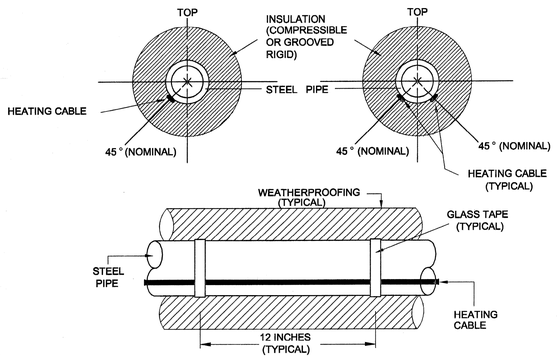
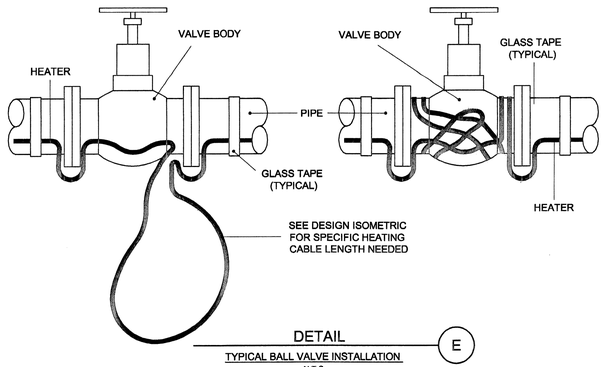
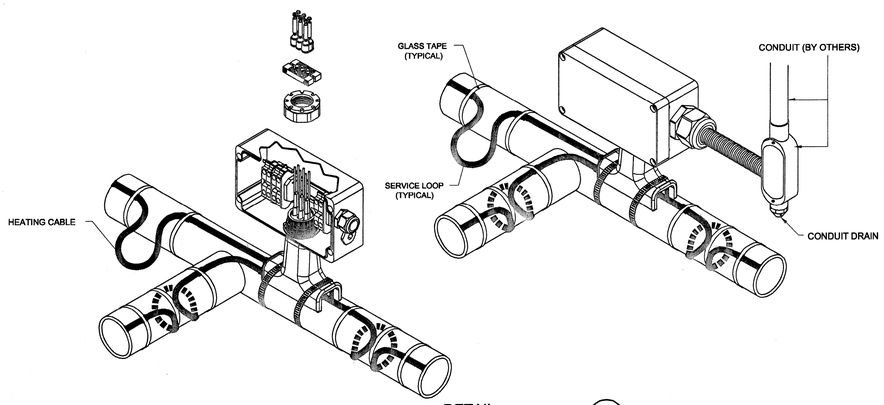


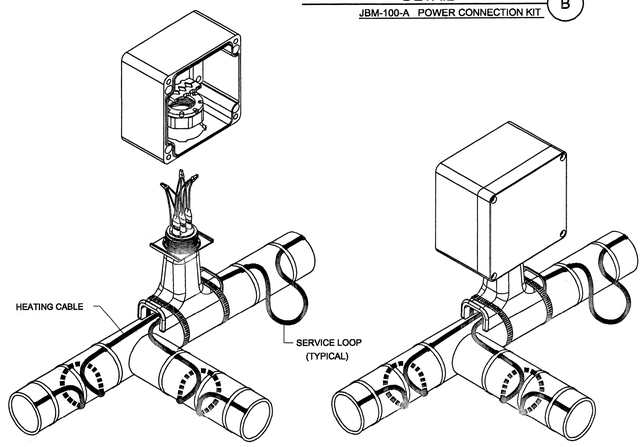
DETAIL A
TYPICAL PLACEMENT OF HEATING CABLE WITH COMPRESSIBLE INSULATION
N.T.S.



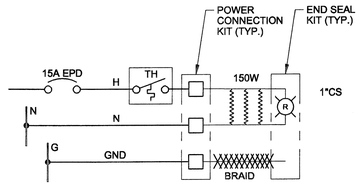
DETAIL E
TYPICAL BALL VALVE INSTALLATION
N.T.S.



