

200900017375

Newton County Regional Water and Sewer District

9/03

Newton County, Indiana**Wastewater Collection and Treatment System****Addendum No. 4****September 2, 2009**

This Addendum forms part of the Contract Documents and modifies the original Bidding Documents, as noted below. Acknowledge receipt of the Addendum in the space provided in the Bid Form. Failure to do so may subject Bidder to disqualification.

This Addendum consists of five (5) pages plus attachments.

GENERAL**1. GENERAL**

Bidders shall provide for an undistributed quantity of unstable soil removal and replacement as determined by the Contractors geotechnical consultant. Excavations shall be backfilled and compacted with clean material. Bidders shall assume 150 cubic yards of unstable soil to be removed and replaced. This cost shall be included in the lump sum price for the collection system. CONTRACTOR shall be required to provide this as a line item in the schedule of values submitted after the contract is awarded.

2. REVISE the answers regarding reinforcement for the headworks building approach pad and blower pad given in Addendum #3 as follows:

Reinforcement for the headworks building approach pad shall be #4 bars at 12" O.C. both ways and shall be doveled into headworks slab using 2' long #4 bars at 12" O.C.

Reinforcement for the blower pad shall be 6x6-W2.4xW2.4 W.W.F.

3. CLARIFICATION

Contractor is responsible for all testing as required in the contract documents. Contractor is responsible for providing independent geotechnical professional when reviewing soils for structure and pipe foundations.

4. CLARIFICATION of "Tabulation of Equipment Items forming the Basis of Bid Table" in the Bid Form:

This is slightly revised from Addendum #3 as follows:

- a. Cost to purchase and physically install the equipment that exists within the limits of the respective tank walls, buildings, or equipment pad/foundation limits. If ancillary equipment (e.g. probes, blowers, etc.) changes are needed due to an alternate or substitute item, the additive or deductive costs of ancillary equipment changes shall also be included.
- b. Cost to connect power and control wiring
- c. Cost to connect piping
- d. Cost to install the tank, building, or equipment pad/foundation the equipment resides in or on.

5. **CLARIFICATION** of Activated Biological Process System Option B. Bord na Mona MBR:

A scope of supply for the Bord na Mona system is attached to this addendum along with four (4) general drawings showing information on the Bord na Mona MBR system proposed layout. The scope of supply and drawings are intended to provide Bidders a better understanding of the plant configuration if Bidder selects Activated Biological Process System Option B. Contractor is still required to supply a telescoping valve and drain line in the sludge holding tank. Bidders may obtain 11x17 size drawings of the Bord na Mona general drawings by contacting Marbaugh.

PROJECT MANUAL

1. **REPLACE** the Tabulation of Equipment Items forming the Basis of Bid Table in the Bid Form (Page 5 of 9) with the attached revised Tabulation of Equipment Items forming the Basis of Bid Table. Parkson Rotoshear drum screen model HRS2448DV has been added to the table as an equal to JWC Environmental.
2. **DELETE** the following language from fourth sentence in paragraph 2.1.A in Section 02600 – Piped Utilities:
“..and of U.S.A. manufacture only,”
3. **DELETE** paragraph 2.1.E in Section 02600 – Piped Utilities in its entirety.
4. **DELETE** Subsection 2.3 Recorder in Section 13410 - Magnetic Flow Meters.
Separate recorders are not required for this project. Program the PLC and SCADA system to perform flow recording and display functions.
5. **DELETE** Subsection 2.03, Magnetic Flow Meters in Section 13630 - Field Mounted Instruments.
Use Section 13410 for flow meter specifications.
6. **MODIFY** Subsection 2.06, Combustible and Hydrogen Sulfide Gas Detection in Section 13630 – Field Mounted Instruments as follows:

Detecting both Methane Gas and Hydrogen Sulfide Gas is required. Provide two separate sensors and receiver/transmitters if required to detect both gases. Provide a two-point receiver transmitter assembly with power supply and provide auxiliary contacts for control of exhaust fans, alarm lights, and alarm signals; output contacts shall change state upon detection of either type hazardous gas. Provide a NEMA 4X enclosure for the receiver/transmitters and power supply. The intent is to provide a Two-Point Gas Detection System to detect both types of hazardous gases, as manufactured by ATI (Analytical Technology Inc.) or approved equal.

