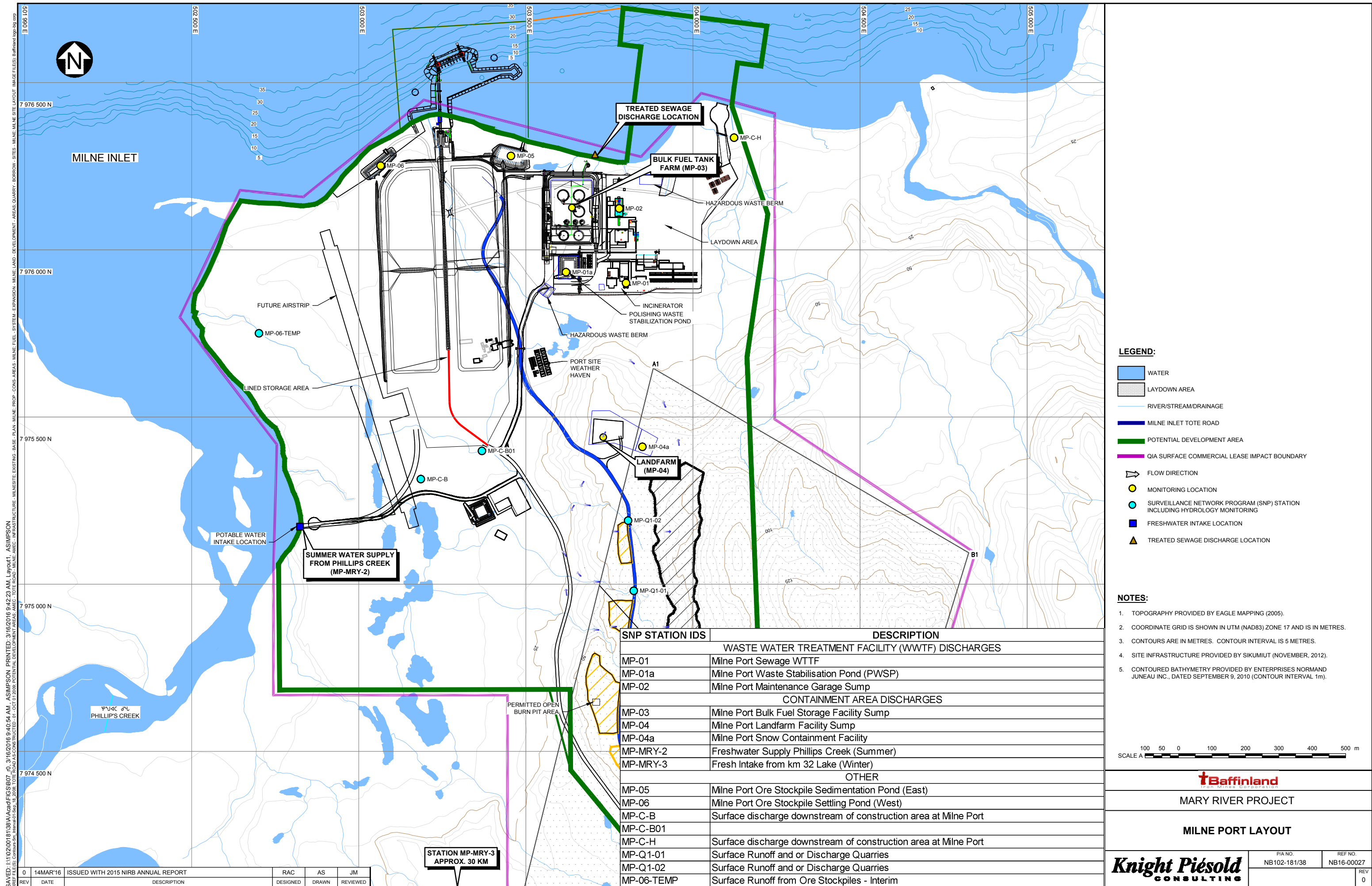
	Fresh Water Supply, Sewage, and Wastewater Management Plan	Issue Date: March 29, 2016 Rev.: 4	
	Environment	Document #: BAF-PH1-830-P16-0010	

