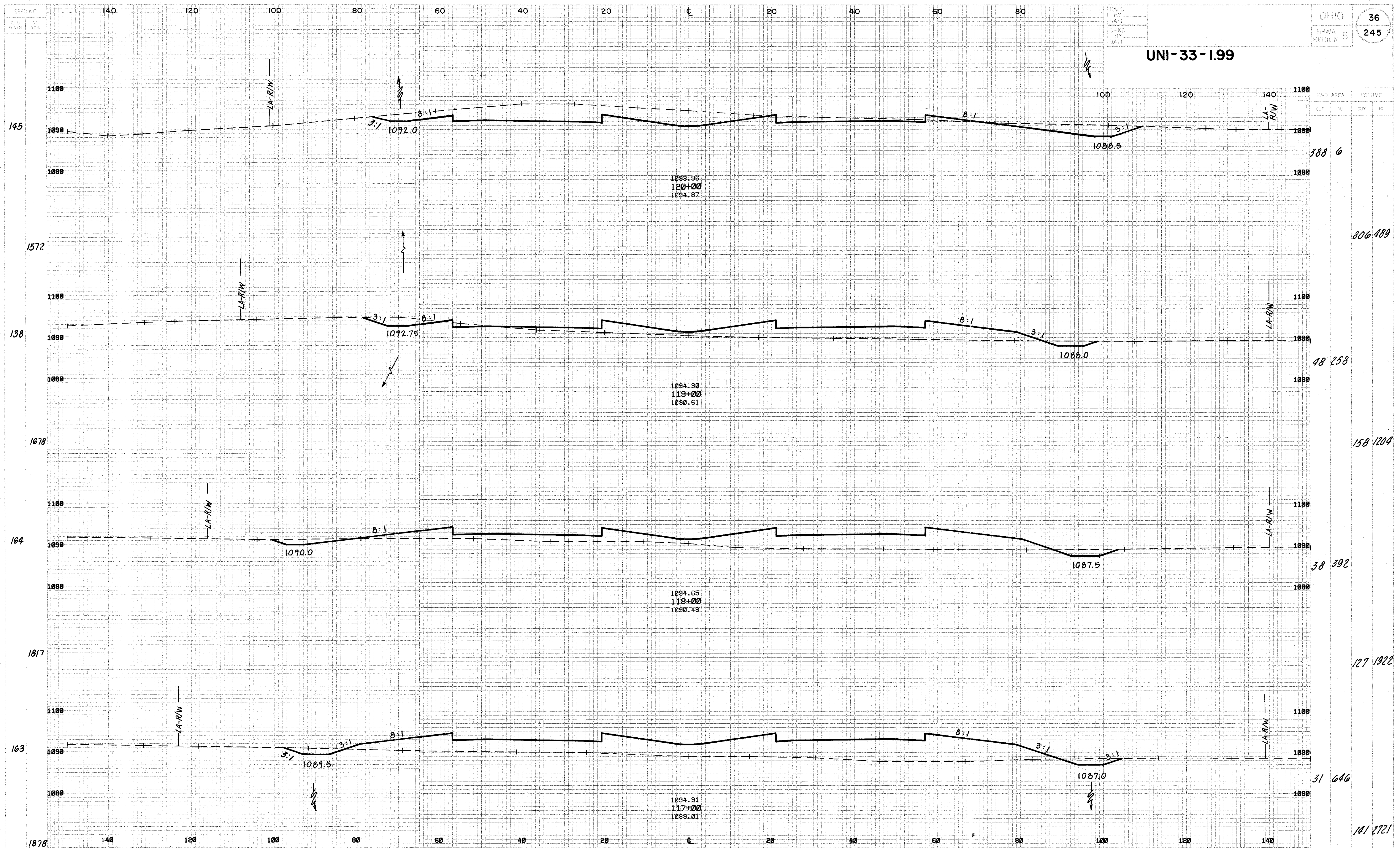
PARSONS BRINCKERHOFF QUADE & DOUGLAS
COLUMBUS, OHIO

UNI-33-1.99

AREA		VOLUME	
CUT	FILL	CUT	FILL

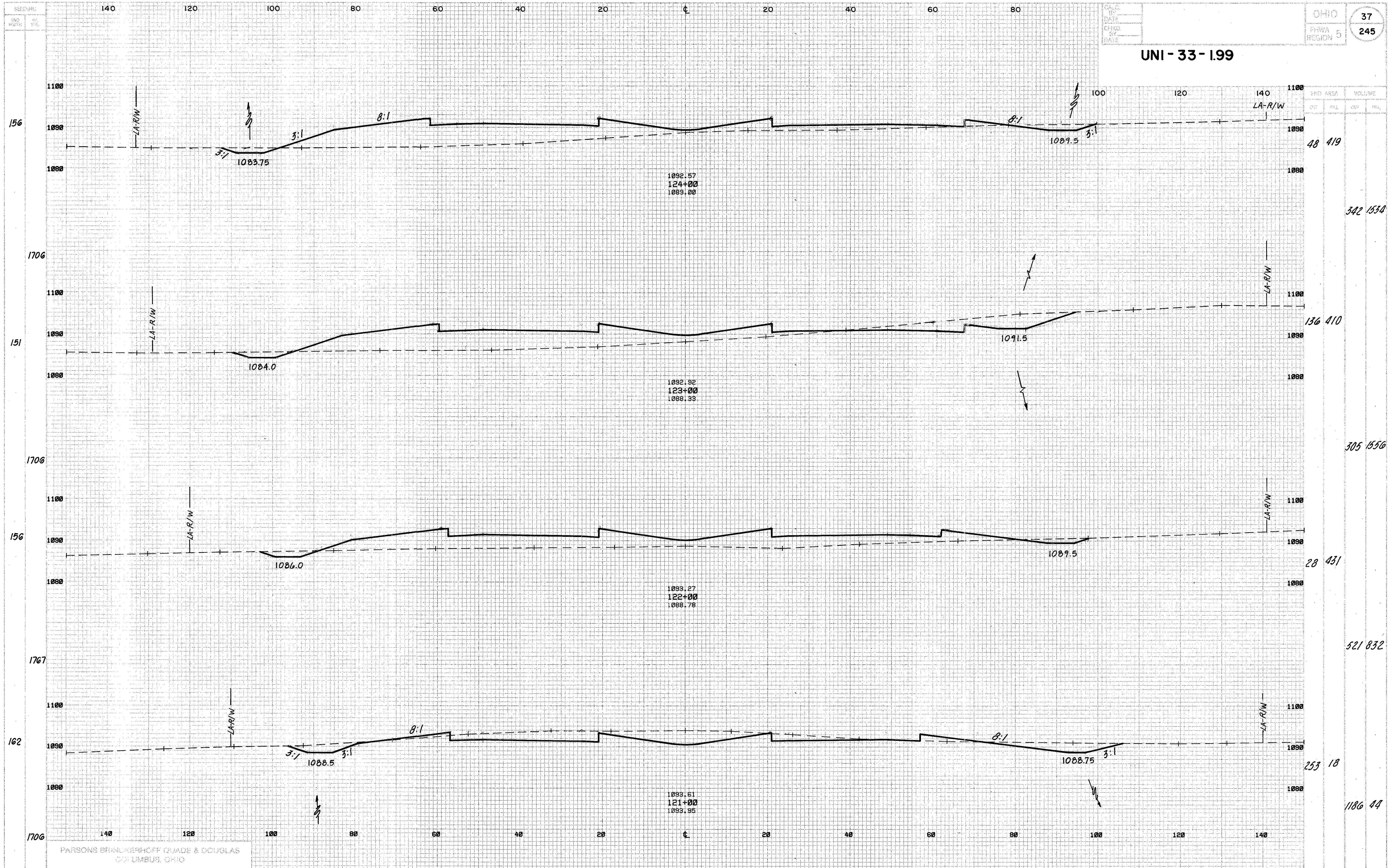
45 823
180 3035
52 816
202 2951
57 778
222 2934
63 806
311 2502

CALC.	
BY	
DATE	
CHKD.	
BY	
DATE	

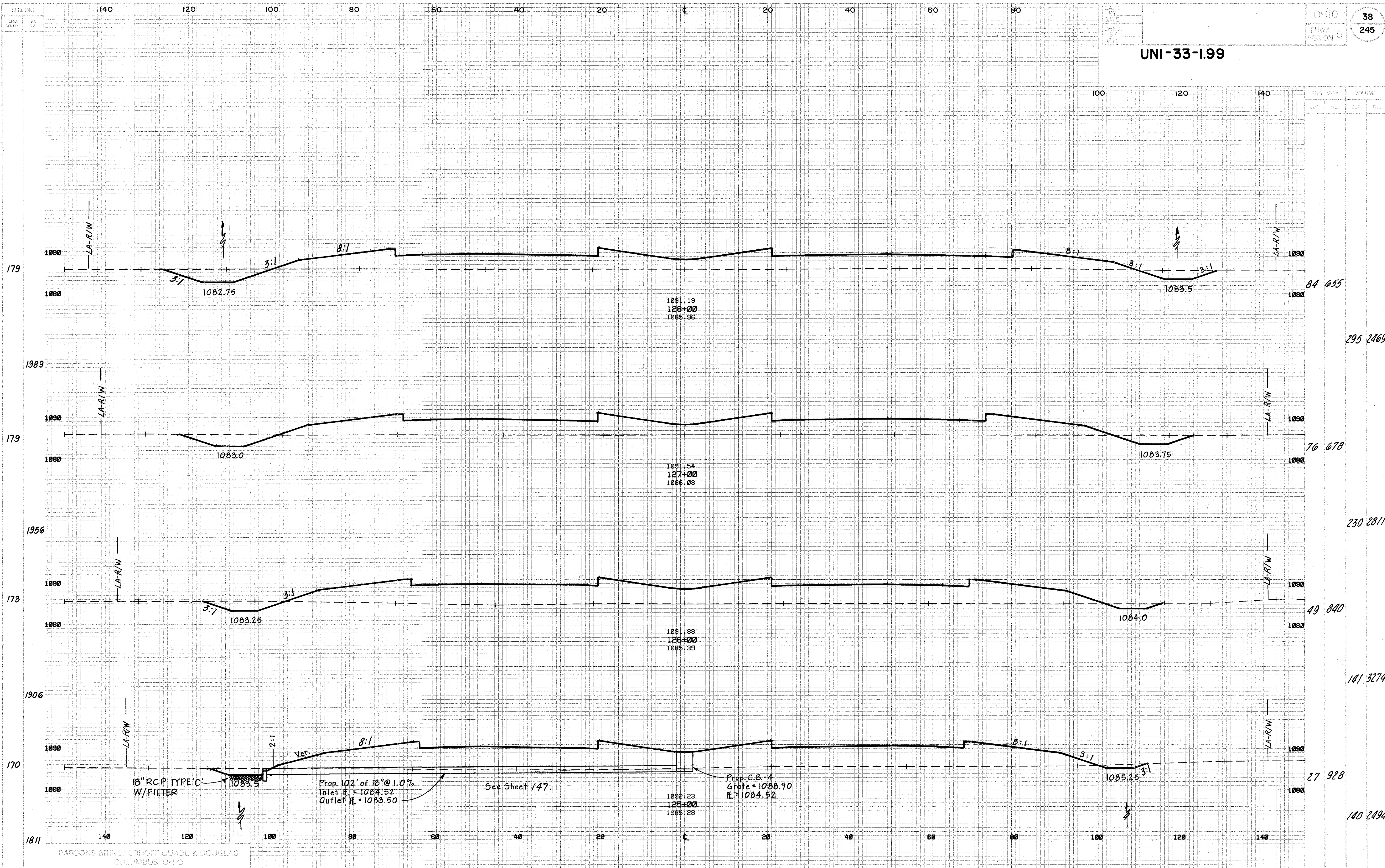


PARSONS BRINCKERHOFF QUADE & DOUGLAS
COLUMBUS, OHIO

U.S. 33 - STA. 117+00 TO STA. 120+00



U.S. 33 - STA. 121+00 TO STA. 124+00



UNI-33-1.99

END AREA		VOLUME	
CUT	FILL	CUT	FILL

84 655

295 2469

76 678

230 2811

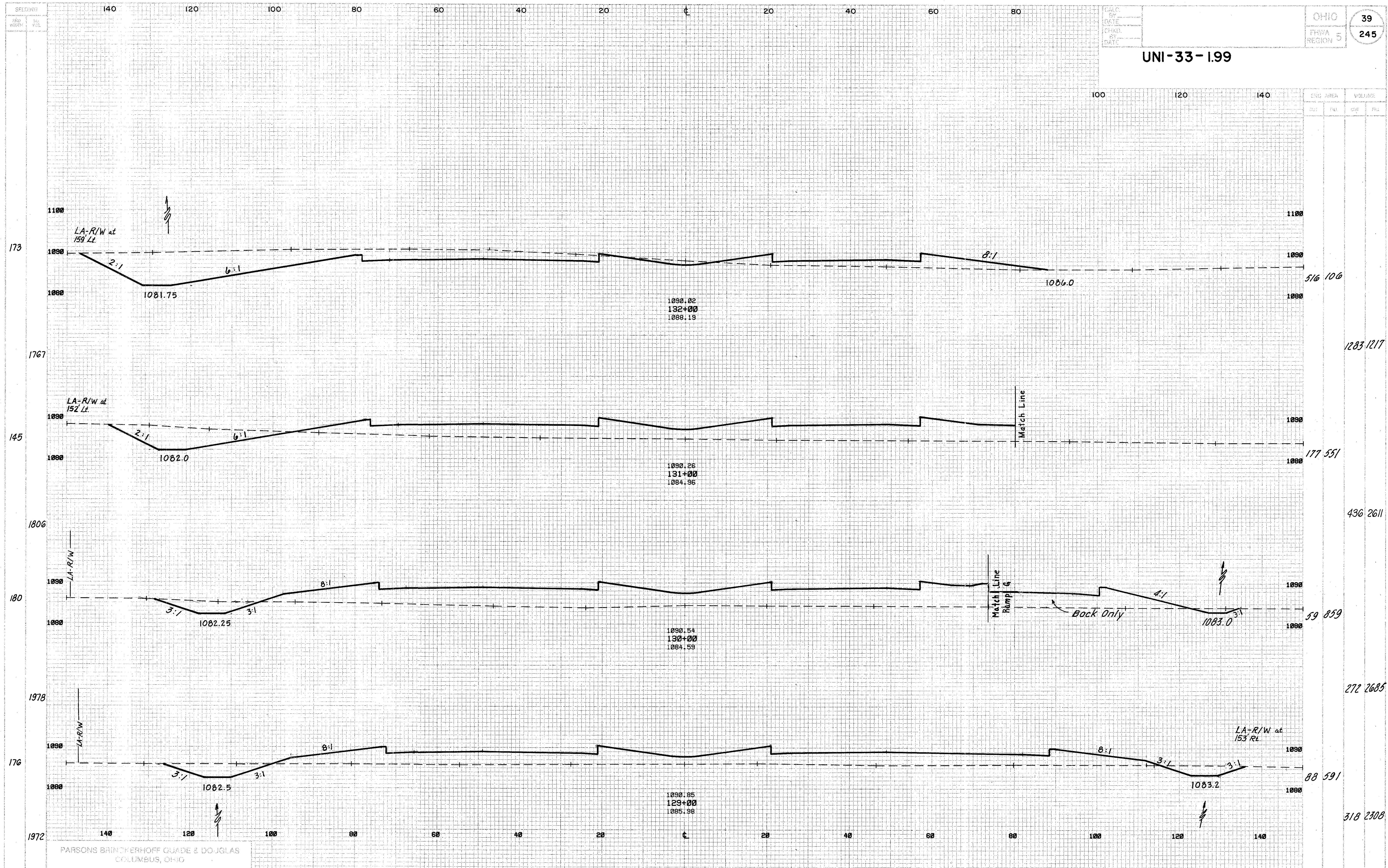
49 840

141 3274

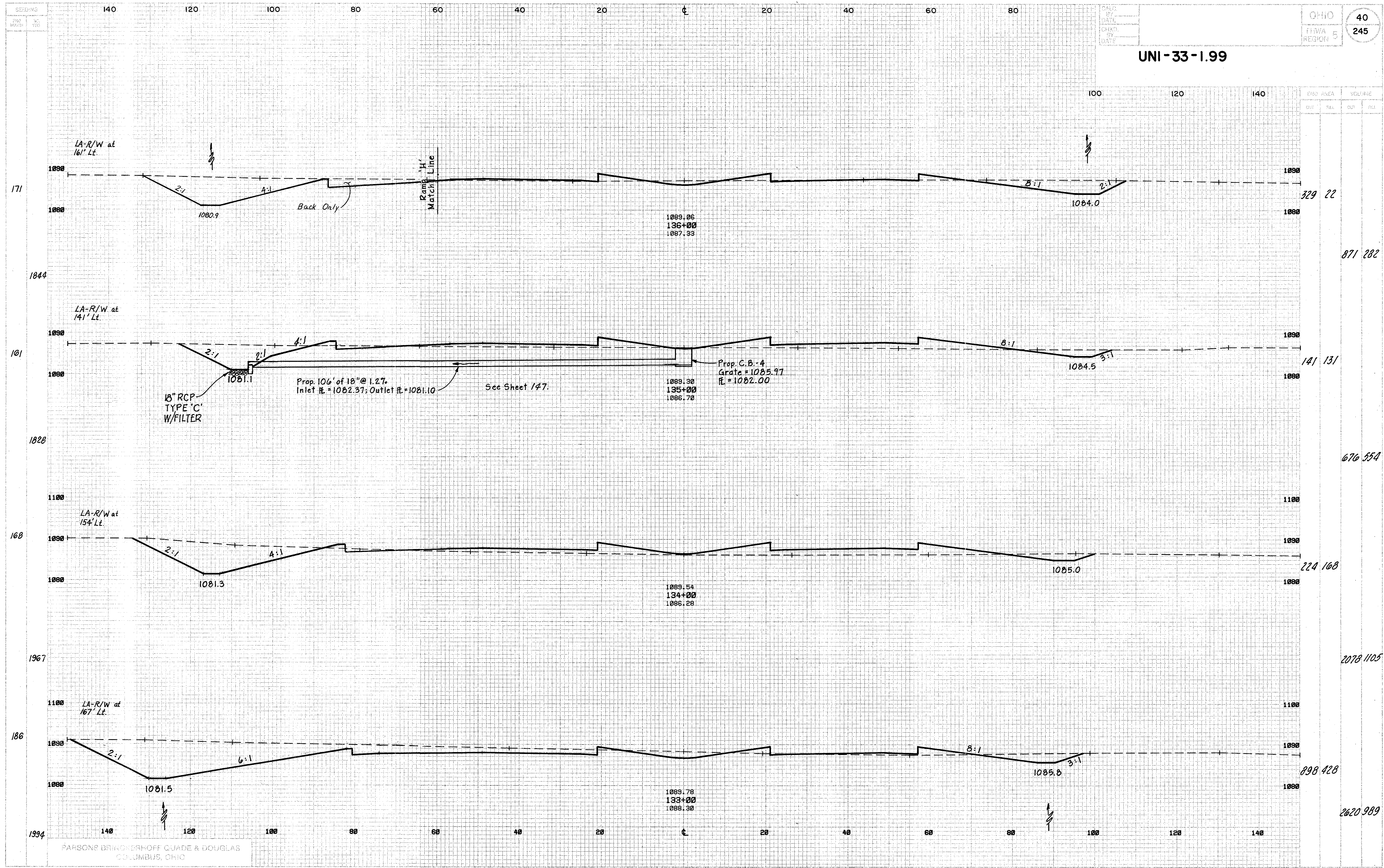
27 928

140 2494

PARSONS BRINCKERHOFF QUADE & DOUGLAS
COLUMBUS, OHIO



U.S.33-STA.129+00 TO STA.132+00



UNI-33-1.99

END AREA		VOLUME	
OUT	REL	OUT	REL

329 22

871 282

141 131

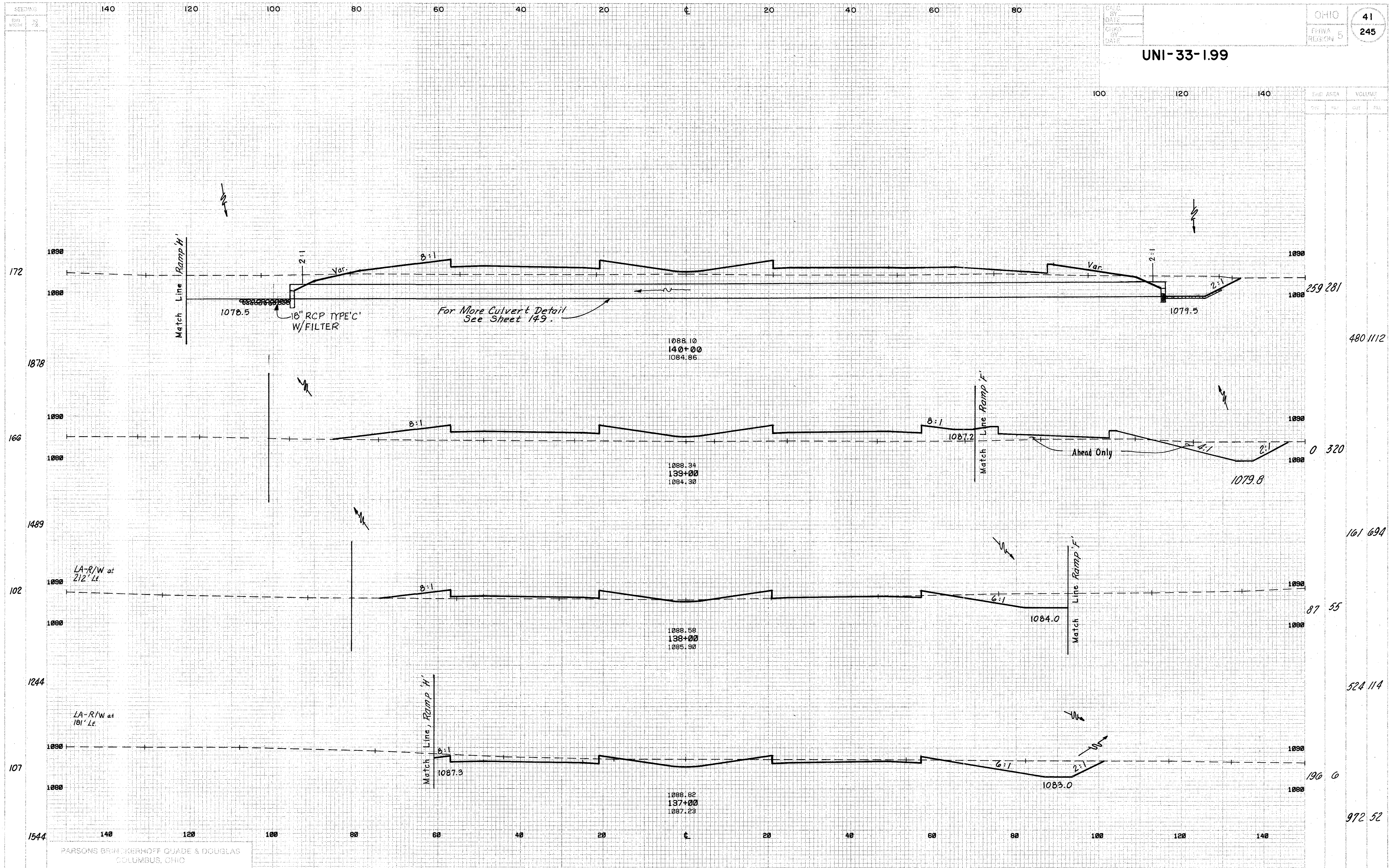
676 554

224 168

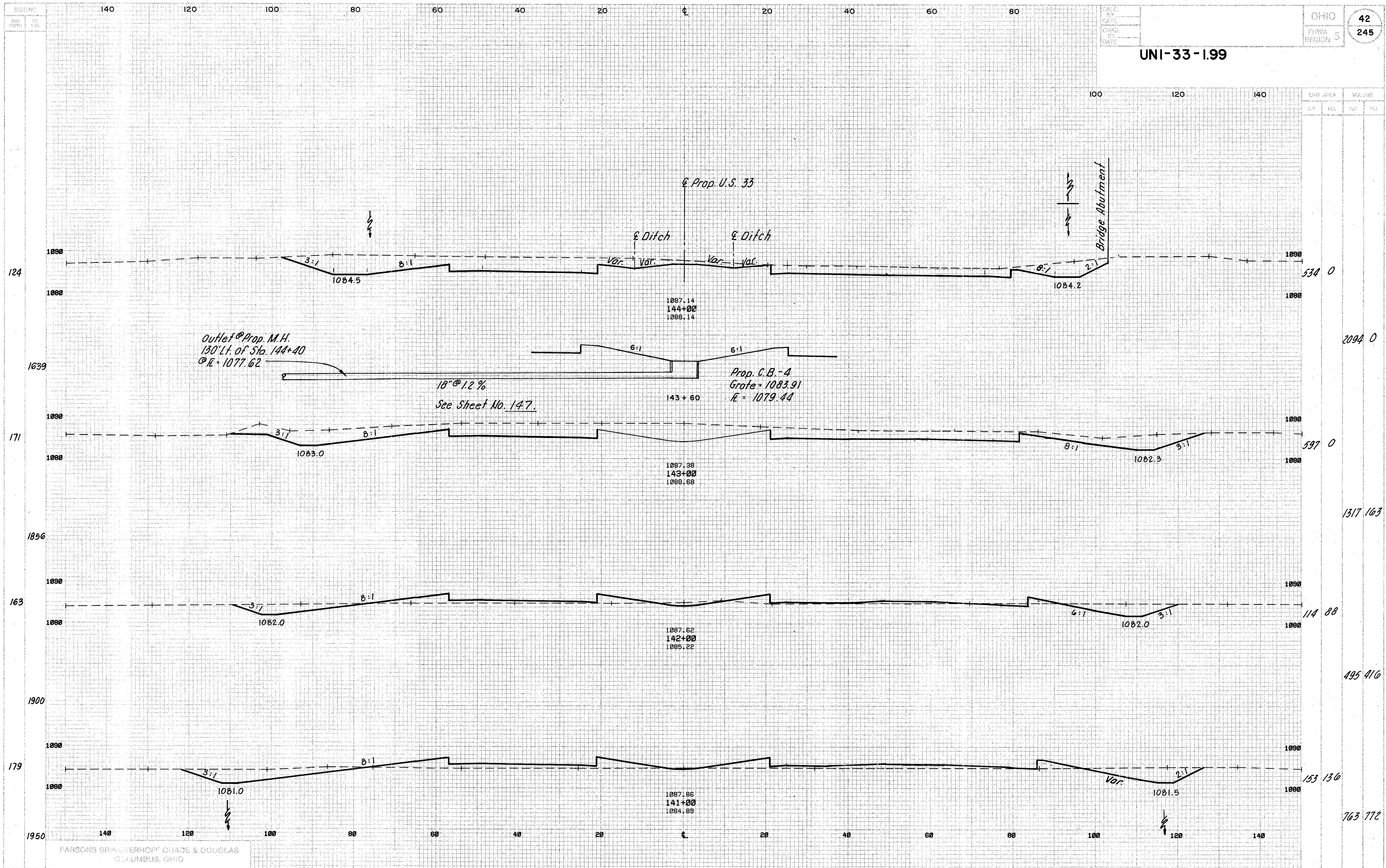
2078 1105

898 428

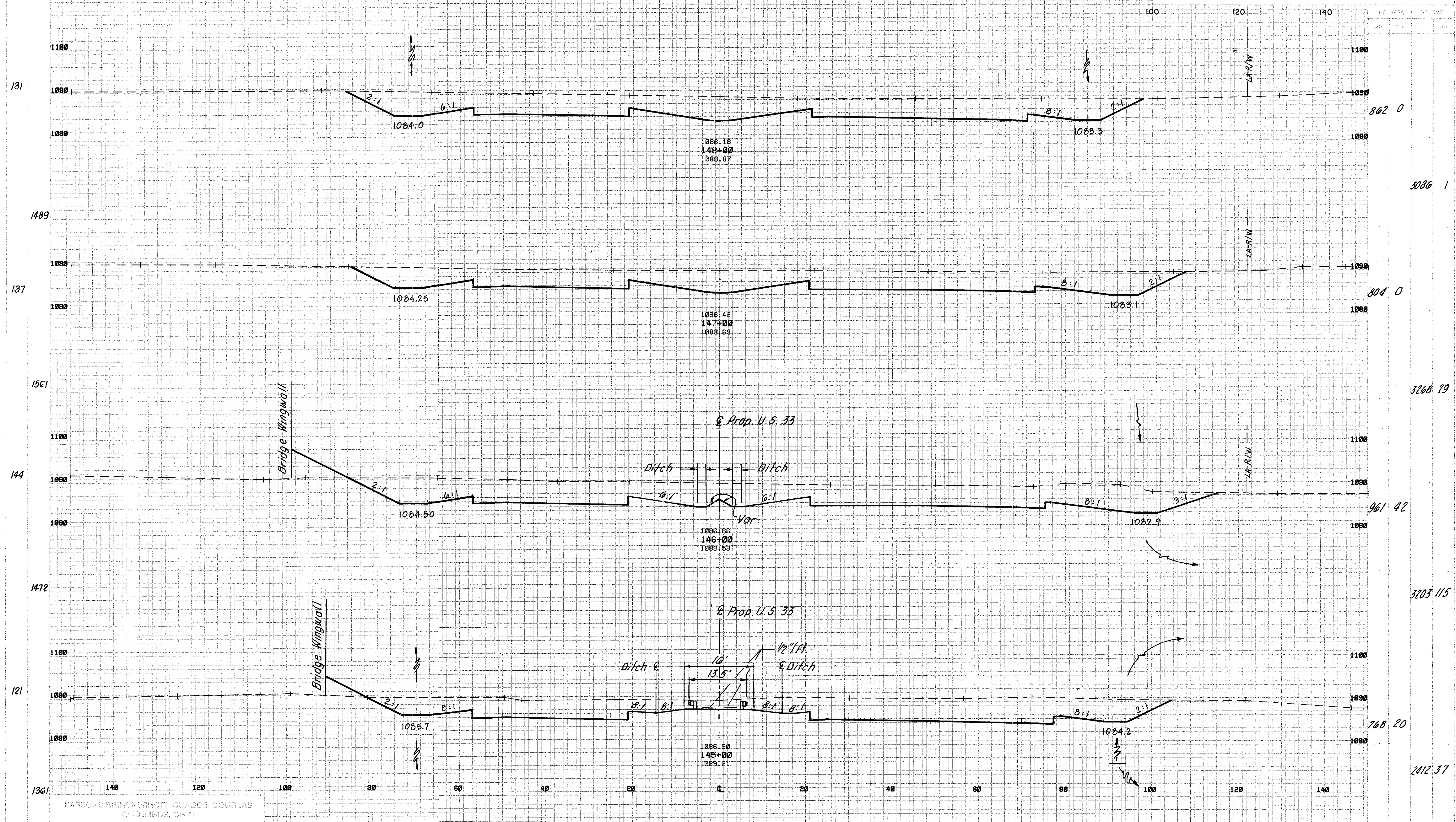
2620 989



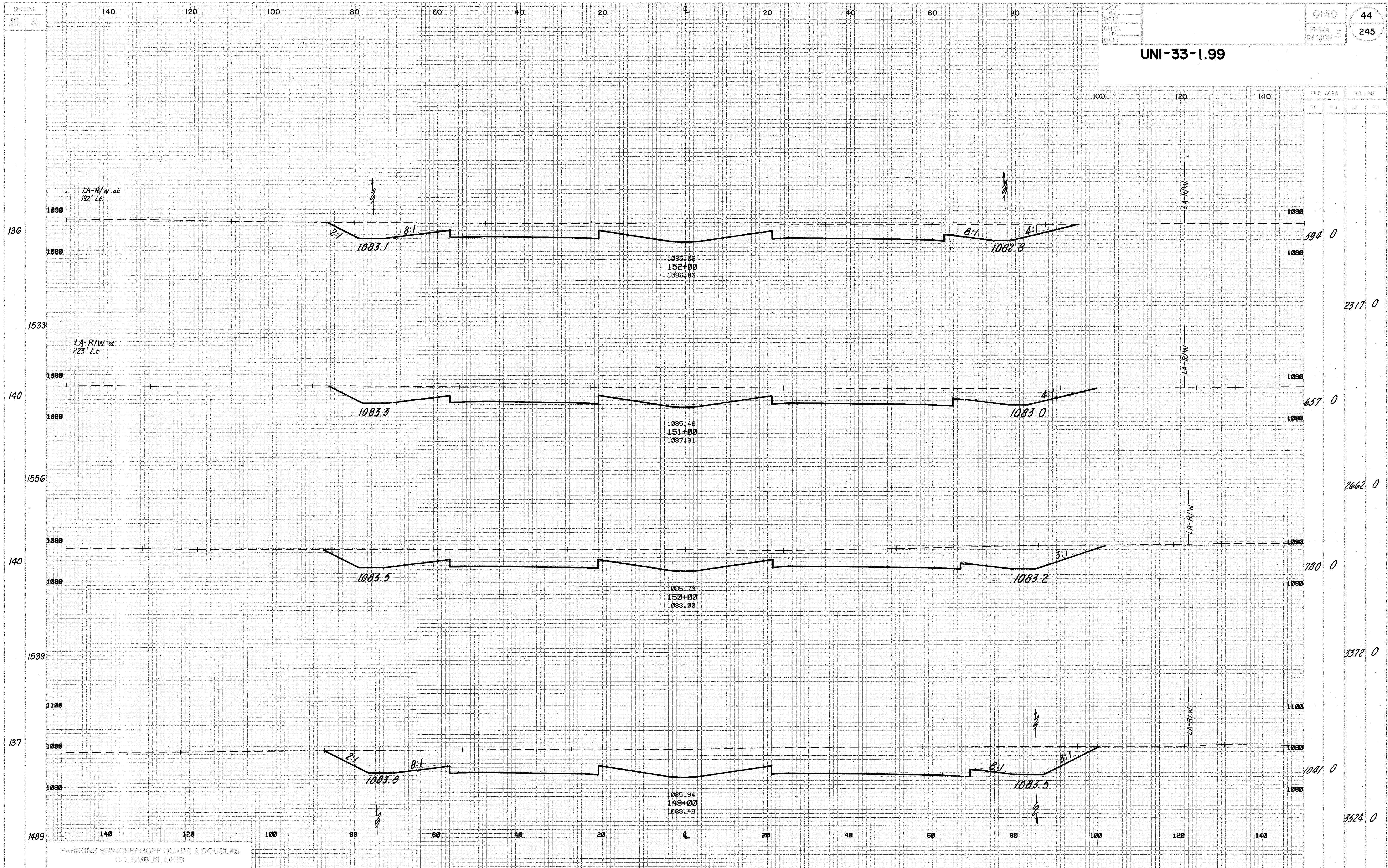
U.S.33-STA.137+00 TO STA.140+00



UNI-33-1.99

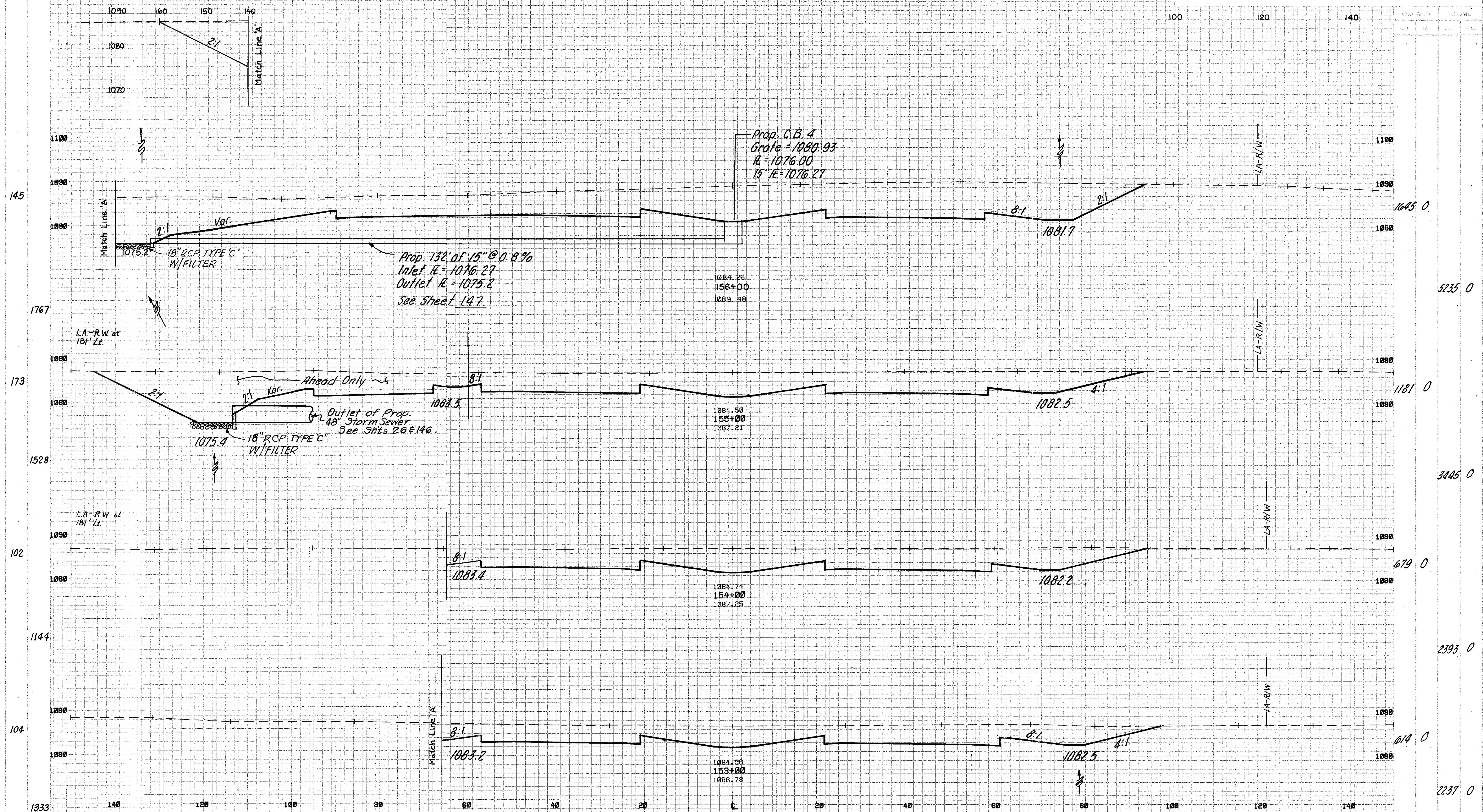


U.S.33- STA.145+00 TO STA.148+00

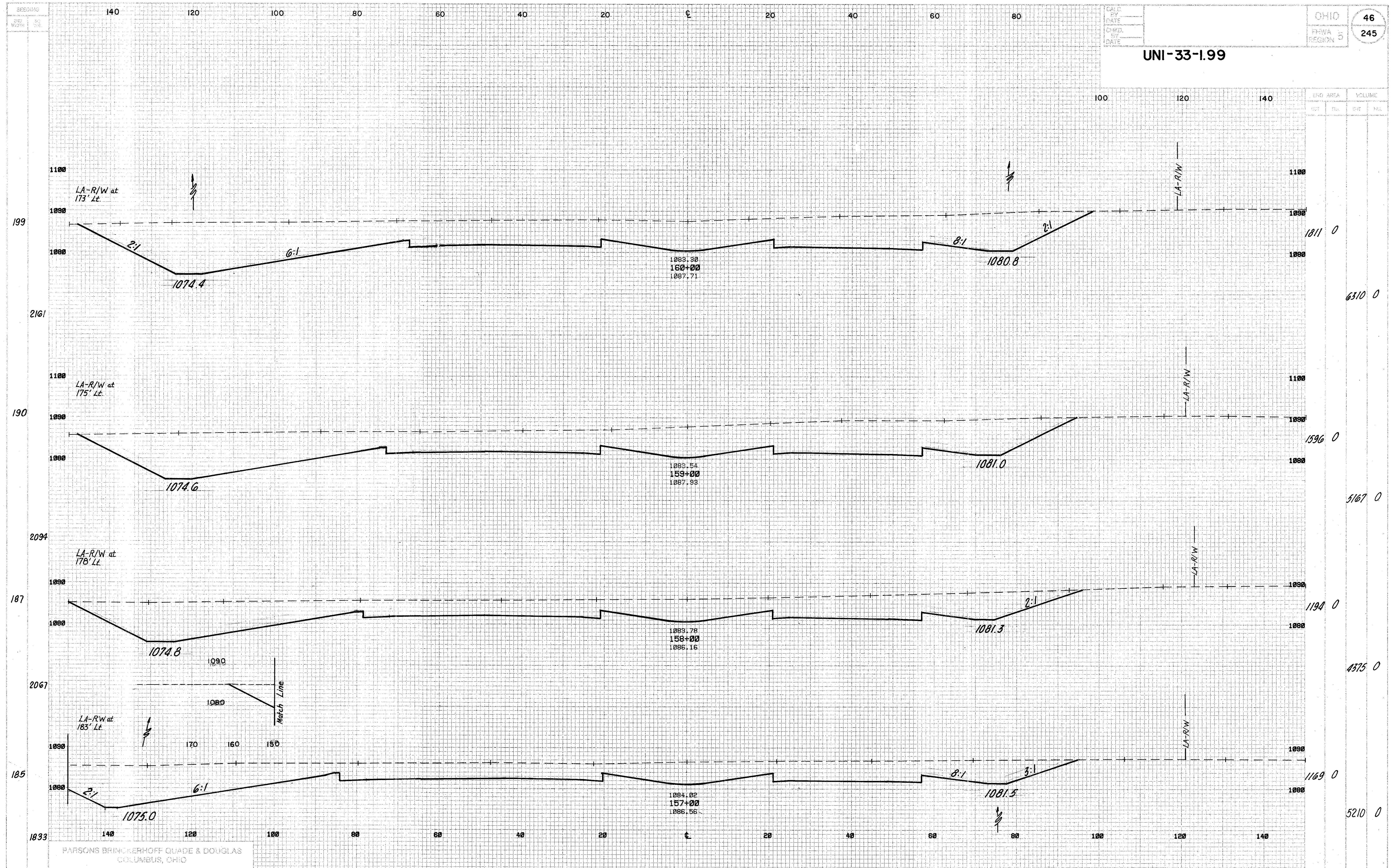


U.S. 33 - STA. 149+00 TO STA. 152+00

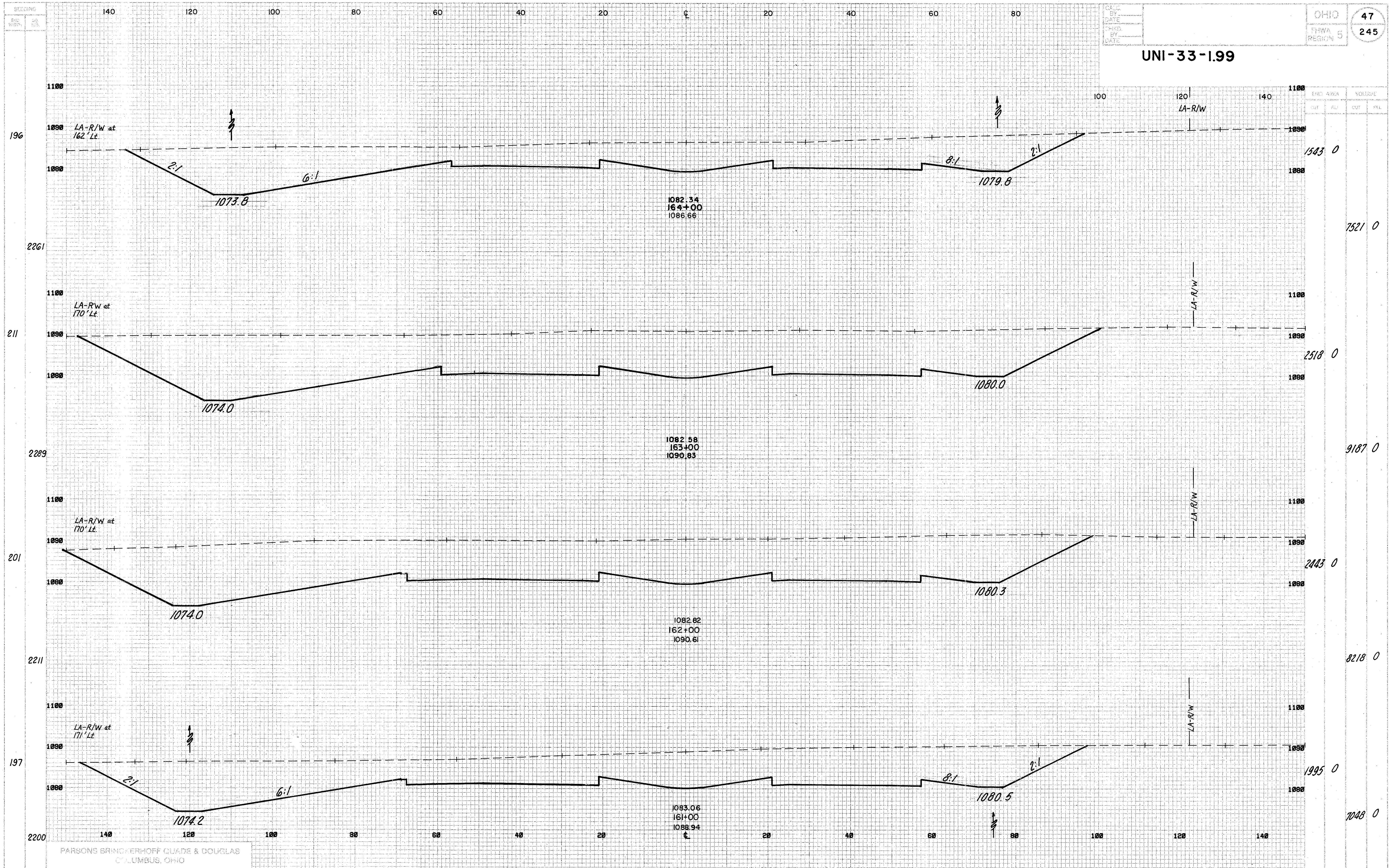
U.S. 33- STA.153+00 TO STA.156+00



PARSONS BRINCKERHOFF QUADE & DOUGLAS
COLUMBUS, OHIO



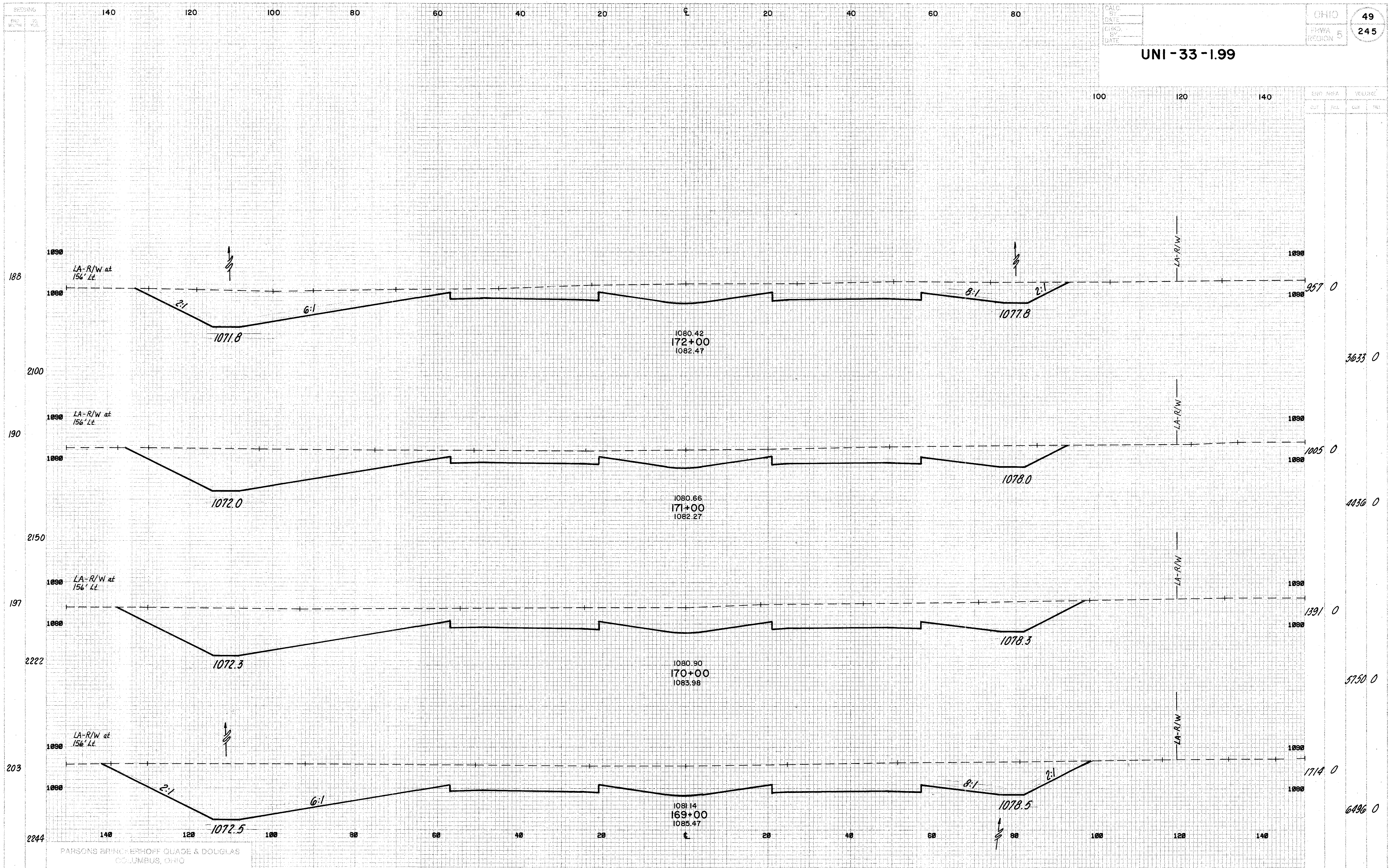
U.S. 33 - STA.157+00 TO STA.160+00



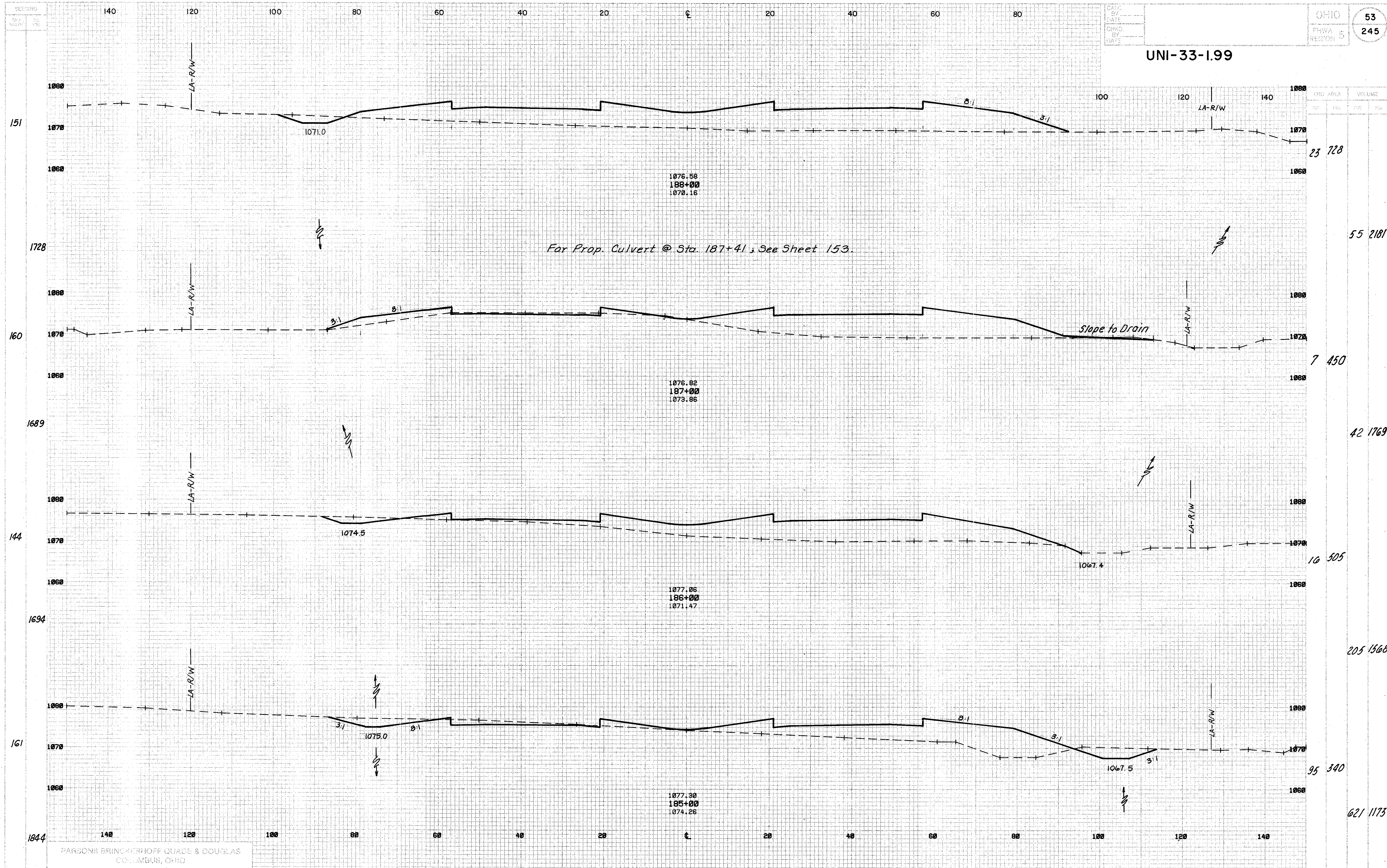
U.S. 33 - STA. 161+00 TO STA. 164+00

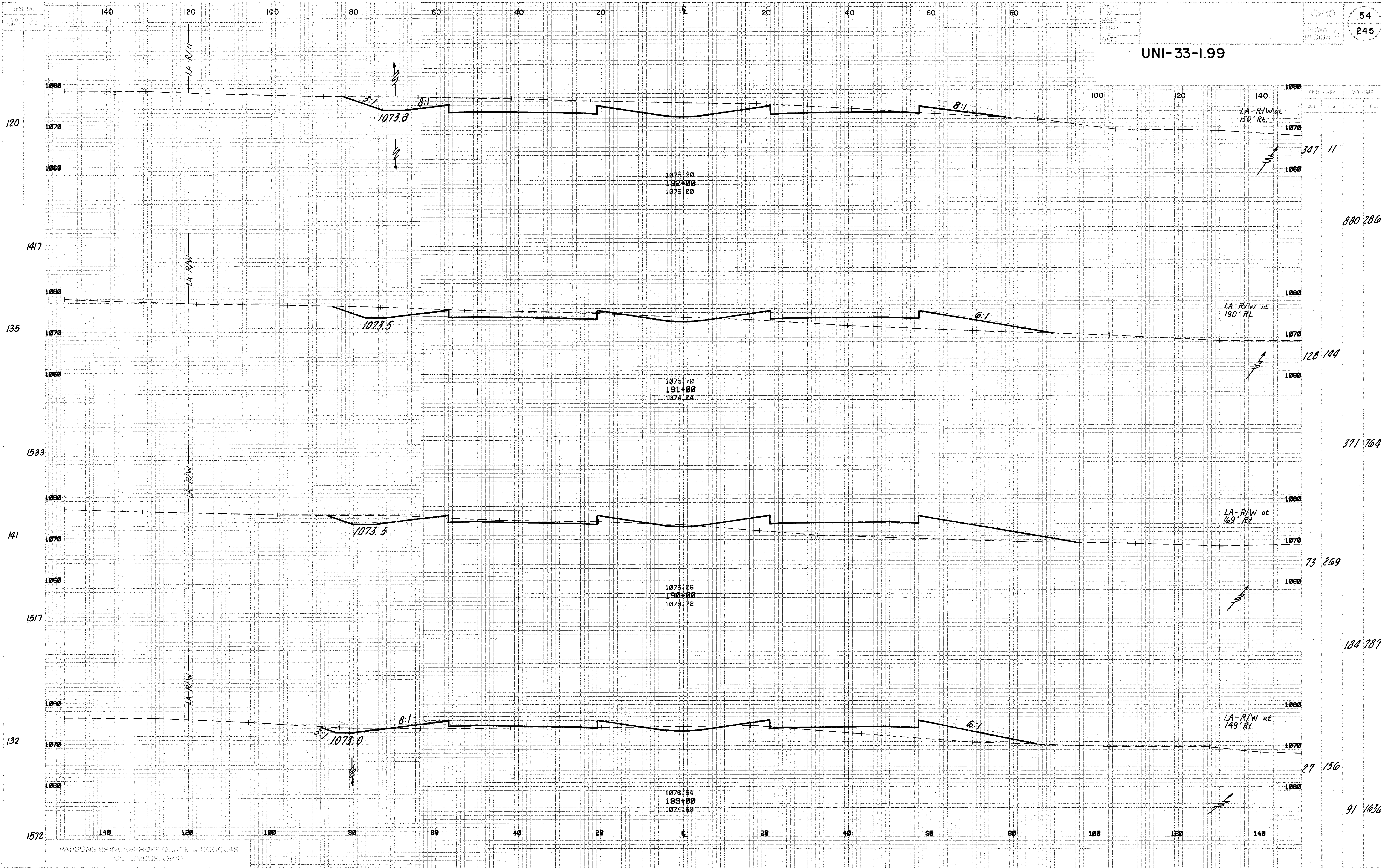
100	120	140	FON AREA		VOLUME	
			CUT	MILL	CUT	MILL





U.S. 33- STA. 169+00 TO STA. 172+00

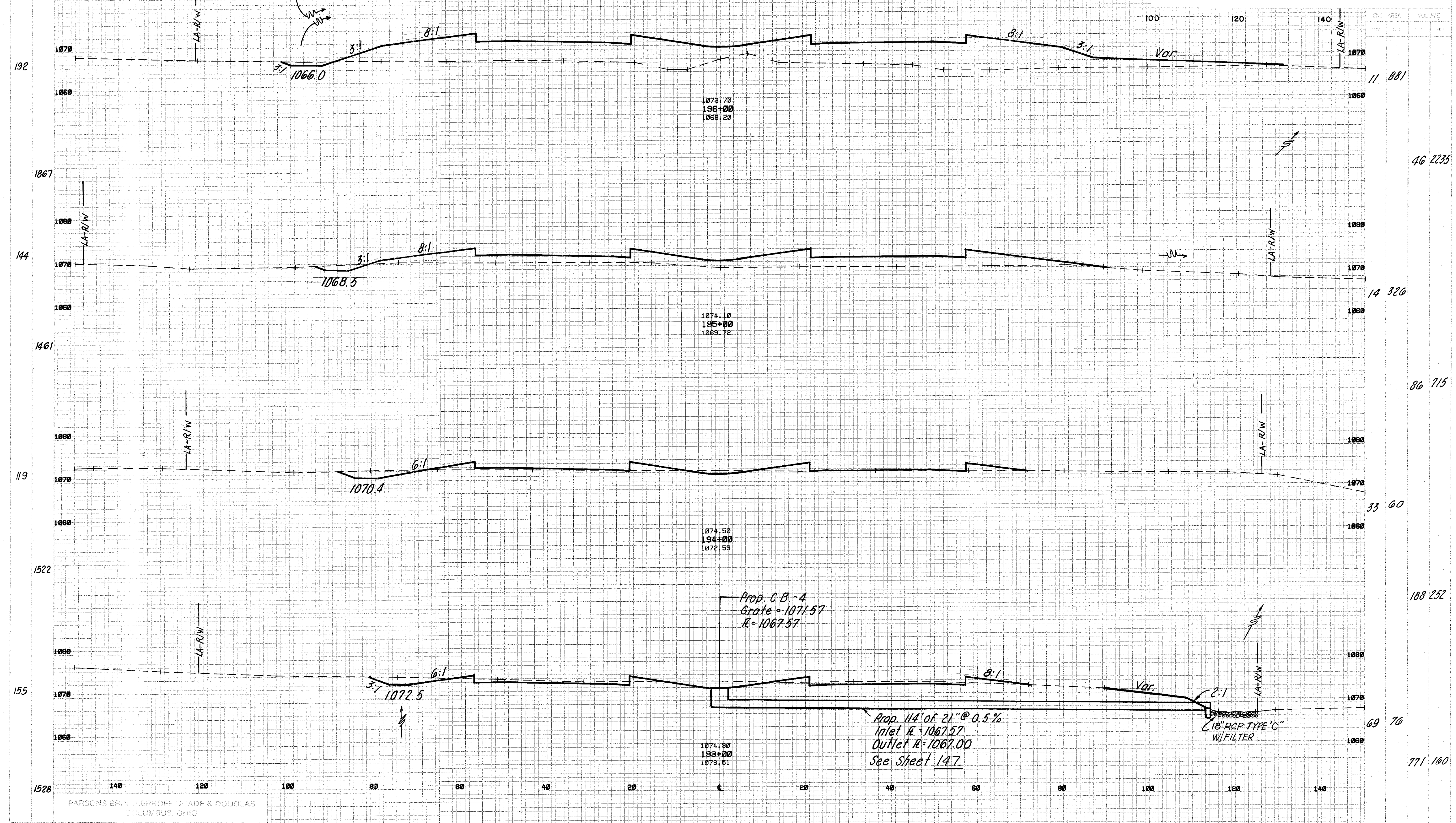


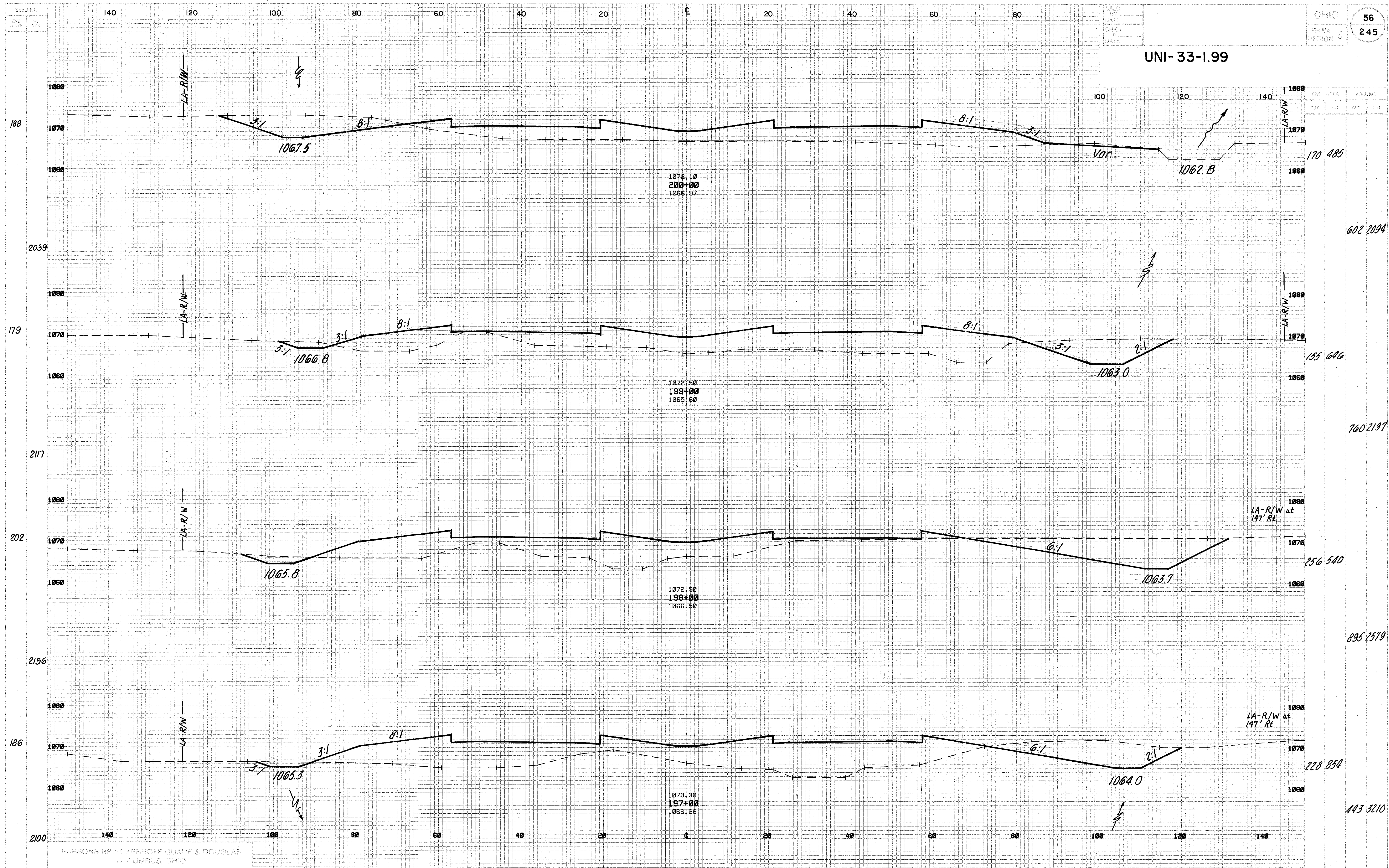


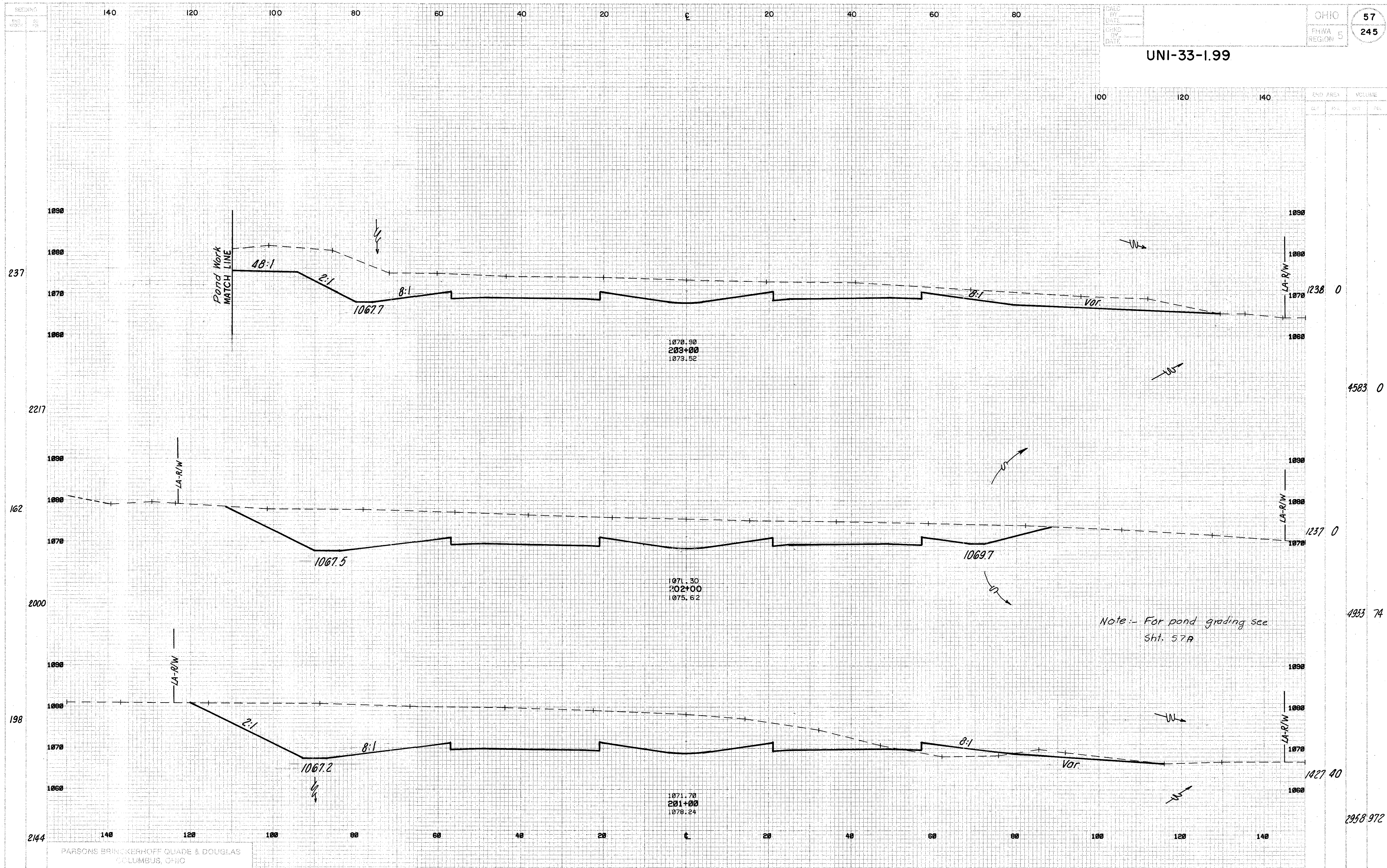
UNI-33-1.99

UNI-33-1.99

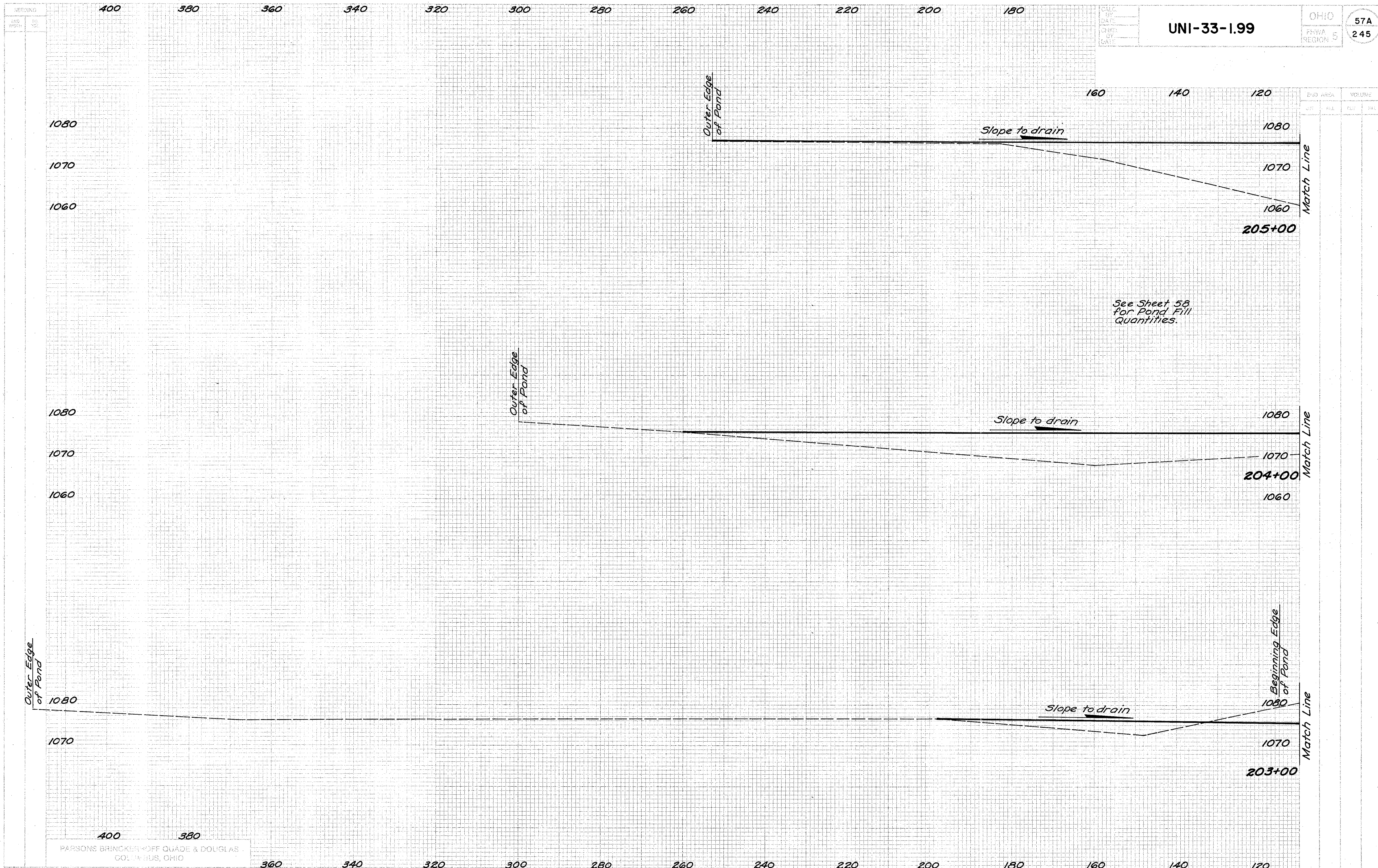
For Prop. Culvert @ Sta. 196+37, See Sheet 154.





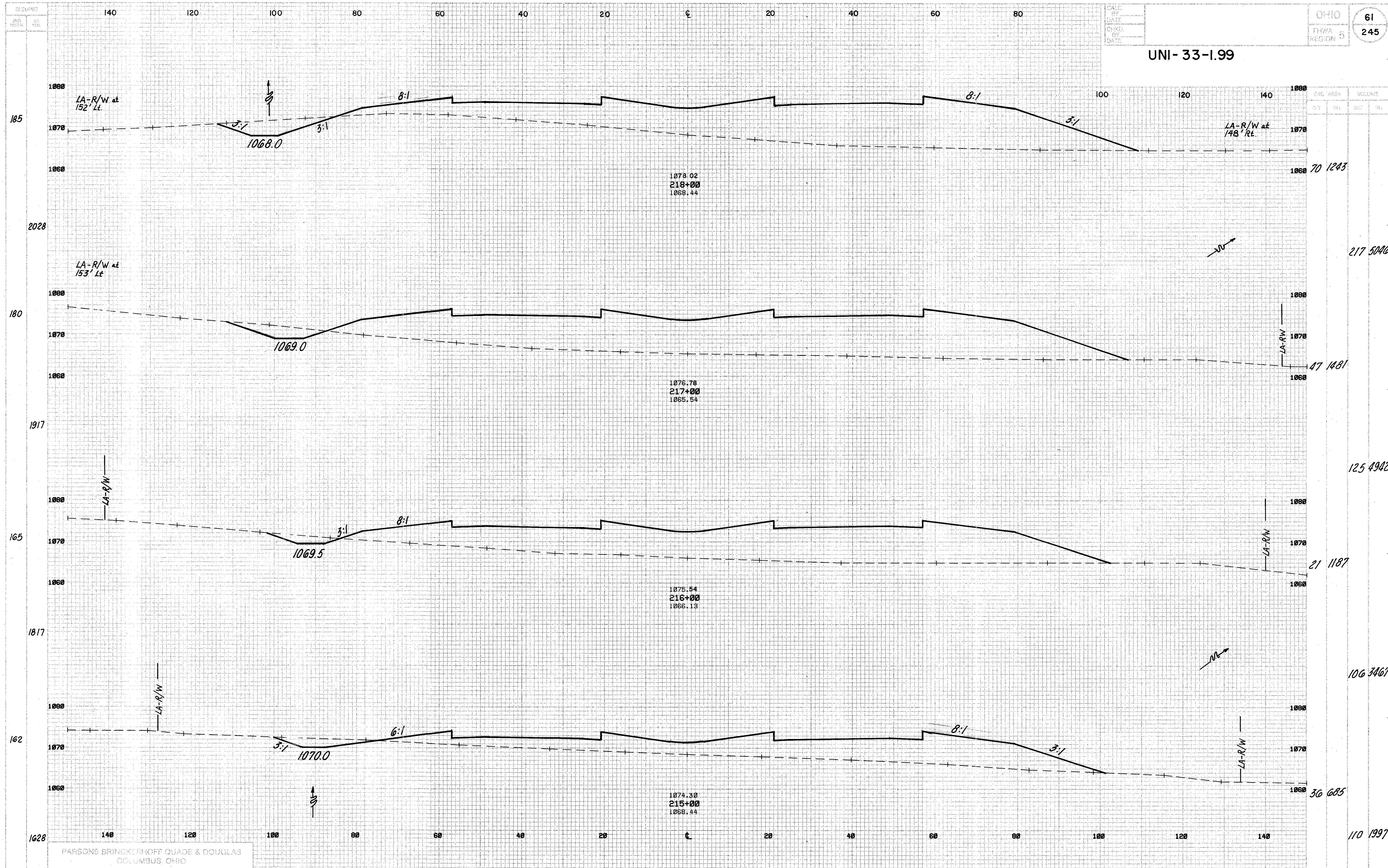


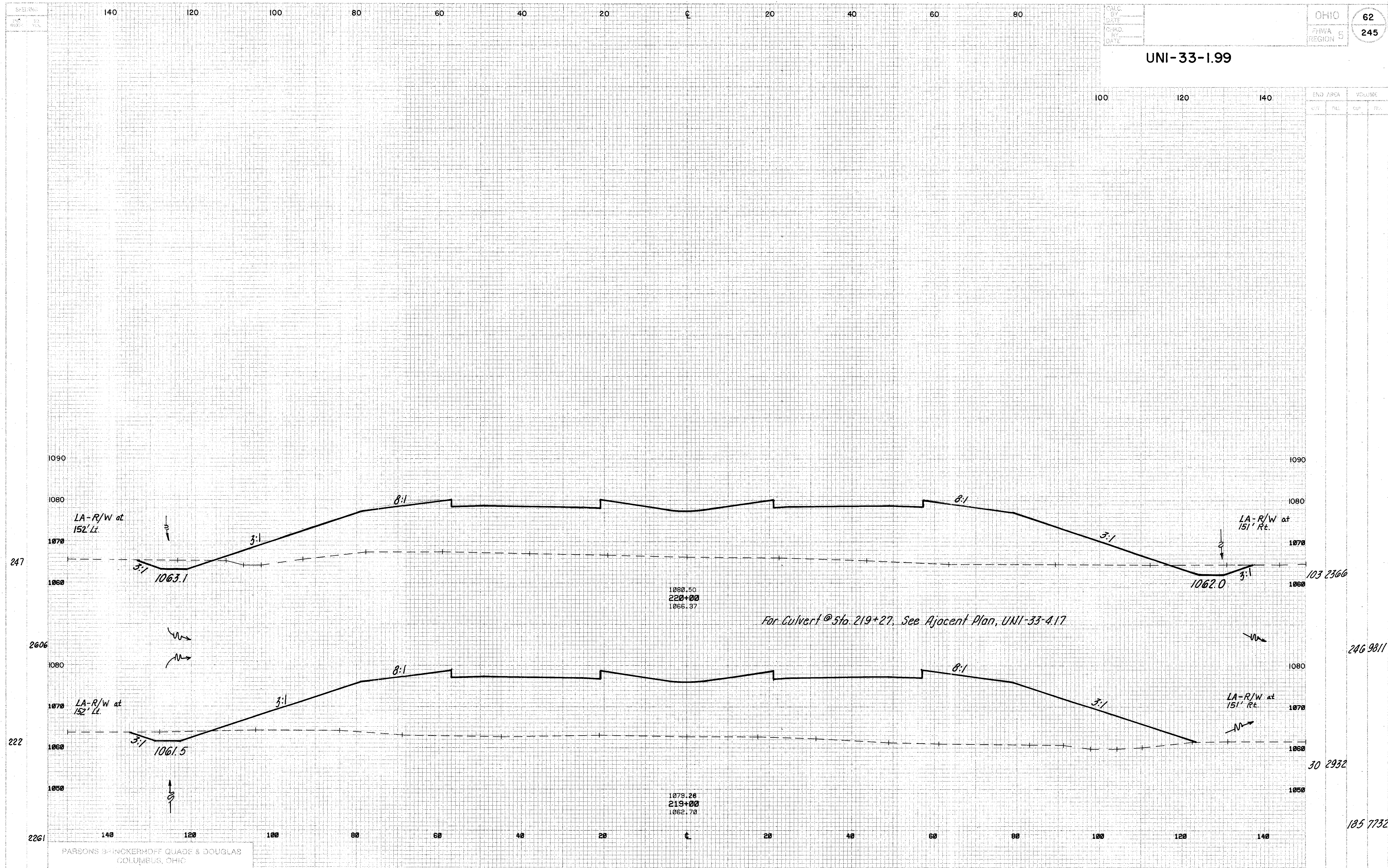
U.S. 33- STA. 201+00 TO STA. 203+00



U.S. 33 - POND SECTIONS - STA. 203+00 TO STA. 205+00

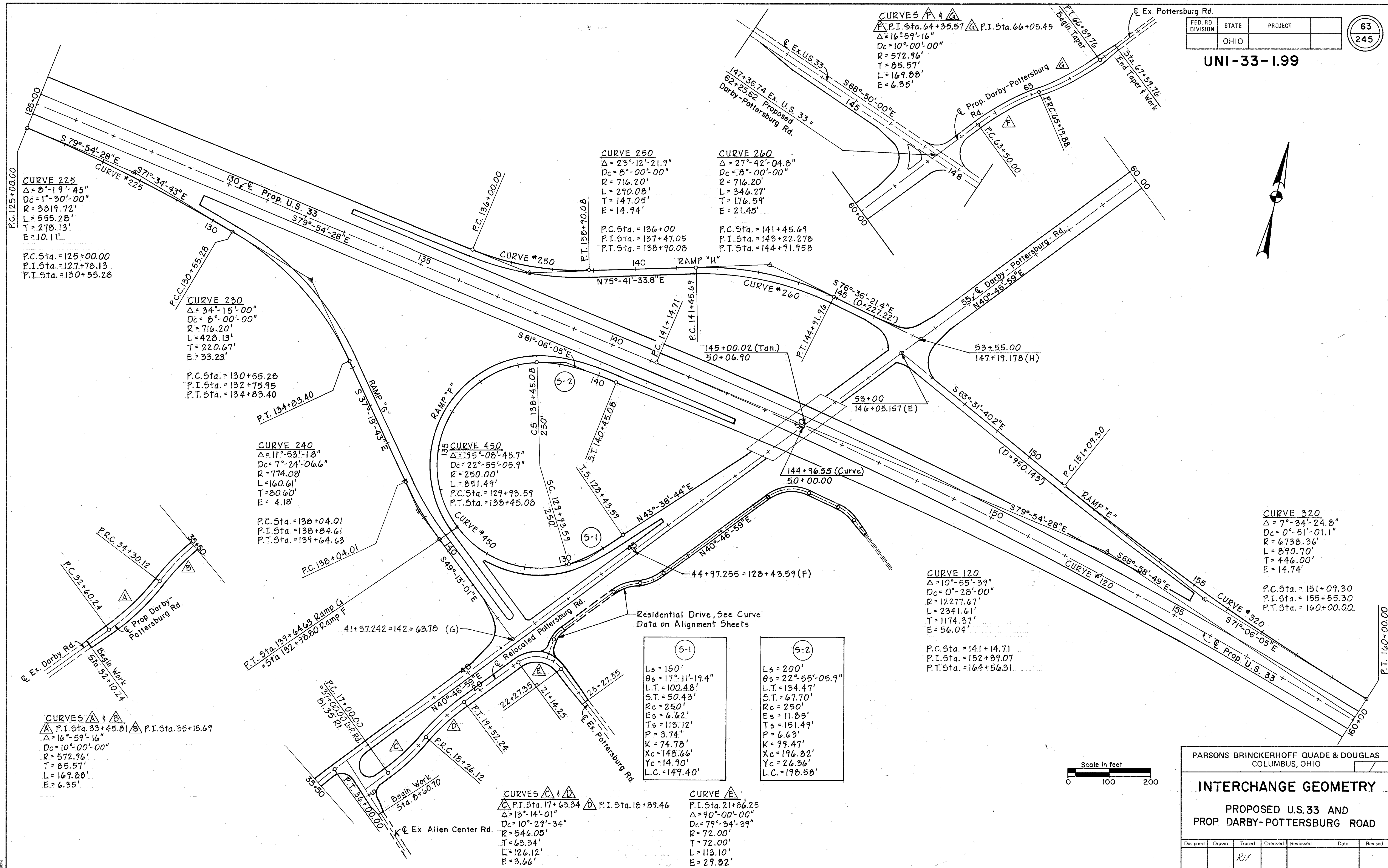
UNI-33-1.99





U.S. 33 - STA. 219+00 TO STA. 220+00

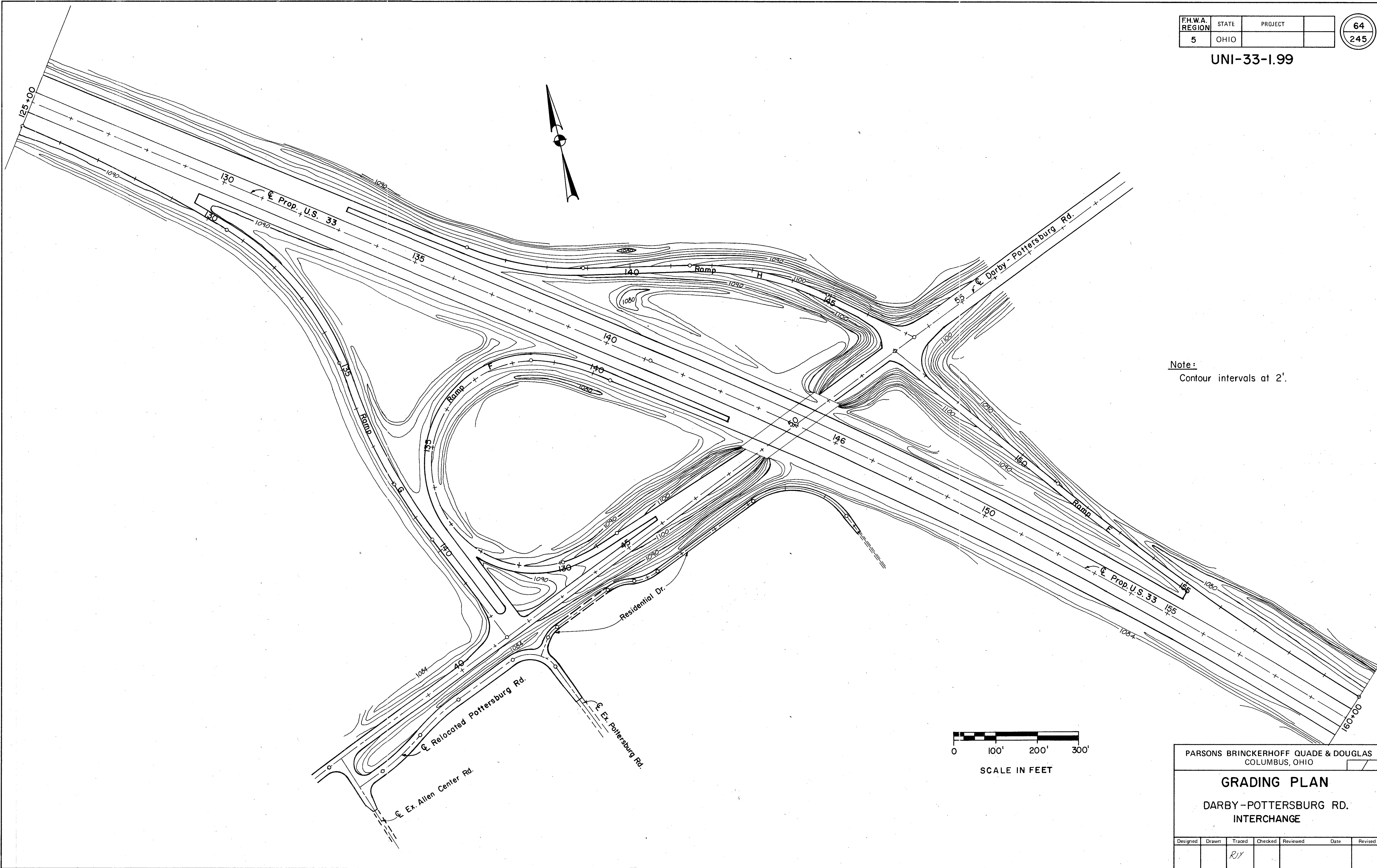
UNI-33-1.99



F.H.W.A. REGION	STATE	PROJECT	
5	OHIO		

64
245

UNI-33-1.99



PARSONS BRINCKERHOFF QUADE & DOUGLAS
COLUMBUS, OHIO

GRADING PLAN

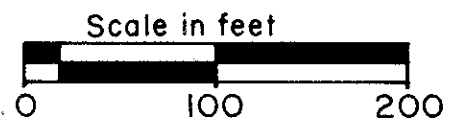
DARBY-POTTERSBURG RD.
INTERCHANGE

Designed	Drawn	Traced	Checked	Reviewed	Date	Revised
		R/Y				

FED. RD. DIVISION	STATE	PROJECT	
	OHIO		

65
245

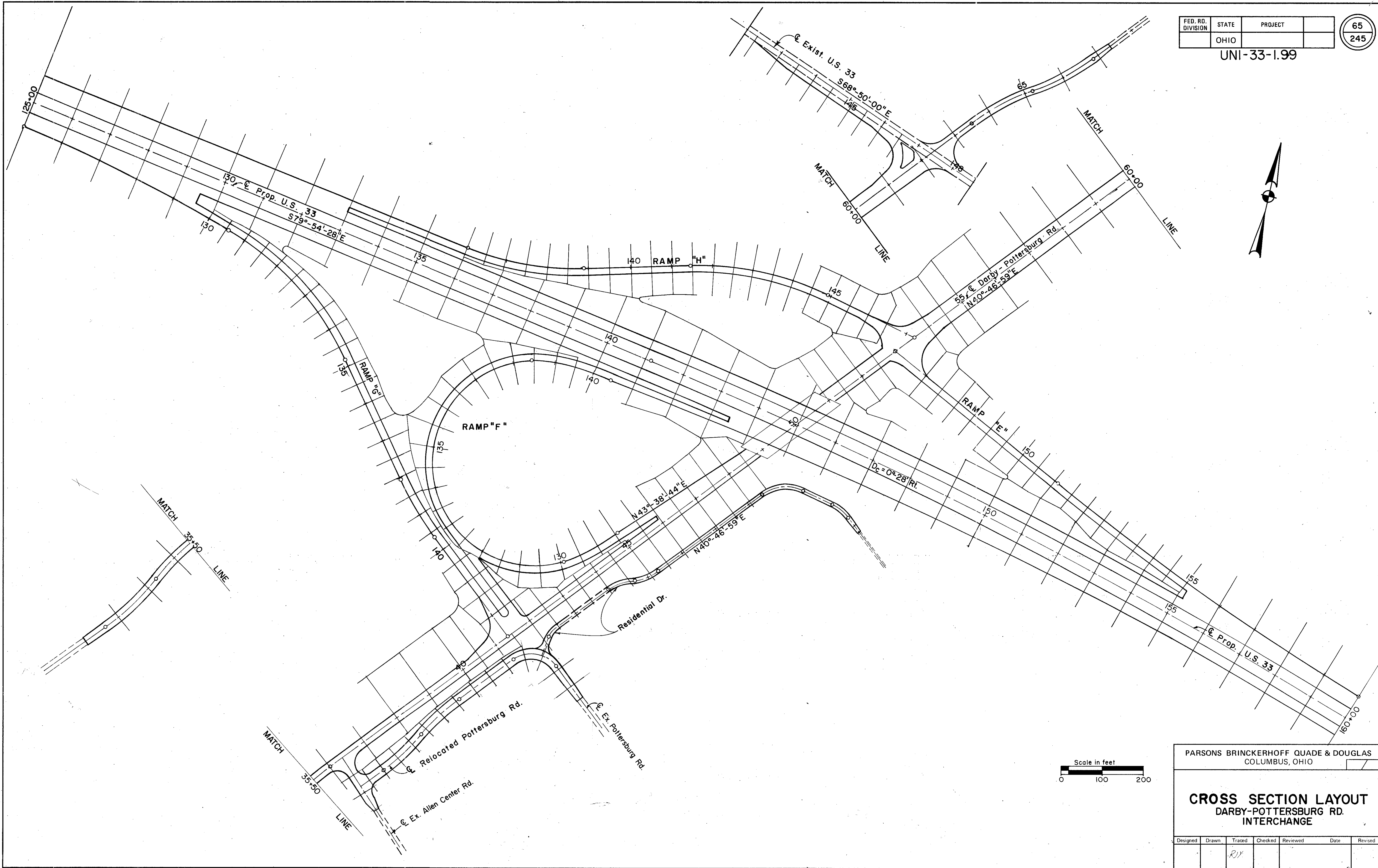
UNI-33-1.99

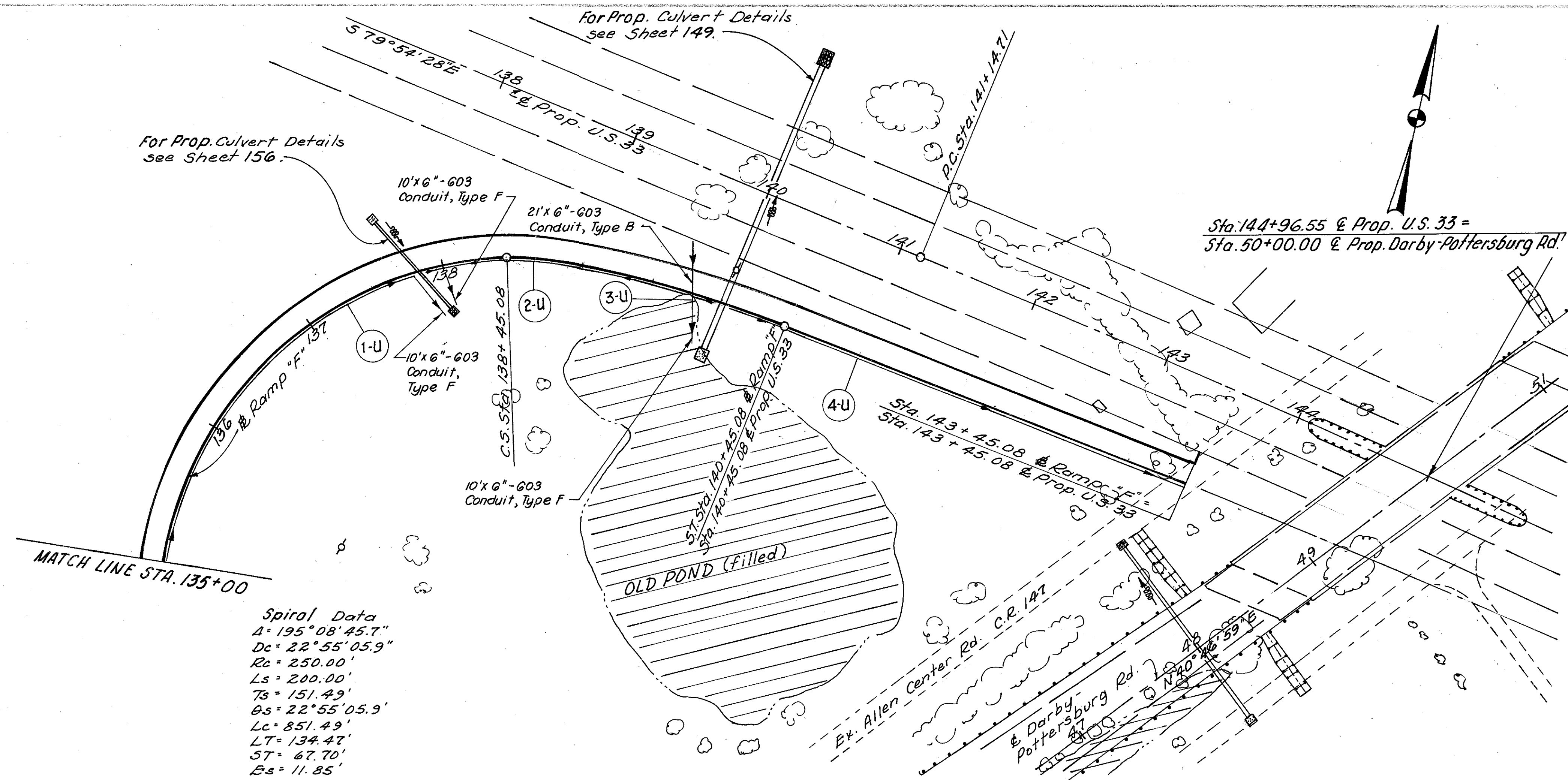


PARSONS BRINCKERHOFF QUADE & DOUGLAS
COLUMBUS, OHIO

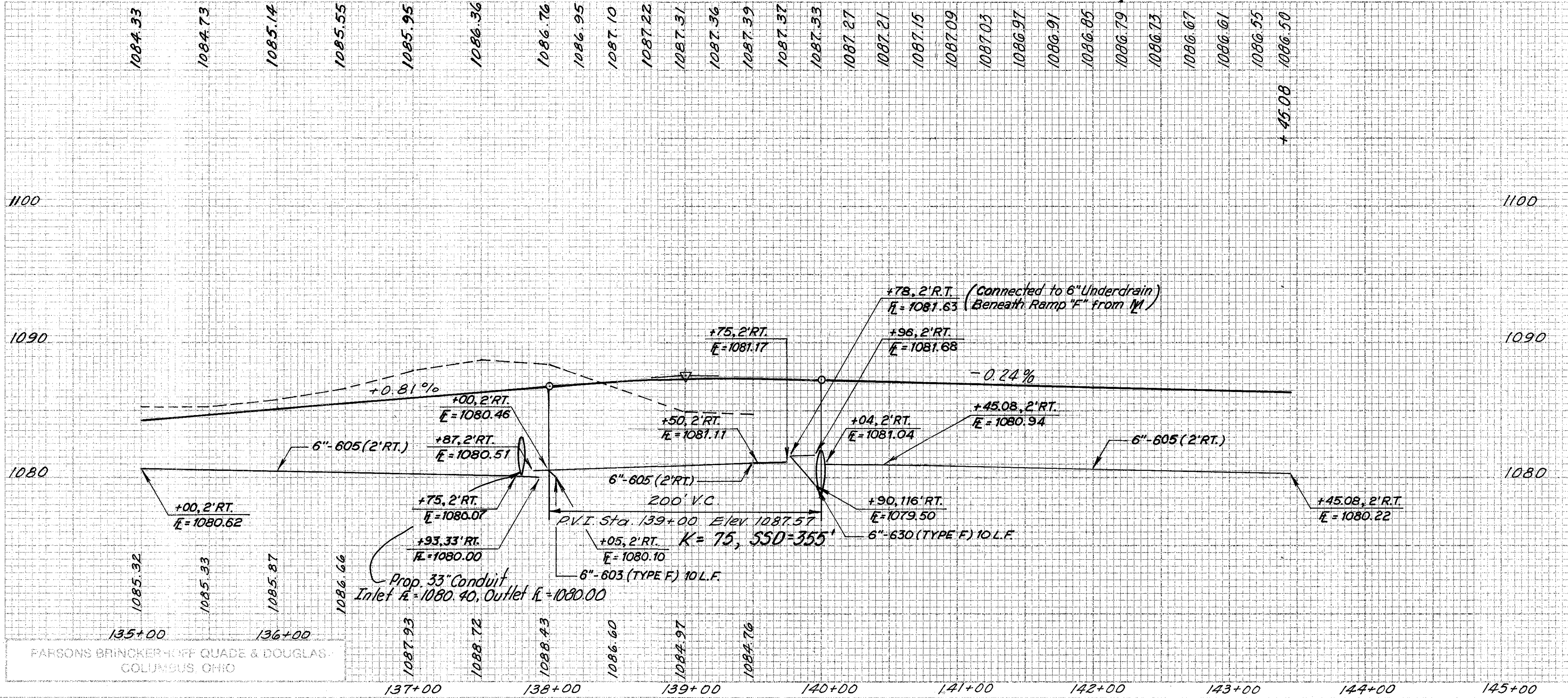
CROSS SECTION LAYOUT
DARBY-POTTERSBU RG RD.
INTERCHANGE

Designed	Drawn	Traced	Checked	Reviewed	Date	Revised
		R.Y.				





Spiral Data
Δ = 195° 08' 45.7"
Dc = 22° 55' 05.9"
Rc = 250.00'
Ls = 200.00'
Ts = 151.49'
Ds = 22° 55' 05.9"
Lc = 851.49'
LT = 134.47'
ST = 67.70'
Es = 11.85'

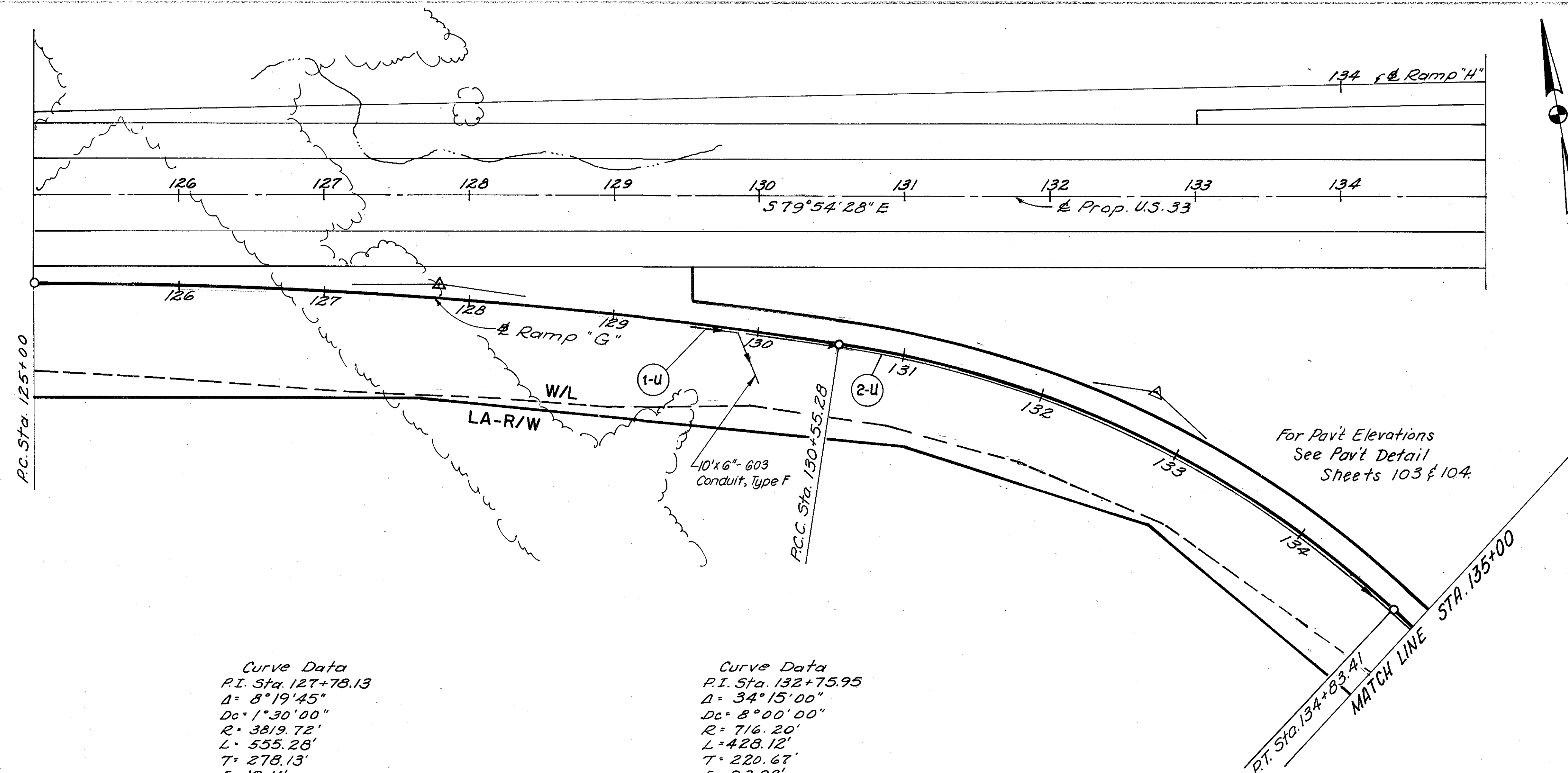


ESTIMATED QUANTITIES

REF. NO.	STATION TO STATION	SIDE	603 6" Conduit Type B, Type F Lin. Ft.	603 6" Conduit Type F Lin. Ft.	605 6" Shallow Pipe Underdrains Lin. Ft.	Bends and Branches Each	TOTALS
1-U	135+00 to 137+93	RT.	10	10	300	1	608
2-U	137+87 to 139+75	RT.	10	10	204	1	54
3-U	139+70 to 139+90	LT.	21	21	29		21
4-U	140+04 to 143+45	RT.			341		54

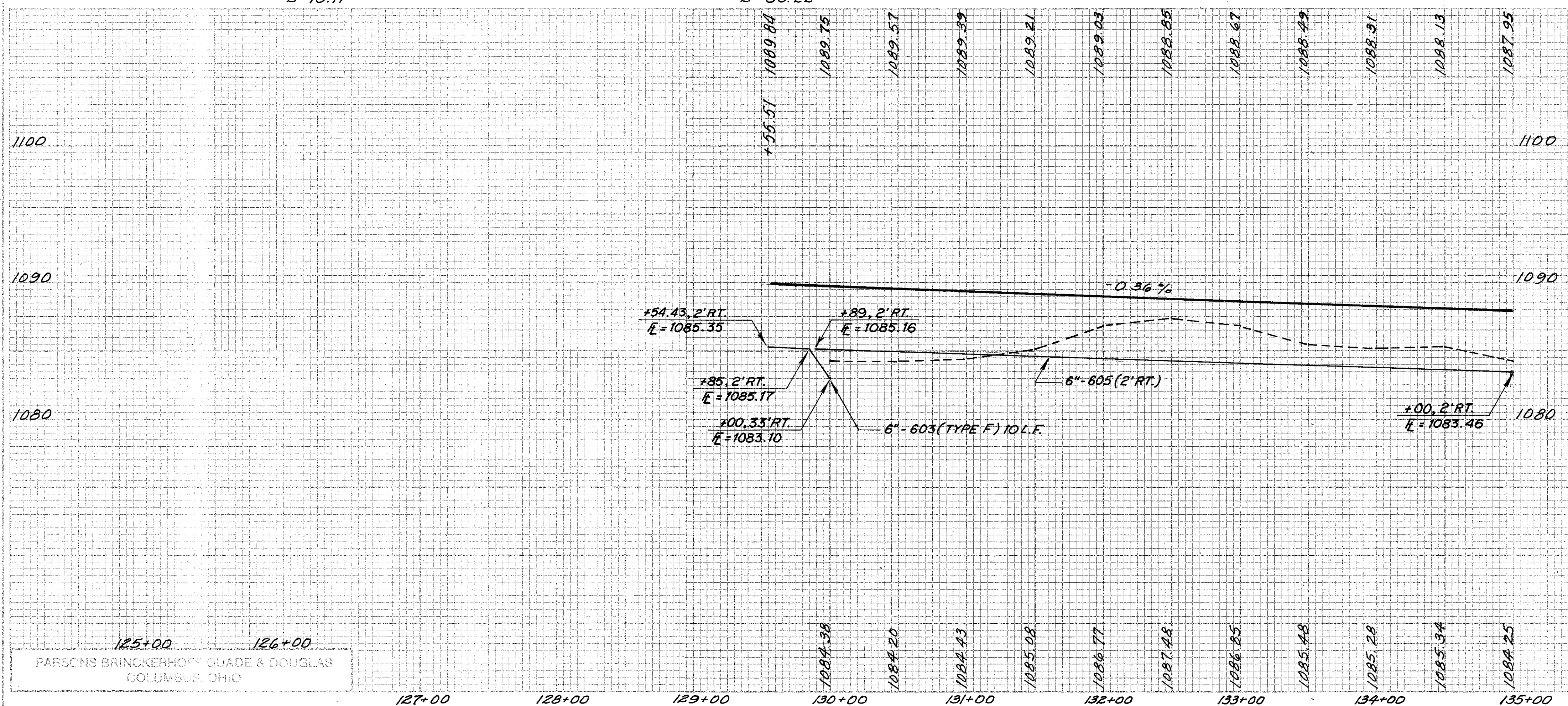
RAMP "F" STA. 135+00 TO STA. 143+45.08

CALC.
BY
DATE
CHKD.
BY
DATE



Curve Data
P.I. Sta. 127+78.13
 $\Delta = 8^\circ 19' 45''$
 $Dc = 1^\circ 30' 00''$
 $R = 3819.72'$
 $L = 555.28'$
 $T = 278.13'$
 $E = 10.11'$

Curve Data
P.I. Sta. 132+75.95
 $\Delta = 34^\circ 15' 00''$
 $Dc = 8^\circ 00' 00''$
 $R = 716.20'$
 $L = 428.12'$
 $T = 220.67'$
 $E = 33.22'$

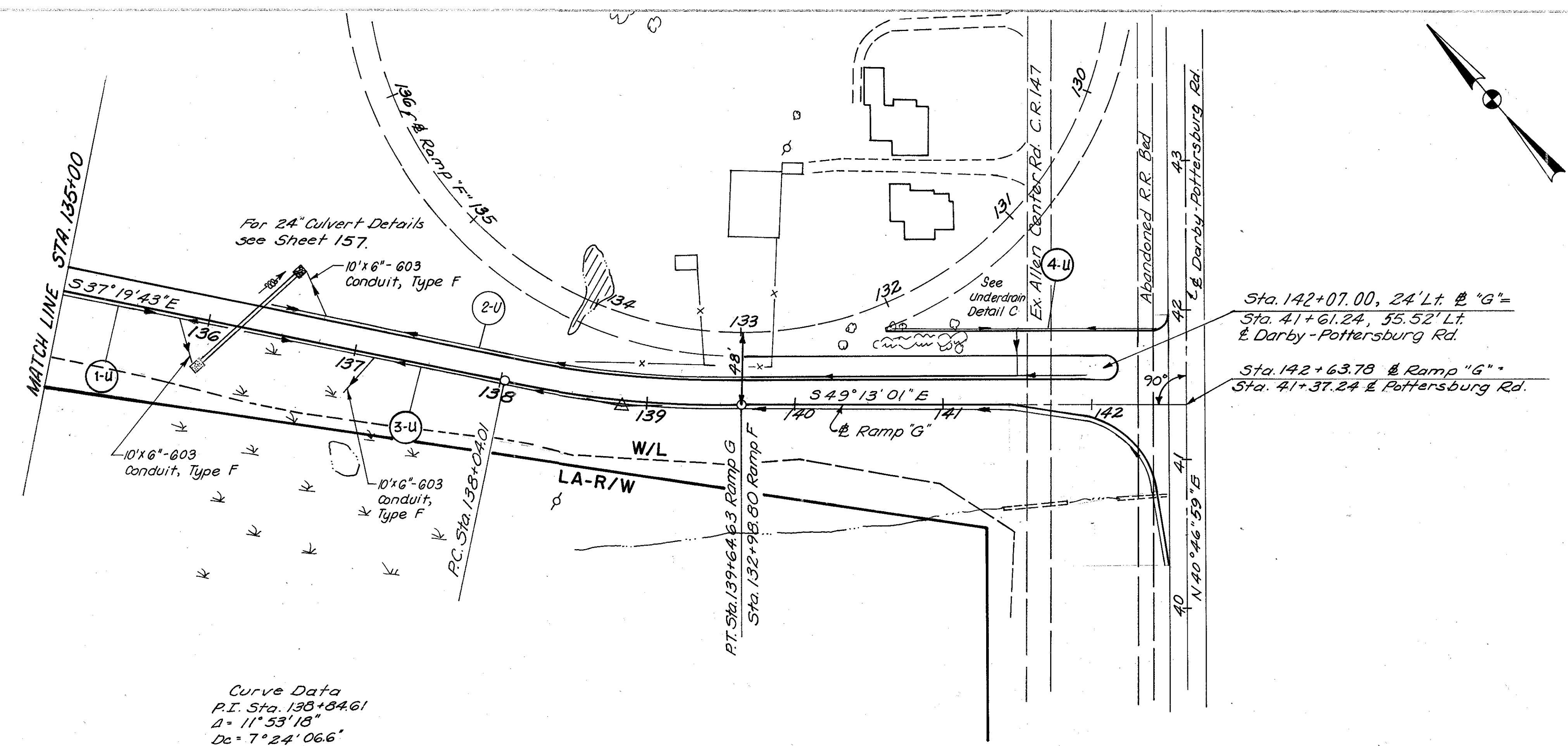


125+00 126+00
PARSONS BRINCKERHOFF, QUADE & DOUGLAS
COLUMBUS, OHIO

ESTIMATED QUANTITIES

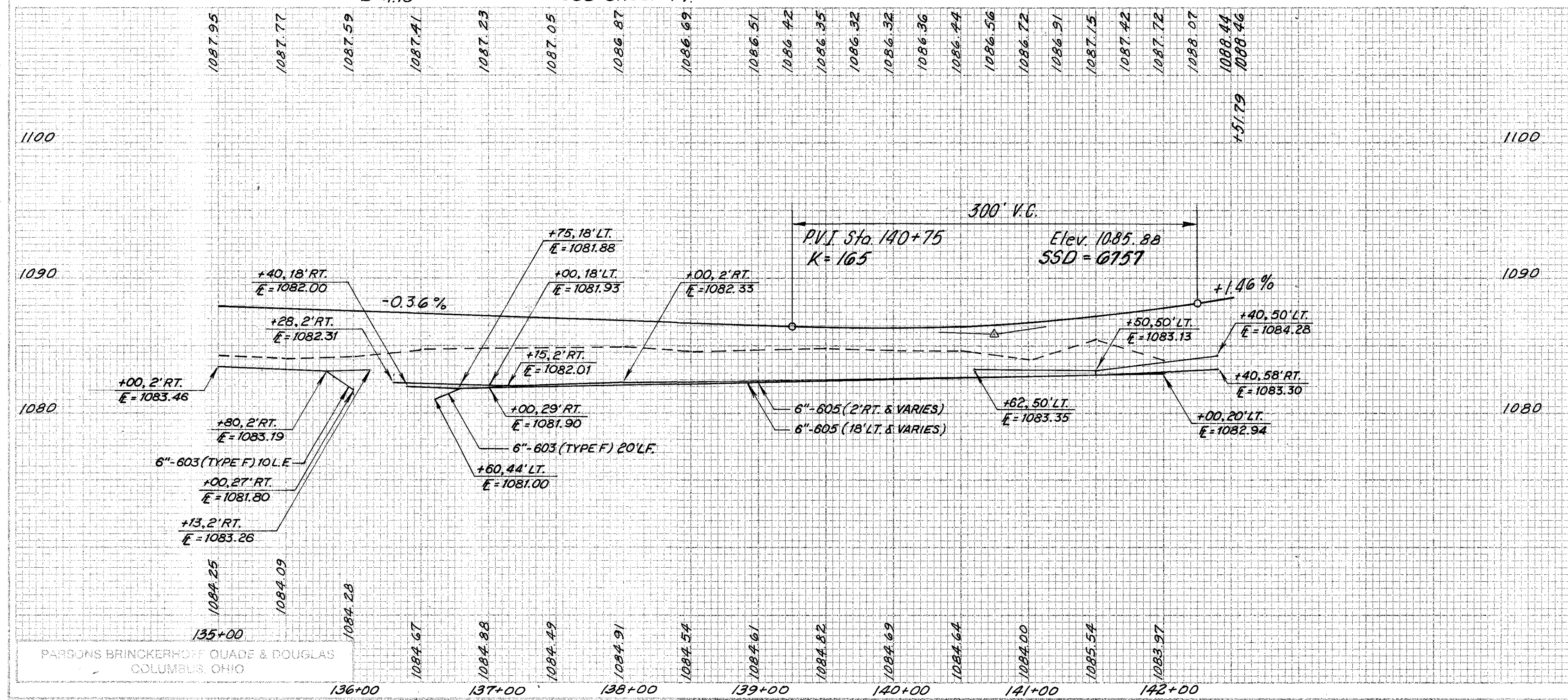
ITEM NO.	STATION TO STATION	SIDE	603 Conduit Type F Lin. Ft.	605 Shallow Pipe Underdrains Lin. Ft.	Bends and Branches Each	TOTALS
1-U	129+54.4 to 130+00	RT.			1	
2-U	129+09 to 135+00	RT.				
			10	73 511		584
						10

RAMP "G" STA. 125+00 TO STA. 135+00



Curve Data
P.I. Sta. 138+84.61
Δ = 11°53'18"
Dc = 7°24'06.6"
R = 774.08'
L = 160.61'
T = 80.60'
E = 4.18'

For Pavement Elevations
See Sheet 99.



