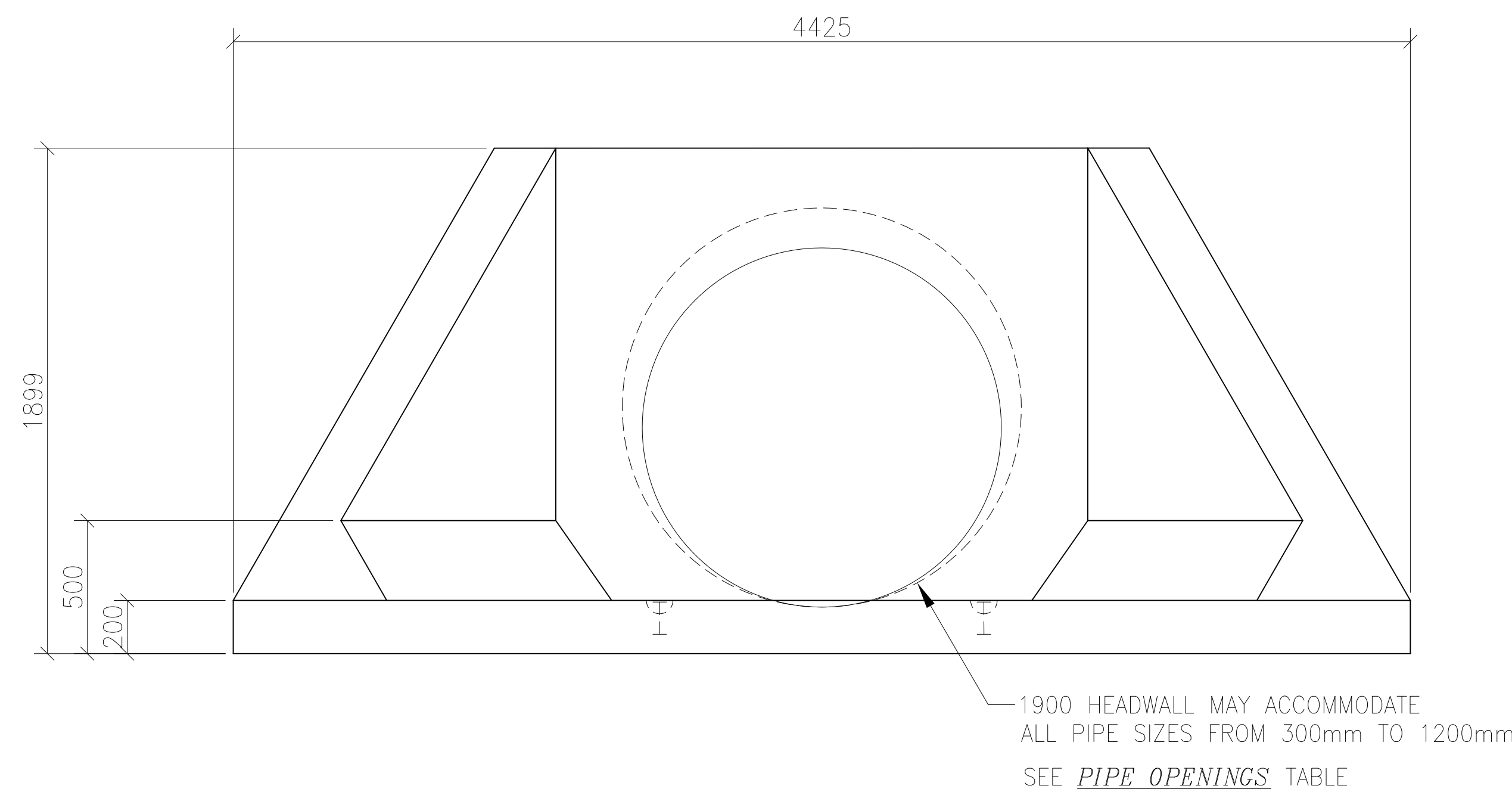
