STRUCTURE SURVEY TEMPLATE

				DATE	3/3/08
ROAD NAME	HWY 1			COUNTY	Ventura
STREAM NAME	Harmon Barranca	Harmon Barranca		PHOTO ID #	
STRUCTURE #	Outlet (near outlet)		X,Y COORDINATE		

TYPE	LENGTH	SIZE (W X H) & SHAPE	MATERIAL	Road to Bed	INLET/OUTLET TYPE
Railroad Bridge				Top of Road EL	

SPECIAL NOTE (Conditions, Blockage, etc)	This is upstream of the Santa Clara Confluence
HIGH WATER MARK (Description, Witness, and Date)	No culverts

TYPE	CULVERT TYPE	MATERIAL	Road to Bed	INLET/OUTLET TYPE
Bridge Span Bridge Pier Shape Culvert Dam Spillway Riser Barrel Outlet	Number of Barrels 1) Circular 2) Rectangle (Span X Rise) 3) Elliptical 4) Con/Span 5) Elevated Arch 6) Pipe Arch 7) Other	RCP (Reinforced Concrete Pipe) CMP (Corrugated Metal Pipe) Bitmus Coated Steel Timber Ductile Clay Masonry Rock	Height from Top of Road to Invert Top of Road EL From Topo Map (FT.NGVD) or (FT.NAVD)	Headwall Wingwalls Type 0^0, 45^0, 90^0 Projecting Flush with Slope MES (Mitered End Section) FES (Flared End Section)

Pier Shape

1) Circular pier
2) Twin-Cylinder piers
3) Elongated pier
4) Triangular nose
5) Square nose

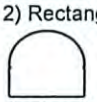
Types (Shape) of Culvert

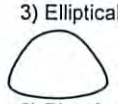

1) Circular


2) Rectangle


3) Elliptical


4) Con/Span

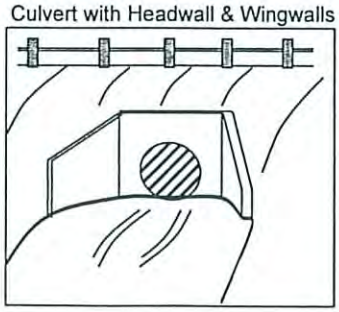

5) Elevated Arch


6) Pipe Arch

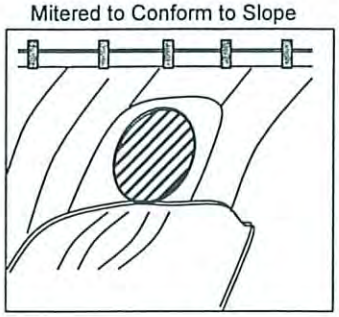
7) Other

Inlet/Outlet Type

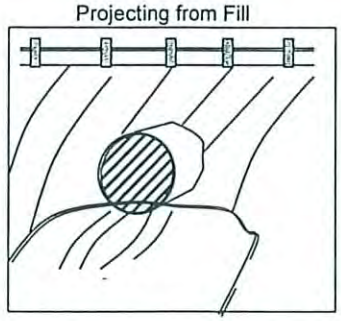
Culvert with Headwall & Wingwalls



Mitered to Conform to Slope



Projecting from Fill

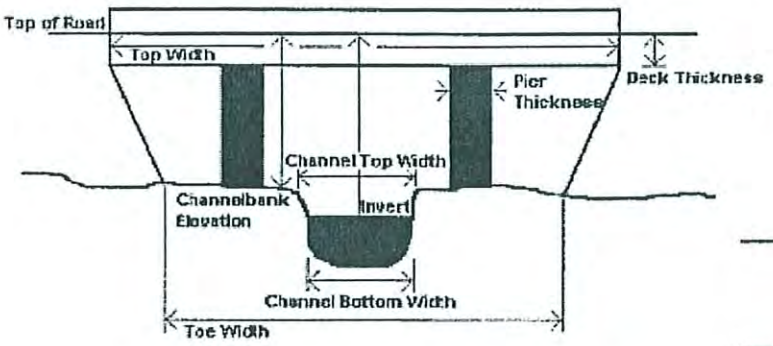


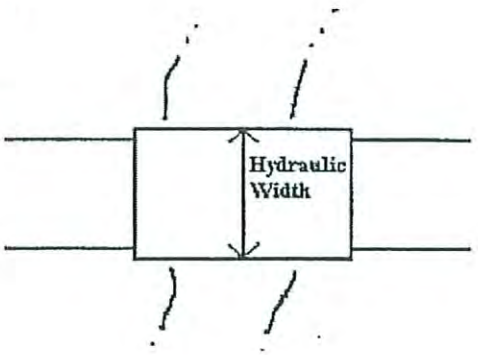
CHANNEL INFORMATION

ROAD TO BANK	CHANNEL TOP WIDTH	CHANNEL BOTTOM WIDTH

BRIDGE INFORMATION

DECK THICKNESS	TOP WIDTH	TOE WIDTH
HYDRAULIC WIDTH	**NUMBER OF PIERS**	**PIER THICKNESS**





PHOTOS

Name	Description
1	looking d/s near the confluence of the SCR
2	" " further upstream than (1)
3	looking u/s near the confluence.

ADDITIONAL CHANNEL INFORMATION

Land Use

Maintenance Rd along left bank

Vegetative Cover

lemon trees @ left bank

Bed Material

eroded banks, large rocks + cobble in channel

General Channel Condition

Good / sandy erodable soils

Banks

Overbanks

STRUCTURE SURVEY TEMPLATE

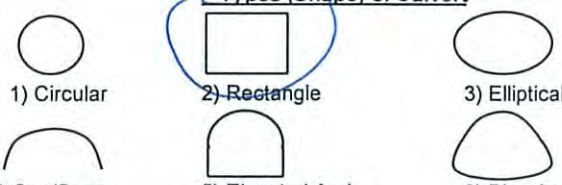
	North Bank + Elba			DATE	3/3/08
ROAD NAME				COUNTY	
STREAM NAME	Herman Barranca + North Bank Dr.			PHOTO ID #	
STRUCTURE #	HB7		X,Y COORDINATE		
TYPE	LENGTH	SIZE (W X H) & SHAPE	MATERIAL	Road to Bed	INLET/OUTLET TYPE
Railroad Bridge		20' x 5.25	Concrete	Top of Road EL	
SPECIAL NOTE (Conditions, Blockage, etc)	thalweg slope changes under the road				
HIGH WATER MARK (Description, Witness, and Date)					

TYPE	CULVERT TYPE	MATERIAL	Road to Bed	INLET/OUTLET TYPE
Bridge	Number of Barrels	RCP (Reinforced Concrete Pipe)		Headwall
Span Bridge	1	CMP (Corrugated Metal Pipe)	Height from Top of	Wingwalls Type 0°, 45°, 90°
Pier Shape	1) Circular	Bitmus Coated	Road to Invert	Projecting
Culvert	2) Rectangle (Span X Rise)	Steel		Flush with Slope
Dam	3) Elliptical	Timber	Top of Road EL	MES (Mitered End Section)
Spillway	4) Con/Span	Ductile		FES (Flared End Section)
Riser Barrel	5) Elevated Arch	Clay	From Topo Map	
Outlet	6) Pipe Arch	Masonry Rock	(FT.NGVD) or	
	7) Other		(FT.NAVD)	

Pier Shape

1) Circular pier
2) Twin-Cylinder piers
3) Elongated pier
4) Triangular nose
5) Square nose

