



**Veazie Town Council**

**Regular Meeting**

**February 10, 2014**

**AGENDA**

- ITEM 1:** Call to Order
- ITEM 2:** Secretary to do the Roll Call
- ITEM 3:** Pledge of Allegiance
- ITEM 4:** Consideration of the Agenda
- ITEM 5:** Approval of the January 27<sup>th</sup>, 2014 Council Meeting Minutes.
- ITEM 6:** Comments from the Public

**New Business:**

- ITEM 7:** FY 14/15 Budget guidance for School Department
- ITEM 8:** Penobscot Valley Refuse Disposal District Written Consent Ballot
- ITEM 9:** Acceptance of Project Canopy Grant

**Old Business:**

- ITEM 10:** Rec. Department Review
- ITEM 11:** Manager's Report
- ITEM 12:** Comments from the Public
- ITEM 13:** Requests for information and Town Council Comments
- ITEM 14:** Review & Sign of AP Town Warrant #15, and Town Payroll #16. Veazie School Payroll Warrant #16 and Veazie School Warrant #16.
- ITEM 15:** Adjournment

**Joseph Friedman**  
1 Veazie Villas  
852-0933

**Karen Walker**  
1002 Mutton Ln  
947-0458

**Robert Rice**  
1116 Buck Hill Dr  
942 -3064

**Tammy J. Perry**  
5 Prouty Drive  
947-9624

**Chris Bagley**  
16 Silver Ridge  
907-4820

# Agenda Items

## For February 10, 2014

### Council Meeting

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**ITEM 7:** Superintendent Rick Lyons, Principal Scott Nichols and Business Officer Manager Sharon Soucie will be with us to receive guidance from the Council on FY 14-15 School Budget

**ITEM 8:** A written consent ballot has been received by the Penobscot Valley Refuse Disposal District. This is a follow up from a previous letter that had been received from the group asking informally if we supported the return of the money that had been collected to the 28 member municipalities. Question 1 is a formal vote and ballot question 2 is presented on condition that question 1 is approved. A formal vote will need to be taken on each question and either signed by a member of the Council or authorization given to me on behalf of the Council to submit your vote

**ITEM 9:** The Conservation Commission had applied for a Project Canopy Grant. Before you is notification that the grant has been approved. The grant is a 50/50 matching grant with \$4000.00 being the amount awarded. This grant is intended to assist with hazard tree assessment, removal and replacement. The contract is before you tonight and if approved will need to be signed by a member of the Council or authorization given to me to sign on behalf of the Council

**ITEM 10:** A memo was sent to Director Young outlining your questions from the last meeting. The memo is enclosed along with his response for your review.

Veazie Town Council Meeting  
January, 27<sup>th</sup>, 2014

**Members Present:** Chairman Tammy Perry, Councilor Chris Bagley, Councilor Joseph Friedman, Councilor Karen Walker and Councilor Robert Rice, Manager Mark Leonard, Secretary Julie Strout, CEO John Larson and various members of the public.

**Members Absent:** None

**ITEM 1: Call to order**

Chairman Tammy Perry called the meeting to order at 6:30pm.

**ITEM 2: Secretary to do the roll call:**

All present

**ITEM 3: Pledge of the allegiance:**

**ITEM 4: Consideration of the Agenda**

Councilor Robert Rice wanted to propose, due to a conflict to change the Monday, March 10<sup>th</sup> Council Meeting to Wednesday, March 12<sup>th</sup>. The Council agreed with changing the date. Councilor Karen Walker wanted to add under New business #9b to discuss the Newsletter and under Old business #13b for the sale of lawnmowers. Chairman Tammy Perry wanted to add #8a School Committee discussion.

**ITEM 5: Approval of the January 13th, 2014 Council Meeting Minutes**

Councilor Robert Rice made a motion, seconded by Councilor Chris Bagley to accept the January 13th, 2014 Council Meeting Minutes as written. Voted 5-0-0. Motion carried.

**ITEM 6: Comments from the Public**

There were several comments made by Town Citizens

**New Business:**

**ITEM 7: Execution of ground rules for Fire Department Contract negotiations**

Councilor Robert Rice made a motion, seconded by Councilor Joseph Friedman to approve the Ground Rules for Negotiation dated 01/23/14. Councilor Rice made an amendment to authorize Manager Leonard as a representative to sign the document, seconded by Councilor Friedman. Voted 5-0-0. Motion carried.

**ITEM8a: School Committee discussion**

Chairman Tammy Perry wanted to discuss what the procedure was as for the school board signing contracts or do they need Council's approval. Councilor Friedman stated that the school has always signed their own contracts and its a state statute. Manager Leonard will call the Superintendent to find out this procedure.

**ITEM 8b: FY 14/15 budget guidance for Municipal Departments**

Councilor Robert Rice wanted to see if Manager Leonard could possibly make up a budget summary sheet using pie charts and bar graphs breaking out the percentages per department.

The Councilors would like a Reserve Account Report by next meeting.

Chairman Tammy Perry had two recommendations which were to include wage increases for staff that haven't had a raise in years and since the budget should be \$35,000 less due to the revaluation being all paid up she would like to see the budget stay \$35,000 less and have the money for increases available. Councilor Robert Rice agreed that we should find room for raises for our town employees.

Manager Leonard updated the Councilors on the Police Budget. The town now has three full time and four part time officers. Councilor Rice thought the training fee was high, Manager Leonard explained that they needed extra in the budget due to having to send a new officer to the Police Academy, so far to date they have not had to send anyone yet.

Councilor Rice wanted to make sure the Fire Dept. had enough money added to the training budget line. Chairman Perry brought up a topic for discussion in regards to putting \$60,000 or a smaller amount back into the budget. Councilor Friedman stated that we should not be discussing anything until we find out how the negotiations are going. Councilor Walker would like to see the training figures, what they are proposing.

Chairman Perry would like to have Manager Leonard get a draft budget for the Fire Dept. together prior to being presented to the Budget Committee.

The Council directed Manager Leonard to eliminate the Public Works line items for FY14/15 and budget the items remaining to different departmental categories.

Chairman Perry would like to obtain fund balances and get road recommendations from Manager Leonard first. They will table this discussion until a further meeting.

Councilor Walker was questioning if the GA budget was enough. Manager Leonard is comfortable with the figures on the budget now. Councilor Friedman would like Manager Leonard to get together with Mr. Silver to find out when his contract runs out and do an extension if needed.

**ITEM 9: Fire Department surplus equipment**

Councilor Robert Rice made a motion, seconded by Councilor Chris Bagley to authorize Manager Leonard to sell the Fire Department surplus equipment. Voted 5-0-0. Motion carried.

**ITEM 9b: Newsletter**

Councilor Karen Walker made a motion, seconded by Councilor Robert Rice to continue mailing out the Town Newsletter to the citizens quarterly. Voted 5-0-0. Motion carried.

**Old Business:****ITEM 13: Code Enforcement follow up**

CEO John Larson updated the Council on his understanding of the building code process with the town.

**ITEM 10: Review Recreation Dept. Revenue and Expense reports**

The Council would like to get an itemized list of supplies used for Rec. that the town owns, they want Manager Leonard to check with Orono Rec. to have a representative make a presentation at a future meeting. To get public comments on what to have for activities, what's the most popular. This Item will be on the Feb. 10<sup>th</sup> meeting again.

**ITEM 11: Water Testing Update**

Councilor Joseph Friedman made a motion, seconded by Councilor Robert Rice to move forward with the water testing with the recommended sites that the Council was given, using a qualified technician and a certified lab. Voted 3-2-0. Councilor Chris Bagley and Councilor Karen Walker opposed. Motion carried.

**ITEM 12: Mutton Lane follow up**

The Council agreed to table this Item until a further meeting. They are waiting for some information from the previous town attorney and the Council wanted a copy of the 2009 Mutton Lane Cap Stone Project report to review.

**ITEM 13b: Sale of lawnmowers**

Councilor Karen Walker made a motion, seconded by Councilor Joseph Friedman to sell all three lawnmowers the town owns. Voted 5-0-0. Motion carried.

**ITEM 14: Managers report**

Manager Mark Leonard reviewed his report with the Councilor's.

**ITEM 15: Comments from the Public**

There were a few comments made by town citizens.

**ITEM 16: Requests for information and Town Council Comments**

None

**ITEM 17: Review & sign of AP Town Warrant #14, and Town Payroll #15. Veazie School Payroll Warrant #15 and Veazie School Warrant #15.**

The warrants were circulated and signed.

**ITEM 18: Adjournment**

Councilor Joseph Friedman motioned to adjourn

Councilor Robert Rice seconded. No discussion. Voted 5-0-0

Motion carried.

Adjourned at 9:33pm

A True Copy Attest:

  
Julie L Strout

Deputy Town Clerk



# *Penobscot Valley Refuse Disposal District*

## WRITTEN CONSENT BALLOT

ITEM # 8

The two ballot questions below are presented to the Penobscot Valley Refuse Disposal District (PVRDD) for vote by written consent.

### BALLOT QUESTION 1

Shall funds in the amount of \$53,190.04, constituting the sum of all assets held by the PVRDD for the benefit of its 28 member municipalities, be disbursed to each of the member municipality proportionately as shown on the attached spreadsheet attached hereto and made part of this ballot question?

YES NO

Circle One

\_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Date)

\_\_\_\_\_  
(Printed Name)

\_\_\_\_\_  
(Municipality)

### BALLOT QUESTION 2

This Ballot Question is presented conditioned upon approval of Ballot Question 1 above.

Shall the PVRDD declare that all expenses and debts of the District are deemed paid and all of the assets of the District have been proportionally distributed in accordance with state law and further, that the PVRDD is hereby declared to be formally dissolved in accordance with state law.

YES NO

Circle One

\_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Date)

\_\_\_\_\_  
(Printed Name)

\_\_\_\_\_  
(Municipality)

Please return this ballot to the attention of Greg Louder via email attachment to:  
[glounder@mrcmaine.org](mailto:glounder@mrcmaine.org) or regular mail to: MRC, Inc., 395 State Street, Ellsworth, Maine 04605





# *Penobscot Valley Refuse Disposal District*

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To: PVRDD Member Communities  
From: Greg Lounder  
Date: February 3, 2014  
RE: Written Consent Ballot Questions Regarding Disbursement of Funds and District  
Dissolution

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Please find enclosed a written consent ballot containing two questions. The approval of the Question 1 would direct a proportional distribution of all assets of the District (the \$53,190.04 recovered and placed in escrow) to the member municipalities. The approval of Question 2 would direct and declare that the District be dissolved in accordance with state law.

Presentation of these Ballot Questions comes following: 1) consideration of any utility the District may have provided in securing and affordable, long term and environmentally sound MSW disposal solution for the member communities beyond 2018, 2) consultation of the Officers of the District and 3) solicitation of input from the member municipalities.

I'd like to thank all member communities for their efforts in this matter and also thank Dan Walker of PretiFlaherty for his highly effective legal support to the PVRDD communities.

Please contact Greg Lounder at 664-1700 or 1-866-254-3507 or by email at [glounder@mrcmaine.org](mailto:glounder@mrcmaine.org) with questions.



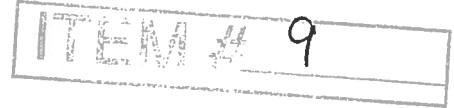
PAUL R. LePAGE  
GOVERNOR

STATE OF MAINE  
DEPARTMENT OF AGRICULTURE, CONSERVATION & FORESTRY  
MAINE FOREST SERVICE  
22 STATE HOUSE STATION  
AUGUSTA, MAINE 04333-0022

WALTER E. WHITCOMB  
COMMISSIONER

January 28, 2014

David Wardrop  
Town of Veazie  
PO Box 111  
Orono, ME 04473



Dear David Wardrop:

We are pleased to announce that you have been approved for a 2013 Planning and Education grant of **\$4000** under the Project Canopy Assistance Program. Congratulations! This award is 100% of the requested amount. Project Canopy grants are made available through the U.S.D.A. Forest Service Urban and Community Forestry Program CFDA 10:675.

The grant award is contingent on the Town of Veazie's ability to meet the following conditions:

- Ensure that Project Canopy, the USFS, and community forestry are promoted through signage, literature, and the local media.

Enclosed is an award packet containing <sup>two</sup> copies of the project agreement and general assurances. Please return one copy of the signed agreement and general assurances to the Maine Forest Service. **No work may begin on the project until both the agreement and the general assurances have been signed by both parties.** Please retain copies of all documents for your records. Any questions regarding grant terms and conditions may be addressed by contacting Jan Ames Santerre at 207-287-4987.

We look forward to working closely with you. Please let us know if we can be of further assistance.

Sincerely,

Doug Denico  
Director, Maine Forest Service

DOUGLAS P. DENICO  
DIRECTOR

18 ELKINS LANE, HARLOW BUILDING  
AUGUSTA, ME 04330  
[www.maine.gov/acf](http://www.maine.gov/acf)

PHONE: 207-287-2791  
OR: 800-367-0223  
FAX: 207-287-8422

# MAINE FOREST SERVICE

## GENERAL ASSURANCES

### FOR FEDERALLY FUNDED GRANTS

**Note:** Some of these assurances may not be applicable to your project or program. If you have questions, please contact the Maine Forest Service.

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As the duly authorized representative of the applicant, I certify that the applicant:

1. Has the legal authority to apply for Federal assistance, and the institutional, managerial financial capability (including funds sufficient to pay the non-Federal share of project costs) to ensure proper planning, management and completion of the project described in this application.
2. Will give the awarding agency, the Comptroller General of the United States, and if appropriate, the State, through any authorized representative, access to and the right to examine all records, books, papers, or documents related to the award; and will establish a proper accounting system in accordance with generally accepted accounting standards or agency directives.
3. Will establish safeguards to prohibit employees from using their positions for a purpose that constitutes or presents the appearance of personal or organizational conflict of interest, or personal gain.
4. Will initiate and complete the work within the applicable time frame after receipt of approval of the awarding agency.
5. Will comply with the Intergovernmental Personnel Act of 1970 (42 U.S.C. §§ 4728-4763) relating to prescribed standards for merit systems for programs funded under one of the nineteen statutes or regulations specified in Appendix A of OPM's Standards for a Merit System of Personnel Administration (5 C.F.R. 900, Subpart F).
6. Will comply with all Federal statutes relating to nondiscrimination; These include but are not limited to: (a) Title VI of the Civil Rights Act of 1964 (P.L. 88-352) which prohibits discrimination on the basis of race, color or national origin; (b) Title IX of the Education Amendments of 1972, as amended (20 U.S.C. §§ 1681-1683, and 1685-1686), which prohibits discrimination on the basis of sex; (c) Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. § 794), which prohibits discrimination on the basis of handicaps; (d) the Age Discrimination Act of 1975, as amended (42 U.S.C. §§ 6101-6107), which prohibits discrimination on the basis of age; (e) the Drug Abuse Office and Treatment Act of 1972 (P.L. 92-255), as amended, relating to nondiscrimination on the basis of drug abuse, (f) the Comprehensive Alcohol Abuse and Alcoholism Prevention, Treatment and Rehabilitation Act of 1970 (P.L. 91-616), as amended, relating to nondiscrimination on the basis of alcohol abuse or alcoholism; (g) §§ 523 and 527 of the Public Health Service Act of 1912 (42 U.S.C. 290 dd-3 and 290 ee-3), as amended, relating to nondiscrimination in the sale, rental or financing of housing; (i) any other nondiscrimination provisions in the specific statute(s) under which application for Federal assistance is being made; and (j) the requirements of any other nondiscrimination statute(s) which may apply to the application.
7. Will comply, or has already complied, with the requirements of Titles II and III of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (P.L. 91-646) which provide for fair and equitable treatment of persons displaced or whose property is acquired as a result of Federal or federally assisted programs. These requirements apply to all interests in real property acquired for project purposes regardless of Federal participation in purchases.
8. Will comply with the provisions of the Hatch Act (5 U.S.C. §§ 1501-1508 and 7324-7328) which limit the political activities of employees whose principal employment activities are funded in whole or in part with Federal funds.
9. Will comply, as applicable, with the provisions of the Davis-Bacon Act (40 U.S.C. §§ 276a to 276a-7), the Copeland Act (40 U.S.C. § 276c and 18 U.S.C. §§ 874), and the Contract Work Hours and Safety Standards Act (40 U.S.C. §§ 327-333), regarding labor standards for federally assisted construction subagreements.
10. Will comply, if applicable, with flood insurance purchase requirements of Section 102(a) of the Flood Disaster Protection Act of 1973 (P.L. 93-234) which requires recipients in a special flood hazard area to participate in the program and to purchase flood insurance if the total cost of insurable construction and acquisition is \$10,000 or more.
11. Will comply with environmental standards which may be prescribed pursuant to the following:  
(a) institution of environmental quality and control measures under the National Environmental Policy Act of 1969 (P.L. 91-190) and Executive Order (EO) 11514; (b) notification of violating facilities pursuant to EO 11738, (c) protection of wetlands pursuant to EO 11990; (d) evaluation of flood hazards in flood plains in accordance with EO 11988, (e) assurances of project consistency with the approved State management program developed under the Coastal Zone Management Act of 1972 (16 U.S.C. §§ 1451 et seq.); (f) conformity of Federal actions to State (Clean Air) Implementation Plans under Section 176(c) of the Clean Air Act of 1955, as amended (42 U.S.C. § 7401 et seq.); (g) protection of underground sources of drinking water under the Safe Drinking Water Act of 1974, as amended, (P.L. 93-523); and (h) protection of endangered species under the Endangered Species Act of 1973, as amended, (P.L. 93-205).
12. Will comply with the Wild and Scenic Rivers Act of 1968 (16 U.S.C. §§ 1271 et seq.) related to protecting components or potential components of the national wild and scenic rivers system.
13. Will assist the awarding agency in assuring compliance with Section 106 of the National Historic Preservation Act of 1966, as amended (16 U.S.C. 470), EO 11593 (identification and protection of historic properties), and the Archaeological and Historic

Preservation Act of 1974 (16 U.S.C. 469a-1 et seq.).

14. Will comply with P.L. 93-348 regarding the protection of human subjects involved in research, development, and related activities supported by this award of assistance.

15. Will comply with the Laboratory Animal Welfare Act of 1966 (P.L. 89-544, as amended, 7 U.S.C. 2131 et seq.) pertaining to the care, handling, and treatment of warm blooded animals held for research, teaching, or other activities supported by this award for assistance.

16. Will comply with the Lead-Based Paint Poisoning Prevention Act (42 U.S.C. §§ 4801 et seq.) which prohibits the use of lead based paint in construction of rehabilitation of residence structures.

17. Will cause to be performed the required financial and compliance audits in accordance with the Single Audit Act of 1984 or OMB Circular No. A-133, audits of Institutions of Higher Learning and other Non- Profit Institutions.

18. Will comply with all applicable requirements of all other Federal laws, executive orders, regulations and policies governing this program.

19. Will comply with the regulations implementing Sections 5151-5160 of the Drug-Free Workplace Act of 1988 (Pub. L. 100-690, Title V, Subtitle D; 41 U.S.C. 701 et seq.), 7 FR Part 3017, Subpart F, Section 3017.600, Purpose.

20. Will comply with the regulations Implementing Executive Order 12549, Debarment and Suspension, 7 FR Part 3017, Section 3017.510, Participants' responsibilities (regulations published as Part IV of the January 30, 1989 Federal Register pages 4722-4733.)  
(1) The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department of agency. (2) Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

21. Will not claim any expenditure under this project which is paid for, provided by, or used as match under any other Federal program including but not limited to FEMA/MEMA disaster recovery assistance programs and Americorps.

22. Will comply with the requirements to maintain record and documentation associated with this award for three years after the close of the grant period as per 7CFR section 3016.42  
The Maine Forest Service has combined the Standard Federal Grant Assurances included in SF 424, AD 1048, AD 1049, AD 1050, and FS III into one document. Approved OMB Forms and instructions are available upon request.

Signature of Authorized Certifying Official	Name and Title of Authorized Certifying Official (printed)	
Applicant Organization		Date Submitted



PAUL R. LEPAGE  
GOVERNOR

STATE OF MAINE  
DEPARTMENT OF AGRICULTURE, CONSERVATION & FORESTRY  
MAINE FOREST SERVICE  
22 STATE HOUSE STATION  
AUGUSTA, MAINE 04333-0022

WALTER E. WHITCOMB  
COMMISSIONER

January 24, 2014

David Wardrop  
Town of Veazie  
PO Box 111  
Orono, ME 04473

**Award No.:** 13-DG-076

**DUNS Number:** 627962640

**Program:** Urban and Community Forestry CFDA 10.675; Project Canopy Community Forestry Assistance Grants

**Project:** Hazard Tree Assessment, Removal, and Replacement

**Expiration Date:** 30 June 2015

Dear David Wardrop,

Enclosed is an approved copy of your 2010 Project Canopy Assistance Agreement for the **Hazard Tree Assessment, Removal, and Replacement** project funded through the Urban and Community Forestry Program. This grant shall commence when both parties have signed this agreement, but not prior to **30 January 2014**. This grant shall terminate on **30 June 2015** or when all of its terms and conditions have been satisfied, which ever comes first. A recipient cannot be allowed to incur costs prior to both parties signing this agreement. This ending date should provide adequate time to complete the project. Please sign and return your concurrence letter. The approved amount for this award is **\$4000**, matched 50/50 by the Applicant. Funding is provided through the USDA Forest Service, State & Private Forestry, under the authority of the Cooperative Forestry Assistance Act of 1978, as amended, 16 U.S.C. 2101-2114.

This is an award of federal financial assistance, and as such may be subject to the Office of Management and Budget (OMB) Circular A-87, Cost Principles for State and Local Governments; Circular A-133, Audits of States, Local Governments, and Non-profit Organizations; Circular A-110, Uniform Administrative Requirements for Grants and Agreements with Institutions of Higher Education, Hospitals, and Non-profit Organizations, as implemented by United States Department of Agriculture (USDA) Uniform Federal Assistance Regulations, 7 CFR 3019; Audits of Institutions of Higher Education, Hospitals, and Non-profit Organizations, 7 CFR 3051; Government-wide Debarment and Suspension (Nonprocurement) and Government-wide Regulations for Drug-Free Workplace, 7 CFR 3017; New Restrictions on Lobbying, 7 CFR 3018; and

DOUGLAS P. DENICO  
DIRECTOR

18 ELKINS LANE, HARLOW BUILDING  
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PHONE: 207-287-2791  
OR: 800-367-0223  
FAX: 207-287-8422

OMB Circular A-122, Cost Principles for Non-profit Organizations. In addition, the following administrative provisions apply:

- 1 - This grant program is conducted on a **reimbursement** basis.
- 2 - The Grantee will perform the work outlined in the approved 2013 Project Canopy Grant Application.
- 3 - All deliverables as outlined in 2013 Project Canopy Grant Application and required under this agreement must be delivered to the Project Canopy Director. All oral reports required under this agreement must be presented at the location requested by the Maine Forest Service (MFS).
- 4 - Rights and Obligations: This General Agreement is for federally funded grants governing the activities to be performed under this agreement, the nature of the working relationship between the MFS and the Grantee, and specific obligations of both parties. All rights and obligations of the parties to this agreement shall also be subject to and governed by the application form and original budget worksheet, each incorporated by reference herein.
- 5 - The Grantee shall complete all specified activities including submission of reports and/or other required documentation within the time periods set forth in the agreement. Failure by the Grantee to make satisfactory progress toward completion of the activities or project within the timelines specified in this agreement shall be considered a material breach and shall be grounds for immediate termination of this agreement by the MFS. The MFS has sole discretion to determine whether the Grantee is making satisfactory progress on the activities or project.
- 6 - Allowable costs are all charges necessary and reasonable to accomplish the objectives of the agreement during the grant period subject to MFS approval. The Grantee will meet with the MFS at the beginning of and throughout the grant period to discuss proposed projects and to determine which activities are reimbursable. Costs not eligible for reimbursement include, but are not limited to:
  - Salaries and wages;
  - Overhead;
  - Stipends or any kind of director's fees for urban forestry board members;
  - Out-of-state travel;
  - Construction activities or capital outlays including purchase of land, equipment (including computer hardware or anything else not previously approved as allowable costs by MFS).
- 7 - A performance of progress report shall be submitted semi-annually and within 30 days of the expiration of the grant.
  - a. The Cooperator shall constantly monitor the performance under Federal Assistance activities to assure that time schedules are being met, projected work units by time periods are being accomplished, and other performance goals are being achieved. When monitoring reveals problems, delays or adverse conditions which materially affect the Cooperator's ability to attain program objectives, prevent the meeting of time schedules and goals or preclude the attainment of project work units by established time periods, the Cooperator shall furnish to the Maine Forest Service a report outlining the circumstances and showing action taken or contemplated and any assistance needed to resolve the situation.
  - b. The Cooperator shall, by 30 days prior to the expiration of the grant, notify the Maine Forest Service if funds provided under this Agreement will not be expended.

