TOWN OF EAST MONTPELIER, VERMONT

WASTEWATER SEWER CONNECTION STUDY

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WASTEWATER SEWER CONNECTION STUDY

SECTION I – EXECUTIVE SUMMARY

1. The City of Montpelier **is** interested in advancing the discussions of accepting East Montpelier's wastewater.
   a. The conditions of Montpelier's 1982 sewage agreement with the Town of Berlin must be adhered to.
   b. Initial discussions between Montpelier and Berlin were favorable for future discussions between Montpelier and East Montpelier.
   c. Montpelier is interested in providing to East Montpelier the contract operations for the Town's sewerage collection system.
   d. The Montpelier wastewater treatment facility does have a capacity limitation on organic loadings (BOD). The City is evaluating improvement alternatives.

2. The Town of Plainfield met with the East Montpelier Board of Selectmen.
   a. Plainfield said it was not interested at this time to consider taking wastewater from East Montpelier as it does not have adequate reserve capacity.
   b. Plainfield would consider future discussions to the alternative of hooking the North Montpelier sewer service area onto the Plainfield system.

3. Mandatory Connection: More than 95% of Vermont municipal sewer collection systems require "mandatory" connection to collection system for all property within a specified distance of the new sewers. This study assumes a mandatory connection policy.

4. Private House Sewer Services: More than 95% of Vermont municipal sewer collection systems require the property owner to construct and maintain its house sewer service. This study assumes a privately constructed house sewer service. This expense could be from $600 per property to $2,000 per property.

5. The two previous reports both recognized the need for very extensive grants on each project in order to have an affordable project.

6. The best situation to create an affordable user cost is to have a large number of users in a small service area. The highest density of users was created by combining the 2007 original service area and the 2008 "Added Rte 14 South Service Area". Total EUs is 204.

7. Of the three (3) connection alternatives studied, the City of Montpelier connection Alternative No. 2 via Wheeler Road to Gallison Hill was the most cost effective: $1,170,000 less expensive than Alternative No. 1, Route 2 to the nearest City of Montpelier sewer connection. Refer to Table No. 2.

8. Alternative No. 2 construction cost estimate ($6,170,000) is similar in cost to the 2007 on-site system construction cost estimate ($5,830,000).
   a. However, the on-site cost includes all new private house service connections.
   b. The 2008 cost EXCLUDE the private house service connections. The house services will be an additional property owner cost.

9. Project costs consist of three (3) major elements: 1) construction and construction contingency; 2) engineering and 3) support cost such as legal land, permits, archaeological, etc. Refer to Table No. 2 for the Total Project Cost for the three alternatives.

10. Operations and Maintenance (O&M) costs consist of four (4) elements:
    a. East Montpelier Administration, Table No. 15
    b. City of Montpelier Contracts Operation, Table No. 15
    c. City of Montpelier Host Treatment O&M, Table No. 15
    d East Montpelier Debt, Report Section IV, D.1.a.

11. A summary of existing funding sources are listed in Table No. 18. The most common sources:
    a. VT DEC SRF Loan
    b. VT DEC Pollution Abatement Grant
       1) To qualify for any DEC grant, points of pollution must be located.

    OR
    a. RD Loan
    b. RD Grant
       1) To qualify for RD funding an income survey of the service area must be performed and the RD medium household income (MHI) criteria must be met.
       2) The existing Town MHI is too high for RD funding.

12. Three (3) ranges of grant funding were evaluated: Report Section IV, D.1.a.
    a. No grants.
    b. 100% eligibility for the VT DEC 35% pollution abatement grant.
    c. VT 35% grant plus a $2,000,000 EPA STAG grant.

13. Existing Vermont wastewater system EU costs range from $200 per year to $600 per year per EU.
    a. Any EU cost above $600 is considered high.
    b. An EU is a single family home; a single apartment; a mobile home.

14. The estimated first year EU cost for Alternative No. 2, best case is over $1,700 per EU. Refer to Table No. 19.

15. A community typically has four (4) solutions for wastewater management:
    a. Individual on-site treatment and disposal system.
    b. Collecting wastewater from individual properties and combining into a group on-site treatment and disposal system. The group system can be small with only a few properties or large with a 100 or more properties.
    c. Collecting wastewater from all properties in the community's sewer service area and transporting to a host wastewater collection and treatment system.
    d. Collecting wastewater from all properties in the community's sewer service area and transporting to its own wastewater treatment facility with a "direct discharge" to waters of the State.

16. East Montpelier has evaluated solutions 15.a., b. and c. above, but not solution 15.d.

17. CONCLUSION
    a. The connection option to a host community is not financially feasible.
    b. The two most important actions to create a sound basis for wastewater grants are:
        1) Locate "points of pollution" to waters of the State.
        2) Document that the primary basis for this project is driven by "environmental improvement".
            a) Eliminates points of pollution.
            b) Eliminates leachfields that are close to wells.
            c) Eliminates health hazards.

18. RECOMMENDATONS

    Four (4) recommendations are presented in Section V:
    a. Implement Alternative No. 2 of the 2007 On-Site Study.
    b. Document environmental improvements of a community project.
    c. Meet with the Vermont DEC Water Quality Division.
    d. Work with Vermont Community Development for Village Center grants.

SECTION II – PROJECT BACKGROUND

A. PURPOSE

The Town of East Montpelier has for the last 20 years been interested in providing wastewater collection to serve the East Montpelier Village area. Past studies have been conducted. The purpose of the study is to determine the feasibility of the East Montpelier sewer service connecting to a host wastewater treatment facility. In the fall of 2007, the Town began this

study to evaluate sewer connection alternatives to the City of Montpelier and the Town of Plainfield. Both of the communities have existing wastewater collection and treatment facilities. The Montpelier City connection has two possible routes.

B. PAST REPORTS

Two past studies have been conducted. Each of these studies concluded that a collection system was too expensive for the small sewer collection areas. These conclusions were the result of limited federal and state grants in addition to the small service areas and the associated small number of connected users.

1. "Report of Wastewater Study Committee, East Montpelier, VT, 1989-1991". Included East Montpelier and North Montpelier.
    a. "This Committee believes that as we consider the future of East Montpelier, we must recognize that soils, ledge, and high groundwater severely limit the potential for future residential, commercial, and/or industrial growth in most areas of the Town. If we as a Town desire this type of growth and wish to maintain the majority of our open space by not encouraging scattered development, we need to establish designated growth areas with community or centralized collection and treatment facilities."
    b. The 4th of the 6 "next steps" recommended by the Committee is: "Although a sewer connection to the City of Montpelier is our most expensive option for a public system, this Committee believes that this option would be best for the long range (50 year) future of the Town. To this end, we recommend that the Town initiate discussions with the City of Montpelier that could lead to a future intermunicipal agreement to share capacity in the City collection and treatment facilities."
        1) This recommendation in 1991 was based on the assumption that a gravity sewer would be constructed the entire distance from the East Montpelier service area to the City connection point. With the 2008 rules on "Smart Growth" a linear gravity sewer would likely not be allowed by State policy. Instead, a pressuring sewer "forcemain" is proposed for the connections to the host systems. No sewer connections would be allowed to connect to the forcemain.
    c. The 5th of the 6 "next steps" recommended was to discuss with Plainfield a connection from East Montpelier Village to Plainfield prior to Plainfield's upgrade of its wastewater facility. The Plainfield wastewater facility was upgraded in the late 1990s without capacity for East Montpelier.

2. "Town of East Montpelier, Needs Assessment and Feasibility Study, May 2007". This study evaluated the feasibility of on-site wastewater treatment and disposal options for the East Montpelier Village area and the North Montpelier area of the Town of East Montpelier.
    a. The study's recommendation was for the Town to proceed with an on-site

management plan for the East Montpelier Village area. Failed and marginal systems would be upgraded; a public outreach program would be created; a recordkeeping program to track systems would be created and managed. All the other seven (7) options in this 2007 study were too expensive.

SECTION III – ALTERNATIVE ROUTES DESCRIPTIONS

A. EAST MONTPELIER SEWER SERVICE AREA

The 2007 Needs Assessment and Feasibility Study identified the original East Montpelier sewer service area. Two (2) additional sewer service areas were identified in this 2008 study. The three (3) sewer service areas are shown on Figure No. 2 in Appendix A.

1. Original Sewer Service Area.
2. Added Rte 14 Sewer Service Area. Includes Sandy Pines Mobile Home Park.
3. Westside Sewer Service Area. Includes Packard Industrial Park and some Route 2 properties.

B. CITY OF MONTPELIER SEWER CONNECTION ALTERNATIVES

The two (2) alternative routes for connection to the City of Montpelier are shown on Figure No. 3 in Appendix A.

1. Alternative No. 1: Route 2 West to the nearest Montpelier City sewer manhole at the Rte 2/Gallison Hill intersection.
2. Alternative No. 2: Wheeler Road cross country to Gallison Hill to a sewer manhole at Union 32 High School.
   a. Table No. 1 and Table No. 2 provide cost comparisons of Alternative No. 1 and Alternative No. 2. Table No. 1 cost comparisons include the East Montpelier sewer collection areas each individually priced.

      Alternative No. 2, Wheeler Road, has a Total Project Cost (Table No. 2) $1,117,000 less than Alternative No. 1, ($9,250,000 – 8,080,000 = $1,117,000).

SECTION IV – ALTERNATIVE ROUTE ANALYSIS

Table No. 1 provides a comprehensive summary of each alternative for three (3) items of comparison: 1. detailed construction cost; 2. estimated length of gravity sewers and forcemains; and 3. number of pump stations. For example: the detailed construction cost estimate for Table Nos. 6, 12 and 14 each include a “master flow meter chamber and enclosure”. This master meter measures all wastewater going to the host systems. The host

community will use the metered flow for the basis for billing East Montpelier for wastewater collection, treatment, and disposal in the host community.

A. CONSTRUCTION COST ESTIMATES

Table No. 1 and No. 2 present the construction cost estimates and the total project cost estimates for each of the three (3) alternatives. Table No. 1 also shows for comparison the 2007 construction cost estimates for the East Montpelier large on-site system. Be sure to read in Table No. 1, footnotes 4, 5, and 6. The 2007 on-site construction cost estimate includes the hook-up of all properties to the collection system, but the 2008 study excludes the hook-up cost of properties.

The construction cost summary values, Table No. 1, are broken out in detail in twelve tables, Table Nos. 3 – 14. Each of the three (3) alternatives have four (4) cost locations. Each location's detailed construction cost estimate is provided in the table as shown in each alternative's location box. For example: Table No. 1, Alternative No. 2, West Side Service Area estimated construction cost is $650,000. Refer to Table No. 9 for the breakout of the $650,000.

1. Analysis:
    a. Alternative No. 2 is the least construction cost of the three (3) host alternatives AND is equal in construction cost to the 2007 on-site system. (Note: footnotes 4 and 5.)
    b. The West Side service area adds significant length of sewers (11,950 feet) for very few connected equivalent units, 15 EUs per Table No. 16.
    c. The "Added Route 14 South" service area adds a significant number of EUs, 65 EUs per Table 16, for a small amount of new sewers, 2,270 feet per Table No. 1.
        1) Therefore, include the "Added Route 14 South" Service Area with the original service area.

B. TOTAL PROJECT COST ESTIMATES

Construction costs typically comprise approximately 70% to 75% of a project's estimated total project costs. Table No. 2 presents each alternative's four (4) project cost items:

1. Construction Cost Estimate
2. Construction Contingency (10% of the construction cost estimate)
3. Engineering Allowances (23% of the construction cost estimate)
4. Administrative, legal, easements, permits, interest, archaeological and miscellaneous cost. This is the engineer's estimate based on other similar projects.

Alternative No. 2, connection to the City of Montpelier via Wheeler Road to Gallison Hill at Union 32, has the lowest estimated total project cost, $8,080,000.

1. Construction costs and project cost are based on a May 2010 projection.

C. PROJECT SELECTION FOR USER COST ANSLYSIS

1. Selected Project: Alternative No. 2 and Village/Rte 14 Service Area.
   In order to estimate a user cost a reasonable project area and associated project cost need to be selected. The selected project is:
   a. Alternative No. 2 – Connection to Montpelier by Wheeler Road.
   b. Service Areas: Original Village and Added Route 14 South service area.
      This alternative and combined service areas has the least project cost and most EUs (Table No. 16) of the three (3) alternatives and four (4) project location areas.
   c. Construction Cost: $2,300,000 + $220,000 + $2,600,000 = $5,120,000.
   d. Project Cost:
      $5,120,000 Construction Cost
      512,000 (10%, See Table No. 2)
      1,178,000 (23%, See Table No. 2)
      400,000 (See Table No. 2)
      $7,210,000 Total Project Cost – Selected Project
   e. Equivalent Units (EUs): Table No. 16, Initial Year:
      139 Original Village sewer area
      65 Added Route 14 South sewer area
      204 EUs
      Rule of Thumb Check: $7,210,000 ÷ 204 EUs = $35,350 per EU. This is an expected range.

D. "SELECTED PROJECT" EQUIVALENT UNIT COST ANALYSIS

Three grant options will be evaluated for estimating the first year sewer system equivalent unit cost.

- No grants
- 100% Vermont Pollution Abatement Grant. Refer to Table No. 18, No. 2.
- 100% Vermont Pollution Abatement Grant PLUS a $2,000,000 EPA STAG Grant. Refer to Table No. 18, No. 5.

1. Estimates of equivalent unit costs:
   a. Annual Debt Cost Per Equivalent Units.
      1) No grants received on the selected project:
         - Use the $7,210,000 project cost in C.1. above.
         - Assume a RD Loan of 2.75% for 30 years. $49.39 per $1,000 borrowed.
           a) This assumes the Farm Bill passes Congress and the income survey produces a poverty level MHI, $32,693 and below.
         - Debt Retirement Annual Payment:
           7,210 units x $49.39 = $356,102 payment per year
         - Annual EU cost = $356,102 ÷ 204 EUs = $1,746 per EU

2) 100% Eligible VT Pollution Abatement Grant:
   - $7,210,000 x 35% grant = $2,492,000 State Grant
     a. Assumes 100% of the project is grant eligible for a 35% VT Pollution Abatement Grant. A 100% eligible project is unlikely.
   - Debt Retirement Annual Payment:
     $7,210,000 – 2,492,000 (VT grant) = $4,718,000 Bond Amount
     4,718 units x $49.39 = $233,100 payment per year
   - Annual EU cost = $233,100 ÷ 204 EUs = $1,143 per EU

3) 100% Eligible VT Pollution Abatement Grant PLUS $2,000,000 EPA STAG Grant:
   - $4,718,000 (from 2 above) - $2,000,000 (STAG Grant) = $2,718,000 Bond Amount
   - Debt Retirement Amount Payment:
     $2,718 units x $49.39 = $134,300 payment per year
   - Annual EU cost = $134,300 ÷ 204 EUs = $660 per EU

b. First Year Town Administration Cost Per Equivalent Unit:
   1) Town Administration Expense:
      - Refer to Table No. 15, $35,900, Alternative No. 2.
      - $35,900 ÷ 204 EUs = $176 per EU

c. First Year Contract Operations Cost Per Equivalent Unit:
   - Refer to Table 15, $60,000 for contract operations.
   - $60,000 ÷ 204 EUs = $294 per EU

d. First Year Operations and Maintenance Cost for Treatment at Montpelier Per Equivalent Unit:
   - Refer to Table No. 15, $600 per EU

2. Analysis of equivalent unit costs:
   The summary of the EU costs are presented in Table No. 19. As noted earlier, the City of Montpelier, Alternative No. 2 is the basis for estimating EU cost. Some observations of Table No. 19:
   a. Measures of the upper threshold for Vermont Small Systems EU costs:
      1) VT DEC: Uses 1 ¼% of Medium Household Income (MHI) to estimate a high-range EU cost.
         a) $46,469 (MHI-East Montpelier) x 0.0125 (1 ¼%)
            High-range user cost = $580 per EU
      2) RD Grant Threshold: East Montpelier presently does not qualify for an RD Grant.
         a) RD Grand threshold: EU cost of $400
   b. Even with assuming a 100% eligible VT grant project and a $2,000,000 STAG Grant, just the debt retirement cost is $660 per year.
   c. The Host O&M Treatment Cost is estimated at $600 per EU for 2010. Therefore, even with a best case estimate of VT and EPA grants the EU cost is $1,260 and that does not include East Montpelier administration cost, contract operations

and the initial hook up fee.

d. Even with a 100% grant the first year EU cost is still $1,100!