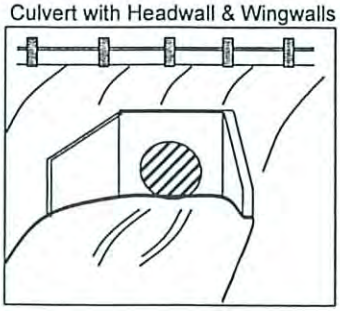
Types (Shape) of Culvert



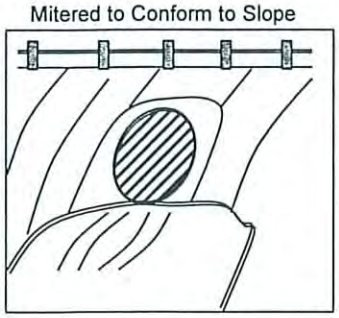
7) Other

Inlet/Outlet Type

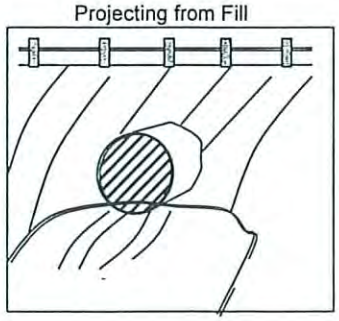
Culvert with Headwall & Wingwalls



Mitered to Conform to Slope



Projecting from Fill

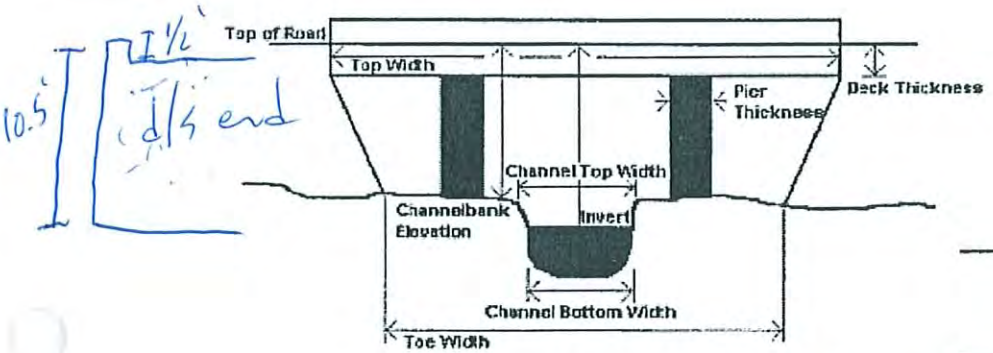


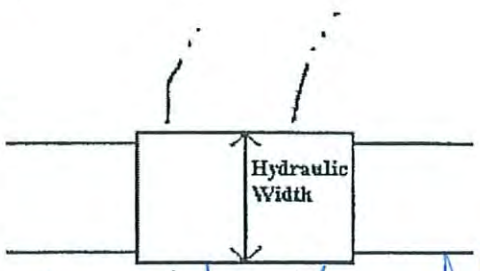
CHANNEL INFORMATION

ROAD TO BANK	CHANNEL TOP WIDTH	CHANNEL BOTTOM WIDTH

BRIDGE INFORMATION

DECK THICKNESS	TOP WIDTH	TOE WIDTH
10.5' from top of lip @ d/s end		
HYDRAULIC WIDTH	**NUMBER OF PIERS**	**PIER THICKNESS**





20' w x 5'1/4' w/ sandy gravel sedimentation

PHOTOS

Name	Description
4	d/s side of culvert looking u/s
5	d/s side of culvert looking u/s - shows slope break under road.
6.	u/s side of culvert looking d/s
7.	u/s " " " " u/s.

ADDITIONAL CHANNEL INFORMATION

change in channel geometry + slope through culvert

Land Use

large trees on rt bank

Vegetative Cover

Bed Material

Grouted bottom + gravel

See HB-1

General Channel Condition

riprap + Gravel lined.

See HB-1

Banks

Overbanks

10.5' soffit w/ 1/2' curb
5.25' from invert to low chord

5' soffit w 1/2' curb
4' from invert to low chord

STRUCTURE SURVEY TEMPLATE

		DATE	3/3/08
ROAD NAME	RR xing	COUNTY	
STREAM NAME	Harmon Branch	PHOTO ID #	
STRUCTURE #	HB3	X,Y COORDINATE	

TYPE	LENGTH	SIZE (W X H) & SHAPE	MATERIAL	Road to Bed	INLET/OUTLET TYPE
Railroad Bridge		29' W 6'9"	Concrete w/ some steel	Top of Road EL	

SPECIAL NOTE (Conditions, Blockage, etc)	lots of cobbles and sand under bridge
HIGH WATER MARK (Description, Witness, and Date)	

TYPE		CULVERT TYPE	MATERIAL	Road to Bed	INLET/OUTLET TYPE
Bridge		Number of Barrels	RCP (Reinforced Concrete Pipe)	Height from Top of Road to Invert	Headwall
Span Bridge			CMP (Corrugated Metal Pipe)		Wingwalls Type 0^0, 45^0, 90^0
Pier Shape		1) Circular	Bitmus Coated		Projecting
Culvert		2) Rectangle (Span X Rise)	Steel	Top of Road EL	Flush with Slope
Dam		3) Elliptical	Timber		MES (Mitered End Section)
Spillway		4) Con/Span	Ductile		FES (Flared End Section)
Riser Barrel		5) Elevated Arch	Clay	From Topo Map (FT.NGVD) or (FT.NAVD)	
Outlet		6) Pipe Arch	Masonry Rock		
		7) Other			

Pier Shape

1) Circular pier
2) Twin-Cylinder piers
3) Elongated pier
4) Triangular nose
5) Square nose

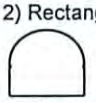
Types (Shape) of Culvert


1) Circular


2) Rectangle


3) Elliptical


4) Con/Span

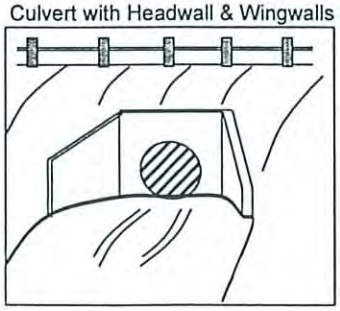

5) Elevated Arch


6) Pipe Arch

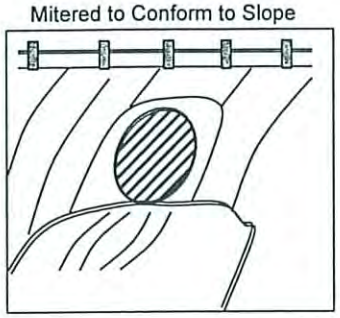
7) Other

Inlet/Outlet Type

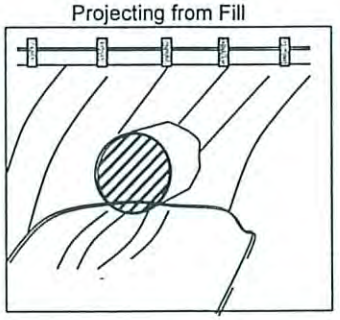
Culvert with Headwall & Wingwalls



Mitered to Conform to Slope



Projecting from Fill

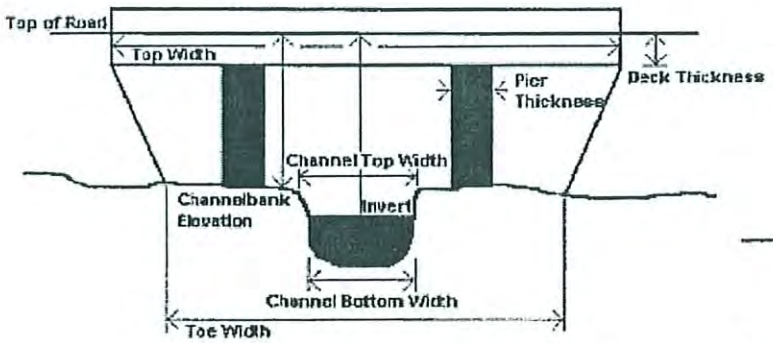


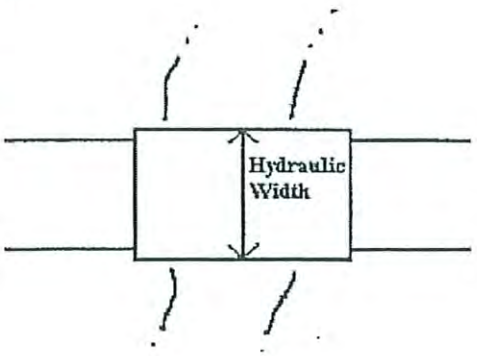
CHANNEL INFORMATION

ROAD TO BANK	CHANNEL TOP WIDTH	CHANNEL BOTTOM WIDTH

BRIDGE INFORMATION

DECK THICKNESS	TOP WIDTH	TOE WIDTH
4' from ground to low chord		
HYDRAULIC WIDTH	**NUMBER OF PIERS**	**PIER THICKNESS**





PHOTOS

Name	Description
8.	d/s end of RR bridge, looking upstream
9	u/s end of RR bridge looking d/s
10	d/s end of drop structure, looking u/s.

