

SUNSHINE COAST REGIONAL DISTRICT  
EGMONT COVE WATER SYSTEM UPGRADE  
LAKE PUMP CHAMBER, TREATMENT BUILDING AND RESERVOIR

CONTRACT No. 028.199.0005

*RECORD DRAWINGS*

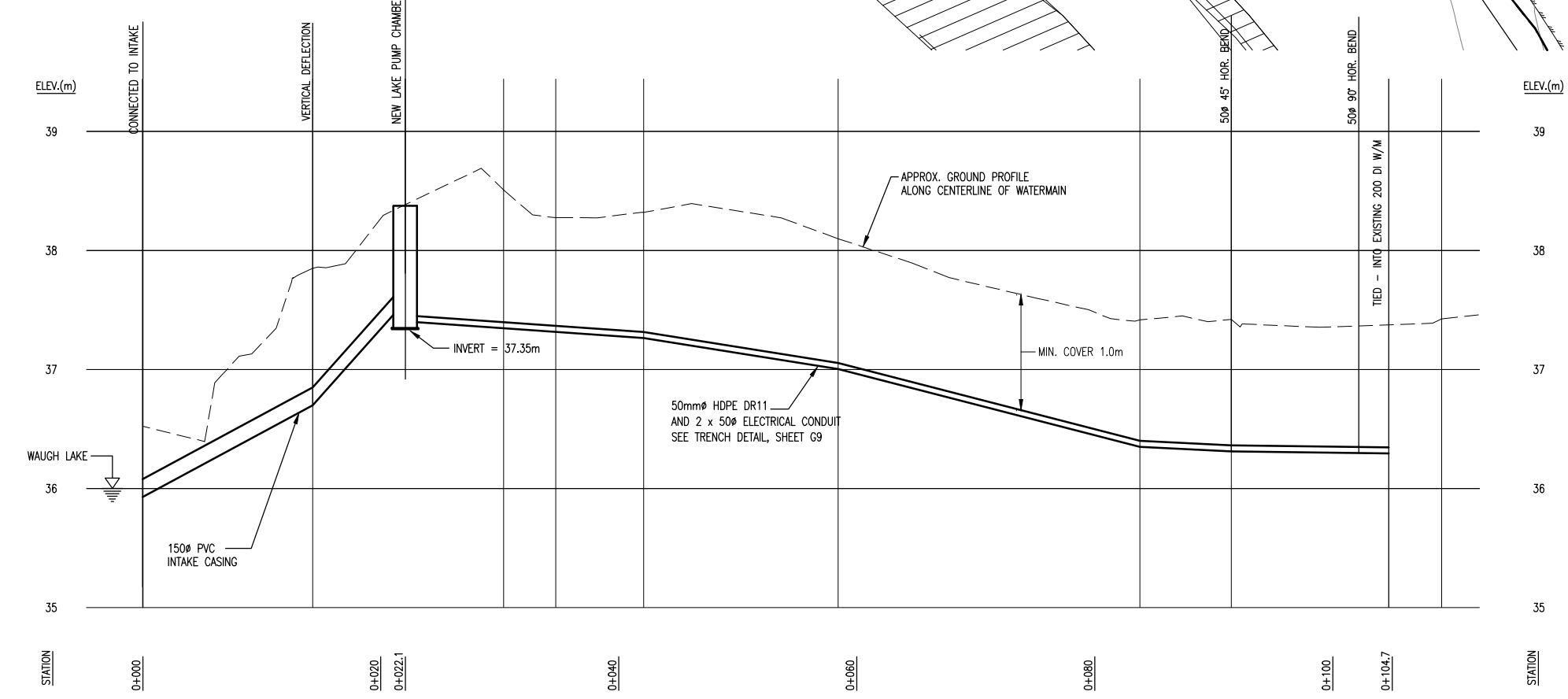
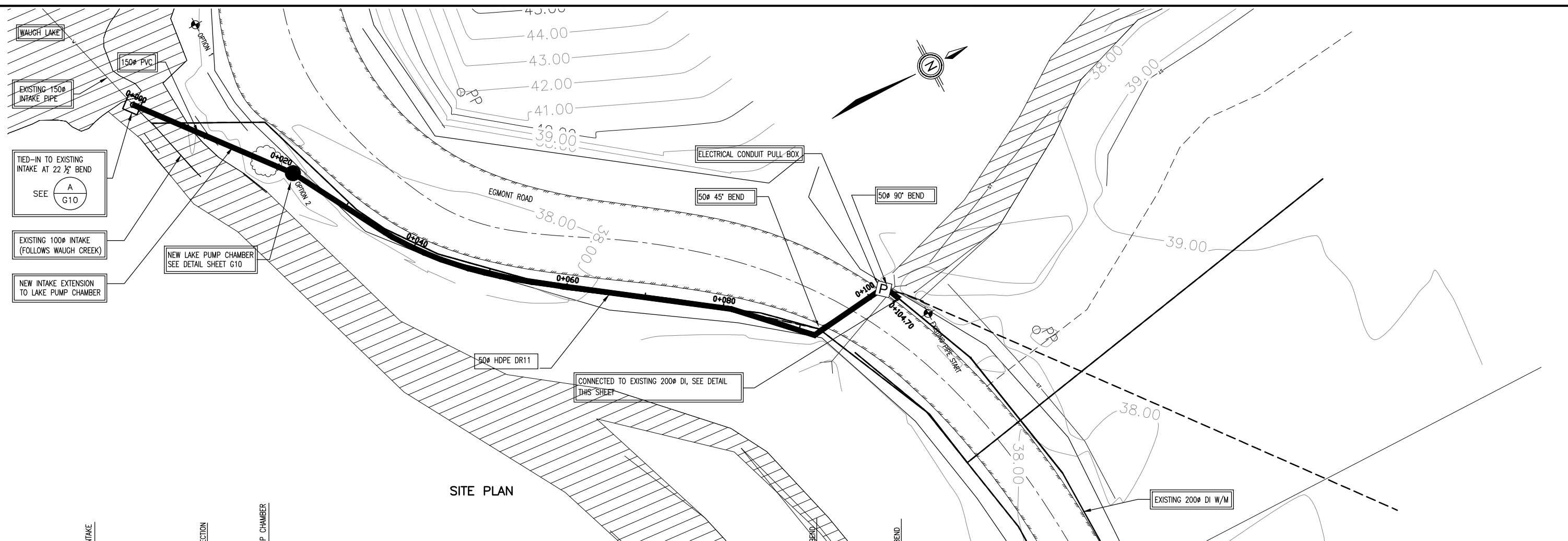


**OPUS DAYTONKNIGHT**

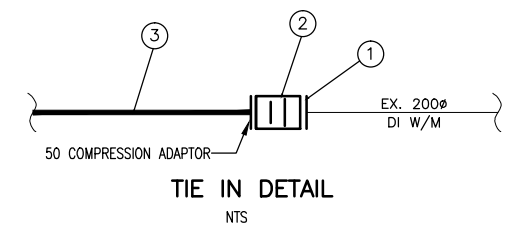
North Vancouver Office  
604-990-4800

210-889 Harbourside Drive  
North Vancouver BC  
V7P 3S1, Canada





BILL OF MAJOR MATERIALS		
ITEM	DESCRIPTION	QUANTITY
1	50 BLIND FLANGE C/W 50 TAP	1
2	50 CORP STOP	1
3	FLANGE FUSED 500 HDPE PIPE	1



" This Record Drawing has been prepared by Opus DaytonKnight ("Opus DK") for the exclusive use of "Sunshine Coast Regional District" (the "Client"). Any use which a third party makes of this drawing, or any reliance or decisions or actions taken by any such third party based upon this drawing, are the sole responsibility of any such third party and Opus DK accepts no responsibility, liability or risk for any damages, loss, or claims, if any, suffered by any such third party or any related party of such third party as a result of any reliance, or decisions made or actions taken, based upon this drawing. It is the user's sole responsibility to check the accuracy of this digital drawing."

FILE: G:\D&K CAD Drawings\DKSERVER P\_Shore\Records\SUNSHINE COAST\28-199-0005\GENERAL\28-199-0005 G2.dwg Tab: G2 13-04-23 vcrabb

AutoCAD DRAWING		REVISIONS		ISSUE		DATE		DRAWN		CHK'D		APP'D		DESCRIPTION	
A	JUL19/10	DC	CC	CC		D	FEB22/13	GZ	CC	CC				ISSUED FOR REVIEW	
B	AUG17/11	MC	CC	CC										ISSUED FOR TENDER	
C	NOV25/11	RB	CC	CC										ISSUED FOR CONSTRUCTION	

**PROFILE**

DESIGNED	CC
DRAWN	KS
CHECKED	CC

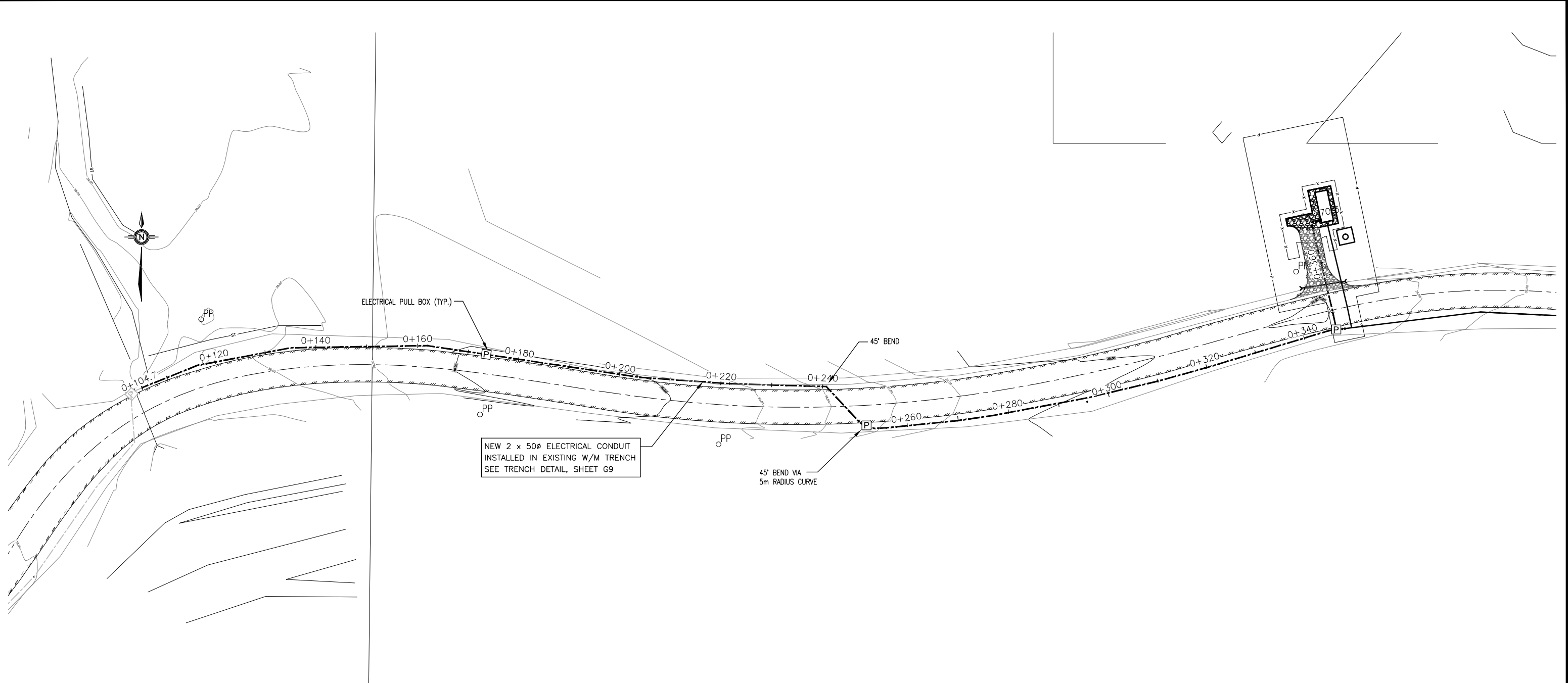
**OPUS DAYTONKNIGHT**  
 North Vancouver Office  
 604-990-4800

210-889 Harbourside Drive  
 North Vancouver BC  
 V7P 3S1, Canada

SUNSHINE COAST REGIONAL DISTRICT  
 EGMONT COVE WATER SYSTEM UPGRADE  
 LAKE INTAKE SITE PLAN AND WATERMAIN

SCALE: HOR. 1:250 VERT. 1:25	
DRAWING No. 028.199.0005	
SHEET No. <b>G2</b>	ISSUE <b>D</b>

FILE: G:\DK\CAD Drawings\DKSERVER P Share\Records\SUNSHINE COAST\28-199-0005\GENERAL\28-199-0005\_G3.dwg Tab: G3\_13-04-23 vczbb0



PLAN

" This Record Drawing has been prepared by Opus DaytonKnight ("Opus DK") for the exclusive use of "Sunshine Coast Regional District" (the "Client"). Any use which a third party makes of this drawing, or any reliance or decisions or actions taken by any such third party based upon this drawing, are the sole responsibility of any such third party and Opus DK accepts no responsibility, liability or risk for any damages, loss, or claims, if any, suffered by any such third party or any related party of such third party as a result of any reliance, or decisions made or actions taken, based upon this drawing. It is the user's sole responsibility to check the accuracy of this digital drawing."

PLOT: FULL 2:1 HALF 1:1

ISSUE	DATE	DRAWN	CHK'D	APP'D	DESCRIPTION	ISSUE	DATE	DRAWN	CHK'D	APP'D	DESCRIPTION
A	AUG17/11	MC	CC	CC	ISSUED FOR TENDER						
B	NOV25/11	RB	CC	CC	ISSUED FOR CONSTRUCTION						
C	FEB22/13	GZ	CC	CC	RECORD DRAWING						

DESIGNED CC  
 DRAWN MC  
 CHECKED CC

**OPUS DAYTONKNIGHT**  
 North Vancouver Office 210-889 Harbourside Drive  
 604-990-4800 North Vancouver BC V7P 3S1, Canada

SUNSHINE COAST REGIONAL DISTRICT  
 EGMONT COVE WATER SYSTEM UPGRADE  
 ELECTRICAL CONDUIT PLAN

SCALE: 1:750		
DRAWING No. 028.199.0005		
SHEET No.	G3	ISSUE C



AREA OF CROWN LAND  
(AREA = 750m<sup>2</sup>)

GRAVEL PARKING AREA

50 CURB STOP

EXISTING STORM LINE

EXISTING 200Ø DI W/M

EXISTING POWER POLE (TYP.)

20.0m

35.0m

9.0m

3.0m

6.0m

8.0m

5.4m

6.55

4.0m

4.2m

4.0m

2.44

0.90

NEW FENCE 1m OFFSET FROM GRAVEL PAD.

PACKAGE WATER TREATMENT PLANT CONCRETE PAD ( APPROX. 4.3m x 13.3m)

BOLLARDS

20 CURB STOP

100Ø BUILDING DRAIN

SEEPAGE MANHOLE, SEE DETAIL SHEET G8

GRAVEL ACCESS ROAD

100 Ø PVC O/F DRAIN TO DAYLITE AT DITCH

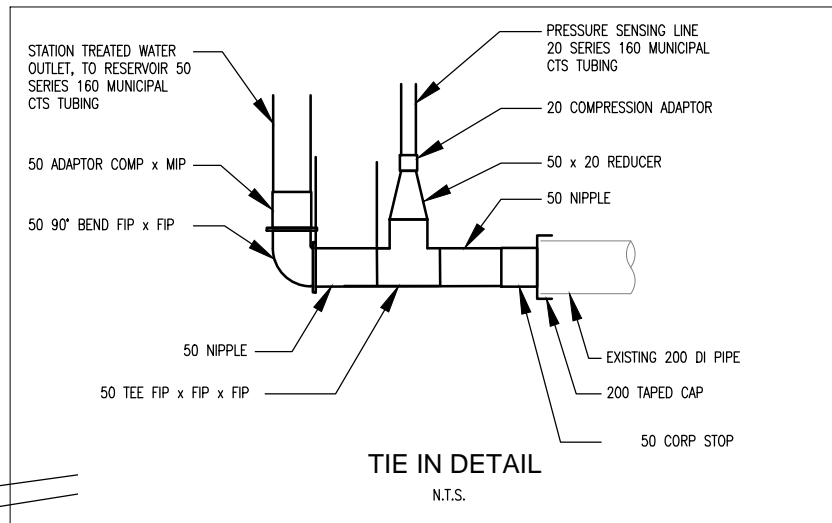
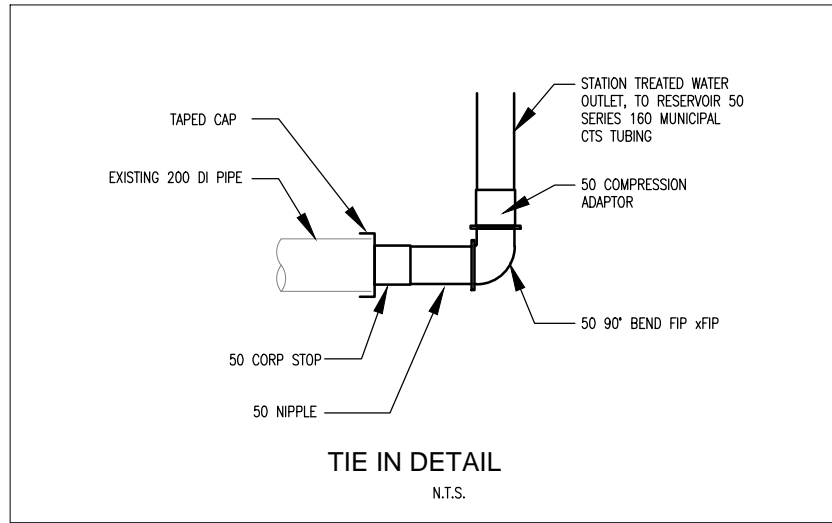
50mm HDPE TREATED WATER DISCHARGE

50mm HDPE RAW WATER SUPPLY

PRESSURE SENSING LINE

RODENT SCREEN INSTALLED

SEE TIE IN DETAILS



" This Record Drawing has been prepared by Opus DaytonKnight ("Opus DK") for the exclusive use of "Sunshine Coast Regional District" (the "Client"). Any use which a third party makes of this drawing, or any reliance or decisions or actions taken by any such third party based upon this drawing, are the sole responsibility of any such third party and Opus DK accepts no responsibility, liability or risk for any damages, loss, or claims, if any, suffered by any such third party or any related party of such third party as a result of any reliance, or decisions made or actions taken, based upon this drawing. It is the user's sole responsibility to check the accuracy of this digital drawing."

FILE: G:\Dak CAD Drawings\DKSERVER P Share\Records\SUNSHINE COAST\28-199-0005 GENERAL\28-199-0005 G4.dwg, Tab: G4, 13-04-23 vcrs80

ISSUE	DATE	DRAWN	CHK'D	APP'D	DESCRIPTION
A	JUL7/11	AD	CC	CC	ISSUED FOR REVIEW
B	AUG17/11	MC	CC	CC	ISSUED FOR TENDER
C	NOV25/11	RB	CC	CC	ISSUED FOR CONSTRUCTION

ISSUE	DATE	DRAWN	CHK'D	APP'D	DESCRIPTION
D	FEB22/13	GZ	CC	CC	RECORD DRAWING

DESIGNED	CC
DRAWN	AD
CHECKED	CC

**OPUS DAYTONKNIGHT**  
 North Vancouver Office 604-990-4800  
 210-889 Harbourside Drive North Vancouver BC V7P 3S1, Canada

SUNSHINE COAST REGIONAL DISTRICT  
 EGMONT COVE WATER SYSTEM UPGRADE  
 TREATMENT PLANT SITE PLAN

SCALE:	1:250
DRAWING No.	028.199.0005
SHEET No.	G4
ISSUE	D

" This Record Drawing has been prepared by Opus DaytonKnight ("Opus DK") for the exclusive use of "Sunshine Coast Regional District" (the "Client"). Any use which a third party makes of this drawing, or any reliance or decisions or actions taken by any such third party based upon this drawing, are the sole responsibility of any such third party and Opus DK accepts no responsibility, liability or risk for any damages, loss, or claims, if any, suffered by any such third party or any related party of such third party as a result of any reliance, or decisions made or actions taken, based upon this drawing. It is the user's sole responsibility to check the accuracy of this digital drawing."



NOTE :  
1. MAINTAINED 1m MIN. SEPARATION BETWEEN DRAIN LINE AND TREATED WATER LINES.

MUSEUM LICENCE OF OCCUPATION #239855, FILE #2408539

NEW GRAVEL PARKING AND TURN-AROUND

CUT/FILL 2:1 SLOPE FROM PARKING TO EXISTING GROUND

NEW FENCE

DECHLORINATION CHAMBER

RESERVOIR TANK DIAMETER = 8m VOLUME = 260m<sup>3</sup>

100 HDPE DR26, FUSED

250 HDPE DR11, FUSED

75# HDPE DR11 SUPPLY PIPE

RODENT-SCREEN INSTALLED

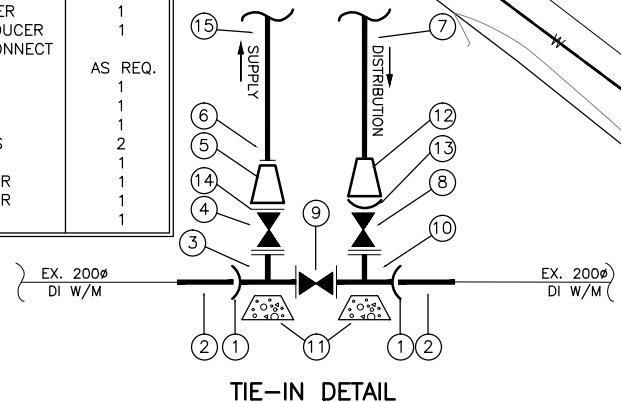
EXISTING 200# DI W/M

DRAIN DAYLIGHTS TO CONCRETE HEADWALL AT DITCH

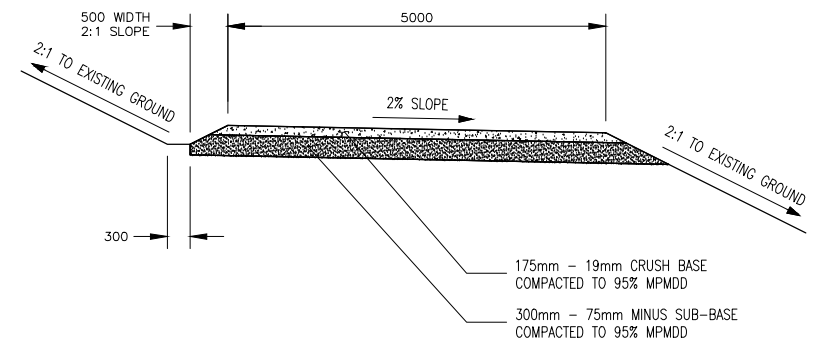
TIE-INS TO EXISTING W/M SEE DETAIL, THIS SHEET

**BILL OF MAJOR MATERIALS**

ITEM	DESCRIPTION	QUANTITY
1	200# ADAPTOR FL x TYT	2
2	200# PVC DR18 PIPE SPOOL	2
3	200# x 100# FLxFLxFL TEE	1
4	100# FLxFL GATE VALVE	1
5	100# x 75# HDPE REDUCER	1
6	75# HDPE FLANGE TO REDUCER	1
7	ASK SUPPLIER HOW TO CONNECT	
8	250# HDPE PIPE	AS REQ.
9	200# FLxFL GATE VALVE	1
10	200# FLxFL GATE VALVE	1
11	200# FLxFLxFL TEE	1
12	CONCRETE THRUST BLOCKS	2
13	200x250 HDPE REDUCER	1
14	200 HDPE FLANGE ADAPTOR	1
15	100 HDPE FLANGE ADAPTOR	1
16	75# HDPE PIPE	1



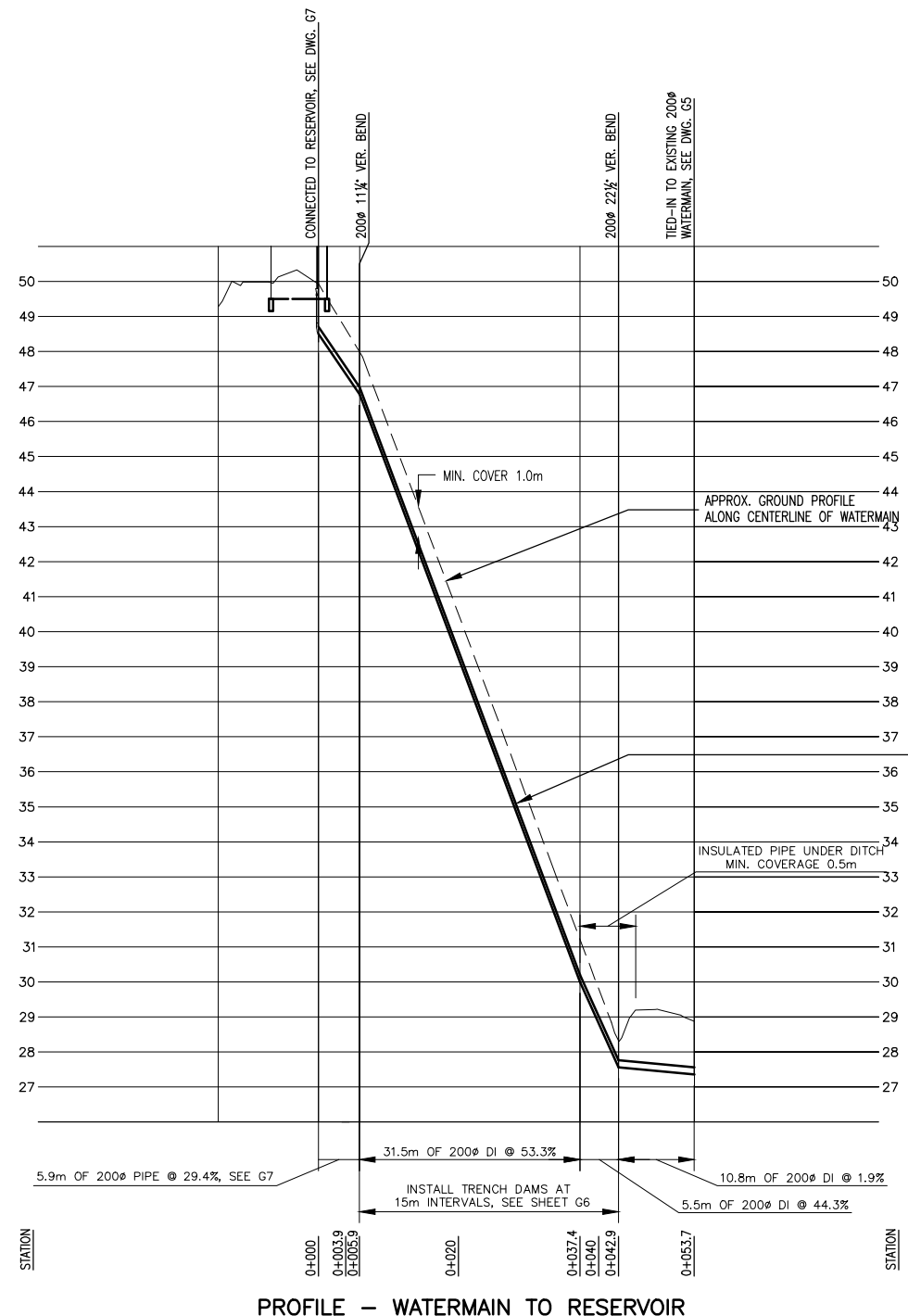
TIE-IN DETAIL



TYPICAL ROAD CROSS-SECTION

FILE: G:\D&K CAD Drawings\DKSERVER P Share\Records\SUNSHINE COAST\28-199-0005 GENERAL\28-199-0005 G5-5.dwg Tab: G5 13-04-23  
 PLOT: FULL 2:1 HALF 1:1  
 AutoCAD DRAWING REVISIONS  
 A JUL19/10 MC CC CC ISSUED FOR REVIEW  
 B AUG17/11 MC CC CC ISSUED FOR TENDER  
 C NOV25/11 RB CC CC ISSUED FOR CONSTRUCTION - AS SHOWN  
 DESIGNED MC  
 DRAWN MC  
 CHECKED CC  
 OPUS DAYTONKNIGHT  
 North Vancouver Office 604-990-4800  
 210-889 Harbourside Drive North Vancouver BC V7P 3S1, Canada  
 SUNSHINE COAST REGIONAL DISTRICT  
 EGMONT COVE WATER SYSTEM UPGRADE  
 PLAN, RESERVOIR, RESERVOIR ROAD AND WATER SUPPLY MAIN  
 SCALE: 1:250  
 DRAWING No. 028.199.0005  
 SHEET No. G5 ISSUE D