ESTIMATED QUANTITIES

REF. NO.	STATION TO STATION	SIZE	603 "e" Conduit Type B Lin. Ft.	603 "g" Conduit Type F Lin. Ft.	605 "g" shallow Pipe Underdrains Lin. Ft.	Bends and Branches Each	TOTALS
1-U	135+00 to 136+13	RT.		10	133	1	
2-U	136+40 to 142+00	LT.		10	580	2	
3-U	136+28 to 142+40	RT.		10	750	1	
4-U	140+62 to 142+40	LT.	20		190		
							1653
							30
							20

RAMP "G" STA. 135+00 TO STA. 142+00

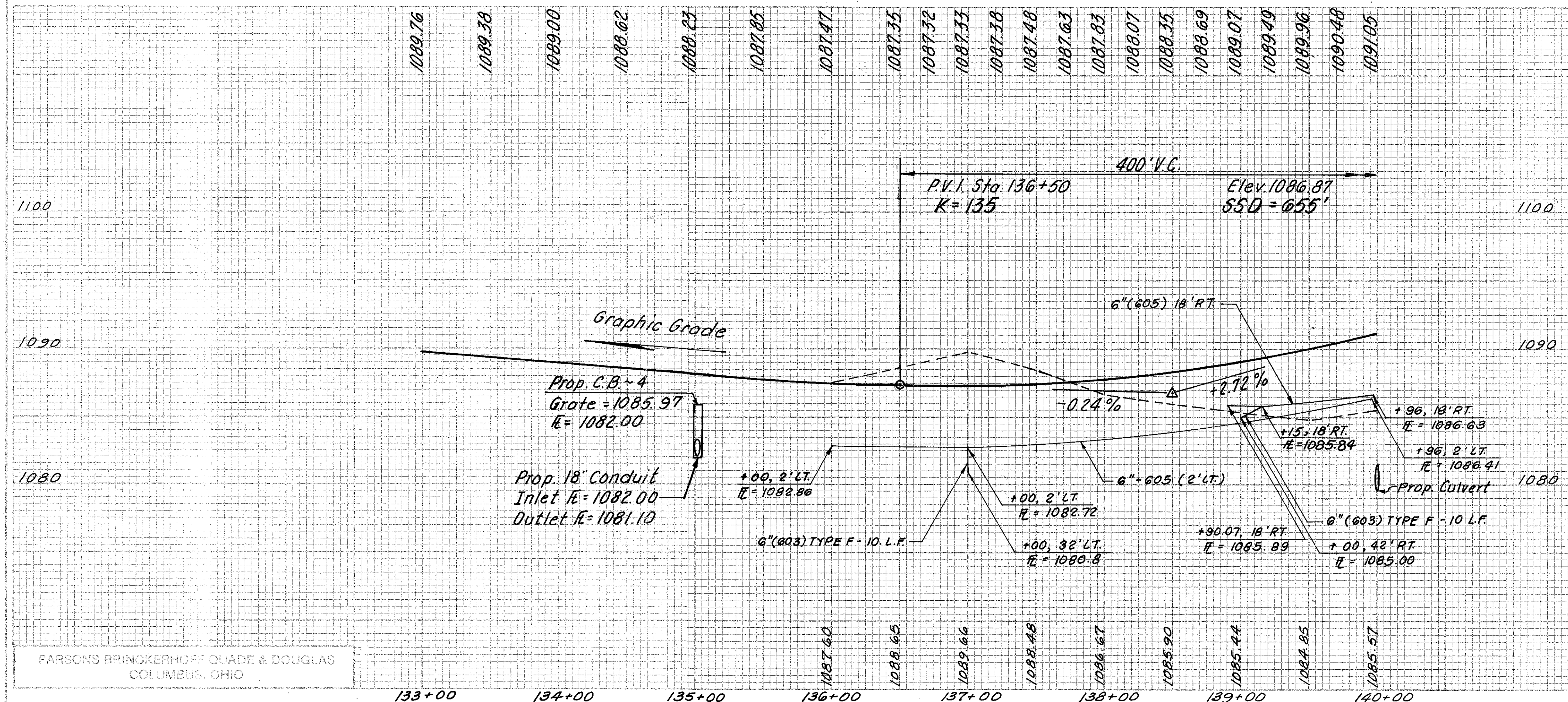
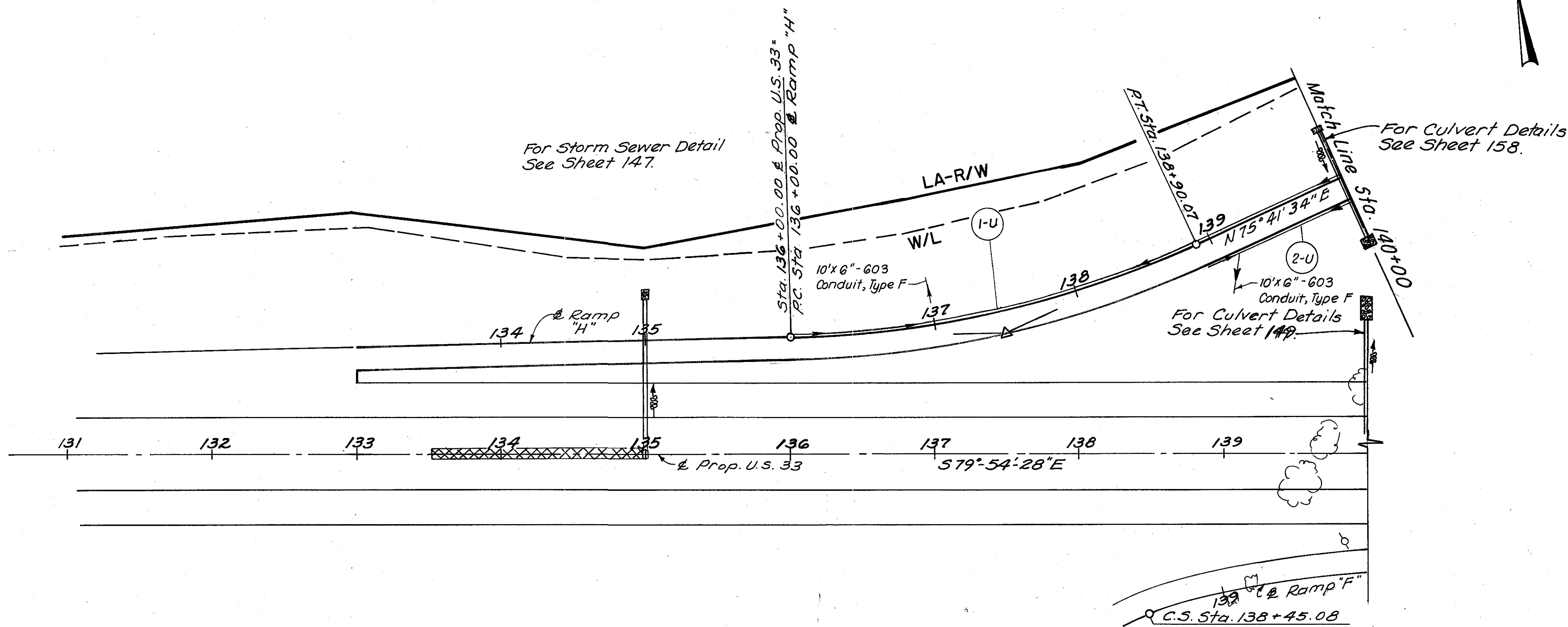
Curve Data
 P.I. Sta. 137+47.05
 $\Delta = 23^\circ 12' 21.9''$
 $D_c = 8^\circ 00' 00''$
 $R = 716.20'$
 $L = 290.08'$
 $T = 147.05'$
 $E = 14.94'$

CALC.
 BY
 DATE
 CHKD.
 BY
 DATE

UNI-33-1.99

OHIO
 FHWA
 REGION 5

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 245



FARSONS BRINCKERHOFF, QUADE & DOUGLAS
 COLUMBUS, OHIO

ESTIMATED QUANTITIES

REF. NO.	STATION TO STATION	SOI	603 Conduit Type F Lin. Ft.	605 Shallow Pipe Underdrains Lin. Ft.	Bends and Branches Each
1-U	136+00 to 139+96	RT	10	420	1
2-U	138+90.07 to 139+96	LT	10	126	1

RAMP "H" STA. 133+00 TO STA. 140+00

TOTALS 546 20

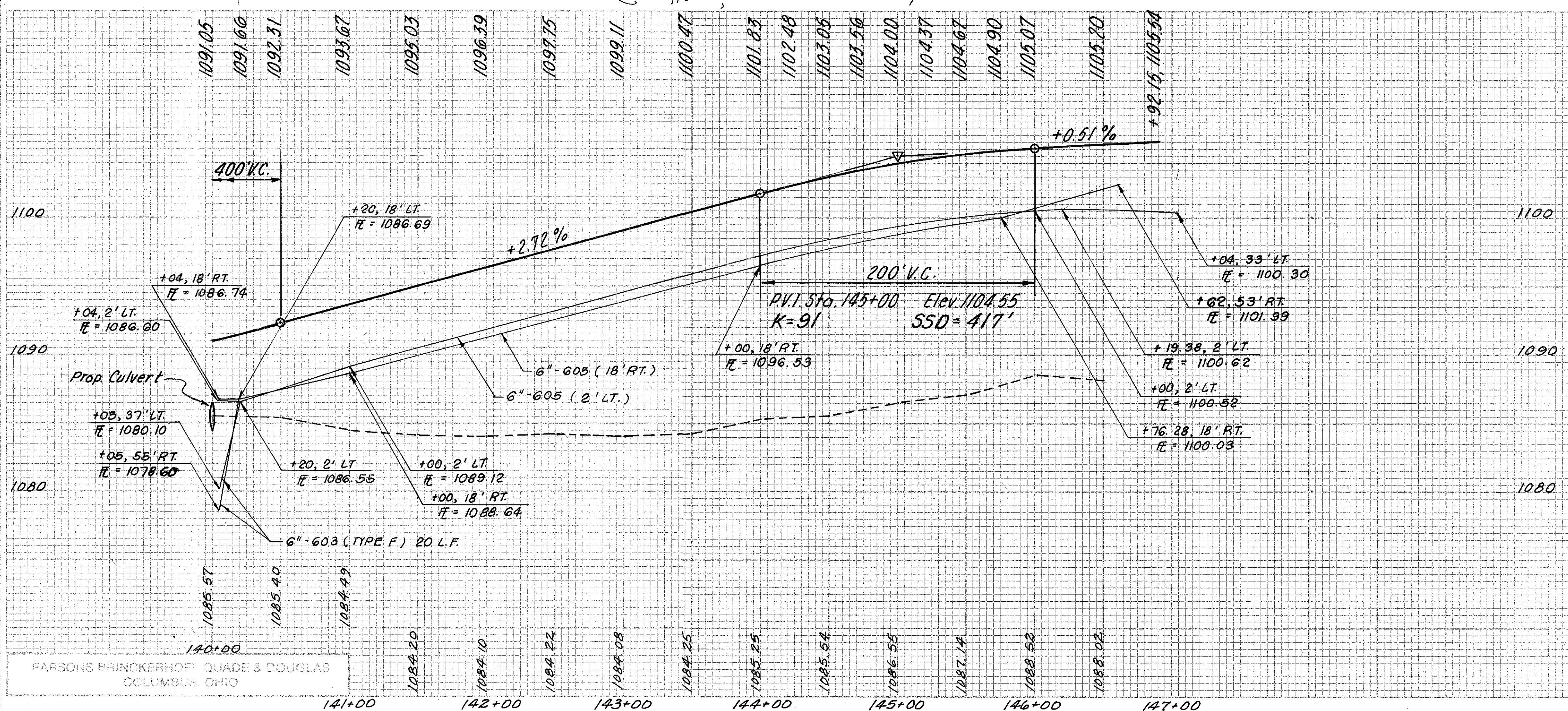
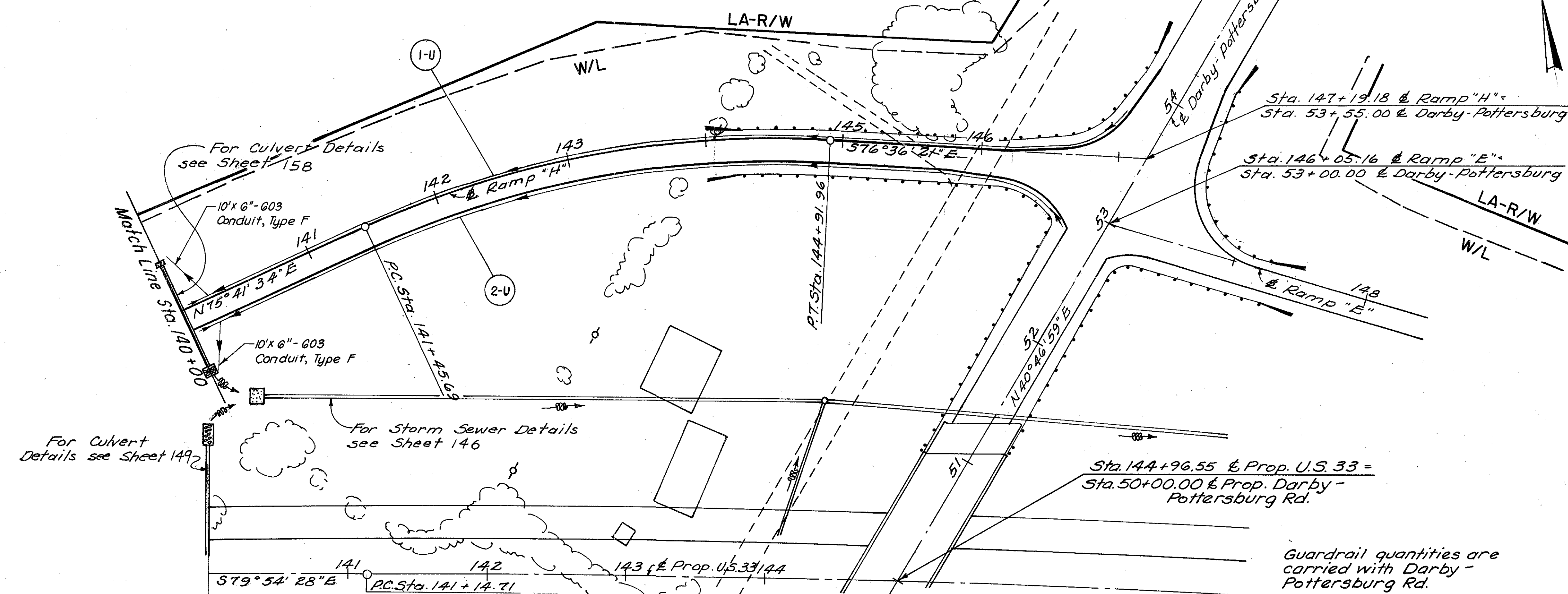
Curve Data
 P.I. Sta. 143+22.28
 $\Delta = 27^\circ 42' 04.8''$
 $DC = 8^\circ 00' 00''$
 $R = 716.20'$
 $L = 346.27'$
 $T = 176.59'$
 $E = 21.45'$

CALC.
 BY
 DATE
 CHKD.
 BY
 DATE

UNI-33-1.99

OHIO
 FHWA
 REGION 5

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 245



ESTIMATED QUANTITIES

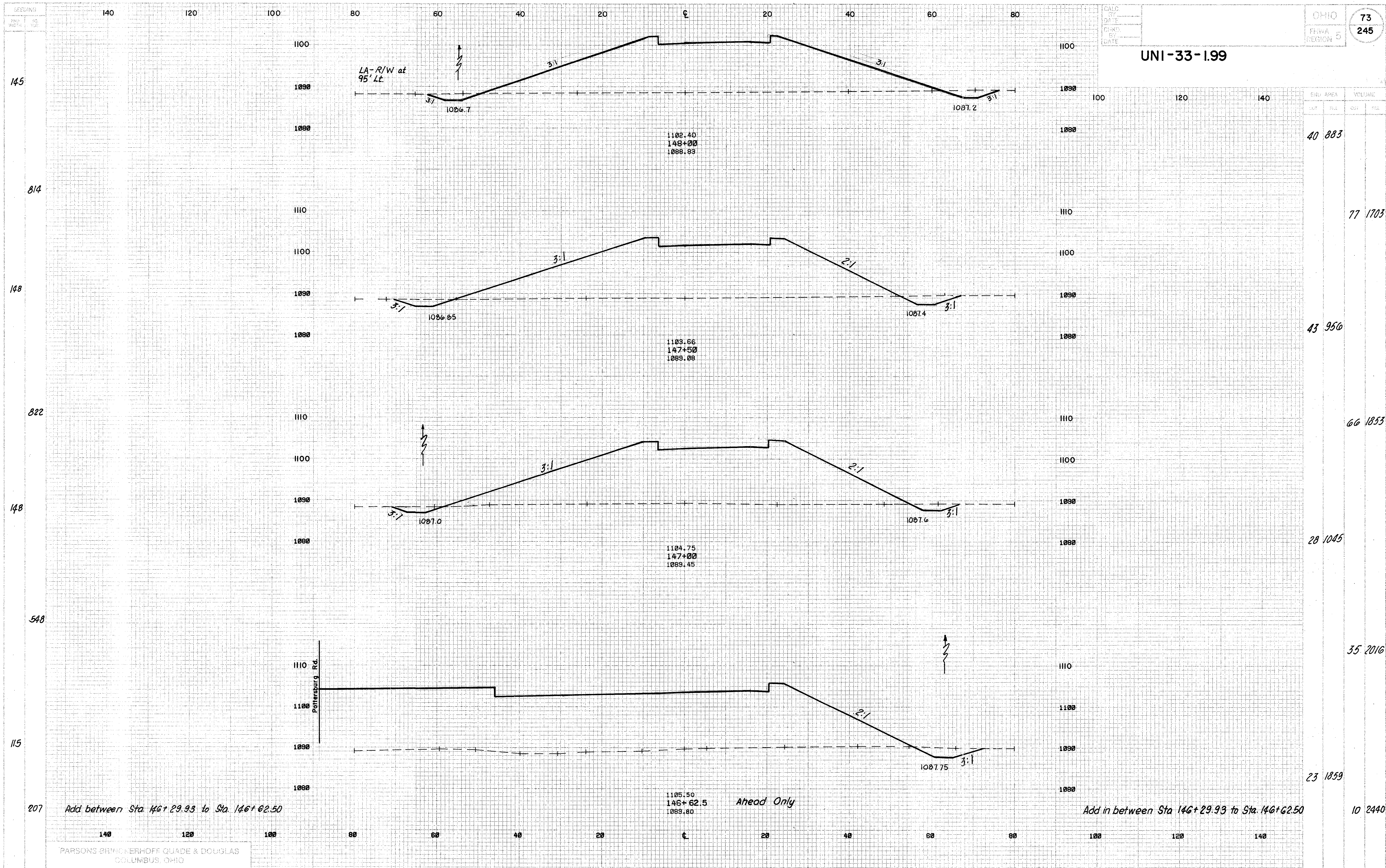
ITEM NO.	STATION TO STATION	SIDE	BEADS AND BRANCHES EACH	6" SHALLOW PIPE UNDERDRAINS LIN. FT.	6" CONDUIT TYPE F LIN. FT.
1-U	140+05 to 141+04	LT	1	738	10
2-U	140+05 to 146+62	RT	1	694	10

RAMP "H" STA. 140+00 TO STA. 147+00

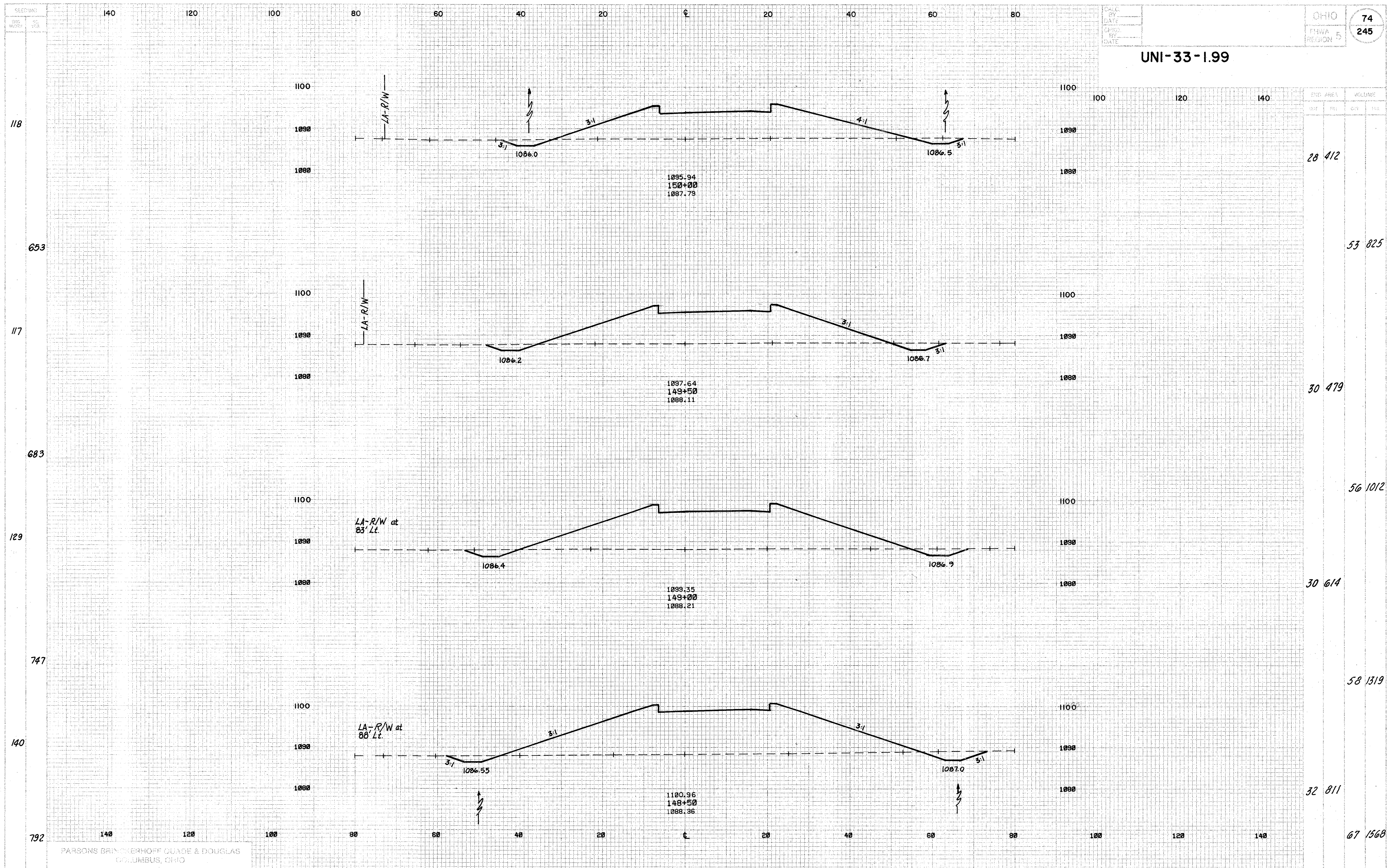
TOTALS

1432

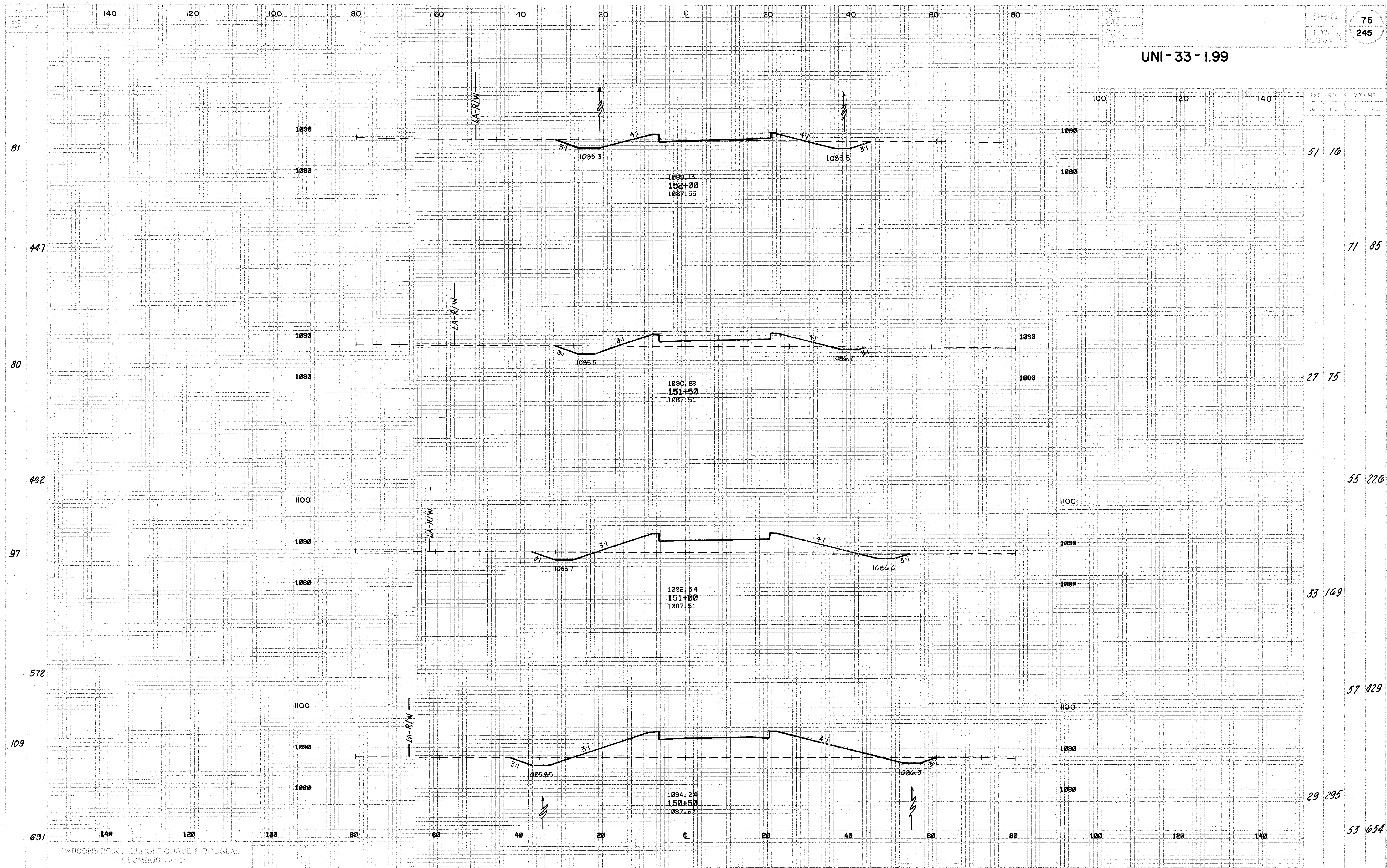
20



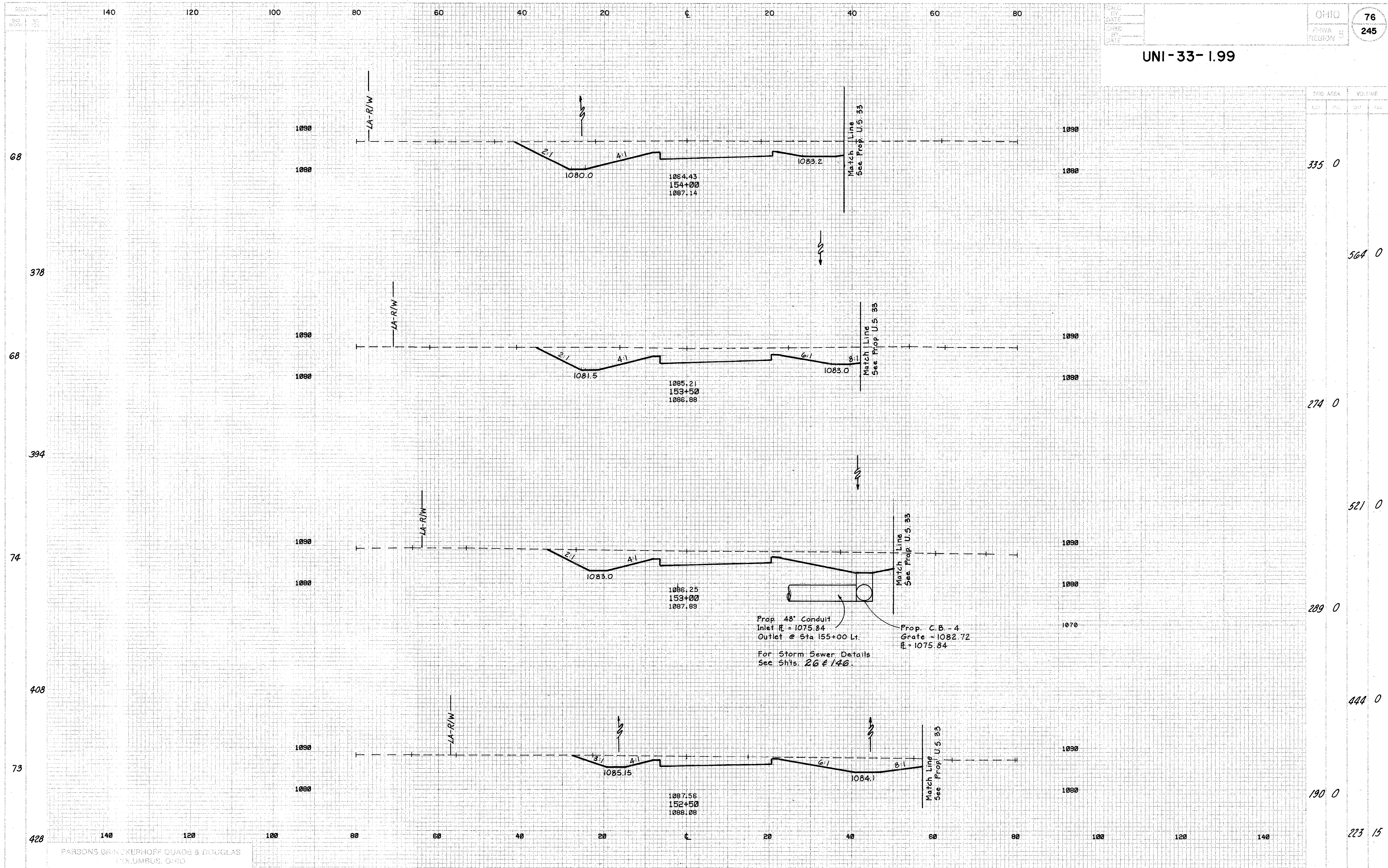
RAMP E - STA. 146+50 TO STA. 148+00



RAMP E - STA. 148+50 TO STA. 150+00

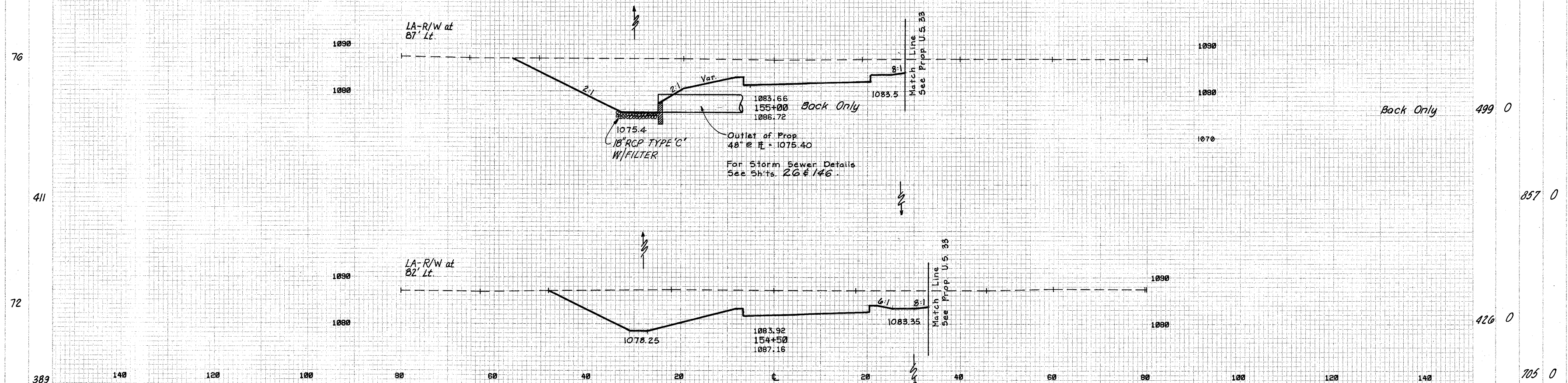


RAMP E - STA.150+50 TO STA.152+00

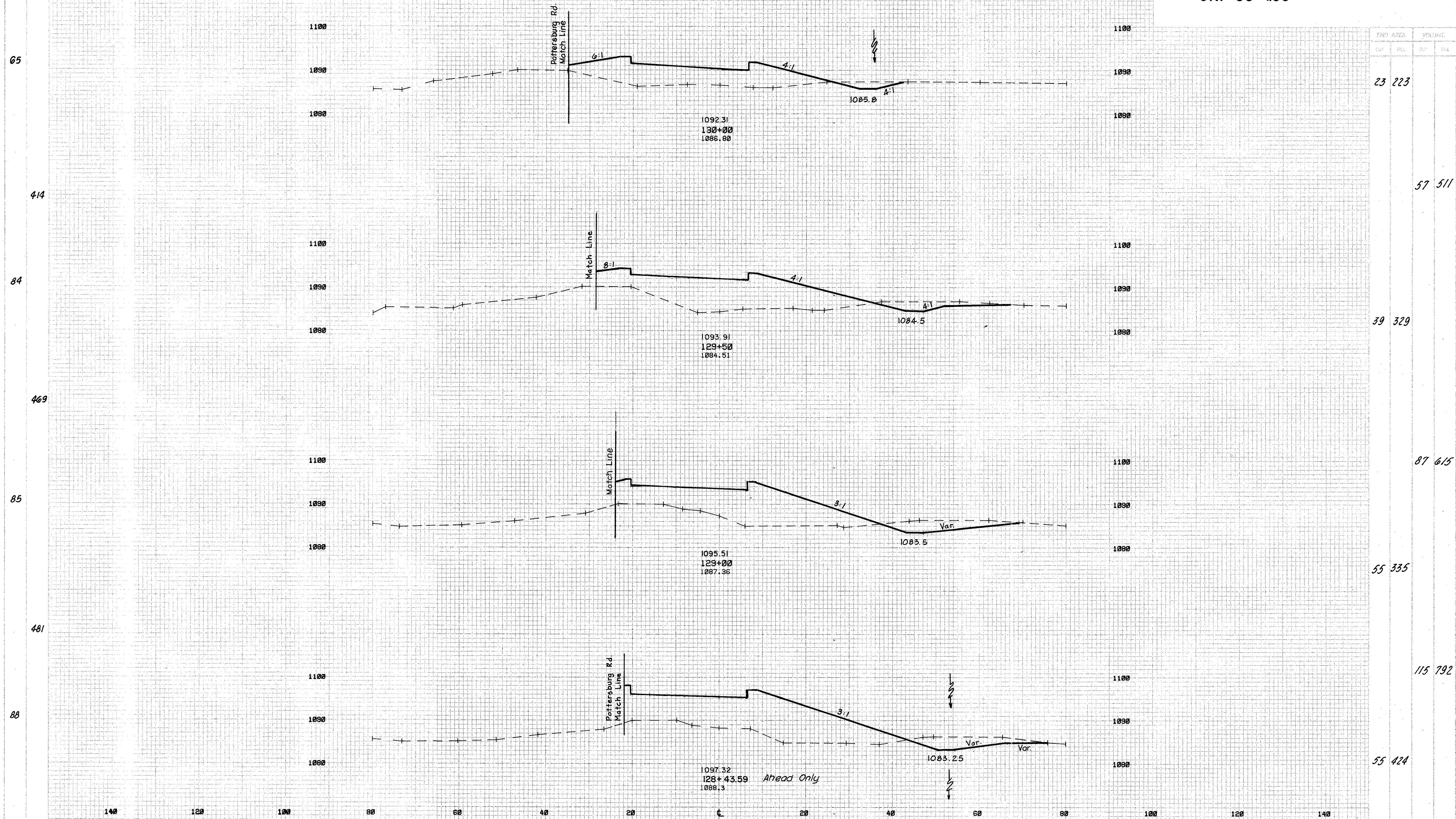


RAMP E - STA. 152+50 TO STA. 154+00

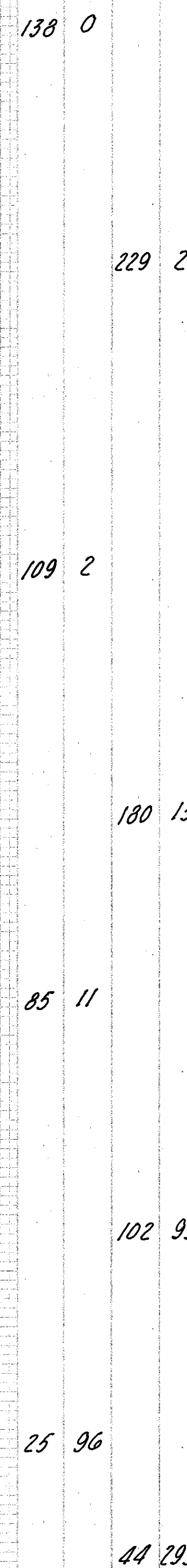
RAMPE E - STA.154+50 TO STA.155+00



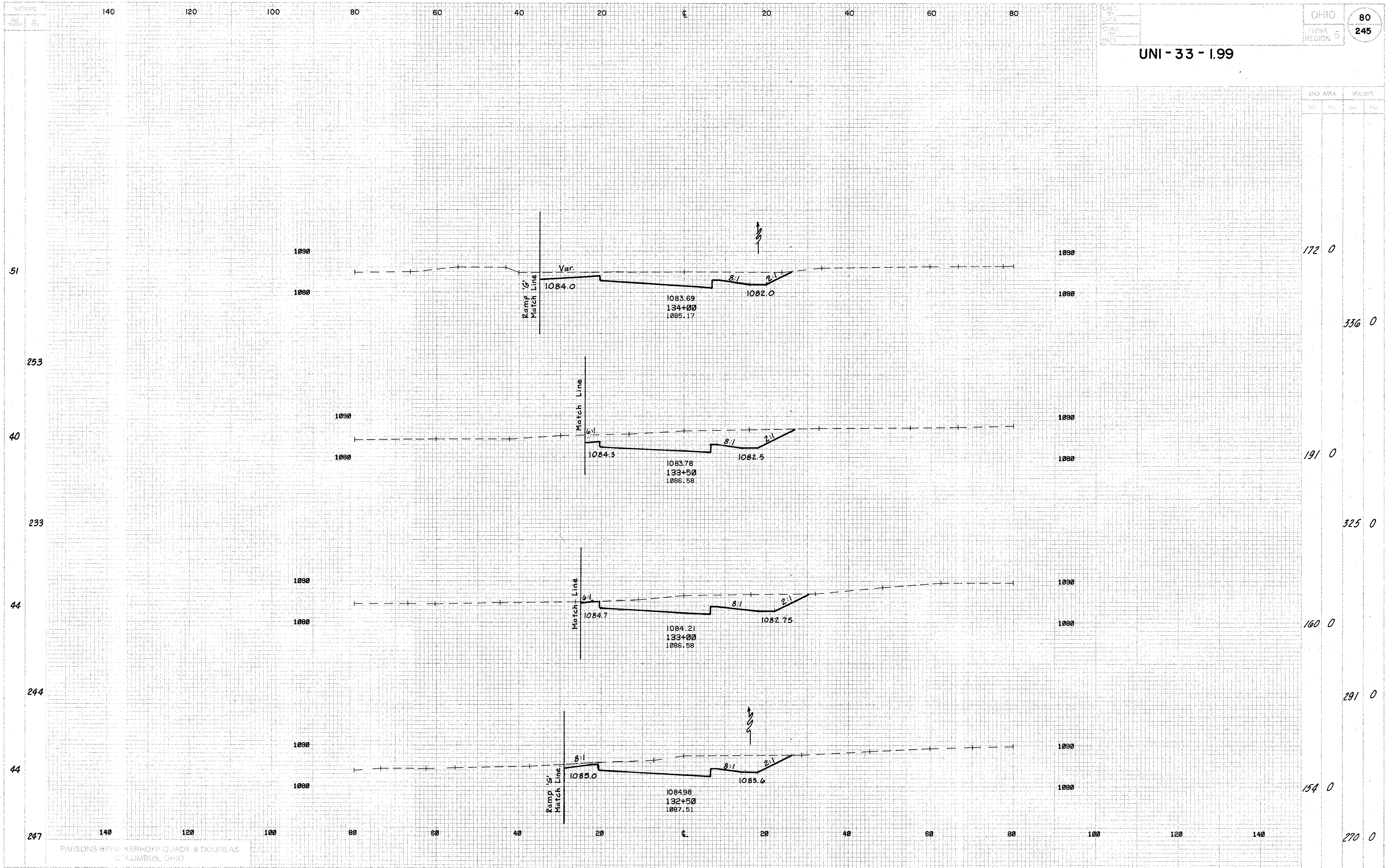
RAMP F-STA.128+50 TO STA.130+00



END AREA		VOLUME	
CUT	FILL	CUT	FILL

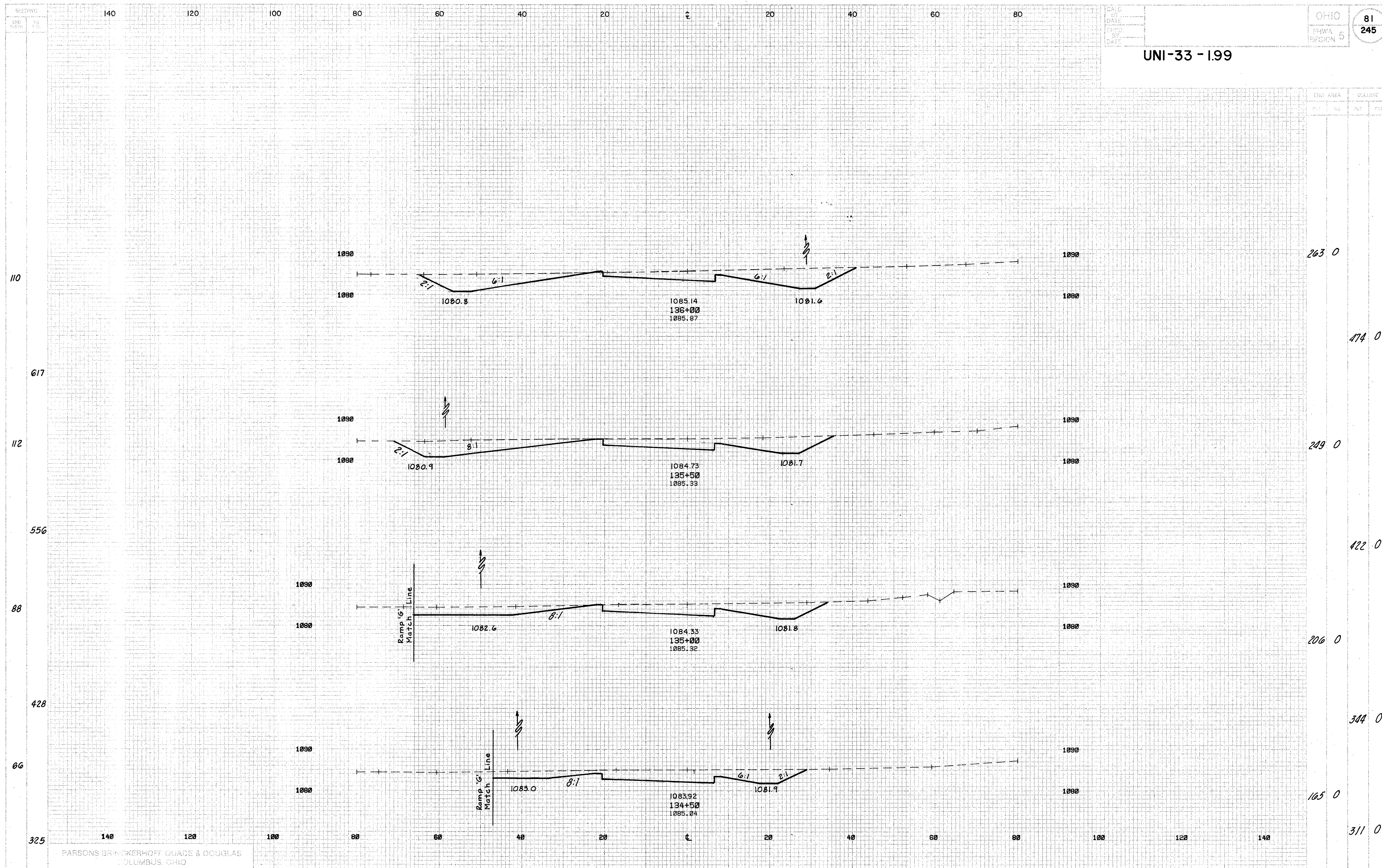


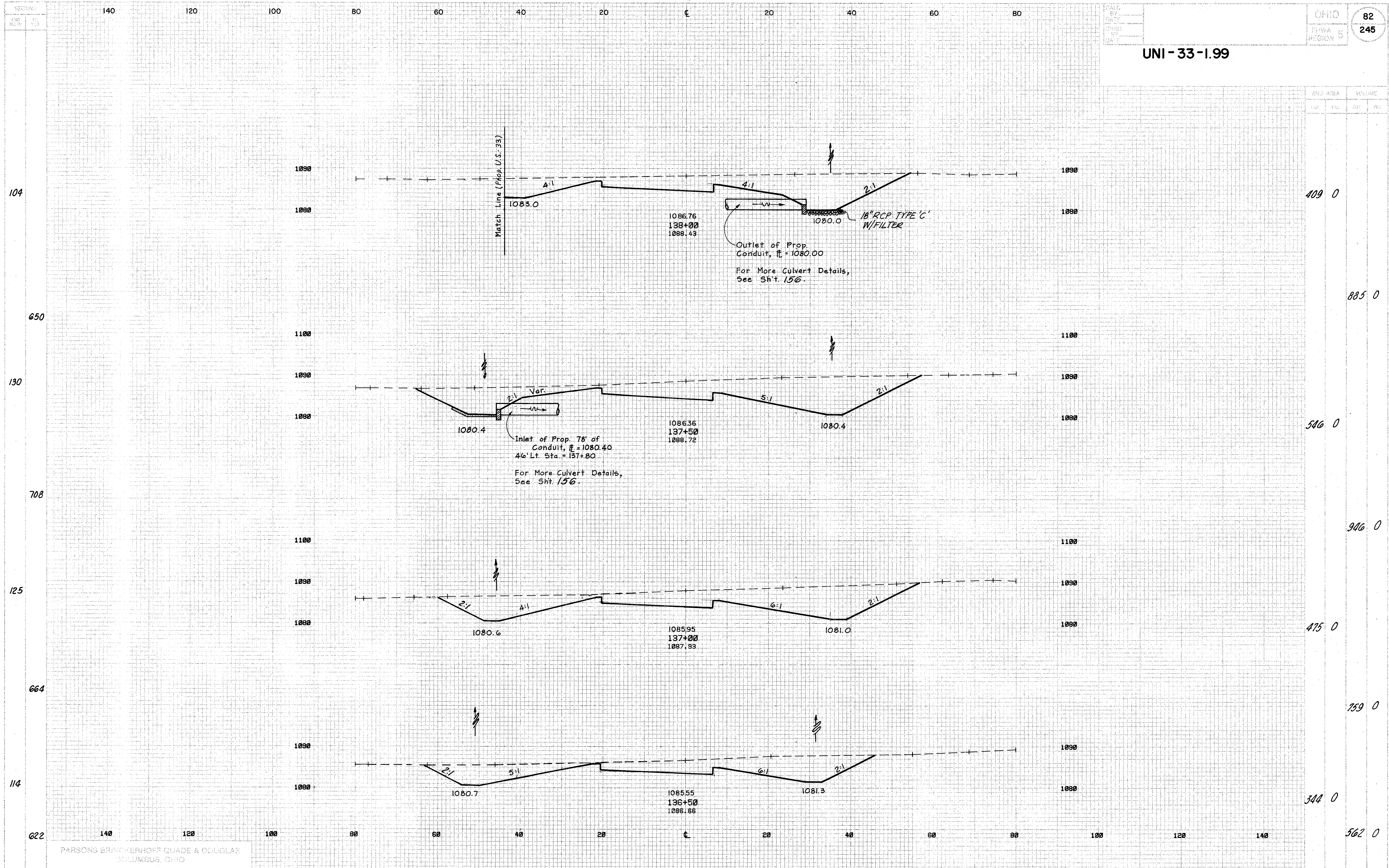
RAMP F- STA.130+50 TO STA.132+00



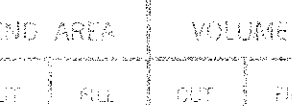
RAMP F - STA. 132+50 TO STA. 134+00

RAMP F- STA.134 +50 TO STA.136+00

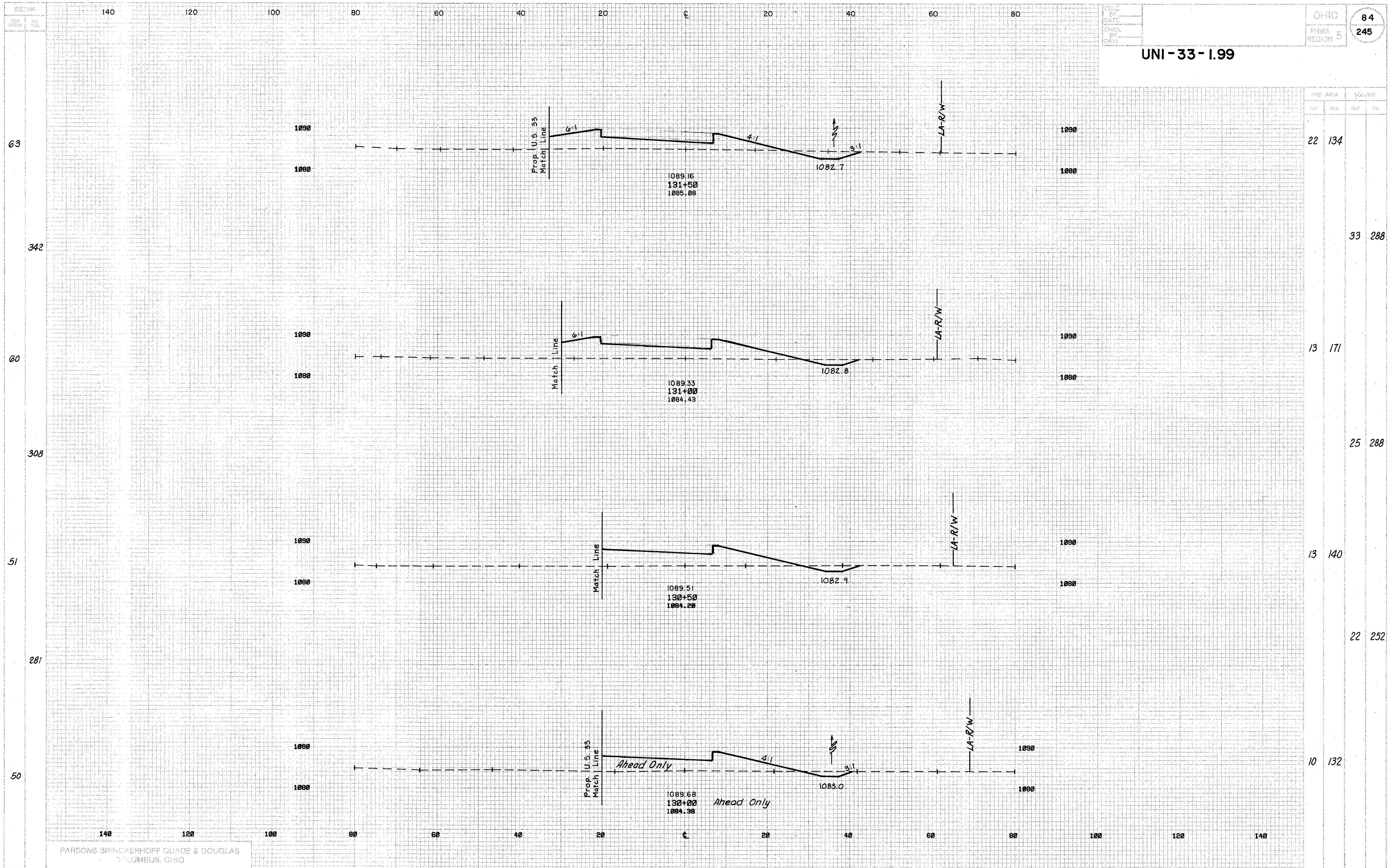




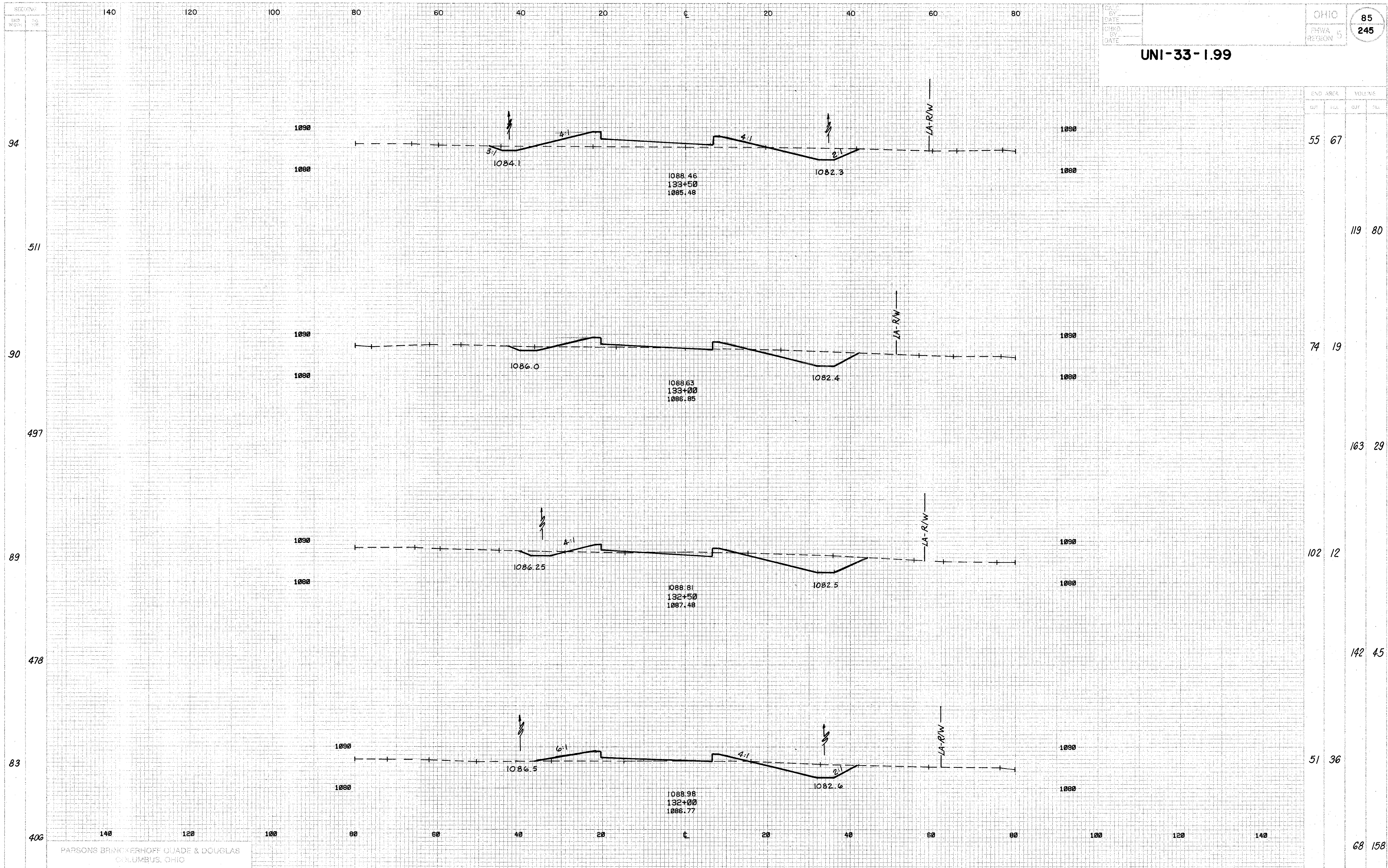
RAMP F - STA. 136+50 TO STA. 138+00



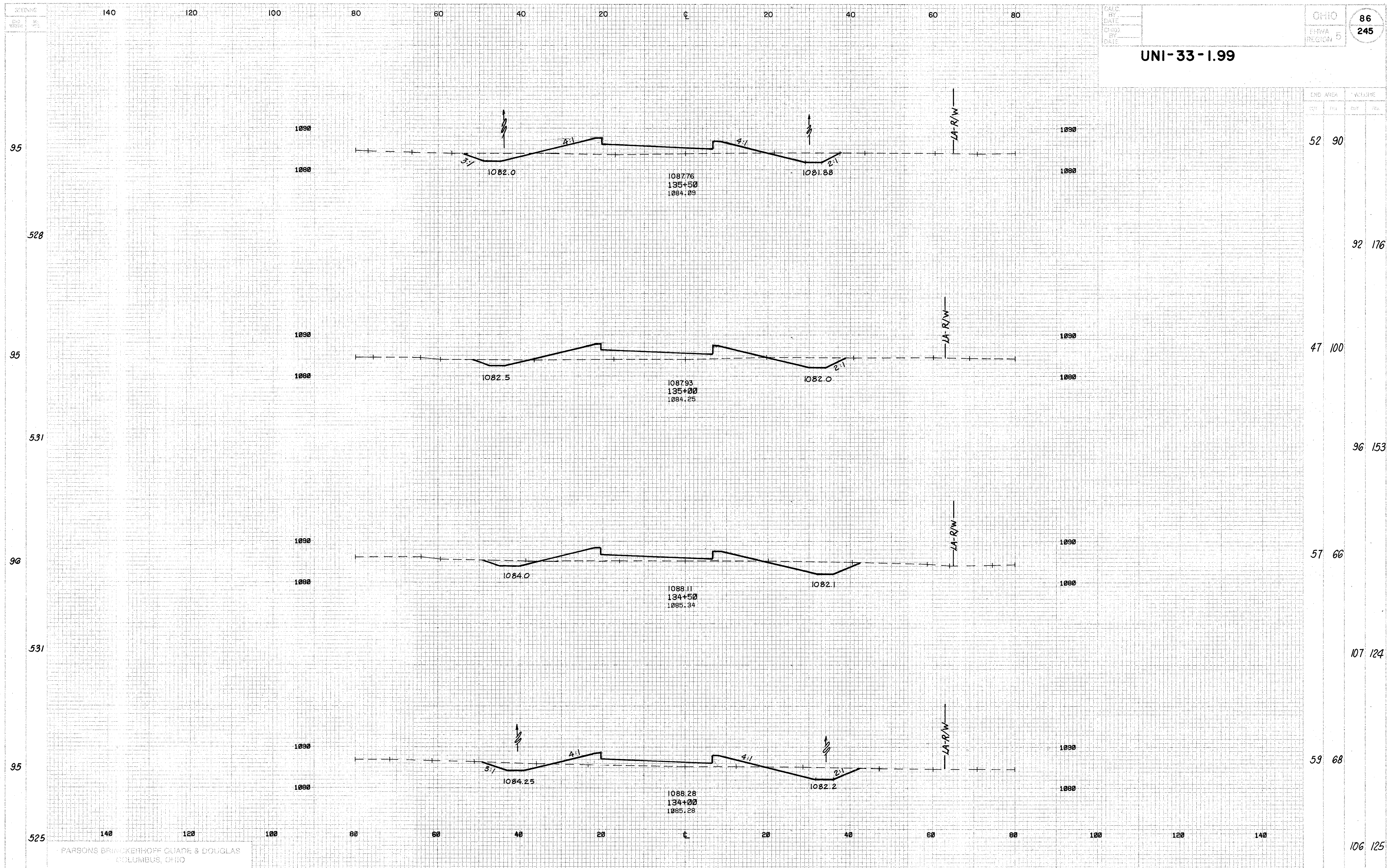
RAMP F-STA.138+50 TO STA.139+50



RAMP G - STA.130+00 TO STA.131 + 50



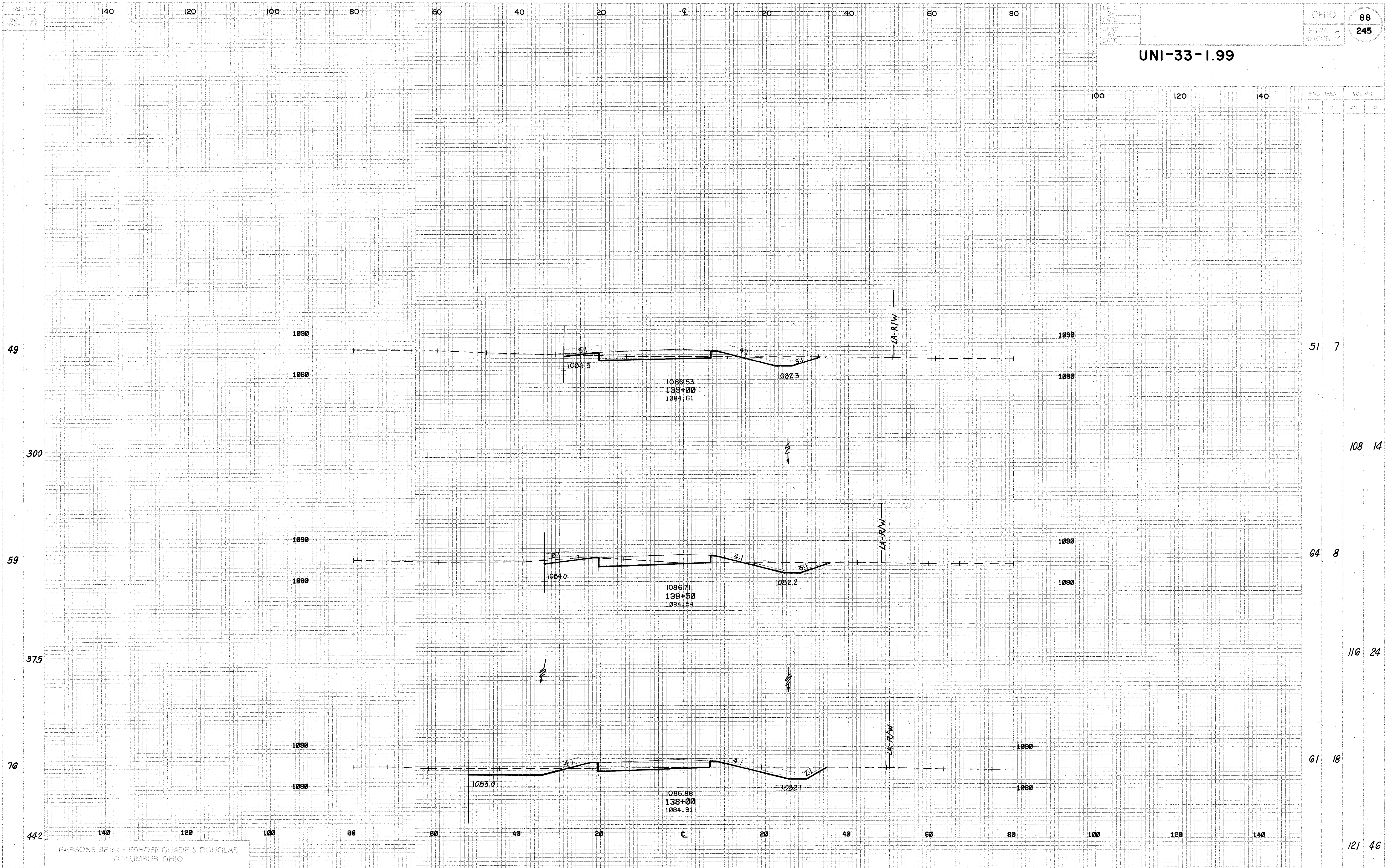
RAMP G- STA.132+00 TO STA.133+50



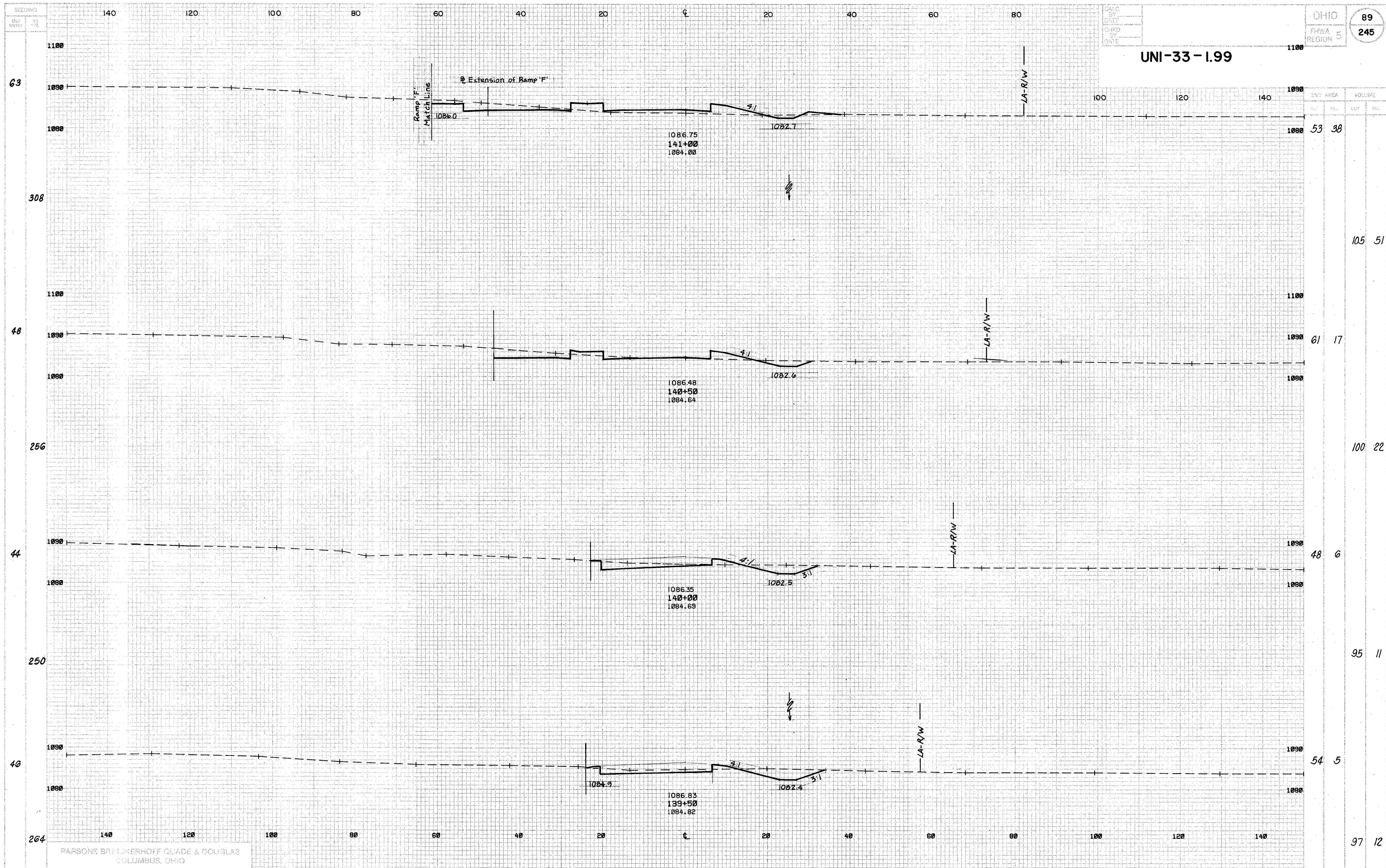
RAMP G - STA.134 +00 TO STA.135 +50



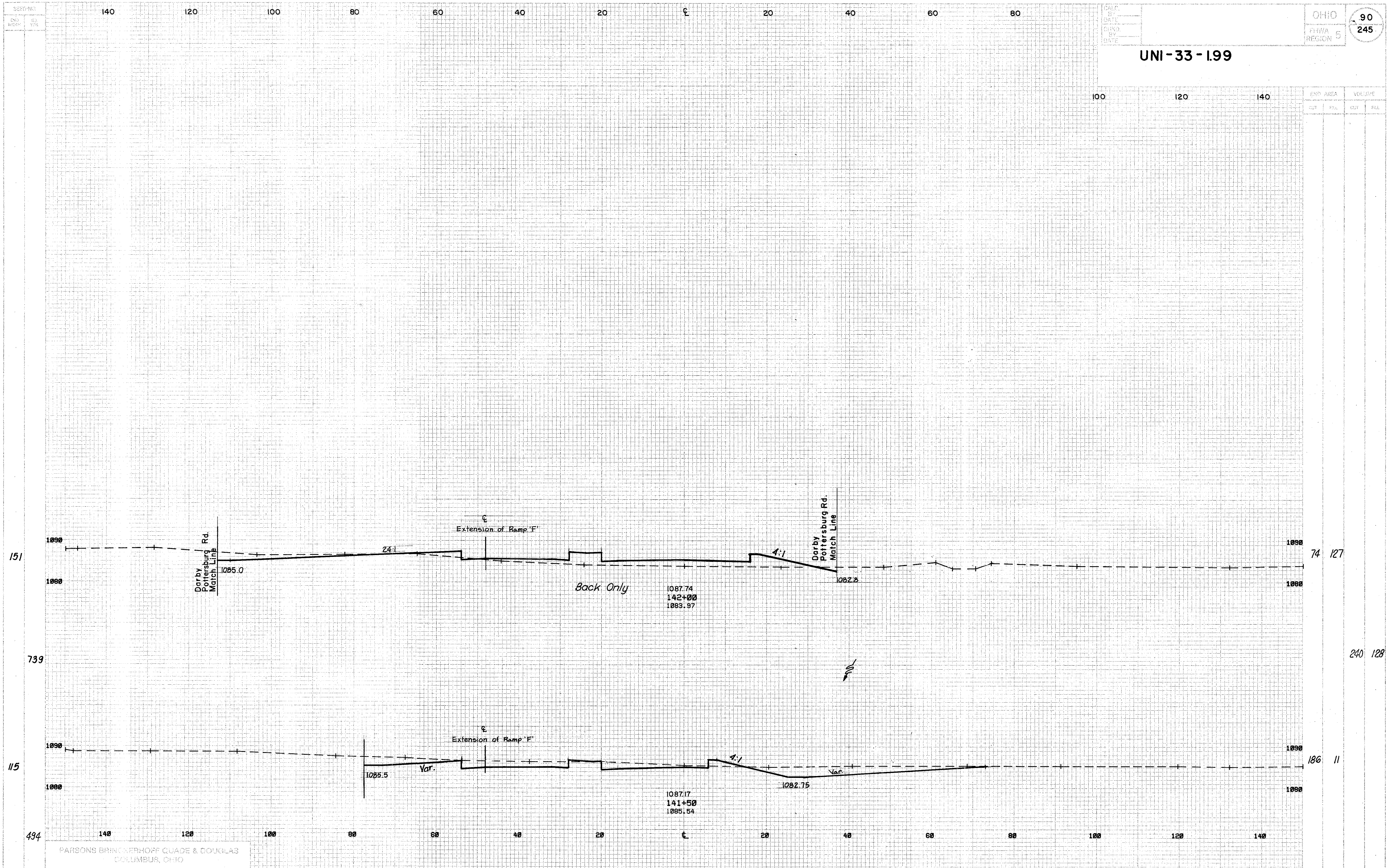
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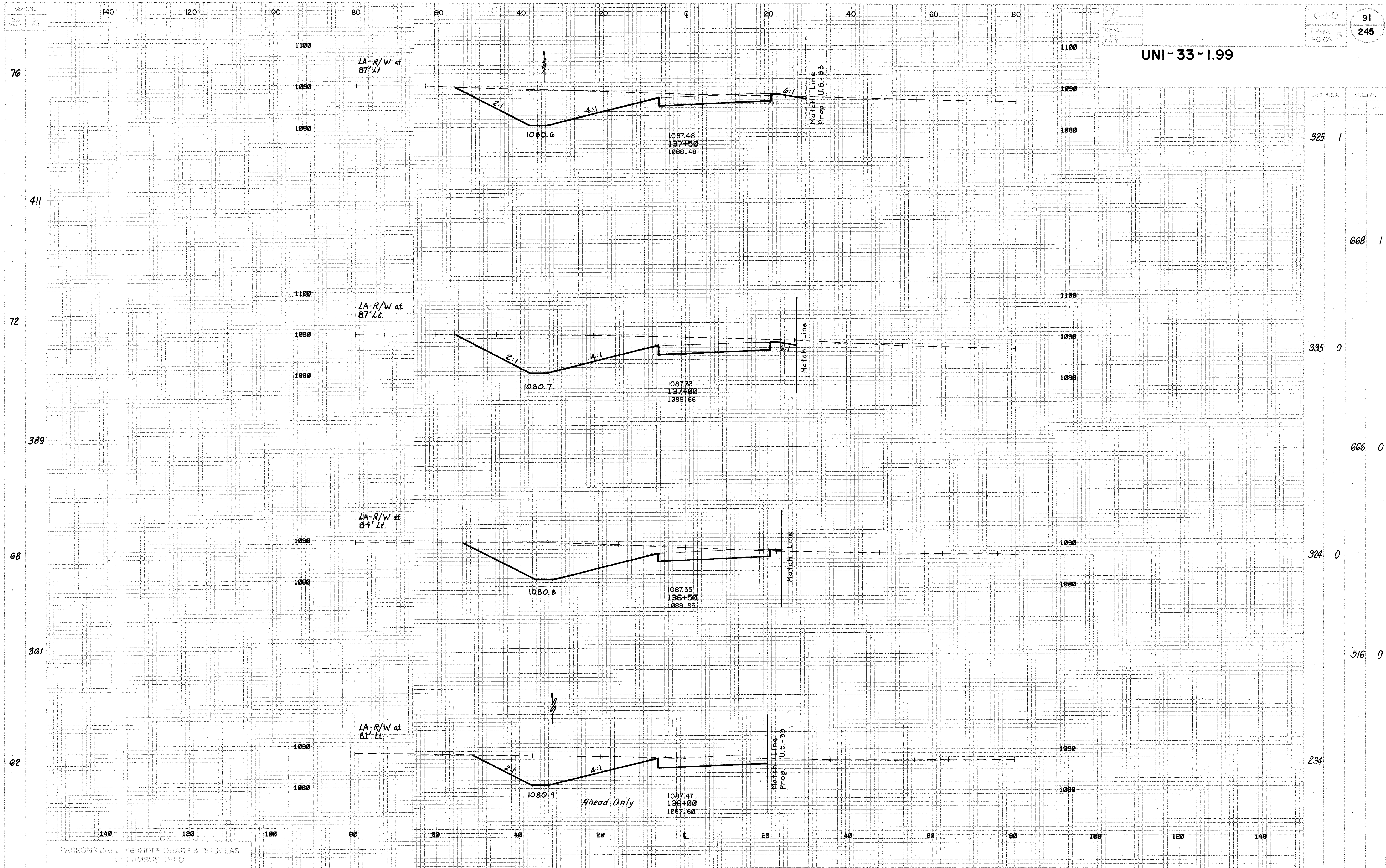
RAMP G - STA.138+00 TO STA.139+00



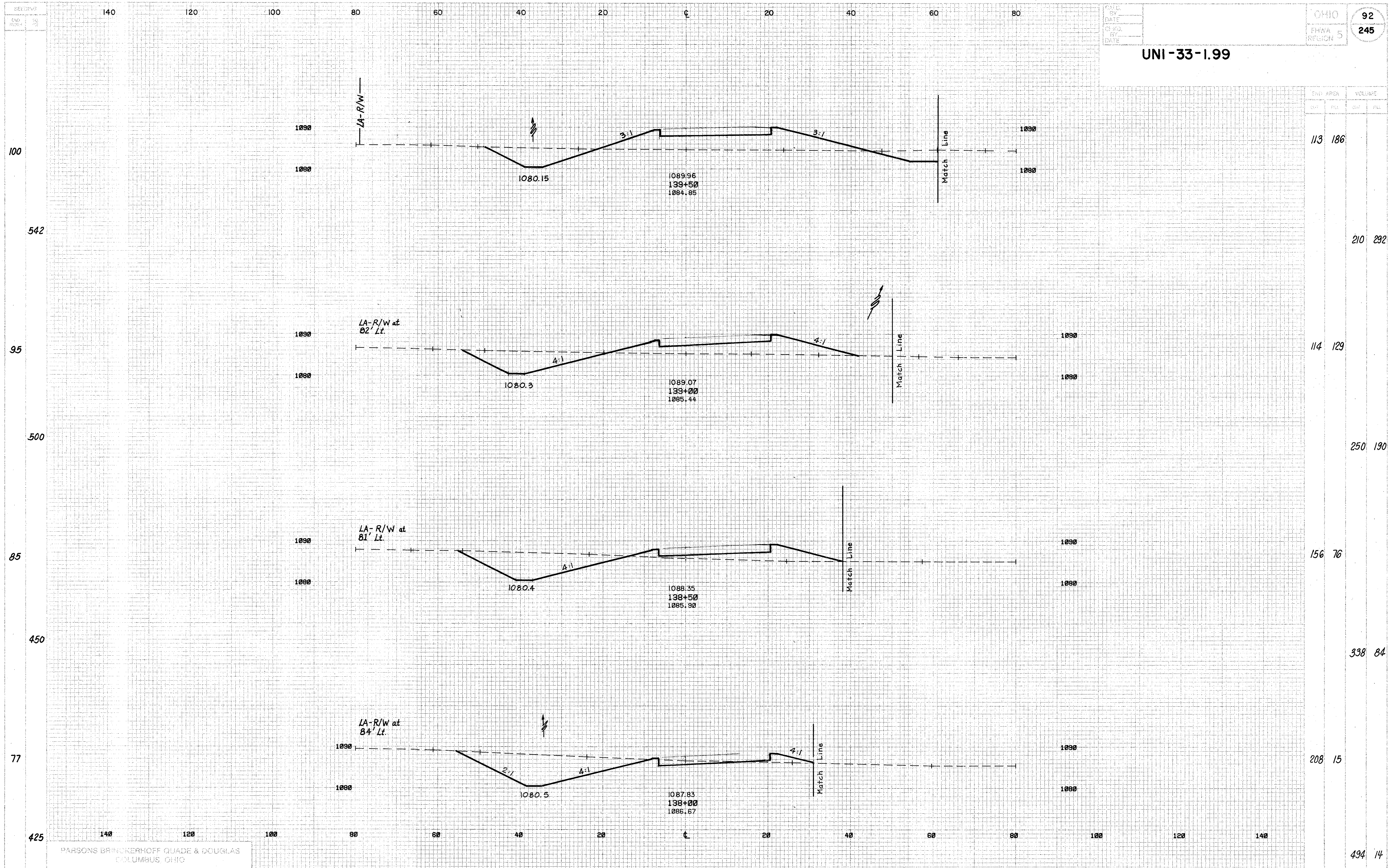
RAMP G - STA. 139+50 TO STA. 141+00



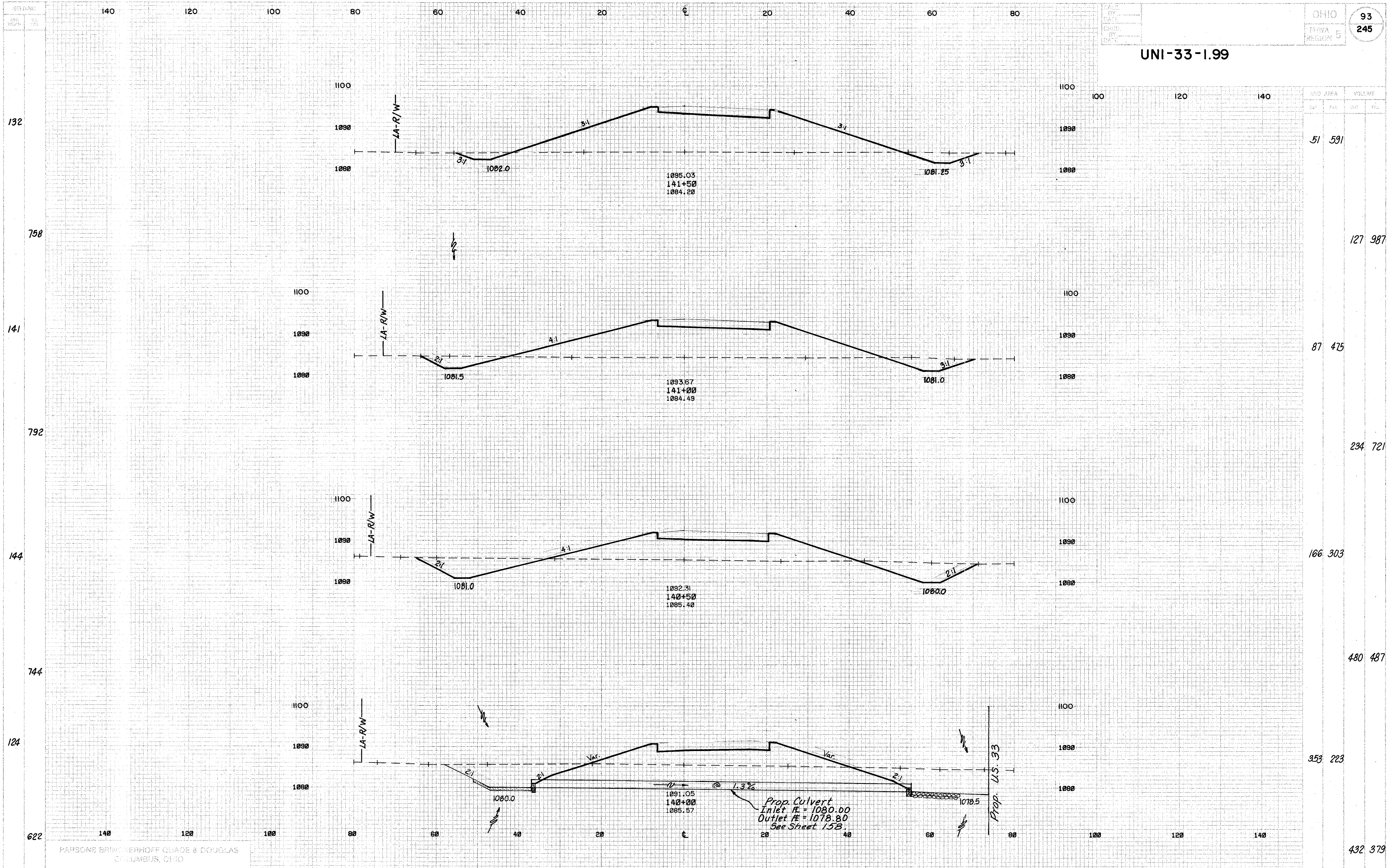
RAMP G - STA. 141+50 TO STA. 142+00



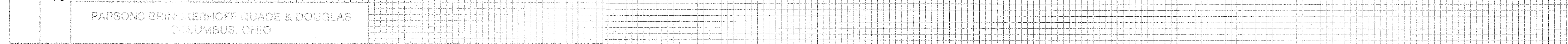
RAMP H - STA.136+00 TO STA.137+50

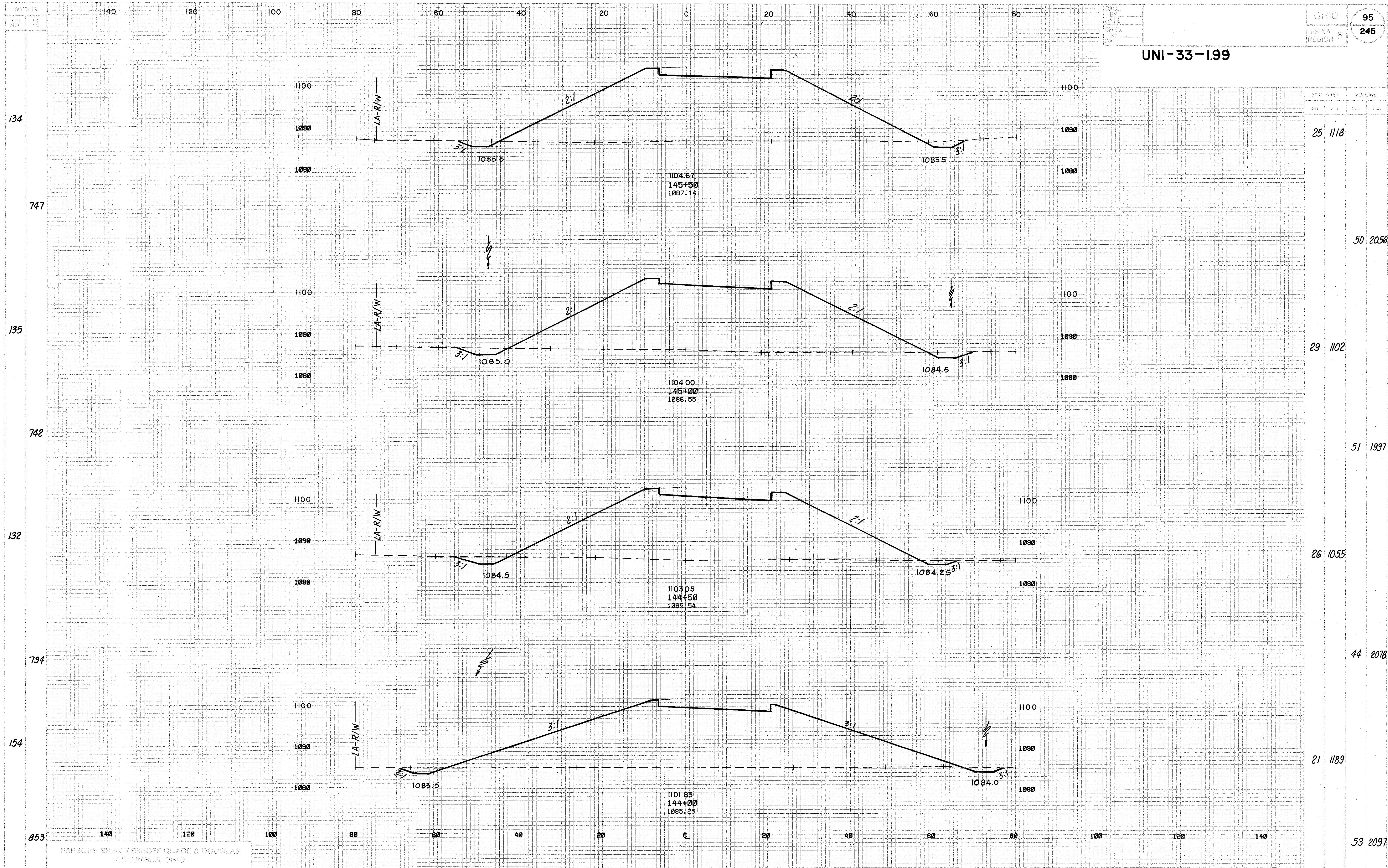


RAMP H-STA.138+00 TO STA.139+50

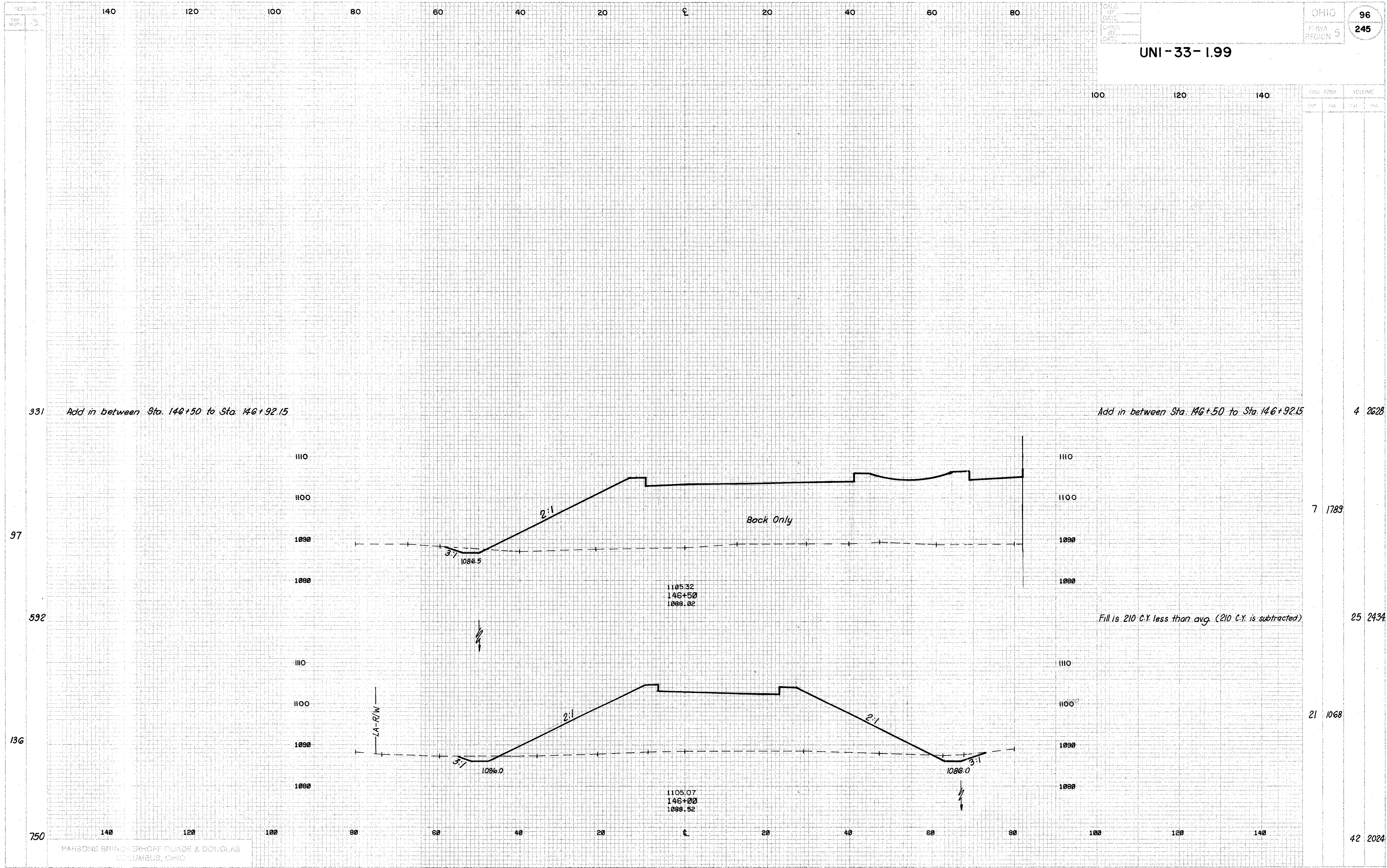


RAMP H - STA. 140+00 TO STA. 141+50



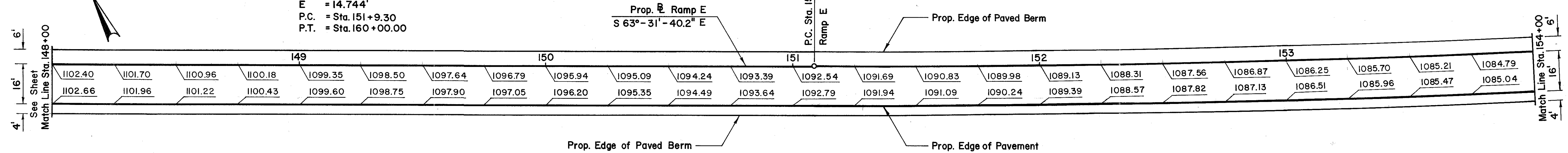


RAMP H - STA.144+00 TO STA. 145+50

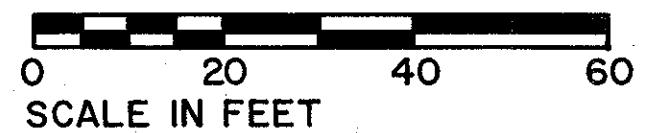
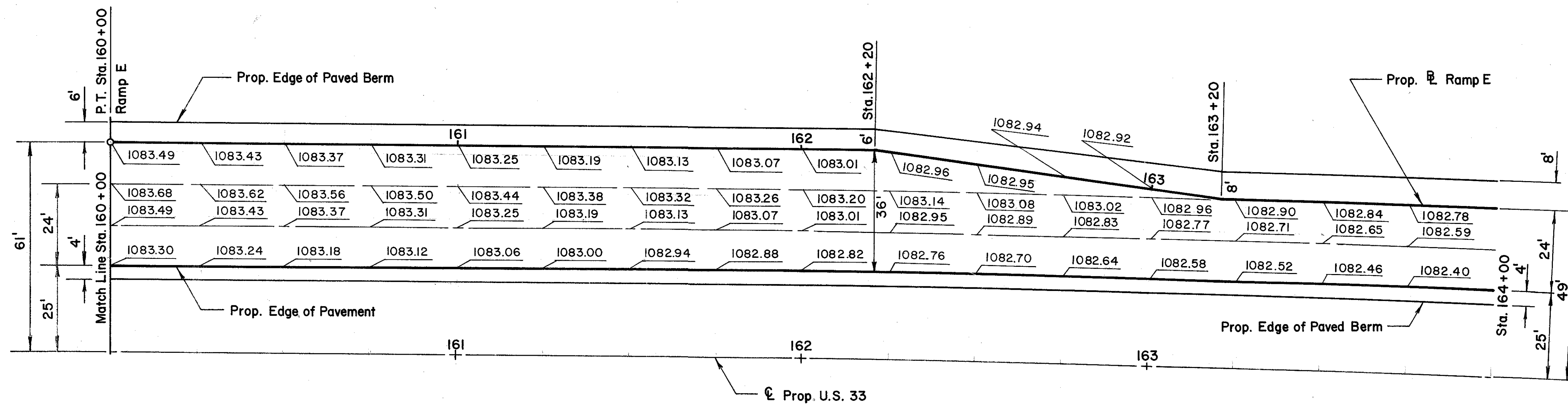
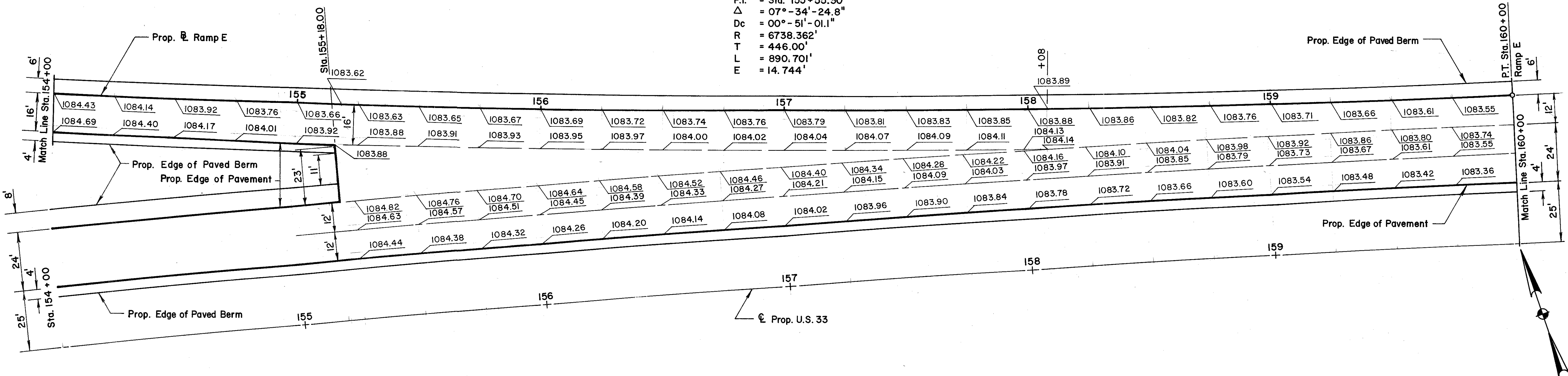


RAMP H-STA.146+00 TO STA.146+50

CURVE DATA
RAMP E
P.I. = Sta. 155+55.30
= 07°-34'-24.8"
Dc = 00°-51'-01.1"
R = 6738.362'
T = 446.00'
L = 890.701'
E = 14.744'
P.C. = Sta. 151+9.30
P.T. = Sta. 160+00.00



CURVE DATA
RAMP E
P.I. = Sta. 155+55.30
= 07°-34'-24.8"
Dc = 00°-51'-01.1"
R = 6738.362'
T = 446.00'
L = 890.701'
E = 14.744'



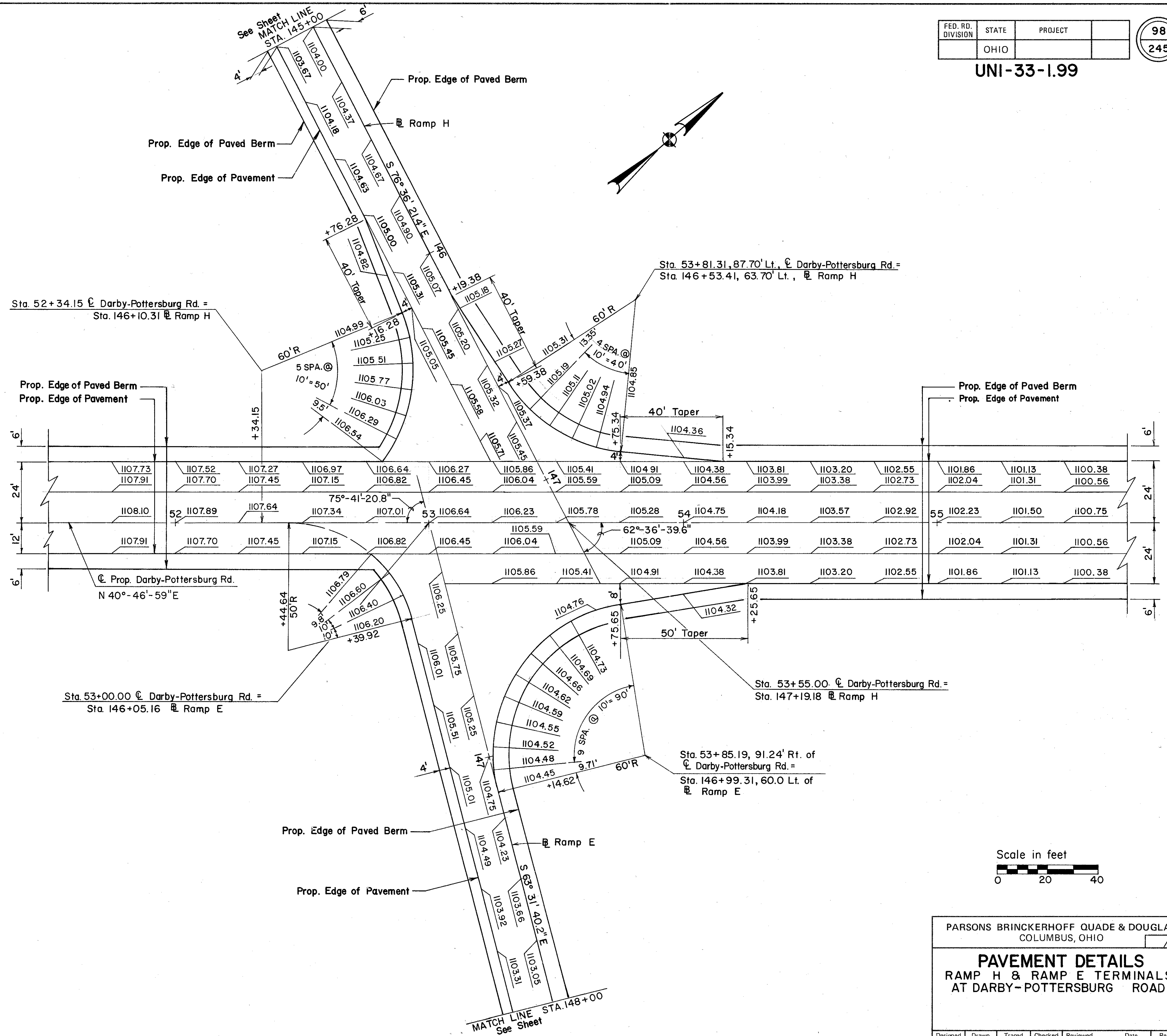
PARSONS BRINCKERHOFF QUADE & DOUGLAS
COLUMBUS, OHIO

PAVEMENT DETAILS

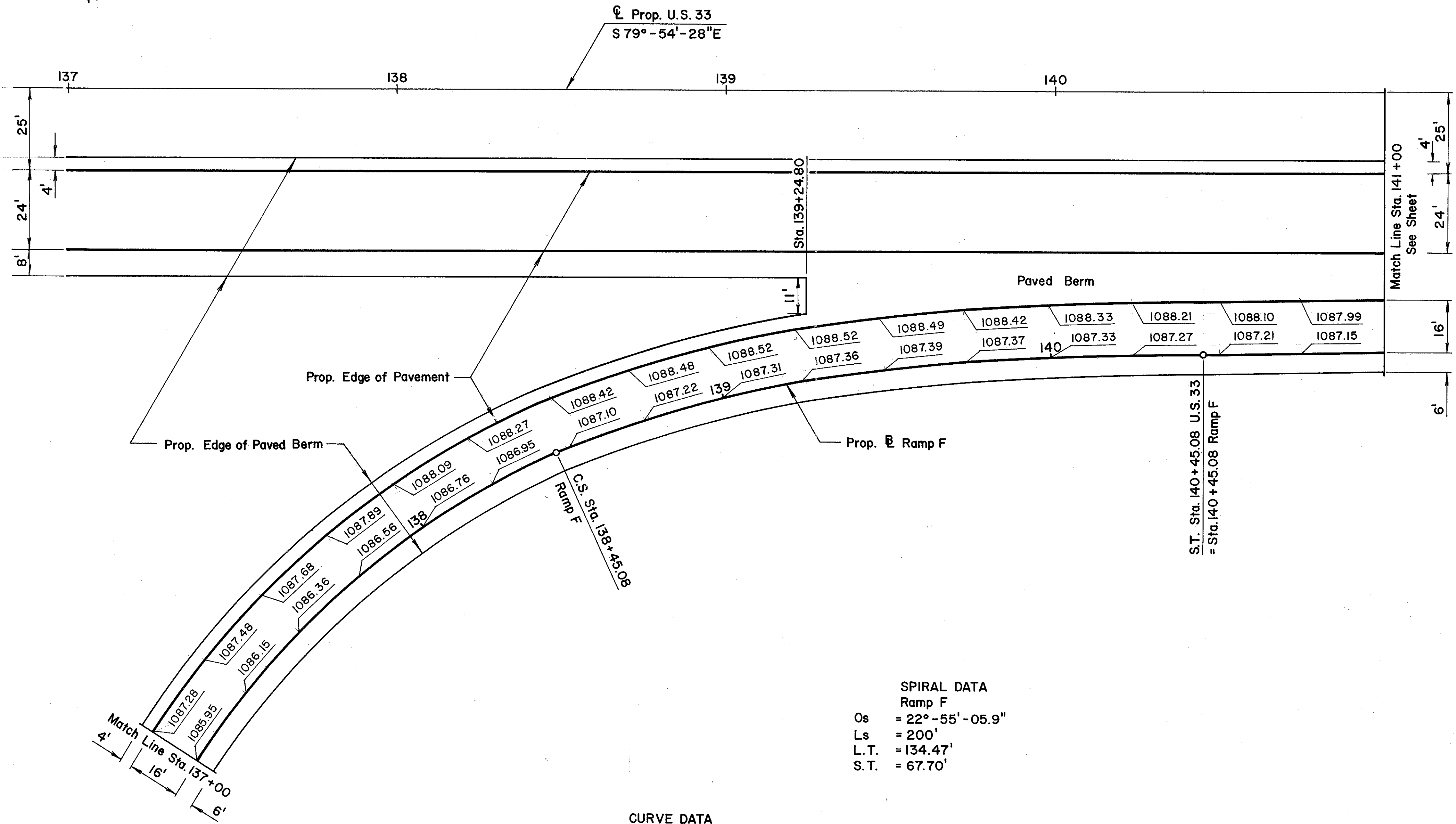
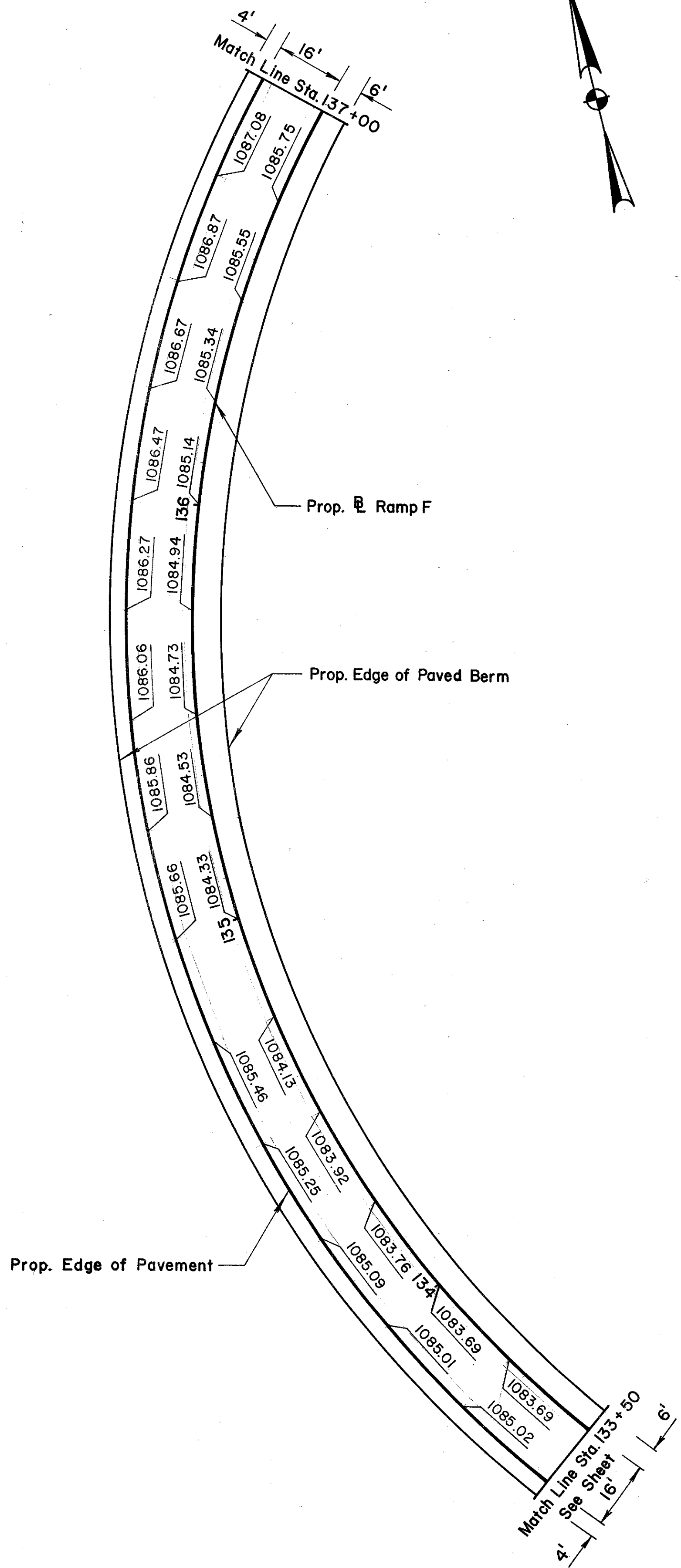
RAMP E TERMINAL
ALONG PROPOSED U.S. 33

Designed	Drawn	Traced	Checked	Reviewed	Date	Revised
	L.H.		J.F.P.			

UNI-33-1.99



PARSONS BRINCKERHOFF QUADE & DOUGLAS COLUMBUS, OHIO						
PAVEMENT DETAILS RAMP H & RAMP E TERMINALS AT DARBY-POTTERSBURG ROAD						
Designed M.J.B. 6/1/85	Drawn [Signature]	Traced	Checked J.E.P.	Reviewed	Date	Revised



SPIRAL DATA
Ramp F
Os = 22°-55'-05.9"
Ls = 200'
L.T. = 134.47'
S.T. = 67.70'

CURVE DATA
Ramp F
P.I. =
Δ = 195°-08'-45.7'
Dc = 22°-55'-05.9"
R = 250.00'
T =
L = 851.49'
E =
P.C. = 129+93.59
P.T. = 138+45.08

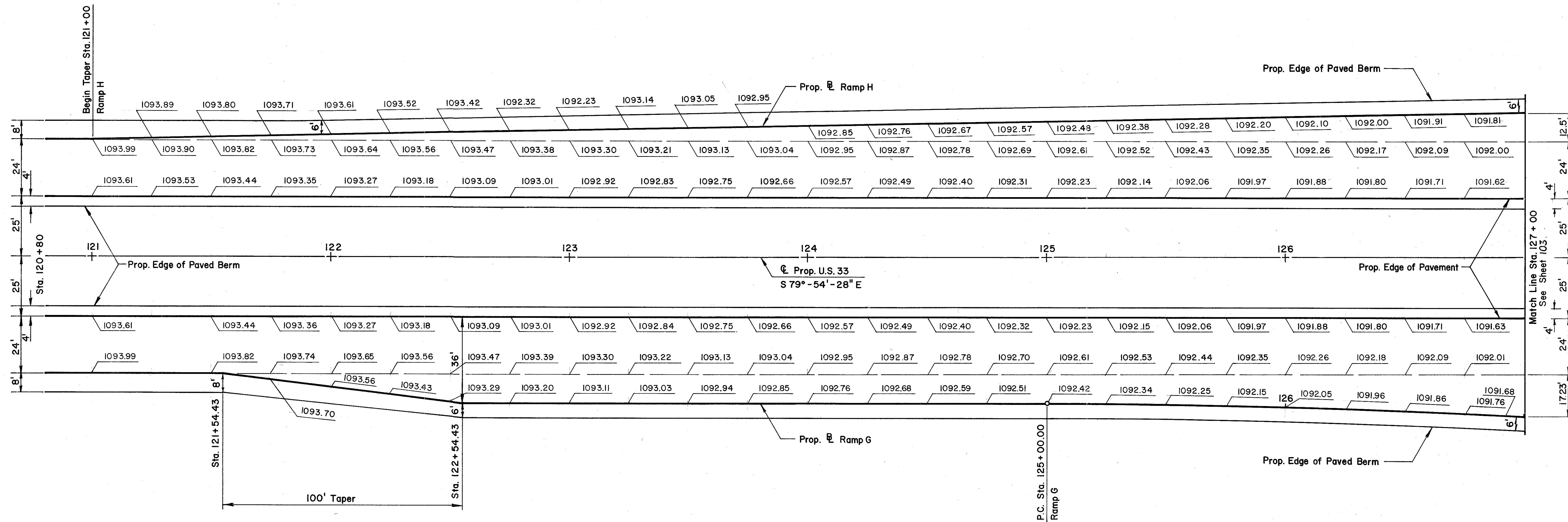


PARSONS BRINCKERHOFF QUADE & DOUGLAS
COLUMBUS, OHIO

PAVEMENT DETAILS

PROPOSED RAMP F
STATION 133+50 TO STATION 141+00

Designed	Drawn	Traced	Checked	Reviewed	Date	Revised
	L.H.		J.F.P.			



CURVE DATA
RAMP G
P.I. = Sta. 127+67.01
Δ = 8°-00'-00"
Dc = 1°-30'-00"
R = 3819.72'
T = 267.10'
L = 533.33'
E = 9.33'
P.C. = Sta. 125+00.00
P.C.C. = Sta. 130+33.33
P.R.C. = Sta. 135+33.33

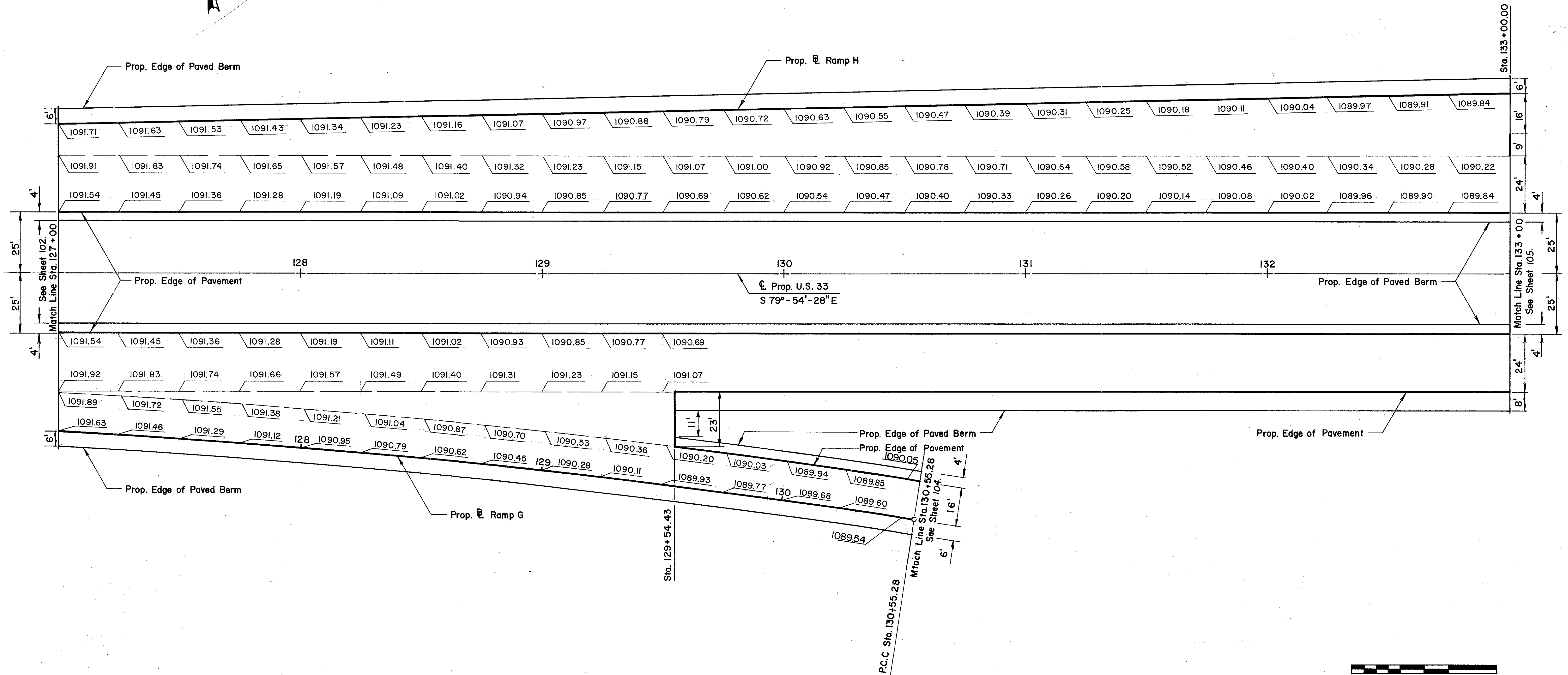


PARSONS BRINCKERHOFF QUADE & DOUGLAS
COLUMBUS, OHIO

PAVEMENT DETAILS

RAMP G & RAMP H TERMINALS
ALONG PROPOSED U.S. 33

Designed	Drawn	Traced	Checked	Reviewed	Date	Revised
	L.H.		J.F.P.			

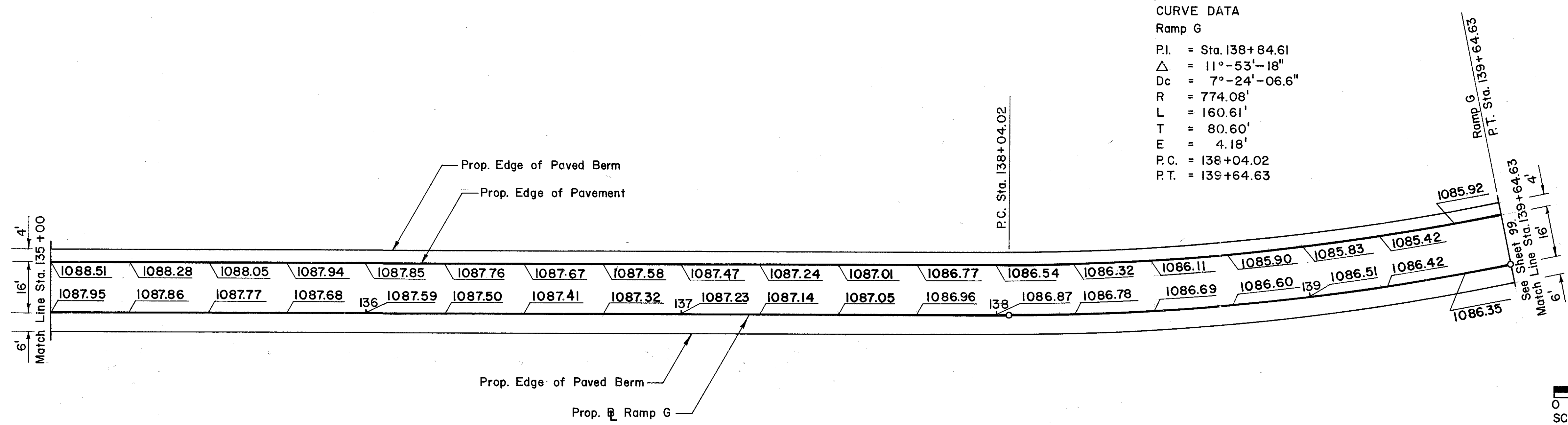
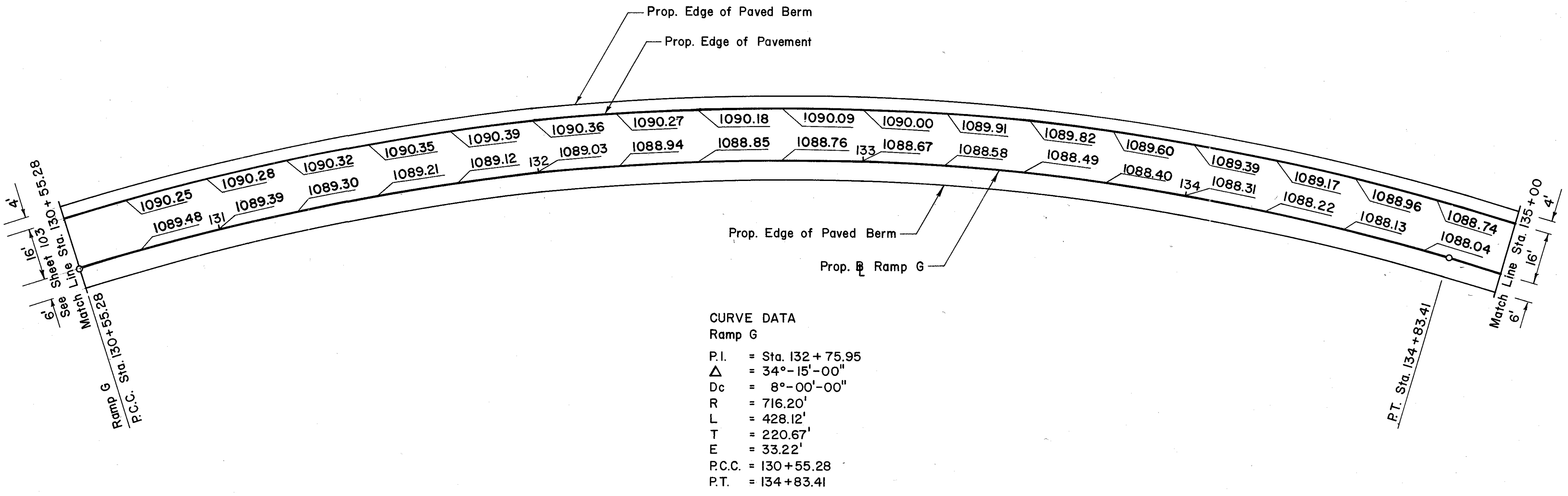


PARSONS BRINCKERHOFF QUADE & DOUGLAS
COLUMBUS, OHIO

PAVEMENT DETAILS

RAMP G & RAMP H TERMINALS
ALONG PROPOSED U.S. 33

Designed	Drawn	Traced	Checked	Reviewed	Date	Revised
	L.H.		J.F.R.			



PARSONS BRINCKERHOFF QUADE & DOUGLAS
COLUMBUS, OHIO

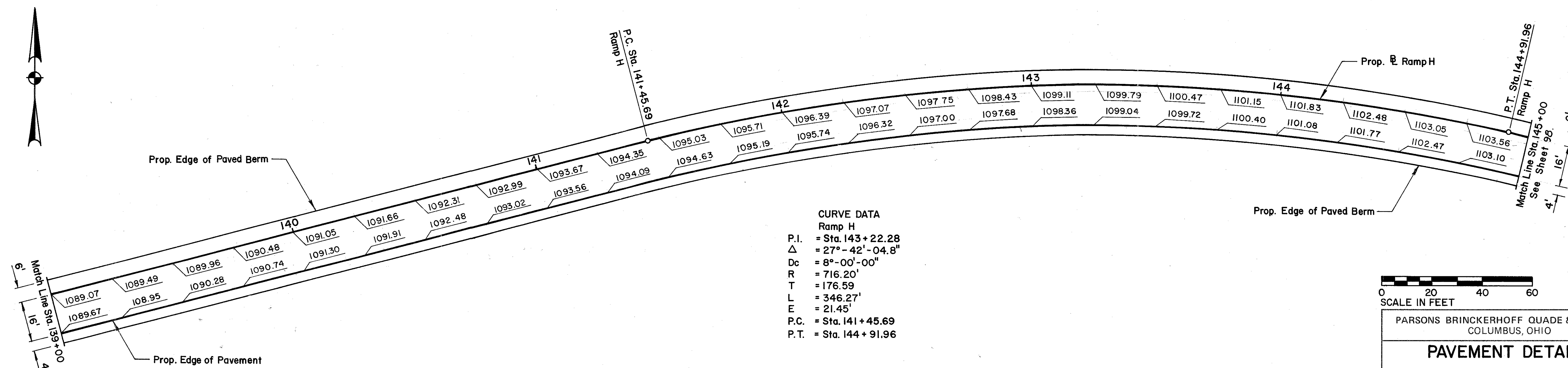
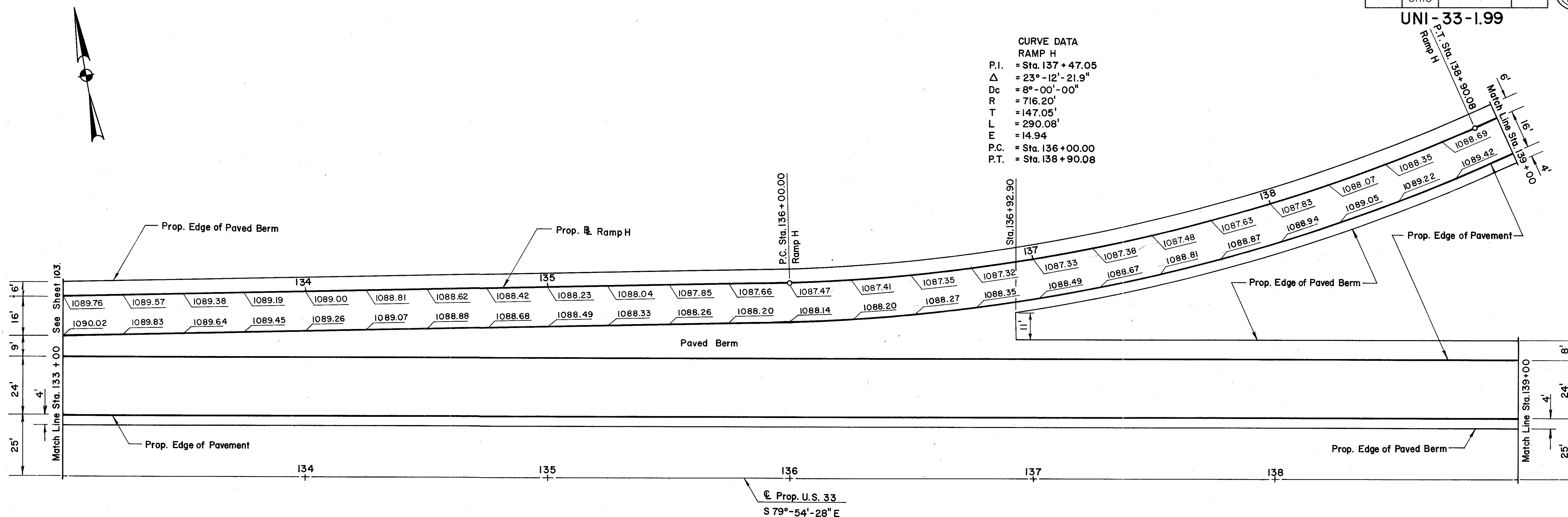
PAVEMENT DETAILS

PROPOSED RAMP G
STATION 130+55.28 TO STATION 139+64.63

Designed	Drawn	Traced	Checked	Reviewed	Date	Revised

UNI-33-1.99

CURVE DATA
 RAMP H
 P.I. = Sta. 137 + 47.05
 Δ = 23° - 12' - 21.9"
 Dc = 8° - 00' - 00"
 R = 716.20'
 T = 147.05'
 L = 290.08'
 E = 14.94
 P.C. = Sta. 136 + 00.00
 P.T. = Sta. 138 + 90.08



CURVE DATA
 Ramp H
 P.I. = Sta. 143 + 22.28
 Δ = 27° - 42' - 04.8"
 Dc = 8° - 00' - 00"
 R = 716.20'
 T = 176.59'
 L = 346.27'
 E = 21.45'
 P.C. = Sta. 141 + 45.69
 P.T. = Sta. 144 + 91.96

0 20 40 60
 SCALE IN FEET

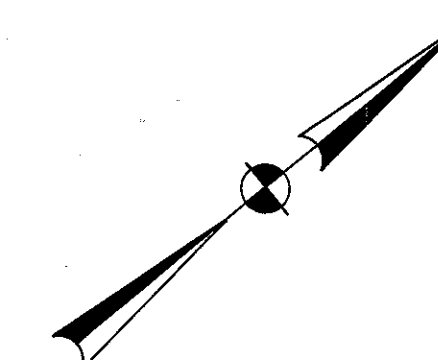
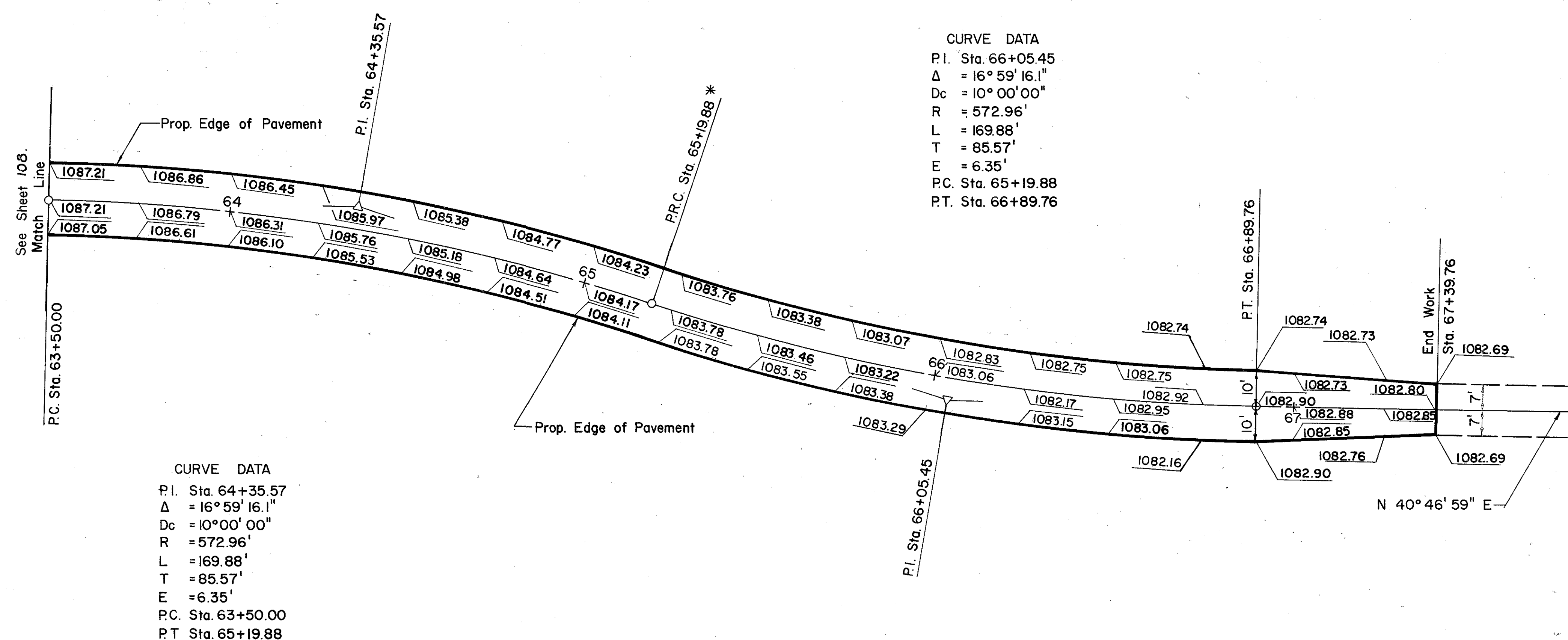
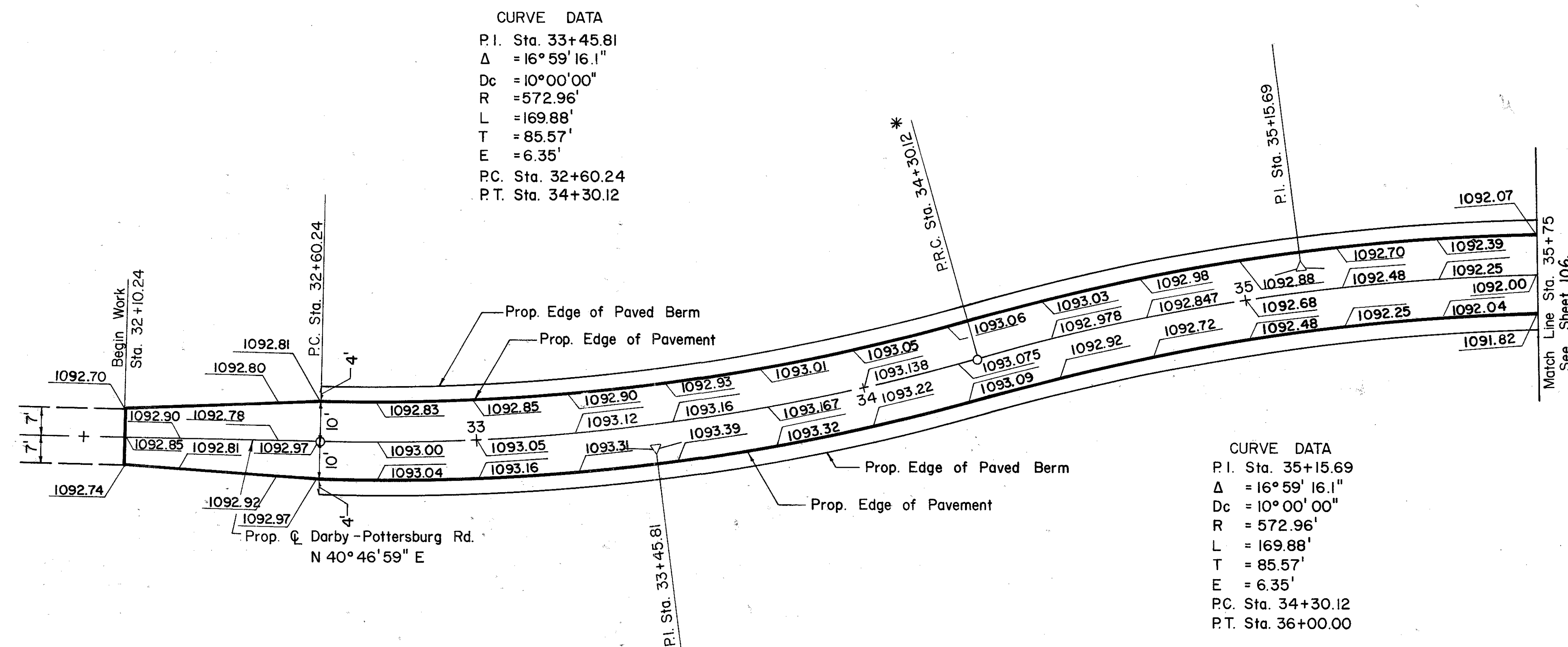
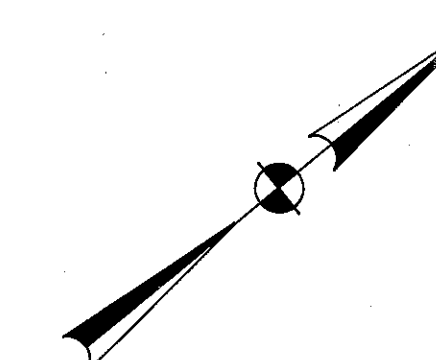
PARSONS BRINCKERHOFF QUADE & DOUGLAS
 COLUMBUS, OHIO

PAVEMENT DETAILS

RAMP H TERMINAL
 ALONG PROPOSED U.S. 33

Designed	Drawn	Traced	Checked	Reviewed	Date	Revised
	L.H.		J.F.P.			

UNI-33-1.99

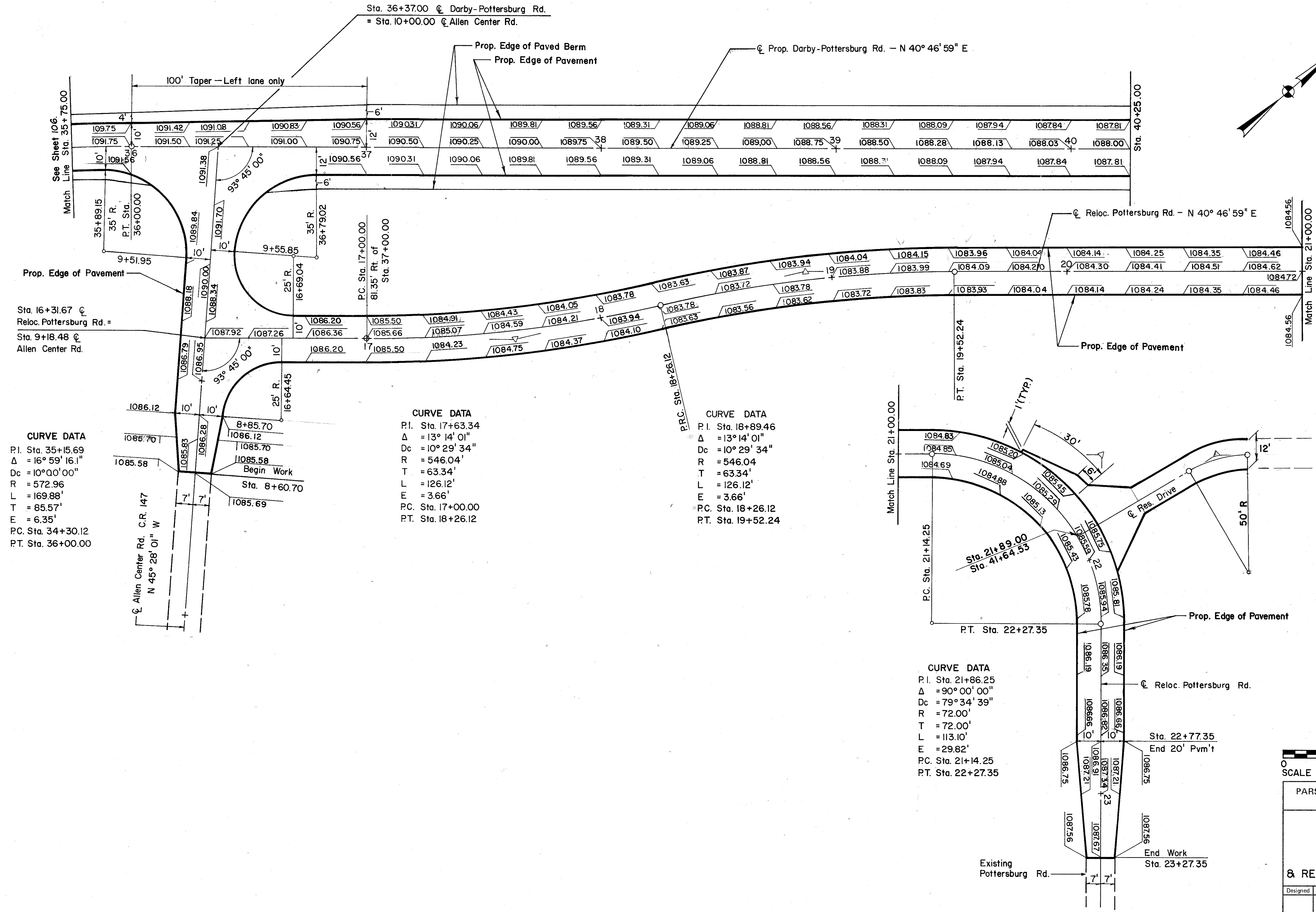
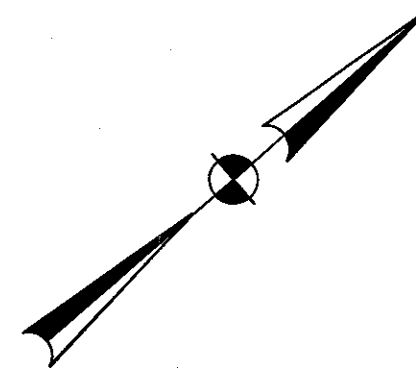


PARSONS BRINCKERHOFF QUADE & DOUGLAS
COLUMBUS, OHIO

PAVEMENT DETAILS

PROP. DARBY-POTTERSBURG ROAD
STA. 32+10.24 TO STA. 35+75.00 &
STA. 67+39.76 TO STA. 63+50.00

Designed	Drawn	Traced	Checked	Reviewed	Date	Revised



CURVE DATA
P.I. Sta. 35+15.69
 $\Delta = 16^\circ 59' 16.1''$
 $D_c = 10^\circ 00' 00''$
 $R = 572.96$
 $L = 169.88'$
 $T = 85.57'$
 $E = 6.35'$
P.C. Sta. 34+30.12
P.T. Sta. 36+00.00

CURVE DATA
P.I. Sta. 17+63.34
 $\Delta = 13^\circ 14' 01''$
 $D_c = 10^\circ 29' 34''$
 $R = 546.04'$
 $T = 63.34'$
 $L = 126.12'$
 $E = 3.66'$
P.C. Sta. 17+00.00
P.T. Sta. 18+26.12

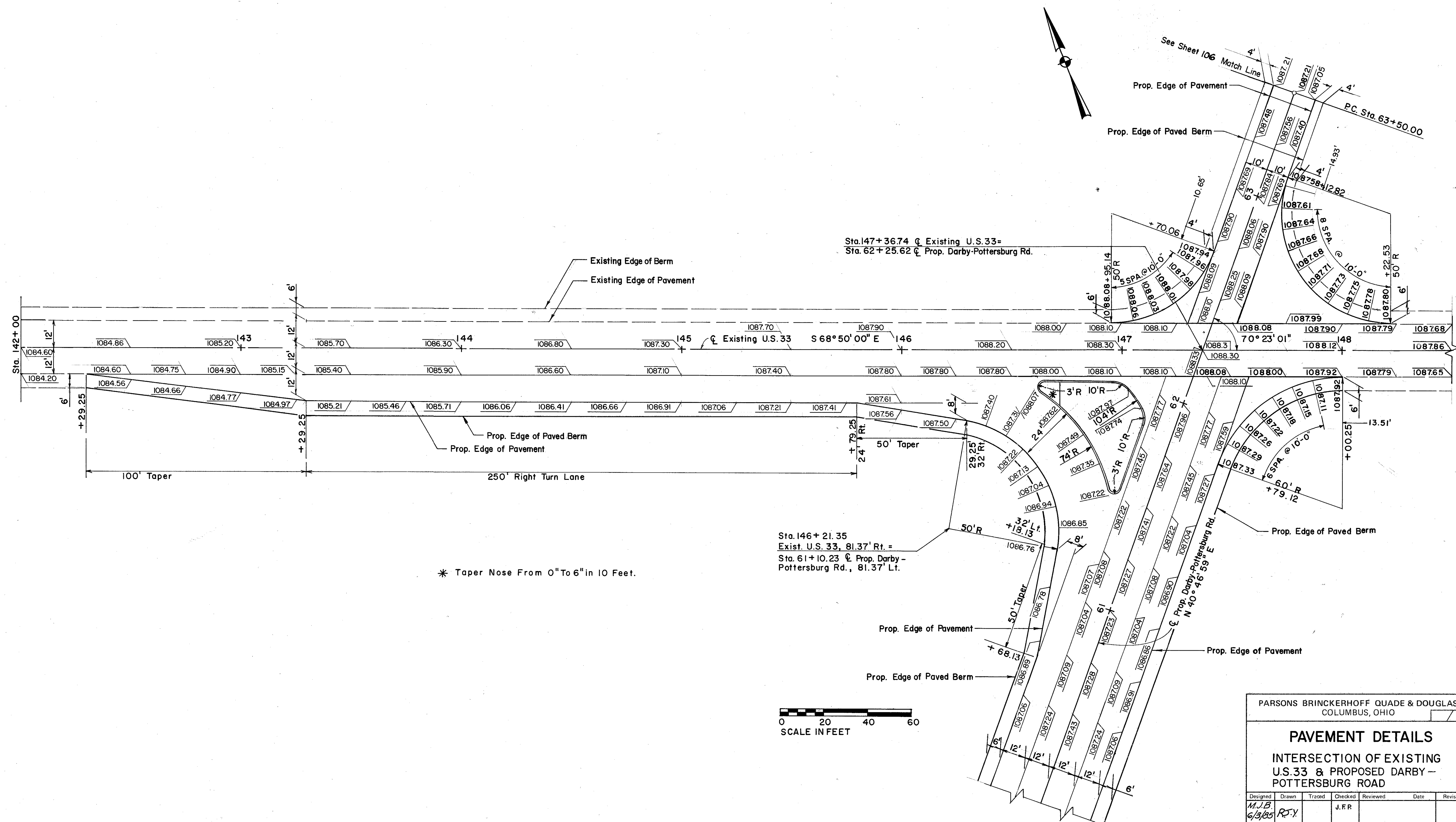
CURVE DATA
P.I. Sta. 18+89.46
 $\Delta = 13^\circ 14' 01''$
 $D_c = 10^\circ 29' 34''$
 $R = 546.04'$
 $T = 63.34'$
 $L = 126.12'$
 $E = 3.66'$
P.C. Sta. 18+26.12
P.T. Sta. 19+52.24

CURVE DATA
P.I. Sta. 21+86.25
 $\Delta = 90^\circ 00' 00''$
 $D_c = 79^\circ 34' 39''$
 $R = 72.00'$
 $T = 72.00'$
 $L = 113.10'$
 $E = 29.82'$
P.C. Sta. 21+14.25
P.T. Sta. 22+27.35

RES. DRIVE CURVE DATA
P.I. Sta. 42+33.04
 $\Delta = 30^\circ 30' 57''$
 $D_c = 114^\circ 35' 30''$
 $R = 50'$
 $T = 13.64$
 $L = 26.63$
 $E = 1.83$
P.C. = Sta. 42+19.40
P.T. = Sta. 42+46.03



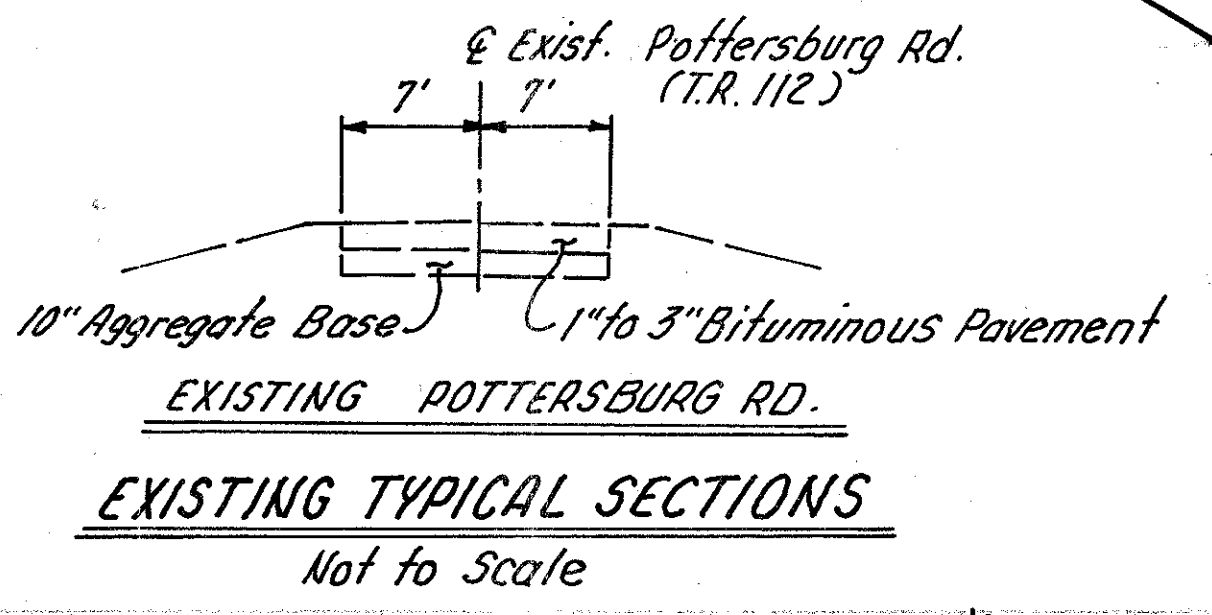
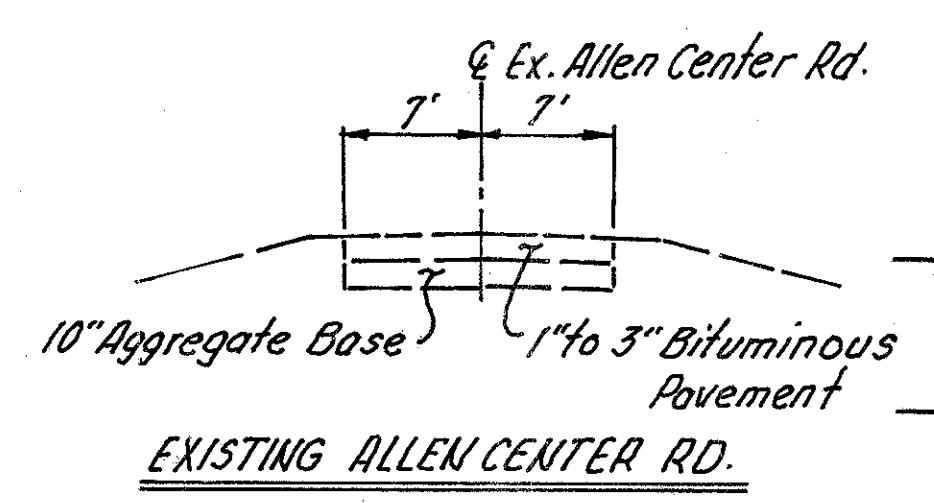
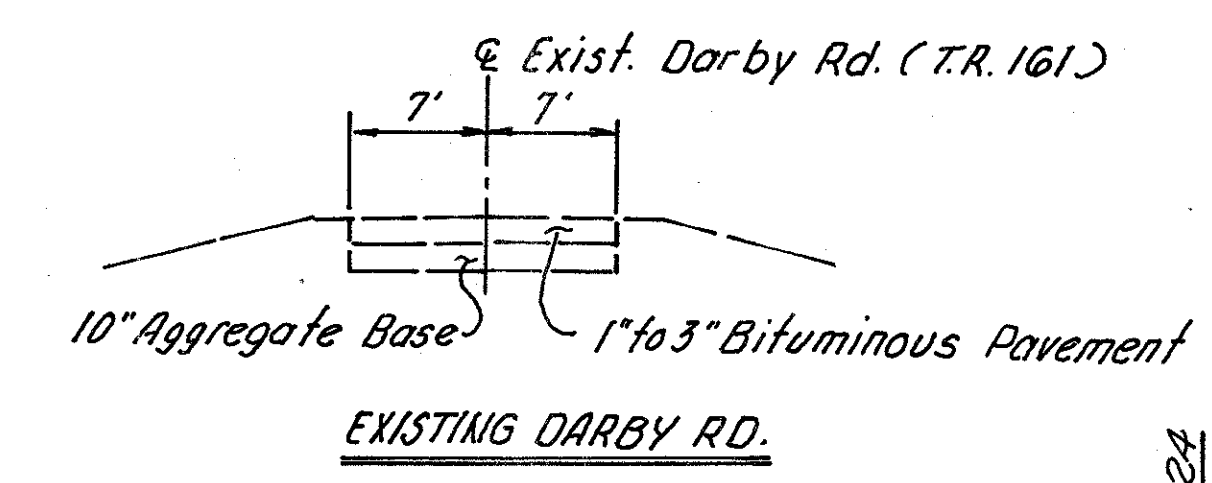
PARSONS BRINCKERHOFF QUADE & DOUGLAS COLUMBUS, OHIO						
PAVEMENT DETAILS						
PROPOSED DARBY-POTTERSBURG ROAD & RELOCATED POTTERSBURG ROAD						
Designed	Drawn	Traced	Checked	Reviewed	Date	Revised



For pavement elevations on Allen Center Rd. Reloc. Pottersburg Rd. & the curves on Prop. Darby - Pottersburg Rd. see pavement details on sheets 106 & 107.

Profiles for Allen Center Rd. & Reloc. Pottersburg Rd. are shown on their respective Cross Section sheets.

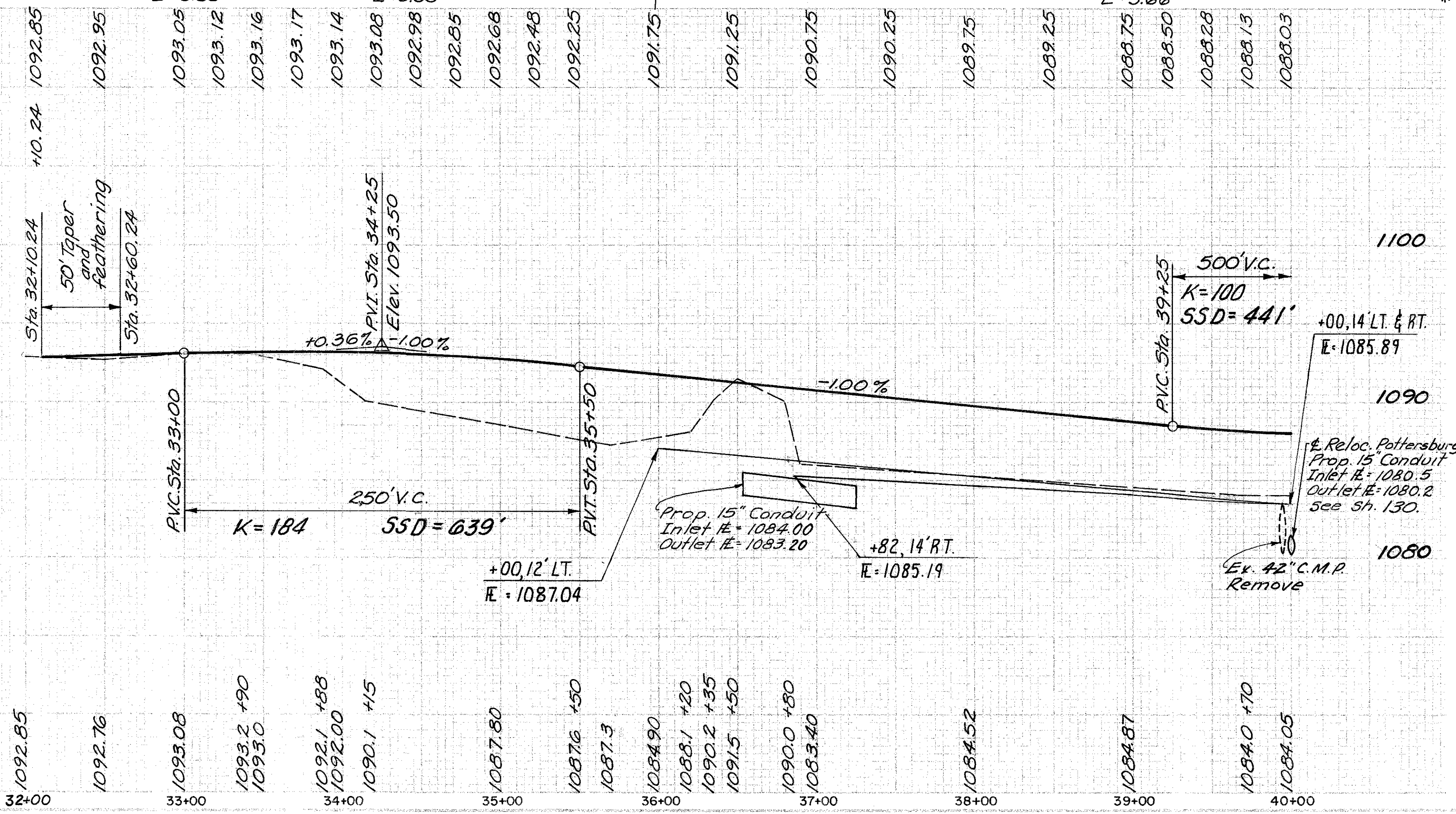
No information on buried telephone cable in this area. See note on Sheet 127.