ADDITIONAL CHANNEL INFORMATION

u/s residential on left bank

Land Use

Vegetative Cover

gravel + cobble

Bed Material

grade control structure ~ 50' u/s of RR bridge
grouted rock between u/s end of RR bridge + drop structure.

General Channel Condition

Banks

Overbanks

STRUCTURE SURVEY TEMPLATE

				DATE	3/3/08
ROAD NAME	Bristol St			COUNTY	
STREAM NAME	Harmon Barranca			PHOTO ID #	
STRUCTURE #	AB4		X,Y COORDINATE		
TYPE	LENGTH	SIZE (W X H) & SHAPE	MATERIAL	Road to Bed	INLET/OUTLET TYPE
Railroad Bridge		14' X 9'		Top of Road EL	
SPECIAL NOTE (Conditions, Blockage, etc)		Sand @ d/s end of culvert covering the bottom			
HIGH WATER MARK (Description, Witness, and Date)					

TYPE	CULVERT TYPE	MATERIAL	Road to Bed	INLET/OUTLET TYPE
Bridge Span Bridge Pier Shape Culvert Dam Spillway Riser Barrel Outlet	Number of Barrels 1) Circular 2) Rectangle (Span X Rise) 3) Elliptical 4) Con/Span 5) Elevated Arch 6) Pipe Arch 7) Other	RCP (Reinforced Concrete Pipe) CMP (Corrugated Metal Pipe) Bitmus Coated Steel Timber Ductile Clay Masonry Rock	Height from Top of Road to Invert Top of Road EL From Topo Map (FT.NGVD) or (FT.NAVD)	Headwall Wingwalls Type 0^0, 45^0, 90^0 Projecting Flush with Slope MES (Mitered End Section) FES (Flared End Section)

Pier Shape

1) Circular pier
2) Twin-Cylinder piers
3) Elongated pier
4) Triangular nose
5) Square nose

Types (Shape) of Culvert


1) Circular


2) Rectangle


3) Elliptical


4) Con/Span

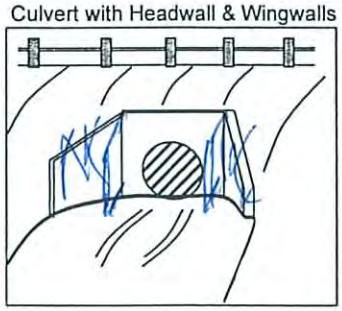

5) Elevated Arch


6) Pipe Arch

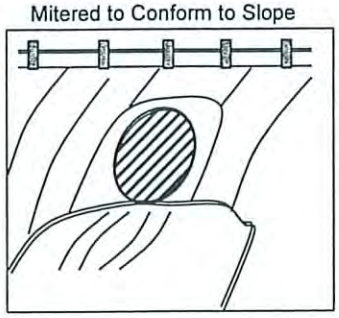
7) Other

Inlet/Outlet Type

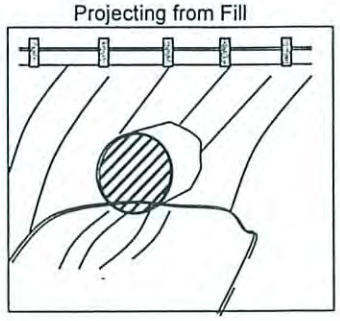
Culvert with Headwall & Wingwalls



Mitered to Conform to Slope



Projecting from Fill

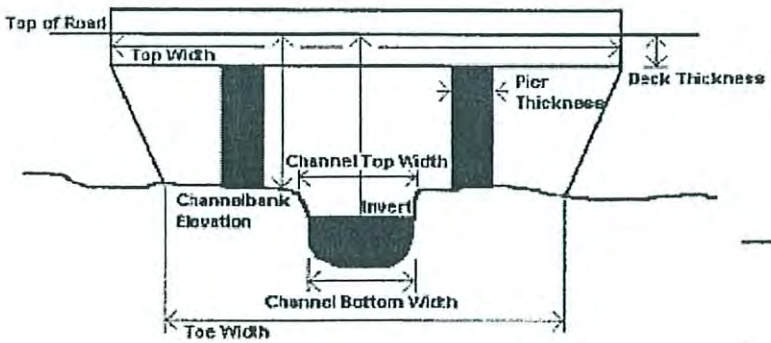


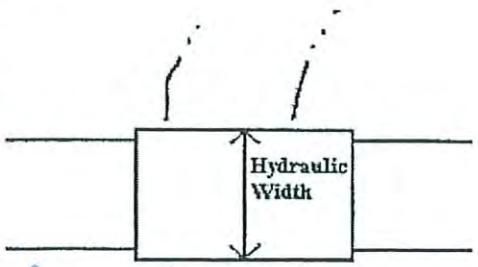
CHANNEL INFORMATION

ROAD TO BANK	CHANNEL TOP WIDTH	CHANNEL BOTTOM WIDTH

BRIDGE INFORMATION

DECK THICKNESS	TOP WIDTH	TOE WIDTH
3' from ground elev.		
HYDRAULIC WIDTH	**NUMBER OF PIERS**	**PIER THICKNESS**





u/s and d/s end of culvert have same dimensions

PHOTOS

Name	Description
11	d/s end of culvert looking u/s
12	u/s end of culvert looking d/s
13	u/s end of culvert looking u/s

ADDITIONAL CHANNEL INFORMATION

Land Use

Vegetative Cover

rock, sand, gravel, + grouted d/s of culvert
sand + gravel u/s

Bed Material

grouted riprap extending 35' u/s of u/s end of culvert; natural channel (narrow channel) u/s

General Channel Condition

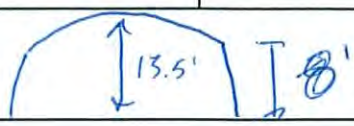
u/s of culvert, banks are natural w/ dense grasses & trees

Banks

Rt over bank has detention storage on u/s side

Overbanks

STRUCTURE SURVEY TEMPLATE

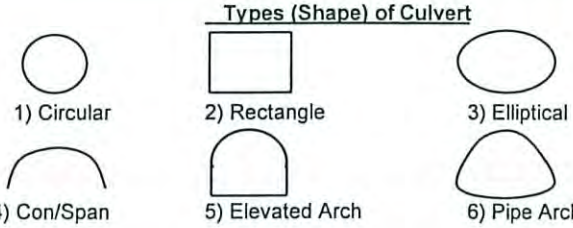
				DATE	3/3/08
ROAD NAME	Ralston			COUNTY	
STREAM NAME	Harmon Barranca			PHOTO ID #	
STRUCTURE #	HB5		X,Y COORDINATE		
TYPE	LENGTH	SIZE (W X H) & SHAPE	MATERIAL	Road to Bed	INLET/OUTLET TYPE
Railroad Bridge				Top of Road EL	
SPECIAL NOTE (Conditions, Blockage, etc)					
HIGH WATER MARK (Description, Witness, and Date)					

