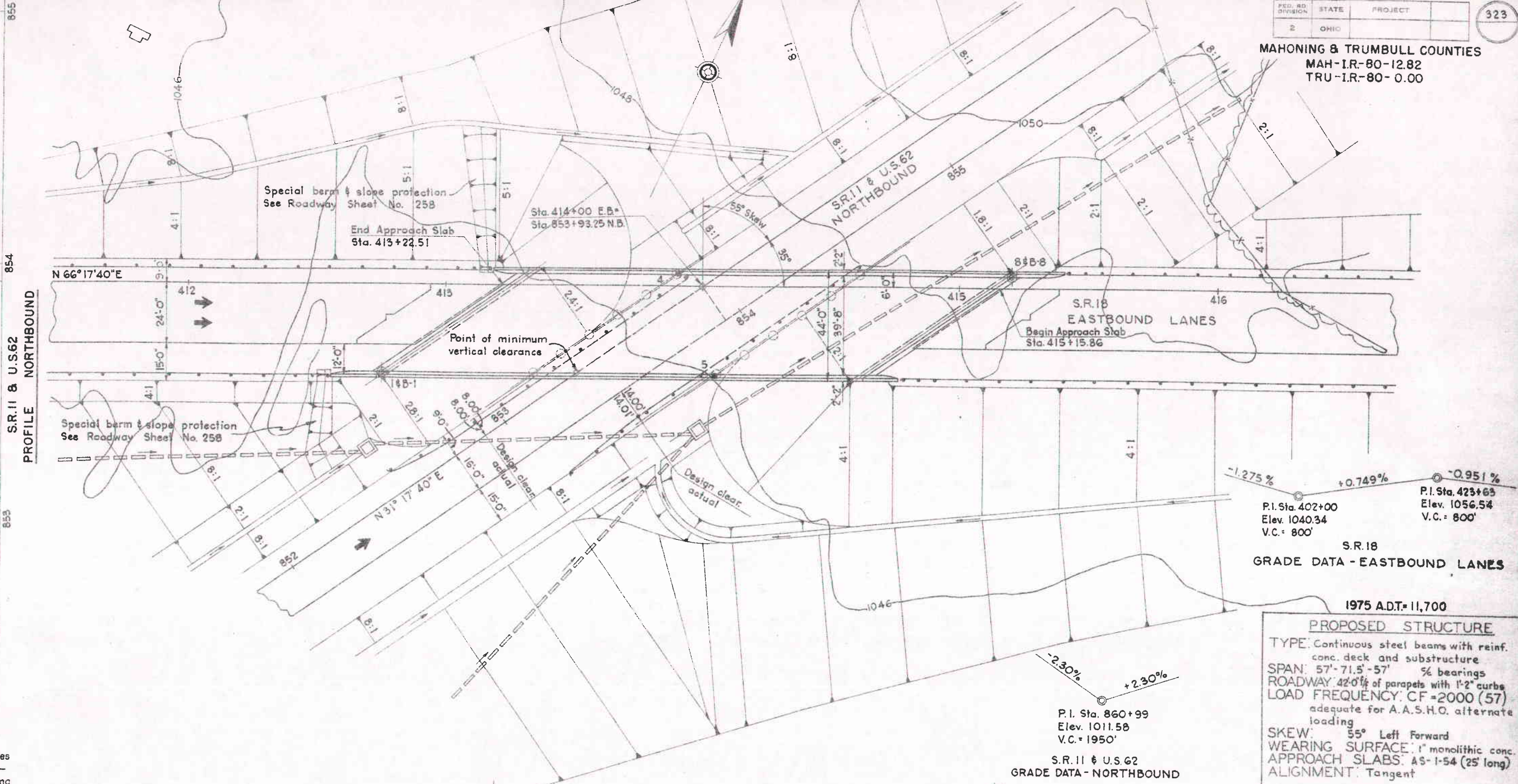


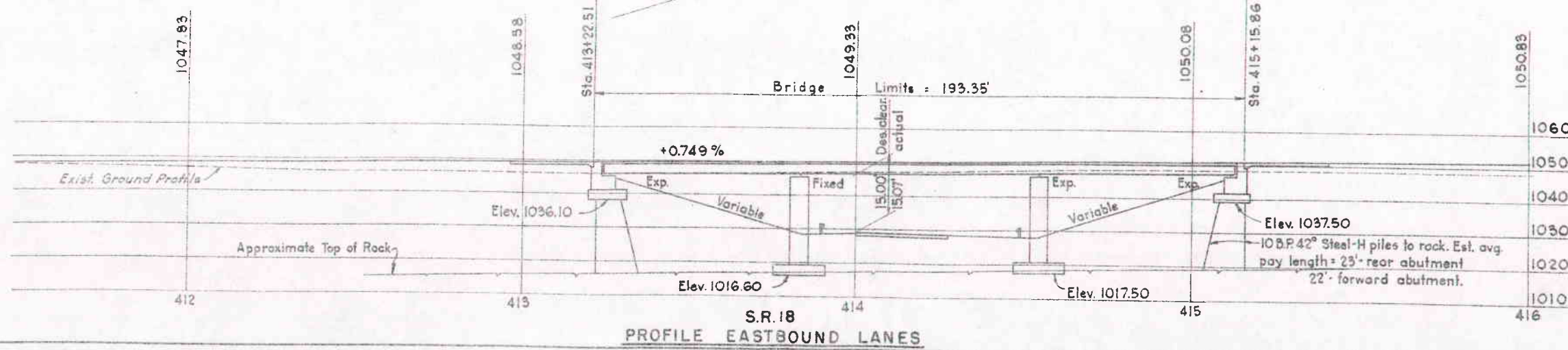
MAHONING & TRUMBULL COUNTIES
 MAH-I.R.-80-12.82
 TRU-I.R.-80-0.00



