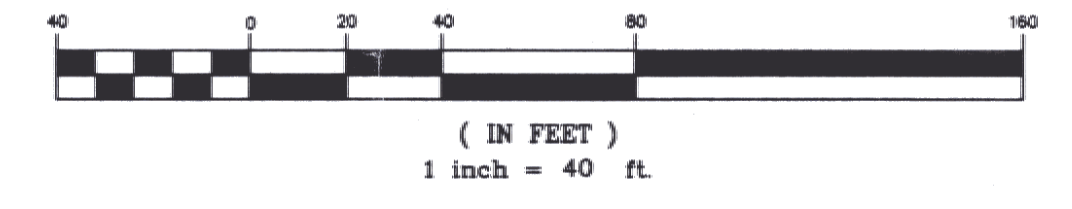


LEGEND

- FM — PROPOSED FORCE MAIN
- W — PROPOSED WATER LINE
- - - 242 — EXISTING CONTOUR
- - - — APPROXIMATE PROPERTY LINE
- OE — OVERHEAD ELECTRIC
- ST — STORM DRAINAGE LINE
- W — EXISTING WATER LINE
- ⊙ — POWER POLE
- ===== CULVERT
- ← — DRAINAGE SWALE

GRAPHIC SCALE



SITE ENGINEER:

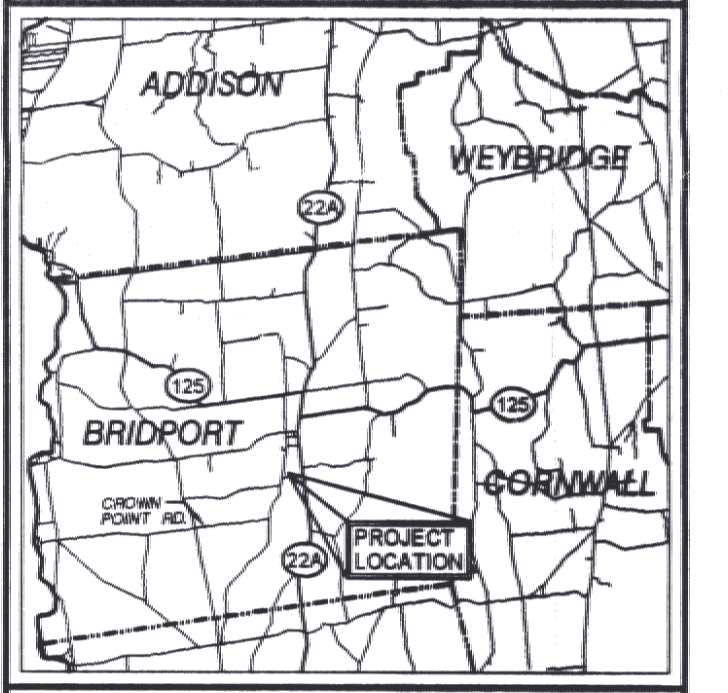
 CIVIL ENGINEERING ASSOCIATES, INC.
 P.O. BOX 485 SHELBURNE, VT 05482
 802-985-2323 FAX: 802-985-2271 web: www.cesavt.com
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DRAWN
PJM/PFL
 CHECKED
BCE
 APPROVED
BCE

OWNER:

STATE OF VERMONT
 VERMONT AGENCY
 OF
 TRANSPORTATION
 MONTPELIER, VERMONT

PROJECT:
BRIDPORT GARAGE
 DUMP ROAD
 BRIDPORT, VERMONT



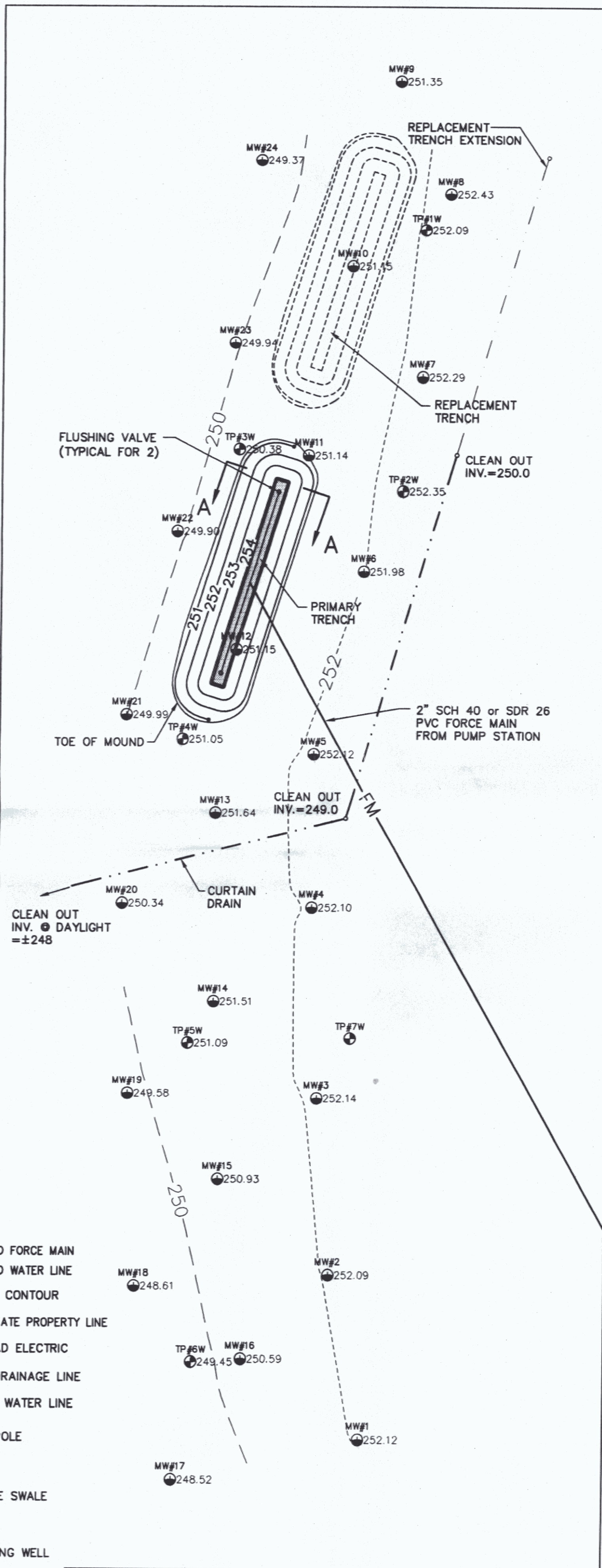
LOCATION MAP
 1" = ±3.6 miles

DATE	CHECKED	REVISION

PROPOSED CONDITIONS PLAN

DATE
APRIL, 2004
 SCALE
1" = 40'
 PROJ. NO.
04128
 DRAWING NUMBER
C1

PROGRESS PLANS



LEGEND

- FM PROPOSED FORCE MAIN
- W PROPOSED WATER LINE
- 242--- EXISTING CONTOUR
- APPROXIMATE PROPERTY LINE
- OE OVERHEAD ELECTRIC
- ST STORM DRAINAGE LINE
- W EXISTING WATER LINE
- ☐ POWER POLE
- ===== CULVERT
- DRAINAGE SWALE
- ⊙ TEST PIT
- ⊙ MONITORING WELL
- PERC TEST

WASTEWATER PLAN
1" = 20'

TEST PIT DATA
EXCAVATED: 3/09/04
EXCAVATOR: LEO GORTON

- TP 1W
0-10" Dark brown clay loam - friable
10-18" Reddish brown clay loam - firm
10-40" Yellowish brown clay loam
40" Shale
- TP 2W
0-12" Dark brown clay loam - friable
12-45" Yellowish brown clay loam - friable
45"+ Refusal
- TP 3W
0-11" Dark brown clay loam - friable
11-36" Yellowish brown clay loam - friable
36" Shale
- TP 4W
0-11" Dark brown clay loam - friable
11-26" Yellowish brown clay loam - friable
26"+ Shale
- TP 5W
0-10" Dark brown clay loam - friable
10-42" Yellowish brown clay loam - firm
42" Shale
- TP 6W
0-7" Dark brown clay loam - friable
7-26" Yellowish brown clay loam - firm
- TP 7W
0-11" Dark brown clay loam - friable
11-36" Yellowish brown clay loam - firm
- TP 8W
0-8" Dark brown clay loam - friable
8-42" Yellowish brown clay loam - firm
- TP 1E
0-3" Clay loam
3"+ Clay - very firm
- TP 2E
0-3" Clay loam
3"+ Clay - very firm
- TP 3E
0-3" Clay loam
3"+ Clay - very firm
- TP 4E
0-3" Clay loam
3"+ Clay - very firm

DISPOSAL FIELD DESIGN DATA

Performance based design
Septic Tank Effluent
-Maintain at least 3' between bottom of trench and seasonal high groundwater table
-Induced groundwater mounding is at least 6" below grade

Design Daily Flow:
-2 State Employees at 15 gpd = 30 gpd
-3 Town Employees at 15 gpd = 45 gpd
-20 Conference Room at 5 gpd = 100 gpd
-10% Deduction for low flow fixtures = -17 gpd
-Adjusted Design Flow = 158 gpd

Application Rate: (Mound)
Q = Application rate = 1.0 gallons/square foot

Desktop Mounding Analysis:

Location	Ground Slope	Soil Type	Linear Loading Rate Factor (f)	Soil thickness available for mounding	Soil thickness used in calculation (h)	Linear Loading Rate LLR=(f/h)
Primary	4.2 %	Clay Loam	1.9	24"-6"-18"	1.6 feet	2.88 gals/Lt.
Replacement	4.6 %	Clay Loam	1.9	24"-6"-18"	1.6 feet	2.88 gals/Lt.