TYPE		CULVERT TYPE	MATERIAL	Road to Bed	INLET/OUTLET TYPE
Bridge		Number of Barrels	RCP (Reinforced Concrete Pipe)		Headwall
Span Bridge			CMP (Corrugated Metal Pipe)	Height from Top of	Wingwalls Type 0^0, 45^0, 90^0
Pier Shape		1) Circular	Bitmus Coated	Road to Invert	Projecting
Culvert		2) Rectangle (Span X Rise)	Steel		Flush with Slope
Dam		3) Elliptical	Timber	Top of Road EL	MES (Mitered End Section)
Spillway		4) Con/Span	Ductile		FES (Flared End Section)
Riser Barrel		5) Elevated Arch	Clay	From Topo Map	
Outlet		6) Pipe Arch	Masonry Rock	(FT.NGVD) or	
		7) Other		(FT.NAVD)	

Pier Shape

1) Circular pier
2) Twin-Cylinder piers
3) Elongated pier
4) Triangular nose
5) Square nose

Types (Shape) of Culvert



7) Other

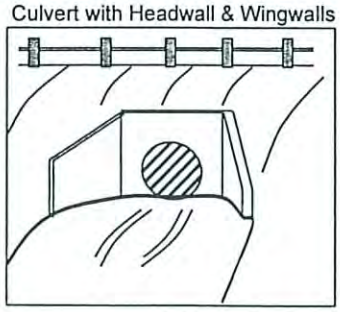
wingwalls parallel to channel

H ↑ Q

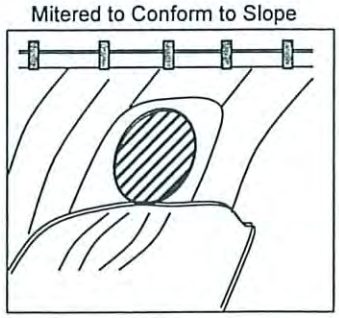
H = wingwall

Inlet/Outlet Type

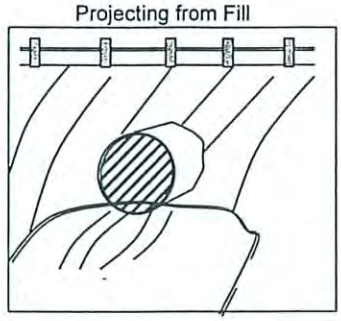
Culvert with Headwall & Wingwalls



Mitered to Conform to Slope



Projecting from Fill

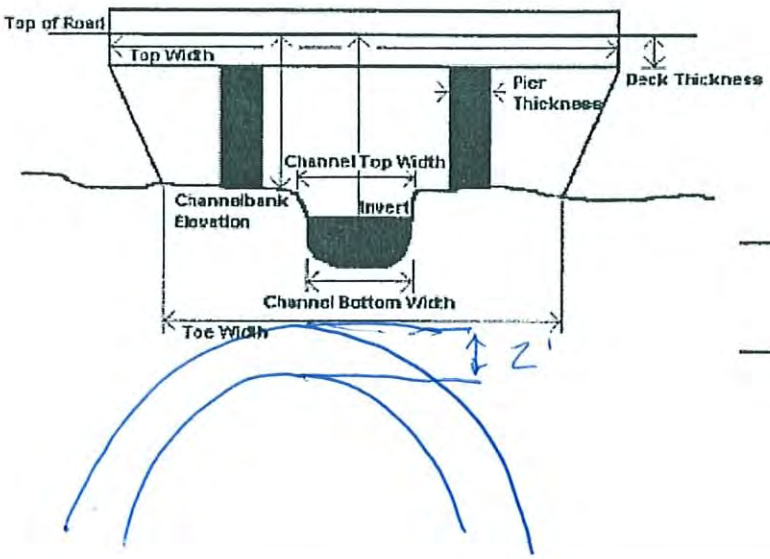


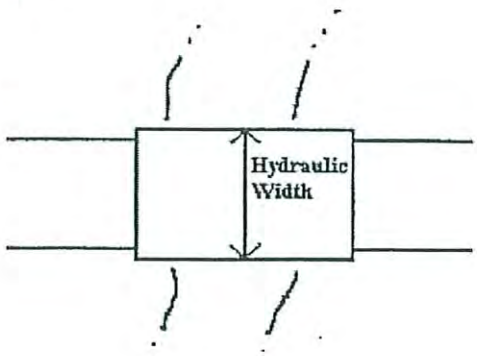
CHANNEL INFORMATION

ROAD TO BANK	CHANNEL TOP WIDTH	CHANNEL BOTTOM WIDTH

BRIDGE INFORMATION

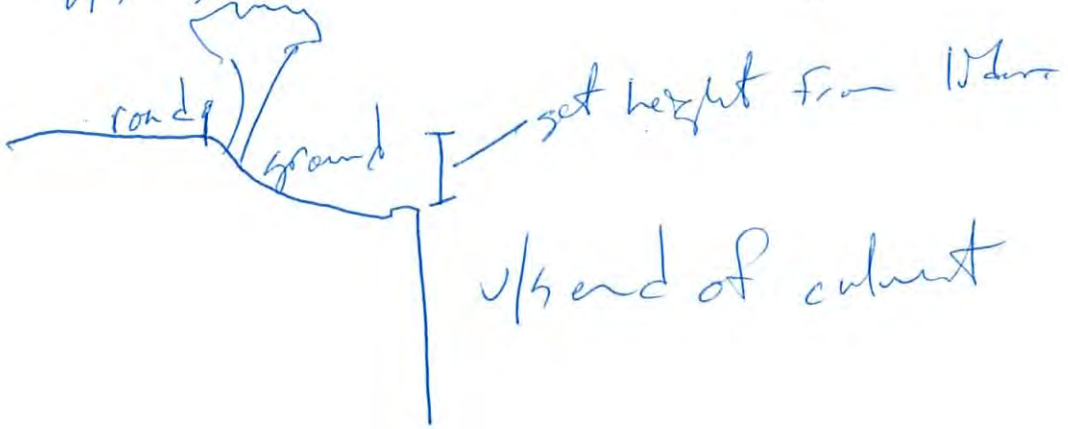
DECK THICKNESS	TOP WIDTH	TOE WIDTH
HYDRAULIC WIDTH	**NUMBER OF PIERS**	**PIER THICKNESS**





PHOTOS

Name	Description
14	d/s side of culvert looking u/s
15	u/s side of culvert looking d/s



ADDITIONAL CHANNEL INFORMATION

Land Use

large trees along top of banks

Vegetative Cover

sand, gravel, & cobble

Bed Material

3' wide low flow channel 6" deep.

General Channel Condition

grouted boulders along banks, left overbank has concrete bag wall protecting access Rd.

