

ACCESS BASEMENT
 (SEE REFERENCE #6 & NOTE
 DEED BK. 3715, PG. 354
 UGE & TEL

DRAWING REFERENCES:

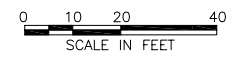
1. PROPOSED GRADING, DRAINAGE, SEDIMENTATION, AND EROSION CONTROL PLAN DRAWING C-4, FOR CONSTRUCTION AUGUST 24, 2001. DRAWING C-4 MATERIALS AND UTILITIES PLAN SEPTEMBER 07, 2001, PREPARED BY VANASSE HANGEN BRUSTLIN, INC. FOR CHURCHILL & BANKS MASHAUG COMMONS PROVIDENCE, RHODE ISLAND
2. SUPER STOP & SHOP - #733 DRAWINGS LATEST REVISION JUNE 07, 2007 PREPARED BY: CARTER BURGESS, CAMBRIDGE, MASSACHUSETTS FOR CHURCHILL & BANKS MASHAUG COMMONS PROVIDENCE, RHODE ISLAND

NOTES:

1. FINAL EXTRACTION WELL AND EXTRACTION WELL PIPING LOCATIONS TO BE BASED UPON PRE-CONSTRUCTION SITE INVESTIGATION AND AS APPROVED BY THE ENGINEER AND OWNER.
2. EXTRACTION WELL PIPING SHALL BE SLOPED TO DRAIN TO EXTRACTION WELLS OR THE ASD SYSTEM ENCLOSURE.
3. OUTSIDE AMBIENT AIR LOCATION TO BE DETERMINED BASED UPON WIND DIRECTION AT TIME OF SAMPLING. SAMPLE SHALL BE COLLECTED UPWIND.
4. ALL VISIBLE CRACKS IN THE FLOOR EITHER EXISTING OR THE RESULT OF CONSTRUCTION ARE TO BE SEALED USING EPOXY OR SIMILAR METHOD PRIOR TO SYSTEM START-UP.

LEGEND:

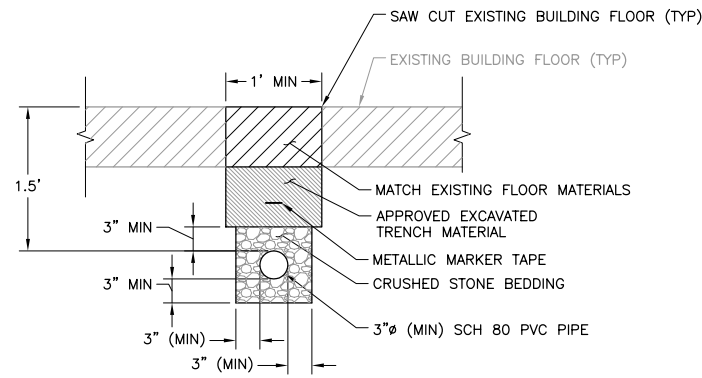
- SB-5 ◆ VACUUM MONITORING WELL
- MW-224S ◆ GROUNDWATER MONITORING WELL
- EW-7 ⊕ PROPOSED EXTRACTION WELL
- VMW-1 ○ PROPOSED VACUUM MONITORING WELL (ACTUAL LOCATION SUBJECT TO CHANGE)
- ◆ PROPOSED INDOOR/AMBIENT AIR MONITORING LOCATION



<p>MACTEC Civil EXISTING CONDITIONS PLAN AND PROPOSED LAYOUT</p>	<p>Active Soil Depressurization System Design Former Gorham Manufacturing Facility Parcel A Retail Complex 333 Adelade Avenue, Providence, Rhode Island</p>	<p>NO. DATE</p>	<p>REVISION</p>	<p>DR</p>	<p>DEL</p>	<p>APVD</p>	<p>CAC</p>	
	<p>C 07/08/08</p>	<p>B 04/01/08</p>	<p>A 02/04/08</p>	<p>BY APVD</p>	<p>CHK</p>	<p>SC</p>	<p>DEH</p>	<p>DEH</p>
	<p>FINAL TO RIDEM FOR APPROVAL</p>	<p>SUBMITTAL TO RIDEM</p>	<p>DRAFT FOR CLIENT REVIEW</p>	<p>BY APVD</p>	<p>CHK</p>	<p>SC</p>	<p>DEH</p>	<p>DEH</p>
	<p>C 07/08/08</p>	<p>B 04/01/08</p>	<p>A 02/04/08</p>	<p>BY APVD</p>	<p>CHK</p>	<p>SC</p>	<p>DEH</p>	<p>DEH</p>

