LEGEND AND ABBREVIATIONS:

G1, G2, G3, Mod G3, GD-1 - INLET TYPES
D - DOWNDRAIN JOINT TYPE
S - STANDARD JOINT TYPE
P - POSITIVE JOINT TYPE
GLD - GRATED LINE DRAIN
DETAIL 1 - STORM DRAIN PIPE OUTLET DETAIL 1
DETAIL 2 - STORM DRAIN PIPE OUTLET DETAIL 2
OSD - OVERSIDE DRAIN
(N) - NOT A SEPARATE PAY ITEM, FOR INFORMATION ONLY.
DIP - DUCTILE IRON PIPE
* - SEE DRAINAGE DETAIL SHEETS
APC - ALTERNATIVE PIPE CULVERTS
RCP - REINFORCED CONCRETE PIPE
FES - FLARED END SECTION

ALTERNATIVE PIPE CULVERTS - ALLOWABLE PIPE MATERIAL

DESIGNATION	RCP	CSP		Bit Ctd CSP	
	SIZE	SIZE	THICKNESS	SIZE	THICKNESS
18" AP	18"	18"	0.138"	18"	0.079"
24" AP	24"	24"	0.138"	24"	0.079"

NOTE:
ALL GRATES ARE TYPE 24-12 UNLESS OTHERWISE SPECIFIED.

~~ALTERNATIVE PIPE CULVERTS~~

~~SIZE~~	~~ALLOWABLE PIPE MATERIAL~~	
~~18" AP~~	~~RCP~~	~~CSP~~
~~24" AP~~	~~RCP~~	~~CSP~~

4

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Ora	57	16.2/18.6	157	960

REGISTERED CIVIL ENGINEER 7/15/09 DATE

12-14-09
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER RICHARD LUCERA No. 58089 Exp. 6/30/10 CIVIL STATE OF CALIFORNIA

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

RBF CONSULTING
14275 ALTON PKWY
IRVINE, CA 92618

OCTA
550 S. MAIN STREET
ORANGE, CA 92863

DRAINAGE QUANTITIES

MINOR CONCRETE (MINOR STRUCTURE)	FRAME & GRATE (N)	Misc IRON & STEEL	REMOVE CULVERT	REMOVE FES	REMOVE OSD	REMOVE CONCRETE (CHANNEL)	REMOVE RSP	REMOVE INLET	ABANDON CULVERT	SAND BACKFILL	CAP INLET	ADJUST INLET	6" WELDED STEEL PIPE (.134" THICK)	8" WELDED STEEL PIPE (.134" THICK)	8" DIP	18" APC	24" APC	24" RCP	GLD	18" ALTERNATIVE FES	MINOR CONCRETE (BACKFILL)	ROCK SLOPE PROTECTION FABRIC	ROCK SLOPE PROTECTION (1 TON, METHOD B)	ROCK SLOPE PROTECTION (1/4 TON, METHOD B)	ROCK SLOPE PROTECTION (LIGHT, METHOD B)	ROCK SLOPE PROTECTION (FACING, METHOD B)	ROCK SLOPE PROTECTION (BACKING No. 2, METHOD B)	MINOR CONCRETE (DITCH LINING)	DITCH EXCAVATION	HEIGHT OF INLET (N)	"JOINT TYPE" (N)	MAXIMUM COVER (N)	DESCRIPTION	STATION	DRAINAGE UNIT	DRAINAGE SYSTEM No.	DRAINAGE PLAN SHEET No.
CY	EA	LB	LF	EA	EA	CY	CY	EA	LF	CY	EA	EA	LF	LF	LF	LF	LF	LF	LF	EA	CY	SQYD	CY	CY	CY	CY	CY	CY	CY	FT		FT					
						17.20																											REMOVE ABM CHANNEL	218.44 Rt "B" 461+53.46 TO	a	1	D-1
																																		233.06 Rt "B" 463+30.46			
			15																													4.6	REMOVE 18" RCP		b		
								1																						6.1			REMOVE DI	208.36 Rt "B" 462+27.52	c		
0.67																																	JS No. 3	14.97 Rt "T" 63+41.76	d		
																		70.4													S	4.5	24" RCP		e		
1.91	2	580																												4.9			GD1 INLET*	21.50 Rt "T" 62+69.93	f		
																27.0															S	3.0	18" AP		g		
1.82	2	580																												4.6			GD1 INLET*	21.50 Rt "T" 62+39.93	h		
																27.0															S	2.7	18" AP		i		
1.64	2	580																												4.0			GD1 INLET*	21.50 Rt "T" 62+09.93	j		
0.67																																	JS No. 3	13.38 Rt "T" 63+55.70	a	2	D-1
																		10.0													S	8.5	24" RCP		b		
3.35	2	580																												9.9			GD1 INLET*	21.50 Rt "T" 63+65.04	c		
																	181.0													S	4.8	24" AP		d		
2.39	2	580																												6.6			GD1 INLET*	21.50 Rt "T" 65+49.00	e		
																	157.4													S	4.8	24" AP		f		
2.32	2	580																												6.4			GD1 INLET*	21.68 Rt "T" 67+09.35	g		
																136.1															S	4.5	18" AP		h		
1.67	2	580																												4.1			GD1 INLET*	33.50 Rt "T" 68+48.00	i		
						26.96																											REMOVE DITCH	29.14 Rt "T" 63+53.44 TO	a	3	D-1
																																		30.91 Rt "T" 67+12.07			
																											0.15						DITCH TO CHANNEL Conn	29.14 Rt "T" 63+53.44	b		
																											26.96	54				Conc DITCH	30.91 Rt "T" 67+12.07 TO	c		
																																		29.14 Rt "T" 63+53.44			
16.43	14	4060	15			44.16		1								190.1	338.4	80.4									27.11	54					SHEET TOTAL				

