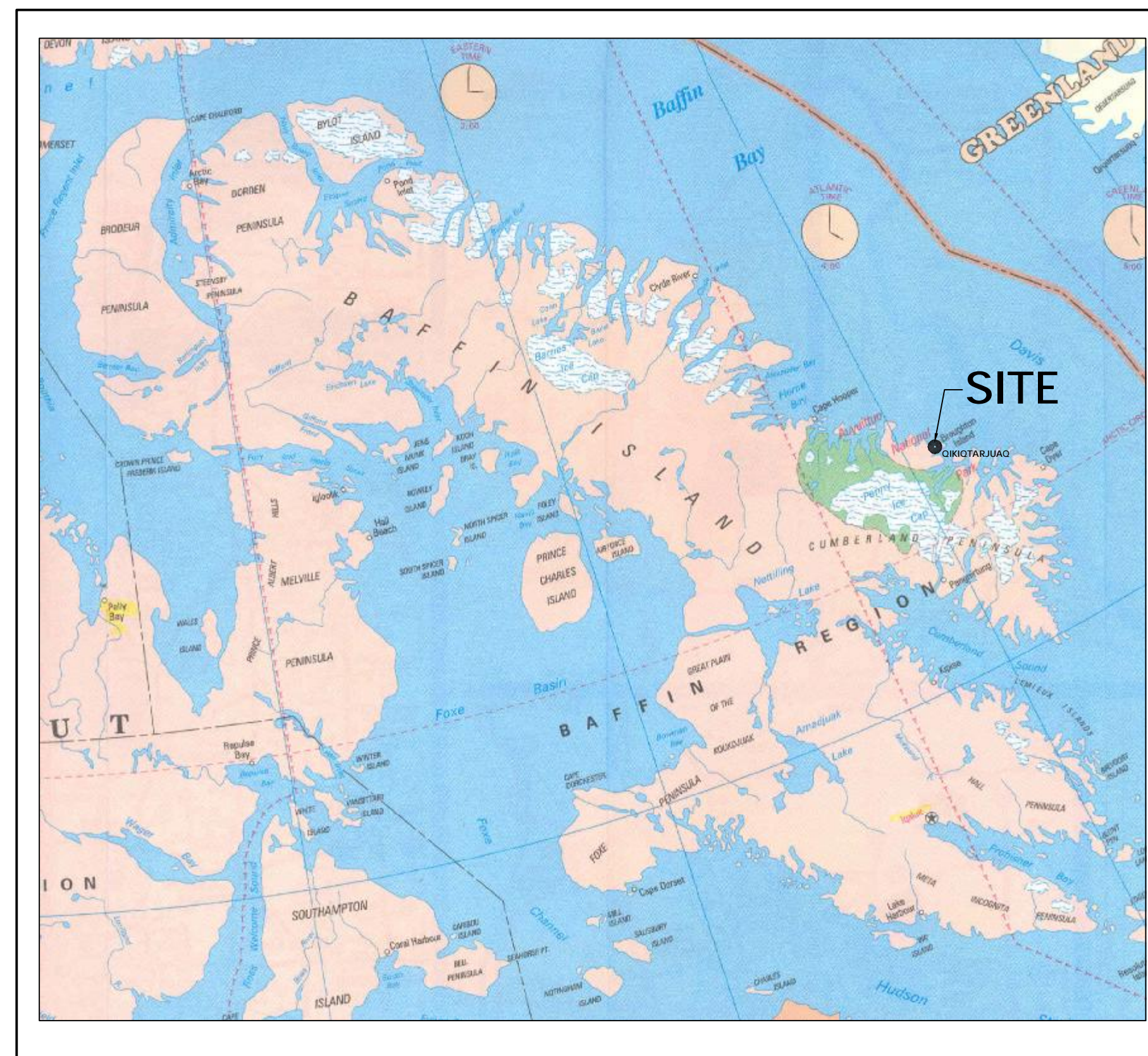


GOVERNMENT OF NUNAVUT  
COMMUNITY AND GOVERNMENT SERVICES  
P.O. BOX 379

POND INLET, NUNAVUT X0A 0S0

DETAILED DESIGN FOR THE IMPROVEMENTS OF THE WATER  
RESERVOIR, SEWAGE LAGOON AND SOLID WASTE DISPOSAL FACILITY



KEY MAP

DRAWING INDEX

*COVER PAGE AND DRAWING INDEX*

- 1 *EXISTING WATER RESERVOIR AND INTAKE*
- 2 *WATER RESERVOIR AND INTAKE PHASE 1 EXPANSION*
- 3 *WATER RESERVOIR AND INTAKE PHASE 2 EXPANSION*
- 4 *WATER RESERVOIR AND INTAKE X-SECTIONS AND PROFILES SHEET 1*
- 5 *WATER RESERVOIR AND INTAKE X-SECTIONS AND PROFILES SHEET 2*
- 6 *WATER RESERVOIR AND INTAKE X-SECTIONS AND PROFILES SHEET 3*
- 7 *WATER RESERVOIR AND INTAKE DETAILS*
- 8 *SEWAGE LAGOON PLAN*
- 9 *SEWAGE LAGOON SECTIONS*
- 10 *SEWAGE LAGOON DETAILS*
- 11 *EXISTING SOLID WASTE DISPOSAL FACILITY (LANDFILL)*
- 12 *SOLID WASTE DISPOSAL FACILITY (LANDFILL) UPGRADES*
- 13 *MUNICIPAL SOLID WASTE DISPOSAL AREA UPGRADES*
- 14 *BULKY METALS DISPOSAL AREA UPGRADES AND DETAILS*
- 15 *TRUCK FILL STATION UPGRADES*
- 16 *TRUCK FILL STATION ELECTRICAL UPGRADES*



Nuna Burnside Engineering and Environmental Ltd.  
Box 175, 25 Third Avenue, Rankin Inlet, NU.  
telephone (867) 645-2762 fax (867) 645-2765  
15 Townline, Orangeville, Ontario  
telephone (519) 941-0342 fax (519) 941-8120  
email [info@nunaburnside.com](mailto:info@nunaburnside.com)  
web [www.nunaburnside.com](http://www.nunaburnside.com)

PROJECT NO. N-0 09439





1. This drawing is the exclusive property of Nuna Burnside Engineering and Environmental Limited and the reproduction of any part without prior written consent of this office is strictly prohibited.

2. The contractor shall verify all dimensions, levels, and datums on site and report any discrepancies or omissions to this office prior to construction.

3. This drawing is to be read and understood in conjunction with all other plans and documents applicable to this project.

4. Do not scale the drawings.

No.	Issue / Revision	Date
1	Client Review and Approval (Detailed Design)	Feb 10, 2006
2	Client Review and Approval (Construction Documents)	Apr 13, 2006

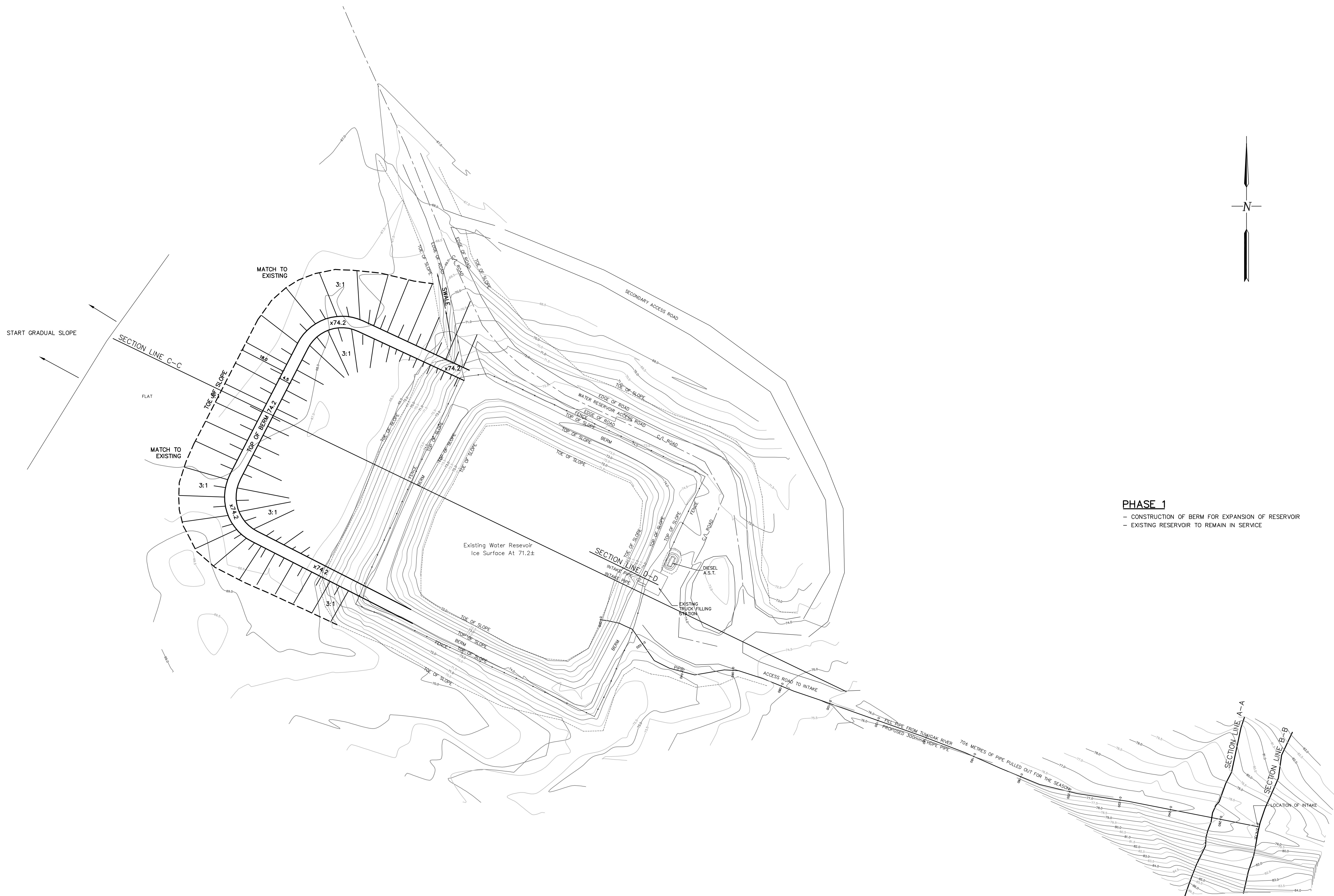
**Nuna BURNSIDE**

Nuna Burnside Engineering and Environmental Ltd.  
Box 175, 25 Third Avenue, Rankin Inlet, N.W.  
Telephone (867) 645-2762 fax (867) 645-2765  
15 Townline, Changanville, Ontario  
Telephone (519) 941-0342 fax (519) 941-8120  
email info@nunaBurnside.com  
web www.nunaBurnside.com

Client  
**GOVERNMENT OF NUNAVUT  
COMMUNITY AND  
GOVERNMENT SERVICES**

P.O. BOX 379  
POND INLET, NUNAVUT  
X0A 0S0

Drawing Title		
<b>WATER RESERVOIR, SEWAGE LAGOON AND LANDFILL IMPROVEMENTS</b>		
<b>QIKIQTARJUAQ, NUNAVUT</b>		
<b>EXISTING WATER RESERVOIR AND INTAKE</b>		
Drawn By K. Pridham	Checked By M. O'Hara	Drawing No. <b>1</b>
Scale 1:750	Project No. N-O 09439	



**PHASE 1**  
- CONSTRUCTION OF BERM FOR EXPANSION OF RESERVOIR  
- EXISTING RESERVOIR TO REMAIN IN SERVICE

No.	Issue / Revision	Date
1	Client Review and Approval (Detailed Design)	Feb 10, 2006
2	Client Review and Approval (Construction Documents)	Apr 13, 2006

1. This drawing is the exclusive property of Nuna Burnside Engineering and Environmental Limited and the reproduction of any part without prior written consent of this office is strictly prohibited.

2. The contractor shall verify all dimensions, levels, and datums on site and report any discrepancies or omissions to this office prior to construction.

3. This drawing is to be read and understood in conjunction with all other plans and documents applicable to this project.