PROFILE NORTHBOUND
 S.R. 11 & U.S. 62

NOTATION SOUNDINGS
 For design and foundation quantities
 a study of rod soundings and soil -
 findings made at the site. This sounding
 the accuracy of which the State does not
 may be examined in the office of the
 divisions in Columbus or in the Division

LEGEND
 a Spring
 b Rod Sounding

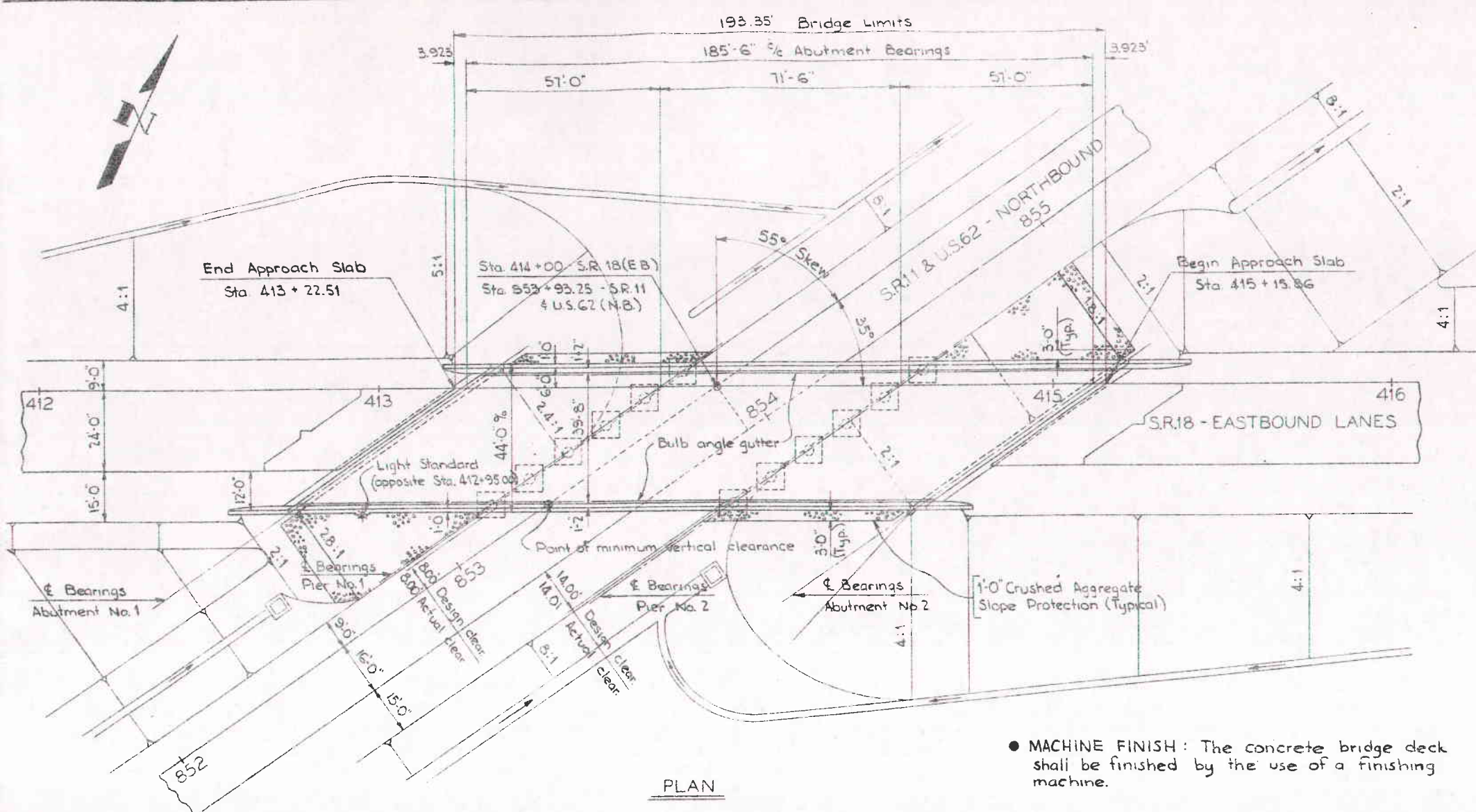


PROPOSED STRUCTURE
 TYPE: Continuous steel beams with reinf. conc. deck and substructure
 SPAN: 57'-71.5'-57' 1/2 bearings
 ROADWAY: 42'-0" of parapets with 1'-2" curbs
 LOAD FREQUENCY: CF = 2000 (57) adequate for A.A.S.H.O. alternate loading
 SKEW: 55° Left Forward
 WEARING SURFACE: 1" monolithic conc.
 APPROACH SLABS: AS-1-54 (25' long)
 ALIGNMENT: Tangent

MAH-I 680-0007 E.B.
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 ROCHESTER, PENNSYLVANIA

SITE PLAN
 BRIDGE NO. MAH-18-1354 RT. OVER
 S.R. 11 & U.S. 62 NORTHBOUND LANES
 STA. 413+22.51 to STA. 415+15.86 E. B.

