

<p>TO:</p> <p>Frederick H. Zurmuhlen Chief Engineer Bldg. 5 Room 401</p> <p>SUPERSEDED BY EI 77-031 EFFECTIVE 5/1/1977</p>	<h1>ENGINEERING INSTRUCTION</h1> <p>NEW YORK STATE DEPARTMENT OF TRANSPORTATION</p>
<p>Distribution:</p> <p><input type="checkbox"/> Main Office <input type="checkbox"/> Regions <input checked="" type="checkbox"/> Special</p>	<p>SUBJECT: STANDARD DETAILS FOR HIGHWAY BRIDGES, REVISION TO Subject Code: 7.35-11</p> <p style="text-align: right; font-size: 1.5em;"><i>Sup 77-50</i></p>
<p>APPROVED: <i>J. V. Harrigan</i> Deputy Chief Engineer (Structures)</p>	<p>Code: <u>EI 75-66</u> Date: <u>December 1, 1975</u> Supersedes:</p>

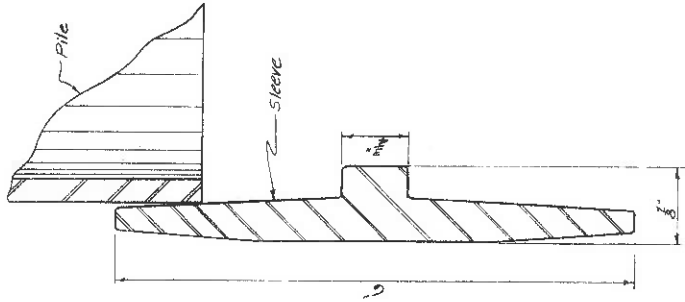
The attached pages are to be inserted under Guide Line Drawings in the Manual.

- GLD-A7a Added Miscellaneous Abutment Details - Cont.
- GLD-A10 Added Flared Wingwall Abutment - Plan and Elevation on Piles
- GLD-A11 Added Flared Wingwall Abutment - Footing Plan and Sections.
- GLD-A12 Added Flared Wingwall Abutment - Reinforcement Plans and Sections.
- GLD-G6a Added Bottom Lateral Systems - Curved Girders.
- GLD-P2 Added Two Column Pier on Spread Footings.
- GLD-P3 Added Hammer Head Pier and Details
- GLD-P4 Added Special Pier (Individual Footings).
- GLD-P5 Added Special Pier Details.

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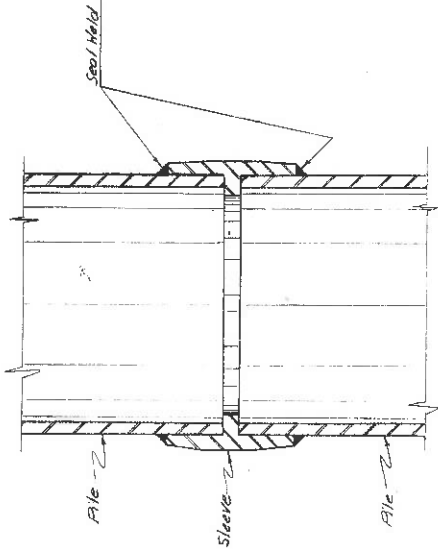
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CAPITAL PROJECT IDENTIFICATION NO.

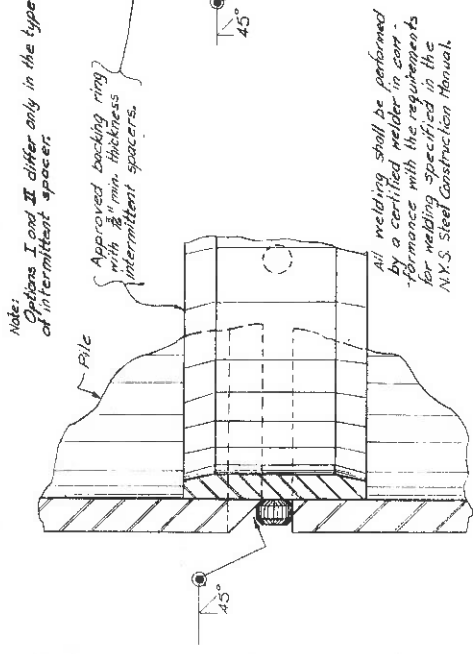


SECTION THRU SLEEVE

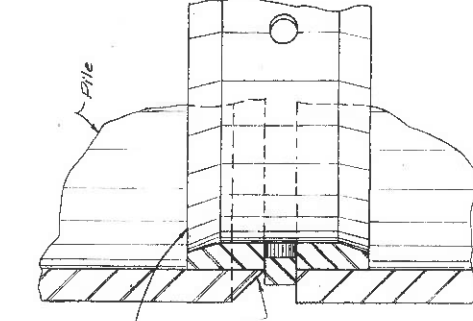
Designer/Detailer include in the plans whenever the Foundation Design Requirements report states, "The use of Mechanical Pile Splices shall be allowed on this structure."



SECTION THRU PILE AT SPLICE



SECTION THRU PILE AT SPLICE (OPTION I)



SECTION THRU PILE AT SPLICE (OPTION II)

Note: Options I and II differ only in the type of intermittent spacer.

Approved backing ring with 1/8" min. thickness intermittent spacers.

All welding shall be performed by a certified welder in conformance with the requirements for welding specified in the N.Y.S. Steel Construction Manual.

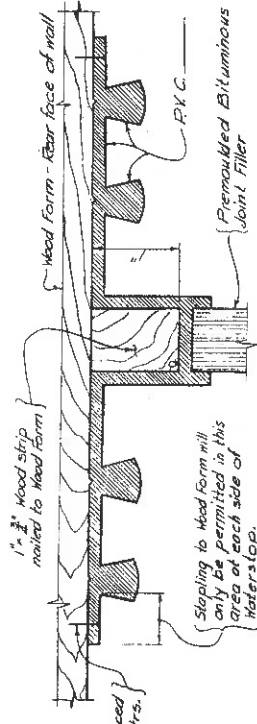
Designer/Detailer include these drawings in the contract plans whenever cast-in-place concrete piles are used.

