AGENDA BOARD OF SELECTMEN September 3, 2019 AT 6:30 PM TOWN HALL, PAULSEN MEETING ROOM

_	CLIT	$-\infty$	ADDED
	CALL	a LO	ORDER

- II. CITIZEN COMMENT
- III. SCHEDULED MEETINGS:
 - a. Walter Mitchell Town Attorney
 - b. State of NH Bridge rehab Rt.28
 - c. Mike Vignale Upper Beacon Update
 - d. Roads Committee Update of Paving projects

IV. OLD BUSINESS:

- a. Street Light Update
- b. Broadway/Fairview drainage
- c. 6 Howard Street
- d. Economic development Committee
- e. 4 Union Street

V. NEW BUSINESS:

- a. Street Sweeping Bid
- b. Cemetery/Property Maintenance Bids
- c. Manifest/Abatements
- d. Minutes 8/19/19
- VI. TOWN ADMINISTRATOR REPORT
- VII. COMMITTEE REPORTS
- VIII. OTHER/CITIZEN COMMENT
- IX. NON PUBLIC SESSION
- X. ADJOURN



THE STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION



Victoria F. Sheehan Commissioner

> Bureau of Bridge Design Tel: (603) 271-2731

AUG 19 2019 TOWN OF PEMBROKE

Allenstown-Pembroke, 40362 NH Route 28 over Suncook River Br. No. 107/098

August 16, 2019

Town Administrator David Jodoin Town of Pembroke 311 Pembroke Street Pembroke, NH 03275

Dear Town Administrator Jodoin,

Arrangements have been made by the New Hampshire Department of Transportation to present, as part of the regularly scheduled Selectmen's Meetings, the options for the rehabilitation or replacement of the bridge on NH Route 28 over the Suncook River in the Towns of Allenstown and Pembroke, NH. Due to the deteriorated condition of the bridge it will most likely require the entire bridge deck and possibly the superstructure to be replaced. There will be traffic control associated with this project.

This project may have an effect on cultural or historic resources that are potentially eligible for or listed on the National Register of Historic Places. Individuals or organizations with a demonstrated interest in the potential impacts to historic resources have an opportunity to become Consulting Parties under Section 106 of the National Historic Preservation Act. Additional information will be provided at the meeting.

The Allenstown meeting is scheduled for Monday, August 26, 2019 at 6:00 pm. The meeting will be held at the Allenstown Town Hall, 16 School Street in Allenstown. The Pembroke meeting is scheduled for Tuesday, September 3, 2019 at 6:30 pm at the Pembroke Town Hall, 311 Pembroke St. in Pembroke NH.

The purpose of this meeting is to present citizens and public officials with information regarding the proposed project and to solicit public input in order to ensure that project decisions meet public transportation needs, community goals, and protect and enhance the environment. Accordingly, NHDOT assures that this project will be administered according to the requirements of Title VI of the Civil Rights Act of 1964 and all related statutes to ensure nondiscrimination.

Any individuals needing assistance or auxiliary communication equipment due to sensory impairment or other disability, should contact the Bureau of Right-of-Way, NHDOT, PO Box 483, Concord, New Hampshire 03302-0483 or call 603-271-3222 – TDD Access: Relay NH 1-800-735-2964. Notification for the need of assistance should be made at the earliest convenience.

It is hoped you will plan to attend this meeting.

Sincerely,

David L. Scott, P.E.

In-House Design Chief



P.O. Box 432, New Boston, NH 03070

(603) 413-6650

Memorandum

To: David Jodoin, Town of Pembroke

From: Mike Vignale, KVPartners

Date: April 19, 2019

Re: Construction Meeting - Roadway Improvement Project

Cc: Attendees, Paulette Malo

A construction meeting was held at the site (Beacon Hill Road) on April 17, 2019. In attendance were Reno Nadeau and Jim Boisvert (DPW), Brent Edmunds, John Barnes (Advanced), and Mike Vignale. Following is a summary of the discussions:

- Work has not begun for the season. John expects to start up in a couple of weeks.
- The stormwater basin was still holding water. Last season John cored a hole and installed a pipe to drain the pond, but the pipe is completely clogged with algae and is not passing flow. The high base flow of groundwater is contributing to the basin being continually wet. Mike V suggested bypassing the groundwater flow at the inlet manhole to allow it to mostly dry out and then retrofitting the basin to handle any groundwater flow that enters directly from the slope (minimal flow). Mike V will develop a plan for discussion in the next week or so. Also, any sediment in the sediment forebay needs to be removed.
- There is a tree branch on the upper portion of Beacon Hill Road that was damaged by an excavator.
 This branch needs to be removed.
- The property owner at 401 East Meadow Lane notified the Town that there are boulders behind her property and 405-407 that were left after the blasting last year. John is aware of them and will remove them.
- The property owner at 566 Third Range Road expressed concerns about their driveway. They are concerned that flow from the road ponds on their driveway. The driveway is shaped to flow from the west to east and into a grassed swale. The grass swale does have an erosion control check that may be contributing to the ponding concern. The erosion check can be moved now and will be permanently removed following stabilization of the grass swale. That should eliminate and ponding on the driveway.

P.O. Box 432, New Boston, NH 03070

(603) 413-6650

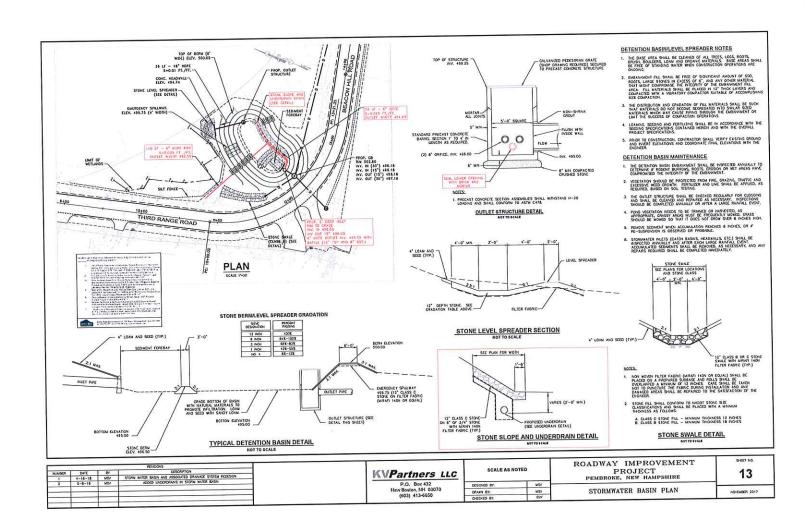
- The property owner at 254 Beacon Hill Road requested a slightly wider driveway for easier access to his mailbox. It was agreed to make this minor adjustment during final paving.
- The property owner at 318 Beacon Hill Road expressed concerns about the drainage flowing from the roadway, across an abutter's property and eventually onto their property. This has been previously discussed with the property owner several times and some corrective actions were previously taken (extending a swale where possible). Upon review of the site, it was noted that the swale uphill of the catch basin near their neighbor's driveway may allow high flow to overflow the swale, pass onto and across the neighbor's property and then onto theirs. John will provide a larger back slope (earth berm) on this swale to eliminate any possible swale overflow and direct it into the catch basin. This may reduce flows during severe rain events; however, it was clear that most of the flow to the property owner's property was coming from the abutter's property and not the roadway as was the preconstruction condition. Mike V will follow up by checking grades and discussing this with the property owner.
 - The property owner at 412 East Meadow Lane expressed concerns that puddling was occurring in their driveway. Mike V and John reviewed the site and agreed that the driveway would be cut back further (between 5 and 10') and sloped to the roadway during final paving operations.
 - Vegetated swales along the east side of Third Range Road between Sta. 15+50 and 25+50 are not
 fully stabilized as they were not fully completed last season. Considering the continual flow of
 ground water and difficulty getting vegetation established, the use of Class C stone may provide a
 more stable swale surface. Swale completion options will be further discussed.
 - When reviewing the east View driveway, Mike V asked if John was planning to cold plane around the catch basins prior to paving and John indicated he was not. After further consideration, cold planning a 1" deep area around each basin should be completed to allow surface paving to be properly installed at the basins (1" minimum depth). This will require further discussions prior to final paving.
 - As previously noted, Reno brought up a concern about a puddle on the roadway near the mailbox for 408 East View Road. This must be carefully graded when final paving is completed to prevent a puddle and icing during the winter.
 - As previously noted, Reno expressed concerns about settlement near the basins at the low point on
 East View/East Meadow. John indicated that the depression is from a construction vehicle wheel
 and they will make repairs. Reno also added that there was a puddle at the top of East View near CB
 14 that needed to be corrected when final paving. John will take care of this when the paving crews



P.O. Box 432, New Boston, NH 03070 are on the job for the driveways.

(603) 413-6650

- As previously noted, the minor cleanup at the driveway at 411 East Meadow Lane still needs to be completed. The work included loaming and seeding and removal of some excess pavement pieces.
- As previously noted, Mike V agreed to place an ad in the Construction Summary and see if a buyer
 can be found for the unused castings and will place the ad in the next few weeks.
- Next meeting will be scheduled once construction begins.



CHANGE ORDER No. 5

Contractor: Advanced Excavating and Paving

Contract: Pembroke Roadway Improvement Project

Agency: Town of Pembroke, NH

Date Issued: August 16, 2019

Designer: KVPartners, LLC

THE FOLLOWING CHANGES ARE MADE TO THE CONTRACT DOCUMENTS

A. ADJUSTMENTS IN CONTRACT PRICE

(1) The Contract Price from the Agreement (Section 5.01 in the Agreement)	\$1,012,541.00
(2) Net adjustment in said Contract Price in prior Change Orders	\$37,661.00
(3) The amended Contract Price before this Change Order	\$1,050,202.00
(4) Net increase from this Change Order	\$22,930.00
(5) The Contract Price including this Change Order will be	\$1,073,132.00

- B. OTHER PROVISIONS OF THIS CHANGE ORDER: It is expressly agreed and understood that the approval of this Change Order will have no effect on the Contract Documents other than with respect to this Change Order and the matters expressly provided in this Change Order.
- C. ATTACHMENTS The following additional documents are attached to and made a part of this Change Order by this reference: Proposal from Advanced Excavating dated 8/16/19 and an amended Pond Plan from KVPartners dated 5/8/19.

D. RECOMMENDED

Date

APPROVED

Date

E. CERTIFICATION, ACCEPTANCE & WAIVER OF FUTURE CLAIMS BY CONTRACTOR:

This is to certify to the best of my knowledge and belief that the cost and pricing data so summarized herein are complete, current, and accurate. The undersigned **Contractor** also acknowledges and agrees that the adjustment in Contract Price stipulated in this Change Order constitutes an all-inclusive settlement for all changes and all costs, and the undersigned **Contractor's** signature represents a waiver of any and all rights to file a claim on account of this Change Order, the Work, or the Work involved in this and all prior Change Orders.

The Contractor

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2019 ROAD PAVING BID PRICE PROPOSAL

The Town of Pembroke, N.H. is soliciting price proposals for providing Hot Bituminous Asphalt Pavement (machine method) 3/8" fine and 1/2" top at various locations, as directed in accordance with NHDOT Standard Specifications. A milling machine will remove a layer of asphalt to a desired depth (1 ½"). Structures will be adjusted as needed, surface will be swept and tack coat applied prior to the placement of Hot Mix Asphalt, as well as 60' +/- of 24" HDPE pipe and 44' +/- of 12" HDPE pipe both with precast concrete head/wing walls. All equipment, material and flaggers to be included in this bid.

Sealed bids must be marked "2019 Road Paving Bid" and will be accepted until 10:00 a.m. Friday, March 1, 2019 at Pembroke Town Hall located at 311 Pembroke Street, Pembroke, NH 03275 at which time they will be opened and publicly read.

Approximately 2770± tons of asphalt pavement is to be installed on various roads within the community, at times to be mutually agreed between the Town and the Contractor, allowing maximum flexibility for scheduling. Traffic control personnel to be provided by the Contractor, grading edges & covering catch basins will be contractor's responsibility. Rolling the pavement after placement will be contractor's responsibility. End mill where necessary from 0" to 2" depth (depending on pavement thickness) uniformly over a minimum distance of 24 inches to match new pavement into existing pavement. Tack coat existing pavement and all mill joints with truck or trailer mounted spray bar system at a minimum rate of 0.04 gallons/square yard. Blending driveway aprons, where required, will be considered as "machine method".

The Contractor will be required to provide the proper equipment consistent with industry standards: i.e.: automatic grade control bituminous spreading and finishing machine (pavers) capable of distributing to the required thickness and lane widths, static steel wheeled roller of minimum 8 tons, rubber tired roller producing 2000 lb per wheel; and only equipment listed on the State of New Hampshire's approved equipment list will be allowed. Work will be completed within the specifications of the State of New Hampshire Standard Specifications for Road and Bridge Construction and the Technical Specifications contained herein. If a conflict is found between them, the Technical Specifications contained herein shall rule.

The Contractor shall enclose with their bid a complete and current certificate of insurance naming the Town of Pembroke, NH as certificate holder, with limits of coverage at a minimum of general liability - \$1,000,000; automobile liability - combined single loss limit (CSL) of \$1,000,000 and evidence of worker's compensation coverage. Evidence of coverage shall also be enclosed for all subcontractors. There will be no escalation clause for any material or fuel adjustments for as long as this contract is in place.

The Contractor shall fully indemnify and hold harmless the Town of Pembroke, NH from all claims for damage or injury whatsoever that may arise from the encumbrance, obstruction, occupation, or use of said highway, and the Contractor shall be accountable for all damage that may occur on account of said encumbrance, obstruction, occupation, or use of the aforesaid highway.

Payments will be based upon actual quantities used and unit price bid in this contract and a detailed report will be submitted with each payment request. Until the work is substantially complete, retainage shall be ten percent (10%) of the monthly payment claim. Upon issuance of Certificate of Final Completion, retainage shall be reduced to five percent (5%) of the final contract total; said retainage to be held for the ninety (90) day warranty period.

A performance and payment bond for the full amount of the project is required upon acceptance by the Pembroke Board of Selectmen.

All paving must be completed no later than October 31, 2019**.

The Board of Selectmen reserves the right to reduce project funding at any time.

	Length (FT)	Width (FT)	Compacted Depth (IN)	Tons
Borough Road – isolated patch and shim				
Cross Country Road – isolated patch and shim				
Fifth Range Road – isolated patch and shim				
Sixth Range Road – isolated patch and shim				
Glass Street – Mill and fill	1750	34	1.5	565
Pembroke Hill Road – Mill and fill	1850	28	1.5	492
North Pembroke Road – Mill and fill	5280	22	1.5	1104
Sixth Range Road – Top Coat	1800	21	1.5	359

^{**}Pembroke Hill Road will need to be started after June 24, 2019 and completed by August 23, 2019 due to school traffic.

Contractors are encouraged to review the list of work prior to submitting their bids. Bid price proposals must be on company forms clearly stating the price per ton for hot top. Bid prices for shoulder work should be calculated at tons. Contractors are to submit a list of references of previously completed municipal jobs. All work to be done under the direction of the Public Works Department.

Send bid price proposals to: Pembroke Town Hall

311 Pembroke Street Pembroke, NH 03275

The Town of Pembroke reserves the right to reject any and all bids and to award the bid in the best interest of the Town of Pembroke.

James N. Boisvert Director of Public Works

BID FORM

ITEM	UNIT	UNIT PRICE
Machine 3/8" fine shim	250+/- Tons	
Machine ½" finish hot top	2520 +/- Tons	
End Mill Taper for Butt Joints	500+/- Linear FT	
Handwork Hot Top	20+/- Tons	
Shoulder Work, material 1"(-) gravel	50+/- Tons	
Milling	25,275 +/- Sq.Yds.	
Roadside Ditching	10,000 +/- Linear FT	
Adjust structures as needed	Per Each	
HDPE 24" pipe installed	60+/- Linear FT	
HDPE 12" pipe installed	44+/- Linear FT	
Precast concrete head/wing walls	Per Each	
Name of Firm:		
State of Incorporation:		
Business Address:		
Signature of Responsible Official:	Title:	
Printed Name:		
Telephone Number:	Cell Phone:	
Fax:		
E-Mail:		

TITLE V TAXATION

CHAPTER 80 COLLECTION OF TAXES

Real Estate Tax Liens

Section 80:80

80:80 Transfer of Tax Lien. -

I. No transfer of any tax lien upon real estate acquired by a town or city as a result of the execution of the real estate tax lien by the tax collector for nonpayment of taxes thereon shall be made to any person by the municipality during the 2-year period allowed for redemption, nor shall title to any real estate taken by a town or city in default of redemption be conveyed to any person, unless the town, by majority vote at the annual meeting, or city council by vote, shall authorize the governing body to transfer such lien or to convey such property by deed.

II. If the governing body is so authorized to convey such property by deed, either a public auction shall be held, or the property may be sold by advertised sealed bids. The governing body shall have the power to establish a minimum amount for which the property is to be sold and the terms and conditions of the sale.

II-a. If the governing body is authorized to transfer such liens during the 2-year redemption period, either a public auction shall be held, or the liens may be sold by advertised sealed bids. The governing body may establish minimum bids, and may set the terms and conditions of the sale. Such liens may be sold singly or in combination, but no fractional interest in any lien shall be sold. Such transfer shall not affect the right of the owner or others with a legal interest in the land to redeem the tax lien pursuant to RSA 80:69, or make partial payments in redemption pursuant to RSA 80:71, but the transferee shall become the lienholder for purposes of RSA 80:72 and 80:76.

III. The governing body may, by a specific article in the town warrant, or by ordinance, be authorized to dispose of liens or tax deeded properties in a manner other than as provided in this section, as justice may require. Before proceeding under this provision, the governing body shall make an affirmative finding that disposal by a method other than sealed bid or public auction is in the public interest.

IV. Such authority to transfer or to sell shall continue in effect for one year from the date of the town meeting or action by the city or town council provided, however, that the authority to transfer tax liens, or to sell real estate acquired in default of redemption, or to vary the manner of such sale or transfer as justice may require, may be granted for an indefinite period, in which case the warrant article or vote granting such authority shall use the words "indefinitely, until rescinded" or similar language.

V. Towns and cities may retain and hold for public uses real property the title to which has been acquired by them by tax collector's deed, upon vote of the town meeting or city council approving the

same. VI. For purposes of this section, the authority to dispose of the property "as justice may require" shall include the power of the governing body to:

(a) Engage a real estate agent or broker to list and sell the property, including a sale conditional on the

buyer's obtaining development approvals;

(b) Sell undeveloped parcels to abutters for consolidation into adjoining lots for the purpose of affordable housing development, preserving open space, or reducing development density; or (c) Convey the property to a former owner, or to a third party for benefit of a former owner, upon such reasonable terms as may be agreed to in writing, including the authority of the municipality to retain a mortgage interest in the property, or to reimpose its tax lien, contingent upon an agreed payment schedule, which need not necessarily reflect any prior redemption amount. Any such agreement shall be recorded in the registry of deeds. This paragraph shall not be construed to obligate any municipality to make any such conveyance or agreement.