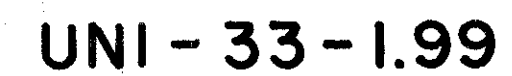
CURVE DATA
P.I. Sta. 33+45.81
Δ=16°-59'-16"
D_s=10°-00'-00"
R=572.96'
T=85.57'
L=169.88'
E=6.35'

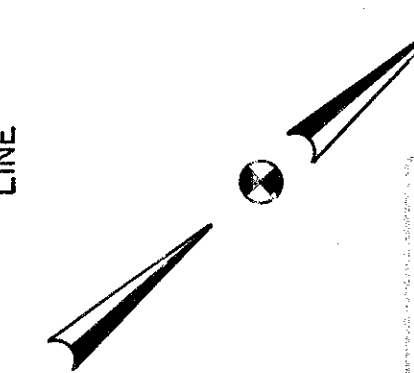
CURVE DATA
P.I. Sta. 35+15.69
Δ=16°-59'-16"
D_s=10°-00'-00"
R=572.96'
T=85.57'
L=169.88'
E=6.35'

CURVE DATA
① P.I. Sta. 17+63.34
② P.I. Sta. 18+89.46
Δ=13°-14'-01"
D_s=10°-29'-34"
R=546.04'
T=63.34'
L=126.12'
E=3.66'

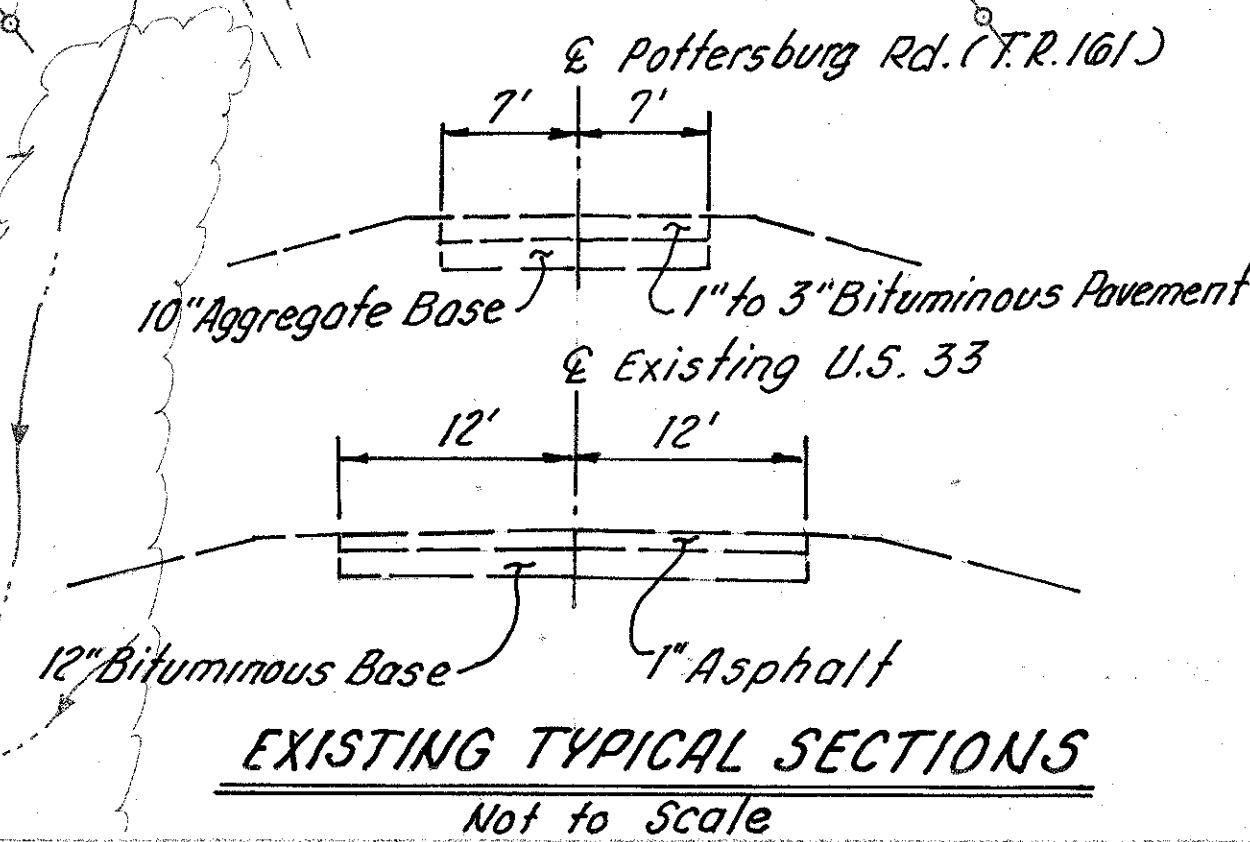


ESTIMATED QUANTITIES									
ITEM NO.	STATION TO STATION	202 Pipe Removed Over 24" Lin. Ft.	304 Aggregate Base C. Y.	404 Asphalt Bituminous Concrete Coat C. Y.	408 Prime Coat Gal.	602 Masonry C. Y.	603 * 15" Conduit, Conduit Type A Type D Lin. Ft. Lin. Ft.	605 6" Shallow Pipe Under- drains Lin. Ft.	SEE SHEET 411
1-U	36+00 to 40+00	41						318	
2-U	36+00 to 40+00	41						400	
1-D	36+53 to 37+25	41							
2-D	20+00 Reloc. Darby Rd. &	24				0.54	42	72	130
1-DW	36+77	41	34.6	4.0	10.7				
1-R	19+95 Reloc. Darby Rd. &	24							
TOTALS			34.6	4.0	10.7	0.54	42	72	718

[illegible]



DARBY-POTTERSBURO ROAD STA.50+00 TO STA.60+00

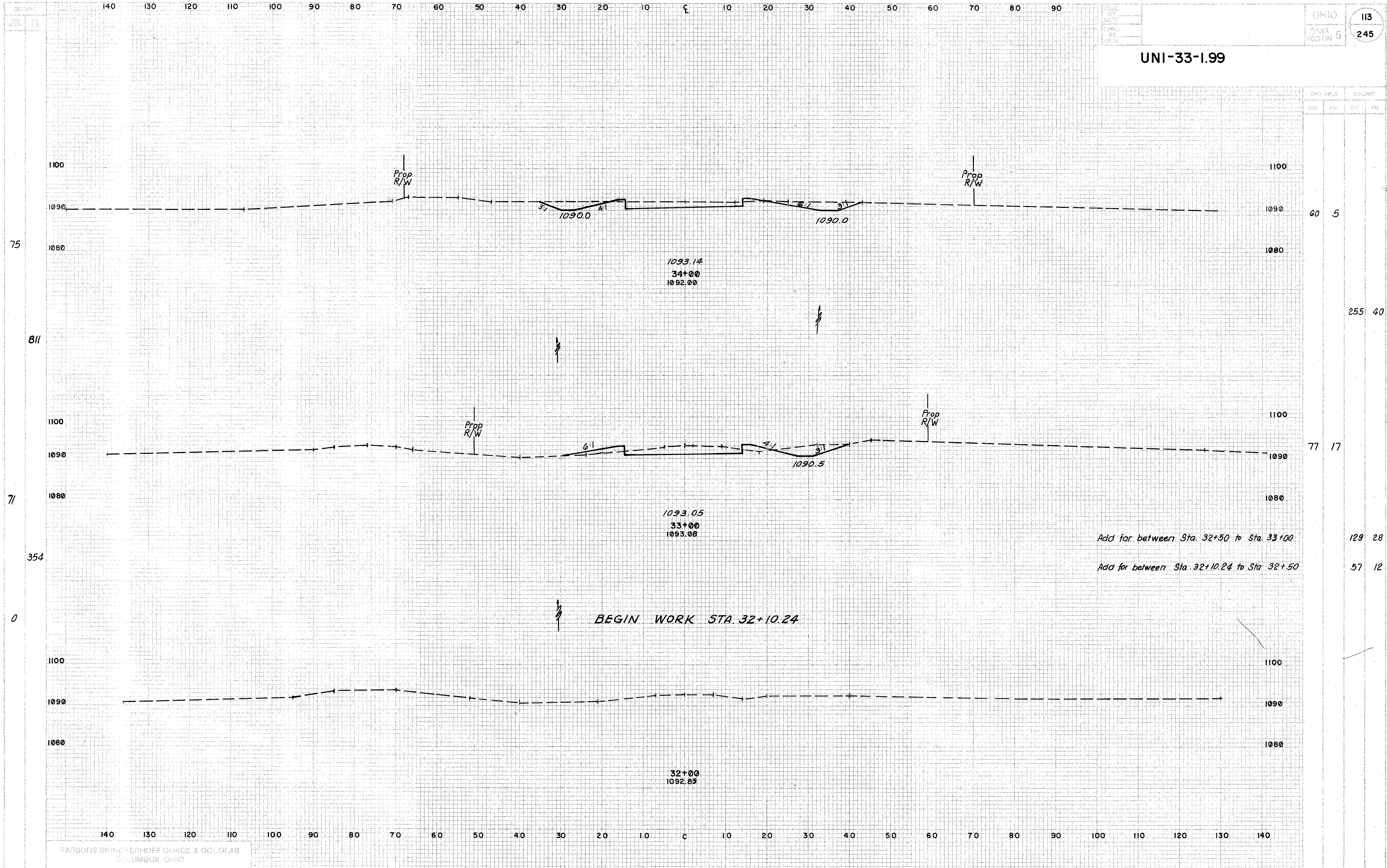


REF. NO.	STATUS TO DATE	DATE	SPECIAL	60.3 " "	60.3 " "	60.5 " "	60.5 " "
1-U	60+00 to 61+00	LT	AND ROAD TRACED REMOVED	Conduit Conduct Type F	Conduit Conduct Type B	Shallow Underdrains	200
2-U	60+00 to 62+00	AT		25	58	100	200
3-U	62+90± to 67+48 ±	LT	REMOVE				

* 100% STATE. see Shi. No. 126 for description of work.

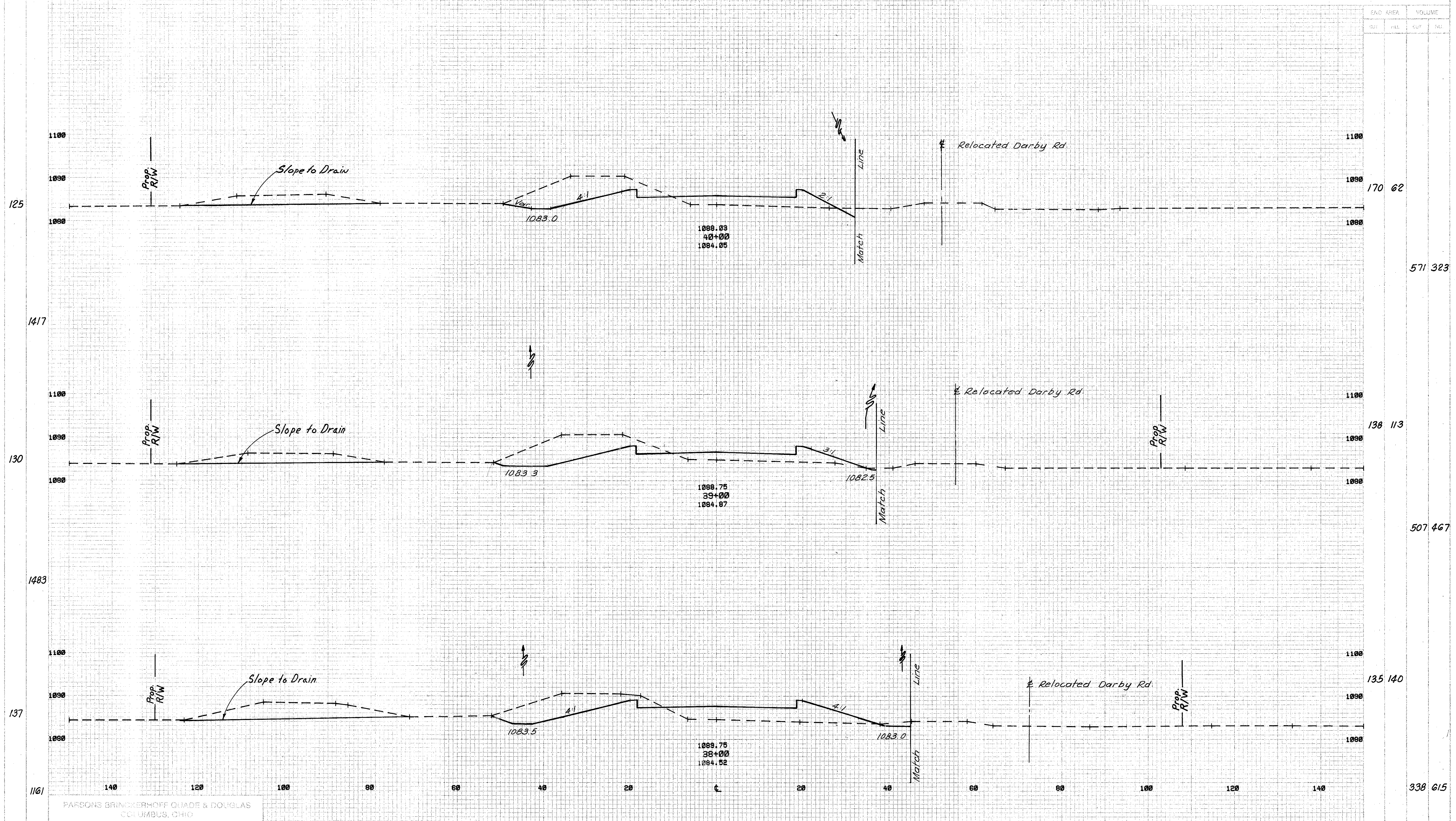
DARBY-POTTERSBURG ROAD STA. 60+00 TO STA. 68+00

Lump	25	58	300
------	----	----	-----

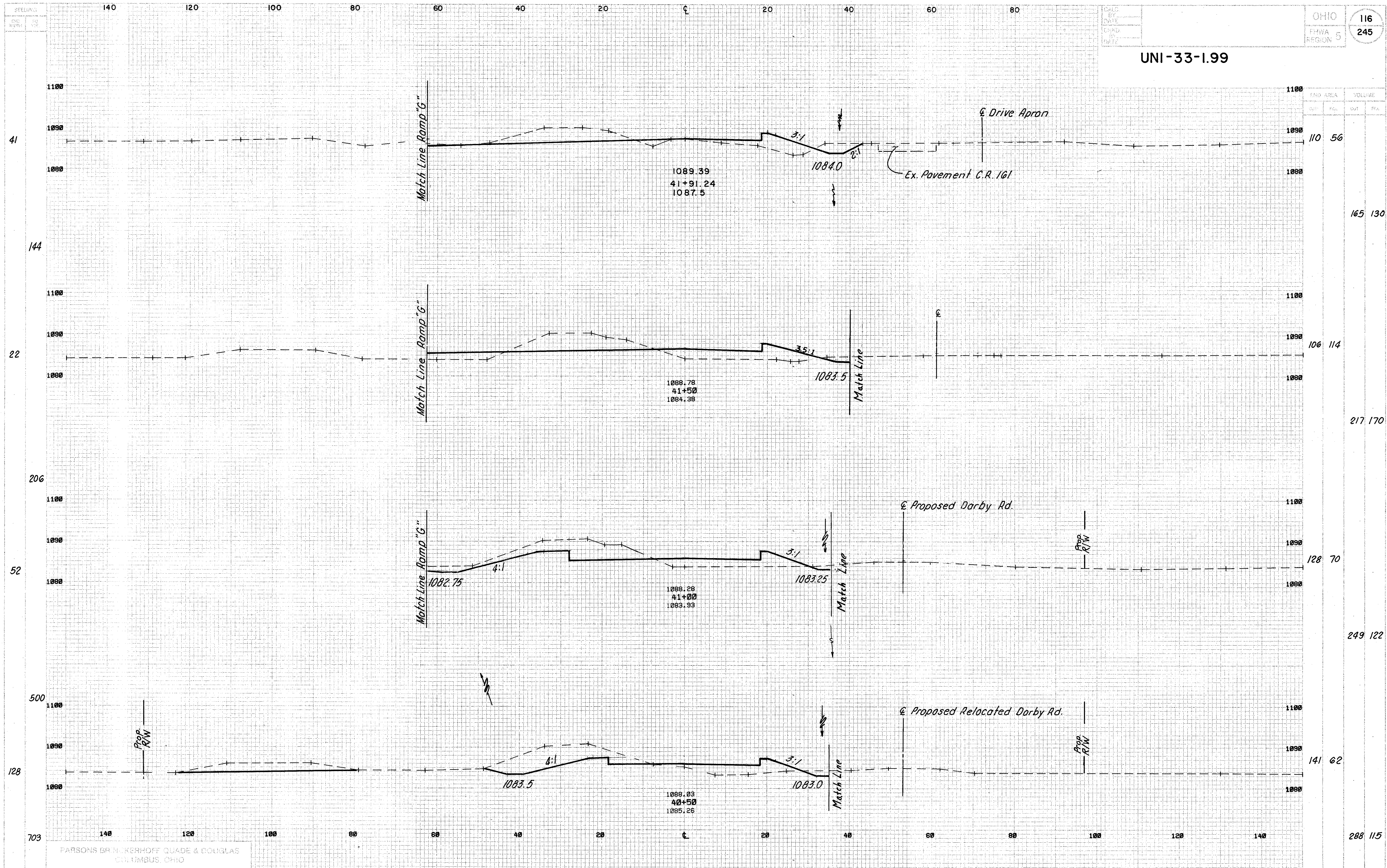


DARBY-POTTERSBERG RD. - STA. 32+00 TO STA. 34+00

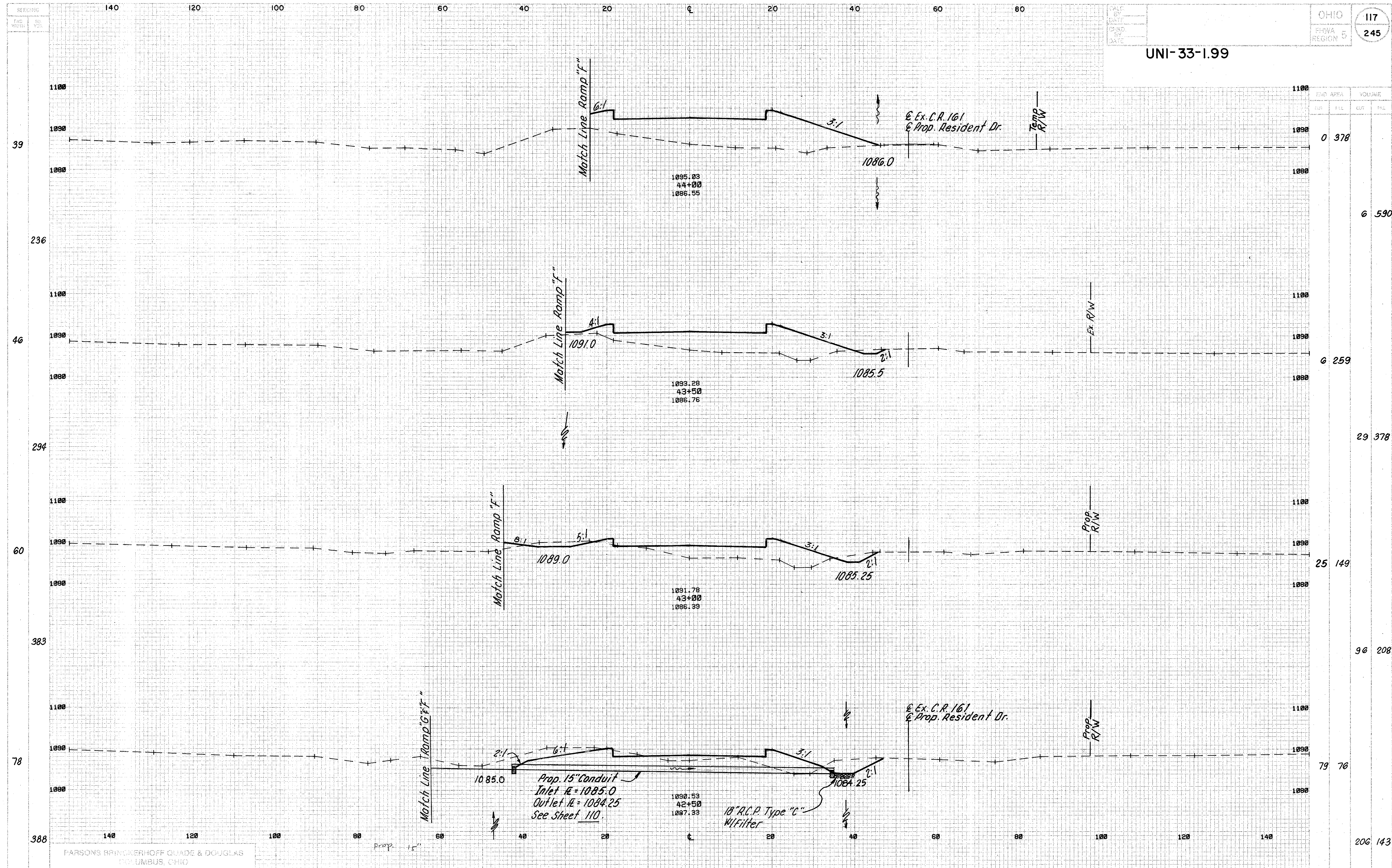
UNI-33-1.99



DARBY - POTTERSBURG RD.-STA.38+00 TO STA.40+00

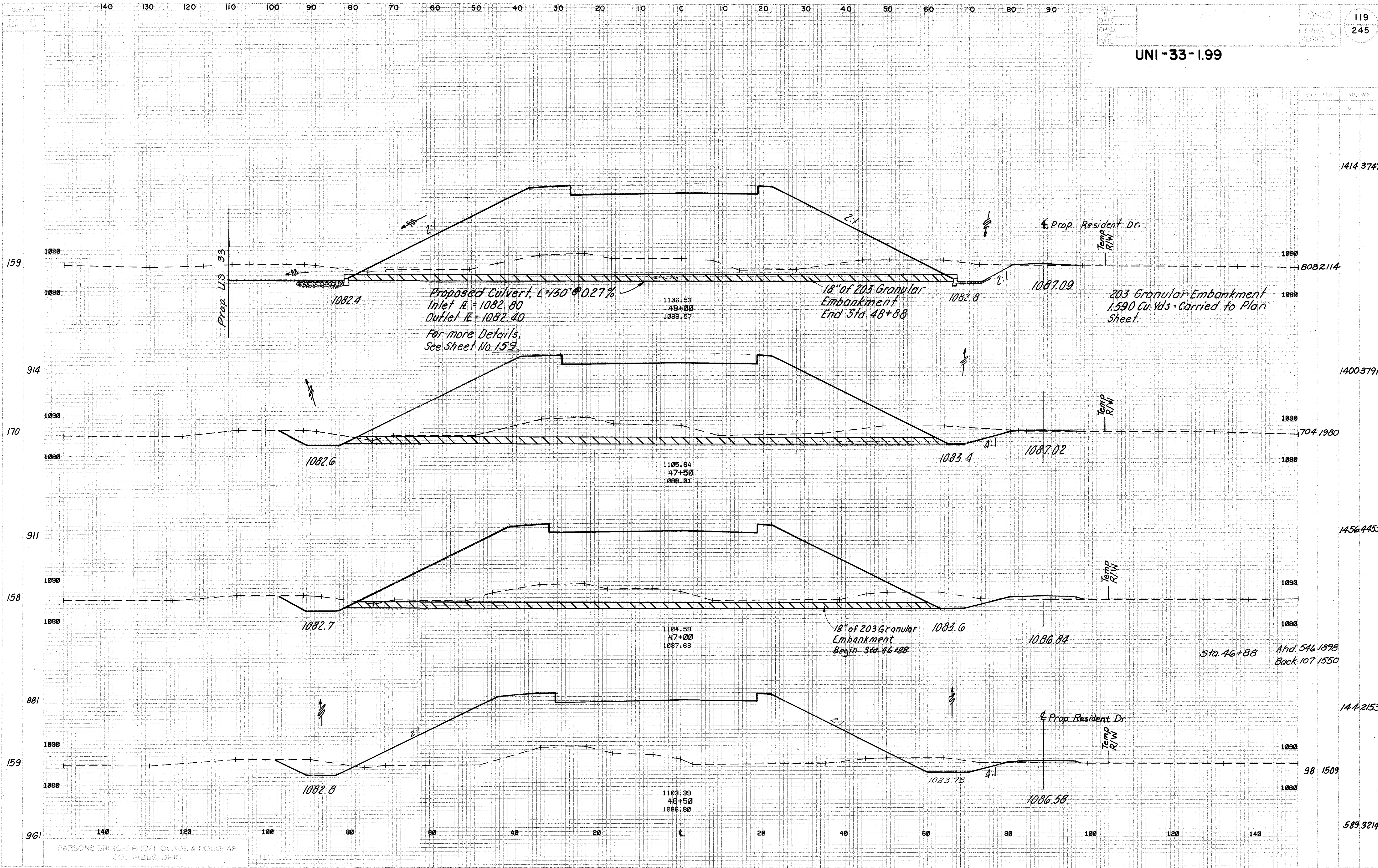


DARBY - POTTERSBUURG RD. - STA.40+50 TO STA.42+00



UNI-33-1.99

END AREA	VOLUME			
	FILL	CUT	FILL	CUT
0	378			
6	590			
6	259			
29	378			
25	149			
96	208			
79	76			
206	143			



UNI-33-1.99

OHIO
119
245
FHWA
REGION 5

END AREA		VOLUME	
sq. ft.	cu. yds.	cu. yds.	cu. yds.

1414 3747

1400 3791

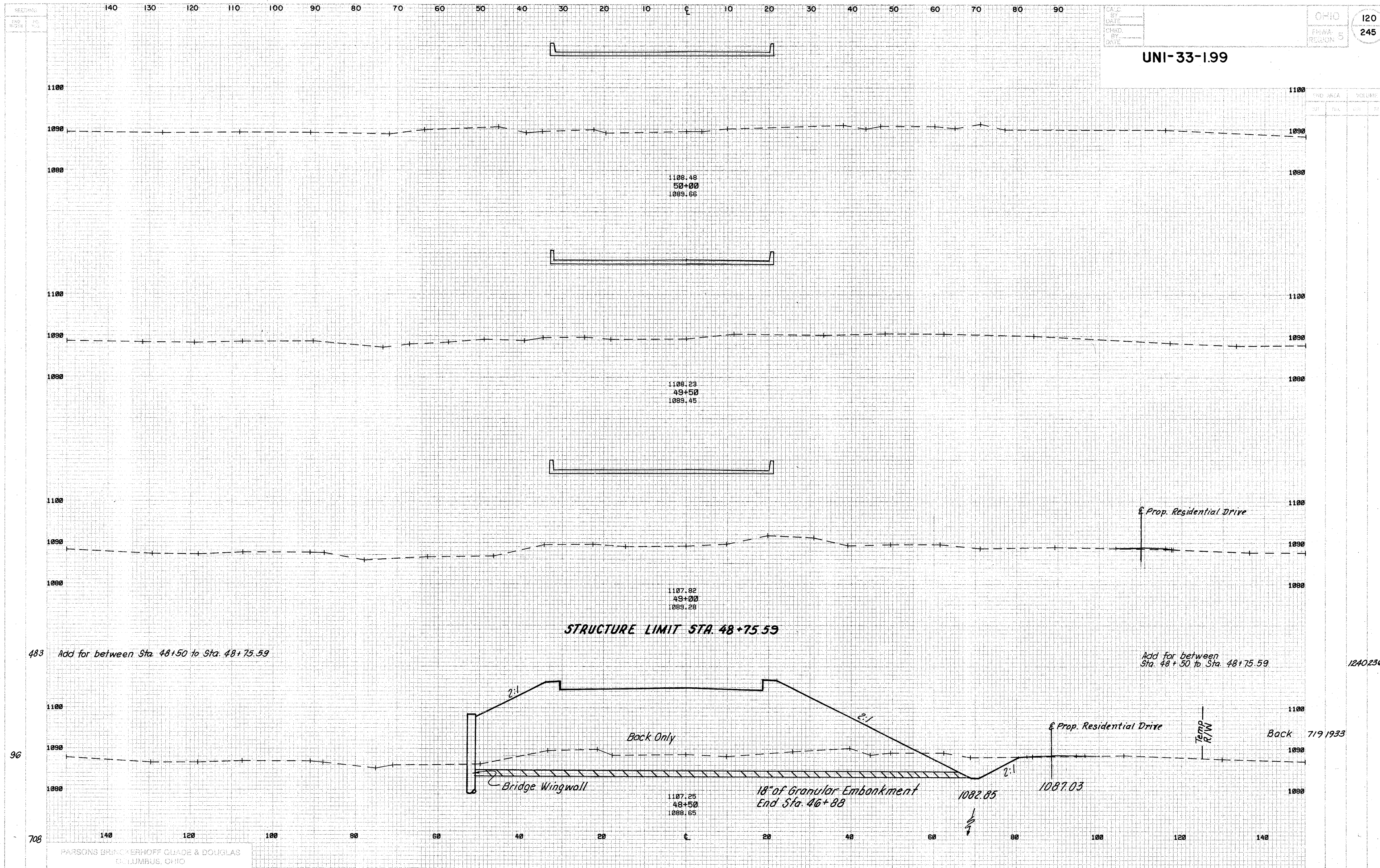
1456 4453

1442 153

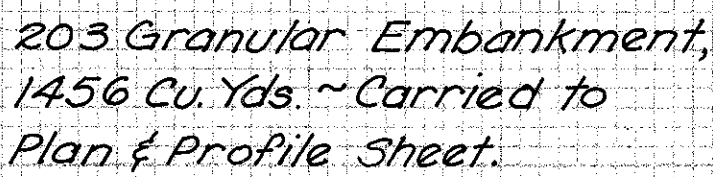
589 3214

DARBY-POTTERSBERG RD. - STA. 46+50 TO STA. 48+00

UNI-33-1.99



DARBY-POTTERSBURG RD.- STA.48+50 TO STA.50+00



6602694

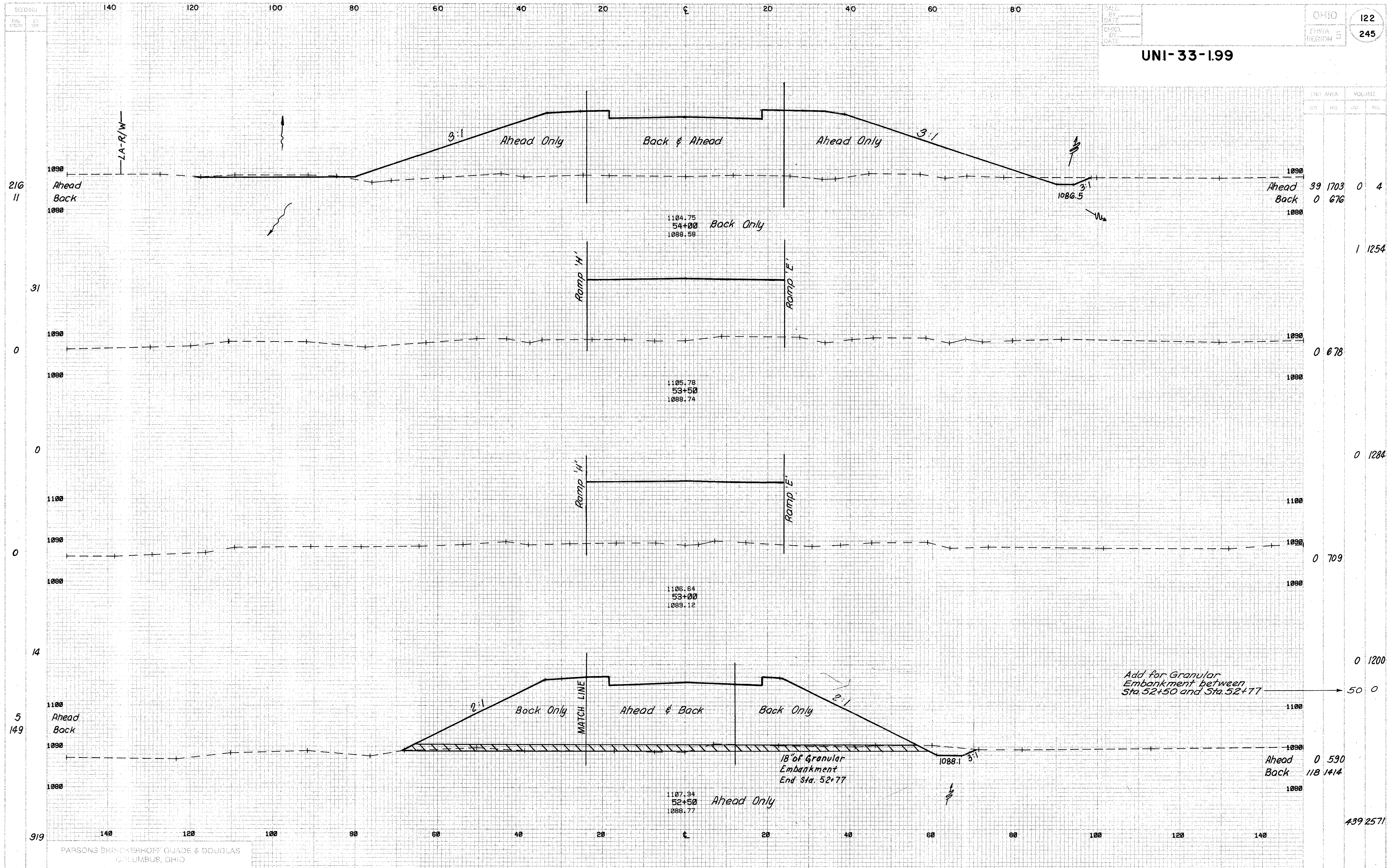
Ahead 357 1546

Add for between
Sta. 51+07.41 to Sta. 51+50

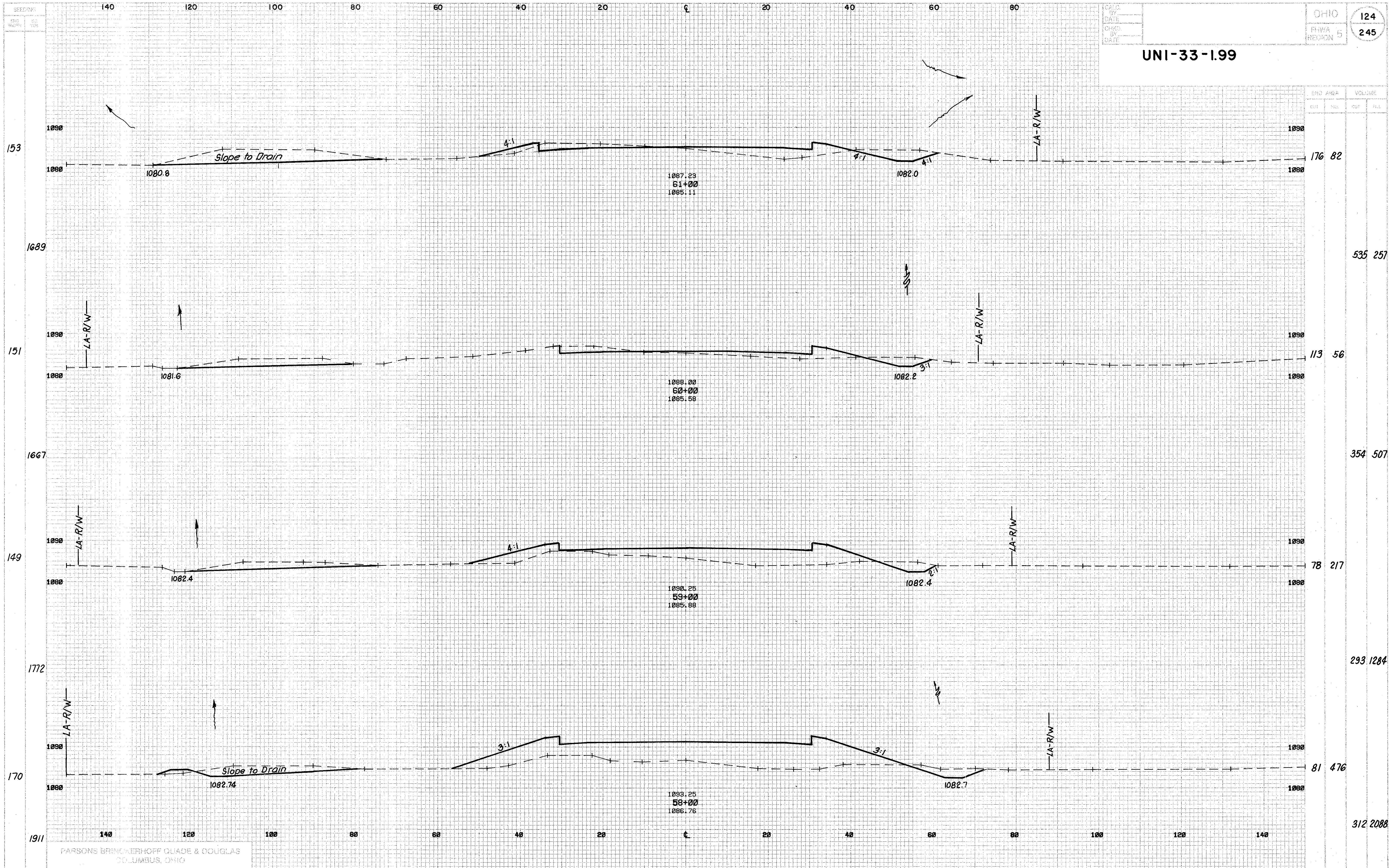
855 2562

STRUCTURE LIMIT STA. 51+07.41

PARSONS BRINCKERHOFF QUADE & DOUGLAS
COLUMBUS, OHIO

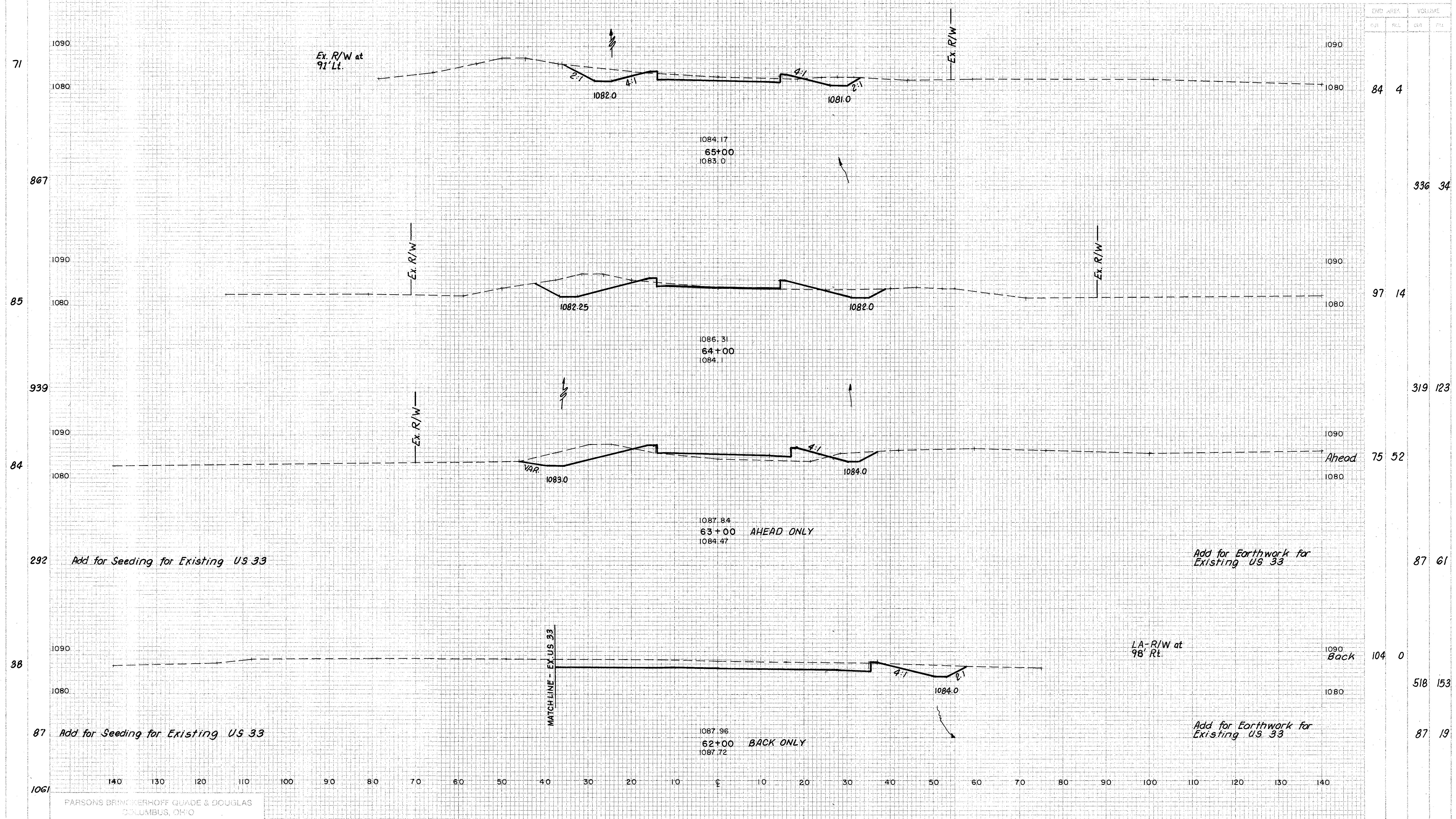


DARBY-POTTERSBURO RD. - STA. 52+50 TO STA. 54+00

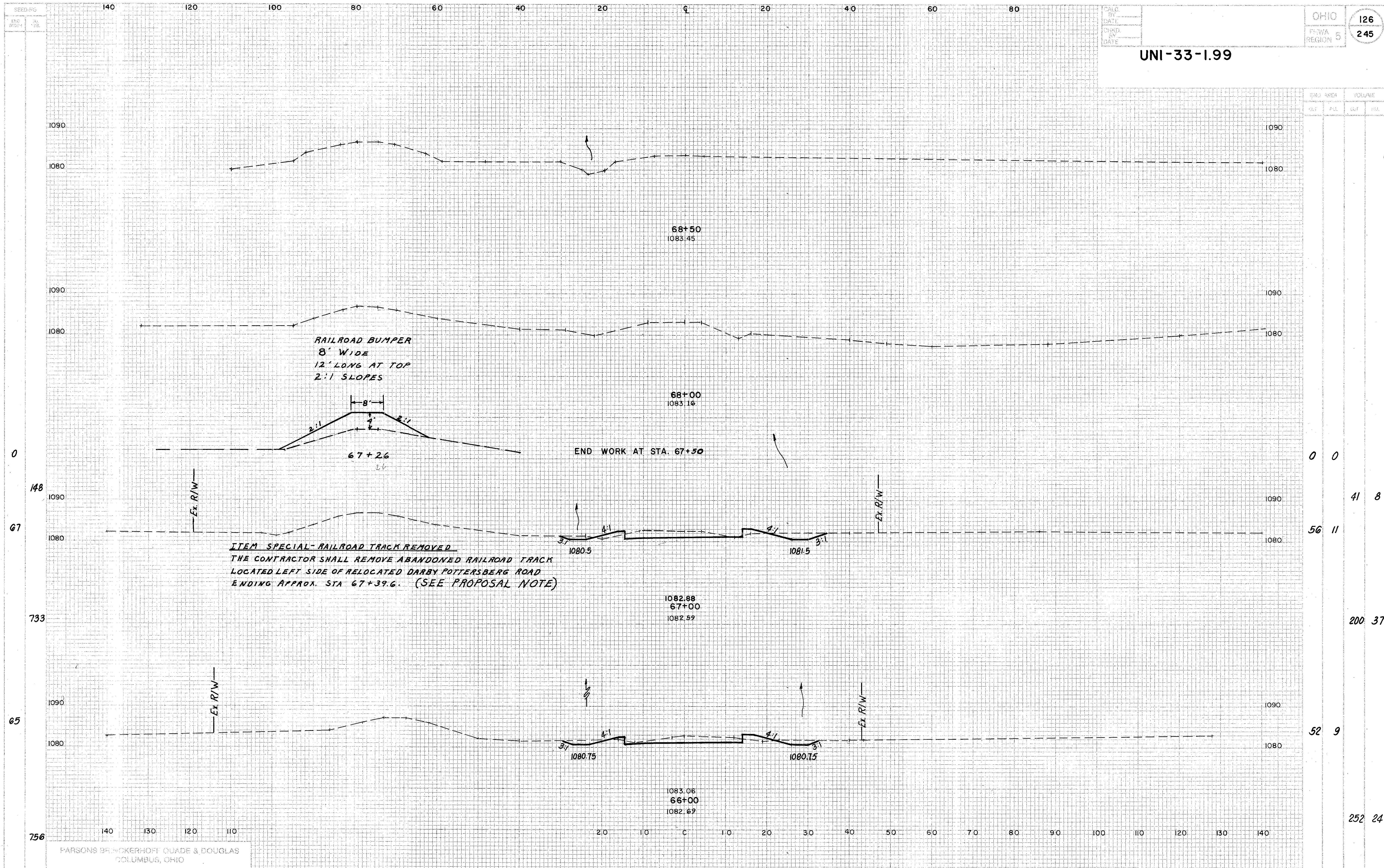


DARBY-POTTERSBUURG RD.- STA. 58+00 TO STA. 61+00

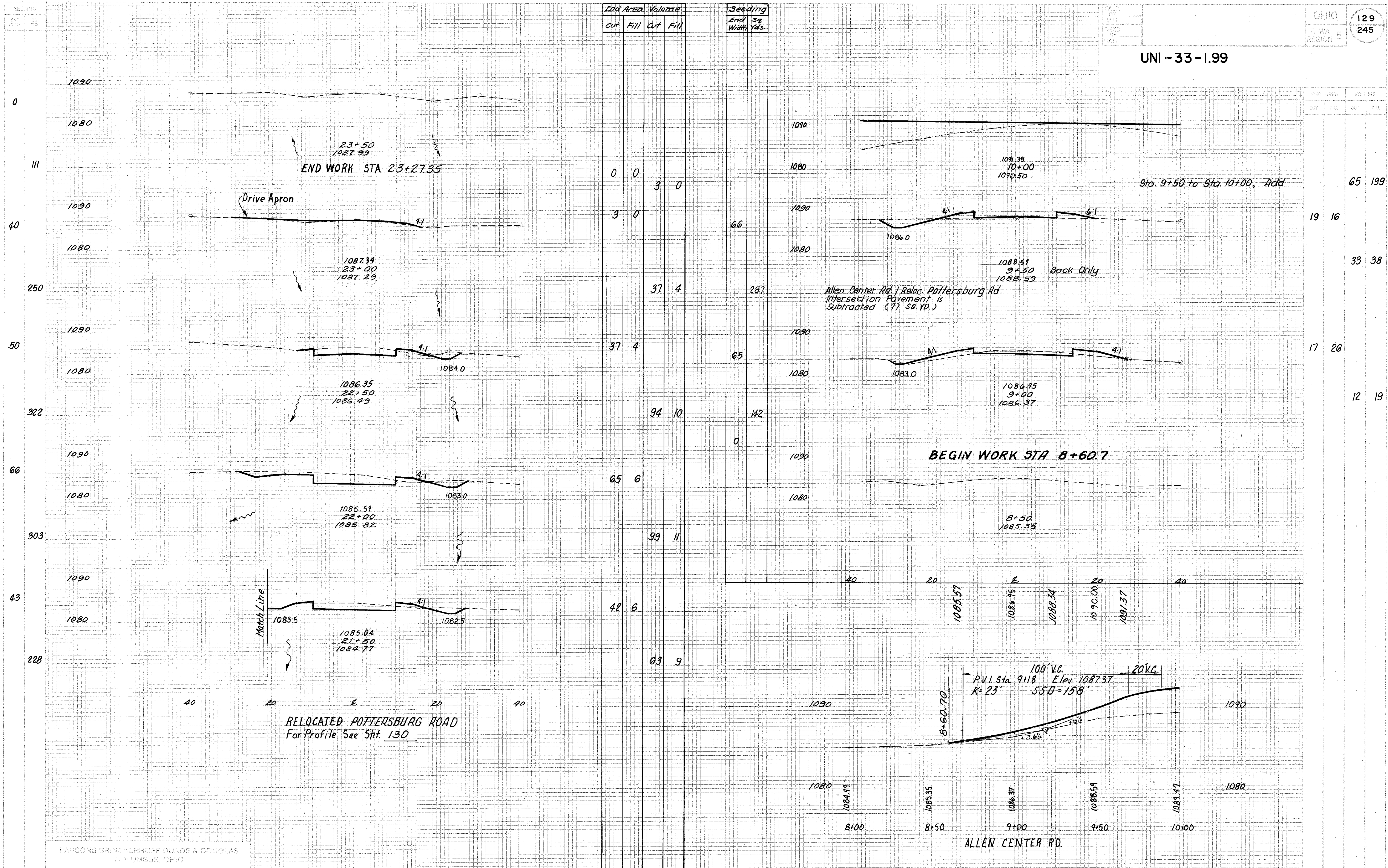
UNI-33-1.99



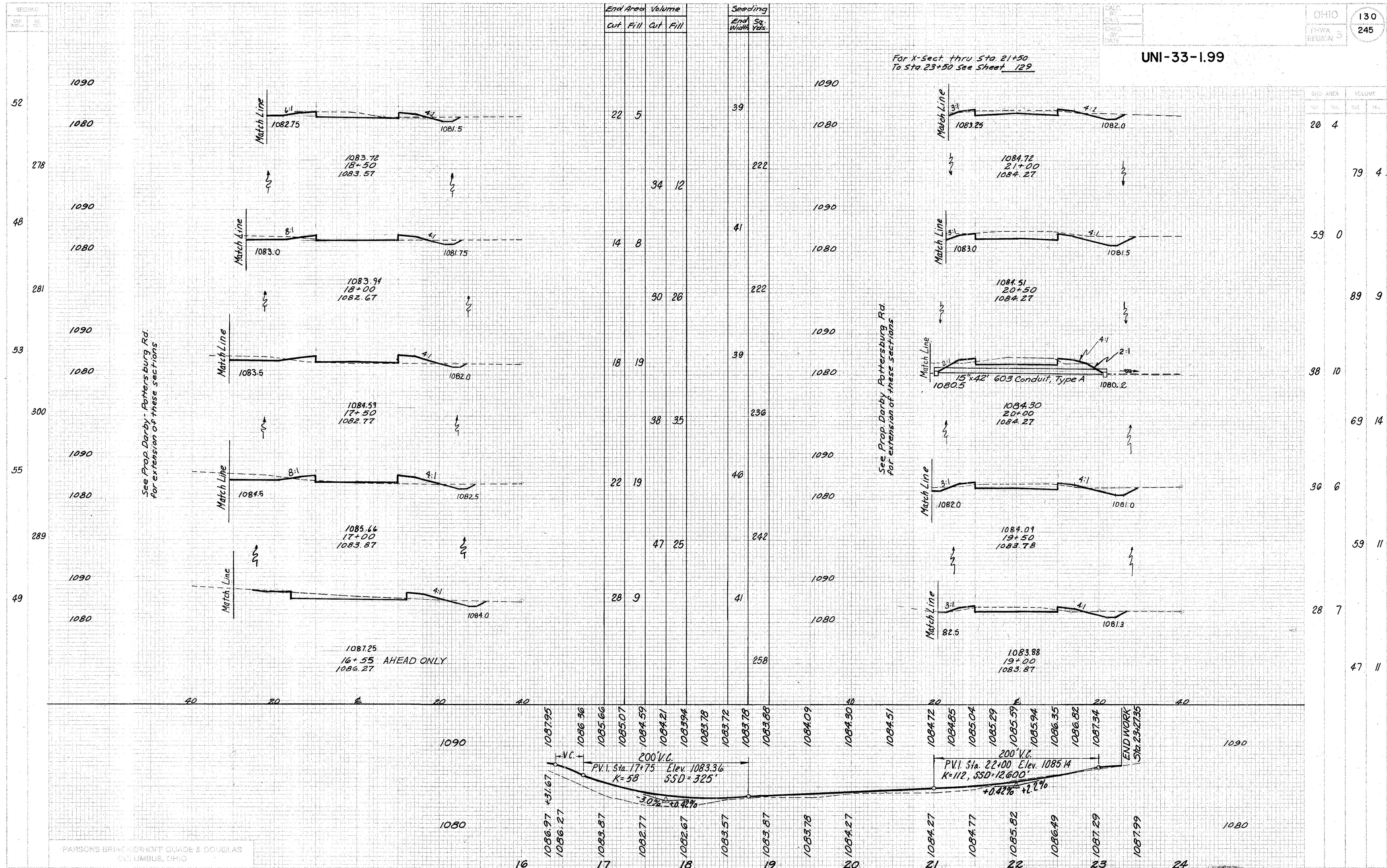
DARBY - POTTERSBUrg RD. - STA. 62+00 TO STA. 65+00



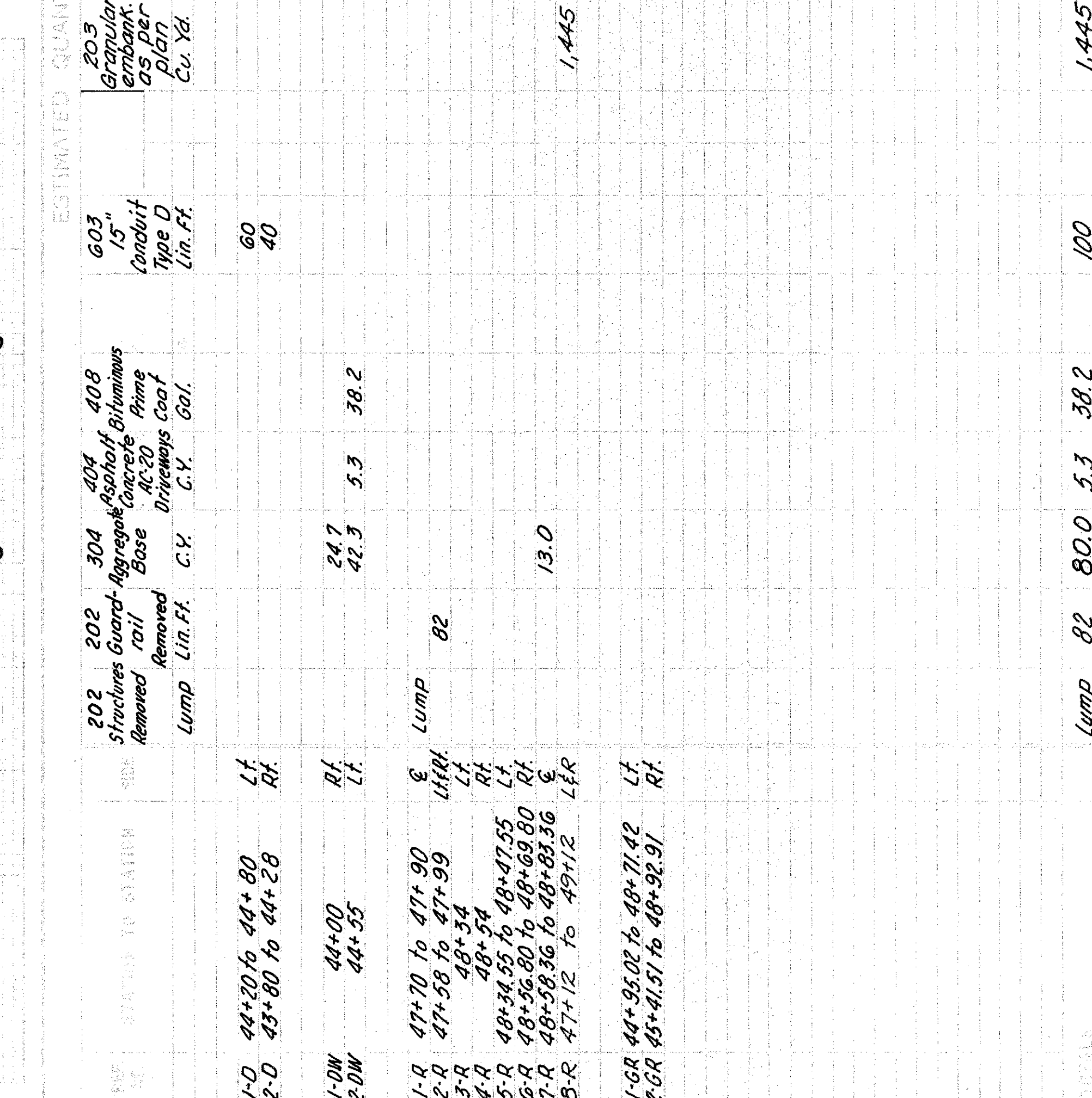
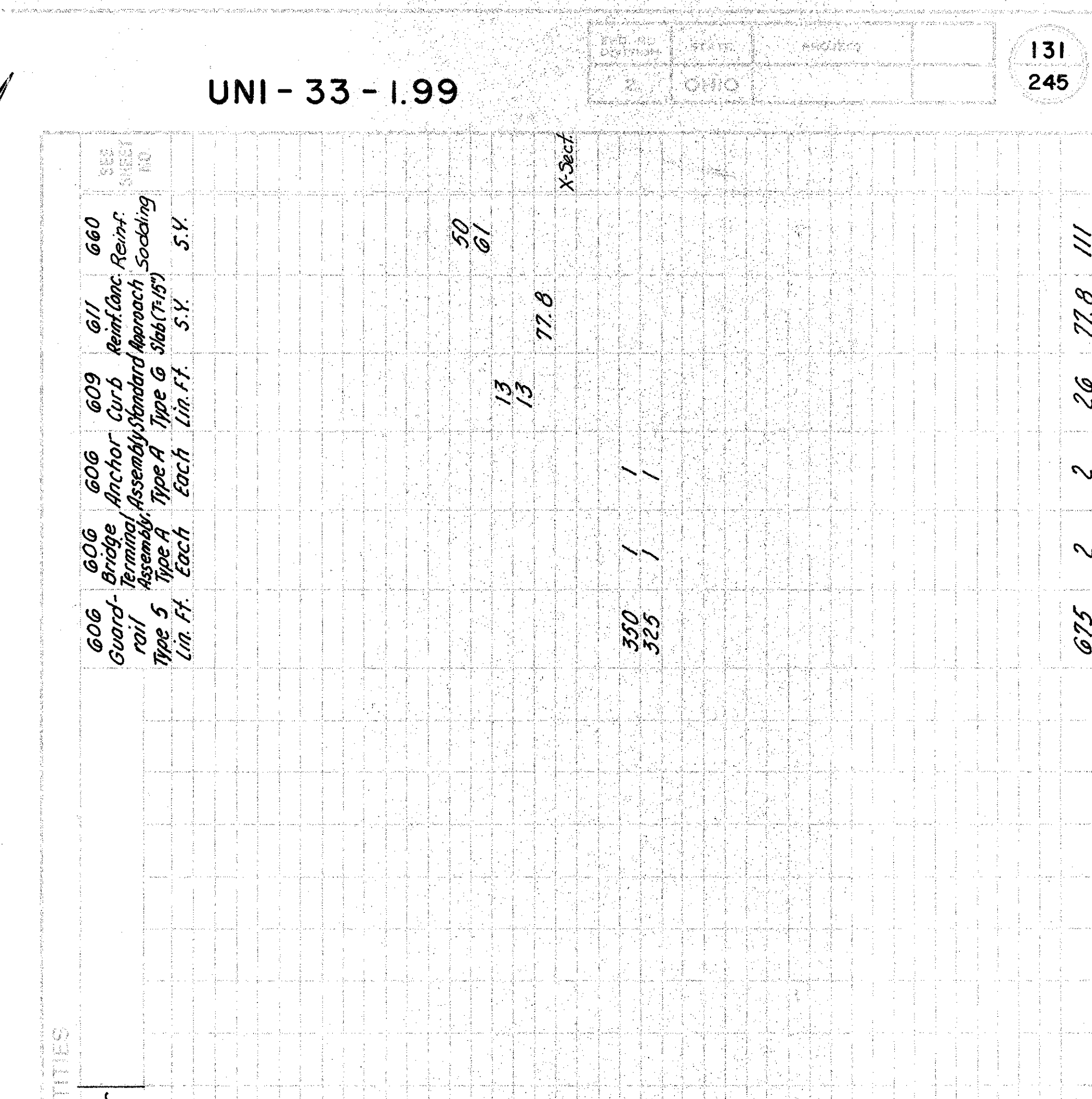
DARBY - POTTERSBERG RD.- STA.66+00 TO STA.68+50

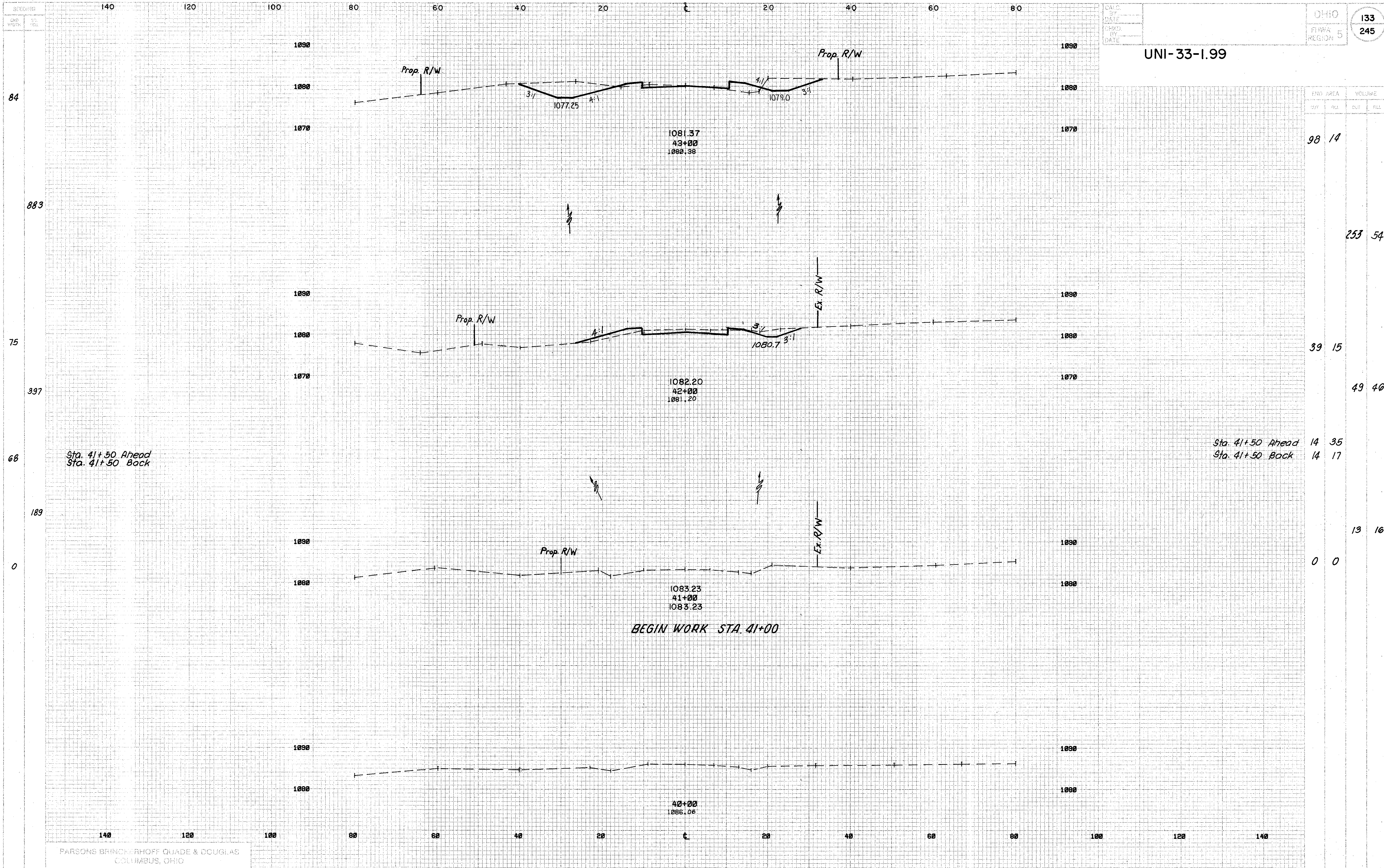


RELOC. POTTERSBURG RD. STA. 21+50 TO 23+50 & ALLEN CENTER RD. STA. 8+50 TO 10+00



RELOC. POTTERSBURG RD. PROFILE STA. 16+50 TO STA. 23+00 & CROSS-SECTION STA. 16+50 TO STA. 21+00





UNI-33-1.99

END AREA		VOLUME	
CUT	FILL	CUT	FILL

98 14

253 54

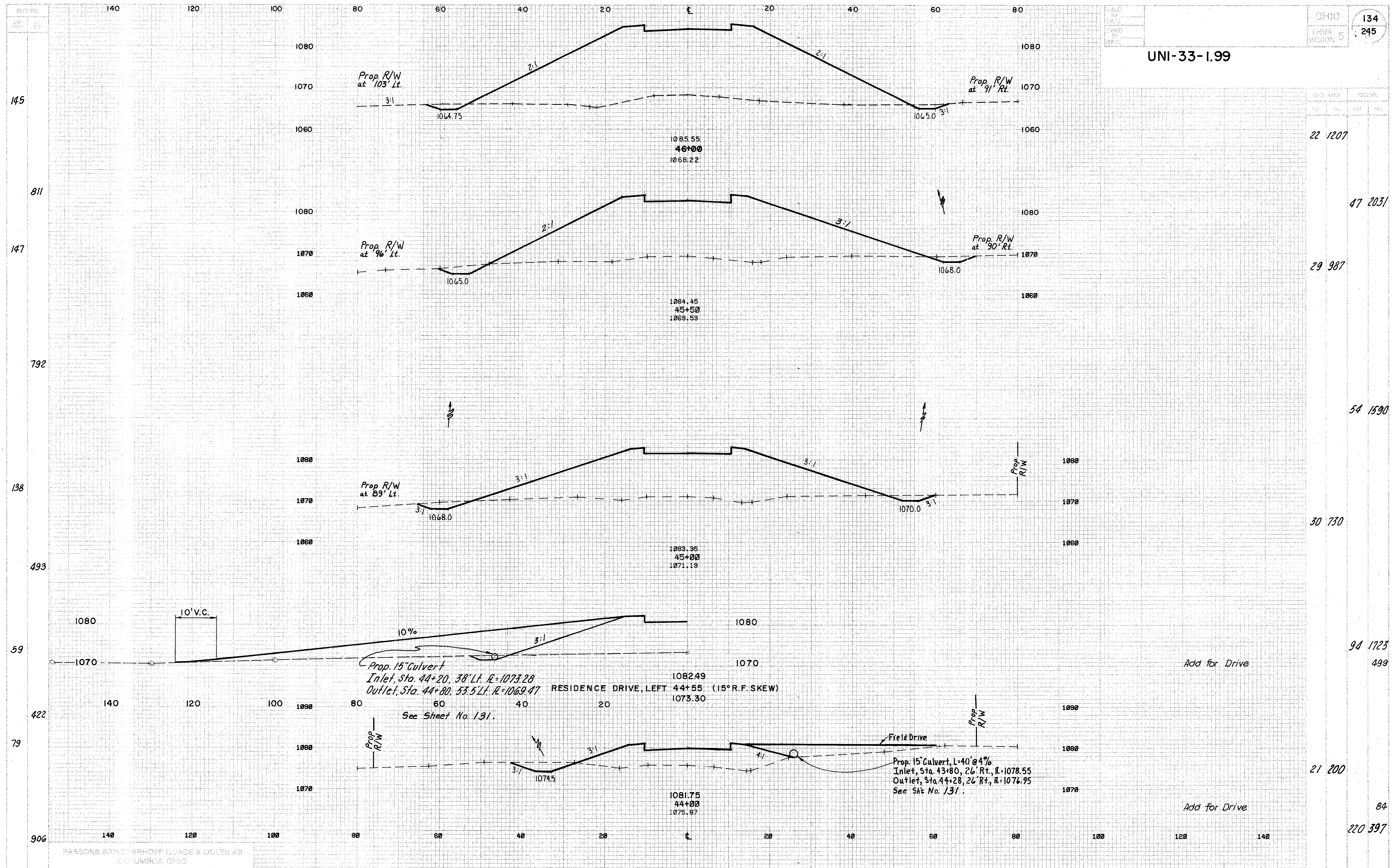
39 15

49 40

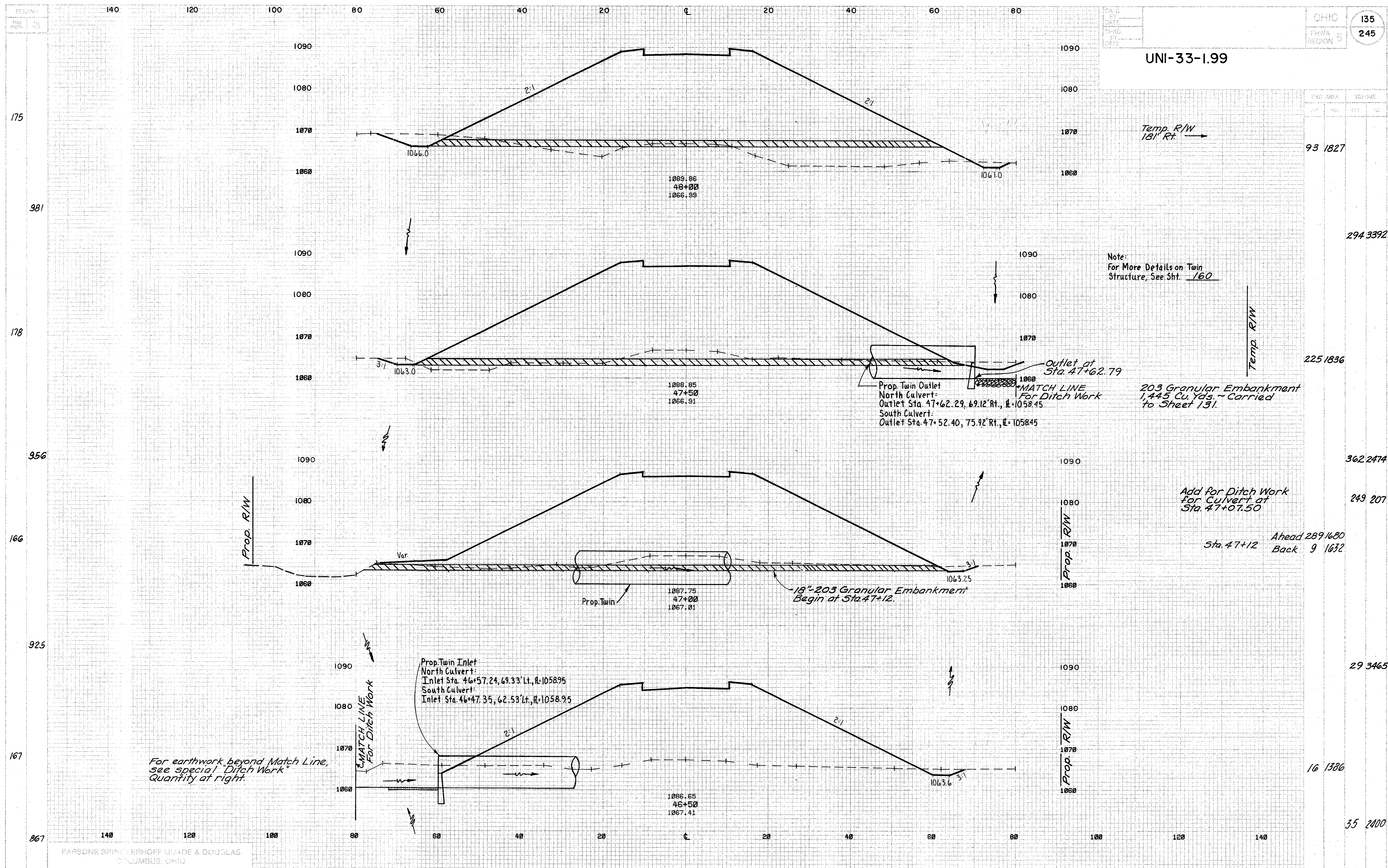
Sta. 41+50 Ahead 14 35
Sta. 41+50 Back 14 17

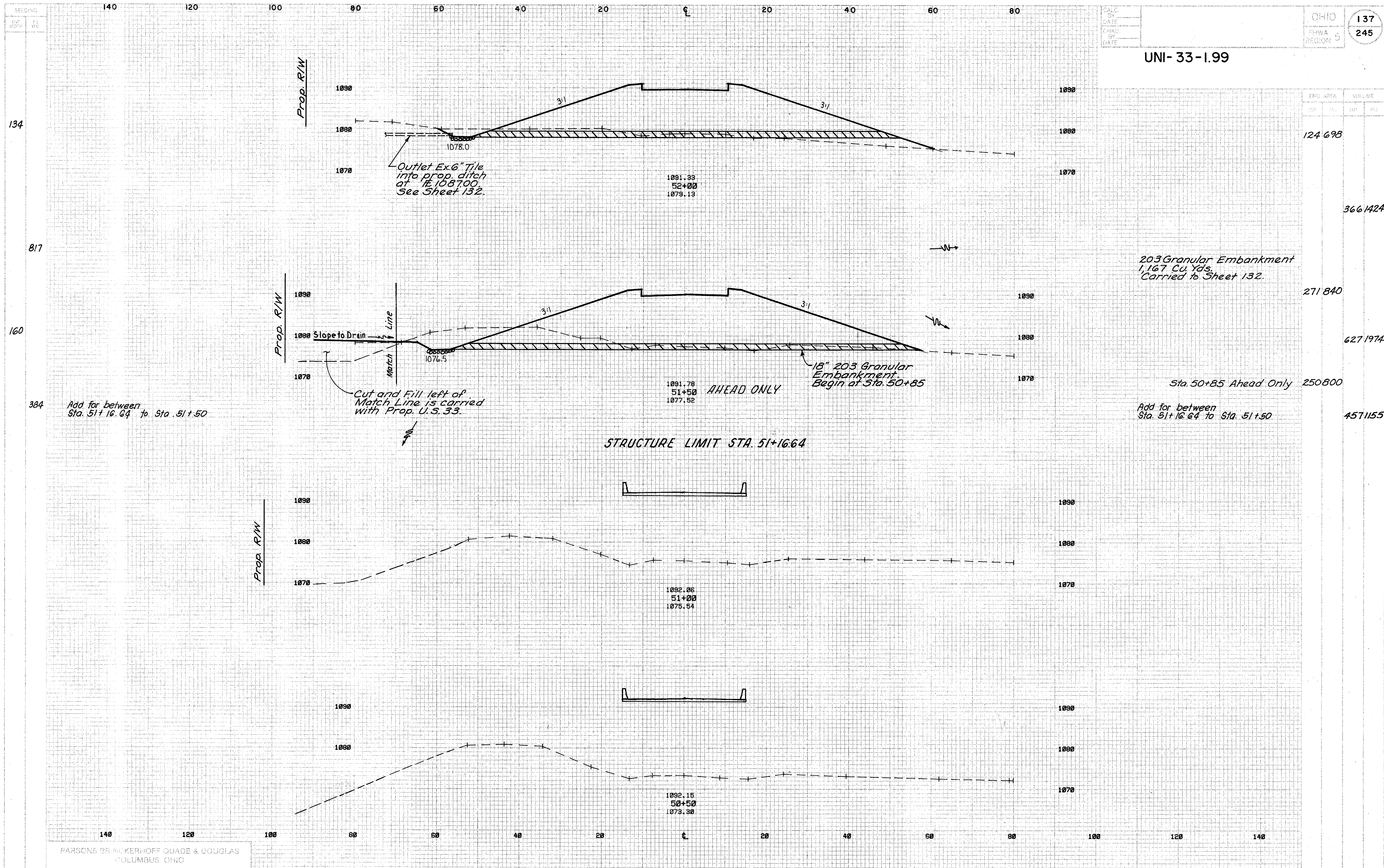
13 16

0 0

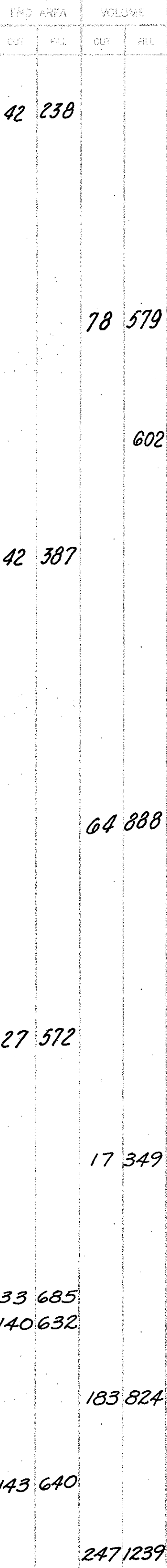


HOLYCROSS-EPPS RD.-STA. 44+00 TO STA. 46+00

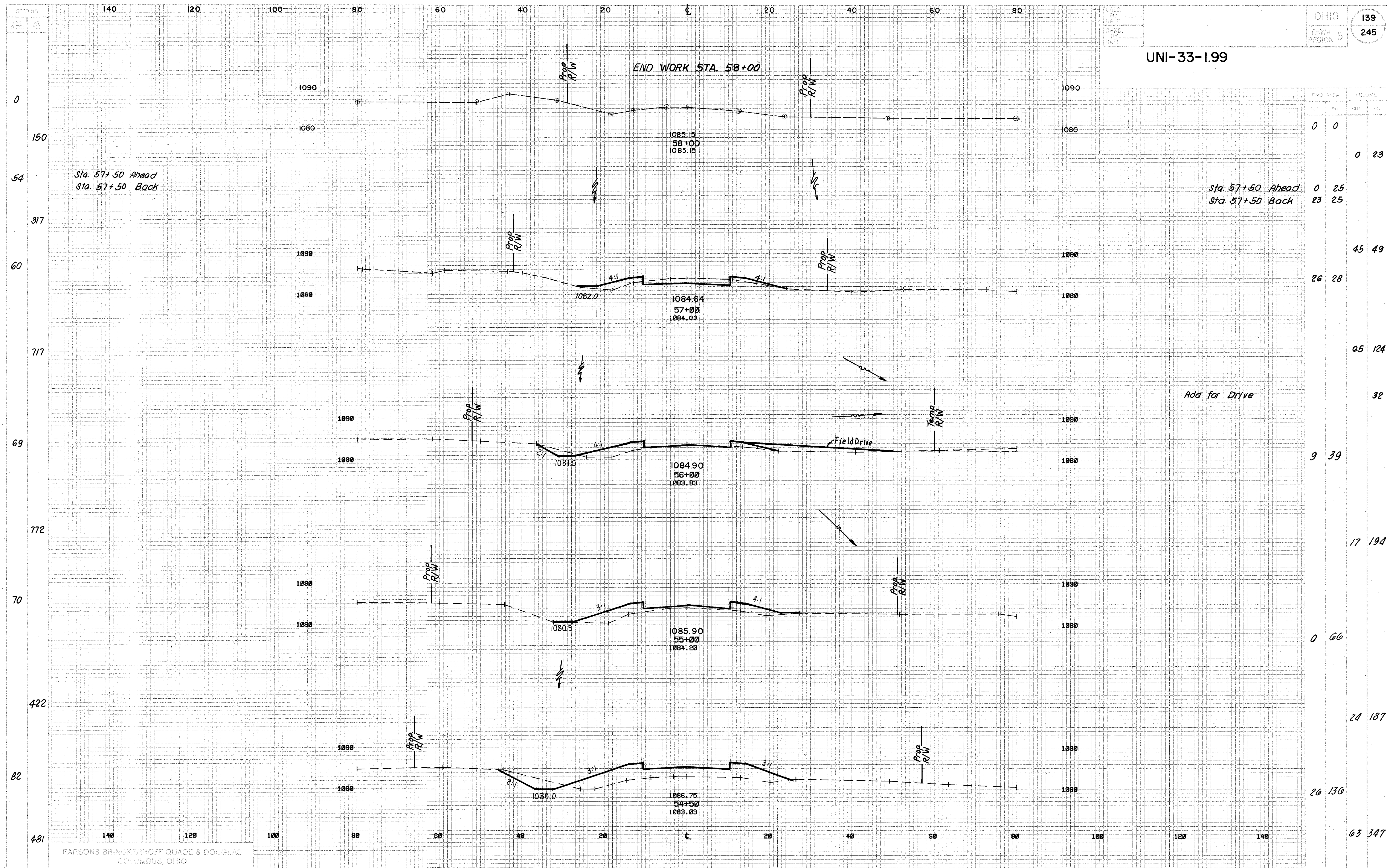




Add for Drive



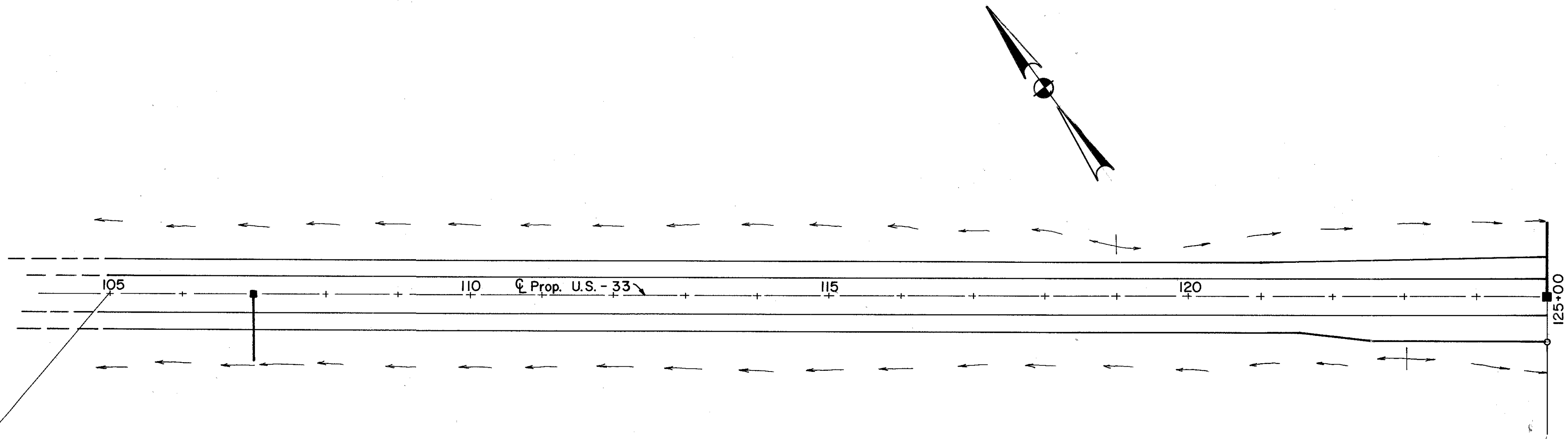
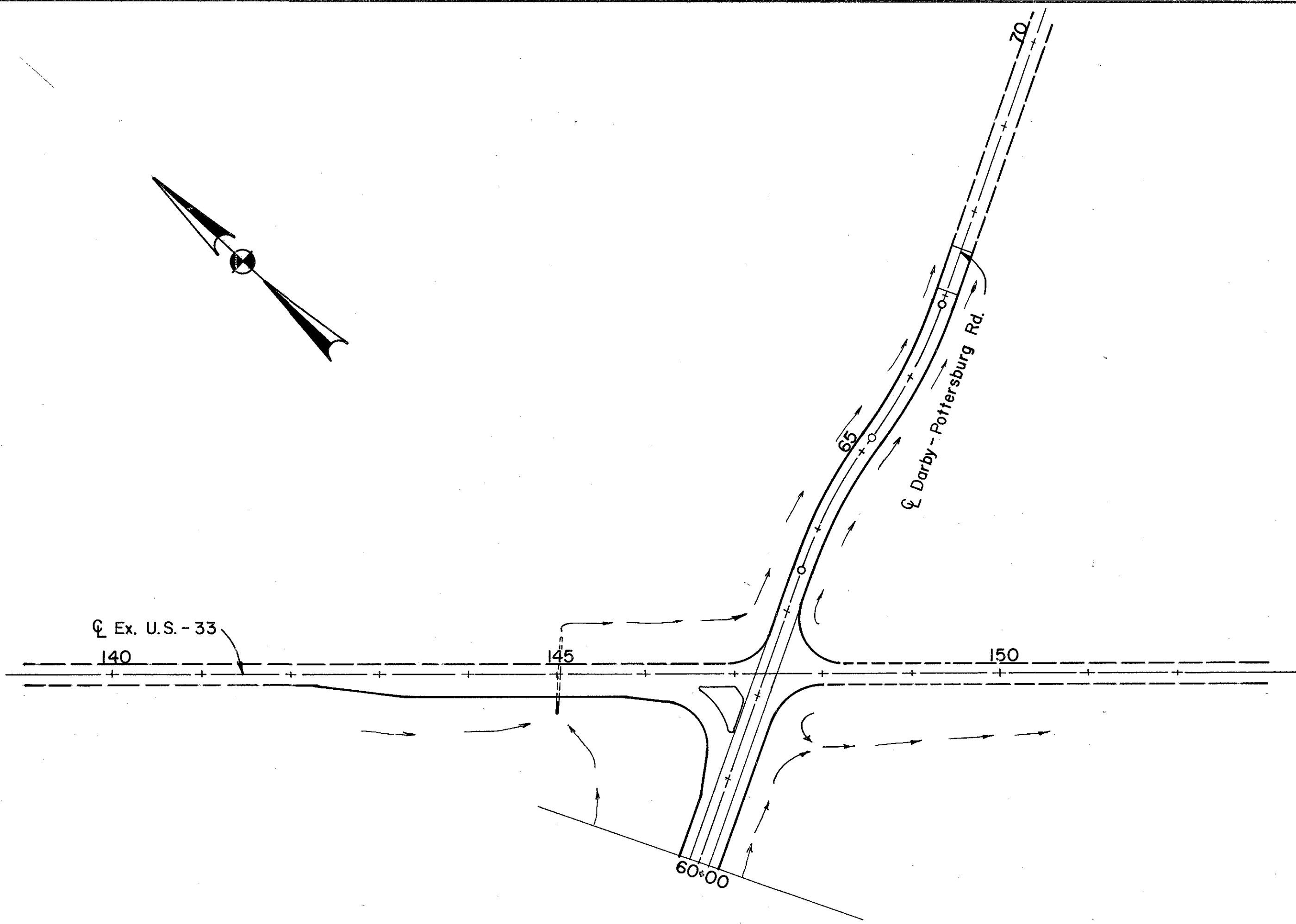
UNI-33-1.99



F.H.W.A. REGION	STATE	PROJECT	
5	OHIO		

140
245

UNI-33-1.99

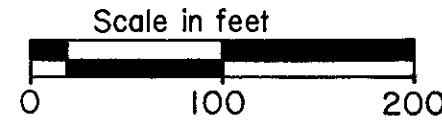
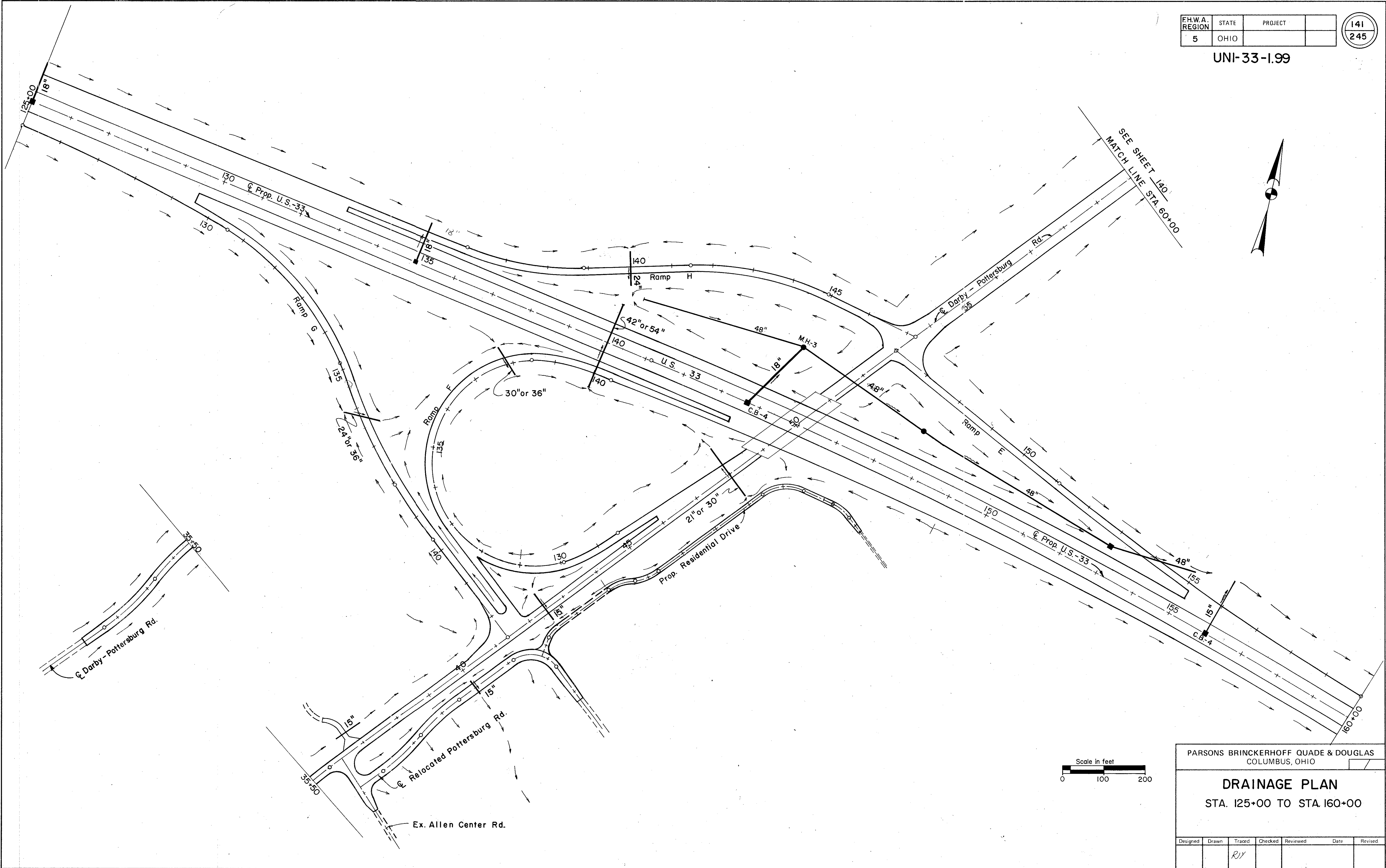


Begin Project
Sta. 105+00
SLM= 1.989

Scale in feet
0 100 200

PARSONS BRINCKERHOFF QUADE & DOUGLAS COLUMBUS, OHIO						
DRAINAGE PLAN						
U.S. 33 STA. 105+00 TO STA. 125+00						
POTTERSBURG RD.						
STA. 60+00 TO STA. 67+50						
Designed	Drawn	Traced	Checked	Reviewed	Date	Revised
	RSJ					

UNI-33-1.99

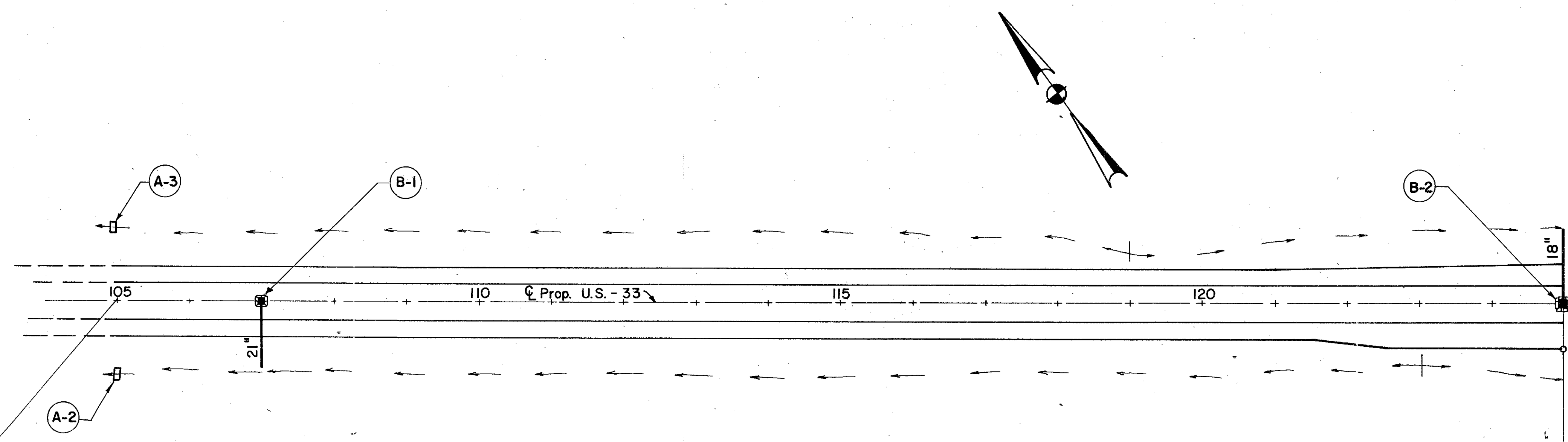
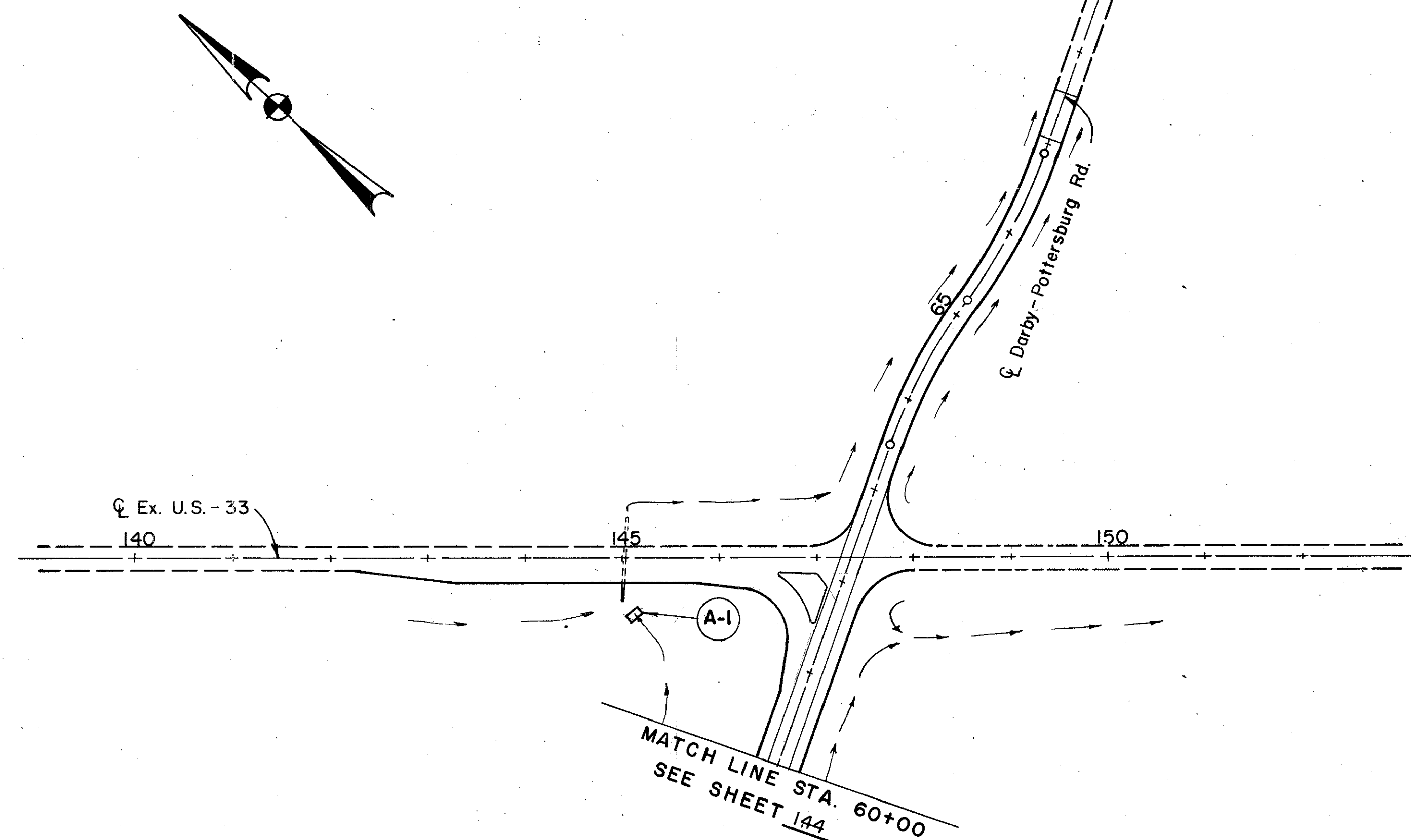


PARSONS BRINCKERHOFF QUADE & DOUGLAS COLUMBUS, OHIO						
DRAINAGE PLAN						
STA. 125+00 TO STA. 160+00						
Designed	Drawn	Traced	Checked	Reviewed	Date	Revised
		RJY				

F.H.W.A. REGION	STATE	PROJECT	
5	OHIO		

143
245

UNI-33-1.99



Begin Project
Sta. 105+00
SLM=1.989

For Quantities See Sheet
No. 145-A

NOTE:
FOR MORE DETAILS,
SEE MC-II

Scale in feet
0 100 200

PARSONS BRINCKERHOFF QUADE & DOUGLAS
COLUMBUS, OHIO

EROSION CONTROL PLAN

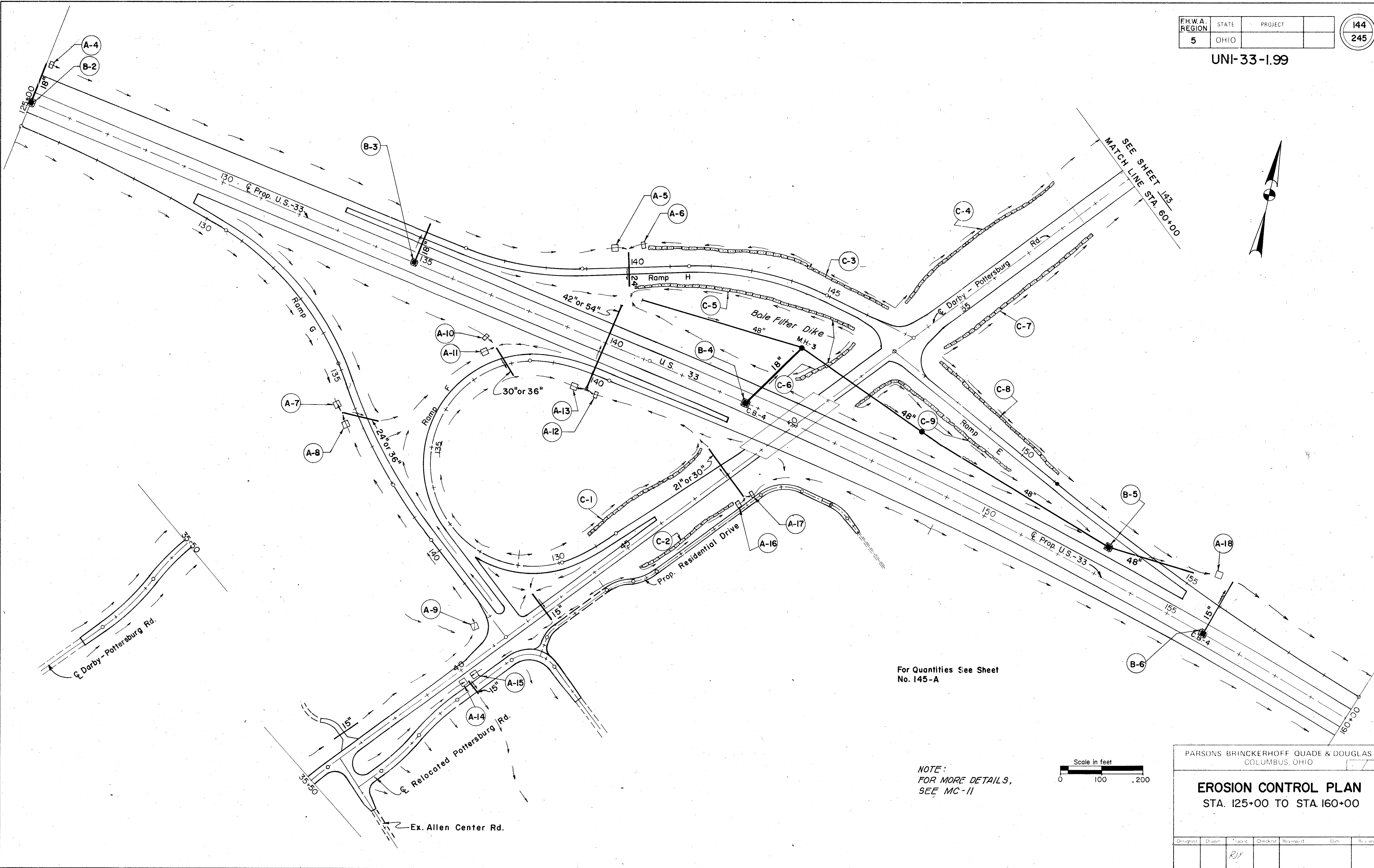
U.S. 33 STA. 105+00 TO STA. 125+00

POTTERSBURO RD.

STA. 60+00 TO STA. 67+50

Designed	Drawn	Traced	Checked	Reviewed	Date	Revised
	RTV					

UNI-33-1.99



For Quantities See Sheet
No. 145-A

NOTE:
FOR MORE DETAILS,
SEE MC-11

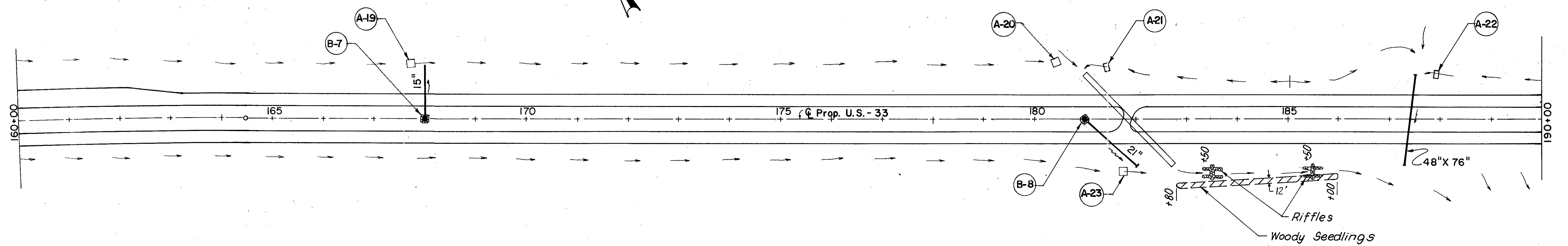


PARSONS BRINCKERHOFF, QUADE & DOUGLAS
COLUMBUS, OHIO

EROSION CONTROL PLAN
STA. 125+00 TO STA. 160+00

Designed	Drawn	Traced	Checked	Reviewed	Date	Revised

UNI-33-1.99



CALCULATIONS

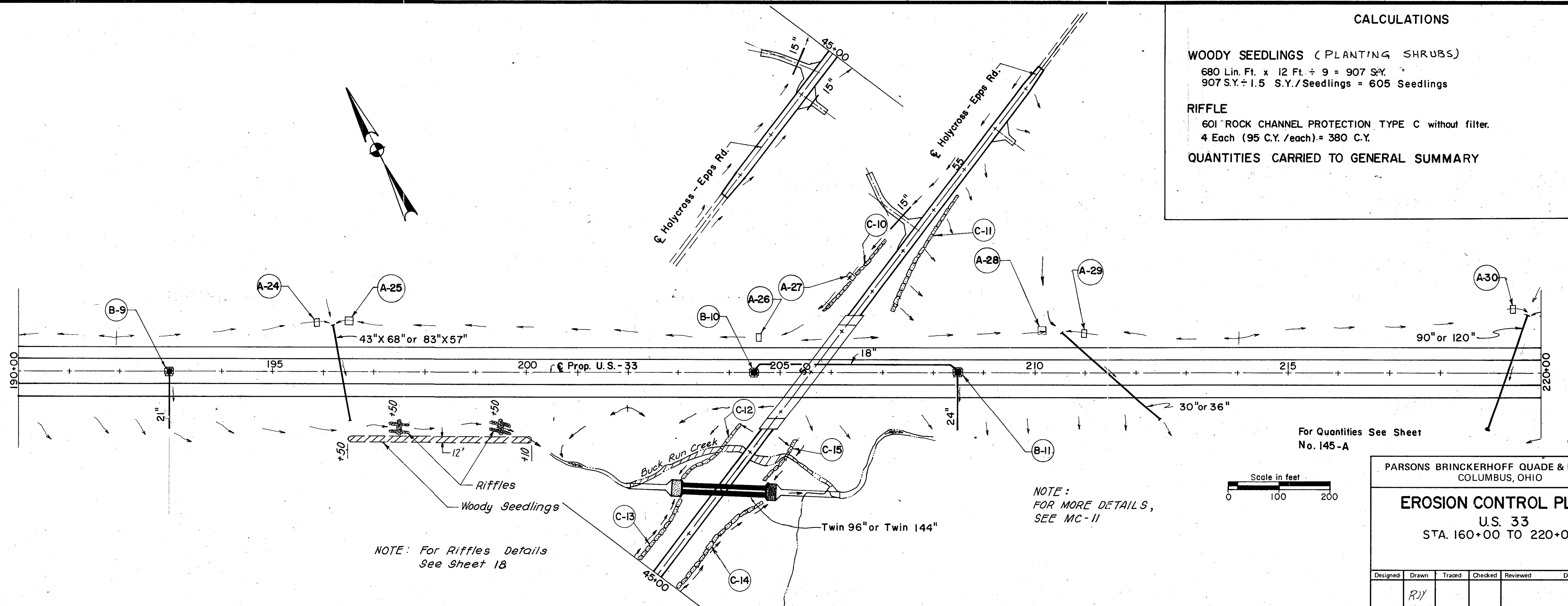
WOODY SEEDLINGS (PLANTING SHRUBS)

680 Lin. Ft. x 12 Ft. ÷ 9 = 907 S.Y.
907 S.Y. ÷ 1.5 S.Y./Seedlings = 605 Seedlings

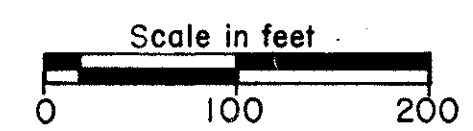
RIFFLE

60' ROCK CHANNEL PROTECTION TYPE C without filter.
4 Each (95 C.Y./each) = 380 C.Y.

QUANTITIES CARRIED TO GENERAL SUMMARY



For Quantities See Sheet
No. 145-A



PARSONS BRINCKERHOFF QUADE & DOUGLAS
COLUMBUS, OHIO

EROSION CONTROL PLAN

U.S. 33
STA. 160+00 TO 220+00

Designed	Drawn	Traced	Checked	Reviewed	Date	Revised
	R/Y					



LEGEND

△ = Off Ex. U.S.-33
* = Off Prop.U.S.-33
(E) = Off Ramp "E"
(F) = Off Ramp "F"
(G) = Off Ramp "G"
(H) = Off Ramp "H"
□ = Off Darby Pottersburg Rd.
** = Off Holy Cross-Epps Rd.

PARSONS BRINCKERHOFF QUADE & DOUGLAS
COLUMBUS, OHIO

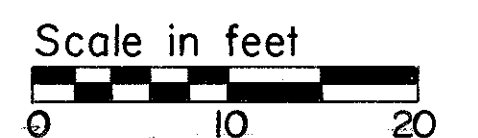
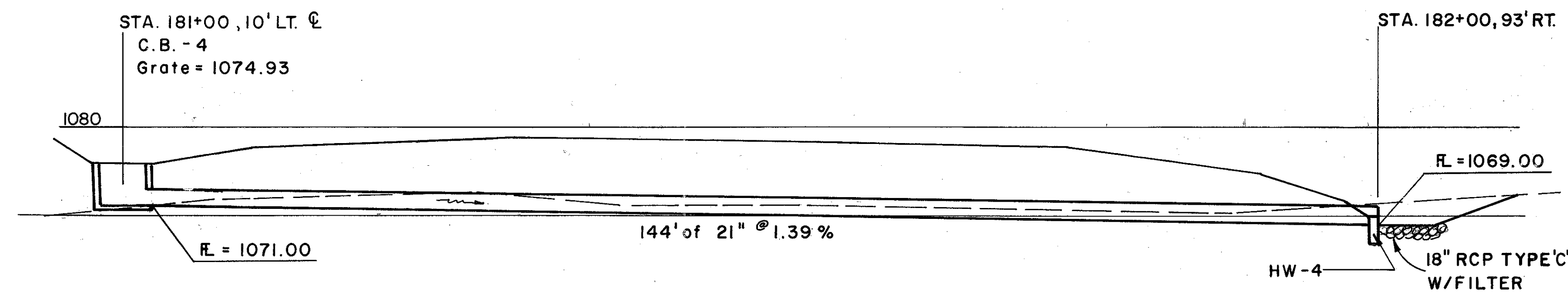
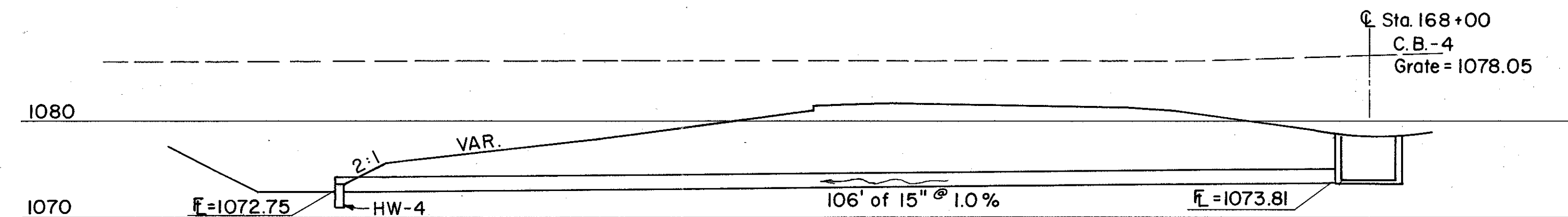
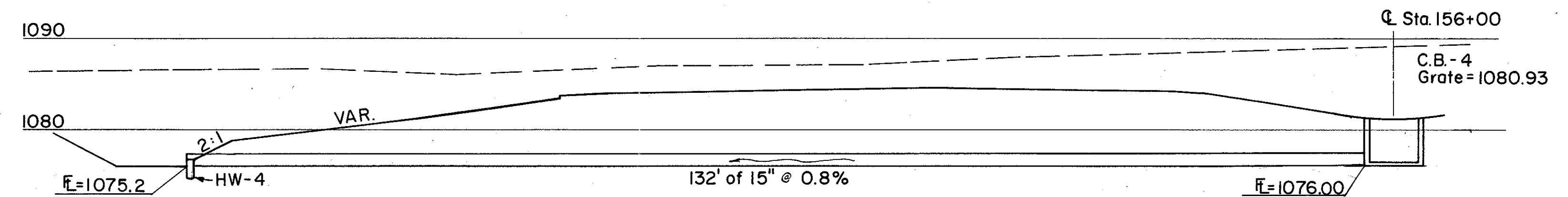
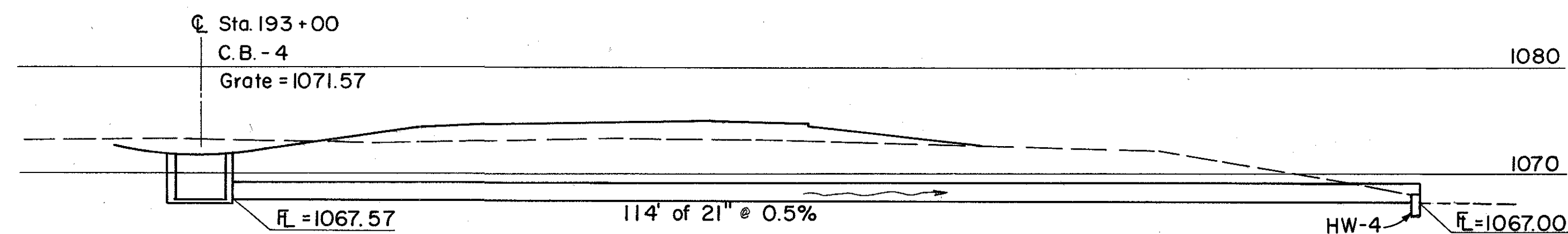
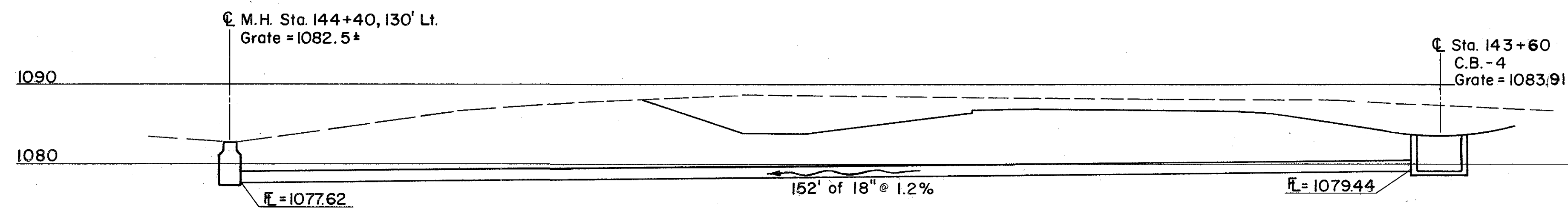
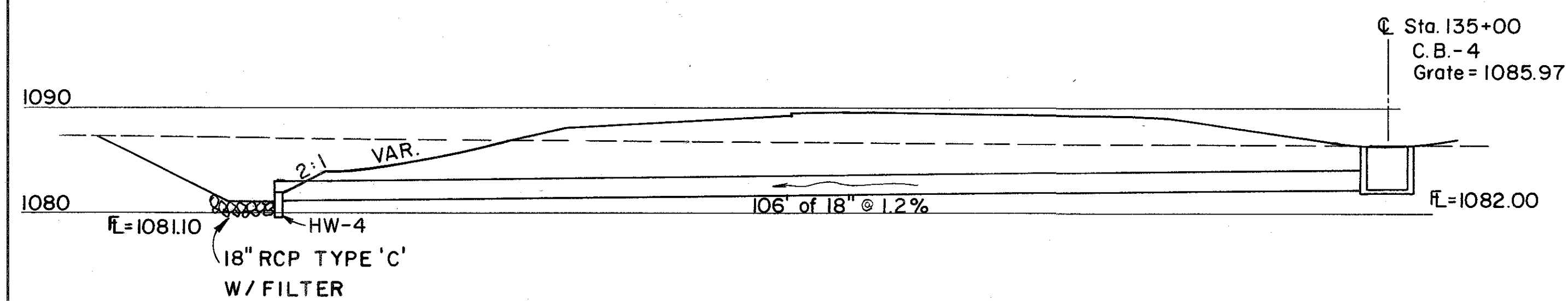
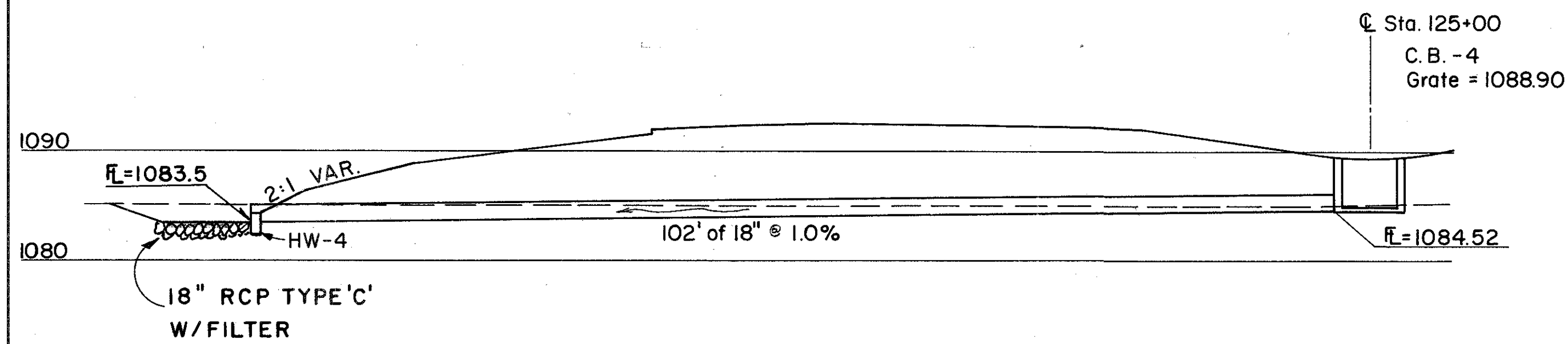
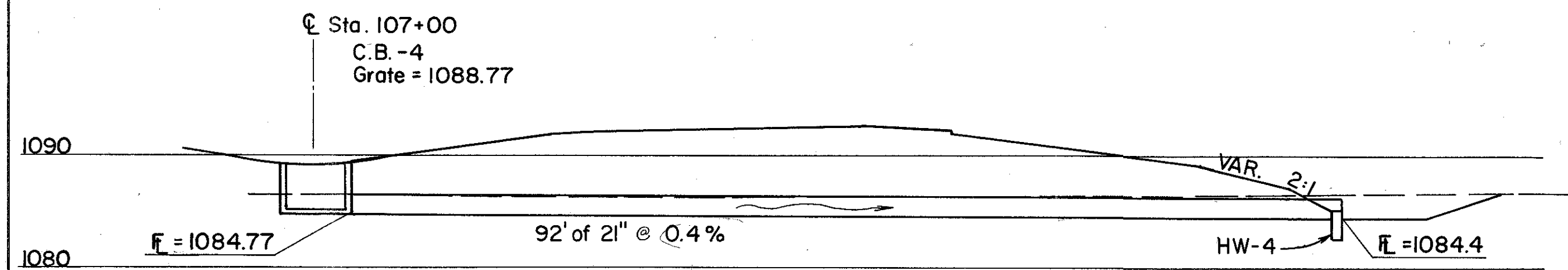
Designed	Drawn	Traced	Checked	Reviewed	Date	Revised
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Designed	Drawn	Traced	Checked	Reviewed	Date	Revised
	MAH					

TEMPORARY EROSION CONTROL QUANTITIES

[illegible]

UNI-33-1.99



PARSONS BRINCKERHOFF QUADE & DOUGLAS
COLUMBUS, OHIO

U.S. 33

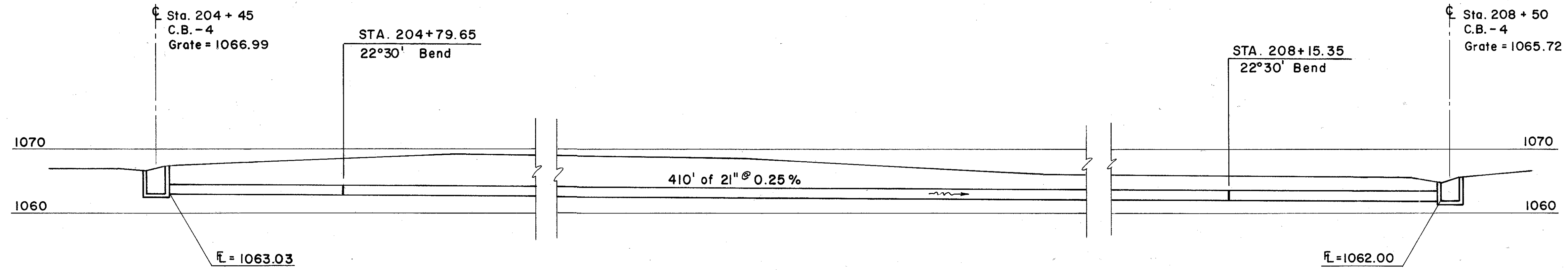
STORM SEWER PROFILE
MEDIAN DITCH U.S. 33

Designed	Drawn	Traced	Checked	Reviewed	Date	Revised

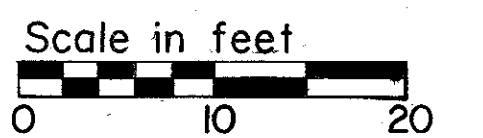
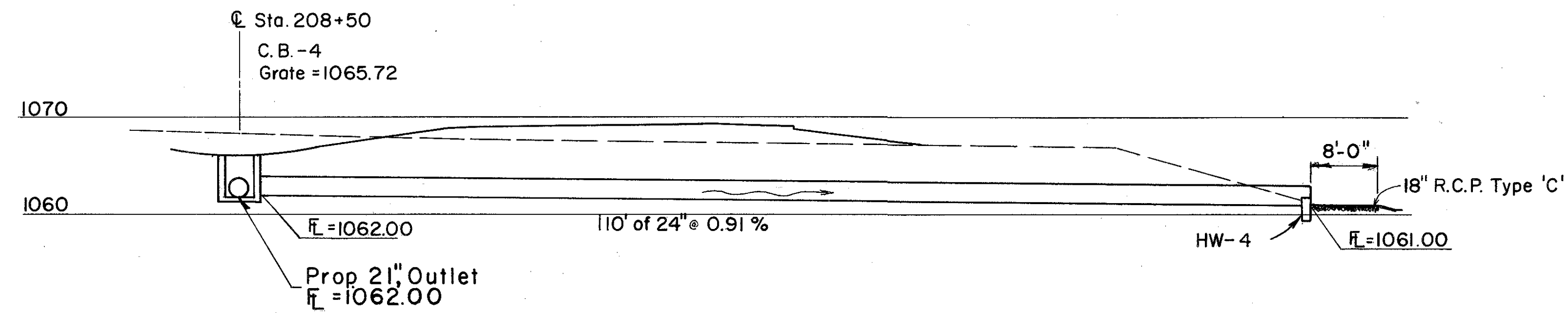
F.H.W.A. REGION	STATE	PROJECT	
5	OHIO		

148
245

UNI-33-1.99



NOTE: For Plan View of Storm Sewer, See Sheet 31

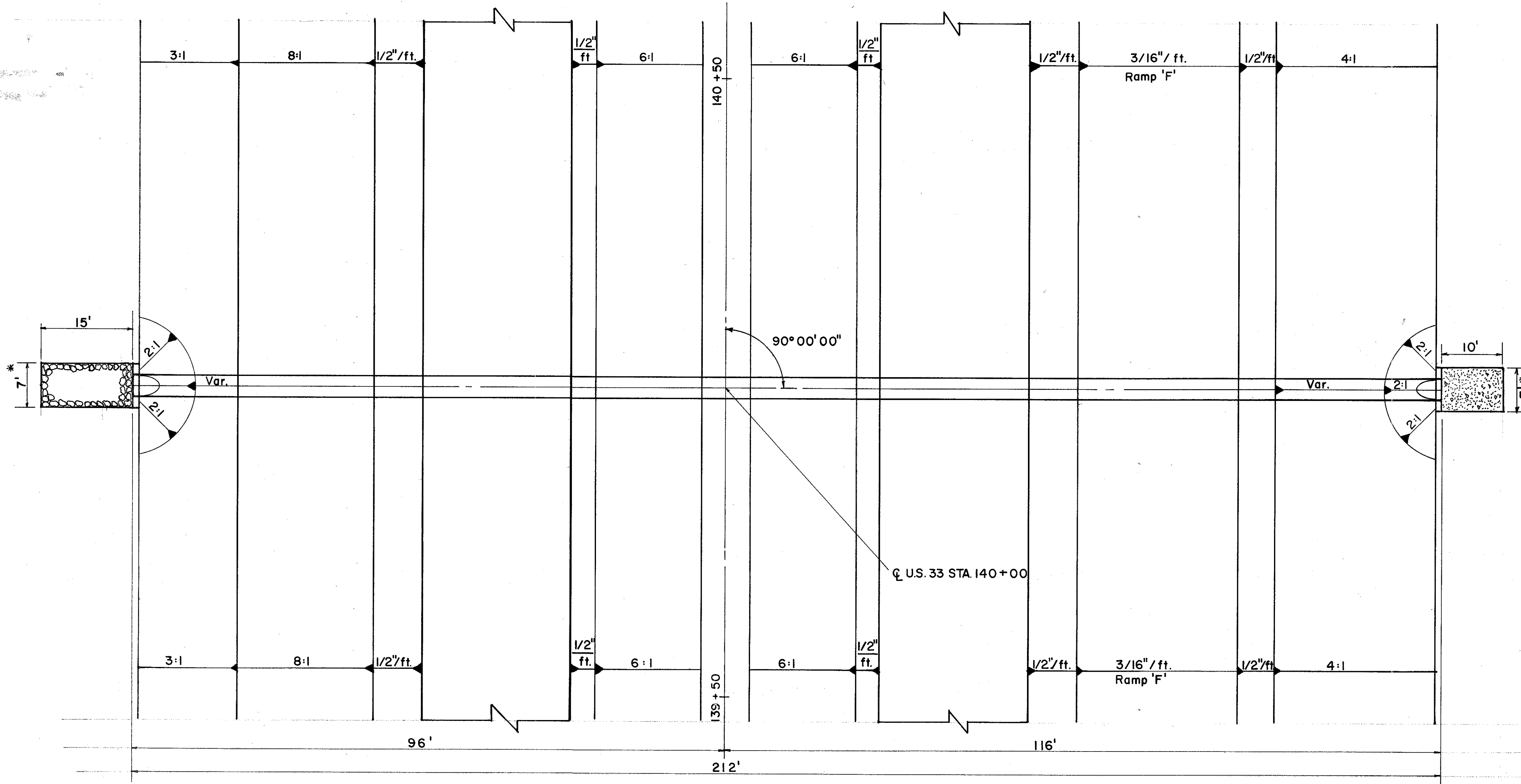


PARSONS BRINCKERHOFF QUADE & DOUGLAS
COLUMBUS, OHIO

U.S. 33
STORM SEWER PROFILE
MEDIAN DITCH U.S. 33

Designed	Drawn	Traced	Checked	Reviewed	Date	Revised
	PS					

UNI -33- 1.99



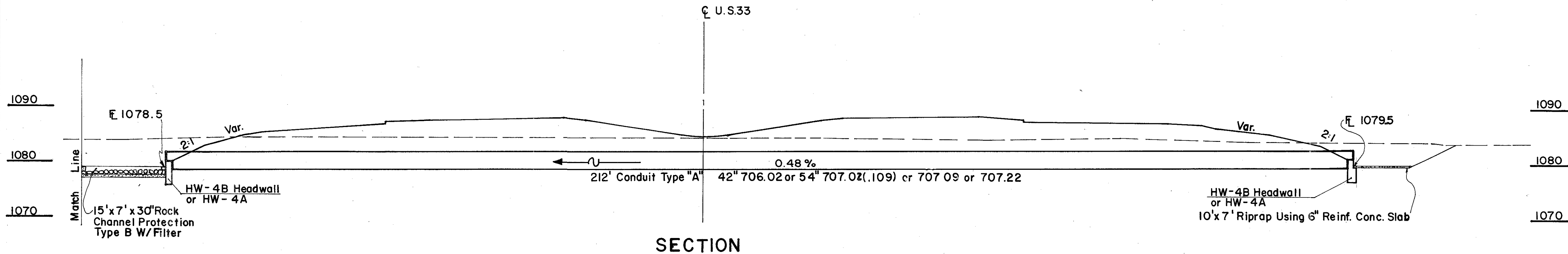
Drainage Area =	19.96	Ac.
Q ₅₀ =	50.5	C.F.S.
Q ₁₀₀ =	56.4	C.F.S.
HW ₁₀₀ =	1083.00	

* For HW-4A, use 9'-3".

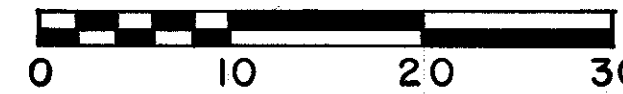
ESTIMATED QUANTITIES

602	Concrete Masonry	3.00	Cu.Yds.
603	Conduit Type "A" 42" 706.02 or 54" 707.02(.109) or 707.09 or 707.22	212	Lin.Ft.
601	Rock Channel Protection Type "B", W/Filter	12.8	Cu.Yds.
601	Riprap Using 6" Reinforced Concrete Slab	10.3	Sq.Yds.

PLAN



SECTION



SCALE IN FEET

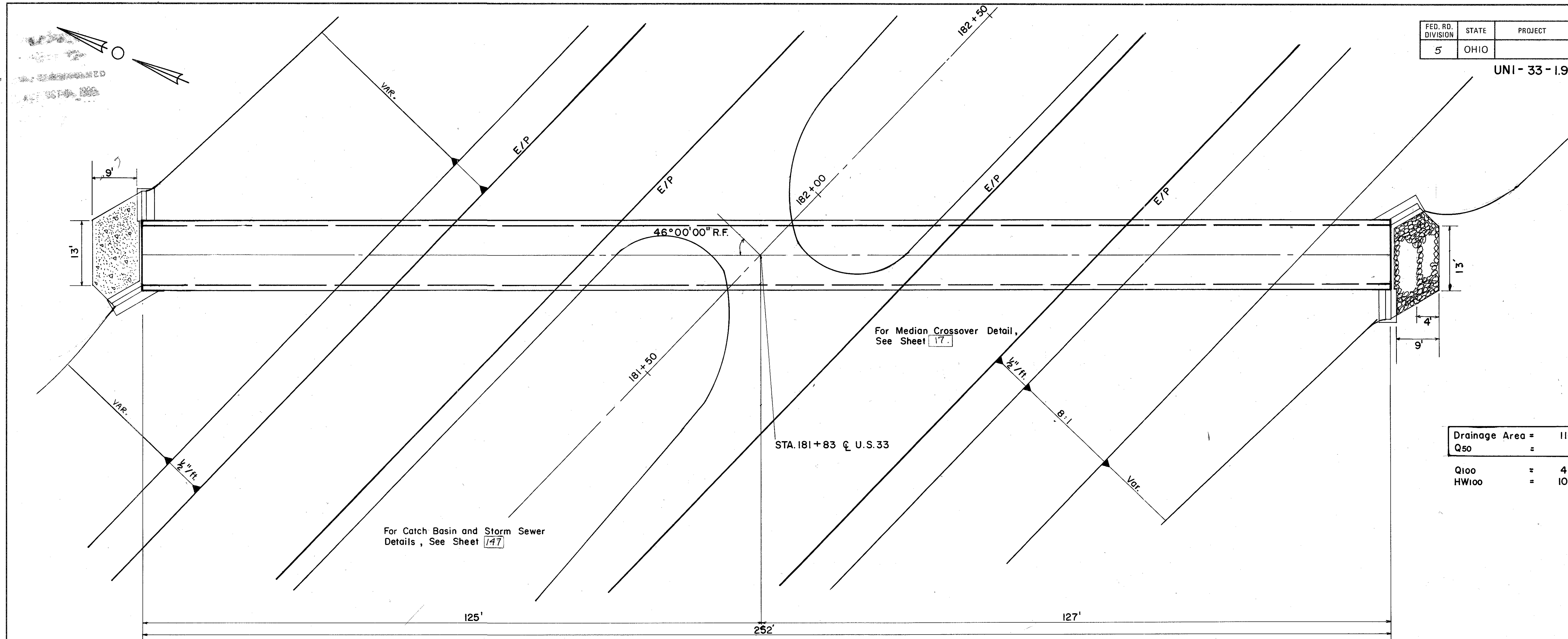
PARSONS BRINCKERHOFF QUADE & DOUGLAS
COLUMBUS, OHIO

CULVERT DETAILS

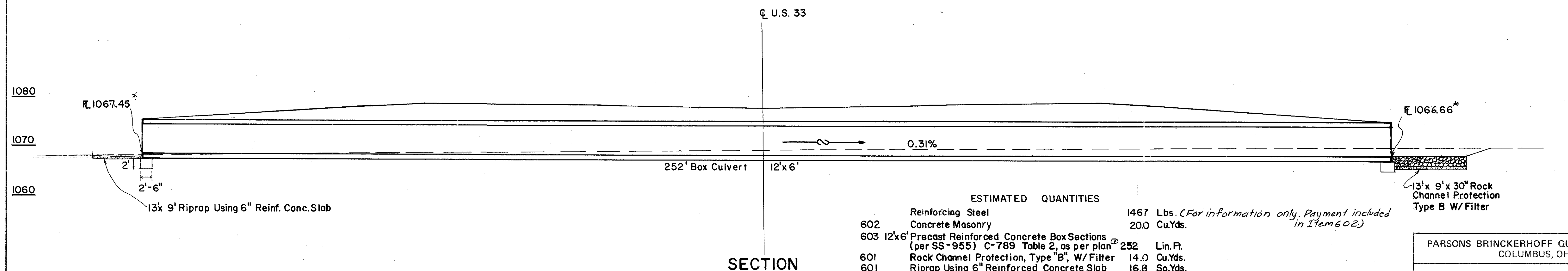
STA. 140+00 U.S. 33

Designed	Drawn	Traced	Checked	Reviewed	Date	Revised
	RJY					

UNI - 33 - 1.99



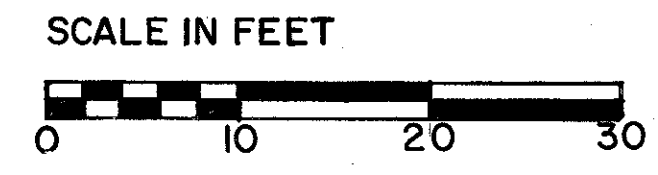
PLAN



SECTION

ESTIMATED QUANTITIES		
602	Reinforcing Steel	1467 Lbs. (For information only. Payment included in Item 602.)
603	Concrete Masonry	20.0 Cu.Yds.
601	12'x6' Precast Reinforced Concrete Box Sections (per SS-955) C-789 Table 2, as per plan @ 252	Lin. Ft.
601	Rock Channel Protection, Type "B", W/Filter	14.0 Cu.Yds.
601	Riprap Using 6" Reinforced Concrete Slab	16.8 Sq.Yds.

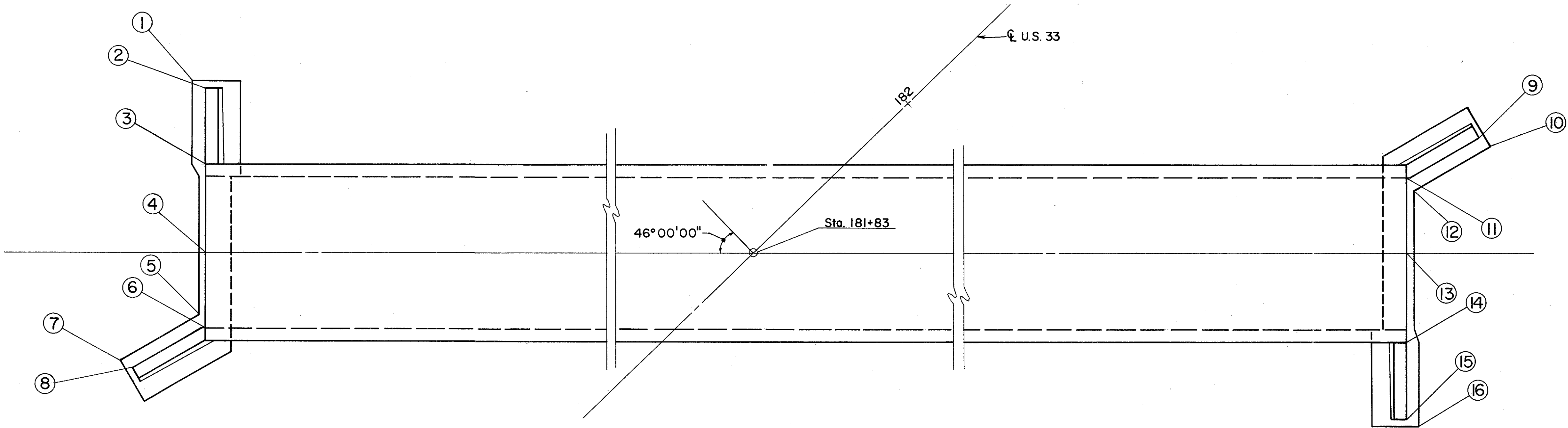
Design Earth Cover 4 ft.



Drainage Area =	1148	Ac.
Q50 =	411	C.F.S.
Q100 =	476	C.F.S.
HW100 =	1074.13	

PARSONS BRINCKERHOFF QUADE & DOUGLAS COLUMBUS, OHIO							
BOX CULVERT DETAILS							
STA. 181+83 U.S. 33							
Designed	Drawn	Traced	Checked	Reviewed	Date	Revised	
	R.Y.						

UNI-33-1.99



WINGWALL GEOMETRY				
POINT	STATION	ELEVATION	LEFT (N)	RIGHT (S)
1	181 + 01.74	1067.45	97'-3"	
2	181 + 02.11	1075.45	96'-2"	
3	180 + 97.95	1067.45	91'-10"	
4	180 + 93.08	1068.45	86'-10"	
5	180 + 89.25	1067.45	83'-7"	
6	180 + 88.92	1075.45	82'-6"	
7	180 + 82.30	1067.45	85'-4"	
8	180 + 82.54	1073.95	84'-3"	
9	182 + 84.89	1073.16		85'-7"
10	182 + 85.14	1066.66		86'-8"
11	182 + 78.52	1074.66		83'-11"
12	182 + 78.19	1066.66		85'-0"
13	182 + 74.36	1067.66		88'-3"
14	182 + 69.49	1066.66		93'-3"
15	182 + 65.33	1074.66		97'-7"
16	182 + 65.70	1066.66		98'-8"

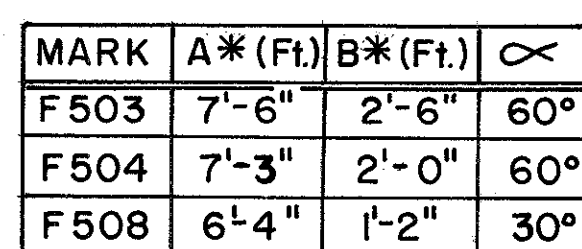
⊙ All elevations to be Adjusted down
1' from elevations shown to
account for depressed flow line.

