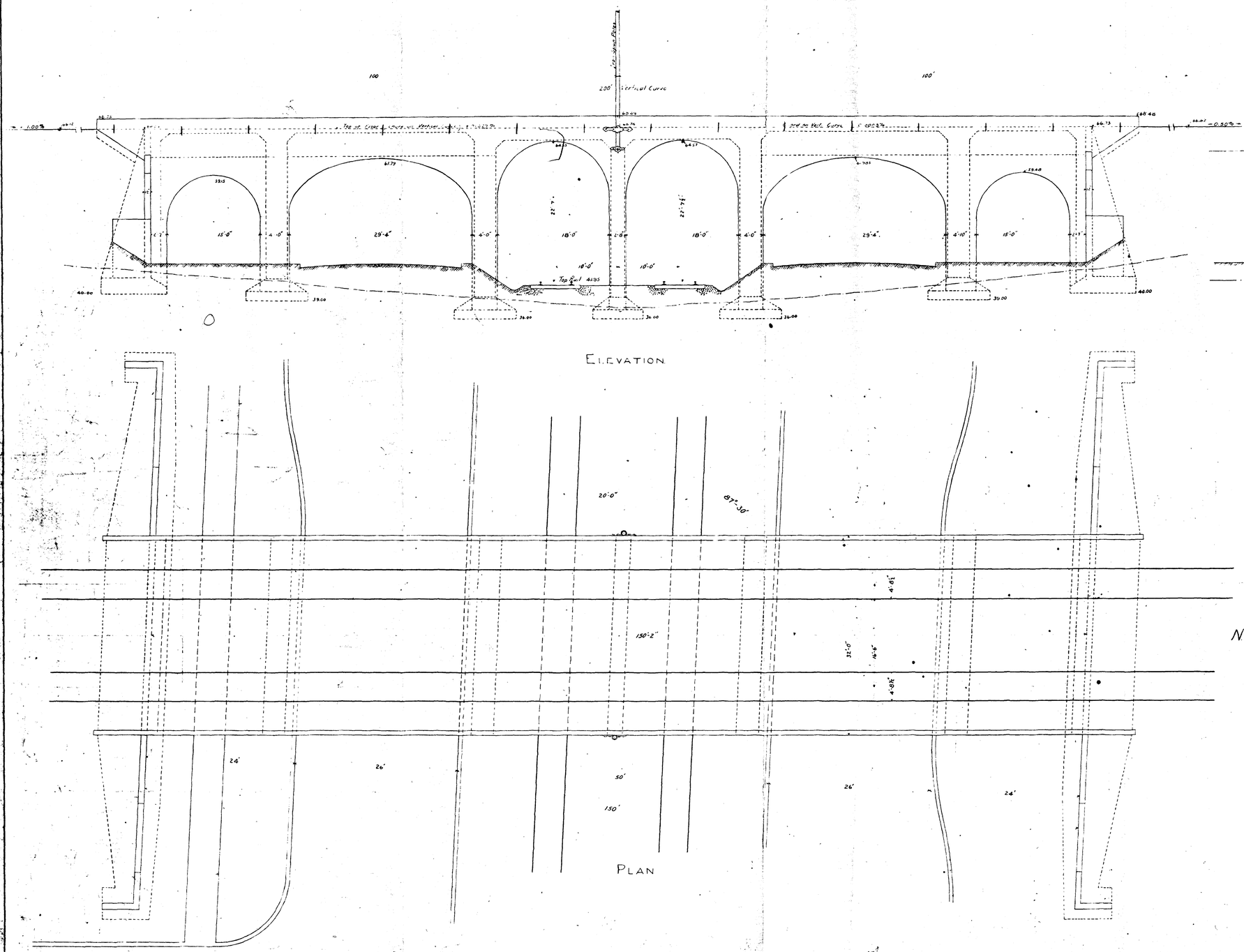
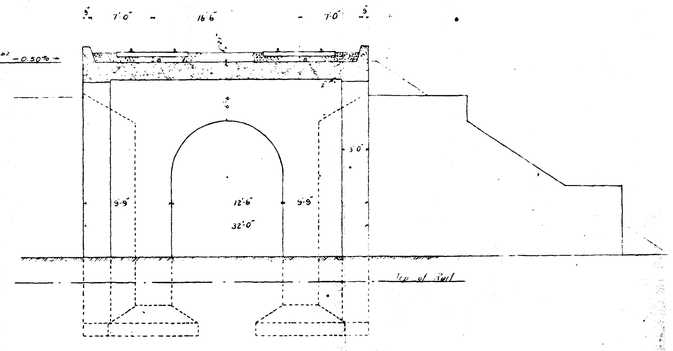


ELEVATION



SECTION

PLAN

TORRANCE LINES
EL PRADO BRIDGE – GENERAL PLAN
PACIFIC ELECTRIC R'Y CO.

Scale 1/8" = 1 Ft. June 3, 1913.

APPROVED Geo. W. Pettsbury
CHIEF ENGINEER C.H.W.

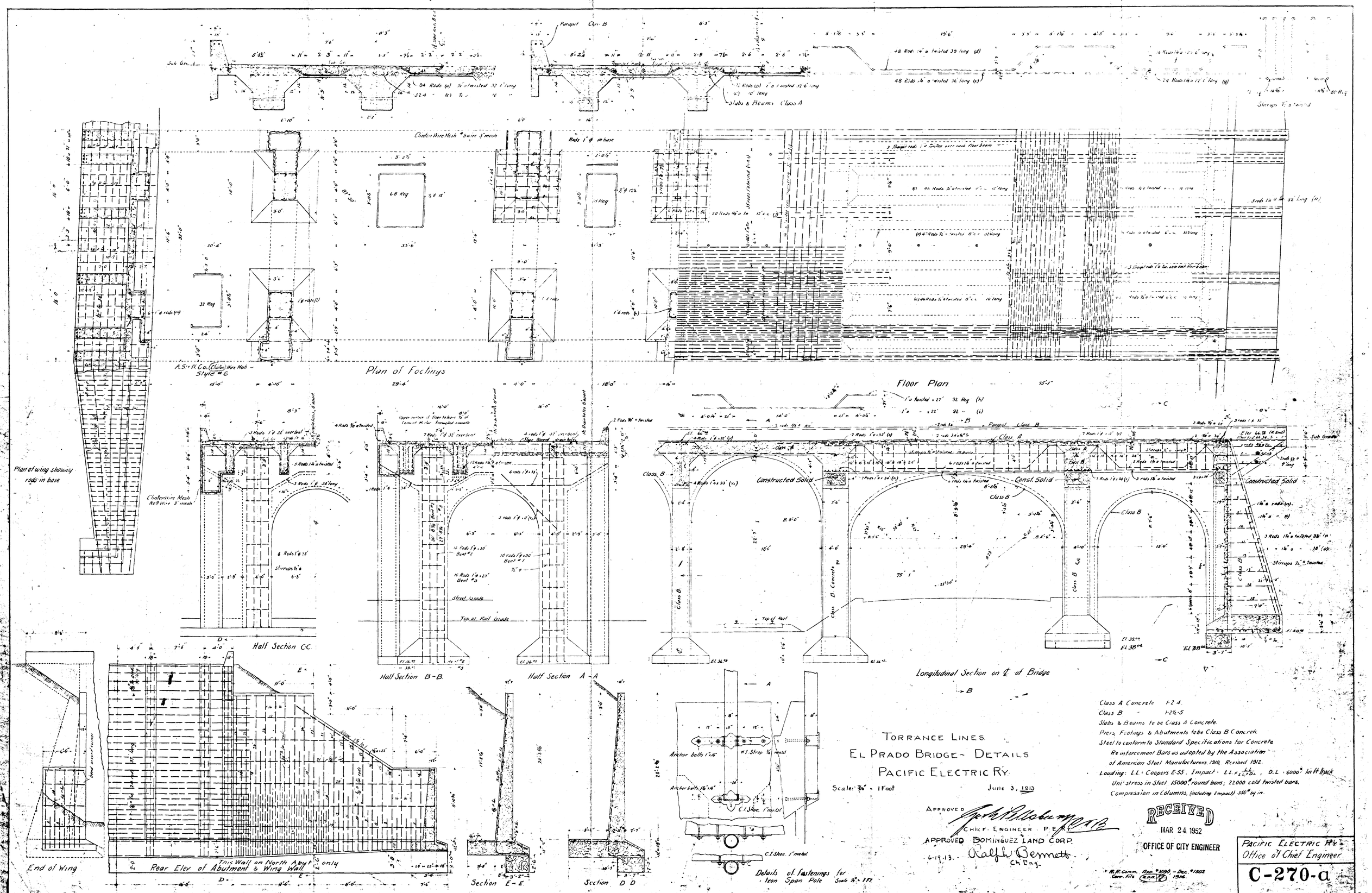
APPROVED DOMINGUEZ LAND COR.
Ralph Bennett
6-17-13 Ch. Eng.