Banks

Overbanks

STRUCTURE SURVEY TEMPLATE

		DATE	3/3/08
ROAD NAME	Telephone	COUNTY	Ventura
STREAM NAME	Harmon Barranca	PHOTO ID #	
STRUCTURE #	HB6	X,Y COORDINATE	

TYPE	LENGTH	SIZE (W X H) & SHAPE	MATERIAL	Road to Bed	INLET/OUTLET TYPE
Railroad Bridge		11' ϕ circular		Top of Road EL	

SPECIAL NOTE (Conditions, Blockage, etc): @ u/s end of culvert, there is a box culvert w/ very steep slope

HIGH WATER MARK (Description, Witness, and Date):

TYPE	CULVERT TYPE	MATERIAL	Road to Bed	INLET/OUTLET TYPE
Bridge Span Bridge Pier Shape Culvert Dam Spillway Riser Barrel Outlet	Number of Barrels 1) Circular 2) Rectangle (Span X Rise) 3) Elliptical 4) Con/Span 5) Elevated Arch 6) Pipe Arch 7) Other	RCP (Reinforced Concrete Pipe) CMP (Corrugated Metal Pipe) Bitmus Coated Steel Timber Ductile Clay Masonry Rock	Height from Top of Road to Invert Top of Road EL From Topo Map (FT.NGVD) or (FT.NAVD)	Headwall Wingwalls Type 0°, 45°, 90° Projecting Flush with Slope MES (Mitered End Section) FES (Flared End Section)

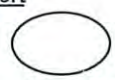
Pier Shape

1) Circular pier
2) Twin-Cylinder piers
3) Elongated pier
4) Triangular nose
5) Square nose

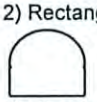
Types (Shape) of Culvert

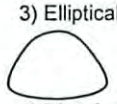

1) Circular


2) Rectangle


3) Elliptical


4) Con/Span

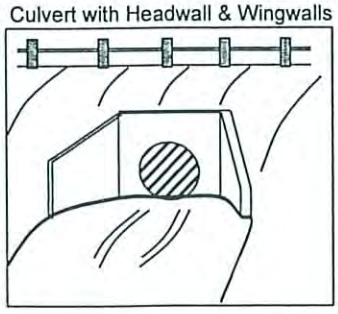

5) Elevated Arch


6) Pipe Arch

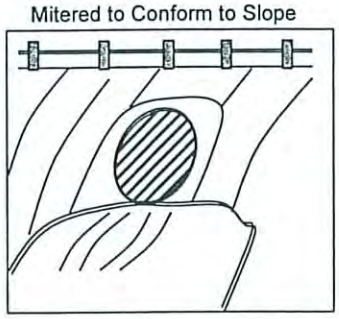
7) Other

Inlet/Outlet Type

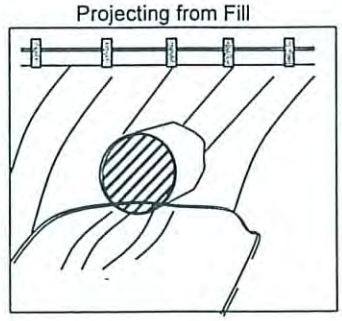
Culvert with Headwall & Wingwalls



Mitered to Conform to Slope



Projecting from Fill

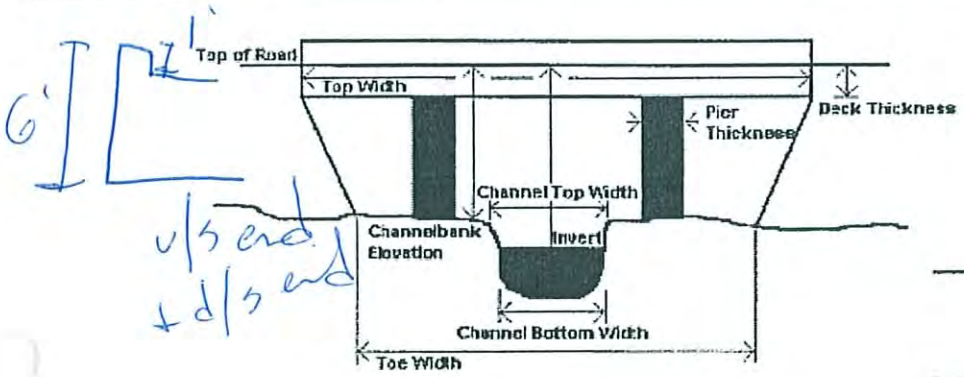


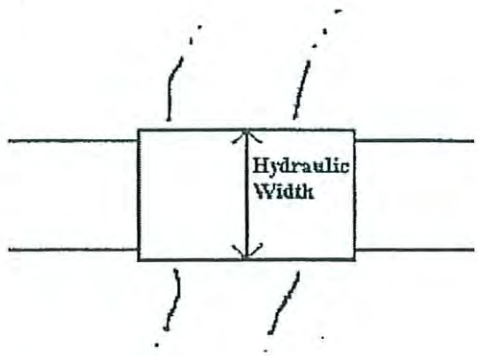
CHANNEL INFORMATION

ROAD TO BANK	CHANNEL TOP WIDTH	CHANNEL BOTTOM WIDTH

BRIDGE INFORMATION

DECK THICKNESS	TOP WIDTH	TOE WIDTH
6'		
HYDRAULIC WIDTH	**NUMBER OF PIERS**	**PIER THICKNESS**





PHOTOS

Name	Description
16	d/s side of culvert looking d/s
17	d/s side of culvert looking u/s
16	u/s side of culvert looking d/s.

ADDITIONAL CHANNEL INFORMATION

Land Use

Vegetative Cover

grouted riprap + boulders d/s of channel

Bed Material

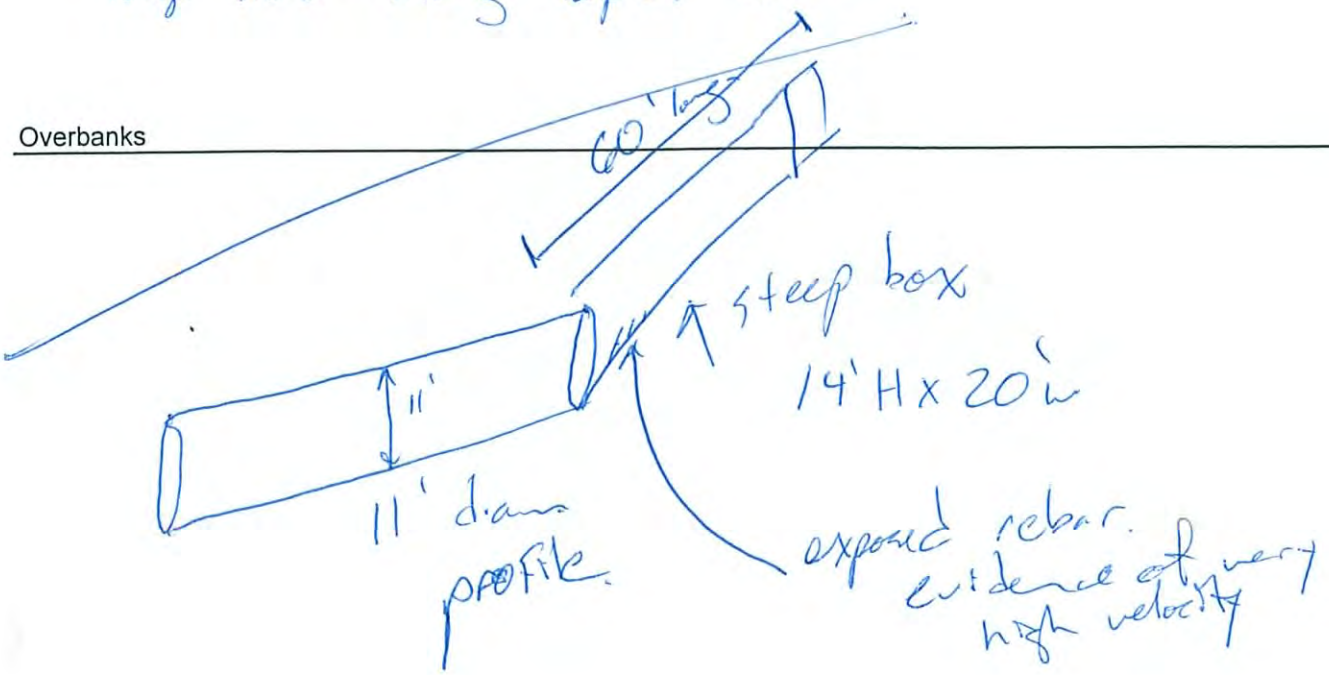
General Channel Condition

steep banks on right @ d/s end, maintenance road @ left bank

Banks

large trees along top of bank

Overbanks



STRUCTURE SURVEY TEMPLATE

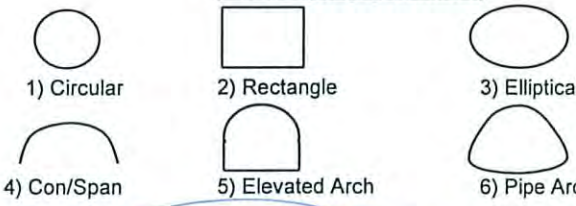
				DATE	3/3/08
ROAD NAME	Hwy 126			COUNTY	
STREAM NAME				PHOTO ID #	
STRUCTURE #	HB7		X,Y COORDINATE		
TYPE	LENGTH	SIZE (W X H) & SHAPE	MATERIAL	Road to Bed	INLET/OUTLET TYPE
Railroad Bridge				Top of Road EL	
SPECIAL NOTE (Conditions, Blockage, etc)			13' diameter @ L/S end		
HIGH WATER MARK (Description, Witness, and Date)					

