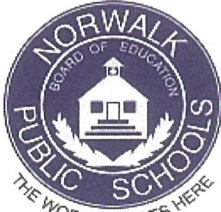

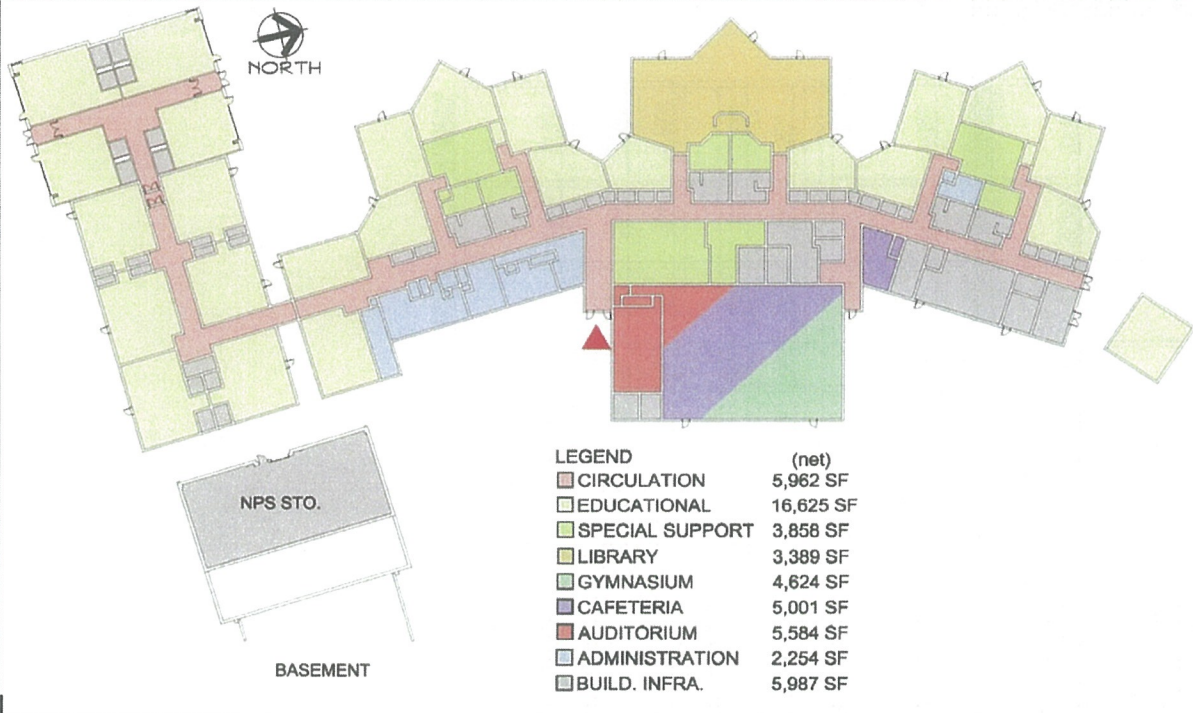


# Norwalk Feasibility Study

Naramake Elementary School		
16 King Street, Norwalk, CT 06851		
	Student Population:	454
	Staff Total:	
	School Type:	Elementary
	Grades:	PreK-5
	Original Construction:	1961
	Significant Alterations:	1995/2014
	Total Area (gross)	49,876 SF
		

## Floor Plan



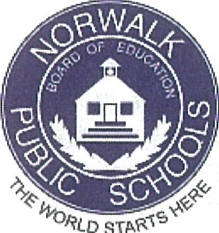

Building Information		Existing Condition		
Construction Type	2B	Ext. Envelope	brick	
No. of Floors	1	Roof	age:	2003
Foundation	slab on grade		type:	ballast
Classroom Counts		Security	lockable doors, no entry vestibule	
Standard Classroom	20	Heating	age:	2012
Special Ed. Classroom	4		type:	oil
Pre-K Classroom	0	Sprinklered	yes	
Portable Classroom	0	AC	At Media Split system unit	
5-year Priority Projects		Capital Needs Prioritization - 8		
Window Replacement	\$410,000	Discipline	Total	Priority 1&2
Remove and replace windows for entire school		Architectural	\$1,955,440	\$459,000
Corridors lack ventilation	\$70,000	Plumbing & FP	\$31,500	\$10,000
Install roof mounted Energy Recovery Ventilators		Mechanical	\$1,030,400	\$270,000
Roof Exhaust Fan	\$35,000	Electrical	\$39,100	\$27,000
Remove and replace fans and gravity vents		<b>Total:</b>	<b>\$3,056,440</b>	<b>\$766,000</b>



**SILVER/PETRUCCI+ASSOCIATES**  
Architects / Engineers / Interior Designers



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### Site Plan



Property Information		Capital Needs Prioritization		
Acreage	20.2	Work Area	Total	Priority 1&2
Separate Bus/Parent Drop-off	Mixed	1. Main Entrance/ Bus Loop	\$ 308,000	\$ 122,000
Site Lighting	Poor	2. Parking Area	\$ 234,000	\$ 234,000
Parking	Adequate	3. Grass Play 1	\$ 7,000	\$ 7,000
General Condition		4. Paved Play	\$ 14,000	\$ 8,000
Accessibility	Fair	5. Softball Field	\$ 124,000	\$ 117,000
Driveways	Poor	6. Rear Perimeter Sidewalk	\$ 16,000	\$ 12,000
Walkways	Fair	7. Garden	\$ 3,000	\$ 3,000
Landscaping	Fair	8. Grass Play 2	\$ 25,000	\$ 25,000
Athletic Facilities	Poor	9. Playground 1	\$ -	\$ -
Playgrounds/Play Structures	Fair/Good	10. Playground 2	\$ -	\$ -
Service Areas	Fair	11. Water Quality Basin	\$ -	\$ -
* Includes 25% Contingency		<b>Total:</b>	<b>\$ 731,000</b>	<b>\$ 528,000</b>