SECTION V - RECOMMENDATIONS

At this time some communities have given up hope of identifying an affordable project. East Montpelier, however, still can move forward if the motivation to find a workable solution is still strong. Following the recommendations below will complete the fourth leg of solutions.

a. Implement Wastewater Management Alternative No. 2 from the 2007 On-Site Study, "Manage Existing Systems with Individual Solutions for Failed and Marginal Sites". Refer to Table No. 3, Appendix F.

b. Search for and document:
   1. "Points of Pollution"
   2. Health hazards
   3. Health orders issued for existing wastewater disposal problems.
   4. Documentation of past "Best Fix" systems that still do not meet State rules.
   5. Individual water systems with high bacti results where leachfields are close to the well.

c. Meet with VT DEC Water Quality Division representatives to begin a dialogue that is focused on a "direct discharge" wastewater system. This dialogue could not have proceeded until the 2007 and 2008 studies had been completed. A "direct discharge" solution is considered the "last" solution.
   1. Conduct feasibility study of innovative/alternative treatment and "direct discharge" systems.

d. Involve the Town Planning Commission in an effort to identify possible Vermont Community Development grants linked to a Village Center project that is driven by the need for a wastewater infrastructure.

SECTION VI – LIST OF TABLES

Nineteen (19) Tables are presented in the following pages. Refer to the Table of Contents for a listing and description of all tables.

TABLE NO. 1
Town of East Montpelier
Sewer Connection Study
Host Connection Alternatives
Estimated Construction Cost Summary

May 2008

Sewer/Forcemain Locations	Alternative No. 1 Connection to City of Montpelier Via Route 2 (2.) (3.)	Alternative No. 2 Connection to City of Montpelier Via Wheeler Road (2.) (3.)	Alternative No. 3 Connection to Town of Plainfield (2.) (3.)	2007 Large On-Site Systems Study (4.) (5.)
	Table No. 3	Table No. 7	Table No. 11	
Original Village Sewer Service Area	$2,300,000	$2,300,000	$2,400,000	$5,830,000
Length of Sewers and Forcemains	15,580	15,580	18,770	11,600
Pump Stations	2	2	2	0
	Table No. 4	Table No. 8	Table No. 12	N/A (6.)
Added Route 14 South Service Area	$220,000	$220,000	$220,000	
Length of Sewers and Forcemains	2,270	2,270	2,270	
Pump Stations	0	0	0	
	Table No. 5	Table No. 9	Table No. 13	N/A (6.)
West Side Service Area	$780,000	$650,000	$650,000	
Length of Sewers and Forcemains	11,950	7,800	7,800	
Pump Stations	0	0	0	
Connection to Host System	Table No. 6	Table No. 10	Table No. 14	N/A (6.)
Pump Stations and Forcemains	$3,350,000	$2,600,000	$2,900,000	
Length of Sewers and Forcemains	21,100	13,800	19,100	
Pump Stations	2	2	2	
Total	**$6,650,000**	**$5,770,000**	**$6,170,000**	N/A (6.)

Notes:

1. ENR 8800 = May 2010
2. Includes services within R.O.W. only. Excludes all work on private property.
3. Excludes individual septic tank and disposal system deactivations.
4. Includes work on private property including individual house services, individual STEP tanks, deactivation of existing individual septic tanks and low pressure sewer (LPS) effluent collection system to two municipal on-site land disposal systems.
5. The 2007 estimated construction cost includes: The E. Montpelier Village collection system including hook-up of all properties; transportation of effluent to the RT 14 land disposal site and the Route 2 land disposal site from the 2007 Feasibility Study.
6. The 2007 on-site study only evaluated the East Montpelier "Original" Village Sewer Service Areas.

TABLE NO. 2
Town of East Montpelier
Sewer Connection Study
Host Connection Alternatives
Estimated Total Project Cost

May 2008

ITEM	Alternative No. 1 Connection to City of Montpelier Via Route 2	Alternative No. 2 Connection to City of Montpelier Via Wheeler Road	Alternative No. 3 Connection to Town of Plainfield
Construction Cost Estimate	$6,650,000	$5,770,000	$6,170,000
Construction Contingency, 10%	$665,000	$577,000	$617,000
Engineering Allowances, 23% (1.)	$1,529,500	$1,327,100	$1,419,100
Administration, Legal, Easements, Permits, Short Term Interest, Archaeological and Misc.	$400,000	$400,000	$400,000
Estimated Total Project Cost	$9,244,500	$8,074,100	$8,606,100
USE	**$9,250,000**	**$8,080,000**	**$8,610,000**

Notes:

1.State/RD Engineering Fee Allowance
2. ENR 8800 = May 2010

TABLE NO. 3
Town of East Montpelier
Sewer Connection Study
East Montpelier Village Sewer Service Area
Construction Cost Estimate
Alternative No. 1- Sewer Connection to City of Montpelier Via U.S. Route 2
Original Sewer Service Area

May 2008

Description of Item	Estimated Quantity	Unit	Unit Price	Cost ENR 8089 [1.]	Cost ENR 8800 [2.]
8" Gravity Sewers	5,425	L.F.	$55	$298,375	$324,601
6" Gravity Sewers	4,700	L.F.	$50	$235,000	$255,656
8" Gravity Sewer & 6" FM in Dual Trench	850	L.F.	$80	$68,000	$73,977
6" Gravity Sewer & 4" PVC FM Dual Trench	1,550	L.F.	$68	$105,400	$114,664
4" PVC FM Single Trench	400	L.F.	$48	$19,200	$20,888
4' Dia. Sewer Manhole	496	V.F	$350	$173,600	$188,859
6" x 4" Wye	28	EA.	$80	$2,240	$2,437
8" x 4" Wye	73	EA.	$90	$6,570	$7,147
4" PVC Building Services [3.]	1,400	L.F.	$45	$63,000	$68,538
8" Gravity Bridge Crossing Winooski River	200	L.F.	$500	$100,000	$108,790
Jack & Bore Sewer Crossings					
No. 1- 6" Gravity Sewer in 18" Sleeve Route 14 N	45	L.F.	$500	$22,500	$24,478
No. 2.- 4" Forcemain in 16" Sleeve Route 14N	45	L.F.	$450	$20,250	$22,030
No. 3.- 4" Forcemain in 16" Sleeve Route 14N	45	L.F.	$450	$20,250	$22,030
No. 4- 6" Gravity Sewer in 18" Sleeve Route 2E	45	L.F.	$500	$22,500	$24,478
No. 5- 4" Forcemain in 16" Sleeve Route 2E	45	L.F.	$450	$20,250	$22,030
No. 6- 8" Gravity Sewer in 20" Sleeve Route 2	45	L.F.	$550	$24,750	$26,925
No. 7- 8" Gravity Sewer in 20" Sleeve Route 2	45	L.F.	$550	$24,750	$26,925
No. 8- 6" Gravity Sewer in 18" Sleeve Route 14S	45	L.F.	$500	$22,500	$24,478
No. 9- 6" Gravity Sewer in 18" Sleeve Route 14S	45	L.F.	$500	$22,500	$24,478
Steam Crossing No. 1	50	L.F.	$500	$25,000	$27,197
Rock Excavation	300	C.Y.	$130	$39,000	$42,428
Boulder Excavation	50	C.Y.	$65	$3,250	$3,536
Misc. Extra & Below Grade Exc.	100	C.Y.	$38	$3,800	$4,134
Exc. & Replac. Unsuitable	100	C.Y.	$38	$3,800	$4,134
Permanent Bit. Pavement Repair	1,000	S.Y.	$45	$45,000	$48,955
Perm. Gravel Road & Drive Repair	700	S.Y.	$18	$12,600	$13,708
Perm. Gravel Shoulder Repair	1,000	L.F.	$10	$10,000	$10,879
Class B. Concrete	5	C.Y.	$200	$1,000	$1,088
Calcium Chloride	5	TON	$600	$3,000	$3,264
Rigid Trench Insulation	2,000	L.F.	$6	$12,000	$13,055
Uniform Traffic Officers	600	HRS	$55	$33,000	$35,901
Silt Fence	5,000	L.F.	$4	$20,000	$21,758
Degradable Erosion Control Blankets	3,000	S.Y.	$3	$9,000	$9,791
Temporary Stone Check Dams	20	EA.	$120	$2,400	$2,611
Pump Station Route 2 East	1	L.S.	$150,000	$150,000	$163,185
Pump Station Route 14 North	1	L.S.	$150,000	$150,000	$163,185
Electrical Power Line Extensions	1	L.S.	$20,000	$20,000	$21,758
Electrical Work	1	L.S.	$20,000	$20,000	$21,758
Telemetry Systems	1	L.S.	$20,000	$20,000	$21,758
Preparation of Site and Miscellaneous Work (8%)	1	L.S.	$148,359	$148,359	$161,399
Bonds (1.5%)	1	L.S.	$30,043	$30,043	$32,683
			TOTALS	$2,032,886	$2,211,571
			USE	**$2,100,000**	**$2,300,000**

Notes:
1. ENR 8089= December 2007
2. ENR 8800 = May 2010
3. Includes services to R.O.W. only. Excludes house services on private property.
4. Excludes septic tank and disposal system deactivations.

TABLE NO. 4
Town of East Montpelier
Sewer Connection Study
East Montpelier Village Sewer Service Area
Construction Cost Estimate
Alternative No. 1- Sewer Connection to City of Montpelier Via U.S. Route 2
Added Route 14 South Sewer Service Area

May 2008

Description of Item	Estimated Quantity	Unit	Unit Price	Cost ENR 8089 [1.]	Cost ENR 8800 [2.]
8" Gravity Sewers	1,825	L.F.	$55	$100,375	$109,198
6" Gravity Sewers	400	L.F.	$50	$20,000	$21,758
4' Dia. Sewer Manhole	54	V.F	$350	$18,900	$20,561
6" x 4" Wye	2	EA.	$80	$160	$174
8" x 4" Wye	7	EA.	$90	$630	$685
4" PVC Building Services [3.]	90	L.F.	$45	$4,050	$4,406
Jack & Bore Sewer Crossings					
No. 1- 6" Gravity Sewer in 18" Sleeve Route 14S	45	L.F.	$500	$22,500	$24,478
Rock Excavation	10	C.Y.	$130	$1,300	$1,414
Boulder Excavation	10	C.Y.	$65	$650	$707
Misc. Extra & Below Grade Exc.	10	C.Y.	$38	$380	$413
Exc. & Replac. Unsuitable	10	C.Y.	$38	$380	$413
Permanent Bit. Pavement Repair	80	S.Y.	$45	$3,600	$3,916
Perm. Gravel Road & Drive Repair	50	S.Y.	$18	$900	$979
Perm. Gravel Shoulder Repair	100	L.F.	$10	$1,000	$1,088
Class B. Concrete	1	C.Y.	$200	$200	$218
Calcium Chloride	1	TON	$600	$600	$653
Rigid Trench Insulation	50	L.F.	$6	$300	$326
Uniform Traffic Officers	100	HRS	$55	$5,500	$5,983
Silt Fence	200	L.F.	$4	$800	$870
Degradable Erosion Control Blankets	200	S.Y.	$3	$600	$653
Temporary Stone Check Dams	3	EA.	$120	$360	$392
Preparation of Site and Miscellaneous Work (8%)	1	L.S.	$14,655	$14,655	$15,943
Bonds (1.5%)	1	L.S.	$2,968	$2,968	$3,228
			TOTALS	$200,807	$218,458
			USE	**$201,000**	**$220,000**

Notes:

1. ENR 8089= December 2007
2. ENR 8800 = May 2010
3. Includes services to R.O.W. only. Excludes house services on private property.
4. Excludes septic tank and disposal system deactivations.

TABLE NO. 5
Town of East Montpelier
Sewer Connection Study
East Montpelier Village Sewer Service Area
Construction Cost Estimate
Alternative No. 1- Sewer Connection to City of Montpelier Via U.S. Route 2
Westside Sewer Service Area

May 2008

Description of Item	Estimated Quantity	Unit	Unit Price	Cost ENR 8089 [1.]	Cost ENR 8800 [2.]
8" Gravity Sewers	3,650	L.F.	$55	$200,750	$218,395
8" Gravity Sewer & 6" FM in Dual Trench	4,150	L.F.	$80	$332,000	$361,182
4' Dia. Sewer Manhole	132	V.F	$350	$46,200	$50,261
8" x 4" Wye	18	EA.	$90	$1,620	$1,762
4" PVC Building Services [3.]	360	L.F.	$45	$16,200	$17,624
Rock Excavation	50	C.Y.	$130	$6,500	$7,071
Boulder Excavation	20	C.Y.	$65	$1,300	$1,414
Misc. Extra & Below Grade Exc.	20	C.Y.	$38	$760	$827
Exc. & Replac. Unsuitable	20	C.Y.	$38	$760	$827
Permanent Bit. Pavement Repair	300	S.Y.	$45	$13,500	$14,687
Perm. Gravel Road & Drive Repair	60	S.Y.	$18	$1,080	$1,175
Class B. Concrete	1	C.Y.	$200	$200	$218
Calcium Chloride	1	TON	$600	$600	$653
Rigid Trench Insulation	200	L.F.	$6	$1,200	$1,305
Uniform Traffic Officers	200	HRS	$55	$11,000	$11,967
Silt Fence	2,000	L.F.	$4	$8,000	$8,703
Degradable Erosion Control Blankets	1,500	S.Y.	$3	$4,500	$4,896
Temporary Stone Check Dams	10	EA.	$120	$1,200	$1,305
Preparation of Site and Miscellaneous Work (8%)	1	L.S.	$51,790	$51,790	$56,342
Bonds (1.5%)	1	L.S.	$10,487	$10,487	$11,409
			TOTALS	$709,647	$772,023
			USE	**$710,000**	**$780,000**

Notes:

1. ENR 8089= December 2007
2. ENR 8800 = May 2010
3. Includes services to R.O.W. only. Excludes house services on private property.
4. Excludes septic tank and disposal system deactivations.

TABLE NO. 6
Town of East Montpelier
Sewer Connection Study
East Montpelier Village Sewer Service Area
Construction Cost Estimate
Alternative No. 1- Sewer Connection to City of Montpelier Via U.S. Route 2
Pump Stations and Forcemains

May 2008

Description of Item	Estimated Quantity	Unit	Unit Price	Cost ENR 8089 [1.]	Cost ENR 8800 [2.]
6" HDPE FM Directional Bore Installation [3.]	16,400	L.F.	$80	$1,312,000	$1,427,321
6" HDPE FM Open Cut - Ledge Areas Only [4.]	4,700	L.F.	$100	$470,000	$511,312
5' Diameter FM Air Release/Clean-out Manholes	21	EA.	$8,200	$173,020	$188,228
Rock Excavation [5.]	100	C.Y.	$130	$13,000	$14,143
Boulder Excavation	100	C.Y.	$65	$6,500	$7,071
Misc. Extra & Below Grade Exc.	100	C.Y.	$38	$3,800	$4,134
Exc. & Replac. Unsuitable	300	C.Y.	$38	$11,400	$12,402
Permanent Bit. Pavement Repair	2,000	S.Y.	$45	$90,000	$97,911
Perm. Gravel Road & Drive Repair	200	S.Y.	$18	$3,600	$3,916
Perm. Gravel Shoulder Repair	5,000	L.F.	$10	$50,000	$54,395
Class B. Concrete	4	C.Y.	$200	$800	$870
Calcium Chloride	4	TON	$600	$2,400	$2,611
Rigid Trench Insulation	2,000	L.F.	$6	$12,000	$13,055
Uniform Traffic Officers (Excludes areas of ledge)	600	HRS	$55	$33,000	$35,901
Silt Fence	7,000	L.F.	$4	$28,000	$30,461
Degradable Erosion Control Blankets	3,000	S.Y.	$3	$9,000	$9,791
Temporary Stone Check Dams	20	EA.	$120	$2,400	$2,611
Pump Station Route 2 West	1	L.S.	$250,000	$250,000	$271,974
West Side Pump Station	1	L.S.	$250,000	$250,000	$271,974
Electrical Power Line Extensions	1	L.S.	$20,000	$20,000	$21,758
Electrical Work	1	L.S.	$20,000	$20,000	$21,758
Telemetry Systems	1	L.S.	$20,000	$20,000	$21,758
Preparation of Site and Miscellaneous Work (8%)	1	L.S.	$222,474	$222,474	$242,028
Bonds (1.5%)	1	L.S.	$45,051	$45,051	$49,011
			TOTALS	$3,048,445	$3,316,394
			USE	**$3,100,000**	**$3,350,000**

Notes:

1. ENR 8089= December 2007
2. ENR 8800 = May 2010
3. Includes all bridge and stream crossings.
4. Includes ledge removal and Uniform Traffic Officers.
5. Excludes pipe open cut areas with ledge removal. Ledge removal in those areas is included in pipe costs.