4. Do not scale the drawings.

**Nuna BURNSIDE**

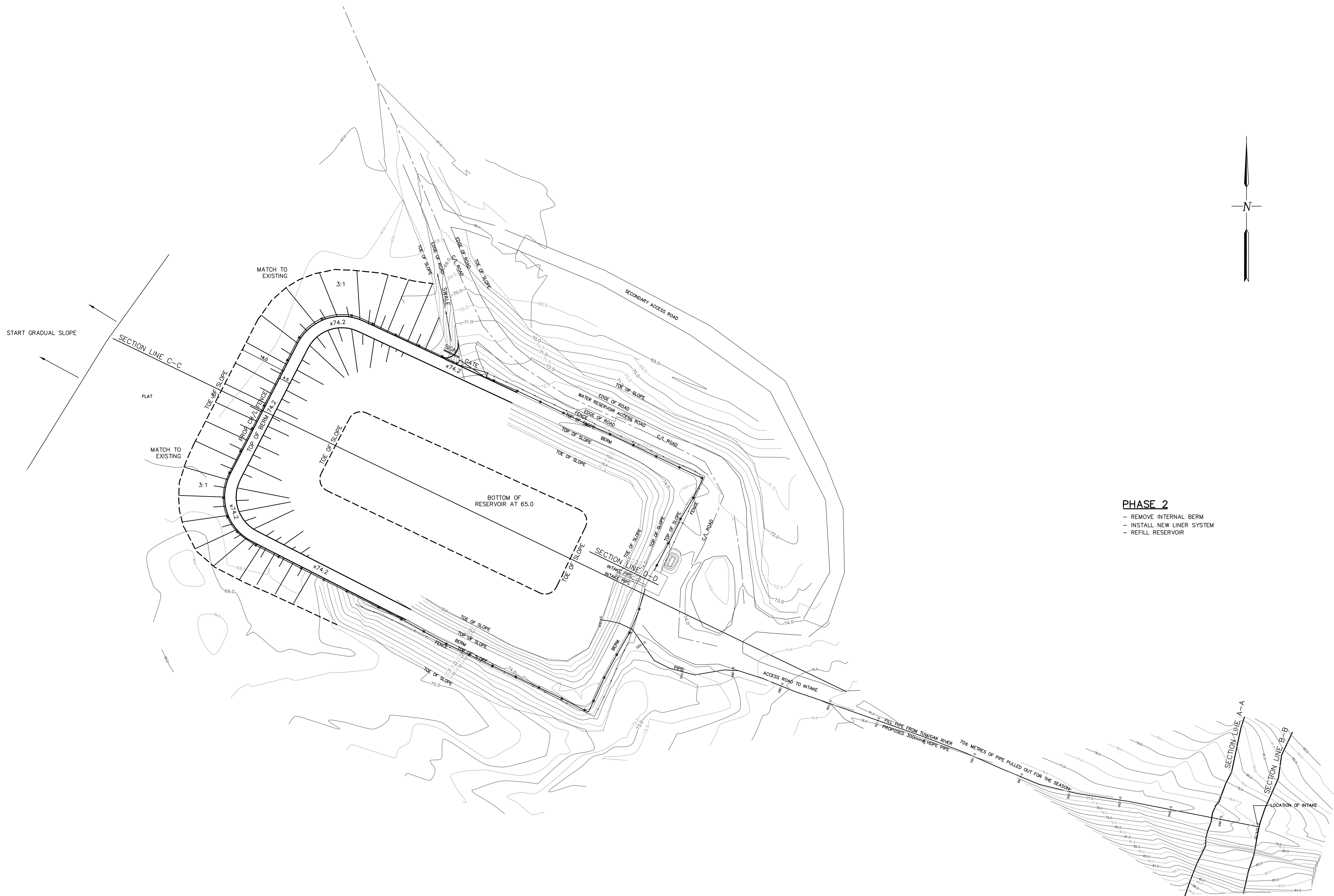
Nuna Burnside Engineering and Environmental Ltd.  
Box 175, 25 Third Avenue, Rankin Inlet, N.W.  
Telephone (867) 645-2762 fax (867) 645-2765  
15 Townline, Changanville, Ontario  
telephone (519) 941-0342 fax (519) 941-8120  
email info@nunaburnside.com  
web www.nunaburnside.com

Client  
**GOVERNMENT OF NUNAVUT  
COMMUNITY AND  
GOVERNMENT SERVICES**

P.O. BOX 379  
POND INLET, NUNAVUT  
X0A 0S0

Drawing Title  
**WATER RESERVOIR, SEWAGE LAGOON AND LANDFILL  
IMPROVEMENTS**  
**QIKIQTARJUAQ, NUNAVUT**  
**WATER RESERVOIR AND INTAKE  
PHASE 1 EXPANSION**

Drawn By K. Pridham	Checked By M. O'Hara	Drawing No. <b>2</b>
Scale 1:750	Project No. N-O 09439	



**PHASE 2**

- REMOVE INTERNAL BERM
- INSTALL NEW LINER SYSTEM
- REFILL RESERVOIR

1. This drawing is the exclusive property of Nuna Burnside Engineering and Environmental Limited and the reproduction of any part without prior written consent of this office is strictly prohibited.

2. The contractor shall verify all dimensions, levels, and datums on site and report any discrepancies or omissions to this office prior to construction.

3. This drawing is to be read and understood in conjunction with all other plans and documents applicable to this project.

4. Do not scale the drawings.

No.	Issue / Revision	Date
1	Client Review and Approval (Detailed Design)	Feb 10, 2006
2	Client Review and Approval (Construction Documents)	Apr 13, 2006

**Nuna BURNSIDE**

Nuna Burnside Engineering and Environmental Ltd.  
Box 175, 25 Third Avenue, Rankin Inlet, N.W.  
Telephone (867) 645-2762 fax (867) 645-2765  
15 Townline, Changanville, Ontario  
Telephone (519) 941-0342 fax (519) 941-8120  
email info@nunaBurnside.com  
web www.nunaBurnside.com

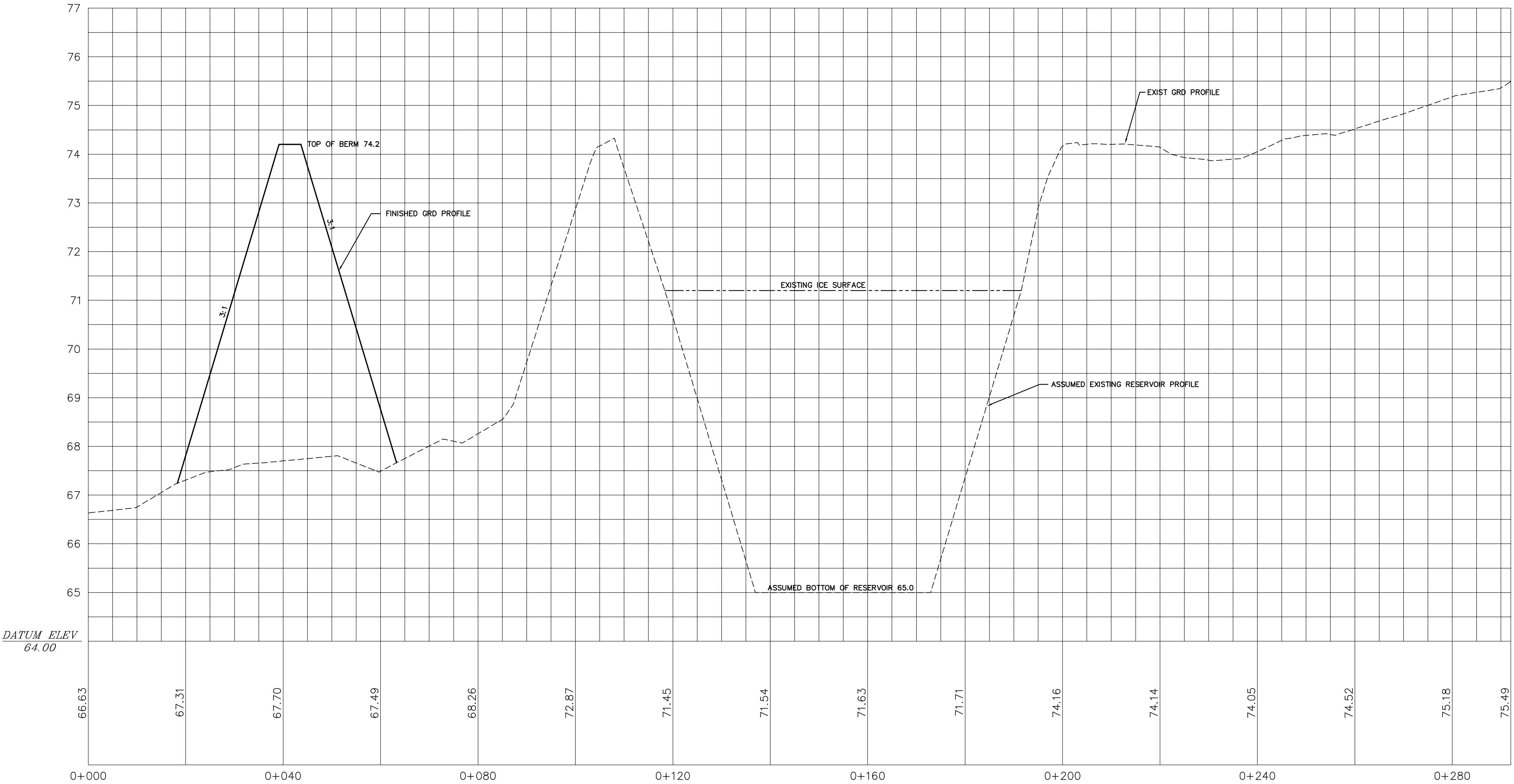
Client  
**GOVERNMENT OF NUNAVUT  
COMMUNITY AND  
GOVERNMENT SERVICES**

P.O. BOX 379  
POND INLET, NUNAVUT  
X0A 0S0

Drawing Title  
**WATER RESERVOIR, SEWAGE LAGOON AND LANDFILL  
IMPROVEMENTS**  
**QIKIQTARJUAQ, NUNAVUT**  
**WATER RESERVOIR AND INTAKE  
PHASE 2 EXPANSION**

Drawn By K. Pridham	Checked By M. O'Hara	Drawing No. <b>3</b>
Scale 1:750	Project No. N-O 09439	

PHASE 1



SECTION C-C

**NOTE:**  
ASSUMED PROFILE BASED ON DESIGN DRAWINGS  
PROVIDED BY THE HAMLET OF QIKIQTARJUAQ

1. This drawing is the exclusive property of Nuna Burnside Engineering and Environmental Limited and the reproduction of any part without prior written consent of this office is strictly prohibited.

2. The contractor shall verify all dimensions, levels, and datums on site and report any discrepancies or omissions to this office prior to construction.

3. This drawing is to be read and understood in conjunction with all other plans and documents applicable to this project.

4. Do not scale the drawings.

No.	Issue / Revision	Date
1	Client Review and Approval (Detailed Design)	Feb 10, 2006
2	Client Review and Approval (Construction Documents)	Apr 13, 2006

