



October 15, 2020

Ms. David Ford, P.E. Director of Public Works
Town of Wolfeboro
P.O. Box 624
Wolfeboro, NH 03894

Subject: Task 002 AWIA Support and Seasonal Water Line Evaluation
T&H No. 6440

Dear Mr. Ford,

Tata & Howard is pleased to present this letter report in accordance with our Task 002 agreement with the Town of Wolfeboro (the Town) dated July 10, 2020 and amendment one (1) dated August 31, 2020. This letter report provides an inventory of the seasonal water line sub-systems and an evaluation and budgetary cost estimates for the Smith River Road, Albee Beach, Wolfeboro Camp Schools and Libby Museum/Museum Shores seasonal lines replacement/resiliency options. Specifically, the purpose of this evaluation is to gather information on the four (4) seasonal water line sub-systems that were identified by the Town and develop alternatives for year-round, protected seasonal lines. In addition, we provide a planning level budget to eliminate the seasonal sub-systems. This would require development of private wells with, or without treatment, or surface water with a point of use treatment system. Legal considerations for eliminating seasonal sub-system users would be investigated by the Town.

Background

The Town of Wolfeboro (the Town) serves domestic water to 5,750 people and approximately 240 of these service connections are summer “seasonal” use. The New Hampshire Department of Environmental Services (NHDES) 2017 Sanitary Survey identifies seasonal water mains as increasing the potential risk for contamination of the water system. Due to this risk DES recommended the Town address the long-term viability and resiliency of the seasonal water mains throughout the system. Many of the seasonal lines in the system are partially buried or laid on top of the ground through cross-country alignments with significant overgrowth and limited access for maintenance and/or repair. The above ground lines also present a risk and resiliency concern as stated in the DES survey.

Seasonal Water Main Inventory

Based on a review of the information provided by the Town, and a site visit by Tata & Howard staff, an inventory of the existing seasonal water sub-systems and users was created. The inventory will be used by the Town to evaluate which seasonal sub-systems are a priority for “protection” and to identify which residents would be affected by these changes. Tata & Howard utilized the seasonal water service spreadsheet and developed a GIS data-layer for parcels billed for seasonal water. The GIS map and seasonal account spreadsheet was then reviewed with Town staff to address discrepancies found in the 2016 Asset Management Plan summary. Based on this review, there are approximately thirty (30) individual service connections that are considered seasonal. There are twenty-five (25) seasonal sub-systems ranging in size from two (2) user connections to as many as twenty-two (22) user connections. It should be noted that not all developed properties abutting the seasonal water lines are currently connected to Town’s water. Pipe material is High Density Polyethylene (HDPE) with diameters ranging from 1-1/4” to 2” while sub-system lengths range from a few hundred feet to over thirty-five hundred feet (3,500’). Attachment 1 is the seasonal sub-system and users inventory, while Figure 1 is the GIS seasonal account data-layer.

Alternative Evaluation and Planning Level Construction Costs

Based on the site visit completed on August 3, 2020 with Town staff, the Smith River Road, Albee Beach, Wolfeboro Camp and Libby Museum/Museum Shores each present different potential scenario’s for eliminating seasonal water lines. While legal and responsibility issues would need to be addressed by others, one option for all sub-systems is for the Town to no longer activate and maintain the existing seasonal lines. In that case, private wells with or without treatment, or treatment of surface water with point-of-use treatment could be recommended. Tata & Howard contacted local well drillers and individual home treatment system vendors to get a sense of the current cost for a drilled well in the region and or home point-of-use treatment system. A planning level cost to permit and construct an individual potable water well with and without treatment is presented below.

Private Systems Costs*	
Type	Budgetary Cost
Individual Single Family Well	\$20,000
Well with Treatment	\$25,000
Surface Water with Point-of-Use Treatment	\$20,000

*Construction cost estimate based on values provided by local vendors

Based on the 2017 NHDES Sanitary Survey recommendations and in order to protect the risk and resiliency of the Town's water system, the following sections evaluate replacing the existing sub-systems with buried shallow seasonal lines, or permanent year-round water. Tata & Howard and Town staff met in August 2020 to evaluate four (4) of the existing seasonal sub-systems in order to evaluate alternatives. For comparison, typical bid item quantities and cost estimates were developed using recent publicly bid projects for installation of year-round water mains serving the existing seasonal properties. It is difficult to develop a cost estimate for installing shallow (protected) seasonal water mains, but one could expect a 50%-60% cost savings.

Albee Beach

Based on input from Town staff, three alternatives were evaluated for seasonal water main replacement for the Albee Beach Subsystem (Figure 2). The Albee Beach system serves three (3) properties.

1. Directional drilling along the existing seasonal line alignment. (Estimated Construction Cost \$135,000)
2. Directional drilling from the vicinity of the terminus hydrant under Center Street to behind the Boat Museum and then along Moose Point Road, (Estimated Construction Cost \$159,000)
3. Directional drill across Center Street to behind the Boat Museum as the previous options with open cut install the water main down Moose Point Road. (Estimated Construction Cost \$ 156,000)

It should be noted that alternatives 2 and 3 would provide Town water to the Boat Museum property and improve access for normal water main maintenance activities.

Smith River Road

The Smith River Road seasonal line serves four (4) properties. The existing seasonal line is 1-1/2-inch HDPE and connects from the water main on Whitten Neck Road and travels along the edge of the water. One (1) alternative was identified to replace the Smith River Road sub-system as discussed with Town staff (Figure 3). Open cut and install the water main within the existing roadway of Smith River Road and to install services to each resident. The Smith River Road system serves four (4) properties. (Estimated Construction Cost \$ 75,000)

Wolfeboro Camp School

The Wolfeboro Camp School system connects to the existing water main in the vicinity of 70 Pleasant Valley Road and is a two (2) inch HDPE line. The seasonal line lays at the edge of the right-of-way on Pleasant Valley Road then cross country through the woods at the corner of Camp School Road serving 25 Walt's Lane. It also traverses private property serving some but not all properties terminating at the Camp School property. This seasonal line services six (6) properties and the Camp School. According to Town staff, properties to the east of the Camp School may be served by the Camp School meter. It should be

noted that several properties are not connected and are assumed to have drilled water supply wells.

Based on our discussions and site visit, there are two (2) alternatives to replace the Wolfeboro Camp School (the School) sub-system (Figure 4). The Wolfeboro Camp School system serves six (6) properties including the School complex. Town staff also indicated several properties to the east of the School may also be served from that connection and are billed for water use by the School.

1. Directional drill along the existing alignment, (Estimated Construction Cost \$300,000)
2. Open cut down Camp School Road to a location near the school parcel. It should be noted that individual service connection lengths would be significantly longer, and the construction cost and maintenance responsibility would need to be determined. (Estimated Construction Cost \$ 317,000)

As noted above, utilizing directional drilling would limit access for any water main maintenance. In addition, if alternative 2 was utilized, the service to 35 Walt's Lane would need to be relocated to the existing seasonal sub-system on Walt's Lane.

