



**PUBLIC UTILITIES COMMISSION**  
Bethel Municipal Center, 1 School Street  
Bethel, Connecticut 06801 Telephone: (203) 794-8501

**SPECIAL MEETING**

Monday, October 20, 2014

4:00 p.m.

C.J. Hurgin Municipal Center – Meeting Room “A”

**Present:** First Selectman Knickerbocker, Selectmen Richard Straiton and Paul Szatkowski, Commissioner Peter Valenti. Also in attendance were Town Attorney, Martin Lawlor; Highway Supervisor and Acting Public Works Director Robert Dibble, Utility Supervisor, Kelly Curtis and Wright-Pierce; Senior Project Manager, Mariusz Jedrychowski, PE and Comptroller Robert Kozlowski.

**Absent:** Commissioner Michael Gribbin

**Call to Order:** First Selectmen Knickerbocker called the Special Meeting to order at 4:00p.m. and led the Pledge of Allegiance.

**Public Input:** None

**Correspondence:** First Selectman Knickerbocker informed the Commission a response letter was sent to Mr. Nagaraja of 6 Oak Tree Court regarding the Public Utility Commissions discussion on his inquiry for an additional sewer meter for his Sprinkler System.

**Meeting Minutes:** *Meeting Minutes from Regular Meeting October 6, 2014: Selectman Straiton made a motion, which was seconded by Selectman Szatkowski to approve the minutes as presented. Vote, All in Favor, Motion Approved.*

**New Business:** None

**Old Business:**

- **Bethel Crossing; Maple Avenue Ext.:** Mariusz Jedrychowski stated that the representatives of Bethel Crossing will not be attending today’s meeting.
  - Mr. Jedrychowski then reviewed and explained the documentation regarding the flow data from the pump stations in Bethel that flow into the City of Danbury.
  - Plumtrees Pump Station capacity was discussed as well as fire flow data.
  - Average flows, peak flows and total flows were explained as well.
  - Possibility of Bethel Crossing installing their own pump station on site.
  - Mr. Jedrychowski further explained how those flows are taken by the Utility Department. The Town of Bethel and the City of Danbury have an Interlocal Agreement for the sewerage that Bethel produces and sends into Danbury.
  - Discussion of the Inflow and Infiltration.

2014 OCT 23 P 2:14  
 RECEIVED  
 TOWN OF BETHEL  
 TOWN CLERK

- Commissioner Valenti suggested that the PUC request to Planning and Zoning a 65 day extension for Bethel Crossing Application. Attorney Lawlor suggested that the Commission send a letter to P&Z requesting a 65 day extension. Further discussion took place regarding the I&I.

*First Selectman made a motion, which was second by Commissioner Valenti to send a letter requesting a 65 day extension regarding the application of the proposed Bethel Crossing project. This is required for the purposes of continuing engineering studies. Vote, All in Favor, Motion Approved.*

- **PUC Capital Project Status Summary:** Mr. Jedrychowski of Wright-Pierce presented as well as distributed (see attached) a status report on the projects managed by his engineering firm. Discussion took place regarding.

*Selectman Szatkowski made a motion, which was second by Selectman Straiton to approve the request of \$1,500.00 for HRP to perform additional studies at East Swamp Aquifer. Vote, All in Favor, Motion Approved.*

- **South Street Pump Station:** The project is on schedule.
- **Water and Sewer Capacity and Allocations:** Mr. Jedrychowski indicated he is working on the allocation study; this document is an evolving document and by next meeting a study will be presented.
- **Vehicle Replacement Update:** Mr. Curtis inquired for the approval from the Commission regarding the transfer of the vehicle from Fleet Maintenance Department to the Water/Sewer Department.

*Selectman Straiton made a motion, which was seconded by Selectman Szatkowski to recommend to the Board of Selectmen to transfer the 1995 Vehicle from the Fleet Maintenance Department to the Water/Sewer Department. Discussion. Vote, All in Favor, Motion Approved.*

**Financial Reports:**

- **Financials:** Comptroller Kozlowski distributed and reviewed the financials with the Commission. See attached.
- **Invoice:**

***Invoices for PUC Approval***

**Regular Meeting October 2014**

Item #	Vendor	Inv. Date	Amount	Description	Account
1	Town of Bethel	Permit 14-634	\$2,838.18	Bldg. Permit	South Street Fire House Pump Station

**TOTAL**

**\$2,838.18**

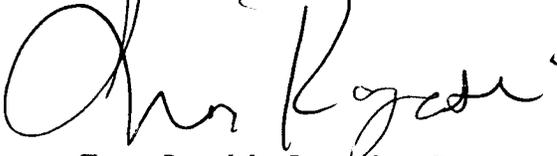
*First Selectman Knickerbocker made a motion, which was seconded by Selectman Straiton to approve the invoices as presented in the amount of \$2,838.18. Discussion took place. Vote, All in Favor Motion Approved.*

**Engineering / Utility Consultant Report:**

- **Supervisor's Report:** Mr. Curtis updated the Commission regarding a Sewer back up located at 22-24-26 Granite Drive.
  - Pembroke Pumping cleared the clog.
  - Serve Pro was contacted

*Adjourn As there was no further business on the agenda First Selectman Knickerbocker made a motion, which was seconded by Selectman Szatkowski to adjourn the meeting at 5:45 p.m. Vote: All in Favor, Motion Unanimously Approved.*

*Respectfully submitted,*



*Tracy Rogalski, Recording Secretary*

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TO: Town of Bethel Public Utilities Commission      DATE: October 20, 2014

FROM: Mariusz Jedrychowski, PE,  
Senior Project Manager      PROJECT NO.: 13035A

SUBJECT: PUC Projects – Summary Report

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**1. Eureka Lake Water Tank.**

- Wright-Pierce to finalize plans and specifications for DPH review.
- Wright-Pierce to submit inland/wetland application to the City of Danbury.
- DPH/DECD (Manufacturers Grant) Funding – Working with Phyllis and Bob Kozlowski (costs to include re-design, additional permitting and construction cost) on the final cost share (State/Town) to maximize grant/loan amount.
- Bidding in Winter 2014.
- Construction to start in 2015.

**2. Hoyt's Hill Water Booster Station.**

- Design Fall/Winter 2014 –signed contract received from the Town.
- Bidding and construction next year in the spring of 2015.

**3. Highland/Andrews and Cindy Lane Water Main Replacement:**

- Design began and in progress.
- Creating base drawings and verifying location of existing utilities.

**4. South Street Water Booster Station Construction:**

- Electrical conduit was installed.
- Contractor connected to existing pump station suction and discharge pipe lines. Installing new water lines to the pump station. Xenelis encountered an existing drain line that the water mains had to cross for a short distance and required deeper trench (8-9 feet vs. 5-5.5 feet). No time loss, however required trench boxes to be installed to allow for deeper excavation.
- Once the pipes are installed, the contractor will be installing foundation for the building.
- Meeting to be scheduled to discuss station controls/communication.

**5. Demolition of Hickok Tank and "gray" pump station building:**

- Obtaining price quotes for the work related to hazardous survey of the "gray" pump station building. Subcontractor came to the "gray building" site today (10-20-14) to assess the building and prepare a cost estimate to test for hazardous materials.

**6. East Swamp Aquifer Level A Mapping.**

- Approved by the DEEP.
- Bethel P&Z needs to incorporate the aquifer protection boundary into the Town's zoning map and provide an updated map to the State by December 2014.

Memo: Town of Bethel Public Utilities Commission - PUC Projects – Summary Report  
October 20, 2014  
Page 2

- Small portion of the Bethel Crossing within the Aquifer Protection Area. Storm drain system discharges to within the Aquifer Protection Area.
- HRP is conducting hydraulic modeling to determine available pumping rates from the wells.

**7. New East Swamp Well Field.**

See attached from Tom Sicilia from HRP.

## **Mariusz Jedrychowski**

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**From:** Tom Sicilia <tom.sicilia@hrpassociates.com>  
**Sent:** Tuesday, October 14, 2014 3:56 PM  
**To:** Mariusz Jedrychowski  
**Cc:** Tracy Rogalski; Brian P. Washburn  
**Subject:** East Swamp Aquifer Update

Mariusz,

HRP is under contract to bring the proposed well field through the following steps:

1. Site Suitability Certification
2. Pre-Application meeting with the DEEP
3. Diversion Permit Preparation and Submittal

The suitability certification has been submitted to the DPH, and they requested that we have a soil scientist flag the "high water mark" for the East Swamp Brook. We have no remaining budget for the project, and have been working gratis to make sure that the well field moves forward. However, we will require additional funding on the order of \$1,500 to have the water mark flagged. This work should be done relatively quickly, before leaf cover makes soils difficult to access.

### Approximate Schedule

Once the high water mark has been flagged, the schedule becomes dependant on the availability of the DEEP to have a pre-application meeting. The diversion permit can be completed within a month or two following the meeting. We will provide a request for additional resources to allow us bring the project through the Diversion Permitting process.

### New well field yield

Based on the 2005 short-term pump test, the well field can be expected to produce 30 to 35 gpm per foot of drawdown in each well. Please contact me with any questions.

Thank you,  
Tom

### **Tom Sicilia**

Senior Project Hydrogeologist  
HRP Associates, Inc.  
860-674-9570  
[www.hrpassociates.com](http://www.hrpassociates.com)

## Mariusz Jedrychowski

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**From:** Tom Sicilia <tom.sicilia@hrpassociates.com>  
**Sent:** Wednesday, October 15, 2014 11:35 AM  
**To:** Mariusz Jedrychowski  
**Cc:** Brian P. Washburn  
**Subject:** RE: East Swamp Aquifer Update

Mariusz,

The deepest well in the new well field area right now is about 66 feet, and I have no indication that the drillers hit refusal. The values below are based on the 2005 pump test. Since we don't have a lower constraint on the aquifer material, the range of predicted yields is rather large.

Assuming that the productive materials extend to depths consistent with the Maple Ave wells (completion depth of ~150 feet), there should be about 12 feet of drawdown and a predicted yield of 360-420 GPM.

For a shallower well (completion depth of ~50 feet) there would be about 3 feet of drawdown and a predicted yield of 90-105 GPM.

Tom

### **Tom Sicilia**

Senior Project Hydrogeologist  
HRP Associates, Inc.  
860-674-9570  
[www.hrpassociates.com](http://www.hrpassociates.com)

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**From:** Mariusz Jedrychowski [<mailto:mariusz.jedrychowski@wright-pierce.com>]  
**Sent:** Wednesday, October 15, 2014 10:55 AM  
**To:** Tom Sicilia  
**Cc:** Brian P. Washburn  
**Subject:** RE: East Swamp Aquifer Update

Thank you Tom. What is the anticipated drawdown on the new well?

Thanks  
Mariusz

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**From:** Tom Sicilia [<mailto:tom.sicilia@hrpassociates.com>]  
**Sent:** Tuesday, October 14, 2014 3:56 PM  
**To:** Mariusz Jedrychowski  
**Cc:** Tracy Rogalski; Brian P. Washburn  
**Subject:** East Swamp Aquifer Update

Mariusz,

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1. Site Suitability Certification
2. Pre-Application meeting with the DEEP

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TO:	Beth Cavagna, Assistant Town Planner/Wetlands Officer	DATE:	10-15-14
FROM:	Jeffrey Dewey, PE Mariusz Jedrychowski, PE	PROJECT NO.:	13035I
SUBJECT:	Review of Aquifer Protection Area for Bethel Crossing, Bethel, CT		

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Wright-Pierce is in receipt of the site plans for the Bethel Crossing residential subdivision in the town of Bethel, CT. Plan sheets reviewed consist of sheets LA-1 → 2, PR-1 → 6 dated August 6, 2014; Bethel PZ Application Package; Engineering Report dated August 18, 2014 (revised October 1, 2014); Report entitled Sanitary Sewer and Potable Water Design Summary, all by Milone & MacBroom; Third Party Review of Bethel Crossing Development Proposal at Maple Avenue Extension and Plumtrees Road Bethel letter by Northwest Conservation District. Based upon our review of the plans, Engineering Report and Northwest Conservation District letter, we offer the following review comments for the engineer's clarification:

**Aquifer Protection Evaluation – Maple Avenue Well Field**

1. A portion of the proposed development lies within the Town of Bethel Aquifer protection area for the Maple Avenue Well Field (see attached map). The proposed site drainage system also discharges directly to the Aquifer Protection Area.