TABLE NO. 7
Town of East Montpelier
Sewer Connection Study
East Montpelier Village Sewer Service Area
Construction Cost Estimate
Alternative No. 2- Sewer Connection to City of Montpelier Via Wheeler Road
Original Sewer Service Area

May 2008

Description of Item	Estimated Quantity	Unit	Unit Price	Cost ENR 8089 [1.]	Cost ENR 8800 [2.]
8" Gravity Sewers	5,425	L.F.	$55	$298,375	$324,601
6" Gravity Sewers	4,700	L.F.	$50	$235,000	$255,656
8" Gravity Sewer & 6" FM in Dual Trench	850	L.F.	$80	$68,000	$73,977
6" Gravity Sewer & 4" PVC FM Dual Trench	1,550	L.F.	$68	$105,400	$114,664
4" PVC FM Single Trench	400	L.F.	$48	$19,200	$20,888
4' Dia. Sewer Manhole	496	V.F	$350	$173,600	$188,859
6" x 4" Wye	28	EA.	$80	$2,240	$2,437
8" x 4" Wye	73	EA.	$90	$6,570	$7,147
4" PVC Building Services [3.]	1,400	L.F.	$45	$63,000	$68,538
8" Gravity Bridge Crossing Winooski River	200	L.F.	$500	$100,000	$108,790
Jack & Bore Sewer Crossings					
No. 1- 6" Gravity Sewer in 18" Sleeve Route 14 N	45	L.F.	$500	$22,500	$24,478
No. 2.- 4" Forcemain in 16" Sleeve Route 14N	45	L.F.	$450	$20,250	$22,030
No. 3.- 4" Forcemain in 16" Sleeve Route 14N	45	L.F.	$450	$20,250	$22,030
No. 4- 6" Gravity Sewer in 18" Sleeve Route 2E	45	L.F.	$500	$22,500	$24,478
No. 5- 4" Forcemain in 16" Sleeve Route 2E	45	L.F.	$450	$20,250	$22,030
No. 6- 8" Gravity Sewer in 20" Sleeve Route 2	45	L.F.	$550	$24,750	$26,925
No. 7- 8" Gravity Sewer in 20" Sleeve Route 2	45	L.F.	$550	$24,750	$26,925
No. 8- 6" Gravity Sewer in 18" Sleeve Route 14S	45	L.F.	$500	$22,500	$24,478
No. 9- 6" Gravity Sewer in 18" Sleeve Route 14S	45	L.F.	$500	$22,500	$24,478
Steam Crossing No. 1	50	L.F.	$500	$25,000	$27,197
Rock Excavation	300	C.Y.	$130	$39,000	$42,428
Boulder Excavation	50	C.Y.	$65	$3,250	$3,536
Misc. Extra & Below Grade Exc.	100	C.Y.	$38	$3,800	$4,134
Exc. & Replac. Unsuitable	100	C.Y.	$38	$3,800	$4,134
Permanent Bit. Pavement Repair	1,000	S.Y.	$45	$45,000	$48,955
Perm. Gravel Road & Drive Repair	700	S.Y.	$18	$12,600	$13,708
Perm. Gravel Shoulder Repair	1,000	L.F.	$10	$10,000	$10,879
Class B. Concrete	5	C.Y.	$200	$1,000	$1,088
Calcium Chloride	5	TON	$600	$3,000	$3,264
Rigid Trench Insulation	2,000	L.F.	$6	$12,000	$13,055
Uniform Traffic Officers	600	HRS	$55	$33,000	$35,901
Silt Fence	5,000	L.F.	$4	$20,000	$21,758
Degradable Erosion Control Blankets	3,000	S.Y.	$3	$9,000	$9,791
Temporary Stone Check Dams	20	EA.	$120	$2,400	$2,611
Pump Station Route 2 East	1	L.S.	$150,000	$150,000	$163,185
Pump Station Route 14 North	1	L.S.	$150,000	$150,000	$163,185
Electrical Power Line Extensions	1	L.S.	$20,000	$20,000	$21,758
Electrical Work	1	L.S.	$20,000	$20,000	$21,758
Telemetry Systems	1	L.S.	$20,000	$20,000	$21,758
Preparation of Site and Miscellaneous Work (8%)	1	L.S.	$148,359	$148,359	$161,399
Bonds (1.5%)	1	L.S.	$30,043	$30,043	$32,683
			TOTALS	$2,032,886	$2,211,571
			USE	**$2,100,000**	**$2,300,000**

Notes:
1. ENR 8089= December 2007
2. ENR 8800 = May 2010
3. Includes services to R.O.W. only. Excludes house services on private property.
4. Excludes septic tank and disposal system deactivations.

TABLE NO. 8
Town of East Montpelier
Sewer Connection Study
East Montpelier Village Sewer Service Area
Construction Cost Estimate
Alternative No. 2- Sewer Connection to City of Montpelier Via Wheeler Road
Added Route 14 South Sewer Service Area

May 2008

Description of Item	Estimated Quantity	Unit	Unit Price	Cost ENR 8089 [1.]	Cost ENR 8800 [2.]
8" Gravity Sewers	1,825	L.F.	$55	$100,375	$109,198
6" Gravity Sewers	400	L.F.	$50	$20,000	$21,758
4' Dia. Sewer Manhole	54	V.F	$350	$18,900	$20,561
6" x 4" Wye	2	EA.	$80	$160	$174
8" x 4" Wye	7	EA.	$90	$630	$685
4" PVC Building Services [3.]	90	L.F.	$45	$4,050	$4,406
Jack & Bore Sewer Crossings					
No. 1- 6" Gravity Sewer in 18" Sleeve Route 14S	45	L.F.	$500	$22,500	$24,478
Rock Excavation	10	C.Y.	$130	$1,300	$1,414
Boulder Excavation	10	C.Y.	$65	$650	$707
Misc. Extra & Below Grade Exc.	10	C.Y.	$38	$380	$413
Exc. & Replac. Unsuitable	10	C.Y.	$38	$380	$413
Permanent Bit. Pavement Repair	80	S.Y.	$45	$3,600	$3,916
Perm. Gravel Road & Drive Repair	50	S.Y.	$18	$900	$979
Perm. Gravel Shoulder Repair	100	L.F.	$10	$1,000	$1,088
Class B. Concrete	1	C.Y.	$200	$200	$218
Calcium Chloride	1	TON	$600	$600	$653
Rigid Trench Insulation	50	L.F.	$6	$300	$326
Uniform Traffic Officers	100	HRS	$55	$5,500	$5,983
Silt Fence	200	L.F.	$4	$800	$870
Degradable Erosion Control Blankets	200	S.Y.	$3	$600	$653
Temporary Stone Check Dams	3	EA.	$120	$360	$392
Preparation of Site and Miscellaneous Work (8%)	1	L.S.	$14,655	$14,655	$15,943
Bonds (1.5%)	1	L.S.	$2,968	$2,968	$3,228
			TOTALS	$200,807	$218,458
			USE	**$201,000**	**$220,000**

Notes:

1. ENR 8089= December 2007
2. ENR 8800 = May 2010
3. Includes services to R.O.W. only. Excludes house services on private property.
4. Excludes septic tank and disposal system deactivations.

TABLE NO. 9
Town of East Montpelier
Sewer Connection Study
East Montpelier Village Sewer Service Area
Construction Cost Estimate
Alternative No. 2- Sewer Connection to City of Montpelier Via Wheeler Road
Westside Sewer Service Area

May 2008

Description of Item	Estimated Quantity	Unit	Unit Price	Cost ENR 8089 [1.]	Cost ENR 8800 [2.]
8" Gravity Sewers	7,800	L.F.	$55	$429,000	$466,708
4' Dia. Sewer Manhole	132	V.F	$350	$46,200	$50,261
8" x 4" Wye	18	EA.	$90	$1,620	$1,762
4" PVC Building Services [3.]	360	L.F.	$45	$16,200	$17,624
Rock Excavation	50	C.Y.	$130	$6,500	$7,071
Boulder Excavation	20	C.Y.	$65	$1,300	$1,414
Misc. Extra & Below Grade Exc.	20	C.Y.	$38	$760	$827
Exc. & Replac. Unsuitable	20	C.Y.	$38	$760	$827
Permanent Bit. Pavement Repair	300	S.Y.	$45	$13,500	$14,687
Perm. Gravel Road & Drive Repair	60	S.Y.	$18	$1,080	$1,175
Class B. Concrete	1	C.Y.	$200	$200	$218
Calcium Chloride	1	TON	$600	$600	$653
Rigid Trench Insulation	200	L.F.	$6	$1,200	$1,305
Uniform Traffic Officers	200	HRS	$55	$11,000	$11,967
Silt Fence	2,000	L.F.	$4	$8,000	$8,703
Degradable Erosion Control Blankets	1,500	S.Y.	$3	$4,500	$4,896
Temporary Stone Check Dams	10	EA.	$120	$1,200	$1,305
Preparation of Site and Miscellaneous Work (8%)	1	L.S.	$43,490	$43,490	$47,312
Bonds (1.5%)	1	L.S.	$8,807	$8,807	$9,581
			TOTALS	$595,916	$648,296
			USE	**$600,000**	**$650,000**

Notes:
1. ENR 8089= December 2007
2. ENR 8800 = May 2010
3. Includes services to R.O.W. only. Excludes house services on private property.
4. Excludes septic tank and disposal system deactivations.

TABLE NO. 10
Town of East Montpelier
Sewer Connection Study
East Montpelier Village Sewer Service Area
Construction Cost Estimate
Alternative No. 2- Sewer Connection to City of Montpelier Via Wheeler Road
Large Pump Stations and Forcemains

May 2008

Description of Item	Estimated Quantity	Unit	Unit Price	Cost ENR 8089 [1.]	Cost ENR 8800 [2.]
6" HDPE FM Directional Bore Installation [3.]	12,800	L.F.	$80	$1,024,000	$1,114,007
6" HDPE FM Open Cut - Ledge Areas Only [4.]	1,000	L.F.	$100	$100,000	$108,790
5' Diameter FM Air Release/Clean-out Manholes	14	EA.	$8,200	$113,160	$123,106
Rock Excavation [5.]	100	C.Y.	$130	$13,000	$14,143
Boulder Excavation	50	C.Y.	$65	$3,250	$3,536
Misc. Extra & Below Grade Exc.	50	C.Y.	$38	$1,900	$2,067
Exc. & Replac. Unsuitable	200	C.Y.	$38	$7,600	$8,268
Permanent Bit. Pavement Repair	200	S.Y.	$45	$9,000	$9,791
Perm. Gravel Road & Drive Repair	2,000	S.Y.	$18	$36,000	$39,164
Perm. Gravel Shoulder Repair	200	L.F.	$10	$2,000	$2,176
Class B. Concrete	3	C.Y.	$200	$600	$653
Calcium Chloride	3	TON	$600	$1,800	$1,958
Rigid Trench Insulation	500	L.F.	$6	$3,000	$3,264
Uniform Traffic Officers (Excludes areas of ledge)	500	HRS	$55	$27,500	$29,917
Silt Fence	2,000	L.F.	$4	$8,000	$8,703
Degradable Erosion Control Blankets	1,500	S.Y.	$3	$4,500	$4,896
Temporary Stone Check Dams	10	EA.	$120	$1,200	$1,305
Pump Station Route 2 West	1	L.S.	$270,000	$270,000	$293,732
West Side Pump Station	1	L.S.	$400,000	$400,000	$435,159
Electrical Power Line Extensions	1	L.S.	$30,000	$30,000	$32,637
Electrical Work	1	L.S.	$30,000	$30,000	$32,637
Telemetry Systems	1	L.S.	$20,000	$20,000	$21,758
Preparation of Site and Miscellaneous Work (8%)	1	L.S.	$168,521	$168,521	$183,333
Bonds (1.5%)	1	L.S.	$34,125	$34,125	$37,125
			TOTALS	$2,309,156	$2,512,125
			USE	**$2,310,000**	**$2,600,000**

Notes:

1. ENR 8089= December 2007
2. ENR 8800 = May 2010
3. Includes all bridge and stream crossings.
4. Includes ledge removal and Uniform Traffic Officers.
5. Excludes pipe open cut areas with ledge removal. Ledge removal in those areas is included in pipe costs.

TABLE NO. 11
Town of East Montpelier
Sewer Connection Study
East Montpelier Village Sewer Service Area
Construction Cost Estimate
Alternative No. 3- Sewer Connection to Town of Plainfield
Original Sewer Service Area