VERIFY SCALE
 BAR IS ONE INCH ON ORIGINAL DRAWING.
 DATE _____
 PROJ 3650050041
 DWG C-101
 SHEET 2 OF 5

THIS DRAWING IS THE PROPERTY OF MACTEC, INCLUDING ALL PATENTED AND PATENTABLE FEATURES, AND/OR CONFIDENTIAL INFORMATION AND ITS USE IS CONDITIONED UPON THE USER'S AGREEMENT NOT TO REPRODUCE THE DRAWING IN WHOLE OR PART, NOR THE MATERIAL DESCRIBED THEREON, NOR THE USE OF THE DRAWING FOR ANY PURPOSE OTHER THAN SPECIFICALLY PERMITTED BY MACTEC.

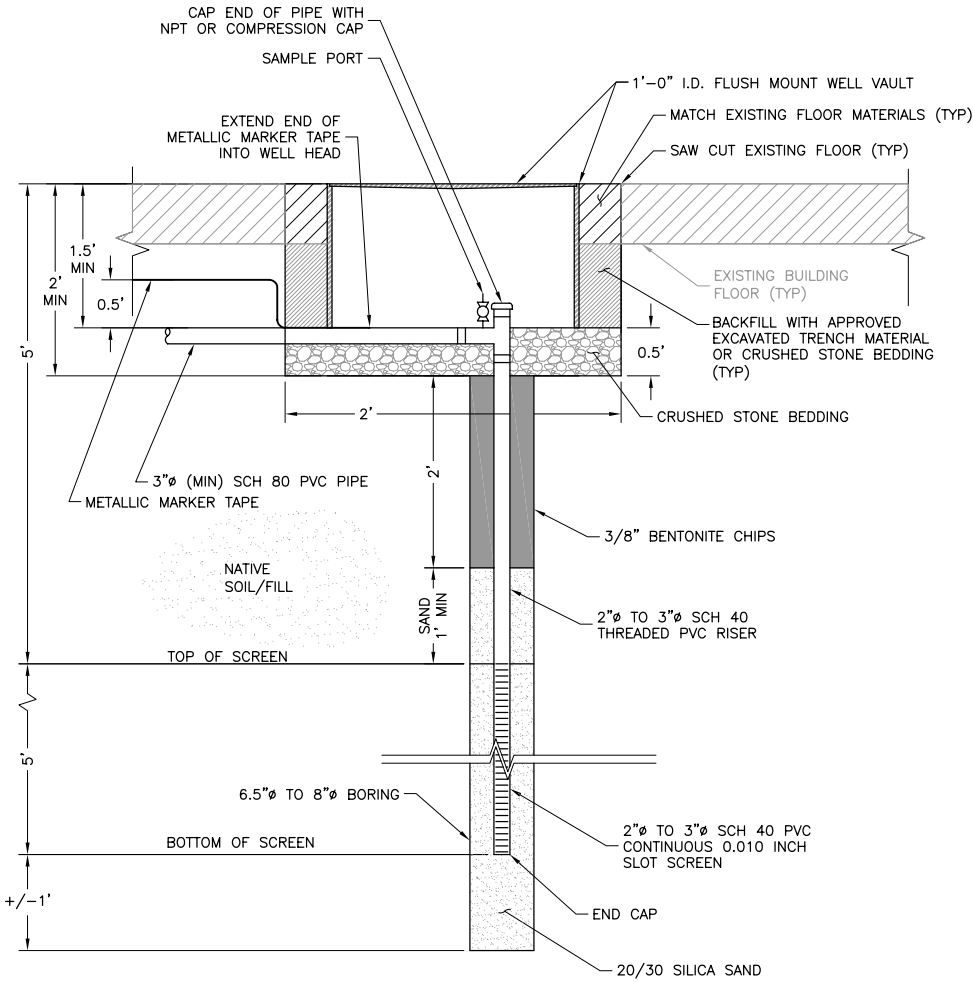


NOTES:

1. BACKFILL WITH APPROVED EXCAVATED TRENCH MATERIAL.
2. SLOPE SVE PIPE DOWN TOWARD SVE WELLS.
3. SVE PIPE TO BE SIZED BY CONTRACTOR.