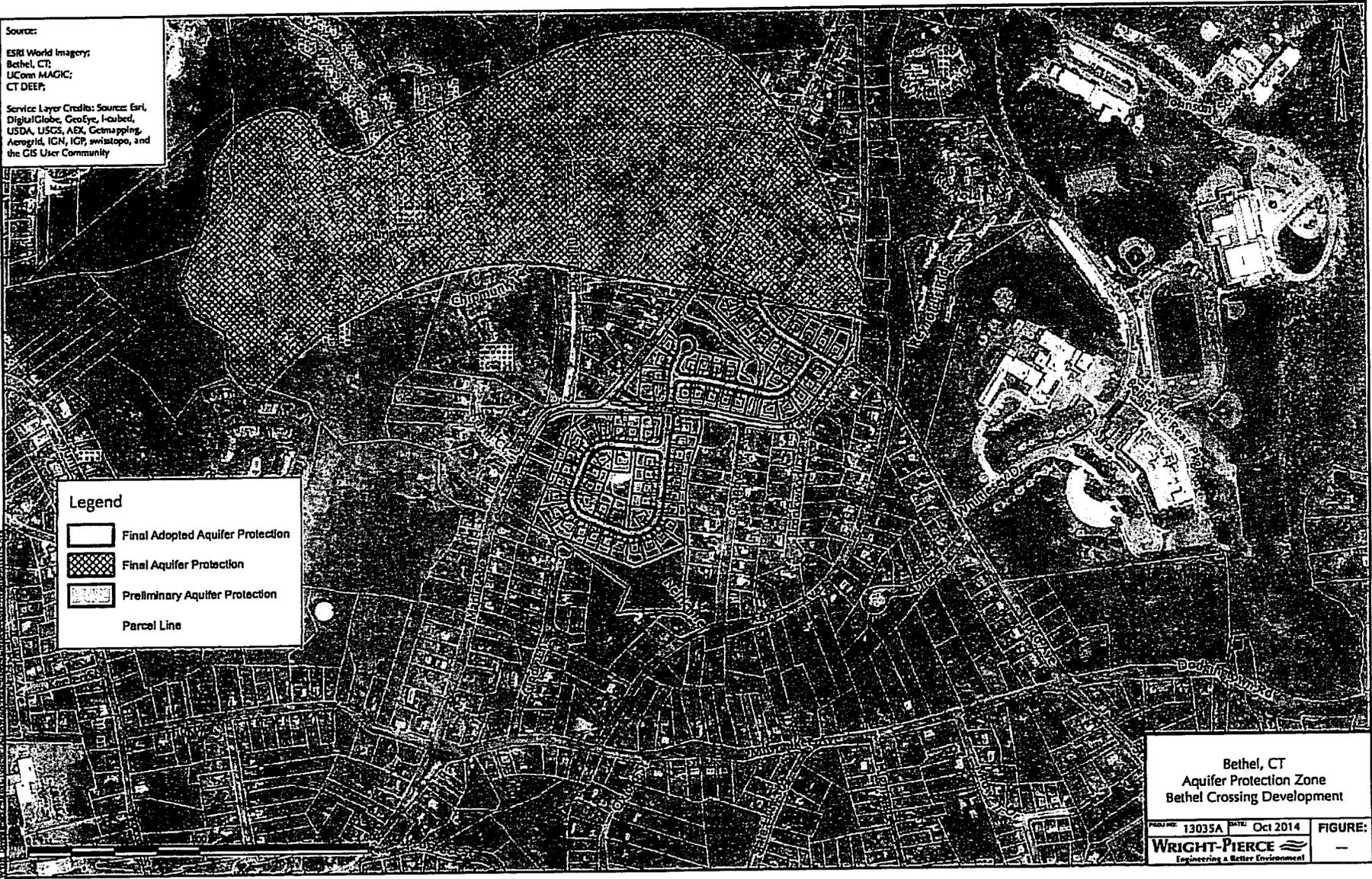
*Comments:*

1. *The stormwater basins require removal of existing material to install. Some of the cut quantities are difficult to note due to lack of proposed contour labels. Please provide sufficient elevation labels.*
2. *Stormwater basins should provide means of access to remove accumulated sediments.*
3. *Have test pits been conducted in the stormwater basins to assure the soil removal necessary to construct the basins will not result in the interception of ground water flow?*
4. *Retention within the basins is provided for the water quality volume (WQV) of the runoff. Are the sediment forebay areas included in the provided WQV calculations?*
5. *Please provide the calculations for the time it will take for the provided WQV to be infiltrated in each basin.*

Memo: Beth Cavagna, Assistant Town Planner/Wetlands Officer  
10-15-14  
Page 2

6. *There are many proposed home lots shown with lawn areas immediately adjacent to the wetlands. Are there fertilizer and use restrictions planned for the parcel deeds to assure property use will not significantly impact the wetlands ability to mitigate development related pollutants prior to discharge to the aquifer?*
7. *Are there any provisions that will be added to the parcel deeds to ensure that no washing of vehicles takes place where it can flow to the storm drain system and wetlands? How will this be monitored/enforced?*
8. *The proposed development shall incorporate recommendations by the Northwest Conservation District in the letter dated September 26, 2014 and Al Bisacky, PE, Kleinfelder pertaining to stormwater drainage to minimize impacts on the aquifer.*

Source:  
ESRI World Imagery;  
Bethel, CT;  
UCover MAGIC;  
CT DEEP;  
  
Service Layer Credits: Sources: Esri,  
DigitalGlobe, GeoEye, I-cubed,  
USDA, USGS, AEX, Geomapping,  
Aerogrid, IGN, IGP, swisstopo, and  
the GIS User Community



**Legend**

- Final Adopted Aquifer Protection
- Final Aquifer Protection
- Preliminary Aquifer Protection
- Parcel Line

Bethel, CT  
Aquifer Protection Zone  
Bethel Crossing Development

PROJECT: 13035A DATE: Oct 2014 FIGURE: —

**WRIGHT-PIERCE**  
Engineering & Better Environment

**MEMORANDUM**

**TO:** Andrew M. Morosky, P.E.

**JOB NO:** 269-001

**FROM:** Ronald G. Litke, P.E. 

**DATE:** October 1, 2010

**SUBJECT:** Improvements to the Plumtrees Road Lift Station

We have reviewed the flow records provided to us by the Town and the information contained in the January 2009 Sanitary Sewer System Capacity Evaluation Update (2009 Report) by Tighe & Bond to determine the appropriate size of new pumps to be installed in the Plumtrees Road Lift Station.

In accordance with information provided by Kovacs Construction, the existing pumps are rated at 300 gpm at a total dynamic head (TDH) of 130 feet. Based on flow charts for the Plumtrees Road Lift Station provided by the Town, it appears that with one pump operating the flow is between 300 and 350 gpm, and with two pumps running the maximum flow is between 500 and 550 gpm. The 2009 Report indicated that during significant storms both pumps operate to keep up with the influent flow. It is recommended that temporary pumps to bypass the pumping station during the improvements have a minimum capacity of 600 gpm at a TDH of 170 feet.

Monthly flow totals provided by the Town for the ten months from April 2009 through January 2010 result in an average day flow of 210,130 gpd. In the 2009 Report an average daily wastewater flow of 269,200 gpd was given for the Plumtrees Road Pump Station, based on totalizer flow and pump run time data from January 2003 to December 2005. The 2009 Report indicated that the flow data was erratic at times and may not be reliable, and also provided a peak hourly flow of 1,177,100 gpd based on flow data from a permanent, continuously recording flow meter between March 2005 and March 2006. The 2009 Report also estimated an average annual infiltration rate of 124,400 gpd, by subtracting the estimated sanitary flow to the pump station of 144,800 gpd, based on 90% of water consumption, from the above noted 269,200 gpd average daily wastewater flow. The 2009 Report also included a detailed analysis of build-out potential to project future wastewater flows. The analysis estimated an additional average daily wastewater flow of 102,000 gpd for the Plumtrees Road Pump Station sewershed.

Sewage pumping stations are typically designed to meet the projected peak flow with one of its pumps out of service. Peak flows are estimated by multiplying the average daily flows by a peaking factor. The peaking factors used in this evaluation were taken from the attached graph entitled "Ratio of Extreme Flows to Average Daily Flow in New England".

If the infiltration is assumed to be constant throughout the year, the peaking factor would only apply to the sanitary flow portion of the average daily wastewater flow. The following table shows what the peak flows would be for this condition using the existing and projected flows from the 2009 Report.

**ROALD HAESTAD, INC.**

**MEMORANDUM**

Improvements to the Plumtrees Road Lift Station (continued)

	Average daily sanitary flow		Peaking Factor	Peak Sanitary Flow	Infiltration	Total Peak Flow	
	(gpd)	(MGD)				(gpd)	(gpm)
Existing based on 2009 Report	144,800	0.15	5.2	752,960	124,400	877,360	610
Projected based on 2009 Report	246,800	0.25	4.8	1,184,640	124,400	1,309,040	910

NEW pumps ←

The velocity through the existing 8-inch force main at the current pumping rate of 300 to 350 gpm for one pump is about 1.9 to 2.2 feet per second (fps). A velocity of 2 fps is considered to be sufficient to prevent settling of solids, but velocities of 2.5 to 3 fps are required to re-suspend solids which accumulate in the force main during periods of low or no flow. The 1.9 to 2.2 fps velocity is probably satisfactory as the inlet to the existing pumping station is equipped with a wastewater grinder that reduces the particle size of solid waste. The velocity through the force main with both of the existing pumps operating in parallel and delivering between 500 to 550 gpm is about 3.2 to 3.5 fps, which is within the normal range of 3 to 5 fps for a force main. With a projected flow of 910 gpm, assuming constant infiltration, the velocity in the force main would be 5.8 fps. *acceptable* ←

To meet the existing peak flow, assuming constant infiltration, each pump should have a capacity of 610 gpm. To meet the projected flows of a fully developed sewershed, each pump should have a capacity of 910 gpm. The TDH would be 172 feet for a 610 gpm pump and 228 feet for a 910 gpm pump derived from the following: a static head of 116 feet, based on the outlet of the force main at elevation 404.5 and a "Pump Off" elevation of 288.5; 4,185' of 8-inch force main at a Hazen-Williams "C" coefficient of 100; and minor losses due to two 6" elbows, a 6" check valve and gate valve, an 8x6 tee, an 8-inch gate valve and two 8" elbows. These TDH's are on the high side for submersible sewage pumps in this flow range. To meet the TDH, pumps would operate towards the left side of the pump curve in an area of the curve that is well below the optimum efficiency. It is noted that with a 12-inch force main the velocity at a flow of 910 gpm would be about 2.6 fps and the TDH would be about 138 feet. With these conditions available submersible pumps would operate closer to their optimum efficiency.

The required volume of the wetwell is based on the recommended maximum number of starts per hour for the submersible pump motor.

$$V = \frac{\theta q}{4}$$

where:

V = required capacity in gallons

θ = minimum time of one pumping cycle between successive starts

q = pump capacity in gallons per minute, for one pump, or the incremental pumping capacity for an additional pump

**ROALD HAESTAD, INC.**

**MEMORANDUM**

Improvements to the Plumtrees Road Lift Station (continued)

A maximum of 12 to 15 starts per hour is recommended for submersible pump motors. Based on a pump discharge rate of 610 gpm, and a cycle time of 5 minutes for 12 pump starts per hour, a minimum storage volume of about 760 gallons in the wetwell would be required between the lead pump on and lead pump off set points. With a pump discharge rate of 910 gpm, a minimum storage volume of about 1,140 gallons would be required. The existing 8 foot diameter wetwell provides 375 gallons per foot of depth. The difference in elevation between the lead pump on and lead pump off set points would be 2 feet to provide the 760 gallons of storage required for 610 gpm pumps and 3 feet to provide the 1,140 gallons minimum storage volume for 910 gpm pumps.

Plans of the existing wetwell indicate that the invert elevation of the incoming sewer is 292.68 and the floor of the wetwell is 286.20. Sloped concrete around the perimeter would need to be modified to install the new pumps and provide the required volume in the wetwell. Pump manufacturer's recommend a minimum level in the wetwell of about 18 inches. The following preliminary alarm/control setpoints are recommended:

High Level Alarm	292.0
Lag Pump On	291.5
Lead Pump On	291.0
Lag Pump Off	289.0
Pumps Off	288.5
Low Level Alarm	288.0

After reviewing the above noted design criteria with the Town Engineer, it is recommended that the new pumps have a capacity of about 600 gpm at a TDH of 172 feet. Representatives for three pump manufacturers were contacted and have provided recommendations for pumps to meet these conditions, copies attached. Information on the pumps is summarized below.