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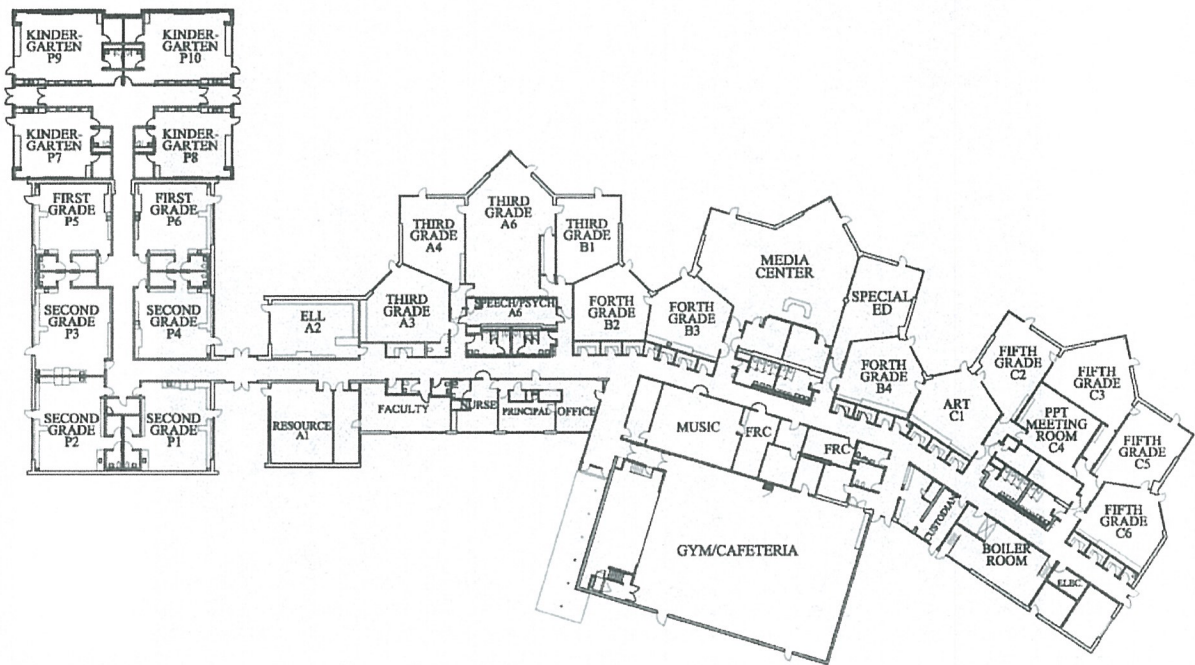
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# NARMAKE ELEMENTARY SCHOOL

## Architecture

Overall, Naramake Elementary School is in fairly good condition, and has been equally well maintained based on the existing conditions and existing systems. The school was constructed in 1961 and classroom additions added in 1995 and 2014. The school is organized off of a main corridor. Originally 3 clusters of classrooms were arranged on one side of the corridor with support spaces, office and the gym opposite. Overtime as the classroom additions have been added the corridor expanded to include an additional 12 classrooms. The entrance is well defined under a canopy adjacent to the gym and office.



The interior of the building is fairly well maintained. The majority of the ceilings are acoustical 2x4 ceiling tiles. Most appear to be in good condition. The tectum deck is exposed at the gym. The majority of the flooring throughout the facility consist of 9x9 tiles which are likely to contain asbestos. Some areas are cracking and damaged and therefore should be abated and replaced. Other materials include 12x12 VCT and carpet. They appear to be in good shape. The rubber baseboard appears to have been recently replaced but the walls were not painted where the old larger base was leaving bare block exposed. The majority of interior walls are painted block and most appear to be in good condition. Other areas consist of sheetrock and some wood paneling between classrooms. Ceramic tile covers the walls and floors at most toilet rooms. Some are dated and in need of maintenance or replacement while others are newer and in good condition. There are many interior hollow metal door frames that are in need of repainting and the bottoms are beginning to rust. The plastic laminate or wood casework throughout the school is in fair condition. The exterior doors near the new addition have very slow closures which should be replaced. The gym is in good condition and does have a lift to the stage. The kitchen is fairly small.

Many ADA issues were noted at this facility. This is a common occurrence given the age of the building. These items should be included in the long term capital plan. Most toilet rooms do not meet the proper clearances and ADA requirements. At minimum they do not have vertical grab bars at the handicap stalls. Some do not have complaint fixtures, hand levers or pipe covers. Most sinks at casework do not have knee spaces that meet the ADA requirements. Other items noted was furniture blocking sink knee spaces and large amounts of paper display and equipment in corridors. Most classrooms have exterior doors with hardware and thresholds that does not meet the ADA or security standards. Some of the door hardware have knobs that require twisting when they should have panic devices. The thresholds are greater than a half inch above the pavement. Overall the interior is in fair shape.

On the exterior, the brick walls of the school are generally in good condition, with areas of settling and spalling. The building is constructed with brick “vener”, and air space and painted concrete masonry unit interior. The energy efficiency of this construction is very low, and typical in the 1960s (“pre energy crisis”), and not one that is easily or readily corrected. Overall, the mortar is in good condition with wall areas of less than 20% in need of repointing.

When evaluating the energy efficiency of a building, it is known that nearly 25–40% of all heat energy is lost through windows. The original windows are a single layer of glazing, which is highly inefficient. The majority of the original frames are hollow metal. Caulk on the exterior is in rough shape. It can be assumed that a great deal of energy is being lost through these openings. Due to the inefficiency and age of the window system, it is recommended they be replaced with insulated double or triple glazed systems which will significantly reduce heating and cooling costs in these sections of the building. This change would then incorporate security design elements to be determined once the design proceeds and the risk assessment is complete.

Most exterior doors are in decent condition although many consist of additional single layers of glazing. Many do not have the required panic devices. Thresholds and frames are wearing and rusting. The hollow metal door and window units also have peeling paint. The fascia and soffits could also use some maintenance and paint. The ballast roof appears to be in fairly good condition with small areas of ponding and the thinning of gravel noted. According to the Connecticut State Department of Education School Construction Grant Management System they were done in 2003.