Source. 1987, 322:1. 1992, 173:3, 4. 1993, 176:10. 1997, 266:4, eff. Jan. 1, 1998. 2018, 149:1, eff. July 29, 2018.

Appr

This

MARCH JOHN TOWN.

To qualify, the person must be eligible under Title II or Title XVI of the Federal Social Security Act, must occupy the property as his principle place of abode, must own the property individually or jointly, or if owned by a spouse, they must have been married for at least 5 consecutive years, had in the calendar year preceding April 1 a net income from all sources of not more than \$13,400 if single and \$20,4000 if married, own net assets not in excess of \$35,000, excluding the value of the persons actual residence and up to 2 acres or the minimum single family residential lot size specified in the Town zoning ordinance.

Article 20. To see if the Town will vote to authorize the Board of Selectmen to sell the property and building located at 4 Union Street and to deposit the proceeds from the sale into the Town's General Fund. (Majority vote required)

Article 21. To see if the Town will vote, pursuant to RSA 231:43, to discontinue Terrace Lane for its full length, retaining all existing Town sewer, drain and water pipe easements, pursuant to RSA 231:46, and to deed the resulting parcel of land to the abutter, David and Margaret Sheldon, in consideration of payment by the purchasers of \$1.00 and all costs incurred in connection with the transfer, including costs of preparing a deed and the Town's legal costs, and to authorize the Board of Selectmen to take all steps necessary to transfer the land. (Majority vote required)

Article 22. To transact any other business that may legally come before said meeting.

Given under our hands and seal this 9th day of February, 2004

John B. Goff, Chair

Brian B Tufts

William Boudread

Board of Selectmen Town of Pembroke, NH



Town of Pembroke Department of Public Works

8 Exchange Street, Pembroke, NH 03275 Phone: (603) 485-4422 Fax: (603) 485-2613

To:

Board of Selectmen

From:

James Boisvert

CC:

David Jodoin

Date:

August 27, 2019

Re:

Sweeping Bids

The recommendation from Public Works is to award the sweeping bid for the years 2020, 2021 and 2022 to Immaculate Power Sweeping, LLC



Town of Pembroke Department of Public Works

8 Exchange Street, Pembroke, NH 03275 Phone: (603) 485-4422 Fax: (603) 485-2613

2019 Sweeping Bid Summary

	2020	2021	2022	Comments
Immaculate Power Sweeping, LLC. 1401 Mammoth Road Pelham, NH 03076	\$ 7,650.00	\$ 7,800.00	\$ 7,960.00	Ins. Cert. provided

Bid Submittal - Submit Information for each year.

1. List all equipment to be used in this contract incl	uding a description, i.e.:
Equipment Desc. Make Model Year Engine Special Features Swee Der Elgin Broom Bodger 2016 Diese Dug Eng High Jump Water System 2014 Police	Equipment Desc. Make Model Year Engine Special Features
2. Bid Price	·
a.) For Year 2020 Approximately 25 miles of road & pavement	to be swept.
Lump Sum Bid= <u>\$ 7650</u> Numerical	\$
Numerical	Written Amount
b.) For Year 2021 Approximately 25 miles of road & pavement	to be swept.
Lump Sum Bid= \$ 7800	\$
Numerical	Written Amount
c.) For Year 2022 Approximately 25 miles of road & pavement	to be swept.
Lump Sum Bid= \$ 7.960 Numerical	\$ Written Amount
3. Bidder	
Name of Company Official Official's Title Name of Company Company's Address Company's Phone No. Notary Public Defek Managin Linmacy Linmacy (603)596	NH 0307b
Corporate Seal	Managing Manher Company Officials Title



CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY) 08/16/2019

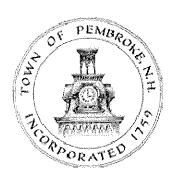
THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

RODUCER

Amethyste Spardel

Cros	s Insurance-Portsmouth				PHONE (A/C, No.	Ext): (603) 81	2-2600	(A/C, No):	(603) 570-1	073
75 Portsmouth Blvd.					HOOR (603) 812-2600 (AC, No. (603) 970-1073 E-MAIL					
Suite 100					INSURER(S) AFFORDING COVERAGE					NAIC#
Port	smouth			NH 03801	INSURER	A: Acadia In	s Co.			31325
INSURED					INSURER B: Navigators Specialty Ins. Company					
IMMACULATE POWER SWEEPING, LLC					INSURER C:					
1401 MAMMOTH RD			INSURER D :							
					INSURER E :					
	PELHAM			NH 03076	INSURER					
		TIEIC	ATE	JIIMRER 19-20 Master		(I .		REVISION NUMBER:		
7	COVERAGES CERTIFICATE NUMBER: 19-20 Master Liab REVISION NUMBER: THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD									
ii.	INDICATED NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS									
C	CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.									
INSR		ADDL				POLICY EFF	POLICY EXP (MM/DD/YYYY)			
LTR	TYPE OF INSURANCE	INSD	WVD	POLICY NUMBER		(MM/DD/YYYY)	(MM/DD/YYYY)	LIMI	4 000 00	
	COMMERCIAL GENERAL LIABILITY						-	DAMAGE TO RENTED	\$ 300,000	
	CLAIMS-MADE X OCCUR				ļ			PREMISES (Ea occurrence)		
								MED EXP (Any one person)	\$ 5,000	
Α				CPA5353659-11	1	06/27/2019	06/27/2020	PERSONAL & ADV INJURY	\$ 1,000,00	
	GEN'L AGGREGATE LIMIT APPLIES PER:							GENERAL AGGREGATE	\$ 2,000,00	
ŀ	POLICY X PRO-						į	PRODUCTS - COMPIOP AGG	\$ 2,000,00	0
	OTHER:				ļ			Employee Benefits	\$ 1,000,00	0
	AUTOMOBILE LIABILITY				-			COMBINED SINGLE LIMIT (Ea accident)	\$ 1,000,00	0
	X ANY AUTO					ļ		BODILY INJURY (Per person)	\$	
Α	OWNED SCHEDULED			CAA5353660-11	1	06/27/2019	06/27/2020	BODILY INJURY (Per accident)	\$	
1	AUTOS ONLY AUTOS NON-OWNED							PROPERTY DAMAGE (Per accident)	\$	
l	AUTOS ONLY AUTOS ONLY							Uninsured motorist	\$ 25,000	
	WIMBRELLA LIAB OCCUR							EACH OCCURRENCE	5,000,00	0
Α				CUA5353661-10		06/27/2019	06/27/2020	AGGREGATE	\$ 5,000,00	0
l ^	CEAIWS-WADE			05,055557 10				AGGREGATE		
ļ	DED RETENTION \$ WORKERS COMPENSATION							➤ PER OTH-	\$	
1	AND EMPLOYERS' LIABILITY				1				. 1,000,00	
A	ANY PROPRIETOR/PARTNER/EXECUTIVE N	A\A		WCA5353662-10		06/27/2019	06/27/2020	E.L. EACH ACCIDENT	4 000 00	
	(Mandatory in NH) If yes, describe under							E.L. DISEASE - EA EMPLOYEE	\$ 1,000,00	
L	DESCRIPTION OF OPERATIONS below	<u> </u>						E.L. DISEASE - POLICY LIMIT		
	Pollution Liability							Operations Pollution Liab	1,000,00	
В	,			MP18ECP0C02SAIC		06/27/2019	06/27/2020	Site Pollution Liab	1,000,00	NO.
								Environmental Crisis	50,000	
	CRIPTION OF OPERATIONS / LOCATIONS / VEHICLE									
Inst	rance afforded by the policies described her	ein is	subje	ect to all the terms, exclusions	s, warran	ties and condit	ions of such p	olicies.		
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1										
	RTIFICATE HOLDER				CANC	ELLATION				
L CE					1					
İ	SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE									
								F, NOTICE WILL BE DELIVE	RED IN	
	Town of Pembroke				ACCORDANCE WITH THE POLICY PROVISIONS.					
311 Pembroke St										
			amethyste L. Spardel · AAI-M.							
1	Pembroke			NH 03275		UMP:	thuster!	L. JradeL. A	MI-MU	3)
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Town of Pembroke Department of Public Works

8 Exchange Street, Pembroke, NH 03275 Phone: (603) 485-4422 Fax: (603) 485-2613

BID DOCUMENTS STREET SWEEPING

A. Terms And Conditions

Task

1. All roads, driveways, parking lots, etc. are to be swept clean across their entire width, edge of pavement to edge of pavement and their entire length as described below.

Quality of Work

2. The successful bidder's sweeper will make as many passes necessary to insure each road, driveway, parking lot, etc. is thoroughly cleaned. The Director of Public Works will make the final determination of each road and area that it has been satisfactorily cleaned.

Swept Material

3. The successful bidder will convey all materials that are swept up from the designated areas, to the Pembroke Public Works Transfer Station, 8 Exchange Street, Pembroke, NH and deposit said materials in a pre-designated location. The Pembroke Public Works Department will be responsible for the disposal of this material at the Department's expense.

Labor, Equipment and Materials

4. The successful bidder will supply all the labor, equipment and materials necessary to satisfactorily perform the tasks required in this contract.

Equipment

5. The sweeper or sweepers to be used to complete this contract will be a broom type sweeper(s) that utilize water for cleaning and dust control, must be in good working order, and must be pre-approved by the Director of Public Works.

Dust

6. The successful bidder will prevent and control any and all dust generated by the sweeping operation.

Noise

7. The successful bidder will prevent and control all unnecessary and unacceptable noise generated by the sweeping operation.

Work Schedule

- 8a. Work will occur Monday through Friday 7:00 AM to 5:00 PM.
- 8b. No work will occur on Saturdays, Sundays or National Holidays.
- 8c. For 2020, work will start no sooner than May 1, 2020 and work shall be completed by May 25, 2020.
- 8d. For 2021, work will start no sooner than May 1, 2021 and work shall be completed by May 25, 2021.
- 8e. For 2022, work will start no sooner than May 1, 2022 and work shall be completed by May 25, 2022.

Insurance

- 9. The Contractor **shall enclose with their bid** a complete and current certificate of insurance naming the Town of Pembroke, NH as certificate holder, with limits of coverage at a minimum of general liability \$1,000,000; automobile liability combined single loss limit (CSL) of \$1,000,000 and evidence of worker's compensation coverage. Evidence of coverage shall also be enclosed for all subcontractors. If the policy is changed or cancelled during the policy period, the policy holder shall provide written notice to the Director of Public Works at least fifteen (15) days prior to the effective date of such change or cancellation.
- 10. The Contractor shall fully indemnify and hold harmless the Town of Pembroke, NH from all claims for damage or injury whatsoever that may arise from the encumbrance, obstruction, occupation, or use of said highway, and the Contractor shall be accountable for all damage that may occur on account of said encumbrance, obstruction, occupation, or use of the aforesaid highway.

This contract covers the following locations to be swept: 10a.

62 Pembroke Hill Road63 Perley Avenue64 Pheasant Run
3 3
89
3
70
71
2
5
7.
55
9/
•
•
79
80
98
84
88
88

10b. The Director of Public Works reserves the right to add, subtract, and/or substitute roads, driveways and parking areas to the above lists. Any change in road length to be swept will be charged or credited on a prorated basis based upon the bid price for that year divided by the total miles listed to be swept for said year.

Town Funding

11. The continuation of this contract is subject to approval and adequate funding raised at Town Meetings for the years of 2020, 2021 and 2022.

Rights

12. The Town of Pembroke, NH reserves the right to reject any and all bids and to award the bid in the best interest of the Town of Pembroke.

Payments

13. After satisfactory completion of sweeping of all roads and areas listed above an invoice may be submitted for the work completed for that year. The Town of Pembroke will make payment in full within 30 days of receipt of said invoice.

Bid Submittal - <u>Submit Information for each year.</u>

Equipn	nent Desc.		Equipment Desc.				
Make			Make				
Model			Model				
Year			Year Engine Special Features				
Engine							
Special	Features						
2. Bid							
a.) For	Year 2020 Approximately 25 miles of	road & pavem	ent to be swept.				
	Lump Sum Bid= \$		\$				
	Lump Sum Bid= \$\ Nui	merical	Written Amount				
b.) For	Year 2021 Approximately 25 miles of	•	_				
	Lump Sum Bid= \$		\$ Written Amount				
	Nu	merical	Written Amount				
c.) For	Year 2022 Approximately 25 miles of						
	Lump Sum Bid= \$ Nu		\$				
	Nu	merical	Written Amount				
3. Bido	lar						
J. DIGC							
	Name of Company Official						
	Official's Title						
	Name of Company						
	Company's Address						
	Company's Phone No.		_				
	Company 51 none 140.						
Notary	Public	Date	Company Officials Signature	Date			
			· -				



Town of Pembroke Department of Public Works

8 Exchange Street, Pembroke, NH 03275 Phone: (603) 485-4422 Fax: (603) 485-2613

To:

Board of Selectmen

From:

James Boisvert

CC:

David Jodoin

Date:

August 27, 2019

Re:

Cemetery/Property Maintenance Bids

The recommendation from Public Works is to award the Cemetery/Property Mowing bid for the years 2020 and 2021 Mattice Collins Property Services.



Town of Pembroke Department of Public Works

8 Exchange Street, Pembroke, NH 03275 Phone: (603) 485-4422 Fax: (603) 485-2613

Cemetery/Prop. Maint. Bid Summary

	2020	2021	Comments
Saints Lawn Care			
241 Dowboro Road	\$ 17,898.00	\$ 17,898.00	no insurance
Pittsfield, NH 03263			
Mattice Collins Property Services			
111 Kaime Road	\$ 24,000.00	\$ 24,000.00	insurance on file
Chichester, NH 03258			
Market .			
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BOS awarded the bid to:

on:

TOWN OF PEMBROKE

Cemetery and property Maintenance Bid.

Saints Lawn Care is respectfully submitting a bid for the 2020 and 2021 mowing season for the cemeteries and property listed in the RFP.

Saints Bid is \$17,898 dollars per season for a total two-year cost of \$35,796.00

Thank you for allowing me to bid.

Art St Laurent

Saints Lawn Care

603-765-2941

Mattice Collins Property Services

603.731.9156

111 Kaime rd. Chichester NH 03258

Matticecollinsps@gmail.com mcpslandscaping.net

08/09/19

To: Town of Pembroke N.H.

Ref: 2020 - 2021 Cemetery & Property Maintenance

My proposal per bid specifications for mowing, trimming & seasonal cleanup at all properties; not to exceed \$24000.00 in 2020 & \$24000.00 in 2021. Totaling \$48000.00 over the two year contract.

Insurance Certificate available at Pembroke townhall on file.

Thank You

Scott Collins (MCPS)



TOWN OF PEMBROKE

TOWN HALL • 311 PEMBROKE STREET • PEMBROKE, NH 03275

27 August 2019

Mr. David Jodoin Town Administrator Town of Pembroke 311 Pembroke Street Pembroke, New Hampshire, 03275

Re

Mowing contract for 2020-21

Dear David:

The Pembroke Cemetery Commission recommends the town's acceptance of the mowing bid submitted by Mattice Collins Property Services.

Mattice Collins, formerly doing business as "BMC General Contractors," has always performed excellent work.

The company has been prompt in maintaining the public cemeteries of Pembroke, conscientious about details of their mowing, and careful to avoid damaging the monuments in our cemeteries. We have found them to be responsive to our requests and those of the Department of Public Works, and professional in all aspects of their work.

Sincerely,

James L. Garvin, Secretary Pembroke Cemetery Commission

Cc: Ellen Paulsen, Chair

TOWN OF PEMBROKE, NH 2020 - 2021 CEMETERY & PROPERTY MAINTENANCE SPECIFICATIONS

Responsibilities

Perform cleanup once in spring and once in fall. Mow and trim once every ten (10) days in April and August through October, and every seven (7) days in May through July at the following properties:

- 1. Town Hall, 311 Pembroke Street
- 2. Fire Station, 247 Pembroke Street
- 3. Library, 313 Pembroke Street
- 4. Police Station, 247 Pembroke Street
- 5. Town property, corner of Main Street and Turnpike Street
- 6. Parks
 - a. Veterans Park, Main Street & Broadway
 - b. Pembroke Park, Pembroke Street
- 7. Welcome to Pembroke sign lot, Pembroke Street at Route 106
- 8. Double Decker Bridge lot, Glass Street at Turnpike
- 9. Perry Eaton Building, 4 Union Street
- 10. Robert Frost Park Bench, Buck Street
- 11. Legion Memorial, Main Street
- 12. Bow Lane intersection, grass area

Perform cleanup once in spring and once in fall. Mow and trim once every fourteen (14) days in April and July through October, and every seven (7) days in May and June at the following properties:

- 1. Buck Street Cemetery, Buck Street & Route 28
- 2. Evergreen Cemetery, Buck Street
- 3. Pembroke Street Cemetery, Pembroke Street
- 4. Pembroke Hill Cemetery, 4th Range Road
- 5. North Pembroke Cemetery, 8th Range Road
- 6. North Pembroke Cemetery, Blueberry Hill
- 7. Langmaid Monument, Academy Road

Perform cleanup once in spring and once in fall. Mow and trim, every fourteen (14) days or as necessary, April through October, the following properties:

- 1. Abbott Cemetery, Borough Road
- 2. Richardson Cemetery, Cross Country & Sixth Range

Spring Cleanup

All lawns will be raked to include all grassed areas; all lawn edges will be raked free of sand; and all leaves, branches, and debris will be removed.

Fall Cleanup

All leaves will be picked up and removed; all dead flowers will be removed; and all sticks and branches will be removed.

TOWN OF PEMBROKE, NH 2020 - 2021 CEMETERY & PROPERTY MAINTENANCE SPECIFICATIONS

Mowing

Trash and branches will be picked up before each mowing and all trimming shall be done at the same time that the properties and cemeteries are mowed.

References

Bidders must provide names and telephone numbers of at least three (3) clients. Preference for awarding the contract will be given to those firms that have successfully performed this service for the Town of Pembroke in the past.

Security

Successful bidder shall furnish a letter of credit to the Town in the amount of fifteen (15%) percent of the Grand Total Bid. Letter of Credit shall be valid until December 1, 2021. The letter of credit will be called if the contractor fails to properly perform the work according to the specifications.

