



DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF	80	13.2/13.9	71R1	1204

REGISTERED STRUCTURAL ENGINEER DATE 12/19/02

PLANS APPROVAL DATE 12-6-04

PARSONS BRINCKERHOFF QUADE & DOUGLAS, INC.  
303 SECOND STREET, SUITE 700 N  
SAN FRANCISCO, CA 94107

REGISTERED PROFESSIONAL ENGINEER  
Mee Shing Owyang  
No. 24960  
Exp. 12/31/05  
CIVIL  
STATE OF CALIFORNIA

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DWG NO.	DRAWING TITLE
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AS-16R	OVERALL CABLE TRAY SUPPORT LOCATIONS TABLE A

**GENERAL NOTES**

**A. STRUCTURAL NOTES**

- All structural steel shall be AASHTO M270M Grade 36.
- Steel pipe shall be ASTM A-53 grade B.
- All bolts shall be high-strength steel bolts conforming to AASHTO M164 (ASTM A325) Slip-Critical Class C and shall be 19.05 mm diameter unless noted otherwise on plans. All bolts shall be galvanized.
- All welded connections shall conform to the requirements of AASHTO/AWS D1.5 Bridge Welding Code. Weld electrodes shall be E70XX.
- Steel Grating shall be made from ASTM A-1011 mild Carbon steel. Bearing bars shall be 32 mm high by 5 mm thick at a spacing of 30 mm center to center with cross bars at a spacing of 102 mm center to center. The cross bars shall be welded or electro-forged to the rectangular shaped bearing bars by a process that combines intense hydraulic pressure with a powerful electric current. Grating shall be hot-dipped galvanized after fabrication. Grating shall be connected to the platform framing using galvanized or stainless steel fasteners as approved by the Engineer.
- All structural steel shall be Hot-dipped galvanized except as noted.
- No field-welding shall be used for connections to box girders or crossbeams. All drawings for service platforms, cable trays, railings, ladders and other access fixtures shall be submitted to the Engineer for review and approval.
- Working drawings of connections for service platforms, call trays, utility cabinets, railings, ladders, and other accessory fixtures shall be submitted to the Engineer for review and approval.

**B. CODES AND STANDARDS**

- B.1 The structure has been designed in accordance with the following applicable codes and industrial standards:
- UBC Uniform Building Code, 1997 Edition.
  - ACI American Concrete Institute "Building Code Requirements for Reinforced Concrete (ACI 318-95)"
  - AISC American Institute of Steel "Manual of Steel Construction" 9th Edition.
  - AWS American Welding Society "Structural Welding Code" ANSI/AWS D1.1-98.

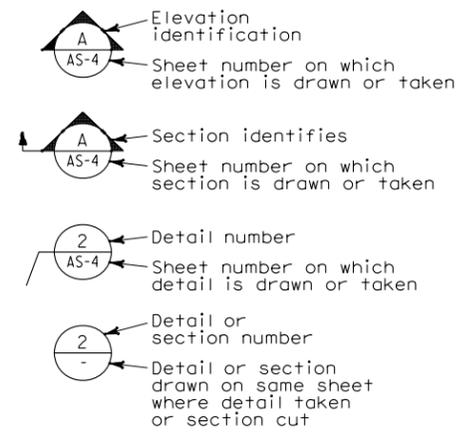
**ABBREVIATIONS**

AB &	Anchor Bolt And	MH	Man Hole
Arch	Architecture	MB	Machine Bolt
@	At	Mtl	Material
Z	Angle	Max	Maximum
Add'l	Additional	MPa	Megapascal
		m	meter
Bm	Beam	mm	Millimeter
Bgr	Bearing	Min	Minimum
Bot	Bottom	Misc	Miscellaneous
B.O.	Bottom of	MC	Moment Connection

**ABBREVIATIONS**

C	Channel (Structural)	NF	Near Face
Col	Column	Neg	Negative
Conc	Concrete	Noml	Nominal
Const	Construction	NIC	Not in Contract
Const Jt	Construction Joint	No.	Number
Cont	Continuous	#	Number (Rebar Size)
Contr	Contraction	N.S.	Near Side
Comp	Composite		
CL	Center Line	OC	On Center
Clr	Clear	Opng	Opening
		Opp H	Opposite Hand
DL	Dead Load	O to O	Out to Out
Deg or °	Degree	OD	Outside Diameter
Det	Detail	O.F.	Outside Face
Diag	Diagonal		
Dia or ø	Diameter	PL	Plate
Dim	Dimension	Plywd	Plywood
Dbl	Double	P/L	Property Line
DN	Down		
Dwg	Drawing	R	Radius
Do.	Ditto	Ref	Reference
		Reinf	Reinforcing
Ea	Each	RC	Reinforced Concrete
EF	Each Face	Rev	Revision or Revise
EW	Each way	RS	Right Side
EL	Elevation	RD	Roof Drain
EQ or =	Equal		
Exp	Expansion	Sch	Schedule
		Sect	Section
F to F	Face to Face	Sht	Sheet
Fin	Finish	Sim	Similar
FB	Flat Bar	Spec	Specification
Fl	Floor	Sq	Square
FD	Floor Drain	m2	Square Meter
Ftg	Footing	mm2	Square Millimeter
Fdn	Foundation	Std	Standard
F.S.	Far Side	Stl	Steel
		Stiff	Stiffener
Galv	Galvanized	Stirr	Stirrup
Gr	Grade	St	Street
		Sym	Symmetrical
HR	Hand Rail	T & B	Top and Bottom
Ht	Height	T.O.	Top of
HP	High Point	T.O.C	Top of Concrete
HSB	High Strength Bolt	T.O.P	Top of Plate
Horiz	Horizontal	T.O.S	Top of Steel
		T.O.W	Top of Wall
ID	Inside Diameter	Typ	Typical
IF	Inside Face		
Inv	Invert	Unfin	Unfinished
		UNO	Unless Noted Otherwise
Jt	Joint	Vert	Vertical
kg	Kilogram	WP	Work Point
kN	Kilo Newton	WT	Water Table
		Wt	Weight
LS	Left side	WL	Wind Load
L	Length	W/	With
LWC	Light Weight Concrete	Wd	Wood
Lin	Linear, Lineal	WI	Wrought Iron
LL	Live Load		
Lg	Long		
LP	Low Point		

**SYMBOLS**



REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE					
△	02/25/08	CABLE TRAY CHANGES	RG	MSO	42S1
MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
REVISIONS					

CONTRACT CHANGE ORDER NO. \_\_\_\_\_  
SHEET \_\_\_\_\_ OF \_\_\_\_\_

Bob Zandipour  
DESIGN OVERSIGHT  
4/4/04  
SIGN OFF DATE

DESIGN	BY G. Benkovich	CHECKED M. S. Owyang
DETAILS	BY R. Hernandez	CHECKED M. S. Owyang
QUANTITIES	BY M. S. Owyang	CHECKED R. Parrino

**PREPARED FOR THE  
STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION**

Gene Lusherovich  
PROJECT ENGINEER

BRIDGE NO.	34-0006
KILOMETER POST	13.2/13.9

**SAS SUPERSTRUCTURE**  
**INDEX OF DRAWINGS, GENERAL STRUCTURAL NOTES, ABBREVIATIONS AND SYMBOLS** AS-1

DESIGN DETAIL SHEET (METRIC) (REV. 3/1/98)



CU 04251  
EA 0120F1

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)

SHEET 1 OF 16

#FREQUENT

USERNAME => rjves1 DATE PLOTTED => 2/26/2008