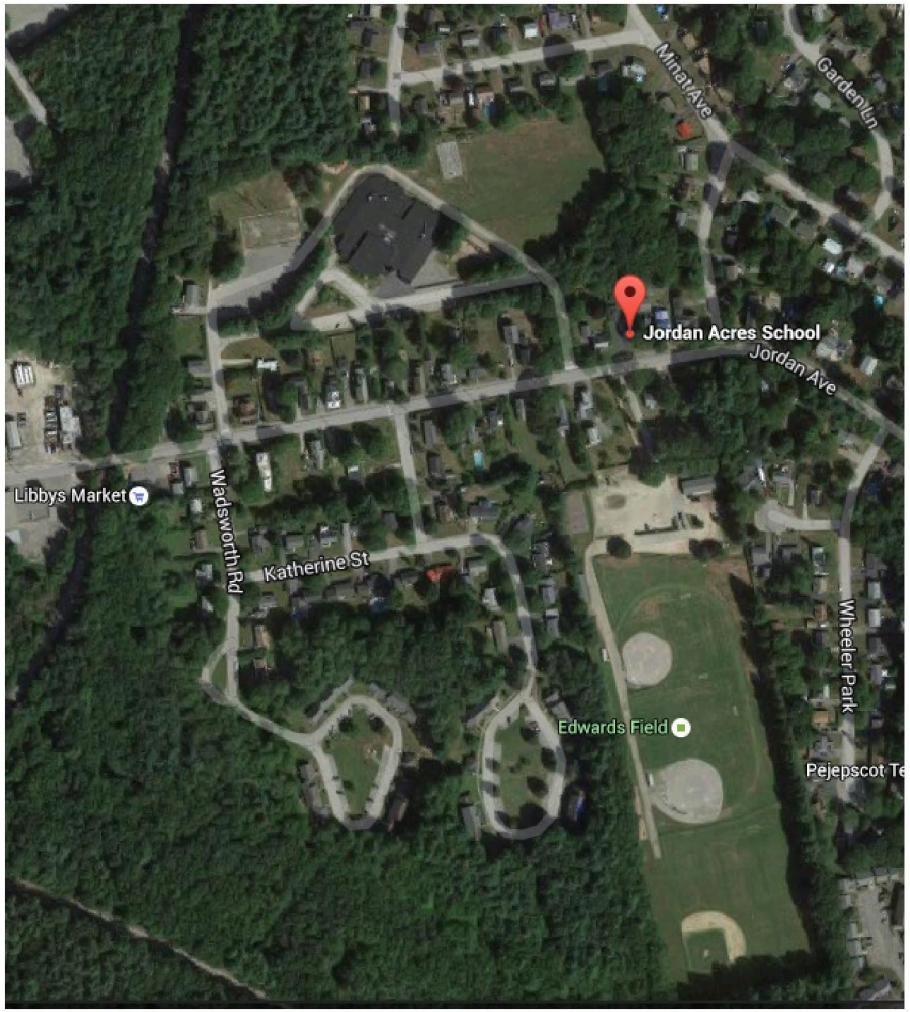
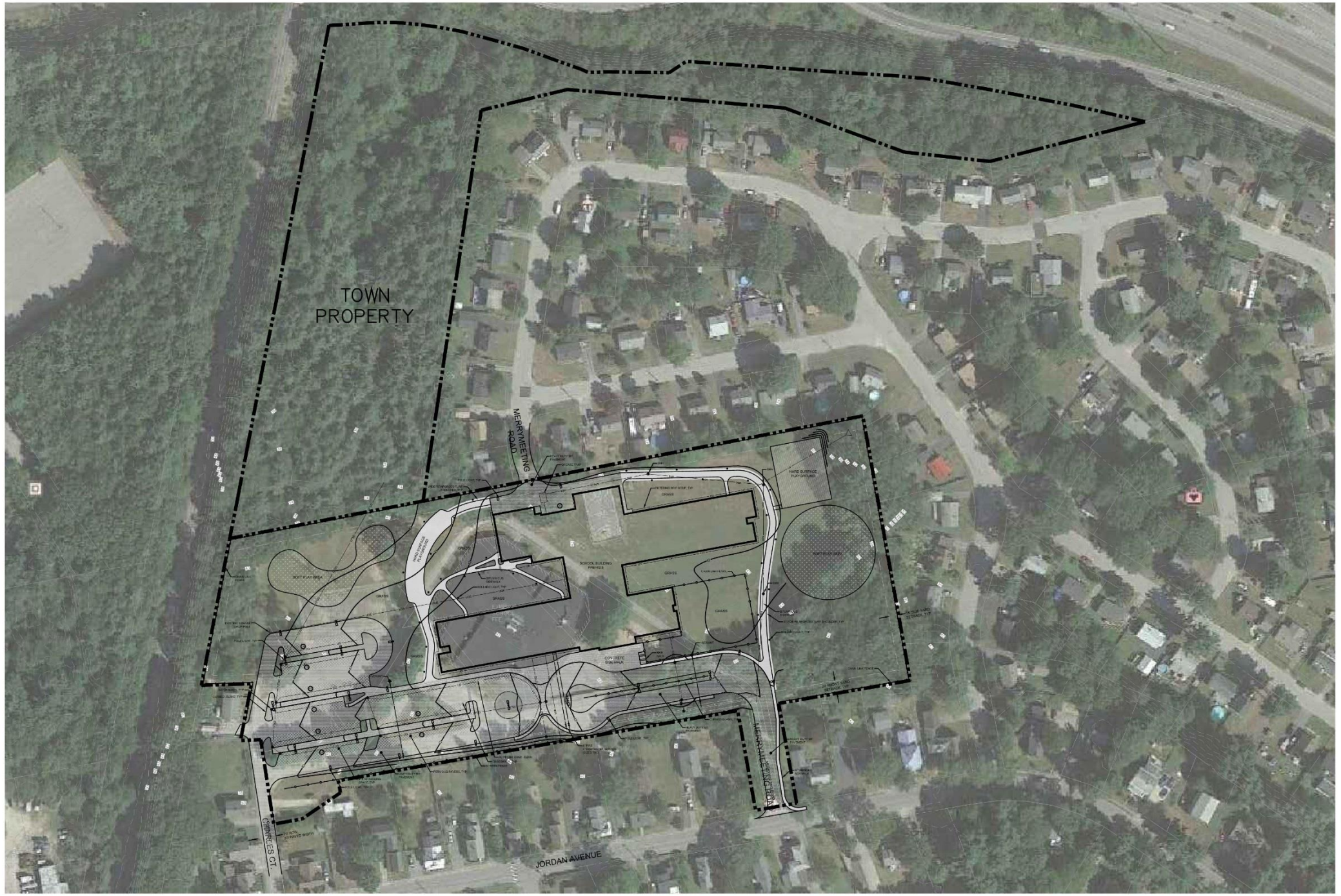
Brunswick PK-2