## **Plumbing & Fire Protection**

The building is fully sprinklered. A 6” sprinkler service main with RPZ backflow preventer enters the building at the Boiler Room. The piping, valves and backflow preventer appear to be in good condition. The backflow preventer should be tested periodically as required by the local water authority.

The stage and storage space below the stage have sprinkler coverage. No fire protection standpipes were observed for the stage.

A 2” domestic water service with meter is located in the Boiler Room and appears to be in good



condition. No backflow preventer was observed at water service entry.

An Indirect Domestic Hot Water Heater is fed from the Boiler System and appears to be serviceable. A tank type Electric Water Heater has been provided to supply hot water when the boilers are not running. The Electric Water Heater appears to be near the end of its useful life with possibly 5 years of useful life remaining. To maximize service life, the Water Heater should be regularly serviced per the manufacturer's maintenance recommendations including, but not limited to, draining and flushing, cleaning heating elements, testing relief valve, and inspecting/replacing anode. Refer to manufacturer's O&M literature.

Most plumbing fixtures in the facility are dated with original trim. Four new single toilet rooms with ADA compliant fixtures were provided as part of the 2012 project. In addition, one each boys and girls multi-toilet rooms were renovated and provided with ADA fixtures as well as one other single toilet room. The new and renovated toilet rooms meet code requirements for water conserving (low flow) fixtures. Currently, there is a minimal amount of low flow water saving faucets, however, recent bathroom upgrades have provided metered faucets.

If there are any areas with known sanitary or storm piping issues, it is recommended that the pipes in that area get scoped with a camera to see if the root of the issue can be determined.

## **Mechanical**

Heat for the facility is provided by two Smith model 28 HE-W-8 Hot Water Boilers with Power-Flame oil burners firing no. 2 fuel oil. A Shell and Tube Heat Exchanger has been installed to provide a hot water glycol loop for hot water coils subject to freezing temperatures. The Boiler Room was renovated in 2014 and the Boilers, Pumps and piping are new and in good condition.

The new Boiler System is arranged in a primary/secondary pumping configuration. Ten new In-Line Circulators have been provided, installed in pairs for lead/lag operation.

Boiler life is greatly dependent on water quality and maintenance and it is recommended that water quality be tested by a water treatment specialist to maximize equipment life.

A new Combustion Air Fan has been provided appears to meet code requirements.

Fuel oil for the Boilers is stored in an Underground Fuel Oil Storage Tank (UST). The age of the UST is unknown. The UST would have been registered with the State at the time of installation. The date of installation should be verified and the requirements for tank testing and inspection should be reviewed. Recommendations for UST replacement can be provided by SP&A upon review of the registration paperwork.

Most Classrooms are served by Finned Tube Radiation with Central Exhaust System and operable windows for ventilation.

Terminal Heating Equipment throughout the building consist of perimeter Finned Tube



Radiation, and Hot Water Convectors. Most of the equipment is from the date of original construction and is likely at the end of its useful life. Depending on water quality and the attention to water treatment during the life of the system, the Finned Tube may be serviceable for some time, although it is likely to be significantly degraded in terms of heat transfer efficiency. It is recommended that interior of heating elements and facility piping be inspected by a specialist to determine if there may be remaining service life or if immediate attention is required. The Terminal Heating Equipment should be planned for replacement as part of any future renovation project.

The Library/Media Center and interior rooms are served by Split System Air Conditioning Units. The units appear to have a remaining useful life of approximately 10 years.

The Main Office, Principal's Office, Nurse's Office and Faculty Room are served by window type Air Conditioning Units. The life expectancy of window Air Conditioners is 10 to 15 years. Window Air Condition Units are generally not of the highest efficiency when compared to other Air Conditioning systems. For purposes of energy conservation, recommend consideration of central Air Conditioning as part of any major renovation.

Air Handling Units serving the Gymnasium/Auditorium and Music Room appear to be from the date of original construction and have exceeded their useful life expectancy.

The 1<sup>st</sup>/2<sup>nd</sup> Grade Classrooms are served by a Rooftop Heating and Ventilating Unit. The unit appears to be in serviceable condition with 5 to 10 years of useful life remaining.

The new Kindergarten addition is served by a Rooftop Heating and Ventilating Unit with energy recovery wheel. The unit is in good condition.

Except for the 2012 addition, most of the Roof Exhaust Fans and Gravity Vents appear to be near the end of their useful lives.

The Corridors appear to lack proper ventilation as required by the Code. Recommend installing a roof mount Energy Recovery Ventilator to provide proper ventilation rates to the corridors.

An exhaust hood in the kitchen serves only a convection oven. There is no cooking that generates grease laden vapors at the facility and the exhaust system is excessive for normal kitchen ventilation. The Kitchen Exhaust Fan appears to be near the end of its useful life. A smaller exhaust fan may be installed to provide kitchen ventilation without the high rate of make-up air required by the hood exhaust.

Most pneumatic controls system and components are near the end of their useful life and are obsolete. The controls compressor appears to be serviceable. Recommend installing web based Building Management System with new electric/electronic controls as part of any HVAC improvement project. A Building Management System will provide efficient operation of the building systems and allow facilities operations personnel to monitor building systems and alarms from remote locations.



The condition of the chimney is unknown and it is likely that it has not been inspected or repaired since original construction. Recommend cleaning and inspection by a company specializing in chimney repair, and be relined if necessary.

## **Electrical**

The existing electrical system for Naramake Elementary School consists of a 1,200 amp, 208Y/120V, 3-phase service. The Square D service equipment consists of a service cabinet with a 1,200 amp main circuit breaker interconnected with main distribution panel rated for 1,200 amp, 208Y/120V, 3-phase, located in the same electrical room. The distribution panel feeds panelboards throughout the facility. The service equipment is relatively new, approximately 10 years old and in good condition. The rest of the electrical panelboards observed throughout the facility are original from when the school was constructed in 1961 and manufactured by General Electric. The original electrical panelboards are in fair condition but given the age of the equipment, replacement parts may be difficult to obtain. The typical life expectancy of an electrical panel is approximately 40 years.