PARSONS BRINCKERHOFF QUADE & DOUGLAS
COLUMBUS, OHIO

BOX CULVERT DETAILS

STA. 181+83 U.S. 33

Designed	Drawn	Traced	Checked	Reviewed	Date	Revised



ESTIMATED QUANTITIES

* Quantities are carried to Sheet No. 150

Designed	Drawn	Traced	Checked	Reviewed	Date	Revised

FED. RD. DIVISION	STATE	PROJECT	
5	OHIO		

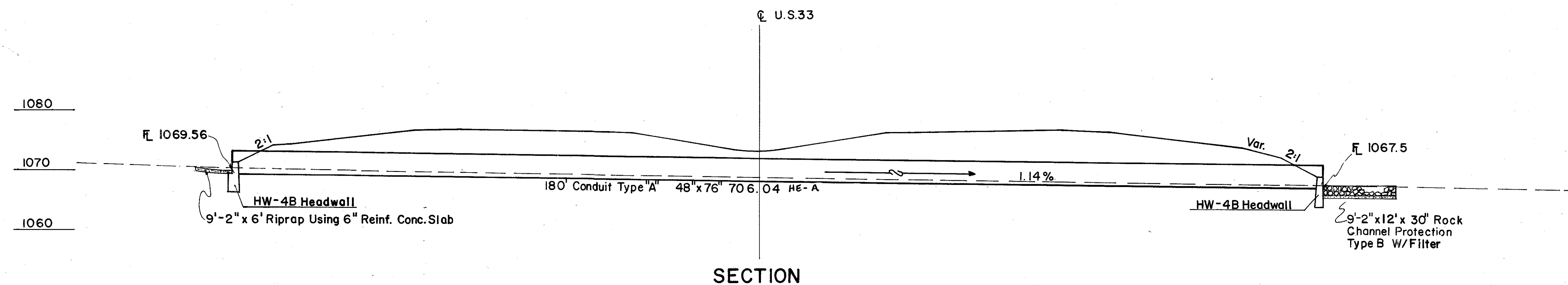
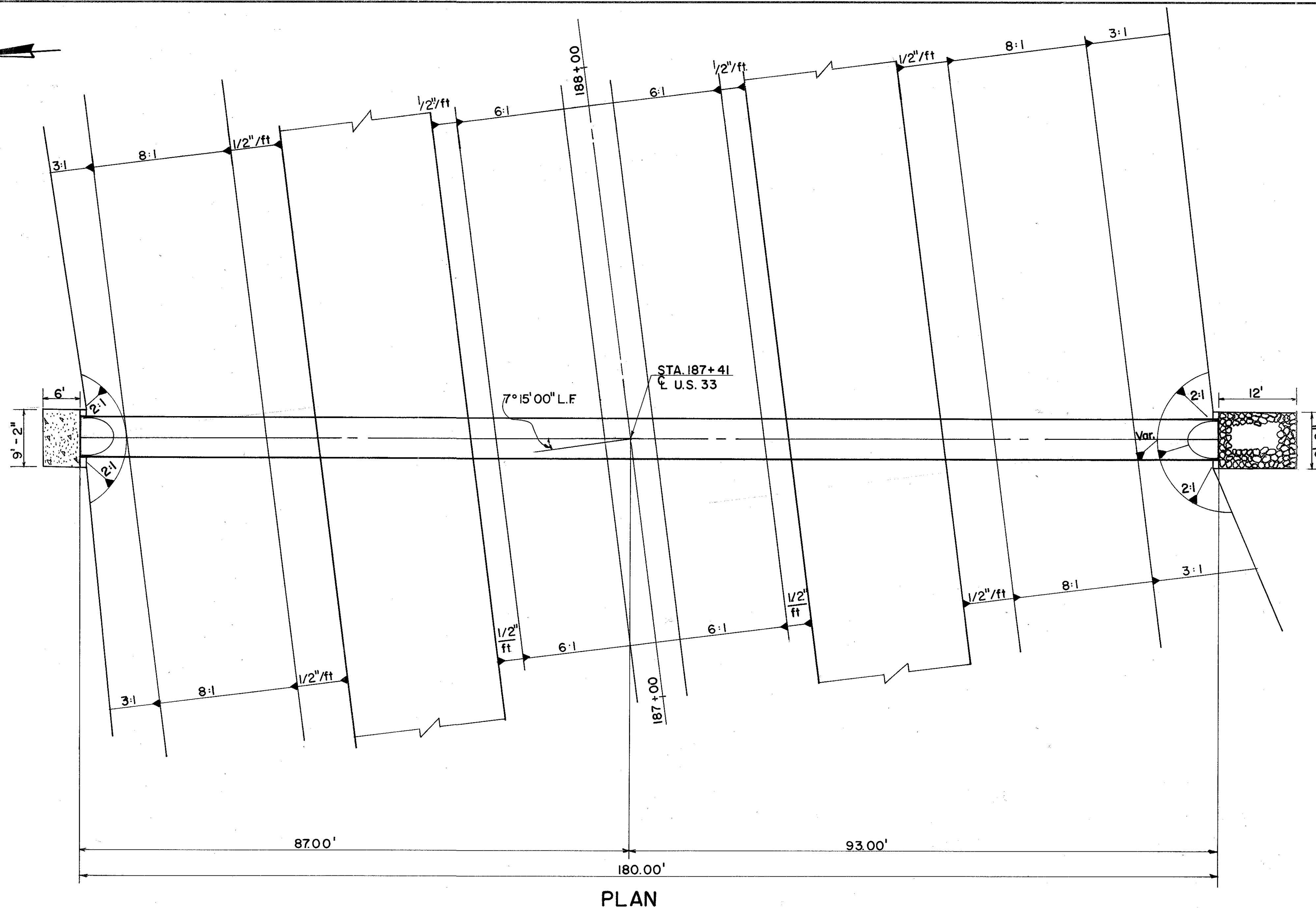
153
245

UNI-33-1.99

Drainage Area =	153.5	Ac.
Q ₅₀ =	146	C.F.S.
Q ₁₀₀ =	173	C.F.S.
HW ₁₀₀ =	1074.86	

ESTIMATED QUANTITIES

602	Concrete Masonry	3.10	Cu.Yds.
603	Conduit Type "A" 48"x76" 706.04 HE-A	180	Lin. ft.
601	Rock Channel Protection Type "B", W/Filter	10.2	Cu.Yds.
601	Riprap Using 6" Reinforced Concrete Slab	6.1	Sq.Yds.



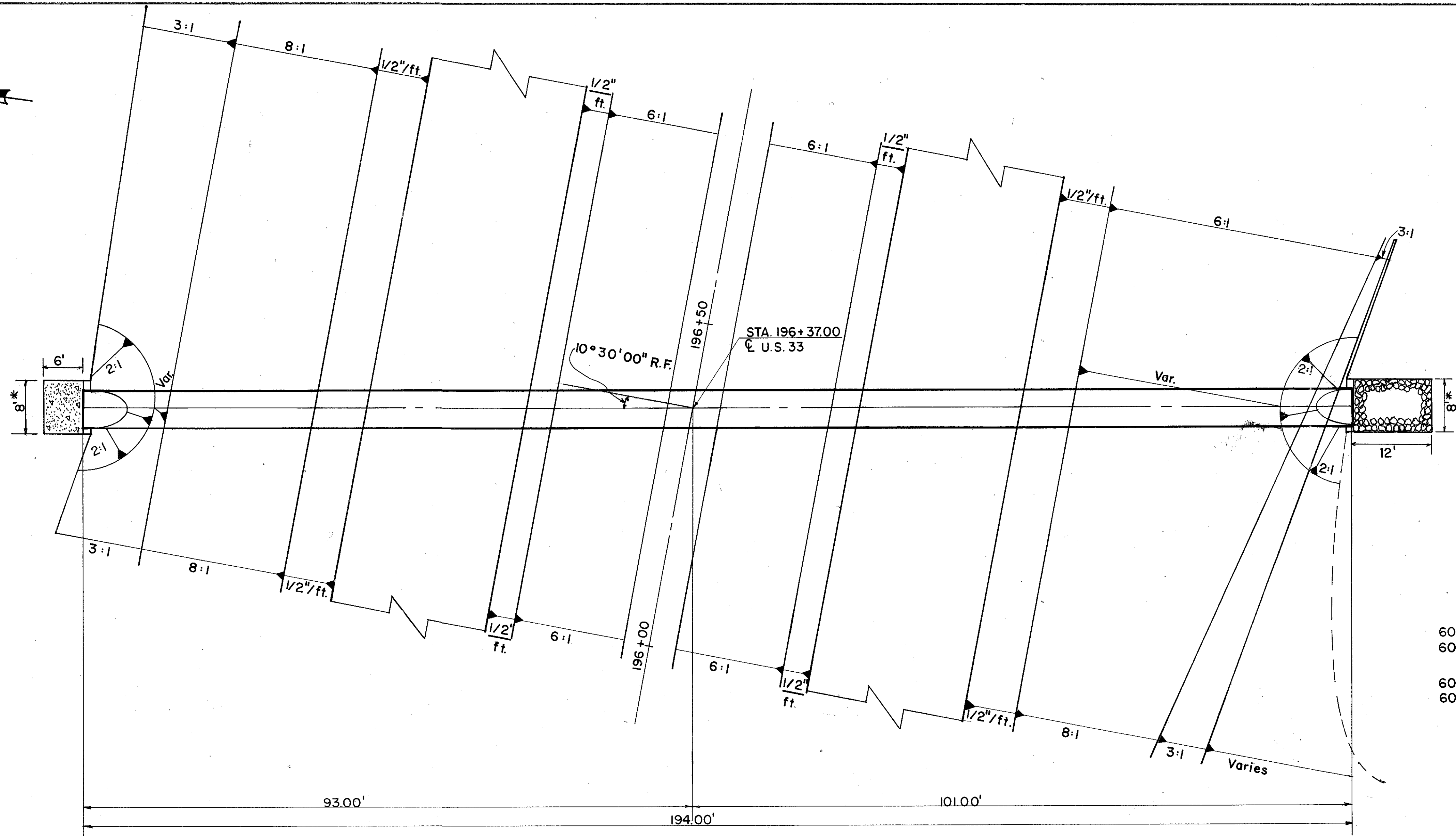
0 10 20 30
SCALE IN FEET

PARSONS BRINCKERHOFF QUADE & DOUGLAS
COLUMBUS, OHIO

CULVERT DETAILS

STA. 187+41 U.S. 33

Designed	Drawn	Traced	Checked	Reviewed	Date	Revised
	RSV					



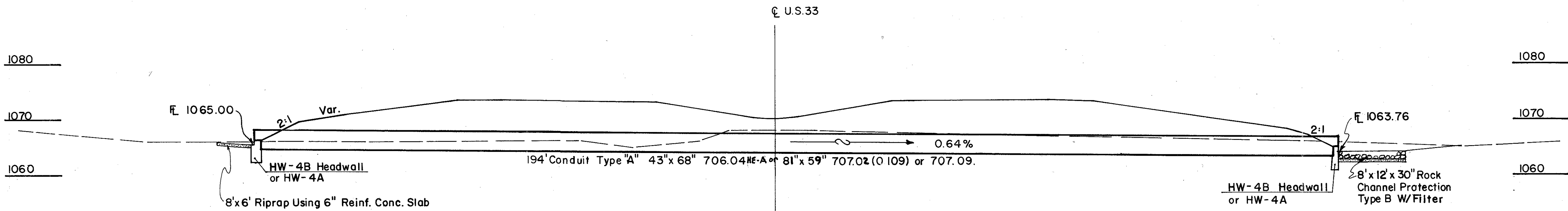
PLAN

Drainage Area =	59.7 Ac.
Q ₅₀ =	97 C.F.S.
Q ₁₀₀ =	115 C.F.S.
HW ₁₀₀ =	1069.30

* For HW-4A, use 12' - 4".

ESTIMATED QUANTITIES

602	Concrete Masonry	5.50 Cu.Yds.
603	Conduit Type "A" 43"x68" 706.04 HE-A or 81"x59" 707.02(0.109) or 707.09	194 Lin.Ft.
601	Rock Channel Protection, Type B, W/Filter	13.7 Cu.Yds.
601	Riprap Using 6" Reinforced Concrete Slab	8.2 Sq.Yds.



SECTION



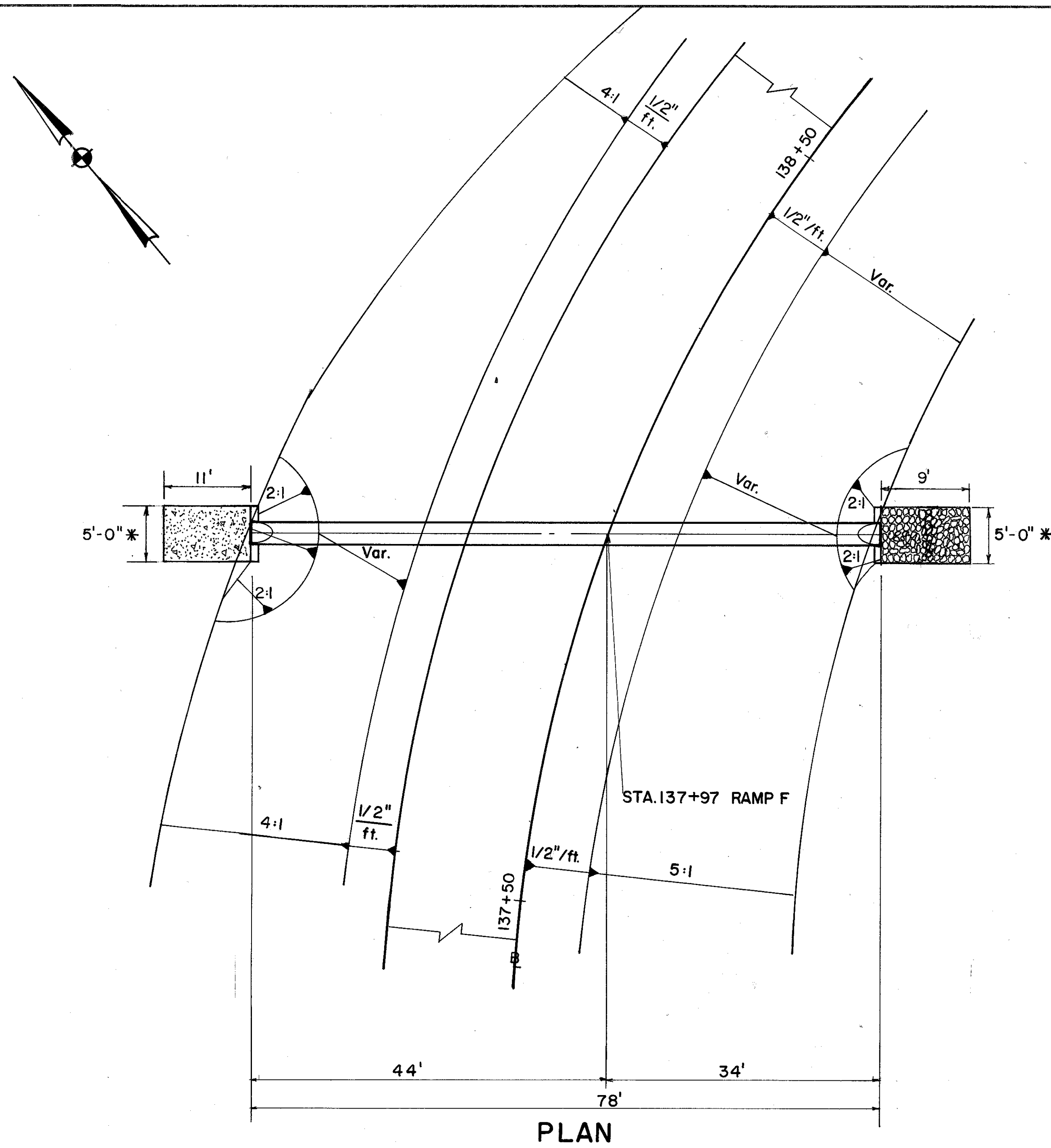
SCALE IN FEET

PARSONS BRINCKERHOFF QUADE & DOUGLAS
COLUMBUS, OHIO

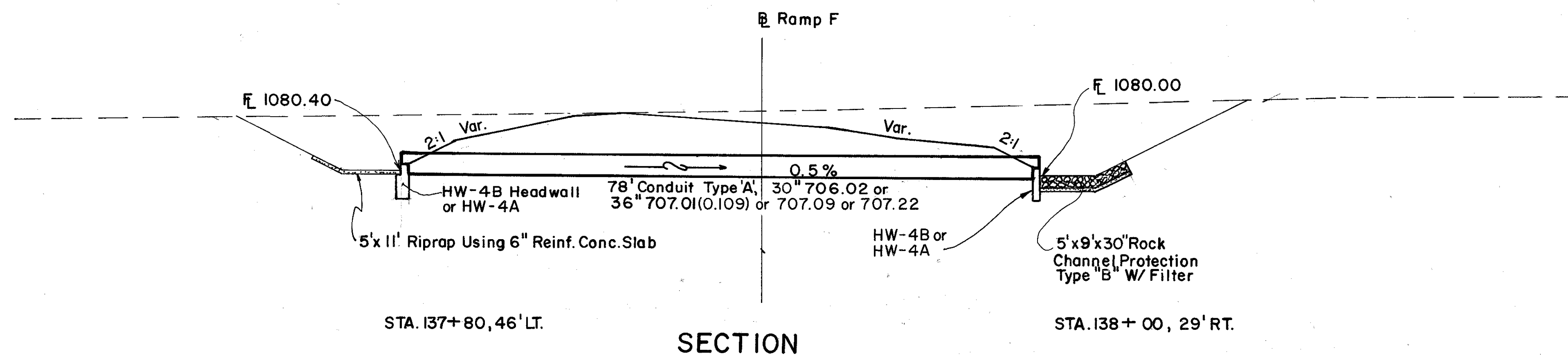
CULVERT DETAILS

STA. 196+37 U.S. 33

Designed	Drawn	Traced	Checked	Reviewed	Date	Revised
	RTY					



PLAN



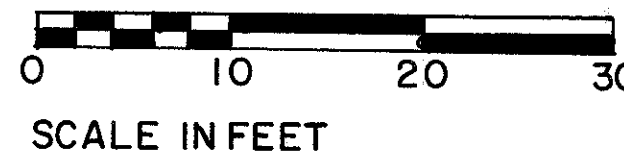
SECTION

Drainage Area =	12.54 Ac.
Q ₅₀ =	32.36 C.F.S.
Q ₁₀₀ =	36.68 C.F.S.
HW ₁₀₀ =	1084.41

* For HW-4A, use 6'-0"

ESTIMATED QUANTITIES

602	Concrete Masonry	1.74	Cu.Yds.
603	Conduit Type "A" 30" 706.02 or 36" 707.01(0.109) or 707.09 or 707.22	78	Lin.Ft.
601	Rock Channel Protection Type "B", W/ Filter	5.0	Cu.Yds.
601	Riprap Using 6" Reinforced Concrete Slab	7.3	Sq.Yds.



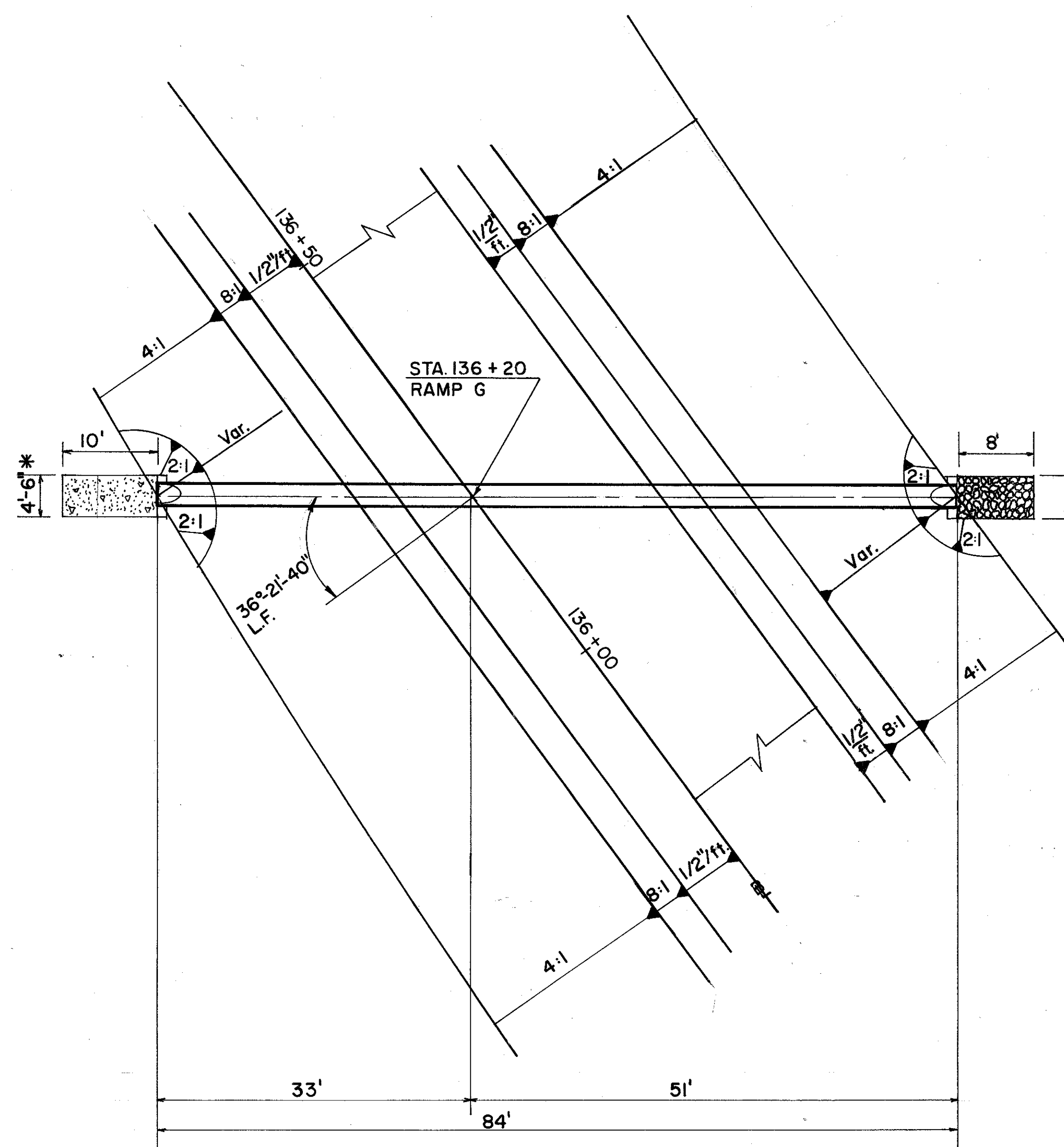
PARSONS BRINCKERHOFF QUADE & DOUGLAS
COLUMBUS, OHIO

CULVERT DETAILS

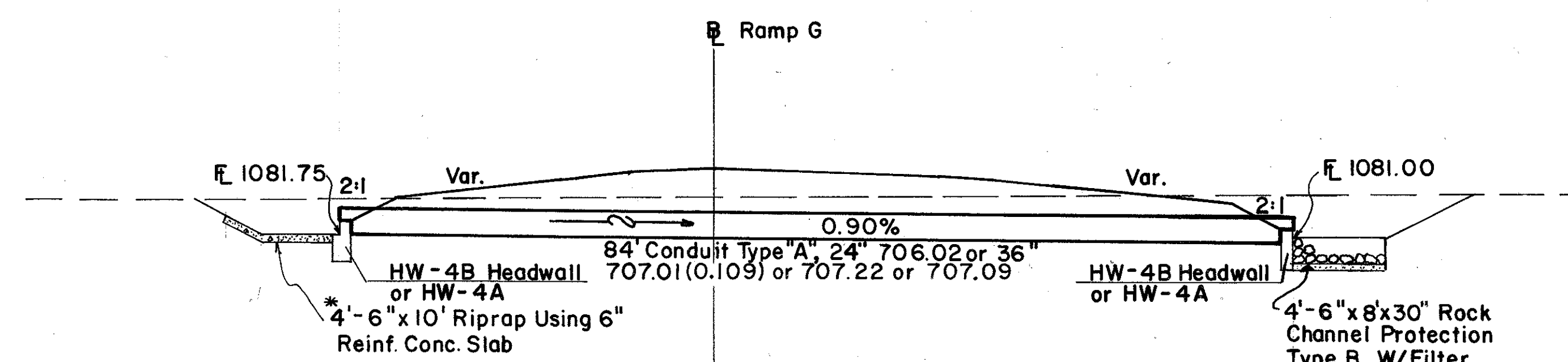
STA. 137+92 RAMP F

Designed	Drawn	Traced	Checked	Reviewed	Date	Revised
	RY					

UNI-33-1.99



PLAN



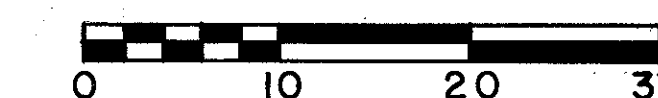
SECTION

Drainage Area =	8.42	Ac.
Q ₅₀ =	23.88	C.F.S.
Q ₁₀₀ =	27.38	C.F.S.
HW ₁₀₀	1085.95	

* For HW-4A, use 6'-0"

ESTIMATED QUANTITIES

602	Concrete Masonry	1.74	Cu.Yds.
603	Conduit Type "A", 24" 706.02 or 36" 707.01(0.109) or 707.22 or 707.09	84	Lin Ft.
601	Rock Channel Protection Type "B", W/Filter	4.4	Cu.Yds.
601	Riprap Using 6" Reinforced Concrete Slab	6.7	Sq.Yds.



SCALE IN FEET

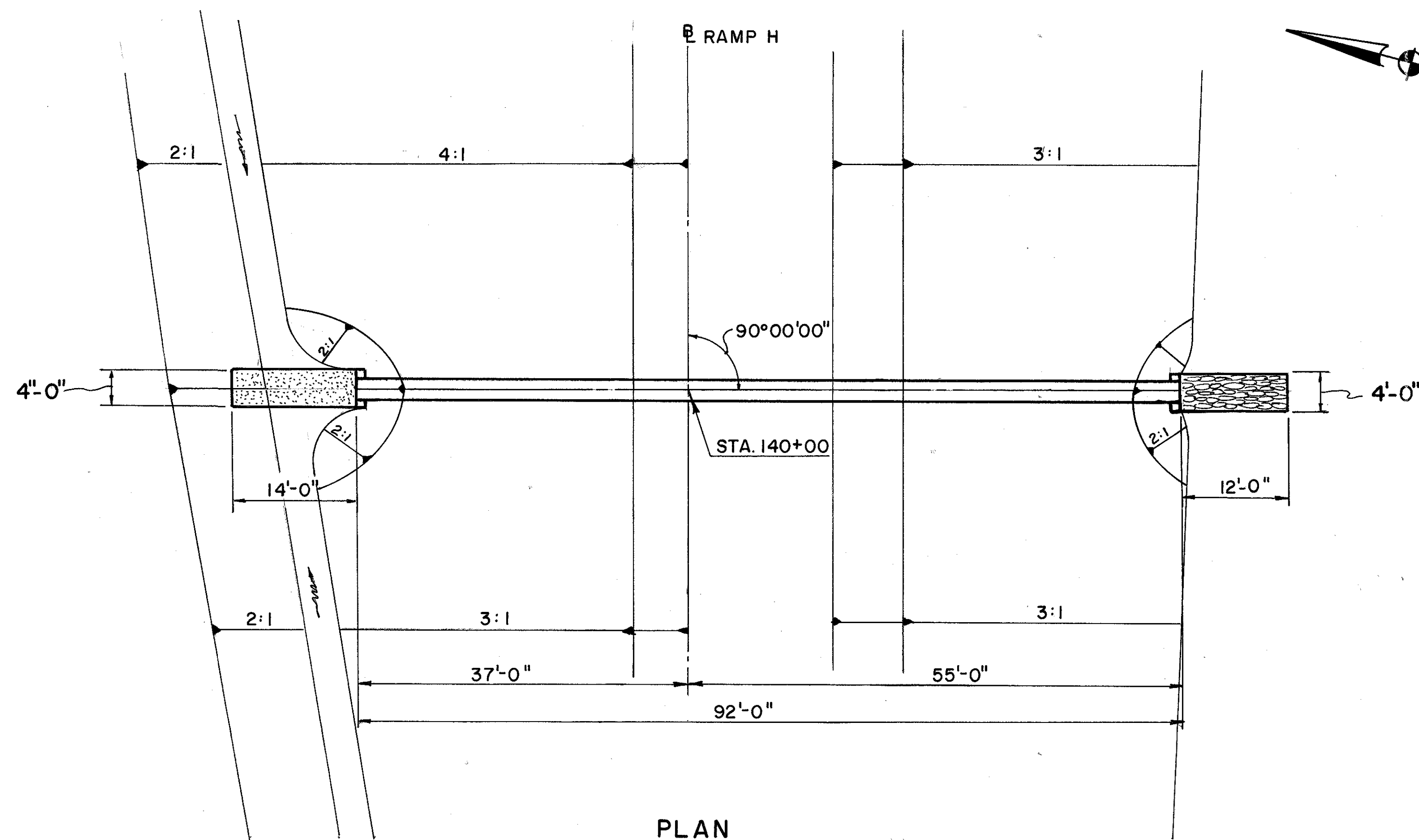
PARSONS BRINCKERHOFF QUADE & DOUGLAS
COLUMBUS, OHIO

CULVERT DETAILS

STA. 136+20 RAMP G

Designed	Drawn	Traced	Checked	Reviewed	Date	Revised
	R.Y.					

UNI - 33 - 1.99

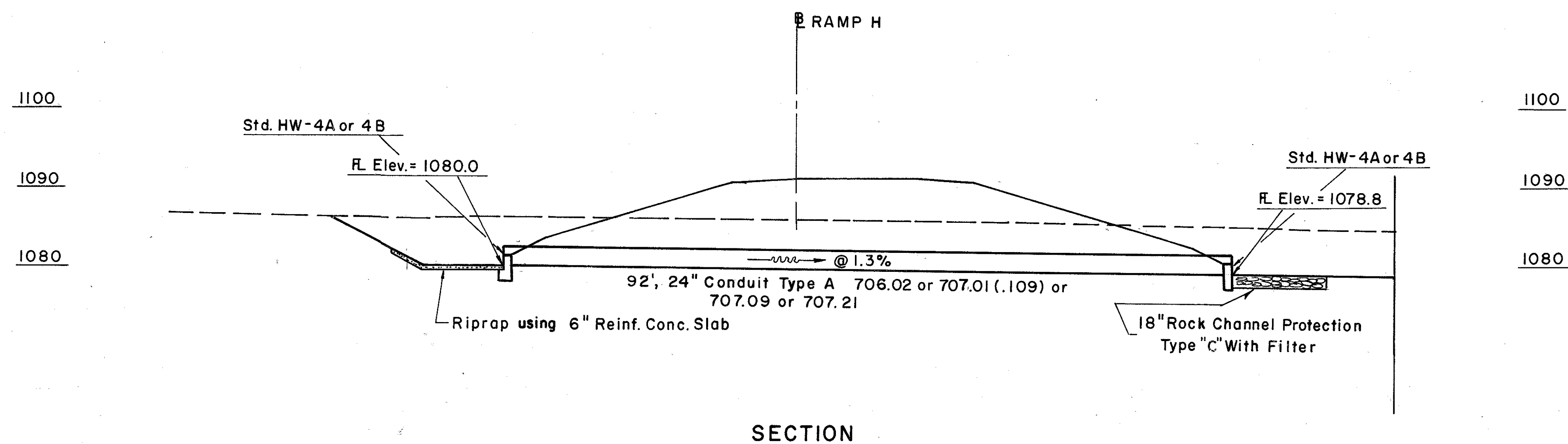


PLAN

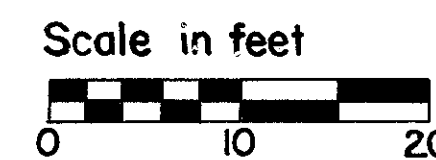
Drainage Area = 8.22 Ac.
Q(50) = 21.6 cfs
Q(100) = 24.3 cfs
HW(100) = 1085.00

ESTIMATED QUANTITIES

- 602 Concrete Masonry 1.07 cu. yds.
- 603 Conduit Type 'A', 24" 706.02 or 707.01 (.109) or 707.09 or 707.21 92 lin. ft.
- 601 Rock Channel Protection Type 'C', With Filter 2.7 cu. yds.
- 601 Riprap Using 6" Reinforced Concrete Slab 6.2 sq. yds.



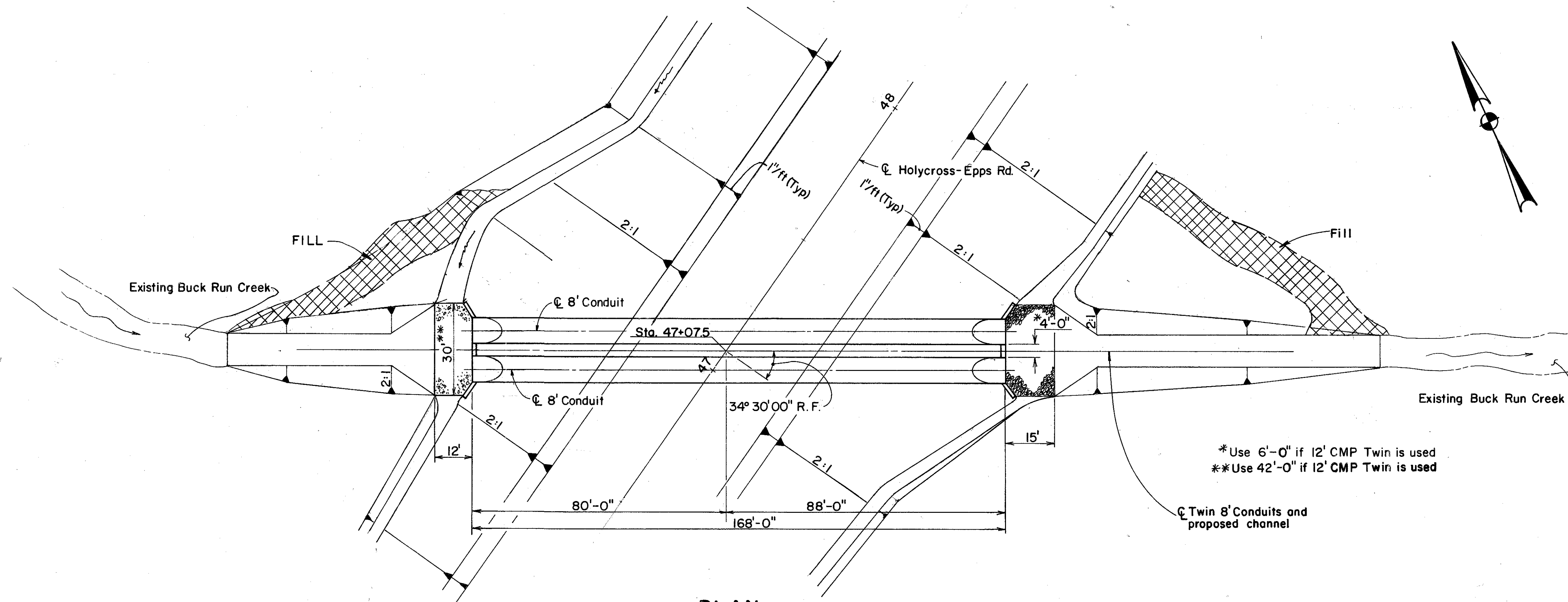
SECTION



PARSONS BRINCKERHOFF QUADE & DOUGLAS
COLUMBUS, OHIO

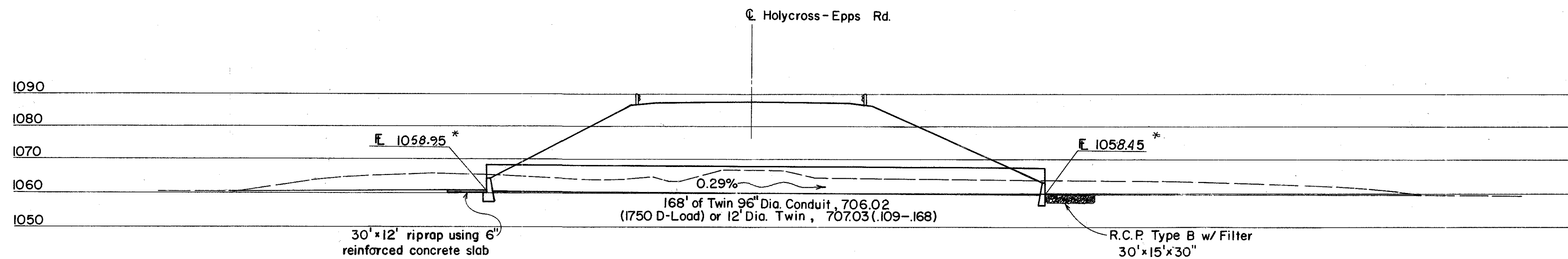
CULVERT DETAILS
STA. 140+00 RAMP H

Designed	Drawn	Traced	Checked	Reviewed	Date	Revised



PLAN

NOTE: Fill and cut quantities are carried under Holycross - Epps cross sections.



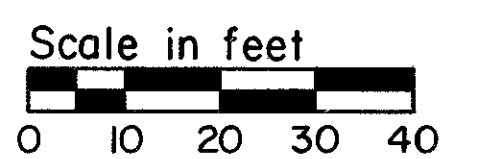
SECTION

Drainage Area = 1530 Ac.
Q(50) = 625 cfs
Q(100) = 723 cfs
HW(100) = 1067.77

* flowline depressed 1.3' below streambed.

ESTIMATED QUANTITIES

601 Rock Channel Protection Type 'B', w/filler	56.6 cu.yds.
601 Riprap Using 6" Reinforced Concrete Slab	54.9 sq.yds.
602 Concrete Masonry	41.0 cu.yds.
603 Conduit Type 'A', Twin 96" 706.02 (1750 D-Load) or Twin 144" 707.03 (.109-.168)	336 lin.ft.



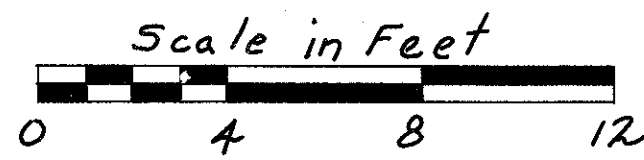
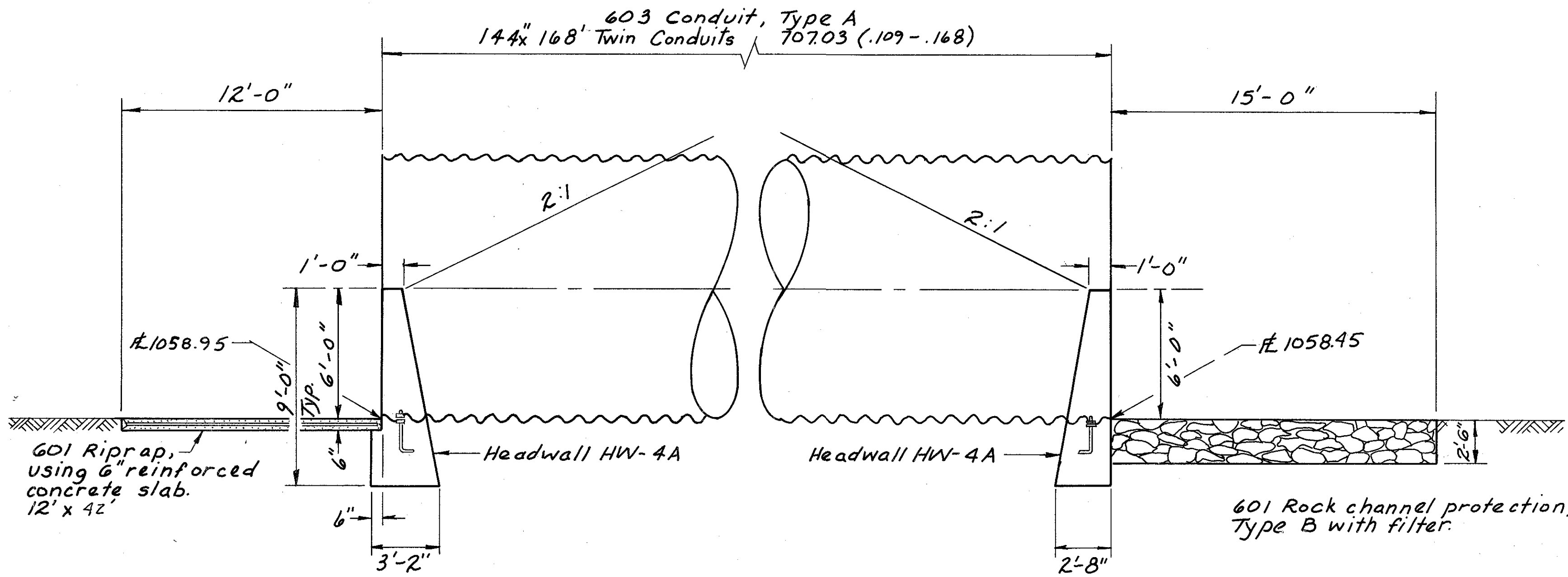
PARSONS BRINCKERHOFF QUADE & DOUGLAS
COLUMBUS, OHIO

CULVERT DETAILS

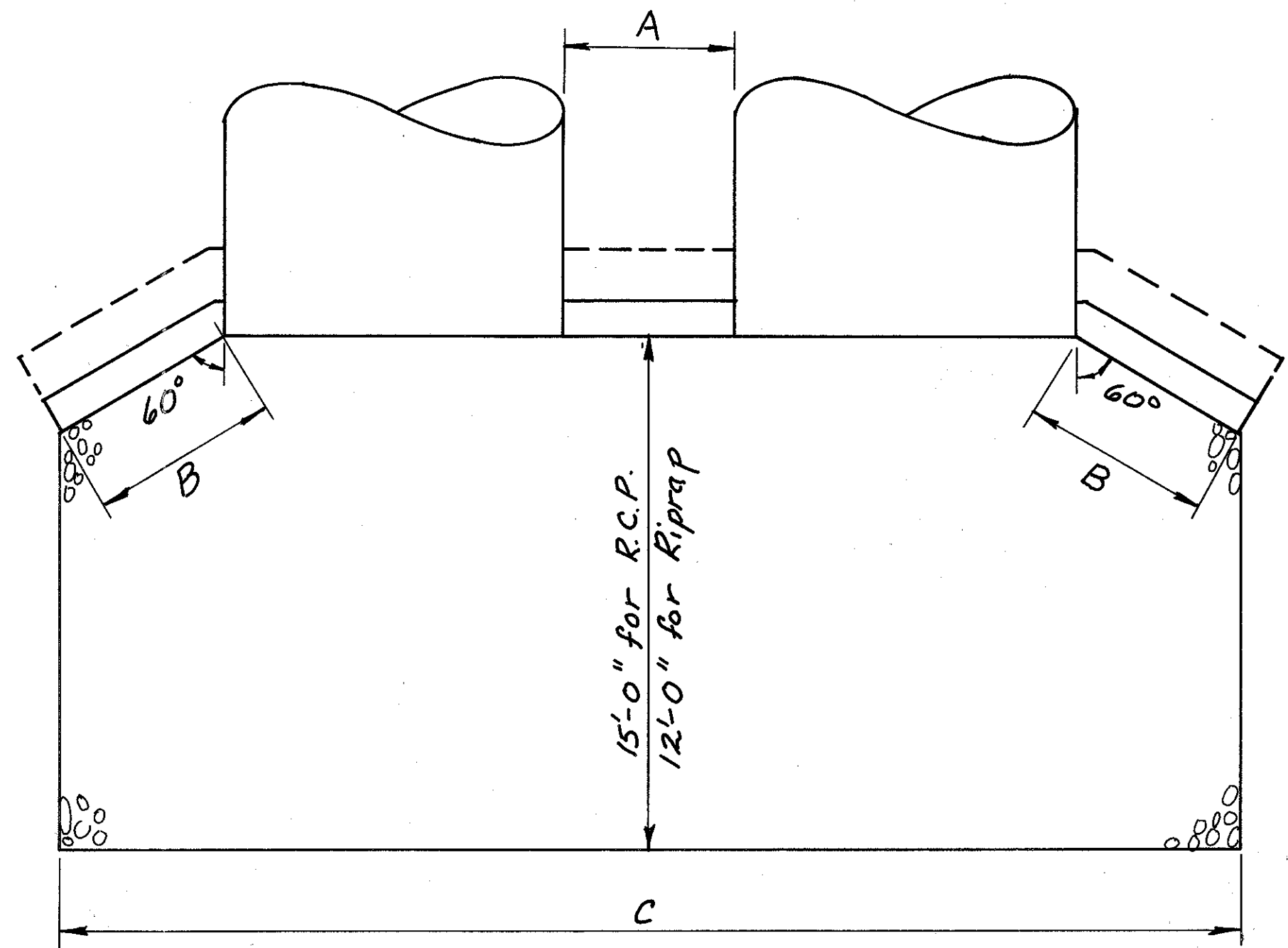
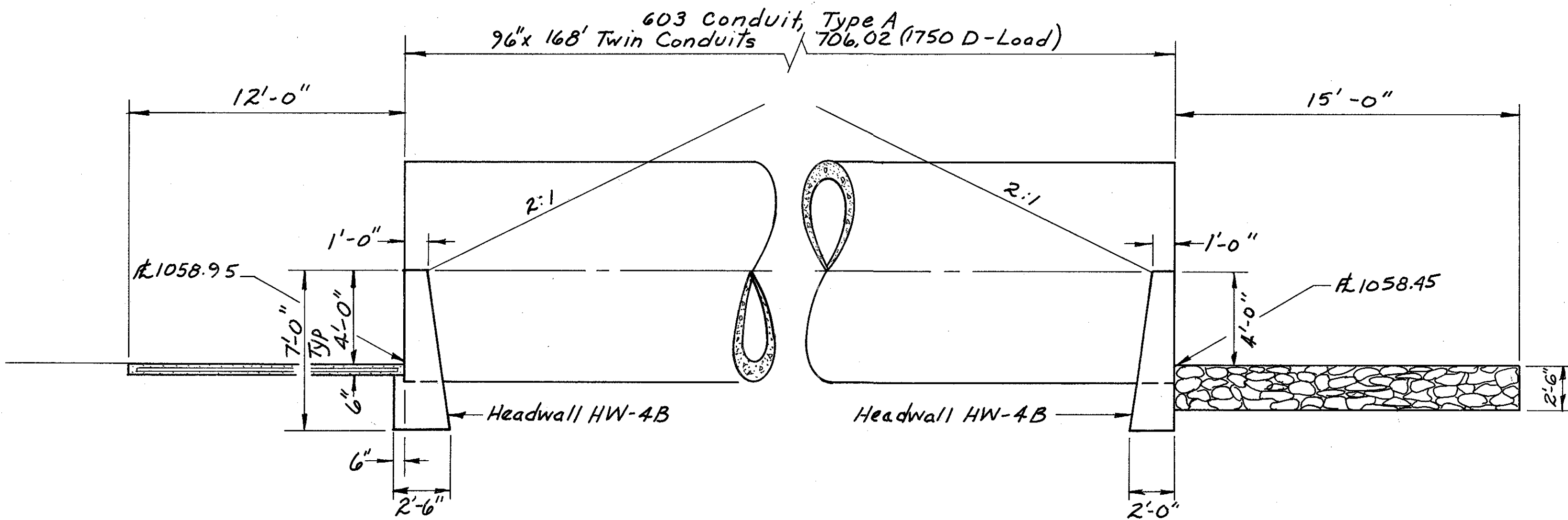
STA. 47+07.5 HOLYCROSS-EPPS RD.

Designed	Drawn	Traced	Checked	Reviewed	Date	Revised

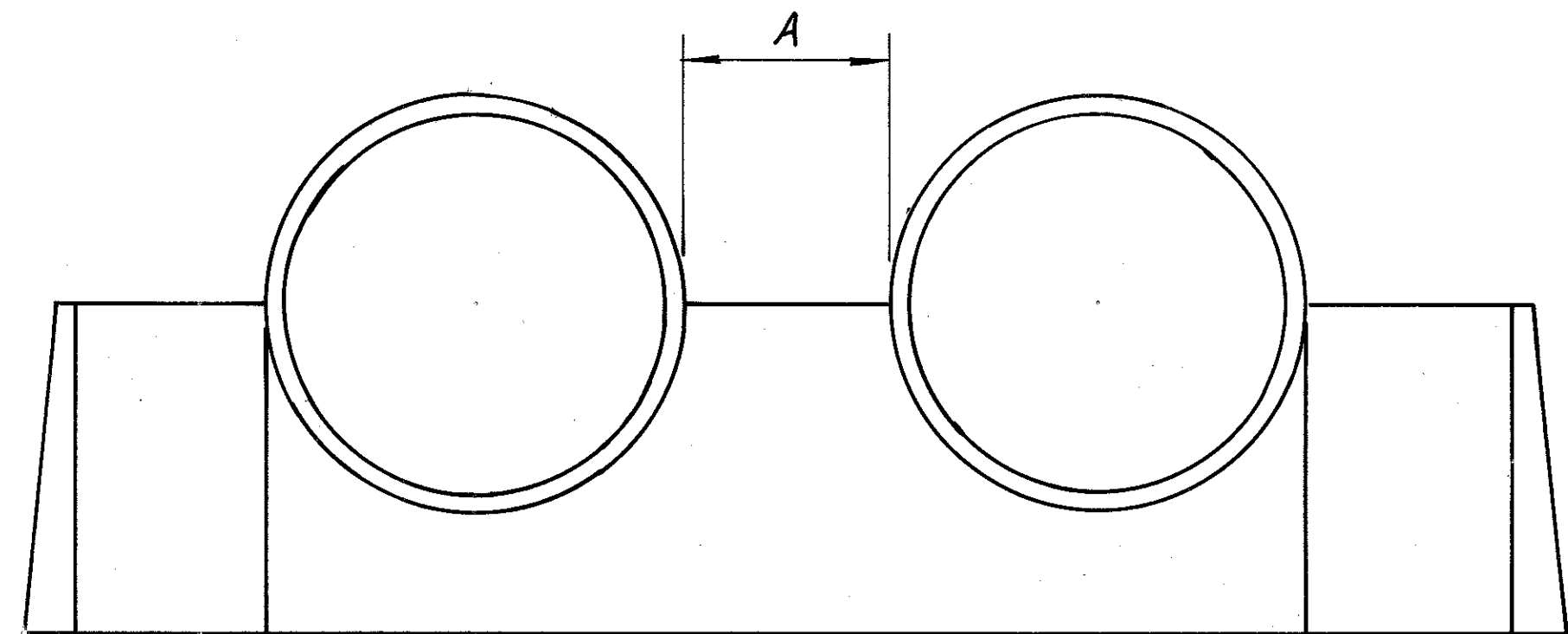
UNI - 33 - 1.99



For headwall details not shown see Standard Drawings HW-4A and HW-4B.
Anchor bolts shall meet the requirements specified on HW-4A, and shall be paid for at the unit price bid for 603 Conduit.



PLAN VIEW
Not to Scale



ELEVATION
Not to Scale

PIPE SIZE	A	B	C
96"	4'-0"	4'-8"	30'-0"
144"	6'-0"	6'-6"	42'-0"

Item 602 - Concrete Masonry - 41.0 Cu. Yds. - Carried to Sheet 160

PARSONS BRINCKERHOFF QUADE & DOUGLAS
COLUMBUS, OHIO

HEADWALL DETAILS

TWIN CULVERT AT
STA. 47+07.50
HOLYCROSS - EPPS RD.

Designed	Drawn	Traced	Checked	Reviewed	Date	Revised

CULVERT SUB-SUMMARY

F.H.W.A. REGION	STATE	PROJECT	
5	OHIO		



UNI-33-1.99

Item Description Sheet No.		601 Riprap Using 6" Reinforced Concrete Slab	601 Rock Channel Protection, Type "B", With Filter	601 Rock Channel Protection, Type "C", With Filter	602 Concrete Masonry	603 12x6" Precast Reinforced Conc. Box Sections (per 55-955) C-789 Table 2, As per plan @	603 Conduit Type "A", 21" 706.02 (2000 D-Load) or 30" 707.01 (0.109) or 707.09 or 707.21	603 Conduit Type "A", 24" 706.02 or 36" 707.01 (0.109) or 707.22 or 707.09 or 707.22	603 Conduit Type "A", 30" 706.02 or 36" 707.01 (0.109) or 707.09 or 707.22	603 Conduit Type "A", 42" 706.02 or 54" 707.02 (0.109) or 707.09 or 707.22	603 Conduit Type "A", 43" x 68" 706.04 HE-A or 48" x 59" 707.02 (0.109) or 707.09	603 Conduit Type "A", 48" x 76" 706.04 HE-A	603 Conduit Type "A", Twin 36" 706.02 (1750 D-Load) or Twin 44" 707.03 (.109 - .168)	603 Conduit Type "A", 24" 706.02 or 707.01 (.109) or 707.09 or 707.21						
Unit	LBS.	SQ. YD.	CU. YD.	CU. YD.	CU. YD.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.						
149		10.3	12.8		3.0					212										
150		16.8	14.0		20.00	252														
153		6.1	10.2		3.10							180								
154		8.2	13.7		5.50						194									
155		4.5	8.3		1.74				258											
156		7.3	5.0		1.74				78											
157		6.7	4.4		1.74			84												
158		6.2		2.7	1.07									92						
159		5.6		4.2	1.39		150													
160		54.9	56.6		41.00								336							
TOTALS		126.6	125.0	6.9	80.3	252	150	84	336	212	194	180	336	92						

© Design Earth Cover 4 ft.

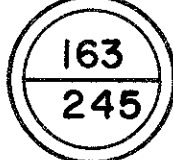
PARSONS BRINCKERHOFF QUADE & DOUGLAS
COLUMBUS, OHIO

CULVERT SUB-SUMMARY

Designed	Drawn	Traced	Checked	Reviewed	Date	Revised

MAINTENANCE OF TRAFFIC NOTES

FED. RD. DIVISION	STATE	PROJECT	
	OHIO		



UNI-33-1.99

PLACEMENT OF ASPHALT CONCRETE - TWO-WAY TRAFFIC SHALL BE MAINTAINED AT ALL TIMES EXCEPT THAT ONE-WAY TRAFFIC WILL BE PERMITTED FOR MINIMUM PERIODS OF TIME CONSISTENT WITH THE REQUIREMENTS OF THE SPECIFICATIONS FOR PROTECTION OF COMPLETED ASPHALT CONCRETE COURSES.

ALTERNATE METHODS - IF THE CONTRACTOR SO ELECTS, HE MAY SUBMIT ALTERNATE METHODS FOR THE MAINTENANCE OF TRAFFIC, PROVIDED THE INTENT OF THE ABOVE PROVISIONS IS FOLLOWED AND 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.

~~ITEM 614 - MAINTAINING TRAFFIC - THE CONTRACTOR SHALL MAINTAIN TRAFFIC AT ALL TIMES IN ACCORDANCE WITH THE REQUIREMENTS OF SPEC. 614. TWO-WAY TRAFFIC SHALL BE MAINTAINED AT ALL TIMES BY USE OF THE EXISTING PAVEMENT, THE COMPLETED PAVEMENT, AND TEMPORARY ROADWAYS SURFACED WITH 410 AGGREGATE AND STABILIZED WITH ITEM 616 CALCIUM CHLORIDE. THE LIMITS AND DURATION OF USE OF TEMPORARY ROADWAYS SHALL BE HELD TO AN ABSOLUTE MINIMUM, AND IN ALL CASES SHALL BE SUBJECT TO THE APPROVAL OF THE ENGINEER.~~

ITEM 614 - MAINTAINING TRAFFIC - THE CONTRACTOR SHALL MAINTAIN TRAFFIC AT ALL TIMES IN ACCORDANCE WITH THE REQUIREMENTS OF SPEC. 614. TWO-WAY TRAFFIC SHALL BE MAINTAINED AT ALL TIMES BY USE OF THE EXISTING PAVEMENT, THE COMPLETED PAVEMENT, AND TEMPORARY ROADWAYS SURFACED WITH 410 AGGREGATE AND STABILIZED WITH ITEM 616 CALCIUM CHLORIDE. THE LIMITS AND DURATION OF USE OF TEMPORARY ROADWAYS SHALL BE HELD TO AN ABSOLUTE MINIMUM, AND IN ALL CASES SHALL BE SUBJECT TO THE APPROVAL OF THE ENGINEER.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY TO BE USED AS DIRECTED BY THE ENGINEER FOR THE MAINTENANCE OF TRAFFIC.

ITEM 410	TRAFFIC COMPACTED SURFACE TYPE A	43 CU. YD.
ITEM 616	CALCIUM CHLORIDE	10 TONS
ITEM 616	WATER	100 M-GALS.
<i>ITEM 615 TEMPORARY ROADS</i>		<i>LUMP</i>

SEPARATE PAYMENT SHALL BE MADE FOR ITEMS 410, AND 616 NOTED ABOVE. ALL OTHER WORK REQUIRED FOR TRAFFIC MAINTENANCE SHALL BE INCLUDED WITH PAYMENT FOR ITEM 614 MAINTAINING TRAFFIC.

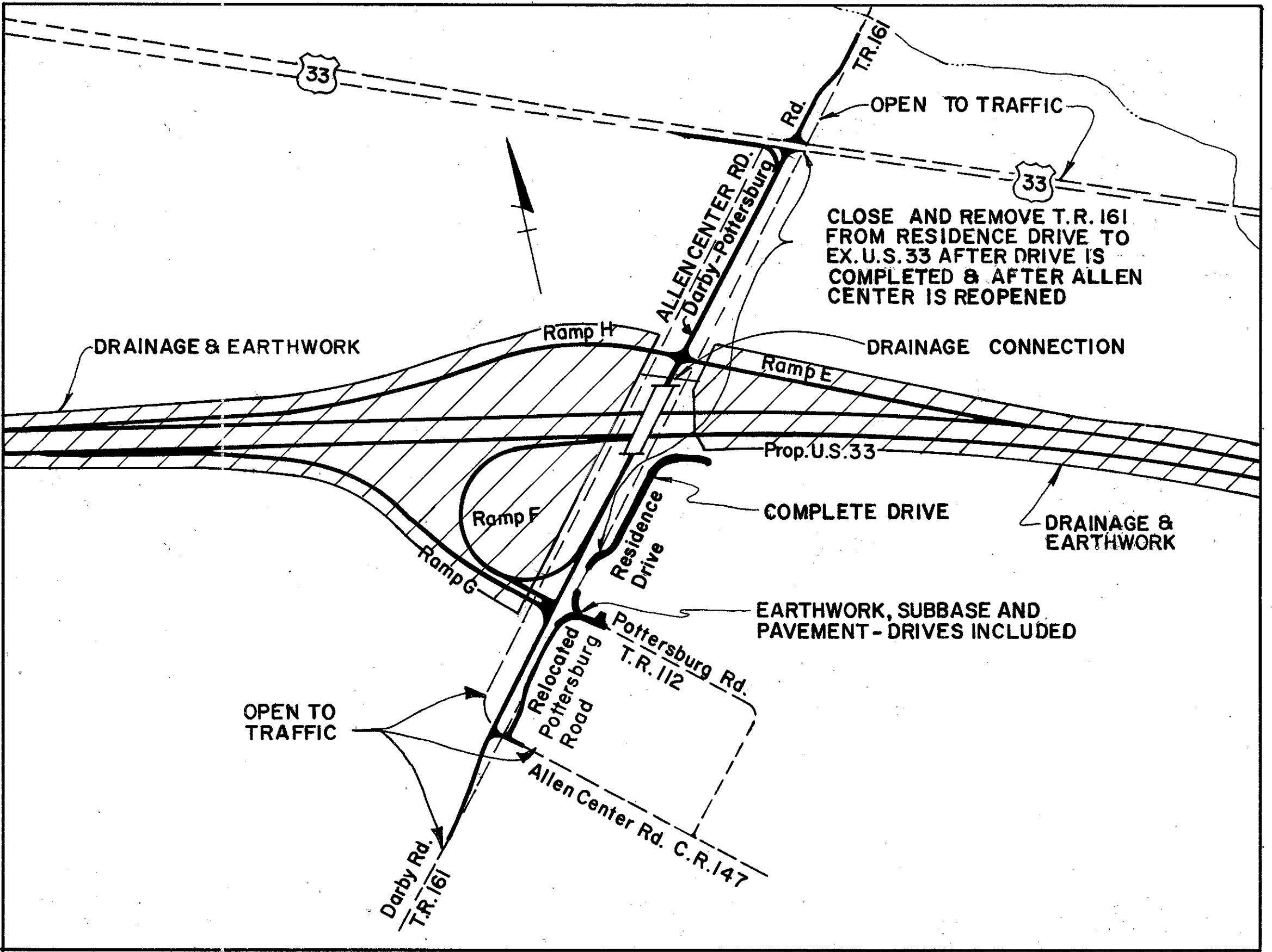
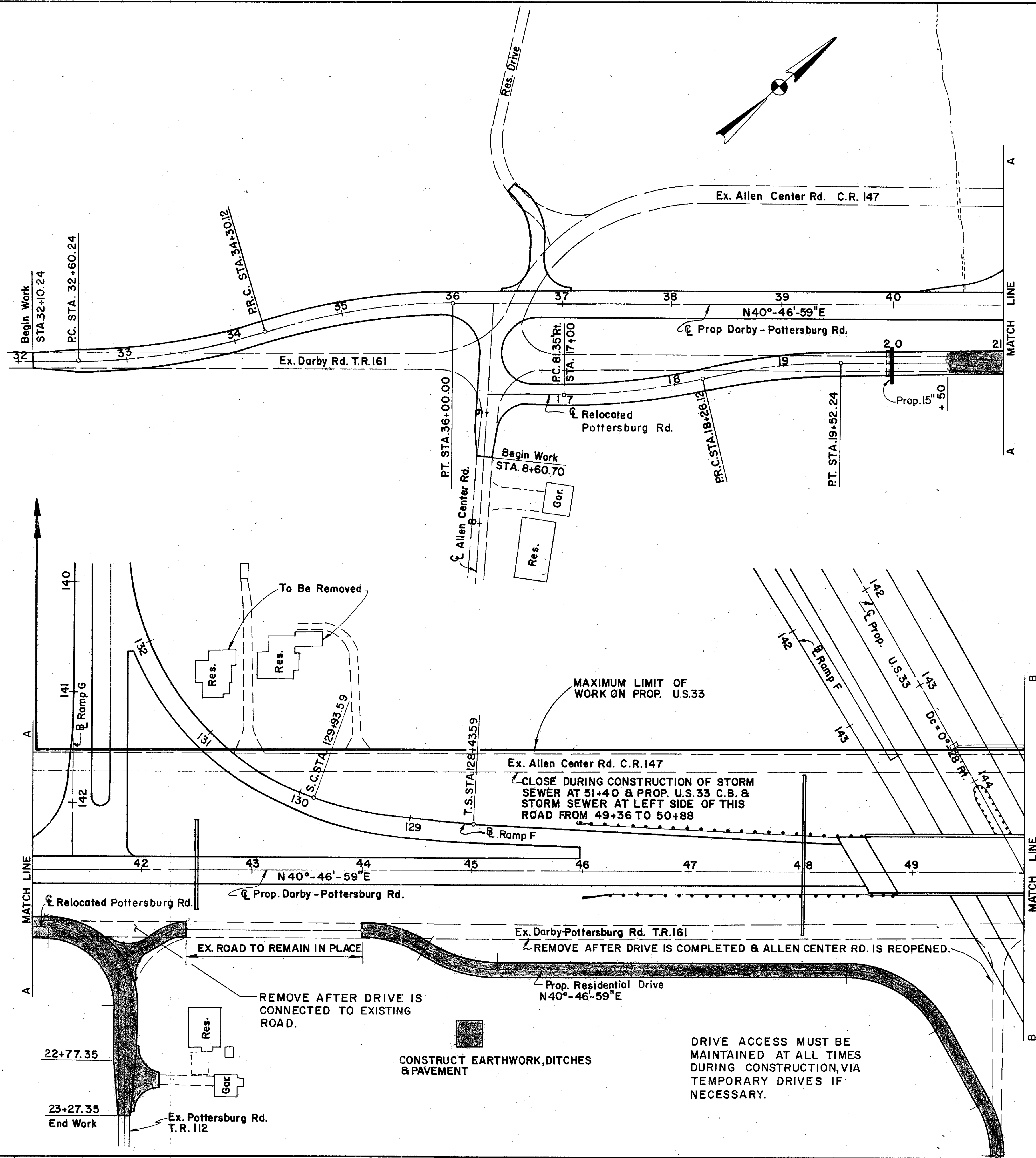
TRENCH FOR WIDENING - TRENCH EXCAVATION FOR BASE WIDENING SHALL BE ONLY ON ONE SIDE OF THE PAVEMENT AT A TIME. THE OPEN TRENCH SHALL BE ADEQUATELY MAINTAINED AND PROTECTED WITH DRUMS OR BARRICADES AT ALL TIMES. PLACEMENT OF PROPOSED SUBBASE AND BASE MATERIAL SHALL FOLLOW AS CLOSELY AS POSSIBLE BEHIND THE EXCAVATION OPERATIONS. THE LENGTH OF WIDENING TRENCH WHICH IS OPEN AT ANY ONE TIME SHALL BE HELD TO A MINIMUM AND SHALL AT ALL TIMES BE SUBJECT TO APPROVAL OF THE ENGINEER.

CONTRACTOR'S MAINTENANCE RESPONSIBILITY - ON THIS PROJECT, THE CONTRACTOR'S RESPONSIBILITY FOR MAINTENANCE OF THE EXISTING PAVEMENT, PER ITEM 614, SHALL BE LIMITED TO THOSE PORTIONS OF THE EXISTING HIGHWAY LYING WITHIN THE PROPOSED WORK LIMITS. NECESSARY UPKEEP OF THE ADJOINING PAVEMENTS WHICH ARE USED FOR TRAFFIC MAINTENANCE BUT ARE OUTSIDE OF THE RIGHT-OF-WAY FOR THE PROPOSED HIGHWAY RELOCATION WILL BE PROVIDED BY OTHERS.

PAINT - THE CONTRACTOR SHALL PAINT DOUBLE SOLID YELLOW CENTER LINES ON ALL TEMPORARY ROADS. PAINT SHALL MEET THE REQUIREMENTS OF SECTION 621, CONSTRUCTION AND MATERIAL SPECIFICATIONS. ALL COSTS FOR THIS WORK SHALL BE PAID FOR AS INDICATED IN THE "614 WORK ZONE PAVEMENT MARKINGS" NOTE.

PAVEMENT MARKINGS SHALL BE INSTALLED ON ALL NEWLY PAVED AREAS BEFORE THEY ARE OPENED TO TRAFFIC.

PARSONS BRINCKERHOFF QUADE & DOUGLAS COLUMBUS, OHIO						
1 / 10						
MAINTENANCE OF TRAFFIC NOTES						
Designed	Drawn	Traced	Checked	Reviewed	Date	Revised



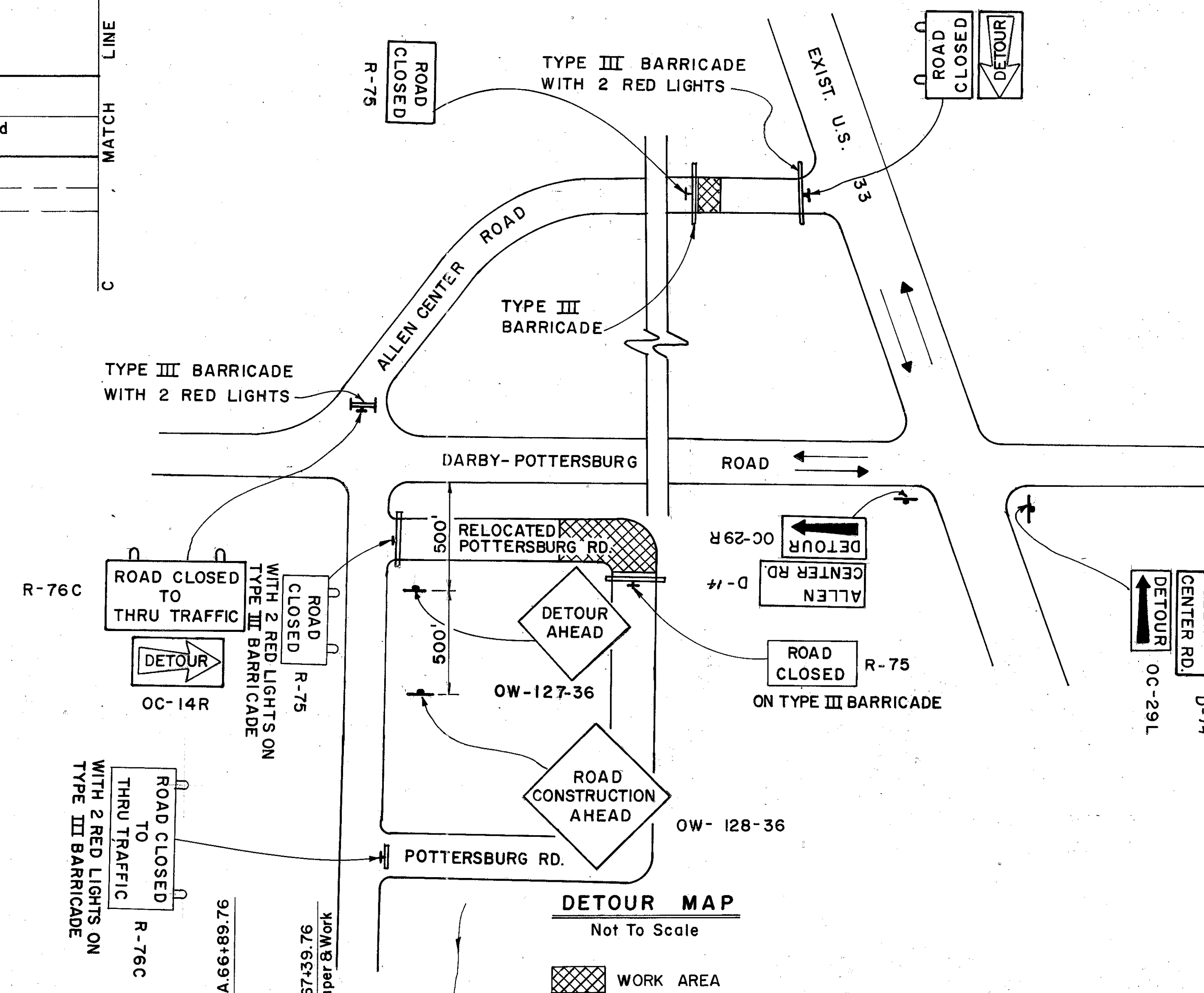
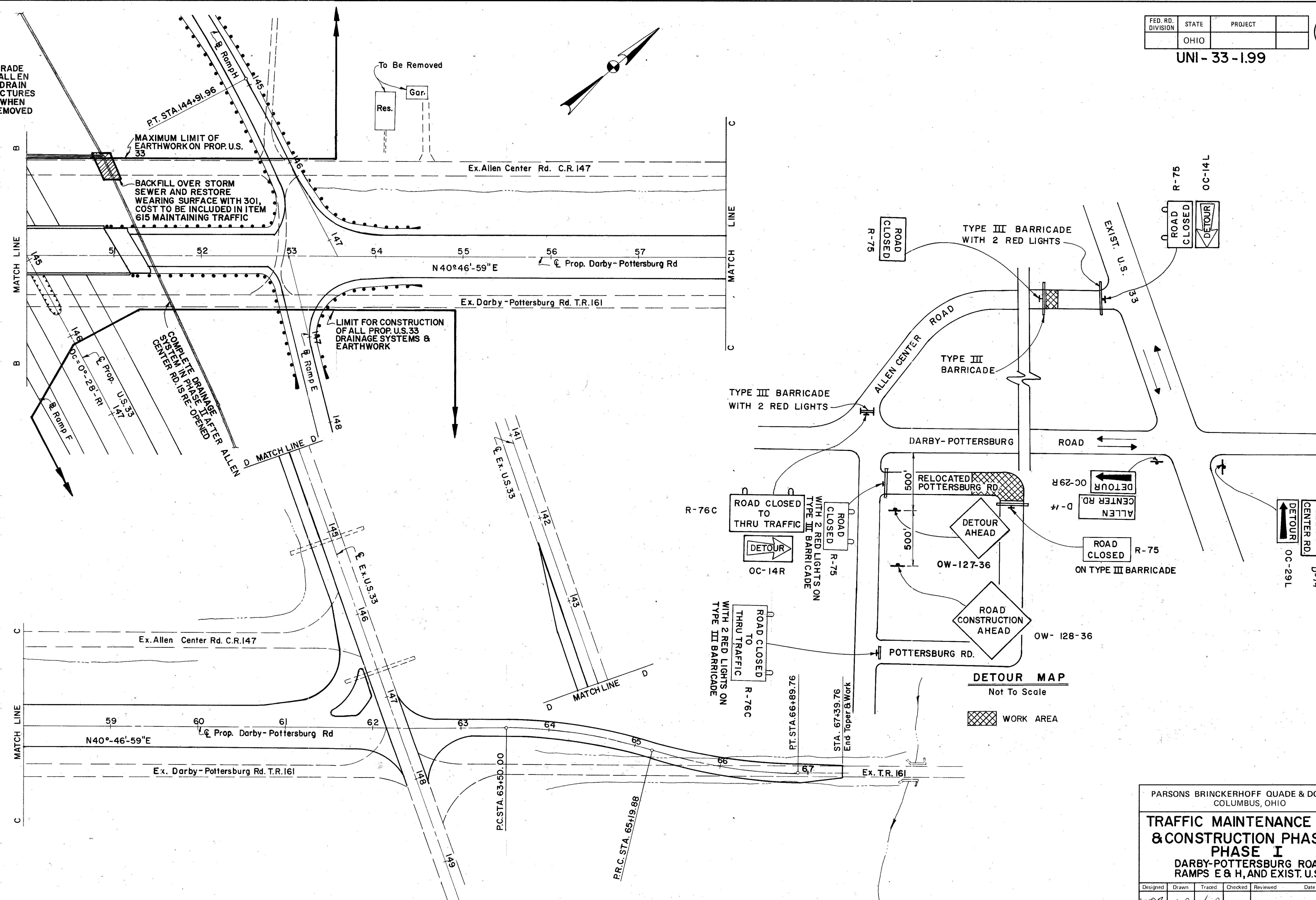
TEMPORARILY CLOSE ALLEN CENTER ROAD DURING DRAINAGE WORK. DETOUR TRAFFIC ONTO DARBY-POTTERSBURG ROAD.

DRAIN POND ON HOLYCROSS - EPPS RD. INTO EXISTING BUCK RUN CREEK.

FOR DARBY POTTERSBURG ROAD DETOUR SIGNING SEE PHASE II TRAFFIC MAINTENANCE PLAN.

FOR ALLEN CENTER ROAD DETOUR SIGNING SEE NEXT SHEET.

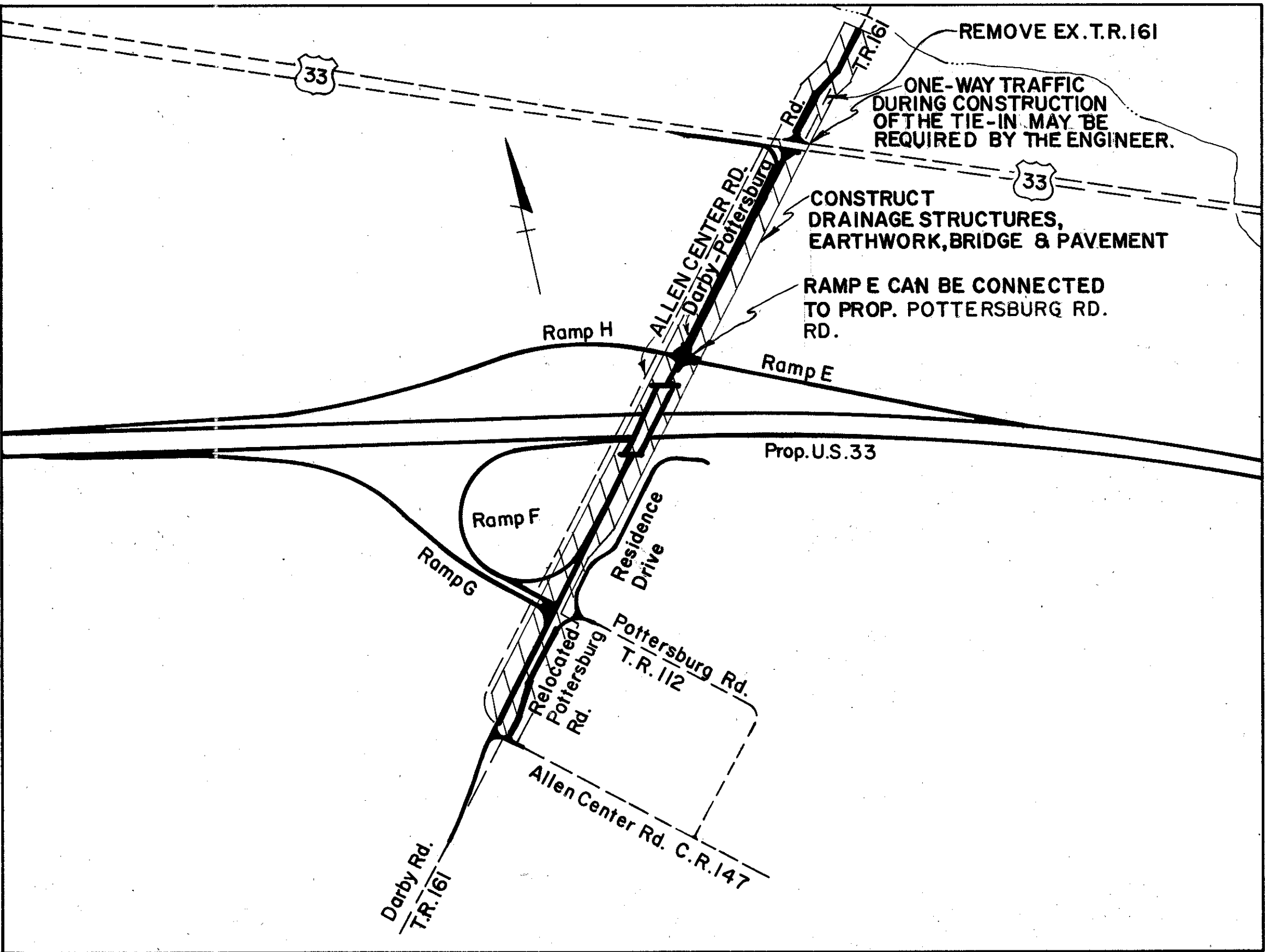
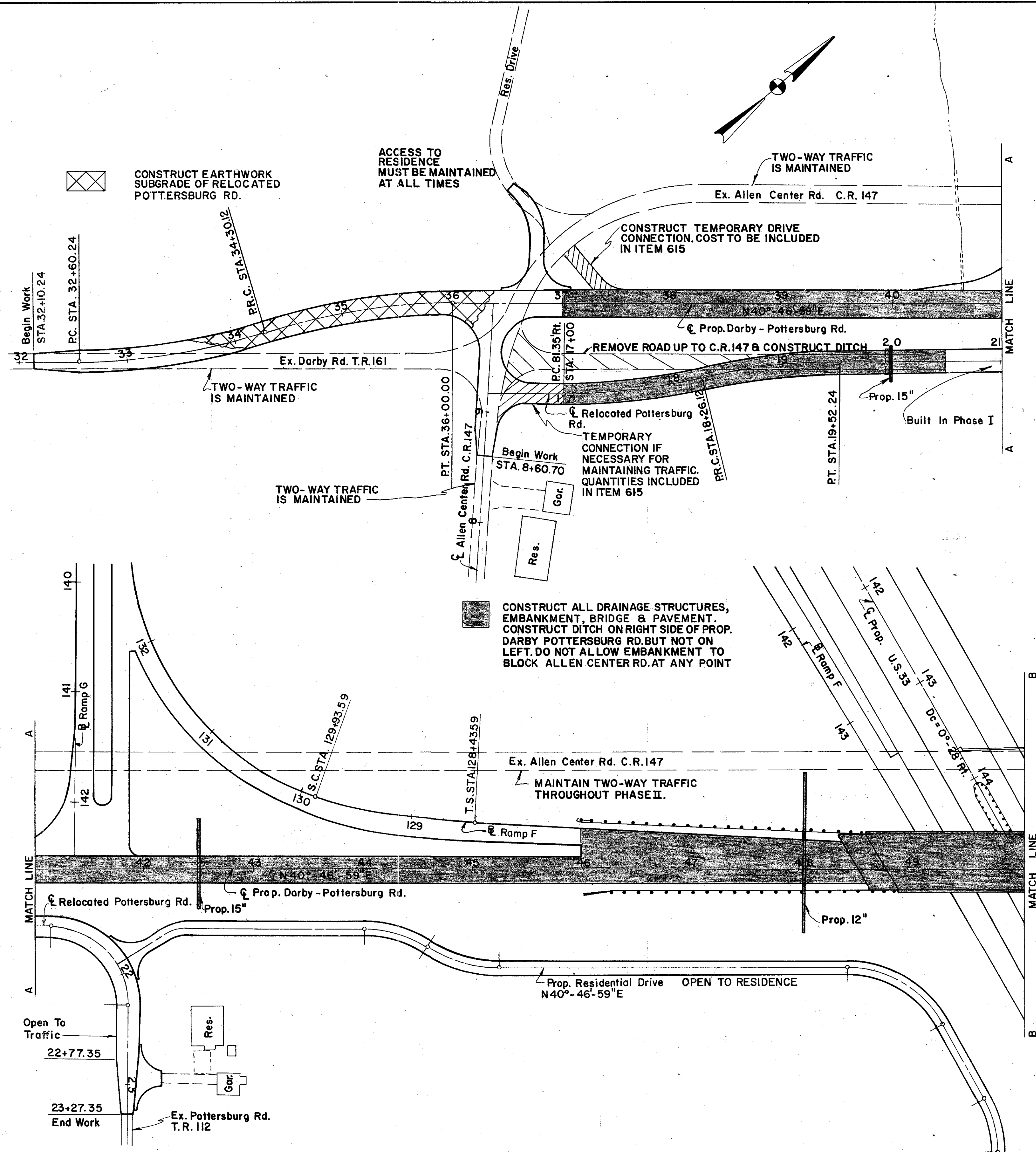
TEMPORARILY GRADE LEFT DITCH OF ALLEN CENTER RD. TO DRAIN INTO NEW STRUCTURES UNTIL PHASE III WHEN THE ROAD IS REMOVED



PARSONS BRINCKERHOFF QUADE & DOUGLAS
COLUMBUS, OHIO

**TRAFFIC MAINTENANCE PLAN
& CONSTRUCTION PHASING
PHASE I**
DARBY-POTTERSBURG ROAD,
RAMPS E & H, AND EXIST. U.S. 33

Designed	Drawn	Traced	Checked	Reviewed	Date	Revised
<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>				



DARBY - POTTERSBURG ROAD

REMOVE PORTIONS OF EXISTING DARBY - POTTERSBURG ROAD AND A PORTION OF RELOCATED POTTERSBURG ROAD AS NOTED.

DETOUR TRAFFIC ON TO ALLEN CENTER ROAD.

HOLYCROSS - EPPS ROAD

RECONSTRUCT HOLYCROSS - EPPS ROAD.

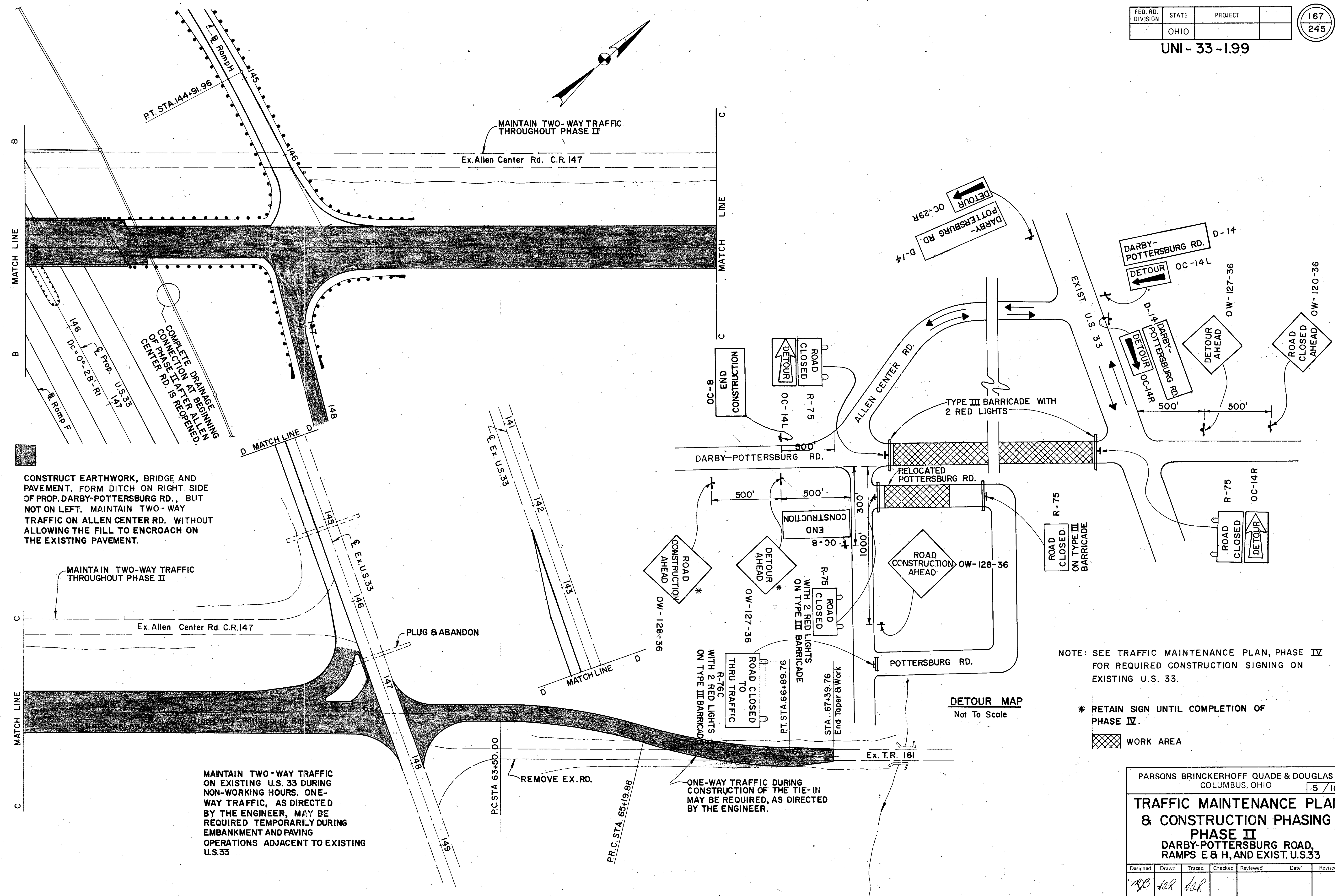
PROVIDE DETOUR ONTO BEAR SWAMP ROAD WHILE HOLYCROSS - EPPS ROAD IS CLOSED. IF BEAR SWAMP ROAD IS CLOSED BY CONSTRUCTION, FOLLOW THE DARBY - POTTERSBURG ROAD DETOUR OVER ALLEN CENTER ROAD.

PARSONS BRINCKERHOFF QUADE & DOUGLAS
COLUMBUS, OHIO

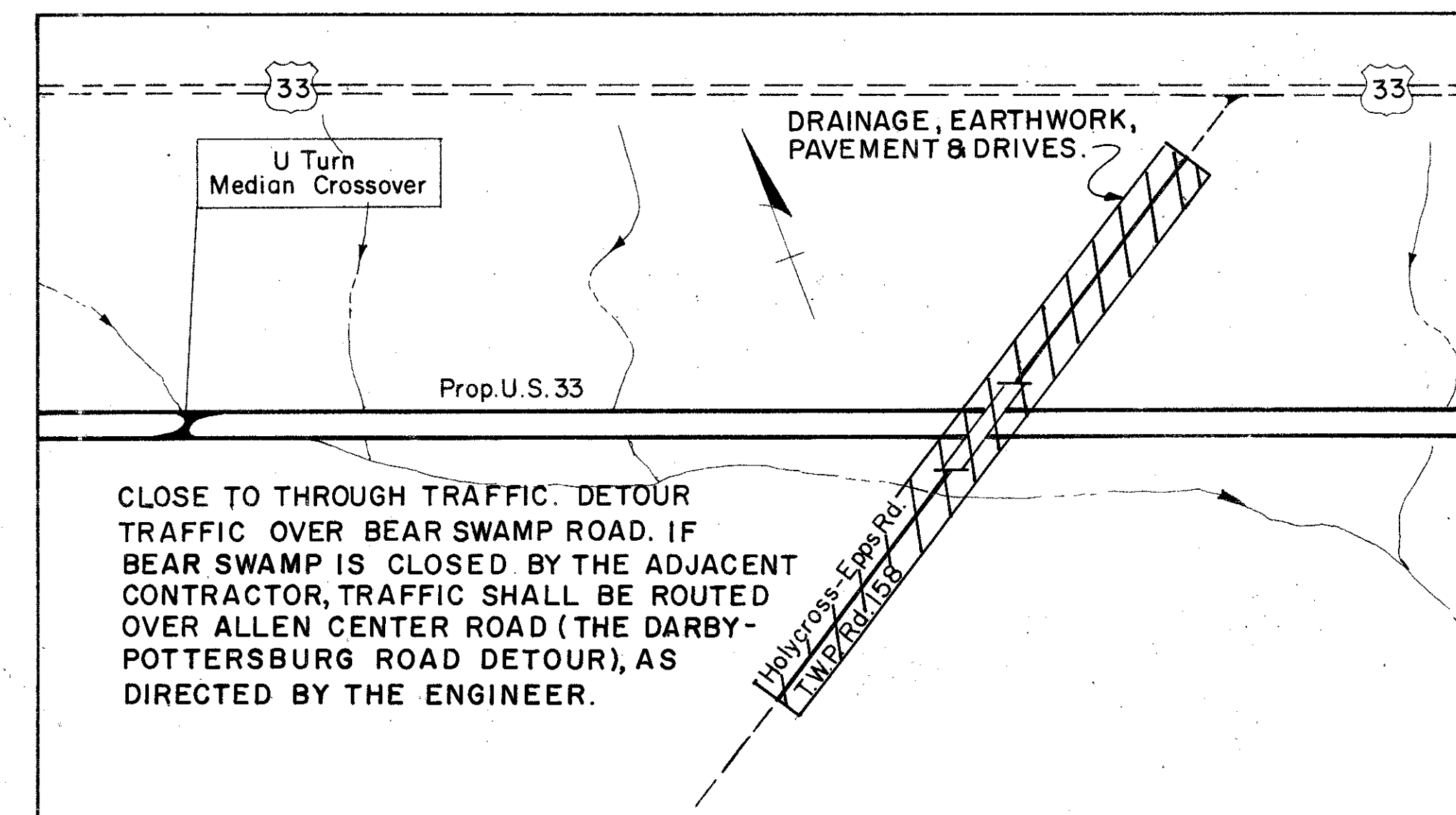
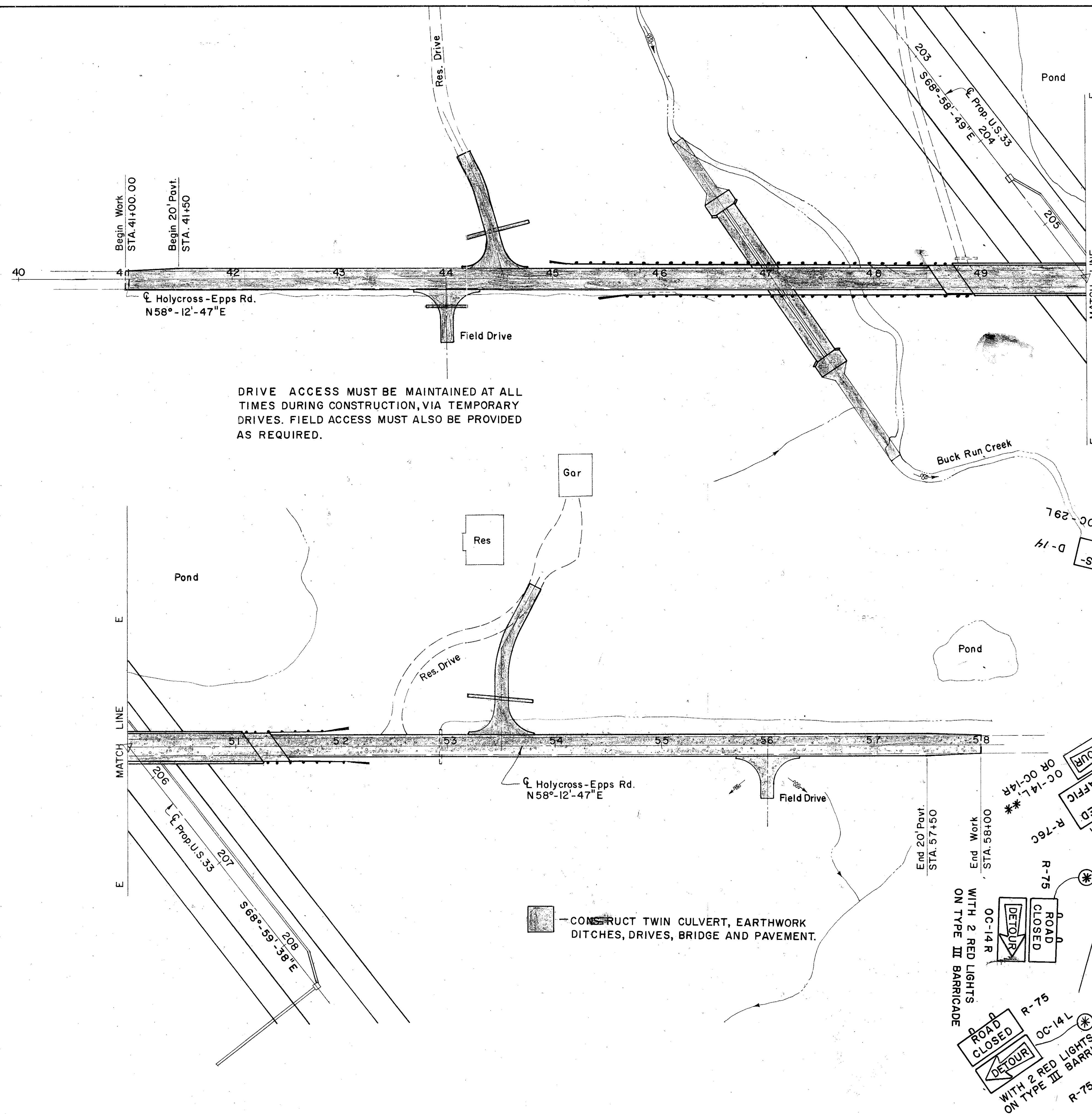
**TRAFFIC MAINTENANCE PLAN
& CONSTRUCTION PHASING
PHASE II**

DARBY - POTTERSBURG RD., RAMP F AND G,
RELOCATED POTTERSBURG RD. AND RES. DR.

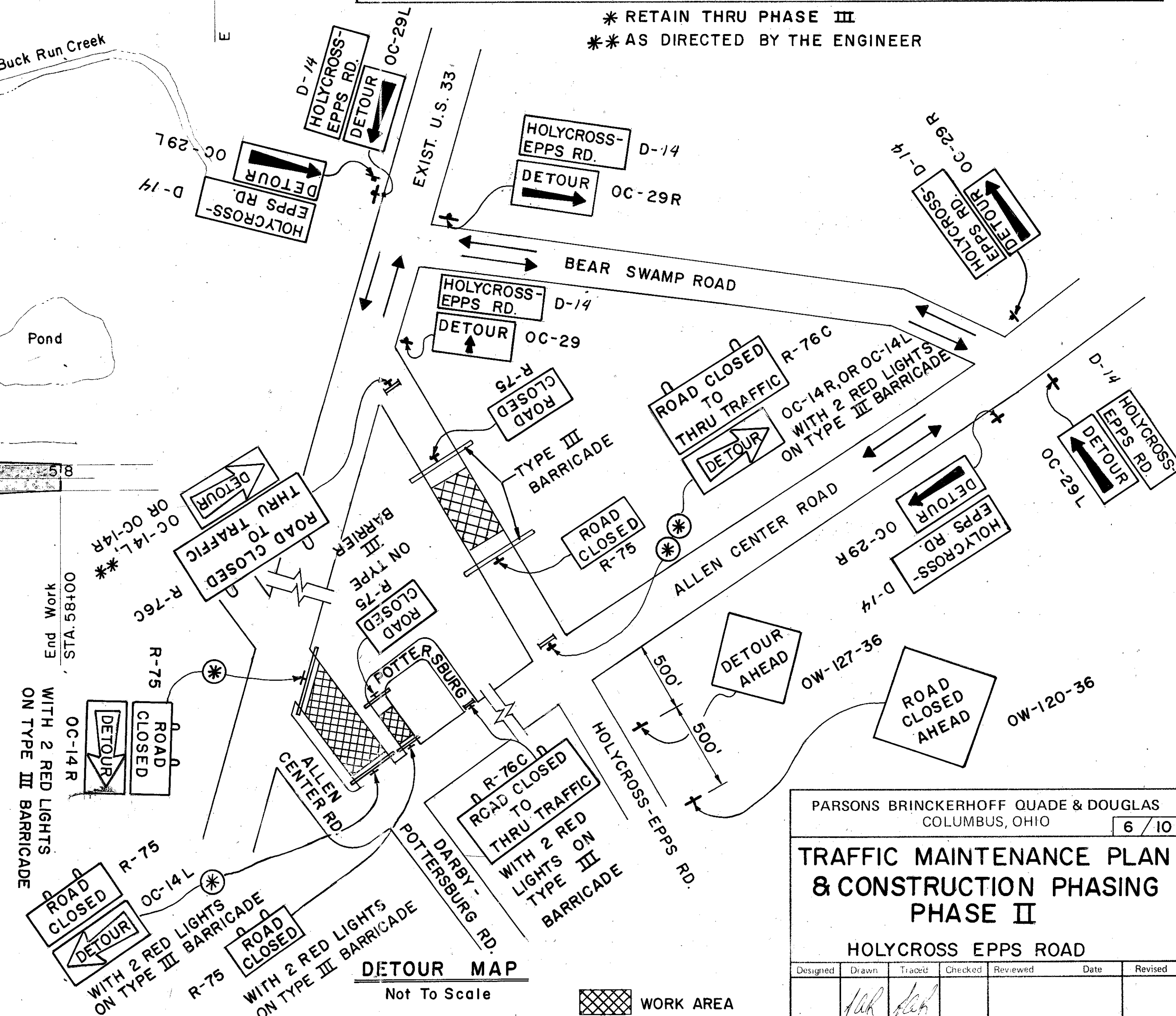
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MB	JAR	JAR				



UNI - 33 - 1.99



* RETAIN THRU PHASE III
** AS DIRECTED BY THE ENGINEER



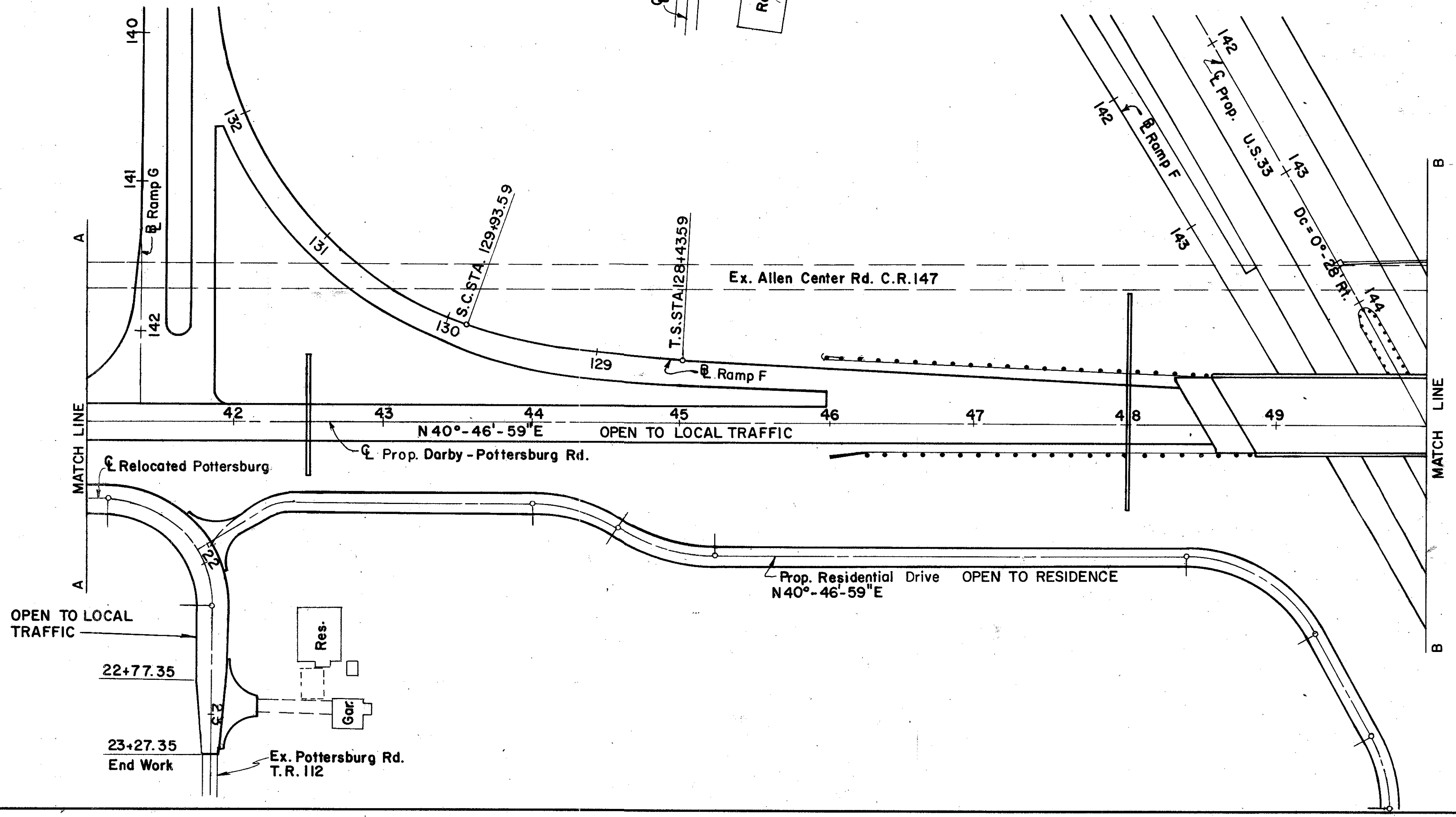
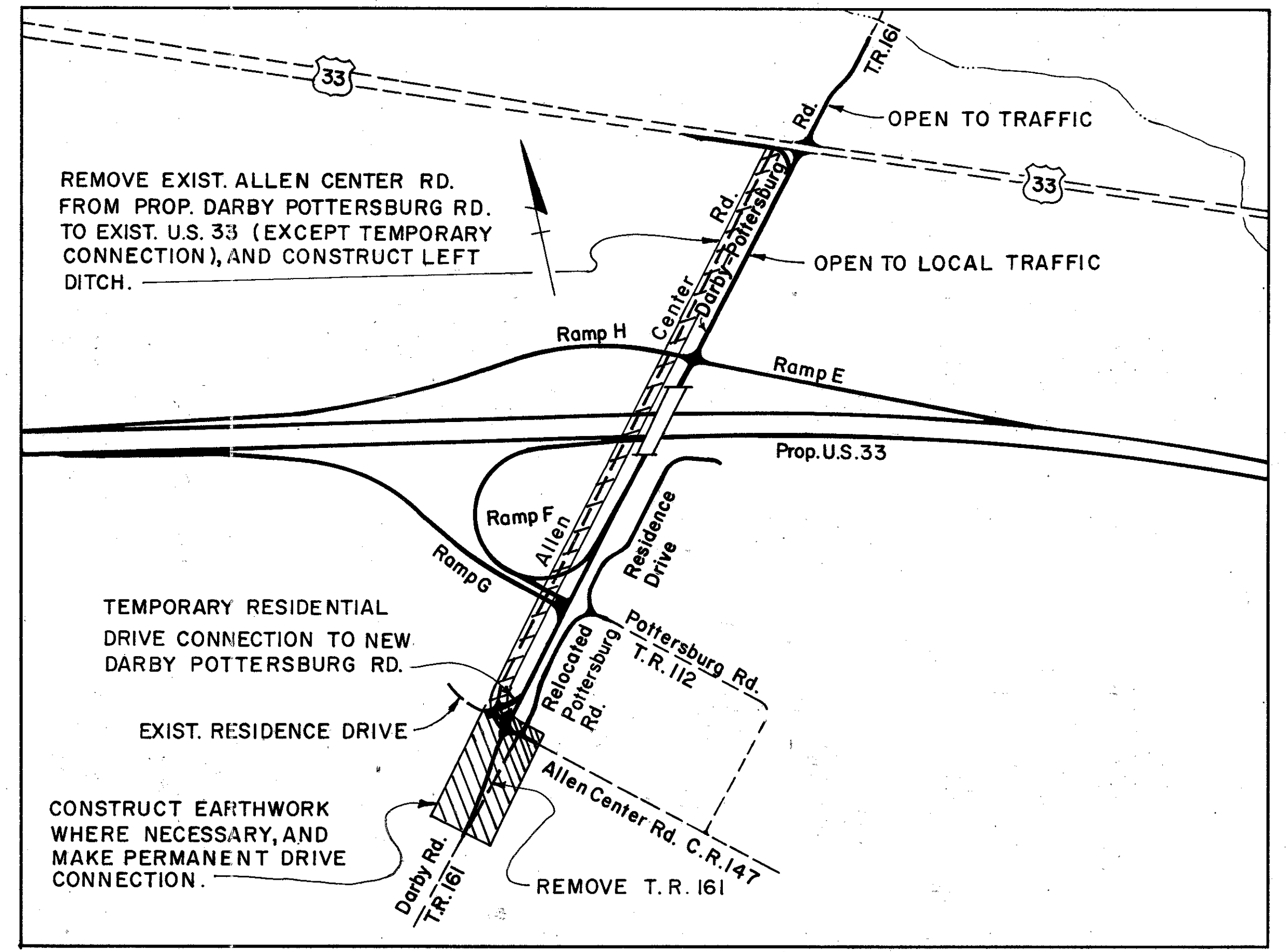
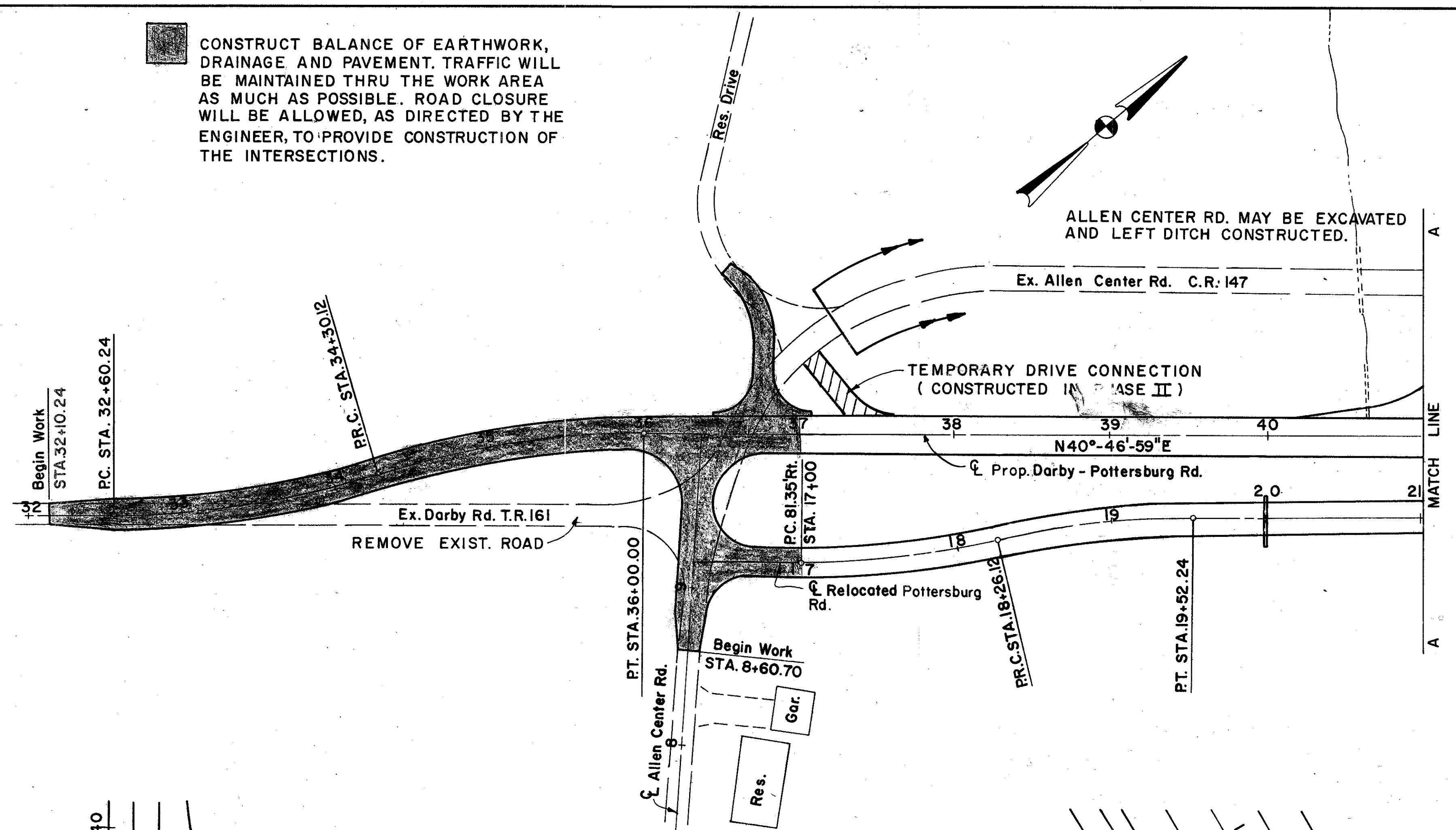
PARSONS BRINCKERHOFF QUADE & DOUGLAS
COLUMBUS, OHIO

TRAFFIC MAINTENANCE PLAN & CONSTRUCTION PHASING PHASE II

HOLYCROSS EPPS ROAD

Designed	Drawn	Traced	Checked	Reviewed	Date	Revised
	<i>hak</i>	<i>hak</i>				

CONSTRUCT BALANCE OF EARTHWORK, DRAINAGE AND PAVEMENT. TRAFFIC WILL BE MAINTAINED THRU THE WORK AREA AS MUCH AS POSSIBLE. ROAD CLOSURE WILL BE ALLOWED, AS DIRECTED BY THE ENGINEER, TO PROVIDE CONSTRUCTION OF THE INTERSECTIONS.



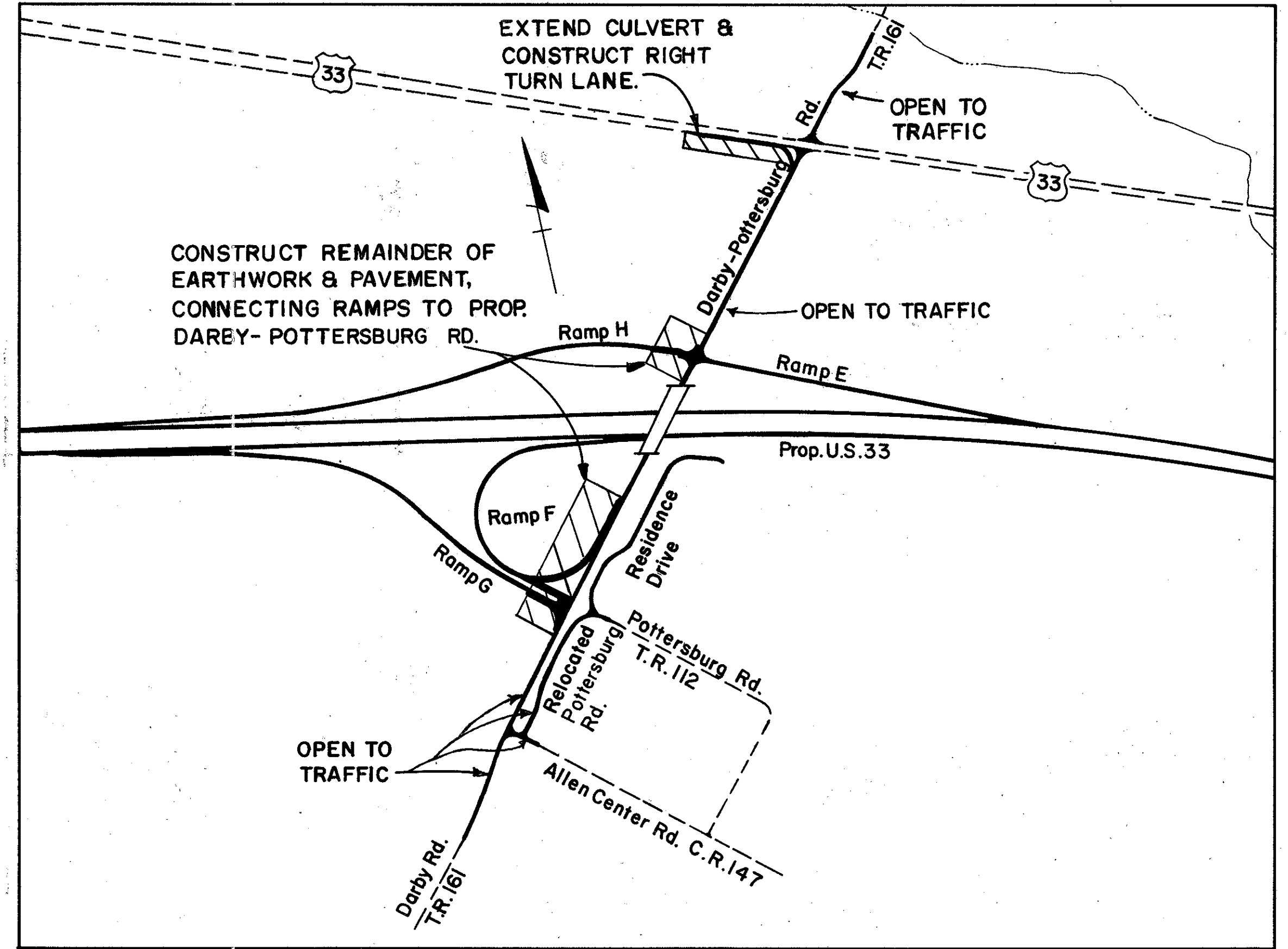
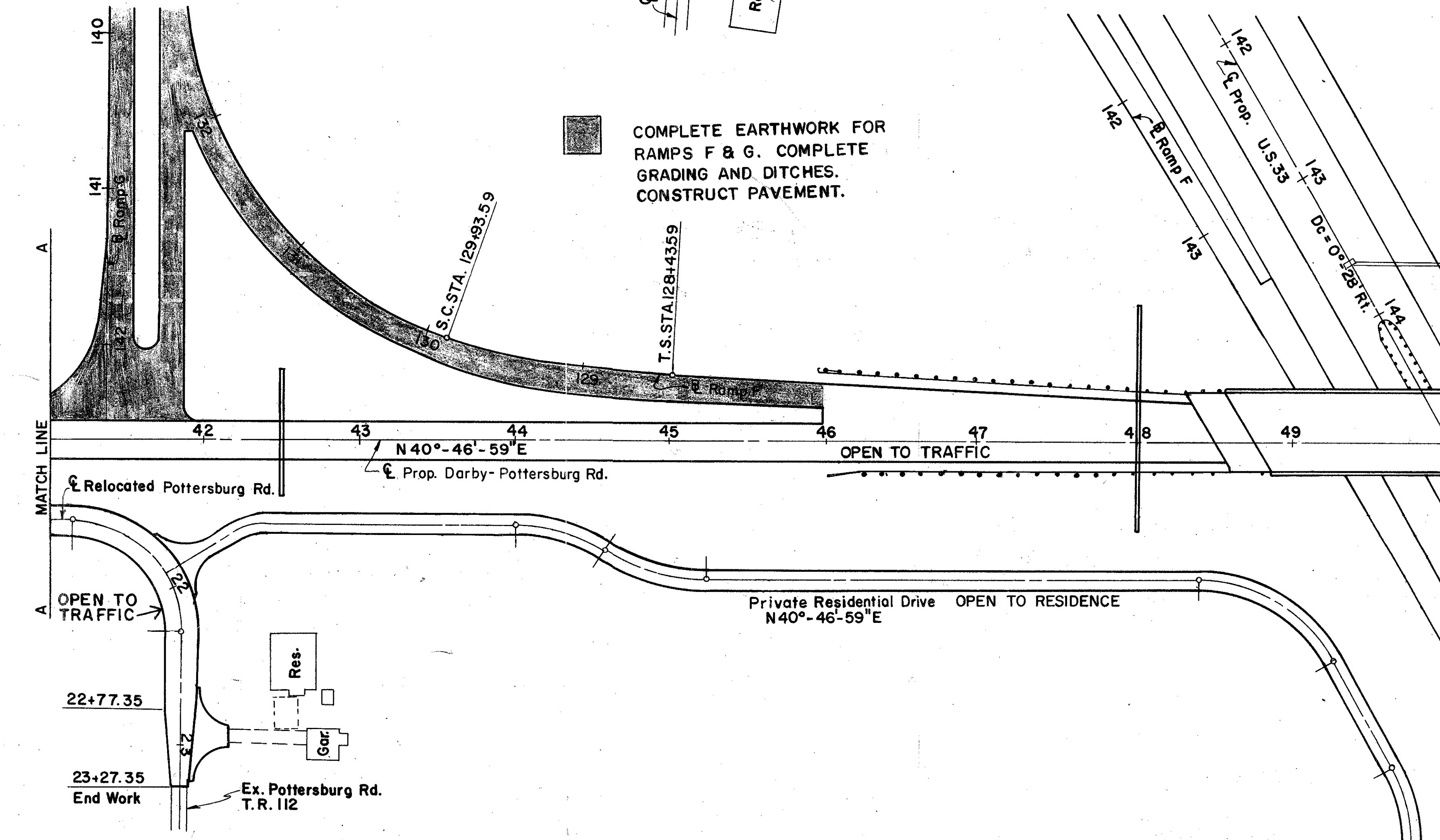
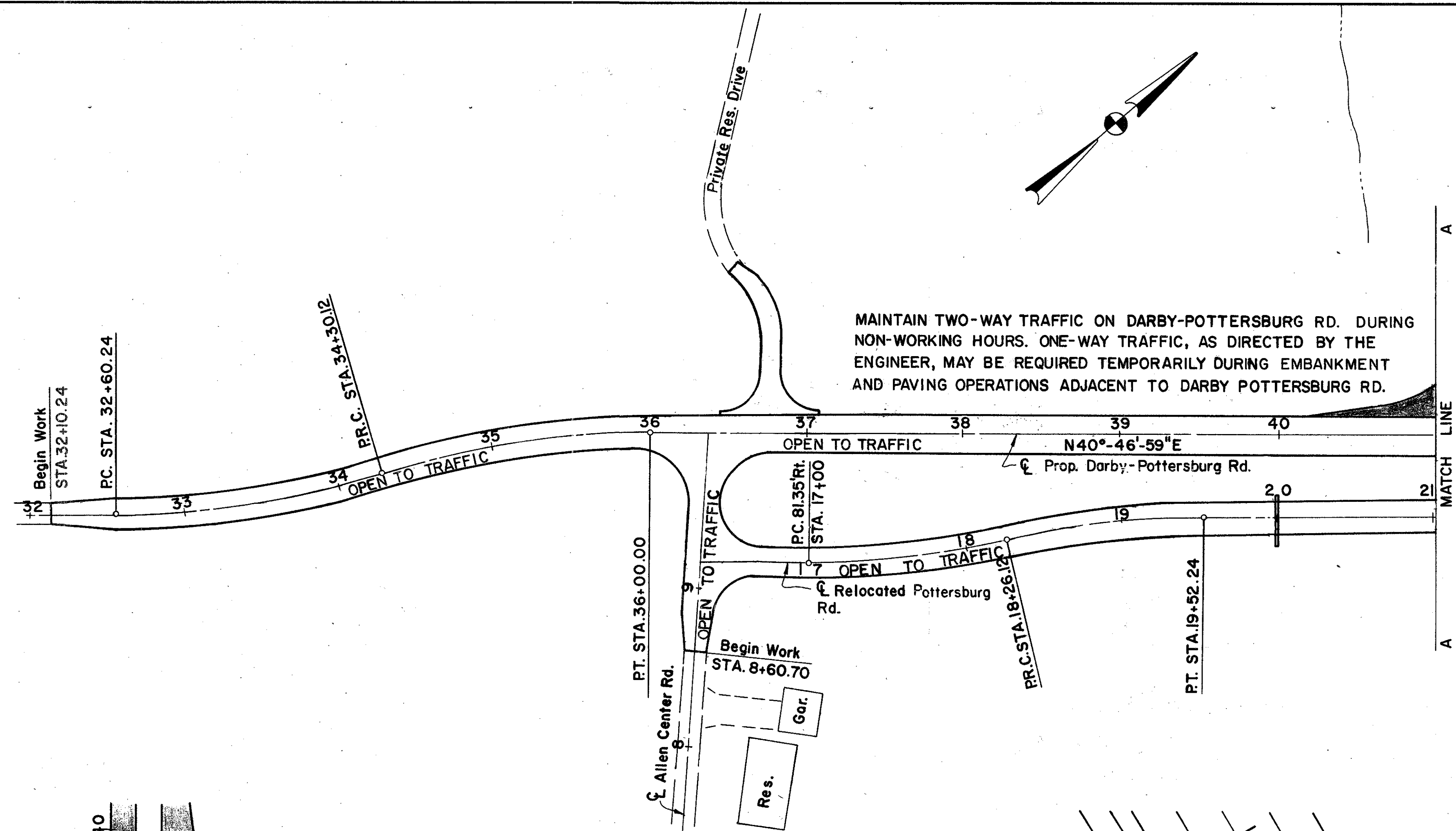
PARSONS BRINCKERHOFF QUADE & DOUGLAS
COLUMBUS, OHIO

7/10

**TRAFFIC MAINTENANCE PLAN
& CONSTRUCTION PHASING
PHASE III**

DARBY-POTTERSBURG RD., RAMP F AND G,
RELOCATED POTTERSBURG RD. AND RES. DR.

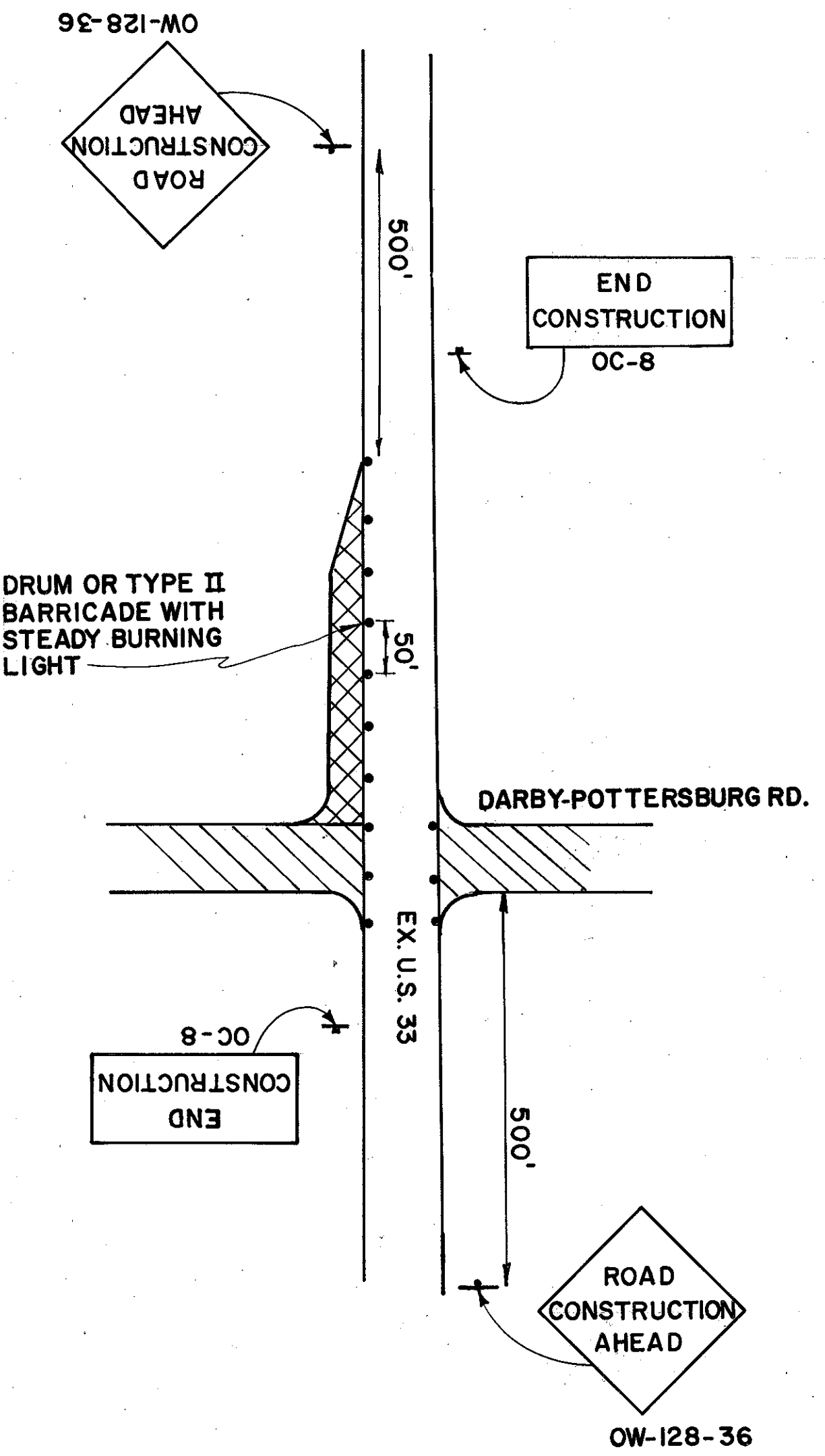
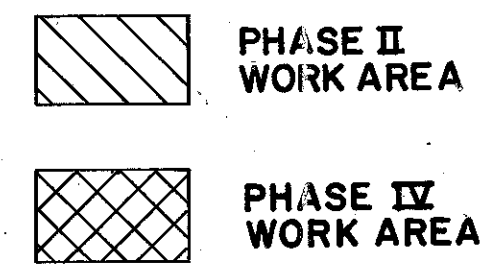
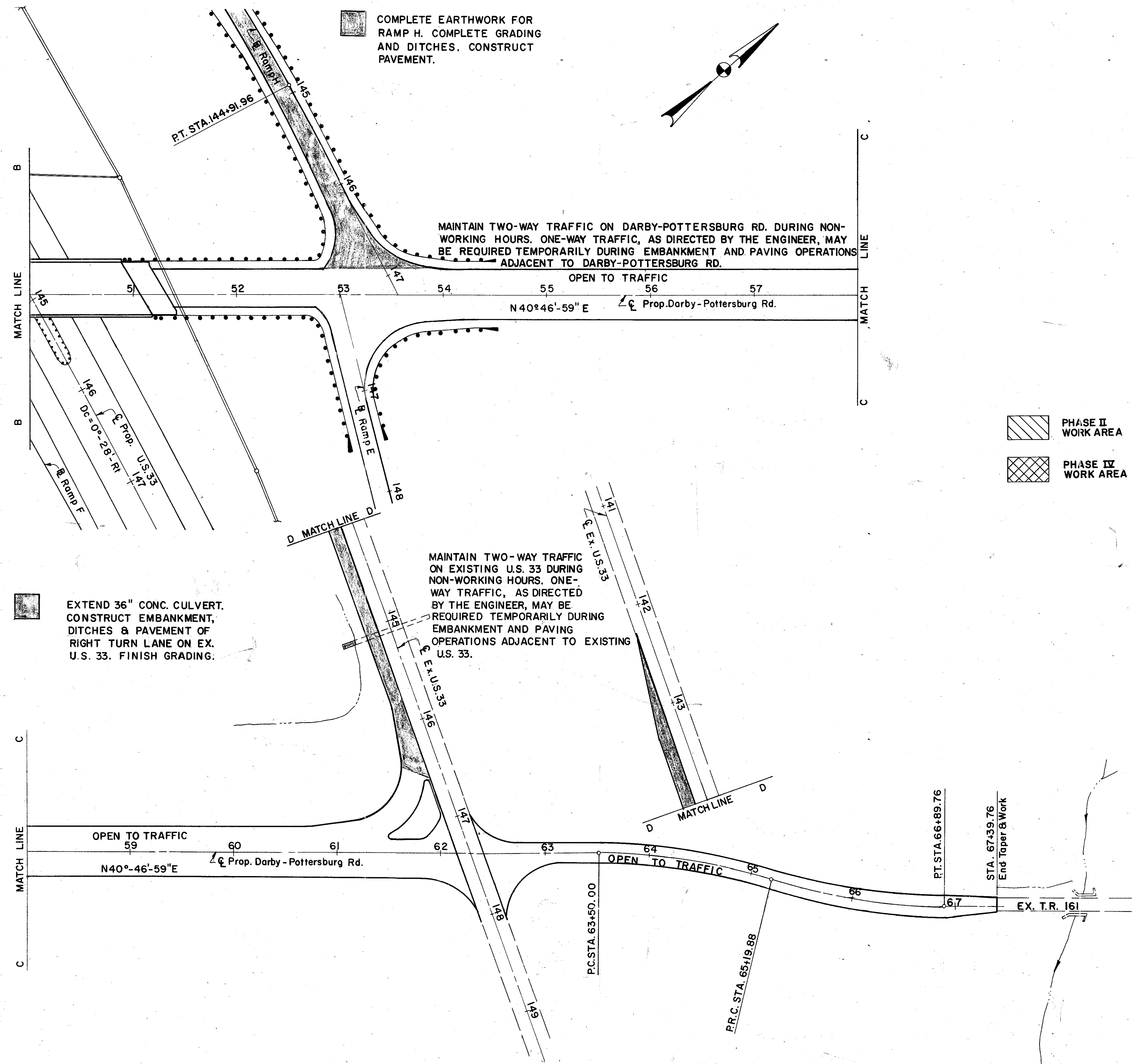
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MB	SLR	SLR				



TRAFFIC MAINTENANCE PLAN & CONSTRUCTION PHASING PHASE IV

DARBY-POTTERSBURG RD., RAMP F AND G,
RELOCATED POTTERSBURG RD. AND RES. DR.

Designed	Drawn	Traced	Checked	Reviewed	Date	Revised
MB	SKR	SKR				



INTERSECTION MAP
Not To Scale

NOTE: ERECT SIGNING AT BEGINNING OF PHASE II AND RETAIN UNTIL END OF PHASE IV.

PARSONS BRINCKERHOFF QUADE & DOUGLAS COLUMBUS, OHIO						
10/10						
TRAFFIC MAINTENANCE PLAN & CONSTRUCTION PHASING						
PHASE IV						
DARBY-POTTERSBURG ROAD, RAMP E & H, AND EXIST. U.S. 33						
Designed	Drawn	Traced	Checked	Reviewed	Date	Revised
MPB	HR	HR				

GENERAL NOTES

REFERENCES:

STANDARD DRAWINGS:

BRIDGE RAILING	BR-1	DATED 5-29-79
SUPERSTRUCTURE DETAILS	SD-1-69(SHTS.1,2,3)	DATED 6-12-69
FIXED BEARINGS	FB-1-82	DATED 5-10-82
ROCKERS & BOLSTERS	RB-1-55	DATED (REV.) 2-2-59
APPROACH SLAB	AS-1-81(SHTS.1,2,3)	DATED 11-27-81

SUPPLEMENTAL SPECIFICATIONS:

NO. 836 DATED 11-12-85 AND NO. 824 DATED 10-8-82

DESIGN SPECIFICATIONS:

THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 1983 SPECIFICATIONS AND THE 1982 OHIO "SUPPLEMENT" TO AASHTO SPECIFICATIONS.

DESIGN DATA:

DESIGN LOADING	HS 20-44 CASE II AND ALTERNATE MILITARY LOADING
CONCRETE CLASS S, SUPERSTRUCTURE	COMPRESSIVE STRENGTH f' c= 4500 P.S.I.
CONCRETE CLASS C, SUBSTRUCTURE	COMPRESSIVE STRENGTH f' c= 4000 P.S.I.
STRUCTURAL STEEL	ASTM A588 UNIT STRESS = 27,000 P.S.I. ASTM A36 UNIT STRESS = 20,000 P.S.I.
REINFORCING STEEL	ASTM A615, A616, OR A617, GRADE 60 MIN. YIELD ST. = 60,000 P.S.I.
SPIRAL REINFORCEMENT MAY BE PLAIN BARS DECK PROTECTION METHOD	ASTM A82 OR A615 EPOXY COATED REINFORCING STEEL, TOP & BOTTOM MATS.
MONOLITHIC WEARING SURFACE	IS ASSUMED, FOR DESIGN PURPOSES, TO BE 1 INCH THICK.

PILES:

PILE DESIGN LOADS: THE DESIGN LOAD FOR THE ABUTMENT PILES IS 48 TONS PER PILE AND THE DESIGN LOAD FOR THE PIER PILES IS 50 TONS PER PILE.

12 INCH PRECAST PRESTRESSED CONCRETE PILES MAY BE SUBSTITUTED FOR THE 12 INCH CAST-IN-PLACE REINFORCED CONCRETE PILES SHOWN ON THESE PLANS. DRAWINGS SHOWING DETAILS OF AND SPECIFICATIONS FOR PRESTRESSED CONCRETE PILES ARE AVAILABLE FROM THE DIRECTOR (BUREAU OF BRIDGES). IF THE PRESTRESSED PILE ALTERNATE IS CHOSEN, THE METHOD OF MEASUREMENT AND BASIS OF PAYMENT SHALL BE THE SAME AS FOR CAST-IN-PLACE REINFORCED CONCRETE PILES PER 507.

PILE HAMMER: THE PILE HAMMER USED TO INSTALL THE CAST-IN-PLACE REINFORCED CONCRETE PILES SHALL HAVE A STATES ENERGY RATING OF NOT LESS THAN 14,500 FOOT-POUNDS. THIS REQUIREMENT DOES NOT RELIEVE THE CONTRACTOR FROM 108.05 WHICH STATES THAT THE CONTRACTOR IS TO PROVIDE SUFFICIENT EQUIPMENT FOR PROSECUTING THE REQUIRED WORK. REFER TO "ODOT'S MANUAL OF PROCEDURES FOR STRUCTURES" TO OBTAIN THE STATES ENERGY RATING.

PILE DRIVING AND EMBANKMENT CONSTRUCTION: PRIOR TO DRIVING PILES AT THE ABUTMENTS, THE EMBANKMENT BEHIND THE ABUTMENT SHALL BE CONSTRUCTED ON A 1.5 TO 1 SLOPE PROJECTED FROM THE TOP OF THE HEEL OF THE ABUTMENT FOOTING TO THE LEVEL OF THE SUBGRADE FOR A MINIMUM DISTANCE OF 200 FEET BACK OF THE ABUTMENT. AFTER THE EMBANKMENT IS COMPLETED WITHIN THE ABOVE REQUIRED LIMITS, THE EXCAVATION FOR THE ABUTMENT FOOTING MAY BE MADE AND THE PILES DRIVEN. BEFORE THE BACKWALL IS CONSTRUCTED, THE EMBANKMENT SHALL BE PLACED UP TO THE LEVEL OF THE SUBGRADE WITH A 1 TO 1 SLOPE FROM THE BRIDGE SEAT. PAYMENT FOR BACKFILL AND NEW EMBANKMENT, 503.10, REQUIRED IN EXCESS OF 503, 518 AND 203 QUANTITIES SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 203 EMBANKMENT.

MAINTENANCE OF TRAFFIC: FOR MAINTENANCE OF TRAFFIC AND SCHEDULE OF OPERATIONS, SEE ROADWAY PLAN SHTS. NO. 163/245 THRU 172/245

UTILITY LINES: ALL EXPENSE INVOLVED IN RELOCATING THE AFFECTED UTILITY LINES, SHALL BE BORNE BY THE OWNER. THE CONTRACTOR AND OWNER ARE REQUESTED TO COOPERATE BY ARRANGING THEIR WORK IN SUCH A MANNER THAT INCONVENIENCE TO EITHER WILL BE HELD TO A MINIMUM. UTILITY OWNERS ARE LISTED IN THE GENERAL NOTES ON SHEET NO. 8/245

GRANULAR EMBANKMENT: FOR PLACEMENT OF AN 18-INCH GRANULAR BLANKET AT THE BASE OF THE EMBANKMENTS ADJACENT TO EACH ABUTMENT, SEE NOTE, ITEM 203 GRANULAR EMBANKMENT, ON ROADWAY SHEET NO. 8/245

F.H.W.A. REGION	STATE	PROJECT	
5	OHIO		

175
245

UNION COUNTY
UNI-33-1.99

ESTIMATED QUANTITIES

ESTIMATED BY: M.J.M.
CHECKED BY: R.E.B. DATE: 12/10/85

ITEM	TOTAL	UNIT	DESCRIPTION	SUPER.	ABUT.	PIER	GEN.
503	1431	CU. YD.	UNCLASSIFIED EXCAVATION		1213	218	
505	LUMP		PILE DRIVING EQUIPMENT MOBILIZATION				LUMP
506	LUMP		STATIC LOAD TEST				LUMP
507	9135	LIN. FT.	12" CAST-IN-PLACE REINFORCED CONCRETE PILES, AS PER PLAN		7515	1620	
509	107,835	LB.	REINFORCING STEEL, GRADE 60		88,003	19,832	
824	94,215	LB.	EPOXY COATED REINFORCING STEEL, GRADE 60	94,215			
511	399	CU. YD.	CLASS S CONCRETE, SUPERSTRUCTURE (SEE PROP. NOTE)	399			
511	45	CU. YD.	CLASS C CONCRETE, PIER CAP & COLUMNS			45	
511	428	CU. YD.	CLASS C CONCRETE, ABUTMENTS ABOVE FOOTINGS		428		
511	490	CU. YD.	CLASS C CONCRETE, FOOTINGS		426	64	
513	335,707	LB.	STRUCTURAL STEEL (AISC CATEGORY III) (ASTM A588 STL.)	335,707			
513	2366	EACH	WELDED STUD SHEAR CONNECTORS	2366			
514	LUMP		PARTIAL PAINTING OF A588 STEEL, SYSTEM (A)	LUMP			
516	123	LIN. FT.	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEALS	123			
516	374	SQ. FT.	1" PREFORMED EXPANSION JOINT FILLER		374		
518	226	CU. YD.	POROUS BACKFILL		226		
518	6	EACH	SCUPPERS, INCLUDING SUPPORTS	6			
523	6	HOUR	DYNAMIC LOAD TEST				6
601	333	SQ. YD.	CRUSHED AGGREGATE SLOPE PROTECTION WITHOUT FILTER				333
Ø SPECIAL	891	SQ. YD.	SEALING OF CONCRETE SURFACES (EPOXY) (SEE PROPOSAL NOTE)	442	295	154	

Ø ITEM SPECIAL: SEALING OF CONCRETE SURFACES

AN EPOXY CONCRETE SEALER SHALL BE APPLIED TO THE FOLLOWING CONCRETE SURFACES: PARAPETS AND CURBS, SEE SHEET 13/17; BRIDGE SEATS AT ABUTMENTS AND PIERS; AND BACKWALLS, FRONT FACES OF ABUTMENTS AND PIERS ABOVE GROUND LINE. SEE THE PROPOSAL NOTE FOR SURFACE PREPARATION REQUIREMENTS, APPLICATION RATES, MATERIAL REQUIREMENTS AND APPLICATION PROCEDURES. SUBSTRUCTURE UNITS SHALL BE SEALED PRIOR TO ERECTION OF STRUCTURAL STEEL.