21 September 2016


Jordan Acres School
Jordan Ave
Minot Ave
Garden Ln
Libbys Market
Wadsworth Rd
Katherine St
Edwards Field
Wheeler Park
Pejepscot Te



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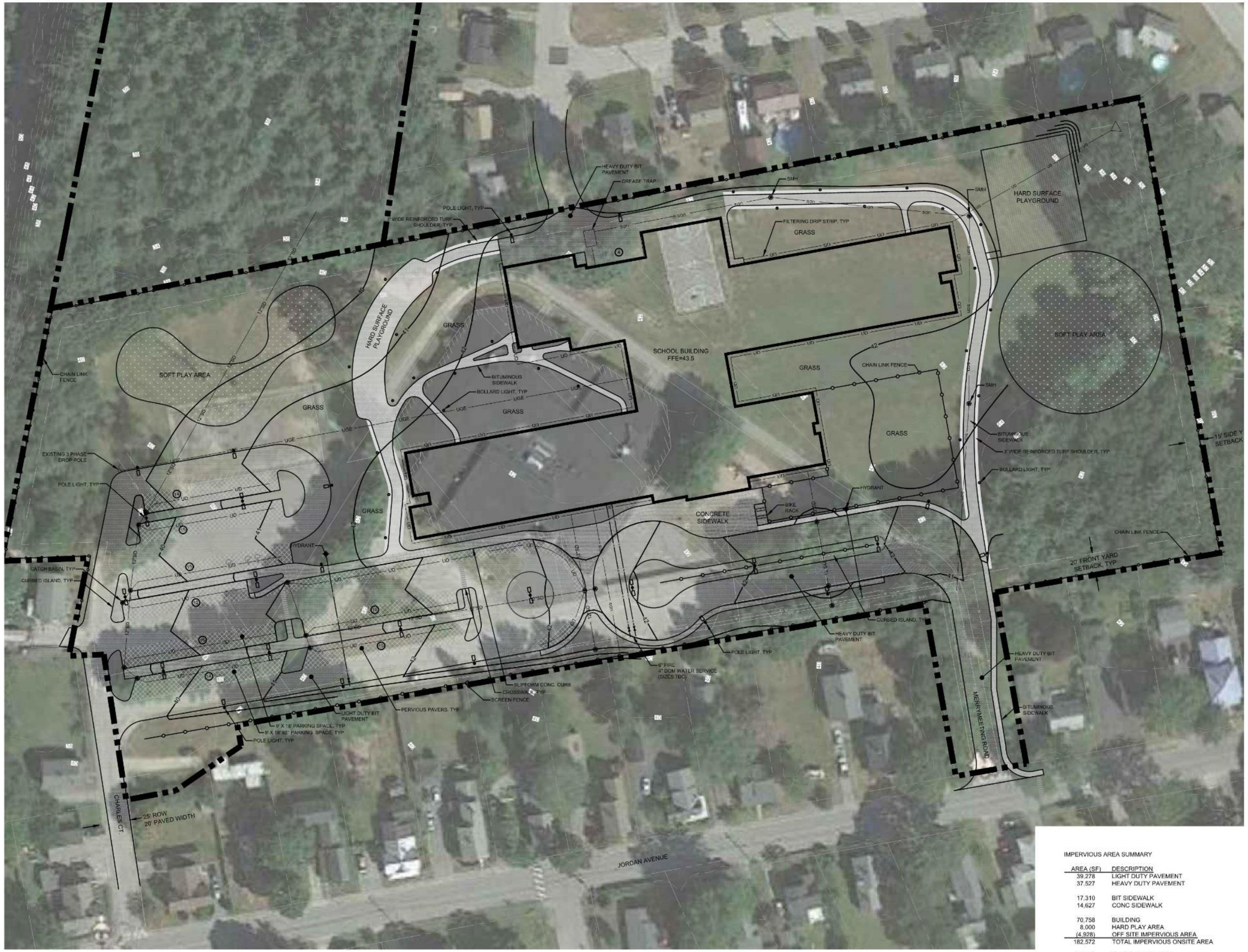

