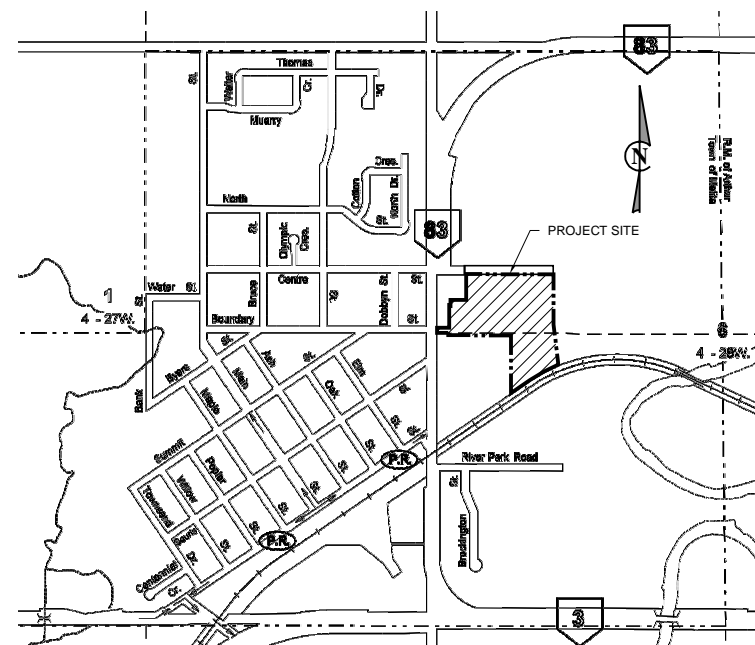


# BURNS MAENDEL CONSULTING ENGINEERS LTD.

1331 Princess Ave.  
Brandon, Manitoba  
R7A 0R4  
Tel: (204) 728-7364  
Fax: (204) 728-4418



## PTI GROUP INC. MELITA LODGE PHASE 1 SITE SERVICES MELITA, MB



CIVIL DRAWINGS		
DWG NO.	DRAWING NAME	REV
C2.1	SEWER SERVICES PLAN	1
C2.2	SEWER TANK FARM PLAN	0
C2.3	SEWER PROFILES	0
C2.4	SEWER PROFILES	0
C2.5	SEWER PROFILES	0
C2.6	SEWER SECTIONS & DETAILS	0
C2.7	SEWER SECTIONS & DETAILS	0
C2.8	SEWER SECTIONS & DETAILS	0
C3.1	WATER SERVICE PLAN	0
C3.2	WATER TANK FARM PLAN	0
C3.3	WATER SECTIONS & DETAILS	0
C3.4	WATER SECTIONS & DETAILS	0

MECHANICAL DRAWINGS		
DWG NO.	DRAWING NAME	REV
M1.1	POTABLE WATER & SANITARY GENERAL ARRANGEMENT PLAN	0
M1.2	POTABLE WATER & SANITARY GENERAL ARRANGEMENT PLAN	0
M1.3	POTABLE WATER & SANITARY GENERAL ARRANGEMENT PLAN	0
M1.4	POTABLE WATER & SANITARY GENERAL ARRANGEMENT PLAN	0
M1.5	POTABLE WATER & SANITARY LIFT STATION DETAILS	0
M1.6	POTABLE WATER & SANITARY DETAILS	0
M1.7	PROPANE DISTRIBUTION GENERAL ARRANGEMENT PLAN	0
M2.1	SERVICES BUILDING VENTILATION GENERAL ARRANGEMENT PLAN	0
PFD1	POTABLE WATER SYSTEM FLOW SCHEMATIC	0
PFD2	SEWAGE PUMPING/STORAGE/TRANSFER SYSTEM FLOW SCHEMATIC	0

PROJECT DESCRIPTION	
DATE	PROJECT NO:
JULY 26, 2013	BMCE12-061

PROJECT CONTROL POINTS			
DESCRIPTION	NORTHING	EASTING	ELEVATION
FIP-01	5096.08	5109.35	446.06
FIP-02	5166.09	5347.91	441.80
FIP-03	4999.36	5231.29	440.53
TBM-01	T.B.D.	T.B.D.	T.B.D.
TBM-02	T.B.D.	T.B.D.	T.B.D.
TBM-03	T.B.D.	T.B.D.	T.B.D.

TO BE INSTALLED ON SITE PRIOR TO CONSTRUCTION

- GENERAL NOTES:**
- DECIMALIZED NUMBERS INDICATE METERS AND WHOLE NUMBERS INDICATE MILLIMETRES.
  - TOPOGRAPHIC SURVEY DATA PROVIDED BY ALTUS GEOMATICS.
  - GEODETIC BENCH MARK 98R059 ELEVATION = 444.542.
  - LOCATIONS OF EXISTING UNDERGROUND STRUCTURES AND SERVICES AS SHOWN ARE BASED ON THE BEST AVAILABLE INFORMATION. NO GUARANTEE IS GIVEN THAT ALL EXISTING UTILITIES ARE SHOWN OR THAT LOCATIONS ARE EXACT.
  - CONFIRMATION OF EXISTENCE AND EXACT LOCATION OF ALL SERVICES MUST BE OBTAINED FROM THE INDIVIDUAL UTILITIES BEFORE PROCEEDING WITH CONSTRUCTION.

- CONSTRUCTION NOTES:**
- ALL CONSTRUCTION WITHIN PUBLIC RIGHT OF WAY TO CONFORM WITH THE CURRENT TOWN OF MELITA STANDARD CONSTRUCTION SPECIFICATIONS.
  - CONTRACTOR TO OBTAIN ALL PERMITS.
  - CONTRACTOR TO CLEAR ALL UTILITIES BEFORE EXCAVATING.
  - CONTRACTOR TO PROVIDE ENGINEER WITH AS BUILT PRINT OF COMPLETED WORKS.
  - REMOVE UNSUITABLE SITE MATERIALS AS REQUIRED.
  - ALL PVC PIPE SHALL BE DR 35 UNLESS NOTED OTHERWISE

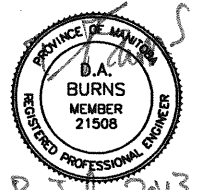
- TANK FARM LEGEND:**
- A. 26000 GAL. POTABLE WATER STORAGE TANK
  - B. 26000 GAL FIRE SUPPRESSION WATER STORAGE TANK
  - C. SERVICES BUILDING
  - D. 26000 GAL. WASTEWATER HOLDING TANK c/w SECONDARY CONTAINMENT
  - E. GENERATOR W/ DIESEL TANK
  - F. CSTE
  - G. TRANSFORMER
  - H. LIQUID PROPANE STORAGE TANK
  - I. VAPORIZER

MANHOLE SCHEDULE				
DESCRIPTION	NORTHING	EASTING	RIM EL.	INVERTS
LS-01	5066.58	5230.12	444.10	W INV IN = 439.15 E INV IN = 438.80
MH-01	5118.20	5167.22	443.25	S INV OUT = 440.40
MH-02	5066.58	5167.22	443.35	N INV IN = 439.88 S INV IN = 439.88 E INV OUT = 439.78
MH-03	5113.86	5257.95	443.35	W INV IN = 439.94 S INV OUT = 439.84
MH-04	5066.53	5257.95	443.35	NE INV IN = 439.14 N INV IN = 439.18 W INV OUT = 439.08
MH-05	5083.05	5296.29	442.65	N INV IN = 439.57 SW INV OUT = 439.47
MH-06	5153.59	5296.29	442.98	S INV OUT = 440.13

SANITARY RISER SCHEDULE							
DESCRIPTION	NORTHING	EASTING	ELEVATION	DESCRIPTION	NORTHING	EASTING	ELEVATION
UNIT A NORTH	5114.93	5167.22	443.8	UNIT F NORTH	5114.02	5296.29	443.8
UNIT A SOUTH	5105.71	5167.22	443.8	UNIT F SOUTH	5104.80	5296.29	443.8
UNIT B NORTH	5096.58	5167.22	443.8	UNIT G	5091.06	5296.22	443.8
UNIT B SOUTH	5087.36	5167.22	443.8	LOBBY	5123.91	5225.64	443.8
UNIT C NORTH	5078.20	5167.22	443.8	REC	5114.07	5210.63	443.8
UNIT C SOUTH	5068.98	5167.22	443.8	KITCHEN NORTH	5113.94	5239.15	443.8
UNIT D NORTH	5151.17	5296.29	443.8	KITCHEN MID	5085.40	5239.15	443.8
UNIT D SOUTH	5141.95	5296.29	443.8	KITCHEN SOUTH	5060.00	5239.15	443.8
UNIT E NORTH	5132.82	5296.29	443.8	LAUNDRY	5073.91	5223.53	443.8
UNIT E SOUTH	5123.60	5296.29	443.8				

NO.	DATE	APP.	BY	DESCRIPTION
0	JULY 8, 2013	D.B.	J.K.	ISSUED FOR TENDER
C	JUNE 26, 2013	D.B.	J.K.	ISSUED FOR CLIENT REVIEW
B	MAY 31, 2013	D.B.	J.K.	ISSUED FOR CLIENT REVIEW
A	MAY 21, 2013	D.B.	J.K.	ISSUED FOR CLIENT REVIEW

**APEGN**  
 Certificate of Authorization  
 Burns Maendel Consulting  
 Engineers Ltd.  
 No. 4559 Expiry: April 30, 2014



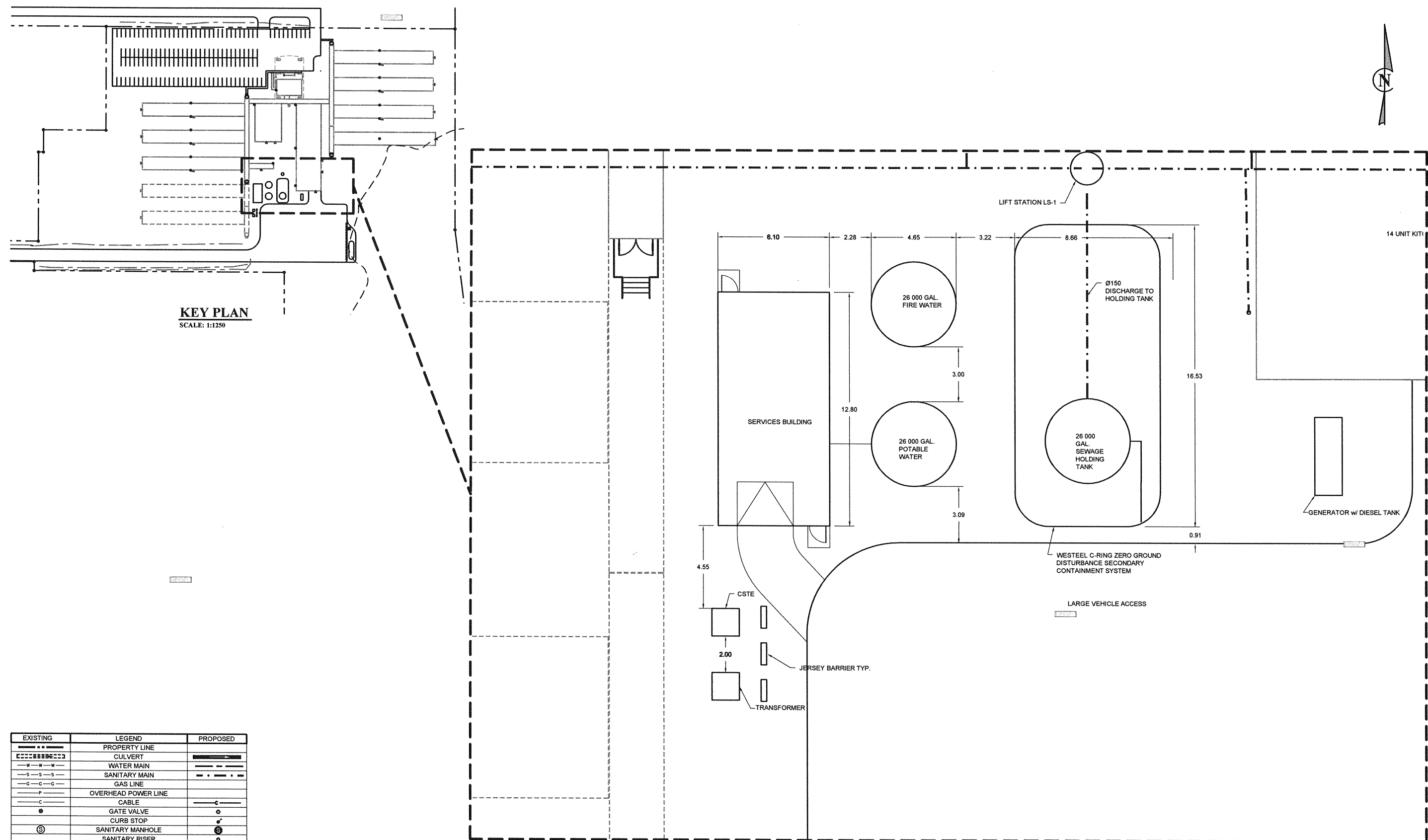
DESIGNED BY: J.A.  
 REVIEWED BY: D.B.  
 DRAWN BY: J.K.  
 PROJECT START DATE: APRIL 2013  
 PLOT SIZE: A1 (594x841)  
 SCALE: 1:500

PROJECT NAME: **PTI GROUP INC**  
**MELITA LODGE, MELITA MB**  
**PTI PROJECT # 10050**

1331 Princess Ave.  
 Brandon, Manitoba  
 R7A 0R4  
**BURNS MAENDEL CONSULTING ENGINEERS LTD.**  
 Tel: (204) 728-7364  
 Fax: (204) 728-4418

DRAWING TITLE: **SITE SERVICES**  
**SANITARY SEWER SERVICE PLAN**

PROJECT NUMBER: **BMCE12-061**  
 DRAWING NO: **C2.1**



**KEY PLAN**  
SCALE: 1:1250

**TANK FARM PLAN**  
SCALE: 1:100

EXISTING	LEGEND	PROPOSED
----	PROPERTY LINE	----
-----	CULVERT	-----
W-W-W	WATER MAIN	W-W-W
S-S-S	SANITARY MAIN	S-S-S
G-G-G	GAS LINE	G-G-G
P	OVERHEAD POWER LINE	P
C	CABLE	C
o	GATE VALVE	o
o	CURB STOP	o
o	SANITARY MANHOLE	o
o	SANITARY RISER	o
o	WATER RISER	o
o	HYDRANT	o
o	POWER POLE	o

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REVISIONS				

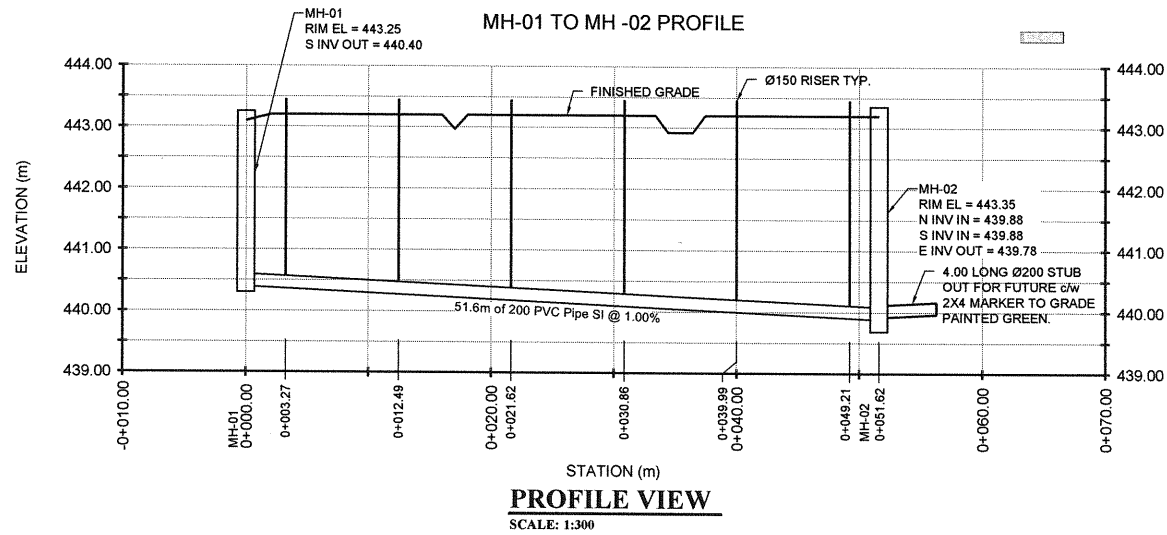
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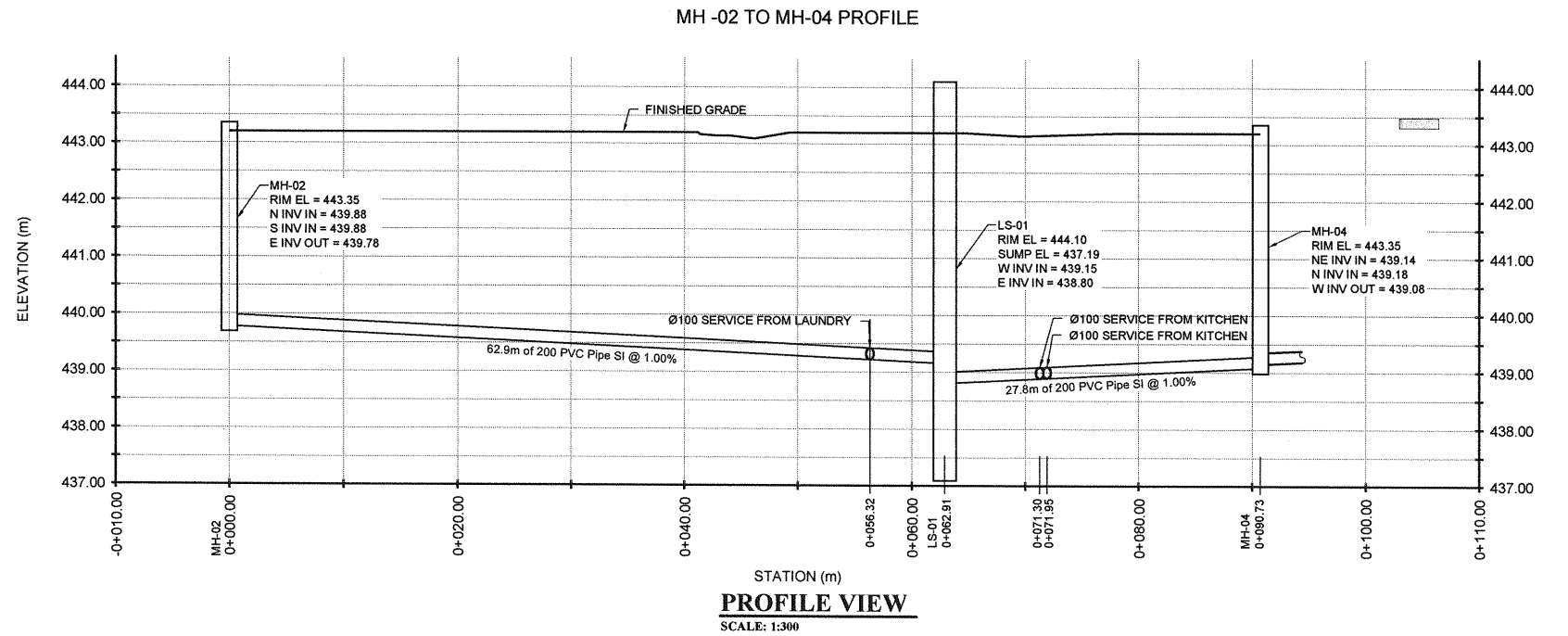
DESIGNED BY: J.A.  
REVIEWED BY: D.B.  
DRAWN BY: J.K.  
PROJECT START DATE: JULY 23, 2012  
PLOT SIZE: A1 (594x841)  
SCALE: AS NOTED

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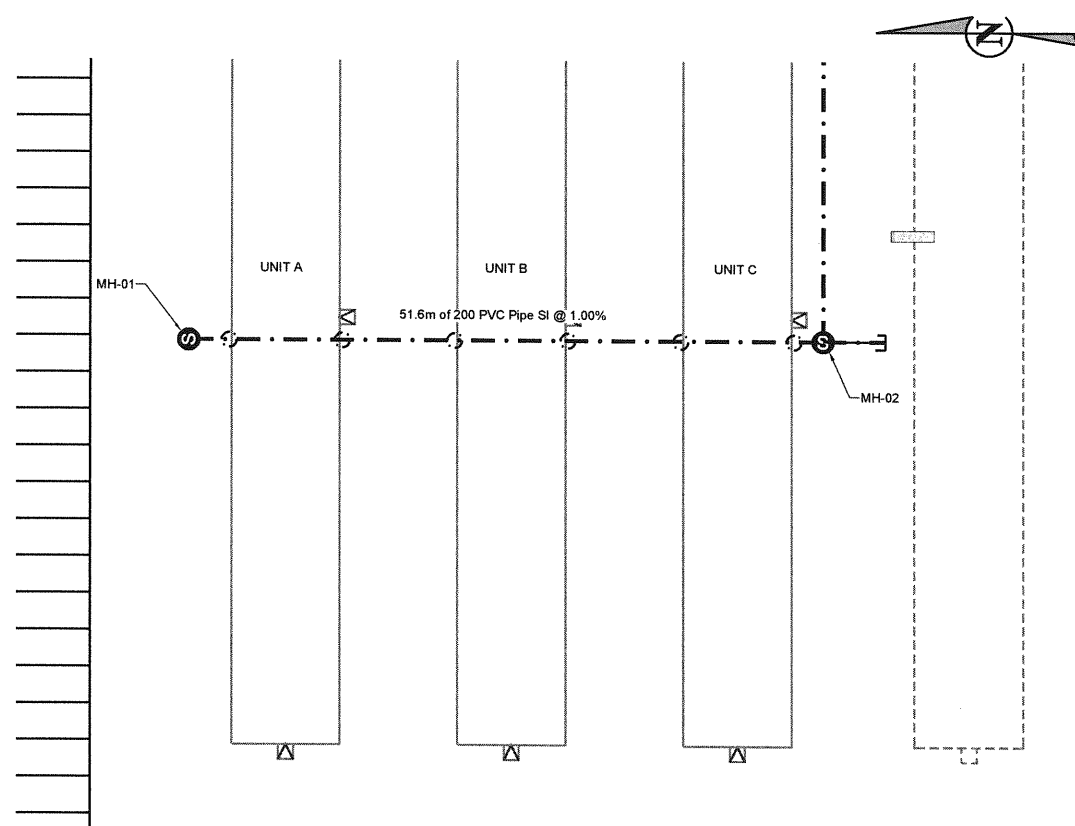
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**SITE SERVICES  
SANITARY SEWER  
TANK FARM PLAN**  
PROJECT NUMBER: **BMCE12-061**  
DRAWING NO: **C2.2**



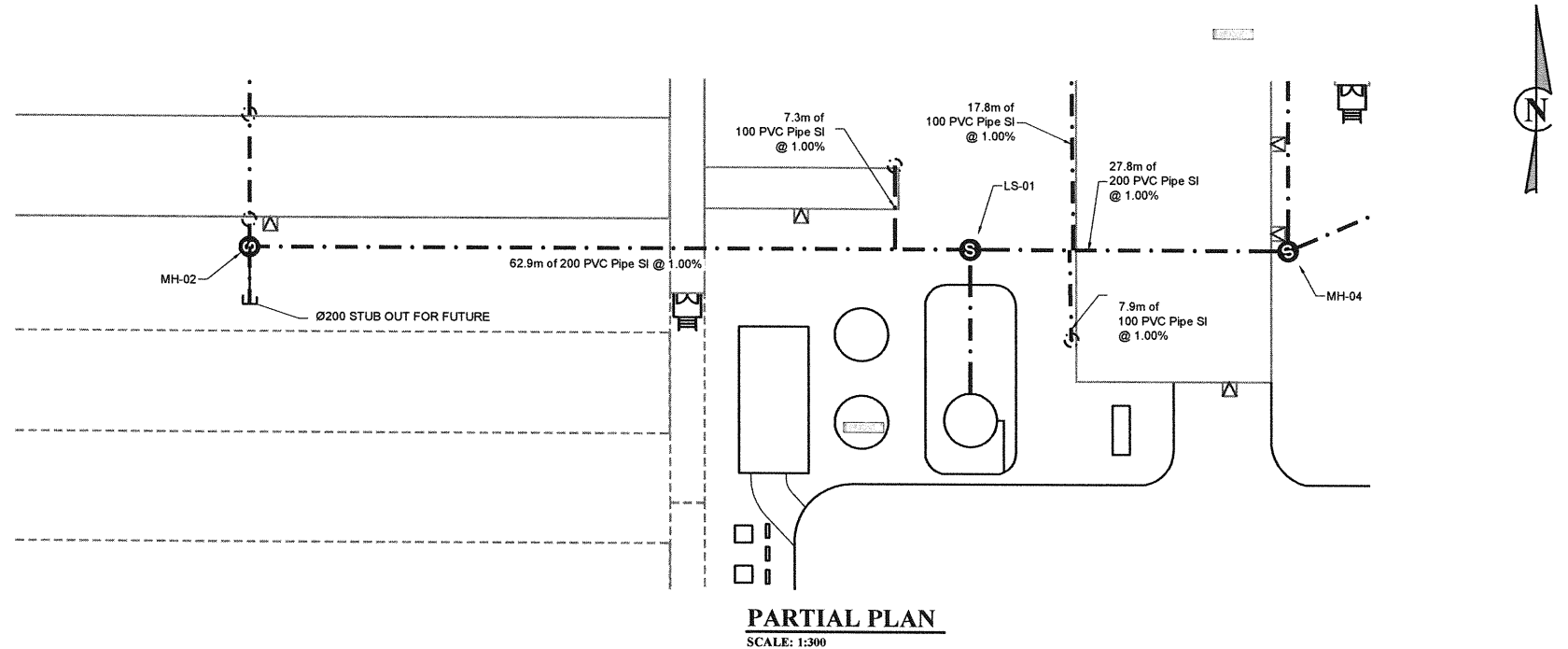
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SCALE: 1:300



**PROFILE VIEW**  
SCALE: 1:300



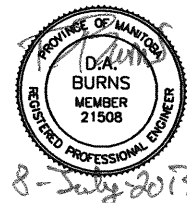
**PARTIAL PLAN**  
SCALE: 1:300



**PARTIAL PLAN**  
SCALE: 1:300

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REVISIONS				

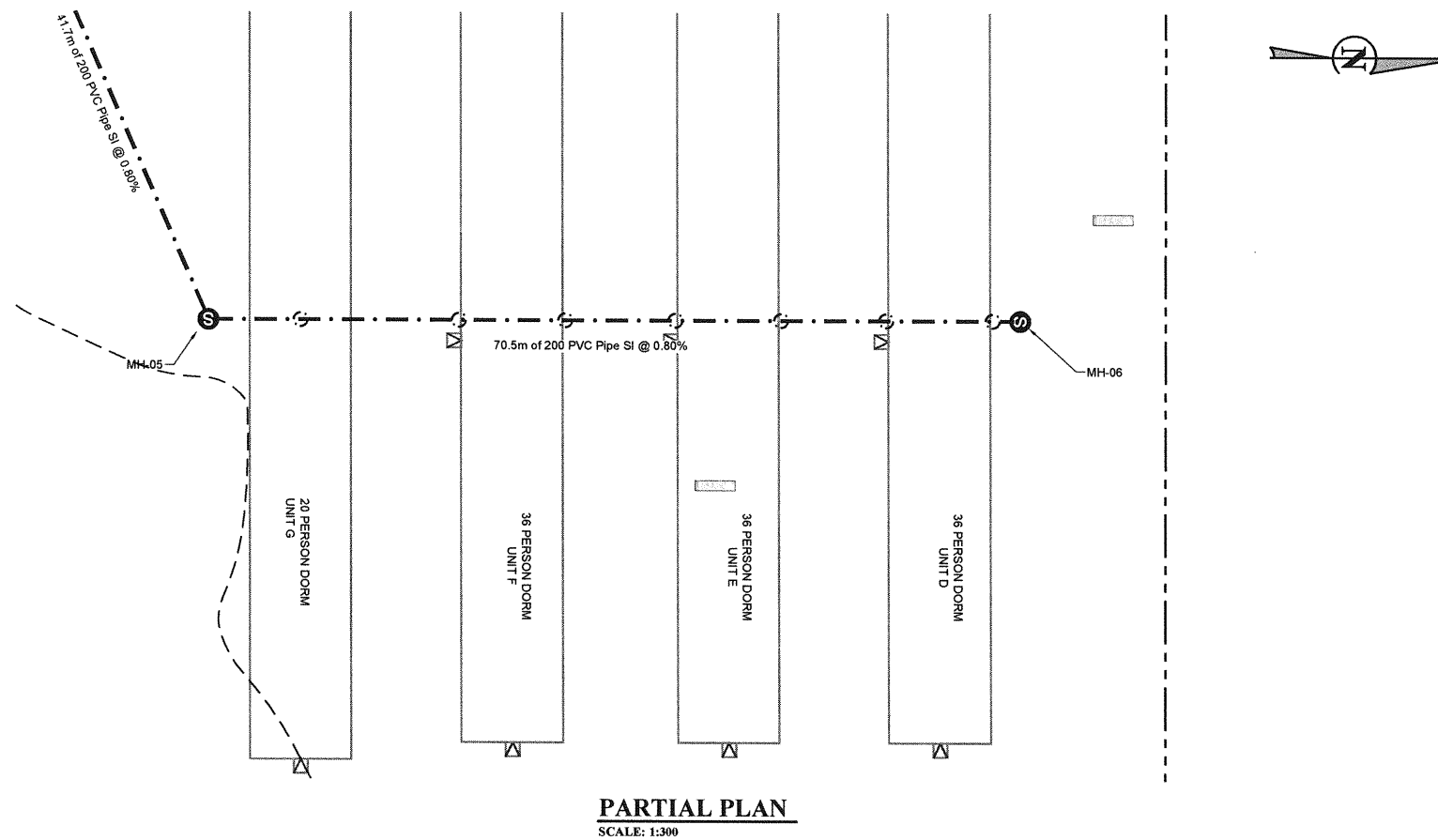
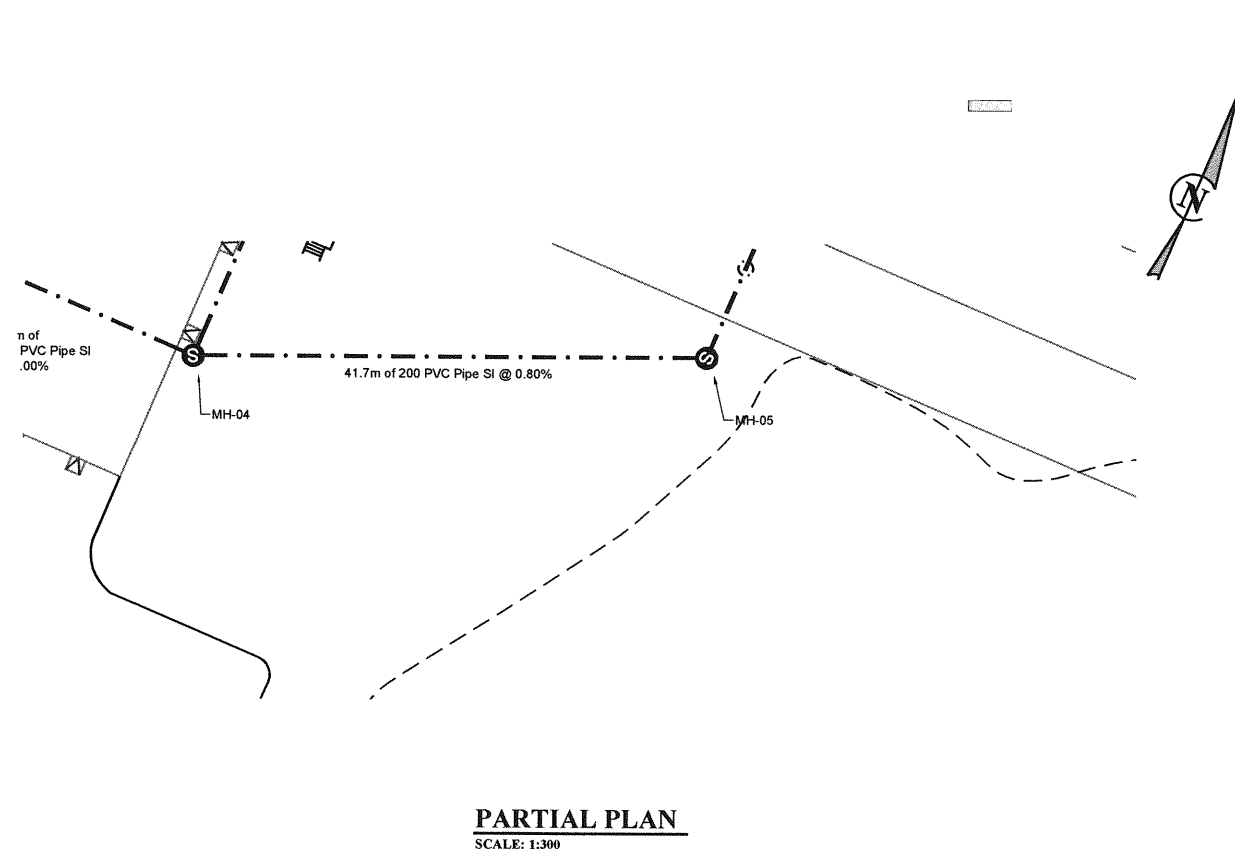
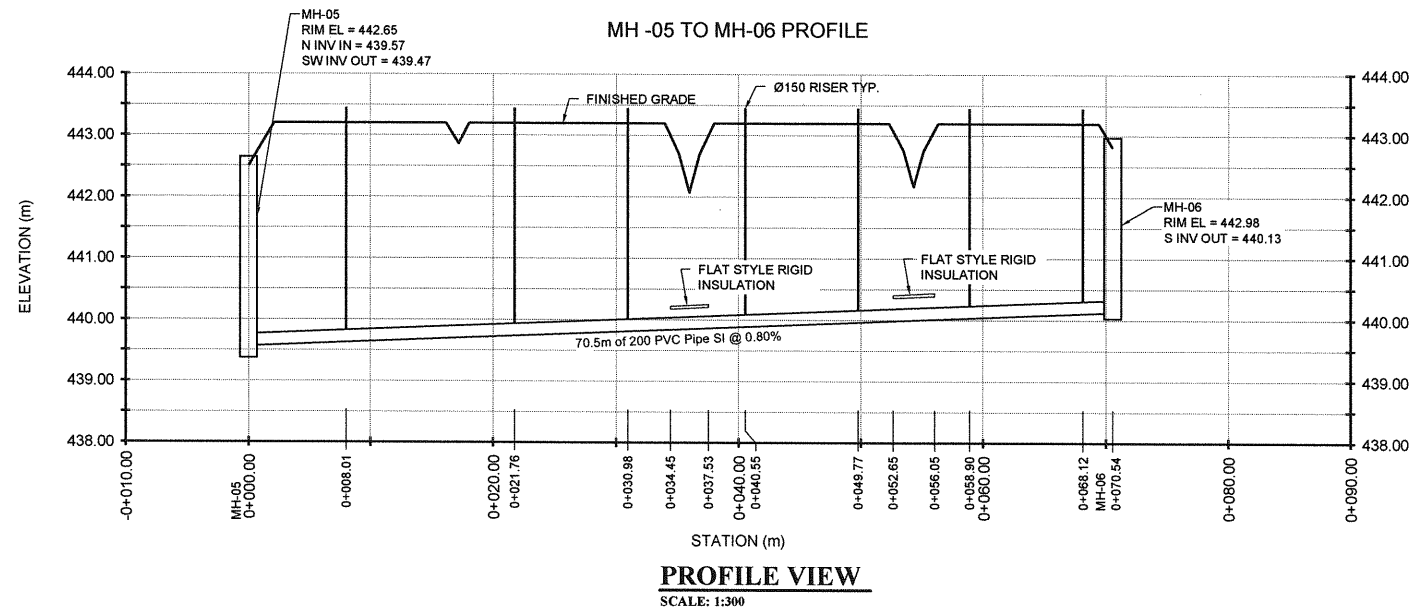
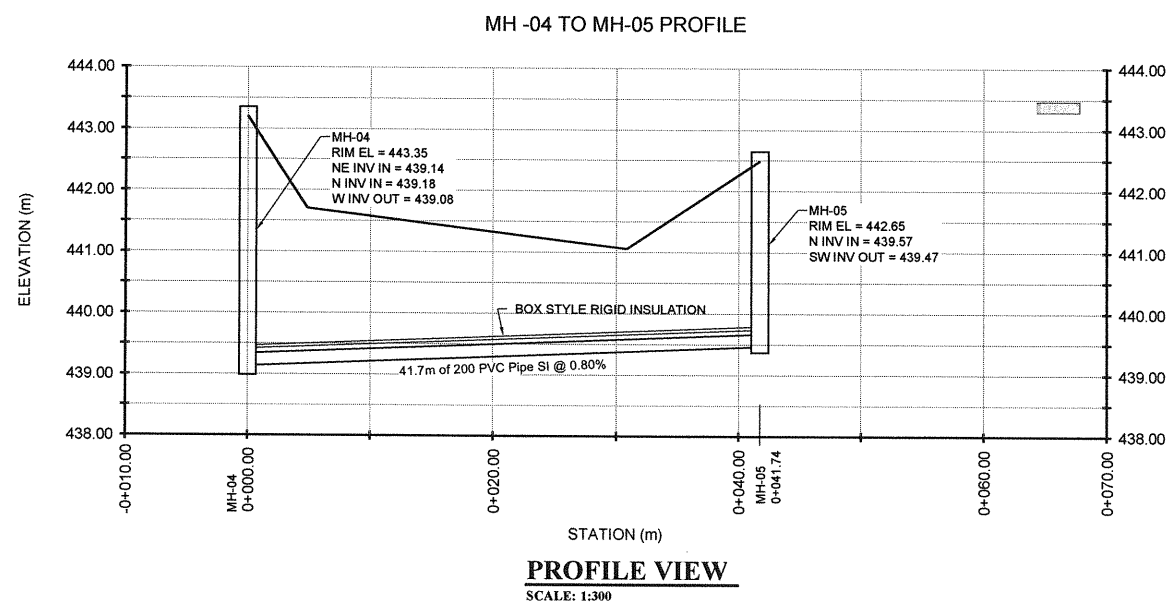
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REVIEWED BY: D.B.  
DRAWN BY: J.K.  
PROJECT START DATE: APRIL 2013  
PLOT SIZE: A1 (594x841)  
SCALE: 1:500