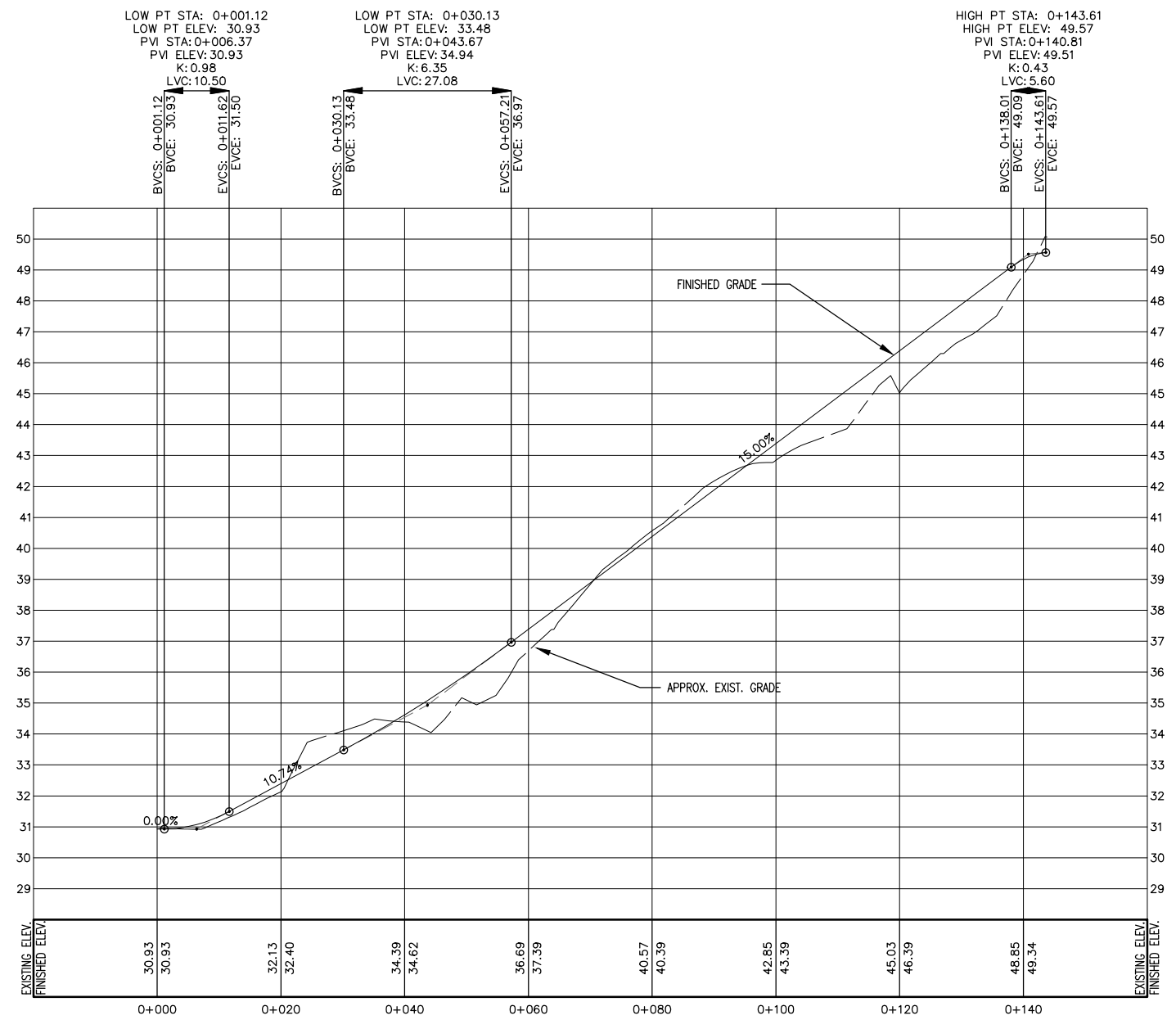
FILE: G:\Dak CAD Drawings\DKSERVER P Share\Records\SUNSHINE COAST\28-199-0005 GENERAL\28-199-0005 G5-5.dwg Tab: 06 13-04-23 ucfbdb



PROFILE - WATERMAIN TO RESERVOIR

250# HDPE DR11 HDPE  
 75# HDPE DR11 WATER SUPPLY  
 MAIN TO RESERVOIR,  
 100# HDPE DR26 DRAIN FROM RESERVOIR  
 TO NORTH DITCH ON EGMONT RD.

- GENERAL NOTES:
1. ALL WORK IN ACCORDANCE WITH SCR D SUBDIVISION SERVICING STANDARDS (WATER + SEWER), STANDARD SPECIFICATIONS FOR CONSTRUCTION OF WATERWORKS FACILITIES AND STANDARD DRAWINGS, SCHEDULE B OF SCR D SUBDIVISION SERVICING BYLAW NO 320, 1987.
  2. ALL NEW WATERMAINS DUCTILE IRON TO AWWA C150, PRESSURE CLASS 350, AND CEMENT MORTAR-LINED TO AWWA C104.
  3. PIPE JOINTS RUBBER GASKET TYPE TO AWWA C111, SUCH AS TYTON OR APPROVED.
  4. ALL DUCTILE IRON FITTINGS TO AWWA C153.
  5. PULL JOINTS BETWEEN FITTINGS AS APPLICABLE.
  6. ALL VALVES TERMINAL CITY OR APPROVED EQUAL TO AWWA C500.
  7. CONTRACTOR LOCATED AND PROTECTED ALL EXISTING UTILITIES, INCLUDING EXISTING 50mm WATERMAIN.
  8. CONTRACTOR RESPONSIBLE FOR SUPPORTING POWER/TELEPHONE POLES DURING CONSTRUCTION.
  9. CONTRACTOR CONFIRMED TIE-IN ELEVATION AND LOCATION PRIOR TO PROCEEDING WITH WATERMAIN INSTALLATION.
  10. ALL BENDS, TEES, AND FITTINGS HAVE RESTRAINTS, RESTRAINED WITH CONCRETE THRUST BLOCKS AS PER SCR D STD DWGS W1, W8 & W9.
  11. ALL DISTURBED AREAS REINSTATED BY THE CONTRACTOR TO THE SAME OR BETTER CONDITION AS FOUND BEFORE CONSTRUCTION.



PROFILE - RESERVOIR ROAD

" This Record Drawing has been prepared by Opus DaytonKnight ("Opus DK") for the exclusive use of "Sunshine Coast Regional District" (the "Client"). Any use which a third party makes of this drawing, or any reliance or decisions or actions taken by any such third party based upon this drawing, are the sole responsibility of any such third party and Opus DK accepts no responsibility, liability or risk for any damages, loss, or claims, if any, suffered by any such third party or any related party of such third party as a result of any reliance, or decisions made or actions taken, based upon this drawing. It is the user's sole responsibility to check the accuracy of this digital drawing."

PLOT: FULL 2:1 HALF 1:1

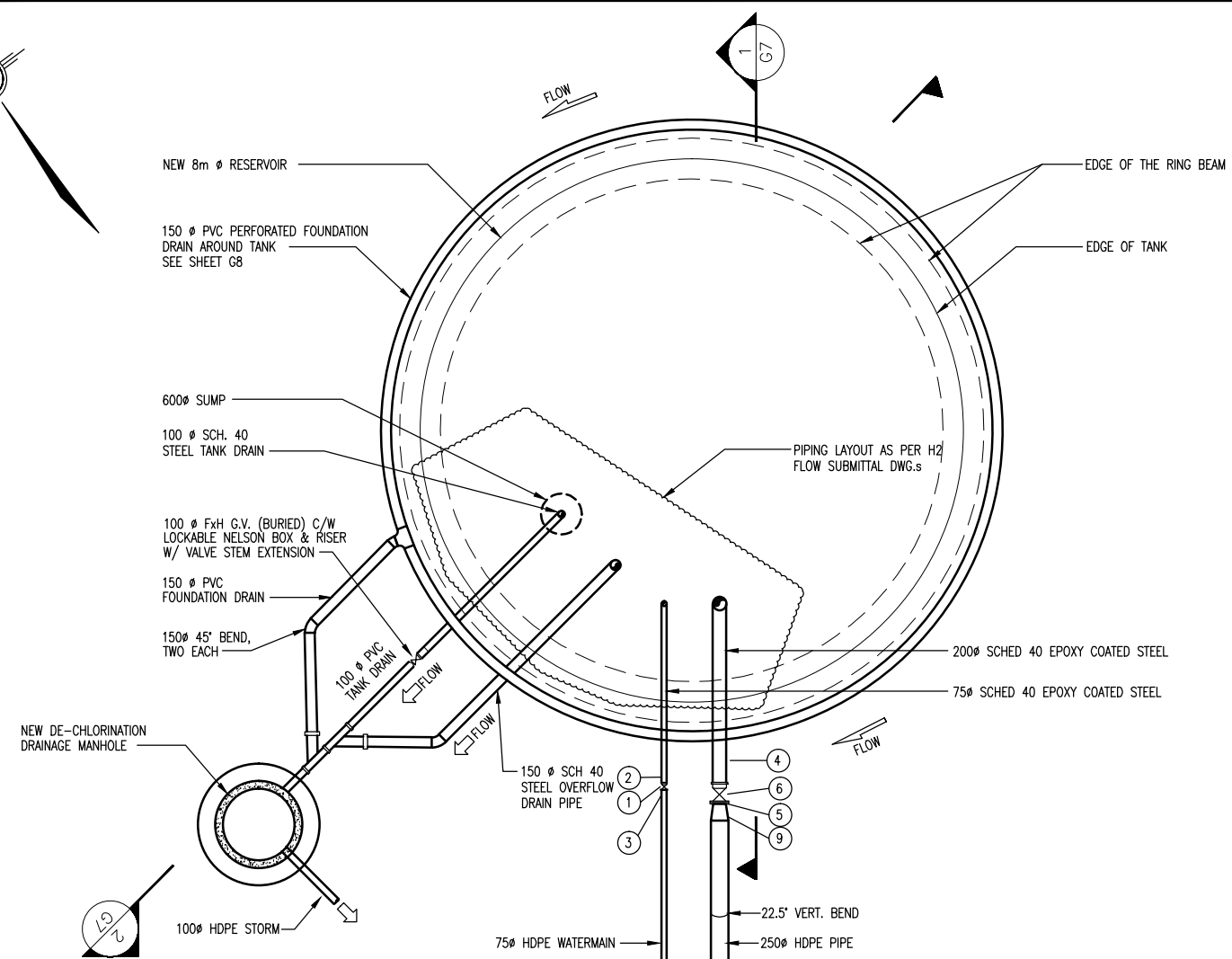
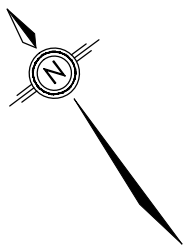
ISSUE	DATE	DRAWN	CHK'D	APP'D	DESCRIPTION	ISSUE	DATE	DRAWN	CHK'D	APP'D	DESCRIPTION
A	JUL19/10	MC	CC	CC	ISSUED FOR REVIEW	D	NOV25/11	RB	CC	CC	ISSUED FOR CONSTRUCTION
B	AUG17/11	MC	CC	CC	ISSUED FOR TENDER	E	FEB22/13	GZ	CC	CC	RECORD DRAWING
C	OCT4/11	MC	CB	CB	AMENDMENT #3						

DESIGNED \_\_\_\_\_ MC  
 DRAWN \_\_\_\_\_ MC  
 CHECKED \_\_\_\_\_ CC

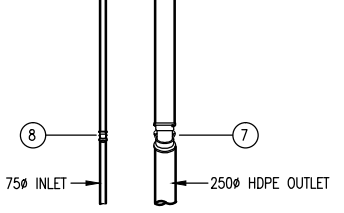


SUNSHINE COAST REGIONAL DISTRICT  
 EGMONT COVE WATER SYSTEM UPGRADE  
 PROFILE, RESERVOIR ROAD AND WATER SUPPLY MAIN

SCALE: HOR. 1:250 VERT. 1:25
DRAWING No. 028.199.0005
SHEET No. G6 ISSUE E



BILL OF MATERIALS		
ITEM No.	DESCRIPTION	QUANTITY
1	75 DIA. F x F G.V. INSTALLED DIRECTLY TO THE STEEL SPOOL PIPE	1
2	75 DIA. PVC SPOOL PIECE	1
3	75 HDPE FLANGE ADAPTOR	1
4	200 DIA. PVC SPOOL PIECE	1
5	200 HDPE FLANGE ADAPTOR	1
6	200 DIA. F x F G.V. INSTALLED DIRECTLY TO THE STEEL SPOOL PIPE	1
7	200 DIA. MJ x MJ 11 1/4" VERT. BEND WEDGE RESTRAINER c/w THRUST BLOCK	1
8	75 DIA. MJ x MJ 11 1/4" VERT. BEND WEDGE RESTRAINER c/w THRUST BLOCK	1
9	250 x 200 HDPE REDUCER	1



PLAN 1:50

" This Record Drawing has been prepared by Opus DaytonKnight ("Opus DK") for the exclusive use of "Sunshine Coast Regional District" (the "Client"). Any use which a third party makes of this drawing, or any reliance or decisions or actions taken by any such third party based upon this drawing, are the sole responsibility of any such third party and Opus DK accepts no responsibility, liability or risk for any damages, loss, or claims, if any, suffered by any such third party or any related party of such third party as a result of any reliance, or decisions made or actions taken, based upon this drawing. It is the user's sole responsibility to check the accuracy of this digital drawing."

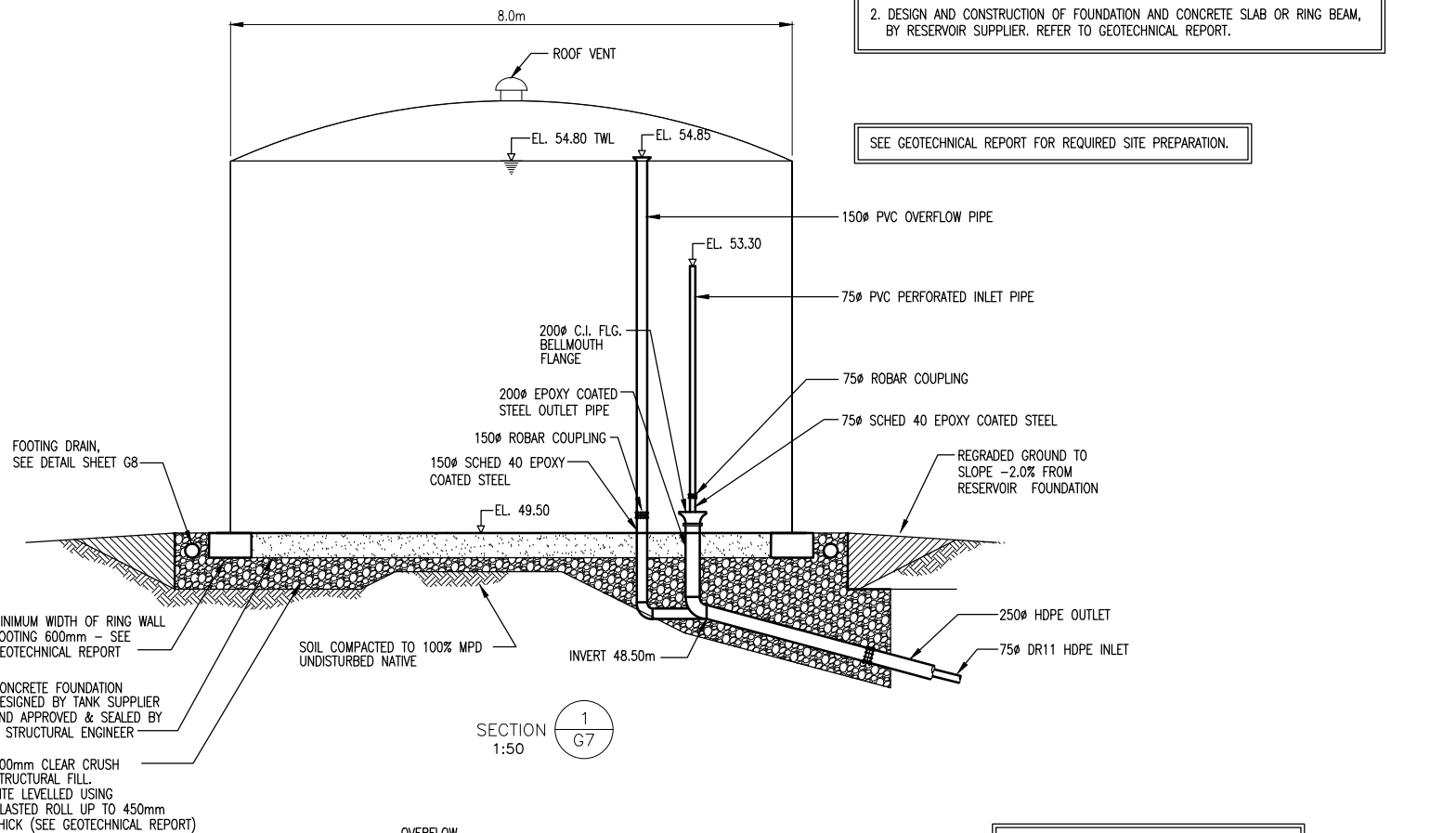
EQUIPMENT SCHEDULE

MARK NUMBER	DIAMETER	FLANGE DETAILS	DESCRIPTION
N1	75	N/A	INLET
N2	200	N/A	OUTLET
N3	150	N/A	OVERFLOW
N4	100	N/A	DRAIN
N5		N/A	ROOF VENT AS PER AWWA D103
ACCESS 1	610	N/A	ROOF OPENING WITH HINGED COVER AS PER AWWA D103
ACCESS 2	610	FLANGED	BOTTOM ACCESS DOOR C/W COVER AND DAVIT AS PER AWWA D103 AND CENTERLINE 900mm ABOVE DATUM
L1	250		OUTSIDE LADDER C/W SAFETY CAGE
L2	300		INSIDE LADDER FROM ROOF HATCH TO FLOOR

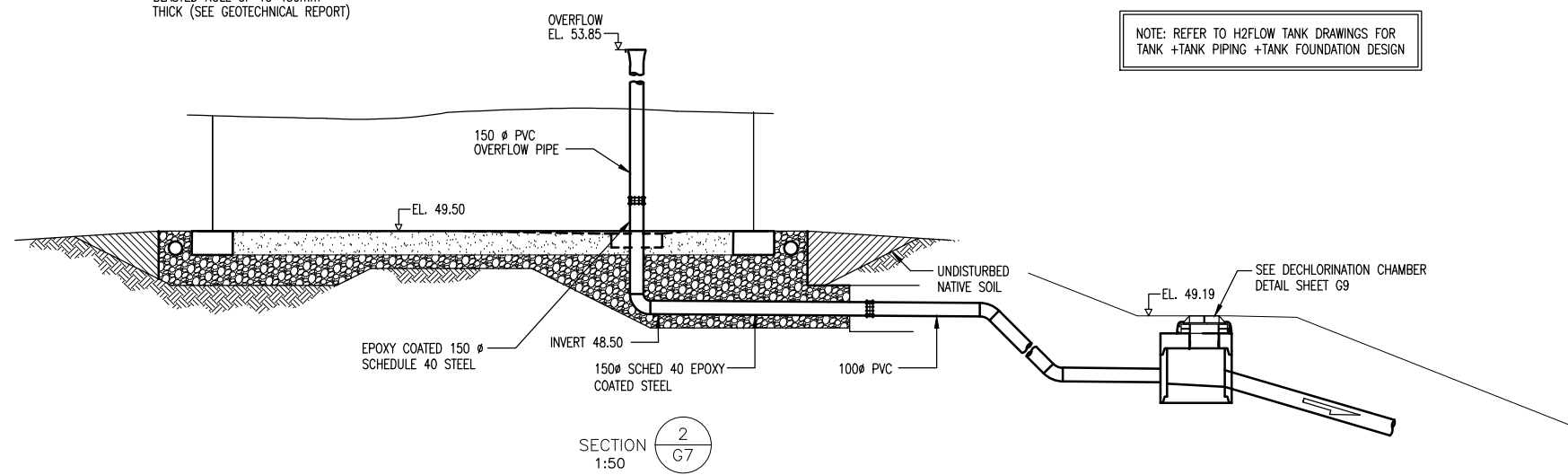
- NOTES:
- RESERVOIR CAPACITY 260,000 LITRES.
  - RESERVOIR SECTIONS ARE FOR INFORMATION AND GENERAL CONFIGURATION PURPOSES ONLY. THE RESERVOIR SUPPLIER RESPONSIBLE FOR DESIGN AND INSTALLATION OF THE FOLLOWING:
    - STRUCTURAL SLAB OR RING BEAM
    - FOUNDATIONS
    - INLET, OUTLET, OVERFLOW, DRAIN AND FOOTING DRAIN PIPES
    - PIPE SUPPORT AND STRAPS
  - ELEVATIONS SHOWN FOR TOP WATER LEVEL IS FIXED.
  - ELEVATIONS SHOWN FOR INLET, OUTLET, OVERFLOW, DRAIN AND FOOTING DRAIN ARE SUBJECT TO FINAL CONFIRMATION BY RESERVOIR SUPPLIER.
  - A COMMUNICATION ANTENNA IS INCLUDED IN THIS CONTRACT AND MOUNTED ON ONE OF THE HANDRAILS, SEE DETAIL ON SHEET G10.
  - LOCATION OF HEADWALL DETERMINED IN FIELD.

- NOTE:
- EQUIPMENT LOCATIONS CONFIRMED BY RESERVOIR SUPPLIER.
  - DESIGN AND CONSTRUCTION OF FOUNDATION AND CONCRETE SLAB OR RING BEAM, BY RESERVOIR SUPPLIER. REFER TO GEOTECHNICAL REPORT.

SEE GEOTECHNICAL REPORT FOR REQUIRED SITE PREPARATION.



SECTION 1/G7 1:50



SECTION 2/G7 1:50

NOTE: REFER TO H2FLOW TANK DRAWINGS FOR TANK +TANK PIPING +TANK FOUNDATION DESIGN

FILE: G:\D&K CAD Drawings\DKSERVER\ P\_Share\Records\SUNSHINE COAST\28-199-0005 GENERAL\28-199-0005\_G7.dwg Tab: Model 13-04-23 ucscab0

PLOT: FULL 1:5 HALF 1:10

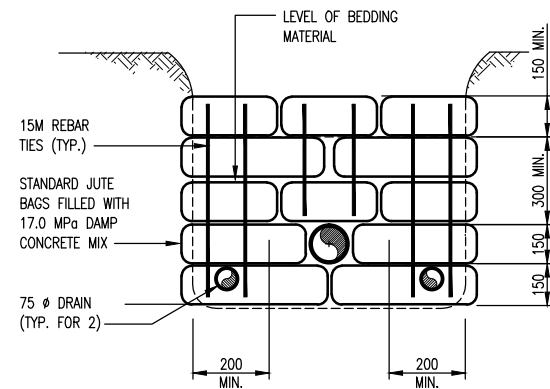
ISSUE	DATE	DRAWN	CHK'D	APP'D	DESCRIPTION
A	JUL21/10	DC	CC	CC	ISSUED FOR REVIEW
B	AUG17/11	MC	CC	CC	ISSUED FOR TENDER
C	NOV25/11	RB	CC	CC	ISSUED FOR CONSTRUCTION - AS SHOWN

DESIGNED	AS
DRAWN	DBC
CHECKED	CC

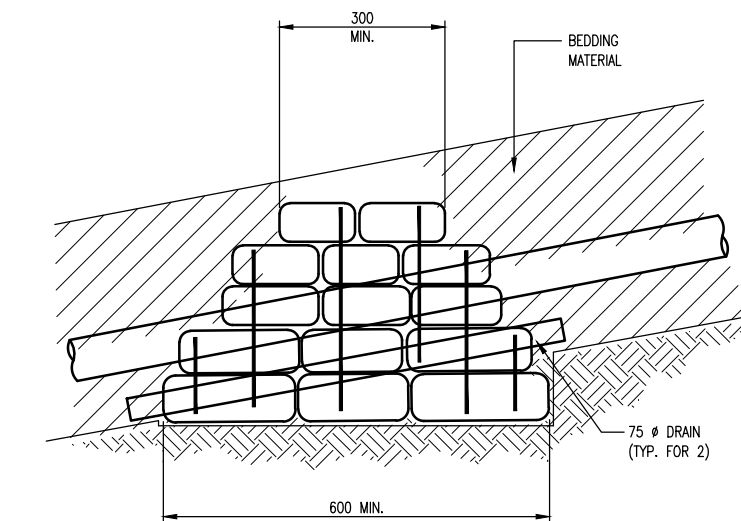
**OPUS DAYTONKNIGHT**  
 North Vancouver Office 604-990-4800  
 210-889 Harbourside Drive North Vancouver BC V7P 3S1, Canada

SUNSHINE COAST REGIONAL DISTRICT  
 EGMONT COVE WATER SYSTEM UPGRADE  
 RESERVOIR - PLAN - SECTION - DETAILS

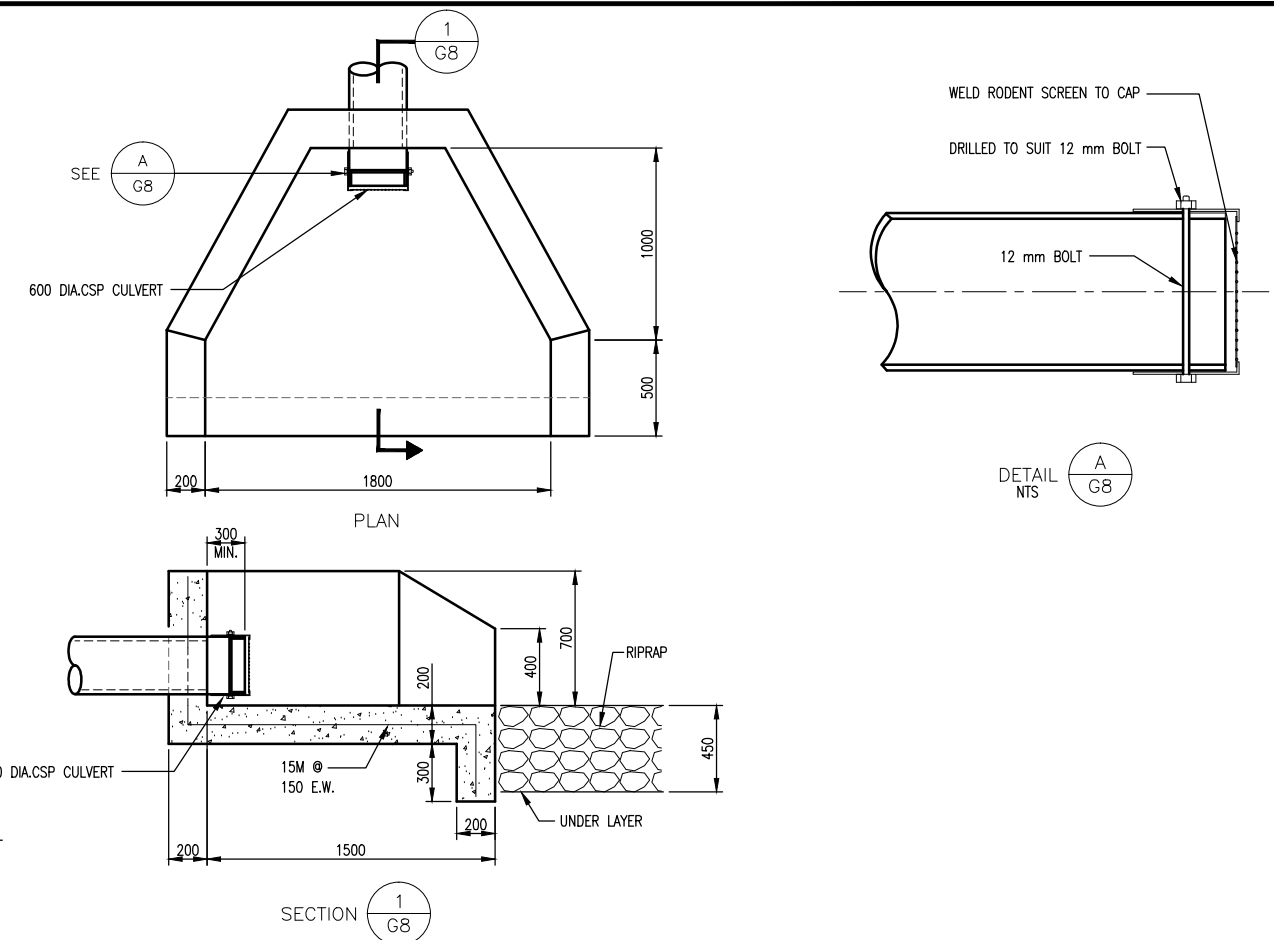
SCALE: AS SHOWN
DRAWING No. 028.199.0005
SHEET No. G7 ISSUE D



TRENCH DAM DETAIL ( TYP.)