Absorption Trench Area:

-158 gpd at 1.0 gallons/square foot = 158 square feet required
-158 gpd at 2.88 gallons/Lt. = 55 linear feet required
-Use a 3' x 55' trench = 165 square feet provided

Basal Area:

-158 gpd at 0.24 gallons/square foot = 658 square feet required
-Effective area of 55' x 15' = 825 square feet provided

Pump Requirements:

-Eight (8) 5/16" diameter orifice holes 7' 0" o.c.
-1.99 gpm/orifice x 8 = 16 gpm
-Use 25 gpm min. to maintain 2.5ft/s in force main
-TDH @ 25 gpm
Elevation 15
Friction 27
Residual 3
45

WATER SUPPLY DESIGN DATA

Water Supply Rules, Chapter 21 information is summarized below:

Average Day Demand:
-5 Employees at 15 gpd = 75 gpd
-20 Visitors at 5 gpd = 100 gpd
-10% Deduction for low flow fixtures = -17 gpd
-Adjusted Design Flow = 158 gpd (Use 160 gpd)

Maximum Day Demand = 160 gpd/720 minutes = 0.22 gpm

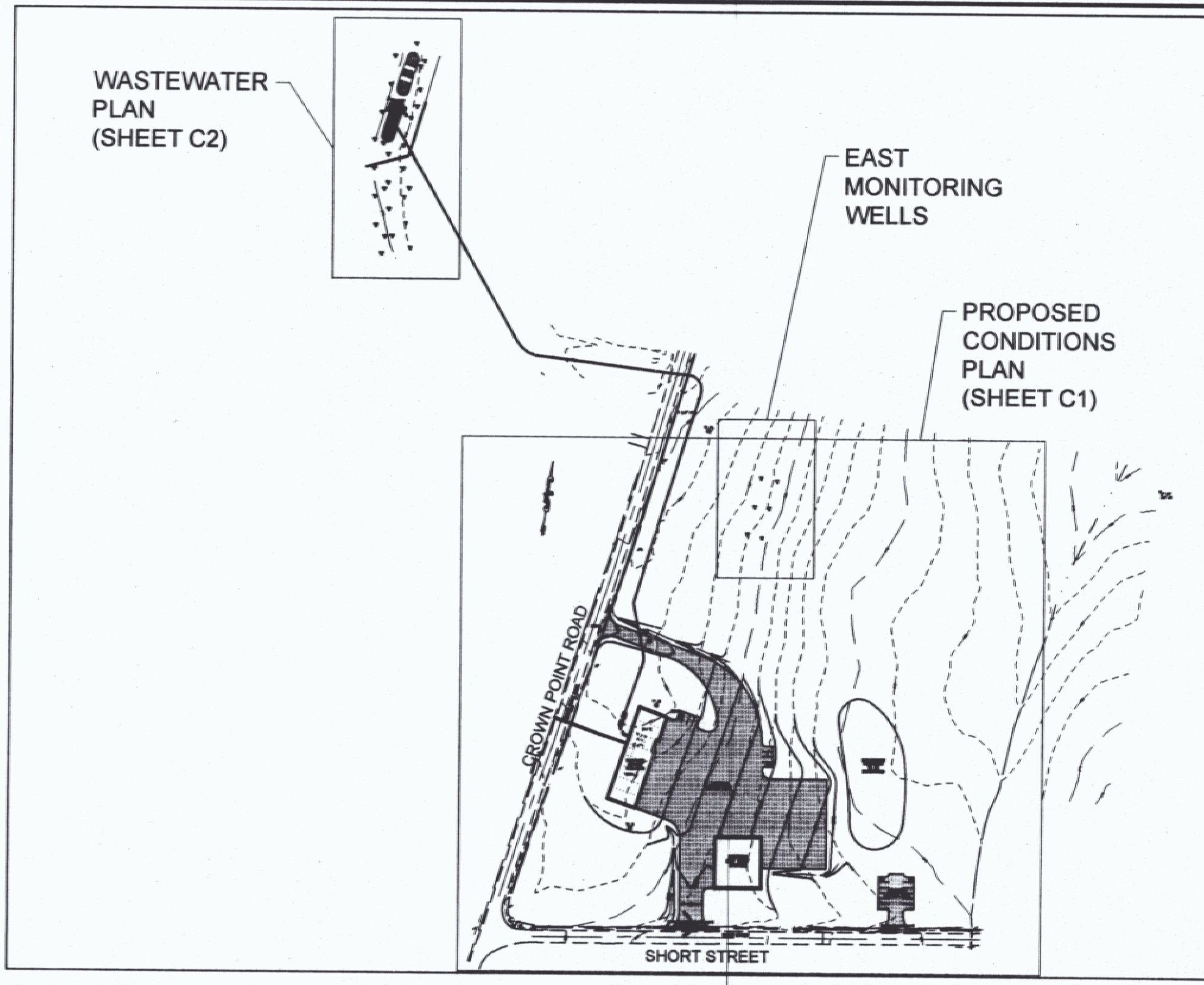
Instantaneous Peak Demand = 21.5 gpm (From AWWA M22)