4 **REVISED PER ADDENDUM No. 4 DATED JULY 9, 2010**

DRAINAGE QUANTITIES

DQ-1

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Ora	57	16.2/18.6	763	960

V. J. Mosquera 6-17-09
REGISTERED CIVIL ENGINEER DATE

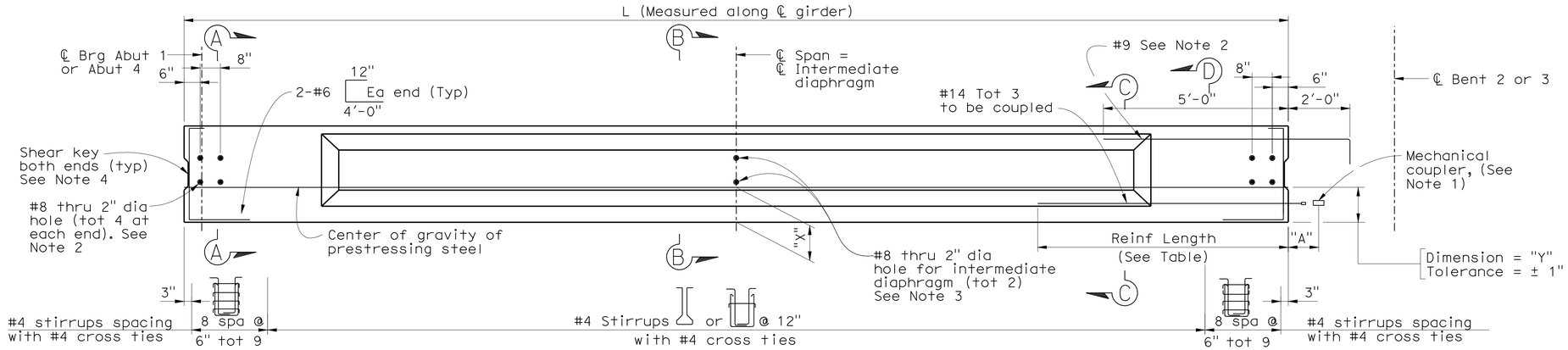
12-14-09
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER V.J. Mosquera No. C051049 Exp. 09/30/09 CIVIL STATE OF CALIFORNIA