- c. The Cooperator shall, semi-annually and, within 30 days of the expiration of the grant, submit to the MFS performance reports for this award which:
  - i. Compares actual accomplishments to the goals or targets established in the application narrative. Where outputs are quantifiable, such data should be related to cost data for computation of unit costs.
  - ii. If applicable, give reasons why established goals or targets were not achieved.
  - iii. Other pertinent information including, where appropriate, analysis and explanation of cost overruns or high unit costs, photographs, and media coverage.
- 8 - All final reports (accomplishments, request for reimbursement, financial status report) shall be due 30 calendar days after the expiration date of the grant or at the end of grant support.
- 9 - Method of Disbursement: Requests for disbursement under this agreement shall be submitted by the Grantee on the final reimbursement form. Invoices, copies of canceled checks, vouchers, town warrants, and proof of all match shall be included with the reimbursement forms. Invoices/warrants will include information as is necessary for the MFS to determine the exact nature of all expenditures. Each invoice will clearly indicate that it is for activities under this agreement. Requests for disbursement shall be submitted to the MFS Project Canopy Director.
- 10 - No additional requests for costs or expenses are allowable.
- 11 - Recapture Provision: In the event the Grantee fails to expend funds in accordance with any federal or state law or regulation or the provisions of this agreement, the MFS reserves the right to recapture funds in the amount equivalent to the amount of noncompliance. Repayment by the Grantee of funds under this section shall occur within 30 days of demand.
- 12 - Audit requirements for Federal award recipients are defined in OMB Circular A-133, Audits of States, Local Governments, and Non-Profit Organizations (revised June 27, 2003). OMB Circular A-133 now requires those being audited to submit a completed data collection form (SF-SAC) with the audit reporting package to the Federal clearinghouse designated by OMB -currently the Federal Audit Clearinghouse, Bureau of the Census, 1201 E. 10th Street, Jeffersonville, TN 47132. For questions concerning the submission process or to obtain a copy of the form, you may call the Federal Audit Clearinghouse (888-222-9907). Information can also be found on the Internet at <http://harvester.census.gov/sac/>. If a grant is closed out without an audit, the Forest Service reserves the right to disallow and recover an appropriate amount after fully considering any recommended disallowances resulting from an audit which may be conducted later.
  - a. If the audit reveals findings and questioned costs relating to Federal awards passed through from MFS, forward a copy of the audit, along with the subrecipient response and the final corrective action plan as approved by the Auditor to the MFS within nine months after the end of the audit period.
  - b. The subrecipient shall provide to MFS by August 31 of each calendar year the following:
    - i. Type of audit to be performed (Federal Single Audit Act or a local audit). If the subrecipient is exempt from federal audit requirements, MFS shall be so notified and they are still required to perform b (iii) and b (iv).
    - ii. **Auditor (s) name, address, and phone number.**
    - iii. A list of all state agencies providing federal assistance to the subrecipient.
    - iv. A listing of all financial assistance sources and the amounts provided and identified under the following categories: Federal Assistance Obtained Directly From A Federal Agency, Federal

Assistance Obtained Through A State Or Local Government, and Other Financial Assistance  
Obtained From A State Or Local Government.

- 13 - Prior approval is required for any changes to the scope of objectives of the approved key personnel, or transfer of substantive programmatic work to another party. Until written approval is granted for a modification, the terms and conditions of the original award remain in effect. All requests that require prior approval must be made, in writing, to the Maine Forest Service no later than 30 days before the proposed change.
- 14 - Program Income: Gross income directly generated by a grant-supported activity or earned as a result of the grant during the grant period, is not allowed without prior approval from MFS.
- 15 - All Records and Receipts relating to the expenditures and match for this project must be maintained and available in a grant file for at least 3 years after the close of the grant period.
- 16 - Acknowledgements—Maine Forest Service support shall be acknowledged in any publication or audiovisuals developed as a result of this instrument - ex. *The work upon which this publication is based was funded in whole or in part through a grant awarded by the Maine Forest Service and the USDA Forest Service.*
- 17 - The Cooperator shall, upon receipt of the award, notify the media via press release or letter to the editor. All press coverage of grant projects shall be forwarded to the MFS Project Canopy Director with final grant documentation.
- 18 - Pruning Specifications:
  - a. All pruning projects will adhere to the guidelines put forth in “How To Prune Trees” USDA Forest Service publication number NA-FR-01-95
- 19 - Planting Specifications:
  - i. All planting projects will adhere to the guidelines put forth in “Planting Trees in Designed and Built Community Landscapes.”
  - ii. All wire baskets will be removed.
  - iii. All trees will be planted at the trunk flare. This may mean soil excavation to locate trunk flare from the root ball.
  - iv. Planting of materials classified as invasive species by the Maine Department of Agriculture, Conservation, and Forestry are not allowed.
  - v. Planting of ash (*Fraxinus* sp.) is not allowed.
  - vi. Species planted under, near or above utility lines shall be of compatible size and form so as not to interfere with utility lines.
  - vii. Guying is not recommended.
- 20 - Planting project survival rate: Any tree planting project under the terms and conditions of this grant is required to have a 90% survival rate for three years following the planting. The MFS will make the determination through follow-up inspections. It will be the responsibility of the Grantee to supply documentation verifying the failure was not due to neglect. Failure to comply will cause the Grantee to be ineligible for Project Canopy grants for three years.
- 21 - Forest Management Plan Specifications:



a. All forest management plans will adhere to the guidelines put forth in “Maine Forest Service Stewardship Program: Guidelines for Forest Management Plans”

22 - Debarment and Suspension (Rider D)

The Cooperator/Provider shall immediately inform the Department if they or any of their principals are presently excluded, debarred, or suspended from entering into covered transactions with the federal government according to the terms of 2 CFR Part 180. Additionally, should the Cooperator/Provider or any of their principals receive a transmittal letter or other official federal notice of debarment or suspension, then they shall notify the Department without undue delay. This applies whether the exclusion, debarment, or suspension is voluntary or involuntary.

23 - Legal Authority

The cooperator/Provider shall have the legal authority to enter into this agreement, and the institutional, managerial, and financial capability to ensure proper planning, management, and completion of the project, which includes funds sufficient to pay the nonfederal share of project costs, when applicable.

## 24 - Non-Liability

The Department does not assume liability for any third party claims for damages arising out of this instrument.

25- Members of Congress

Pursuant to 41 U.S.C. 22, no United States member of, or United States delegate to, Congress shall be admitted to any share or part of this instrument, or benefits that may arise there from, either directly or indirectly.

## 26- Drug-Free Workplace

a. The Recipient agrees that it will publish a drug-free workplace statement and provide a copy to each employee who will be engaged in the performance of any project/program that receives federal funding. The statement must:

- (1) Tell the employees that the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance is prohibited in its workplace;
  - (2) Specify the actions the recipient will take against employees for violating that prohibition; and
  - (3) Let each employee know that, as a condition of employment under any award he or she
- (I) Must abide by the terms of the statement, and
  - (II) Must notify you in writing if he or she is convicted for a violation of a criminal drug statute occurring in the workplace, and must do so no more than five calendar days after the conviction.

b. The Recipient agrees that it will establish an ongoing drug-free awareness program to inform employees about:

- (I) The dangers of drug abuse in the workplace;
- (II) Your policy of maintaining a drug-free workplace;
- (III) Any available drug counseling, rehabilitation and employee assistance programs; and (IV)

The penalties that you may impose upon them for drug abuse violations occurring in the workplace.

c. Without the Program Manager's expressed written approval, the policy statement and program must be in place as soon as possible, no later than the 30 days after the effective date of this instrument, or the completion date of this instrument, whichever occurs first.

d. The Recipient agrees to immediately notify the Program Manager if an employee is convicted of a drug violation in the workplace. The notification must be in writing, identify the employee's position title, the award/agreement number of each instrument on which the employee worked. The notification must be sent to the Program Manager within ten calendar days after the Cooperator/Provider learns of the conviction.

e. Within 30 calendar days of learning about an employee's conviction, the Recipient must either:

- (1) Take appropriate personnel action against the employee, up to and including termination, consistent with the requirements of the Rehabilitation Act of 1973 (29 USC 794), as amended, or

(2) Require the employee to participate satisfactorily in a drug abuse assistance or rehabilitation program approved for these purposes by a Federal, State or local health, law enforcement, or other appropriate agency.

27- Eligible Workers

The Cooperator/Provider shall ensure that all employees complete the 1-9 form to certify that they are eligible for lawful employment under the Immigration and Nationality Act (8 USC 1324a). The Cooperator /Provider shall comply with regulations regarding certification and retention of the completed forms. These requirements also apply to any contract or supplemental agreement awarded under this instrument.

28- Title VI Compliance

The recipient shall comply with all Federal statutes relating to non- discrimination and all applicable requirements of all other Federal laws, Executive orders, regulations, and policies. These include but are not limited to: (a) Title VI of the Civil Rights Act of 1964 (42 U.S.C. 2000d, 2000e-16), which prohibits discrimination on the basis of race, color, disability, or national origin; (b) Title IX of the Education amendments of 1972, as amended (20 U.S.C. 1681-1683, and 1685-1686), which prohibits discrimination on the basis of sex; and Section 504 of the Rehabilitation Act of 1973 as amended (29 U.S.C.794) which prohibits discrimination on the basis of disabilities.

29- Freedom of Information Act

It is the Department's policy to inform the public as fully as possible of its programs and activities. The Cooperator/Provider is encouraged to give public notice of the receipt of this instrument and, from time to time, to announce progress and accomplishments.

30- Public Information

The Cooperator/Provider shall include the following statement, in full, in any printed, audiovisual material, or electronic media for public distribution developed or printed with any federal funding.

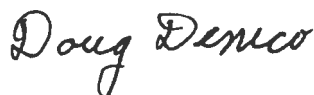
"In accordance with Federal law and U.S. Department of Agriculture policy, this institution is prohibited from discriminating on the basis of race, color, national origin, sex, age, or disability. (Not all prohibited bases apply to all programs.)

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 1400 Independence Avenue, SW, Washington, DC 20250-9410 or call (202)720-5964 (voice and TDD). USDA is an equal opportunity provider and employer. "

Signatures by both parties on this award letter indicate agreement to the terms and conditions of this grant document. Two copies signed by the Forest Service are provided. After your review and approval, please sign both copies and return one for our records. Funds for this award of financial assistance will not be available to draw down until the counter signature page is received.

If you have any questions about this grant, please call Jan Santerre 207-287-4987.

Sincerely,

A handwritten signature in black ink that reads "Doug Denico". The signature is written in a cursive, slightly slanted style.

Doug Denico  
Director, Maine Forest Service

**Program:** Urban and Community Forestry CFDA 10.675; Project Canopy Community Forestry Assistance Grants  
**CFDA: 10.675**

**Title of Project:** Hazard Tree Assessment, Removal, and Replacement

**Award No.:** 13-dg-076

**DUNS:** 627962640

**Name:** Town of Veazie

**Address:** PO Box 111, Orono, ME 04473

**Award Amount:** \$ 4000

**Principal Place of Performance:** Veazie, Maine

**Project Description:** hazard trees throughout town will be assessed by a licensed professional forester with hazard tree training. Trees with risk to the public (along roads, cemetery, school, and town office) will include an inventory of species, location, type, and level of risk. High risk trees will be the focus of the removal replacement program. The program will include public outreach, with an educational focus on proper site specific replacement tree selection, including which species are nor appropriate to replant.

**Expiration Date:** 30 June 2015

The financial assistance award and obligation is approved.

  
\_\_\_\_\_  
Doug Denico

1/24/2014  
\_\_\_\_\_  
Date

Director, Maine Forest Service

\_\_\_\_\_  
Name of Authorized Representative

\_\_\_\_\_  
Date

\_\_\_\_\_  
Title

Remarks:

In all its programs and activities, the U.S. Department of Agriculture (USDA) prohibits discrimination on the basis of race, color, national origin, gender, religion, age, disability, political beliefs, sexual orientation, or marital or family status. (Not all prohibited bases apply to all programs.) Those with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202)720-2600 (voice and TDD).

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call (202)720-5964 (voice or TDD). USDA is an equal opportunity provider and employer.



# Memorandum



**To:** Mark Leonard Town Manager  
**CC:** Veazie Town Councilors  
**From:** Robert N Young Recreation Director  
**Date:** 2/7/2014  
**Re:** Recreation Follow up Questions

---

The following is a list of items that the Recreation Department currently has as inventory:

1. Popcorn Machine with supplies
2. Hot Dog Steamer
3. 24 Youth Soccer Balls / 2 Soccer Goals/ 1 Case of field lining paint
4. 24 Youth Basketballs
5. 2 Dozen Youth Baseballs/ 4 Baseball Bats / 1 Set of catchers gear/ 1 Dozen baseball helmets
6. 10 Totes of miscellaneous Arts and Crafts Supplies
7. 20 Pair of youth snowshoes/4 adult pairs
8. 1 blow up single water slide
9. Halloween Carnival Games
10. 40 movies VHS/DVD
11. 12 Board Games
12. Much of the gym equipment that the Recreation Department uses is property of the Veazie Community School. The school has been very good at allowing the Recreation Department to use their space and supplies. The Recreation allows the School and PTO to borrow whatever equipment is needed. The relationship between the Veazie School and the Recreation Department is outstanding
13. Baseball field Drags (2)
14. Baseball line edger
15. Baseball field rake/shovel / wheel barrel

16. Battery Charger for lawn tractor

The most popular youth programs are soccer and basketball. With this being said both programs have seen drop in participant's over the past few years. Soccer has had to compete with 2 very strong programs. Bangor Soccer club has grown to over 1000 participants in the past few years. This program allows children from surrounding communities to participate in the program. This program provides children with complete soccer uniforms and numerous places to play games and practice. This program also allows children the opportunity to travel throughout the state. Seacoast Soccer Club provides an opportunity for the elite soccer player to play and travel to other states. The other issue affecting the numbers is the fact that the numbers of students are down at the Veazie Community School which is some cases allow 5<sup>th</sup> graders to play for the middle school teams. Fifth grade students who play for the middle school team rarely play for the Recreation team. The other issue is the fact that students have so many different choices during each season now.

# **Manager's Report For February 10, 2014 Council Meeting**

I met with Phil Ruck, Barney Silver and John Larson to have the quarterly storm water meeting. This was the first of a series of meeting that we will be having both with in house staff and contracted staff. Mike Lagasse from Lagasse Lawn Care had been scheduled to come to the meeting but was unable to make it. He and Phil were going to get together at a later date to go over what we had discussed at the meeting. We have scheduled another group meeting for February and Phil and I will be meeting again on the 24<sup>th</sup> to complete some paperwork for permitting.

As requested I have made copies of the Sewer District Audit and the Mutton Lane Capstone project and included those in your packets for review.

I have gone thru the questions that were posed during the budget direction discussions at the last council meeting and have included my findings for those questions.

I have prepared and posted an announcement for the sale of the fire department's surplus equipment. I have included these for your review.

I received and reviewed the approval email for Phase 1 inspection of the community center.

I spoke with Bill Demaso to schedule the collection of the 10 water samples that the council agreed to at the last meeting. The dates decided were either Feb 12 or 13 or Feb 18<sup>th</sup>, 19 or 20<sup>th</sup>. They would like to collect the samples between 730 AM and 130 PM. I've provided these dates and time to Joan Perkins who is helping coordinate the volunteers.

I met with members from EMDC, DEP and the Consulting group that was hired by EMDC to perform the Phase 1 assessment at the Community Center.

I attended a ½ day training on issuing concealed handgun permits at Hampden Police Department

I have spoken to Derrick Carleton of MDOT and discussed the project they will be performing in the Town of Veazie this year. His previous contact information was correct or we would have had information on this project earlier. We are going to continue this discussion as I have brought the problems with the crosswalk to his attention and we are trying to determine who is responsible for them. A paving project is scheduled for State Street to Thompson Road on School Street.

I met with Phil Ruck about completing necessary paperwork. A lot of the information we were able to obtain from reviewing previous work but more will need to be completed. He will be returning to meet with Code Enforcement and possibly the assessor to complete the paperwork.





# **Manager's Report For February 10, 2014 Council Meeting**

I was able to facilitate the sale of the surplus trailer from the Fire Department to a Church Group from Southern Maine.

End of month GA reporting paperwork was completed and sent to the State of Maine for reimbursement.

I met with a representative from Carpet One to get a quote on replacing the flooring in the Town Office section of the Municipal building

I completed my local health officer yearly training online

A survey was completed for the Maine Fire Service Institute reference volunteer and paid firefighters

A general assistance compliance survey was completed

A freedom of information request from Waste Management was complete

I completed the application for the new online fire permitting program they are starting

I attended a day long training/meeting for the Maine Chiefs of Police Association in South Portland. The training covered was contemporary legal issues in policing.

I have worked with Captain Metcalf in developing a draft budget for the Fire Department. This has been included in the follow up memo drafted by me after the last Council Meeting

The letter I sent to former Town Attorney Rick Violette has been returned as not deliverable. I will continue to try to locate him so we can get documentation on the Mutton Lane discussion.

I have spoken to both Barney Silver and a homeowner on Hobson Ave whose driveway was damaged during the last storm. I will continue to have conversations with both the homeowner and Mr. Silver to try to resolve the concern

On Friday night I had the privilege of presenting awards to Officer Matthew Parkhurst of the Police Department and Captain Peter Metcalf from the Fire Department along with 3 Firemen from the Town of Orono. I had submitted an award request to the Maine Chiefs of Police after the mobile home fire on Chase Road where an occupant was rescued and revived by this group of public safety officials. The application was ultimately approved and the awards for Life Saving was awarded and presented by me at the Maine Chiefs of Police's winter awards banquet

# **Manager's Report For February 10, 2014 Council Meeting**

## **Attachments:**

Memo reference follow up questions to January 27, 2014 Council Meeting with attachments

Draft Fire Department Budget for FY 14/15

Pie Charts from current and previous year budgets

Thank you letter to PD from Water District

Copy of Cargo Trailer add and Air Pack Add

Copy of Bill of Sale for Cargo Trailer

Freedom of Information Request

Revised Schedule B reference GAT

Veazie Sewer District Financial Report

Copy of Capstone Project completed on Mutton lane in 2009

# Town of Veazie

**To:** Veazie Town Council

**From:** Mark Leonard 

**Date:** January 28, 2014

**Re:** Follow up to questions posed during Council Meeting

---

At the January 27, 2014 Council meeting the following questions were posed that required additional research. From my research I have found the following:


1. **Does the Council sign off on School Union's Contract like other contracts the Town holds and what involvement does the Council have with negotiations?** I sent an email to Superintendent Lyons and received a follow up email from the Chair of the School Board, Gavin Batchelder. I have enclosed the email for review.
2. **Where is the janitor's wages coming from in the current budget?** The wages for the janitor are coming from the part time public works line which is acct number 400-10-400. For FY 14-15 this will be added under general government and removed from the public works section.
3. **What is the amount in the reserve accounts?** I have enclosed a printout showing what is in the general fund carry forwards and the capital projects balances.
4. **What is account number 100-50-040 (processing fees) used for as processing fees on the credit cards were removed in prior budget years?** This is budgeted to pay for processing fees associated with payroll.
5. **When does the winter maintenance contract expire?** The original contract began October 19, 2010 and went to May 15, 2013 with a year 4 and year 5 option. A proposal was made by Barney Silver of Lou Silver Inc. through a letter to the Council dated July 26, 2012 to take over the plowing, salting, and shoveling for the Town Office, Community Center, School and sidewalks along with fall cleanup and spring cleanup. An additional proposal with a September 26, 2012 is referenced by Council but I am unable to locate this proposal. I did locate a letter dated October 1, 2012 was located which provides additional break down on the proposal. At the October 1, 2012 Council meeting a motion was made to adopt the September 26, 2012 proposal and this motioned passed 3-2. I'm unable to find any written agreement on this additional duties so I'm unsure what the expiration of this agreement was/is.
6. **What recreation equipment does the Recreation Department own (balls, bats, snow shoes, skis, etc....)? What is the most popular program for youth league?** A memo was drafted and sent to Director Young. At the time of this writing a response has not been received. The memo is attached for review.

I believe this completes the questions that were posed at the meeting. A comment was made that it would be beneficial to have the request by the budget committee fulfilled as well. I have completed all the municipal request except request 4, which is a pie chart for the proposed budgets. These budgets have not been drafted so I'm unable to complete this request at this time. If I have forgotten something or if you have additional questions or need additional information please don't hesitate to bring them to my attention.



Message

Mon, Feb 3, 2014 6:39 PM

From:  "Gavin Batchelder" <batchelder6383@roadrunner.com>

To:  **Mark Leonard**

Cc:  "Lyons Richard" <rlyons@rsu22.us>

Subject: Negotiations

Attachments:  Attach0.html / Uploaded File

5K

Hi Mark,

I hope all is well with you.

Rick has talked with me about how and when the council may be involved in the contract negotiations with the teachers. I believe we are in agreement that responsibility for contract negotiations with the teachers' association rests with the school committee. Negotiations are a sensitive thing and I think if we are to bargain in good faith, the teachers should know with whom they are negotiating. Having said that, the school is a municipal department, we have the bulk of the town budget, and the council has a vested interest in our decisions. Whereas they have a vested interest, I think they should provide us with any thoughts they would like to offer so we can take those thoughts into consideration. I don't think it is proper for us to discuss specific items outside of the negotiations, but if the council has some general observations to share that would be helpful.

It may be worth mentioning that we are benchmarking against the teacher contracts negotiated in surrounding communities to ensure that what we agree to aligns with the standard throughout the region, so while we hold the line on cost we also remain competitive.

Best regards,

Gavin

Account-----			-- B A L A N C E --	
Date	Jrnl	Desc---	Debits	Credits
			Debit	Credit
30 -		CAPITAL PROJECTS		382,464.02
3062-00		CP MUNICIPAL BUILDING		10,584.63
3064-00		CP-PD SAFETY EQUIPMENT-RES		13,756.45
3064-01		CP-POLICE CRUISER		34,221.40
3065-00		CP-UNEMPLOYMENT RESERVE	0.00	
3066-00		CP-INSURANCE RESERVE	0.00	
3067-00		CP-COMMUNITY INVESTMENT		4,200.00
3068-00		CP-MUNICIPAL CREDIT		10,000.00
3069-00		CP-TREE FUND		3,334.52
3070-00		CP-ECONOMIC DEVELOPMENT		5,400.00
3071-00		CP-CABLE FUND		261.40
3072-00		CP-CONSERVATION RESERVE		45,078.50
3073-00		CP-HIGHWAY PROJECTS		38,261.99
3075-00		CP-PUBLIC SAFETY GRANT MA		25,000.00
3076-00		CP-TRAFFIC LIGHT		7,189.01
3077-00		CP-VEMA RESERVE		8,807.36
3079-00		CP-COMPREHENSIVE PLANNING		32,363.18
3080-00		CP-POLICE DEPARTMENT		59.92
3081-00		CP-FIRE DEPARTMENT		71,613.15
3082-00		CP-COMMUNITY CENTER BUILD	0.00	
3083-00		CP-HISTORICAL SOCIETY		15,033.80
3084-00		CP-PUBLIC WORKS		64,150.67
3085-00		CP-EXECUTIVE DEPT		1,596.18
		Fund.....		390,912.16
<b>Final Totals</b>				<b>390,912.16</b>

Account-----					-- B A L A N C E --	
Date	Jrnl	Desc---	Debits	Credits	Debit	Credit
10 - GENERAL FUND						1,033,753.57
	3500-00	POLICE FORFEITURE				2,105.50
	3600-00	RSU WITHDRAWAL				28,823.04
	3700-00	TIF FEES				249,928.17
	4000-00	FIRE DEPT DONATIONS				1,243.22
	4010-00	KING FIRE GRANT				188.15
	4020-00	POLICE DEPT DONATIONS				1,093.77
	4030-00	RECREATION SCHOLASHIP				448.00
	4035-00	PVCC DUES				146.27
	4045-00	ENTRANCE SIGNS				1,171.66
	4050-00	EXECUTIVE DEPT CAPITAL				1,616.34
	4060-00	VEAZIE DAYS				904.78
	4065-00	CDBG HEALTHY HOME GRANT			0.00	
	4070-00	EMPLOYEE FUND				461.73
	4080-00	CPR CLASS				268.00
	4085-00	NRCS CONSERVATION GRANT				637.82
	4090-00	ECONOMIC DEVELPOMENT				721.74
	4095-00	PUBLIC WORKS CAPITAL				20,878.11
	5000-00	WORKING CAPITAL				600,000.00
	5020-00	INSURANCE RESERVE				52,355.95
	5030-00	UNEMPLOYMENT RESERVE				35,392.49
		Fund.....				998,384.74
Final Totals						998,384.74

# Memo

**To:** Robert Young; Recreation Director

**From:** Mark Leonard; Town Manager 

**Date:** January 28, 2014

**Re:** Follow up to questions posed during Council Meeting

---

At the January 27, 2014 Council meeting the following questions were posed reference the recreation program. Please answer these questions as soon as possible, but no later than February 7, 2014 so that it can be included in the Council packet for the February 10, 2014 meeting when these items will be discussed. It was also requested by the Council that I contact Orono Parks and Recreation to see if they would come to a future meeting to discuss the Recreation Program. As of this writing I have not done that, but will be making the request in the future. When this has been completed I will notify you.

1. **What recreation equipment does the Recreation Department own (balls, bats, snow shoes, skis, etc....)?** An exact number and description of any and all equipment was requested
2. **What is the most popular program for youth league?**
3. **What is the amount of any and all uncollected balances for any and all programs that Veazie Recreation offers? Please include the names of participants that owe these uncollected amounts.**

# **ORONO • VEAZIE WATER DISTRICT**

47 Penobscot Street • Orono, ME 04473 • (207) 866-4449 • Fax (207) 866-3570

**Dennis W. Cross**  
*Superintendent*

January 27, 2014

Mark Leonard and Veazie Town Council:

The Water District would like to say thank you and compliment the Veazie Police Department for their time and effort this past Saturday, January 25, 2014.

There was a major water main break on Route 2 causing a hazard of a large amount of water and gravel covering the roadway. Veazie's Police department responded promptly and professionally to redirect traffic. Many times people in public service do not receive the credit they have earned and we wanted to recognize a job well done. The work done by the Police Department allowed the Water District staff to focus on efforts to maintain and restore water service to Veazie citizens.

Sincerely,



Dennis W. Cross

Superintendent

Orono-Veazie Water District



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Your posting will expire from the site in 45 days.

[ logged in as [vzchief800@yahoo.com](#) ] [ [logout](#) ]

this is an unpublished draft.

