



2021 DISTRICT WIDE HVAC ASSESSMENT

Tamalpais Union High School District

Preliminary Draft 06-22-2021



Prepared by:

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Tamalpais Union High School District



District Wide HVAC Assessment

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Tamalpais Union High School District – HVAC Assessment

I. Summary.



In March of 2021 Tamalpais Union High School District engaged LEAF Engineers to provide a HVAC assessment of the existing school sites. The assessment is geared towards the review and of the existing HVAC equipment to evaluate its condition, need for replacement and the ability of the systems to be upgraded. The goal of the project was to provide the district with clear options and projected costs for the future replacement and upgrading of the equipment.

The district provided access to all existing record drawings they had on file and existing plans were also obtained from DSA. These plans were crucial in the review and assessment process.

LEAF engineers followed the following approach to the project.

II. Approach.

The following steps were taken to complete the project.

1. Existing plans were obtained as follows.
 - a. Plans were obtained on DVD from the district.
 - b. Plans were obtained from DSA.
2. HVAC System Review.
 - a. Plans were reviewed to determine the history of the sites and to understand what the original systems were and what the current systems are.
 - b. Sites were visited to review and verify plans and note the condition of the equipment.
3. System Evaluation and Cost Estimates.
 - a. Base option for each system is to replace in kind and upgrade or modify as needed to meet the minimum code.
 - b. Alternative upgrade options were evaluated as follows:
 - i. Upgrade the outside air to 130% of T-24 min. per ASHRAE and CDC guidelines.
 - ii. Evaluate the ability of the system to be retrofitted with cooling equipment.
 - iii. Evaluate the ability of the system to be upgraded to an alternate system that included cooling if previous system was heating only.
 - c. Plumbing and Electrical for HVAC:
 - i. Gas, condensate and power (including new breakers and sire pulls) were included in costs.
 - ii. Electrical service upgrade to add HVAC was included in costs for Redwood High School and Tamalpais High School.
 - d. DSA Submittal and Accessibility Requirements.
 - i. Structural, architectural and site civil were not included but possibly may be required and requirements would need to be determined at the time of the full design.
 - ii. Triggers of accessibility upgrades would need to be evaluated at the time of full design.
 - iii. DSA requirements would need to be evaluated at the time of full design and would be triggered with system changes, weight increases and changes to the structure.

III. Cost Summary.

The cost for the replacement of HVAC including power and plumbing at the school site (which include Archie Williams High School, Redwood High School, Tamalpais High School, San Andreas High School, Tamiscal High School and Tamalpais Adult School total \$14,321,088. The costs for the District Office and Corporation Yard total \$762,624. Breakdown per site is as follows and includes HVAC, electrical and plumbing work associated with the HVAC replacement. Structural and architectural modifications which may be required are not included in the costs.

Total Costs Per Site (refer to complete cost estimates in the report for breakdown by building and site):

\$3,005,696 - Archie Williams High School

\$5,697,664 - Redwood High School

\$4,923,840 - Tamalpais High School

\$ 333,760 - San Andreas High School

\$ 205,184 - Tamiscal High School

\$ 154,944 - Tamalpais Adult School

\$ 528,192 - District Office

\$ 234,432 - Corporation Yard

Exhibit.

Refer to the following exhibits, provided as separate files, for further information.

Exhibit-A Plan list of record drawings obtained and associated DSA numbers.

If you have any questions, please contact this office at 559-347-4822.

Sincerely,



Garen Lencioni, P.E.- LEED AP

Vice President - Mechanical PE 33380/ Fire Protection PE 1901

Tamalpais Union High School District
395 Doherty Dr.
Larkspur, CA 94939



Assessed Facilities:

Archie Williams High School

Redwood High School

Tamalpais High School

San Andreas High School

Tamiscal High School

Tamalpais Adult School

District Office

Corporation Yard

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ARCHIE WILLIAMS HIGH SCHOOL

PRINCIPAL: Liz Seabury



Aerial Site Plan

**1327 Sir Francis Drake Boulevard
San Anselmo, CA 94960**

YEAR ESTABLISHED: 1951

**GRADES: 9th - 12th
STUDENTS: 1362**

ARCHIE WILLIAMS HIGH SCHOOL FACILITY SITE PLAN



Project: Archie Williams High School

Existing Mechanical Systems:

Pool Building: (2) 1,800 MBH input pool heater Boilers. No Exhaust Fans for Chemical Storage rooms. Plans for these units are dated October 2007.

Classroom Building 100: (1) 6.0 Ton and (1) 8.5 Ton rooftop package Gas/ Electric Units. (1) 360 MBH input rooftop Furnace. (4) vertical 95 MBH and (1) 143 MBH input Furnaces in closets. (1) Air Handler for Office area. No outside air shown for these units. Plans for these units are dated April 2011 (Clrm. 104A, 104B & 106) and August 1988.

Classroom Building 200: (11) vertical 71 MBH and (2) 95 MBH Furnaces in closets. No outside air shown for these units. Plans for these units are dated August 1988.

Classroom Building 300: (4) vertical 71 MBH, (2) 95 MBH and (3) 143 MBH Furnaces in closets. No outside air shown for these units. Plans for these units are dated August 1988.

Classroom Building 400: (3) vertical 71 MBH, (4) 95 MBH and (2) 114 MBH Furnaces in closets. No outside air shown for Furnace units. (6) 3.5 Ton wall mount Bard Heat Pump Units for relocatables. Plans for these units are dated August 1988.

Classroom Building 500: (1) 6.0 Ton rooftop package gas/ electric unit with Economizer. (2) 75 MBH input gas rooftop Heaters with Economizers. (4) 60 MBH Radiant Gas Heaters, exhaust fans with intake vents provide outside air for these units. (1) 200 MBH suspended Unit Heater. (5) ceiling mount Exhaust Fans. (5) rooftop Exhaust Fans. Plans for these units are dated January 2003.

Classroom Building 600: (6) 3.0 Ton and (1) 4.0 Ton attic mounted Split System Fan Coil units with cooling coil and ground mounted Condensing Units. (3) 3.5 Ton wall mount Bard Heat Pump units for relocatables. Plans for these units are dated April 2012.

Theater Building 700: (1) Boiler and (1) Built-up suspended Air handler with hydronic heating and ventilating only. (5) floor mount hydronic heating and ventilating Unit Ventilators. (2) wall mount hydronic Radiant Heaters. (2) rooftop Exhaust Fans, (1) for restrooms and (1) for practice rooms. Outside air intakes are provided except for the Radiant Heaters at Lobby. Plans for these units are dated May 1956.

Classroom Building 800: (6) 3.0 Ton rooftop package gas/ electric units. Units are provided with Economizers. Plans for these units are dated February 2009.

Gym/ Lockers Building 800: (6) 100 MBH, (3) 125 MBH, (2) 350 MBH and (3) 400 MBH input rooftop gas Heating Ventilators with Economizers. (17) rooftop Exhaust Fans. Plans for these units are dated May 2004.

Administration Building 900: No Plans for this building.

Multipurpose Building 1000: (1) 2.5 Ton and (2) 10.0 Ton rooftop package gas/ electric units with Economizers. (1) 400 MBH input suspended gas Heating Ventilator with Economizer. (5) rooftop and (2) ceiling mount Exhaust Fans. Plans for these units are dated May 2004.

Building 1100: (1) 60 MBH (400 CFM OA), (3) 100 MBH (500 CFM OA) and (1) 150 MBH gas input horizontal suspended Furnaces. (2) rooftop Exhaust Fans for Restroom and Kilns.

Recommended Mechanical Systems:

Pool Building: Add Exhaust Fans for Chemical Storage rooms.

Classroom Building 100: Replace (1) 6.0 Ton and (1) 8.5 Ton rooftop package Gas/ Electric Units with high efficiency units. Replace (1) 360 MBH input rooftop Furnace with new high efficiency rooftop package gas/ electric unit. Replace (4) vertical 95 MBH and (1) 143 MBH input Furnaces in closets with new high efficiency Furnaces with added cooling coil and Condensing Unit on roof. Replace (1) Air Handler for Office area with new high efficiency Furnace/ Cooling Coil and Condensing Unit on roof. Add outside air to all units per Title 24 standards. New Exhaust Fans for Restrooms.

Classroom Building 200: Replace (11) vertical 71 MBH and (2) 95 MBH Furnaces in closets with new high efficiency Furnaces with added cooling coil and Condensing Unit on roof. Add outside air to all units per Title 24 standards. New Exhaust Fans for Restrooms.

Classroom Building 300: Replace (4) vertical 71 MBH, (2) 95 MBH and (3) 143 MBH Furnaces in closets with new high efficiency Furnaces with added cooling coil and Condensing Unit on roof. Add outside air to all units per Title 24 standards. New Exhaust Fans for Restrooms?

Classroom Building 400: Replace (3) vertical 71 MBH, (4) 95 MBH and (2) 114 MBH Furnaces in closets with new high efficiency Furnaces with added cooling coil and Condensing Unit on roof. Add outside air to all Furnace units per Title 24 standards. Replace (6) 3.5 Ton wall mount Bard Heat Pump Units for relocatables with high efficiency units. New Exhaust Fans for Restrooms?

Classroom Building 500: Replace (1) 6.0 Ton rooftop package gas/ electric unit with Economizer with new high efficiency unit. Remove (2) 75 MBH input gas rooftop Heaters with Economizers and provide new high efficiency package gas/ electric heating and cooling units on roof with economizers. Remove (4) 60 MBH Radiant Gas Heaters/ exhaust fans with intake vents and provide new high efficiency package gas/ electric heating and cooling units on roof with economizers. Remove (1) suspended Unit Heater and provide new high efficiency package gas/ electric heating and cooling unit on roof. All units to have minimum outside air per Title 24 standard. Replace (5) ceiling mount Exhaust Fans. Replace (5) rooftop Exhaust Fans.

Classroom Building 600: (7) Fan Coil units are in good working condition and do not need to be replaced. Replace (3) 3.5 Ton wall mount Bard Heat Pump units for relocatables with high efficiency units. New Exhaust Fans for Restrooms?

Theater Building 700: Replace (1) Boiler with new high efficiency condensing type Boiler with new pumps, valves and piping. Replace (1) Built-up suspended Air handler with new hydronic heating DX cooling coil and high efficiency Condensing Unit mounted on roof. Replace (5) floor mount hydronic heating and ventilating Unit Ventilators with new hydronic heating with DX cooling coil and high efficiency Condensing unit on roof. Remove (2) wall mount hydronic Radiant Heaters and provide rooftop packaged gas/ electric heating and cooling unit of roof with all new ductwork and grilles to Lobby. Replace (2) rooftop Exhaust Fans, (1) for restrooms and (1) for practice rooms. All outside air intakes will be per Title 24 standards.

Classroom Building 800: These (6) 3.0 Ton rooftop package gas/ electric units are still under 15 years old so they do not need to be replaced at this time. Units should be replaced in approximately 5 years.

Gym/ Lockers Building 800: Remove (6) 100 MBH, (3) 125 MBH, (2) 350 MBH and (3) 400 MBH input rooftop gas Heating Ventilators and provide new high efficiency package gas/ electric heating and cooling units on roof with economizers. Replace (17) rooftop Exhaust Fans.

Administration Building 900: Provide new system to match existing meeting current Title 24 standards.

Multipurpose Building 1000: Replace (1) 2.5 Ton and (2) 10.0 Ton rooftop package gas/ electric units with new high efficiency units with Economizers. Remove (1) 400 MBH input suspended gas Heating Ventilator and provide new high efficiency package gas/ electric heating and cooling unit on roof with economizer. Replace (5) rooftop and (2) ceiling mount Exhaust Fans.

Building 1100: Remove (1) 60 MBH (400 CFM OA), (3) 100 MBH (500 CFM OA) and (1) 150 MBH gas input horizontal suspended Furnaces and provide new high efficiency package gas/ electric heating and cooling units on roof with economizers. Replace (2) rooftop Exhaust Fans for Restroom and Kilns.

Enhanced Outside Air Replacement Option:

Increase size of units by minimum 0.5 tons and turn fan speed down to CFM to match existing CFM. We will specify high efficiency units and outside air intakes to meet current ASHRAE/Title 24 recommended enhanced ventilation rates.

Optional Work would include duct cleaning at all existing duct that remains.

ARCHIE WILLIAMS H.S. HVAC REPLACEMENT - P2110600ME
PRELIMINARY COST ESTIMATE FOR MECHANICAL, ELECTRICAL AND PLUMBING
6/22/2021

[illegible]

LS = Lump Sum LF = Lineal Feet EA = Each SF = Square Feet (E) = Existing

ARCHIE WILLIAMS H.S. HVAC REPLACEMENT - P2110600ME
PRELIMINARY POOL 100-200 BLDG. MECHANICAL COST ESTIMATE

6/22/2021

Item	Units	Qty	Cost/Item	Total
POOL BLDG. DEMOLITION:				
Remove (E) Boiler, Pumps, Valves & Pipe	EA	1	4,000.00	\$4,000
POOL BLDG. NEW:				
Boiler, Pumps, Valves and Piping	EA	1	50,000.00	\$50,000
Roof Exhaust Fan with New Duct & Grille	EA	2	4,000.00	\$8,000
		Pool Bldg.-Total		\$62,000
BLDG. 100 DEMOLITION:				
Remove (E) Rooftop Package Unit	EA	2	1,000.00	\$2,000
Remove (E) Rooftop Furnace Unit	EA	1	1,000.00	\$1,000
Remove (E) Vertical Furnace	EA	5	1,000.00	\$5,000
Remove (E) Suspended Built-Up AH	EA	1	1,000.00	\$1,000
BLDG. 100 NEW:				
6 Ton Package Unit to Existing Duct	EA	1	15,000.00	\$15,000
8.5 Ton Package Unit to Existing Duct	EA	1	21,250.00	\$21,250
12.5 Ton Package Unit to Existing Duct	EA	1	31,250.00	\$31,250
Furnace/ CC & 3 Ton CU to Exist. Duct	EA	1	9,000.00	\$9,000
Furnace/ CC & 4 Ton CU to Exist. Duct	EA	4	12,000.00	\$48,000
Furnace/ CC & 5 Ton CU to Exist. Duct	EA	1	15,000.00	\$15,000
Roof Exhaust Fan with New Duct & Grille	EA	2	4,000.00	\$8,000
Air Balance	LS	1	10,000.00	\$10,000
New WiFi T-Stats and Programming	EA	9	1,000.00	\$9,000
Add for Duct Cleaning	LS	1	4,000.00	\$4,000
Add for Enhanced Option	EA	9	1,000.00	\$9,000
		Bldg. 100-Total		\$188,500
BLDG. 200 DEMOLITION:				
Remove (E) Vertical Furnace	EA	13	1,000.00	\$13,000
BLDG. 200 NEW:				
Furnace/ CC & 3 Ton CU to Exist. Duct	EA	11	9,000.00	\$99,000
Furnace/ CC & 4 Ton CU to Exist. Duct	EA	2	12,000.00	\$24,000
Roof Exhaust Fan with New Duct & Grille	EA	2	4,000.00	\$8,000
Air Balance	LS	1	14,000.00	\$14,000
New WiFi T-Stats and Programming	EA	13	1,000.00	\$13,000
Add for Duct Cleaning	LS	1	3,500.00	\$3,500
Add for Enhanced Option	EA	13	1,000.00	\$13,000
		Bldg. 200-Total		\$187,500

**ARCHIE WILLIAMS H.S. HVAC REPLACEMENT - P2110600ME
PRELIMINARY 300-400 BLDG. MECHANICAL COST ESTIMATE**

6/22/2021

Item	Units	Qty	Cost/Item	Total
BLDG. 300 DEMOLITION:				
Remove (E) Vertical Furnace	EA	9	1,000.00	\$9,000
BLDG. 300 NEW:				
Furnace/ CC & 3 Ton CU to Exist. Duct	EA	4	9,000.00	\$36,000
Furnace/ CC & 4 Ton CU to Exist. Duct	EA	2	12,000.00	\$24,000
Furnace/ CC & 5 Ton CU to Exist. Duct	EA	3	15,000.00	\$45,000
Roof Exhaust Fan with New Duct & Grille	EA	2	4,000.00	\$8,000
Air Balance	LS	1	9,000.00	\$9,000
New WiFi T-Stats and Programming	EA	9	1,000.00	\$9,000
Add for Duct Cleaning	LS	1	3,000.00	\$3,000
Add for Enhanced Option	EA	9	1,000.00	\$9,000
		Bldg. 300-Total		\$152,000
BLDG. 400 DEMOLITION:				
Remove (E) Vertical Furnace	EA	9	1,000.00	\$9,000
Remove (E) Wall Mount Heat Pump	EA	6	1,000.00	\$6,000
BLDG. 400 NEW:				
Furnace/ CC & 3 Ton CU to Exist. Duct	EA	3	9,000.00	\$27,000
Furnace/ CC & 4 Ton CU to Exist. Duct	EA	4	12,000.00	\$48,000
Furnace/ CC & 5 Ton CU to Exist. Duct	EA	2	15,000.00	\$30,000
Wall Mount Bard Heat Pump Unit	EA	6	9,000.00	\$54,000
Roof Exhaust Fan with New Duct & Grille	EA	2	4,000.00	\$8,000
Air Balance	LS	1	9,000.00	\$9,000
New WiFi T-Stats and Programming	EA	15	1,000.00	\$15,000
Add for Duct Cleaning	LS	1	9,000.00	\$9,000
Add for Enhanced Option	EA	15	1,000.00	\$15,000
		Bldg. 400-Total		\$230,000