Insurance

The Contractor shall enclose with their bid a complete and current certificate of insurance naming the Town of Pembroke, NH as certificate holder, with limits of coverage at a minimum of general liability \$1,000,000.00, automobile liability – combined single loss limit (CSL) of \$1,000,000.00 and evidence of worker's compensation coverage. Evidence of coverage shall also be enclosed for all subcontractors.

Term of contract

The contract will be valid for two (2) years, with an option to renew for two (2) additional years, contingent upon approval of funding each fiscal year at the Annual Town Meeting. Contract can be broken with a thirty (30) day written notice from either party. Notice of termination must be sent by certified mail.

Payment Schedule and Report of Work Performed

For the purpose of payment and the monitoring of work performed, the Contractor shall submit a work report to the Public Works Department, on forms to be supplied by the Town, within twenty-four (24) hours of each cutting or cleaning. A sample form is attached. Reports of cuttings or cleanings will be spot checked by the Pembroke Public Works Director or his designee and the Contractor will be promptly notified of any potential discrepancy and will be expected to remedy same immediately or the total charges on the report will be reduced appropriately. The Contractor shall also report any damage to any monument or grounds during the reported cutting or cleaning that is caused by the Contractor. Total charges for work performed during the month will be accumulated by the Town and payment will be processed during the weeks in which the Board of Selectmen meet (normally the first and third Mondays of the month). The last payment in each year will be held until successful completion of fall cleanup.

The Board of Selectmen reserves the right to accept or reject any and all bids in the best interest of the Town of Pembroke.



RECEIVED

AUG 26 2019 TOWN OF PEMBROKE, NH

Technology Transfer Center

Kingsbury Hall #W220 33 Academic Way Durham, NH 03824

V: 603.862.2826 / 800-423-0060 (NH only) F: 603.862.0620 TTY: 7.7.7 (Relay NH)

www.tz.unh.edu

New Hampshire
Roads

Scholar

August 19, 2019

Town of Pembroke 311 Pembroke Street Pembroke, NH 03275

Board of Selectmen

Re:

Roads Scholar Program

Dear Sirs and Madams:

It is our pleasure to inform you that Steven Perron has achieved the status of **Safety Champion**. The T^2 Center has created the Roads Scholar Program to recognize various achievement levels in our educational program for people who work in public works.

Safety Champion is a side award given once a recipient achieves 20 Safety hours, regardless of what Roads Scholar Level he has reached in the Program.

On behalf of the Technology Transfer Center, I am pleased to notify you of the extra effort and commitment that Steven has demonstrated in order to achieve this status. He deserves to be congratulated for his persistence and drive to maintain a leading edge in the field of local road maintenance and construction.

Sincerely,

Marilee LaFond

UNH Technology Transfer Center Manager

/ml

cc:

Steven Perron

The UNH Technology Transfer Center is sponsored by the Federal Highway Administration and the New Hampshire Department of Transportation. One of the missions of the Technology Transfer Center is to provide educational support for the people who build and maintain the nation's infrastructure



357 Pembroke Hill Rd Pembroke, NH 03275

August 23, 2019

RECEIVED AUG 26 2019 TOWN OF PEMBROKE, NH

CERTIFIED MAIL RETURN RECEIPT REQUESTED

Planning Board Board of Selectmen Town of Pembroke 311 Pembroke St. Pembroke, NH 03275

Planning Board and Selectmen:

Reference is made to my letters of August 6 and July 8, 2019 and previous correspondence and testimony regarding the subdivision plan submitted by San Ken Homes, Inc. (Plan Application #18-09 for Tax Map 262, Lots 43 & 45) at 373 Fourth Range Road. Two days subsequent to my July 8 letter, the Town received two letters from Rokeh Consulting, LLC, on behalf of San Ken Homes, Inc., requesting the Board of Selectmen and Planning Board to extend public hearings, originally scheduled in July, to August 19 and August 27, 2019. I believe that these requests were in response to the deficiencies I have previously brought to your attention regarding the stormwater analysis for the proposed drainage system at the intersection of Pembroke Hill, Fourth Range and Robinson Roads. These extensions, which were granted by the Town, have provided the developer with 5 weeks to revise his stormwater drainage plan for this intersection.

On August 13, the developer submitted a revised Stormwater Management Report dated August 9, 2019, an Environmental Impact Assessment (EIA) dated August 2019, as well as other materials. In anticipation of these submissions, my August 6 letter requested that the Boards provide a minimum of 30 days for public review prior to the closure of public hearings and any action to approve the subdivision plan and/or the reclassification of Fourth Range or Robinson Roads. That letter was submitted as testimony for the public hearings at the Board of Selectmen's meeting on August 19 and the Planning Board Meeting of August 27. My request for a 30-day review period was not addressed at the public hearing on August 19. Assuming that the Planning Board will likely follow suit, I have conducted a limited review of the revised Stormwater Management Report and the EIA in the brief amount of time I have had available. My findings are discussed below.

With regard to the stormwater report, I have repeatedly stated to both Boards that the developer's proposed sizing for the culvert, that crosses the Pembroke Hill, Fourth Range, and Robinson Road intersection, was too small to carry the flow computed in his stormwater analysis. In my letter of July 8, I stated my intention to litigate this issue if the Planning Board did not require the developer to address this deficiency. The developer finally submitted a revised plan on August 13. Please refer to Attachments 1 and 2, which contain summaries of the 10-year rainfall-runoff

analyses for pre-development conditions from his prior and most recent submissions, respectively. You will note that the developer's remedy was not to increase the culvert size, but to reduce his design flow by 83 percent; from 28.32 cubic feet per second (cfs) in his original plan (Attachment 1, Subcatchment 1S) to 4.77 cfs in his most recent submission (Attachment 2, Subcatchment 1S). The apparent basis for this dramatic change was a reduction in the size of the drainage area used in the analysis from 30.9 acres to 8.8 acres. It seems incredible that the initial measurement of the drainage area for this culvert could have been in error by nearly 350 percent and that this error was not identified in the Town Engineer's review. Is the public now expected to accept the revised number as the correct one? Are the flows computed for the other subcatchments and reaches correct? In my opinion, as a professional hydrologist and a formerly licensed professional geologist in the State of New Hampshire, the magnitude of this correction calls into serious question the credibility of the entire Stormwater Management Report.

At the request of members of the citizenry, the Pembroke Conservation Commission, and me, at the Planning Board meeting of May 28, 2019, the Board unanimously voted to retain its own wetland scientist and an independent hydrologist to review the developer's wetland delineations and hydrology, respectively. Proposals were subsequently obtained to procure these reviews. At the Planning Board meeting of June 25, the Board dropped further action on these independent reviews (without a motion or vote to do so) and instead accepted a gratuitous offer by the developer to provide an EIA. As documented in the minutes of the June 25 meeting, the developer's wetland scientist described the EIA as one which would: 1. Take all the wetlands and drainage issues into account and how they affect habitat, wildlife, roads, and wells. 2. Take an all-around look at impacts from the development. 3. Address the land characteristics now versus how they would change after development, including runoff, impervious surfaces, vegetation, and the amount of water.

After reviewing the EIA, my opinion is that it does nothing to address the concerns raised by the Planning Board or the citizenry regarding the surface-water and ground-water impacts of the proposed subdivision. It appears to be largely a regurgitation of information already provided by the developer, or readily available to the Town from other sources. The report is inflated in size by the inclusion of irrelevant material and contains no new information on specific project impacts. Instead, the report draws broad, sweeping, and largely unsubstantiated conclusions that project impacts are minimal and insignificant.

In conclusion, I believe the evidence is overwhelming that the project review processes for this complex subdivision has been inadequate and that the Planning Board's reliance only on data generated, or paid for, by the developer is not in the Town's best interest. I again call upon the Board, as requested in my initial January 19, 2019 letter, to contract with qualified <u>independent</u> experts to conduct reviews of the applicant's proposed wetland delineations, septic system designs and percolation testing, stormwater and drainage plans, and roadway, sidewalk and curbing plans, including assessments of pre- and post-development vehicular, pedestrian, and bicycle traffic. The Planning Board has a responsibility to the Town taxpayers to adequately review this project, including following through on its vote of May 28 to conduct independent reviews. The Planning Board must reject the current subdivision plan until all independent reviews are completed and any identified deficiencies are addressed.

This letter is submitted as part of my testimony for the continued public hearings at the Pembroke Planning Board Meeting of August 27 2019.

Sincerely.

Brian R. Mrazik, Ph.D., PG

ATTACHMENT 1

05-16-19 Sanken PRE

Type III 24-hr 10-year Rainfall=4.21"

Prepared by RJB Engineering

Printed 5/17/2019

HydroCAD® 10.00-21 s/n 05821 © 2018 HydroCAD Software Solutions LLC

Page 6

Time span=5.00-30.00 hrs, dt=0.05 hrs, 501 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: SUB 1

Runoff Area=1,346,573 sf 0.68% Impervious Runoff Depth=1.61" Flow Length=2,540' Tc=38.8 min CN=72 Runoff=28.32 cfs 4.145 af

Subcatchment 2S: SUB 2

Runoff Area=446,652 sf 0.00% Impervious Runoff Depth=1.68" Flow Length=1,820' Tc=20.0 min CN=73 Runoff=13.23 cfs 1.435 af

Subcatchment 3S: SUB 3

Runoff Area=1,512,482 sf 0.00% Impervious Runoff Depth=1.54" Flow Length=2,515' Tc=24.1 min CN=71 Runoff=37.56 cfs 4.455 af

Subcatchment 4S: SUB 4

Runoff Area=5,574,508 sf 0.00% Impervious Runoff Depth=1.61" Flow Length=6,090' Tc=49.4 min CN=72 Runoff=102.98 cfs 17.160 af

Subcatchment 5S: SUB 5

Runoff Area=137,156 sf 0.00% Impervious Runoff Depth=1.75"

Flow Length=230' Slope=0.0300 '/' Tc=13.0 min CN=74 Runoff=5.02 cfs 0.460 af

Subcatchment 6S: SUB 6

Runoff Area=1,296,477 sf 0.00% Impervious Runoff Depth=1.47" Flow Length=4,375' Tc=28.5 min CN=70 Runoff=28.41 cfs 3.650 af

Subcatchment 7S: SUB 7

Runoff Area=65,642 sf 0.00% Impervious Runoff Depth=2.38" Flow Length=850' Tc=14.6 min CN=82 Runoff=3.21 cfs 0.299 af

Reach 1R: RUNOFF

Avg. Flow Depth=0.65' Max Vel=4.39 fps Inflow=13.23 cfs 1.435 af n=0.040 L=600.0' S=0.0467 '/' Capacity=33.70 cfs Outflow=13.04 cfs 1.435 af

Reach 2R: STREAM

Avg. Flow Depth=1.04' Max Vel=5.01 fps Inflow=37.56 cfs 4.455 af n=0.040 L=550.0' S=0.0327 '/' Capacity=160.28 cfs Outflow=37.19 cfs 4.455 af

Link 2L: DN 2

Inflow=49.91 cfs 5.890 af Primary=49.91 cfs 5.890 af

Total Runoff Area = 238.280 ac Runoff Volume = 31.605 af Average Runoff Depth = 1.59" 99.91% Pervious = 238.071 ac 0.09% Impervious = 0.209 ac

ATTACHMENT 2

08-09-19 Sanken PRE

Type III 24-hr 10-year Rainfall=4.21"

Prepared by

Printed 8/12/2019

HydroCAD® 10.00-20 s/n 04200 © 2017 HydroCAD Software Solutions LLC

Page 10

Time span=5.00-30.00 hrs, dt=0.05 hrs, 501 points Runoff by SCS TR-20 method, UH=SCS, Weighted-CN Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: SUB 1

Runoff Area=383,506 sf 2.54% Impervious Runoff Depth=1.41"

Flow Length=1,065' Tc=72.2 min CN=69 Runoff=4.77 cfs 1.031 af

Subcatchment 2S: SUB 2

Runoff Area=446,652 sf 0.00% Impervious Runoff Depth=1.68"

Flow Length=1,820' Tc=20.0 min CN=73 Runoff=13.23 cfs 1.435 af

Subcatchment 3S: SUB 3

Runoff Area=1,512,482 sf 0.00% Impervious Runoff Depth=1.54"

Flow Length=2,515' Tc=24.1 min CN=71 Runoff=37.56 cfs 4.455 af

Subcatchment 4S: SUB 4

Runoff Area=5,574,508 sf 0.00% Impervious Runoff Depth=1.61"

Flow Length=6,090' Tc=49.4 min CN=72 Runoff=102.98 cfs 17.160 af

Subcatchment 5S: SUB 5

Runoff Area=137,156 sf 0.00% Impervious Runoff Depth=1.75"

Flow Length=230' Slope=0.0300'/' Tc=13.0 min CN=74 Runoff=5.02 cfs 0.460 af

Subcatchment 6S: SUB 6

Runoff Area=1,296,477 sf 0.00% Impervious Runoff Depth=1.47"

Flow Length=4,375' Tc=28.5 min CN=70 Runoff=28.41 cfs 3.650 af

Subcatchment 7S: SUB 7

Runoff Area=65,642 sf 0.00% Impervious Runoff Depth=2.38"

Flow Length=850' Tc=14.6 min CN=82 Runoff=3.21 cfs 0.299 af

Reach 1R: RUNOFF

Avg. Flow Depth=0.65' Max Vel=4.39 fps Inflow=13.23 cfs 1.435 af

n=0.040 L=600.0' S=0.0467 '/' Capacity=33.70 cfs Outflow=13.04 cfs 1.435 af

Reach 2R: STREAM

Avg. Flow Depth=1.04' Max Vel=5.01 fps Inflow=37.56 cfs 4.455 af

n=0.040 L=550.0' S=0.0327 '/ Capacity=160.28 cfs Outflow=37.19 cfs 4.455 af

Link 2L: DN 2

Inflow=49.91 cfs 5.890 af

Primary=49.91 cfs 5.890 af

Total Runoff Area = 216.171 ac Runoff Volume = 28.490 af Average Runoff Depth = 1.58" 99.90% Pervious = 215.948 ac 0.10% Impervious = 0.224 ac



Town of Londonderry

Planning & Economic Development Department

268B Mammoth Road Londonderry, New Hampshire 03053 Phone (603) 432-1100 x149 www.londonderrynh.org



AUG 202019 TOWN OF PEMBROKE, NH

NOTICE OF FORMAL REVIEW OF A SITE PLAN

As the owner/applicant, engineer/surveyor or abutter, you are hereby notified, pursuant to NHRSA 676:4, I (d) and the Town of Londonderry Subdivision and Site Plan Regulations, of the following public hearing being held by the Planning Board:

The Londonderry Planning Board will hold a Public Hearing on Wednesday, September 4, 2019 at 7:00 p.m. in the Moose Hill Council Chambers, 268B Mammoth Road, Londonderry, NH to consider the following:

Application for formal review of a site plan for the design and construction of a telecommunications facility, 11 Mohawk Drive, Map 6 Lot 35-3, Zoned C-I, Tahoe Realty Holding, LLC (Owner) & Bay Communications III, LLC and T-Mobile Northeast, LLC (Applicant)

Please be advised that you have the right to testify during the public hearing.

Upon a finding by the Board that the application meets the submission requirements of the Londonderry Subdivision or Site Plan Regulations, the Board will vote to accept the application as complete, and a public hearing on the merits of the proposal will follow immediately.

Should a decision not be reached at the public hearing, the Board will announce the date and time to which the application is continued.

If an application is conditionally approved or denied, written notice from the Planning Board will be sent to the owner/applicant within five business days stating the conditions of approval or the reasons for denial.

The plans & files for the above referenced project are available for review by the public in the Planning & Economic Development Division Office, second floor of the Town Hall. Plans are also available online at www.londonderrynh.org; select "Planning and Economic Development" from Departments, then select the "Projects Currently Under Review" link.

Londonderry Planning & Economic Development Department, August 19, 2019



August 16, 2019

Board of Selectmen Town of Pembroke 311 Pembroke Street Pembroke, NH 03275 RECEIVED
AUG 22 2019
TOWN OF
PEMBROKE, NU

Re: Turner Classic Movies Moving to Sports Entertainment Package

Dear Chairman and Members of the Board:

We are committed to keeping you and our customers informed about changes to Xfinity TV services. Accordingly, please note that effective October 10, 2019, Turner Classic Movies (TCM) will move to the Sports Entertainment Package and will no longer be included in its current service package(s). We are notifying impacted customers of these changes through a bill message.

Please feel free to contact me at 603-224-1871, ext. 202 if you have any questions.

Very truly yours,

Bryan Christiansen

Bryan Christiansen, Sr. Manager Government Affairs



Allenstown Sewer Commission

35 Canal Street Allenstown, NH 03275 603-485-5600 FAX 800-859-0081



August 15, 2019

Pembroke Sewer Commission 4 Union Street Pembroke, NH 03275

RECEIVED

AUG 16 2019 TOWN OF PEMBROKE, NH

Re: Pembroke Sewer Commission letter dated 7/8/2019

Dear Paulette,

We acknowledge receipt of your letter dated 7/8/2019, and are prepared to accept your statement as to the status of the allocation of the 98,000 gallons per day (gpd) previously permitted by the NHDES. Additionally, we are prepared to approve connection requests from Pembroke for the remaining balance of 25,283 gpd prior to acceptance of a new IMA.

In regards to your request for the Lodges at Pembroke Pines the total max flow for phase 1 is 8,584 gpd and the total max flow for phase 2 is 10,601 gpd, the sum of which is 19,185 gpd. You have requested approval for 19,152 gpd. I would ask that you verify your calculations prior to seeking ASC approval to award flow to this applicant.

As a reminder, Pembroke will still need to make requests for approval in writing to the ASC prior to any allocation of flow to any and all applicants, including the Lodges at Pembroke Pines, for any of the remaining balance of the 25,283 gpd.

Once the remaining 25,283 gpd is allocated out to applicants, it is our assertion, which is supported by the attached "Flow Evaluation Technical Memorandum", Pembroke will have received all available capacity entitlement under both the original and the current IMA. Furthermore, since Pembroke has not quantified any reduction of inflow & infiltration (I&I) by a professional engineer, Pembroke is not entitled to any additional capacity due to I&I reduction.

In closing, we must once again reject your calculation of usage in your letter dated 7/8/19. The premise of which does not demonstrate Pembroke's entitlement to any flow capacity over the unallocated 25,283 gpd remaining from its original capacity allocation.

Going forward; the ASC intends to execute a new IMA with Pembroke, and proceed with the sale of 150,000 gpd of capacity to Pembroke. Likewise, the ASC will insist the new IMA be predicated on approved allocation of capacity, not actual flow.

