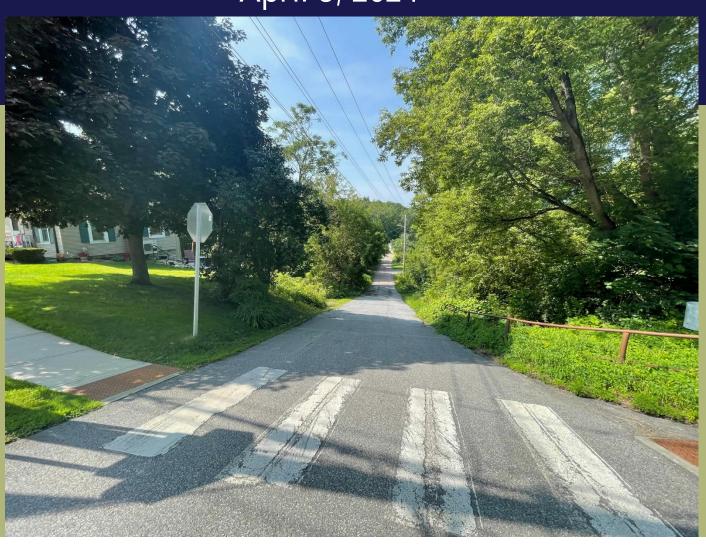
# Bristol, TAP TA22(1) Basin Street Improvement Project Alternatives Presentation Meeting April 8, 2024



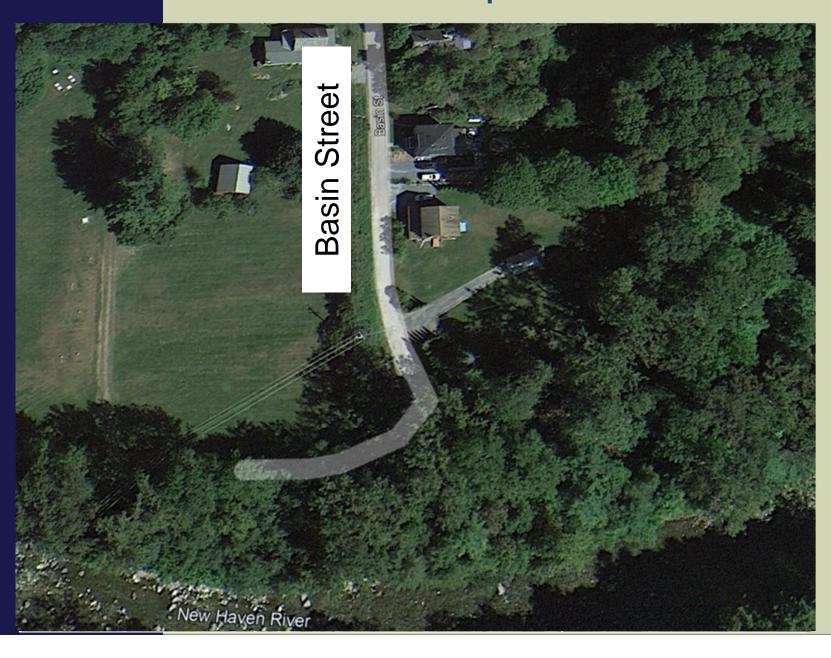
## Purpose of Meeting

- Project overview
- Project development process
- Purpose and Need
- Present alternatives
- Questions and concerns