**ARCHIE WILLIAMS H.S. HVAC REPLACEMENT - P2110600ME
PRELIMINARY 500-600 BLDG. MECHANICAL COST ESTIMATE**

6/22/2021

Item	Units	Qty	Cost/Item	Total
BLDG. 500 DEMOLITION:				
Remove (E) Rooftop Package Unit	EA	1	1,000.00	\$1,000
Remove (E) Rooftop Furnace Unit	EA	2	1,000.00	\$2,000
Remove (E) Suspended Radiant Heater	EA	4	300.00	\$1,200
Remove (E) Suspended Furnace Unit	EA	1	1,000.00	\$1,000
Remove (E) Roof Exhaust Fan	EA	5	400.00	\$2,000
Remove (E) Ceiling Exhaust Fan	EA	5	200.00	\$1,000
BLDG. 500 NEW:				
6 Ton Package Unit to Existing Duct	EA	1	15,000.00	\$15,000
5 Ton Package Unit w/ New Duct & Grilles	EA	4	25,000.00	\$100,000
7.5 Ton Package Unit w/ New Duct & Grilles	EA	1	37,500.00	\$37,500
Roof Exhaust Fan to Dexisting Duct	EA	5	2,000.00	\$10,000
Ceiling Exhaust Fan to Dexisting Duct	EA	5	1,000.00	\$5,000
Air Balance	LS	1	10,000.00	\$10,000
New WiFi T-Stats and Programming	EA	6	1,000.00	\$6,000
Add for Duct Cleaning	LS	1	2,000.00	\$2,000
Add for Enhanced Option	EA	6	1,000.00	\$6,000
		Bldg. 500-Total		\$199,700
BLDG. 600 DEMOLITION:				
Remove (E) Suspended Fan Coil Unit	EA	7	1,000.00	\$7,000
Remove (E) Condensing Unit	EA	7	1,000.00	\$7,000
Remove (E) Wall Mount Heat Pump	EA	3	1,000.00	\$3,000
BLDG. 600 NEW:				
Furnace/ CC to Existing Duct & 3 Ton CU	EA	6	9,000.00	\$54,000
Furnace/ CC to Existing Duct & 4 Ton CU	EA	1	12,000.00	\$12,000
3.5 Ton Wall Mount Bard Heat Pump	EA	3	37,500.00	\$112,500
Roof Exhaust Fan w/ New Duct & Grilles	EA	1	4,000.00	\$4,000
Air Balance	LS	1	11,000.00	\$11,000
New WiFi T-Stats and Programming	EA	10	1,000.00	\$10,000
Add for Duct Cleaning	LS	1	15,000.00	\$15,000
Add for Enhanced Option	EA	10	1,000.00	\$10,000
		Bldg. 600-Total		\$245,500

ARCHIE WILLIAMS H.S. HVAC REPLACEMENT - P2110600ME
PRELIMINARY 700-800-900 BLDG. MECHANICAL COST ESTIMATE
6/22/2021

Item	Units	Qty	Cost/Item	Total
BLDG. 700 DEMOLITION:				
Remove (E) Boiler, Pumps, Valves & Pipe	EA	1	4,000.00	\$4,000
Remove (E) Suspended Built-Up AH	EA	1	1,000.00	\$1,000
Remove (E) Floor Mount UV	EA	5	1,000.00	\$5,000
Remove (E) Wall Hydronic Radiant Heater	EA	2	400.00	\$800
Remove (E) Roof Exhaust Fan	EA	2	400.00	\$800
BLDG. 700 NEW:				
Boiler, Pumps, Valves & Piping	EA	1	50,000.00	\$50,000
12.5 Ton AH, Valves, Piping & CU	EA	1	50,000.00	\$50,000
3 Ton Unit Ventilator, Valves & Piping	EA	1	9,000.00	\$9,000
5 Ton Unit Ventilator, Valves & Piping	EA	4	15,000.00	\$60,000
Roof Exhaust Fan to Existing Duct	EA	2	2,000.00	\$4,000
Ductwork and Grilles to Lobby	LS	1	3,000.00	\$3,000
Air Balance	LS	1	8,000.00	\$8,000
New WiFi T-Stats and Programming	EA	6	1,000.00	\$6,000
Add for Duct Cleaning	LS	1	4,000.00	\$4,000
Add for Enhanced Option	EA	6	1,000.00	\$6,000
			Bldg. 700-Total	\$211,600
BLDG. 800 DEMOLITION:				
Remove (E) Rooftop Package Unit	EA	6	1,000.00	\$6,000
BLDG. 800 NEW:				
3 Ton Package Unit to Existing Duct	EA	6	7,500.00	\$45,000
Air Balance	LS	1	6,000.00	\$6,000
New WiFi T-Stats and Programming	EA	6	1,000.00	\$6,000
Add for Duct Cleaning	LS	1	10,000.00	\$10,000
Add for Enhanced Option	EA	6	1,000.00	\$6,000
			Bldg. 800-Total	\$79,000
BLDG. 900 DEMOLITION:				
No As-Builts	LS	1	15,000.00	\$15,000
BLDG. 900 NEW:				
No As-Builts	LS	1	200,000.00	\$200,000
				\$0
				\$0
				\$0
				\$0
				\$0
				\$0
				\$0
			Bldg. 900-Total	\$215,000

**ARCHIE WILLIAMS H.S. HVAC REPLACEMENT - P2110600ME
PRELIMINARY 1000-1100 BLDG. MECHANICAL COST ESTIMATE**

6/22/2021

Item	Units	Qty	Cost/Item	Total
BLDG. 1000 DEMOLITION:				
Remove (E) Rooftop Package Unit	EA	3	1,000.00	\$3,000
Remove (E) suspended Unit Heater	EA	1	1,000.00	\$1,000
Remove (E) Ceiling Electric Heater	EA	1	400.00	\$400
Remove (E) Roof Exhaust Fan	EA	3	400.00	\$1,200
Remove (E) Ceiling Exhaust Fan	EA	2	200.00	\$400
BLDG. 1000 NEW:				
2.5 Ton Package Unit to Existing Duct	EA	1	6,250.00	\$6,250
10 Ton Package Unit to Existing Duct	EA	2	25,000.00	\$50,000
12.5 Ton Package Unit to Existing Duct	EA	1	25,000.00	\$25,000
Roof Exhaust Fan to Existing Duct	EA	3	2,000.00	\$6,000
Ceiling Exhaust Fan to Existing Duct	EA	2	1,000.00	\$2,000
Air Balance	LS	1	6,000.00	\$6,000
New WiFi T-Stats and Programming	EA	4	1,000.00	\$4,000
Add for Duct Cleaning	LS	1	3,000.00	\$3,000
Add for enhanced Option	EA	4	1,000.00	\$4,000
		Bldg. 1000-Total		\$112,250
BLDG. 1100 (LOCATION?) DEMOLITION:				
Remove (E) Suspended Furnace	EA	5	1,000.00	\$5,000
Remove (E) Roof Exhaust Fan	EA	1	400.00	\$400
BLDG. 1100 (LOCATION?) NEW:				
3 Ton Package Unit w/ New Duct & Grilles	EA	4	15,000.00	\$60,000
5 Ton Package Unit w/ New Duct & Grilles	EA	1	25,000.00	\$25,000
Rooftop Exhaust Fan to Existing Duct	EA	1	2,000.00	\$2,000
Air Balance	LS	1	6,000.00	\$6,000
New WiFi T-Stats and Programming	EA	5	1,000.00	\$5,000
Add for Duct Cleaning	LS	1	6,000.00	\$6,000
Add for Enhanced Option	EA	5	1,000.00	\$5,000
		Bldg. 1100-Total		\$114,400

ARCHIE WILLIAMS H.S. HVAC REPLACEMENT - P2110600ME
PRELIM. POOL-100-200 BLDG. ELECTRICAL & PLUMBING COST ESTIMATE
6/22/2021

Item	Units	Qty	Cost/Item	Total
POOL ELECTRICAL DEMOLITION:				
Electrical Disconnect	LS	1	750.00	\$750
POOL ELECTRICAL NEW:				
New Wire & Breaker for Mech. Equip.	LS	1	7,500.00	\$7,500
New Wire for Exhaust Fan	EA	2	750.00	\$1,500
			Pool-Total	\$9,750
POOL PLUMBING DEMOLITION:				
Gas or Condensate Disconnect	LS	1	1,500.00	\$1,500
POOL PLUMBING NEW:				
Reconnect Gas or Condensate	LS	1	3,000.00	\$3,000
			Pool-Total	\$4,500
BLDG. 100 ELECTRICAL DEMO:				
Electrical Disconnect	LS	1	5,000.00	\$5,000
BLDG. 100 ELECTRICAL NEW:				
New Wire & Breaker for Mech. Equip.	EA	9	1,750.00	\$15,750
New Wire for Exhaust Fan	EA	2	750.00	\$1,500
			Bldg. 100-Total	\$22,250
BLDG. 100 PLUMBING DEMOLITION:				
Gas or Condensate Disconnect	LS	1	3,000.00	\$3,000
BLDG. 100 PLUMBING NEW:				
Reconnect Gas or Condensate	EA	9	750.00	\$6,750
			Bldg. 100-Total	\$9,750
BLDG. 200 ELECTRICAL DEMO:				
Electrical Disconnect	LS	1	5,000.00	\$5,000
BLDG. 200 ELECTRICAL NEW:				
New Wire & Breaker for Mech. Equip.	EA	13	1,750.00	\$22,750
New Wire for Exhaust Fan	EA	2	750.00	\$1,500
			Bldg. 200-Total	\$29,250
BLDG. 200 PLUMBING DEMOLITION:				
Gas or Condensate Disconnect	LS	1	3,000.00	\$3,000
BLDG. 200 PLUMBING NEW:				
Reconnect Gas or Condensate	EA	13	750.00	\$9,750
			Bldg. 200-Total	\$12,750

ARCHIE WILLIAMS H.S. HVAC REPLACEMENT - P2110600ME
PRELIM. 300-400-500 BLDG. ELECTRICAL & PLUMBING COST ESTIMATE
6/22/2021

Item	Units	Qty	Cost/Item	Total
BLDG. 300 ELECTRICAL DEMO:				
Electrical Disconnect	LS	1	4,000.00	\$4,000
BLDG. 300 ELECTRICAL NEW:				
New Wire & Breaker for Mech. Equip.	EA	9	1,750.00	\$15,750
New Wire for Exhaust Fan	EA	2	750.00	\$1,500
		Bldg. 300-Total		\$21,250
BLDG. 300 PLUMBING DEMOLITION:				
Gas or Condensate Disconnect	LS	1	2,500.00	\$2,500
BLDG. 300 PLUMBING NEW:				
Reconnect Gas or Condensate	EA	9	750.00	\$6,750
		Bldg. 300-Total		\$9,250
BLDG. 400 ELECTRICAL DEMO:				
Electrical Disconnect	LS	1	5,000.00	\$5,000
BLDG. 400 ELECTRICAL NEW:				
New Wire & Breaker for Mech. Equip.	EA	15	1,750.00	\$26,250
New Wire for Exhaust Fan	EA	2	750.00	\$1,500
		Bldg. 400-Total		\$32,750
BLDG. 400 PLUMBING DEMOLITION:				
Gas or Condensate Disconnect	LS	1	4,000.00	\$4,000
BLDG. 400 PLUMBING NEW:				
Reconnect Gas or Condensate	EA	15	750.00	\$11,250
		Bldg. 400-Total		\$15,250
BLDG. 500 ELECTRICAL DEMO:				
Electrical Disconnect	LS	1	9,000.00	\$9,000
BLDG. 500 ELECTRICAL NEW:				
New Wire & Breaker for Mech. Equip.	EA	6	1,750.00	\$10,500
New Wire for Exhaust Fan	EA	10	750.00	\$7,500
		Bldg. 500-Total		\$27,000
BLDG. 500 PLUMBING DEMOLITION:				
Gas or Condensate Disconnect	LS	1	4,500.00	\$4,500
BLDG. 500 PLUMBING NEW:				
Reconnect Gas or Condensate	EA	6	750.00	\$4,500
		Bldg. 500-Total		\$9,000

ARCHIE WILLIAMS H.S. HVAC REPLACEMENT - P2110600ME
PRELIM. 600-700-800 BLDG. ELECTRICAL & PLUMBING COST ESTIMATE
6/22/2021

Item	Units	Qty	Cost/Item	Total
BLDG. 600 ELECTRICAL DEMO:				
Electrical Disconnect	LS	1	7,500.00	\$7,500
BLDG. 600 ELECTRICAL NEW:				
New Wire & Breaker for Mech. Equip.	EA	10	1,750.00	\$17,500
New Wire for Exhaust Fan	EA	1	750.00	\$750
		Bldg. 600-Total		\$25,750
BLDG. 600 PLUMBING DEMOLITION:				
Gas or Condensate Disconnect	LS	1	5,000.00	\$5,000
BLDG. 600 PLUMBING NEW:				
Reconnect Gas or Condensate	EA	10	750.00	\$7,500
		Bldg. 600-Total		\$12,500
BLDG. 700 ELECTRICAL DEMO:				
Electrical Disconnect	LS	1	7,000.00	\$7,000
BLDG. 700 ELECTRICAL NEW:				
New Wire & Breaker for Mech. Equip.	EA	7	1,750.00	\$12,250
New Wire for Exhaust Fan	EA	2	750.00	\$1,500
		Bldg. 700-Total		\$20,750
BLDG. 700 PLUMBING DEMOLITION:				
Gas or Condensate Disconnect	LS	1	3,000.00	\$3,000
BLDG. 700 PLUMBING NEW:				
Reconnect Gas or Condensate	EA	7	750.00	\$5,250
		Bldg. 700-Total		\$8,250
BLDG. 800 ELECTRICAL DEMO:				
Electrical Disconnect	LS	1	3,000.00	\$3,000
BLDG. 800 ELECTRICAL NEW:				
New Wire & Breaker for Mech. Equip.	EA	6	1,750.00	\$10,500
New Wire for Exhaust Fan	EA	0	750.00	\$0
		Bldg. 800-Total		\$13,500
BLDG. 800 PLUMBING DEMOLITION:				
Gas or Condensate Disconnect	LS	1	3,000.00	\$3,000
BLDG. 800 PLUMBING NEW:				
Reconnect Gas or Condensate	EA	6	750.00	\$4,500
		Bldg. 800-Total		\$7,500

ARCHIE WILLIAMS H.S. HVAC REPLACEMENT - P2110600ME
PRELIM. 900-1000-1100 BLDG. ELECTRICAL & PLUMBING COST ESTIMATE
6/22/2021

Item	Units	Qty	Cost/Item	Total
BLDG. 900 ELECTRICAL DEMO:				
Electrical Disconnect	LS	1	3,000.00	\$3,000
BLDG. 900 ELECTRICAL NEW:				
New Wire & Breaker for Mech. Equip.	LS	1	8,000.00	\$8,000
New Wire for Exhaust Fan	LS	1	3,000.00	\$3,000
		Bldg. 900-Total		\$14,000
BLDG. 900 PLUMBING DEMOLITION:				
Gas or Condensate Disconnect	LS	1	3,000.00	\$3,000
BLDG. 900 PLUMBING NEW:				
Reconnect Gas or Condensate	LS	1	6,000.00	\$6,000
		Bldg. 900-Total		\$9,000
BLDG. 1000 ELECTRICAL DEMO:				
Electrical Disconnect	LS	1	5,000.00	\$5,000
BLDG. 1000 ELECTRICAL NEW:				
New Wire & Breaker for Mech. Equip.	EA	4	1,750.00	\$7,000
New Wire for Exhaust Fan	EA	6	750.00	\$4,500
		Bldg. 1000-Total		\$16,500
BLDG. 1000 PLUMBING DEMO:				
Gas or Condensate Disconnect	LS	1	3,000.00	\$3,000
BLDG. 1000 PLUMBING NEW:				
Reconnect Gas or Condensate	EA	4	750.00	\$3,000
		Bldg. 1000-Total		\$6,000
BLDG. 1100 ELECTRICAL DEMO:				
Electrical Disconnect	LS	1	3,000.00	\$3,000
BLDG. 1100 ELECTRICAL NEW:				
New Wire & Breaker for Mech. Equip.	EA	5	1,750.00	\$8,750
New Wire for Exhaust Fan	EA	1	750.00	\$750
		Bldg. 1100-Total		\$12,500
BLDG. 1100 PLUMBING DEMO:				
Gas or Condensate Disconnect	LS	1	2,000.00	\$2,000
BLDG. 1100 PLUMBING NEW:				
Reconnect Gas or Condensate	EA	5	750.00	\$3,750
		Bldg. 1100-Total		\$5,750