May 2008

Description of Item	Estimated Quantity	Unit	Unit Price	Cost ENR 8089 [1.]	Cost ENR 8800 [2.]
8" Gravity Sewers	3,075	L.F.	$55	$169,125	$183,991
6" Gravity Sewers	4,700	L.F.	$50	$235,000	$255,656
8" Gravity Sewer & 6" FM in Dual Trench	3,200	L.F.	$80	$256,000	$278,502
6" Gravity Sewer & 4" PVC FM Dual Trench	1,050	L.F.	$68	$71,400	$77,676
4" PVC FM Single Trench	50	L.F.	$48	$2,400	$2,611
6" PVC FM & 4" PVC FM Dual Trench	350	L.F.	$65	$22,750	$24,750
6" Gravity Sewer, 6" PVC FM & 4" PVC FM Dual Trench	500	L.F.	$90	$45,000	$48,955
4' Dia. Sewer Manhole	496	V.F	$350	$173,600	$188,859
6" x 4" Wye	28	EA.	$80	$2,240	$2,437
8" x 4" Wye	73	EA.	$90	$6,570	$7,147
4" PVC Building Services [3.]	1,400	L.F.	$45	$63,000	$68,538
8" Gravity Bridge Crossing Winooski River	200	L.F.	$500	$100,000	$108,790
Jack & Bore Sewer Crossings					
No. 1- 6" Gravity Sewer in 18" Sleeve Route 14 N	45	L.F.	$500	$22,500	$24,478
No. 2.- 4" Forcemain in 16" Sleeve Route 14N	45	L.F.	$450	$20,250	$22,030
No. 3.- 4" Forcemain in 16" Sleeve Route 14N	45	L.F.	$450	$20,250	$22,030
No. 4- 6" Gravity Sewer in 18" Sleeve Route 2E	45	L.F.	$500	$22,500	$24,478
No. 5- 4" Forcemain in 16" Sleeve Route 2E	45	L.F.	$450	$20,250	$22,030
No. 6- 8" Gravity Sewer in 20" Sleeve Route 2	45	L.F.	$550	$24,750	$26,925
No. 7- 8" Gravity Sewer in 20" Sleeve Route 2	45	L.F.	$550	$24,750	$26,925
No. 8- 6" Gravity Sewer in 18" Sleeve Route 14S	45	L.F.	$500	$22,500	$24,478
No. 9- 6" Gravity Sewer in 18" Sleeve Route 14S	45	L.F.	$500	$22,500	$24,478
No. 10- 6" Forcemain in 18" Sleeve Route 2 No. 1	45	L.F.	$500	$22,500	$24,478
No. 11- 6" Forcemain in 18" Sleeve Route 2 No. 1	45	L.F.	$500	$22,500	$24,478
Steam Crossing No. 1	50	L.F.	$500	$25,000	$27,197
Rock Excavation	300	C.Y.	$130	$39,000	$42,428
Boulder Excavation	50	C.Y.	$65	$3,250	$3,536
Misc. Extra & Below Grade Exc.	100	C.Y.	$38	$3,800	$4,134
Exc. & Replac. Unsuitable	100	C.Y.	$38	$3,800	$4,134
Permanent Bit. Pavement Repair	1,000	S.Y.	$45	$45,000	$48,955
Perm. Gravel Road & Drive Repair	700	S.Y.	$18	$12,600	$13,708
Perm. Gravel Shoulder Repair	1,000	L.F.	$10	$10,000	$10,879
Class B. Concrete	5	C.Y.	$200	$1,000	$1,088
Calcium Chloride	5	TON	$600	$3,000	$3,264
Rigid Trench Insulation	2,000	L.F.	$6	$12,000	$13,055
Uniform Traffic Officers	600	HRS	$55	$33,000	$35,901
Silt Fence	5,000	L.F.	$4	$20,000	$21,758
Degradable Erosion Control Blankets	3,000	S.Y.	$3	$9,000	$9,791
Temporary Stone Check Dams	20	EA.	$120	$2,400	$2,611
Pump Station Route 2 East	1	L.S.	$150,000	$150,000	$163,185
Pump Station Route 14 North	1	L.S.	$150,000	$150,000	$163,185
Electrical Power Line Extensions	1	L.S.	$20,000	$20,000	$21,758
Electrical Work	1	L.S.	$20,000	$20,000	$21,758
Telemetry Systems	1	L.S.	$20,000	$20,000	$21,758
Preparation of Site and Miscellaneous Work (8%)	1	L.S.	$158,015	$158,015	$171,904
Bonds (1.5%)	1	L.S.	$31,998	$31,998	$34,811
			TOTALS	$2,165,198	$2,355,513
			USE	**$2,200,000**	**$2,400,000**

Notes:
1. ENR 8089= December 2007
2. ENR 8800 = May 2010
3. Includes services to R.O.W. only. Excludes house services on private property.
4. Excludes septic tank and disposal system deactivations.

TABLE NO. 12
Town of East Montpelier
Sewer Connection Study
East Montpelier Village Sewer Service Area
Construction Cost Estimate
Alternative No. 3- Sewer Connection to Town of Plainfield
Added Route 14 South Sewer Service Area

May 2008

Description of Item	Estimated Quantity	Unit	Unit Price	Cost ENR 8089 [1.]	Cost ENR 8800 [2.]
8" Gravity Sewers	1,825	L.F.	$55	$100,375	$109,198
6" Gravity Sewers	400	L.F.	$50	$20,000	$21,758
4' Dia. Sewer Manhole	54	V.F	$350	$18,900	$20,561
6" x 4" Wye	2	EA.	$80	$160	$174
8" x 4" Wye	7	EA.	$90	$630	$685
4" PVC Building Services [3.]	90	L.F.	$45	$4,050	$4,406
Jack & Bore Sewer Crossings					
No. 1- 6" Gravity Sewer in 18" Sleeve Route 14S	45	L.F.	$500	$22,500	$24,478
Rock Excavation	10	C.Y.	$130	$1,300	$1,414
Boulder Excavation	10	C.Y.	$65	$650	$707
Misc. Extra & Below Grade Exc.	10	C.Y.	$38	$380	$413
Exc. & Replac. Unsuitable	10	C.Y.	$38	$380	$413
Permanent Bit. Pavement Repair	80	S.Y.	$45	$3,600	$3,916
Perm. Gravel Road & Drive Repair	50	S.Y.	$18	$900	$979
Perm. Gravel Shoulder Repair	100	L.F.	$10	$1,000	$1,088
Class B. Concrete	1	C.Y.	$200	$200	$218
Calcium Chloride	1	TON	$600	$600	$653
Rigid Trench Insulation	50	L.F.	$6	$300	$326
Uniform Traffic Officers	100	HRS	$55	$5,500	$5,983
Silt Fence	200	L.F.	$4	$800	$870
Degradable Erosion Control Blankets	200	S.Y.	$3	$600	$653
Temporary Stone Check Dams	3	EA.	$120	$360	$392
Preparation of Site and Miscellaneous Work (8%)	1	L.S.	$14,655	$14,655	$15,943
Bonds (1.5%)	1	L.S.	$2,968	$2,968	$3,228
			TOTALS	$200,807	$218,458
			USE	**$201,000**	**$220,000**

Notes:

1. ENR 8089= December 2007
2. ENR 8800 = May 2010
3. Includes services to R.O.W. only. Excludes house services on private property.
4. Excludes septic tank and disposal system deactivations.

TABLE NO. 13
Town of East Montpelier
Sewer Connection Study
East Montpelier Village Sewer Service Area
Construction Cost Estimate
Alternative No. 3- Sewer Connection to Town of Plainfield
Westside Sewer Service Area

May 2008

Description of Item	Estimated Quantity	Unit	Unit Price	Cost ENR 8089 [1.]	Cost ENR 8800 [2.]
8" Gravity Sewers	7,800	L.F.	$55	$429,000	$466,708
4' Dia. Sewer Manhole	132	V.F	$350	$46,200	$50,261
8" x 4" Wye	18	EA.	$90	$1,620	$1,762
4" PVC Building Services [3.]	360	L.F.	$45	$16,200	$17,624
Rock Excavation	50	C.Y.	$130	$6,500	$7,071
Boulder Excavation	20	C.Y.	$65	$1,300	$1,414
Misc. Extra & Below Grade Exc.	20	C.Y.	$38	$760	$827
Exc. & Replac. Unsuitable	20	C.Y.	$38	$760	$827
Permanent Bit. Pavement Repair	300	S.Y.	$45	$13,500	$14,687
Perm. Gravel Road & Drive Repair	60	S.Y.	$18	$1,080	$1,175
Class B. Concrete	1	C.Y.	$200	$200	$218
Calcium Chloride	1	TON	$600	$600	$653
Rigid Trench Insulation	200	L.F.	$6	$1,200	$1,305
Uniform Traffic Officers	200	HRS	$55	$11,000	$11,967
Silt Fence	2,000	L.F.	$4	$8,000	$8,703
Degradable Erosion Control Blankets	1,500	S.Y.	$3	$4,500	$4,896
Temporary Stone Check Dams	10	EA.	$120	$1,200	$1,305
Preparation of Site and Miscellaneous Work (8%)	1	L.S.	$43,490	$43,490	$47,312
Bonds (1.5%)	1	L.S.	$8,807	$8,807	$9,581
			TOTALS	$595,916	$648,296
			USE	**$600,000**	**$650,000**

Notes:

1. ENR 8089= December 2007
2. ENR 8800 = May 2010
3. Includes services to R.O.W. only. Excludes house services on private property.
4. Excludes septic tank and disposal system deactivations.

TABLE NO. 14
Town of East Montpelier
Sewer Connection Study
East Montpelier Village Sewer Service Area
Construction Cost Estimate
Alternative No. 3- Sewer Connection to Town of Plainfield
Large Pump Stations and Forcemains

May 2008

Description of Item	Estimated Quantity	Unit	Unit Price	Cost ENR 8089 [1.]	Cost ENR 8800 [2.]
6" HDPE FM Directional Bore Installation [3.]	16,600	L.F.	$80	$1,328,000	$1,444,727
6" HDPE FM Open Cut - Ledge Areas Only [4.]	2,500	L.F.	$100	$250,000	$271,974
5' Diameter FM Air Release/Clean-out Manholes	19	EA.	$8,200	$156,620	$170,386
Rock Excavation [5.]	100	C.Y.	$130	$13,000	$14,143
Boulder Excavation	50	C.Y.	$65	$3,250	$3,536
Misc. Extra & Below Grade Exc.	50	C.Y.	$38	$1,900	$2,067
Exc. & Replac. Unsuitable	200	C.Y.	$38	$7,600	$8,268
Permanent Bit. Pavement Repair	350	S.Y.	$45	$15,750	$17,134
Perm. Gravel Road & Drive Repair	200	S.Y.	$18	$3,600	$3,916
Perm. Gravel Shoulder Repair	200	L.F.	$10	$2,000	$2,176
Class B. Concrete	3	C.Y.	$200	$600	$653
Calcium Chloride	3	TON	$600	$1,800	$1,958
Rigid Trench Insulation	500	L.F.	$6	$3,000	$3,264
Uniform Traffic Officers (Excludes areas of ledge)	200	HRS	$55	$11,000	$11,967
Silt Fence	2,000	L.F.	$4	$8,000	$8,703
Degradable Erosion Control Blankets	1,500	S.Y.	$3	$4,500	$4,896
Temporary Stone Check Dams	10	EA.	$120	$1,200	$1,305
Pump Station Route 2 West	1	L.S.	$270,000	$270,000	$293,732
West Side Pump Station	1	L.S.	$250,000	$250,000	$271,974
Electrical Power Line Extensions	1	L.S.	$20,000	$20,000	$21,758
Electrical Work	1	L.S.	$20,000	$20,000	$21,758
Telemetry Systems	1	L.S.	$20,000	$20,000	$21,758
Preparation of Site and Miscellaneous Work (8%)	1	L.S.	$191,346	$191,346	$208,164
Bonds (1.5%)	1	L.S.	$38,747	$38,747	$42,153
			TOTALS	$2,621,913	$2,852,372
			USE	**$2,625,000**	**$2,900,000**

Notes:

1. ENR 8089= December 2007
2. ENR 8800 = May 2010
3. Includes all bridge and stream crossings.
4. Includes ledge removal and Uniform Traffic Officers.
5. Excludes pipe open cut areas with ledge removal. Ledge removal in those areas is included in pipe costs.

TABLE NO. 15
Town of East Montpelier
Sewer Connection Study
East Montpelier Village Sewer Service Area
Estimated Estimated Operations and Maintenance Cost

May 2008

ITEM	Alternative No. 1 Connection to City of Montpelier Via Route 2	Alternative No. 2 Connection to City of Montpelier Via Wheeler Road	Alternative No. 3 Connection to Town of Plainfield
CONTRACT OPERATIONS			
City of Montpelier			
Town of Plainfield			
Subtotal	**$0**	**$0**	**$0**
ADMINISTRATIVE			
Administration/Billing/Accounts Payable	$2,000	$2,000	$2,000
Administration Benefits	$800	$800	$800
Telephone	$600	$600	$600
Insurance	$2,000	$2,000	$2,000
Electrical Pump Stations	$8,000	$12,000	$8,000
Chemicals	$1,000	$1,000	$1,000
Pump Station Fuel	$500	$500	$500
Captital Reserve	$10,000	$10,000	$10,000
Contingency	$4,000	$4,000	$4,000
Subtotal	**$28,900**	**$32,900**	**$28,900**
Total	**$28,900**	**$32,900**	**$28,900**

Notes:
1. DEBT RETIREMENT- Refer to separate table.

TABLE NO. 16
Town of East Montpelier
Sewer Connection Study
East Montpelier Village Sewer Service Area
Summary of Equivalent Users and Wastewater Flow

May 2008

Sewer/Forcemain Locations	Estimated Equivalent Units (1.) and Flow (2.)			
	Initial Year (2010)		Design Year (2030)	
	Equivalent Units	Flow (gpd)	Equivalent Units	Flow (gpd)
2007 Original Village Sewer Service Area				
Residential	118	24,780	142	29,736
Non-Residential	21	3,932	28	5,931
Infiltration/Inflow	-	5,227	-	6,273
Subtotal	139	33,939	170	41,940
Added Route 14 South Service Area				
Residential	64	13,440	77	16,128
Non-Residential	1	75	1	75
Infiltration/Inflow	-	900	-	900
Subtotal	65	14,415	78	17,103
2007 Village + Added RT 14	204	48,354	248	59,043
West Side Service Area				
Residential	6	1,260	7	1,512
Non-Residential	9	1,728	13	2,728
Infiltration/Inflow	-	3,600	-	3,600
Subtotal	15	6,588	20	7,840
2007 Village & Added Rte 14 & West Side	219	54,942	268	66,883
Use	**219**	**55,000**	**268**	**67,000**

Notes:
1. An EU equals a single home; one apartment unit or one mobile home.
   a. A three unit apartment building is 3 EU's.
   b. Non-residential user EU's are determined by estimating each non-residential wastewater flow (use VT EPRs, CH 1, current eddition) and dividing the estimated flow by 210 gpd. The minimum EU is 1.0 when the estimated flow is less than 210 gpd.
2. Flow is in gallons per day (gpd).

TABLE NO. 17
Town OF East Montpelier
Sewer Connection Study
East Montpelier Village Sewer Service Area
Wastewater Flow Projections (3.)

May, 2008

USE CATEGORY	INITIAL YEAR (2010) QUANTITY		VTEPR (1.) FLOW VALUES	FLOW ESTIMATE (gpd)	EQUIVALENT USERS	DESIGN YEAR (2030) QUANTITY		VTEPR (1.) FLOW VALUES	FLOW ESTIMATE (gpd)	EQUIVALENT USERS
Original Service Area										
Residential Units	118	Units	210 Gal./Unit (2.)	24,780	118	142	Units	210 Gal./Unit (2.)	29,736	142
Commercial Units										
370 Rt. 2	940	SF	10 gpd/100 s.f.	94	1	940	SF	10 gpd/100 s.f.	94	1
2419 Rt. 2	25	Empl.	15 gpd/employee	375	2	25	Empl.	15 gpd/employee	375	2
2540 Rt. 2	1,300	SF	10 gpd/100 s.f.	130	1	1,300	SF	10 gpd/100 s.f.	130	1
2624 Rt. 2	600	SF		490	2	600	SF		490	2
2783 Rt. 2	1,500	SF	10 gpd/100 s.f.	414	1	1,500	SF	10 gpd/100 s.f.	414	1
2875 Rt. 2	1,400	SF	10 gpd/100 s.f.	140	1	1,400	SF	10 gpd/100 s.f.	140	1
2915 Rt. 2	6,000	SF	10 gpd/100 s.f.	600	3	6,000	SF	10 gpd/100 s.f.	600	3
2952 Rt. 2	1,700	SF	10 gpd/100 s.f.	170	1	1,700	SF	10 gpd/100 s.f.	170	1
3000 Rt. 2	930	SF	10 gpd/100 s.f.	93	1	930	SF	10 gpd/100 s.f.	93	1
3042 Rt. 2	816	SF	10 gpd/100 s.f.	82	1	816	SF	10 gpd/100 s.f.	82	1
Church			Estimate	300	1			Estimate	300	1
3070 Rt. 2	940	SF	10 gpd/100 s.f.	94	1	940	SF	10 gpd/100 s.f.	94	1
75 Rt. 14	4,200	SF	10 gpd/100 s.f.	420	2	4,200	SF	10 gpd/100 s.f.	420	2
2205 Rt. 14	1,800	SF	10 gpd/100 s.f.	180	1	1,800	SF	10 gpd/100 s.f.	180	1
2235 Rt. 14	3,500	SF	10 gpd/100 s.f.	350	2	3,500	SF	10 gpd/100 s.f.	350	2
Commercial Growth Allocation				0	0			Estimate	2,000	8
Infiltration/Inflow	17	in-mi	300 gpd/in-mi	5,227	-	21	in-mi	300 gpd/in-mi	6,273	-
Sub-Total				33,939	139				41,940	170
Added Areas										
Route 14 Added										
Residential Units	64	Units	210 Gal./Unit (2.)	13,440	64	77	Units	210 Gal./Unit (2.)	16,128	77
Commercial Units										
Used Car Dealership	5	Empl.	15 gpd/employee	75	1	5	Empl.	15 gpd/employee	75	1
Infiltration/Inflow	3	in-mi	300 gpd/in-mi	900	-	3	in-mi	300 gpd/in-mi	900	-
Sub-Total				14,415	65				17,103	78
Cross Roads Industial Park										
Residential Units	0	Units	210 Gal./Unit (2.)	0	0	0	Units	210 Gal./Unit (2.)	0	0
Commercial Units										
Washington Electric	25	Empl.	15 gpd/employee	375	2	5	Empl.	15 gpd/employee	75	2
Huntington Homes	50	Empl.	15 gpd/employee	750	4	5	Empl.	15 gpd/employee	75	4
Infiltration/Inflow	0	in-mi	300 gpd/in-mi	0	-	0	in-mi	300 gpd/in-mi	0	-
Sub-Total				1,125	6				150	6
Packard Road Industrial Park										
Residential Units	0	Units	210 Gal./Unit (2.)	0	0	0	Units	210 Gal./Unit (2.)	0	0
Commercial Units										
Equipment Dealership			Permitted	183	1			Permitted	183	1
EE Packard	8	Empl.	15 gpd/employee	120	1	8	Empl.	15 gpd/employee	120	1
Commercial Growth Allocation				0	0			Estimate	1,000	4
Infiltration/Inflow	6	in-mi	300 gpd/in-mi	1,800	-	6	in-mi	300 gpd/in-mi	1,800	-
Sub-Total				2,103	2				3,103	6
Route 2 West Area	6	Units	210 Gal./Unit (2.)	1,260	6	7	Units	210 Gal./Unit (2.)	1,512	7
Vt Country Campers	15	Empl.	15 gpd/employee	225	1	15	Empl.	15 gpd/employee	225	1
Infiltration/Inflow	6	in-mi	300 gpd/in-mi	1,800	-	6	in-mi	300 gpd/in-mi	1,800	-
Sub-Total				3,285	7				3,537	8
Total				54,867	218				65,833	268
			Use	55,000					66,000	