Power receptacles throughout the entire school consist of a combination of recessed and surface mounted duplex receptacle with metal and thermoplastic cover plates. The majority of the receptacles are in fair condition. There were some receptacles in classrooms mounted above countertop and near a sink that are not ground fault interrupter (GFI). Replacing existing receptacles with GFI should be considered. Also, receptacle tamper proof covers should be considered to suit receptacles in Kindergarten Classrooms.

The interior lighting throughout common areas and classrooms consists of a combination of 2'x4' recessed and surface with prismatic lens in classrooms, and 1'x4' surface wraparound fixtures with prismatic lens in corridors. All fixtures contain energy efficient fluorescent lamps that appear to be T8. Overall, the lighting fixtures are in fair condition and illumination levels are acceptable. Lighting fixtures are controlled via key switches in corridors, toggle switches in classrooms (except latest building addition where a combination of toggle switch and motion sensor was provided), and toggle switch in toilet rooms. Motion sensors are recommended for classrooms, corridors, toilet rooms, and offices spaces for energy savings. Exterior building perimeter lighting seems to be high intensity discharge wall /ceiling mounted packs on the original side of the building and LED wall packs on the latest building addition side of the building. The exterior fixtures seem to be in fair condition with the exception of some fixtures that are nearing the end of their useful life with lenses developed a yellowish hue from UV exposure.

The emergency lighting system with the exception of the latest building addition is based on a combination of self-contained remote fixtures, and self-contained twin head battery units throughout the paths of egress. The self-contained twin head battery units are provided in limited numbers and all are in fair condition. Many areas such as corridors, exterior egress, and assembly occupancies areas are lacking emergency units and some units were not operational when tested. Overall, the existing emergency system is in fair condition but, does not appear to fulfill the life safety code requirements of providing an initial illumination of not less than an average of one



foot-candle along the path of egress in some areas. Adding more self-contained twin head battery units should be considered. The Existing remote emergency heads located at some exterior egress doors are in poor condition, with rusty base canopy and housing. Although, some exterior egress doors have single head remote emergency lighting, the single remote unit is not enough to satisfy the life safety code requirements, which requires a two lamp fixture.

The exit signs are LED with thermoplastic housings. The exit signs are in good condition and provided in sufficient number within common areas. Adhesive exit sign are used in classrooms with egress door (except classrooms in the latest building addition). Adding of accessible signs or floor proximity signs should be considered to meet recent code updates.

The addressable fire alarm system is manufactured by Simplex and is approximately 19 years old. The system includes fire alarm control panel, voice control panel, NAC panel, ADA speaker/strobes, smoke detectors, and double action pull stations. The fire alarm system is in good condition and peripheral units are provided in code appropriate quantity for the most part, with the exception of some assembly areas, where strobe units were not provided.

The master clock manufactured by Edwards and is relatively modern and in good condition.

Other items that should be addressed are providing wire guard protection for exit signs, speakers, and clock in the gymnasium.

# NARAMAKE ELEMENTARY SCHOOL

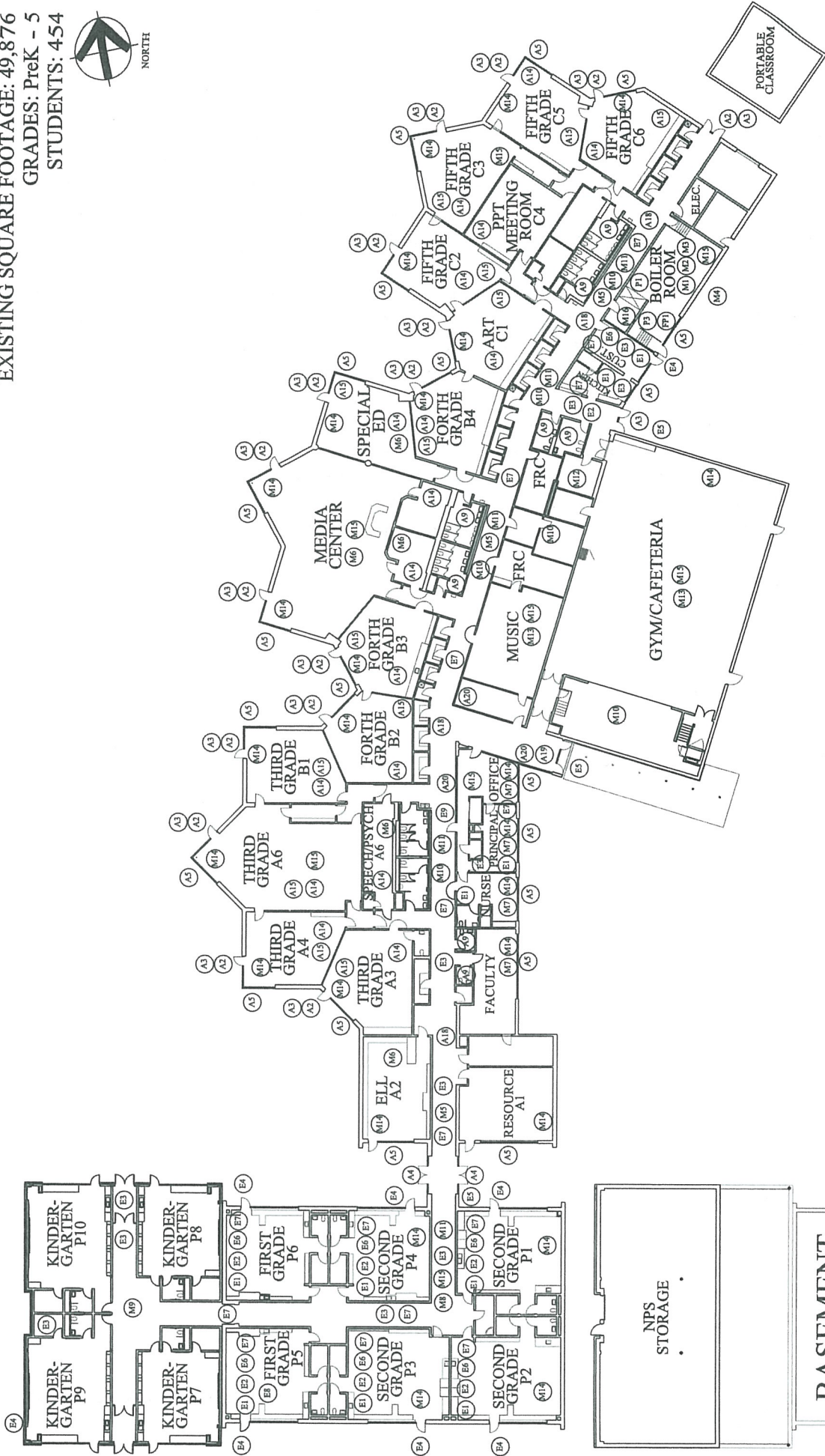
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BUILT: 1961, 1996, 2014