PRELIMINARY - NOT FOR CONSTRUCTION

IMPERVIOUS AREA SUMMARY

AREA (SF)	DESCRIPTION
39,278	LIGHT DUTY PAVEMENT
37,527	HEAVY DUTY PAVEMENT
17,310	BIT SIDEWALK
14,627	CONC SIDEWALK
70,758	BUILDING
8,000	HARD PLAY AREA
(4,928)	OFF SITE IMPERVIOUS AREA
182,572	TOTAL IMPERVIOUS ONSITE AREA
24,409	PERVIOUS PAVERS

Stantec

Stantec
482 Payne Road Scarborough Court
Scarborough, Maine 04074-8929
Tel. 207.883.3355
www.stantec.com

PDT ARCHITECTS

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Consultants

Notes

1. PARCEL BOUNDARY DATA AND TOPOGRAPHY SHOWN ON THIS PLAN ARE TAKEN FROM SHAPE FILES AVAILABLE THOUGHT MEGIS DATA CATALOG. NO BOUNDARY SURVEY OR GROUND TOPOGRAPHY HAS BEEN UNDERTAKEN FOR THIS STUDY.
2. UTILITIES SHOWN ON THIS PLAN TAKEN FROM DRAWING BY DRA ARCHITECTS AND EC VORDAN CO. INC. ENTITLED "BRUNSWICK ELEMENTARY SCHOOL", DATED MAY 1971. THE ENGINEER MAKE NO GUARANTEE THAT THE INFORMATION SHOWN HEREON IS ACCURATE OR COMPLETE. IT IS THE RESPONSIBILITY OF ANY PARTY WORKING ON THE SITE TO VERIFY LOCATION AND DEPTH OF UTILITIES PRIOR TO ANY EXCAVATION ACTIVITY.
3. PARKING AND DROP OFF SUMMARY
   - 16 BUS DROP OFF SPACES
   - 17 CAR DROP OFF SPACES
   - 117 TOTAL PARKING SPACES
   - 5 H/C PARKING SPACES