+ FOR PARTIAL PAINTING OF A588 STEEL SEE SHEET 11/17.

* FOR SPECIAL NOTES REGARDING ITEM 516, STRUCTURAL EXPANSION JOINTS, INCLUDING ELASTOMERIC STRIP SEALS, SEE SHEET 15/17.

* STEEL EXTRUSIONS, ANCHOR STUDS, PERFORATED ANCHOR PLATES AND PLATES ATTACHED TO THE TYPE A-2 EXTRUSIONS IN THE CURB AREA ARE INCLUDED IN THE STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEALS, ITEM 516, FOR PAYMENT.

PARSONS BRINCKERHOFF QUADE & DOUGLAS
COLUMBUS, OHIO 3/17

GENERAL NOTES
AND ESTIMATED QUANTITIES

BRIDGE NO. UNI-33-0275
UNDER DARBY-POTTERSBERG ROAD
UNION COUNTY STA. 144+96.55

Designed	Drawn	Traced	Checked	Reviewed	Date	Revised
MJM	RJB		WKS	SP/KB	10/24/85	

UNION COUNTY
UNI-33-1.99

NOTES:

All piles 12-inch $\varnothing$ C.I.P. reinforced concrete piles.

Indicates 1:4 battered piles and direction of batter.

For abutment elevation, see sheet [5/17]

For wingwall elevation, see sheet [6/17]

All longitudinal reinforcing bars in the wingwall footings shall be field bent, and cut, if necessary.

NOTE: For sections G-G and J-J see sht. [8/17]

Bridge End of Appro. Slab

Angle Bend Line

Face of Backwall

Face of Curb

Deck Parapet

End Angle

Work point

Face of Abut Wall

DETAIL B

S-W Corner, Rear Abut. shown; N-E Corner, Fwd. Abut. similar. See shts. [5/17], [8/17].

† For Work Point and other Joint Details, See Partial Plan, Sheet [15/17]

LEGEND:

N. F. = Near Face
E. F. = Each Face
F. F. = Far Face

PARSONS BRINCKERHOFF QUADE & DOUGLAS
COLUMBUS, OHIO

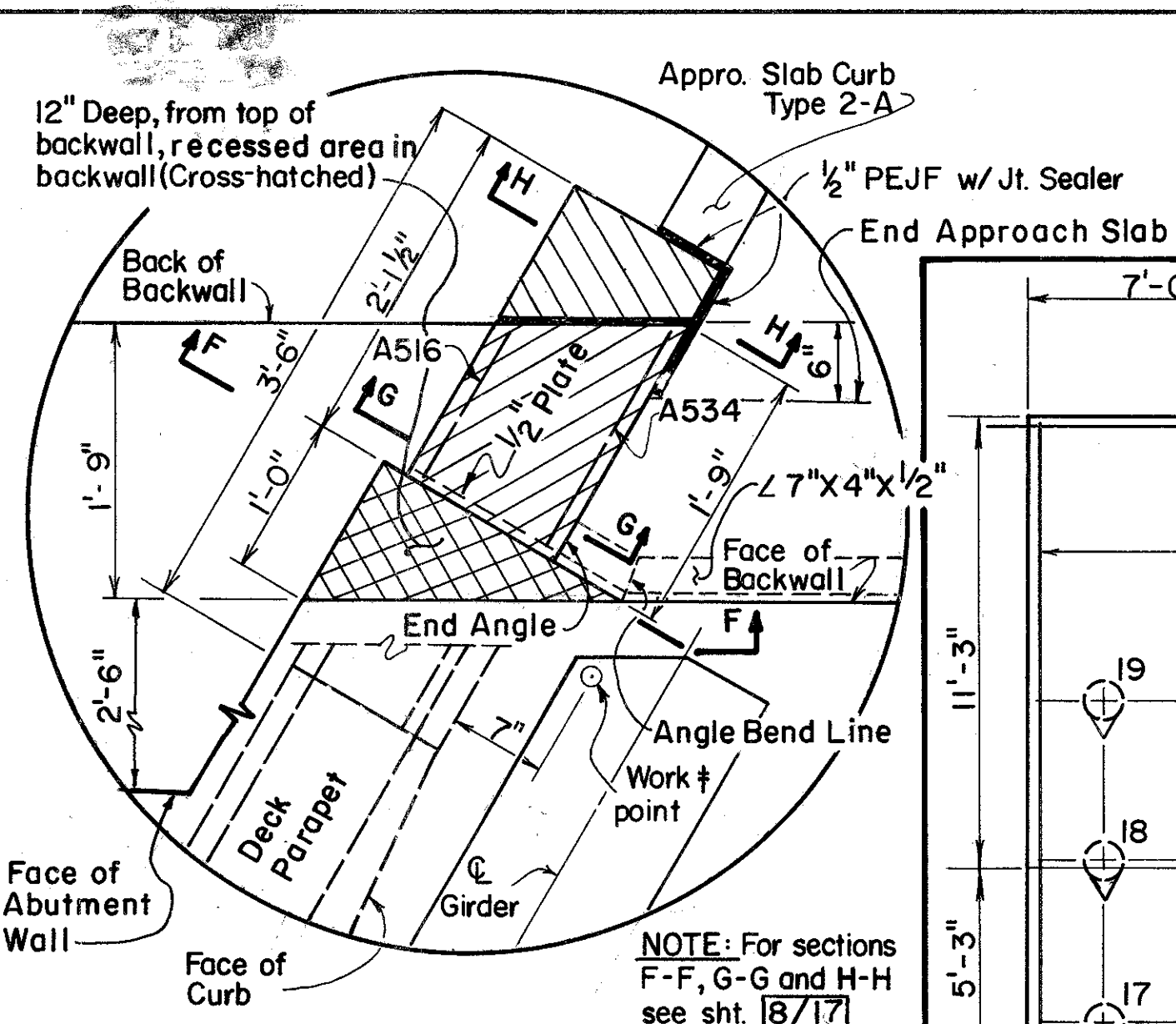
REAR ABUTMENT DETAILS

BRIDGE NO. UNI-33-0275

UNDER DARBY-POTTSBURG RD.

UNION COUNTY STA. 144+96.55

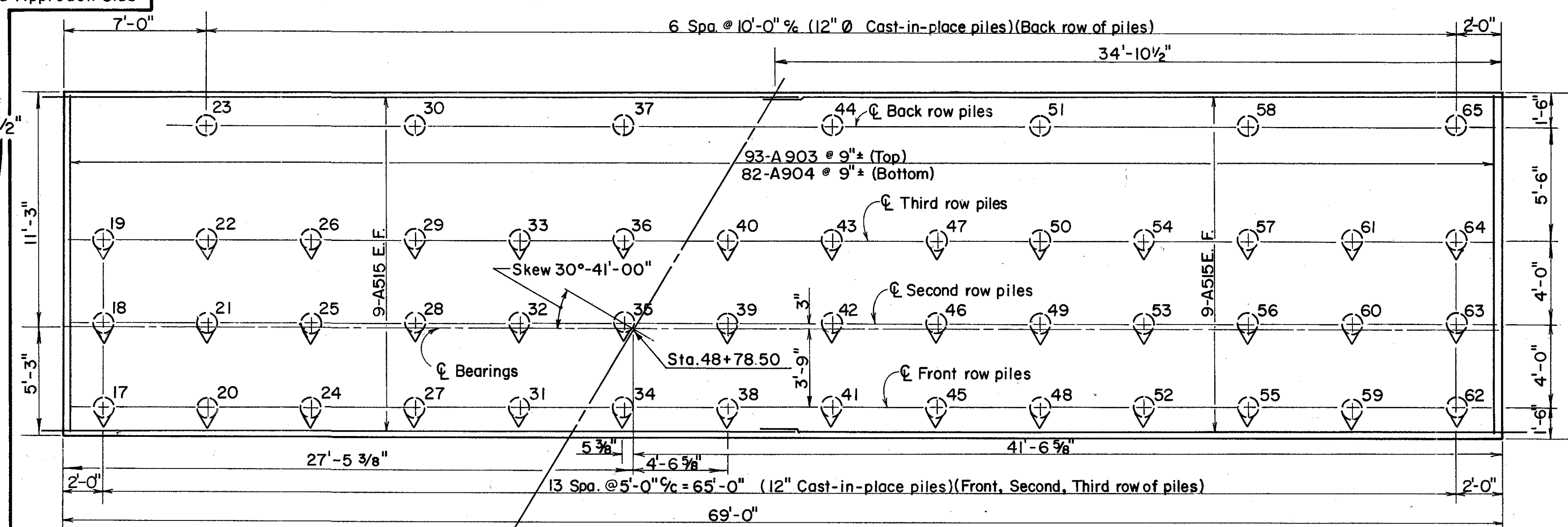
Designed	Drawn	Traced	Checked	Reviewed	Date	Revised
MJM	MJM	RCB	RCB	5/1/85	10/24/85	



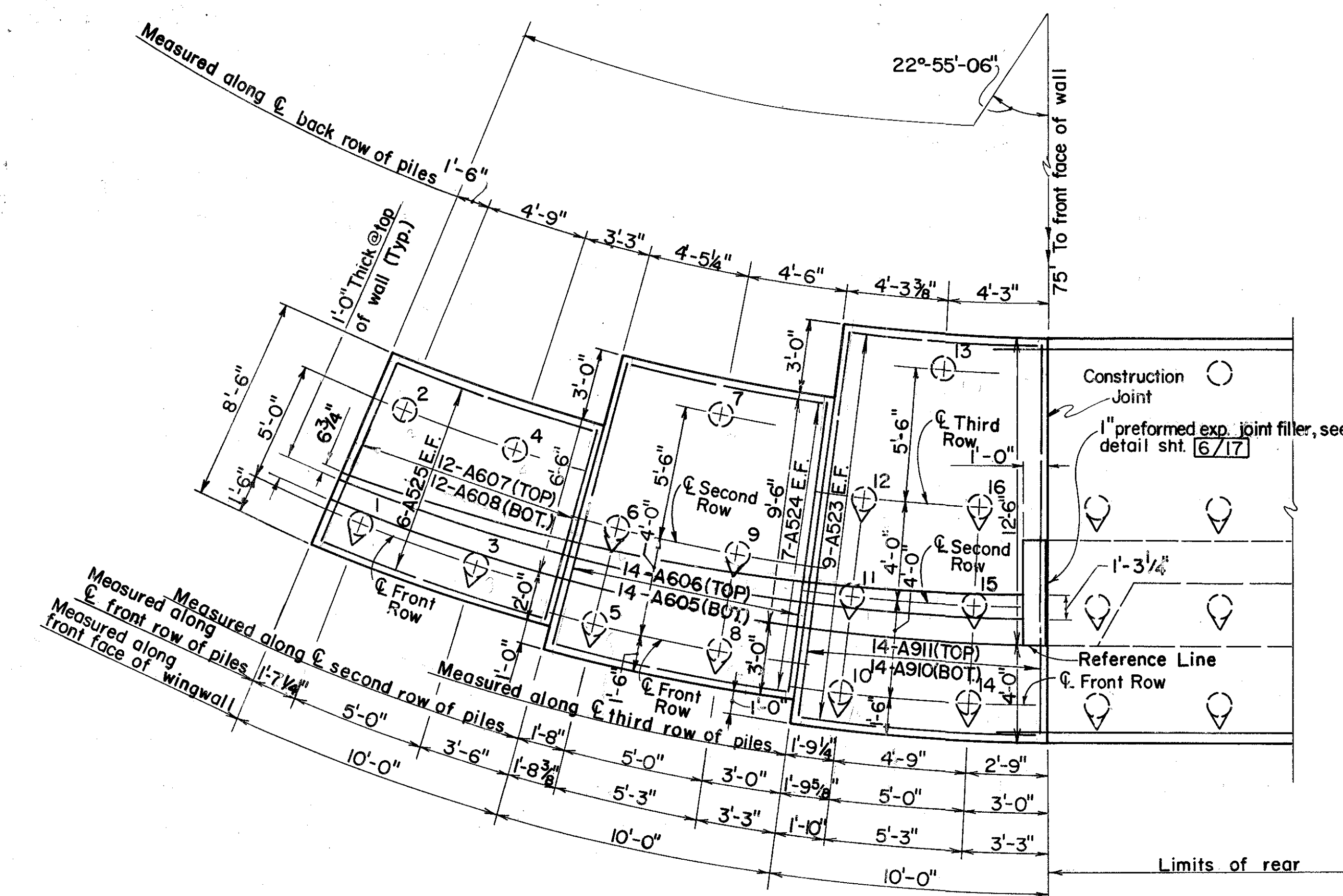
DETAIL A

S-E Corner, Rear Abut. shown, N-W Corner, Fwd. Abut. similar, see shts. [5/17], [8/17].

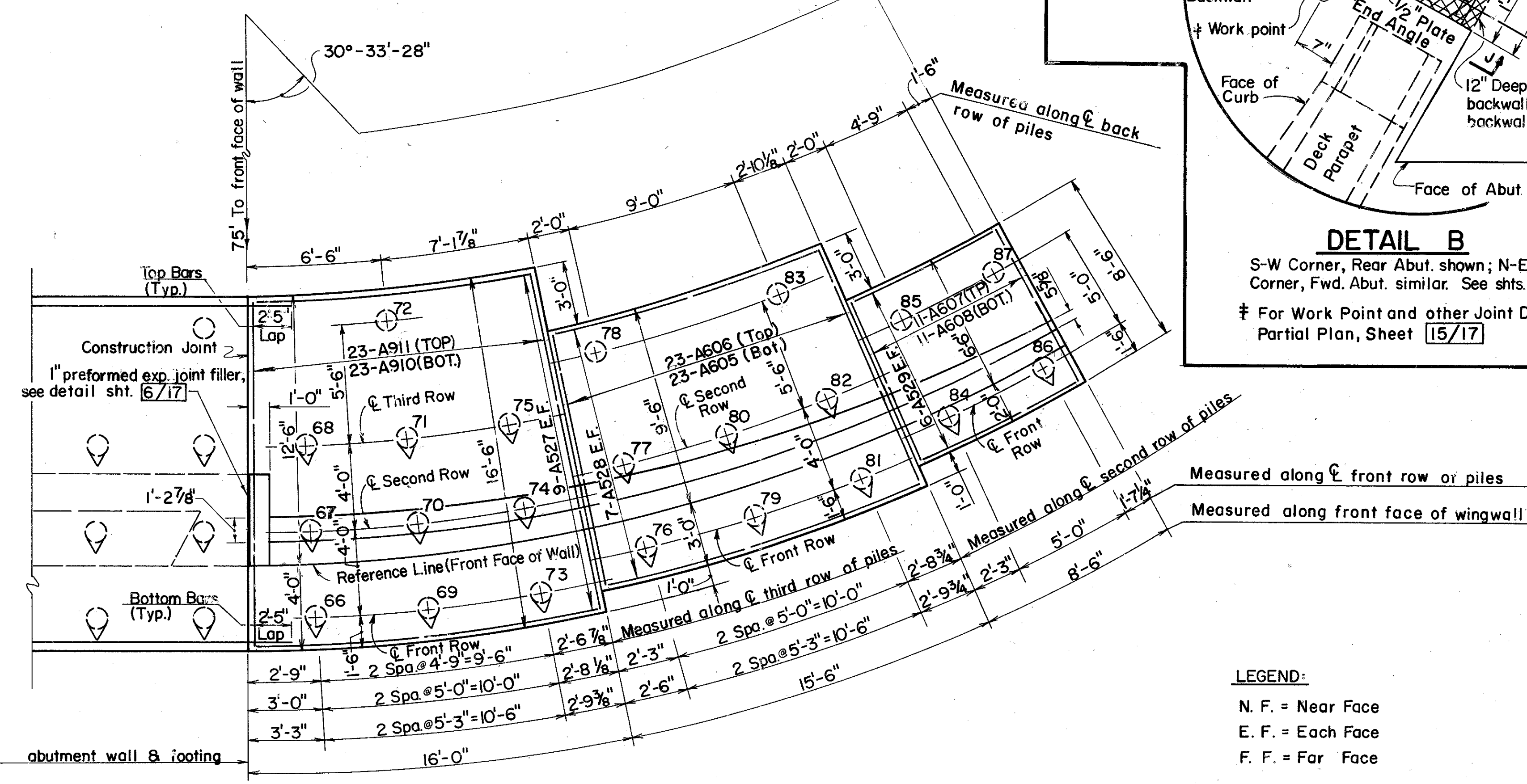
† For Work Point and other Joint Details, See Partial Plan, Sheet [15/17]



ABUTMENT



WINGWALL 1



WINGWALL 2

PLAN OF REAR ABUTMENT FOUNDATION

All longitudinal steel in wingwall footings shall be lapped at steps, see elevation of Wingwall 1 and Wingwall 2 on sheet [6/17].

UNION COUNTY

UNI - 33 - 1.99

NOTES:

All piles 12" Ø C.I.P. reinforced concrete piles.

Indicates 1:4 battered piles and direction of batter.

For abutment elevation, see sheet 8/17

For wingwall elevations, see sheet 9/17

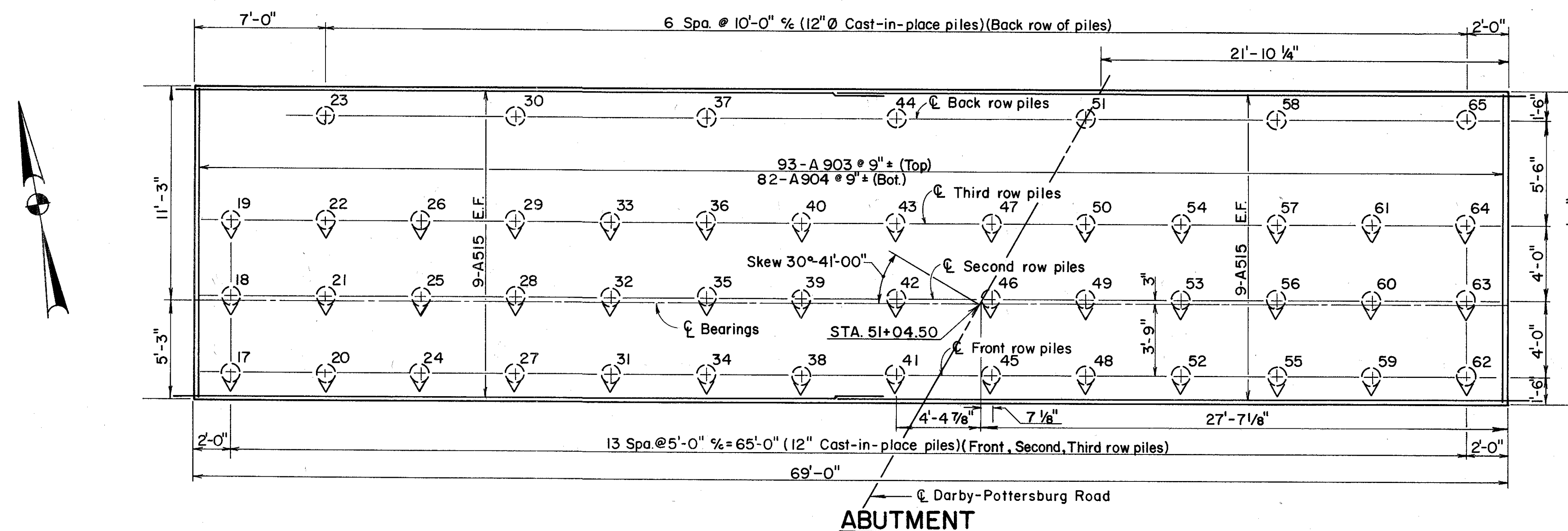
All longitudinal reinforcing bars in the wingwall footings shall be field bent, and cut, if necessary.

LEGEND:

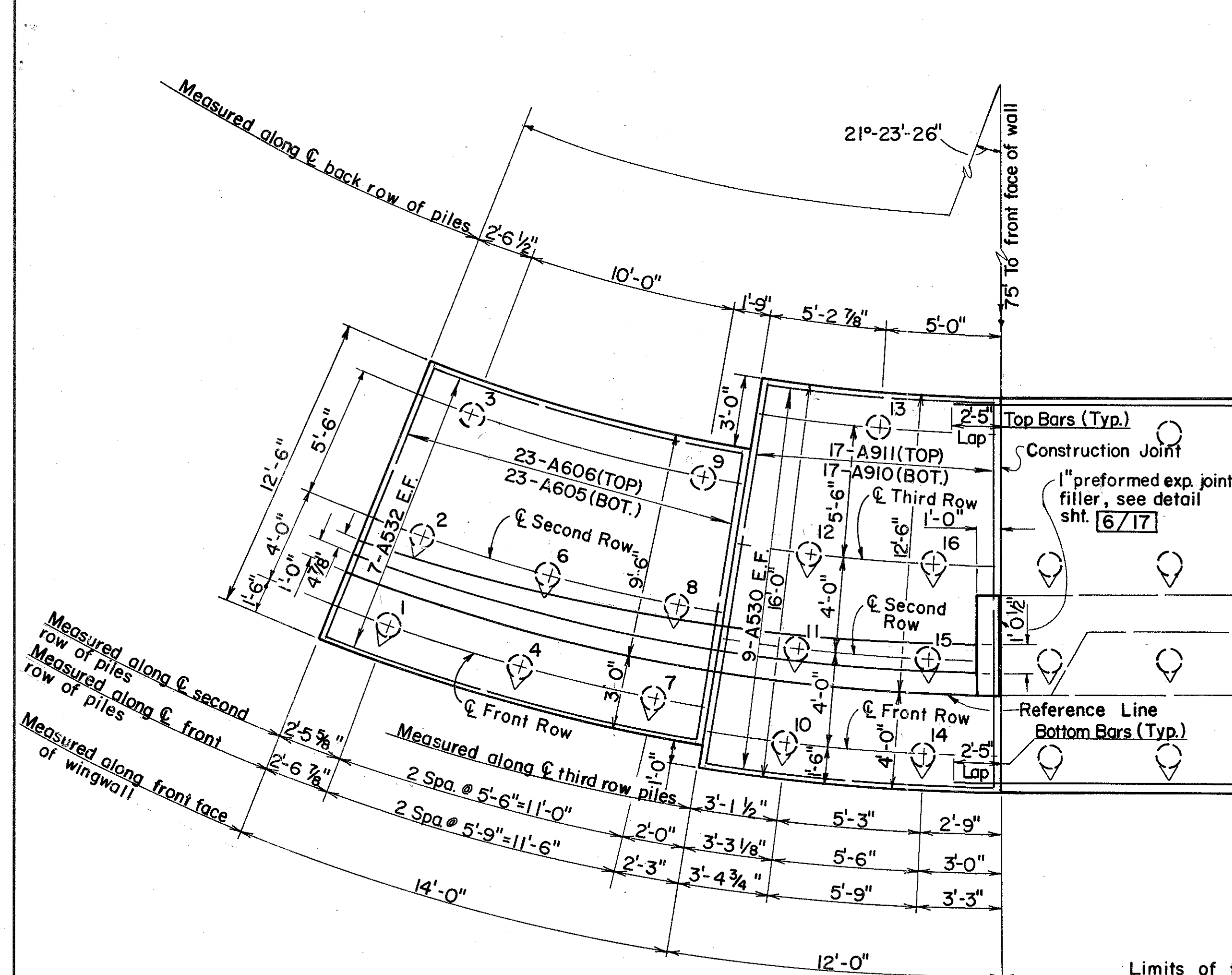
N.F. = Near Face

E.F. = Each Face

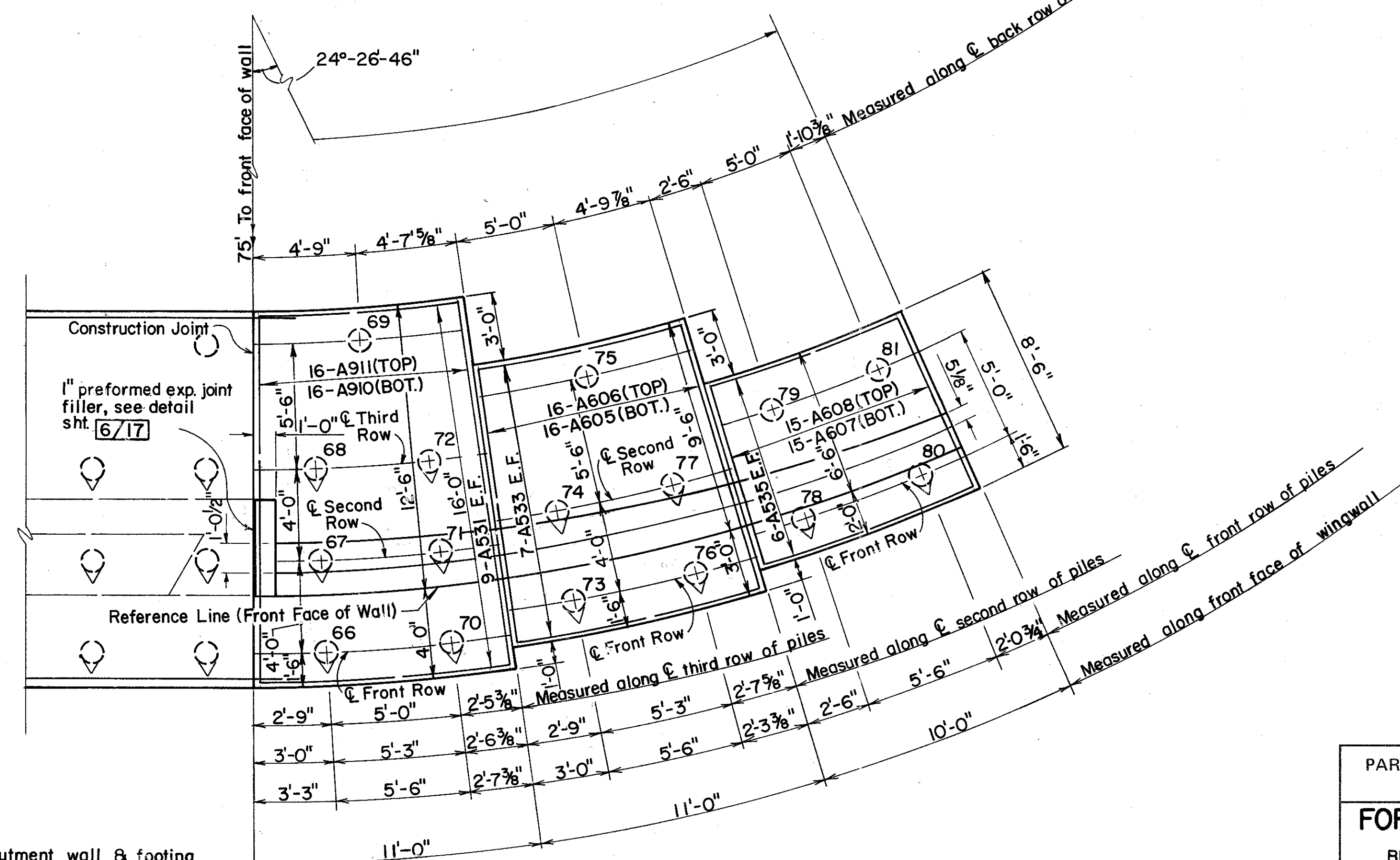
F.F. = Far Face



ABUTMENT



WINGWALL 3



WINGWALL 4

PLAN OF FORWARD ABUTMENT FOUNDATION

All longitudinal steel in wingwall footings shall be lapped at steps, see elevation of Wingwall 3 and Wingwall 4 on sheet 9/17.

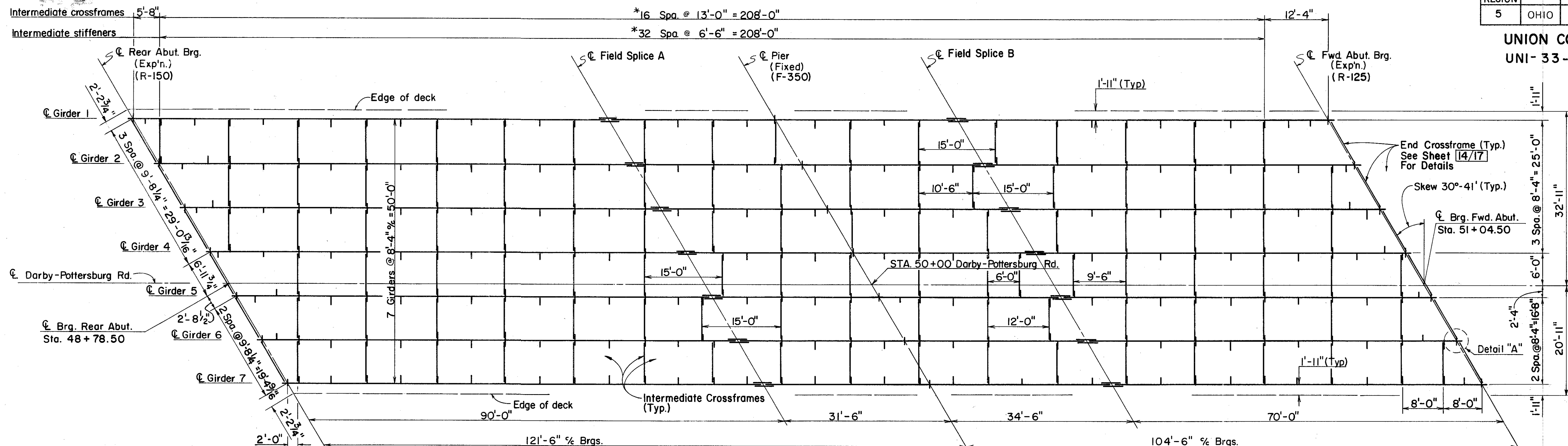
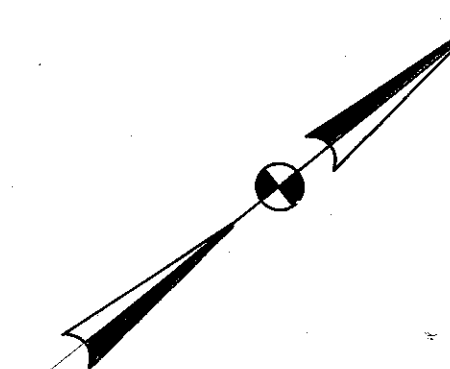
PARSONS BRINCKERHOFF QUADE & DOUGLAS
COLUMBUS, OHIO

FORWARD ABUTMENT DETAILS

BRIDGE NO. UNI - 33 - 0275
UNDER DARBY - POTTERSBU RG RD
UNION COUNTY STA. 144+96.55

Designed	Drawn	Traced	Checked	Reviewed	Date	Revised
MJM	MJM				5/2/85	10/24/85

UNION COUNTY
UNI- 33 - I.99



FRAMING PLAN

NOTES

- For Detail "A", see sheet [14/17]
- For intermediate and bearing stiffener details, see sheet [14/17]
- For shear connector details, see sheet [14/17]
- Where a shape or plate is designated (CVN) the material shall meet specified minimum notch toughness requirements as specified in 71101 of CMS.

- All girder length dimensions are at 70°F.
- See sh. [14/17] for field splice details.
- For intermediate crossframe details, see sh. [14/17]
- The intermediate stiffeners shall be on alternate sides of the web of interior girders and on the inside of the web of fascia girders.

Locate intermediate stiffeners to serve as attachments to intermediate crossframes. (see framing plan)

Bearings: In lieu of A588 steel, A36 steel, galvanized may be furnished for bearings, except for upper plate element of bearings. This A36 steel shall be included with the A588 steel quantity for payment.

Partial Painting of A588 Steel: A 10' length of the ends of the girders adjacent to the abutments, and all crossframes and other steel within these limits shall be painted. Paint shall be 514, System A. The prime coat shall be 708.17. The top coat shall be 708.18 except that the color shall closely approach Federal Standard No. 595a-20045 or 20059. (Rusty Steel Color)

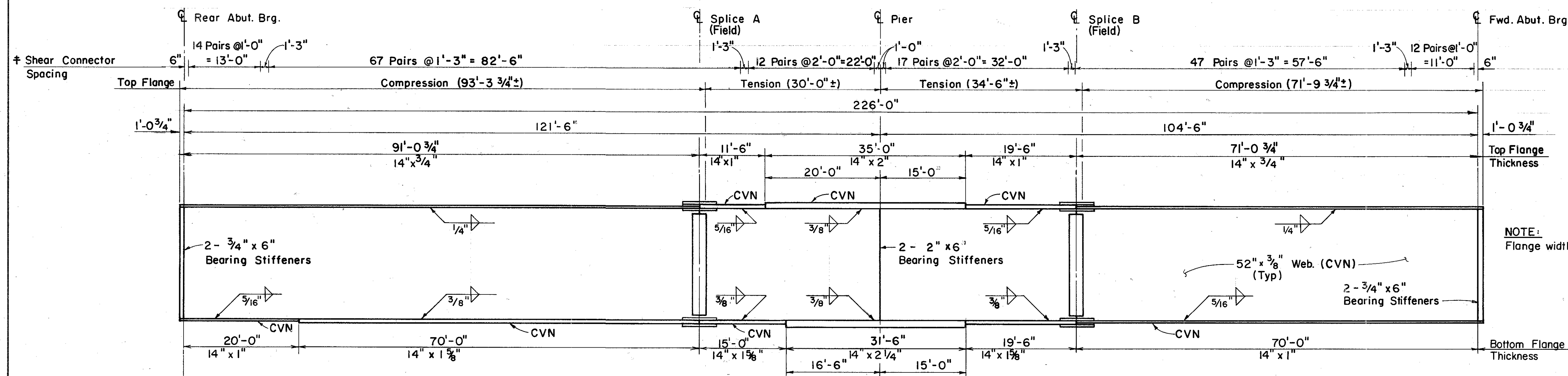
Remaining A588 is to be left unpainted, see CMS 513.221 for cleaning requirements.

PARSONS BRINCKERHOFF QUADE & DOUGLAS
COLUMBUS, OHIO

SUPERSTRUCTURE DETAILS

BRIDGE NO. UNI-33-0275
UNDER DARBY-POTTSBURG RD.
UNION COUNTY STA. 144+96.55

Designed	Drawn	Traced	Checked	Reviewed	Date	Revised
MJM	WJ		LKS	S.F.	10/24/85	

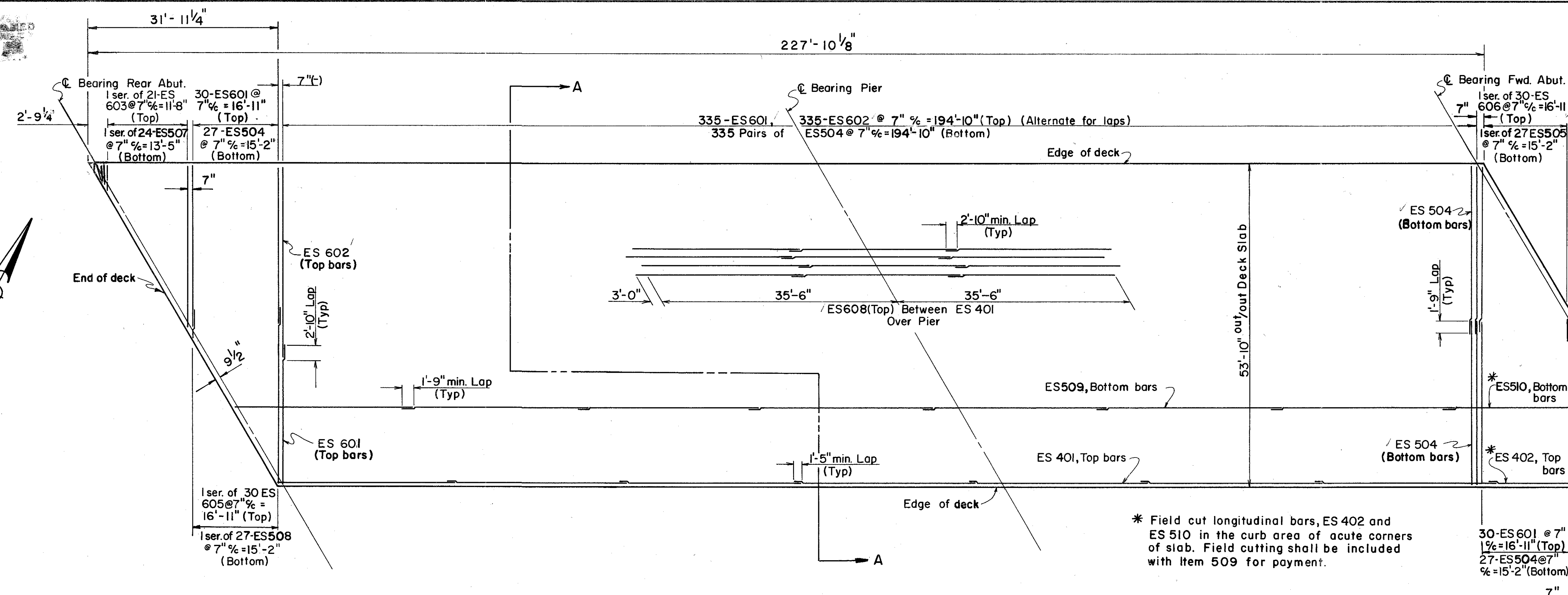


TYPICAL GIRDER ELEVATION
(A588 STEEL)

NOTES (continued)

- Shear connectors shall be shifted as necessary to clear splice plates.
- Welded attachment of supports for concrete deck finishing machine may be made to areas of the fascia stringer flanges designated "compression". Attachments shall not be made to areas designated "tension". Fillet welds to compression flanges shall be not closer than 1" from edge of flange, be not more than 2" long, and be not smaller than the minimum size required by AASHTO

UNION COUNTY
UNI- 33 -1.99



DECK PLAN

NOTES:

Ø Typical haunch width of 9" shall be used for a computing quantity of concrete. However, the haunch width may vary between 6" and 12", provided that the slope shall not be more than 1:4 for a haunch width less than 9".

Field bend transverse bars to fit crown. Field bending shall be included with Item 509 for payment.

Longitudinal reinforcing steel shall be field cut as necessary to avoid interference with scuppers.

Epoxy coated bars that are field cut and bars with epoxy coating damaged by field bending shall be re-coated as per approved manufacturer's recommendations.

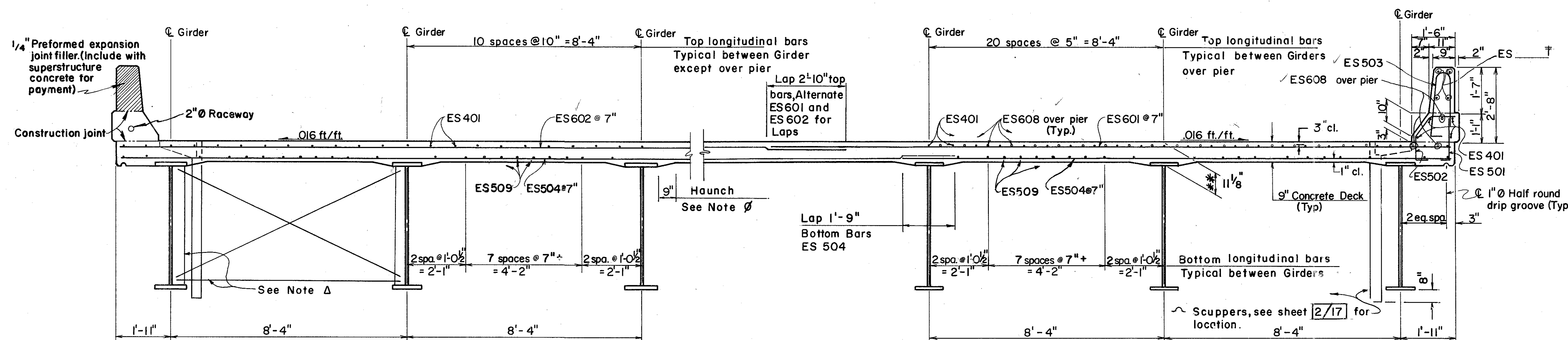
Δ For cross frame and stiffener details, see sheet 14/17

For bridge roadway railing details, see Std. Dwg. BR-1. (Date 5-29-79)

† For additional bridge roadway railing details, see sheet 13/17

For girder details, see sheet 11/17

~ Scuppers shall be in accordance with Std. Dwg. SD-1-69, Sheet 3, except that Scupper pipes shall extend 8" below the bottom of the girders instead of 2".



SECTION A-A

(For Bridge Roadway Typical Section See Sheet 13/17)

**This is the design dimension. The quantity of deck concrete to be paid for shall be based upon this dimension, even though deviation from it may be necessary because the top flange of the girder may not have the exact camber or conformation required to place it parallel to the finished grade. Deduction shall be made for volume of encased steel plates as per 511.18.

PARSONS BRINCKERHOFF QUADE & DOUGLAS
COLUMBUS, OHIO 12/17

SUPERSTRUCTURE DETAILS

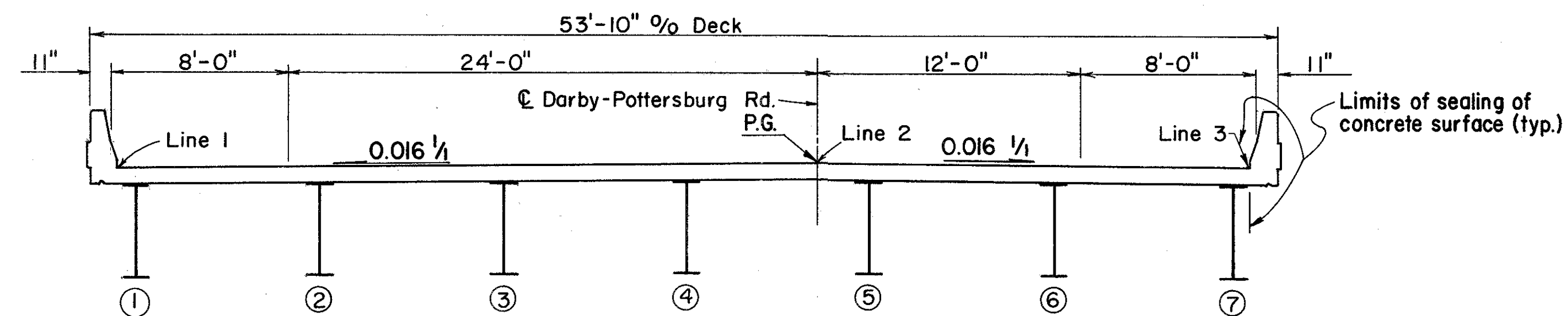
BRIDGE NO. UNI-33-0275
UNDER DARBY-POTTERSBUrg RD.
UNION COUNTY STA. 144+96.55

Designed	Drawn	Traced	Checked	Reviewed	Date	Revised
MJM	JS		LKS	SF/LKS	10/24/85	

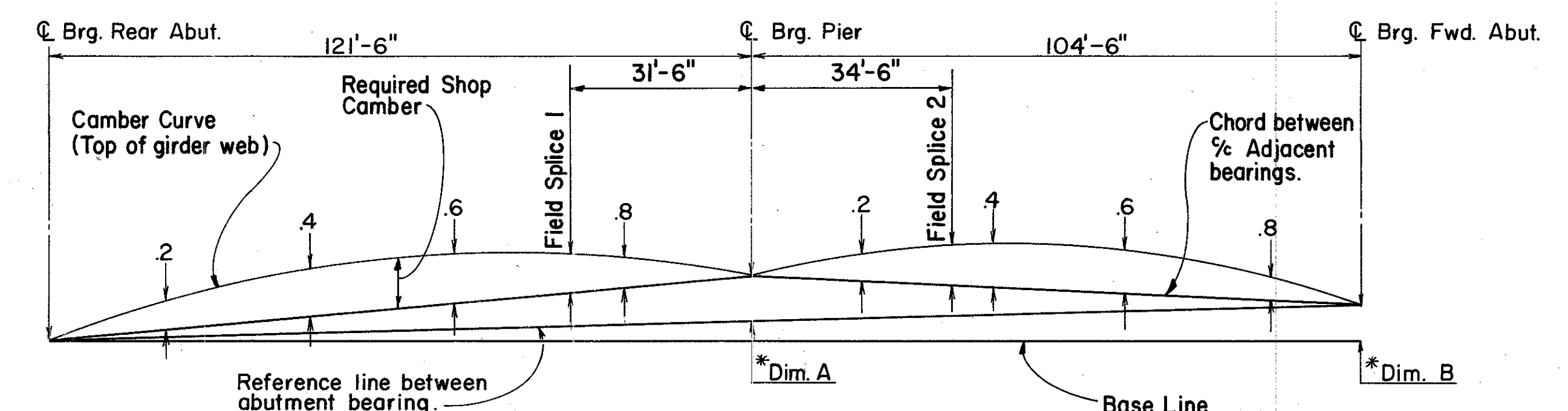
BLOCKING DIMENSIONS		
*	Dim. A	Dim. B
Girder 1	4 7/8"	1'-1 15/16"
Girder 2	4 7/8"	1'-1 1/16"
Girder 3	4 7/8"	1'-0 1/8"
Girder 4	4 7/8"	11 1/4"
Girder 5	4 13/16"	10 7/16"
Girder 6	4 13/16"	9 3/4"
Girder 7	4 3/4"	8 3/4"

F.H.W.A. REGION	STATE	PROJECT
5	OHIO	

UNION COUNTY
UNI-33-1.99



TYPICAL SECTION



CAMBER DIAGRAM
(Typical for all Girders 1 thru 7)

†NOTES ON PARAPETS:

Bridge Terminal Assemblies Type 'A' as per Standard Construction Drawing GR-3, Revised 2-5-82.

The insert assembly shall be placed during parapet construction.

Bridge corner parapet lengths and reinforcement spacing

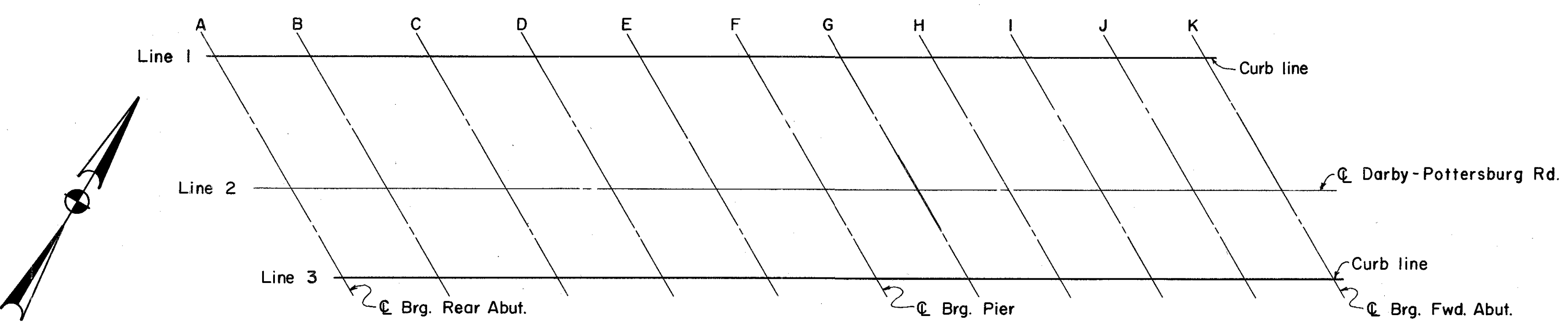
NW: L=15'-2"
4-ES501, ES502, ES503 @ 1' - 5" c/c
NE: L=14'-3"
4-ES501, ES502, ES503 @ 1' - 1 3/8" c/c
SW: L=16'-3"
5-ES501, ES502, ES503 @ 1' - 4" c/c
SE: L=17'-2"
6-ES501, ES502, ES503 @ 1' - 3" c/c

† Actual opening between face of backwall and end of deck will depend on the type and size of steel extrusion used by the approved manufacturer of structural steel expansion joint systems.

Holes for splice bolts attaching guardrail to the terminal connector at ends of parapets shall be slotted 29/32"x3" and all bolts shall be tightened as specified for expansion joints as per CMS 606.05 to allow for bridge movement.

DESCRIPTION	SPAN 1					SPAN 2				
GIRDERS 1 thru 7	.2	.4	.6	(.74) FS. 1	.8	.2	(.33) FS. 2	.4	.6	.8
Weight of steel deflection	7 1/16"	5 5/8"	1 1/2"	5 1/16"	1 1/4"	0"	1 1/16"	1 1/16"	3 1/16"	1 1/8"
Remaining dead load deflection	2 3/8"	3 3/8"	2 13/16"	1 11/16"	3 1/16"	3 1/16"	1 1/16"	15 1/16"	7 1/16"	1 1/8"
Vertical curve correction	7 7/8"	1 5/16"	1 3/8"	1 1/16"	15 1/16"	1 1/16"	7 7/8"	1"	15 1/16"	1 1/16"
Required shop camber	3 11/16"	5 5/16"	4 11/16"	3 1/16"	2 7/8"	7 7/8"	1 5/8"	2"	2 9/16"	15 1/16"

CAMBER AND DEFLECTION TABLE

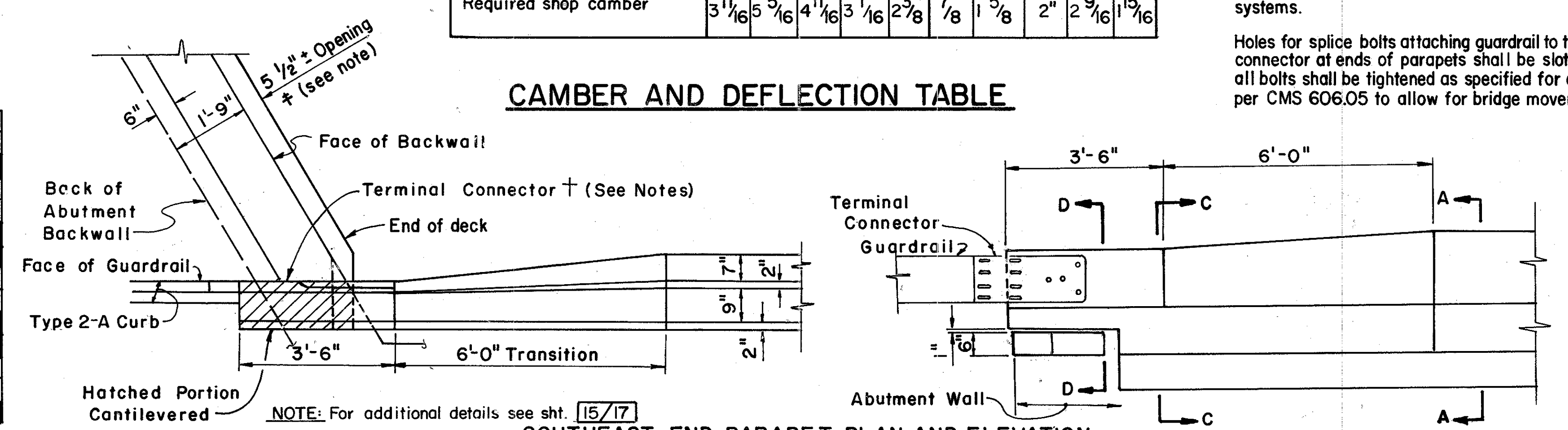
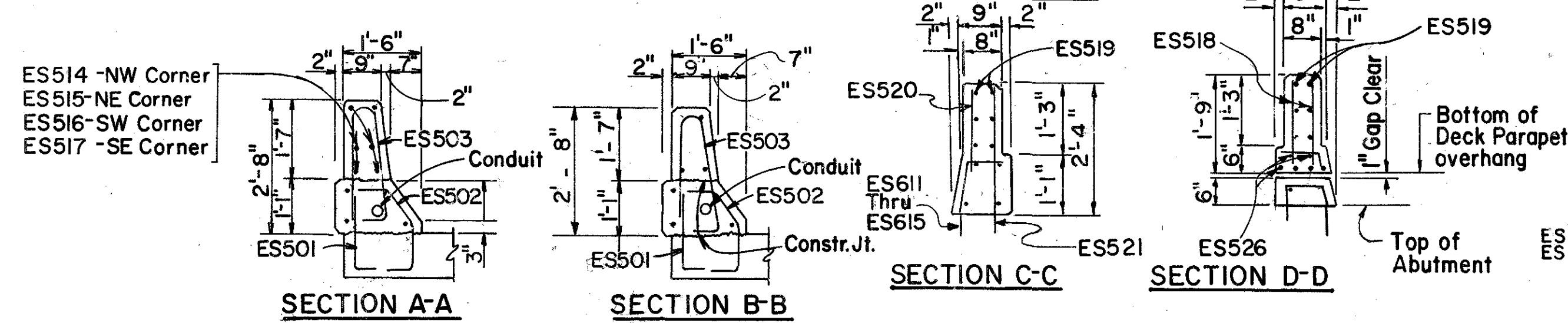


PLAN
(Deck Screed Elevation Location Layout)

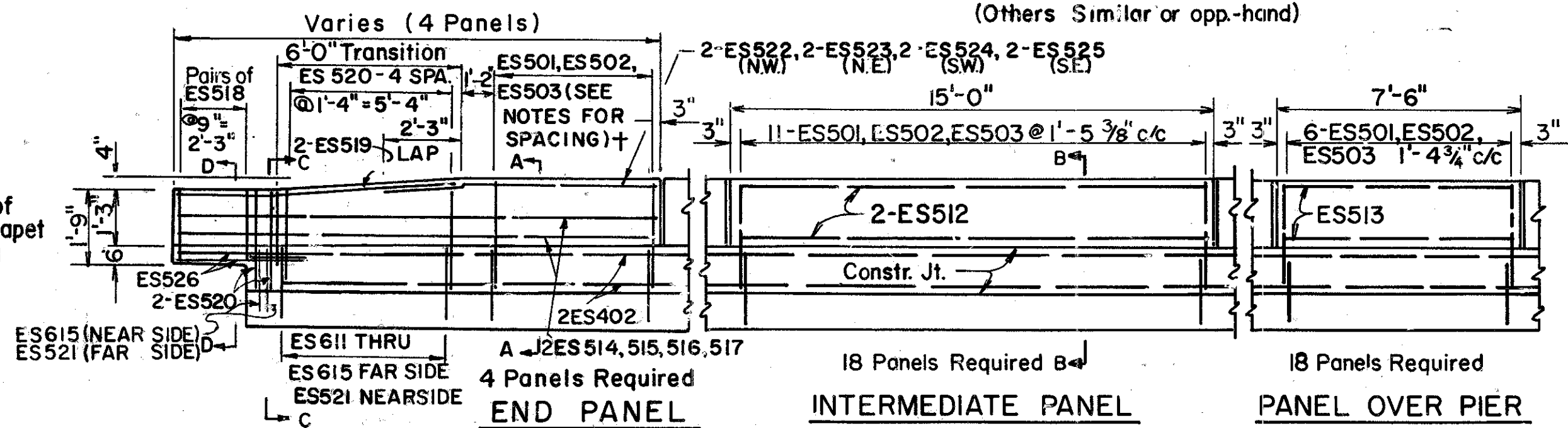
*** NOTE:
The Construction Elevations shown are those on top of concrete, before concrete deck is placed, so that the proper allowance is made for the dead load deflection caused by the weight of the concrete.

POINT LOCATION	A	B	C	D	E	F	G	H	I	J	K
Station	48+59.86	48+84.16	49+08.46	49+32.76	49+57.06	49+81.36	50+02.26	50+23.16	50+44.06	50+64.96	50+85.86
Top of slab elevation	1106.88	1107.16	1107.40	1107.60	1107.78	1107.91	1107.99	1108.04	1108.07	1108.07	1108.04
Deflection	0.00	0.20	0.28	0.23	0.10	0.00	0.02	0.08	0.12	0.09	0.00
Screed setting elev.	1106.88	1107.36	1107.68	1107.83	1107.88	1107.91	1108.01	1108.12	1108.19	1108.16	1108.04
Station	48+78.50	49+02.80	49+27.10	49+51.40	49+75.70	50+00.00	50+20.90	50+41.80	50+62.70	50+83.60	51+04.50
Top of slab elevation	1107.60	1107.85	1108.06	1108.24	1108.38	1108.48	1108.54	1108.57	1108.57	1108.54	1108.49
Deflection	0.00	0.20	0.28	0.23	0.10	0.00	0.02	0.08	0.12	0.09	0.00
Screed setting elev.	1107.60	1108.05	1108.34	1108.47	1108.48	1108.48	1108.56	1108.65	1108.69	1108.63	1108.49
Station	48+90.02	49+14.32	49+38.62	49+62.92	49+87.22	50+11.52	50+32.42	50+53.32	50+74.22	50+95.12	51+16.02
Top of slab elevation	1107.41	1107.64	1107.84	1108.00	1108.12	1108.21	1108.25	1108.26	1108.25	1108.21	1108.14
Deflection	0.00	0.20	0.28	0.23	0.10	0.00	0.02	0.08	0.12	0.09	0.00
Screed setting elev.	1107.41	1107.84	1108.12	1108.23	1108.22	1108.21	1108.27	1108.34	1108.37	1108.30	1108.14

DECK SCREED ELEVATION TABLE ***



SOUTHEAST END PARAPET PLAN AND ELEVATION
(Others Similar or opp-hand)



PARSONS BRINCKERHOFF QUADE & DOUGLAS COLUMBUS, OHIO			13 / 17
SUPERSTRUCTURE DETAILS			
BRIDGE NO. UNI-33-0275			
UNDER DARBY-POTTERSBUrg RD.			
UNION COUNTY			STA. 144+96.55
Designed	Drawn	Traced	Checked
Reviewed	Date	Revised	
MJH	10/24/85		

UNION COUNTY
UNI-33-1.99

NOTES:

All bolts shall be 1" dia. High Strength Steel conforming to ASTM A-325 Type 3.

Place bolt heads on exposed side of fascia girder webs, place nuts on top of bottom flange splice.

All splice plates except fills shall be CVN.

For field splice locations, see sht. 11/17.

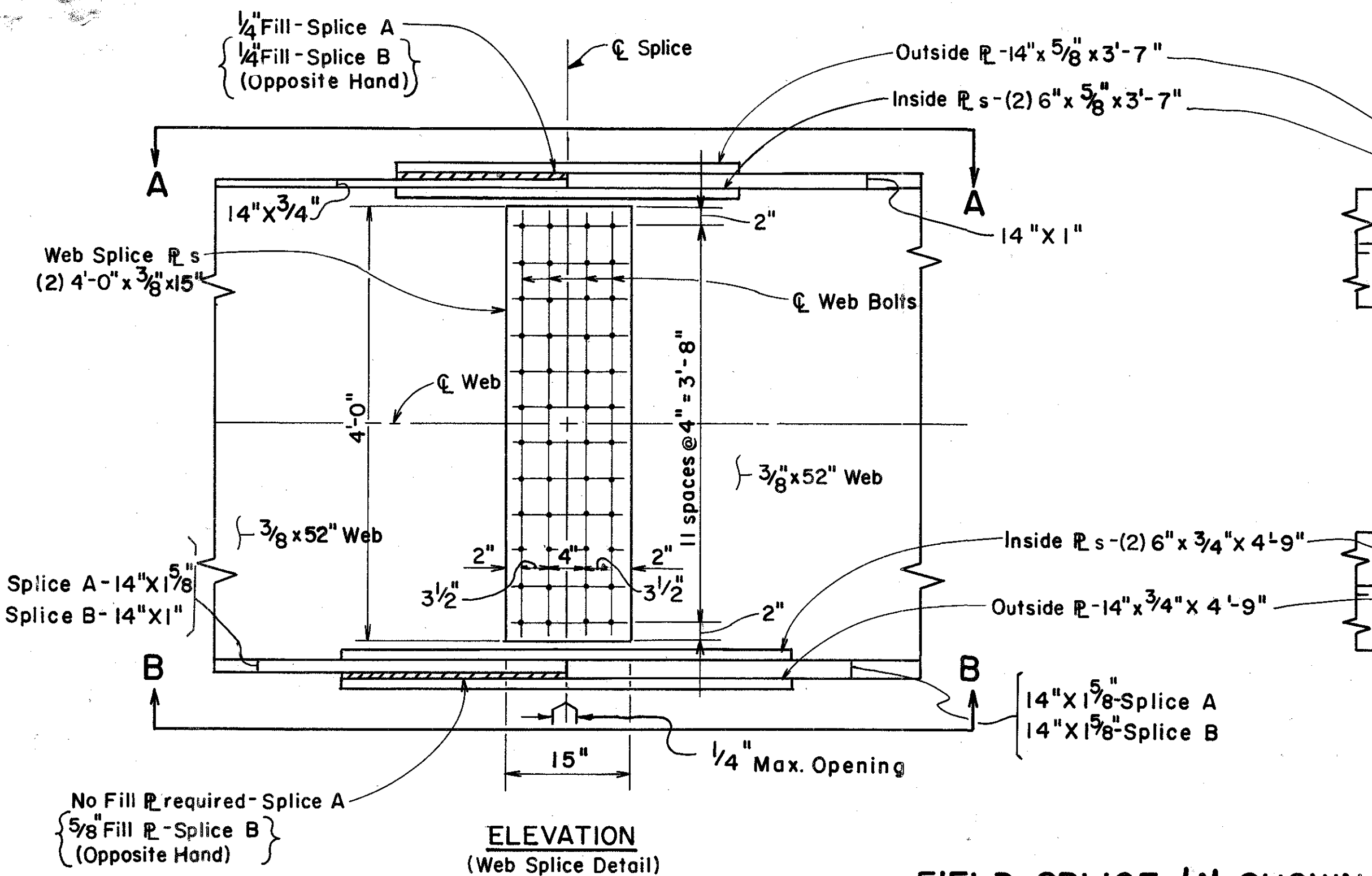
For cross frame and stiffener locations, see sht. 11/17.

For shear connector spacing, see sht. 11/17.

For location of Detail 'A' see sheet 11/17.

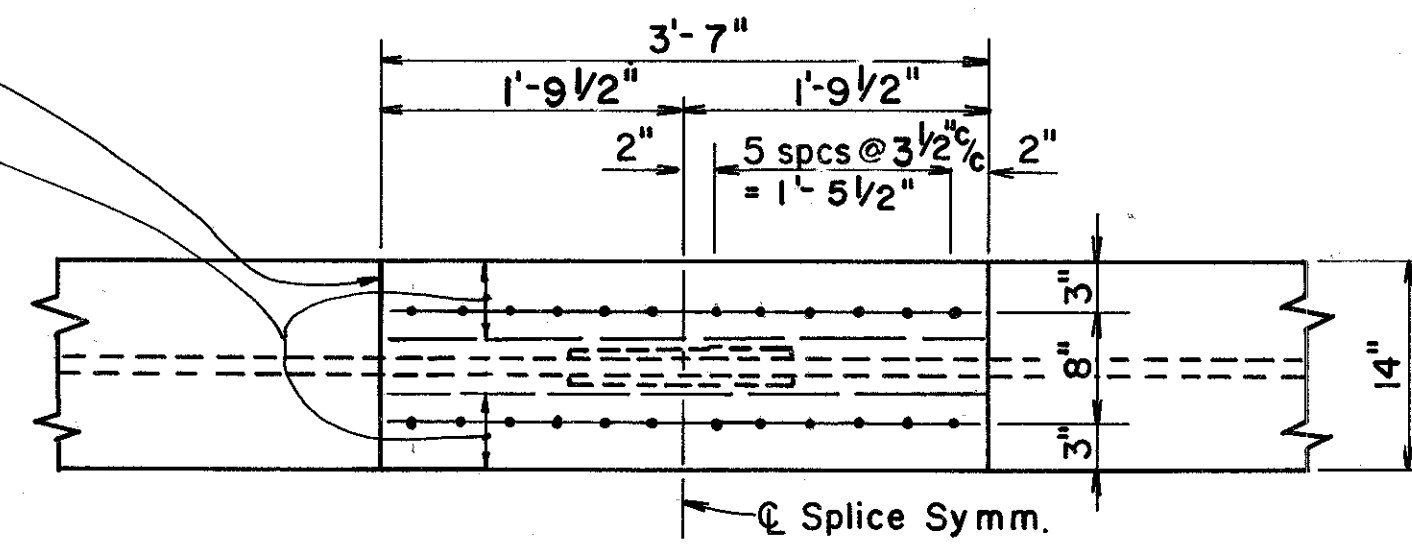
ERECTION BOLTS: Hole diameter in the cross frames and girder stiffeners shall be respectively 1/16" and 1/4" larger than the diameter of the erection bolts. Unless replaced by permanent high strength bolts, erection bolts shall remain in place. Lock washers shall be furnished for other than fully torqued high strength erection bolts. Bolts shall be furnished as part of 513.

In lieu of erection bolts and at the option of the Contractor, alternative means of temporary bracing may be used subject to the approval of the Director (501.06).

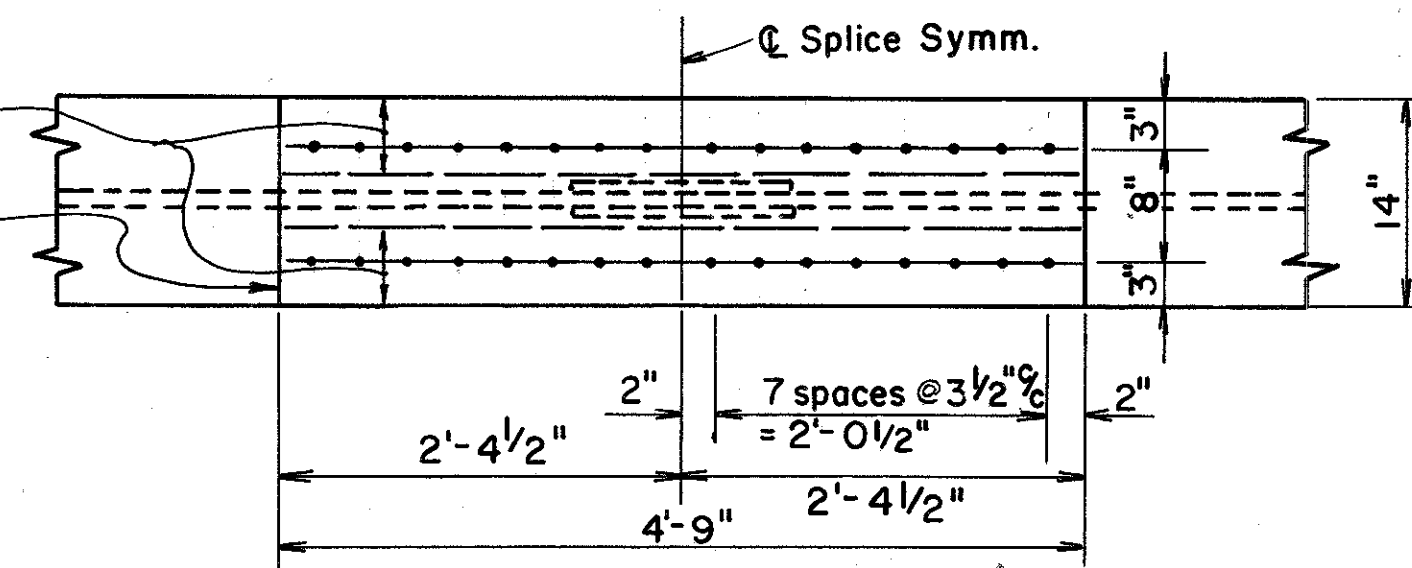


ELEVATION
(Web Splice Detail)

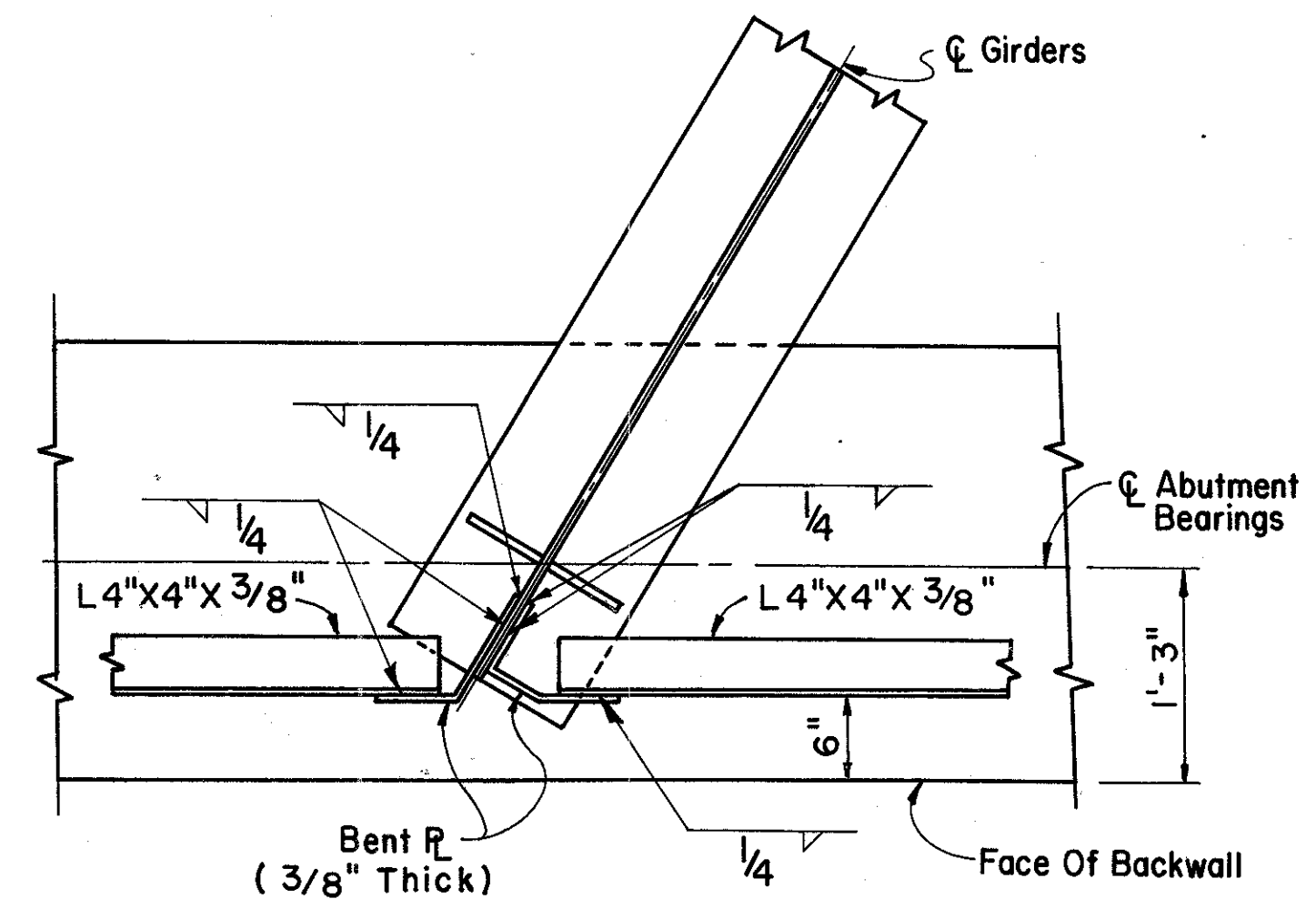
FIELD SPLICE 'A' SHOWN
(Field Splice 'B', Opposite Hand)



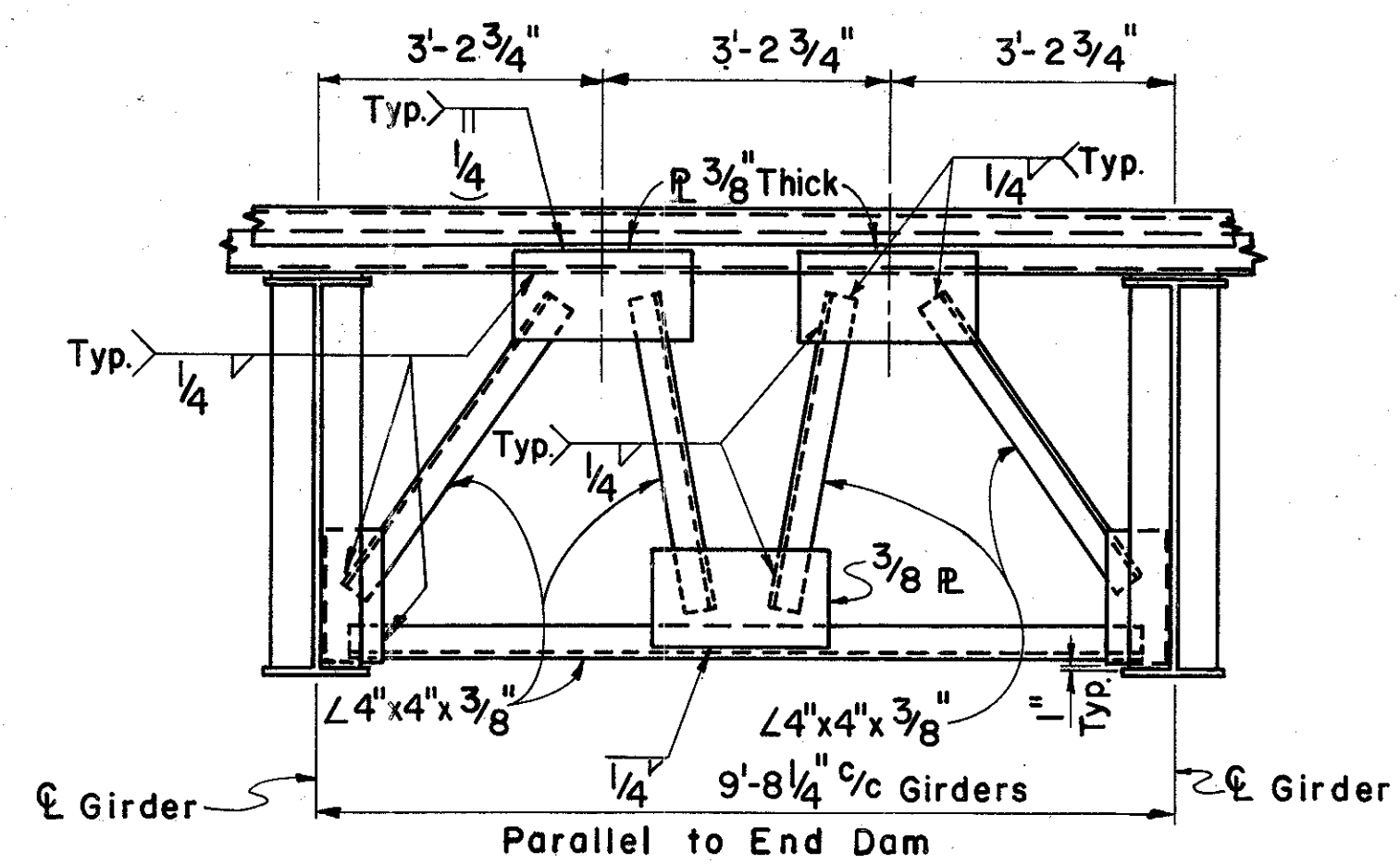
VIEW A-A
(Flange Splice Detail)
(TOP FLANGE)



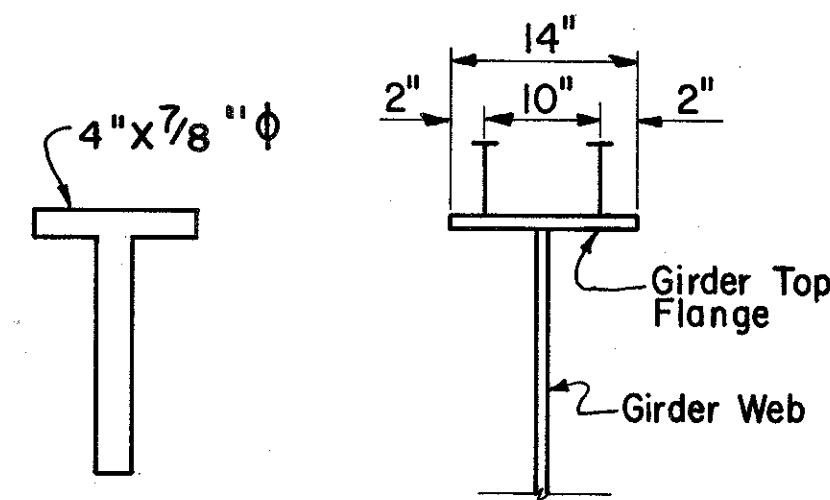
VIEW B-B
(Flange Splice Detail)
(BOTTOM FLANGE)



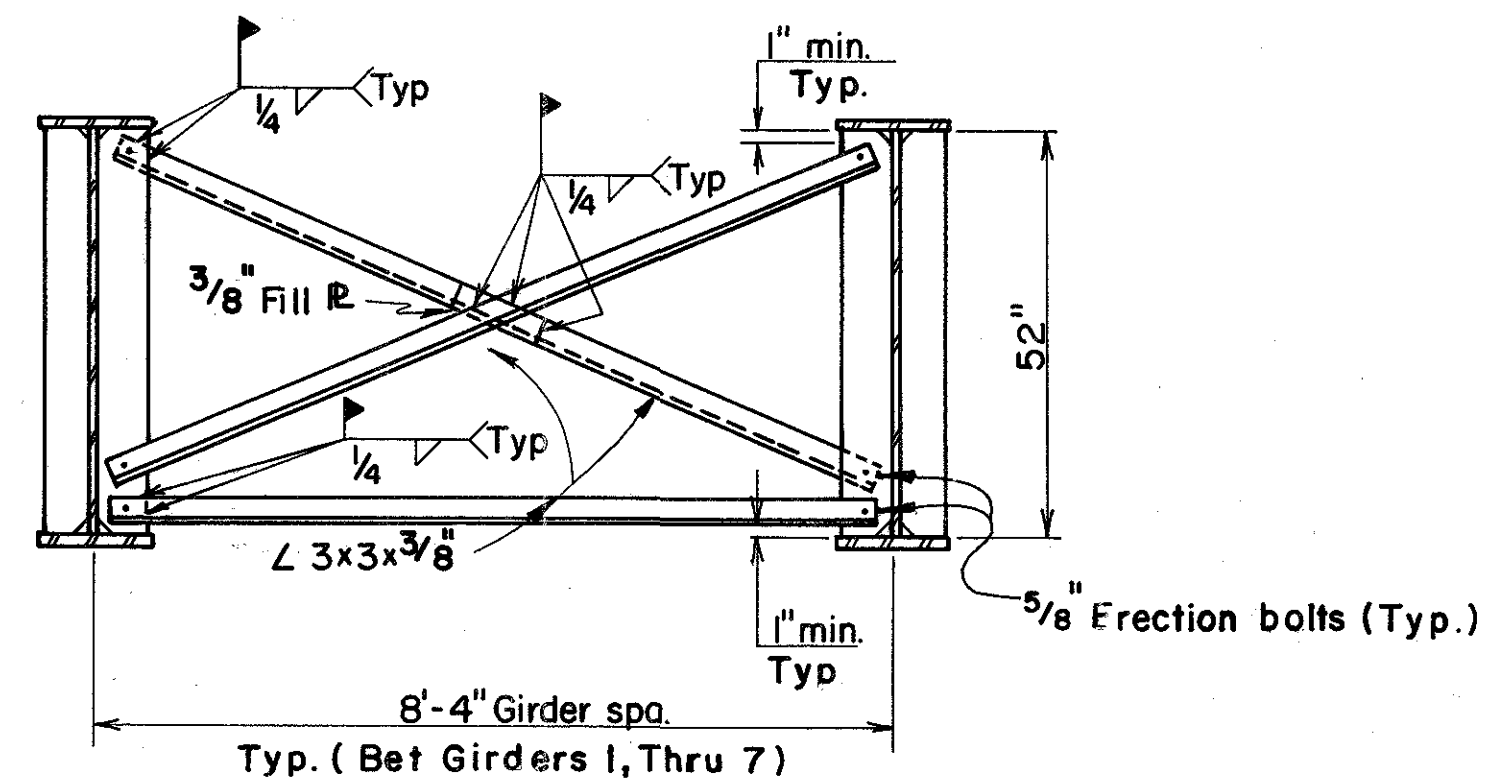
DETAIL 'A'
(Typical End Cross Frame Connection Detail at Girders)



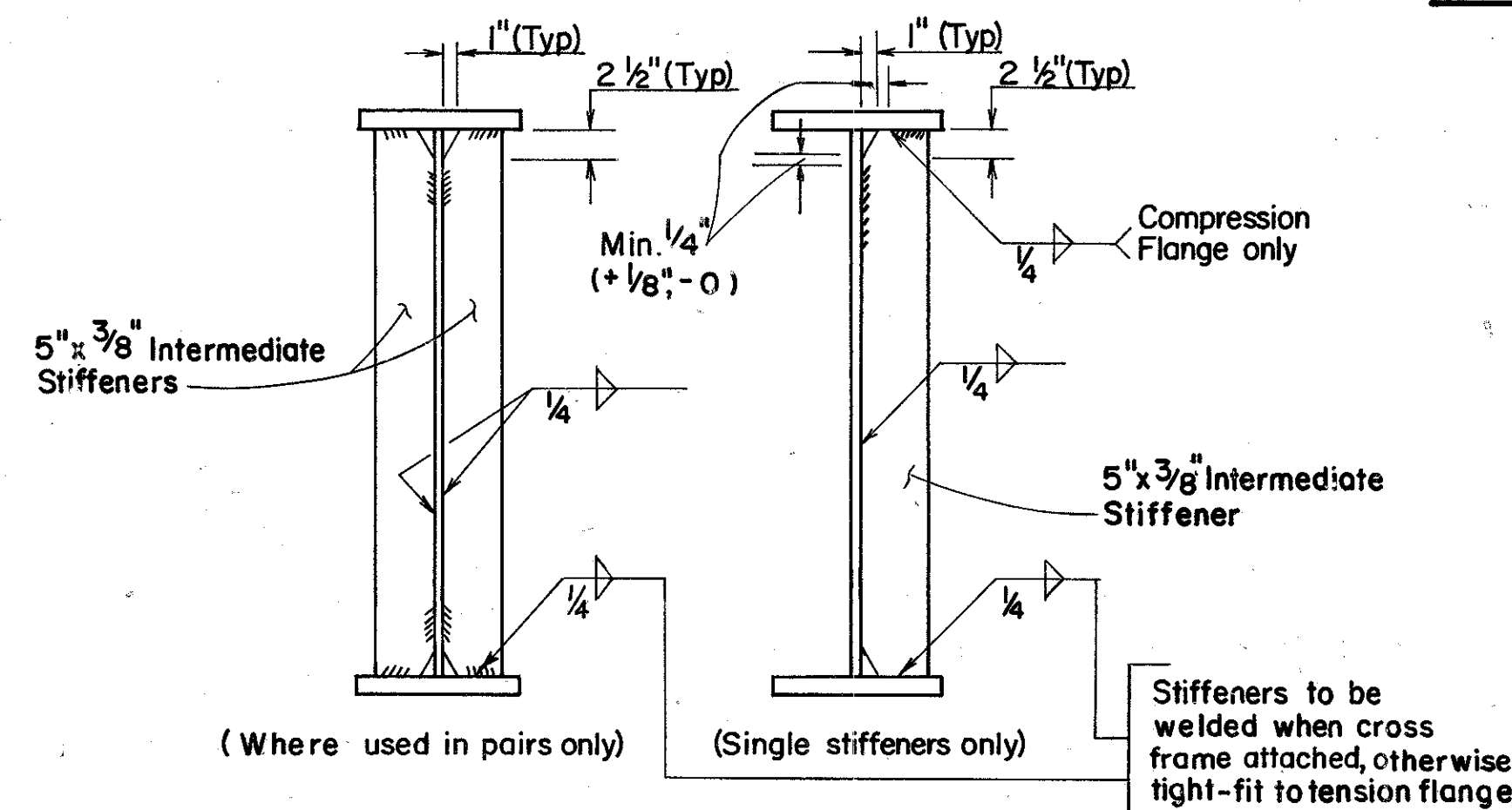
END CROSS FRAME



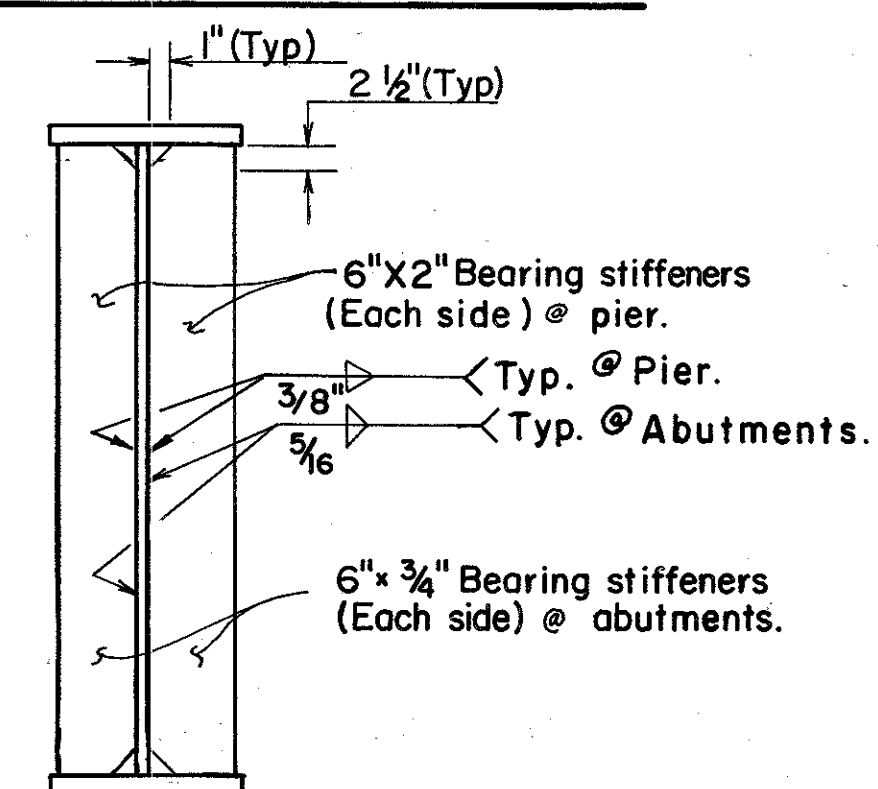
SHEAR CONNECTOR



INTERMEDIATE CROSS FRAME



INTERMEDIATE STIFFENERS



BEARING STIFFENER

PARSONS BRINCKERHOFF QUADE & DOUGLAS
COLUMBUS, OHIO

SUPERSTRUCTURE DETAILS

BRIDGE NO. UNI-33-0275
UNDER DARBY-POTTERSBERG RD.

UNION COUNTY STA. 144+96.55
SCALE: NO SCALE

Designed	Drawn	Traced	Checked	Reviewed	Date	Revised
DFS	DFS	DFS	DFS	DFS	10/24/85	

Designed	Drawn	Traced	Checked	Reviewed	Date	Revised
MJM	RM	REB	NKS	AKB	12/27/85	

REINFORCING STEEL LIST

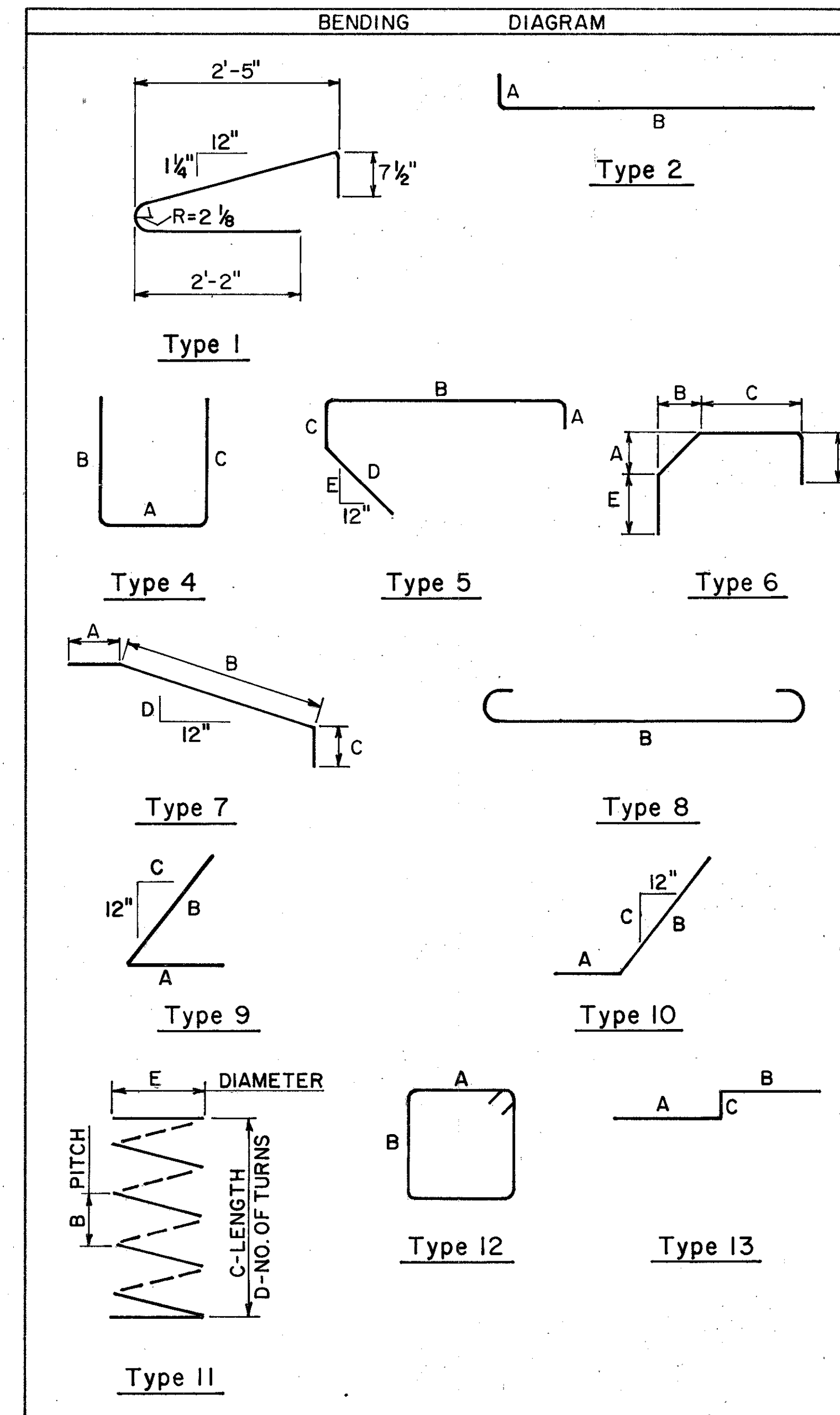
UNION COUNTY
UNI-33-1.99

Mark	No.	Length	Weight	Shp.	Type	A	B	C	D	E
REAR ABUTMENT ▲										
A 401	68	5'-5"	246	Bent	4	7"	2'-6"	2'-6"		
A 402	6	3'-2"	13	Bent	4	8"	1'-4"	1'-4"		
A501	43	16'-9"	751	Str.						
A502	1	35'-0"	37	"						
A503	38	38'-8"	1533	"						
A504	1	23'-5"	24	"						
A505	38	29'-8"	1176	"						
A506	4	23'-4"	97	"						
A507	52	7'-2"	389	Bent	4	2'-2"	2'-7"	2'-7"		
A508	3	23'-9"	74	Str.						
A509	4	6'-2"	26	Bent	9	3'-3"	3'-0"	1'-8"		
A510	4	11'-2"	47	"	4	1'-5"	5'-0"	5'-0"		
A511	4	3'-10"	16	Str.						
A512	4	4'-7"	19	Bent	10	1'-8"	3'-0"	7'-8"		
A513	4	11'-4"	47	"	4	3'-11"	6'-4"	1'-4"		
A514	4	7'-10"	33	"	4	3'-11"	2'-10"	1'-4"		
A515	36	38'-2"	1433	Str.						
A516	1	0'-10"	1	"						
A517	14	29'-8"	433	"						
A518	27		448	"	*	8'-7"	23'-3"	6'-3"		
A519	20		355	"	*	10'-3"	23'-9"	8'-2"		
A520	12	39'-8"	496	"						
A521	22		435	Str.	*	2 Ser. of 11	1'-0"	36'-11"	3'-7"	
A522	2	33'-0"	69	"						
A523	18		171	"	*	2 Ser. of 9	8'-2"	10'-0"	2'-3"	
A524	14		134	"	*	2 Ser. of 7	8'-7"	9'-10"	2'-1"	
A525	12		118	"	*	2 Ser. of 6	9'-2"	9'-9"	1'-3"	
A526	20		299	"	*	2 Ser. of 10	1'-0"	27'-8"	2'-1"	
A527	18		277	"	*	2 Ser. of 9	13'-4"	16'-2"	4'-1"	
A528	14		212	"	*	2 Ser. of 7	13'-6"	15'-6"	4'-1"	
A529	12		103	"	*	2 Ser. of 6	7'-11"	8'-6"	1'-6"	
A534	1	1'-3"	1	Str.						
A544	14	4'-3"	62	Bent	13	2'-0"	2'-0"	6"		
A545	12	4'-0"	50	"	13	2'-0"	2'-0"	3"		
A549	4	23'-9"	99	Str.						
A550	4	23'-3"	97	"						
A553	2	43'-0"	90	"						
A560	26	2'-0"	54	"						
A570	2	1'-9"	4	"						
A571	2	4'-0"	8	"						
A601	43	11'-5"	737	Bent	5	1'-4"	3'-11"	1'-8"	5'-0"	1'-0"
A602	66	11'-1"	1099	"	4	1'-5"	5'-0"	5'-0"		
A603	66	7'-9"	768	"	4	1'-5"	3'-4"	3'-4"		
A604	66	6'-3"	620	"	4	11"	2'-10"	2'-10"		
A605	37	13'-6"	750	"	8	12'-2"				
A606	37	12'-2"	676	Str.						
A607	23	8'-2"	282	Str.						
A608	23	9'-6"	328	Bent	8	8'-2"				

Mark	No.	Length	Weight	Shp.	Type	A	B	C	D	E
REAR ABUTMENT ▲										
A901	129	13'-2"	5775	Bent	2	1'-8"	11'-9"			
A902	63	13'-2"	2820	Str.						
A903	93	16'-2"	5112	Str.						
A904	82	18'-8"	5204	Bent	8	16'-2"				
A905	96	8'-11"	2910	"	9	1'-8"	7'-6"	0'-5"		
A906	20		1131	Str.	*	9'-6"	23'-9"	9"		
A907	19		530	"	*	4'-7"	11'-10"	4'-7"		
A908	27		1415	"	*	7'-7"	23'-3"	7'-4"		
A909	20		547	"	*	4'-10"	11'-3"	4"		
A910	37	18'-8"	2348	Bent	8	16'-2"				
A911	37	16'-2"	2034	Str.						
A916	2	13'-8"	93	Str.						
A917	2	14'-2"	96	Str.						
A921	2	23'-9"	162	Str.						
A922	2	23'-3"	158	Str.						
D 801	42	6'-4"	710	Bent	7	2'-0"	2'-8"	2'-0"	1'-0"	
FORWARD ABUTMENT ▼										
A401	68	5'-5"	246	Bent	4	7"	2'-6"	2'-6"		
A402	6	3'-2"	13	"	4	8"	1'-4"	1'-4"		
A542	2	30'-8"	621	Str.	●					
A543	2	34'-0"	71	"	●					
A570	2	1'-9"	4	Str.	●					
A571	2	4'-0"	8	"	●					

Mark	No.	Length	Weight	Shp.	Type	A	B	C	D	E
FORWARD ABUTMENT CONT. ▼										
A502	1	33'-0"	34	Str.						
A503	34	38'-8"	1371	"						
A504	1	26'-4"	27	"						
A505	34	29'-8"	1052	"						
A507	40	7'-2"	299	Bent	4	2'-2"	2'-7"	2'-7"		
A509	4	6'-2"	26	Bent	9	3'-3"	3'-0"	1'-8"		
A510	4	11'-2"	47	"	4	1'-5"	5'-0"	5'-0"		
A511	8	3'-0"	25	Str.						
A512	4	4'-7"	19	Bent	10	1'-8"	3'-0"	7'-8"		
A513	4	11'-4"	47	"	4	3'-11"	6'-4"	1'-4"		
A514	4	7'-10"	33	"	4	3'-11"	2'-10"	1'-4"		
A515	36	38'-2"	1433	Str.						
A516	1	0'-10"	1	Str.						
A530	18		207	Str.	*	2 Ser. of 9	9'-11"	12'-1"	3'-1"	
A531	18		188	"	*	2 Ser. of 9	9'-0"	11'-0"	3"	
A532	14		219	"	*	2 Ser. of 7	14'-0"	16'-0"	4"	
A533	14		146	"	*	2 Ser. of 7	9'-7"	10'-5"	1'-5"	
A534	1	1'-3"	1	"						
A535	12		118	"	*	2 Ser. of 6	9'-0"	9'-11"	2'-4"	
A536	10	27'-8"	289	"						
A537	18		246	"	*	2 Ser. of 9	1'-0"	25'-3"	3'-0"	
A538	10	31'-8"	330	"						
A539	18		291	"	*	2 Ser. of 9	1'-0"	30'-0"	3'-7"	
A540	21		297	"	*		7'-8"	19'-5"	7"	
A541	19		262	"	*		6'-11"	19'-6"	8'-3"	
A544	14	4'-3"	62	Bent	13	2'-0"	2'-0"	6"		
A545	6	4'-0"	25	"	13	2'-0"	2'-0"	3"		
A546	4	19'-5"	81	Str.						
A547	3	19'-6"	61	Str.						
A548	44	13'-3"	608	Str.						
A551	4	19'-5"	81	Str.						
A552	4	19'-4"	81	"						
A560	20	2'-0"	42	"						
A601	44	11'-6"	760	Bent	5	1'-4"	3'-11"	1'-8"	5'-0"	1'-0"
A602	66	11'-1"	1099	"	4	1'-5"	5'-0"	5'-0"		
A603	66	7'-9"	768	"	4	1'-5"	3'-4"	3'-4"		
A604	66	6'-3"	620	"	4	11"	2'-10"	2'-10"		
A605	39	13'-6"	791	"	8	12'-2"				
A606	39	12'-2"	713	Str.						
A607	15	9'-6"	214	Bent	8	8'-2"				
A608	15	8'-2"	184	Str.						
A901	132	13'-2"	5909	Bent	2	1'-8"	11'-9"			
A903	92	16'-2"	5057	Str.						
A904	82	18'-8"	5204	Bent	8	16'-2"				
A905	81	8'-11"	2456	"	9	1'-8"	7'-5"	0'-5"		

This column continued on sht. 117/17.



▲ All Bars For Rear Abutment Shall Have Suffix R, ie A502-R.

▼ All Bars For Forward Abutment Shall Have Suffix F, ie A502-F.

* SERIES BAR

NOTES:

Reinforcing Steel Samples

Refer to CMS sections 106.03, 700, 709.01 through 709.05 and 709.08. Sufficient additional reinforcing steel shall be provided for sampling. Random samples shall be replaced in structure by the additional steel, spliced in accordance with 509.08.

The letter 'E' before a bar mark denotes an epoxy coated reinforcing bar. Payment for these bars shall be under item 02.4 "Epoxy coated reinforcing steel."

PARSONS BRINCKERHOFF QUADE & DOUGLAS
COLUMBUS, OHIO 16/17

REINFORCING STEEL LIST
BRIDGE NO. UNI-33-0275
UNDER DARBY-POTTERSBERG RD.
UNION COUNTY STA. 144+96.55

Designed	Drawn	Traced	Checked	Reviewed	Date	Revised
MJM	PEB		AM	PEB	10/24/85	

REINFORCING STEEL LIST

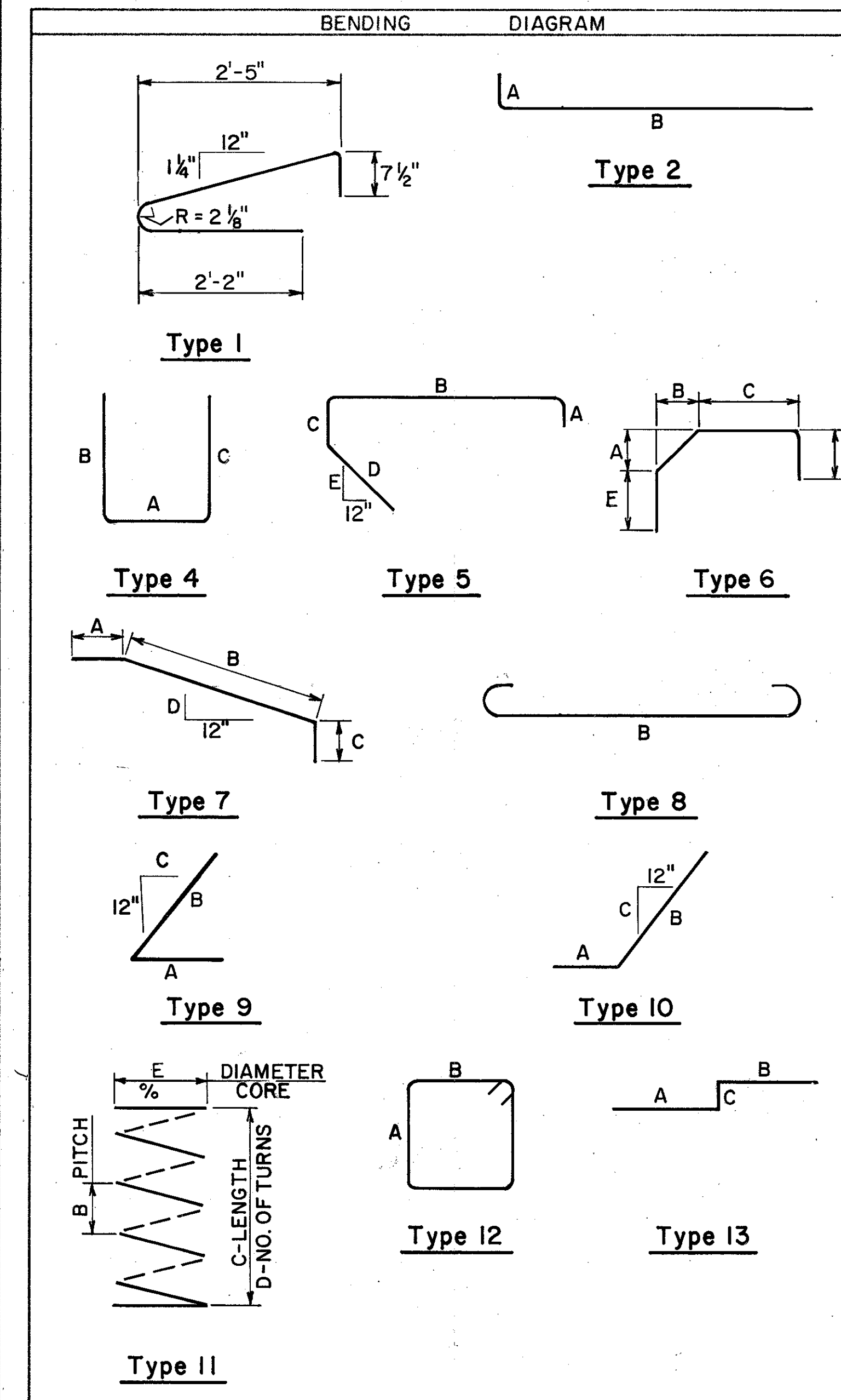
FWHA REGION	STATE	PROJECT
5	OHIO	

189
245UNION COUNTY
UNI-33-1.99

Mark	No.	Length	Weight	Shp.	Type	A	B	C	D	E
FORWARD ABUTMENT CONT.▼										
A910	33	18'-8"	2095	Bent	8		6'-2"			
A911	33	16'-2"	1814	Str.						
A912	19		835	"	*		6'-6"	19'-4"	8 1/2"	
A913	13		324	"	*		5'-0"	9'-8"	4 5/8"	
A914	21		937	"	*		7'-0"	19'-3"	7 3/8"	
A915	14		349	"	*		5'-0"	9'-8"	4 1/4"	
A918	2	14'-7"	99	Str.						
A919	2	14'-10"	101	"						
A920	63	9'-2"	1964	"						
A923	2	19'-5"	132	Str.						
A924	2	19'-4"	131	"						
D 801	42	6'-4"	710	Bent	7		2'-0"	2'-8"	2'-0"	1'-0"

Mark	No.	Length	Weight	Shp.	Type	A	B	C	D	E
PIER										
P501	9	32'-4"	270	Str.			2'-8"	8"	8"	
P502	48	3'-9"	188	Bent	4					
P504	20	14'-0"	292	Bent	12		4'-2"	2'-8"		
P505	106	12'-3"	1354	Bent	12		4'-2"	1'-9"		
P506	4 Ser. of 4	Var. 11'-6" to 12'-3"	196	Bent	12		Var. 3'-9 1/2" to 4'-2" by 1 1/2"	1'-9"		
P507	4 Ser. of 3	Var. 10'-3" to 11'-3"	135	Bent	12		Var. 3'-2" to 3'-8" by 3"	1'-9"		
P508	8	4'-0"	33	Bent	10		8"	3'-4"		
P901	24	8'-2"	666	Bent	2		1'-7"	6'-10"		
P902	24	14'-2"	1156	Str.	8					
P1001	12	38'-2"	1971	Bent	2		3'-6"	34'-11"		
P1002	128	14'-4"	7895	Bent	8			11'-6"		
P1003	24	9'-8"	998	Bent	2		1'-10"	8'-1"		
P1004	24	14'-10"	1532	Str.						
P1005	4	14'-0"	241	Str.						
P1101	6	40'-1"	1278	Str.						
P1102	6	22'-9"	725	Str.						
SP 401	4	11'-8"	902	Bent	11		4 1/2"	11'-8"	35	2'-8"

Mark	No.	Length	Weight	Shp.	Type	A	B	C	D	E
SUPERSTRUCTURE										
ES 401	511	30'-0"	10,241	Str.						
ES 402	73	27'-5"	1337	"						
ES 501	325	2'-3"	763	Bent	2		10 1/2"	1'-6"		
ES 502	325	3'-1"	1045	"	6		6"	8 1/2"	10"	10 1/2"
ES 503	325	5'-3"	1780	"	1					
ES 504	724	27'-8"	20,892	Str.						
ES 505	27		428	"	*		2'-9"	27'-8"	11 1/2"	
ES 506	24		409	"	*		5'-0"	27'-8"	11 1/8"	
ES 507	24		409	"	*		5'-0"	27'-8"	11 1/8"	
ES 508	27		428	"	*		2'-9"	27'-8"	11 1/2"	
ES 509	448	30'-0"	14,018	"						
ES 510	64	29'-9"	1986	"						
ES 511	4	3'-0"	13	"						
ES 512	72	14'-6"	1089	"						
ES 513	72	7'-0"	526	"						
ES 514	4	14'-8"	62	"						
ES 515	4	13'-9"	58	"						
ES 516	4	15'-9"	66	"						
ES 517	4	16'-8"	70	"						
ES 518	32	1'-5"	47	"						
ES 519	8	9'-1"	76	Bent	10		3'-4"	5'-10"	5 1/8"	
ES 520	20	2'-1"	43	Str.						
ES 521	28	4'-7"	134	"						
ES 522	2	7'-11"	17	"						
ES 523	2	7'-0"	15	"						
ES 524	2	9'-0"	19	"						
ES 525	2	9'-11"	21	"						
ES 526	24	4'-0"	100	Str.						
ES 601	325	24'-0"	11,716	Str.						
ES 602	325	32'-4"	15,784	"						
ES 603	21		457	"	*		5'-0"	24'-0"	11 3/8"	
ES 604	21		457	"	*		5'-0"	24'-0"	11 3/8"	
ES 605	30		815	"	*		3'-0"	32'-4"	11 3/4"	
ES 606	30		815	"	*		3'-0"	32'-4"	11 3/4"	
ES 607	4	3'-0"	18	"						
ES 608	198	26'-7"	7906	"						
ES 611	4	3'-10"	23	Bent	6		6"	8 1/2"	2'-5"	0
ES 612	4	3'-9"	23	"	6		5"	8 1/2"	2'-5"	0
ES 613	4	3'-8"	22	"	6		4"	8 1/2"	2'-5"	0
ES 614	4	3'-7"	22	"	6		3"	8 1/2"	2'-5"	0
ES 615	12	3'-7"	65	"	6		2"	8 1/2"	2'-5"	0

▼ All Bars For Forward
Abutment Shall Have
Suffix F, i.e. A910-FVaries From 'B' to 'C'
By 'D' Inc.

* SERIES BAR

NOTES:

Reinforcing Steel Samples

Refer to CMS sections 106.03, 700, 709.01 through 709.05 and 709.08.
Sufficient additional reinforcing steel shall be provided for sampling. Random
samples shall be replaced in the structure by the additional steel, spliced in
accordance with 509.08.

The letter 'E' before a bar mark denotes an epoxy coated reinforcing
bar. Payment for these bars shall be under item 824, "Epoxy coated reinforcing
steel."

PARSONS BRINCKERHOFF QUADE & DOUGLAS
COLUMBUS, OHIO 17/17

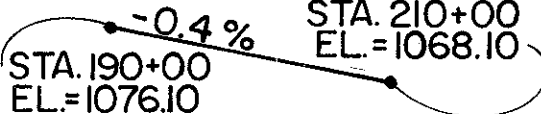
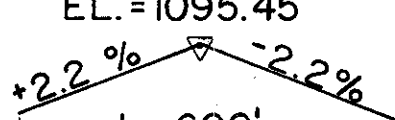
REINFORCING STEEL LIST

BRIDGE NO. UNI-33-0275
UNDER DARBY-POTTERSBERG RD.
UNION COUNTY STA. 144+96.55

Designed	Drawn	Traced	Checked	Reviewed	Date	Revised
MJM	RED		AMH		10/24/05	

UNION COUNTY
UNI - 33-1.99



CURVE DATA		
ROAD	HORIZONTAL	VERTICAL
 Relocated U.S. 33	TANGENT	
 Hollycross- Epps Rd.	TANGENT	
FOUNDATION		
LOCATION	TYPE OF FOUNDATION	EST. AVERAGE PAY LENGTH OF CAST-IN-PLACE PILES
R. ABUT	REINFORCED	50 FEET
PIER	CONCRETE	50 "
F. ABUT.	PILES, 12" (FRICTION)	50 "

	CURRENT YEAR	DESIGN YEAR
(HOLYCROSS-EPPS RD.)	1985	2005
TRAFFIC COUNT: ADT = LESS THAN	1000	1800
ADTT =	140	252

PROPOSED STRUCTURE

TYPE: 2 Span Continuous Steel Composite Girder (A588 Steel), W/ Reinf. Concrete Deck and Substructure Units.

SPANS: 113.5'-113.5' % Brqs.

ROADWAY WIDTH: 28'-0" f/f Parapet

LOADING: HS-20-44, Case II and Alternate Military Loading.

SKEW: 37°-11'-36" Rt. Fwd.

WEARING SURFACE: Monolithic Concrete

APPROACH SLAB: AS-I-8I (25' Long)

ALIGNMENT: Tangent

SUPERELEVATION: None

PARSONS BRINCKERHOFF QUADE & DOUGLAS
COLUMBUS, OHIO

SITE PLAN

BRIDGE NO. UNI-33-0389

UNDER HOLYCROSS-EPPS ROAD

UNION COUNTY STA. 205+59.37

Designed	Drawn	Traced	Checked	Reviewed	Date	Revised
LKS			AHH	S.F./LKS	10/25/85	



NOTE:

Earthwork limits shown are schematic. Actual slopes to conform to roadway plan cross-sections.

GENERAL NOTES

REFERENCES:

STANDARD DRAWINGS:

BRIDGE RAILING	BR-1	DATED 5-29-79
SUPERSTRUCTURE DETAILS	SD-1-69(SHTS.1,2,3)	DATED 6-12-69
FIXED BEARINGS	FB-1- 82	DATED 5-10-82
ROCKERS & BOLSTERS	RB-1-55	DATED (REV.) 2-2-59
APPROACH SLAB	AS-1-81(SHTS.1,2,3)	DATED 11-27-81

SUPPLEMENTAL SPECIFICATIONS:

NO. 836 DATED 11-12-85 AND NO. 824 DATED 10-8-82

DESIGN SPECIFICATIONS:

THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 1983 SPECIFICATIONS AND THE 1982 OHIO "SUPPLEMENT" TO AASHTO SPECIFICATIONS.

DESIGN DATA:

DESIGN LOADING	HS 20-44 CASE II AND ALTERNATE MILITARY LOADING
CONCRETE CLASS S, SUPERSTRUCTURE	COMPRESSIVE STRENGTH f' c= 4500 P.S.I.
CONCRETE CLASS C, SUBSTRUCTURE	COMPRESSIVE STRENGTH f' c= 4000 P.S.I.
STRUCTURAL STEEL	ASTM A588 UNIT STRESS = 27,000 P.S.I. ASTM A36 UNIT STRESS = 20,000 P.S.I.
REINFORCING STEEL	ASTM A615, A616, OR A617, GRADE 60 MIN. YIELD ST. = 60,000 P.S.I.
SPIRAL REINFORCEMENT MAY BE PLAIN BARS DECK PROTECTION METHOD	ASTM A82 OR A615 EPOXY COATED REINFORCING STEEL, TOP & BOTTOM MATS.
MONOLITHIC WEARING SURFACE	IS ASSUMED, FOR DESIGN PURPOSES, TO BE 1 INCH THICK.

PILES:

PILE DESIGN LOADS: THE DESIGN LOAD FOR THE ABUTMENT PILES IS 48 TONS PER PILE AND THE DESIGN LOAD FOR THE PIER PILES IS 50 TONS PER PILE.

12 INCH PRECAST PRESTRESSED CONCRETE PILES MAY BE SUBSTITUTED FOR THE 12 INCH CAST-IN-PLACE REINFORCED CONCRETE PILES SHOWN ON THESE PLANS. DRAWINGS SHOWING DETAILS OF AND SPECIFICATIONS FOR PRESTRESSED CONCRETE PILES ARE AVAILABLE FROM THE DIRECTOR (BUREAU OF BRIDGES). IF THE PRESTRESSED PILE ALTERNATE IS CHOSEN, THE METHOD OF MEASUREMENT AND BASIS OF PAYMENT SHALL BE THE SAME AS FOR CAST-IN-PLACE REINFORCED CONCRETE PILES PER 507.

PILE HAMMER: THE PILE HAMMER USED TO INSTALL THE CAST-IN-PLACE REINFORCED CONCRETE PILES SHALL HAVE A STATES ENERGY RATING OF NOT LESS THAN 14,500 FOOT-POUNDS. THIS REQUIREMENT DOES NOT RELIEVE THE CONTRACTOR FROM 108.05 WHICH STATES THAT THE CONTRACTOR IS TO PROVIDE SUFFICIENT EQUIPMENT FOR PROSECUTING THE REQUIRED WORK. REFER TO "ODOT'S MANUAL OF PROCEDURES FOR STRUCTURES" TO OBTAIN THE STATE'S ENERGY RATING.

PILE DRIVING AND EMBANKMENT CONSTRUCTION: PRIOR TO DRIVING PILES AT THE ABUTMENTS, THE EMBANKMENT BEHIND THE ABUTMENT SHALL BE CONSTRUCTED ON A 1.5 TO 1 SLOPE PROJECTED FROM THE TOP OF THE HEEL OF THE ABUTMENT FOOTING TO THE LEVEL OF THE SUBGRADE FOR A MINIMUM DISTANCE OF 200 FEET BACK OF THE ABUTMENT. AFTER THE EMBANKMENT IS COMPLETED WITHIN THE ABOVE REQUIRED LIMITS, THE EXCAVATION FOR THE ABUTMENT FOOTING MAY BE MADE AND THE PILES DRIVEN. BEFORE THE BACKWALL IS CONSTRUCTED, THE EMBANKMENT SHALL BE PLACED UP TO THE LEVEL OF THE SUBGRADE WITH A 1 TO 1 SLOPE FROM THE BRIDGE SEAT. PAYMENT FOR BACKFILL AND NEW EMBANKMENT, 503.10, REQUIRED IN EXCESS OF 503, 518 AND 203 QUANTITIES SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 203 EMBANKMENT.

MAINTENANCE OF TRAFFIC: FOR MAINTENANCE OF TRAFFIC AND SCHEDULE OF OPERATIONS, SEE ROADWAY PLAN SHTS. NO. 163 THRU 172

UTILITY LINES: ALL EXPENSE INVOLVED IN RELOCATING THE AFFECTED UTILITY LINES, SHALL BE BORNE BY THE OWNER. THE CONTRACTOR AND OWNER ARE REQUESTED TO COOPERATE BY ARRANGING THEIR WORK IN SUCH A MANNER THAT IN-CONVENIENCE TO EITHER WILL BE HELD TO A MINIMUM. UTILITY OWNERS ARE LISTED IN THE GENERAL NOTES ON SHEET NO. 8

GRANULAR EMBANKMENT: FOR PLACEMENT OF AN 18-INCH GRANULAR BLANKET AT THE BASE OF THE EMBANKMENTS ADJACENT TO EACH ABUTMENT, SEE NOTE, ITEM 203 GRANULAR EMBANKMENT, ON ROADWAY SHEET NO. 8

ESTIMATED QUANTITIES							
				ESTIMATED BY: M.J.M. CHECKED BY: R.E.B. DATE: 12/11/85			
ITEM	TOTAL	UNIT	DESCRIPTION	SUPER	ABUT.	PIER	GEN.
503	604	CU.YD.	UNCLASSIFIED EXCAVATION		530	74	
505	LUMP		PILE DRIVING EQUIPMENT MOBILIZATION				LUMP
506	LUMP		STATIC LOAD TEST				LUMP
507	8200	LIN.FT.	12" CAST-IN-PLACE REINFORCED CONCRETE PILES, AS PER PLAN		6850	1350	
509	72,132	LB.	REINFORCING STEEL, GRADE 60		63,166	8966	
824	54,806	LB.	EPOXY COATED REINFORCING STEEL, GRADE 60	54,806			
511	238	CU.YD.	CLASS S CONCRETE, SUPERSTRUCTURE (SEE PROP. NOTE)	238			
511	27	CU.YD.	CLASS C CONCRETE, PIER CAP & COLUMNS			27	
511	330	CU.YD.	CLASS C CONCRETE, ABUTMENTS ABOVE FOOTINGS		330		
511	353	CU.YD.	CLASS C CONCRETE, FOOTINGS		326	27	
513	184,497	LB.	STRUCTURAL STEEL (AISC CATEGORY III) (ASTM A588 STL.)	184,497			
513	1376	EACH	WELDED STUD SHEAR CONNECTORS	1376			
514	LUMP		PARTIAL PAINTING OF A588 STEEL, SYSTEM (A)	LUMP			
516	72	LIN.FT.	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEALS	72			
516	338	SQ.FT.	1" PREFORMED EXPANSION JOINT FILLER		338		
518	155	CU.YD.	POROUS BACKFILL		155		
518	4	EACH	SCUPPERS, INCLUDING SUPPORTS	4			
523	6	hour	DYNAMIC LOAD TEST				6
601	203	SQ.YD.	CRUSHED AGGREGATE SLOPE PROTECTION WITHOUT FILTER		203		
8 SPECIAL	700	SQ.YD.	SEALING OF CONCRETE SURFACES (EPOXY) (See Proposal Note)	445	160	95	

ITEM SPECIAL: SEALING OF CONCRETE SURFACES

A CONCRETE SEALER, EITHER SILANE OR AN EPOXY SEALER, SHALL BE APPLIED TO THE FOLLOWING CONCRETE SURFACES: PARAPETS AND CURBS, SEE SHEET 13/17; BRIDGE SEATS AT ABUTMENTS AND PIERS; AND BACKWALLS, FRONT FACES OF ABUTMENTS AND PIERS ABOVE GROUND LINE. SEE THE PROPOSAL NOTE FOR SURFACE PREPARATION REQUIREMENTS, APPLICATION RATES, MATERIAL REQUIREMENTS AND APPLICATION PROCEDURES. SUPERSTRUCTURE UNITS SHALL BE SEALED PRIOR TO ERECTION OF STEEL.

± FOR PARTIAL PAINTING OF A588 STEEL SEE SHEET 11/17.

* FOR SPECIAL NOTES REGARDING ITEM 516, STRUCTURAL EXPANSION JOINTS, INCLUDING ELASTOMERIC STRIP SEALS, SEE SHEET 15/17.

* STEEL EXTRUSIONS, ANCHOR STUDS, PERFORATED ANCHOR PLATES AND PLATES ATTACHED TO THE TYPE A-2 EXTRUSIONS IN THE CURB AREA ARE INCLUDED IN THE STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEALS, ITEM 516, FOR PAYMENT.

F.H.W.A. REGION	STATE	PROJECT	
5	OHIO		

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245

UNION COUNTY
UNI-33-1.99

PARSONS BRINCKERHOFF QUADE & DOUGLAS COLUMBUS, OHIO						
3 / 17						
GENERAL NOTES AND ESTIMATED QUANTITIES						
BRIDGE NO. UNI-33-0389 UNDER HOLYCROSS-EPPS ROAD UNION COUNTY STA. 205+59.37						
Designed	Drawn	Traced	Checked	Reviewed	Date	Revised
MJM	ED		JKS	SKS	10/12/85	

UNION COUNTY
UNI - 33 - 1.99

NOTES:

All piles 12" Ø C.I.P. reinforced concrete piles

⬇ Indicates 1:4 battered piles and direction of batter.

For Abutment elevation, see sheet 5/17

For wingwall elevation, see sheet 6/17

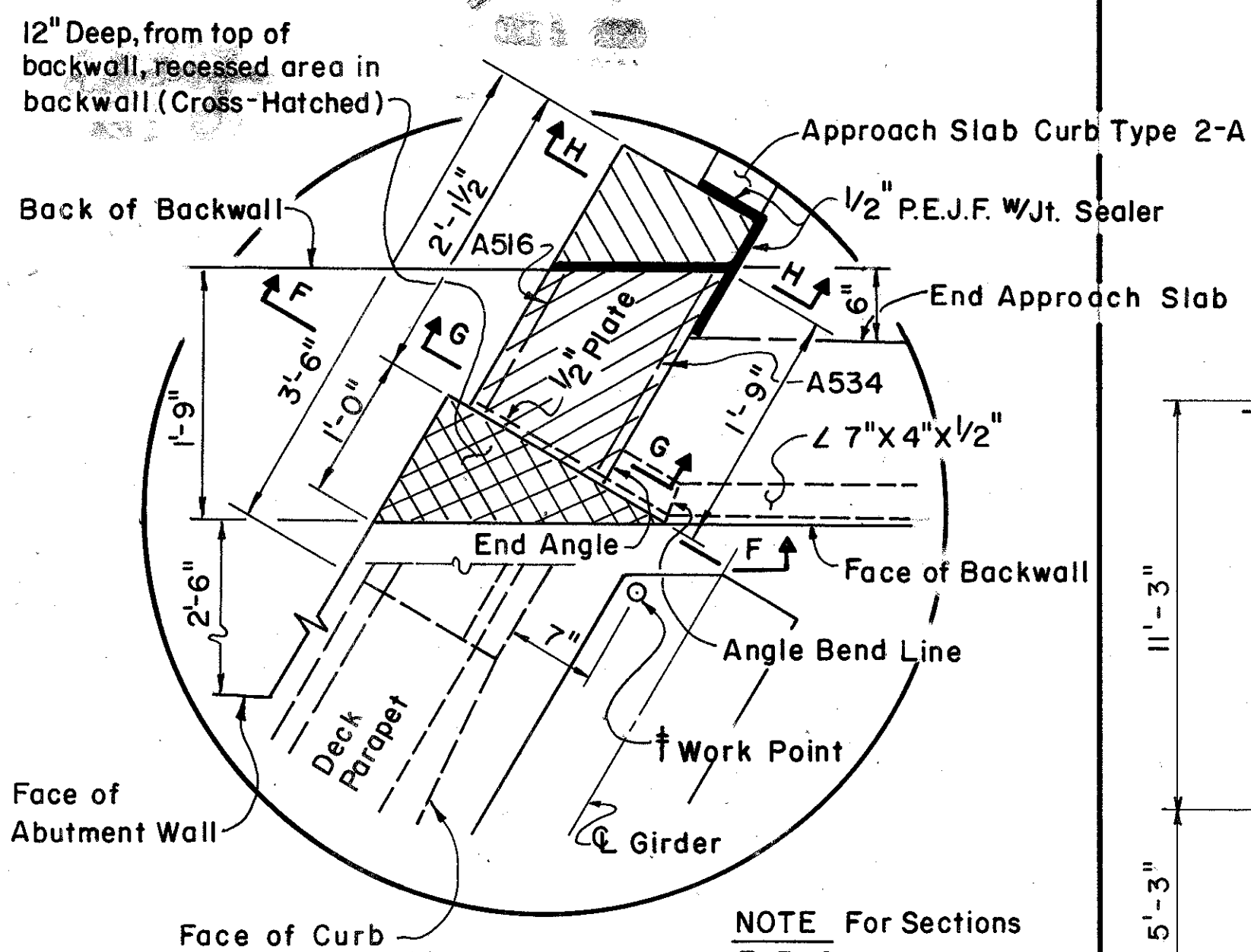
All longitudinal reinforcing bars in the wingwall footings shall be field bent, and cut, if necessary.

LEGEND:

N.F. = Near Face

E.F. = Each Face

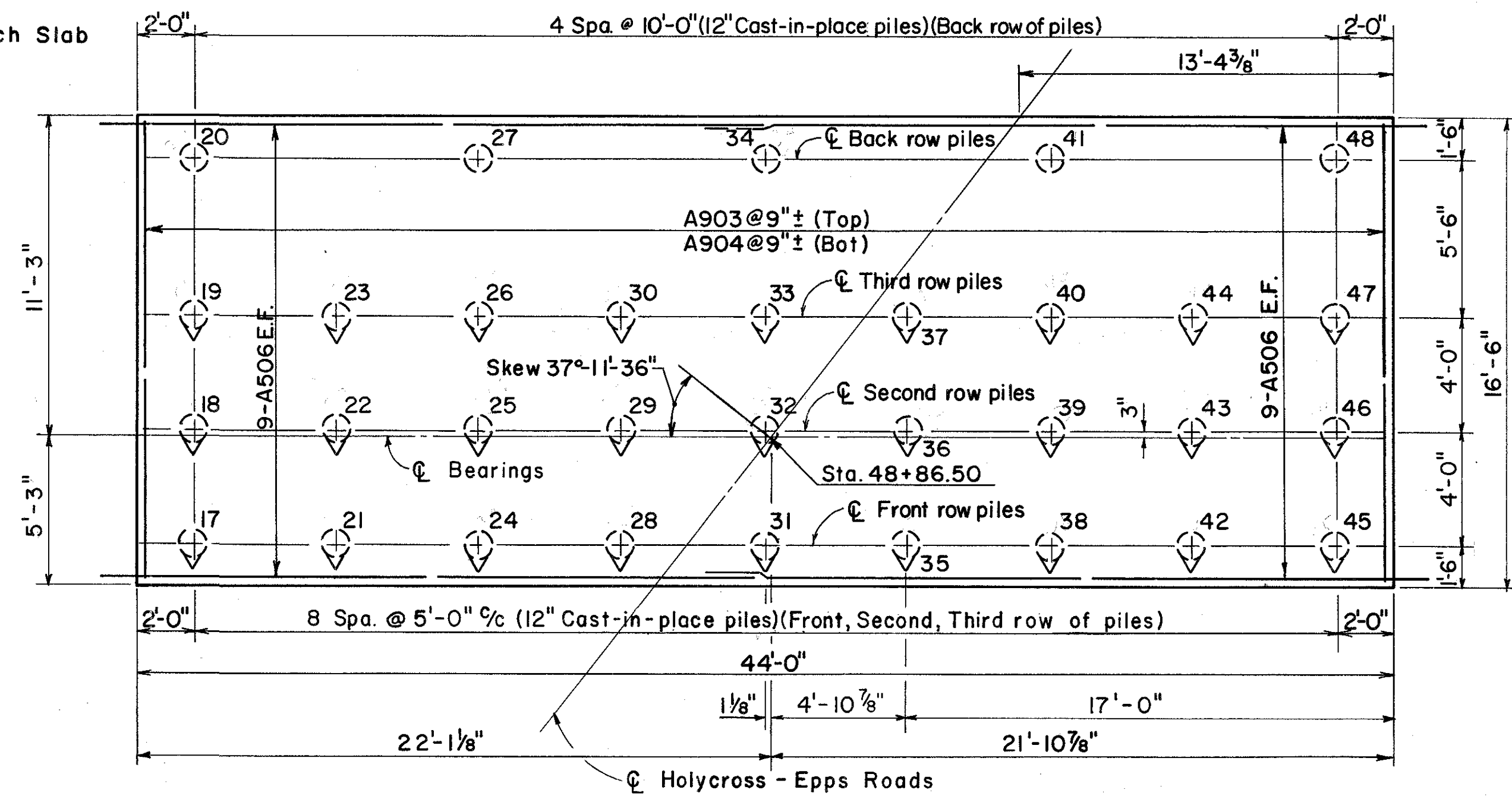
F.F. = Far Face



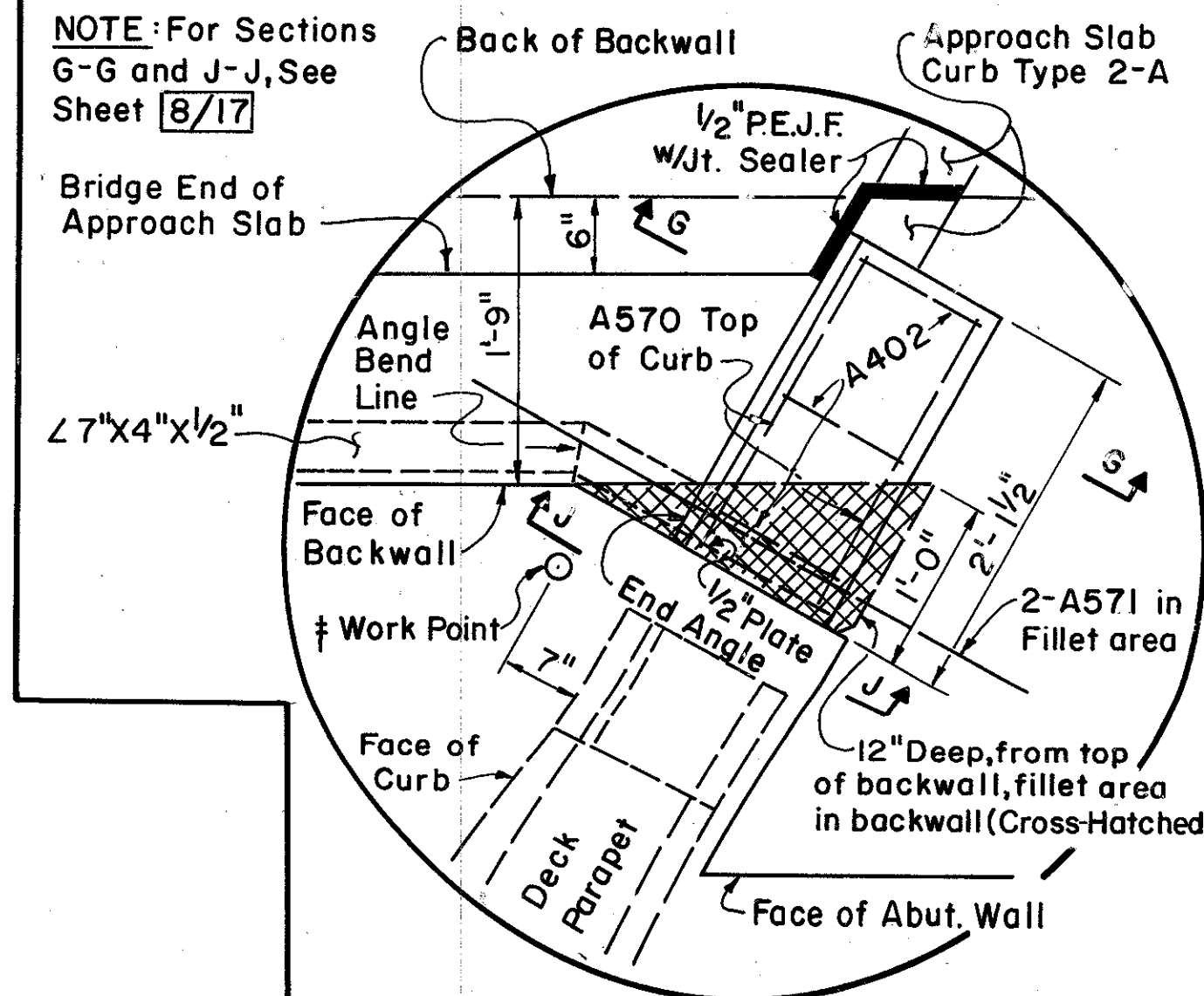
DETAIL A

S-E Corner, Rear Abut. shown, N-W Corner, Fwd. Abut. similar, See Sheets 5/17, 8/17

† For Work Point and other Joint Details, See Partial Plan, Sheet 15/17



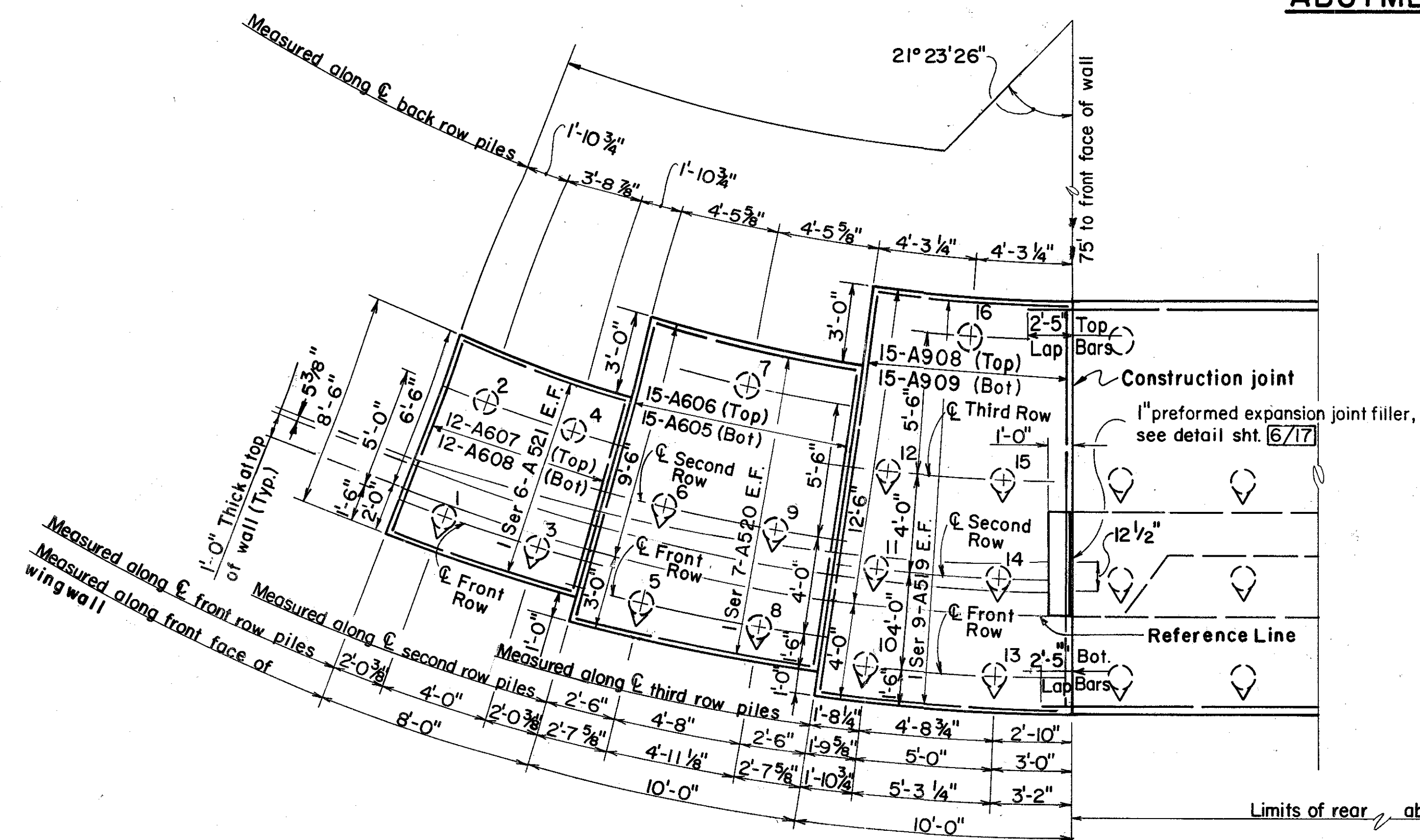
ABUTMENT



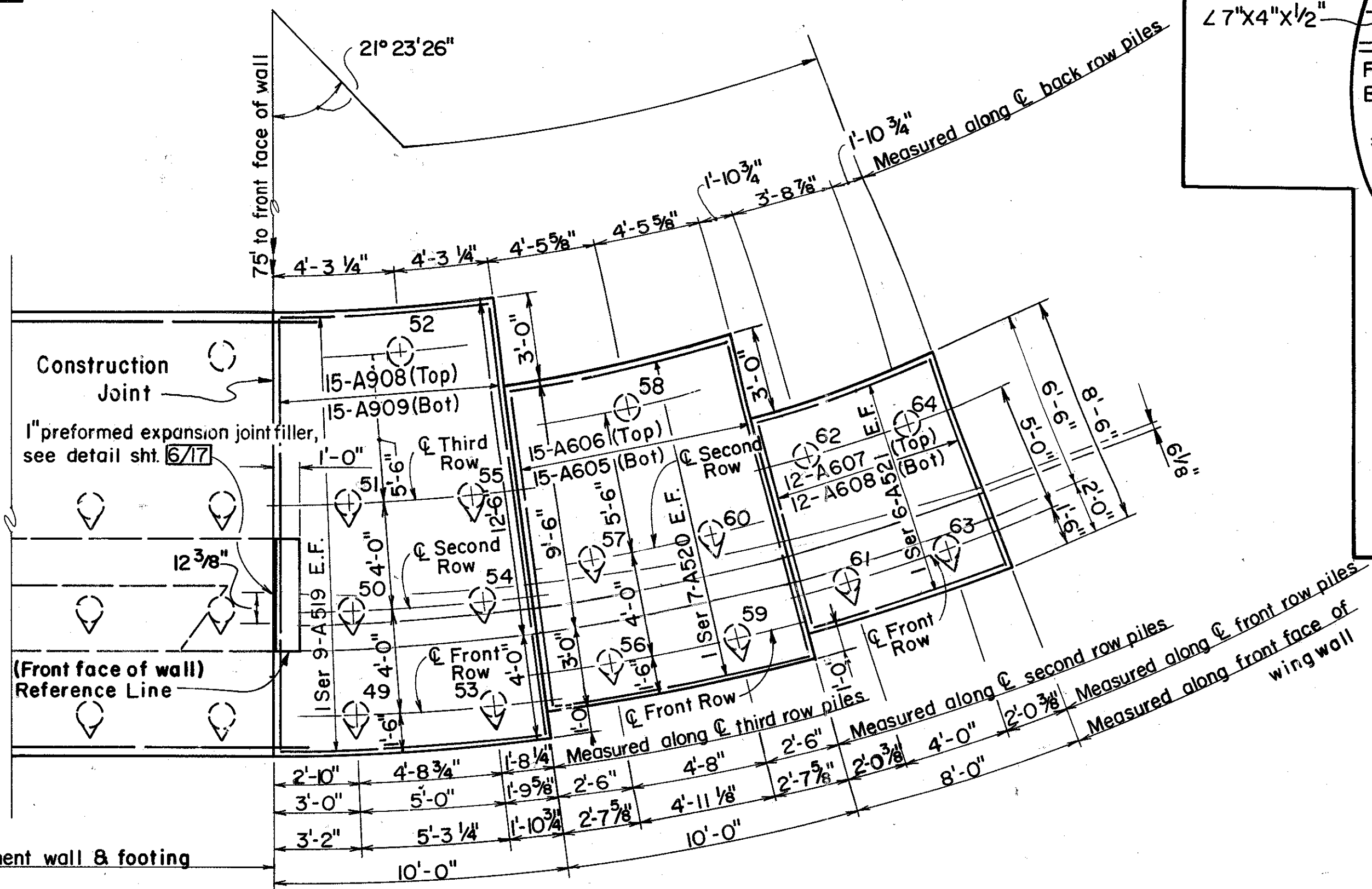
DETAIL B

S-W Corner, Rear Abut. shown, N-E Corner, Fwd. Abut. similar. See Sheets 5/17, 8/17

† For Work Point and other Joint Details, See Partial Plan, Sheet 15/17



WINGWALL 1



WINGWALL 2

PLAN OF REAR ABUTMENT FOUNDATION

PARSONS BRINCKERHOFF QUADE & DOUGLAS
COLUMBUS, OHIO 4/17

REAR ABUTMENT DETAILS

BRIDGE NO. UNI - 33 - 0389

UNDER HOLYCROSS-EPPS ROAD

UNION COUNTY STA. 205 +59.37

Designed	Drawn	Traced	Checked	Reviewed	Date	Revised
MJM	MJM	PS	PS	SKS	10/25/85	

UNION COUNTY
UNI-33-1.99

NOTES:

All piles 12"Ø C.I.P reinforced concrete piles

⊙ Indicates 1:4 battered piles and direction of batter

For abutment elevation, see sheet 5/17

For wingwall elevation, see sheet 6/17

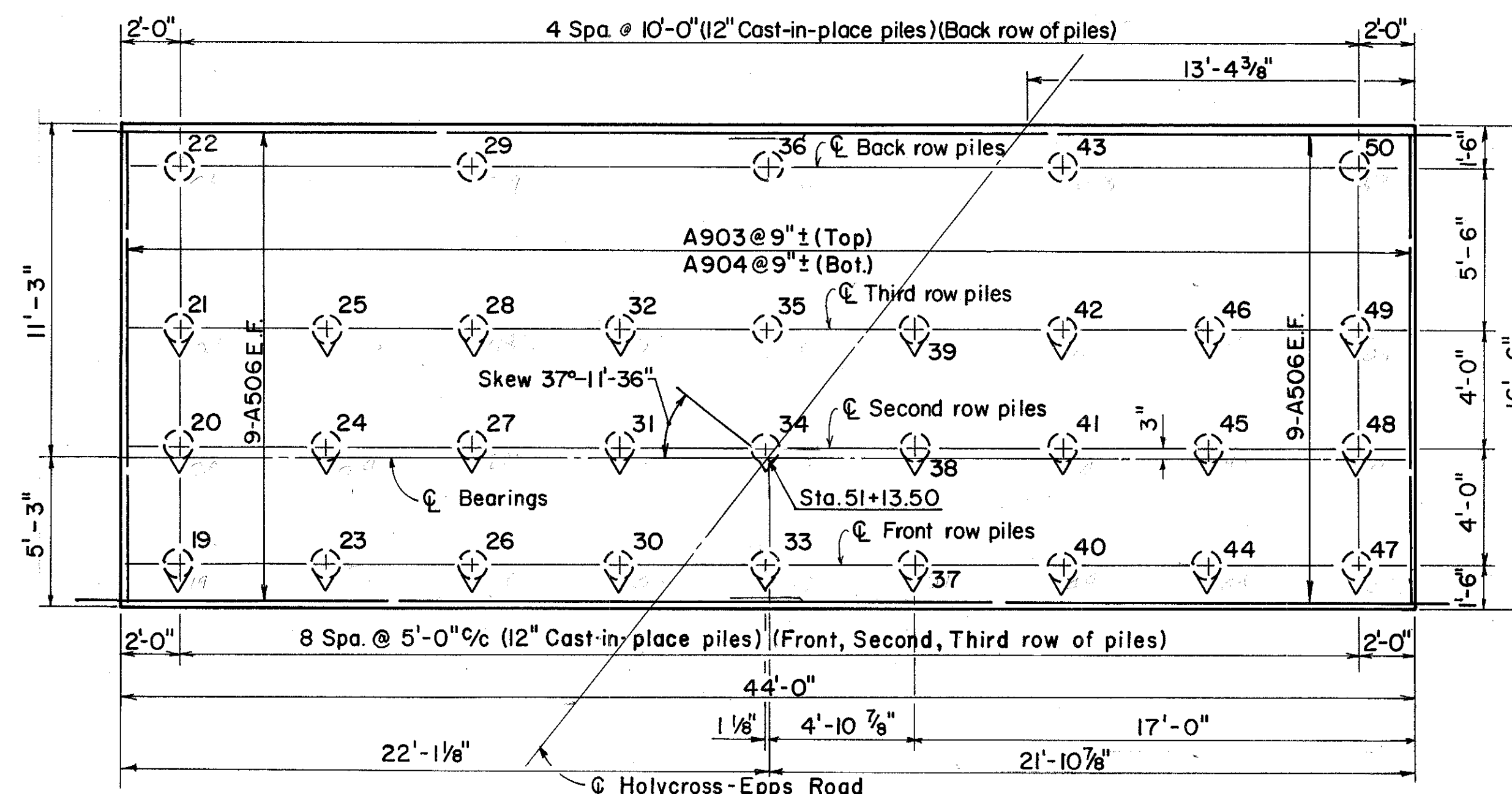
All longitudinal reinforcing bars in the wingwall footings shall be field bent, and cut, if necessary.

