

Watertown Public Schools Building Committee

# DesignWatertown

## Elementary Schools Project

*Ai3 Architects, LLC  
Hill International, Inc*

*Agenda - September 15, 2021*

- Call to Order
- Approval of Meeting Minutes
  - Elementary Schools Project Meeting Minutes for August 18, 2021
- Review & Approval of:
  - Elementary Schools Monthly Invoices
  - High School Project Monthly Invoices
  - Purchase Order for Cunniff: Third Party Photovoltaic Inspections
  - Change Order #09
- Executive Summary
- Elementary Schools Project Updates
  - Lowell: Prequalification Update / Bid Schedule
  - Cunniff: Project Schedule Update
  - Hosmer & Cunniff Playground Lighting
- Elementary Schools Questions/Comments
- Adjournment

*To Connect via Zoom\*:*

*Passcode: 675158*

<https://us02web.zoom.us/j/86338599404?pwd=ak-NGYUdHZ3ZYsWxTd1dSUDAzMUV4UT09>

*\*Members of the Public:* please use the Q&A button to ask questions when appropriate or email questions to: [buildingforfuture@watertown-ma.gov](mailto:buildingforfuture@watertown-ma.gov)



*Watertown Public Schools Building Committee*

# **Call to Order**

# Approvals

▶ **Meeting Minutes**

- Elementary School meeting minutes for August 18, 2021

▶ **Invoices**

- Elementary Schools Project
- High School Project

▶ **Change Orders**

- Purchase Order for Cunniff: Third Party Photovoltaic Inspections
- Change Order #09

# Summary of Invoices: Elementary Schools Project

VENDOR	PROJECT	INVOICE DATE	INVOICE NUMBER	INVOICE AMOUNT
Hill International	Elementary Schools	09/09/21	0000027	\$93,910.00
Ai3 Architects	Elementary Schools	08/31/21	0042B-1610.00	\$63,959.74
Ai3 Architects	Elementary Schools	08/31/21	0034E-1610.00	\$5,009.14 <i>(Extra Services)</i>
Ai3 Architects	Elementary Schools	08/31/21	0024R-1610.00	\$1,305.00 <i>(Reimbursable Expenses)</i>
Brait Builders	Elementary Schools	08/31/21	Application #15	\$3,627,896.36
UTS (Testing Agency)	Elementary Schools	08/20/21	95469	\$280.00
Colliers International (CxA)	Elementary Schools	07/31/21	010251	\$5,984.90
<b>Total</b>				<b>\$3,798,345.14</b>

 **Summary of Invoices:  
High School Project**

VENDOR	PROJECT	INVOICE DATE	INVOICE NUMBER	INVOICE AMOUNT
Compass Project Management	High School	08/31/21	CPM 77-26	\$15,831.50
Ai3 Architects	High School	08/31/21	0023B-1902.00	\$60,949.23
<b>Total</b>				<b>\$76,780.73</b>

## Purchase Order for Cunniff: Third Party Photovoltaic Inspections

Description: Ridgeline Energy Analytics proposes to provide a third-party electrical inspection of the new 481.4 kWdc solar installation at the Cunniff Elementary School, located at 246 Warren Street in Watertown, MA.

Purpose: To ensure conformance with Massachusetts Electrical Code (MEC) requirements, the approved system design, and good installation practices. A final inspection report will be provided.

The proposed amount of **\$4,330.00** is a fixed fee based on the rates of the engineers completing the review.