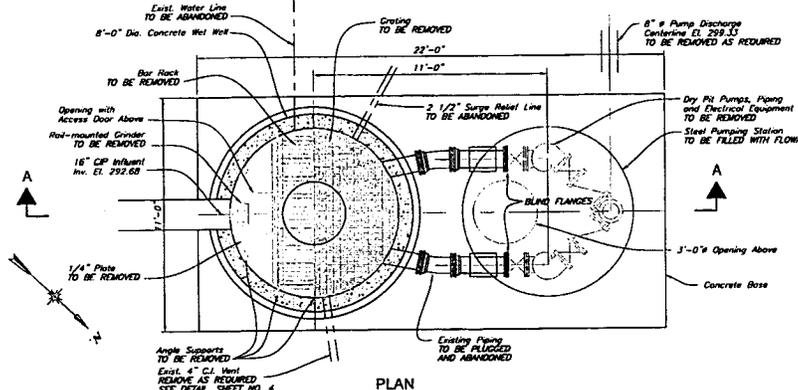
Manufacturer: HOMA Pump  
Motor size: 70 hp  
Pump efficiency at design point: 46.3%  
Solid size: 4 inch

Manufacturer: Flygt Pump  
Motor size: 70 hp  
Pump efficiency at design point: 54.4%  
Solid size: 2 inch

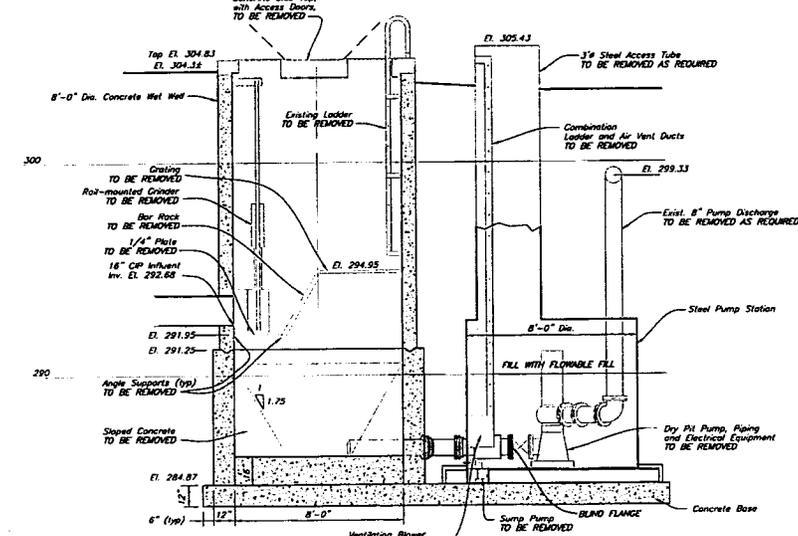
Manufacturer: KSB Pump  
Motor size: 50 hp  
Pump efficiency at design point: 63.5%  
Solid size: 2 inch

**LIST OF DRAWINGS**

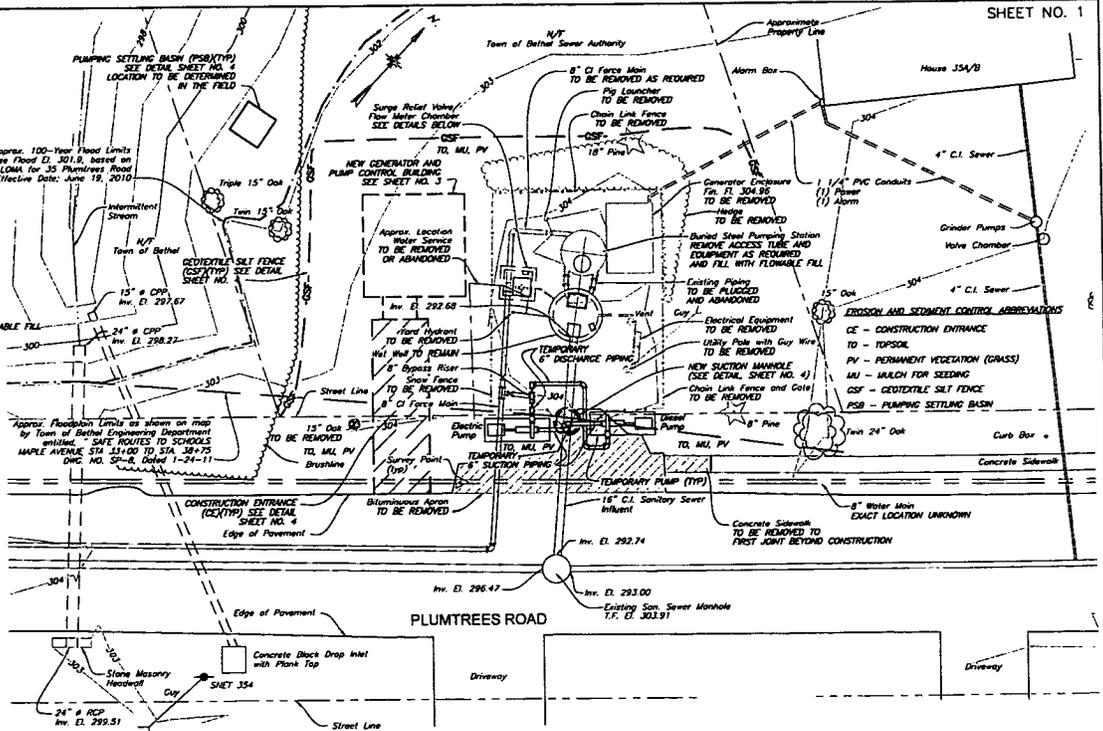
SHEET NO.	TITLE
1	EXISTING CONDITIONS AND DEMOLITION PLAN SITE PLAN, PLANS AND SECTIONS
2	NEW WORK - PUMPING STATION AND VALVE CHAMBER SITE PLAN, PLANS AND SECTIONS
3	NEW WORK - GENERATOR AND PUMP CONTROL BUILDING PLAN, ELEVATIONS, SECTIONS AND DETAILS
4	NEW WORK - MISCELLANEOUS DETAILS
5	NEW WORK - GENERATOR AND PUMP CONTROL BUILDING ELECTRICAL



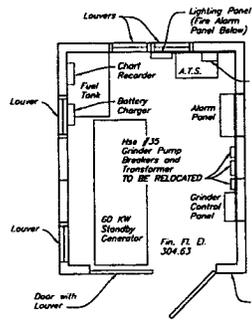
PLAN



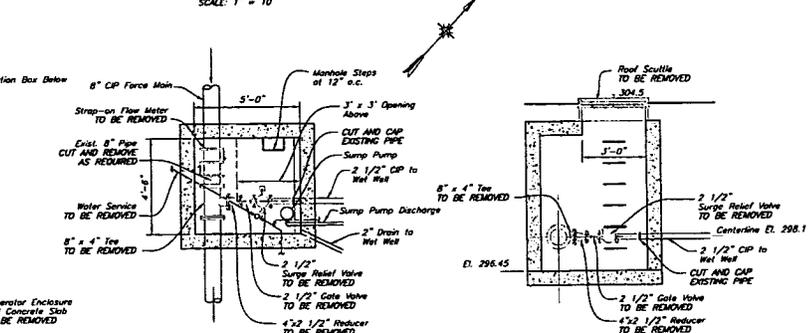
SECTION A-A  
WET WELL / PUMPING STATION



SITE PLAN  
SCALE: 1" = 10'



GENERATOR ENCLOSURE  
(TO BE REMOVED)  
NOT TO SCALE



PLAN  
SECTION  
SURGE RELIEF VALVE / FLOW METER CHAMBER

Pumping Station Plan and Section data from drawing entitled, TYPHOON SEWAGE WORKS, TOWN OF BETHEL SEWER AUTHORITY, TOWN OF BETHEL, FAIRFIELD COUNTY, CONNECTICUT, PUMPING STATIONS' Drawing No. 9-248-1-75, T1 by Bowes, Albertson and Associates, Engineers, New York City, dated May 1982

NOTE: Elevations Shown refer to NGVD of 1929

ROALD HAESTAD, INC.  
CONSULTING ENGINEERS  
WATERBURY, CONNECTICUT



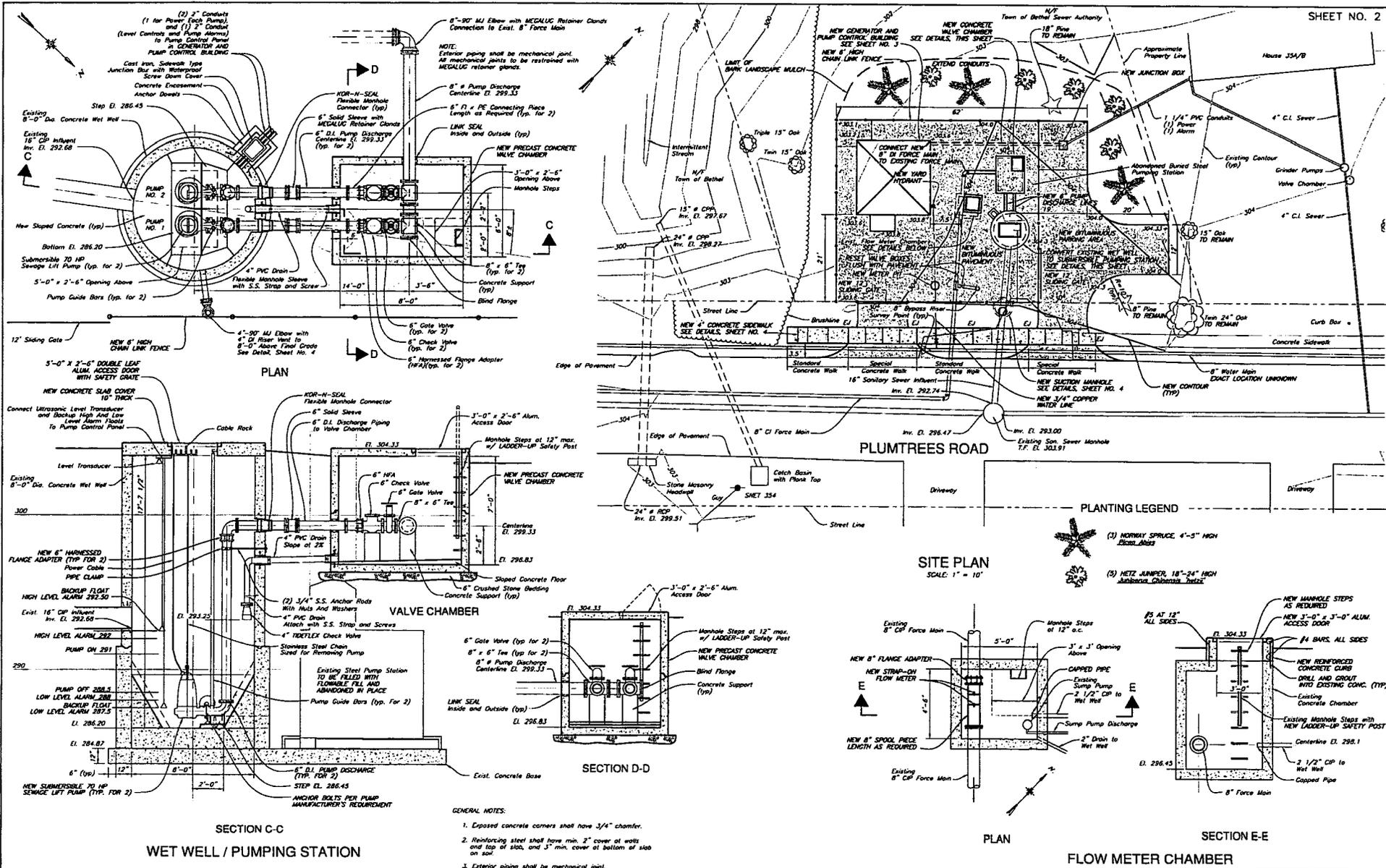
DESIGNED *[Signature]* DRAWN *[Signature]* CHECKED *[Signature]*  
REVISED

TOWN OF BETHEL, CONNECTICUT  
MODIFICATIONS TO  
PLUMTREES ROAD SEWAGE PUMPING STATION

EXISTING CONDITIONS AND DEMOLITION PLAN  
SITE PLAN, PLANS AND SECTIONS

SCALE: 3/8" = 1'-0" UNLESS OTHERWISE NOTED

DATE: APRIL 2011  
SHEET NO. 1 OF 5  
DWG. NO. 269-003-01.0



NOTE: Elevations Shown refer to MVD of 1929

ROALD HAESTAD, INC.  
CONSULTING ENGINEERS  
WATERBURY, CONNECTICUT



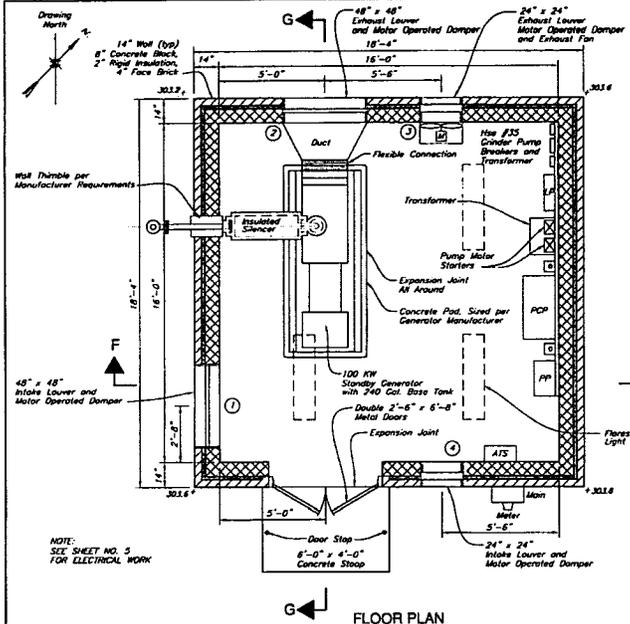
DESIGNED *[Signature]* DRAWN *[Signature]* CHECKED *[Signature]*  
REVISED