WELDED SPLICE DETAILS

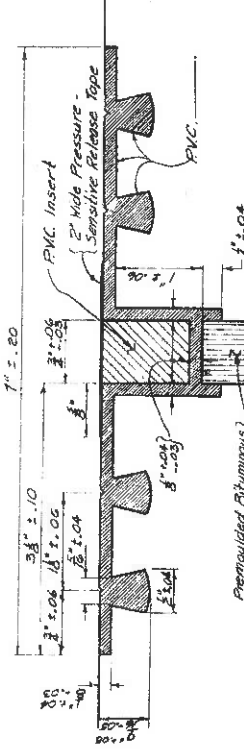
MECHANICAL SPLICE DETAILS

CAST-IN-PLACE PILE SPLICE DETAILS

No. 5 scale



STAGE ONE - PRIOR TO POURING CONCRETE



STAGE TWO - AFTER FORMS HAVE BEEN REMOVED

TYPE 'E' WATERSTOP DETAILS AND INSTALLATION PROCEDURES

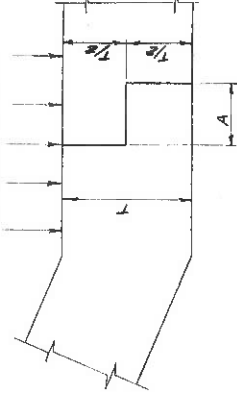
Scale: 1" = 1'

Note: PVC Insert and Pressure Sensitive Release Top shall be installed in the field prior to placing the backfill.

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CAST-IN-PLACE PILE SPLICE DETAILS

No. 5 scale



CONTRACTION JOINT	
T/2	A
TO 9"	3 1/2"
OVER 9"	5 1/2"

KEYWAY DETAILS FOR FLARED WINGWALL ABUTMENTS

No. 5 scale

PILE ELEVATION



TYPE 'A' CURB (NON-MOUNTABLE)

The keyway should be sawed or hammered top quarry split face

Scale: 1/8" = 1'-0"

This area reserved for notes.

STATE OF NEW YORK
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DIVISION OF CONSTRUCTION
SAMPLE DETAIL - SUBSTRUCTURE

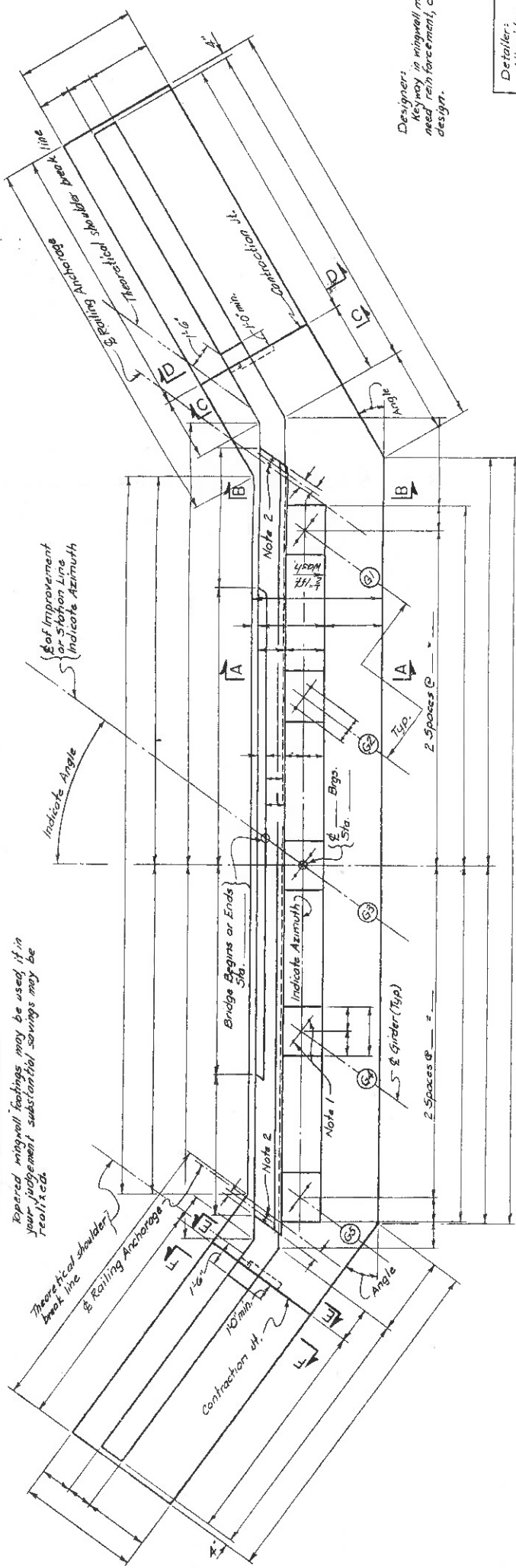
MISC. ABUTMENT DETAILS CONT'D

DRAWING NO. GLD-A7c

ADDED DEC. 1975.

FOR USE AS A GUIDE ONLY

CAPITAL PROJECT IDENTIFICATION NO.



PLAN
Scale 1/4" = 1'-0"

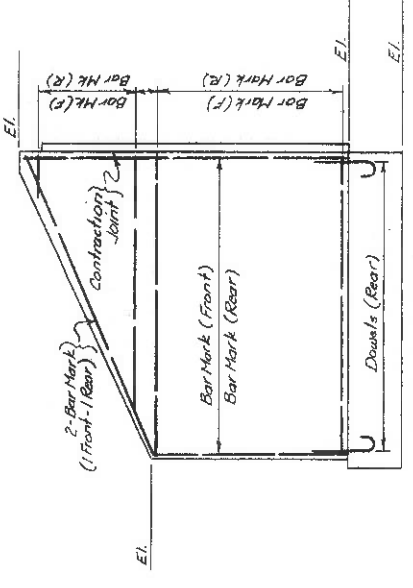
Designer/Detailer:
The elevations of the top of the backwall, EL, and header must take into account the stem, EL, vertical curve correction, horizontal curvature, etc. Check to see if Utility Conduit or any openings must be provided in the abutment.

Top of header to follow finished slope and grade of roadway.

Detailer:
Minimum height of pedestal is 6".

Designer/Detailer:
For information on level or sloping bridge seats see GLD-AB

Note:
Piles not shown.