| | | | | | |
|--------------------|---------------|---------------|--------|---------|----------|
| PRESENT TOPOGRAPHY | | PROPOSED WORK | | | |
| SURVEYED | DRAWN | DESIGNED | DRAWN | CHECKED | REVIEWED |
| AERIAL SURVEY | AERIAL SURVEY | E.A.M. | E.A.M. | E.E.D. | L.B.P. |
| | | | | | 10-18-43 |



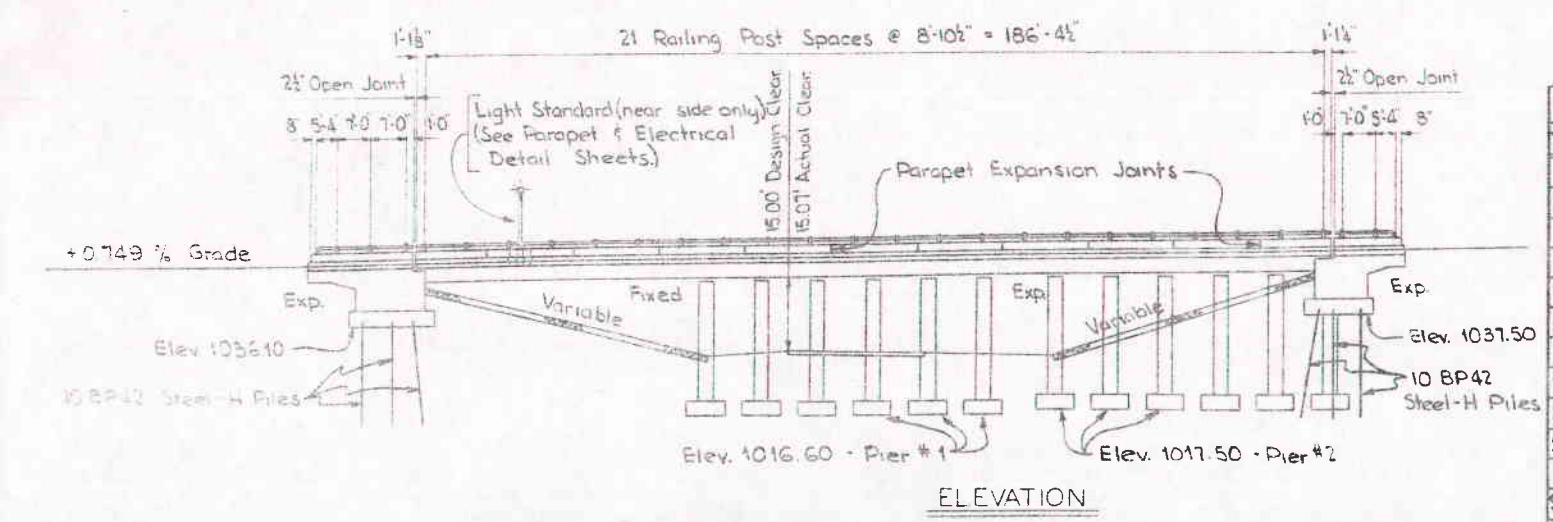
PLAN

GENERAL NOTES

- REFERENCE shall be made to Standard Drawings FSB-1-62, revised 1-15-63, CSB-2-56 sheets 2 and 3 of 6, revised 2-2-59, AR-1-57 revised 4-2-62, and to Supplemental Specifications S-101, dated 7-12-62, and S-307 dated 10-1-64.
- DESIGN SPECIFICATIONS: This structure conforms to the requirements of "Design Specifications for Highway Structures", Department of Highways, dated 9-1-57, together with current revisions thereof.
- PIER FOOTINGS shall extend a minimum of 3" into undisturbed rock, or to the elevations shown, whichever is lower.
- FOUNDATION BEARING PRESSURE: Pier footings are designed for a maximum bearing pressure of 4.0 tons per sq. ft.
- DESIGN LOADING: CF = 2000 (57)
 Concrete Class "C" - basic unit stress 1,333 p.s.i.
 Concrete Class "E" - basic unit stress 1,133 p.s.i.
 Structural Steel - ASTM A36 - basic unit stress 20,000 p.s.i. (ASTM A7 and A373 steel not permitted.)
 Reinforcing Steel - ASTM A15, A16, A160, Deformed, Intermediate or Hard Grade. Basic unit stress 20,000 p.s.i. Except, spiral reinforcement may be plain, Structural Grade with basic unit stress of 18,000 p.s.i.
- WELDING of structural steel shall be Class "A" except as otherwise shown. Welds shown as field welds may, at the option of the Contractor, be made in the shop.

● MACHINE FINISH: The concrete bridge deck shall be finished by the use of a finishing machine.

● CONCRETE DECK PLACING: In order to facilitate water curing of the concrete of the deck slab, the placing of concrete shall progress upgrade. The slab may be placed in sections, between transverse construction joints which are parallel to transverse reinforcing steel and are located near the center of any span.