7. **ADD** to Section 15831 – Electrical Terminal Units, Page 3, Line 39 the following acceptable manufacturer for unit heaters:
Markel
8. **DELETE** Lines 46 and 47 on Page 2 in Section 15932 – Air Outlets and Inlets and replace with the following:
“steel fasteners. Provide louvers with clear anodized finish.”

DRAWINGS

1. **MODIFY** Sheet G.2 by replacing the sheet index map with the revised index map attached to this addendum.
2. **MODIFY** Sheet C.1 as follows:
The two concrete stoops shown on the east side of the modular office building shall be extended 3' for a revised size of 5'x8'.
3. **MODIFY** Sheet C.1 as follows:
All three entrances into the modular office building require steps and platforms to span an anticipated 18" rise from the top of stoop to the door sill elevation. Platforms shall consist of fiberglass stairs, landing, and handrails with non-skid surfaces. Landings shall be 5' across and 4' deep with two steps between the landing and the stoop.
4. **MODIFY** Sheet C.1 as follows:
All references to non-potable water lines are to be deleted and replaced with potable water lines. The only non-potable water line will be the washwater line to the drum screen downstream of the backflow preventer added by the attached drawing SK-1.
5. **MODIFY** Sheet C.2 as follows:
All references to non-potable water lines are to be deleted and replaced with potable water lines. The only non-potable water line will be the washwater line to the drum screen downstream of the backflow preventer added by the attached drawing SK-1.
6. **MODIFY** Note 1 on Sheets C.3-C.18 to read as follows:

All excavation where the pipe is within 5' of the pavement shall be backfilled with compacted granular fill.

7. **MODIFY** Sheets C.3-C.18 as follows:
Construction limits shown on the Plans are intended to quantify the amount of surface restoration required. Contractor shall be required to provide surface restoration wherever surface is disturbed whether within construction limits or not.
8. **ADD** to Sheet P.1 the Influent Pump Station Cast-in-Place Base detail attached as Figure 1 to this addendum. The influent pump station base must be cast-in-place rather than precast due to its size. Reinforcing in the wall stub shall be determined at the shop drawing stage.
9. **CLARIFICATION** of Detail 1 – Sidewall Exhaust Fan, Sheet M.2:
This fan is to be “direct-drive”, even though a “belt-driven” fan is shown on the plan. The disconnect switch is to be NEMA 1.
10. **DELETE** Miscellaneous Equipment Schedule on Sheet M.2 and replace with schedule shown on Sketch SK2, dated 09-02-09 attached to this addendum.
11. **MODIFY** Sheet M.4 as shown on the attached Sketch SK1, dated 09-02-09.
12. **ADD** to Sheet E.1 the following:
Provide power from MDP-16 to three cooling fans, one in each of the three blower enclosures (equipment marked 14).
13. **CLARIFICATION** of Sheet E.1 as follows:
All duct banks and conduit on the site shall be Schedule 80 PVC encased in sand backfill. A reinforced concrete envelope is not required.
14. **CLARIFICATION** of Sheet E.1 as follows:
All duct banks and conduit on the site shall be Schedule 80 PVC encased in sand backfill. A reinforced concrete envelope is not required.
15. **MODIFY** Sheets IC-2, IC-3, and IC-9 as follows:
Add hazardous gas sensor and transmitter AE/202 and AIT/202. AE/201-AIT/201 shall detect Methane; AE/202-AIT/202 shall detect Hydrogen Sulfide. Provide same installation, wiring, conduit, I/O, programming, and commissioning work as for AE/201-AIT/201. Provide a three module common enclosure, NEMA 4X, for both receiver/transmitters (AIT/201 and AIT/202) and power supply. Both AIT units shall interface with auxiliary equipment and PLC system for the auxiliary and alarm functions.
16. **CLARIFICATION** of Sheet IC-11 as follows:

- a. Requirements for Dissolved Oxygen Indicator-Transmitters AIT/402 and AIT/404: These instruments are shown, but not labeled. Provide a total of four (4) DO probes (AE/401 through AE/404) and four (4) DO Indicator-Transmitters (AIT/401 through AIT/404).
- b. Wiring and conduit requirements for DO Transmitters: Conduit Tag 1 is not defined. Provide 1" conduits as indicated on Drawing E-3 and provide instrument cables as indicated on Drawing IC-2.