Revision | By | Appd. | YY.MM.DD

File Name: FILE NAME | DWN. TAL | CHKD. AJ | DSGN. AJ | YY.MM.DD 6/28/16

Client/Project

JORDAN ACRES SCHOOL
BRUNSWICK, MAINE

Title

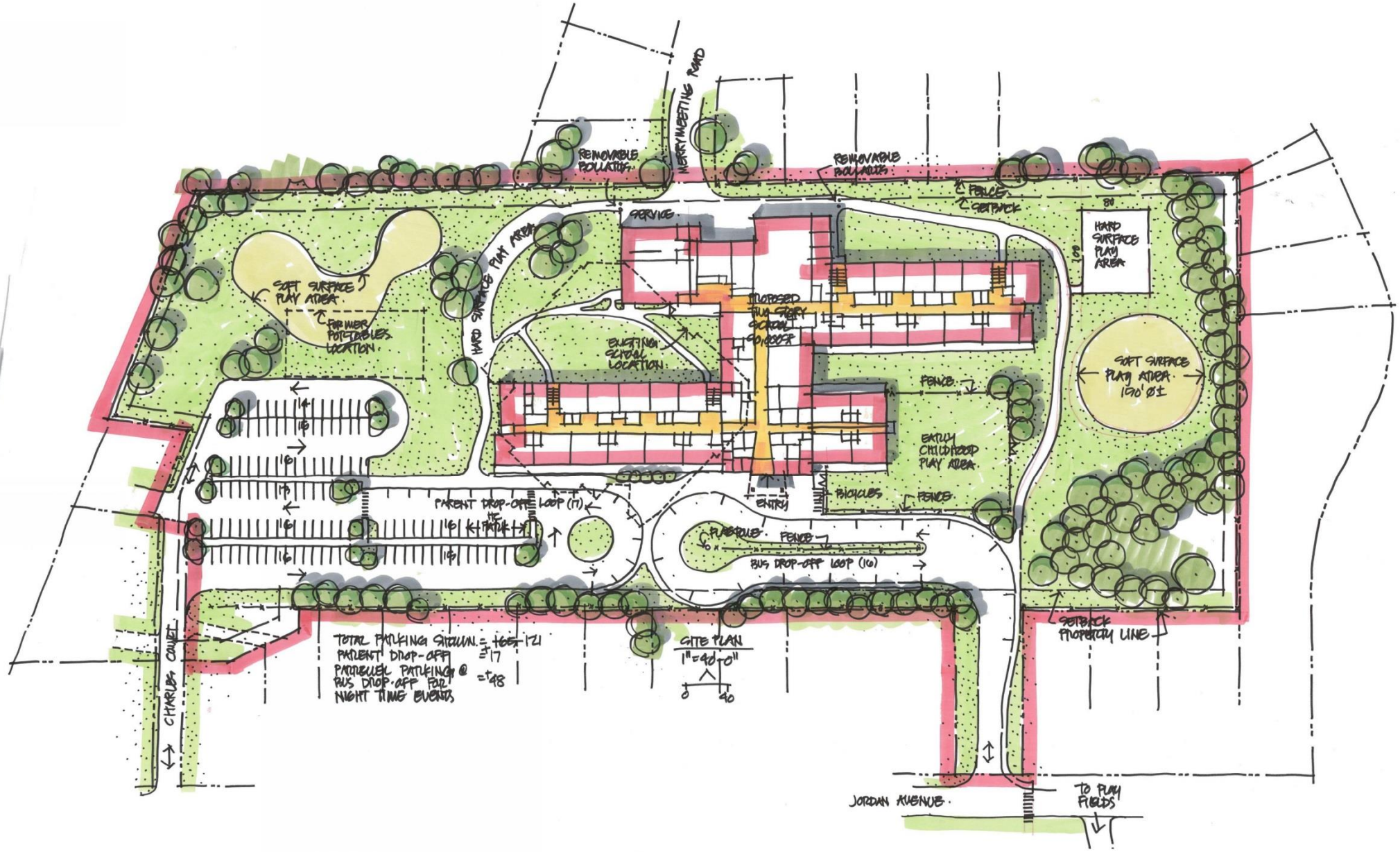
CONCEPTUAL SITE PLAN
CONCEPT 1

Project No. 195350

Scale 1" = 40'

Sheet

1.0



PDT ARCHITECTS

Brunswick Public Schools

June 28, 2016

Jordan Acres

1 LEVEL 1
1/16" = 1'-0"

PDT ARCHITECTS

Jordan Acres

1st Floor Plan

08/9/2016

Jordan Acres

2nd Floor Plan

08/9/2016

Jordan Acres

LEVEL 1

09/21/2016

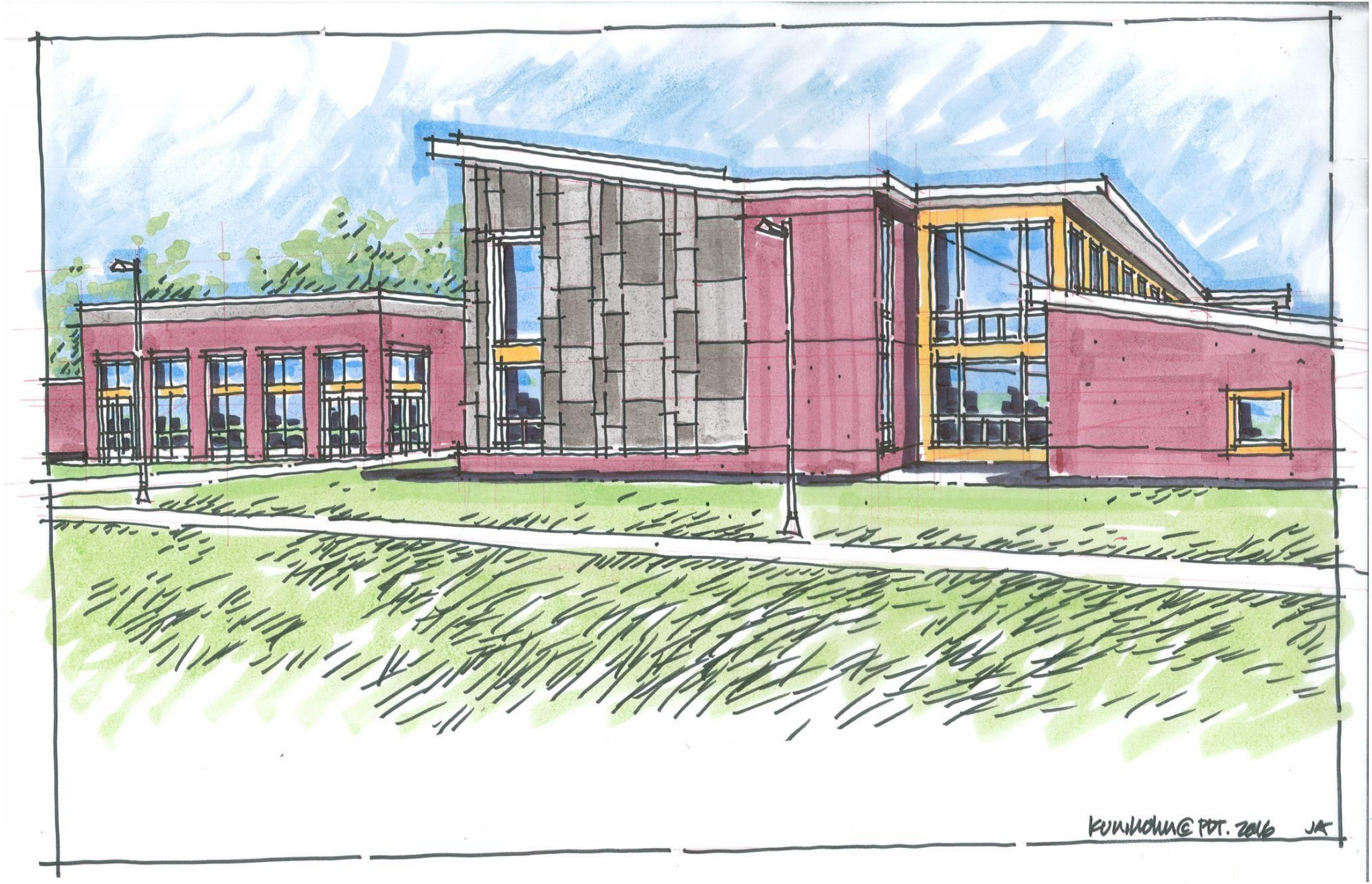
ARCHITECTS

Jordan Acres

2nd Floor Plan

09/21/2016


PDT
ARCHITECTS



PDT
ARCHITECTS


Elementary School


Elementary School

Brunswick PK-2 School

Mechanical Systems

Ventilation

Demand Control	CO2	Energy Recovery Ventilators (ERVs) Rooftop units

System One:

Full Heat & Partial A/C

Radiant Floor
Condensing Boilers (HE) Natural Gas
Low Temp

Cooling (Library+ Admin.)
via Mini Splits (Electric)
$25/sf

Domestic Hot Water: Natural Gas Source
Kitchen: Natural Gas

System Two:

Full Building Heat & A/C

Geothermal/ Ground Source Closed Loop
Geo exchange- Electric Circulation Pumps
VRF - Variable Refrigerant Flow

Peaking Boiler (Propane)
$31.50/sf
+
Borefield ($700,000)Estimate
Domestic Hot Water: Propane
Kitchen: Propane

Economic Summary

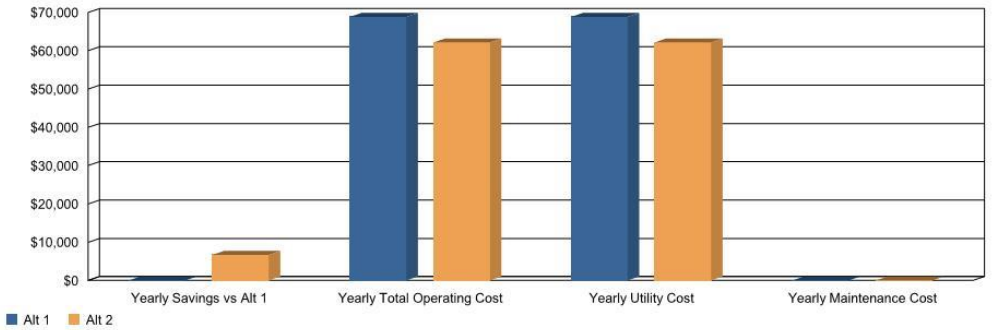
Project Information

Location	Brunswick, ME	Study Life:	20 years
Project Name	Jordan Acres School	Cost of Capital:	10 %
User	SP Doel	Alternative 1:	Heating only, radiant floor, gas boilers
Company	Bennett Engineering	Alternative 2:	VRF Heat Pumps with Geothermal Field
Comments			

Economic Comparison of Alternatives

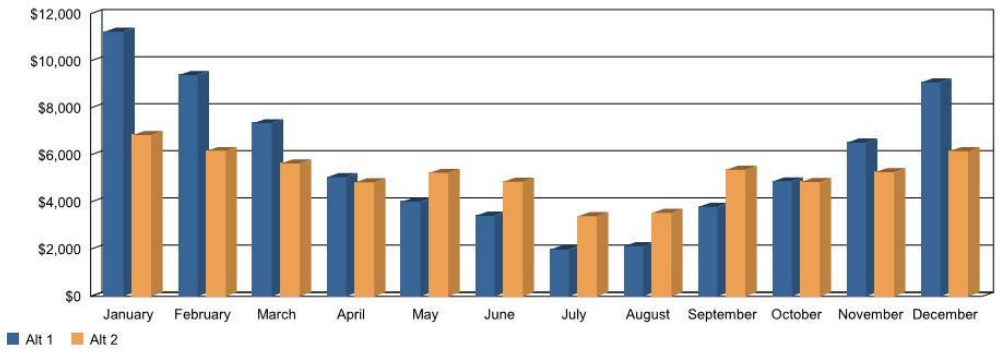
	Yearly Savings ($)	First Cost Difference ($)	Cumulative Cash Flow Difference ($)	Simple Payback (yrs.)	Net Present Value ($)	Life Cycle Payback (yrs.)	Internal Rate of Return (%)	Life Cycle Cost Difference
Alt 1 vs Alt 2	-6,683	0	-179,575	No Payback	-69,840	No Payback	Does Not Payback	-69,840.47

Annual Operating Costs



	Yearly Savings vs Alt 1	Yearly Total Operating Cost ($)	Yearly Utility Cost ($)	Yearly Maintenance Cost ($)	Plant kWh/ton-hr
Alt 1	0	68,855	68,855	0	1,661.910
Alt 2	6,683	62,172	62,172	0	1.398