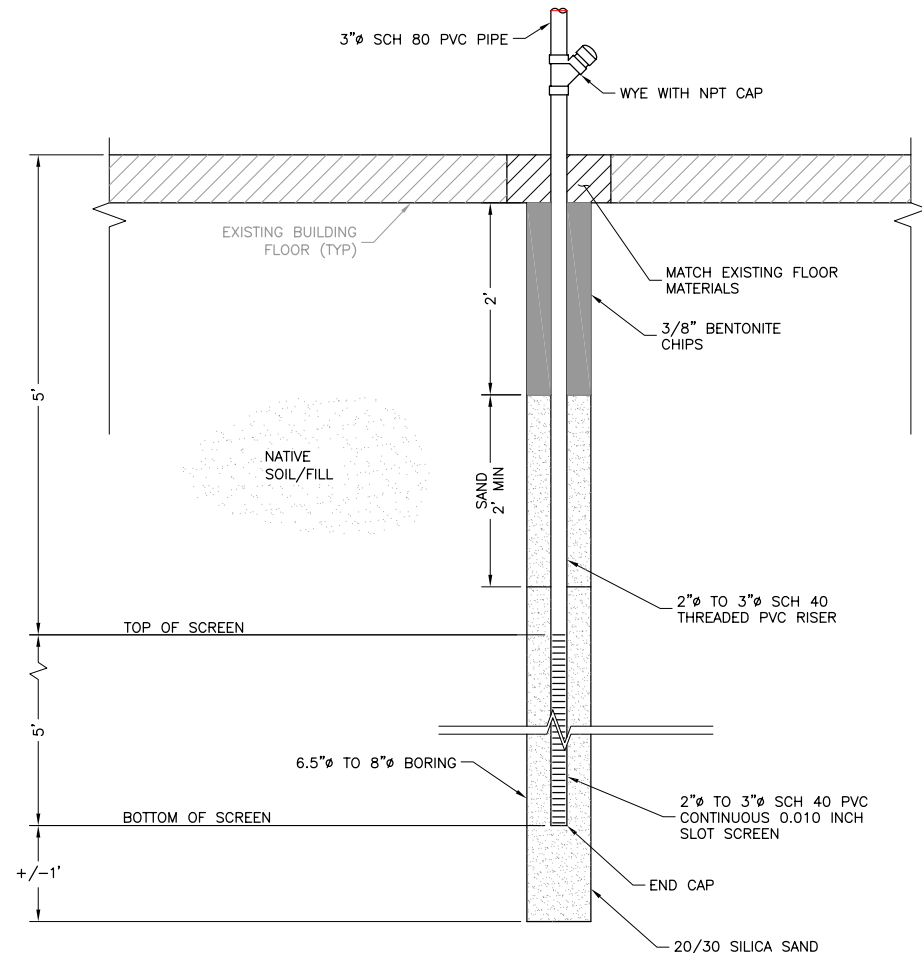
TYPICAL PIPE TRENCH DETAIL (A)

NTS C-101 C-501



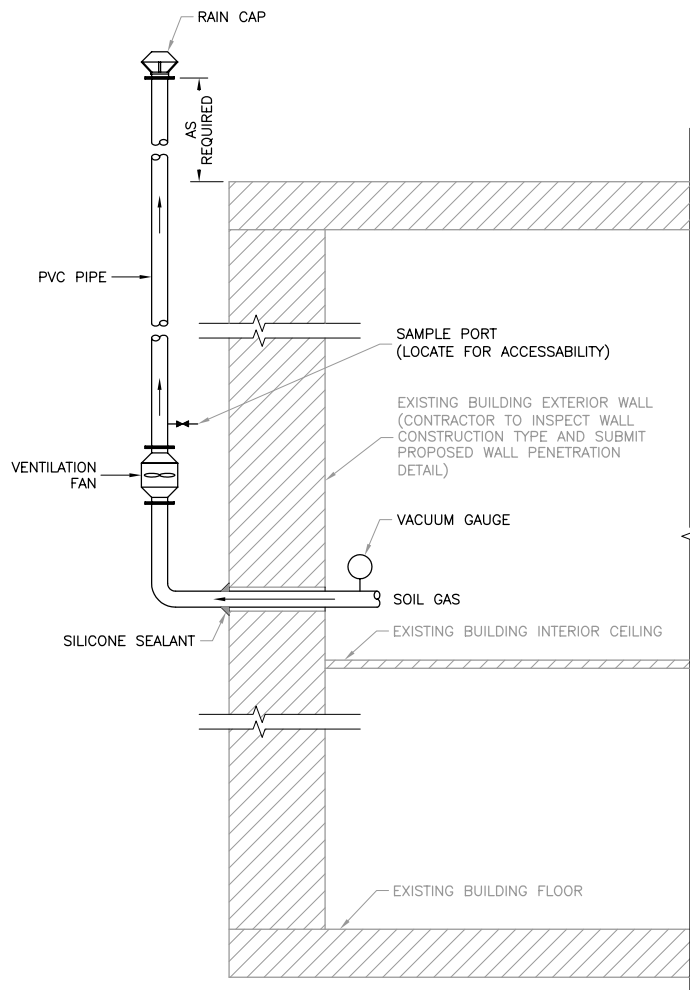
TYPICAL MAIN BUILDING ASD EXTRACTION WELL DETAIL (B)