PROJECT NAME:  
**MELITA LODGE, MELITA MB**  
PTI PROJECT # 10050  
1331 Princess Ave.  
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R7A 0R4  
Tel: (204) 728-7364  
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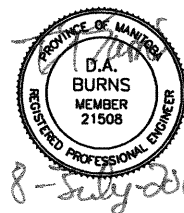
DRAWING TITLE:  
**SITE SERVICES**  
SANITARY SEWER PROFILES  
PROJECT NUMBER: BMCE12-061  
DRAWING NO: C2.3



NO.	DATE	APP.	BY	DESCRIPTION
0	JULY 8, 2013	D.B.	J.K.	ISSUED FOR TENDER
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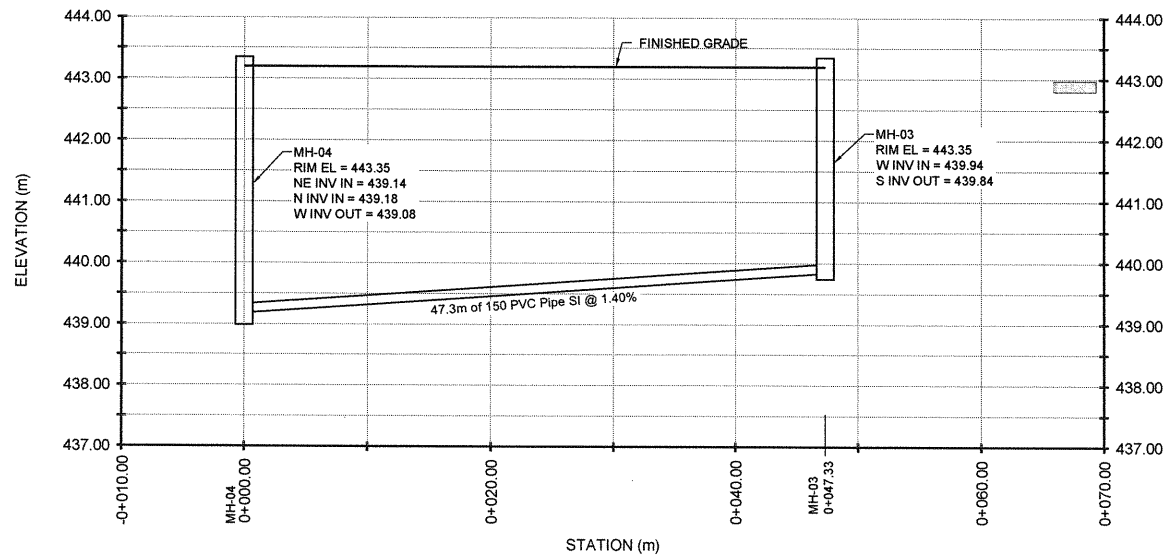


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DRAWN BY: J.K.  
PROJECT START DATE: APRIL 2013  
PLOT SIZE: A1 (594x841)  
SCALE: 1:500

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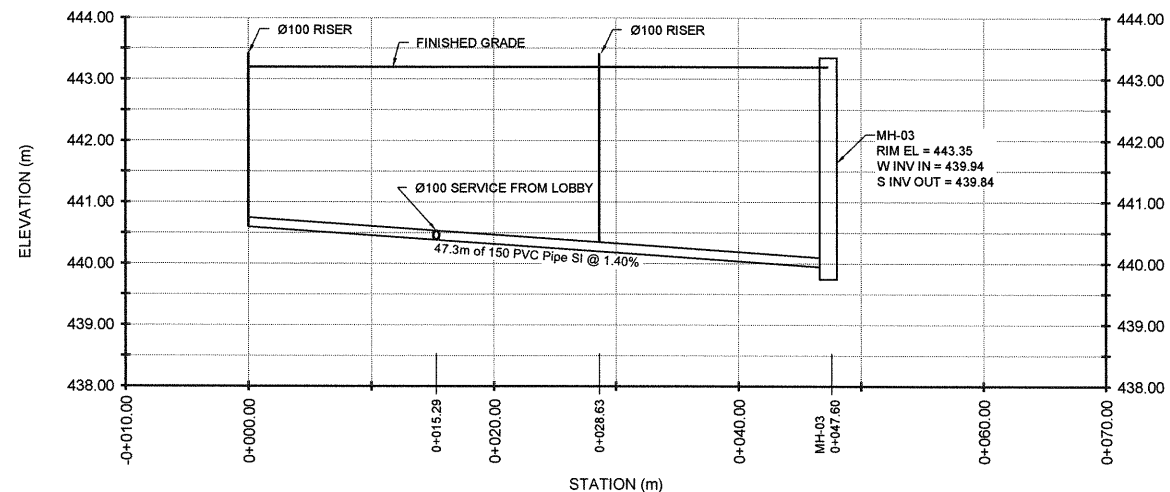
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SANITARY SEWER PROFILES**  
PROJECT NUMBER: BMCE12-061  
DRAWING NO: C2.4

MH -04 TO MH-03 PROFILE

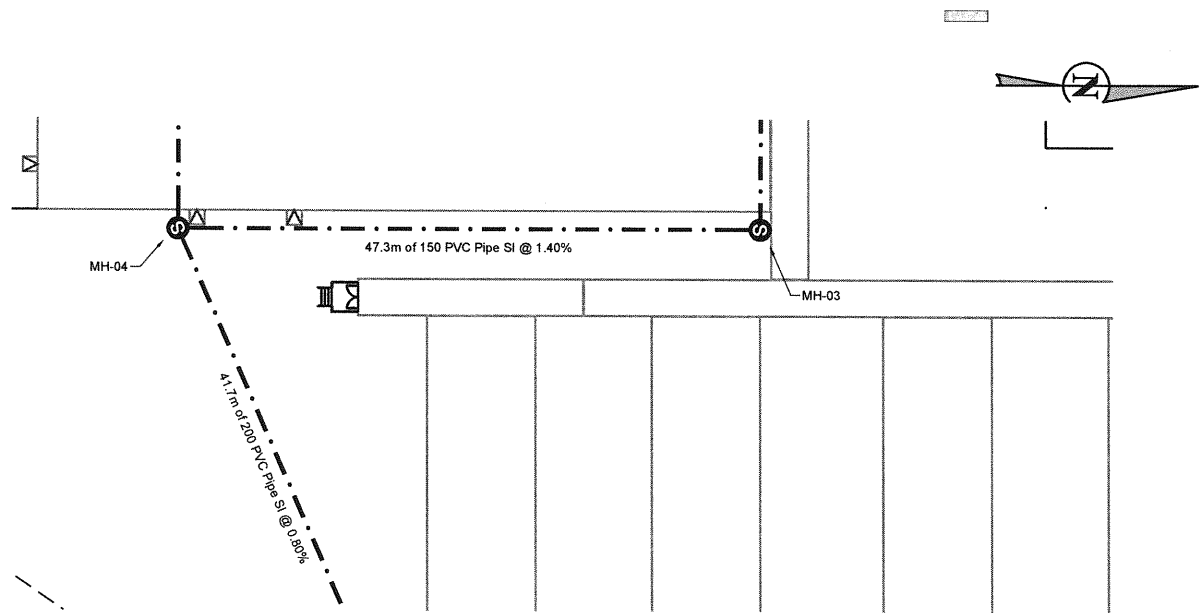


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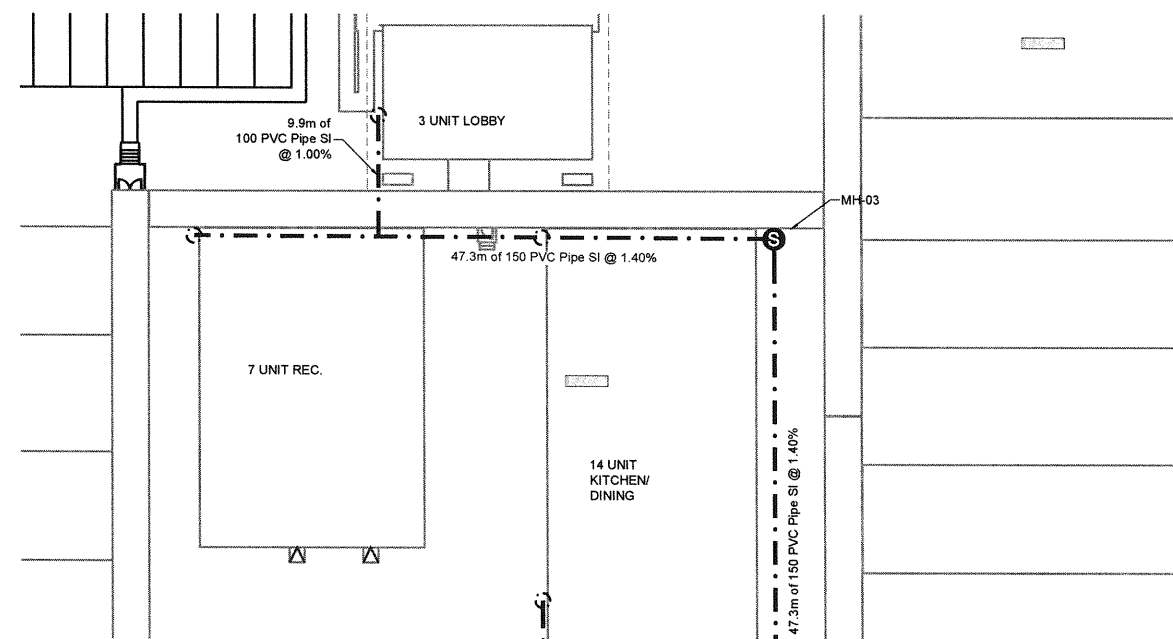
Rec service to MH-03 PROFILE



**PROFILE VIEW**  
SCALE: 1:300



**PARTIAL PLAN**  
SCALE: 1:300



**PARTIAL PLAN**  
SCALE: 1:300

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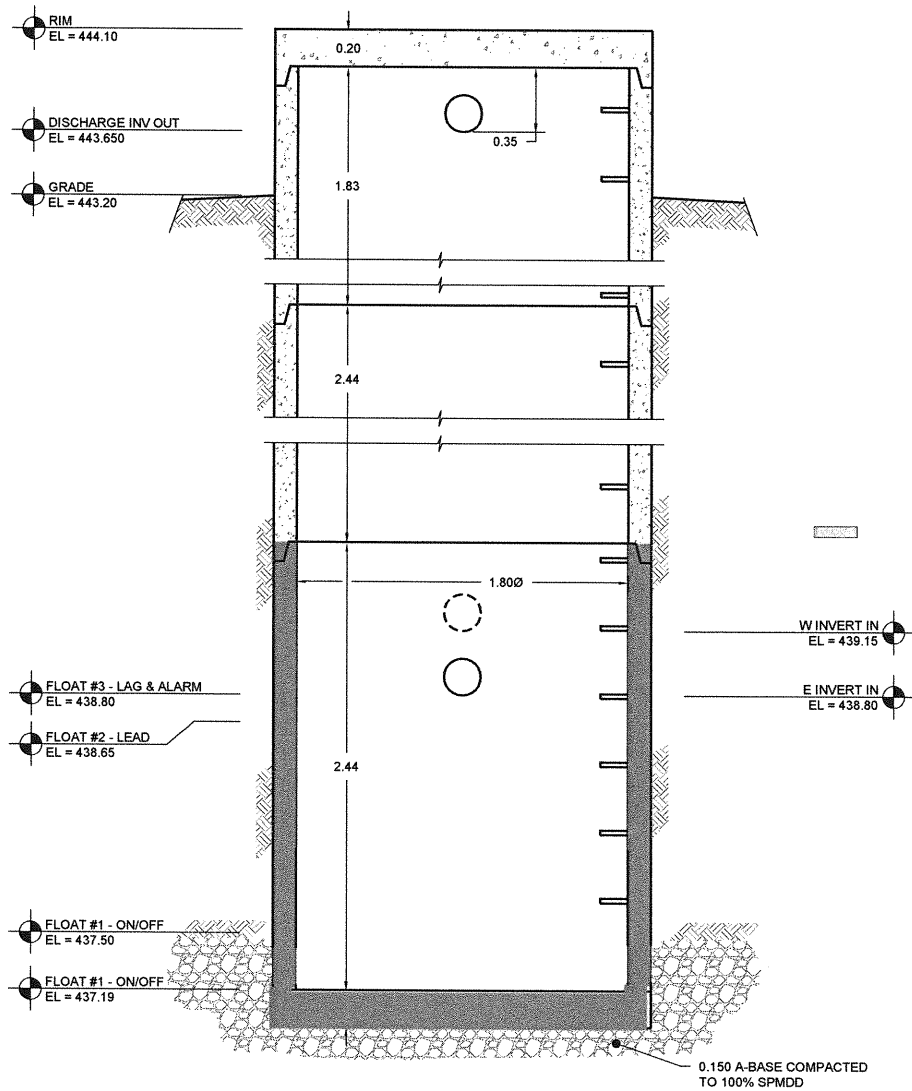
REVISIONS



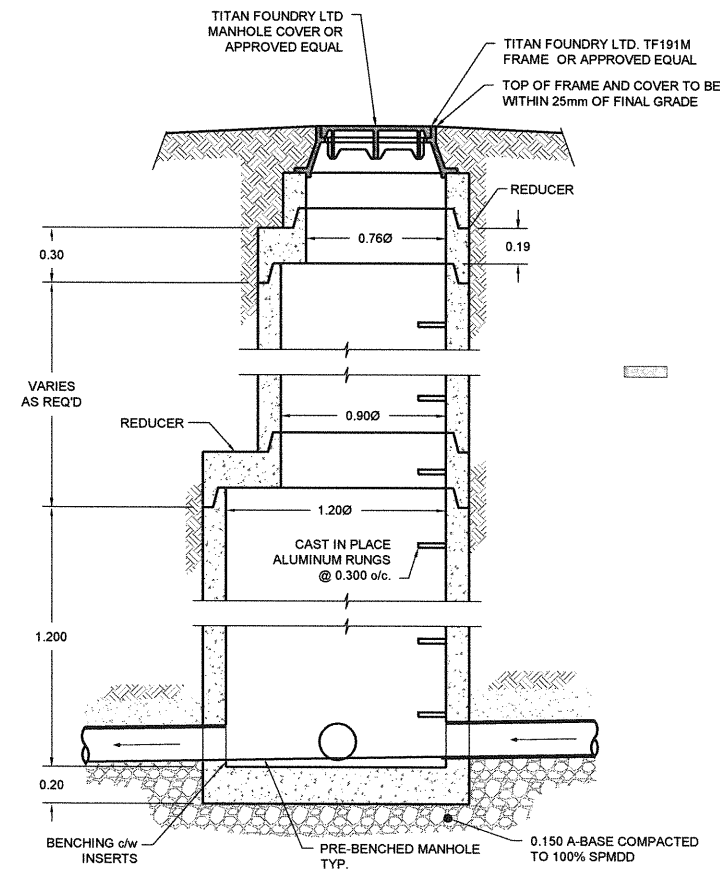
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PROJECT START DATE: APRIL 2013  
PLOT SIZE: A1 (594x841)  
SCALE: 1:500

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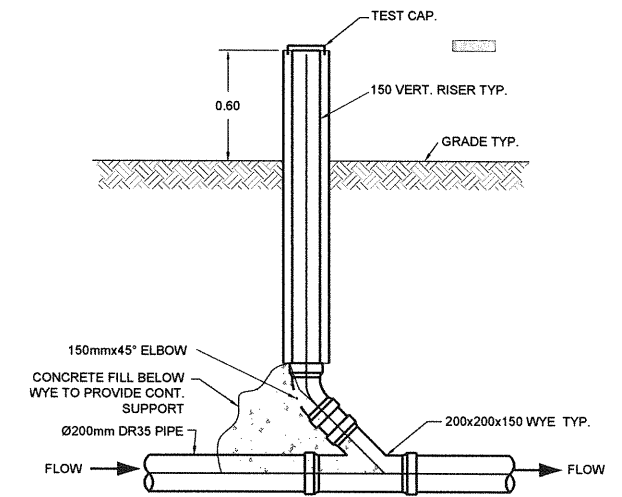
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**SITE SERVICES**  
SANITARY SEWER PROFILES  
PROJECT NUMBER: BMCE12-061  
DRAWING NO: C2.5



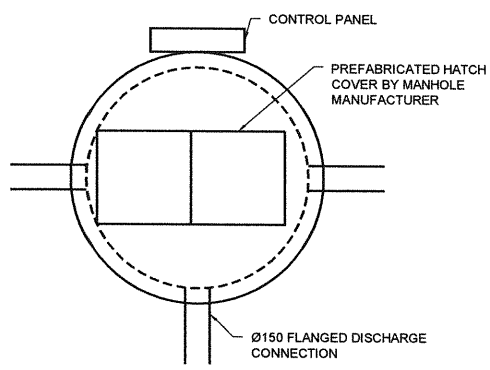
**LIFT STATION LS-1 SECTION**  
SCALE: 1:20



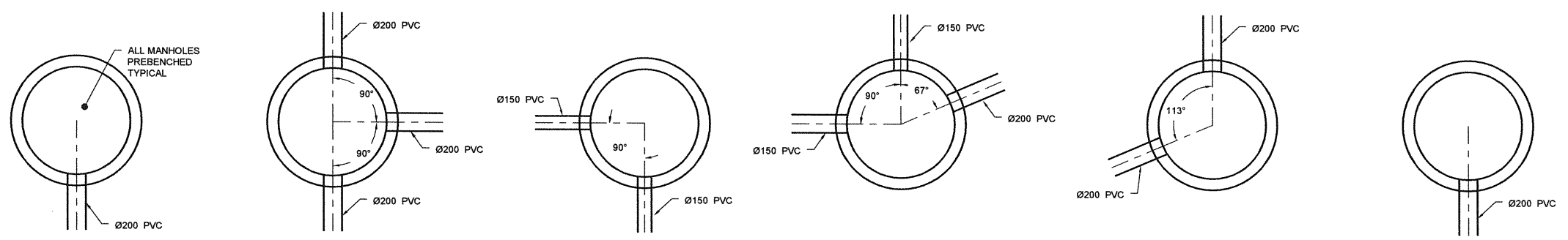
**TYPICAL MANHOLE SECTION**  
SCALE: 1:20



**TYPICAL SEWER RISER DETAIL**  
SCALE: 1:20



**LIFT STATION LS-1 DETAIL**  
SCALE: 1:30



**MANHOLE DETAILS**  
SCALE: 1:30

NO.	DATE	APP.	BY	DESCRIPTION
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REVISIONS				

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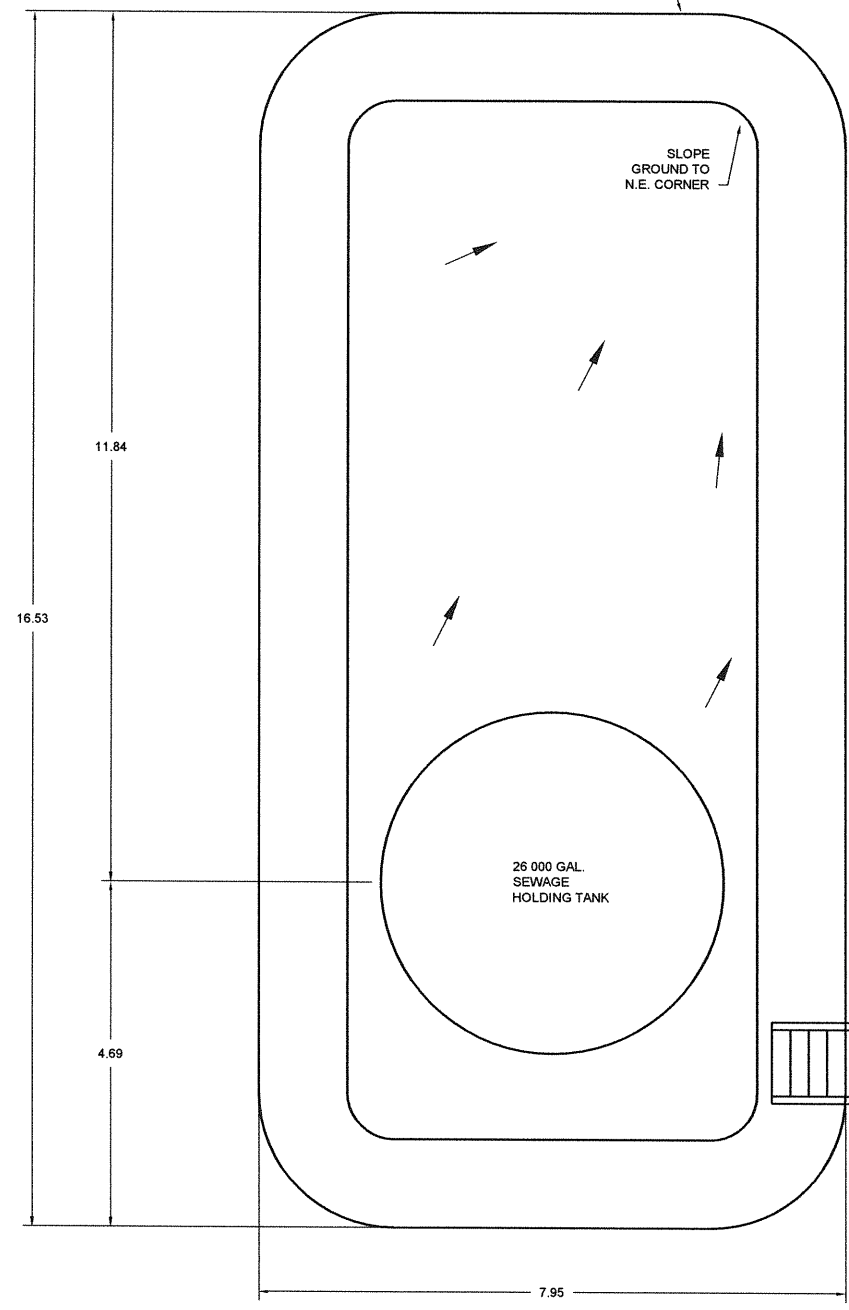


DESIGNED BY: J.A.  
REVIEWED BY: D.B.  
DRAWN BY: J.K.  
PROJECT START DATE: JULY 23, 2012  
PLOT SIZE: A1 (594x841)  
SCALE: AS NOTED

PROJECT NAME:  
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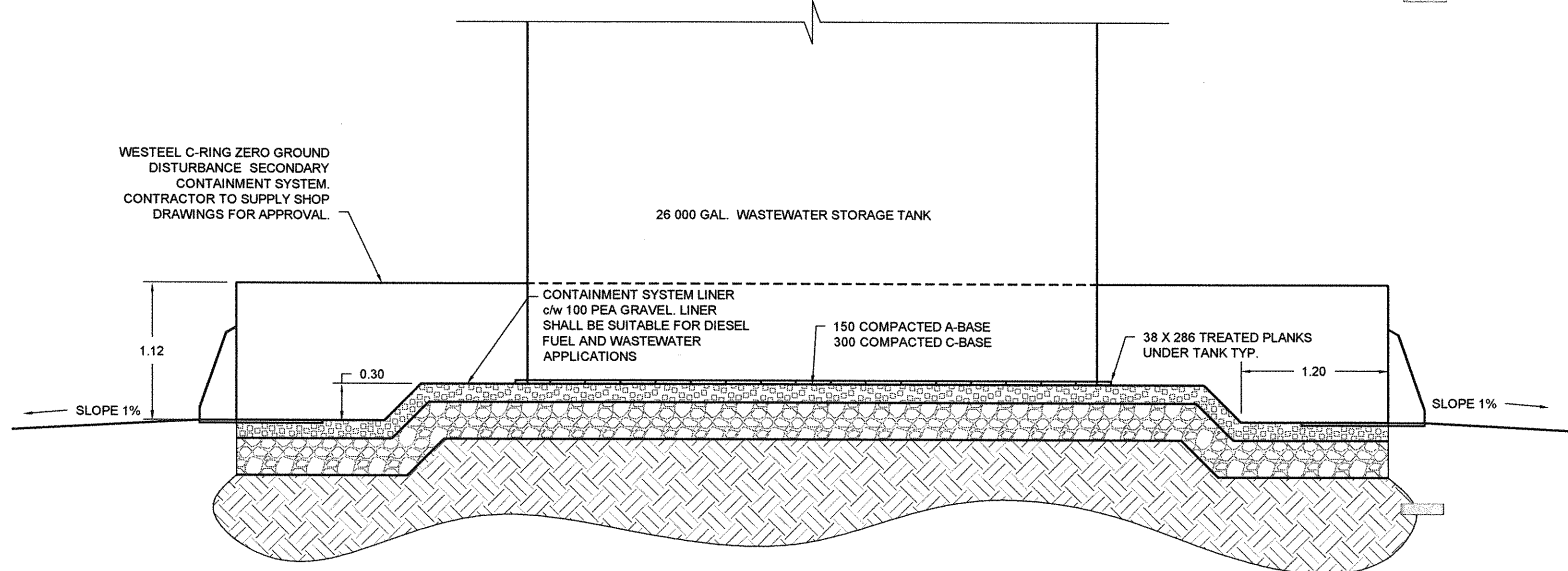
DRAWING TITLE:  
**SITE SERVICES**  
SEWER SECTIONS AND DETAILS  
PROJECT NUMBER: BMCE12-061  
DRAWING NO: C2.6

WESTEEL C-RING ZERO GROUND  
DISTURBANCE SECONDARY  
CONTAINMENT SYSTEM  
CONTRACTOR TO SUPPLY SHOP  
DRAWINGS FOR APPROVAL

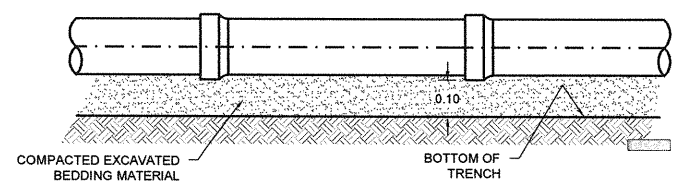
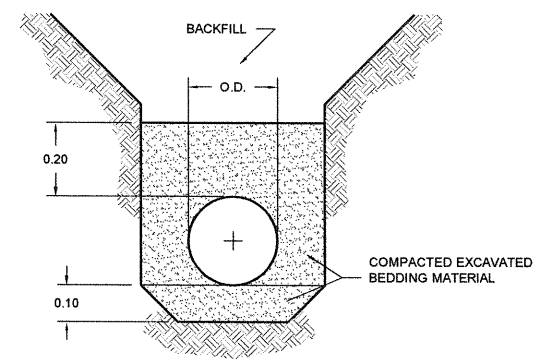


**WASTEWATER HOLDING TANK PLAN**  
SCALE: 1:50

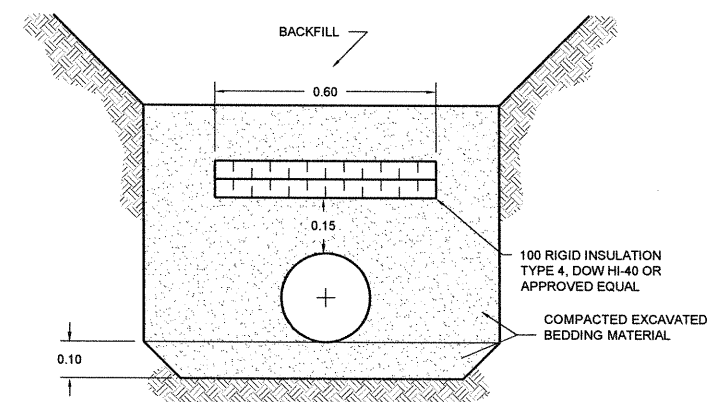
WESTEEL C-RING ZERO GROUND  
DISTURBANCE SECONDARY  
CONTAINMENT SYSTEM  
CONTRACTOR TO SUPPLY SHOP  
DRAWINGS FOR APPROVAL.



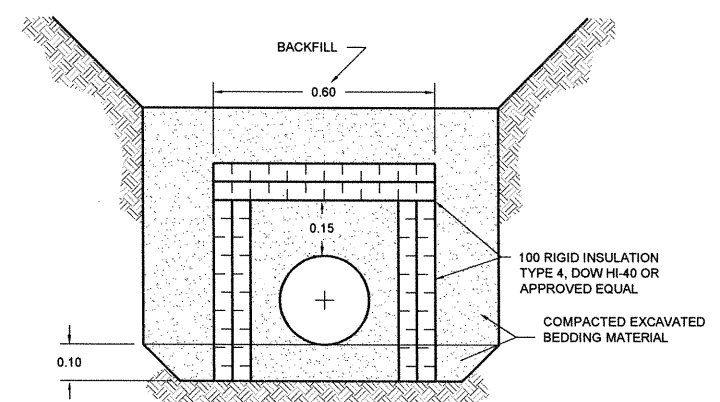
**TYPICAL WASTEWATER SECONDARY CONTAINMENT DETAIL**  
SCALE: 1:20



**TYPICAL TRENCHING DETAILS**  
SCALE: 1:10



**TYPICAL FLAT STYLE INSULATION DETAIL**  
SCALE: 1:10



**TYPICAL BOX STYLE INSULATION DETAIL**  
SCALE: 1:10

WESTEEL PRE  
MANUFACTURED  
ACCESS LADDER FOR  
C-RING SYSTEM.

