

NOTE: Details shown are for a curve to the right with the section taken looking ahead on station. These details supersede duct patterns shown in



XX For duct size over 4 1/2" OD

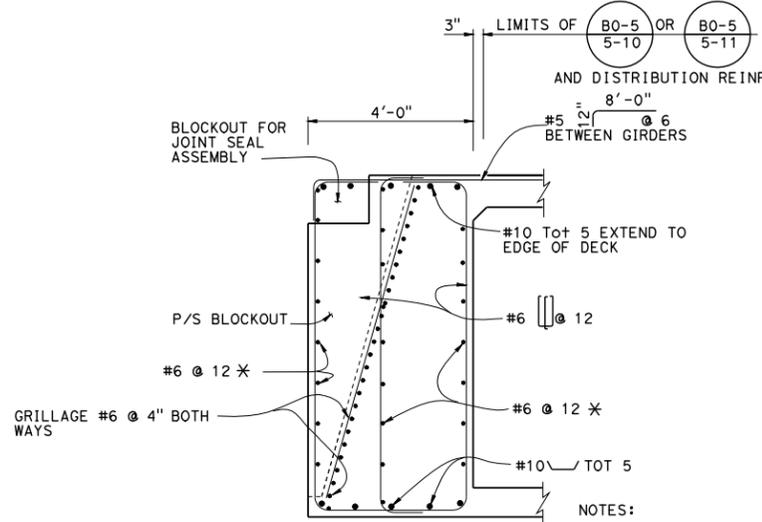
PART GIRDER SECTION

NO SCALE

FRAME 1

**FRAME 1
PRESTRESSING NOTES**

35 Psi Low Relaxation Strands:
 Pjack = 10,950 kips
 Anchor Set = 3/8 In
 Total Number of Girders = 4
 Friction curvature coefficient $\mu = 20 \times 10^{-2}(1/\text{rad})$
 Friction wobble coefficient $K = 0.0002 (1/Ft)$
 Distribution of prestress force (Pjack) between girders shall not exceed the ratio of 3:2
 Maximum final force variation between girders shall not exceed 725 kips
 Concrete: $f'_c = 4500$ Psi @ 28 days
 $f'_t = 3600$ Psi @ time of stressing
 Contractor shall submit elongation calculations based on initial stress at $\alpha = 0.850$ times jacking stress
 Two end stressing shall be performed



- NOTES:
- * Bars may be spliced or bent to clear prestress anchorage as directed by the Engineer
 - For location of "SECTION M-M" see "GIRDER LAYOUT No. 1" and "GIRDER LAYOUT No. 4" sheets

SECTION M-M

NO SCALE

**FRAME 2
PRESTRESSING NOTES**

35 Psi Low Relaxation Strands:
 Pjack = 10,500 kips
 Anchor Set = 3/8 In
 Total Number of Girders = 4
 Friction curvature coefficient $\mu = 20 \times 10^{-2}(1/\text{rad})$
 Friction wobble coefficient $K = 0.0002 (1/Ft)$
 Distribution of prestress force (Pjack) between girders shall not exceed the ratio of 3:2
 Maximum final force variation between girders shall not exceed 725 kips
 Concrete: $f'_c = 4500$ Psi @ 28 days
 $f'_t = 3600$ Psi @ time of stressing
 Contractor shall submit elongation calculations based on initial stress at $\alpha = 0.870$ times jacking stress
 Two end stressing shall be performed

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No | TOTAL SHEETS |
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| REGISTERED CIVIL ENGINEER | DATE | X |
| PLANS APPROVAL DATE | | |

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| DESIGN | BY NAME | CHECKED NAME |
| DETAILS | BY NAME | CHECKED NAME |
| QUANTITIES | BY NAME | CHECKED NAME |

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
 STRUCTURE DESIGN
 DESIGN BRANCH 3

BRIDGE NO. 11-1111
 POST MILE 2.5
EIGHT RUN BRIDGE (REPLACE)
MISCELLANEOUS GIRDER DETAILS NO. 1

| | | | | | | | |
|--|--|---------|-----------------------|---|----------|----------------|--------------|
| STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05) | ORIGINAL SCALE IN INCHES FOR REDUCED PLANS | 0 1 2 3 | CU 01123 EA 123456 | DISREGARD PRINTS BEARING EARLIER REVISION DATES | 11-10-00 | REVISION DATES | SHEET X OF X |
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TIME PLOTTED => 10:19 USERNAME => [CHUBING DATE PLOTTED => 18-MAR-2010