PO #	VENDOR	PROJECT	PURCHASE ORDER AMOUNT
02201383-00	Ridgeline Energy Analytics	Cunniff Elementary School	\$4,330.00
<b>Total:</b>			<b>\$4,330.00</b>

# Summary of Change Orders: Elementary Schools

CO#	PR#	PCO#	BRIEF DESCRIPTION	PROPOSED \$
			<b>Total: Change Order 1</b>	<b>\$128,881.27</b>
			<b>Total: Change Order 2</b>	<b>\$315,914.69</b>
			<b>Total: Change Order 3</b>	<b>\$108,988.03</b>
			<b>Total: Change Order 4</b>	<b>\$143,575.52</b>
			<b>Total: Change Order 5</b>	<b>\$0.00</b>
			<b>Total: Change Order 6</b>	<b>\$191,818.60</b>
			<b>Total: Change Order 7</b>	<b>\$201,523.75</b>
			<b>Total: Change Order 8</b>	<b>\$248,810.44</b>
9	H-024	H-059	PV Interconnection and Battery Storage System (elec portion only)	\$787,198.92
9		H-062R1	Modifications to installation of CW08; frame split where in conflict w/ steel	\$12,246.56
9		H-063R1	Replace the 1" head flashing from SF5's on South Elevation w/ 3"	\$3,463.86
9		H-066	Partition modifications behind the hydration stations	\$4,135.97
			<b>Total: Change Order 9</b>	<b>\$807,045.31</b>
			<b>Total (Change Orders To Date):</b>	<b>\$2,146,557.61</b>
			<i>% of Original Contract Sum</i>	<i>2.26%</i>

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# **Executive Summary**





Project Accomplishments from Last Month
<b>Cunniff Elementary School</b> Building interior Substantially Completed Egress sidewalks Substantially Completed <b>Hosmer Elementary School</b> Maintaining the Substantial Completion date of December 31, 2021 for the new Building including perimeter sidewalks Winthrop St. Playground Substantially Completed for the first day of school <b>Lowell Elementary School</b> Contractor Pre-qualifications reviewed and substantially completed Advertise Bid Schedule established

Projected Major Tasks This Month
<b>Cunniff Elementary School</b> Started installation of Furniture, Fixtures and Equipment (FF&E) Certificate of occupancy to be issued in September 2021 <b>Hosmer Elementary School</b> Completion of exterior windows, masonry, and exterior finishes along with metal edging at the roof this month Continue with finish painting, ceilings, carpentry, flooring and finish MEPS in the interior of the building <b>Lowell Elementary School</b> Advertise Bid Schedule established and notify prequalified contractors

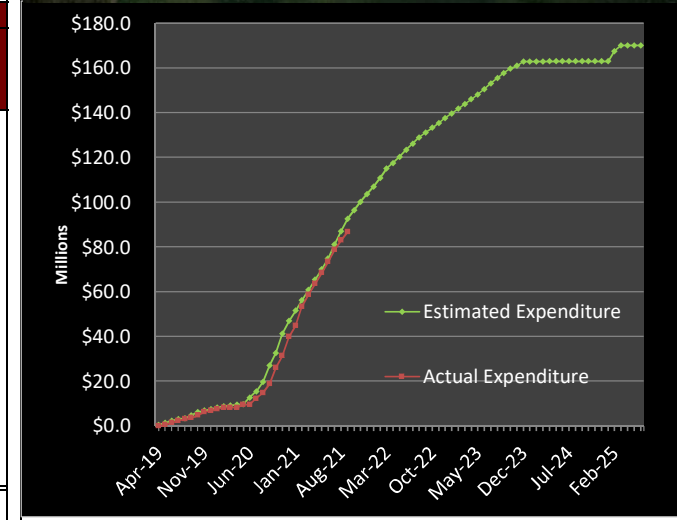
Schedule Summary - Upcoming Milestones				
	Scheduled Start	Scheduled Finish	Status	Comments
<b>Cunniff Elementary School</b>				
Punchlist	9/1/21	10/1/21	Ongoing	
Furniture, Fixture and Equipment Installation	9/7/21	10/1/21	Ongoing	
Move Management - St. Jude to new Cunniff ES	10/6/21	10/8/21	Scheduled	
Site Work and Landscaping	4/1/21	10/8/21	Ongoing	
Final Paving & Line Painting - Parking lot/Warren St.	10/4/21	10/5/21	Scheduled	
Owner Furnished and Installed Technology Equip.			Backordered	
<b>Hosmer Elementary School</b>				
Exterior storefronts, curtainwalls and roofing	3/1/21	9/30/21	Ongoing	
Painting	6/1/21	11/30/21	Ongoing	
Ceilings	6/1/21	11/30/21	Ongoing	
Finish Carpentry	7/1/21	11/30/21	Ongoing	
Flooring	8/1/21	11/30/21	Ongoing	
Finished Fire Prot., Plumbing, HVAC and Electrical	6/1/21	12/1/21	Ongoing	