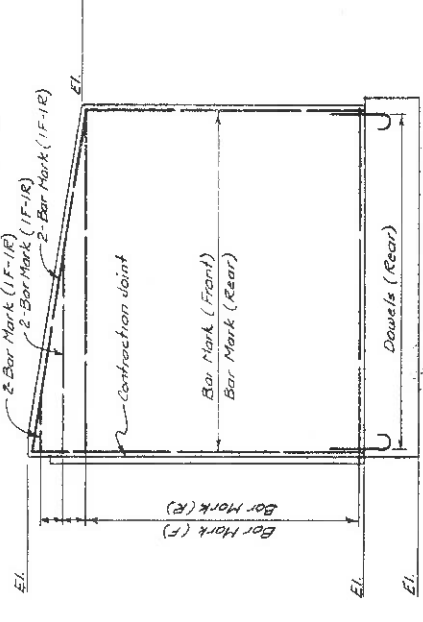
S.E. WINGWALL ELEVATION
Scale 1/4" = 1'-0"

Note:
Piles not shown, Footing reinf. not shown.

Designer:
If any in wingwall may need reinforcement, check design.

Detailer:
All reinforcement to be verified by designer.

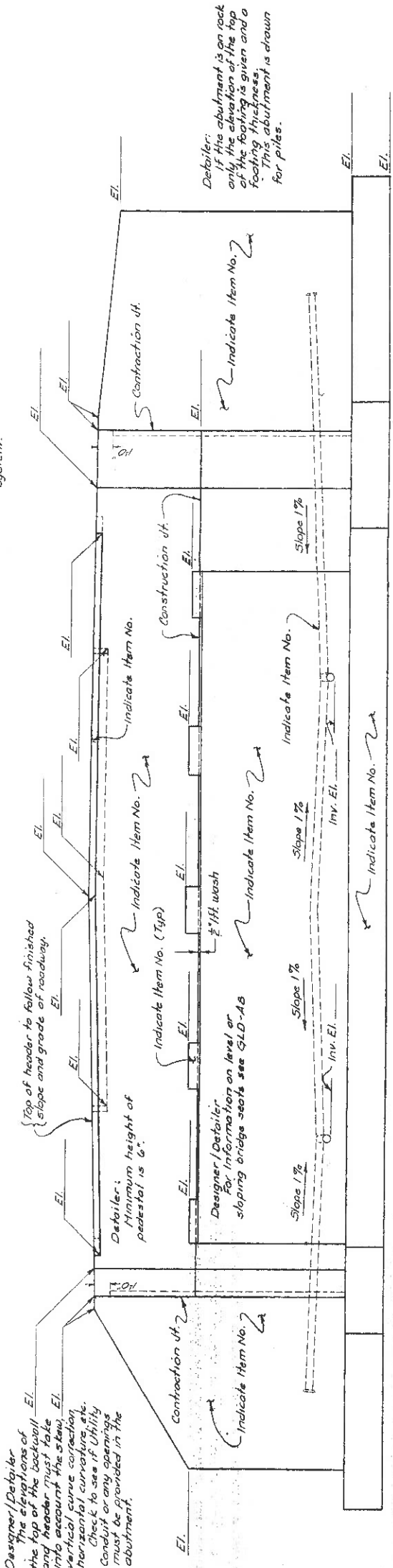
Designer/Detailer:
The type header shown is for armored elastomeric joint system.



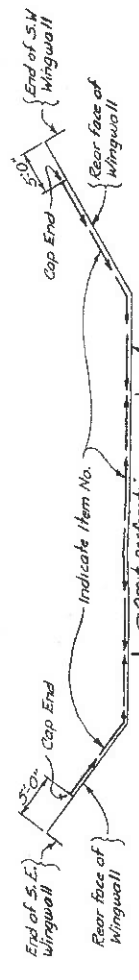
S.W. WINGWALL ELEVATION
Scale 1/4" = 1'-0"

Notes:
1. 1/4" round rod or swaged anchor bolts, set _____" into masonry. For details see Divg # _____ of _____.
2. 3 I.S.T. Box Beam Guide Rail Post. For details see Divg # _____ of _____ (Detailer). This post may be necessary due to skew.

References:
For pile layout see GLD-A11
For Bearing and Anchor Bolt Details see GLD-A12
For Slab Details see GLD-A17
For Splice and Reinforcement Details see GLD-S Sections A-A, B-B, C-C, D-D, see GLD-A11 and Sections E-E, F-F, see GLD-A12.



UNDERDRAIN PLAN & FLOW DIAGRAM
Not to Scale



ELEVATION
Scale 1/4" = 1'-0"

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DESIGN CHECKED BY	DETAILED BY
DETAIL CHECKED BY	

STATE OF NEW YORK
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SAMPLE DETAIL - SUBSTRUCTURE
FLARED WINGWALL ABUTMENT
PLAN & ELEVATION
ON PILES

DRAWING NO. GLD-A10

ADDED DEC. 1975

PILE NOTES

Indicates Test Pile

Indicates 4 on 1 Battered Pile

For design purposes the pile load does not exceed tons per pile. The estimated length of pile is ft. The ordered length of test pile is ft. Pile cut off elevation is ft. The minimum length of pile shall be ft. below bottom of footing elevation.

HEADER DETAIL
Scale 1/4" = 1'-0"

FOOTING PILE LAYOUT
Scale 1/4" = 1'-0"

SECTION B-B
Scale 1/4" = 1'-0"

SECTION A-A
Scale 1/4" = 1'-0"

SECTION D-D
Scale 1/4" = 1'-0"

SECTION C-C
Scale 1/4" = 1'-0"