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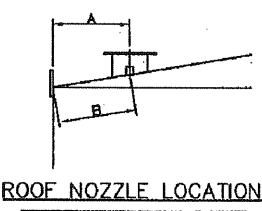
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PROJECT START DATE: JULY 23, 2012  
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SCALE: AS NOTED

PROJECT NAME:  
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**PTI PROJECT # 10050**  
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Brandon, Manitoba  
R7A 0R4  
Tel: (204) 728-7364  
Fax: (204) 728-4418

DRAWING TITLE:  
**SITE SERVICES**  
**SEWER SECTIONS AND DETAILS**  
PROJECT NUMBER: **BMCE12-061**  
DRAWING NO: **C2.7**



<b>ROOF NOZZLE/COUPLING WELD</b> 	<b>SHELL NOZZLE/COUPLING WELD</b> 	<b>ROOF TO SHELL WELD</b> 	<b>MISC. STRUCTURAL WELD</b> 	<b>PLATE FLG TO NECK WELD</b> 
C.S. WPS# 41-8-162A(R3) C.S. WPS# 41-8/1-163A(R2) C.S. WPS# 1-1-051A(R2)	C.S. WPS# 41-8-162A(R3) C.S. WPS# 41-8/1-163A(R2) C.S. WPS# 1-1-051A(R2)	C.S. WPS# 1-1-049A(R3)	C.S. WPS# 41-8-162A(R3) C.S. WPS# 41-8/1-163A(R2) C.S. WPS# 1-1-047A(R1)	C.S. WPS# 41-8-162A(R3) C.S. WPS# 41-8/1-163A(R2) C.S. WPS# 1-1-051A(R2) C.S. WPS# 2-1-129A(R3)
<b>BOTTOM/ROOF BUTT WELD</b> 	<b>SHELL CIRC. OR VERT. SEAM WELD</b> 	<b>SHELL TO FLOOR WELD</b> 	<b>SUP-ON FLG. TO NECK WELD</b> 	
C.S. WPS# 2-1-129A(R3) C.S. WPS# 1-1-051A(R2)	C.S. WPS# 2-1-129A(R3) C.S. WPS# 1-1-051A(R2)	C.S. WPS# 2-1-129A(R3) C.S. WPS# 1-1-051A(R2)	C.S. WPS# 2-1-129A(R3) C.S. WPS# 1-1-051A(R2) C.S. WPS# 2-8-175A	



**ROOF NOZZLE LOCATION**

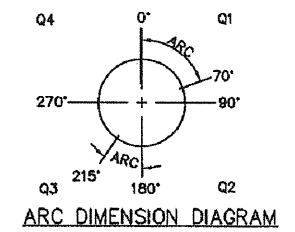
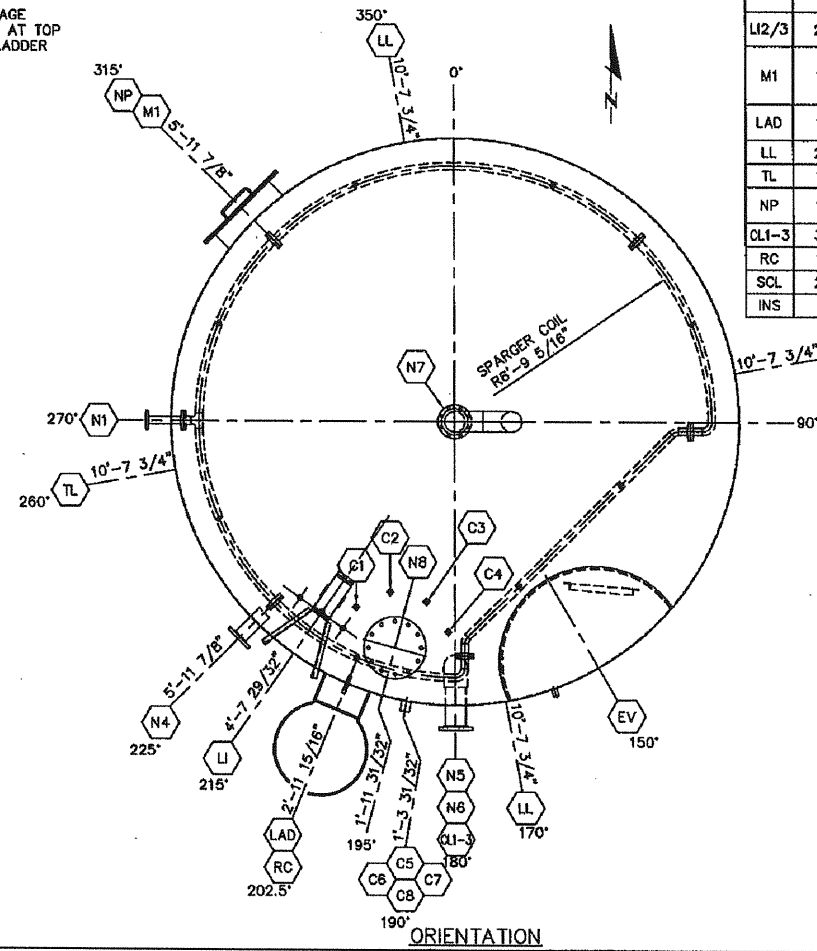
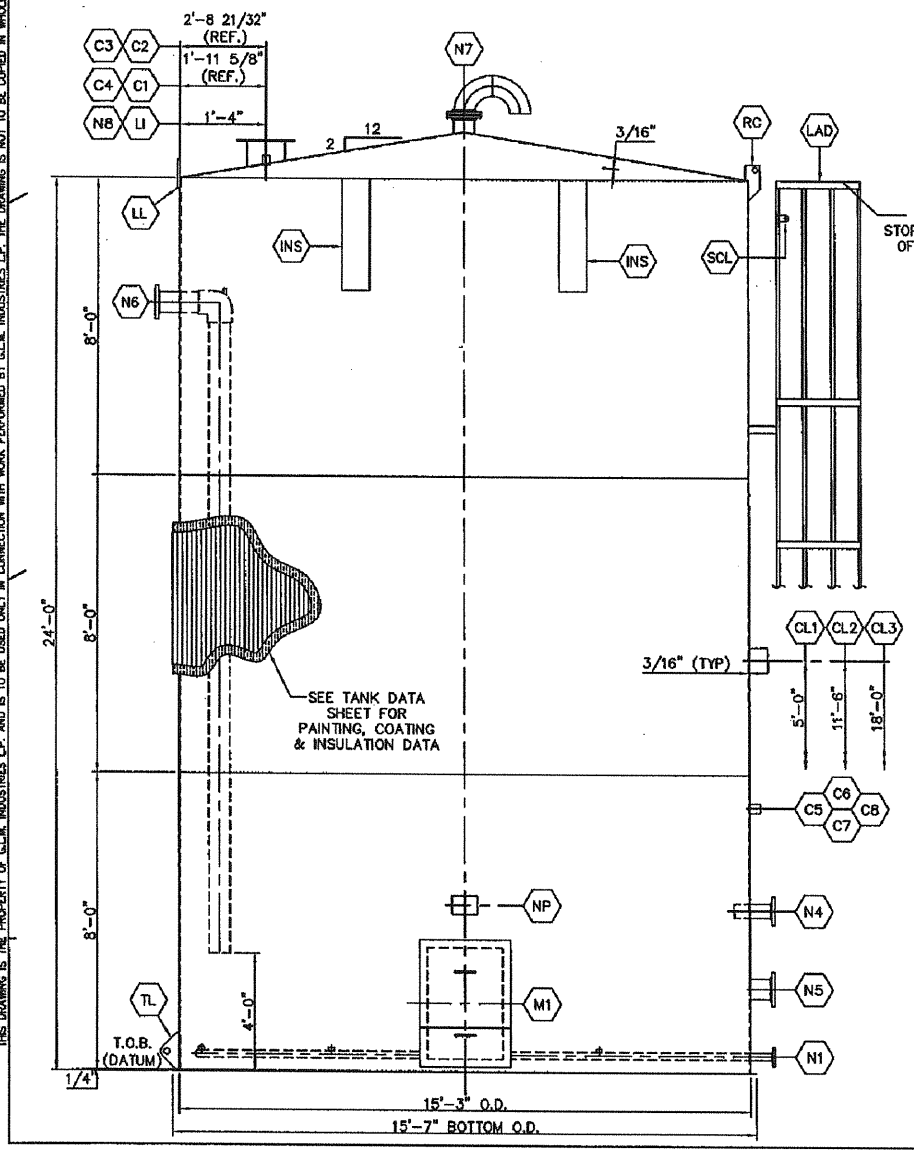
NOZZLE	A	B
N6	1'-4"	1'-4 1/4"
C1	1'-11 6/8"	1'-11 15/16"
C2	2'-8 11/16"	2'-9 1/8"
C3	2'-8 11/16"	2'-9 1/8"
C4	1'-11 6/8"	1'-11 15/16"
LI1	1'-4"	1'-4 1/4"
LI2	1'-3 9/16"	1'-3 3/4"
LI3	1'-3 9/16"	1'-3 3/4"

**GENERAL WELDING NOTES:**  
 1. BEVELS TO BE +/- 10°  
 2. LANDS AND GAPS TO BE +/- 1/16"  
 3. SEE DETAIL DRAWING FOR SPECIFIC WELD SIZE AND JOINT PREP.

**NOZZLE LOCATION NOTES:**  
 1. ELEVATIONS ARE GIVEN REFERENCING DATUM AS SHOWN IN ELEVATION.  
 2. ALL ARC LENGTHS ARE MEASURED CLOCKWISE REFERENCING NEAREST MAJOR CENTERLINE ON THE OUTSIDE OF BOTTOM SHELL COURSE.  
 OUTSIDE DIAMETER = 15'-3"  
 CIRCUMFERENCE = 47'-10 29/32"  
 90° ARC LENGTH = 11'-11 23/32"

**NOZZLE SCHEDULE**

MK#	QTY.	SIZE	CLASS	TYPE	O.S.P.	I.S.P.	SERVICE/DESCRIPTION	ELEVATION (SEE NOZZLE LOCATION NOTE 1)	ASS'Y
N1	1	2"	150	RFSO	8"	3 21/32"	AIR SPARGER c/w INT. AIR SPARGER RING w/ (08) EQUALLY SPACED COUPLINGS w/ PLUGS	0'-6"	3-A 4-A/B
N4	1	4"	150	RFSO	8"	4"	VAC. TRUCK CONN. c/w INTERNAL PROJECTION	0'-5 1/4"	3-B
N5	1	6"	150	RFSO	8"	1/4"	VAC. TRUCK CONN.	0'-6"	3-C
N6	1	6"	150	RFSO	8"	6"	INLET NOZZLE c/w INT. BRK. FLG. & PVC PIPING w/ 3/4" SYPHON BRK. PVC CPLG.	21'-6"	3-D 4-C
N7	1	6"	150	RFSO	8"	FLUSH	VENT c/w REM. GOOSENECK w/ BIRDSCREEN MESH	CTR OF ROOF	3-E
N8	1	12"	FAB'D	FAB'D	8"	1/4"	INT. ROOF ACCESS c/w GASKET, COVER PLATE & BOLTING	ROOF	3-I
C1	1	1"	3000	NPT	FULL	1/4"	x 3 1/2" LG. FORGING MISC. CONN.	ROOF	3-G
C2	1	1"	3000	NPT	FULL	1/4"	x 3 1/2" LG. FORGING MISC. CONN.	ROOF	3-G
C3	1	1"	3000	NPT	FULL	1/4"	x 3 1/2" LG. FORGING MISC. CONN.	ROOF	3-G
C4	1	1"	3000	NPT	FULL	1/4"	x 3 1/2" LG. FORGING MISC. CONN.	ROOF	3-G
C5	1	2"	3000	FNPT	FULL	1/4"	TEST PORT CONN.	0'-8"	3-F
C6	1	2"	3000	FNPT	FULL	1/4"	TEST PORT CONN.	10'-0"	3-F
C7	1	2"	3000	FNPT	FULL	1/4"	TEST PORT CONN.	15'-0"	3-F
C8	1	2"	3000	FNPT	FULL	1/4"	TEST PORT CONN.	20'-0"	3-F
LI1	1	1 1/2"	3000	NPT	FULL	1/4"	LEVEL INDICATOR COUPLING c/w G.L.M. STD. CLOSED TYPE LEVEL GAUGE ASS'Y w/ CUBIC M. GAUGE BOARD, FLOAT, GAUGE WRES & BOTTOM ANCHORS	ROOF	3-H CTLG-1
LI2/3	2	1 1/4"	3000	NPT	FULL	1/4"	LEVEL INDICATOR COUPLING	ROOF	3-H CTLG-1
M1	1	24"x8"	FAB'D	FAB'D	STD	1/4"	GLM STD SHELL MANWAY c/w GASKET, (02) Pcs. SPLIT COVER & BOLTING (2x3SMW-1-11111)	1'-10"	2x3MW
LAD	1	N/A	N/A	N/A	N/A	N/A	GLM STD LADDER c/w SAFETY CAGE	SEE ELEV.	C-LAD-1 C-LAD-2
LL	2	N/A	N/A	N/A	N/A	N/A	GLM STD LIFTING LUG (25KLL-1)	STD	LLUG
TL	1	N/A	N/A	N/A	N/A	N/A	GLM STD TAILING LUG (40KTL-1)	STD	TLUG
NP	1	N/A	N/A	N/A	N/A	N/A	GLM STD NAME PLATE c/w ALUMINUM BRACKET	4'-8"	NP-A
CL1-3	3	N/A	N/A	N/A	N/A	N/A	PIPE SUPPORT CLIPS	SEE ELEV.	5-B
RC	1	N/A	N/A	N/A	N/A	N/A	FALL ARREST CLIP	SEE ELEV.	5-A
SCL	2	N/A	N/A	N/A	N/A	N/A	SAFETY TIE OFF CLIPS ON LADDER	N/A	5-C
INS	4	N/A	N/A	N/A	N/A	N/A	GLM STD INSULATION STANDOFFS	STD	STANDOFF



**G.L.M. INDUSTRIES L.P.**

BY: JAPPD  
 DRAWN BY: Troy Burrows  
 DATE: OCT. 16, 2012  
 CHECKED BY: K. Spaw  
 DATE: Oct. 2012  
 APPROVED FOR CONSTRUCTION BY: [Signature]  
 DATE: 10/12/12

DESCRIPTION: GENERAL ARRANGEMENT PTI MANUFACTURING 15'-3" O.D. x 24'-0" HIGH SEWAGE STORAGE TANK CAPACITY: 750 BBL

TOLERANCES: API-12F (MODIFIED)

SCALE: N.T.S.

JOB CLASSIFICATION # 20

PURCHASE ORDER # 284269

DATE: [Blank]

DESCRIPTION: [Blank]

SCALE: AS NOTED

REV. 0

**SEWER HOLDING TANK GENERAL ARRANGEMENT DRAWING**  
 SCALE: N.T.S.

NO.	DATE	APP.	BY	DESCRIPTION
0	JULY 6, 2013	D.B.	J.K.	ISSUED FOR TENDER
B	JUNE 26, 2013	D.B.	J.K.	ISSUED FOR CLIENT REVIEW
A		D.B.	J.K.	ISSUED FOR CLIENT REVIEW
NO.	DATE	APP.	BY	DESCRIPTION

REVISIONS

**APECN**  
 Certificate of Authorization  
 Burns Maendel Consulting Engineers Ltd.  
 No. 4559 Expiry: April 30, 2014



DESIGNED BY: J.A.  
 REVIEWED BY: D.B.  
 DRAWN BY: J.K.  
 PROJECT START DATE: JULY 23, 2012  
 PLOT SIZE: A1 (594x841)  
 SCALE: AS NOTED

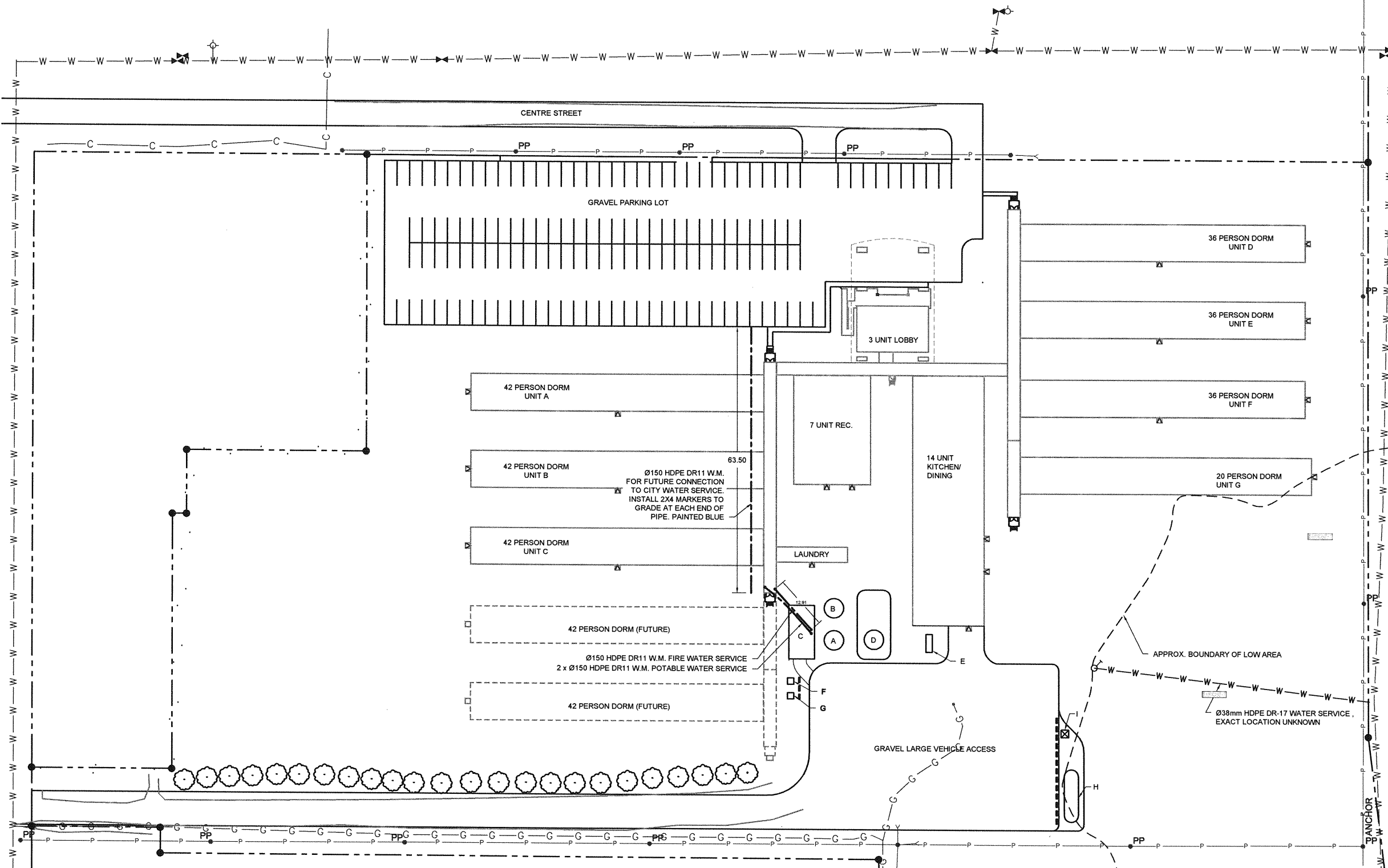
PROJECT NAME:  
**MELITA LODGE, MELITA MB**  
**PTI PROJECT # 10050**

1331 Princess Ave.  
 Brandon, Manitoba  
 R7A 0R4  
 Tel: (204) 728-7364  
 Fax: (204) 728-4418

**BURNS MAENDEL**  
 CONSULTING ENGINEERS LTD.

DRAWING TITLE:  
**SITE SERVICES**  
**SEWER SECTIONS AND DETAILS**

PROJECT NUMBER: **BMCE12-061**  
 DRAWING NO.: **C2.8**



- GENERAL NOTES:**
- DECIMALIZED NUMBERS INDICATE METERS AND WHOLE NUMBERS INDICATE MILLIMETRES.
  - TOPOGRAPHIC SURVEY DATA PROVIDED BY ALTUS GEOMATICS.
  - GEODETTIC BENCH MARK 98R059 ELEVATION = 444.542.
  - LOCATIONS OF EXISTING UNDERGROUND STRUCTURES AND SERVICES AS SHOWN ARE BASED ON THE BEST AVAILABLE INFORMATION. NO GUARANTEE IS GIVEN THAT ALL EXISTING UTILITIES ARE SHOWN OR THAT LOCATIONS ARE EXACT.
  - CONFIRMATION OF EXISTANCE AND EXACT LOCATION OF ALL SERVICES MUST BE OBTAINED FROM THE INDIVIDUAL UTILITIES BEFORE PROCEEDING WITH CONSTRUCTION.

- CONSTRUCTION NOTES:**
- ALL CONSTRUCTION WITHIN PUBLIC RIGHT OF WAY TO CONFORM WITH THE CURRENT TOWN OF MELITA STANDARD CONSTRUCTION SPECIFICATIONS.
  - CONTRACTOR TO OBTAIN ALL PERMITS.
  - CONTRACTOR TO CLEAR ALL UTILITIES BEFORE EXCAVATING.
  - CONTRACTOR TO PROVIDE ENGINEER WITH AS BUILT PRINT OF COMPLETED WORKS.
  - REMOVE UNSUITABLE SITE MATERIALS AS REQUIRED.

- TANK FARM LEGEND:**
- A. 26000 GAL. POTABLE WATER STORAGE TANK
  - B. 26000 GAL FIRE SUPPRESSION WATER STORAGE TANK
  - C. SERVICES BUILDING
  - D. 26000 GAL. WASTEWATER HOLDING TANK c/w SECONDARY CONTAINMENT
  - E. GENERATOR W/ DIESEL TANK
  - F. CSTE
  - G. TRANSFORMER
  - H. LIQUID PROPANE STORAGE TANK
  - I. VAPORIZER

WATER RISER SCHEDULE			
DESCRIPTION	NORTHING	EASTING	ELEVATION
POTABLE RISER TO ARCTIC CORR.	5064.05	5204.22	443.5
FIRE RISER TO ARCTIC CORR.	5063.59	5206.62	443.5
POTABLE RISER TO SERVICE BUILDING	5053.09	5215.26	443.8
FIRE RISER TO SERVICE BUILDING	5054.00	5215.26	443.8

**POTABLE WATER SITE PLAN**  
SCALE: 1:500

EXISTING	LEGEND	PROPOSED
---	PROPERTY LINE	---
----	CULVERT	----
—w—w—w—	WATER MAIN	—w—w—w—
—s—s—s—	SANITARY MAIN	—s—s—s—
—g—g—g—	GAS LINE	—g—g—g—
—p—p—p—	OVERHEAD POWER LINE	—p—p—p—
—c—c—c—	CABLE	—c—c—c—
⊙	GATE VALVE	⊙
⊙	CURB STOP	⊙
⊙	SANITARY MANHOLE	⊙
⊙	SANITARY RISER	⊙
⊙	WATER RISER	⊙
⊙	HYDRANT	⊙
⊙	POWER POLE	⊙

NO.	DATE	APP.	BY	DESCRIPTION
0	JULY 8, 2013	D.B.	J.K.	ISSUED FOR TENDER
B	JUNE 26, 2013	D.B.	J.K.	ISSUED FOR CLIENT REVIEW
A	MAY 31, 2013	D.B.	J.K.	ISSUED FOR CLIENT REVIEW
REVISIONS				

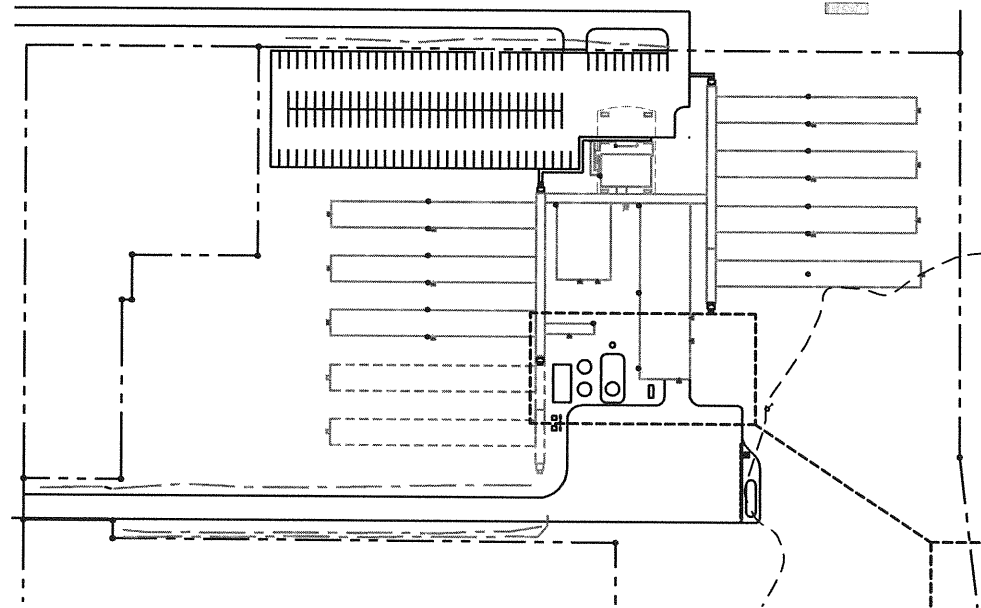
**APEGM**  
Certificate of Authorization  
Burns Maendel Consulting Engineers Ltd.  
No. 4559 Expiry: April 30, 2014



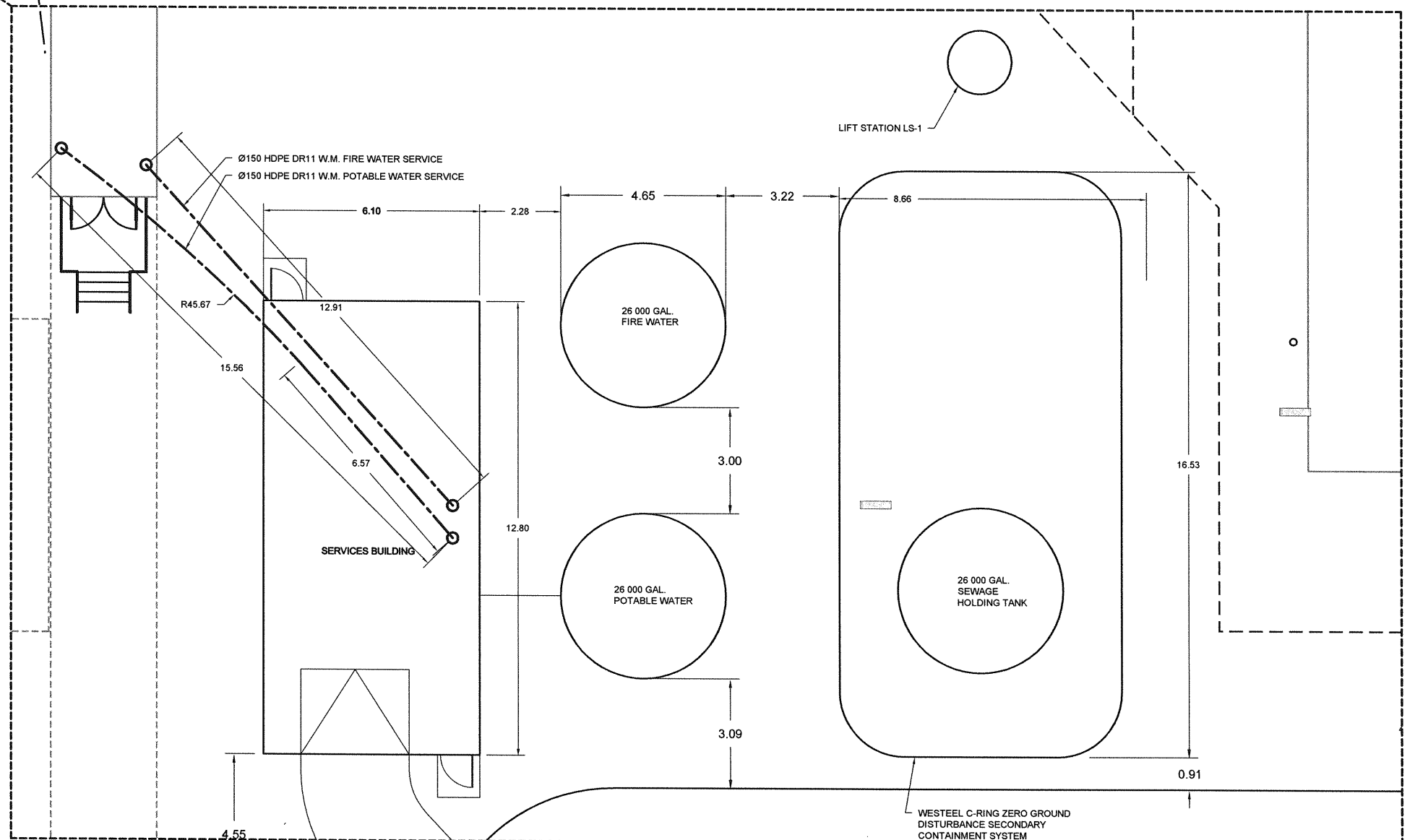
DESIGNED BY: J.A.  
REVIEWED BY: D.B.  
DRAWN BY: J.K.  
PROJECT START DATE: APRIL 2013  
PLOT SIZE: A1 (594x841)  
SCALE: 1:500

PROJECT NAME:  
**MELITA LODGE, MELITA MB**  
PTI PROJECT # 10050  
**BURNS MAENDEL**  
CONSULTING ENGINEERS LTD.  
1331 Princess Ave.  
Brandon, Manitoba  
R7A 0R4  
Tel: (204) 728-7364  
Fax: (204) 728-4418

DRAWING TITLE:  
**SITE SERVICES**  
**POTABLE WATER SERVICE PLAN**  
PROJECT NUMBER: BMCE12-061  
DRAWING NO: C3.1



**KEY PLAN**  
SCALE: 1:1250

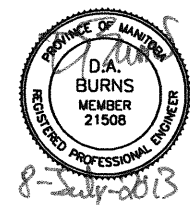


**TANK FARM PLAN**  
SCALE: 1:75

EXISTING	LEGEND	PROPOSED
---	PROPERTY LINE	---
-----	CULVERT	-----
W-W-W	WATER MAIN	W-W-W
S-S-S	SANITARY MAIN	S-S-S
G-G-G	GAS LINE	G-G-G
P	OVERHEAD POWER LINE	P
C	CABLE	C
○	GATE VALVE	○
○	CURB STOP	○
⊙	SANITARY MANHOLE	⊙
○	SANITARY RISER	○
○	WATER RISER	○
○	HYDRANT	○
○	POWER POLE	○

NO.	DATE	APP.	BY	DESCRIPTION
0	JULY 8, 2013	D.B.	J.K.	ISSUED FOR TENDER
B	JUNE 26, 2013	D.B.	J.K.	ISSUED FOR CLIENT REVIEW
A	MAY 31, 2013	D.B.	J.K.	ISSUED FOR CLIENT REVIEW
REVISIONS				

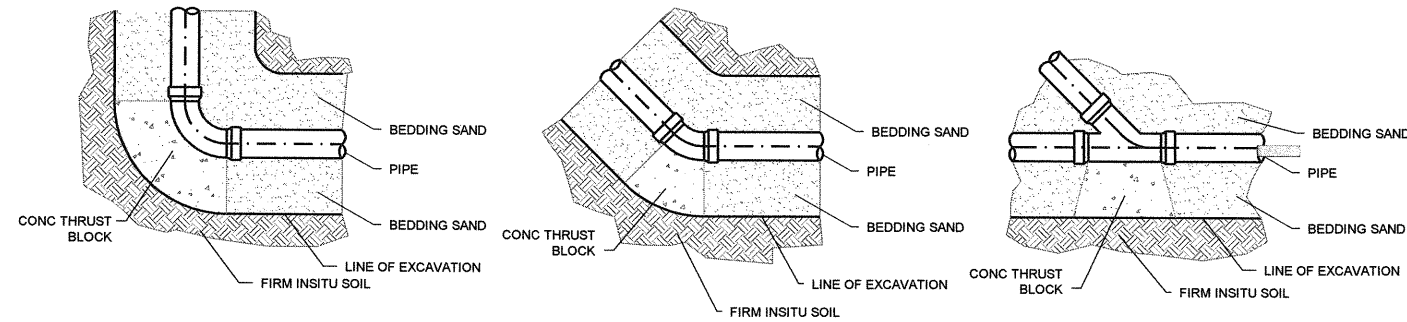
**APEGM**  
Certificate of Authorization  
Burns Maendel Consulting  
Engineers Ltd.  
No. 4559 Expiry: April 30, 2014



DESIGNED BY: J.A.  
REVIEWED BY: D.B.  
DRAWN BY: J.K.  
PROJECT START DATE: JULY 23, 2012  
PLOT SIZE: A1 (594x841)  
SCALE: AS NOTED

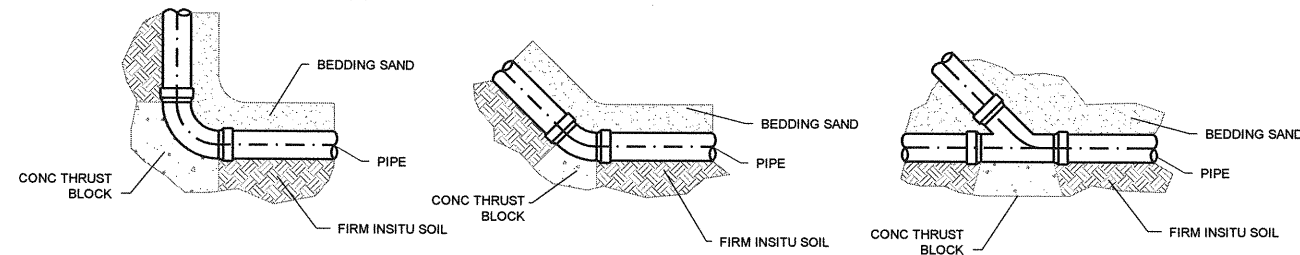
PROJECT NAME:  
**MELITA LODGE, MELITA MB**  
**PTI PROJECT # 10050**  
**BURNS MAENDEL**  
CONSULTING ENGINEERS LTD.  
1331 Princess Ave.  
Brandon, Manitoba  
R7A 0R4  
Tel: (204) 728-7364  
Fax: (204) 728-4418

DRAWING TITLE:  
**SITE SERVICES**  
**POTABLE WATER**  
**TANK FARM PLAN**  
PROJECT NUMBER: **BMCE12-061**  
DRAWING NO.: **C3.2**



**TYPICAL HORIZONTAL THRUST BLOCK DETAILS**

SCALE: 1:20

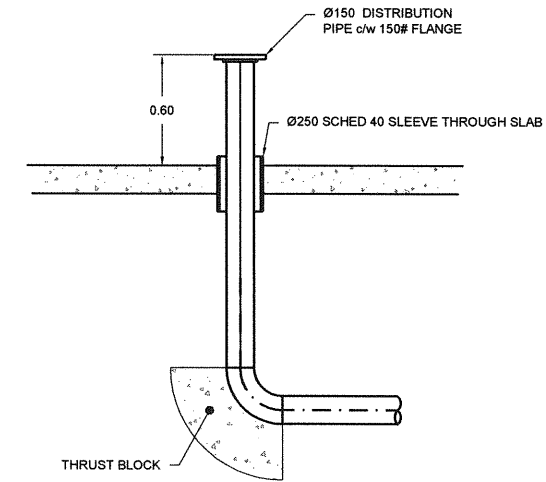


**TYPICAL VERTICAL THRUST BLOCK DETAILS**

SCALE: 1:20

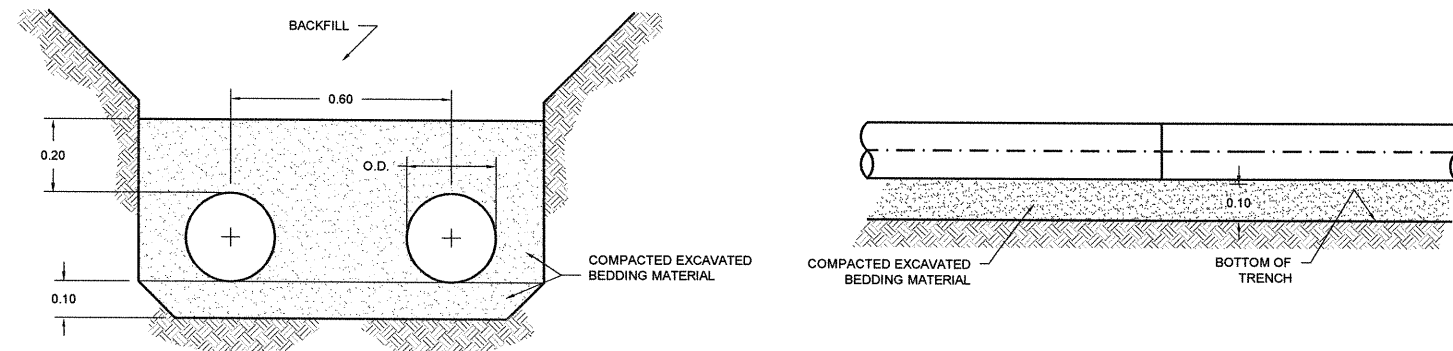
MINIMUM BEARING AREAS FOR THRUST BLOCKS				
PIPE DIAMETER (mm)	TEES & DEAD ENDS (M <sup>2</sup> )	90° BEND (M <sup>2</sup> )	45° BEND (M <sup>2</sup> )	22-1/2° BEND (M <sup>2</sup> )
100	0.19	0.27	0.14	0.09
150	0.37	0.51	0.27	0.14
200	0.60	0.88	0.46	0.27
250	1.02	1.44	0.79	0.42
300	1.44	2.04	1.11	0.56
375	2.32	3.67	2.00	1.02

NOTE:  
 - THRUST BLOCK DETAILS ARE TYPICAL FOR BOTH BELL AND SPIGOT AND FUSED PIPE.  
 - ALL CONCRETE TO BE A MINIMUM 20 MPa.  
 - ALL BLOCKING SHALL BE AGAINST UNDISTURBED SOIL.