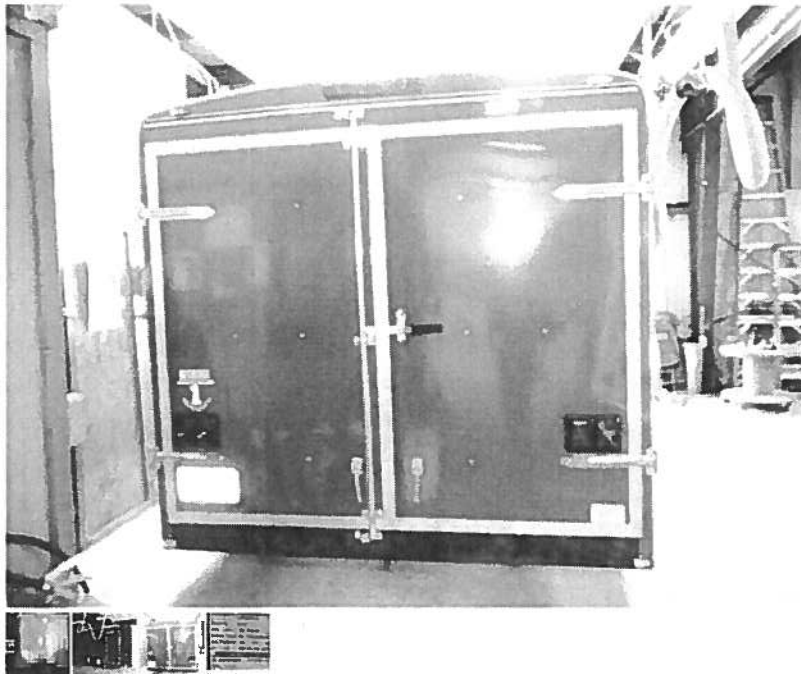
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[CL](#) > [maine](#) > for sale / wanted > general for sale - by owner

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## Cargo Trailer - \$2200 (Bangor)



For sale is a 2002 Interstate enclosed cargo trailer 8' x 14' in size and red in color. This trailer is in very good condition and shows very little sign of use. (3) Shelving units and a few wall hooks have been added and are included in the sale. The unit has one side door and the rear door are barn door style. This unit can be seen at 1084 Main Street between 800am-430pm, Monday thru Friday. Other times can be arranged by calling or txing 207-852-5333. Not interested in any trades. This is a cash sale only. Asking \$2,200.00 obro.

Key Words: Western Maine ,Southern Maine, Central Maine, Northern Maine, ME, Snowmobile, Good Deal, Bangor, Brewer, Veazie, Orono, Old Town, Hermon, Ski Doo, Polaris, Yamaha, New Hampshire, Mass, Vermont, New York, Conn. Rhode Island, Free, Boston, MA, Penobscot County

1084 Main Street ([google map](#)) ([satellite map](#))

- Location: Bangor
- do NOT contact me with unsolicited services or offers

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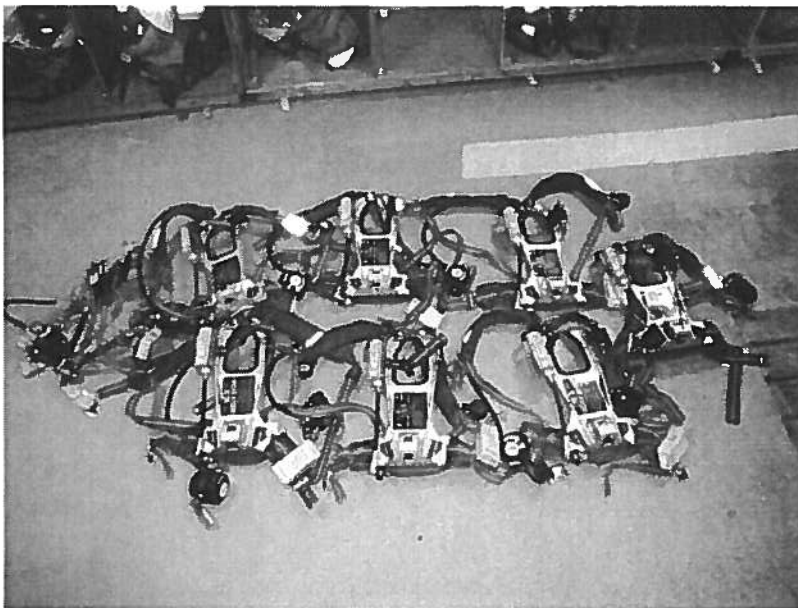
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## Air Packs - \$125 (Bangor)



The Veazie Fire Department is selling (8) Scott Model 4.5 Air Packs with PASS alarms. This sale does not include the bottle or mask. All units passed service test last year and are ready for service. We are looking to sell them for \$125.00 per unit or \$950.00 for all (8). All service records are available for the units and will be transferred to the purchaser.

Key Words: Western Maine ,Southern Maine, Central Maine, Northern Maine, ME, Good Deal, Bangor, Brewer, Veazie, Orono, Old Town, Hermon, New Hampshire, Mass, Vermont, New York, Conn, Rhode Island, Free, Boston, MA, Penobscot County

1084 Main Street ([console map](#)) ([photo map](#))

- Location: Bangor
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Avoid scams, deal locally. Beware wiring (e.g. Western Union), cashier checks, money orders, shipping

TOWN OF VEAZIE  
1084 Main Street, Veazie, ME 04401  
Phone: (207) 947-2781 Fax: (207) 942-1654



## Bill of Sale

On 01-31-2014 the Town of Veazie, sold a 2001 Interstate Cargo trailer, red in color,  
VIN#1UK500F2X21040643 to JON BICKFORD for the sum of \$2000.00. As is, where is, with no  
warranties and or guarantees.

Seller Signature: \_\_\_\_\_

Mark E Leonard; Town Manager

Buyer Signature: \_\_\_\_\_

Jon Bickford



357 Mercer Road  
PO Box 629  
Norridgewock, ME 04957  
Tel: (207) 634-2714  
Fax: (207) 634-4519

February 3, 2014

Town of Veazie  
Julie Strout  
1084 main Street  
Veazie, ME 04401

Dear Ms. Strout,

Waste Management Disposal Services of Maine, Inc provides a wide range of environmental services to City's and Town's throughout the State. We understand your community contracts for municipal solid waste and recycling services and we are seeking to evaluate the present status of any Agreements that may be in place.

Respectfully, under the Freedom of Information Act / Maine's Public Records Request laws, we are requesting copies of any current contract(s) and amendments thereto for the collection and/or disposal of solid waste and recyclable materials.

Said contracts may be e-mailed to me at [plachape@wm.com](mailto:plachape@wm.com) faxed, or mailed to the above address.

We are hopeful that once we review the documents in question, we will be able to develop a comprehensive set of ideas and solutions that may be of interest to your community in the future.

Thank you for your attention to this matter and please do not hesitate to contact me with any questions or concerns.

Sincerely,

**Peter Lachapelle**  
Public Sector Solutions Representative  
Waste Management Disposal Services of Maine, Inc.

Completed  
Emailed  
2/15/14



Penobscot Energy Recovery  
Company  
P.O. Box 160  
29 Industrial Way.  
Orrington, Maine 04474  
(207) 825- 4566

ESOCO ORRINGTON INC  
Plant Operator

**Re: Reference GAT**

January 31, 2014  
Municipal Officials:

Enclosed is a revised Schedule B to your Second Amended, Restated and Extended Waste Disposal Agreement. This revised schedule is a result of GAT (Guaranteed Annual Tonnage) trading conducted by the Municipal Review Committee, in accordance with Article V of aforementioned contract. This schedule is an integral part of the contract and should replace the 2013 Schedule B.

The GAT's shown on the revised Schedule B became effective January 1, 2014. Your municipality's GAT is the minimum MSW tons obligated to be delivered to PERC annually.

Please do not hesitate to call me if you should have any questions regarding this matter. The number to reach me is 825-4566, ext# 117.

Sincerely,

Penobscot Energy Recovery Company  
By: ESOCO Orrington, LLC  
Acting as Agent

Gary A. Stacey  
Plant Controller

Encl. Schedule B

Passadumkeag *	160
Penobscot *	548
Penobscot County	885
Piscataquis County (Ormeville) *	171
Pleasant River SWD (Addison, Beals, Centerville, Columbia, Columbia Falls)	1,600
Plymouth	500
Reed Plantation	100
Rockland	5,185
Sangerville	600
Searsmont *	150
Searsport	850
Sebec *	170
Sherman * (Stacyville)	700
Sorrento *	65
Springfield *	165
Stetson	768
Steuben	609
Stockton Springs *	423
Stonington	1,000
Sullivan *	120
Swans Island *	150
Thomaston Group (OwlsHead, Thomaston, S. Thomaston)	3,730
Thorndike	275
Tri-County * (Union, Appleton, Liberty, Washington, Palermo, Somerville )	1,450
Troy	216
Union River SWD (Amherst, Aurora, Great Pond, Osborn, Waltham)	400
Unity	800
Vassalboro	1,438
Veazie	791
Verona	300
Waldoboro Group (Cushing, Friendship, Waldoboro)	3,363
Waterville (Oakland)	9,296
West Gardiner	800
Winn *	230
Winter Harbor *	110
Winslow	3,310
Winthrop	3,100
Wiscasset * (Alna, Westport)	<u>1,983</u>
	184,252

\* Became Charter Municipality after June 26, 1998 consistent with terms of the Second Amended, Restated and Extended Waste Disposal Agreements.

# Initial Request Worksheet

## Expense

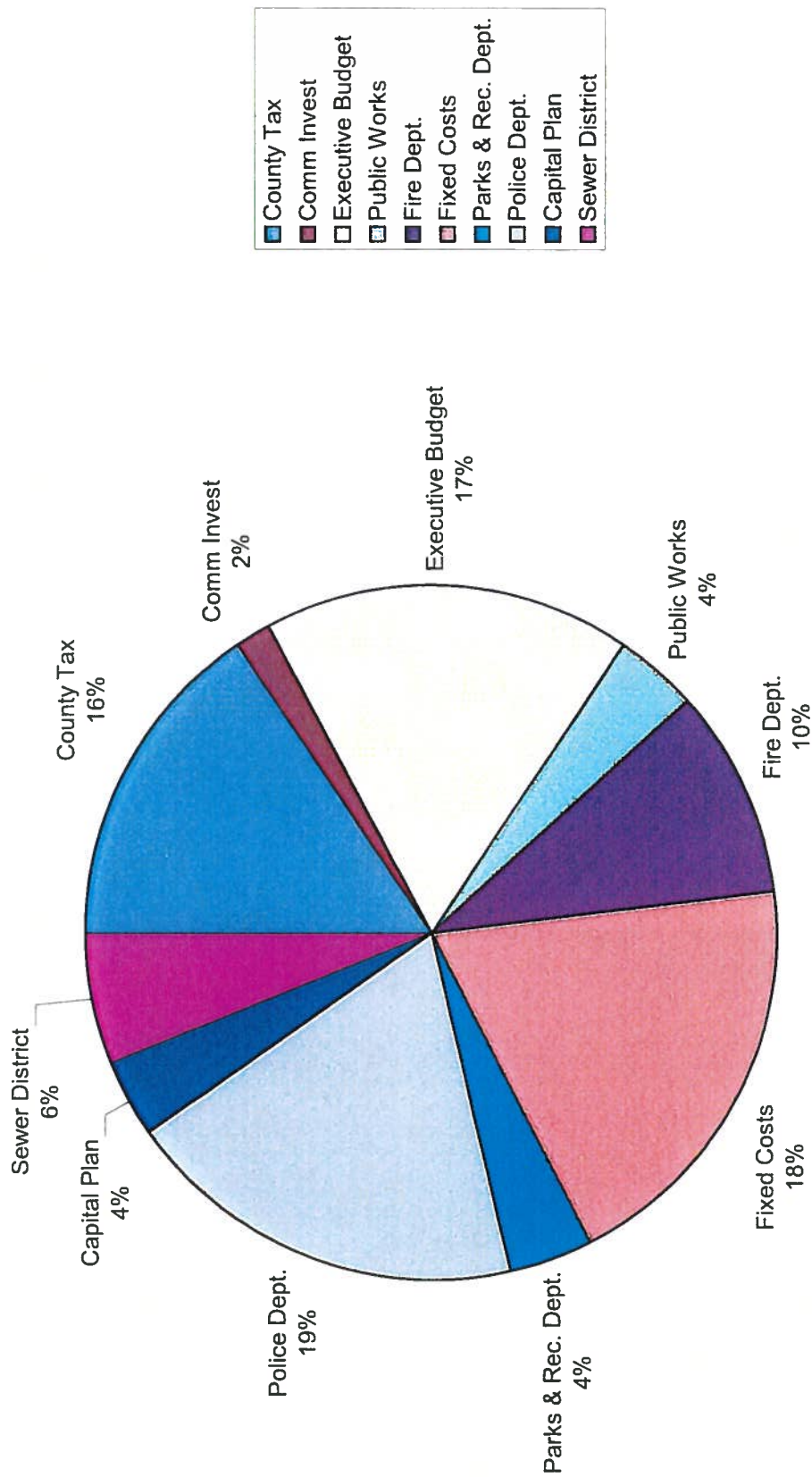
Account	Current Budget	Budget Request
Dept: 300 FIRE		
PAYROLL		
10-300 FIRE CHIEF	792.00	
10-320 FF DAY COVER	95,375.00	98,240.00
10-325 FIRE SCIENCE	1,200.00	1,600.00
10-330 CALL FIRE	16,000.00	25,000.00
BENEFITS		
20-010 FICA/MED EXP	8,000.00	8,000.00
20-020 MEDICARE	0.00	1,900.00
20-030 WORKERS COMP	17,000.00	13,500.00
RETIRE/INS		
30-010 HEALTH INSUR	10,600.00	11,000.00
30-020 RETIREMENT	0.00	
30-025 ME ST RETIRE	7,650.00	7,250.00
OTHER COSTS		
40-011 FUEL	1,900.00	2,500.00
40-041 COMMUNICATNS	600.00	1,500.00
40-061 UNIFORMS	500.00	1,400.00
40-076 ANNUAL TB-FD	100.00	200.00
40-081 HEPATITIS B	0.00	600.00
40-092 EMS RECER FD	250.00	500.00
40-101 ANNUAL PHYS	500.00	500.00
40-111 FIRE PREVENT	250.00	800.00
FIXED COSTS		
45-400 HEATING COST	0.00	
PROF FEES		
50-011 MAINT CONT	1,500.00	7,000.00
50-021 UNION CON EX	0.00	
REPAIRS		
60-060 RADIO REPAIR	500.00	1,400.00
60-070 SCBA MAINTEN	500.00	1,600.00
60-071 FIREFIGHT EQ	2,000.00	1,500.00
60-072 ISSUED EQU	500.00	3,000.00
60-073 EMS EQUIP	500.00	450.00
60-074 SM MECH EQ	100.00	500.00
60-190 UNIT 190	0.00	
60-192 ENGINE 192	2,000.00	1,500.00
60-195 ENGINE 195	1,000.00	2,500.00
60-198 UNIT 198	1,000.00	1,200.00
EQUIPMENT		
80-010 EQUIP PARTS	0.00	

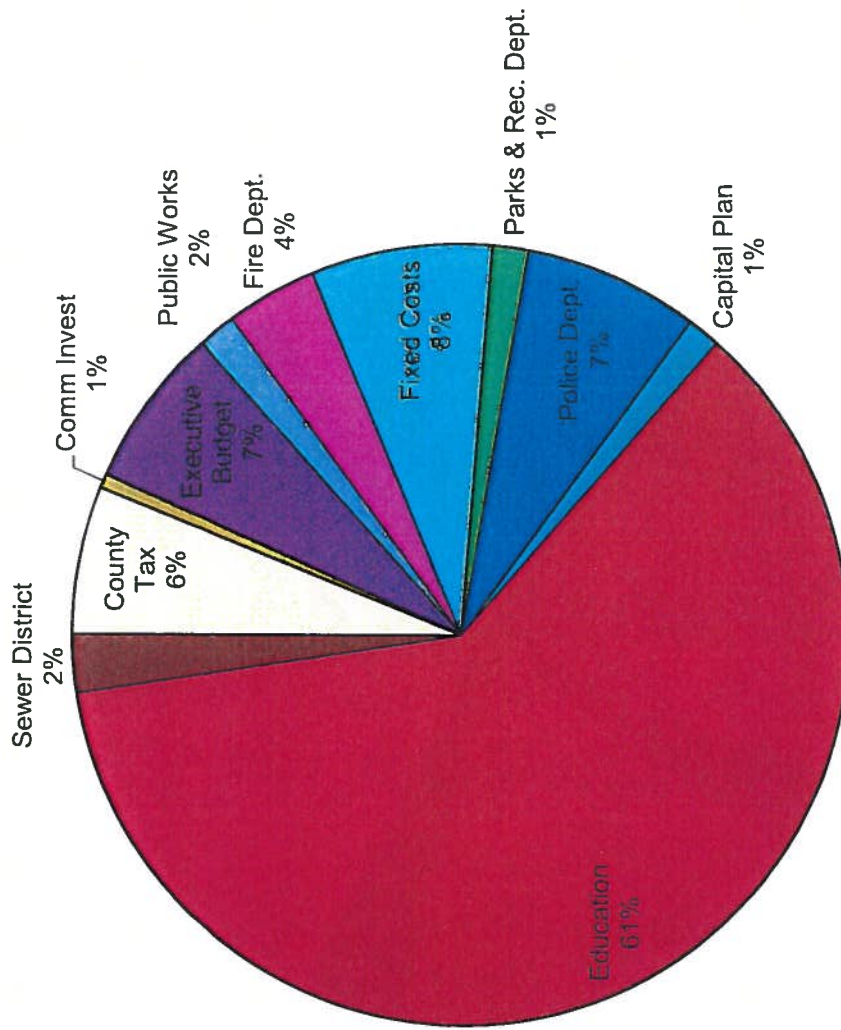
**Initial Request Worksheet**  
**Expense**

Account	Current Budget	Budget Request
Dept: 300 FIRE CONT'D		
80-011 EQUIPMENT	0.00	
80-021 EMS EQUIP	0.00	
80-031 SMALL MECH	0.00	
MISC		
95-010 TRAINING	500.00	2,000.00
95-011 MILEAG/TRAVL	200.00	300.00
95-015 TRNG INSTRCT	350.00	1,000.00
95-020 DUES/SUBSCR	100.00	500.00
95-030 SUPPLIES	100.00	1,000.00
95-042 TRN MATLS	100.00	450.00
95-081 EMER CALL LN	0.00	
95-082 NFPA CODE	100.00	
FIRE	171,767.00	200,390.00
<b>Expense Totals:</b>	<b>171,767.00</b>	<b>200,390.00</b>



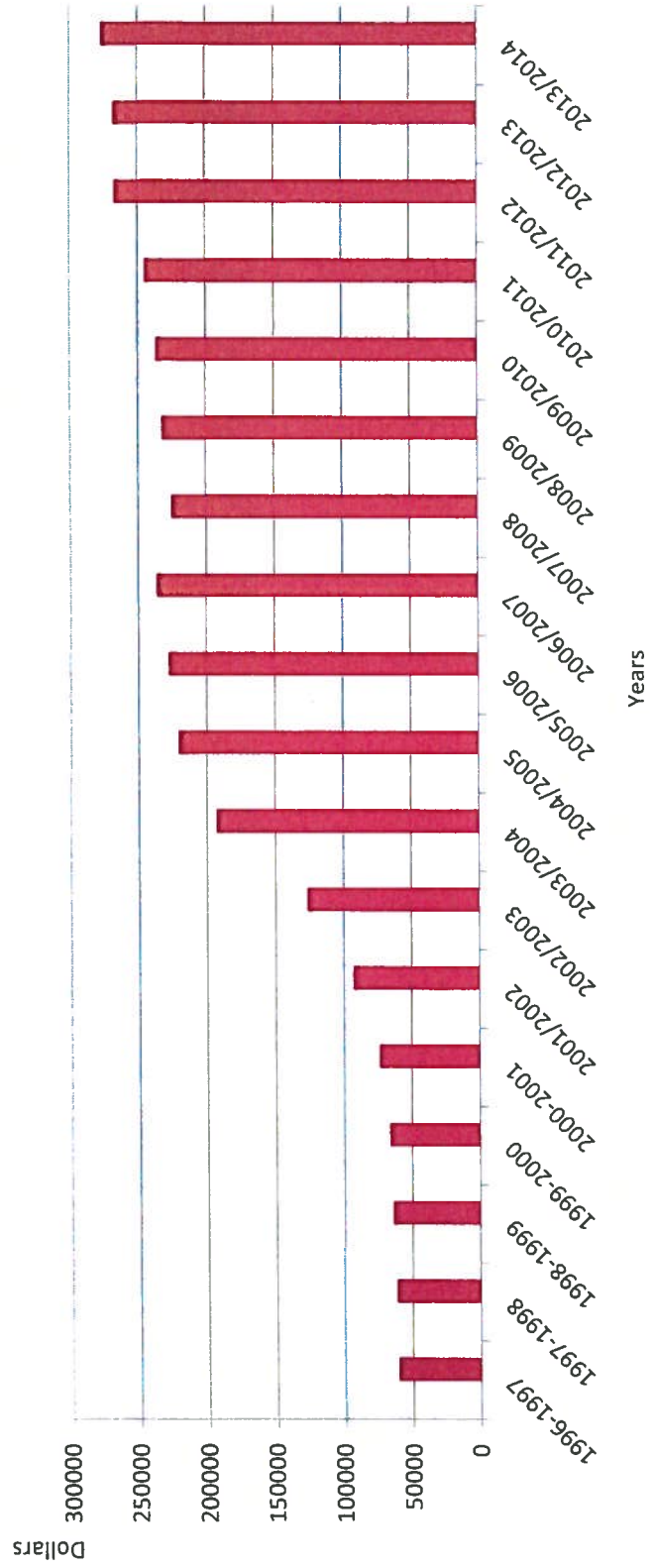
2013/2014 Municipal Pie Chart



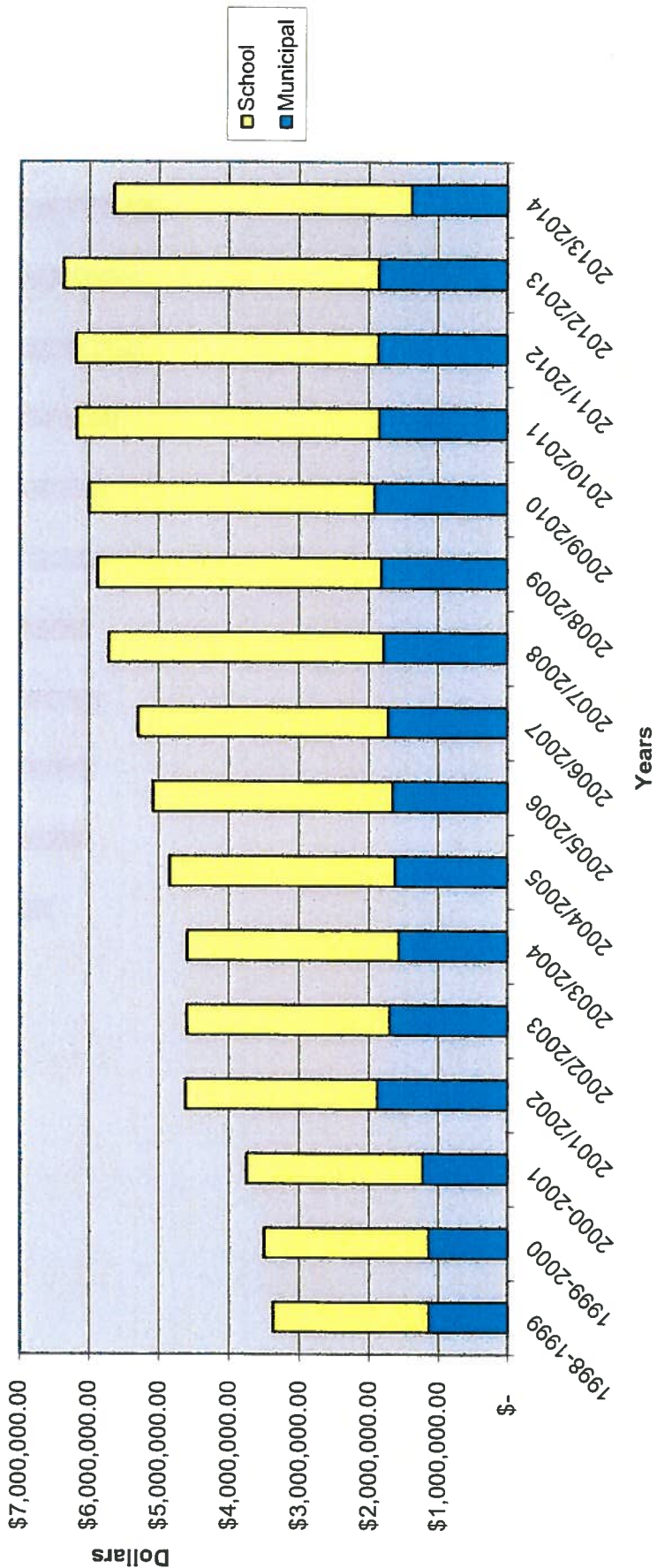


- County Tax
- Comm Invest
- Executive Budget
- Public Works
- Fire Dept.
- Fixed Costs
- Parks & Rec. Dept.
- Police Dept.
- Capital Plan
- Education
- Sewer District