TOWN OF BETHEL, CONNECTICUT  
MODIFICATIONS TO  
PLUMTREES ROAD SEWAGE PUMPING STATION

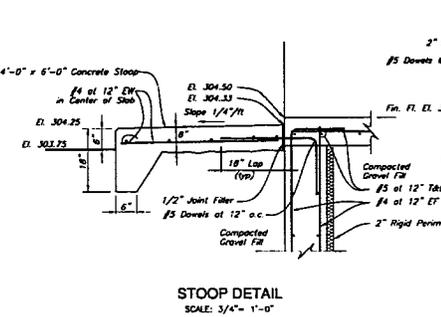
NEW WORK - PUMPING STATION AND VALVE CHAMBER  
SITE PLAN, PLANS AND SECTIONS

SCALE: 3/8" = 1'-0" UNLESS OTHERWISE NOTED

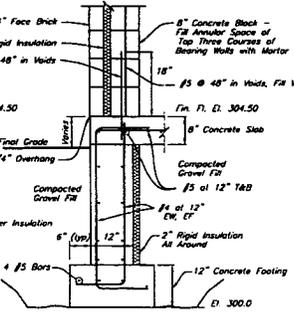
DATE: APRIL 2011  
SHEET NO. 2 OF 5  
DWC NO. 769-003-02.0



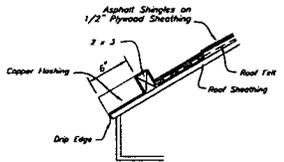
FLOOR PLAN



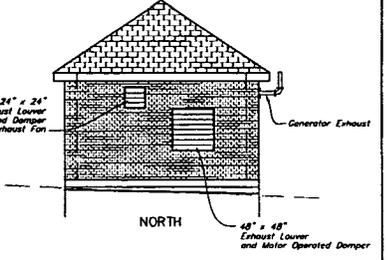
STOOP DETAIL  
SCALE: 3/4" = 1'-0"



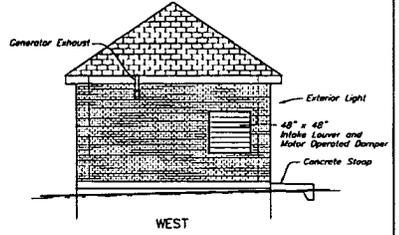
WALL DETAIL  
SCALE: 3/4" = 1'-0"



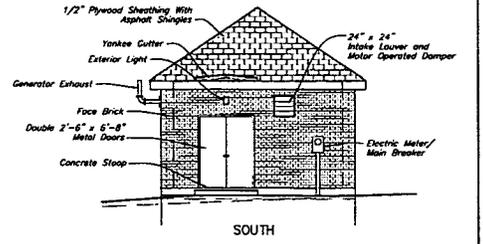
YANKEE GUTTER DETAIL  
NOT TO SCALE



NORTH

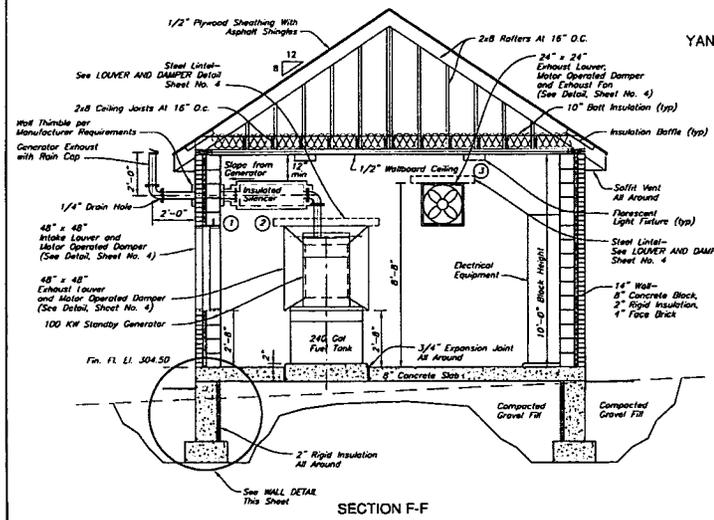


WEST

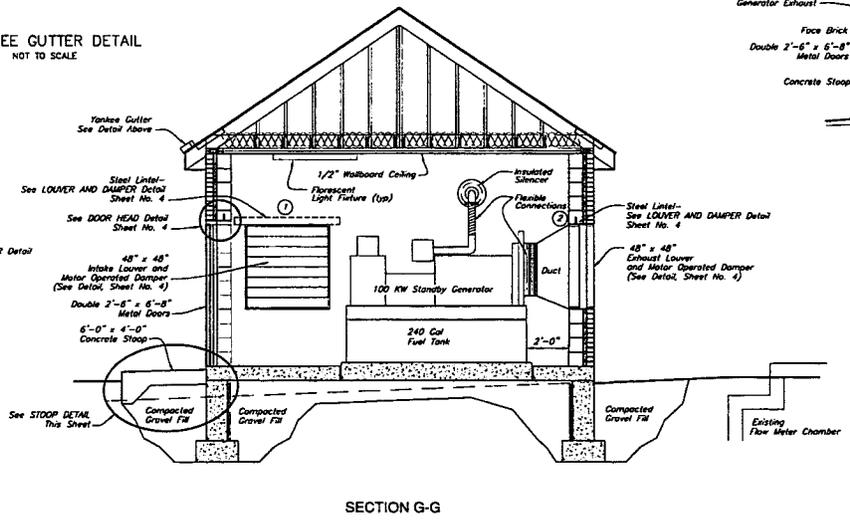


SOUTH

ELEVATIONS  
SCALE: 3/16" = 1'-0"



SECTION F-F



SECTION G-G

NOTE: Elevations Shown refer to MVD of 1929

CONTRACT DRAWING

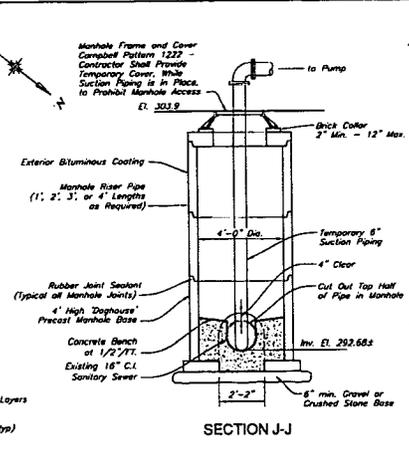
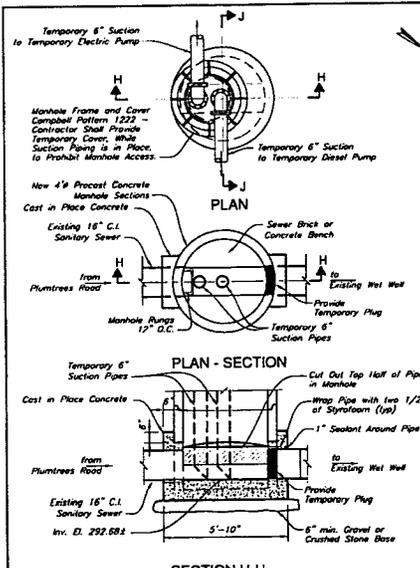
ROALD HAESTAD, INC.  
CONSULTING ENGINEERS  
WATERBURY, CONNECTICUT

DESIGNED *ag* DRAWN *gcl* CHECKED *gcl*  
REVISED

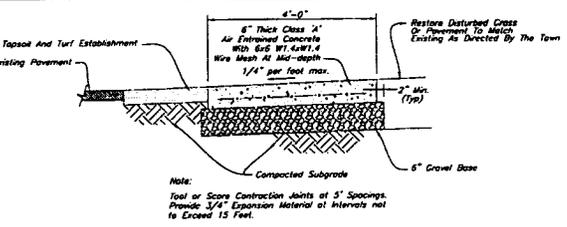
TOWN OF BETHEL, CONNECTICUT  
MODIFICATIONS TO  
PLUMTREES ROAD SEWAGE PUMPING STATION

NEW WORK - GENERATOR AND PUMP CONTROL BUILDING  
PLAN, ELEVATIONS, SECTIONS AND DETAILS  
SCALE: 3/8" = 1'-0" UNLESS OTHERWISE NOTED

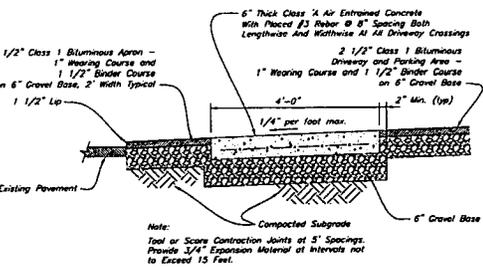
DATE: APRIL 2011  
SHEET NO. 3 OF 5  
DWG. NO. 269-003-03.0



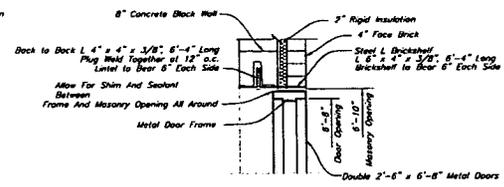
SUCTION MANHOLE  
SCALE: 3/8"=1'-0"



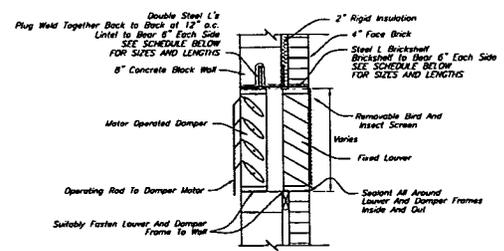
STANDARD CONCRETE SIDEWALK  
NOT TO SCALE



SPECIAL CONCRETE SIDEWALK  
NOT TO SCALE

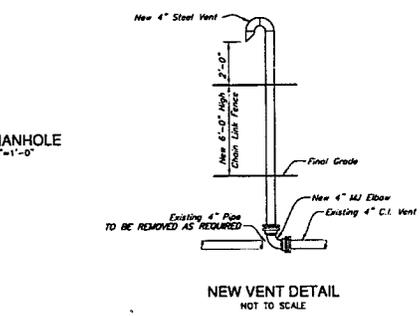


DOOR HEAD DETAIL  
SCALE: 1"=1'-0"



LOUVER AND DAMPER DETAIL  
SCALE: 1"=1'-0"

NEW LINTEL SCHEDULE				
NO.	TYPE OPENING	BRICK LINTEL	BLOCK LINTEL	LENGTH
1	Intake Louver/Damper	1 6" x 4" x 3/8"	1 4" x 4" x 3/8"	5'-0"
2	Exhaust Louver/Damper	1 6" x 4" x 3/8"	1 4" x 4" x 3/8"	5'-0"
3	Exhaust Louver/Damper	1 6" x 4" x 3/8"	1 4" x 4" x 3/8"	3'-0"
4	Intake Louver/Damper	1 6" x 4" x 3/8"	1 4" x 4" x 3/8"	3'-0"



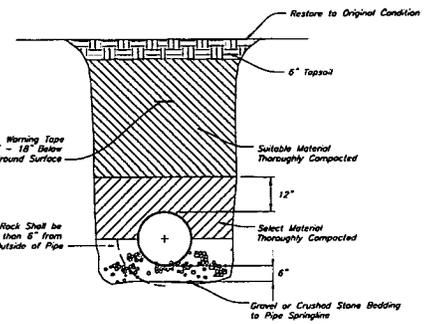
NEW VENT DETAIL  
NOT TO SCALE

GENERAL NOTES

1. Paving and equipment maintenance should be conducted at least 100 feet from wetlands, watercourses and storm drains. Absorbent spill material should be stored on site.
2. Equipment should be parked at least 100 feet from wetlands, watercourses and storm drains during non-working hours.
3. Fuel, oil or other hazardous materials should be stored within a secured secondary containment structure during non-working hours.
4. In the event of a spill the Contractor shall notify DEP Oil and Chemical Spills Unit at 860-424-3338 and the Town of Bethel Public Works Department at 203-294-8549.
5. The Town reserves the right to halt any activity that is negatively impacting water quality.
6. The sloping area to be located at least 200 feet from wetlands and not within floodplain.
7. All ground surrounding the pump station must be graded and seeded. Final acceptance of the pump station will not be given until grass is established and effective erosion control has been demonstrated. The contractor is responsible for the first two cuttings of grass.

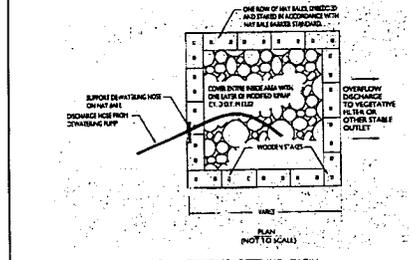
MAINTENANCE OF EROSION AND SEDIMENT CONTROL

1. Maintain all erosion and sediment control measures for the duration of the project. Replace silt fence and hay bales, and remove accumulated sediment as necessary.
2. Replace silt fence bags at dewatering pump discharges as required.
3. Inspect and repair erosion and sediment control measures after all significant rainfall events (1/2" or more).
4. Install additional erosion and sediment control measures as needed.
5. Maintain additional hay bales, silt fence and spill containment equipment on site.
6. Fill erosion gullies. Reseed and remove any grassed areas that exhibit signs of poor growth.
7. When disturbed areas are stabilized and a good growth of grass has been established, remove and dispose of silt fence, hay bales and other erosion and sediment control materials.