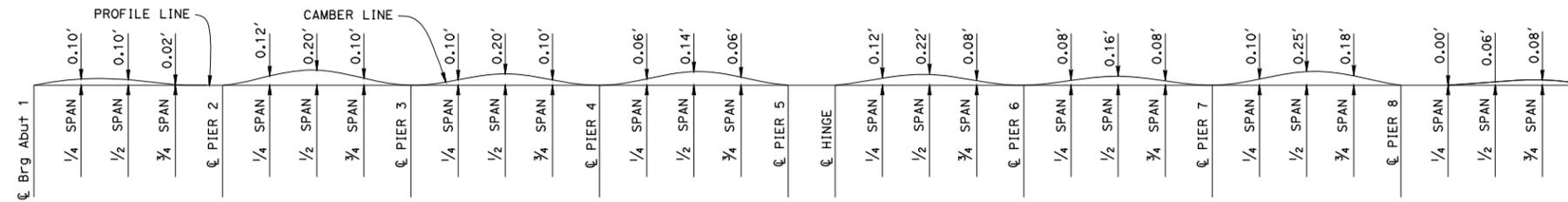
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STATE OF CALIFORNIA
CIVIL

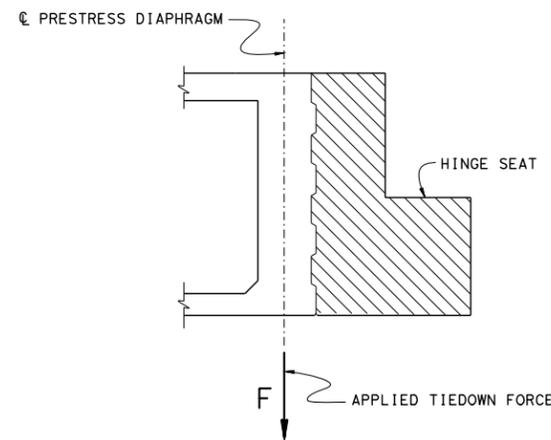
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No. NUMBER
Exp. DATE

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CAMBER DIAGRAM

No Scale
DOES NOT INCLUDE ALLOWANCE FOR FALSEWORK SETTLEMENT



NOTES:

- Contractor to provide tie-down system to prevent hinge seat curl. Minimum capacity of tie-downs shall be 1.2 x Dead Load Reaction (F)
- Maximum tie-down stress due to 1.2 x Dead Load Reaction (F), shall not exceed 0.75fu of prestressing steel
- Contractor shall apply only Dead Load Reaction (F) to the tie-down system. Additional adjustments to the tie-down system may be required periodically to maintain grade and profile
- No tension is allowed on tie-downs until superstructure has been stressed

| |
|--------------------------------------|
| DEAD LOAD REACTION @ HINGE (kips) |
| F |
| 940 |

No Scale

| | | | | | | | | |
|--|---|---|--------------|--|--|---|--|-----------------------------------|
| STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05) | DESIGN BY NAME CHECKED NAME DETAILS BY NAME CHECKED NAME QUANTITIES BY NAME CHECKED NAME | BY NAME CHECKED NAME BY NAME CHECKED NAME BY NAME CHECKED NAME | SAME, ALWAYS | <p>STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION</p> | <p>DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 3</p> | BRIDGE NO. 11-1111 POST MILE 2.5 | <p>EIGHT RUN BRIDGE (REPLACE) MISCELLANEOUS GIRDER DETAILS NO. 2</p> | REVISION DATES SHEET OF X X |
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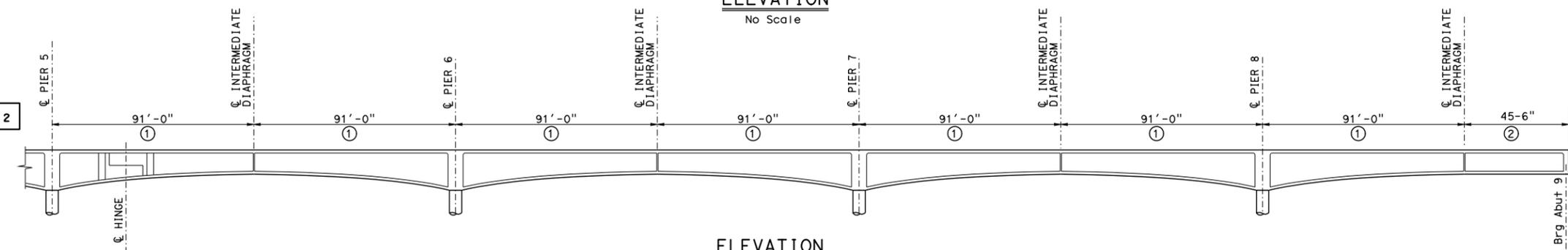
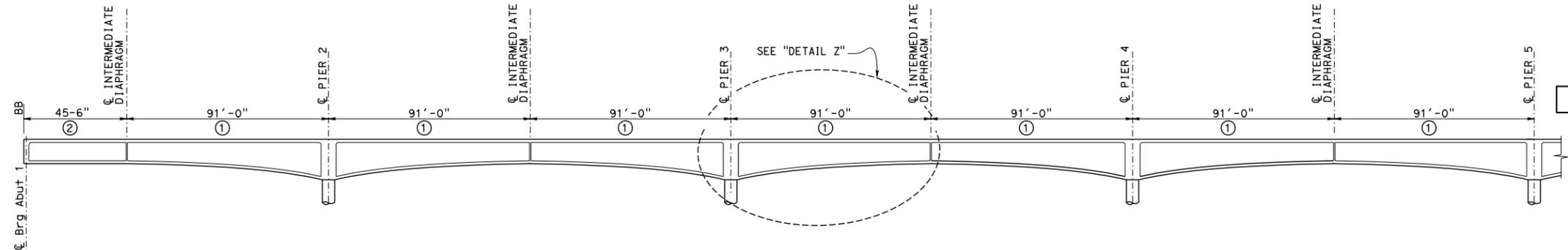
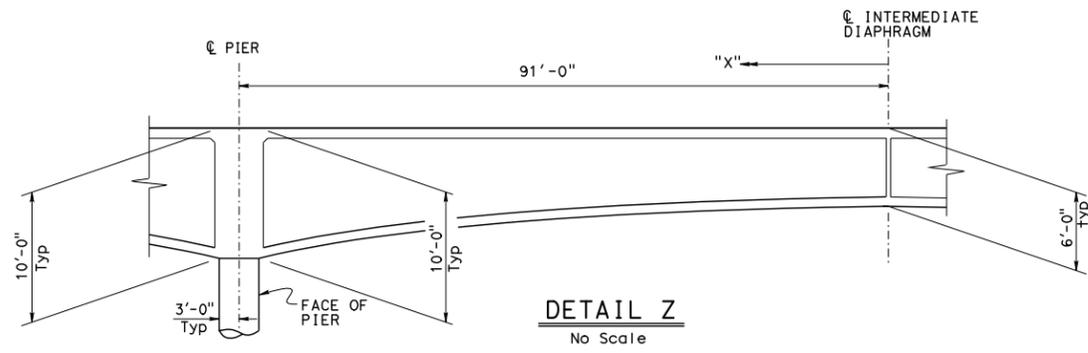
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| PLANS APPROVAL DATE | | |