#### **Project Overview**



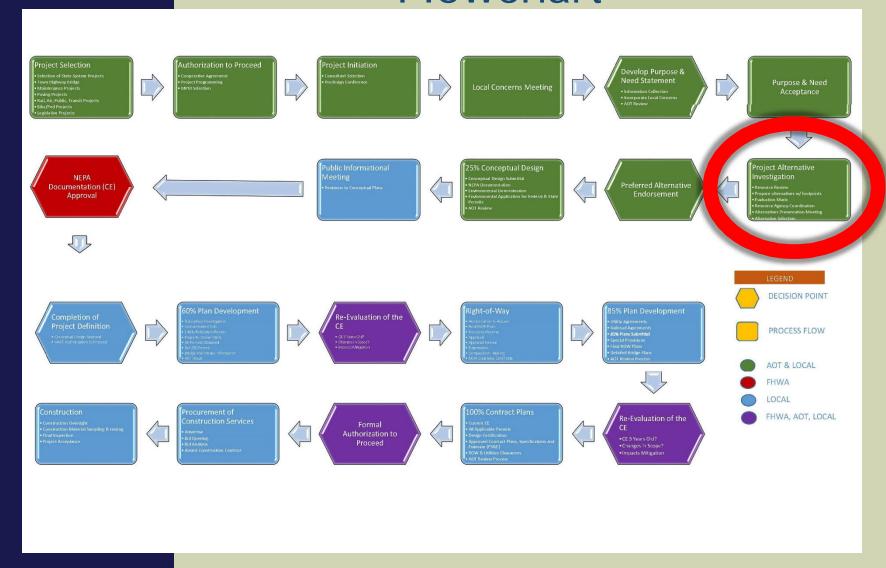
## Stormwater Improvements



#### Project Background

- A scoping study was conducted in 2008 by GME which evaluated bank stabilization and 3 alternatives for improved Basin Street geometry.
- In 2019 GME was contracted to perform a limited update to the study.
- Town applied for SFY 2022 Transportation
   Alternatives Program (TAP) grant funding and was awarded grant in spring 2023.
- Town also applied for and was awarded a Downtown Transportation Grant and a Clean water Initiative Grant.

#### VTrans Municipal Assistance Flowchart



#### **Local Concerns Meeting**

- Local Concerns meeting held on October 16<sup>th</sup>, 2023
- D&K presented an overview of the project and requested feedback from the public on issues or concerns.
- Several abutting property owners attended and provided input.
- Concerns raised during the meeting included:
  - Steep roadway/sidewalk grades
  - Drainage
  - Slope stability
  - Property Owner impacts
  - Maintaining access to properties

#### Purpose and Need

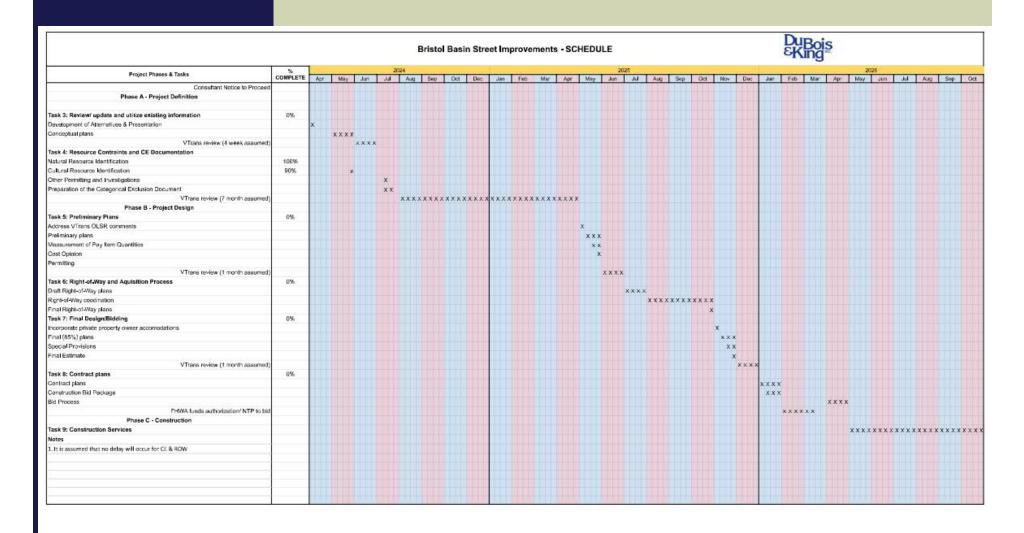
#### Purpose:

 The purpose of the project is to improve and enhance safety, mobility, connectivity, and universal accessibility for pedestrians and vehicles using Basin Street, as well as to improve stormwater drainage in the area to mitigate chronic erosion and sediment transport.

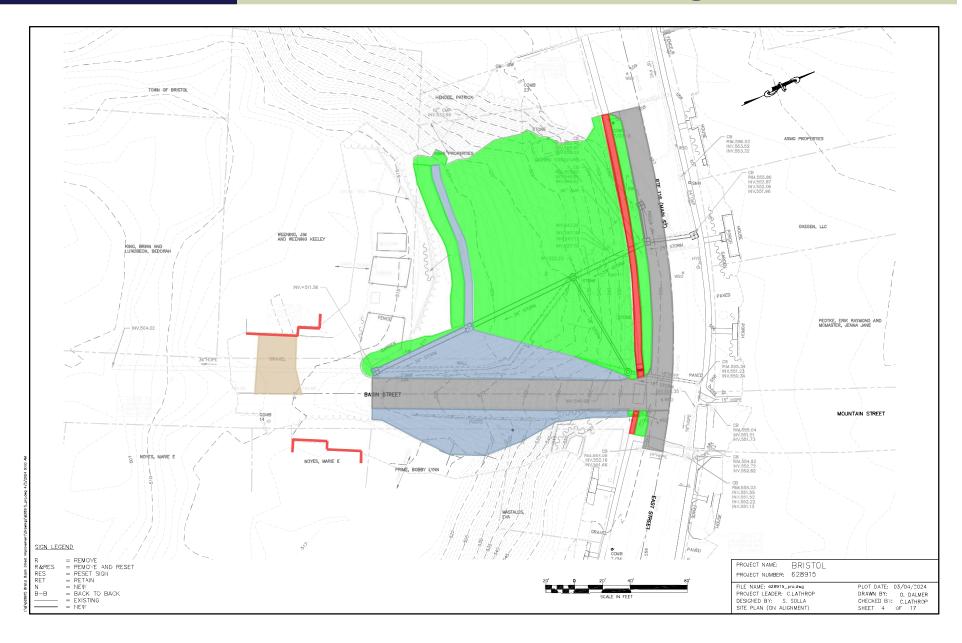
#### Need:

- Basin Street is the sole access to six residences and Bristol's municipal septic systems. There is no feasible alternative access to this area.
- The current drainage patterns and the lack of a proper stormwater collection system have resulted in chronic erosion of the embankment at the intersection of Basin Street with Main Street. Untreated stormwater currently discharges into to the New Haven River.
- Basin Street is supported by retaining walls along both sides of the road. Both walls are in poor condition (one is falling). Continued deterioration of these walls will lead to the eventual loss of Basin Street.
- The slope supporting the south side of Main Street is unstable. Sloughing of the slope has required the Town to routinely repair and reconstruct the roadway shoulder, sidewalk, and guardrail at the top of the embankment.
- A level landing for cars to safely stop and restart from Basin Street does not currently exist at the intersection with Main Street. The Basin Street approach to Main Street is an uphill grade of approximately 20% and is particularly hazardous in winter conditions.
- The crosswalk crossing Basin Street along Main Street has a cross slope of approximately 20%, exceeding the ADA recommended 2% maximum cross slope, thereby creating an unsafe condition for pedestrians.

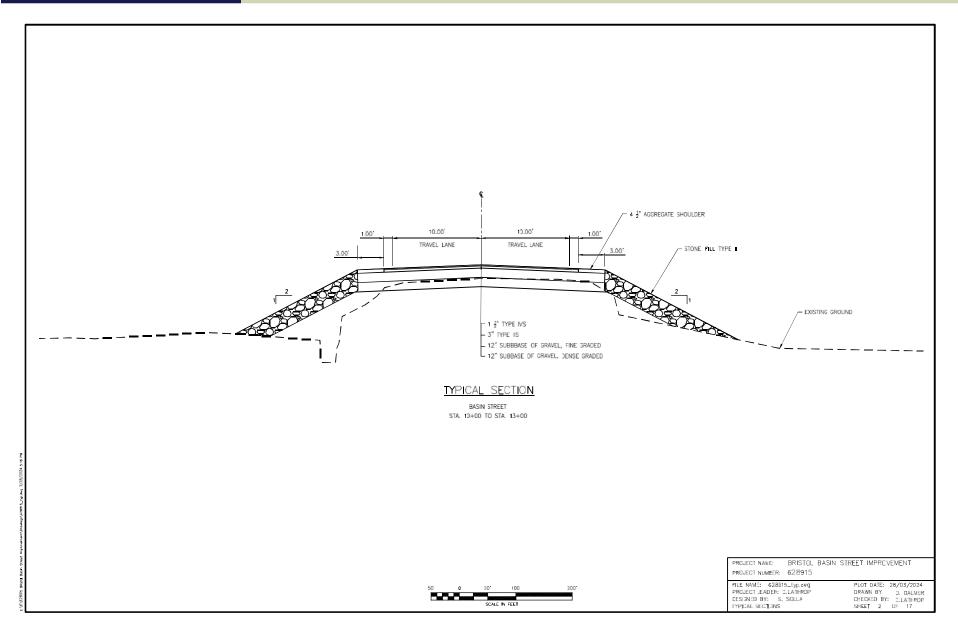
#### Schedule



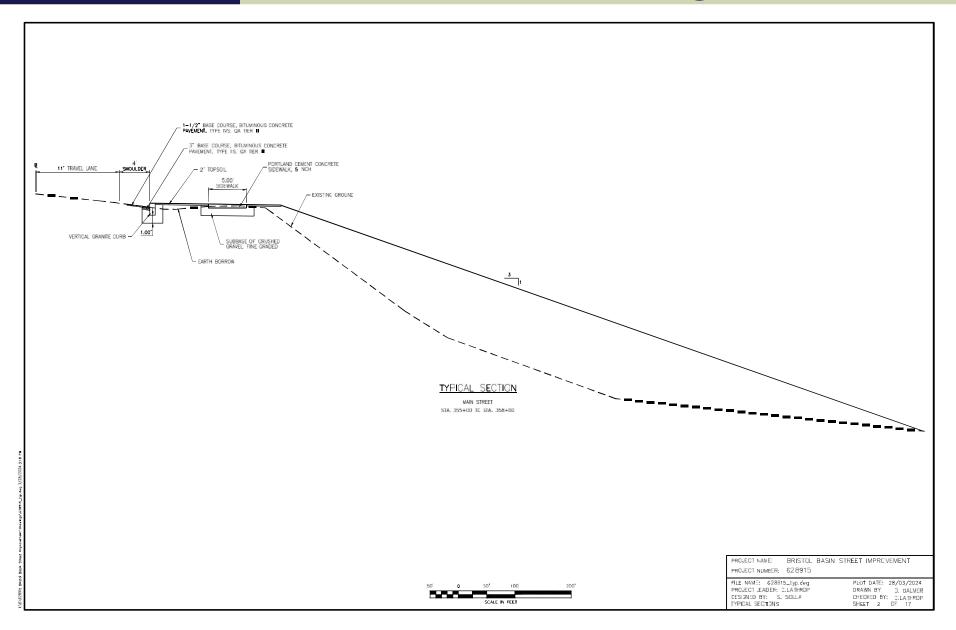
# Alternative 1 - On Alignment



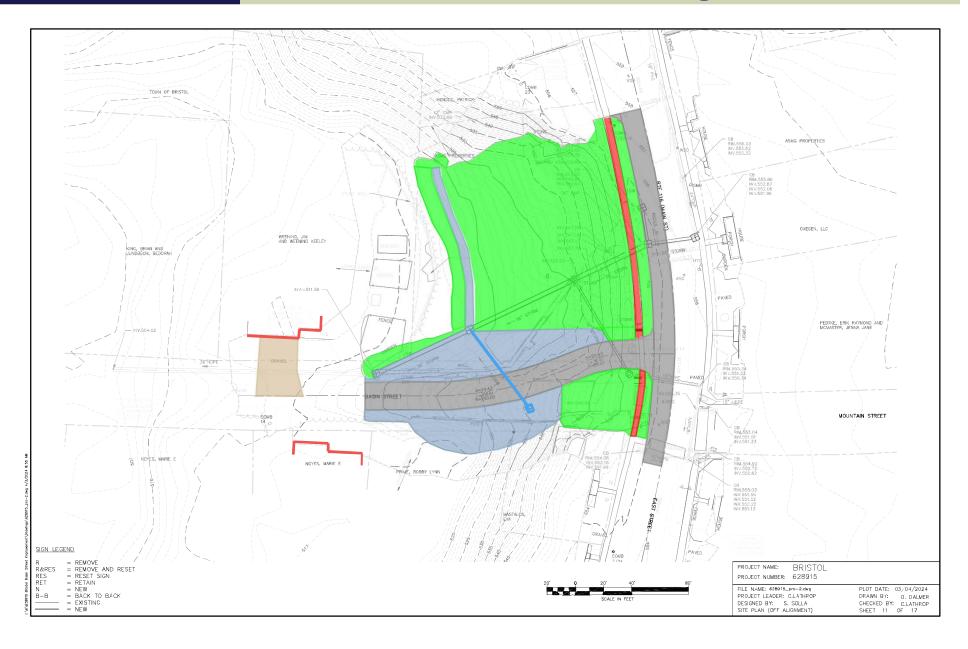
# Alternative 1 - On Alignment



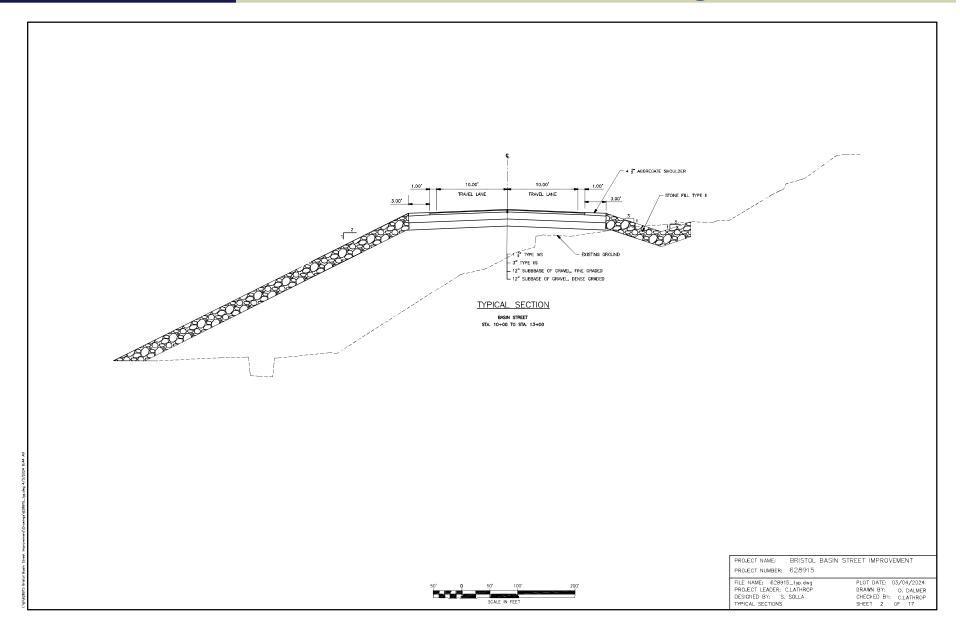
#### Alternative 1 - On Alignment



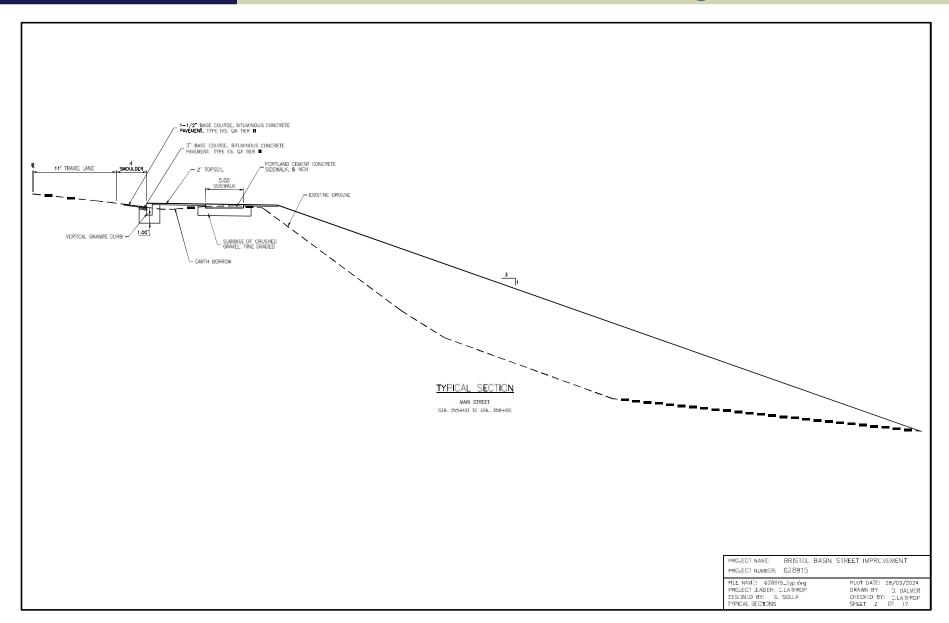
# Alternative 2 – Re Alignment



### Alternative 2 – Re Alignment



# Alternative 2 – Re Alignment



☐ Randolph, VT 05060

■ S. Burl., VT 05403

☐ Bedford, NH 03110

646.3110 CROSSWALK MARKING, WATERBORNE PAINT

(802) 728-3376

(802) 878-7661

(603) 637-1043

SHEET NO.