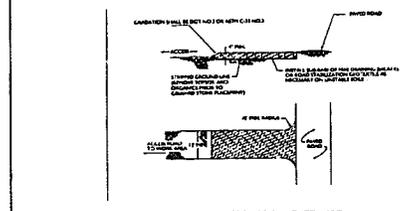


TYPICAL TRENCH DETAIL  
NOT TO SCALE

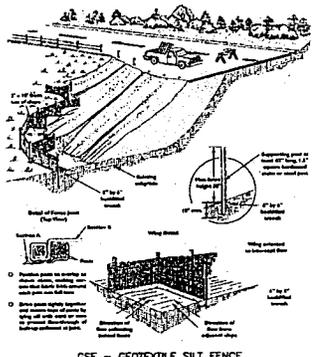
CONTRACT DRAWING



PSB - PUMPING SETTLING BASIN  
FROM 2002 CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL



CE - CONSTRUCTION ENTRANCE  
FROM 2002 CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL



GSF - GEOTEXTILE SILT FENCE  
FROM 2002 CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL

EROSION AND SEDIMENT CONTROL DETAILS  
NOT TO SCALE

NOTE: Elevation Shown refer to NVD of 1929

ROALD HAESTAD, INC.  
CONSULTING ENGINEERS  
WATERBURY, CONNECTICUT

DESIGNED *[Signature]* DRAWN *[Signature]* CHECKED *[Signature]*  
REVISED

TOWN OF BETHEL, CONNECTICUT  
MODIFICATIONS TO  
PLUMTREES ROAD SEWAGE PUMPING STATION

NEW WORK  
MISCELLANEOUS DETAILS  
SCALES AS NOTED

DATE: APRIL 2011  
SHEET NO. 4 OF 5  
DWG. NO. 269-003-04.0



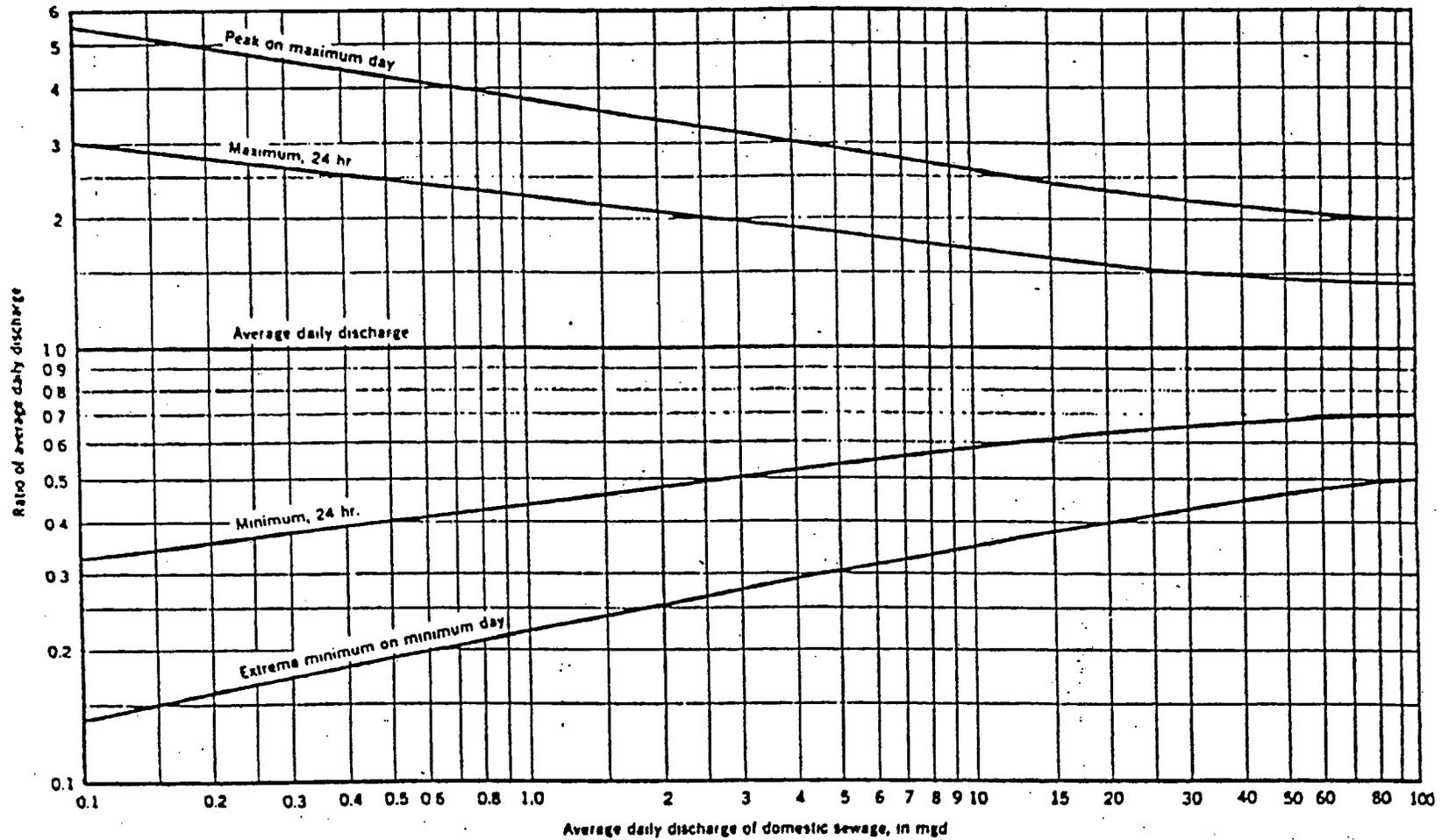


Fig. 3-5. Ratio of extreme flows to average daily flow in New England (mgd  $\times$  3.8 = m<sup>3</sup>/day).

Enlarged from Page 40 of  
 "Gravity Sanitary Sewer Design  
 and Construction", 1982, by the  
 American Society of Civil Engineers  
 Water Pollution Control Federation

SEWAGE QUANTITIES  
 RATIO OF AVERAGE DAILY FLOW  
 TO EXTREME FLOWS  
 Roald Haestad, Inc.

---

TO:	Town of Bethel Public Utilities Commission	DATE:	10-15-14
FROM:	Jeffrey Dewey, PE Mariusz Jedrychowski, PE	PROJECT NO.:	13035I
SUBJECT:	Review of Water and Sewer for Bethel Crossing, Bethel, CT		

---

Wright-Pierce is in receipt of the site plans for the Bethel Crossing residential subdivision in the town of Bethel, CT. Plan sheets reviewed consist of sheets LA-1 → 2, PR-1 → 6 dated August 6, 2014; Bethel PZ Application Package; Engineering Report dated August 18, 2014 (revised October 1, 2014); Report entitled Sanitary Sewer and Potable Water Design Summary, all by Milone & MacBroom; Third Party Review of Bethel Crossing Development Proposal at Maple Avenue Extension and Plumtrees Road Bethel letter by Northwest Conservation District. Based upon our review of the plans, Engineering Report and Northwest Conservation District letter, we offer the following review comments for the engineer's clarification:

Potable Water and Sanitary Sewer Design Summary:

Potable Water:

1. The proposed water distribution system will be 8-inch class 52 ductile iron (DI) pipe with cement mortar lining, gate valves, and eight fire hydrants. The proposed connection to the existing Bethel water distribution system is at two locations along Maple Avenue Extension. Each building will have a domestic water service connection with a meter inside each building, individual curb stops, and a minimum 1-inch red brass or type K copper service pipe.

Comments:

1. *The proposed water distribution system main shall be 8-inch class 54 ductile iron (DI) cement mortar lined pipe.*
2. *Provide water main trench detail.*
3. *Provide water service connection detail.*
4. *Provide irrigation system connection detail.*
5. *Water meters installed at each property shall meet Town of Bethel standards.*
6. *In addition to the proposed connections along Maple Avenue Extension, we recommend that the proposed water main be also connected to existing water mains on Cindy Lane and Blue Spruce Court. This will allow for system redundancy and minimize water supply disruptions in an event of a water main break.*

7. *The proposed water main appears to cross under proposed catch basins. This will limit access in an event of a water main break. Consider relocating.*
8. *Provide water main and sewer/storm drain crossing details. Maintain a minimum distance of 10 feet (10'-0") horizontal between the water main and any existing or proposed storm or sanitary sewer. When local conditions prevent this, a lesser distance is allowed if (a) the water main is in a separate trench, or (b) it is located in the same trench to one side on a bench of undisturbed earth with at least eighteen inches (18") horizontal separation between the edges of the sewer or storm pipe and the water main. In either case, the bottom of the water main shall be eighteen inches above the crown of the storm or sewer pipe. No joints shall be located directly over the crossing of sewer mains. In extreme cases, a horizontal separation of between 12 and 18 inches may be utilized.*
9. *Are there any corrosive or contaminated soil/groundwater within the proposed development that would impact the ductile iron water main and water supplies? If yes, what measures will be undertaken to protect the water main from corrosion and water supplies from contamination?*

**Water Demand:**

1. *The average residential water demand of 12,425 gpd (or 8.6 gpm) is based on 175 gpd per unit based on the Town of Bethel sewer allocation model. The flow is nearly equivalent to estimating the sewer flow using 70 gallons per capita per day and 2.4 persons per unit in Bethel (2010 Census), which equals 168 gpd per unit. The peak potable water demand is assumed to be equal to the estimated sewer flow plus landscape irrigation during the growing season and is equal to 69,580 gpd (or 48 gpm).*

**Comments:**

1. *The average estimated water usage per capita is 71 gpd based on Town of Bethel Water System Capital Improvements Plan and historical water usage data. Water and sewer systems shall be sized to accommodate peak flow at full build-out conditions. Is 2.4 persons per unit realistic for the proposed 4-bedroom units, or should some higher number be utilized based on the number of bedrooms, or the anticipated occupancy to calculate peak flow? Consider using data from the attached Table 3-1 (adapted in part from AWWARF (1999)).*
2. *The peak water demand is assumed to be equal to the estimated sewer flow plus landscape irrigation during the growing season. The peaking factor of 5.6 was obtained from Figure 2-1 in TR-16 ("Guides for the Design of Wastewater*

*Treatment Works, 2011 Edition”). Please calculate probable peak flow according to the AWWA (American Water Works Association) Manual M 22 (see attached pages) based on proposed plumbing fixtures. Use higher flow number to estimate probable peak flow.*

**Fire Demand:**

1. The ISO needed fire flow for the proposed development is 1,000 gpm at 20 psi residual pressure. The available fire flow is estimated to be 1,800 gpm at 20 psi at the new fire hydrants on site.

*Comments:*

1. *No comment. Available fire flow is adequate.*

**Bethel Available Water Supply:**

*Comments:*

1. *Bethel Water System supply sources appear to be capable of supplying the proposed development.*
  - *The 2013 margin of safety for an average day demand (available water/average day demand) is 1.82, which exceeds the minimum margin of safety of 1.15 required by the State of Connecticut Department of Public Health.*
  - *The 2013 margin of safety for a maximum day demand (available water/maximum day demand) is 2.29, which exceeds the minimum margin of safety of 1.15 required by the State of Connecticut Department of Public Health.*

**Sanitary Sewer:**

*Comments:*

1. *Design flows of 175 gpd per household provided in the design summary seem low compared to common design standards. This is more like a long term average for planning purposes. For example, the Connecticut Department of Public Health code for On-Site Sewage Disposal Regulations recommends 150 gpd per bedroom for peak flows. This results in a more*

*conservative design peak flow of 600 gpd per household. See comments under Water Demand section.*

- 2. Pipe flow calculations should be provided to show all pipe segments will provide a minimum flow velocity of 2.5 feet/sec, especially for the upstream pipe segments where only a few homes are connected.*
- 3. Provide minimum separation distances between water main, water services and proposed main sewer lines and sewer laterals.*
- 4. Are there any sump pumps proposed? If yes, where they will connect to?*
- 5. Plumtrees Pump Station – the pump station flow data from September 2, 2013 through August 29, 2014 obtained from the Town indicates that the pump station average day flow is approximately 233,412 gallons per day with the maximum daily total flow of 431,815 gallons per day during this period. Station peak instantaneous flows are not recorded. The existing pump station capacity is 864,000 gallons per day with one pump out of service. Utilizing Figure 2.1 in TR-16 for an average flow of 233,412 gpd and peaking factor of 4.75 the peak flow to the station is approximately 1,108,707 gpd, which exceeds the pump station pumping capacity with one pump out of service. Based on the data the existing pump station may have no or reduced capacity to accept additional flows. Please provide the estimated peak sanitary flow (see comments under Water Demand).*
- 6. Plans should have new road names clearly marked to ease review and plan reference process.*
- 7. In profile, sanitary manholes are shown with sumps. Suggest removing sumps from manhole profile sections.*

#### Plan Sheet LA-1

- 1. Sewer line proposed over new Lot 28 from Road "D" station 25+75+/- right should provide a minimum 20' wide access and maintenance easement for the sewer line.*