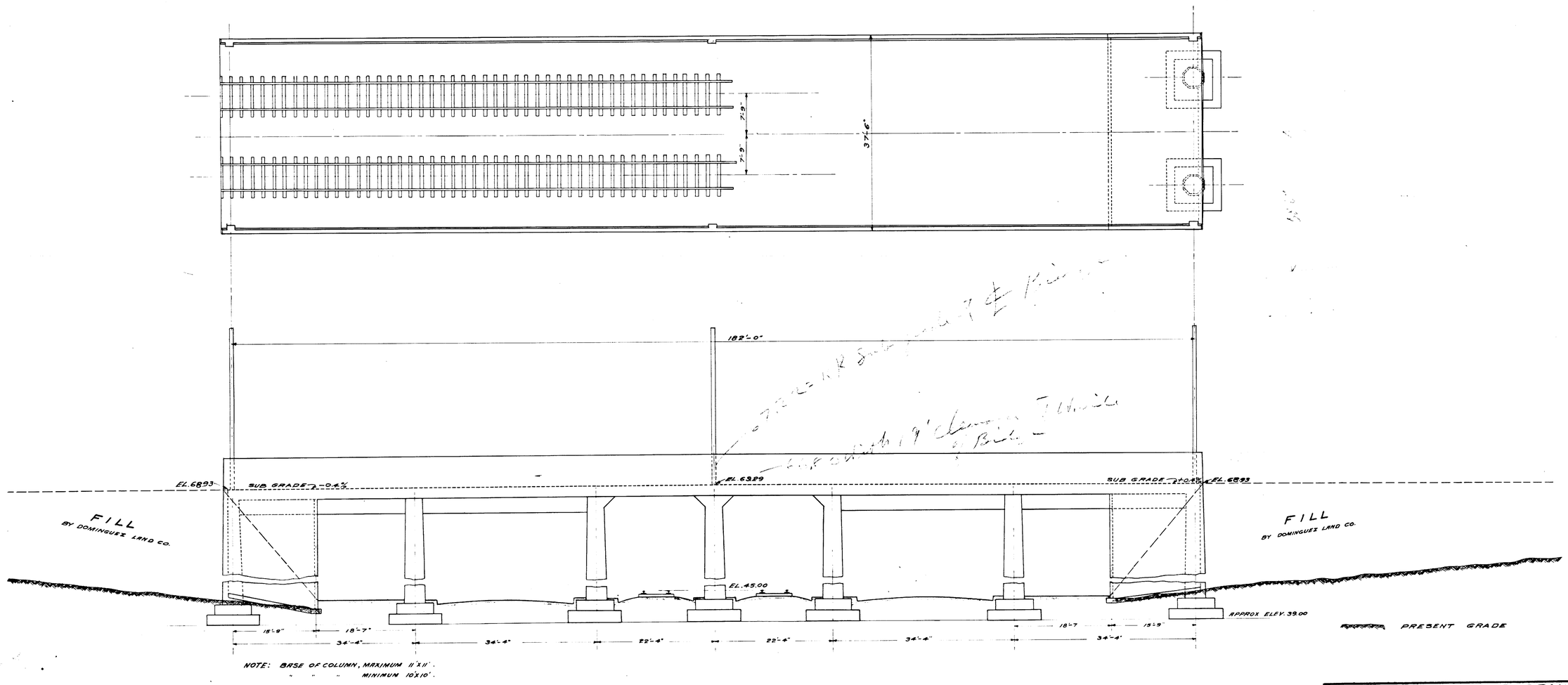
RECEIVED
MAR 24 1952
OFFICE OF CITY ENGINEER

R.R. Comm. App. #1090 – Dec. #1502
Corr. file (a.a.a.) 1914.

PACIFIC ELECTRIC RY.
Office of Chief Engineer

C-270


Plan of Footings
Floor Plan
Plan of wing showing rods in base
Half Section C-C
Half Section B-B
Half Section A-A
Longitudinal Section on ℄ of Bridge
End of Wing
Rear Elev. of Abutment & Wing Wall
This Wall on North Abut. only
Section E-E
Section D D
Details of fastenings for Iron Span Pole
Class A Concrete 1-2-4
Class B " 1-2½-5
Slabs & Beams to be Class A Concrete.
Piers, Footings & Abutments to be Class B Concrete
Steel to conform to Standard Specifications for Concrete Reinforcement Bars as adopted by the Association of American Steel Manufacturers 1910, Revised 1912.
Loading: L.L. = Coopers E-55. Impact: L.L. × L.L./(L.L.+D.L.), D.L. = 6000# lin ft track
Unit stress in Steel 15000# round bars; 22000 cold twisted bars.
Compression in Columns, (including Impact) 350# sq in.
TORRANCE LINES
EL PRADO BRIDGE ~ DETAILS
PACIFIC ELECTRIC RY.
Scale: 3/16" = 1 Foot
June 3, 1913
APPROVED
CHIEF ENGINEER P.E.R.
APPROVED DOMINGUEZ LAND CORP.
6-19-13.
Ralph Bennett
Ch. Eng.
RECEIVED
MAR 24 1952
OFFICE OF CITY ENGINEER
R.R. Comm. App. #1090 - Dec. #1502
Corr. file
1914.
PACIFIC ELECTRIC RY.
Office of Chief Engineer
C-270-a



EL PRADO BRIDGE- TORRANCE
GENERAL PLAN- T BEAM SYSTEM.