# County Tax History

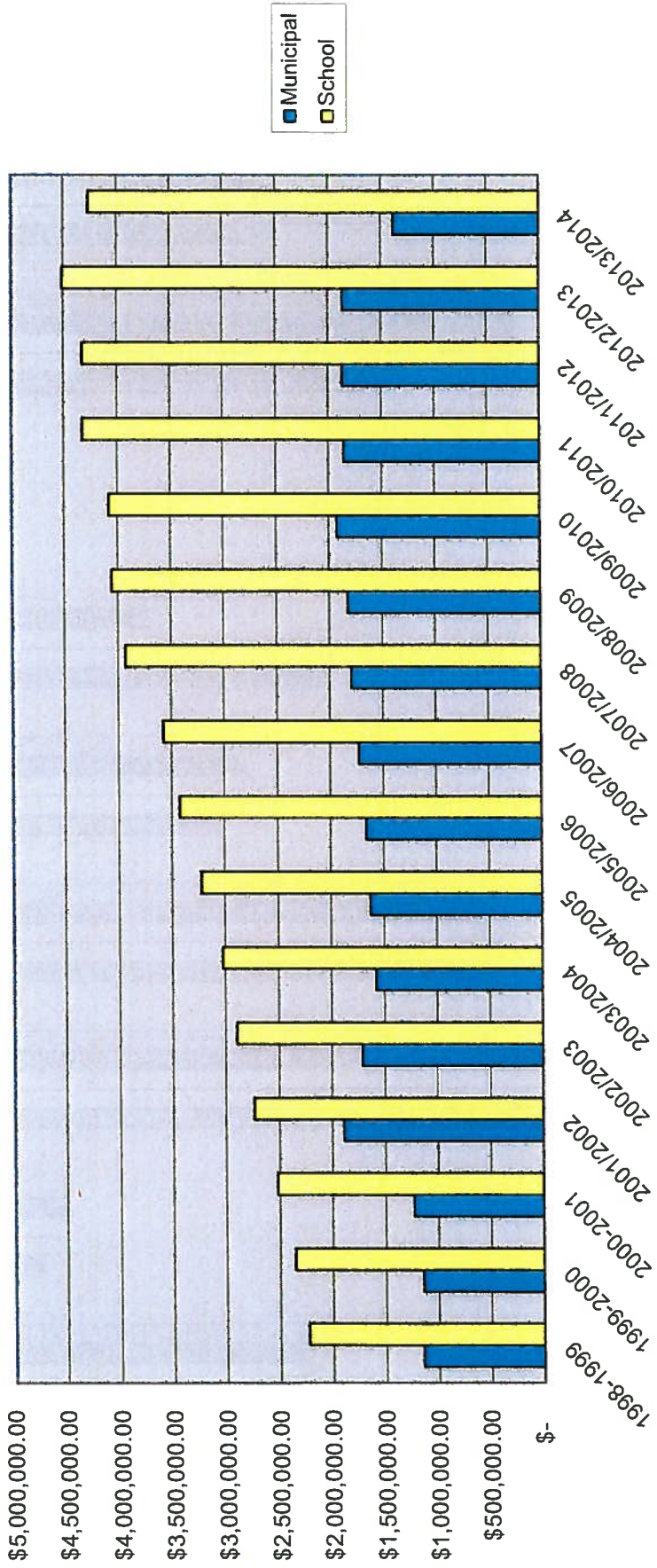


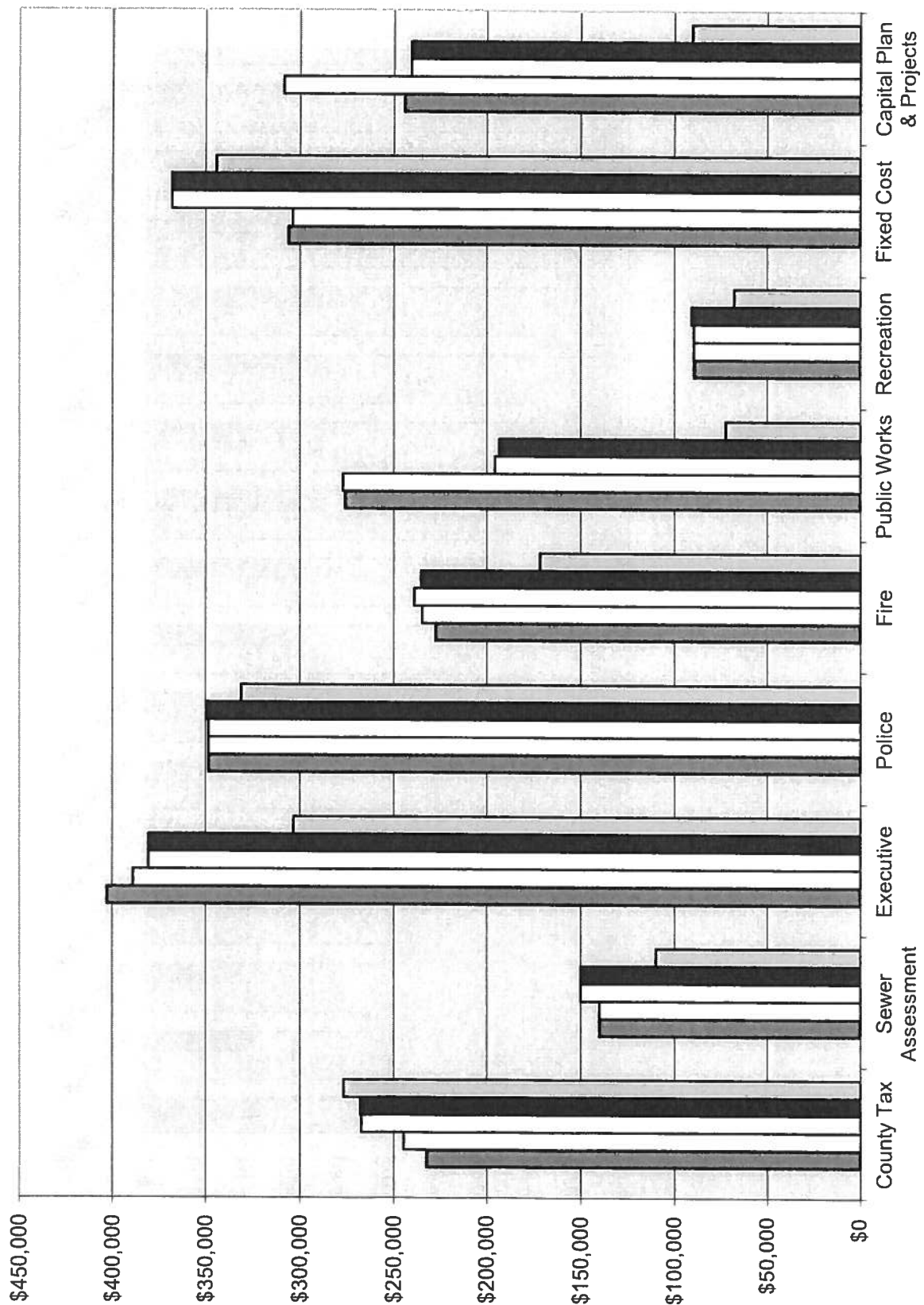
# Combined Budget History



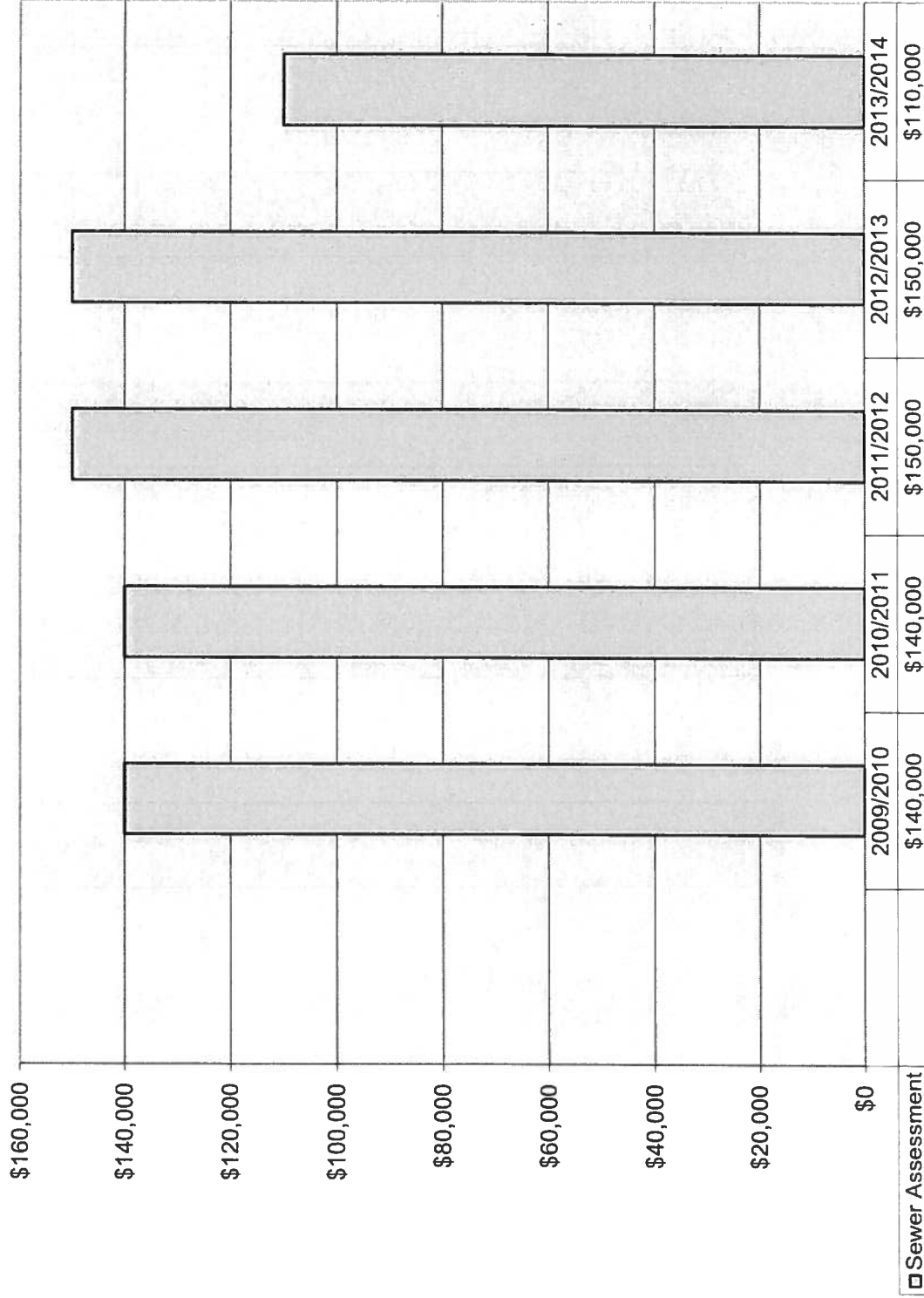


# Budget History From FY 1998-1999 to FY 2013-2014

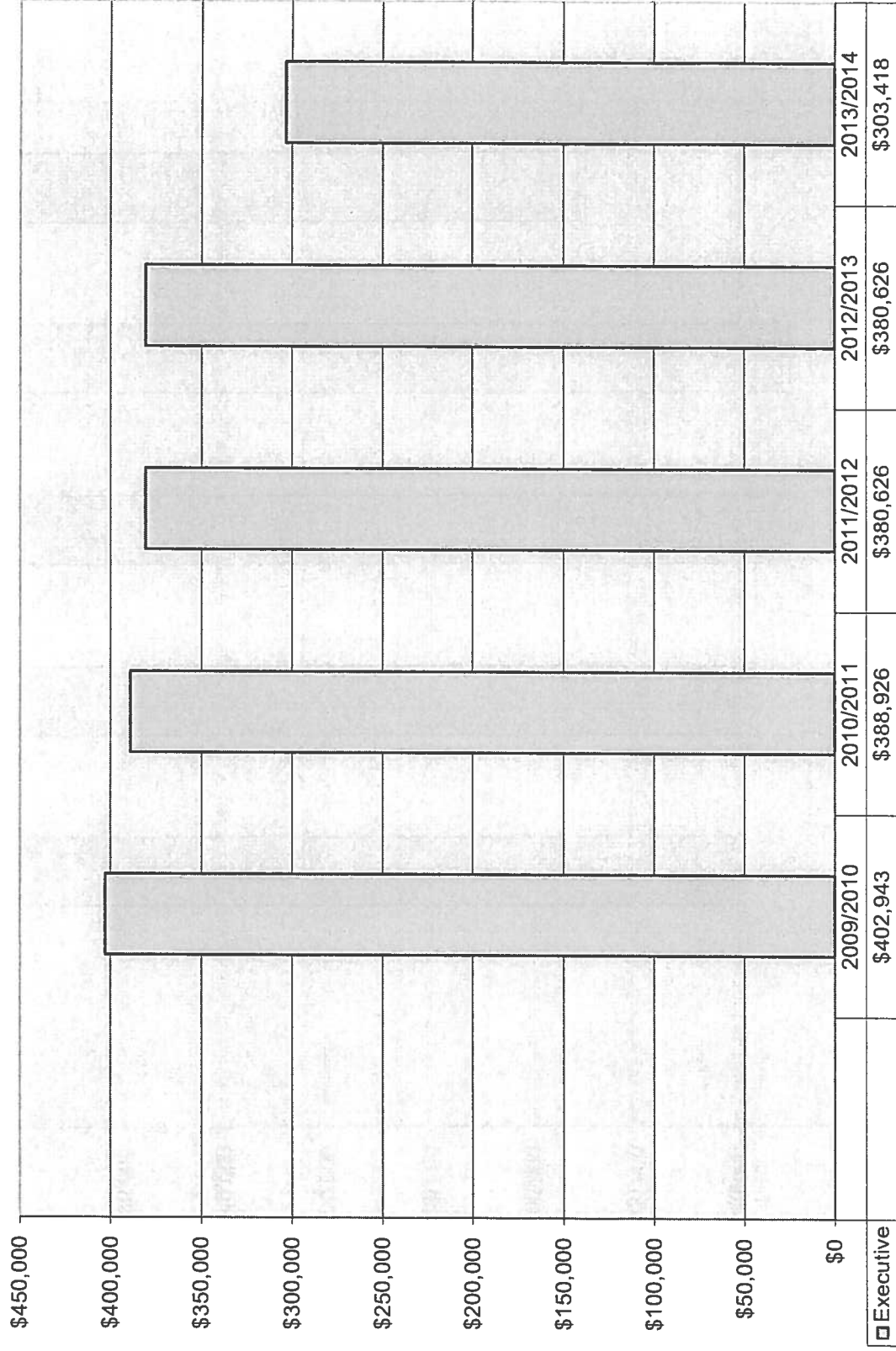




# Sewer Assessment

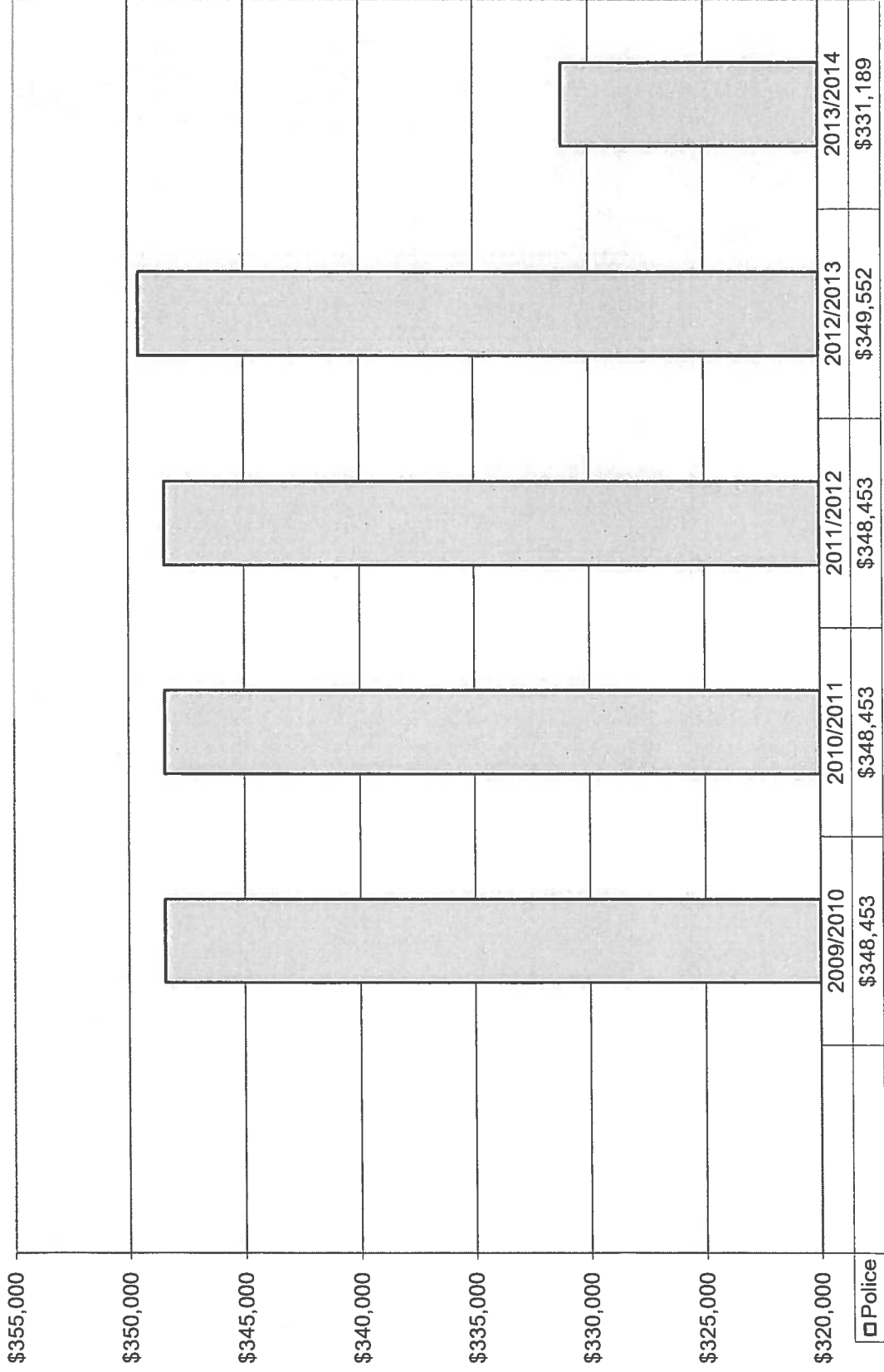


# Executive

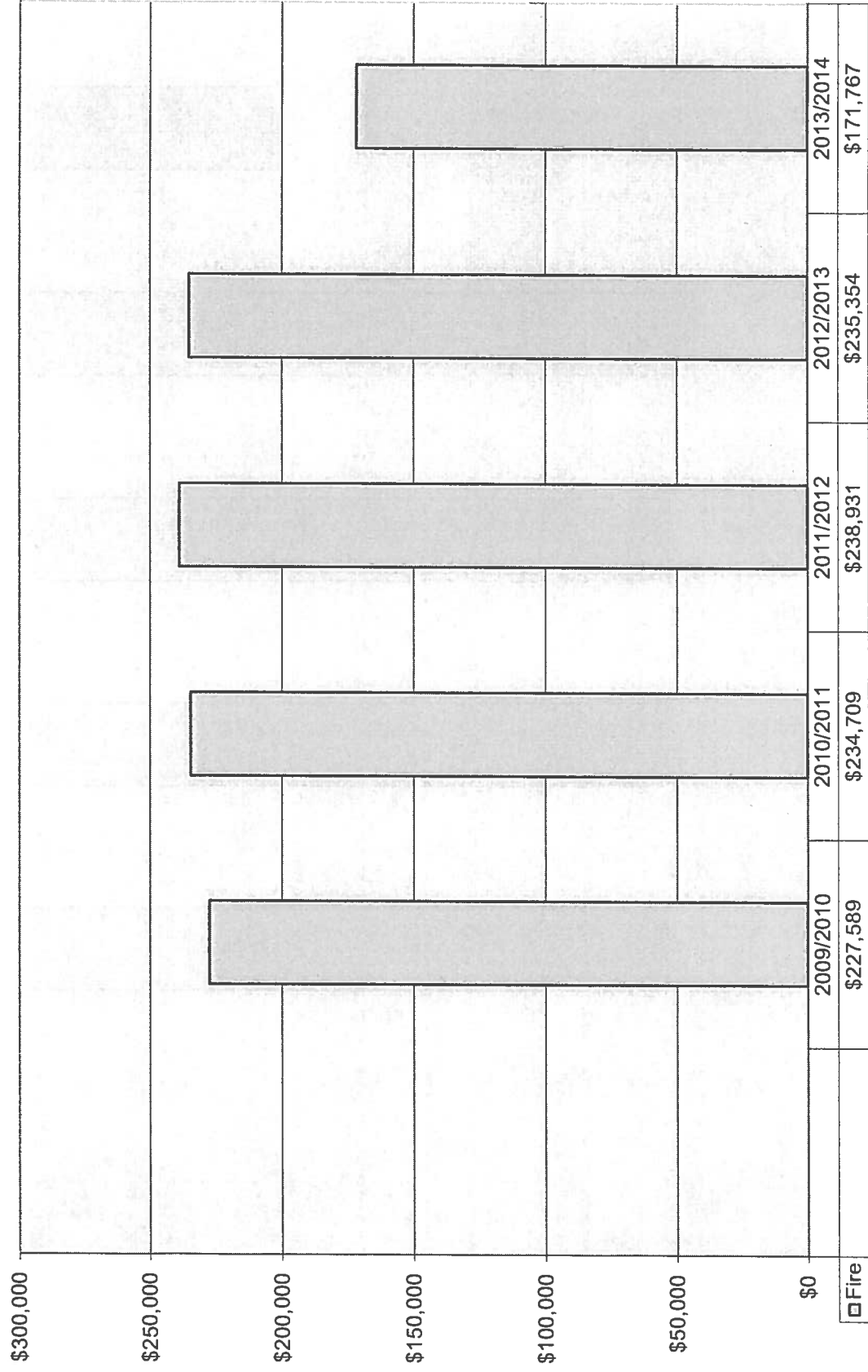




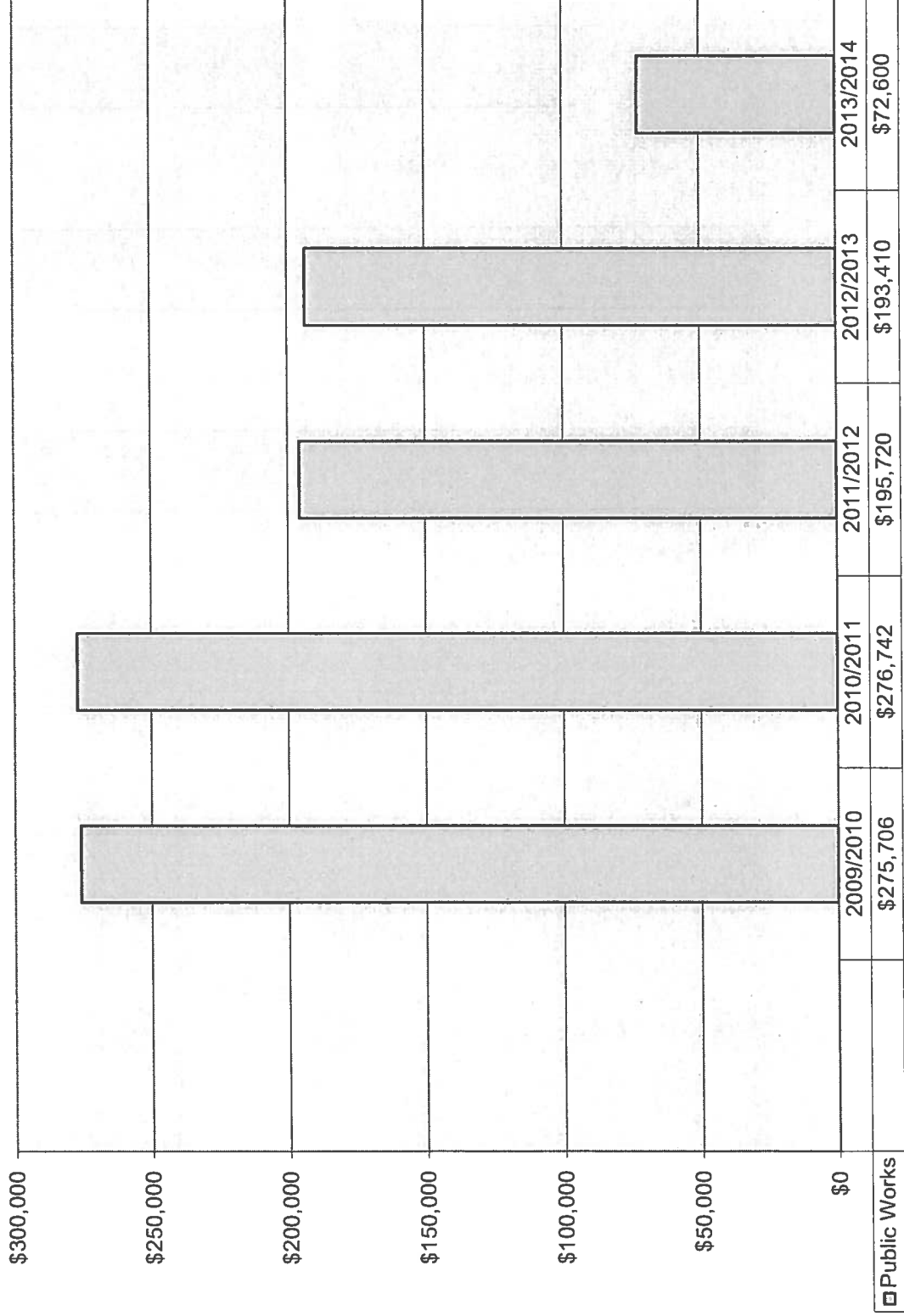
Police



# Fire

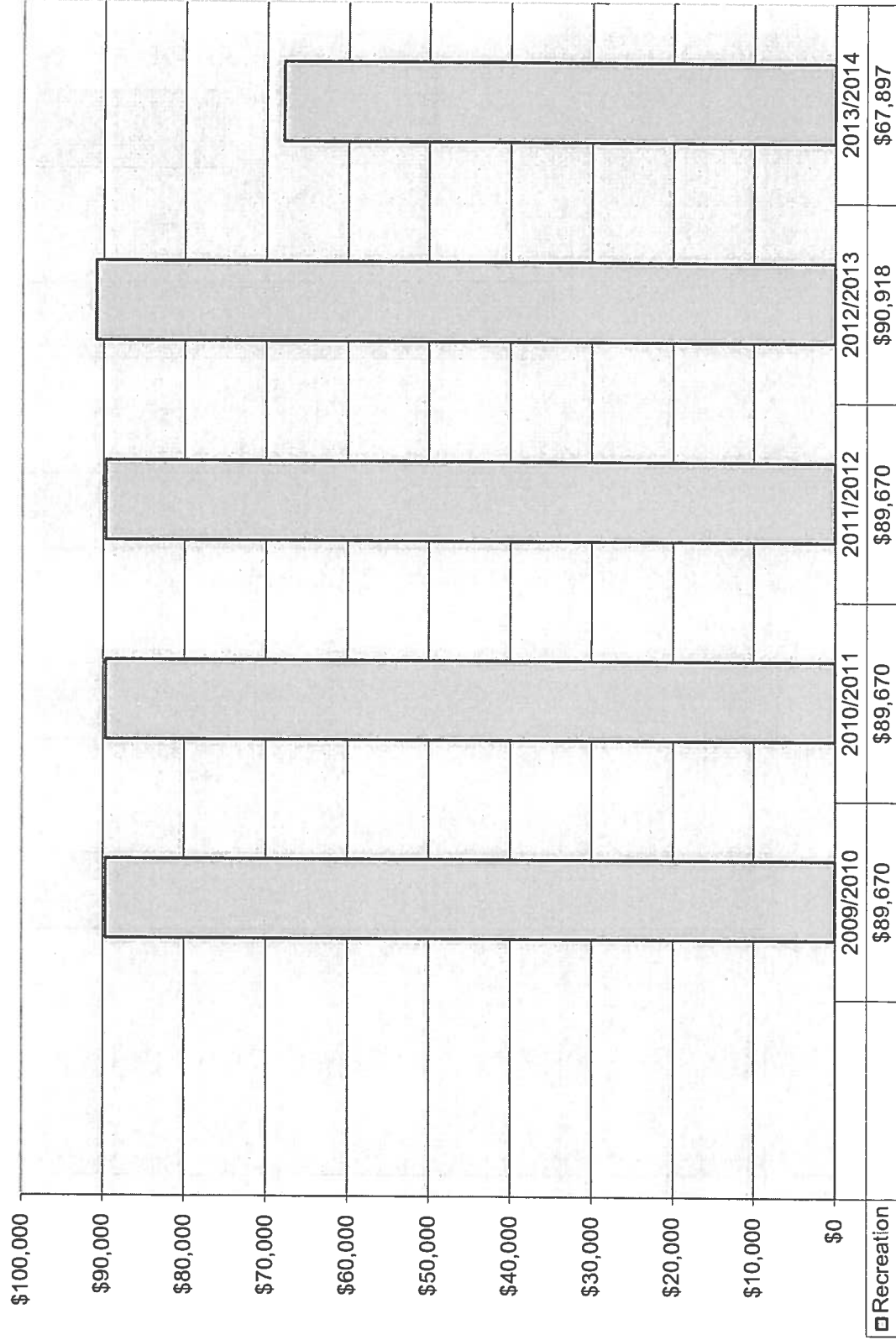


Public Works



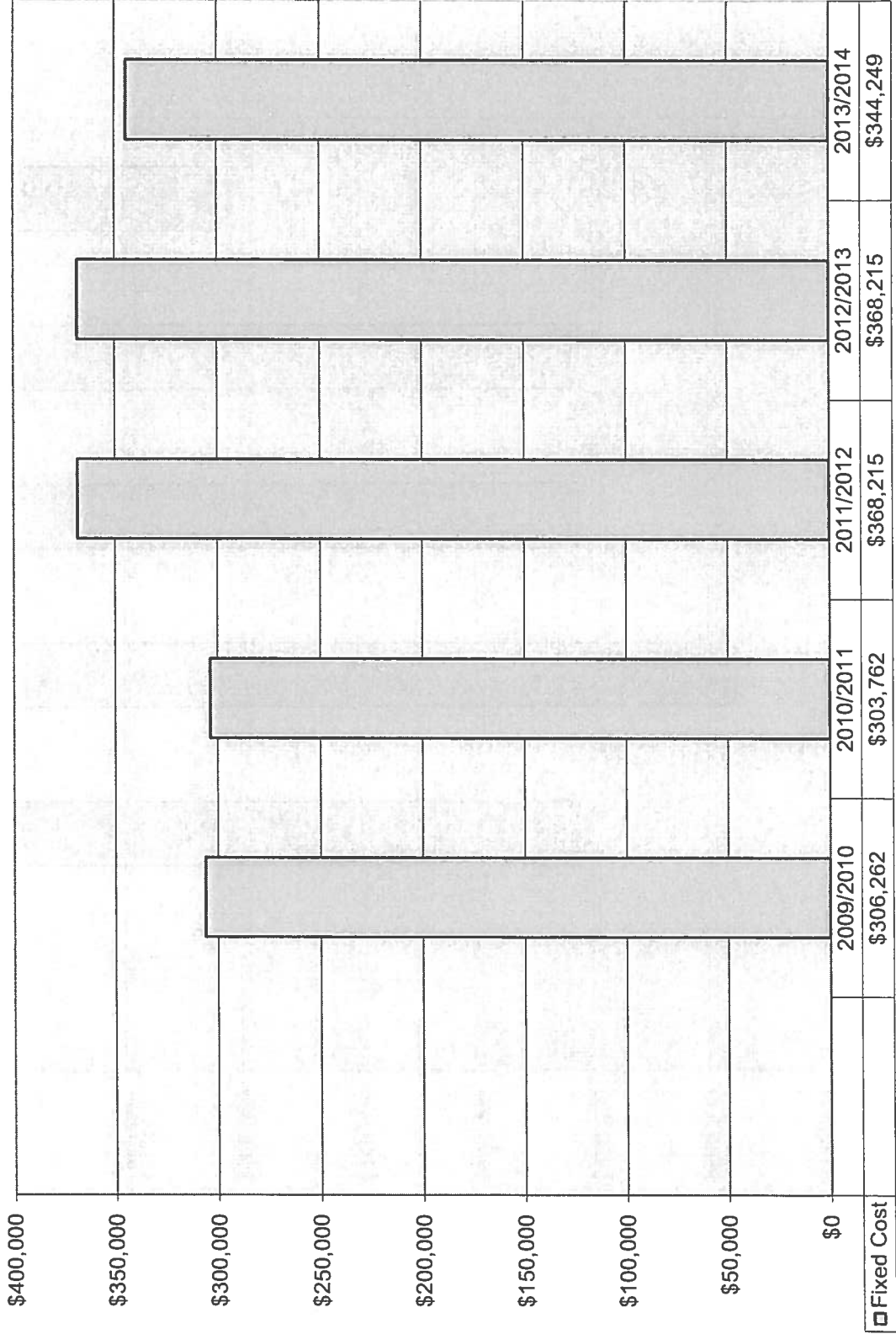
Public Works

# Recreation



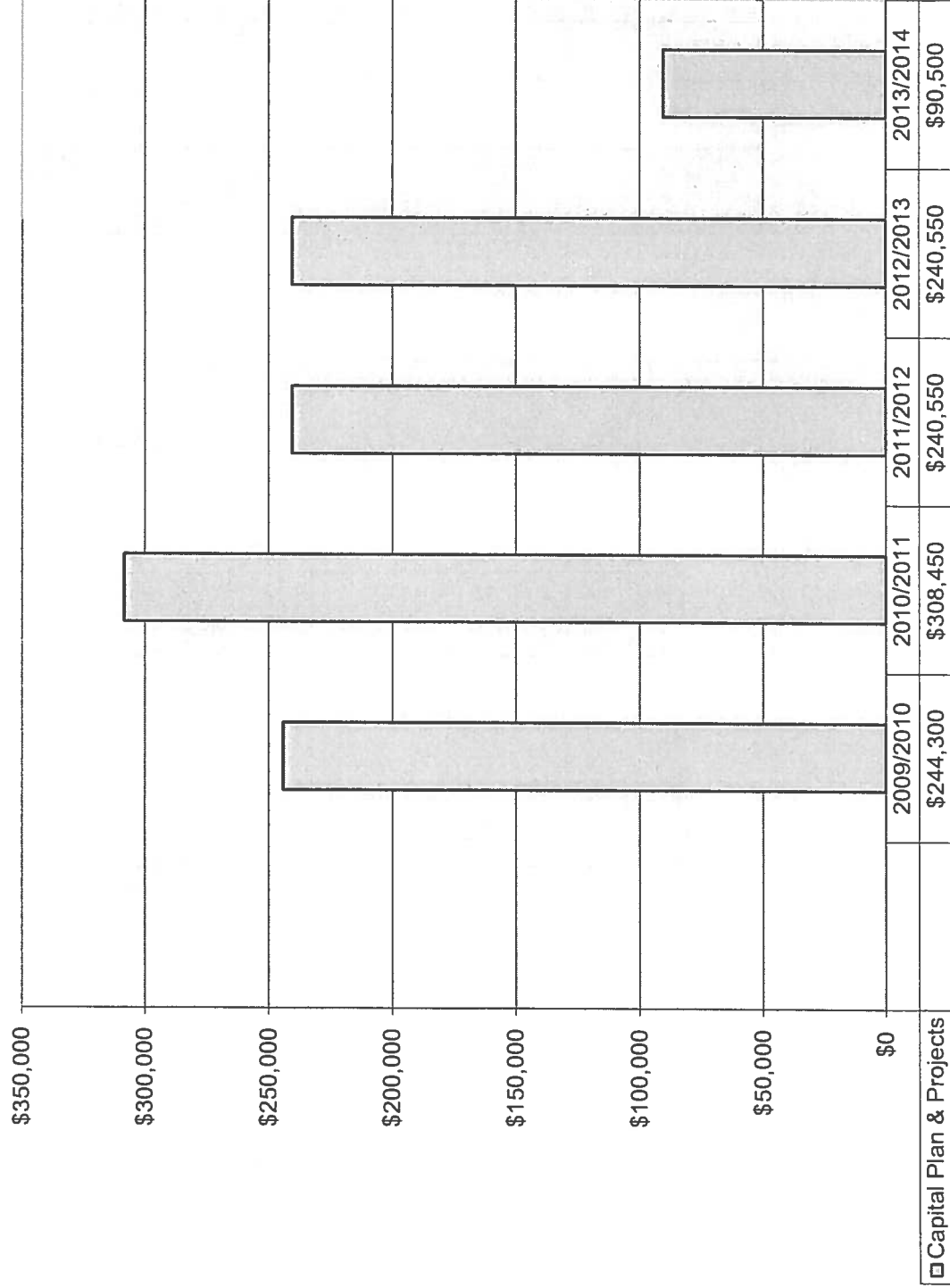
□ Recreation

# Fixed Cost



Fixed Cost

# Capital Plan & Projects



This category includes Community Investment, Reserves, Capital and Highway Projects to be consistent with prior years

**VEAZIE SEWER DISTRICT  
FINANCIAL STATEMENTS  
MAY 31, 2012 AND 2011  
WITH INDEPENDENT AUDITORS' REPORT  
AND  
MANAGEMENT'S DISCUSSION AND ANALYSIS**

# VEAZIE SEWER DISTRICT

34 HOBSON AVENUE

VEAZIE, MAINE 04401

942-1536

## Management's Discussion and Analysis May 31, 2012

### Introduction of the Financial Statements

Veazie Sewer District's (the District) basic financial statements include the:

- Balance Sheet
- Statement of Revenues, Expenses and Changes in Fund Net Assets
- Statement of Cash Flows
- Notes to the Financial Statements

### Comparison of Financial Statements for Current and Prior Years

#### **Balance Sheets**

	<b>2012</b>	<b>2011</b>
Total Assets	3,875,049	4,052,321
Total Liabilities	1,097,805	1,180,653
Total Net Asset	2,777,244	2,871,668

#### **Statements of Revenues, Expenses and Changes in Fund Net Assets**

	<b>2012</b>	<b>2011</b>
Operating Revenues	474,843	428,747
Operating Expenses	(545,943)	(514,376)
Non-Operating Revenues (Expenses)	(23,324)	(25,059)
Change in Net Assets	<u>(94,424)</u>	<u>(110,688)</u>

### Overall Financial Position and Results of Operations

As of May 31, 2012, the District had \$3,875,049 in assets and \$1,097,805 in liabilities. The District had operating revenues of \$474,843 during the year ending December 31, 2011 and had a cash balance of \$112,135.



### Significant Transactions

The Veazie Sewer District is responsible for the sanitary sewer collection system as well as the treatment facility. The District received and treated a daily flow of 220,000 gallons of wastewater and met current water quality standards by removing over 90% of the pollutants during 2011.

After 10 years without a rate increase, the Trustees voted to increase rates. The increase is \$0.69 per 100 cubic foot of water used, or approximately \$11.00 per quarter for the average user. The sewer bill is based on your water bill. For example, if you are billed for 1,200 cubic feet of water, you are billed for 1,200 cubic feet of wastewater. The Trustees also voted to raise the assessment to the Town by \$20,000.00, then at the annual meeting they voted to reduce the assessment to \$10,000.00 due to budget issues facing the town.

The District staff continues to be proactive in maintaining the appearance and longevity of the equipment and facilities in which our community has invested. This year, the District replaced the shingles on the garage. Facility staff completed this project using facility equipment, which saved money over hiring a contractor. The barge built by District staff was utilized to pull all of the diffusers for cleaning, inspection and to make any repairs. A few clamps and a number of the rubbers on the diffusers were in need of replacement. By cleaning any scale and slime layer from the diffusers, the blowers don't have to work as hard to move air through the diffusers, so the lagoons receive better mixing, a better air/oxygen transfer rate to the microorganisms, less wear on the blowers and we use less power. The diffusers were last cleaned five years ago.

After seven years of being a Trustee with three of them as the Chair, Steve Theborge decided not to run for another term and Robert Tomilson was elected as a Trustee for a three-year term.

### Request For Information

Questions about the District's finances and activities may be directed to Gary Brooks, Superintendent, Veazie Sewer District, 34 Hobson Avenue, Veazie, ME 04401.



**HORTON, McFARLAND & VEYSEY, LLC**

CERTIFIED PUBLIC ACCOUNTANTS

P.O. BOX 543  
ELLSWORTH, MAINE 04605

207-667-5529 • 1-800-499-9108 • FAX 207-667-9915

*James E. McFarland, CPA*  
*Annette L. Gould, CPA*  
*M.R. Horton, Jr., CPA*  
*(1925 -2010)*  
*Floyd S. Veysey, CPA*  
*(1948 - 2006)*

*Amy J. Billings, CPA*  
*Ellen Cleveland, CPA*  
*Nicholas Henry, CPA*  
*Ruth W. Wilbur, EA*

***Independent Auditors' Report***

July 26, 2012

Board of Trustees  
Veazie Sewer District  
Veazie, Maine

We have audited the balance sheets of the Veazie Sewer District as of May 31, 2012 and 2011, and the related statements of revenues, expenses and changes in fund net assets and cash flows for the years then ended. These financial statements are the responsibility of the District's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of Veazie Sewer District as of May 31, 2012 and 2011, and the results of its operations and its cash flows for the years then ended in conformity with accounting principles generally accepted in the United States of America.

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board, who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Our audit was conducted for the purpose of forming opinions on the financial statements that collectively comprise the Veazie Sewer District's financial statements as a whole. The accompanying supplemental information presented as Schedule 1 is presented for purposes of additional analysis and is not a required part of the financial statements. The accompanying supplemental information presented as Schedule 1 is the responsibility of management and was derived from and relate directly to the underlying accounting and other records used to prepare the financial statements. The information has been subjected to the auditing procedures applied in the audit of the financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the financial statements or to the financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the information is fairly stated in all material respects in relation to the financial statements as a whole.

*Horton, McFarland, Veysey*



**VEAZIE SEWER DISTRICT  
BALANCE SHEETS - PROPRIETARY FUNDS  
AT MAY 31,**

<b>ASSETS</b>	<b>2012</b>	<b>2011</b>
Current Assets:		
Cash and Cash Equivalents	112,135	151,604
Accounts Receivable	26,656	21,731
Prepaid Insurance	<u>2,322</u>	<u>2,203</u>
Total Current Assets	<u>141,113</u>	<u>175,538</u>
Non-Current Assets:		
Property, Plant and Equipment:		
Utility Plant	6,803,802	6,803,802
Less: Accumulated Depreciation	<u>3,090,181</u>	<u>2,928,446</u>
Total Property, Plant and Equipment	3,713,621	3,875,356
Deferred Charges	<u>20,315</u>	<u>1,427</u>
Total Non-Current Assets	<u>3,733,936</u>	<u>3,876,783</u>
Total Assets	<u><u>3,875,049</u></u>	<u><u>4,052,321</u></u>
<b>LIABILITIES AND NET ASSETS</b>		
Current Liabilities:		