ELEVATION

| ESTIMATED QUANTITIES | | | | | | | |
|----------------------|----------|--------|---|----------------|-----------|--------|----------|
| Item | Total | Unit | Description | Superstructure | Abutments | Piers | General |
| E-2 | 1028 | Cu.Yd. | Unclassified Excavation | | 412 | 616 | |
| E-2 | Lump Sum | | Cofferdams, cribs and sheeting | | | | Lump Sum |
| S-1 | 254 | Cu.Yd. | Class "C" Concrete - Superstructure | 254 | | | |
| S-1 | 80 | Cu.Yd. | Class "C" Concrete - Pier Columns | | | 80 | |
| S-1 | 90 | Cu.Yd. | Class "E" Concrete - Pier Footings | | | 90 | |
| S-1 | 304 | Cu.Yd. | Class "E" Concrete - Abutments | | 304 | | |
| S-4 | 120,031 | Lbs. | Reinforcing Steel | 73,507 | 19,495 | 27,029 | |
| S-7 | 233,300 | Lbs. | Structural Steel | 233,300 | | | |
| S-8 | 233,300 | Lbs. | Field Painting of Structural Steel | 233,300 | | | |
| S-14 | 447.15 | Ln.Ft. | Railing (Type "A", aluminum rail and supports, concrete parapet.) | 377.15 | 70.00 | | |
| S-16 | Lump Sum | | First Test Pile | | | | Lump Sum |
| S-18 | 880 | Ln.Ft. | Steel Piles, 10 BP42 | | 880 | | |
| * S-25 | | | Electric Lighting System, complete | | | | |
| S-29 | 60 | Cu.Yd. | Porous Backfill | | 60 | | |
| S-29 | 6 | Each | Scuppers including supports | 6 | | | |
| S-3 | 17 | Ln.Ft. | Waterproofing, premolded sealing strip | | 17 | | |
| I-10 | 870 | Sq.Yd. | Crushed Aggregate Slope Protection | | | | 870 |
| S-101 | 254 | Each | Water-reducing set-retarding admixture | 254 | | | |
| E-2 | 22 | Cu.Yd. | Rock Excavation | | | 22 | |

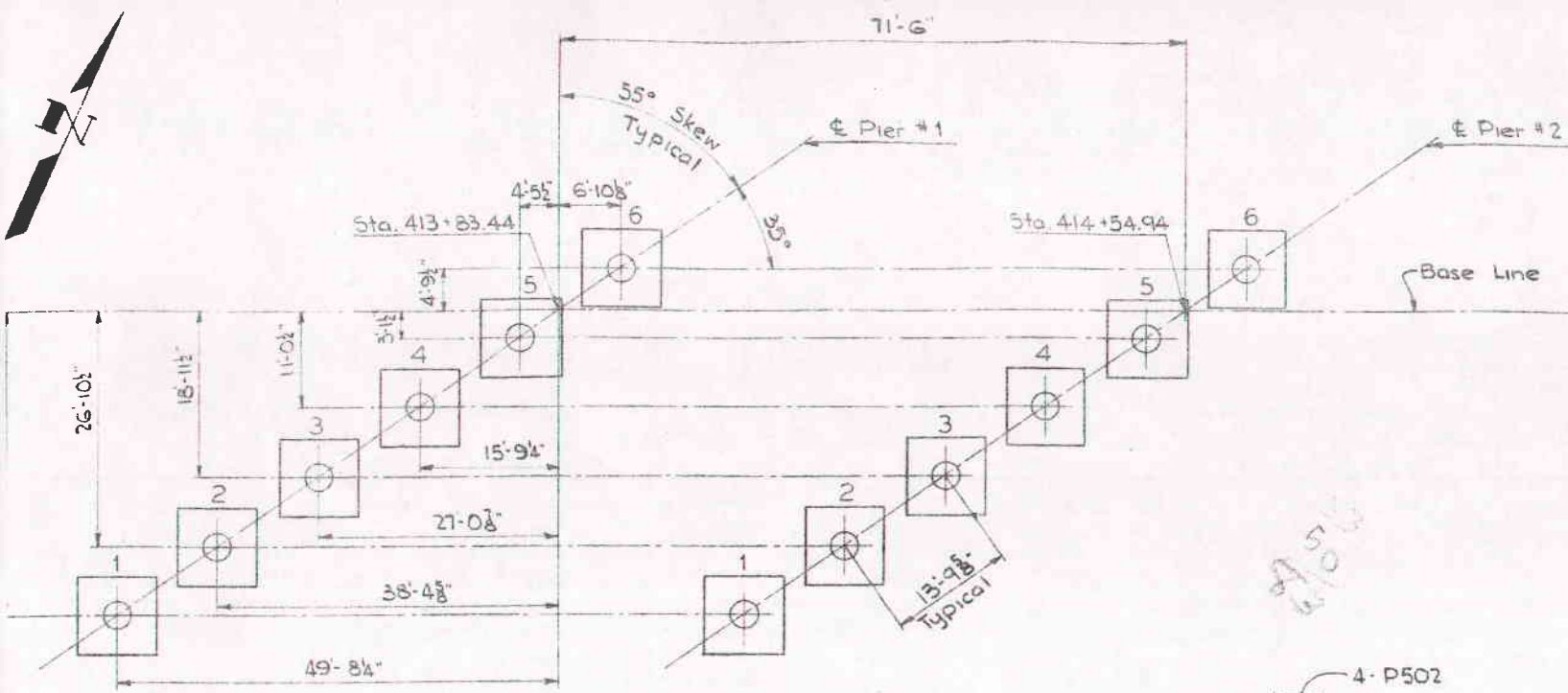
* See General Lighting Summary, Sheet No 297 for detailed description, unit and quantity.

PILES shall be driven with a hammer of not less than 11,000 ft. lbs. per blow to firm contact with rock. If the length of penetration is approximately equal to the depth to rock according to the bridge foundation investigation report, the firm contact shall be considered as attained when the capacity according to the formula in Section S-18.05 is not less than the following value for a pile hammer of the indicated energy rating:
 50 Tons per pile using an 11,000 ft. lb. hammer
 43 Tons per pile using a 15,000 ft. lb. or greater hammer
 If the energy rating of the hammer is between the ratings as shown above, the required formula capacity shall be determined by interpolation. The design load is 35 tons per pile.