LEGEND:

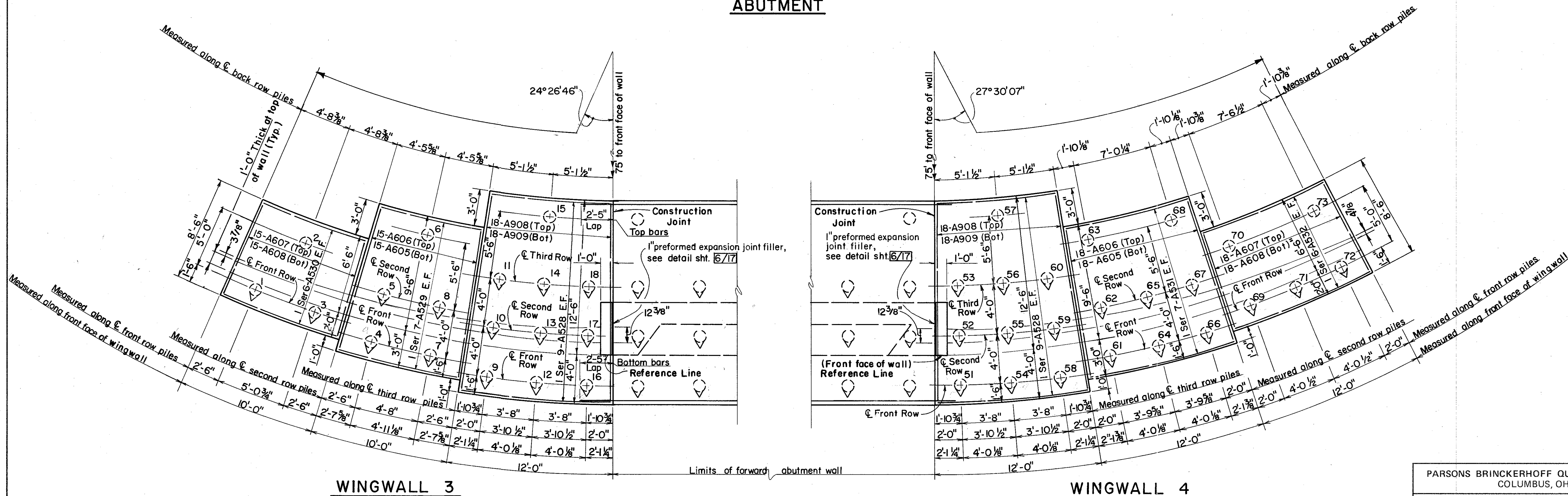
N. F. = Near Face

E. F. = Each Face

F. F. = Far Face



ABUTMENT



WINGWALL 3

WINGWALL 4

PLAN OF FORWARD ABUTMENT FOUNDATION

PARSONS BRINCKERHOFF QUADE & DOUGLAS
COLUMBUS, OHIO

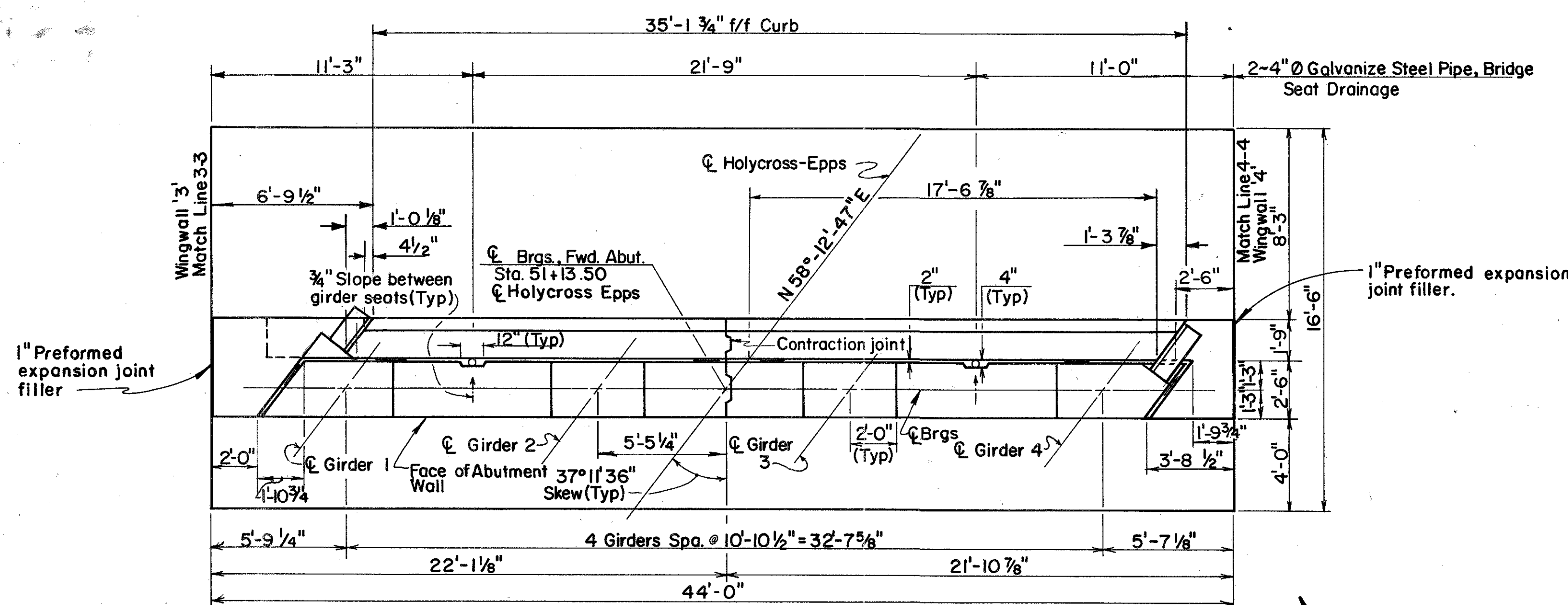
FORWARD ABUTMENT DETAILS

BRIDGE NO. UNI-33-0389
UNDER HOLYCROSS-EPPS ROAD

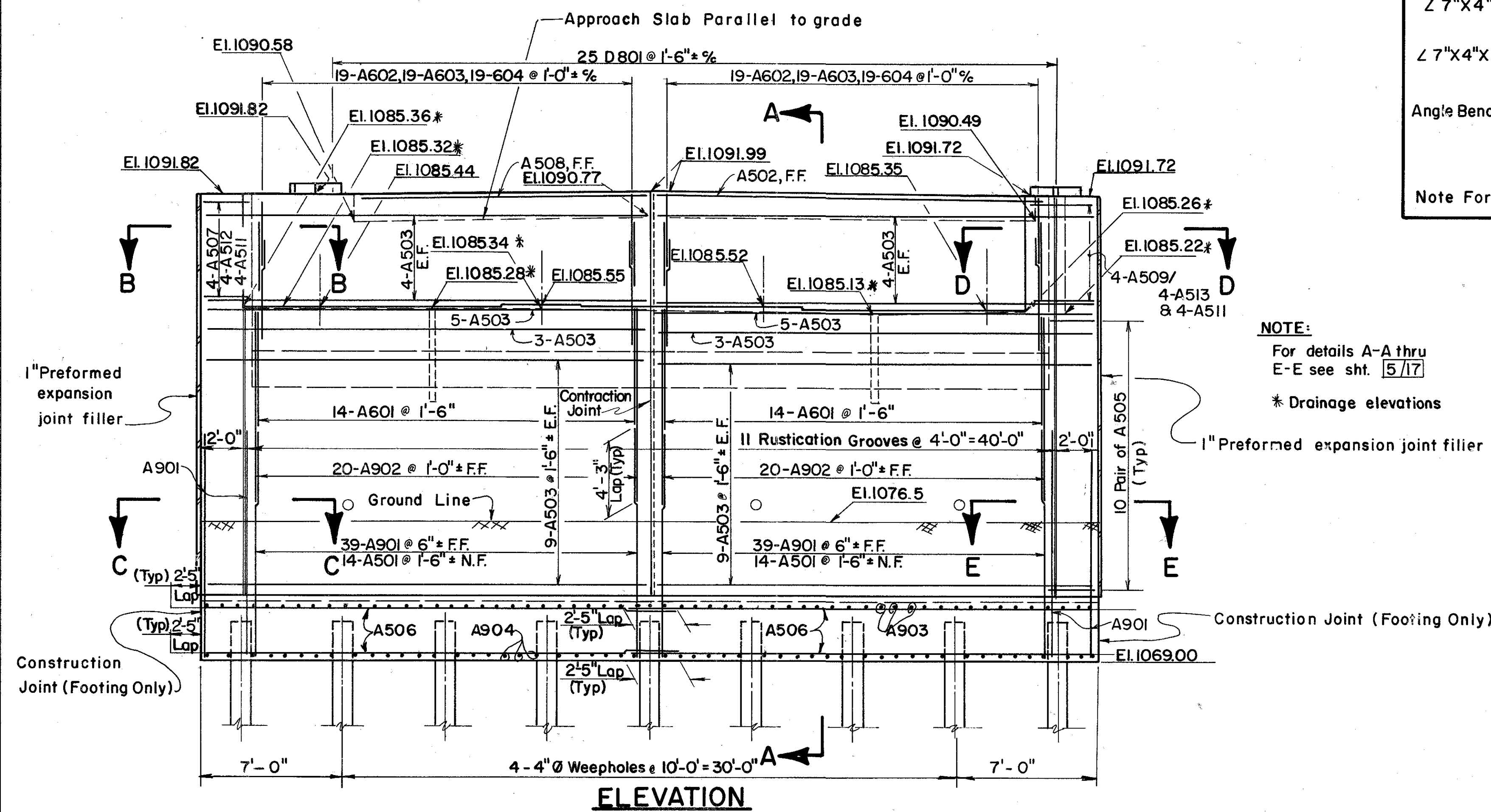
UNION COUNTY STA. 205+59.37

Designed	Drawn	Traced	Checked	Reviewed	Date	Revised
M.M.M	M.M.M	RCS	RCS A.M.	S.F. JKS	10/25/85	

UNION COUNTY
UNI-33-1.99

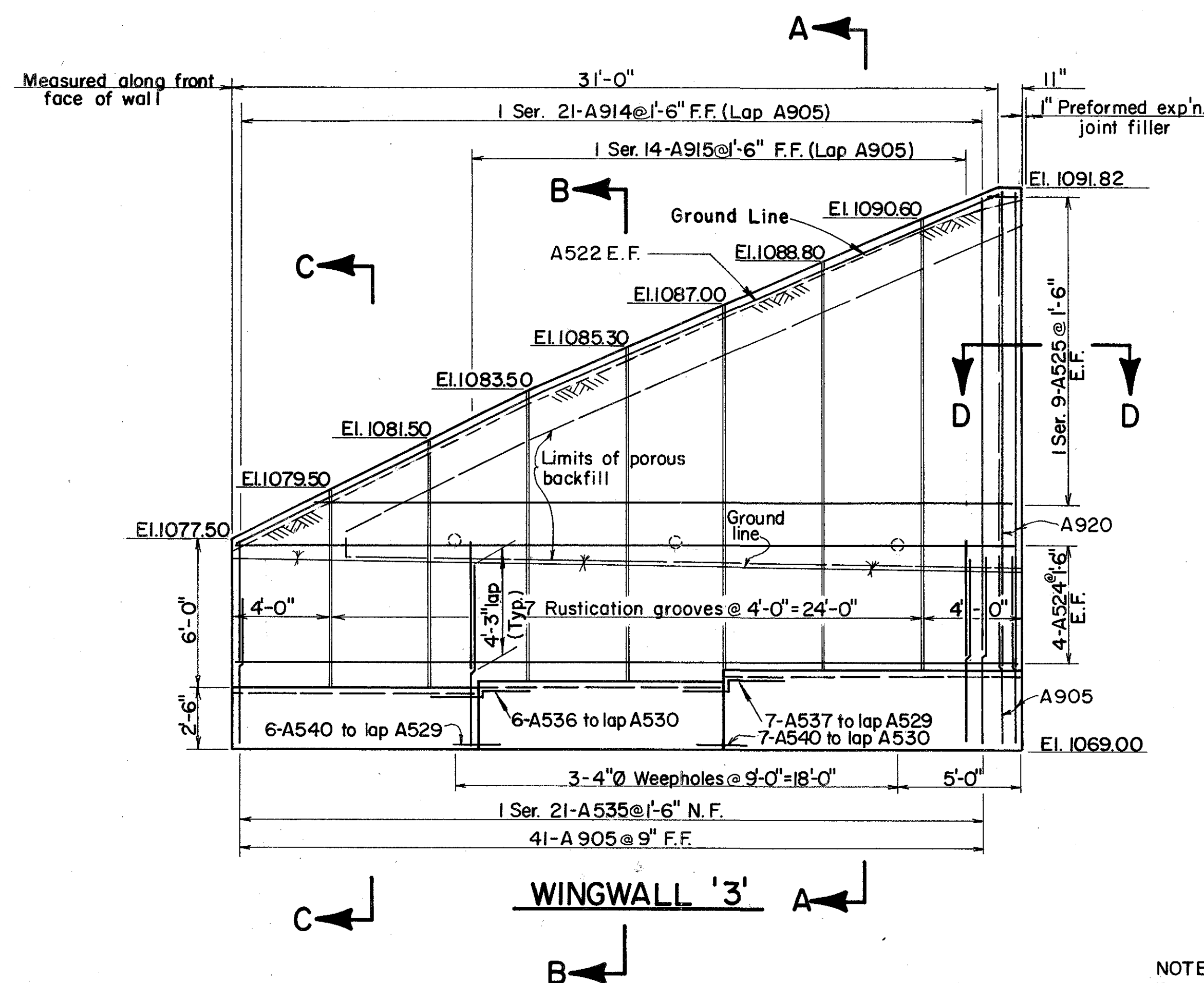


PLAN

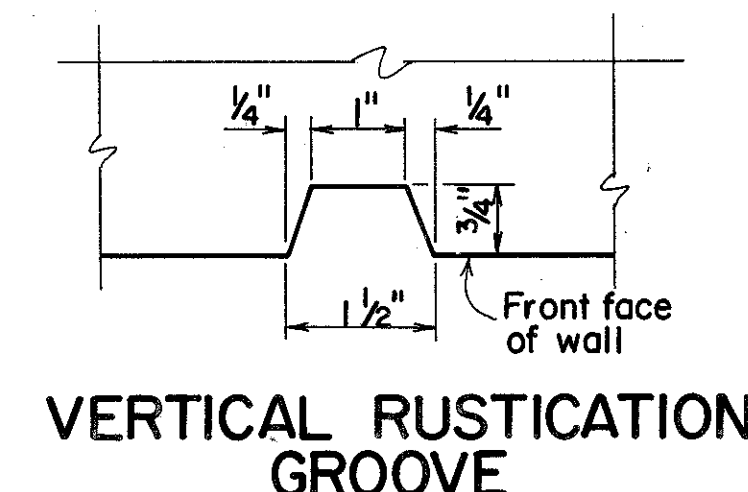
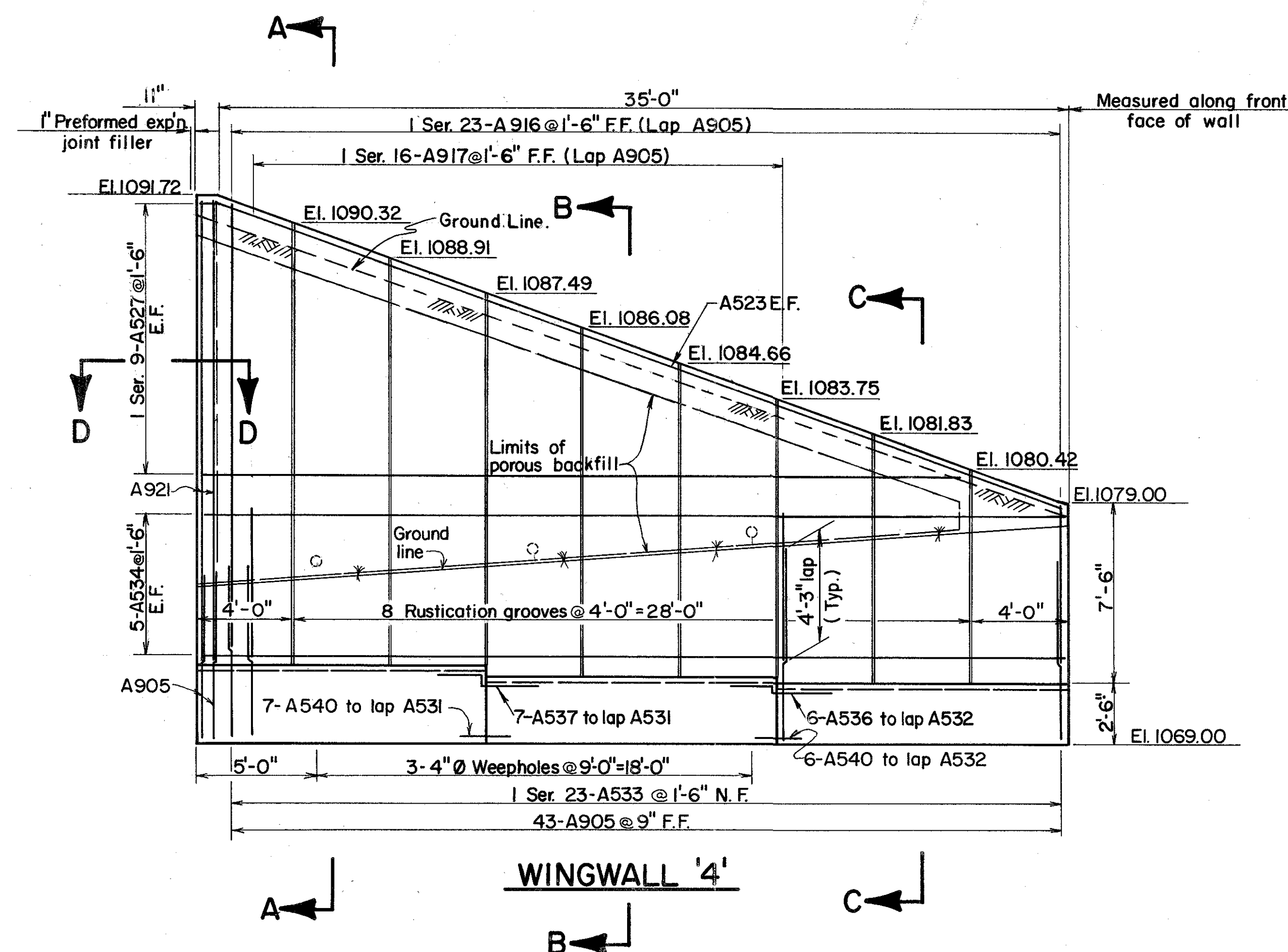
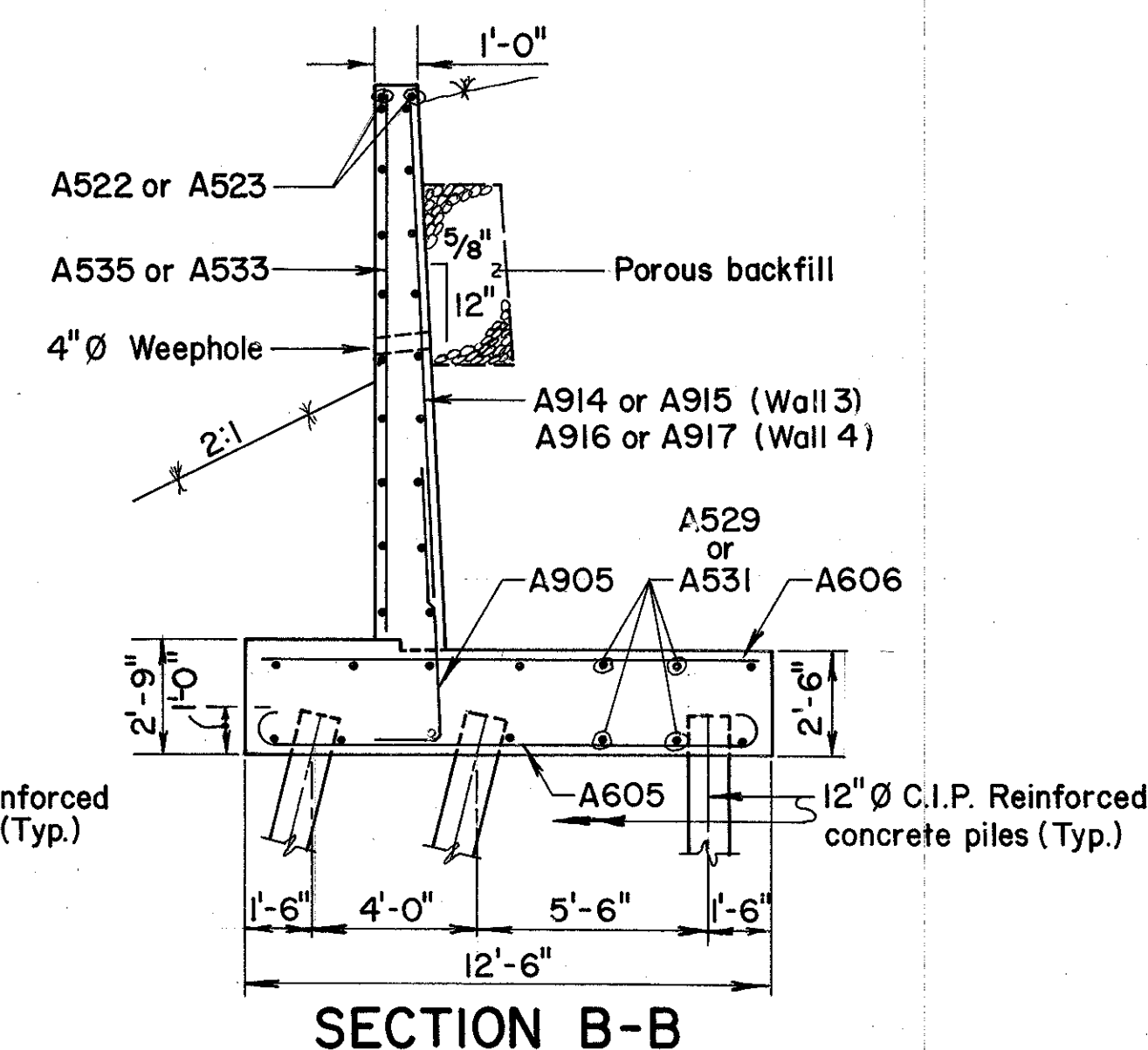
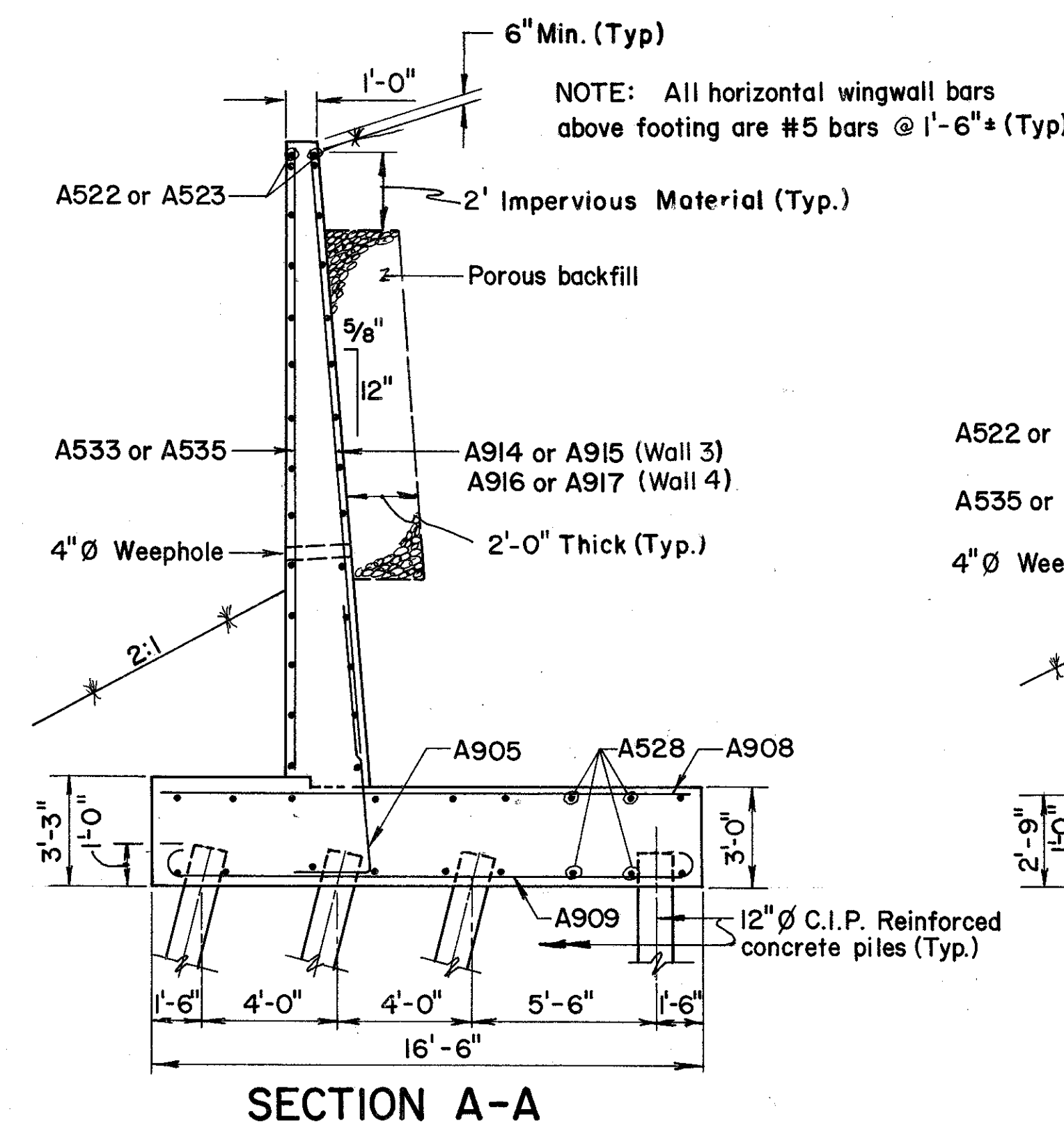


UNION COUNTY
UNI-33-1.99

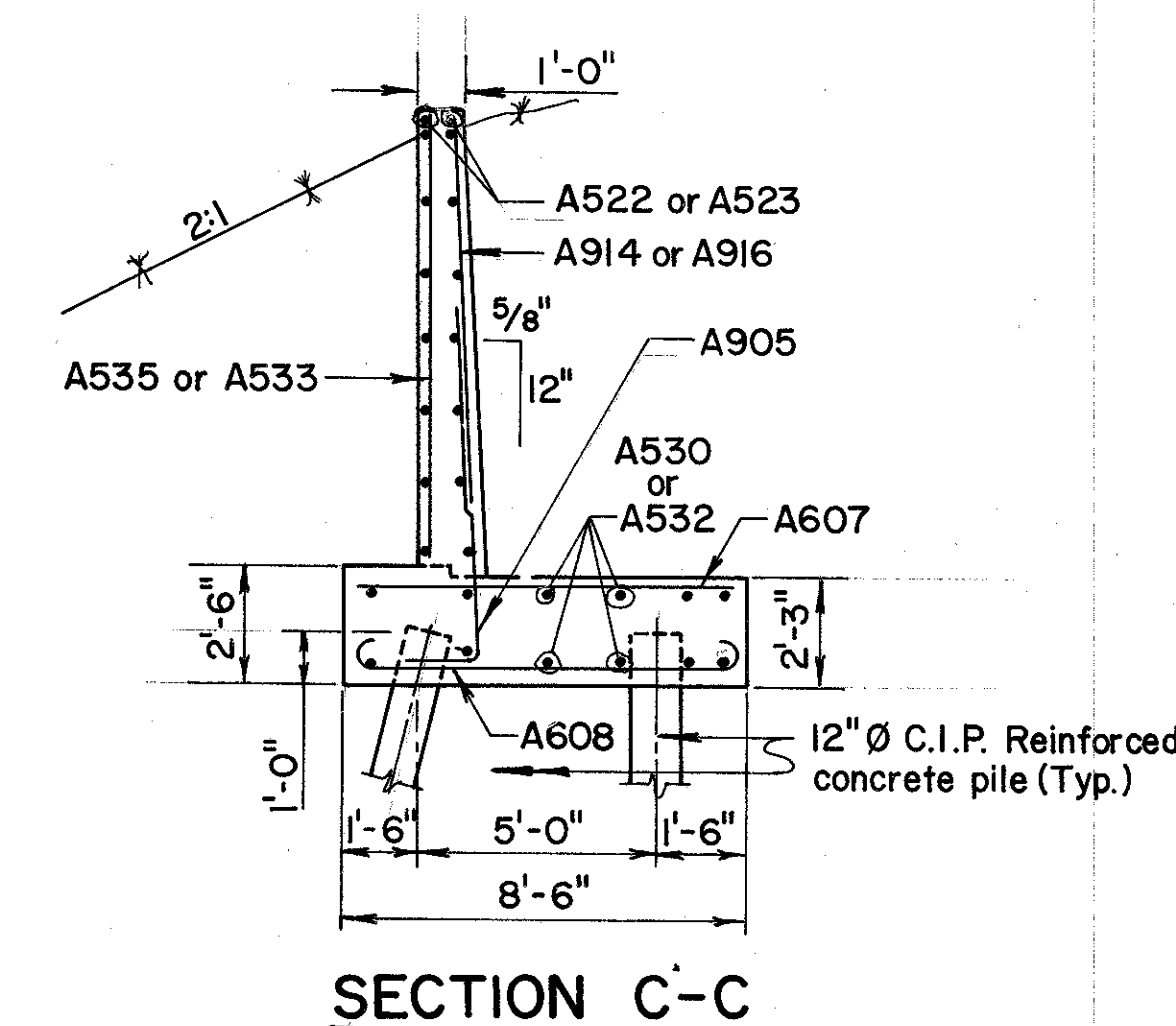
NOTE:
For footing plan and pile layout, see sheet
4/17.



NOTE:
For Section D-D, see sheet 6/17



LEGEND
N.F. = Near Face
E.F. = Each Face
F.F. = Far Face



PARSONS BRINCKERHOFF QUADE & DOUGLAS
COLUMBUS, OHIO

FORWARD ABUTMENT DETAILS

BRIDGE NO. UNI-33-0389
UNDER HOLYCROSS-EPPS ROAD
UNION COUNTY STA. 205+59.37

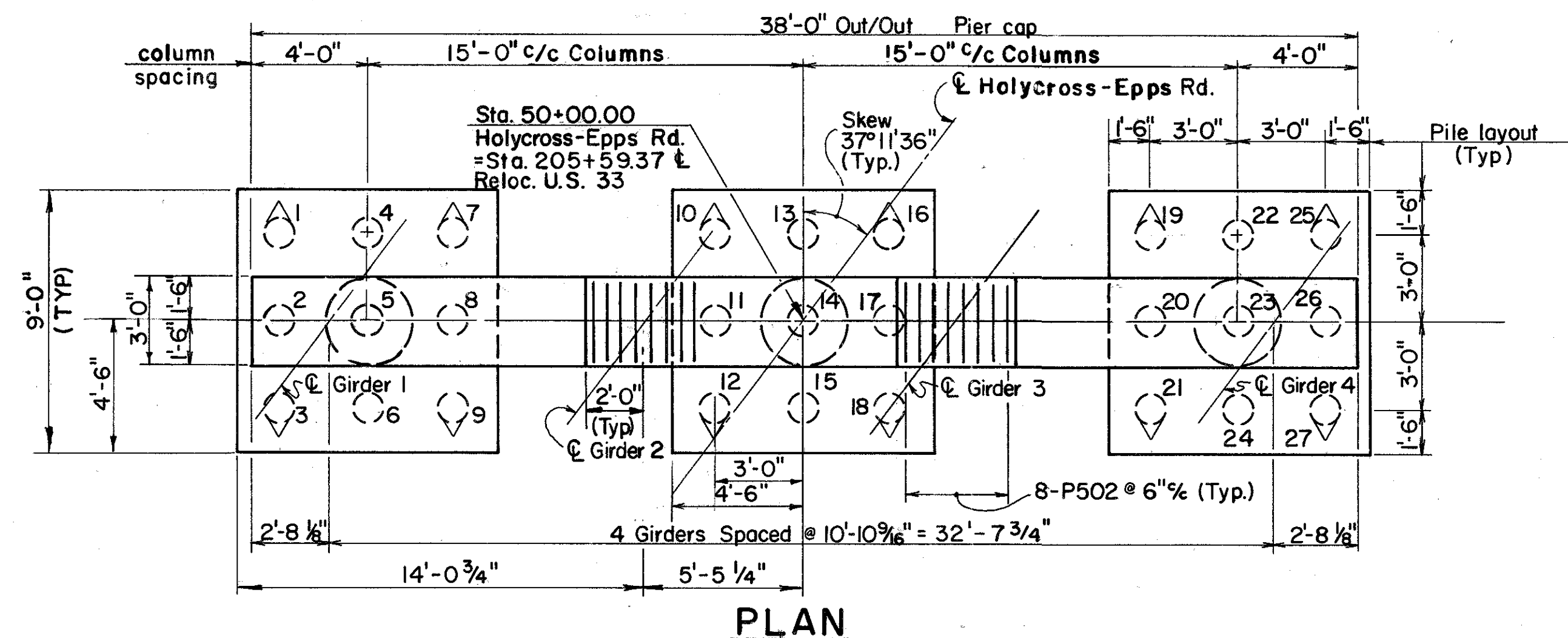
Designed	Drawn	Traced	Checked	Reviewed	Date	Revised
MJM	MJM	MS	ADH	QAS	10/27/85	

UNION COUNTY
UNI-33-1.99

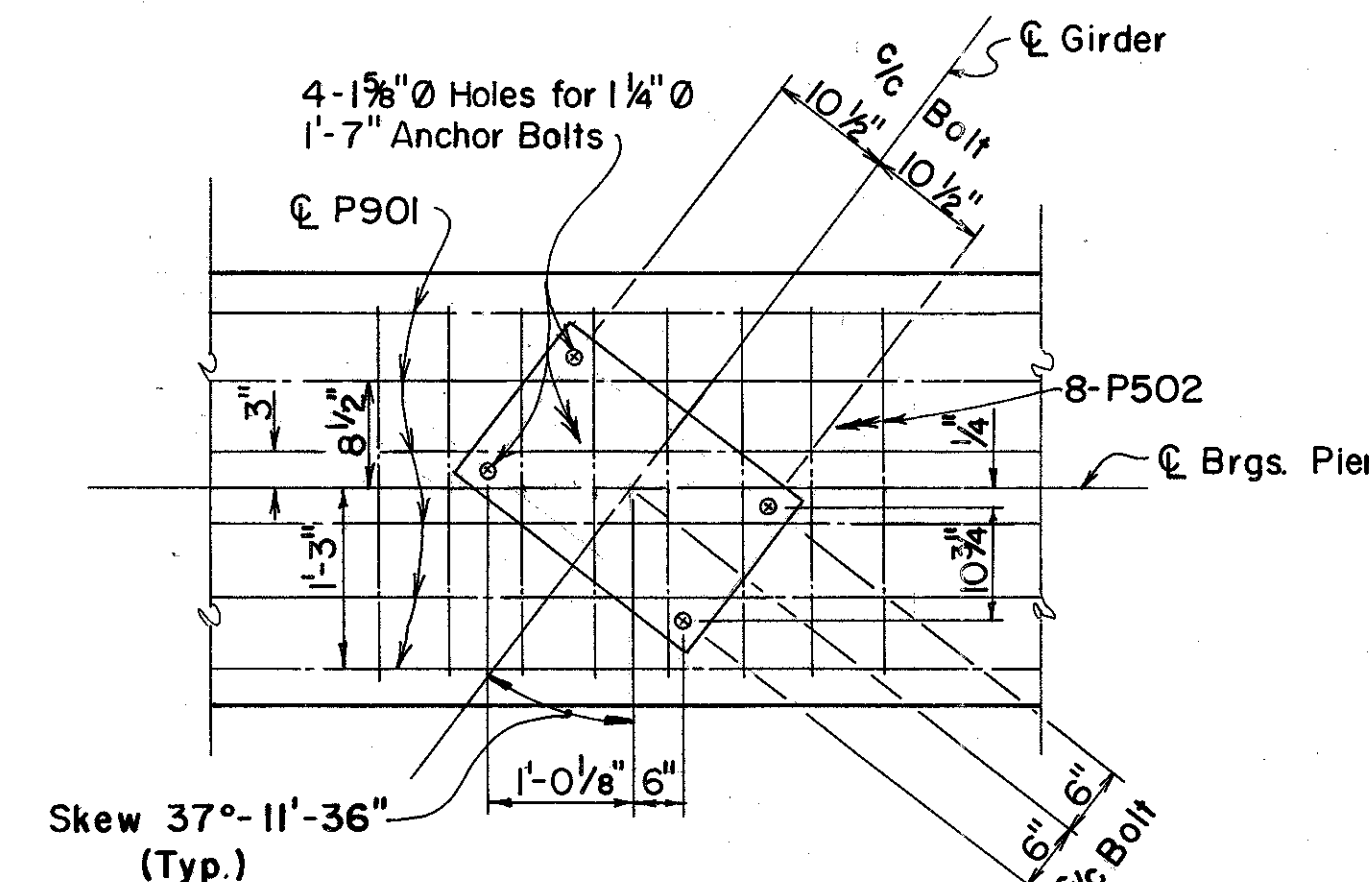
NOTES:
All piles shall be 12" Ø C.I.P. reinforced concrete piles.
⚡ Indicates 1:4 battered piles and direction of batter.

Bearing Anchor: At the option of the contractor, bearing anchors (or formed holes), located and supported by templates, may be cast in place.

Bridge Seat Reinforcing: Reinforcing steel in the vicinity of the bridge seat shall be accurately placed to avoid interference with the drilling of bearing anchor holes or the pre-setting of bearing anchors.

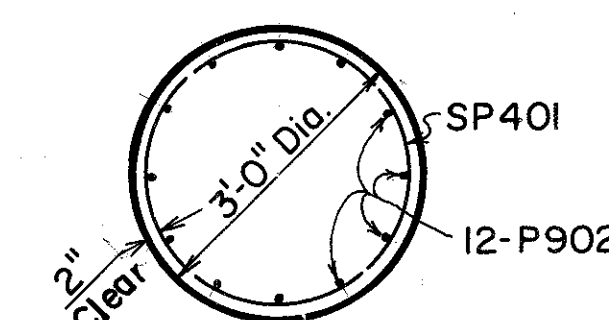


PLAN

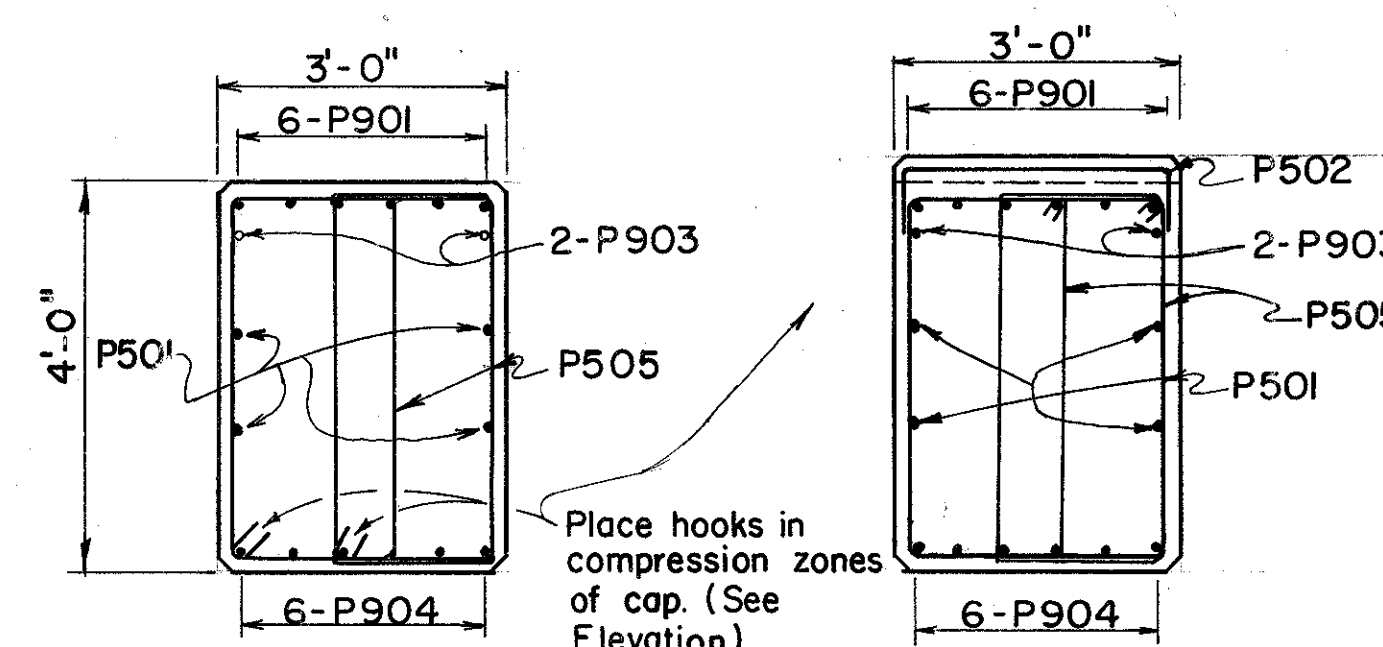


ANCHOR BOLT LAYOUT

7~F350 FIXED BEARINGS REQUIRED
(As per Std. Dwg. FB-1-82)

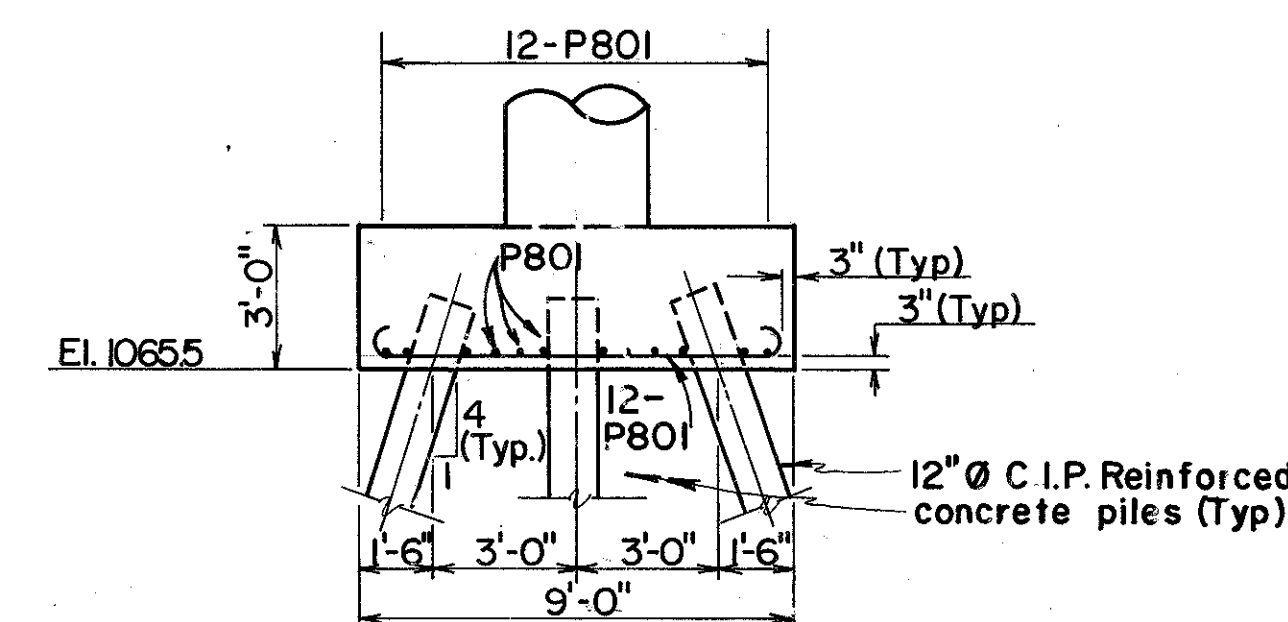


SECTION B-B

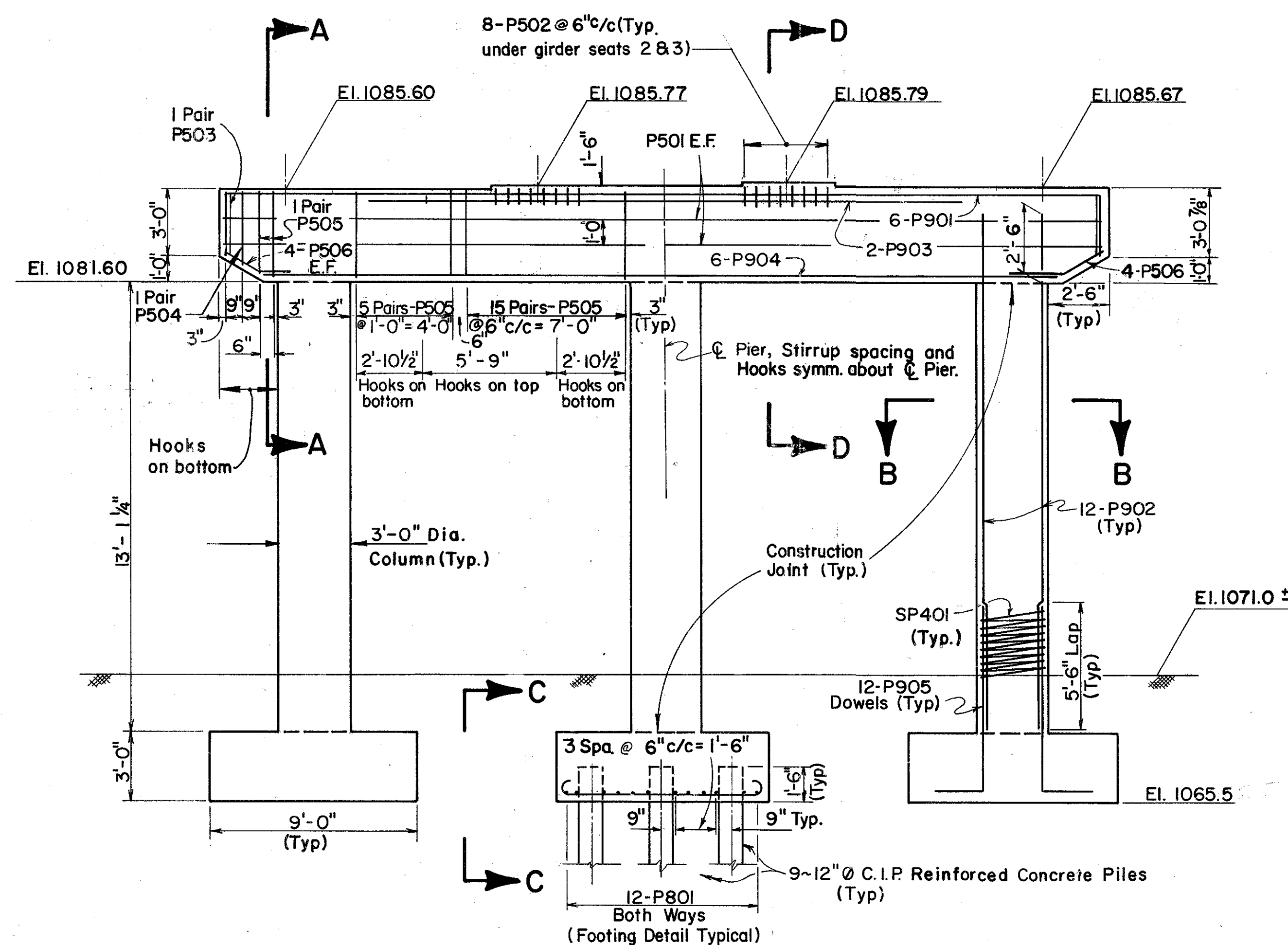


SECTION A-A

SECTION D-D



SECTION C-C



ELEVATION

LEGEND:
N.F. = Near Face
E.F. = Each Face
F.F. = Far Face

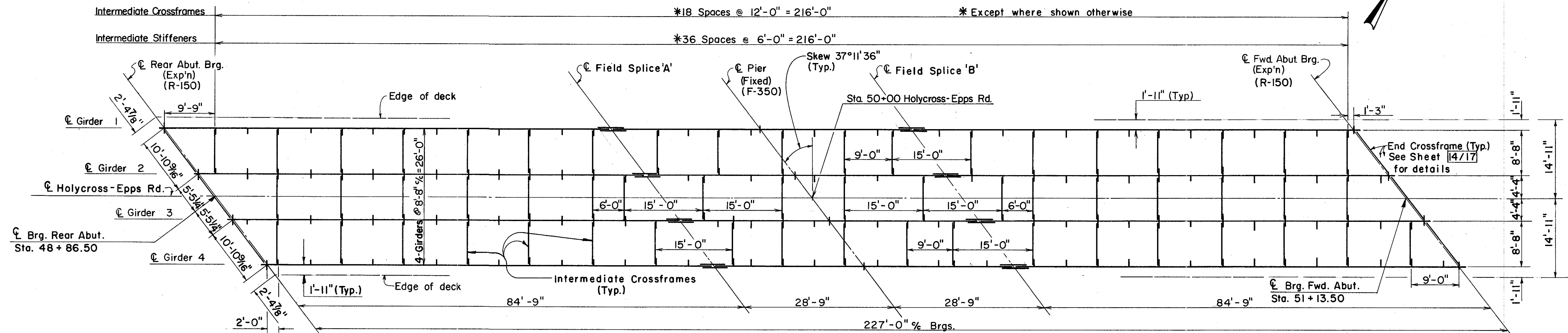
PARSONS BRINCKERHOFF QUADE & DOUGLAS
COLUMBUS, OHIO

PIER DETAILS

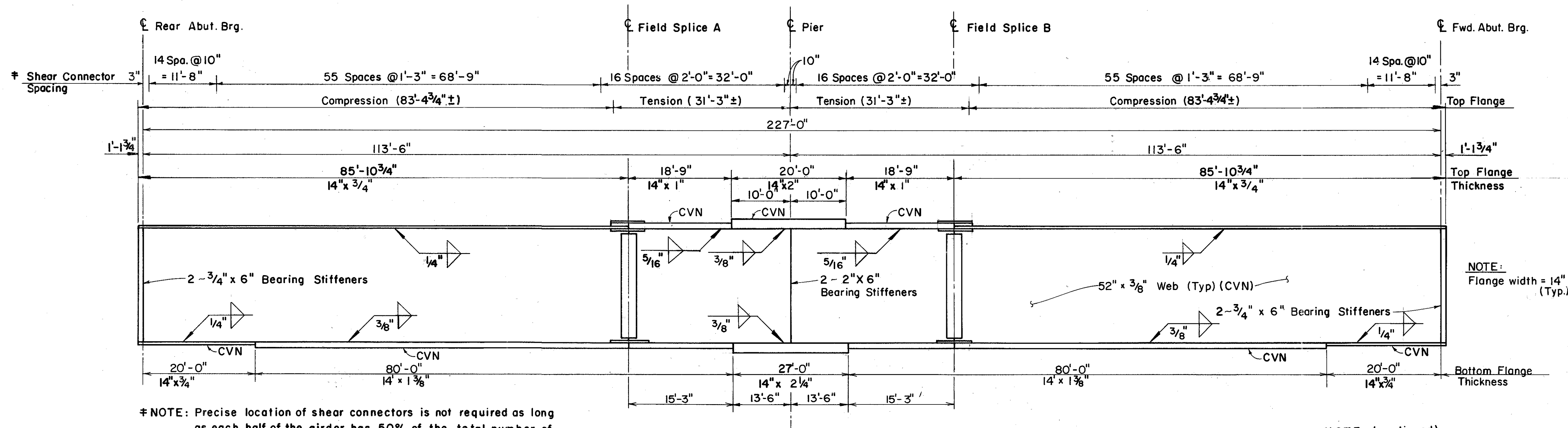
BRIDGE NO UNI-33-0389
UNDER HOLYCROSS-EPPS ROAD
UNION COUNTY STA 205+59.37

SCALE:

Designed	Drawn	Traced	Checked	Reviewed	Date	Revised
JKS	JKS		MJM	S.F./JKS	10/25/85	



FRAMING PLAN



* NOTE: Precise location of shear connectors is not required as long as each half of the girder has 50% of the total number of shear connectors and that the spacing may vary 1"± longitudinally from that shown on the elevation.

TYPICAL GIRDER ELEVATION (A588 Steel)

NOTE (continued)

Shear connectors shall be shifted as necessary to clear splice plates.

Welded attachment of supports for concrete deck finishing machine may be made to areas of the fascia stringer flanges designated "compression." Attachments shall not be made areas designated "tension." Fillet welds to compress on flanges shall be not closer than 1" from edge of flange, be not more than 2" long, and be not smaller than the minimum size required by AASHTO.

NOTES:

Where a shape or plate is designated (CVN) the material shall meet specified minimum notch toughness requirements as specified in 711.01 of CMS.

All girder length dimensions are at 70°.

See sh. 14/17 for field splice details.

For intermediate crossframe details, see sh. 14/17.

The intermediate stiffeners shall be on alternate sides of the web of interior girders and on the inside of the web of fascia girder.

Locate intermediate stiffeners to serve as attachments to intermediate crossframes. (See framing plan)

Bearings: In lieu of A588 steel, A36 steel, galvanized, may be furnished for bearings, except for upper plate element of bearings. This A36 steel shall be included with the A588 steel quantity for payment.

For intermediate and bearing stiffener details, see sheet 14/17.

For shear connector details, see sheet 14/17.

Partial Painting of A588 Steel: A 10' length of the ends of the girders adjacent to the abutments, and all crossframes and other steel within these limits shall be painted. Paint shall be 514, System A. The prime coat shall be 708.17. The top coat shall be 708.18 except that the color shall closely approach Federal Standard No. 595a-20045 or 20059. (Rusty steel color)

Remaining A588 is to be left unpainted, see CMS 513.221 for cleaning requirements.

PARSONS BRINCKERHOFF QUADE & DOUGLAS
COLUMBUS, OHIO 11/17

SUPERSTRUCTURE DETAILS

BRIDGE NO. UNI-33-0389
UNDER HOLYCROSS-EPPS ROAD

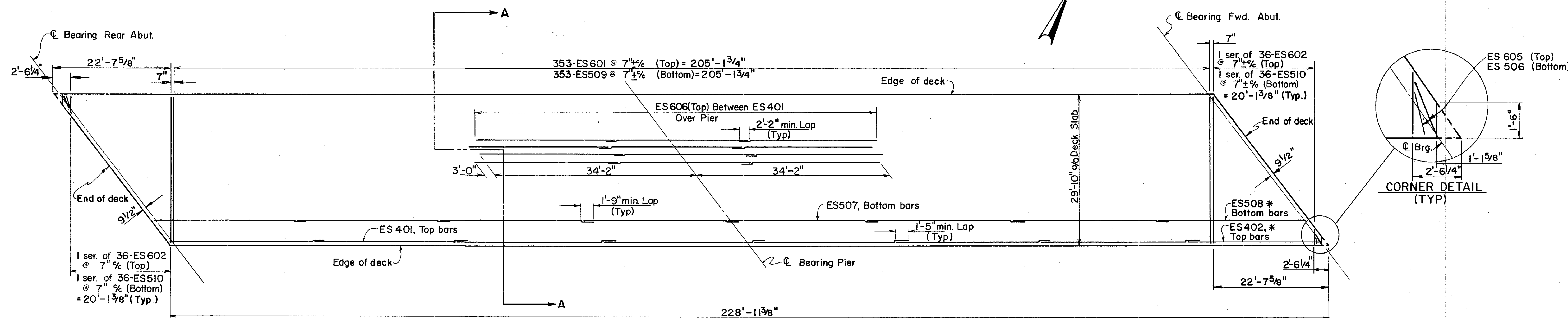
UNION COUNTY STA. 205+59.37

Designed	Drawn	Traced	Checked	Reviewed	Date	Revised
JKS	WJ		MJM	SFJ	10/25/85	

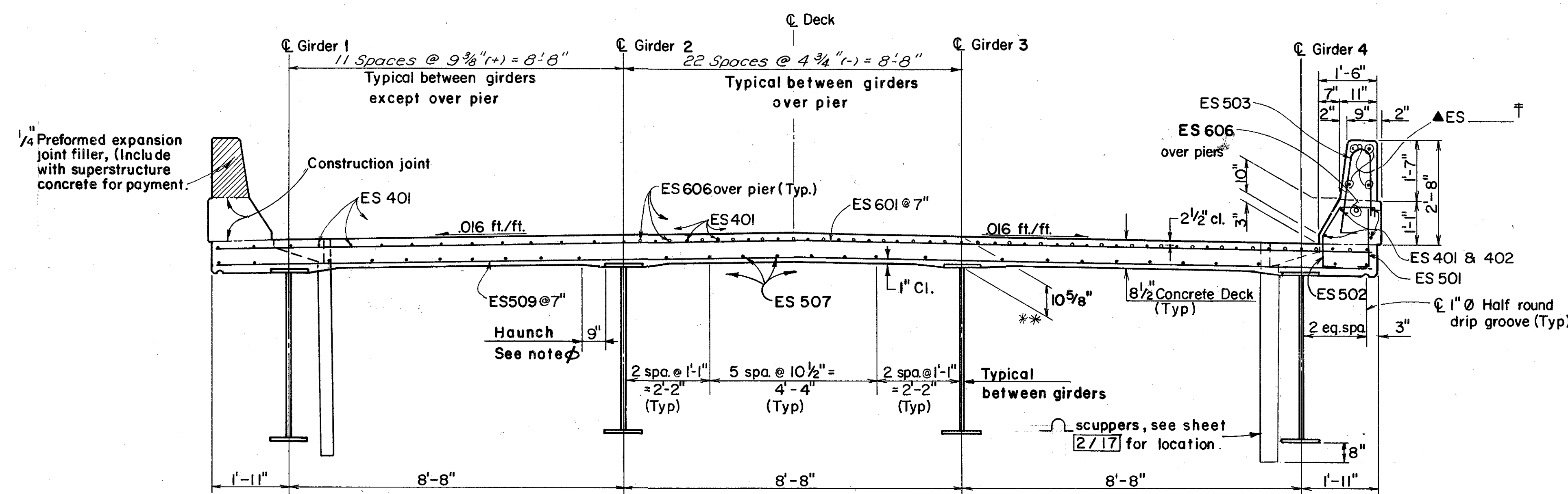
F.H.W.A. REGION	STATE	PROJECT
5	OHIO	

201
245

UNION COUNTY
UNI-33-1.99



DECK PLAN



SECTION A-A

**This is the design dimension. The quantity of deck concrete to be paid for shall be based upon this dimension, even though deviation from it may be necessary because the top flange of the girder may not have the exact camber or conformation required to place it parallel to the finished grade. Deduction shall be made for volume of encased steel plates as per 511.18.

*Field cut longitudinal bars, ES 402 and ES 508 in the curb area of acute corners of slab. Field cutting shall be included with item 509 for payment.

NOTES:

∅ A haunch width of 9" shall be used for a computing quantity of concrete. However, the haunch width may vary between 6" and 12", provided that the slope shall not be more than 1:4 for a haunch width less than 9".

Field bend transverse bars to fit crown. Field bending shall be included with Item 509 for payment.

Longitudinal reinforcing steel shall be field cut as necessary to avoid interference with scuppers.

Epoxy coated bars that are field cut and bars with epoxy coating damage by field bending shall be re-coated as per approved manufacturer's recommendations.

For cross frame and stiffener details, see sheet 14/17

For bridge roadway railing details, see Std. Dwg. BR-1 (dated 5-29-79)

† For additional bridge roadway railing details, see sheet 14/17

Scuppers shall be in accordance with Standard Dwg. SD-1-69 except that scupper pipes shall extend 8" below the bottom of the beams instead of 2".

PARSONS BRINCKERHOFF QUADE & DOUGLAS
COLUMBUS, OHIO 12/17

SUPERSTRUCTURE DETAILS

BRIDGE NO. UNI-33-0389
UNDER HOLYCROSS-EPPS ROAD

UNION COUNTY STA. 205+59.37
SCALE: NO SCALE

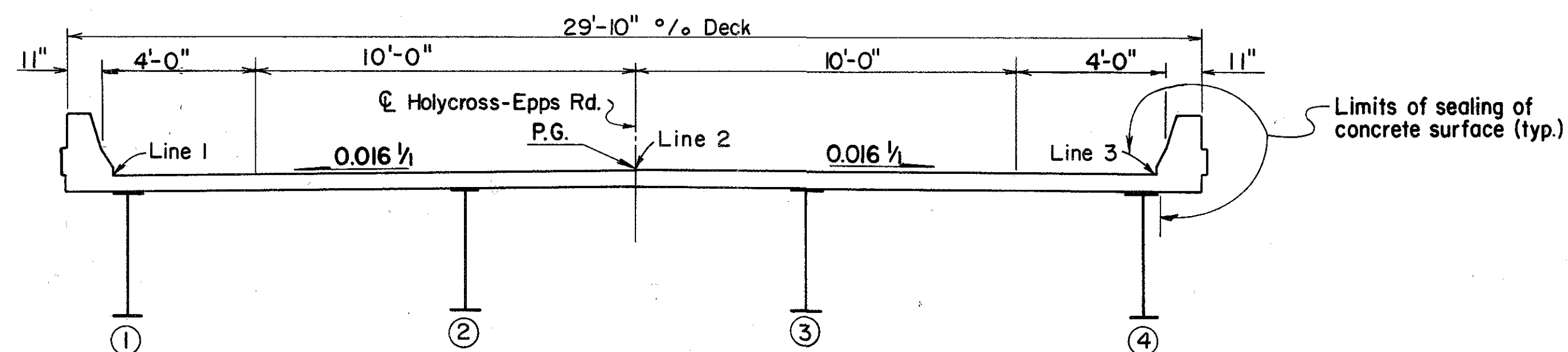
Designed	Drawn	Traced	Checked	Reviewed	Date	Revised
DPF			MJM	SFV	10/25/85	

BLOCKING DIMENSIONS		
○	Dim. A	Dim. B
Girder 1	5 3/4"	11 7/8"
Girder 2	5 3/4"	10 5/8"
Girder 3	5 5/8"	9 3/8"
Girder 4	5 3/4"	8"

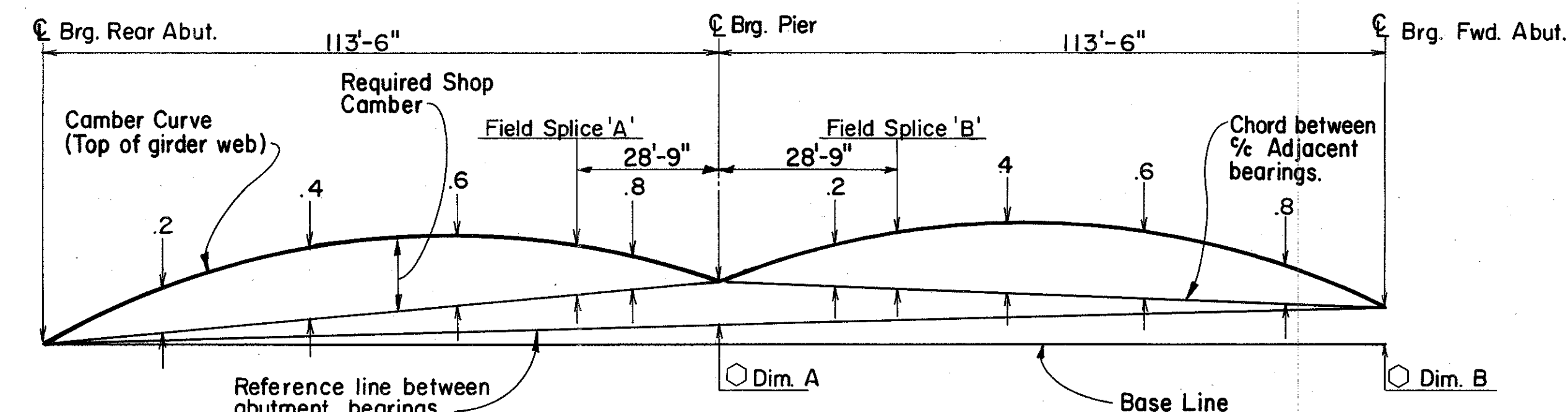
F.H.W.A. REGION	STATE	PROJECT	
5	OHIO		

202
245

UNION COUNTY
UNI-33-1.99



TYPICAL SECTION



CAMBER DIAGRAM

(Typical for all Girders 1 thru 4)

† NOTES ON PARAPETS:

Bridge Terminal Assemblies Type 'A' as per Standard Construction Drawing GR-3, Revised 2-5-82.

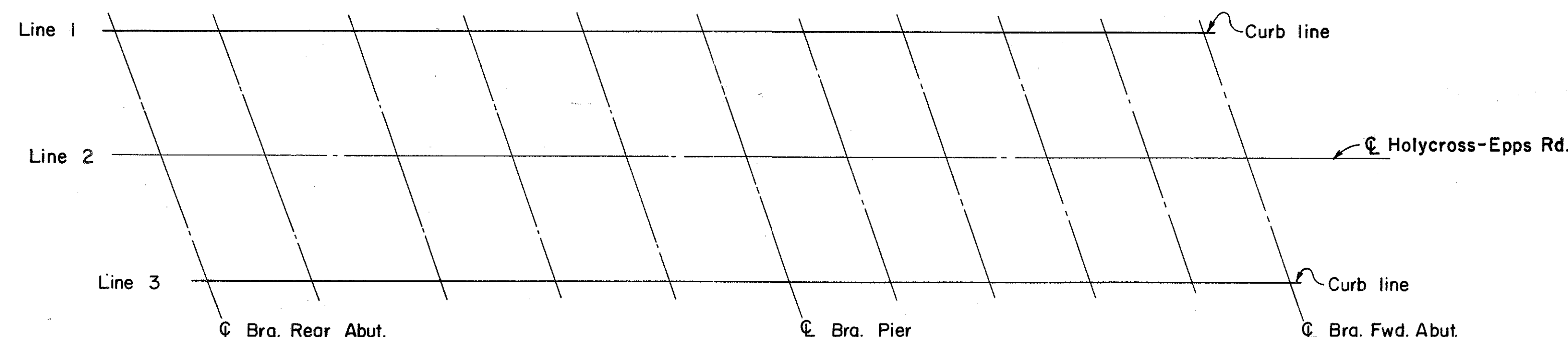
The insert assembly shall be placed during parapet construction.

Bridge corner parapet lengths and reinforcement spacing

NW: L=14'-7 7/8"
4-ES501,502,503@1'-3" C/C
NE: L=13'-6 1/8"
3-ES501,502,503@1'-3 1/2" C/C
SW: L=13'-6 1/8"
3-ES501,502,503@1'-3 1/2" C/C
SE: L=14'-7 7/8"
4-ES501,502,503@1'-3" C/C

† Actual opening between face of backwall and end of deck will depend on the type and size of steel extrusion used by the approved manufacturer of structural steel expansion joint systems.

Holes for splice bolts attaching guardrail to the terminal connector at ends of parapets shall be slotted 29/32"x3" and all bolts shall be tightened as specified for expansion joints as per CMS 606.05 to allow for bridge movement.



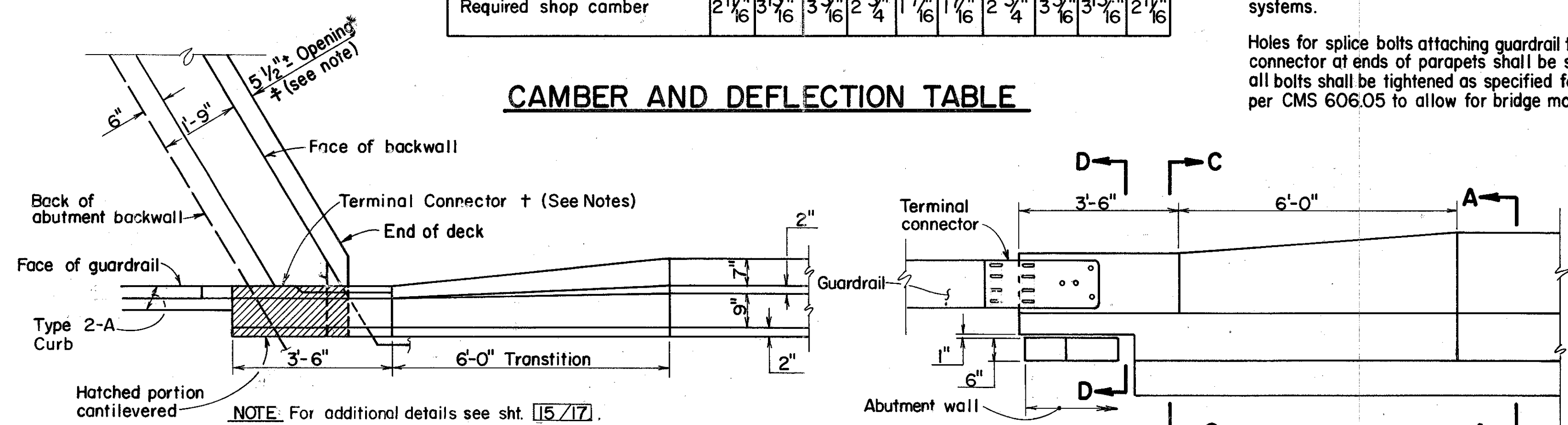
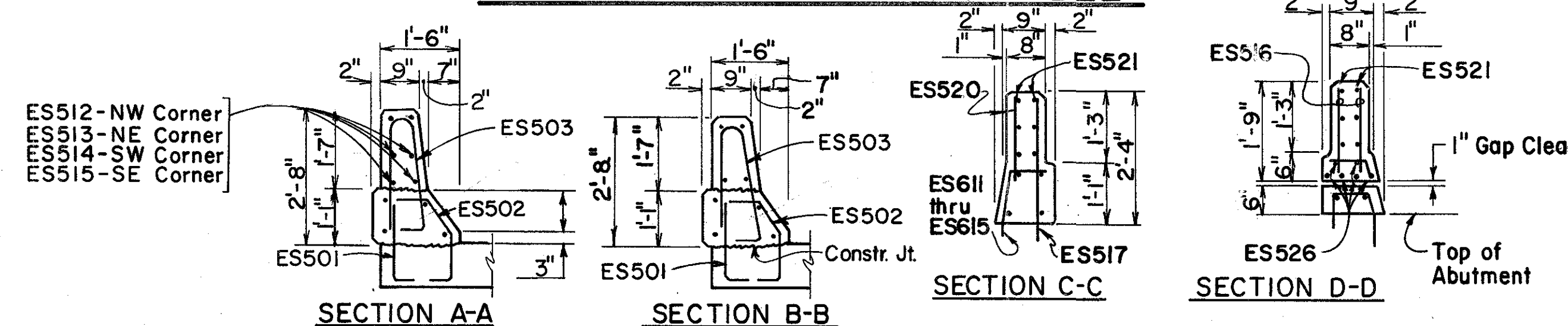
PLAN

(Deck Screed Elevation Location Layout)

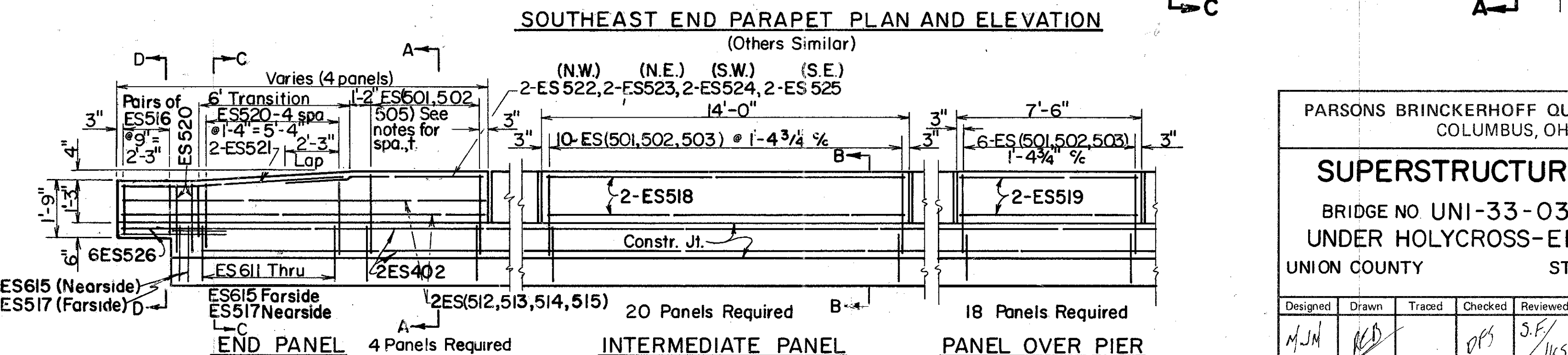
NOTE:
The Construction Elevations shown are those on top of concrete, before concrete deck is placed, so that the proper allowance is made for the dead load deflection caused by the weight of the concrete.

POINT	A	B	C	D	E	F	G	H	I	J	K
LOCATION	Q R.A.	(2) L ₁	(4) L ₁	(6) L ₁	(8) L ₁	Q PIER	(2) L ₂	(4) L ₂	(6) L ₂	(8) L ₂	Q F.A.
Station	48+76.32	48+99.02	49+21.72	49+44.42	49+67.12	49+89.82	50+12.52	50+35.22	50+57.92	50+80.62	51+03.32
Top of slab elevation	1090.83	1091.10	1091.34	1091.53	1091.69	1091.81	1091.89	1091.93	1091.94	1091.91	1091.84
Deflection	0.00	0.12	0.17	0.13	0.05	0.00	0.05	0.13	0.17	0.12	0.00
Screed setting elev.	1090.83	1091.22	1091.41	1091.66	1091.74	1091.81	1091.94	1092.06	1092.11	1092.03	1091.84
Station	48+86.50	49+09.20	49+31.90	49+54.60	49+77.30	50+00.00	50+22.70	50+45.40	50+68.10	50+90.80	51+13.50
Top of slab elevation	1091.17	1091.42	1091.64	1091.81	1091.96	1092.06	1092.12	1092.15	1092.14	1092.09	1092.00
Deflection	0.00	0.12	0.17	0.13	0.05	0.00	0.05	0.13	0.17	0.12	0.00
Screed setting elev.	1091.17	1091.54	1091.81	1091.94	1092.01	1092.06	1092.17	1092.28	1092.31	1092.21	1092.00
Station	48+96.68	49+19.38	49+42.08	49+64.78	49+87.48	50+10.18	50+32.88	50+55.58	50+78.28	51+00.98	51+23.68
Top of slab elevation	1091.08	1091.31	1091.51	1091.67	1091.80	1091.88	1091.93	1091.94	1091.91	1091.84	1091.74
Deflection	0.00	0.12	0.17	0.13	0.05	0.00	0.05	0.13	0.17	0.12	0.00
Screed setting elev.	1091.08	1091.43	1091.68	1091.84	1091.85	1091.88	1091.98	1092.07	1092.08	1091.96	1091.74

DECK SCREED ELEVATION TABLE



CAMBER AND DEFLECTION TABLE



SOUTHEAST END PARAPET PLAN AND ELEVATION

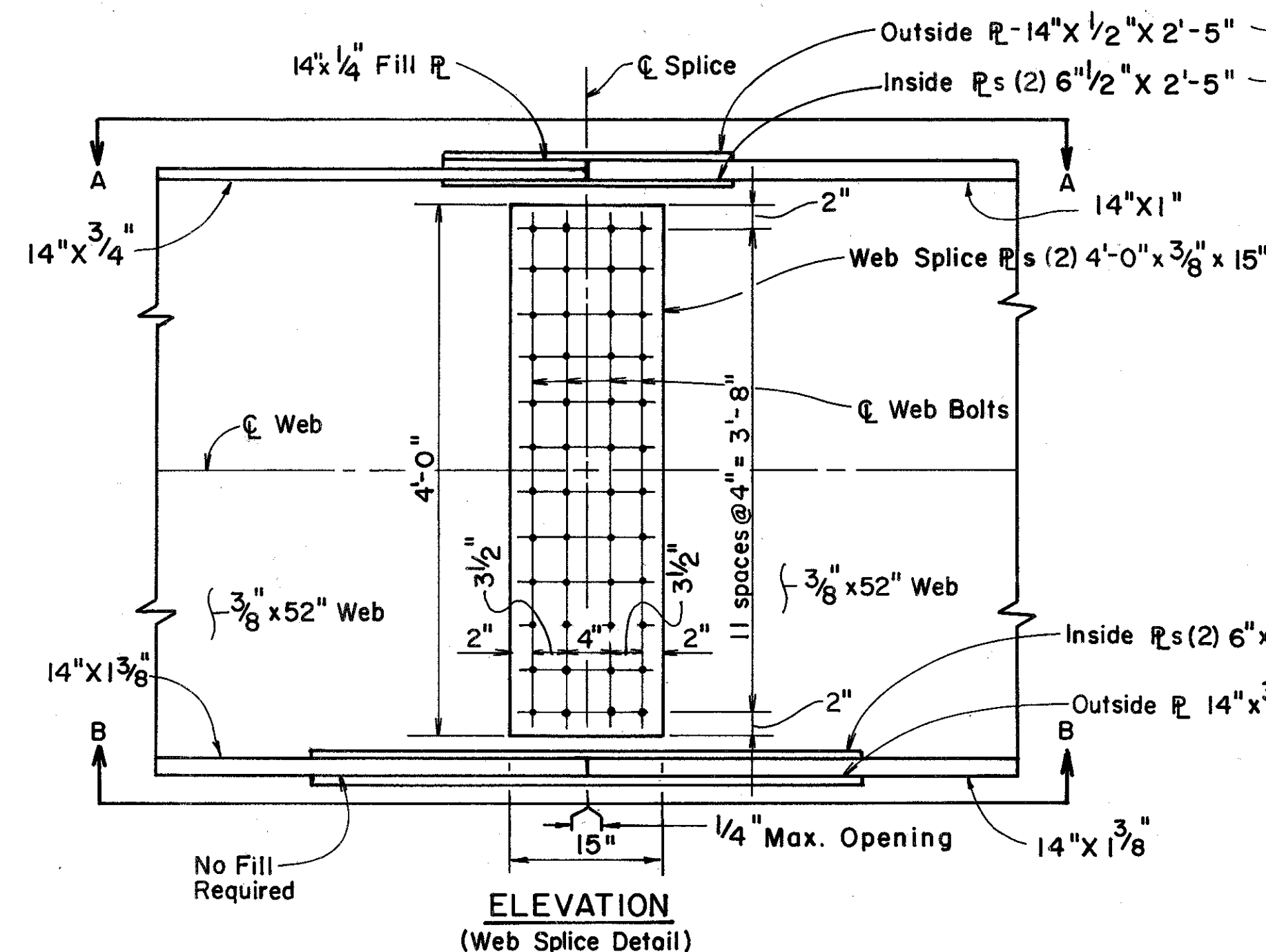
(Others Similar)

PARSONS BRINCKERHOFF QUADE & DOUGLAS
COLUMBUS, OHIO 13 / 17

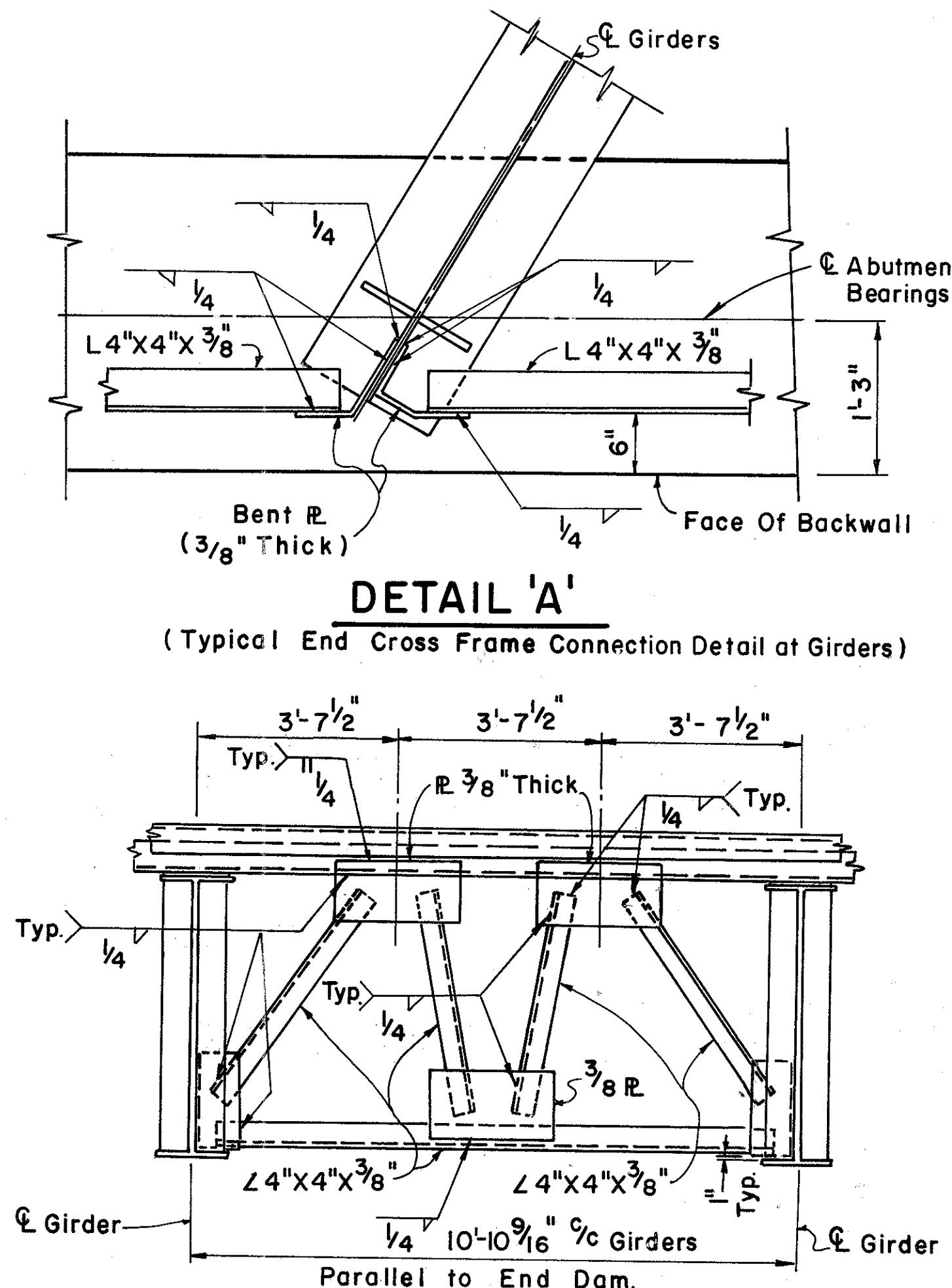
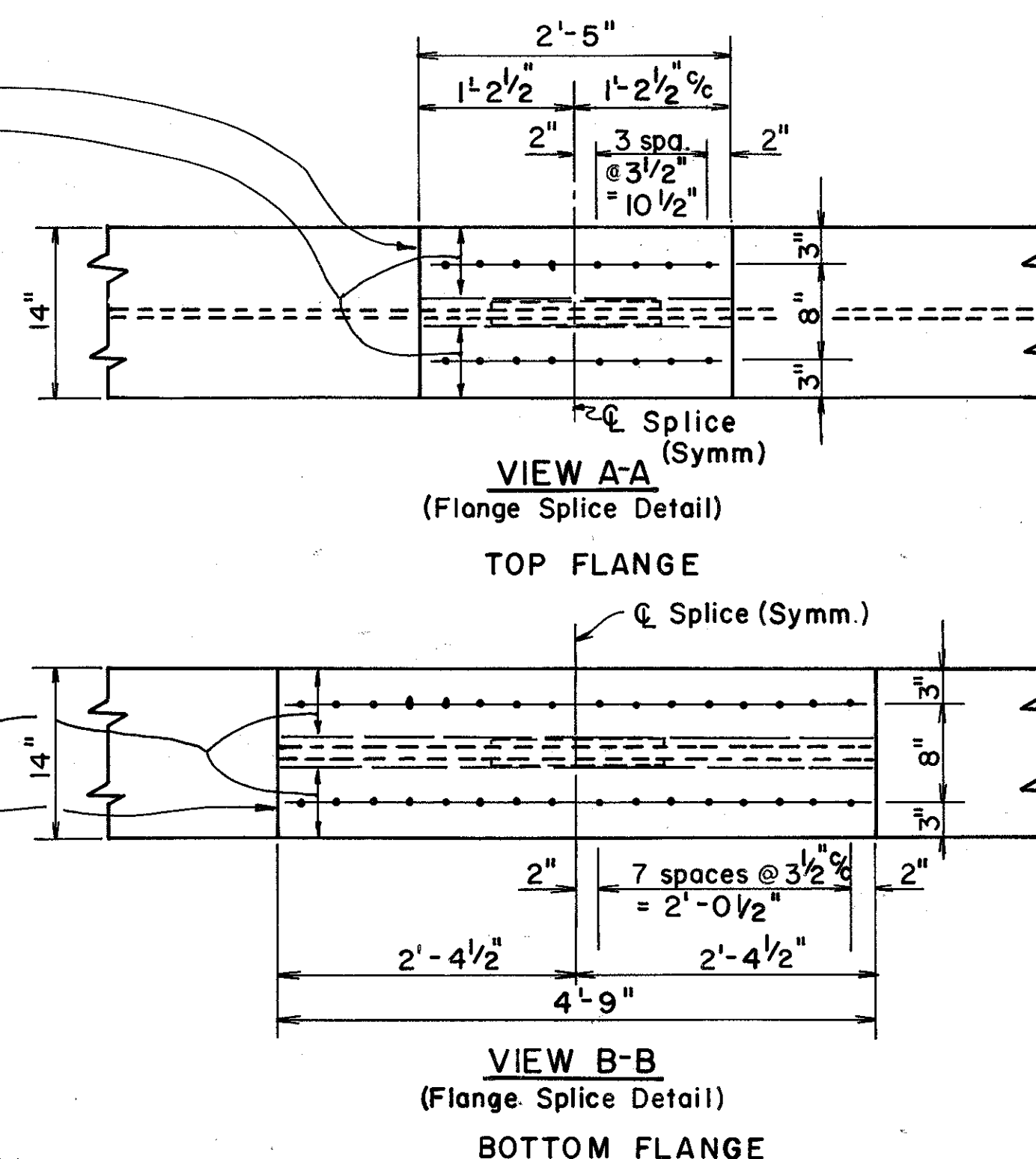
SUPERSTRUCTURE DETAILS

BRIDGE NO UNI-33-0389
UNDER HOLYCROSS-EPPS ROAD
UNION COUNTY STA. 205+59.37

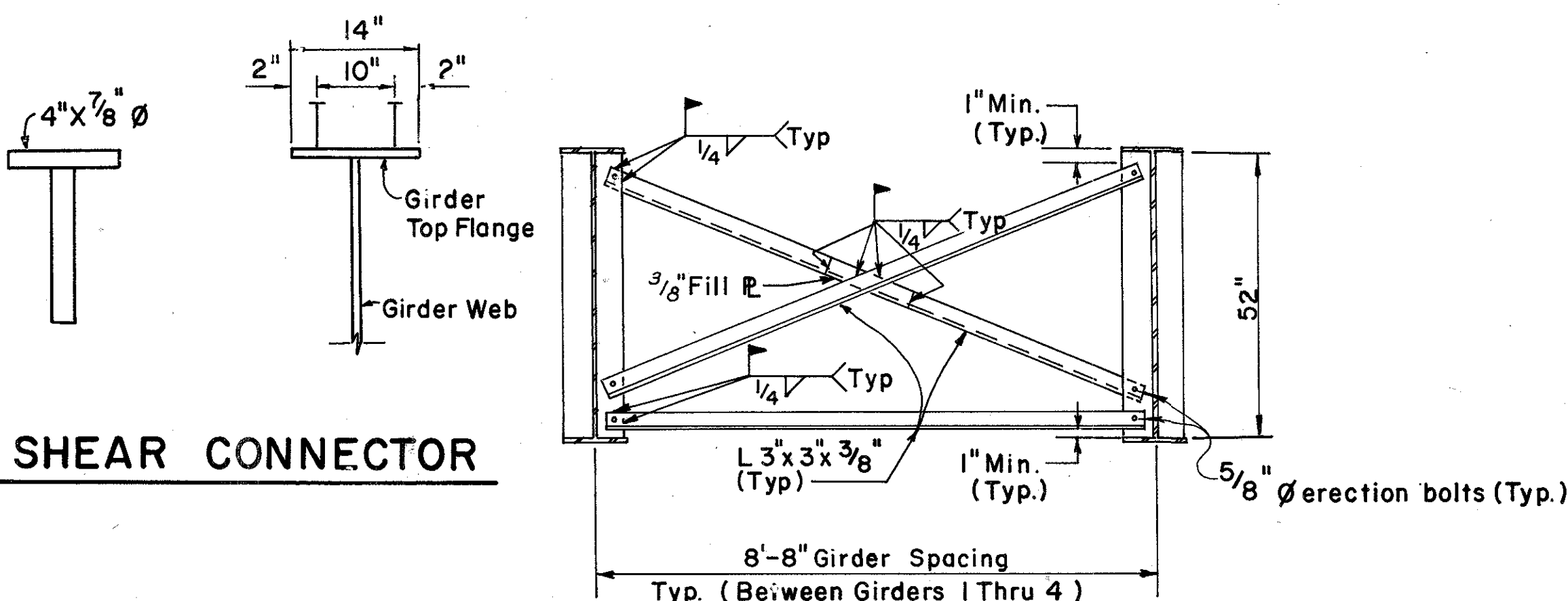
Designed	Drawn	Traced	Checked	Reviewed	Date	Revised
MJM	KD		OK	JFK	10/25/85	



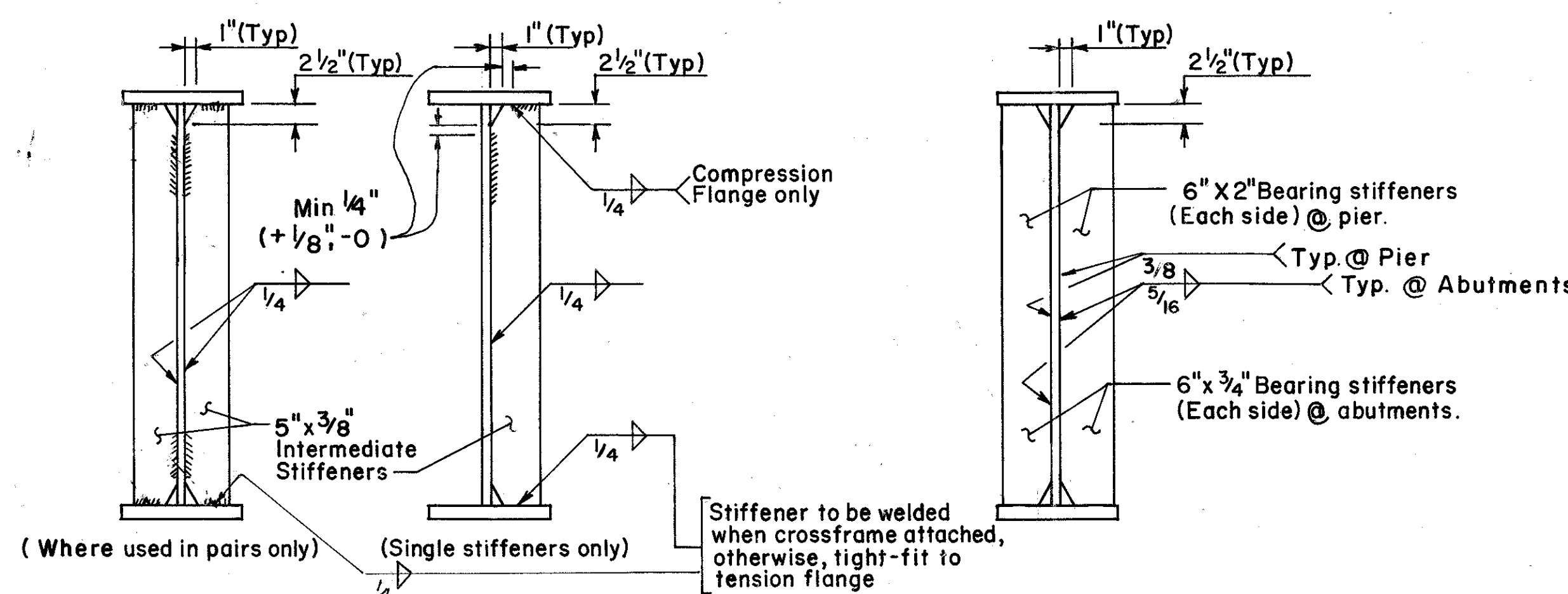
FIELD SPLICE 'A' SHOWN
(Field Splice 'B', Opposite Hand)



END CROSS FRAME



INTERMEDIATE CROSS FRAME



INTERMEDIATE STIFFENERS

BEARING STIFFENER

NOTES:

All Bolts Shall Be 1" Dia. High Strength Steel Conforming To ASTM A-325 Type 3.

Place Bolt Heads On Exposed Side Of Facia Girder Webs, Place Nuts On Top Of Bottom Flange Splice.

All Splice Plates Except Fills Shall Be CVN. For Field Splice Locations, See Sheet 11/17. For Cross Frame And Stiffener Locations, See Sheet 11/17.

For Shear Connector Spacing, See Sheet 11/17.

For Location of Detail 'A', See Sheet 11/17.

ERECTION BOLTS: Hole diameter in the cross frames and girder stiffeners shall be respectively 1/16" and 1/4" larger than the diameter of the erection bolts. Unless replaced by permanent high strength bolts, erection bolts shall remain in place. Lock washers shall be furnished for other than fully torqued high strength erection bolts. Bolts shall be furnished as part of 513.

In lieu of erection bolts and at the option of the Contractor, alternative means of temporary bracing may be used subject to the approval of the Director (501.06).

ELASTOMERIC STRIP SEAL SYSTEM

SPECIAL NOTES:

Contractor shall verify all dimensions prior to fabrication.
Dimensions to be verified by Engineer in field.

No splices will be permitted in the field.

Joints will be adjusted at factory for installation with 3" opening at 70° F, and shall be fabricated to follow the contour of the roadway.

All welding shall comply with 513.17- construction and material specifications.

Areas in direct contact with strip seal or concrete shall not be painted.

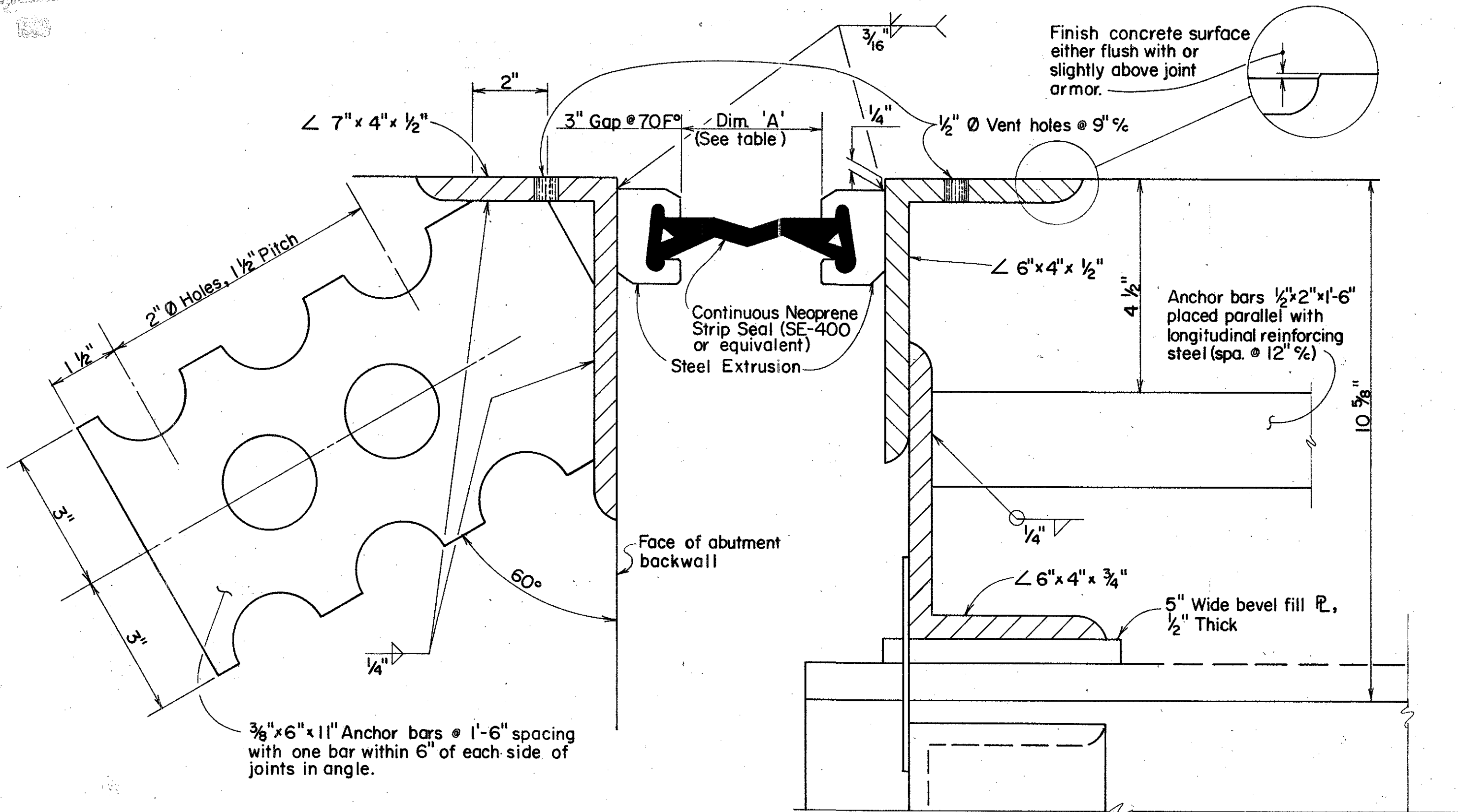
Expansion joint at abutments shall be furnished by the Contractor and shall be one of the following types:

WABO MAURER STRIP SEAL- by WATSON BOWMAN ASSOC., INC., or
ACME STRIP SEAL- by ACME HIGHWAY PRODUCTS CORPORATION, or
D.S. BROWN STRIP SEAL- by D.S. BROWN INC., or approved equal.

If it is necessary to modify the design drawing to accommodate the expansion joint device, any additional labor and/or material cost shall be at the Contractor's expense.

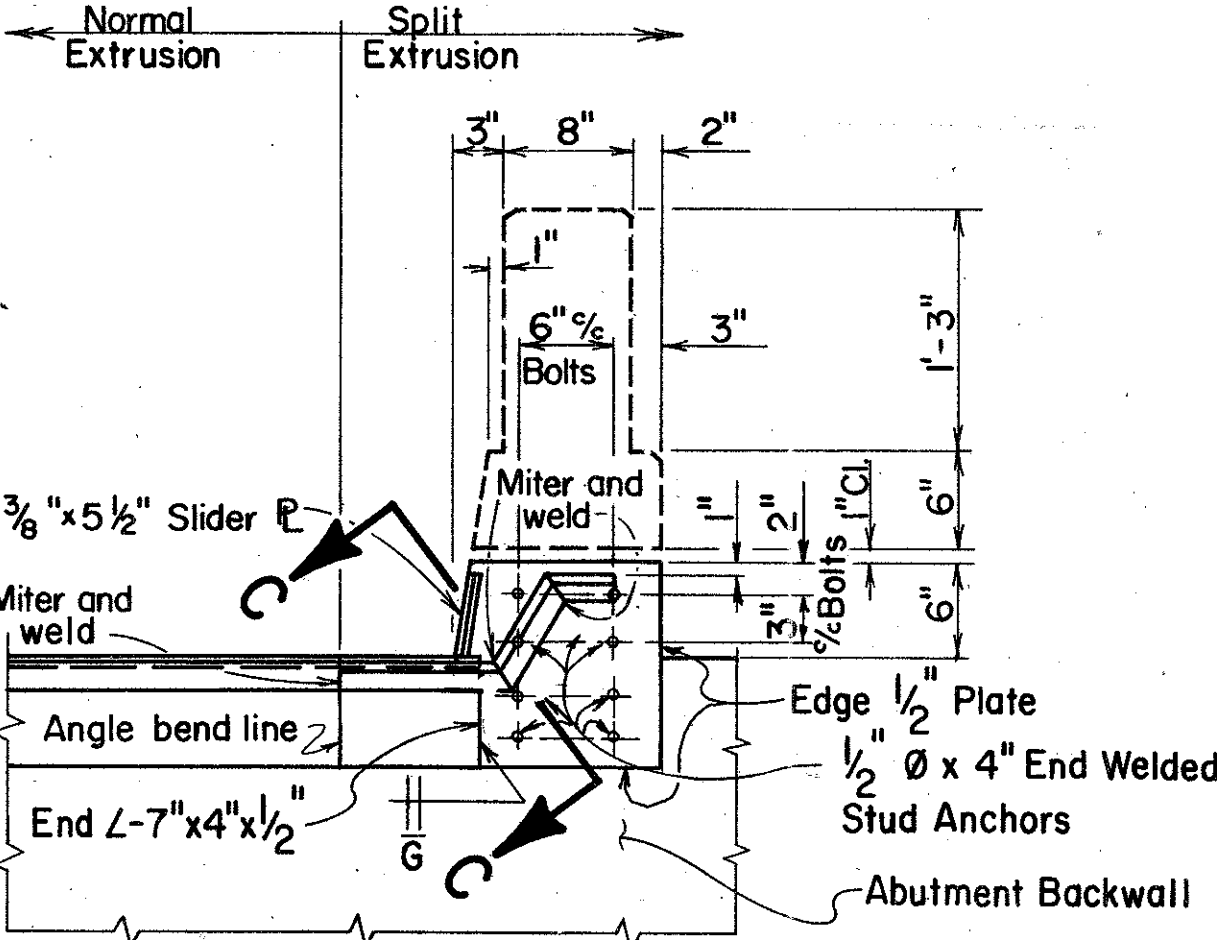
During installation of the support/armor for the superstructure side of the expansion joint seal, the seating of beams on bearings shall be carefully observed to assure that positive bearing is maintained. Proper vertical fit of the support/armor on the beams shall be achieved by positioning of the bevel fill plates rather than by clamping force.

Item 516- structural expansion joints including elastomeric strip seals: this item shall consist of furnishing the elastomeric extrusions, bonding adhesive, steel extrusions, end dam angles, and x-frame gusset plates, all anchor bars & plates, temporary fasteners, and any other material necessary to complete this item. This item shall also include all labor, tools & equipment necessary to complete it. Strip seals shall be ACME AS400, WABO SE400, D.S. BROWN SS400 or approved equivalent neoprene extrusion. Elastomeric seals for each joint shall be one continuous piece. Bonding elastomeric strip seals to steel anchor grooves shall depend on the material and method of installation used by the approved manufacturer of the Structural Steel Expansion Joint system. Manufacturers material and method used for Expansion Joint system shall conform to ASTM Standard Specifications and shall be approved by the engineer.

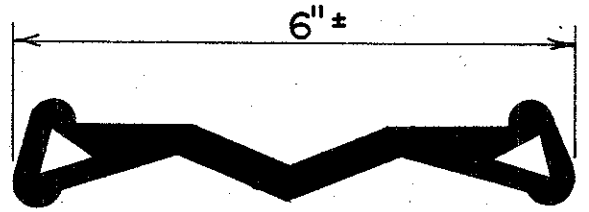


SECTION X-X

STRIP SEAL JOINT AT ABUTMENTS			
JOINT SETTING TABLE			
TEMP. (°F)	Joint Opening - Dim. "A"		
	Rear Abutment	Forward Abutment	
30	3 3/8"	3 3/8"	
40	3 1/4"	3 1/4"	
50	3 3/16"	3 3/16"	
60	3 1/16"	3 1/16"	
70	3"	3"	
80	2 15/16"	2 15/16"	
90	2 13/16"	2 13/16"	
100	2 3/4"	2 3/4"	



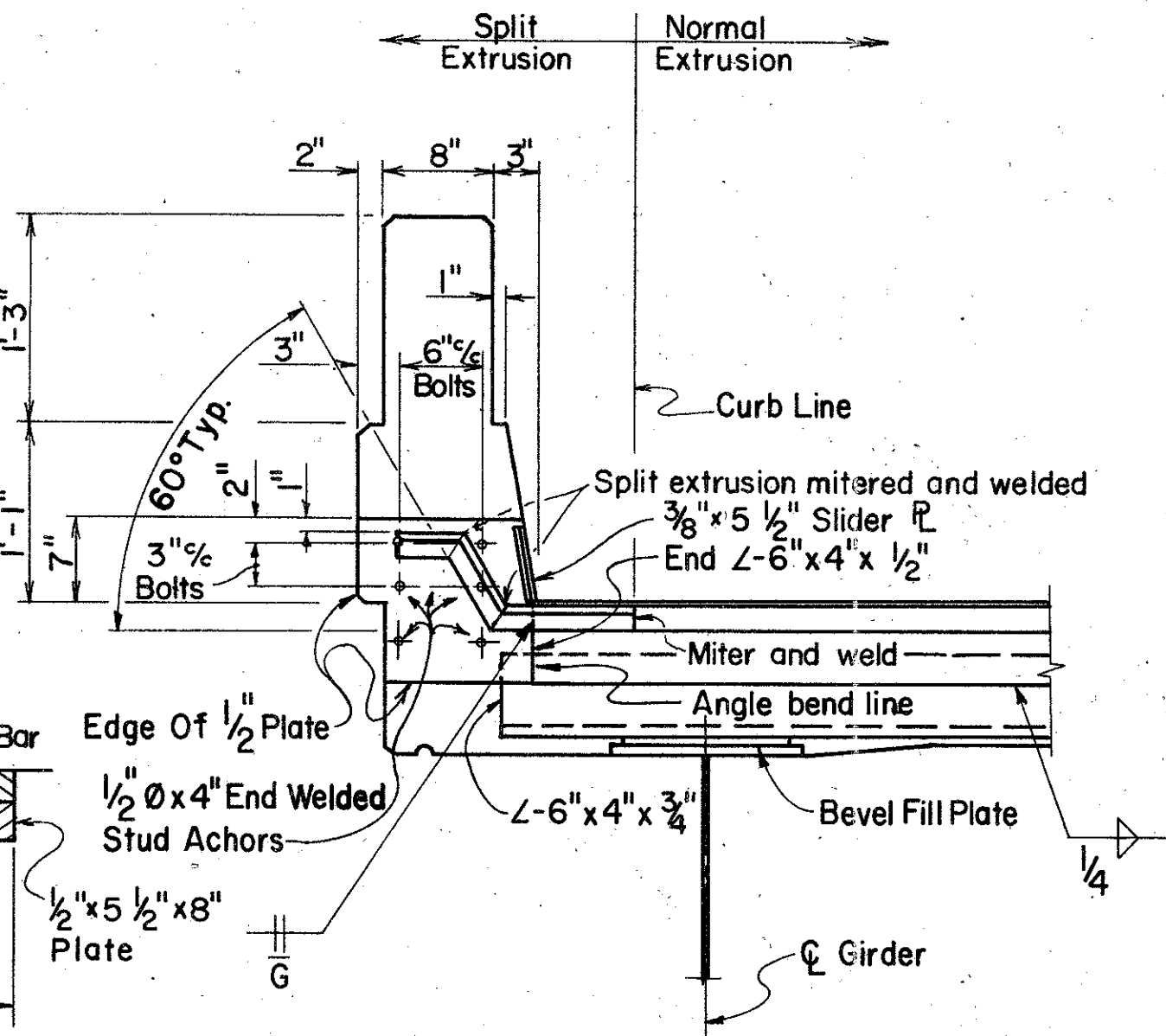
SECTION "A-A"



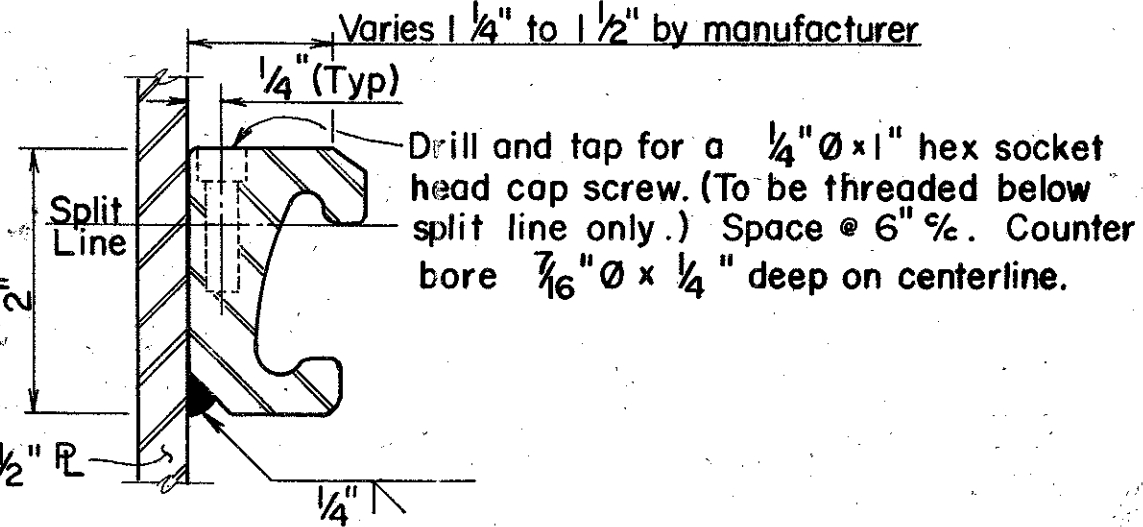
Strip Seal

NEOPRENE EXTRUSION

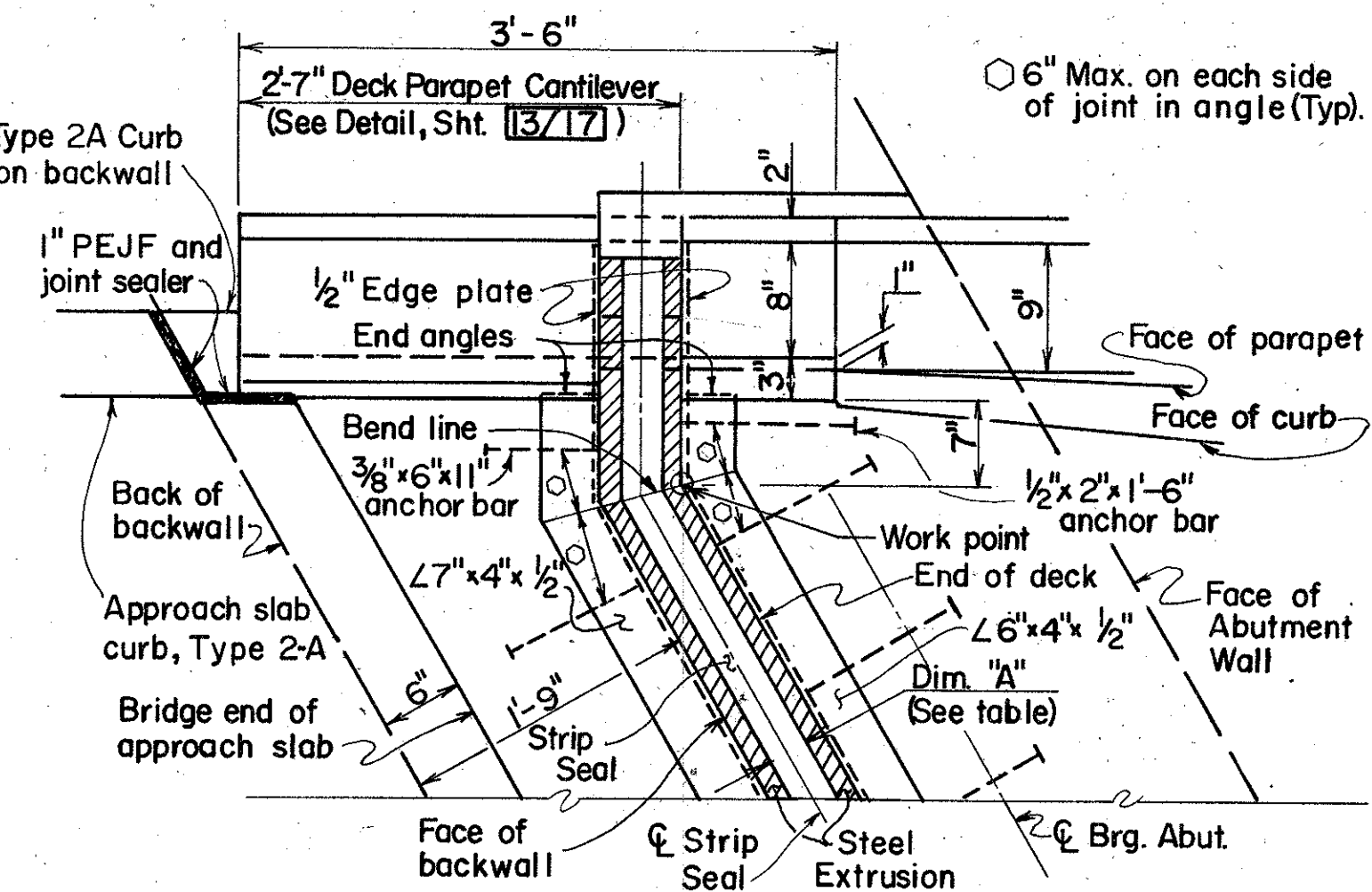
NOTE: SE-400 or approved equal as per specification ASTM D2628 Modified (Recovery test excluded)



SECTION "B-B"



SPLIT EXTRUSION DETAIL



NOTE: Structural expansion joint details at abutment ends (Typ). (N-W Corner shown, others similar or opposite hand). For additional details see sht. 14/17, Details A and B.

PARTIAL PLAN
(CORNER DETAIL)

PARSONS BRINCKERHOFF QUADE & DOUGLAS
COLUMBUS, OHIO 15 / 17

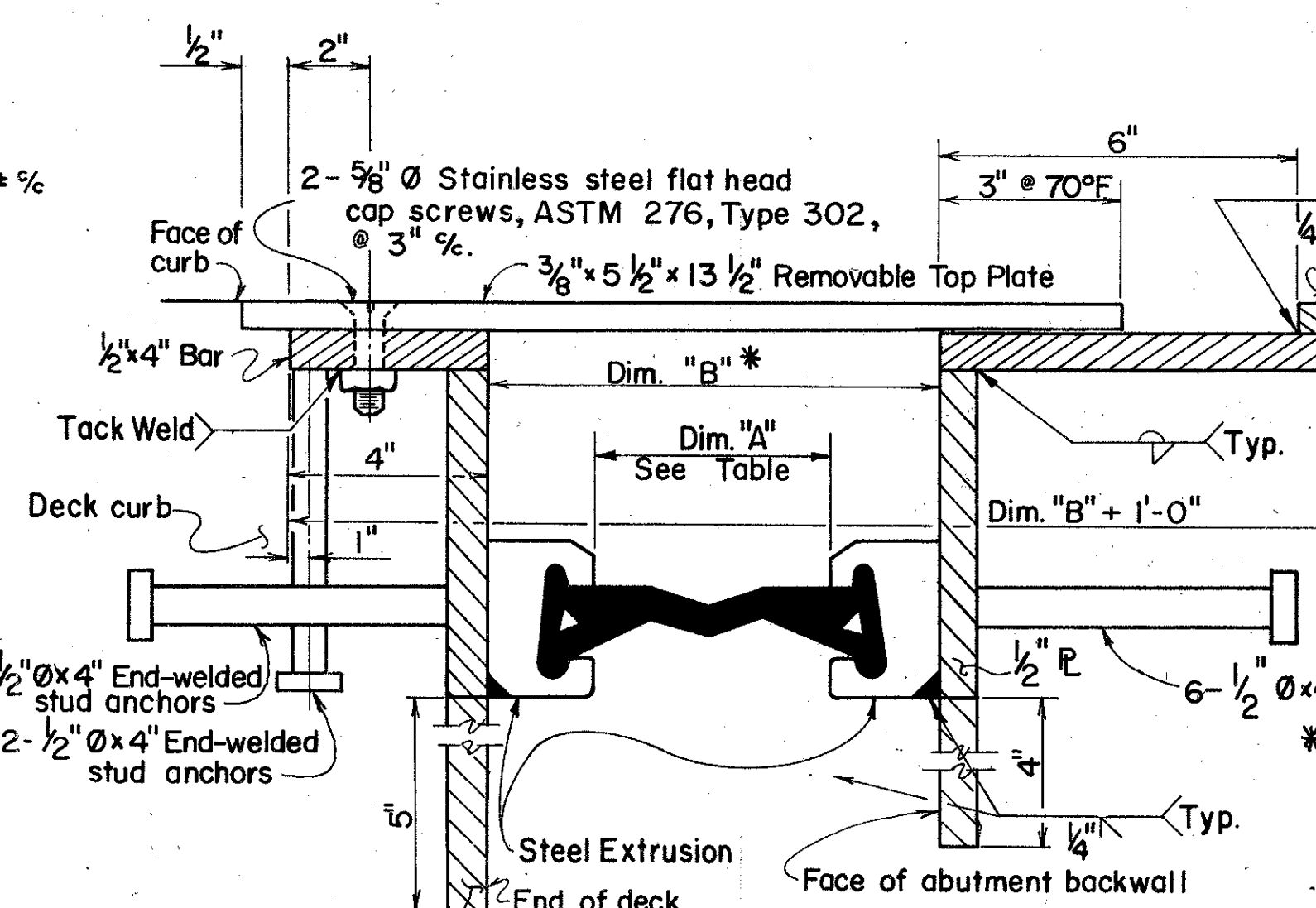
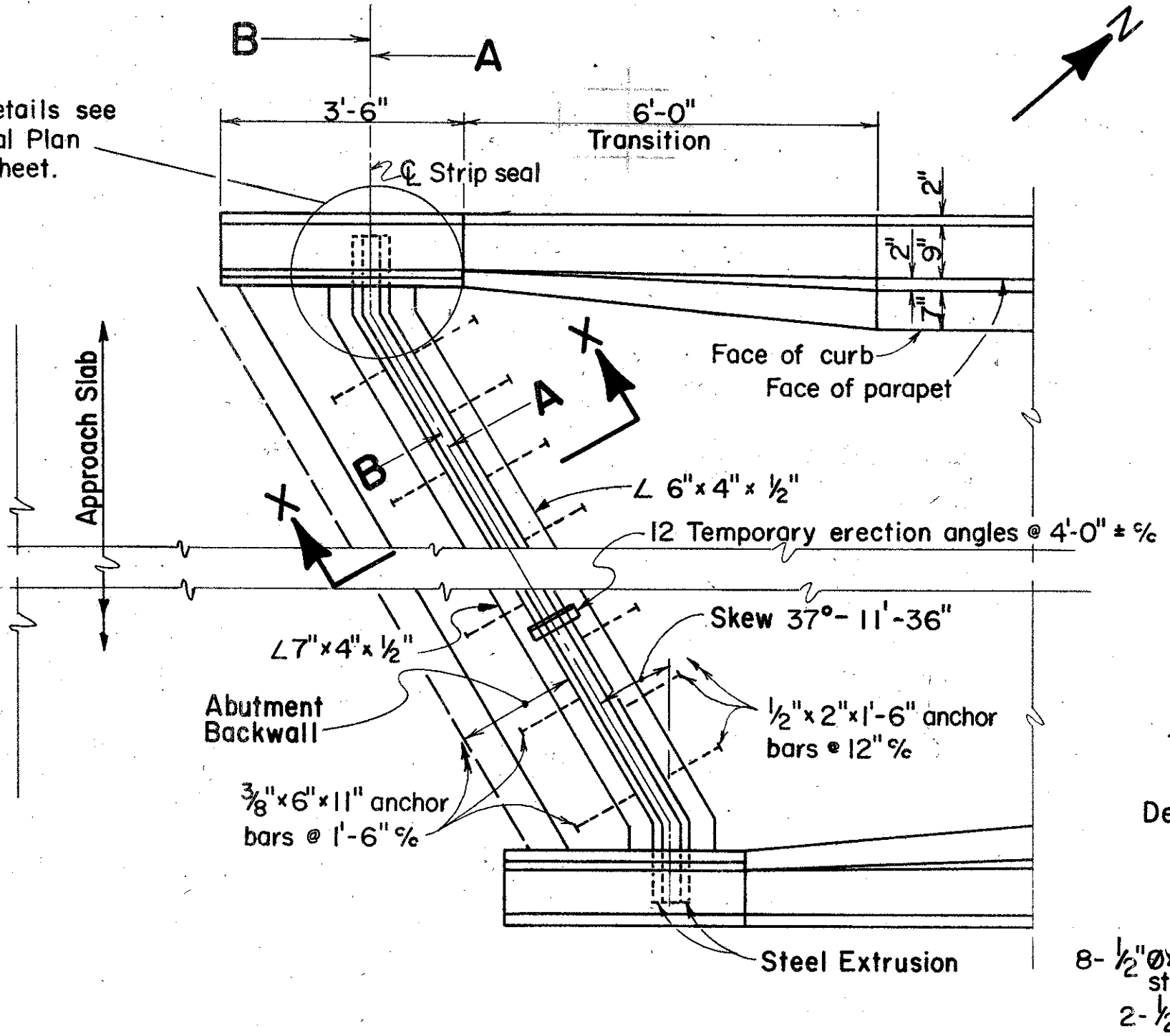
STRUCTURAL EXPANSION
JOINT DETAILS
BRIDGE NO. UNI-33-0389
UNDER HOLYCROSS-EPPS ROAD

UNION COUNTY STA. 205+59.37

Designed	Drawn	Traced	Checked	Reviewed	Date	Revised
MJM		REB	JKS		12/2/85	

PLAN AT ABUTMENT

NOTE: Schematic layout- Structural Expansion Joint System, rear abutment shown, forward abutment opposite hand.



SECTION "C-C"

REINFORCING STEEL LIST

FWHA REGION	STATE	PROJECT
5	OHIO	

205
245

UNION COUNTY
UNI-33-1.99

Mark	No.	Length	Weight	Shp.	Type	A	B	C	D	E
REAR ABUTMENT ▲										
A401	56	5'-5"	203	Bent	4	7"	2'-6"	2'-6"		
A402	3	3'-2"	6	"	4	8"	1'-4"	1'-4"		
A501	28	13'-0"	380	Str.						
A502	1	18'-6"	19	"						
A503	68	21'-7"	1531	"						
A504	7	19'-3"	141	"						
A505	40	7'-2"	299	Bent	4	2'-2"	2'-7 1/2"	2'-7 1/2"		
A506	36	25'-9"	967	Str.						
A507	4	11'-0"	46	Bent	2	3'-11"	7'-2"			
A508	1	14'-6"	15	Str.						
A509	4	6'-5"	27	Bent	9	3'-4"	3'-3"	1'-3 3/4"		
A510	4	11'-2"	47	"	4	1'-5"	5'-0"	5'-0"		
A511	8	3'-0"	25	Str.						
A512	4	6'-0"	25	Bent	5	0"	1'-4"	1'-8"	3'-3"	9 1/8"
A513	4	7'-6"	31	"	4	3'-11"	2'-6"	1'-4"		
A514	19		284	Str.	*		9'-5"	19'-3"	6 1/2"	
A515	2	30'-9"	64	"						
A516	2	29'-9"	62	"						
A517	12	27'-8"	346	"						
A518	14		186	"	* 2 Ser. of 7		1'-0"	24'-6"	3'-11"	
A519	36		336	"	* 4 Ser. of 9		8'-11"	9'-10"	2 1/8"	
A520	28		271	"	* 4 Ser. of 7		8'-7"	10'-0"	2 7/8"	
A521	24		199	"	* 4 Ser. of 6		8'-2"	7'-9"	1"	
A526	19		274	Str.	*		8'-2"	19'-6"	7 1/2"	
A527	12	27'-8"	346	"						
A528	16		213	"	* 2 Ser. of 8		1'-0"	24'-6"	3'-4 1/4"	
A536	12	4'-0"	50	Bent	13	2'-0"	2'-0"	3"		
A537	14	4'-3"	62	"	13	2'-0"	2'-0"	6"		
A538	4	19'-5"	81	Str.						
A539	4	19'-2"	80	"						
A540	26	2'-0"	54	"						
A601	28	11'-5"	480	Bent	5	1'-4"	3'-11"	1'-8"	5'-0"	1'-0"
A602	38	11'-1"	633	"	4	1'-5"	5'-0"	5'-0"		
A603	38	7'-9"	442	"	4	1'-5"	3'-4"	3'-4"		
A604	38	6'-3"	357	"	4	11"	2'-10"	2'-10"		
A605	30	13'-6"	608	"	8		12'-2"			
A606	30	12'-2"	548	Str.						
A607	24	8'-2"	295	"						
A608	24	9'-6"	342	Bent	8		8'-2"			
A901	82	11'-5"	3183	Bent	2	1'-8"	10'-0"			
A902	44	10'-5"	1558	Str.						

Mark	No.	Length	Weight	Shp.	Type	A	B	C	D	E
REAR ABUTMENT ▲										
A903	59	16'-2"	3243	Str.						
A904	53	18'-8"	3364	Bent	8		16'-2"			
A905	76	8'-2"	2110	"	9		1'-8"	6'-10"	0 5/8"	
A906	19		904	Str.	*		9'-0"	19'-0"	6 3/8"	
A907	13		359	"	*		6'-0"	10'-3"	4 1/4"	
A908	30	16'-2"	1649	"						
A909	30	18'-8"	1904	Bent	8		16'-2"			
A912	19		896	Str.	*		7'-9"	20'-0"	8 1/8"	
A913	13		341	"	*		5'-7"	9'-10"	4 1/4"	
A920	2	19'-5"	132	Str.						
A921	2	19'-3"	131	"						
D801	25	6'-4"	423	Bent	7	2'-0"	2'-8"	2'-0"	1'-0"	

Mark	No.	Length	Weight	Shp.	Type	A	B	C	D	E
FORWARD ABUTMENT ▼										
A401	56	5'-5"	203	Bent	4	7"	2'-6"	2'-6"		
A402	3	3'-2"	6	"	4	8"	1'-4"	1'-4"		
A501	28	13'-0"	380	Str.						
A502	1	18'-6"	19	"						
A503	68	21'-7"	1531	"						
A504	7	19'-3"	141	"						
A505	40	7'-2"	299	Bent	4	2'-2"	2'-7 1/2"	2'-7 1/2"		
A506	36	25'-9"	967	Str.						
A507	4	11'-0"	46	Bent	2	3'-11"	7'-2"			
A508	1	14'-6"	15	Str.						
A509	4	6'-5"	27	Bent	9	3'-4"	3'-3"	1'-3 3/4"		
A510	4	11'-2"	47	"	4	1'-5"	5'-0"	5'-0"		
A511	8	3'-0"	25	Str.						
A512	4	6'-0"	25	Bent	5	0"	1'-4"	1'-8"	3'-3"	9 1/8"
A513	4	7'-6"	31	"	4	3'-11"	2'-6"	1'-4"		
A522	2	34'-3"	71	Str.						
A523	2	37'-3	78	"						
A524	8	31'-8"	264	"						
A525	18		279	"	* 2 Ser. of 9		1'-0"	28'-9"	3'-5 1/2"	
A527	18		310	"	* 2 Ser. of 9		1'-0"	32'-0"	3'-10 1/2"	
A528	36		410	"	* 4 Ser. of 9		9'-11"	11'-11"	3"	
A529	14		173	"	* 2 Ser. of 7		8'-7"	9'-10"	2 1/2"	
A530	12		118	"	* 2 Ser. of 6		9'-1"	9'-9"	1 5/8"	
A531	14		170	"	* 2 Ser. of 7		10'-4"	12'-0"	3 3/8"	
A532	12		142	"	* 2 Ser. of 6		10'-11"	11'-9"	2"	
A533	23		316	"	*		7'-2"	19'-2"	6 1/2"	
A534	10	35'-8"	372	"						
A535	21		273	"	*		5'-8"	19'-3"	8 1/8"	
A536	12	4'-0"	50	Bent	13	2'-0"	2'-0"	3"		
A537	14	4'-3"	62	"	13	2'-0"	2'-0"	6"		
A538	4	19'-5"	81	Str.						
A539	4	19'-2"	80	"						
A540	26	2'-0"	54	"						
A601	28	11'-5"	480	Bent	5	1'-4"	3'-11"	1'-8"	5'-0"	1'-0"
A602	38	11'-1"	633	"	4	1'-5"	5'-0"	5'-0"		
A603	38	7'-9"	442	"	4	1'-5"	3'-4"	3'-4"		
A604	38	6'-3"	357	"	4	11"	2'-10"	2'-10"		
A605	33	13'-6"	669	"	8		12'-2"			
A606	33	12'-2"	603	Str.						
A607	33	8'-2"	405	"						
A608	33	9'-6"	471	Bent	8		8'-2"			

This column continued on sh. 117/171.