Monthly Utility Costs



MONTHLY UTILITY COSTS

By Bennett Engineering

Utility	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Total
					------- Monthly Utility Costs -------								
Alternative 1													
Electric													
On-Pk Cons. ($)	2,076	1,882	2,203	1,942	2,121	2,130	1,121	1,229	1,992	2,107	2,036	1,991	22,828
On-Pk Demand ($)	890	888	884	894	931	972	572	570	949	905	883	886	10,224
Total ($):	2,965	2,770	3,087	2,836	3,052	3,101	1,694	1,798	2,941	3,012	2,919	2,877	33,052
Gas													
On-Pk Cons. ($)	4,136	3,310	2,132	1,110	477	158	144	166	426	932	1,806	3,104	17,901
Monthly Total ($):	7,101	6,080	5,218	3,946	3,529	3,260	1,838	1,964	3,367	3,945	4,724	5,981	50,954
Building Area =	81,800 ft²												
Utility Cost Per Area =	0.62 $/ft²												
Alternative 2													
Electric													
On-Pk Cons. ($)	4,022	3,472	2,985	2,460	2,787	2,875	1,784	1,912	2,901	2,603	2,797	3,507	34,104
On-Pk Demand ($)	1,927	1,892	1,672	1,526	1,513	1,674	1,329	1,297	1,618	1,303	1,574	1,798	19,123
Total ($):	5,949	5,364	4,657	3,986	4,301	4,549	3,113	3,209	4,519	3,905	4,370	5,305	53,227
Gas													
On-Pk Cons. ($)	447	405	490	426	469	158	144	166	426	469	447	426	4,472
Monthly Total ($):	6,396	5,769	5,147	4,412	4,769	4,707	3,257	3,374	4,945	4,374	4,818	5,731	57,700
Building Area =	81,800 ft²												
Utility Cost Per Area =	0.71 $/ft²												

Economic Summary

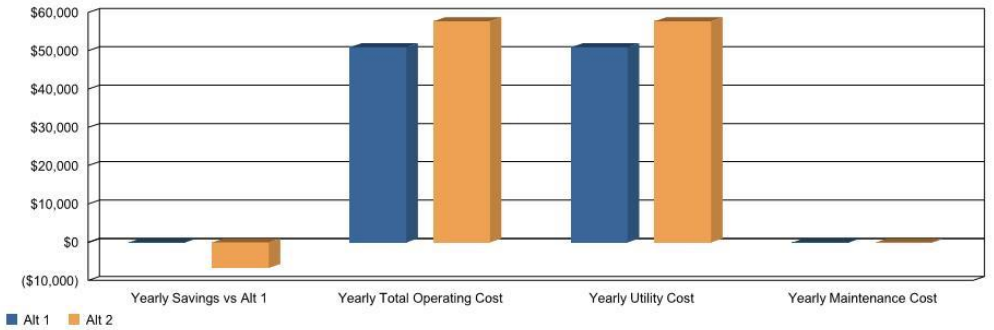
Project Information

Location	Brunswick, ME	Study Life:	20 years
Project Name	Jordan Acres School	Cost of Capital:	10 %
User	SP Doel	Alternative 1:	Heating only, radiant floor, gas boilers
Company	Bennett Engineering	Alternative 2:	VRF Heat Pumps with Geothermal Field
Comments			

Economic Comparison of Alternatives

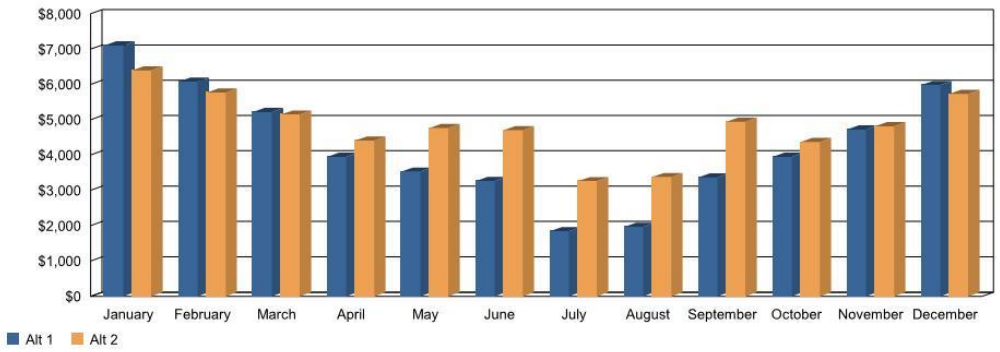
	Yearly Savings ($)	First Cost Difference ($)	Cumulative Cash Flow Difference ($)	Simple Payback (yrs.)	Net Present Value ($)	Life Cycle Payback (yrs.)	Internal Rate of Return (%)	Life Cycle Cost Difference
Alt 1 vs Alt 2	6,746	0	181,267	No Payback	70,499	No Payback	1,000.0	70,498.59

Annual Operating Costs



	Yearly Savings vs Alt 1	Yearly Total Operating Cost ($)	Yearly Utility Cost ($)	Yearly Maintenance Cost ($)	Plant kWh/ton-hr
Alt 1	0	50,954	50,954	0	1,661.910
Alt 2	-6,746	57,700	57,700	0	1.398

Monthly Utility Costs



MONTHLY UTILITY COSTS

By Bennett Engineering

Utility	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Total
					------- Monthly Utility Costs -------								
Alternative 1													
Electric													
On-Pk Cons. ($)	2,076	1,882	2,203	1,942	2,121	2,130	1,121	1,229	1,992	2,107	2,036	1,991	22,828
On-Pk Demand ($)	890	888	884	894	931	972	572	570	949	905	883	886	10,224
Total ($):	2,965	2,770	3,087	2,836	3,052	3,101	1,694	1,798	2,941	3,012	2,919	2,877	33,052
Gas													
On-Pk Cons. ($)	8,272	6,620	4,264	2,220	954	317	288	331	852	1,865	3,612	6,207	35,803
Monthly Total ($):	11,237	9,390	7,350	5,056	4,006	3,418	1,982	2,130	3,793	4,877	6,530	9,085	68,855