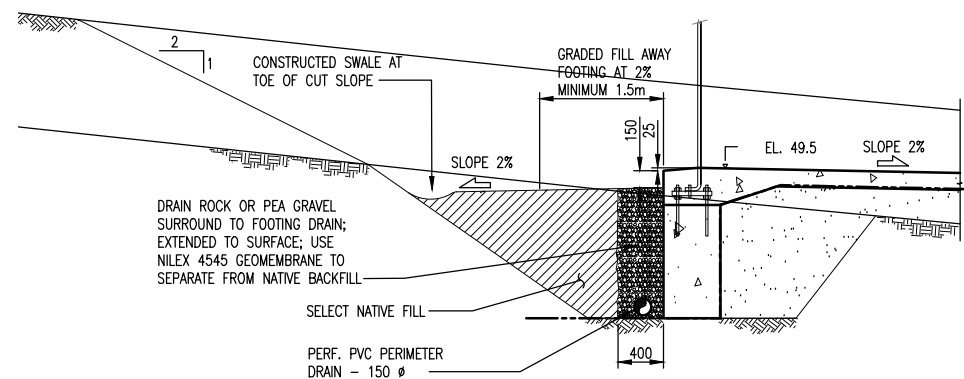
GRAVEL DRIVEWAY SECTION  
NTS



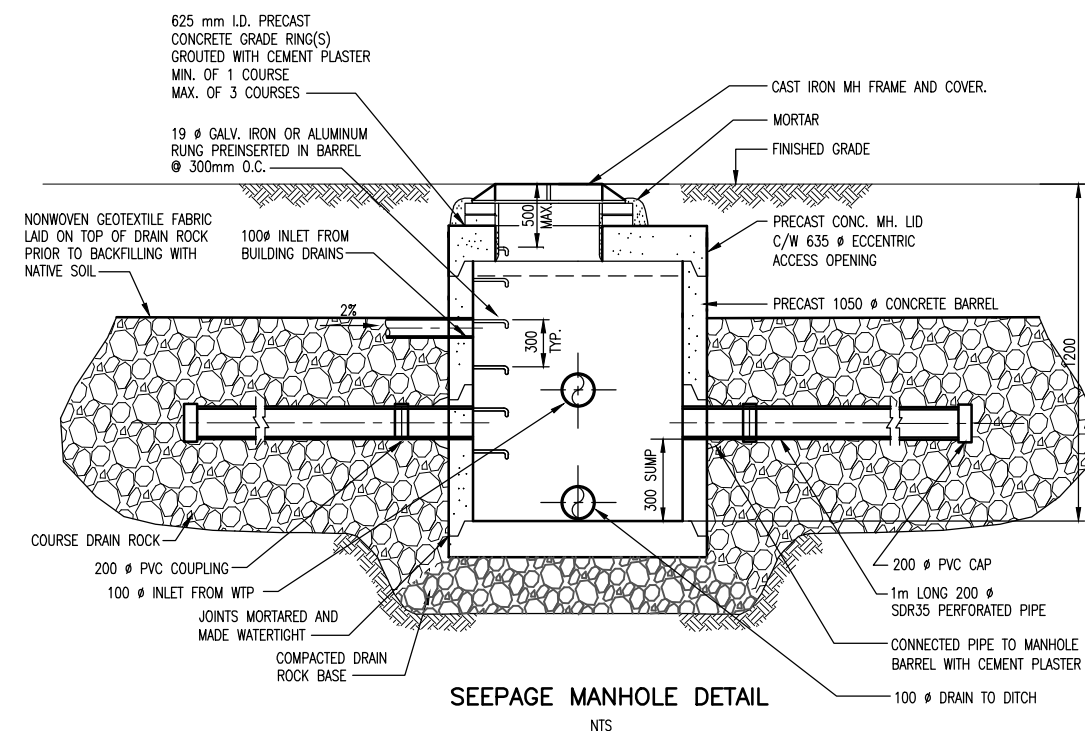
CONCRETE HEADWALL DETAILS  
NTS

NOTE:  
TRENCH DAMS CONSTRUCTED ON LATERALS HAVING 10 % TO 14.9 % SLOPE NOT MORE THAN 30 m APART. ON LATERALS HAVING OVER 15 % SLOPE NOT MORE THAN 15.0 m APART OR AS ESTABLISHED IN THE FIELD BY THE ENGINEER.

" This Record Drawing has been prepared by Opus DaytonKnight ("Opus DK") for the exclusive use of "Sunshine Coast Regional District" (the "Client"). Any use which a third party makes of this drawing, or any reliance or decisions or actions taken by any such third party based upon this drawing, are the sole responsibility of any such third party and Opus DK accepts no responsibility, liability or risk for any damages, loss, or claims, if any, suffered by any such third party or any related party of such third party as a result of any reliance, or decisions made or actions taken, based upon this drawing. It is the user's sole responsibility to check the accuracy of this digital drawing."



FOOTING DRAIN  
N.T.S.



SEEPAGE MANHOLE DETAIL  
NTS

FILE: G:\Dak CAD Drawings\KMSERVER P Share\Records\SUNSHINE COAST\28-199-0005 GENERAL\28-199-0005 G8.dwg Tab: G8, 13-04-23 vcrabb0

PLOT: FULL 1:100 HALF 1:200

ISSUE	DATE	DRAWN	CHK'D	APP'D	DESCRIPTION
A	JUL19/10	DC	CC	CC	ISSUED FOR REVIEW
B	AUG17/11	MC	CC	CC	ISSUED FOR TENDER
C	NOV25/11	RB	CC	CC	ISSUED FOR CONSTRUCTION

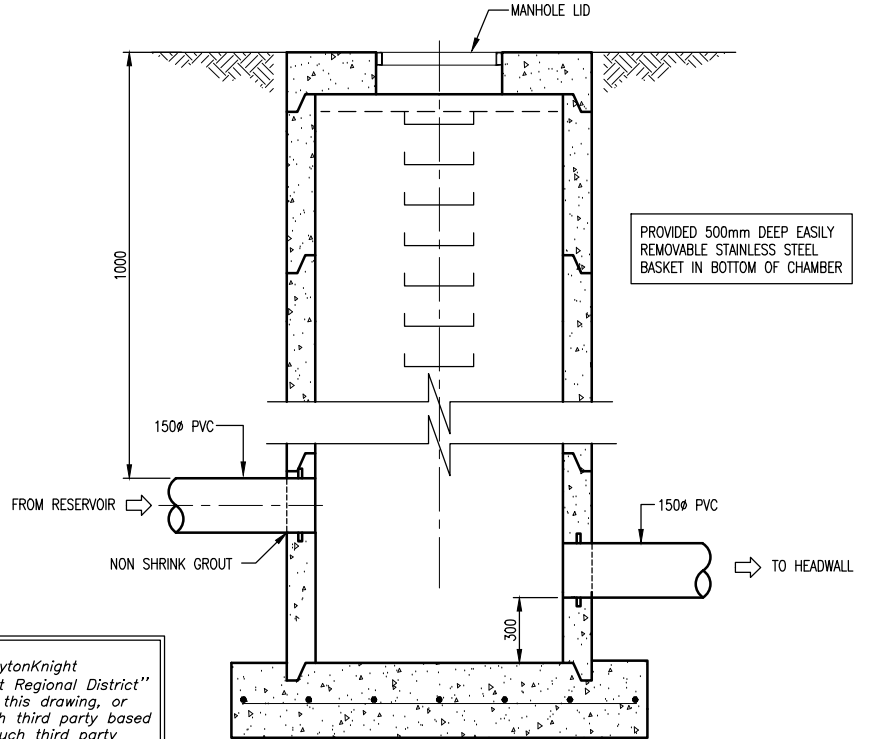
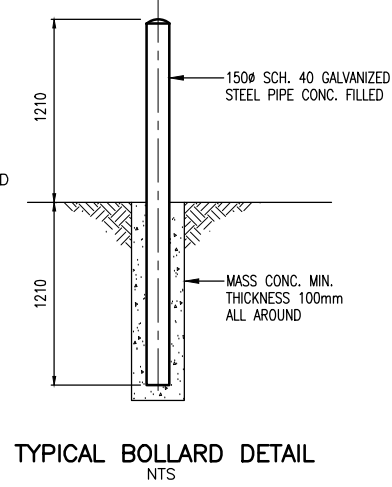
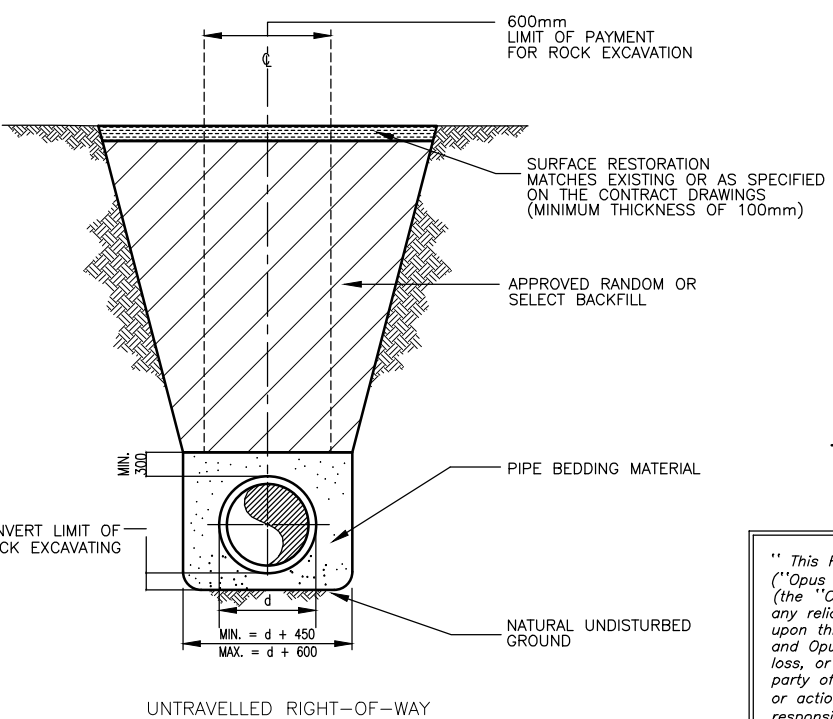
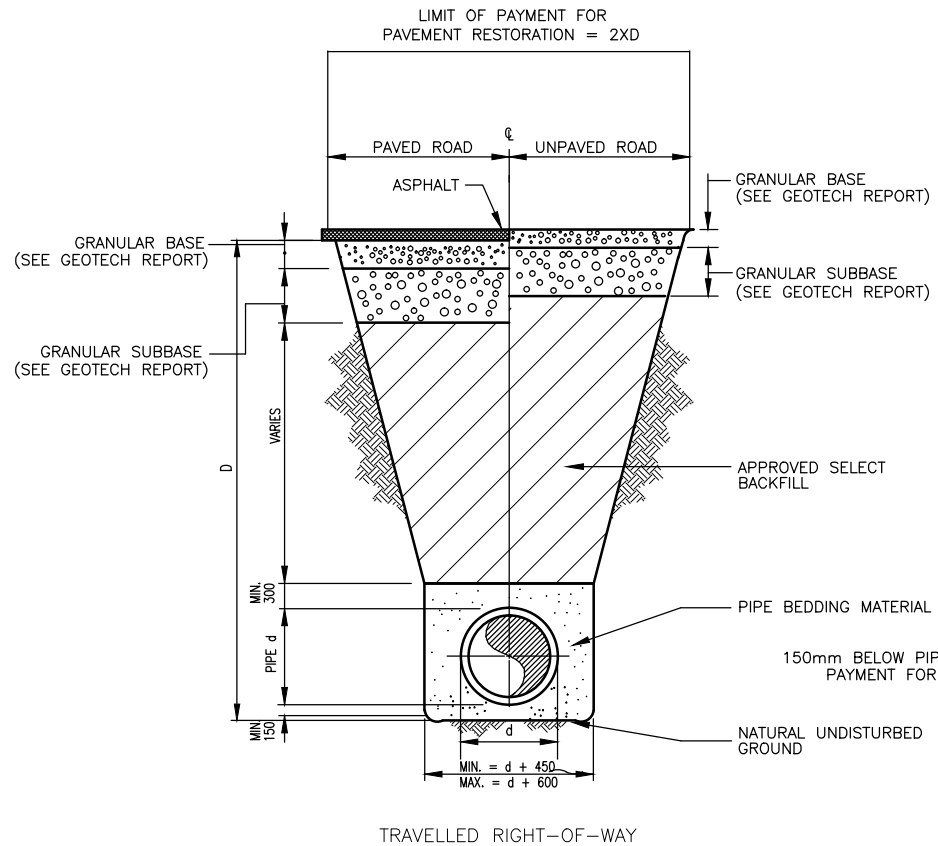
DESIGNED	CC
DRAWN	ALS
CHECKED	CC

**OPUS DAYTONKNIGHT**  
North Vancouver Office  
604-990-4800

210-889 Harbourside Drive  
North Vancouver BC  
V7P 3S1, Canada

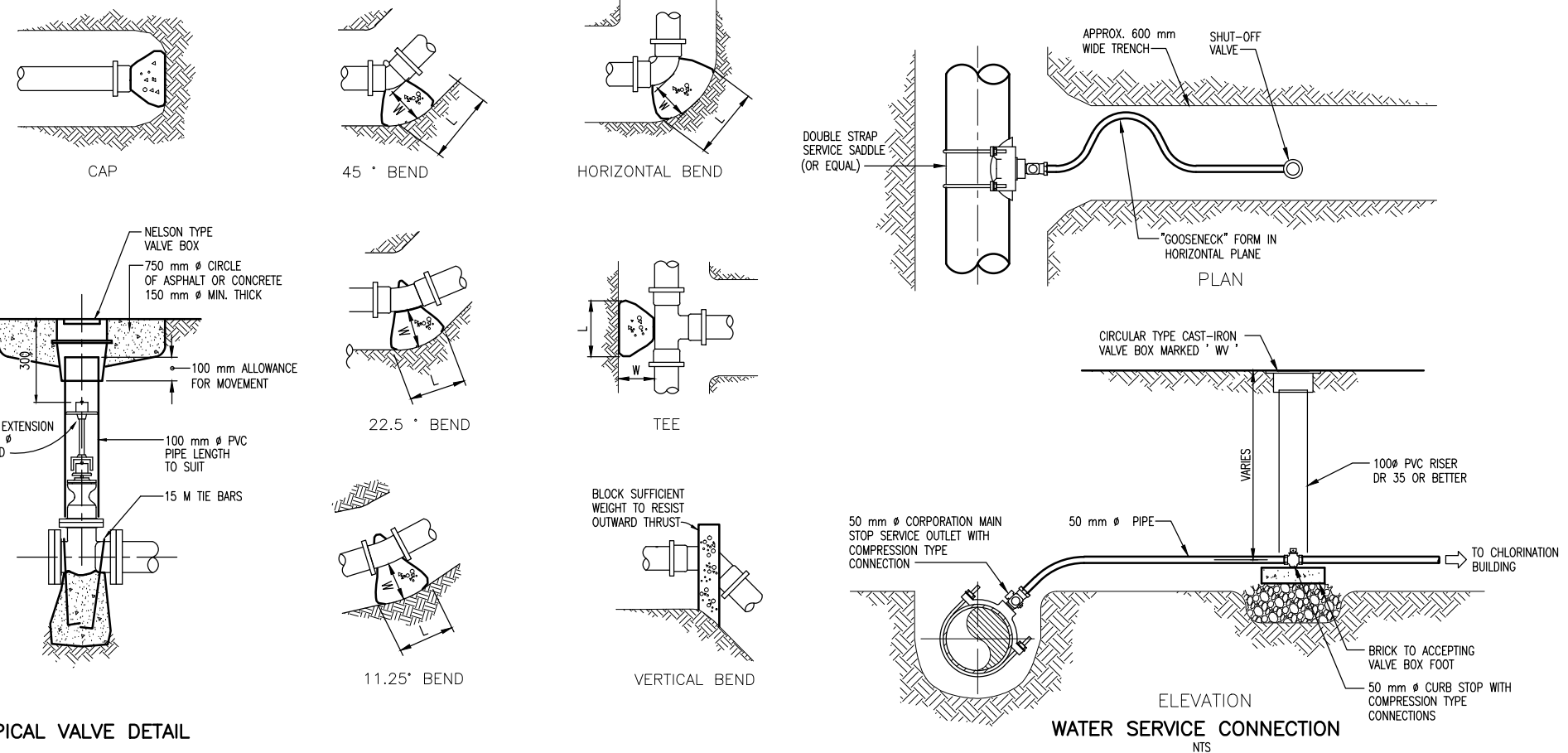
SUNSHINE COAST REGIONAL DISTRICT  
EGMONT COVE WATER SYSTEM UPGRADE  
MISCELLANEOUS DETAILS

SCALE: AS SHOWN
DRAWING No. 028.199.0005
SHEET No. G8 ISSUE D



" This Record Drawing has been prepared by Opus DaytonKnight ("Opus DK") for the exclusive use of "Sunshine Coast Regional District" (the "Client"). Any use which a third party makes of this drawing, or any reliance or decisions or actions taken by any such third party based upon this drawing, are the sole responsibility of any such third party and Opus DK accepts no responsibility, liability or risk for any damages, loss, or claims, if any, suffered by any such third party or any related party of such third party as a result of any reliance, or decisions made or actions taken, based upon this drawing. It is the user's sole responsibility to check the accuracy of this digital drawing."

STANDARD TRENCH CROSS SECTION DETAILS



ALL FITTINGS WRAPPED IN 6 mil POLYETHYLENE TO PREVENT CONTACT WITH CONCRETE

MINIMUM THRUST AREAS FOR FITTINGS AT 1030 kPa PRESSURE AND FOR SOILS WITH MINIMUM BEARING AREA OF 96 kPa (NOT TO BE USED FOR SOFT CLAY, MUCK, PEAT ETC.)

TYPE OF FITTING	FITTING SIZE				TYPE OF FITTING	FITTING SIZE			
	D	W	L	H		D	W	L	H
90° BEND	100	300	300	300	22.5° BEND	100	300	200	200
	150	300	920	460		150	300	400	400
	200	350	1070	610		200	350	500	500
	250	380	1450	760		250	380	600	600
	300	400	1050	920		300	400	700	700
TEE	100	300	300	300	45° BEND	100	300	250	250
	150	300	610	460		150	300	600	600
	200	350	760	510		200	350	700	700
	250	380	990	740		250	380	800	800
	300	400	1220	920		300	400	900	900
CAPS AND PLUGS (IF NOT BOLTED)	100	300	300	300	11.25° BEND	100	300	150	150
	150	300	460	460		150	300	250	250
	200	350	610	610		200	350	300	300
	250	380	760	760		250	380	400	400
	300	400	920	920		300	500	500	

DIMENSIONS APPLY TO THE LARGER DIAMETER END OF FITTING.

THRUST BLOCKS NTS

TYPICAL VALVE DETAIL NTS

WATER SERVICE CONNECTION NTS

FILE: G:\DRAK CAD Drawings\KSERVER P Share\Records\SUNSHINE COAST\28-199-0005 GENERAL\28-199-0005 G9.dwg Tab: G9 13-04-23 vcsabb

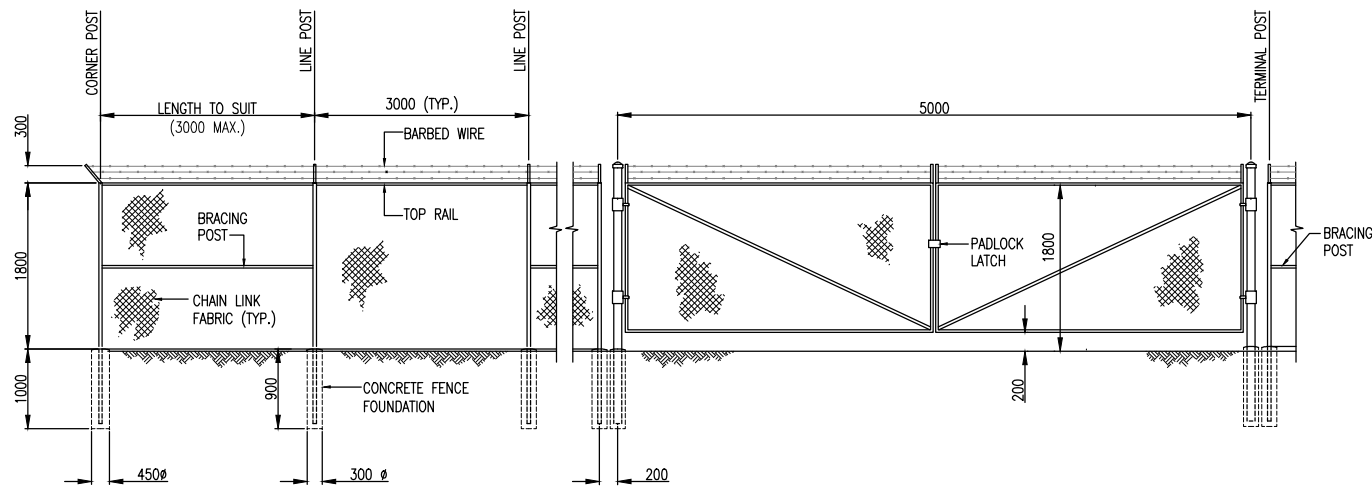
PLOT: FULL 1:100 HALF 1:200

ISSUE	DATE	DRAWN	CHK'D	APP'D	DESCRIPTION	ISSUE	DATE	DRAWN	CHK'D	APP'D	DESCRIPTION	DESIGNED	CC
A	JUL19/10	DC	CC	CC	ISSUED FOR REVIEW	D	FEB22/13	GZ	CC	CC	RECORD DRAWING	DRAWN	DBC
B	AUG17/11	MC	CC	CC	ISSUED FOR TENDER							CHECKED	CC
C	NOV25/11	RB	CC	CC	ISSUED FOR CONSTRUCTION								

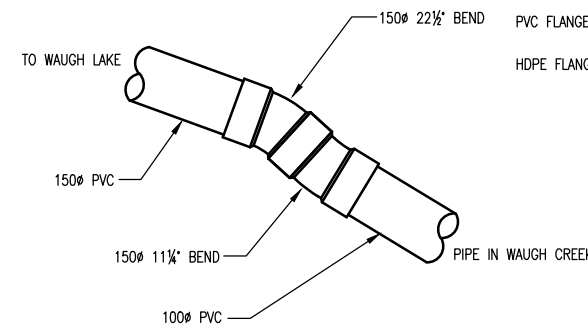
**OPUS DAYTONKNIGHT**  
North Vancouver Office  
604-990-4800

SUNSHINE COAST REGIONAL DISTRICT  
EGMONT COVE WATER SYSTEM UPGRADE  
MISCELLANEOUS DETAILS

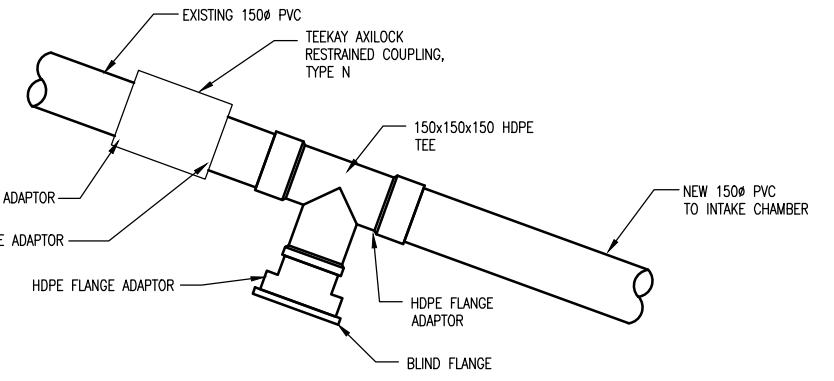
SCALE: AS SHOWN  
DRAWING No. 028.199.0005  
SHEET No. G9 ISSUE D