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REDWOOD HIGH-SCHOOL

PRINCIPAL: David Sondheim



Aerial Site Plan

**395 Doherty Drive
Larkspur, CA 94939**

YEAR ESTABLISHED: 1958

**GRADES: 9th - 12th
STUDENTS: 1,928**



REDWOOD HIGH SCHOOL FACILITY SITE PLAN



Project: Redwood High School

Existing Mechanical Systems:

Building A Admin/ Library/ Classrooms: (2) 2,000 MBH input Boilers with Pump and Expansion Tank. (7) 300 CFM/ 17 MBH floor mount hydronic heating Unit Ventilator. (6) 500 CFM/ 22 MBH floor mount hydronic heating Unit Ventilator. (54) 750 CFM/ 44 MBH floor mount hydronic heating Unit Ventilator. (11) 1000 CFM/ 62 MBH floor mount hydronic heating Unit Ventilator. (7) 1250 CFM/ 77 MBH floor mount hydronic heating Unit Heater. (20) 5 MBH hydronic Baseboard Heaters. (7) 8 MBH hydronic Baseboard Heaters. (2) 11 MBH hydronic Baseboard Heaters. (2) 15 MBH hydronic Baseboard Heaters. (3) 18 MBH hydronic Baseboard Heaters. (1) 10 MBH hydronic Convactor Heaters. (1) vertical 1200 CFM Air Handler with 78 MBH hydronic Heating Coil. (1) horizontal downflow 4000 CFM Air Handler with 220 MBH hydronic Heating Coil. (1) horizontal supply/ downflow return 1760 CFM Air Handler with 104 MBH hydronic Heating Coil. (1) horizontal supply/ downflow return 5500 CFM Air Handler with 214 MBH hydronic Heating Coil. (1) rooftop 2000 CFM Air Handler with 75 MBH hydronic Heating Coil. (2) 0.75 Ton wall mount IDU with rooftop ODU. (2) 2 Ton wall mount IDU with rooftop ODU. (5) 5 Ton ceiling mount Fan Coil (No Outside Air) with rooftop Condensing Unit. (104) rooftop Exhaust Fans. (6) ceiling Exhaust Fans. Plans for these units are dated March 2003.

Building B: (3) 4 Ton wall mount Bard Heat Pump Units.

Building C Classrooms: (1) 1,000 MBH input Boiler with Pump and Expansion Tank. (1) 750 CFM/ 44 MBH floor mount hydronic heating Unit Ventilator. (4) 4160 CFM/ 124 MBH hydronic suspended Propeller Unit Heater. (2) wall mount Fan Coils with ground mount Condensing Units. (7) rooftop Exhaust Fans. Plans for these units are dated March 2003.

Building E Music/ Art Classrooms: (4) 4 Ton wall mount Bard Heat Pump Units. (2) 5 Ton rooftop Heat Pump Units. (1) 8.5 Ton rooftop gas/ electric Heating and Cooling Unit with power exhaust economizer (2012). (1) 10 Ton rooftop gas/ electric Heating and Cooling Unit with power exhaust economizer (2012). (6) rooftop Exhaust Fans. (3) In-line Exhaust Fans (2012). Plans for these units are dated March 2003 and April 2012.

Building F Gym/ Pool Equipment: (2) 1,800 MBH input Pool Boilers and Pumps. (1) 9,500 CFM rooftop 600 MBH input Heating and Ventilating Unit. (3) rooftop Exhaust Fans. Plans for these units are dated September 2007.

Building G Gym/ Classrooms: (2) 1,260 MBH input Boiler with Pump and Expansion Tank. (4) 750 CFM/ 50 MBH floor mount hydronic heating Unit Ventilator. (4) 1000 CFM/ 62 MBH floor mount hydronic heating Unit Ventilator. (1) horizontal supply/ return 1200 CFM Air Handler with 94 MBH hydronic Heating Coil. (1) horizontal supply/ return 1350 CFM Air Handler with 84 MBH hydronic Heating Coil. (1) 300 CFM/ 25 MBH suspended hydronic heating Unit Heater. (4) 750 CFM/ 50 MBH suspended hydronic heating Unit Heater. (8) 4160 CFM/ 124 MBH hydronic suspended Propeller Unit Heater. (2) 4 Ton wall mount Bard Heat Pump Units. (15) Rooftop Exhaust Fans. (6) Wall Exhaust Fans. Plans for these units are dated March 2003.

Relocatable Classrooms: (7) 3.5 ton wall mount Bard Heat Pump Units.

Recommended Mechanical Systems:

Building A Admin/ Library/ Classrooms: Replace (2) 2,000 MBH input Boilers with Pump and Expansion Tank. Replace (7) 300 CFM/ 17 MBH floor mount hydronic heating Unit Ventilator with new hydronic heating/ DX cooling units with Condenser on roof. Replace (6) 500 CFM/ 22 MBH floor mount hydronic heating Unit Ventilator with new hydronic heating/ DX cooling units with Condenser on roof. Replace (54) 750 CFM/ 44 MBH floor mount hydronic heating Unit Ventilator with new hydronic heating/ DX cooling units with Condenser on roof. Replace (11) 1000 CFM/ 62 MBH floor mount hydronic heating Unit Ventilator with new hydronic heating/ DX cooling units with Condenser on roof. Replace (7) 1250 CFM/ 77 MBH floor mount hydronic heating Unit Heater with new hydronic heating/ DX cooling units with Condenser on roof. Remove (20) 5 MBH hydronic Baseboard Heaters. Remove (7) 8 MBH hydronic Baseboard Heaters. Remove (2) 11 MBH hydronic Baseboard Heaters. Remove

(2) 15 MBH hydronic Baseboard Heaters. Remove (3) 18 MBH hydronic Baseboard Heaters. Remove (1) 10 MBH hydronic Convactor Heaters. Provide attic mounted ducted VRF Fan Coils/ Branch Selector Boxes with (4) 8 Ton VRF Condensing Units on roof to replace all the removed Baseboard/ Convactor type Heater and provide outside air to Fan Coils. Replace (1) vertical 1200 CFM Air Handler with 78 MBH hydronic Heating Coil with new hydronic heating/ DX cooling units with Condenser on roof. Replace (1) horizontal downflow 4000 CFM Air Handler with 220 MBH hydronic Heating Coil with new hydronic heating/ DX cooling units with Condenser on roof. Replace (1) horizontal supply/ downflow return 1760 CFM Air Handler with 104 MBH hydronic Heating Coil with new hydronic heating/ DX cooling units with Condenser on roof. Replace (1) horizontal supply/ downflow return 5500 CFM Air Handler with 214 MBH hydronic Heating Coil with new hydronic heating/ DX cooling units with Condenser on roof. Replace (1) rooftop 2000 CFM Air Handler with 75 MBH hydronic Heating Coil with new rooftop gas/ electric Heating and Cooling Unit. Replace (2) 0.75 Ton wall mount IDU with rooftop ODU. Replace (2) 2 Ton wall mount IDU with rooftop ODU. Replace (5) 5 Ton ceiling mount Fan Coil with new outside air duct and replace rooftop Condensing Unit. Replace (104) rooftop Exhaust Fans. Replace (6) ceiling Exhaust Fans.

Building B: Replace (3) 4 Ton wall mount Bard Heat Pump Units.

Building C Classrooms: Remove (1) 1,000 MBH input Boiler with Pump and Expansion Tank. Remove (1) 750 CFM/ 44 MBH floor mount hydronic heating Unit Ventilator. Remove (4) 4160 CFM/ 124 MBH hydronic suspended Propeller Unit Heater. Remove (2) wall mount Fan Coils with ground mount Condensing Units. Provide new VRF system with (4) 5 Ton vertical Fan Coils on floor in large rooms and (5) 2 Ton ducted suspended Fan Coils for small rooms. Provide (1) 30 Ton ground mounted VRF Condensing Unit with piping and Branch Selector Boxes to Fan Coils. Replace (7) rooftop Exhaust Fans.

Building E Music/ Art Classrooms: Replace (4) 4 Ton wall mount Bard Heat Pump Units. Replace (2) 5 Ton rooftop Heat Pump Units. Replace (1) 8.5 Ton rooftop gas/ electric Heating and Cooling Unit with power exhaust economizer in 2027. Replace (1) 10 Ton rooftop gas/ electric Heating and Cooling Unit with power exhaust economizer in 2027. Replace (6) rooftop Exhaust Fans. Replace (3) In-line Exhaust Fans in 2027.

Building F Gym/ Pool Equipment: Replace (2) 1,800 MBH input Pool Boilers and Pumps. Remove (1) 9,500 CFM rooftop 600 MBH input Heating and Ventilating Unit and replace with (1) 25 Ton gas/ electric rooftop Heating and Cooling Unit. Replace (3) rooftop Exhaust Fans.

Building G Gym/ Classrooms: Replace (2) 1,260 MBH input Boiler with Pump and Expansion Tank. Replace (4) 750 CFM/ 50 MBH floor mount hydronic heating Unit Ventilator with new hydronic heating/ DX cooling units with Condenser on roof. (4) 1000 CFM/ 62 MBH floor mount hydronic heating Unit Ventilator with new hydronic heating/ DX cooling units with Condenser on roof. (1) horizontal supply/ return 1200 CFM Air Handler with 94 MBH hydronic Heating Coil with new hydronic heating/ DX cooling units with Condenser on roof. (1) horizontal supply/ return 1350 CFM Air Handler with 84 MBH hydronic Heating Coil with new hydronic heating/ DX cooling units with Condenser on roof. (1) 300 CFM/ 25 MBH suspended hydronic heating Unit Heater with new hydronic heating/ DX cooling units with Condenser on roof. (4) 750 CFM/ 50 MBH suspended hydronic heating Unit Heater with new hydronic heating/ DX cooling units with Condenser on roof. Remove (8) 4160 CFM/ 124 MBH hydronic suspended Propeller Unit Heater and replace with (2) 30 Ton rooftop gas/ electric Heating and Cooling Units, one over each locker room lower roof with duct thru exterior wall and exposed fabric duct up high in Gym. Replace (2) 4 Ton wall mount Bard Heat Pump Units. Replace (15) Rooftop Exhaust Fans. Replace (6) Wall Exhaust Fans.

Relocatable Classrooms: Replace (7) 3.5 ton wall mount Bard Heat Pump Units.

Enhanced Outside Air Replacement Option:

Increase size of units by minimum 0.5 tons and turn fan speed down to CFM to match existing CFM. We will specify high efficiency units and outside air intakes to meet current ASHRAE/Title 24 recommended enhanced ventilation rates.

Optional Work would include duct cleaning at all existing duct that remains.

REDWOOD H.S. HVAC REPLACEMENT - P2110600ME
PRELIMINARY COST ESTIMATE FOR MECHANICAL, ELECTRICAL AND PLUMBING
6/22/2021

Item	Units	Qty	Cost/Item	Total
A BUILDING:				
Total MEP Cost for A Building	LS	1	2,668,800.00	\$2,668,800
B BUILDING:				
Total MEP Cost for B Building	LS	1	44,500.00	\$44,500
C BUILDING:				
Total MEP Cost for C Building	LS	1	308,800.00	\$308,800
E BUILDING:				
Total MEP Cost for E Building	LS	1	200,100.00	\$200,100
F BUILDING:				
Total MEP Cost for F Building	LS	1	215,450.00	\$215,450
G BUILDING:				
Total MEP Cost for G Building	LS	1	891,650.00	\$891,650
RELOCATABLES:				
Total Mechanical Cost for Relocatables	LS	1	122,000.00	\$122,000
				\$0
				\$0
				\$0
				\$0
				\$0
				\$0
				\$0
				\$0
				\$0
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				\$0
				\$0
				\$0
				\$0
				\$0
	Sub-Total			\$4,451,300
	Area Adjustment 8%			\$356,104
	Contingency 10%			\$445,130
	Contractor Profit 10%			\$445,130
	TOTAL			\$5,697,664

LS = Lump Sum LF = Lineal Feet EA = Each SF = Square Feet (E) = Existing

REDWOOD H.S. HVAC REPLACEMENT - P2110600ME
PRELIMINARY A BLDG. MECHANICAL COST ESTIMATE

6/22/2021

Item	Units	Qty	Cost/Item	Total
BLDG. A DEMOLITION:				
Remove (E) Boiler, Pump, Valves & Pipe	EA	2	4,000.00	\$8,000
Remove (E) Floor Mount UV, Valves & Pipe	EA	85	1,000.00	\$85,000
Remove (E) Baseboard/ Convactor Heaters	EA	35	1,000.00	\$35,000
Remove (E) Vertical Air handler	EA	1	1,000.00	\$1,000
Remove (E) Horizontal Air Handler	EA	3	1,000.00	\$3,000
Remove (E) Rooftop Air Handler	EA	1	1,000.00	\$1,000
Remove (E) Wall IDU with Foof ODU	EA	4	1,000.00	\$4,000
Remove (E) ceiling FC with roof ODU	EA	5	1,000.00	\$5,000
Remove (E) Roof Exhaust Fan	EA	104	400.00	\$41,600
Remove (E) Ceiling Exhaust Fan	EA	6	200.00	\$1,200
BLDG. A NEW:				
Boiler, Pumps, Valves & Piping	EA	2	50,000.00	\$100,000
2 Ton Floor UV w/ CU on Roof	EA	13	6,000.00	\$78,000
4 Ton Floor UV w/ CU on Roof	EA	54	12,000.00	\$648,000
5 Ton Floor UV w/ CU on Roof	EA	11	15,000.00	\$165,000
6 Ton Floor UV w/ CU on Roof	EA	7	18,000.00	\$126,000
Attic FC w/ BS Box, Ducts, Grilles & Piping	EA	35	4,000.00	\$140,000
8 Ton CU w/ Valves & Piping	EA	4	24,000.00	\$96,000
3 Ton Vertical AH & CU to Existing Ducts	EA	1	12,000.00	\$12,000
10 Ton Horizontal AH & CU to Existing Ducts	EA	1	40,000.00	\$40,000
5 Ton Horizontal AH & CU to Existing Ducts	EA	1	20,000.00	\$20,000
15 Ton Horizontal AH & CU to Existing ducts	EA	1	60,000.00	\$60,000
5 Ton Rooftop AC Unit to Existing Ducts	EA	1	15,000.00	\$15,000
0.75 Ton Wall IDU & Roof ODU	EA	2	3,000.00	\$6,000
2 Ton Wall IDU & Roof ODU	EA	2	6,000.00	\$12,000
5 Ton Ceiling FC & Roof CU	EA	2	3,000.00	\$6,000
Outside Air Ducting to FC's	LS	1	20,000.00	\$20,000
Roof Exhaust Fan to Existing Duct	EA	104	2,000.00	\$208,000
Ceiling Exhaust Fan to Existing Duct	EA	6	1,000.00	\$6,000
Air Balance	LS	1	200,000.00	\$200,000
New WiFi T-Stats and Programming	EA	134	1,000.00	\$134,000
Add for Duct Cleaning	LS	1	10,000.00	\$10,000
Add for Enhanced Option	EA	134	1,000.00	\$134,000
			Bldg. A-Total	\$2,420,800

REDWOOD H.S. HVAC REPLACEMENT - P2110600ME
PRELIMINARY B-C BLDG. MECHANICAL COST ESTIMATE

6/22/2021

Item	Units	Qty	Cost/Item	Total
BLDG. B DEMOLITION:				
Remove (E) Wall Bard Heat Pump	EA	3	1,000.00	\$3,000
BLDG. B NEW:				
4 Ton Wall Bard Heat Pump Unit	EA	3	10,000.00	\$30,000
			Bldg. B-Total	\$33,000
BLDG. C DEMOLITION:				
Remove (E) Boiler, Pump, Valves & Pipe	EA	1	4,000.00	\$4,000
Remove (E) Floor Mount UV, Valves & Pipe	EA	1	1,000.00	\$1,000
Remove (E) Suspended Unit Heater	EA	4	1,000.00	\$4,000
Remove (E) Wall IDU with Roof ODU	EA	2	1,000.00	\$2,000
Remove (E) Roof Exhaust Fan	EA	7	400.00	\$2,800
BLDG. C NEW:				
5 Ton Floor Fan Coils, BS Boxes & Piping	EA	4	20,000.00	\$80,000
2 Ton Attic VRF FC, Duct, Grilles & Piping	EA	5	8,000.00	\$40,000
30 Ton Ground VRF CU, BS Boxes & Pipe	EA	1	90,000.00	\$90,000
Roof Exhaust Fan to Existing Duct	EA	7	2,000.00	\$14,000
Air Balance	LS	1	12,000.00	\$12,000
New WiFi T-Stats and Programming	EA	9	1,000.00	\$9,000
Add for Enhanced Option	EA	9	1,000.00	\$9,000
			Bldg. C-Total	\$267,800