Libby Museum/Museum Shores

The existing seasonal systems(s) in this area are complicated. According to Town records, there is a combination of Town of Wolfeboro seasonal lines and three (3) private buried lines. The Town's seasonal line connects near the terminal hydrant on North Main Street and feeds the Libby Museum then cross country to serve eleven (11) properties on McCarthy Anna Drive and Museum Shores.

Based on discussions and the site visit, there was only one option for the Libby Museum/Museum Shores sub-system. This would require an open-cut construction with connection to the existing 8-inch water main on Lang Pond Road at McCarthy Anna Road and follow the route of the existing seasonal mains and then re-connecting with the 8-inch by creating a loop at Museum Shore Road as shown in Figure 5. (Estimated Construction Cost \$262,000)

The budgetary construction cost estimate for each sub-system alternative is found in Attachment 2.

Conclusion

In order to improve the resiliency of the Town's water distribution system, seasonal water mains should be either eliminated, or replaced with either seasonal protected (shallow) water mains or deep year-round water service. Costs estimates for public bid year-round water mains have been generated for budgeting purposes. As previously discussed, alternative seasonal protected (shallow) mains could be utilized to reduce construction cost. In addition, the Town may wish to self-perform certain sub-system replacements.

Due to the variability of each seasonal sub-system, the final decision for eliminating each sub-system should be made on a case-by-case basis. The Town must also consider easements requirements if cross country routes are utilized. Finally, many of the existing seasonal water mains traverse properties that utilize private wells and are not connected.

During the course of this project, Mr. Mitchell Garon served as Engineer, the undersigned served as Project Manager, and Mr. Paul Cote, P.E. provided technical reviews. We wish to express our appreciation to the Town of Wolfeboro – Public Works Division for their participation in this project and for their help in collecting information and data. If you have any questions, please do not hesitate to contact our office.

Sincerely,

TATA & HOWARD, INC.

Peter J. Goodwin, P.E.

Peter Goodwin, P.E.
Associate

Enclosures:

- Attachment 1 – Seasonal Water Main Inventory
- Attachment 2 - Budgetary Cost Estimates
- Figure 1 – GIS Seasonal Accounts
- Figure 2 – Albee Beach
- Figure 3 – Smith River
- Figure 4 – Libby Museum/Museum Shores
- Figure 5 – Wolfeboro Camp School

Seasonal Sub-System	Account Number	Map	Lot	Address	Customer Name	Comment
Individual Seasonal Services						
Individual Service	13-0080.300	218	150	0 SOUTH MAIN ST	BREWSTER ACADEMY	
Individual Service	13-0877.300	231	20	87 CLARK RD	TOWN OF WOLFEBORO	
Individual Service	11-0731.301	190	101	179 CENTER ST	KIM ROSSI	
Individual Service	13-0653.300	218	101	19 CENTER ST	PATRICIA M RANKIN 1989 TRUST	
Individual Service	13-0829.300	232	6	11 EDGEWOOD TER	PAUL WHEELER	
Individual Service	13-0175.300	231	47	0 GOODRICH RD	TOWN OF WOLFEBORO - TOWN GARDENS	
Individual Service	12-0620.300	232	5	0 SOUTH MAIN ST	KINGSWOOD GOLF CLUB	
Individual Service	14-1118.301	201	34	0 LAWN METER	WOLFEBORO COMMON II CONDO ASSOCIATI	
Individual Service	11-0939.300	218	8	88 LEHNER ST	TOWN OF WOLFEBORO - FOSS FIELD	
Individual Service	13-0188.300	217	44	0 RAILROAD AVE	TOWN OF WOLFEBORO - BEAN PARK	
Individual Service	12-0220.301	244	11	36 SCOTT RD	FITTS FAMILY COMPOUND TRUST	
Individual Service	12-0908.301	244	12	42 SCOTT RD	FITTS FAMILY COMPOUND TRUST	
Individual Service	12-0930.300	244		0 SO MAIN & PLEASANT VLY	TOWN OF WOLFEBORO	
Individual Service	12-0340.300	260	28	65 SUMMER LN	MARY PATRICIA DEANE REV. TRUST	
Individual Service	13-0905.300	218	12	5 VALLEY LN	TOWN OF WOLFEBORO - OUTSIDE FAUCET	
Albee Beach Road	11-0043.302	177	33	347 CENTER ST #1-3	KIMBERLY GANNON	
Albee Beach Road	11-0811.300	177	2	334 CENTER ST	CHERYL L PETERSON	
Chapel Lane	14-1376.300	214	18	4 CHAPEL LN	JOHN A LOCKITT	
Clark Road	13-0477.300	242	3	135 CLARK RD	EDWARD A KLEMM TRUST JR	
Clark Road	13-0941.300	242	23	162 CLARK RD	SUSAN Z SHARP	
Clark Road	13-0141.300	243	12	129 CLARK RD	H PAUL BUCKINGHAM	
Keewaydin Road	14-1054.301	172	14	33 KEEWAYDIN RD	MARY ANN POLLINI REVOCABLE TRUST	
Port WeldeIn Road	14-0910.300	200	3	0 PORT WELDELN RD	PORT WEDELN ASSOCIATION INC	
Silver Street	11-0960.300	190	108	3 SILVER ST	TOWN OF WOLFEBORO - MAST LANDING DOCKS	
South Main Park	13-0190.300	217	58	60 SOUTH MAIN ST	TOWN OF WOLFEBORO - SIDEWALK GARDENS	
South Main Park	13-0880.300	217	94	0 SOUTH MAIN CATE PARK	TOWN OF WOLFEBORO	
South Main Park	13-0885.300	217	94	0 SOUTH MAIN CATE PARK	TOWN OF WOLFEBORO	
South Main Street	13-0493.301	231	82	280 SOUTH MAIN ST	280 SOUTH MAIN ST LLC	
South Main Street	13-0493.301	231	82	280 SOUTH MAIN ST	280 SOUTH MAIN ST LLC	

Albee Beach Road 2" Water Main 2000'?