Building Area = 81,800 ft²

Utility Cost Per Area = 0.84 $/ft²

Utility	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Total
Alternative 2													
Electric													
On-Pk Cons. ($)	4,022	3,472	2,985	2,460	2,787	2,875	1,784	1,912	2,901	2,603	2,797	3,507	34,104
On-Pk Demand ($)	1,927	1,892	1,672	1,526	1,513	1,674	1,329	1,297	1,618	1,303	1,574	1,798	19,123
Total ($):	5,949	5,364	4,657	3,986	4,301	4,549	3,113	3,209	4,519	3,905	4,370	5,305	53,227
Gas													
On-Pk Cons. ($)	895	809	980	852	937	317	288	331	852	937	895	852	8,945
Monthly Total ($):	6,844	6,173	5,637	4,838	5,238	4,866	3,401	3,540	5,371	4,842	5,265	6,157	62,172

Building Area = 81,800 ft²

Utility Cost Per Area = 0.76 $/ft²

A Policy Prescribing Green Building Standards for
Municipal Buildings in the Town of Brunswick
Adopted 02/07/2011

Definitions –

For purposes of this policy, a qualifying project is any new construction or major renovation project to be owned, occupied, or funded in whole or in part by the Town of Brunswick that is of 5,000 square feet in floor area or greater. A major renovation project is any renovation estimated to cost twenty-five percent or more of the insured value of the structure to be renovated. This policy indicates the policy herein.

1. All qualifying projects shall be designed and built to meet the minimum U.S. Green Building Council's LEED Standards; higher levels (e.g., Silver, Gold, Platinum) shall be pursued when practical. Official LEED certification of completed buildings may be requested at the discretion of the Town Council.

2. All qualifying projects shall achieve an EPA Energy Performance Rating that is as high as practical, with a minimum Rating of 75.

3. The Town Council shall publicly discuss, after appropriate public notice, any project that fails to meet the recommended standards in this policy. The discussion shall occur during planning stages of the project, and before project approval, to provide sufficient time for the public to comment on the project.

4. This policy shall be filed in the Town Clerk's Office, the Town Manager's Office and the Office of Planning and Development. Existing Town policies affected by this policy shall be revised to include reference to this policy, as appropriate (e.g., as a document revision or addendum), under direction of the Town Manager. Policies adopted by the Town in the future, and affected by this policy, shall likewise include reference to this policy.

This policy was enacted by the Brunswick Town Council at their regular meeting of February 7, 2011.

Attests: _____ (Town Clerk)

LEED v4 for BD+C: Schools
Project Checklist

Preliminary Draft

Project Name: Brunswick PK-2 / Primary School
Date:28jul16

Y	?	N			
		1	Credit	Integrative Process	1

0	8	22	**Location and Transportation**		15
		15	Credit	LEED for Neighborhood Development Location	15
	1		Credit	Sensitive Land Protection	1
		2	Credit	High Priority Site	2
	5		Credit	Surrounding Density and Diverse Uses	5
	0	4	Credit	Access to Quality Transit	4
	1		Credit	Bicycle Facilities	1
	1		Credit	Reduced Parking Footprint	1
0		1	Credit	Green Vehicles	1

3	7	2	**Sustainable Sites**		12
Y			Prereq	Construction Activity Pollution Prevention	Required
Y			Prereq	Environmental Site Assessment	Required
	1		Credit	Site Assessment	1
	2		Credit	Site Development - Protect or Restore Habitat	2
	1		Credit	Open Space	1
	3		Credit	Rainwater Management	3
		2	Credit	Heat Island Reduction	2
1			Credit	Light Pollution Reduction	1
1			Credit	Site Master Plan	1
1			Credit	Joint Use of Facilities	1

3	1	2	**Water Efficiency**		12
Y			Prereq	Outdoor Water Use Reduction	Required
Y			Prereq	Indoor Water Use Reduction	Required
Y			Prereq	Building-Level Water Metering	Required
2			Credit	Outdoor Water Use Reduction	2
1			Credit	Indoor Water Use Reduction	7
		2	Credit	Cooling Tower Water Use	2
	1		Credit	Water Metering	1

15	4	4	**Energy and Atmosphere**		31
Y			Prereq	Fundamental Commissioning and Verification	Required
Y			Prereq	Minimum Energy Performance	Required
Y			Prereq	Building-Level Energy Metering	Required
Y			Prereq	Fundamental Refrigerant Management	Required
		2	Credit	Enhanced Commissioning	6
12			Credit	Optimize Energy Performance	16
1	0		Credit	Advanced Energy Metering	1
2	0		Credit	Demand Response	2
	3		Credit	Renewable Energy Production	3
	1		Credit	Enhanced Refrigerant Management	1
		2	Credit	Green Power and Carbon Offsets	2

4	6	0	**Materials and Resources**		13
Y			Prereq	Storage and Collection of Recyclables	Required
Y			Prereq	Construction and Demolition Waste Management Planning	Required
2			Credit	Building Life-Cycle Impact Reduction	5
	2		Credit	Building Product Disclosure and Optimization - Environmental Product Declarations	2
	2		Credit	Building Product Disclosure and Optimization - Sourcing of Raw Materials	2
	2		Credit	Building Product Disclosure and Optimization - Material Ingredients	2
2			Credit	Construction and Demolition Waste Management	2

