

MARPLE NEWTOWN SCHOOL DISTRICT FACILITIES ASSESSMENT

Russell Elementary School

Worrall Elementary School

Paxon Hollow Middle School

Bus Garage Parking Lot



September 14, 2021

FACILITIES ASSESSMENT OVERVIEW

- Bonnett Associates, Inc. (BAI) was engaged to evaluate the condition of Russell Elementary School, Worrall Elementary School and Paxon Hollow Middle School buildings and ability of those buildings to meet the needs of the Marple Newtown School District's Educational Program.
- BAI met with Dr. Tina Kane, Jake Gallagher and the school principals to discuss the building and educational needs at each school.
- BAI evaluated existing demographic data and compared that information to Spring 2021 enrollment information to assess space needs at each school.
- Building configurations were also compared to the Educational Specifications for elementary and middle schools.
- Concept site and building floor plans were then developed for each school to address the identified needs.
- Concept plans were then reviewed with central administration and school principals to ensure concept plans addressed the identified needs.
- BAI also reviewed existing conditions at the Bus Garage Parking Lot and explored options to alleviate the congestion.



BUILDING OVERVIEW

- **HVAC:** Russell Elementary School was constructed in 1953 and then renovated in 2003. Most of the existing HVAC systems were replaced during the 2003 project except for the boilers and gravity relief. Therefore, most systems in the school are at least 18 years old and are either at or beyond their useful life.
- **Miscellaneous:** The building has an issue in the crawl space areas that has resulted in water infiltration to the corridor and some classrooms. This will require a water mitigation design to resolve.



HVAC SYSTEM SUMMARY

RUSSELL ELEMENTARY SCHOOL ASSESSMENT

ASHRAE SYSTEM LIFE EXPECTANCY

<u>Existing HVAC Systems</u>	<u>Year Installed</u>	<u>Condition</u>	<u>ASHRAE System Life Expectancy</u>
Boilers	1986	Fair to Poor	35 Years
Chiller	2003	Fair	23 Years
Air Cooled Chiller	2003	Fair	20 Years
Pumps	2003	Fair	20 Years
Fan Coil Units	2003	Good	15 Years
Rooftop A/C Units	2003	Fair	15 Years
Gravity Relief	1986	Fair to Poor	20 Years
Piping	2003	Fair to Good	30 Years
Automatic Temp Control	2003	Fair	20 Years