Albee Beach Road	11-0973.300	164	32	57 ALBEE BEACH RD	TOWN OF WOLFEBORO - ALBEE BEACH BATH HOUSE
Albee Beach Road	11-0603.301	178	3	56 MOOSE POINT RD	PAMELA THOMAS
Albee Beach Road	11-0619.301	178	2	60 MOOSE POINT RD	SPENCE FAMILY REVOCABLE TRUST 2012

Camp School Road 2" Water Main, X'

Camp School Road	12-3012.301	252	52	53 CAMP SCHOOL RD	KEITH ALBEE
Camp School Road	12-0348.300	253	5	89 CAMP SCHOOL RD	ROBERT H DEMAREE JR
Camp School Road	12-0508.300	253	4	87 CAMP SCHOOL RD	HILL CAMP REALTY TRUST
Camp School Road	12-0588.300	253	3	77 CAMP SCHOOL RD	RUST POND CABIN REALTY TRUST
Camp School Road	12-1052.300	253	7	93 CAMP SCHOOL RD	WOLFEBORO CAMP SCHOOL
Walts Lane	12-0300.300	252	48	35 WALT LN	CLAYTON D CLATUR LIVING TRUST
Camp School Road	12-2929.300	253	7	93 CAMP SCHOOL RD	WOLFEBORO CAMP SCHOOL

Canopache Road X" Water Main, X'

Canopache Road	12-0380.300	251	17	78 CANOPACHE RD	BRIAN R DONNELLY
Canopache Road	12-0460.300	251	15	74 CANOPACHE RD	WOLFEBORO GORDON INC

Clark Road 1 1/2" Water Main, 400'

Clark Road	13-0179.300	243	10	119 CLARK RD	WILLIAM HOFMANN III
Clark Road	13-0317.300	243	11	121 CLARK RD	FOUST FAMILY LAND TRUST
Clark Road	13-0717.300	243	55	0 OFF CLARK RD	FAIRWAY VIEW PROPERTY
Clark Road	13-0365.300	243	36	108 CLARK RD	GERALDINE GILLIS REVOCABLE TRUST

Springfield Point 1-1.2" Water Main, X'

Delings Cove Road	12-0076.300	259	9	186 SPRINGFIELD POINT RD	KATHLEEN F BLANCHARD SPRINGFIELD
Delings Cove Road	12-0652.300	259	30	5 DELINGS COVE RD	CONSTANCE S KLEFOS TRUST
Delings Cove Road	12-0748.301	259	20	3 PUFFS POINT	JOSEPH K BUSSICHELLA
Delings Cove Road	12-0828.300	259	19	5 PUFFS POINT	5 PUFFS POINT LLC

Forest Road X" Water Main, X'

Forest Road	14-0686.301	215	46	168 FOREST RD	MICHELLE BITZER
Forest Road	14-0702.301	215	52	170 FOREST RD	MICHELLE BITZER

Forest Road	14-0718.301	215	52	170 FOREST RD	MICHELLE BITZER
Forest Road	14-0590.300	228	51	180 FOREST RD	EDWIN WARREN KING
Forest Road	14-1102.300	228	54	201 FOREST RD	TOWN OF WOLFEBORO
Forest Road	14-1134.302	228	53	203 FOREST RD	TORAH CORPORATION

Herron Hollow 1 1/4" Water Main, 2640'

Heron Hollow	11-0587.300	204	106	37 HERON HOLLOW	MAKSIMOVIC FAMILY TRUST
Heron Hollow	11-0683.300	218	38	29 HERON HOLLOW	C&D MULCAHY FAMILY IRREVOCABLE TRUS
Heron Hollow	11-0699.300	218	38	31 HERON HOLLOW	C&D MULCAHY FAMILY IRREVOCABLE TRUS
Heron Hollow	11-0843.300	218	37	35 HERON HOLLOW	SHIRLEY L RICHARDSON REVOCABLE TRUS
Crooked Pond	11-0027.302	204	102	61 CROOKED POND LN	MICHAEL TRENTSESAUX
Crooked Pond	11-0859.300	204	101	63 CROOKED POND LN	M & M TRUST

Holden Shore Road 1 1/4" Water Main, 1920'

Holden Shore	11-0203.300	191	48	58 HOLDEN SHORE RD	JAMES T & DENNIS J CAMBELL
Holden Shore	11-0347.301	191	49	60 HOLDEN SHORE RD	ROBERT & SUSAN MACLEOD FAMILY TRUST
Holden Shore	11-0635.300	191	41	4 SHADY LN	EDWARD J MCNIFF REVOCABLE TRUST
Holden Shore	11-0747.300	191	45	44 HOLDEN SHORE RD	SHAUN G BERRY 1998 TRUST
Holden Shore	11-0779.301	191	55	9 HOLDEN SHORE RD	DAVID BREEN
Holden Shore	11-0507.301	192	7	80 HOLDEN SHORE RD	MONTGOMERY MORAN
Holden Shore	11-0651.300	192	8	84 HOLDEN SHORE RD	EDWARD J MCNIFF REVOCABLE TRUST
Holden Shore	11-0171.300	206	24	116 HOLDEN SHORE RD	BERRY FAMILY REALTY TRUST
Holden Shore	11-0219.300	206	25	112 HOLDEN SHORE RD	LOIS D CHASE REVOCABLE TRUST
Holden Shore	11-0251.300	206	22	126 HOLDEN SHORE RD	TERENCE G CONLEY
Holden Shore	11-0299.301	206	21	128 HOLDEN SHORE RD	LENTZ FAMILY TRUST
Holden Shore	11-0379.300	206	29	102 HOLDEN SHORE RD	BARBARA L COLLINS
Holden Shore	11-0427.302	206	26	108 HOLDEN SHORE RD	KAREN GIAMMATTEE
Holden Shore	11-0523.300	206	30	92 HOLDEN SHORE RD	KATHLEEN LANE FAMILY TRUST

Hopewell Point Road 1 1/4", 400', 1140' and 1910'

Hopewell Shores	14-1006.302	228	38	58 HOPEWELL POINT RD	ANDREW JAY
Hopewell Shores	14-0078.300	240	15	16 JOCKEY COVE WAY	THOMAS R BARSTOW TRUST
Hopewell Shores	14-0398.300	240	4	65 TIPS COVE RD	AJ MACKUCKER TRUST
Hopewell Shores	14-0446.300	240	10	6 HOPEWELL SHORES	ELLEN H YOUNG REVOCABLE TRUST

Hopewell Shores	14-0622.300	240	21	72 HOPEWELL POINT RD	FREDRICK R KRONENWETT TRUST
Hopewell Shores	14-0782.301	240	26	7 HOPEWELL SHORES	7 HOPEWELL SHORES LLC
Hopewell Shores	14-0862.300	240	8	10 HOPEWELL SHORES	HOPEWELL POINT REALTY TRUST
Hopewell Shores	14-1170.302	240	5	3 HOPEWELL SHORES	3 HOPEWELL SHORES LLC

Kingswood Road 2" Water Main, 3910'

Kingswood Road	12-0940.300	244	17	73 SCOTT RD	MICHAEL A, RUTH & WILLIAM SUGARMAN
Kingswood Road	12-2953.302	244	1	15 FITTING END LN	ROBERT JOHN D'AMATO REV TRUST 2003
Kingswood Road	12-0892.304	244	1-3	15 KINGSWOOD RD	ROBERT JOHN D'AMATO REV TRUST 2003
Kingswood Road	12-0524.300	250	12	153 KINGSWOOD RD	GENERATION SKIPPING TRUST
Kingswood Road	12-0556.301	250	13	157 KINGSWOOD RD	WILLIAM R HUNTER