**Nuna BURNSIDE**

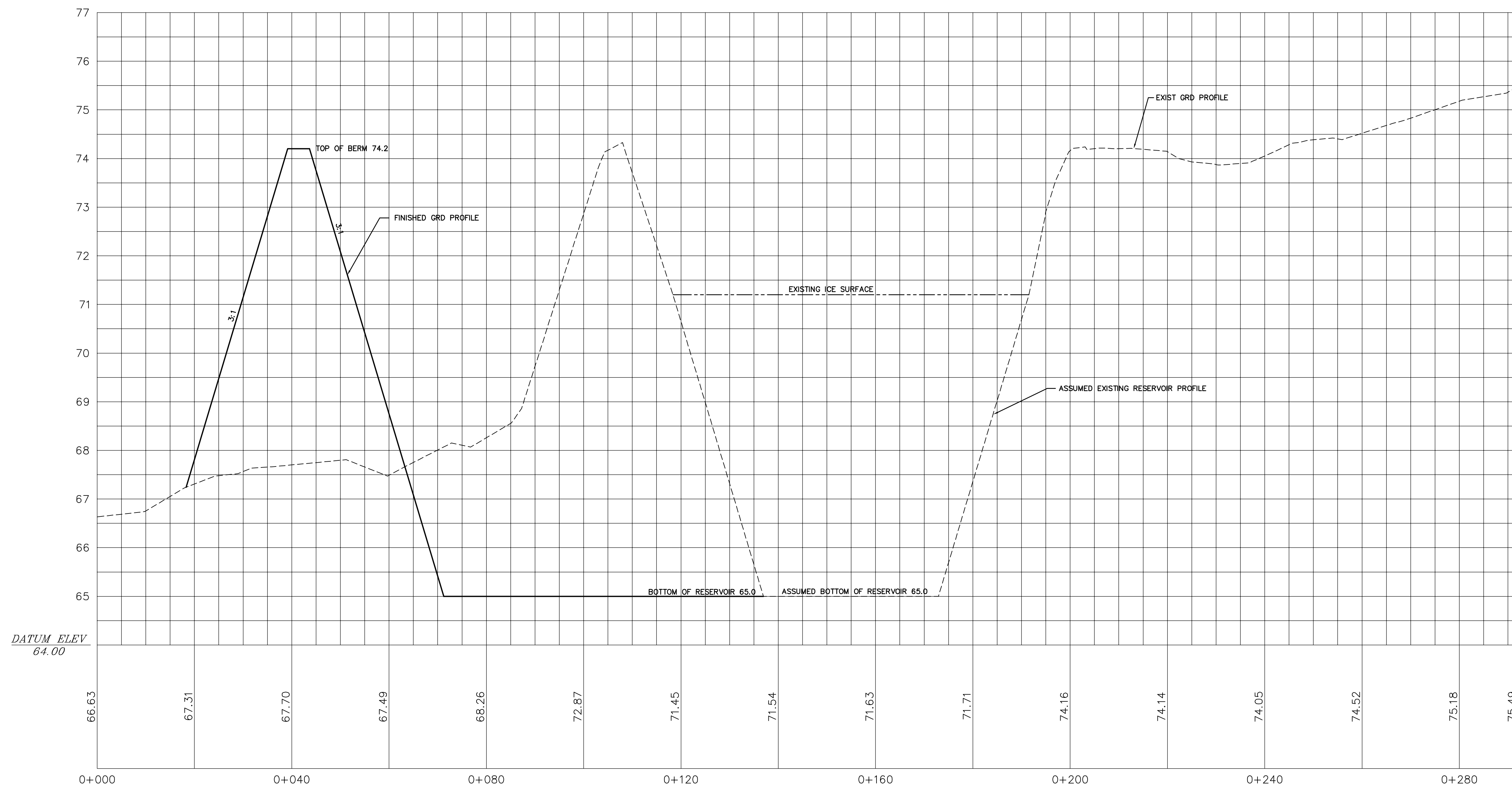
Nuna Burnside Engineering and Environmental Ltd.  
Box 175, 25 Third Avenue, Rankin Inlet, N.W.  
telephone (867) 645-2762 fax (867) 645-2765  
15 Townline, Oronville, Ontario  
telephone (519) 941-0342 fax (519) 941-8120  
email info@nunaburnside.com  
web www.nunaburnside.com

Client  
**GOVERNMENT OF NUNAVUT  
COMMUNITY AND  
GOVERNMENT SERVICES**

P.O. BOX 379  
POND INLET, NUNAVUT  
XOA OSO

Drawing Title		
<b>WATER RESERVOIR, SEWAGE LAGOON AND LANDFILL IMPROVEMENTS</b>		
<b>QIKIQTARJUAQ, NUNAVUT</b>		
<b>WATER RESERVOIR AND INTAKE X-SECTIONS AND PROFILES SHEET 1</b>		
Drawn By K. Pridham	Checked By M. O'Hara	Drawing No.
Scale HORIZ. 1:500 VERT. 1:50	Project No. N-0 09439	<b>4</b>

## PHASE 2



## SECTION C-C

**NOTE:**  
ASSUMED PROFILE BASED ON DESIGN DRAWINGS  
PROVIDED BY THE HAMLET OF QIKIQTARJUAQ

[illegible][illegible]

--	--

--	--

---

---

---

---

**Нунна Е**

**Nuna Burnside Ent**  
Box 175, 25 Third Ave  
**telephone** (867) 641-1111  
15 Townline, Orange  
**telephone** (519) 941-1111  
email [info@nunaburnside.com](mailto:info@nunaburnside.com)  
web [www.nunaburnside.com](http://www.nunaburnside.com)

**BURNSIDE**  
Engineering and Environmental Ltd.  
avenue, Rankin Inlet, NU.  
5-2762 fax (867) 645-2765  
ville, Ontario  
1-0342 fax (519) 941-8120  
[burnside.com](http://burnside.com)

ent

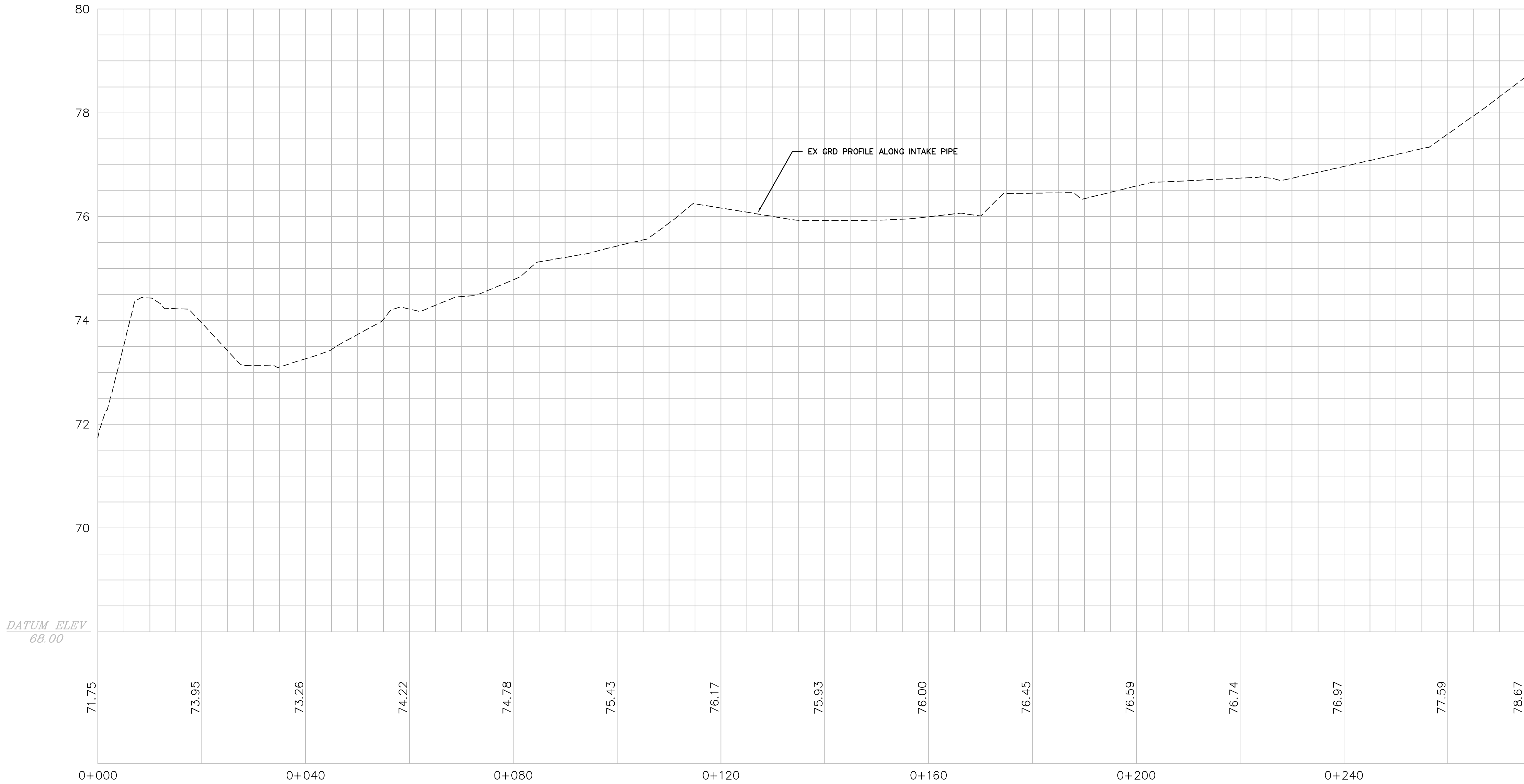
**GOVERNMENT OF NUNAVUT  
COMMUNITY AND  
GOVERNMENT SERVICE**

P.O. BOX 379  
POND INLET, NUNAVUT  
X0A 0S0

HAVUT ES	Drawing <b>WATER IMPROV QIKIQ WATER X-SE</b>
	Drawn By K. Pri
	Scale

Title R RESERVOIR, SEWAGE LAGOON MOVEMENTS TARJUAQ, NUNAVUT R RESERVOIR AND INTAKE ACTIONS AND PROFILES SHEET 2	
Author M. O'Hara	Checked By M. O'Hara
Date 1994.09.13	Project No. N-00, 00439

AND LANDFILL	
Drawing No.	
5	

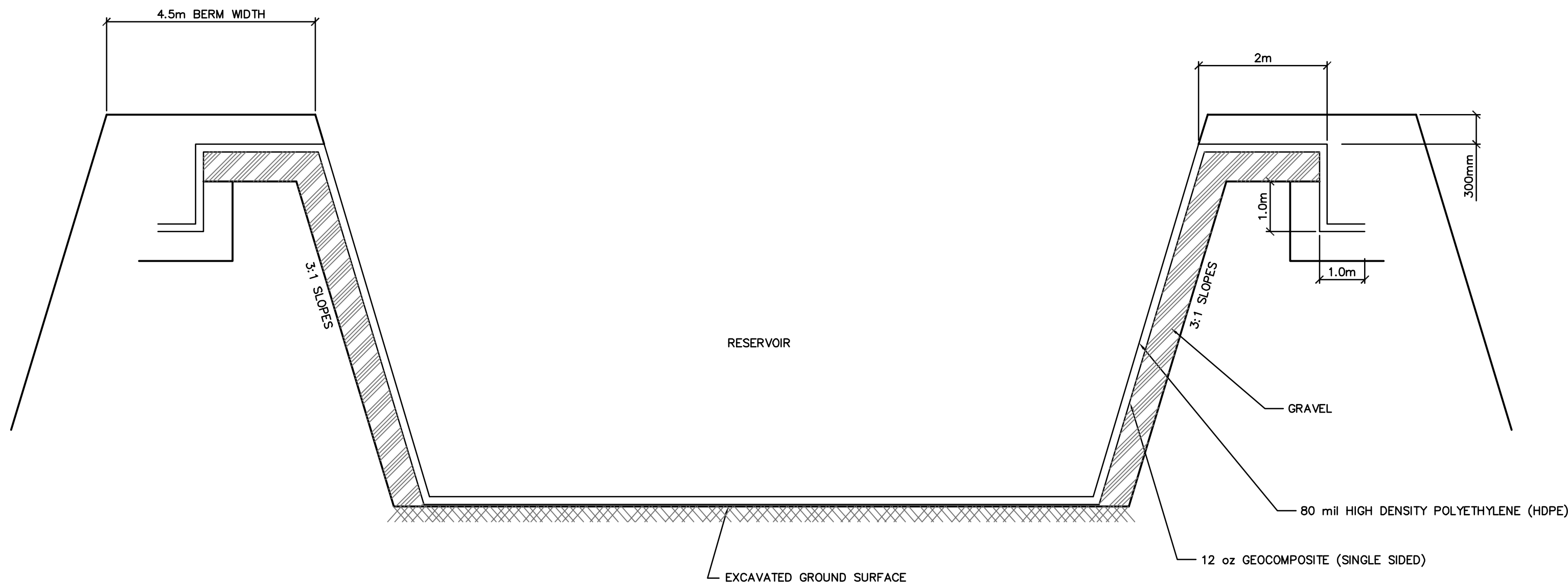


INTAKE PIPE

1. This drawing is the exclusive property of Nuna Burnside Engineering and Environmental Limited and the reproduction of any part without prior written consent of this office is strictly prohibited.	No.	Issue / Revision	Date
	1	Client Review and Approval (Detailed Design)	Feb 10, 2006
	2	Client Review and Approval (Construction Documents)	Apr 13, 2006
2. The contractor shall verify all dimensions, levels, and datums on site and report any discrepancies or omissions to this office prior to construction.			
3. This drawing is to be read and understood in conjunction with all other plans and documents applicable to this project.			
4. Do not scale the drawings.			

