

BUILDINGS AND GROUNDS COMMITTEE

July 11, 2016

PETERS TOWNSHIP SCHOOL DISTRICT





UPDATE on HIGH SCHOOL FEASIBILITY STUDY

I. Work Completed to Date

- a. Completed On-site Facility Assessment
- b. Compiled results of Priority of Goals survey from Board and District and HS Administration
- c. Studied current HS master schedule and met with HS Administration to discuss Space Utilization
- d. Created Draft Summary of Existing and Programmed Spaces

II. Work in Progress

- a. Developing Recommendations for Facilities Assessment
- b. Developing Programming Statement of Needs

III. Work Ahead for Next Month

- a. Finalize Recommendations for Facility Assessment
- b. Finalize Programming Statement of Needs
- c. Develop two Design Options for HS including Conceptual Project Budgets

DEVELOPING A CONSENSUS WITH REGARD TO RELATIVE PRIORITIES

INSTRUCTIONS

Left Column - Please score each element from 1 to 5 (5 being the highest)
Right column - Please distribute a total of 5 votes to the group of Majority Priority deemed to be most important

GOAL

STUDENT CENTERED ENVIRONMENT

General Learning Spaces

- Increase number of classrooms
- Flexible instructional arrangements (furniture, technology, proportions)
- Large Group Instruction rooms for activities and collaborative learning
- Increase number of small rooms (meetings, tutoring)

Specialized Learning Spaces

- Improve Music curriculum spaces
- Dance Room (dedicated or multipurpose)
- Black Box Theatre
- Redefine Technology Education space (and location)
- Redefine Science Labs and increase number
- Redefine and enlarge Art Rooms
- Performing Arts support space (set design / construction; costume design; etc)
- Distance Learning spaces

Educational Technology

- Upgrade instructional technology for classrooms
- Improve wireless access and capacity for computer use
- Improve wireless coverage for mobile devices
- District-provided laptop computers for student use
- Consistent and universal technology infrastructure for staff and administration

Building Ambient Conditions

- Universal Air Conditioning (including Gymnasium)
- Improve HVAC control and performance (including natatorium)
- Improve sound attenuation / noise control
- Improve amount of natural light
- Improve quality of artificial light

Support Spaces

- Improve Cafeteria and Serving Area function, flow, and aesthetics
- Increase Cafeteria seating capacity
- Increase academic storage space (for departments)
- Increase general building storage (custodial / maintenance)
- Provide Teacher Planning and Resource rooms
- Redefine and reconfigure Library / Media Center space
- Redefine, reconfigure, and relocate Student Services (Guidance, Health, Gifted)
- Area(s) for large group student testing (standardized and AP)
- Convenient and well sized toilet facilities for students and staff

COMMUNITY FACILITY

Social Venue

- Informal student socialization and gathering spaces (after hours)
- Community Use and Events (meeting and classes)
- Outdoor gathering (and performance) spaces for student and community
- Improve building zoning for after hours use / separate entrances

Cultural Venue

- Larger Auditorium with increased / improved seating
- Improve Auditorium as performance venue (acoustics, lighting, sound systems)
- Increase / improve stage areas (stage, backstage, wings, flyspace, pit, etc)
- Adequate and convenient restrooms to support Auditorium
- Separate area for theatre set construction

Health and Athletics

- Adequate size competitive Gymnasium
- Capacity of gymnasiums to support simultaneous, multiple sports
- Concession area with storage
- Separate, dedicated wrestling room
- Redefine and enlarge locker rooms
- Separate Team Rooms with Locker Rooms (men & women)
- Larger Fitness / Training rooms (separate cardio and strength training)
- Dedicated multi-use area for aerobics, group training, dance
- Larger Natorium (8 lanes) with separate locker rooms and spectator seating
- Increase storage for Athletics and Physical Education

Life Long Learning

- Encourage after-hours use of school facility by community

FACILITY COST / PERFORMANCE

Safe Environment

- Improve Vehicular and Pedestrian Circulation
- Onsite Student Parking
- Controlled and secure Building Entry / Exit
- Redefine building fenestration (doors & windows) to enhance security
- Redefine & Secure Main Entrance (includes attendance and visitor management)
- Relocate Main Office more adjacent to Main Entrance
- Safe Classrooms (door locking; visibility from corridor; security zones)
- Small meeting rooms / conference rooms for privacy / confidentiality
- Increase width of circulation spaces
- Improve building accessibility (ADA)