NOTES:

Reinforcing Steel Samples

Refer to CMS sections 106.03, 700.709.01 through 709.05 and 709.08. Sufficient additional reinforcing steel shall be provided for sampling. Random samples shall be replaced in the structure by the additional steel, spliced in accordance with 509.08.

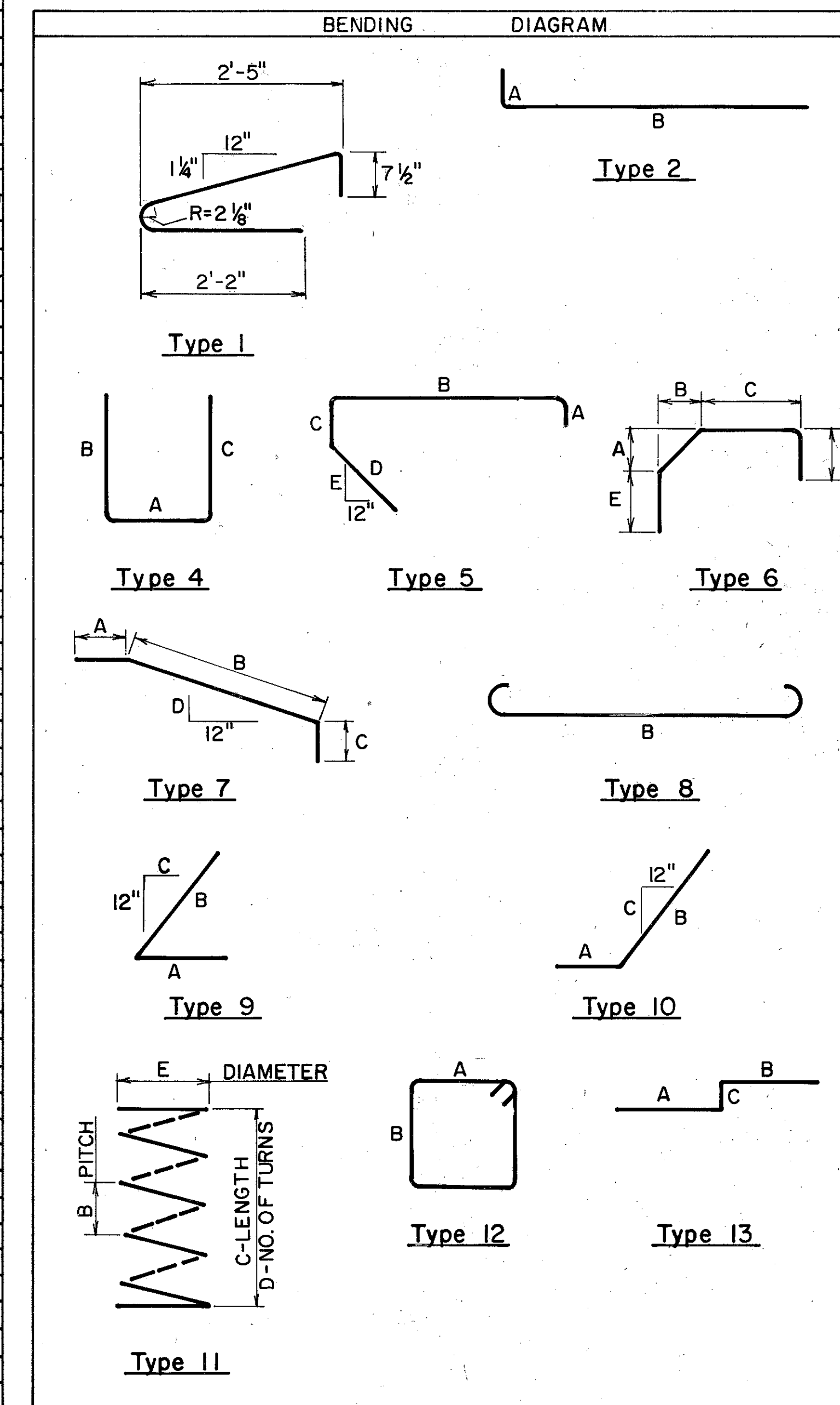
The letter 'E' before a bar mark denotes on epoxy coated reinforcing bar. Payment for these bars shall be under item 024, "Epoxy coated reinforcing steel."

Varies From 'B' to 'C'
By 'D' Inc.

* SERIES BAR

▲ All Bars for Rear Abutment shall have suffix R, i.e. A502-R

▼ All Bars for Forward Abutment shall have suffix F, i.e. A502-F



PARSONS BRINCKERHOFF QUADE & DOUGLAS
COLUMBUS, OHIO 16 / 17

REINFORCING STEEL LIST

BRIDGE NO. UNI-33-0389
UNDER HOLYCROSS-EPPS ROAD
UNION COUNTY STA. 205+59.37

Designed	Drawn	Traced	Checked	Reviewed	Date	Revised
NLM	RES		AMH	RES	10/25/85	

REINFORCING STEEL LIST

FWHA REGION	STATE	PROJECT
5	OHIO	

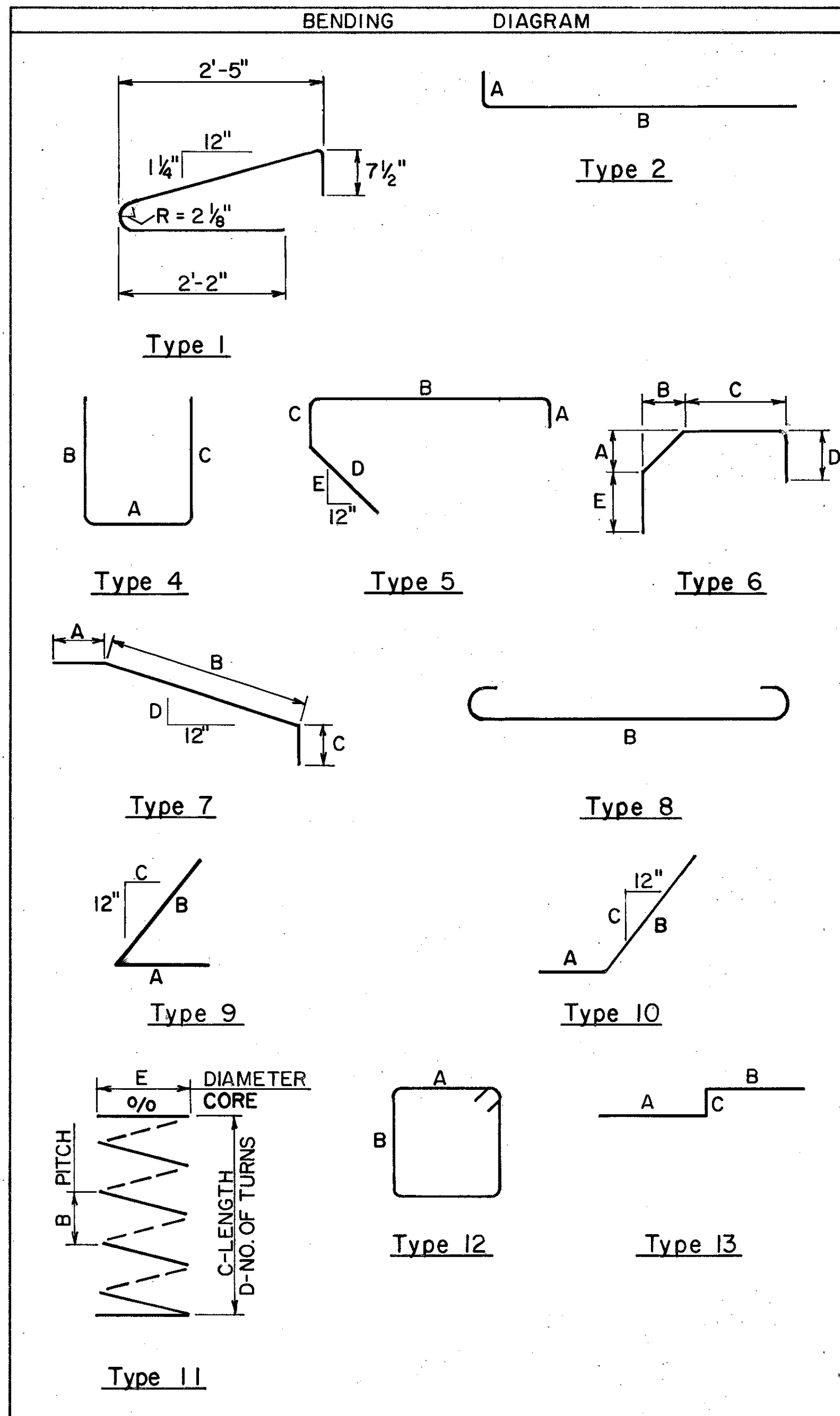
206
245

UNION COUNTY
UNI-33-1.99

Mark	No.	Length	Weight	Shp.	Type	A	B	C	D	E
FORWARD ABUTMENT CONT. ▼										
A901	82	11'-5"	3183	Bent	2	1'-8"	10'-0"			
A902	44	10'-5"	1558	Str.						
A903	59	16'-2"	3243	"						
A904	53	18'-8"	3364	Bent	8		16'-2"			
A905	88	8'-2"	2443	"	9	1'-8"	6'-10"	0 5/8"		
A908	36	16'-2"	1979	Str.						
A909	36	18'-8"	2285	Bent	8		16'-2"			
A914	21		905	Str.	*		5'-6"	19'-10"	8 5/8"	
A915	14		369	"	*		5'-3"	10'-3"	4 7/8"	
A916	23		1054	"	*		7'-0"	19'-9"	7"	
A917	16		402	"	*		5'-6"	9'-3"	3"	
A920	2	19'-3"	131	Str.						
A921	2	19'-2"	130	"						
D801	25	6'-4"	423	Bent	7	2'-0"	2'-8"	2'-0"	1'-0"	

Mark	No.	Length	Weight	Shp.	Type	A	B	C	D	E
PIER										
P501	4	37'-8"	157	Str.	4					
P502	16	4'-1"	68	Bent						
P503	4	9'-5"	39	"	12	2'-8"	10'	10"		
P504	4	10'-5"	43	"	12	1'-9"	2'-8"			
P505	88	11'-5"	1048	"	12	1'-9"	3'-2"			
P506	8	3'-8"	31	"	10	1'-6"	2'-2"			
P801	72	10'-6"	2019	Bent	8		8'-6"			
P901	6	42'-6"	867	Bent	4	37'-8"	2'-8"	2'-8"		
P902	36	15'-8"	1918	Str.						
P903	2	26'-0"	177	"						
P904	6	34'-0"	694	"						
P905	36	9'-5"	1153	"	2	1'-7"	8'-1"			
SP401	3	13'-1"	752		11	4 1/2"	13'-1"	38	2'-8"	

Mark	No.	Length	Weight	Shp.	Type	A	B	C	D	E
SUPERSTRUCTURE										
ES401	322	30'-0"	6453	Str.						
ES402	46	28'-11"	889	"						
ES501	358	2'-3"	840	Bent	2		10 1/2"	1'-6"		
ES502	358	3'-1"	1151	"	6		6"	8 1/2"	10"	10 1/2"
ES503	358	5'-3"	1960	"	1					
ES506	4	3'-0"	13	Str.						
ES507	196	30'-0"	6133							
ES508	28	31'-3"	913							
ES509	353	29'-6"	10,861							
ES510	72		1248	Str.	*	2 Ser. of 36	3'-9"	29'-6"	8 7/8"	
ES512	4	14'-2"	59	Str.						
ES513	4	13'-0"	54	"						
ES514	4	13'-0"	54	"						
ES515	4	14'-2"	59	"						
ES516	32	1'-5"	47	"						
ES517	28	3'-2"	92	"						
ES518	80	13'-6"	1126	"						
ES519	72	7'-0"	526	"						
ES520	20	2'-1"	43	"						
ES521	8	9'-2"	76	Bent			3'-4"	5'-10"	0 5/8"	
ES522	2	7'-8"	16	Str.						
ES523	2	6'-6"	14	"						
ES601	353	29'-6"	15,641	Str.						
ES602	72		1798	"	*	2 Ser. of 36	3'-9"	29'-6"	8 7/8"	
ES605	4	3'-0"	18	Str.						
ES606	117	25'-3"	4437	"						
ES611	4	3'-10"	23	Bent	6		6"	8 1/2"	2'-5"	0 9"
ES612	4	3'-9"	23	"	6		5"	8 1/2"	2'-5"	0 8"
ES613	4	3'-8"	22	"	6		4"	8 1/2"	2'-5"	0 8"
ES614	4	3'-7"	22	"	6		3"	8 1/2"	2'-5"	0 7"
ES615	12	3'-7"	65	"	6		2"	8 1/2"	2'-5"	0 7"
ES524	2	6'-6"	14	Str.						
ES525	2	7'-8"	16	"						
ES526	24	4'-0"	100	"						



▼ All Bars for Forward Abutment shall have suffix F, i.e. A901-F

Varies From 'B' to 'C'
By 'D' Inc.

* SERIES BAR

NOTES:

Reinforcing Steel Samples

Refer to CMS sections 106.03, 700, 709.01 through 709.05 and 709.08. Sufficient additional reinforcing steel shall be provided for sampling. Random samples shall be replaced in the structure by the additional steel, spliced in accordance with 509.08.

The letter 'E' before a bar mark denotes an epoxy coated reinforcing bar. Payment for these bars shall be under item 824, Epoxy coated reinforcing steel.

PARSONS BRINCKERHOFF QUADE & DOUGLAS
COLUMBUS, OHIO 17/17

REINFORCING STEEL LIST

BRIDGE NO. UNI-33-0389
UNDER HOLYCROSS-EPPS ROAD
UNION COUNTY STA. 205+59.37

Designed	Drawn	Traced	Checked	Reviewed	Date	Revised
M.H.H.	A.H.H.		A.H.H.		10/25/85	

GENERAL LIGHTING NOTES

FED. RD. DIVISION	STATE	PROJECT	
	OHIO		



UNI-33-1.99

SPECIFICATIONS

THESE NOTES ARE SUPPLEMENTAL TO ITEMS 625 AND 713 OF THE STATE OF OHIO DEPARTMENT OF TRANSPORTATION SPECIFICATIONS. REFERENCE SHALL BE MADE TO THE STANDARD CONSTRUCTION DRAWINGS LISTED ON THE TITLE SHEET OF THESE PLANS.

625.03 GENERAL

THE POWER SUPPLYING AGENCY FOR THIS PROJECT IS:

UNION RURAL ELECTRIC CO.
127 N. MAIN STREET
MARYSVILLE, OHIO

POWER SUPPLY WILL BE 120/240 VOLT, 3W, 1-Ø GROUNDED NEUTRAL.

THIS PROJECT HAS BEEN DESIGNED ON THE BASIS OF 5% VOLTAGE DROP WITH A MAXIMUM UNIFORMITY OF 4.0 TO 1.

625.07-713.11 LUMINAIRES

STYLE B LUMINAIRES HAVE SINGLE-RATED 240 VOLT, 200 WATT, INTEGRAL REGULATOR BALLASTS FOR USE WITH HIGH PRESSURE SODIUM LAMPS AND SHALL BE GENERAL ELECTRIC M400, CROUSE-HINDS OV-25 TUDOR, ITT AMERICAN 400, OR EQUAL APPROVED BY THE ENGINEER.

UTILITIES NOTIFICATION

AT LEAST TWO WORKING DAYS PRIOR TO COMMENCING CONSTRUCTION OPERATIONS IN ANY AREA WHICH MAY INVOLVE UNDERGROUND FACILITIES, THE CONCRATOR SHALL NOTIFY THE PROJECT ENGINEER, THE REGISTERED UNDERGROUND UTILITY PROTECTION SERVICES AND THE OWNERS OF ALL UNDERGROUND UTILITY FACILITIES SHOWN IN THE PLANS.

AFTER NOTICE IS RECEIVED, THE OWNER OF ANY UNDERGROUND UTILITY FACILITY THAT IS TO REMAIN IN SERVICE DURING AND/OR AFTER CONSTRUCTION SHALL WITHIN FORTY-EIGHT HOURS, EXCLUDING SATURDAYS, SUNDAYS AND LEGAL HOLIDAYS, STAKE, MARK OR OTHERWISE DESIGNATE THE LOCATION OF THE UNDERGROUND 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.

713.14 LAMPS

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

CONDUIT ON STRUCTURE

EXPANSION FITTINGS FOR CONDUIT ON STRUCTURES SHALL BE OZ TYPE AX, CROUSE-HINDS TYPE XJ-4, APPLETON TYPE XJ-4, OR EQUAL AS APPROVED BY THE ENGINEER, FOR BRIDGE NO. UNI-33-0275.

EACH EXPANSION FITTING SHALL HAVE A COPPER EXTERNAL BONDING JUMPER.

PADLOCKS AND KEYS

PADLOCKS FURNISHED SHALL BE EITHER BRASS OR BRONZE, EQUAL TO MASTER NO. 4BKA OR WILSON BOHANNAN 660A, AND SHALL BE KEYED IN ACCORDANCE WITH SPECIFICATION 631.08 (4), PARAGRAPH 3. PAYMENT SHALL BE INCLUDED IN THE BID FOR THE ITEM(S) BEING LOCKED.

UNDERDRAIN FOR PULL BOX

REFERENCE IS MADE TO STANDARD DRAWING HL-10 FOR DETAILS OF DRAINING PULL BOXES. UNDERDRAINS FOR PULL BOXES SHALL BE USED AS DIRECTED BY THE ENGINEER AND SHALL BE PROVIDED WHERE THE LENGTH REQUIRED FOR A SATISFACTORY OUTLET DOES NOT EXCEED APPROXIMATELY 20 FEET. AN ESTIMATED QUANTITY OF "50" LINEAR FEET OF ITEM 603, 4" CONDUIT TYPE E IS INCLUDED IN THE LIGHTING GENERAL SUMMARY FOR THIS PURPOSE.

625.02 HAZARDOUS MATERIALS

NO MATERIAL FURNISHED UNDER THIS SPECIFICATION SHALL CONTAIN POLYCHLORINATED BIPHENYLS (PCBs). TRANSFORMERS, BALLASTS, AND CAPACITORS SHALL BE MARKED "NO PCBs" IN ACCORDANCE WITH FEDERAL ENVIRONMENTAL PROTECTION AGENCY REGULATION 40 CFR761.

PARSONS BRINCKERHOFF QUADE & DOUGLAS
COLUMBUS, OHIO

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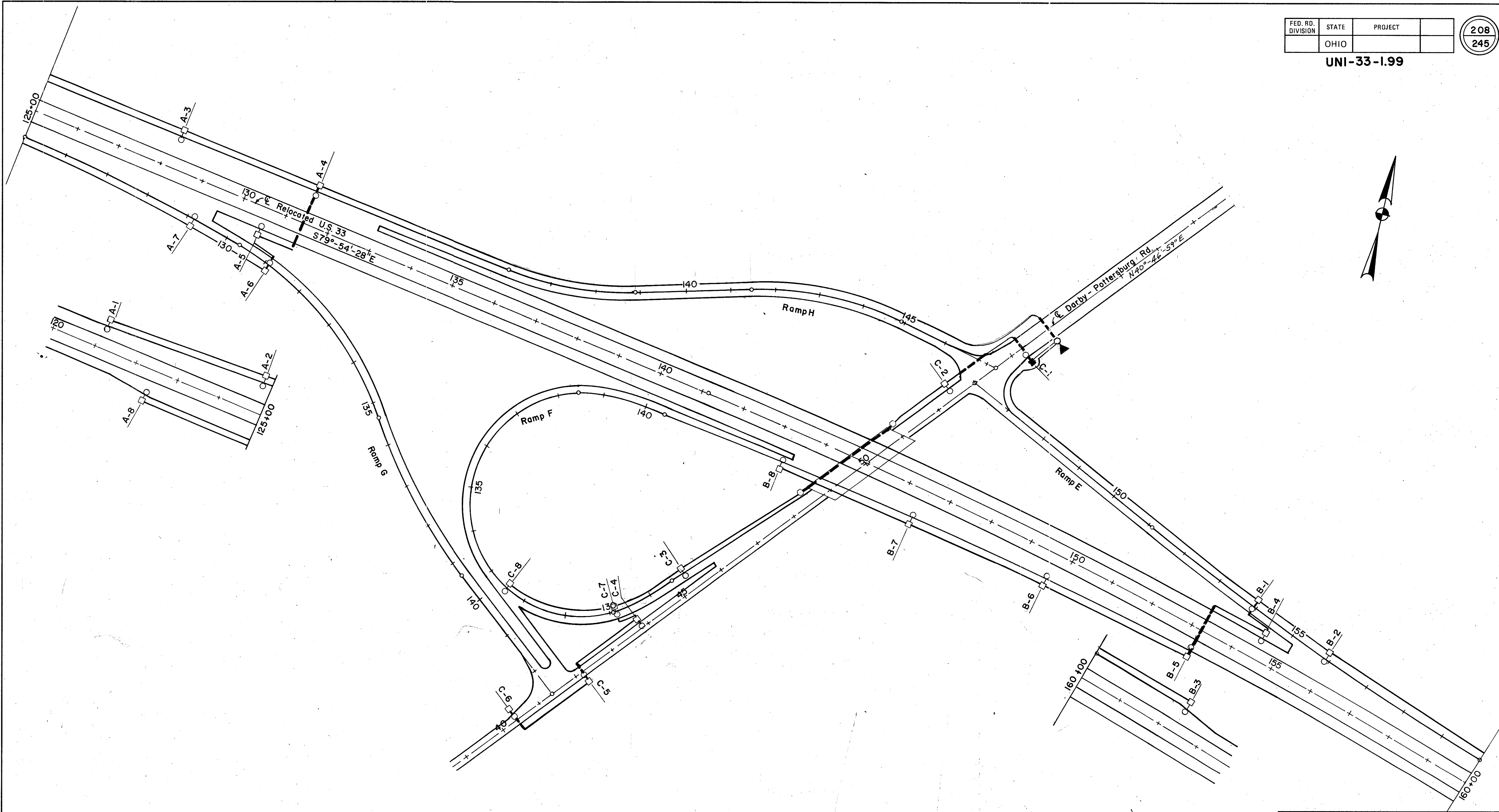
GENERAL LIGHTING NOTES

Designed	Drawn	Traced	Checked	Reviewed	Date	Revised
	AKR	AKR				

FED. RD. DIVISION	STATE	PROJECT	
	OHIO		

208
245

UNI-33-1.99



PARSONS BRINCKERHOFF QUADE & DOUGLAS
COLUMBUS, OHIO

2 / 9

SCHEMATIC LIGHTING PLAN

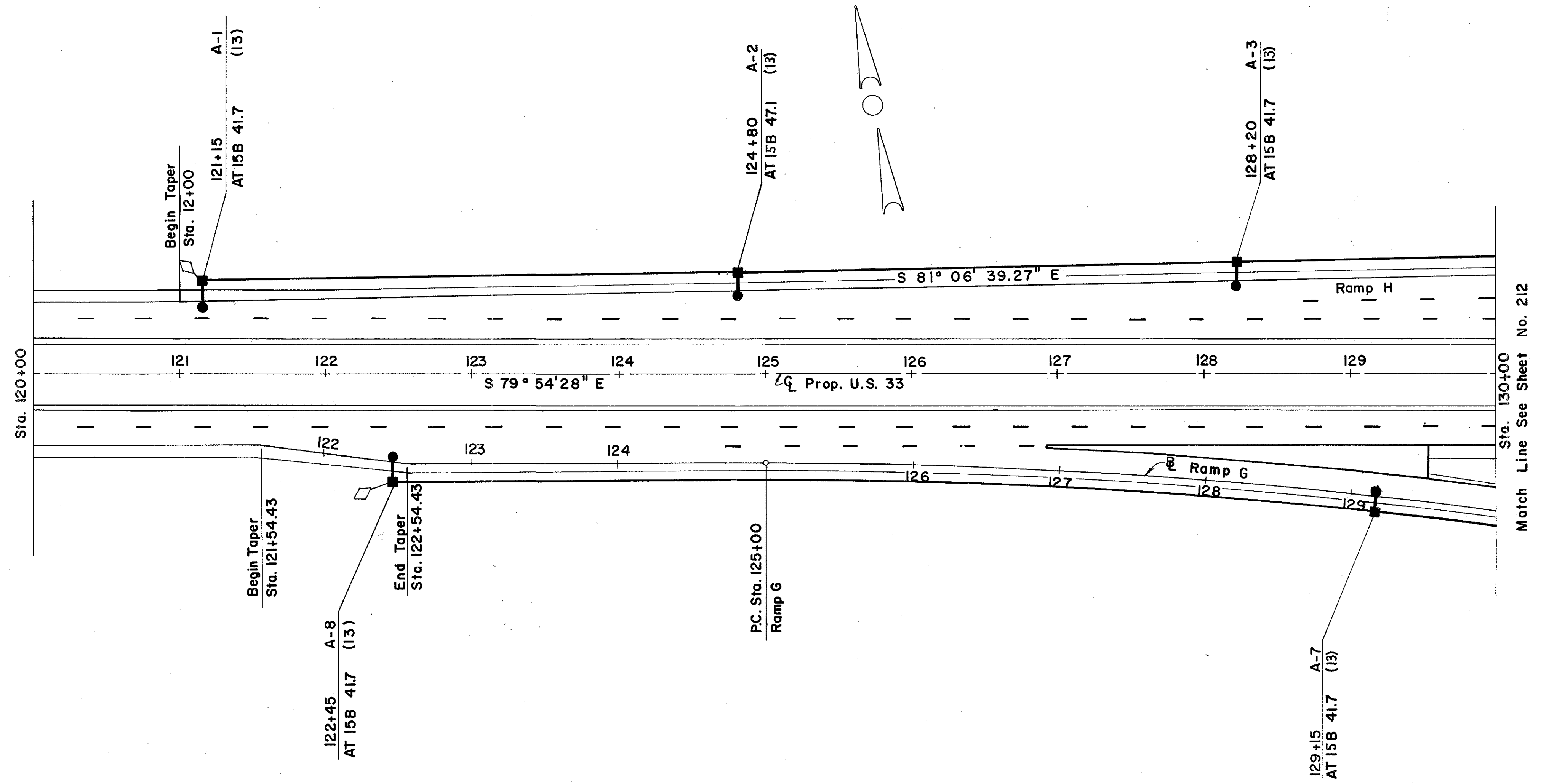
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ME		RJY	PKG			

LIGHTING
GENERAL SUMMARY

ITEM	SHEET																NUMBER																ITEM	QUANT.	UNIT	DESCRIPTION
625																				625	24	EACH	LIGHT POLE, DESIGN AT 15 B 41.7													
625																				625	24	EACH	LIGHT POLE FOUNDATION, 24"X8'													
625																				625	24	EACH	LUMINAIRE, TYPE II, 200 WATT HPS, STYLE B													
625																				625	24	EACH	GROUND ROD													
625																				625	2	EACH	PULL BOX, METAL, 18"													
625																				625	1	EACH	PULL BOX, METAL, 24"													
625																				625	8953	LIN.FT.	TRENCH													
625																				625	252	LIN.FT.	CONDUIT, METAL, 2"													
625																				625	835	LIN.FT.	CONDUIT, METAL, 3"													
625																				625	786	LIN.FT.	NO. 4 AWG, 600 VOLT DISTRIBUTION CABLE													
625																				625	2784	LIN.FT.	NO. 10 AWG, 600 VOLT POLE AND BRACKET CABLES													
625																				625	9203	LIN.FT.	1 1/2" DUCT CABLES WITH 3 NO. 4 AWG., 600-VOLT CABLES													
625																				625	48	EACH	CONNECTOR KIT, TYPE II													
625																				625	6	EACH	CABLE SPLICING KIT													
625																				625	6	EACH	CONNECTOR KIT, TYPE VII B													
625																				625	1	EACH	POWER SERVICE													
625																				625	1	EACH	CONTROL CENTER													
625																				625	1	EACH	STRUCTURE GROUNDING SYSTEM, BRIDGE NO. UNI-33 - 0275													
603																				603	50	LIN.FT.	4" CONDUIT, TYPE "E"													
																	</																			

CALC. BY PKG	UNI - 33 - 1.99	OHIO	210
DATE		FHWA REGION 5	245
CHKD. BY MLB			
DATE			

LIGHTING QUANTITIES		SUB-SUMMARY	
1	2	3	4
5	6	7	8
9	10	11	12
13	14	15	16
17	18	19	20
21	22	23	24
25	26	27	28
29	30	31	32
33	34	35	36
37	38	39	40
41	42	43	44
45	46	47	48
49	50	51	52
53	54	55	56
57	58	59	60
61	62	63	64
65	66	67	68
69	70	71	72
73	74	75	76
77	78	79	80
81	82	83	84
85	86	87	88
89	90	91	92
93	94	95	96
97	98	99	100



- 40' Nom. Mounting Height With 200W HPS Lamp
- ▲ Control Center
- Pull Box
- ◇ Stub Out
- Rigid Galv. Steel Conduit
- 1 1/2" Duct Cable W/2 No. 4 AWG Wires
- 12+15 A-1 Station Circuit-Pole No.
- AT 15B 41.7 (13) Pole Design Offset From E.P.

PARSONS BRINCKERHOFF QUADE & DOUGLAS
COLUMBUS, OHIO

5 / 9

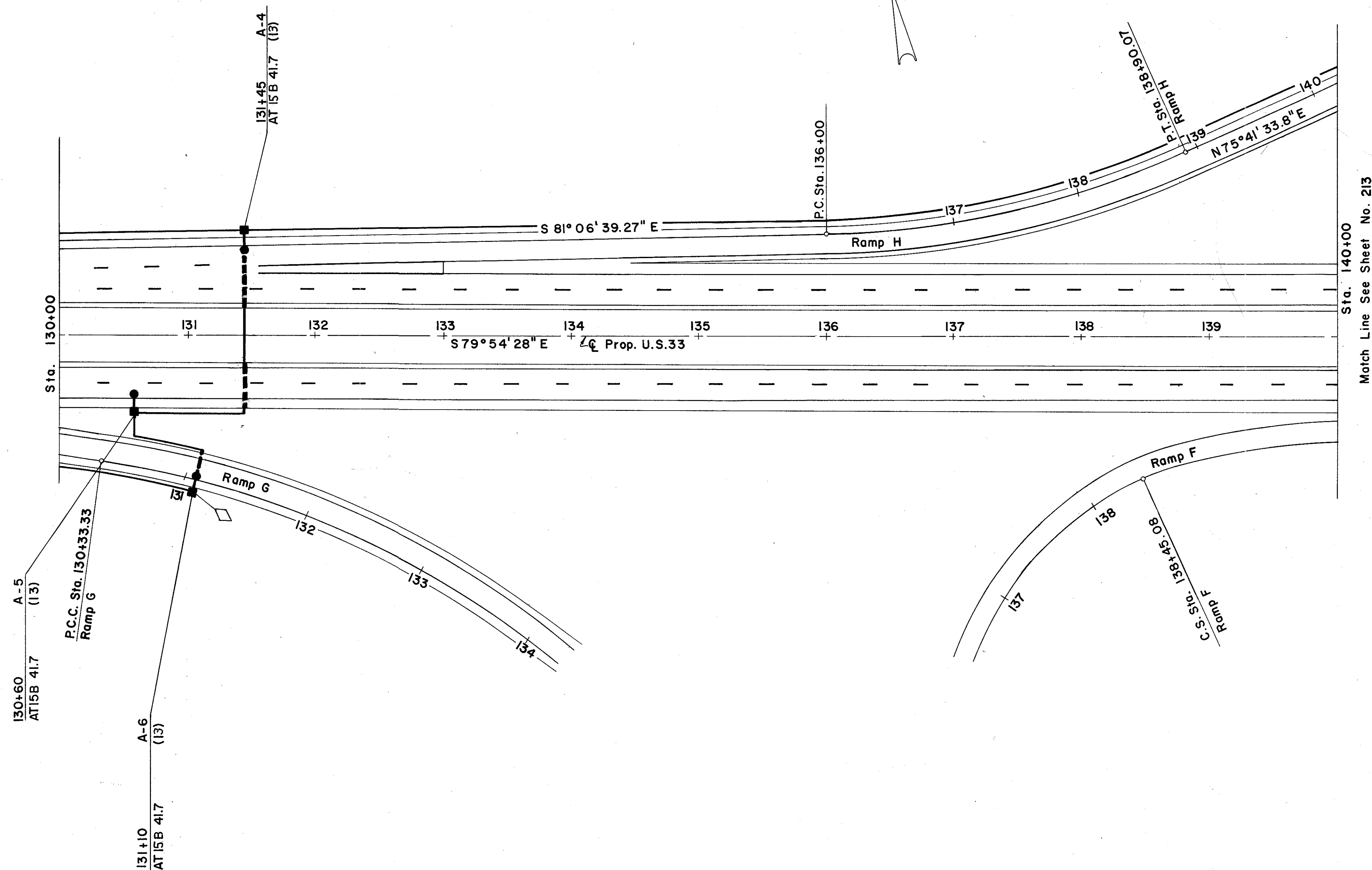
LIGHTING PLAN
STA. 120+00 TO 130+00

Designed	Drawn	Traced	Checked	Reviewed	Date	Revised
MB	AKK	AKK				

FED. RD. DIVISION	STATE	PROJECT	
	OHIO		

212
245

UNI-33-1.99

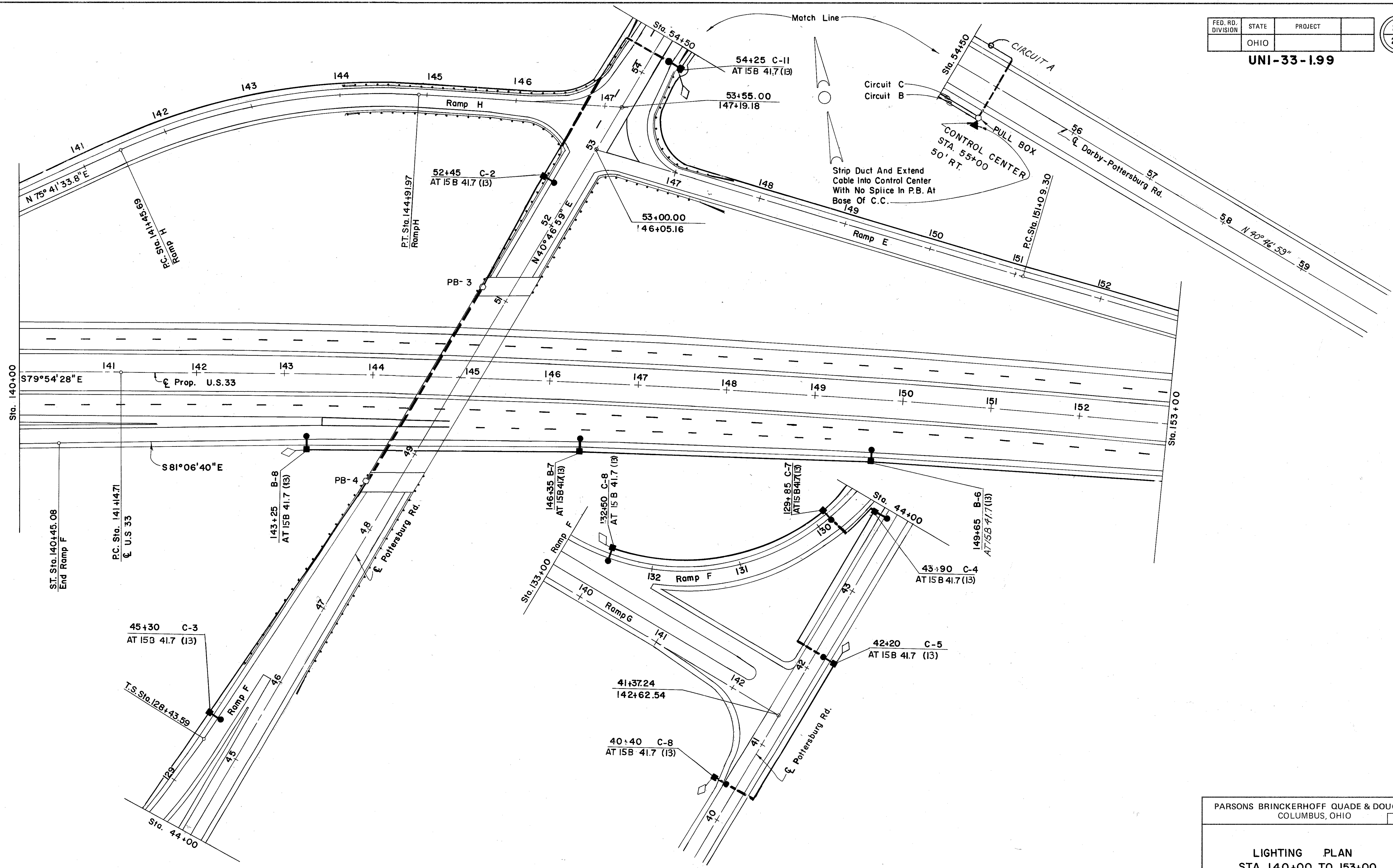


PARSONS BRINCKERHOFF QUADE & DOUGLAS
COLUMBUS, OHIO

6 / 9

LIGHTING PLAN
STA. 130+00 TO 140+00

Designed	Drawn	Traced	Checked	Reviewed	Date	Revised
MB	lar	lar				



PARSONS BRINCKERHOFF QUADE & DOUGLAS
COLUMBUS, OHIO

7/9

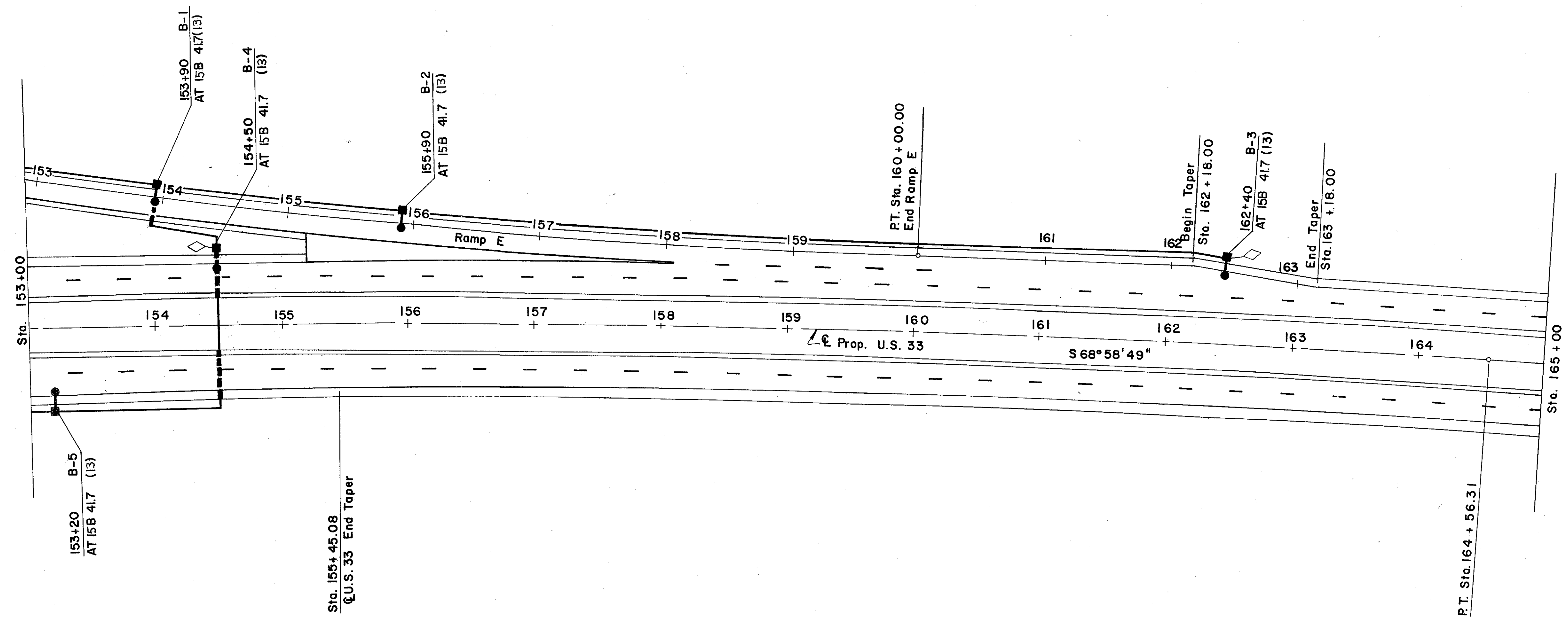
LIGHTING PLAN
STA. 140+00 TO 153+00

Designed	Drawn	Traced	Checked	Reviewed	Date	Revised
MB	<i>[Signature]</i>	<i>[Signature]</i>				

FED. RD. DIVISION	STATE	PROJECT	
	OHIO		

214
245

UNI-33-1.99

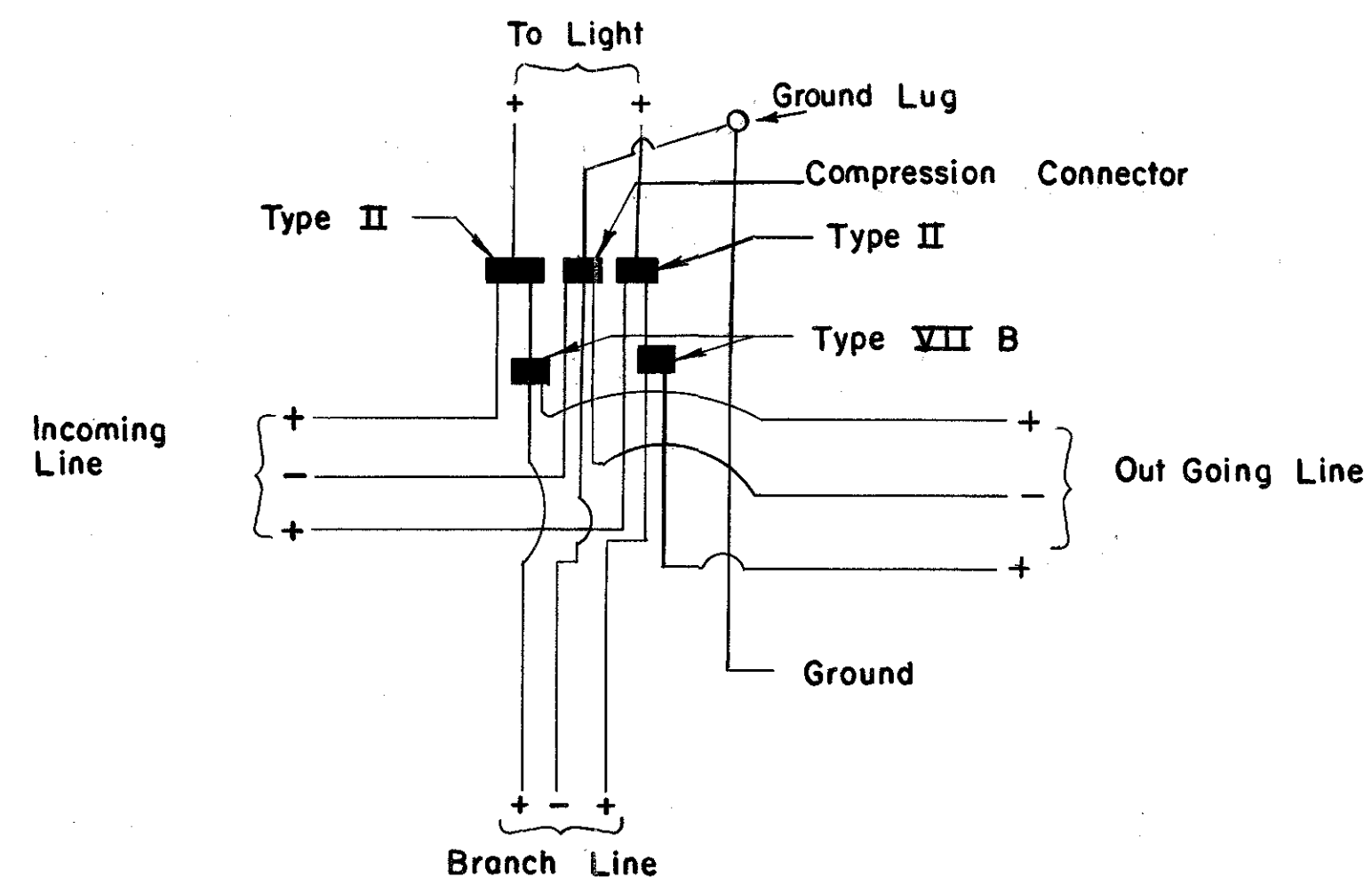


PARSONS BRINCKERHOFF QUADE & DOUGLAS
COLUMBUS, OHIO

8/9

LIGHTING PLAN
STA. 153+00 TO 165+00

Designed	Drawn	Traced	Checked	Reviewed	Date	Revised
MB	MB	MB				



Pole Wiring When Circuit
Branches In Pole Base

CONTROL CENTER DATA						
POWER SERVICE	LOAD KVA	SER. ENTR. CONDUCTOR SIZE (MIN.)	ENCLOSURE PANEL RATING	CIRCUIT NO.	CIRCUIT LOAD	CONDUCTOR SIZE @ C.C. LOAD SIDE
120/240 V 1Ø, 3 W, GROUNDED NEUTRAL	5.76	NO.4 AWG	60 AMP	A	8 A	NO. 4
				B	8 A	NO. 4
				C	8 A	NO. 4

614 WORK ZONE PAVEMENT MARKINGS

GENERAL

THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN AND WHEN NECESSARY, REMOVE WORK ZONE 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 TO PROVIDE DAY AND NIGHT VISIBILITY. THE MARKINGS SHALL BE REPAIRED OR REPLACED AS DIRECTED BY THE ENGINEER TO MAINTAIN REQUIRED VISUAL EFFECTIVENESS AND NIGHT VISIBILITY AT NO ADDITIONAL COST TO THE STATE.

THE CONTRACTOR SHALL, IN ADVANCE OF ANY SECTION OF ROADWAY LACKING OMUTCD FULL PATTERN STANDARD DIMENSION EDGE LINE OR CENTER LINE MARKINGS, ERECT A "NO EDGE LINES" (OW-167) SIGN OR "UNMARKED NO PASSING ZONES" (OW-168) SIGN OR BOTH AS MAY BE APPROPRIATE. THESE SIGNS SHALL BE IN PLACE PRIOR TO EXPOSING THE ROADWAY TO TRAFFIC. THESE SIGNS SHALL BE REPEATED EVERY 1 TO 2 MILES AND AT OTHER LOCATIONS AS NECESSARY. THESE SIGNS SHALL BE REMOVED WHEN THEY NO LONGER APPLY. THE COST FOR FURNISHING AND ERECTING AND SUBSEQUENTLY REMOVING THESE SIGNS SHALL BE INCLUDED IN 614 MAINTAINING TRAFFIC, UNLESS SPECIFICALLY ITEMIZED.

TEMPORARY PAVEMENT MARKING MATERIALS

UNLESS OTHERWISE INDICATED ON THE PLANS, TEMPORARY PAVEMENT MARKINGS MAY BE EITHER 621.02 PAINT OR 947.03 TYPE B OR C PREFORMED MATERIAL. WHERE PAVEMENT MARKING ARE NOT LIABLE TO BE TRACKED , EITHER CONVENTIONAL OR FAST-DRYING PAINT PAINT MAY BE USED FOR 621.02.

PAINTED MARKINGS SHALL BE IN ACCORDANCE WITH 621 EXCEPT THAT THE INCREASE OF 25 PERCENT IN THE APPLICATION RATE FOR NEW BITUMINOUS PAVEMENT AND PARAGRAPH 621.14 SHALL NOT APPLY.

TYPE B AND TYPE C PREFORMED MATERIAL

PREFORMED MATERIAL SHALL COMPLY WITH 947.03 EXCEPT THAT NO PREFORMED MATERIAL CONTAINING METAL SHALL BE PLACED ON ANY SURFACE UNLESS IT WILL BE REMOVED LATER BY THE CONTRACTOR. TEMPORARY PAVEMENT MARKINGS OF 947.03 PREFORMED MATERIAL SHALL BE REMOVED PRIOR TO PLACEMENT OF 621 OR 847 SURFACE COURSE MARKINGS AT THAT LOCATION. PREFORMED MATERIAL SHALL BE APPLIED IN ACCORDANCE WITH 847 EXCEPT AS MODIFIED HEREIN.

PLACEMENT

TEMPORARY MARKINGS SHALL BE COMPLETE AND IN PLACE ON ALL PAVEMENT PRIOR TO EXPOSING IT TO TRAFFIC. WHEN TEMPORARY MARKINGS CONFLICT WITH THE TRAFFIC PATTERN, THEY SHALL BE REMOVED BY THE CONTRACTOR IN ACCORDANCE WITH 621.134.

TEMPORARY MARKING CLASSES

CLASS I MARKINGS

CLASS I MARKINGS SHALL BE APPLIED TO THE FULL DIMENSIONS AS DEFINED IN 621 WITH THE FOLLOWING ADDITIONS OR EXCEPTIONS:

- 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.

CLASS II MARKINGS

CLASS II MARKINGS (ABBREVIATED) SHALL BE DEFINED AS FOLLOWS:

CENTER LINES SHALL CONSIST OF SINGLE, YELLOW 4-INCH WIDE BY A MINIMUM OF 48-INCH LONG DASHES SPACED AT A MAXIMUM OF 40-FOOT INTERVALS.

LANE LINES SHALL CONSIST OF WHITE 4-INCH WIDE BY A MINIMUM OF 48-INCH LONG DASHES SPACED AT A MAXIMUM OF 40-FOOT INTERVALS.

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

THE PAINT APPLICATION RATE SHALL BE NOT LESS THAN 1.6 GALLONS PER MILE FOR LANE LINE AND CENTER LINE AND 16 GALLONS PER MILE FOR GORE MARKINGS.

CONFLICTING EXISTING MARKINGS

THE CONTRACTOR SHALL, PRIOR TO PLACING TEMPORARY MARKINGS, REMOVE ALL CONFLICTING EXISTING 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 INCLUDED IN 614 MAINTAINING TRAFFIC UNLESS SPECIFICALLY ITEMIZED.

THE CONTRACTOR SHALL ALSO REMOVE THE PRISMATIC RETRO-REFLECTOR WITHIN ANY RAISED PAVEMENT MARKER (RPM) WHICH IS IN CONFLICT WITH THE TEMPORARY PAVEMENT MARKINGS. WHEN THE TEMPORARY PAVEMENT MARKINGS ARE REMOVED AND THE RPM IS NO LONGER IN CONFLICT, THE CONTRACTOR SHALL THOROUGHLY CLEAN THE RECESSED REFLECTOR ATTACHMENT AREA OF THE CASTING AND INSTALL A NEW PRISMATIC RETRO-REFLECTOR OF THE SAME KIND AND COLOR. THE COST FOR THIS WORK SHALL BE INCIDENTAL TO THE VARIOUS PAY ITEMS.

INTERIM MARKINGS

WITHIN 21 CALENDAR DAYS AFTER OPENING ANY LENGTH OF PAVEMENT TO TRAFFIC, THE 621 OR 847 PAVEMENT MARKINGS CALLED FOR IN THE PLANS OR EQUIVALENT 614 CLASS I, PAINT MARKINGS SHALL BE APPLIED. THE CONTRACTOR SHALL FURNISH ALL LABOR, EQUIPMENT, AND MATERIAL NECESSARY TO PLACE AND MAINTAIN 614 CLASS I PAINT MARKINGS AS PART OF THE LUMP SUM BID FOR 614 MAINTAINING TRAFFIC.

FOR EACH CALENDAR DAY BEYOND 21 DAYS THAT THIS WORK SHALL REMAIN UNCOMPLETED, THE PROVISIONS OF 108.07 WILL BE INVOKED, EXCEPT THAT BETWEEN NOVEMBER 15 AND APRIL 15 WEATHER CONDITIONS SHALL NOT BE AN ACCEPTABLE REASON FOR EXTENSION.

METHOD OF MEASUREMENT

TEMPORARY PAVEMENT MARKINGS WILL BE MEASURED COMPLETE IN PLACE, BY CLASS AND MATERIAL, IN THE UNITS DESIGNATED. 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	MILES	TEMPORARY LANE LINES, CLASS _____, * _____
614 2	MILES	TEMPORARY CENTER LINES, CLASS <u>I</u> , * _____ **
614	LIN. FT.	TEMPORARY CHANNELIZING LINES, CLASS I, * _____
614	MILES	TEMPORARY EDGE LINES, CLASS I, * _____
614	LIN. FT.	TEMPORARY GORE MARKINGS, CLASS II, * _____
614	LIN. FT.	TEMPORARY STOP LINES, CLASS I, * _____
614	LIN. FT.	TEMPORARY CROSSWALK LINES, CLASS I, * _____
614	EACH	TEMPORARY LANE ARROWS, CLASS I, * _____
614	EACH	TEMPORARY RAILROAD SYMBOL MARKINGS, CLASS I, * _____
614	EACH	TEMPORARY WORD "ONLY" ON PAVEMENT, 72-INCH, CLASS I, * _____
614	LIN. FT.	TEMPORARY TRANSVERSE LINES, CLASS I, * _____
614	LIN. FT.	TEMPORARY DOTTED LINES, CLASS I, * _____
*621 PAINT, 947.03 TYPE B OR 947.03 TYPE C		
fh4		

** Application of Temporary Center Lines shall be as directed by the Engineer.

TRAFFIC CONTROL
GENERAL SUMMARY & NOTES

CALC.
BY
DATE

CHKD.
BY
DATE

UNION COUNTY
UNI-33-1.99

OHIO
FHWA
REGION 5

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GENERAL NOTES

References to Supplemental Specifications 857 and 957 on the Traffic Control Standard Construction Drawings in these plans shall be considered to read as respective references to Items 630 and 730.

630 REMOVAL OF GROUND MOUNTED SIGN AND STORAGE
Removal of ground mounted signs shall be governed by CMS 630.12 except that stored material is the property of the governmental agency which installed the sign. All material removed shall be stored within the limits of the project at locations approved by the engineer. The contractor shall notify each agency that the sign material is available for pick-up.

						PAVT. SUB-SUMMARY	SIGN SUB-SUMMARY	ITEM	QUANT.	UNIT	DESCRIPTION
					216	228					PAVEMENT MARKING
							13.10	621	13.10	Mile	Edge lines
							4.81	621	4.81	Mile	Lane lines
							1.19	621	1.19	Mile	Center lines
							2972	621	2972	Lin. Ft.	Channelizing lines
							766	621	766	Lin. Ft.	Transverse lines
							128	621	128	Lin. Ft.	Stop lines
							4	621	4	Each	Lane arrows
							2	621	2	Each	Word "ONLY" on pavement, 72 inches
							92	620	92	Each	Delineator, Type "C" Flexible Post Mounted
							41	620	41	Each	Delineator, Type "D" Flexible Post Mounted
							25.7	630	25.7	Cu. Yd.	Concrete for embedded foundations
							66	630	66	Lin. Ft.	Ground-mounted supports, No. 2 post
							311	630	311	Lin. Ft.	Ground-mounted supports, No. 3 post
							366	630	366	Lin. Ft.	Ground-mounted supports, No. 4 post
							161	630	161	Lin. Ft.	Ground-mounted supports, S4 x 7.7 beam
							146	630	146	Lin. Ft.	Ground-mounted supports, W6 x 9 beam
							239	630	239	Lin. Ft.	Ground-mounted supports, W10 x 12 beam
							44	630	44	Lin. Ft.	Ground-mounted supports, W8 x 18 beam
							97	630	97	Lin. Ft.	Ground-mounted supports, W10 x 22 beam
							34	630	34	Lin. Ft.	One way supports, No. 4 post
							30	630	30	Each	Breakaway beam connection
							119	630	119	Sq. Ft.	Signs, flat sheet
							305	630	305	Sq. Ft.	Signs, flat sheet, Type G sheeting
							939	630	939	Sq. Ft.	Signs, extrusheet, Type G sheeting
							32	630	32	Each	Removal of ground-mounted sign and storage
							28	630	28	Each	Removal of ground-mounted post support
					2.0		614	2.0	MILE		TEMPORARY CENTER LINES, CLASS I

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3 OF 14

GROUND MOUNTED SIGN QUANTITIES

TRAFFIC CONTROL QUANTITIES

* EXCEPT AS NOTED

CALCULATIONS
MADE BY _____ DATE _____
CHECKED _____ DATE _____

FHWA	STATE	PROJECT
5	OHIO	

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630 GROUND MOUNTED SIGNS

620 DELINEATORS

REF. NO.	STATION	SIDE	CODE	SIZE IN INCHES	GROUND MOUNTED SIGN SUPPORTS												CONCRETE FOR EMBEDDED FOUNDATION	STATION TO STATION	SIDE	SPACING		DELINEATOR TYPE "C" FLEXIBLE POST MOUNTED	DELINEATOR TYPE "D" FLEXIBLE POST MOUNTED
					SIGNS		NO. 2 POST	NO. 3 POST	NO. 4 POST	ONE WAY SUPPORTS NO. 4 POST	BREAKAWAY BEAM CONNECTION	S4 X 7.7 BEAM	W6 X 9 BEAM	W8 X 18 BEAM	W10 X 12 BEAM	W10 X 22 BEAM							
					FLAT SHEET TYPE "G" SHEETING *	EXTRU SHEET TYPE "G" SHEETING																	
DARBY-POTTERSBURG RD.																							
32	31 + 75	Rt.	M-17-24	24 x 12	2.00 *														Prop. U.S. 33, Eastbound				
			M-1-24-2	24 x 24	4.00 *			12.8											107+50 to 119+50	Rt.	400'	4	
33	34 + 80	Rt.	M-52B	120 x 48		40.00					2		17.4	18.4			0.66		121+50 to 129+50 "G"	Rt.	200'	5	
34	35 + 50	Lt.	W-51-36	36 x 36	9.00 *			14.8											130+00 to 138+00	Rt.	400'	2	
35	38 + 80	Rt.	D-4A	132 x 24		22.00					2	15.2	17.3				0.54		143+50 to 155+50	Rt.	200'	7	
36	41 + 30	Rt.	M-52B	120 x 48		40.00					2						0.66		157+75	Lt.		1	
37	41 + 45 E	Rt.	W-30-96	96 x 48		32.00					2						0.66		160+00 to 220+00	Rt.	400'	16	
38	48 + 15	Lt.	GH-1	84 x 66		38.50											0.66						
39	52 + 25	Rt.	GH-1	96 x 66		44.00											0.66		Prop. U.S. 33, Westbound				
40	52 + 65	Lt.	M-52B	120 x 48		40.00										20.6	22.8	2.20	105+00 to 121+00	Lt.	400'	5	
41	55 + 00	Lt.	D-4B	144 x 48		48.00					2					19.3	22.1	2.20	124+00 to 132+00	Lt.	200'	5	
42	56 + 00	Rt.	R-31A-36	36 x 30	7.50 *			13.3	13.8							19.0	21.8	2.20	135+00 to 155+00	Lt.	400'	6	
43	58 + 00	Lt.	M-52A	108 x 30		22.50					2	15.6	17.2				0.54		160+00 to 220+00	Lt.	400'	16	
44	60 + 00	Lt.	M-17-24	24 x 12	2.00 *			13.9											Ramp "E"				
			M-1-24-2	24 x 24	4.00 *														148+00 to 158+00	Lt.	200'	6	
45	60 + 00	Rt.	R-31A-36	36 x 30	7.50 *			13.3	13.8										Ramp "F"				
46	61 + 70	Rt.	R-31A-36	36 x 30	7.50 *			13.3	13.7										128+00 to 140+50	Lt.	50'	26	
47	64 + 00	Rt.	W-51-36	36 x 36	9.00 *														141+50	Rt.		1	
ALLEN CENTER RD.																							
48	9 + 84	Rt.	R-1-30	30 x 30	6.25			12.5											132+00 to 133+50	Rt.	50'	3	
RELOCATED DARBY RD.																							
49	16 + 50	Lt.	R-1-30	30 x 30	6.25			12.0											Ramp "G"				
50	19 + 25	Rt.	W-13-30	30 x 30	6.25 *			14.0											130+30 to 135+10	Lt.	80'	7	
51	21 + 96	Lt.	W-48-30	30 x 30	6.25 *			13.6											136+60	Lt+Rt		1	
52	24 + 00	Lt.	W-14-30	30 x 30	6.25 *			14.3											138+05 to 139+65	Rt.	80'	3	
																			141+25	Rt.		1	
Ramp "H"																							
																			134+20	Rt.		1	
																			135+80 to 139+00	Rt.	80'	5	
																			140+60	Rt.		1	
																			139+65	Lt.		1	
																			141+25 to 145+25	Lt.	80'	6	
																			146+50	Lt.		1	
Darby-Pottersburg																							
																			46+41	Lt.		1	
																			48+41	Lt.		1	
TOTAL - THIS SHEET					TYPE "F" 71.25 *	TYPE "G" 12.5	327		174.3	14.8		12	65.3	145.6		125.6		10.32			92	41	
SUB-TOTAL FROM PREVIOUS SHEET					47 *	292.9	612	65.9	136.6	351.5	34.2	18	95.2		43.5	113.0	96.8	15.34					
GRAND TOTAL					118.25 *	305.4	939	65.9	310.9	366.3	34.2	30	160.5	145.6	43.5	238.6	96.8	25.66			92	41	

621 PAVEMENT MARKING SUB-SUMMARY

FED. RD. DIVISION	STATE	PROJECT
	OHIO	

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UNI-33-1.99

REF. NO.	STATION TO STATION	SIDE	EDGE LINES, WHITE	EDGE LINES, YELLOW	LANE LINES	CHANNELIZING LINES	TRANSVERSE LINES	STOP LINES	CENTER LINE, DOUBLE, SOLID	LANE ARROWS	WORD "ONLY" ON PAVT. 72 INCHES		
			LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	EACH	EACH		
	PROP. U.S. 33 (inside edges)												
	105+00 220+00	L&R		23,000									
	(Mid.-Pavt. Lane Line)												
	105+00 220+00	L&R			23,000								
	(Non-Variable Outer Edge)												
	105+00 121+00	L&R	3,200										
	164+00 220+00	L&R	11,200										
	121+00 130+00	Lt.	900.2		132								
	121+00 130+00	Rt.	947	46		527	318						
	130+00 140+00	Lt.	1590.7	590	156	145							
	130+00 140+00	Rt.	1033	35									
	140+00 150+00	Lt.	1000										
	140+00 150+00	Rt.	1446.1	300	432	144							
	150+00 160+00	Lt.	1408.7	405	205	581	290						
	150+00 160+00	Rt.	1000.1										
	160+00 164+00	Lt.	400.7										
	160+00 164+00	Rt.	400										
	RAMP E												
	Darby-Pott. 151+09.30	Lt.		500									
	Darby-Pott. 151+09.30	Rt.	546										
	146+25	Rt.						18					
	146+17.40 146+56	Rt. Lt.				97.8	84						
	RAMP F												
	127+42 132+02	Lt.		48944									
	132+98.80 140+45.08	Lt.		794.04									
	128+42.14 140+45.08	Rt.	1202.9										
	RAMP G												
	130+33.33 139+63.37	Lt.		936.4									
	130+33.33 139+63.37	Rt.	930										
	139+63.37 Darby-Pott.	Rt.	355.5										
	140+64.56 Darby-Pott.	Lt.	185.7										
	139+63.37 142+09.00	Lt.		492.3									
	142+25	L&R						40					
	141+97 142+25	Lt.		28									
	RAMP H												
	138+90.08 146+19.38	Rt.	729.3										
	138+90.08 145+76.28	Rt.		678.5									
	146+19.38 Darby-Pott.	Rt.	134.2										
	145+76.28 Darby-Pott.	Rt.		101.9									
	DARBY-												
	POTTERSBURG RD.												
	32+60.24 40+29.61	Lt.	769.4										
	32+60.24 35+87.50	Rt.	327.3										
	32+27 36+00	Rt.							373				
	36+60 41+00	Rt.							440				
	36+78 52+77	Rt.	1599										
	41+90.24 45+97.26	Lt.	407										
	42+00 52+60	Rt.							1060				
	45+97.26 47+60.59	Lt.				326.9	74						
	44+97.26 48+57.26	Lt.	360.9										
	48+57.26 52+82	Lt.	424.7										
	47+60.59 52+60	Lt.			160	339.4							
	53+10 61+70	Rt.							860				
	53+10 60+40	Lt.			730								
	53+03 54+50	Rt.				147							
	54+15.34 60+68.13	Lt.	652.8										
	54+25.65 61+79.12	Rt.	753.5										
	54+50 60+00	Rt.			550								
	62+69.34 66+89.76	Lt.	420.4										
	63+00 67+23.09	Rt.							423.1				

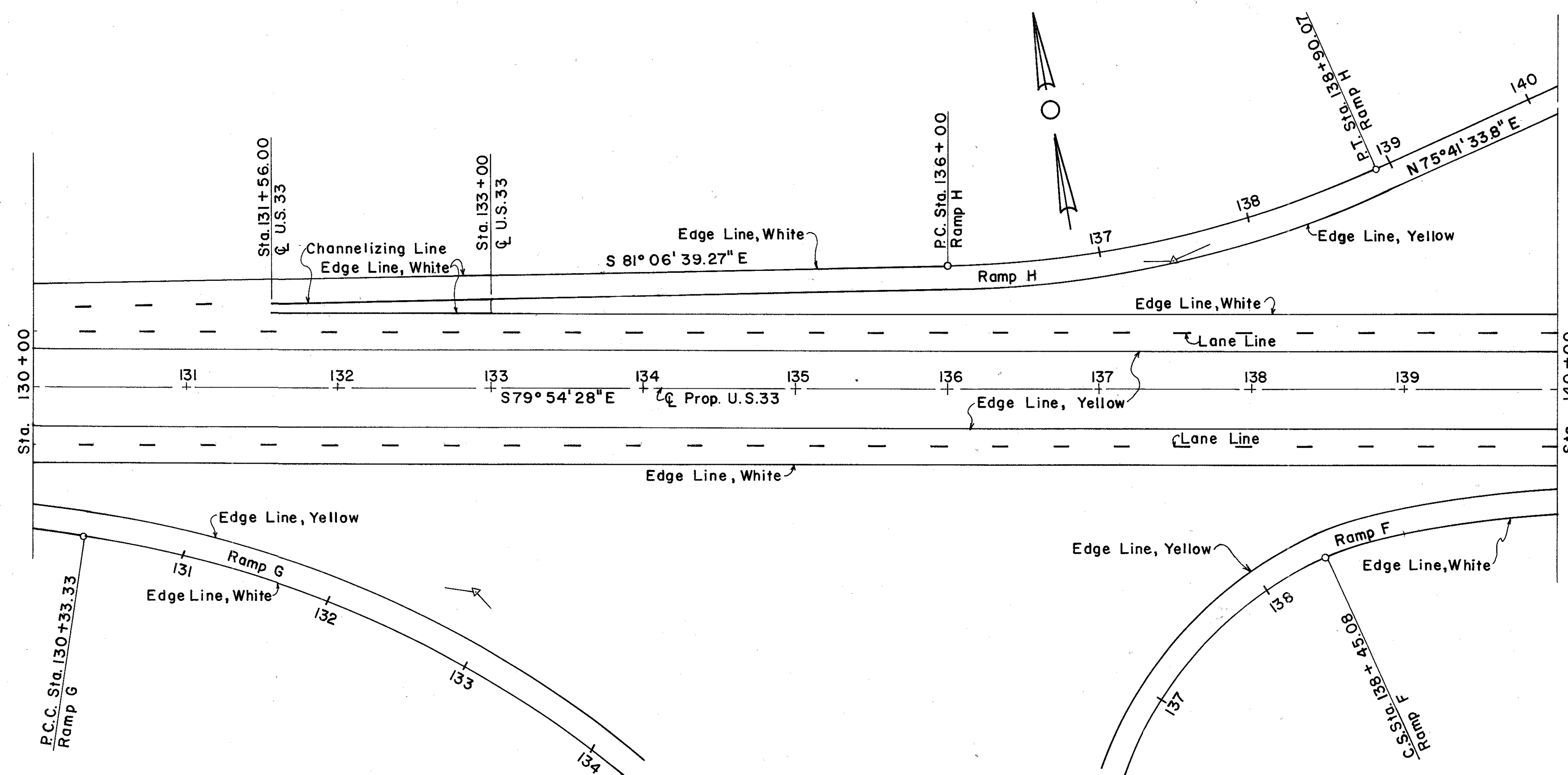
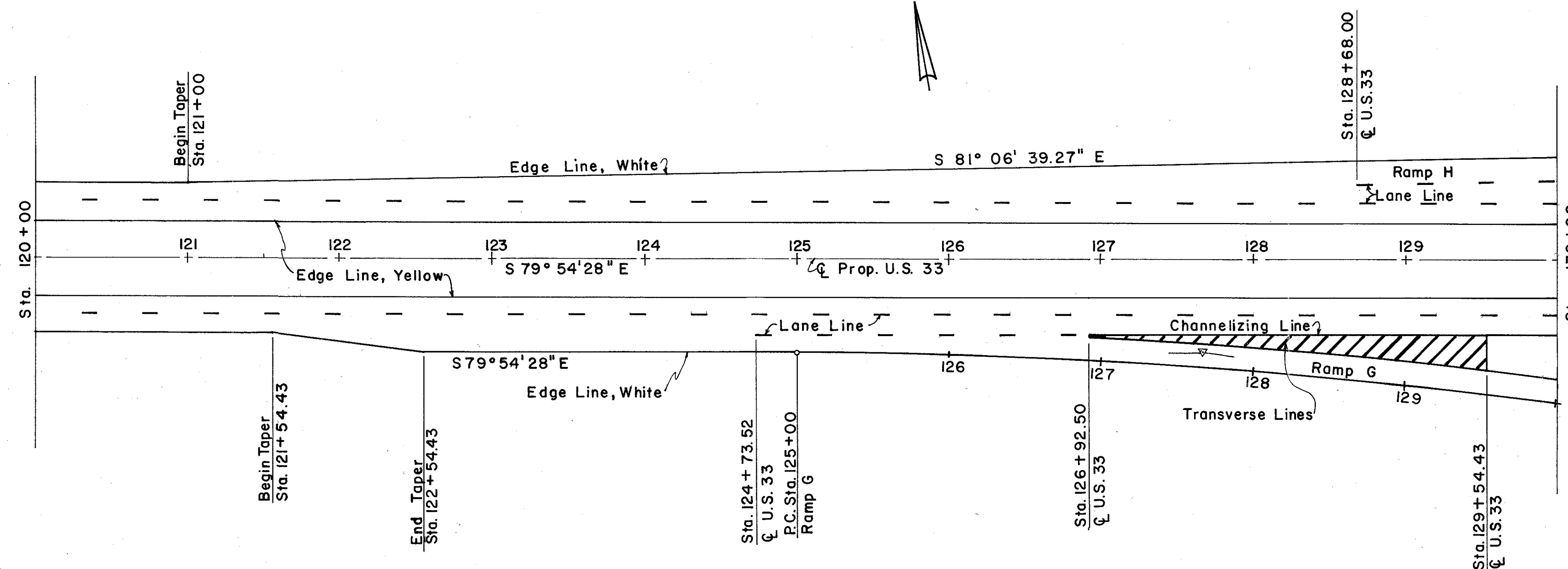
REF. NO.	STATION TO STATION	SIDE	EDGE LINES, WHITE	EDGE LINES, YELLOW	LANE LINES	CHANNELIZING LINES	TRANSVERSE LINES	STOP LINES	CENTER LINE, DOUBLE, SOLID	LANE ARROWS	WORD "ONLY" ON PAVT. 72 INCHES		
			LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	EACH	EACH		
	DARBY-												
	POTTERSBURG RD. (CONT.)												
	63+13.54 66+89.76	Rt.	376.2										
	60+40 61+85	Lt.				145							
	60+00 61+70	Rt.				170							
	60+00	Rt.								1			
	60+85	Rt.									1		
	61+40	Rt.								1			
	ALLEN CENTER RD.												
	8+69 9+84	Rt.							115				
	8+86 9+84	L&R	196										
	9+84	Rt.						25					
	RELOC. POTTERSBURG RD.												
	16+50 23+04.02	Rt.							654.0				
	16+50	Lt.						17					
	Allen Center 22+77.35	Lt.	678.5										
	Allen Center 22+77.35	Rt.	681.7										
	HOLYCROSS-EPDS												
	41+50 57+50	L&R	3200										
	41+50 57+50	Rt.							1600				
	EXISTING U.S. 33												
	142+29.25 145+79.25	Rt.	350.7										
	142+29.25 146+79	Rt.							449.8				
	146+79	Rt.						12					
	143+40 146+79	Rt.				349							
	145+79.25 Darby-Pott.	Rt.	181										
	148+03	Lt.						16					
	Darby-Pott. 148+00.25	Rt.	79.7										
	148+00.25 151+03	Rt.	302.8										
	Darby-Pott. 148+24.66	Lt.	96.1										
	148+03 151+03	Rt.							300				
	148+24.66 151+03	Lt.	278.3										
	144+00	Rt.								1			
	145+30	Rt.									1		
	146+00	Rt.											
	TOTAL		40,746.1	28,396.6	25,365.0	2,972.1	766	128	6274.9		4	2	
	* MILES			13.10	4.81				1.19				

PARSONS BRINCKERHOFF QUADE & DOUGLAS
COLUMBUS, OHIO 5/14

621 PAVEMENT
MARKING SUB-SUMMARY

Designed Drawn Traced Checked Reviewed Date Revised

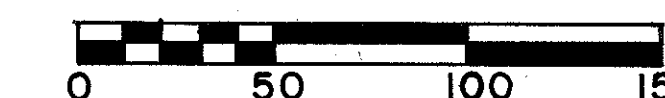
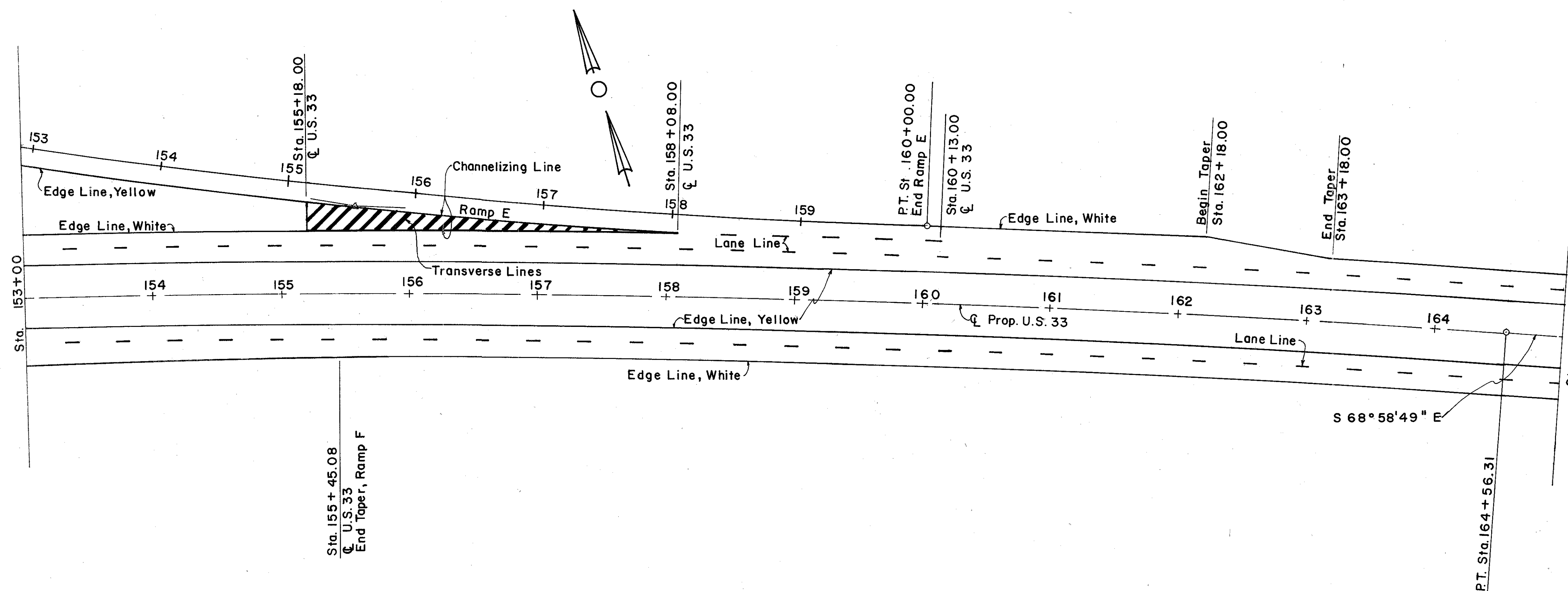
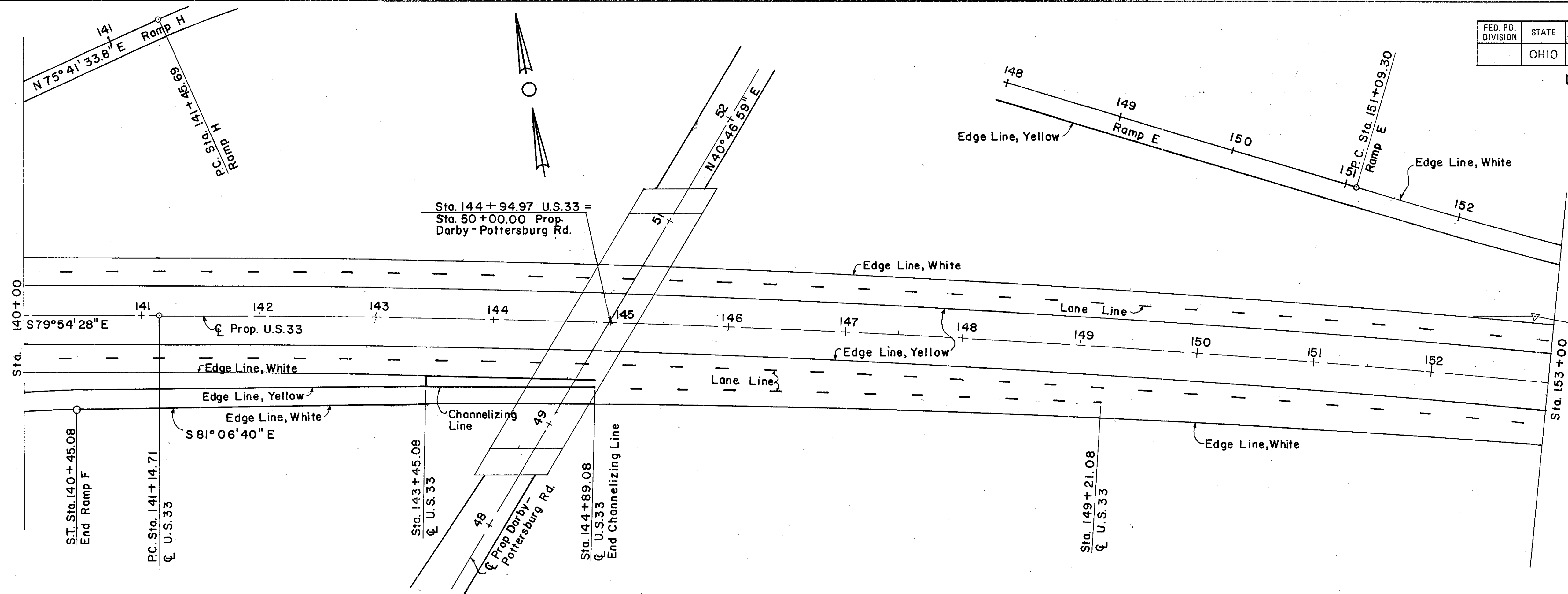
* Miles, Number Carried to Summary Sheet 217



PARSONS BRINCKERHOFF QUADE & DOUGLAS
COLUMBUS, OHIO

**INTERCHANGE
PAVEMENT MARKING**
PROPOSED U. S. 33

Designed	Drawn	Traced	Checked	Reviewed	Date	Revised
MJB	RJY	RJY				
5/5/85						



SCALE IN FEET

PARSONS BRINCKERHOFF QUADE & DOUGLAS
COLUMBUS, OHIO

8 / 14

INTERCHANGE PAVEMENT MARKING PROPOSED U.S. 33

Designed	Drawn	Traced	Checked	Reviewed	Date	Revised
MB	RJY	RJY				
5/3/85						

CURVE DATA
RAMP G
PI Sta. 137+30.81
 $\Delta = 17^\circ 18' 33''$
 $Dc = 4^\circ 24' 58.2''$
 $R = 1297.41'$
 $T = 197.48'$
 $L = 391.95'$
 $E = 14.94'$
PC Sta. 135+33.33
PT Sta. 139+25.28

Match Line Sta. 139+00

Match Line Sta. 133+50

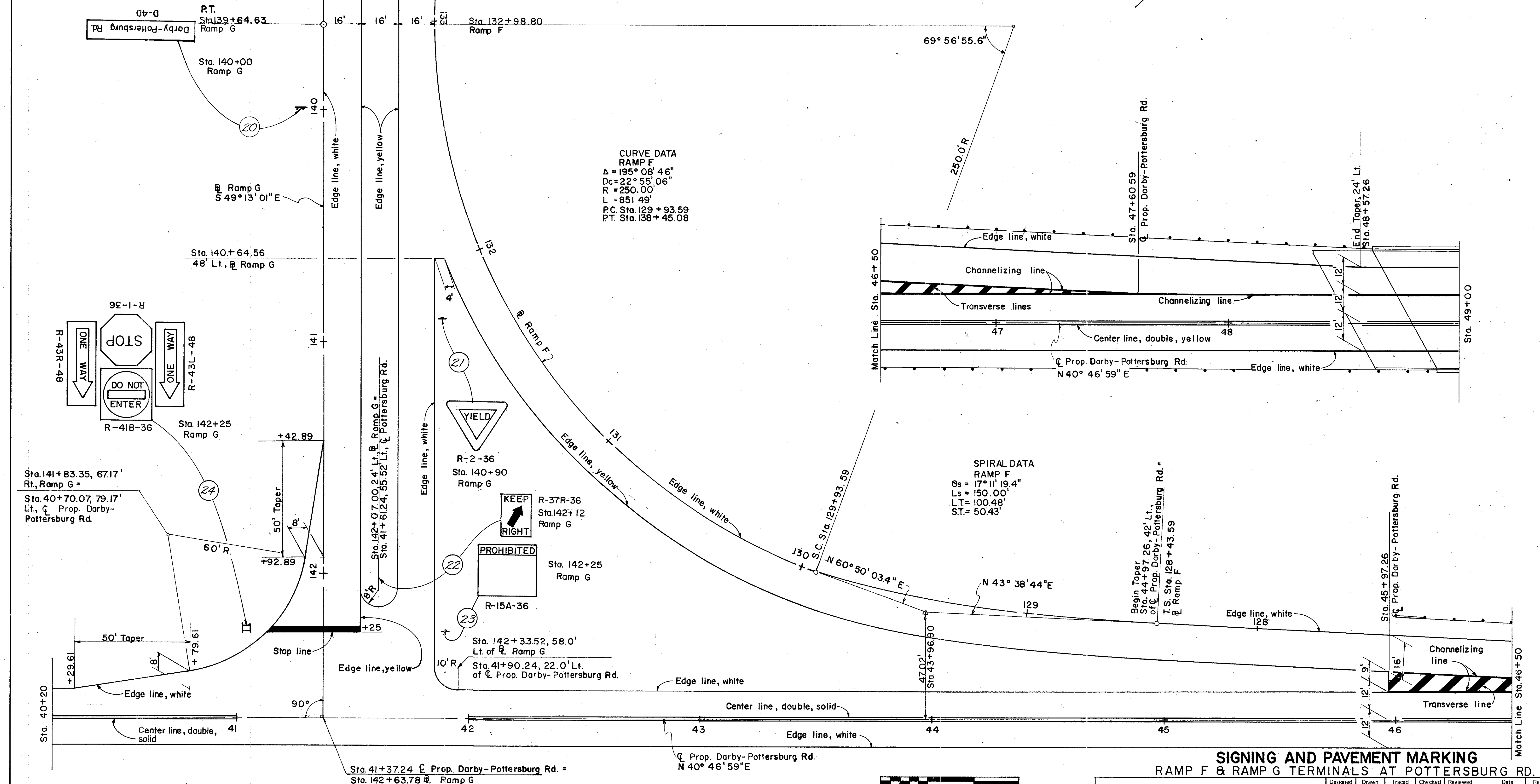
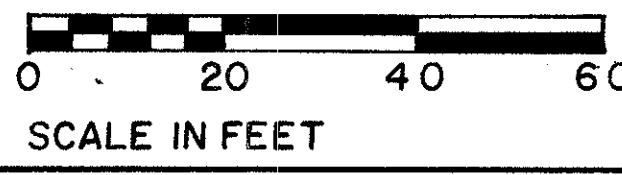
CURVE DATA
RAMP F
 $\Delta = 195^\circ 08' 46''$
 $Dc = 22^\circ 55' 06''$
 $R = 250.00'$
 $L = 851.49'$
PC Sta. 129+93.59
PT Sta. 138+45.08

SPIRAL DATA
RAMP F
 $Os = 17^\circ 11' 19.4''$
 $Ls = 150.00'$
 $L.T. = 100.48'$
 $S.T. = 50.43'$

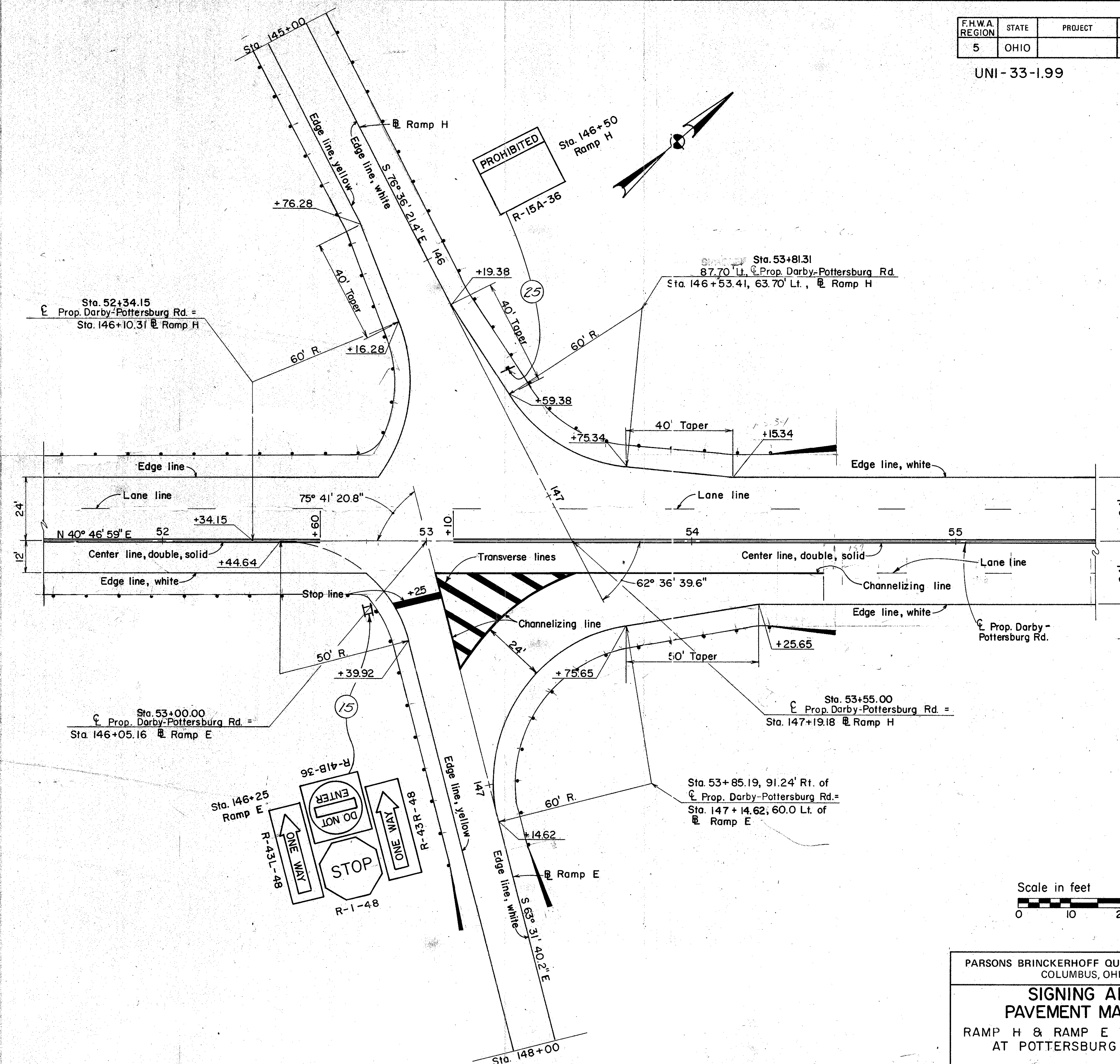
SIGNING AND PAVEMENT MARKING RAMP F & RAMP G TERMINALS AT POTTERSBURG RD.

PARSONS BRINCKERHOFF QUADE & DOUGLAS
COLUMBUS, OHIO

Designed	Drawn	Traced	Checked	Reviewed	Date	Revised
5/31/85	5/31/85	RJY				



UNI-33-1.99



PARSONS BRINCKERHOFF QUADE & DOUGLAS
COLUMBUS, OHIO 10/14

**SIGNING AND
PAVEMENT MARKING**
RAMP H & RAMP E TERMINALS
AT POTTERSBURG ROAD

Designed	Drawn	Traced	Checked	Reviewed	Date	Revised
7/10/03	7/10/03					

UNI-33-1.99

CURVE DATA
PROP. DARBY-POTTERSBUrg RD.
PI. Sta. 64+35.57
 $\Delta = 16^{\circ}59'16"$
 $D_c = 10^{\circ}00'00"$
 $R = 572.96'$
 $T = 85.57'$
 $L = 169.56'$
 $E = 6.35'$

Sta. 147+36.74 $\bar{C}$ Existing U.S. 33=
Sta. 62+25.62 $\bar{C}$ Prop. Darby-Pottersburg Rd.

Edge Line, White

$\bar{C}$ Existing U.S. 33 S $68^{\circ}50'00"$ E
+30' Channelizing Lines

Edge Line, White

250' Right Turn Lane

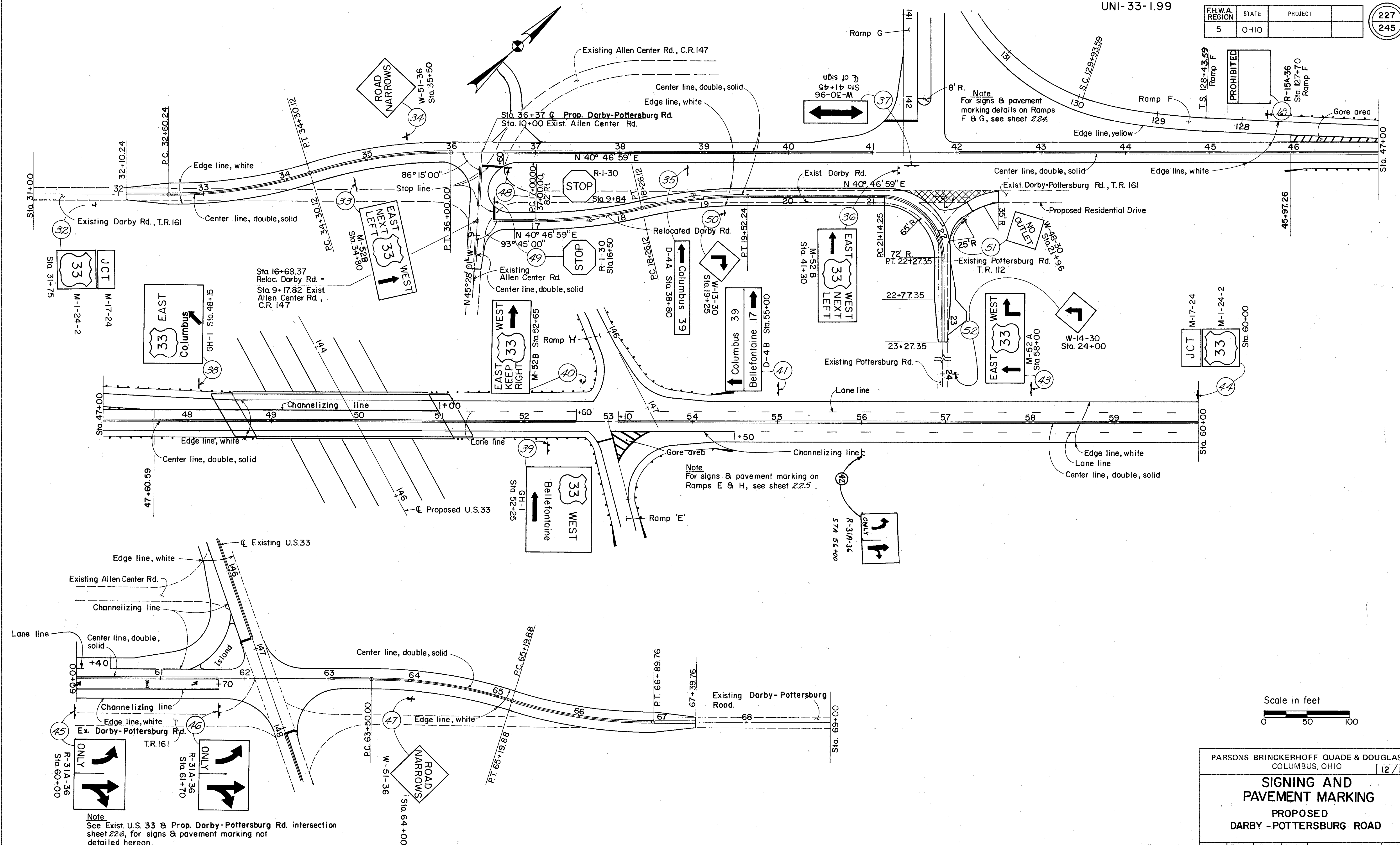
Sta. 146+21.35
Exist. U.S. 33, 81.37' Rt. =
Sta. 61+10.23 Prop. Darby-Pottersburg Rd., 81.37' Lt.

0 20 40 60
SCALE IN FEET

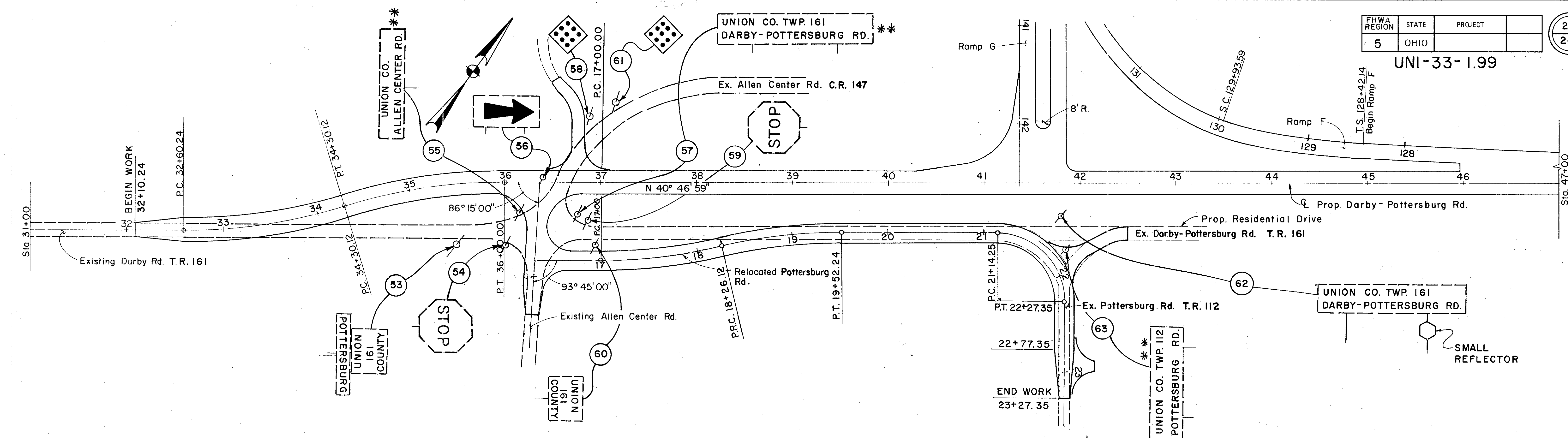
PARSONS BRINCKERHOFF QUADE & DOUGLAS
COLUMBUS, OHIO 11/14

**SIGNING AND
PAVEMENT MARKING**
INTERSECTION OF EXISTING
U.S. 33 & PROP. DARBY POTTERSBUrg RD.

Designed	Drawn	Traced	Checked	Reviewed	Date	Revised
7/14/85	7/14/85	5/31/85	5/31/85	RDY		



UNI-33-1.99



NOTE: THERE ARE NO EXISTING SIGNS BETWEEN
STA. 47+00 AND STA. 60+00.

**SUB- SUMMARY OF
EXISTING SIGNS TO BE REMOVED***

REF. NO.	STATION	SIDE	OFFSET	630 REMOVAL OF GROUND MOUNTED	
				SIGNS & STORAGE	POST
				EACH	EACH
53	35+52	RT.	64'	2	1
54	36+01	RT.	65'	1	1
55	36+16	RT.	32'	2**	1
56	36+41	LT.	5'	1	2
57	36+76	RT.	33'	2**	2
58	36+84	LT.	70'	1	1
59	36+87	RT.	39'	1	1
60	36+94	RT.	65'	1	1
61	37+15	LT.	33'	1	1
62	41+81	RT.	34'	1	2
63	41+85	RT.	69'	2**	2
64	60+72	RT.	31'	1	1
65	60+80	LT.	22'	1	1
66	145+09 U.S.33	RT.	46'	1	1
67	61+49	RT.	34'	1	1
68	61+50	LT.	84'	1	1
69	61+78	LT.	78'	2**	1
70	61+81	LT.	54'	1	1
71	61+86	RT.	28'	1	1
72	61+92	RT.	72'	1	1
73	62+00	LT.	67'	1	1
74	62+64	RT.	25'	4**	1
75	62+78	RT.	34'	1	1
76	63+71	RT.	64'	1	1
	TOTAL			32	28

Scale in feet



PARSONS BRINCKERHOFF QUADE & DOUGLAS
COLUMBUS, OHIO

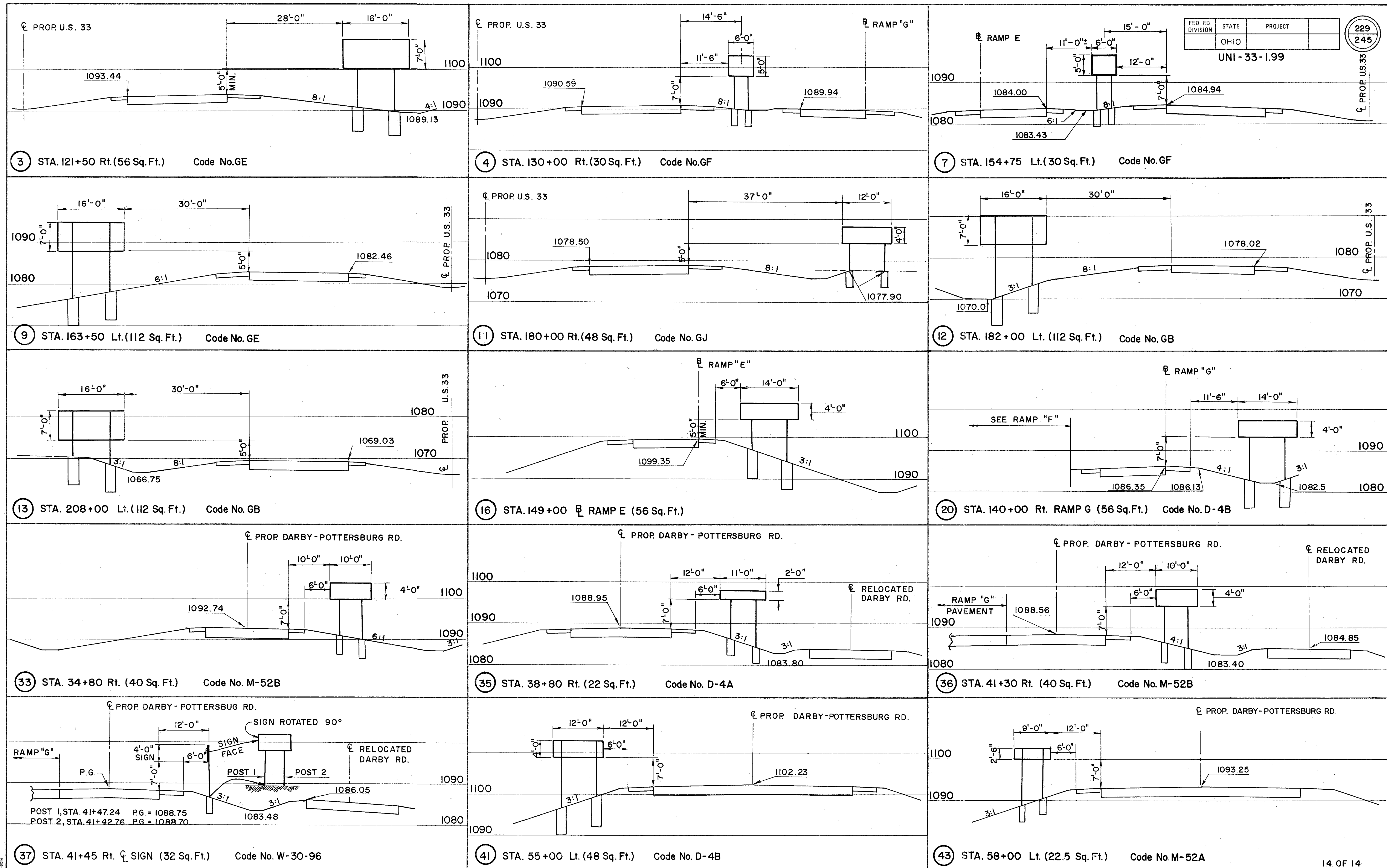
**SIGNING AND
PAVEMENT MARKING**

**EXISTING SIGNS
TO BE REMOVED**

Designed	Drawn	Traced	Checked	Reviewed	Date	Revised
M.J.B. 7/10/85						

* CARRIED TO TRAFFIC CONTROL
QUANTITIES SHEET.

* * TWO SIGNS BACK-TO-BACK.



CENTERLINE SURVEY PLAT

UNITED STATES ROUTE 33----1.99
UNION COUNTY, OHIO
ALLEN TWP., V.M.S. NOS. 158, 3151,
4812, 12308, 15309

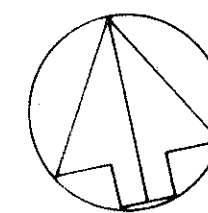
CALC BY	DATE	OHIO	230
CHKD BY	DATE	UNI-33-1.99	245
FEDERAL PROJECT	F-11(77)	FHWA 5 REGION	

" SHEET 1 OF 1 "

LIMITED ACCESS
R/W PLAN

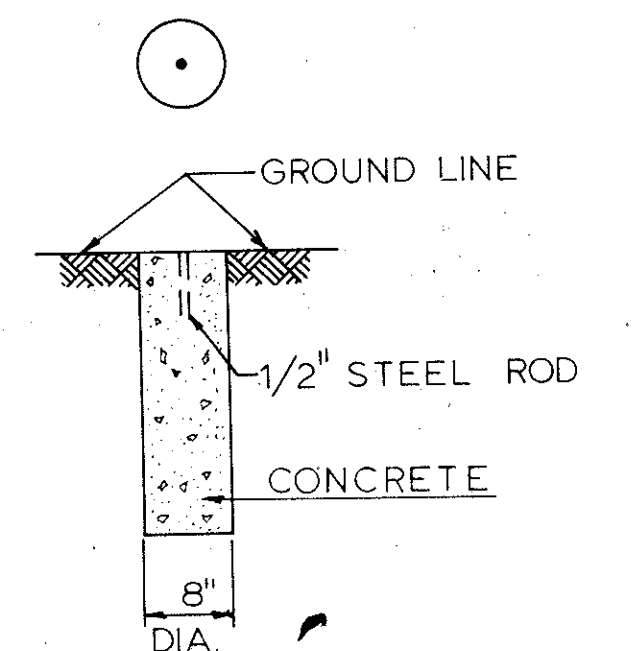
1
16

SCALE IN FEET
0 500 1000

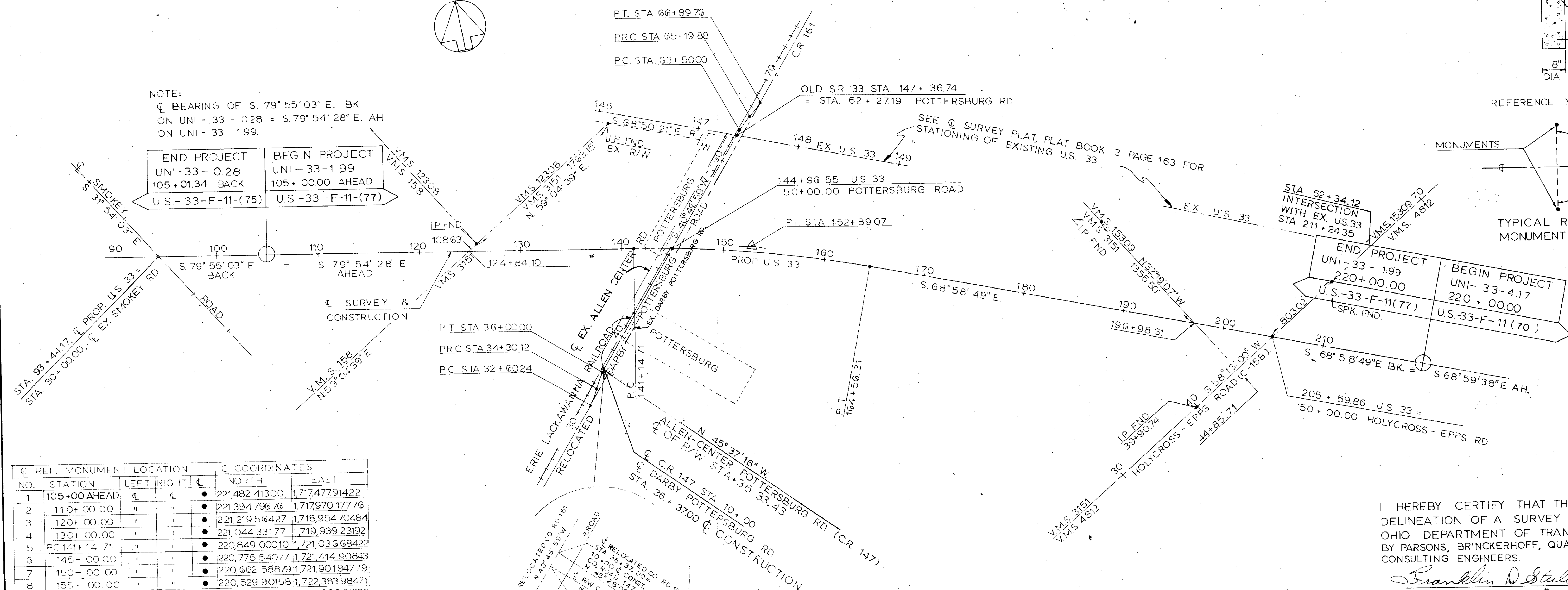
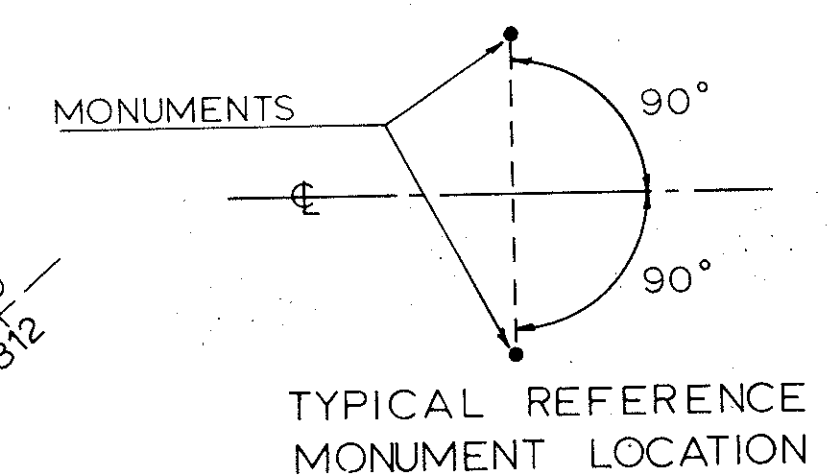


NOTE:
C BEARING OF S. 79° 55' 03" E. BK.
ON UNI-33-028 = S. 79° 54' 28" E. AH
ON UNI-33-1.99.

END PROJECT	BEGIN PROJECT
UNI-33-0.28	UNI-33-1.99
105+01.34 BACK	105+00.00 AHEAD
U.S.-33-F-11-(75)	U.S.-33-F-11-(77)



REFERENCE MONUMENT



C REF. MONUMENT LOCATION				C COORDINATES	
NO.	STATION	LEFT	RIGHT	NORTH	EAST
1	105+00.00 AHEAD	C	C	221,482.41300	1,717,477.91422
2	110+00.00	"	"	221,394.79676	1,717,970.17776
3	120+00.00	"	"	221,219.56427	1,718,954.70484
4	130+00.00	"	"	221,044.33177	1,719,939.23192
5	PC 141+14.71	"	"	220,849.00010	1,721,036.68422
6	145+00.00	"	"	220,775.54077	1,721,414.90843
7	150+00.00	"	"	220,662.58879	1,721,901.94779
8	155+00.00	"	"	220,529.90158	1,722,383.98471
9	160+00.00	"	"	220,377.69917	1,722,860.21986
10	PT 164+56.31	"	"	220,221.97879	1,723,289.10736
11	170+00.00	"	"	220,026.96321	1,723,796.61868
12	180+00.00	"	"	219,668.27428	1,724,730.07583
13	190+00.00	"	"	219,309.58535	1,725,663.53298
14	200+00.00	"	"	218,950.89641	1,726,596.99013
15	205+59.85	C	C	218,750.08600	1,727,119.58200
16	32+60.24	20'	20'	219,430.02507	1,720,316.20421
17	34+30.12	30'	30'	219,573.10855	1,720,406.61997
18	36+00.00	30'	30'	219,716.19203	1,720,497.03573
19	63+50.00	30'	30'	221,798.46289	1,722,293.32936
20	65+19.88	30'	30'	221,908.88666	1,722,421.60439
21	66+89.76	20'	20'	222,019.31042	1,722,549.87942
22	40+00.00	20'	20'	218,223.37848	1,726,269.53542
23	60+00.00	20'	20'	219,276.79353	1,727,969.62858

CURVE DATA						
PI STA	ROADWAY	Δ	R	Dc	L	T
152+89.07	U S 33	10° 55' 39"	12,277.67	00° 28' 00"	2341.62	1174.37
33+45.81	POTTERSBURG	16° 59' 16"	572.96	10° 00' 00"	169.88	85.57
35+15.69	"	"	"	"	"	"
64+35.57	"	"	"	"	"	"
66+05.45	"	"	"	"	"	"

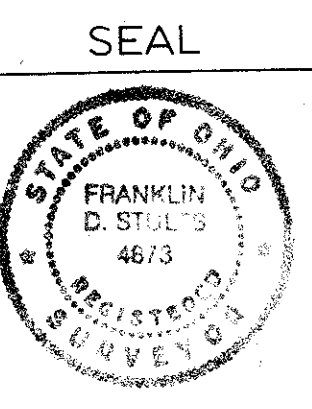
REV	DATE	DESCRIPTION

SIGNED _____
DATE _____ DISTRICT DEPUTY DIRECTOR

RECEIVED	19
RECEIVED	19
BOOK 4	PAGE 106
COUNTY RECORDER	

I HEREBY CERTIFY THAT THIS PLAT IS A TRUE
DELINEATION OF A SURVEY MADE FOR THE
OHIO DEPARTMENT OF TRANSPORTATION IN 1985
BY PARSONS, BRINCKERHOFF, QUADE, & DOUGLAS
CONSULTING ENGINEERS.

Franklin D. Stults DATE 11-21-85
FRANKLIN D. STULTS*4873



CENTERLINE SURVEY PLAT

PROPERTY MAP

UNION COUNTY, OHIO
ALLEN TWP., V.M.S. NOS. 158,
3151, 3749, 12308

FED. RD. DIVISION	STATE	PROJECT
	OHIO	
FEDERAL PROJECT	F-11(77)	

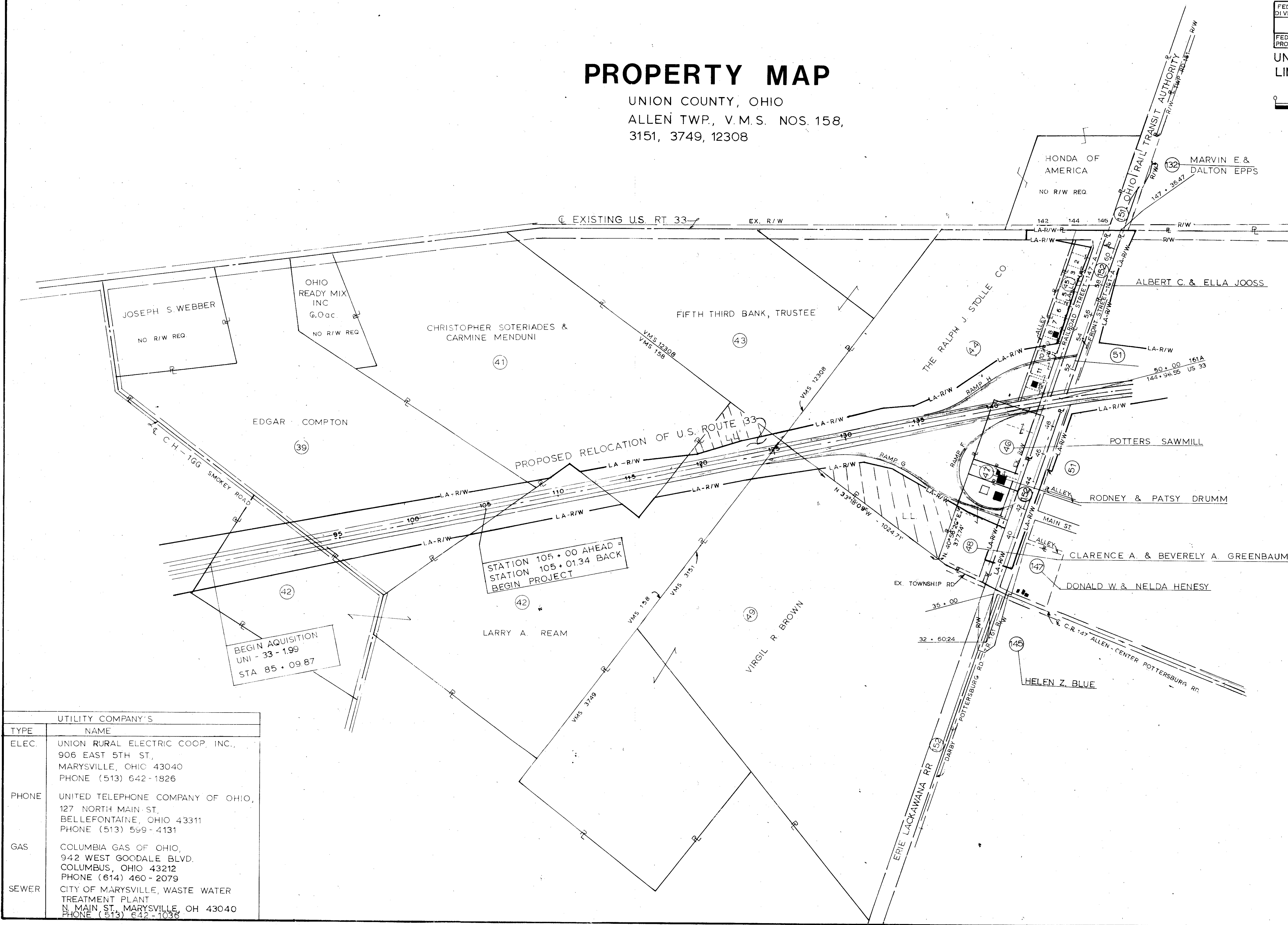
231
245

UNI - 33 - 1.99
LIMITED ACCESS R/W PLANS

0 150 300 450 600
SCALE IN FEET

2
16

"SHEET 1 OF 2"



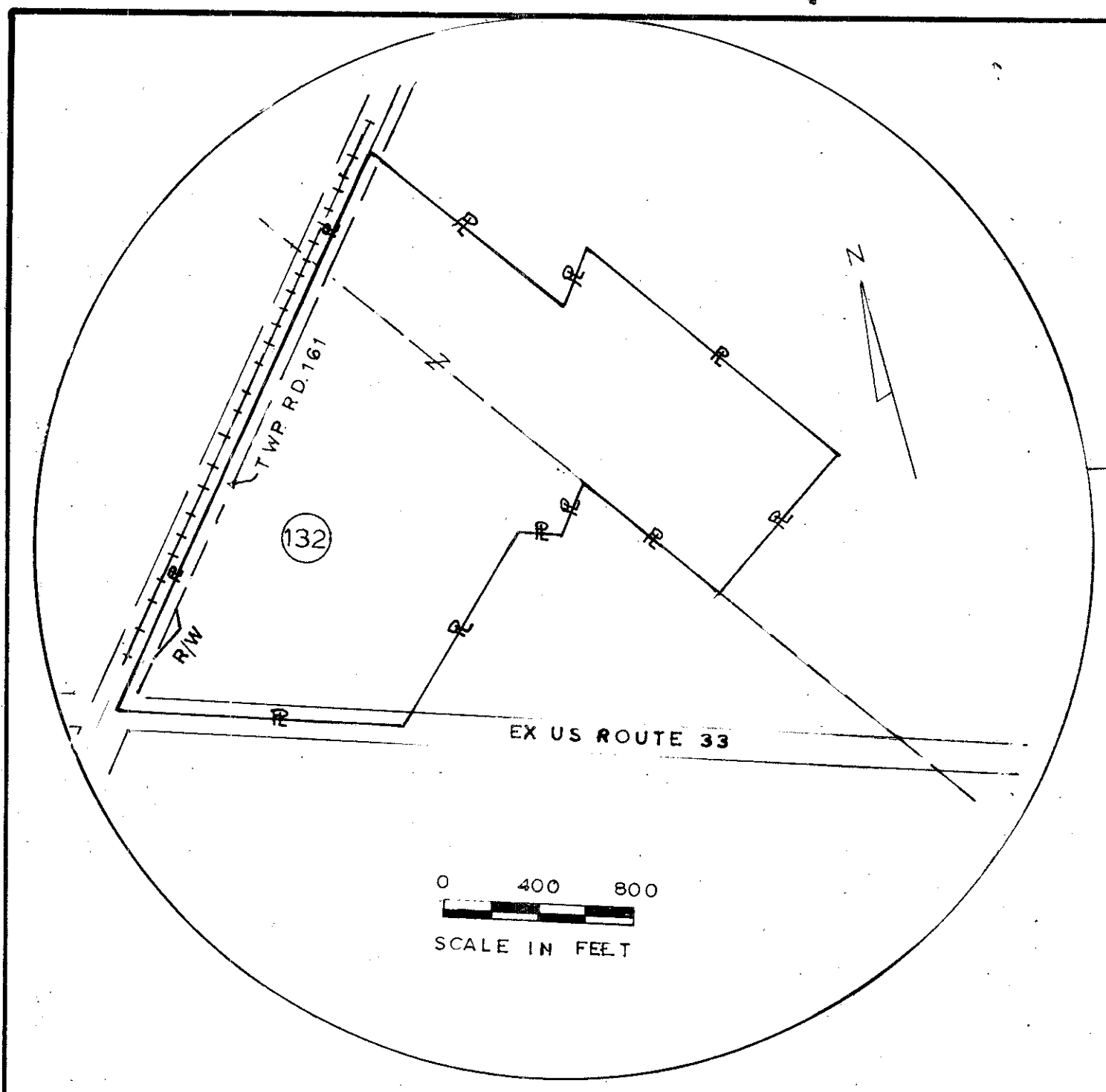
UTILITY COMPANY'S	
TYPE	NAME
ELEC.	UNION RURAL ELECTRIC COOP. INC., 906 EAST 5TH ST, MARYSVILLE, OHIO 43040 PHONE (513) 642-1826
PHONE	UNITED TELEPHONE COMPANY OF OHIO, 127 NORTH MAIN ST, BELLEFONTAINE, OHIO 43311 PHONE (513) 599-4131
GAS	COLUMBIA GAS OF OHIO, 942 WEST GOODALE BLVD. COLUMBUS, OHIO 43212 PHONE (614) 460-2079
SEWER	CITY OF MARYSVILLE, WASTE WATER TREATMENT PLANT N MAIN ST, MARYSVILLE, OH 43040 PHONE (513) 642-1036

REV.	DATE	DESCRIPTION

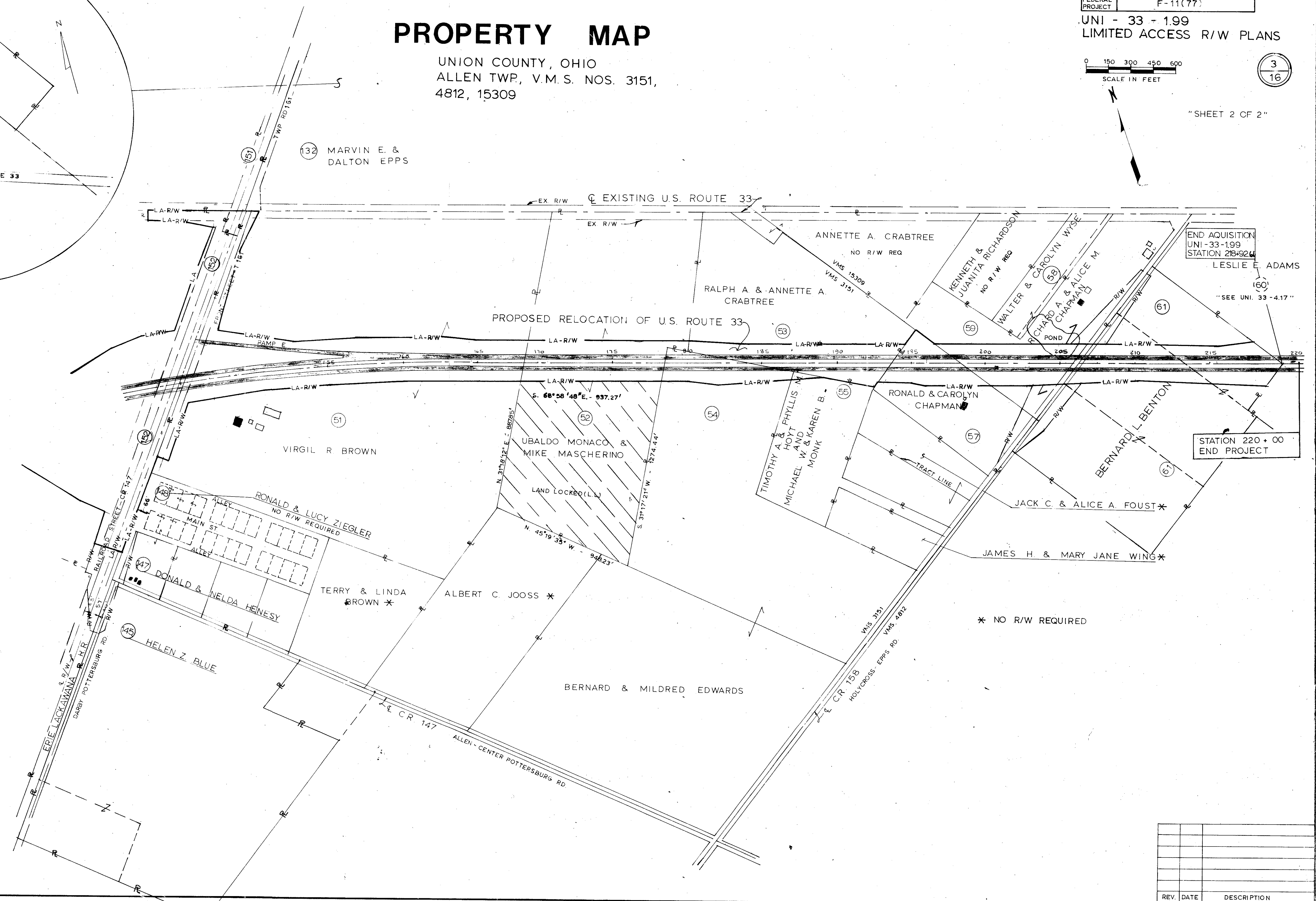
PROPERTY MAP

PROPERTY MAP

UNION COUNTY, OHIO
ALLEN TWP, V.M.S. NOS. 3151,
4812, 15309



0 400 800
SCALE IN FEET



REV.	DATE	DESCRIPTION

SUMMARY OF ADDITIONAL RIGHT OF WAY

PARCEL	OWNER	SHEET NO	OWNERS	RECORD	RECORD AREA	TOTAL PRO.	GROSS TAKE	PRO. IN TAKE	NET TAKE	STRUC. TURE	RESIDUE		TYPE FUND	AUDITORS PARCEL NO.	REMARKS AND PERSONALTY	AS ACQUIRED	
			BOOK	PAGE							LEFT	RIGHT				BOOK	PAGE
39 WL	EDGAR COMPTON	7, 8	171.	641	60.00	2.847	8.665	0.207	8.458		45.732	2.836		1695-2395			
39WD		7					0.091	0.091	0.000								
39WD - I		7					0.205	0.078	0.127								
41 WL	CHRISTOPHER SOTERIADES &	8	238	445	66.00*	1.586	0.106	0.00	0.106		60.985			8571-11935	* ADJUSTED DEED AREA		
41 WL-1	CARMINE MENDUNI	8					3.323		3.323								
42 WL	LARRY A. REAM	6,8	284	417	20.00	0.865	6.010	0.208	5.802	YES	1.388	11.815		7372-10231-33			
42 WD		7					0.212	0.082	0.130								
42 WD-1		7					0.086	0.086	0.00								
42 WL-1		8	284	419	61.17	0.130	3.785	0.00	3.785			51.455					
42 WL-2		8,9					3.933	0.00	3.933								
42 E		8,9									1.867				LEFT RESIDUE LAND LOCKED		
43 WL	FIFTH THIRD BANK	9	255	43	49.71	4.036	0.098		0.098		45.576	—		2789-3865			
44 WL	THE RALPH J. STOLLE CO.	9,10,11	283	303	50.93	1.260	15.436		15.436		28.268	—		8811-12315			
44 WL-1		11					0.480	0.455	0.025								
44 E		2,9,10									—	5.941			RIGHT RESIDUE - LAND LOCKED		
45 WL	ALBERT C. JOOSS & ELLA JOOSS	11,12	295	132	2.594	0.210	0.227		0.227					4632-6412			
45 WL-1		11,12					0.460	0.210	0.250					4633-6416-23			
45 E-1		11,12									1.135	—			LEFT RESIDUE-LAND LOCKED		
45 E		11,12									0.772	—			LEFT RESIDUE - LAND LOCKED		
46 WL	POTTERS SAW MILL	9,12	277	438	4.512	0.295	4.012	0.295	3.717		0	0		7097-9848-49	A PARTNERSHIP C/O LEROY SCHWARTZ,		
46 WL-1		9,11					0.50		0.50	YES				7099-9851-54	TOTAL TAKE BY CURRENT DEED.		
47 WL	RODNEY DRUMM & PATSY DRUMM	10,12	286	784	0.818	0.074	0.818	0.074	0.744	YES	0	0		10895-15501	TOTAL TAKE BY CURRENT DEED		
48 WL	CLARENCE A. GREENBAUM &	10,12	291	671	4.756	0.450	1.932	0.346	1.586	YES	—	2.720		2272-3161			
	BEVERELY GREENBAUM																
49 WL	VIRGIL R. BROWN	9	169	314	88.0	0.00	1.074		1.074		—	86.926		982-1425-26			
51 WL	" " "	9-13	169</														

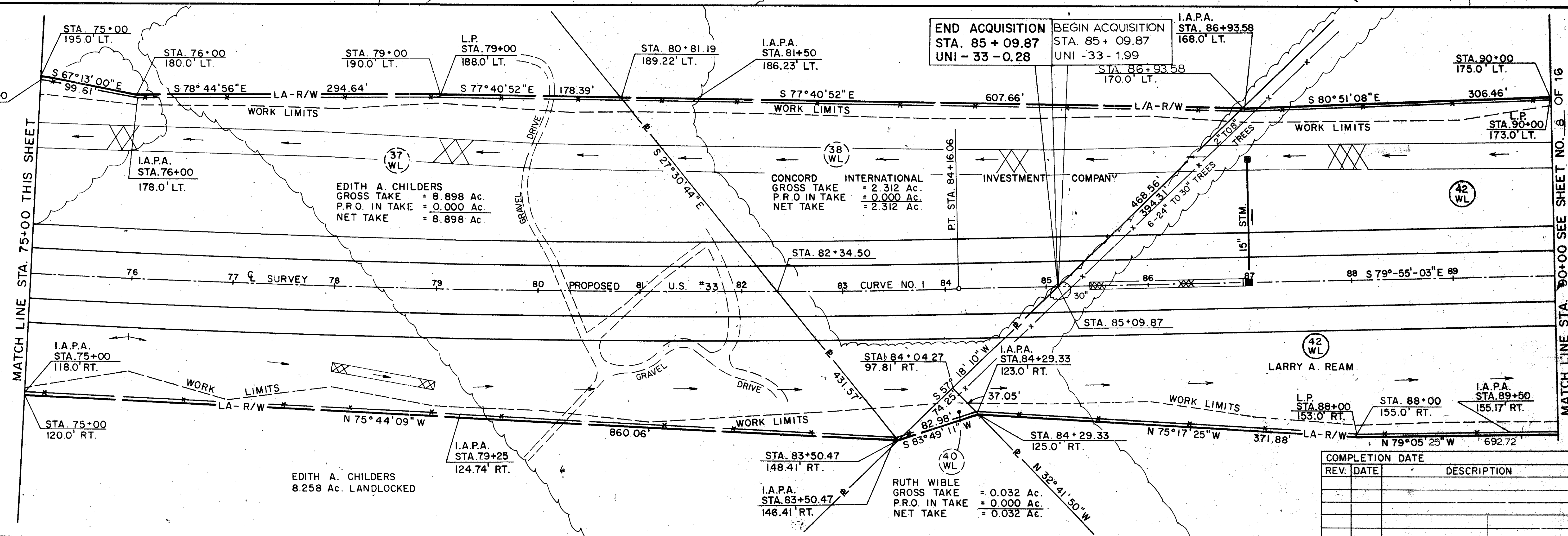
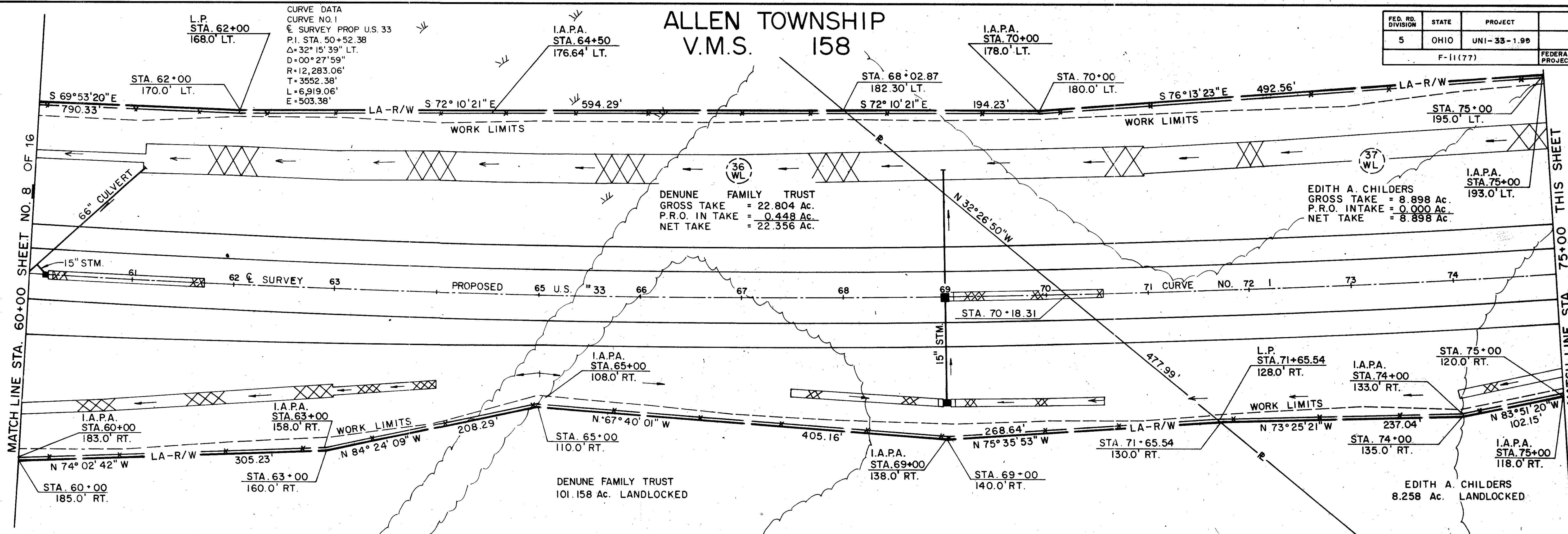
CALC. BY DATE	UNI. 33 - 1.99			OHIO	234
CALC. BY DATE				FHWA REGION 5	
FEDERAL PROJECT	F - 11(7 7)	STATE PROJECT	06142(2)		5 16

[illegible]

ALLEN TOWNSHIP V.M.S. 158

FED. RD. DIVISION	STATE	PROJECT	FEDERAL PROJECT
5	OHIO	UNI-33-1.99	
F-11(77)			

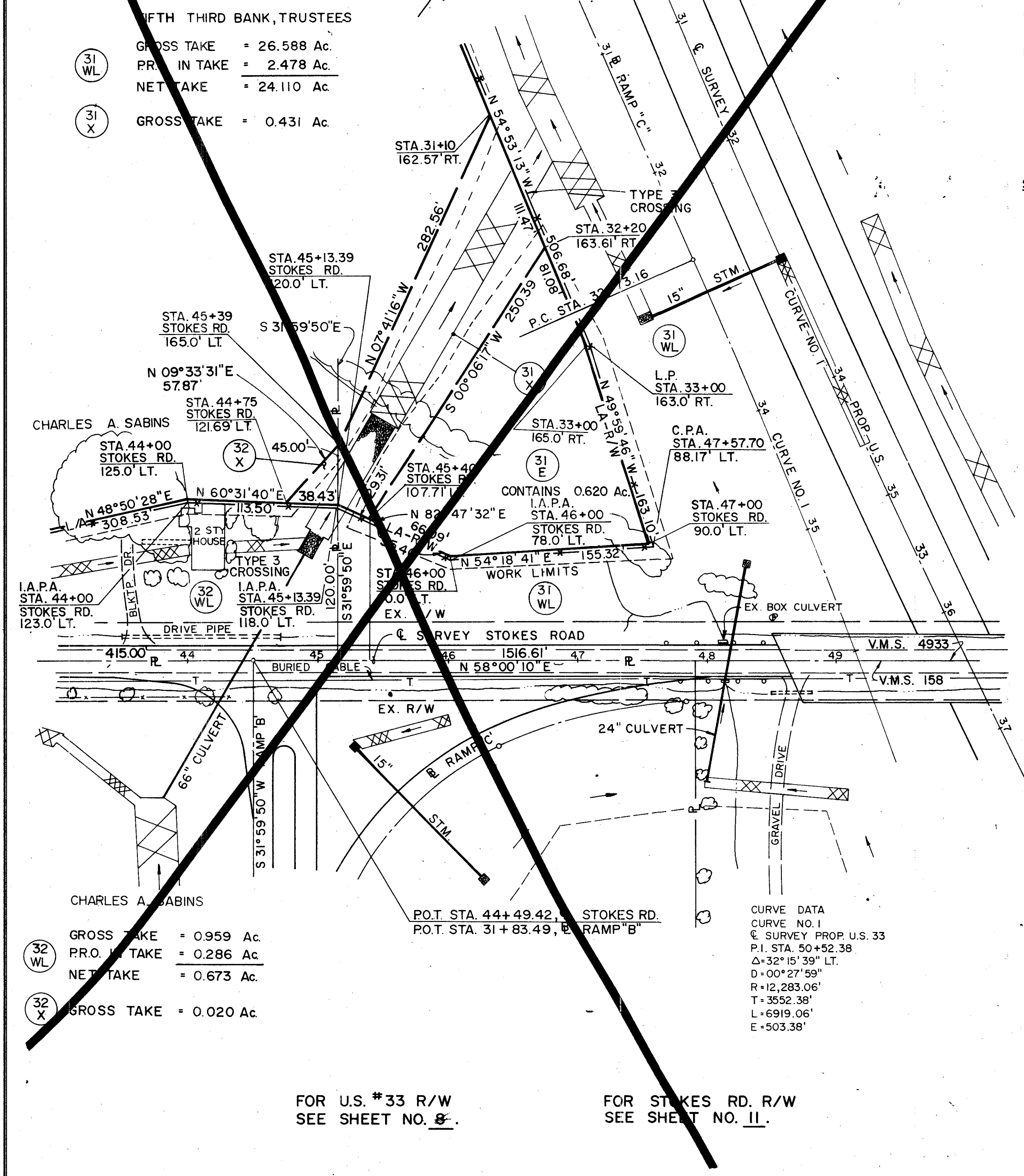
235
245
6
16



REV.	DATE	DESCRIPTION

ALLEN TOWNSHIP
V.M.S. 4933 & 158

CALC. BY DATE	UNI-33- 1.99	OHIO	236
CHKD BY DATE		FHWA REGION 5	245
	F-11(77)	FEDERAL PROJECT	7
			16



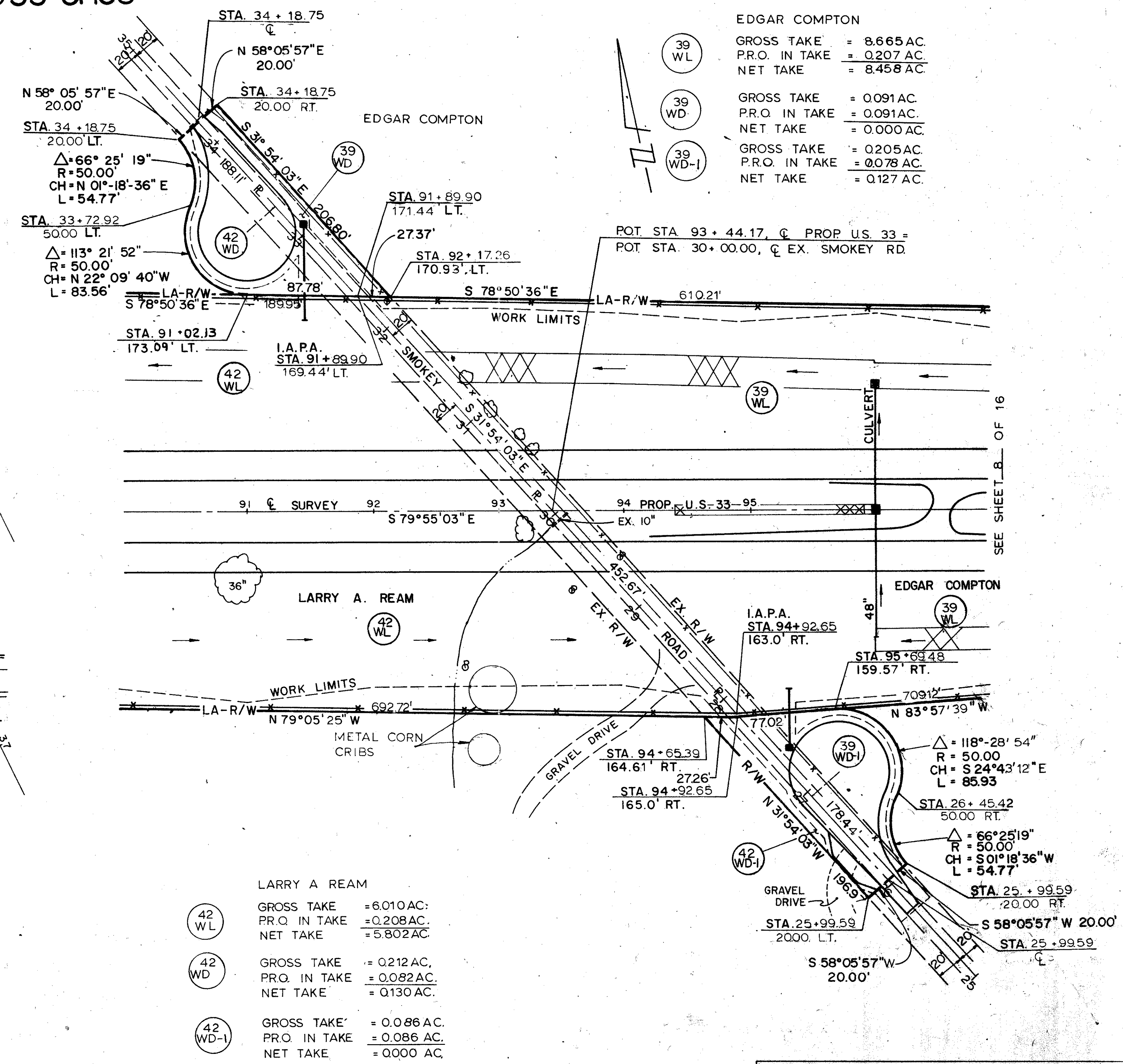
WIFTH THIRD BANK, TRUSTEES
GROSS TAKE = 26.588 Ac.
P.R.O. IN TAKE = 2.478 Ac.
NET TAKE = 24.110 Ac.
GROSS TAKE = 0.431 Ac.