Water Pressure - Based upon information supplied by the Town, we have calculated the following pressure information:

Service connection @ main = 80 psi
Service pressure @ building = 57 psi
(80psi-17.5psi/100' of 1" copper x 130')

With a service entrance pressure of 57 psi in a one story building, the pressure at the furthest fixture will be greater than 8 psi.

WASTEWATER PLAN (SHEET C2)



PLAN KEY
1" = 200'

MINIMUM ISOLATION DISTANCES

(Contact Engineer for any Clarifications or Conflicts)

	Horizontal Distance (Ft.)	
	Toe of Mound	Septic Tank
Shallow Well or Spring, Up Slope of Disposal Field	150*(Min.)	75
Shallow Well or Spring, Down Slope of Disposal Field	500*(Min.)	--
Drilled Well Serving 1 Home - Up Slope of Disposal Field	100*(Min.)	50
Drilled Well Serving 1 Home - Down Slope of Disposal Field	200*(Min.)	--
Municipal Water Main	50	50
Service Water Lines	25	25
Roadways, Driveways, Buildings	10 (25 Downslope)	5
Stream, Watercourse, Lake or Impoundment	50	25
Drainage Swales, Roadway Ditches	25	--
Top of embankment or slope > 30%	25	10
Trees	10	10
Foundation, Footing Drains	35 (75 Downslope)	10
Replacement Area - Sides	10	--
Replacement Area - Uphill or Downhill	25	--
Property Line - 10' from toe (or 25' from edge of disposal system, whichever is greater.)	10 (25 Downslope)	--

*Isolation distances to well locations may vary due to site conditions - contact Engineer for verification with the Vermont Water Supply Rule Regulations.

NOTES:

1. THIS WASTEWATER SYSTEM IS DESIGNED UPON THE STATE OF VERMONT "ENVIRONMENTAL PROTECTION RULES, WASTEWATER SYSTEM AND POTABLE WATER SUPPLY RULES", AUGUST 16, 2002 RULES, SECTION 1-403(a)(2).

GPS COORDINATES

CENTER OF WASTEWATER SYSTEM	LATITUDE	LONGITUDE

(WGS 84 CRITERIA, ±50' ACCURACY)

I HEREBY CERTIFY THAT THE DESIGN-RELATED INFORMATION SUBMITTED WITH THIS APPLICATION IS TRUE AND CORRECT, AND THAT, IN THE EXERCISE OF MY REASONABLE PROFESSIONAL JUDGMENT, THE DESIGN INCLUDED IN THIS APPLICATION FOR A PERMIT COMPLIES WITH THE VERMONT WASTEWATER SYSTEM AND POTABLE WATER SUPPLY RULES AND THE VERMONT WATER SUPPLY RULES.

DESIGNER SIGNATURE _____

DATE _____

SITE ENGINEER:



CIVIL ENGINEERING ASSOCIATES, INC.
P.O. BOX 485 SHELburne, VT 05482
802-985-2323 FAX: 802-985-2271 web: www.cea-vt.com

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DRAWN
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BCE
APPROVED
BCE

OWNER:



STATE OF VERMONT
VERMONT AGENCY OF TRANSPORTATION
MONTPELIER, VERMONT

PROJECT:

BRIDPORT GARAGE

CROWN POINT ROAD
BRIDPORT, VERMONT

PROGRESS PLANS

DATE	CHECKED	REVISION

WASTEWATER PLAN and NOTES

DATE
MAY, 2004
SCALE
AS SHOWN
PROJ. NO.
04128

DRAWING NUMBER
C2