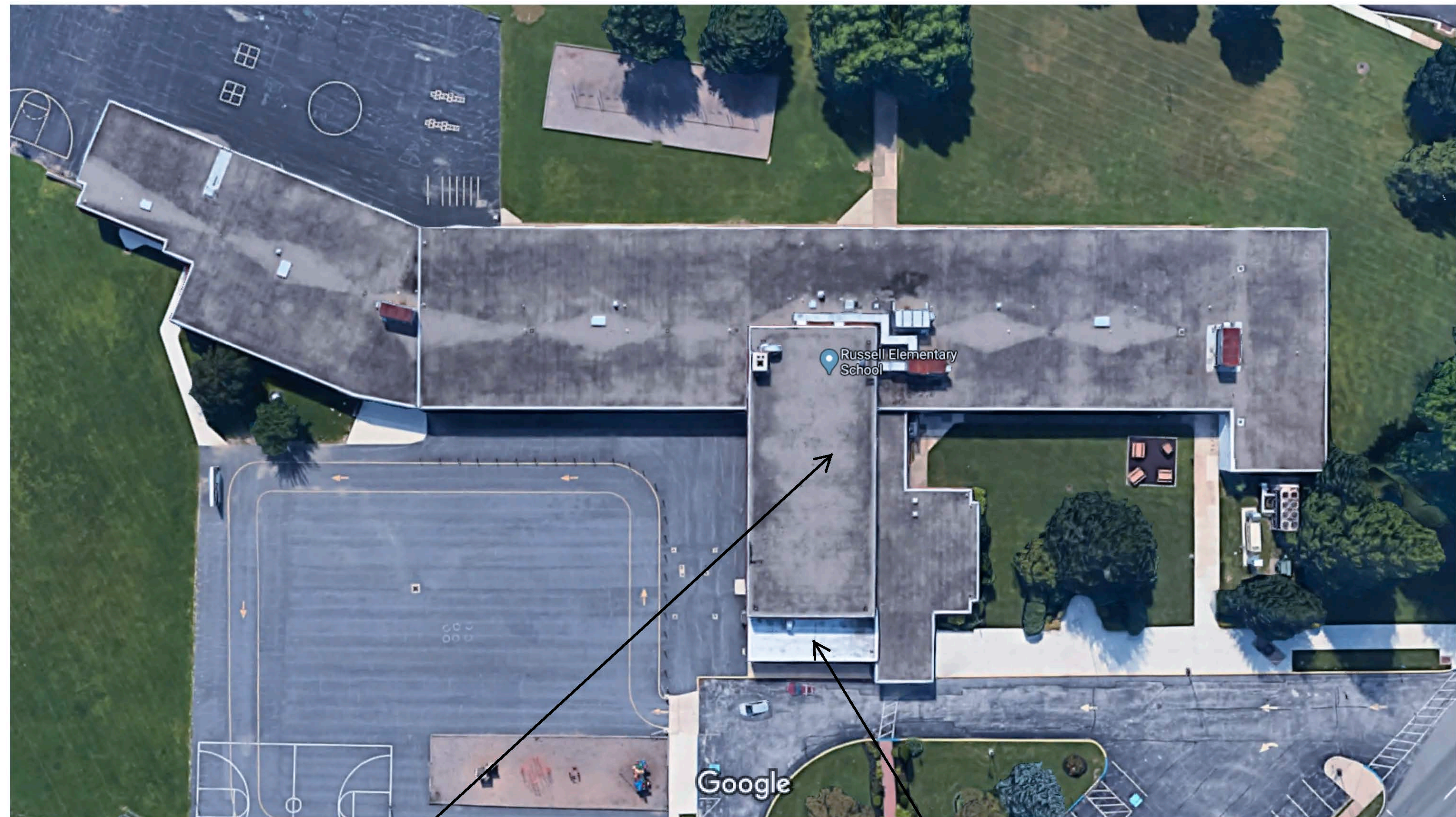
BUILDING OVERVIEW

- **Plumbing:** Plumbing fixtures (lavatories, urinals and water closets) should be replaced to improve water use efficiency. Upgrade water heaters to improved energy efficiency and ensure proper clearances are provided around equipment in mechanical room. Existing sewer ejector pumps are in poor condition and need replacement.
- **Electrical:** Light fixtures are florescent and should be replaced with LED fixtures to improve energy efficiency. Electrical panels are of various generations and should be considered for replacement with major project.
- **Life Safety:** The Fire Alarm System was replaced in 2003 but should be replaced as part of a major renovation. The Emergency Generator is in good condition but must be evaluated for capacity as part of major renovation and / or additions.
- **Roofing:** There are portions of the existing roof that are out of warranty and some that are still under warranty. However, if part of a major renovation project, additional roof insulation may be required due to new energy code requirements.