Best Regards,

Jeffray Bashman

Jeffrey Backman, Superintendent

Enclosures

cc: Derik Goodine – Allenstown Town Administrator

David Jodoin – Pembroke Town Administrator



150 Dow Street Manchester, New Hampshire 03101 603-669-5555 603-669-4168 fax www.hoyletanner.com

FLOW EVALUATION TECHNICAL MEMORANDUM

PROJECT:

Allenstown/Pembroke Intermunicipal Agreement

Hoyle, Tanner Project No. 013640

DATE:

August 12, 2019

PROJECT

LOCATION:

Allenstown, NH

SUBJECT:

Evaluation of Pembroke, NH Wastewater Flows to Allenstown

PREPARED BY:

Michael A. Trainque, PE - Hoyle, Tanner & Associates, Inc.

COPY:

Distribution:

Town of Allenstown

Pursuant to a request by the Town of Allenstown Sewer Department, we have completed an evaluation of the wastewater flows from the Town of Pembroke, New Hampshire for the period from January 2000 through June 2019 inclusive except for the year 2003 for which the data was not readily available. The primary object of this evaluation was to determine the current status of wastewater flows from the Town of Pembroke, NH to the Allenstown wastewater treatment facility (WWTF) relative to the Town of Pembroke's allotted capacity at the Allenstown WWTF.

The Allenstown WWTF was put into operation in 1977. The WWTF is located in, owned and operated by the Town of Allenstown, NH. It is a regional facility that serves the Towns of Allenstown and Pembroke. The design average flow capacity of the Allenstown WWTF as originally constructed was 1.050 million gallons per day (MGD) or 1,050,000 gallons per day (GPD). Pursuant to prior agreement, the Town of Allenstown was allocated 35% of the WWTF capacity or 367,500 GPD and the Town of Pembroke was allocated 65% of the WWTF capacity or 682,500 GPD. The Town of Allenstown completed an upgrade to the WWTF in 2011 that increased the average daily design flow capacity of the WWTF from 1.05 MGD to 1.55 MGD. Pursuant to a recent needs assessment completed by Hoyle, Tanner in February 2018, the Town of Allenstown is reserving 645,000 GPD for projected needs. Taking into consideration the 682,500 GPD flow capacity already allocated to the Town of Pembroke leaves a total of 222,500 available for potential sale to Pembroke or others.

Wastewater flow is metered at the WWTF and at two locations within the Allenstown wastewater collection system. The metering data is used to monitor the total wastewater flows to the WWTF as well as the flows from Allenstown and Pembroke, respectively. The Allenstown Sewer Department

Evaluation of Pembroke, NH Wastewater Flows

furnished flow monitoring data for the period from January 2000 through June 2019, inclusive except for the year 2003 for raw data exists but was not readily available. The flow metering data is attached to and included as part of this memorandum. The flow data furnished includes average, minimum and maximum daily wastewater flows. Our evaluation was based on average daily flow but we also looked at maximum daily flows as well to get a better perspective on impacts to the WWTF.

Our evaluation of the flow monitoring data indicated that the monthly average daily wastewater flow from Pembroke exceeded its allocated flow of 682,500 GPD in at least 8 months during the referenced time period, the most recent of which occurred in November 2018. There were also many individual days on which the average daily flow from Pembroke exceeded its allocated flow capacity. The monthly average daily flows are shown graphically on the attached flow graphs. The average monthly maximum daily flows are also shown in the attached graphs. The orange horizontal line represents Pembroke's allocated capacity of 682,500 GPD. The horizontal blue line in the graphs represents 80 percent of Pembroke's allocated capacity.

Additionally, we looked at the highest consecutive 3-month flow for each year. These are shown in tabular form as well as graphically on the attached flow graphs.

It is evident from the flow monitoring data that wastewater flow from Pembroke still occasionally exceeds the Town's allocated capacity of 682,500 GPD. In the absence of any data to the contrary, such as documented infiltration/inflow mitigation and reduction, it is reasonable to conclude that Pembroke has reached its allocated capacity at the Allenstown WWTF as evidenced by the historical flow data. In view of this, the only current capacity that Pembroke has available to allocate to new sewer connections is that within its original allocated capacity that has not yet been allocated to specific sewer customers as well as any reductions in infiltration/inflow due to rehabilitation or replacement of old or deficient sewer system components.

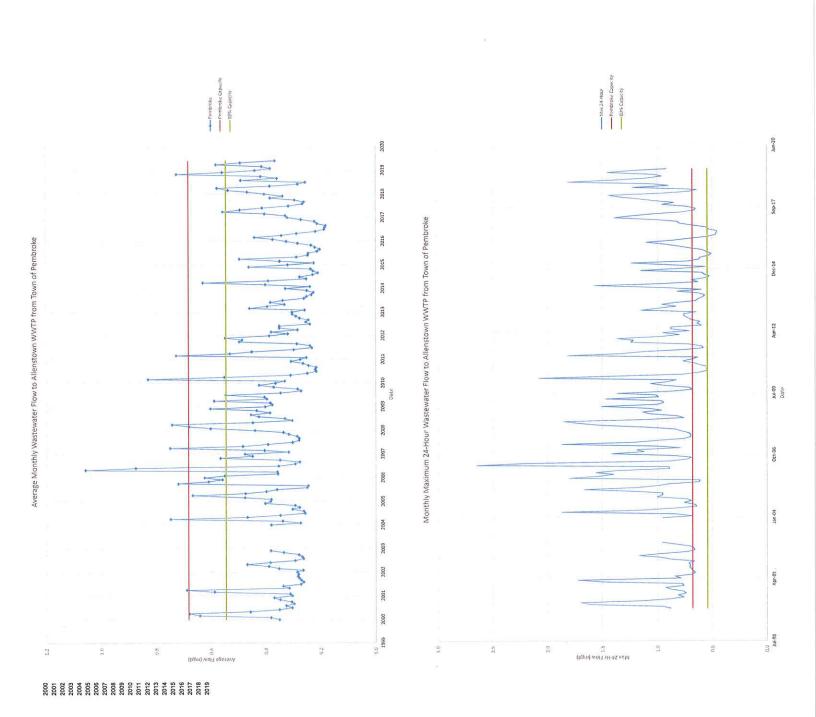
We also note that there is the potential for the average daily wastewater flow from Pembroke to exceed its allocated capacity for 90 consecutive days or more during high-groundwater wet-weather periods since that has occurred in the past. This is the standard that the NHDES uses to determine whether a wastewater treatment facility has reached or exceeded its design average daily flow capacity.

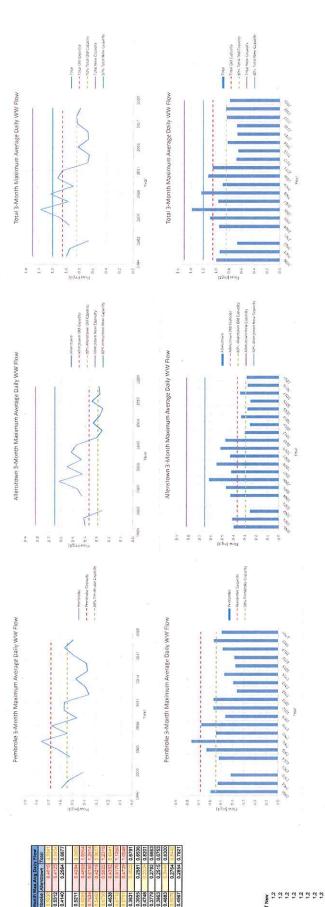
In terms of infiltration/inflow reduction, the Massachusetts Department of Environmental Protection (MADEP) has a regulatory policy of 4:1 mitigation of infiltration/inflow for new connections to sewers subject to infiltration/inflow. In other words, sewer capacity is allocated on the basis of 1 GPD for every 4 GPD of infiltration/inflow removed. This policy has generally been followed in New Hampshire as well. In fact, the Town of Allenstown previously received a letter from the New Hampshire Department of Environmental Services (NHDES) stating this requirement. The Town of Allenstown has adopted this policy for allocating capacity for removal of infiltration/inflow.

1	Year &		verage Flow (m			Capacity (mgd)			d Capacity (mg			24 Hour (mgd)			Max Avg Daily	
2000	Month Jan-00	Pembroke 0.3513	Allenstown 0.2427	Total 0.5940	Pembroke 0.6825	Allenstown 0.3675	Total 1.05	Pembroke 0.546	Allenstown 0.294	Total 0.84	Pembroke 0.8783	Allenstown 0.6068	Total 1.4851	Pembroke	Allenstown	Total
2000	Feb-00	0.3814	0.2681	0.6728	0.6825	0.3675	1.05	0.546	0.294	0.84	0.9535	0.6703	1.6819	1.7791	1.2031	2.9822
2000 2000	Mar-00 Apr-00	0.6421 0.6801	0.3876	1.0297	0.6825 0.6825	0.3675 0.3675	1.05	0.546 0.546	0.294 0.294	0.84	1.6052 1.7002	0.9690 1.1077	2.5743	1.3748	0.8985 1.0988	2.2965 2.8256
2000	May-00	0.4570	0.3724	0.8294	0.6825	0.3675	1.05	0.546	0.294	0.84	1.1424	0.9310	2.0735	1.7791	1,2031	2.9822
2000	Jun-00	0.3505	0.2942	0.6447	0.6825	0.3675 0.3675	1.05	0.546 0.546	0.294 0.294	0.84	0.8762	0.7355 0.6431	1.6117	1.4875 1.1124	1.1097 0.9238	2.5972
2000 2000	Jul-00 Aug-00	0.3050 0.3261	0.2573 0.2899	0.5623	0.6825 0.6825	0.3675	1.05	0.546	0.294	0.84	0.7823	0.7248	1.5399	0.9815	0.8414	1.8229
2000	Sep-00	0.2967	0.2627	0.5594	0.6825	0.3675	1.05	0.546	0.294	0.84	0.7418	0.6568	1.3986	0.9278	0.8099	
2000 2000	Oct-00 Nov-00	0.3070 0.3484	0.2435 0.2847	0.5505	0.6825 0.6825	0.3675 0.3675	1.05	0.546 0.546	0.294		0.7674 0.8709	0.6088 0.7118	1.3762	0.9298 0.9521	0.7961 0.7909	1.7259
2000	Dec-00	0.3703	0,2865	0.6567	0.6825	0.3675	1.05	0.546	0.294		0.9256	0.7162	1.6419	1.0256	0.8147	1.8403
2001	Jan-01	0.3044	0.2730	0.5774	0.6825	0.3675	1.05	0.546	0.294	0.84	0.7609 0.7809	0.6824 0.6954	1.4434	1.5935	1.2368	2.8303
2001 2001	Feb-01 Mar-01	0.3124 0.5882	0.2781	0.5905	0.6825 0.6825	0.3675 0.3675	1.05	0.546 0.546	0.294		1.4705	0.9457	2.4162	1.2049	0.9294	2.1343
2001	Apr-01	0.6896	0.5489	1.2384	0.6825	0.3675	1.05	0.546	0.294		1.7239	1.3722	3.0961	1.5901	1.2053	
2001 2001	May-01 Jun-01	0.3157 0.3371	0,3097	0.6254	0.6825 0.6825	0.3675 0.3675		0.546 0.546	0.294		0.7893 0.8427	0.7742	1.5635	1.5935 1.3423	1.2368 1.1387	2.8303
2001	Jul-01	0.2732	0.2173	0.4905	0.6825	0.3675	1.05	0.546	0.294	0.84	0.6830	0.5433	1.2263	0.9260	0.8072	1.7332
2001	Aug-01	0.2631	0.2160 0.2066	0.4721	0.6825 0.6825	0.3675 0.3675		0.546 0.546	0.294		0.6577	0.5400 0.5164	1.1802	0.8733	0.7135 0.6399	
2001 2001	Sep-01 Oct-01	0.2719 0.2784	0.2066	0.4783	0.6825	0.3675		0.546	0.294	0.84	0.6959	0.5075	1.2033	0.8133	0.6256	1.4319
2001	Nov-01	0.2839	0.1962	0.4801	0.6825	0.3675		0.546	0.294		0.7098	0,4905	1.2003	0.8342 0.8438	0.6058 0.6007	
2001	Dec-01 Jan-02	0.2816 0.2864	0.2015 0.2157	0.4831	0.6825 0.6825	0.3675 0.3675	_	0.546 0.546	0.294	0.84	0.7040	0.5038 0.5394	1.2077	0.0430	0.6007	1.4445
2002	Feb-02	0.2649	0.2047	0.5072		0.3675	1.05	0.546	0.294	0.84	0.6624	0.5117	1.2679	1.2419	0.7691	2.0032
2002	Mar-02	0.3523	0.2440		0.6825	0.3675		0.546	0.294	0.84	0.8807	0.6100	1.4541	0.9036 1.0066	0.6644	
2002 2002	Apr-02 May-02	0.3894 0.4681	0.2363 0.2658		0.6825 0.6825	0.3675 0.3675		0.546 0.546	0.294		1.1701	0.6645	1.7897	1.2097	0.7461	1.9282
2002	Jun-02	0.3845	0.2670	0.6567	0.6825	0.3675	1.05	0.546	0.294	0.84	0.9611	0.6674	1.6417	1.2419	0.7691 0.7619	
2002 2002	Jul-02 Aug-02	0.2933 0.2638	0.2291 0.2121	0.5096	0.6825 0.6825	0.3675 0.3675		0.546 0.546	0.294		0.7332 0.6596	0.5728 0.5303	1.2740	1.1458 0.9416	0.7619	
2002	Sep-02	0.2690	0.2046	0.4774	0.6825	0.3675	1.05	0.546	0.294	0.84	0.6726	0.5116	1.1936	0.8262	0.6458	1.4513
2002 2002	Oct-02 Nov-02	0.2806 0.3354	0.2152 0.2391	0.4836	0.6825 0.6825	0.3675 0.3675		0.546 0.546	0.294		0.7016	0.5379 0.5977	1.2090	0.8135 0.8851	0.6319 0.6589	
2002	Dec-02	0.3830	0.2391	0.6069	0.6825	0.3675		0.546	0.294		0.9576	0.5977	1.5172	0.9991	0.6934	
2003	Jan-03	-			0.6825	0.3675			0.294							
2003 2003	Feb-03 Mar-03				0.6825	0,3675		0.546 0.546	0.294							
2003	Apr-03				0,6825	0.3675	1.05		0.294							
2003 2003	May-03 Jun-03				0.6825 0.6825	0.3675	_		0.294							
2003	Jul-03				0.6825	0.3675	1.05	0.546	0.294	0.84						
2003	Aug-03				0.6825	0.3675			0.294							
2003 2003	Sep-03 Oct-03				0.6825	0.3675										
2003	Nov-03				0.6825	0.3675		0.546	0.294							
2003 2004	Dec-03 Jan-04	0.3810	0.2831	0.6641	0.6825	0.3675		0.546	0.294		0.9525	0.7077	1.6602			-
2004	Feb-04	0.2739	0.2446	0.5370	0.6825	0.3675	1.05	0.546	0.294	0.84	0.6847	0.6114		1.5632	1.2883	2.8514
2004 2004	Mar-04 Apr-04	0.3387	0.2651	0.6038 1.2759		0.3675					0.8468	0.6627 1.3201	1.5094	0.9936	0.7927	
2004	May-04		0.4372	0.9047	0.6825	0.3675	1.05	0.546	0.294	0.84	1.1687	1.0930	2.2617	1.5541	1.2303	2.7844
2004 2004	Jun-04 Jul-04	0.3478 0.2572	0,3231 0,2542			0.3675			0.294		0.8694	0.8078	1.6771	1.5632	1.2883	
2004	Aug-04	0.2626	0.2453	0.5079		0.3675					0.6565	0.6133	1.2697	0.8676	0.8226	1.6901
2004	Sep-04		0.2603			0.3675			0.294		0.7581	0.6508		0.8230	0.7598	
2004 2004	Oct-04 Nov-04	0.2774	0.2465			0.3675			0.294			0.6198			0.7548	
2004	Dec-04	0.4034	0.2840	0.6872	0,6825	0.3675			0.294			0.7100		0.9744	0.7784	1.7526
2005 2005	Jan-05 Feb-05	0.3831	0.2834			0.3675			0.294		0.9577	0.7085	1.6662	1.8886	1.4007	3.2892
2005	Mar-05	0.4758				0.3675	1.05	0.546		0.84	1.1896	0.8293	2.0189			
2005	Apr-05		0.4976	1.1654 0.8746		0.3675			0.294		1.6694	1.2441			1.1231	2.6478
2005 2005				0.7694								0.9274	1.9234	1.5407	1.2687	2.8094
2005	Jul-05	0.3593	0.3424												1.1134	
2005 2005	Aug-05 Sep-05														0.8366	1.6914
2005	Oct-05	0.7203	0.4518	1.1721	0.6825	0.3675	1.05	0.546	0.294	0.84	1.8008					
2005 2005	Nov-05 Dec-05		0.4865	1.0956										1.5750		
2006	Jan-06	0.6242	0.5315	1.1557	0.6825	0.3675	1.05	0.546	0.294	0.84	1.5605	1.3288	2.8893			
2006				0.7184								0.9048			1.8539	4.1442 2.9383
2006 2006									0.294	0.84	0.8947	0.8992	1.7938	1.2644	1.2180	2.5002
2006	May-06	1,0578	0.7696	1.8274	0.6825	0.3675										
2006 2006			0.7246								0.8828					
2006	Aug-06	0.2933	0.2768	0.5701	0.6825	0.3675	1.05	0.546	0.294	0.84	0.733	0.6919	1.4252	1.5211	1.361	2.8821
2006 2006																
2006	Nov-06	0.5666	0.3506	0.9289	0.6825	0.3675	1.05	0.546	0.29	0.84	1.416	0.8766	2.3223	1.1915	0.860	2.0641
2006										_					0.934	2.3095
2007	Jan-07 Feb-07			0.8056											1.2657	2.8910
2007	Mar-07	0.4049	0.2894	0.6943	0.6825	0.3675	1.05	0.546	0.29	0.84	1.012	0.723	1.7357	1.1984		
2007 2007	Apr-07 May-07		0.5226												1.0455	
2007	Jun-07	0.3920	0.3225	0.7145	0.6825	0.3675	1.05	0.546	0.29	0.84	0.9799	0.8063	1.7863	1.6252	1.265	2.8910
2007															0.9838	
2007												0.5458	1.2425	0.8614	0.6848	1.5463
2007	Oct-07	0.2865	0.2175	0.5039	0.6825	0.3675	1.05	0.546							0.6616	
2007																
2008	Jan-08	0.4398	0.2517	0.6915	0.6825	0.3675	5 1.05	0.546	0.29	0.84	1.099	0.6294			2122-	
2008			0.3818												1.6567	3.6953
2008			0.6187													
				-	-			77								