First Cost

- Total Project Cost (including: soft costs, financing, furniture, fixtures, & equipment)
- State Reimbursement (PlanCon)
- Incentive Reimbursements (LEED, Green Globes)
- Life cycle consideration for MEP systems (first cost vs operating/replacement)
- Life cycle consideration for building components / finishes

Operating Cost

- Administrative Costs (i.e. storage areas to facilitate bulk buying)
- Cost associated with maintaining professional staff
- Cost associated with maintaining support staff
- Energy cost
- Maintenance cost

Weighting (out of 45)	Major Priority (Average)
	5
27	
36	
42	
32	
	0
25	
16	
23	
27	
29	
28	
22	
19	
	5
43	
41	
38	
28	
39	
	5
43	
44	
28	
31	
30	
	3
35	
41	
25	
24	
38	
32	
28	
35	
33	
	0
24	
23	
21	
35	
	8
45	
42	
40	
34	
25	
	4
41	
36	
30	
18	
27	
28	
28	
26	
31	
23	
	0
22	
	11
31	
28	
43	
39	
42	
37	
42	
30	
27	
32	
	3
41	
37	
33	
30	
34	
	1
34	
31	
31	
39	
38	

bold denotes average score above mean
Mean = 32

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Operating Cost

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- Cost associated with maintaining professional staff
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- Energy cost
- Maintenance cost

Weighting (out of 65)	Major Priority (Average)
	14
50	
57	
53	
38	
	0
34	
28	
37	
43	
51	
41	
39	
32	
	3
45	
41	
42	
34	
47	
	3
54	
58	
41	
42	
48	
	6
44	
56	
34	
37	
36	
49	
49	
43	
40	
	1
39	
42	
36	
42	
	8
55	
57	
47	
43	
32	
	4
53	
50	
44	
40	
44	
46	
41	
40	
49	
43	
	0
36	
	21
50	
39	
59	
53	
59	
54	
55	
44	
46	
54	
	4
41	
34	
32	
37	
36	
	1
32	
37	
32	
37	
37	

bold denotes average score above mean
Mean = 44



BUILDING ENERGY USE ANALYSIS

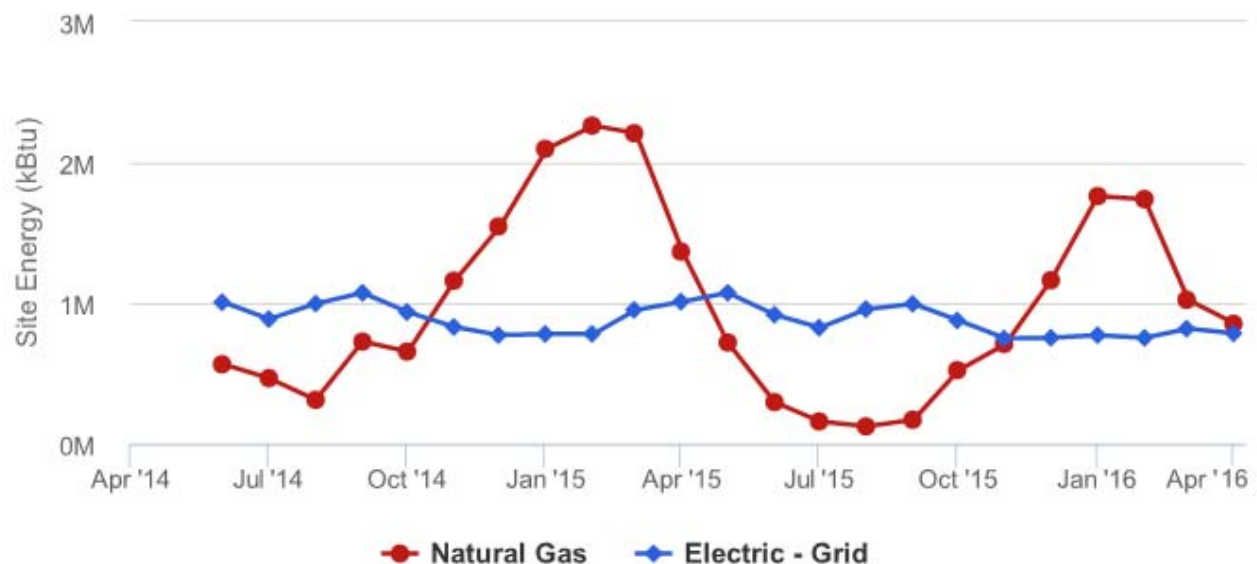
SUMMARY: Utility data for Peters Township School District – High School was provided that represents the total electric and gas energy usage of the building over the period of June 2014 to April 2016. The data was input into Energy Star’s Portfolio Manager software program. The resulting Energy Star score for first twelve months of data (June 1, 2014 – May 31, 2015) was 28. The resulting Energy Star score for the most recent twelve months of data (May 1, 2015 – April 30, 2016) was 46.