QUESTIONS

1. Q: Is there a named manufacturer for the grinder station on Line SS-3?
A: Yes, E-One as stated in Section 02720.
2. Q: What is the elevation of 6" lateral coming to the grinder station?
A: Assume elevation 675. To be verified in the field.
3. Q: What is the elevation of grinder pump station base?
A: Per manufacturer. Assume elevation as shown on Sheet C.14.
4. Q: How is surface restoration to be completed in winter months based on completion schedule?
A: Surface restoration will be weather dependent. Time extensions will be considered when reasonable.

END OF ADDENDUM NO. 4

BORD na Mona MBR for Activated Biological Process SCOPE OF SUPPLY

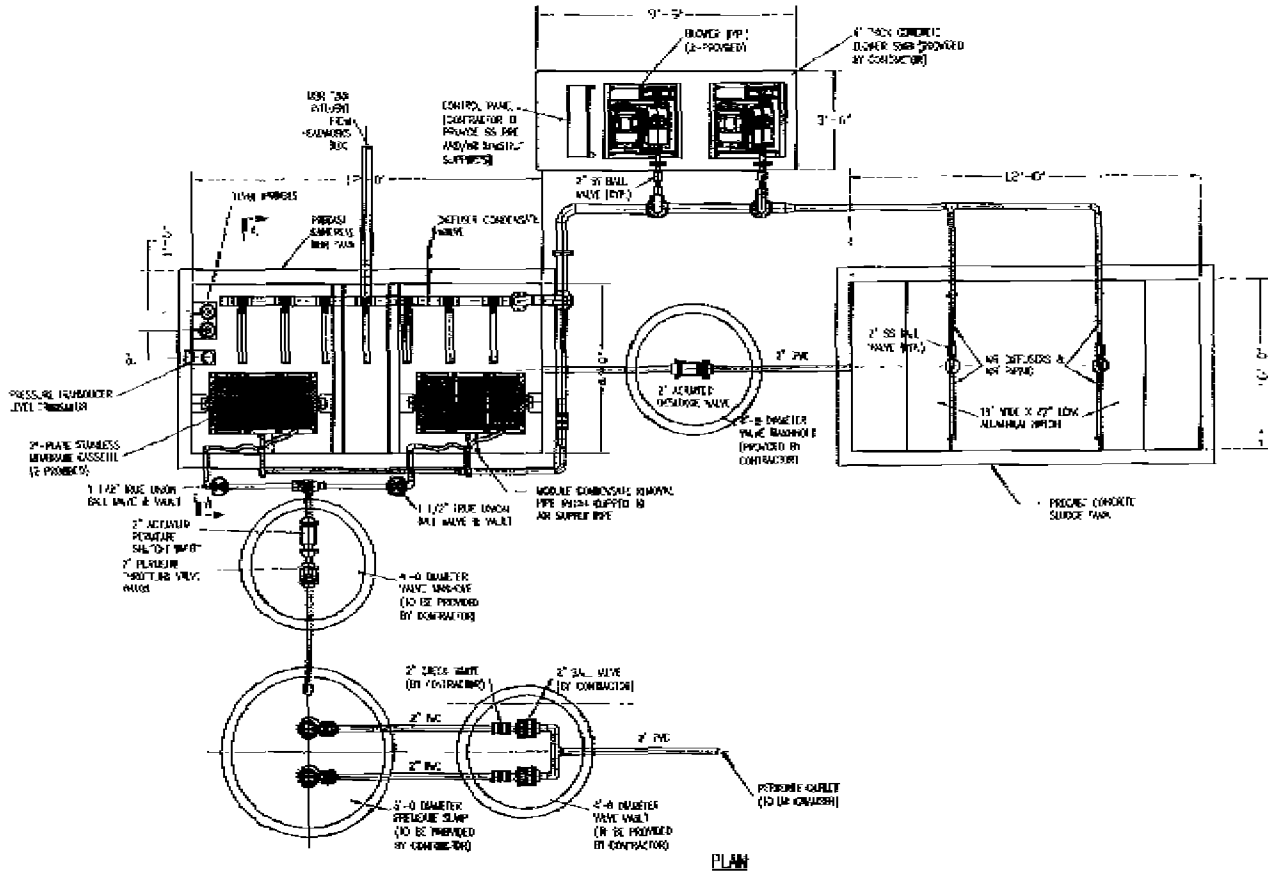
Bord na Móna will design, supply, commission and provide the following services in connection with the above system.