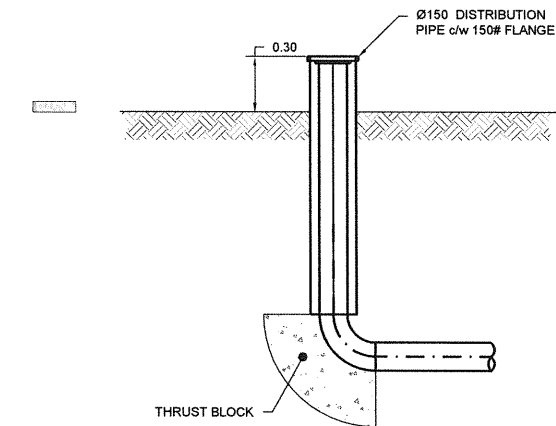
**TYPICAL WATER RISER DETAIL AT SERVICE BUILDING**

SCALE: 1:20



**TYPICAL TRENCHING DETAILS**

SCALE: 1:10



**TYPICAL WATER RISER DETAIL AT CORRIDOR CONNECTION**

SCALE: 1:20

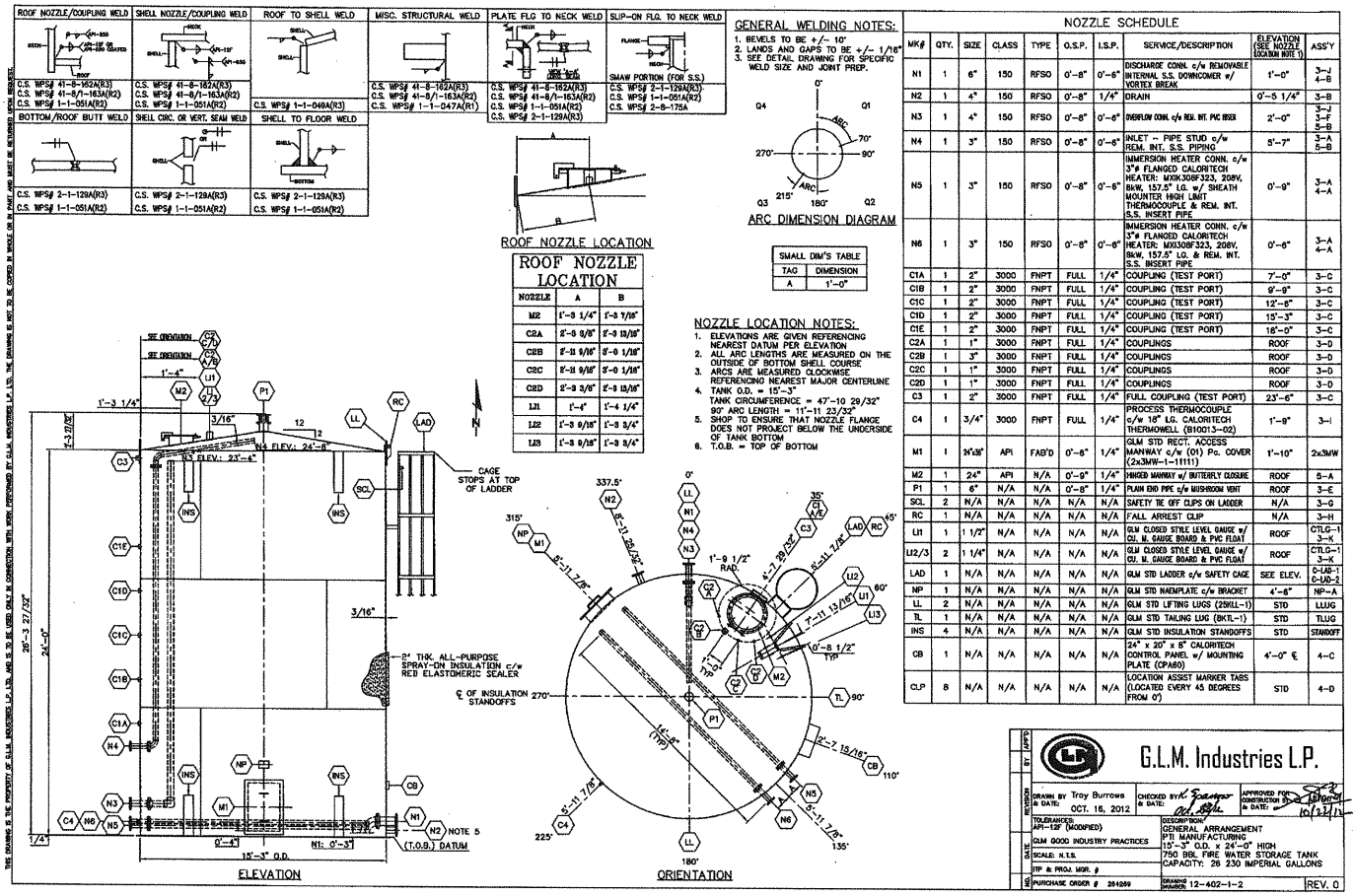
NO.	DATE	APP.	BY	DESCRIPTION
0	JULY 8, 2013	D.B.	J.K.	ISSUED FOR TENDER
A	JUNE 26, 2013	D.B.	J.K.	ISSUED FOR CLIENT REVIEW
REVISIONS				



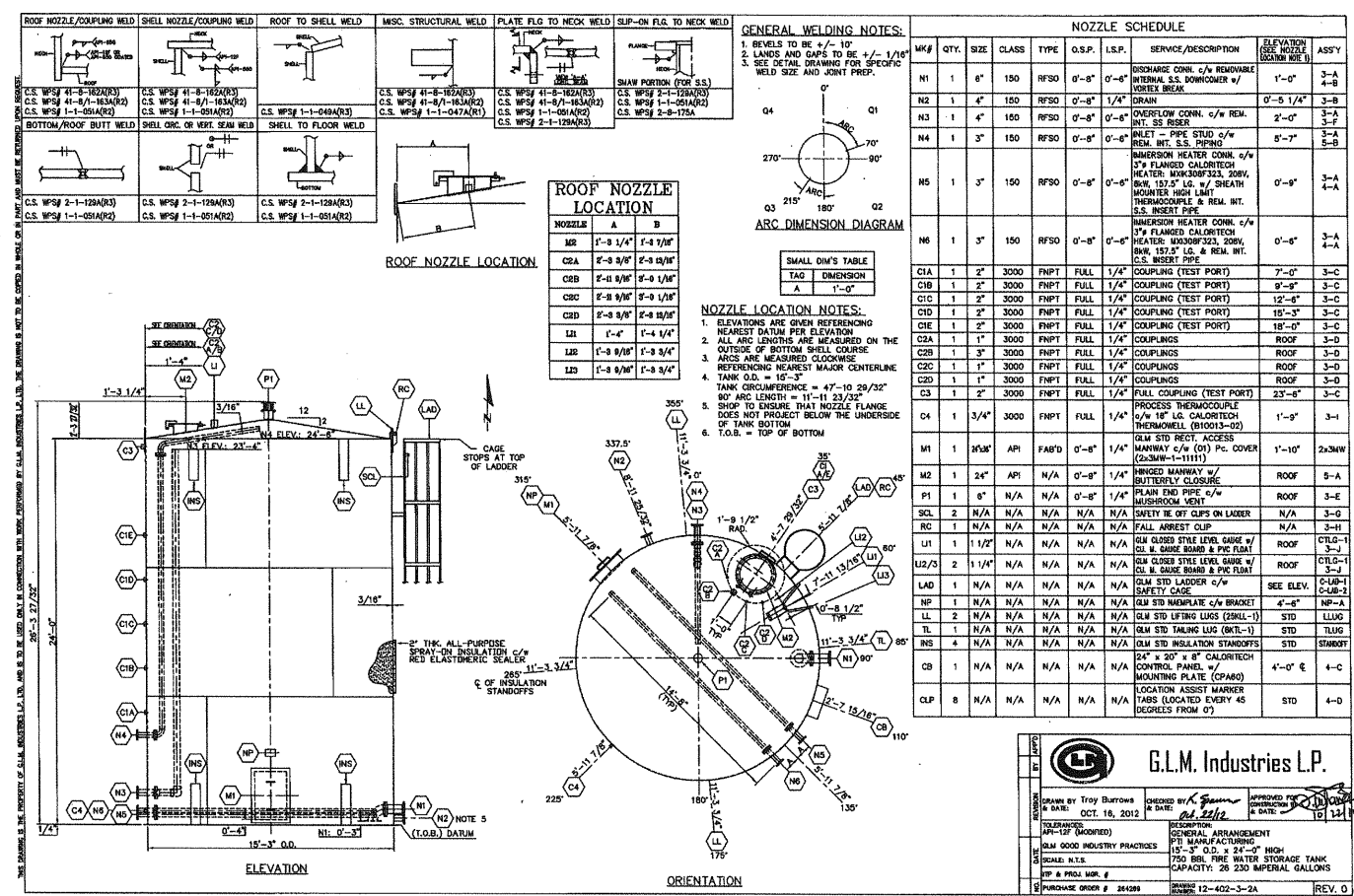
DESIGNED BY: J.A.  
 REVIEWED BY: D.B.  
 DRAWN BY: J.K.  
 PROJECT START DATE: JULY 23, 2012  
 PLOT SIZE: A1 (594x841)  
 SCALE: AS NOTED

PROJECT NAME: MELITA LODGE, MELITA MB  
 PTI PROJECT # 10050  
 1331 Princess Ave.  
 Brandon, Manitoba  
 R7A 0R4  
 Tel: (204) 728-7364  
 Fax: (204) 728-4418

DRAWING TITLE: SITE SERVICES  
 POTABLE WATER  
 SECTIONS AND DETAILS  
 PROJECT NUMBER: BMCE12-061  
 DRAWING NO: C3.3



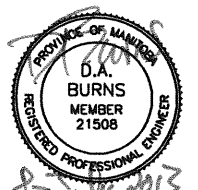
**POTABLE WATER HOLDING TANK GENERAL ARRANGEMENT DRAWING**  
SCALE: N.T.S.



**FIRE WATER HOLDING TANK GENERAL ARRANGEMENT DRAWING**  
SCALE: N.T.S.

NO.	DATE	APP.	BY	DESCRIPTION
0	JULY 8, 2013	D.B.	J.K.	ISSUED FOR TENDER
A	JUNE 26, 2013	D.B.	J.K.	ISSUED FOR CLIENT REVIEW
REVISIONS				

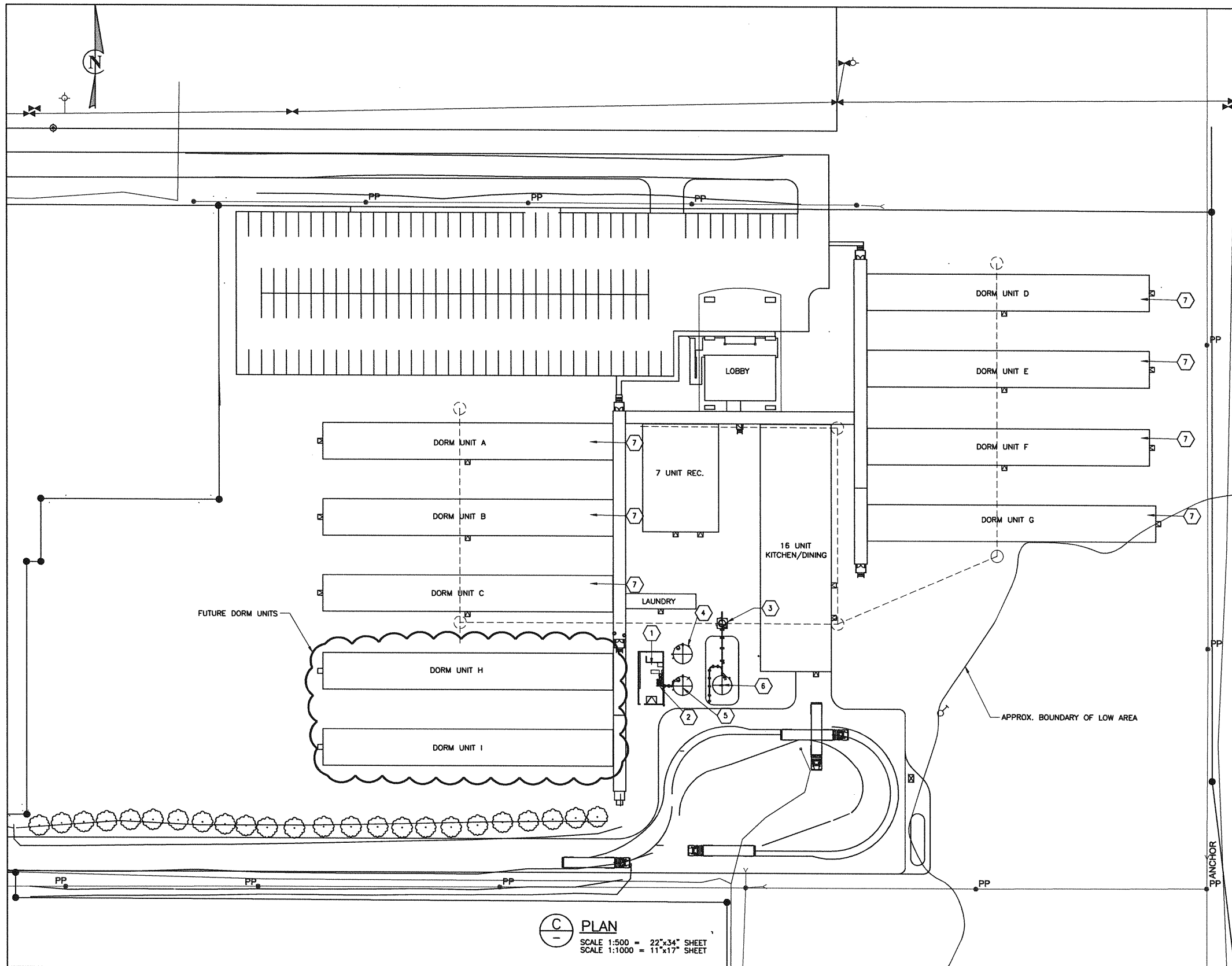
**APEGN**  
Certificate of Authorization  
Burns Maendel Consulting Engineers Ltd.  
No. 4559 Expiry: April 30, 2014



DESIGNED BY: J.A.  
REVIEWED BY: D.B.  
DRAWN BY: J.K.  
PROJECT START DATE: JULY 23, 2012  
PLOT SIZE: A1 (594x841)  
SCALE: AS NOTED

PROJECT NAME:  
**PTI GROUP INC**  
MELITA LODGE, MELITA MB  
PTI PROJECT # 10050  
1331 Princess Ave.  
Brandon, Manitoba  
R7A 0R4  
Tel: (204) 728-7364  
Fax: (204) 728-4418

DRAWING TITLE:  
**SITE SERVICES**  
POTABLE WATER  
SECTIONS AND DETAILS  
PROJECT NUMBER: **BMCE12-061**  
DRAWING NO: **C3.4**



- GENERAL NOTES**
- COORDINATE WORKS WITH OTHER SUB-TRADES. REFER TO BUILDINGS AND TANKS LAYOUT AND SHOP DRAWINGS FOR FIELD RUN PIPING AND EQUIPMENT INSTALLATION.
  - POTABLE COLD WATER, DOW, LINES ARE DIAGRAMATIC; RUN PIPING IN SUITABLE LOCATION. SEE DETAILS.
  - PERFORM WORKS IN ACCORDANCE WITH PLUMBING CODE AND ALL LOCAL APPLICABLE CODES AND REGULATIONS. OBTAIN & PAY FOR ALL APPLICABLE PERMITS & INSPECTIONS.
  - SUPPORT ALL PIPING AS PER ANSI B31.9 & MSS-SP-58 REQUIREMENTS.
  - CO-ORDINATE ALL TE-INS WITH OWNER'S REPRESENTATIVE TO MINIMIZE DISRUPTIONS.
  - INVESTIGATE SITE DURING BID PREPARATION AND PRIOR TO CONSTRUCTION TO CONFIRM PROPOSED PIPE ROUTING AND TE-IN LOCATION SUITABILITY. REPORT ANY ANTICIPATED PROBLEMS PRIOR TO BID SUBMISSION.

- KEY NOTES**
- SERVICES BUILDING; SEE CIVIL & STRUCTURAL DRAWINGS FOR DETAILS.
  - POTABLE WATER DISTRIBUTION PUMP STATION, SEE M1.2 FOR DETAILS.
  - SANITARY LIFT STATION, SEE DRAWING M1.3 FOR DETAILS.
  - 31,500 USG FIRE WATER STORAGE TANK, SUPPLIED OWNER AND INSTALLED BY OTHERS; FOR PIPING AND PUMP DETAILS SEE ?
  - 31,500 USG POTABLE WATER STORAGE TANK, SUPPLIED OWNER & INSTALLED BY CONTRACTOR; INTERCONNECTING PIPING BETWEEN TANK AND POTABLE WATER PUMP STATION, BY MECHANICAL CONTRACTOR
  - 31,500 USG WASTEWATER TANK, SUPPLIED OWNER & INSTALLED BY CONTRACTOR; INTERCONNECTING PIPING BETWEEN TANK AND LIFT PUMP STATION, BY MECHANICAL CONTRACTOR
  - CAMP DORM, TYP.
  - SITE DOMESTIC WATER SANITARY SERVICES NOT SHOWN. SEE BMCE DRAWINGS C2.1 & C2.2.

**C PLAN**  
 SCALE 1:500 = 22"x34" SHEET  
 SCALE 1:1000 = 11"x17" SHEET

NO.	DATE	APP.	BY	DESCRIPTION
0	JULY 4, 2013	AG	AS	ISSUED FOR TENDER
A	JUNE 21, 2013	AG	AS	PROGRESS ISSUE FOR CLIENT REVIEW
REVISIONS				

**ALLIANCE**  
Engineering Services Inc.

**APECA**  
Certificate of Authorization  
Alliance Engineering Services Inc.  
No.2906 Date: \_\_\_\_\_

**PROVING OF APTITUDE**  
A.F.G.  
GOSEN  
05-10L-13  
REGISTERED PROFESSIONAL ENGINEER

DESIGNED BY: AS    REVIEWED BY: AG

DRAWN BY: J.G.

PROJECT START DATE: JUNE 3, 2013

PLOT SIZE: D(22X34)

SCALE: AS SHOWN

**MELITA LODGE, MELITA MB**  
PTI PROJECT # 10050

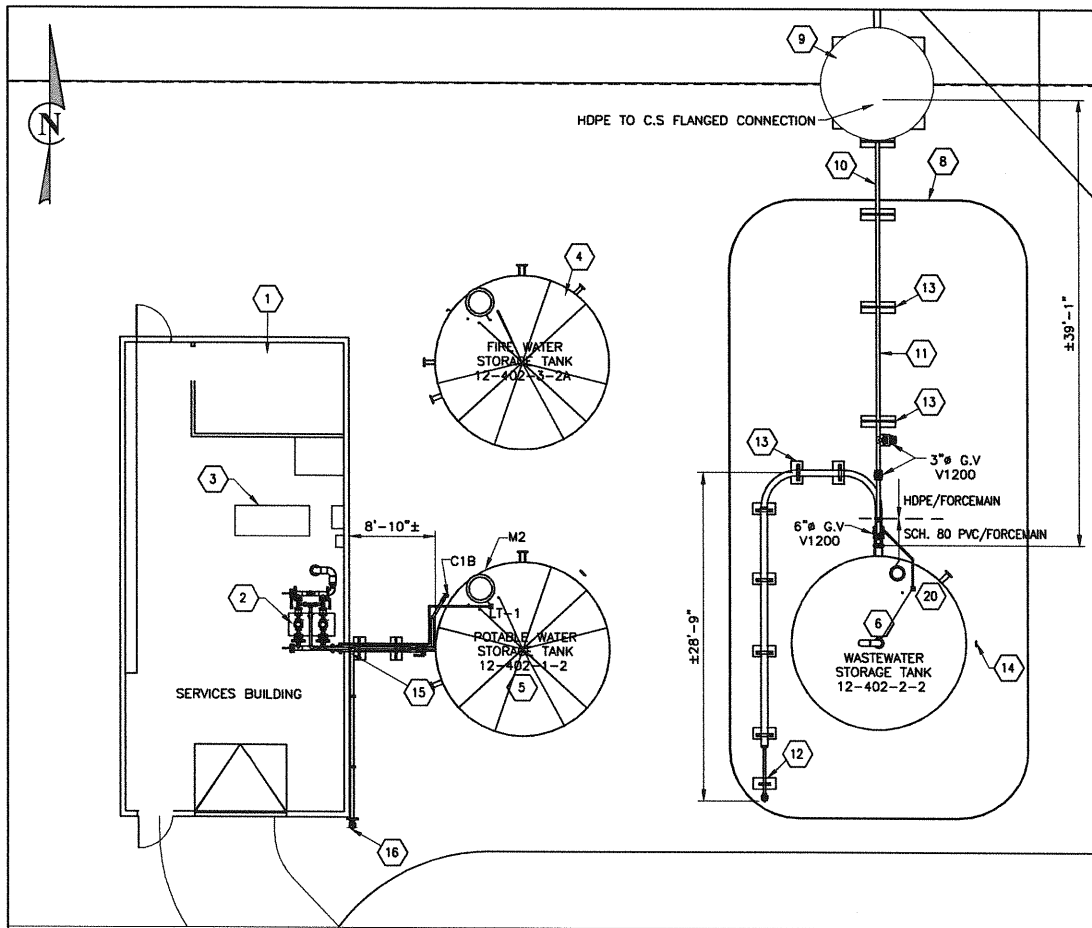
**BURNS MAENDEL**  
CONSULTING ENGINEERS LTD.

1331 Princess Ave.  
Brandon, Manitoba  
R7A 0R4  
Tel: (204) 728-7364  
Fax: (204) 728-4418

DRAWING TITLE: **SITE SERVICES -MECHANICAL POTABLE WATER & SANITARY GENERAL ARRANGEMENT PLAN**

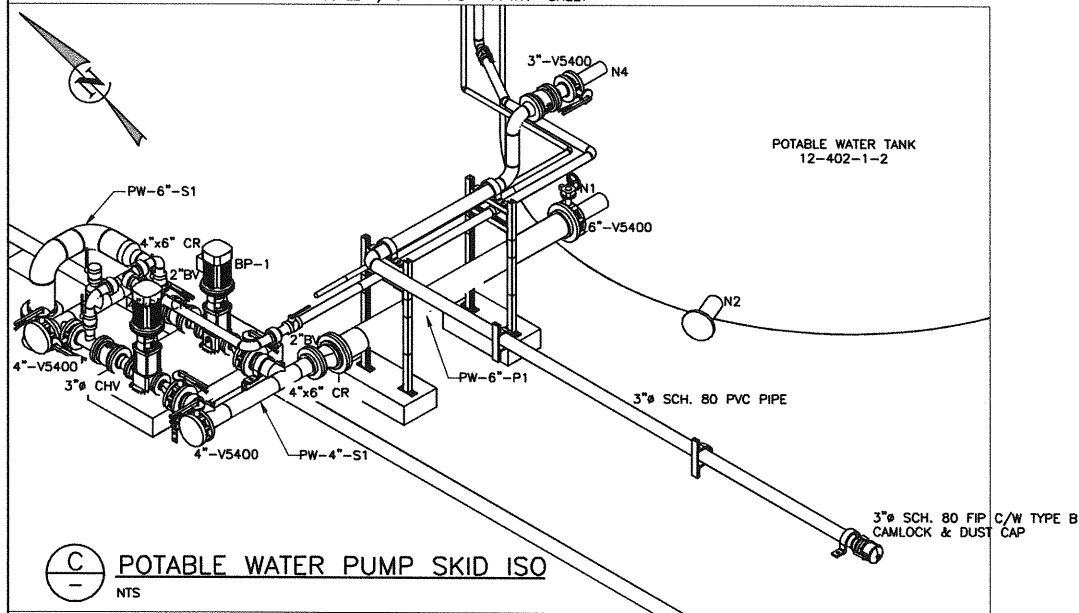
PROJECT NUMBER: **BMCE-12-061**

DRAWING NO: **M1.1**



**A POTABLE WASTEWATER PART PLAN**

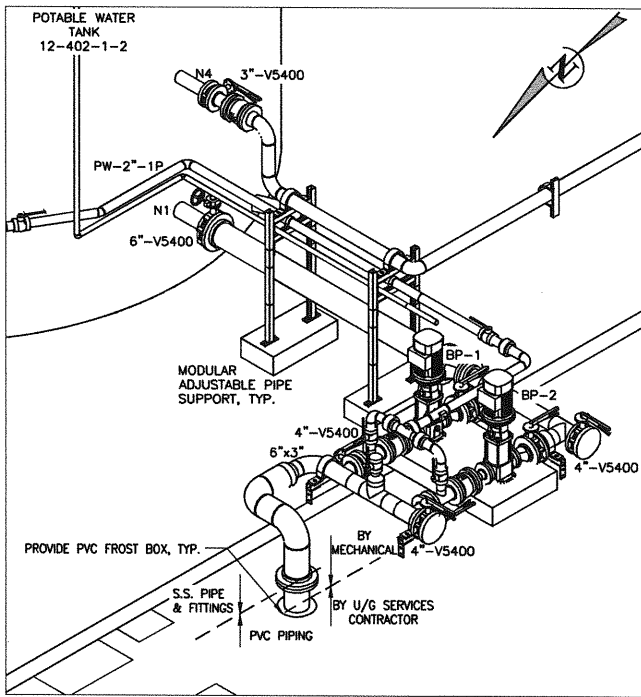
SCALE 1/8" = 1'-0" 22"x34" SHEET  
SCALE 1/16" = 1'0" 11"x17" SHEET



**C POTABLE WATER PUMP SKID ISO**

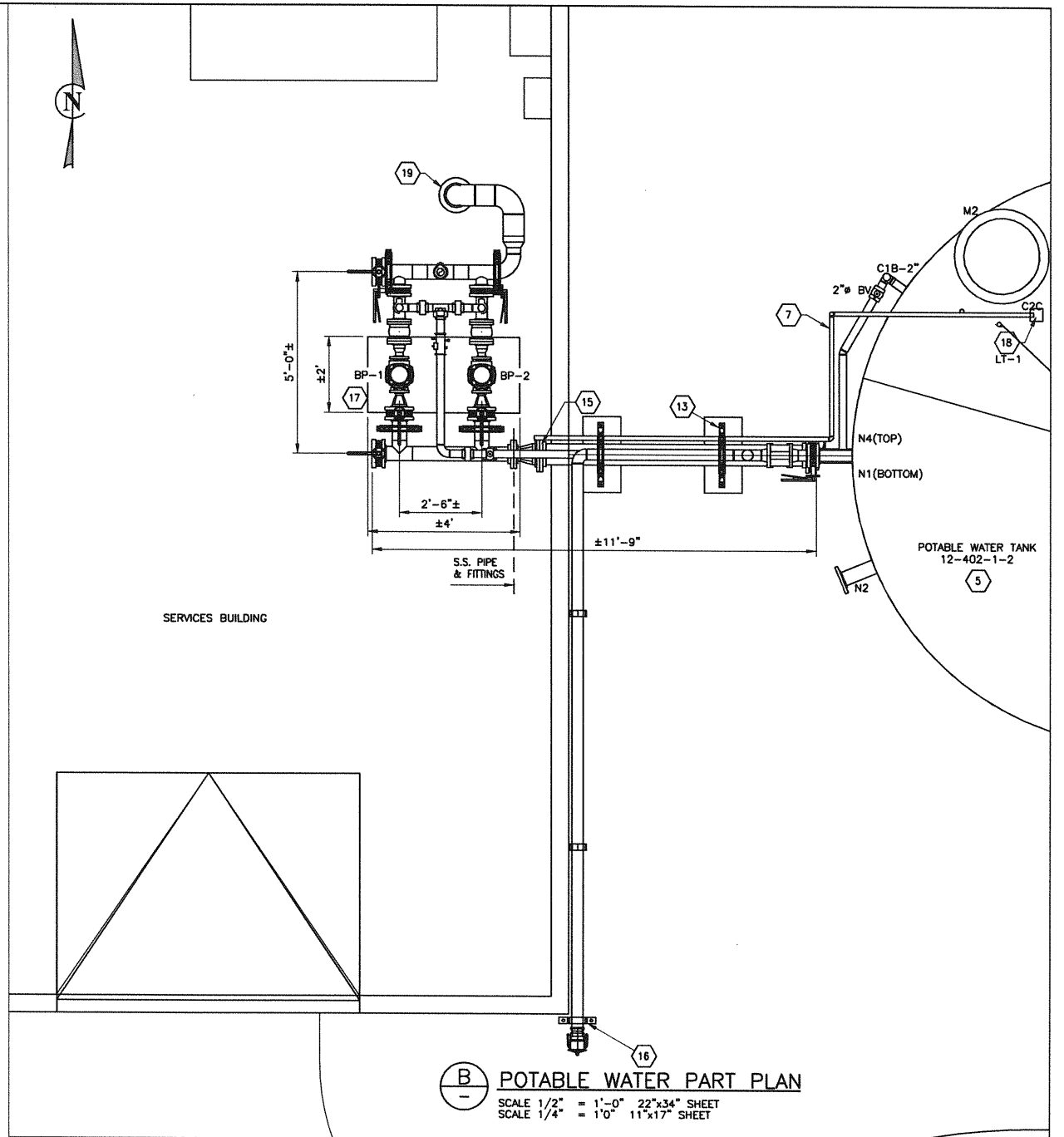
NTS

- KEY NOTES**
- 1 SERVICES BUILDING; SEE CIVIL/STRUCTURAL FOR DETAILS.
  - 2 POTABLE WATER BOOSTER STATION, SEE DETAIL.
  - 3 ENGINE DRIVEN FIRE PUMP & PIPING, BY OTHERS.
  - 4 31,500 USG FIRE WATER STORAGE TANK, 12-402-3-2A, SUPPLIED AND INSTALLED BY OTHERS
  - 5 31,500 USG POTABLE WATER STORAGE TANK, 12-402-1-2, SUPPLIED & INSTALLED BY OTHERS, INTERCONNECTING PIPING BETWEEN TANK AND POTABLE WATER PUMP STATION, BY MECHANICAL CONTRACTOR
  - 6 31,500 USG WASTEWATER STORAGE TANK, SUPPLIED & INSTALLED BY OTHERS, INTERCONNECTING PIPING BETWEEN TANK AND LIFT PUMP STATION, BY MECHANICAL CONTRACTOR
  - 7 1" CONDUIT FOR LEVEL TRANSMITTER, LT-1, TO BOOSTER PUMPS CONTROL PANEL. SEE ELECTRICAL FOR DETAILS.
  - 8 SPILL CONTAINMENT WALL AND LINER, BY GENERAL CONTRACTOR
  - 9 WASTEWATER LIFT STATION, SEE DETAILS, M1.3 & M1.4
  - 10 3" HDPE INSULATED & HEAT TRACED DOMESTIC WASTE FORCEMAIN FROM LIFT STATION, LINE ABOVE GROUND.
  - 11 RUN 3" DOMESTIC WASTEWATER FORCEMAIN ABOVE GROUND; PROVIDE PIPE SUPPORTS AS REQUIRED. RUN PIPE UP TO NOZZLE N6
  - 12 RUN 6" WASTEWATER TRUCK LOADING ABOVE GROUND; PROVIDE PIPE SUPPORTS AS REQUIRED. REDUCE TO 2", C/W CAMLOCK & CAP
  - 13 PIPE SUPPORT, TYP.
  - 14 2" AIR SPARGER CONNECTION, RFSO, NOZZLE N1; PROVIDE PIPE SPOOL C/W BALL VALVE & CAP
  - 15 6" GRAVITY POTABLE WATER LINE TO POTABLE BOOSTER PUMPS MANIFOLD, INSULATED & HEAT TRACED, SUPPORT LINE.
  - 16 3" POTABLE WATER INLET FROM TANKER TRUCK TO DOMESTIC WATER TANK, INSULATED & HEAT TRACED, SUPPORT LINE AS REQUIRED.
  - 17 4"x2"x6" HIGH BOOSTER PUMPS HOUSEKEEPING PAD; ANCHOR BOLT PUMPS TO PAD LEVEL; SHIM AS REQUIRED.
  - 18 LEVEL PROBE AND TRANSMITTER, LT-1, SEE SPECS FOR DETAILS.
  - 19 PROVIDE PVC FROST BOX, TYP.
  - 20 WASTEWATER LEVEL TANK TRANSMITTER, PROVIDE 1" PVC CONDUIT FOR CONTROL CONDUCTORS TO LS-1 CONTROL PANEL.