CONCRETE TABLE

Notes: For Pile details see GLD-45

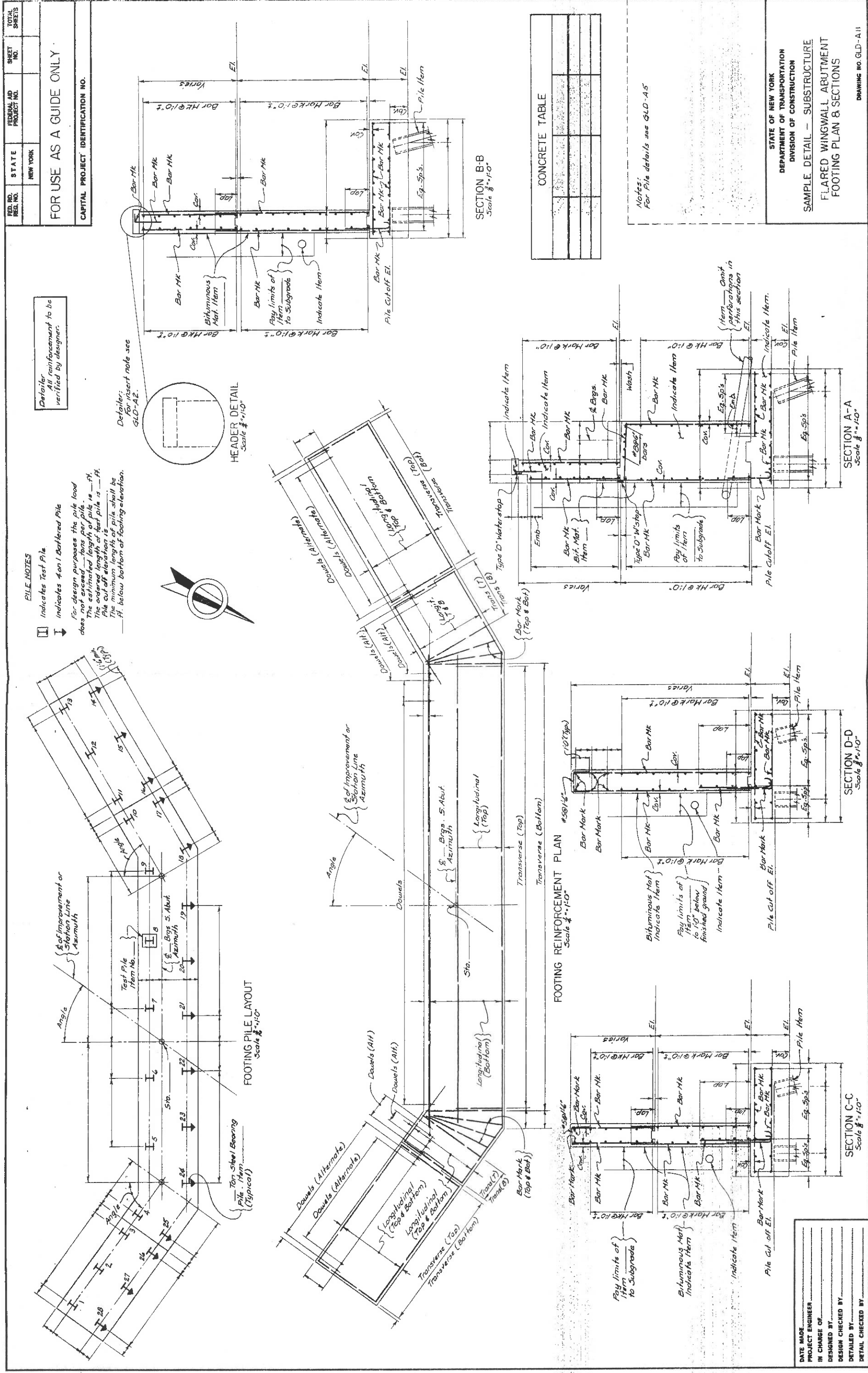
STATE OF NEW YORK
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SAMPLE DETAIL - SUBSTRUCTURE
FLARED WINGWALL ABUTMENT
FOOTING PLAN & SECTIONS