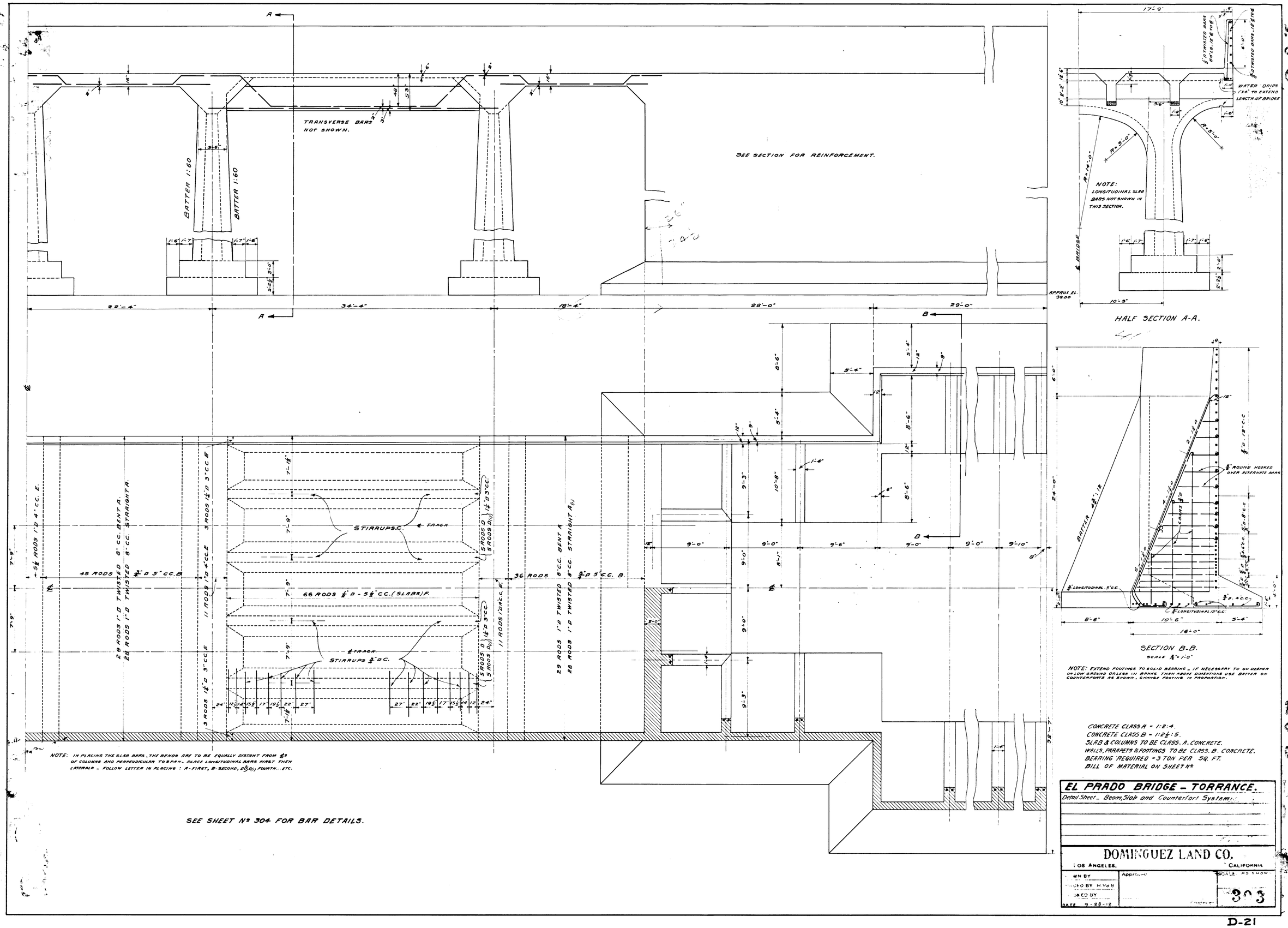
DOMINGUEZ LAND CO.

H.S.W.
H.Yd.B.
H.S.W.
Oct. 8-12

Ralph Bennett

305

T-2-9 | 3-7
EL PRADO BRIDGE



NOTE: IN PLACING THE SLAB BARS, THE BENDS ARE TO BE EQUALLY DISTANT FROM ℄s OF COLUMNS AND PERPENDICULAR TO SPAN. PLACE LONGITUDINAL BARS FIRST THEN LATERALS - FOLLOW LETTER IN PLACING: A-FIRST, B-SECOND, D & D(1) FOURTH... ETC.

HALF SECTION A-A.

SECTION B-B.

SCALE ¾" = 1'-0"

NOTE: EXTEND FOOTINGS TO SOLID BEARING - IF NECESSARY TO GO DEEPER ON LOW GROUND OR LESS IN BANKS THAN ABOVE DIMENTIONS USE BATTER ON COUNTERFORTS AS SHOWN, CHANGE FOOTING IN PROPORTION.

CONCRETE CLASS A = 1:2:4.
CONCRETE CLASS B = 1:2½:5.
SLAB & COLUMNS TO BE CLASS. A. CONCRETE.
WALLS, PARAPETS & FOOTINGS TO BE CLASS. B. CONCRETE.
BEARING REQUIRED = 3 TON PER SQ. FT.
BILL OF MATERIAL ON SHEET Nº

EL PRADO BRIDGE - TORRANCE.

Detail Sheet - Beam, Slab and Counterfort System.

DOMINGUEZ LAND CO.

LOS ANGELES, CALIFORNIA

DRAWN BY	Approved	SCALE AS SHOWN
CHECKED BY H.V.d.B.		
CHECKED BY		303
DATE 9-28-12	Engineer	