NTS C-101 C-501



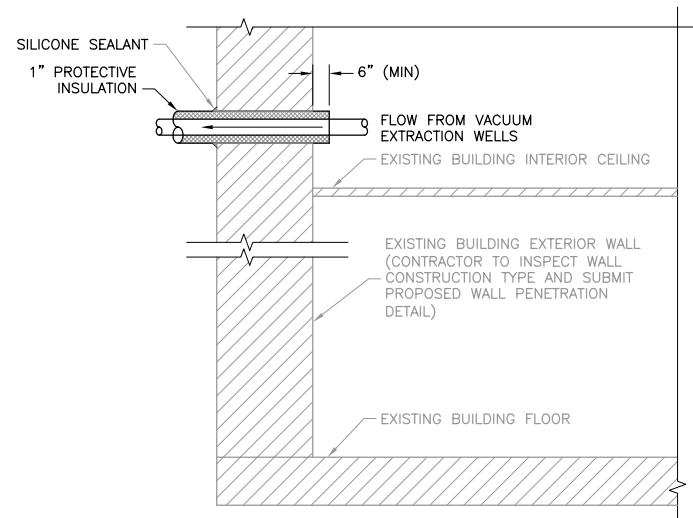
TYPICAL INDIVIDUAL ASD EXTRACTION WELL DETAIL (C)

NTS C-101 C-501



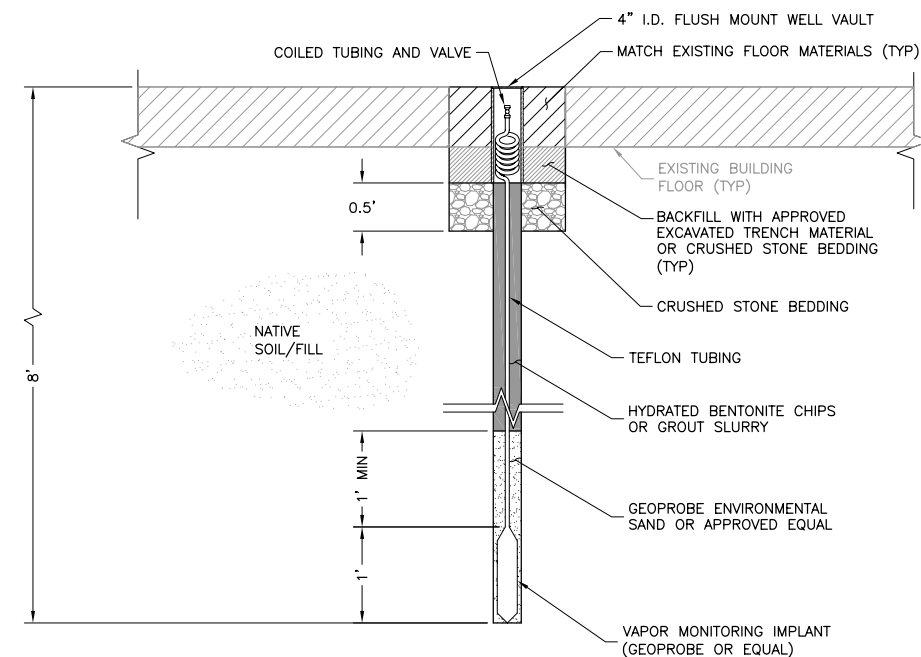
TYPICAL INDIVIDUAL VENTILATION FAN DETAIL (D)