#### Alternative 1 - On Alignment

-1 711	☐ Springfield, VT 05156 (802) 591-4326 CALCULATED BY: ☐ Laconia, NH 03246 (803) 524-1166  rigineering • Planning • Development • Management  CHECKED BY:		SAS/AAT DATE: 02		
Engineerin			CI	DL DAT	E: 02/01/24
	SCALE:				0
	CONSTRUCTION COST ESTIMATE (ON A	LIGN	MENT)		
ITEM NO.	DESCRIPTION	UNIT	QUANT.	UNIT PRICE	AMOUNT
		- 1	9 9		9
201.1100	CLEARING AND GRUBBING, INCLUDING INDIVIDUAL TREES AND STUMPS	ACRE	1	\$80,000.00	\$80,000
203.1500	COMMON EXCAVATION		150	\$16.82	\$2,522
203.1600	SOLID ROCK EXCAVATION		50	\$107.19	\$5,359
203.3000	EARTH BORROW	CY	7200	\$30.00	\$216,000
204.2000	TRENCH EXCAVATION OF EARTH	CY	120	\$30.00	\$3,600
204.2200	TRENCH EXCAVATION OF EARTH, EXPLORATORY (N.A.B.I.)	CY	1	\$75.00	\$75
204.3000	GRANULAR BACKFILL FOR STRUCTURES	CY	70	\$47.84	\$3,349
210.1000	COARSE-MILLING BITUMINOUS PAVEMENT	5Y	1750	\$17.01	\$29,766
301.2600	SUBBASE OF CRUSHED GRAVEL, FINE GRADED	CY	300	\$52.98	\$15,894
301.3500	SUBBASE OF CRUSHED GRAVEL, DENSE GRADED	CY	225	\$52.98	\$11,921
404.1100	TACK COAT, EMULSIFIED ASPHALT		10	\$61.20	\$581
406.0230	BITUMINOUS CONCRETE PAVEMENT, TYPE IIS, QA TIER III		140	\$125.00	\$17,500
406.0430	BITUMINOUS CONCRETE PAVEMENT, TYPE IVS, QA TIER III		160	\$125.00	\$20,000
406.3400	BITUMINOUS CONCRETE PAVEMENT, NON-PAVER PLACED, TYPE IVS		30	\$32.61	\$978
601.2615	18 INCH CPEP(SL)		100	\$95.00	\$9,500
801 2620	24 INCH CPEP(SL)		40	\$105.00	\$4,200
601,2630	36 INCH CPEP(SL)		210	\$160.00	\$33,600
604.1800	PRECAST REINFORCED CONCRETE DI WITH CAST IRON GRATE (8 FT DIA)		2	\$6,000.00	\$12,000
604.2100	PRECAST REINFORCED CONCRETE MANHOLE WITH CAST IRON COVER (6		2	\$7,500.00	\$15,000
604.4000	CHANGING ELEVATION OF DIS. CATCH BASINS. OR MANHOLES		2	\$1,200.00	\$2,400
613.1002	STONE FILL, TYPE II	CY	400	\$105.00	\$42,000
818.2100	VERTICAL GRANITE CURB	LF	200	\$80.00	\$16,000
618,1005	PORTLAND CEMENT CONCRETE SIDEWALK 5 INCH		120	\$160.00	\$19,200
618.3000	DETECTABLE WARNING SURFACE	SF	20	\$58.00	\$1,160
621,1060	STEEL BEAM GUARDRAIL	LE	575	\$35.00	\$20,125
621,1520	ANCHOR FOR STEEL BEAM GUARDRAIL	EA	4	\$1,300.00	\$5,200
629.2800	ADJUST ELEVATION OF VALVE BOX		4	\$206.32	\$825
630 1000	UNIFORMED TRAFFIC OFFICER		40	\$77.37	\$3.095
630.1500	FLAGGERS	HR HR	3600	\$45.00	\$162,000
635,1100	MOBILIZATION/DEMOBILIZATION	L5	1	\$65,000.00	\$65,000
641,1100	TRAFFIC CONTROL. ALL-INCLUSIVE	L5	1	\$40,000.00	\$40,000
841.1500	PORTABLE CHANGEABLE MESSAGE SIGN	EA	2	\$3.804.99	\$7,610
848.2010	4 INCH WHITE LINE, WATERBORNE PAINT	LF	1150	\$2.00	\$2,300
848.2111	4 INCH YELLOW LINE, WATERBORNE PAINT	LF	1150	\$2.00	\$2,300

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BASIN STREET IMPROVEMENTS

Randolph, VT 05060 S. Burl., VT 05403 ☐ Bedford, NH 03110

☐ Laconia, NH 03246

Engineering . Planning . Development . Management

- (802) 728-3376 ☐ Springfield, VT 05156
  - (802) 878-7661 (603) 637-1043 (802) 591-4326 (603) 524-1166

BASIN STREET IMPROVEMENTS SHEET NO. SAS/AAT DATE: 02/01/24 CDL DATE: 02/01/24 CHECKED BY:

CONSTRUCTION COST ESTIMATE (ON ALIGNMENT)					
ITEM NO.	DESCRIPTION	UNIT	QUANT.	UNIT PRICE	AMOUNT
651.1500	TURF ESTABLISHMENT, GENERAL SEED	5Y	130	\$10.00	\$1,300
651.3500	TOPSOIL	CY	130	\$65.69	\$8,539
653.0100	EPSC PLAN	LS	1	\$2,000.00	\$2,000
653.0200	MONITORING EPSC PLAN	HR	50	\$55.00	\$2,750
653.0300	MAINTENANCE OF EPSC PLAN (N.A.B.I.)	DL	1	\$4,000.00	\$4,000
653.1000	HAY MULCH	TON	0.5	\$1,090.63	\$545
653.2001	ROLLED EROSION CONTROL PRODUCT, TYPE I	5Y	1670	\$4.50	\$7,515
653.4001	INLET PROTECTION DEVICE, TYPE I	EACH	2	\$226.11	\$452
653.4002	INLET PROTECTION DEVICE, TYPE II	EACH	4	\$226.11	\$904
653.5000	BARRIER FENCE	LF	500	\$2.64	\$1,321
653,5500	PROJECT DEMARCATION FENCE	LF	500	\$1.60	\$801
675.3410	SQUARE TUBE SIGN POSTS AND ANCHOR	LF	150	\$21.00	\$3,150
675.5000	SIGN REMOVAL, FLAT SHEET ALUMINUM	EACH	10	\$27.00	\$270
675.6000	RESETTING SIGNS	E		\$63.74	\$637
690.0300	PRICE ADJUSTMENT, FUEL (N.A.B.I.)				\$1.00
900.6200	LEACHING BASIN	EA	3	\$9,000	\$27,000.00
SUBTO	OTAL - Contingency'			\$932,5 \$187,00	70

**ESTIMATE TOTAL** 

\$1,119,940.00

In providing opinions of probable construction cost, the Client understands that D&K ha over the cost or availability of labor, equipmen market conditions or the Contractor's method of pricing, and that our Opinion of Probable on Costs are made on the basis of our proudgment and Construction Cost experience. D&K makes no warranty, expressed or implied, that the bids or the negotiated co will not vary from the Opinion

☐ Randolph, VT 05060

CROSSWALK MARKING, WATERBORNE PAINT

IXI S. Burl., VT 05403

(802) 728-3376

(802) 878-7661

SHEET NO.

#### Alternative 2 – Re Alignment

-Kui	☐ Springfield, VT 05156 (802) 591-4326 CALC	CULATED BY:	SAS	AAT DAT	E: 02/01/24
Engineerin		CKED BY:	C	DL DAT	E: 02/01/24
	SCAL				
ITEM NO.	CONSTRUCTION COST ESTIMATE (RE		-	UNIT PRICE	AMOUNT
HEM NO.	DESCRIPTION*	UN	UUANI.	UNII PRICE	AMOUNT
201,1100	CLEARING AND GRUBBING. INCLUDING INDIVIDUAL TREES AND	STUMPS AC	E 1	\$80,000.00	\$80,000
203.1500	COMMON EXCAVATION	C	-	\$16.82	\$3,531
203.1600	SOLID ROCK EXCAVATION		50	\$107.19	\$5,359
203.3000	EARTH BORROW	- 10		\$30.00	\$193,200
204.2000	TRENCH EXCAVATION OF EARTH			\$30.00	\$3,600
204.2200	TRENCH EXCAVATION OF EARTH, EXPLORATORY (N.A.B.I.)	- C		\$75.00	\$75
204.3000	GRANULAR BACKFILL FOR STRUCTURES	C	70	\$47.84	\$3,349
210.1000	COARSE-MILLING BITUMINOUS PAVEMENT	8'		\$17.01	\$29,766
301.2600	SUBBASE OF CRUSHED GRAVEL, FINE GRADED	C	300	\$52.98	\$15,894
301.3500	SUBBASE OF CRUSHED GRAVEL, DENSE GRADED	C	225	\$52.98	\$11,921
404.1100	TACK COAT, EMULSIFIED ASPHALT		T 10	\$61.20	\$581
406.0230	BITUMINOUS CONCRETE PAVEMENT, TYPE IIS, QA TIER III		N 140	\$125.00	\$17,500
406.0430	BITUMINOUS CONCRETE PAVEMENT, TYPE IVS, QA TIER III		N 160	\$125.00	\$20,000
406.3400	BITUMINOUS CONCRETE PAVEMENT, NON-PAVER PLACED, TYPE IVS		30	\$32.61	\$978
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604.2100	PRECAST REINFORCED CONCRETE MANHOLE WITH CAST IRON COVER (6 FT DIA.)		2	\$7,500.00	\$15,000
604.4000	CHANGING ELEVATION OF DIS, CATCH BASINS, OR MANHOLES	E	2	\$1,200.00	\$2,400
613.1002	STONE FILL, TYPE II	C	325	\$105.00	\$34,125
616.2100	VERTICAL GRANITE CURB	Li	240	\$80.00	\$19,200
618.1005	PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH	S	120	\$160.00	\$19,200
618.3000	DETECTABLE WARNING SURFACE	Si	20	\$58.00	\$1,160
621.1060	STEEL BEAM GUARDRAIL	U	500	\$35.00	\$17,500
621.1520	ANCHOR FOR STEEL BEAM GUARDRAIL	E	4	\$1,300.00	\$5,200
629.2800	ADJUST ELEVATION OF VALVE BOX		4	\$206.32	\$825
630.1000	UNIFORMED TRAFFIC OFFICER		40	\$77.37	\$3,095
630.1500	FLAGGERS	H	3600	\$45.00	\$162,000
635,1100	MOBILIZATION/DEMOBILIZATION	L	1	\$65,000.00	\$65,000
641.1100	TRAFFIC CONTROL, ALL-INCLUSIVE	Li	1	\$40,000.00	\$40,000
641.1500	PORTABLE CHANGEABLE MESSAGE SIGN	E	2	\$3,804.99	\$7,610
646.2010	4 INCH WHITE LINE, WATERBORNE PAINT	Li	1150	\$2.00	\$2,300
242.2444	A BICK MELLOW LINE WATERBOOKS BART		4400	£2.00	£2.200