**D POTABLE WATER PUMP SKID ISO**

NTS



**B POTABLE WATER PART PLAN**

SCALE 1/2" = 1'-0" 22"x34" SHEET  
SCALE 1/4" = 1'0" 11"x17" SHEET

**GENERAL NOTES**

1. COORDINATE WORKS WITH OTHER SUB-TRADES. REFER TO BUILDINGS AND TANKS LAYOUT AND SHOP DRAWINGS FOR FIELD RUN PIPING AND EQUIPMENT INSTALLATION.
2. DOMESTIC COLD WATER, DCW, LINES ARE DIAGRAMATIC; RUN PIPING IN SUITABLE LOCATION. SEE DETAILS
3. PERFORM WORKS IN ACCORDANCE WITH PLUMBING CODE AND ALL LOCAL APPLICABLE CODES AND REGULATIONS. OBTAIN & PAY FOR ALL APPLICABLE PERMITS & INSPECTIONS.
4. SUPPORT ALL PIPING AS PER ANSI B31.9 & MSS-SP-58 REQUIREMENTS.
5. CO-ORDINATE ALL TIE-INS WITH OWNER'S REPRESENTATIVE TO MINIMIZE DISRUPTIONS.
6. INVESTIGATE SITE DURING BID PREPARATION AND PRIOR TO CONSTRUCTION TO CONFIRM PROPOSED PIPE ROUTING AND TIE-IN LOCATION SUITABILITY. REPORT ANY ANTICIPATED PROBLEMS PRIOR TO BID SUBMISSION.

NO.	DATE	APP.	BY	DESCRIPTION
0	JULY 4, 2013	AG	AS	ISSUED FOR TENDER
A	JUNE 21, 2013	AG	AS	PROGRESS ISSUE FOR CLIENT REVIEW
REVISIONS				

**ALLIANCE**  
Engineering Services Inc.

**AFECN**  
Certificate of Authorization  
Alliance Engineering Services Inc.  
No.2906 Date: \_\_\_\_\_



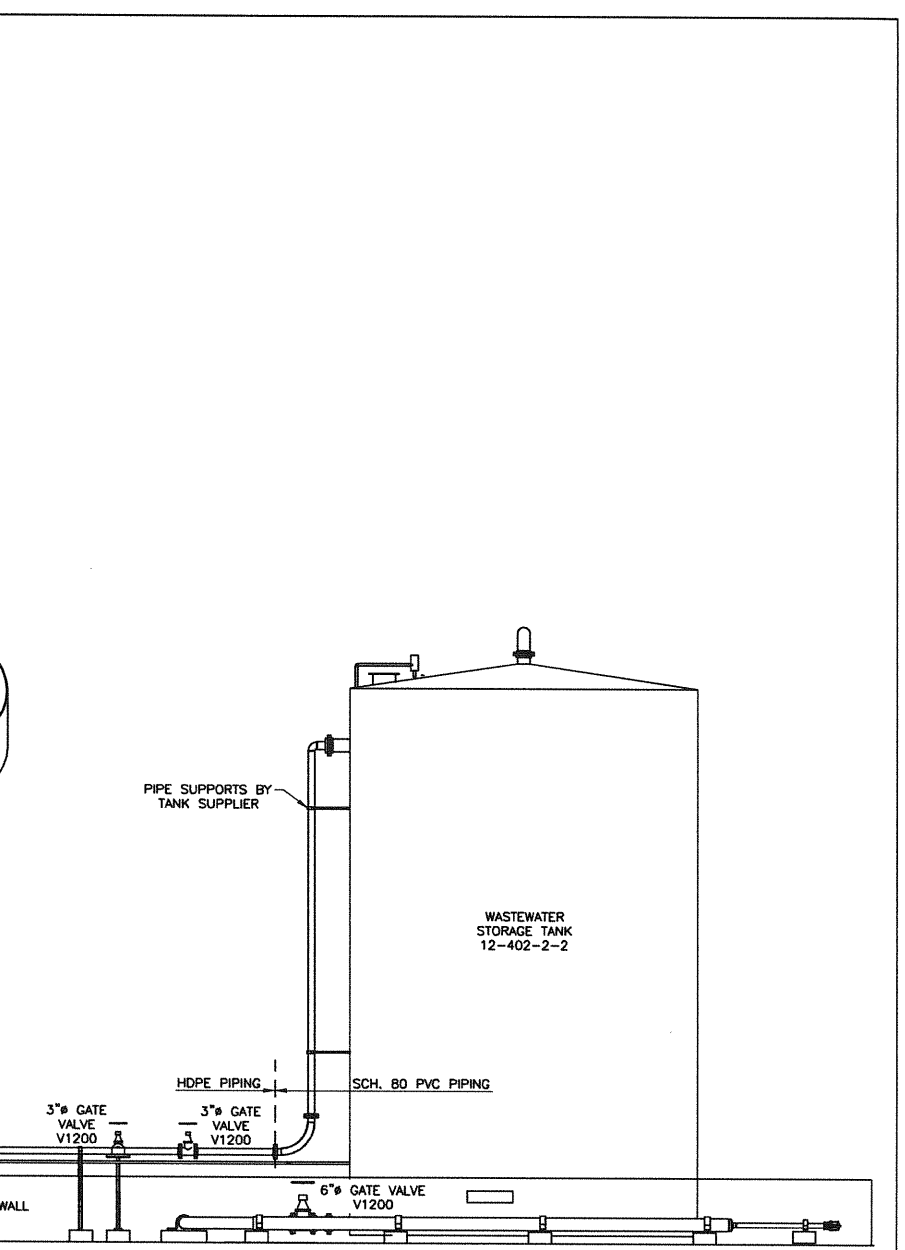
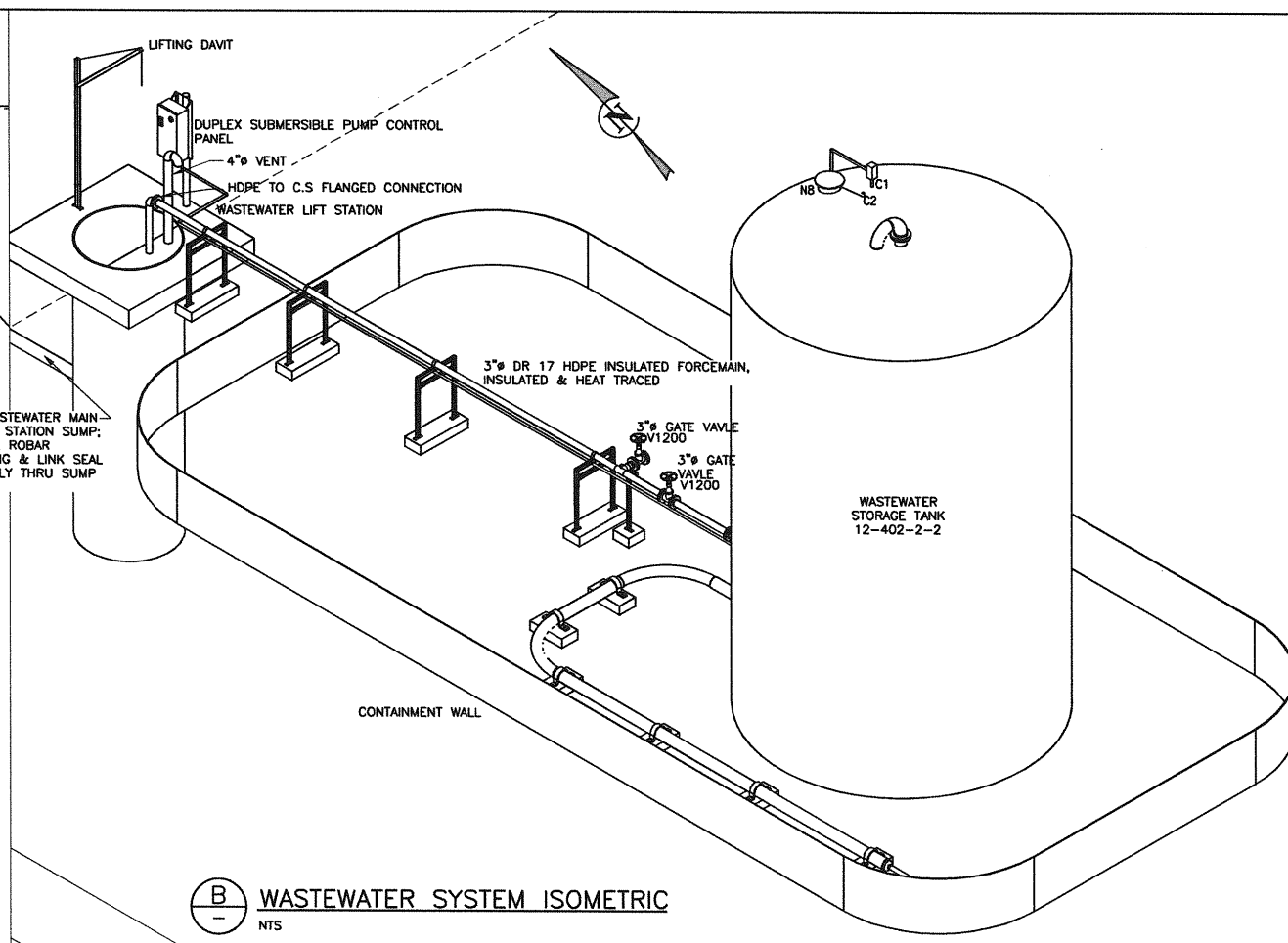
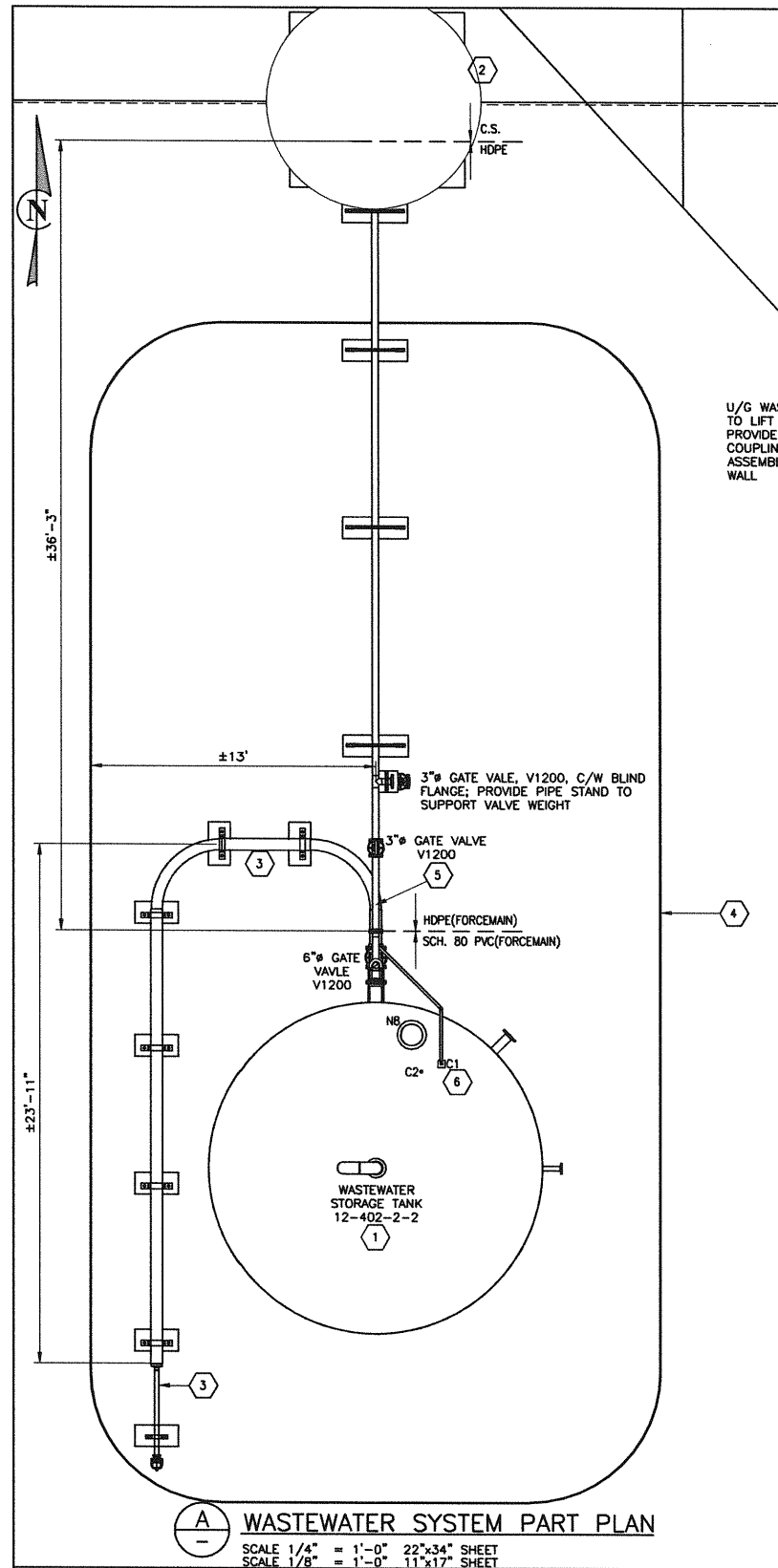
DESIGNED BY: I.U.  
REVIEWED BY: I.U.  
DRAWN BY: J.G.  
PROJECT START DATE: JUNE 3, 2013  
PLOT SIZE: D(22X34)  
SCALE: AS SHOWN

MELITA LODGE, MELITA MB  
PTI PROJECT # 10050



1331 Princess Ave.  
Brandon, Manitoba  
R7A 0R4  
Tel: (204) 728-7364  
Fax: (204) 728-4418

DRAWING TITLE:  
SITE SERVICES -MECHANICAL  
POTABLE WATER AND WASTEWATER  
PART PLANS AND DETAILS  
PROJECT NUMBER: BMCE-13-M902-2  
DRAWING NO: M1.2



- KEY NOTES**
- 1 WASTEWATER TANK, 31,500usg, SUPPLIED & INSTALLED BY OTHERS'; ALL WASTEWATER PIPING BY CONTRACTOR
  - 2 WASTEWATER LIFT STATION; U/G WASTEWATER DRAIN TO SUMP BY OTHERS; FOR LIFT STATION DETAILS, SEE M1.4
  - 3 6" HDPE WASTEWATER VACUUM TRUCK LINE, INSULATED & HEAT TRACED; TERMINATE WITH 3" TYPE D CAMLOCK C/W DUST CAP.
  - 4 WASTEWATER TANK CONTAINMENT WALL, BY OTHERS
  - 5 PROVIDE BASE ELBOW SUPPORT, SUPPORT NOT SHOWN.
  - 6 WASTEWATER LEVEL TANK TRANSMITTER, PROVIDE 1" PVC CONDUIT FOR CONTROL CONDUCTORS TO LS-1 CONTROL PANEL.

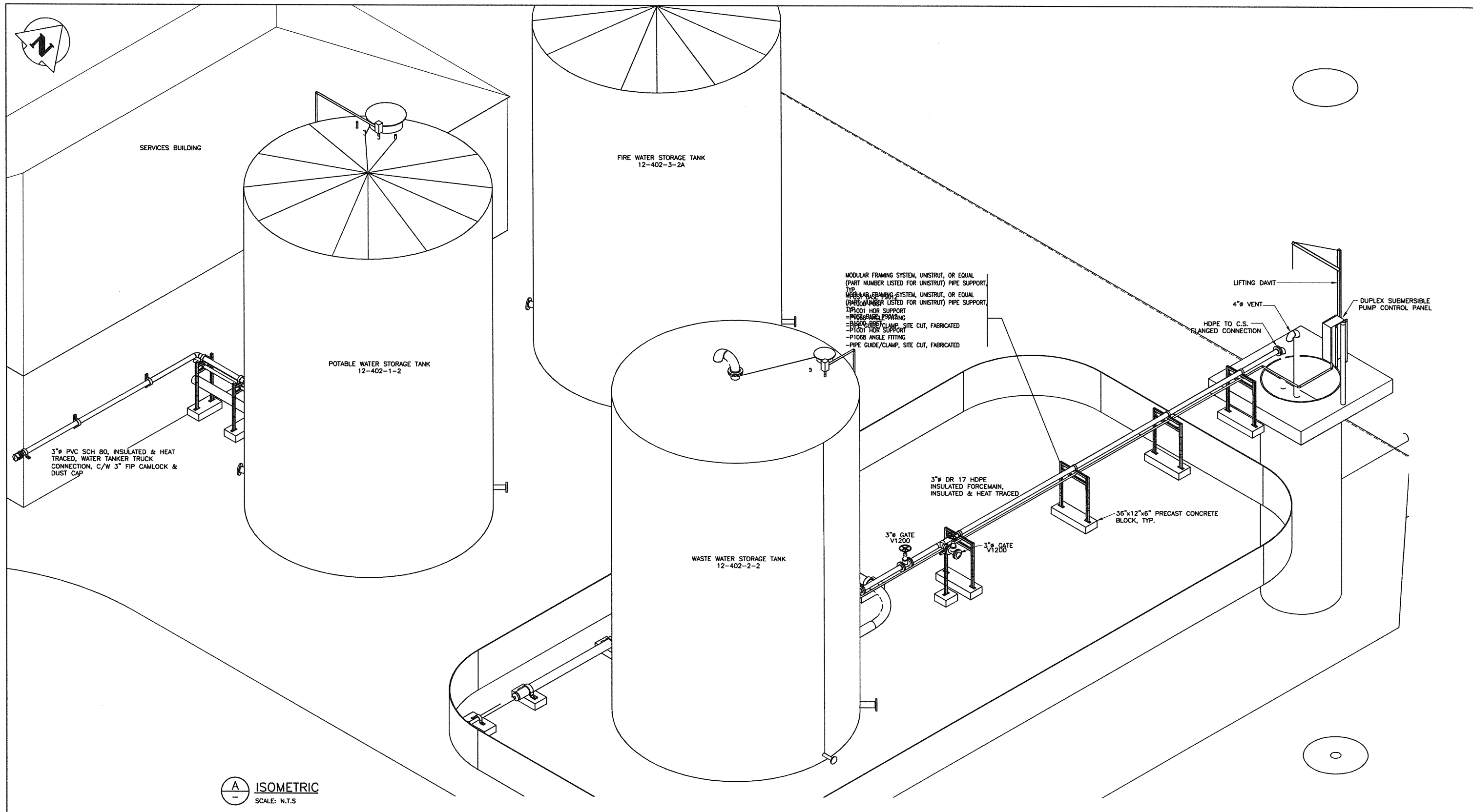
**WASTEWATER SYSTEM ELEVATION (C)**  
 SCALE 1/4" = 1'-0" 22"x34" SHEET  
 SCALE 1/8" = 1'-0" 11"x17" SHEET

- GENERAL NOTES**
1. COORDINATE WORKS WITH OTHER SUB-TRADES. REFER TO BUILDINGS AND TANKS LAYOUT AND SHOP DRAWINGS FOR FIELD RUN PIPING AND EQUIPMENT INSTALLATION.
  2. DOMESTIC COLD WATER, DCW, LINES ARE DIAGRAMATIC; RUN PIPING IN SUITABLE LOCATION. SEE DETAILS
  3. PERFORM WORKS IN ACCORDANCE WITH PLUMBING CODE AND ALL LOCAL APPLICABLE CODES AND REGULATIONS. OBTAIN & PAY FOR ALL APPLICABLE PERMITS & INSPECTIONS.
  4. SUPPORT ALL PIPING AS PER ANSI B31.9 & MSS-SP-58 REQUIREMENTS.
  5. CO-ORDINATE ALL TE-INS WITH OWNER'S REPRESENTATIVE TO MINIMIZE DISRUPTIONS.
  6. INVESTIGATE SITE DURING BID PREPARATION AND PRIOR TO CONSTRUCTION TO CONFIRM PROPOSED PIPE ROUTING AND TE-IN LOCATION SUITABILITY. REPORT ANY ANTICIPATED PROBLEMS PRIOR TO BID SUBMISSION.

NO.	DATE	APP.	BY	DESCRIPTION
0	JULY 4, 2013	AG	AS	ISSUED FOR TENDER
A	JUNE 21, 2013	AG	AS	PROGRESS ISSUE FOR CLIENT REVIEW
REVISIONS				

 Certificate of Authorization Alliance Engineering Services Inc. No.2906 Date: _____	 A.F.G. GOSSEN REGISTERED PROFESSIONAL ENGINEER	DESIGNED BY: AS REVIEWED BY: AG DRAWN BY: J.G. PROJECT START DATE: JUNE 3, 2013 PLOT SIZE: D(22X34) SCALE: AS SHOWN	PROJECT NAME: <b>MELITA LODGE, MELITA MB</b> <b>PTI PROJECT # 10050</b>  1331 Princess Ave. Brandon, Manitoba R7A 0R4 Tel: (204) 728-7364 Fax: (204) 728-4418	DRAWING TITLE: <b>SITE SERVICES -MECHANICAL</b> <b>POTABLE WATER &amp; WASTEWATER</b> <b>PART PLAN AND DETAILS</b> PROJECT NUMBER: <b>BMCE-13-M902-2</b> DRAWING NO: <b>M1.3</b>
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**A** ISOMETRIC  
SCALE: N.T.S

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A	JUNE 21, 2013	AG	AS	PROGRESS ISSUE FOR CLIENT REVIEW
REVISIONS				

**ALLIANCE**  
Engineering Services Inc.

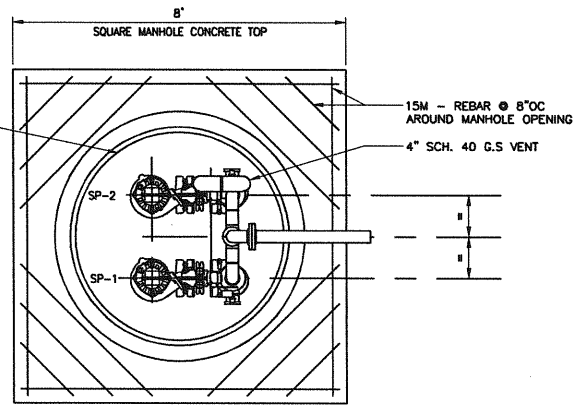
**APECM**  
Certificate of Authorization  
Alliance Engineering Services Inc.  
No.2906 Date: \_\_\_\_\_

PROVINCE OF MANITOBA  
**A.F.G. GOSSEN**  
05-10L-13  
REGISTERED PROFESSIONAL ENGINEER

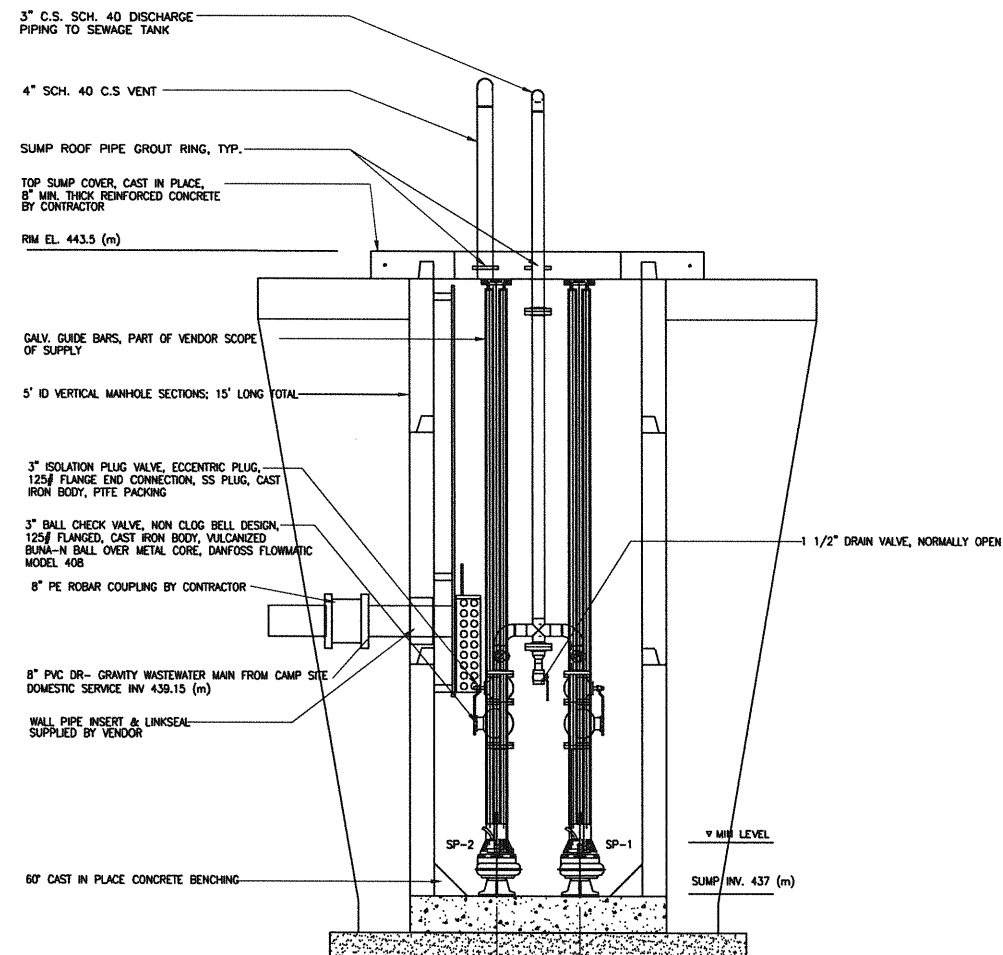
DESIGNED BY: AS	REVIEWED BY: AG	PROJECT NAME: <b>MELITA PREMIUM CAMP MELITA</b>
DRAWN BY: J.G.		<p><b>BURNS MAENDEL</b> CONSULTING ENGINEERS LTD.</p> <p>1331 Princess Ave. Brandon, Manitoba R7A 0R4 Tel: (204) 728-7364 Fax: (204) 728-4418</p>
PROJECT START DATE: JUNE 3, 2013		
PLOT SIZE: D(22X34)		
SCALE: AS SHOWN		

DRAWING TITLE: <b>SITE SERVICES -MECHANICAL POTABLE WATER &amp; WASTEWATER ISOMETRIC</b>	
PROJECT NUMBER: <b>BMCE-13-M902-2</b>	DRAWING NO: <b>M1.4</b>

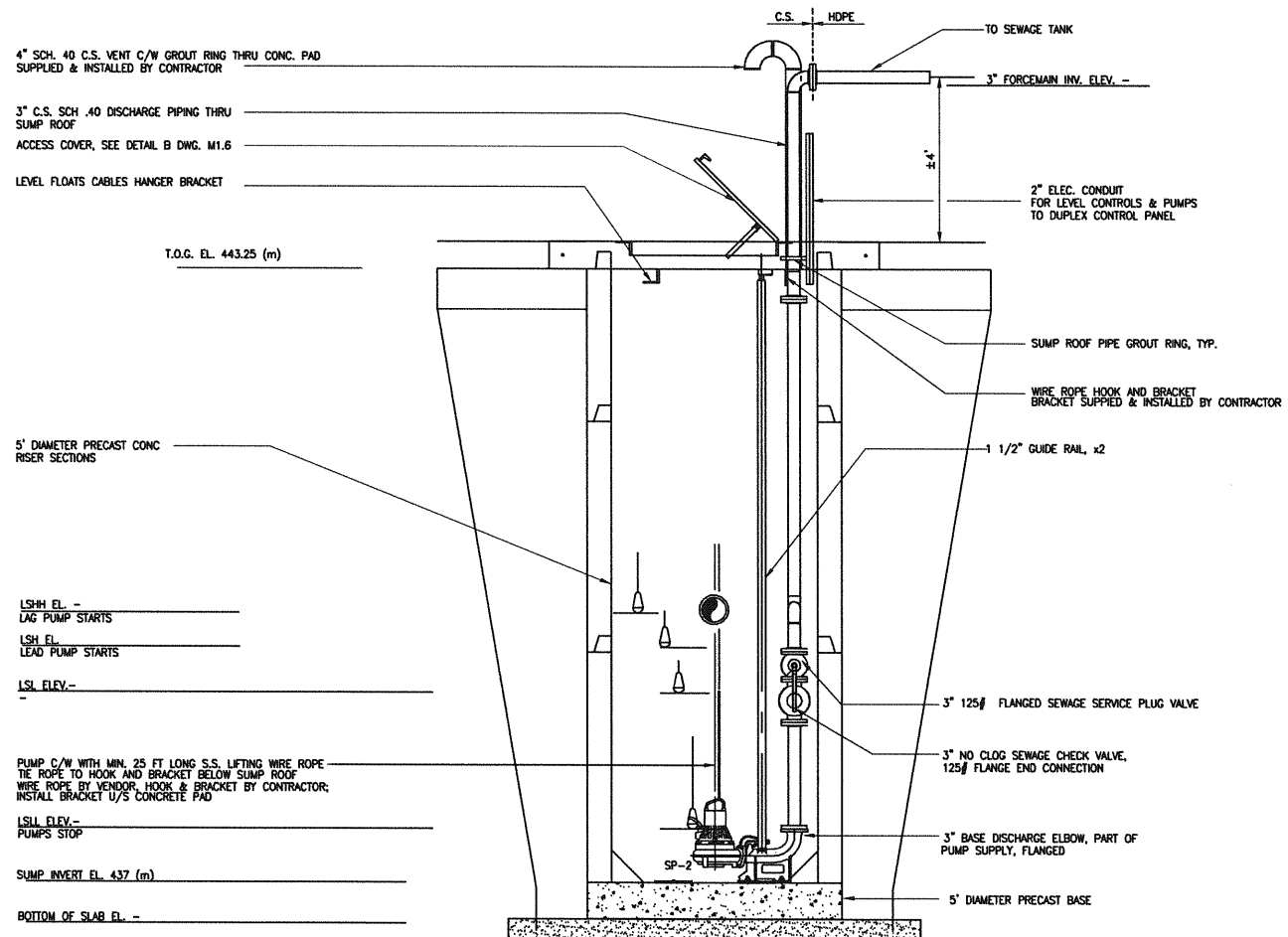
ACCESS COVER:  
INSTALL 4'-0"x2'-8" ACCESS & SERVICE COVER  
SUPPLIED BY VENDOR  
HATCH COVER FLUSHED WITH TOP OF CONCRETE  
SEE HALLIDAY PRODUCTS DATA SHEET FOR INSTALLATION



**(A) LIFT STATION PLAN**  
SCALE 1/2"=1'-0" 24"x36"



**(-/-) LIFT STATION ELEVATION**  
NTS



**(-/-) LIFT STATION ELEVATION**  
NTS

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REVISIONS				

**ALLIANCE**  
Engineering Services Inc.

**APECA**  
Certificate of Authorization  
Alliance Engineering Services Inc.  
No.2906 Date: \_\_\_\_\_



DESIGNED BY: \_\_\_\_\_ REVIEWED BY: \_\_\_\_\_ PROJECT NAME:  
DRAWN BY: \_\_\_\_\_  
PROJECT START DATE: \_\_\_\_\_  
PLOT SIZE: A1 (594x841)  
SCALE: AS NOTED

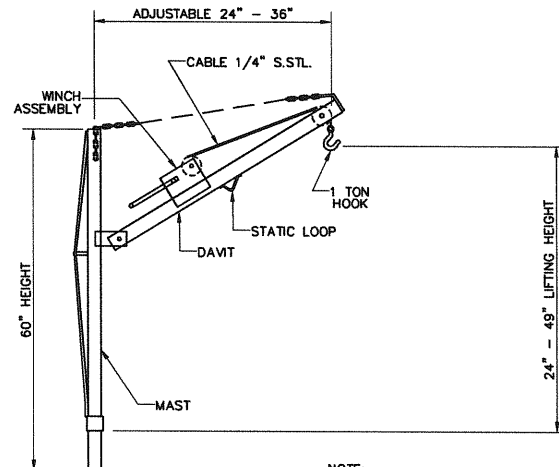
MELIT LODGE, MELITA MB  
PTI PROJECT # 10050



1331 Princess Ave.  
Brandon, Manitoba  
R7A 0R4  
Tel: (204) 728-7364  
Fax: (204) 728-4418

DRAWING TITLE:  
**SITE SERVICES  
POTABLE WATER & SANITARY  
LIFT STATION - DETAILS**  
PROJECT NUMBER: **BMCE-13-M902-2**  
DRAWING NO: **M1.5**

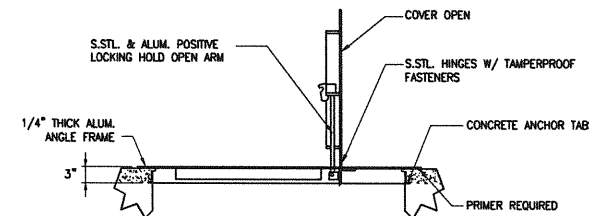
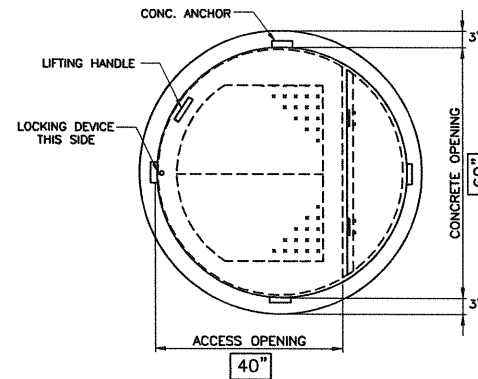
- STANDARD FEATURES:**
- TYPE-304 STAINLESS STEEL CONSTRUCTION
  - 30 FEET (9 METERS) OF 1/4" (7 MM) STAINLESS STEEL CABLE
  - GALVANIZED 1 TON HOOK
  - DUTTON-LAINSON MARINE GRADE BREAK WINCH
  - ADJUSTABLE REACH IN 1" (25 MM) INCREMENTS
- OPTIONS:**
- TYPE-316 CONSTRUCTION
  - ADDITIONAL CABLE AVAILABLE (SPECIFY LENGTH)
  - STAINLESS STEEL WINCH
  - STAINLESS STEEL HOOK



**NOTE:**

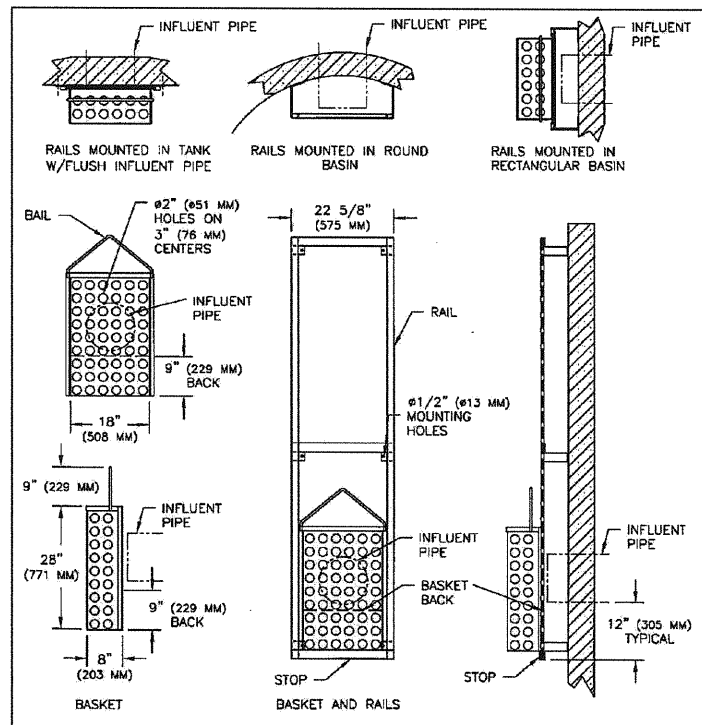
1. STAINLESS STEEL PORTABLE HOIST SHOULD NOT BE USED TO MOVE PEOPLE OR LOADS ABOVE PEOPLE.
2. INSPECT CABLES AND HOOK CONNECTIONS BEFORE EACH USE.