GATE AND CHAIN LINK FENCE  
NTS



EXISTING LAKE INTAKE PIPE

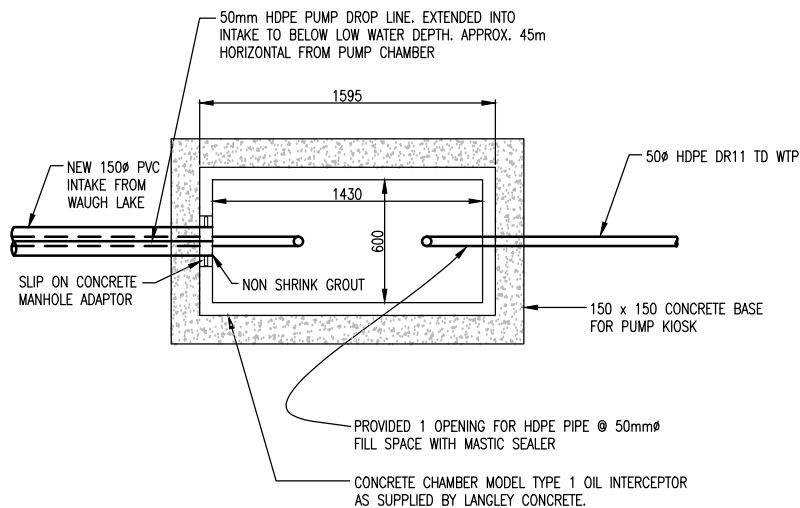


NEW CONNECTION TO LAKE INTAKE

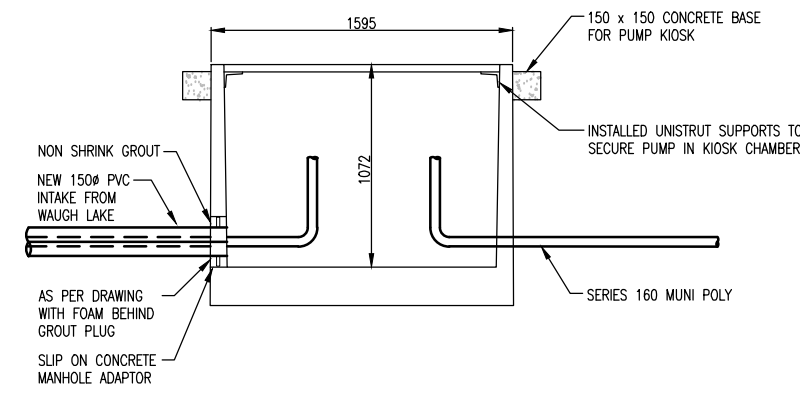
JOINTS SUIT FIELD CONNECTION TO EXISTING PIPE IN WAUGH CREEK

NOTE:  
 1. CAPPED NEW PIPE UNTIL WATER SYSTEM WAS COMMISSIONED.  
 2. PVC PIPE AWWA C900  
 3. ALL PVC JOINTS CONNECTED BY USING TEEKAY AXILOCK RESTRAINED COUPLING  
 4. REMOVED VALVE AND CAPPED TEE AFTER ALL RESIDENTS WERE TIED INTO NEW SERVICE CONNECTIONS,

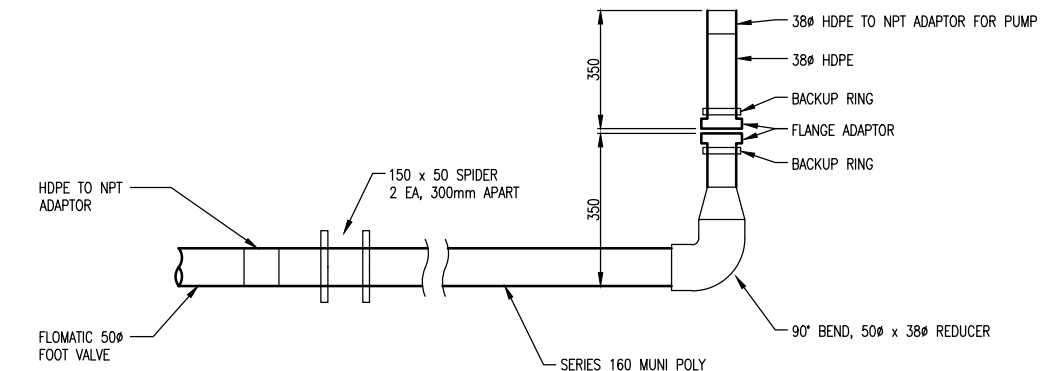
DETAIL A  
G2  
NTS



LAKE INTAKE PUMP CHAMBER PLAN DETAIL  
1:20



LAKE INTAKE PUMP CHAMBER SECTION DETAIL  
1:20



PUMP SUCTION LINE DETAIL  
NTS

" This Record Drawing has been prepared by Opus DaytonKnight ("Opus DK") for the exclusive use of "Sunshine Coast Regional District" (the "Client"). Any use which a third party makes of this drawing, or any reliance or decisions or actions taken by any such third party based upon this drawing, are the sole responsibility of any such third party and Opus DK accepts no responsibility, liability or risk for any damages, loss, or claims, if any, suffered by any such third party or any related party of such third party as a result of any reliance, or decisions made or actions taken, based upon this drawing. It is the user's sole responsibility to check the accuracy of this digital drawing."

FILE: G:\Dak CAD Drawings\KISERVER P Share\Redesign\SUNSHINE COAST\28-199-0005\GENERAL\28-199-0005 G10.dwg, Tab: G10, 13-04-23, vcrabb0

PLOT: FULL 1:100 HALF 1:200

ISSUE	DATE	DRAWN	CHK'D	APP'D	DESCRIPTION	ISSUE	DATE	DRAWN	CHK'D	APP'D	DESCRIPTION
A	JUL19/10	DC	CC	CC	ISSUED FOR REVIEW	D	NOV25/11	RB	CC	CC	ISSUED FOR CONSTRUCTION
B	AUG17/11	MC	CC	CC	ISSUED FOR TENDER	E	FEB22/13	GZ	CC	CC	RECORD DRAWING
C	OCT4/11	MC	CB	CB	AMENDMENT #3						

DESIGNED CC  
 DRAWN DBC  
 CHECKED CC

**OPUS DAYTONKNIGHT**  
 North Vancouver Office 604-990-4800  
 210-889 Harbourside Drive North Vancouver BC V7P 3S1, Canada

SUNSHINE COAST REGIONAL DISTRICT  
 EGMONT COVE WATER SYSTEM UPGRADE  
 MISCELLANEOUS DETAILS

SCALE: AS SHOWN		
DRAWING No. 028.199.0005		
SHEET No.	G10	ISSUE E

INSTRUMENT SYMBOLS

	CONTROL ROOM LOCATION ACCESSIBLE TO OPERATOR	CONTROL ROOM LOCATION INACCESSIBLE TO OPERATOR	LOCAL LOCATION ACCESSIBLE TO OPERATOR	LOCAL LOCATION INACCESSIBLE TO OPERATOR	FIELD LOCATED
DISCRETE INSTRUMENTS					
HMI FROM DISTRIBUTED CONTROL SYSTEM					
SCADA DISPLAY/COMPUTER FUNCTION					
PROGRAMMABLE LOGIC CONTROLLER					

GENERAL NOTES

1. FADED SYMBOLS AND LINES REPRESENT EXISTING EQUIPMENT.
2. HATCHED EQUIPMENT AND LINES TO BE REMOVED.
3. FOR DETAILS OF INSTRUMENTATION LINES 1" OR LESS REFER TO INSTALLATION OR LOOP DIAGRAMS.
4. INSTRUMENTATION FOLLOWS ISA STANDARDS & PRACTICES 5.1, 5.2, 5.3, 5.4, 5.5.

FLOW UNITS

AIR: m<sup>3</sup>/HR  
 CHEMICALS: kg PER DAY/ GRAMS PER LITRE/ LITRES PER SECOND  
 SEWERS: LITRES PER SECOND  
 SOLIDS: DRY METRIC TONNES PER DAY/ OR kg/D  
 WATER: LITRES PER SECOND

\*NOTE: NUMBERS INDICATE MAXIMUM FLOW FOR PIPE AND EQUIPMENT SIZING. CONTROL VALVES MAY BE SIZED FOR LESS.

EQUIPMENT GENERAL

- |                            |                                     |
|----------------------------|-------------------------------------|
| AP - ACID METER PUMP       | OMI - OPERATOR MACHINE INTERFACE    |
| B - BLOWER                 | P - PUMP                            |
| BP - CAUSTIC METER PUMP    | PG - PRESSURE GAUGE                 |
| CRN - O/H CRANE            | PLC - PROGRAMMABLE LOGIC CONTROLLER |
| CPS - COMPUTER             | PRV - PRESSURE REDUCING VALVE       |
| CON - CONVEYOR             | SCB - SCRUBBER                      |
| CV - CHECK VALVE           | SCC - SECONDARY CLARIFIER           |
| CP - COMPRESSOR            | SCRN - ROTATING SCREEN              |
| EF - EXHAUST FAN           | SF - SUPPLY FAN                     |
| FC - FLUSHING CONNECTION   | SG - SLIDE GATE                     |
| HE - HEAT EXCHANGER        | SLG - SLUICE GATE                   |
| M - MOTOR                  | SL - STOP LOG                       |
| MXR - MIXER                | SP - SLUDGE PUMP                    |
| MCB - MASTER CONTROL BOARD | SV - SOLENOID VALVE                 |
| MCC - MOTOR CONTROL CENTRE | TK - TANK                           |
| ME - MECHANICAL EQUIPMENT  | VA - VALVE                          |
| MV - MOTORIZED VALVE       | UP - UTILITY PUMP                   |
|                            | VT - VENTURA-NOZZLE                 |
|                            | WG - WEIR                           |

PROCESS LINE TYPES

- MAIN (OR NEW) PROCESS LINE
- SECONDARY (OR EXISTING) PROCESS LINE
- EXISTING PIPING AND EQUIPMENT
- FUTURE PROCESS LINE
- EXISTING PIPING AND EQUIPMENT TO BE REMOVED
- OPEN CHANNEL (EXIST./NEW)

INSTRUMENT SIGNAL LINE TYPES

- CAPILLARY TUBE OR FILLED SYSTEM SIGNAL LINE
- ELECTRIC INSTRUMENT LINE - ANALOG
- ELECTRIC INSTRUMENT LINE - DIGITAL (ASD DRIVE)
- ELECTRIC INSTRUMENT SIGNAL (EXIST./NEW)
- ELECTRIC OR ELECTRONIC INSTRUMENT SIGNAL WITH DIRECTION AS SHOWN, PROCESS TAPS
- INTERNAL SYSTEM LINK (CPS, HMI)
- INTERNAL SYSTEM LINK (ISL - SOFTWARE OR DATA)
- PNEUMATIC INSTRUMENT SIGNAL
- SPARE

INSTRUMENT FUNCTIONAL IDENTIFICATION LETTERS

FIRST LETTERS (4)		SUCCEEDING LETTERS (3)		
MEASURED OR INITIATING VARIABLE	MODIFIER	READOUT OR PASSIVE FUNCTION	OUTPUT FUNCTION	MODIFIER
A	ANALYSIS	ALARM		
B	BURNER, COMBUSTION	UNCLASSIFIED	CLOSE-STOP DECREASE	UNCLASSIFIED
C	CONDUCTIVITY, pH (ACIDITY)	CLOSE	CONTROL OR CONTROLLER	
D	DENSITY, SPECIFIC GRAVITY	DIFFERENTIAL	OPEN-START-INCREASE	
E	VOLTAGE (EMF)	SENSOR (PRIMARY ELEMENT)		
F	FLOW RATE	RATIO (FRACTION)		FAIL
G	GAS, GAUGING (DIMENSIONAL)	GLASS, VIEWING DEVICE		
H	HAND, MANUAL			H-HIGH-(ALARM) HH-HIGH-(SHUTDOWN)
I	CURRENT (ELECTRICAL)	INDICATE		
J	POWER	SCAN		
K	TIME, TIME SCHEDULE	TIME RATE OF CHANGE		CONTROL STATION
L	LEVEL	LIGHT		L-LOW-(ALARM) LL-LOW-(SHUTDOWN)
M	MOTOR	MOMENTARY	MONITOR, ON OR OPERATE	MIDDLE, INTERMEDIATE
N	MOISTURE, HUMIDITY	UNCLASSIFIED	START	USER'S CHOICE
O	UNCLASSIFIED	OPEN ORIFICE, RESTRICTION POINT (TEST) CONNECTION	STOP	OVERLOAD
P	PRESSURE, VACUUM	POINT (TEST) CONNECTION	PNEUMATIC	
Q	QUANTITY	INTEGRATE, TOTALIZE	INTEGRATE, TOTALIZE	
R	RADIATION, RADIOACTIVITY	RATIO	RECORD	
S	SPEED, FREQUENCY, SOLENOID	SAFETY	SWITCH OR SAFETY	
T	TEMPERATURE		TRANSMIT	
TQ	TORQUE			
TV	TELEVISION			
U	MULTIVARIABLE	MULTIFUNCTION	MULTIFUNCTION	MULTIFUNCTION
V	VIBRATION, MECHANICAL ANALYSIS		VALVE, DAMPER, LOUVRE	
VS	VISCOSITY			
W	WEIGHT, FORCE	WELL		
X	ON/OFF	X AXIS	UNCLASSIFIED	UNCLASSIFIED
Y	EVENT, STATE OR PRESENCE	Y AXIS	RELAY, COMPUTE, CONVERT	
Z	POSITION, DIMENSION PRESENCE	Z AXIS	DRIVER, ACTUATOR, UNCLASSIFIED FINAL CONTROL ELEMENT	

ALARMS: HH = HIGH HIGH ALARM  
 H = HIGH ALARM  
 L = LOW ALARM  
 R = RATE ALARM

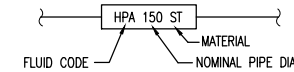
% Q = ANALOG INPUT  
 % I = ANALOG OUTPUT  
 % Q = DISCRETE OUTPUT  
 % I = DISCRETE INPUT  
 % Q = STATUS OF SWITCH (EVENT SWITCH)

EXAMPLES: FIELD LOCATED DISCRETE PRESSURE INDICATOR  
 CONTROL ROOM PC COMPUTER DISPLAY HIGH LEVEL ALARM

AREA CODES

- 100 HEADWORKS -
- 200 PRIMARY -
- 300 ATAD, SEPTAGE, RBS -
- 400 TRICKLING FILTER, SOLIDS CONTACT -
- 500 SOLIDS DEWATERING -
- 600 FGR REMOVAL -
- 700 CLARIFIER -
- 800 FILTRATION/DISINFECTION -
- 900 CONTROL BUILDING, ADMINISTRATION -

LINE NUMBERING SYSTEM



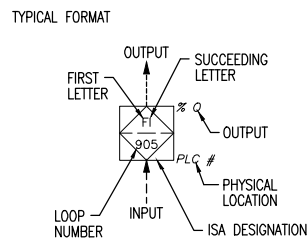
FLUID CODE	FLUID	FLUID CODE	FLUID
CLS	CHLORINE SOLUTION	PLW	PLANT WATER
CS	CRUDE SLUDGE	POL	POLYELECTROLYTE SOLUTION
D	DRAIN	PW	POTABLE WATER
DS	DIGESTED SLUDGE	PS	PRIMARY SLUDGE
FE	FINAL EFFLUENT	RBS	RETURN BIOLOGICAL SLUDGE
FOA	FOUL AIR	RC	RECIRCULATED FLOW
FOM	FOAM	RW	RECLAIMED WATER
H <sub>2</sub> SO <sub>4</sub>	SULPHURIC ACID LINE	SC	SCUM
HDSL	HOT DIGESTED SLUDGE LINE	SE	SECONDARY EFFLUENT
HPA	HIGH PRESSURE AIR	SS	SUSPENDED SOLIDS/SETTLED SEWAGE
HWR	HOT WATER RETURN	TD	TANK DRAIN
HWS	HOT WATER SUPPLY	TFE	TRICKLING FILTER EFFLUENT
LA	LIQUID ALUM	TFR	TRICKLING FILTER RECYCLE
LPA	LOW PRESSURE AIR	TSL	THICKENED SLUDGE
NaOH	CAUSTIC LINE	VT	VENT
NPW	NON POTABLE WATER	WR	WEIR
OF	OVERFLOW	WAS	WASTE ACTIVATED SLUDGE
OZ	OZONE	WBS	WASTE BIOLOGICAL SLUDGE
PE	POLYELECTROLYTE SOLUTION	WCS	WASTE CHEMICAL SLUDGE

NOTE: ALSO SEE MECHANICAL AND ELECTRICAL ABBREV.

GENERAL SYMBOLS AND TAGS

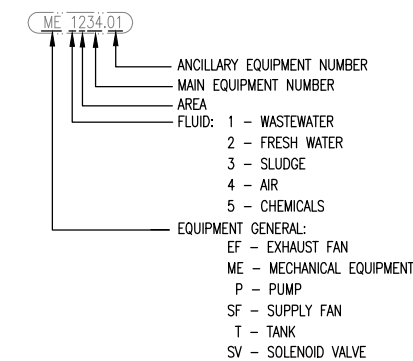
1. ON DRAWING (IE. P101) CONTINUATION IS SHOWN AS:
  2. ON DRAWING (IE. P102) CONTINUATION IS SHOWN AS:
- EXISTING EQUIPMENT TAG
  - NEW EQUIPMENT TAG
  - EXISTING PIPE TAG
  - NEW PIPE TAG
  - REVISION TAG

ATTRIBUTE LEGEND



"This Record Drawing has been prepared by Opus DaytonKnight ("Opus DK") for the exclusive use of "Sunshine Coast Regional District" (the "Client"). Any use which a third party makes of this drawing, or any reliance or decisions or actions taken by any such third party based upon this drawing, are the sole responsibility of any such third party and Opus DK accepts no responsibility, liability or risk for any damages, loss, or claims, if any, suffered by any such third party or any related party of such third party as a result of any reliance, or decisions made or actions taken, based upon this drawing. It is the user's sole responsibility to check the accuracy of this digital drawing."

EQUIPMENT NUMBER



LINE DESIGNATIONS

- ELECTRIC POWER SUPPLY 120 VAC 60 HZ (UNLESS OTHERWISE NOTED)
- LINE CONTINUATION TO/FROM
- SPECIFICATION AND/OR LINE NUMBER CHANGE
- SUPPLIED BY EQUIPMENT VENDOR

PLOT: FULL 1:25 HALF 1:50

ISSUE	DATE	DRAWN	CHK'D	APP'D	DESCRIPTION
A	JUL19/10	DC	CC	CC	ISSUED FOR REVIEW
B	AUG17/11	MC	CC	CC	ISSUED FOR TENDER
C	NOV25/11	RB	CC	CC	ISSUED FOR CONSTRUCTION

ISSUE	DATE	DRAWN	CHK'D	APP'D	DESCRIPTION
D	FEB22/13	GZ	CC	CC	RECORD DRAWING

DESIGNED	AS
DRAWN	DBC
CHECKED	C

**OPUS DAYTONKNIGHT**  
 North Vancouver Office 604-990-4500  
 210-889 Harbourside Drive North Vancouver BC V7P 3S1, Canada

SUNSHINE COAST REGIONAL DISTRICT  
 EGMONT COVE WATER SYSTEM UPGRADE  
 STANDARD TAGS AND ABBREVIATIONS

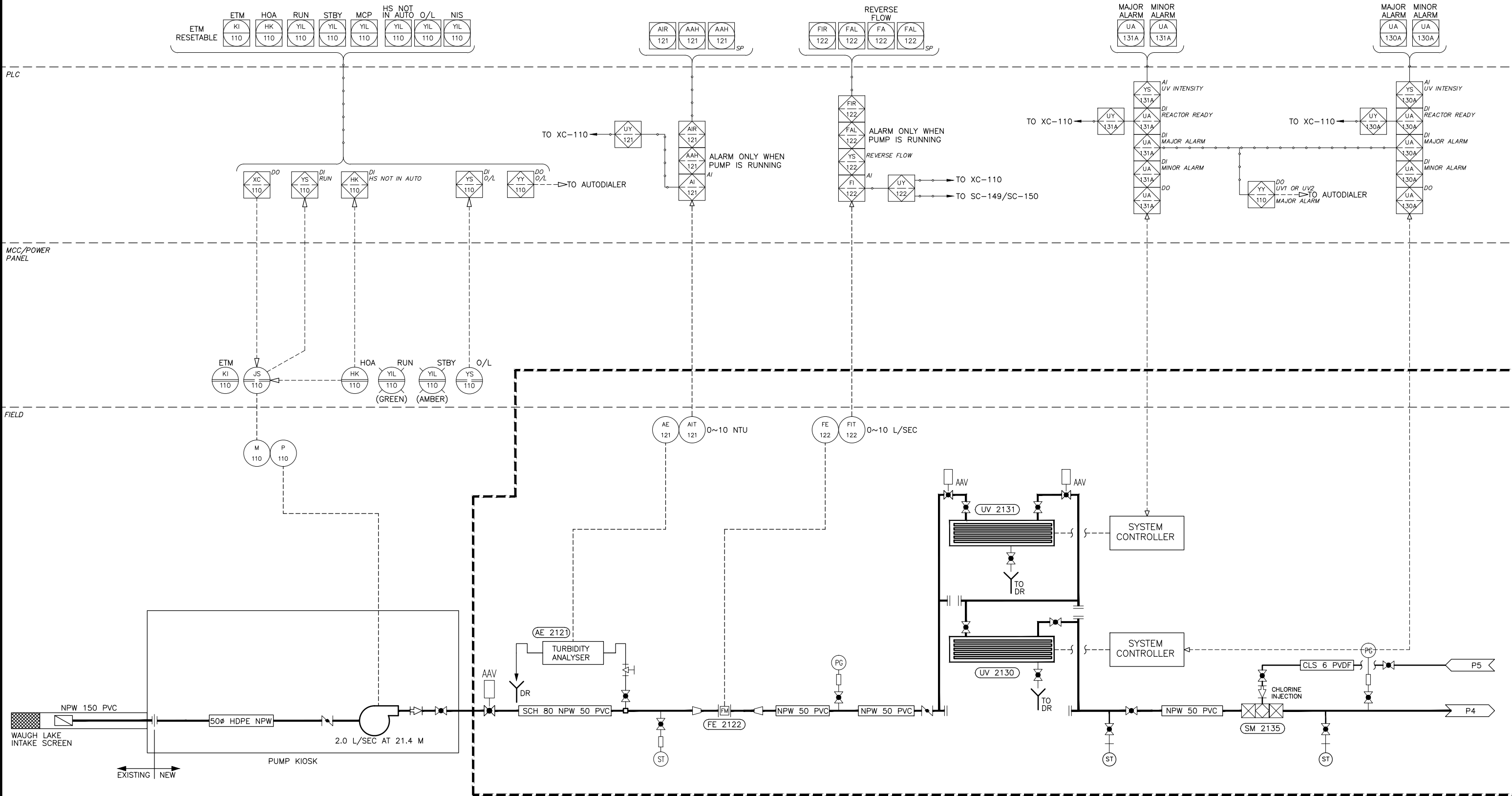
SCALE: NTS
DRAWING No. 028.199.0005
SHEET No. P1 ISSUE D

FILE: G:\D&K CAD Drawings\SERVER P Share\Records\SUNSHINE COAST\28-199-0005 PROCESS AND INSTRUMENTATION\28-199-0005 P1.dwg, Tob, Model, 13-04-23 vcrbdo

FILE: G:\Dak CAD Drawings\SERVER P Share\Records\SUNSHINE COAST\28-199-0005 PROCESS AND INSTRUMENTATION\28-199-0005 P2.dwg, Tab: Model, 13-04-23 vcr80

EQUIPMENT	EQUIPMENT REQUIRING DRIVES:	PIPING SYMBOLS	VALVE LABELLING SYSTEM
	<p><b>EQUIPMENT TYPES:</b></p> <p><b>DRIVES</b></p> <p><b>DRIVE TYPES:</b></p> <p><b>MODIFICATIONS:</b></p> <p><b>OTHER:</b></p>	<p><b>PIPING SYMBOLS</b></p> <p><b>CO</b> CLEAN OUT  <b>DC</b> DRAIN CONNECTION  <b>FC</b> FLUSHING CONNECTION  <b>SB</b> STEAM BLOW  <b>SC</b> SAMPLE CONNECTION  <b>TC</b> TEST CONNECTION</p>	<p><b>VALVE LABELLING SYSTEM</b></p> <p><b>OPTIONS:</b></p> <p><b>FAIL OPTIONS:</b> FO FAIL OPEN, FC FAIL CLOSE, FI FAIL INDETERMINATE, FL FAIL LAST POSITION</p> <p><b>EXAMPLE:</b></p> <p><b>VALVE OPERATORS</b></p> <p><b>PRIMARY ELEMENT SYMBOLS</b></p>
<p><i>" This Record Drawing has been prepared by Opus DaytonKnight ("Opus DK") for the exclusive use of "Sunshine Coast Regional District" (the "Client"). Any use which a third party makes of this drawing, or any reliance or decisions or actions taken by any such third party based upon this drawing, are the sole responsibility of any such third party and Opus DK accepts no responsibility, liability or risk for any damages, loss, or claims, if any, suffered by any such third party or any related party of such third party as a result of any reliance, or decisions made or actions taken, based upon this drawing. It is the user's sole responsibility to check the accuracy of this digital drawing."</i></p>			

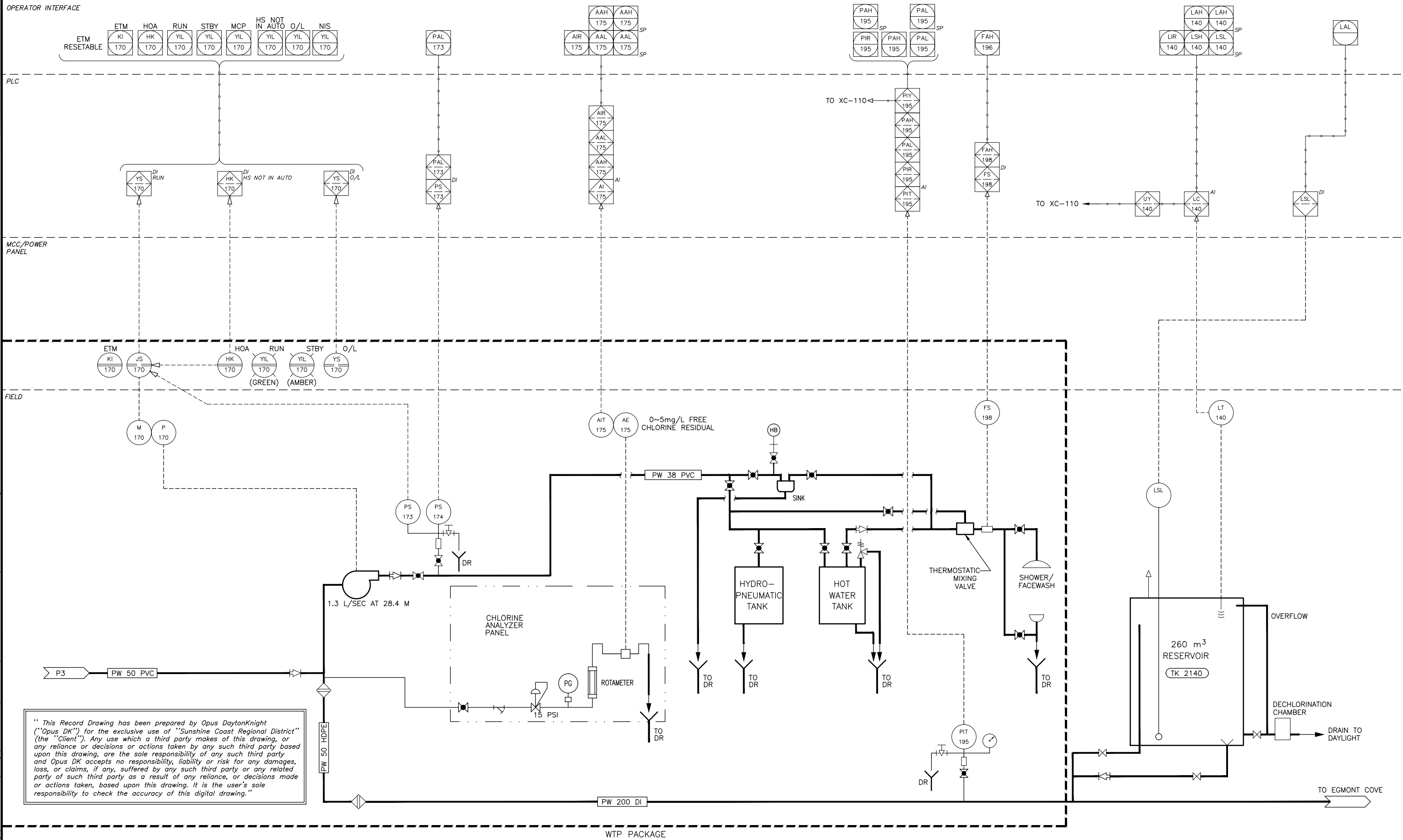
AutoCAD DRAWING REVISIONS <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>ISSUE</th> <th>DATE</th> <th>DRAWN</th> <th>CHK'D</th> <th>APP'D</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>JUL19/10</td> <td>DC</td> <td>CC</td> <td>CC</td> <td>ISSUED FOR REVIEW</td> </tr> <tr> <td>B</td> <td>AUG17/11</td> <td>MC</td> <td>CC</td> <td>CC</td> <td>ISSUED FOR TENDER</td> </tr> <tr> <td>C</td> <td>NOV25/11</td> <td>RB</td> <td>CC</td> <td>CC</td> <td>ISSUED FOR CONSTRUCTION</td> </tr> </tbody> </table>	ISSUE	DATE	DRAWN	CHK'D	APP'D	DESCRIPTION	A	JUL19/10	DC	CC	CC	ISSUED FOR REVIEW	B	AUG17/11	MC	CC	CC	ISSUED FOR TENDER	C	NOV25/11	RB	CC	CC	ISSUED FOR CONSTRUCTION	PLOT: FULL 1:25 HALF 1:50	<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>ISSUE</th> <th>DATE</th> <th>DRAWN</th> <th>CHK'D</th> <th>APP'D</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td>D</td> <td>FEB22/13</td> <td>GZ</td> <td>CC</td> <td>CC</td> <td>RECORD DRAWING</td> </tr> </tbody> </table>	ISSUE	DATE	DRAWN	CHK'D	APP'D	DESCRIPTION	D	FEB22/13	GZ	CC	CC	RECORD DRAWING	DESIGNED <u>CC</u> DRAWN <u>DBC</u> CHECKED <u>CC</u>	<p><b>OPUS DAYTONKNIGHT</b>          North Vancouver Office 604-990-4800          210-889 Harbourside Drive North Vancouver BC V7P 3S1, Canada</p>	SUNSHINE COAST REGIONAL DISTRICT EGMONT COVE WATER SYSTEM UPGRADE P&ID STANDARD SYMBOLS, EQUIPMENT, VALVES AND INSTRUMENTATION	SCALE: NONE DRAWING No. 028.199.0005 SHEET No. <b>P2</b> ISSUE <b>D</b>
ISSUE	DATE	DRAWN	CHK'D	APP'D	DESCRIPTION																																					
A	JUL19/10	DC	CC	CC	ISSUED FOR REVIEW																																					
B	AUG17/11	MC	CC	CC	ISSUED FOR TENDER																																					
C	NOV25/11	RB	CC	CC	ISSUED FOR CONSTRUCTION																																					
ISSUE	DATE	DRAWN	CHK'D	APP'D	DESCRIPTION																																					
D	FEB22/13	GZ	CC	CC	RECORD DRAWING																																					



" This Record Drawing has been prepared by Opus DaytonKnight ("Opus DK") for the exclusive use of "Sunshine Coast Regional District" (the "Client"). Any use which a third party makes of this drawing, or any reliance or decisions or actions taken by any such third party based upon this drawing, are the sole responsibility of any such third party and Opus DK accepts no responsibility, liability or risk for any damages, loss, or claims, if any, suffered by any such third party or any related party of such third party as a result of any reliance, or decisions made or actions taken, based upon this drawing. It is the user's sole responsibility to check the accuracy of this digital drawing."