NTS C-101 C-501



EXTERIOR BUILDING WALL PENETRATION DETAIL (E)

NTS C-101 C-501



VACUUM MONITORING WELL DETAIL (F)

NTS C-101 C-501

NO.	DATE	REVISION	BY	APVD
A	02/04/08	DRAFT FOR CLIENT REVIEW	SC	DEH
B	04/01/08	SUBMITTAL TO RIDEM	SC	DEH
C	07/08/08	FINAL TO RIDEM FOR APPROVAL	SC	CAC

Active Soil Depressurization System Design
Former Gorham Manufacturing Facility
Parcel A Retail Complex
333 Adelaide Avenue, Providence, Rhode Island

MACTEC
Civil
CIVIL DETAILS

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.

DATE: 3650050041
PROJ: C-501
DWG: C-501
SHEET: 3 OF 5

EQUIPMENT SYMBOLS	
	CENTRIFUGAL PUMP
	SUBMERSIBLE PUMP
	ROTARY LOBE VACUUM PUMP
	LIQUID RING VACUUM PUMP
	WELL PUMP
	METERING PUMP
	AIR ACTUATED DIAPHRAGM PUMP
	FAN OR BLOWER
	MIXER OR AGITATOR
	AIR INTAKE FILTER
	AIR COMPRESSOR
	PROGRESSIVE CAVITY PUMP

EQUIPMENT ABBREVIATIONS	
AC	AIR COMPRESSOR
AD	AIR DRYER
B	BLOWER
BL	BOILER
C	CLARIFIER
E	EDUCTOR
EW	EXTRACTION WELL
F	FILTER
FP	FILTER PRESS
H	HEATER
LC	LIQUID CARBON
M	MIXER
MP	METERING PUMP
OC	ORGANOCLAY
P	PUMP
S	SEPARATOR
SA	SAMPLE VALVE
SC	SCRUBBER
ST	STACK
T	TANK
TO	THERMAL OXIDIZER
VC	VAPOR CARBON
WS	WATER SOFTENER

VALVE AND ACTUATOR SYMBOLS	
	GATE VALVE OR ANY IN-LINE BLOCK VALVE NOT IDENTIFIED BY TYPE
	GLOBE VALVE
	CHECK VALVE
	BALL VALVE
	BUTTERFLY VALVE
	BALL VALVE NORMALLY CLOSED
	SLIDE GATE VALVE
	NEEDLE VALVE
	IN-LINE PRESSURE RELIEF VALVE
	NORMALLY CLOSED VALVE
	DIAPHRAGM VALVE
	PINCH VALVE
	THREE WAY VALVE
	FOUR WAY VALVE
	ANGLE GLOBE VALVE
	PRESSURE RELIEF VALVE
	VACUUM RELIEF VALVE
	PRESSURE RELIEF VALVE WITH DRIP PAN
	AIR RELIEF VALVE
	HOSE STATION

FITTING SYMBOLS	
	PLUG VALVE
	HAND ACTUATOR
	DIAPHRAGM ACTUATOR
	PRESSURE REGULATOR
	BACK PRESSURE REGULATOR
	CYLINDER ACTUATOR
	MOTOR
	SOLENOID
	FILTER STRAINER
	RUPTURE DISC (PRESSURE)
	RUPTURE DISC (VACUUM)
	HOSE COUPLING
	QUICK CONNECT HOSE COUPLING
	SIGHT GLASS
	EDUCTOR
	BACK FLOW PREVENTER
	CALIBRATION COLUMN
	DIAPHRAGM SEAL
	UNION
	FLANGE
	BLIND FLANGE

DATA SYMBOLS	
	PIPING MATERIAL SPECIFICATION CHANGE
	VALVE NUMBER
	LINE ID
	PIPING MATERIAL SERVICE DESIGNATION
	LINE SIZE
	P&ID DWG NUMBER TO WHICH LINE TO CONTINUE
	P&ID INTERCONNECT REFERENCE