Leafy Hill Lane X" Water Main, X'

Leafy Hill Lane	14-0526.300	186	10	84 LEAFY HILL LN	INGERSOLL FAMILY TRUST
Leafy Hill Lane	14-0654.300	186	13	78 LEAFY HILL LN	LOVERUD WOLFEBORO REALTY TRUST

Lewando Lane 1 1/2" Water Main, 400'

Lewando Lane	13-0397.301	242	16	19 LEWANDO LN	GREGORY R WHY 2017 REVOCABLE TRUST
Lewando Lane	13-0733.301	242	17	21 LEWANDO LN	SHELLEY G WHY 2017 REVOCABLE TRUST

Middelton Road X" Water Main, X'

Middelton Road	13-0045.300	261	16	34 AXFORD WAY	MATHEW J BOWMAN
Middelton Road	13-0173.302	261	11	28 AXFORD WAY	RICHARD S WYMAN
Middelton Road	13-0189.301	261	15	32 AXFORD WAY	AXFORD WAY NOMINEE TRUST
Middelton Road	13-0205.301	261	14	33 AXFORD WAY	AXFORD WAY NOMINEE TRUST
Middelton Road	13-0349.301	261	17	36 AXFORD WAY	SALLY E FREDERICKSON
Middelton Road	13-0509.301	261	12	30 AXFORD WAY	JEANNE L HEBERT
Middelton Road	12-0364.301	268	34	35 & 36 J CAMP RD	BARRY GREENWOOD
Middelton Road	12-0540.300	268	22	106 MIDDLETON RD	DOROTHY HUBBARD REVOCABLE TRUST
Middelton Road	12-0800.302	268	40	76 MIDDLETON RD	ROBIN E WYMAN
Middelton Road	12-1070.300	273	22	0 MIDDLETON RD	TOWN OF WOLFEBORO
Middelton Road	12-3021.300	273	1	0 MIDDLETON RD	TOWN OF WOLFEBORO

Milwood Road 1/1/4" Water Main, 1500'

Millwood Road	11-0891.301	218	50	29 MILLWOOD RD	MELISSA CARPENTER
---------------	-------------	-----	----	----------------	-------------------

Millwood Road	11-0075.300	219	3	47 MILLWOOD RD	THOMAS A O'DOWD REVOCABLE TRUST
Millwood Road	11-0091.302	219	2	49 MILLWOOD RD	ANDREW FELIX
Millwood Road	11-0571.301	219	1	51 MILLWOOD RD	PETER D HAGEARTY
Millwood Road	11-0763.300	219	5	43 MILLWOOD RD	THOMAS A O'DOWD REVOCABLE TRUST 2

Museum Shores Road 1 1/2" Water Main, 450'

Museum Shores	13-0029.300	125	3	51 MUSEUM SHORES RD	BECKER NEW HAMPSHIRE REALTY TRUST
Museum Shores	13-0541.300	125	4	49 MUSEUM SHORES RD	MYRA W KORIN
Museum Shores	13-0749.300	125	1	36 MCCARTHY ANNA RD	JAMES P THOMPSON
Museum Shores	13-0061.300	126	14	39 MUSEUM SHORES RD	MICHAEL BRENN DAN TEELING
Museum Shores	13-0125.301	126	11	55 MUSEUM SHORES RD	TODD J BRYANT
Museum Shores	13-0385.300	126	7	30 MCCARTHY ANNA RD	HESLER FAMILY TRUST
Museum Shores	13-0525.300	126	4	20 MCCARTHY ANNA RD	ROBERT MARSHALL JR
Museum Shores	13-0573.300	126	15	37 MUSEUM SHORES RD	ROY E ORRALL REVOCABLE TRUST
Museum Shores	13-0605.300	126	17	27 MUSEUM SHORES RD	NELSON IRREVOCABLE TRUST
Museum Shores	13-0861.300	126	16	33 MUSEUM SHORES RD	LORI FELLELA
Museum Shores	13-0925.300	126	12	47 MUSEUM SHORES RD	WALTER A ZANCHUK 2000 REVOCABLE TR
Museum Shores	13-0909.300	142	58	755 NORTH MAIN ST	TOWN OF WOLFEBORO

North Main Street X" Water Main, X'

North Main Street	13-0077.302	142	13	7 BAAS DR	JANE MCMANUS
North Main Street	13-0221.300	142	9	704 NORTH MAIN ST	HERBERT G VINNICOMBE 91 TRUST
North Main Street	13-0461.302	158	2	13 BAAS DR	JON HOAGLAND

Oakwood Road 2" and 1 1/2" Water Main, 2640', and 2640' (Description of to and from that UE had does not make sense)

Oakwood Road	12-0060.301	259	43	112 OAKWOOD RD	DAVID BABSON TRUSTEES OF
Oakwood Road	12-0188.303	259	52	134 OAKWOOD RD	JAMES SNYDER
Oakwood Road	12-0204.300	259	36	76 OAKWOOD RD	BREWITT CAMP TRUST
Oakwood Road	12-0325.300	259	59	146 OAKWOOD RD	BETSY K COUTURE REV TRUST 2005
Oakwood Road	12-0444.300	259	49	130 OAKWOOD RD	CMF REALTY TRUST
Oakwood Road	12-0492.300	259	46	122 OAKWOOD RD	SAMUEL W HART
Oakwood Road	12-0668.302	259	44	116 OAKWOOD RD	OSMAN BABSON
Oakwood Road	12-0716.300	259	45	120 OAKWOOD RD	JUNE L DAVIS
Oakwood Road	12-0844.301	259	77	91 OAKWOOD RD	ELIZABETH MOLEY

Oakwood Road	12-0988.302	259	41	98 OAKWOOD RD	BROWNE FAMILY TRUST NUMBER TWO
Oakwood Road	12-1004.300	259	47	124 OAKWOOD RD	CANDACE TORDONATO
Oakwood Road	12-3018.300	259	51	132 OAKWOOD RD	CYNTHIA M BORGHI 2001 TRUST
Oakwood Road	12-3020.300	259	53	136 OAKWOOD RD	KARIN L CURTIN
Oakwood Road	12-0124.301	266	9	79 SPRINGFIELD POINT RD	DEBORAH J ANDERSEN
Oakwood Road	12-0140.301	266	9	79 SPRINGFIELD POINT RD	HARRY M EASTON TRUST 50%
Oakwood Road	12-0172.301	266	10	64 OAKWOOD RD	MJ WOLFEBORO TRUST

Pine Hill Road X" Water Main, X'