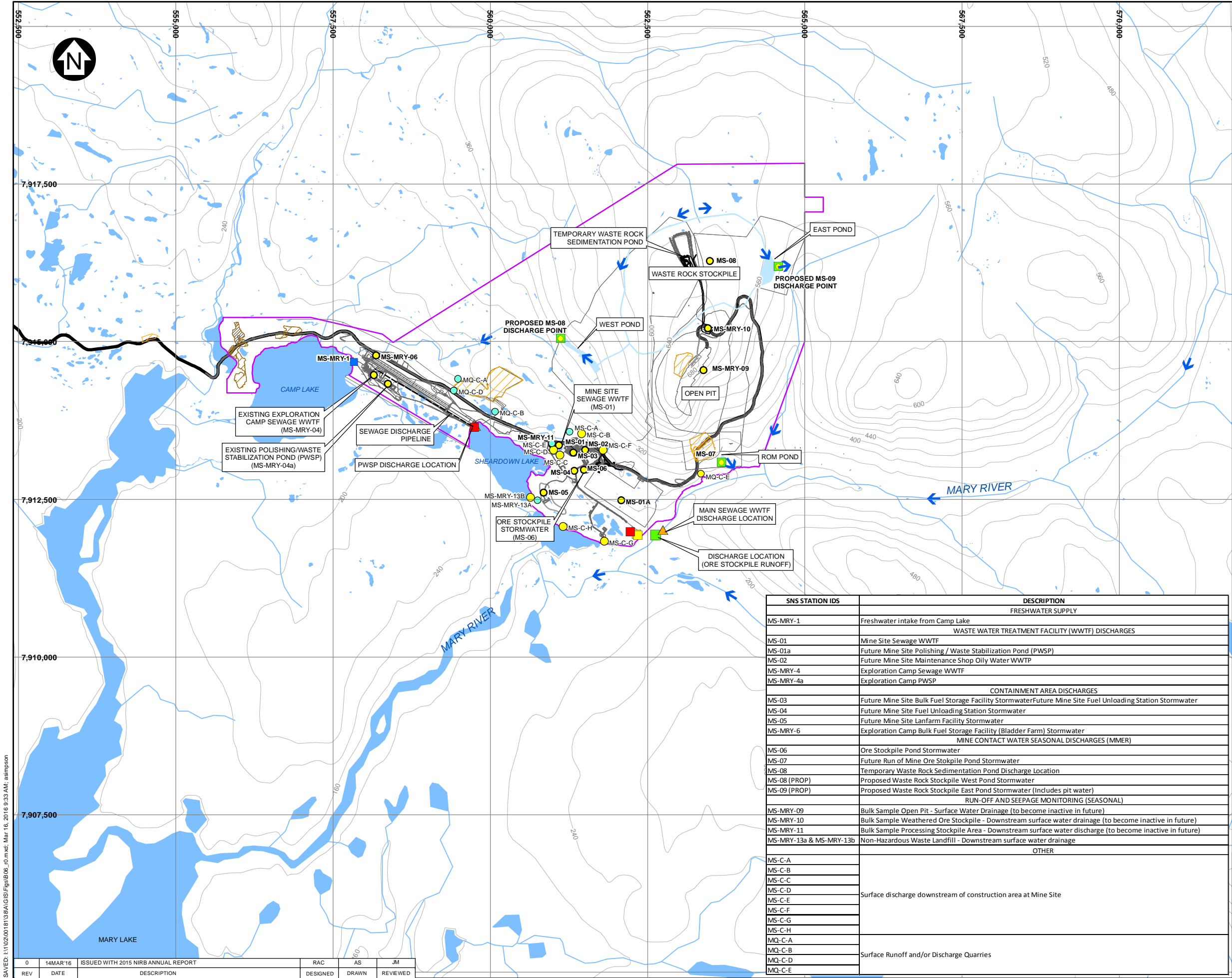
Appendix B - 2016 Work Plan and Updated Site Layouts

- Please refer to the 2016 Work Plan submitted to the NWB and QIA on October 30, 2015.
- Included here are the updated Site Layout Drawings

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied. It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used.





LEGEND:

SURVEILLANCE NETWORK PROGRAM (SNP) STATION

SURVEILLANCE NETWORK PROGRAM (SNP) STATION INCLUDING HYDROLOGY MONITORING

MINE EFFLUENT FINAL DISCHARGE POINT

SUMMER DISCHARGE LOCATION OF TREATED SEWAGE EFFLUENT

WINTER DISCHARGE LOCATION OF TREATED SEWAGE EFFLUENT TO MARY RIVER

TREATED SEWAGE DISCHARGE LOCATION

FRESHWATER INTAKE LOCATION

EXISTING TOTE ROAD

PROPOSED RAILWAY ALIGNMENT

PROPOSED CONSTRUCTION ACCESS ROAD

PROPOSED SITE INFRASTRUCTURE

RIVER/STREAM/DRAINAGE

WATER

SURVEILLANCE NETWORK PROGRAM (SNP):

- FIRST LEVEL OF MONITORING FOCUSES ON DISCHARGE QUALITY.
- THERE IS OFTEN AN OVERLAP WITH SNP STATIONS AND EEM STATIONS REQUIRED UNDER THE METAL MINING EFFLUENT REGULATION (MMER).

NOTES:

1. BASE MAP: © HER MAJESTY THE QUEEN IN RIGHTS OF CANADA, DEPARTMENT OF NATURAL RESOURCES (2004). ALL RIGHTS RESERVED.
2. COORDINATE GRID IS UTM NAD83 ZONE 17.
3. CONTOUR ARE IN METRES. CONTOUR INTERVAL VARIES.
4. LAKE SAMPLE LOCATIONS VARY SLIGHTLY DURING WINTER MONTHS DUE TO ICE CONDITIONS.