#### Plan Sheet

- 1. Proposed sewer Man Hole 18 located on Road "D" station 25+74.63 has an outgoing invert elevation approximately 1 foot higher than the incoming invert elevation from MH-17. There is no known design reasoning for this arrangement. Unless otherwise needed, please revise inverts such that similar elevations are used.*

#### Details

- 1. Sanitary sewer and water details shall meet the Town of Bethel standards.*
- 2. Provide sewer lateral connection and trench detail.*

Memo: Town of Bethel Public Utilities Commission  
10-15-14  
Page 5

- 3. Call out sanitary sewer and storm drain manhole covers size on detail sheet.*

⑤

# Sizing Water Service Lines and Meters

**AWWA Manual M 22**

Copyright 1975 by

American Water Works Association  
6666 W. Quincy Ave., Denver, Colo. 80235

J

SIZING WATER SERVICE LINES AND METERS

CITY OF \_\_\_\_\_  
Water Customer Data Sheet

Customer \_\_\_\_\_ Address \_\_\_\_\_  
 Building Address \_\_\_\_\_ Zip Code \_\_\_\_\_  
 Subdivision \_\_\_\_\_ Lot No. \_\_\_\_\_ Blk. No. \_\_\_\_\_  
 Type of Occupancy \_\_\_\_\_

\*\*\*\*\*

Fixture	Fixture Value 35 psi	No. of Fixtures	Fixture Value
Bathtub	8	x	_____
Bedpan Washers	10	x	_____
Combination Sink and Tray	3	x	_____
Dental Unit	1	x	_____
Dental Lavatory	2	x	_____
Drinking Fountain - Cooler	1	x	_____
- Public	2	x	_____
Kitchen Sink - 1/2" Connection	3	x	_____
- 3/4" Connection	7	x	_____
Lavatory - 3/8" Connection	2	x	_____
- 1/2" Connection	4	x	_____
Laundry Tray - 1/2" Connection	3	x	_____
- 3/4" Connection	7	x	_____
Shower Head (Shower Only)	4	x	_____
Service Sink - 1/2" Connection	3	x	_____
- 3/4" Connection	7	x	_____
Urinal - Pedestal Flush Valve	35	x	_____
- Wall Flush Valve	12	x	_____
- Trough (2 Ft. Unit)	2	x	_____
Wash Sink (Each Set of Faucets)	4	x	_____
Water Closet - Flush Valve	35	x	_____
- Tank Type	3	x	_____
Dishwasher - 1/2" Connection	5	x	_____
- 3/4" Connection	10	x	_____
Washing Machine - 1/2" Connection	5	x	_____
- 3/4" Connection	12	x	_____
- 1" Connection	25	x	_____
Hose Connection (Wash Down) - 1/2"	6	x	_____
- 3/4"	10	x	_____
Hose (50 Ft. Wash Down) - 1/2"	6	x	_____
- 5/8"	9	x	_____
- 3/4"	12	x	_____

Combined Fixture Value Total

=====

Customer Peak Demand from Fig. 4.04 or 4.05 x Press. Factor = \_\_\_\_\_ gpm  
 Add Irrigation - \_\_\_\_\_ Squares x 1.16 or 0.40<sup>(1)</sup> = \_\_\_\_\_ gpm  
 - \_\_\_\_\_ Hose Bibs x 6.5 x \_\_\_\_\_ Press. Factor = \_\_\_\_\_ gpm  
 Add Fixed Load = \_\_\_\_\_ gpm

TOTAL FIXED DEMAND

=====gpm

(1) Spray Systems - Use 1.16; Rotary Systems - Use 0.40

Fig. 4.6. Sample Form for Calculating Customer Demand

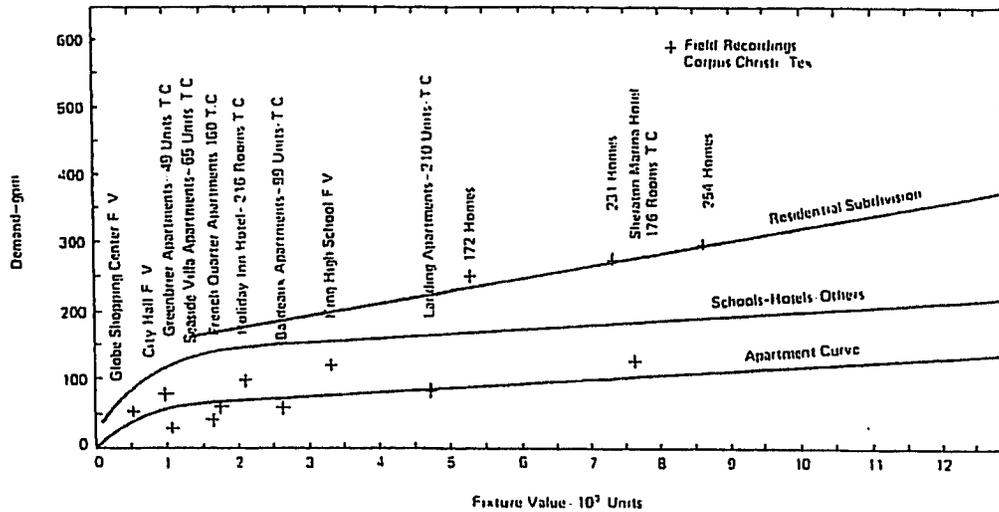


Fig. 4.3. Peak Flow Demand of Typical Utility Customers

fixtures operating at one time diminishes as the number of units increases. The peak rate of water used by fixtures of a residence and the combining of several units are shown in Fig. 4.2. As units are added, the average peak flow rate increases at a lower rate, as shown in Fig. 4.3.

The following is an example of estimating the probable domestic demand for a small apartment complex:

Customer: 160-unit apartment  
 Pressure at meter outlet: 35 psi  
 Fixtures:

		Factor		Fixture Value
205 Tank Water Closets	x	3	=	615
259 Lavatories: 3/8-in.	x	2	=	518
138 Dishwashers: 1/2-in.	x	4	=	552
10 Washing Machines: 1/2-in.	x	5	=	50
165 Kitchen Sinks: 1/2-in.	x	3	=	495
162 Bathtubs	x	8	=	1 296
Total	..... 3 526			

Fixture Value: 3 526

From Fig. 4.5, probable demand = 80 gpm

Adjust to utility delivery pressure, from Table 4.2: 80 x 1 = 80 gpm

Irrigation has not been included in the example since the demand curves in Fig. 4.2 and 4.3 cover only domestic use. The example is taken from an actual case where the demand was 67 gpm, which is slightly lower than the theoretical demand of 80 gpm. Wash-down demand when garden hoses are used can be obtained from Fig. 4.1 for three sizes of hose and for pressures at the house piping from 10 to 100 psi.

The number and type of fixtures in a small residence are usually known; however, surveys for large estate-type homes and public and commercial buildings require

TABLE 4.2  
*Multiplication Factors to Adjust Demand Lead as  
 Obtained from the Curves in Figs. 4.4 or 4.5 to  
 Various Utility Delivery Pressures at the Meter Outlet*

Design Pressure psi	Factor
20	0.74
30	0.92
35 Base	1.00
40	1.07
50	1.22
60	1.34
70	1.46
80	1.57
90	1.68
100	1.78

at the outlet of the meter; therefore, this location was selected. All calculations are made on the base pressure of 35 psi at the meter outlet, and pressure correction factors are included in Table 4.2 to assist the estimator in adjusting data from the graphs to the standard minimum delivery pressure of his utility.

**Fixture Values**

A fixture value is a quantity in terms of which the demand producing effects on the plumbing system of different kinds of plumbing fixtures are expressed on some arbitrarily chosen scale. A table of these values is included that represents the flow demand of each fixture when it is operated without the interference of other units. As an example, a bathtub was filled normally with no other fixture in use at 35 psi downstream of the meter to obtain a flow rate of 8 gpm, so a value of 8 was assigned this item. These values are shown in Table 4.3, and the estimator can easily obtain the

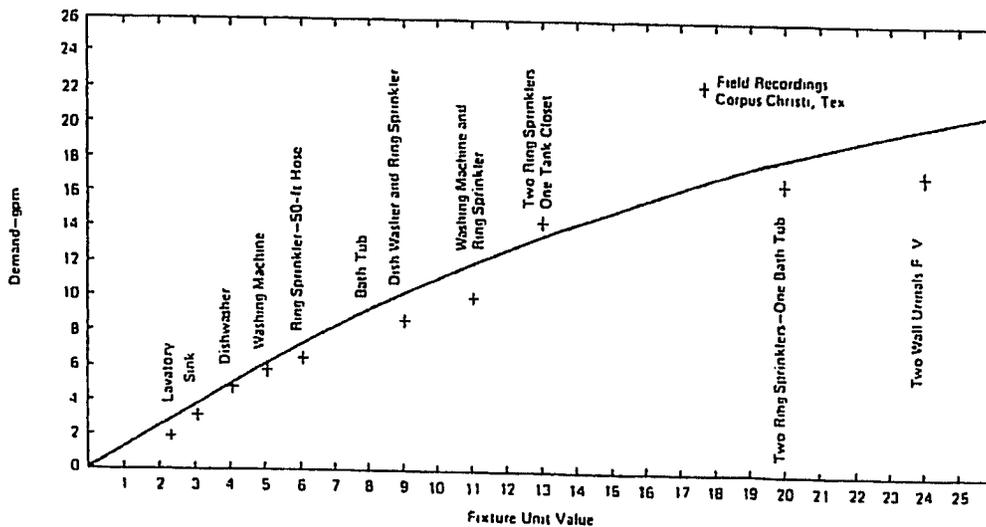


Fig. 4.2. Flow Demand of Household Fixtures

**Table 3-1**  
Typical wastewater flowrates from urban residential sources in the United States<sup>a</sup>

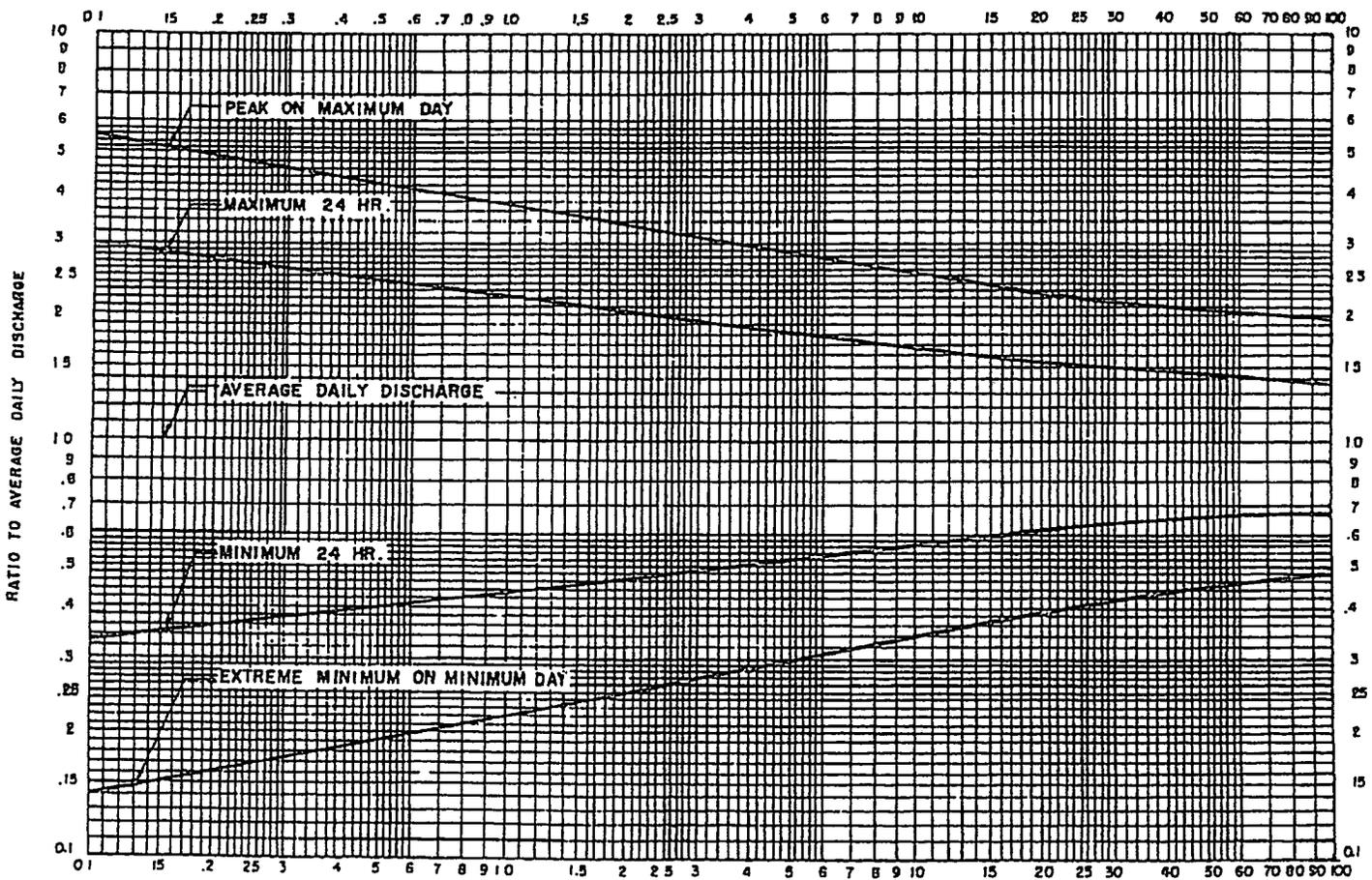
Household size, no. of persons	Flowrate, gal/capita-d		Flowrate, l/capita-d	
	Range	Typical	Range	Typical
1	75-130	97	285-490	365
2	63-81	76	225-385	288
3	54-70	66	194-335	250
4	41-71	53	155-268	200
5	40-68	51	150-260	193
6	39-67	50	147-253	189
7	37-64	48	140-244	182
8	36-62	46	135-233	174

<sup>a</sup>Adopted in part from AWWARF (1999).