 <b>burnside</b> <small>Nuna Burnside Engineering and Environmental Ltd. Box 175, 25 Third Avenue, Rankin Inlet, NU telephone (867) 645-2762 fax (867) 645-2765 15 Townline, Orangethorpe, Ontario telephone (519) 941-0342 fax (519) 941-8120 email info@nunaburnside.com web www.nunaburnside.com</small>	<b>Client</b> <b>GOVERNMENT OF NUNAVUT COMMUNITY AND GOVERNMENT SERVICES</b>  P.O. BOX 379 POND INLET, NUNAVUT X0A 0S0	<b>Drawing Title</b> <b>WATER RESERVOIR, SEWAGE LAGOON AND LANDFILL IMPROVEMENTS</b>  <b>QIKIQTARJUAQ, NUNAVUT</b>  <b>WATER RESERVOIR AND INTAKE X-SECTIONS AND PROFILES SHEET 3</b>	<b>Drawing No.</b>  <b>6</b>
		<b>Drawn By</b> K. Pridham	<b>Checked By</b> M. O'Hara
		<b>Scale</b> HORIZ. 1:500 VERT. 1:50	<b>Project No.</b> N-0 09439

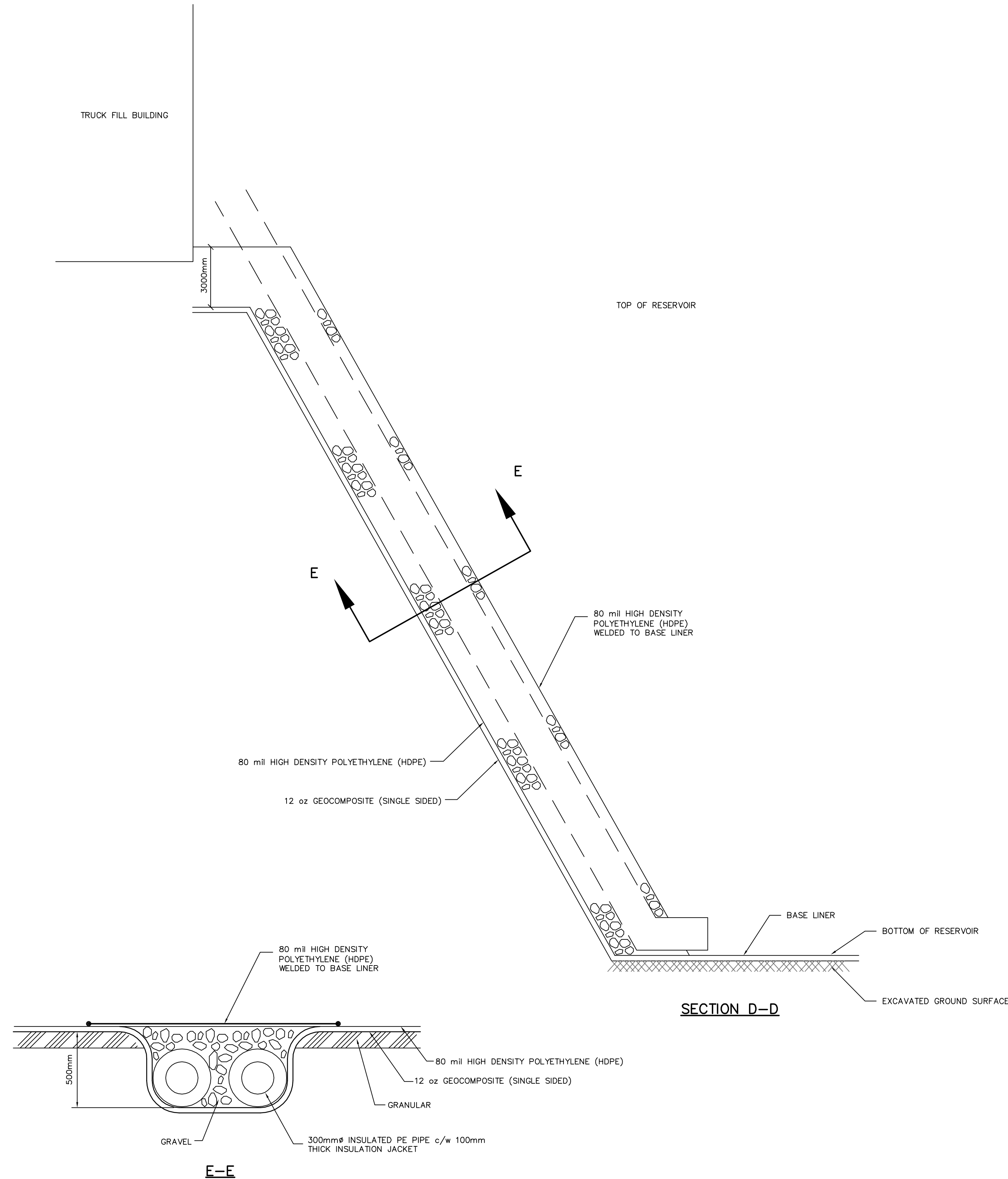
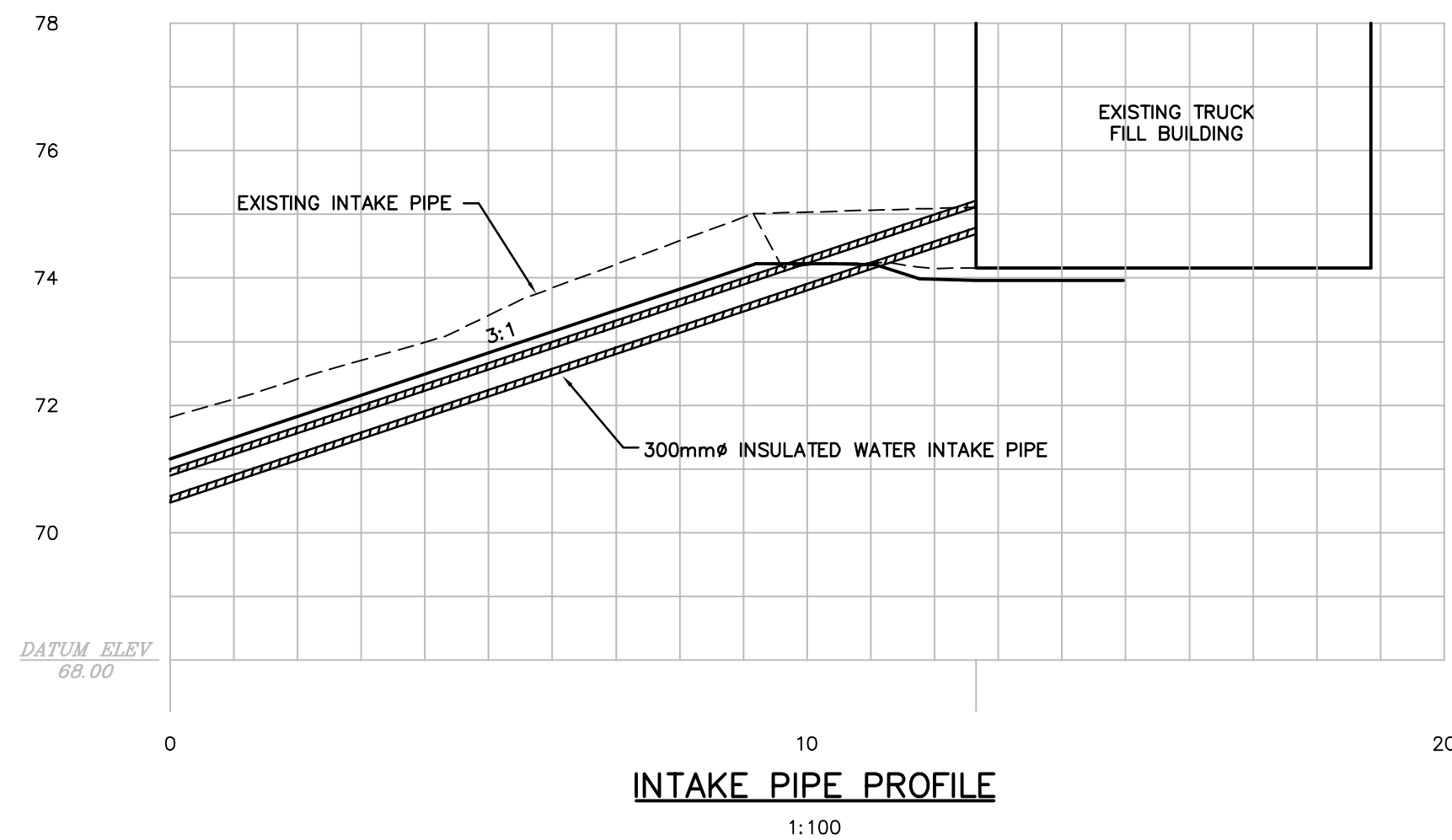




BERM DETAIL

SECTION C-C

NTS



PROPOSED INTAKE CHANNEL DETAIL

NTS

1. This drawing is the exclusive property of Nuna Burnside Engineering and Environmental Limited and the reproduction of any part without prior written consent of this office is strictly prohibited.  
2. The contractor shall verify all dimensions, levels, and datums on site and report any discrepancies or omissions to this office prior to construction.  
3. This drawing is to be read and understood in conjunction with all other plans and documents applicable to this project.  
4. Do not scale the drawings.

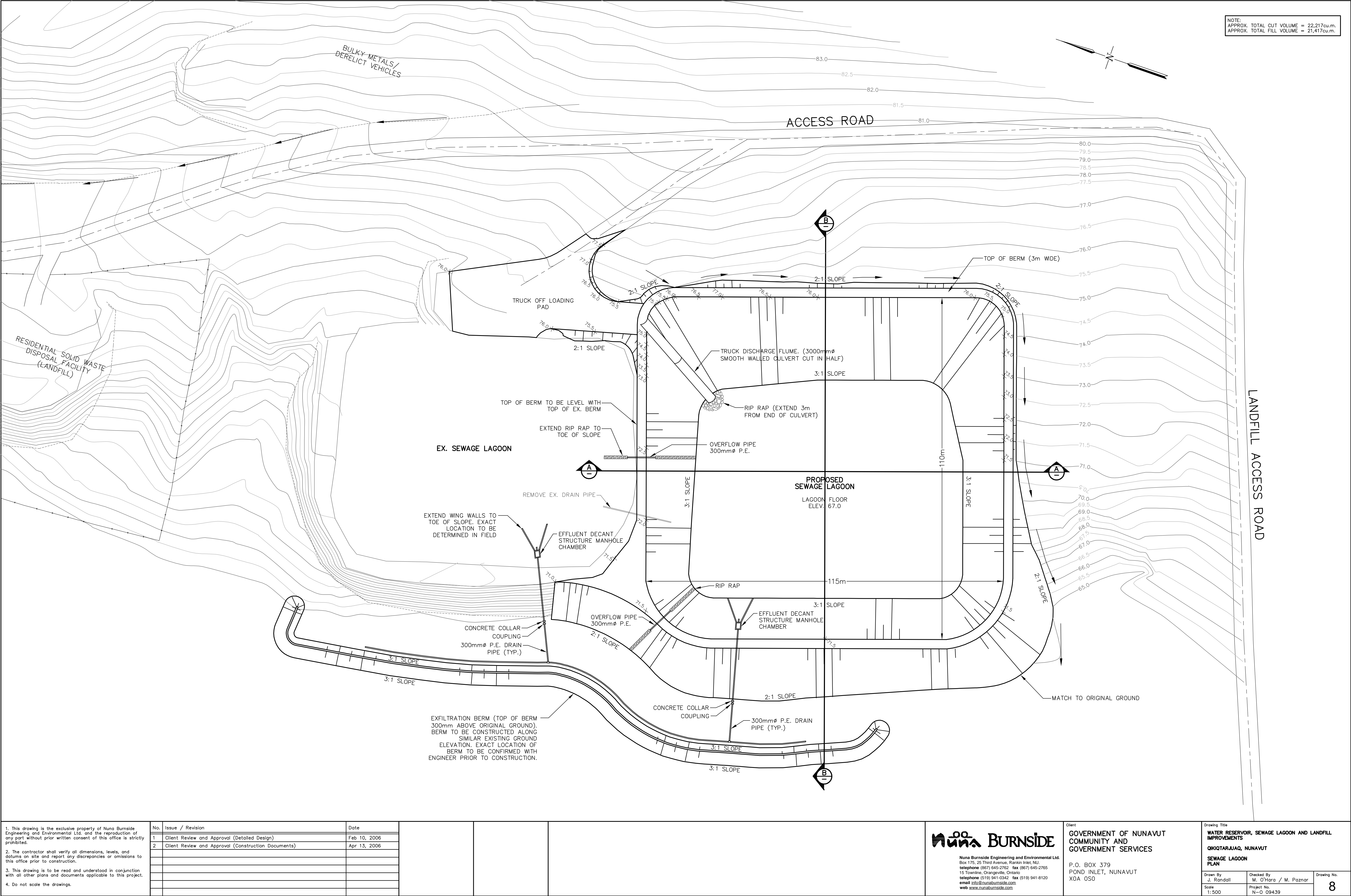
No.	Issue / Revision	Date
1	Client Review and Approval (Detailed Design)	Feb 10, 2006
2	Client Review and Approval (Construction Documents)	Apr 13, 2006

**Nuna Burnside**  
Nuna Burnside Engineering and Environmental Ltd.  
Box 175, 25 Third Avenue, Rankin Inlet, N.W.  
Telephone (867) 645-2762 fax (867) 645-2765  
15 Townline, Cranberry, Ontario  
Telephone (519) 941-0342 fax (519) 941-8120  
email info@nunaburnside.com  
web www.nunaburnside.com

Client  
**GOVERNMENT OF NUNAVUT  
COMMUNITY AND  
GOVERNMENT SERVICES**  
P.O. BOX 379  
POND INLET, NUNAVUT  
X0A 0S0

Drawing Title		
WATER RESERVOIR, SEWAGE LAGOON AND LANDFILL IMPROVEMENTS QIKIQTARJUAQ, NUNAVUT WATER RESERVOIR AND INTAKE DETAILS		
Drawn By K. Pridham	Checked By M. O'Hara	Drawing No. 7
Scale AS SHOWN	Project No. N-0 09439	





1. This drawing is the exclusive property of Nuna Burnside Engineering and Environmental Ltd. and the reproduction of any part without prior written consent of this office is strictly prohibited.
2. The contractor shall verify all dimensions, levels, and datums on site and report any discrepancies or omissions to this office prior to construction.
3. This drawing is to be read and understood in conjunction with all other plans and documents applicable to this project.
4. Do not scale the drawings.