Pine Hill Road	13-0621.301	161	1	0 PINE HILL RD	TOWN OF WOLFEBORO - CEMETARY
Pine Hill Road	13-0167.301	190	20	18 PINE HILL RD	PINE HILL ROAD STORAGE REALTY LLC

Piper Lane 1 1/4" Water Main, 1520'

Piper Lane	13-0157.300	157	2	118 PIPER LN	JOHN S DRINKWATER REVOCABLE TRUST
Piper Lane	13-0333.300	157	1	124 PIPER LN	BARBARA K FRASER 1995 TRUST
Piper Lane	14-0478.300	157	4	22 NORTH KEEWAYDIN SHORES	PAUL E HOUDE REVOCABLE TRUST OF 200
Piper Lane	13-0093.300	158	27	107 PIPER LN	BRYANT FAMILY TRUST
Piper Lane	13-0109.301	158	25	115 PIPER LN	DELLELO REALTY TRUST
Piper Lane	13-0237.302	158	21	134 PIPER LN	CLINTON JOHNSON
Piper Lane	13-0589.300	158	22	128 PIPER LN	PARKER REALTY TRUST
Piper Lane	14-0046.300	171	10	126 OLD KEEWAYDIN POINT RD	ROBERT W & ANNE B ANDRUS
Piper Lane	14-0238.301	171	15	120 OLD KEEWAYDIN POINT RD	THOMAS E DIGHT JR LIVING TRUST
Piper Lane	14-0510.303	171	18	104 OLD KEEWAYDIN POINT RD	ROBERT A THORESEN REVOCABLE TRUST
Piper Lane	14-0574.302	171	16	116 OLD KEEWAYDIN POINT RD	MICHAEL P HOUSE
Piper Lane	14-0926.300	171	11	107 OLD KEEWAYDIN POINT RD	KEEWAYDIN INVESTMENT CO
Piper Lane	14-1086.300	171	19	102 OLD KEEWAYDIN POINT RD	MARK G WHEATON REVOCABLE TRUST
Piper Lane	13-0285.300	172	6	102 PIPER LN	MARGOT A DRINKWATER REVOCABLE TRUST

Coves End Road X" WaterMain, X'

Private Road 1	12-3005.300	232	30-5	32 COVES END RD 5	CONSTANCE J MORNEAU REVOCABLE TRUST
Private Road 1	12-3006.301	232	30-2	32 COVES END RD 2	WILLIAM SLAVIN
Private Road 1	12-3007.300	232	30-3	32 COVES END RD 3	JONES FAMILY IRREVOCABLE TRUST
Private Road 1	12-3008.300	232	30-4	32 COVES END RD 4	HERRMANN LIVING TRUST
Private Road 1	12-3009.300	232	30-6	32 COVES END RD 6	MARK GILBERT

Private Road 1	12-3010.300	232	30-8	32 COVES END RD 8	KEVIN & MELISSA SANFORD
Private Road 1	12-3011.300	232	30-1	32 COVES END RD 1	JOHN J & CAROL O'BRIEN

Kings Pine Road X" Water Main. X'

Private Road 2	11-0964.300	205	19-1	17 KINGS PINE RD #1	DAVID B & JANIS A SHEA REVOCABLE LIVING TRUST
Private Road 2	11-0965.301	205	19-2	17 KINGS PINE RD #2	LENARD HOWELL
Private Road 2	11-0966.300	205	19-3	17 KINGS PINE RD #3	ROBERT J HECK
Private Road 2	11-0967.302	205	19-4	17 KINGS PINE RD #4	ARLENE E GRANT REVOCABLE TRUST
Private Road 2	11-0968.301	205	19-5	17 KINGS PINE RD #5	JOHN HEALEY
Private Road 2	11-0969.300	205	19-6	17 KINGS PINE RD #6	DAVID V BOLDUC
Private Road 2	11-0970.301	205	19-7	17 KINGS PINE RD #7	REYNOLD SANTORO
Private Road 2	11-0971.301	205	19-8	17 KINGS PINE RD #8	DAVID MORAN

Piping Rock Road X" Water Main, X'

Private Road 3	14-1180.301	142	10-1	678 NORTH MAIN ST 1	PIPING ROCK LOON COTTAGE LLC
Private Road 3	14-1195.301	142	10-2	678 NORTH MAIN ST 2	TIFFANY RIDYARD
Private Road 3	14-1210.300	142	10-3	678 NORTH MAIN ST 3	WILLIAM A JANOWSKY
Private Road 3	14-1225.300	142	10-4	678 NORTH MAIN ST 4	RICHARD WEBBER
Private Road 3	14-1240.300	142	10-5	678 NORTH MAIN ST 5	GST EXEMPT TRUST
Private Road 3	14-1255.301	142	10-6	678 NORTH MAIN ST 6	KRISTA MAURER
Private Road 3	14-1270.302	142	10-7	678 NORTH MAIN ST 7	EDWARD KELLEY
Private Road 3	14-1285.305	142	10-8	678 NORTH MAIN ST 8	REBECCA L SARGENT
Private Road 3	14-1300.301	142	10-9	678 NORTH MAIN ST 9	MATTHEW DELVECCHIO
Private Road 3	14-1315.300	142	10-10	678 NORTH MAIN ST 10	SCHNEIDER TRUST
Private Road 3	14-1330.300	142	10-11	678 NORTH MAIN ST 11	HAMILTON IRREVOCABLE TRUST
Private Road 3	14-1345.300	142	10-12	678 NORTH MAIN ST 12	GEORGE FAMILY TRUST OF 2006
Private Road 3	14-1375.302	142	10-13	680 NORTH MAIN ST 14	NELSON CHAVES
North Main Street	13-0168.300	142	10	678 NORTH MAIN ST	PIPING ROCK MOTEL CONDO ASSN

Sewall Road -DEEP WATER PER DAVE FORD

Sewall Road	14-0062.300	229	31	176 SEWALL RD	SUZANNE L AYERS LIVING TRUST
Sewall Road	14-0110.301	229	37	6 FROST CAMP LN	BRUCE BECKMANS
Sewall Road	14-0254.301	229	32	170 SEWALL RD	MICHAEL P WOODBURY REVOCABLE TRUST
Sewall Road	14-0286.300	229	40	1 FROST CAMP LN	GERTRUDE C FROST ISSUE