PIPE SERVICE DESIGNATIONS	
A	AIR
BR	BACKWASH RECYCLE
BW	BACKWASH
CF	CHEMICAL FEED
CO	CONDENSATE
CW	CITY WATER
CWH	CITY WATER, HOT
DE	DECANT
DR	DRAIN
EF	EFFLUENT
FPW	FIRE PROTECTION WATER
GW	GROUNDWATER
IN	INFLUENT
OF	OVERFLOW
PS	SLUDGE PRESSATE
PW	PROCESS WATER
SAN	SANITARY SEWER
SD	SUMP PUMP
SL	SLUDGE
V	VENT
VA	VAPOR

PIPING MATERIALS DESIGNATIONS	
BR	BRASS
CI	CAST IRON
CM	CORRUGATED METAL
COP	COPPER
CP	CORRUGATED POLYETHYLENE
CPVC	CHLORINATED POLYVINYL CHLORIDE
CS	CARBON STEEL
DI	DUCTILE IRON
GSP	GALVANIZED STEEL PIPE
HDPE	HIGH DENSITY POLYETHYLENE
KR	KYNAR
NY	NYLON
PE	POLYETHYLENE
PP	POLYPROPYLENE
PTFE	POLY TETRA FLUOROTHYLENE (TEFLON)
PVC	POLYVINYL CHLORIDE
RC	REINFORCED CONCRETE
RUB	RUBBER HOSE
SS	STAINLESS STEEL
VC	VITRIFIED CLAY

PIPING LINE SYMBOLS	
	NEW PRIMARY FLOW
	ALL OTHER NEW
	TUBE
	SECONDARY CONTAINMENT

INSTRUMENT SYMBOLS			
	LOCALLY MOUNTED		COMPUTER FUNCTION (OPERATOR ACCESS PRIMARY LOCATION)
	REAR OF PANEL OR RACK MOUNTED		COMPUTER FUNCTION (OPERATOR ACCESS AUXILIARY LOCATION)
	FRONT OF PANEL MOUNTING (PRIMARY LOCATION)		PLC LOGIC FUNCTION (BLIND)
	FRONT OF PANEL MOUNTING (AUXILIARY LOCATION)		PLC LOGIC FUNCTION (OPERATOR ACCESS PRIMARY LOCATION)
	ALARM ACTIVATED LIGHT		PLC LOGIC FUNCTION (OPERATOR ACCESS AUXILIARY LOCATION)
	ALARM ACTIVATED HORN		COMPUTER FUNCTION (BLIND)
	ROTAMETER	 H/O/A NOTE HS - FUNCTIONAL IDENTIFICATION 24 - INSTRUMENT/LOOP NUMBER	

INSTRUMENTATION IDENTIFICATION LETTERS					
FIRST-LETTER			SUCCEEDING-LETTERS		
SYMBOL	MEASURED OR INITIATING VARIABLE	MODIFIER	READOUT OR PASSIVE FUNCTION	OUTPUT FUNCTION	MODIFIER
A	ANALYSIS	-	ALARM	-	-
B	BURNER, COMBUSTION	-	-	-	-
C	-	-	-	CONTROL	-
D	-	DIFFERENTIAL	-	-	-
E	VOLTAGE	-	SENSOR (PRIMARY ELEMENT)	-	-
F	FLOW RATE	RATIO (FRACTION)	-	-	-
G	-	-	GLASS, VIEWING DEVICE	-	-
H	HAND	-	-	-	HIGH
I	CURRENT (ELECTRICAL)	-	INDICATE	-	-
J	POWER	SCAN	-	-	-
K	TIME, TIME SCHEDULE	TIME RATE OF CHANGE	-	CONTROL STATION	-
L	LEVEL	-	LIGHT	-	LOW
M	-	MOMENTARY	-	-	MIDDLE, INTERMEDIATE
N	-	-	-	-	-
O	-	-	ORIFICE, RESTRICTION	-	-
P	PRESSURE, VACUUM	-	POINT (TEST) CONNECTION	-	-
Q	QUANTITY	INTEGRATE, TOTALIZE	-	-	-
R	RADIATION	-	RECORD	-	-
S	SPEED, FREQUENCY	SAFETY	-	SWITCH	-
T	TEMPERATURE	-	-	TRANSMIT	-
U	MULTIVARIABLE	-	MULTIFUNCTION	MULTIFUNCTION	MULTIFUNCTION
V	VIBRATION, MECHANICAL ANALYSIS, VACUUM	-	-	VALVE, DAMPER, LOUVER	-
W	WEIGHT, FORCE	-	WELL	-	-
X	UNCLASSIFIED	X AXIS	UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED
Y	EVENT, STATE OR PRESENCE	Y AXIS	-	RELAY, COMPUTE, CONVERT	-
Z	POSITION, DIMENSION	Z AXIS	-	DRIVER, ACTUATOR, UNCLASSIFIED FINAL CONTROL ELEMENT	-