No.	Issue / Revision	Date
1	Client Review and Approval (Detailed Design)	Feb 10, 2006
2	Client Review and Approval (Construction Documents)	Apr 13, 2006

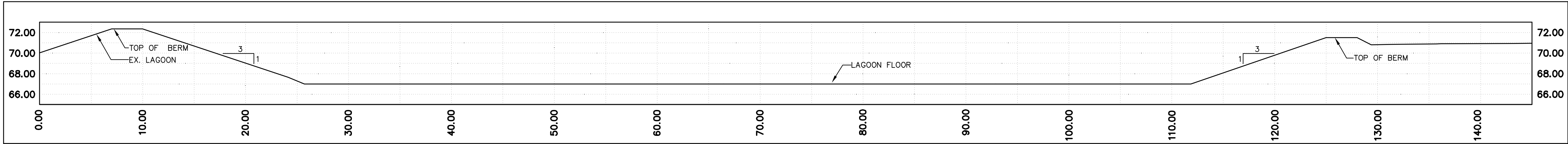
**Nuna Burnside**

Nuna Burnside Engineering and Environmental Ltd.  
Box 175, 25 Third Avenue, Rankin Inlet, N.T.  
Telephone (867) 645-2762 fax (867) 645-2765  
15 Townline, Oranienburg, Ontario  
Telephone (519) 941-0342 fax (519) 941-8120  
email info@nunaburnside.com  
web www.nunaburnside.com

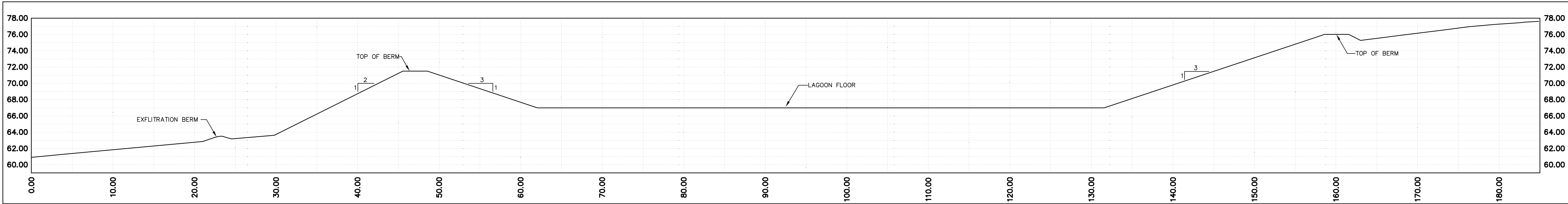
Client  
**GOVERNMENT OF NUNAVUT  
COMMUNITY AND  
GOVERNMENT SERVICES**

P.O. BOX 379  
POND INLET, NUNAVUT  
X0A 0S0

Drawing Title		
<b>WATER RESERVOIR, SEWAGE LAGOON AND LANDFILL IMPROVEMENTS</b>		
<b>QIKIQTARJUAQ, NUNAVUT</b>		
<b>SEWAGE LAGOON PLAN</b>		
Drawn By J. Randall	Checked By M. O'Hara / M. Poznar	Drawing No. <b>8</b>
Scale 1:500	Project No. N-O 09439	



A  
SECTION A-A



B  
SECTION B-B

1. This drawing is the exclusive property of Nuna Burnside Engineering and Environmental Ltd. and the reproduction of any part without prior written consent of this office is strictly prohibited.

2. The contractor shall verify all dimensions, levels, and datums on site and report any discrepancies or omissions to this office prior to construction.

3. This drawing is to be read and understood in conjunction with all other plans and documents applicable to this project.

4. Do not scale the drawings.

No.	Issue / Revision	Date
1	Client Review and Approval (Detailed Design)	Feb 10, 2006
2	Client Review and Approval (Construction Documents)	Apr 13, 2006

**Nuna BURNSIDE**

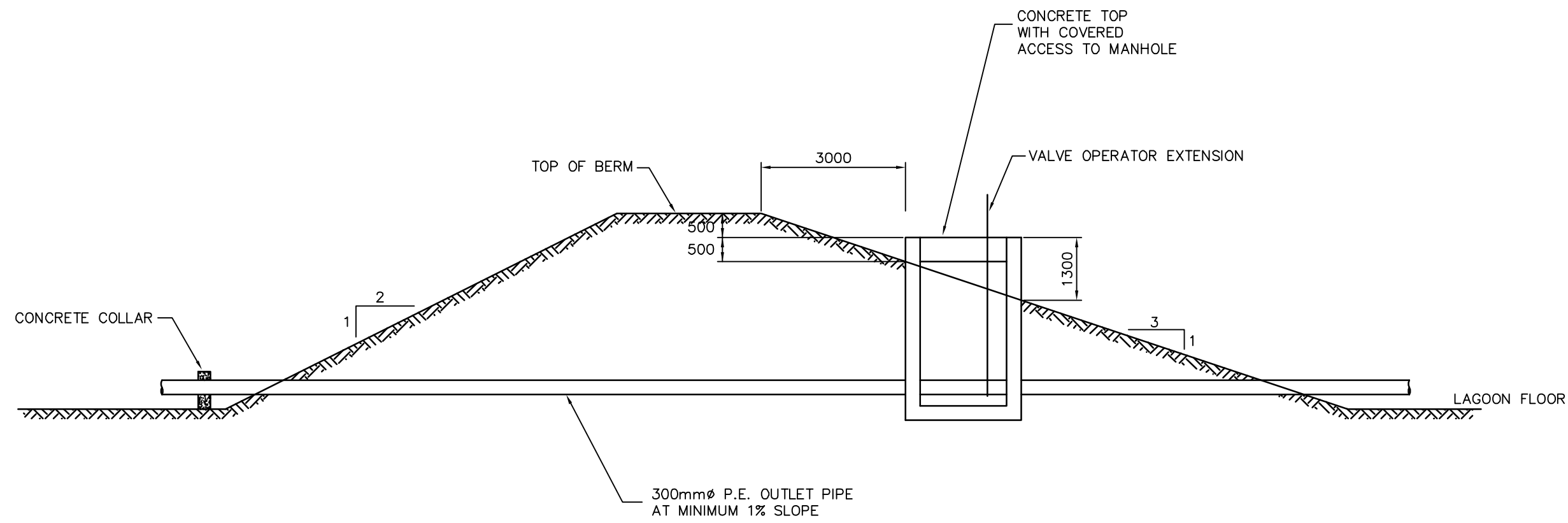
Nuna Burnside Engineering and Environmental Ltd.  
Box 175, 25 Third Avenue, Rankin Inlet, NU.  
telephone (807) 645-2762 fax (807) 645-2765  
15 Townsend, Orangeville, Ontario  
telephone (519) 941-0342 fax (519) 941-8120  
email info@nunaburnside.com  
web www.nunaburnside.com

Client  
**GOVERNMENT OF NUNAVUT  
COMMUNITY AND  
GOVERNMENT SERVICES**

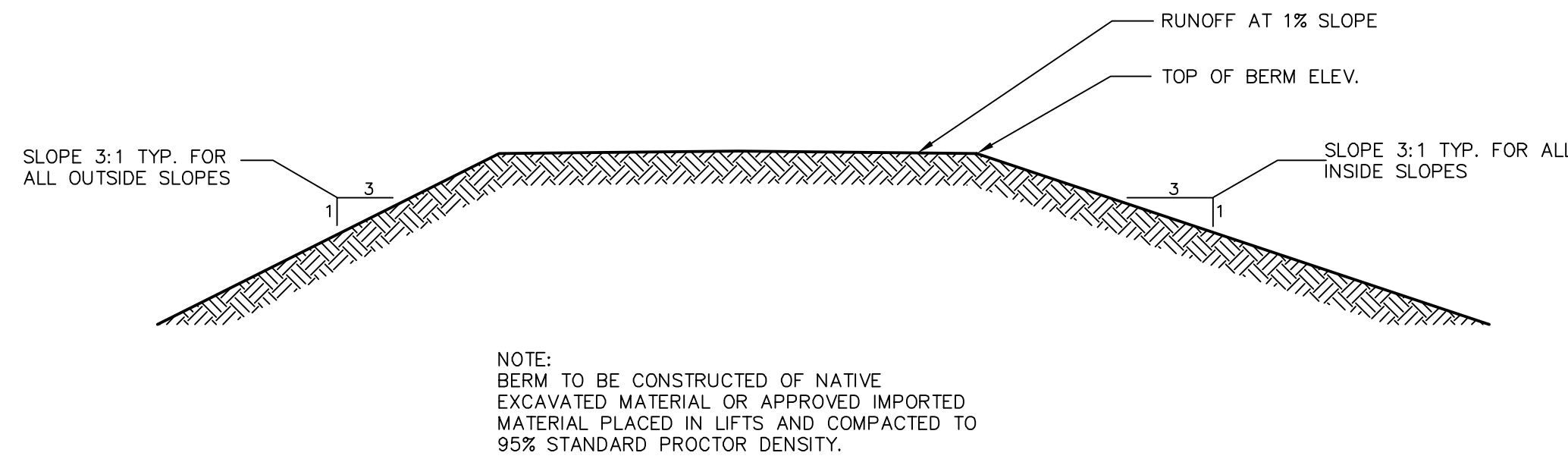
P.O. BOX 379  
POND INLET, NUNAVUT  
X0A 0S0

Drawing Title  
**WATER RESERVOIR, SEWAGE LAGOON AND LANDFILL  
IMPROVEMENTS**  
**QIKIQTARJUAQ, NUNAVUT**  
**SEWAGE LAGOON SECTIONS**