REDWOOD H.S. HVAC REPLACEMENT - P2110600ME
PRELIMINARY E-F BLDG. MECHANICAL COST ESTIMATE

6/22/2021

Item	Units	Qty	Cost/Item	Total
BLDG. E DEMOLITION:				
Remove (E) Wall Bard Heat Pump	EA	4	1,000.00	\$4,000
Remove (E) Rooftop Heat Pump Unit	EA	2	1,000.00	\$2,000
Remove (E) Rooftop Package Unit	EA	2	1,000.00	\$2,000
Remove (E) Roof or In-line Exhaust Fan	EA	9	400.00	\$3,600
BLDG. E NEW:				
3.5 Ton Wall Bard Heat Pump Unit	EA	4	9,000.00	\$36,000
5 Ton Roof Heat Pump to Existing Duct	EA	1	15,000.00	\$15,000
8.5 Ton Roof AC Unit to Existing Duct	EA	1	25,500.00	\$25,500
10 Ton Roof AC Unit to Existing Duct	EA	1	30,000.00	\$30,000
Roof or In-line Exhaust Fan to Existing Duct	EA	9	2,000.00	\$18,000
Air Balance	LS	1	11,000.00	\$11,000
New WiFi T-Stats and Programming	EA	7	1,000.00	\$7,000
Add for Duct Cleaning	LS	1	9,000.00	\$9,000
Add for Enhanced Option	EA	7	1,000.00	\$7,000
			Bldg. E-Total	\$170,100
BLDG. F DEMOLITION:				
Remove (E) Boiler, Pump, Valves & Pipe	EA	2	4,000.00	\$8,000
Remove (E) Rooftop Heating Unit	EA	1	2,000.00	\$2,000
Remove (E) Roof Exhaust Fan	EA	3	400.00	\$1,200
BLDG. F NEW:				
Boiler, Pumps, Valves & Piping	EA	2	50,000.00	\$100,000
25 Ton Roof AC Unit to Existing Duct	EA	1	75,000.00	\$75,000
Roof Exhaust Fan to Existing Duct	EA	3	2,000.00	\$6,000
Air Balance	LS	1	4,000.00	\$4,000
New WiFi T-Stats and Programming	EA	1	1,000.00	\$1,000
Add for Duct Cleaning	LS	1	4,000.00	\$4,000
Add for Enhanced Option	EA	1	1,000.00	\$1,000
			Bldg. F-Total	\$202,200

REDWOOD H.S. HVAC REPLACEMENT - P2110600ME
PRELIMINARY BLDG. G-RELOCATABLE BLDG. MECHANICAL COST ESTIMATE

6/22/2021

Item	Units	Qty	Cost/Item	Total
BLDG. G DEMOLITION:				
Remove (E) Boiler, Pump, Valves & Pipe	EA	2	4,000.00	\$8,000
Remove (E) floor mount UV, Valves & Pipe	EA	8	1,000.00	\$8,000
Remove (E) horizontal Air Handler	EA	1	1,000.00	\$1,000
Remove (E) suspended Unit Heater	EA	13	1,000.00	\$13,000
Remove (E) Wall Bard Heat Pump	EA	2	1,000.00	\$2,000
Remove (E) Roof or Wall Exhaust Fans	EA	21	400.00	\$8,400
BLDG. G NEW:				
Boiler, Pumps, Valves & Piping	EA	2	40,000.00	\$80,000
4 Ton floor UV w/ CU on Roof	EA	4	12,000.00	\$48,000
5 Ton floor UV w/ CU on Roof	EA	4	15,000.00	\$60,000
5 Ton horizontal AH & CU to new ducts	EA	6	25,000.00	\$150,000
3 Ton horizontal AH & CU to new ducts	EA	1	15,000.00	\$15,000
30 Ton Roof AC Unit w/ Duct & Grilles	EA	2	135,000.00	\$270,000
4 Ton Wall Bard Heat Pump Unit	EA	2	10,000.00	\$20,000
Roof or Wall Exhaust Fan to existing duct	EA	21	2,000.00	\$42,000
Air Balance	LS	1	35,000.00	\$35,000
New WiFi T-Stats and programming	EA	19	1,000.00	\$19,000
Add for Duct Cleaning	LS	1	4,000.00	\$4,000
Add for enhanced Option	EA	19	1,000.00	\$19,000
			Bldg. G-Total	\$802,400
RELOCATABLES DEMOLITION:				
Remove (E) Wall Bard Heat Pump	EA	7	1,000.00	\$7,000
RELOCATABLES NEW:				
3.5 Ton Wall Bard Heat Pump Unit	EA	7	9,000.00	\$63,000
Air Balance	LS	1	7,000.00	\$7,000
New WiFi T-Stats and Programming	EA	7	1,000.00	\$7,000
Add for Duct Cleaning	LS	1	9,000.00	\$9,000
Add for Enhanced Option	EA	7	1,000.00	\$7,000
			Relocatables-Total	\$100,000

REDWOOD H.S. HVAC REPLACEMENT - P2110600ME
PRELIMINARY SITE-A-B-C ELECTRICAL & PLUMBING COST ESTIMATE
6/22/2021

Item	Units	Qty	Cost/Item	Total
SITE:				
New Main Service	LS	1	400,000.00	\$400,000
			Site-Total	\$400,000
BLDG. A ELECTRICAL DEMOLITION:				
Electrical Disconnect	LS	1	25,000.00	\$25,000
BLDG. A ELECTRICAL NEW:				
New Wire & Breaker for Mech. Equip.	LS	1	95,000.00	\$95,000
New Wire for Exhaust Fan	EA	104	750.00	\$78,000
			Bldg. A-Total	\$198,000
BLDG. A PLUMBING DEMOLITION:				
Gas or Condensate Disconnect	LS	1	20,000.00	\$20,000
BLDG. A PLUMBING NEW:				
Reconnect Gas or Condensate	LS	1	50,000.00	\$50,000
			Bldg. A-Total	\$70,000
BLDG. B ELECTRICAL DEMOLITION:				
Electrical Disconnect	LS	1	1,000.00	\$1,000
BLDG. B ELECTRICAL NEW:				
New Wire & Breaker for Mech. Equip.	EA	3	1,750.00	\$5,250
New Wire for Exhaust Fan	EA	0	750.00	\$0
			Bldg. B-Total	\$6,250
BLDG. B PLUMBING DEMOLITION:				
Gas or Condensate Disconnect	LS	1	3,000.00	\$3,000
BLDG. B PLUMBING NEW:				
Reconnect Gas or Condensate	EA	3	750.00	\$2,250
New Condensate to Mech. Unit	EA	0	1,000.00	\$0
			Bldg. B-Total	\$5,250
BLDG. C ELECTRICAL DEMOLITION:				
Electrical Disconnect	LS	1	7,500.00	\$7,500
BLDG. C ELECTRICAL NEW:				
New Wire & Breaker for Mech. Equip.	EA	10	1,750.00	\$17,500
New Wire for Exhaust Fan	EA	7	750.00	\$5,250
			Bldg. C-Total	\$30,250
BLDG. C PLUMBING DEMOLITION:				
Gas or Condensate Disconnect	LS	1	750.00	\$750
BLDG. C PLUMBING NEW:				
Reconnect Gas or Condensate	EA	0	750.00	\$0
New Condensate to Mech. Unit	EA	10	1,000.00	\$10,000
			Bldg. C-Total	\$10,750

REDWOOD H.S. HVAC REPLACEMENT - P2110600ME
PRELIMINARY E-F-G ELECTRICAL & PLUMBING COST ESTIMATE
6/22/2021

Item	Units	Qty	Cost/Item	Total
BLDG. E ELECTRICAL DEMOLITION:				
Electrical Disconnect	LS	1	3,000.00	\$3,000
BLDG. E ELECTRICAL NEW:				
New Wire & Breaker for Mech. Equip.	EA	7	1,750.00	\$12,250
New Wire for Exhaust Fan	EA	9	750.00	\$6,750
			Bldg. E-Total	\$22,000
BLDG. E PLUMBING DEMOLITION:				
Gas or Condensate Disconnect	LS	1	2,000.00	\$2,000
BLDG. E PLUMBING NEW:				
Reconnect Gas or Condensate	EA	8	750.00	\$6,000
			Bldg. E-Total	\$8,000
BLDG. F ELECTRICAL DEMOLITION:				
Electrical Disconnect	LS	1	2,500.00	\$2,500
BLDG. F ELECTRICAL NEW:				
New Wire & Breaker for Mech. Equip.	EA	3	1,750.00	\$5,250
New Wire for Exhaust Fan	EA	3	750.00	\$2,250
			Bldg. F-Total	\$10,000
BLDG. F PLUMBING DEMOLITION:				
Gas or Condensate Disconnect	LS	1	1,000.00	\$1,000
BLDG. F PLUMBING NEW:				
Reconnect Gas or Condensate	EA	3	750.00	\$2,250
			Bldg. F-Total	\$3,250
BLDG. G ELECTRICAL DEMOLITION:				
Electrical Disconnect	LS	1	18,000.00	\$18,000
BLDG. G ELECTRICAL NEW:				
New Wire & Breaker for Mech. Equip.	EA	21	1,750.00	\$36,750
New Wire for Exhaust Fan	EA	21	750.00	\$15,750
			Bldg. G-Total	\$70,500
BLDG. G PLUMBING DEMOLITION:				
Gas or Condensate Disconnect	LS	1	3,000.00	\$3,000
BLDG. G PLUMBING NEW:				
Reconnect Gas or Condensate	EA	21	750.00	\$15,750
			Bldg. G-Total	\$18,750

REDWOOD H.S. HVAC REPLACEMENT - P2110600ME
PRELIMINARY RELOCATABLES ELECTRICAL & PLUMBING COST ESTIMATE
6/22/2021

Item	Units	Qty	Cost/Item	Total
RELO. ELECTRICAL DEMOLITION:				
Electrical Disconnect	LS	1	3,000.00	\$3,000
RELO. ELECTRICAL NEW:				
New Wire & Breaker for Mech. Equip.	EA	7	1,750.00	\$12,250
New Wire for Exhaust Fan	EA	0	750.00	\$0
			Relo.-Total	\$15,250
RELO. PLUMBING DEMOLITION:				
Gas or Condensate Disconnect	LS	1	1,500.00	\$1,500
RELO. PLUMBING NEW:				
Reconnect Gas or Condensate	EA	7	750.00	\$5,250
			Relo.-Total	\$6,750

TAMALPAIS HIGH SCHOOL

PRINCIPAL: J. C. Farr



Aerial Site Plan

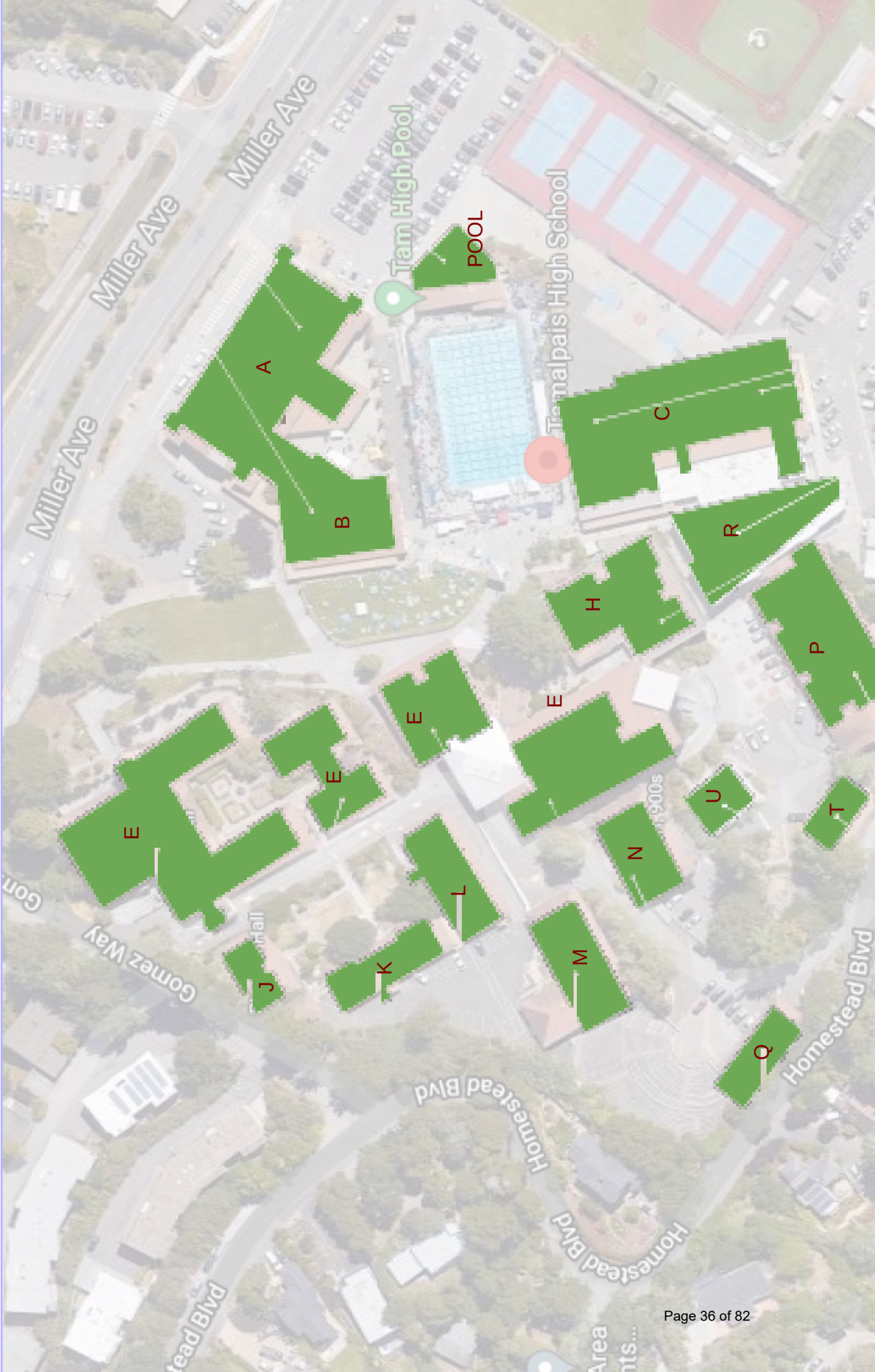
**700 Miller Avenue
Mill Valley, CA 94941**

YEAR ESTABLISHED: 1908

**GRADES: 9th - 12th
STUDENTS: 1,591**



**TAMALPIAS HIGH SCHOOL
FACILITY SITE PLAN**



Project: Tamalpais High School

Existing Mechanical Systems:

Pool Building: (2) 1,800 MBH input pool heater Boilers. No Exhaust Fans for Chemical Storage rooms. Plans for these units are dated January 2008.

Building A Gym: (4) 400 MBH input vertical Furnaces in closets. Plans for these units are dated April 2003.

Building B Boys Lockers: (2) 150 MBH and (1) 200 MBH input rooftop Furnaces. (1) 80 MBH input suspended Furnace. (7) rooftop Exhaust Fans. Plans for these units are dated April 2003.

Building C Girls Lockers/Gym: (1) 315 MBH input rooftop Furnace. (1) 60 MBH input suspended Furnace. (10) rooftop and (2) wall mount Exhaust Fans. (7) 150 MBH and (1) 75 MBH floor mount hydronic heating Unit ventilators. (1) 1000 MBH input Boiler and (2) Pumps. Plans for these units are dated April 2003 and September 2004.

Building E Classrooms/Admin/Library: (6) vertical 60 MBH and (4) 80 MBH Furnaces in closets. (1) 3 ton wall mount Split System Indoor Unit with Outdoor Unit. (1) 350 MBH input Boiler and Pump. (2) 1500 watt wall mount Electric Unit Heaters with no outside air. (2) wall mount, (2) In-Line and (4) ceiling mount Exhaust Fans. (1) 10,880 CFM Multi-Zone Air Handler with hydronic heating for Admin/Library area. Plans for these units are dated September 2003.

Building F Classrooms: (1) vertical 60 MBH, (4) 80 MBH and (1) 120 MBH Furnaces in closets. (4) Cooling Coils with (1) 3 ton and (3) 4 ton Condensing Units. (1) 3 ton wall mount Split System Indoor Unit with Outdoor Unit. Plans for these units are dated September 2003.

