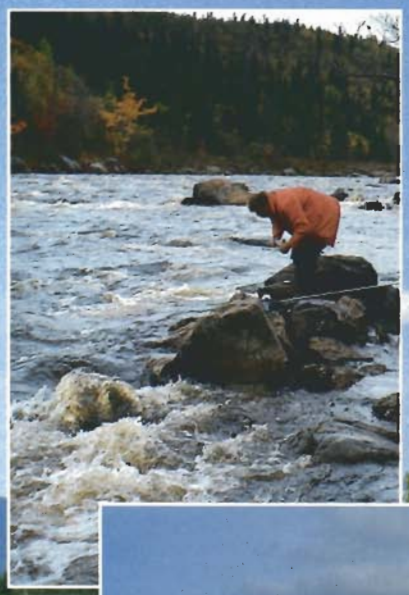
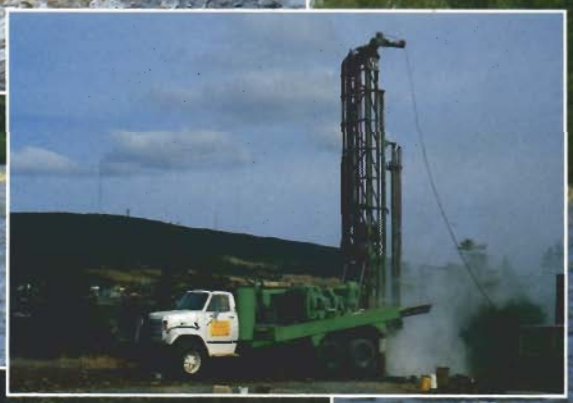
Bonavista Water Resources Study

Survey of Facilities





GOVERNMENT OF NEWFOUNDLAND
AND LABRADOR

DEPARTMENT OF ENVIRONMENT AND LANDS
WATER RESOURCES DIVISION

GOVERNMENT OF NEWFOUNDLAND AND LABRADOR

DEPARTMENT OF ENVIRONMENT AND LANDS

BONAVISTA WATER RESOURCES STUDY

SURVEY OF FACILITIES

Prepared by: R. Kidd
Approved by: P.C. Helwig

ShawMont Newfoundland Limited

SMR-31-88

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BONAVISTA WATER RESOURCES STUDY

Survey of Facilities

1. OBJECTIVE

The purpose of the survey was to compile an inventory of water supply facilities and major natural features which impact on water use. This would then act as a data source for the Water Resources Study.

The main facilities examined included water supply systems and hydro plants. The major natural features noted were river basins having potential for salmon enhancement and areas of unique, scenic beauty of interest to tourists and others.

2. PROGRAM

A standard report format was developed in the form of two questionnaires for the purpose of compiling statistics related to surface water data and groundwater data. A list of municipalities and local service districts (L.S.D.) was obtained from the Department of Municipal Affairs - Newfoundland.

The questionnaires were mailed out and appointments arranged for visiting the various municipalities and L.S.D.'s.

Much of the information was obtained through interviews with council clerks and maintenance supervisors. Site inspections of the facilities were conducted where considered necessary. Where possible additional information was obtained from drawings available from the Department of Municipal Affairs and Engineering Consultants.

Some information was also obtained by the National Inventory of Municipal Water Works and Waste Water Systems in Canada and the MUNDAT data base.

3. OBSERVATIONS

(i) Municipalities: Out of 60 Communities visited 33 had water supply systems, 10 were partly supplied by council wells and 17 had no community water supply at all.

Most water supply systems are provided with meters located at treatment plant or pumping station for measurement of total demand. In some systems the supply to major customers is also metered. There is little evidence that these meters are read on a regular basis. In only one of the many consultant's reports consulted, Clarenville Master Plan, Sheppard, Hedges and Greene, 1986, were actual water use statistics cited. Data given in the National Inventory is doubtfully as demand flows cited often appear to be "design" figures, generally about 450 litres/person/day.

3. OBSERVATIONS (Cont'd)

(i) (Cont'd)

Many of the communities supplied by private wells experience considerable inconvenience during summer months due to wells drying up. Ironically such conditions prevailed in communities situated adjacent to serviced municipalities. In other areas, water supply facilities have been developed to service several communities. Perhaps it would be worthwhile examining the feasibility of establishing an overall Utilities Board for developing and overseeing the installation of suitable water supply systems.

(ii) Hydro: Two hydro developments owned and operated by Newfoundland Light and Power, are located within the study boundaries; Port Union and Lockston. The hydro development at Clarenville is no longer in use. The Lockston power development is supplied from two ponds independent of any water supply. On the other hand, Port Union is supplied from four ponds one of which, Whirl Pond, supplies water to four municipalities as well.

(iii) Major Natural Features:

Notes related to discussions with Mr. Tim Anderson, Dept.of Fisheries & Oceans

1. An excellent general collection of information is contained in "Catalogue of Rivers in Insular Newfoundland", Vol. D by T.R. Porter, L.G. Riche and G.R. Traverse, published by Resource Development Branch, Fisheries and Marine Service, Dept. of the Environment, October 1974.

2. Unpublished Data
   (a) Terra Nova River - salmon management and enhancement developed since early 1950's. three fishways constructed, to date the most recent one on Mollyguajeck Lake.

   The river lends itself to canoeing.

   (b) Traverse Brook - this discharges into ocean south of Hare Bay. Considerable potential for salmon enhancement.

   (c) Indian Bay Brook - this discharges at Indian Bay. The river supplies the water supply system for Indian Bay, and potential for salmon enhancement.

3. OBSERVATIONS (Cont'd)

(iii) Major Natural Features (Cont'd):

(d) Bonavista North/Fogo District - whilst there are numerous small rivers, these are too small which tend to be low in summer months, not considered likely candidates for salmon enhancement.

4. OMISSIONS

Data could not be obtained on water supplies at some communities. In these communities the contact person did not reply to the questionnaire or return phone calls; additionally, plans showing details of these systems were not on file with the Department of Municipal Affairs in St. John's. These communities are listed below:

Water and Sewer Service Districts

Adey Town
Bloomfield
Britannia
Burgoynes Cove
Cannings Cove
Dunfield
Hickmans Harbour
Lady Cove/Weybridge
Queens Cove

Local Service Districts

Aspen Cove
Swift Current

Municipalities

Milton

5. FORMAT OF COLLECTION

Data is grouped in following Appendices:

Appendix I - Surface Water Sources
Appendix II - Groundwater Sources
Appendix III - Hydro Facilities
Appendix IV - List of Engineering Reports

Each of these appendices are designed to be self contained. Each includes a discussion of the design of the questionnaire and includes statistical summaries of the data collected as well a complete compilation of the questionnaire results.

APPENDIX I

SURVEY OF FACILITIES

SURFACE WATER SOURCES

APPENDIX I

TABLE OF CONTENTS

APPENDIX I

SURVEY OF SURFACE WATER SUPPLIES

I.1 PREAMBLE

Some thirty-three municipalities and local service districts are primarily serviced by publicly owned water supply system supplied by surface water sources, brooks or ponds.

I.2 EXPLANATION OF QUESTIONNAIRE

The following notes on the questionnaire are provided to assist in interpretation of the results.

(a) **Population Served:** Represents actual populations in dwellings serviced by the municipal (public) system, unless otherwise noted.

(b) **Firm Yield:** Based on 1 in 10 year minimum month, from regional hydrology developed in the Bonavista Bay Water Resources Study. Assumes 1.0 m of live storage is available from source pond, unless other data is available.

(c) **Delivery System:** For purposes of this survey, the delivery system was taken to be the main connecting the intake and pumphouse to the major distribution line. Where intake pipe and main were of different sizes, diameters are indicated thus: 300 mm/250 mm (intake/main).

(d) **Delivery System Capacity:** Where systems capacity was not reported, or available from consultants reports, it was estimated from by the following formula:

$$Q = 0.04\ d^2$$

where d = diameter supply main (mm)
Q = maximum daily demand (l/min)

(e) **Capital Cost:** Available cost data from Municipal Affairs lumps water supply and sewage system cost together. The value shown includes all investments since 1960. Either (W) or (W+S) is shown in parenthesis following the value shown to indicate whether sewage system costs are included or not.

I.2 EXPLANATION OF QUESTIONNAIRE (Cont'd)

(f) **Average Demand:** Where average demand was not reported, nor available from consultants reports, or the National Inventory, an overall demand estimate is shown based on a per capita requirement of 450 l/day.

(g) **Peak Demand:** Where data was not available peak demand was estimated as 2 x average daily demand.

I.3 DATA SUMMARIES

Results from the survey are summarized in the following tables:

Table I-1	List of Communities Supplied by Surface Sources
Table I-2	Statistical Summary

TABLE I-1 LIST OF COMMUNITIES SUPPLIED BY SURFACE SOURCES

COMMUNITY	MUNICIPAL STATUS
Badger's Quay/Valley Field/ Pools Island/Pound Cove	Municipality
Benton	Local Service District
Bonavista	Municipality
Catalina	Municipality (see Port Union)
Centreville	Municipality
Clarenville	Municipality
Deadman's Cove	Local Service District
Dover	Municipality (see Hare Bay)
Elliston	Municipality
Gambo	Municipality
Gander	Municipality
Gander Bay South	Local Service District
Georges Brook	Local Service District
Glovertown	Municipality
Goobies	Local Service District
Greenspond	Municipality
Happy Adventure	Municipality
Hare Bay	Municipality
Indian Bay	Municipality
Keels	Municipality
Little Catalina	Municipality (see Port Union)
Lower Lance Cove	Local Service District
Lumsden	Municipality
Melrose	Municipality (see Port Union)
Musgrave Harbour	Municipality
Newmans Cove	Local Service District
Newtown	Municipality
Plate Cove East	Municipality
Port Blandford	Municipality
Port Union	Municipality
Sandy Cove	Municipality
Shoal Harbour	Municipality
Trinity - (B. Bay)	Municipality
Wareham	Municipality (see Centreville)
Wesleyville	Municipality (see Badger's Quay/ Valley Field/ Pools Island)

TABLE I-2

SURFACE WATER SUPPLIES - STATISTICAL SUMMARY

Community	Status	Population Served	Basin Yield l/min	Average Demand l/min	System Capacity l/min	Treatment	Metered at Source	Capital Investment to Date
Badgers Quay, etc.	M	2797	9400	1360	3200	Cl	Y	$2,920,000 (W+S)
Benton	LSD	200	335	63	225	Cl	N	$ 291,000 (W)
Bonavista	M	2600	7500	440	3000	Cl	N	-
Centreville & Wareham	M	1089	30000	380	2200	Cl	Y	$1,178,000 (W+S)
Clarenville	M	2967	5250	950	2500	Cl, Clar	Y	$6,680,000 (W+S)
Deadman's Cove	LSD	250	28000	78	225	Cl	Y	-
Elliston	M	564	388	175	760	Cl	Y	-
Gambo	M	2723	3000	850	900	Cl	N	$6,180,000 (W+S)
Gander	M	10000	22.1	4735	15800	Cl	Y	$5,935,000 (W+S)
Gander Bay S.	LSD	250	11000	75	100	Cl	Y	$ 60,000 (W)
Georges Brook	LSD	450	3000	140	-	Cl	N	$ 37,000 (W)
Glovertown	M	2184	10000	685	3600	Cl, Filt	N	$3,610,000 (W+S)
Goobies	LSD	200	1300	60	400	Cl	N	$ 36,000 (W)
Greenspond	M	460	600	144	900	None	N	587,000 (W)
Happy Adventure	M	354	1600	118	160	Cl	N	$2,142,000 (W+S)
Hare Bay & Dover	M	1436	2300	630	790	Cl	N	$2,030,000 (W+S)
Indian Bay	M	200	36000	90	190	Cl	N	$ 261,000 (W+S)
Keels	M	115	900	36	225	Cl	N	-
Lower Lance Cove	LSD	280	700	88	-	Cl	N	$ 38,000 (W)
Lumsden	M	636	10000	107	365	Cl, Filt	Y	$1,045,000 (W+S)
Musgrave Harbour	M	1527	6200	617	2500	Cl	Y	$2,818,000 (W+S)
Newmans Cove	LSD	200	300	160	400	Cl	N	$ 124,000 (W)
Newtown	M	529	2600	139	400	Cl, pH	Y	$ 113,000 (W)
Plate Cove East	M	173	4300	54	900	Cl	N	-
Port Union	M	2995	30000	950	20000	Cl	Y	$5,376,000 (W+S)
Port Blandford	M	729	44200	225	1580	Cl	Y	$1,302,000 (W+S)
Sandy Cove	M	193	190	60	155	Cl	Y	$ 115,000 (W)
Shoal Harbour	M	1049	9000	325	2800	Cl	Y	$2,832,000 (W)
Trinity, B.B.	M	357	7200	190	-	Cl	N	$2,920,000 (W+S)
Totals	M = 21 LSD = 6	37507				Cl = 26 Filt = 2 Clar = 1 pH = 1 No treat. =1	Y = 12 N = 15	$44,397,000 (W+S) $ 4,233,000 (W)

Key: M - municipality
LSD - local service district
Cl - chlorination
Filt - filtration
Clar - clarification
pH - pH adjustment

Ref. No. _____
(For Office Use Only)

SURVEY OF FACILITIES

SURFACE WATER SOURCE

Contact: Mrs. Dianne Hounsell, Town Clerk

Community Name: Badgers Quay/Valleyfield/Pools Island/Wesleyville/ Brookfield/Pound Cove

Municipal Status: Municipality

Population Served: 1589 + 1208 (at Wesleyville, Brookfield & Pound Cove)

Water Source

Name of River: Little N.W. Pond Bk.
- Drainage Area = 30.9 km^2
- Diversion from = -
- Diverted Area = -

Reservoir/Pond:
Name: Little North West Pond

- F.S.L. = -
- L.S.L. = -
- Firm Yield = 9400 l/min

- Surface Area = 0.69 km^2
- Live Storage = 690,000 m^3

Dams: * None
- Type =
- Height (from river bed to crest) =
- Crest Elevation =
- Length =
- General condition

Spillway:
- Type = Natural Brook
- Capacity =
- Dimensions:
  Overflow **
  Length =
  Crest Elevation =

Delivery System

- Location = Little North West Pond
- Depth of intake below L.S.L. = 2.4 m
- Diameter of pipe = 915 mm
- Length of pipe = 201 m
- Gravity ___ Pumped _x_

- Capacity: 3200 l/min

Facility Completion Date: 1978
Capital Cost: $2,920,000 (W+S)
Report Reference (if available): N/A

Water Metering Provisions (yes/no)
- At source: Yes
- At User Connection: Fish Plant Only

Water Treatment (yes/no):
- Filtration: No
- Chlorination: Yes
- Other (describe)

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* If more than one dam provide details under remarks sections.
** If gate arrangement provide details under remarks section.

.../2

Demand Data

	USERS	NUMBER	AVERAGE DEMAND	PEAK DEMAND
1.	Homes	421	1360 l/min	
2.	Schools	3		
3.	Stores/Commercial	12		
4.	Fish Plants	1		2280 l/min
5.	Churches	-		
6.	Medical Facilities	-		
7.	Fire Hall	2		
8.	Industrial	-		
9.	Other	-		

Future Demand

1. Are existing facilities designed for future/staged expansion?
   Yes _x_ No ___

2. Is there sufficient water to support further expansion of the supply?
   Yes _x_ No ___

3. Information on future demands:
   (a) List committed industrial/commercial developments and their water demands (if known). None

   (b) List possible developments. Extension to fish plant

   (c) Will increase in demand be mainly from population growth?
   Yes _x_ No ___

Remarks:
1. Pipe at intake encounters periodic freezing in winter.
2. Pressure drop in distribution line experienced (75 psi to 15 psi).
3. Engineering by Cecon Ltd., Gander.