Accounts Payable	11,613	12,661
Accrued Interest	4,045	4,347
Accrued Benefits	51,922	43,306
Current Portion of Long-Term Debt	<u>92,295</u>	<u>90,114</u>
Total Current Liabilities	<u>159,875</u>	<u>150,428</u>
Non-Current Liabilities:		
Long-Term Debt	<u>937,930</u>	<u>1,030,225</u>
Total Non-Current Liabilities	<u>937,930</u>	<u>1,030,225</u>
Net Assets:		
Invested in Capital Assets, Net of Related Debt	2,683,396	2,755,017
Unrestricted:		
Undesignated	(292,169)	(245,066)
Board Designated	<u>386,017</u>	<u>361,717</u>
Total Net Assets	<u>2,777,244</u>	<u>2,871,668</u>
Total Liabilities and Net Assets	<u><u>3,875,049</u></u>	<u><u>4,052,321</u></u>

*The notes to the financial statements are an integral part of this statement.*

*Page 3 of 11*



**VEAZIE SEWER DISTRICT**  
**STATEMENTS OF REVENUES, EXPENSES AND CHANGES IN FUND NET ASSETS -**  
**PROPRIETARY FUNDS**  
**YEARS ENDED MAY 31,**

	<b>2012</b>	<b>2011</b>
Operating Revenues:		
Town of Veazie Appropriation	150,000	140,000
User Fees	323,128	287,389
User Late Charges	1,715	1,358
Total Operating Revenues	<u>474,843</u>	<u>428,747</u>
Operating Expenses:		
Salaries and Wages	181,594	170,380
Trustees Fees	1,300	1,300
Employee Benefits	78,055	71,690
Payroll Taxes	14,041	15,617
Utilities	40,036	36,766
Supplies	5,753	8,783
Maintenance and Repairs	18,201	11,845
Vehicle Expense	3,021	3,281
Insurance	13,413	11,063
Office Supplies and Expense	3,393	3,843
Telephone	2,753	3,046
Licenses	2,335	2,341
Legal and Audit	17,211	6,170
Other	3,102	4,303
Depreciation	161,735	163,948
Total Operating Expenses	<u>545,943</u>	<u>514,376</u>
Net Operating Income	<u>(71,100)</u>	<u>(85,629)</u>
Non-Operating Revenues (Expenses):		
Interest Income	165	263
Interest Expense	(23,489)	(25,322)
Total Non-Operating Revenues (Expenses)	<u>(23,324)</u>	<u>(25,059)</u>
Change in Net Assets	(94,424)	(110,688)
Net Assets - Beginning of Year (Restated)	<u>2,871,668</u>	<u>2,982,356</u>
Net Assets - End of Year	<u><u>2,777,244</u></u>	<u><u>2,871,668</u></u>

*The notes to the financial statements are an integral part of this statement.*  
*Page 4 of 11*



**VEAZIE SEWER DISTRICT**  
**STATEMENTS OF CASH FLOWS - PROPRIETARY FUNDS**  
**YEARS ENDED MAY 31,**

	<b>2012</b>	<b>2011</b>
Cash Flows from Operating Activities:		
Receipts from Customers and Users	469,918	419,608
Payments to Suppliers	(212,753)	(176,790)
Payments to Employees	(182,894)	(171,680)
Net Cash Flows from Operating Activities	<u>74,271</u>	<u>71,138</u>
Cash Flows from Capital and Related Financing Activities:		
Purchase of Capital Assets	-	(16,155)
Interest Payments on Long-Term Debt	(23,791)	(25,618)
Principal Payments on Long-Term Debt	(90,114)	(87,985)
Net Cash Flows from Capital and Related Financing Activities	<u>(113,905)</u>	<u>(129,758)</u>
Cash Flows from Investing Activities:		
Investment Income	165	263
Net Cash Flows from Investing Activities:	<u>165</u>	<u>263</u>
Net Increase (Decrease) in Cash	(39,469)	(58,357)
Cash at Beginning of Year	<u>151,604</u>	<u>209,961</u>
Cash at End of Year	<u><u>112,135</u></u>	<u><u>151,604</u></u>
Reconciliation of Operating Income to Net Cash Flows from Operating Activities:		
Operating Income (Loss)	(71,100)	(85,629)
Adjustments to Reconcile Operating Income to Net Cash Flows from Operating Activities:		
Depreciation Expense	161,735	163,948
Change in Operating Assets and Liabilities:		
(Increase) Decrease in Accounts Receivable	(4,925)	(9,139)
(Increase) Decrease in Prepaid Insurance	(119)	(2,203)
(Increase) Decrease in Deferred Charges	(18,888)	(1,427)
(Decrease) Increase in Accounts Payable	(1,048)	(697)
(Decrease) Increase in Accrued Benefits	8,616	6,285
Net Cash Flows from Operating Activities	<u><u>74,271</u></u>	<u><u>71,138</u></u>

*The notes to the financial statements are an integral part of this statement.*

*Page 5 of 11*



**VEAZIE SEWER DISTRICT  
NOTES TO FINANCIAL STATEMENTS  
MAY 31, 2012 AND 2011**

**Note 1: Summary of Significant Accounting Policies**

**Business Activity**

Veazie Sewer District (the District) furnishes sewerage collection and treatment services in the Town of Veazie. Its accounting policies conform to generally accepted accounting principles as applicable to quasi-municipal units, which utilize the accrual basis of accounting.

**Use of Estimates**

The preparation of financial statements in conformity with generally accepted accounting principles requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

**Cash and Cash Equivalents**

For purposes of these statements, the District considers all highly liquid debt instruments purchased with a maturity of three months or less to be cash equivalents, all cash is covered by FDIC insurance at May 31, 2012 and 2011.

**Accounts Receivable**

Accounts receivables are stated at net realizable value. No provision has been made for possible uncollectible accounts. Uncollectible accounts are written off in the year in which they are determined to be uncollectible.

**Property, Plant and Equipment**

Property, plant and equipment are stated at cost. Depreciation has been provided on a basis considered adequate to amortize the cost of depreciable assets over their estimated useful lives on the straight-line method at rates from 2% to 20%.

**Deferred Charges**

Deferred rate case costs totaling \$2,140 are being amortized over a three year period ending in 2013. The amount amortized in the fiscal years ending May 31, 2012 and 2011 was \$713. Legal fees related to a foreclosure totaling \$19,601 are being deferred until a settlement is reached or the properties are sold (See Note 7). These amounts, net of amortization, were as follows at May 31:

	<b>2012</b>	<b>2011</b>
Rate Case	714	1,427
Legal Fees	19,601	-0-
	<u>20,315</u>	<u>1,427</u>



**Note 1: Summary of Significant Accounting Policies (Continued)**

**Income Taxes**

The District qualifies as a tax-exempt organization under the provisions of the Internal Revenue Code and, accordingly, its revenue is not subject to any state or federal income taxes.

**Basis of Accounting**

The District prepares its financial statements on the accrual basis of accounting in accordance with accounting principles generally accepted in the United States of America for proprietary funds, which are similar to those for private business enterprises. Proprietary funds are accounted for on the flow of economic resource measurement. Accordingly, revenues are recorded when earned and expenses are recorded when incurred. In accordance with Governmental Accounting Standards Board (GASB) Statement No. 20, the District follows the pronouncements of the Financial Accounting Standards Board (FASB) issued before November 30, 1989 except where those pronouncements conflict with GASB pronouncements. The District has the option, but has elected not to follow, subsequent private-sector guidance. Proprietary funds distinguish operating revenues and expenses from non-operating activity. Operating revenues arise from providing goods or services to outside parties for a fee. Revenues and expenses that are not derived directly from operations are reported as non-operating revenues and expenses.