Notes:

1. VTEPR Vermont Environmnetal Protection Rules, Chapter 1, Subchapter 8, Section 1-808- Design Flow.
2. VTEPR §1-808 Design Flow Table 1 (c): Single family residential units connected to a wastewater disposal system with a design capacity of at least 50,000 gallons per day may use a design flow of 210 gallons per unit per day, regardless of the number of bedrooms.
3. Refer to Table No. 16 for a consise summary of EU's and flows.

TABLE NO. 18
Town of East Montpelier
Sewer Connection Study
East Montpelier Village Sewer Service Area
Funding Sources

May 2008

A. The following six (6) funding sources are the most commonly used for Vermont Municipal Wastewater and Water Supply projects. Most of these funding programs are very competitive for funds.

1. VT Department of Environmental Conservation (DEC) - Loan
   - SRF (State Revolving Fund) 2% Loans, 20 year term ($61.16 per $1,000 borrowed annual principal and interest)
   - Must be on the State priority list for construction funds.
   - The most common form of funding.

2. VT Department of Environmental Conservation (DEC) - Grant
   - Grant – Dry Weather Pollution Abatement
   - Project elements that abate pollution to the waters of the State receive a 35% grant on the eligible project elements.
   - Must be on the State priority list for construction funds.

3. U.S. Department of Agriculture, Rural Development (USDA-RD)
   - Loans and Grants
   - Must meet Medium Household Income (MHI) limits for the Grants.
     a. East Montpelier Town is currently not eligible for RD grants. Refer to Appendix E.
   - Needs an income survey of sewer service area to determine eligibility.
   - Current Farm Bill has legislation to reduce the loan interest rate for two (2) classes of loans.
   - Municipality must receive an RD loan before receiving an RD grant.
   - Program funds are limited.

4. VT Department of Housing and Community Affairs, Community Development Block Grant Program (VCDP)
   - Must meet Low/Moderate Income limits in the defined project's limited service area.
   - Maximum grant is $740,000.
   - Very competitive.

5. The U.S. Environmental Protection Agency (EPA), State and Tribal Assistance Grant (STAG)
   - Work with your Congressional Delegation.
   - Usually needs a defined environmental benefit.
   - Very competitive.

continued

Table No. 18 continued

6. Vermont Municipal Bond Bank (VMBB)
   - General Obligation Bond
   - 20 year term: 4.5% to 4.6% (per VMBB, Mr. Giroux, Executive Director)
   - 30 year term: 4.6%

B. Special Legislative Grant(s)
   In addition to the above traditional funding sources, some communities for special project elements work with its State Representatives to pass special project grants in the State Legislative Capital Appropriation. These special legislative grants are a one-time funding source.

TABLE NO. 19
Town of East Montpelier
Sewer Connection Study
East Montpelier Village Sewer Service Area
Summary of Estimated First Year Equivalent Unit Cost

May 2008

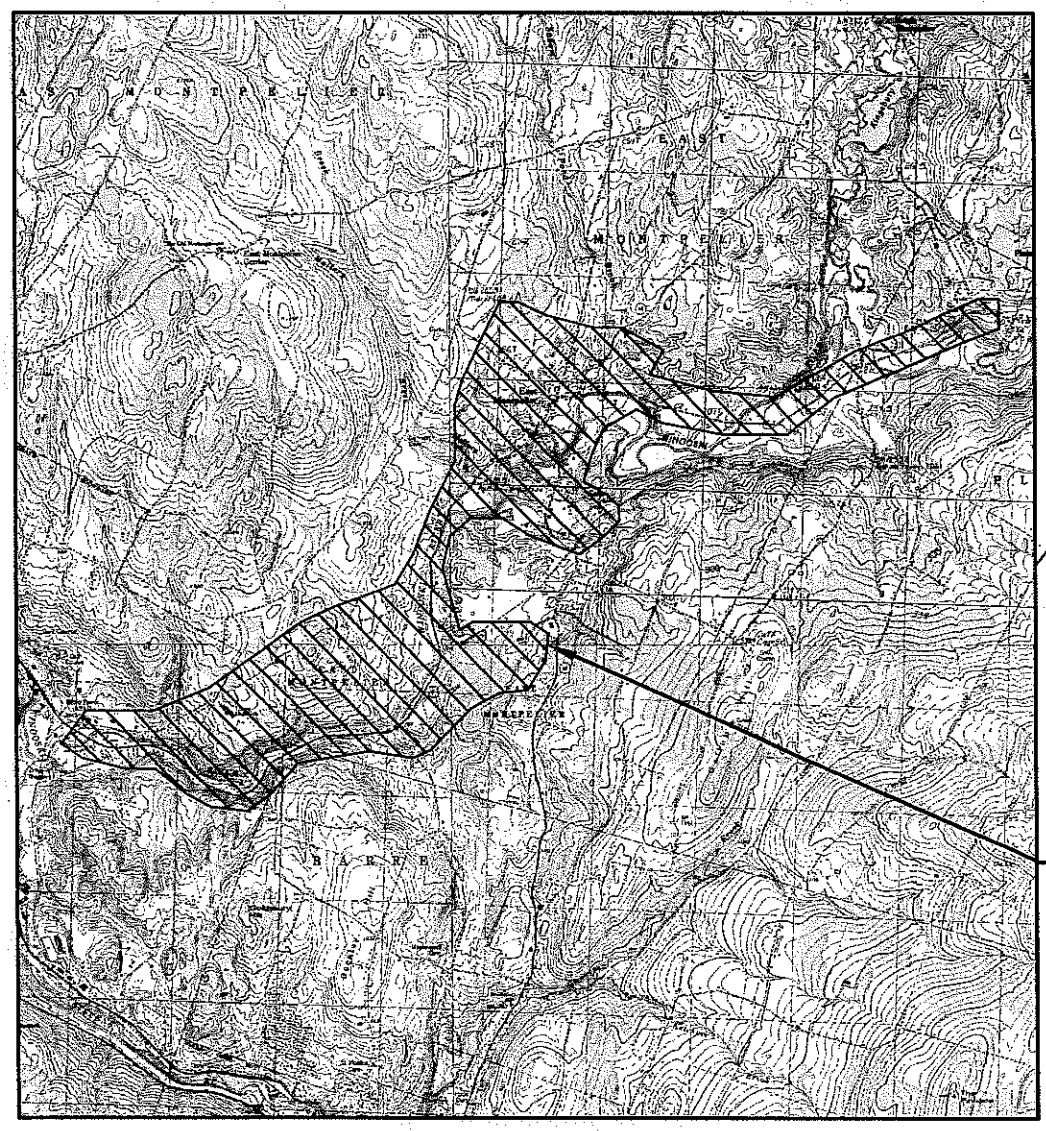
Expenses [1.] [2.]	No Grants	100% Eligible VT 35% Grant	100% Eligible VT 35% Grant Plus $2,000,000 EPA STAG Grant
1. E. Montpelier Administration O&M Expense [1.]	$176	$176	$176
2. Contract Operations By City of Montpelier	$294	$294	$294
3. Montpelier Host Treatment O&M Expense [1.]	$600	$600	$600
4. Debt-Bond Annual EU Expense [1.]	$1,746	$1,143	$660
Subtotal	**$2,816**	**$2,213**	**$1,730**
5. Sewer Use Fee [3.]	$25 [4.]	$25	$25
Total EU Cost First Year [5.]	**$2,841**	**$2,238**	**$1,755**

Notes:

1. Refer to Report Section IV, D.1 for EU First Year Cost Estimate.
2. Refer to Table No. 15 for O&M cost details.
3. Refer to Appendix B.
4. $500 per EU x 204 Eus = $102,000
   Town could decide to include the $102,000 into the Bond authorization. Then: 102 x $49.39 (RD annual payment per $1,000) = $5,038. $ per EU per year = $5,038 ÷ 204 = $25.
5. EU cost above $600/year are considered very high.

APPENDIX A

FIGURES

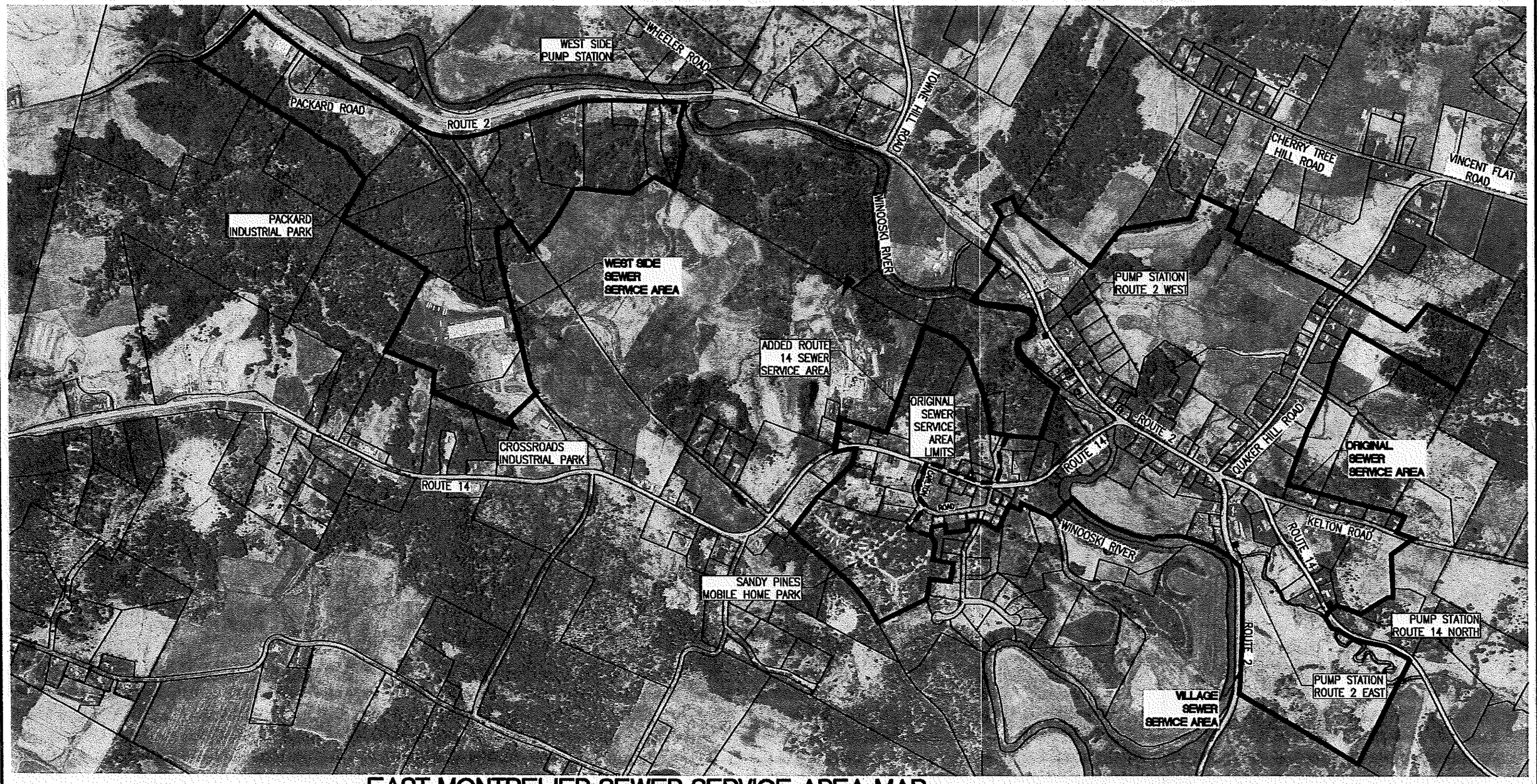


LOCATION PLAN

SCALE: 1"=6000'

Forcier Aldrich & Associates *Consulting Engineers* 6 Market Place, Suite 2 Essex Junction, VT 05452 (802) 879-7733 (802) 879-1742 (Fax)	PROJECT LOCATION MAP	DESIGNED KJC DRAWN JEN CHECKED (PM) DEP	PROJECT NO. 07056
	SEWER CONNECTION STUDY	CHECKED (PE) DEP	FIGURE NO. 1
	TOWN OF EAST MONTPELIER EAST MONTPELIER VERMONT	SCALE AS SHOWN DATE MAY 2008	

56-EA 'PELIER 7056- 'CT_ST 4/2(11:31:(



EAST MONTPELIER SEWER SERVICE AREA MAP

SCALE: 1"=1000'

GRAPHIC SCALE

1000 0 500 1000 2000 4000

(IN FEET)

Forcier Aldrich & Associates

Consulting Engineers

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Essex Junction, VT 05452
(802) 879-7733
(802) 879-1742 (Fax)