Ref. No. _____
(For Office Use Only)

SURVEY OF FACILITIES

SURFACE WATER SOURCE

Contact: Mrs. Irene Reynolds, Committee Member

Community Name: Benton

Municipal Status: Local Service District

Population Served: 200

Water Source

Name of River: Little Pond Brook
- Drainage Area = 0.28 km^2
- Diversion from = -
- Diverted Area = -

Reservoir/Pond:
Name: Little Pond

- F.S.L. = -
- L.S.L. = -
- Firm Yield = 335 l/min

- Surface Area = 0.09 km^2
- Live Storage = 90,000 m^3

Dams: * None
- Type =
- Height (from river bed to crest) =
- Crest Elevation =
- Length =
- General condition

Spillway:
- Type = Natural Brook
- Capacity =
- Dimensions:
  Overflow **
  Length =
  Crest Elevation =

Delivery System

- Location = Little Pond
- Depth of intake below L.S.L. = 1.0 m
- Diameter of pipe = 75 mm
- Length of pipe = 15 m
- Gravity ___ Pumped _x_

- Capacity = 225 l/min

Facility Completion Date: Ongoing
Capital Cost: $291,000 (W)
Report Reference (if available):
N/A

Water Metering Provisions (yes/no)
- At source: No
- At User Connection: No

Water Treatment (yes/no):
- Filtration: No
- Chlorination: Yes
- Other (describe)

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* If more than one dam provide details under remarks sections.
** If gate arrangement provide details under remarks section.

.../2

Demand Data

	USERS	NUMBER	AVERAGE DEMAND	PEAK DEMAND
1.	Homes	60		
2.	Schools	-		
3.	Stores/Commercial	2		
4.	Fish Plants	-		
5.	Churches	1		
6.	Medical Facilities	-	63 l/min	125 l/min
7.	Fire Hall	-		
8.	Industrial	-		
9.	Other (Community Centre)	1		

Future Demand

1. Are existing facilities designed for future/staged expansion?
   Yes _x_ No ___

2. Is there sufficient water to support further expansion of the supply?
   Yes _x_ No ___

3. Information on future demands:
   (a) List committed industrial/commercial developments and their water demands (if known). None

   (b) List possible developments. None

   (c) Will increase in demand be mainly from population growth?
   Yes _x_ No ___

Remarks: 1. 4 reservoir tanks (184 gals each) located in pumphouse.
2. 5 private wells.

Ref. No. _____
(For Office Use Only)

SURVEY OF FACILITIES

SURFACE WATER SOURCE

Contact: Mr. David Hiscock, Town Clerk

Community Name: Bonavista

Municipal Status: Municipality

Population Served: 4100 (out of 4605)

Water Source

Name of River: Long Pond Brook
- Drainage Area = 18.5 km^2
- Diversion from = -
- Diverted Area = -

Reservoir/Pond:
Name: Long Pond

- F.S.L. = -
- L.S.L. = -
- Firm Yield = 7500 l/min

- Surface Area = 0.59 km^2
- Live Storage = 590,000 m^3

Dams: * None
Type =
- Height (from river bed to crest) =
- Crest Elevation =
- Length =
- General condition

Spillway:
- Type = Natural Brook
- Capacity =
- Dimensions:
  Overflow **
  Length =
  Crest Elevation =

Delivery System

- Location = Long Pond
- Depth of intake below L.S.L. = 2.4 m
- Diameter of pipe = 400 mm/355 mm
- Length of pipe = 3000 m
- Gravity ___ Pumped _x_ (to storage tank)
- Capacity = 3000 l/min

Facility Completion Date: 1965
Capital Cost: N/A
Report Reference (if available): N/A

Water Metering Provisions (yes/no)
- At source: No
- At User Connection: Yes, at fish - plant

Water Treatment (yes/no):
- Filtration: No
- Chlorination: Yes
- Other (describe)

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* If more than one dam provide details under remarks sections.
** If gate arrangement provide details under remarks section.

.../2

Demand Data

	USERS	NUMBER	AVERAGE DEMAND	PEAK DEMAND
1.	Homes	1250		
2.	Schools	3		
3.	Stores/Commercial	100	440 l/min	880 l/min
4.	Fish Plants	3		
5.	Churches	7		
6.	Medical Facilities	2		
7.	Fire Hall	1		
8.	Industrial	1		
9.	Other	1		

Future Demand

1. Are existing facilities designed for future/staged expansion?
   Yes ___ No _x_

2. Is there sufficient water to support further expansion of the supply?
   Yes _x_ No ___

3. Information on future demands:
   (a) List committed industrial/commercial developments and their water demands (if known). None

   (b) List possible developments. None

   (c) Will increase in demand be mainly from population growth?
   Yes _x_ No ___

Remarks: 1) Existing reservoir storage tank, capacity 250,000 gals. Gravity distribution through town.
2) Plans for extra reservoir tank.
3) Engineering by Newfoundland Design Associates.
4) Reported in National Inventory

Ref. No. _____
(For Office Use Only)

SURVEY OF FACILITIES

SURFACE WATER SOURCE

Contact: Centreville: Mrs. Gertrude Brown, Town Clerk, Mr. Lemual Pickett, Maintenance Supervisor
Wareham: Mrs. Eileen Spurrell, Town Clerk

Community Name: Centreville & Wareham

Municipal Status: Municipality

Population Served: 589 + 500 (at Wareham)

Water Source

Name of River: North West River
- Drainage Area = 53.2 km^2
- Diversion from
- Diverted Area =

Reservoir/Pond:
Name: North West Pond

- F.S.L. = -
- L.S.L. = -
- Firm Yield = 30,000 l/min
- Surface Area = 3.31 km^2
- Live Storage = 3,310,000 m^3

Dams: * None
- Type =
- Height (from river bed to crest) =
- Crest Elevation =
- Length =
- General condition

Spillway: None

- Type =
- Capacity =
- Dimensions:
  Overflow **
  Length =
  Crest Elevation =

Delivery System

- Location = North West Pond
- Depth of intake below L.S.L. = 2.13 m
- Diameter of pipe = 305 mm/250 mm
- Length of pipe = 1 km
- Gravity ___ Pumped x__

- Capacity: 2200 l/min

Facility Completion Date: Oct./85
Capital Cost:
Centreville: $746,000 (W+S) 1966-date
Wareham: $432,000 (W+S) 1971-date
Report Reference (if available):
N/A

Water Metering Provisions (yes/no)
- At source: No
- At User Connection: No

Water Treatment (yes/no):
- Filtration: No
- Chlorination: Yes
- Other (describe)

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* If more than one dam provide details under remarks sections.
** If gate arrangement provide details under remarks section.

Demand Data

USERS	NUMBER	AVERAGE DEMAND	PEAK DEMAND
1. Homes	150		
2. Schools	1		
3. Stores/Commercial	9		
4. Fish Plants	-		
5. Churches	1	380 l/min	760 lm/min
6. Medical Facilities	1		
7. Fire Hall	1		
8. Industrial	1		
9. Other	3		

Future Demand

1. Are existing facilities designed for future/staged expansion?
   Yes ___ No _x_

2. Is there sufficient water to support further expansion of the supply?
   Yes ___ No ___ (This depends on the kind of demand)

3. Information on future demands:
   (a) List committed industrial/commercial developments and their water demands (if known). Centreville - none

   (b) List possible developments. Centreville - none

   Wareham: Residential 64 houses, 1 store and 1 fish plant

   (c) Will increase in demand be mainly from population growth?
   Yes _x_ No ___

Remarks: 1. Small water leaks in main water line.
2. Reported in National Inventory

Ref. No. _____
(For Office Use Only)

SURVEY OF FACILITIES

SURFACE WATER SOURCE

Contact: Mrs. Elizabeth Blackmore, Town Clerk/Mr. Doug King, Plant Superintendant

Community Name: Clarenville

Municipal Status: Municipality

Population Served: 2967

Water Source

Name of River: Lower Shoal Harbour River
- Drainage Area = 21.9 km^2
- Diversion from = -
- Diverted Area = -

Reservoir/Pond:
Name: Club Pond

- F.S.L. = -
- L.S.L. = -
- Firm Yield = 5250 l/min

- Surface Area = 0.10 km^2
- Live Storage = 285,000 m^3

Dams: * Two
- Type = Concrete gravity
- Height (from river bed to crest) = -
- Crest Elevation = -
- Length = -
- General condition

Spillway: (at Club Pond)
- Type = Overflow
- Capacity = 9.5 m^3/s
- Dimensions:
  Overflow **
  Length = 15 m
  Crest Elevation (spillway) = 51.0 m
  Top of Dam = 51.5 m

Delivery System

- Location = Lower Shoal Hr. River
- Depth of intake below L.S.L. = not known
- Diameter of pipe = 250 mm
- Length of pipe = 1300 m
- Gravity ___ Pumped _x_

- Capacity: 2500 l/min

Facility Completion Date: ongoing
Capital Cost: $6,680,000 (W+S)
Report Reference: Sheppard, Hedges & Greene (1986), "Clarenville Master Plan"

Water Metering Provisions (yes/no)
- At source: Yes
- At User Connection: approx. 30 (commercial)

Water Treatment (yes/no):
- Filtration: Yes
- Chlorination
- Other: Clarification

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* If more than one dam provide details under remarks sections.
** If gate arrangement provide details under remarks section.

Demand Data

	USERS	NUMBER	AVERAGE DEMAND	PEAK DEMAND
1.	Homes	1090		
2.	Schools	4		
3.	Stores/Commercial	100		
4.	Fish Plants	2		
5.	Churches	5	950 l/min	1900 l/min
6.	Medical Facilities	3		
7.	Fire Hall	1		
8.	Industrial	1		
9.	Other	-		

Future Demand

1. Are existing facilities designed for future/staged expansion?
   Yes _x_ No ___

2. Is there sufficient water to support further expansion of the supply?
   Yes _x_ No ___

3. Information on future demands:
   (a) List committed industrial/commercial developments and their water demands (if known). None

   (b) List possible developments. 5 motel applications submitted

   (c) Will increase in demand be mainly from population growth?
   Yes _x_ No ___

Remarks: Dams: One dam located on Club Pond height = 2.3 m average. Crest el. 51.5 m. length = 103.8 m. Condition = good. One dam located on Shoal Hr. River (near water treatment plant). No dims available. Originally owned by Newfoundland Light & Power.

Notes:
1. Clarenville system is connected to Shoal Harbour - although not used by Shoal Harbour.
2. Consideration being given to possible diversion from Trout Pond via canal to upgrade system if required.
3. During spring/fall heavy organic waste passes through river.
4. Booster pumping station located near town hall - 225 gal/min.
5. Existing 1 million gal reservoir tank for backup and overnight supply.
6. Engineering by Shepherd Hedges & Green Ltd., Clarenville.

Ref. No. _____
(For Office Use Only)

SURVEY OF FACILITIES

SURFACE WATER SOURCE

Contact: Mr. Dave Chaulk, Chairman

Community Name: Deadman's Cove

Municipal Status: Water Supply and Sewage Disposal Committee
(local service district status applied for)

Population Served: 250

Water Source

Name of River: Deadman's Brook
- Drainage Area = 403 km^2
- Diversion from = -
- Diverted Area = -

Reservoir/Pond:
Name: Country Pond

- F.S.L. = -
- L.S.L. = -
- Firm Yield = 28000 l/min

- Surface Area = 2.8 km^2
- Live Storage = 2,800,000 m^3

Dams: *
- Type = Conc. Gravity
- Height = N/A
- Crest Elevation = N/A
- Length = N/A
- General condition = N/A

Spillway:
- Type = N/A
- Capacity = N/A
- Dimensions:
  Overflow **
  Length = N/A
  Crest Elevation =

Delivery System

- Location = Country Pond
- Depth of intake below
  L.S.L. = -
- Diameter of pipe = 75 mm
- Length of pipe = -
- Gravity ___ Pumped _x_

- Capacity: 225 l/min

Facility Completion Date: N/A
Capital Cost: N/A
Report Reference (if available):
N/A

Water Metering Provisions (yes/no)
- At source: Yes
- At User Connection: N/A

Water Treatment (yes/no):
- Filtration: No
- Chlorination: Yes
- Other (describe)

---

* If more than one dam provide details under remarks sections.
** If gate arrangement provide details under remarks section.

.../2

Demand Data

	USERS	NUMBER	AVERAGE DEMAND	PEAK DEMAND
1.	Homes	65	78 l/min	156 l/min
2.	Schools	-		
3.	Stores/Commercial	-		
4.	Fish Plants	-		
5.	Churches	-		
6.	Medical Facilities	-		
7.	Fire Hall	-		
8.	Industrial	-		
9.	Other	-		

Future Demand

1. Are existing facilities designed for future/staged expansion?
   Yes ___ No _x_

2. Is there sufficient water to support further expansion of the supply?
   Yes _x_ No ___

3. Information on future demands:
   (a) List committed industrial/commercial developments and their water demands (if known). None

   (b) List possible developments. _____

   (c) Will increase in demand be mainly from population growth?
   Yes _x_ No ___

Remarks: 1. Information supplied by J. Harty, Department of Municipal Affairs, Gander.

Ref. No. _____
(For Office Use Only)

SURVEY OF FACILITIES

SURFACE WATER SOURCE

Contact: Mrs. Bonnie Critch, Town Clerk

Community Name: Elliston

Municipal Status: Municipality

Population Served: 564

Water Source

Name of River: Sandy Cove Brook
- Drainage Area = 5.1 km^2
- Diversion from = -
- Diverted Area = -

Reservoir/Pond:
Name: Rocky Pond, Big Pond

- F.S.L. = -
- L.S.L. = -
- Firm Yield = 388 l/min

- Surface Area = -
- Live Storage = -

Dams: *
- Type = Conc. Gravity
- Height (from river bed to crest) = 1.3 m
- Crest Elevation = El. 15.0 m
- Length = 7.3 m
- General condition = Good (new)

Spillway:
- Type = Overflow
- Capacity = 1.9 m^3/s
- Dimensions:
  Overflow **
  Length = 3.0 m
  Crest Elevation = El. 14.5 m

Delivery System

- Location = Sandy Cove Brook
- Depth of intake below L.S.L. = 1.35 m
- Diameter of pipe = 150 mm
- Length of pipe = 161.9 m
- Gravity ___ Pumped x

- Capacity: 760 l/min

Facility Completion Date: 1986-1987
Capital Cost: N/A
Report Reference (if available): N/A

Water Metering Provisions (yes/no)
- At source: Yes
- At User Connection: No

Water Treatment (yes/no):
- Filtration: No
- Chlorination: Yes
- Other (describe)

---

* If more than one dam provide details under remarks sections.
** If gate arrangement provide details under remarks section.

.../2

Demand Data

	USERS	NUMBER	AVERAGE DEMAND	PEAK DEMAND
1.	Homes	119	175 l/min	370 l/min
2.	Schools	-		
3.	Stores/Commercial	-		
4.	Fish Plants	-		
5.	Churches	-		
6.	Medical Facilities	-		
7.	Fire Hall	-		
8.	Industrial	-		
9.	Other	-		

Future Demand

1. Are existing facilities designed for future/staged expansion?
   Yes _x_ No ___

2. Is there sufficient water to support further expansion of the supply?
   Yes _x_ No ___

3. Information on future demands:
   (a) List committed industrial/commercial developments and their water demands (if known). None

   (b) List possible developments. Additional 50 homes (exist) to be connected

   (c) Will increase in demand be mainly from population growth?
   Yes _x_ No ___

Remarks: 1. In addition there are 4 council wells with 56 connections (including school & 5 stores).
2. Engineering by Shepherd Hedges & Green, Clarenville.
3. Estimated

Ref. No. _____
(For Office Use Only)

SURVEY OF FACILITIES

SURFACE WATER SOURCE

Contact: Mrs. Barkhouse, Town Clerk

Community Name: Gambo

Municipal Status: Municipality

Population Served: 2723

Water Source

Name of River: Goose Pond Brook
- Drainage Area = 2.29 km^2
- Diversion from = Goose Pond
- Diverted Area = 7.09 km^2

Reservoir/Pond:
Name: Dark Cove Pond

- F.S.L. = -
- L.S.L. = -
- Firm Yield = 3000 l/min

- Surface Area = 0.23 km^2
- Live Storage = 230,000 m^3

Dams: * None
- Type =
- Height (from river bed to crest) =
- Crest Elevation =
- Length =
- General condition

Spillway: Natural Brook
- Type =
- Capacity =
- Dimensions:
  Overflow **
  Length =
  Crest Elevation =

Delivery System

- Location = Dark Cove Pond
- Depth of intake below L.S.L. =
- Diameter of pipe = 250 mm/150 mm
- Length of pipe =
- Gravity _x_ Pumped ___

- Capacity = 900 l/min (est'd)

Facility Completion Date: ongoing
Capital Cost: $6,180,000 (W+S)
Report Reference (if available): N/A

Water Metering Provisions (yes/no)
- At source: No
- At User Connection: No

Water Treatment (yes/no):
- Filtration: No
- Chlorination: Yes (2)
- Other (describe)

---

* If more than one dam provide details under remarks sections.
** If gate arrangement provide details under remarks section.