TYPE	CULVERT TYPE	MATERIAL	Road to Bed	INLET/OUTLET TYPE
Bridge	Number of Barrels	RCP (Reinforced Concrete Pipe)		Headwall
Span Bridge		CMP (Corrugated Metal Pipe)	Height from Top of	Wingwalls Type 0^0, 45^0, 90^0
Pier Shape	1) Circular	Bitmus Coated	Road to Invert	Projecting
Culvert	2) Rectangle (Span X Rise)	Steel		Flush with Slope
Dam	3) Elliptical	Timber	Top of Road EL	MES (Mitered End Section)
Spillway	4) Con/Span	Ductile		FES (Flared End Section)
Riser Barrel	5) Elevated Arch	Clay	From Topo Map	
Outlet	6) Pipe Arch	Masonry Rock	(FT.NGVD) or	
	7) Other		(FT.NAVD)	

Pier Shape

1) Circular pier
2) Twin-Cylinder piers
3) Elongated pier
4) Triangular nose
5) Square nose

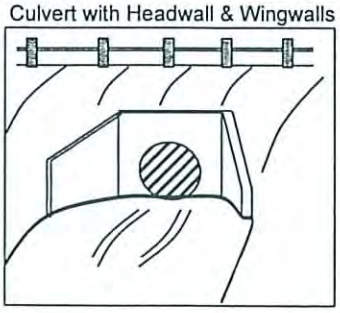
Types (Shape) of Culvert



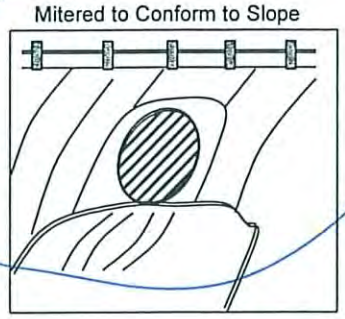
7) Other

Inlet/Outlet Type

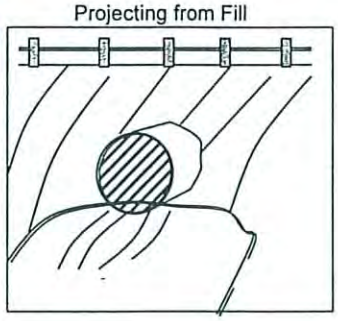
Culvert with Headwall & Wingwalls



Mitered to Conform to Slope



Projecting from Fill

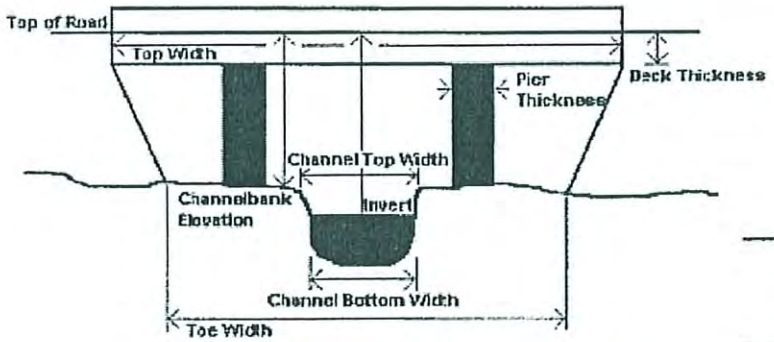


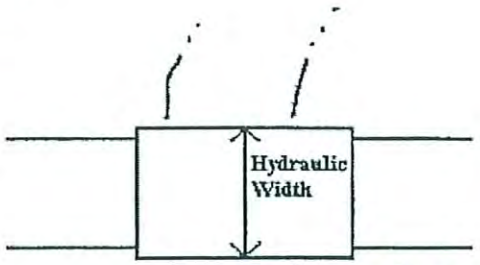
CHANNEL INFORMATION

ROAD TO BANK	CHANNEL TOP WIDTH	CHANNEL BOTTOM WIDTH

BRIDGE INFORMATION

DECK THICKNESS	TOP WIDTH	TOE WIDTH
HYDRAULIC WIDTH	**NUMBER OF PIERS**	**PIER THICKNESS**





@ d/s end of culvert, there is a concrete weir

profile

c/I  concrete weir section

PHOTOS

Name	Description
19	looking @ detention and berm @ u/s end of HWY 126.
20	looking @ u/s end of culvert, looking d/s
21	looking @ u/s end of culvert looking u/s
22	looking @ d/s end of culvert looking u/s
23	looking d/s from d/s end of culvert

ADDITIONAL CHANNEL INFORMATION

residential.

Land Use

large trees @ u/s end, dense vegetation
d/s - large trees

Vegetative Cover

gravel + large cobble @ u/s end
gravel - cobble in culvert

Bed Material

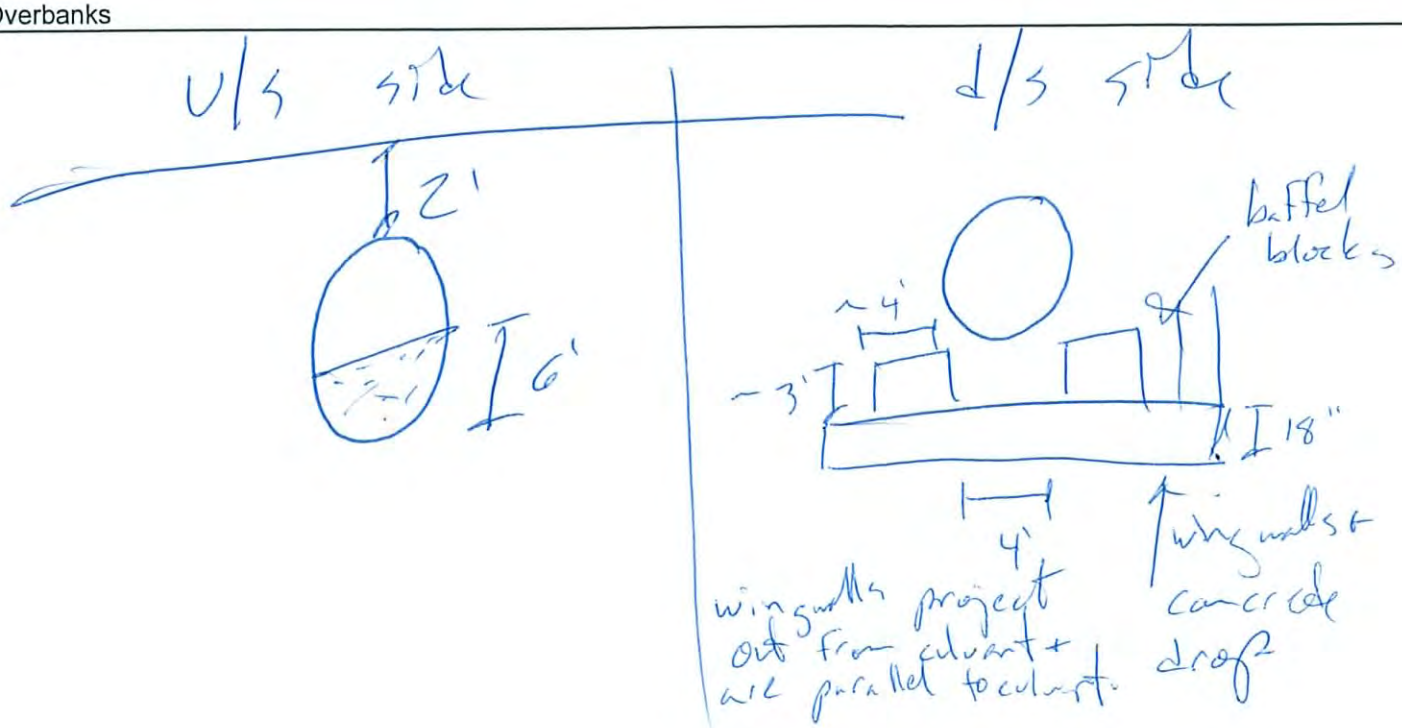
eroded d/s, large cobbles - looks like high velocity based on the size of rocks
$d_{50} \simeq 12"$