2008 May-08 0.4481 0.4635 0.8516 0.6825 0.3675 1.05 0.546 0.294 0.84 1.1203 1.0086 2.1290 1.8712																		
2006		2008	May-08	0.4481	0.4035	0.8516	0.6825	0.3675	1.05	0.546	0.294	0.84	1.1203	1.0086	2.1290	1.8712	1.6567	3,5278
2006 Aug. 08 0.4262 0.3436 0.7698 0.6825 0.3675 1.05 0.546 0.294 0.84 1.0656 0.8590 1.9245 1.0605		2008	Jun-08	0.3040	0.2889	0.5929	0.6825	0.3675	1.05	0.546	0.294	0.84	0.7600	0.7223	1.4823	1.4945	1.3111	2.8055
2006 Sep-08 0.4545 0.3664 0.8209 0.6825 0.3675 1.05 0.546 0.294 0.84 1.1363 0.9159 2.0522 1.2110		2008	Jul-08	0.3303	0.2662	0.5965	0.6825	0.3675	1.05	0.546	0.294	0.84	0.8258	0.6656	1.4914	1.0825	0.9586	2.0410
2006 Oct-08 O.8855 O.3107 O.6862 O.6825 O.3675 I.05 O.546 O.294 O.84 O.9638 O.7768 I.7406 I.2662		2008	Aug-08	0.4262	0.3436	0.7698	0.6825	0.3675	1.05	0.546	0.294	0.84	1.0656	0.8590	1.9245	1.0605	0.8987	1.9593
2008 Nev-08 0.4335 0.3335 0.7670 0.6825 0.3675 1.05 0.546 0.294 0.84 1.0838 0.8338 1.9175 1.2735		2008	Sep-08	0.4545	0.3664	0.8209	0.6825	0.3675	1.05	0.546	0.294	0.84	1.1363	0.9159	2.0522	1.2110	0.9762	2.1872
2008 Dec-08 0.6035 0.6518 1.0548 0.6825 0.3675 1.05 0.546 0.294 0.84 1.5086 1.1283 2.6369 1.4225		2008	Oct-08	0.3855	0.3107	0.6962	0.6825	0.3675	1.05	0.546	0.294	0.84	0.9638	0.7768	1.7406	1.2662	1.0207	2.2869
2009 38n-09 0.4028 0.3557 0.7585 0.6825 0.3675 1.05 0.546 0.294 0.84 1.0069 0.8893 1.8962 1.3916 2009 7eb-09 0.3766 0.3205 0.6972 0.6825 0.3675 1.05 0.546 0.294 0.84 0.9416 0.8013 1.7429 1.3916 2009 May-09 0.3895 0.3295 0.7127 0.6825 0.3675 1.05 0.546 0.294 0.84 0.9619 0.8198 1.7617 1.1642 2008 Apr-09 0.5895 0.5398 1.1293 0.6825 0.3675 1.05 0.546 0.294 0.84 1.4738 1.3496 2.8233 1.3509 2009 May-09 0.3965 0.3585 0.7624 0.6825 0.3675 1.05 0.546 0.294 0.84 0.9912 0.9647 1.9559 1.3707 2009 Jul-09 0.0455 0.3560 0.7705 0.6825 0.3675 1.05 0.546 0.294 0.84 0.1018 0.9912 0.9647 1.9559 1.3707 2009 Jul-09 0.5469 0.4601 0.3560 0.7705 0.6825 0.3675 1.05 0.546 0.294 0.84 1.0138 0.9912 1.9263 1.3915 2009 Jul-09 0.5469 0.4601 0.3565 0.7030 0.6825 0.3675 1.05 0.546 0.294 0.84 1.3672 1.2273 2.5944 1.3489 2009 0.99 0.99 0.3461 0.3569 0.7030 0.6825 0.3675 1.05 0.546 0.294 0.84 0.8608 0.6624 1.3432 1.1653 2009 0.600 0.2723 0.2650 0.5373 0.6825 0.3675 1.05 0.546 0.294 0.84 0.8608 0.6624 1.3432 1.1653 2009 0.600 0.2723 0.2844 0.6060 0.6825 0.3675 1.05 0.546 0.294 0.84 0.7110 0.6263 1.3373 0.9028 2009 0.600 0.4251 0.3716 0.6825 0.6825 0.3675 1.05 0.546 0.294 0.84 0.9125 0.9995 1.9120 0.90		2008	Nov-08	0.4335	0.3335	0.7670	0.6825	0.3675	1.05	0.546	0.294	0.84	1.0838	0.8338	1.9175	1.2735	1.0106	2.2841
2009 Feb-09 0.3766 0.3205 0.6972 0.6825 0.3675 1.05 0.546 0.294 0.84 0.9416 0.8013 1.7429 1.3916 2009 Mar-09 0.3847 0.3279 0.7127 0.6825 0.3675 1.05 0.546 0.294 0.84 0.9619 0.8198 1.7617 1.1642 2009 Mar-09 0.3867 0.3895 0.8898 1.1293 0.6825 0.3675 1.05 0.546 0.294 0.84 1.4738 1.3496 2.8233 1.3509 2009 Mar-09 0.3955 0.3859 0.7624 0.6825 0.3675 1.05 0.546 0.294 0.84 1.4738 1.3496 2.8233 1.3509 2009 Mar-09 0.4055 0.3859 0.7705 0.6825 0.3675 1.05 0.546 0.294 0.84 1.0138 0.9124 1.9263 1.3915 2009 Jul-09 0.4055 0.3656 0.7705 0.6825 0.3675 1.05 0.546 0.294 0.84 1.0138 0.9124 1.9263 1.3915 2009 Jul-09 0.5469 0.4400 1.0378 0.6825 0.3675 1.05 0.546 0.294 0.84 1.3672 1.2273 2.5944 1.3489 2009 Aug-09 0.3461 0.3565 0.7030 0.6825 0.3675 1.05 0.546 0.294 0.84 1.3672 1.2273 2.5944 1.3489 2009 Aug-09 0.3461 0.3565 0.7339 0.6825 0.3675 1.05 0.546 0.294 0.84 0.8653 0.8923 1.7576 1.2985 2009 Sep-09 0.2723 0.2650 0.5373 0.6825 0.3675 1.05 0.546 0.294 0.84 0.8653 0.8923 1.7576 1.2985 2009 Nov-09 0.2723 0.2650 0.5373 0.6825 0.3675 1.05 0.546 0.294 0.84 0.6808 0.6624 1.3432 1.1653 2009 Nov-09 0.2723 0.2650 0.5349 0.6825 0.3675 1.05 0.546 0.294 0.84 0.7110 0.6263 1.3373 0.9028 2009 Nov-09 0.2722 0.2884 0.6606 0.6825 0.3675 1.05 0.546 0.294 0.84 0.7110 0.6263 1.3373 0.9028 2009 Nov-09 0.2722 0.2884 0.6606 0.6825 0.3675 1.05 0.546 0.294 0.84 0.7110 0.6263 1.3373 0.9028 2009 Dec-09 0.4251 0.3345 0.7965 0.6825 0.3675 1.05 0.546 0.294 0.84 0.7110 0.6263 1.3373 1.9028 2009 Dec-09 0.4251 0.3345 0.7965 0.6825 0.3675 1.05 0.546 0.294 0.84 0.7020 0.7020 1.6514 0.9289 2009 Dec-09 0.4251 0.3345 0.5854 0.6825 0.3675 1.05 0.546 0.294 0.84 0.7110 0.6263 1.3373 1.7186 2010 Mar-10 0.3315 0.3517 0.7564 0.6825 0.3675 1.05 0.546 0.294 0.84 0.7210 0.6263 1.3373 1.7186 2010 Mar-10 0.33315 0.3517 0.7564 0.6825 0.3675 1.05 0.546 0.294 0.84 0.7125 0.9895 1.9120 1.7136 2010 Mar-10 0.0883 0.6886 0.6885 0.3675 1.05 0.546 0.294 0.84 0.7620 0.845 0.5495 0.8795 1.9120 1.7136 2010 Mar-10 0.2492 0.2670 0.3331 0.6885 0.3685 0.3675 1.05 0.546 0.294 0.84 0.5419 0.5190 0.		2008	Dec-08	0.6035	0.4513	1.0548	0.6825	0.3675	1.05	0.546	0.294	0.84	1.5086	1.1283	2.6369	1.4225	1.0955	2.5180
2009 Mar-09 0.5845 0.5858 1.1293 0.6825 0.3675 1.05 0.546 0.294 0.84 0.9619 0.8198 1.7817 1.1642 2009 Apr-09 0.5895 0.5898 1.1293 0.6825 0.3675 1.05 0.546 0.294 0.84 0.9619 0.8198 1.7817 1.1642 2009 Apr-09 0.5895 0.3858 1.1293 0.6825 0.3675 1.05 0.546 0.294 0.84 1.4738 1.3496 2.8233 1.3569 2009 May-09 0.4055 0.3856 0.7705 0.6825 0.3675 1.05 0.546 0.294 0.84 1.0138 0.9124 1.9263 1.3509 2009 Jul-09 0.5469 0.4809 1.0378 0.6825 0.3675 1.05 0.546 0.294 0.84 1.0138 0.9124 1.9263 1.3915 2009 Jul-09 0.5469 0.4809 1.0378 0.6825 0.3675 1.05 0.546 0.294 0.84 1.0138 0.9124 1.9263 1.3915 2009 Jul-09 0.5469 0.4809 1.0378 0.6825 0.3675 1.05 0.546 0.294 0.84 1.3672 1.2773 2.5944 1.3469 2009 Aug-09 0.3461 0.3559 0.7030 0.6825 0.3675 1.05 0.546 0.294 0.84 0.8653 0.8932 1.7576 1.2985 2009 2009 0.2723 0.2650 0.5573 0.6825 0.3675 1.05 0.546 0.294 0.84 0.6808 0.6624 1.3432 1.1653 2009 0ct-09 0.2844 0.2505 0.5349 0.6825 0.3675 1.05 0.546 0.294 0.84 0.6808 0.6624 1.3432 1.1653 2009 0ct-09 0.2844 0.2505 0.5349 0.6825 0.3675 1.05 0.546 0.294 0.84 0.9004 0.8004 0.6263 1.3373 0.9028 2009 0ct-09 0.2844 0.2505 0.5349 0.6825 0.3675 1.05 0.546 0.294 0.84 0.7110 0.6263 1.3373 0.9028 2009 0ct-09 0.4251 0.3716 0.7965 0.6825 0.3675 1.05 0.546 0.294 0.84 0.90304 0.7210 1.6514 0.9289 2009 0ct-09 0.4251 0.33716 0.7965 0.6825 0.3675 1.05 0.546 0.294 0.84 0.0027 0.9287 1.9914 1.0816 2010 Feb-10 0.3350 0.33918 0.7648 0.6825 0.3675 1.05 0.546 0.294 0.84 0.0127 0.9287 1.9914 1.0816 2010 Apr-10 0.5517 0.9660 0.1488 0.6825 0.3675 1.05 0.546 0.294 0.84 0.0127 0.9287 1.9914 1.7136 2010 Mar-10 0.8893 0.6394 1.4697 0.6825 0.3675 1.05 0.546 0.294 0.84 0.7725 0.8893 1.9102 2010 Peb-10 0.5517 0.9660 0.1488 0.6825 0.3675 1.05 0.546 0.294 0.84 0.7725 0.8893 1.5985 3.6743 1.5269 2010 Apr-10 0.5517 0.9660 0.1488 0.6825 0.3675 1.05 0.546 0.294 0.84 0.5419 0.5193 1.7136 2010 Mar-10 0.8893 0.6394 1.4697 0.6825 0.3675 1.05 0.546 0.294 0.84 0.5419 0.5193 1.7136 2010 Apr-10 0.5517 0.9660 0.1488 0.6825 0.3675 1.05 0.546 0.294 0.84 0.5419 0.5193 0.66112 1.7136 2010 Apr-10 0.		2009	Jan-09	0.4028	0.3557	0.7585	0.6825	0.3675	1.05	0.546	0.294	0.84	1.0069	0.8893	1.8962			
2009 Apr-09 0.5835 0,5338 1.1293 0.6825 0.3675 1.05 0.546 0.294 0.84 1.4738 1.3496 2.8233 1.3509 2009 May-09 0.3965 0,3859 0,7824 0.6825 0.3675 1.05 0.546 0.294 0.84 0.9912 0.9647 1.9559 1.3707 2009 Jul-09 0.4055 0.3550 0,703 0.6825 0.3675 1.05 0.546 0.294 0.84 0.9122 0.9647 1.9559 1.3707 2009 Jul-09 0.5469 0.4400 1.0378 0.6825 0.3675 1.05 0.546 0.294 0.84 1.3672 1.2273 2.5944 1.3489 2009 Aug-09 0.3461 0.3569 0,7030 0.6825 0.3675 1.05 0.546 0.294 0.84 1.3672 1.2273 2.5944 1.3489 2009 Aug-09 0.3461 0.3569 0,7030 0.6825 0.3675 1.05 0.546 0.294 0.84 0.85633 0.8923 1.7576 1.2985 2009 2009 0.2844 0.2723 0.2650 0.5373 0.6825 0.3675 1.05 0.546 0.294 0.84 0.8608 0.6608 0.6624 1.3437 1.1653 2009 0.609 0.2844 0.2505 0.5349 0.6825 0.3675 1.05 0.546 0.294 0.84 0.7110 0.6263 1.3373 0.9028 2009 0.009 0.009 0.2844 0.6506 0.6825 0.3675 1.05 0.546 0.294 0.84 0.7110 0.6263 1.3373 0.9028 2009 0.009 0.009 0.2844 0.6506 0.6825 0.3675 1.05 0.546 0.294 0.84 0.9024 0.84 0.9024 0.7110 0.6263 1.3373 0.9028 2009 0.009 0		2009	Feb-09	0.3766	0.3205	0.6972	0.6825	0.3675	1.05	0.546	0.294	0.84	0.9416	0.8013	1.7429	1.3915	1.2907	2.6822
2009 May-09 0.3955 0.3859 0.7824 0.6825 0.3675 1.05 0.546 0.294 0.84 0.9912 0.9647 1.9559 1.3707 2009 Jun-09 0.4055 0.3650 0.7705 0.6825 0.3675 1.05 0.546 0.294 0.84 1.0138 0.9124 1.9263 1.3915 2009 Jun-09 0.5469 0.3461 0.3569 0.7030 0.6825 0.3675 1.05 0.546 0.294 0.84 1.3672 1.2273 2.9444 1.3489 2009 Aug-09 0.3461 0.3569 0.7030 0.6825 0.3675 1.05 0.546 0.294 0.84 1.3672 1.2273 2.9444 1.3489 2009 Aug-09 0.2723 0.2650 0.5373 0.6825 0.3675 1.05 0.546 0.294 0.84 0.8653 0.8923 1.7576 1.2985 2009 Sep-09 0.2723 0.2650 0.5373 0.6825 0.3675 1.05 0.546 0.294 0.84 0.6808 0.6624 1.3432 1.1653 2009 0.61-09 0.2844 0.2505 0.5349 0.6825 0.3675 1.05 0.546 0.294 0.84 0.7110 0.6263 1.3373 0.9028 2009 Nov-09 0.2722 0.2884 0.6606 0.6825 0.3675 1.05 0.546 0.294 0.84 0.7110 0.6263 1.3373 0.9028 2009 Nov-09 0.3722 0.2884 0.6606 0.6825 0.3675 1.05 0.546 0.294 0.84 0.7110 0.6263 1.3373 0.9028 2009 Dec-09 0.4251 0.3345 0.7965 0.6825 0.3675 1.05 0.546 0.294 0.84 0.7110 0.6263 1.3373 0.9028 2009 Dec-09 0.4251 0.3345 0.7965 0.6825 0.3675 1.05 0.546 0.294 0.84 0.7210 1.6514 0.9289 2009 Dec-09 0.4251 0.3345 0.7965 0.6825 0.3675 1.05 0.546 0.294 0.84 0.9304 0.7210 1.6514 0.9289 2009 Dec-09 0.4251 0.3345 0.7965 0.6825 0.3675 1.05 0.546 0.294 0.84 0.9125 0.9995 1.9120 1.0000 0.00000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.00000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.00000 0.00000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0		2009	Mar-09	0.3847	0.3279	0.7127	0.6825	0.3675	1.05	0.546	0.294	0.84	0.9619	0.8198	1.7817	1.1642	1.0042	2.1683
2009 Jul-09 0.4055 0.3650 0.7705 0.6825 0.3675 1.05 0.546 0.294 0.84 1.0138 0.9124 1.9263 1.3915		2009	Apr-09	0.5895	0,5398	1.1293	0.6825	0.3675	1.05	0.546	0.294	0.84	1.4738	1.3496	2.8233	1.3509	1,1883	2.5392
2009 101-09 0.5469 0.4609 1.0378 0.6825 0.3675 1.05 0.546 0.294 0.84 1.3672 1.2273 2.5944 1.3489 2.009 Aug-09 0.3461 0.3559 0.7030 0.6825 0.3675 1.05 0.546 0.294 0.84 0.8633 0.8923 1.7576 1.2985 2.098 2.099 0.22743 0.2253 0.2550 0.5373 0.6825 0.3675 1.05 0.546 0.294 0.84 0.8608 0.6624 1.3432 1.1653 0.099 0.009 0.009 0.2844 0.2505 0.5349 0.6825 0.3675 1.05 0.546 0.294 0.84 0.7110 0.6263 1.3373 0.9028 0.009		2009	May-09	0.3965	0.3859	0.7824	0.6825	0.3675	1.05	0.546	0.294	0.84	0.9912	0.9647	1.9559	1.3707	1.2536	2.6244
2009 Aug-09 0.3461 0.3555 0.7030 0.6825 0.3675 1.05 0.546 0.294 0.84 0.8653 0.8923 1.7576 1.2985 2009 Sep-09 0.2723 0.2650 0.5373 0.6825 0.3675 1.05 0.546 0.294 0.84 0.6808 0.6624 1.3432 1.1653 2009 0ct-09 0.2844 0.2505 0.5349 0.6825 0.3675 1.05 0.546 0.294 0.84 0.7110 0.6263 1.3373 0.9028 2009 Nev-09 0.3722 0.2884 0.6606 0.6825 0.3675 1.05 0.546 0.294 0.84 0.7110 0.6263 1.3373 0.9028 2009 0cc-09 0.4251 0.3746 0.7655 0.6825 0.3675 1.05 0.546 0.294 0.84 0.7100 0.7021 1.6514 0.9289 2009 0cc-09 0.4251 0.3746 0.7655 0.6825 0.3675 1.05 0.546 0.294 0.84 0.9304 0.7210 1.6514 0.9289 2009 0cc-09 0.4251 0.3746 0.7655 0.6825 0.3675 1.05 0.546 0.294 0.84 0.9125 0.9995 1.9120 0.7614 0.7021 0.		2009	Jun-09	0.4055	0.3650	0.7705	0.6825	0.3675	1.05	0.546	0.294	0.84	1.0138	0.9124	1.9263	1.3915	1.2907	2.6822
2009 Sep-09 0.2723 0.2650 0.5373 0.6825 0.3675 1.05 0.546 0.294 0.84 0.6808 0.6624 1.3432 1.1653 2009 0ct-09 0.2844 0.2505 0.5349 0.6825 0.3675 1.05 0.546 0.294 0.84 0.7110 0.6263 1.3373 0.9028 2009 Nev-09 0.3722 0.2884 0.6606 0.6825 0.3675 1.05 0.546 0.294 0.84 0.90304 0.7210 1.6514 0.9228 2009 Dec-09 0.4251 0.3715 0.7965 0.6825 0.3675 1.05 0.546 0.294 0.84 1.0627 0.9287 1.9914 1.0816 2010 Jan-10 0.3650 0.3498 0.7648 0.6825 0.3675 1.05 0.546 0.294 0.84 0.9125 0.9995 1.9120 2010 Feb-10 0.3315 0.3517 0.7564 0.6825 0.3675 1.05 0.546 0.294 0.84 0.9125 0.9995 1.9120 2010 Feb-10 0.3315 0.3517 0.7564 0.6825 0.3675 1.05 0.546 0.294 0.84 0.8289 0.8392 1.8911 1.7136 2010 Mar-10 0.8893 0.6534 1.4697 0.6825 0.3675 1.05 0.546 0.294 0.84 2.0758 1.5985 3.6743 1.5269 2010 Apr-10 0.5517 0.9660 1.1488 0.6825 0.3675 1.05 0.546 0.294 0.84 2.0758 1.5985 3.6743 1.5269 2010 Apr-10 0.5517 0.9660 1.1488 0.6825 0.3675 1.05 0.546 0.294 0.84 1.3794 1.4001 2.8721 1.7136 2010 May-10 0.3105 0.3315 0.6486 0.6825 0.3675 1.05 0.546 0.294 0.84 0.7762 0.8452 1.6215 1.6925 2010 Jun-10 0.2492 0.2670 0.5334 0.6825 0.3675 1.05 0.546 0.294 0.84 0.6230 0.6675 1.3335 1.1114 2010 Jul-10 0.2482 0.2670 0.5334 0.6825 0.3675 1.05 0.546 0.294 0.84 0.6230 0.6675 1.3335 1.1114 2010 Jul-10 0.2168 0.2445 0.4613 0.6825 0.3675 1.05 0.546 0.294 0.84 0.6230 0.6675 1.3335 1.1114 2010 Jul-10 0.2168 0.2445 0.4613 0.6825 0.3675 1.05 0.546 0.294 0.84 0.5419 0.6112 1.1631 0.7765 2010 Aug-10 0.2148 0.2244 0.4508 0.6825 0.3675 1.05 0.546 0.294 0.84 0.5419 0.5110 1.1531 0.7765 2010 Aug-10 0.2168 0.2445 0.4613 0.6825 0.3675 1.05 0.546 0.294 0.84 0.5419 0.5110 1.1631 0.7665 2010 Aug-10 0.2168 0.2446 0.4638 0.6825 0.3675 1.05 0.546 0.294 0.84 0.5419 0.5110 1.6963 0.6655 2010 0.2168 0.2244 0.4508 0.6825 0.3675 1.05 0.546 0.294 0.84 0.5419 0.5110 1.1631 0.7665 2010 0.2168 0.2244 0.4508 0.6825 0.3675 1.05 0.546 0.294 0.84 0.5419 0.5110 1.1631 0.7665 2010 0.2168 0.2246 0.4508 0.6825 0.3675 1.05 0.546 0.294 0.84 0.5419 0.5110 0.5103 1.7661 0.6833 0.4060 0.6825 0.3675 1.05 0.546 0.29		2009	Jul-09	0.5469	0.4909	1.0378	0.6825	0.3675	1.05	0.546	0.294	0.84	1.3672	1.2273	2.5944	1.3489	1.2417	2.5906