.../2

Demand Data

	USERS	NUMBER	AVERAGE DEMAND	PEAK DEMAND
1.	Homes	641		
2.	Schools	2		
3.	Stores/Commercial	27		
4.	Fish Plants	-		
5.	Churches	4		
6.	Medical Facilities	2	850 l/min	1700 l/min
7.	Fire Hall	1		
8.	Industrial	-		
9.	Other	-		

Future Demand

1. Are existing facilities designed for future/staged expansion?
   Yes _x_ No ___

2. Is there sufficient water to support further expansion of the supply?
   Yes _x_ No ___

3. Information on future demands:
   (a) List committed industrial/commercial developments and their water demands (if known). None

   (b) List possible developments. None

   (c) Will increase in demand be mainly from population growth?
   Yes _x_ No ___

Remarks: 1) Existing reservoir storage tank, capacity 500,000 gals.
2) Engineering by Newfoundland Design Associates.
3) Estimated

Ref. No. _____
(For Office Use Only)

SURVEY OF FACILITIES

SURFACE WATER SOURCE

Contact: Mr. Wm. Baird, Town Engineer

Community Name: Gander

Municipal Status: Municipality

Population Served: 10,000

Water Source

Name of River: Gander River
- Drainage Area = 4160 km^2
- Diversion from = -
- Diverted Area = -

Reservoir/Pond:
Name: Gander Lake

- F.S.L. = -
- L.S.L. = -
- Firm Yield = 22.1 m^3/s

- Surface Area = 100 km^2
- Live Storage = 100,000,000 m^3

Dams: * None
- Type =
- Height (from river bed to crest) =
- Crest Elevation =
- Length =
- General condition

Spillway: None
- Type =
- Capacity =
- Dimensions:
  Overflow **
  Length =
  Crest Elevation =

Delivery System

- Location = Gander Lake
- Depth of intake below L.S.L. = 6 mm
- Diameter of pipe = 508 mm
- Length of pipe = 2.75 km
- Gravity ___ Pumped _x_

- Capacity = 15800 l/min^3

Facility Completion Date: 1964-date
Capital Cost: $5,935,000 (W+S)
Report Reference (if available):
N/A

Water Metering Provisions (yes/no)
- At source: Yes
- At User Connection: Yes, at Transport Canada

Water Treatment (yes/no):
- Filtration: No
- Chlorination: Yes
- Other (describe):
  pH adjustment
  flouridation
  Iodination

---

* If more than one dam provide details under remarks sections.
** If gate arrangement provide details under remarks section.

.../2

Demand Data

USERS	NUMBER	AVERAGE DEMAND	PEAK DEMAND
1. Homes			
2. Schools			
3. Stores/Commercial			
4. Fish Plants	Unknown		
5. Churches		4735 l/min[3]	13,700 l/min
6. Medical Facilities			
7. Fire Hall			
8. Industrial			
9. Other			

Future Demand

1. Are existing facilities designed for future/staged expansion?
   Yes ___ No _x_

2. Is there sufficient water to support further expansion of the supply?
   Yes _x_ No ___

3. Information on future demands:
   (a) List committed industrial/commercial developments and their water demands (if known). _____

   _____

   (b) List possible developments. 51 residential expansion around 50 homes/year

   _____

   (c) Will increase in demand be mainly from population growth?
   Yes _x_ No ___

Remarks: 1. Pipelines have been infested seasonally with a type of coliform (non pathogenic) bacteria that resists chlorination. Addition of small doses of iodine (iodination) takes care of the problem.
2. Cost of intake, pumphouse, agueduct and booster pumps (i.e. supply system) ~ $2,500,000.
3. National Inventory.

Ref. No. _____
(For Office Use Only)

SURVEY OF FACILITIES

SURFACE WATER SOURCE

Contact: Mr. Kevin Torraville, Committee Member

Community Name: Gander Bay South

Municipal Status: Local Service District

Population Served: 250

Water Source

Name of River: Berry's Brook
- Drainage Area = 66.8 km^2
- Diversion from = -
- Diverted Area = -

Reservoir/Pond:
Name: First Pond

- F.S.L. = -
- L.S.L. = -
- Firm Yield = 11000 l/min

- Surface Area = 640000 m^3
- Live Storage =

Dams: * None
- Type =
- Height (from river bed to crest) =
- Crest Elevation =
- Length =
- General condition

Spillway:
- Type = Natural Brook
- Capacity =
- Dimensions:
  Overflow **
  Length =
  Crest Elevation =

Delivery System

- Location = See Note
- Depth of intake below L.S.L. = 1.0 m
- Diameter of pipe = 50 mm
- Length of pipe =
- Gravity ___ Pumped _x_ See Note
- Capacity = 100 l/min

Facility Completion Date: Ongoing
Capital Cost: $59,600 (W)
Report Reference (if available): N/A

Water Metering Provisions (yes/no)
- At source: Yes
- At User Connection: No

Water Treatment (yes/no):
- Filtration: No
- Chlorination: Yes
- Other (describe)

---

* If more than one dam provide details under remarks sections.
** If gate arrangement provide details under remarks section.

.../2

Demand Data

	USERS	NUMBER	AVERAGE DEMAND	PEAK DEMAND
1.	Homes	60		
2.	Schools	-		
3.	Stores/Commercial	-		
4.	Fish Plants	-		
5.	Churches	1	75 l/min	150 l/min
6.	Medical Facilities	-		
7.	Fire Hall	-		
8.	Industrial	-		
9.	Other	-		

Future Demand

1. Are existing facilities designed for future/staged expansion?
   Yes ___ No _x_

2. Is there sufficient water to support further expansion of the supply?
   Yes _x_ No ___

3. Information on future demands:
   (a) List committed industrial/commercial developments and their water demands (if known). None

   (b) List possible developments. None

   (c) Will increase in demand be mainly from population growth?
   Yes _x_ No ___

Remarks:
1. Two distribution lines and two pumphouses:
   - One located at Berry's Brook: 5 h.p. motor
   - One located at First Pond: 3 h.p. motor
2. Concrete gravity dam located on first pond (1.8 m high and 10.0 m long).

Ref. No. _____
(For Office Use Only)

SURVEY OF FACILITIES

SURFACE WATER SOURCE

Contact: Mr. Andrew Ivany, Committee Member

Community Name: Georges Brook

Municipal Status: Local Service District

Population Served: 450

Water Source

Name of River: Georges Brook
- Drainage Area = 37.5 km^2
- Diversion from = -
- Diverted Area = -

Reservoir/Pond:
Name:

- F.S.L. = -
- L.S.L. = -
- Firm Yield = 3000 l/min

- Surface Area = -
- Live Storage = -

Dams: * None
- Type =
- Height (from river bed to crest) =
- Crest Elevation =
- Length =
- General condition

Spillway:
- Type = Natural Brook
- Capacity =
- Dimensions:
  Overflow **
  Length =
  Crest Elevation =

Delivery System

- Location =
- Depth of intake below L.S.L. =
- Diameter of pipe =
- Length of pipe =
- Gravity ___ Pumped _x_

- Capacity = unknown

Facility Completion Date: Ongoing
Capital Cost: $37,300 (W)
Report Reference (if available):
N/A

Water Metering Provisions (yes/no)
- At source: No
- At User Connection: No

Water Treatment (yes/no):
- Filtration: No
- Chlorination: Yes
- Other (describe)

---

* If more than one dam provide details under remarks sections.
** If gate arrangement provide details under remarks section.

.../2

Demand Data

USERS	NUMBER	AVERAGE DEMAND	PEAK DEMAND
1. Homes	100		
2. Schools	2		
3. Stores/Commercial	-		
4. Fish Plants	1		
5. Churches	-	140 l/m	280 l/min
6. Medical Facilities	-		
7. Fire Hall	1		
8. Industrial	-		
9. Other	-		

Future Demand

1. Are existing facilities designed for future/staged expansion?
   Yes ___ No _x_

2. Is there sufficient water to support further expansion of the supply?
   Yes _x_ No ___

3. Information on future demands:
   (a) List committed industrial/commercial developments and their water demands (if known). None

   (b) List possible developments. Small airport being constructed within 5 km of community.

   (c) Will increase in demand be mainly from population growth?
   Yes _x_ No ___

Remarks: 1) 6 private wells.
2) Pumping system not adequate for further expansion.
3) System designed by Dept. of Municipal Affairs.

Ref. No. _____
(For Office Use Only)

SURVEY OF FACILITIES

SURFACE WATER SOURCE

Contact: Mr. Lorne Sparkes, Town Manager

Community Name: Glovertown

Municipal Status: Municipaly

Population Served: 2184

Water Source

Name of River: Northeast Pond Brook
- Drainage Area = 10.0 km^2
- Diversion from = -
- Diverted Area = -

Reservoir/Pond:
Name: Northwest Pond

- F.S.L. = -
- L.S.L. = -
- Firm Yield = 10000 l/min

- Surface Area = 1.59 km^2
- Live Storage = 1,590,000 m^3

Dams: *None
- Type =
- Height (from river bed to crest) =
- Crest Elevation =
- Length =
- General condition

Spillway: None
- Type =
- Capacity =
- Dimensions:
  Overflow **
  Length =
  Crest Elevation =

Delivery System

- Location = Northwest Pond
- Depth of intake below L.S.L. = 1.8 m
- Diameter of pipe = 300 mm
- Length of pipe =
- Gravity x Pumped ___

- Capacity = 3600 l/min

Facility Completion Date: 1966
Capital Cost: N/A
Report Reference (if available): N/A

Water Metering Provisions (yes/no)
- At source: No
- At User Connection: No

Water Treatment (yes/no):
- Filtration: Yes
- Chlorination: Yes
- Other (describe)

---

* If more than one dam provide details under remarks sections.
** If gate arrangement provide details under remarks section.

.../2

Demand Data

	USERS	NUMBER	AVERAGE DEMAND	PEAK DEMAND
1.	Homes	750		
2.	Schools	1		
3.	Stores/Commercial	15		
4.	Fish Plants	2		
5.	Churches	3		
6.	Medical Facilities	1		
7.	Fire Hall	1	685 l/min	1370 l/min
8.	Industrial	1		
9.	Other	1		

Future Demand

1. Are existing facilities designed for future/staged expansion?
   Yes _x_ No ___

2. Is there sufficient water to support further expansion of the supply?
   Yes _x_ No ___

3. Information on future demands:
   (a) List committed industrial/commercial developments and their water demands (if known). Connect exist facilities to water system - 1 commerical, 2 industrial.

   (b) List possible developments. 51 homes

   (c) Will increase in demand be mainly from population growth?
   Yes _x_ No ___

Remarks: 1) Tendency for ice buildup at intake.
2) Main water line designed to service Traytown.
3) Booster pumphouse installed for 40 homes located on higher elevations.
4) Consultant, Newfoundland Design Associates until 1988, and Sheppard, Hedges and Green from 1989.
5) Saunder's Cove section of Glovertown is currently supplied by wells which dry up in summer. This area will be supplied by surface water after the Glovertown South Extension is completed.

Ref. No. _____
(For Office Use Only)

SURVEY OF FACILITIES

SURFACE WATER SOURCE

Contact: Mr. Winston Green, Committee Member

Community Name: Goobies

Municipal Status: Local Service District

Population Served: 200

Water Source

Name of River: Pond Brook
- Drainage Area = 29.8 km^2
- Diversion from = -
- Diverted Area = -

Reservoir/Pond:
Name: Pond (No Name)

- F.S.L. = -
- L.S.L. = -
- Firm Yield = 3000 l/min

- Surface Area = 0.97 km^2
- Live Storage = 970,000 m^3

Dams: * None
- Type =
- Height (from river bed to crest) =
- Crest Elevation =
- Length =
- General condition

Spillway:
- Type = Natural Brook
- Capacity =
- Dimensions:
  Overflow **
  Length =
  Crest Elevation =

Delivery System

- Location = Pond
- Depth of intake below L.S.L. = 2.5 m
- Diameter of pipe = 100 mm
- Length of pipe = 5 km
- Gravity _x_ Pumped ___ (125 p.s.i.)
- Capacity = 400 l/min

Facility Completion Date: Ongoing
Capital Cost: $36,000 (W)
Report Reference (if available): N/A

Water Metering Provisions (yes/no)
- At source: No
- At User Connection: No

Water Treatment (yes/no):
- Filtration: No
- Chlorination: Yes
- Other (describe)

---

* If more than one dam provide details under remarks sections.
** If gate arrangement provide details under remarks section.

.../2

Demand Data

	USERS	NUMBER	AVERAGE DEMAND	PEAK DEMAND
1.	Homes	30		
2.	Schools	1		
3.	Stores/Commercial	-		
4.	Fish Plants	-		
5.	Churches	1	60 l/min	120 l/min
6.	Medical Facilities	-		
7.	Fire Hall	-		
8.	Industrial	-		
9.	Other	-		

Future Demand

1. Are existing facilities designed for future/staged expansion?
   Yes ___ No _x_

2. Is there sufficient water to support further expansion of the supply?
   Yes _x_ No ___

3. Information on future demands:
   (a) List committed industrial/commercial developments and their water demands (if known). None

   (b) List possible developments. None

   (c) Will increase in demand be mainly from population growth?
   Yes _x_ No ___

Remarks: 1. One garage not connected to water supply system, plus 10 homes.
2. No sewage system - at present individual septic system.
3. Designed and installed by Dept. of Municipal Affairs.

Ref. No. _____
(For Office Use Only)

SURVEY OF FACILITIES

SURFACE WATER SOURCE

Contact: Mr. Derek Bragg, Town Clerk

Community Name: Greenspond

Municipal Status: Municipality

Population Served: 460

Water Source

Name of River: Shambler's Cove Pond Bk
- Drainage Area = 0.69 km?
- Diversion from = -
- Diverted Area = -

Reservoir/Pond:
Name: Shamblers Cove Pond

- F.S.L. = -
- L.S.L. = -
- Firm Yield = 600 l/min

- Surface Area = 0.09 km^2
- Live Storage = 90,000 m^3

Dams: * None
- Type =
- Height (from river bed to crest) =
- Crest Elevation =
- Length =
- General condition

Spillway: None
- Type =
- Capacity =
- Dimensions:
  Overflow **
  Length =
  Crest Elevation =

Delivery System

- Location = -
- Depth of intake below L.S.L. = Not Known
- Diameter of pipe = 150 mm
- Length of pipe = 3.5 km
- Gravity ___ Pumped _x_ (Submersible Pump)
- Capacity = 900 l/min

Facility Completion Date: - N/A
Capital Cost: - N/A
Report Reference (if available): - N/A

Water Metering Provisions (yes/no)
- At source: No
- At User Connection: No

Water Treatment (yes/no):
- Filtration: No
- Chlorination: No
- Other (describe)

---

* If more than one dam provide details under remarks sections.
** If gate arrangement provide details under remarks section.

.../2

Demand Data

	USERS	NUMBER	AVERAGE DEMAND	PEAK DEMAND
1.	Homes	120		
2.	Schools	1		
3.	Stores/Commercial	2		
4.	Fish Plants	1		
5.	Churches	-		
6.	Medical Facilities	1	144 l/min	290 l/min
7.	Fire Hall	1		
8.	Industrial	-		
9.	Other	-		

Future Demand

1. Are existing facilities designed for future/staged expansion?
   Yes ___ No _x_

2. Is there sufficient water to support further expansion of the supply?
   Yes _x_ No ___

3. Information on future demands:
   (a) List committed industrial/commercial developments and their water demands (if known). None

   (b) List possible developments. None

   (c) Will increase in demand be mainly from population growth?
   Yes _x_ No ___

Remarks: Two small retaining walls are located on hillside on outskirts of town. These create collecting reservoirs approx 300 m^2 each. Water is pumped (submersible pump in pond) from Shamblers Cove Pond into reservoir via a 150 mm diameter pipe and distributed from reservoir through 50 mm diameter pipes into town. Both distribution pipes are resting on surface. In winter the time pipes freeze and water is collected from well in Greenspond town centre. Engineering by Cecon Ltd., Gander.