FA&A

DESIGNED	KJC
DRAWN	JEN
CHECKED (PM)	DEP
CHECKED (PE)	DEP
SCALE	AS SHOWN
DATE	MAY 2008

EAST MONTPELIER SEWER SERVICE AREA MAP

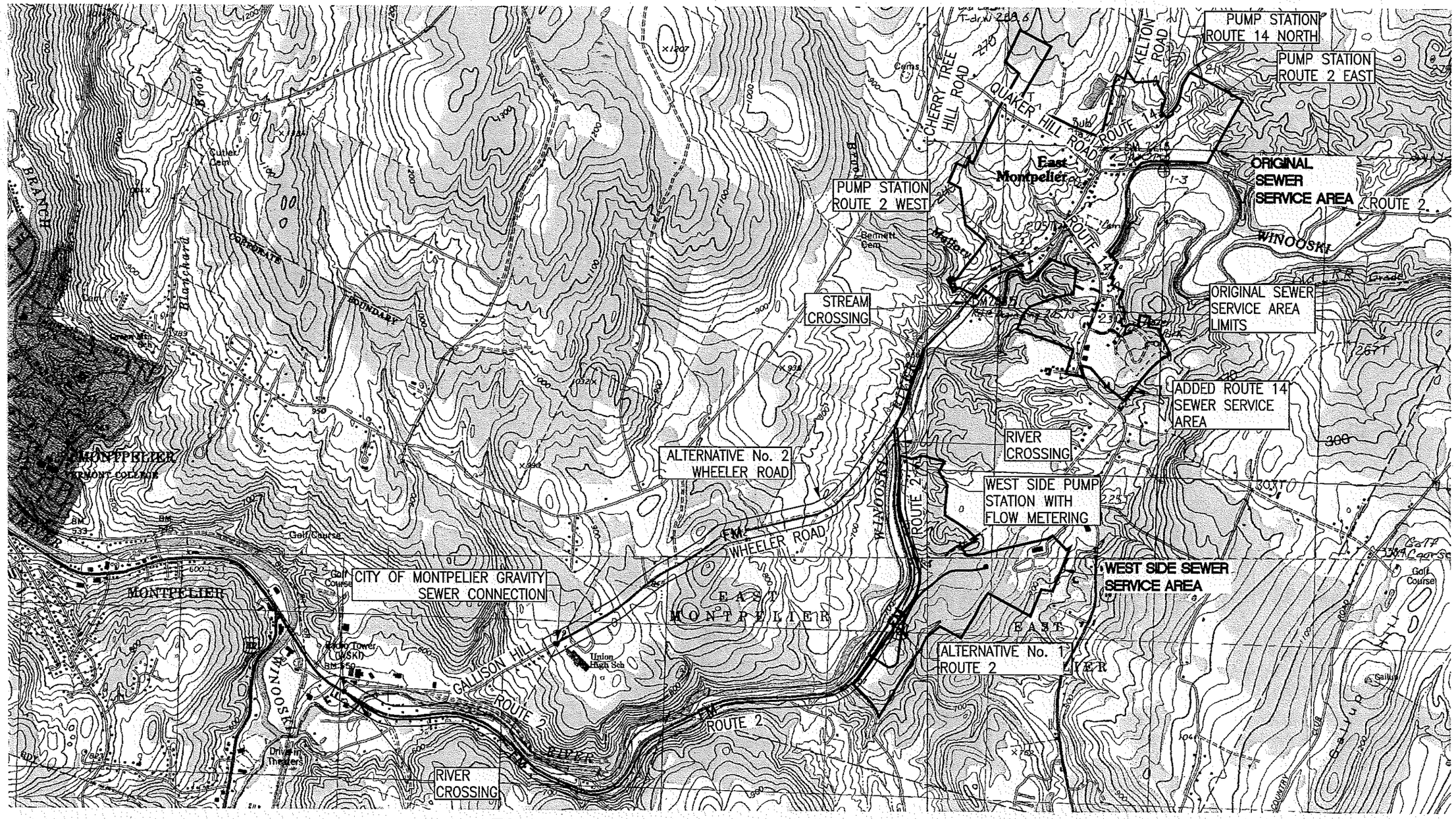
SEWER CONNECTION STUDY

TOWN OF EAST MONTPELIER

EAST MONTPELIER VERMONT

PROJECT NO. 07056

FIGURE NO. 2



LEGEND

SEWER FORCEMAIN. . . . . FM

SEWER PUMP STATION. . . . . ▪

NOTE:

SOURCE USGS QUADRANGLE (1988) 7.5 MIN BARRE WEST, BARRE EAST, PLAINFIELD, AND MONTPELIER

PLAN

SCALE: 1"=2,000'

GRAPHIC SCALE

2000 0 1000 2000 4000 8000

(IN FEET)

Forcier Aldrich & Associates

FA&A

Consulting Engineers

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(802) 879-7733
(802) 879-1742 (Fax)

DESIGNED	KJC
DRAWN	JEB
CHECKED (PM)	DEP
CHECKED (PE)	DEP
SCALE	AS SHOWN
DATE	MAY 2008

SEWER CONNECTIONS TO CITY OF MONTPELIER

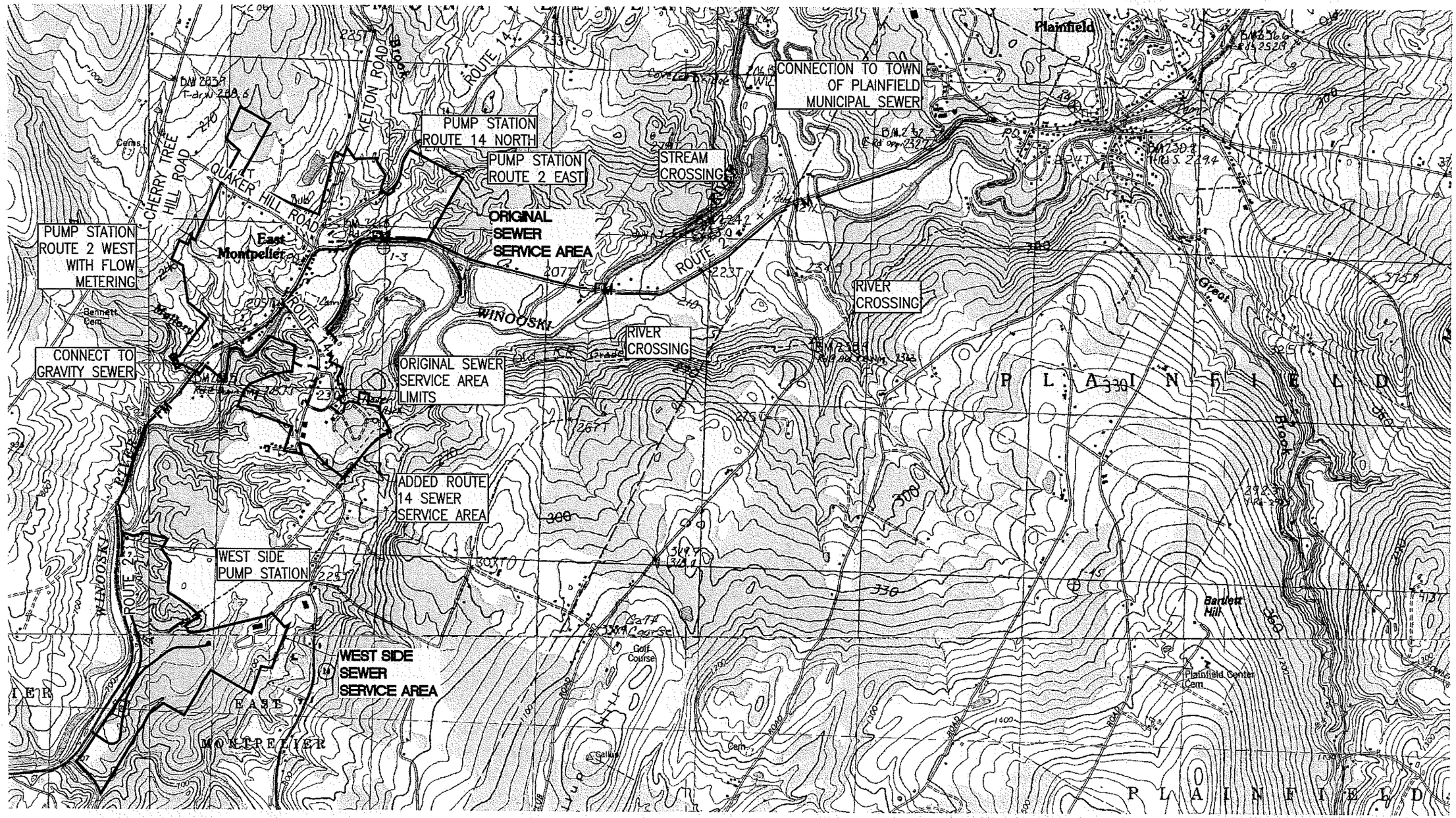
SEWER CONNECTION STUDY

TOWN OF EAST MONTPELIER

EAST MONTPELIER VERMONT

PROJECT NO. 07056

FIGURE NO. 3



GRAPHIC SCALE

2000 0 1000 2000 4000 8000

(IN FEET)

PLAN

SCALE: 1"=2,000'

NOTE:

SOURCE USGS QUADRANGLE (1988) 7.5 MIN BARRE WEST, BARRE EAST, PLAINFIELD, AND MONTPELIER

LEGEND

SEWER FORCEMAIN. . . . . FM

SEWER PUMP STATION. . . . . ▪

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(802) 879-1742 (Fax)

FA&A

DESIGNED	KJC
DRAWN	JEN
CHECKED (PM)	DEP
CHECKED (PE)	DEP
SCALE	AS SHOWN
DATE	MAY 2008

CONNECTION TO TOWN OF PLAINFIELD MUNICIPAL WASTEWATER SYSTEM

SEWER CONNECTION STUDY

TOWN OF EAST MONTPELIER

MONTPELIER VERMONT

PROJECT NO. 07056

FIGURE NO. 4

APPENDIX B

CITY OF MONTPELIER
LETTER

CITY OF MONTPELIER

SEWER USE RATES - FY 2008

RESIDENTIAL:

Unless metered, each residential unit, including apartments, duplex, multi-family and similar type housing units which contain bathroom and kitchen facilities, shall be charged at the rate of $143.12 for the fiscal year 2008. No reduction in annual rates will occur due to seasonal occupancy and/or extended discontinuance of service. **($143.12 flat rate is per quarter)**

METERED: **(See note 1. At bottom of page.)**

Metered residential, commercial, industrial, and governmental units shall be charged at the rate of $7.83 per 1,000 gallons of water usage for the fiscal year 2008.

In addition, an administrative charge of $24.50 per meter per billing period shall be imposed on each residential, commercial, industrial, and governmental metered premise to fully offset fixed administrative costs of the sewage facilities.

Further, a credit may be granted toward the sewer bill of any business that diverts substantial amounts of metered water from the sanitary sewer system continually, such as a cooling tower or other similar structure. The Director of Public Works may grant a credit to any commercial or industrial user who installs a separate meter to measure the volume of water that is not discharged into the City's wastewater disposal system. The credit shall be equal to the sewer use charges for such volume of water.

~~NEW WATER CONNECTIONS~~

~~It is hereby resolved by the City Council of the City of Montpelier, acting as the Board of Water Commissioners, that all new service connections to the Montpelier water system will be made as outlined in Section 3-305 of the Montpelier City Ordinances.~~

SEWER CONNECTIONS

It is hereby resolved by the City Council of the City of Montpelier, acting as the Board of Sewer Commissioners, that an application/inspection fee of $500 shall be charged for sanitary sewer connections and $100 for storm water sewer connections. A new sewer service charge shall not pertain to properties already serviced by the system unless an indirect connection is proposed. An indirect connection is defined as any change in the structure currently or proposed to be served through an existing connection which will result in additional dwelling units, and for each unit to be served by a common new or existing service, or in the case of non-residential and tax exempt space, where such change will result in additional building square footage. The property owner shall also deposit sufficient funds with the City to cover the cost of all labor and materials, plus twenty percent (20%) overhead for installing the connection to the sewer main. After making appropriate connections, the unused balance, less 20% overhead, will be refunded to the property owner. All connections for pumped sanitary lines shall be performed by the applicant under City inspection and all costs thereof shall be borne by the applicant.

1. EAST MONTPELIER USERS WILL NOT USE THE METERED CHARGE, MOST OF THE ESTIMATED USERS DO NOT HAVE INDIVIDUAL WATER METERS.

CITY OF MONTPELIER
SEWER and WATER RATES
19 YEAR HISTORY

Fiscal Year	STEP 1 Metered Rate per 1,000 Gallons (First 50,000 per quarter)	STEP 1 % Increase (Decrease)	STEP 2 Metered Rate per 1,000 Gallons (Between 50,000 and 250,00 gallons per quarter)	STEP 2 % Increase (Decrease)	STEP 3 Metered Rate per 1,000 Gallons (Exceeding 250,000 per quarter)	STEP 3 % Increase (Decrease)	WATER FIXED COST ANNUAL	WATER FIXED COST % Increase (Decrease)	Annual Flat Rate Sewer	Sewer (Metered Water) Rate per 1,000 Gallons	% Increase (Decrease)	SEWER FIXED COST ANNUAL	% Increase (Decrease)	Total Annual Water & Sewer Fixed Costs	% Increase (Decrease)
2008	$6.94	5%	$7.37	5%	$11.95	5%	$78.00	0%	$572.46	$7.83	5%	$98.00	0%	$176.00	0%
2007	$6.61	8%	$7.02	8%	$11.38	8%	$78.00	0%	$572.46	$7.46	10%	$98.00	0%	$176.00	0%
2006	$6.12	26%	$6.50	26%	$10.54	26%	$78.00	11%	$505.30	$6.80	39%	$98.00	9%	$176.00	10%
2005	$4.86	0%	$5.15	0%	$8.35	0%	$70.00	0%	$400.00	$4.90	0%	$89.56	0%	$159.56	0%
2004	$4.85	0%	$5.15	0%	$8.35	0%	$70.00	0%	$400.00	$4.90	0%	$89.56	0%	$159.56	0%
2003	$4.85	0%	$5.15	-20%	$8.35	0%	$70.00	40%	$400.00	$4.90	16%	$89.56	79%	$159.56	60%
2002	$4.85	0%	$6.44	0%	$8.35	0%	$50.00	0%	$350.00	$4.22	0%	$50.00	0%	$100.00	0%
2001	$4.85	0%	$6.44	0%	$8.35	0%	$50.00	150%	$350.00	$4.22	15%	$50.00	42%	$100.00	81%
2000	$4.85	16%	$6.44	15%	$8.35	15%	$20.00	0%	$350.00	$3.67	21%	$35.20	0%	$55.20	0%
1999	$4.19	25%	$5.60	25%	$7.26	25%	$20.00	0%	$292.60	$3.03	4%	$35.20	0%	$55.20	0%
1998	$3.35	10%	$4.48	10%	$5.81	10%	$20.00	0%	$280.00	$2.90	4%	$35.20	0%	$55.20	0%
1997	$3.04	0%	$4.07	0%	$5.28	0%	$20.00	0%	$271.43	$2.80	5%	$35.20	0%	$55.20	0%
1996	$3.04	10%	$4.07	10%	$5.28	10%	$20.00	0%	$246.75	$2.67	5%	$35.20	0%	$55.20	0%
1995	$2.76	0%	$3.70	0%	$4.80	0%	$20.00	0%	$235.00	$2.54	5%	$35.20	0%	$55.20	0%
1994	$2.76	0%	$3.70	-12%	$4.80		$20.00	0%	$224.00	$2.42	19%	$35.20	0%	$55.20	0%
1993	$2.76	0%	$4.20	0%			$20.00	0%	$188.00	$2.03	6%	$35.20		$55.20	176%
1992	$2.76	45%	$4.20				$20.00	-50%	$177.00	$1.91		$0.00		$20.00	-50%
1991	$1.90	15%					$40.00	100%	$152.08	83% of water		$0.00		$40.00	100%
1990	$1.65	14%					$20.00	0%	$111.01	73% of water		$0.00		$20.00	0%
1989	$1.45	22%					$20.00	100%	$111.01	83 % of water		$0.00		$20.00	100%
1988	1.19	51%					$10.00	0%	$129.08	117% of water		$0.00		$10.00	0%
1987	0.79						$10.00		$129.08	176% of water		$0.00		$10.00	

APPENDIX C

AGREEMENT
SEWAGE TREATMENT AND COLLECTION BETWEEN
THE CITY OF MONTPELIER AND THE TOWN OF BERLIN

AGREEMENT
ON SEWAGE TREATMENT AND COLLECTION
BETWEEN THE CITY OF MONTPELIER, VERMONT
AND THE TOWN OF BERLIN, VERMONT

Article of Agreement made and concluded this 10th day o: February, 1982, by and between the City of Mon: Vermont, acting through its Board of Aldermen, hereinafter called th and the Town of Berlin, Vermont, acting through its Board of Selectm hereinafter called the Town.