DRAWING NO. GLD-A-11

ADDED DEC. 1975

DATE MADE
PROJECT ENGINEER
IN CHARGE OF
DESIGNED BY
DESIGN CHECKED BY
DETAILED BY
DETAIL CHECKED BY

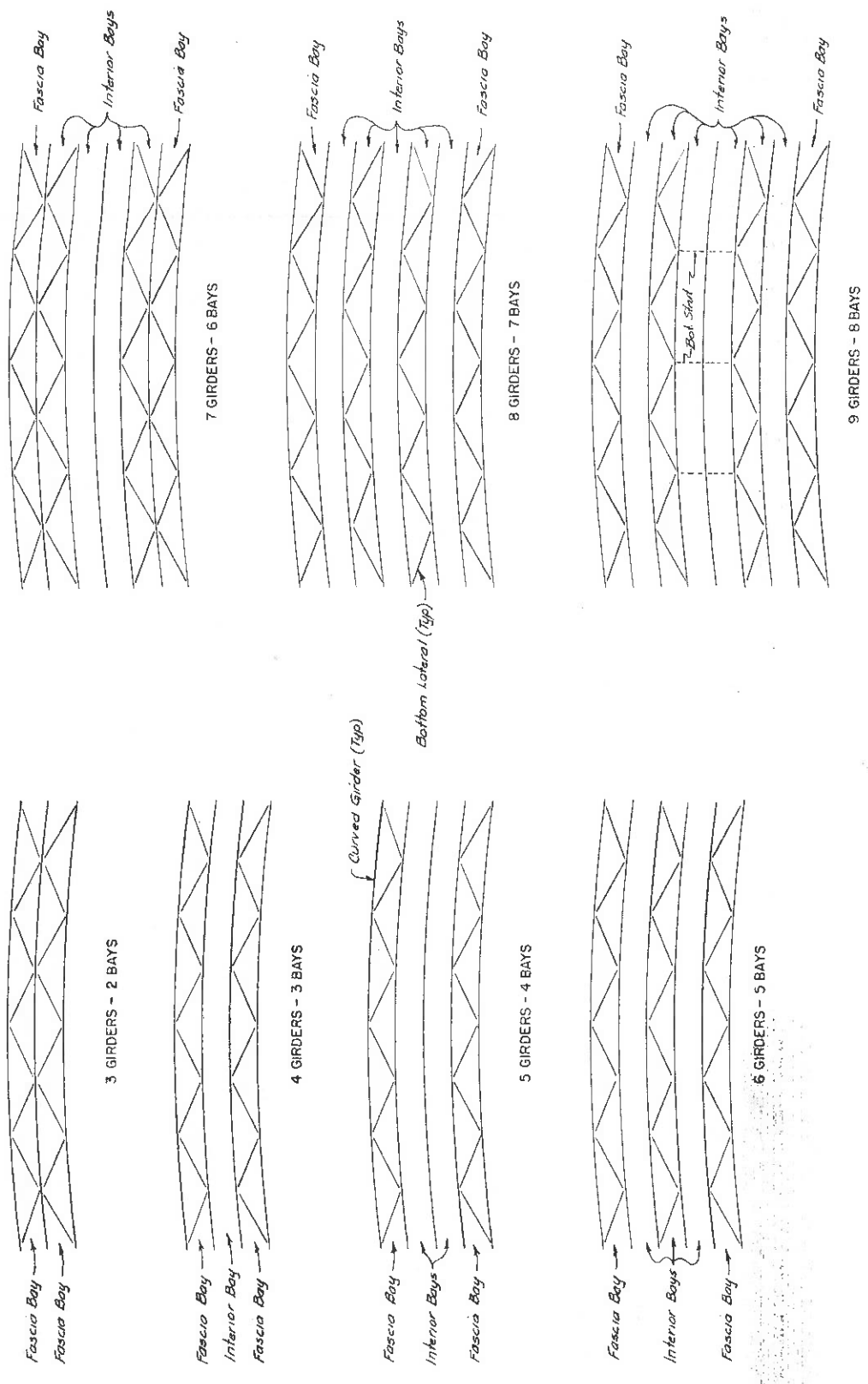


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Designer/Detailer:
 The schematic illustrations shown do not take into account properly curved ramps or other unusual situations which in the judgment of the designer, may require bottom laterals between all girders. These diagrams are shown only to indicate which bays bottom laterals and bottom struts are to be used for various numbers of girders.



SCHEMATIC LAYOUT - BOTTOM LATERAL SYSTEMS
 (CURVED GIRDERS ONLY)
Not to Scale

This area reserved for notes

STATE OF NEW YORK
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SAMPLE DETAIL - SUPERSTRUCTURE
 BOTTOM LATERAL SYSTEMS
 CURVED GIRDERS

SAMPLE SPANS
 CONTINUOUS SPANS

DRAWING NO. GLD-G6a

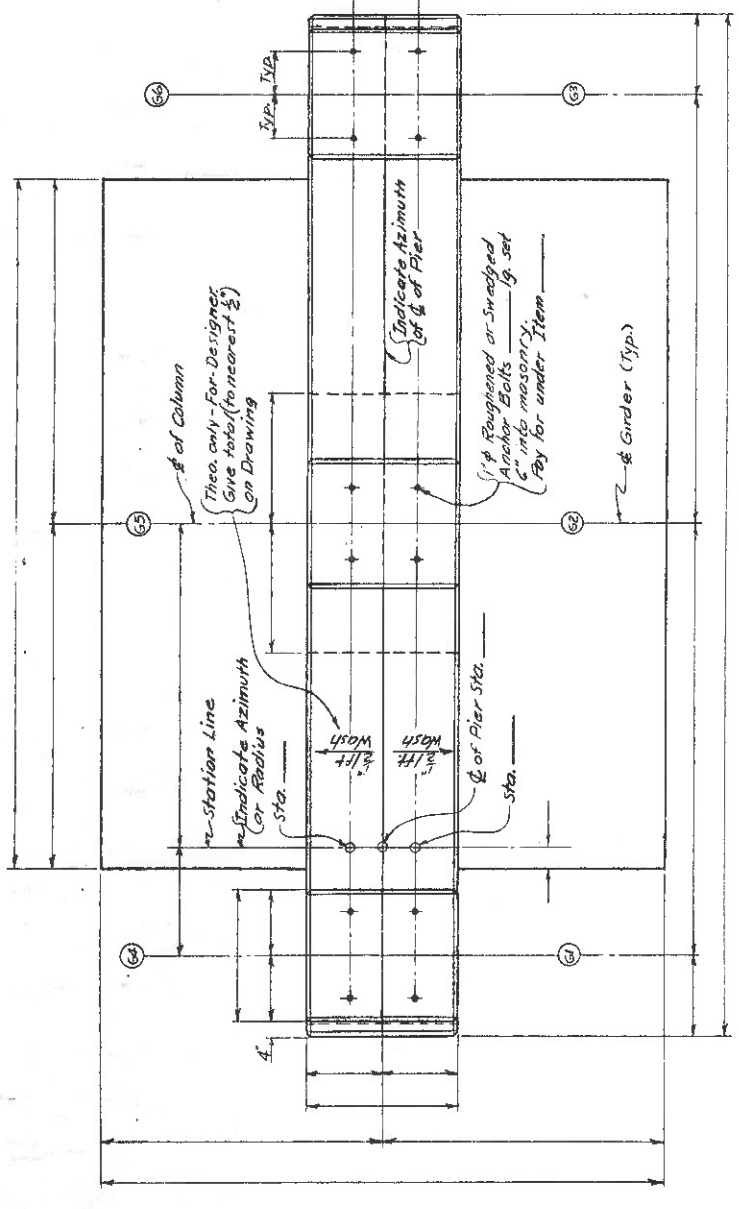
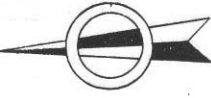
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IN CHARGE OF	DESIGNED BY
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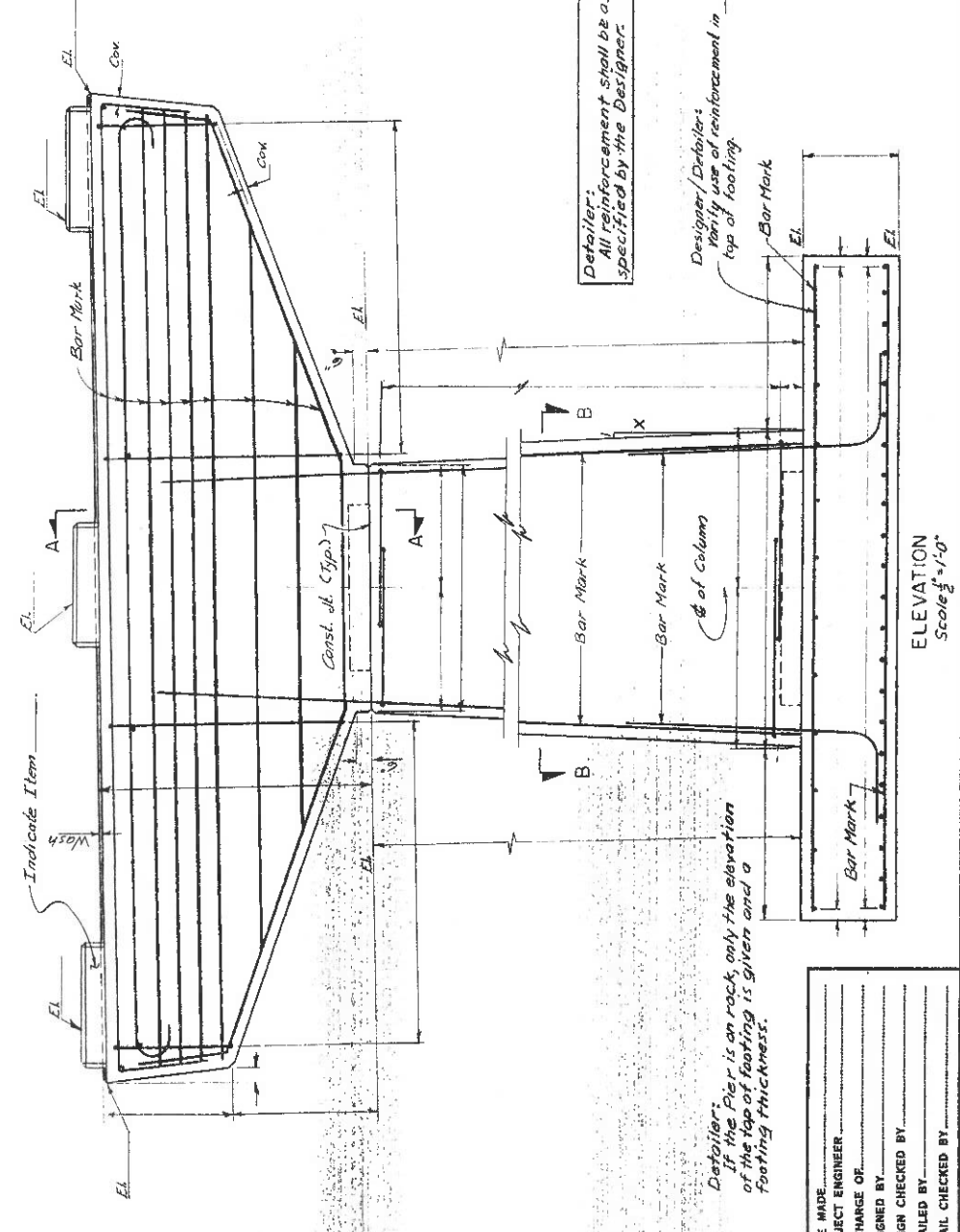
CAPITAL PROJECT IDENTIFICATION NO.