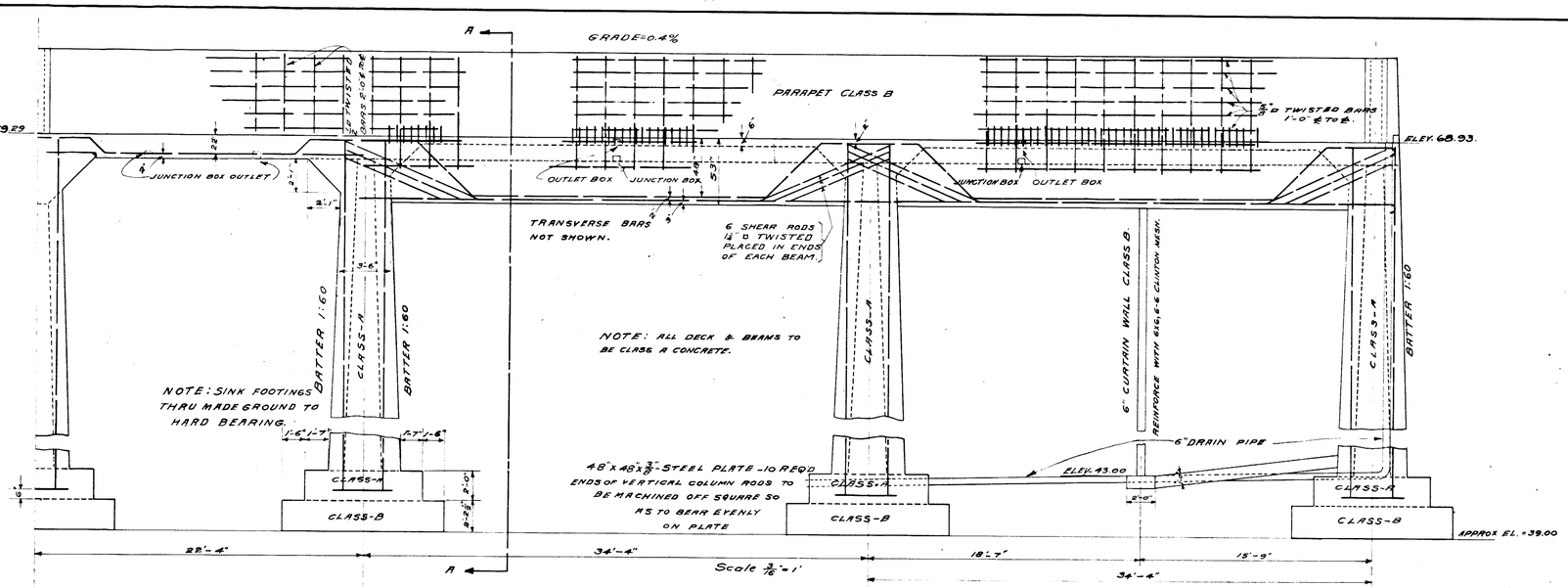
EAS FILE CORP. IRVINE CA. EFH 24

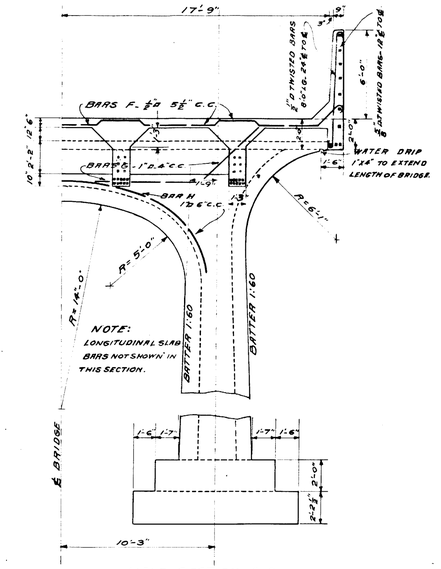
T-2-9 | 1-7

EL PRADO BRIDGE

T-2-9

D-21



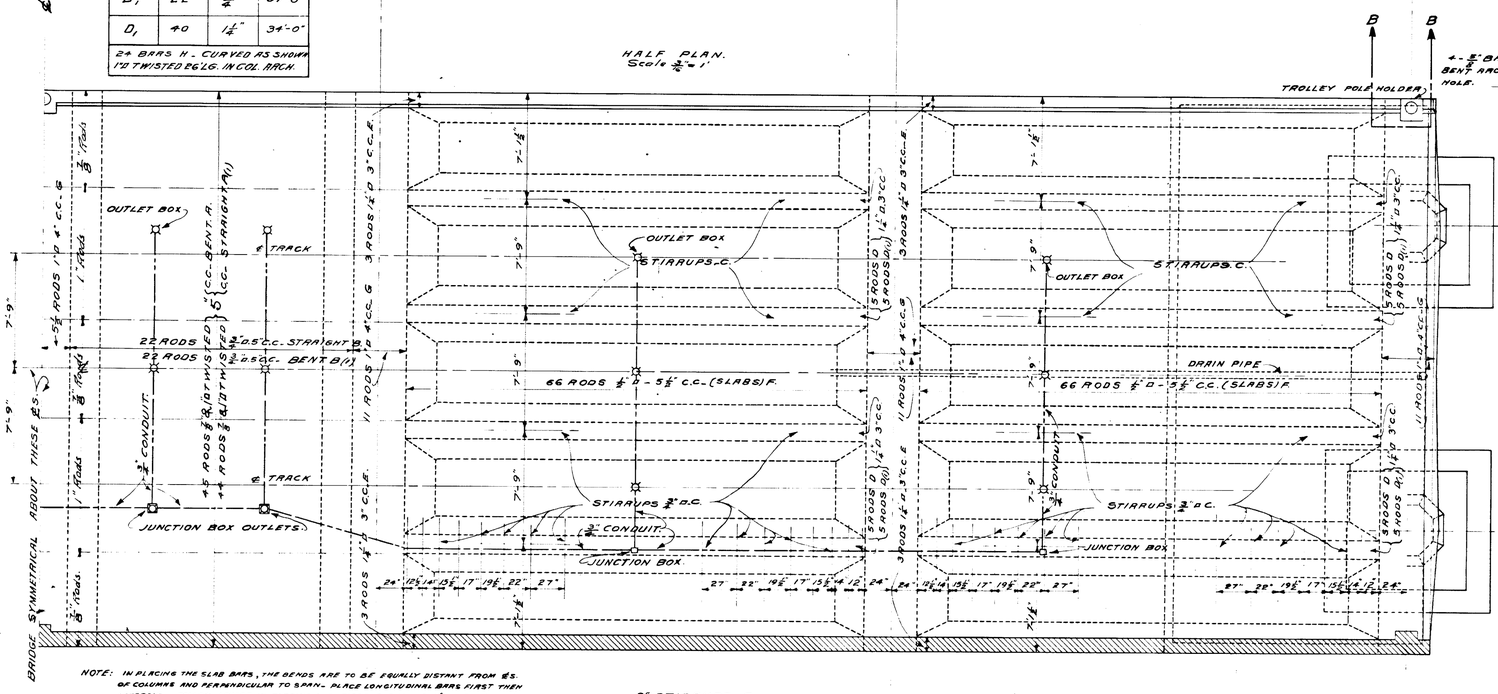


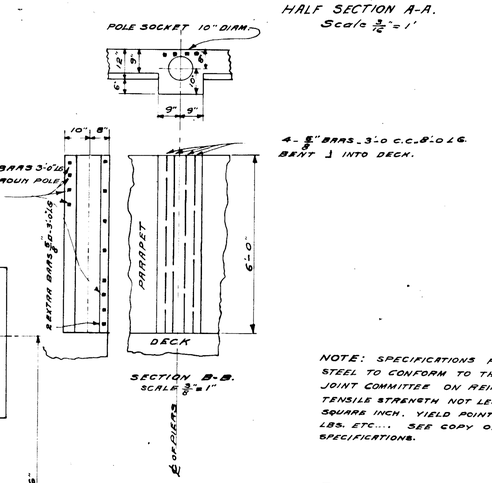
HALF SECTION A-A.
Scale 3/16" = 1'

STRAIGHT D TWISTED BARS IN 1/2 BRIDGE DECK.