FILE: G:\DK\CAD Drawings\DKSERVER P\_Share\Records\SUNSHINE COAST\28-199-0005\PROCESS AND INSTRUMENTATION\28-199-0005 P3 P4 P5.dwg, Tab: P3, 13-04-23, vcrab0

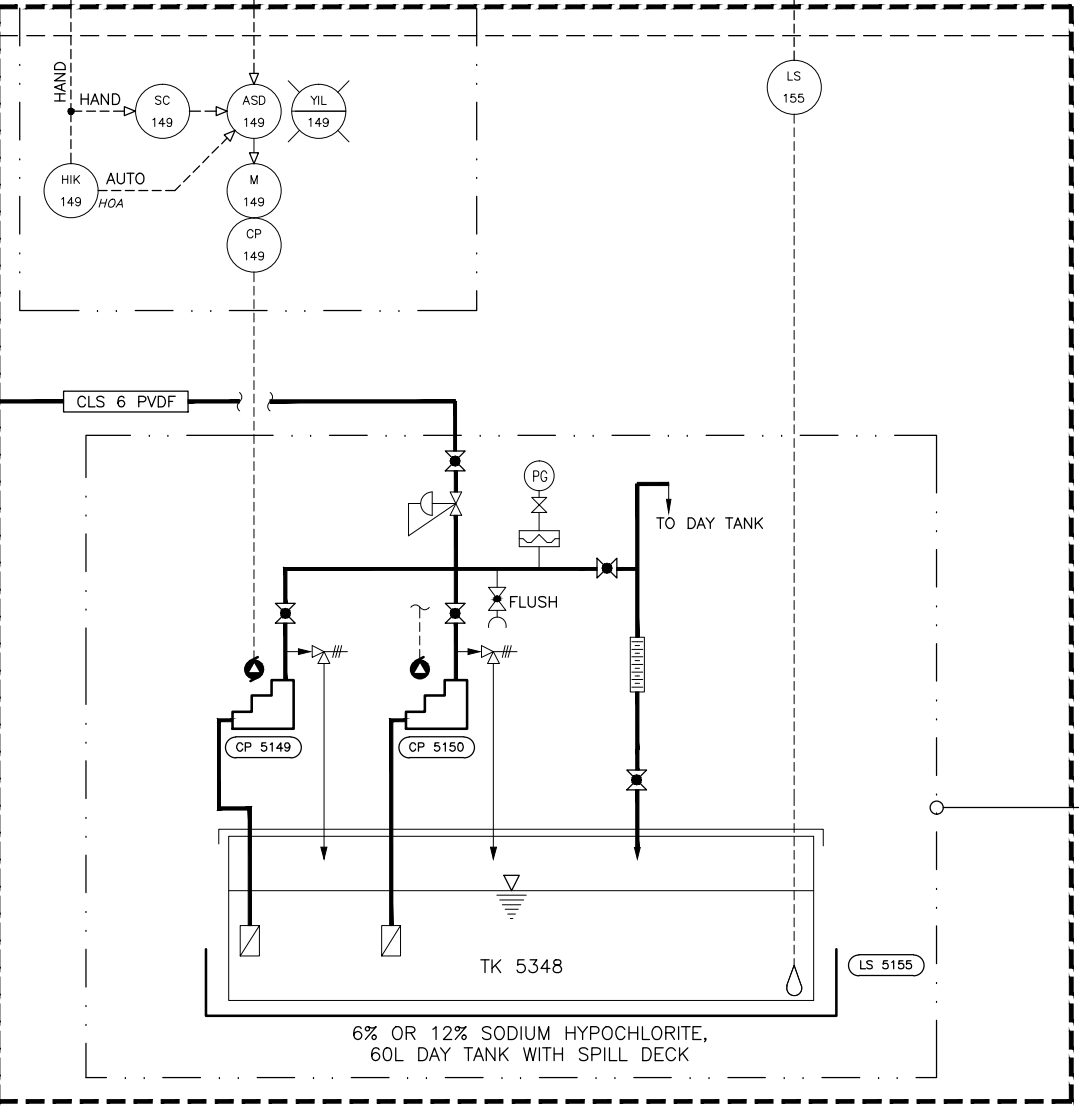
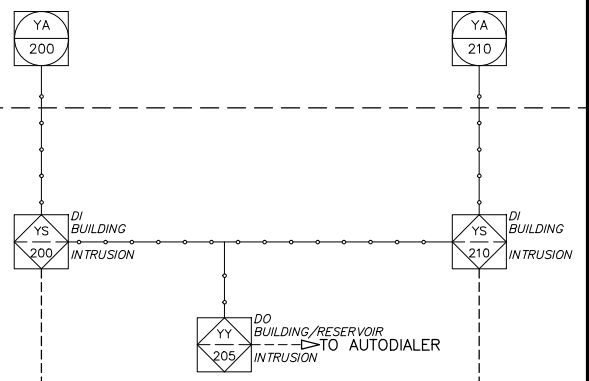
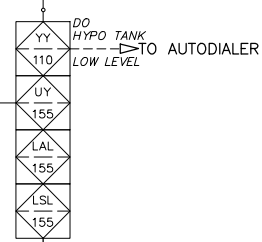
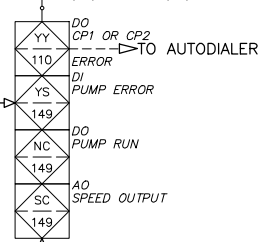
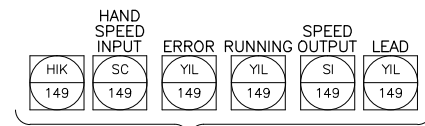
PLOT: FULL 1:25    HALF 1:50		<table border="1"> <thead> <tr> <th>ISSUE</th> <th>DATE</th> <th>DRAWN</th> <th>CHK'D</th> <th>APP'D</th> <th>DESCRIPTION</th> <th>ISSUE</th> <th>DATE</th> <th>DRAWN</th> <th>CHK'D</th> <th>APP'D</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>JUL19/10</td> <td>DC</td> <td>CC</td> <td>CC</td> <td>ISSUED FOR REVIEW</td> <td>D</td> <td>FEB22/13</td> <td>GZ</td> <td>CC</td> <td>CC</td> <td>RECORD DRAWING</td> </tr> <tr> <td>B</td> <td>AUG17/11</td> <td>MC</td> <td>CC</td> <td>CC</td> <td>ISSUED FOR TENDER</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>C</td> <td>NOV25/11</td> <td>RB</td> <td>CC</td> <td>CC</td> <td>ISSUED FOR CONSTRUCTION</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>										ISSUE	DATE	DRAWN	CHK'D	APP'D	DESCRIPTION	ISSUE	DATE	DRAWN	CHK'D	APP'D	DESCRIPTION	A	JUL19/10	DC	CC	CC	ISSUED FOR REVIEW	D	FEB22/13	GZ	CC	CC	RECORD DRAWING	B	AUG17/11	MC	CC	CC	ISSUED FOR TENDER							C	NOV25/11	RB	CC	CC	ISSUED FOR CONSTRUCTION							DESIGNED <u>AS</u> DRAWN <u>DBC</u> CHECKED <u>CC</u>		OPUS DAYTONKNIGHT North Vancouver Office 604-990-4800 210-889 Harbourside Drive North Vancouver BC V7P 3S1, Canada		SUNSHINE COAST REGIONAL DISTRICT EGMONT COVE WATER SYSTEM UPGRADE PROCESS & INSTRUMENTATION DIAGRAM			SCALE: NTS DRAWING No. 028.199.0005 SHEET No. <b>P3</b> ISSUE <b>D</b>		
ISSUE	DATE	DRAWN	CHK'D	APP'D	DESCRIPTION	ISSUE	DATE	DRAWN	CHK'D	APP'D	DESCRIPTION																																																										
A	JUL19/10	DC	CC	CC	ISSUED FOR REVIEW	D	FEB22/13	GZ	CC	CC	RECORD DRAWING																																																										
B	AUG17/11	MC	CC	CC	ISSUED FOR TENDER																																																																
C	NOV25/11	RB	CC	CC	ISSUED FOR CONSTRUCTION																																																																



" This Record Drawing has been prepared by Opus DaytonKnight ("Opus DK") for the exclusive use of "Sunshine Coast Regional District" (the "Client"). Any use which a third party makes of this drawing, or any reliance or decisions or actions taken by any such third party based upon this drawing, are the sole responsibility of any such third party and Opus DK accepts no responsibility, liability or risk for any damages, loss, or claims, if any, suffered by any such third party or any related party of such third party as a result of any reliance, or decisions made or actions taken, based upon this drawing. It is the user's sole responsibility to check the accuracy of this digital drawing."

FILE: G:\DK\CAD Drawings\DKSERVER P.Share\Records\SUNSHINE COAST\28-199-0005 PROCESS AND INSTRUMENTATION\28-199-0005 P3 P4 P5.dwg Tab P4\_13-04-23 vcrab0

PLOT: FULL 1:25    HALF 1:50		DESIGNED <u>AS</u>		 <b>OPUS DAYTONKNIGHT</b> North Vancouver Office    210-889 Harbourside Drive 604-990-4800    North Vancouver BC V7P 3S1, Canada	SCALE: NTS	
ISSUED FOR REVIEW		RECORD DRAWING			DRAWING No. 028.199.0005	
ISSUED FOR TENDER		ISSUED FOR CONSTRUCTION			SHEET No. <b>P4</b> ISSUE <b>D</b>	



SODIUM HYPOCHLORITE SYSTEM  
PANEL MOUNTED  
DUTY/STANDBY  
SODIUM HYPOCHLORITE  
METERING PUMPS

" This Record Drawing has been prepared by Opus DaytonKnight ("Opus DK") for the exclusive use of "Sunshine Coast Regional District" (the "Client"). Any use which a third party makes of this drawing, or any reliance or decisions or actions taken by any such third party based upon this drawing, are the sole responsibility of any such third party and Opus DK accepts no responsibility, liability or risk for any damages, loss, or claims, if any, suffered by any such third party or any related party of such third party as a result of any reliance, or decisions made or actions taken, based upon this drawing. It is the user's sole responsibility to check the accuracy of this digital drawing."

FILE: G:\D&K CAD Drawings\DKSERVIER P Share\Records\SUNSHINE COAST\28-199-0005\PROCESS AND INSTRUMENTATION\28-199-0005\_P3\_P4\_P5.dwg Tab: P5 13-04-23 ucshb0

PLOT: FULL HALF 1:50

ISSUE	DATE	DRAWN	CHK'D	APP'D	DESCRIPTION
A	JUL19/10	DC	CC	CC	ISSUED FOR REVIEW
B	AUG17/11	MC	CC	CC	ISSUED FOR TENDER
C	NOV25/11	RB	CC	CC	ISSUED FOR CONSTRUCTION

ISSUE	DATE	DRAWN	CHK'D	APP'D	DESCRIPTION
D	FEB22/13	GZ	CC	CC	RECORD DRAWING

DESIGNED AS  
DRAWN DBC  
CHECKED CC

**OPUS DAYTONKNIGHT**  
North Vancouver Office 604-990-4800  
210-889 Harbourside Drive North Vancouver BC V7P 3S1, Canada

SUNSHINE COAST REGIONAL DISTRICT  
EGMONT COVE WATER SYSTEM UPGRADE  
PROCESS & INSTRUMENTATION DIAGRAM

SCALE: NTS
DRAWING No. 028.199.0005
SHEET No. P5 ISSUE D

## GENERAL CONSTRUCTION NOTES

### GENERAL NOTES

- SCOPE :** THE NOTES AND DETAILS ON THIS SHEET ARE GENERAL AND APPLY TO THE ENTIRE PROJECT EXCEPT WHERE THERE ARE SPECIFIC INDICATIONS TO THE CONTRARY.
- APPLICABLE SPECIFICATIONS AND CODES :** CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE NATIONAL BUILDING CODE EXCEPT WHERE OTHER APPLICABLE CODES OR THE FOLLOWING NOTES ARE MORE RESTRICTIVE.
- DIMENSIONS :** STRUCTURAL DIMENSIONS CONTROLLED BY OR RELATED TO MECHANICAL OR ELECTRICAL EQUIPMENT SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.
- PROVISIONS FOR EQUIPMENT :** MECHANICAL AND ELECTRICAL EQUIPMENT SUPPORTS, ANCHORAGES, OPENINGS, RECESSES AND REVEALS NOT SHOWN ON THE STRUCTURAL DRAWINGS BUT REQUIRED BY OTHER CONTRACT DRAWINGS SHALL BE PROVIDED FOR PRIOR TO CASTING CONCRETE.
- CONSTRUCTION LOADS :** STRUCTURES HAVE BEEN DESIGNED FOR OPERATION LOADS ON THE COMPLETED STRUCTURES. DURING CONSTRUCTION, THE STRUCTURES SHALL BE PROTECTED BY BRACING AND BALANCING WHEREVER EXCESSIVE CONSTRUCTION LOADS MAY OCCUR. ALL TEMPORARY AND PERMANENT SURCHARGE LOADS SHALL BE CONSIDERED.
- THE CONTRACTOR IS RESPONSIBLE FOR SHORING AND UNDERPINNING. DOCUMENTS RELATING TO THIS WORK SHALL BE SEALED AND SIGNED BY A BRITISH COLUMBIA PROFESSIONAL ENGINEER.
- DRAINAGE SURFACES :** FLOOR ELEVATIONS SHOWN ON CONCRETE OUTLINE DRAWINGS ARE PERIMETER ELEVATIONS FOR STRUCTURAL SLABS AND MAY NOT INDICATE FLOOR SLOPES, TOPPING OR FLOOR ELEVATIONS. FOR AREAS REQUIRING FLOOR SLOPES, TOPPING AND FLOOR DRAIN (ELEVATIONS AND LOCATIONS), SEE ARCHITECTURAL AND MECHANICAL DRAWINGS.

f <sub>c</sub> = 30 MPa f <sub>y</sub> = 400 MPa	BAR SIZE	MINIMUM STRAIGHT EMBEDMENT DEVELOPMENT LENGTHS (mm)		MINIMUM TENSION EMBEDMENT WITH STANDARD END HOOKS E
		COMPRESSION	TENSION	
		10M	200	
15M	280	450	200	
20M	340	600	220	
25M	440	1000	450	
30M	530	1200	630	

f <sub>c</sub> = 30 MPa f <sub>y</sub> = 400 MPa	BAR SIZE	LAP SPLICE LENGTHS (mm)	
		TENSION	COMPRESSION
		10M	400
15M	600	450	
20M	800	600	
25M	1200	750	
30M	1600	900	

#### NOTES :

- FOR LOCATION OF PIPING, FLOOR DRAINS, ELECTRICAL / INSTRUMENTATION CONDUIT, VENTILATION DUCTS WHICH PASS THROUGH CONCRETE SLABS, WALLS AND/OR ROOFS, REFER TO THE MECHANICAL, VENTILATION, ELECTRICAL AND INSTRUMENTATION DRAWINGS TO COORDINATE THIS PART OF THE WORK.
- FOR DETAILS OF NEW FOUNDATION DRAINS, WHICH PASS UNDERNEATH NEW CONCRETE SLABS REFER TO GENERAL DRAWINGS, UNLESS NOTED OTHERWISE IN SPECIFICATIONS.

### STEEL

- APPLICABLE SPECIFICATIONS AND CODES :** STEEL CONSTRUCTION SHALL CONFORM TO CSA S16 "STEEL STRUCTURES FOR BUILDINGS" AS CONTAINED IN THE NATIONAL BUILDING CODE.
- BOLTED JOINTS :** EXCEPT FOR BOLTS ANCHORED IN CONCRETE, BOLTED JOINTS SHALL CONFORM TO THE SPECIFICATIONS OF THE CANADIAN INSTITUTE OF STEEL CONSTRUCTION. BOLTS SHALL BE AS SPECIFIED ON THE DRAWINGS, OR, AT LEAST 13mm DIAMETER IF NOT SPECIFIED ON THE DRAWINGS.
- ANCHOR BOLTS :** BOLTS ANCHORED IN CONCRETE, IF NOT SPECIFIED ON THE DRAWINGS, SHALL BE 13mm DIAMETER WITH 225mm EMBEDDED AND SHALL CONFORM TO ASTM A-36.
- ENCASED STEEL :** STEEL COMPLETELY ENCASED IN CONCRETE SHALL NOT BE PAINTED AND SHALL HAVE A CLEAN SURFACE FOR BONDING TO CONCRETE.

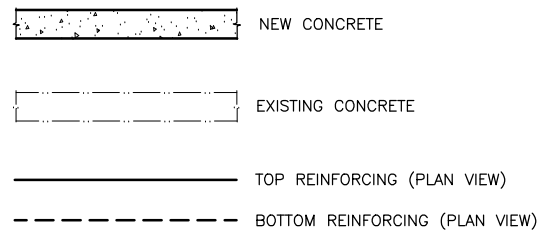
### ALUMINUM

- APPLICABLE SPECIFICATIONS AND CODES :** ALUMINUM CONSTRUCTION SHALL CONFORM TO CAN3-S157 "STRENGTH DESIGN IN ALUMINUM" AS SPECIFIED IN THE NATIONAL BUILDING CODE.
- ALUMINUM PLACED IN CONTACT WITH CONCRETE, MORTAR, PLASTER OR DISSIMILAR METALS SHALL BE GIVEN A PROTECTIVE SEALING COAT OF ZINC CHROMATE EPOXY OR ALKALI-RESISTANT BITUMINOUS PAINT.

### MASONRY

- APPLICABLE SPECIFICATIONS AND CODES :** MASONRY CONSTRUCTION SHALL CONFORM TO CAN3-S157 AS SPECIFIED IN THE NATIONAL BUILDING CODE.
- VERTICAL REINFORCING SHALL BE 1 - 15M BARS FOR FULL HEIGHT OF WALL IN A CAVITY AT MAXIMUM 0.60 METRE SPACING C/C AND AT ALL CORNERS, AND 1-15M ADJACENT TO OPENINGS LARGER THAN 600mm.
- HORIZONTAL REINFORCING SHALL BE "DURWALL" OR "WAL-LOK" STANDARD WT BRIGHT FINISH AT 400mm SPACING AND 2-15M HORIZONTAL REINFORCING CONTINUOUS IN BOND BEAMS SPACED 1200 C/C AND IN LINTELS FOR OPENINGS OF LESS THAN 1200 WITH 400 BEARINGS ON BOTH SIDES OF OPENINGS.
- FOR MORE INFORMATION SEE S3 DRAWING.

### STRUCTURAL LEGEND



" This Record Drawing has been prepared by Opus DaytonKnight ("Opus DK") for the exclusive use of "Sunshine Coast Regional District" (the "Client"). Any use which a third party makes of this drawing, or any reliance or decisions or actions taken by any such third party based upon this drawing, are the sole responsibility of any such third party and Opus DK accepts no responsibility, liability or risk for any damages, loss, or claims, if any, suffered by any such third party or any related party of such third party as a result of any reliance, or decisions made or actions taken, based upon this drawing. It is the user's sole responsibility to check the accuracy of this digital drawing."

### CONCRETE

- APPLICABLE SPECIFICATIONS AND CODES :** CONCRETE CONSTRUCTION SHALL CONFORM TO CSA 23.3-04 "DESIGN OF CONCRETE STRUCTURES FOR BUILDING" AS SPECIFIED IN THE NATIONAL BUILDING CODE OF CANADA 2005.
- REINFORCING STEEL DETAILS :** ALL DETAILING, FABRICATING AND ERECTION OF STEEL REINFORCING BARS, UNLESS OTHERWISE NOTED, SHALL BE IN ACCORDANCE WITH THE "METRIC SUPPLEMENT" IN CONJUNCTION WITH THE "REINFORCING STEEL MANUAL OF STANDARD PRACTICE", AS AVAILABLE FROM THE WESTERN REINFORCING CONTRACTORS ASSOCIATION.
- MINIMUM REINFORCING :** CONCRETE CONSTRUCTION SHALL BE REINFORCED CONCRETE EXCEPT WHERE PLAIN CONCRETE (P/C) IS SPECIFIED ON THE DRAWINGS, IN WHICH CASE NO REINFORCEMENT SHALL BE USED. CONCRETE THAT IS NOT DESIGNATED P/C AND HAS NO REINFORCEMENT INDICATED SHALL BE REINFORCED ACCORDING TO THE FOLLOWING SCHEDULES :

A) STEEL FOR WALLS AND SLABS REINFORCEMENT EACH WAY			
THICKNESS	SIZE	SPACING	POSITION
150	10M	300 C/C	ON $\phi$
200	15M	300 C/C	ON $\phi$
250	15M	300 C/C	EF
300	15M	300 C/C	EF
350	15M	250 C/C	EF
400	20M	300 C/C	EF
450	20M	250 C/C	EF

MASS CONCRETE SHALL BE REINFORCED WITH 15M BARS AT 300 MINIMUM IN ALL FACES.

- B) 10M @ 450 SHALL BE USED AS TRANSVERSE TIES IF NO OTHER REINFORCING IS NOTED.

- CONCRETE COVER :** CONCRETE COVER OF REINFORCING BARS, IF NOT SPECIFIED ON THE DRAWINGS, SHALL BE AS FOLLOWS OR SHALL BE EQUAL TO THE DIAMETER OF THE MAIN REINFORCING BAR IT COVERS, WHICHEVER IS LARGER :

CONDITION	SPECIFIED COVER (mm)
A) CONCRETE CAST AGAINST GROUND	75
B) CONCRETE EXPOSED TO EARTH, LIQUIDS OR WEATHER	
i) 20M BARS OR LARGER	50
ii) 10M AND 15M BARS	40
C) CONCRETE SLABS OR WALLS NOT EXPOSED TO EARTH, LIQUIDS OR WEATHER	20
D) CONCRETE BEAMS OR COLUMNS	50

- REINFORCING BAR DEVELOPMENT AND LAP LENGTHS REINFORCING BAR DEVELOPMENT LENGTH AND LAP SPLICE LENGTHS SHALL BE AS SPECIFIED ON THE DRAWINGS OR IN ACCORDANCE WITH THE FOLLOWING SCHEDULES, WHICHEVER IS THE LONGER LENGTH :

- DOWELS SHALL BE THE SAME SIZE AND SPACING AS BARS WITH WHICH THEY ARE LAPPED, UNLESS OTHERWISE NOTED.
- THE LENGTH OF LAP SPLICE OF BARS OF DIFFERENT DIAMETERS SHALL BE BASED ON THE BAR WITH THE SMALLER DIAMETER.

- STANDARD HOOK :** BARS ENDING IN RIGHT ANGLE BENDS OR HOOKS SHALL CONFORM TO THE REQUIREMENTS OF CSA CAN3-A23.1

- ANCHORAGE :** IF THE EMBEDMENT LENGTH IS LIMITED DUE TO THE LIMITED EXTENT OF THE CONCRETE STRUCTURE, THE BARS SHALL EXTEND AS FAR AS POSSIBLE AND END IN STANDARD HOOKS.

### WOOD

- ALL LUMBER AND WOOD PRODUCTS SHALL CONFORM TO B.C.B.C. 2006 PART 9 SECTION 9.3.2 "GRADES", 9.4.1 "GENERAL DESIGN", 9.4.2 "SNOWLOADS" AND 9.4.3 "DEFLECTIONS".
- BUILDINGS AND THEIR STRUCTURAL MEMBERS MADE OF WOOD SHALL CONFORM TO CAN3-086 "ENGINEERING DESIGN IN WOOD, (WORKING STRESS DESIGN)", OR CAN/CSA 086.1 "ENGINEERING DESIGN IN WOOD, (LIMIT STATE DESIGN)".
- WOOD FRAME CONSTRUCTION SHALL CONFORM TO B.C.B.C. 2006 PART 9 SECTION 9.23
- WOOD TRUSSES SHALL BE DESIGNED, BUILT AND INSTALLED IN CONFORMANCE WITH B.C.B.C. 2006 PART 9 SECTION 9.23.13.11 "ROOF TRUSSES".

