

NOTE:  
SURFACE PREPARATION OF ALL EXISTING CONCRETE SURFACES FOR BOND. AT ALL EXISTING CONCRETE SURFACES WHICH WILL BE ENCASED IN NEW CONCRETE, PROVIDE SHALLOW DEPTH (4mm MIN.) LIGHT CHIPPING TO THE EXISTING SURFACE AT MAXIMUM 100mm SPACING IN BOTH DIRECTIONS FOR EFFECTIVE BOND WITH NEW CONCRETE. CHIPPING TO BE DONE PRIOR TO INSTALLATION OF NEW REBAR OR FORMWORK. PROVIDE PROTECTION TO PREVENT CHIPS FROM ENTERING THE LAKE. CHIPPING DEBRIS TO BE COLLECTED AND DISPOSED OF ON THE DOWNSTREAM SIDE OF THE EMBANKMENT AT A LOCATION APPROVED BY THE ENGINEER.

NEW REMOVE OLD STEEL PLATE FORMWORK ON DOWNSTREAM FACE OF DAM PRIOR TO NEW CONCRETE PLACEMENT

NEW TEMPERATURE STEEL  
15M @ 200 O.C. VERT.  
15M @ 200 O.C. HORZ.

NEW DRILL AND GROUT 15M DOWELS X 1000 LG. TO MATCH VERT. REINF. EMBED 250 mm INTO EXIST. CONCRETE

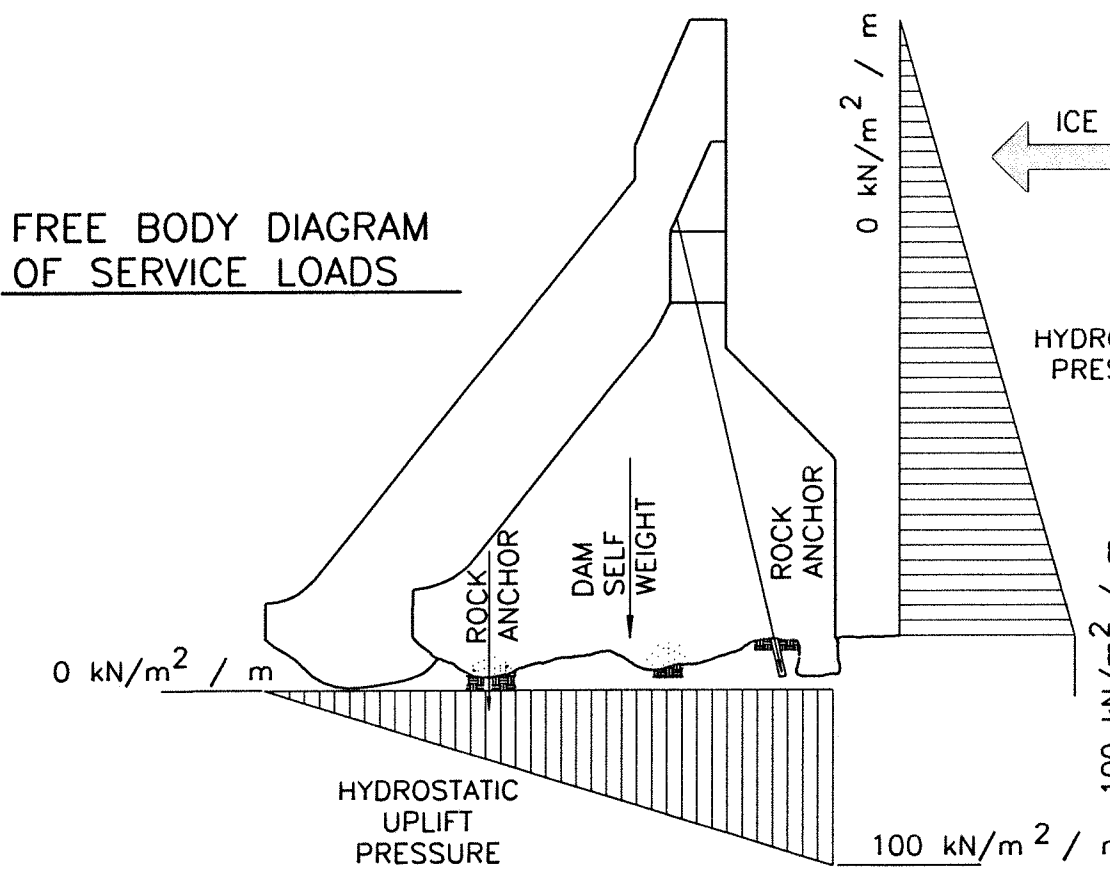
NOTE:  
ADDITIONAL ROCK ANCHORING WAS COMPLETED IN FALL 2005

EXISTING ROCK ANCHORING @ 2700± ON CENTRE. SEE RA1 FOR LOCATIONS

NOTE:  
HATCHING INDICATES STAGED GROUTING PROCEDURE

### SECTION "A-A" SCALE: 1 : 25 PROPOSED CONCRETE SPILLWAY SECTION OF THE DAM

FACTORS OF SAFETY  
OVERTURNING 1.5  
SLIDING 1.93  
WHERE F.S (SLIDING) =  $\frac{\tan 40^\circ (R_v) + \text{SHEAR CAPACITY OF ANCHORS}}{R_h}$   
R<sub>v</sub> = RESULTANT OF VERTICAL LOADS (kN)  
R<sub>h</sub> = RESULTANT OF HORIZONTAL LOADS (kN)