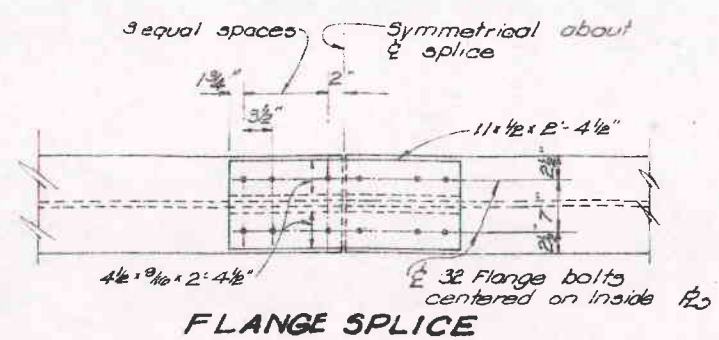
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 ROCHESTER, PENNSYLVANIA

GENERAL PLAN & ELEVATION,
 NOTES, ESTIMATED QUANTITIES
 BRIDGE NO. MAH-18-1354 Rt. OVER
 SR.11 & U.S.62 NORTHBOUND LANES
 MAHONING & TRUMBULL CO.
 Sta. 413+22.51 to Sta. 415+15.86 E.B.

| DESIGNED | DRAWN | TRACED | CHECKED | REVIEWED DATE | REVISED |
|----------|-------|--------|---------|-----------------|---------|
| JAB | FWM | | EED | LGH 10-18-63 | |

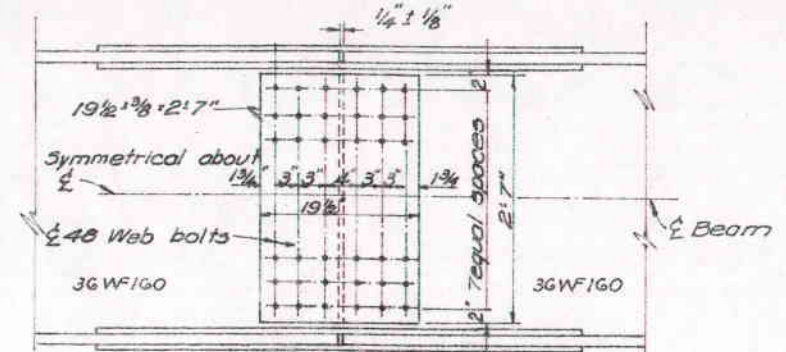


PIER FOOTING LOCATION PLAN

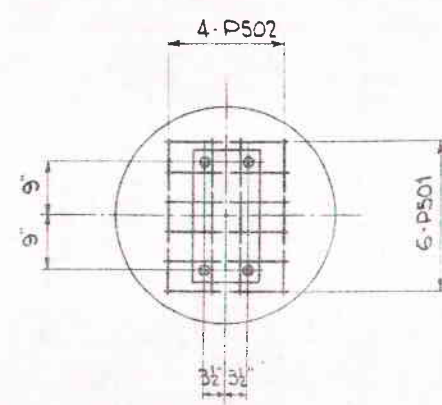


FLANGE SPLICE

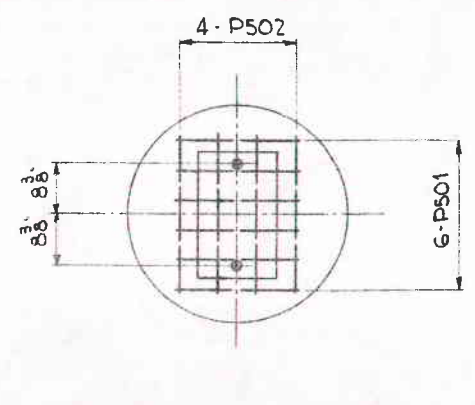
All Bolts 1" dia. High-Strength Bolts in accordance with Sec. 5-7 and M-7.21 See High Strength Bolt Note on sheet 321



WEB SPLICE 3GWF160 BEAM SPLICE DETAIL



ANCHOR BOLT LAYOUT (Pier #1)

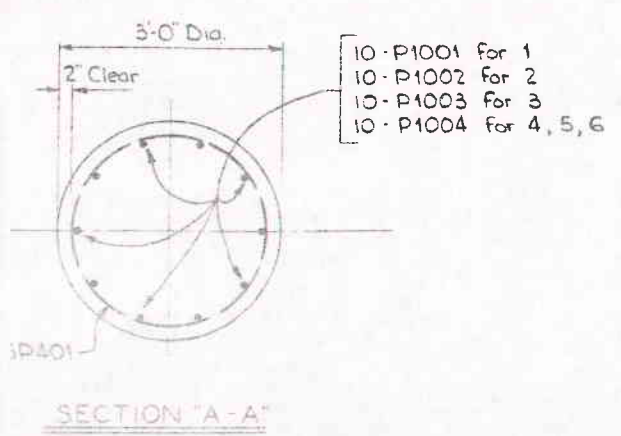


ANCHOR BOLT LAYOUT (Pier #2)

