



AGENDA ITEM #: 22-118, 22-119; 22-120; 22-121  
COUNCIL MTG OF: October 18, 2022  
FROM: M. Fowler, Public Works Director; T. Carrier, Deputy Public Works Director  
OFFERED BY: M. Fowler, Public Works Director; T. Carrier, Deputy Public Works Director  
PREPARED BY: M. Fowler, Public Works Director; T. Carrier, Deputy Public Works Director  
SUBJECT: 2022 Water System Improvements Project: Rand-Shepard-Hill Water Extension

STAFF REPORT  
*Public Hearing 11-1-22*

#### PURPOSE

The purpose of this document is to present to the Council, for their approval and funding, a proposal to extend the municipal water system, to interconnect the Rand-Shepard Hill, Barkland Acres and Morningside Drive community water systems.

#### TOWN ADMINISTRATOR COMMENTS:

The Town Council received a presentation from staff on April 19 on the priorities of the Water Division and projects necessary to provide clean drinking water to Derry residences. As federal grants, low-interest loans and principal forgiveness is available through the NH Department of Environmental Services, along with the impending improvements to Tsienneto Road as part of the Exit 4A Corridor Project, it is extremely timely for the Council to consider this project.

This staff report is intended to cover multiple Resolutions:

Resolution #2022-078 to raise and appropriate \$6.11M for this project, and to accept \$1.22M in federal ARPA funds against this appropriation.

Resolution #2022-079 to authorize the issuance of \$4.88M in loans from NHDES with a 20 year term at an interest rate of 2.536%, with 30% of the principal forgiven on an annual basis by NHDES.

Resolution #2022-080 to authorize the acquisition of the Barkland Acres Community Water System and levy an annual betterment assessment of \$556 per property per year for a period of twenty years for all applicable properties.

Resolution #2022-081 to authorize an increase to the Derry municipal water rates of \$0.41 per 100 cubic feet to offset the cost of this project to become effective beginning the fiscal year of the first loan payment to NHDES.

#### BACKGROUND

**RAND-SHEPARD HILL:** Derry owns and operates the Rand-Shepard Hill (RSH) community water system (CWS) which consists of 63 single family homes located off Route 102 near the Chester town line. RSH's well #1 has been offline since 2017 due to iron levels significantly exceeding EPA's Secondary Maximum Contaminant Limit (SMCL) of 0.05 mg/l. Also, manganese levels have consistently exceeded EPA's SMCL of 0.05 mg/L and NH DES's proposed mandatory public notification limit of 0.10 mg/l.

The RSH CWS also has significant supply deficiencies, which were exacerbated by taking well #1 out of service. It is standard practice to truck in water to fill the RSH CWS storage tanks

during times of drought when irrigation is most prevalent. NH DES Regulations stipulate that the water supply capacity be not less than 2X the average daily demand. For the RSH CWS this should be 40 to 50 gallons per minute (GPM), however, their summer yield is only about 20 GPM.

**BARKLAND ACRES:** On 11/10/2020 the Town Council discussed the petition by the Barkland Acres Association (BAA), who own and operate the Barkland Acres CWS off Tsienneto Rd., to acquire and operate their water system. The Barkland CWS services 28 single family homes off Tsienneto Road. Their water supply (bedrock wells) exceeds NH DES's MCL for arsenic and they are under an administrative order to either install treatment or interconnect with the Derry public system. It was the consensus of the Council that they would be amenable to acquiring the system provided it was improved to meet Town standards including replacing the water mains and services and interconnecting the system with the Derry core water system. The costs for such improvements would, in part, be assessed to the BAA residents.

**MORNINGSIDE DRIVE:** The Morningside Drive CWS, which is privately owned and operated by the Morningside Drive Condominium Assn., consists of 32 residential customers located at Morningside Drive, Tsienneto Road and Fieldstone Drive. The system was constructed in 1976 and expanded in 1999. The system has historically been prone to leaks. The Morningside Dr. Association petitioned the Town to take over the water system in 1990, 2000 and again in 2010, however, due to the cost to bring the system to Town standards, the proposal was not accepted. Recent water quality testing now shows that the Morningside CWS exceeds NH DES's MCL for per- and polyfluoroalkyl substances (PFAS); specifically, the MCL for Perfluorooctanoic Acid (PFOA) of 12 ppt. The system must either provide treatment or interconnect with the Derry public water system.

## DISCUSSION

As EPA and NH DES continue to issue more strict water quality standards, small well systems such as RSH, Barkland Acres and Morningside Drive will need to install costly sophisticated water treatment systems or find alternate sources of drinking water.

Due to both the historical water quality and supply issues at RSH, it is recommended that this CWS be interconnected with Derry's core water system. This is consistent with the Derry Water System Master Plan. Other options including hydrofracturing and drilling additional wells were assessed, however, there is no assurance that additional supply would be realized or if water quality would not be further deteriorated. Past experience with these options did not produce the desired results.

On September 14, 2021, the Town received a formal letter of intent from the BAA to sell their water system to the Town of Derry and agreeing to a 25% cost share of the required improvements and interconnection. The proposed project would include 1,050 feet of new main to interconnect the Barkland system to the Rand-Shepard Hill extension plus the replacement of 2,400 feet of the BAA's existing undersized plastic pipe.