SNS STATION IDS	DESCRIPTION
FRESHWATER SUPPLY	
MS-MRY-1	Freshwater intake from Camp Lake
WASTE WATER TREATMENT FACILITY (WWTF) DISCHARGES	
MS-01	Mine Site Sewage WWTF
MS-01a	Future Mine Site Polishing / Waste Stabilization Pond (PWSP)
MS-02	Future Mine Site Maintenance Shop Oily Water WWTP
MS-MRY-4	Exploration Camp Sewage WWTF
MS-MRY-4a	Exploration Camp PWSP
CONTAINMENT AREA DISCHARGES	
MS-03	Future Mine Site Bulk Fuel Storage Facility StormwaterFuture Mine Site Fuel Unloading Station Stormwater
MS-04	Future Mine Site Fuel Unloading Station Stormwater
MS-05	Future Mine Site Lanfarm Facility Stormwater
MS-MRY-6	Exploration Camp Bulk Fuel Storage Facility (Bladder Farm) Stormwater
MINE CONTACT WATER SEASONAL DISCHARGES (MMER)	
MS-06	Ore Stockpile Pond Stormwater
MS-07	Future Run of Mine Ore Stokpile Pond Stormwater
MS-08	Temporary Waste Rock Sedimentation Pond Discharge Location
MS-08 (PROP)	Proposed Waste Rock Stockpile West Pond Stormwater
MS-09 (PROP)	Proposed Waste Rock Stockpile East Pond Stormwater (Includes pit water)
RUN-OFF AND SEEPAGE MONITORING (SEASONAL)	
MS-MRY-09	Bulk Sample Open Pit - Surface Water Drainage (to become inactive in future)
MS-MRY-10	Bulk Sample Weathered Ore Stockpile - Downstream surface water drainage (to become inactive in future)
MS-MRY-11	Bulk Sample Processing Stockpile Area - Downstream surface water discharge (to become inactive in future)
MS-MRY-13a & MS-MRY-13b	Non-Hazardous Waste Landfill - Downstream surface water drainage
OTHER	
MS-C-A	Surface discharge downstream of construction area at Mine Site
MS-C-B	
MS-C-C	
MS-C-D	
MS-C-E	
MS-C-F	
MS-C-G	
MS-C-H	
MQ-C-A	Surface Runoff and/or Discharge Quarries
MQ-C-B	
MQ-C-D	
MQ-C-E	

SAVED: I:\102001\138\A\GIS\Fig\B06_10.mxd; Mar 16, 2016 9:33 AM; aasmpson

0	14MAR'16	ISSUED WITH 2015 NIRB ANNUAL REPORT	RAC	AS	JM
REV	DATE	DESCRIPTION	DESIGNED	DRAWN	REVIEWED

SCALE 500 250 0 500 1,000 1,500 2,000 2,500 m

Baffinland

MARY RIVER PROJECT

MINE SITE LAYOUT

Knight Piésold CONSULTING

P/A NO.


NB102-181/38

REF NO.

NB16-00027

REV

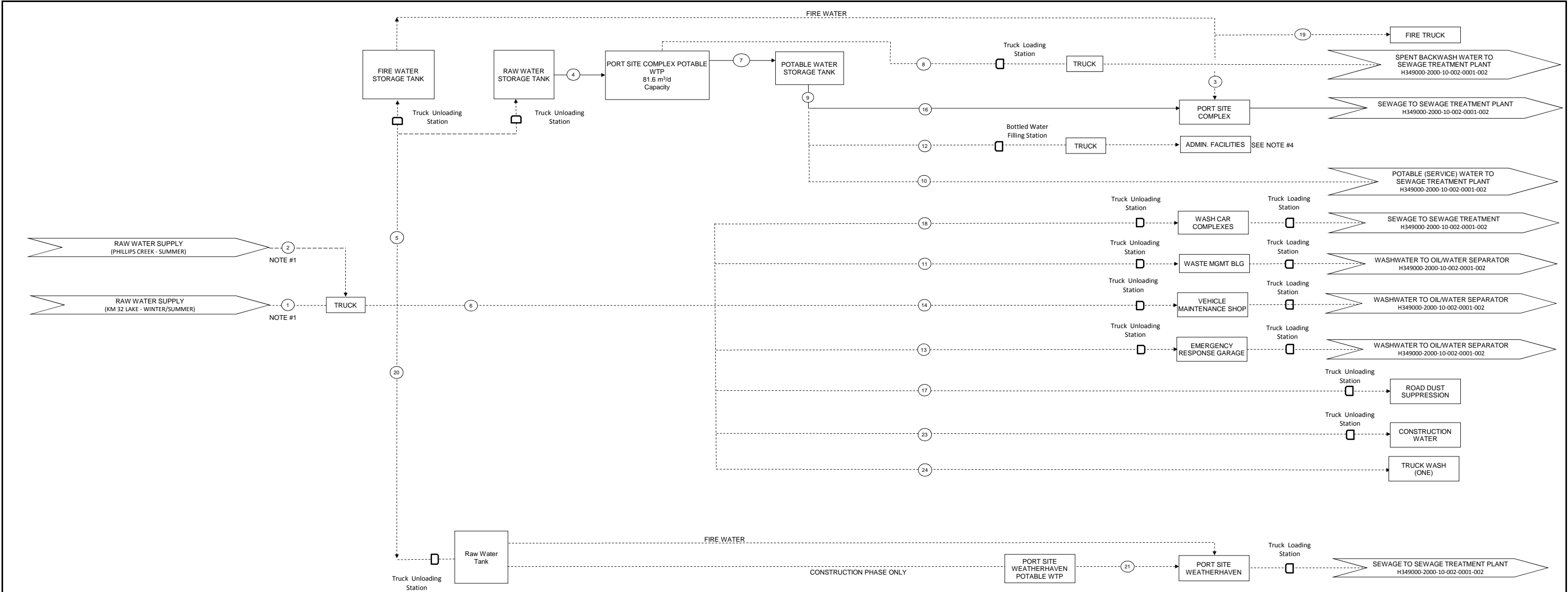
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	Fresh Water Supply, Sewage, and Wastewater Management Plan	Issue Date: March 29, 2016 Rev.: 4	
	Environment	Document #: BAF-PH1-830-P16-0010	