INSTRUMENT LINE SYMBOLS	
	CONNECTION TO PROCESS OR INSTRUMENT IMPULSE LINE
	INSTRUMENT PNEUMATIC SIGNAL LINE (3-15 PSIG UNLESS NOTED OTHERWISE)
	INSTRUMENT ELECTRONIC SIGNAL LINE (CURRENT OR VOLTAGE AS NOTED ON SPEC SHEETS)
	FIELD TUBING OR CAPILLARY FOR THERMAL ELEMENTS AND PRESSURE SEALS
	INTERNAL SYSTEM LINK (SOFTWARE OR DATA LINK)
	UNGUIDED ELECTROMAGNETIC OR SONIC SIGNAL
	HEAT TRACED LINE

INSTRUMENTATION DESIGNATIONS	
A/B	SELECTOR SWITCH
A/M	AUTO/MANUAL
COMB.	COMBUSTIBLES
DO	DISSOLVED OXYGEN
ES	EMERGENCY STOP
F/R	FORWARD/REVERSE
H/O/A	HAND/OFF/AUTO
H ₂ S	HYDROGEN SULFIDE
NH ₃	AMMONIA
O ₂	OXYGEN CONCENTRATION
O/C	OPEN CLOSE
OL	MOTOR OVERLOAD TRIP
O/O	ON OR OFF
ORP	OXYGEN REDUCTION POTENTIAL
pH	HYDROGEN ION CONCENTRATION
SO ₂	SULFUR DIOXIDE
S/S	START STOP
S	START
TU	TURBIDITY

NOTE:
INSTRUMENT DESIGNATIONS BASED ON INSTRUMENT SOCIETY OF AMERICA, STANDARD S5.1.

NO.	DATE	REVISION	CHK	APVD
C	07/08/08	FINAL TO RIDEM FOR APPROVAL	SCF	CAC
B	04/07/08	SUBMITTAL TO RIDEM	SCF	DEH
A	02/04/08	DRAFT FOR CLIENT REVIEW	SCF	DEH

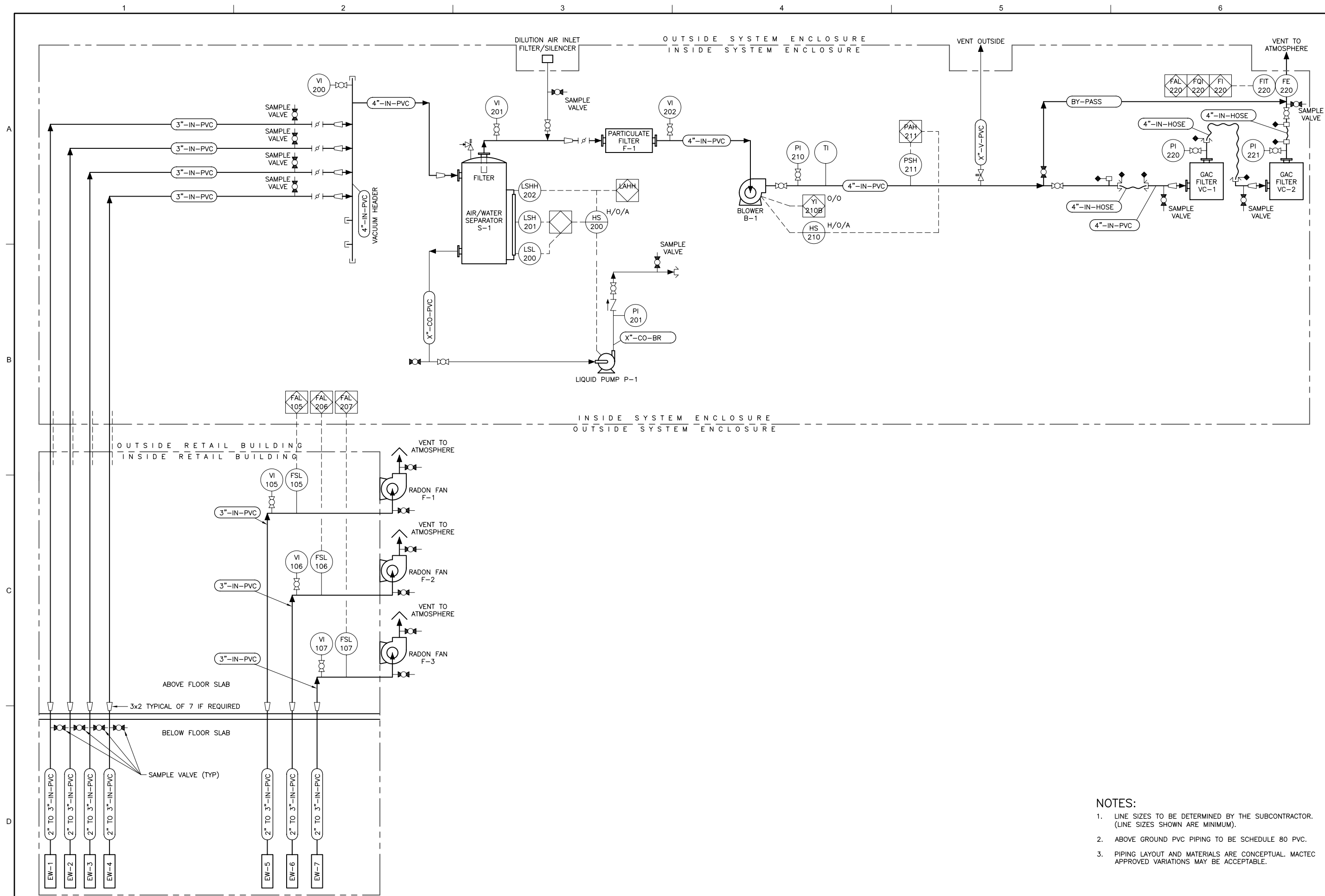
Process
PIPING & INSTRUMENTATION DIAGRAM
LEGEND