#### NOTE :

WHERE DETAIL(S) SHOWN ON THE DRAWINGS DIFFER FROM THE DETAILS SHOWN ON THIS SHEET (S1), THEN THE DRAWING HAS PRIORITY.

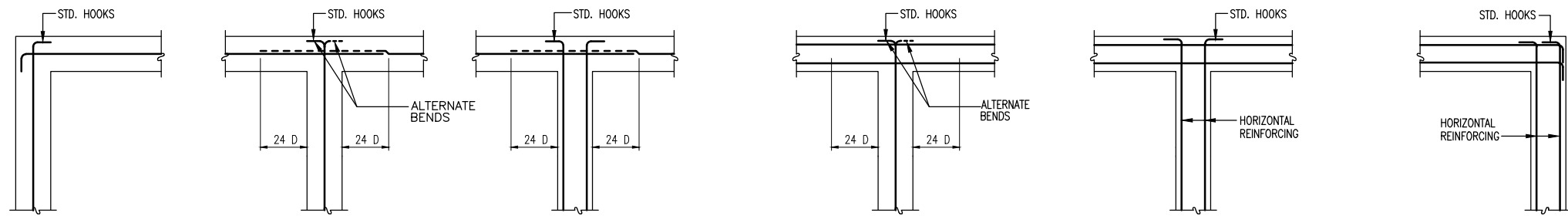
FILE: G:\Dak CAD Drawings\DKSERVER P Share\Records\SUNSHINE COAST\28-199-0005 S1.dwg, Top Model, 13-04-23, vcrnb0

PLOT: FULL 1:50 HALF 1:100

ISSUE	DATE	DRAWN	CHK'D	APP'D	DESCRIPTION	ISSUE	DATE	DRAWN	CHK'D	APP'D	DESCRIPTION	DESIGNED	DRAWN	CHECKED	SCALE: NONE
A	JUL19/10	DC	CC	CC	ISSUED FOR REVIEW	D	FEB22/13	GZ	CC	CC	RECORD DRAWING	MR	DBC	MR	DRAWING No. 028.199.0005
B	AUG17/11	MC	CC	CC	ISSUED FOR TENDER										SHEET No. S1
C	NOV25/11	RB	CC	CC	ISSUED FOR CONSTRUCTION										ISSUE D

**OPUS DAYTONKNIGHT**  
North Vancouver Office 210-889 Harbourside Drive  
604-990-4800 North Vancouver BC V7P 3S1, Canada

SUNSHINE COAST REGIONAL DISTRICT  
EGMONT COVE WATER SYSTEM UPGRADE  
GENERAL CONSTRUCTION NOTES

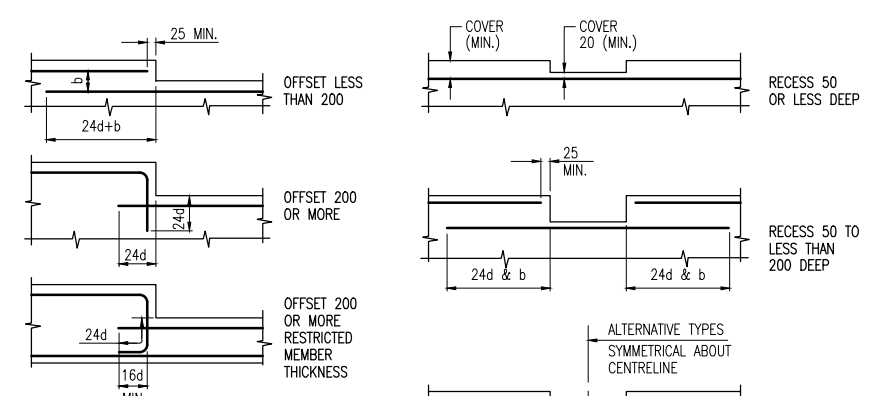


NOTE:  
D = DIAMETER OF BAR

TYPICAL HORIZONTAL SECTIONS SHOWING REINFORCING FOR CONCRETE BEAM, SLAB AND WALL INTERSECTIONS AT ENDS

DETAIL A S2

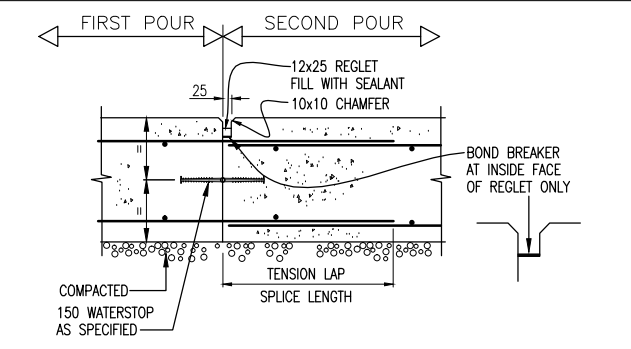
NOTE:  
WHERE DETAIL(S) SHOWN ON THE DRAWINGS DIFFER FROM THE DETAILS SHOWN ON THIS SHEET (S2), THEN THE DRAWING HAS PRIORITY.



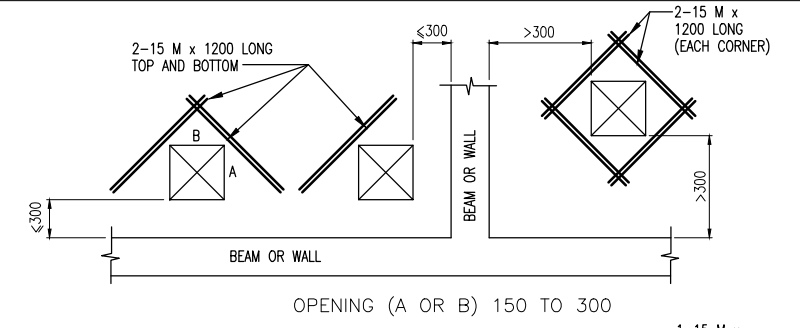
TYPICAL RIGHT ANGLE OFFSET DETAILS

TYPICAL RECESS DETAILS

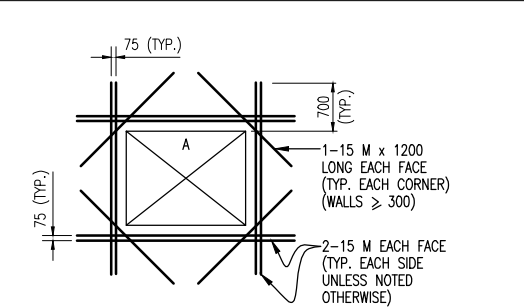
ANGLE	α	LENGTH	S
0° - 15°		12d	
15° - 30°		15d	
30° - 60°		19d	
60° - 75°		21d	
75° - 90°		24d	



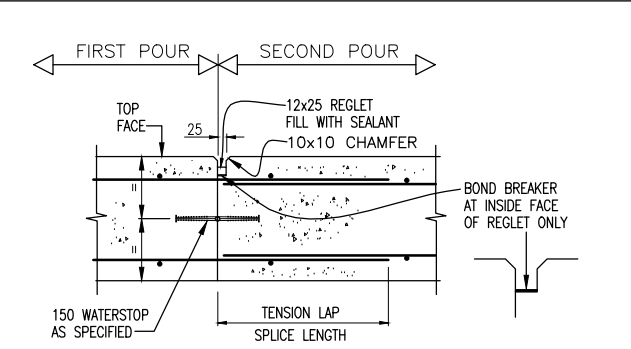
CONSTRUCTION JOINT FOR BASE SLAB FOR WATER AND SEWAGE RETAINING STRUCTURES



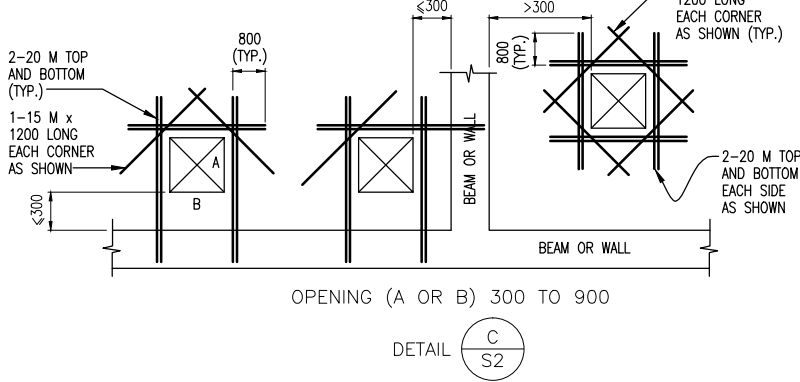
ADDITIONAL REINFORCING AROUND OPENING IN CONCRETE SLAB



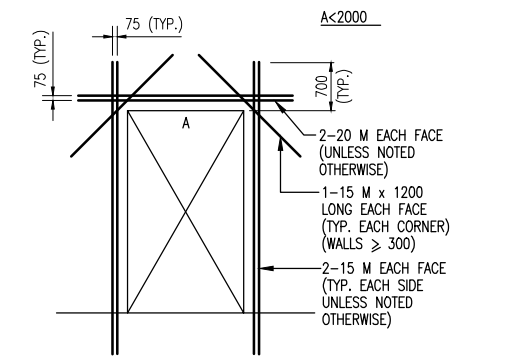
ELEVATION SHOWING EXTRA REINFORCING AROUND WALL OPENING



CONSTRUCTION JOINT FOR STRUCTURAL SLAB FOR WATER AND SEWAGE RETAINING STRUCTURES



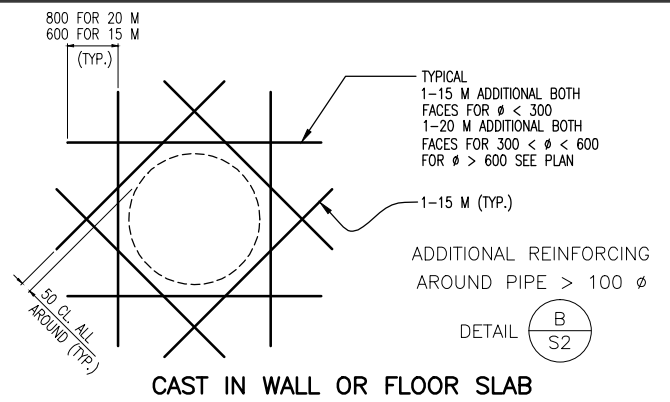
ADDITIONAL REINFORCING AROUND OPENING IN CONCRETE SLAB



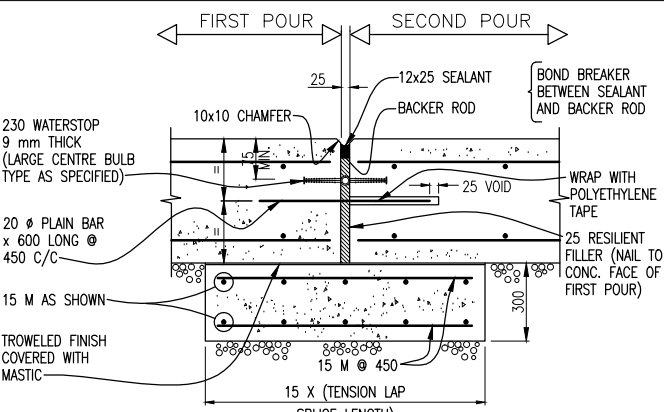
ELEVATION SHOWING EXTRA REINFORCING AROUND DOORWAY

TYPICAL ANGLE OFFSET DETAILS

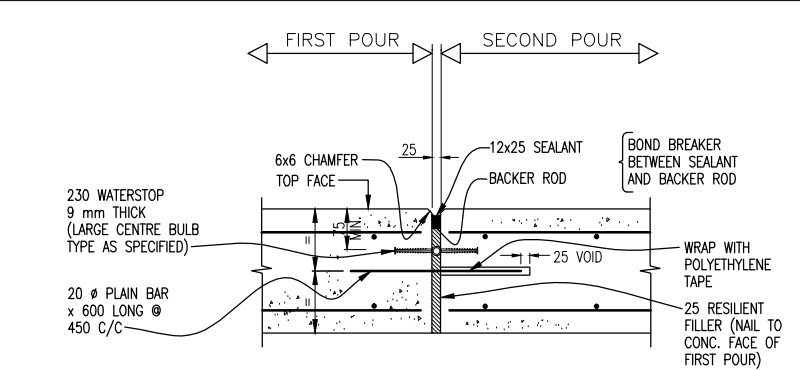
TYPICAL ANGLE OFFSET DETAILS



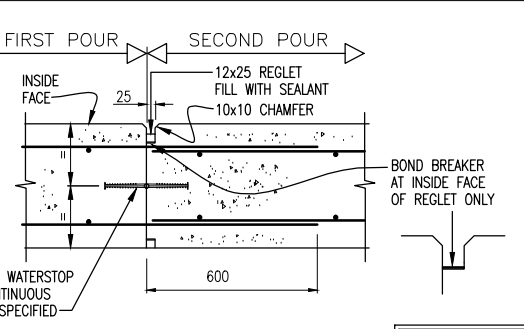
CAST IN WALL OR FLOOR SLAB



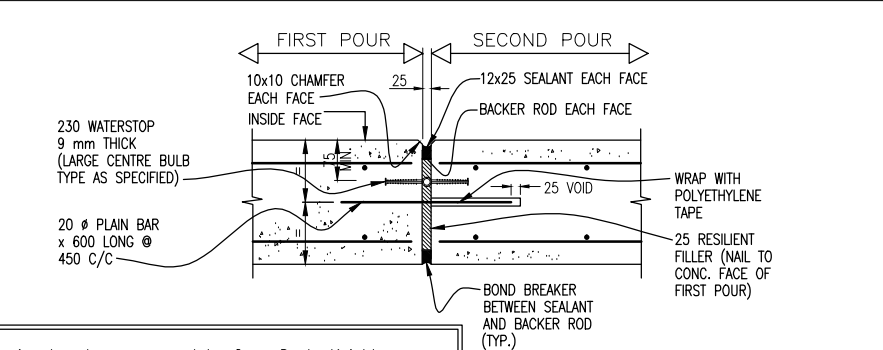
EXPANSION JOINT FOR BASE SLAB FOR WATER AND SEWAGE RETAINING STRUCTURES



EXPANSION JOINT FOR STRUCTURAL SLAB FOR WATER AND SEWAGE RETAINING STRUCTURES



CONSTRUCTION JOINT (VERTICAL) FOR WALL FOR WATER AND SEWAGE RETAINING STRUCTURES



EXPANSION JOINT (VERTICAL) FOR WALL FOR WATER AND SEWAGE RETAINING STRUCTURES

"This Record Drawing has been prepared by Opus DaytonKnight ("Opus DK") for the exclusive use of "Sunshine Coast Regional District" (the "Client"). Any use which a third party makes of this drawing, or any reliance or decisions or actions taken by any such third party based upon this drawing, are the sole responsibility of any such third party and Opus DK accepts no responsibility, liability or risk for any damages, loss, or claims, if any, suffered by any such third party or any related party of such third party as a result of any reliance, or decisions made or actions taken, based upon this drawing. It is the user's sole responsibility to check the accuracy of this digital drawing."

FILE: G:\D&K CAD Drawings\KESERVER P Share\Records\SUNSHINE COAST\28-199-0005\STRUCTURAL\28-199-0005\_S2.dwg, Top Model, 13-04-23, vcrb0

PLOT: FULL 1:50 HALF 1:100

ISSUE	DATE	DRAWN	CHK'D	APP'D	DESCRIPTION
A	JUL19/10	DC	CC	CC	ISSUED FOR REVIEW
B	AUG17/11	MC	CC	CC	ISSUED FOR TENDER
C	NOV25/11	RB	CC	CC	ISSUED FOR CONSTRUCTION

ISSUE	DATE	DRAWN	CHK'D	APP'D	DESCRIPTION
D	FEB22/13	GZ	CC	CC	RECORD DRAWING

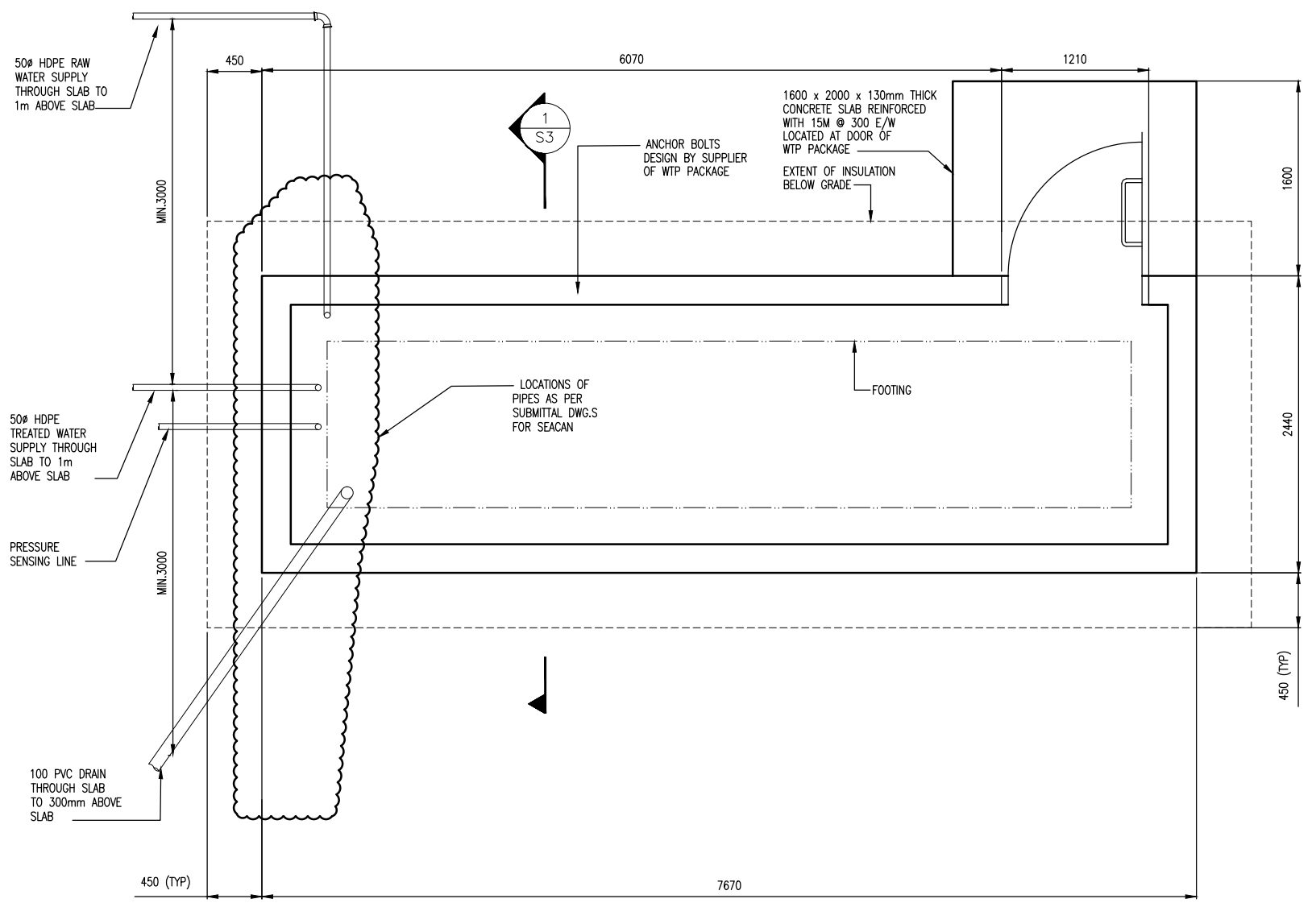
DESIGNED MR  
DRAWN DBC  
CHECKED MR

**OPUS DAYTONKNIGHT**  
North Vancouver Office 604-990-4800  
210-889 Harbourside Drive North Vancouver BC V7P 3S1, Canada

SUNSHINE COAST REGIONAL DISTRICT  
EGMONT COVE WATER SYSTEM UPGRADE  
GENERAL STRUCTURAL DETAILS

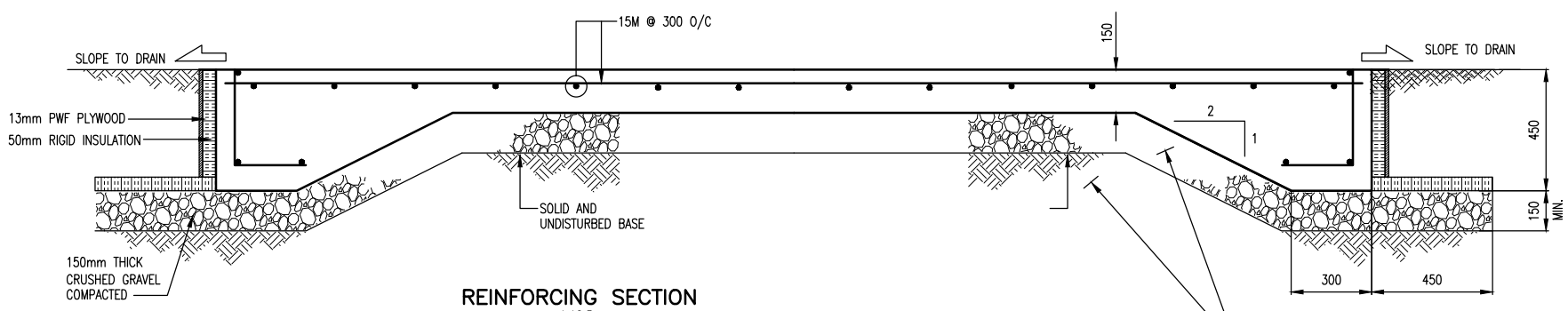
SCALE: NONE
DRAWING No. 028.199.0005
SHEET No. S2 ISSUE D

FILE: G:\Dak CAD Drawings\KESERVER P Share\Redesign\SUNSHINE COAST\28-199-0005\STRUCTURAL\28-199-0005\_S3.dwg, Tab: Model, 13-04-23, vcrab0



**CONCRETE PAD**  
1:25

" This Record Drawing has been prepared by Opus DaytonKnight ("Opus DK") for the exclusive use of "Sunshine Coast Regional District" (the "Client"). Any use which a third party makes of this drawing, or any reliance or decisions or actions taken by any such third party based upon this drawing, are the sole responsibility of any such third party and Opus DK accepts no responsibility, liability or risk for any damages, loss, or claims, if any, suffered by any such third party or any related party of such third party as a result of any reliance, or decisions made or actions taken, based upon this drawing. It is the user's sole responsibility to check the accuracy of this digital drawing."

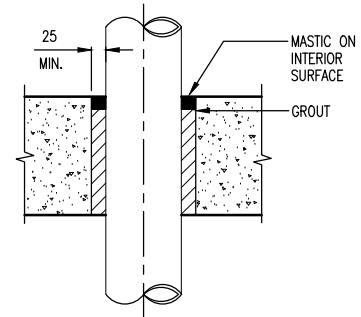


**REINFORCING SECTION**  
1:12.5

**NOTES :**  
 1. MINIMUM SOIL BEARING CAPACITY 100 kPa VERIFIED ON SITE.  
 2. ALL UNITS ARE MILLIMETRES.

SECTION 1/S3

FOR DETAILS SEE GEOTECHNICAL REPORT



**TYPICAL DETAIL FOR PIPE PASSING THROUGH FLOOR**  
NTS

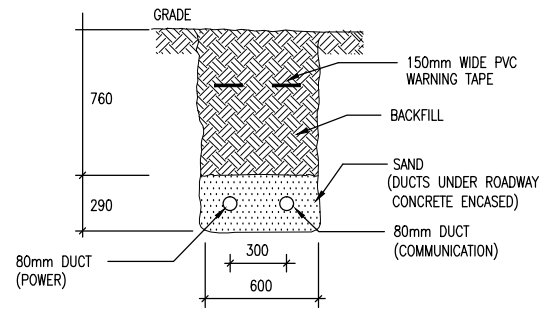
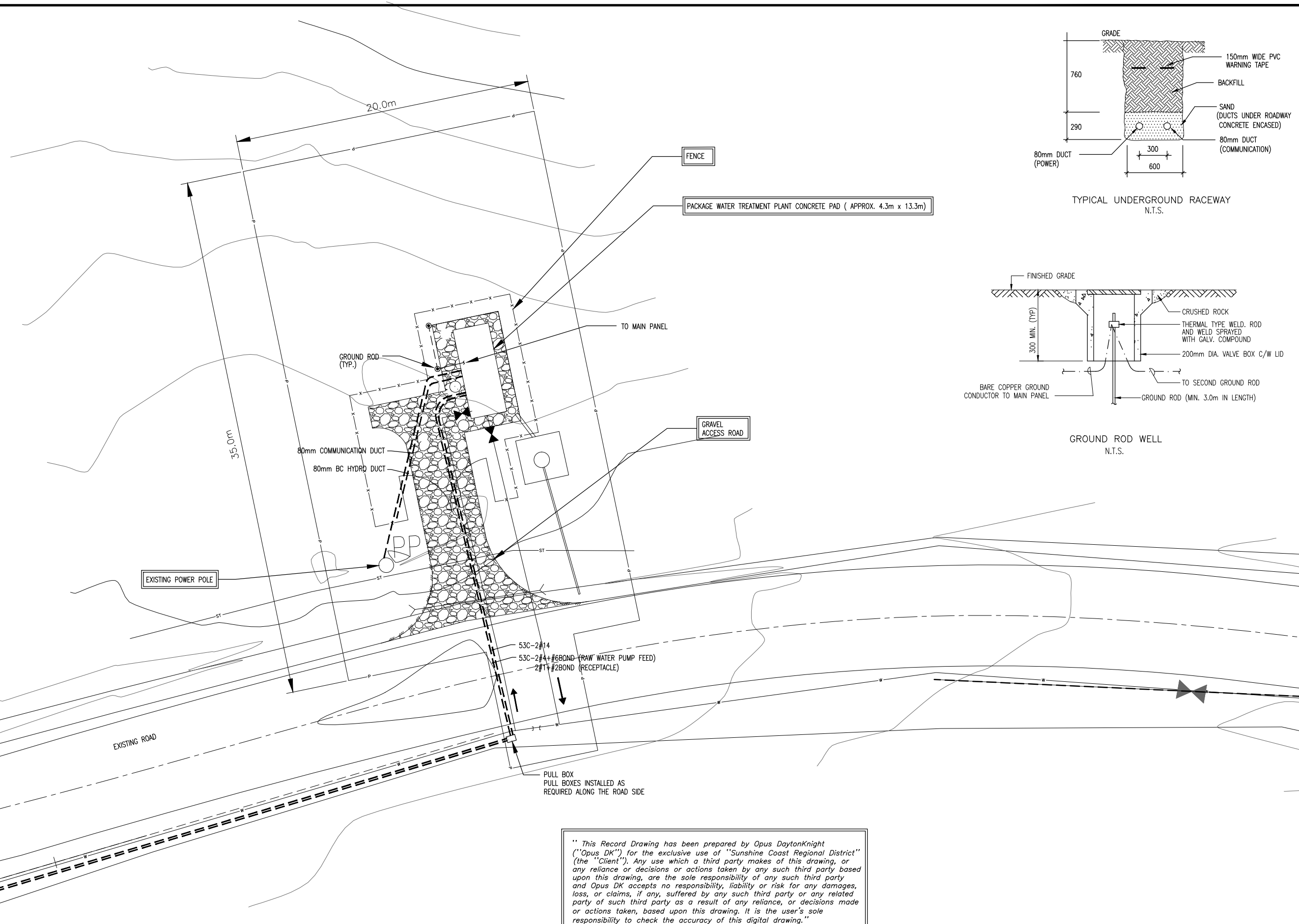
PLOT: FULL 1:25 HALF 1:50

ISSUE	DATE	DRAWN	CHK'D	APP'D	DESCRIPTION	ISSUE	DATE	DRAWN	CHK'D	APP'D	DESCRIPTION
A	JUL19/10	AD	CC	CC	ISSUED FOR REVIEW	D	FEB22/13	GZ	CC	CC	RECOED DRAWING
B	AUG17/11	MC	CC	CC	ISSUED FOR TENDER						
C	NOV25/11	RB	CC	CC	ISSUED FOR CONSTRUCTION						

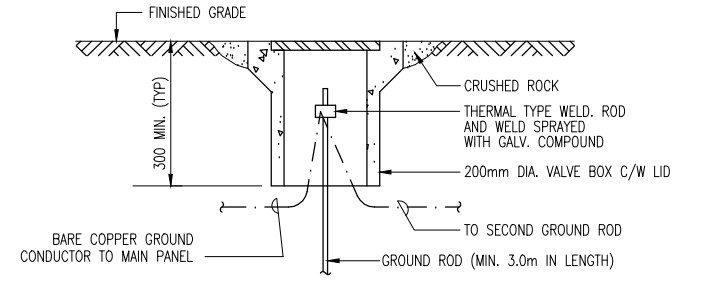
**OPUS DAYTONKNIGHT**  
 North Vancouver Office 604-990-4800  
 210-889 Harbourside Drive North Vancouver BC V7P 3S1, Canada

SUNSHINE COAST REGIONAL DISTRICT  
 EGMONT WATER SYSTEM UPGRADE  
 WTP - CONCRETE PAD - SECTION - DETAILS

SCALE: AS SHOWN		
DRAWING No. 028.199.0005		
SHEET No.	S3	ISSUE D



TYPICAL UNDERGROUND RACEWAY  
N.T.S.