**A** PORTABLE HOIST - DETAIL  
SCALE: N.T.S

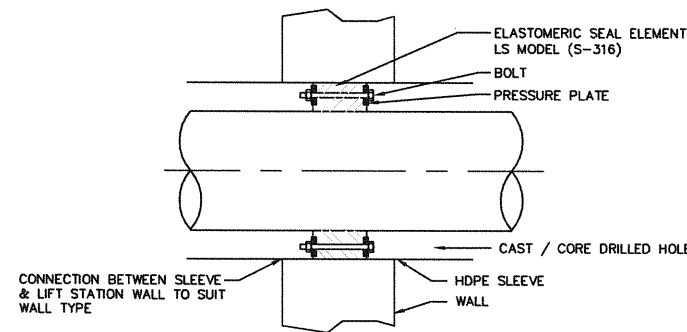


**B** SUMP COVER - DETAIL  
SCALE: N.T.S

EQUIPMENT LIST				
TAG	SUPPLIER	MODEL	PERFORMANCE	COMMENTS
BP-1	XYLEM	-	AS SPECIFIED	-
BP-2	XYLEM	-	AS SPECIFIED	-
SP-1	ZOELLER	-	AS SPECIFIED	-
SP-2	ZOELLER	-	AS SPECIFIED	-
BPV-1	CLAVAL	-	AS SPECIFIED	-



**C** TRASH BASKET - DETAIL  
SCALE: N.T.S

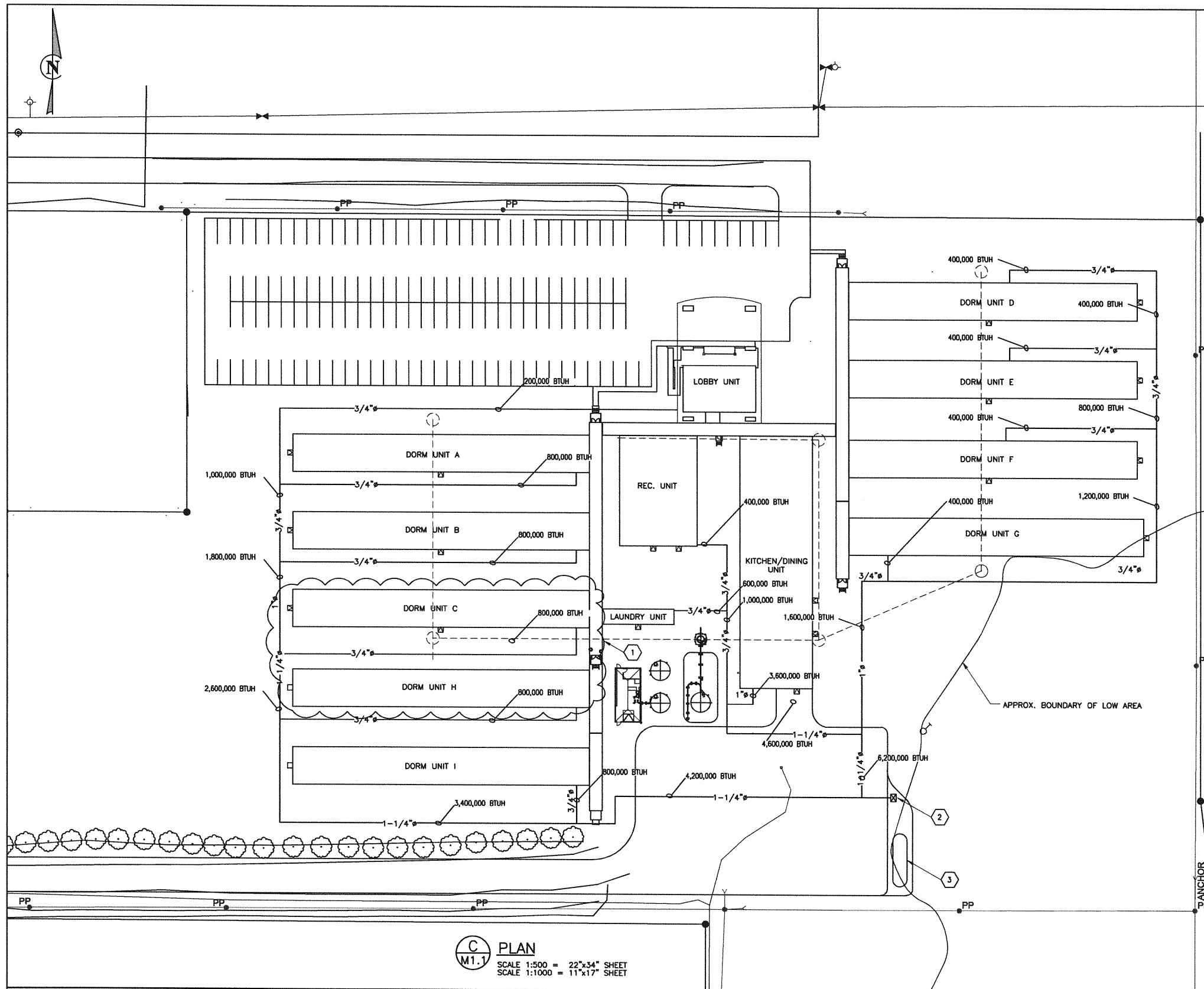


- APPLICATION NOTES:**
1. CONCRETE OR FRP WALL
  2. PIPE MATERIAL: STAINLESS STEEL, PVC OR FRP PIPE; NON-INSULATED.
  3. CONDITION:
    - a) DRY TO DRY
    - b) WET TO DRY
    - c) HORIZONTAL OR VERTICAL
    - b) INTERIOR TO UNDERGROUND

**D** LINK SEAL - DETAIL  
SCALE: N.T.S

NO.	DATE	APP.	BY	DESCRIPTION
0	JULY 4, 2013	AG	AS	ISSUED FOR TENDER
A	JUNE 21, 2013	AG	AS	PROCESS ISSUE FOR CLIENT REVIEW
REVISIONS				

 Certificate of Authorization Alliance Engineering Services Inc. No.2906 Date: _____	 A.F.G. GOSSEN 05-JUL-13 REGISTERED PROFESSIONAL ENGINEER	DESIGNED BY: _____ REVIEWED BY: _____ PROJECT NAME: MELIT LODGE, MELITA MB PTI PROJECT # 10050 DRAWN BY: _____ PROJECT START DATE: _____ PLOT SIZE: A1 (594x841) SCALE: AS NOTED	DRAWING TITLE: SITE SERVICES - MECHANICAL POTABLE WATER & SANITARY DETAILS PROJECT NUMBER: BMCE-13-M902-2 DRAWING NO: M1.6
 1331 Princess Ave. Brandon, Manitoba R7A 0R4 Tel: (204) 728-7364 Fax: (204) 728-4418			



**C PLAN**  
 M1.1  
 SCALE 1:500 = 22"x34" SHEET  
 SCALE 1:1000 = 11"x17" SHEET

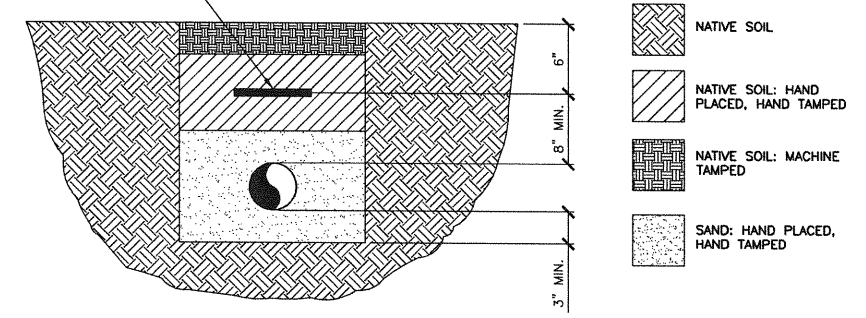
**GENERAL NOTES**

1. PROPANE PIPING IS TO BE SUPPLIED AND INSTALLED IN ACCORDANCE WITH CSA B149.1, CSA B149.2, AND MANITOBA GAS NOTICES.
2. ALL PE PIPE & FITTINGS TO BE THERMAL FUSION WELDED SDR 8.8.
3. PE MATERIALS SHALL BE IN COMPLIANCE WITH CSA B137.4. PIPE AND FITTINGS SHALL BE CSA APPROVED AND OF THE SAME COMPOUND, WITH A MINIMUM MATERIAL DESIGNATION OF PE2708. ANODELESS STEEL PIPE RISERS ARE TO BE SCHED 40 TO ASTM A53.
4. MINIMUM 14 AWG TWY COPPER TRACE WIRE IS TO BE FASTENED TO THE GAS LINE AT REGULAR INTERVALS USING LOW CONDUCTIVITY ELECTRICIAN'S TAPE.
5. PROPANE GAS LINE RUN AT 7 PSI, 1050' MAX RUN LENGTH.
6. ALL PIPING BELOW PARKING LOT AND DRIVEWAY TO BE MINIMUM 2' BELOW GRADE AS PER CSA B149.1, CLAUSE 6.15.4.
7. ALL PIPING AND EQUIPMENT FROM LPG TRUCK TO GAS RISER TO BE SUPPLIED, INSTALLED, AND CERTIFIED BY OTHERS.
8. FOLLOWING PRESSURE TESTING, PURGE THE DISTRIBUTION SYSTEM IN ACCORDANCE WITH CSA B149.1, CLAUSE 6.23.

**KEY NOTES**

- 1 ROUGHED-IN FOR FUTURE UNIT INSTALLATION.
- 2 ASSUMED VAPORIZER LOCATION, BY OTHERS. CONFIRM CONNECTION DETAILS. 7 PSIG SUPPLY.
- 3 PROPANE STORAGE BY OTHERS.

GAS PIPE MARKER TAPE



**TRENCHING AND BACKFILL REQUIREMENTS:**  
 1. A TRENCH FOR UNDERGROUND PIPING SHALL BE PROPERLY GRADED TO PREVENT A SAG IN THE PIPING.  
 2. BACKFILL MATERIAL SHALL BE FREE OF SHARP OBJECTS, LARGE STONES OR ANY MATERIAL THAT CAN DAMAGE THE PIPING.

**GAS LINE BACKFILL DETAIL**  
 SCALE: N.T.S.

**TABLE 1: PROPANE CONNECTED LOAD SUMMARY**

Type of Complex	Rough-in Phase	Install Phase	BTU/hr	Ft <sup>3</sup> /hr	Outlet Pressure in. w.c.
42 PERSON DORM A	1	1	800,000	317.5	11
42 PERSON DORM B	1	1	800,000	317.5	11
42 PERSON DORM C	1	1	800,000	317.5	11
42 PERSON DORM H	1	2	800,000	317.5	11
42 PERSON DORM I	1	2	800,000	317.5	11
36 PERSON DORM D	1	1	400,000	158.7	11
36 PERSON DORM E	1	1	400,000	158.7	11
36 PERSON DORM F	1	1	400,000	158.7	11
20 PERSON DORM G	1	1	400,000	158.7	11
LOBBY UNIT	1	1	200,000	79.4	11
REC. UNIT	1	1	400,000	158.7	11
LAUNDRY UNIT	1	1	600,000	238.1	11
KITCHEN/DINING UNIT	1	1	3,600,000	1428.6	11
<b>TOTAL LOAD 10,400,000 BTU/hr, 4127.0 FT<sup>3</sup>/hr @ 7PSI. MAX RUN 1150 FT</b>					

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A	JUN 21, 2013	AG	BM	PROGRESS ISSUE
REVISIONS				

**ALLIANCE**  
Engineering Services Inc.

DESIGNED BY: B.M.    REVIEWED BY: A.G.  
 DRAWN BY: B.M.  
 PROJECT START DATE: JUNE 3, 2013  
 PLOT SIZE: D(22X34)  
 SCALE: AS SHOWN

**PROVINCE OF MANITOBA**  
A.F.G. GOSSEN  
REGISTERED PROFESSIONAL ENGINEER

**APECA**  
Certificate of Authorization  
Alliance Engineering Services Inc.  
No.2906 Date: \_\_\_\_\_

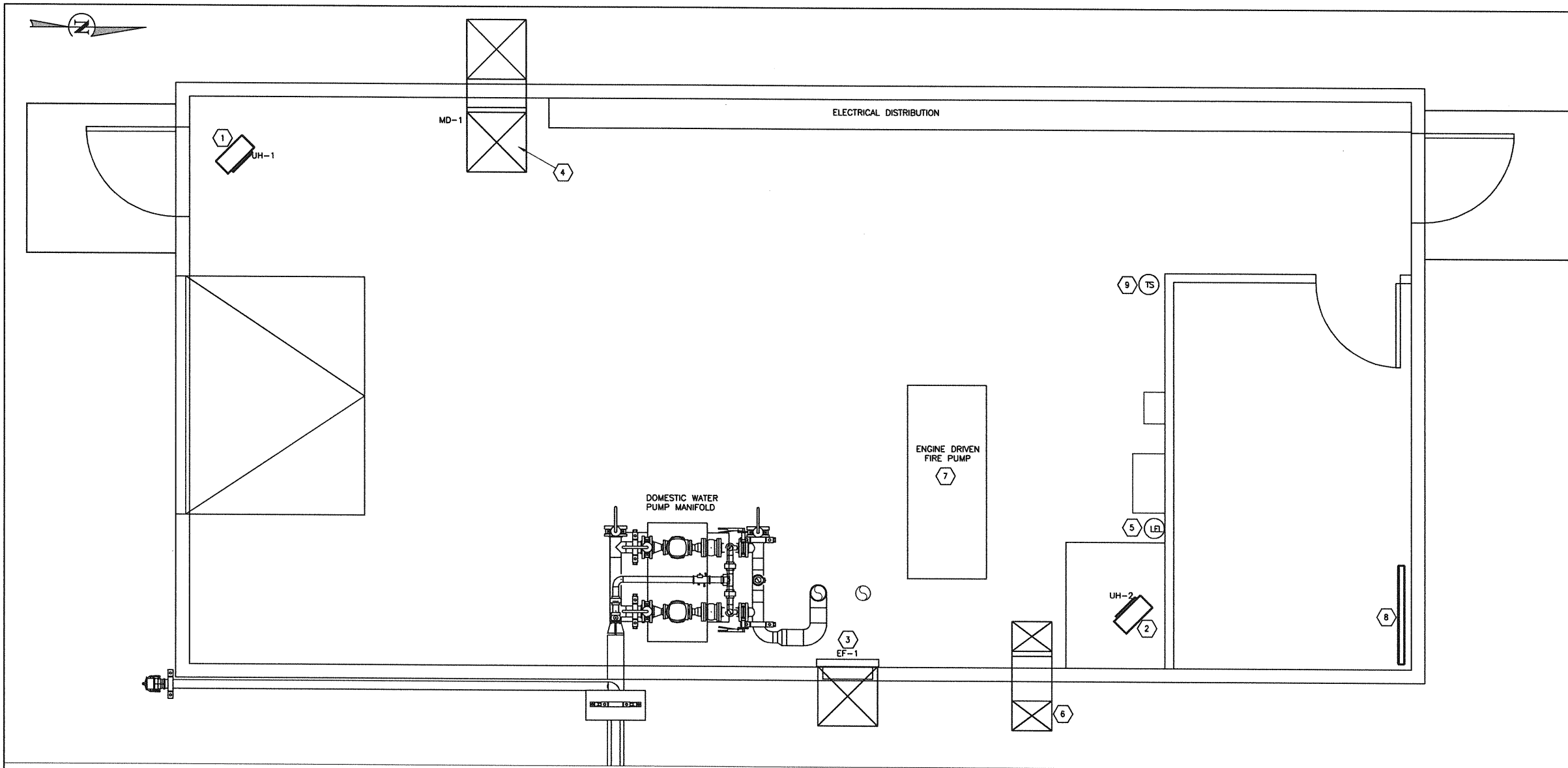
**MELITA PREMIUM CAMP**  
MELITA

**BURNS MAENDEL**  
CONSULTING ENGINEERS LTD.

1331 Princess Ave.  
Brandon, Manitoba  
R7A 0R4  
Tel: (204) 728-7364  
Fax: (204) 728-4418

DRAWING TITLE:  
**SITE MECHANICAL SERVICES**  
**PROPANE DISTRIBUTION**  
**GENERAL ARRANGEMENT PLAN**

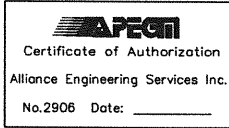
PROJECT NUMBER: **BMCE-13-M903-1**  
DRAWING NO: **M1.7**



- KEY NOTES**
- 1 3 Kw. ELECTRIC HEATER, UH-1 AT LOCATION SHOWN, BY ELECTRICAL
  - 2 3 Kw. ELECTRIC HEATER, UH-2 AT LOCATION SHOWN, BY ELECTRICAL
  - 3 EXHAUST FAN, EF-1, AT LOCATION SHOWN, C/W DISCHARGE COWL, BACKDRAFT DAMPER, WALL SLEEVE, SCREEN & MOTOR GUARD; SEE SPECIFICATIONS FOR MORE DETAILS
  - 4 24"x24" VENTILATION AIR INTAKE, PROVIDE INTAKE GOOSENECK C/W BIRDSCREEN; TERMINATE DUCT INSIDE WITH INVERTED TRAP & MOTORIZED DAMPER, INSULATED
  - 5 LOWER EXPLOSIVE LIMIT (LEL) SENSOR
  - 6 16"x12" COMBUSTION AIR INTAKE, PROVIDE INTAKE GOOSENECK C/W BIRDSCREEN; TERMINATE DUCT INSIDE WITH INVERTED TRAP, INSULATED
  - 7 ENGINE EXHAUST BY OTHERS
  - 8 1 Kw. ELECTRIC BASEBOARD HEATER, C/W BASE THERMOSTAT, BY ELECTRICAL
  - 9 TEMPERATURE SENSOR

**(A) SERVICES BUILDING VENTILATION**  
 SCALE 1/4" = 1'-0" 22"x34" SHEET  
 SCALE 1/8" = 1'-0" 11"x17" SHEET

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REVISIONS				



DESIGNED BY: I.U.  
 REVIEWED BY: I.U.  
 DRAWN BY: J.G.  
 PROJECT START DATE: JUNE 3, 2013  
 PLOT SIZE: D(22X34)  
 SCALE: AS SHOWN

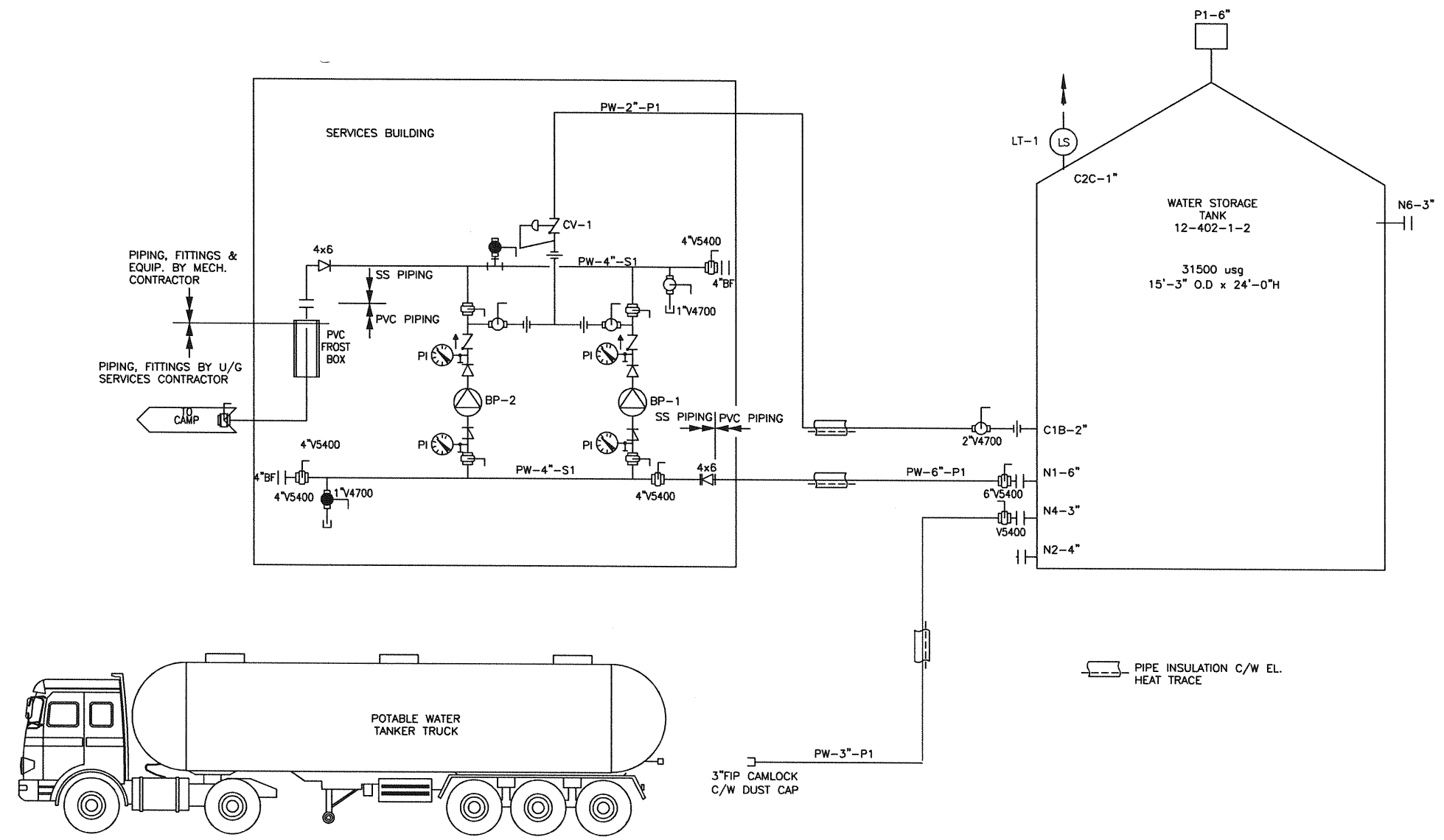
PROJECT NAME: MELITA LODGE, MELITA MB  
 PTI PROJECT # 10050

**BURNS MAENDEL**  
 CONSULTING ENGINEERS LTD.

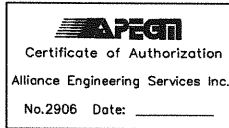
1331 Princess Ave.  
 Brandon, Manitoba  
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 Tel: (204) 728-7364  
 Fax: (204) 728-4418

DRAWING TITLE: SITE SERVICES -MECHANICAL  
 SERVICES BUILDING VENTILATION  
 GENERAL ARRANGEMENT PLAN

PROJECT NUMBER: BMCE-13-M902-2  
 DRAWING NO: M2.1



NO.	DATE	APP.	BY	DESCRIPTION
0	JULY 4, 2013	AG	AS	ISSUED FOR TENDER
A	JUNE 21, 2013	AG	AS	PROGRESS ISSUE FOR CLIENT REVIEW
REVISIONS				

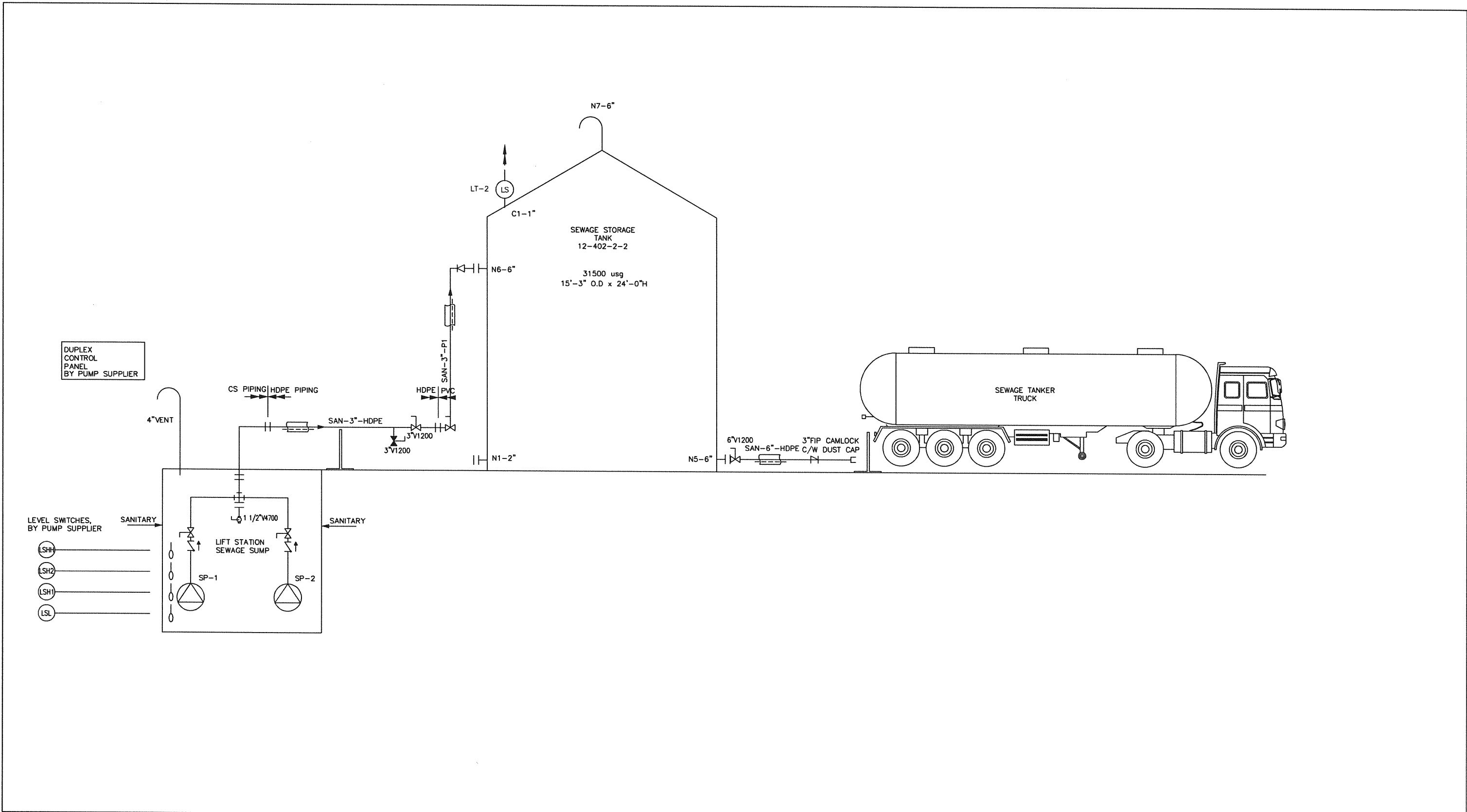


DESIGNED BY:	AS	REVIEWED BY:	AG
DRAWN BY:	J.G.		
PROJECT START DATE:	JUNE 3, 2013		
PLOT SIZE:	D(22X34)		
SCALE:	NTS		

PROJECT NAME:  
**MELITA LODGE, MELITA MB**  
 PTI PROJECT # 10050

1331 Princess Ave.  
 Brandon, Manitoba  
 R7A 0R4  
 Tel: (204) 728-7364  
 Fax: (204) 728-4418

DRAWING TITLE: <b>SITE SERVICES -MECHANICAL</b> <b>POTABLE WATER SYSTEM</b> <b>FLOW SCHEMATIC</b>	
PROJECT NUMBER: <b>BMCE-12-061</b>	DRAWING NO: <b>PFD1</b>



NO.	DATE	APP.	BY	DESCRIPTION
0	JULY 4, 2013	AG	AS	ISSUED FOR TENDER
A	JUNE 21, 2013	AG	AS	PROCESS ISSUE FOR CLIENT REVIEW
REVISIONS				

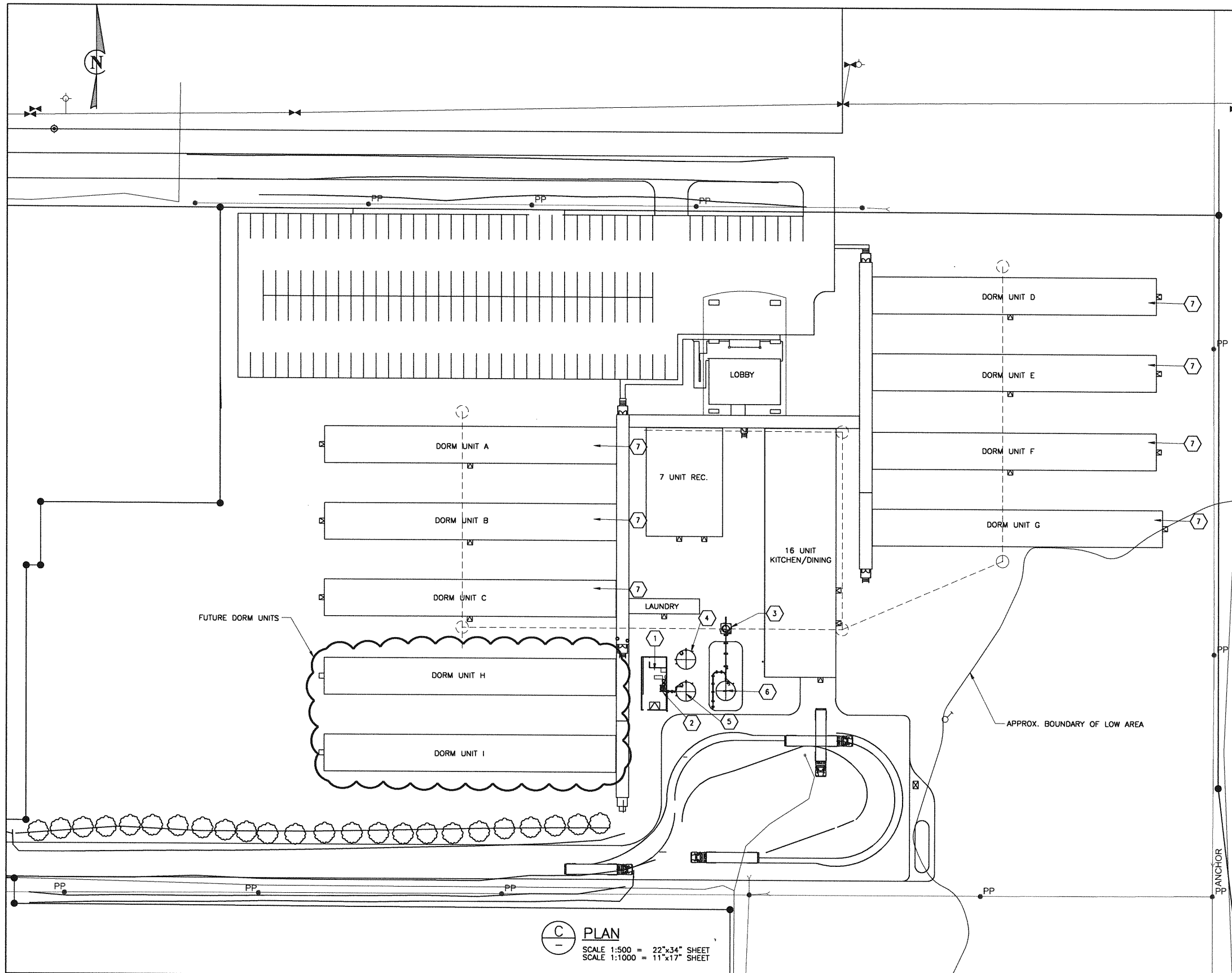
**ALLIANCE**  
Engineering Services Inc.