TARGET FINDER DESCRIPTION: Energy Star’s Target Finder is a tool to help building owners and operators benchmark their building against similar buildings. From the energy usage reported on utility bills and from the gross floor area of the building, an energy use intensity (EUI) can be developed that highly influences the resulting Energy Star score. For a K-12 school, the data input into the program such as number of computers and number of cooking facilities also effects the score. The resulting score (range of 1-100) is an indication of how the building compares to other similar buildings. A score of 50 represents the median and is representative of a building that performs better than 50% of less efficient similar buildings as well as worse than 50% of more efficient similar buildings.

ANALYSIS: The high school’s scores of 28 and 46 indicate that the building is operating below the median building. Some intuitive observations can be made when looking at the resulting energy usage when plotted over the study’s 23 month span. There was significantly more gas usage during the winter months in 2014-2015 than in 2015-2016. Since gas is the primary source of heat in the high school, the consumption is highly correlated to the outside air temperature. The winter temperatures in 2014-2015 were historically below average, however the winter temperatures in 2015-2016 were historically above average. It can be inferred that for an average winter the high school’s score would most likely be somewhere between 28 and 46, which would be well below the average of 50.

Another observation that can be seen from the graph of electrical consumption is that the usage is very consistent throughout the year, including the summer months. Schools in this region typically see a significant reduction in electricity during the unoccupied months of June, July, and part of August considering the reduction in plug loads (computers, projectors etc.), reduction in lighting, and higher temperature set points of the HVAC systems. This flat curve could indicate that the HVAC equipment is continuing to run at its occupied set points even though occupancy is significantly reduced.

Energy Use by Calendar Month



Peters Township School District
2016 High School Feasibility Study

Summary of Existing and Programmed Spaces - July 11, 2016 - **DRAFT**

Red Text = Increase in Quantity or significant increase in SF.

* = New programmed space.

	Existing Building			Programmed Square Footage		
	Quantity	SF	Total SF	Quantity	SF	Total SF
General Instructional			38,236			48,600
English Classroom	10	-	8,895	12	800	9,600
Health Classroom	2	-	1,382	2	800	1,600
Mathematics Classroom	10	-	9,363	12	800	9,600
Mathematics Computer Lab	1	1,055	1,055	1	1,000	1,000
Social Studies Classroom	10	-	8,925	12	800	9,600
World Language Classroom	6	-	5,015	8	800	6,400
World Language Lab	1	1,180	1,180	1	1,000	1,000
Shared Computer Lab	1	1,055	1,055	1	1,000	1,000
* Teacher Planning Room	-	-	-	5	600	3,000
Storage	10	-	1,366	4	450	1,800
* Large Group Instruction	-	-	-	2	2,000	4,000
Art			2,844			3,375
Classroom	2	1,050	2,100	2	-	2,650
Office	1	240	240	1	200	200
Storage Room	1	360	360	1	350	350
Kiln Room	1	144	144	1	175	175
BCIT			3,780			3,700
BCIT Classroom	3	-	3,125	3	1,000	3,000
BCIT Storage	4	-	655	1	500	500
* BCIT Office	-	-	-	1	200	200
Library			7,086			7,750
Library	1	4,527	4,527	1	5,000	5,000
Computer Lab	1	880	880	1	1,000	1,000
* Office	-	-	-	1	150	150
Meeting Room	3	-	881	3	300	900
Media Storage	2	-	633	1	-	700
Lounge	1	165	165	-	-	-
Media			3,795			4,220
Media Classroom	2	-	1,175	2	800	1,600
TV Studio	1	1,170	1,170	1	1,170	1,170
Production Lab	1	320	320	1	320	320
Editing Room	2	65	130	2	65	130
Graphics Lab	1	250	250	1	250	250
TV Studio Workroom	4	-	375	4	-	375
Media Storage	1	205	205	1	205	205
Media Office	1	170	170	1	170	170