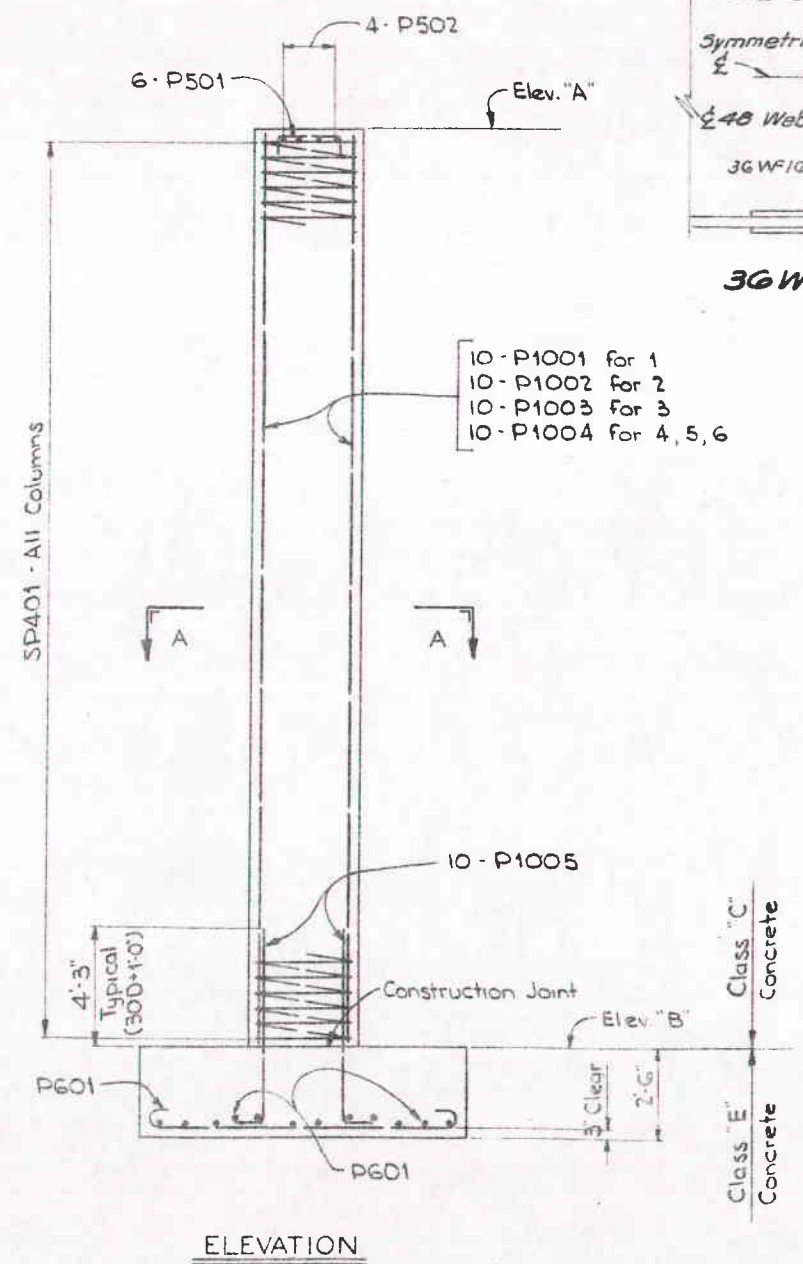
| Column No. | PIER ELEVATIONS | | | |
|------------|---------------------|---------------------|---------------------|---------------------|
| | PIER NO.1 Elev. "A" | PIER NO.1 Elev. "B" | PIER NO.2 Elev. "A" | PIER NO.2 Elev. "B" |
| 1 | 1044.23 | 1019.10 | 1045.05 | 1020.00 |
| 2 | 1044.43 | 1019.10 | 1045.26 | 1020.00 |
| 3 | 1044.64 | 1019.10 | 1045.47 | 1020.00 |
| 4 | 1044.82 | 1019.10 | 1045.65 | 1020.00 |
| 5 | 1044.78 | 1019.10 | 1045.61 | 1020.00 |
| 6 | 1044.74 | 1019.10 | 1045.57 | 1020.00 |

NOTES:

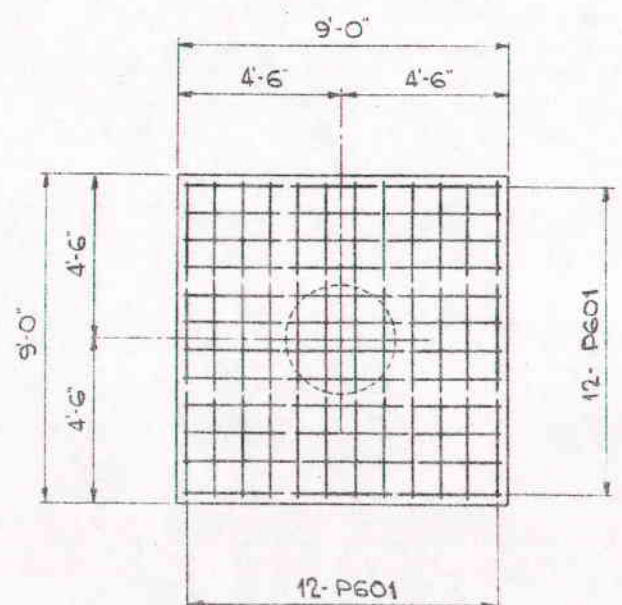
- Special care shall be taken in placing reinforcing steel under the bearing seat so that it will not interfere with the drilling for anchor bolts.
- See "Electrical Details" sheet for electrical ground wire embedded in columns of Pier #1. (Sheet 301)



SECTION "A-A"