BAR	NUMBER OF BARS	SIZE	LENGTH
A,	44	1"	22'-0"
B,	22	3/4"	37'-0"
D,	40	1 1/4"	34'-0"
24 BARS H - CURVED AS SHOWN 1'2 TWISTED 26'LG. IN COL. ARCH.			

HALF PLAN.
Scale 3/16" = 1'





NOTE: SPECIFICATIONS FOR HIGH ELASTIC LIMIT STEEL TO CONFORM TO THOSE ADOPTED BY THE JOINT COMMITTEE ON REINFORCED CONCRETE, WITH TENSILE STRENGTH NOT LESS THAN 105,000 LBS. PER SQUARE INCH. YIELD POINT NOT LESS THAN 53,500 LBS. ETC... SEE COPY OF JOINT COMMITTEE SPECIFICATIONS.

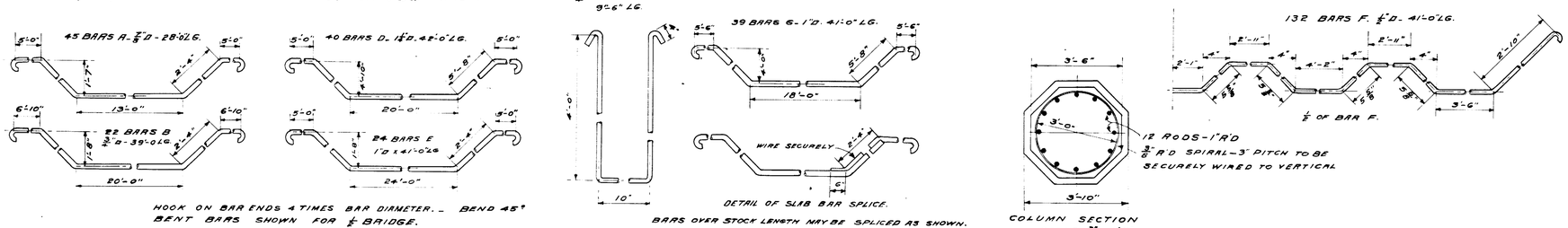
□ JUNCTION BOXES.

⌑ OUTLET BOXES AS SHOWN WITH CONDUITS PLACED IN CONCRETE.

FINISH - REMOVE BOARD MARKS. GIVE TWO COATS OF CEMENT WASH. FINAL SURFACE MUST BE EVEN AND FREE FROM MARKING.

CONCRETE CLASS A = 1:2:4.
CONCRETE CLASS B = 1:2 1/2:5.
SLAB & COLUMNS TO BE CLASS-A-CONCRETE.
WALLS, PARAPETS & FOOTINGS TO BE CLASS-B-CONCRETE
BEARING REQUIRED = 3 TON PER SQ. FT.
BILL OF MATERIAL ON SHEET Nº
SEE ALTERNATE Nº2 & Nº3.
——— REINFORCED STEEL
——— CONDUITS.

NOTE: IN PLACING THE SLAB BARS, THE ENDS ARE TO BE EQUALLY DISTANT FROM ℄S. OF COLUMNS AND PERPENDICULAR TO SPAN - PLACE LONGITUDINAL BARS FIRST THEN LATERALS - FOLLOW LETTER IN PLACING: A-FIRST, B-SECOND, D, E, H, FOURTH, ETC.



HOOK ON BAR ENDS 4 TIMES BAR DIAMETER. - BEND 45° BENT BARS SHOWN FOR 1/2 BRIDGE.

DETAIL OF SLAB BAR SPLICE.

BARS OVER STOCK LENGTH MAY BE SPLICED AS SHOWN.

ALTERNATE Nº3.

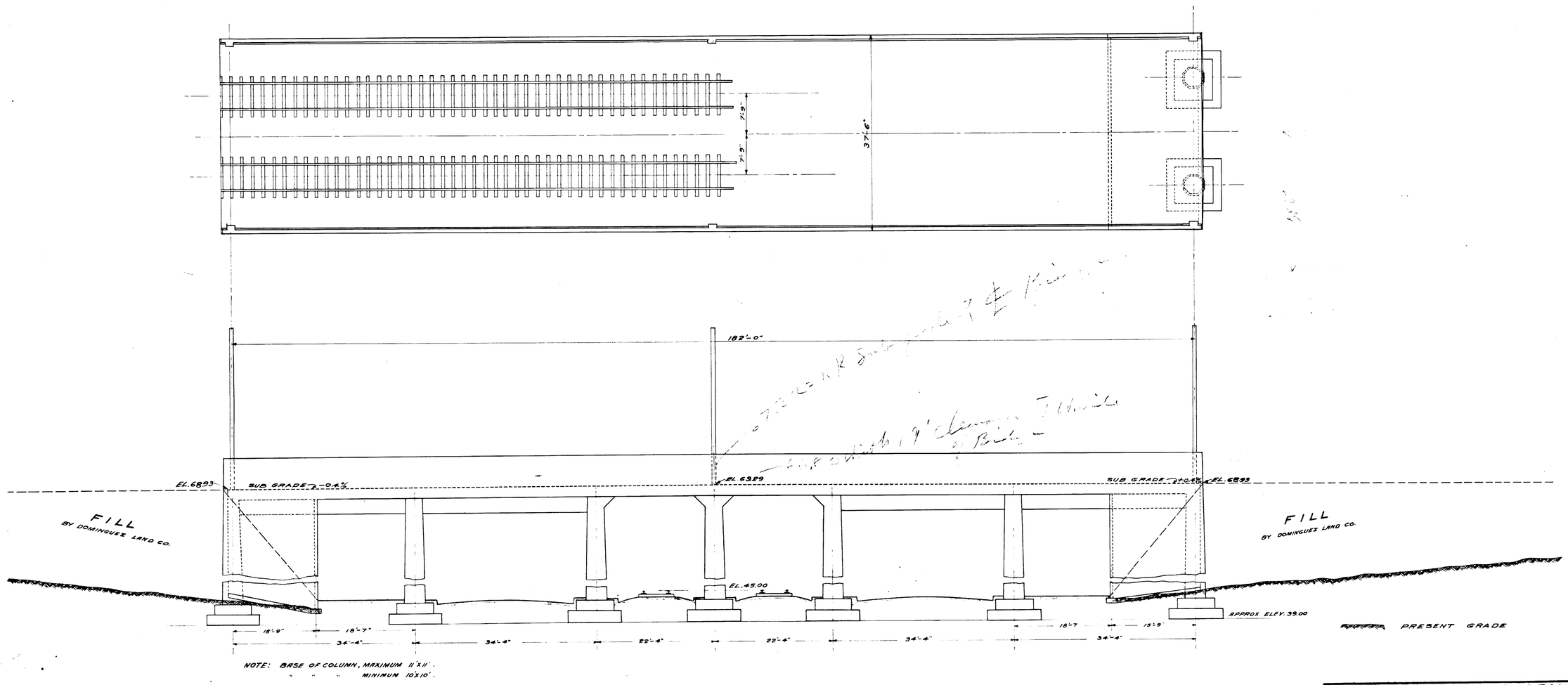
EL PRADO BRIDGE - TORRANCE.
DETAIL SHEET - T BEAM SYSTEM.
COOPER'S CLASS E=57. *5700 lbs per pair drivers. (4 pair 8' centers)
*200 ton locomotive - Bridge designed for live loads 400 lbs = 25% impact loading.
Factor Safety = 4 - fs = 18 - fc = 750 lbs - fs = 22,000 twisted square bar. - fs = 18,000 round bar.
Compression in Column = 450# + 45%