MACTEC Engineering and Consulting, Inc.
P.O. Box 7050, 511 Congress Street
Portland, Maine 04112-7050
(207) 775-5401

Active Soil Depressurization System Design
Former Gorham Manufacturing Facility
Parcel A Retail Complex
333 Adelalade Avenue, Providence, Rhode Island

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	
PROJ	3650050041
DWG	D-001
SHEET	4 OF 5



- NOTES:**
1. LINE SIZES TO BE DETERMINED BY THE SUBCONTRACTOR. (LINE SIZES SHOWN ARE MINIMUM).
 2. ABOVE GROUND PVC PIPING TO BE SCHEDULE 80 PVC.
 3. PIPING LAYOUT AND MATERIALS ARE CONCEPTUAL. MACTEC APPROVED VARIATIONS MAY BE ACCEPTABLE.

NO.	DATE	REVISION	BY	APVD
A	02/04/08	DRAFT FOR CLIENT REVIEW	SC	DEH
B	04/01/08	SUBMITTAL TO RIDEM	SC	DEH
C	07/08/08	FINAL TO RIDEM FOR APPROVAL	SC	CAC

DSGN
 RTB
 DR
 DEL
 CHK
 APVD
 SC
 CAC

MACTEC
 MACTEC Engineering and Consulting, Inc.
 P.O. Box 7050, 511 Congress Street
 Providence, RI 02902-7050
 (401) 775-5400

Process
PIPING AND INSTRUMENTATION DIAGRAM

Active Soil Depressurization System Design
 Former Gorham Manufacturing Facility
 Parcel A Retail Complex
 333 Adelaide Avenue, Providence, Rhode Island

VERIFY SCALE
 BAR IS ONE INCH ON ORIGINAL DRAWING.

DATE	
PROJ	3650050041
DWG	D-601
SHEET	5 OF 5

THIS DRAWING IS THE PROPERTY OF MACTEC, INCLUDING ALL PATENTED AND PATENTABLE FEATURES, AND/OR CONFIDENTIAL INFORMATION AND ITS USE IS CONDITIONED UPON THE USER'S AGREEMENT NOT TO REPRODUCE THE DRAWING, IN WHOLE OR PART, NOR THE MATERIAL DESCRIBED THEREON, NOR THE MATERIAL DESCRIBED THEREON FOR ANY PURPOSE OTHER THAN SPECIFICALLY PERMITTED IN WRITING BY MACTEC.