ELEVATION



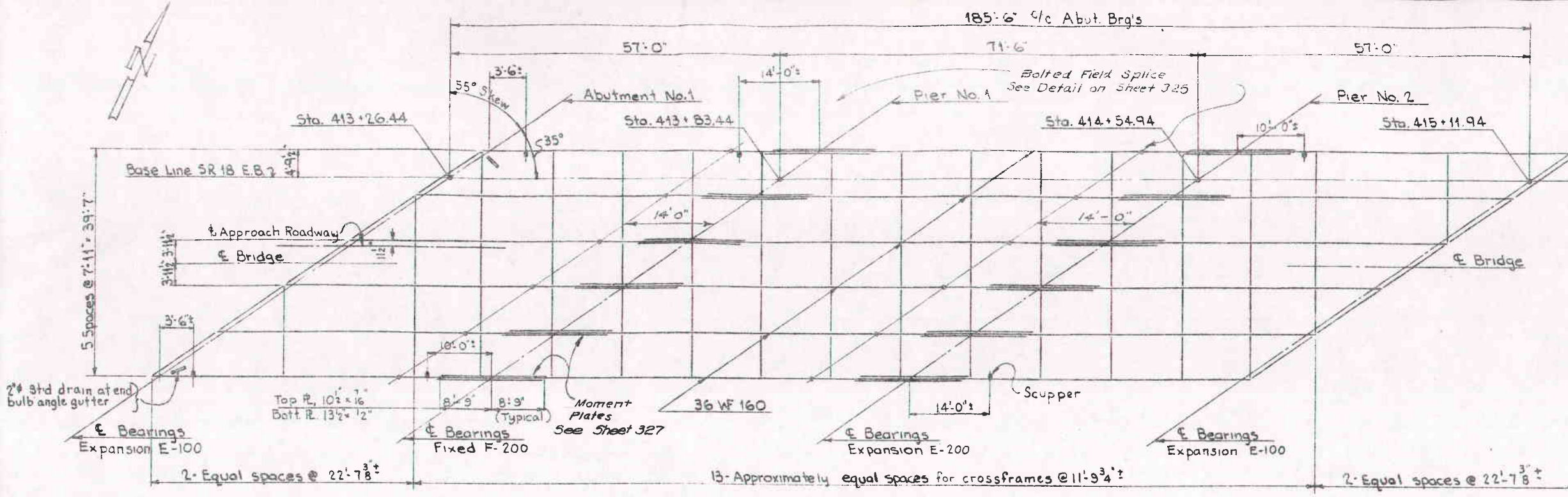
FOOTING PLAN

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PIER DETAILS
 BRIDGE NO. MAH-18-1354 Rt. OVER
 S.R.11 & U.S.62 NORTHBOUND LANES
 MAHONING & TRUMBULL CO.
 Sta. 413+22.51 to Sta. 415+15.86 E.B.

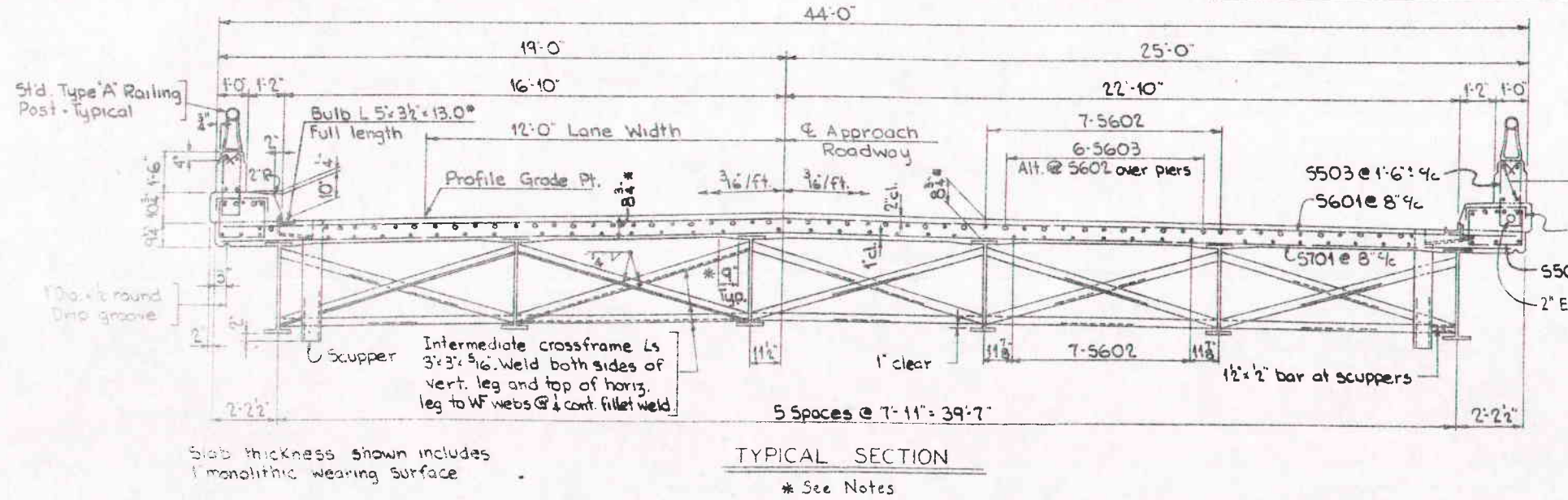
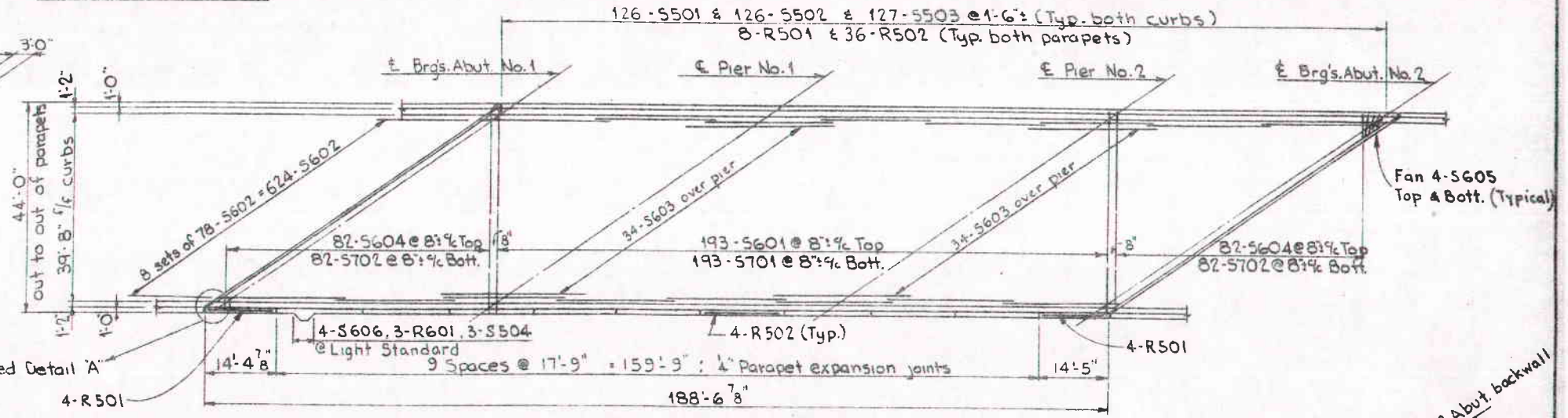
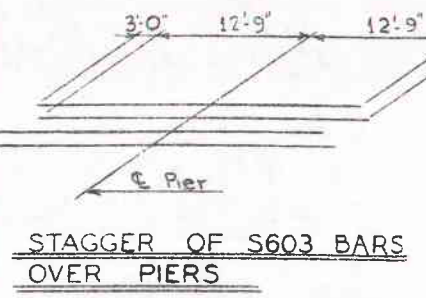
| DESIGNED | DRAWN | TRACED | CHECKED | REVIEWED DATE | REVISED |
|----------|-------|--------|---------|-----------------|---------|
| Z.A.M. | FWM | | E.E.D. | LGH 10-18-63 | |