2009 Oct-09 0.2844 0.2505 0.5349 0.6825 0.3675 1.05 0.546 0.294 0.84 0.7110 0.6263 1.3373 0.9028 2009 Nov-09 0.3722 0.2884 0.6606 0.6825 0.3675 1.05 0.546 0.294 0.84 0.9304 0.7210 1.6514 0.9289 2009 Dec-09 0.4251 0.3716 0.7965 0.6825 0.3675 1.05 0.546 0.294 0.84 0.9125 0.9995 1.9120 2010 Jan-10 0.3650 0.3898 0.7648 0.6825 0.3675 1.05 0.546 0.294 0.84 0.9125 0.9995 1.9120 2010 Feb-10 0.3315 0.3517 0.7564 0.6825 0.3675 1.05 0.546 0.294 0.84 0.9125 0.9995 1.9101 1.7136 2010 Mar-10 0.38303 0.6934 1.4697 0.6825 0.3675 1.05 0.546 0.29		2009	Aug-09	0.3461	0.3569	0.7030	0.6825	0.3675	1.05	0.546	0.294	0.84	0.8653	0.8923	1.7576	1.2985	1.2128	2.5113
2009 Nev-09 0.3722 0.2884 0.6606 0.6825 0.3675 1.05 0.546 0.294 0.84 0.9304 0.7210 1.6514 0.9289 2009 Dec-09 0.4251 0.3716 0.7965 0.6825 0.3675 1.05 0.546 0.294 0.84 1.0627 0.9287 1.9914 1.0816 2010 Jan-10 0.3650 0.3898 0.7648 0.6825 0.3675 1.05 0.546 0.294 0.84 0.9125 0.9995 1.9120 2010 Feb-10 0.3315 0.3517 0.7564 0.6825 0.3675 1.05 0.546 0.294 0.84 0.9125 0.9995 1.9120 2010 Mar-10 0.3839 0.6894 0.4827 0.5517 0.5660 0.8425 0.3675 1.05 0.546 0.294 0.84 0.2798 1.5985 3.6743 1.5269 2010 May-10 0.5105 0.5466 0.294 0.84 1.3794 1.400		2009	Sep-09	0.2723	0.2650	0.5373	0.6825	0.3675	1.05	0.546	0.294	0.84	0.6808	0.6624	1.3432	1.1653	1.1128	
2009 Dec-09 0.4251 0.3716 0.7965 0.6825 0.3675 1.05 0.546 0.294 0.84 1.0627 0.9287 1.9914 1.0816		2009	Oct-09	0.2844	0.2505	0.5349	0.6825	0.3675	1.05	0.546	0.294	0.84	0.7110	0.6263		0.9028	0.8724	
2010 Jan-10 0.5650 0.3948 0.7648 0.6825 0.3675 1.05 0.546 0.294 0.84 0.9125 0.9995 1.9120 2010 Feb-10 0.3315 0.3517 0.7564 0.6825 0.3675 1.05 0.546 0.294 0.84 0.8289 0.8792 1.9911 1.7136 2010 Mar-10 0.8803 0.6839 1.4697 0.6825 0.3675 1.05 0.546 0.294 0.84 2.0758 1.5985 3.6743 1.5269 2010 Apr-10 0.5517 0.6600 1.1488 0.6825 0.3675 1.05 0.546 0.294 0.84 2.0758 1.5985 3.6743 1.5269 2010 May-10 0.3105 0.3381 0.6486 0.6825 0.3675 1.05 0.546 0.294 0.84 1.3794 1.4001 2.8721 1.7136 2010 May-10 0.2492 0.2670 0.5334 0.6825 0.3675 1.05 0.546 0.294 0.84 0.7762 0.8452 1.6215 1.6925 2010 Jun-10 0.2492 0.2670 0.5334 0.6825 0.3675 1.05 0.546 0.294 0.84 0.7762 0.8452 1.6215 1.6925 2010 Jun-10 0.2498 0.2495 0.4613 0.6825 0.3675 1.05 0.546 0.294 0.84 0.5330 0.6675 1.3333 1.1114 2010 0.2168 0.2445 0.4613 0.6825 0.3675 1.05 0.546 0.294 0.84 0.5419 0.5112 1.531 0.7765 2010 Aug-10 0.2214 0.2224 0.4508 0.6825 0.3675 1.05 0.546 0.294 0.84 0.5335 0.5735 1.1270 0.8674 2010 Sep-10 0.2216 0.2216 0.2296 0.4385 0.6825 0.3675 1.05 0.546 0.294 0.84 0.5419 0.5110 1.0963 0.6550 2010 0.2168 0.2076 0.4385 0.6825 0.3675 1.05 0.546 0.294 0.84 0.5419 0.5190 1.0963 0.6550 2010 0.2168 0.2076 0.4385 0.6825 0.3675 1.05 0.546 0.294 0.84 0.5419 0.5190 1.0963 0.6550 2010 0.2168 0.2076 0.2485 0.4505 0.6825 0.3675 1.05 0.546 0.294 0.84 0.5419 0.5190 1.0963 0.6550 2010 0.2168 0.2076 0.2583 0.4705 0.6825 0.3675 1.05 0.546 0.294 0.84 0.6632 0.5603 1.7610 0.6855 2010 0.2653 0.2260 0.5056 0.6825 0.3675 1.05 0.546 0.294 0.84 0.6632 0.5603 1.7610 0.2665 0.2665 0.2665 0.2665 0.294 0.84 0.6632 0.5600 1.2640 0.7272 2010 0.2653 0.2260 0.5056 0.6825 0.3675 1.05 0.546 0.294 0.84 0.6632 0.5600 1.2640 0.7272 2010 0.2651 0.2653 0.2240 0.5056 0.6825 0.3675 1.05 0.546 0.294 0.84 0.6632 0.5600 1.2640 0.7272 2010 0.2651 0.2663 0.2240 0.5056 0.6825 0.3675 1.05 0.546 0.294 0.84 0.6632 0.5600 1.2640 0.7272 2010 0.2651 0.2663 0.2240 0.5056 0.6825 0.3675 1.05 0.546 0.294 0.84 0.6632 0.5600 1.2640 0.7272 2010 0.2651 0.2653 0.2240 0.5056 0.6825 0.3675 1.05 0.546 0.294 0.84 0.6735 0.5650		2009	Nov-09	0.3722	0.2884	0.6606	0.6825	0.3675	1.05	0.546	0.294	0.84	0.9304	0.7210			0.8039	
2010 Feb-10 0.3315 0.3517 0.7564 0.6825 0.3675 1.05 0.546 0.294 0.84 0.8289 0.8792 1.8911 1.7136 2010 Mar-10 0.83803 0.6394 1.4697 0.6825 0.3675 1.05 0.546 0.294 0.84 2.0758 1.5985 3.6743 1.5269 2010 Apr-10 0.5517 0.6600 1.1488 0.6825 0.3675 1.05 0.546 0.294 0.84 1.3794 1.4001 2.8721 1.7136 2010 May-10 0.3105 0.3381 0.6886 0.6825 0.3675 1.05 0.546 0.294 0.84 1.3794 1.4001 2.8721 1.7136 2010 May-10 0.3105 0.3381 0.6886 0.6825 0.3675 1.05 0.546 0.294 0.84 0.7762 0.8452 1.6215 1.6925 2010 Jun-10 0.2492 0.2670 0.5334 0.6825 0.3675 1.05 0.546 0.294 0.84 0.6230 0.6675 1.3335 1.1114 2010 Jul-10 0.2168 0.2445 0.4613 0.6825 0.3675 1.05 0.546 0.294 0.84 0.5419 0.6112 1.1531 0.7765 2010 Aug-10 0.2214 0.2224 0.4508 0.6825 0.3675 1.05 0.546 0.294 0.84 0.5419 0.5112 1.1531 0.7765 2010 Aug-10 0.2214 0.2224 0.4508 0.6825 0.3675 1.05 0.546 0.294 0.84 0.5419 0.5100 1.0963 0.6550 2010 0.5410 0.2214 0.2224 0.4508 0.6825 0.3675 1.05 0.546 0.294 0.84 0.5419 0.5100 1.0963 0.6550 2010 0.5410 0.2214 0.2234 0.4508 0.6825 0.3675 1.05 0.546 0.294 0.84 0.5419 0.5100 1.0963 0.6550 2010 0.5410 0.2241 0.2234 0.4508 0.6825 0.3675 1.05 0.546 0.294 0.84 0.5419 0.5100 1.0963 0.6550 2010 0.5410 0.2241 0.2253 0.4705 0.6825 0.3675 1.05 0.546 0.294 0.84 0.5419 0.5100 1.0963 0.6550 2010 0.5410 0.2651 0.2240 0.5505 0.6825 0.3675 1.05 0.546 0.294 0.84 0.5419 0.5100 1.0963 0.6550 2010 0.5410 0.2653 0.2640 0.5505 0.6825 0.3675 1.05 0.546 0.294 0.84 0.5419 0.5100 1.0963 0.6850 2010 0.0940 0.09		2009	Dec-09	0.4251	0.3715	0.7965	0.6825	0.3675	1.05	0.546	0.294	0.84	1.0627	0.9287	1.9914	1.0816	0.9104	1.9920
2010 Mar-10 0 8803 0 6394 1 4697 0 6825 0 3675 1 05 0 546 0 294 0 84 2 .0758 1 5985 3 6743 1 5269 2010 Apr-10 0 5517 0 6600 1 1488 0 6825 0 3675 1 05 0 546 0 294 0 84 0 762 0 84 1 3794 1 4001 2 8721 1 7136 0 8825 0 8425		2010	Jan-10	0.3650	0.3998	0.7648	0.6825	0.3675	1.05	0.546	0.294	0.84	0.9125	0.9995	1.9120			
2010 May-10 0.3105 0.3381 0.6486 0.6825 0.3675 1.05 0.546 0.294 0.84 1.3794 1.4001 2.8721 1.7136 2010 May-10 0.3105 0.3381 0.6486 0.6825 0.3675 1.05 0.546 0.294 0.84 0.7762 0.8452 1.6215 1.6925 2010 Jun-10 0.2492 0.2670 0.5334 0.6825 0.3675 1.05 0.546 0.294 0.84 0.6230 0.6675 1.3335 1.1141 2010 Jun-10 0.2168 0.2445 0.4613 0.6825 0.3675 1.05 0.546 0.294 0.84 0.6230 0.6675 1.3335 1.1140 2010 Jun-10 0.2168 0.2445 0.4613 0.6825 0.3675 1.05 0.546 0.294 0.84 0.6519 0.6112 1.1631 0.7765 2010 Aug-10 0.2214 0.2294 0.4508 0.6825 0.3675 1.05 0.546 0.294 0.84 0.5519 0.6112 1.1631 0.7765 2010 Sep-10 0.2168 0.2076 0.4385 0.6825 0.3675 1.05 0.546 0.294 0.84 0.5519 0.5190 1.0963 0.6550 2010 0.2168 0.2076 0.4385 0.6825 0.3675 1.05 0.546 0.294 0.84 0.5419 0.5190 1.0963 0.6550 2010 0.2168 0.2076 0.4385 0.6825 0.3675 1.05 0.546 0.294 0.84 0.6128 0.5633 1.1761 0.6853 2010 0.2168 0.2633 0.2240 0.5056 0.6825 0.3675 1.05 0.546 0.294 0.84 0.6632 0.5603 1.1761 0.6833 2010 0.2168 0.2633 0.2240 0.5056 0.6825 0.3675 1.05 0.546 0.294 0.84 0.6632 0.5600 1.2640 0.7272 2010 0.2651 0.2368 0.2341 0.5427 0.6825 0.3675 1.05 0.546 0.294 0.84 0.6632 0.5600 1.2640 0.7272 2010 0.2651 0.3086 0.2341 0.5427 0.6825 0.3675 1.05 0.546 0.294 0.84 0.6732 0.5600 1.2640 0.7272 2010 0.2651 0.3086 0.2341 0.5427 0.6825 0.3675 1.05 0.546 0.294 0.84 0.7715 0.5853 1.3568 0.8190		2010	Feb-10	0.3315	0.3517	0.7564	0.6825	0.3675	1.05	0.546	0.294	0.84	0.8289	0.8792	1.8911	1.7136	1.5511	3.3750
2010 May-10 0.3105 0.3331 0.6486 0.6825 0.3675 1.05 0.546 0.294 0.84 0.7762 0.8452 1.6215 1.6925 2010 Jun-10 0.2492 0.2670 0.5334 0.6825 0.3675 1.05 0.546 0.294 0.84 0.6230 0.6675 1.3335 1.1114 2010 Jul-10 0.2168 0.2445 0.4613 0.6825 0.3675 1.05 0.546 0.294 0.84 0.5419 0.6112 1.1531 0.7765 2010 Aug-10 0.2214 0.2224 0.4508 0.6825 0.3675 1.05 0.546 0.294 0.84 0.5419 0.6112 1.1531 0.7765 2010 0.000 0.0		2010	Mar-10	0.8303	0.6394	1.4697	0.6825	0,3675	1.05	0.546	0.294	0.84	2.0758	1.5985	3.6743	1.5269	1.3909	
2010 Jun-10 0.2492 0.2670 0.5334 0.6825 0.3675 1.05 0.546 0.294 0.84 0.6230 0.6675 1.3335 1.1114 2010 Jul-10 0.2168 0.2445 0.4613 0.6825 0.3675 1.05 0.546 0.294 0.84 0.5419 0.6112 1.6331 0.7765 2010 Aug-10 0.2214 0.2244 0.4508 0.6825 0.3675 1.05 0.546 0.294 0.84 0.5419 0.5132 1.6331 0.7765 2010 0.2168 0.2244 0.4508 0.6825 0.3675 1.05 0.546 0.294 0.84 0.5419 0.5132 0.6735 1.07765 2010 0.2168 0.2076 0.4385 0.6825 0.3675 1.05 0.546 0.294 0.84 0.5419 0.5190 1.0963 0.6550 2010 0.0076 0.2451 0.2253 0.4705 0.6825 0.3675 1.05 0.546 0.294 0.84 0.5419 0.5190 1.0963 0.6550 2010 0.0076 0.2451 0.2253 0.4705 0.6825 0.3675 1.05 0.546 0.294 0.84 0.6128 0.5633 1.7676 0.6833 2010 0.0076 0.0		2010	Apr-10	0.5517	0.5600	1.1488	0.6825	0.3675	1.05	0.546	0.294	0.84	1.3794	1.4001	2.8721	1.7136	1.5511	3.3750
2010 Jul-10 0.2168 0.2445 0.4613 0.6825 0.3675 1.05 0.546 0.294 0.84 0.5419 0.6112 1.1531 0.7765 2010 Aug-10 0.2214 0.2294 0.4808 0.6825 0.3675 1.05 0.546 0.294 0.84 0.5535 0.5735 1.1270 0.6874 2010 Sep-10 0.2168 0.2076 0.4885 0.3675 1.05 0.546 0.294 0.84 0.5419 0.519 1.093 0.6650 2010 Oct-10 0.2451 0.2253 0.4705 0.6825 0.3675 1.05 0.546 0.294 0.84 0.5419 0.503 1.1761 0.6850 2010 Oct-10 0.2451 0.2253 0.4705 0.6825 0.3675 1.05 0.546 0.294 0.84 0.6128 0.5633 1.1761 0.6833 2010 Nov-10 0.2653 0.2240 0.5625 0.3675 1.05 0.546 0.294 <td></td> <td>2010</td> <td>May-10</td> <td>0.3105</td> <td>0.3381</td> <td>0.6486</td> <td>0.6825</td> <td>0.3675</td> <td>1.05</td> <td>0.546</td> <td>0.294</td> <td>0.84</td> <td>0.7762</td> <td>0.8452</td> <td>1.6215</td> <td>1.6925</td> <td>1.5375</td> <td>3.2671</td>		2010	May-10	0.3105	0.3381	0.6486	0.6825	0.3675	1.05	0.546	0.294	0.84	0.7762	0.8452	1.6215	1.6925	1.5375	3.2671
2010 Aug-10 0.2214 0.2294 0.4508 0.6825 0.3675 1.05 0.546 0.294 0.84 0.5535 0.5735 1.1270 0.6874 2010 Sep-10 0.2168 0.2076 0.4385 0.6825 0.3675 1.05 0.546 0.294 0.84 0.5419 0.5190 1.050 0.6550 2010 0ct-10 0.2451 0.2253 0.4705 0.6825 0.3675 1.05 0.546 0.294 0.84 0.6128 0.5633 1.1761 0.6850 2010 Nov-10 0.2653 0.2240 0.5056 0.6825 0.3675 1.05 0.546 0.294 0.84 0.6128 0.5603 1.1761 0.6850 2010 Nov-10 0.2653 0.2240 0.5056 0.6825 0.3675 1.05 0.546 0.294 0.84 0.6632 0.5600 1.2640 0.7272 2010 Dec-10 0.3086 0.2341 0.5427 0.6825 0.3675 1.0		2010	Jun-10	0.2492	0.2670	0.5334	0.6825	0.3675	1.05	0.546	0.294	0.84	0.6230	0.6675	1.3335	1.1114	1,1651	2.3308
2010 Sep-10 0.2168 0.2076 0.4385 0.6825 0.3675 1.05 0.546 0.294 0.84 0.5419 0.5190 1.0963 0.6550 2010 0ct-10 0.2451 0.2253 0.4705 0.6825 0.3675 1.05 0.546 0.294 0.84 0.6128 0.5633 1.7676 0.6833 2010 Nev-10 0.2653 0.2240 0.5056 0.6825 0.3675 1.05 0.546 0.294 0.84 0.6128 0.5633 1.7676 0.6833 2010 Dec-10 0.3086 0.2341 0.5427 0.6825 0.3675 1.05 0.546 0.294 0.84 0.7715 0.5853 1.3568 0.8190		2010	Jul-10	0.2168	0.2445	0.4613	0.6825	0.3675	1.05	0.546	0.294	0.84	0.5419	0.6112			0.8496	
2010 Oct-10 0.2451 0.2253 0.4705 0.6825 0.3675 1.05 0.546 0.294 0.84 0.6128 0.5633 1.1761 0.6833 2010 Nov-10 0.2653 0.2240 0.5056 0.6825 0.3675 1.05 0.546 0.294 0.84 0.6632 0.5600 1.2640 0.7272 2010 Dec-10 0.3086 0.2341 0.5427 0.6825 0.3675 1.05 0.546 0.294 0.84 0.7715 0.5853 1.3568 0.8190		2010	Aug-10	0.2214	0.2294	0.4508	0.6825	0.3675	1.05	0.546	0.294	0.84	0.5535	0.5735			0.7409	
2010 Nov-10 0.2653 0.2240 0.5056 0.6825 0.3675 1.05 0.546 0.294 0.84 0.6632 0.5600 1.2640 0.7272 2010 Dec-10 0.3086 0.2341 0.5427 0.6825 0.3675 1.05 0.546 0.294 0.84 0.7715 0.5853 1.3568 0.8190		2010	Sep-10	0.2168	0.2076	0.4385	0.6825	0.3675	1.05	0.546	0.294	0.84	0.5419			212210	0.6815	
2010 Dec-10 0.3086 0.2341 0.5427 0.6825 0.3675 1.05 0.546 0.294 0.84 0.7715 0.5853 1.3568 0.8190		2010	Oct-10	0.2451	0.2253	0.4705	0.6825	0.3675	1.05	0.546	0.294	0.84	0.6128	0.5633			0.6623	1,3598
		2010	Nov-10	0.2653	0.2240	0.5056	0.6825	0.3675	1.05	0.546							0.6569	
2011 Jan-11 0.2754 0.2147 0.4901 0.6825 0.3675 1.05 0.546 0.294 0.84 0.6885 0.5369 1.2253		2010	Dec-10	0.3086	0.2341	0.5427	0.6825	0.3675	1.05	0.546	0.294	0.84	0.7715			0.8190	0.6835	1.5188
	0.00	2011	Jan-11	0.2754	0.2147	0.4901	0.6825	0.3675	1.05	0.546	0.294	0.84	0.6885	0.5369	1.2253			