Appendix C - Block Flow Diagrams – Milne Port and Mine Site

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied. It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used.



NOTE(S):

1.0 Raw water supply flow rate from Philips Creek (Summer) & KM 32 Lake (Winter/Summer) are equal to or less than Type A Water Licence 2AM-MRY1325 Amend. No. 1 flow rate limit of 367.5 m³/day (134,137.5 m³/year).

2.0 Construction phase potable water supply flow rate is 92.7 m³/day total.

3.0 Operational phase potable water supply flow rate is 59.0 m³/d total.

4.0 Sewage generated by the Admin. Facilities reports to the Wash Car Complexes, which provide washroom facilities for these users.

Stream No.	NOTE #1		NOTE #1		3	4	5	6	7	8	9	10	11	12
Stream Description	WINTER RAW WATER SUPPLY	SUMMER RAW WATER SUPPLY	FIREWATER	RAW WATER FEED TO PORT SITE COMPLEX CAMP POTABLE WTP	RAW WATER FEED TO PORT SITE COMPLEX CAMP	RAW WATER FEED TO VARIOUS LOCATIONS (NON-CAMP)	POTABLE WATER FROM PORT SITE COMPLEX CAMP POTABLE WTP	POTABLE WTP SPENT BACKWASH WATER	POTABLE WATER DISTRIBUTION	POTABLE (SERVICE) WATER TO STP	RAW WATER (WASHWATER) TO WASTE MGMT BLG	POTABLE (BOTTLED) WATER TO ADMIN. BUILDING		
Construction Phase - Design (m ³ /h)	15.31	15.31	300	3.40	346.26	143.49	3.40	0.00013	13.50	1.000	1.000	0.200		
Construction Phase - Nominal (m ³ /h)	5.26	5.26	-	2.52	2.52	1.34	2.52	0.00013	2.52	0.060	0.043	0.008		
Operation Phase - Design (m3/h)	15.31	15.31	300	3.40	346.26	142.57	3.40	0.00013	13.50	1.000	1.000	0.200		
Operation Phase - Nominal (m3/h)	3.61	3.61	-	2.53	2.53	1.08	2.53	0.00013	2.53	0.060	0.043	0.008		

Stream No.	13	14	15	16	17	18	19	20	21	22	23	24
Stream Description	RAW WATER (WASHWATER) TO EMERG. RESPONSE SHOP	RAW WATER (WASHWATER) TO VEHICLE MAINT. SHOP	NOT USED	POTABLE WATER TO PORT SITE COMPLEX CAMP	RAW WATER TO DUST SUPPRESSION	RAW WATER TO TEMP. WASH CAR COMPLEXES	FIRETRUCK	RAW WATER FEED TO CONSTRUCTION CAMPS	POTABLE WATER TO WEATHERHAVEN CAMP	POTABLE WATER TO SHENCO CAMP	CONSTRUCTION WATER	TRUCK WASH (ONE)
Construction Phase - Design (m ³ /h)	1.000	42.86	0.000	12.30	42.86	42.9	42.86	0.00	7.01	0.00	0.92	12.00
Construction Phase - Nominal (m ³ /h)	0.043	0.25	0.000	2.46	0.21	0.04	0.00	0.00	1.40	0.00	0.01	0.75
Operation Phase - Design (m3/h)	1.000	42.86	0.000	12.30	42.86	42.9	42.86	0.00	0.00	0.00	0.00	12.00
Operation Phase - Nominal (m3/h)	0.043	0.00	0.000	2.46	0.21	0.0	0.00	0.00	0.00	0.00	0.00	0.75