WITNESSETH:

FINAL

WHEREAS, the City has constructed and is operating a sewag plant, and is constructing modifications and additions to said plant; a

WHEREAS, the Town desires to discharge its sanitary sewag sewerage system and the City plant; and

WHEREAS, the City has agreed to receive sanitary sewage fr Town and will provide for the conveyance of said sewage through the will treat the said sewage at the City sewage treatment plant; and

WHEREAS, it is in the best interests of the City and the Tow pollution on a cooperative basis;

NOW, THEREFORE, for and in consideration of the premise: convenants hereinafter recited, and for other good, valuable and suff derations, the parties hereto agree as follows:

ARTICLE A DEFINITIONS

The meanings of certain words and phrases used in this Agre be as follows unless the context specifically indicates otherwise:

Average Daily Flow shall mean the total flow of sewage past a point in one year, measured in million gallons, divided by 36: expressed in million gallons per day (mgd).

BOD shall mean the quantity of oxygen utilized in the biochem oxidation of organic matter under standard laboratory proced defined in the latest edition of "Standard Methods for Examina of Water and Wastewater", expressed in parts per million (pp unless otherwise noted.

RECEIVED FEB 23 1982 Office of Public Works Commissioner Montpelier, Vt.

FORCIER ALDRICH & ASSOC.
JAN 14 2008
RECEIVED

MONTPELIER - BERLIN 1982 WASTEWATER AGREEMENT

PAGE 11, *RIGHT OF FIRST REFUSAL*

Capacity shall mean the limiting condition of a facility to handle sewage. For a sewage treatment plant, capacity will be defined as the rated volume and pollutant load which may be handled by the treatment plant or element thereof. For a sewer system, capacity shall be determined by hydraulic analysis.

Chlorine Demand shall mean the required application rate of chlorine, expressed in parts per million, necessary to maintain the minimum residual as dictated by effluent standards.

Designated Capacity shall mean that portion of the capacity of a sewage treatment plant or element thereof, and sewer collection system specifically reserved for and contracted for by a community.

Facility shall mean the sewage treatment plant or sewage collection system, or both, as the context indicates.

Fair Share shall mean the ratio of the Town's designated capacity to the capacity of the treatment plant or collection system.

Fair Value shall include, but not be limited to, consideration of condition of treatment facilities (including structures, piping and equipment and pipe), remaining useful life, initial cost and capacity, but shall not be based solely upon replacement cost.

Industrial Waste or Industrial Wastewater shall mean the liquid waste from industrial manufacturing processes, trades or businesses, as distinct from sanitary sewage.

Nutrient Removal shall mean the stripping, by biological, chemical, and/or mechanical means, from the waste stream of such excessive concentrations of nutrients as may be required to maintain receiving stream water quality standards.

Operating Costs shall mean the costs of operation and maintenance of a facility and shall include the costs of labor, equipment, materials, power, fuel and any other items or incidentals required for operation, and labor, equipment, materials and incidentals and items required for maintenance.

Pollutant Load shall mean the average strength of the sewage at the point of measurement.

Project Costs shall mean the summation of construction costs (including costs for replacements, modifications and additions), legal, fiscal (including interest on money borrowed during construction) and administrative costs, engineering costs, land costs, easement costs, and other costs normally associated with the construction of a sewage treatment plant.

Salaries shall mean the direct wages paid to employees.

Salary Costs shall mean the direct wages plus fringe benefi as hospitalization and Workmen's Compensation Insurance, ment insurance, vacation time and sick leave time), paid to

Sanitary Sewage shall mean the water-carried wastes norm associated with human habitation or occupancy.

Secondary Treatment shall mean that the system of sewage in which a large portion of the organic material is stabilize action of microorganisms and removed from the sewage.

Sewage shall mean the combination of sanitary and industri waters together with such quantities of groundwater as may sewer through incorrectable conditions and surface water a stormwaters as may presently exist.

Sewage Treatment shall mean the processing of sewage by as are deemed most efficient and economical to achieve a c of effluent compatible with effluent standards.

Sewage Treatment Plant shall mean any arrangement of dev structures used for treating sewage.

Sewer shall mean a pipe or conduit for carrying sewage.

Sewerage System shall mean all facilities for collecting and sewage to a point for treatment.

Stormwater shall mean the runoff of rainwater.

Suspended Solids shall mean the quantity of material deposi a quantity of unsettled sewage under standard laboratory pr defined in the latest edition of "Standard Methods for Exami Water and Wastewater", expressed in parts per million (pp

Wastewater shall mean sewage.

ARTICLE B. - CAPITAL IMPROVEMENTS

Each party hereto commits itself to undertake and accompli tasks of work and accept certain responsibilities as follows:

I. Sewage Treatment Plant

a. The City agrees to construct, operate and maintain accordance with the requirements set forth by the S of Vermont Agency of Environmental Conservation successor, modifications and additions to its existi sewage treatment plant so as to provide secondary treatment for an average wastewater flow of 3.97 n gallons per day (mgd) and average pollutional loads

3,640 pounds per day (ppd) of BOD and 3,960 ppd of suspended solids, which average flow and pollutional loads include an allowance for 0.50 mgd of flow, 910 ppd of BOD and 550 ppd of suspended solids from the Town.

b. The Town and City hereby agree to restrict their respective wastewater discharges for each parameter to the system so that their respective designated capacities of the treatment plant are not exceeded and so that the discharged wastewater is compatible with treatment processes provided at the plant.

c. The Town agrees to construct, operate and maintain one continuously recording and totalizing flow measurement device and provide provisions for sampling its sewage at the pumping station within its boundary which pumps the Town sewage to the City sewage collection system. The City, however, reserves the right to periodically have calibrated by the manufacturer's representative, the said flow measurement device which will be considered an operating cost.

II. Sewage Collection System

a. Each municipality agrees to construct and maintain entirely at its own expense, those sewers within its boundary which serve exclusively its own citizens.

b. Each municipality further agrees that all new construction of sewage collection system shall comply with Federal and State requirements for infiltration rates and that all new construction of sewage collection systems shall exclude the collection of storm waters.

c. Except as otherwise provided herein, the City and Town may at any time modify or add to their existing sewage collection system to specifically serve each municipality's requirements.

d. Construction:

1. The Town agrees to design, construct and totally fund the local share of the project costs of the sewer lines within the Town and the City required to collect and deliver sewage from the Town to the City treatment facility, including modifications and additions to the City's existing sewage collection system required to specifically serve the Town's requirements.

2. The design and construction of these new lines will be in conformance with State and Federal standards for this type of work and the City reserves the right to;

a. Review and approve right-of-way and final design plans and specifications prior to the bidding period

b. Concur in the designation of the prime contractor

c. Review and approve all change orders issued during construction

d. Monitor the construction activity to insure minimum interference with City resident properties and traffic

e. Make a final inspection to insure that the work has been completed in a workmanlike manner and any and all disturbances to City facilities have been properly rectified

3. The City shall arrange for and purchase any and all easements and land purchases necessary for the construction of the new lines within the City, subject to the Town's approval. The Town will pay the City for costs associated with these purchases. These costs will be included in the project costs for the construction of these lines.

4. Upon completion of the construction by the Town and acceptance by the City, the Town will issue whatever instruments necessary to transfer the ownership of the lines located within the City to the City and the City will thereafter own, operate and maintain these sewer lines. The Town will operate and maintain the lines located within the Town at the Town's expense.

e. The City further agrees to accept Town sewage flow into its existing collection system. Within the limits of capacity of the system to handle initial and projected City sewage flows, plus the flows from the Town, the City shall accept these flows into its sewers. In no event shall the Town sewage flow exceed a peak flow rate of 1.71 million gallons per day which shall be the Town's designated capacity of the sewage collection system; the remainder of the capacity of the system shall be the City's designated capacity. Neither the City nor the Town shall permit connections to the system which will result in its sewage flows exceeding its designated capacity.

ARTICLE C DETERMINATION AND ALLOCATION OF COSTS

I. Capital Costs - Sewage Treatment Plant

Berlin will pay capital costs for the wastewater treatment facility as follows:

New Construction	$ 75,600.00
Fair Value of Existing Facility	46,494.00
Fair Value of Existing Land	6,883.00

Town's Share of Total Capital Cost:

Capital costs of the additional 0.1 mgd of designated capacity that the Town has the right to acquire under Article E, III, shall be determined on the basis of the Town's proportionate share of the plant's capacity, and commencing on the date the Town exercises its right, the Town shall pay to the City the capital cost with accumulated interest in equal quarterly installments over a term coincidental with the remaining term of the bond obligation incurred by the City for the construction of the new treatment facility with interest at the same rate as the City pays on the bonds.

II. Capital Costs - Sewage Collection System

a. The total project costs incurred for the construction of the modifications or additions to the City sewer system to specifically serve City requirements shall be borne entirely by the City.

b. The total project cost incurred for the construction of modifications and additions to the existing City collection system so as to specifically serve the Town's requirements shall be borne entirely by the Town.

1. In the event that the City desires to connect to such facilities, the City and the Town shall then mutually determine the fair value of the facilities to be used jointly. The City's share of the fair value to be repaid to the Town shall then be computed by multiplying the ratio of the City's designated capacity to the capacity of the facility by the fair value of the facility.

2. The above paragraph should not be construed to include the City's financial participation in a project cost for facilities that are solely required for the Town, even if said facilities may be jointly used, if the existing facilities, which the City has available, have adequate capacity for City flows.

c. The total project costs incurred for the construction of replacement, modifications or additions to the existing collection system within the City limits to serve the requirements of both municipalities shall be borne by each municipality in the ratio of its designated capacity to the sum of designated capacities for the facilities. This should be construed to exclude replacements, modifications or additions which would not otherwise have been undertaken or required by the City in the normal course of maintaining the collection system for use of City residents.

d. The City and the Town shall mutually determine the fair value of the facilities in the existing City collection system which are to be used jointly by both municipalities. The Town's share of the fair value to be paid to the City shall then be computed by multiplying the ratio of the Town's designated capacity to the capacity of the facilities by the fair value of the facilities.

III. Operating Costs - Sewage Treatment Plant

a. Operating costs for the treatment plant shall include, but are not limited to, the following:

1. Salary costs of personnel employed and assigned to positions of operation or maintenance of the plant.

2. Operator training program.

3. Legal, fiscal, administrative, taxes and service costs deemed necessary for the operation of the plant.

4. Electric power.

5. Fuel.

6. Lubricants.

7. Chemicals.

8. Sludge disposal.

9. Maintenance of a monetary reserve account with an assigned maximum mutually agreed to by the parties. Expenditures from this account to be restricted to the payment of costs associated with and agreed to for major equipment repair or equipment replacement, or upon joint agreement by the municipalities, the project costs for the construction of any additional facilities necessary to upgrade the plant to meet minimum Federal and State requirements. Any costs in excess of the reserve amount shall be made up from the yearly variable operating costs with assessments assigned to each municipality.

10. Other maintenance costs not covered under Number 9 above and other operating costs.

11. It is agreed and understood by and between the parties that the monies contributed by each party to the monetary reserve account together with accumulated interest shall

remain the property of each party until and unless expended. In the event the instant Agreement is terminated or concluded, either party shall be entitled to receive back that portion of the balance of the fund contributed by each party together with accumulated interest thereon.

12. The City shall make available to the Town monthly computer printouts on the operating costs affecting the sewage treatment plant and shall on request no more often than quarterly and after reasonable notice make available for inspection all bills, accounts, vouchers, statements or other like documents applicable to costs incurred on said plant operations.

b. Distribution of Operating Costs

1. The operating costs shall be shared by the Town and the City. The Town's share of the operating costs shall be the sum of the Town's share in the operating costs relating to flow, BOD and suspended solids, respectively. The Town's share of the operating costs relating to flow will be 34 percent of the plant operating costs times the ratio of the average flow from the Town to the average flow at the plant. The Town's share of the operating costs relating to BOD will be 41 percent of the plant operating costs times the ratio of the average BOD contributed by the Town to the average BOD received at the plant. The Town's share of the operating costs relating to suspended solids will be 25 percent of the plant operating costs times the ratio of the average suspended solids contributed by the Town to the average suspended solids received at the plant.

2. At the beginning of the City's fiscal year, the estimated operating costs will be established with the Town and a monthly payment schedule will be established. The actual operating costs shall be established at the end of each fiscal year and the estimated operating costs shall be adjusted accordingly with either rebates to or additional assessment against the Town.

IV. Operating Costs - Sewage Collection System

The Town shall bear its fair share of the operating cost of the sewer system within the City that is used either jointly with the City or separately by the Town.

a. In determining the Town's share, the total operating cost of the City sewer system, excluding the pump or lift stations, shall be divided by the total length of the sewer lines existing on the first day of each calendar year during the term

of this AGREEMENT and it is agreed that the total length of the sewer lines as of the day of the signing of this AGREEMENT within the City is 36.78 miles. This number shall then be multiplied by the length of the sewer lines used exclusively by the Town and by 50% of the length of the sewer lines used jointly by the City and the Town in determining the Town's share.

b. At the beginning of each fiscal year, the estimated operating costs will be estimated with the Town and a monthly payment schedule will be determined. The actual operating cost shall be established at the end of each fiscal year and the estimated operating cost shall then be adjusted accordingly with either rebates to or additional assessments against the Town.

ARTICLE D PAYMENT OF COSTS

I. Existing and New Sewage Treatment Plant and Facilities

a. The Town agrees to pay its share of the costs as described in Article C, Section I, in equal annual amounts payable quarterly over a term coincidental with the term of the bond obligation incurred by the City for the construction of the new treatment facility. Interest will be payable at the time of payment at the same rate as the City pays on the bonds. Until the City sells the bonds, the Town shall pay interest on its share at the same rate as the City pays for temporary or interim financing, payable on the same day as the City must pay interest for such financing.

b. The Town agrees to pay its fair share of the net local cost of the total project costs for the treatment plant upgrading including interest not later than two (2) weeks prior to the date on which the City bond(s) and interest payments are due. Contributions of the Town shall be limited to the upgrading project as opposed to the primary plant as it now exists or any obligation for the payment of bond(s) or interest on bond(s) as exist for the former plant.

II. Existing and New Sewage Collection System

a. The Town agrees to pay the City for its fair share of the cost including any interest charges of the portion of the existing City collection system which is used by the Town. This payment will be paid quarterly each year over a period of time as specified under Section I, a, above.

b. The Town agrees to pay within thirty (30) days its fair share of the project cost of all replacements, modifications and/or additions to that portion of the City collection system that will be jointly used or used solely by the Town in the event the City incurs costs which are properly allocated to the Town under Article C, II.

c. If the City desires to connect to collection systems constructed specifically for the Town as defined in Article C, II, b, the City agrees to pay the Town for its share of the costs, including any interest charges of that portion of the collection system which is to be used by the City. This payment may be made as an initial lump sum payment or paid quarterly each year over a period of time coincidental with the Town's bond obligation incurred for construction of said system and at the same rate of interest paid by the Town.

III. Operating Costs

The Town agrees to pay its share of the operating costs of the City sewage treatment facility and collection system on a monthly basis within 30 days of billing.

ARTICLE E INTENT OF AGREEMENT

I. It is the specific intent of this Agreement to effect a basis of mutual understanding of the conditions under which the treatment of wastewater will be provided.

II. By becoming a party to this Agreement, the Town hereby commits itself to the following financial responsibilities:

a. The Town hereby agrees to participate in any and all expansion and/or upgrading of these facilities, as may be dictated by State or Federal regulatory agencies. Such needs may result from a change in effluent quality standards or receiving stream standards which may demand upgrading of treatment facilities.

b. Should the Town, after completion of the construction and payment of its share of the project costs, desire to increase its designated capacity, the City shall initiate the necessary planning and construction works, upon satisfactory financial commitments to the City.

c. If there is a disagreement, Article H will apply.

* TOWN Add'l 100,000 gpd

III. Although designated capacity is totally reserved for use by the purchasing municipality, portions of unused designated capacity may be considered a salable item. The Town may, at any time, acquire an additional 0.1 mgd of designated capacity and proportionate increases in the allowances of BOD and suspended solids upon the same terms for payment of the capital and operating costs as provided for under Articles C and D. Additionally, the Town will have the right of first refusal, on the same terms, to any sale of excess capacity of the treatment plant within thirty (30) days after notice by the City of an offer to sell some or all of such excess capacity to another municipality.