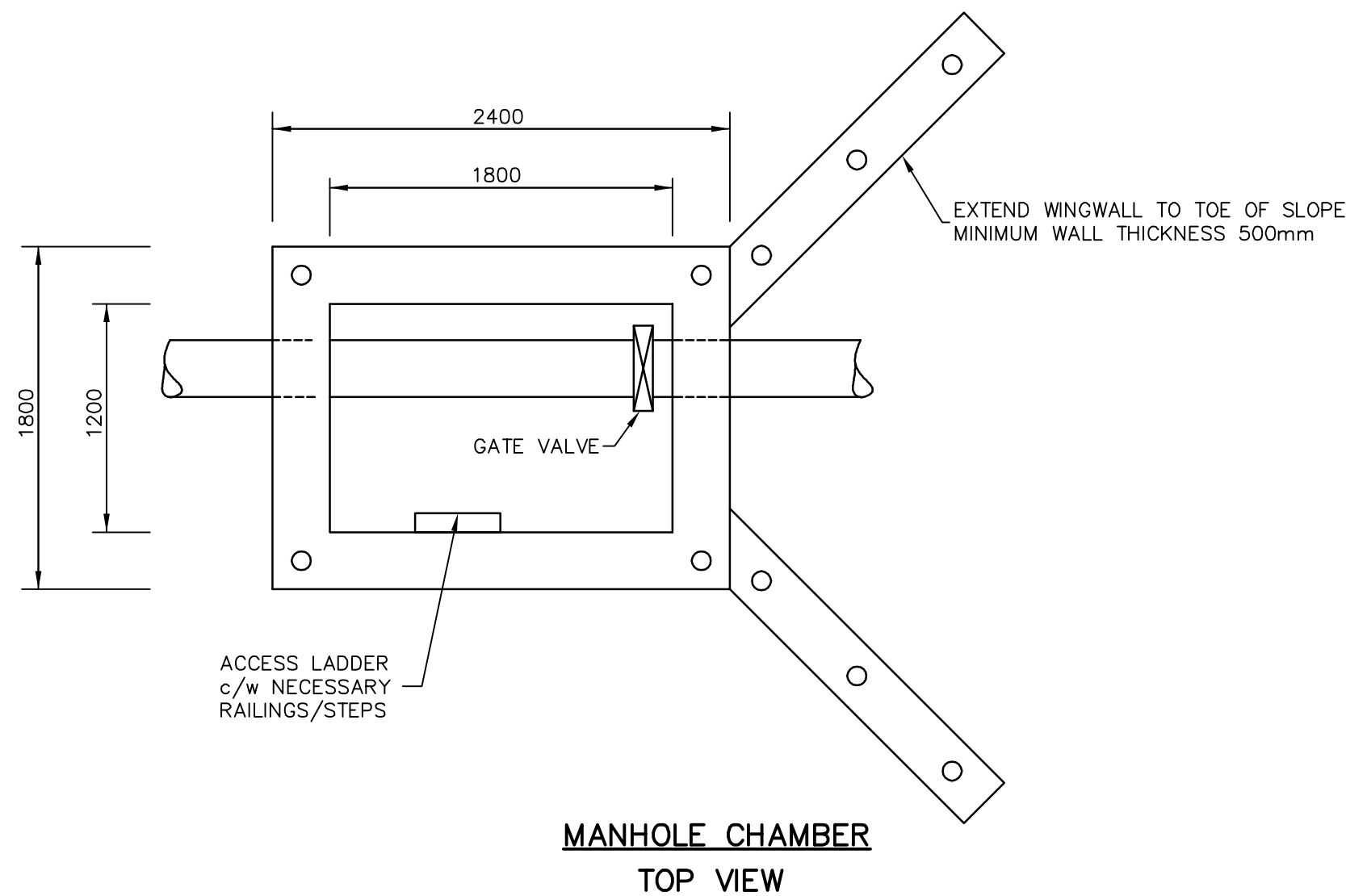
Drawn By J. Randall	Checked By M. O'Hara / M. Poznar	Drawing No. <b>9</b>
Scale 1:250	Project No. N-O 09439	



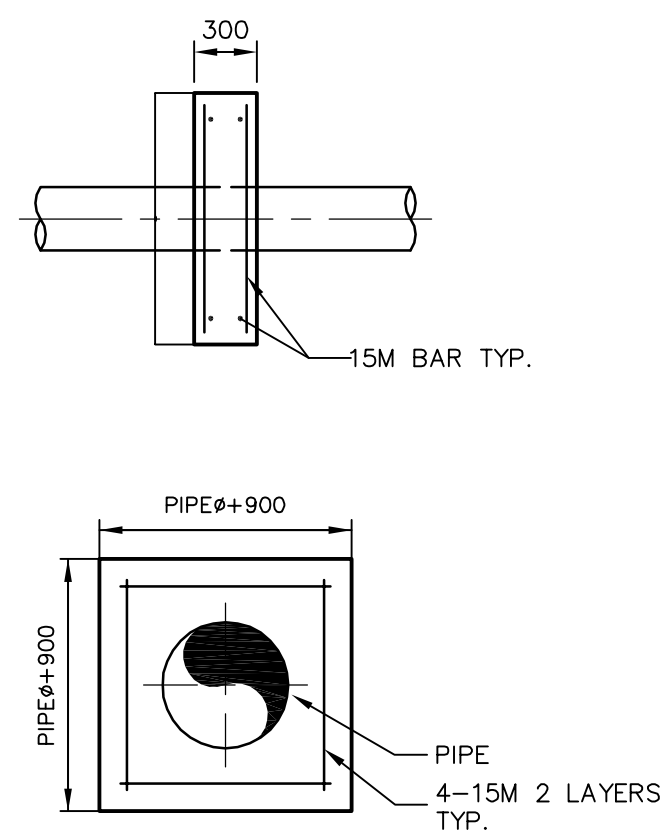
**TYPICAL LAGOON OUTLET DETAIL**  
N.T.S.



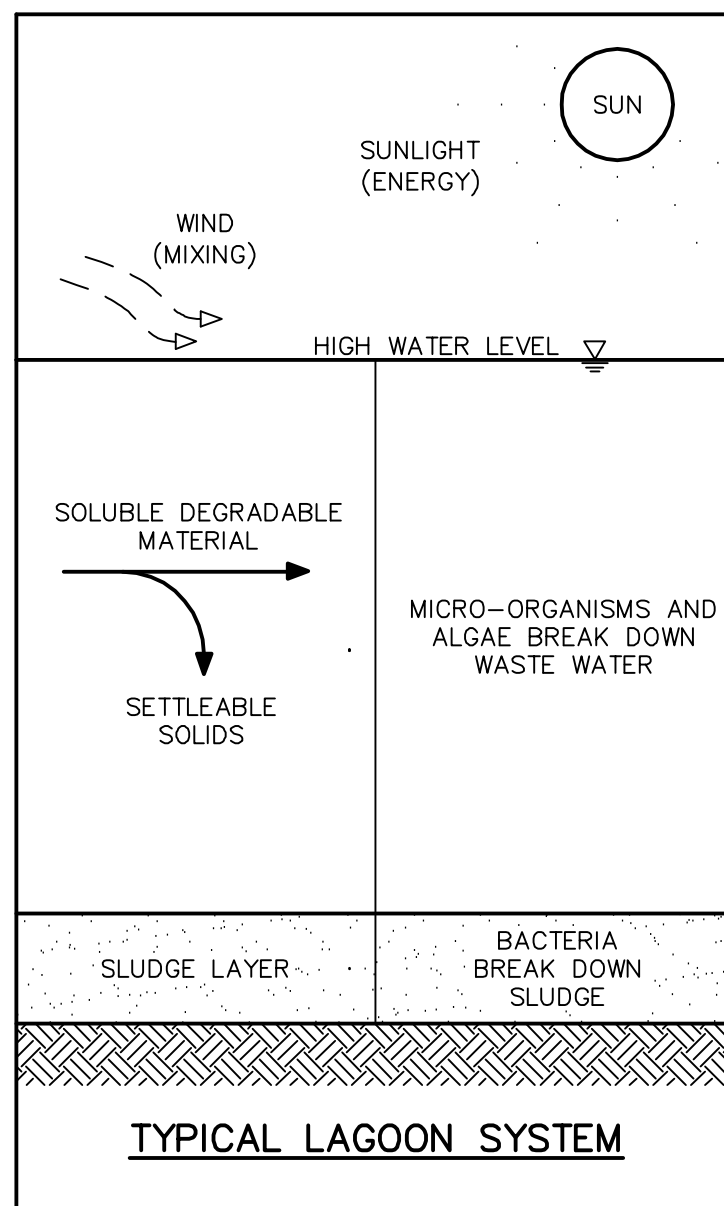
**TYPICAL BERM CONSTRUCTION**



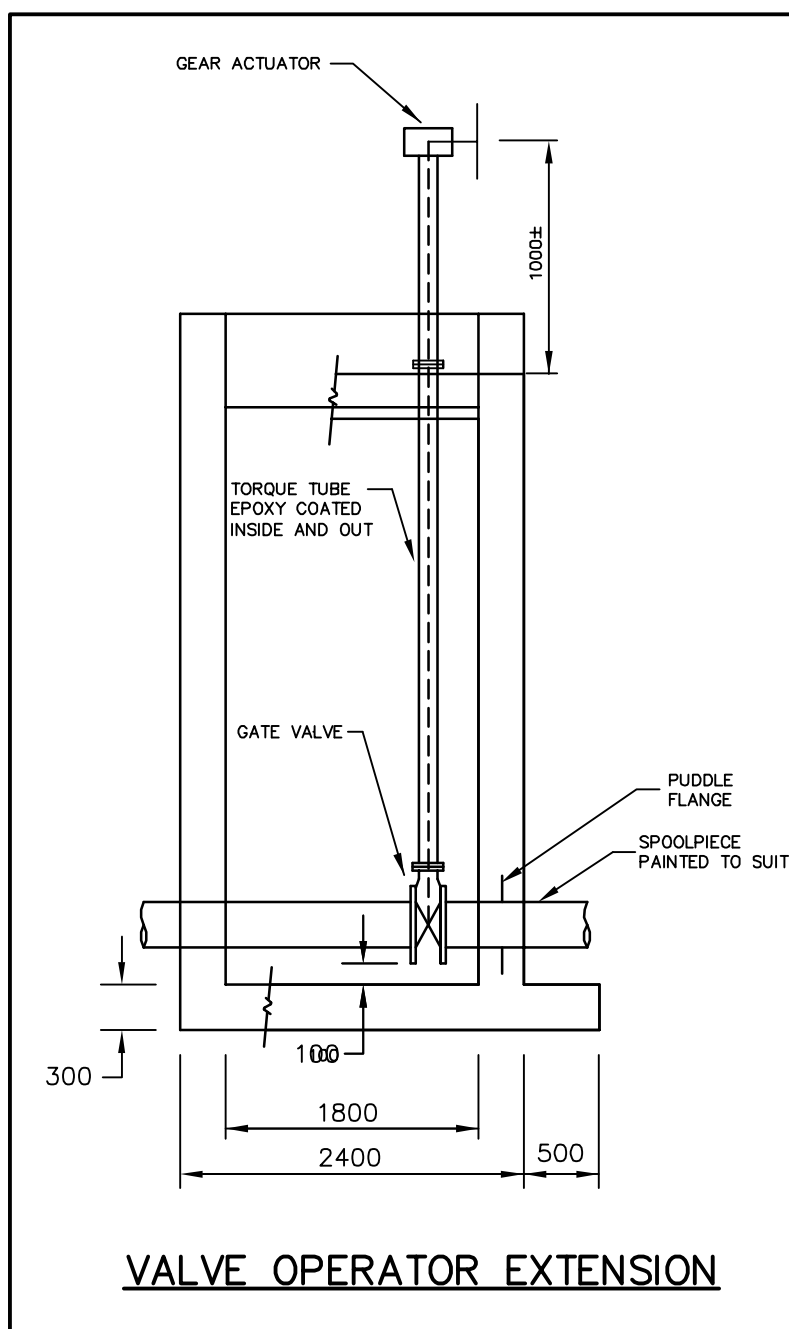
**MANHOLE CHAMBER**  
TOP VIEW



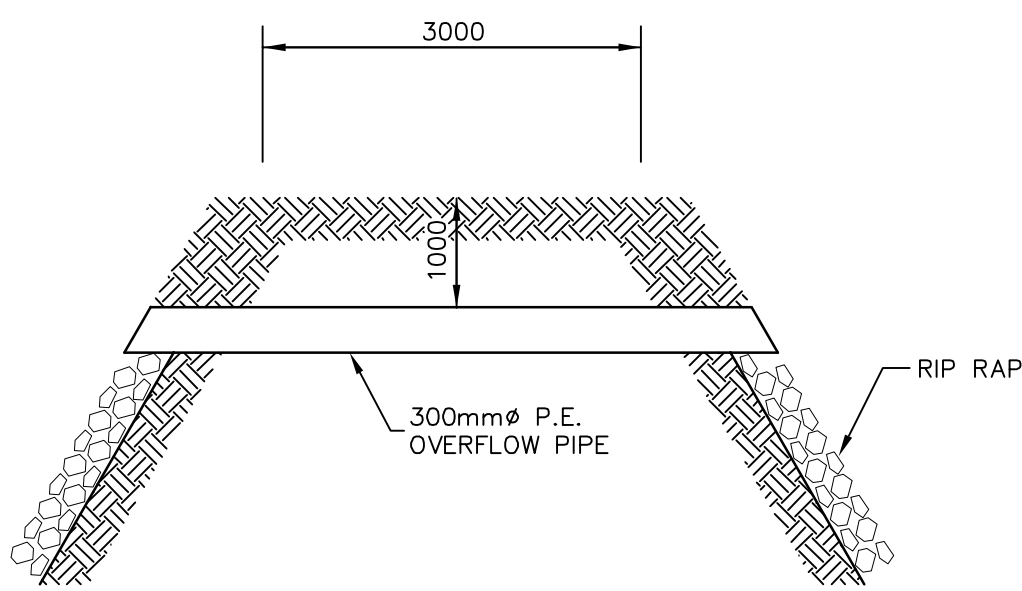
**CONCRETE COLLAR**



**TYPICAL LAGOON SYSTEM**



**VALVE OPERATOR EXTENSION**



**OVERFLOW DETAIL**

1. This drawing is the exclusive property of Nuna Burnside Engineering and Environmental Ltd. and the reproduction of any part without prior written consent of this office is strictly prohibited.  
2. The contractor shall verify all dimensions, levels, and datums on site and report any discrepancies or omissions to this office prior to construction.  
3. This drawing is to be read and understood in conjunction with all other plans and documents applicable to this project.  
4. Do not scale the drawings.

