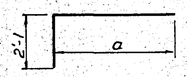
LOC.	MARK	SIZE	NO BARS	L'GTH	TOTAL L'GTH	SKETCH
APRON	D1	4	12	17'-1	205'-0	
	D2		2	16-4		
	D3			14'-7		
	D4			12'-11		
	D5			11'-2	165'-0	
	D6			9'-5		
	D7			7'-9		
	D8			6'-0		
	D9	4	2	4'-4		
	E1	4	1	12'-3		
	E2			13'-5		
	E3			14'-7		
	E4			15'-9		
	E5			16'-11		
	E6			18-1		
	E7			19'-3		
	E8			20'-5	306'-3	
	E9			21'-7		
	E10			22'-9		
	E11			23'-11		
	E12			25-1		
	E13			26'-3		
	E14			27'-5		
	E15	4	1	28'-7		
WING WALLS	F1	4	4	18'-3		
	F2			1'-2		
	F3			3'-5		
	F4			5'-9	297'-8	
	F5			8'-0		
	F6			10'-4		
	F7			12'-7		
	F8	4	4	14'-11		
	F9	4	10	19'-2	370'-0	
	F10	4	10	17'-10		
	G1	5	2	16'-9		
	G2			16'-3		
	G3			15'-10		
	G4			15'-5		
	G5			15'-0		
	G6			14'-6		
	G7			14'-1		
	G8			13'-8	449'-8	
	G9			13'-3		
	G10			12'-9		
	G11			12'-4		
	G12			11'-11		
	G13			11'-6		
	G14			11'-1		
	G15			10'-7		
	G16			10'-2		
	G17	5	2	9'-9		

	a	b
F9	16'-9	2'-5
F10	16'-10	1'-0

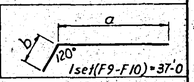
	h	a
Ga	5'-6	3'-4
Gb	4'-6	2'-8
Gc	3'-6	2'-0
G17	5'-7	4'-2



1 set (D2 - D9) = 82'-6

1 set (E1 - E15) = 306'-3

1 set (F1 - F8) = 74'-5



1 set (F9 - F10) = 37'-0

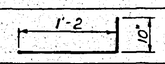
1 set (G1 - G17) = 224'-10

LOC.	MARK	SIZE	NO BARS	L'GTH	TOTAL L'GTH	SKETCH
WING WALLS	H1	4	2	12'-7		
	H2			12'-1		
	H3			11'-8		
	H4			11'-3		
	H5			10'-10		
	H6			10'-4		
	H7			9'-11		
	H8			9'-6		
	H9			9'-1	308'-0	
	H10			8'-7		
	H11			8-2		
	H12			7'-9		
	H13			7'-4		
	H14			6'-11		
	H15			6'-5		
	H16			6'-0		
	H17	4	2	5'-7		
WELLS	J1	5	42	3'-3	136'-6	
	J2	4	4	19'-9	79'-0	
EXT'S & WW'S	L1	4	3	33'-9	101'-3	
	L2	4	6	6'-10	41'-0	
	L3	4	6	17'-3	103'-6	
APRON	N1	4	12	15'-0	180'-0	
	N2		2	14'-1		
	N3		2	12'-5	74'-6	
	N4		2	10'-9		
	N5		1	12'-3		
	N6			13'-5		
	N7			14'-7	72'-11	
	N8			15'-9		
	N9		1	16'-11		
	N10	4	10	18'-1	180'-10	
HEADWALL	U1	7	4	12'-8	50'-8	
	U2	6	4	12'-8	50'-8	
	T1	4	8	13'-7		
	T2	4	8	5'-0	204'-8	
	T3	4	8	7'-0		
JOINT DETAIL	V1	4	14	2'-0	28'-0	
	V2	4	2	12-8	25'-4	

1 set (H1 - H17) = 154'-0

1 set (N2 - N4) = 37'-3
1 set (N5 - N9) = 72'-11

1 set (T1 - T3) = 25'-7



103'-8 of #7 bars @ 2.044 lb/ft = 211.9 lb
79'-4 of #6 bars @ 1.502 lb/ft = 119.2 lb
630'-2 of #5 bars @ 1.043 lb/ft = 657.3 lb
2,742'-11 of #4 bars @ .668 lb/ft = 1832.3 lb
Total = 2,820.7 lb

Unless otherwise shown, all dimensions are out to out of bars.

GENERAL NOTES

Materials, construction, and workmanship shall be in accordance with the State of Utah Standard Specifications for Road and Bridge Construction, Edition of 1970, and supplements thereto which are in effect on the date of request for bids.

All reinforcing steel shall be deformed billet-steel bars conforming to A.S.T.M. designation A 615-68, Grade 40.

Type II cement (low alkali) required.

Place full fill as far as practical before building headwall.

Cure concrete 7 days before backfilling.

DESIGN DATA

The design is in accordance with the AASHO Specifications of 1969, and Interim Specifications.

f_c = 1,200 p.s.i.
f_s = 20,000 p.s.i.
n = 10

QUANTITIES
(For one headwall only)

Excavation for Structures	=	24	cu.yd.
Class A Concrete (AE)	=	27.245	cu.yd.
Reinforcing Steel	=	2,821	Lb

Concrete and reinforcing steel quantities are certified correct for the dimensions shown.
W. D. Tolley P.E.

5-1
Addition 10-1-84

As Constructed
Creamer & Noble
CONSULTING ENGINEERS

NO.	BY	DATE	REMARKS
1	H.G.E.	9/24/73	Joint Detail & V1 + V2 bars added

REVISIONS

UTAH STATE DEPARTMENT OF HIGHWAYS
SALT LAKE CITY, UTAH
STRUCTURES DIVISION

STANDARD HEADWALL
FOR 132" STRUCTURAL PLATE PIPE
90° X-ING L

DESIGN H.G.E. CHECK
DRAWN H.G.E. CHECK SMP 1-8-73
QUANT. H.G.E. CHECK SMP 1-8-73
APPROVAL RECOMM. 1/8/73 DATE W. D. Tolley P.E. BRIDGE ENGINEER
APPROVED 1-8-73 DATE Ray L. Gelling STRUCTURAL ENGR.

STATION
COUNTY
DRG. NO. H-17
SHT. 3 OF 24
PROJECT NUMBER

UTAH POWER & LIGHT COMPANY
DEPARTMENT OF MINING & EXPLORATION
Sheet 35 of 38 | 4NB 8/9/84 | Dwg.# CM-10584-DS