DOMINGUEZ LAND CO.
LOS ANGELES, CALIFORNIA
DRAWN BY N.S.W. | Approved | SCALE AS SHOWN
TRACED BY H.F.
CHECKED BY N.S.W. | Ralph Bennett | 304
DATE Oct 1-12

T-2-9 | 2-7
EL PRADO BRIDGE

EASI FILE CORP. IRVINE CA FFH24

D-21



EL PRADO BRIDGE- TORRANCE
GENERAL PLAN- T BEAM SYSTEM.

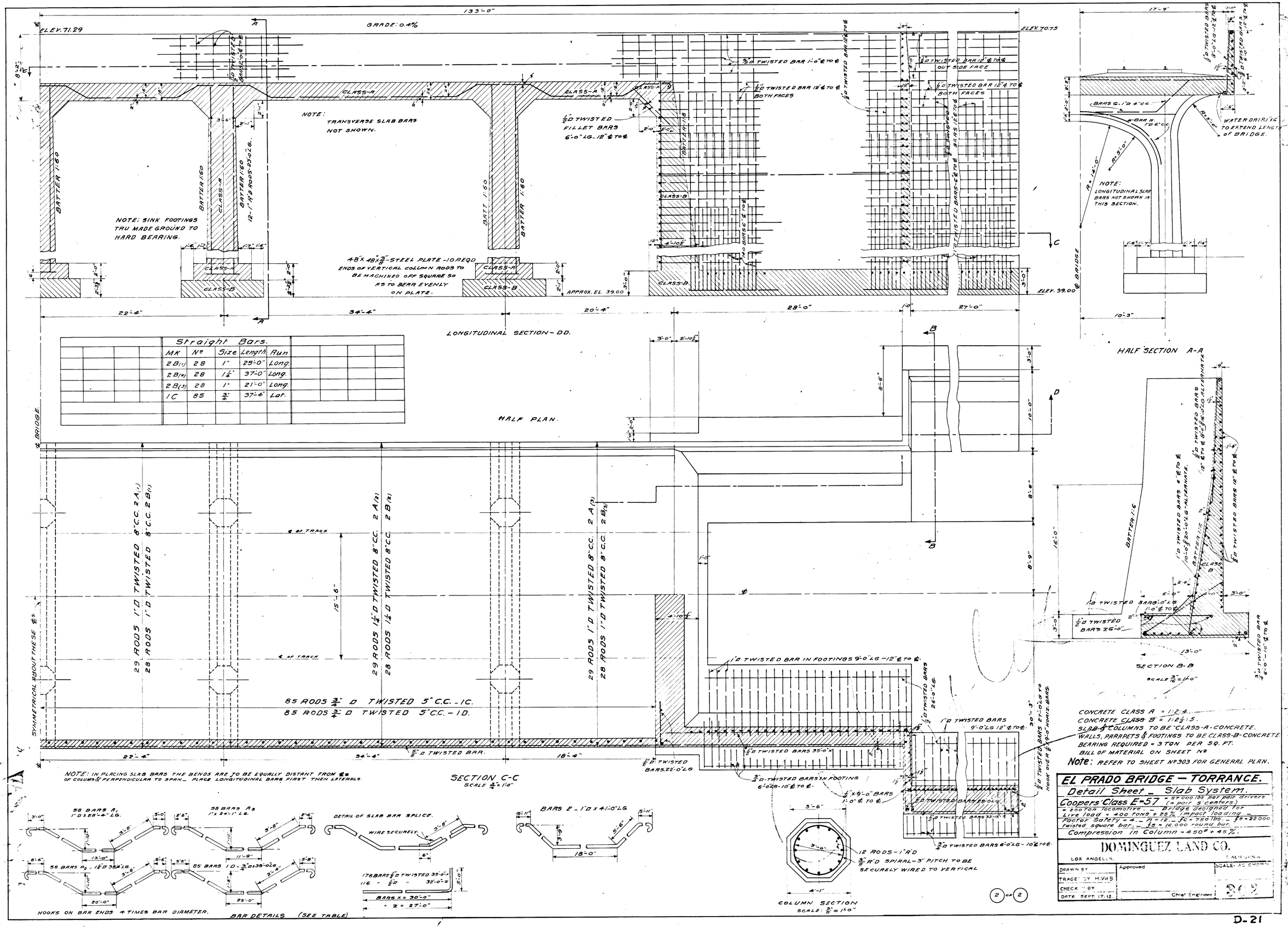
DOMINGUEZ LAND CO.