1. GA Engineering drawings for the membrane plant.
2. PuraM MBR plant comprising the precast concrete membrane tank, two 25-plate membrane cassettes, all stainless steel process air valving and piping and all internal piping, level instruments & probes, DO meter, all stainless steel and PVC actuated valves and ball valves
3. Two air blowers and controls.
4. Permeate Pumps, Guiderails and Level Controls.
5. Precast Concrete Membrane Aeration Tank & Sludge Holding Tank.
6. Diffused Air System for Sludge Tank.
7. Control Panel including control for MBR, Sludge Tank, and Permeate Pumping.
8. Provide staff to assist at the site during commissioning.
9. Provide on-site operator training during our Process Commissioning.
10. Provide one set of O & M manuals and as built drawings for the MBR process.

We have not included the following:

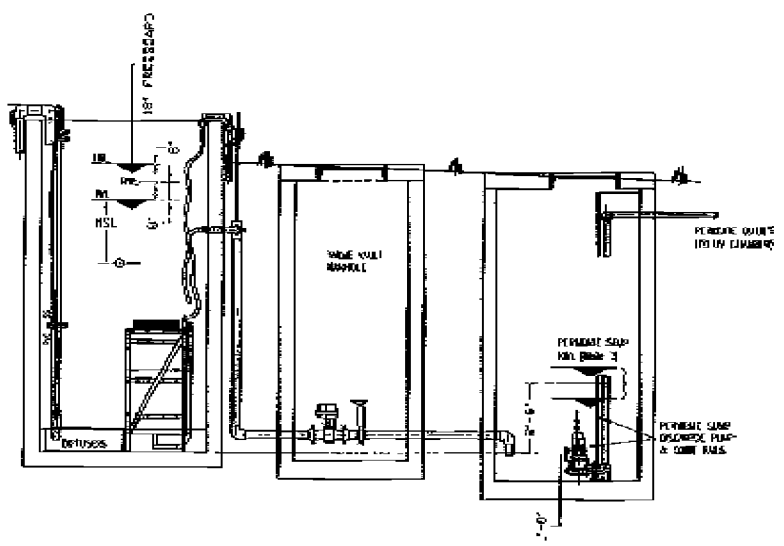
1. Electrical power supply and electrical wiring including conduit.
2. Mechanical or electrical installation
3. All excavation.
4. Concrete Pad for Blowers and Control Panel.
5. Concrete Sump for Pumps.
6. All external PVC piping including influent, permeate, and sludge piping and fittings.
7. All manholes and valve vaults.
8. Inlet and outlet pipework and all other pipework external to the tank except the air delivery pipework
9. Aluminum Handrails for MBR Tank
10. Building services including cranes for installation of the cassettes
11. Telescoping valve for Sludge Holding Tank

1. NWL = NOMINAL WATER LEVEL
= 5'-10" ABOVE MBR TANK INVERT LEVEL
2. NSL = MINIMUM SUDGE LEVEL
20-INCHES LWA
3. PIPE SUPPORTS NOT SHOWN FOR CLARITY, TO BE DESIGNED AND PROVIDED BY INSTALLER.
4. NOMINAL WATER LEVEL IN PERMEATE PUMP IS TYPICALLY BETWEEN 3'-4" AND 2'-0" ABOVE THE MBR INVERT LEVEL, DEPENDING ON MBR SIZE AND DISTANCE OF PUMP. REFER TO HYDRAULIC CALCULATIONS FOR GUIDANCE.



NO.		REVISION		DATE
BORD NA MÓNA ENVIRONMENTAL PRODUCTS U.S. INC.				
4105 Benzu Avenue - Greensboro, NC 27407 Phone 336-547-9738 Fax 336-547-4856 www.bnai.us.com				
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NEWTON COUNTY REGIONAL WATER AND SEWER DISTRICT WASTE WATER TREATMENT SYSTEM				
NEWTON COUNTY REGIONAL WATER AND SEWER DISTRICT				
PureM MEMBRANE BIOREACTOR GENERAL ARRANGEMENT				
DATE	DESIGNED BY	SCALE	PROJECT NO.	APP. BY
09/02/09	JM	1"=4'	3176878639	JM
DATE	FOR APPROVAL	FOR CONSTRUCTION	DATE	BY
09/02/09	JM	JM	09/02/09	JM