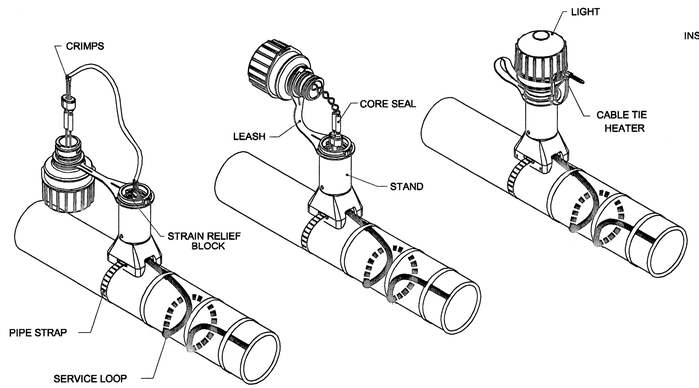
DETAIL B
JBM-100-A POWER CONNECTION KIT



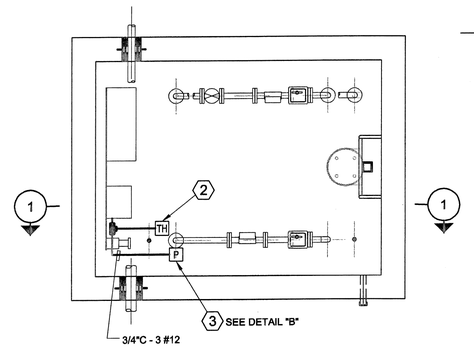
DETAIL C
T-100 TEE CONNECTION



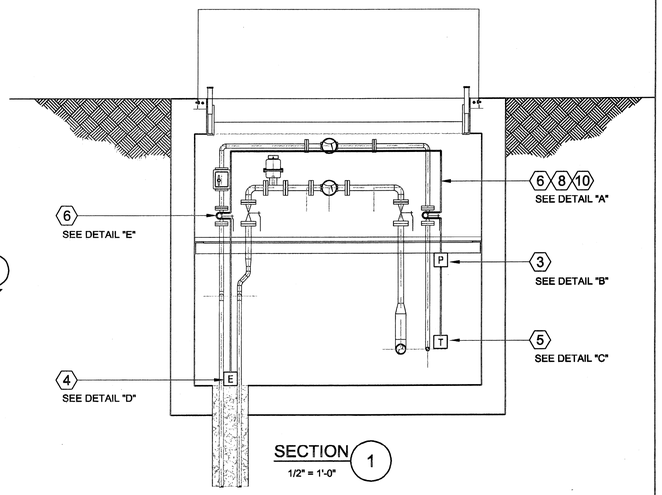
HEAT TRACING SCHEMATIC DIAGRAM



DETAIL D
E-100-L END SEAL KIT
N.T.S.



PLAN
1/2" = 1'-0"



SECTION 1
1/2" = 1'-0"

GENERAL INSTALLATION REQUIREMENTS:

1. SUPPLY AND INSTALL ALL HEAT TRACING AS SHOWN ON THE DRAWINGS AND RECOMMENDED BY THE HEATING CABLE MANUFACTURER.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING THE MANUFACTURER'S INSTALLATION RECOMMENDATIONS AND TRAINING IF NECESSARY.

INSTALLATION NOTES:

1. ALL HEAT TRACE ELEMENTS SHALL BE TAPE FASTENED TO THE PIPE AS SHOWN ON THE DETAILS. THE INSULATION SHALL NOT BE USED TO HOLD THE ELEMENT ON THE PIPE.
2. ALL POWER CONNECTION KITS SHALL BE MOUNTED ON THE PIPE UNLESS SPECIFICALLY NOTED OTHERWISE.
3. ALL HEATER CABLE SHALL BE ONE (1) CONTINUOUS LENGTH WITHOUT SPLICES, UNLESS SPECIFICALLY INDICATED OTHERWISE.
4. THE HEAT TRACE ELEMENT SHALL BE INSTALLED IN STRAIGHT RUNS. SPIRALING SHALL NOT BE PERMITTED UNLESS NOTED OTHERWISE.
5. ALL HEAT TRACING CABLE SHALL BE TESTED BEFORE AND AFTER INSULATION IS APPLIED AS FOLLOWS:
   1. USE 2500 VDC MEGGER. MINIMUM ACCEPTABLE READING SHALL BE 20 MEGOHMS REGARDLESS OF HEATER LENGTH.
   2. TWIST BOTH HEATING CABLE BUSSES TOGETHER.
   3. CONNECT (-) LEAD TO BRAID AND (+) LEAD TO TWISTED BUSSES.
   4. AFTER TEST IS COMPLETED AND READING IS RECORDED, TURN OFF THE MEGGER, DISCHARGE BUSSES TO LOCAL GROUND AND AFTER THAT DISCONNECT THE MEGGER.
6. WARNING SIGNS SHALL BE PLACED EVERY TEN FEET MINIMUM, ON THE INSULATION EXTERIOR, IN EASY READABLE LOCATION. THE SIGN SHALL STATE 'DANGER - ELECTRICALLY HEATED - 120 VOLTS'.

DESIGN DATA		
LOCATION: OUTDOORS		
ELECT. CLASSIFICATION: NON-HAZARDOUS		
TEMPERATURES:		
• Min./Max. Ambient:	-5 °F	95 °F
• Min./Max. Maintenance:	40 °F	40 °F
• Max. Htr. Exposure:		150 °F
• Start-Up:		-5 °F
INSULATION: 1.0 IN. FIBERGLASS		
VOLTAGE: 120 VAC		
Start Amps @ -5 °F: 2.2 (Circuit #1)	Maint. Amps @ -5 °F: 1.2	

MATERIAL LIST

Item	Qty.	Cat. No.	Description
1	-	AMC-1A	THERMOSTAT
2	1	AMC-1H	THERMOSTAT
3	1	JBM-100-A	RAYCHEM PWR. CONNECTION KIT
4	3	E-100-L1-A	RAYCHEM END CONNECTION
5	1	T-100	RAYCHEM TEE KIT
6	35'	3BTV1-CR	RAYCHEM TRACE CABLE
7	-	5BTV1-CT	RAYCHEM TRACE CABLE
8	REQ'D	ETL	LABEL "ELECTRIC TRACED"
9	REQ'D	AT-180	RAYCHEM ALUM. TAPE
10	REQ'D	GT66	RAYCHEM FIBERGLASS TAPE

HEAT TRACING DESIGN DATA AND BILL OF MATERIAL

DATE PRINTED
5/26/05

100% REVIEW DRAWINGS
NOT FOR CONSTRUCTION

SCALE VERIFICATION: THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

No	Revision	Date	Initial

Approved

STATE OF NEW YORK — BORIS MICHAEL KAY — LIC. NO. 066933 — LICENSED PROFESSIONAL ENGINEER — 5/26/05

HOOKER/RUCO SITE
HICKSVILLE, NEW YORK

BIOSPARGE TREATMENT SYSTEM

INJECTION WELLS
HEATING PLAN, SECTION & DETAILS

CRA Infrastructure & Engineering, Inc.

Source Reference:			Date: SEPTEMBER 2003
Project Manager: J. KAY	Reviewed By: BME	Designed By: DLS	Drawn By: DLS
Scale: AS NOTED	Project No: 06883-10	Report No: 045	Drawing No: E-13

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