EXISTING SQUARE FOOTAGE: 49,876

GRADES: PreK - 5

STUDENTS: 454



SILVER / PETRUCCI + ASSOCIATES  
Architects / Engineers / Interior Designers

## CITY OF NORWALK - SCHOOL FEASIBILITY STUDY



# NARAMAKE ELEMENTARY SCHOOL

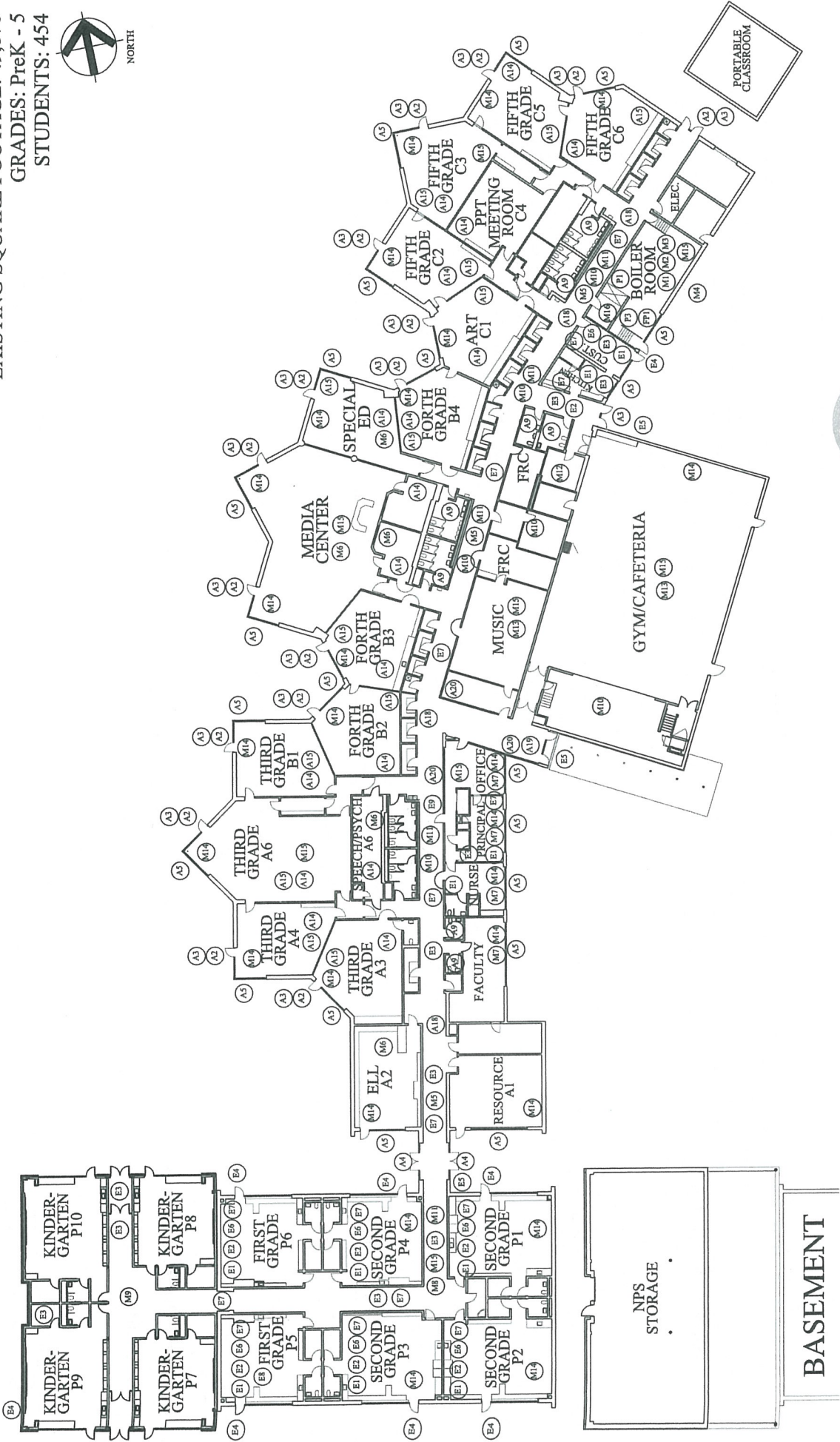
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## CITY OF NORWALK - SCHOOL FEASIBILITY STUDY

# NARAMAKE ELEMENTARY SCHOOL

## FACILITY CONDITION ANALYSIS

03/27/15

Tag No.	Code Reference	Violation	Corrective Action	Estimated Cost	Remarks	System	Rank
<b>Exterior Facility &amp; Site Conditions</b>							
A1	General	Brick is spalling in some areas.	Patch, repair, or replace brick and repoint as necessary.	\$ 63,000.00	Assumes 1400 sq ft at \$45 per sq ft	G	3
A2	ANSI 117 (ADA)	Many exterior classroom door thresholds have transitions greater than 1/2" at both the ground level and at the door sill.	Reconstruct ramp and re-grade asphalt to allow for 1/2" maximum vertical transition.	\$ 16,000.00	Assumes 16 locations		
A3	1008.1.10 (IBC)	Panic device is required at egress door.	Install panic device hardware	\$ 24,000.00	Many doors have levers and other have knobs that require grasping and twisting. 16 locations at \$1,500 per door	A	3
A4	General	Closers on corridor egress doors are extremely slow.	Replace closers with new hardware	\$ 5,000.00	Assumes 4 locations at 1,500 per location	C	2
A5	General	Windows are original single pane at original building	Replace with doubled or triple glazed energy efficient system	\$ 410,000.00	Assumes 20 locations at 21,000, Capital Project	SS	1
A6	General	Roof Fascia paint peeling	Scrape, prime and paint	\$ 20,000.00	Assumes 4 locations at 1,500 per location	G	2
A7	General	Ballast roof is due for replacement due in 2023 - areas of ponding and thinning of gravel were noted	Replace when needed	\$ 953,440.00		SS	1
				<b>\$ 1,491,440.00</b>	<b>TOTAL ESTIMATED COSTS OF EXTERIOR ISSUES:</b>	G	3