									6							
2011	Feb-11	0.2528	0.2119	0.5146	0.6825	0.3675	1.05	0.546	0.294	0.84	0.6321	0.5298	1.2864	1.7104	1.4218	3.1645
2011	Mar-11	0,7274	0.5645	1.2919	0.6825	0.3675	1.05	0.546	0.294	0.84	1.8185	1.4112		1.2556	0.9912	2.2966
2011 2011	Apr-11 May-11	0.5315 0.4515	0,4380	1.0018 0.8709	0.6825	0.3675 0.3675	1.05	0.546 0.546	0.294	0.84	1.3286	1.0950	2.5044	1.5117	1.2144	2.8082 3.1645
2011	Jun-11	0.2986	0.3230	0.6423	0.6825	0.3675	1.05	0.546	0.294	0.84	0.7465	0.8074	1.6057	1.2815	1.1803	
2011 2011	Jul-11 Aug-11	0.2328	0.2779 0.2685	0.5107	0.6825 0.6825	0.3675 0.3675	1.05	0.546 0.546	0.294	0.84	0.5821 0.5985	0.6948 0.6711	1.2769	0.9829	1.0202 0.8693	2.0239 1.6609
2011	Sep-11	0.2869	0.2845	0.5904	0.6825	0.3675	1.05	0.546	0.294	0.84	0.7173	0.7111	1.4761	0.7592	0.8308	1.6090
2011 2011	Oct-11 Nov-11	0.4975	0.3765	0.8740	0.6825	0.3675 0.3675	1.05	0.546 0.546	0.294	0.84	1.2436	0.9413 0.9016	2.1849	1.0238	0.9294 1.0216	1.9723
2011	Dec-11	0.5473	0.3841	0.9314	0.6825	0.3675	1.05	0.546	0.294	0.84	1.3683	0.9602	2.3285	1.5319	1.1212	2.6814
2012	Jan-12	0.3883	0.3236	0.7119 0.6446	0.6825 0.6825	0.3675 0.3675	1.05	0.546 0.546	0.294 0.294	0.84	0.9707	0.8091 0.7077	1.7798 1.6115	1.0893	0.9065	2.0374
2012 2012	Feb-12 Mar-12	0.3199 0.3811	0.2831	0.6808	0.6825	0.3675	1.05	0.546	0.294	0.84	0.9527	0.7494		1.0893	0.9065	2.0374
2012	Apr-12	0.2848	0.2425	0.5449	0.6825	0.3675	1.05	0.546	0.294	0.84	0.7121	0.6063	1.3623	0.9858	0.8254 0.8187	1.8704
2012 2012	May-12 Jun-12	0.3507	0.2765 0.2425	0.6272	0.6825 0.6825	0.3675 0.3675	1.05	0.546 0.546	0.294 0.294	0.84	0.8769 0.8773	0.6911	1.5680 1.5330	0.9865	0.7615	1.7853
2012	Jul-12	0.2393	0.2152	0.4545	0.6825	0.3675	1.05	0.546	0.294	0.84	0.5982	0.5379		0.9410	0.7341	1.6948
2012 2012	Aug-12 Sep-12	0.2555	0.2291	0.4846	0.6825	0.3675 0.3675	1.05	0.546 0.546	0.294	0.84	0.6388	0.5727 0.5276	1.2115	0.8457	0.6867	1.5523
2012	Oct-12	0.2775	0.1998	0.4772	0.6825	0.3675	1.05	0.546	0.294	0.84	0.6936	0.4994	1.1931	0.7783	0.6399	1.4334
2012 2012	Nov-12 Dec-12	0.2905	0.1992 0.2371	0.5060	0.6825	0.3675 0.3675	1.05	0.546 0.546	0.294	0.84	0.7263 0.7611	0.4979 0.5927	1.2650 1.3539	0.8133	0.6100	
2013	Jan-13	0.3046	0.2204		0.6825	0.3675	1.05	0.546	0.294	0.84	0.7616	0.5510	1.3127			
2013	Feb-13	0.2593	0.1899	0.4973	0.6825	0.3675	1.05	0.546	0.294	0.84	0.6482	0.4747	1.2432	1.1865	0.7742 0.6751	1.9607
2013 2013	Mar-13 Apr-13	0.4598 0.3946	0.2648 0.2455	0.7246	0.6825	0.3675 0.3675	1.05	0.546 0.546	0.294 0.294	0.84	1.1494 0.9865	0.6620 0.6136	1.8115 1.6533	1.1136	0.7001	
2013	May-13	0.3322	0.2426	0.5747	0.6825	0.3675	1.05	0.546	0.294	0.84	0.8304	0.6065	1.4369	1.1865	0.7528	1.9607
2013 2013	Jun-13 Jul-13	0.3839 0.3382	0.2655 0.2661	0.6711	0.6825	0.3675 0.3675	1.05	0.546 0.546	0.294 0.294	0.84	0.9598 0.8455	0.6638 0.6653	1.6778	1.1107	0.7535	1.9072
2013	Aug-13	0.2615	0.2268	0.4883	0.6825	0.3675	1.05	0.546	0.294	0.84	0.6539	0.5669	1.2208	0.9837	0.7584	1.7637
2013 2013	Sep-13 Oct-13	0.2517 0.2347	0.2281 0.2106	0.4958	0.6825 0.6825	0.3675 0.3675	1.05	0.546 0.546	0.294 0.294	0.84	0.6293 0.5869	0.5703 0.5265		0.8515	0.7210	1.5885
2013	Nov-13	0.2268	0.2006	0.4417	0.6825	0.3675	1.05	0.546	0.294	0.84	0.5671	0.5015	1.1042	0.7133	0.6393	1.3828
2013	Dec-13	0.2514	0.2268	0.4782	0.6825	0.3675	1.05	0.546	0.294	0.84	0.6285	0.5669		0.7130	0.6379	1.3652
2014 2014	Jan-14 Feb-14	0.3291	0.2521		0.6825 0.6825	0.3675 0.3675	1.05	0.546 0.546	0.294 0.294	0.84	0.8228 0.5993	0.6302 0.5210	1.4531 1.2403	1.4243	1.0016	2.4603
2014	Mar-14	0.4025	0.2912	0.6936	0.6825	0.3675	1.05	0.546	0.294	0.84	1.0061	0.7279	1.7340	0.9713	0.7516	1.7709
2014 2014	Apr-14 May-14	0.6303 0.3915	0.4003	1.0650 0.7017	0.6825	0.3675 0.3675	1.05	0.546 0.546	0.294 0.294	0.84	1.5758 0.9789	1.0007 0.7754	2.6624 1.7543	1.2725	0.8998	2.2547
2014	Jun-14	0.2527	0.2384		0.6825	0.3675	1.05	0.546	0.294	0.84	0.6319	0.5959	1.2687	1.2746	0.9488	2.2741
2014	Jul-14	0.2767	0.2507	0.5274	0.6825	0.3675	1.05	0.546 0.546	0.294 0.294	0.84	0.6918 0.5761	0.6268 0.5643	1.3185	0.9210	0.7992	
2014 2014	Aug-14 Sep-14	0.2305 0.2102	0.2257	0.4562	0.6825	0.3675 0.3675	1.05	0.546	0.294	0.84	0.5255	0.4916	1.0510	0.7174	0.6731	
2014	Oct-14	0.2286	0.1992	0.4278	0.6825	0.3675	1.05	0.546	0.294	0.84	0.5715	0.4980	1.0694	0.6692 0.6761	0.6215	
2014 2014	Nov-14 Dec-14	0.2374 0.4619	0.2036	0.4557	0.6825	0.3675 0.3675	1.05	0.546 0.546	0.294 0.294	0.84	0.5934 1.1548	0.5090 0.7552	1.1392	0.9279	0.7049	
2015	Jan-15	0.3196	0,2569	0.5765	0.6825	0.3675	1.05	0.546	0.294	0.84	0.7990	0.6422	1.4412			
2015 2015	Feb-15 Mar-15	0.2258 0.3495	0.1928 0.2625	0.4634	0.6825	0.3675 0.3675	1.05	0.546 0.546	0.294 0.294	0.84	0.5644 0.8736	0.4820 0.6563		1.1336 0.8948	0.8377	1.9988
2015	Apr-15	0.4963	0.2623	0.8516	0.6825	0.3675	1.05	0.546	0.294	0.84	1.2407	0.8196	2.1290	1.0715	0.7832	1.9270
2015	May-15		0.2474	0.5352	0.6825	0.3675	1.05	0.546	0.294 0.294	0.84	0.7196 0.6190	0.6184 0.5441		1.1336 1.0317	0.8377	1.9988
2015 2015	Jun-15 Jul-15	0.2476 0.2449	0.2176 0.2150	0.4814	0.6825	0.3675 0.3675	1.05	0.546 0.546	0.294	0.84	0.6123	0.5441		0.7804	0.6800	
2015	Aug-15	0.2135	0.1984		0.6825	0.3675	1.05	0.546	0.294	0.84	0.5337	0.4960		0.7060	0.6310	
2015 2015	Sep-15 Oct-15	0.2032 0.2215	0.1882 0.1922	0.4044	0.6825	0.3675 0.3675	1.05		0.294 0.294	0.84	0.5079 0.5536	0.4706 0.4805		0.6616 0.6381	0.6016	
2015	Nov-15	0.2354	0.1922	0.4419	0.6825	0.3675	1.05	0.546	0.294	0.84	0.5885	0.4806		0.6600	0.5726	
2015	Dec-15 Jan-16	0.2836 0.3256	0.2064	0.4900	0.6825	0.3675	1.05	0.546 0.546	0.294 0.294	0.84	0.7090 0.8140	0.5160 0.5779	1.2251	0.7405	0.5908	1.3456
2016	Feb-16	0.3747	0.2424		0.6825	0.3675	1.05	0.546	0.294	0.84	0.9367	0.6059		1.1589	0.7545	2.0258
2016				0.7224	0.6825	0.3675	1.05		0,294	0.84	1.1036 0.8569	0.7024	1.8060 1.5507	1.1417 1.1589	0.7545	1.9623
2016 2016	Apr-16 May-16	0.3427 0.2884	0.1329	0.6203 0.5225	0.6825 0.6825	0.3675 0.3675	1.05	0.546	0.294 0.294	0.84	0.7209	0.2814	1.3064	1.0725	0.5265	1.8652
2016	Jun-16	0.2196	0.2121	0.4462	0.6825	0.3675	1.05		0.294 0.294	0.84	0.5491 0.4704	0.5303 0.5153		0.8507 0.6962	0.4576	
2016 2016	Jul-16 Aug-16	0.1882 0.1855	0.2061 0.2044		0.6825 0.6825	0.3675 0.3675	1.05		0.294	0.84	0.4704	0.5153		0.5933	0.6226	1.283
2016	Sep-16	0.1825	0.1889	0.3838	0.6825	0.3675	1.05	0.546	0.294	0.84	0.4561	0.4723		0.5561 0.5810	0.5994	
2016 2016	Oct-16 Nov-16		0.1937 0.1932		0.6825	0.3675 0.3675	1.05		0.294 0.294	0.84	0.5327 0.5567	0.4843 0.4831		0.5810	0.5870	
2016	Dec-16	0.2719	0.2084	0.4804	0.6825	0.3675	1,05	0.546	0.294	0.84	0.6798	0.5210	1.2009	0.7077	0.5954	1.3918
2017 2017	Jan-17 Feb-17	0.3205 0.3291	0.2350 0.2390	0.5555	0.6825 0.6825	0.3675	1.05		0.294 0.294	0.84	0.8013 0.8228	0.5874 0.5976		1.4649	1.0333	2.4900
2017	Mar-17	0.4049	0.2602	0.6650	0.6825	0.3675	1.05	0.546	0.294	0.84	1.0122	0.6504	1.6626	1.0545	0.7342	1.7886
2017 2017	Apr-17	0.5571 0.4947	0.4290	0.9861	0.6825 0.6825	0.3675 0.3675	1.05		0.294	0.84	1.3928 1.2369	1.0724 0.8605		1.2911 1.4567	1.0333	
2017	May-17 Jun-17	0.4947	0.3442		0.6825	0.3675	1.05	0.546	0.294	0.84	1.0328	0.6140	1.6468	1.4649	1.0188	2.4837
2017	Jul-17	0.3177	0.1934		0.6825 0.6825	0.3675 0.3675	1.05		0.294 0.294	0.84	0.7944 0.6669	0.4835 0.3944		1.2256 0.9976	0.7832	
2017 2017	Aug-17 Sep-17	0.2667 0.2607	0.1577 0.1564		0.6825	0.3675	1.05		0.294	0.84	0.6518	0.3910	1.0428	0.8452	0.5076	1,352
2017	Oct-17	0.2955	0.1490	0.4445	0.6825	0.3675	1.05		0.294	0.84	0.7388	0.3725		0.8230 0.9404	0.4631	1.286
2017 2017	Nov-17 Dec-17		0.1434 0.1361		0.6825	0.3675	1.05		0.294	0.84	0.9606 0.8469	0.3584	1.3190	1.0185		1.4469
2018	Jan-18	0.4060	0.1687	0.5747	0.6825	0.3675	1.05	0.546	0.294	0.84	1.0150	0.4218	1,4368	Seemon	200000000000000000000000000000000000000	
2018		0.4676 0.5382	0.2294		0.6825 0.6825	0.3675	1.05		0.294	0.84	1.1690 1.3454	0.5735 0.6033		1.7034 1.4118	0.8292	2.5325
2018	Apr-18	0.5785	0.2596	0.8381	0.6825	0.3675	1.05	0.546	0.294	0.84	1.4463	0.6489	2.0953	1.5843	0.7303	2.3146
2010	May-18	0.3850	0.2179		0.6825	0.3675	1.05		0.294 0.294	0.84	0.9624 0.7092	0.5448 0.4416		1.5017 1.2472	0.7188	
2018	Jun-18 Jul-18	0.2837 0.2567	0.1766 0.1637	0.4603	0.6825 0.6825	0.3675 0.3675	1.05		0.294	0.84	0.7092	0.4416		0.9253	0.5582	1.4836
			0.2373	0.7284	0.6825	0.3675	1.05	0.546	0.294	0.84	1.2277	0.5932	1.8209	1.0314	0.5776	
2018 2018 2018 2018			0.1851		0.6825	0.3675	1.05		0.294 0.294	0.84	0.8966 1.0468	0.4628 0.4572		1.1064 1.2684	0.5861	
2018 2018 2018 2018 2018	Sep-18		0 1820	0.60116			2.03	5,540	21234	-704						
2018 2018 2018 2018 2018 2018 2018	Sep-18 Oct-18 Nov-18	0.4187 0.7260	0.1829 0.3307	1.0567	0.6825 0.6825	0.3675	1.05		0.294	0.84	1.8150	0.8268		1.5033	0.6987	
2018 2018 2018 2018 2018 2018 2018	Sep-18 Oct-18 Nov-18 Dec-18	0.4187 0.7260 0.5587	0.3307 0.3155	1.0567 0.8742	0.6825 0.6825	0.3675 0.3675	1.05	0.546	0.294	0.84	1.3967	0,7889	2.1856	1.5033 1.7034		2.202
2018 2018 2018 2018 2018 2018 2018	Sep-18 Oct-18 Nov-18 Dec-18 Jan-19	0.4187 0.7260 0.5587 0.4396	0.3307	1.0567 0.8742 0.6984	0.6825 0.6825 0.6825 0.6825	0.3675 0.3675 0.3675 0.3675	1.05 1.05 1.05	0.546 0.546 0.546	0.294 0.294 0.294	0.84 0.84 0.84	1.3967 1.0990 0.9600	0.7889 0.6471 0.5842	2.1856 1.7460 1.5442	1.7034	0.8292	2.5325
2018 2018 2018 2018 2018 2018 2019 2019 2019	Sep-18 Oct-18 Nov-18 Dec-18 Jan-19 Feb-19 Mar-19	0.4187 0.7260 0.5587 0.4396 0.3840 0.4151	0.3307 0.3155 0.2588 0.2337 0.2494	1.0567 0.8742 0.6984 0.6177 0.6645	0.6825 0.6825 0.6825 0.6825 0.6825	0.3675 0.3675 0.3675 0.3675 0.3675	1.05 1.05 1.05 1.05	0.546 0.546 0.546 0.546	0.294 0.294 0.294 0.294	0.84 0.84 0.84	1.3967 1.0990 0.9600 1.0377	0.7889 0.6471 0.5842 0.6235	2.1856 1.7460 1.5442 1.6612	1.7034 1.4901 1.2387	0.8292 0.8563 0.7419	2.3464 2.1,9806
2018 2018 2018 2018 2018 2018 2018 2018	Sep-18 Oct-18 Nov-18 Dec-18 Jan-19 Feb-19 Mar-19 Apr-19	0.4187 0.7260 0.5587 0.4396 0.3840 0.4151 0.5817	0.3307 0.3155 0.2588 0.2337	1.0567 0.8742 0.6984 0.6177 0.6645 0.8959	0.6825 0.6825 0.6825 0.6825	0.3675 0.3675 0.3675 0.3675	1.05 1.05 1.05 1.05 1.05 1.05	0.546 0.546 0.546 0.546 0.546	0.294 0.294 0.294	0.84 0.84 0.84	1.3967 1.0990 0.9600	0.7889 0.6471 0.5842	2.1856 1.7460 1.5442 1.6612 2.2397 1.9652	1.7034	0.8292 0.8563 0.7419 0.7973 0.8563	2.5325