7	4	0	**Indoor Environmental Quality**		16
Y			Prereq	Minimum Indoor Air Quality Performance	Required
Y			Prereq	Environmental Tobacco Smoke Control	Required
Y			Prereq	Minimum Acoustic Performance	Required
	2		Credit	Enhanced Indoor Air Quality Strategies	2
1			Credit	Low-Emitting Materials	3
1			Credit	Construction Indoor Air Quality Management Plan	1
2			Credit	Indoor Air Quality Assessment	2
	1		Credit	Thermal Comfort	1
1			Credit	Interior Lighting	2
1			Credit	Daylight	3
1			Credit	Quality Views	1
	1		Credit	Acoustic Performance	1

1	0	0	**Innovation**		6
			Credit	Innovation	5
1			Credit	LEED Accredited Professional	1

0	0	0	**Regional Priority**		4
			Credit	Regional Priority: Specific Credit	1
			Credit	Regional Priority: Specific Credit	1
			Credit	Regional Priority: Specific Credit	1
			Credit	Regional Priority: Specific Credit	1

33	30	31	**TOTALS**	Possible Points:	110

Certified: 40 to 49 points, **Silver:** 50 to 59 points, **Gold:** 60 to 79 points, **Platinum:** 80 to 110

21 September 2016

Project Budget
660 Students

New Elementary School 660 Students — **Brunswick School Department**

Grades PK-2 660 Students — Fall 2017 Construction Date

Jordan Acres Location — 2 House Scheme with reduced program by BSB June 2016

Item 1: Construction						
1.1 New Construction		89115 sf	$210.05		$18,718,960	
1.2 Demolitio:	54718	$ 8.43			$461,273	
1.3 Haz-Mat Abatement					$109,436	
1.4 Site Development-					$1,400,000	
1.5 Off-Site Improvements					$100,000	
1.6 Alternate Energy Investments Geothermal				$ 700,000		
1.7 Playgrounds ($160/stud.)				$ 105,600		
1.8 Inflation to fall 2017 1.875 %		$ 0.01875		$ 389,806	$ 389,806	
Subtotal					**$21,179,475**	**$21,179,475**
Item 2: Admin. Costs and Reserves						
2.1 Site Purchase					$0	
2.2 Furnishings & Moveable Equipment 4%		(of line1.1)	$682,245	$748,758	$0	
2.3 Technology 3%					$561,568.80	
2.4 Advertising, Insurance, Legal, Printing					$40,000	
2.5 Contingency (10% of Item 1)					$2,117,948	
2.6 % for Art					$0	
Subtotal					**$2,719,516**	**$2,719,516**
Item 3: Fees and Services						
Basic Services						
3.1 Architect New (Item 1 x State of ME Fee)		$21,179,475 @	6.8 %		$1,440,204	
3.3 Reimbursables & Permits					$60,000	
Special Services						
3.3 Environmental Permitting					$50,000	
3.4 Survey, Soils and Wetlands					$50,000	
3.5 Construction Testing					$60,000	
3.6 Special Inspections					$10,000	
3.7 Clerk					$160,000	
3.8 Commissioning					$50,000	
3.9 Owner's Representative					$50,000	
					$0	
Subtotal					**$1,930,204**	**$1,930,204**
				$ 1,944,164		
Total Project Cost						**$25,829,196**


READING WORKSHOP

Neighborhood Meeting!
@

Hawthorne School
46 Federal Street

Saturday October 1st
9:30am

The Brunswick School Department invites you to attend a neighborhood meeting presenting the latest concept plans for a new Elementary School at the Jordan Acres School site.

Please Attend
Your voice is important

Sponsored by Brunswick School Department 319-1900

Brunswick Primary / PK-2 School @ Jordan Acres

Timeline *Proposed* ~~*9-Aug-16*~~ *21-Sep-16 Updated*

2016 WORK PLAN

August

9-Aug **Committee Meeting**
A/C + Summer Use?
Plan Updates

22-Aug DEP Scoping / Pre-Application Meeting

September

14-Sep Existing Equipment and Furniture Walk Thru
21-Sep **Committee Meeting**
Exterior Studies + Materials
Geothermal Go-No-Go
Existing Equipment and Furniture Recommendation
Establish Community Outreach Committee
JRHS Update
22-Sep Meet with Teachers and Staff

October

1-Oct Neighborhood Meeting / Open House
Sustainability Workshop
19-Oct Planning Staff Review
19-Oct **Committee Meeting**
Budget Update
JRHS Update
Finalize Concept Design
31-Oct Meet with SFMO

November

3-Nov General Election
9-Nov School Board Action and Public Hearing
16-Nov **Committee Meeting**
22-Nov Planning Board Presentation

December

5-Dec Town Council Public Hearings
7-Dec **Committee Meeting**
19-Dec Town Council Hearings and Council Vote

2017

January - June

15-Jan Referendum Language: Legal / Finance
Community Presentations and Newspaper Articles
Open Houses and Neighborhood Presentations

April

Ballot to Printer

May

Absentee Ballots

June

13-Jun **Referendum New School + JRHS Improvements**

Thank you

www.pdtarchs.com