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| DESIGN BY NAME | CHECKED NAME | STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION | DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 3 | BRIDGE NO. | EIGHT RUN BRIDGE (REPLACE) SUPERSTRUCTURE GEOMETRICS |
| DETAILS BY NAME | CHECKED NAME | | | 11-1111 | |
| QUANTITIES BY NAME | CHECKED NAME | | | 2.5 | |

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS: 0 1 2 3

CU 01123 EA 123456

DISREGARD PRINTS BEARING EARLIER REVISION DATES: 11-10-09

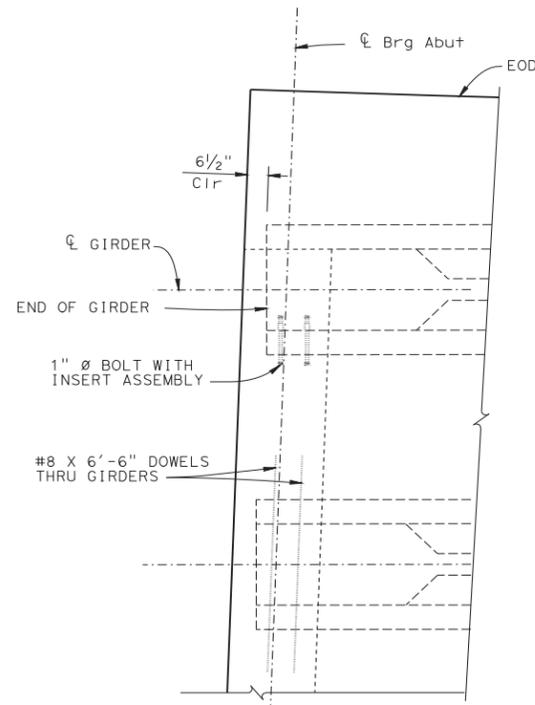
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| | X | X |