Scope changes from the Original Scope
CO#1 - \$128,881.27 Approved 9/16/2020 CO#2 - \$315,914.69 Approved 9/16/2020 CO#3 - \$108,988.03 Approved 11/18/2020 CO#4 - \$143,575.52 Approved 2/17/2021 CO#5 - \$0.00 Approved 2/17/2021 CO#6 - \$191,818.60 Approved 4/21/2021 CO#7 - \$201,523.75 Approved 7/21/2021 CO#8 - \$248,810.44 Approved 7/21/2022 Change Order #1 - #8 Total \$1,339,512.30 1.4% of the Total Construction Contract <b>CO#9 - \$807,045.31 PENDING APPROVAL</b>



Description	BUDGET			COST				CASH FLOW	
	Baseline	Budget	Authorized Changes	Approved Budget	Committed Costs	Uncommitted Costs	Forecast Costs	Total Project Costs	Expenditures to Date
Construction	\$ 136,000,000	\$ (2,705,488)	\$ 133,294,512	\$ 96,294,512	\$ 37,000,000	\$ -	\$ 133,294,512	\$ 73,253,960	\$ 60,040,553
Design Services	\$ 12,441,016	\$ -	\$ 12,441,016	\$ 12,441,016	\$ -	\$ -	\$ 12,441,016	\$ 11,083,620	\$ 1,357,396
Administrative	\$ 8,908,984	\$ (580,000)	\$ 8,328,984	\$ 4,987,533	\$ 3,341,451	\$ -	\$ 8,328,984	\$ 2,584,082	\$ 5,744,902
FF&E	\$ 4,150,000	\$ 225,000	\$ 4,375,000	\$ 1,870,539	\$ 2,504,461	\$ -	\$ 4,375,000	\$ -	\$ 4,375,000
<b>SUBTOTAL</b>	<b>\$ 161,500,000</b>	<b>\$ (3,060,488)</b>	<b>\$ 158,439,512</b>	<b>\$ 115,593,601</b>	<b>\$ 42,845,912</b>	<b>\$ -</b>	<b>\$ 158,439,512</b>	<b>\$ 86,921,662</b>	<b>\$ 71,517,851</b>
Construction Contingency (Hard Cost)	\$ 7,400,000	\$ (1,339,512)	\$ 6,060,488	\$ -	\$ 6,060,488	\$ -	\$ 6,060,488	\$ -	\$ 6,060,488
Owner's Contingency - COVID-19	\$ -	\$ 1,000,000	\$ 1,000,000	\$ -	\$ 1,000,000	\$ -	\$ 1,000,000	\$ -	\$ 1,000,000
Owner's Contingency (Soft Cost)	\$ 1,100,000	\$ 3,400,000	\$ 4,500,000	\$ -	\$ 4,500,000	\$ -	\$ 4,500,000	\$ -	\$ 4,500,000
<b>SUBTOTAL</b>	<b>\$ 8,500,000</b>	<b>\$ 3,060,488</b>	<b>\$ 11,560,488</b>	<b>\$ -</b>	<b>\$ 11,560,488</b>	<b>\$ -</b>	<b>\$ 11,560,488</b>	<b>\$ -</b>	<b>\$ 11,560,488</b>
<b>PROJECT TOTAL</b>	<b>\$ 170,000,000</b>	<b>\$ -</b>	<b>\$ 170,000,000</b>	<b>\$ 115,593,601</b>	<b>\$ 54,406,399</b>	<b>\$ -</b>	<b>\$ 170,000,000</b>	<b>\$ 86,921,662</b>	<b>\$ 83,078,338</b>