Designer/Detailer For Anchor Bolt and Base Plate clearances see Div. GLD A-3

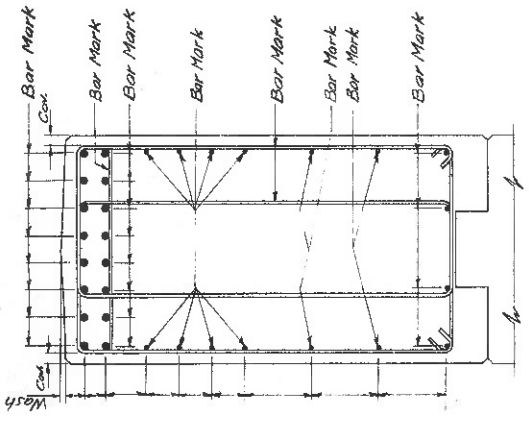
Designer: When 2 or more rows of reinforcement are necessary for design, the vertical distance between rows shall be increased by 1 bar diameter to allow for the splitting of bars when required.



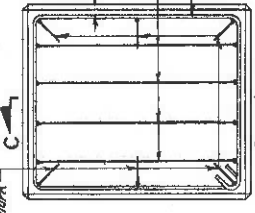
PLAN Scale 1/2"=1'-0"



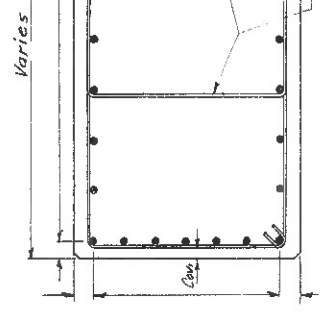
ELEVATION Scale 1/2"=1'-0"



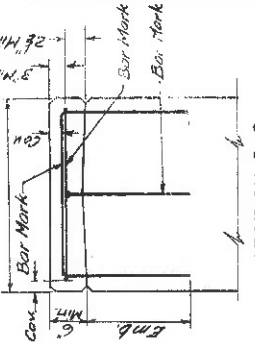
SECTION A-A Scale 1/2"=1'-0"



TYPICAL PEDESTAL REINFORCEMENT Scale 1/2"=1'-0"

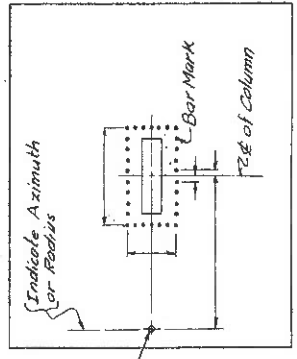


SECTION B-B Scale 1/2"=1'-0"



SECTION C-C

CONCRETE TABLE



DOWEL PLAN No Scale

Detailer: All reinforcement shall be as specified by the Designer.

Designer/Detailer: Planify use of reinforcement in top of footing.

Detailer: If the Pier is on rock, only the elevation of the top of footing is given and a footing thickness.

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DETAIL CHECKED BY	

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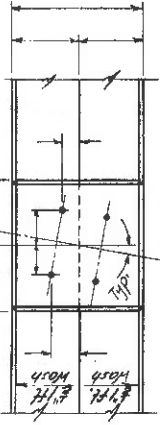
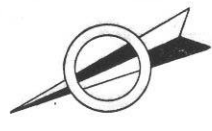
Detailer: For footings on Piles see GLD-P4

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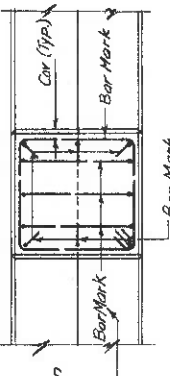
CAPITAL PROJECT IDENTIFICATION NO.

Designer/Detailer:
For Anchor Bolt and Base Plate Clearances see Dwg. GLD-A-3.