**Note 2: Utility Plant**

Capital asset costs, additions and disposals are as follows for the year ended May 31:

	2011		2012
	Balance	Additions Disposals	Balance
Land	29,552		29,552
Garage Building	13,729		13,729
Pump Station	4,702,837		4,702,837
Plant Equipment	113,582		113,582
Collection System Equipment	25,163		25,163
Collection System	1,768,563		1,768,563
Office Equipment	19,275		19,275
Vehicles	36,684		36,684
Lab Equipment	94,417		94,417
Gross Utility Plant	6,803,802		6,803,802
Less: Accumulated Depreciation	2,928,446	161,735	3,090,181
Net Utility Plant	3,875,356	(161,735)	3,713,621





**VEAZIE SEWER DISTRICT  
NOTES TO FINANCIAL STATEMENTS  
MAY 31, 2012 AND 2011**

**Note 3: Long-Term Debt**

Long-term bonds and related terms are as follows at May 31:

	<b>2012</b>	<b>2011</b>
Bond payable to Maine Municipal Bond Bank, Maturing in October 2021. Interest rate of 2.056%.	1,030,225	1,120,339
Less: Current Portion	<u>92,295</u>	<u>90,114</u>
Total Long-Term Debt	<u>937,930</u>	<u>1,030,225</u>

Future maturities of long-term debt will be as follows:

	<b>Principal</b>	<b>Interest</b>	<b>Total</b>
2013	92,295	21,921	114,216
2014	94,528	20,005	114,533
2015	96,816	18,042	114,858
2016	99,159	16,034	115,193
2017	101,559	13,975	115,534
2018	104,016	11,866	115,882
2019	106,533	9,707	116,240
2020	109,111	7,495	116,606
2021	111,752	5,230	116,982
2022	114,456	2,912	117,368
	<u>1,030,225</u>	<u>127,187</u>	<u>1,157,412</u>

**Note 4: Compensated Absences**

The District reports compensated absences in accordance with the provisions of GASB Statement No. 16 "Accounting for Compensated Absences". Vacation benefits are accrued as a liability as the benefits are earned if the employees' rights to receive compensation are attributable to services already rendered and it is probable that the employer will compensate the employees for the benefits through paid time off or some other means. The District's personnel policy allows employees to accrue sick leave at a rate of 1.25 eight hour days per month up to 120 days or 960 hours. The District will buy back sick time accrued at employees' current rate of pay at the time of separation based on the number of years of service as shown below:

<b>Years of Service</b>	<b>Accrued Hours To Be Paid</b>
5	25%
10	50%
15	75%
20	100%



**VEAZIE SEWER DISTRICT  
NOTES TO FINANCIAL STATEMENTS  
MAY 31, 2012 AND 2011**

**Note 4: Compensated Absences (Continued)**

The accrued benefit liability shown in the financial statements at May 31, 2012 and 2011 is as follows:

	<b>2012</b>	<b>2011</b>
Accrued Vacation	15,419	14,680
Accrued Sick Time	36,503	28,626
	<u>51,922</u>	<u>43,306</u>

**Note 5: Net Assets**

Net assets compromise the various net earnings from operating and non-operating revenues, expenses and contributions of capital. Net assets are classified in the following components: invested in capital assets, net of related debt and unrestricted net assets. Invested in capital assets, net of related debt consists of capital assets, net of accumulated depreciation, reduced by the outstanding balances of bonds and adding back any unspent bond proceeds. The District invested in capital assets, net of related debt was calculated as follows at May 31:

	<b>2012</b>	<b>2011</b>
Total Property, Plant and Equipment	3,713,621	3,875,356
Long-Term Debt, Including Current Portion	<u>(1,030,225)</u>	<u>(1,120,339)</u>
Invested in Capital Assets, Net of Related Debt	<u>2,683,396</u>	<u>2,755,017</u>

Unrestricted consists of all other net assets not included in the above category. Unrestricted net assets totaling \$386,017 and \$361,717, respectively, have been designated by the Board of Trustees for the following:

	<b>2012</b>	<b>2011</b>
Truck Replacement	28,920	26,620
Plant Replacement	82,375	72,375
Collection System Improvement	174,122	174,122
Sludge Removal	85,000	75,000
Computer Replacement	7,600	6,600
Sick Time Buy Back	8,000	7,000
	<u>386,017</u>	<u>361,717</u>

**Note 6: Retirement Plan**

The District will make a 100% matching contributions to the IRA of any regular full-time employee who provides proof of an employee contribution to his/her IRA of at least 3% of compensation in a year. The maximum match by the District will be 5% of compensation. Total expense related to the employee retirement benefit was \$3,380 and \$2,920 at May 31, 2012 and 2011, respectively.



**VEAZIE SEWER DISTRICT  
NOTES TO FINANCIAL STATEMENTS  
MAY 31, 2012 AND 2011**

***Note 7: Legal Matters***

In October 2011, the District took possession of three properties through foreclosure proceedings. While trying to file a forceable entry and detainer against the previous owners, a complaint was filed against the District in Superior Court. The District is currently going through legal proceedings regarding the complaint. The matter is expected to be decided in the next fiscal year. In the financial statements, the value of the properties has not been recorded and the legal costs related to the foreclosure proceedings totaling \$19,601 have been deferred (See Note 1).

***Note 8: Subsequent Events***

In preparing these financial statements, the District has evaluated events and transactions for potential recognition or disclosure through July 26, 2012, the date the financial statements were available to be issued.



**VEAZIE SEWER DISTRICT  
STATEMENTS OF CHANGES IN NET ASSETS  
YEARS ENDED MAY 31,**

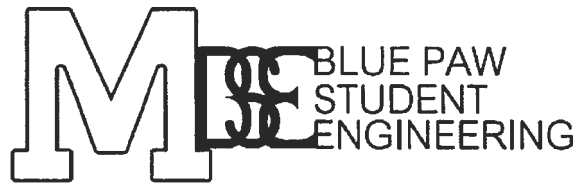
**SCHEDULE 1**

	<b>Undesignated</b>	<b>Board Designated</b>	<b>Invested in Capital Assets</b>
Balance May 31, 2010	<u>(159,886)</u>	<u>327,417</u>	<u>2,814,825</u>
Change in Nets Assets for the Year Ended May 31, 2011	(110,688)		
Appropriated To Reserves	(34,300)	34,300	
Debt Retired	(87,985)		87,985
Utility Plant Additions	(16,155)		16,155
Depreciation Provision	<u>163,948</u>	<u></u>	<u>(163,948)</u>
Balance May 31, 2011	<u>(245,066)</u>	<u>361,717</u>	<u>2,755,017</u>
Change in Nets Assets for the Year Ended May 31, 2012	(94,424)		
Appropriated To Reserves	(24,300)	24,300	
Debt Retired	(90,114)		90,114
Utility Plant Additions	-		-
Depreciation Provision	<u>161,735</u>	<u></u>	<u>(161,735)</u>
Balance May 31, 2012	<u><u>(292,169)</u></u>	<u><u>386,017</u></u>	<u><u>2,683,396</u></u>

*See accompanying independent auditors' report.*

*Page 11 of 11*

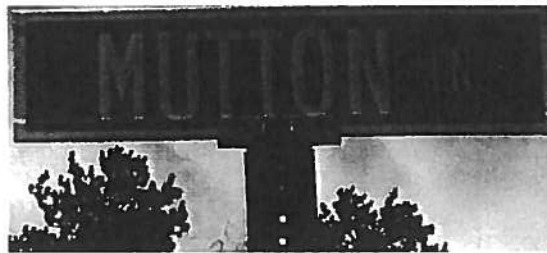




**Report Prepared For:**  
The Town of Veazie Maine

**Project:**  
Design for Rehabilitating Mutton Lane

**Location:**  
Veazie, Maine



**Project Manager**  
Ken Wicks

**Team Members**  
Chris Pendagast  
Ben Walz  
Sean McLaughlin  
Michael Kuczewski

May 11, 2009

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## Acknowledgements

Bluepaw Student Engineering (BSE) would like to thank the following people who provided support and information through the process of this project. Each person listed provided knowledge and resources which led to a successful project and we would like to thank them.

Bill Reed – Veazie Town Manager

Allan Thomas – Veazie Code Enforcer

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Judith Hakola – University of Maine Writing Advisor

Per Garder – Department of Civil Engineering – Road Design Assistance

Steve Sawyer – Sebago Technics, Engineering Advice

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Barney Silver – Silver Construction – Cost Estimation

We would also like to thank the following for their assistance on this project:

Mark Adams

Eric Landis

Willem Brutsaert

Shaleen Jain

The Walker Family

Once again we would like extend our greatest gratitude for the assistance of everyone involved.



## Executive Summary

As our senior capstone Civil Engineering project, Blue Paw Student Engineering (BSE) Team undertook an assessment and redesign of Mutton Lane in Veazie, ME. The property has been recently been acquired by the Town of Veazie. The road serves three private resident houses and is a little bit short of a quarter mile long. During the spring months, Mutton Lane has experienced problems with drainage. If the flooding continues to occur, the road will suffer erosion resulting in poor road quality. This would pose problems to the residents using the road.

The Town of Veazie has been interested in repairing the poor road surface, and address its major erosion problems. These shortcomings can be attributed to the substandard design and construction when the road was privately built. Recently local governments have had to reduce spending in an attempt to stay within reduced budgets. As a result the Mutton Lane rehabilitation project was dropped to focus on “real” roads. This provided the explanation for BSE to assess with this project.

Bluepaw Student Engineering’s recommends a 25-year design for the Mutton Lane rehabilitation includes:

- Excavate, replace and create a 30 inch sub base using type I aggregate
- Excavate, replace and create a new six inch base using type 0 aggregate
- Re-surface the road using a two-inch thick 9.5 mm fine hot mix asphalt
- Create drainage ditches along the sides of the road

Bluepaw Student Engineering recommendation for a 50-year design for the Mutton Lane culvert includes:

- Install one 30 inch (M218) corrugated zinc coated steel culvert under Mutton Lane

The total cost of the project will be \$160,500.

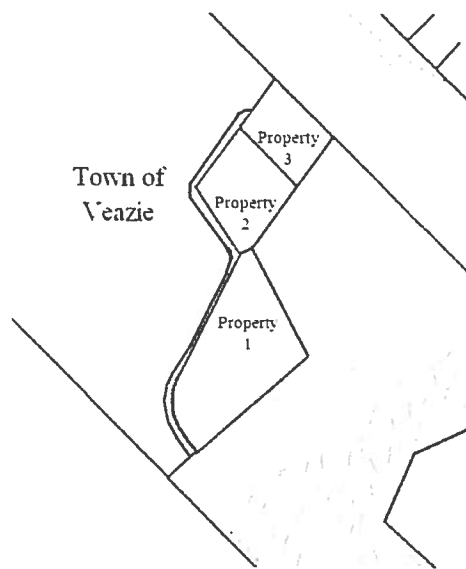
With our engineering knowledge we believe that our recommendations are feasible and will meet requirements. The overall design will provide many positives, including but not limited to improving drainage, better road quality, and improved resistance to wear. All of these improvements will result in less money spent on future repairs and compliance with national and local codes and regulations.

## Introduction

The Town of Veazie is interested in a rehabilitation of Mutton Lane, and the Blue Paw Student Engineering (BSE) Team from the University of Maine's Department of Civil and Environmental Engineering undertook the project as their senior capstone project. This redesign includes a new sub base and base, and improved drainage of the stream underneath Mutton Lane. The current culvert in place will be removed and replaced with a more up-to-date culvert to improve efficiency and avoid possible complications in the future, such as a collapse.

The major objective of our project was re-surfacing Mutton Lane. At the moment the road is usable but it could be substantially improved. A design was requested for a surface of the road that will be able to withstand the harsh Maine winters. We have been asked to provide information that will improve this situation quickly and effectively, yet remain fairly inexpensive. Our analyses and recommendations are made within the scope of our capabilities as engineering students.

## Design Criteria



**Figure 1: Property lines in blue, road in brown**

The current condition of Mutton Lane is unacceptable by today's standards. The road is in deteriorating condition, and the culvert is showing signs of wear. The road is on a hill having one home at the bottom of the hill (property 1) and two houses at the top (properties 2 and 3). A full topography of the site can be seen in Figure 14 in Appendix C. The Town of Veazie has requested a low-cost and low-maintenance design. The current site design is not sufficient to drain the water that comes as a result of a combination of snow melting, ice melting, and heavy rains. Residents have complained about part of their property and surrounding area being submerged. BSE investigated possible designs and features that will help improve the drainage situation in the area.

The Town of Veazie has recently acquired Mutton Lane, and the road in its current condition is not sufficient for homeowners who live on that road. Property lines outlined in Figure 1 show the land owned by Town of Veazie. The road itself is a tax acquired right of way, meaning the town owns the road; however, town codes and regulations do not apply. The town has asked for a low-cost solution to this problem with minimal installation time and low impact. BSE has been asked to provide options for an optimal road surface that will be both durable and cost effective.

The Town of Veazie would like the surface of the road to be aesthetically pleasing and have low upkeep. The town has also requested that the possible solutions be inexpensive as to avoid high costs for this road. The road is classified as a rural light. The road is plowed by a private

contractor; however, occasionally the town's plow truck, weighing 60,000 lbs, is needed to clear and sand the road.

## Road Design



Figure 2: Erosion at culvert indicated by red circle

The road surface is a dirt pack that was constructed in 1981 by Silver Construction of Veazie. The current base shows no severe sign of wear, except minor erosion shown in Figure 2. The road is 15 feet wide, 1100 feet long, and has an average slope of .075.

The Town of Veazie has partnered with the Maine Land Trust Network (MLTN), specifically the Orono Land Trust (OLT), so for the foreseeable future there will be no new developments on the road; therefore the road does not need to be widened .

## Frost Susceptibility

The design of the road will be to minimize the frost susceptibility. There are three things that must occur for a road to experience frost penetration:

1. Temperatures below freezing.
2. Source of water close enough to supply capillary water to the frost line.
3. Frost susceptible soil type and grain size distribution.

(Holtz and Kovacs, 1981)

We designed the road using two types of aggregate. Type 0 aggregate is non-frost susceptible, while type I is slightly susceptible to frost, as depicted in Table 1.

Current frost penetration levels in Veazie, Maine, are listed by the MaineDOT Design Guide as 6 feet (MaineDOT 611). The recommended depth of penetration avoidance is listed as  $\frac{1}{2}$  the total penetration depth as shown in figure 10 of Appendix B.

Frost Class	Kind of Soil	Amount Finer than .02 mm (% by weight)	Frost Susceptibility
0	a) Gravels	0-3	Non-Frost-susceptible
	b) Sands	0-3	
I	Gravels	3-10	
II	a) Gravels	10-20	
	b) Sands	3-15	Increasing frost susceptibility
III	a) Gravels	>20	
	b) Sands, except fine silty sands	>15	
	c) Homogeneous clays	PI > 12%	
IV	a) Sands, sandy silts, & fine silty sands	>15	
	b) Varved clays and lean clays	PI < 12%	

**Table 1: Type 0 and I aggregates defined**

### Road Base Design

The Mutton Lane traffic condition was determined to be in the category of light traffic rural roads. These roads experience traffic equivalent standard axle loads (ESAL) factors of less than  $10^4$ . For this condition the Asphalt Institute recommends a thickness for the road base to be six inches, without considerations for frost.

The original base will have six inches removed, and the new base will consist of six inches of virgin type 0 aggregate. The sub base will consist of 30 inches of type I aggregate, which is depicted in Figure 6 in Appendix B.

Calculations and figures are located in Appendix B.

### Road Surface Design

The asphalt design is crucial to the durability and appearance of a road. Mutton Lane requires minimal design specifications as it experiences ESAL values less than  $10^4$  over a 25-year period. The Maine Department of Transportation (MDOT) classifies Mutton Lane as a local road. The traffic conditions require a recommended hot mix asphalt layer of two inches. The required nominal aggregate size is 9.5 mm fine.

The aggregate quality minimums for the desired mix of asphalt are:

- ASTM D5821 Coarse Aggregate Angularity (Minimum) – 60% of coarse aggregate has one fractured face and 60% of coarse aggregate has two fractured faces.
- AASHTO T-304 Method A Uncompacted Void Content of Fine Aggregate (Minimum) – 40%
- ASTM D4791 (8.4) Flat and Elongated Particles (Minimum) – 10%
- AASHTO T176 Clay Content/ Sand Equivalent (Minimum) – 45%

The specific volumetric requirements specifications for the hot mix asphalt are listed in Appendix B.

### **Road Drainage**

The resistance to frost increases significantly if the water level is altered to avoid interaction with the road. The recommended depth of material with limited or no frost susceptibility is three feet. BSE has designed a drainage ditch along the road to a depth of 2.5 feet. The current soil in the site consists mainly of glacial till, and the road was constructed using coarse material according to the original contractors. It must be verified by testing whether any of the current material can meet frost susceptibility requirements.

Ditching will not be required on sections of the road on the downhill side. The total length of ditching needed will be approximately 1100 feet. Figures showing the drainage ditch design and specifications can be found in Appendix B. The ditches will remove water from under the road and reduce the water that collects under the surface and expands when frozen.

Below the sub base of the road, BSE recommends the use of a geotextile fabric for drainage tied in with 4 inch diameter perforated pipes on both sides of the road. The geotextile is placed below the frost zone in order to interrupt the flow of water, which leads to less frost heaves (MaineDOT 611). Storm water penetrates the through the bases of the soil and the drainage tubes bring the water collected by the drainage geotextile to the stream.

Drainage Calculations and figures located in Appendix B.

## Culvert Design

The present culvert is a makeshift structure of cinder blocks that allows the stream to pass under the road. The resurfacing and re-grading of the road is a great opportunity to replace the existing culvert with a design that will last longer. The cinder blocks are susceptible to frost in the winter because of all of the spaces for water to penetrate and later expand when frozen. The blocks could break down over time and eventually fall apart, making the road impassable at that location. Existing brush and branches, shown in Figure 3, block the exit and thus are a potential flow backup problem. In Figure 4 it is evident that the current culvert design is not optimal for its purpose. Figure 5 shows the current system put in place to process the run-off from the road. The current runoff system has a perforated pipe along the uphill side of the road that begins at the top of the hill and ends at the stream, which allows the collected water to flow into the stream.



Figure 3: Culvert outlet

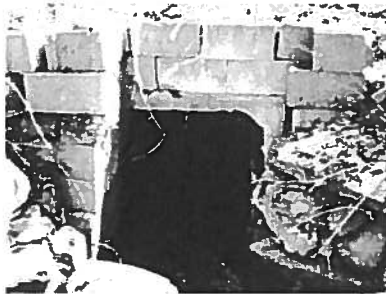


Figure 4: Culvert inlet



Figure 5: Subsurface drainage

## New Culvert Design

The culvert was designed using the current MaineDOT Highway Design Guide. The design is based on a 50 year intensity flow as shown in Appendix C. Due to the conditions and suggestion listed in the design guide, the recommended style of culvert is a single 30 inch, zinc coated steel (M218) corrugated pipe. This pipe will have a thickness of 0.109 inches and will be 18 feet long. The maximum flow allowable by the system is 11.3 cubic feet per second (cfs); this value is above the 50 year flow, which was determined to be 6 cfs. This means that a flow of 11.3 cfs will not cause pooling behind the culvert.

The stream is considered a perennial stream because it has a continuous flow all year long. Environmental regulations listed in the MaineDOT Highway Design Guide require all culverts on perennial streams to be embedded as to “not present obvious obstacles to fish passage, even when the stream has not been identified as a specific fishery” (MaineDOT 511). The culvert will be imbedded three inches into the stream bed, as shown in Figure 12 of Appendix C.

The design of the culvert is a projecting inlet. The road surface is currently 6.5 feet above the streambed. The fill above the culvert will be a thickness of 4 feet in addition to an asphalt layer of two inches. The length of the culvert is 18 feet as shown in Figure 13 of Appendix C.

There are numerous tangible advantages to a new culvert design and implementation. The design that we recommend is using corrugated zinc coated steel (M218) culvert, which will last much longer than the current culvert.

## **Costs**

Each option has its own unique costs and benefits. Some of the options will be more costly but will be more effective at what they are trying to fix. Listed below are the estimated costs that each of the aspects of the project will cost the Town of Veazie to implement. A breakdown of the cost can be found in Appendix D.

### **Roadway**

- Type 0 aggregate: \$9,200
- Type I aggregate: \$30,600
- Asphalt: \$18,000
- Geotextile: \$1,300
- Drainage Tubes: \$11,000

### **Culvert**

- Culvert excavation for Mutton Lane: \$15,000
- Culvert: \$400

### **Ditch**

- Excavation: \$66,000
- Riprap: \$9,000

### **Final Cost**

- \$160,500

## **Limitations**

The conditions that occurred were not optimal for observation of rapid snow melt and flooding. The stream did not rise to a level where flooding occurred on the Walker property (property 1). The information that we have gathered about past years has led us to believe that we did not observe the fullest extent of the flooding. Thus we recommend that additional research be performed before making any final decisions. We are confident that all designs and information that we have provided will be effective given the available information.

## **Recommendations**

Our data and analysis has provided us with the information needed to conclude that the options stated in this report are effective. The current road condition is not acceptable for taxpayers and needs repair.

From our analysis, Bluepaw Student Engineering (BSE) recommends that the Town of Veazie excavate Mutton Lane and install a 6 inch base using type 0 aggregate, a 30 inch sub base using type I aggregate, and a two-inch asphalt surface using nominal aggregate size of 9.5 mm fine. BSE recommends a soil test be taken to find out if the current soil material meets frost susceptibility standards. If the current material is acceptable then it may be reused. BSE also recommends the use of a geotextile for drainage. The geotextile will be tied into a new perforated 4 inch diameter tube system on both sides of the road.

BSE recommends installing drainage ditching along side of the road with 9 inch riprap. Using riprap will slow the flow of the water and lessen the chance of stream bed erosion.

We recommend that a new culvert be installed on Mutton Lane having zinc coated steel (M218) with a diameter of 30 inches, a length of 18 feet and an embedment of 3 inches. The culvert needs to have a diameter larger than 18 inches to avoid freezing. We also recommend that the brush around the culvert be permanently removed so there is no chance of restricting the water flow. One of the added advantages of the proposed culvert design is that it will not only work better but it will be more aesthetically pleasing.

## **Disclaimer**

The materials contained in this document and any supporting documentation were developed by us as students as part of our education in the College of Engineering in order to gain supervised engineering problem-solving experience. Therefore, information and recommendations, while useful for understanding a particular project's scope and possibilities for implementing solutions, should not be relied upon solely for the purposes of advancing a project beyond conceptual levels.

Furthermore, such material should not substitute for or replace the services of a design professional practicing in the areas of engineering or architecture, particularly for projects whose direct or indirect impact may affect the safety, health, or welfare of the public.

We students who prepared this information truly look forward to the opportunity to serve with fidelity the public, our future employers, and clients. In providing you with this information, we wish to uphold and enhance the honor, integrity, and dignity of the engineering profession.



## **Appendix A: Permits and Regulations**

From the Maine.gov stormwater section we have determined that due to state regulations we need a Stormwater Management Law Permit (Maine.gov Stormwater). These permits are required because the state is trying to protect and restore the natural impact from stormwater on surface water and groundwater.

From the Natural Resources Protection Act (NRPA) we have determined that we will not be able to make changes to the stream beyond the Walker's driveway because we will be disturbing too much of the wetland area. "The Legislature finds and declares that the State's [...] wetlands [...] are resources of state significance. These resources have great scenic beauty and unique characteristics, unsurpassed recreational, cultural, historical and environmental value of present and future benefit to the citizens of the State and that uses are causing the rapid degradation and, in some cases, the destruction of these critical resources, producing significant adverse economic and environmental impacts and threatening the health, safety and general welfare of the citizens of the State" (Maine.gov NRPA).

