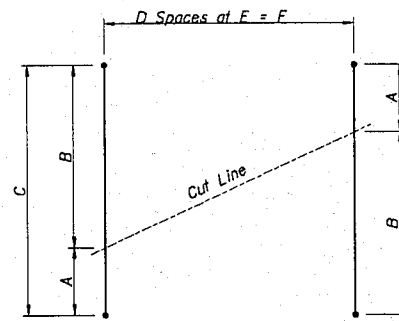


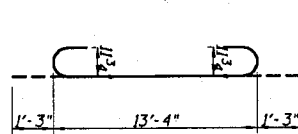
**DETAIL B**

Furnishing and installing Non-Metallic Sleeve and Non-Shrink Grout is included in the cost of "Concrete Box Culverts". See Sheet M-2 for pipe details.

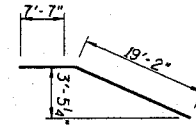


**CUTTING DIAGRAM**

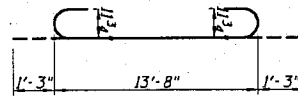
Bar	A	B	C	D	E	F
a1(E)	2'-0"	14'-0"	16'-0"	5	18"	7'-6"
a2(E)	12'-4"	14'-0"	26'-4"	6	18"	9'-0"
a5(E)	2'-1"	12'-3"	14'-4"	3	22"	5'-6"
a6(E)	1'-8"	12'-0"	16'-2"	12	6"	6'-0"
a9(E)	3'-0"	15'-0"	20'-6"	18	6"	9'-0"
h9(E)	9'-10"	18'-1"	27'-11"	12	12"	12'-0"