Sewall Road	14-0302.300	229	40	1 FROST CAMP LN	GERTRUDE C FROST ISSUE
Sewall Road	14-0318.300	229	36	8 FROST CAMP LN	GERTRUDE C FROST ISSUE
Sewall Road	14-0334.300	229	38	4 FROST CAMP LN	JEAN PEARCE
Sewall Road	14-0990.300	229	35	10 FROST CAMP LN	ELLEN S SIDOR LIVING TRUST
Sewall Road	14-1022.300	229	39	2 FROST CAMP LN	HONEYMOON REALTY TRUST
Sewall Road	14-0222.300	241	37	234 SEWALL RD	234 SEWALL RD TRUST
Sewall Road	14-0350.300	241	28	270 SEWALL RD	GALEUCIA FAMILY COMPOUND TRUST
Sewall Road	14-0366.301	241	19	304 SEWALL RD	JONATHAN K COOPERMAN
Sewall Road	14-0558.300	241	24	280 SEWALL RD	JOHANNA C HURLEY; KAREN C JUVONEN
Sewall Road	14-0670.300	241	45	190 SEWALL RD	BRAD MACARTHUR
Sewall Road	14-0750.300	241	20	302 SEWALL RD	C CHRISTINE MAYNARD
Sewall Road	14-0798.300	241	9	348 SEWALL RD	THOMAS R MILLER
Sewall Road	14-0814.301	241	2	376 SEWALL RD	THOMAS TRUDEAU
Sewall Road	14-0846.300	241	26	276 SEWALL RD	JOHN M MURRAY JR TRUST - 2000
Sewall Road	14-0878.300	241	6	354 SEWALL RD	NOCONOMO CORPORATION
Sewall Road	14-0942.300	241	13	334 SEWALL RD	MARGARET J RICE REVOCABLE RICE REVO
Sewall Road	14-0958.300	241	3	370 SEWALL RD	ESTELLE PARSONS
Sewall Road	14-1070.300	241	41	216 SEWALL RD	PETER MIGHELS WEBSTER TRUST

Smith River Road DEEP WATER ? TBD

Smith River Road	11-0123.301	191	6	30 WHITTEN NECK RD	MARILYN H PLACHE
Smith River Road	11-0155.302	191	4	19 SMITH RIVER RD	ROSE TRUST
Smith River Road	11-0235.300	191	5	11 SMITH RIVER RD	WAYNE G CLOUGH
Smith River Road	11-0907.301	191	3	25 SMITH RIVER RD	BETH T ROHDE

Walts Lane X" Water Main, X'

Walts Lane	12-0156.300	252	37	9 WALTS LN	ANN BLACK
Walts Lane	12-0476.300	252	39	12 WALTS LN	JANE C HARRINGTON
Walts Lane	12-0700.300	252	38	11 WALTS LN	WILLIAM A LODGEK REVOCABLE TRUST

Attachment A
Town of Wolfeboro Seasonal Water Lines Open Cut Replacement Costs

Item No.	Item Description	Units	Unit Price	Smith River Road Estimated Quantities	Albee Beach Estimated Quantities	Wolfeboro Camp School Estimated Quantities	Libby Museum Estimated Quantities	Smith River Road Estimated Quantities	Albee Beach Estimated Quantities	Wolfeboro Camp School Estimated Quantities	Libby Museum Estimated Quantities
1	Mobilization	EA.	5% of Total	1	1	1	1	\$3,548	\$7,393	\$15,075	\$12,468
2	Test Pits	C.Y.	\$50.00	10	15	35	25	\$500	\$750	\$1,750	\$1,250
3	Excavation Below Grade	C.Y.	\$10.00	125	300	775	650	\$1,250	\$3,000	\$7,750	\$6,500
4	Fittings and Appurtenances	LBS.	included	-	-	-	-	\$0	\$0	\$0	\$0
5	2" HDPE Pipe	L.F.	\$50.00	700	1300	200	-	\$35,000	\$65,000	\$10,000	\$0
6	4" HDPE Pipe	L.F.	\$55.00	-	-	3100	2600	\$0	\$0	\$170,500	\$143,000
7	6" HDPE Pipe	L.F.	\$60.00	20	-	-	-	\$1,200	\$0	\$0	\$0
8	Terminal Blow Off	EA.	\$2,500.00	1	1	1	1	\$2,500	\$2,500	\$2,500	\$2,500
9	2" Valve	EA.	\$800.00	1	0	1	-	\$800	\$0	\$800	\$0
10	4" Gate Valve	EA.	\$900.00	-	3	4	-	\$0	\$2,700	\$3,600	\$0
11	6" Gate Valve	EA.	\$1,000.00	2	0	0	3	\$2,000	\$0	\$0	\$3,000
12	3/4" Polyethylene Service	L.F.	\$32.50	-	0	0	-	\$0	\$0	\$0	\$0
13	1" Polyethylene Service	L.F.	\$35.00	260	260	1100	1300	\$9,100	\$9,100	\$38,500	\$45,500
14	3/4" Corporation	EA.	\$400.00	-	-	-	-	\$0	\$0	\$0	\$0
15	3/4" Curb Stop	EA.	\$300.00	-	-	-	-	\$0	\$0	\$0	\$0
16	1" Corporation	EA.	\$500.00	4	3	4	11	\$2,000	\$1,500	\$2,000	\$5,500
17	1" Curb Stop	EA.	\$400.00	4	3	4	11	\$1,600	\$1,200	\$1,600	\$4,400
18	Handholes	EA.	\$500.00	4	3	4	11	\$2,000	\$1,500	\$2,000	\$5,500
19	Trench Pavement	L.F.	\$30.00	50	20	800	40	\$1,500	\$600	\$24,000	\$1,200
20	Gravel Road Repair	L.F.	\$15.00	700	1200	2300	1800	\$10,500	\$18,000	\$34,500	\$27,000
21	Sewer and Drain Repair	L.F.	\$100.00	10	20	20	40	\$1,000	\$2,000	\$2,000	\$4,000
22	Directional Drilling (4")	L.F.	\$80.00	-	500	-	-	\$0	\$40,000	\$0	\$0
TOTAL								\$74,498	\$155,243	\$316,575	\$261,818


Attachment B
Town of Wolfeboro Seasonal Water Lines Directional Drilling Replacement Costs