<b>Interior Facility Condition</b>							
A8	603-606 (ANSI 117.1)	Existing toilet rooms do not meet accessibility standards. Common issues noted; no vertical grab bar	Provide new accessories (vertical grab bar) that meet all IBC/ANSI 117.1 and Federal Code requirements and clearances.	N/A	Toilet rooms and sink ante rooms off of classrooms do not meet proper clearances - complete Reno. See Tag No. A9	A	3
A9	General	Some restrooms have not been renovated - fixtures and finishes are old and worn.	Renovate and upgrade remaining restrooms, including staff restrooms.	\$84,000.00	Based on renovating 4 gang bathrooms 4 single bathrooms	G	3



# NARAMAKE ELEMENTARY SCHOOL

## FACILITY CONDITION ANALYSIS

03/27/15

Tag No.	Code Reference	Violation	Corrective Action	Estimated Cost	Remarks	System	Rank
A10	413.6 (ADA) 1101.2 (IBC) ANSI 117.1	All door push and/or pull maneuvering clearances do not meet code.	Where obstruction is not furniture related, modify door swing and/or location to comply. Where the previous is not easily achieved, supply push button door operator where required.	N/A	Requires design & Capital project	A	4
A11	4.13.9 (ADA) 404.2.6	Some door hardware is not accessible. Knob handles require grasping and twisting.	Remove door locksets and install new accessible lever handle locksets where designated.	\$6,000	\$400 per door. Assumes 15 locations as most have been complete	A	3
A12	4.32 (ADA)	Insufficient knee space provided at sink and/or workstation.	Provide accessible sink and workstation per ADA Section 4.32. 27" high x 30" wide x 19" deep.	N/A	Included in Tag No. A15, cabinetry replacement cost below	A	3
A13	General	Some classroom sinks that have the required knee space are blocked with storage items.	Remove items maintain open area.	N/A		A	3
A14	General	9x9 tiles throughout original classrooms, chipping and cracking occurring	Abatement of 9x9 an replace with 12x12 VCT	\$132,000.00		G	3
A15	General	Classroom cabinetry is old and worn, with areas chipping and damaged.	Replace cabinetry	\$144,000.00	Assumes 18 classrooms, Capital Project	G	3
A16	805.1 (IFC)	Bulletin boards, wood trim, student artwork, and miscellaneous materials (homosote) on corridor walls are combustible.	Although this is a common condition in most school facilities, by code corridors are not to contain combustible items. This item should be reviewed with the local authorities to confirm that the current layout and practice is acceptable.	N/A	Typical at all corridors.	C	4
A17	General	Hollow metal frame's paint is chipping	Scrape, prime and paint	\$15,000		G	3
A18	General	Paint in corridor especially above baseboard needs improvements	Scrape, prime and paint	\$8,000		G	3
A19	General	No vestibule exists	Incorporate vestibule at main entrance and connect to office	\$60,000	Improves security	SS	3
A20	General	Wired glass is no longer permitted	Replace glass	\$15,000		G	3
<b>TOTAL ESTIMATED COSTS OF INTERIOR ISSUES:</b>				<b>\$464,000</b>			

# NARAMAKE ELEMENTARY SCHOOL

## FACILITY CONDITION ANALYSIS

03/27/15

Tag No.	Code Reference	Violation	Corrective Action	Estimated Cost	Remarks	System	Rank
<b>Plumbing &amp; Fire Protection Systems</b>							
P1	General	Electric Water Heater appears to be near end of useful life.	Provide annual inspection and maintenance per manufacturer's recommendations to maximize service life.	\$10,000	Cost for replacement.		
P2	General	Some restrooms have not be renovated for ADA compliance	Upgrade remaining restroom fixtures.	N/A	This typically occurs at toilet rooms which do not meet many other clearances. See Tag No. A11	P	2
P3	General	The AHJ may require a backflow preventer be installed if any work is done to the water supply for the building.	Install backflow preventer.	\$1,500		A	3
FP1	NFPA 25	The Sprinkler System requires periodic inspection, testing and maintenance in accordance with NFPA 25.	Include annual cost of \$2000 in budget.	\$20,000	Cost for testing over 10 years.	G	3
<b>TOTAL ESTIMATED COSTS OF PLUMBING ITEMS:</b>				<b>\$31,500</b>		FP	3

<b>Mechanical Systems</b>							
M1	General	Boiler are approximately 3 years old and in good condition with a remaining useful life of 25 to 30 years.	Provide routine inspection and preventative maintenance to maximize useful life. Review water quality and chemical treatment.	\$20,000	Anticipated PM cost over the life of the system.		
M2	General	In-Line Hot Water Pumps are approximately 3 years old with 15 to 20 years of useful life remaining.	In-Line pumps can be replaced or repaired as required. Perform preventative maintenance in accordance with manufacturer's recommendations.	\$20,000	Anticipated PM cost over the life of the system.	M	3
M3	General	Heat Exchanger serving glycol loop is approximately 3 years old with 20 to 25 years of useful life remaining.	Heat Exchanger should be periodically inspected and cleaned.	\$5,000	Anticipated PM cost over the life of the system.	M	4
M4	CT Reg 22a-449(d)	Underground Fuel Oil Storage Tank age and condition to be determined.	Replace Underground Tank and Piping.	\$150,000	Review State tank registration paperwork to determine tank life expectancy.	M	4
M5	General	Condition of Hot Water Piping is unknown. Extent of pipe deterioration over time is dependent on water chemistry.	Review water chemistry with water treatment specialist and inspect piping.	\$2,000	Pipe inspection will require that the piping be drained and opened in locations to be determined.	M	1
						M	3