## Appendix B: Road Design

### Traffic

General Law Gross Weight Limits

2 Axles	34,000 lbs
3 Axles	54,000 lbs
4 Axles	69,000 lbs
5 Axles	80,000 lbs
6 Axles	100,000 lbs

$$AADT = \frac{10 \text{ trips}}{\text{day}} * 365 \text{ days} = 3650 \frac{\text{trips}}{\text{yr}}$$

Cars 8,000 lb tandem axle

Sand truck 60,000 lb (10)  $\frac{\text{trip}}{\text{yr}}$  – tandem axle

Oil truck 70,000 lb (5)  $\frac{\text{trip}}{\text{yr}}$  – tridum axle

Table 2 gives load equivalency factors

$$ESAL \text{ Cars} = 3650 * 25 * .003 = 273.75$$

$$ESAL \text{ Sand Truck} = 10 * 25 * 9.59 = 2397.5$$

$$ESAL \text{ Oil Truck} = 5 * 25 * 4.52 = 565$$

$$ESAL \text{ Total} = 273.75 + 2397.5 + 565 = 3236.25$$

### Base Needed for Traffic

Figure 9 using 9.5 mm fine gives us recommended thickness of 2 in

Road is 15 ft wide and 1100 ft long

2% crown required for roads

Table 3 used for mix data

Table 4 used for mix data

6" of type 0 aggregate base

$$\text{Volume base needed} = .5 \text{ ft} * 14 \text{ ft} * 1500 \text{ ft} = 10,500 \text{ ft}^3$$

### Base Needed for Frost

Frost penetration of 72"

Design frost prevention depth=  $\frac{1}{2}$  frost penetration depth

Design frost material depth= 36" = 3' below base

30" type I aggregate

$$\text{Volume base needed} = 3 \text{ ft} * 14 \text{ ft} * 1500 \text{ ft} = 63,000 \text{ ft}^3$$

## Ditch Design

Drainage ditch - 3:1 front slope with a 2:1 back slope

Table 5 max velocity in a ditch

Gravel bottom riprap sides – max velocity 8-10 ft/sec,  $v = 8$  ft/sec

Gravel bottom  $n = 0.023-0.033$ ,  $n = .028$

$S = (1695' - 87.3') / 1500 = 1.07$

Manning's formula:  $v = \frac{1.486}{n} * R^{3/2} * S^{1/2}$

$R = \frac{a}{P}$ ,  $R = .277$  ft

$a$  = channel cross- sectional perimeter area ( $\text{ft}^2$ )

$P$  = wetted perimeter (ft),  $P = 7.4$  ft

$a = R * P$ ,  $a = 2.05$   $\text{ft}^2$

Total volume of riprap need for 1 ditch =  $a * \text{length of road} = 2.05 \text{ ft}^2 * 1500'$ ,  $V = 3100 \text{ ft}^3$

Tonnage needed of riprap = 170 tons

Total volume excavated = square area excavated \* length of road =  $16.375 \text{ ft}^2 * 1500' = 24,600 \text{ ft}^3$

## Riprap Size

$$W(lbs) = \frac{2 * 10^{-5} * 8^6 * 2.65 * csc^3 * (27 - 70)}{1.65^3} = 5.37 lbs$$

$$Density = 2.65 \frac{lbs}{ft^3}$$

$$Volume = \frac{2.65}{5.37} = .49 ft^3$$

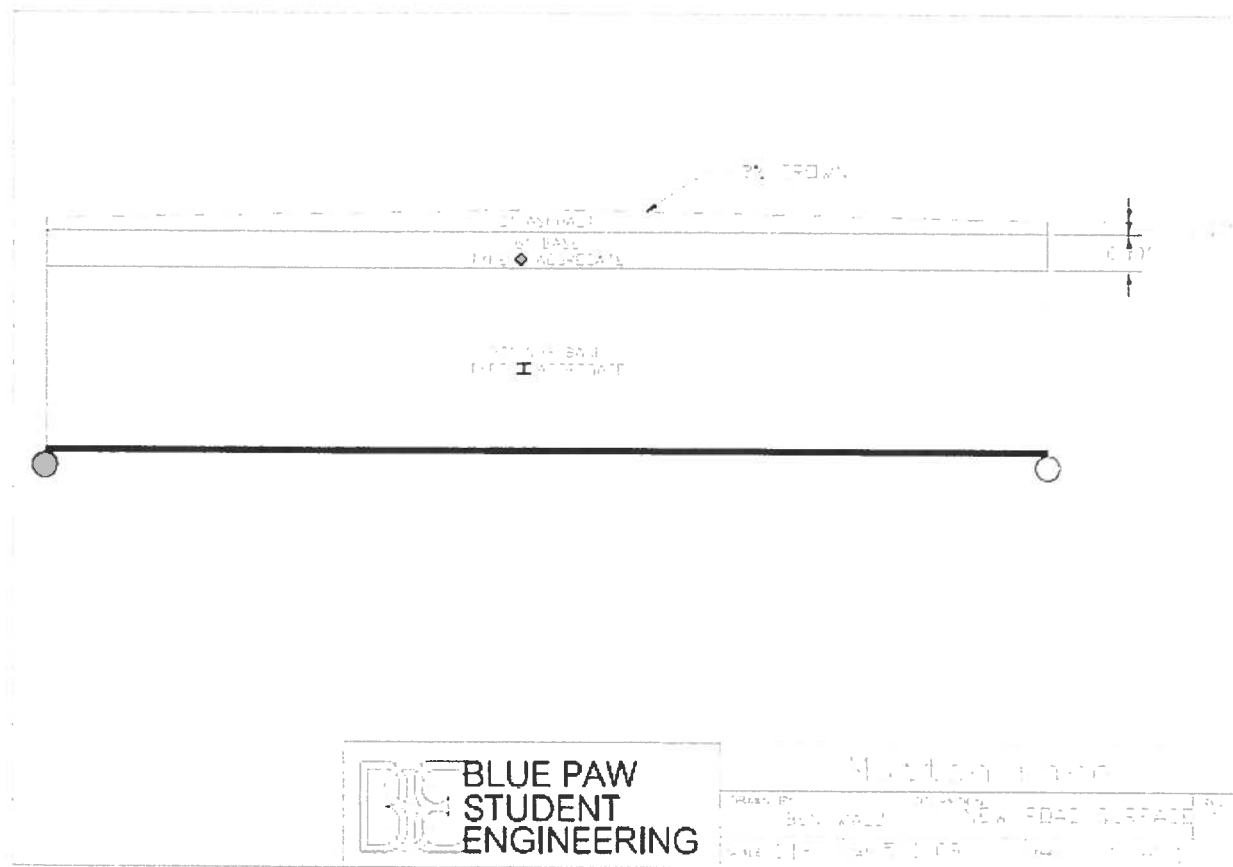
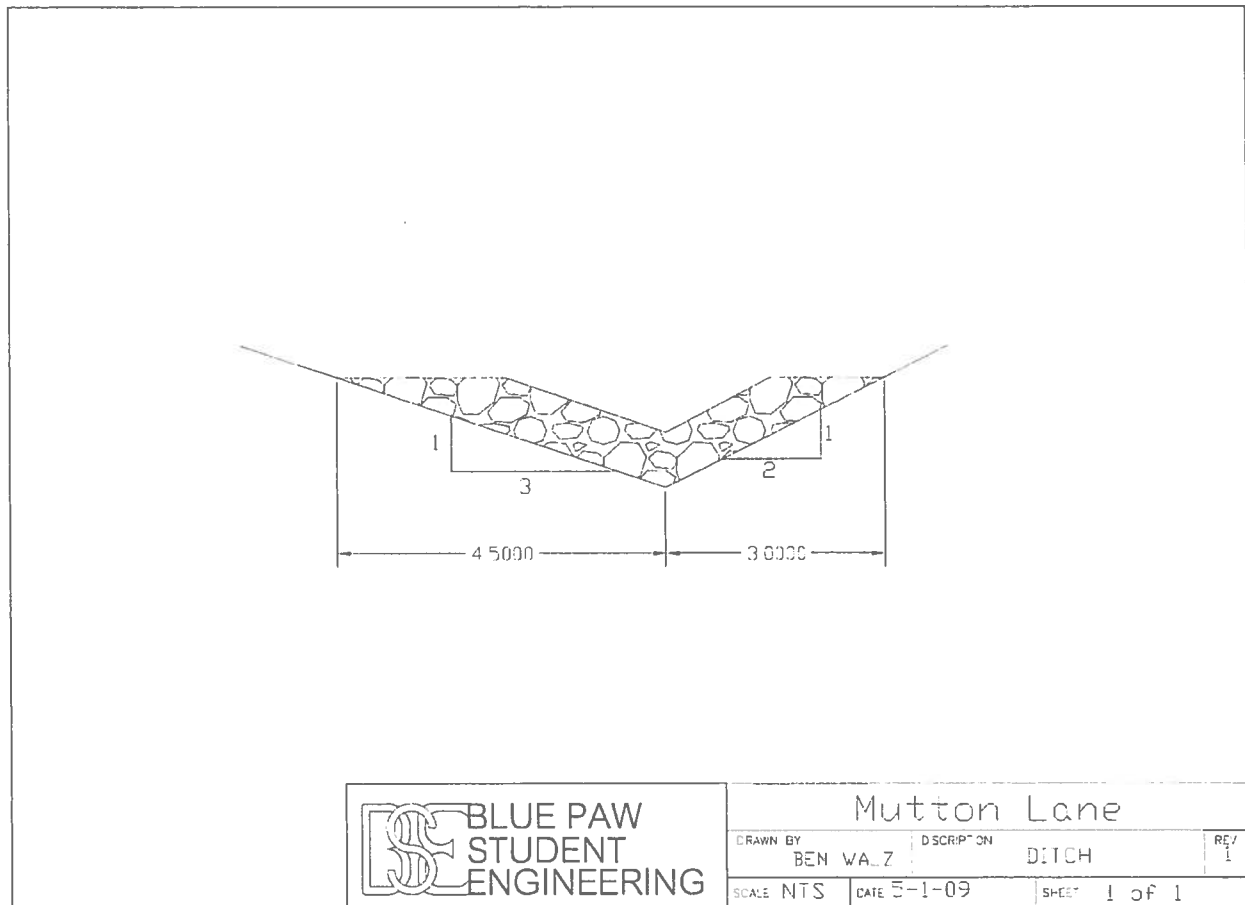


Figure 6: CAD drawing of 2% crown, 6" type 0 aggregate base, and 30" type I aggregate sub base



**Figure 7: CAD drawing of drainage ditch**

**Table 20.3** Load Equivalency Factors

<i>Gross Axle Load</i>		<i>Load Equivalency Factors</i>		
<i>kN</i>	<i>lb</i>	<i>Single Axles</i>	<i>Tandem Axles</i>	<i>Tridem Axles</i>
4.45	1,000	0.000012		
8.9	2,000	0.00018		
17.8	4,000	0.00209	0.0003	
26.7	6,000	0.01043	0.0011	0.0003
35.6	8,000	0.0343	0.003	0.001
44.5	10,000	0.0877	0.007	0.002
53.4	12,000	0.189	0.014	0.003
62.3	14,000	0.360	0.027	0.006
71.2	16,000	0.623	0.047	0.011
80.0	18,000	1.000	0.077	0.017
89.0	20,000	1.51	0.121	0.027
97.9	22,000	2.18	0.180	0.040
106.8	24,000	3.03	0.260	0.057
115.6	26,000	4.09	0.364	0.080
124.5	28,000	5.39	0.495	0.109
133.4	30,000	6.97	0.658	0.145
142.3	32,000	8.88	0.857	0.191
151.2	34,000	11.18	1.095	0.246
160.1	36,000	13.93	1.39	0.313
169.0	38,000	17.20	1.70	0.393
178.0	40,000	21.08	2.08	0.487
187.0	42,000	25.64	2.51	0.597
195.7	44,000	31.00	3.00	0.723
204.5	46,000	37.24	3.55	0.868
213.5	48,000	44.50	4.17	1.033
222.4	50,000	52.88	4.86	1.22
231.3	52,000		5.63	1.43
240.2	54,000		6.47	1.66
249.0	56,000		7.41	1.91
258.0	58,000		8.45	2.20
267.0	60,000		9.59	2.51
275.8	62,000		10.84	2.85
284.5	64,000		12.22	3.22
293.5	66,000		13.73	3.62
302.5	68,000		15.38	4.05
311.5	70,000		17.19	4.52
320.0	72,000		19.16	5.03
329.0	74,000		21.32	5.57
338.0	76,000		23.66	6.15
347.0	78,000		26.22	6.78
356.0	80,000		29.0	7.45
364.7	82,000		32.0	8.2
373.6	84,000		35.3	8.9
382.5	86,000		38.8	9.8
391.4	88,000		42.6	10.6
400.3	90,000		46.8	11.6

Note: kN converted to lb are within 0.1 percent of lb shown.

SOURCE: *Thickness Design—Asphalt Pavements for Highways and Streets*, Manual Series No. 1, The Asphalt Institute, Lexington, Ky., February 1991.

**Table 2:** Load equivalency factors

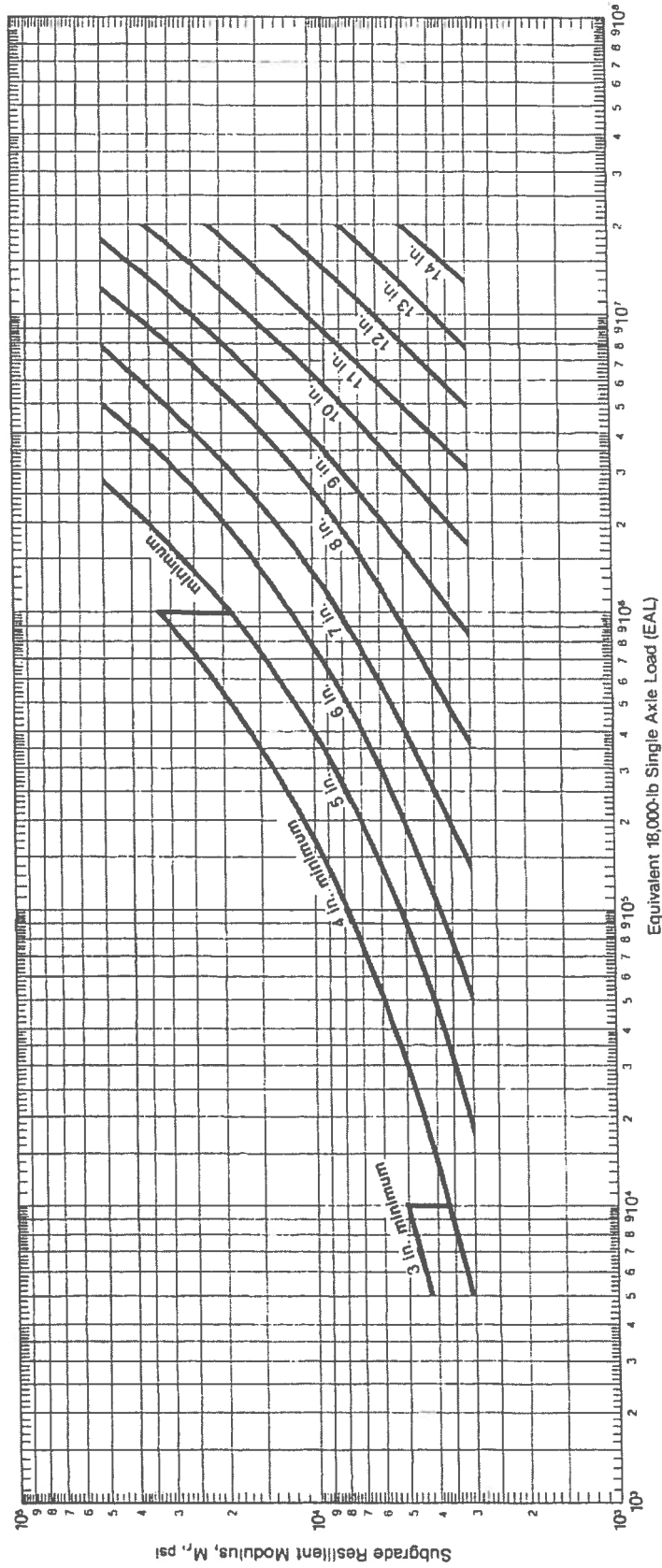


Figure 8: Pavement design chart

Figure 20.9 Design Chart for Pavements with Asphalt Concrete Surface and Untreated Aggregate Base 6 in. Thick

SOURCE: *Thickness Design—Asphalt Pavements for Highways and Streets*, Manual Series No. 1, Asphalt Institute, Lexington, Ky., February 1991, p. 77.

Nominal Aggregate Size	Layer	Recommended Layer Thickness
4.75 mm	shim layers, variable depth	0" to 1½"
9.5 mm-fine	shim layers, variable depth	½" to 2"
12.5 mm-fine	shim layers, variable depth	¾" to 3"
12.5 mm-coarse	shim layers, variable depth	1" to 3"
9.5 mm-fine	surface layers, uniform depth	¾" to 1¼"
9.5 mm-coarse	surface layers, uniform depth	1¼" to 1½"
12.5 mm-fine	surface layer, uniform depth	1½" to 1¾"
12.5 mm-coarse	surface layer, uniform depth	1½" to 2"
12.5 mm-coarse	base layer, uniform depth	1¾" to 3"
19.0 mm-fine	base layer, uniform depth	2" to 3"
19.0 mm-coarse	base layer, uniform depth	2¼" to 3"

**Figure 9: Layer Thickness**



TABLE 3: AGGREGATE CONSENSUS PROPERTIES CRITERIA

Estimated Traffic, Million 18 kip ESALs	ASTM D5821 Coarse Aggregate Angularity (Minimum)	AASHTO T-304 Method A Uncompacted Void Content of Fine Aggregate (Min)	ASTM D4791 (8.4) Flat and Elongated Particles (Maximum)	AASHTO T176 Clay Content/ Sand Equivalent (Minimum)
< 0.3	60/60	40	10	45
0.3 to < 3.0	75/60			
3.0 to < 10	85/80	45		
10 to < 30	95/90			
≥ 30	100/100			

Table 3: Aggregate properties from ESAL

TABLE 1: VOLUMETRIC DESIGN CRITERIA

Design ESAL's (Millions )	Required Density (Percent of $G_{mm}$ )			Voids in the Mineral Aggregate (VMA)(Minimum Percent)					Voids Filled with Binder (VFB) (Minimum %)	Fines/Eff. Binder Ratio
				Nominal Maximum Aggregate Size (mm)						
	$N_{initial}$	$N_{design}$	$N_{max}$	25	19	12.5	9.5	4.75		
<0.3	≤91.5	96.0	≤98.0	13.0	14.0	15.0	16.0	16.0	70-80	0.6-1.2
0.3 to <3	≤90.5								65-80	
3 to <10	≤89.0								65-80*	
10 to <30										
≥ 30										

Table 4: Aggregate voids

**Table 17.7** Maximum Allowable Water Velocities for Different Types of Ditch Linings

	Maximum Velocity (ft/sec)
Natural Soil Linings	
Bedrock or rip-rap sides and bottoms	15-18
Gravel bottom, rip-rap sides	8-10
Clean gravel	6-7
Silty gravel	2-5
Clayey gravel	5-7
Clean sand	1-2
Silty sand	2-3
Clayey sand	3-4
Silt	3-4
Light clay	2-3
Heavy clay	2-3
Vegetative Linings	
Average turf, erosion-resistant soil	4-5
Average turf, easily eroded soil	3-4
Dense turf, erosion-resistant soil	6-8
Gravel bottom, brushy sides	4-5
Dense weeds	5-6
Dense brush	4-5
Dense willows	8-9
Paved Linings	
Gravel bottom, concrete sides	10
Mortared rip-rap	8-10
Concrete or asphalt	18-20

SOURCE: Adapted from *Drainage Design for New York State*, U.S. Department of Commerce, Washington, DC, November 1974

**Table 5: Maximum water velocities in ditches**

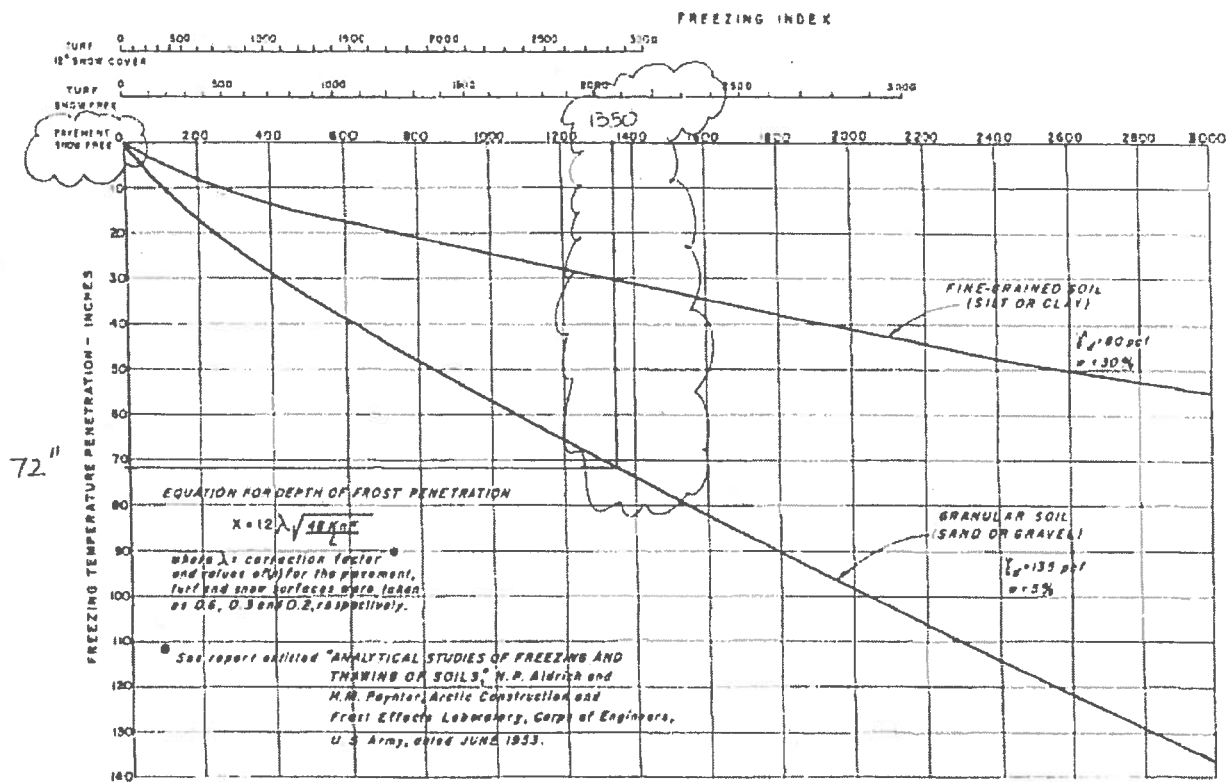


Figure 13-3 RELATIONSHIP BETWEEN FREEZING INDEX AND FREEZING TEMPERATURE PENETRATION FOR VARIOUS SURFACE CONDITIONS FOR GRANULAR AND FINE-GRAINED SOILS

Figure 10: Freezing index



## Appendix C: Culvert

### Flow of Water

Area of the watershed from Figure 14 is 150 acres

Table 6 use Rational Method

$$Q = \mu CiA$$

Table 7 runoff coefficient,  $C = .2$

$$\mu = 1$$

$$C = .2$$

$$A = 150 \text{ acres}$$

From Table 8 using the 50 year intensity for Penobscot County:

$$i = \frac{5.3}{24} = .2208 \frac{\text{in}}{\text{hr}}$$

$$Q = 1 * .2 * .2208 * 150 = 6.624 \frac{\text{ft}^3}{\text{sec}}$$

### Culvert

Inlet Control: Inlet control occurs when the discharge through the culvert is controlled by inlet conditions: the pipe itself is capable of passing more water than the inlet. This occurs when the culvert is on a steep slope or when there is too much constriction of the flood plain. Critical depth occurs at the inlet and the flow in the culvert is mostly supercritical. The pipe inlet is modeled as an orifice when inlet control prevails. A useful indication of inlet control is free outlet flow with little or no tailwater. Outlet conditions (including tailwater) and culvert barrel roughness and length are not factors in determining culvert capacity.

From Table 9 collector and local culverts are designed for 50 year storm

From Figure 15 determined what types of materials we can use

Table 10, need a 30 in culvert (max fill 25 – 40 ft)