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

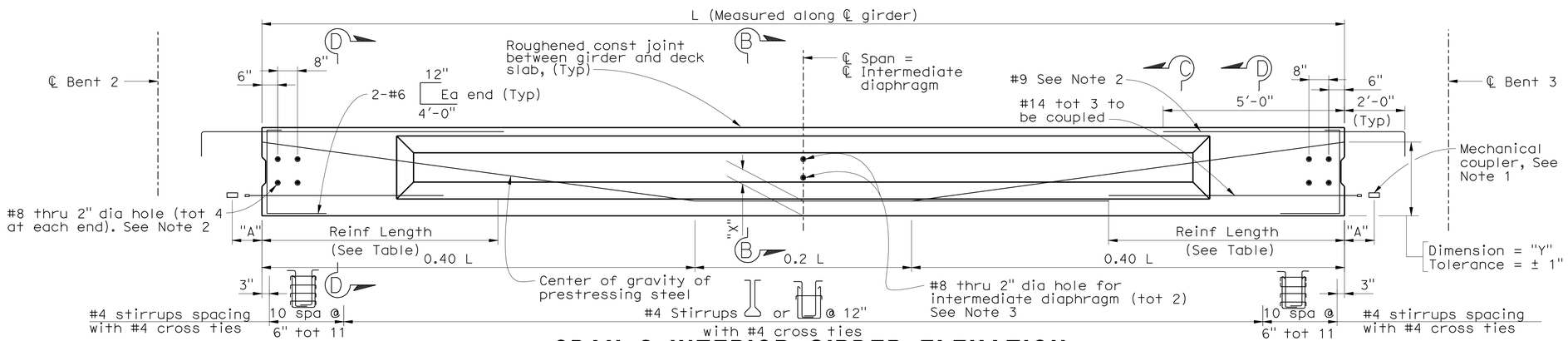
OCTA
550 S MAIN STREET
ORANGE, CA 92868

RBF CONSULTING
14725 ALTON PKWY
IRVINE, CA 92618



SPAN 1 & 3 INTERIOR GIRDER ELEVATIONS
(GIRDERS B1, C1, B3, C3)

No Scale



SPAN 2 INTERIOR GIRDER ELEVATION
GIRDERS B2, C2

No Scale

4

Girder Location or Designation	Span	Girder Length (L)	Jacking Force (P) (kips)	Number of Straight Strands	Number of Harped Strands	X (inches)	Y (inches)	Concrete Strength (ksi) fci	Concrete Strength (ksi) fc'	Deflection Component (in inches) Deck DL	Deflection Component (in inches) Barrier & SW	Bottom Reinf Size	Bottom Reinf Embedment Length
A1	1	34'-11½"	415	7	4	8⅜"	17"	4.5	~~9.0~~ 6.0	1/16"	0	#9	5'-0"
A2	2	62'-8¾"	489	9	4	3 7/16"	11 7/16"	4.5	5.0	¾"	0	#9	5'-0"
A3	3	41'-10"	346	5	4	3⅜"	14"	4.5	6.0	3/16"	0	#9	5'-0"
B1	1	34'-11½"	382	10	0	12⅞"	12⅞"	4.5	6.0	1/16"	0	#14	18'-0"
B2	2	62'-8¾"	482	9	4	3 7/16"	11 7/16"	4.5	5.0	⅝"	0	#14	15'-0"
B3	3	41'-10"	312	8	0	12¼"	12¼"	4.5	6.0	⅛"	0	#14	18'-0"
C1	1	34'-11½"	382	10	0	12⅞"	12⅞"	4.5	6.0	1/16"	0	#14	18'-0"
C2	2	62'-8¾"	484	9	4	3 7/16"	11 7/16"	4.5	5.0	⅝"	1/16"	#14	15'-0"
C3	3	41'-10"	312	8	0	12¼"	12¼"	4.5	6.0	⅛"	0	#14	18'-0"

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

NOTES:

1. For all girders use ultimate butt splice couplers. Butt splices shall be staggered.
2. For Sections "A-A", "B-B", "C-C", "D-D" and Prestressing Notes, see "Precast Girder Details No. 5" sheet.
3. For location of hole and #8 bar see "Precast Girder Details No. 5" sheet.
4. For Shear Key Detail, see "Miscellaneous Precast Girder Details" sheet.
5. Details shown are for pretensioned girders.
6. "A" dimension for bars to be coupled, as recommended by precast girder manufacturer and approved by Engineer.
7. For temporary support detail at bent and at abutment, see "Miscellaneous Precast girder Details" sheet.

4 **REVISED PER ADDENDUM No. 4 DATED JULY 9, 2010**

Jon Hamaguchi
DESIGN OVERSIGHT Jon Hamaguchi
6-24-09
SIGN OFF DATE

	BY	CHECKED
DESIGN	V. J. Mosquera	M. Strahota
DETAILS	J. Saldana	M. Strahota
QUANTITIES	V. J. Mosquera	S. McCauley

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

PROJECT ENGINEER

BRIDGE NO. 55-0449
POST MILE 16.9

PLACENTIA OH (WIDEN)
PRECAST GIRDER DETAILS NO.4

DESIGN DETAIL SHEET (ENGLISH) (REV. 2/25/05)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 12
EA 0F0311

DISREGARD PRINTS BEARING EARLIER REVISION DATES
REVISION DATES (PRELIMINARY STAGE ONLY) 2/13/09 4/6/09 6/17/09

SHEET 22 OF 36

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