George E. Sansoucy, PE, LLC

Engineers & Appraisers August 15, 2019

To: All PSNH Appeal Clients

RE: Project and Budget Status for the PSNH Appeals for 2014, 2015, 2016, and 2017 at the BTLA

Dear Client Community:

As of the enclosed July invoice, the final court-ready appraisals have been completed and submitted to the BTLA for the upcoming trial in November for tax years 2014, 2015, 2016, and 2017. The reports (including one hydroelectric value for the City of Berlin as part of these reports) comprise close to 300 separate appraisal years and values for PSNH for all of the communities combined. The report and all of its workpapers comprise approximately 60,000 pages of documents which develop and support separate appraisal valuations for transmission and distribution property in each of the communities by all three methods of value, namely, the cost approach, the market sales approach, and the income approach. In addition, as described below, a new method of value has been added to the reports and considered for these appeals.

As you know from Chris Boldt's and the other attorney's letters to you, our anticipated scope of work for this assignment was based on the outline of the previous trial where your values were upheld by the BTLA. Midstream in the preparation of these values, the BTLA changed its considerations as a result of the Northern Utilities gas line appeals. In addition to USPAP valuation modeling of the three separate approaches to value, we have been advised by your counsels to add a fourth complete valuation model utilizing a unit approach to value and developing a system to allocate portions of that value to each of our client communities for additional consideration by us and the Board when considering economic obsolescence. This additional methodology and new work scope have significantly increased our time and costs to prepare the court-ready appraisal. We have also been providing a significant amount of assistance to the attorneys with both staff and resources for research, document preparation, copying and a number of other requests to assist them due to the size of this project and the more limited resources generally found in a law firm.

The remaining tasks to complete these appeals are the following:

1. Continue to address, now that the reports are exchanged, the ever-increasing flow of documents into our office of changed information from PSNH correcting and changing errors that they originally provided to us for the report, requiring us to make changes in the report and changes in the values. For whatever reason, the information PSNH originally provided to us for these appraisals has been subject to a significant amount of change and

- 2. correction over the period of time we have taken to develop the appraisal, creating the need to revise the values for some of the communities, and hence all the documents.
- 3. We now go into the period of preparing for depositions of their witnesses and of company fact witnesses as well as ourselves as required and selected by the attorneys representing each of you. Final deposition schedules and people have not yet been determined.
- 4. Approximately 30 45 days before trial is preparation for trial and assisting the attorneys, as requested, in their preparation for cross examination of company witnesses in this case. From our staff, we designate advocate witnesses for these activities. This generally also includes technical assistance for pre-trial and post-trial briefs, as requested by the attorneys.
- 5. The trial is scheduled for three weeks in November, which will include us as experts as well as our staff advocate witnesses participating and assisting the attorneys in managing the flow and extent of all of the documents that are necessary for this trial and these reports, which include 95 individual communities and four years of values.

Due to the change of scope necessitated by the extent of changes by PSNH and the new BTLA requirements, I now recommend that each of the communities budget an additional \$6,000 each in 2020 to complete this case, assuming it proceeds on the current schedule with the current scope of work outlined in this letter. There will be work performed in each month for the balance of this year. Communities are free to use whatever free cash they have to continue to pay their portion of the bills that come in over the next few months, or if they need assistance to move the remaining \$6,000 budget into bills rendered for payment after January 1, 2020, please do not hesitate to call my office. The final trial bill itself will not be issued until December, if everything stays on schedule, and will not be due and payable until calendar year 2020, but please do not hesitate to call me at 603-788-4000 to discuss any plan that you may need to extend the payment process into 2020 for the remaining bills after this July bill for the reports.

We will be contacting each of the communities to review the valuation numbers and the effect of the changes of methodology prescribed by the BTLA in the Northern Utilities case. We also anticipate giving you an overview of the changes required by the towns to comply with House Bill 700 going forward after 2019. My goal is either to meet with each of you in person, have one of my staff meet with you, or set up a teleconference with each of the selectmen in executive session as everyone starts coming back from summer vacation and settles in for the fall school season.

Thank you all for your support and patience with the courts, your attorneys, and ourselves in this complex matter and we look forward to communicating with you in the near future.

Very truly yours,

GEORGE E. SANSOUCY, P.E., LLC

George E. Sansoucy, P.E.

GES/lt Enclosure

STATE OF NEW HAMPSHIRE PUBLIC UTILITIES COMMISSION

DG 19-074

LIBERTY UTILITIES (ENERGYNORTH NATURAL GAS) CORP. d/b/a LIBERTY UTILITIES

Petition for a License to Construct and Maintain a Natural Gas Pipeline Beneath the Soucook River in Concord and Pembroke

Order Nisi Granting License

ORDER NO. 26,284

August 8, 2019

This order grants Liberty Utilities a license to construct and maintain a natural gas pipeline under the public waters of the Soucook River. This order is being issued on a *nisi* basis to ensure that interested parties receive notice and have the opportunity to comment or request a hearing before the order becomes effective.

I. PROCEDURAL HISTORY

On April 4, 2019, Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty

Utilities (Liberty) filed a Petition pursuant to RSA 371:17 requesting a license to construct and maintain a natural gas pipeline under the Soucook River. On July 19, 2019, Liberty filed an amended petition. In support of its request, Liberty submitted a Gas Main Extension Overview Plan, Gas Main Extension Layout Plan, Gas Main Extension Profile Plan, and Construction Details. On July 1, 2019, Commission Staff (Staff) filed a memorandum recommending that the Commission grant the license subject to certain conditions.

The Petition and subsequent docket filings, other than any information for which confidential treatment is requested of or granted by the Commission, are posted at http://puc.nh.gov/Regulatory/Docketbk/2019/Docketbk/2019/Docketbk/2019/19-074.html.

II. SUMMARY OF PETITION

Liberty currently operates a natural gas distribution main in the vicinity of Sheep Davis Road (NH Route 106) and North Pembroke Road in Concord. The proposed crossing will connect Liberty's distribution system at this location to two new customers located across the Soucook River in Pembroke.

A. Crossing Location and Construction

The proposed crossing will be located on North Pembroke Road approximately 1,900 feet east of Sheep Davis Road (NH Route 106). The crossing will be constructed using horizontal directional drilling (HDD). The area drilled will be approximately 600 feet in length. The pipeline will be constructed using an 8-inch diameter plastic carrier pipe inserted into a 12-inch diameter plastic casing pipe. Approximately 75 feet of the new gas distribution main will be installed below the river. The casing pipe will be at least 15 feet below the river bed.

B. Regulatory Requirements

According to Staff, although Liberty's Petition does not explicitly state that the requirements of N.H. Code Admin. Rules Puc 500 will be met, the Petition provides engineering details regarding material and selection of applied coatings that are consistent with the requirements of 49 CFR Part 192. After reviewing Liberty's Petition and attachments, Staff determined that, with certain conditions, the proposed crossing would be in compliance with the applicable requirements of N.H. Code Admin. Rules Puc 500 and 49 CFR Part 192.

Liberty will file an application for a Shoreland Permit with the New Hampshire

Department of Environmental Services (NHDES) before construction of the pipeline. Liberty
represented that a wetland permit is not required because the construction of the pipeline will not disturb wetlands.

C. Property Rights

Liberty provided documentation to show that the gas distribution pipeline will be located under the bed of the Soucook River as well as under the eastern and western shores of the Soucook River. Liberty represented that, because all work will be confined to the public right-of-way, there is no need to acquire any other property rights.

D. Service to the Public and the Effect on Public Rights

According to Liberty, the proposed construction and pipeline crossing will not substantially affect the rights of the public in the Soucook River because the crossing will be accomplished using HDD and the pipe will be at least 15 feet beneath the river bed. In addition, the entry and exit points of the directional drill will be no less than 200 feet from the east side of the river and no less than 300 feet from the west side of the river. The HDD process should have no impact on the river, and the new gas main will not impede use of the river or traffic. By installing the carrier pipe inside a casing, Liberty will be able to conduct maintenance on the distribution main by removing it from the casing without disrupting the river.

Liberty stated that construction of the new gas distribution main is necessary for it to provide natural gas service to Pleasant View Gardens.

III. SUMMARY OF STAFF REVIEW

Commission Staff reviewed Liberty's Petition and supporting documentation, applicable statutes, rules, and the requirements of 49 CFR Part 192, ownership of the land, public need, safety, and impact. Staff determined that the proposed construction, with certain conditions, would meet the requirements of 49 CFR Part 192, applicable state statutes, and Commission rules. Staff recommended approval of the Petition with those conditions.

Staff recommended that Liberty be directed to construct, operate, and maintain the piping consistent with both Puc 506.02 and 49 CFR Part 192 requirements, and the North American Society for Trenchless Technology Horizontal Directional Drilling Good Practices Guidelines (4th edition). Staff recommended that Liberty be directed to operate and maintain the crossing in conformance with the latest 49 CFR Part 192 amendments. Staff believes that future alterations to the crossing that may impact the public should conform with the most current 49 CFR Part 192 amendments in effect at the time of submittal of the alteration. Staff recommended aboveground pipeline markers be required to identify the pipeline location, with appropriate warning and Company contact information on each side of the Soucook River crossing. Staff also recommended that the gas main be locatable for future excavations using a tracer wire or other suitable equivalent means.

With regard to the HDD process, Staff recommended continuous monitoring for possible hydro fracture during the HDD operation. Staff also recommended that Liberty be required to immediately implement containment measures if a hydro fracture occurs and, in that event, to notify the Commission Safety Division and NHDES. Staff also recommended that Liberty have clean up capability onsite in the event of a hydro fracture, prior to beginning the HDD operation. Last, Staff recommended that the approval be limited to a gas pipeline with the specifications proposed by Liberty in this docket.

According to Staff, the Soucook River in the vicinity of the proposed water crossing has been designated as public water, which must be managed in accordance with RSA Chapter 483, relative to the New Hampshire Rivers Management and Protection Program. Staff concluded that, if the regulatory requirements of 49 CFR Part 192 and Puc 500 rules are met, the proposed

natural gas pipeline will meet all current safety standards. *See* Staff Memorandum (July 1, 2019).

IV. COMMISSION ANALYSIS

"Whenever it is necessary, in order to meet the reasonable requirements of service to the public, that any public utility should construct a pipeline, cable, or conduit, or a line of poles or towers and wires and fixtures thereon, over, under or across any of the public waters of this state, or over, under or across any of the land owned by this state, it shall Petition the commission for a license to construct and maintain the same." RSA 371:17. The Commission is authorized to grant such a license if it "may be exercised without substantially affecting the public rights in said waters or lands." RSA 371:20. NHDES has classified the Soucook River as a "public water" under RSA 271:20.

We find that the proposed crossing is necessary to meet the reasonable requirements of reliable service to the public, as required by RSA 371:17. We further find that the requested license may be exercised without substantially affecting the public rights in the Soucook River, as required for approval under RSA 371:20. Therefore, we approve the Petition subject to the conditions contained in the ordering clauses below. We issue our decision on a *nisi* basis to provide any interested person the opportunity to submit comments or to request a hearing.

This approval is only for the pipeline with the specifications proposed in this docket. Should Liberty seek further modification, it must make the appropriate filing. Liberty is responsible for obtaining any and all federal, state, or local permits required by authorities having jurisdiction for the construction and installation of the proposed crossing.

¹ See https://des.nh.gov/organization/divisions/water/dam/public_waters/index.htm; https://www.des.nh.gov/organization/commissioner/pip/publications/wd/documents/olpw.pdf.

We also require notice to be provided to the Town of Pembroke, the City of Concord, NHDES, the Office of the Attorney General, and owners of land bordering the crossing pursuant to RSA 371:19.

Based upon the foregoing, it is hereby

ORDERED *NISI*, that subject to the effective date below, Liberty is authorized, pursuant to RSA 371:17, *et seq.*, to construct, install, operate, and maintain a single natural gas pipeline under and across the Soucook River as described in its Petition and depicted in its filings; and it is

FURTHER ORDERED, that the construction of the pipeline shall be implemented as depicted in the Petition documents; and it is

FURTHER ORDERED, that this approval is limited to the construction of a single natural gas pipeline under consideration in this docket, and is conditioned on the requirement that Liberty construct, operate, maintain, and, if necessary, alter the pipeline consistent with the provisions of N.H. Code Admin. Rules Puc 500, et seq., 49 CFR Part 192, and the North American Society for Trenchless Technology Horizontal Directional Drilling Good Practices Guidelines (4th edition), as may apply, and as amended from time to time, and all other applicable safety standards in existence at that time; and it is

FURTHER ORDERED, that Liberty shall submit any future proposed alteration(s) to the crossing license granted herein at least 60 days prior to undertaking any such alteration(s); and it is

FURTHER ORDERED, that Liberty have clean up capability on site prior to commencing horizontal directional drilling, actively monitor for possible hydro fracture during the operation, immediately implement containment measures during any hydro fracture, and

promptly notify the Commission Safety Division and New Hampshire Department of Environmental Services of any hydro fracture; and it is

FURTHER ORDERED, that Liberty use above-ground markers to identify the pipeline, with appropriate warnings and Company contact information, on each bank of the crossing; and it is

FURTHER ORDERED, that Liberty install a tracer wire or other suitable equivalent means to easily locate the pipeline; and it is

FURTHER ORDERED, that Liberty shall provide a copy of this order to (i) the Town Clerks of Pembroke and Concord, New Hampshire; (ii) the New Hampshire Attorney General and all owners of the land bordering on said public waters at the location of the crossing, as required by RSA 371:19; and (iii) the New Hampshire Department of Environmental Services, by first class mail, no later than August 19, 2019, to be documented by affidavit filed with the Commission on or before September 5, 2019; and it is

FURTHER ORDERED, that Liberty shall cause a summary of this order, issued concurrently with this order, to be published once in a statewide newspaper of general circulation or of circulation in those portions of the state where operations are conducted, such publication to occur no later than August 19, 2019, and to be documented by affidavit filed with the Commission on or before September 5, 2019; and it is

FURTHER ORDERED, that persons interested in responding to this order be notified that they may submit their comments or file a written request for a hearing that states the reason and basis for a hearing no later than August 26, 2019, for the Commission's consideration; and it is

FURTHER ORDERED, that any party interested in responding to such comments or request for hearing shall do so no later than September 3, 2019; and it is

FURTHER ORDERED, that this order shall be effective September 9, 2019, unless

Liberty fails to satisfy the notice and publication obligations set forth above or the Commission

provides otherwise in a supplemental order issued prior to the effective date.

By order of the Public Utilities Commission of New Hampshire this eighth day of August, 2019.

Martin P Honigberg

Kathryn M. Bailey
Commissioner

Michael S. Giaimo

Commissioner

Attested by:

Debra A. Howland Executive Director