Building G Classrooms: (1) 40 MBH, (1) 60 MBH, (18) 80 MBH, (4) 100 MBH and (3) 120 MBH input Furnaces in closets. (3) Cooling Coils with (3) 5 ton Condensing Units. (4) 1.5 ton split system units with Condensing Units. (11) In-Line, (3) Rooftop and (7) ceiling mount Exhaust Fans. Plans for these units are dated May 2007.

Building H Science Classrooms: (4) 90 MBH and (4) 110 MBH floor mount hydronic heating Unit Ventilators. (7) hydronic heating Convector Coils. (2) In-Line, (11) Rooftop and (5) ceiling mount Exhaust Fans. Plans for these units are dated April 2003.

Building J Classrooms: (2) suspended 30 MBH Unit Heaters with no outside air. Plans for these units are dated September 2003.

Building K Ceramics Classroom: (1) suspended 30 MBH Unit Heater with no outside air. (1) vertical 200 MBH Furnace in Storage Room. (2) 2000 CFM Air Cleaners. (4) rooftop Exhaust Fans. Plans for these units are dated September 2003.

Building L Wood Shop/Classroom: (1) suspended 45 MBH Unit Heater with no outside air. (2) vertical 200 MBH Furnaces in closets. (2) 1500 watt Electric Wall Heaters with no outside air. (1) 5050 CFM sawdust Collection System. (1) wall mount and (1) rooftop Exhaust Fans. Plans for these units are dated September 2003.

Building M Auto Shop/Classroom: (5) suspended 30 MBH Unit Heater with no outside air. (1) suspended 250 MBH Furnaces. (4) vertical 80 MBH Furnaces. (1) 1.5 ton wall mount Split System Indoor Unit with Outdoor Unit. (1) 1600 CFM Vehicle Exhaust System with (2) Hose Reels. (3) In-Line and (1) rooftop Exhaust Fans. Plans for these units are dated September 2003.

Building N Classrooms: (5) suspended 60 MBH and (4) 60 MBH vertical Furnaces in Storage Room. (1) wall mount and (2) ceiling mount Exhaust Fans. Plans for these units are dated September 2003.

Building P Cafeteria/Classrooms: (5) 46 MBH floor mount hydronic heating Unit Ventilators. (1) 1000 MBH input Boiler and (2) Pumps. (1) 2900 CFM Make-Up Air Unit with Evaporative Cooling and hydronic Heating. (2) 5 ton Air Handling Units with DX Coil and hydronic Heating. (2) 5 ton Condensing Units. (1) In-Line and (4) ceiling mount Exhaust Fans. Plans for these units are dated September 2004.

Relocatable Classrooms near Bldg. P: (2) 3.5 ton wall mount Bard Heat Pump Units.

Building R Theater: (1) 2000 CFM floor mount hydronic heating Air Handler. (1) 5580 CFM floor mount Make-Up Air Unit with DX Cooling and hydronic Heating. (5) VAV boxes with Re-Heat Coils. (1) 20 ton Condensing Unit. (1) 1.5 ton wall mount Split System Indoor Unit with Outdoor Unit. (2) rooftop and (4) ceiling mount Exhaust Fans. Plans for these units are dated September 2004.

Building U Classrooms: (2) 3.5 ton wall mount Bard Heat Pump Units.

Field House: (1) 200 MBH floor mount Furnace. (2) rooftop Exhaust Fans. Plans for these units are dated July 2008.

Recommended Mechanical Systems:

Pool Building: Add Exhaust Fans for Chemical Storage rooms.

Building A Gym: Replace (4) 400 MBH input vertical Furnaces in closets with new high efficiency units with DX cooling coils and (4) 15 Ton ground mounted Condensing Units.

Building B Boys Lockers: Remove (2) 150 MBH/ (1) 200 MBH input rooftop Furnaces and replace with (2) 7.5 Ton/ (1) 8.5 Ton rooftop gas/ electric Heating and Cooling Units. Replace (1) 80 MBH input suspended Furnace with new high efficiency Furnace/ Cooling Coil and 4 Ton Condensing Unit on Roof. Replace (7) rooftop Exhaust Fans.

Building C Girls Lockers/Gym: Remove (1) 315 MBH input rooftop Furnace and replace with 12.5 Ton rooftop gas/ electric Heating and Cooling Unit. Replace (1) 60 MBH input suspended Furnace with new high efficiency unit with Cooling Coil and Condensing Unit on roof. Replace (10) rooftop and (2) wall mount Exhaust Fans. Replace (7) 150 MBH and (1) 75 MBH floor mount hydronic heating Unit ventilators with new units that have DX Cooling/ hydronic Heating Coils and (7) 5 Ton/ (1) 4 Ton Condensing Units on lower roof. Replace (1) 1000 MBH input Boiler and (2) Pumps with new high efficiency units.

Building E Classrooms/Admin/Library: Replace (6) vertical 60 MBH and (4) 80 MBH Furnaces in closets with new high efficiency units with Cooling Coils and (6) 4 Ton, (3) 3 Ton & (1) 5 Ton Condensing units on ground. Extend new ducts and grilles to the (2) Offices that had Electric Wall Heater and remove the heaters. Replace (1) 350 MBH Boiler with new high efficiency Boiler. Replace (1) 3 ton wall mount Split System Indoor Unit with Outdoor Unit. Replace (2) wall mount, (2) In-Line and (4) ceiling mount Exhaust Fans. Replace (1) Multi-Zone Air Handler with new DX Cooling/hydronic heating with (1) 25 Ton Condensing Unit on ground for Admin/Library area.

Building F Classrooms: Replace (1) 60 MBH, (4) 80 MBH and (1) 120 MBH vertical Furnaces in closets with high efficiency units DX Cooling Coils and (1) 3 Ton, (4) 4 Ton and (1) 5 Ton ground mounted Condensing Units. Replace (1) 3 ton wall mount Split System Indoor Unit with Outdoor Unit.

Building G Classrooms: Replace (1) 40 MBH, (1) 60 MBH, (18) 80 MBH, (4) 100 MBH and (3) 120 MBH input vertical Furnaces in closets with new high efficiency units with DX Cooling Coils and (1) 3 Ton, (1) 4 Ton and (22) 5 Ton Condensing Units. Replace (4) 1.5 ton split system units with Condensing Units. Replace (11) In-Line, (3) Rooftop and (7) ceiling mount Exhaust Fans.

Building H Science Classrooms: Replace (4) 90 MBH and (4) 110 MBH floor mount hydronic heating Unit Ventilators with new hydronic heating/ DX Cooling units with (4) 4 Ton and (4) 5 Ton rooftop mounted Condensing Units. Remove (7) hydronic heating Convactor Coils and replace with attic mounted ducted Fan Coils with (1) 8 Ton rooftop VRF Heat Recovery Condensing Unit. Replace (2) In-Line, (11) Rooftop and (5) ceiling mount Exhaust Fans.

Building J Classrooms: Remove (2) suspended 30 MBH Unit Heaters with no outside air. Install new high efficiency 40 MBH vertical Furnaces in closets in corners of room with DX Cooling Coil and (2) 3 Ton ground mounted Condensing Units.

Building K Ceramics Classroom: Remove (1) suspended 30 MBH Unit Heater with no outside air and install new 40 MBH vertical high efficiency Furnace in closet in corner of room with DX Cooling Coil and (1) 3 Ton ground mounted Condensing Unit. Replace (1) vertical 200 MBH Furnace in Storage Room with new high efficiency unit with DX Cooling Coil and (1) 8.5 Ton ground mounted Condensing Unit. Replace (2) 2000 CFM Air Cleaners. Replace (4) rooftop Exhaust Fans.

Building L Wood Shop/Classroom: Remove (1) suspended 45 MBH Unit Heater with no outside air and install new 60 MBH vertical high efficiency Furnace in closet in corner of room with DX Cooling Coil and (1) 4 Ton ground mounted Condensing Unit. Replace (2) vertical 200 MBH Furnaces in closets with new high efficiency units with DX Cooling Coil and (2) 7.5 Ton ground mounted Condensing Units. Remove (2) 1500 watt Electric Wall Heaters with no outside air and install (2) 1 Ton Fan Coil Heat pump units with (1) 2 Ton ground mounted Condensing Unit. Replace (1) 5050 CFM sawdust Collection System. Replace (1) wall mount and (1) rooftop Exhaust Fans.

Building M Auto Shop/Classroom: Remove (5) suspended 30 MBH Unit Heater with no outside air and install new 40 MBH vertical high efficiency Furnace in closet in corner of room with DX Cooling Coil and (5) 3 Ton ground mounted Condensing Unit. Replace (1) suspended 250 MBH Furnaces with new high efficiency unit with DX Cooling Coil and (1) 7.5 Ton ground mounted Condensing Unit. Replace (4) vertical Furnaces with high efficiency units with DX cooling and (1) 3 Ton, (2) 5 Ton & (1) 8.5 Ton Condensing Units. Replace (1) 1.5 ton wall mount Split System Indoor Unit with Outdoor Unit. Replace (1) 1600 CFM Vehicle Exhaust System with (2) Hose Reels. Replace (3) In-Line and (1) rooftop Exhaust Fans.

Building N Classrooms: Replace (5) suspended 60 MBH and (4) 60 MBH vertical Furnaces in Storage Room with new high efficiency 60 MBH units with DX Cooling Coil and (9) 3 Ton ground mounted Condensing Units. Replace (1) wall mount and (2) ceiling mount Exhaust Fans.

Building P Cafeteria/Classrooms: Replace (5) 46 MBH floor mount hydronic heating Unit Ventilators with new hydronic heating/ DX Cooling units with (5) 4 Ton ground mounted Condensing Units. Replace (1) 1000 MBH input Boiler and (2) Pumps with high efficiency unit. Replace (1) 2900 CFM Make-Up Air Unit with Evap Cooling and hydronic Heating. Replace (2) 5 ton Air Handling Units with DX Coil and hydronic Heating. Replace (2) 5 ton Condensing Units. Replace (1) In-Line and (4) ceiling mount Exhaust Fans.
Relocatable Classrooms near Bldg. P: Replace (2) 3.5 ton wall mount Bard Heat Pump Units.

Building R Theater: Replace (1) 2000 CFM floor mount hydronic heating Air Handler with new hydronic heating/ DX Cooling unit with (1) 5 Ton rooftop mounted Condensing Unit. Replace (1) 5580 CFM floor mount Make-Up Air Unit with DX Cooling and hydronic Heating with new hydronic heating/ DX Cooling unit. Replace (5) VAV boxes with Re-Heat Coils. Replace (1) 20 ton Condensing Unit. Replace (1) 1.5 ton wall mount Split System Indoor Unit with Outdoor Unit. Replace (2) rooftop and (4) ceiling mount Exhaust Fans.

Building U Classrooms: Replace (2) 3.5 ton wall mount Bard Heat Pump Units.

Field House: Replace (1) 200 MBH floor mount Furnace with high efficiency unit with cooling coil and (1) 7.5 Ton Condensing Unit. Replace (2) rooftop Exhaust Fans.

Enhanced Outside Air Replacement Option:

Increase size of units by minimum 0.5 tons and turn fan speed down to CFM to match existing CFM. We will specify high efficiency units and outside air intakes to meet current ASHRAE/Title 24 recommended enhanced ventilation rates.

Optional Work would include duct cleaning at all existing duct that remains.

TAMALPAIS H.S. HVAC REPLACEMENT - P2110600ME
PRELIMINARY COST ESTIMATE FOR MECHANICAL, ELECTRICAL AND PLUMBING
6/22/2021

Item	Units	Qty	Cost/Item	Total
POOL BUILDING:				\$0
Total Cost for Pool Building	LS	1	129,000.00	\$129,000
A BUILDING:				\$0
Total Cost for A Building	LS	1	217,000.00	\$217,000
B BUILDING:				\$0
Total Cost for B Building	LS	1	196,300.00	\$196,300
C BUILDING:				\$0
Total Cost for C Building	LS	1	382,800.00	\$382,800
E BUILDING:				\$0
Total Cost for E Building	LS	1	416,200.00	\$416,200
F BUILDING:				\$0
Total Cost for F Building	LS	1	147,500.00	\$147,500
G BUILDING:				\$0
Total Cost for G Building	LS	1	672,900.00	\$672,900
H BUILDING:				\$0
Total Cost for H Building	LS	1	428,250.00	\$428,250
J BUILDING:				\$0
Total Cost for J Building	LS	1	38,250.00	\$38,250
K BUILDING:				\$0
Total Cost for K Building	LS	1	82,200.00	\$82,200
L BUILDING:				\$0
Total Cost for L Building	LS	1	145,200.00	\$145,200
M BUILDING:				\$0
Total Cost for M Building	LS	1	257,850.00	\$257,850
N BUILDING:				\$0
Total Cost for N Building	LS	1	170,300.00	\$170,300
P BUILDING:				\$0
Total Cost for P Building	LS	1	281,250.00	\$281,250
R BUILDING:				\$0
Total Cost for R Building	LS	1	221,000.00	\$221,000
U BUILDING:				\$0
Total Cost for U Building	LS	1	26,500.00	\$26,500
FIELD HOUSE BUILDING:				\$0
Total Cost for FIELD HOUSE Building	LS	1	34,250.00	\$34,250
				\$0
	Sub-Total			\$3,846,750
	Area Adjustment 8%			\$307,740
	Contingency 10%			\$384,675
	Contractor Profit 10%			\$384,675
	TOTAL			\$4,923,840

LS = Lump Sum LF = Lineal Feet EA = Each SF = Square Feet (E) = Existing

TAMALPAIS H.S. HVAC REPLACEMENT - P2110600ME
PRELIMINARY POOL-A-B BLDG. MECHANICAL COST ESTIMATE

6/22/2021

Item	Units	Qty	Cost/Item	Total
POOL BLDG. DEMOLITION:				
Remove (E) Boiler, Pumps, Valves & Pipe	EA	2	4,000.00	\$8,000
POOL BLDG. NEW:				
1800 MBH Boiler, Pumps, Valves and Piping	EA	2	50,000.00	\$100,000
Roof Exhaust Fan with New Duct & Grille	EA	2	4,000.00	\$8,000
		Pool Bldg.-Total		\$116,000
BLDG. A DEMOLITION:				
Remove (E) Vertical Furnace	EA	4	1,000.00	\$4,000
BLDG. A NEW:				
Furnace/ CC to Existing Duct & 15 Ton CU	EA	4	45,000.00	\$180,000
Air Balance	LS	1	4,000.00	\$4,000
New WiFi T-Stats and Programming	EA	4	1,000.00	\$4,000
Add for Duct Cleaning	LS	1	6,000.00	\$6,000
Add for Enhanced Option	EA	4	1,000.00	\$4,000
		Bldg. A-Total		\$202,000
BLDG. B DEMOLITION:				
Remove (E) Rooftop Furnace	EA	3	1,000.00	\$3,000
Remove (E) Suspended Furnace	EA	1	1,000.00	\$1,000
Remove (E) Roof Exhaust Fan	EA	7	400.00	\$2,800
BLDG. B NEW:				
7.5 Ton Package Unit w/ New Duct & Grilles	EA	3	37,500.00	\$112,500
Furnace/ CC & 4 Ton CU to Exist. Duct	EA	1	12,000.00	\$12,000
Roof Exhaust Fan to Existing Duct	EA	7	2,000.00	\$14,000
Air Balance	LS	1	7,000.00	\$7,000
New WiFi T-Stats and Programming	EA	4	1,000.00	\$4,000
Add for Duct Cleaning	LS	1	9,000.00	\$9,000
Add for Enhanced Option	EA	4	1,000.00	\$4,000
		Bldg. B-Total		\$165,300