Ref. No. _____
(For Office Use Only)

SURVEY OF FACILITIES

SURFACE WATER SOURCE

Contact: Mrs. Donna Reid, Town Clerk/Mr. Winston Oldford, Maintenance Supervisor

Community Name: Happy Adventure

Municipal Status: Municipality

Population Served: 354

Water Source

Name of River: Happy Adventure Brook
- Drainage Area = 4.32 km^2
- Diversion from = -
- Diverted Area = -

Reservoir/Pond:
Name: Happy Adventure Pond

- F.S.L. = -
- L.S.L. = -
- Firm Yield = 1600 l/min

- Surface Area = 0.128 km^2
- Live Storage = 128,000 m^3

Dams: * None
- Type =
- Height (from river bed to crest) =
- Crest Elevation =
- Length =
- General condition

Spillway:
- Type = Natural Brook
- Capacity =
- Dimensions:
  Overflow **
  Length =
  Crest Elevation =

Delivery System

- Location = Happy Adventure Pond
- Depth of intake below L.S.L. = 1.5 m
- Diameter of pipe = 300 mm
- Length of pipe = 300 m
- Gravity ___ Pumped x

- Capacity: 160 l/min^2

Facility Completion Date: 1962-date
Capital Cost: $2,142,000 (W+S)
Report Reference (if available):
N/A

Water Metering Provisions (yes/no)
- At source: No
- At User Connection: No

Water Treatment (yes/no):
- Filtration: No
- Chlorination: Yes
- Other (describe)

---

* If more than one dam provide details under remarks sections.
** If gate arrangement provide details under remarks section.

.../2

Demand Data

	USERS	NUMBER	AVERAGE DEMAND	PEAK DEMAND
1.	Homes	147		
2.	Schools	-		
3.	Stores/Commercial	-		
4.	Fish Plants	1	118 l/min	
5.	Churches	1		
6.	Medical Facilities	-		
7.	Fire Hall	-		
8.	Industrial	-		
9.	Other	-		

Future Demand

1. Are existing facilities designed for future/staged expansion?
   Yes _x_ No ___

2. Is there sufficient water to support further expansion of the supply?
   Yes _x_ No ___

3. Information on future demands:
   (a) List committed industrial/commercial developments and their water demands (if known). None

   (b) List possible developments. Incorporate Sandy Cove & Eastport Municipalities into system

   (c) Will increase in demand be mainly from population growth?
   Yes _x_ No ___

Remarks: 1. Engineering by Shepherd Hedges & Green, Ltd., Clarenville.
2. From National Inventory

Ref. No. _____
(For Office Use Only)

SURVEY OF FACILITIES

SURFACE WATER SOURCE

Contact: Mr. George R. Collins, Town Clerk

Community Name: Hare Bay (and Dover)

Municipal Status: Municipality

Population Served: 1436 + 910 = 2346

Water Source

Name of River: Hare Bay Pond Brook

- Drainage Area = 26.1 km^2
- Diversion from = -
- Diverted Area = -

Reservoir/Pond:
Name: Hare Bay Pond

- F.S.L. = -
- L.S.L. = -
- Firm Yield = 23000 l/min

- Surface Area = 3.57 km^2
- Live Storage = 3,570,000 m^3

Dams: * None
- Type =
- Height (from river bed to crest) =
- Crest Elevation =
- Length =
- General condition

Spillway: None
- Type =
- Capacity =
- Dimensions:
  Overflow **
  Length =
  Crest Elevation =

Delivery System

- Location = Hare Bay Pond - East End
- Depth of intake below L.S.L. = 1.2 m
- Diameter of pipe = 380 mm/250 mm
- Length of pipe = 550 m to pumphouse
- Gravity ___ Pumped _x_

- Capacity = 790 l/min^3

Facility Completion Date: 1970-date
Capital Cost: $2,039,000 (W+S)
Report Reference (if available): N/A

Water Metering Provisions (yes/no)
- At source: No
- At User Connection: No

Water Treatment (yes/no):
- Filtration: No
- Chlorination: Yes
- Other (describe) -

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* If more than one dam provide details under remarks sections.
** If gate arrangement provide details under remarks section.

Demand Data

	USERS	NUMBER	AVERAGE DEMAND	PEAK DEMAND
1.	Homes	369		
2.	Schools	3		
3.	Stores/Commercial	14		
4.	Fish Plants	1		
5.	Churches	4		
6.	Medical Facilities	1		
7.	Fire Hall	1		
8.	Industrial	-		
9.	Other	1	630 l/min	

Future Demand

1. Are existing facilities designed for future/staged expansion?
   Yes _x_ No ___

2. Is there sufficient water to support further expansion of the supply?
   Yes _x_ No ___

3. Information on future demands:
   (a) List committed industrial/commercial developments and their water demands (if known). None

   (b) List possible developments. None

   (c) Will increase in demand be mainly from population growth?
   Yes _x_ No ___

Remarks: 1. Chlorination plant presently being upgraded.
2. Engineering by Cecon Ltd., Gander.
3. National Inventory

Ref.No. _____
(For Office Use Only)

SURVEY OF FACILITIES

SURFACE WATER SOURCE

Contact: Mrs Marie Cook, Town Clerk

Community Name: Indian Bay

Municipal Status: Municipality

Population Served: 200

Water Source

Name of River: Indian Bay River
- Drainage Area = 593.4 km^3
- Diversion from = -
- Diverted Area = -

Reservoir/Pond:
Name: None

- F.S.L. = -
- L.S.L. = -
- Firm Yield = 36000 l/min

- Surface Area = -
- Live Storage = -

Dams: * None
- Type =
- Height (from river bed to crest) =
- Crest Elevation =
- Length =
- General condition

Spillway: None
- Type =
- Capacity =
- Dimensions:
  Overflow **
  Length =
  Crest Elevation =

Delivery System

- Location = Indian Bay River
- Depth of intake below L.S.L. = Not Known
- Diameter of pipe = 75 mm/100 mm
- Length of pipe =
- Gravity ___ Pumped _x_ (40 p.s.i.)
- Capacity = 190 l/min[1]

Facility Completion Date: N/A
Capital Cost: $261,000 (W+S)
Report Reference (if available): N/A

Water Metering Provisions (yes/no)
- At source: No
- At User Connection: No

Water Treatment (yes/no):
- Filtration: No
- Chlorination: Yes
- Other (describe)

---

* If more than one dam provide details under remarks sections.
** If gate arrangement provide details under remarks section.

.../2

Demand Data

	USERS	NUMBER	AVERAGE DEMAND	PEAK DEMAND
1.	Homes	55		
2.	Schools	-		
3.	Stores/Commercial	2		
4.	Fish Plants	-		
5.	Churches	-		
6.	Medical Facilities	-		180 l/min
7.	Fire Hall	-		
8.	Industrial (Garage)	1	90 l/min	
9.	Other			

Future Demand

1. Are existing facilities designed for future/staged expansion?
   Yes ___ No _x_

2. Is there sufficient water to support further expansion of the supply?
   Yes _x_ No ___

3. Information on future demands:
   (a) List committed industrial/commercial developments and their water demands (if known). None

   (b) List possible developments. None

   (c) Will increase in demand be mainly from population growth?
   Yes _x_ No ___

Remarks:

1. National Inventory
2. Consultant, Cecon Limited, Gander

Ref. No. _____
(For Office Use Only)

SURVEY OF FACILITIES

SURFACE WATER SOURCE

Contact: Mrs. Margaret Ducey, Town Clerk

Community Name: Keels

Municipal Status: Municipality

Population Served: 115

Water Source

Name of River: Boland's Pond Brook
- Drainage Area = 1.19 km^2
- Diversion from = -
- Diverted Area = -

Reservoir/Pond:
Name: Boland's Pond

- F.S.L. = -
- L.S.L. = -
- Firm Yield = 900 l/min

- Surface Area = 0.10 km^2
- Live Storage = 100,000 m^3

Dams: * None
- Type =
- Height (from river bed to crest) =
- Crest Elevation =
- Length =
- General condition

Spillway:
- Type = Natural Brook
- Capacity =
- Dimensions:
  Overflow **
  Length =
  Crest Elevation =

Delivery System

- Location = Boland's Pond
- Depth of intake below L.S.L. = Unknown
- Diameter of pipe = 75 mm
- Length of pipe = 700 m
- Gravity ___ Pumped _x_

- Capacity: 225 l/min

Facility Completion Date: N/A
Capital Cost: N/A
Report Reference (if available): N/A

Water Metering Provisions (yes/no)
- At source: No
- At User Connection: No

Water Treatment (yes/no):
- Filtration: No
- Chlorination: Yes
- Other (describe)

---

* If more than one dam provide details under remarks sections.
** If gate arrangement provide details under remarks section.

.../2

Demand Data

	USERS	NUMBER	AVERAGE DEMAND	PEAK DEMAND
1.	Homes	12		
2.	Schools	-		
3.	Stores/Commercial	-		
4.	Fish Plants	-		
5.	Churches	-		
6.	Medical Facilities	-		
7.	Fire Hall	-		
8.	Industrial	-		
9.	Other	-	36 l/min	72 l/min

Future Demand

1. Are existing facilities designed for future/staged expansion?
   Yes ___ No ___ Unknown

2. Is there sufficient water to support further expansion of the supply?
   Yes _x_ No ___

3. Information on future demands:
   (a) List committed industrial/commercial developments and their water demands (if known). None

   (b) List possible developments. Slate Mine

   (c) Will increase in demand be mainly from population growth?
   Yes ___ No _x_

Remarks: 1. 15 homes remain on private wells.
2. Engineering by Dept. of Municipal Affairs.

Ref. No. _____
(For Office Use Only)

SURVEY OF FACILITIES

SURFACE WATER SOURCE

Contact: Mr. Leslie Ivany, Committee Member

Community Name: Lower Lance Cove

Municipal Status: Local Service District

Population Served: 280

Water Source

Name of River: Big Long Pond Brook
- Drainage Area = 0.71 km^2
- Diversion from = -
- Diverted Area = -

Reservoir/Pond:
Name: Big Long Pond

- F.S.L. = -
- L.S.L. = -
- Firm Yield = 700 l/min

- Surface Area = 0.10 km^2
- Live Storage = 100,000 m^3

Dams: * None
- Type =
- Height (from river bed to crest) =
- Crest Elevation =
- Length =
- General condition

Spillway:
- Type = Natural Brook
- Capacity =
- Dimensions:
  Overflow **
  Length =
  Crest Elevation =

Delivery System

- Location = N/A
- Depth of intake below L.S.L. = N/A
- Diameter of pipe = N/A
- Length of pipe = N/A
- Gravity ___ Pumped ___

- Capacity = Unknown

Facility Completion Date: Ongoing
Capital Cost: $38,000 (W)
Report Reference (if available): N/A

Water Metering Provisions (yes/no)
- At source: No
- At User Connection: No

Water Treatment (yes/no):
- Filtration: No
- Chlorination: Yes
- Other (describe)

---

* If more than one dam provide details under remarks sections.
** If gate arrangement provide details under remarks section.

.../2

Demand Data

	USERS	NUMBER	AVERAGE DEMAND	PEAK DEMAND
1.	Homes	60		
2.	Schools	-		
3.	Stores/Commercial	-		
4.	Fish Plants	-		
5.	Churches	-	88 l/min	175 l/min
6.	Medical Facilities	-		
7.	Fire Hall	-		
8.	Industrial	-		
9.	Other	-		

Future Demand

1. Are existing facilities designed for future/staged expansion?
   Yes ___ No _x_

2. Is there sufficient water to support further expansion of the supply?
   Yes _x_ No ___

3. Information on future demands:
   (a) List committed industrial/commercial developments and their water demands (if known). None

   (b) List possible developments. None

   (c) Will increase in demand be mainly from population growth?
   Yes _x_ No ___

Remarks: Engineering by Terpstra Engineering Co.

Ref. No. _____
(For Office Use Only)

SURVEY OF FACILITIES

SURFACE WATER SOURCE

Contact: Mr. Edison Goodyear, Town Clerk

Community Name: Lumsden

Municipal Status: Municipality

Population Served: 636

Water Source

Name of River: Gull Pond Brook
- Drainage Area = 25.6 km^2
- Diversion from
- Diverted Area =

Reservoir/Pond:
Name: Gull Pond

- F.S.L. = -
- L.S.L. = -
- Firm Yield = 10,000 l/min (l/day)
- Surface Area = 0.95 km^2
- Live Storage = 950,000 m^3

Dams: * None
- Type =
- Height (from river bed to crest) =
- Crest Elevation =
- Length =
- General condition

Spillway:
- Type = Natural Brook
- Capacity =
- Dimensions:
  Overflow **
  Length =
  Crest Elevation =

Delivery System

- Location = Gull Pond
- Depth of intake below L.S.L. = 1.5 m
- Diameter of pipe = 200 mm
- Length of pipe = 760 m
- Gravity ___ Pumped _x_ (To storage tank)
- Capacity: 365 l/min

Facility Completion Date: 1972
Capital Cost: $10,450,000 (W+S)
Report Reference (if available): N/A

Water Metering Provisions (yes/no)
- At source: Yes
- At User Connection: No

Water Treatment (yes/no):
- Filtration: Yes
- Chlorination: Yes
- Other (describe)

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* If more than one dam provide details under remarks sections.
** If gate arrangement provide details under remarks section.

.../2

Demand Data

	USERS	NUMBER	AVERAGE DEMAND	PEAK DEMAND
1.	Homes	194		
2.	Schools	2		
3.	Stores/Commercial	9		
4.	Fish Plants	1		
5.	Churches	1		
6.	Medical Facilities	1		
7.	Fire Hall	1	107 l/min	215 l/min
8.	Industrial	-		
9.	Other	1		

Future Demand

1. Are existing facilities designed for future/staged expansion?
   Yes ___ No _x_

2. Is there sufficient water to support further expansion of the supply?
   Yes _x_ No ___

3. Information on future demands:
   (a) List committed industrial/commercial developments and their water demands (if known). None

   (b) List possible developments. None

   (c) Will increase in demand be mainly from population growth?
   Yes _x_ No ___

Remarks: 1. Water reservoir tank 150,000 gals
2. Water distributed by gravity flow from reservior tank.
3. Engineering by Newfoundland Design Associates, St. John's.

Ref. No. _____
(For Office Use Only)

SURVEY OF FACILITIES

SURFACE WATER SOURCE

Contact: Mr. Eugene Rumbolt, Town Clerk

Community Name: Musgrave Harbour

Municipal Status: Municipality

Population Served: 1527

Water Source

Name of River: Rock Pond Brook
- Drainage Area = 18.7 km^2
- Diversion from = -
- Diverted Area = -

Reservoir/Pond:
Name: Rocky Pond

- F.S.L. = -
- L.S.L. = -
- Firm Yield = 6200 l/min (l/day)
- Surface Area = 0.51 km^2
- Live Storage = 510,000 m^3

Dams: * None
- Type =
- Height (from river bed to crest) =
- Crest Elevation =
- Length =
- General condition

Spillway:
- Type = Natural Brook
- Capacity =
- Dimensions:
  Overflow **
  Length =
  Crest Elevation =

Delivery System

- Location = Rocky Pond
- Depth of intake below L.S.L. = 1.17 m
- Diameter of pipe = 250 dia.
- Length of pipe = 3350 m
- Gravity ___ Pumped _x_

- Capacity: 2500 l/min

Facility Completion Date: 1971
Capital Cost: N/A
Report Reference (if available): N/A

Water Metering Provisions (yes/no)
- At source: Yes
- At User Connection: Fish Plant Only

Water Treatment (yes/no):
- Filtration: No
- Chlorination: Yes
- Other (describe) -

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* If more than one dam provide details under remarks sections.
** If gate arrangement provide details under remarks section.

.../2

Demand Data

	USERS	NUMBER	AVERAGE DEMAND	PEAK DEMAND
1.	Homes	290		
2.	Schools	1		
3.	Stores/Commercial	3		
4.	Fish Plants	1		
5.	Churches	3	617 l/min	1230 l/min
6.	Medical Facilities	1		
7.	Fire Hall	1		
8.	Industrial	-		
9.	Other	1		

Future Demand

1. Are existing facilities designed for future/staged expansion?
   Yes ___ No _x_

2. Is there sufficient water to support further expansion of the supply?
   Yes _x_ No ___

3. Information on future demands:
   (a) List committed industrial/commercial developments and their water demands (if known). None

   (b) List possible developments. Expansion to existing fish plant

   (c) Will increase in demand be mainly from population growth?
   Yes _x_ No ___

Remarks: 1. 120 homes remain on private wells.
2. Water quality poor - high iron and live algie content.
3. 2 Government installed wells - occasionally used.
4. Cecon Ltd. - engineering consultants for water supply improvements.
5. National Inventory.
6. Plans call for extending the Musgrave Harbour system to Ragged Harbour.