H.S.W.
H.Yd.B.
H.S.W.
Oct. 8-12

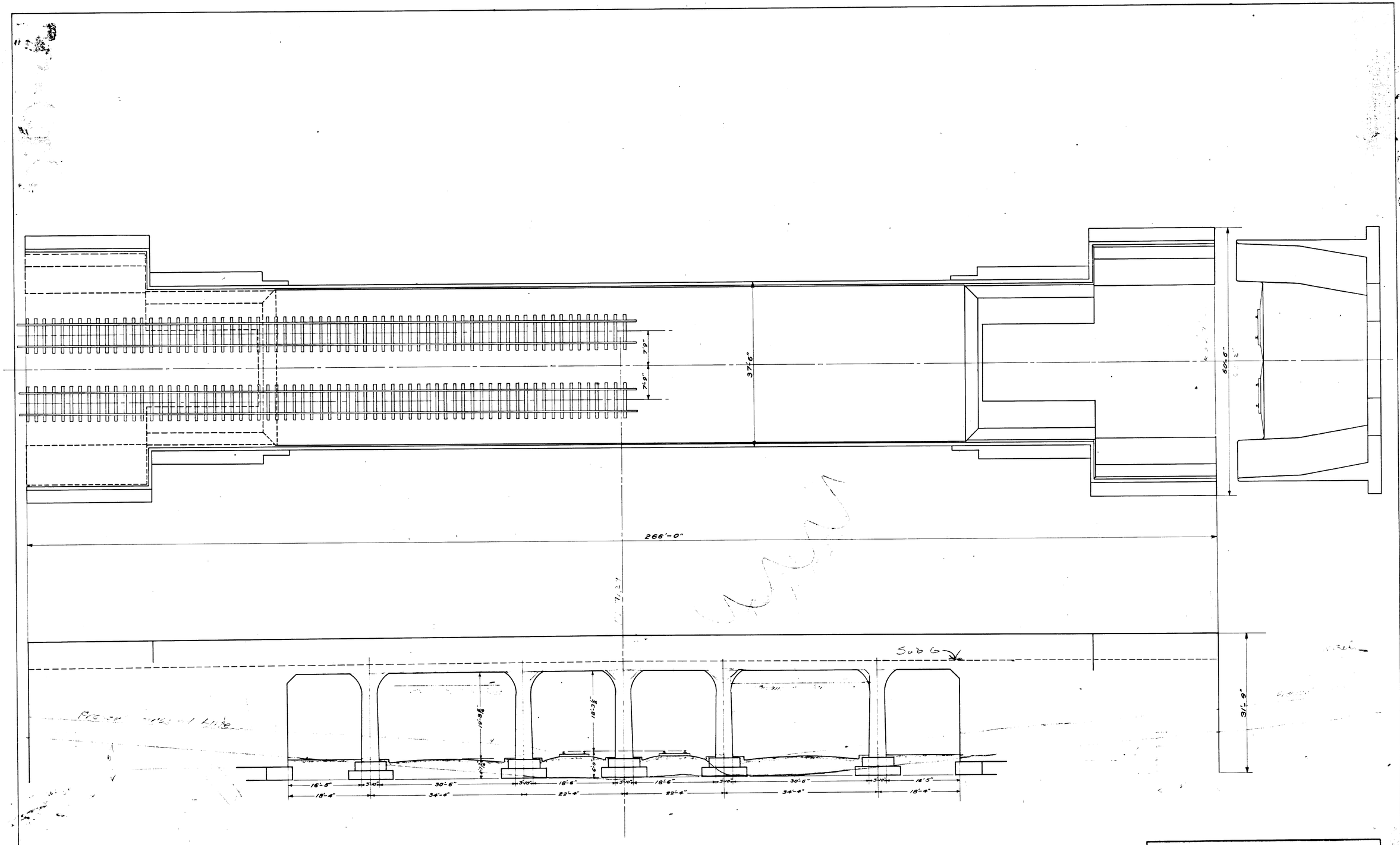
Ralph Bennett

305

T-2-9 | 3-7
EL PRADO BRIDGE



Straight Bars.				
MK	Nº	Size	Length	Run
2B(1)	28	1"	25'-0"	Long.
2B(2)	28	1 1/4"	37'-0"	Long.
2B(3)	28	1"	21'-0"	Long.
1C	85	3/4"	37'-4"	Lat.



EL PRADO BRIDGE.— TORRANCE.
GENERAL PLAN.— MUSHROOM SYSTEM.
REVISED.

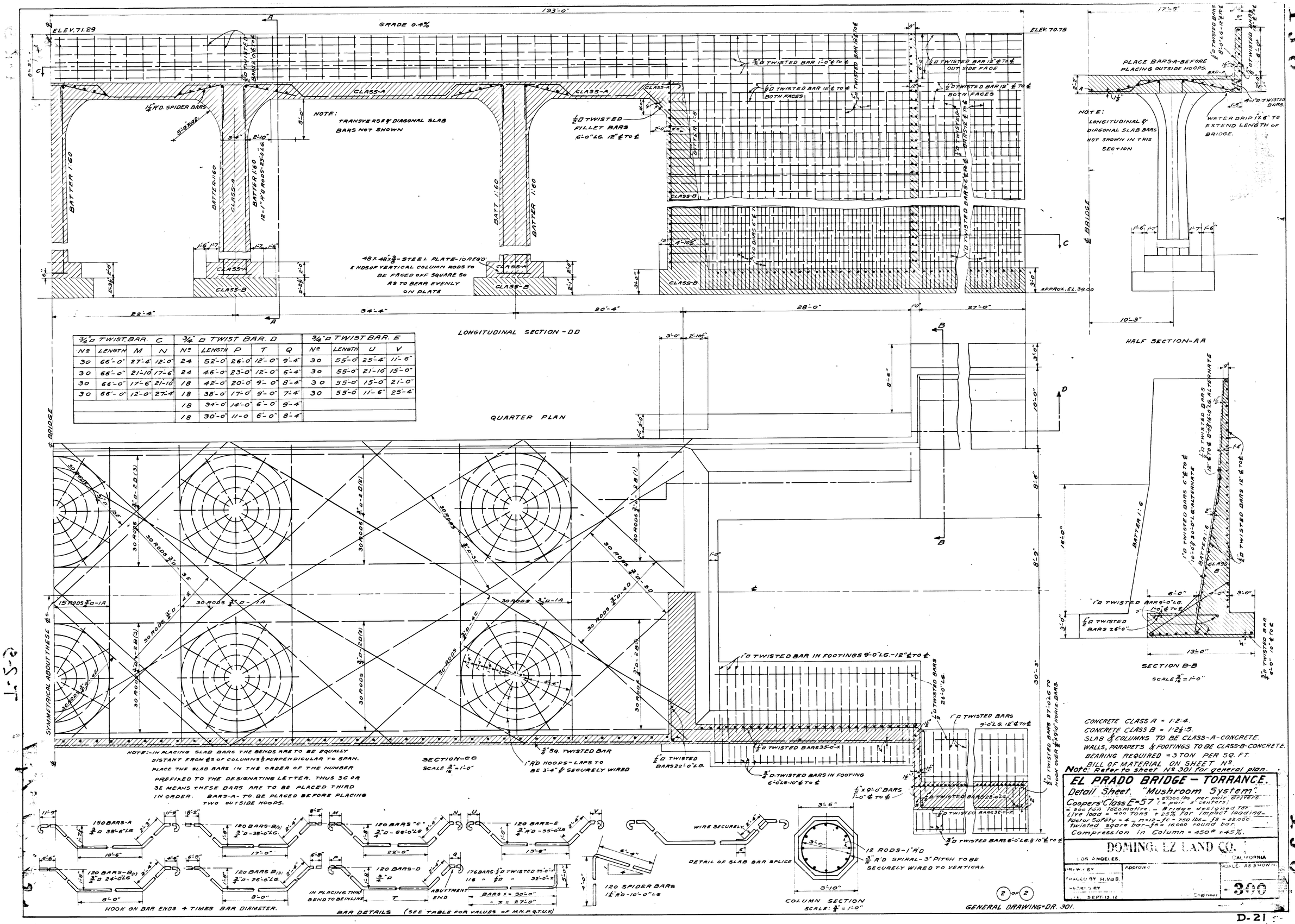
DOMINGUEZ LAND CO.
LOS ANGELES CALIFORNIA

DRAWN BY
TRACED BY H.VdB
CHECKED BY
DATE SEPT. 13.12
Approved
Chief Engineer
SCALE- 3/32" = 1'-0"
301

