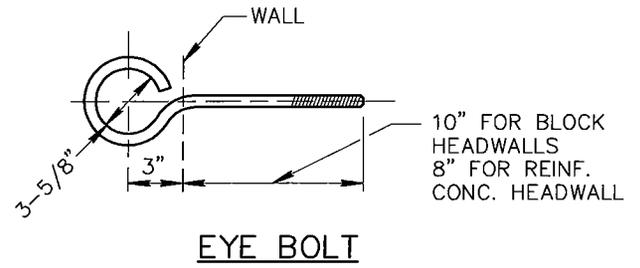


SECTION A-A

TYPE BASED ON PIPE SIZE						
TYPE	PIPE SIZE	NO. OF BARS	LENGTH OF BARS	DIMENSIONS		
				X	Y	Z
A	18"	6	3'-7"	1'-9"	2'-5"	2'-5"
	24"	8	3'-7"	2'-5"	3'-1"	2'-5"
B	30"	10	4'-4-1/4"	3'-1"	3'-9"	2'-11-1/2"
C	36"	10	5'-1-1/2"	3'-1"	3'-9"	3'-6"
D	42"	12	5'-10-5/8"	3'-9"	4'-5"	4'-0-1/2"
E	48"	14	6'-7-3/4"	4'-5"	5'-1"	4'-7"



DETAIL NO.  
**502-2**

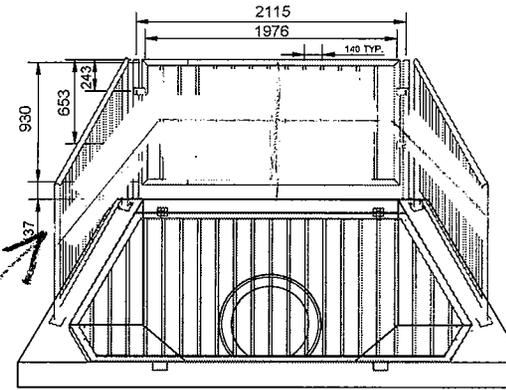
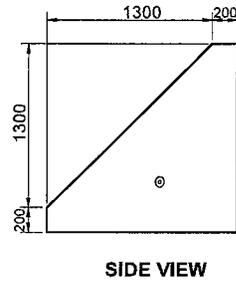
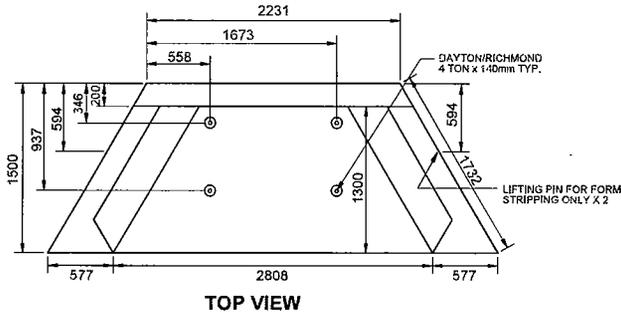


**STANDARD DETAIL  
ENGLISH**

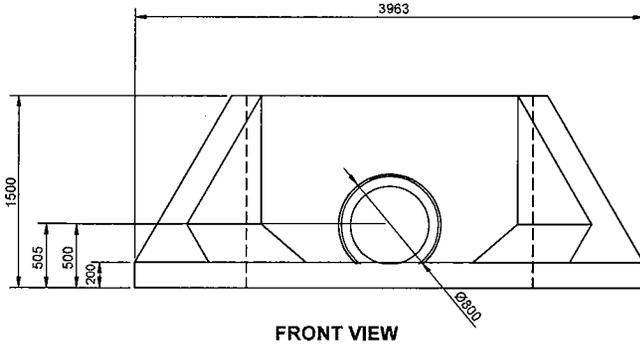
**TRASH RACK**

REVISED  
01-01-2004

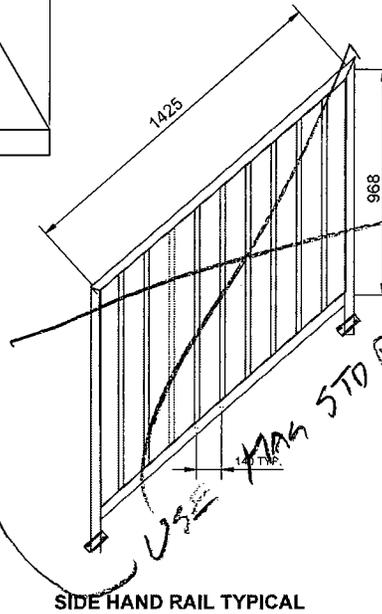
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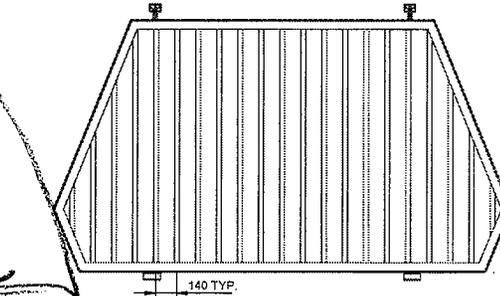
HAND RAIL