General Channel Condition

left bank @ u/s end is sloped ~ 2:1 gravel, right bank @ u/s end is vegetated + eroded in spots

Banks

Overbanks



STRUCTURE SURVEY TEMPLATE

				DATE	3/4/08
ROAD NAME	Telegraph Rd			COUNTY	
STREAM NAME	Harmon Barranca			PHOTO ID #	
STRUCTURE #	AB 8		X,Y COORDINATE		
TYPE	LENGTH	SIZE (W X H) & SHAPE	MATERIAL	Road to Bed	INLET/OUTLET TYPE
Railroad Bridge		10' x 10'		Top of Road EL	
SPECIAL NOTE (Conditions, Blockage, etc)	steep slope through culvert				
HIGH WATER MARK (Description, Witness, and Date)					

TYPE		CULVERT TYPE	MATERIAL	Road to Bed	INLET/OUTLET TYPE
Bridge		Number of Barrels	RCP (Reinforced Concrete Pipe)		Headwall
Span Bridge			CMP (Corrugated Metal Pipe)	Height from Top of	Wingwalls Type 0^0, 45^0, 90^0
Pier Shape		1) Circular	Bitmus Coated	Road to Invert	Projecting
Culvert		2) Rectangle (Span X Rise)	Steel		Flush with Slope
Dam		3) Elliptical	Timber	Top of Road EL	MES (Mitered End Section)
Spillway		4) Con/Span	Ductile		FES (Flared End Section)
Riser Barrel		5) Elevated Arch	Clay	From Topo Map	
Outlet		6) Pipe Arch	Masonry Rock	(FT.NGVD) or	
		7) Other		(FT.NAVD)	

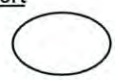
Pier Shape

1) Circular pier
2) Twin-Cylinder piers
3) Elongated pier
4) Triangular nose
5) Square nose

Types (Shape) of Culvert

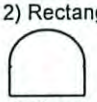
1) Circular

2) Rectangle

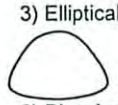


3) Elliptical

4) Con/Span



5) Elevated Arch

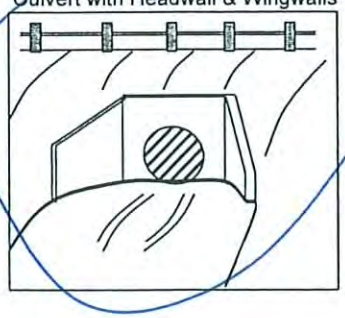


6) Pipe Arch

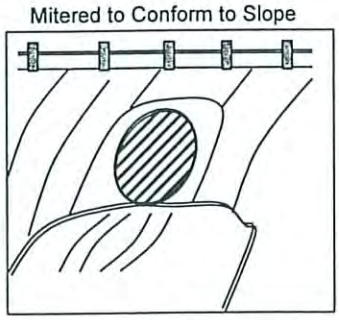
7) Other

Inlet/Outlet Type

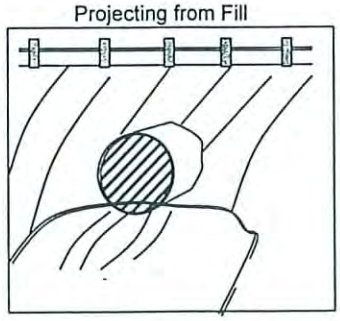
Culvert with Headwall & Wingwalls



Mitered to Conform to Slope



Projecting from Fill

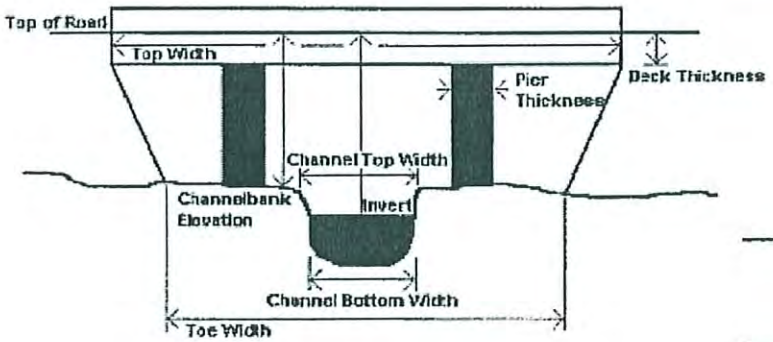


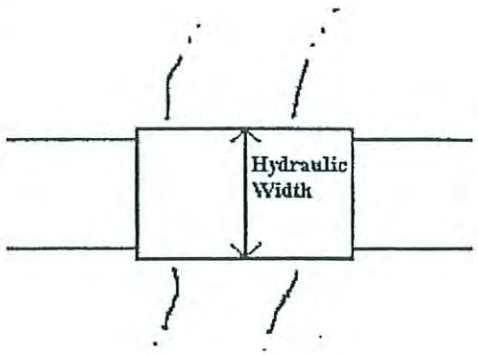
CHANNEL INFORMATION

ROAD TO BANK	CHANNEL TOP WIDTH	CHANNEL BOTTOM WIDTH

BRIDGE INFORMATION

DECK THICKNESS	TOP WIDTH	TOE WIDTH
2'		
HYDRAULIC WIDTH	**NUMBER OF PIERS**	**PIER THICKNESS**





PHOTOS

Name	Description
24	u/s side of culvert looking u/s
25	u/s side of culvert looking d/s
26	d/s side of bridge looking u/s — can not find culvert exit
27	d/s side of bridge looking d/s

ADDITIONAL CHANNEL INFORMATION

Land Use

large eucalyptus + palm trees @ u/s end.
dense vegetation and shrubs @ d/s end.

Vegetative Cover

Sand + gravel, smaller material d/s

Bed Material

channel meanders u/s of culvert, right bank is severely eroded.

General Channel Condition

grouted boulders u/s of culvert,

Banks

Overbanks

steep entrance to culvert, grouted concrete
@ culvert entrance is being undercut along
left bank.

** Can not find d/s end of culvert - very dense vegetation, culvert may be buried

need record drawings

STRUCTURE SURVEY TEMPLATE

Tributary culvert enters R/B d/s end of HB culvert.