FILE => 09g-bdd-g1.dgn

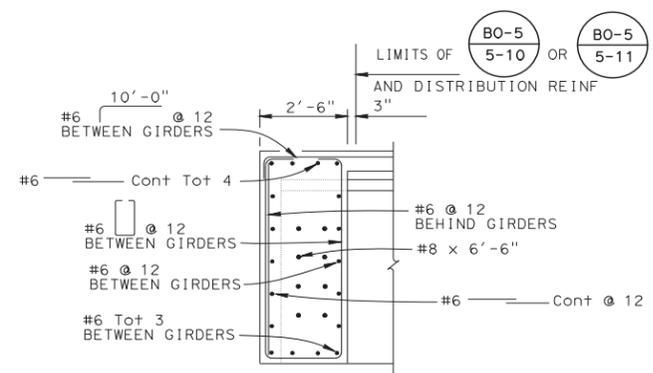
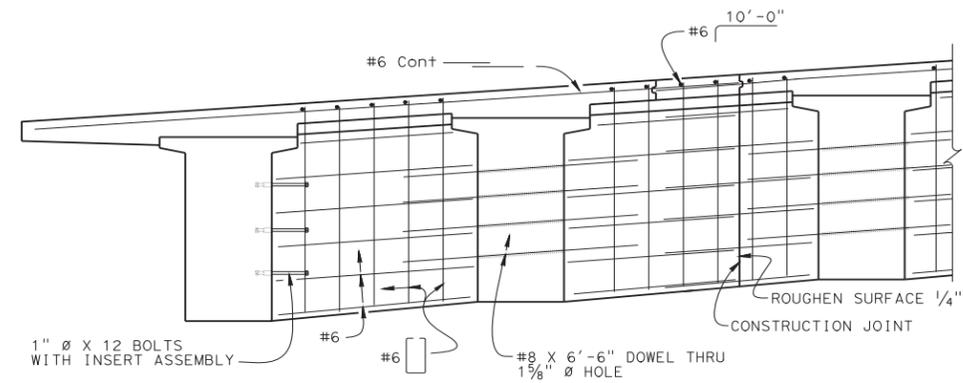


| BULB-TEE GIRDER DETAILS | | | | | | | | |
|-------------------------|----------------|--------------------|--|-------------------------------------|--------------------|---------------|--------------------------------|----------------|
| Girder Designation | Girder Bearing | Girder Length (ft) | 'x' Distance from bottom of girder to CG of PS steel | Mid-Span Pf = Working Force in kips | Concrete Strength | | Mid-Span Deflection Components | |
| | | | | | Stressing Psi f'ci | Final Psi f'c | Deck Dead Load | Rail Dead Load |
| A | S81°24'52"E | 119.78 | 6" | 1420 | 4500 | 4790 | 1 3/8" | 1/2" |
| B | " | 120.42 | 6" | 1410 | 4500 | 4790 | 1 3/8" | 1/2" |
| C | " | 121.15 | 5 1/2" | 1380 | 4060 | 4790 | 1 3/8" | 3/8" |
| D | " | 121.70 | 5 1/2" | 1211 | 4060 | 4790 | 1 1/2" | 3/8" |
| E | " | 122.25 | 6" | 1434 | 4500 | 4930 | 1 1/2" | 3/8" |

| | | | | | |
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| PLANS APPROVAL DATE | | | | | |
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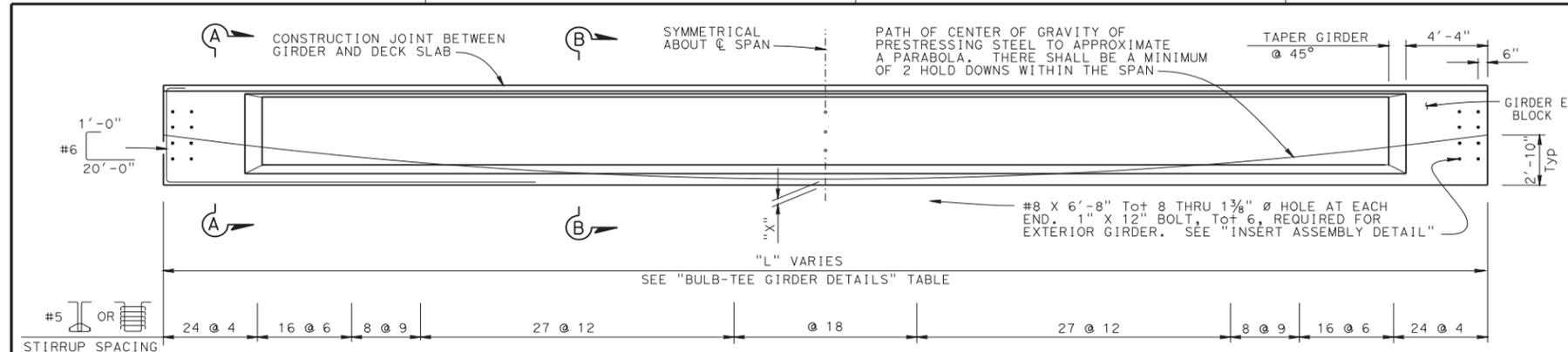
NOTE:
1. Abutment 1 shown, Abutment 2 similar



NOTE:
1. For details not shown, see "BULB-TEE GIRDER DETAILS NO. 2" sheet

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| DESIGN BY NAME | CHECKED NAME | STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION | DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH | BRIDGE NO. | DORRY AVENUE BRIDGE | |
| DETAILS BY NAME | CHECKED NAME | | | 11-1111 | | |
| QUANTITIES BY NAME | CHECKED NAME | | | POST MILE | BULB-TEE GIRDER DETAILS NO. 1 | |
| | | | | 2.5 | | |
| ORIGINAL SCALE IN INCHES FOR REDUCED PLANS | | | | CU 01123 EA 123456 | DISREGARD PRINTS BEARING EARLIER REVISION DATES | SHEET OF |
| | | | | FILE => 09b2-bdd-g1-bt.dgn | 11-19-09 | X X |