For residential areas where large residential development is planned, it is often advisable to develop flowrates on the basis of land-use areas and anticipated population densities. Where possible, these rates should be based on actual flow data from selected similar communities, preferably in the same locale. In the past, the preparation of population projections for use in estimating wastewater flowrates was often the responsibility of the engineer, but today population projection data are usually available from local, regional, and state planning agencies.

Wastewater flowrates can vary depending on the quantity and quality of the water supply; rate structure; and economic, social, and other characteristics of the community. Data on ranges and typical flowrate values are given in Table 3-1 for residential sources in the United States. Beginning in recent years, greater attention is now being given to water conservation and the installation of water-conserving devices and appliances. Reduced household water use changes not only the quantity of wastewater generated but, as discussed later in this chapter, the characteristics of wastewater as well.

**Commercial Districts.** Depending on the function and activity, unit flowrates for commercial facilities can vary widely. Because of the wide variations that have been observed, every effort should be made to obtain records from actual or similar facilities. If no other records are available, estimates for selected commercial sources, based on function or persons served, may be made using the data presented in Table 3-2. In the past, commercial wastewater flowrates were often based on existing or anticipated future development or comparative data. Flowrates were generally expressed in terms of quantity of flow per unit area [i.e.,  $m^3/ha \cdot d$  (gal/ac-d)]. Typical unit-flow allowances for commercial developments normally range from 7.5 to 14  $m^3/ha \cdot d$  (80 to 1500 gal/ac-d). The latter approach can be used to check the values obtained from existing records or estimates made using Table 3-2.

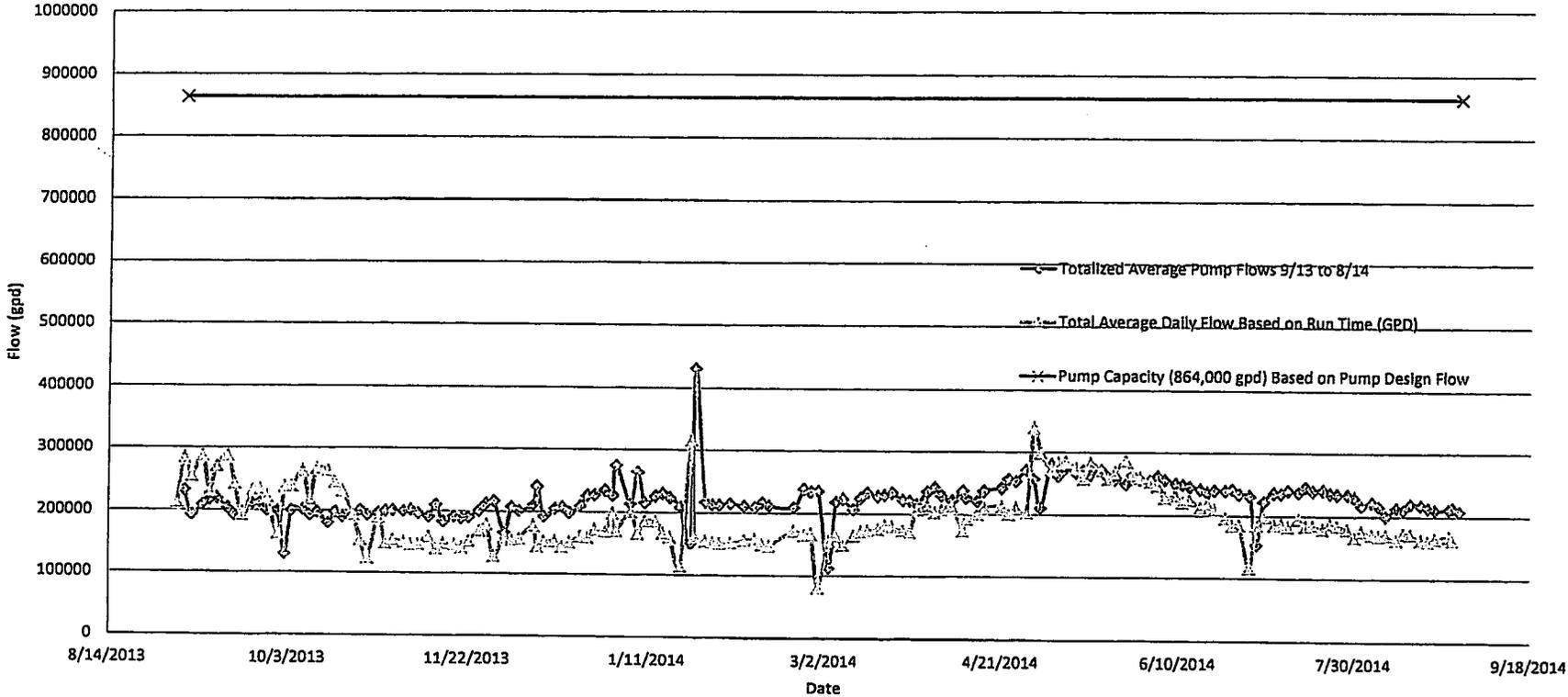


AVERAGE DAILY DISCHARGE OF DOMESTIC SEWAGE MGD  
 RELATION OF EXTREME DISCHARGES ON MAXIMUM AND MINIMUM DAYS  
 TO THE AVERAGE DAILY DISCHARGE OF DOMESTIC SEWAGE  
 ( FROM MOP9 "SEWER DESIGN & CONSTRUCTION"  
 ASCE & WPCF

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Figure 2-1  
 RATIO OF EXTREME DAILY FLOW TO AVERAGE DAILY FLOW

### Plumtrees P.S. Average Daily Flow Data



**TOWN OF BETHEL**  
**WATER, SEWER & TRANSFER STATION REPORTS**  
**9/30/2014 Preliminary**

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	<u>PAGE #</u>
WATER DEPARTMENT SUMMARY .....>	1
WATER DEPT BUDGET VS ACTUAL .....>	2, 3, 4
SEWER DEPARTMENT SUMMARY .....>	5
SEWER DEPT BUDGET VS ACTUAL .....>	6, 7, 8, 9
TRANSFER STATION SUMMARY .....>	10

**TOWN OF BETHEL  
WATER DEPARTMENT  
9/30/2014 Preliminary**

<b>REVENUE</b>		<b>\$ 416,245.77</b>
<u>Revenue Detail</u>		
Use of Water	411,441.77	
Liens	504.00	
Permits & Installation	4,300.00	
Interest on Investments	-	
BAN Revenue	-	
	<u>416,245.77</u>	
<u>EXPENDITURES</u>		
SALARIES	\$ 88,564.08	
BENEFITS	32,293.27	120,857.35
UTILITIES	10,339.75	
SUPPLIES	4,274.33	
MAINTENANCE	58,400.34	
SERVICES	15,183.93	
CAPITAL IMPROVEMENT	-	
UTILITY COLLECTOR/OFFICE	1,145.04	
DEBT SERVICE		
ALLOCATED EXPENSE	33,750.00	
INSURANCE	-	
DEPRECIATION EST	31,250.00	
INTEREST EXPENSE	-	
	<u>275,200.74</u>	
<b>NET REVENUE</b>		<b><u>\$ 141,045.03</u></b>

10/02/2014 09:25  
heeringb

TOWN OF BETHEL  
TOWN OF BETHEL EXPENDITURES REPORT  
FISCAL YEAR TO DATE

FOR 2015 03

	ORIGINAL APPROP	TRANFRS/ ADJSTMTS	REVISED BUDGET	YTD ACTUAL	ENCUMBRANCES	AVAILABLE BUDGET	PCT USED
<u>02 WATER USE FUND</u>							
<u>0210120 WATER FINANCE</u>							
5307 AUDITING	5,000	0	5,000	.00	.00	5,000.00	.0%
TOTAL WATER FINANCE	5,000	0	5,000	.00	.00	5,000.00	.0%
<u>0210150 UTILITY COLLECTOR</u>							
5106 NEG SALARY	40,932	0	40,932	11,087.85	.00	29,844.15	27.1%
5109 LONGEVITY	0	0	0	450.00	.00	-450.00	100.0%
5201 OFFICE EXPENSE	10,000	0	10,000	1,145.04	.00	8,854.96	11.5%
TOTAL UTILITY COLLECTOR	50,932	0	50,932	12,682.89	.00	38,249.11	24.9%
<u>0210160 WATER PROFESSIONAL SERVICES</u>							
5301 DUE & EDUCATION	4,000	0	4,000	.00	.00	4,000.00	.0%
5307 AUDITING	4,000	0	4,000	.00	.00	4,000.00	.0%
5313 CONTRACTED SERVICES	50,000	0	50,000	5,008.00	.00	44,992.00	10.0%
5350 CONTINGENCY	12,000	0	12,000	643.08	.00	11,356.92	5.4%
5352 LEGAL FEES	7,500	0	7,500	9,532.85	.00	-2,032.85	127.1%
5354 MISC SERVICES	4,000	0	4,000	.00	.00	4,000.00	.0%
TOTAL WATER PROFESSIONAL SERVICES	81,500	0	81,500	15,183.93	.00	66,316.07	18.6%
<u>0210210 WATER INSURANCE</u>							
5325 WORKERS COMPENSATION	29,128	0	29,128	.00	.00	29,128.28	.0%
TOTAL WATER INSURANCE	29,128	0	29,128	.00	.00	29,128.28	.0%
<u>0210390 EMPLOYEE BENEFITS</u>							

10/02/2014 09:25  
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TOWN OF BETHEL  
TOWN OF BETHEL EXPENDITURES REPORT  
FISCAL YEAR TO DATE

PG 2  
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FOR 2015 03

	ORIGINAL APPROP	TRANFRS/ ADJSTMTS	REVISED BUDGET	YTD ACTUAL	ENCUMBRANCES	AVAILABLE BUDGET	PCT USED
5112 FICA	21,293	0	21,293	.00	.00	21,293.08	.0%
5113 HOSPITALIZATION	139,125	0	139,125	30,293.27	.00	108,831.51	21.8%
5115 EMPLOYEE PENSION	48,043	0	48,043	.00	.00	48,043.00	.0%
5308 CLOTHING ALLOWANCE	1,500	0	1,500	2,000.00	.00	-500.00	133.3%
TOTAL EMPLOYEE BENEFITS	209,961	0	209,961	32,293.27	.00	177,667.59	15.4%
<hr/>							
0210410 UTILITIES CHARGES SERVICES							
5205 FUEL OIL	30,000	0	30,000	.00	.00	30,000.00	.0%
5321 UTILITIES	105,000	0	105,000	10,339.75	.00	94,660.25	9.8%
TOTAL UTILITIES CHARGES SERVICES	135,000	0	135,000	10,339.75	.00	124,660.25	7.7%
<hr/>							
0240230 WATER SALARIES							
5101 SALARY	41,933	0	41,933	10,960.17	.00	30,972.83	26.1%
5102 ADMINISTRATOR	66,350	0	66,350	17,688.97	.00	48,661.03	26.7%
5103 SEC/CLERK	16,900	0	16,900	745.55	.00	16,154.45	4.4%
5106 NEG SALARY	112,590	0	112,590	45,731.54	.00	66,858.46	40.6%
5107 OVERTIME	10,000	0	10,000	.00	.00	10,000.00	.0%
5109 LONGEVITY	2,300	0	2,300	1,900.00	.00	400.00	82.6%
TOTAL WATER SALARIES	250,073	0	250,073	77,026.23	.00	173,046.77	30.8%
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0240255 SUPPLIES							
5201 OFFICE EXPENSE	0	0	0	167.10	.00	-167.10	100.0%
5202 EQUIPMENT & SUPPLIES	60,000	0	60,000	3,052.70	.00	56,947.30	5.1%
5203 OTHER SUPPLIES	9,000	0	9,000	1,054.53	.00	7,945.47	11.7%
5204 GASOLINE	10,000	0	10,000	.00	.00	10,000.00	.0%
TOTAL SUPPLIES	79,000	0	79,000	4,274.33	.00	74,725.67	5.4%
<hr/>							
0240260 METER & SERVICE LINE MAINT							

10/02/2014 09:25  
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TOWN OF BETHEL  
TOWN OF BETHEL EXPENDITURES REPORT  
FISCAL YEAR TO DATE