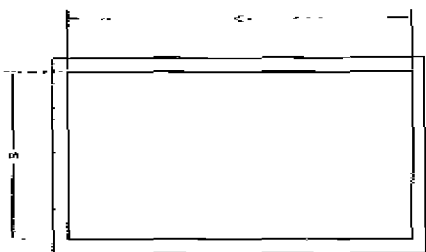
1. NWL = NOMINAL WATER LEVEL = 9'-10" ABOVE MBR TANK INVERT LEVEL.
2. MSL = MINIMUM SLUDGE LEVEL 28-INCHES LWL.
3. PIPE SUPPORTS NOT SHOWN FOR CLARITY, TO BE DESIGNED AND PROVIDED BY INSTALLER.
4. NORMAL WATER LEVEL IN PERMEATE SUMP IS TYPICALLY BETWEEN 3'-1" AND 2'-0" ABOVE THE MBR INVERT LEVEL, DEPENDING ON MBR SIZE AND DISTANCE OF SUMP. REFER TO HYDRAULIC CALCULATIONS FOR GUIDANCE.



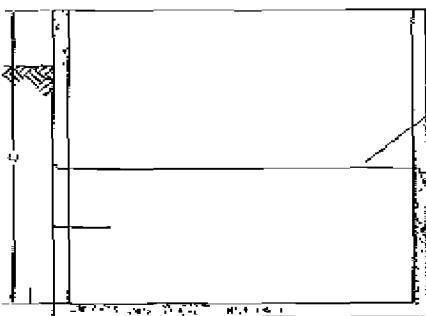
SECTION A-A
 GENERAL ARRANGEMENT

4856 Barlow Avenue - Cranston, NC 29109 Phone: 336-547-9338 Fax: 336-547-8559 www.bnt-us.com				
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Project: NEWTON COUNTY REGIONAL WATER AND SEWER DISTRICT WASTE WATER TREATMENT SYSTEM				
Client: NEWTON COUNTY REGIONAL WATER AND SEWER DISTRICT				
Drawing Title: BRUSH MEMBRANE BIOREACTOR GENERAL ARRANGEMENT				
Date: 09/03/09	Scale: 1"=1'-0"	Drawn By: PJ	Checked By: NVA	Approved By: SDB
Revision: 1 Description: AS SHOWN	Revision: 2 Description: SUPPLEMENTAL TO THE ORIGINAL DRAWING	Revision: 3 Description: AS SHOWN	Revision: 4 Description: AS SHOWN	Revision: 5 Description: AS SHOWN

A	B	C	TANK
12'-0"	6'-0"	12'-4"	MEMBRANE
12'-0"	6'-0"	11'-0"	SLUDGE HOLDING



TOP VIEW



SECTION VIEW

NOTES:

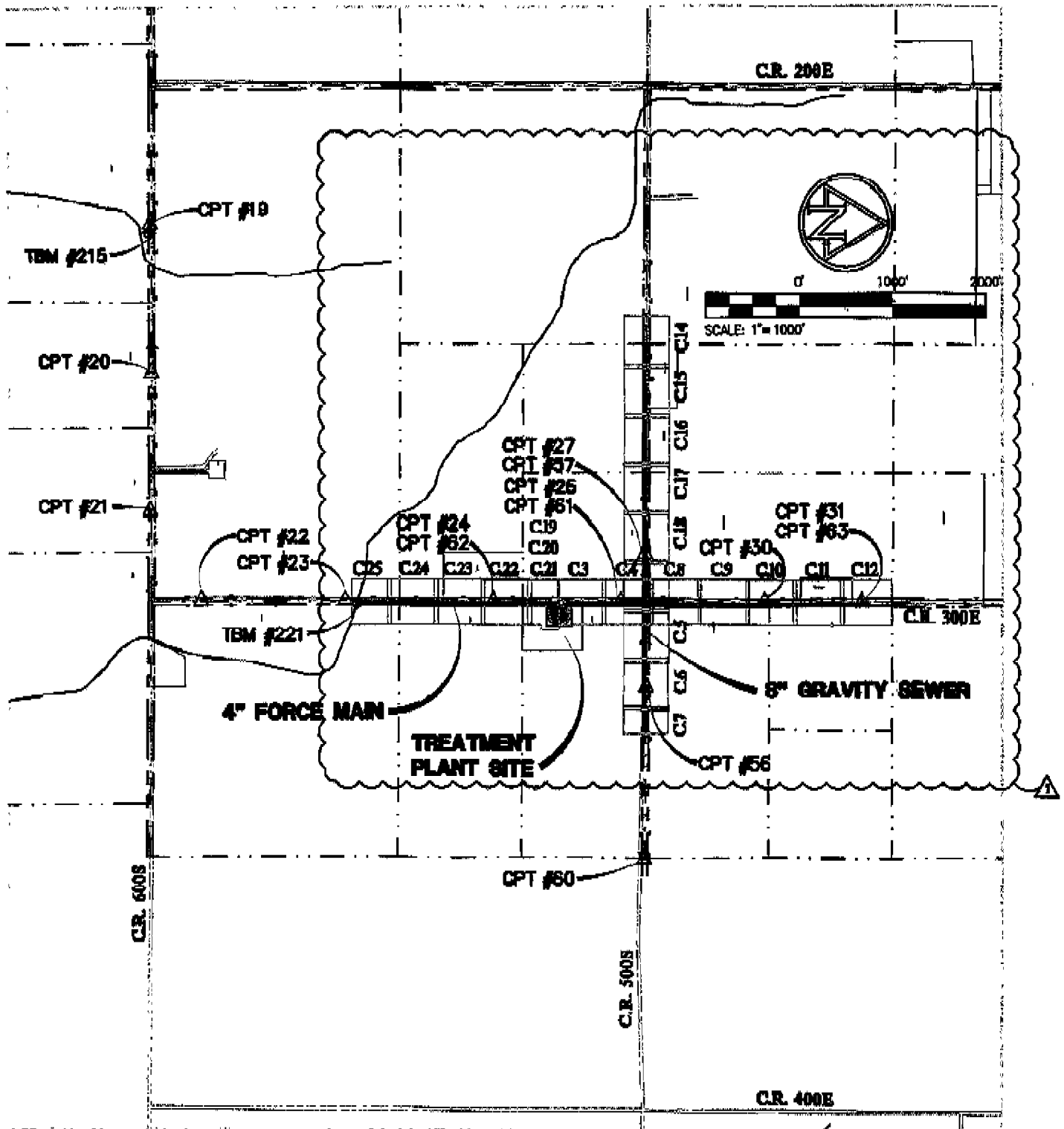
1. PRECAST CONCRETE TO HAVE A COMPRESSIVE STRENGTH OF 5,000 PSI AT 28 DAYS.