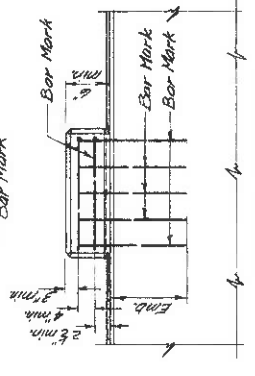


TYPICAL ANCHOR BOLT LAYOUT
Scale 1/2" = 1'-0"

Designer/Detailer:
All pier pedestals shall be level. To obtain level pedestals see 'Bearings on Level Pedestals' section of Standard Details for Highway Bridges.



Designer/Detailer:
The reinforcement shown in top of pedestal is only used when two bearings are placed on one pedestal.



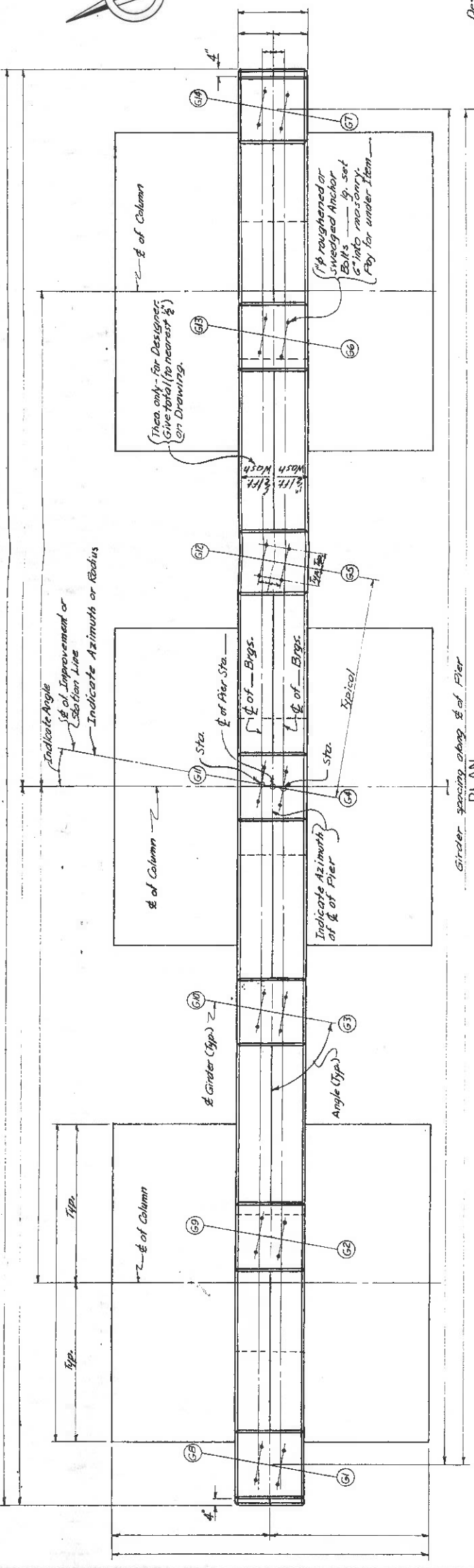
TYPICAL PEDESTAL REINFORCEMENT
Scale 1/2" = 1'-0"

Designer/Detailer:
The pier shown on this sheet is not a STANDARD PIER and the type is primarily based on Interstates-88 structures and reinforced concrete piers detailed by this office. The pier is shown as a guide to Architects Lines and the necessary information to construct them.

This area reserved for notes

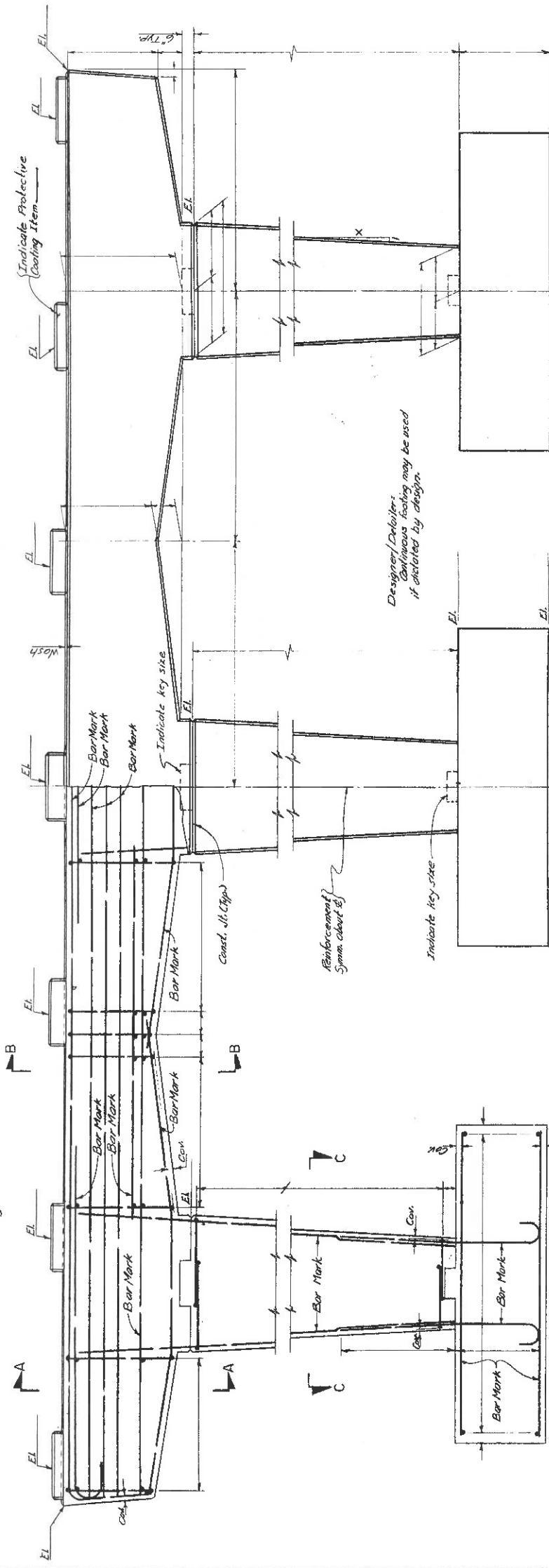
STATE OF NEW YORK
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SAMPLE DETAIL - SUBSTRUCTURE
SPECIAL PIER
(INDIVIDUAL FOOTING)
SIMPLE SPANS
DRAWING NO. GLD-P4

ADDED DEC. 1975



PLAN
Scale 1/8" = 1'-0"

Detailer:
For Sections A-A, B-B and C-C see Dwg. GLD-P5



ELEVATION
Scale 1/8" = 1'-0"

Designer/Detailer:
Continuous footing may be used if dictated by design.