Right of First Refusal

ARTICLE F MODEL ORDINANCE

The parties hereto agree to conform to the intent of the Model Ordinance as recommended by the Water Pollution Control Federation in its Manual of Practice No. 3 dated 1975 and to conform to all laws, rules, regulations and ordinances enacted or promulgated by legally constituted Federal and State agencies.

ARTICLE G FORMATION OF COMMITTEE

The parties hereto agree to form a committee, composed of two members of the City of Montpelier Board of Aldermen and two members of the Town of Berlin Board of Selectmen or their respective appointed representatives, who will meet at least once each six months. The function of the committee will be to review operating costs of the City sewage treatment plant, flows and pollutant loads, computations of payments provided for herein and any and all other matters relating to findings on these matters. The City agrees to make available to the committee for inspection all records relating to all matters covered by this Agreement.

ARTICLE H DISPUTES

Any dispute arising out of this Agreement and not resolved within thirty (30) days shall be submitted to a three-person arbitration panel for arbitration. One member shall be selected by the City; one member shall be selected by the Town; and the third member shall be selected by agreement of the City and Town. In the event the City and Town are unable to agree on the third member, the two members shall elect the third member. In the event these members cannot agree, the third member shall be selected under the rules of the American Arbitration Association.

The arbitrators shall maintain a record of the proceedings and base their decision on specific findings of fact and conclusions of law.

If a party is dissatisfied with the decision rendered by the arbitrators, the dissatisfied party may bring an action in the Superior Court within thirty (30) days of the date of the arbitration decision, otherwise such decision shall be final. The parties will be bound by the decision of the arbitrators unless such decision is inconsistent or contrary to facts presented to the arbitrators or the arbitrators' findings and conclusions.

Steve

AGREEMENT AMENDMENT

Pursuant to Articles C(I) and E(III) of the Agreement on Sewage Treatment and Collection between the City of Montpelier, Vermont and the Town of Berlin, Vermont, the Town hereby exercises its right to purchase an additional 0.1 mgd of designated sewage treatment capacity. In consideration for the purchase of said additional capacity, the Town shall pay to the City the sum of $10,870, and in addition shall pay to the City those system operating costs identified in Article D(III) of said Agreement.

Done at Montpelier, Vermont, this 26th day of January, ~~1989.~~ 1990.

CITY OF MONTPELIER
TOWN OF BERLIN

By: Reginald Cotton
City Manager

By: Robert J. Schmeck
Chairman, Board of Selectmen

JPG:sb

State of Vermont
Washington County ss

The above subscribed and sworn to before me at Mont
in said county, this 26th day of January, 1990.

Jean A Hart
Notary Public

RECEIVED
JAN 30
Office of Public Works
Commissioner
Montpelier, Vt.

APPENDIX D

TOWN OF PLAINFIELD
SEWER RATES AND FEES

Town of Plainfield Water Rates and Fees

Application fee for allocation of Municipal Water $10.00

The Impact fee is determined as stated on the attached Impact Fee policy approved August 6, 2007.

The water usage Base rate is $107.00 for 30,000 gallons of water billed semi-annually.
An overage charge of $2.10 per 1000 gallons is charged for usage over the 30,000 gallons allotted.

The billing cycle as determined by the Commissioners in January 1991 is from July 1 to December 31 and then January 1 to June 30.

Disconnect fee $25.00
Re-connect fee $25.00

Town of Plainfield Wastewater Rates and Fees

Application fee for allocation of Municipal Wastewater $10.00

The Impact fee is determined as stated on the attached Impact Fee policy.

The Wastewater usage Base rate is $185.00 billed semi-annually.
#185 x 2 = #370 per year

The billing cycle as determined by the commissioners in January 1991 is from September 15 to March 14 and then March 15 to September 14.

Disconnect fee $25.00
Re-connect fee $25.00

Meter Service

Service Call	$10.00 (minimum)
Frost Plate	$ 7.00
Frost Plate & Replacement	$ 7.00 and $18.00 Total $25.00
Meter Removal	$25.00

Fees effective July 1, 2006 as adopted by the Water and Wastewater Commission.

Town of Plainfield
Wastewater Department Impact Fee

Pursuant to the Town of Plainfield, Vermont Wastewater Reserve Capacity Allocation Ordinance, 24 VSA Section 5203, and the Plainfield Town Charter, Sections 131-702; the Town of Plainfield Wastewater Commission hereby adopts the following formula for the imposition of an impact fee on any new development or increased service to old development, as follows:

1. One ERU (Equivalent Residential Unit) shall be assigned for every 210 gallons per day of design flow as described in Table 1, Part C, page 72 of the current Vermont State Flow Charts.

2. No building shall be assigned less that 1 ERU but additional ERUs may be assigned in ½ unit increments.

3. The impact fee (per ERU) will be equal to the prevailing annual cost of debt service, as determined by the Wastewater Commission at the beginning of each fiscal year, divided by the number of users, multiplied by the year of service of the wastewater system (1998 being year one, but not to exceed a multiplier of more than 15). The commissioners may add surcharges to the fee at the annual adoption of the rate schedule in order to address impacts other than debt service. The fees are intended to contribute toward the existing users' prior commitment to the system's reserve capacity, which makes the new connection feasible. Receipts of impact fees shall be dedicated to a capital improvement fund as governed by Title 24 VSA, Chapter 131.

Adopted at a duly warned meeting of the Water and Wastewater Commission held on October 11, 2007.

Rose Paul

Rose Paul, Chair

Mary Lane

Mary Lane

Harry Dailey

IMPACT FEE PER ERU CALCULATION – For Example

1-30-08
By Don Phillips

Refer to paragraph 3. Above.

Existing Data: $48,878 = "prevailing annual cost of debt service at beginning of the fiscal year"
376.5 = Number of users (as of 1/30/08). This is actually the number of ERUs.
14 = Year of service with 1998 being year1, to a max of 15. Assume 2011.

Impact Fee per ERU is therefore: $48,878 / 376.5 = $129.82
$129.82 X 14 = $1,817 per ERU

APPENDIX E

RURAL DEVELOPMENT
GRANT ELIGIBILITY CHART

Non-Metro MHI: $40,856.
Intermediate:$32,684.- $40,855.
Poverty: $32,683.and Below

TOWN	Population	Income	% CF Grant Eligible	% WEP Grant Eligibile	SERVICING OFFICE
Calais	1,529	46,083			Montpelier
Cambridge	3,186	44,950			Montpelier
Cambridge Village	235	31,250	35	75	Montpelier
Canaan	1,078	32,574	35	75	Woodsville
Castleton	4,367	39,615		45	Brattleboro
Cavendish	1,470	34,727	15	45	Brattleboro
Charleston	895	28,083	55	75	Woodsville
Charlotte	3,569	62,313			Montpelier
Chelsea	1,250	32,024	35	75	Montpelier
Chester	3,044	39,417		45	Brattleboro
Chester-Chester Depot CDP	999	30,804	35	75	Brattleboro
Chittenden	1,182	45,313			Brattleboro
Clarendon	2,811	41,597			Brattleboro
Colchester	16,986	51,429			Montpelier
Concord	1,196	35,357	15	45	Woodsville
Corinth	1,461	32,198	35	75	Montpelier
Cornwall	1,136	52,692			Brattleboro
Coventry	1,014	33,487	15	45	Woodsville
Craftsbury	1,136	34,453	15	45	Woodsville
Danby	1,292	37,137		45	Brattleboro
Danville	2,211	42,440			Woodsville
Derby	4,604	35,313	15	45	Woodsville
Derby Center Village	670	27,865	55	75	Woodsville
Derby Line Village	775	33,966	15	45	Woodsville
Dorset	2,036	54,219			Brattleboro
Dover	1,410	43,824			Brattleboro
Dummerston	1,915	46,121			Brattleboro
Duxbury	1,289	47,981			Montpelier
East Haven	301	34,375	15	45	Woodsville
East Montpelier	2,578	46,469			Montpelier
Eden	1,152	35,417	15	45	Montpelier
Elmore	849	45,357			Montpelier
Enosburg	3,788	33,683	15	45	Montpelier
Enosburg Falls Village	1,473	30,221	35	75	Montpelier
Essex					
Essex Junction Village					
Fair Haven					
Fair Haven CDP					
Fairfax					
Fairfield					
Fairlee					
Fayston					
Ferrisburg					
Fletcher					
Franklin					
Georgia					
Glover					
Goshen					

MEDIUM HOUSEHOLD INCOME

USDA RURAL DEVELOPMENT 2000 CENSUS TABLES

If MHI is $40, 856 or greater, the project is not RD grant eligible.

Could conduct "income survey" in the project service area.

APPENDIX F

RECOMMENDATIONS
2007 ON-SITE FEASIBILITY STUDY

2 RECOMMENDATIONS

Based on the findings of the Study, and conclusions presented above, it is hereby recommended that:

2.1 The Town carefully review the findings and recommendations presented in this report titled: Needs Assessment and Feasibility Study - Wastewater Treatment for the Village of the Town of East Montpelier. If the Town is in concurrence with the findings and recommendations, the Town should approve this report.

2.2 Alternative 2 is recommended for the Town to proceed and manage wastewater while refining wastewater needs in the villages. Other alternatives appear too costly under present funding scenarios.

2.3 Establish an approach to educate property owners regarding the transition from Town to State permitting of all small scale wastewater systems.

2.4 Seek grants to develop and implement the Wastewater Management Action Plan Framework. The first step is to develop a specific plan based on the elements in the framework (see Sections 2.4 and 5.2.2).

2.5 Implement the Wastewater Management Action Plan, as follows:

- 2.5.1 Provide public outreach, information and education of onsite wastewater system owners and users.
- 2.5.2 Inventory of onsite wastewater treatment systems
  - 2.5.2.1 Field inspection of onsite wastewater treatment systems
  - 2.5.2.2 Evaluation of soils in vicinity of existing onsite wastewater systems
  - 2.5.2.3 Locate failed systems and potential points of pollution
- 2.5.3 Continue to pursue best-fix approaches for marginal or failed systems as they become known
- 2.5.4 Develop and maintain a record-keeping program to track installed systems.
- 2.5.5 Provide and expand on information regarding potential sources of funding for individual onsite wastewater treatment system repairs and upgrades.
- 2.5.6 Promote public health protection, land use planning, and water qualtiy protection coordination among the following: Selectboard, Wastewater Advisory Committee, Sewage Officer, Health Officer, Planning Commission, and other appropriate local entities, regarding wastewater treatment capacity and compatibility with soil types.
- 2.5.6 Continue local discussion of establishing onsite wastewater management entities in the Villages as a potential model for implementing the Action Plan.
- 2.5.7 Participate in the ongoing revision of the Vermont Wastewater System and Potable Water Supply Rule (Environmental Protection Rules, Chapter 1) in advance of the July 1, 2007 jurisdictional changes, with specific emphasis on management and best fix systems.

Table No. 3
Summary of Wastewater Management Alternatives

No.	Description	Initial Year (2008) Flow (gpd)		Design Year (2028) Flow (gpd)		App. Land Area Needed (Acres)	Overall Advantages	Overall Disadvantages	Comments
1	Manage Existing Systems with Individual Solutions for Failed Systems[A]	Individual Systems See Table C-5		Individual Systems See Table C-5		N/A	- Addresses public health concerns - Onsite management can maximize individual system longevity and decrease or eliminate replacement costs - Costs are incurred as needed	- Solutions are dependant on site & soil limitations of individual property - Does not enable high density growth - Wide range of potential costs	- Requires onsite management program
1A	Cluster System for Failed System in East Montpelier	755		755		0.5	- Addresses public health concerns Onsite management can maximize individual system longevity - Costs are incurred as needed - Failed system is upgraded immediately	- Solutions are dependant on site & soil limitations of individual property - Does not enable high density growth - Wide range of potential costs	- Requires onsite management program
2	Manage Existing Systems with Individual Solutions for Failed & Marginal Sites[A]	Individual Systems See Table C-5		Individual Systems See Table C-5		N/A	- Addresses Public Health Concerns - Onsite management can maximize individual system longevity - Failed and Marginal Systems upgraded by owners	- Solutions are dependant on site & soil limitations of individual property - Does not enable high density growth - Wide range of potential costs for onsite system users	- Requires onsite management program - Costs are incurred immediately for owners of failed and marginal systems
3	On-Site Management Plus Off-Site Solutions for Individual Failed & Marginal Sites[A]	Individual Systems See Table C-5		Individual Systems See Table C-5		N/A	- Addresses Public Health Concerns - Onsite management can maximize individual system longevity - Failed and Marginal Systems upgraded immediately	- Does not enable high density growth - Wide range of potential costs for onsite and off-site system users - Solutions are dependant on site & soil limitations of onsite or offsite property	- Requires onsite management program - Costs are incurred immediately for owners of failed and marginal systems
4	On-Site Management Plus Small Clusters for Failed & Marginal Sites[A]	North Montpelier Cluster	5,200	North Montpelier Cluster	6,000	1.2	- Addresses Public Health Concerns - Failed and Marginal Systems upgraded immediately - Onsite management canincrease longevity of remaining systems	- Does not enable high density growth beyond marginal properties - Wide range of potential costs for onsite and cluster system users	- Requires onsite and cluster system management programs - Costs are incurred immediately for owners of failed and marginal systems
		Montpelier Village		Montpelier Village					
		Kelton Road Cluster	1,600	Kelton Road Cluster	1,900	0.4			
		Quaker Hill Cluster	2,100	Quaker Hill Cluster	2,300	1.9			
		Route 2 Center Cluster	2,400	Route 2 Center Cluster	2,800	0.6			
		Route 2 South Cluster	3,200	Route 2 South Cluster	3,600	0.8			
		Route 14 Cluster	3,300	Route 14 Cluster	3,900	0.8			
5	On-Site Management Plus Large Clusters for Failed & Marginal Sites[A]	North Montpelier Cluster	5,200	North Montpelier Cluster	6,000	1.2	- Addresses Public Health Concerns - Decentralized management model - Failed and Marginal Systems replaced with off-site/cluster solution immediately -Onsite management can increase longevity of remaining systems	- Does not enable high density growth beyond marginal properties - Wide range of potential costs for onsite and cluster system users	- Requires onsite and cluster system management programs - Costs are incurred immediately for owners of failed and marginal systems - Indirect discharge (ID) system (8,400 gpd) requires certified operator
		Montpelier Village		Montpelier Village					
		Route 2 Cluster	7,000	Route 2 Cluster	8,400	1.7			
		Route 14 Cluster	3,300	Route 14 Cluster	3,900	0.8			
6	Off-Site Management with Large Clusters for All Systems	North Montpelier Cluster	12,200	North Montpelier Cluster	14,600	3.0	- Addresses Public Health Concerns - Costs are shared among all users - Enables high density growth - Immediate solution for all village needs	- May require higher density growth to be cost-effective - Relatively High costs - May require mandatory connections to minimize user costs	- Requires municipal management - ID systems require certified operator
		Montpelier Village		Montpelier Village					
		Route 2 Cluster	22,900	Route 2 Cluster	27,400	5.7			
		Route 14 Cluster	10,000	Route 14 Cluster	12,100	2.5			
7	Off-Site Management with Direct Discharging Systems	North Montpelier	12,200	North Montpelier	14,600	2.0	- Addresses Public Health Concerns - Costs are shared among all users - Enables high density growth - Immediate solution for all village needs	- May require higher density growth to be cost-effective - Relatively high costs - May require mandatory connections to minimize user costs	- Requires municipal management - Wastewater treatment facilities require certified operator
		Montpelier Village	33,000	Montpelier Village	39,500	2.0			

Notes:
A. Onsite management action plan for individual systems are discussed in Section 5.2.2 with reference materials such as EPA management models (Appendix E).

FROM THE TOWN OF EAST MONTPELIER 2007
NEEDS ASSESSMENT AND FEASIBILITY STUDY