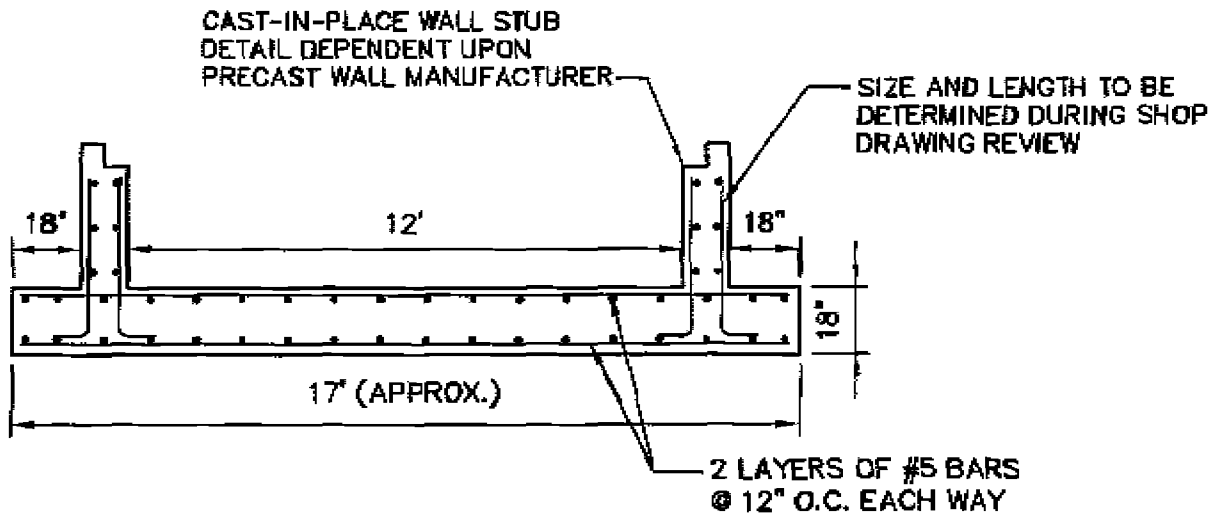
<p>BORD NA MÓNA ENVIRONMENTAL PRODUCTS U.S.A. INC.</p> <p>4100 Brian Avenue - Greensboro, NC 27407 Phone: 336-547-4938 Fax: 336-547-8359 www.bn-m.com</p>			
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<p>FOR NEWTON COUNTY REGIONAL WATER AND SEWER DISTRICT WASTE WATER TREATMENT SYSTEM</p>			
<p>FOR NEWTON COUNTY REGIONAL WATER AND SEWER DISTRICT</p>			
<p>PROJECT: RUFAM MEMBRANE BIOREACTOR PRECAST TANK</p>			
DATE: 09/02/09	DRAWN BY: PJ	CHECKED BY: JKA	APPROVED BY: JKA
SCALE: AS SHOWN	DATE: 09/02/09	PROJECT: 004	