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	Existing Building			Programmed Square Footage		
	Quantity	SF	Total SF	Quantity	SF	Total SF
Music			5,446			6,825
Band Room	1	2,400	2,400	1	2,500	2,500
Choral Room	1	1,530	1,530	1	1,400	1,400
Office (Band and Choral)	4	-	372	2	100	200
Practice Room	2	43	86	5	65	325
* Large Practice Room	-	-	-	1	100	100
Instrument Storage	1	700	700	1	800	800
Band Uniform Storage	1	132	132	1	300	300
Choral Uniform Storage	1	226	226	1	250	250
* Music Technology Lab	-	-	-	1	600	600
* Control Room	-	-	-	1	175	175
* Performance Booth	-	-	-	1	175	175
Science			15,686			17,200
Biology Lab	3	-	3,764	3	1,250	3,750
Biology Storage	2	-	332	2	-	450
Chemistry Lab	4	1,350	5,400	4	1,350	5,400
Chemistry Storage	1	515	515	2	300	600
Geo Science Classroom	1	1,200	1,200	1	1,250	1,250
Geo Science Storage	1	109	109	1	150	150
Physics Lab	2	-	2,771	3	1,250	3,750
Physics Storage	1	307	307	2	-	450
Physical Science Classroom	1	1,187	1,187	1	1,250	1,250
Physical Science Storage	1	101	101	1	150	150
Special Education			4,170			4,475
Learning Support Classroom	2	-	1,770	2	700	1,400
Office	1	123	123	1	400	400
Social Worker Office	1	98	98	1	100	100
Life Skills Classroom	1	760	760	1	800	800
Sensory Room	1	140	140	1	275	275
PAES Lab (inclu. Laundry)	1	995	995	1	1,000	1,000
Toilet Room	1	56	56	1	75	75
IEP Conference Room	1	184	184	1	275	275
Storage	1	44	44	2	75	150

Peters Township School District
2016 High School Feasibility Study

Summary of Existing and Programmed Spaces - July 11, 2016 - **DRAFT**

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	Existing Building			Programmed Square Footage		
	Quantity	SF	Total SF	Quantity	SF	Total SF
Technology Education			6,274			7,525
CAD Lab	1	952	952	1	1,000	1,000
Technology Education Classroom	1	1,344	1,344	1	1,500	1,500
Manufacturing Lab	1	2,755	2,755	1	2,500	2,500
* STEM Classroom	-	-	-	1	1,500	1,500
Tech Ed Office	1	198	198	1	200	200
Spray Booth Room	1	148	148	1	150	150
Manufacturing Lab Storage	1	639	639	1	500	500
Dust Collector	1	238	238	1	175	175
Performance			11,914			19,650
Auditorium (Seating for 1200)	1	7,247	7,247	1	11,000	11,000
Stage	1	2,313	2,313	1	3,000	3,000
Ticket Booth	1	36	36	1	100	100
Theater Office	1	142	142	1	150	150
Auditorium Control Room	1	183	183	1	250	250
Dressing Room	2	-	257	2	250	500
Stage Storage	1	882	882	1	750	750
Theater Storage	1	434	434	1	500	500
AV Storage	5	-	420	1	400	400
* Theater Shop	-	-	-	1	1,000	1,000
* Black Box Theater / LGI	-	-	-	1	2,000	2,000
Dining / Food Services			12,994			15,800
Cafeteria	1	6,522	6,522	1	8,000	8,000
* Student Activity Room	-	-	-	1	500	500
Faculty Lounge	2	-	1,698	1	1,000	1,000
Kitchen & Serving	1	4,774	4,774	1	6,300	6,300
Physical Education			20,037			28,900
Gymnasium (Seating for 2000)	1	10,900	10,900	1	15,000	15,000
Auxiliary Gymnasium	1	3,440	3,440	1	7,500	7,500
* Fitness Room	-	-	-	1	1,500	1,500
Locker Room	2	-	4,453	2	1,800	3,600
Office (including toilet)	2	-	478	2	250	500
Storage	3	-	766	1	800	800