# NARAMAKE ELEMENTARY SCHOOL

## FACILITY CONDITION ANALYSIS

03/27/15

Tag No.	Code Reference	Violation	Corrective Action	Estimated Cost	Remarks	System	Rank
M6	General	Split System Air Conditioning Systems serving Library/Media Center and interior spaces have approximately 10 years of useful life remaining.	Replace Air Handlers and Condensing Units.	\$70,000	Cost is installed, based on one for one replacement with minor duct and piping modifications.	M	4
M7	General	Administrative Offices and Faculty Room have Window Air Conditioning Units. The useful remaining life of 5 to 10 years.	Replace units as they fail. Replacement cost is based on replacing 4 units at approximately \$800 each.	\$2,400	Recommend including central a/c as part of any major renovation.	M	4
M8	General	Roof Mounted Heating & Ventilating Unit has 5 to 10 years of useful life remaining.	Replace unit.	\$50,000	Cost is installed, based on one for one replacement. Does not include new piping and ductwork.	M	3
M9	General	Roof Mounted Heating & Ventilating Unit serving Kindergarten Classrooms was installed in 2012 and is in good condition with a remaining useful life of 20 to 25 years.	Provide routine inspection and preventative maintenance to maximize useful life.	\$6,000	Anticipated PM cost over the life of the system.	M	3
M10	IMC Chapter 4	Roof Exhaust Fans and Gravity Vents are nearing the end of their useful lives.	Inspect fans for proper operation. Replace fans as required.	\$35,000		M	2
M11	IMC Chapter 4	Corridors do not have proper ventilation as required by code.	Install roof mounted Energy Recovery Ventilators.	\$70,000		M	2
M12	IMC Chapter 4	Kitchen ventilation does not meet current standards.	Install ventilation system dedicated to kitchen.	\$30,000		M	3
M13	General	The Air Handling Units serving the Gym/Cafeteria and Music Room are at the end of their useful lives.	Replace equipment, clean existing ductwork provide new controls as part of new Building Management System.	\$90,000	Cost is installed, based on one for one replacement with minor duct and piping modifications.	M	3
M14	General	Finned Tube Radiation is likely to be near the end of its useful life.	Replace Finned Tube, enclosures, branch piping and controls.	\$250,000	Inspect finned tube and piping as part of any repair work to determine useful life remaining.	M	3
M15	General	Pneumatic Temperature Controls. The Controls compressor appears to be well maintained but likely near the end of its useful life. Control devices are also at the end of their useful life.	Recommend replacing Automatic Temperature Controls with new Direct Digital Controls (DDC) and interface with existing Building Energy Management System (BMS).	\$200,000	BMS would be part of any significant renovation. Cost based on full renovation with air conditioning.	M	3
M16	IMC Chapter 8	Condition of Chimney is unknown.	Have chimney inspected by specialist.	\$15,000	Price includes inspection and lining existing chimney.	M	2
M17	General	The Top Level Supervisory Controller for the HVAC Controls is obsolete.	Replace Supervisory Controller for improved Building Energy Management.	\$15,000	Controller will be compatible with future Automatic Temperature Controls	M	3
<b>TOTAL ESTIMATED COSTS OF MECHANICAL ITEMS:</b>				<b>\$1,030,400</b>			

# NARAMAKE ELEMENTARY SCHOOL

## FACILITY CONDITION ANALYSIS

03/27/15

Tag No.	Code Reference	Violation	Corrective Action	Estimated Cost	Remarks	System	Rank
<b>Electrical Systems</b>							
E1	IBC chapter 907, NFPA72	No fire alarm notification unit serving assembly area.	Provide fire alarm notification unit.	\$5,000			
E2	NFPA72	No fire alarm pull station to suit egress door	Provide Fire alarm pull station	\$4,000		C	2
E3	General	No emergency lighting or area lacking emergency lighting	Provide emergency lighting	\$6,000		C	2
E4	NFPA70 Article 700	No exterior remote emergency lighting	Provide two lamp remote emergency lighting	\$2,500		G	1
E5	NFPA70 Article 700	Exterior remote emergency head deteriorated, Also code requires a two lamp fixture to suit exterior egress	Replace exterior remote emergency head and provide unit with two lamp.	\$1,500		C	1
E6	NFPA 101	No illuminated exit sign over egress door.	Provide combo exit sign with emergency lights	\$7,000		C	1
						C	2



# NARAMAKE ELEMENTARY SCHOOL

## FACILITY CONDITION ANALYSIS

03/27/15

Tag No.	Code Reference	Violation	Corrective Action	Estimated Cost	Remarks	System	Rank
E7	IECC	No motion sensor to suit lighting.	Provide motion sensor.	\$12,000	Wall or Ceiling		
E8	NFPA70	No GFI power receptacle above countertop near sink	Provide GFI power receptacles	\$100		G	4
E9	General	Self - contained emergency twin head not working properly.	Repair or replace unit	\$1,000		C	3
<b>TOTAL ESTIMATED COSTS OF ELECTRICAL ITEMS:</b>				<b>\$39,100</b>		G	1

**TOTAL ESTIMATED COSTS OF ALL ISSUES: \$3,056,440**

**GENERAL NOTES:**

ESTIMATED COSTS ARE BASED ON 2015 CONST COSTS. ESCALATE 5% PER YEAR.  
ESTIMATES DERIVED W/ LIMITED INPUT FROM BUILDING, FIRE OR HEALTH DEPTS.

COST ESTIMATES BASED ON HISTORICAL DATA FOR COMPARABLE PROJECTS.

ESTIMATES ARE PRE-CONCEPTUAL. USE FOR ORDER OF MAGNITUDE COSTING AND BUDGETING ONLY.