CHARLES A. SABINS
GROSS TAKE = 0.959 Ac.
P.R.O. IN TAKE = 0.286 Ac.
NET TAKE = 0.673 Ac.
GROSS TAKE = 0.020 Ac.

CURVE DATA
CURVE NO. 1
C. SURVEY PROP. U.S. 33
P.I. STA. 50+52.38
Δ = 32° 15' 39" E
D = 00° 27' 59" W
R = 12,283.06'
T = 3552.38'
L = 6919.06'
E = 503.38'

FOR U.S. #33 R/W
SEE SHEET NO. 8.

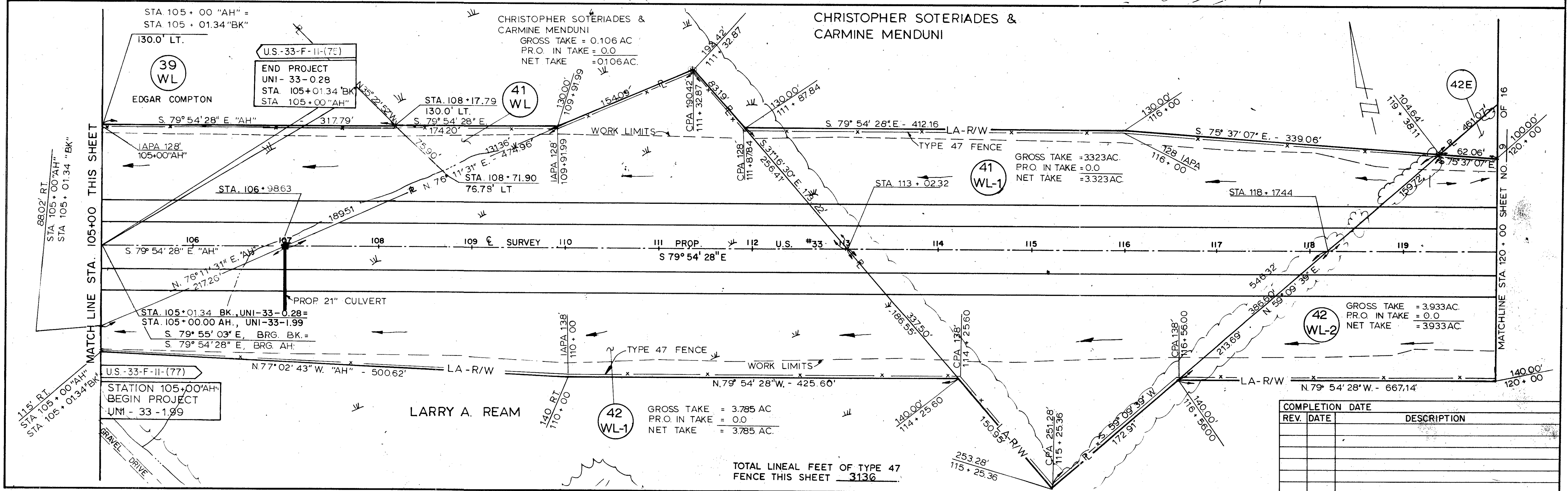
FOR STOKES RD. R/W
SEE SHEET NO. 11.



LARRY A. REAM
GROSS TAKE = 6.010 AC.
P.R.O. IN TAKE = 0.208 AC.
NET TAKE = 5.802 AC.
GROSS TAKE = 0.212 AC.
P.R.O. IN TAKE = 0.082 AC.
NET TAKE = 0.130 AC.
GROSS TAKE = 0.086 AC.
P.R.O. IN TAKE = 0.086 AC.
NET TAKE = 0.000 AC.

EDGAR COMPTON
GROSS TAKE = 8.665 AC.
P.R.O. IN TAKE = 0.207 AC.
NET TAKE = 8.458 AC.
GROSS TAKE = 0.091 AC.
P.R.O. IN TAKE = 0.091 AC.
NET TAKE = 0.000 AC.
GROSS TAKE = 0.205 AC.
P.R.O. IN TAKE = 0.078 AC.
NET TAKE = 0.127 AC.

REV.	DATE	DESCRIPTION



FED. RD. DIVISION	STATE	PROJECT
5	OHIO	
FEDERAL PROJECT	F - 11(77)	

UNI - 33 - 1.99
LIMITED ACCESS
R/W PLANS

239
245

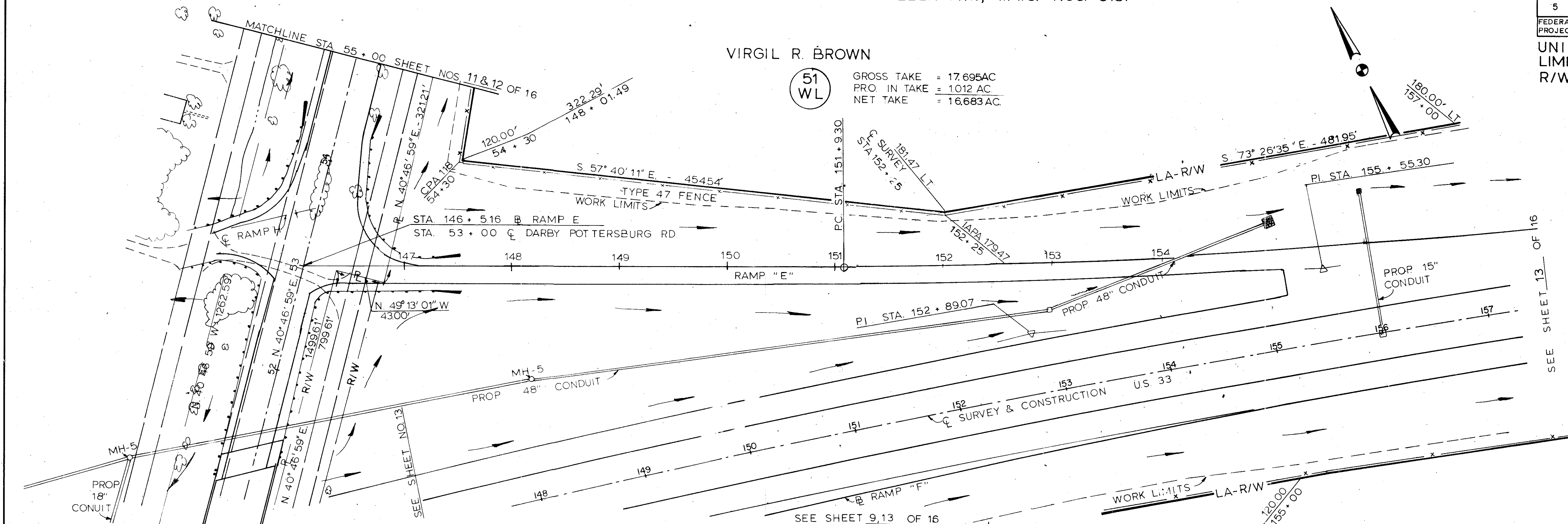
10
16

VIRGIL R. BROWN

51
WL

GROSS TAKE = 17.695AC
PRO. IN TAKE = 1.012 AC
NET TAKE = 16.683 AC

CURVE DATA
Q PROPOSED U.S. 33
Δ 10° 55' 39" RT.
R 1222767'
Dc 00° 28' 00"
L 2341.62'
T 1174.37'
E 56.78'



THE RALPH J STOLLE CO

44
WL

44
WL

GROSS TAKE = 15.436AC
PRO. IN TAKE = 0.0
NET TAKE = 15.436 AC

44
E

AREA = 5.941 AC

TOTAL LINEAL FEET OF TYPE 47
FENCE THIS SHEET 1356

GROSS TAKE = 0.818AC
PRO. IN TAKE = 0.074AC
NET TAKE = 0.744AC

RODNEY DRUM & PATSY DRUM

47WL

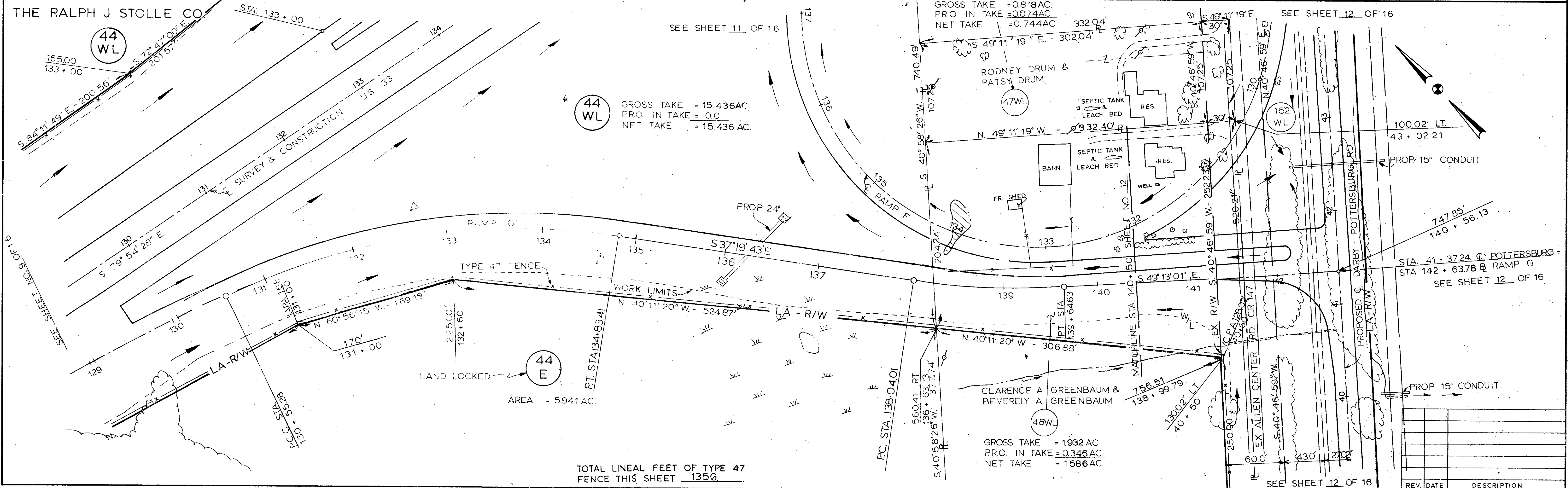
BARN

FR. SHED

CLARENCE A. GREENBAUM & BEVERLY A. GREENBAUM

48WL

GROSS TAKE = 1.932 AC
PRO. IN TAKE = 0.346 AC
NET TAKE = 1.586 AC



UNION COUNTY, OHIO
ALLEN TWP, V.M.S. NOS.
3151

THE RALPH J. STOLLE CO.

CURVE DATA
C PROPOSED U.S. 33
Δ 10° 55' 39" RT.
R 12227.67'
Dc 00° 28' 00"
L 2341.62'
T 1174.37'
E 56.78'

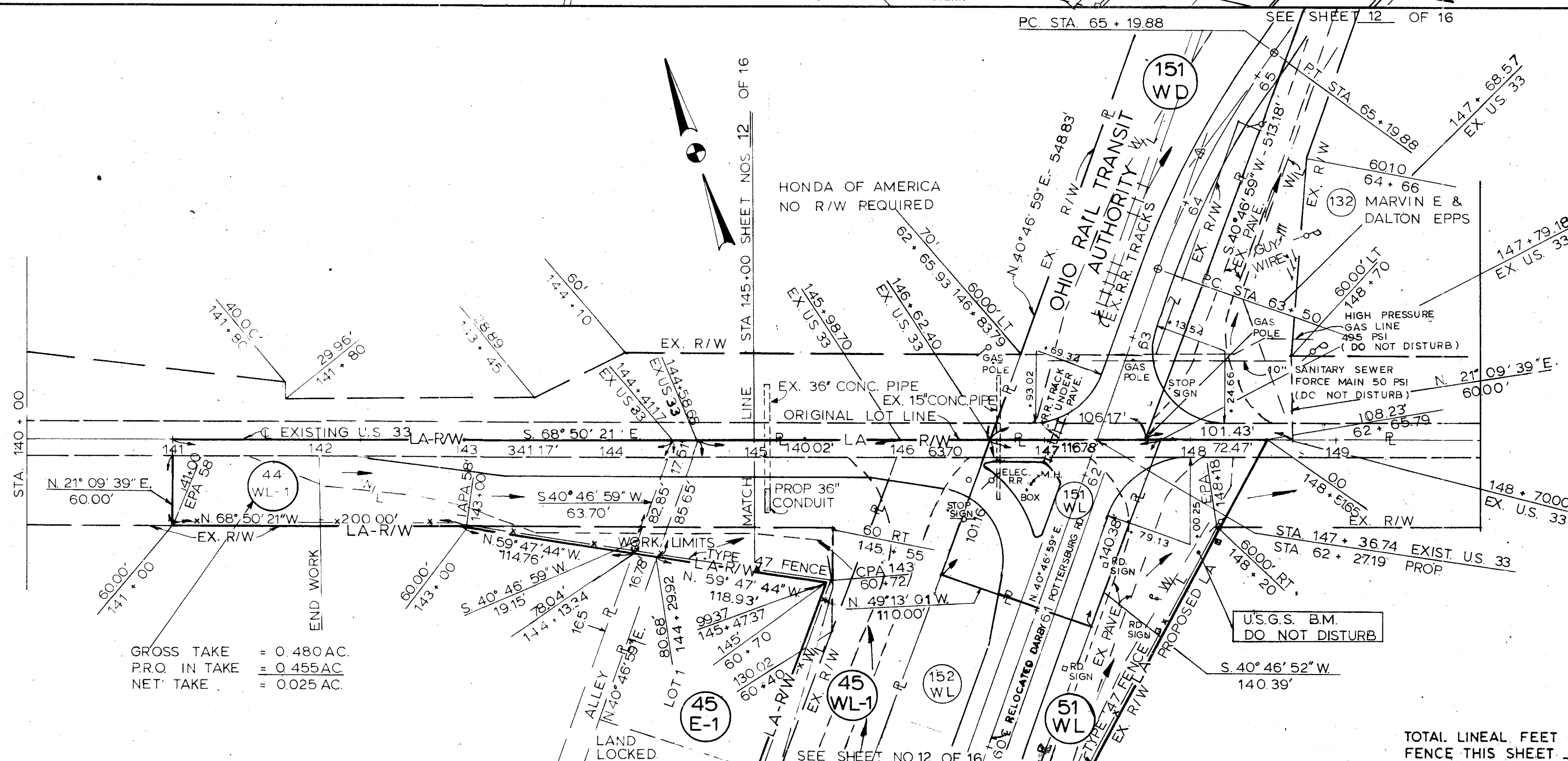
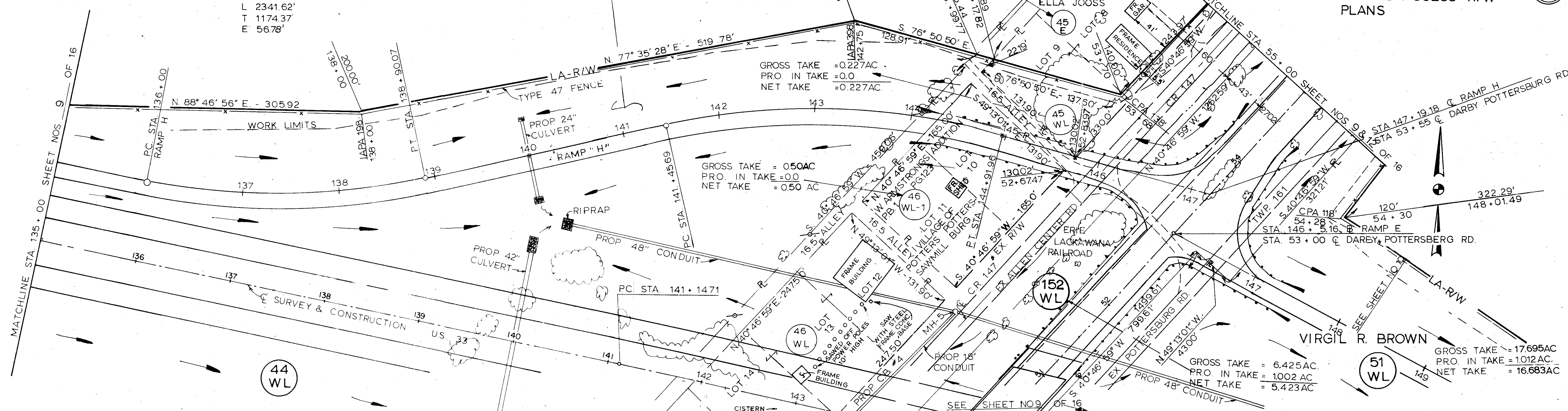
GROSS TAKE = 15.436 AC
PRO. IN TAKE = 0.0
NET TAKE = 15.436 AC

LAND LOCKED
AREA = 0.772 AC.

FED. RD. DIVISION	STATE	PROJECT
5	OHIO	
F - 11(77)		

UNI - 33 - 1.99
LIMITED ACCESS R/W
PLANS

240
245
11
16



44 WL-1 GROSS TAKE = 0.480 AC
PRO. IN TAKE = 0.455 AC
NET TAKE = 0.025 AC

45 E-1 AREA = 1.135 AC

45 WL-1 GROSS TAKE = 0.460 AC
PRO. IN TAKE = 0.210 AC
NET TAKE = 0.250 AC

51 WL GROSS TAKE = 17.695 AC
PRO. IN TAKE = 1.012 AC
NET TAKE = 16.683 AC

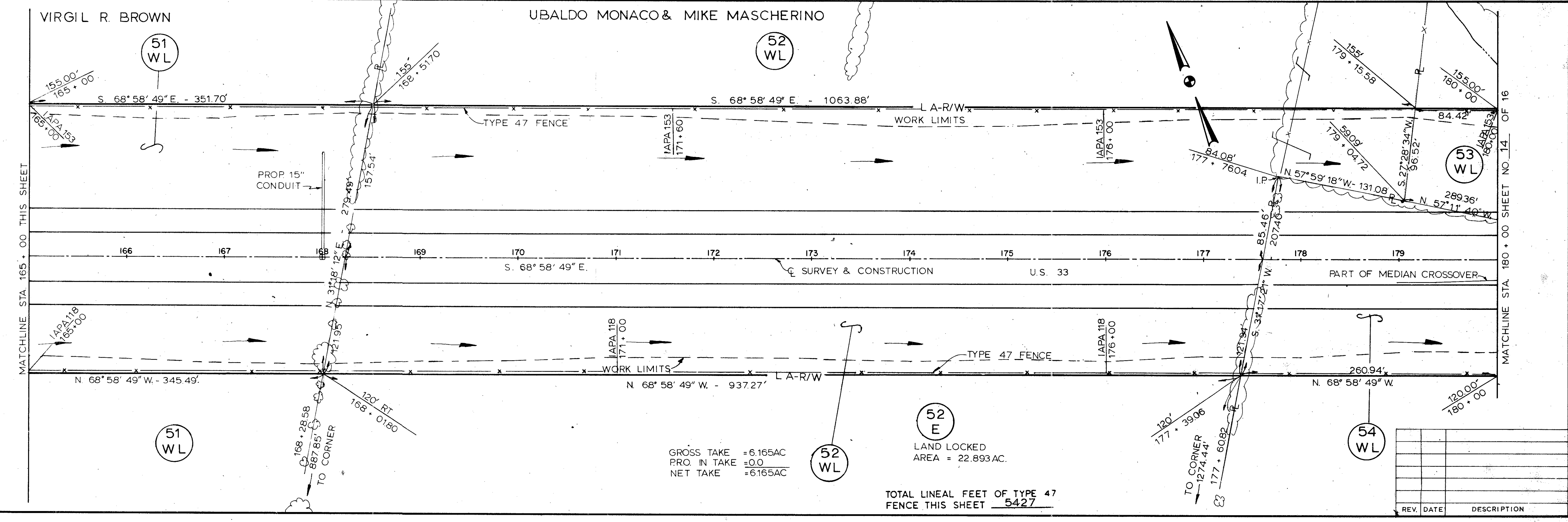
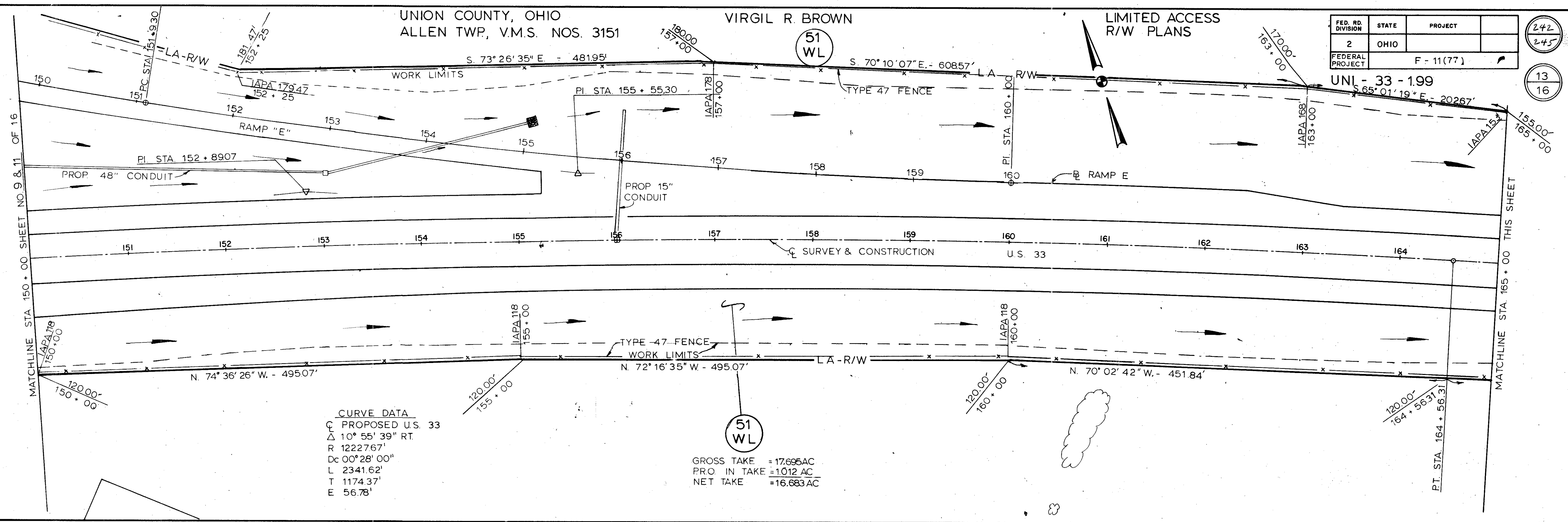
151 WL GROSS TAKE = 0.305 AC
PRO. IN TAKE = 0.200 AC
NET TAKE = 0.105 AC

151 WD GROSS TAKE = 1.219 AC
PRO. IN TAKE = 0.146 AC
NET TAKE = 1.073 AC

TOTAL LINEAL FEET OF TYPE 47
FENCE THIS SHEET 1314

REV.	DATE	DESCRIPTION

RIGHT OF WAY RAMP "H" & EXISTING U.S. 33



RALPH A. CRABTREE & ANNETTE A. CRABTREE

GROSS TAKE = 6.627AC
PRO IN TAKE = 0.0
NET TAKE = 6.627AC

UNION COUNTY, OHIO
ALLEN TWP, V.M.S. NOS. 3151,
4812, 15309

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	
FEDERAL PROJECT	F 11(77)	

UNI - 33 - 1.99
LIMITED ACCESS
R/W PLANS

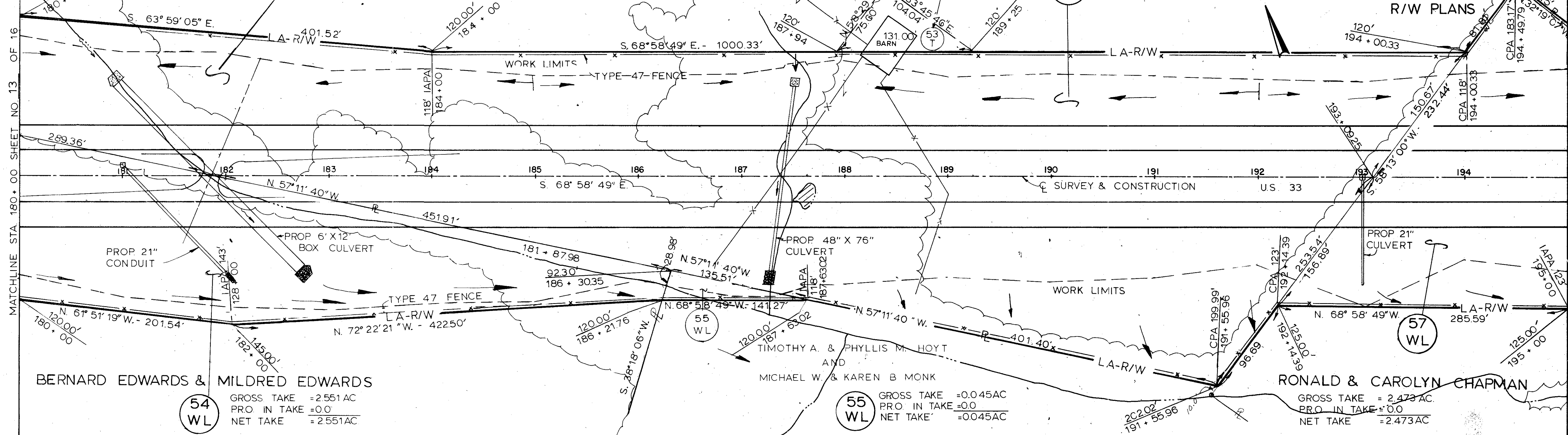
18517
194 + 4979
1915
N-3213
17
16

243
245

14
16

MATCHLINE STA 180+00 SHEET NO 13 OF 16

MATCHLINE STA 195+00 THIS SHEET



BERNARD EDWARDS & MILDRED EDWARDS
GROSS TAKE = 2.551AC
PRO IN TAKE = 0.0
NET TAKE = 2.551AC

GROSS TAKE = 0.045AC
PRO IN TAKE = 0.0
NET TAKE = 0.045AC

RONALD & CAROLYN CHAPMAN
GROSS TAKE = 2.473AC
PRO IN TAKE = 0.0
NET TAKE = 2.473AC

RICHARD A. CHAPMAN & ALICE M. CHAPMAN

GROSS TAKE = 5.123
PRO IN TAKE = 0.223
NET TAKE = 4.900AC

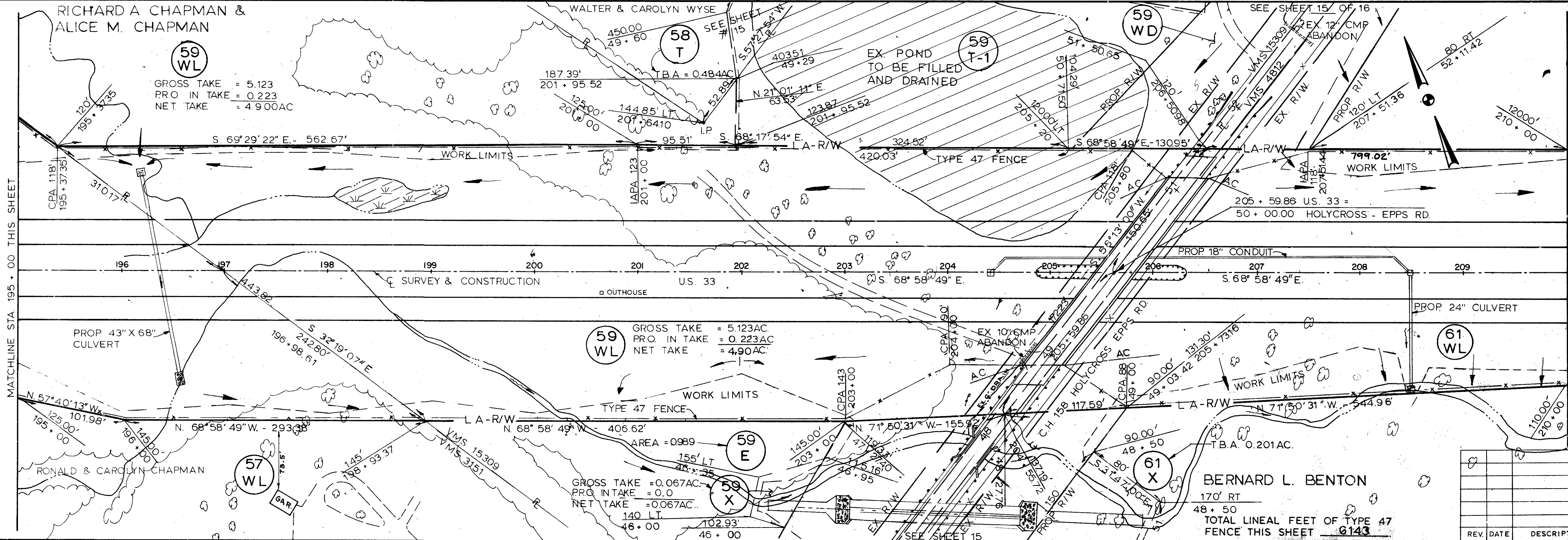
WALTER & CAROLYN WYSE

GROSS TAKE = 0.484AC
PRO IN TAKE = 0.0
NET TAKE = 0.484AC

EX. POND TO BE FILLED AND DRAINED

MATCHLINE STA 195+00 THIS SHEET

MATCHLINE STA 210+00 SHEET NO 16 OF 16



GROSS TAKE = 5.123AC
PRO IN TAKE = 0.223AC
NET TAKE = 4.900AC

GROSS TAKE = 0.067AC
PRO IN TAKE = 0.0
NET TAKE = 0.067AC

BERNARD L. BENTON
170' RT
48' 50'
TOTAL LINEAL FEET OF TYPE 47 FENCE THIS SHEET 6143

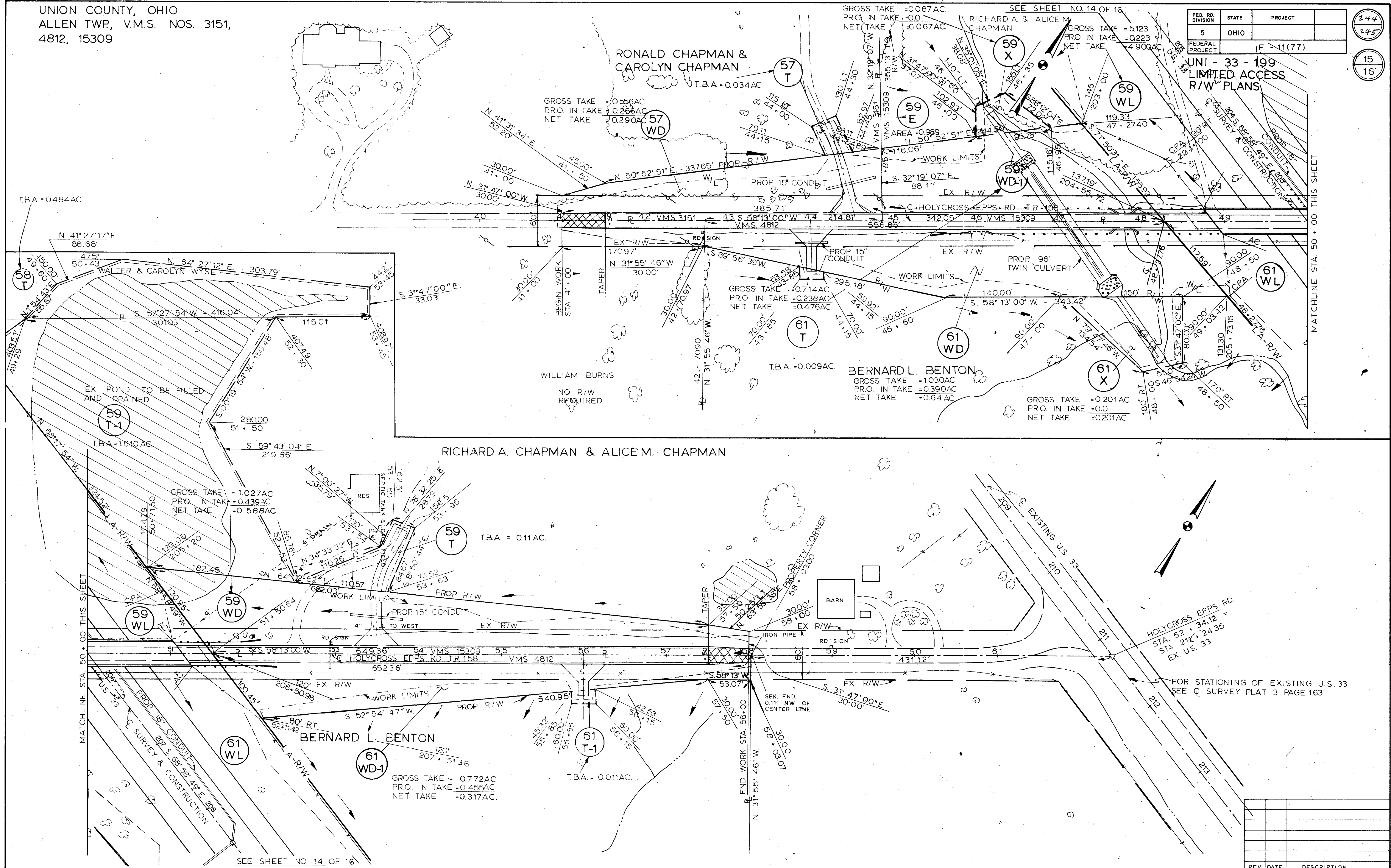
RIGHT OF WAY STA. 180+00 TO 210+00 & HOLYCROSS EPPS. RD.

UNION COUNTY, OHIO
ALLEN TWP, V.M.S. NOS. 3151,
4812, 15309

FED. RD. DIVISION	STATE	PROJECT
5	OHIO	
FEDERAL PROJECT		
F-11(77)		

UNI - 33 - 199
LIMITED ACCESS
R/W PLANS

244
245
15
16

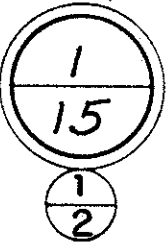


RIGHT OF WAY HOLYCROSS-EPPS RD.

RIGHT OF WAY STA. 210 + 00 TO 240 + 00

MICROFILMED
OCT 5 1984

UNION COUNTY
UNI-33-199



GEOLOGY OF THE SITE

THE STRUCTURE SITE IS LOCATED IN THE GENTLY ROLLING GLACIATED PORTION OF THE MISSISSIPPI VALLEY PLAIN REGION, IN AN AREA WHERE EXTREMELY DEEP GLACIAL-DERIVED MATERIAL OVERLIES BEDROCK, OF THE MONROE FORMATION.

EXPLORATION

THE EXPLORATION CONSISTED OF TWO DRIVE SAMPLE BORINGS MADE BY MEANS OF A MECHANICALLY-POWERED HOLLOW STEM AUGER MOUNTED ON A MOBILE PLATFORM, PERFORMED ON OCTOBER 3 AND 4, 1984.

INVESTIGATIONAL FINDINGS AND OBSERVATIONS

THE BORINGS ENCOUNTERED INTERVALS OF MEDIUM-DENSE TO DENSE UNSTRATIFIED SILTS AND CLAYS GRADUALLY INCREASE (ERRATIC AT TIMES) IN DENSITY WITH INCREASE IN DEPTH. BORING B-1 (IN THE GENERAL VICINITY OF THE REAR ABUTMENT) PENETRATED TO A DEPTH OF 41.5 FEET, ELEVATION 1049.0 FEET AND WAS TERMINATED AFTER PENETRATING IN EXCESS OF 20.0 FEET OF MATERIAL REQUIRING IN EXCESS OF 16 BLOWS PER FOOT IN THE STANDARD PENETRATION TEST. BORING B-2 (IN THE GENERAL VICINITY OF THE FORWARD ABUTMENT) PENETRATED TO A DEPTH OF 41.5 FEET, ELEVATION 1048.8 FEET AND WAS TERMINATED AFTER PENETRATING IN EXCESS OF 20.0 FEET OF MATERIAL REQUIRING IN EXCESS OF 15 BLOWS PER FOOT IN THE STANDARD PENETRATION TEST.

BEDROCK SURFACE WAS NOT ENCOUNTERED IN EITHER OF THE TEST BORINGS PERFORMED.

NO FREE WATER OBSERVATIONS WERE MADE IN EITHER OF THE TEST BORINGS PERFORMED, DURING OR AT THE CONCLUSION OF DRILLING OPERATIONS.

- Auger Boring Location - Plan View.
- Press and / or Drive Sample and / or Core Boring Location - Plan View.
- Drive Rod Penetration Resistance Sounding Location - Plan View.
- Capped Pile
- Footing
- Footing on Pile
- Top of Rock

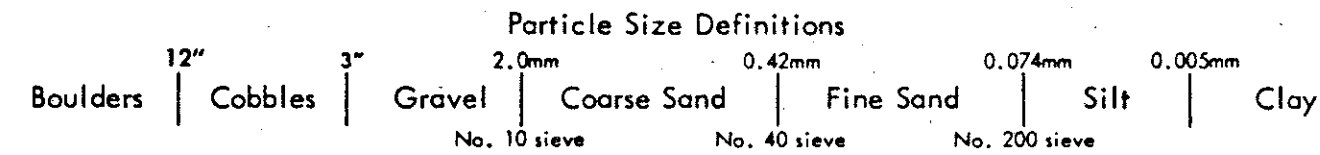
- Coal
- Weathered Mudstone or Claystone
- Mudstone or Claystone
- Weathered Shale
- Shale
- Weathered Siltstone
- Siltstone

LEGEND

- Horizontal Bar on Boring Log Indicates the Depth the Sample Was Taken.
- Figures Beside the Boring Log in Profile Indicate the Number of Blows for Standard Penetration Test.
 - X = Number of Blows for First 6 inches.
 - Y = Number of Blows for Second 6 inches.
 - Z = Number of Blows for Third 6 inches.
- Drive Rod Penetration Resistance Sounding Log - Profile
 - Resistance "R" < 10,000 lbs.
 - Resistance "R" > 10,000 lbs.
 - Indicates Final Measurement of Penetration, in Inches.
- Indicates Free Water Elevation.
- Indicates Static Water Elevation.

SYMBOLS OF ROCK TYPES

- Weathered Sandstone
- Sandstone
- Leached Dolomite
- Dolomite
- Leached Limestone
- Limestone
- Boulders or Cobbles



GENERAL INFORMATION

Drive Rod Penetration Sounding Tests

Drive rod penetration resistance tests constitute driving a 1.315-inch diameter steel rod, with a 45° cone point, into the ground, using a 122-pound drop-hammer with a free fall of five feet. At one or two-foot depth intervals, a measurement is taken to determine the amount of penetration achieved in three hammer drops. This reading is converted to an empirical value for capacity "R", in thousands of pounds (which is a measure of both the point resistance and frictional resistance on the rod), by using charts prepared by the Ohio Department of Highways, Bureau of Bridges, on the basis of correlation study of rod penetration with past performance of pile driving. For interpretation, a graph is prepared by plotting the value "R" against the depth at which the reading was taken, and connecting the plotted points. The curve so obtained reflects the density of subsurface materials in a manner that can be readily compared with data from similar tests at other locations on the structure site. From this comparison, the overall uniformity of subsurface condition may be evaluated.

Drive Sample Borings - Drive-Press Sample Borings

Drive sample borings are made by means of a rotary-type drill rig, employing a 2" O.D., 1-3/8" I.D. sampler, at 2-1/2 and / or 5-foot depth intervals, driven by means of a 140 - pound drop-hammer with a free fall of 30 inches. The number of blows required to drive the sampler 18 inches is considered the standard penetration test.

Drive-press sample borings are made by means of a rotary-type drill rig, employing a 2" O.D., 1-3/8" I.D. drive sampler, and 3" O.D. thin-wall press sampler. The press sampler is advanced by continuous uniform pressure, applied by the drill rig.

The boring log sheets show a graphic plot of the information obtained, including depth and elevation of the sample, number of blows for the standard penetration tests in three 6-inch increments, depth of press samples, field sample number, sample description - based on laboratory tests and the Casagrande AC classification system-and gradation, plasticity, and moisture content determinations. Results of strength and consolidation testing, if performed, appear on separate enclosures.

At depths where materials are bouldery or gravelly to the extent that the sampler can not be driven, a wash sample is procured for visual classification, in order to determine the general character of the material. These samples are not considered sufficiently representative to warrant laboratory testing.

LOG OF BORING														
Date Started 10-3-84					Sampler Type SS					Water Elev.				
Date Completed 10-3-84					Casing Length 49+32					Dia. 1 3/8"				
Boring No. B-1					Station & Offset 49+32 43' RT. (REAR ABUTMENT)					Surface Elev. 1090.5'				
Elev.	Depth	Std. Pen. (N)	Rec. Loss ft.	Description	Sample No.	% Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	SHTL. Class.
1090.5	0			TOPSOIL AND SOD										
1088.0	2													
1085.5	4	3/16/21		BROWN SILTY CLAY	1	0	0	1	19	80	45	19	17	A-7-6
1083.0	6	5/12/17		BROWN SILTY CLAY	2	0	0	0	21	79	44	19	19	A-7-6
1080.5	8	4/9/13		BROWN CLAY	3	7	1	1	15	76	46	21	23	A-7-6
1078.0	10	4/7/10		BROWN CLAY	4	0	2	3	14	81	46	21	21	A-7-6
1075.5	12	6/10/14		BROWN CLAY	5	0	6	2	14	78	46	22	24	A-7-6
1073.0	14	5/10/13		BROWN-GRAY CLAY	6	0	0	1	17	82	46	21	24	A-7-6
1070.5	16	5/7/14		BROWN-GRAY SILTY CLAY	7	0	0	0	23	77	41	20	21	A-7-6
1065.5	18	6/13/15		BROWN-GRAY SILTY CLAY	8	0	1	2	25	72	40	18	24	A-6b
1060.5	20													
1055.5	22	4/7/11		GRAY-BROWN SILTY CLAY	9	0	1	1	24	74	39	17	23	A-6b
1050.5	24													
1049.0	26	6/8/15		GRAY-BROWN SIL AND CLAY	10	0	0	0	28	72	34	14	21	A-6a
	28													
	30													
	32	5/7/12		GRAY SILTY CLAY	11	0	1	3	29	67	35	16	20	A-6b
	34													
	36													
	38													
	40	4/6/10		GRAY SILT AND CLAY	12	7	2	4	26	61	35	15	21	A-6a

LOG OF BORING														
Date Started 10-3-84					Sampler Type SS					Water Elev.				
Date Completed 10-4-84					Casing Length 50+79					Dia. 1 3/8"				
Boring No. B-2					Station & Offset 50+79 43' LT. (FORWARD ABUTMENT)					Surface Elev. 1090.3'				
Elev.	Depth	Std. Pen. (N)	Rec. Loss ft.	Description	Sample No.	% Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	SHTL. Class.
1090.3	0													
1088.3	2			LARGE GRAVEL (DRILLER'S DESCRIPTION)										
1085.3	4	AUGURED		BROWN CLAY	1	17	1	1	16	65	47	24	21	A-7-6
1082.8	6	7/13/17		BROWN-GRAY CLAY	2	0	0	0	14	86	46	23	21	A-7-6
1080.3	8	8/13/20		BROWN-GRAY CLAY	3	0	0	0	14	86	46	23	22	A-7-6
1077.8	10	6/11/15		BROWN CLAY	4	0	0	0	10	90	46	23	26	A-7-6
1075.3	12	9/13/20		BROWN CLAY	5	0	8	3	20	69	45	21	24	A-7-6
1072.8	14	7/12/19		BROWN CLAY	6	0	0	0	19	81	44	22	22	A-7-6
1070.3	16	6/13/19		BROWN-GRAY CLAY	7	0	0	0	21	79	42	20	23	A-7-6
1065.3	18	8/12/17		GRAY SILTY CLAY	8	0	0	0	25	76	38	17	20	A-6b
1060.3	20													
1055.3	22	5/10/20		GRAY-BROWN SILT AND CLAY	9	7	2	5	23	63	35	14	20	A-6a
1050.3	24													
1048.8	26	5/9/15		GRAY SILT AND CLAY	10	6	3	6	28	57	31	13	18	A-6a
	28													
	30													
	32													
	34													
	36	3/6/9		GRAY SILT AND CLAY	11	0	3	6	30	61	31	13	20	A-6a
	38													
	40													
		6/13/16		GRAY SILT AND CLAY	12	0	3	8	28	61	31	12	19	A-6a

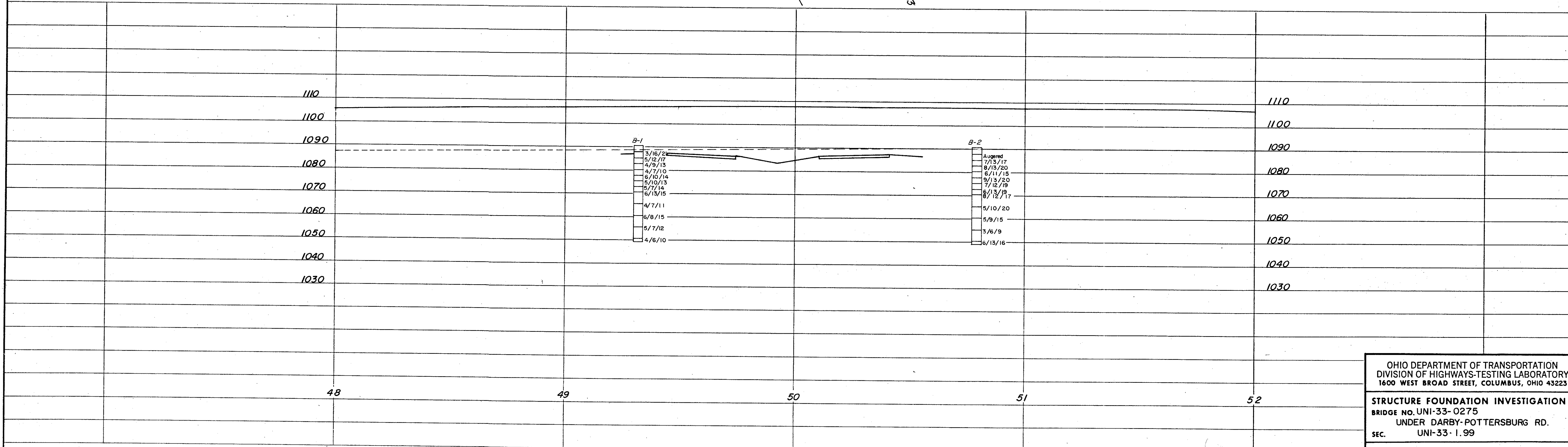
NOTE - ALL AVAILABLE SOIL AND BEDROCK INFORMATION WHICH CAN BE CONVENIENTLY SHOWN ON THE STRUCTURE FOUNDATION INVESTIGATION SHEETS HAS BEEN SO REPORTED. ADDITIONAL SUBSURFACE INVESTIGATIONS MAY HAVE BEEN MADE TO STUDY SOME SPECIAL ASPECT OF THE PROJECT. COPIES OF THIS DATA, IF ANY, MAY BE INSPECTED IN THE DISTRICT DEPUTY DIRECTOR'S OFFICE, THE BUREAU OF TESTS AT 1600 WEST BROAD STREET, THE PAVEMENT AND SOILS SECTION OF THE BUREAU OF LOCATION AND DESIGN OR IN THE BRIDGE BUREAU AT 25 SOUTH FRONT STREET.

NOTE: Information shown by this subsurface investigation was obtained solely for the use in establishing design controls for the project. The State of Ohio does not guarantee the accuracy of this data and it is not to be construed as a part of the plans governing construction of the project.

OHIO DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS - TESTING LABORATORY
1600 WEST BROAD STREET, COLUMBUS, OHIO 43223

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. UNI-33-0275
UNDER DARBY-POTTERSBERG RD.
SEC. UNI-33-199

CHECKED BY L.N.L. REVIEWED BY R. D. R. DATE 10/19/84



SCALE: 1" = 20'

OHIO DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS-TESTING LABORATORY
1600 WEST BROAD STREET, COLUMBUS, OHIO 43223

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. UNI-33-0275
UNDER DARBY-POTTERSBU RG RD.
SEC. UNI-33-1.99

PLAN AND PROFILE

DRAWN BY A.F.	CHECKED BY L. N. L.	REVIEWED BY R. D. R.	DATE 10/19/84
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MICROFILMED

OCT 5 1990

GENERAL INFORMATION

INTRODUCTION

THIS REPORT CONSISTS OF THE SOILS INVESTIGATION OF 8.78 MILES OF PROPOSED USR 33, BEGINNING AT THE LOGAN-UNION COUNTY LINE, EXTENDING EASTWARD TO MARYSVILLE AND TERMINATING AT THE USR 36-SR 4 AND USR 33 INTERCHANGE.

FOR SOIL PROFILES INCLUDED IN THIS REPORT SEE THE PROJECT INDEX ON THIS SHEET.

GEOLOGY AND OBSERVATIONS OF THE PROJECT

THE PROJECT IS LOCATED ON THE GLACIATED MISSISSIPPI VALLEY PLAIN, IN AN AREA WHERE THICK GLACIAL DRIFT OVERLIES DOLOMITE BEDROCK OF THE MONROE GROUP. SMALL FARM PONDS WERE OBSERVED IN THE VICINITIES USR 33 STATIONS 40+00, 140+00, 205+00 AND 444+00.

EXPLORATION

EXPLORATORY BORINGS WERE MADE BY MEANS OF TRUCK-MOUNTED MECHANICAL SOIL AUGER, BETWEEN AUGUST 14, 1984 AND NOVEMBER 27, 1984. INCLUDED IN THIS REPORT ARE LOGS OF BORINGS MADE FOR THE STRUCTURE FOUNDATION INVESTIGATIONS ON THE PROJECT.

INVESTIGATIONAL FINDINGS

MATERIALS ENCOUNTERED ON THE PROJECT WERE PREDOMINANTLY COMPRISED OF SILT CLAYS (A-6A AND A-6B) AND CLAYS (A-7-6), WITH SOME SANDY SILTS (A-4A) AND SILTS (A-4B), GENERALLY HAVING LOW MOISTURE CONTENTS AND MOISTURE CONTENTS IN THE LOWER PORTIONS OF THE PLASTIC RANGE.

WET MATERIALS WERE ENCOUNTERED AT USR 33 STATIONS 17+00, 22+50, STOKES ROAD STATIONS 50+00 AND 57+00, RAMP A STATION 42+00, DARBY-POTTERSBERG ROAD STATIONS 36+00, RAMP E 151+00, HOLYCROSS-EPPS ROAD STATION 48+75, RAMP U STATION 105+12 AND RAMP V STATION 465+00.

LEGEND FOR PROJECT AVERAGE RESULTS OF TESTS— 886 SAMPLES TESTED

DESCRIPTION	H.R.B. CLASS	OHIO CLASS	% AGG.	% C. SAND	% F. SAND	% SILT	% CLAY	LIQUID LIMIT	PLASTICITY INDEX	WATER CONTENT	SAMPLES TESTED
GRAVEL	A-1-A(0)	A-1-A	70	25	2	1	2	NP	NP	13	1
GRAVEL WITH SAND	A-1-B(0)	A-1-B	17	43	24	8	8	NP	NP	14	2
FINE SAND	A-3(0)	A-3	0	14	79	3	4	NP	NP	21	1
COARSE AND FINE SAND	A-3A(0)	A-3A	0	8	66	15	11	NP	NP	19	4
GRAVEL WITH SAND AND SILT	A-2-4(0)	A-2-4	47	11	8	17	17	26	9	11	1
SANDY SILT	A-4A(7)	A-4A	11	6	11	30	42	26	7	16	53
SILT	A-4B(8)	A-4B	1	1	16	58	24	NP	NP	20	8
SILT AND CLAY	A-6A(9)	A-6A	6	4	7	30	53	32	13	17	356
SILTY CLAY	A-6B(11)	A-6B	4	3	7	28	58	37	17	19	222
CLAY	A-7-6(15)	A-7-6	2	1	3	23	71	46	24	21	238
VARIOUS OTHER MATERIALS											

VISUAL CLASSIFICATION

||||| SOD AND/OR TOPSOIL = X± APPROXIMATE DEPTH.

XXXX BERM MATERIAL



AUGER BORING-PLAN VIEW



DRIVE SAMPLE BORING-PLAN VIEW



AUGER BORING PLOTTED TO VERTICAL SCALE ONLY.



DRIVE SAMPLE BORING PLOTTED TO VERTICAL SCALE ONLY.

NOTE: FIGURES BESIDE BORINGS INDICATE WATER CONTENT IN PERCENT. e.g.

● WATER CONTENT NEARLY EQUAL TO OR GREATER THAN LIQUID LIMIT.

⊕ INDICATES A NON-PLASTIC MATERIAL WITH A HIGH WATER CONTENT.

— FREE WATER



NUMBER OF BLOWS FOR "STANDARD PENETRATION" TEST.

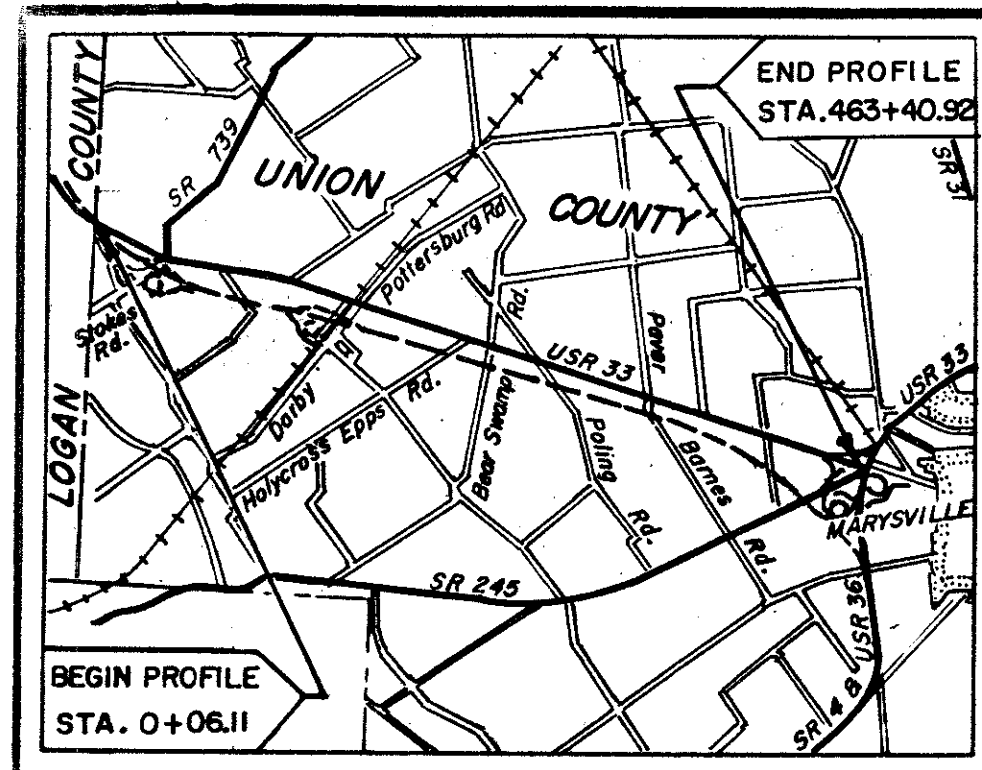
X = NUMBER OF BLOWS FOR FIRST 6 INCHES

Y = NUMBER OF BLOWS FOR SECOND 6 INCHES

Z = NUMBER OF BLOWS FOR THIRD 6 INCHES

ALL AVAILABLE SOIL AND BEDROCK INFORMATION WHICH CAN BE CONVENIENTLY SHOWN ON THE SOIL PROFILE FOUNDATION INVESTIGATION SHEETS HAS BEEN SO REPORTED. ADDITIONAL SUBSURFACE INVESTIGATION, SOIL TESTS, AND BEDROCK BORINGS MAY HAVE BEEN MADE TO STUDY SOME SPECIAL ASPECT OF THE PROJECT. COPIES OF THIS DATA, IF ANY, MAY BE INSPECTED IN THE DISTRICT DEPUTY DIRECTOR'S OFFICE, THE BUREAU OF TESTS AT 1600 WEST BROAD STREET, THE PAVEMENT AND SOILS SECTION OF THE BUREAU OF LOCATION AND DESIGN OR IN THE BRIDGE BUREAU AT 25 SOUTH FRONT STREET.

NOTE: INFORMATION SHOWN BY THIS SUBGRADE PROFILE WAS OBTAINED SOLELY FOR USE IN ESTABLISHING DESIGN CONTROLS FOR THE PROJECT. THE STATE OF OHIO DOES NOT GUARANTEE THE ACCURACY OF THIS DATA AND IT IS NOT TO BE CONSTRUED AS A PART OF THE PLANS GOVERNING CONSTRUCTION OF THE PROJECT.



LOCATION MAP

Recon - R.D.R. - 8/7/84 - 8/8/84

Drilling - C.E.G. - 8/14/84 - 9/20/84, 10/30/84 - 11/1/84, 11/26 & 27/84

Drafting - R.A.W. - 1/14/85

PROJECT INDEX

ALIGNMENT	PLAN VIEW SHEET	PROFILE SHEET	CUT MAX.	FILL EMB. MAX.
USR 33 (MAINLINE)				
0+06.11	32+00	5	6	14'
32+00	64+00	6	7	13'
64+00	96+00	7	8	4'
96+00	128+00	8	9	4'
128+00	160+00	9	10	5'
160+00	192+00	10	11	8'
192+00	224+00	11	12	5'
224+00	256+00	12	13	5'
256+00	288+00	13	14	9'
288+00	320+00	14	15	23'
320+00	352+00	15	16	21'
352+00	384+00	16	17	8'
384+00	416+00	17	18	22'
416+00	448+00	18	19	22'
448+00	463+40.92	19	20	12'
TEMPORARY CONNECTOR		5	5	3'
STOKES ROAD		20	21	25'
RAMP A		20	21	11'
RAMP B		20	21	12'
RAMP C		20	22	4'
RAMP D		20	22	11'
DARBY POTTERSBERG ROAD		23	24	18'
RAMP E		23	24	16'
RAMP F		23	24	10'
RAMP G		23	25	6'
RAMP H		23	25	17'
HOLYCROSS-EPPS ROAD		25	25	22'
BEAR SWAMP ROAD		25	25	15'
POLING ROAD		26	26	26'
RAMP N		17	28	10'
RAMP U		27	28	28'
RAMP V		27	29	27'
RAMP W		27	29	22'
RAMP X		27	29	6'
RAMP Y		27	29	15'

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OCT 5 1990

SOIL PROFILE

UNION COUNTY

UNI - 33 - 1.99

**OHIO STATE HIGHWAY TESTING
LABORATORY**
1600 W. BROAD ST. COLUMBUS, OHIO 43228

SUMMARY OF SOIL TEST DATA

NOTE: NP SHOWN IN LIQUID LIMIT AND PLASTICITY INDEX COLUMNS INDICATES THAT THE MATERIAL IS NON PLASTIC

* DENOTES SAMPLE TAKEN AT OR NEAR GRADE

STATION & OFFSET DEPTH											STATION & OFFSET DEPTH											STATION & OFFSET DEPTH											STATION & OFFSET DEPTH																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
STATION	DEPTH	%	%	%	%	%	L.L.	P.I.	%	SHTL	STATION	DEPTH	%	%	%	%	%	L.L.	P.I.	%	SHTL	STATION	DEPTH	%	%	%	%	%	L.L.	P.I.	%	SHTL	STATION	DEPTH	%	%	%	%	%	L.L.	P.I.	%	SHTL																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
FROM	TO	ACC	C.S.	F.S.	SILT	CLAY				CLASS	FROM	TO	ACC	C.S.	F.S.	SILT	CLAY			CLASS	FROM	TO	ACC	C.S.	F.S.	SILT	CLAY				CLASS	FROM	TO	ACC	C.S.	F.S.	SILT	CLAY			CLASS																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
10+50.000	CL 00.8-05.0	0	1	6	26	67	38	17	25	A-6B *	67+00.000	CL 00.8-05.0	0	1	2	22	75	50	27	22	A-7-6	145+00.080	RT 02.5-04.0	0	1	19	80	45	19	17	A-7-6	208+00.000	CL 00.8-05.0	9	4	6	26	55	32	14	20	A-6A *																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
	05.0-10.0	0	2	6	32	60	37	17	23	A-6B		05.0-10.0	0	0	0	27	73	51	28	20	A-7-6		05.0-06.5	0	0	0	21	79	44	19	19	A-7-6		05.0-10.0	9	1	4	25	70	61	42	17	A-7-6																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
	10.0-15.0	9	4	7	30	50	37	17	18	A-6B		10.0-15.0	1	2	5	32	60	32	14	20	A-6A		07.5-09.0	7	1	1	15	76	46	21	23	A-7-6		10.0-15.0	6	3	8	29	54	61	42	16	A-7-6																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
	15.0-20.0	11	3	8	34	44	31	13	16	A-6A		15.0-20.0	0	1	4	36	59	32	15	21	A-6A		10.0-11.5	0	2	3	14	81	46	21	21	A-7-6		15.0-20.0	0	0	0	24	76	39	18	22	A-6B																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
13+00.000	CL 00.8-05.0	8	2	5	29	56	35	16	16	A-6B *	72+00.000	CL 00.2-05.0	0	1	2	21	76	52	29	33	A-7-6		12.5-14.0	0	6	2	14	78	46	22	24	A-7-6	212+00.000	CL 00.8-05.0	0	1	5	33	61	40	12	22	A-6A																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
	05.0-10.0	11	5	6	28	50	32	13	18	A-6A		05.0-10.0	0	1	1	26	72	53	30	20	A-7-6		15.0-16.5	0	0	1	17	82	46	21	24	A-7-6		05.0-10.0	0	3	9	34	54	36	17	18	A-6B																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
	10.0-15.0	10	4	10	39	37	32	14	14	A-6A		10.0-15.0	8	1	6	23	62	35	14	18	A-6A		17.5-19.0	0	0	0	23	77	41	20	21	A-7-6		10.0-15.0	5	5	8	29	53	35	16	17	A-6B																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
	15.0-20.0	13	6	11	37	33	38	18	16	A-6B		15.0-20.0	0	1	7	24	68	34	16	20	A-6B		20.0-21.5	0	1	2	25	72	40	18	24	A-6B		15.0-20.0	0	4	7	29	60	35	16	18	A-6B																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
17+00.000	CL 00.8-05.0	0	2	9	35	54	NP	NP	22	A-4A	75+85.070	LT 00.8-05.0	0	1	3	20	76	53	30	20	A-7-6		25.0-26.5	0	1	1	24	74	39	17	23	A-6B	216+00.000	CL 00.8-05.0	0	1	5	25	69	40	17	19	A-6B																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
	05.0-10.0	0	4	12	32	52	33	12	24	A-6A		05.0-10.0	0	0	0	27	73	53	33	21	A-7-6		30.0-31.0	0	0	0	28	72	34	14	21	A-6A		05.0-10.0	0	3	6	31	60	37	15	18	A-6A																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
	10.0-13.0	20	4	10	34	32	32	11	16	A-6A		10.0-15.0	12	3	6	21	58	53	33	18	A-7-6		35.0-36.0	0	1	3	29	67	35	18	20	A-6B		10.0-15.0	6	3	7	28	56	37	16	20	A-6B																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
	13.0-20.0	20	8	11	33	28	35	17	13	A-6B		15.0-20.0	0	5	11	32	52	35	17	17	A-6B		40.5-41.5	7	2	4	26	61	35	15	21	A-6A		15.0-20.0	9	3	5	29	54	40	18	19	A-6B																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
21+00.000	CL 00.8-05.0	14	1	6	28	51	34	14	26	A-6A	80+00.000	CL 00.2-05.0	13	1	8	23	55	117	97	13	A-7-6		00.8-05.0	0	0	0	1	25	74	46	22	20	A-7-6 *	220+00.000	CL 00.8-02.0	30	9	11	23	27	30	12	12	A-6A																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
	05.0-10.0	18	3	14	30	35	35	16	24	A-6B		05.0-10.0	0	1	1	18	80	44	21	18	A-7-6		05.0-10.0	0	0	0	0	21	79	45	23	19	A-7-6 *		02.0-04.0	26	15	11	21	27	29	12	12	A-6A																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
	10.0-15.0	11	9	16	36	28	NP	NP	13	A-4A		10.0-15.0	0	1	2	25	72	44	22	18	A-7-6		10.0-15.0	0	3	6	25	66	38	16	20	A-6B *		04.0-05.0	8	25	19	22	26	30	14	18	A-6A																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
	15.0-20.0	16	5	10	36	33	34	17	13	A-6B		15.0-20.0	0	1	1	18	80	44	21	18	A-7-6		15.0-20.0	0	2	2	22	74	46	23	26	A-7-6		05.0-10.0	6	3	6	33	52	34	14	17	A-6A																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
22+50.080	LT 02.5-04.0	7	4	13	35	41	33	11	14	A-6A	82+00.000	CL 00.2-05.0	0	2	7	26	65	38	18	14	A-6B		00.8-05.0	0	1	5	27	67	40	18	22	A-6B *	224+00.000	CL 00.8-05.0	8	6	11	35	40	34	14	12	A-6A																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
	05.0-06.5	13	8	13	32	34	26	9	10	A-4A		05.0-10.0	0	1	2	25	72	44	22	18	A-7-6		05.0-10.0	0	3	6	25	66	38	16	19	A-6B		05.0-10.0	0	3	6	35	56	30	10	17	A-4A																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
	07.5-09.0	15	9	12	31	33	25	9	11	A-4A		10.0-15.0	8	5	7	25	55	30	12	16	A-6A		10.0-15.0	7	3	7	26	57	37	16	19	A-6B		10.0-15.0	8	4	7	31	50	40	17	19	A-6B																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
	10.0-11.5	0	8	13	36	43	-	-	11	-		15.0-20.0	0	2	6	32	60	33	15	19	A-6A		15.0-20.0	14	3	6	26	51	45	22	19	A-7-6		15.0-20.0	0	3	6	35	56	30	10	17	A-4A																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
										VISUAL		15.0-20.0	0	1	1	18	80	44	21	18	A-7-6																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			

*DENOTES SAMPLE TAKEN AT OR NEAR GRADE

STOKES ROAD

SUMMARY OF SOIL TEST DATA
NOTE: NP SHOWN IN LIQUID LIMIT AND PLASTICITY INDEX COLUMNS INDICATES THAT THE MATERIAL IS NON PLASTIC

* DENOTES SAMPLE TAKEN AT OR NEAR GRADE

STATION & OFFSET DEPTH
FROM TO% % % % %
AGG C.S. F.S. SILT CLAY L.L. P.I. W.C. CLASSSTATION & OFFSET DEPTH
FROM TO% % % % %
AGG C.S. F.S. SILT CLAY L.L. P.I. W.C. CLASSSTATION & OFFSET DEPTH
FROM TO% % % % %
AGG C.S. F.S. SILT CLAY L.L. P.I. W.C. CLASS

DARBY-POTTERSBERG ROAD

RAMP H

RAMP U

32+00.012 LT	00.3-05.0	0	2	5	26	67	45	21	22	A-7-6 *
	05.0-10.0	0	0	1	26	73	45	25	20	A-7-6
	10.0-15.0	0	1	2	20	77	45	26	24	A-7-6
	15.0-20.0	0	1	1	20	78	46	26	23	A-7-6
	20.0-25.0	0	0	1	25	74	45	23	24	A-7-6
36+00.038 RT	00.5-05.0	2	3	7	35	53	45	25	16	A-7-6
	05.0-10.0	0	1	3	23	73	46	25	29	A-7-6
	10.0-15.0	3	1	2	22	72	40	17	24	A-6B
	15.0-20.0	0	0	0	21	79	41	18	25	A-7-6
	20.0-25.0	0	0	20	61	19	NP	NP	25	A-6B
	25.0-28.0	0	0	24	52	24	30	15	22	A-6A
	28.0-30.0	0	0	2	21	77	30	12	32	A-6A
41+00.040 RT	00.5-05.0	0	1	5	19	75	43	21	21	A-7-6
	05.0-10.0	0	1	2	20	77	43	21	17	A-7-6
	10.0-15.0	0	1	1	24	74	43	21	20	A-7-6
	15.0-20.0	3	3	3	24	67	43	20	23	A-7-6
	20.0-25.0	3	3	7	34	53	28	9	18	A-4A
45+00.040 RT	00.5-05.0	4	2	2	17	75	55	29	25	A-7-6
	05.0-10.0	0	1	4	21	74	56	33	24	A-7-6
	10.0-15.0	0	1	1	22	76	39	18	22	A-6B
	15.0-20.0	0	0	0	26	74	41	21	20	A-7-6
	20.0-25.0	0	1	3	27	69	40	20	20	A-6B
53+00.040 RT	00.2-05.0	0	3	2	28	67	46	24	19	A-7-6
	05.0-10.0	0	0	1	18	81	46	24	20	A-7-6
	10.0-15.0	0	3	2	19	76	47	25	22	A-7-6
	15.0-20.0	0	1	1	17	81	46	23	24	A-7-6
	20.0-25.0	0	2	1	26	71	47	26	23	A-7-6
57+00.040 RT	00.5-05.0	4	1	1	17	77	58	30	28	A-7-6
	05.0-10.0	3	1	6	24	66	39	18	19	A-6B
	10.0-15.0	0	0	0	24	76	40	17	21	A-6B
	15.0-20.0	0	0	0	41	59	40	20	22	A-6B
	20.0-25.0	4	0	0	28	68	35	15	22	A-6A

RAMP E

151+00.000 BL	00.8-05.0	0	0	1	19	80	51	25	29	A-7-6
	05.0-10.0	0	1	3	37	59	51	29	34	A-7-6
	10.0-15.0	0	2	3	27	68	43	21	22	A-7-6
	15.0-20.0	0	0	0	30	70	42	19	—	A-7-6
	20.0-25.0	13	1	3	25	58	NP	NP	21	A-4A

154+00.000 BL	00.8-05.0	0	1	4	25	70	45	20	24	A-7-6 *
	05.0-10.0	0	1	5	28	66	45	23	23	A-7-6 *
	10.0-15.0	9	1	4	28	58	32	14	22	A-6A
	15.0-20.0	7	3	9	34	47	32	14	20	A-6A
	20.0-25.0	11	2	6	30	51	32	13	19	A-6A

RAMP F

131+00.000 BL	00.2-05.0	0	0	3	23	74	51	29	22	A-7-6 *
	05.0-10.0	0	1	1	19	79	43	23	24	A-7-6
	10.0-15.0	0	0	0	22	78	43	23	22	A-7-6
	15.0-20.0	0	0	1	22	77	44	25	25	A-7-6

135+00.000 BL	00.8-05.0	0	1	2	28	69	44	22	15	A-7-6 *
	05.0-10.0	0	0	0	30	70	45	23	19	A-7-6
	10.0-15.0	0	0	0	25	75	45	23	24	A-7-6
	15.0-20.0	0	3	2	21	74	45	23	25	A-7-6

139+00.000 BL	00.8-05.0	0	1	3	28	68	46	27	20	A-7-6 *
	05.0-10.0	0	2	5	32	61	46	26	18	A-7-6
	10.0-15.0	0	0	1	26	73	37	18	20	A-6B
	15.0-20.0	0	2	5	30	63	36	17	21	A-6B

140+50.075 RT	00.2-05.0	0	0	1	21	78	46	25	38	A-7-6
	05.0-10.0	0	0	1	24	75	46	25	21	A-7-6
	10.0-15.0	0	0	0	19	81	46	26	25	A-7-6
	15.0-20.0	0	0	0	30	70	34	17	24	A-6B
	20.0-25.0	0	3	7	33	57	34	17	20	A-6B
	25.0-30.0	0	2	5	31	62	34	17	22	A-6B

RAMP G

134+00.000 BL	00.8-05.0	10	3	7	32	48	34	16	11	A-6B *
	05.0-10.0	10	4	9	35	42	34	16	11	A-6B
	10.0-15.0	0	0	0	22	78	44	23	22	A-7-6
	15.0-20.0	0	0	0	24	76	44	22	25	A-7-6

140+00.000 BL	00.8-05.0	0	1	7	28	64	41	22	14	A-7-6
	05.0-10.0	0	0	1	29	70	40	19	17	A-6B
	10.0-15.0	0	0	0	24	76	59	43	22	A-7-6
	15.0-20.0	0	0	1	21	78	48	25	25	A-7-6
	20.0-25.0	0	1	1	27	71	40	20	22	A-6B
144+00.000 BL	00.3-05.0	0	0	2	23	75	49	28	20	A-7-6
	05.0-10.0	9	1	1	22	67	49	28	22	A-7-6
	10.0-15.0	0	0	0	24	76	42	23	22	A-7-6
	15.0-20.0	0	0	0	27	73	37	17	20	A-6B
	20.0-25.0	0	1	3	27	69	37	17	23	A-6B

HOLYCROSS-EPPS ROAD

41+00.012 RT	00.5-05.0	4	4	6	27	59	37	15	18	A-6A *
	05.0-10.0	6	3	6	27	58	34	13	17	A-6A
	10.0-15.0	6	4	6	26	58	33	12	18	A-6A
	15.0-20.0	7	3	7	30	53	29	11	16	A-6A
45+00.012 RT	00.5-05.0	4	4	7	28	57	38	18	18	A-6B
	05.0-10.0	3	3	7	31	56	38	18	16	A-6B
	10.0-15.0	0	1	1	26	72	38	18	23	A-6B
	15.0-20.0	4	4	2	30	60	38	16	20	A-6B
48+75.015 LT	02.5-04.0	0	3	8	27	62	38	16	26	A-6B
	05.0-06.5	0	2	6	27	65	40	22	20	A-6B
	07.5-09.0	10	3	7	29	51	40	23	22	A-6B
	10.0-11.5	0	3	8	32	57	34	12	15	A-6A
	12.5-14.0	8	3	7	30	52	33	11	18	A-6A
	15.0-16.5	15	3	7	28	47	35	14	19	A-6A
	17.5-19.0	13	3	7	30	47	35	15	17	A-6A
	20.0-21.5	6	3	7	29	55	32	12	21	A-6A
	25.0-26.5	14	3	6	28	49	32	12	18	A-6A
	30.0-31.5	0	3	7	33	57	30	11	16	A-6A
	35.0-36.5	0	5	1	26	68	28	10	29	A-4A
	40.0-41.5	18	7	10	33	32	28	11	14	A-6A
53+00.012 RT	00.5-06.0	7	4	8	22	59	36	16	20	A-6B
	05.0-10.0	5	3	6	26	60	36	17	17	A-6B
	10.0-15.0	0	4	7	31	58	36	17	17	A-6B
	15.0-20.0	5	6	9	28	52	36	17	18	A-6B

BEAR SWAMP ROAD

48+00.012 LT	00.5-04.0	27	7	10	24	32	33	12	18	A-6A *
	04.0-09.0	7	5	8	27	53	34	14	17	A-6A *
	09.0-15.0	7	4	8	27	54	33	14	16	A-6A
	15.0-20.0	7	4	8	28	53	33	15	26	A-6A
56+00.012 LT	00.5-05.0	6	5	8	29	52	35	15	16	A-6A *
	05.0-10.0	3	4	7	27	59	35	15	18	A-6A
	10.0-15.0	5	4	8	29	54	35	16	17	A-6B
	15.0-20.0	4	6	8	29	53	36	16	20	A-6B

POLING ROAD

43+00.012 LT	00.5-05.0	6	5	7	28	54	34	14	12	A-6A *
	05.0-10.0	5	5	8	30	52	33	13	15	A-6A
	10.0-15.0	5	6	8	31	50	35	16	19	A-6B
	15.0-20.0	6	4	8	29	53	35	16	17	A-6B

48+65.015 LT	02.5-04.0	4	4	8	29	55	32	13	12	A-6A
	05.0-06.5	4	4	8	27	57	31	11	14	A-6A
	07.5-09.0	5	4	8	29	54	34	13	17	A-6A
	10.0-11.5	5	4	8	27	56	33	13	16	A-6A
	12.5-14.0	9	5	8	27	51	34	15	16	A-6A
	15.0-16.5	9	7	9	25	50	34	15	17	A-6A
	17.5-19.0	8	5	8	27	52	31	12	15	A-6A
	20.0-21.5	19	6	10	23	42	31	12	18	A-6A
	25.0-26.5	6	4	8	29	53	29	12	18	A-6A
	30.0-31.5	7	5	9	28	51	29	12	17	A-6A
	35.0-36.5	8	4	8	31	49	29	12	17	A-6A
	40.0-41.5	8	4	9	30	49	28	10	15	A-4A

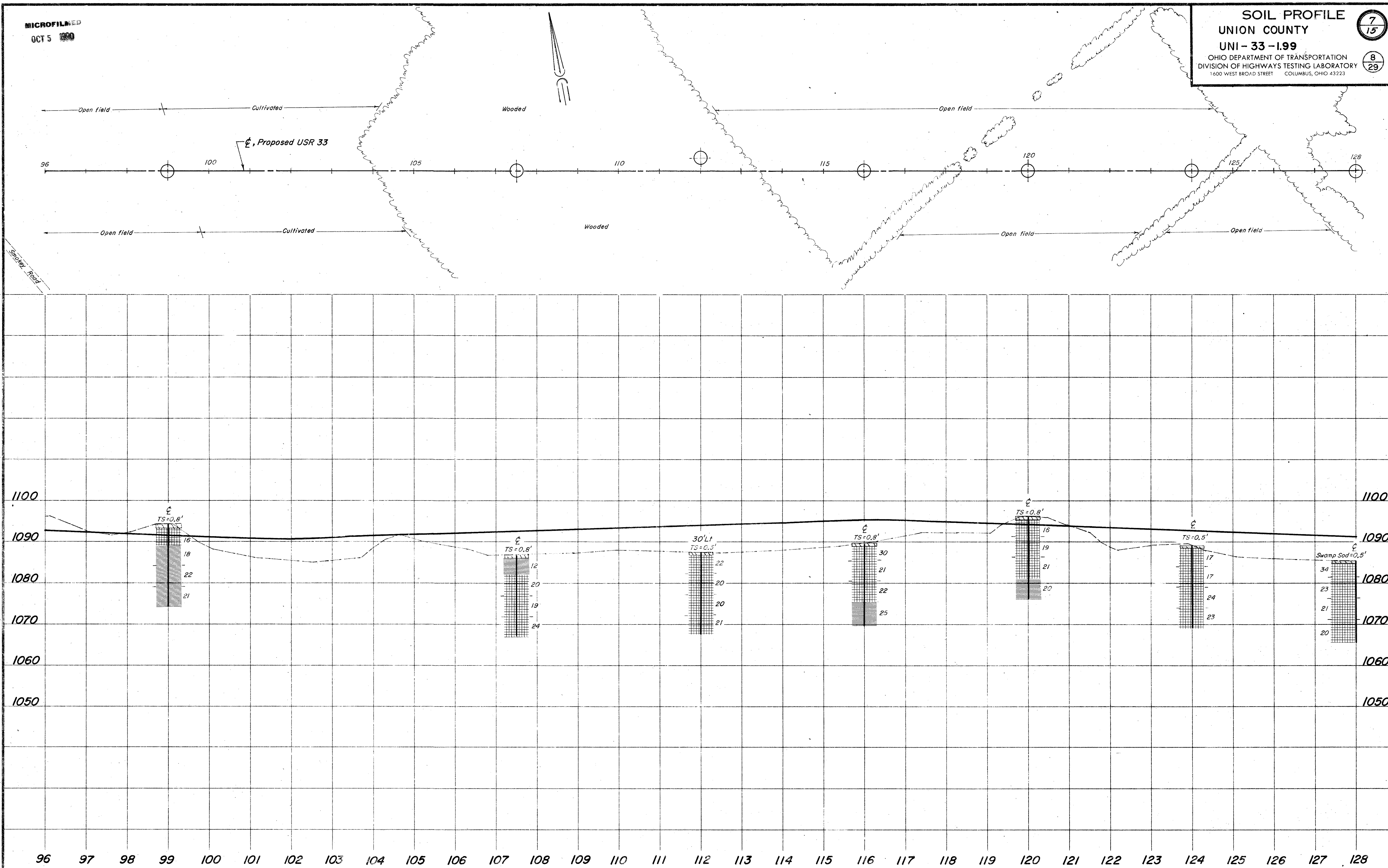
51+48.015 LT	02.5-04.0	4	5	9	32	50	32	12	16	A-6A
	05.0-06.5	6	5	8	30	51	32	13	13	A-6A
	07.5-09.0	4	5	9	28	54	31	12	15	A-6A
	10.0-11.5	7	5	8	27	53	31	12	16	A-6A
	12.5-14.0	5	9	9	32	45	31	12	18	A-6A
	15.0-16.5	5	7	8	34	46	31	12	19	A-6A
	17.5-19.0	8	5	8	29	50	31	12	24	A-6A
	20.0-21.5	14	4	7	31	44	29	11	19	A-6A
	25.0-26.5	9	6	9	29	47	29	12	15	A-6A
58+00.012 LT	30.0-31.5	7	4	6	29	54	29	12	20	A-6A
	35.0-36.5	12	5	7	30	46	29	12	12	A-6A
	40.0-41.5	10	5	8	30	47	29	12	20	A-6A
	00.5-05.0	0	2	8	28	62	35	16	21	A-6B
	05.0-10.0	10	2	7	26	55	41	21	22	A-7-6
	10.0-15.0	7	5	8	30	50	33	14	16	A-6A
	15.0-20.0	6	4	7	29	54	33	14	16	A-6A
	20.0-25.0	0	0	0	31	69	32	14	21	A-6A
	25.0-30.0	0	0	0	34	66	33	14	23	A-6A

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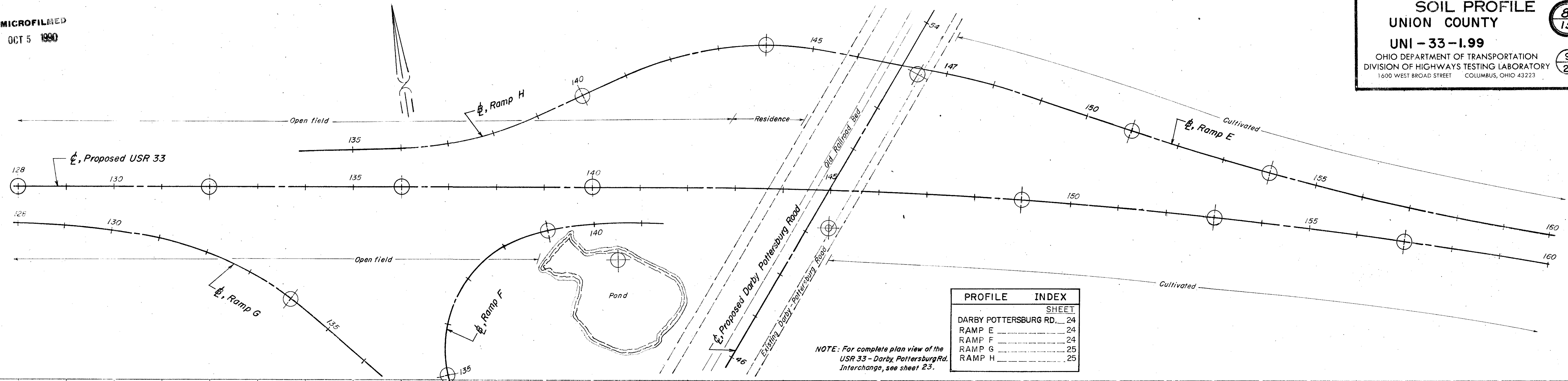
SOIL PROFILE
UNION COUNTY
UNI - 33 - 1.99
OHIO DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS TESTING LABORATORY
1600 WEST BROAD STREET COLUMBUS, OHIO 43223

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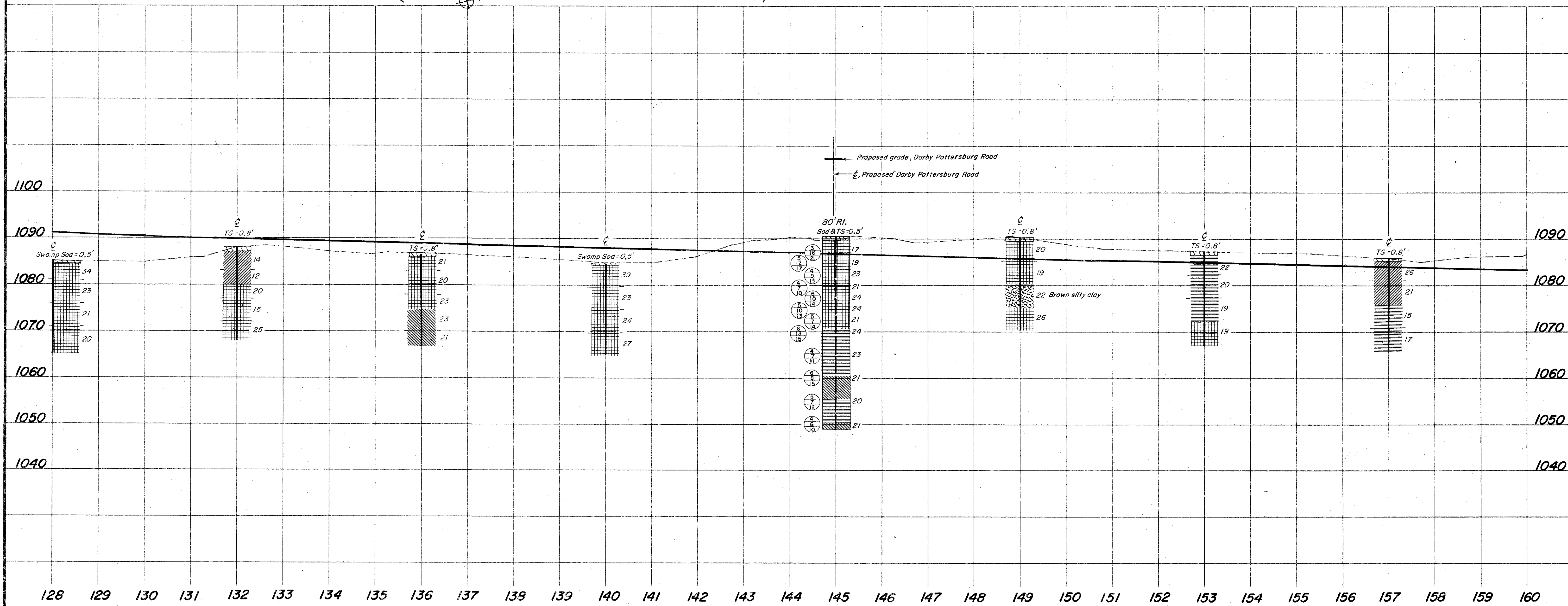


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PROFILE	INDEX
DARBY POTTERSBURG RD.	24
RAMP E	24
RAMP F	24
RAMP G	25
RAMP H	25

NOTE: For complete plan view of the USR 33 - Darby Pottersburg Rd. Interchange, see sheet 23.

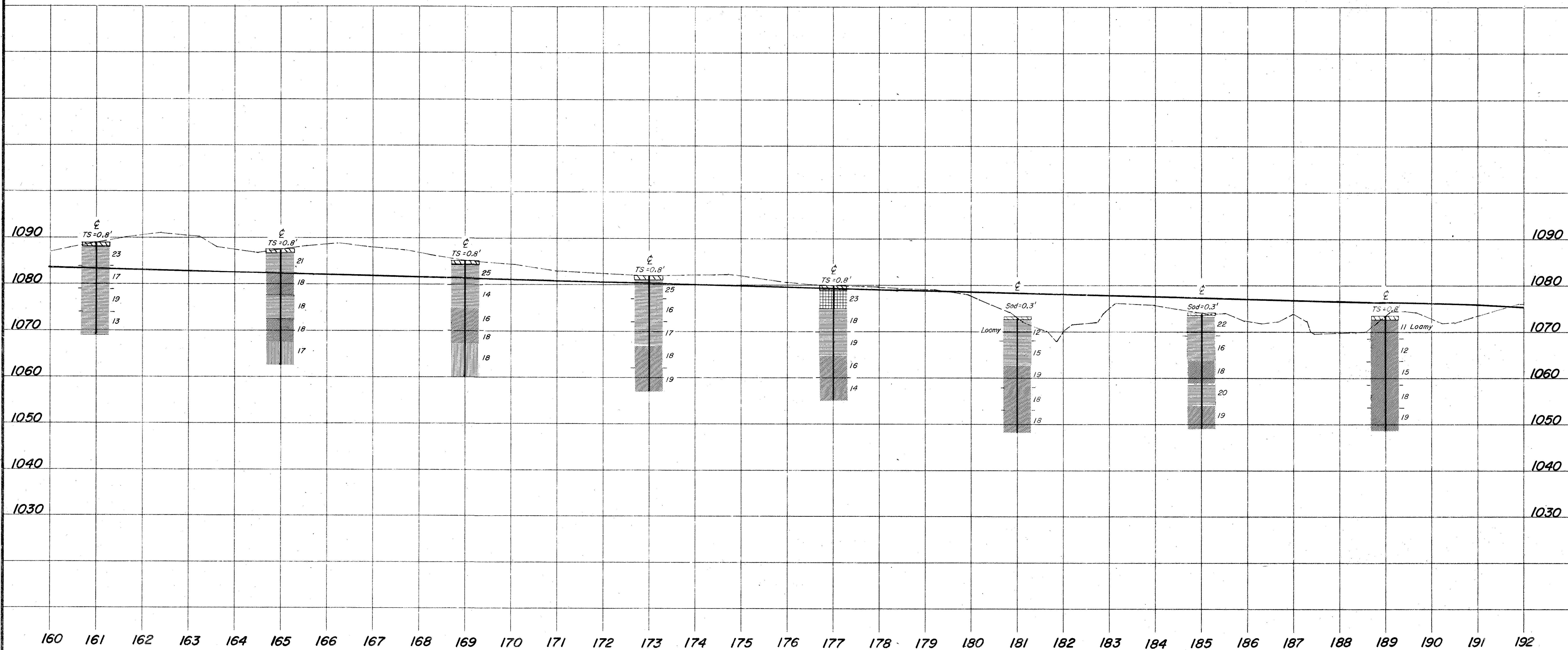
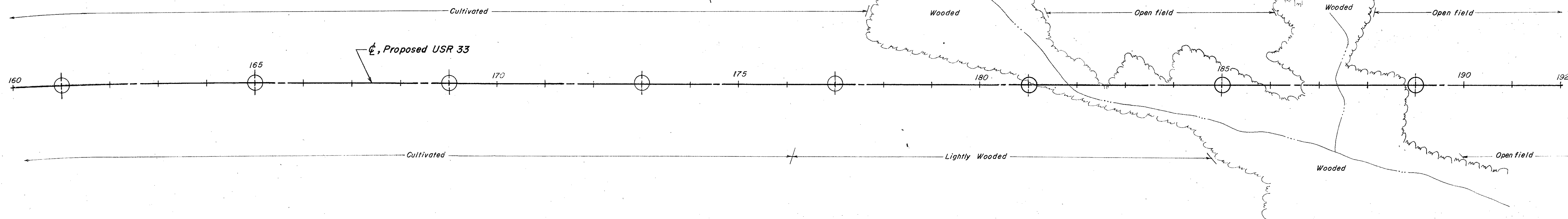


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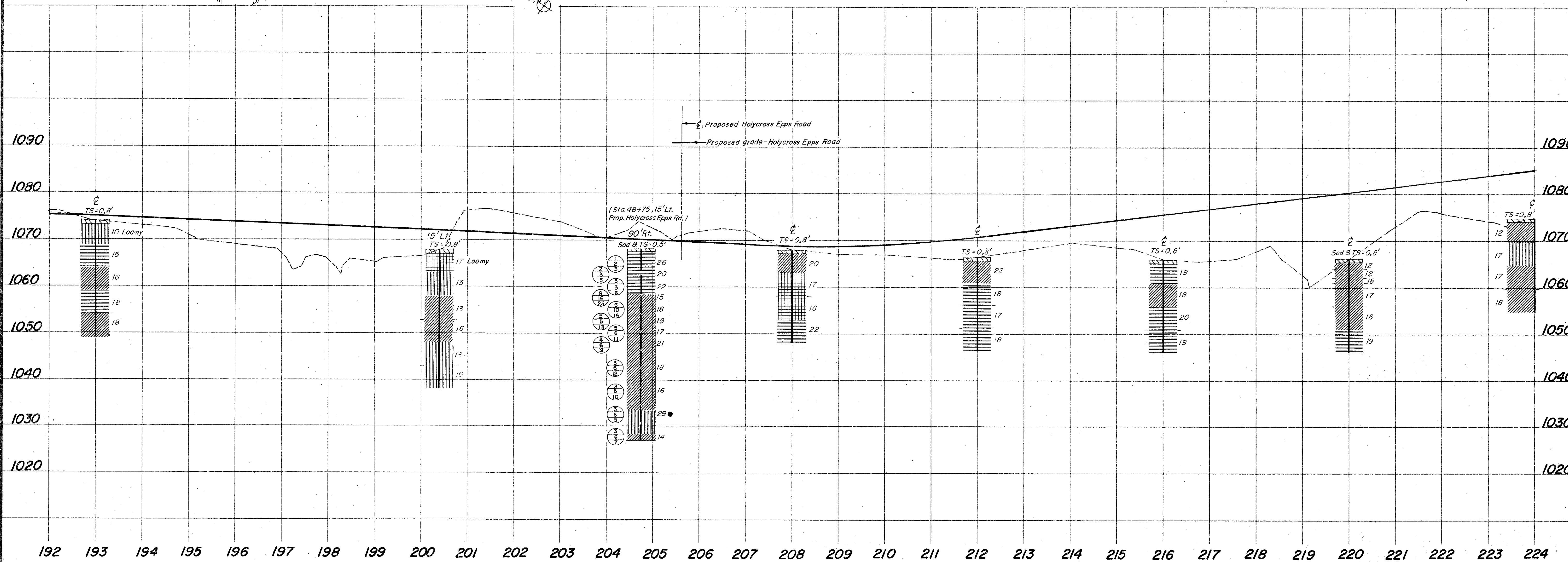
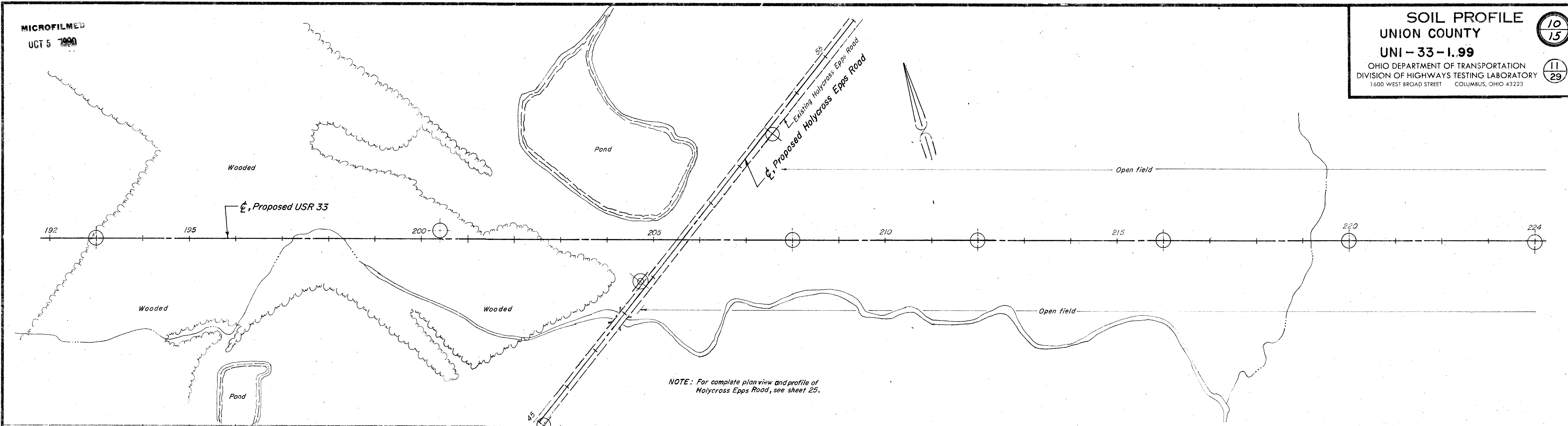


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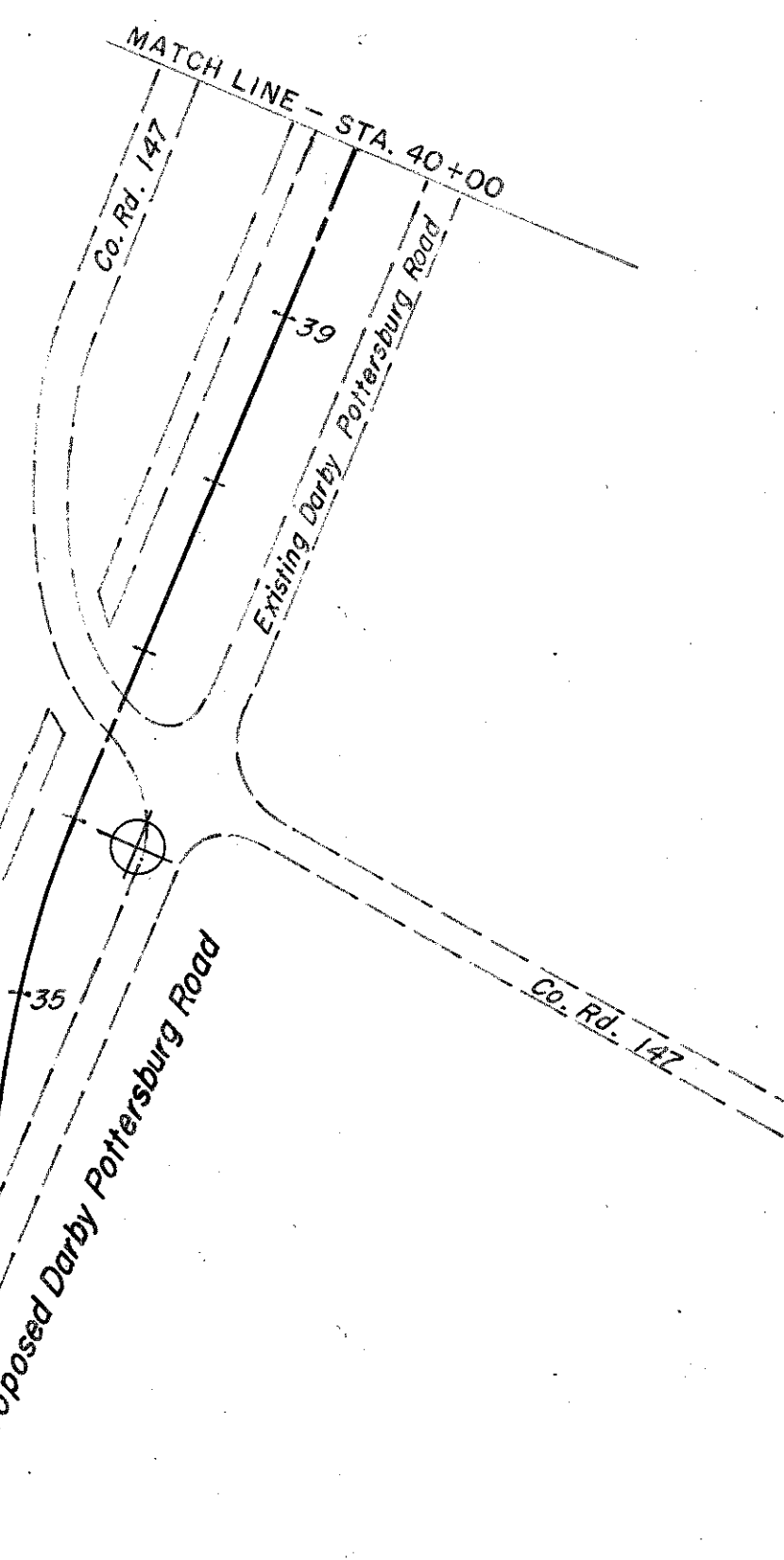
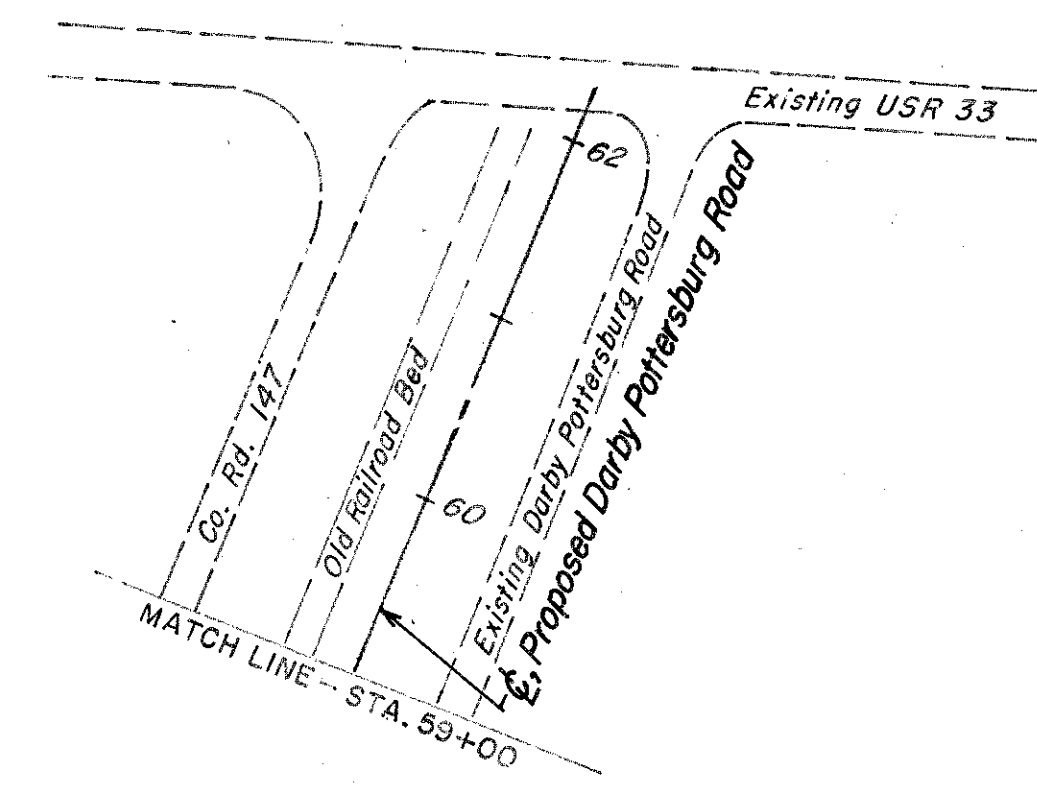
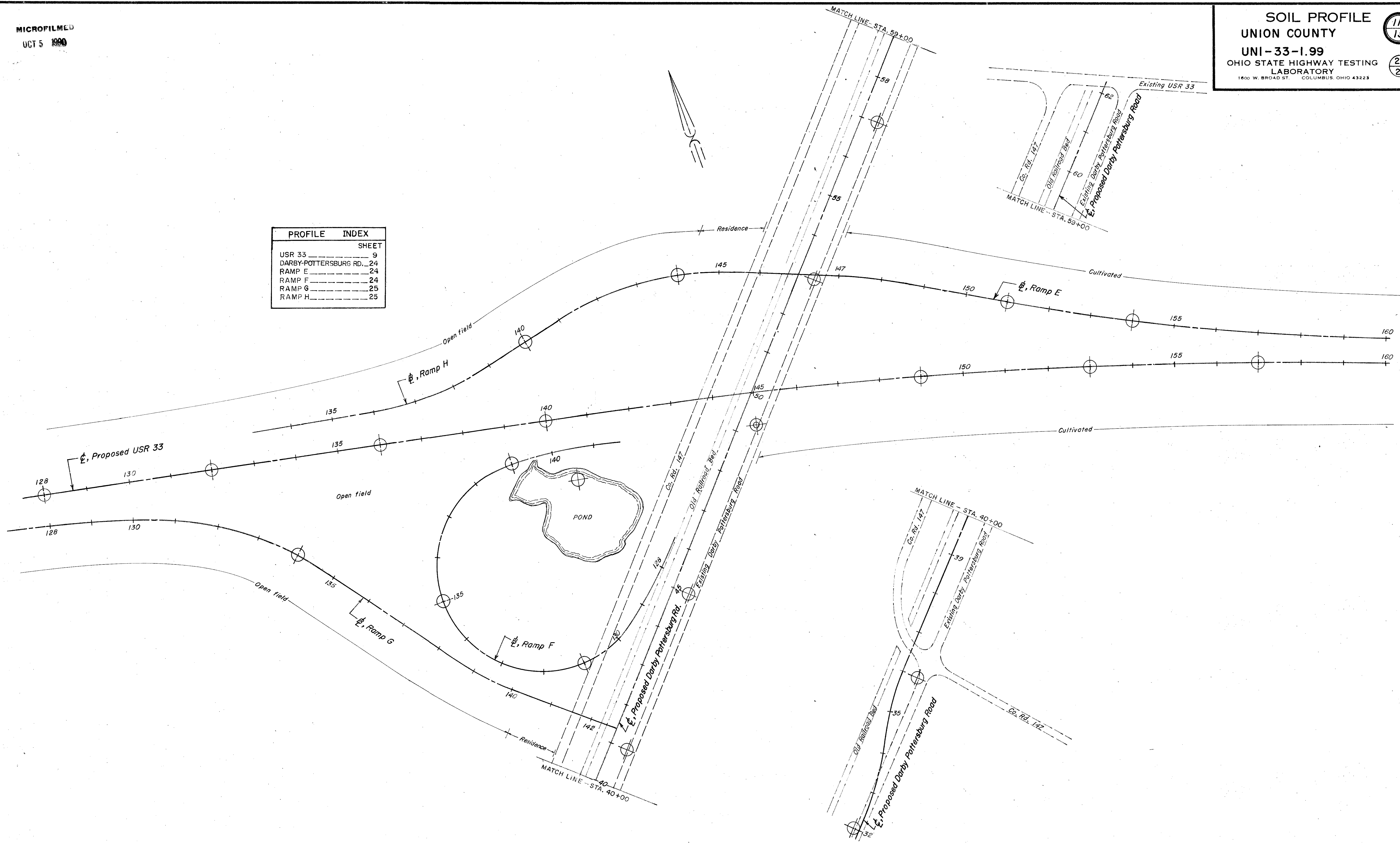
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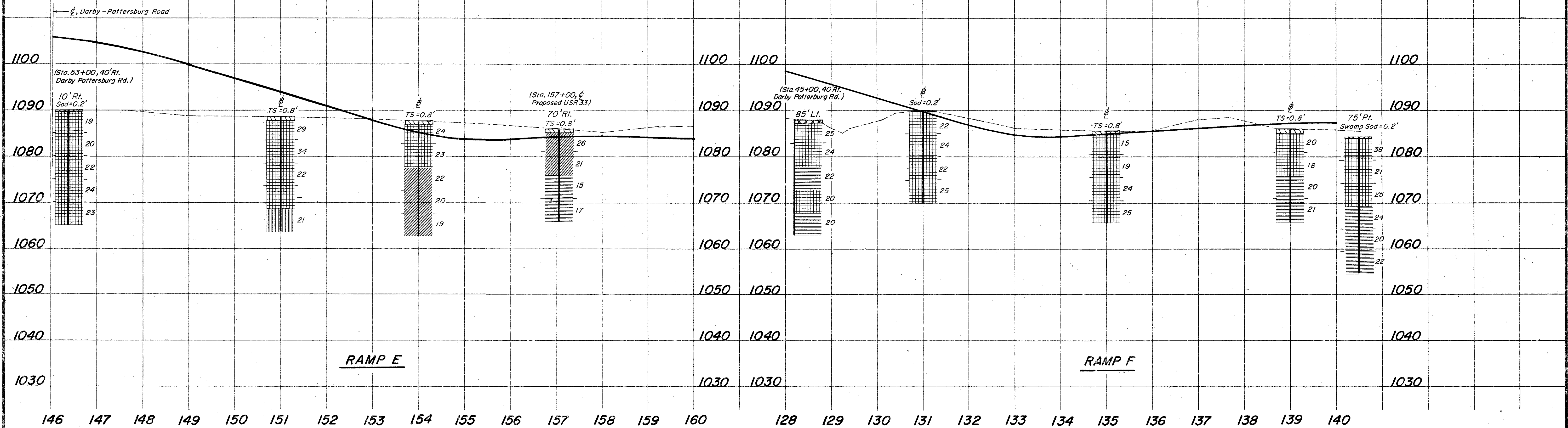
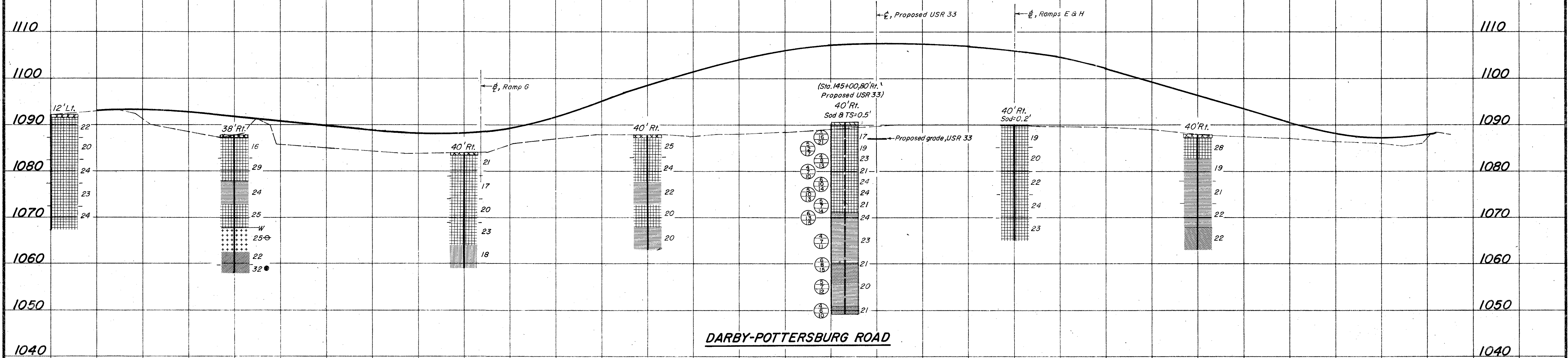
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UNION COUNTY
UNI-33-1.99
OHIO STATE HIGHWAY TESTING
LABORATORY
1600 W. BROAD ST. COLUMBUS, OHIO 43223

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PROFILE	INDEX	SHEET
USR 33		9
DARBY-POTTSBURG RD.		24
RAMP E		24
RAMP F		24
RAMP G		25
RAMP H		25



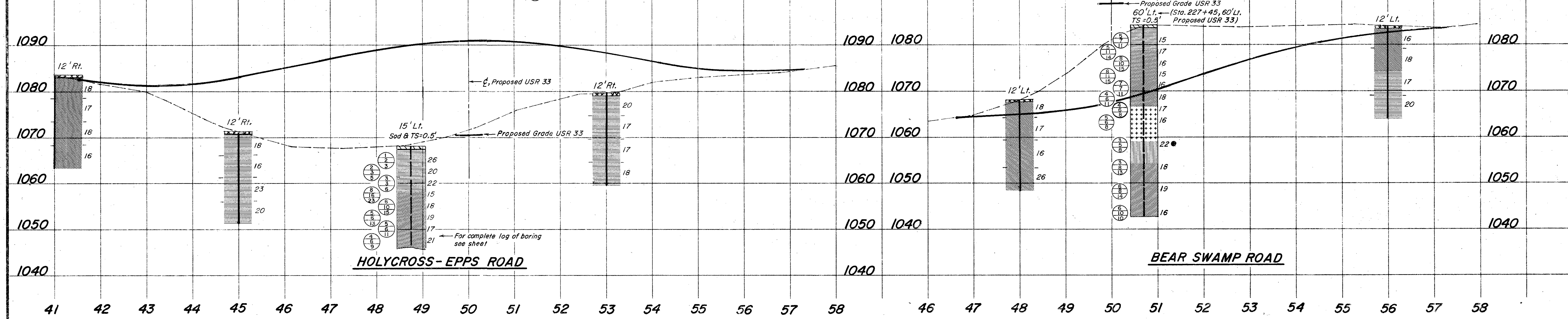
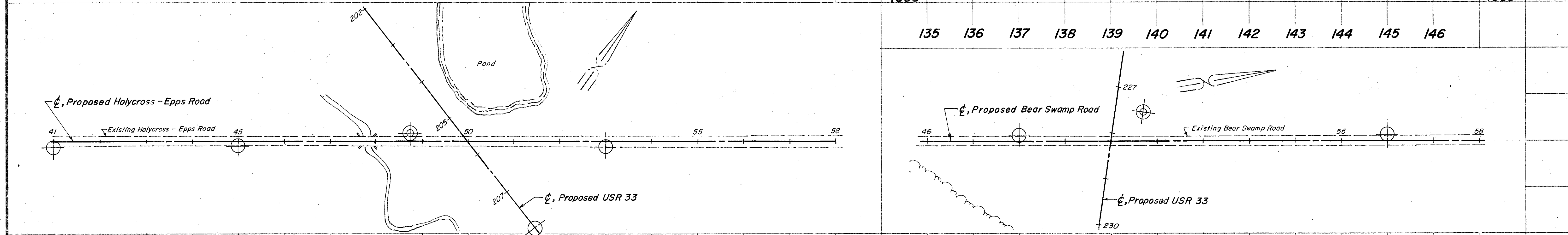
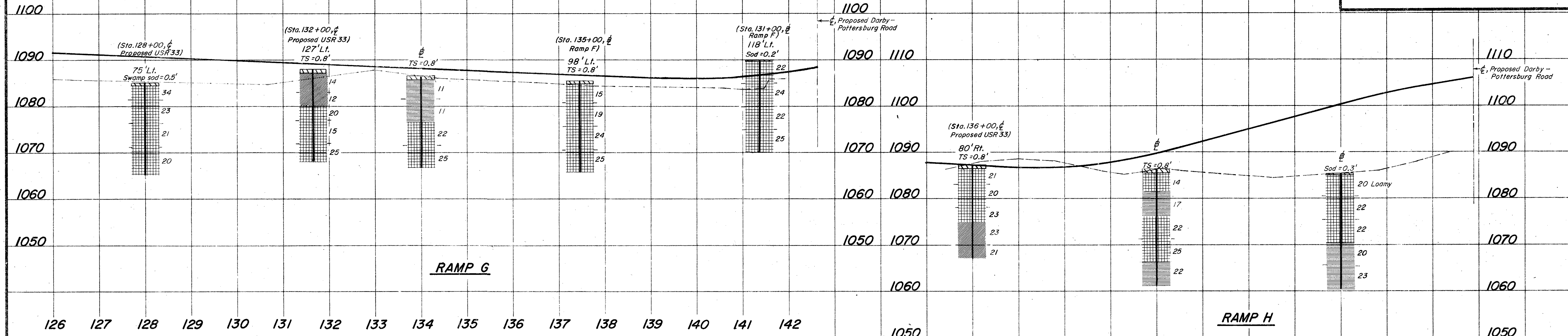


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GEOLOGY OF THE SITE

THE STRUCTURE SITE IS LOCATED IN THE GENTLY ROLLING GLACIATED PORTION OF THE MISSISSIPPI VALLEY PLAIN REGION, IN AN AREA WHERE EXTREMELY DEEP GLACIAL-DERIVED MATERIAL OVERLIES BEDROCK, OF THE MONROE FORMATION.

EXPLORATION

THE EXPLORATION CONSISTED OF TWO DRIVE SAMPLE BORINGS MADE BY MEANS OF A MECHANICALLY-POWERED HOLLOW STEM AUGER MOUNTED ON A MOBILE PLATFORM, PERFORMED ON OCTOBER 1 AND 2, 1984.

INVESTIGATIONAL FINDINGS AND OBSERVATIONS

THE BORINGS ENCOUNTERED INTERVALS OF LOOSE TO DENSE UNSTRATIFIED BASIC SILTS AND CLAYS MODIFIED WITH SAND, GRAVEL AND VARYING AMOUNTS OF EACH OTHER THAT GRADUALLY INCREASE (ERRATIC AT TIMES) IN DENSITY WITH INCREASE IN DEPTH. BORING B-1 (IN THE GENERAL VICINITY OF THE REAR ABUTMENT) PENETRATED TO A DEPTH OF 41.5 FEET, ELEVATION 1026.5 FEET AND WAS TERMINATED AFTER PENETRATING IN EXCESS OF 21.5 FEET OF MATERIAL REQUIRING 13 OR MORE BLOWS PER FOOT IN THE STANDARD PENETRATION TEST. BORING B-2 (IN THE GENERAL VICINITY OF THE FORWARD ABUTMENT) PENETRATED TO A DEPTH OF 41.5 FEET, ELEVATION 1034.5 FEET AND WAS TERMINATED AFTER PENETRATING IN EXCESS OF 16.5 FEET OF MATERIAL REQUIRING 16 OR MORE BLOWS PER FOOT IN THE STANDARD PENETRATION TEST.

BEDROCK SURFACE WAS NOT ENCOUNTERED IN EITHER OF THE TEST BORINGS PERFORMED.

NO FREE WATER OBSERVATIONS WERE MADE IN EITHER OF THE TEST BORINGS PERFORMED, DURING OR AT THE CONCLUSION OF DRILLING OPERATIONS.

-  Auger Boring Location - Plan View.
-  Press and/or Drive Sample and/or Core Boring Location - Plan View.
-  Drive Rod Penetration Resistance Sounding Location - Plan View.
-  Capped Pile
-  Footing
-  Footing on Pile
-  Top of Rock

LEGEND

-  Horizontal Bar on Boring Log Indicates the Depth the Sample Was Taken.
-  Figures Beside the Boring Log in Profile Indicate the Number of Blows for Standard Penetration Test.
X = Number of Blows for First 6 inches.
Y = Number of Blows for Second 6 inches.
Z = Number of Blows for Third 6 inches.
-  Drive Rod Penetration Resistance Sounding Log - Profile
-  Casing
-  Resistance "R" < 10,000 lbs.
-  Resistance "R" > 10,000 lbs.
-  Indicates Final Measurement of Penetration, in Inches.
-  Indicates Free Water Elevation.
-  Indicates Static Water Elevation.

SYMBOLS OF ROCK TYPES

-  Coal
-  Weathered Mudstone or Claystone
-  Mudstone or Claystone
-  Weathered Shale
-  Shale
-  Weathered Siltstone
-  Siltstone
-  Weathered Sandstone
-  Sandstone
-  Leached Dolomite
-  Dolomite
-  Leached Limestone
-  Limestone
-  Boulders or Cobbles

Particle Size Definitions
 2.0mm 0.42mm 0.075mm 0.005mm
 Boulders Cobbles Gravel Coarse Sand Fine Sand Silt Clay
 No. 10 sieve No. 40 sieve No. 200 sieve

LOG OF BORING														
Date Started 10-1-84			Sampler Type SS			Dia. 1 3/8"			Water Elev.					
Date Completed 10-1-84			Casing Length			Dia.								
Boring No. B-1			Station & Offset 48+75			15' LT. (REAR ABUTMENT)			Surface Elev. 1068.0'					
Elev.	Depth	Std. Pen. (N)	Rec. Loss ft.	Description	Sample No.	% Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	SHTL Class.
1068.0	0			TOPSOIL AND SOD										
1067.5	2													
1065.5	4	1/2/3		BROWN GRAY SILTY CLAY	1	0	3	8	27	62	38	16	26	A-6b
1063.0	6	2/3/5		BROWN-GRAY CLAY	2	0	2	6	27	65	40	22	20	A-6b
1060.5	8	3/3/6		BROWN SANDY CLAY	3	10	3	7	29	51	40	23	22	A-6b
1058.0	10	8/16/23		GRAY-BROWN SANDY CLAY	4	0	3	8	32	57	34	12	15	A-6a
1055.5	12	6/10/15		BROWN SILT AND CLAY	5	8	3	7	30	52	33	11	18	A-6a
1053.0	14	5/6/13		BROWN GRAVELLY CLAY	6	15	3	7	28	47	35	14	19	A-6a
1050.5	16	5/6/11		BROWN GRAVELLY CLAY	7	13	3	7	30	47	35	15	17	A-6a
1048.0	18	4/6/9		GRAY SILT AND CLAY	8	6	3	7	29	55	32	12	21	A-6a
1043.0	22	3/6/12		GRAY GRAVELLY CLAY	9	14	3	6	28	49	32	12	18	A-6a
1038.0	26	3/6/10		GRAY SILT AND CLAY	10	0	3	7	33	57	30	11	16	A-6a
1033.0	30	3/6/8		GRAY CLAYEY SILT	11	0	5	1	26	68	28	10	29	A-4a
1028.0	34													
1026.5	40	3/6/7		GRAY GRAVELLY SANDY CLAY	12	18	7	10	33	32	28	11	14	A-6a

— BOTTOM OF BORING

LOG OF BORING														
Date Started 10-2-84			Sampler Type SS			Dia. 1 3/8"			Water Elev.					
Date Completed 10-2-84			Casing Length			Dia.								
Boring No. B-2			Station & Offset 51+22			12' RT. (FORWARD ABUTMENT)			Surface Elev. 1076.0'					
Elev.	Depth	Std. Pen. (N)	Rec. Loss ft.	Description	Sample No.	% Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	SHTL Class.
1076.0	0			TOPSOIL AND SOD										
1075.5	2													
1073.5	4	3/9/13		BROWN SANDY CLAY	1	12	4	9	30	45	29	11	16	A-6a
1071.0	6	4/9/13		BROWN-GRAY SANDY CLAY	2	0	6	14	31	49	30	12	17	A-6a
1068.5	8	10/14/20		BROWN SILT AND CLAY	3	7	3	6	27	57	30	12	16	A-6a
1066.0	10	7/12/16		BROWN-GRAY SILT AND CLAY	4	7	3	7	27	56	30	13	20	A-6a
1061.5	12	5/13/20		BROWN SANDY CLAY	5	7	4	10	37	42	30	12	19	A-6a
1061.0	14	5/10/15		GRAY GRAVELLY CLAY	6	15	3	6	26	50	30	12	17	A-6a
1058.5	16	6/9/15		GRAY SILT AND CLAY	7	10	3	6	28	53	30	13	18	A-6a
1056.0	18	4/5/10		GRAY-BROWN GRAVELLY CLAY	8	12	3	7	27	51	30	13	17	A-6a
1051.0	22	4/6/10		GRAY GRAVELLY CLAY	9	18	3	7	28	44	31	16	17	A-6b
1046.0	26	4/9/12		GRAY SILT AND CLAY	10	7	3	7	32	51	31	15	18	A-6a
1041.0	30	4/6/11		GRAY GRAVELLY CLAY	11	10	3	7	33	47	29	13	17	A-6a
1036.0	34													
1034.5	40	3/6/10		GRAY SILT AND CLAY	12	0	3	7	31	59	28	11	17	A-6a

— BOTTOM OF BORING

NOTE - ALL AVAILABLE SOIL AND BEDROCK INFORMATION WHICH CAN BE CONVENIENTLY SHOWN ON THE STRUCTURE FOUNDATION INVESTIGATION SHEETS HAS BEEN SO REPORTED. ADDITIONAL SUBSURFACE INVESTIGATIONS MAY HAVE BEEN MADE TO STUDY SOME SPECIAL ASPECT OF THE PROJECT. COPIES OF THIS DATA, IF ANY, MAY BE INSPECTED IN THE DISTRICT DEPUTY DIRECTOR'S OFFICE, THE BUREAU OF TESTS AT 1600 WEST BROAD STREET, THE PAVEMENT AND SOILS SECTION OF THE BUREAU OF LOCATION AND DESIGN OR IN THE BRIDGE BUREAU AT 25 SOUTH FRONT STREET.

NOTE: Information shown by this subsurface investigation was obtained solely for the use in establishing design controls for the project. The State of Ohio does not guarantee the accuracy of this data and it is not to be construed as a part of the plans governing construction of the project.

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DIVISION OF HIGHWAYS — TESTING LABORATORY
1600 WEST BROAD STREET, COLUMBUS, OHIO 43223

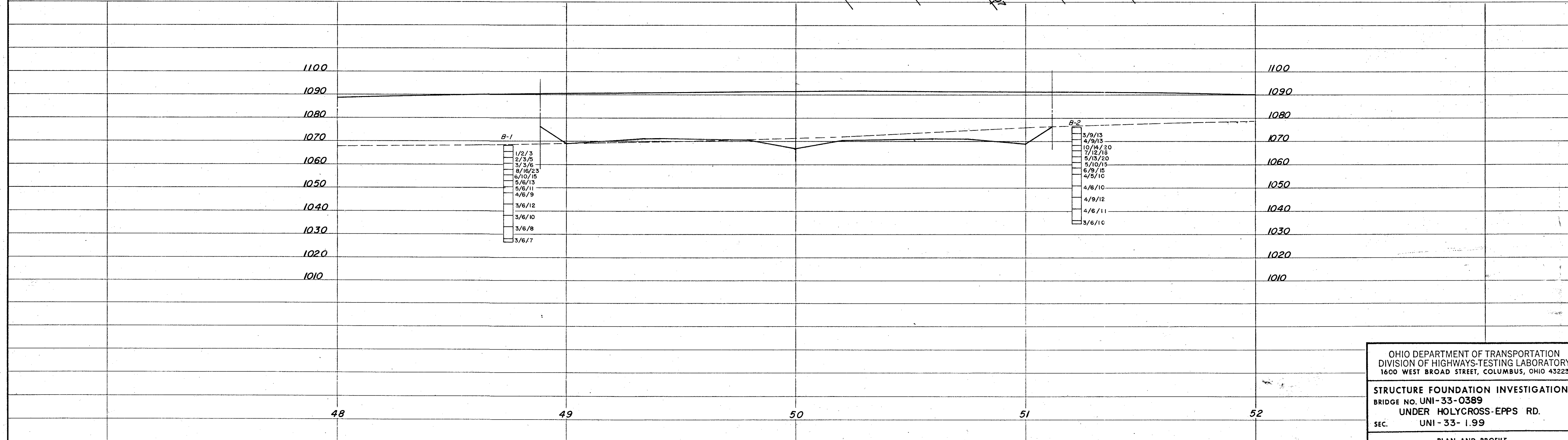
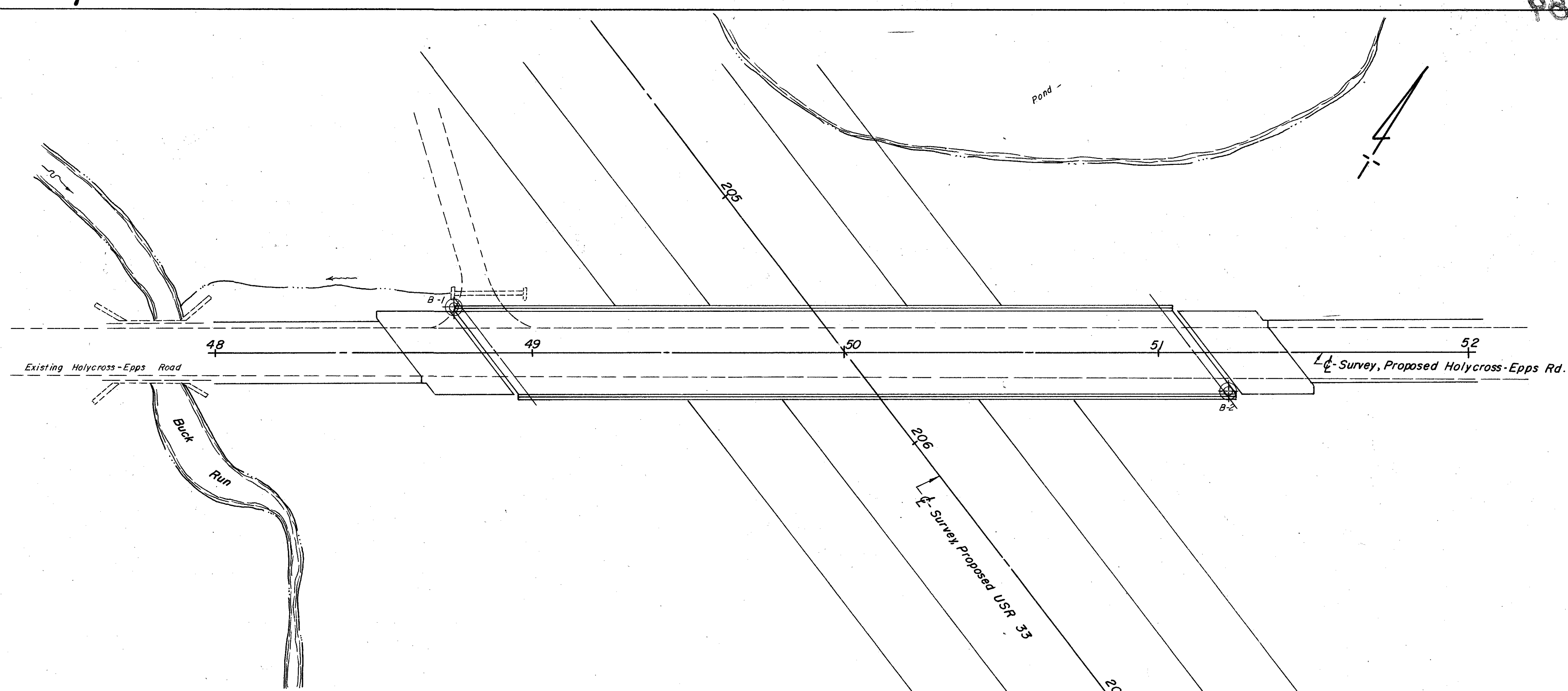
STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. UNI-33-0389
UNDER HOLYCROSS-EPPS RD.
SEC. UNI-33-1.99

CHECKED BY R. D. R. REVIEWED BY R. D. R. DATE 10/19/84

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SCALE: 1" = 20'

OHIO DEPARTMENT OF TRANSPORTATION
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1600 WEST BROAD STREET, COLUMBUS, OHIO 43223

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. UNI-33-0389
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SEC. UNI-33-1.99

PLAN AND PROFILE

DRAWN BY A.F.	CHECKED BY R.D.R.	REVIEWED BY R.D.R.	DATE 10/19/84
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