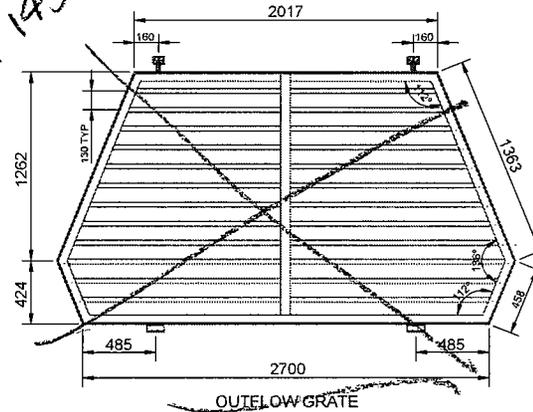
FRONT VIEW



SIDE HAND RAIL TYPICAL

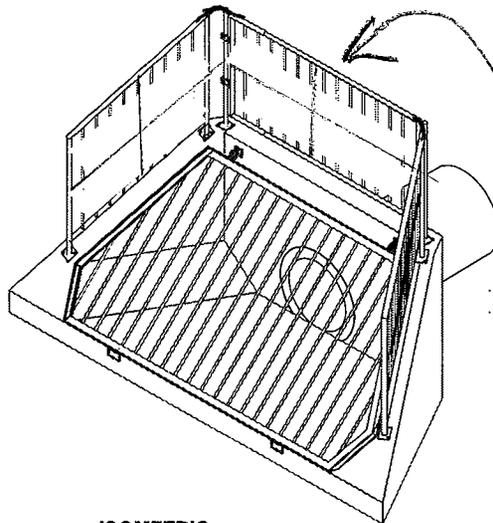


INFLOW GRATE



OUTFLOW GRATE

TYPICAL GRATE



ISOMETRIC

SHAW SUPPLIED ITEMS	
3	STAINLESS STEEL 'L' BRACKETS
6	190mm (3/4") STAINLESS DROP-IN ANCHORS
6	190mm (3/4") x 380mm (1 1/2") BOLTS
6	190mm (3/4") WASHERS

NOTES

- GENERAL**
- FOR HANDLING, STORAGE, TRANSPORTATION AND ERECTION PROCEDURES PLEASE REFER TO 'HEADWALL INSTALLATION GUIDE' AND 'DAYTON/RICHMOND GUIDELINES FOR HANDLING CONCRETE PIPE AND UTILITY PRODUCTS'.
  - WEIGHT = 4700 kg
  - TOLERANCE FOR STRUCTURAL ELEMENTS, MATERIALS & CONSTRUCTION CONFORM TO CANCSA A23.4 'PRECAST CONCRETE' CLAUSE 10.
  - PRECAST HEADWALL MUST BE FASTENED TO REINFORCED CONCRETE PIPE WITH SHAW SUPPLIED HARDWARE (SEE HEADWALL INSTALLATION GUIDE)
- GEOTECHNICAL**
- GEOTECHNICAL ENGINEER TO PROVIDE ON-SITE INSPECTION FOR PLACEMENT AND COMPACTION OF BACKFILL.
- DESIGN**
- THIS STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH CANCSA S6.06 UNDER THE FOLLOWING DESIGN PARAMETERS:
    - DESIGN LIVE LOAD = CL-475
    - DESIGN DEAD LOAD = 24.1V
    - EARTH FILL TOP SLOPE
    - CONCRETE UNIT WEIGHT = 24.0 kN/m<sup>3</sup>
    - SOIL/BACKFILL UNITWEIGHT = 22.0 kN/m<sup>3</sup>
- REINFORCEMENT**
- ALL REINFORCING STEEL SHALL BE GRADE 400 AND CONFORM TO CANCSA G30.18 (LATEST EDITION).
  - ALL WELDED WIRE MESH SHALL HAVE A Fy = 485 MPa AND CONFORM TO CANCSA G30.14 AND G30.15 (LATEST EDITION).
  - ALL REINFORCING SHALL BE DETAILED, FABRICATED, PLACED AND SUPPORTED IN ACCORDANCE WITH CANCSA A23.4 (LATEST EDITION).
  - THE CONCRETE COVER OVER PRINCIPAL REINFORCING SHALL BE 50mm + 10mm AS REQUIRED BY ENVIRONMENTAL EXPOSURE 8.11.2.2 (a) IN CANCSA S6.06.
- CONCRETE**
- CONCRETE MIX DESIGNS SHALL CONFORM TO REQUIREMENTS:
    - CONCRETE STRENGTH = 28 MPa AT TIME OF STRIPPING
    - DESIGN CONCRETE STRENGTH OF 45 MPa AT 28 DAYS OR TIME OF SHIPPING
    - 5% TO 7% AIR ENTRAINMENT
    - OLEN HOLE AGGREGATE SHALL BE USED WITH A NOMINAL AGGREGATE SIZE OF 13mm
  - CONCRETE CURING SHALL BE IN CONFORMANCE WITH CANCSA A23.1 (LATEST EDITION).
  - SHAW CONCRETE BATCH No. SHALL BE 406.
- ITEMS INCLUDED:**
- 1 HW400SH
  - 2 HW1500H OR HW1500V
- | REV. NO. | REASON | DATE |
|----------|--------|------|
|          |        |      |
- SHAW PIPE**
- DRAWING NO. \_\_\_\_\_
- OWNER: STANDARD HEADWALL 1500 X 1500 C/W 600 PIPE
- DRAWING NO. \_\_\_\_\_
- CONTRACTOR: STANDARD LAYOUT HAND RAILS INFLOW / OUTFLOW GRATES
- DATE: 22 JANUARY 2008 SCALE: AS NOTED
- DRAWN: N. DIMOCK CHECKED: N. WELCHOW
- SHEET 1 OF 1



Figure 5.14. Hinged steel debris rack in urban area. Due to nature of debris and possible entry by children, bar spacing is close.



Figure 5.15. Steel debris rack in urban area.