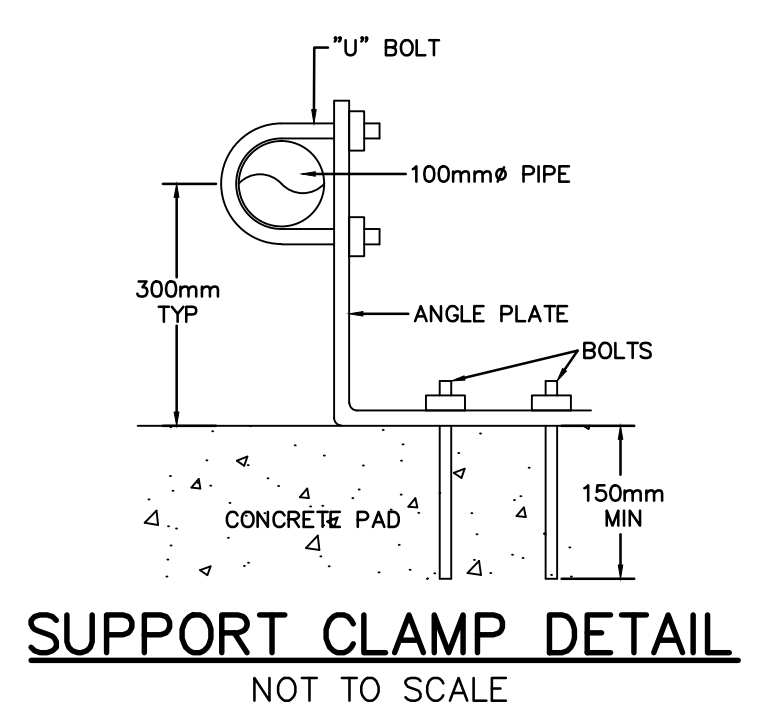


SCHEDULE OF VALVES, TEES, 'Y's AND REDUCERS IN THE PUMP HOUSE

NUMBER	ITEM
1	75mm# BUTTERFLY VALVE
2	100x100x100mm TEE
3	100x100x100 'Y' JUNCTION
4	100x50mm REDUCER
5	50mm# GATE VALVE
6	LISLE-METRIX LTD. MODEL MHF15H2 PVC 100x100x100mm TEE
7	100x75mm REDUCER
8	100x50mm REDUCER
9	100x40mm REDUCER
17	100mm# BUTTERFLY VALVE
19	100x100x50mm TEE
20	32mm BALL VALVE
21	100mm 90° BEND
22	100mm 45° BEND
23	100mm BACKWATER VALVE
24	100x100x50mm TEE
25	50x13mm REDUCER
26	13mm TAP WITH 19mm MALE THREADED GARDEN HOSE CONNECTION
27	75x75x75mm TEE
28	50x40mm REDUCER
29	50mm BACKWATER VALVE
30	JENKINS 6mm THREADED NEEDLE VALVE
31	13x6mm REDUCER