Detailer:
For findings on Piles see GLD-PI.

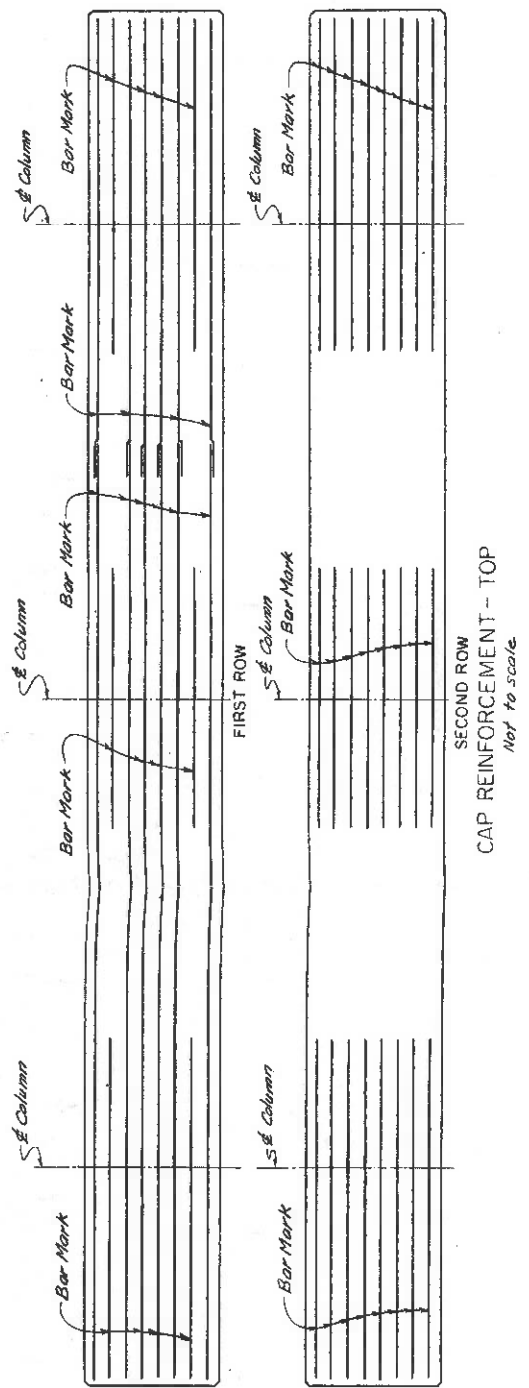
Detailer:
If the Pier is on rock, only the elevation of the top of footing is given and a footing thickness.

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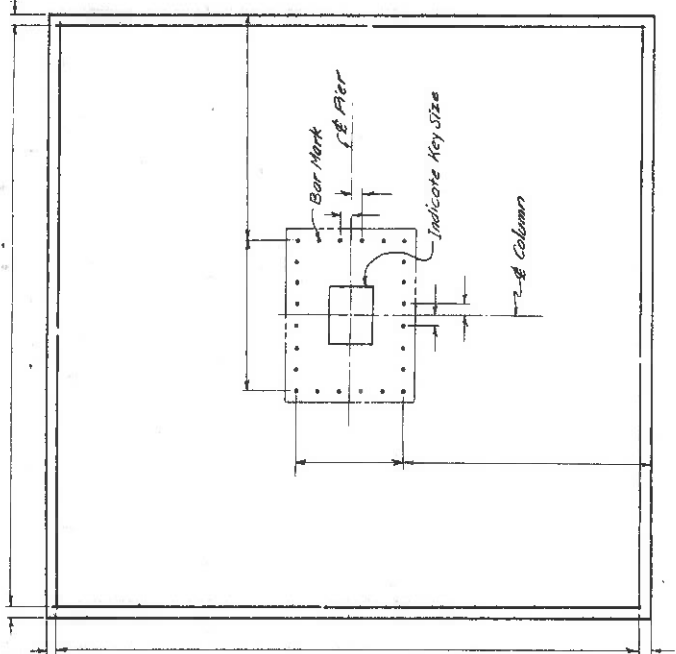
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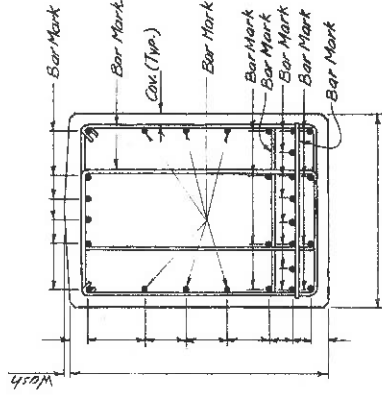
CAPITAL PROJECT IDENTIFICATION NO.



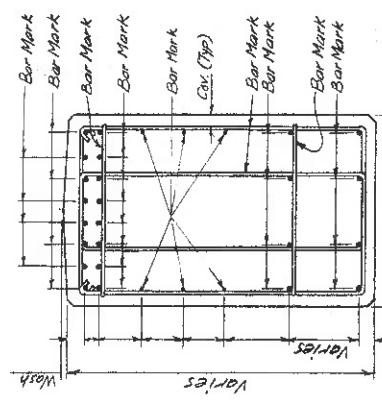
CAP REINFORCEMENT - TOP
Not to scale



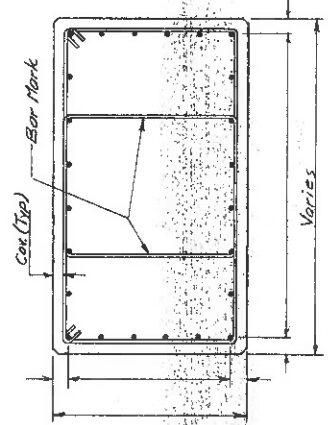
FOOTING REINFORCEMENT PLAN
Scale 1/2" = 1'-0"



SECTION B-B
Scale 3/4" = 1'-0"



SECTION A-A
Scale 3/4" = 1'-0"



SECTION C-C
Scale 3/4" = 1'-0"

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SAMPLE DETAIL - SUBSTRUCTURE
SPECIAL PIER DETAILS
DRAWING NO. GLD-P5

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DETAIL CHECKED BY	