NEW DRILL AND GROUT 15M DOWELS X 1000 LG. TO MATCH VERT. REINF. EMBED 250 mm INTO EXIST. CONCRETE

INTERFACE JOINT SEALANT - TWO BEADS OF SIKAWELL S-2

UPSTREAM

EXISTING STEEL PLATES ON UPSTREAM FACE TO REMAIN

LAKE GERALDINE

EL. 109.33m  
TOP OF EXIST. CREST

EL. 107.83m  
TOP OF CREST - 1985

EL. 106.68m  
TOP OF ORIGINAL CREST

EXISTING 15M @ 300 VERT.  
15M @ 300 HORZ.

EXISTING 5 mm STEEL PLATE WELDED TO ANGLE FRAME TO REMAIN

EXISTING L64 X 64 X 5 ANGLE FRAME @ 1200 O.C. TYP. TO REMAIN

EXISTING "WILLIAMS" HOLLOW GROUTABLE "RE-BAR" 25mm @ ROCK BOLTS IN 45mm @ HOLES @ 800 O.C. TO REMAIN

EXISTING ROCK ANCHORS. SEE DRAWING RA1 FOR SPACING

### SECTION "A-A" SCALE: 1 : 25 EXISTING CONCRETE SPILLWAY SECTION OF THE DAM (CIRCA 1995)

NOTE:  
"ORIGINAL DAM AND 1985 ADDITION DIMENSIONS" REPRODUCED FROM DRAWINGS 84-4428-1, 84-4428-2 AND 88-4428-3 DATED 3 MARCH 1986. "1995 ADDITION" DIMENSIONS REPRODUCED FROM DRAWINGS 95-10047-1-2, 94-10047-1-3 & 94-10047-1-4 DATED 19 NOVEMBER 1995 PREPARED BY OLIVER MANGIONE, McALLA & ASSOCIATES LTD. CONTRACTOR TO VERIFY ACCURACY OF DIMENSIONS ON SITE AND REPORT ANY DISCREPANCIES TO ENGINEER BEFORE PROCEEDING WITH WORK.

WING WALLS NOT SHOWN FOR CLARITY. SEE S4 & S5 FOR DETAILS

EXISTING WATER ELEVATION (ELEVATION VARIES OVER COURSE OF YEAR)

EXISTING 15M @ 200 VERT.  
15M @ 300 HORZ.

EXISTING 15M DWLS. MATCHING HORZ. REINF. AT EXIST. WING WALLS

EXISTING 15M DWLS. X 1050 LG. MATCHING VERT. REINFORCING EMBEDDED 450 INTO EXIST. CONC.

EXISTING 5 mm STEEL PLATE WELDED TO ANGLE FRAME TO REMAIN

EXISTING 25 x 900 LG. "PISTAIL" TYPE ROCK ANCHORS TO REMAIN

LAKE GERALDINE

DIMENSIONS VARIES SEE DWG. BD1 FOR ADD'L INFO.

ISSUED FOR CONSTRUCTION	no. 2 date 29/06/06 by KAB
TENDER ISSUE	no. 1 date 10/04/06 by KAB
95% SUBMISSION	no. 0 date 28/02/06 by KAB

REVISIONS
NOTES: GENERAL CONTRACTOR TO VERIFY ALL DIMENSIONS WITH FINAL ARCHITECTURAL AND MECHANICAL DRAWINGS. NOTIFY THE ENGINEERS OF ANY ERRORS AND / OR OMISSIONS PRIOR TO CONSTRUCTION FOR DIRECTION. DO NOT SCALE THIS DRAWING.



PERMIT TO PRACTICE  
TROW ASSOCIATES INC.  
Signature: *K.A. Baker*  
Date: *June 29/2006*  
PERMIT NUMBER: P184  
The Association of Professional Engineers, Geologists and Geophysicists of the NWT/NU

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CLIENT  
CITY OF IQALUIT

PROJECT  
LAKE GERALDINE DAM  
EARTH AND CONCRETE  
WORK - 2006

DRAWING  
SECTION "A-A"

design by	K.A.B.	project no.	01B500017616C
drawn by	M.N.	drawing no.	
checked by	K.A.B. / R.W.P.		
date	FEB. 2005		
scale	AS NOTED	revision no.	2

**S2**