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NAME _____
No. _____
DATE _____
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STATE OF CALIFORNIA

PRESTRESSING NOTES

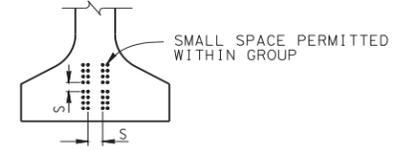
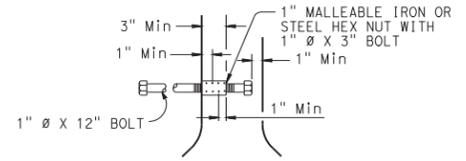
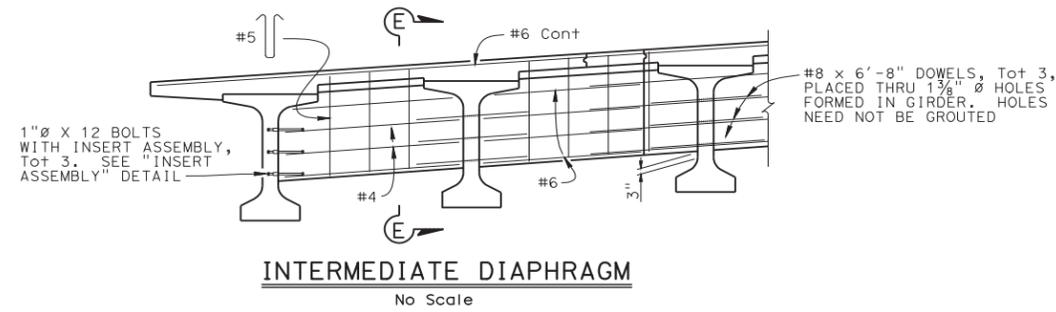
Working force: The force required at specific location after all losses.

Concrete strength: f'_{ci} is at time of initial stressing, f'_c is at 28 days
See "BULB-TEE GIRDER DETAILS" Table, "BULB-TEE GIRDER DETAILS No. 1" sheet

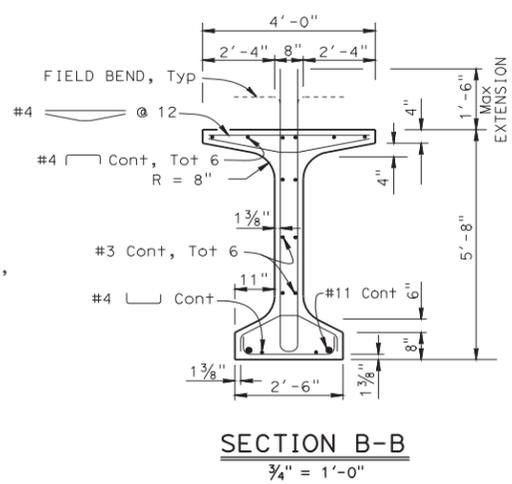
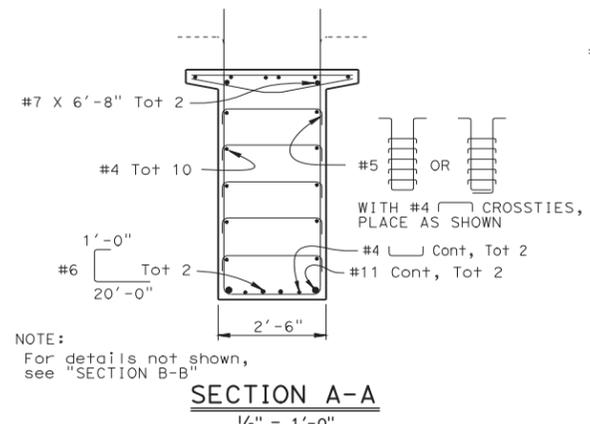
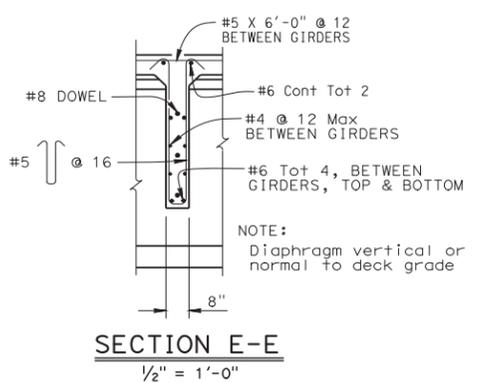
Deflection components: Informational - to be used in setting screed line elevations

Screed line elevations for deck concrete will be determined by the Engineer

Details shown are for pretensioned girders. The Contractor may submit details for post-tensioning or prestressing steel which shall be subject to the approval of the Engineer