Tabulation of Equipment Items forming the Basis of Bid Table

Spec Section	Equipment Description	Column 1 - Basis of Bid		Column 2 - Equipment Substitution Bids	
		Basis of Bid Manufacturers	Basis of Bid Installed Cost	Substitution Manufacturer	Substitution Installed Cost
11218	Submersible Influent Sewage Cutter Pumps	Tsurumi			
11218	Submersible Effluent Pumps	Tsurumi			
11330	Influent Drum Screen	A. JWC Environmental			
		B. Parkson			
11380	Positive Displacement Blowers	Kaeser			
11370	Regenerative Blower	FPZ			
11400 or 11500	Activated Biological Process System	A. Aquarius, Inc. MSABP			
		B. Bord na Mona MBR			
		C. Zenon MBR			
11900	Ultraviolet Disinfection System	Trojan UV			
13340	Modular Office Building	Anchor			

- Notes:
1. The installed price of the proposed "Basis of Bid" item must be written in the space provided. If more than one name is listed, circle the name being proposed with this bid.
 2. If the Bidder proposes to offer a "Substitution" equipment item, both the manufacturer's name and the installed price of the equipment must be written in the space provided.
 3. The Bidder may propose more than one "Substitution" for a given equipment item. Attach separate sheets, if necessary.
 4. Failure to do the above may be cause for rejecting the bid.





INFLUENT PUMP STATION
CAST-IN-PLACE BASE

SCALE: 1/4" = 1'-0"

AMERICAN
STRUCTUREPOINT
INC.

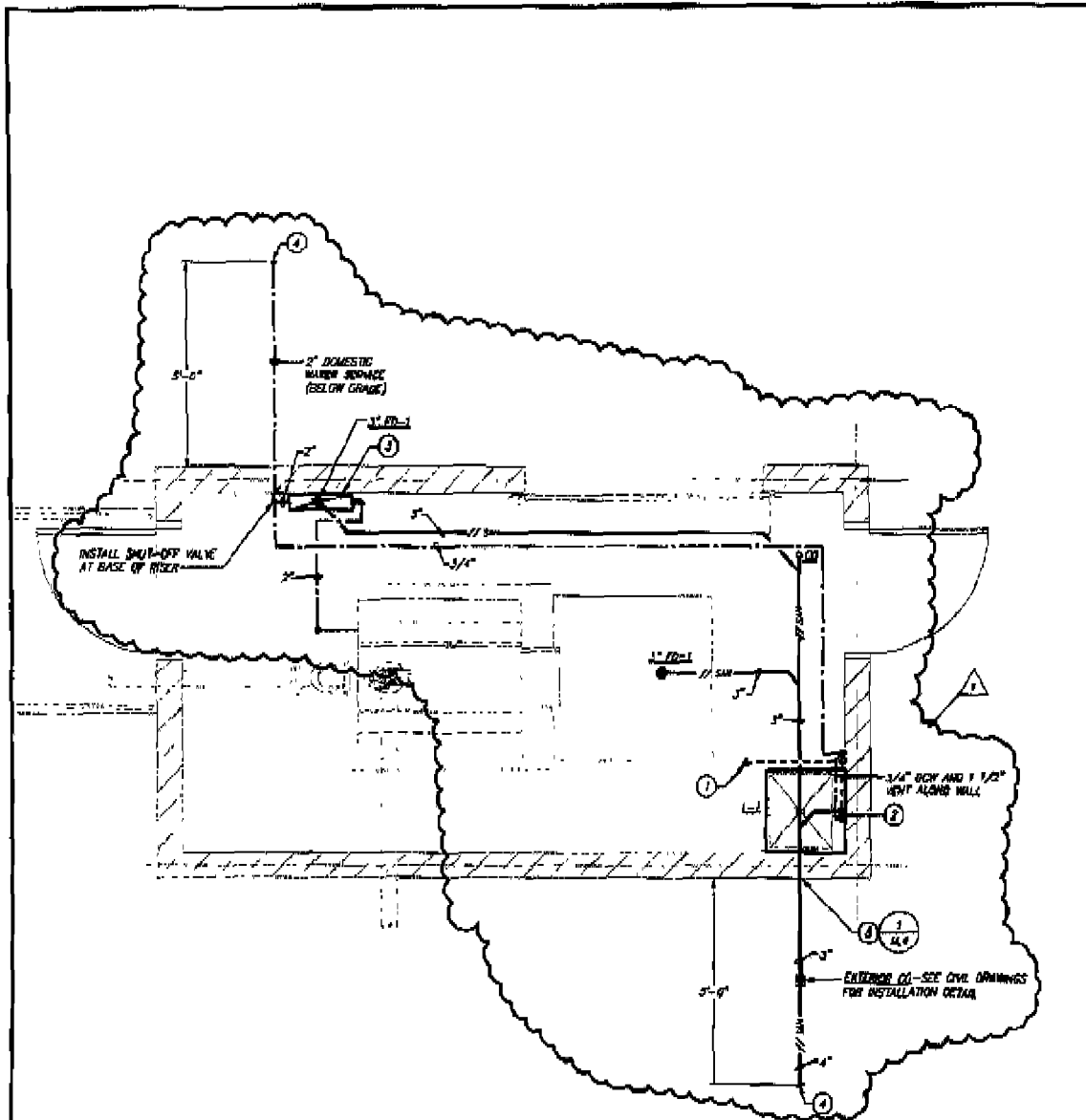
**NEWTON COUNTY REGIONAL
WATER & SEWER DISTRICT
WASTEWATER COLLECTION & TREATMENT SYSTEM**