PUMP HOUSE - MECHANICAL EQUIPMENT

1:200

SCHEDULE OF MECHANICAL EQUIPMENT

ITEM SCHED. No.	QTY'S PROPOSED NEW	RELOCATE EXISTING	EXISTING TO REMAIN	ITEM	MANUFACTURER
A(c)			2	WELL 1 & WELL 2 SUBMERSIBLE PUMPS	MYERS - WRANGLER, 64P390, 3 HP, SUBMERSIBLE PUMP
B(a)	1			WELL 3 SUBMERSIBLE PUMP	MYERS - WRANGLER, 64P390, 3 HP, SUBMERSIBLE PUMP
C(b)			2	FLOW METER	ABB ELECTROMAGNETIC FLOWMETER C/W TRANSMITTER
D(b)(g)			1	DATA LOGGER - REPLACED WITH WEB ALERT	
F(b)			1	TREATMENT PROMINENT CHEMICAL FEED SYSTEM WITH HOT STAND BY ACO CHEMICAL STORAGE TANK/ACO CONTAINMENT BASIN	
H(b)			1/1	CHEMICAL STORAGE TANK	
J(a)			1	EX HIGH LIFT PUMP WITH ELAPSED TIME METER - TO REMAIN IN PLACE	3450 RPM, 5-5/16" IMPELLER, 2" SUCTION, 1-1/2" DISCHARGE, MYERS MV30 - 30A
J(b)		1		EX HIGH LIFT PUMP WITH ELAPSED TIME METER - TO BE RELOCATED	3450 RPM, 5-5/16" IMPELLER, 2" SUCTION, 1-1/2" DISCHARGE, MYERS MV30 - 30A
K	1			HIGH LIFT "DUTY" PUMP	MYERS - MV18-30/7.5HP 100 USGPM @ 147 FT TDH
L			1	PRESSURE GAUGE ON DISTRIBUTION SYSTEM	MYERS PART No. 12706A OR EQUIVALENT
M			3	AIR RELIEF VALVE	APCO 200A.2 AIR RELEASE VALVE
N(e)			1	HIGH LIFT PUMPS START/SHUTOFF	WELL-X-TROL "HI-GAP" PRESSURE SWITCH
O(a)			5	EX PRESSURE TANK - TO REMAIN IN PLACE	WELL-RITE WR-350 PRESSURE TANK
O(b)		1		EX PRESSURE TANK - TO BE RELOCATED	WELL-RITE WR-350 PRESSURE TANK
O(c)				PRESSURE TANK	WELL-RITE WR-350 PRESSURE TANK
R			1	HIGH/LOW LEVEL CONTROLS	PAIR OF ELECTRODES CONNECTED THROUGH BW TYPE L14 RELAY TO SUBMERSIBLE PUMP CONTROL PANEL
S			1	HIGH/LOW CUTOFF SYSTEM	PAIR OF ELECTRODES CONNECTED THROUGH BW TYPE L14 RELAY TO CENTRIFUGAL PUMP CONTROL PANEL
T			1	HIGH LEVEL ALARM	A4-1 HIGH LEVEL ALARM WITH NON-MERCURY FLOAT SWITCH
U			2	FOOT VALVE	75mm GOULDS MODEL AVS-20 FOOT VALVE
V(b)			1	CHLORINE ANALYSER	PROMINENT DULCOMETER CHLORINE RESIDUAL ANALYSER
W(b)			1	TURBIDITY ANALYSER	ABB 4670 SERIES

NOTES:

(a) SUBMERSIBLE PUMP CONTROL PANEL TO ALTERNATE OPERATION BETWEEN THE THREE PUMPS. IN THE EVENT THAT ONE PUMP FAILS ANOTHER PUMP WILL TAKE OVER AUTOMATICALLY AND A WARNING LIGHT WILL BE ACTIVATED. LOW LEVEL CUTOFF TO BE SET 3.0m ABOVE EACH PUMP INTAKE.

(b) THE SUPPLIER IS METCON.

(c) FLOW CONTROLLER TO BE ADJUSTED FOR 262 L/MIN. (69USGPM) MAXIMUM FLOW RATE.

(d) PUMP CHARACTERISTICS: FRAME MOUNTED - 3450RPM, THREE PHASE, 10 HORSEPOWER MOTOR, 600 VOLTS.

CONTROL PANEL: PUMP "K" TO FUNCTION AS THE DUTY PUMP. IF DEMAND EXCEEDS THE DELIVERY RATE OF PUMP "K" A LOW PRESSURE SETTING SHALL ACTIVATE EITHER BACK-UP PUMP J(a) OR BACK-UP PUMP J(b). BACK-UP PUMPS J(a) AND J(b) SHALL ACTIVATE ON AN ALTERNATING BASIS.

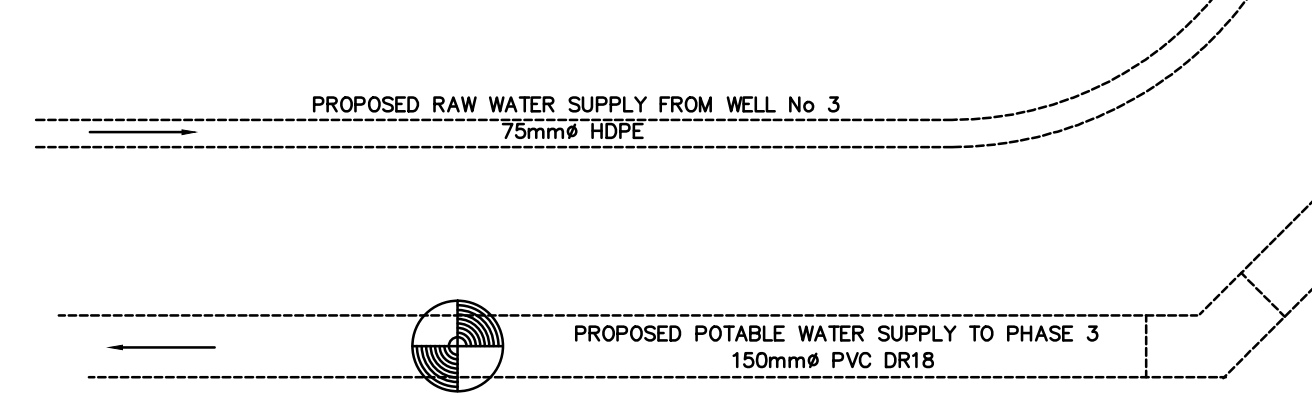
IN THE EVENT THAT A PUMP FAILS, ANOTHER PUMP SHALL TAKE OVER AUTOMATICALLY AND A WARNING LIGHT SHALL BE ACTIVATED; THE LOW LEVEL CUTOFF IS TO OVERRIDE THE PRESSURE SWITCH. THE CONTROL PANEL SHALL HAVE THREE HOUR LOGGING METERS TO RECORD CUMULATIVE RUN TIME FOR EACH HIGH-LIFT PUMP.