No.	Issue / Revision	Date
1	Client Review and Approval (Detailed Design)	Feb 10, 2006
2	Client Review and Approval (Construction Documents)	Apr 13, 2006

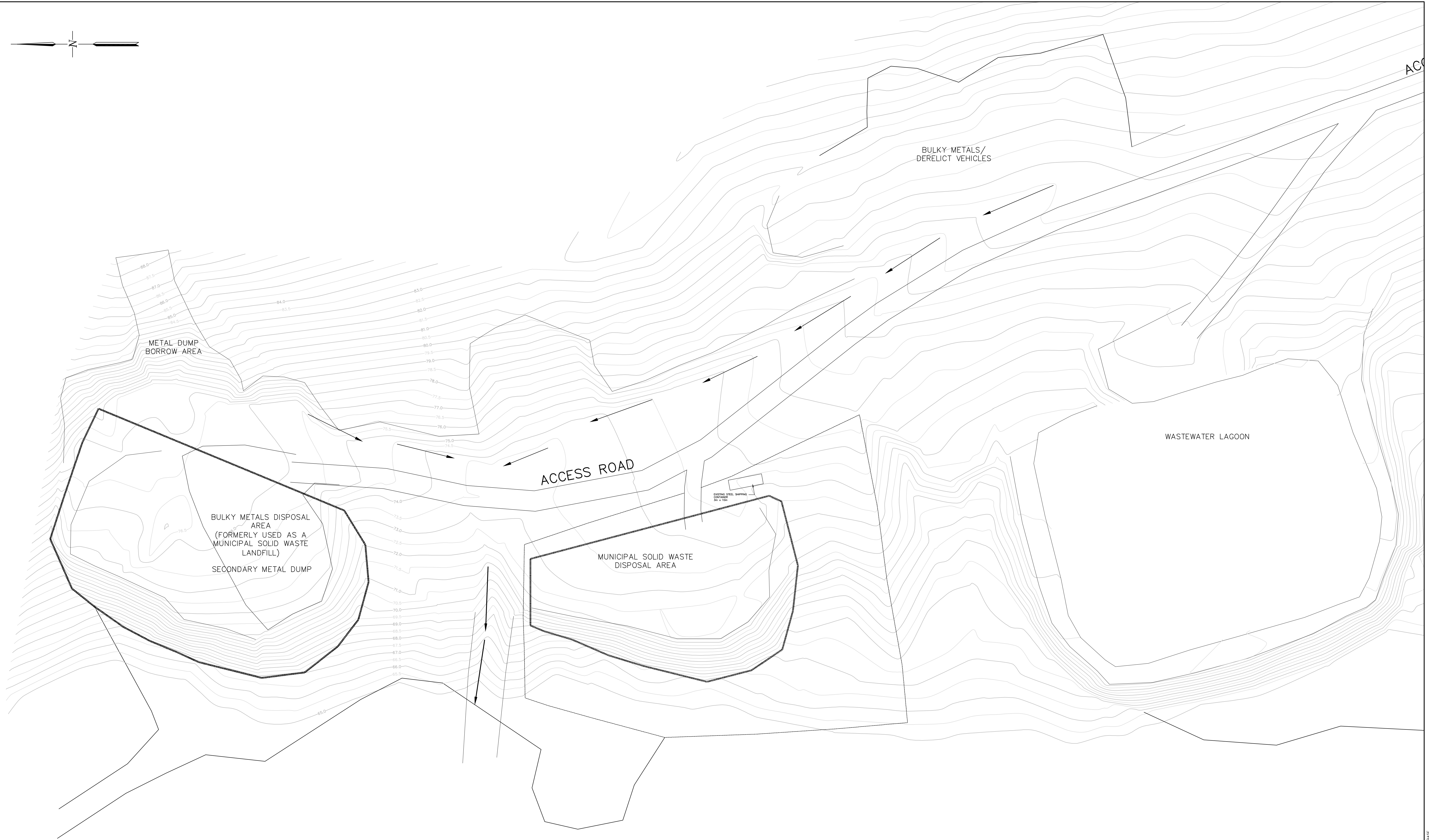
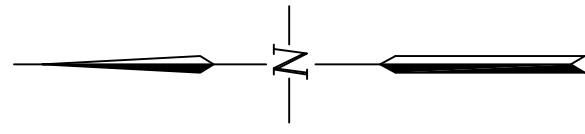
**Nuna BURNSIDE**  
Nuna Burnside Engineering and Environmental Ltd.  
Box 175, 25 Third Avenue, Rankin Inlet, N.T.  
Telephone (867) 645-2762 fax (867) 645-2765  
15 Townline, Orono, Ontario  
Telephone (519) 941-0342 fax (519) 941-8120  
email info@nunaBurnside.com  
web www.nunaBurnside.com

Client  
**GOVERNMENT OF NUNAVUT  
COMMUNITY AND  
GOVERNMENT SERVICES**  
P.O. BOX 379  
POND INLET, NUNAVUT  
X0A 0S0

Drawing Title  
**WATER RESERVOIR, SEWAGE LAGOON AND LANDFILL  
IMPROVEMENTS**  
QIKIQTARJUAQ, NUNAVUT  
SEWAGE LAGOON DETAILS

Drawn By J. Randall	Checked By M. O'Hara / M. Paznar	Drawing No. <b>10</b>
Scale N.T.S.	Project No. N-O 09439	





1. This drawing is the exclusive property of Nuna Burnside Engineering and Environmental Limited and the reproduction of any part without prior written consent of this office is strictly prohibited.

2. The contractor shall verify all dimensions, levels, and datums on site and report any discrepancies or omissions to this office prior to construction.

3. This drawing is to be read and understood in conjunction with all other plans and documents applicable to this project.

4. Do not scale the drawings.

No.	Issue / Revision	Date
1	Client Review and Approval (Detailed Design)	Feb. 10, 2006
2	Client Review and Approval Construction Documents)	Apr 13, 2006

LEGEND

- ..... LIMIT OF WASTE
- EXISTING FENCE
- EXISTING SURFACE WATER FLOW DIRECTION

**Nuna BURNSIDE**

Nuna Burnside Engineering and Environmental Ltd.  
Box 175, 25 Third Avenue, Rankin Inlet, N.W.  
telephone (867) 645-2762 fax (867) 645-2765  
15 Townline, Changanville, Ontario  
telephone (519) 941-0342 fax (519) 941-8120  
email info@nunaburnside.com  
web www.nunaburnside.com

Client  
**GOVERNMENT OF NUNAVUT  
COMMUNITY AND  
GOVERNMENT SERVICES**

P.O. BOX 379  
POND INLET, NUNAVUT  
XOA OSO

Drawing Title  
**WATER RESERVOIR, SEWAGE LAGOON AND LANDFILL  
IMPROVEMENTS  
QIKIQTARJUAQ, NUNAVUT  
EXISTING SOLID WASTE DISPOSAL FACILITY (LANDFILL)**

Drawn By K. Pridham	Checked By J. Walls	Drawing No. <b>11</b>
Scale 1:500	Project No. N-009439	









