SHEET: COW-A1 (05/2005)

DESIGN DATA	
TANK DIMENSIONS	70 x 17.5 M
STAGE DIMENSIONS	17.5 x 17.5 M
LIQUID DEPTH	4.5 M
FREEBOARD ABOVE LIQUID	1.43 TO 1.70 M
LIQUID VOLUME PER STAGE	1300 M^3
VAPOUR SPACE VOLUME PER STAGE	450 M^3
WEIR LENGTH PER TANK	59 M
AVERAGE ANNUAL FLOW	332 ML/DAY
PEAK FLOW	598 ML/DAY
RETENTION – AVERAGE ANNUAL FLOW	2.16 HOURS
RETENTION – PEAK FLOW (30 DAYS)	1.40 HOURS
RETENTION – PEAK FLOW (5 DAYS)	1.22 HOURS

INCONSISTENCIES:

I-1 R110-PY IS CURRENTLY DESIGNATED R110-IY.

I-2 R115-FV IS CURRENTLY DESIGNATED R115-FCV.

FROM TS-1 1-0101R-G-A0100

FROM TS-2 1-0101R-G-A0100

TO REACTOR 1B GAS ANALYZERS 1-0101R-G-A0110

SAMPLE GAS

DO AA R115 VB

DO AA R115 VD

DI AA R115 YS

AI AA R115 ZT

R115 ZI

O/C R115 HS 2

C/H R115 HS 1

R115 ZT

R115 ZE

VENT

R115 FV

SEE I-2

DI AA R110 PH

AI AA R110 PT

DI AA R110 PA

R110 PI

R110 PSL

R110 PSH

TO R110-PCV VALVE CONTROL 1-0101R-G-A0097

E/I

R110 PY

SEE I-1

R110 PSH

R110 PIT

R110-PSV-1B

200ø

TS

R115-PSV-1B

TS 4

150ø

FROM FLUSHING WATER PIPING 1-0101R-G-A0115 — FW 75ø

FROM PRIMARY EFFLUENT VALVE R320-FV 1-0101R-G-A0091 — PE 1200ø

FROM RAS REACTOR VALVE R815-FV 1-0101R-G-A0094 — RAS 500ø

FROM PURGE BLOWER R240-PB2-1A 1-0101R-G-A0113 — AIR 200ø

FROM OXYGEN VALVE R110-PCV 1-0101R-G-A0097 — O2 100ø

75ø

MIXER R211-MXR2-1B SEE REFERENCE DRAWINGS FOR DETAILS

MIXER R212-MXR3-1B SEE REFERENCE DRAWINGS FOR DETAILS

MIXER R213-MXR6-1B SEE REFERENCE DRAWINGS FOR DETAILS

MIXER R214-MXR7-1B SEE REFERENCE DRAWINGS FOR DETAILS

STAGE 1

STAGE 2

STAGE 3

STAGE 4

EFFLUENT TROUGHS

25ø SPRAY NOZZLE CENTERED BETWEEN TROUGHS (TYPICAL OF 11)

TO PROCESS DRAIN 1-0101R-G-A0115 — PD

R320-HV2-1B 300ø

CV-936

WAS 200ø

AIR RELEASE VALVE CV-935

REFER TO STD-510

CV-934

FROM SBR 2 P6.02

CONNECT TO EXISTING PLANT AIR PIPING (700 kPa) — 6ø SEA

COH R970 HS

BRISTOL SAMPLER C970-S

120V AC POWER

SAMPLE FRIDGE

NOTE 1

START/STOP DO CA R970 AN

COMPUTER DI CA R970 YS

SAMPLER FAIL DI CA R970 AF

SAMPLER RUN DI CA R970 AM

AIR RELEASE VALVE CV-933

200ø WAS CV-932

TO MIXED LIQUOR JUNCTION CHAMBER ML P24.01

TO/FROM REACTOR 1A EFFLUENT TROUGH SPRAY NOZZLES FW P24.01

TO REACTOR TANK 2A WAS P25.01

NOTE:

1. SUPPLIED BY THE CITY OF WINNIPEG. INSTALLED BY THE CONTRACTOR.

= DENOTES NEW EQUIPMENT TO BE SUPPLIED AND INSTALLED BY CONTRACTOR.

THIS DRAWING IS BASED ON CITY OF WINNIPEG DRAWING NUMBER 1-0101R-G-A0101-001-02D

APEGM Certificate of Authorization Earth Tech Canada Inc. No. 730 Expiry: April 30, 2007

B.M. ELEV.

NO.	REVISIONS	DATE	BY
00	ISSUED FOR TENDER	06/05/15	GLG

Earth Tech — A Tyco International Ltd. Company

DESIGNED BY	LW/CD	CHECKED BY	SB/PS
DRAWN BY	GLG	APPROVED BY	JEH
SCALE:	NONE	RELEASED FOR CONSTRUCTION BY:	K. MARTENS
DATE	2006/03/08	DATE	2006/05/15

ENGINEER'S SEAL

ORIGINAL SIGNED BY

J.E. HUTCHISON

2006/05/15

CONSULTANT DRAWING NO. P24.01

Winnipeg

THE CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENGINEERING DIVISION

NEWPCC CENTRATE NUTRIENT TREATMENT NITROGEN REMOVAL FACILITY

CITY FILE NUMBER

SHEET OF

PROCESS
OXYGEN REACTORS (REACTOR TANK 1B)
PROCESS & INSTRUMENTATION DIAGRAM

CITY DRAWING NUMBER

L:\WORK\66000\66303CEN\02A-CAD\WAT\CONTR\NITRATE REMOVAL DETAILED DESIGN\NEW PIDS\P24.01.DWG