Certificate of Authorization  
 Alliance Engineering Services Inc.  
 No.2906 Date: \_\_\_\_\_

A.F.G. GOSSEN  
 05-101-6  
 REGISTERED PROFESSIONAL ENGINEER

DESIGNED BY: AS	REVIEWED BY: AG	PROJECT NAME: <b>MELITA LODGE, MELITA MB PTI PROJECT # 10050</b>
DRAWN BY: J.G.		 <b>BURNS MAENDEL</b> CONSULTING ENGINEERS LTD. 1331 Princess Ave. Brandon, Manitoba R7A 0R4 Tel: (204) 728-7364 Fax: (204) 728-4418
PROJECT START DATE: JUNE 3, 2013		
PLOT SIZE: D(22X34)		
SCALE: NTS		

DRAWING TITLE: <b>SITE SERVICES -MECHANICAL SEWAGE PUMPING/STORAGE/TRANSFER SYSTEM FLOW SCHEMATIC</b>	
PROJECT NUMBER: <b>BMCE-12-061</b>	DRAWING NO.: <b>PFD2</b>



**GENERAL NOTES**

1. COORDINATE WORKS WITH OTHER SUB-TRADES. REFER TO BUILDINGS AND TANKS LAYOUT AND SHOP DRAWINGS FOR FIELD RUN PIPING AND EQUIPMENT INSTALLATION.
2. POTABLE COLD WATER, DCW, LINES ARE DIAGRAMATIC; RUN PIPING IN SUITABLE LOCATION. SEE DETAILS
3. PERFORM WORKS IN ACCORDANCE WITH PLUMBING CODE AND ALL LOCAL APPLICABLE CODES AND REGULATIONS. OBTAIN & PAY FOR ALL APPLICABLE PERMITS & INSPECTIONS.
4. SUPPORT ALL PIPING AS PER ANSI B31.9 & MSS-SP-58 REQUIREMENTS.
5. CO-ORDINATE ALL TIE-INS WITH OWNER'S REPRESENTATIVE TO MINIMIZE DISRUPTIONS.
6. INVESTIGATE SITE DURING BID PREPARATION AND PRIOR TO CONSTRUCTION TO CONFIRM PROPOSED PIPE ROUTING AND TIE-IN LOCATION SUITABILITY. REPORT ANY ANTICIPATED PROBLEMS PRIOR TO BID SUBMISSION.

**KEY NOTES**

- 1 SERVICES BUILDING; SEE CIVIL & STRUCTURAL DRAWINGS FOR DETAILS.
- 2 POTABLE WATER DISTRIBUTION PUMP STATION, SEE M1.2 FOR DETAILS.
- 3 SANITARY LIFT STATION, SEE DRAWING M1.3 FOR DETAILS
- 4 31,500 USG FIRE WATER STORAGE TANK, SUPPLIED OWNER AND INSTALLED BY OTHERS; FOR PIPING AND PUMP DETAILS SEE ?
- 5 31,500 USG POTABLE WATER STORAGE TANK, SUPPLIED OWNER & INSTALLED BY CONTRACTOR, INTERCONNECTING PIPING BETWEEN TANK AND POTABLE WATER PUMP STATION, BY MECHANICAL CONTRACTOR
- 6 31,500 USG WASTEWATER TANK, SUPPLIED OWNER & INSTALLED BY CONTRACTOR, INTERCONNECTING PIPING BETWEEN TANK AND LIFT PUMP STATION, BY MECHANICAL CONTRACTOR
- 7 CAMP DORM, TYP.
- 8 SITE DOMESTIC WATER SANITARY SERVICES NOT SHOWN. SEE BMCE DRAWINGS C2.1 & C2.2.

**(C) PLAN**  
 SCALE 1:500 = 22"x34" SHEET  
 SCALE 1:1000 = 11"x17" SHEET

NO.	DATE	APP.	BY	DESCRIPTION
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**ALLIANCE**  
Engineering Services Inc.

Certificate of Authorization  
 Alliance Engineering Services Inc.  
 No.2906 Date: \_\_\_\_\_

**A.F.G. GOSSEN**  
 05-104-13  
 REGISTERED PROFESSIONAL ENGINEER

DESIGNED BY:	AS	REVIEWED BY:	AG
DRAWN BY:	J.G.		
PROJECT START DATE:	JUNE 3, 2013		
PLOT SIZE:	D(22X34)		
SCALE:	AS SHOWN		

PROJECT NAME:

**MELITA LODGE, MELITA MB**  
PTI PROJECT # 10050

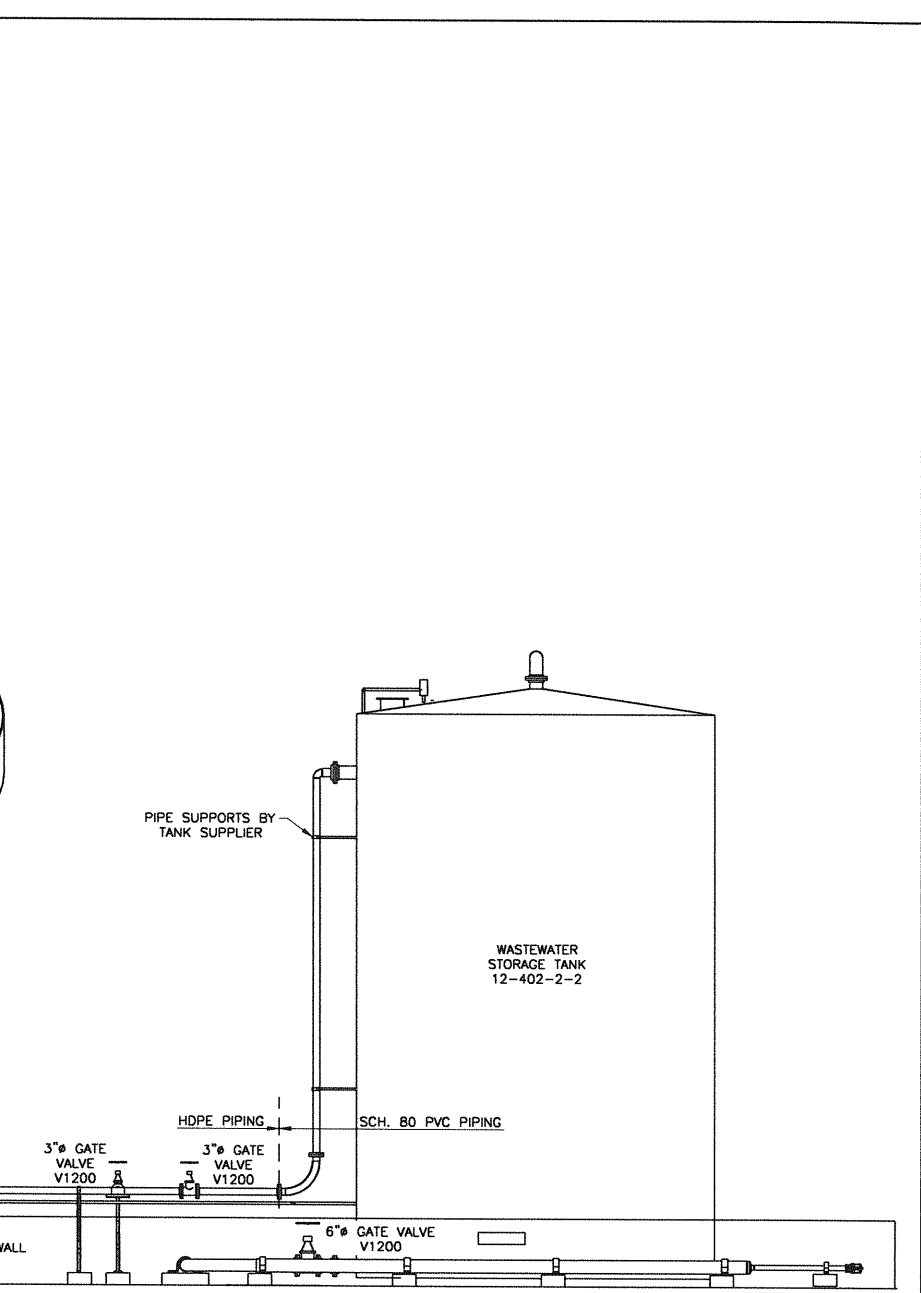
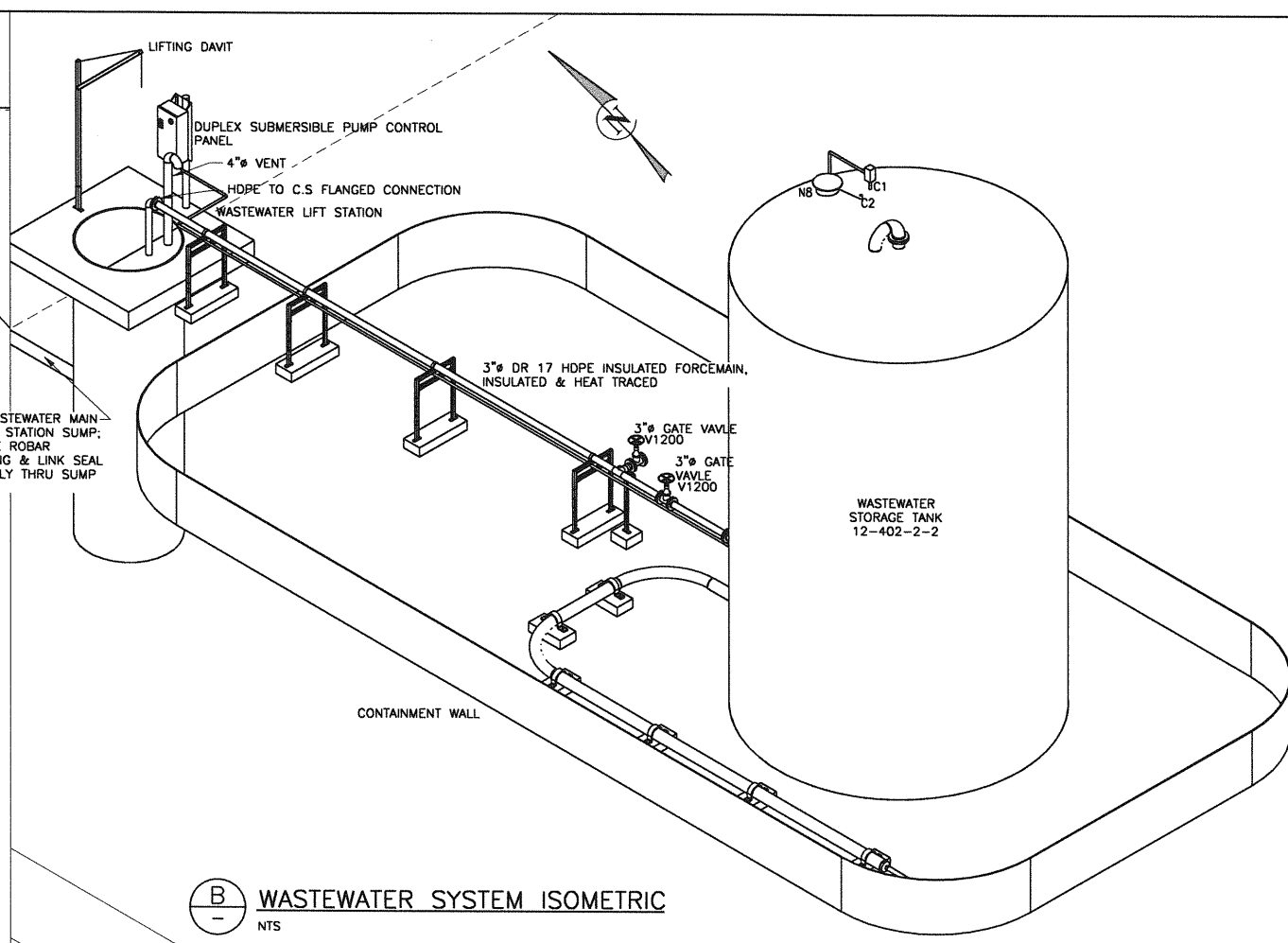
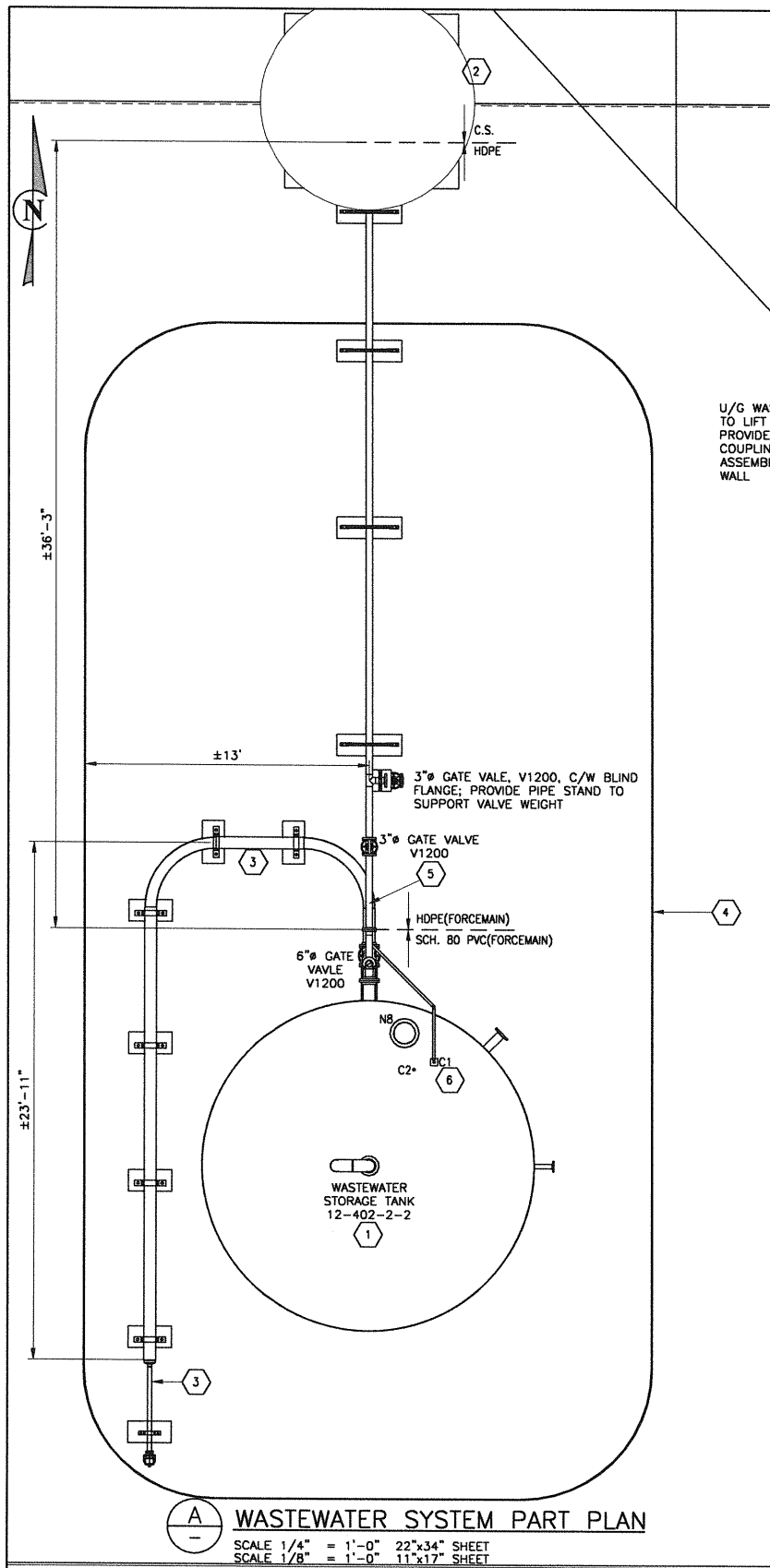
**BURNS MAENDEL**  
 CONSULTING ENGINEERS LTD.

1331 Princess Ave.  
 Brandon, Manitoba  
 R7A 0R4  
 Tel: (204) 728-7364  
 Fax: (204) 728-4418

DRAWING TITLE:	
SITE SERVICES -MECHANICAL POTABLE WATER & SANITARY GENERAL ARRANGEMENT PLAN	
PROJECT NUMBER:	DRAWING NO.:
BMCE-12-061	M1.1







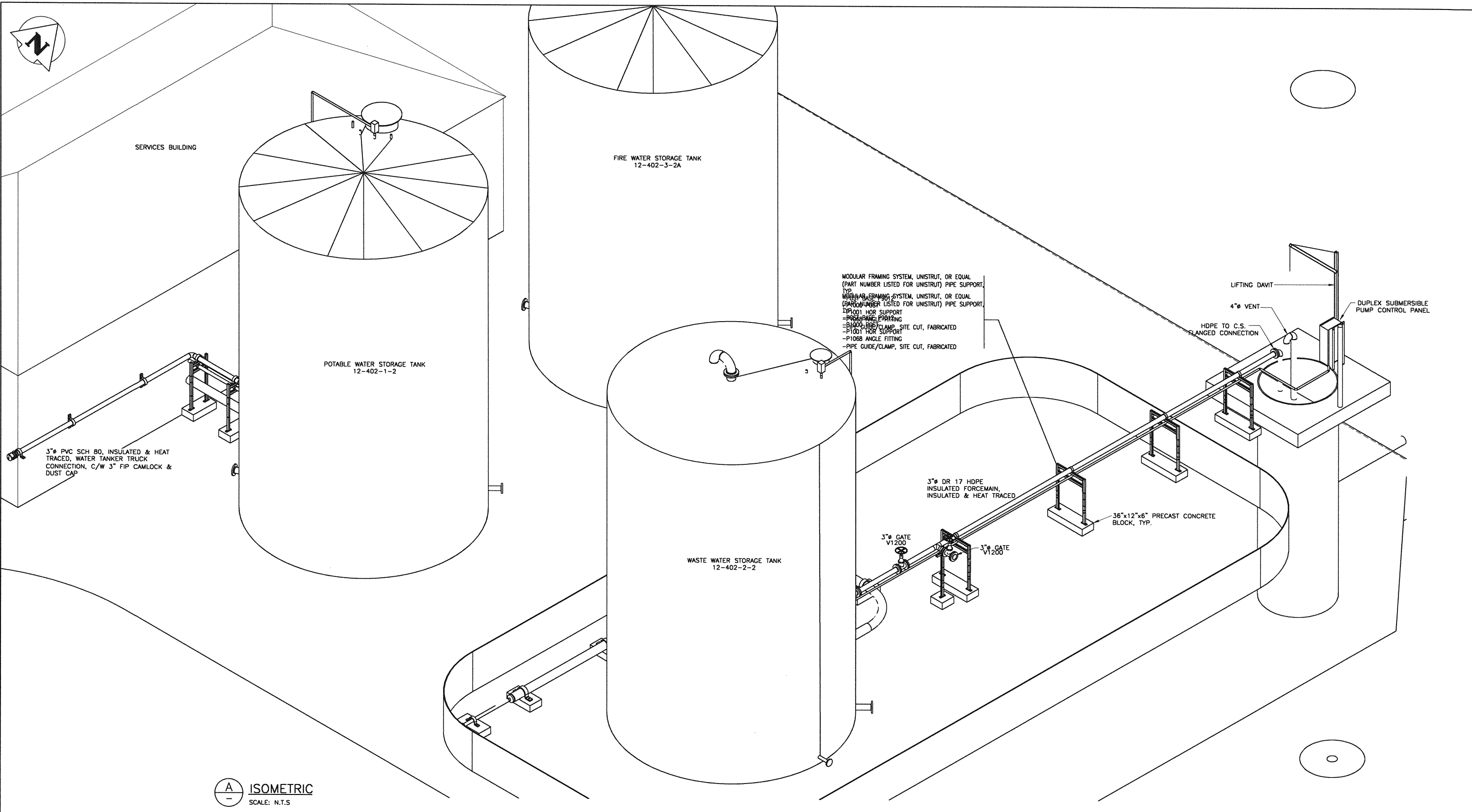
- KEY NOTES**
- ① WASTEWATER TANK, 31,500<sup>usg</sup>, SUPPLIED & INSTALLED BY OTHERS; ALL WASTEWATER PIPING BY CONTRACTOR
  - ② WASTEWATER LIFT STATION: U/G WASTEWATER DRAIN TO SUMP BY OTHERS; FOR LIFT STATION DETAILS, SEE M1.4
  - ③ 6" HDPE WASTEWATER VACUUM TRUCK LINE, INSULATED & HEAT TRACED; TERMINATE WITH 3" TYPE D CAMLOCK C/W DUST CAP.
  - ④ WASTEWATER TANK CONTAINMENT WALL, BY OTHERS
  - ⑤ PROVIDE BASE ELBOW SUPPORT, SUPPORT NOT SHOWN.
  - ⑥ WASTEWATER LEVEL TANK TRANSMITTER, PROVIDE 1" PVC CONDUIT FOR CONTROL CONDUCTORS TO LS-1 CONTROL PANEL.

**WASTEWATER SYSTEM ELEVATION (C)**  
 SCALE 1/4" = 1'-0" 22"x34" SHEET  
 SCALE 1/8" = 1'-0" 11"x17" SHEET

- GENERAL NOTES**
1. COORDINATE WORKS WITH OTHER SUB-TRADES. REFER TO BUILDINGS AND TANKS LAYOUT AND SHOP DRAWINGS FOR FIELD RUN PIPING AND EQUIPMENT INSTALLATION.
  2. DOMESTIC COLD WATER, DCW, LINES ARE DIAGRAMATIC; RUN PIPING IN SUITABLE LOCATION. SEE DETAILS
  3. PERFORM WORKS IN ACCORDANCE WITH PLUMBING CODE AND ALL LOCAL APPLICABLE CODES AND REGULATIONS. OBTAIN & PAY FOR ALL APPLICABLE PERMITS & INSPECTIONS.
  4. SUPPORT ALL PIPING AS PER ANSI B31.9 & MSS-SP-58 REQUIREMENTS.
  5. CO-ORDINATE ALL TIE-INS WITH OWNER'S REPRESENTATIVE TO MINIMIZE DISRUPTIONS.
  6. INVESTIGATE SITE DURING BID PREPARATION AND PRIOR TO CONSTRUCTION TO CONFIRM PROPOSED PIPE ROUTING AND TIE-IN LOCATION SUITABILITY. REPORT ANY ANTICIPATED PROBLEMS PRIOR TO BID SUBMISSION.

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A	JUNE 21, 2013	AG	AS	PROGRESS ISSUE FOR CLIENT REVIEW
REVISIONS				

 Certificate of Authorization Alliance Engineering Services Inc. No.2906 Date: _____	 A.F.G. GOSSEN 05-JUL-13 REGISTERED PROFESSIONAL ENGINEER	DESIGNED BY: AS REVIEWED BY: AG DRAWN BY: J.G. PROJECT START DATE: JUNE 3, 2013 PLOT SIZE: D(22X34) SCALE: AS SHOWN	PROJECT NAME: <b>MELITA LODGE, MELITA MB</b> <b>PTI PROJECT # 10050</b>	DRAWING TITLE: <b>SITE SERVICES -MECHANICAL</b> <b>POTABLE WATER &amp; WASTEWATER</b> <b>PART PLAN AND DETAILS</b>
			 <b>BURNS MAENDEL</b> CONSULTING ENGINEERS LTD.	1331 Princess Ave. Brandon, Manitoba R7A 0R4 Tel: (204) 728-7364 Fax: (204) 728-4418
			PROJECT NUMBER: <b>BMCE-13-M902-2</b>	DRAWING NO: <b>M1.3</b>



**A** ISOMETRIC  
SCALE: N.T.S

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REVISIONS				

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Engineering Services Inc.

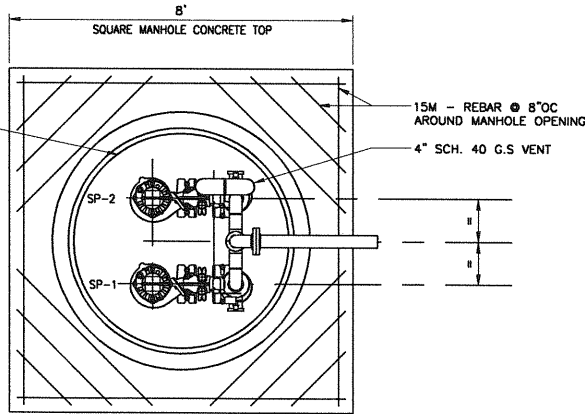
**APECTI**  
Certificate of Authorization  
Alliance Engineering Services Inc.  
No. 2906 Date: \_\_\_\_\_

PROVINCE OF MANITOBA  
**A.F.G.**  
**GOSSEN**  
05-40L-13  
REGISTERED PROFESSIONAL ENGINEER

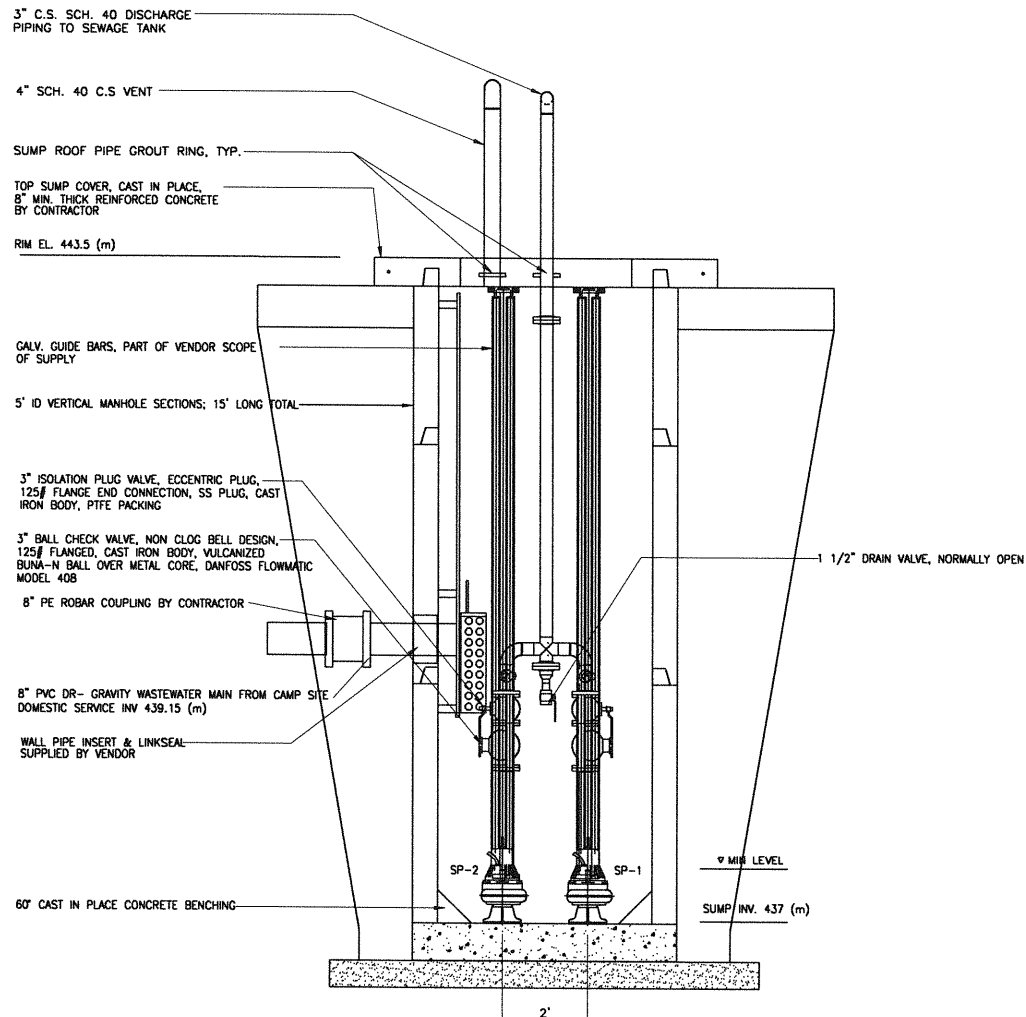
DESIGNED BY: AS	REVIEWED BY: AG	PROJECT NAME: <b>MELITA PREMIUM CAMP MELITA</b>
DRAWN BY: J.G.		1331 Princess Ave. Brandon, Manitoba R7A 0R4 Tel: (204) 728-7364 Fax: (204) 728-4418
PROJECT START DATE: JUNE 3, 2013		
PLOT SIZE: D(22X34)		<b>BURNS MAENDEL</b> CONSULTING ENGINEERS LTD.
SCALE: AS SHOWN		

DRAWING TITLE: <b>SITE SERVICES -MECHANICAL POTABLE WATER &amp; WASTEWATER ISOMETRIC</b>	
PROJECT NUMBER: <b>BMCE-13-M902-2</b>	DRAWING NO: <b>M1.4</b>

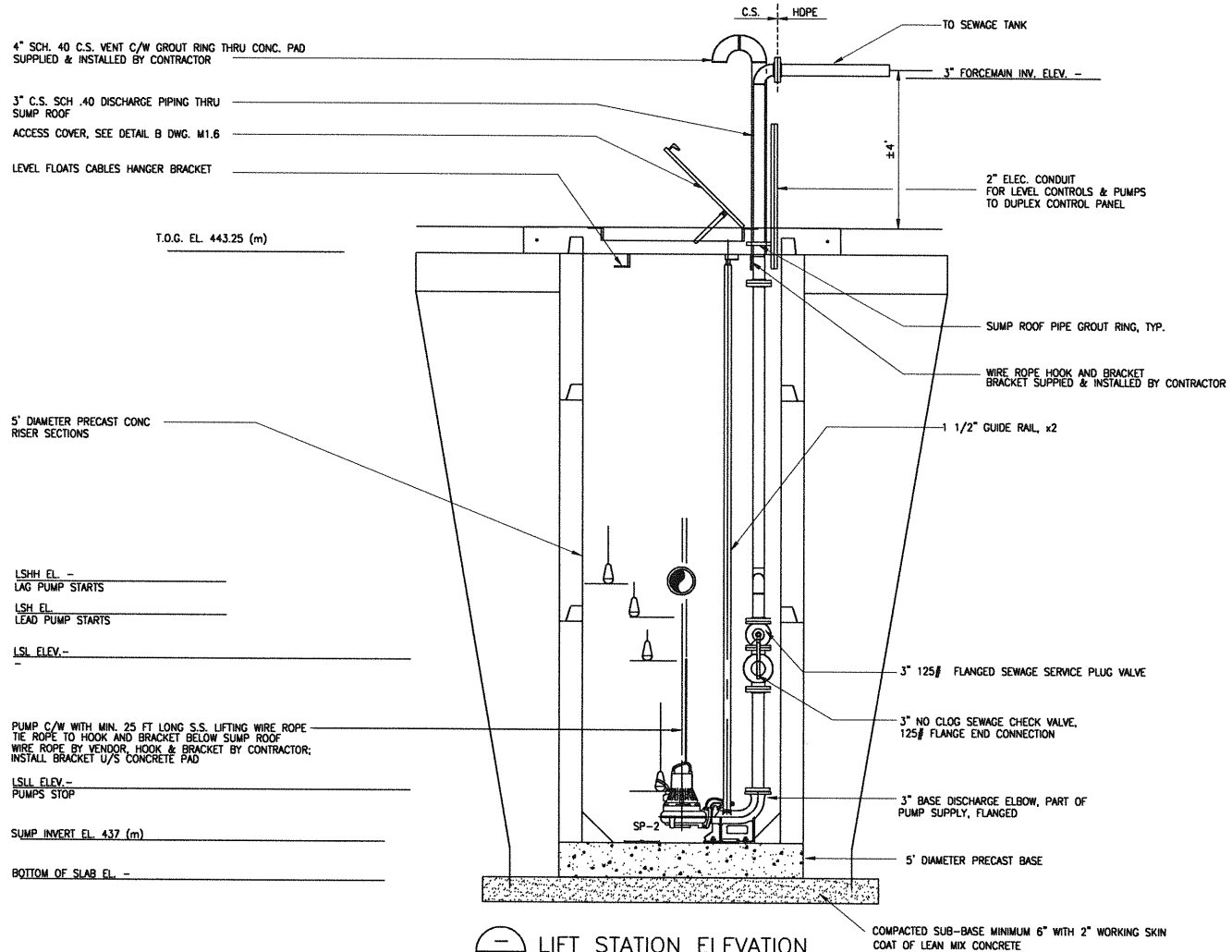
ACCESS COVER:  
INSTALL 4'-0"x2'-8" ACCESS & SERVICE COVER  
SUPPLIED BY VENDOR  
HATCH COVER FLUSHED WITH TOP OF CONCRETE  
SEE HALLIDAY PRODUCTS DATA SHEET FOR INSTALLATION



**(A)** LIFT STATION PLAN  
SCALE 1/2"=1'-0" 24"x36"



**(B)** LIFT STATION ELEVATION  
NTS



**(C)** LIFT STATION ELEVATION  
NTS

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**ALLIANCE**  
Engineering Services Inc.