Item No.	Item Description	Units	Unit Price	Albee Beach Original Route Estimated Quantities	Albee Beach Estimated Quantities (From Hydrants)	Wolfeboro Camp School Estimated Quantities	Albee Beach Original Route Estimated Costs	Albee Beach Estimated Costs (From Hydrants)	Wolfeboro Camp School Estimated Costs
1	Mobilization	EA.	5% of total costs	1	1	1	\$6,345	\$7,565	\$14,198
2	Test Pits	C.Y.	\$50.00	20	20	40	\$1,000	\$1,000	\$2,000
3	Excavation Below Grade	C.Y.	\$10.00	20	20	40	\$200	\$200	\$400
4	Fittings and Appurtenances	LBS.	included	-	-	-	\$0	-	\$0
5	2" HDPE Pipe	L.F.	\$75.00	1400	1200	20	\$105,000	\$90,000	\$1,500
6	4" HDPE Pipe	L.F.	\$80.00	-	500	3200	\$0	\$40,000	\$256,000
7	6" HDPE Pipe	L.F.	\$85.00	-	-	-	\$0	\$0	\$0
8	Terminal Blow Off	EA.	\$2,500.00	1	1	1	\$2,500	\$2,500	\$2,500
9	2" Valve	EA.	\$600.00	-	-	1	\$0	\$600	\$600
10	4" Gate Valve	EA.	\$800.00	3	3	6	\$2,400	\$2,400	\$4,800
11	6" Gate Valve	EA.	\$1,000.00	-	-	-	\$0	\$0	\$0
12	3/4" Polyethylene Service	L.F.	\$30.00	-	-	-	\$0	\$0	\$0
13	1" Polyethylene Service	L.F.	\$35.00	260	260	250	\$9,100	\$9,100	\$8,750
14	3/4" Corporation	EA.	\$700.00	-	-	-	\$0	\$0	\$0
15	3/4" Curb Stop	EA.	\$500.00	-	-	-	\$0	\$0	\$0
16	1" Corporation	EA.	\$700.00	3	3	4	\$2,100	\$2,100	\$2,800
17	1" Curb Stop	EA.	\$500.00	3	3	4	\$1,500	\$1,500	\$2,000
18	Handholes	EA.	\$500.00	-	-	-	\$0	\$0	\$0
19	Trench Pavement	L.F.	\$30.00	20	20	20	\$600	\$600	\$600
20	Gravel Road Repair	L.F.	\$15.00	100	20	-	\$1,500	\$300	\$0
21	Sewer and Drain Repair	L.F.	\$100.00	10	10	20	\$1,000	\$1,000	\$2,000
	TOTAL						\$133,245	\$158,865	\$298,148



Summer Main Parcels

Wolfeboro, New Hampshire



TATA & HOWARD

Approximate Scale: 1" = 1,200'