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BASIN STREET IMPROVEMENTS

LF 30 \$23.10

☐ Randolph, VT 05060 IXI S. Burt., VT 05403 ☐ Bedford, NH 03110 ☐ Springfield, VT 05156

☐ Laconia, NH 03246

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BASIN STREET IMPROVEMENTS SHEET NO. SAS/AAT DATE: 02/01/24 CHECKED BY:

ITEM NO.	DESCRIPTION	UNIT	QUANT.	UNIT PRICE	AMOUNT
651,1500	TURF ESTABLISHMENT, GENERAL SEED	BY	130	\$10.00	\$1,300
651.3500	TOPSOL	CY	130	\$65.69	\$8,539
653.0100	EPSC PLAN	LS	1	\$2,000.00	\$2,000
653.0200	MONITORING EPSC PLAN	HR	50	\$55.00	\$2,750
653.0300	MAINTENANCE OF EPSC PLAN (N.A.B.I.)	DL.	1	\$4,000.00	\$4,000
653.1000	HAY MULCH	TON	1.0	\$1,090.63	\$1,091
653.2001	ROLLED EROSION CONTROL PRODUCT, TYPE I	TV TV	1670.0	\$4.50	\$7,515
653,4001	INLET PROTECTION DEVICE, TYPE I	EACH	2	\$226.11	\$452
653.4002	INLET PROTECTION DEVICE, TYPE II	EACH	4	\$226.11	\$904
653.5000	BARRIER FENCE	LF	500	\$2.64	\$1,321
653.5500	PROJECT DEMARGATION FENCE	LF	500	\$1.60	\$801
675.3410	SQUARE TUBE SIGN POSTS AND ANCHOR	LF	150	\$21.00	\$3,150
675.5000	SION REMOVAL, FLAT SHEET ALUMINUM	EACH		\$27.00	\$270
675.6000	RESETTING SIGNS			74	\$637
690.0300	PRICE ADJUSTMENT, FUEL (N.A.B.I.)	U	1		\$1.00
900.6200	LEACHING BASIN	EA	3	\$9,000	\$27,000.00
SUBT(	OTAL - Contingency			\$904,3 \$181,00	0
	ESTIMATE TOTAL	\$1,0	085,39	0.00	

in providing opinions of probable construction cost, the Client understands that D&K over the cost or availability of labor, equip market conditions or the Contractor's method of pricing, and that our Opinion of Probab on Costs are made on the basis of our of Judgment and able Construction Cost will not vary from the O experience. D&K makes no warranty, expressed or implied, that the bids or the negotiated

> 1300 Appoximate length of sidewalk = Cost per foot (No Contingency) = \$896 \$835 Cost per foot (With Contingency)=

### **Alternatives Comparison**

	Alternative 1 On Basin Street Alignment	Alternative 2 Realignment
Meets Purpose and Need?	Yes	Yes
Resource impacts?	TBD	TBD
Utility Impacts?	Yes	Yes
Private Property Impacts?	Moderate	Moderate
ROW impacts?	Moderate	Moderate
Meets grant requirements?	Yes	Yes
Const. Schedule	2026 (est.)	2026 (est.)
Const. Cost Opinion	\$1,119,940.00	\$1,085,390.00

#### Next Steps

 At the conclusion of this meeting or shortly afterwards, the Town needs to make a decision on the preferred alternative to move the project forward.

#### Questions