**APECA**  
Certificate of Authorization  
Alliance Engineering Services Inc.  
No. 2906 Date: \_\_\_\_\_

DESIGNED BY: \_\_\_\_\_ REVIEWED BY: \_\_\_\_\_ PROJECT NAME:  
DRAWN BY: \_\_\_\_\_  
PROJECT START DATE: \_\_\_\_\_  
PLOT SIZE:  
A1 (594x841)  
SCALE:  
AS NOTED

MELIT LODGE, MELITA MB  
PTI PROJECT # 10050

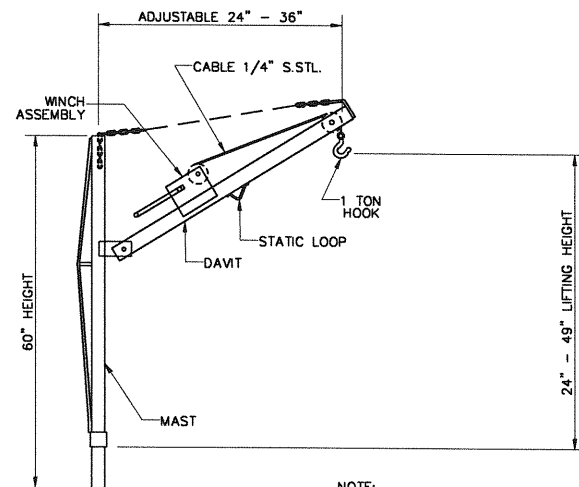


1331 Princess Ave.  
Brandon, Manitoba  
R7A 0R4  
Tel: (204) 728-7364  
Fax: (204) 728-4418

DRAWING TITLE:  
**SITE SERVICES  
POTABLE WATER & SANITARY  
LIFT STATION - DETAILS**  
PROJECT NUMBER: **BMCE-13-M902-2**  
DRAWING NO: **M1.5**

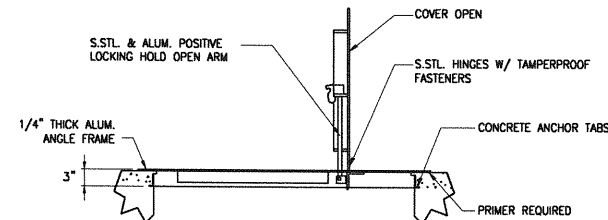
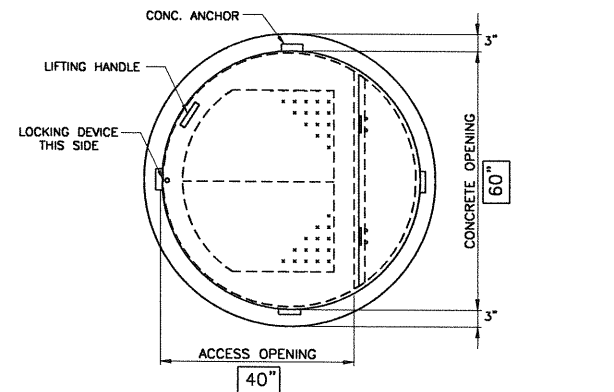
- STANDARD FEATURES:**
- TYPE-304 STAINLESS STEEL CONSTRUCTION
  - 30 FEET (9 METERS) OF 1/4" (7 MM) STAINLESS STEEL CABLE
  - GALVANIZED 1 TON HOOK
  - DUTTON-LAINSON MARINE GRADE BREAK WINCH
  - ADJUSTABLE REACH IN 1" (25 MM) INCREMENTS

- OPTIONS:**
- TYPE-316 CONSTRUCTION
  - ADDITIONAL CABLE AVAILABLE (SPECIFY LENGTH)
  - STAINLESS STEEL WINCH
  - STAINLESS STEEL HOOK



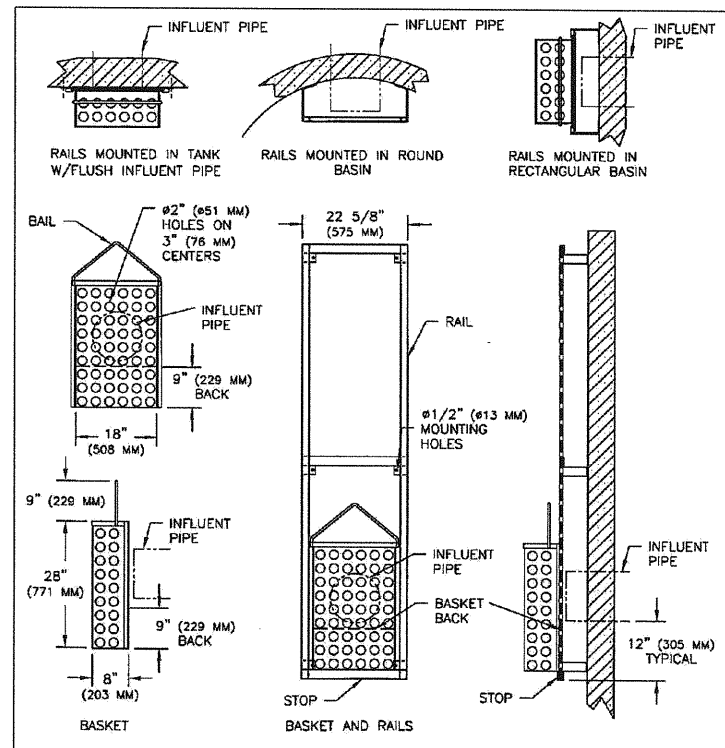
- NOTE:**
1. STAINLESS STEEL PORTABLE HOIST SHOULD NOT BE USED TO MOVE PEOPLE OR LOADS ABOVE PEOPLE.
  2. INSPECT CABLES AND HOOK CONNECTIONS BEFORE EACH USE.

**A** PORTABLE HOIST - DETAIL  
SCALE: N.T.S

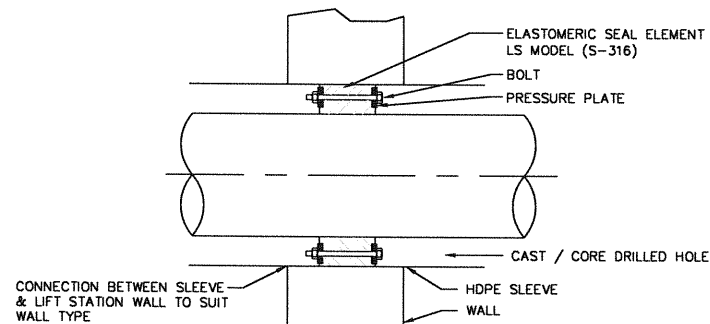


**B** SUMP COVER - DETAIL  
SCALE: N.T.S

EQUIPMENT LIST				
TAG	SUPPLIER	MODEL	PERFORMANCE	COMMENTS
BP-1	XYLEM	-	AS SPECIFIED	-
BP-2	XYLEM	-	AS SPECIFIED	-
SP-1	ZOELLER	-	AS SPECIFIED	-
SP-2	ZOELLER	-	AS SPECIFIED	-
BPV-1	CLAWAL	-	AS SPECIFIED	-



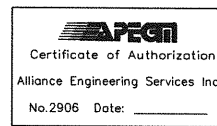
**C** TRASH BASKET - DETAIL  
SCALE: N.T.S



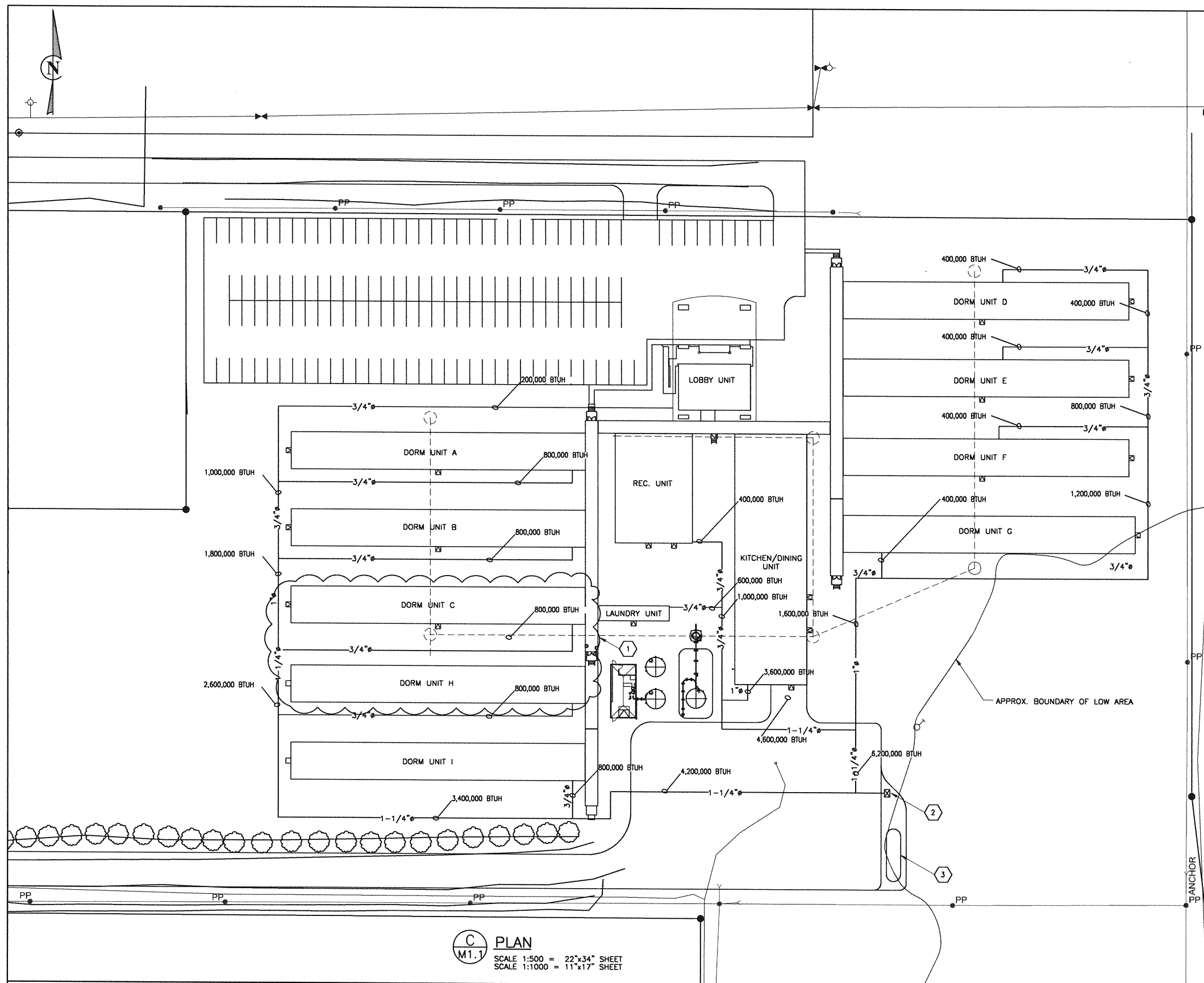
- APPLICATION NOTES:**
1. CONCRETE OR FRP WALL
  2. PIPE MATERIAL: STAINLESS STEEL, PVC OR FRP PIPE; NON-INSULATED.
  3. CONDITION:
    - a) DRY TO DRY
    - b) WET TO DRY
    - c) HORIZONTAL OR VERTICAL
    - b) INTERIOR TO UNDERGROUND

**D** LINK SEAL - DETAIL  
SCALE: N.T.S

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DESIGNED BY:	REVIEWED BY:	PROJECT NAME:	DRAWING TITLE:
		MELIT LODGE, MELITA MB PTI PROJECT # 10050	SITE SERVICES - MECHANICAL POTABLE WATER & SANITARY DETAILS
DRAWN BY:	PROJECT START DATE:	1331 Princess Ave. Brandon, Manitoba R7A 0R4 Tel: (204) 728-7364 Fax: (204) 728-4418	PROJECT NUMBER:
PLOT SIZE: A1 (594x841)	SCALE: AS NOTED		BMCE-13-M902-2



**C**  
**M1.1** PLAN  
SCALE 1:500 = 22"x34" SHEET  
SCALE 1:1000 = 11"x17" SHEET

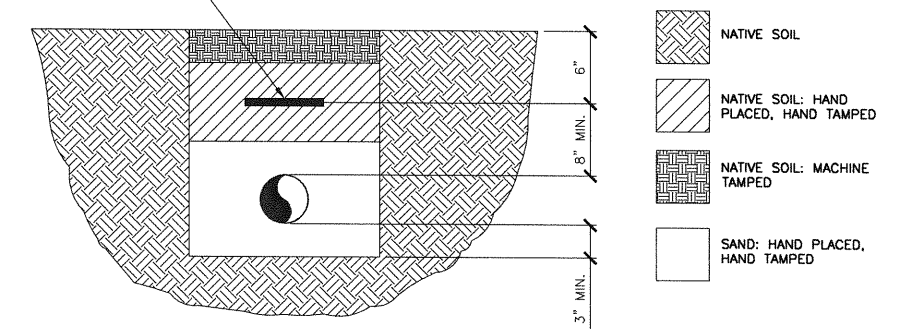
**GENERAL NOTES**

1. PROPANE PIPING IS TO BE SUPPLIED AND INSTALLED IN ACCORDANCE WITH CSA B149.1, CSA B149.2, AND MANITOBA GAS NOTICES.
2. ALL PE PIPE & FITTINGS TO BE THERMAL FUSION WELDED SDR 8.8.
3. PE MATERIALS SHALL BE IN COMPLIANCE WITH CSA B137.4. PIPE AND FITTINGS SHALL BE CGA APPROVED AND OF THE SAME COMPOUND, WITH A MINIMUM MATERIAL DESIGNATION OF PE2708. ANODELESS STEEL PIPE RISERS ARE TO BE SCHED 40 TO ASTM A53.
4. MINIMUM 14 AWG TWY COPPER TRACE WIRE IS TO BE FASTENED TO THE GAS LINE AT REGULAR INTERVALS USING LOW CONDUCTIVITY ELECTRICIAN'S TAPE.
5. PROPANE GAS LINE RUN AT 7 PSIG, 1050' MAX RUN LENGTH.
6. ALL PIPING BELOW PARKING LOT AND DRIVEWAY TO BE MINIMUM 2' BELOW GRADE AS PER CSA B149.1, CLAUSE 6.15.4.
7. ALL PIPING AND EQUIPMENT FROM LPG TANK TO GAS RISER TO BE SUPPLIED, INSTALLED, AND CERTIFIED BY OTHERS.
8. FOLLOWING PRESSURE TESTING, PURGE THE DISTRIBUTION SYSTEM IN ACCORDANCE WITH CSA B149.1, CLAUSE 6.23.

**KEY NOTES**

1. ROUGHED-IN FOR FUTURE UNIT INSTALLATION.
2. ASSUMED VAPORIZER LOCATION, BY OTHERS. CONFIRM CONNECTION DETAILS. 7 PSIG SUPPLY.
3. PROPANE STORAGE BY OTHERS.

GAS PIPE MARKER TAPE



- TRENCHING AND BACKFILL REQUIREMENTS:**
1. A TRENCH FOR UNDERGROUND PIPING SHALL BE PROPERLY GRADED TO PREVENT A SAG IN THE PIPING.
  2. BACKFILL MATERIAL SHALL BE FREE OF SHARP OBJECTS, LARGE STONES OR ANY MATERIAL THAT CAN DAMAGE THE PIPING.

**GAS LINE BACKFILL DETAIL**  
SCALE: N.T.S.

**TABLE 1: PROPANE CONNECTED LOAD SUMMARY**

Type of Complex	Rough-in Phase	Install Phase	BTU/hr	FT <sup>3</sup> /hr	Outlet Pressure in. w.c.
42 PERSON DORM A	1	1	800,000	317.5	11
42 PERSON DORM B	1	1	800,000	317.5	11
42 PERSON DORM C	1	1	800,000	317.5	11
42 PERSON DORM H	1	2	800,000	317.5	11
42 PERSON DORM I	1	2	800,000	317.5	11
36 PERSON DORM D	1	1	400,000	158.7	11
36 PERSON DORM E	1	1	400,000	158.7	11
36 PERSON DORM F	1	1	400,000	158.7	11
20 PERSON DORM G	1	1	400,000	158.7	11
LOBBY UNIT	1	1	200,000	79.4	11
REC. UNIT	1	1	400,000	158.7	11
LAUNDRY UNIT	1	1	600,000	238.1	11
KITCHEN/DINING UNIT	1	1	3,600,000	1428.6	11
<b>TOTAL LOAD 10,400,000 BTU/hr, 4127.0 FT<sup>3</sup>/hr @ 7PSI. MAX RUN 1150 FT</b>					

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A	JUN 21, 2013	AG	BM	PROGRESS ISSUE
REVISIONS				

**ALLIANCE Engineering Services Inc.**

DESIGNED BY: B.M. REVIEWED BY: A.G.  
DRAWN BY: B.M.  
PROJECT START DATE: JUNE 3, 2013  
PLOT SIZE: D(22X34)  
SCALE: AS SHOWN

**APECA**  
Certificate of Authorization  
Alliance Engineering Services Inc.  
No. 2906 Date: \_\_\_\_\_

**PROVINCE OF MANITOBA A.F.G. GOSSEN**  
REGISTERED PROFESSIONAL ENGINEER

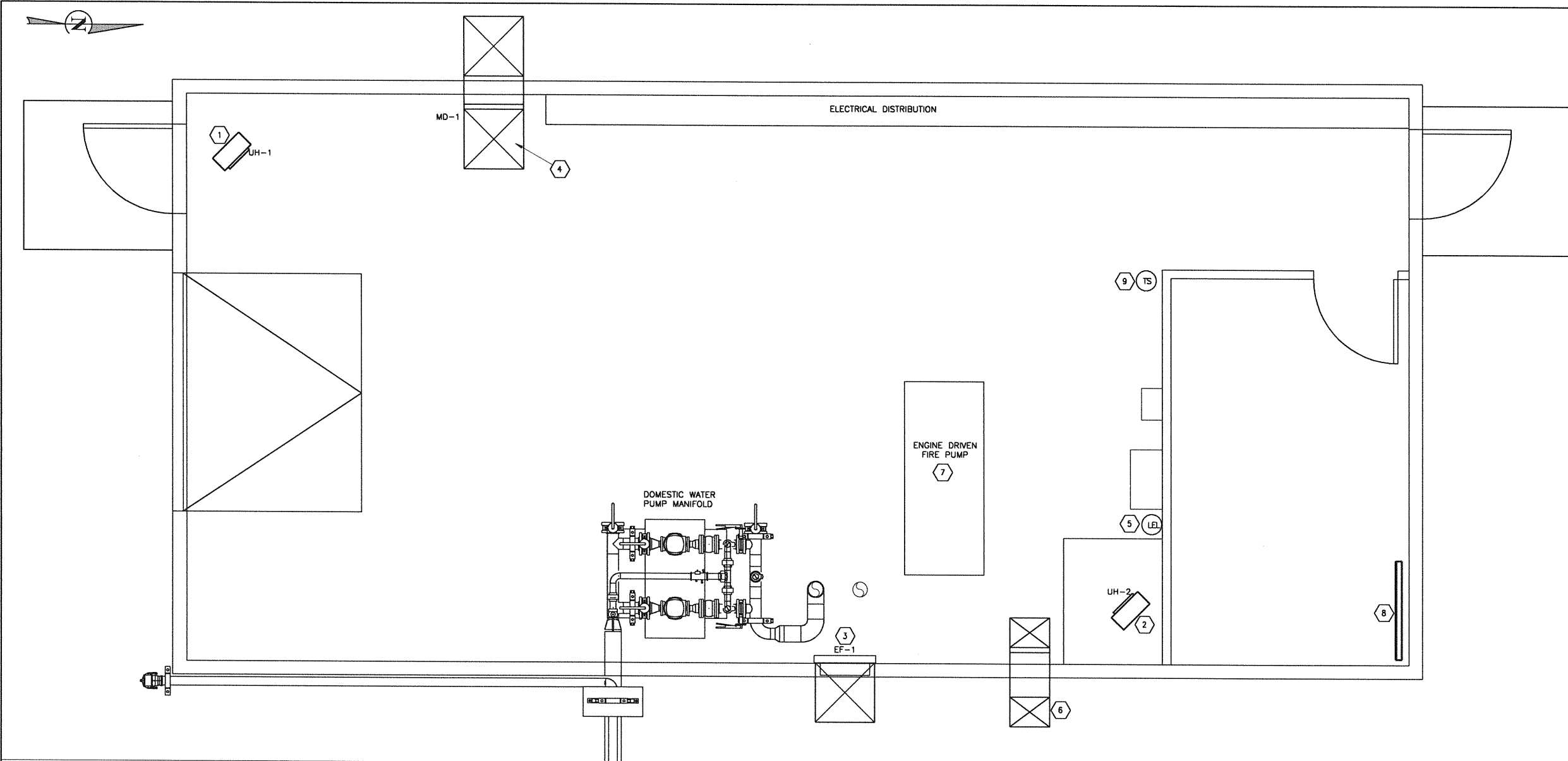
PROJECT NAME: **MELITA PREMIUM CAMP MELITA**

1331 Princess Ave.  
Brandon, Manitoba  
R7A 0R4  
Tel: (204) 728-7364  
Fax: (204) 728-4418

**BURNS MAENDEL CONSULTING ENGINEERS LTD.**

DRAWING TITLE: **SITE MECHANICAL SERVICES PROPANE DISTRIBUTION GENERAL ARRANGEMENT PLAN**

PROJECT NUMBER: **BMCE-13-M903-1**  
DRAWING NO: **M1.7**

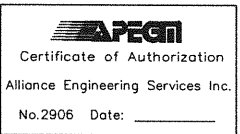


**KEY NOTES**

- ① 3 Kw. ELECTRIC HEATER, UH-1 AT LOCATION SHOWN, BY ELECTRICAL
- ② 3 Kw. ELECTRIC HEATER, UH-2 AT LOCATION SHOWN, BY ELECTRICAL
- ③ EXHAUST FAN, EF-1, AT LOCATION SHOWN, C/W DISCHARGE COWL, BACKDRAFT DAMPER, WALL SLEEVE, SCREEN & MOTOR GUARD; SEE SPECIFICATIONS FOR MORE DETAILS
- ④ 24"x24" VENTILATION AIR INTAKE, PROVIDE INTAKE GOOSENECK C/W BIRDSCREEN; TERMINATE DUCT INSIDE WITH INVERTED TRAP & MOTORIZED DAMPER, INSULATED
- ⑤ LOWER EXPLOSIVE LIMIT (LEL) SENSOR
- ⑥ 16"x12" COMBUSTION AIR INTAKE, PROVIDE INTAKE GOOSENECK C/W BIRDSCREEN; TERMINATE DUCT INSIDE WITH INVERTED TRAP, INSULATED
- ⑦ ENGINE EXHAUST BY OTHERS
- ⑧ 1 Kw. ELECTRIC BASEBOARD HEATER, C/W BASE THERMOSTAT, BY ELECTRICAL
- ⑨ TEMPERATURE SENSOR

**(A) SERVICES BUILDING VENTILATION**  
 SCALE 1/4" = 1'-0" 22"x34" SHEET  
 SCALE 1/8" = 1'-0" 11"x17" SHEET

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DESIGNED BY: I.U.  
 REVIEWED BY: I.U.  
 DRAWN BY: J.G.  
 PROJECT START DATE: JUNE 3, 2013  
 PLOT SIZE: D(22X34)  
 SCALE: AS SHOWN

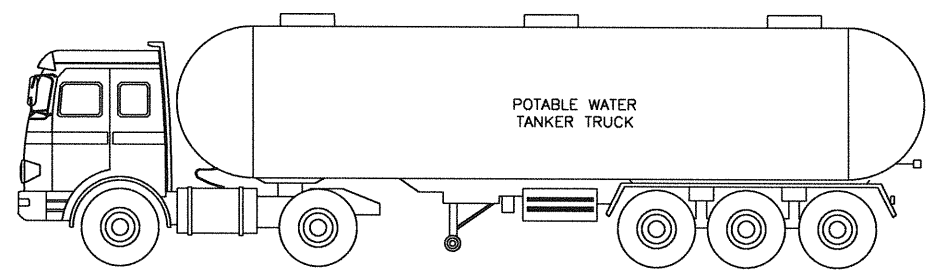
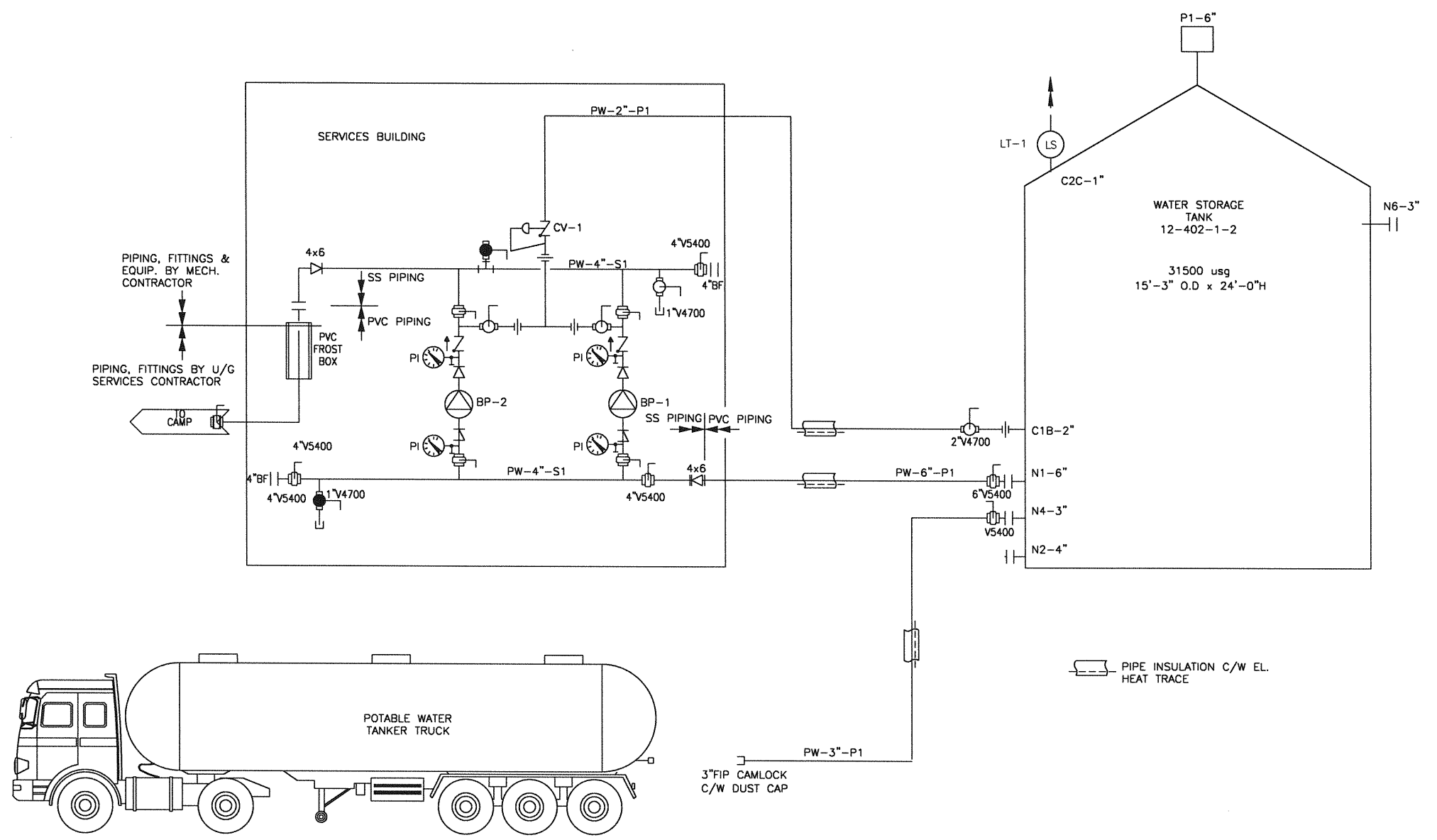
PROJECT NAME: MELITA LODGE, MELITA MB  
 PTI PROJECT # 10050

**BURNS MAENDEL**  
 CONSULTING ENGINEERS LTD.

1331 Princess Ave.  
 Brandon, Manitoba  
 R7A 0R4  
 Tel: (204) 728-7364  
 Fax: (204) 728-4418

DRAWING TITLE: SITE SERVICES -MECHANICAL  
 SERVICES BUILDING VENTILATION  
 GENERAL ARRANGEMENT PLAN

PROJECT NUMBER: BMCE-13-M902-2  
 DRAWING NO: M2.1



NO.	DATE	APP.	BY	DESCRIPTION
0	JULY 4, 2013	AG	AS	ISSUED FOR TENDER
A	JUNE 21, 2013	AG	AS	PROGRESS ISSUE FOR CLIENT REVIEW
REVISIONS				



DESIGNED BY: AS  
 REVIEWED BY: AG  
 DRAWN BY: J.G.  
 PROJECT START DATE: JUNE 3, 2013  
 PLOT SIZE: D(22X34)  
 SCALE: NTS

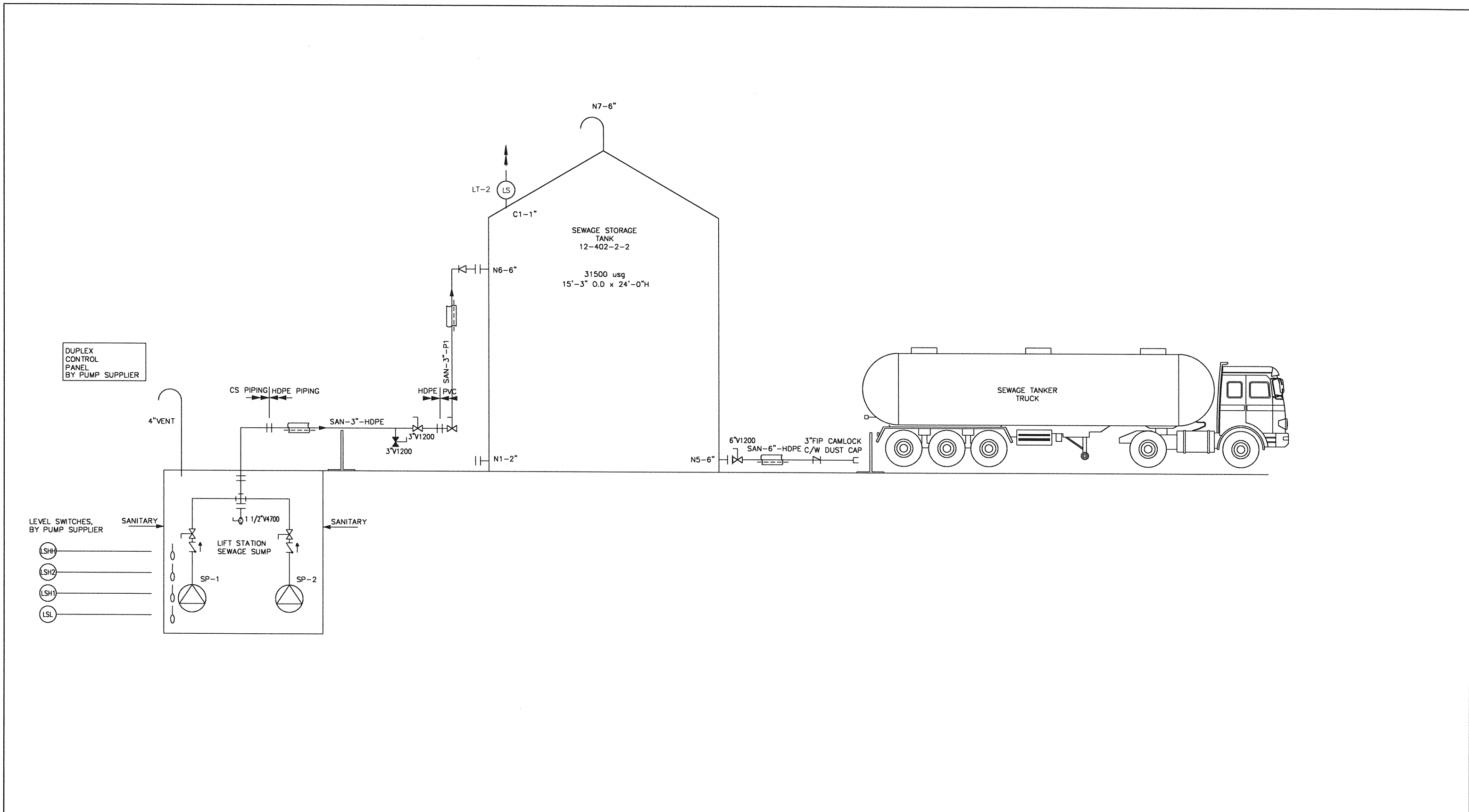
PROJECT NAME:  
**MELITA LODGE, MELITA MB**  
**PTI PROJECT # 10050**

1331 Princess Ave.  
 Brandon, Manitoba  
 R7A 0R4  
 Tel: (204) 728-7364  
 Fax: (204) 728-4418

DRAWING TITLE:  
**SITE SERVICES -MECHANICAL**  
**POTABLE WATER SYSTEM**  
**FLOW SCHEMATIC**

PROJECT NUMBER: **BMCE-12-061**  
 DRAWING NO: **PFD1**





NO.	DATE	APP.	BY	DESCRIPTION
0	JULY 4, 2013	AG	AS	ISSUED FOR TENDER
A	JUNE 21, 2013	AG	AS	PROGRESS ISSUE FOR CLIENT REVIEW
REVISIONS				

**ALLIANCE**  
Engineering Services Inc.

Certificate of Authorization  
Alliance Engineering Services Inc.  
No.2906 Date: \_\_\_\_\_

APEGGA  
PROVINCE OF MANITOBA  
A.F.G.  
GOSSEN  
05-JUL-13  
REGISTERED PROFESSIONAL ENGINEER

DESIGNED BY: AS	REVIEWED BY: AG
DRAWN BY: J.G.	
PROJECT START DATE: JUNE 3, 2013	
PLOT SIZE: D(22X34)	
SCALE: NTS	

PROJECT NAME:  
**MELITA LODGE, MELITA MB**  
PTI PROJECT # 10050

1331 Princess Ave.  
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Tel: (204) 728-7364  
Fax: (204) 728-4418

**BURNS MAENDEL**  
CONSULTING ENGINEERS LTD.

DRAWING TITLE:  
**SITE SERVICES -MECHANICAL**  
SEWAGE PUMPING/STORAGE/TRANSFER SYSTEM  
FLOW SCHEMATIC

PROJECT NUMBER:  
BMCE-12-061

DRAWING NO:  
PFD2