GROUND ROD WELL  
N.T.S.

" This Record Drawing has been prepared by Opus DaytonKnight ("Opus DK") for the exclusive use of "Sunshine Coast Regional District" (the "Client"). Any use which a third party makes of this drawing, or any reliance or decisions or actions taken by any such third party based upon this drawing, are the sole responsibility of any such third party and Opus DK accepts no responsibility, liability or risk for any damages, loss, or claims, if any, suffered by any such third party or any related party of such third party as a result of any reliance, or decisions made or actions taken, based upon this drawing. It is the user's sole responsibility to check the accuracy of this digital drawing."

FILE: G:\Dak CAD Drawings\DKSERVER P\_Shine\Records\SUNSHINE COAST\28-199-0005\ELECTRICAL\E1.dwg, Tab: E1, 13-04-23, vcre80

PLOT: FULL 1:1 HALF 1:2

AutoCAD  
DRAWING

ISSUE	DATE	DRAWN	CHK'D	APP'D	DESCRIPTION	ISSUE	DATE	DRAWN	CHK'D	APP'D	DESCRIPTION
A	JUL7/11	AD	CC	CC	ISSUED FOR REVIEW	D	FEB22/13	GZ	TT	TT	RECORD DRAWING
B	AUG17/11	TT	TT	CC	ISSUED FOR TENDER						
C	NOV25/11	RB	TT	TT	ISSUED FOR CONSTRUCTION						

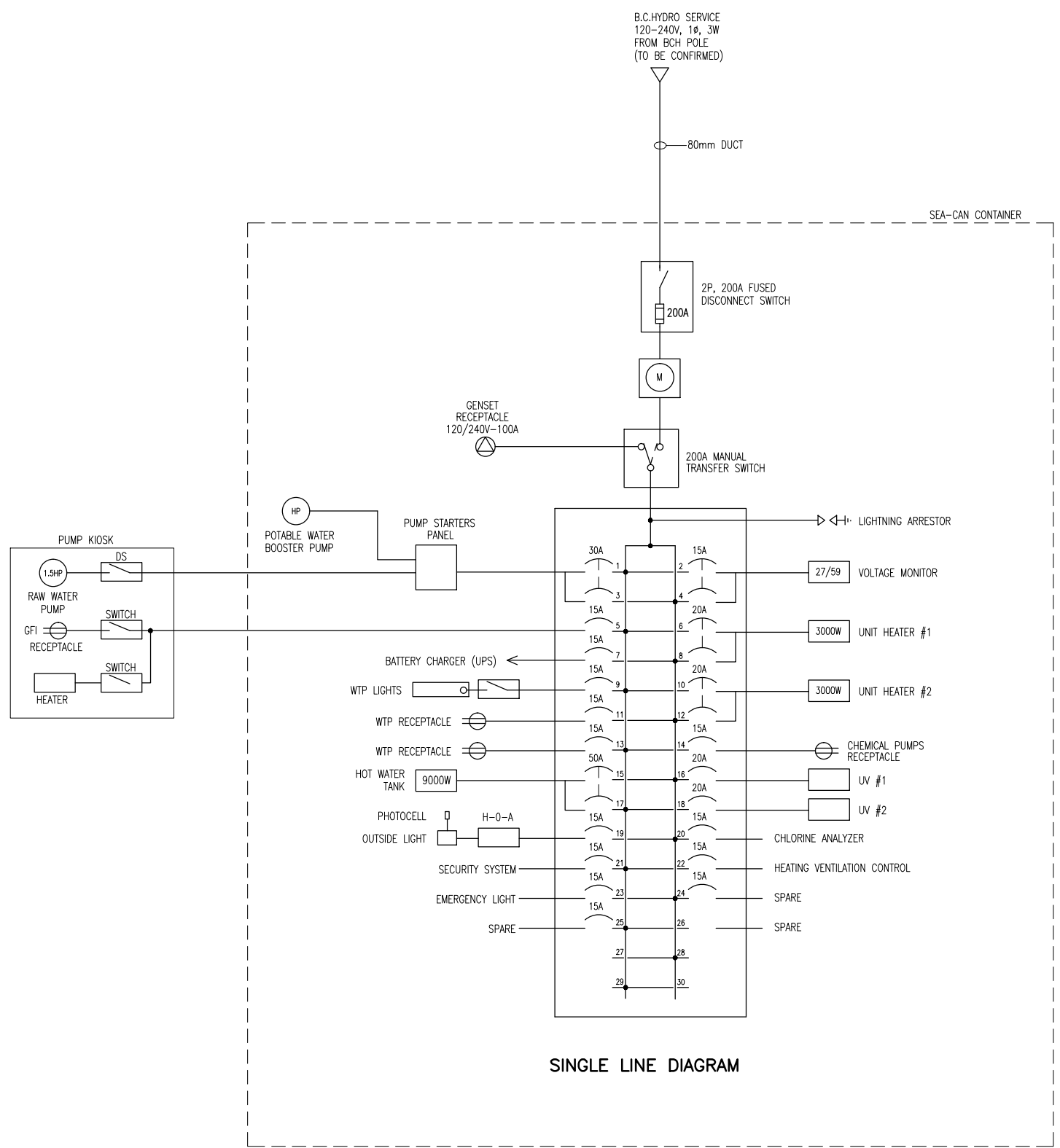
DESIGNED CC  
DRAWN AD  
CHECKED CC

**OPUS DAYTONKNIGHT**  
North Vancouver Office 604-990-4800  
210-889 Harbourside Drive North Vancouver BC V7P 3S1, Canada

SUNSHINE COAST REGIONAL DISTRICT  
EGMONT COVE WATER SYSTEM UPGRADE  
WTP SITE PLAN - UNDERGROUND RACEWAY

SCALE: 1:125
DRAWING No. 028.199.0005
SHEET No. E1 ISSUE D

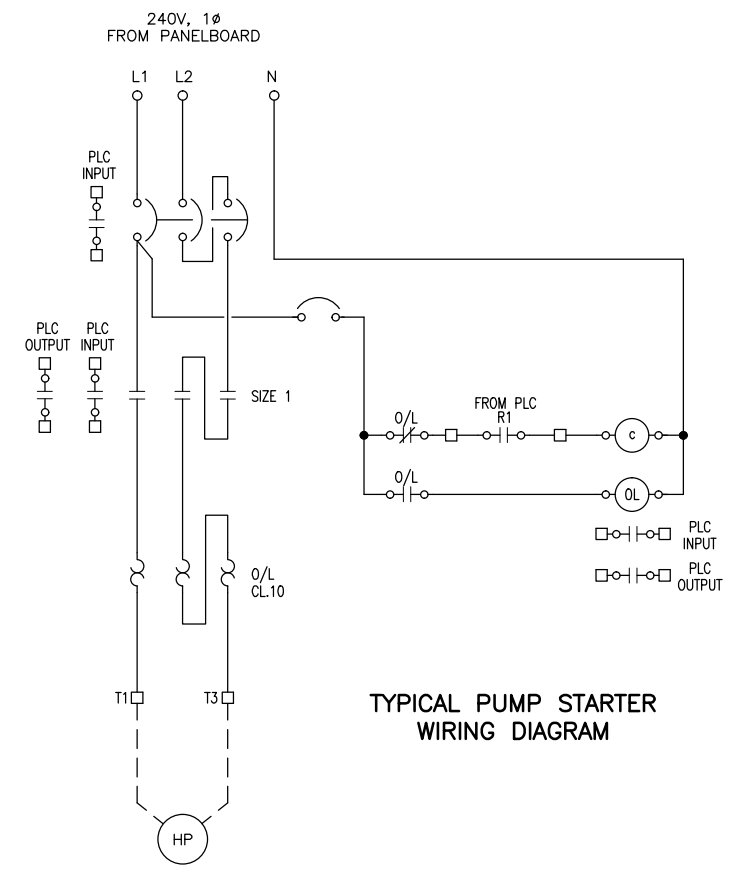
FILE: G:\Dak CAD Drawings\DKSERVER\ P\_Share\Records\SUNSHINE\_COAST\28-199-0005\ELECTRICAL\E2.dwg, Tab: Layout1, 13-04-23, vcrab0



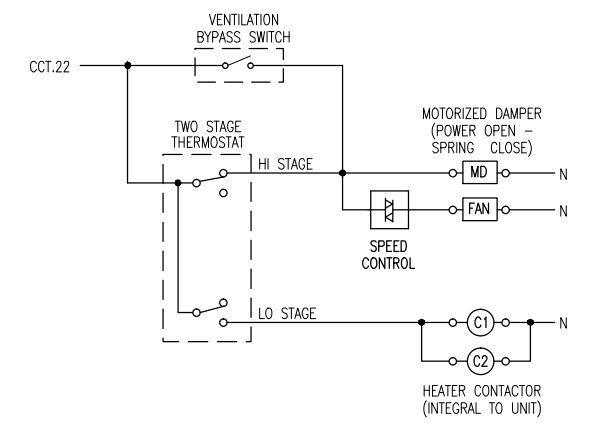
**SINGLE LINE DIAGRAM**

**NOTES:**  
 1. UNIT HEATERS AND CIRCUIT BREAKER SIZES TO BE CONFIRMED BY WTP PACKAGE SUPPLIER TO SUIT THE SYSTEM REQUIREMENTS.

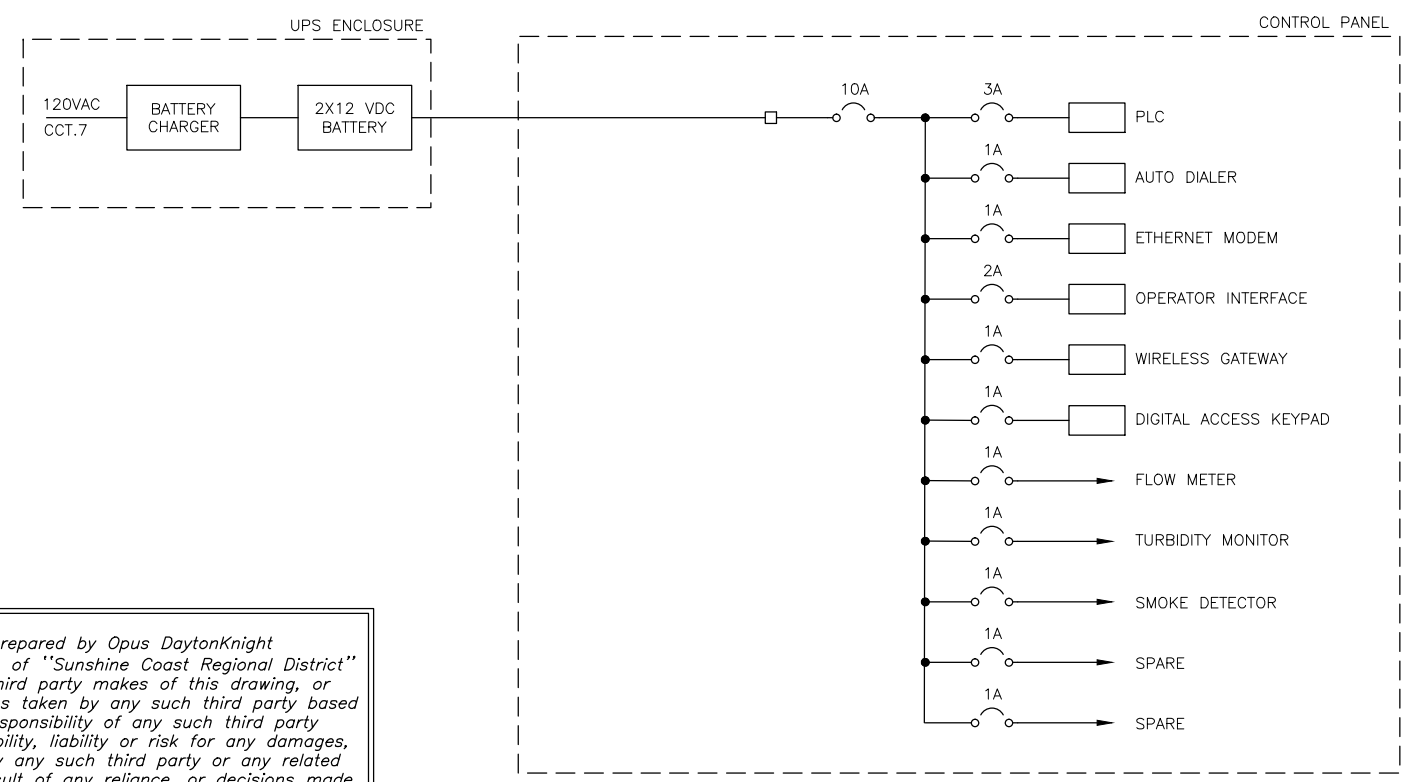
" This Record Drawing has been prepared by Opus DaytonKnight ("Opus DK") for the exclusive use of "Sunshine Coast Regional District" (the "Client"). Any use which a third party makes of this drawing, or any reliance or decisions or actions taken by any such third party based upon this drawing, are the sole responsibility of any such third party and Opus DK accepts no responsibility, liability or risk for any damages, loss, or claims, if any, suffered by any such third party or any related party of such third party as a result of any reliance, or decisions made or actions taken, based upon this drawing. It is the user's sole responsibility to check the accuracy of this digital drawing."



**TYPICAL PUMP STARTER WIRING DIAGRAM**



**TYPICAL HEATING AND VENTILATION CONTROL**



**INSTRUMENTATION POWER**

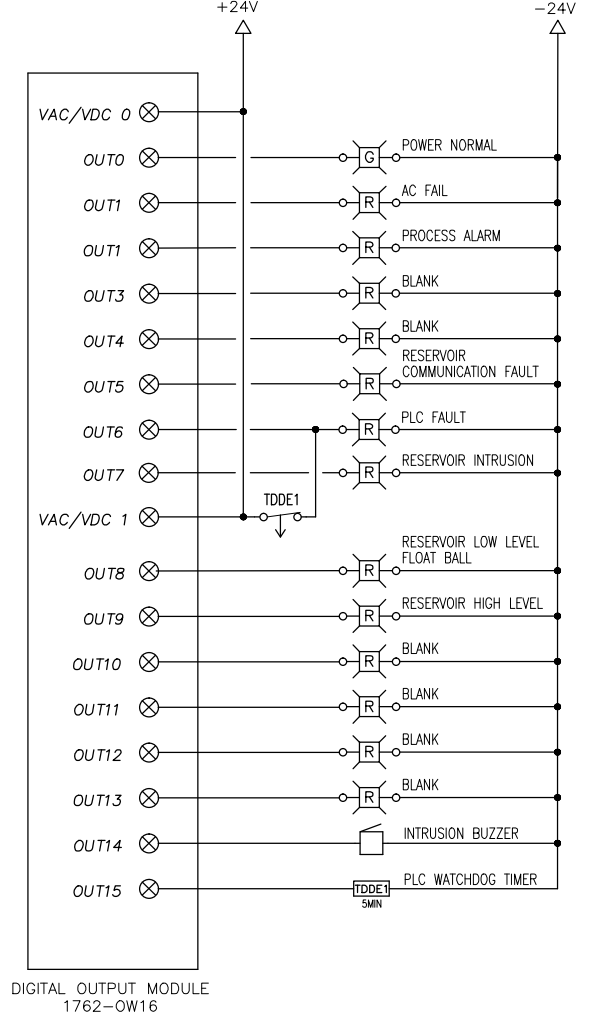
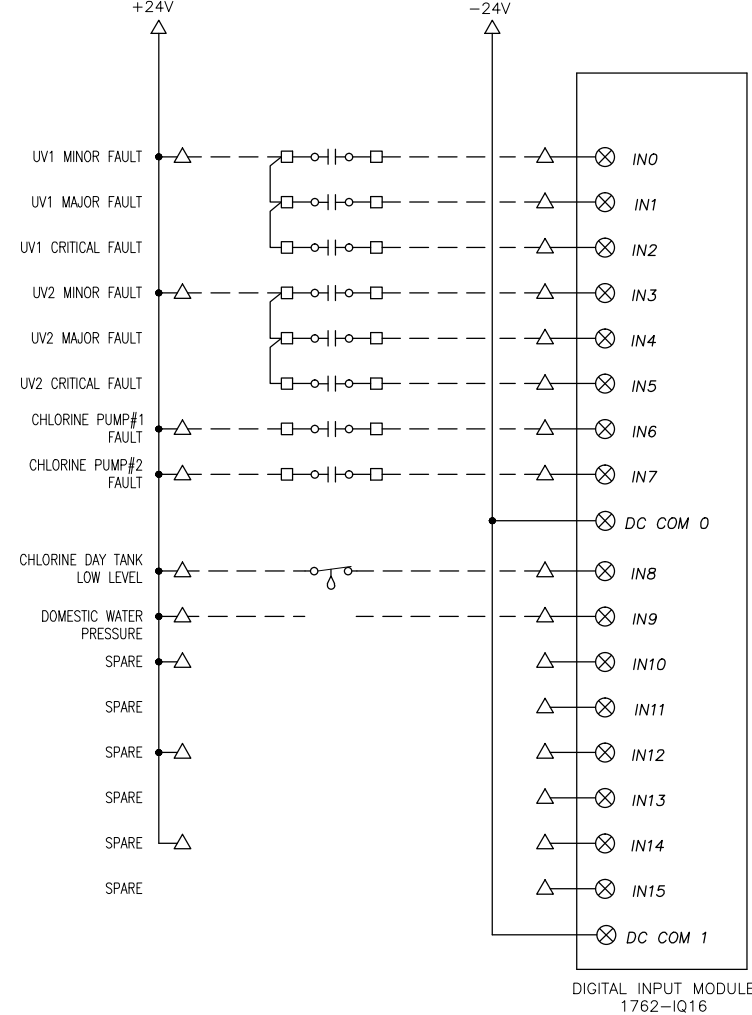
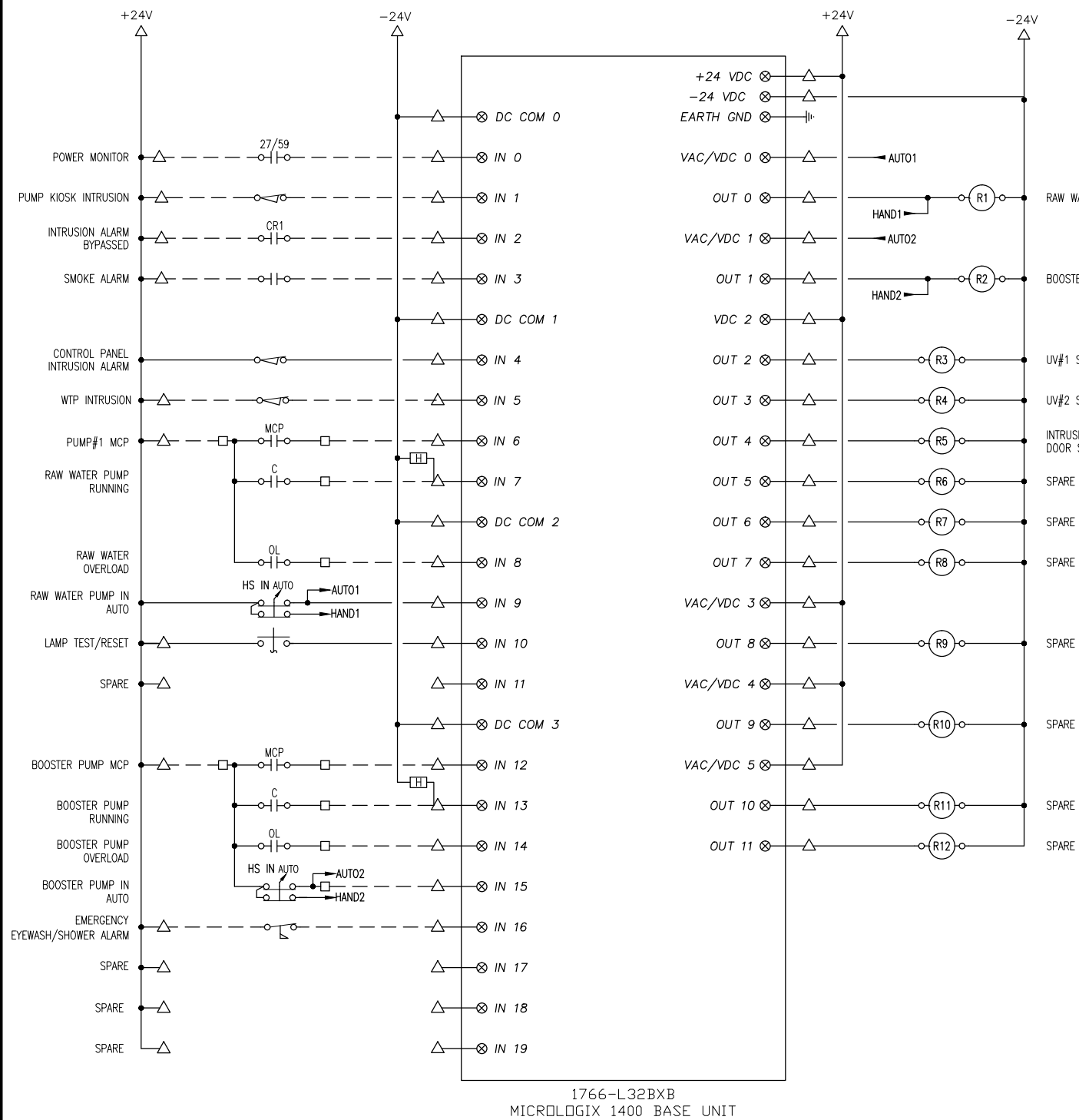
ISSUE	DATE	DRAWN	CHK'D	APP'D	DESCRIPTION	ISSUE	DATE	DRAWN	CHK'D	APP'D	DESCRIPTION	DESIGNED	TT	DRAWN	TT	CHECKED	CC
A	JUL19/10	DC	CC	CC	ISSUED FOR REVIEW	D	FEB22/13	GZ	TT	TT	RECORD DRAWING						
B	AUG17/11	TT	TT	CC	ISSUED FOR TENDER												
C	NOV25/11	RB	TT	TT	ISSUED FOR CONSTRUCTION												