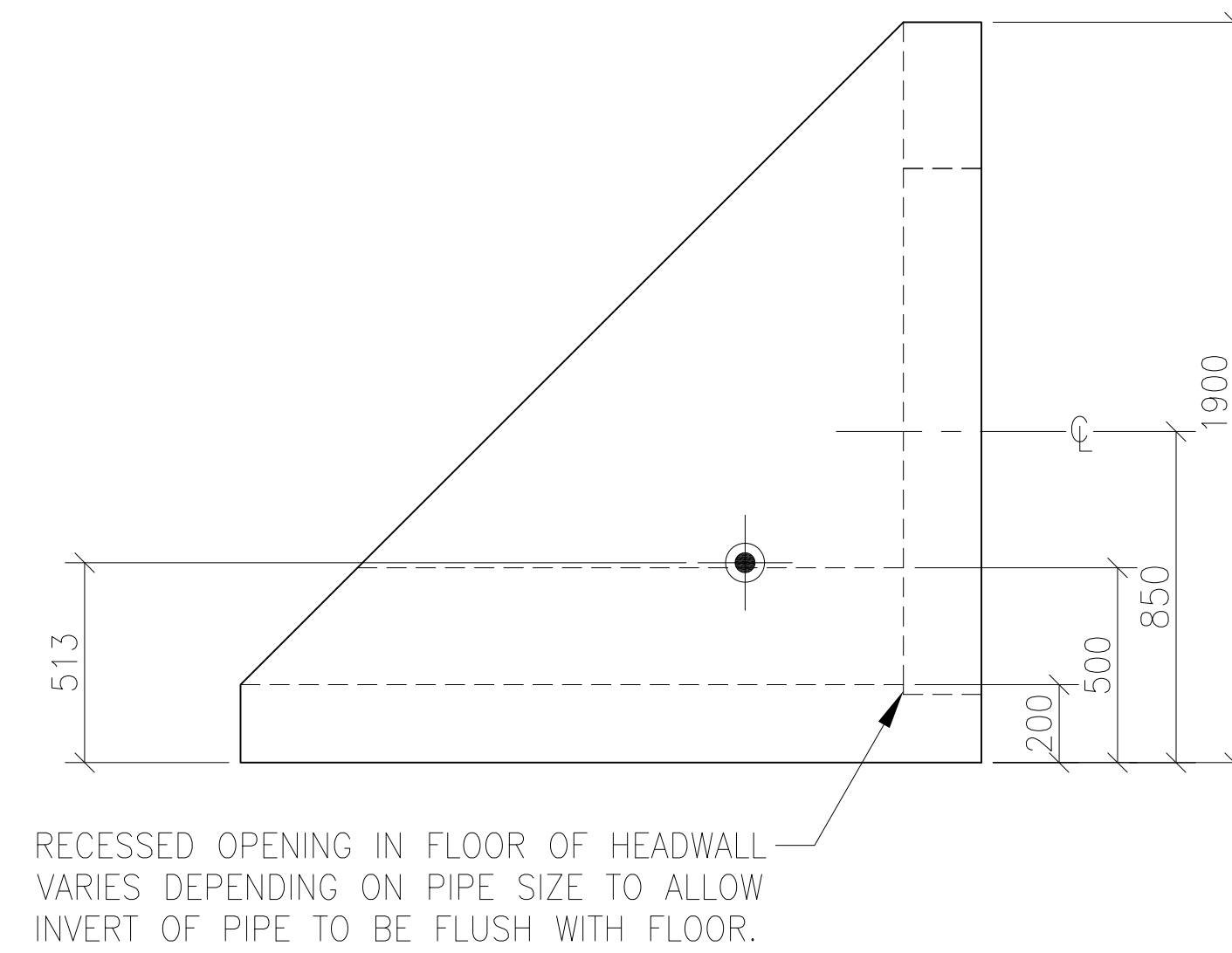