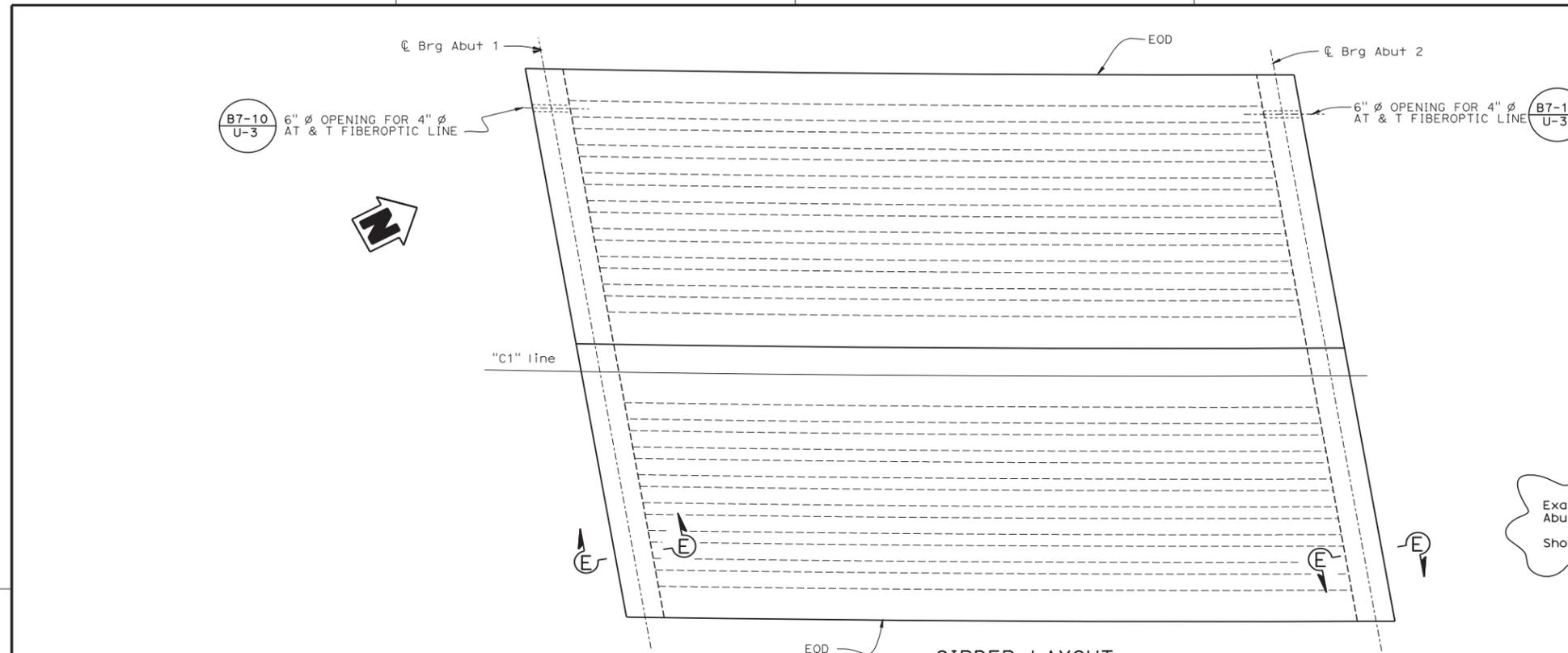


- Strands may be bundled in groups consisting of 4 vertically, 2 horizontally, and separated at the ends
- The Min distance "S" between groups or individual strands is 1 3/8" for 3/8" strands, 1 1/2" for 1/2" and 3/4" strands and 2" for 1 1/4" strands
- "S" is measured between centers of adjacent strands
- Approval of Engineer is required for deviation



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| DESIGN BY NAME | CHECKED NAME | STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION | DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH | BRIDGE NO. | DORRY AVENUE BRIDGE | |
| DETAILS BY NAME | CHECKED NAME | | | 11-1111 | | |
| QUANTITIES BY NAME | CHECKED NAME | | | POST MILE | BULB-TEE GIRDER DETAILS NO. 2 | |
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| STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/09) | | | | CU 01123 EA 123456 | REVISION DATES | |
| ORIGINAL SCALE IN INCHES FOR REDUCED PLANS | | | | DISREGARD PRINTS BEARING EARLIER REVISION DATES | 11-10-09 | SHEET OF |
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| PLANS APPROVAL DATE | | |