TAMALPAIS H.S. HVAC REPLACEMENT - P2110600ME
PRELIMINARY C-E BLDG. MECHANICAL COST ESTIMATE
6/22/2021

Item	Units	Qty	Cost/Item	Total
BLDG. C DEMOLITION:				
Remove (E) Rooftop Furnace	EA	1	1,000.00	\$1,000
Remove (E) Suspended Furnace	EA	1	1,000.00	\$1,000
Remove (E) Wall or Roof Exhaust Fan	EA	12	400.00	\$4,800
Remove Floor Mount UV	EA	8	1,000.00	\$8,000
Remove (E) Boiler, Pumps, Valves & Pipe	EA	1	4,000.00	\$4,000
BLDG. C NEW:				
12.5 Ton Package Unit w/ New Duct & Grilles	EA	1	62,500.00	\$62,500
Furnace/ CC & 3 Ton CU to Exist. Duct	EA	1	9,000.00	\$9,000
Roof or Wall Exhaust Fan to Exist. Duct	EA	12	2,000.00	\$24,000
Floor Mount UV & 4 Ton CU	EA	1	12,000.00	\$12,000
Floor Mount UV & 5 Ton CU	EA	7	15,000.00	\$105,000
1000 MBH Boiler, Pumps, Valves & Piping	EA	1	40,000.00	\$40,000
Air Balance	LS	1	12,000.00	\$12,000
New WiFi T-Stats and Programming	EA	10	1,000.00	\$10,000
Add for Duct Cleaning	LS	1	3,000.00	\$3,000
Add for Enhanced Option	EA	10	1,000.00	\$10,000
			Bldg. C-Total	\$306,300
BLDG. E DEMOLITION:				
Remove (E) Vertical Furnace	EA	10	1,000.00	\$10,000
Remove (E) Wall Mount IDU/ ODU	EA	1	1,000.00	\$1,000
Remove (E) Boiler, Pump, Valves & Pipe	EA	1	4,000.00	\$4,000
Remove (E) Wall Mount Electric Heaters	EA	2	400.00	\$800
Remove (E) Roof or In-Line Exhaust Fan	EA	4	400.00	\$1,600
Remove (E) Ceiling Exhaust Fan	EA	4	200.00	\$800
Remove (E) MZ AH, Valves & Piping	EA	1	2,000.00	\$2,000
BLDG. E NEW:				
Furnace/ CC & 3 Ton CU to Exist. Duct	EA	3	9,000.00	\$27,000
Furnace/ CC & 4 Ton CU to Exist. Duct	EA	7	12,000.00	\$84,000
Furnace/ CC & 5 Ton CU to Exist. Duct	EA	1	15,000.00	\$15,000
New Duct & Grilles to Offices	LS	1	2,000.00	\$2,000
350 MBH Boiler, Pumps, Valves & Piping	EA	1	25,000.00	\$25,000
Wall mount 3 Ton IDU/ ODU	EA	1	9,000.00	\$9,000
Wall or In-Line Exhaust Fan to Existing Duct	EA	4	2,000.00	\$8,000
Ceiling Exhaust Fan to Existing Duct	EA	4	1,000.00	\$4,000
MZ AH, Valves & Piping w/ 25 Ton CU	EA	1	75,000.00	\$75,000
Air Balance	LS	1	20,000.00	\$20,000
New WiFi T-Stats and Programming	EA	13	1,000.00	\$13,000
Add for Duct Cleaning	LS	1	25,000.00	\$25,000
Add for Enhanced Option	EA	13	1,000.00	\$13,000
			Bldg. E-Total	\$340,200

TAMALPAIS H.S. HVAC REPLACEMENT - P2110600ME
PRELIMINARY F-G BLDG. MECHANICAL COST ESTIMATE

6/22/2021

Item	Units	Qty	Cost/Item	Total
BLDG. F DEMOLITION:				
Remove (E) Vertical Furnace	EA	6	1,000.00	\$6,000
Remove Cooling Coil & Condensing Unit	EA	4	1,000.00	\$4,000
Remove (E) Wall Mount IDU/ ODU	EA	1	1,000.00	\$1,000
BLDG. F NEW:				
Furnace/ CC to Existing Duct & 3 Ton CU	EA	1	9,000.00	\$9,000
Furnace/ CC to Existing Duct & 4 Ton CU	EA	4	12,000.00	\$48,000
Furnace/ CC to Existing Duct & 5 Ton CU	EA	1	15,000.00	\$15,000
3 Ton Wall Mount IDU/ ODU	EA	1	9,000.00	\$9,000
Air Balance	LS	1	7,000.00	\$7,000
New WiFi T-Stats and Programming	EA	6	1,000.00	\$6,000
Add for Duct Cleaning	LS	1	8,000.00	\$8,000
Add for Enhanced Option	EA	6	1,000.00	\$6,000
			Bldg. F-Total	\$119,000
BLDG. G DEMOLITION:				
Remove (E) Vertical Furnace	EA	27	1,000.00	\$27,000
Remove Cooling Coil & Condensing Unit	EA	3	1,000.00	\$3,000
Remove (E) Wall Mount IDU/ ODU	EA	4	1,000.00	\$4,000
Remove (E) Roof or In-Line Exhaust Fan	EA	14	400.00	\$5,600
Remove (E) Ceiling Exhaust Fan	EA	7	200.00	\$1,400
BLDG. G NEW:				
Furnace/ CC to Existing Duct & 3 Ton CU	EA	1	9,000.00	\$9,000
Furnace/ CC to Existing Duct & 4 Ton CU	EA	1	12,000.00	\$12,000
Furnace/ CC to Existing Duct & 5 Ton CU	EA	22	15,000.00	\$330,000
3 Ton Wall Mount IDU/ ODU	EA	4	9,000.00	\$36,000
Roof or In-Line Exhaust Fan to Existing Duct	EA	14	2,000.00	\$28,000
Ceiling Exhaust Fan to Existing Duct	EA	7	1,000.00	\$7,000
Air Balance	LS	1	35,000.00	\$35,000
New WiFi T-Stats and Programming	EA	28	1,000.00	\$28,000
Add for Duct Cleaning	LS	1	40,000.00	\$40,000
Add for Enhanced Option	EA	28	1,000.00	\$28,000
			Bldg. G-Total	\$554,400

TAMALPAIS H.S. HVAC REPLACEMENT - P2110600ME
PRELIMINARY H-J-K BLDG. MECHANICAL COST ESTIMATE

6/22/2021

Item	Units	Qty	Cost/Item	Total
BLDG. H DEMOLITION:				\$0
Remove (E) Floor UV, Valves & Pipe	EA	8	1,000.00	\$8,000
Remove (E) Wall Convector	EA	7	400.00	\$2,800
Remove (E) Roof or In-Line Exhaust Fans	EA	13	400.00	\$5,200
Remove (E) Ceiling Exhaust Fans	EA	5	200.00	\$1,000
BLDG. H NEW:				
HW UV/ CC to Existing Duct & 4 Ton CU	EA	4	12,000.00	\$48,000
HW UV/ CC to Existing Duct & 5 Ton CU	EA	4	15,000.00	\$60,000
1 Ton VRF Fan Coils & Piping w/ BSB	EA	7	4,000.00	\$28,000
8 Ton VRF CU, Valves & Piping	EA	4	24,000.00	\$96,000
Roof or In-Line Exhaust Fan to Existing Duct	EA	13	2,000.00	\$26,000
Ceiling Exhaust Fan to Existing Duct	EA	5	1,000.00	\$5,000
Air Balance	LS	1	18,000.00	\$18,000
New WiFi T-Stats and Programming	EA	15	1,000.00	\$15,000
Add for Duct Cleaning	LS	1	10,000.00	\$10,000
Add for Enhanced Option	EA	15	1,000.00	\$15,000
			Bldg. H-Total	\$338,000
BLDG. J DEMOLITION:				
Remove (E) Suspended Unit Heaters	EA	2	1,000.00	\$2,000
BLDG. J NEW:				
Furnace/ CC to New Duct & 3 Ton CU	EA	2	12,000.00	\$24,000
Air Balance	LS	1	2,000.00	\$2,000
New WiFi T-Stats and Programming	EA	2	1,000.00	\$2,000
Add for Enhanced Option	EA	2	1,000.00	\$2,000
			Bldg. J-Total	\$32,000
BLDG. K DEMOLITION:				
Remove (E) Suspended Unit Heaters	EA	1	1,000.00	\$1,000
Remove (E) Vertical Furnace	EA	1	1,000.00	\$1,000
Remove (E) Suspended Air Cleaners	EA	2	1,000.00	\$2,000
Remove (E) Roof Exhaust Fan	EA	1	400.00	\$400
BLDG. K NEW:				
Furnace/ CC to New Duct & 3 Ton CU	EA	1	12,000.00	\$12,000
Furnace/ CC to Existing Duct & 8.5 Ton CU	EA	1	25,500.00	\$25,500
Suspended Air Cleaner	EA	2	4,000.00	\$8,000
Roof Exhaust Fan to Existing Duct	EA	4	2,000.00	\$8,000
Air Balance	LS	1	3,000.00	\$3,000
New WiFi T-Stats and Programming	EA	2	1,000.00	\$2,000
Add for Duct Cleaning	LS	1	2,000.00	\$2,000
Add for Enhanced Option	EA	2	1,000.00	\$2,000
			Bldg. H-Total	\$66,900

TAMALPAIS H.S. HVAC REPLACEMENT - P2110600ME
PRELIMINARY L-M BLDG. MECHANICAL COST ESTIMATE

6/22/2021

Item	Units	Qty	Cost/Item	Total
BLDG. L DEMOLITION:				
Remove (E) Suspended Unit Heater	EA	1	1,000.00	\$1,000
Remove (E) Vertical Furnace	EA	2	1,000.00	\$2,000
Remove (E) Wall Electric Heater	EA	1	400.00	\$400
Remove (E) Sawdust Collection System	EA	1	1,000.00	\$1,000
Remove (E) Roof or Wall Exhaust Fan	EA	2	400.00	\$800
BLDG. L NEW:				
Furnace/ CC to New Duct & 4 Ton CU	EA	1	16,000.00	\$16,000
Furnace/ CC to Existing Duct & 7.5 Ton CU	EA	2	22,500.00	\$45,000
1 Ton Fan Coils & Piping	EA	2	2,000.00	\$4,000
2 Ton CU, Valves & Piping	EA	1	6,000.00	\$6,000
5050 Sawdust Collection Sys to Exist. Duct	EA	1	20,000.00	\$20,000
Roof or Wall Exhaust Fan to Existing Duct	EA	2	2,000.00	\$4,000
Air Balance	LS	1	6,000.00	\$6,000
New WiFi T-Stats and Programming	EA	5	1,000.00	\$5,000
Add for Duct Cleaning	LS	1	3,000.00	\$3,000
Add for Enhanced Option	EA	5	1,000.00	\$5,000
			Bldg. L-Total	\$119,200
BLDG. M DEMOLITION:				
Remove (E) Suspended Furnace	EA	5	1,000.00	\$5,000
Remove (E) Vertical Furnace	EA	4	1,000.00	\$4,000
Remove (E) Wall IDU/ ODU	EA	1	1,000.00	\$1,000
Remove (E) Vehicle Exhaust Fan & Reels	EA	1	1,000.00	\$1,000
Remove (E) Roof or In-Line Exhaust Fan	EA	4	400.00	\$1,600
BLDG. M NEW:				
Furnace/ CC to New Duct & 3 Ton CU	EA	5	12,000.00	\$60,000
Furnace/ CC to Existing Duct & 3 Ton CU	EA	1	9,000.00	\$9,000
Furnace/ CC to Existing Duct & 5 Ton CU	EA	2	15,000.00	\$30,000
Furnace/ CC to Existing Duct & 7.5 Ton CU	EA	1	22,500.00	\$22,500
Furnace/ CC to Existing Duct & 8.5 Ton CU	EA	1	22,500.00	\$22,500
1.5 Ton Wall IDU/ ODU	EA	1	4,500.00	\$4,500
1600 CFM Vehicle Exhaust Fan & Reels	EA	1	6,000.00	\$6,000
Roof or In-Line Exhaust Fan to Existing Duct	EA	2	2,000.00	\$4,000
Air Balance	LS	1	10,000.00	\$10,000
New WiFi T-Stats and Programming	EA	11	1,000.00	\$11,000
Add for Duct Cleaning	LS	1	8,000.00	\$8,000
Add for Enhanced Option	EA	11	1,000.00	\$11,000
			Bldg. M-Total	\$211,100

TAMALPAIS H.S. HVAC REPLACEMENT - P2110600ME
PRELIMINARY N-P BLDG. MECHANICAL COST ESTIMATE

6/22/2021

Item	Units	Qty	Cost/Item	Total
BLDG. N DEMOLITION:				
Remove (E) Suspended Furnace	EA	5	1,000.00	\$5,000
Remove (E) Vertical Furnace	EA	4	1,000.00	\$4,000
Remove (E) Wall Exhaust Fan	EA	1	400.00	\$400
Remove (E) Ceiling Exhaust Fan	EA	2	200.00	\$400
BLDG. N NEW:				
Furnace/ CC to Existing Duct & 3 Ton CU	EA	9	9,000.00	\$81,000
Wall Exhaust Fan to Existing Duct	EA	1	2,000.00	\$2,000
Ceiling Exhaust Fan to Existing Duct	EA	2	1,000.00	\$2,000
Air Balance	LS	1	10,000.00	\$10,000
New WiFi T-Stats and Programming	EA	9	1,000.00	\$9,000
Add for Duct Cleaning	LS	1	12,000.00	\$12,000
Add for Enhanced Option	EA	9	1,000.00	\$9,000
			Bldg. N-Total	\$134,800
BLDG. P DEMOLITION:				
Remove (E) Floor Mount UV	EA	5	1,000.00	\$5,000
Remove (E) Boiler, Pumps, Valves & Pipe	EA	1	4,000.00	\$4,000
Remove (E) Make-Up Air Unit	EA	1	2,000.00	\$2,000
Remove (E) Air Handler, Valves & Pipe	EA	2	1,000.00	\$2,000
Remove (E) Roof Condensing Unit	EA	2	1,000.00	\$2,000
Remove (E) In-Line Exhaust Fan	EA	1	400.00	\$400
Remove (E) Ceiling Exhaust Fan	EA	4	400.00	\$1,600
Remove (E) Wall Bard Heat Pump	EA	2	1,000.00	\$2,000
BLDG. P NEW:				
Unit Ventilator/ CC & 5 Ton CU	EA	5	15,000.00	\$75,000
1000 MBH Boiler, Pumps, Valves & Piping	EA	1	40,000.00	\$40,000
2900 CFM Floor Mount Make-Up Air Unit	EA	1	12,000.00	\$12,000
AH/ CC to Existing Duct & 5 Ton CU	EA	2	15,000.00	\$30,000
In-Line Exhaust Fan to Existing Duct	EA	1	2,000.00	\$2,000
Ceiling Exhaust Fan to Existing Duct	EA	2	1,000.00	\$2,000
3.5 Ton Wall Bard Heat Pump Unit	EA	2	9,000.00	\$18,000
Air Balance	LS	1	10,000.00	\$10,000
New WiFi T-Stats and Programming	EA	11	1,000.00	\$11,000
Add for Duct Cleaning	LS	1	8,000.00	\$8,000
Add for Enhanced Option	EA	11	1,000.00	\$11,000
			Bldg. P-Total	\$238,000

TAMALPAIS H.S. HVAC REPLACEMENT - P2110600ME
PRELIMINARY R-U BLDG.-FIELD HOUSE MECHANICAL COST ESTIMATE

6/22/2021

Item	Units	Qty	Cost/Item	Total
BLDG. R DEMOLITION:				
Remove (E) Floor Mount UV	EA	1	1,000.00	\$1,000
Remove (E) Make-Up Air Unit	EA	1	2,000.00	\$2,000
Remove (E) Roof Condensing Unit	EA	1	1,000.00	\$1,000
Remove (E) Attic VAV w/ Re-Heat Coil	EA	5	300.00	\$1,500
Remove (E) Wall IDU/ ODU	EA	1	1,000.00	\$1,000
Remove (E) Roof Exhaust Fan	EA	2	400.00	\$800
Remove (E) Ceiling Exhaust Fan	EA	4	200.00	\$800
BLDG. R NEW:				
Unit Ventilator/ CC & 5 Ton CU	EA	5	15,000.00	\$75,000
5580 CFM Floor Mount Make-Up Air Unit	EA	1	20,000.00	\$20,000
20 Ton Roof Condensing Unit	EA	1	40,000.00	\$40,000
VAV Box w/ Re-Heat to Existing Duct	EA	5	2,000.00	\$10,000
1.5 Ton Wall IDU/ ODU	EA	1	4,500.00	\$4,500
Roof Exhaust Fan to Existing Duct	EA	2	2,000.00	\$4,000
Ceiling Exhaust Fan to Existing Duct	EA	4	1,000.00	\$4,000
Air Balance	LS	1	6,000.00	\$6,000
New WiFi T-Stats and Programming	EA	11	1,000.00	\$11,000
Add for Duct Cleaning	LS	1	5,000.00	\$5,000
Add for Enhanced Option	EA	6	1,000.00	\$6,000
			Bldg. R-Total	\$185,500
BLDG. U DEMOLITION:				
Remove (E) Wall Bard Heat Pump	EA	2	1,000.00	\$2,000
BLDG. U NEW:				
3.5 Ton Wall Bard Heat Pump Unit	EA	2	9,000.00	\$18,000
			Bldg. U-Total	\$20,000
FIELD HOUSE DEMOLITION:				
Remove (E) Suspended Furnace	EA	1	1,000.00	\$1,000
Remove (E) Roof Exhaust Fan	EA	2	400.00	
FIELD HOUSE NEW:				
Furnace/ CC to Existing Duct & 7.5 Ton CU	EA	1	22,500.00	\$22,500
Roof Exhaust Fan to Existing Duct	EA	2	2,000.00	\$4,000
			Field House-Total	\$27,500