Ref. No. _____
(For Office Use Only)

SURVEY OF FACILITIES

SURFACE WATER SOURCE

Contact: Mrs. Wilmore Coole, Committee Member

Community Name: Newmans Cove

Municipal Status: Local Service District

Population Served: 200 Approx.[3]

Water Source

Name of River: Heale Pond Brook
- Drainage Area = 0.60 km^2
- Diversion from = -
- Diverted Area = -

Reservoir/Pond:
Name: Heale Pond

- F.S.L. = -
- L.S.L. = -
- Firm Yield = 300 l/min

- Surface Area = 0.03 km^2
- Live Storage = 30,000 m^3

Dams: * None
- Type =
- Height (from river bed to crest) =
- Crest Elevation =
- Length =
- General condition

Spillway:
- Type = Natural Brook
- Capacity =
- Dimensions:
  Overflow **
  Length =
  Crest Elevation =

Delivery System

- Location = Heale Pond
- Depth of intake below L.S.L. = 1.5 m
- Diameter of pipe = 100 dia.
- Length of pipe = 600 m
- Gravity _x_ Pumped ___
  (operates 45-50 p.s.i.)
- Capacity = 400 l/min

Facility Completion Date: Ongoing
Capital Cost: $123,800 (W)
Report Reference (if available):
N/A

Water Metering Provisions (yes/no)
- At source: No
- At User Connection: No

Water Treatment (yes/no):
- Filtration: No
- Chlorination: Yes
- Other (describe)

---

* If more than one dam provide details under remarks sections.
** If gate arrangement provide details under remarks section.

.../2

Demand Data

USERS	NUMBER	AVERAGE DEMAND	PEAK DEMAND
1. Homes	79		
2. Schools	-		
3. Stores/Commercial	-		
4. Fish Plants	-		
5. Churches	-	160 l/min	320 l/min
6. Medical Facilities	-		
7. Fire Hall	-		
8. Industrial	-		
9. Other (Lodge)	1		

Future Demand

1. Are existing facilities designed for future/staged expansion?
   Yes _x_ No ___

2. Is there sufficient water to support further expansion of the supply?
   Yes _x_ No ___

3. Information on future demands:
   (a) List committed industrial/commercial developments and their water demands (if known). None

   (b) List possible developments. None

   (c) Will increase in demand be mainly from population growth?
   Yes _x_ No ___

Remarks: 1. Churches and stores not connected to water supply system.
2. One council well connected into system - only used if other system temporarily down.
3. Population estimated from house count based on 1:50,000 mapping and assuming four persons per house. Thus 50 houses x 4 persons = 200.

Ref. No. _____
(For Office Use Only)

SURVEY OF FACILITIES

SURFACE WATER SOURCE

Contact: Mr. William K. Norris, Town Clerk

Community Name: Newtown (Including Templeman)

Municipal Status: Municipality

Population Served: 529

Water Source

Name of River: Carters Pond Brook
- Drainage Area = 3.82 km^2
- Diversion from = -
- Diverted Area = -

Reservoir/Pond:
Name: Carters Pond

- F.S.L. = -
- L.S.L. = -
- Firm Yield = 2600 l/min

- Surface Area = 0.31 km^2
- Live Storage = 310,000 m^3

Dams: * None
- Type =
- Height (from river bed to crest) =
- Crest Elevation =
- Length =
- General condition

Spillway:
- Type = Natural Brook
- Capacity =
- Dimensions:
  Overflow **
  Length =
  Crest Elevation =

Delivery System

- Location = Carters Pond
- Depth of intake below L.S.L. = 3.0 m
- Diameter of pipe = 100 mm
- Length of pipe = ~ 2500 m
- Gravity ___ Pumped x

- Capacity: 400 l/min

Facility Completion Date: 1968-date
Capital Cost: $113,000 (W)
Report Reference (if available): N/A

Water Metering Provisions (yes/no)
- At source: Yes
- At User Connection: Fish Plant Only

Water Treatment (yes/no):
- Filtration: No
- Chlorination: Yes
- Other (describe): pH correction

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* If more than one dam provide details under remarks sections.
** If gate arrangement provide details under remarks section.

.../2

Demand Data

USERS	NUMBER	AVERAGE DEMAND	PEAK DEMAND
1. Homes	200		
2. Schools	1		
3. Stores/Commercial	2		
4. Fish Plants	2		
5. Churches	3		
6. Medical Facilities	-	139 l/min	280 l/min
7. Fire Hall	1		
8. Industrial	-		
9. Other	1		

Future Demand

1. Are existing facilities designed for future/staged expansion?
   Yes ___ No _x_

2. Is there sufficient water to support further expansion of the supply?
   Yes _x_ No ___

3. Information on future demands:
   (a) List committed industrial/commercial developments and their water demands (if known). None

   (b) List possible developments. None

   (c) Will increase in demand be mainly from population growth?
   Yes _x_ No ___

Remarks:
1. Factilities won't accomodate installation of fire hydrants.
2. Water reservoir tank - capacity = 260,000 gals.
3. Engineering by Dept. of Municipal Affairs.

Ref. No. _____
(For Office Use Only)

SURVEY OF FACILITIES

SURFACE WATER SOURCE

Contact: Mrs. Patricia Philpott, Town Clerk

Community Name: Plate Cove East

Municipal Status: Municipality

Population Served: 173

Water Source

Name of River: Eastern Pond Brook
- Drainage Area = 22.6 km^2
- Diversion from = -
- Diverted Area = -

Reservoir/Pond:
Name: Eastern Pond

- F.S.L. = -
- L.S.L. = -
- Firm Yield = 4300 l/min

- Surface Area = 0.26 km^2
- Live Storage = 260,000 m^3

Dams: * None
- Type =
- Height (from river bed to crest) =
- Crest Elevation =
- Length =
- General condition

Spillway:
- Type = Natural Brook
- Capacity =
- Dimensions:
  Overflow **
  Length =
  Crest Elevation =

Delivery System

- Location = Eastern Pond
- Depth of intake below L.S.L. = Unknown
- Diameter of pipe = 150 mm
- Length of pipe = 500 m
- Gravity ___ Pumped _x_

- Capacity: 900 l/min

Facility Completion Date: N/A
Capital Cost: N/A
Report Reference (if available): N/A

Water Metering Provisions (yes/no)
- At source: No
- At User Connection: No

Water Treatment (yes/no):
- Filtration: No
- Chlorination: Yes
- Other (describe)

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* If more than one dam provide details under remarks sections.
** If gate arrangement provide details under remarks section.

.../2

Demand Data

	USERS	NUMBER	AVERAGE DEMAND	PEAK DEMAND
1.	Homes	25		
2.	Schools	1		
3.	Stores/Commercial	-		
4.	Fish Plants	-		
5.	Churches	-		
6.	Medical Facilities	-		
7.	Fire Hall	-		
8.	Industrial	-	54 l/min	110 l/min
9.	Other	-		

Future Demand

1. Are existing facilities designed for future/staged expansion?
   Yes _x_ No ___

2. Is there sufficient water to support further expansion of the supply?
   Yes _x_ No ___

3. Information on future demands:
   (a) List committed industrial/commercial developments and their water demands (if known). None

   (b) List possible developments. Swimming Pool

   (c) Will increase in demand be mainly from population growth?
   Yes _x_ No ___

Remarks: 1. Original design to accomodate Plate Cove West (never connected to system).
2. System designed by Nolan Davis & Associates.

Ref. No. _____
(For Office Use Only)

SURVEY OF FACILITIES

SURFACE WATER SOURCE

Contact: Mrs. Sheila Garrette, Town Clerk & Mr. Roland Keats, Maintenance Technician

Community Name: Port Blandford

Municipal Status: Municipality

Population Served: 729

Water Source Two Systems: 1) Middle Brook
2) Noseworthy Pd.

Name of River:	Middle Bk.	Noseworthy Pd.
- Drainage Area =	59 km^2	0.93 km^2
- Diversion from =	-	-
- Diverted Area =	-	-

Reservoir/Pond: No reservoir
Name:

- F.S.L. = -
- L.S.L. = -
- Firm Yield = 4200 l/min/450 l/min

- Surface Area = 0.04 km^2
- Live Storage = 40,000 m^3

Dams: * None
- Type =
- Height (from river bed to crest) =
- Crest Elevation =
- Length =
- General condition

Spillway:
- Type = Natural Brook
- Capacity =
- Dimensions:
  Overflow **
  Length =
  Crest Elevation =

Delivery System
- Location = See Notes
- Depth of intake below L.S.L. = N/A
- Diameter of pipe = 150 mm
- Length of pipe = 305 m
- Gravity x Pumped x
  See Notes
- Capacity = Gravity ~ 900 l/min
  Pumped 690 l/min

Facility Completion Date: 1977-date
Capital Cost: $1,302,000 (W+S)
Report Reference (if available): N/A

Water Metering Provisions (yes/no)
- At source: Yes
- At User Connection: No

Water Treatment (yes/no):
- Filtration: No
- Chlorination: Yes
- Other (describe)

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* If more than one dam provide details under remarks sections.
** If gate arrangement provide details under remarks section.

.../2

Demand Data

	USERS	NUMBER	AVERAGE DEMAND	PEAK DEMAND
1.	Homes	141		
2.	Schools	1		
3.	Stores/Commercial	8		
4.	Fish Plants	-		
5.	Churches	2		
6.	Medical Facilities	4		
7.	Fire Hall	1		
8.	Industrial	-		
9.	Other	8	225 l/min	450 l/min

Future Demand

1. Are existing facilities designed for future/staged expansion?
   Yes _x_ No ___

2. Is there sufficient water to support further expansion of the supply?
   Yes _x_ No ___

3. Information on future demands:
   (a) List committed industrial/commercial developments and their water demands (if known). None

   (b) List possible developments. Summer Cabins

   (c) Will increase in demand be mainly from population growth?
   Yes _x_ No ___

Remarks: 1. Two water supply systems in use:
   i) Middle Brook - with pumphouse (150 gal/min. capacity)
   ii) Noseworthy Pond - Gravity Feed
2. Planned to connect both systems.
3. Engineering by Davis Engineering & Associates, Port Blandford

Ref. No. _____
(For Office Use Only)

SURVEY OF FACILITIES

SURFACE WATER SOURCE

Contact: Mr. Thomas Sutton, Town Clerk (Port Union)
Mrs. Doris Freake, Town Clerk (Catalina)
Mrs. Joyce Stagg, Town Clerk (Little Catalina)
Mrs. Maxine Donovan, Town Clerk (Melrose)
Community Name: Port Union
Municipal Status: Municipality
Population Served: 653 + (1162 at Catalina, 774 at Little Catalina + 406 at Melrose) = 2995

Water Source

Name of River: Main Brook
- Drainage Area = 98.0 km^2
- Diversion from = -
- Diverted Area = -

Reservoir: Halfway Pond, Wells Pond and Whirl Pond
Name:
- F.S.L. = -
- L.S.L. = -
- Firm Yield = 30,000 l/min

- Surface Area = 0.15 km^2
- Live Storage = -

Dams: *

- Type = Earthfill/Wooden Facing
- Height (from river bed to crest) = 4 m
- Crest Elevation = -
- Length = 76 m
- General condition: satisfactory

Spillway at Whirl Pond
- Type = Overflow
- Capacity = 134 m^3/s
- Dimensions:
  Overflow **
  Length = 45.7 m
  Crest Elevation = -

Delivery System

- Location = Whirl Pond
- Depth of intake below L.S.L. = 4.2 m
- Diameter of pipe = 600 > 300 dia.
- Length of pipe = 2.6 km
- Gravity ___ Pumped _x_

- Capacity: 20,000 l/min^3

Facility Completion Date: N/A
Capital Cost: (see below)
Report Reference (if available): N/A
Water Metering Provisions (yes/no)
- At source: Yes
- At User Connection: at fish plant only

Water Treatment (yes/no):
- Filtration: No
- Chlorination: Yes
- Other (describe)

Capital Cost:

Port Union	$1,487,000 (W+S)
Melrose	$1,254,000 (W+S)
Catalina	$2,635,000 (W+S)
Little Catalina	_____
	$5,376,000

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* If more than one dam provide details under remarks sections.
** If gate arrangement provide details under remarks section.

Demand Data

	USERS	NUMBER	AVERAGE DEMAND	PEAK DEMAND
1.	Homes	210		
2.	Schools	1		
3.	Stores/Commercial	10		
4.	Fish Plants	2		4500 l/min
5.	Churches	-		(FPI fish plant)
6.	Medical Facilities	-		
7.	Fire Hall	-		
8.	Industrial	-		
9.	Other	-	950 l/min	1900 l/min
				6400 l/min

Future Demand

1. Are existing facilities designed for future/staged expansion?
   Yes _x_ No ___

2. Is there sufficient water to support further expansion of the supply?
   Yes _x_ No ___

3. Information on future demands:
   (a) List committed industrial/commercial developments and their water demands (if known). None

   (b) List possible developments. None

   (c) Will increase in demand be mainly from population growth?
   Yes _x_ No ___

Remarks: 1. Dam and spillway owned and maintained by Newfoundland Light and Power for hydro generation.
2. Water facilities also serve Catalina and Little Catalina and Melrose.
3. Pumping capacity as follows:

2 x 120 horsepower	= 2200 gallons/min
1 x 150 horsepower	= 1375 gallons/min
1 x 90 horsepower	= 825 gallons/min
Total	= 4400 gallons/min

4. Additional details on Main Brook - Port Union basin see "1984 Dam Safety Evaluation Report, Port Union Development"
Report SMR-34-84
Montreal Engineering Co. Ltd. for
Newfoundland Light and Power Co. Ltd.

Ref. No. _____
(For Office Use Only)

SURVEY OF FACILITIES

SURFACE WATER SOURCE

Contact: Mrs. Ann Benger, Town Clerk & Mr. Ed Brown, Council Member

Community Name: Sandy Cove

Municipal Status: Municipality

Population Served: 193

Water Source

Name of River:
- Drainage Area = 0.5 km^2
- Diversion from = -
- Diverted Area = -

Reservoir/Pond:
Name: Water Pond

- F.S.L. = -
- L.S.L. = -
- Firm Yield = 190 l/min

- Surface Area = 16000 m^2
- Live Storage = 16000 m^3

Dams: *
- Type = Earth Filled & Concrete
- Height (from river bed to crest) = 1.0 m
- Crest Elevation = -
- Length = 3.0 m
- General condition = Leaks

Spillway:
- Type = Natural Brook
- Capacity =
- Dimensions:
  Overflow **
  Length =
  Crest Elevation =

Delivery System

- Location = Water Pond
- Depth of intake below L.S.L. = 1.2 m
- Diameter of pipe = 150 mm
- Length of pipe = 900 m
- Gravity _x_ Pumped ___

- Capacity = 155 l/min^3

Facility Completion Date: 1973
Capital Cost: - N/A
Report Reference (if available): - N/A

Water Metering Provisions (yes/no)
- At source: Yes
- At User Connection: No

Water Treatment (yes/no):
- Filtration: No
- Chlorination: Yes
- Other (describe)

---

* If more than one dam provide details under remarks sections.
** If gate arrangement provide details under remarks section.

.../2

Demand Data

USERS	NUMBER	AVERAGE DEMAND	PEAK DEMAND
1. Homes	82		
2. Schools	-		
3. Stores/Commercial	16		
4. Fish Plants	-	60 l/min	120 l/min
5. Churches	1		
6. Medical Facilities	-		
7. Fire Hall	-		
8. Industrial	-		
9. Other	-		

Future Demand

1. Are existing facilities designed for future/staged expansion?
   Yes ___ No _x_

2. Is there sufficient water to support further expansion of the supply?
   Yes ___ No _x_

3. Information on future demands:
   (a) List committed industrial/commercial developments and their water demands (if known). None

   (b) List possible developments. Holiday Cabins

   (c) Will increase in demand be mainly from population growth?
   Yes _x_ No ___

Remarks: 1) Water supply runs low in summer and water has to be rationed.
2) Engineering by Burden Eng. Co. Ltd.
3) National Inventory.