ADDENDUM No. 4

REFERENCE SHEET:	
DATE:	2009/09/02
SCALE:	1/4"=1'-0"
JOB No.:	W20090782

FOUR No.

1



PLUMBING PLAN

SCALE: 3/8" = 1'-0"

NORTH



PLAN NOTES:

- ① 1 1/2" VENT UP AND 3" THROUGH ROOF.
- ② 3/4" DOMESTIC COLD WATER AND 2" WASTE UP TO SINK.
- ③ REDUCED PRESSURE BACKFLOW PREVENTER - WILKINS MODEL 975XL-2". MOUNT AT 36" A.F.F.
- ④ SEE SITE PLAN FOR CONTINUATION.
- ⑤ ROUTE PIPING BELOW GRADE BEAM.



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**NEWTON COUNTY REGIONAL WATER &
SEWER DISTRICT WASTEWATER
COLLECTION & TREATMENT SYSTEM
PLUMBING PLAN AND DETAILS**

REV: #1
DATE: 09-02-09
DRAWN BY: KMB
COMM. NO.: 08045
REF. SHEET No. 4
SKETCH NO.: SK1



MISCELLANEOUS EQUIPMENT SCHEDULE

NAME	MANUFACTURER	MODEL	DESCRIPTION	CAPACITY	REMARKS
ALARM-1	MSA	ULTIMA XP	GAS MONITOR AND ALARM	-	22,115.8

REMARKS:

1. PROVIDE TOP MOUNTED ALARM LIGHT.
2. FURNISH WITH BOTTOM MOUNTED SENSORS FOR METHANE AND HYDROGEN SULFIDE, (H₂S).
3. FURNISH WITH (2) CONTACT CLOSURES FOR REMOTE ANNUNCIATION OF ALARMS BY EG. (INCLUDES LIGHTS ON BUILDING EXTERIOR, EXHAUST FAN START AND DBC SYSTEM). CONFIRM ALL SET POINTS WITH ENGINEER DURING STARTUP PHASE.
4. ENTIRE UNIT, INCLUDING SENSORS AND ALARM LIGHT IS TO BE EXPLOSION-PROOF (CLASS I, DIV 2).
5. FURNISH WITH CONTACT CLOSURE FOR UNIT FAULT STATUS ALARM.
6. ALL ALARM CONTACTORS ARE TO BE WIRED IN PARALLEL. REFER TO THE ELECTRICAL DRAWINGS FOR FURTHER DETAILS.



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**NEWTON COUNTY REGIONAL WATER &
SEWER DISTRICT WASTEWATER
COLLECTION & TREATMENT SYSTEM
MECHANICAL PLAN**

REV. #1
DATE: 08-02-08
DRAWN BY: STA
COORD. NO.: 08045
REF. SHEET: 2
SHEET NO.:
SK2