September 2020

Legend

Seasonal Water Main

Water Main Diameter

4-inch and smaller

6-inch

8-inch

10-inch

12-inch

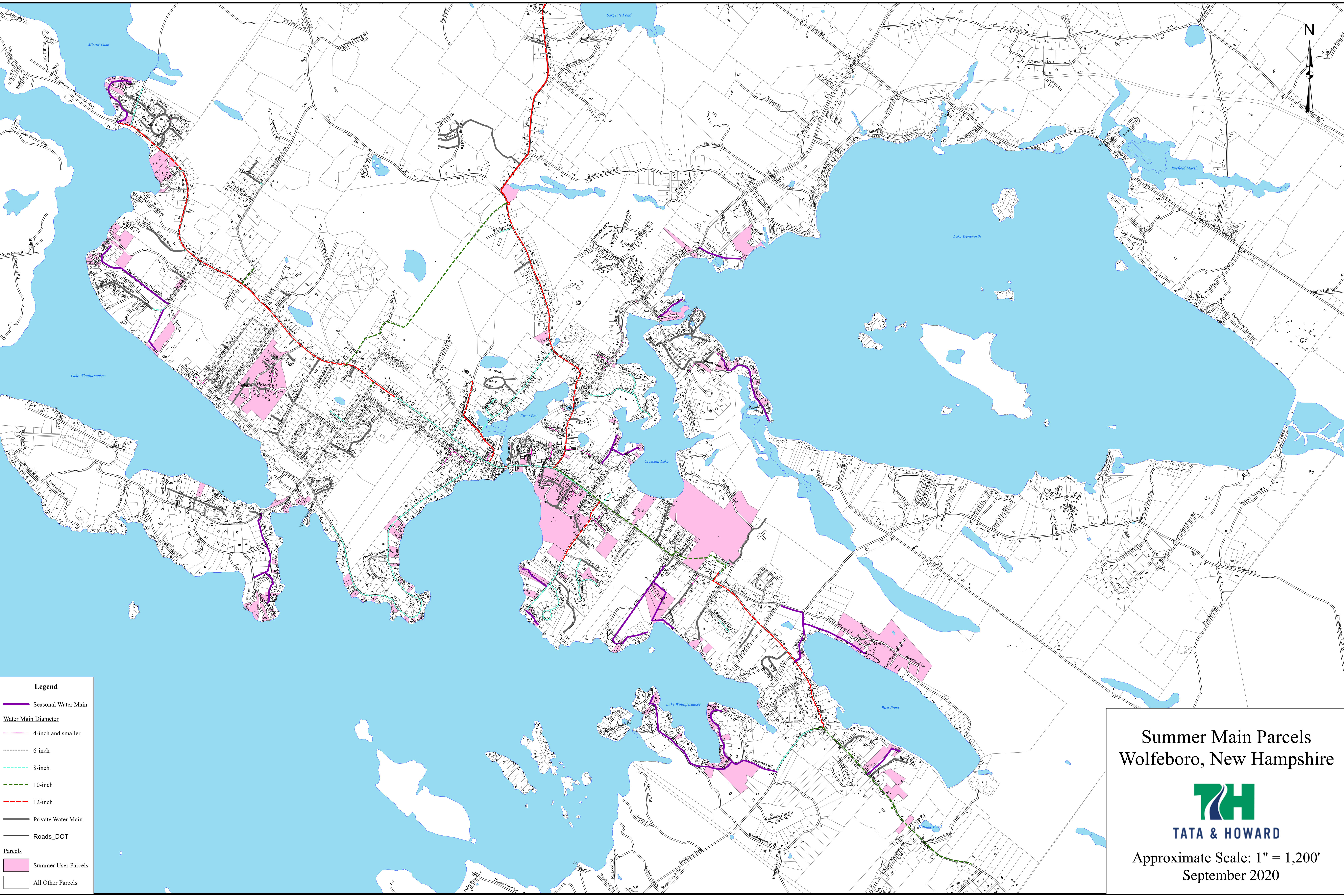
Private Water Main

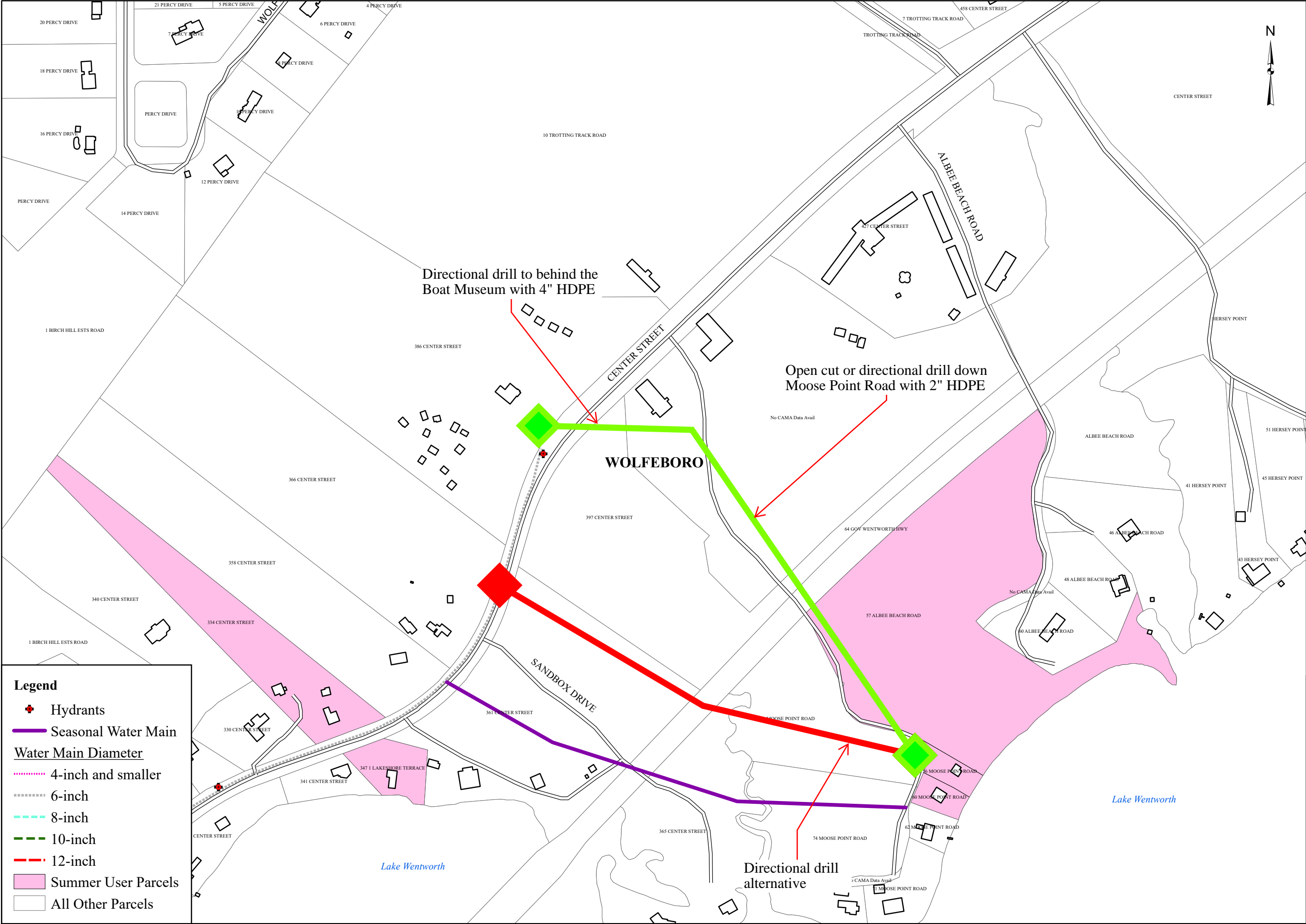
Roads_DOT

Parcels

Summer User Parcels

All Other Parcels





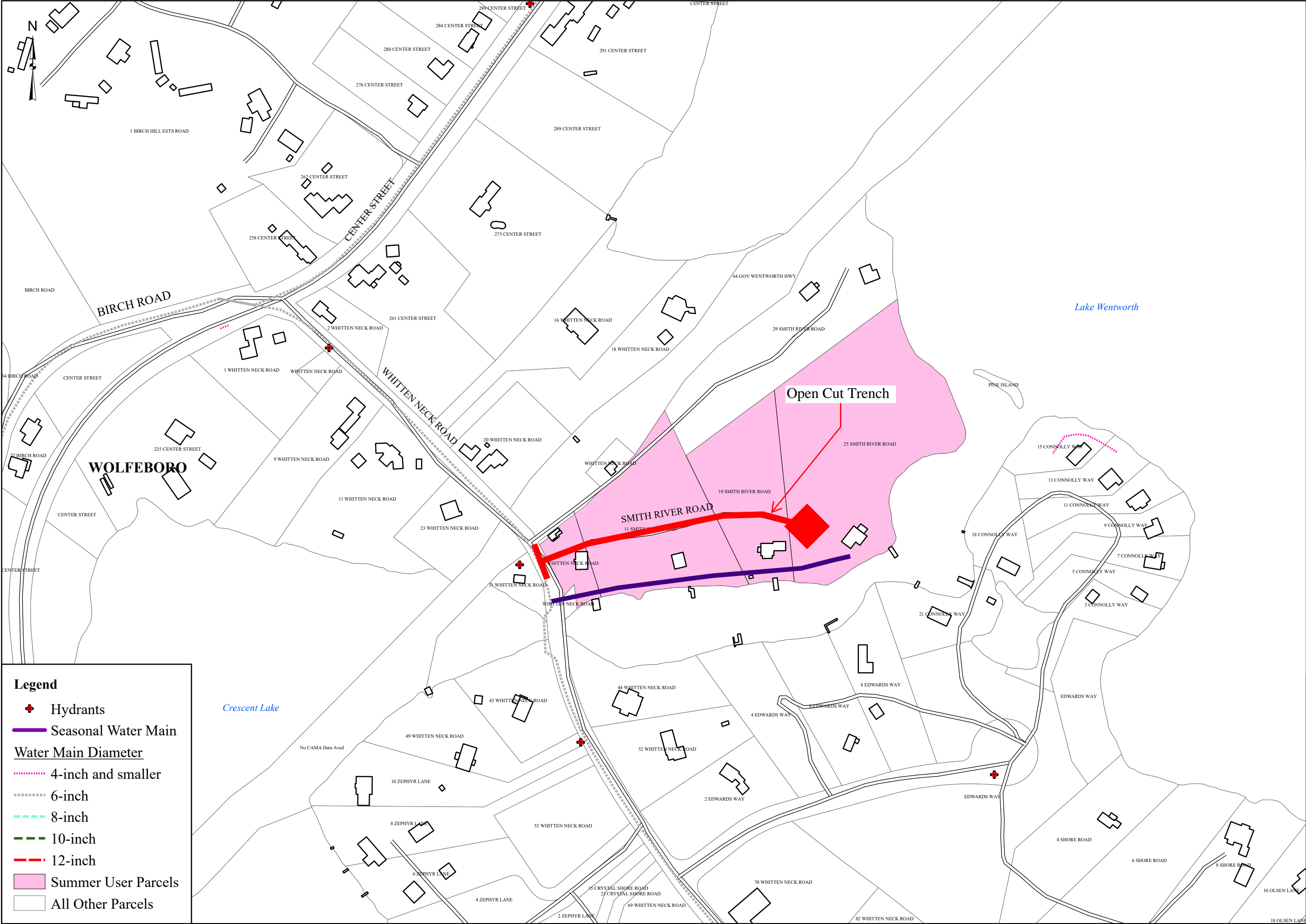


Figure No.

3

Smith River Avenue
Seasonal Water Lines
Wolfeboro, New Hampshire



Date: September 2020 Scale: 1" = 200'