Using Table 11 thickness of 30 in culvert is .109 in

Figure 16, stream fits perennial stream definition

Design embedded culvert 3 inches deep

$$\frac{HW}{D} = 1$$

Table 12 Culvert embedded 3 in gives open area of 3.153 Ft<sup>2</sup>

$$24 \text{ in culvert } \frac{\frac{24}{12}}{2} = 1 \text{ ft radius}$$

$$A = \pi r^2 = \pi(1)^2 = 3.14 \text{ ft}^2 \approx 3.153$$

From Figure 17 the flow through the culvert is determined

Figure 18 front riprap required 1.65 cubic yards

Table 13, comparison table of multiple culverts

Road width at culvert 15 ft

Culvert length 18 ft

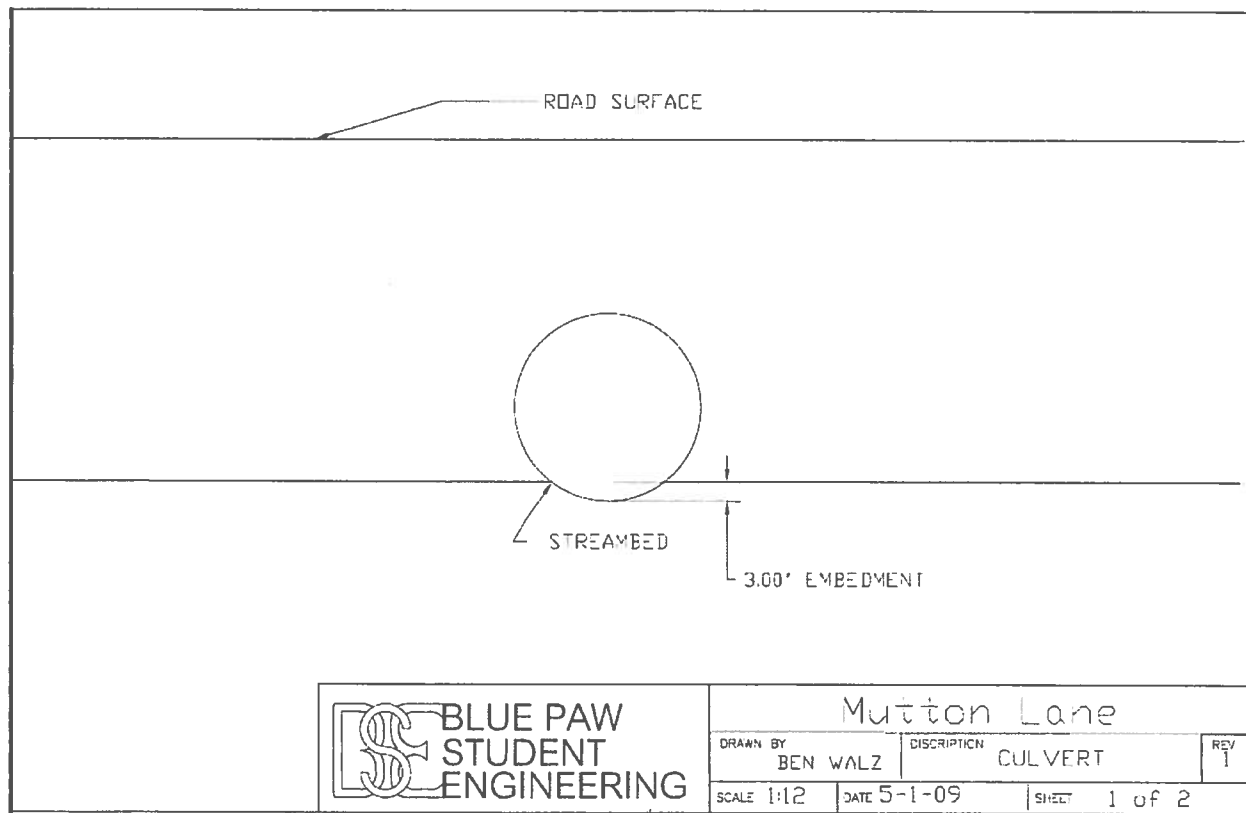


Figure 12: CAD drawing of embedded culvert

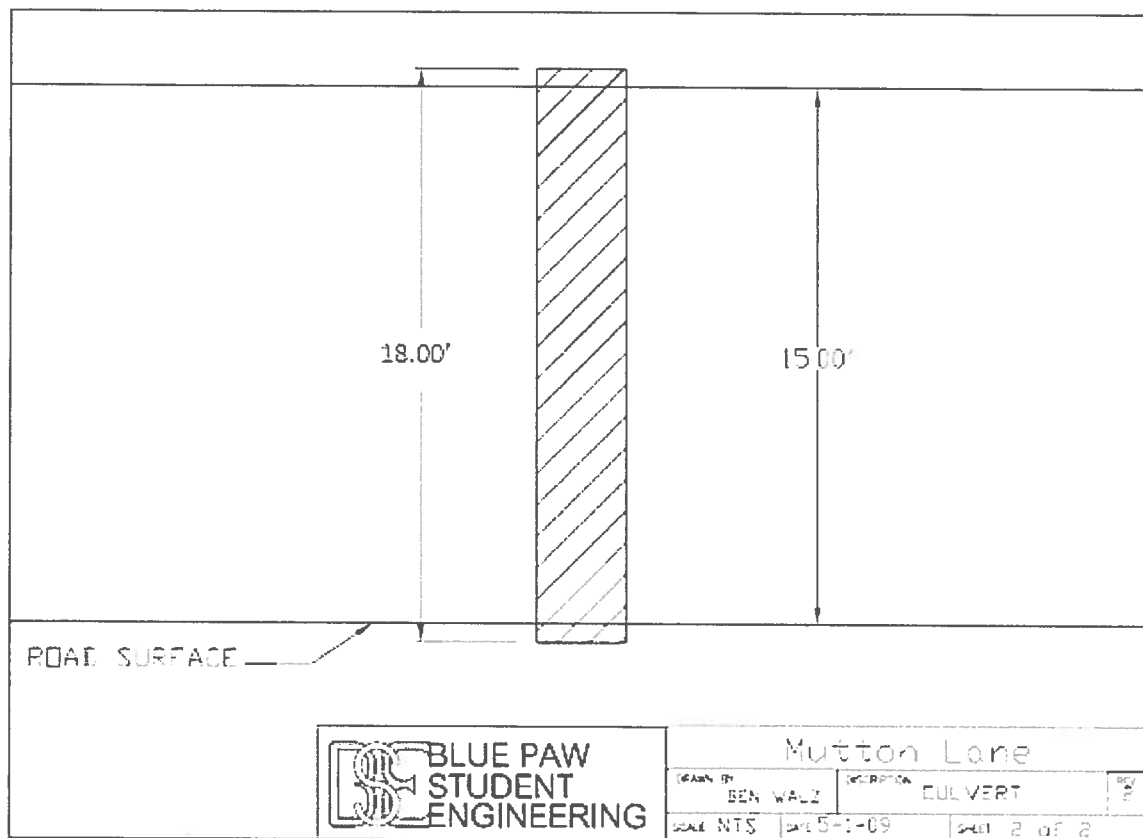


Figure 13: CAD drawing of culvert length



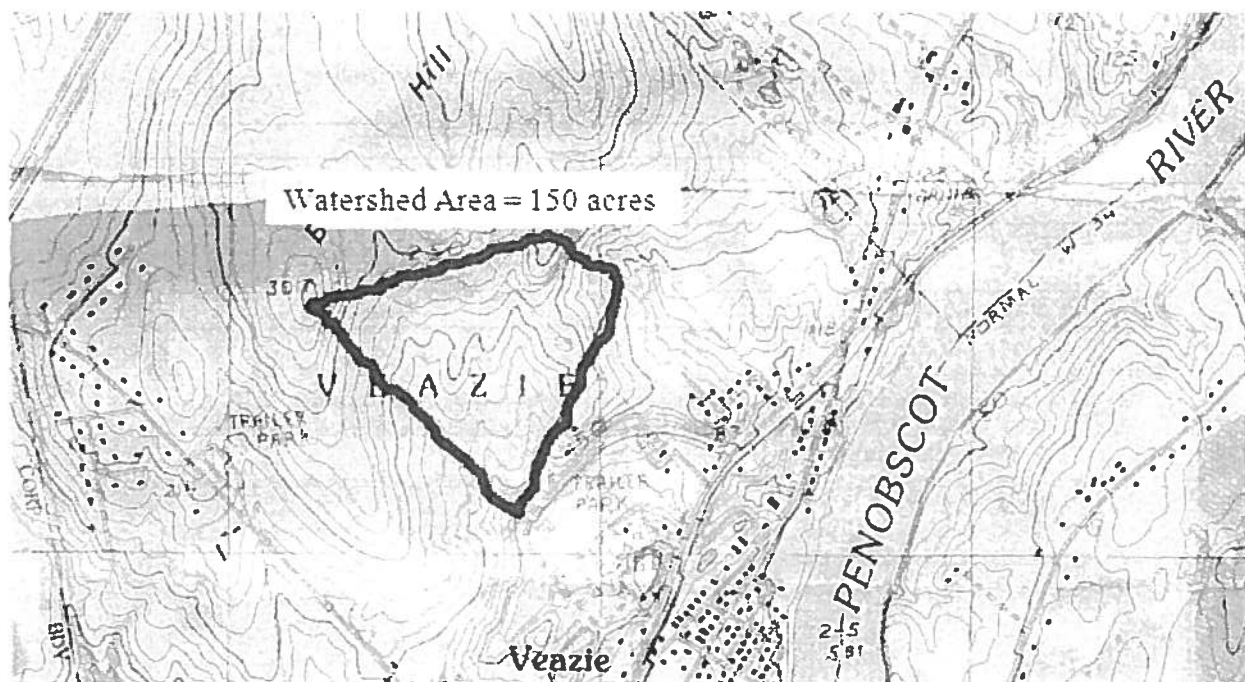


Figure 14: Watershed area

**Table 12-2.1: Methods<sup>1</sup> for Peak Flow Calculation for Culverts & Ditches**

Watershed Area	Rural	Urban
$\leq 0.5 \text{ mi}^2$ (320 ac = 1.25 km <sup>2</sup> )	Rational and Modeling	Rational and Urban USGS <sup>3</sup>
0.5 – 1 mi <sup>2</sup> (320 ac - 640 ac or 1.3 km <sup>2</sup> – 2.6 km <sup>2</sup> )	Rational, USGS <sup>2,3</sup> and Modeling <sup>4</sup>	Rational, Urban USGS and Modeling
$> 1 \text{ mi}^2$ (640 ac = 2.6 km <sup>2</sup> )	USGS	Urban USGS

**Notes:**

- 1) At the discretion of MDOT, other methods may be used on a project-specific basis.
- 2) USGS indicates USGS (Hodgkins, 1999) regression equations (Water-Resources Investigations Report 99-4008, USGS, Augusta, ME, 1999).
- 3) Urban USGS indicates regression equations with Sauer correction for urbanization as documented in Hodgkins (1999).
- 4) Modeling will generally be performed with TR-20 or equivalent. MDOT may approve alternative models on a project-specific basis. See further comments on use of modeling.
- 5) USGS is only a secondary method for small watersheds ( $\leq 1 \text{ mi}^2$ ).

**Table 6: Methods for peak flow calculations**

**Table 17.2** Values of Runoff Coefficients, C

Type of Surface	Coefficient, C*
<i>Rural Areas</i>	
Concrete sheet asphalt pavement	0.8-0.9
Asphalt macadam pavement	0.6-0.8
Gravel roadways or shoulders	0.4-0.6
Bare earth	0.2-0.9
Steep grassed areas (2 : 1)	0.5-0.7
Turf meadows	0.1-0.4
Forested areas	0.1-0.3
Cultivated fields	0.2-0.4
<i>Urban Areas</i>	
Flat residential, with about 30 percent of area impervious	0.40
Flat residential, with about 60 percent of area impervious	0.55
Moderately steep residential, with about 50 percent of area impervious	0.65
Moderately steep built-up area, with about 70 percent of area impervious	0.80
Flat commercial, with about 90 percent of area impervious	0.80

\*For flat slopes or permeable soil, use the lower values. For steep slopes or impermeable soil, use the higher values.  
 SOURCE: Adapted from George S. Koslov, *Road Surface Drainage Design, Construction and Maintenance Guide for Pavements*, Report No. FHWA/NJ-82-004, State of New Jersey, Department of Transportation, Trenton, N.J., June 1981.

**Table 7: Run-off coefficient, C**

**Table 12-2.8: 24-Hour Duration Rainfall Depths (inches) for Various Return Periods**

Location	Return Period (years)								Annual	Comments
	1	2	5	10	25	50	100	500		
Androscoggin	2.5	3.0	3.9	4.6	5.4	6.0	6.5	7.8	45.3	
Aroostook C	2.1	2.1	3.2	3.6	4.2	4.6	5.0	5.9	36.1	Presque Isle
Aroostook N	2.0	2.3	3.0	3.5	4.0	4.4	4.8	5.7	36.1	Ft Kent
Aroostook S	2.2	2.5	3.3	3.8	4.4	4.9	5.3	6.4	39.0	Houlton
Cumberland NW	2.8	3.3	4.3	5.0	5.8	6.4	6.9	8.3	43.4	NW of Rt 11
Cumberland SE	2.5	3.0	4.0	4.7	5.5	6.1	6.7	8.1	44.4	SE of Rt 11
Franklin	2.4	2.9	3.7	4.2	4.9	5.4	5.9	7.0	45.6	
Hancock	2.4	2.7	3.6	4.2	4.9	5.5	6.0	7.2	45.2	
Kennebec	2.4	3.0	3.8	4.4	5.1	5.6	6.1	7.2	41.7	
Knox-Lincoln	2.5	2.9	3.8	4.4	5.1	5.7	6.2	7.4	46.1	
Oxford E	2.5	3.0	4.0	4.6	5.3	5.9	6.4	7.6	43.0	E of Rt 26
Oxford W	3.0	3.5	4.5	5.2	6.0	6.6	7.1	8.4	43.8	W of Rt 26
Penobscot N	2.2	2.5	3.3	3.8	4.4	4.9	5.4	6.4	41.5	N of Can-Atl RR
Penobscot S	2.4	2.7	3.5	4.1	4.8	5.3	5.8	6.9	39.5	S of Can-Atl RR
Piscataquis N	2.2	2.5	3.3	3.8	4.4	4.9	5.3	6.3	38.5	N of Can-Atl RR
Piscataquis S	2.3	2.6	3.4	4.0	4.6	5.1	5.5	6.6	41.0	S of Can-Atl RR
Sagadahoc	2.5	3.0	3.9	4.6	5.4	5.9	6.5	7.8	45.3	
Somerset N	2.2	2.5	3.3	3.8	4.4	4.9	5.3	6.3	37.3	N of Can-Atl RR
Somerset S	2.4	2.7	3.5	4.1	4.7	5.2	5.7	6.8	39.5	S of Can-Atl RR
Waldo	2.5	2.8	3.7	4.3	4.9	5.5	6.0	7.1	47.2	
Washington	2.4	2.5	3.4	4.0	4.8	5.4	5.9	7.1	44.2	
York	2.5	3.0	4.0	4.6	5.4	6.0	6.6	7.8	46.7	

Source: Maine DEP Stormwater BMP Guide, November, 1995.

**Note 1:** Use Type II Storm for Oxford and Penobscot Counties, excepting towns listed below.

**Note 2:** Use Type III Storm for all other counties and the following towns in Oxford County (Porter, Brownfield, Hiram, Denmark, Oxford, Hebron, Buckfield, Hartford) and Penobscot County (Dixmont, Newburgh, Hampden, Bangor, Veazie, Orono, Bradley, Clifton, Eddington, Holden, Brewer, Orrington, Plymouth, Etna, Carmel, Hermon, Glenburn, Old Town, Milford, Greenfield).

**Note 3:** 50-yr depths approximated as mid-point between 25- and 100-yr depths based on log-Normal probability plots.

**Table 8: Rainfall intensity**

**Table 12-1.1: RECOMMENDED DESIGN FLOOD FREQUENCY**

Highway Functional Class	Drainage Structure			
	Roadway Cross Culvert <sup>1</sup>	Driveway Culvert <sup>2</sup>	Closed System <sup>3</sup>	Open Channel <sup>1</sup>
Freeway	50-year	N/A	10-year	50-year
Other Arterials	50-year	10-year	10-year	50-year
Collectors & Locals	50-year	10-year	10-year	50-year

<sup>1</sup> Impacts of the 100-year event should also be checked.

<sup>2</sup> If driveway culvert is part of main system, design for the 50-year event.

<sup>3</sup> Storm duration = catchment time of concentration, with 5 minute minimum duration.

**Table 9: Design flood frequency**

### Culvert Materials

For pipe culverts, there are two options:

- 1) Option I: Any one of the following may be used:
  - a) corrugated steel, metallic (zinc or aluminum) coated pipe;
  - b) reinforced concrete pipe; or
  - c) any metal pipe allowed under Option III.
- 2) Option III: Any one of the following may be used:
  - a) fiber-bonded corrugated steel pipe;
  - b) corrugated aluminum alloy pipe;
  - c) polyvinylchloride (PVC) pipe (12 in (300 mm) and 15 in (375 mm) diameters only);
  - d) polymer-precoated galvanized corrugated steel pipe; or
  - e) reinforced concrete pipe.

The types of culvert material recommended for various site locations are:

- 1) Reinforced Concrete Pipe (RCP): Use at guardrail locations and other locations at the designer's discretion. Deep fills and high-use roads may be candidates for concrete pipe.
- 2) Aluminum Alloy Pipe: Use in salt water areas.
- 3) Flexible Pipe: use where soils are susceptible to settlement. Flexible pipe is everything except reinforced concrete pipe.
- 4) Option I: use under driveways.
- 5) Option III: Use unless the criteria in Nos. 1, 2, 3 or 4 apply.

**Figure 15: Culvert Materials**

**TABLE 12-4.7**  
**MAXIMUM HEIGHTS OF FILL (Corrugated Metal Pipe)**

Pipe Diameter (in)	Standard Thick (in)/ Height of Fill (ft)	Non-Standard Thick. /Height of Fill	Non-Standard Thick. /Height of Fill	Non-Standard Thick. /Height of Fill
12 & 15	0.064 1.5 – 45			
18	0.064 1.5 – 35	0.079 35 – 55		
21	0.064 1.5 – 35	0.079 35 – 50	0.109 50 – 55	
24	0.064 1.5 – 20	0.079 20 – 40	0.109 40 – 50	0.138 50 – 60
30	0.079 1.5 – 25	0.109 25 – 40	0.138 25 – 45	0.168 55 – 60
36	0.079 1.5 – 15	0.109 15 – 25	0.138 25 – 45	0.168 45 – 60
42	0.109 1.5 – 20	0.138 20 – 35	0.168 35 – 60	
48	0.109 1.5 – 25	0.138 20 – 50	0.168 50 – 60	
54	0.109 1.5 – 20	0.138 20 – 40	0.168 40 – 50	
60	0.138 1.5 – 25	0.168 25 – 45		
66	0.138 1.5 – 20	0.168 20 – 40		
72	0.168 1.5 – 30			

Notes:

- 1) This table applies to metal pipe with smoothlined corrugations and 2 1/3" x 1/2" corrugations
- 2) Shop strut for pipe diameters of 48" and larger.

**Table 10: Maximum fill height**

**Table 12-4.1**  
**CIRCULAR CULVERT PIPES - WALL THICKNESSES**

Diameter (in)	Nominal Pipe Wall Thickness in (in)							
	Corrugated Metal				Plastic	Reinforced Concrete		
	Option I		Option I III		Option III	Option I III		
	M 218	M 274	M-246 & Fiber Bonded	M 197	M 278	M 170 Class III Wall A	M 170 Class III Wall B	M 170 Class III Wall C
12	0.079	0.064	0.064	0.075	0.353	1 3/4	2	
15	0.079	0.064	0.064	0.075	0.433	1 7/8	2 1/4	
18	0.109	0.079	0.079	0.075		2	2 1/2	
21	0.109	0.079	0.079	0.075		2 1/4	2 3/4	
24	0.109	0.079	0.079	0.075		2 1/2	3	3 1/4
27	0.109	0.079	0.079	0.105		2 5/8	3 1/4	4
30	0.109	0.079	0.079	0.105		2 3/4	3 1/2	4 1/4
33	0.109	0.079	0.079	0.105		2 7/8	3 1/4	4 1/2
36	0.109	0.079	0.079			3	4	4 3/4
36 (1)			0.079	0.75				
42	0.138		0.109			3 1/2	4 1/2	5 1/4
42 (1)		0.109	0.079	0.105				
48	0.138		0.109			4	5	5 1/4
48 (1)		0.109	0.079	0.105				
54	0.168		0.138			4 1/2	5 1/2	6 1/4
54 (1)		0.138	0.079	0.105				
60	0.168		0.138			5	6	6 1/4
60 (1)		0.138	0.079	0.105				
66 (1)			0.079	0.135		5 1/2	6 1/2	7 1/4
72 (1)			0.109	0.135		6	7	7 3/4
78 (1)			0.109	0.164			7 1/2	8 1/4
84 (1)			0.109	0.164			8	8 1/4

Metal Pipe values are for 2 1/2" x 1/2" corrugations unless diameter is followed by (1), which requires 3 in x 1 in corrugations for aluminum pipes and 3" x 1" or 5" x 1" corrugations for steel pipes; corrugations in (in)

Option I pipes shall only be used for entrances. Full heights over 15 ft (4.5 m) may require larger metal gages.

M 170 = Reinforced Concrete Pipe      M 218 = Zinc-coated (galvanized) corrugated steel pipe

M 278 = Polyvinyl Chloride Pipe      M 274 = Aluminum-coated (Type 2) corrugated steel pipe

M 197 = Corrugated Aluminum Alloy Pipe      M 246 = Polymer precoated galvanized corrugated steel pipe

Fiber Bonded = MDPT Spec. 707.04

**Table 11: Culvert thickness**



Perennial Streams and Outlet to Adjacent Streams. Flood stage in adjacent streams and perennial streams crossing under roads will back water up through the culvert. Each cross-pipe should be identified as to whether or not it passes a perennial stream or outlets to an adjacent perennial stream. Design should be referred to experienced hydraulic engineers so that flood stage tailwater conditions can be properly accounted for.

**Figure 16: Perennial stream definition**

Table 12-4.19: Open End Areas (ft<sup>3</sup>) for Embedded Circular Pipes

Embedded Depth (in)					Embedded Depth (in)				
Dia (in)	3	6	9	12	Dia (in)	3	6	9	12
12	0.415	0.393	0.370	0.600	66	17.645	15.568	14.236	13.383
18	1.015	0.898	0.884	0.869	72	21.277	18.857	17.305	16.233
24	1.923	1.661	1.581	1.571	78	25.263	22.483	20.670	19.392
30	3.153	2.710	2.525	2.463	84	29.605	26.448	24.360	22.865
36	4.714	4.038	3.738	3.592	90	34.303	30.753	28.379	26.655
42	6.612	5.716	5.237	4.981	96	39.358	35.402	32.739	30.764
48	8.850	7.691	7.032	6.646	102	44.774	40.395	37.412	35.197
54	11.424	9.889	9.131	8.596	108	50.550	45.734	42.429	39.954
60	14.364	12.613	11.539	10.839	114	56.686	51.421	47.783	45.039
					120	63.185	57.457	53.475	50.452

Table 12: Open end area for embedded circular pipes

Figure 12-4.1  
Design Chart for Sizing Simple CMP Culverts Under Inlet Control

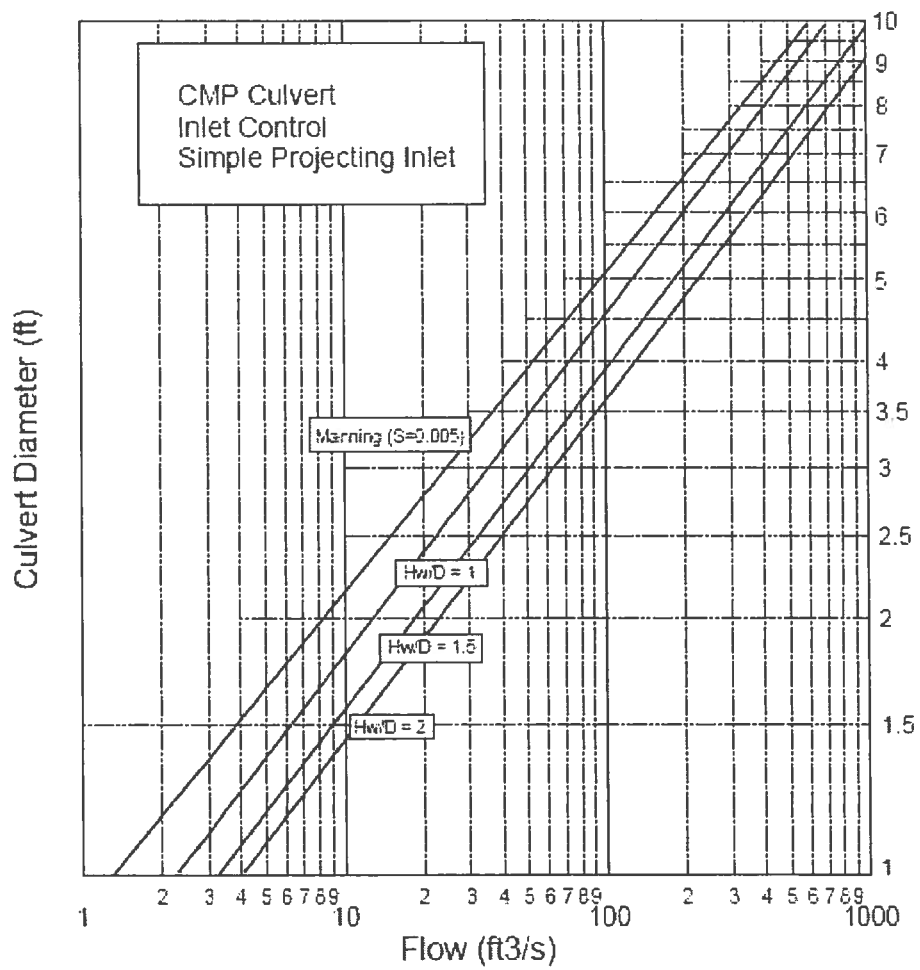


Figure 17: Culvert diameter based on stream flow

Culvert Diameter (inches)	Riprapped End (Cubic Yards)
12	0.97
15	1.09
18	1.19
21	1.29
24	1.43
30	1.65
36	1.90
42	2.15
48	2.40
54	2.66
60	2.90

*Note:* Quantities are for one end of culvert.

**Figure 18: Riprapped end based on culvert diameter**

TABLE 12-4.17  
MULTIPLE-PIPE EQUIVALENCES

Diameter of Larger Pipe (in)	Diameter of Smaller Pipe (in)									
	12	18	24	30	36	42	48	54	60	66
12	1									
18	3	1								
24	6	2	1							
30	12	4	2	1						
36		6	3	2	1					
42		10	4	2	2	1				
48			6	4	2	2	1			
54			9	5	3	2	2	1		
60			12	6	4	3	2	2	1	
66				8	5	3	2	2	2	1
72				10	6	4	3	2	2	2
78					8	5	4	3	2	2
84					10	6	4	3	3	2
90					12	8	5	4	3	2

Assume: fully flowing pipe by Manning's equation,  $N = (D_1/D_2)^{4.73}$

Table 13: Multiple-pipe equivalences

## Appendix D: Cost

### Road

Type 0 aggregate

length = 1100 ft      width = 15 ft      depth = .5 ft

\$30 per  $\text{yd}^3$

*Type 0 Volume* =  $1100 * 15 * .5 = 8250 \text{ft}^3 = 305.56 \text{yd}^3$

*Type 0 Cost* =  $30 * 305.56 \text{yd}^3 = \$9,166.67$

Type I aggregate

length = 1100 ft      width = 15 ft      depth = 2.5 ft

\$20 per  $\text{yd}^3$

*Type I Volume* =  $1100 * 15 * 2.5 = 41250 \text{ft}^3 = 1527.78 \text{yd}^3$

*Type I Cost* =  $30 * 1527.78 = \$30,555.56$

Asphalt

length = 1100 ft      width = 15 ft      depth = .17 ft

\$92 per Ton

*Asphalt Volume* =  $1100 * 15 * .17 = 2835 \text{ft}^3 = 23 \text{yd}^3$

Weight of Asphalt = 195 tons

*Asphalt Cost* =  $92 * 195 \text{ tons} = \$18,000$

Geotextile for Drainage

length = 1100 ft      width = 15 ft

\$2 per  $\text{yd}^2$

*Geotextile Area* =  $1100 * 15 = 16500 \text{ft}^2 = 611.11 \text{yd}^2$

*Geotextile Cost* =  $2 * 611.11 = \$1,222.22$

Drainage Tubes

length = 1100 ft

\$30 per yard

*Length of tube* =  $1100 \text{ft} = 366.67 \text{yd}$

*Drainage Tubes Cost* =  $30 * 366.67 \text{yd} = \$11,000$

*Total Cost of the Road* = \$69,944.44

### Culvert

Excavation cost = \$15,000

length of culvert = 18 ft

\$22 per ft

*Culvert Cost* =  $22 * 18 \text{ft} = \$396.00$

*Total Cost of the Culvert* = \$15,396

## Ditch

length = 1500 ft      width = 7 ft      depth = 2.5 ft  
\$5 per ft

$$\text{Ditch Excavation Volume} = 1500 * 7 * 2.5 = 13125 \text{ft}^2$$

$$\text{Ditch Excavation Cost} = 5 * 13125 \text{ft}^2 = \$65,625.00$$

## Riprap

length = 1500 ft      width = 3.5 ft      depth = 2.5 ft  
\$60 per yd<sup>3</sup>

$$\text{Riprap Volume} = .5 * 3.5 * 2.5 * 1500 = 3937.5 \text{ft}^3 = 145.83 \text{yd}^3$$

$$\text{Riprap Cost} = 60 * 145.83 \text{yd}^3 = \$8,750.00$$

$$\text{Total Cost of Ditch} = \$74,375.00$$

## Total Cost

$$\text{Total Cost of Project} = \$159,715.44$$

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