TAMALPAIS H.S. HVAC REPLACEMENT - P2110600ME
PRELIM. SITE-POOL-A-B BLDG. ELECTRICAL & PLUMBING COST ESTIMATE
6/22/2021

Item	Units	Qty	Cost/Item	Total
SITE:				
New Main Service	LS	1	400,000.00	\$400,000
			Site-Total	\$400,000
POOL ELECTRICAL DEMOLITION:				
Electrical Disconnect	LS	1	1,000.00	\$1,000
POOL ELECTRICAL NEW:				
New Wire & Breaker for Mech. Equip.	LS	1	5,000.00	\$5,000
New Wire for Exhaust Fan	EA	2	750.00	\$1,500
			Pool-Total	\$7,500
POOL PLUMBING DEMOLITION:				
Gas or Condensate Disconnect	LS	1	2,000.00	\$2,000
POOL PLUMBING NEW:				
Reconnect Gas or Condensate	LS	1	3,500.00	\$3,500
			Pool-Total	\$5,500
BLDG. A ELECTRICAL DEMOLITION:				
Electrical Disconnect	LS	1	2,000.00	\$2,000
BLDG. A ELECTRICAL NEW:				
New Wire & Breaker for Mech. Equip.	EA	4	1,750.00	\$7,000
New Wire for Exhaust Fan	EA	0	750.00	\$0
			Bldg. A-Total	\$9,000
BLDG. A PLUMBING DEMOLITION:				
Gas or Condensate Disconnect	LS	1	3,000.00	\$3,000
BLDG. A PLUMBING NEW:				
Reconnect Gas or Condensate	EA	4	750.00	\$3,000
			Bldg. A-Total	\$6,000
BLDG. B ELECTRICAL DEMOLITION:				
Electrical Disconnect	LS	1	6,000.00	\$6,000
BLDG. B ELECTRICAL NEW:				
New Wire & Breaker for Mech. Equip.	EA	4	1,750.00	\$7,000
New Wire for Exhaust Fan	EA	7	750.00	\$5,250
			Bldg. B-Total	\$18,250
BLDG. B PLUMBING DEMOLITION:				
Gas or Condensate Disconnect	LS	1	4,500.00	\$4,500
BLDG. B PLUMBING NEW:				
Reconnect Gas or Condensate	EA	11	750.00	\$8,250
			Bldg. B-Total	\$12,750

TAMALPAIS H.S. HVAC REPLACEMENT - P2110600ME
PRELIMINARY C-E-F BLDG. ELECTRICAL & PLUMBING COST ESTIMATE
6/22/2021

Item	Units	Qty	Cost/Item	Total
BLDG. C ELECTRICAL DEMOLITION:				
Electrical Disconnect	LS	1	10,000.00	\$10,000
BLDG. C ELECTRICAL NEW:				
New Wire & Breaker for Mech. Equip.	EA	23	1,750.00	\$40,250
New Wire for Exhaust Fan	EA	0	750.00	\$0
			Bldg. C-Total	\$50,250
BLDG. C PLUMBING DEMOLITION:				
Gas or Condensate Disconnect	LS	1	9,000.00	\$9,000
BLDG. C PLUMBING NEW:				
Reconnect Gas or Condensate	EA	23	750.00	\$17,250
			Bldg. C-Total	\$26,250
BLDG. E ELECTRICAL DEMOLITION:				
Electrical Disconnect	LS	1	20,000.00	\$20,000
BLDG. E ELECTRICAL NEW:				
New Wire & Breaker for Mech. Equip.	EA	18	1,750.00	\$31,500
New Wire for Exhaust Fan	EA	4	750.00	\$3,000
			Bldg. E-Total	\$54,500
BLDG. E PLUMBING DEMOLITION:				
Gas or Condensate Disconnect	LS	1	8,000.00	\$8,000
BLDG. E PLUMBING NEW:				
Reconnect Gas or Condensate	EA	18	750.00	\$13,500
			Bldg. E-Total	\$21,500
BLDG. F ELECTRICAL DEMOLITION:				
Electrical Disconnect	LS	1	5,000.00	\$5,000
BLDG. F ELECTRICAL NEW:				
New Wire & Breaker for Mech. Equip.	EA	8	1,750.00	\$14,000
New Wire for Exhaust Fan	EA	0	750.00	\$0
			Bldg. F-Total	\$19,000
BLDG. F PLUMBING DEMOLITION:				
Gas or Condensate Disconnect	LS	1	3,500.00	\$3,500
BLDG. F PLUMBING NEW:				
Reconnect Gas or Condensate	EA	8	750.00	\$6,000
			Bldg. F-Total	\$9,500

TAMALPAIS H.S. HVAC REPLACEMENT - P2110600ME
PRELIMINARY G-H-J BLDG. ELECTRICAL & PLUMBING COST ESTIMATE
6/22/2021

Item	Units	Qty	Cost/Item	Total
BLDG. G ELECTRICAL DEMOLITION:				
Electrical Disconnect	LS	1	12,000.00	\$12,000
BLDG. G ELECTRICAL NEW:				
New Wire & Breaker for Mech. Equip.	EA	28	1,750.00	\$49,000
New Wire for Exhaust Fan	EA	14	750.00	\$10,500
		Bldg. G-Total		\$71,500
BLDG. G PLUMBING DEMOLITION:				
Gas or Condensate Disconnect	LS	1	26,000.00	\$26,000
BLDG. G PLUMBING NEW:				
Reconnect Gas or Condensate	EA	28	750.00	\$21,000
		Bldg. G-Total		\$47,000
BLDG. H ELECTRICAL DEMOLITION:				
Electrical Disconnect	LS	1	15,000.00	\$15,000
BLDG. H ELECTRICAL NEW:				
New Wire & Breaker for Mech. Equip.	EA	23	1,750.00	\$40,250
New Wire for Exhaust Fan	EA	13	750.00	\$9,750
		Bldg. H-Total		\$65,000
BLDG. H PLUMBING DEMOLITION:				
Gas or Condensate Disconnect	LS	1	8,000.00	\$8,000
BLDG. H PLUMBING NEW:				
Reconnect Gas or Condensate	EA	23	750.00	\$17,250
		Bldg. H-Total		\$25,250
BLDG. J ELECTRICAL DEMOLITION:				
Electrical Disconnect	LS	1	750.00	\$750
BLDG. J ELECTRICAL NEW:				
New Wire & Breaker for Mech. Equip.	EA	2	1,750.00	\$3,500
New Wire for Exhaust Fan	EA	0	750.00	\$0
		Bldg. J-Total		\$4,250
BLDG. J PLUMBING DEMOLITION:				
Gas or Condensate Disconnect	LS	1	500.00	\$500
BLDG. J PLUMBING NEW:				
Reconnect Gas or Condensate	EA	2	750.00	\$1,500
		Bldg. J-Total		\$2,000

TAMALPAIS H.S. HVAC REPLACEMENT - P2110600ME
PRELIMINARY K-L-M BLDG. ELECTRICAL & PLUMBING COST ESTIMATE
6/22/2021

Item	Units	Qty	Cost/Item	Total
BLDG. K ELECTRICAL DEMOLITION:				
Electrical Disconnect	LS	1	300.00	\$300
BLDG. K ELECTRICAL NEW:				
New Wire & Breaker for Mech. Equip.	EA	4	1,750.00	\$7,000
New Wire for Exhaust Fan	EA	4	750.00	\$3,000
			Bldg. K-Total	\$10,300
BLDG. K PLUMBING DEMOLITION:				
Gas or Condensate Disconnect	LS	1	2,000.00	\$2,000
BLDG. K PLUMBING NEW:				
Reconnect Gas or Condensate	EA	4	750.00	\$3,000
			Bldg. K-Total	\$5,000
BLDG. L ELECTRICAL DEMOLITION:				
Electrical Disconnect	LS	1	4,000.00	\$4,000
BLDG. L ELECTRICAL NEW:				
New Wire & Breaker for Mech. Equip.	EA	7	1,750.00	\$12,250
New Wire for Exhaust Fan	EA	2	750.00	\$1,500
			Bldg. L-Total	\$17,750
BLDG. L PLUMBING DEMOLITION:				
Gas or Condensate Disconnect	LS	1	3,000.00	\$3,000
BLDG. L PLUMBING NEW:				
Reconnect Gas or Condensate	EA	7	750.00	\$5,250
			Bldg. L-Total	\$8,250
BLDG. M ELECTRICAL DEMOLITION:				
Electrical Disconnect	LS	1	12,500.00	\$12,500
BLDG. M ELECTRICAL NEW:				
New Wire & Breaker for Mech. Equip.	EA	11	1,750.00	\$19,250
New Wire for Exhaust Fan	EA	3	750.00	\$2,250
			Bldg. M-Total	\$34,000
BLDG. M PLUMBING DEMOLITION:				
Gas or Condensate Disconnect	LS	1	4,500.00	\$4,500
BLDG. M PLUMBING NEW:				
Reconnect Gas or Condensate	EA	11	750.00	\$8,250
			Bldg. M-Total	\$12,750

TAMALPAIS H.S. HVAC REPLACEMENT - P2110600ME
PRELIMINARY N-P-R BLDG. ELECTRICAL & PLUMBING COST ESTIMATE
6/22/2021

Item	Units	Qty	Cost/Item	Total
BLDG. N ELECTRICAL DEMOLITION:				
Electrical Disconnect	LS	1	5,000.00	\$5,000
BLDG. N ELECTRICAL NEW:				
New Wire & Breaker for Mech. Equip.	EA	10	1,750.00	\$17,500
New Wire for Exhaust Fan	EA	2	750.00	\$1,500
			Bldg. N-Total	\$24,000
BLDG. N PLUMBING DEMOLITION:				
Gas or Condensate Disconnect	LS	1	4,000.00	\$4,000
BLDG. N PLUMBING NEW:				
Reconnect Gas or Condensate	EA	10	750.00	\$7,500
			Bldg. N-Total	\$11,500
BLDG. P ELECTRICAL DEMOLITION:				
Electrical Disconnect	LS	1	8,000.00	\$8,000
BLDG. P ELECTRICAL NEW:				
New Wire & Breaker for Mech. Equip.	EA	10	1,750.00	\$17,500
New Wire for Exhaust Fan	EA	7	750.00	\$5,250
			Bldg. P-Total	\$30,750
BLDG. P PLUMBING DEMOLITION:				
Gas or Condensate Disconnect	LS	1	5,000.00	\$5,000
BLDG. P PLUMBING NEW:				
Reconnect Gas or Condensate	EA	10	750.00	\$7,500
			Bldg. P-Total	\$12,500
BLDG. R ELECTRICAL DEMOLITION:				
Electrical Disconnect	LS	1	8,000.00	\$8,000
BLDG. R ELECTRICAL NEW:				
New Wire & Breaker for Mech. Equip.	EA	9	1,750.00	\$15,750
New Wire for Exhaust Fan	EA	6	750.00	\$4,500
			Bldg. R-Total	\$28,250
BLDG. R PLUMBING DEMOLITION:				
Gas or Condensate Disconnect	LS	1	4,500.00	\$4,500
BLDG. R PLUMBING NEW:				
Reconnect Gas or Condensate	EA	9	750.00	\$6,750
			Bldg. R-Total	\$11,250

TAMALPAIS H.S. HVAC REPLACEMENT - P2110600ME
PRELIM. U BLDG.- FIELD HOUSE ELECTRICAL & PLUMBING COST ESTIMATE
6/22/2021

Item	Units	Qty	Cost/Item	Total
BLDG. U ELECTRICAL DEMOLITION:				
Electrical Disconnect	LS	1	1,000.00	\$1,000
BLDG. U ELECTRICAL NEW:				
New Wire & Breaker for Mech. Equip.	EA	2	1,750.00	\$3,500
New Wire for Exhaust Fan	EA	0	750.00	\$0
			Bldg. U-Total	\$4,500
BLDG. U PLUMBING DEMOLITION:				
Gas or Condensate Disconnect	LS	1	500.00	\$500
BLDG. U PLUMBING NEW:				
Reconnect Gas or Condensate	EA	2	750.00	\$1,500
New Condensate to Mech. Unit	EA	0	1,000.00	\$0
			Bldg. U-Total	\$2,000
FIELD HOUSE ELECTRICAL DEMO:				
Electrical Disconnect	LS	1	1,000.00	\$1,000
FIELD HOUSE ELECTRICAL NEW:				
New Wire & Breaker for Mech. Equip.	EA	1	1,750.00	\$1,750
New Wire for Exhaust Fan	EA	2	750.00	\$1,500
			Field House-Total	\$4,250
FIELD HOUSE PLUMBING DEMO:				
Gas or Condensate Disconnect	LS	1	1,000.00	\$1,000
FIELD HOUSE PLUMBING NEW:				
Reconnect Gas or Condensate	EA	2	750.00	\$1,500
New Condensate to Mech. Unit	EA	0	1,000.00	\$0
			Field House-Total	\$2,500

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SAN ANDREAS HIGH SCHOOL

PRINCIPAL: David Luongo



Aerial Site Plan

**599 William Avenue
Larkspur, CA 94939**

YEAR ESTABLISHED: 1907

**GRADES: 9th - 12th
STUDENTS: 69**



SAN ANDREAS HIGH SCHOOL FACILITY SITE PLAN



Project: San Andreas High School

Existing Mechanical Systems:

(14) 3.5 Ton wall mount Bard Heat Pump cooling and heating units. (1) Residential Range Hood at Multi-Use Bldg. 7. (10) ceiling mount Exhaust Fans. Plans for these units are dated August 2005 (Original), September 2006 (Bldg. 12) and April 2014 (Bldg. 3 replacement). Outside air is not specified on most drawings. Buildings 1, 2, 8 and 9 specify 280 CFM outside air.

Recommended Mechanical Systems:

Direct Replacement Option:

Replace (14) 3.5 Ton wall mount Bard Heat Pump cooling and heating units with connection to existing ductwork. We will specify high efficiency units and outside air intakes to meet current California Title 24 Energy Standards. Replace Range Hood and (10) ceiling Exhaust Fans with connection to existing ductwork.

Enhanced Outside Air Replacement Option:

Replace units with (14) 4.0 Ton wall mount Bard Heat Pump cooling and heating units with connection to existing ductwork. Turn fan speed down to 1400 CFM to match existing CFM. We will specify high efficiency units and outside air intakes to meet current California Title 24 Energy Standards. Replace Range Hood and (10) ceiling Exhaust Fans with connection to existing ductwork.

Outside Air to be set at current ASHRAE/T-24 recommended enhanced ventilation rates.

Optional Work would include duct cleaning at all existing duct that remains.

SAN ANDREAS H.S. HVAC REPLACEMENT - P2110600ME
PRELIMINARY COST ESTIMATE FOR MECHANICAL, ELECTRICAL AND PLUMBING
6/22/2021

Item	Units	Qty	Cost/Item	Total
DEMOLITION:				
Remove (E) Wall Mount Heat Pump	EA	14	1,000.00	\$14,000
Remove (E) Range Hood	EA	1	200.00	\$200
Remove (E) Ceiling Exhaust Fan	EA	10	200.00	\$2,000
Electrical Disconnect	LS	1	9,000.00	\$9,000
NEW:				
Wall Mount Heat Pump to Existing Duct	EA	14	9,000.00	\$126,000
Range Hood to Existing Duct	EA	1	1,000.00	\$1,000
Ceiling Exhaust Fan to Existing Duct	EA	10	1,000.00	\$10,000
Air Balance	LS	1	14,000.00	\$14,000
New WiFi T-Stats and Programming	EA	14	1,000.00	\$14,000
New Wire & Breaker HP Unit	EA	14	1,750.00	\$24,500
New Wire Exhaust Fan/ Hood	EA	11	750.00	\$8,250
Duct Cleaning Option	LS	1	21,000.00	\$21,000
Add for Enhanced Option	EA	14	700.00	\$9,800
Disconnect/ Reconnect Condensate	LS	1	7,000.00	\$7,000
				\$0
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Sub-Total				\$260,750
Area Adjustment 8%				\$20,860
Contingency 10%				\$26,075
Contractor Profit 10%				\$26,075
TOTAL				\$333,760

LS = Lump Sum LF = Lineal Feet EA = Each SF = Square Feet (E) = Existing

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TAMISCAL HIGH SCHOOL

PRINCIPAL: Kim Stiffler



Aerial Site Plan

**305 Doherty Drive
Larkspur, CA 94939**

YEAR ESTABLISHED: 1908

**GRADES: 9th - 12th
STUDENTS: 124**



**TAMISCAL HIGH SCHOOL
FACILITY SITE PLAN**



Project: Tamiscal High School

Existing Mechanical Systems:

(7) 3.5 Ton wall mount Bard Heat Pump cooling and heating units. (5) ceiling mount Exhaust Fans. Plans for these units are dated April 2002. Outside air is not specified on drawings.