Ref. No. _____
(For Office Use Only)

SURVEY OF FACILITIES

SURFACE WATER SOURCE

Contact: Ms. Marie Blackmore, Town Clerk

Community Name: Shoal Harbour

Municipal Status: Municipality

Population Served: 1049

Water Source

Name of River: Shoal Harbour River
- Drainage Area = 109.9 km^2
- Diversion from = -
- Diverted Area = -

Reservoir/Pond:
Name: None

- F.S.L. = -
- L.S.L. = -
- Firm Yield = 9000 l/min

- Surface Area = -
- Live Storage = -

Dams: *
- Type = Earth Dam
- Height (from river bed to crest) = 3.0 m
- Crest Elevation = El. 26.0 m
- Length = 25 m
- General condition: Good - 2 yrs old

Spillway:
- Type = overflow
- Capacity = 20.9 m^3/s
- Dimensions:
  Overflow ** Yes
  Length = 25 m
  Crest Elevation = El. 26.0 m

Delivery System

- Location = In dam (Shoal Hbr R)
- Depth of intake below L.S.L. = 2.38 m
- Diameter of pipe = 350 mm
- Length of pipe =
- Gravity ___ Pumped _x_

- Capacity: 2800 l/min

Facility Completion Date: 1977-date
Capital Cost: $2,832,000 (W)
Report Reference (if available):
N/A

Water Metering Provisions (yes/no)
- At source: Yes
- At User Connection: No

Water Treatment (yes/no):
- Filtration: No
- Chlorination: Yes
- Other (describe)

---

* If more than one dam provide details under remarks sections.
** If gate arrangement provide details under remarks section.

.../2

Demand Data

	USERS	NUMBER	AVERAGE DEMAND	PEAK DEMAND
1.	Homes	300		
2.	Schools	1		
3.	Stores/Commercial	10		
4.	Fish Plants	-		
5.	Churches	1	325 l/min	650 l/min
6.	Medical Facilities	-		
7.	Fire Hall	-		
8.	Industrial	-		
9.	Other	-		

Future Demand

1. Are existing facilities designed for future/staged expansion?
   Yes _x_ No ___

2. Is there sufficient water to support further expansion of the supply?
   Yes _x_ No ___

3. Information on future demands:
   (a) List committed industrial/commercial developments and their water demands (if known). None

   (b) List possible developments. Residential subdivision

   (c) Will increase in demand be mainly from population growth?
   Yes _x_ No ___

Remarks: 1. 50 homes remain on private wells.
2. Silting problems during heavy rains.
3. Shoal Harbour is connected to Clarenville - but would only use if own system breaks down.
4. Engineering by Shepherd Hedges & Green Ltd., Clarenville.

Ref. No. _____
(For Office Use Only)

SURVEY OF FACILITIES

SURFACE WATER SOURCE

Contact: Ms. Selena Brown, Town Clerk

Community Name: Trinity - B. Bay

Municipal Status: Municipality

Population Served: 357

Water Source

Name of River: S.W. Feeder Brook
- Drainage Area = 5.61 km^2
- Diversion from = -
- Diverted Area = -

Reservoir/Pond:
Name: Southwest Feeder Pond

- F.S.L. = -
- L.S.L. = -
- Firm Yield = 7200 l/min

- Surface Area = 1.46 km^2
- Live Storage = 1,460,000 m^3

Dams: * None
- Type =
- Height (from river bed to crest) =
- Crest Elevation =
- Length =
- General condition

Spillway: None
- Type =
- Capacity =
- Dimensions:
  Overflow **
  Length =
  Crest Elevation =

Delivery System

- Location = Southwest Feeder Pd.
- Depth of intake below L.S.L. = 2.28 m
- Diameter of pipe = 300 mm
- Length of pipe = 2680 m
- Gravity _x_ Pumped ___

- Capacity = unknown

Facility Completion Date: 1975-date
Capital Cost: $2,920,000 (W+S)
Report Reference (if available): N/A

Water Metering Provisions (yes/no)
- At source: No
- At User Connection: No

Water Treatment (yes/no):
- Filtration: No
- Chlorination: Yes
- Other (describe)

---

* If more than one dam provide details under remarks sections.
** If gate arrangement provide details under remarks section.

.../2

Demand Data

	USERS	NUMBER	AVERAGE DEMAND	PEAK DEMAND
1.	Homes	128		
2.	Schools	-		
3.	Stores/Commercial	3		
4.	Fish Plants	1		
5.	Churches	1	190 l/min	380 l/min
6.	Medical Facilities	-		
7.	Fire Hall	-		
8.	Industrial	-		
9.	Other	-		

Future Demand

1. Are existing facilities designed for future/staged expansion?
   Yes _x_ No ___

2. Is there sufficient water to support further expansion of the supply?
   Yes _x_ No ___

3. Information on future demands:
   (a) List committed industrial/commercial developments and their water demands (if known). Connect existing 2 schools & 50 homes

   (b) List possible developments. New subdivision

   (c) Will increase in demand be mainly from population growth?
   Yes _x_ No ___

Remarks: 1) Water supply system being developed under 5 year plan.
2) 3 years outstanding to complete system.
3) Engineering by Newfoundland Design Associates.
4) National Inventory.

APPENDIX II

SURVEY OF FACILITIES

GROUNDWATER SOURCES

APPENDIX II

TABLE OF CONTENTS

APPENDIX II

SURVEY OF GROUNDWATER SUPPLIES

II.1 PREAMBLE

Some twenty-seven, municipalities and local service districts that are primarily supplied by wells, were surveyed.

II.2 EXPLANATION OF QUESTIONNAIRE

The following notes are provided to assist in interpretation of the information collected in the survey.

(a) **Population Served:** Represents the actual populations in dwellings serviced from public water supply systems, unless otherwise noted.

(b) **Bacteriological Quality:** The survey records the opinion of the municipal or service district representative contacted. Water quality test results were not examined.

(c) **Demand and Capacity:** Statistics on demand and system capacity were generally, unavailable. Data from the National Inventory of Municipal Water works and Waste Water Systems in Canada in 1986 (henceforth National Inventory) are noted on questionnaire sheets.

(d) **Capital Cost of Facilities:** Total capital investment in each system, as obtained from the Department of Municipal Affairs is noted. Cost for water supply and sewage disposal are lumped together in these statistics, and denoted by (W+S) following cost value. Where no sewage disposal system exists the capital cost is followed by (W).

II.3 DATA SUMMARIES

Results from the survey are summarized on the following table:

Table II-1 List of Communities Supply by Weeks

Table II-2 Statistical Summary

TABLE II-1 - LIST OF COMMUNITIES SUPPLIED BY WELLS

COMMUNITY	MUNICIPAL STATUS
Burnside - St. Chads	Local Service District
Cape Freels North	Local Service District
Carmanville	Municipality
Charlottetown	Local Service District
Deep Bight	Local Service District
Duntara	Municipality
Eastport	Municipality
Elliott's Cove - Snook's Harbour	Local Service District
Gander Bay North	Municipality
Harcourt	Local Service District
Hodges Cove	Local Service District
Kings Cove	Municipality
Main Point - Davidsville	Local Service District
Musgravetown	Municipality
Noggin Cove	Local Service District
North West Brook	Local Service District
Petley	Local Service District
Plate Cove West	Municipality
Port Rexton	Municipality
Salvage	Municipality
Sandringham	Municipality
Spillers Cove	Local Service District
Summerville - Princeton	Local Service District
Sunnyside	Municipality
Terra Nova	Municipality
Traytown	Municipality
Trinity - T. Bay	Municipality

TABLE II-2

SUPPLIES FROM WELLS - STATISTICAL SUMMARY

Community	Status	Population Served	Yield	Bacteriological Quality	Capital Investment to Date
Burnside-St. Chads	LSD	-	U	S	$300 (W)
Cape Freels North	LSD	-	U	S	$17,500 (W)
Carmanville**	M	987	U	S	$1,534,000 (W+S)
Charlottetown	LSD	-	S	S	$25,000 (W)
Deep Bight	LSD	-	U	U	$21,200 (W)
Duntara	M	-	S	S	-
Eastport**	M	609	S	1-S * 1-U (salt)	$1,626,400 (W+S)
Elliott's Cove	LSD	-	-	-	$22,900 (W)
Gander Bay North	LSD	-	U	S	-
Harcourt	LSD	-	U	-	$14,500 (W)
Hodges Cove	LSD	-	U	S	Nil
Kings Cove**	M	300	U	S	-
Main Point/ Davidville	LSD	-	U	S	$12,200 (W)
Musgravetown	M	-	-	S	-
Noggin Cove	LSD	-	U	S	Nil
North West Brook	LSD	300	U	S	$16,100 (W)
Petley	LSD	300	S	S	$64,700 (W)
Plate Cove West	M	307	S	S	-
Port Rexton	M	468	S	-	-
Salvage**	M	80	S	1-S 1-U (salt)	$ 500,000 (W)
Sandringham	M	282	S	S	$ 247,000 (W)
Spillars Cove	LSD	-	U	S	Nil
Summerville/ Princeton/ Southern Bay	LSD	-	-	U	$37,200 (W)
Sunnyside	M	-	U	S	-
Terra Nova	M	-	S	S	-
Traytown	M	-	-	S	$356,500 (W)
Trinity - T.B.	M	55	S	U (road salt)	-
Total = 27	M = 13 LSD=14	3688	S = 10 U = 13 Unknown = 4	S = 21 U = 3 Unknown = 3	$3,160,400 (W+S) $1,335,100 (W)

Key: M = municipality
LSD = local service district
S = satisfactory
U = unsatisfactory
- = data not available
* = two wells
** = water treatment by chlorination

Ref. No. _____
(For Office Use Only)

SURVEY OF FACILITIES

GROUNDWATER SOURCE

Contact: Mrs. Winniford Oldford & Mr. Gus Croke, Committee Members

Community Name: Burnside - St. Chads

Municipal Status: Local Service District

Population Served: 165

Council Wells: None
- No. of Connections = None
- No. of Connections other than homes (list facilities) = None
- Water Treatment: None

Private Wells: 9
- No. of Connections = 50

Bacteriological Quality: Satisfactory

Future Demand

1. Are existing facilities designed for future/staged expansion?
   Yes ___ No _x_

2. Is there sufficient water to support further expansion of the supply?
   Yes ___ No _x_

3. Information on future demands:
   (a) List committed industrial/commercial developments and their water demands (if known). None

   (b) List possible developments. None

   (c) Will increase in demand be mainly from population growth?
   Yes ___ No _x_

Remarks: 1. Wells dry up in summer.
2. One government well at Wharf. Residents use this well when others are dry.

Ref. No. _____
(For Office Use Only)

SURVEY OF FACILITIES

GROUNDWATER SOURCE

Contact: Mr. Clyde Stagg, Committee Member

Community Name: Cape Freels North

Municipal Status: Local Service District

Population Served: 130

Council Wells: None
- No. of Connections = None
- No. of Connections other than homes (list facilities) = None
- Water Treatment: None

Private Wells: 25
- No. of Connections = 25

Bacteriological Quality: Satisfactory

Future Demand

1. Are existing facilities designed for future/staged expansion?
   Yes ___ No _x_

2. Is there sufficient water to support further expansion of the supply?
   Yes ___ No _x_

3. Information on future demands:
   (a) List committed industrial/commercial developments and their water demands (if known). None

   (b) List possible developments. None

   (c) Will increase in demand be mainly from population growth?
   Yes _x_ No ___

Remarks: 1. Wells dry up every summer.
2. Intake pipe (100 dia.) and pumphouse building installed on Long Pond. Date for completing installation pending funds. No details of pumphouse available.

Ref. No. _____
(For Office Use Only)

SURVEY OF FACILITIES

GROUNDWATER SOURCE

Contact: Mrs. Mary Sheppard, Town Clerk/Mr. Gilbert Collins, Plant Operator

Community Name: Carmanville

Municipal Status: Municipality

Population Served: 987

Council Wells: 3
- No. of Connections = 207
- No. of Connections other than homes (list facilities) = Total 12
  - 2 schools, 4 commercial, 2 churches, 1 fire hall, 1 senior home, 1 lodge
- Water Treatment: Chlorination

Private Wells: 73
- No. of Connections = 73

Bacteriological Quality: Satisfactory

Future Demand

1. Are existing facilities designed for future/staged expansion?
   Yes ___ No _x_

2. Is there sufficient water to support further expansion of the supply?
   Yes ___ No _x_

3. Information on future demands:
   (a) List committed industrial/commercial developments and their water demands (if known). None

   (b) List possible developments. None

   (c) Will increase in demand be mainly from population growth?
   Yes _x_ No ___

Remarks:

1. Presently transporting from Grand Fathers Pond (4 mile away) approx. 24,000 gals per day.
2. Water supply system inadequate. Proposal in place to develop Grand Fathers Pond to hook up to existing system.
   - Feasibility study 1980 by Cecon Ltd.
   - Letter proposal 1983 by Nolan Davis Associates
   - Proposal 1988 by Noel Davis Associates
3. Reservoir tank with capacity of 8,000 gals.
4. Demand = 141 l/min (National Inventory)
5. Capital Investment - $1,534,000 (W+S) since 1971.
6. It is proposed that the L.S.D. of Noggin Cove be supplied from Carmanville once the surface water supply from Grandfater Pond is completed.

Ref. No. _____
(For Office Use Only)

SURVEY OF FACILITIES

GROUNDWATER SOURCE

Contact: Mr. Wilbert Crocker, Committee Member

Community Name: Charlottetown

Municipal Status: Local Service District

Population Served: 350

Council Wells: None
- No. of Connections = None
- No. of Connections other than homes (list facilities) = None
- Water Treatment: None

Private Wells: 70
- No. of Connections = 70

Bacteriological Quality: Satisfactory

Future Demand

1. Are existing facilities designed for future/staged expansion?
   Yes ___ No _x_

2. Is there sufficient water to support further expansion of the supply?
   Yes ___ No _x_

3. Information on future demands:
   (a) List committed industrial/commercial developments and their water demands (if known). None

   (b) List possible developments. None

   (c) Will increase in demand be mainly from population growth?
   Yes _x_ No ___

Remarks: There are 1 or 2 deep wells in the community. The remainder are shallow surface wells. No other source of water supply has been developed

Ref. No. _____
(For Office Use Only)

SURVEY OF FACILITIES

GROUNDWATER SOURCE

Contact: Mr. Derek Short, Community Member

Community Name: Deep Bight

Municipal Status: Local Service District

Population Served: 300

Council Wells: None
- No. of Connections = None
- No. of Connections other than homes (list facilities) = None
- Water Treatment: None

Private Wells: 45
- No. of Connections = 45

Bacteriological Quality: poor

Future Demand

1. Are existing facilities designed for future/staged expansion?
   Yes ___ No _x_

2. Is there sufficient water to support further expansion of the supply?
   Yes ___ No _x_

3. Information on future demands:
   (a) List committed industrial/commercial developments and their water demands (if known). None

   (b) List possible developments. None

   (c) Will increase in demand be mainly from population growth?
   Yes _x_ No ___

Remarks: 1. High salt content in 75% of wells susupected to come from road deicing operations.
2. Drying up of wells during summer is big problem.

Ref. No. _____
(For Office Use Only)

SURVEY OF FACILITIES

GROUNDWATER SOURCE

Contact: Mrs. Dorothy Power, Town Clerk

Community Name: Duntara

Municipal Status: Municipality

Population Served: 127

Council Wells:
- No. of Connections = None
- No. of Connections other than homes (list facilities) = None
- Water Treatment: None

Private Wells: 30
- No. of Connections = 30

Bacteriological Quality: Satisfactory

Future Demand

1. Are existing facilities designed for future/staged expansion?
   Yes ___ No _x_

2. Is there sufficient water to support further expansion of the supply?
   Yes _x_ No ___

3. Information on future demands:
   (a) List committed industrial/commercial developments and their water demands (if known). None

   (b) List possible developments. None

   (c) Will increase in demand be mainly from population growth?
   Yes _x_ No ___

Remarks: No plans to upgrade present system

Ref. No. _____
(For Office Use Only)

SURVEY OF FACILITIES

GROUNDWATER SOURCE

Contact: Mrs. Cynthia Lane, Town Clerk/Mr. Earl Jewison, Maintenance Technician

Community Name: Eastport

Municipal Status: Municipality

Population Served: 609

Council Wells: 2
- No. of Connections = 232
- No. of Connections other than homes (list facilities) = 42
  - Holiday cabins, commercial, churches, medical clinic, fire hall municipal building, community halls, senior citizens home.