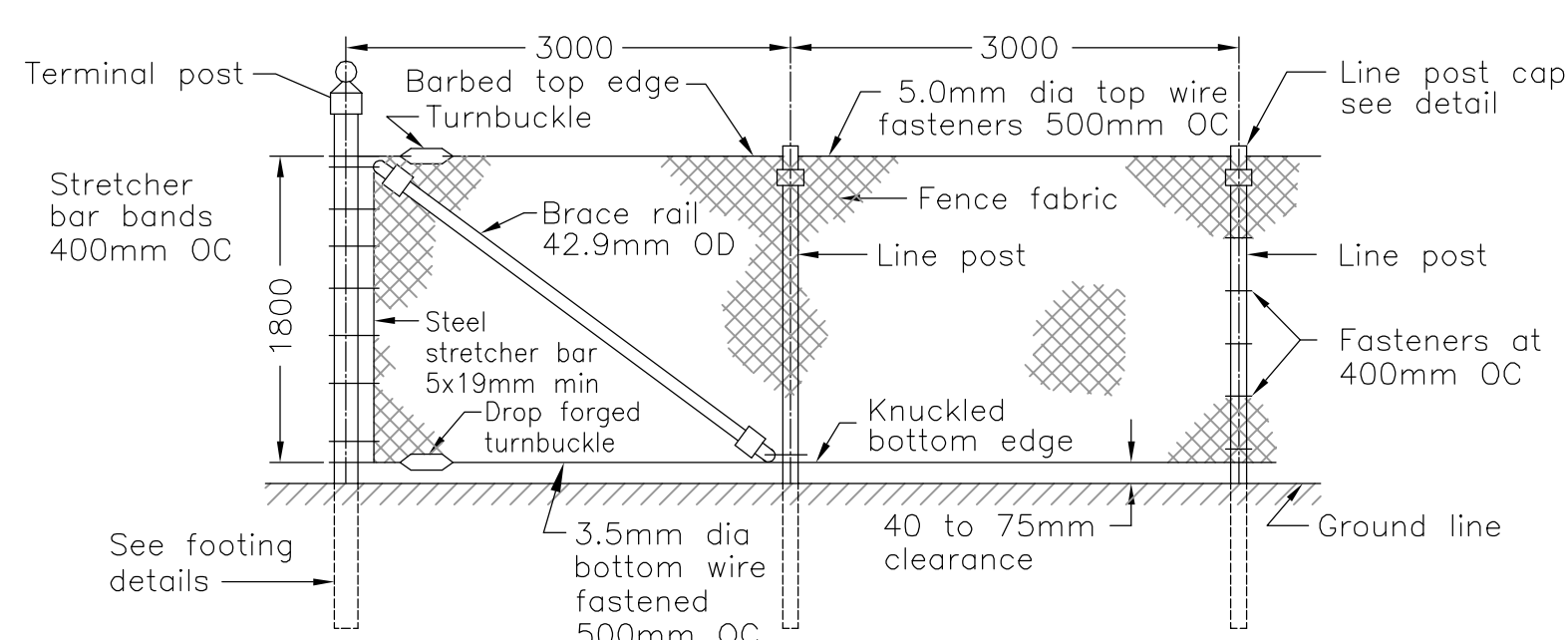


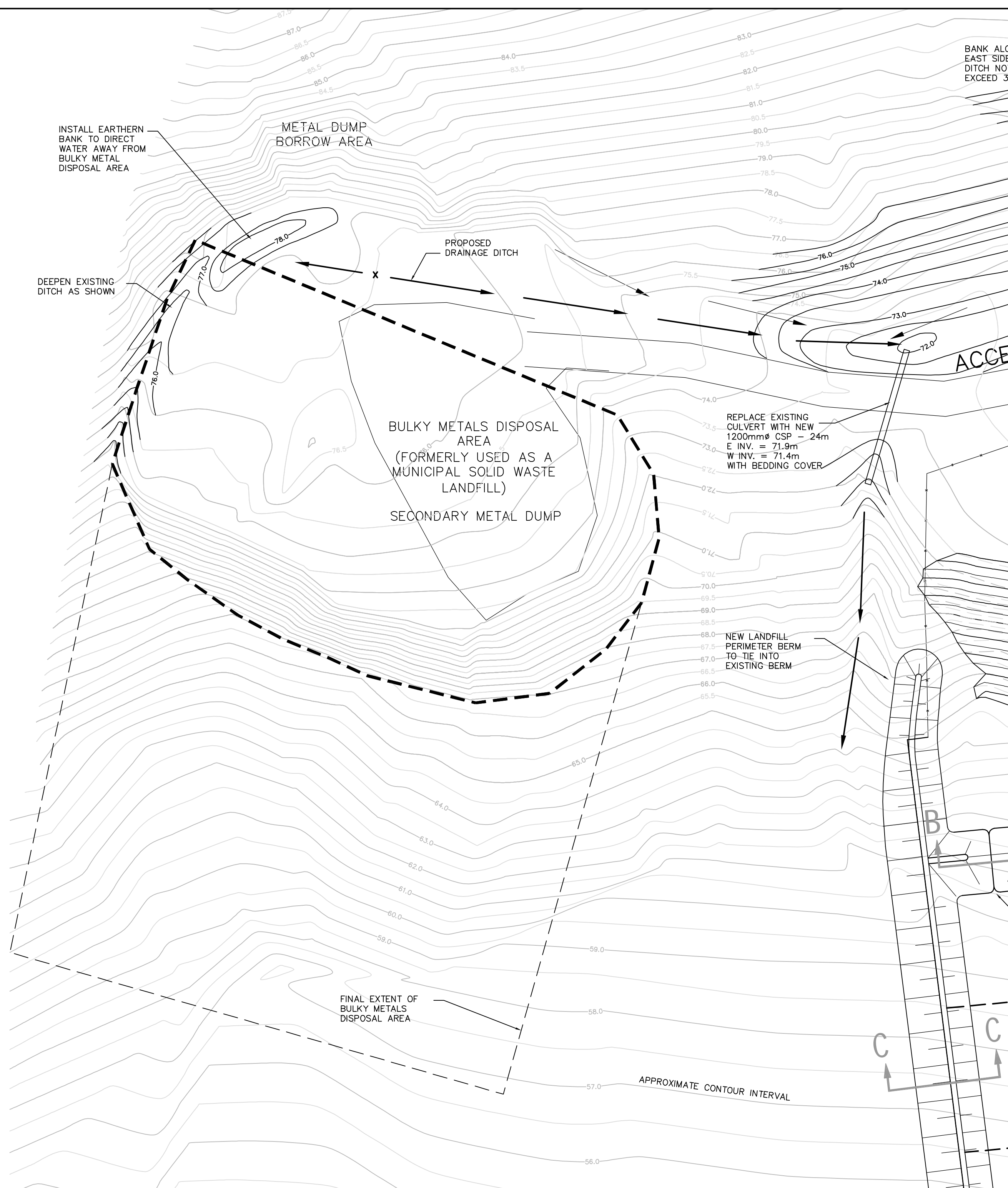
Diagram illustrating the installation of a post into a wall, showing dimensions and construction details:

- Post:** The vertical element being installed.
- Ground line:** The horizontal line indicating the ground level.
- Overburden:** The material above the post, indicated by a hatched area.
- Perma Frost:** The depth of the frost penetration, indicated by a hatched area.
- Dimensions:**
  - 2000mm min: Minimum depth of the post in the wall.
  - 500mm min: Minimum depth of the post in the wall.
  - 50: Depth of the post in the wall.
  - OD+50mm: Diameter of the post plus 50mm.
  - X: Distance from the post to the edge of the wall.
- Notes:**
  - If drilled use non shrink cement grout.
  - If excavated or blasted-concrete.
- Reference:** See detail A.

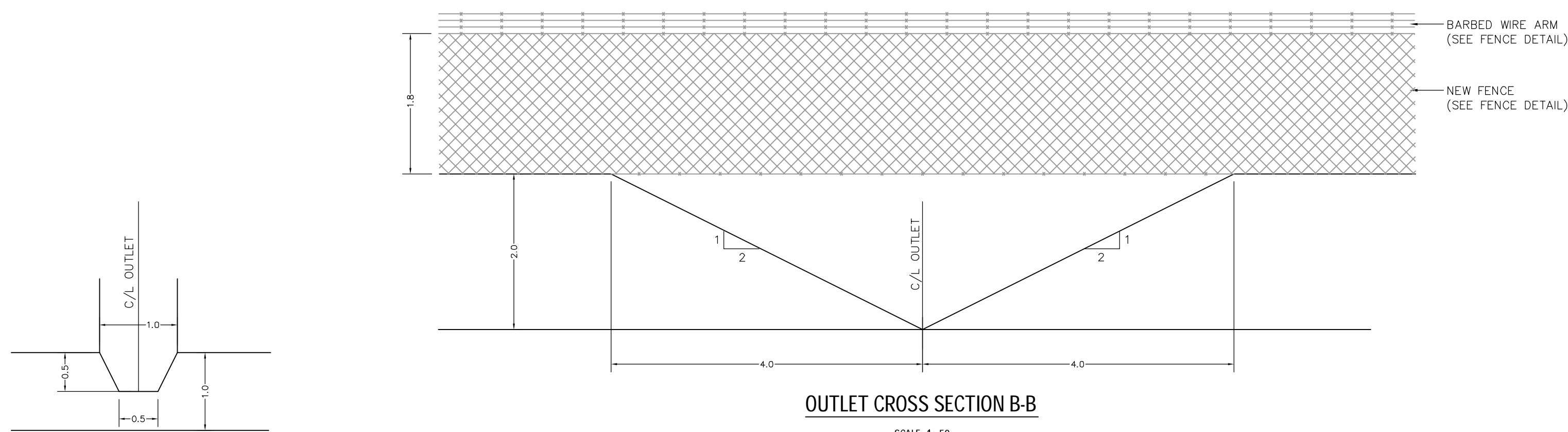
A schematic diagram of a single-link mechanism. It consists of a fixed base with a revolute joint (indicated by a circle with a dot). A link is attached to this joint and extends upwards and to the right. At the end of the link, there is a prismatic joint (indicated by a circle with a line) that allows the link to move vertically along a guide.

LINE POST WITH BARBED WIRE ARM

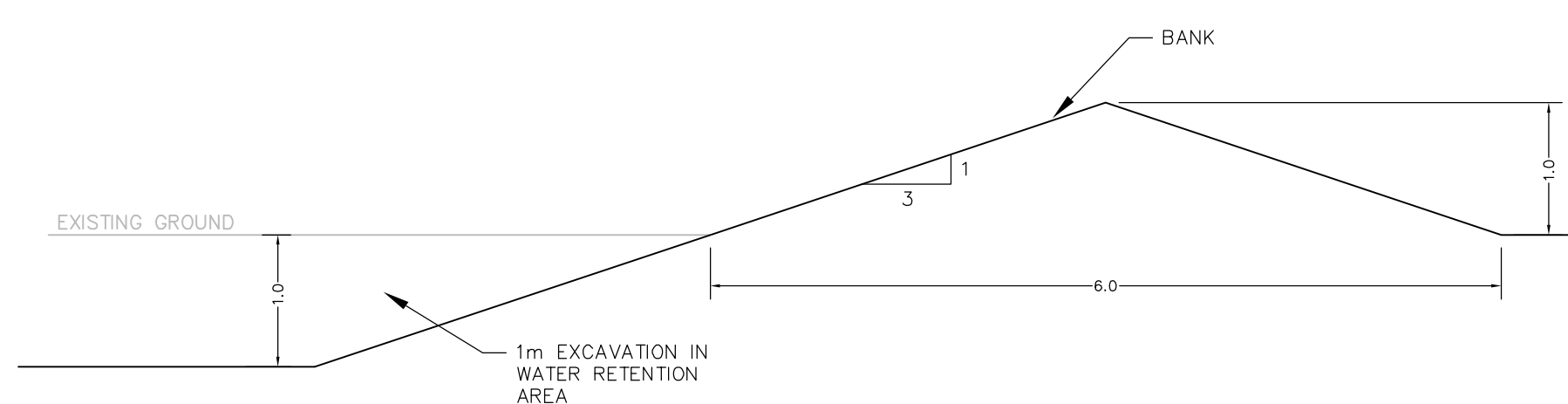
N.T.S.



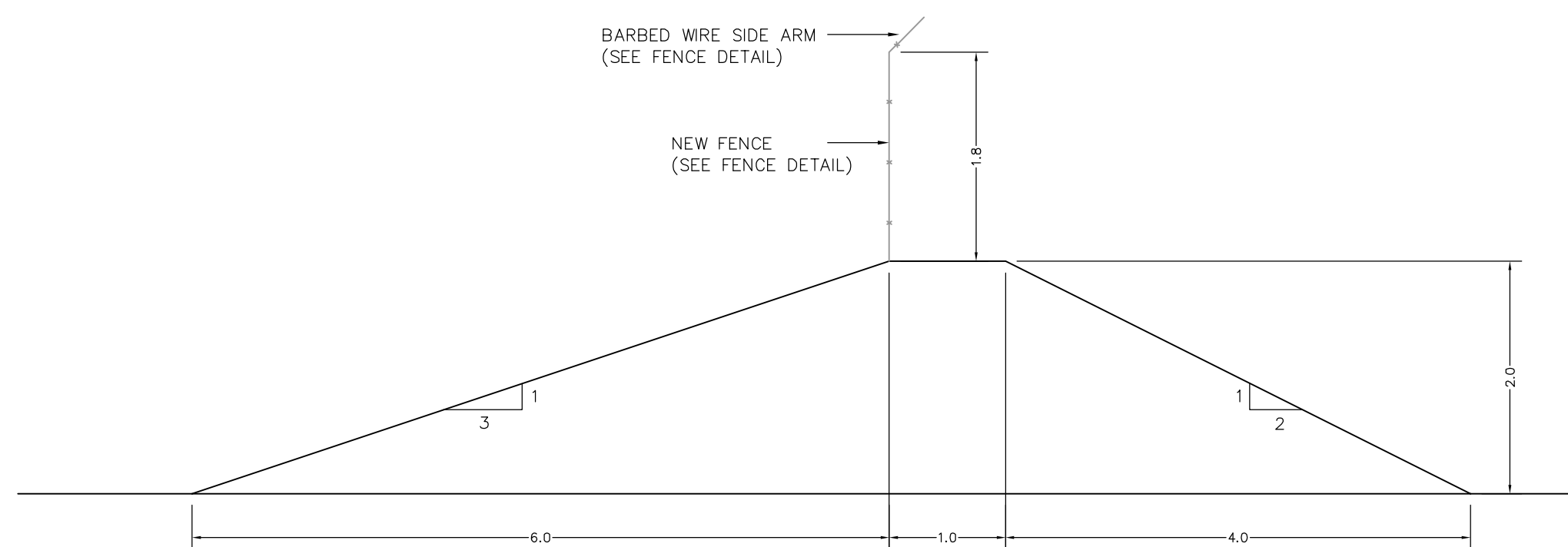
SCALE 1: 500



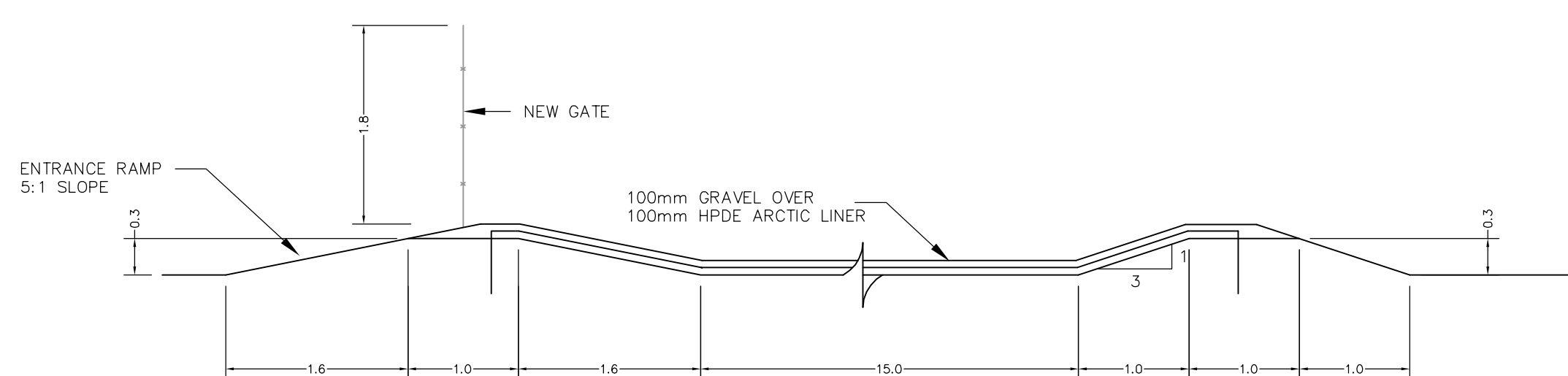
SCALE 1: 50



SCALE 1: 50



SCALE 1: 50



SCALE 1: 50

- | No. | Issue / Revision                                    | Date          |
|-----|---|---------------|
| 1   | Client Review and Approval (Detailed Design)        | Feb. 10, 2006 |
| 2   | Client Review and Approval (Construction Documents) | Apr 13, 2006  |
|     |   |               |
|     |   |               |
|     |   |               |
|     |   |               |

Drawing No. 14