LEGEND:

CONTINUOUS FLOW _____

INTERMITTENT FLOW - - - - -

EDITED BY:

ANDREW VERMEER

DATE:

17-MAR-2016

CHECKED BY:

ALLAN KNIGHT

DATE:

17-MAR-2016

PROJ. MGR

DATE:

MARY RIVER PROJECT

MILNE INLET PORT SITE

WATER SUPPLY BALANCE

BLOCK FLOW DIAGRAM

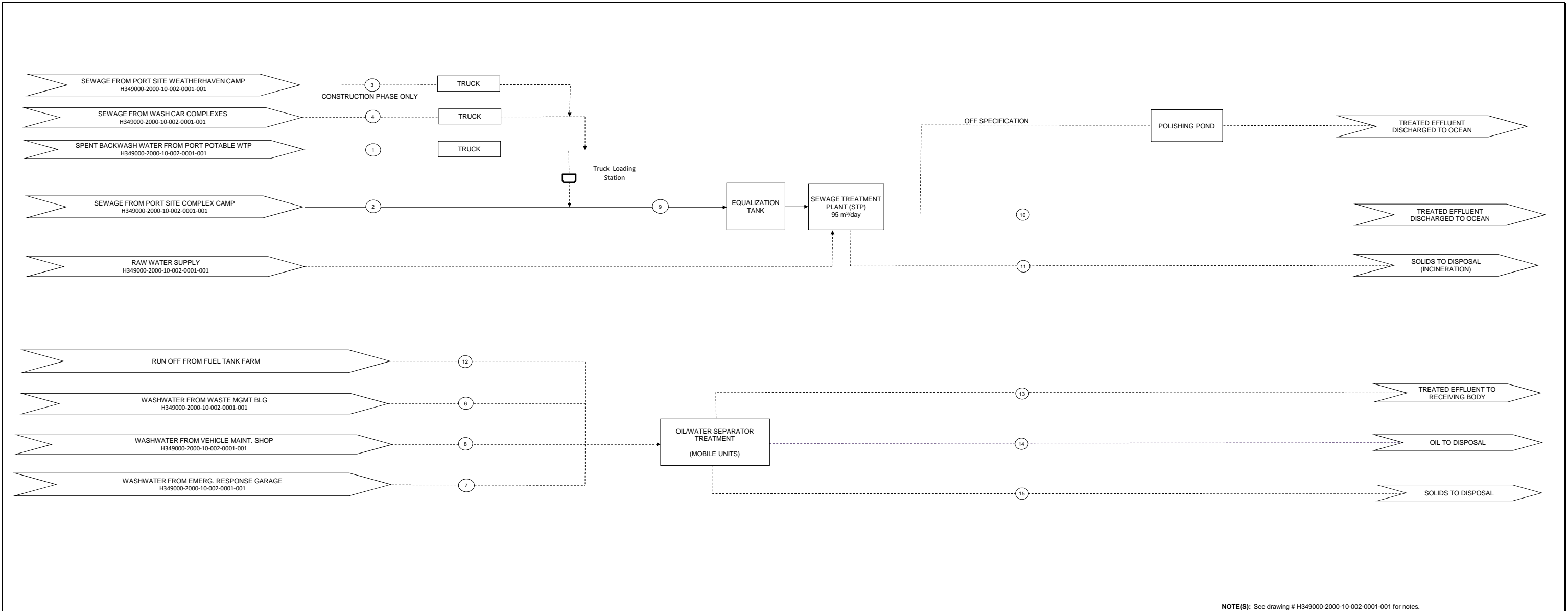
2016 Work Plan

(cont'd from DWG# H349000-2000-10-002-0001)