- Water Treatment: One well - filtration and chlorination

Private Wells: 10
- No. of Connections = 6

Bacteriological Quality: Council Wells - One satisfactory, one experiences some salt contamination being close to road.

Future Demand

1. Are existing facilities designed for future/staged expansion?
   Yes ___ No _x_

2. Is there sufficient water to support further expansion of the supply?
   Yes _x_ No ___

3. Information on future demands:
   (a) List committed industrial/commercial developments and their water demands (if known). None

   (b) List possible developments. Additional summer cabins; extension to senior citizens home, nursing care unit.

   (c) Will increase in demand be mainly from population growth?
   Yes _x_ No ___

Remarks:

1. Additional water supplies (private):
   i) summer cabins supply by pond
   ii) one piggery (2200 pigs) supply by separate pond
2. Engineering by Shepherd Hedges & Green, Clarenville.
3. Additional water collectors and tank storage applied for under capital funding program.

Ref. No. _____
(For Office Use Only)

SURVEY OF FACILITIES

GROUNDWATER SOURCE

Contact: Mr. Jim Cook, Committee Member

Community Name: Elliott's Cove - Snook's Harbour

Municipal Status: Local Service District

Population Served: Approx. 400

Council Wells:
- No. of Connections = None
- No. of Connections other than homes (list facilities) = None
- Water Treatment: None

Private Wells:
- No. of Connections = approx. 95-100

Bacteriological Quality: Unknown

Future Demand

1. Are existing facilities designed for future/staged expansion?
   Yes ___ No _x_

2. Is there sufficient water to support further expansion of the supply?
   Yes ___ No _x_

3. Information on future demands:
   (a) List committed industrial/commercial developments and their water demands (if known). None

   (b) List possible developments. None

   (c) Will increase in demand be mainly from population growth?
   Yes ___ No _x_

Remarks: 90% experience drying up of wells during summer.

Ref. No. _____
(For Office Use Only)

SURVEY OF FACILITIES

GROUNDWATER SOURCE

Contact: Mr. Frank Blake, Committee Member

Community Name: Gander Bay North

Municipal Status: Local Service District

Population Served: 1130

Council Wells: None
- No. of Connections = None
- No. of Connections other than homes (list facilities) = None
- Water Treatment: None

Private Wells: 300
- No. of Connections = 300

Bacteriological Quality: Satisfactory

Future Demand

1. Are existing facilities designed for future/staged expansion?
   Yes ___ No __x__

2. Is there sufficient water to support further expansion of the supply?
   Yes ___ No __x__

3. Information on future demands:
   (a) List committed industrial/commercial developments and their water demands (if known). None

   (b) List possible developments. None

   (c) Will increase in demand be mainly from population growth?
   Yes __x__ No ___

Remarks: 1. Half of private wells dry up in summer.
2. No contamination problems were reported.

Ref. No. _____
(For Office Use Only)

SURVEY OF FACILITIES

GROUNDWATER SOURCE

Contact: Mr. Wade Mills, Committee Member

Community Name: Harcourt

Municipal Status: Local Service District

Population Served: 600

Council Wells: None
- No. of Connections = None
- No. of Connections other than homes (list facilities) = None
- Water Treatment: None

Private Wells: 40
- No. of Connections = 60

Bacteriological Quality: Unknown

Future Demand

1. Are existing facilities designed for future/staged expansion?
   Yes ___ No _x_

2. Is there sufficient water to support further expansion of the supply?
   Yes ___ No _x_

3. Information on future demands:
   (a) List committed industrial/commercial developments and their water demands (if known). None

   (b) List possible developments. None

   (c) Will increase in demand be mainly from population growth?
   Yes _x_ No ___

Remarks: 70% population suffer from water shortages during summer dry periods. Sufficient water for community in other seasons, but not for any future expansion.

Ref. No. _____
(For Office Use Only)

SURVEY OF FACILITIES

GROUNDWATER SOURCE

Contact: Mr. Cameron Martin, Committee Member

Community Name: Hodges Cove

Municipal Status: Local Service District

Population Served: 450

Council Wells: None
- No. of Connections = None
- No. of Connections other than homes (list facilities) = None
- Water Treatment: None

Private Wells: 125
- No. of Connections = 125

Bacteriological Quality: Satisfactory

Future Demand

1. Are existing facilities designed for future/staged expansion?
   Yes ___ No _x_

2. Is there sufficient water to support further expansion of the supply?
   Yes ___ No _x_

3. Information on future demands:
   (a) List committed industrial/commercial developments and their water demands (if known). None

   (b) List possible developments. None

   (c) Will increase in demand be mainly from population growth?
   Yes _x_ No ___

Remarks: 50% of wells dry up in summer.

Ref. No. _____
(For Office Use Only)

SURVEY OF FACILITIES

GROUNDWATER SOURCE

Contact: Mr. Thomas Maddox, Town Clerk

Community Name: Kings Cove

Municipal Status: Municipality

Population Served: 300

Council Wells: 3
- No. of Connections = 10
- No. of Connections other than homes (list facilities) = 2 schools
- Water Treatment: Chlorination

Private Wells: 70
- No. of Connections = 70

Bacteriological Quality: Satisfactory

Future Demand

1. Are existing facilities designed for future/staged expansion?
   Yes ___ No __x__

2. Is there sufficient water to support further expansion of the supply?
   Yes ___ No __x__

3. Information on future demands:
   (a) List committed industrial/commercial developments and their water demands (if known). None

   (b) List possible developments. None

   (c) Will increase in demand be mainly from population growth?
   Yes __x__ No ___

Remarks: 1. 2 extra wells tested, contaminated by salt.
2. Experience drying up in summer

Ref. No. _____
(For Office Use Only)

SURVEY OF FACILITIES

GROUNDWATER SOURCE

Contact: Mr. Malcolm Simms, Committee Member

Community Name: Main Point/Davidsville

Municipal Status: Local Service District

Population Served: 250

Council Wells: None
- No. of Connections = None
- No. of Connections other than homes (list facilities) = None
- Water Treatment: None

Private Wells: 100
- No. of Connections = 100

Bacteriological Quality: Satisfactory

Future Demand

1. Are existing facilities designed for future/staged expansion?
   Yes ___ No _x_

2. Is there sufficient water to support further expansion of the supply?
   Yes ___ No _x_

3. Information on future demands:
   (a) List committed industrial/commercial developments and their water demands (if known). None

   (b) List possible developments. None

   (c) Will increase in demand be mainly from population growth?
   Yes ___ No _x_

Remarks:
1. Experience 90% of wells drying up during summer.
2. 100 dia. water main installed from Salt Water Pond Brook - not connected up to community.
3. Consulting engineers - Nolan Davis Associates.
4. A surface supply from Gander Bay Brook is proposed.

Ref. No. _____
(For Office Use Only)

SURVEY OF FACILITIES

GROUNDWATER SOURCE

Contact: Mrs. Verley Matthews, Town Clerk

Community Name: Musgravetown

Municipal Status: Municipality

Population Served: 717

Council Wells: None
- No. of Connections = None
- No. of Connections other than homes (list facilities) = None
- Water Treatment: None

Private Wells: 200
- No. of Connections = 200

Bacteriological Quality: Satisfactory

Future Demand

1. Are existing facilities designed for future/staged expansion?
   Yes ___ No _x_

2. Is there sufficient water to support further expansion of the supply?
   Yes ___ No _x_

3. Information on future demands:
   (a) List committed industrial/commercial developments and their water demands (if known). None

   (b) List possible developments. None

   (c) Will increase in demand be mainly from population growth?
   Yes _x_ No ___

Remarks: 1. Planning for water supply system over 5 years (pending funding) - study carried out by Nolan Davis Association.
2. Major industry, dairy farming

Ref. No. _____
(For Office Use Only)

SURVEY OF FACILITIES

GROUNDWATER SOURCE

Contact: Mary Sheppherd, Committee Member

Community Name: Noggin Cove

Municipal Status: Local Service District

Population Served: 600

Council Wells: None
- No. of Connections = None
- No. of Connections other than homes (list facilities) = None
- Water Treatment: None

Private Wells: 100
- No. of Connections = 100

Bacteriological Quality: Satisfactory

Future Demand

1. Are existing facilities designed for future/staged expansion?
   Yes ___ No _x_

2. Is there sufficient water to support further expansion of the supply?
   Yes ___ No _x_

3. Information on future demands:
   (a) List committed industrial/commercial developments and their water demands (if known). None

   (b) List possible developments. None

   (c) Will increase in demand be mainly from population growth?
   Yes _x_ No ___

Remarks: 1. Drying up of wells during summer is a big problem.
2. It is proposed that Noggin Cove be connected to the Carmanville water supply system once the Grandfather Pond surface supply is in place.

Ref. No. _____
(For Office Use Only)

SURVEY OF FACILITIES

GROUNDWATER SOURCE

Contact: Dorothy Bursey, Committee Member

Community Name: North West Brook

Municipal Status: Local Service District

Population Served: 300

Council Wells: 1
- No. of Connections = 15
- No. of Connections other than homes (list facilities) = None
- Water Treatment: None

Private Wells: 60
- No. of Connections = 60

Bacteriological Quality: Satisfactory

Future Demand

1. Are existing facilities designed for future/staged expansion?
   Yes ___ No _x_

2. Is there sufficient water to support further expansion of the supply?
   Yes ___ No _x_

3. Information on future demands:
   (a) List committed industrial/commercial developments and their water demands (if known). None

   (b) List possible developments. None

   (c) Will increase in demand be mainly from population growth?
   Yes _x_ No ___

Remarks: Problem with wells drying up. Occurs frequently during summer leaving residents with little or no water.

Ref. No. _____
(For Office Use Only)

SURVEY OF FACILITIES

GROUNDWATER SOURCE

Contact: Mr. James Walters, Committee Member

Community Name: Petley

Municipal Status: Local Service District

Population Served: 300

Council Wells: 1 (artesian reservoir tank)
- No. of Connections = 60
- No. of Connections other than homes (list facilities) = None
- Water Treatment: None

Private Wells: 2
- No. of Connections = 2

Bacteriological Quality: Satisfactory

Future Demand

1. Are existing facilities designed for future/staged expansion?
   Yes _x_ No ____

2. Is there sufficient water to support further expansion of the supply?
   Yes _x_ No ___

3. Information on future demands:
   (a) List committed industrial/commercial developments and their water demands (if known). None

   (b) List possible developments. None

   (c) Will increase in demand be mainly from population growth?
   Yes _x_ No ___

Remarks: Can accommodate limited number of extra hookups.

Ref. No. _____
(For Office Use Only)

SURVEY OF FACILITIES

GROUNDWATER SOURCE

Contact: Mrs. Regina Furlong

Community Name: Plate Cove West

Municipal Status: Municipality

Population Served: 307

Council Wells: 5
- No. of Connections = 45
- No. of Connections other than homes (list facilities) = None
- Water Treatment: Javel Water

Private Wells: 22
- No. of Connections = 22

Bacteriological Quality: Satisfactory

Future Demand

1. Are existing facilities designed for future/staged expansion?
   Yes _x_ No ____

2. Is there sufficient water to support further expansion of the supply?
   Yes ___ No _x_

3. Information on future demands:
   (a) List committed industrial/commercial developments and their water demands (if known). None

   (b) List possible developments. Community Fire Hall

   (c) Will increase in demand be mainly from population growth?
   Yes _x_ No ___

Remarks: 1. Fish Plant supplies its own water.
2. Demand = 50 l/min (National Inventory).

Ref. No. _____
(For Office Use Only)

SURVEY OF FACILITIES

GROUNDWATER SOURCE

Contact: Mrs. Lois Long, Town Clerk

Community Name: Port Rexton

Municipal Status: Municipality

Population Served: 468

Council Wells: 8 (artesian)
- No. of Connections = 42
- No. of Connections other than homes (list facilities) = Not known
- Water Treatment: None

Private Wells: Not available
- No. of Connections =

Bacteriological Quality: Unknown

Future Demand

1. Are existing facilities designed for future/staged expansion?
   Yes ___ No __x__

2. Is there sufficient water to support further expansion of the supply?
   Yes ___ No __x__

3. Information on future demands:
   (a) List committed industrial/commercial developments and their water demands (if known). None

   (b) List possible developments. None

   (c) Will increase in demand be mainly from population growth?
   Yes __x__ No ___

Remarks:

Ref. No. _____
(For Office Use Only)

SURVEY OF FACILITIES

GROUNDWATER SOURCE

Contact: Mrs. Cynthia Burden

Community Name: Salvage

Municipal Status: Municipality

Population Served: 80 (National Inventory) out of 271

Council Wells: 2
- No. of Connections = 45
- No. of Connections other than homes (list facilities) = 2
  - Church Hall, Commercial Property (Lounge)
- Water Treatment: Chlorination

Private Wells: 20
- No. of Connections = 20

Bacteriological Quality: Satisfactory

Future Demand

1. Are existing facilities designed for future/staged expansion?
   Yes ___ No _x_

2. Is there sufficient water to support further expansion of the supply?
   Yes ___ No _x_

3. Information on future demands:
   (a) List committed industrial/commercial developments and their water demands (if known). None

   (b) List possible developments. None

   (c) Will increase in demand be mainly from population growth?
   Yes _x_ No ___

Remarks:
1. Fish Plant not connected to town water supply.
2. Demand = 24 l/min (National Inventory).
3. Capital investment - $500,000 (W), 1977-present.
4. Main well affected by salt water intrusion.
5. Recently eight additional wells have been drilled without producing sufficient yield. A surface supply source is recommended.
6. Consultant - Davis Engineering, Port Blandford.

Ref. No. _____
(For Office Use Only)

SURVEY OF FACILITIES

GROUNDWATER SOURCE

Contact: Mrs. Sharon Burry, Clerk & Mrs. Tom Heffern, Town Manager

Community Name: Sandringham

Municipal Status: Municipality

Population Served: 282

Council Wells: 2
- No. of Connections = 94
- No. of Connections other than homes (list facilities) = 4
  - Garage, Church, Store, Men's Club
- Water Treatment: None

Private Wells: None
- No. of Connections = None

Bacteriological Quality: Satisfactory

Future Demand

1. Are existing facilities designed for future/staged expansion?
   Yes _x_ No ____

2. Is there sufficient water to support further expansion of the supply?
   Yes _x_ No ___

3. Information on future demands:
   (a) List committed industrial/commercial developments and their water demands (if known). None

   (b) List possible developments. See note 1

   (c) Will increase in demand be mainly from population growth?
   Yes _x_ No ___

Remarks: 1. Presently upgrading existing line to accommodate approximately 200 homes over 3 year period.
2. Capital investment = $247,000 (W) since 1986-present.

Ref. No. _____
(For Office Use Only)

SURVEY OF FACILITIES

GROUNDWATER SOURCE

Contact: Mr. Dermont Flemming, Committee Member

Community Name: Spillars Cove

Municipal Status: Local District Service

Population Served: 200

Council Wells: None
- No. of Connections = None
- No. of Connections other than homes (list facilities) = None
- Water Treatment: None

Private Wells: 12
- No. of Connections = 12

Bacteriological Quality: Satisfactory

Future Demand

1. Are existing facilities designed for future/staged expansion?
   Yes ___ No _x_

2. Is there sufficient water to support further expansion of the supply?
   Yes ___ No _x_

3. Information on future demands:
   (a) List committed industrial/commercial developments and their water demands (if known). None

   (b) List possible developments. None

   (c) Will increase in demand be mainly from population growth?
   Yes _x_ No ___

Remarks: Water brought to homes with buckets filled at pond. Not sufficient facilities for communities population.

Ref. No. _____
(For Office Use Only)

SURVEY OF FACILITIES

GROUNDWATER SOURCE

Contact: Sam Prince, Committee Member

Community Name: Summerville/Princeton/Southern Bay

Municipal Status: Local Service District

Population Served: 1000

Council Wells: None
- No. of Connections = None
- No. of Connections other than homes (list facilities) = None
- Water Treatment: None

Private Wells:
- No. of Connections = 70 (Approx. 3 households per well)

Bacteriological Quality:

Future Demand

1. Are existing facilities designed for future/staged expansion?
   Yes ___ No _x_

2. Is there sufficient water to support further expansion of the supply?
   Yes ___ No _x_

3. Information on future demands:
   (a) List committed industrial/commercial developments and their water demands (if known). None

   (b) List possible developments. None

   (c) Will increase in demand be mainly from population growth?
   Yes _x_ No ___

Remarks: 1. High salt water content. Some have been condemned by the Dept. of Health for this reason.
2. At the moment there is a fishery in Summerville which gets its water directly from the sea. There is no other source of water supply for this plant.