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Name: _____

No. _____

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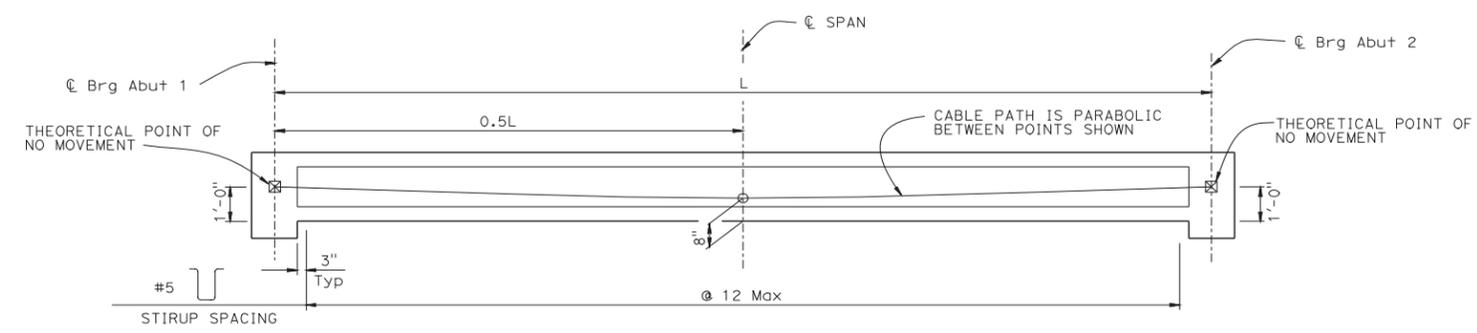
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Example of a Prestressed Diaphragm Abutment Bridge

Show "STIRRUP SPACING" and "CABLE PATH"

GIRDER LAYOUT
1/4" = 1'-0"

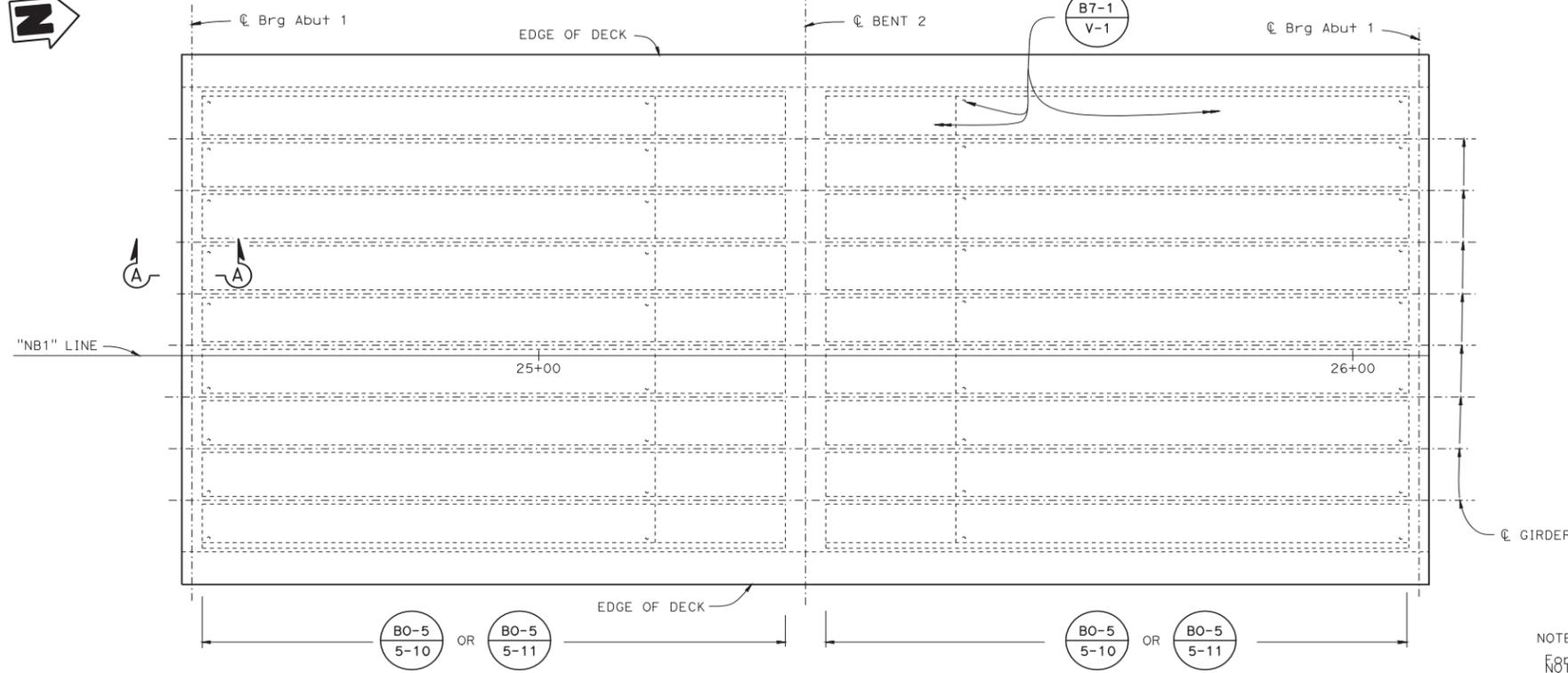


NOTE:
1. For "SECTION E-E", see "GIRDER LAYOUT NO 2" sheet

LONGITUDINAL SECTION
Horz 1/4" = 1'-0"
Vert 1/2" = 1'-0"