SCALE NTS OR AS NOTED

DWG NO. H349001-2000-10-002-0001-001

REV B

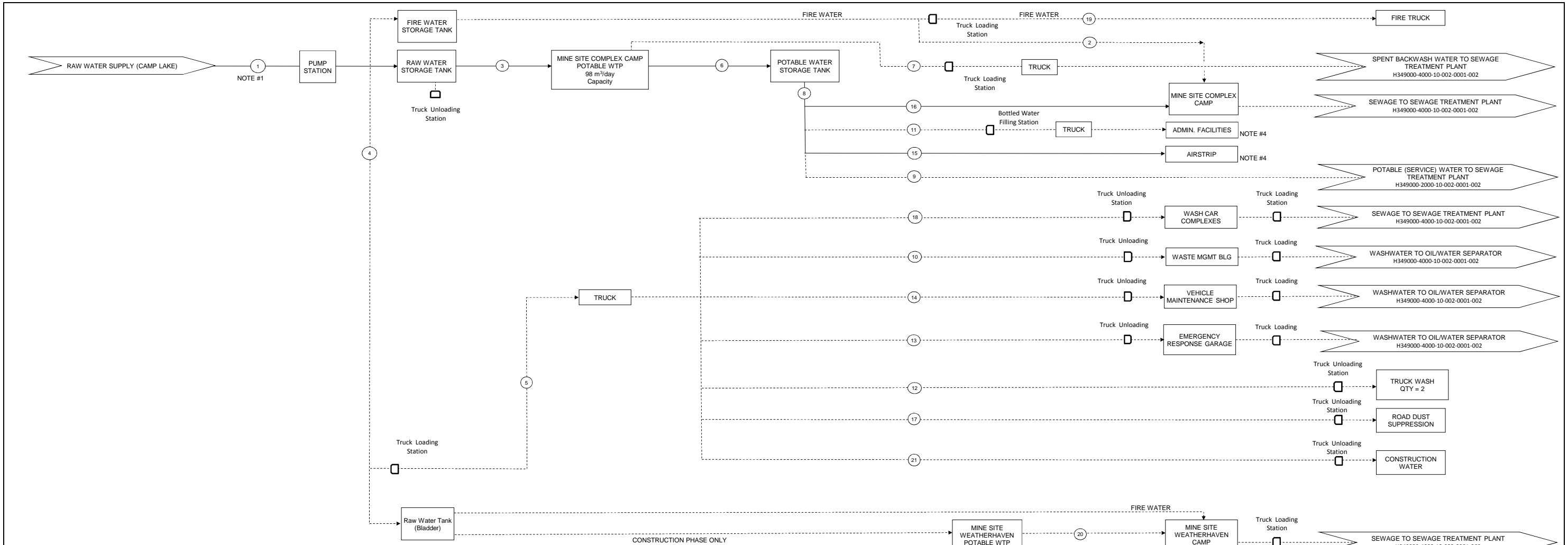


NOTE(S): See drawing # H349000-2000-10-002-0001-001 for notes.

Stream No.	1	2	3	4	5	6	7	8	9	10	11	12
Stream Description	SPENT BACKWASH WATER FROM PORT SITE COMPLEX POTABLE WTP	SEWAGE FROM PORT SITE COMPLEX CAMP	SEWAGE FROM WEATHERHAVEN (MATRIX) CAMP	SEWAGE FROM WASH CAR COMPLEXES	SEWAGE FROM SHENCO CAMP	WASHWATER FROM WASTE MGMT BLDG	WASHWATER FROM EMERG. RESPONSE GARAGE	WASHWATER FROM VEHICLE MAINT. SHOP	SEWAGE FEED TO EQ TANK/STP	SEWAGE TREATMENT PLANT EFFLUENT	SEWAGE TREATMENT PLANT SOLIDS TO DISPOSAL	RUN OFF WATER FROM TANK FARM
Construction Phase - Design (m ³ /h)	0.00013	12.30	7.01	42.9	0.00	1.00	1.00	42.86	19.31	3.83	0.030	202.0
Construction Phase - Nominal (m ³ /h)	0.00013	2.46	1.40	0.04	0.00	0.04	0.04	0.25	3.86	3.83	0.030	0.93
Operation Phase - Design (m ³ /h)	0.00013	12.30	0.00	42.9	0.00	1.00	1.00	42.86	12.30	3.83	0.019	202.0
Operation Phase - Nominal (m ³ /h)	0.00013	2.46	0.00	0.04	0.00	0.04	0.04	0.00	2.46	2.44	0.019	0.93
Stream No.	13	14	15	16	17	18	19	20	21	22	23	24
Stream Description	COMBINED OIL/WATER SEPARATOR EFFLUENT	COMBINED OIL/WATER SEPARATOR OIL	COMBINED OIL/WATER SEPARATOR SOLIDS	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED
Construction Phase - Design (m ³ /h)	1.04	0.002	0.221									
Construction Phase - Nominal (m ³ /h)	1.04	0.002	0.221									
Operation Phase - Design (m ³ /h)	1.04	0.002	0.221									
Operation Phase - Nominal (m ³ /h)	0.84	0.002	0.178									

LEGEND:
CONTINUOUS FLOW
INTERMITTENT FLOW

EDITED BY:	ANDREW VERMEER	MARY RIVER PROJECT	
DATE:	17-MAR-2016		
CHECKED BY:	ALLAN KNIGHT	MILNE INLET PORT SITE WASTEWATER BALANCE BLOCK FLOW DIAGRAM 2016 Work Plan (cont'd from DWG# H349000-2000-10-002-0001)	
DATE:	17-MAR-2016		
PROJ. MGR		SCALE NTS OR AS NOTED	DWG NO. H349001-2000-10-002-0001-002
DATE:			REV B



NOTE(S):

1.0 Raw water supply flow rate from Camp Lake are equal to or less than Type A Water Licence 2AM-MRY1325 Amend. No. 1 flow rate limit of 657.5 m3/day (240,000 m3/year) total.