PLAN VIEW



FRONT VIEW



SIDE VIEW

SHAW SUPPLIED ITEMS	
3	STAINLESS STEEL "L" BRACKETS
6	19mm $\phi$ (3/4") HDI STAINLESS ANCHORS BY HILTI
6	19mm $\phi$ (3/4") x 380mm (1 1/2") BOLTS
6	19mm $\phi$ (3/4") WASHERS

1900x1900 HEADWALL		PRODUCT CODE: HRMHW1050
RCP SIZE	OPENING	
1050mm	1350mm (54")	PRODUCT CODE: HRMHW1200
1200mm	1500mm (60")	

1900x1900 HEADWALL	
SPECIAL PIPE OPENINGS	
RCP SIZE	OPENING
300mm	450mm (18")
375mm	550mm (22")
450mm	625mm (24")
525mm	725mm (28")
600mm	800mm (32")
750mm	1000mm (40")
900mm	1200mm (48")

1900 HEADWALL	
OPENING	CENTERLINE (mm)
450	374
550	418
625	449
725	493
800	524
1000	611
1200	680
1350	761
1500	823

NOTES:

- GENERAL**
- FOR HANDLING, STORAGE, TRANSPORTATION AND ERECTION PROCEDURES PLEASE REFER TO "PRECAST HEADWALL INSTALLATION GUIDE" AND "DAYTON/RICHMOND GUIDELINES FOR HANDLING CONCRETE PIPE AND UTILITY PRODUCTS".
  - WEIGHT = 7500 kgs
  - TOLERANCE FOR STRUCTURAL ELEMENTS, MATERIALS & CONSTRUCTION CONFORM TO CAN/CSA 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 CAN/CSA S6.06 UNDER THE FOLLOWING DESIGN PARAMETERS:
    - DESIGN DEAD LOAD = 2H:1V EARTH FILL TOP SLOPE.
    - CONCRETE UNIT WEIGHT = 24.0 kN/m<sup>3</sup>
    - SOIL/BACKFILL UNIT WEIGHT = 22.0 kN/m<sup>3</sup>
- REINFORCEMENT**
- ALL REINFORCING STEEL SHALL BE GRADE 400W AND CONFORM TO CAN/CSA G30.18 (LATEST EDITION).
  - ALL WELDED WIRE MESH SHALL HAVE A F<sub>y</sub> = 485 MPA AND CONFORM TO ASTM A496 AND A497.
  - ALL REINFORCING SHALL BE DETAILED, FABRICATED, PLACED AND SUPPORTED IN ACCORDANCE WITH CAN/CSA A23.4 (LATEST EDITION).
  - THE CONCRETE COVER OVER PRINCIPAL REINFORCING SHALL BE 50mm  $\pm$  10mm AS REQUIRED BY ENVIRONMENTAL EXPOSURE 8.11.2.2 (a) IN CAN/CSA S6.06.
- CONCRETE**
- CONCRETE MIX DESIGNS SHALL CONFORM TO REQUIREMENTS SET FORTH IN CAN/CSA A23.1 EXPOSURE CLASS F-1:
    - CONCRETE STRENGTH = 14 MPA AT TIME OF STRIPPING
    - DESIGN CONCRETE STRENGTH OF 45 MPA AT 28 DAYS OR TIME OF SHIPPING
    - 5% TO 7% AIR ENTRAINMENT
    - GALLANT AGGREGATE SHALL BE USED WITH A NOMINAL AGGREGATE SIZE OF 13mm
  - CONCRETE CURING SHALL BE IN CONFORMANCE WITH CAN/CSA A23.1 (LATEST EDITION).
  - SHAW CONCRETE BATCH NO. SHALL BE 406.

REV. NO. REVISION DATE



DRAWING No. **STD-HW1900**

PROJECT TITLE: **STANDARD PRODUCT**

DRAWING TITLE: **1900x1900 HRM STYLE HEADWALL TO SUIT 300 $\phi$  - 1200 $\phi$  PIPE**

GEOMETRY

CONTRACTOR  
 DATE: MAY 2012 DESIGNED: STAFF  
 DRAWN: M.CAMERON CHECKED: STAFF