SUNSHINE COAST REGIONAL DISTRICT  
 EGMONT COVE WATER SYSTEM UPGRADE  
 SINGLE LINE DIAGRAM AND MOTOR SCHEMATIC

SCALE: N.T.S.  
 DRAWING No. 028.199.0005  
 SHEET No. E2 ISSUE D

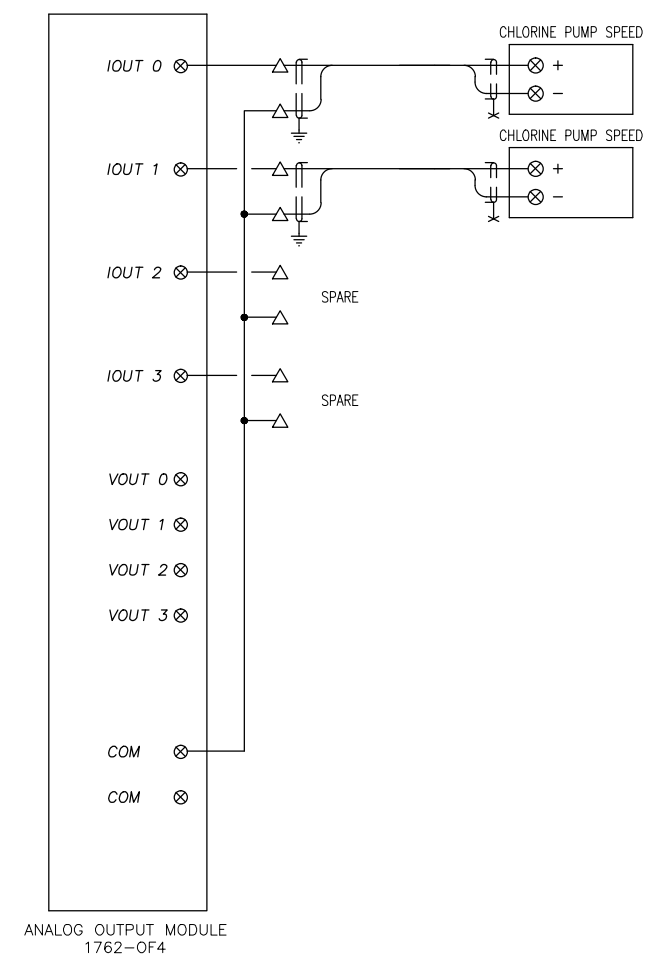
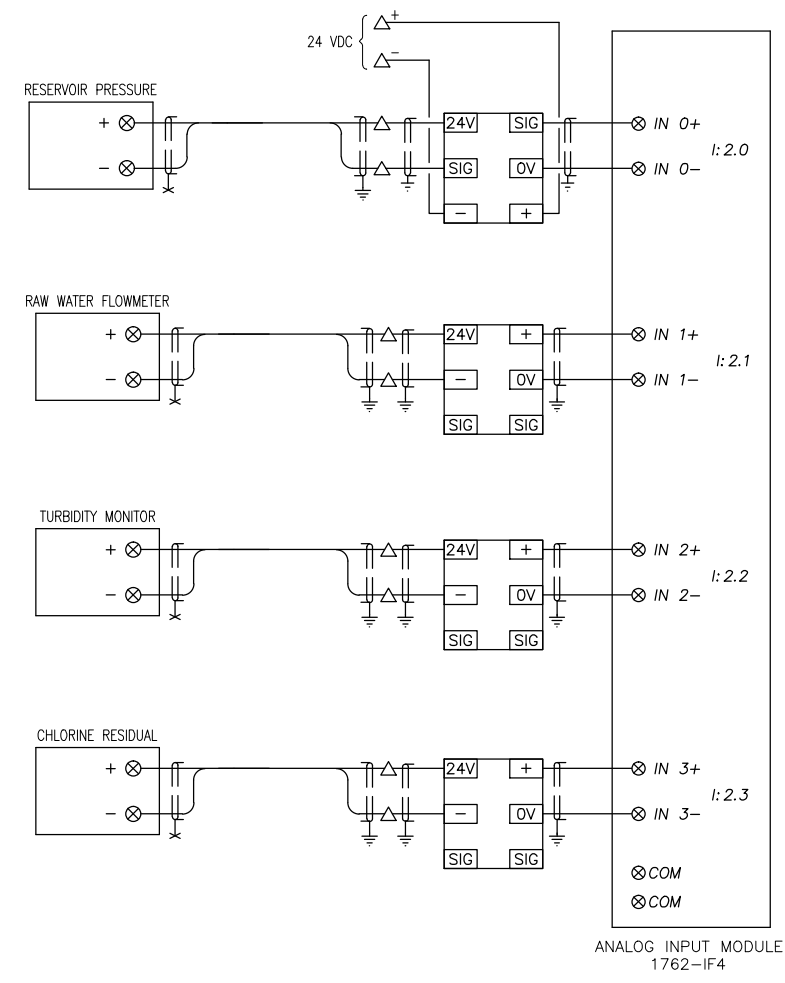
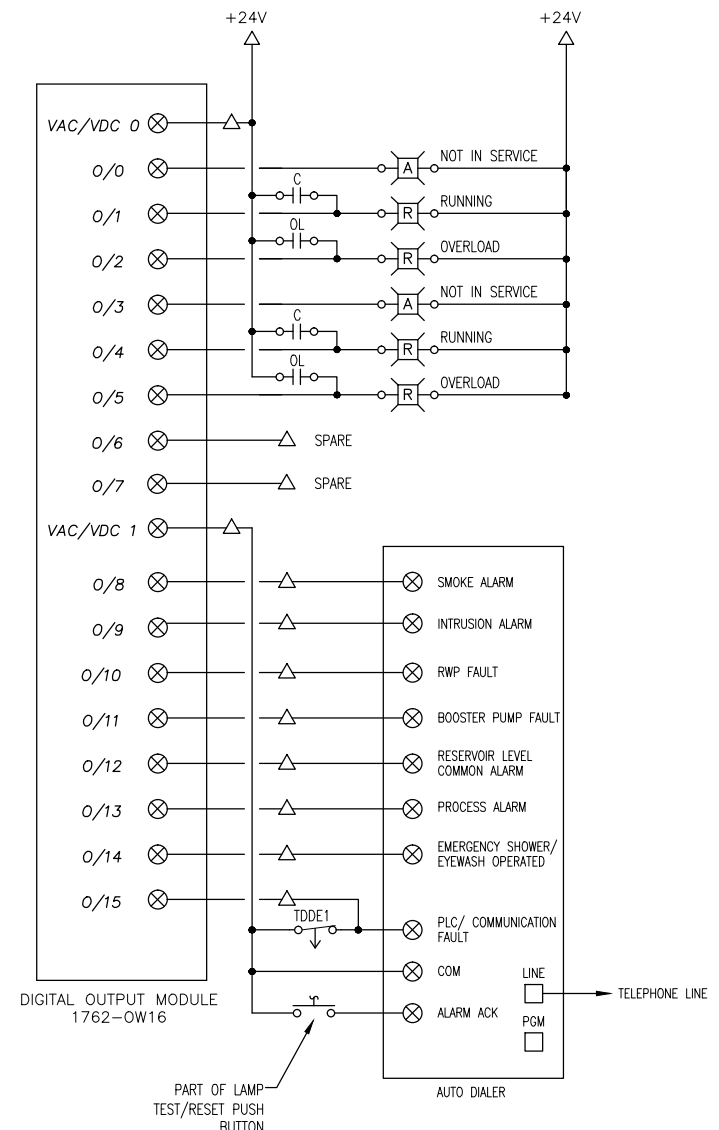
FILE: G:\Dak CAD Drawings\DKSERVER P Share\Records\SUNSHINE COAST\28-199-0005\ELECTRICAL\E3.dwg, Tab: Layout1, 13-04-23 vcrab0



MINIMUM PROPOSED PLC I/O

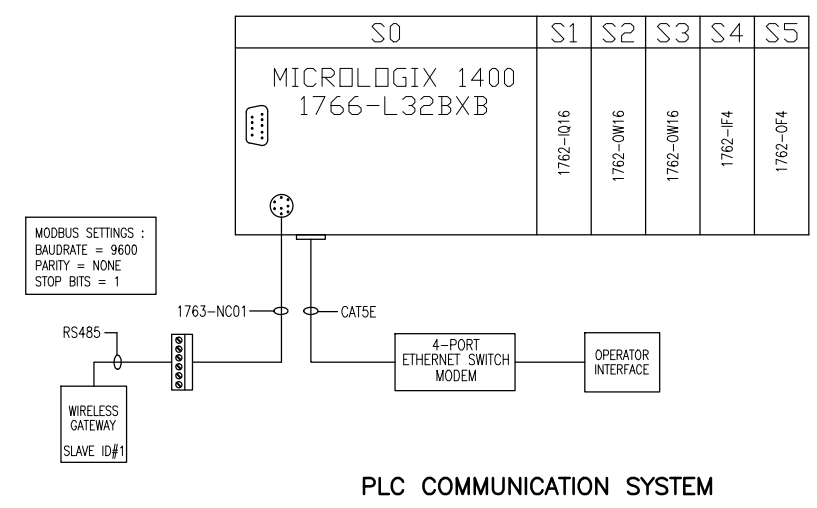
" This Record Drawing has been prepared by Opus DaytonKnight ("Opus DK") for the exclusive use of "Sunshine Coast Regional District" (the "Client"). Any use which a third party makes of this drawing, or any reliance or decisions or actions taken by any such third party based upon this drawing, are the sole responsibility of any such third party and Opus DK accepts no responsibility, liability or risk for any damages, loss, or claims, if any, suffered by any such third party or any related party of such third party as a result of any reliance, or decisions made or actions taken, based upon this drawing. It is the user's sole responsibility to check the accuracy of this digital drawing."

PLOT: FULL 2:1      HALF 1:1		<table border="1"> <thead> <tr> <th>ISSUE</th> <th>DATE</th> <th>DRAWN</th> <th>CHK'D</th> <th>APP'D</th> <th>DESCRIPTION</th> <th>ISSUE</th> <th>DATE</th> <th>DRAWN</th> <th>CHK'D</th> <th>APP'D</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>JUL19/10</td> <td>DC</td> <td>CC</td> <td>CC</td> <td>ISSUED FOR REVIEW</td> <td>D</td> <td>FEB22/13</td> <td>GZ</td> <td>TT</td> <td>TT</td> <td>RECORD DRAWING</td> </tr> <tr> <td>B</td> <td>AUG17/11</td> <td>TT</td> <td>TT</td> <td>CC</td> <td>ISSUED FOR TENDER</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>C</td> <td>NOV25/11</td> <td>RB</td> <td>TT</td> <td>TT</td> <td>ISSUED FOR CONSTRUCTION</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>										ISSUE	DATE	DRAWN	CHK'D	APP'D	DESCRIPTION	ISSUE	DATE	DRAWN	CHK'D	APP'D	DESCRIPTION	A	JUL19/10	DC	CC	CC	ISSUED FOR REVIEW	D	FEB22/13	GZ	TT	TT	RECORD DRAWING	B	AUG17/11	TT	TT	CC	ISSUED FOR TENDER							C	NOV25/11	RB	TT	TT	ISSUED FOR CONSTRUCTION							DESIGNED <u>TT</u> DRAWN <u>TT</u> CHECKED <u>CC</u>		<b>OPUS DAYTONKNIGHT</b> North Vancouver Office 604-990-4800 210-889 Harbourside Drive North Vancouver BC V7P 3S1, Canada		SUNSHINE COAST REGIONAL DISTRICT EGMONT COVE WATER SYSTEM UPGRADE PLC I/O		SCALE: N.T.S. DRAWING No. 028.199.0005 SHEET No. <b>E3</b> ISSUE <b>D</b>	
ISSUE	DATE	DRAWN	CHK'D	APP'D	DESCRIPTION	ISSUE	DATE	DRAWN	CHK'D	APP'D	DESCRIPTION																																																								
A	JUL19/10	DC	CC	CC	ISSUED FOR REVIEW	D	FEB22/13	GZ	TT	TT	RECORD DRAWING																																																								
B	AUG17/11	TT	TT	CC	ISSUED FOR TENDER																																																														
C	NOV25/11	RB	TT	TT	ISSUED FOR CONSTRUCTION																																																														



" This Record Drawing has been prepared by Opus DaytonKnight ("Opus DK") for the exclusive use of "Sunshine Coast Regional District" (the "Client"). Any use which a third party makes of this drawing, or any reliance or decisions or actions taken by any such third party based upon this drawing, are the sole responsibility of any such third party and Opus DK accepts no responsibility, liability or risk for any damages, loss, or claims, if any, suffered by any such third party or any related party of such third party as a result of any reliance, or decisions made or actions taken, based upon this drawing. It is the user's sole responsibility to check the accuracy of this digital drawing."

MINIMUM PROPOSED PLC I/O



PLC COMMUNICATION SYSTEM

FILE: G:\Dak CAD Drawings\DKSERVER\ P\_Share\Records\SUNSHINE COAST\28-199-0005\ELECTRICAL\E4.dwg Tab: Layout1.13-04-23 vcrab0

PLOT: FULL 2:1 HALF 1:1

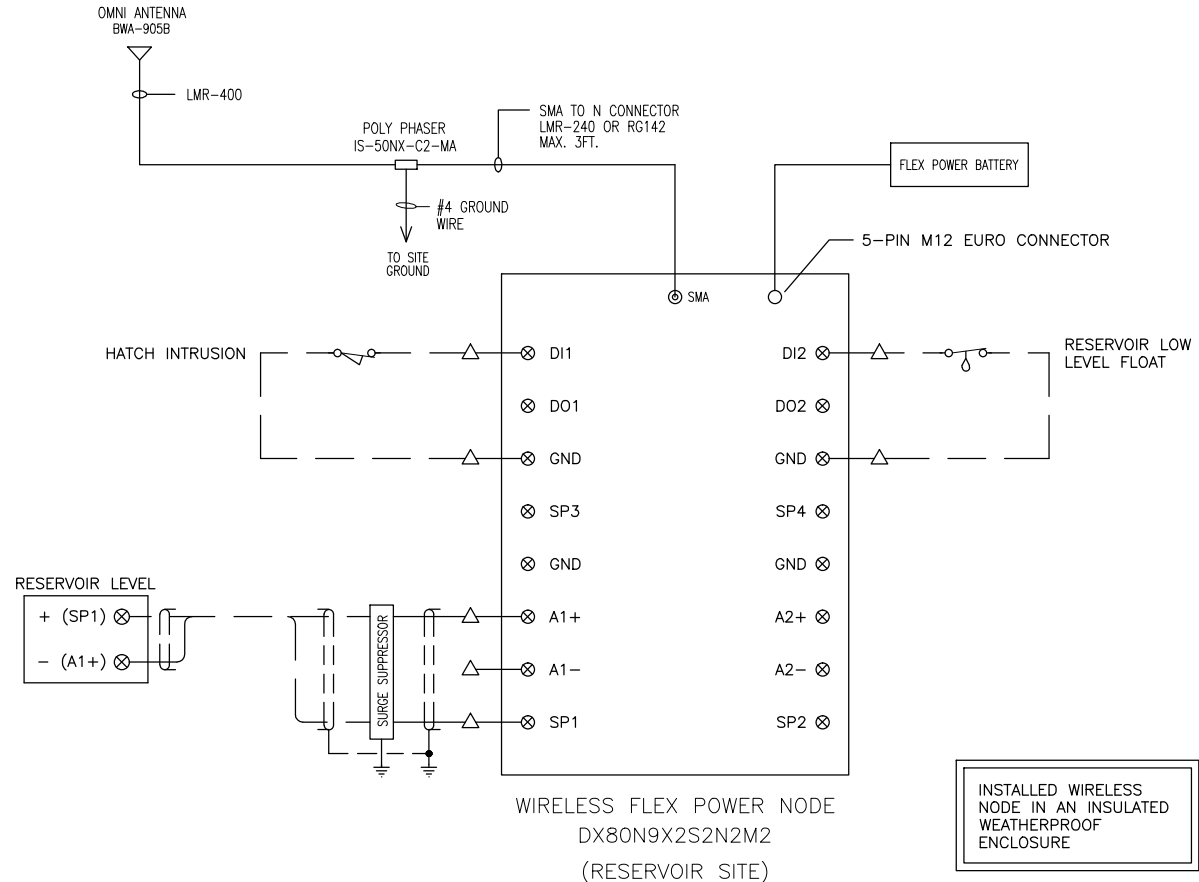
ISSUE	DATE	DRAWN	CHK'D	APP'D	DESCRIPTION	ISSUE	DATE	DRAWN	CHK'D	APP'D	DESCRIPTION
A	JUL19/10	DC	CC	CC	ISSUED FOR REVIEW	D	FEB22/13	GZ	TT	TT	RECORD DRAWING
B	AUG17/11	TT	TT	CC	ISSUED FOR TENDER						
C	NOV25/11	RB	TT	TT	ISSUED FOR CONSTRUCTION						

DESIGNED TT  
 DRAWN TT  
 CHECKED CC



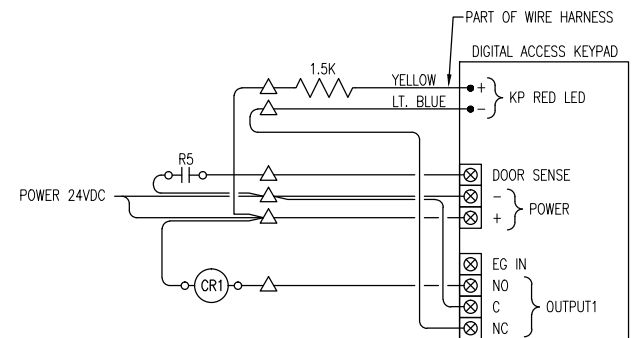
SUNSHINE COAST REGIONAL DISTRICT  
 EGMONT COVE WATER SYSTEM UPGRADE  
 PLC I/O

SCALE: N.T.S.		
DRAWING No. 028.199.0005		
SHEET No.	E4	ISSUE D

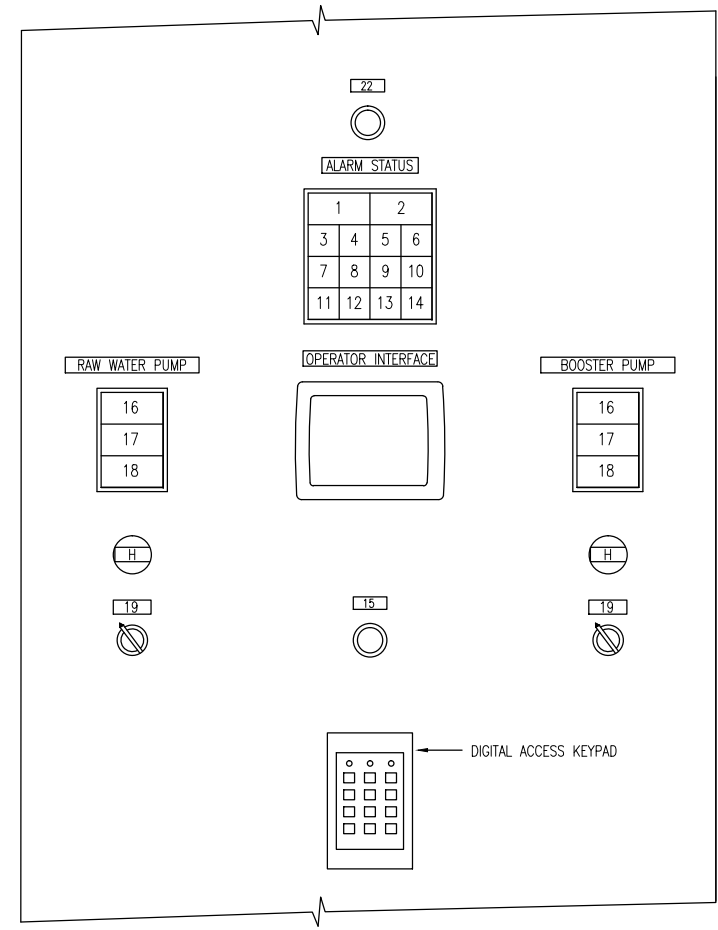


WIRELESS FLEX POWER NODE  
DX80N9X2S2N2M2  
(RESERVOIR SITE)

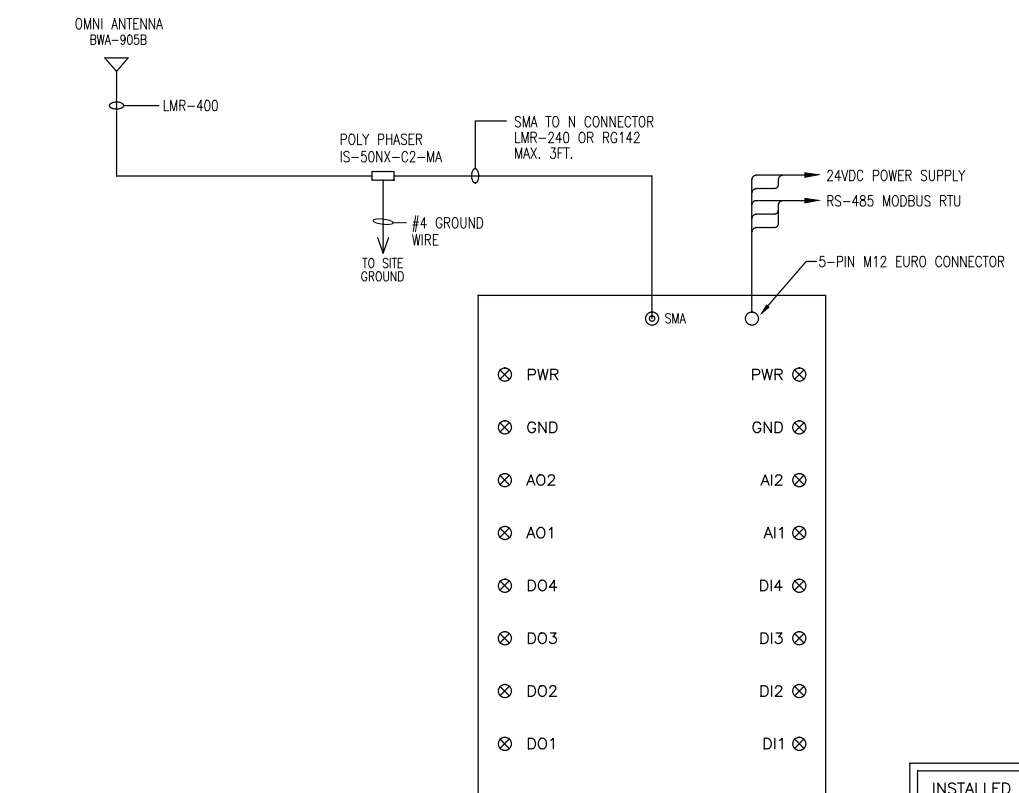
INSTALLED WIRELESS  
NODE IN AN INSULATED  
WEATHERPROOF  
ENCLOSURE



DIGITAL ACCESS KEYPAD WIRING



CONTROL PANEL LAYOUT  
NTS



WIRELESS GATEWAY  
DX80G9M6S4P4M2M2  
(SEA-CAN CONTAINER)

INSTALLED WIRELESS  
GATEWAY INSIDE  
CONTROL PANEL

" This Record Drawing has been prepared by Opus DaytonKnight ("Opus DK") for the exclusive use of "Sunshine Coast Regional District" (the "Client"). Any use which a third party makes of this drawing, or any reliance or decisions or actions taken by any such third party based upon this drawing, are the sole responsibility of any such third party and Opus DK accepts no responsibility, liability or risk for any damages, loss, or claims, if any, suffered by any such third party or any related party of such third party as a result of any reliance, or decisions made or actions taken, based upon this drawing. It is the user's sole responsibility to check the accuracy of this digital drawing."

NAMEPLATE LEGEND  
SCHEDULE

NAMEPLATE LEGEND SCHEDULE	DEVICE
1 POWER NORMAL	DISPLAY LIGHT, GREEN
2 AC FAIL	DISPLAY LIGHT, RED
3 PROCESS ALARM	DISPLAY LIGHT, RED
4 BLANK	DISPLAY LIGHT, RED
5 BLANK	DISPLAY LIGHT, RED
6 RESERVOIR COMMUNICATION FAULT	DISPLAY LIGHT, RED
7 PLC FAULT	DISPLAY LIGHT, RED
8 RESERVOIR INTRUSION	DISPLAY LIGHT, RED
9 RESERVOIR LOW LEVEL FLOAT BALL	DISPLAY LIGHT, RED
10 RESERVOIR HIGH LEVEL	DISPLAY LIGHT, RED
11 BLANK	DISPLAY LIGHT, RED
12 BLANK	DISPLAY LIGHT, RED
13 BLANK	DISPLAY LIGHT, RED
14 BLANK	DISPLAY LIGHT, RED
15 LAMP TEST/ ALARM	PUSH BUTTON, BLACK
16 NOT IN SERVICE	DISPLAY LIGHT, AMBER
17 RUNNING	DISPLAY LIGHT, GREEN
18 OVERLOAD	DISPLAY LIGHT, RED
19 H-O-A	3-POS SELECTOR SWITCH
20 BUZZER	INTRUSION BUZZER

FILE: G:\Dak CAD Drawings\KMSERVER P Share\Records\SUNSHINE COAST\28-199-0005\ELECTRICAL\E5.dwg Tab Layout1 13-04-23 vcrab0  
 AutoCAD DRAWING REVISIONS  
 PLOT: FULL 2:1 HALF 1:1

ISSUE	DATE	DRAWN	CHK'D	APP'D	DESCRIPTION	ISSUE	DATE	DRAWN	CHK'D	APP'D	DESCRIPTION
A	JUL19/10	DC	CC	CC	ISSUED FOR REVIEW	D	FEB22/13	GZ	TT	TT	RECORD DRAWING
B	AUG17/11	TT	TT	CC	ISSUED FOR TENDER						
C	NOV25/11	RB	TT	TT	ISSUED FOR CONSTRUCTION						

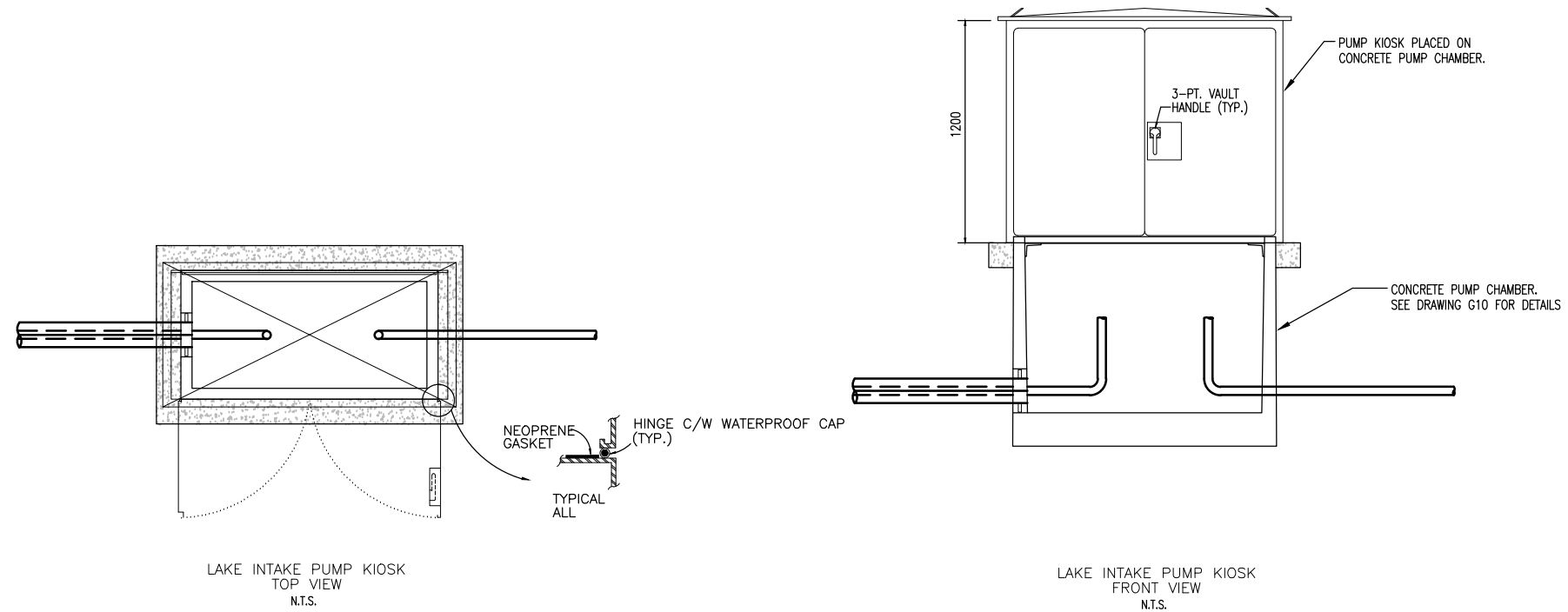
DESIGNED TT  
DRAWN TT  
CHECKED CC

**OPUS DAYTONKNIGHT**  
 North Vancouver Office 604-990-4800  
 210-889 Harbourside Drive North Vancouver BC V7P 3S1, Canada

SUNSHINE COAST REGIONAL DISTRICT  
EGMONT COVE WATER SYSTEM UPGRADE  
RADIO COMMUNICATION DIAGRAM AND CONTROL PANEL LAYOUT

SCALE: N.T.S.		
DRAWING No. 028.199.0005		
SHEET No.	E5	ISSUE D

FILE: G:\Dak CAD Drawings\DKSERVER P Share\Redesign\SUNSHINE COAST\28-199-0005\ELECTRICAL\E6.dwg, Tab: E6, 13-04-23, vcreb0



" This Record Drawing has been prepared by Opus DaytonKnight ("Opus DK") for the exclusive use of "Sunshine Coast Regional District" (the "Client"). Any use which a third party makes of this drawing, or any reliance or decisions or actions taken by any such third party based upon this drawing, are the sole responsibility of any such third party and Opus DK accepts no responsibility, liability or risk for any damages, loss, or claims, if any, suffered by any such third party or any related party of such third party as a result of any reliance, or decisions made or actions taken, based upon this drawing. It is the user's sole responsibility to check the accuracy of this digital drawing."

PLOT: FULL 1:100 HALF 1:200

ISSUE	DATE	DRAWN	CHK'D	APP'D	DESCRIPTION	ISSUE	DATE	DRAWN	CHK'D	APP'D	DESCRIPTION
A	AUG17/11	TT	TT	CC	ISSUED FOR TENDER						
B	NOV25/11	RB	TT	CC	ISSUED FOR CONSTRUCTION						
C	FEB22/13	GZ	TT	TT	RECORD DRAWING						

DESIGNED TT  
 DRAWN TT  
 CHECKED CC

**OPUS DAYTONKNIGHT**  
 North Vancouver Office 210-889 Harbourside Drive  
 604-990-4800 North Vancouver BC  
 V7P 3S1, Canada

SUNSHINE COAST REGIONAL DISTRICT  
 EGMONT COVE WATER SYSTEM UPGRADE  
 PUMP KIOSK

SCALE: AS SHOWN		
DRAWING No. 028.199.0005		
SHEET No.	E6	ISSUE C