2.0 Construction phase potable water supply flow rate is 120.4 m³/day total.

3.0 Operational phase potable water supply flow rate is 94.0 m³/day total.

4.0 Sewage generated by the Admin Facilities and the Airstrip reports to the Wash Car Complexes, which provide washroom facilities for these users.

NOTE #1												
Stream No.	1	2	3	4	5	6	7	8	9	10	11	12
Stream Description	RAW WATER SUPPLY (CAMP LAKE)	FIRE WATER	RAW WATER FEED TO MINE SITE (HORIZON) POTABLE WTP	RAW WATER TO WEATHERHAVEN CAMP	TRUCKED RAW WATER	POTABLE WATER FROM MINE SITE (HORIZON) CAMP POTABLE WTP	POTABLE WTP SPENT BACKWASH WATER	POTABLE WATER DISTRIBUTION	POTABLE (SERVICE) WATER TO STP	RAW WATER (WASHWATER) TO WASTE MGMT BLG	POTABLE (BOTTLED) WATER TO ADMIN. BUILDING	RAW WATER TO TRUCK WASH (QTY=2)
Construction Phase - Design (m³/h)	27.40	300	4.08	42.86	42.86	4.08	0.00020	21.07	1.000	1.000	0.008	12.000
Construction Phase - Nominal (m³/h)	7.18	-	3.98	3.20	2.10	3.98	0.00020	3.98	0.060	0.043	0.008	1.500
Operation Phase - Design (m3/h)	27.40	300	4.08	42.86	42.86	4.08	0.00020	21.07	1.000	1.000	0.008	12.000
Operation Phase - Nominal (m3/h)	5.81	-	3.98	1.83	1.83	3.98	0.00020	3.98	0.060	0.043	0.008	1.500
Stream No.	13	14	15	16	17	18	19	20	21	22	23	24
Stream Description	RAW WATER (WASHWATER) TO EMERG. RESPONSE SHOP	RAW WATER (WASHWATER) WATER TO VEHICLE MAINT. SHOP	POTABLE WATER TO AIRSTRIP	POTABLE WATER TO MINE SITE COMPLEX CAMP	RAW WATER FOR DUST SUPPRESSION	RAW WATER TO TEMP. WASH CAR COMPLEXES	FIRE TRUCK	POTABLE WATER TO WEATHERHAVEN CAMP	CONSTRUCTION WATER	NOT USED	NOT USED	NOT USED
Construction Phase - Design (m³/h)	1.000	42.86	0.480	19.58	42.86	42.9	42.86	5.50	0.92			
Construction Phase - Nominal (m³/h)	0.043	0.25	0.013	3.92	0.21	0.04	0.04	1.10	0.03			
Operation Phase - Design (m3/h)	1.000	42.86	0.480	19.58	42.86	42.9	42.86	0.00	0.00			
Operation Phase - Nominal (m3/h)	0.043	0.00	0.013	3.92	0.21	0.0	0.00	0.00	0.00			

LEGEND:

CONTINUOUS FLOW _____

INTERMITTENT FLOW - - - - -

EDITED BY:

ANDREW VERMEER

DATE:

17-MAR-2016

CHECKED BY:

ALLAN KNIGHT

DATE:

17-MAR-2016

PROJ. MGR

DATE:

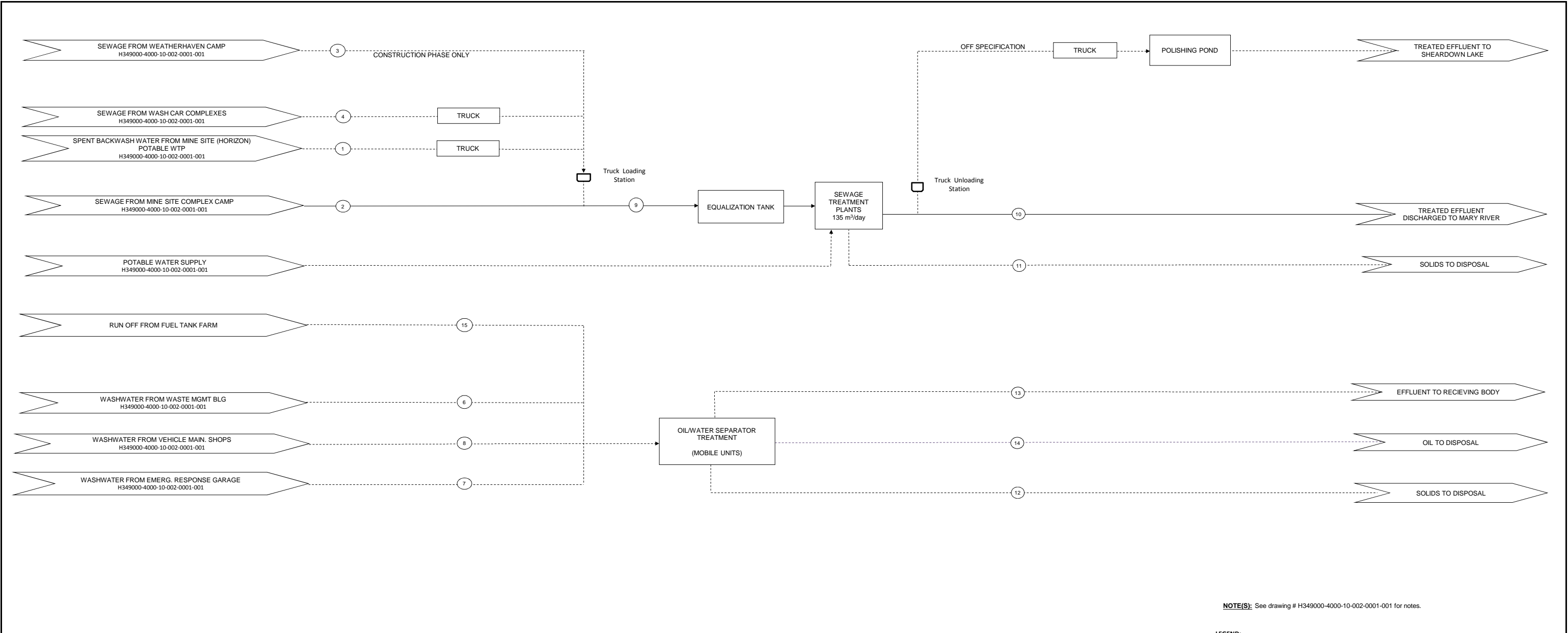
SCALE
NTS
OR AS NOTED

DWG NO.
H349001-4000-10-002-0001-001

REV B

MARY RIVER PROJECT

MINE SITE
WATER SUPPLY BALANCE
BLOCK FLOW DIAGRAM
2016 Work Plan
(cont'd from DWG# H349000-4000-10-002-0001)



NOTE(S): See drawing # H349000-4000-10-002-0001-001 for notes.

LEGEND:

CONTINUOUS FLOW _____
INTERMITTENT FLOW - - - - -

Stream No.	1	2	3	4	5	6	7	8	9	10	11	12
Stream Description	SPENT BACKWASH WATER FROM MINE SITE POTABLE WTP	SEWAGE FROM MINE SITE (HORIZON) CAMP	SEWAGE FROM WEATHERHAVEN CAMP	SEWAGE FROM WASH CAR COMPLEXES	NOT USED	WASHWATER FROM WASTE MGMT BLG	WASHWATER FROM EMER. RESPONSE GARAGE	WASHWATER FROM VEHICLE MAINT. SHOP	SEWAGE FEED TO EQ TANK/STP	SEWAGE TREATMENT EFFLUENT	SEWAGE TREATMENT PLANT SOLIDS TO DISPOSAL	COMBINED OIL/WATER SEPARATOR SOLIDS
Construction Phase - Design (m³/h)	0.00020	19.6	5.50	42.9	0.00	1.00	1.00	42.86	25.08	4.98	0.04	0.12
Construction Phase - Nominal (m³/h)	0.00020	3.92	1.10	0.04	0.00	0.04	0.04	0.25	5.02	4.98	0.04	0.12
Operation Phase - Design (m³/h)	0.00020	19.6	5.50	42.9	0.00	1.00	1.00	42.86	25.08	4.98	0.03	0.12
Operation Phase - Nominal (m³/h)	0.00020	3.92	0.00	0.04	0.00	0.04	0.04	0.00	3.92	3.88	0.03	0.02
Stream No.	13	14	15	16	17	18	19	20	21	22	23	24
Stream Description	COMBINED OIL/WATER SEPARATOR EFFLUENT	COMBINED OIL/WATER SEPARATOR OIL	RUN OFF WATER FROM TANK FARM	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED
Construction Phase - Design (m³/h)	0.27	0.001	9.21									
Construction Phase - Nominal (m³/h)	0.27	0.001	0.05									
Operation Phase - Design (m³/h)	0.27	0.000	9.21									
Operation Phase - Nominal (m³/h)	0.12	0.000	0.05									

EDITED BY:	ANDREW VERMEER	MARY RIVER PROJECT	
DATE:	17-MAR-2016		
CHECKED BY:	ALLAN KNIGHT	MINE SITE WASTEWATER BALANCE BLOCK FLOW DIAGRAM 2016 Work Plan (cont'd from DWG# H349000-4000-10-002-0001)	
DATE:	17-MAR-2016		
PROJ. MGR		SCALE NTS OR AS NOTED	DWG NO. H349001-4000-10-002-0001-002
DATE:			REV B