*Watertown Public Schools Building Committee*

# **Project Updates**

**Cunniff Elementary School**

DATE	EVENT
Sep. 7, 2021	FF&E installation begins
Oct. 12, 2021	Grades K-5 occupancy

**Hosmer Elementary School**

DATE	EVENT
Dec. 30, 2021	Building to be substantially completed, including perimeter sidewalks
Jan. 3, 2022	FF&E installation begins
Feb. 7, 2022	Pre-School & Pre-K occupancy
Feb. 28, 2022	Grades K-5 occupancy

*Note school vacation occurs the week of Feb. 21 - Feb. 25, 2022*

**Lowell Elementary School**

DATE	EVENT
Sep. 7, 2021	Contractor pre-qualification complete
Sep. 14, 2022	Advertisement for bidding complete
Oct. 6, 2022	Bid documents available to general & sub-contractors
Nov. 16, 2022	Filed sub-contractor bids due
Dec. 7, 2022	General contractor bids due
Feb. 28, 2022	Construction begins!

## Site Lighting at the Elementary Schools

About the Site Lighting:

- Both Cunniff & Hosmer have the same site lighting fixtures
- Site lighting was designed to standards of the **Illuminating Engineering Society (IES)** as related to lighting levels
- Lighting level criteria for schools range from 0.6 footcandle to 1.0 foot candle
- Site lights have **integral occupancy sensors** which dim the lights to 50% output if no activity after 15 minutes
- If activity is detected, light output is 100% so that cameras can record it
- Lights are **time-switch controlled** and can be shut off (0% output) for a certain time period if desired (facilities dept. or the electrical contractor can program this)
- Site lighting complies with requirements for **LEED Light Pollution Reduction**, limiting overspill to adjacent property lines
- The site lighting conforms with the exterior lighting standards in place for Watertown, Zoning Ordinance § 7.12

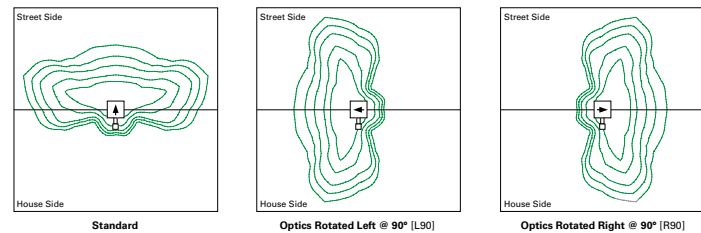


# Site Lighting at Hosmer Elementary School

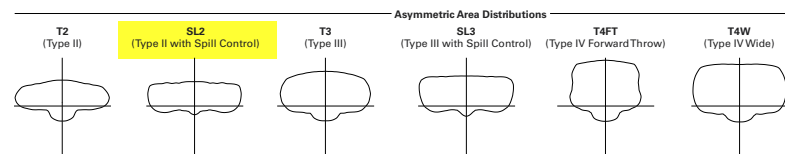
## Site Lighting Calculations:

- Calculations were completed to inform the location and throw of each site light

### OPTIC ORIENTATION



### OPTICAL DISTRIBUTIONS



### NOMINAL POWER LUMENS (800MA)

Number of Light Squares	1	2	3	4	5
Nominal Power (Watts)	44	85	124	171	210
Input Current @ 120V (A)	0.39	0.77	1.13	1.54	1.90
Input Current @ 208V (A)	0.22	0.44	0.62	0.88	1.06
Input Current @ 240V (A)	0.19	0.38	0.54	0.76	0.92
Input Current @ 277V (A)	0.17	0.36	0.47	0.72	0.83
Input Current @ 347V (A)	0.15	0.24	0.38	0.49	0.63
Input Current @ 480V (A)	0.11	0.18	0.29	0.37	0.48