(e) PRESSURE SWITCH SETTINGS: START 'DUTY' HIGHLIFT PUMP "K" = 58 PSIG
 START 'BACK-UP' HIGHLIFT PUMP "J" = 57 PSIG
 STOP PUMPS J & K = 76 PSIG

(f) WATER SAMPLE LOCATIONS TO BE PIPED TO COMMON LOCATION (SINK) USING 19mm COPPER PIPE.

(g) 4 CHANNEL DATA LOGGER

CHANNEL	FUNCTION
1	WELL FLOW - DAILY
2	OUTFLOW TO DISTRIBUTION
3	CHLORINE
4	TURBIDITY



PROPOSED PHASE 3 ADDITIONS TO PUMP HOUSE

GENERAL NOTES:

DOORS AND LOCKS:
 CHEMICAL STORAGE AREA DOOR TO BE PROVIDED WITH AN AUTOMATIC DOOR CLOSING DEVICE. ALL LOCKS SHALL BE OF THE FLUSH MOUNTED TYPE, DEADBOLT, AND JIMMYPROOF. KEYING ARRANGEMENTS SHALL BE IN ACCORDANCE WITH REQUIREMENTS AND SPECIFICATIONS OF THE CITY OF OTTAWA.

ALL DOORS TO BE INSULATED HOLLOW METAL DOORS.

PIPING:
 ALL PIPING INSIDE THE PUMP HOUSE IS TO BE STAINLESS PIPE UNLESS OTHERWISE NOTED.

WELL PUMP DISCONNECTS:
 EACH WELL PUMP SHALL BE PROVIDED WITH A LOCK-OUT DISCONNECT SWITCH LOCATED WITHIN SIGHT OF THE WELL HEAD.

INSPECTION CERTIFICATE:
 A FINAL INSPECTION CERTIFICATE FROM ONTARIO HYDRO INSPECTION BRANCH ON ALL BUILDING AND EQUIPMENT WORK SHALL BE OBTAINED PRIOR TO THE COMMENCEMENT OF SYSTEM OPERATIONS.

FIRE EXTINGUISHER:
 A FIRE EXTINGUISHER, TYPE ABC, SHALL BE PROVIDED IN THE PUMPHOUSE.

NOTE: THE POSITION OF ALL POLE LINES, CONDUITS, WATERMANS, SEWERS AND OTHER UNDERGROUND AND OVERGROUND UTILITIES AND STRUCTURES IS NOT NECESSARILY SHOWN ON THE CONTRACT DRAWINGS, AND WHERE SHOWN, THE ACCURACY OF THE POSITION OF SUCH UTILITIES AND STRUCTURES IS NOT GUARANTEED. BEFORE STARTING WORK, DETERMINE THE EXACT LOCATION OF ALL SUCH UTILITIES AND STRUCTURES AND ASSUME ALL LIABILITY FOR DAMAGE TO THEM.



No.	REVISION	DATE	BY
2.	ISSUED FOR CITY REVIEW	MAY 14/10	CJR
1.	ISSUED FOR CITY REVIEW	FEB 25/10	JLS

DME
 David McManus Engineering
 A Tru Global Company
 400 - 30 Cornwell Drive
 Nepean Ontario, K2G 5X8
 E-mail: mcmanus@dmet.on.ca
 Ph: 225-1929 Fax: 225-7330

No.	REVISION	DATE	BY
3.	AS BUILT	NOV/03	JLS (RWC INC)
2.	REVISED AS PER CITY COMMENTS	JUN 3/02	JLS (RWC INC)
1.	PRELIMINARY SUBMISSION TO CITY	AUG 3/01	JLS (RWC INC)

DESIGN	SCALE
JLS	AS NOTED

R. W. Connelly Associates Inc.
 CONSULTING ENGINEERS AND PLANNERS
 236 WESTBROOK ROAD, CARP, ONTARIO K0A 1L0
 Tel: (613) 831-9906 Fax: (613) 831-0669

PROJECT No.	RWC 100
SURVEY BY	
DATE	MAY 2001
FROM DRAWING No.	RWC-100-2
	FIG-2