Ref. No. _____
(For Office Use Only)

SURVEY OF FACILITIES

GROUNDWATER SOURCE

Contact: Mr. George Smith (Councillor)

Community Name: Sunnyside

Municipal Status: Municipality

Population Served: 534

Council Wells: None
- No. of Connections = None
- No. of Connections other than homes (list facilities) = None
- Water Treatment: None

Private Wells: 180
- No. of Connections = 180

Bacteriological Quality: Satisfactory

Future Demand

1. Are existing facilities designed for future/staged expansion?
   Yes ___ No _x_

2. Is there sufficient water to support further expansion of the supply?
   Yes ___ No _x_

3. Information on future demands:
   (a) List committed industrial/commercial developments and their water demands (if known). None

   (b) List possible developments. Offshore Development anticipated to provide spin off work

   (c) Will increase in demand be mainly from population growth?
   Yes _x_ No ___

Remarks: 1. Small water supply installed for post office, fire hall and 5 homes - supplied by brook complete with pumphouse - not large enough for expansion
2. Presently investigating installation of new water supply system (possibly to incorporate Come-by-Chance).
3. Summer time wells dry up and water has to be carried from brook.

Ref. No. _____
(For Office Use Only)

SURVEY OF FACILITIES

GROUNDWATER SOURCE

Contact: Mrs. Elizabeth Colloway, Town Clerk

Community Name: Terra Nova

Municipal Status: Municipality

Population Served: 47

Council Wells: None
- No. of Connections = None
- No. of Connections other than homes (list facilities) = None
- Water Treatment: None

Private Wells: 49
- No. of Connections = 49

Bacteriological Quality: Satisfactory

Future Demand

1. Are existing facilities designed for future/staged expansion?
   Yes ___ No _x_

2. Is there sufficient water to support further expansion of the supply?
   Yes ___ No _x_

3. Information on future demands:
   (a) List committed industrial/commercial developments and their water demands (if known). None

   (b) List possible developments. None

   (c) Will increase in demand be mainly from population growth?
   Yes _x_ No ___

Remarks: 1. Wells in Terra Nova are believed to be hydraulically connected to Terra Nova Lake, and could be affected if the old dam is removed.

Ref. No. _____
(For Office Use Only)

SURVEY OF FACILITIES

GROUNDWATER SOURCE

Contact: Mrs. Sandra Kean, Town Clerk

Community Name: Traytown

Municipal Status: Municipality

Population Served: 143

Council Wells: None
- No. of Connections = None
- No. of Connections other than homes (list facilities) = None
- Water Treatment: None

Private Wells: 30
- No. of Connections = 30

Bacteriological Quality: Satisfactory

Future Demand

1. Are existing facilities designed for future/staged expansion?
   Yes ___ No _x_

2. Is there sufficient water to support further expansion of the supply?
   Yes ___ No _x_

3. Information on future demands:
   (a) List committed industrial/commercial developments and their water demands (if known). None

   (b) List possible developments. None

   (c) Will increase in demand be mainly from population growth?
   Yes _x_ No ___

Remarks: 1. Eventual plans are to interconnect Traytown with Glovertown. The existing main from Glovertown has been designed for interconnection.

Ref. No. _____
(For Office Use Only)

SURVEY OF FACILITIES

GROUNDWATER SOURCE

Contact: Mr. Alec Madryga, Town Clerk

Community Name: Trinity - T. Bay

Municipal Status: Municipality

Population Served: 55 (National Inventory)

Council Wells: 4
- No. of Connections = 15
- No. of Connections other than homes (list facilities) = None
- Water Treatment: None

Private Wells: 100
- No. of Connections = 100

Bacteriological Quality: Some contamination due to road run-off

Future Demand

1. Are existing facilities designed for future/staged expansion?
   Yes ___ No _x_

2. Is there sufficient water to support further expansion of the supply?
   Yes ___ No _x_

3. Information on future demands:
   (a) List committed industrial/commercial developments and their water demands (if known). None

   (b) List possible developments. None

   (c) Will increase in demand be mainly from population growth?
   Yes ___ No _x_

Remarks: 1. 11 Homes collect water from nearby stream for drinking (Indian Falls stream).
2. Demand from council wells = 18 l/min (National Inventory).

APPENDIX III

SURVEY OF FACILITIES

HYDRO FACILITIES

SURVEY OF FACILITIES

HYDRO FACILITIES

Name: Newfoundland Light & Power Co. Ltd.

Location: Lockston

Drainage Area:
- Basin = 38.2 km^2
- Diversions = None
- Project D.A. = None

Reservoir:
- Drawdown = 1.95 m
- Live Storage = 13,500,000 m^3

Dams: (see remarks)
- Type of _____
- Height =
- Length =

Spillway: (see remarks)
- Type is _____
- Spillway Capacity at Max. F.L. =

Power Plant:
- Mean H.W.L. = not available
- Mean T.W.L. = not available
- Net Head = 82.2 m
- No. of Units = 2
- Plant Capacity = 3000 kW
- Average Annual Energy Output = 6.9 GWh

Year completed was 1955
- Capital Cost = unknown
- Replacement Cost = unknown

Expandability: Unlikely
- Ultimate Capacity= N/A
- Additional Live Storage
- Additional Diversions = N/A

Remarks:

1. Dams:

Name	Type	Height	Length
Trinity Pond	Conc. Buttress	4.9 m	
Rattling Pond	Conc. Gravity	2.4 m	24.4 m

2. Spillway:

		Capacity
Trinity Pond	Gate Sluiceway	20 m^3/s
Rattling Pond	Overflow	34 m^3/s

3. References - "Hydro Development on the Island of Newfoundland by R.A. Robertson." Presented at E.I.C. 92nd Annual Conference, St. John's (Nfld.), 1978 ... available from ShawMont.
- "1985 Dam Safety Evaluation Report, Lockston Development", Montreal Engineering Company Limited, Report SMR-19-85 for Newfoundland Light and Power Co. Ltd.

SURVEY OF FACILITIES

HYDRO FACILITIES

Name: Newfoundland Light & Power Co. Ltd.

Location: Port Union

Drainage Area:
- Basin = 98.5 km^2
- Diversions = None
- Project D.A. = 98.5 km^2

Reservoir: (see remarks)
- FSL =
- LSL =
- Live Storage = 2,140,000 m^3 (in Halfway, Wells & Whirl Pond)

Dams: (See remarks)
- Type of _____
- Height =
- Length =

Spillway: (See remarks)
- Type is _____
- Spillway Capacity at Max. F.L. =

Power Plant:
- Mean H.W.L.) not measured w.r.t.
- Mean T.W.L.) geodetic datum
- Net Head = 21.3 m
- No. of Units = 2
- Plant Capacity = 560 kW
- Average Energy Output = 1.7 GWh
- Year completed was 1917
- Capital Cost = unknown
- Replacement Cost = unknown

Expandability: Unlikely
- Ultimate Capacity= N/A
- Additional Live Storage = N/A
- Additional Diversions = N/A

Remarks:

1. Dams & Reservoirs

	Name	Dam Type	Height	Length
5 in total	- Wells Pond	Earth/Rock	2.5 m	30.5 m
	- Halfway Pond	Earthfill	4 m	24 m
	- Long Pond	Timber/Conc.	4 m	25 m
	- Whirl Pond	Rockfill/Timber	4 m	76 m
	- Forebay	Rock/Timber	4 m	46 m

2. Spillway:

Name	Type	Length	Capacity
- Halfway Pond	Overflow	18 m	- 17.5 m^3/s
- Long Pond	Overflow	25 m	- 124 m^3/s
- Whirl Pond	Overflow	45.7 m	- 134 m^3/s
- Forebay Dam	Overflow	15.5 m	- 23 m^3/s

- Wells Pond (at present is drained. If dam is rehabilitated a spillway for 11 m^3/s would be required).

3. Reference: "1984 Dam Safety Evaluation Report, Port Union Development, Montreal Engineering Co. Ltd. Report SMR-34-84 for Newfoundland Light & Power Co. Ltd.

APPENDIX IV

LIST OF ENGINEERING REPORTS

IV.1 PREAMBLE

The following listing identifies engineering reports on water supply and sewage systems, for communities within the study area, that are filed in the records section of the Department of Municipal Affairs. Municipal Affairs also maintains a collection of "As built" drawings, on microfiche, for many municipal water supply and sewage systems.

DEPARTMENT OF MUNICIPAL AFFAIRS

ENGINEERING REPORTS

MUNICIPALITY	PROJECT DESCRIPTION	CONSULTANT	DATE
Appleton	Water & Sewage System	Burden Engineering Limited	08/01/1971
Appleton	Groundwater Potential from Deep Wells	Nolan, White & Associates Limited	08/01/1972
Badger's Quay Valleyfield-Pool's Island		R & R Adams & Associates Limited	01/01/1980
Badger's Quay Valleyfield-Pool's Island	Water System Renovations	Gorman-Butler Associates	---
Benton	Water Supply	Water Services Division	09/01/1974
Bonavista	Water & Sewer System	Nlfd. Design Assoc. Ltd.	02/01/1970
Bonavista	Industrial Water System	Nfld. Design Assoc. Ltd.	03/01/1984
Carmanville	Water System	Burden Engineering Limited	07/01/1970
Carmanville	Water & Sewerage System	Burden Engineering Limited	07/01/1972
Carmanville	Drilled Well Water System	Burden Engineering Limited	07/26/1978
Carmanville	Water & Sewer	Cecon Limited	11/01/1980
Catalina	Preliminary Investigation & Study Water System	Warnock Hersey Co. Limited	06/01/1964
Catalina	Water & Sewer Systems	R.J. Noah & Assoc. Limited	12/01/1975
Centreville	Water & Sewer Systems	Nfld. Design Assoc. Limited	09/01/1965
Centreville	Report on Upgrading Existing Constant Pressure Water Pumping System & Upgrading Existing Chlorination System	Wells Engineering Limited	11/01/1983

MUNICIPALITY	PROJECT DESCRIPTION	CONSULTANT	DATE
Clarenville	Preliminary Cost Analysis for Municipal Services	Sheppard, Hedges, & Green Limited	---
Clarevnille	Municipal Services Plan	Sheppard, Hedges & Green Ltd.	08/01/1984
Clarenville	Comprehensive Development Area, Trunk Water & Sewer Considerations	Nfld. Design Assoc. Limited	12/01/1976
Davidsville	Water Supply System	Nolan, Davis & Associates Ltd.	06/20/1985
Eastport	Existing & Future Water Supply	Gorman-Butler & Burden Engineering Limited	---
Eastport	Water Supply & Sewage System	Sheppard, Hedges & Assoc. Limited	03/01/1976
Eastport	Implementation Report Water	R.T. O'Keefe & Associates Limited	04/25/1972
Eastport	North Water Extension	Burden Engineering Limited	09/01/1972
Elliston	Water Supply Feasibility Study	Sheppard, Hedges, & Green Limited	06/01/1980
Elliston	Well Site Location	Nolan, White & Associates Limited	09/25.1974
Glovertown	Water & Sewer Extension	Nfld. Design. Assoc. Limited	10/01/1971
Glovertown	Water & Sewer Systems	Nfld. Design. Assoc. Limited	11/05/1964
Goobies	Water Supply Study	--	---
Happy Adventure	Water Supply	Sheppard, Hedges, & Green	01/01/1976
Happy Adventure	Existing Water Supply Problems & Recommendations	Burden Engineering Limited	08/01/1973
Hare Bay	Water Pumping System	Burden Engineering Limited	08/01/1974
Hare Bay	Problems with Water Supply System	Cecon Limited	10/27/1980
Hodge's Cove	Water Supply & Sewerage	Sheppard, Hedges & Green Ltd.	03/01/1075

MUNICIPALITY	PROJECT DESCRIPTION	CONSULTANT	DATE
Keels	Water Supply Survey	Nolan, White & Assoc. Ltd.	04/11/1974
Little Catalina	Water & Sewerage	Gorman-Butler Assoc. Ltd.	03/01/1972
Little Catalina	Water & Sewerage System Phase IV	Sheppard, Hedges & Green Ltd.	05/01/1982
Little Catalina	Water & Sewer System, Phase V	Sheppard, Hedges & Green Ltd.	06/01/1983
Lumsden	Water & Sewer System	Nfld. Design Assoc. Ltd.	03/01/1970
Musgrave Hr.	Water & Sewer	Burden Engineering Limited	01/01/1978
Musgrave Hr.	Extension of Water System to Fish Plant	Burden Engineering Limited	02/01/1979
Musgrave Hr.	Reservoir Investigation	CECON Ltd.	06/01/1986
Musgrave Hr. -Doting Cove	Preliminary Investigation into Groundwater Studies for a Water Supply	Racey, McCallum & Bluteau	07/20/1966
Newtown	Water Distribution System	Engineering Divison	01/01/1969
Newtown	Water Supply System	Sheppard, Hedges & Green ltd.	06/01/1986
Newtown	Water Supply Study	Sheppard, Hedges & Green Ltd.	08/16/1984
Newtown	Water Reservoir Support Structure	CBCL Limited	09/01/1982
Newtown	Report on Fresh Water Supply System	Wells Engineering Limited	10/01/1978
Plate Cove East	Addendum to Report on Groundwater Feasibility Study	Nolan, White & Associates	04/26/1978
Plate Cove East	Water & Sewer System	Nolan, White & Associates	06/01/1980
Plate Cove East	Water Supply Study	Nolan, White & Associates	10/21/1974

MUNICIPALITY	PROJECT DESCRIPTION	CONSULTANT	DATE
Plate Cove East	Groundwater Feasibility Studies	Nolan, White & Associates	11/15/1977
Plate Cove East & Plate Cove West	Groundwater Feasibility Studies	Nolan, White & Associates	11/15/1977
Plate Cove	Water Supply Study	Nolan, White & Associates	10/21/1974
Port Blandford	Water Supply	Nolan, White & Associates	07/01/1973
Port Blandford	Groundwater Appraisal	Nolan, White & Associates	11/02/1972
Port Union	Eng. Study Fresh Water Supply System	Provincial Consultants	12/01/1980
Salvage	Fish Plant Water Supply	Nolan, White & Assoc. Ltd.	01/01/1979
Salvage	Domestic Water Supply Desing	Nolan, White & Assoc. Ltd.	04/01/1974
Salvage	Investigation of Existing Groundwater Supply	Nolan, White & Assoc. Ltd.	07/25/1979
Salvage - Biship's Cove	Water Supply Study	Nolan, White & Assoc. Ltd.	10/21/1974
Sandy Cove	Water System	Engineering Division	11/01/1967
Shoal Hr.	Water Supply & Sanitary Sewage	Sheppard, Hedges & Green Ltd.	02/01/1984
Shoal Hr.	Investigation of Existing Groundwater Source of Supply & Pumping Facilities	Nolan, White & Assoc. Ltd.	12/08/1978
Sunnyside	Water Supply & Sanitary Sewer Systems	Provincial Planning Assoc.	01/01/1973
Swift Current	Water Supply Engineering Study	Colin Karasek Limited	03/01/1984
Terra Nova	Water Supply Study	Nolan, White & Assoc. Ltd.	07/01/1976

MUNICIPALITY	PROJECT DESCRIPTION	CONSULTANT	DATE
Traytown	Water & Sewerage System	Burden Engineering Limited	08/01/1972
Trinity, B.B.	Water Supply Appraisal	Nolan, White & Assoc. Ltd.	01/01/1975
Trintiy, B.B.	Groundwater Appraisal	Nolan, White & Assoc. Ltd.	03/28/1974
Wareham	Report on Water & Sewer Systems	Nfld. Design. Assoc. Ltd.	01/01/1967
Wesleyville	Water Supply Steel Reservoir	CECON Ltd.	---
Wesleyville	Water System	Project Mgmt. & Design Ltd.	01/01/1977
Wesleyville	Water System Improvements	Dept. of Mun. Affrs. & Hos.	12/01/1967