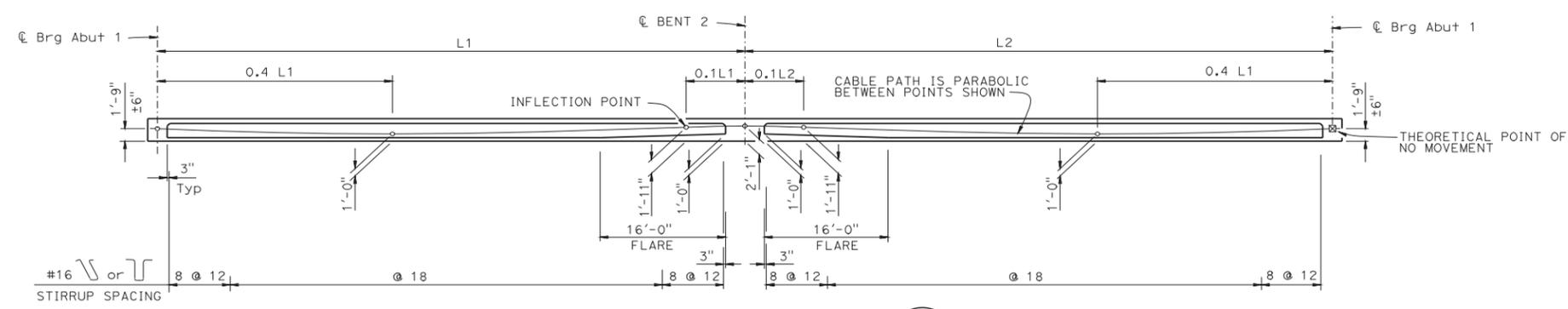
| <table border="1"> <tr> <td>DESIGN</td> <td>BY Name</td> <td>CHECKED Name</td> </tr> <tr> <td>DETAILS</td> <td>BY Name</td> <td>CHECKED Name</td> </tr> <tr> <td>QUANTITIES</td> <td>BY Name</td> <td>CHECKED Name</td> </tr> </table> | DESIGN | BY Name | CHECKED Name | DETAILS | BY Name | CHECKED Name | QUANTITIES | BY Name | CHECKED Name | <p>STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION</p> | <p>DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH</p> | <table border="1"> <tr> <td>BRIDGE NO.</td> <td>12-1234</td> </tr> <tr> <td>POST MILE</td> <td>5.88</td> </tr> </table> | BRIDGE NO. | 12-1234 | POST MILE | 5.88 | <p>JAY CREEK BRIDGE (REPLACE) GIRDER LAYOUT NO. 1</p> |
|--|---------|--|--------------|---|--|----------------|------------|---------|--------------|--|---|---|------------|---------|-----------|------|---|
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| QUANTITIES | BY Name | CHECKED Name | | | | | | | | | | | | | | | |
| BRIDGE NO. | 12-1234 | | | | | | | | | | | | | | | | |
| POST MILE | 5.88 | | | | | | | | | | | | | | | | |
| <p>STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05)</p> | | <p>ORIGINAL SCALE IN INCHES FOR REDUCED PLANS</p> <p>0 1 2 3</p> | | <p>CU 01 EA 2345 FILE => 09c1-bdd-gl.dgn</p> | <table border="1"> <tr> <th colspan="2">REVISION DATES</th> <th>SHEET</th> <th>OF</th> </tr> <tr> <td>Date</td> <td></td> <td>-</td> <td>X</td> </tr> </table> | REVISION DATES | | SHEET | OF | Date | | - | X | | | | |
| REVISION DATES | | SHEET | OF | | | | | | | | | | | | | | |
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PLAN
1/8" = 1'-0"

NOTE:
FOR "SECTION A-A" AND "PRESTRESSING NOTES", see "GIRDER DETAILS" sheet



LONGITUDINAL SECTION B8-5
1/8" = 1'-0"

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No | TOTAL SHEETS |
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| Name | |
| No. 12345 | |
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| DESIGN BY Name | CHECKED Name | STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION | DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH X | BRIDGE NO. | 66TH STREET ARCH BRIDGE GIRDER LAYOUT |
| DETAILS BY Name | CHECKED Name | | | X | |
| QUANTITIES BY Name | CHECKED Name | | | POST MILE | |
| STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05) | | ORIGINAL SCALE IN INCHES FOR REDUCED PLANS | CU X EA X FILE => 09d1-bdd-g1.dgn | DISREGARD PRINTS BEARING EARLIER REVISION DATES | REVISION DATES |

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