**LEGEND:**

- A - ACCESSIBILITY
- C - CODE
- G - GENERAL
- S - SITE
- SS-SCHOOL SAFETY

**LEGEND PRIORITY - RANK:**

- 1 = Urgent priority** - These items should be corrected as soon as possible and most likely encompass code, health and life safety issues.
- 2 = High priority** - These items should be corrected within a reasonable amount of time after the highest priorities referenced above. These may be associated with high priority maintenance issues or accessibility
- 3 = Moderate priority** - These items may be associated with aesthetic or general maintenance issues. Remaining useful life of 3-5 years.
- 4 = Low priority** - These items include maintenance and aesthetic issues that are not in current need of replacement, but should continue to be monitored on a regular basis. These items typically have a remaining useful life of 5-10 years or greater.



Silver Petrucci & Associates, Inc.

Architects, Engineers & Interior Designers  
Hamden, Connecticut 06518

Telephone: 203-230-9007

e-mail: info@silverpetrucci.com





**NARAMAKE  
ELEMENTARY SCHOOL**



NOT TO SCALE



**Parking Area**



**Softball Field**



**Playground 1 & Grass Play 1**



**Bus Loop**



**Grass Play 1**



5 - NEW - New or like-new condition; no issues to report; no expected failures; life expectancy 15+ years
4 - GOOD - Good condition no reported issues or concerns; may require replacement 10 - 15 years
3 - FAIR - Average wear for age; not new but no issues to report; replace within 5 - 10 years
2 - POOR - Worn from use - approaching end of expected life cycle. Replace within 3 - 5 years when funds are available
1 - CRITICAL - Extremely worn or damaged; replace within 1 - 3 years

**UNIT LEGEND**

- SY - Square Yard
- SF - Square Feet
- LF - Linear Feet
- LS - Lump Sum
- OM - Operations & Maintenance
- EA - Each

**NOTES:**

1. "Unit Costs" represent 2015 budgetary pricing. "Total Costs" include 25% contingency.
2. All costs are reflective of 2015 construction costs. Future costs are projected to increase 3 - 5% per year.
3. Items that require routine maintenance are considered operations and maintenance (OM). Developing a budget for OM is not with the scope of this study.

SITE ASSESSMENT	CONDITION					DESCRIPTION	UNIT QUANTITY	UNIT COST	*TOTAL
	5	4	3	2	1				
<b>1. Main Entrance/ Bus Loop</b>					n/a				
a. Bituminous Concrete Driveway				2		In poor condition. Reclaim and Repave	SY 1,500	\$30	\$308,000
b. Concrete Sidewalk			3				SF 9,200	\$15	\$57,000
c. Bituminous Concrete Sidewalk				2		Much of the sidewalk is in poor to average condition. Various areas have been recently patched.	SY 500	\$50	\$173,000
d. Concrete Curb					1	Much of the curbing is spalled and crumbling	LF 610	\$30	\$23,000
e. Bituminous Curb					1	Located in limited quantity- replace with concrete curb	LF 130	\$30	\$5,000
f. Concrete Stairs					n/a				
g. Storm Drainage			3			Catch basin tops damaged from plowing.	EA 4	\$2,500	\$13,000
h. Pavement Markings				4	2	Some striping is new. Interior fire lane in poor condition	LS 1	\$2,000	\$3,000
i. Accessible Ramps				5		Accessible ramps new with detectable warning strips			
j. Lighting					n/a	Recommend performing a lighting assessment.			
k. Signage					4	Signs are clear and in good condition			
l. Landscaping				5	2	Overall in great shape. Cherry Trees at west entrance need to be limbed up.	LS 1	\$1,500	\$2,000
<b>2. Parking Area</b>									
a. Bituminous Concrete Driveway					1	Driveway apron at road and Accessible Parking Spaces are new. Remainder of lot is cracked with potholes and needs to be reclaimed and repaved	SY 5,000	\$30	\$234,000
b. Concrete Curb				5	2	Curb has been patch in random areas and in good condition. The remainder is in poor condition.	LF 1,000	\$30	\$38,000
c. Bituminous Curb					2	Used in lieu of concrete curb repair. Replace with concrete curb. See quantities in note 2.b.			
e. Pavement Markings					1	Very faded and barely legible	LS 1	\$3,000	\$4,000
f. ADA Compliance				5		All new curb ramps with detectable warning strips.			
g. Accessible Parking					4	Bituminous parking new. Warning strips at parking should run along flush curb. Passenger loading zone recently added.			
h. Storm Drainage				5	2	New conc. Basin tops at driveway apron. Interiors or tops exhibit plover damaged.	EA 1	\$2,500	\$4,000
i. Lighting					n/a	Recommend performing a lighting assessment.			
j. Signage									
k. Landscaping					3	Poor lawn/ Average landscaping	OM N/A	N/A	N/A
<b>3. Grass Play 1</b>									
a. Lawn					3	Area used for physical education. Security may be an issue with proximity to public street.	OM N/A	N/A	\$7,000



Softball Field



Playground



Rear Bituminous Sidewalk



Main Entrance/Driveway



Bus Loop







Item	4	5	6	7	8	9	10	11	12	13	14	15	16
b. Accessibility													
c. Bituminous walkway				1		Accessible from adjacent walks			SY	170	\$40	\$9,000	
d. Security			1		Heavy erosion along slope of rear neighborhood walk	Neighborhood walk has direct access to play area-this should be considered			N/A				
e. Landscaping			3					OM	N/A	N/A	N/A		
9. Playground 1													
a. Playground Structures	5				Newly installed								
b. Playground Surfaces	5				Newly installed								
c. Accessibility		4											
10. Playground 2													
a. Playground Structures	5				Newly installed								
b. Playground Surfaces	5				Newly installed								
c. Accessibility		4											
d. Landscaping		4			Newly installed along addition			OM					
11. Water Quality Basin													
<b>Grand Total</b>											\$731,000		

\*Cost includes 25% contingency



Grass Play 2



Lawn at Grass Play 2



Water Quality Basin



Parking Area 1



Outfield Fence

**UNIT LEGEND**

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