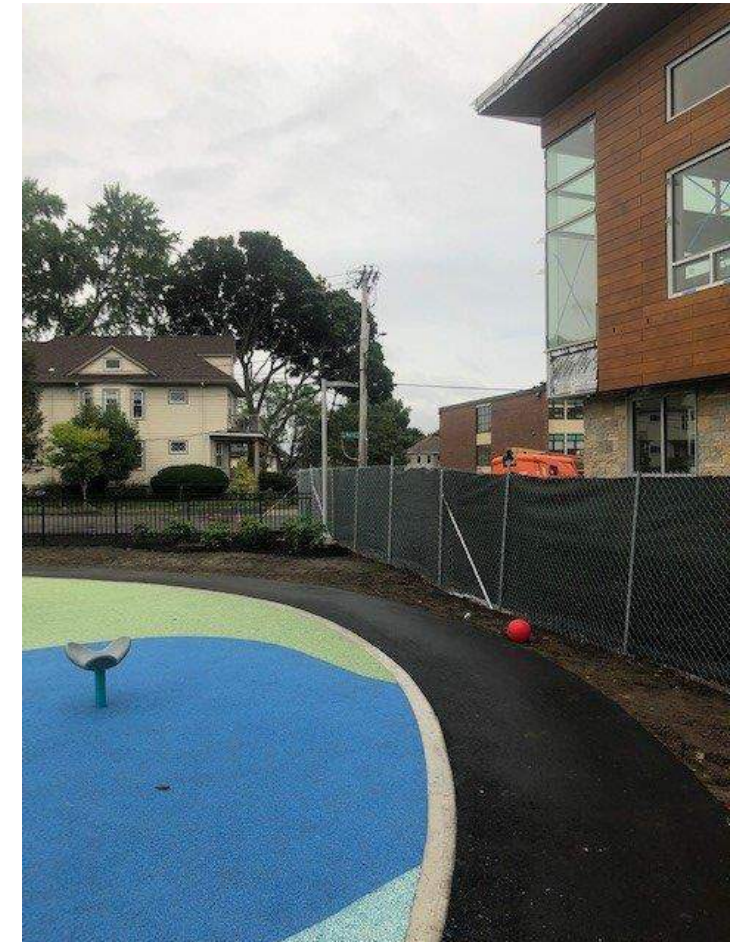
T4W	3000K Lumens	4,836	9,450	14,100	18,631	23,085
	BUG Rating	B1-U0-G2	B2-U0-G2	B2-U0-G3	B3-U0-G4	B3-U0-G4
SL2	4000K/5000K Lumens	5,046	9,860	14,713	19,441	24,087
	BUG Rating	B1-U0-G1	B2-U0-G2	B2-U0-G3	B3-U0-G3	B3-U0-G4
SL3	4000K/5000K Lumens	5,152	10,067	15,020	19,846	24,591
	BUG Rating	B1-U0-G2	B1-U0-G2	B2-U0-G3	B2-U0-G3	B3-U0-G4