PG 3  
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FOR 2015 03

	ORIGINAL APPROP	TRANFRS/ ADJSTMTS	REVISED BUDGET	YTD ACTUAL	ENCUMBRANCES	AVAILABLE BUDGET	PCT USED
5206 EQUIPMENT MAINTENANCE	7,000	0	7,000	.00	.00	7,000.00	.0%
5207 MAINTENANCE	50,000	0	50,000	.00	.00	50,000.00	.0%
5208 HIGHWAY MAINTENANCE	9,000	0	9,000	-1,822.31	.00	10,822.31	-20.2%
5211 WELLS AND RESERVOIRS	25,000	0	25,000	42,160.00	.00	-17,160.00	168.6%
5213 METER & SERVICE LINE MAINT	40,000	0	40,000	1,560.09	.00	38,439.91	3.9%
5218 METER & WATER LINE MAINT	40,000	0	40,000	16,502.56	.00	23,497.44	41.3%
TOTAL METER & SERVICE LINE MAINT	171,000	0	171,000	58,400.34	.00	112,599.66	34.2%
 0250440 WATER DEBT SERVICE							
5638 GO BAN PRINCIPAL	80,000	0	80,000	.00	.00	80,000.00	.0%
TOTAL WATER DEBT SERVICE	80,000	0	80,000	.00	.00	80,000.00	.0%
 0280500 WATER TAX REVENUE							
4501 PROPERTY TAXES	-1,081,594	0	-1,081,594	-187,138.23	.00	-894,455.91	17.3%
TOTAL WATER TAX REVENUE	-1,081,594	0	-1,081,594	-187,138.23	.00	-894,455.91	17.3%
 0280550 WATER PERMITS							
4508 PERMITS/INSTALLATIONS	-10,000	0	-10,000	-4,300.00	.00	-5,700.00	43.0%
TOTAL WATER PERMITS	-10,000	0	-10,000	-4,300.00	.00	-5,700.00	43.0%
TOTAL WATER USE FUND	0	0	0	18,762.51	.00	-18,762.51	100.0%
TOTAL REVENUES	-1,091,594	0	-1,091,594	-191,438.23	.00	-900,155.91	
TOTAL EXPENSES	1,091,594	0	1,091,594	210,200.74	.00	881,393.40	
GRAND TOTAL	0	0	0	18,762.51	.00	-18,762.51	100.0%

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**TOWN OF BETHEL  
SEWER DEPARTMENT**

**9/30/2014 Preliminary**

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<b>REVENUE</b>		<b>\$ 653,003.36</b>
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**Revenue Detail**

Use of Sewer	644,711.83
Sewer Assessments	-
Liens	432.00
Permits & Installation	7,750.00
Interest on Investments	109.53
BAN Premium	-
	<b>653,003.36</b>

**EXPENDITURES**

SALARIES	\$ 56,368.45	
BENEFITS	23,016.88	79,385.33
UTILITIES	10,697.61	
SUPPLIES	926.58	
MAINTENANCE	12,162.34	
SERVICES	182,592.67	
CAPITAL IMPROVEMENT	-	
OFFICE	1,299.33	
DEBT SERVICE	-	
ACCOUNTS PAYABLE-DANBURY	-	
<i>ALLOCATED EXPENSE</i>	<i>22,500.00</i>	
<i>Insurance</i>	<i>-</i>	
<i>Allocated Expense- Auditing; IT ETC</i>	<i>-</i>	
DEPRECIATION EST	100,000.00	
		<b>409,563.86</b>

<b>NET REVENUE</b>		<b>\$ <u>243,439.50</u></b>
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TOWN OF BETHEL  
TOWN OF BETHEL EXPENDITURES REPORT  
FISCAL YEAR TO DATE

PG 1  
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FOR 2015 03

	ORIGINAL APPROP	TRANFRS/ ADJSTMTS	REVISED BUDGET	YTD ACTUAL	ENCUMBRANCES	AVAILABLE BUDGET	PCT USED
<u>03 SEWER USE FUND</u>							
<u>0310120 SEWER FINANCE</u>							
5307 AUDITING	5,000	0	5,000	.00	.00	5,000.00	.0%
TOTAL SEWER FINANCE	5,000	0	5,000	.00	.00	5,000.00	.0%
<u>0310150 UTILITY COLLECTOR</u>							
5106 NEG SALARY	40,935	0	40,935	9,534.06	.00	31,400.94	23.3%
5201 OFFICE EXPENSE	12,000	0	12,000	1,299.33	.00	10,700.67	10.8%
TOTAL UTILITY COLLECTOR	52,935	0	52,935	10,833.39	.00	42,101.61	20.5%
<u>0310160 SEWER PROFESSIONAL SERVICES</u>							
5301 DUE & EDUCATION	2,000	0	2,000	.00	.00	2,000.00	.0%
5307 AUDITING	4,000	0	4,000	.00	.00	4,000.00	.0%
5312 PERMITS & MISC FEES	1,000	0	1,000	.00	.00	1,000.00	.0%
5313 CONTRACTED SERVICES	803,432	0	803,432	1,655.00	.00	801,777.00	.2%
5350 CONTINGENCY	12,000	0	12,000	6.60	.00	11,993.40	.1%
5352 LEGAL FEES	10,000	0	10,000	1,556.07	.00	8,443.93	15.6%
5357 CLAIMS SETTLEMENT	25,000	0	25,000	.00	.00	25,000.00	.0%
TOTAL SEWER PROFESSIONAL SERVICES	857,432	0	857,432	3,217.67	.00	854,214.33	.4%
<u>0310190 SEWER IT</u>							
5306 PROFESSIONAL SERVICES	75,000	0	75,000	.00	.00	75,000.00	.0%
TOTAL SEWER IT	75,000	0	75,000	.00	.00	75,000.00	.0%
<u>0310210 INSURANCE</u>							

10/02/2014 09:25  
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TOWN OF BETHEL  
TOWN OF BETHEL EXPENDITURES REPORT  
FISCAL YEAR TO DATE

PG 2  
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FOR 2015 03

	ORIGINAL APPROP	TRANFRS/ ADJSTMTS	REVISED BUDGET	YTD ACTUAL	ENCUMBRANCES	AVAILABLE BUDGET	PCT USED
5325 WORKERS COMPENSATION	19,448	0	19,448	.00	.00	19,447.97	.0%
TOTAL INSURANCE	19,448	0	19,448	.00	.00	19,447.97	.0%
<hr/> 0310390 EMPLOYEE BENEFITS							
5112 FICA	20,336	0	20,336	.00	.00	20,335.91	.0%
5113 HOSPITALIZATION	68,593	0	68,593	22,016.88	.00	46,576.01	32.1%
5115 EMPLOYEE PENSION	39,195	0	39,195	.00	.00	39,195.00	.0%
5308 CLOTHING ALLOWANCE	1,500	0	1,500	1,000.00	.00	500.00	66.7%
TOTAL EMPLOYEE BENEFITS	129,624	0	129,624	23,016.88	.00	106,606.92	17.8%
<hr/> 0310410 UTILITIES							
5205 FUEL OIL	8,000	0	8,000	.00	.00	8,000.00	.0%
5321 UTILITIES	60,000	0	60,000	10,275.24	.00	49,724.76	17.1%
5322 STREETLIGHTS	6,000	0	6,000	.00	.00	6,000.00	.0%
5323 OTHER UTILITIES	0	0	0	422.37	.00	-422.37	100.0%
TOTAL UTILITIES	74,000	0	74,000	10,697.61	.00	63,302.39	14.5%
<hr/> 0310750 USE OF MONEY							
4751 INTEREST	0	0	0	-109.53	.00	109.53	100.0%
TOTAL USE OF MONEY	0	0	0	-109.53	.00	109.53	100.0%
<hr/> 0340230 SEWER SALARIES							
5101 SALARY	41,933	0	41,933	10,960.30	.00	30,972.70	26.1%
5103 SEC/CLERK	16,900	0	16,900	745.55	.00	16,154.45	4.4%
5106 NEG SALARY	166,425	0	166,425	33,728.54	.00	132,696.46	20.3%
5107 OVERTIME	10,000	0	10,000	.00	.00	10,000.00	.0%
5109 LONGEVITY	1,400	0	1,400	1,400.00	.00	.00	100.0%
TOTAL SEWER SALARIES	236,658	0	236,658	46,834.39	.00	189,823.61	19.8%

10/02/2014 09:25  
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TOWN OF BETHEL  
TOWN OF BETHEL EXPENDITURES REPORT  
FISCAL YEAR TO DATE

PG 3  
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FOR 2015 03

	ORIGINAL APPROP	TRANFRS/ ADJSTMTS	REVISED BUDGET	YTD ACTUAL	ENCUMBRANCES	AVAILABLE BUDGET	PCT USED
<b>0340255 SUPPLIES</b>							
5201 OFFICE EXPENSE	0	0	0	40.14	.00	-40.14	100.0%
5202 EQUIPMENT & SUPPLIES	15,000	0	15,000	.00	.00	15,000.00	.0%
5203 OTHER SUPPLIES	7,500	0	7,500	886.44	.00	6,613.56	11.8%
5204 GASOLINE	10,000	0	10,000	.00	.00	10,000.00	.0%
TOTAL SUPPLIES	32,500	0	32,500	926.58	.00	31,573.42	2.9%
<b>0340260 MAINTENANCE</b>							
5207 MAINTENANCE	45,000	0	45,000	491.00	.00	44,509.00	1.1%
5208 HIGHWAY MAINTENANCE	6,000	0	6,000	258.51	.00	5,741.49	4.3%
5218 METER & WATER LINE MAINT	25,000	0	25,000	11,412.83	.00	13,587.17	45.7%
5229 ALARM MAINTENANCE	2,500	0	2,500	.00	.00	2,500.00	.0%
TOTAL MAINTENANCE	78,500	0	78,500	12,162.34	.00	66,337.66	15.5%
<b>0350440 SEWER DEBT SERVICE</b>							
5638 GO BAN PRINCIPAL	50,000	0	50,000	.00	.00	50,000.00	.0%
5647 OBLIGATION SEWER BOND 2006 INT	0	0	0	4,375.00	.00	-4,375.00	100.0%
5648 OBLIGATION SEWER BOND 2006 PR	0	0	0	175,000.00	.00	-175,000.00	100.0%
5650 OBLIGATION SEWER BOND 2009 PR	1,187,718	0	1,187,718	.00	.00	1,187,718.13	.0%
TOTAL SEWER DEBT SERVICE	1,237,718	0	1,237,718	179,375.00	.00	1,058,343.13	14.5%
<b>0352441 DEPRECIATION EXPENSE</b>							
5441 DEPRECIATION EXPENSE	450,000	0	450,000	.00	.00	450,000.00	.0%
TOTAL DEPRECIATION EXPENSE	450,000	0	450,000	.00	.00	450,000.00	.0%
<b>0380500 SEWER TAX REVENUE</b>							

10/02/2014 09:25  
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TOWN OF BETHEL  
TOWN OF BETHEL EXPENDITURES REPORT  
FISCAL YEAR TO DATE

FOR 2015 03

	ORIGINAL APPROP	TRANFRS/ ADJSTMTS	REVISED BUDGET	YTD ACTUAL	ENCUMBRANCES	AVAILABLE BUDGET	PCT USED
4501 PROPERTY TAXES	-3,198,815	0	-3,198,815	-296,040.38	.00	-2,902,774.52	9.3%
4502 MOTOR VEHICLE	0	0	0	-224,759.07	.00	224,759.07	100.0%
TOTAL SEWER TAX REVENUE	-3,198,815	0	-3,198,815	-520,799.45	.00	-2,678,015.45	16.3%
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0380550 SEWER PERMITS							
4508 PERMITS/INSTALLATIONS	-50,000	0	-50,000	-7,750.00	.00	-42,250.00	15.5%
TOTAL SEWER PERMITS	-50,000	0	-50,000	-7,750.00	.00	-42,250.00	15.5%
TOTAL SEWER USE FUND	0	0	0	-241,595.12	.00	241,595.12	100.0%
TOTAL REVENUES	-3,248,815	0	-3,248,815	-528,658.98	.00	-2,720,155.92	
TOTAL EXPENSES	3,248,815	0	3,248,815	287,063.86	.00	2,961,751.04	
GRAND TOTAL	0	0	0	-241,595.12	.00	241,595.12	100.0%

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**TOWN OF BETHEL  
TRANSFER STATION  
9/30/2014 Preliminary**

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**REVENUE** \$ 59,351.28

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**Revenue Detail**

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Permits	25,935.00
Bulk Waste	-
Dumping Charges	31,494.30
Scrap Metal	1,231.98
Brush	690.00
Appliances	-
	<u>59,351.28</u>

**EXPENDITURES**

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SALARIES	\$ 22,432.90
BENEFITS	12,471.88
UTILITIES	
OFFICE	-
DEPRECIATION	-
MATERIALS & SUPPLIES	-
REPAIRS & MAINTENANCE	-
CONTRACTED SERVICES	17,233.97
INSURANCE	-
ALLOCATED EXPENSES	<u>9,000.00</u>
	<u>61,138.75</u>

**NET REVENUE** \$ (1,787.47)