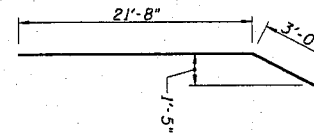
**BAR a4(E)**



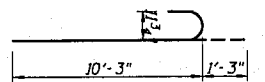
**BAR h14(E)**



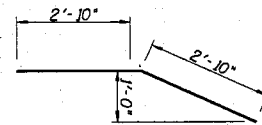
**BAR a6(E)**



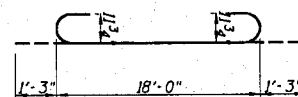
**BARS h17(E) & h18(E)**



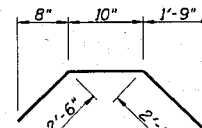
**BAR a8(E)**



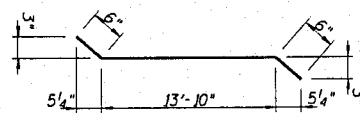
**BAR h19(E)**



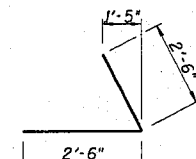
**BAR a9(E)**



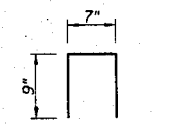
**BAR h20(E)**



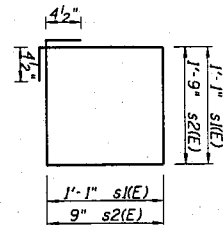
**BARS a10(E) & a11(E)**



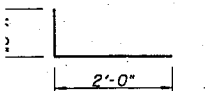
**BAR h21(E)**



**BAR d2(E)**



**BARS s1(E), s2(E)**



**BAR d3(E)**

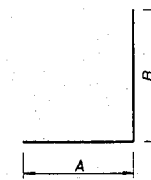
**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
a1(E)	6	#5	16'-0"	—
a2(E)	7	#5	26'-4"	—
a3(E)	34	#4	12'-3"	—
a4(E)	262	#9	15'-10"	—
a5(E)	8	#5	14'-4"	—
a6(E)	26	#9	16'-2"	—
a7(E)	12	#4	3'-0"	L
a8(E)	72	#9	11'-6"	—
a9(E)	19	#9	20'-6"	—
a10(E)	8	#6	14'-10"	—
a11(E)	16	#10	14'-10"	—
a12(E)	45	#5	12'-3"	—
a13(E)	22	#5	2'-6"	L
d1(E)	19	#6	3'-0"	—
d2(E)	6	#4	2'-3"	—
d3(E)	34	#6	3'-0"	—
h1(E)	26	#7	22'-3"	—
h2(E)	13	#7	38'-0"	—
h3(E)	52	#7	25'-8"	—
h4(E)	13	#7	8'-1"	—
h5(E)	52	#7	23'-5"	—
h7(E)	52	#7	23'-5"	—
h9(E)	26	#7	27'-11"	—
h10(E)	12	#6	12'-0"	—
h11(E)	50	#6	22'-2"	—
h12(E)	20	#6	25'-3"	—
h13(E)	20	#6	6'-0"	—
h14(E)	10	#6	26'-4"	—
h15(E)	10	#6	8'-5"	—
h16(E)	10	#6	19'-5"	—
h17(E)	4	#10	24'-8"	—
h18(E)	24	#6	24'-8"	—
h19(E)	40	#6	5'-8"	—

**BILL OF MATERIAL (cont.)**

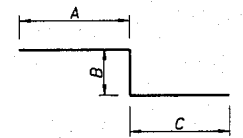
Bar	No.	Size	Length	Shape
h20(E)	10	#6	5'-10"	—
h21(E)	10	#6	5'-0"	—
h22(E)	4	#9	16'-8"	—
h23(E)	26	#5	16'-8"	—
h24(E)	10	#5	4'-8"	—
h25(E)	20	#6	7'-0"	—
h26(E)	8	#5	2'-6"	—
h27(E)	26	#7	25'-8"	—
s1(E)	64	#4	5'-1"	—
s2(E)	47	#4	5'-9"	—
v1(E)	364	#4	9'-3"	—
v2(E)	364	#4	2'-7"	—
v3(E)	22	#5	8'-4"	—
v4(E)	14	#7	15'-11"	—
v5(E)	16	#5	9'-4"	—
v6(E)	32	#7	10'-7"	—
v7(E)	16	#5	6'-1"	—
v8(E)	16	#7	7'-4"	—
v9(E)	10	#7	18'-11"	—
v10(E)	14	#5	10'-9"	—
v11(E)	27	#7	12'-0"	—
v12(E)	14	#6	5'-0"	—
v13(E)	14	#7	7'-8"	—
Bar Splicers		Ea		72
Concrete Box Culverts		Cu. Yd.		147
Concrete Superstructure		Cu. Yd.		8
Controlled Low-Strength Material		Cu. Yd.		440
Protective Coat		Sq. Yd.		18
Reinforcement Bars, Epoxy Coated		Pound		48,430
Removal of Existing Structures		L Sum		1
Structure Excavation		Cu. Yd.		1695
Sub-base Granular Material, Type B		Cu. Yd.		450
Temporary Soil Retention System		Sq. Ft.		1050
Waterproofing Membrane System		Sq. Yd.		119

Reinforcement bars designated (E) shall be epoxy coated.  
⊗ Rebar dimensions are a function of existing structures or proposed floodwall and shall be verified in field.



**BARS a7(E), a13(E), h1(E), h24(E), h25(E), v5(E), v6(E), v7(E), v8(E), v10(E) & v11(E)**

Bar	A	B
a7(E)	1'-6"	1'-6"
a13(E)	1'-3"	1'-3"
h1(E)	1'-2"	9'-7"
h24(E)	2'-2"	2'-6"
h25(E)	3'-6"	3'-6"
v5(E)	2'-2"	7'-2"
v6(E)	3'-5"	7'-2"
v7(E)	2'-2"	3'-11"
v8(E)	3'-5"	3'-11"
v10(E)	2'-2"	8'-7"
v11(E)	3'-5"	8'-7"



**BARS h4(E) & v12(E)**

Bar	A	B	C
h4(E)	3'-5"	3"	3'-5"
v12(E)	2'-6"	3"	2'-3"

Revised 2/24/06, DRH **SMU-7**

SCALE: NONE  
FR-416