The Morningside Drive Association has applied for NH DES funding assistance to improve their infrastructure and to interconnect with the proposed Derry system extension on Tsienneto Road to address the PFAS issue. They are eligible for funding under the State's PFAS Remediation Program. NH DES prefers the interconnection over installing treatment. This interconnection is

consistent with the Derry Water System Master Plan. The intent is not for the Town to acquire the system.

It should also be noted that the Exit 4A project requires significant improvements to Tsienneto Road from the By-Pass 28 to Chester Road. Any proposal to install water along Tsienneto Road must be completed prior to this work which is proposed to begin in 2025. This would mean a 2023-2024 water construction schedule.

The overall project would include 14,470 feet of new water mains and expand fire protection to the north-central part of Town.

#### FISCAL IMPACT

The estimated cost to extend the Derry water system from Tsienneto Rd. and Route 28 By-Pass out to the Rand-Shepard Hill CWS, including replacing the water mains at Barkland Acres and interconnecting that system and the Morningside system to the new water main is \$6.11M. The project is eligible for a 20% American Rescue Plan Act (ARPA) grant estimated at \$1,222,000 and 30% State Revolving Fund (SRF) loan principal forgiveness estimated at \$1,464,000, which would reduce the project cost to \$3,414,000 to be financed through the SRF loan program. At the current SRF interest rate of 2.536% for a 20-year loan, the annual payment would be \$220,206.

The presumptive agreement with the Barkland Acres Association (BAA) is that BAA would pay a 25% share of the net cost to upgrade their water mains and services plus the equivalent cost to install an arsenic treatment system that they would have otherwise needed. This total annual BAA Assessment would be \$15,000. This would net an annual amount of \$205,194 to be raised through water rates. The net rate impact would be \$0.41 per ccft; adding \$2.61 a month to the average residential water bill.

Further, this extension would provide public water access to 68 additional lots along Route 102 and Tsienneto Road as well as the 43 Morningside Drive CWS properties which will generate an estimated \$200,000 in connection fees and \$25,000 in annual usage net revenues.

#### RECOMMENDED ACTION BY COUNCIL

It is recommended that the Council:

##### **Resolution #2022-078 (First read 10-18, Public Hearing and Adoption 11-01)**

- Approve a supplemental appropriation of \$6,110,000 to extend the public water system to the Rand-Shepard Hill CWS;
- Authorize the application for, and acceptance of, ARPA Grant Funds up to \$1,220,000.

##### **Resolution #2022-079 (First read 10-18, Public Hearing 11-01, Adoption 11-22)**

- Grant the authority for the Town to borrow \$4,888,000 under the NH DES Drinking Water Revolving Fund loan program.
- Authorize the application for, and acceptance of, NH DES SRF loan forgiveness of 30%, estimated at \$1,464,000.

##### **Resolution #2022-080 (First read 10-18, Public Hearing and Adoption 11-01)**

- Approve the acquisition of the Barkland Acres Community Water System subject to an annual betterment assessment for the BAA properties (and future connections within Barkland Acres) of \$556 per property per year for 20 years.

Resolution #2022-081 (**First Read 10-18, Public Hearing and Adoption 11-01**)

- Approve an increase to the Derry municipal water rates of \$0.41 per 100 cubic feet to offset the cost of this project to become effective beginning the fiscal year of the first loan payment to NH DES.

Embedded within all Resolutions:

- Authorize the Town Administrator to execute any documents relative to the ARPA Grant, NH DES SRF Loan and Principal Loan Forgiveness program.

SUGGESTED MOTION:

Please see Resolutions #2022-078 through 081



## RESOLUTION

Number 2022-080

To Accept the Barkland Acres Water System and Levy Betterment  
Assessment Thereon

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WHEREAS, RSA 31:95-e authorizes the Town Council to accept gifts, other than money, to be used for any public purpose; and

WHEREAS, the Barkland Acres Water System is experiencing water quality issues and has requested that the Town accept ownership and operation of the system; and

WHEREAS, the Town Council previously adopted Resolution #2022-079 which appropriates funds for water quality improvements, including those served by the Barkland Acres Water System; and

WHEREAS, the customers of the Barkland Acres Water System shall be responsible for a share of the cost of improvements required to conform with NH Department of Environmental System requirements;

NOW, THEREFORE, BE IT RESOLVED IN COUNCIL that the Town Administrator is hereby authorized to accept ownership of the Barkland Acres Water System and to connect said system to the Derry Municipal Water Supply; and

BE IT FURTHER RESOLVED IN COUNCIL that all Barkland Acres properties benefitting from the availability of municipal water as shown on the attached map shall be subject to an annual betterment assessment in the amount of \$556 per property per year for a period of twenty years, as authorized pursuant to RSA 38:27.

This Resolution shall take effect immediately upon its passage.

Adopted: November 1, 2022

Attest:

X \_\_\_\_\_

Joshua Bourdon, Council Chair

Date: \_\_\_\_\_

X \_\_\_\_\_

Cristina Guilford, Town Clerk

Date: \_\_\_\_\_