ROAD NAME	Foothill			DATE	3/4/08
STREAM NAME				COUNTY	
STRUCTURE #	HB8			PHOTO ID #	
			X,Y COORDINATE		

TYPE	LENGTH	SIZE (W X H) & SHAPE	MATERIAL	Road to Bed	INLET/OUTLET TYPE
Railroad Bridge		~6' diam C d/s end	concrete	Top of Road EL	

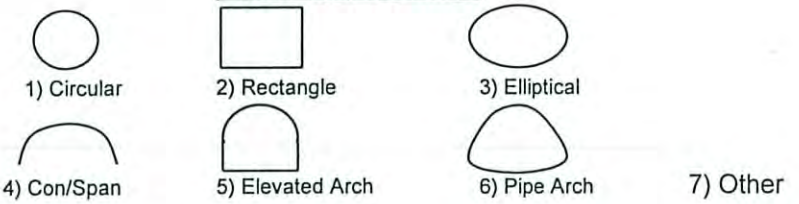
SPECIAL NOTE (Conditions, Blockage, etc)	~6' drop from culvert invert to pool, ~10' drop to next pool for tributary culvert, HB culvert is skewed + changes direction.
HIGH WATER MARK (Description, Witness, and Date)	U/S end of culvert is 12'x12' - steep entrance to culvert + evidence of concrete being eroded by high velocity water.

TYPE	CULVERT TYPE	MATERIAL	Road to Bed	INLET/OUTLET TYPE
Bridge	Number of Barrels	RCP (Reinforced Concrete Pipe)	Height from Top of Road to Invert	Headwall
Span Bridge		CMP (Corrugated Metal Pipe)		Wingwalls Type 0°, 45°, 90°
Pier Shape	1) Circular	Bitmus Coated		Projecting
Culvert	2) Rectangle (Span X Rise)	Steel	Top of Road EL	Flush with Slope
Dam	3) Elliptical	Timber		MES (Mitered End Section)
Spillway	4) Con/Span	Ductile	From Topo Map (FT.NGVD) or (FT.NAVD)	FES (Flared End Section)
Riser Barrel	5) Elevated Arch	Clay		
Outlet	6) Pipe Arch	Masonry Rock		
	7) Other			

Pier Shape

1) Circular pier
2) Twin-Cylinder piers
3) Elongated pier
4) Triangular nose
5) Square nose

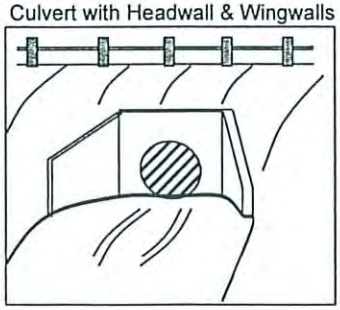
Types (Shape) of Culvert



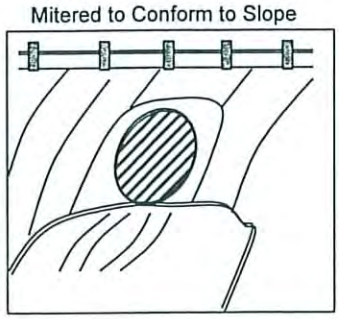
7) Other

Inlet/Outlet Type

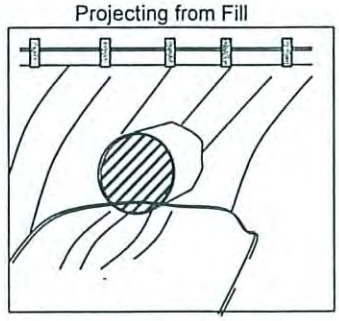
Culvert with Headwall & Wingwalls



Mitered to Conform to Slope



Projecting from Fill

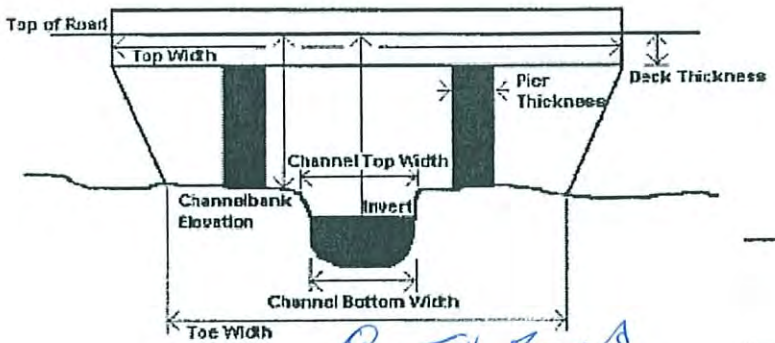


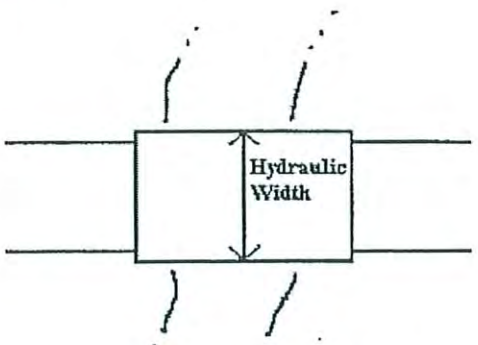
CHANNEL INFORMATION

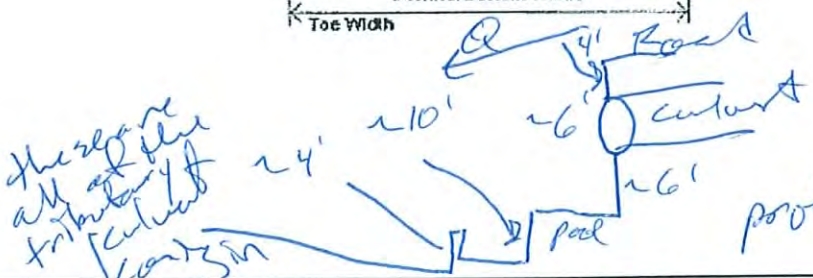
ROAD TO BANK	CHANNEL TOP WIDTH	CHANNEL BOTTOM WIDTH

BRIDGE INFORMATION

DECK THICKNESS	TOP WIDTH	TOE WIDTH
~ 4'		
HYDRAULIC WIDTH	**NUMBER OF PIERS**	**PIER THICKNESS**
	0	







therefore all of the tributary culverts

profile of tributary culvert.

PHOTOS

Name	Description
28	d/s side of tributary culvert looking d/s
29	d/s side of culvert looking u/s @ bank erosion
30	d/s side of culvert looking u/s
31	d/s side of culvert looking d/s
32	u/s side of culvert looking d/s.
33	u/s side of culvert looking u/s.
34	inside culvert looking d/s
35	d/s side of culvert looking u/s

ADDITIONAL CHANNEL INFORMATION

avocado & lemon

Land Use

shrubs + grasses @ u/s end.

Vegetative Cover

cobbles + boulders @ d/s end
sand & smaller cobble @ u/s end.

Bed Material

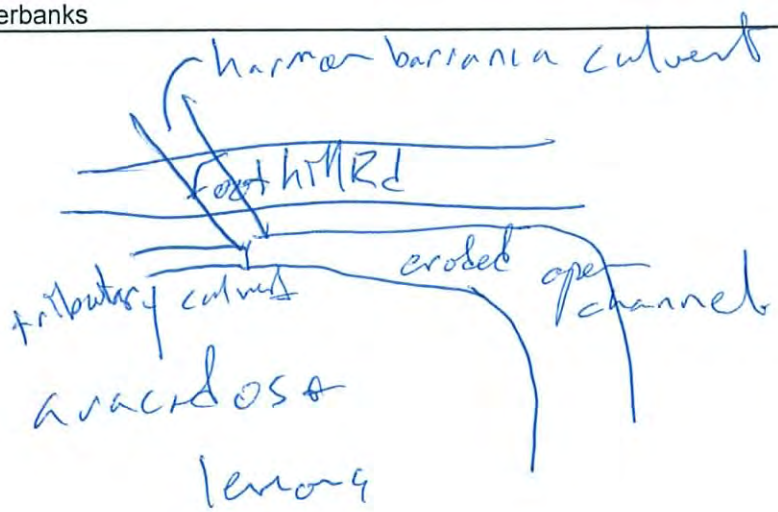
steep walls + dense vegetation @ d/s side
grouted boulders @ u/s side

General Channel Condition

severely eroded banks d/s of culvert
~ 30' high w/ near vertical walls

Banks

Overbanks



Need record drawings