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	Quantity	SF	Total SF	Quantity	SF	Total SF
Athletics			17,410			30,820
Athletic Director's Office	1	131	131	1	200	200
Ahtletic Director Reception	1	110	110	1	300	300
Conference Room	1	334	334	1	300	300
Natorium (including bleachers)	1	6,740	6,740	1	10,000	10,000
Natorium Office	1	141	141	1	150	150
Natorium Toilet Room	1	120	120	1	120	120
* Natorium Locker Room	-	-	-	2	1,200	2,400
Large Team Room	1	-	1,667	2	2,400	4,800
Small Team Room	2	-	1,526	2	750	1,500
Coach Office	9	-	1,051	10	150	1,500
* Wrestling Room	-	-	-	1	3,000	3,000
Weight Room	1	2,240	2,240	1	3,000	3,000
Trainer Room	1	560	560	1	750	750
Laundry Room	1	264	264	1	300	300
Athletics Storage	6	-	2,526	3	-	2,500
Administrative			1,989			2,950
Principal's Office	1	223	223	1	250	250
Assistant Principal's Office	2	161	322	2	175	350
Principal's Secretary	1	129	129	1	100	100
Large Conference Room	1	272	272	1	300	300
* Small Conference Room	-	-	-	1	175	175
Security Office	1	70	70	1	175	175
Reception Area	1	398	398	1	600	600
Waiting Area	2	-	186	1	250	250
Workroom	1	185	185	1	200	200
* Storage Room	-	-	-	1	75	75
Toilet Room	1	34	34	1	75	75
Attendance Office	1	170	170	1	400	400
Health Suite			740			1,000
Waiting Area	1	98	98	1	100	100
Nurse Office	1	121	121	1	150	150
* Treatment	-	-	-	1	200	200
Rest Area	1	234	234	1	250	250
Exam Room	1	103	103	1	100	100
Toilet Room	2	92	184	2	75	150
* Storage Room	-	-	-	1	50	50

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	Quantity	SF	Total SF	Quantity	SF	Total SF
Guidance Suite			2,129			3,875
Reception and Workroom	1	-	278	1	600	600
Office	5	-	736	5	150	750
Therapist	1	84	84	2	150	300
Career Resource Center	1	445	445	1	600	600
Records Storage	1	225	225	1	300	300
Test Storage	1	22	22	1	300	300
Gifted and Talented Resource	1	209	209	1	650	650
Gifted and Talented Office	1	92	92	2	150	300
Toilet Room	1	38	38	1	75	75
Building Services			1,710			2,650
Custodial Office	1	-	481	1	800	800
Custodial Mgr. Office	1	61	61	1	100	100
Maintenance Office	1	78	78	1	100	100
General Building Storage	4	-	792	4	-	1,000
Custodial Closet	11	-	298	13	50	650

Summary of Existing and Programmed Spaces

	Existing Building	Programmed Square Footage
Total Programmed Space	156,240 SF	209,315 SF
Gross Area Factor (Walls, Corridors, Stairs, Circulation, Restrooms, Mech./Elec, Data Closets, etc)	Existing: <u>87,035 SF</u>	<u>116,685 SF</u> ¹
Approximate Gross Square Feet	243,275 SF	326,000 SF

Efficiency = Net/Gross

64%

64%

Typical High School is between 60 to 70%
Greater Than 70% = Not enough support space.
Less Than 60% = Too much support space.

Notes

¹ Used the same percentage as the existing building.