*Project Updates*

# Site Lighting at Hosmer Elementary School

North Playground Lighting



*Project Updates*

# Site Lighting at Hosmer Elementary School

North Playground Lighting

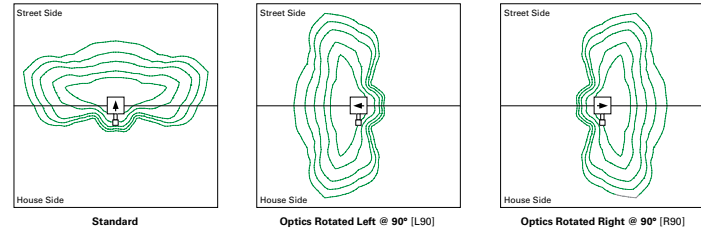


# Site Lighting at Cunniff Elementary School

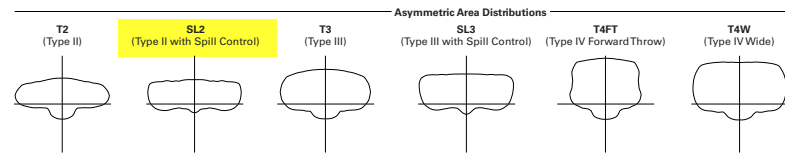
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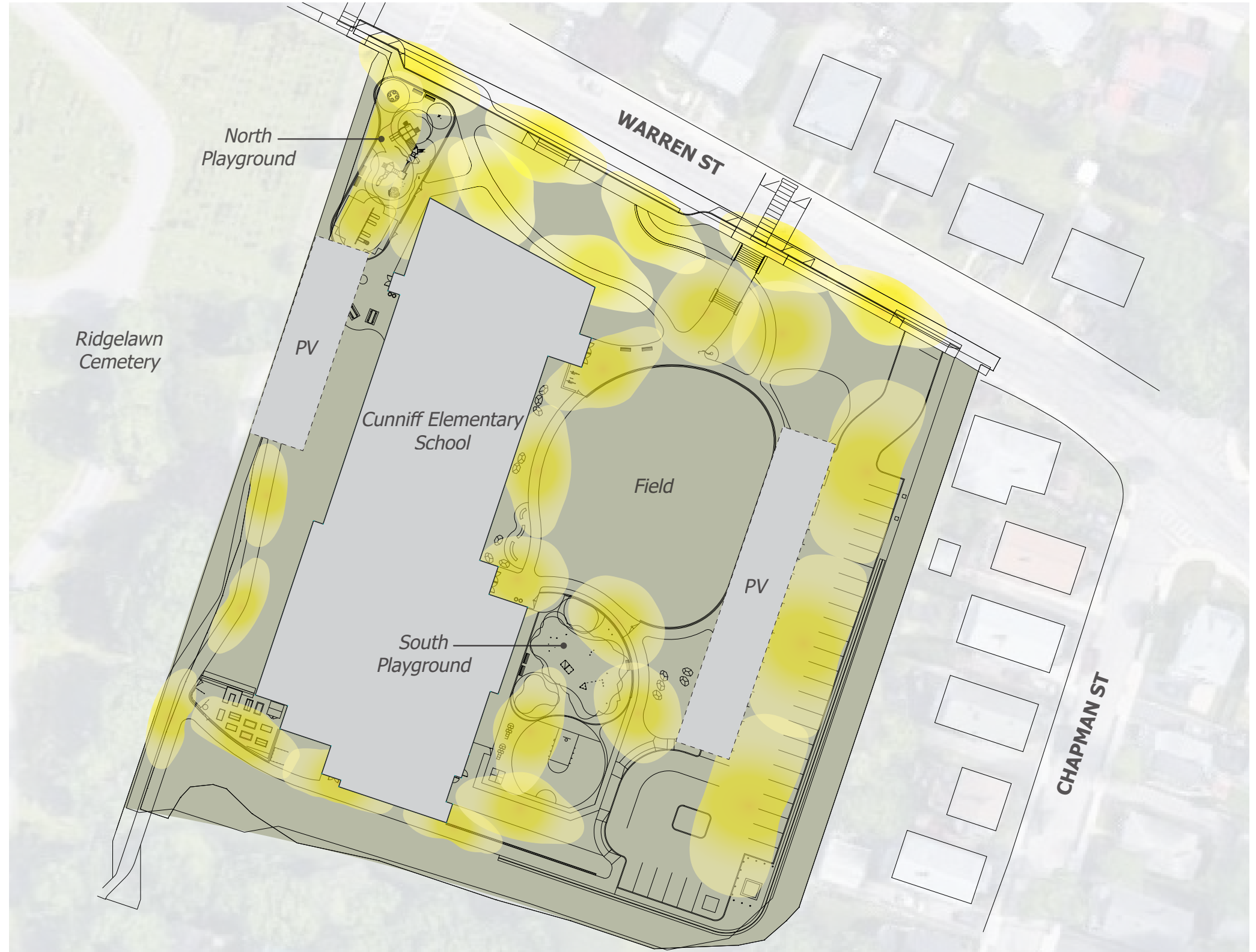


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*Watertown Public Schools Building Committee*

# Questions / Comments



Those members of the public joining via Zoom, please use the Q&A button at this time to ask questions

or email questions to:  
[buildingforfuture@watertown-ma.gov](mailto:buildingforfuture@watertown-ma.gov)

Questions?  
**Thank you**