Recommended Mechanical Systems:

Direct Replacement Option:

Replace (7) 3.5 Ton wall mount Bard Heat Pump cooling and heating units with connection to existing ductwork. We will specify high efficiency units and outside air intakes to meet current California Title 24 Energy Standards. Replace (5) ceiling Exhaust Fans with connection to existing ductwork.

Enhanced Outside Air Replacement Option:

Replace units with (7) 4.0 Ton wall mount Bard Heat Pump cooling and heating units with connection to existing ductwork. Turn fan speed down to 1400 CFM to match existing CFM. We will specify high efficiency units and increase outside air intakes 130% above current ASHRAE/T-24 Energy Standards.

Outside Air to be set at current ASHRAE/T-24 recommended enhanced ventilation rates.

Optional Work would include duct cleaning at all existing duct that remains.

TAMISCAL H.S. HVAC REPLACEMENT - P2110600ME
PRELIMINARY COST ESTIMATE FOR MECHANICAL, ELECTRICAL AND PLUMBING
6/22/2021

[illegible]

LS = Lump Sum LF = Lineal Feet EA = Each SF = Square Feet (E) = Existing

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TAMALPAIS ADULT SCHOOL

DIRECTOR: Jaemi Naish



Aerial Site Plan

**375 Doherty Drive
Larkspur, CA 94939**

YEAR ESTABLISHED: 1939

**GRADES: 9th - 12th
STUDENTS: 250**

TAMALPAIS ADULT SCHOOL FACILITY SITE PLAN



RELOCATABLE

Project: Tamalpais Adult School

Existing Mechanical Systems:

Carlisle Building: (1) 2 Ton rooftop gas/ electric Heating and Cooling Unit. (2) 3 Ton rooftop gas/ electric Heating and Cooling Unit. (1) 5 Ton rooftop gas/ electric Heating and Cooling Unit. (1) 4 Ton Heating and Ventilating Air handler. (1) rooftop Exhaust Fans. (2) ceiling Exhaust Fans. Plans for addition are dated February 2009, no plans for original.

Recommended Mechanical Systems:

Carlisle Building: Replace (1) 2 Ton rooftop gas/ electric Heating and Cooling Unit. Replace (2) 3 Ton rooftop gas/ electric Heating and Cooling Unit after 2024. Replace (1) 5 Ton rooftop gas/ electric Heating and Cooling Unit. Remove (1) 4 Ton Heating and Ventilating Air handler and replace with (2) 2 Ton Furnaces in Mechanical room with DX cooling coils and Condensing Units on roof (one unit to serve north offices & one to serve south Conference room). Replace (1) rooftop Exhaust Fans after 2024. Replace (2) ceiling Exhaust Fans.

Enhanced Outside Air Replacement Option:

Increase size of units by minimum 0.5 tons and turn fan speed down to CFM to match existing CFM. We will specify high efficiency units and outside air intakes to meet current ASHRAE/Title 24 recommended enhanced ventilation rates.

Optional Work would include duct cleaning at all existing duct that remains.

TAMALPAIS ADULT SCHOOL HVAC REPLACEMENT - P2110600ME
PRELIMINARY COST ESTIMATE FOR MECHANICAL, ELECTRICAL AND PLUMBING
6/22/2021

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LS = Lump Sum LF = Lineal Feet EA = Each SF = Square Feet (E) = Existing

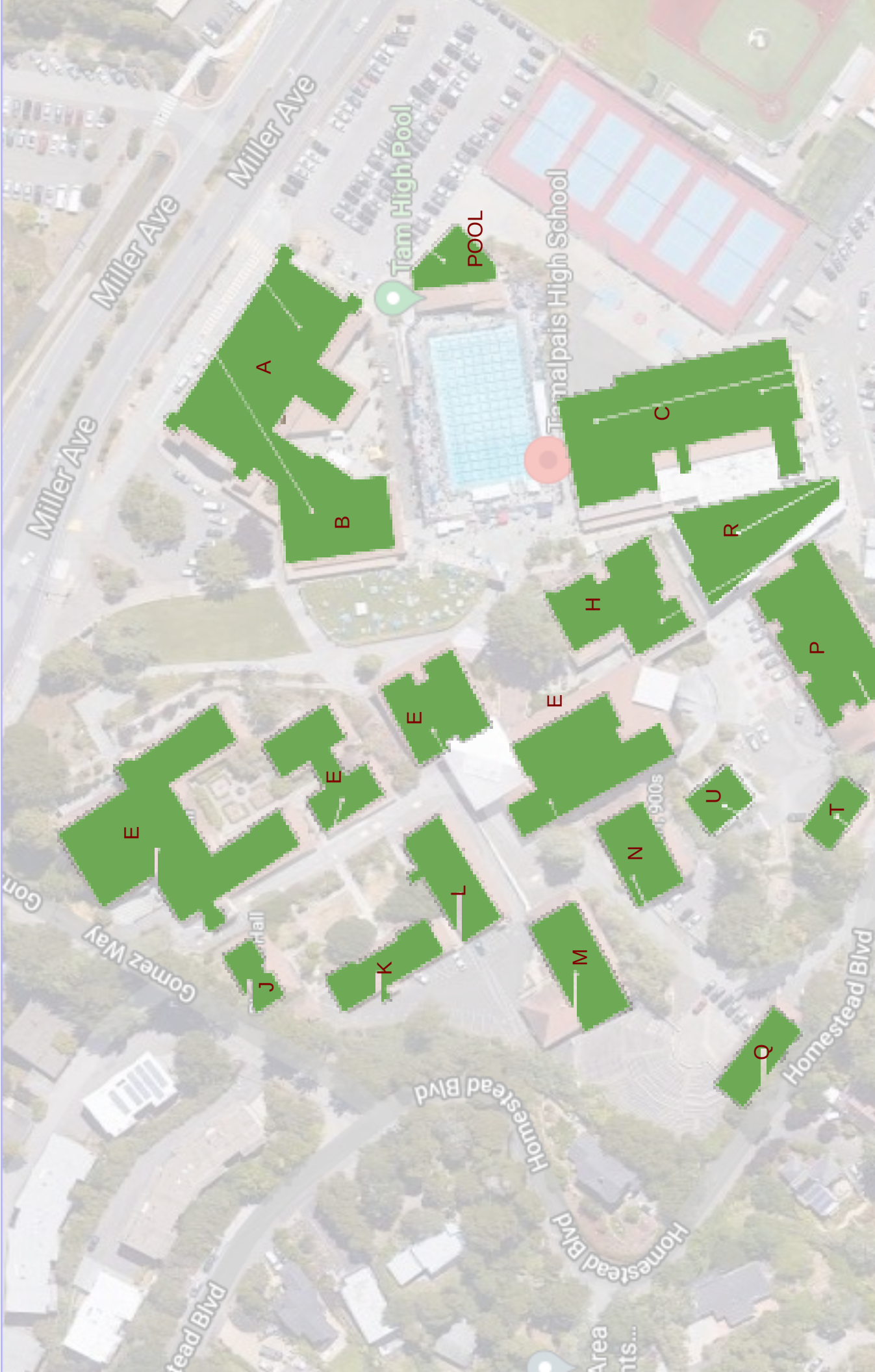
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District Office



Aerial Site Plan

**395 Doherty Drive
Larkspur, CA 94939**



Project: District Office

Existing Mechanical Systems:

Building D Cafeteria/ Classrooms/ Offices: (1) 2.5 Ton rooftop gas/ electric Heating and Cooling Unit. (2) 4 Ton rooftop gas/ electric Heating and Cooling Unit. (4) 5 Ton rooftop gas/ electric Heating and Cooling Unit. (1) 0.75 Ton wall mount IDU with rooftop ODU. (1) 1 Ton wall mount IDU with rooftop ODU. (2) 200 MBH suspended Unit Heaters. (1) 1800 CFM rooftop Evaporative Cooler Make-Up Air Unit with 300 MBH input gas heating. (15) rooftop Exhaust Fans. Plans for these units are dated March 2003.

Recommended Mechanical Systems:

Building D Cafeteria/ Classrooms/ Offices: Replace (1) 2.5 Ton rooftop gas/ electric Heating and Cooling Unit. Replace (2) 4 Ton rooftop gas/ electric Heating and Cooling Unit. Replace (4) 5 Ton rooftop gas/ electric Heating and Cooling Unit. Replace (1) 0.75 Ton wall mount IDU with rooftop ODU. Replace (1) 1 Ton wall mount IDU with rooftop ODU. Remove (2) 200 MBH suspended Unit Heaters and replace with (2) 12.5 Ton rooftop gas/ electric Heating and Cooling Units. Replace (1) 1800 CFM rooftop Evaporative Cooler Make-Up Air Unit with 300 MBH input gas heating. Replace (15) rooftop Exhaust Fans.

Enhanced Outside Air Replacement Option:

Increase size of units by minimum 0.5 tons and turn fan speed down to CFM to match existing CFM. We will specify high efficiency units and outside air intakes to meet current ASHRAE/Title 24 recommended enhanced ventilation rates.

Optional Work would include duct cleaning at all existing duct that remains.

DISTRICT OFFICE (REDWOOD H.S. BLDG. D) HVAC REPLACEMENT - P2110600ME
PRELIMINARY COST ESTIMATE FOR MECHANICAL, ELECTRICAL AND PLUMBING
6/22/2021

[illegible]

LS = Lump Sum LF = Lineal Feet EA = Each SF = Square Feet (E) = Existing

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CORPORATION YARD



Aerial Site Plan

**333 Doherty Drive
Larkspur, CA 94939**



Project: Corporation Yard

Existing Mechanical Systems:

M & O Office/ Storage Building: (1) 3 Ton rooftop packaged Heat Pump Unit. (1) 1500 watt Electric Wall Heater. (3) 4000 watt Electric Wall Heaters. (1) rooftop Exhaust Fans. (1) ceiling Exhaust Fans. Plans for modernization are dated June 2003.

Print Shop/ Storage Building B: (1) 5 Ton Fan Coil Heat Pump with ground mount Condensing Unit. (1) rooftop Exhaust Fans. (1) ceiling Exhaust Fan. Plans for modernization are dated November 2013.

Warehouse Building C: (1) 5 Ton ground mount package Heat Pump Unit. (5) 200 MBH suspended gas Unit Heaters. Plans for modernization are dated January 2009.

Recommended Mechanical Systems:

M & O Office/ Storage Building: Replace (1) 3 Ton rooftop packaged Heat Pump Unit. Remove (1) 1500 watt and (3) 4000 watt Electric Wall Heaters and replace with suspended VRF Fan Coils with 5 Ton Condensing unit on roof. Replace (1) rooftop Exhaust Fans. Replace (1) ceiling Exhaust Fans.

Print Shop/ Storage Building B: Replace (1) 5 Ton Fan Coil Heat Pump with ground mount Condensing Unit. Replace (1) rooftop Exhaust Fans. Replace (1) ceiling Exhaust Fan.

Warehouse Building C: Replace (1) 5 Ton ground mount package Heat Pump Unit. Replace (5) 200 MBH suspended gas Unit Heaters.

Enhanced Outside Air Replacement Option:

Increase size of units by minimum 0.5 tons and turn fan speed down to CFM to match existing CFM. We will specify high efficiency units and outside air intakes to meet current ASHRAE/Title 24 recommended enhanced ventilation rates.

Optional Work would include duct cleaning at all existing duct that remains.

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Exhibit A – Plan list of record drawings obtained and associated DSA numbers.

DSA FILE NUMBERS

DSA Drawings		LEA Name: TAMALPAIS UNION HIGH SCHOOL DISTRICT			
DSA Appld	PTN (as reported to DSA)	Project Name	Project Description	Year	Review Notes
01 100253		Various Sites	Alterations to Sir Francis Drake High School & Redwood High School	?	This Project drawing set is missing
01 108586	65482-25	Various Locations	announcer booths	2007	no mech sheets
01 104550	65482-4	Tamiscal High School	Two new portable classroom, one portable toilet	2002	MECH sheets are included, show BARD units
01 116858	65482-63	Tamiscal High School	Relocation of 2-Classroom Buildings (Relocatable) (P1, P2)	2017	MECH sheet is included, show BARD units
01 105467	65482-6-2	Tamalpais Union High School District Corporation Yard	Corporation Yard Office remodel - 2003	2003	M sheets included
01 111906	65482-43	Tamalpais High School-Tamalpais Union Hsd	Alterations to 1-HVAC upgrade - 2013	2011	Caldwell Theater Bldg - HVAC upgrade scope
01 108927	65842-34	Tamalpais High School Swimming Complex (t.u.h.s.d.)	New Pool and Weightroom Building	2007	WLC project
01 106807	65482-003	Tamalpais High School Modernization Phase V	Alteration to Keyser Hall Building 'G' Additions to Keyser Hall Building 'G' - Elevator Tower		This Project drawing set is missing
01 106023	65482-03	Tamalpais High School Modernization Phase 1v	Construction of Multi-Use Theater Building 'R' Alteration to Gym Bldg 'C', Relo Bldg. 'D', Classroom Bldg. 'G' & 'Q' Student Center 'P', Amphitheater 'W', Covered Walkway 'X' *(Bldg G scope deleted later)*	2004	M sheets included
01 108457	65482-22	Tamalpais High School - Keyser Hall	Construction of 2 C.R. Bldg/s - Keyser Hall, Tieback concrete retaining walls, and Segmental concrete block retaining walls.	2007	M sheets included
01 100595		Tamalpais High School	New Ramps & Alterations To Student Restrooms. - 2011	1998	no M work
01 100624		Tamalpais High School	new portable science classroom	1998	Set is missing MECH Sheets
01 101548		Tamalpais High School	New Ramps & Alterations To Restrooms at Student Center. - 2011	1999	P scope only. M sheet only shows Plumbing
01 104512	N/A	Tamalpais High School	Construction of 1-Increment 1, 1-Buildings E, F, J, K, L, M and N, 1-Increment 2	2003	Drawings say Increment #3, not #1 or #2
01 108140	65482-19	Tamalpais High School	Alteration to (1) C.R. Bldg - Phoenix Hall - 2008	2006	No MECH scope, no M sheets
01 116848	65482-64	Tamalpais High School	Relocation of 2 Portables - 2018	2007	portables, one M sheet included
01 112449	65482-49	Sir Francis Drake Hs-Tamalpais Uhsd	HVAC upgrade - 2012		Building 600
01 111780	65482-44	Sir Francis Drake High School-Tamalpais Union	Alterations to 1-Classroom Building - 2011		Building 100B
01 104016		Sir Francis Drake High School	Construction of RELOCATION OF: (2) PORTABLE CLASSROOM BUILDINGS.		This Project drawing set is missing
01 108774	65482-27	Sir Francis Drake High School	mult. INCR. Includes new 2-story CR bldg - 2014		incr 2: parking lot, no mech scope incr 3: swimming pool, Mech included incr 4 "unit 1700" two story portable building, Mech work is design build (no mech shown)
01 108774	65482-57	San Andreas High School-Tamalpais Usd	Construction of 1-Classroom Building (Relocatable) 32'x60'	2014	Bldg #3, M sheets included
01 106165	65482-5	San Andreas High School	Construction of Site work (Incr. #1), 4 - Modular Classroom Buildings (Incr. #2) Alteration to 7 - Modular Buildings (Incr. #1)	2005	multiple buildings, M sheets included
01 108792	65482-28	San Andreas High School	Construction of New Modular Classroom Building (INCR #2) and Associated Sitework (INCR #1) - 2009	2008	M sheets included
01 111762	65482-46	Redwood High School-Tamalpais Usd	Alterations to 1-Classroom Building		"2020 classroom. M included
01 111939	65482-45	Redwood High School-Tamalpais Uhsd	Alterations to 1-Classroom Building Music; Construction of 1-Classroom Building H for Arts - 2012	2012	M sheets included
01 112448	65482-48	Redwood High School-Tamalpais Uhsd	Alterations to 1-HVAC upgrade - 2013	2012	M sheets included
01 113295	65482-53	Redwood High School-Tamalpais Uhsd	Alterations to 2-Classroom Buildings - 2013		no M scope, no M sheets
01 102424		Redwood High School	Restroom alterations 2007		This Project drawing set is missing
01 104562	65482-3	Redwood High School	4-new modular buildings	2003	Incr 2. Bldgs A, C, D, E G boiler room
01 104563	65482-6-1	Redwood High School	Corporation Yard warehouse print shop addition	2002	M sheets included
01 108664	65482-26	Redwood High School	Reconstruction of Redwood HS 2007		pkg lot fire road upgrade, no M scope
01 108758	65482-29	Redwood High School	New Gym 2011		pool, gym, M included
01 116847	65482-62	Redwood High School	relocation of 3 portables 2018	1996	M sheets included
01 117371	65482-65	Redwood High School	relocation	2018	M sheets included
01 110179	65482-38	Carlisle Building -Adult Education - Tamalpais Union High S.d.	Additions to 1-adult ed building 2011	2009	M sheets included

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