EAS-FILE CORP. IRVINE CA
T-2-9 5-7
EL PRADO BRIDGE

1-5-2

D-21



3/4" □ TWIST. BAR. C				3/4" □ TWIST BAR. D					3/4" □ TWIST BAR. E			
Nº	LENGTH	M	N	Nº	LENGTH	P	T	Q	Nº	LENGTH	U	V
30	66'-0"	27'-4"	12'-0"	24	52'-0"	26'-0"	12'-0"	9'-4"	30	55'-0"	25'-4"	11'-6"
30	66'-0"	21'-10"	17'-6"	24	46'-0"	23'-0"	12'-0"	6'-4"	30	55'-0"	21'-10"	15'-0"
30	66'-0"	17'-6"	21'-10"	18	42'-0"	20'-0"	9'-0"	8'-4"	30	55'-0"	15'-0"	21'-0"
30	66'-0"	12'-0"	27'-4"	18	38'-0"	17'-0"	9'-0"	7'-4"	30	55'-0"	11'-6"	25'-4"
				18	34'-0"	14'-0"	6'-0"	9'-4"				
				18	30'-0"	11-0	6'-0"	8'-4"				

CONCRETE CLASS A = 1:2:4.
CONCRETE CLASS B = 1:2 1/2:5.
SLAB & COLUMNS TO BE CLASS-A-CONCRETE.
WALLS, PARAPETS & FOOTINGS TO BE CLASS-B-CONCRETE.
BEARING REQUIRED = 3 TON PER SQ. FT.
BILL OF MATERIAL ON SHEET Nº.
Note: Refer to sheet Nº 301 for general plan.

EL PRADO BRIDGE - TORRANCE.
Detail Sheet. "Mushroom System".
Coopers' Class E=57 (= 52000 lbs. per pair drivers. (4 pair 5' centers)
= 200 ton locomotive. - Bridge designed for Live load = 400 Tons + 25% for impact loading.
Factor Safety = 4 - n = 12 - fc = 750 lbs - fs = 22000 twisted square bar - fs = 16000 round bar.
Compression in Column = 450# + 45%.

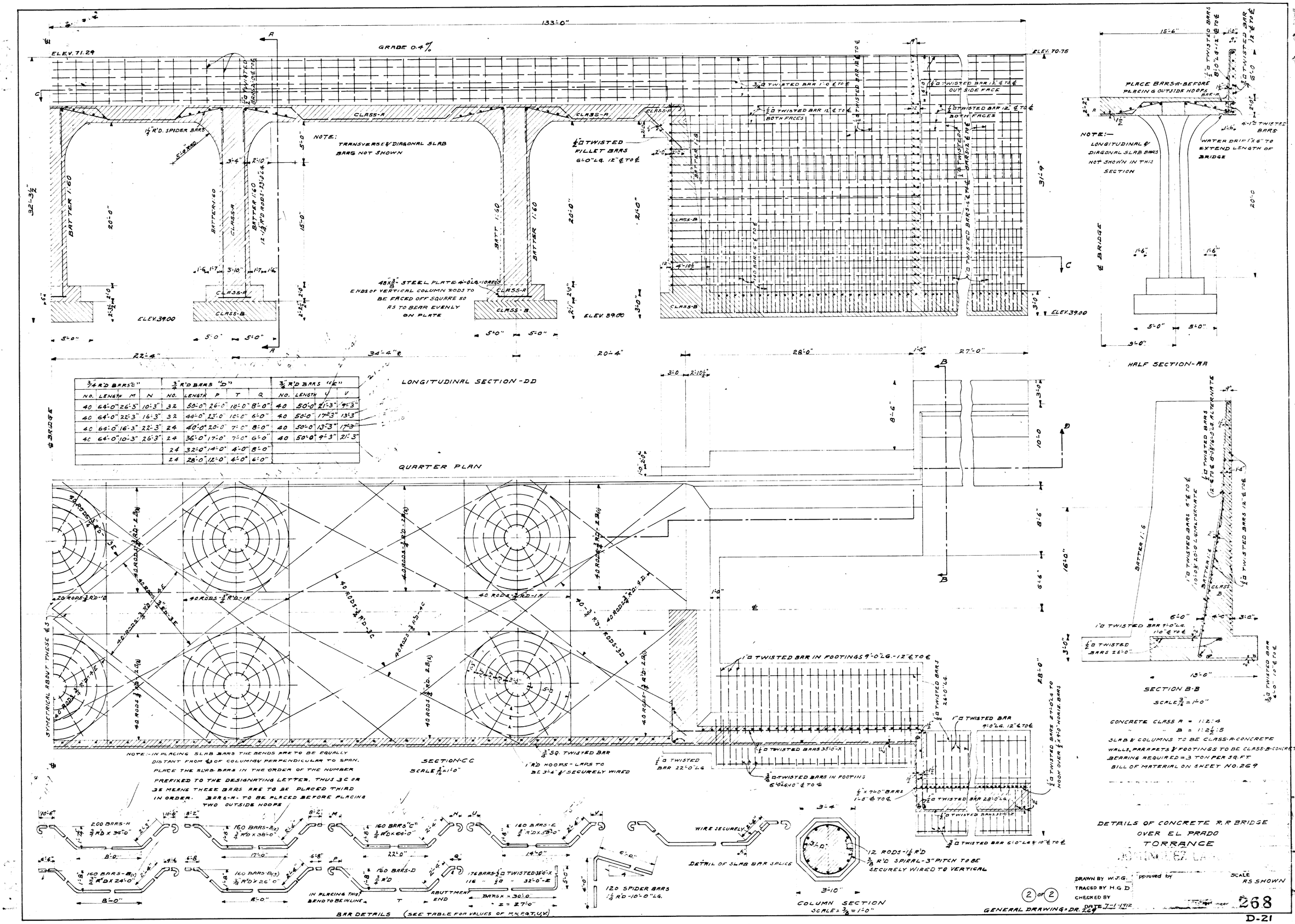
DOMINGUEZ LAND CO.
LOS ANGELES, CALIFORNIA
DRAWN BY
TRACED BY H.V.d.B.
CHECKED BY
DATE SEPT. 13, 12
Approved
Engineer
SCALE: AS SHOWN
300

EAST FILE CORP. IRVINE CA. EFH-24
T-2-9 | 6-7
EL PRADO BRIDGE

1-2-9

1-2-9

D-21



¾" R'D BARS "L"				¾" R'D BARS "D"				¾" R'D BARS "E"			
NO.	LENGTH	M	N	NO.	LENGTH	P	T	Q	NO.	LENGTH	U	V
40	64'-0"	26'-3"	10'-3"	32	50'-0"	26'-0"	10'-0"	8'-0"	40	50'-0"	21'-3"	9'-3"
40	64'-0"	22'-3"	16'-3"	32	44'-0"	23'-0"	10'-0"	6'-0"	40	50'-0"	17'-3"	13'-3"
40	64'-0"	16'-3"	22'-3"	24	40'-0"	20'-0"	7'-0"	8'-0"	40	50'-0"	13'-3"	17'-3"
40	64'-0"	10'-3"	26'-3"	24	36'-0"	17'-0"	7'-0"	6'-0"	40	50'-0"	9'-3"	21'-3"
				24	32'-0"	14'-0"	4'-0"	8'-0"				
				24	28'-0"	12'-0"	4'-0"	6'-0"				