MAHONING & TRUMBULL CO.
 MAH-IR-80-12.82
 TRU-IR 80-0.00

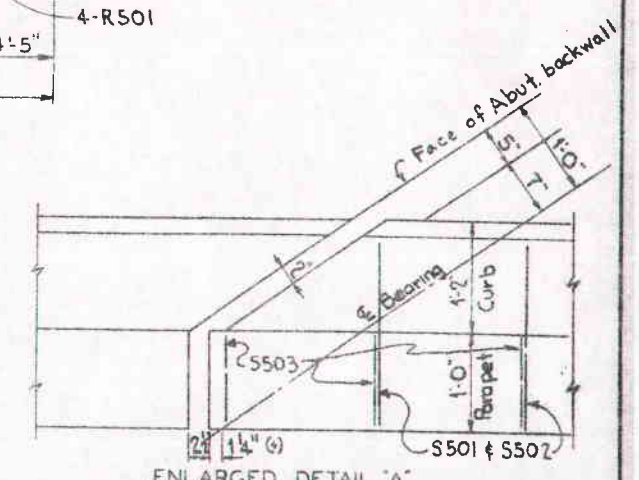


- NOTES:
- Refer to Standard Drawing C5B-2-56, Revised 2-2-59, sheets 2 & 3 of 6 for details of scuppers, bulb angle gutter supports, curb plates, and crossframes (Section B B, c = 12'-0" to 16'-0"), roadway end dam for monolithic wearing surface and pipe drain at end of bulb angle gutter.
 - Refer to Standard Drawing AR-1-57, Revised 4-2-62, for parapet railing.
- High Strength Steel Bolts SEE NOTE ON SHEET 321
- Deck Slab Haunch: The haunch in the deck slab adjacent to the top of steel beams, which is shown as 9" wide, may vary from this dimension between the limits of 6" and 12", except that the maximum slope shall not exceed 3" per ft. Payment for deck slab concrete shall be based on the 9" width.

| Location | Outside Beams | | Inside Beams | |
|---------------------------------------|---------------|-------------|--------------|-------------|
| | End Spans | Middle Span | End Spans | Middle Span |
| Deflection due to weight of steel | 1/16" | 1/16" | 1/16" | 1/16" |
| Deflection due to remaining dead load | 1/4" | 3/8" | 5/16" | 3/8" |
| Sum of Deflections | 5/16" | 7/16" | 3/8" | 7/16" |
| Required Camber | 0 | 0 | 0 | 0 |



- For location of reinforcing bars in parapet at light standard, see sheet No. 329
- Slab thickness: The quantity of deck concrete to be paid for shall be based on the nominal slab thickness from top of slab to top of beam, even though deviation therefrom may be necessary because the top flange of the beams may not have the exact camber or conformation required to place them parallel to the finished grade.
 - Refer to Standard Drawing F5B-1-62, revised 1-15-63, for details of Fixed and Sliding Bearings.



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SUPERSTRUCTURE
 BRIDGE NO. MAH-18-1354 RT.
 OVER S.R. 11 & U.S. 62
 NORTHBOUND LANES

Sta. 413+22.51 to Sta. 415+15.86 E.B.

| DESIGNED | DRAWN | TRACED | CHECKED | REVIEWED DATE | REVISED |
|----------|-------|--------|---------|-----------------|---------|
| | | | EED | LGH 10-18-63 | |