ROOF CONDITION SUMMARY

Google Maps

Russell Elementary School



Imagery ©2020 Google, Map data ©2020 20 ft

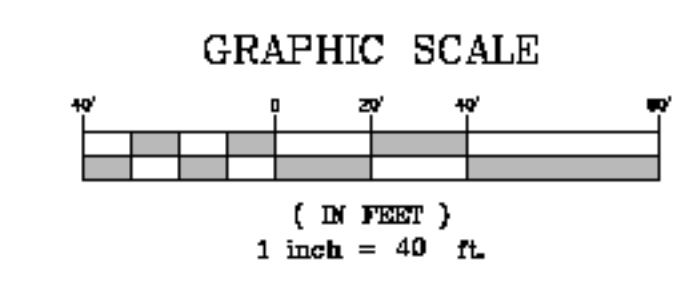
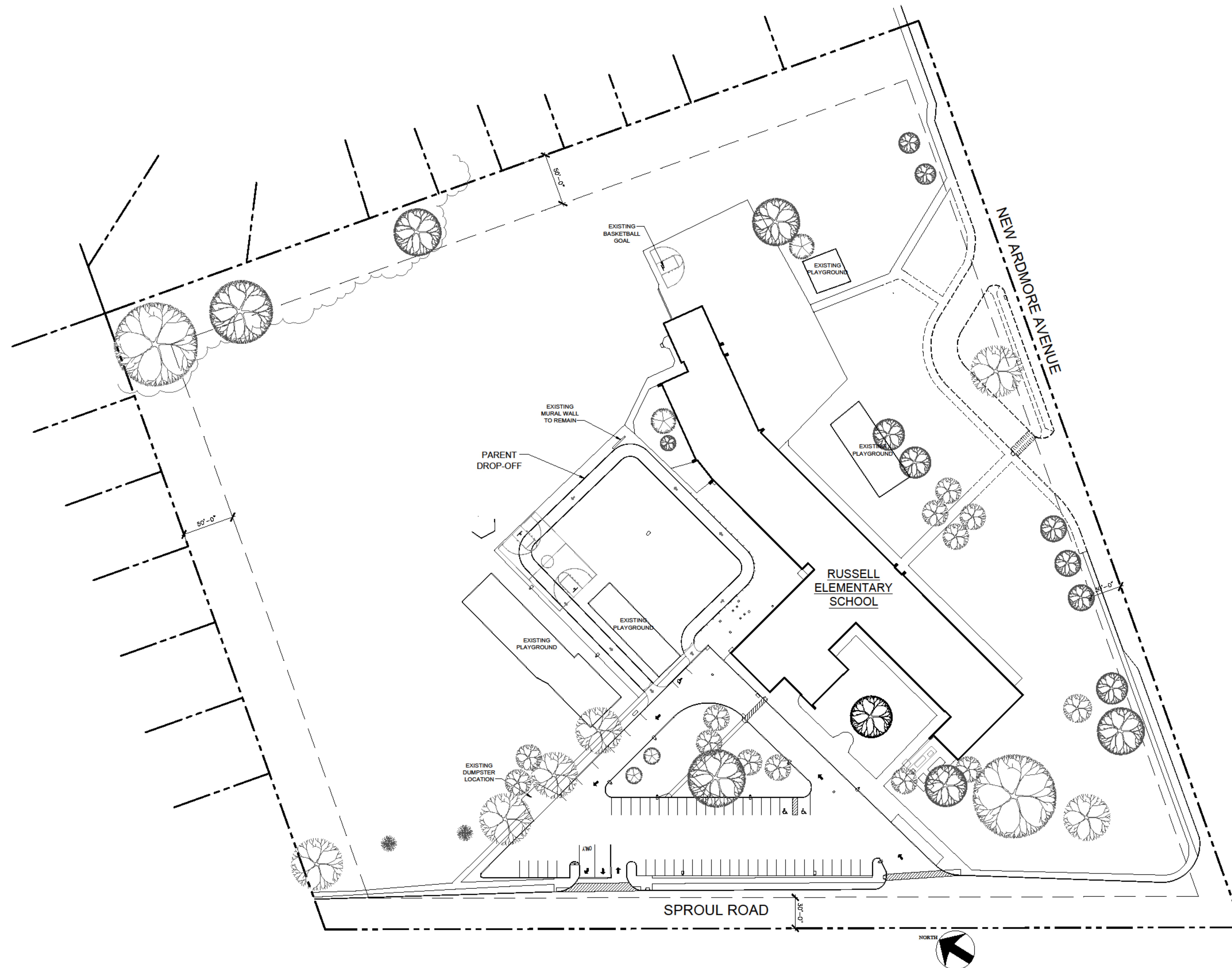
2-Ply Modified/Gravel
Warranty Expires 2031

Roof Coating
Warranty Expires 2021



EXISTING AERIAL PHOTO

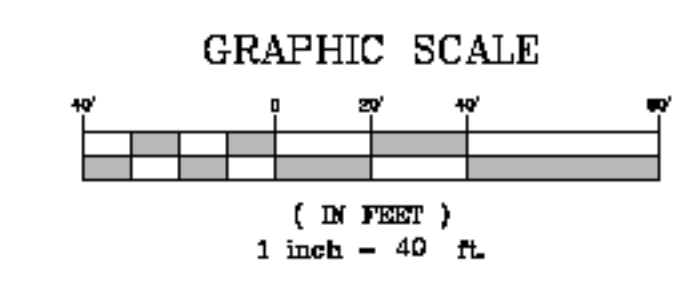
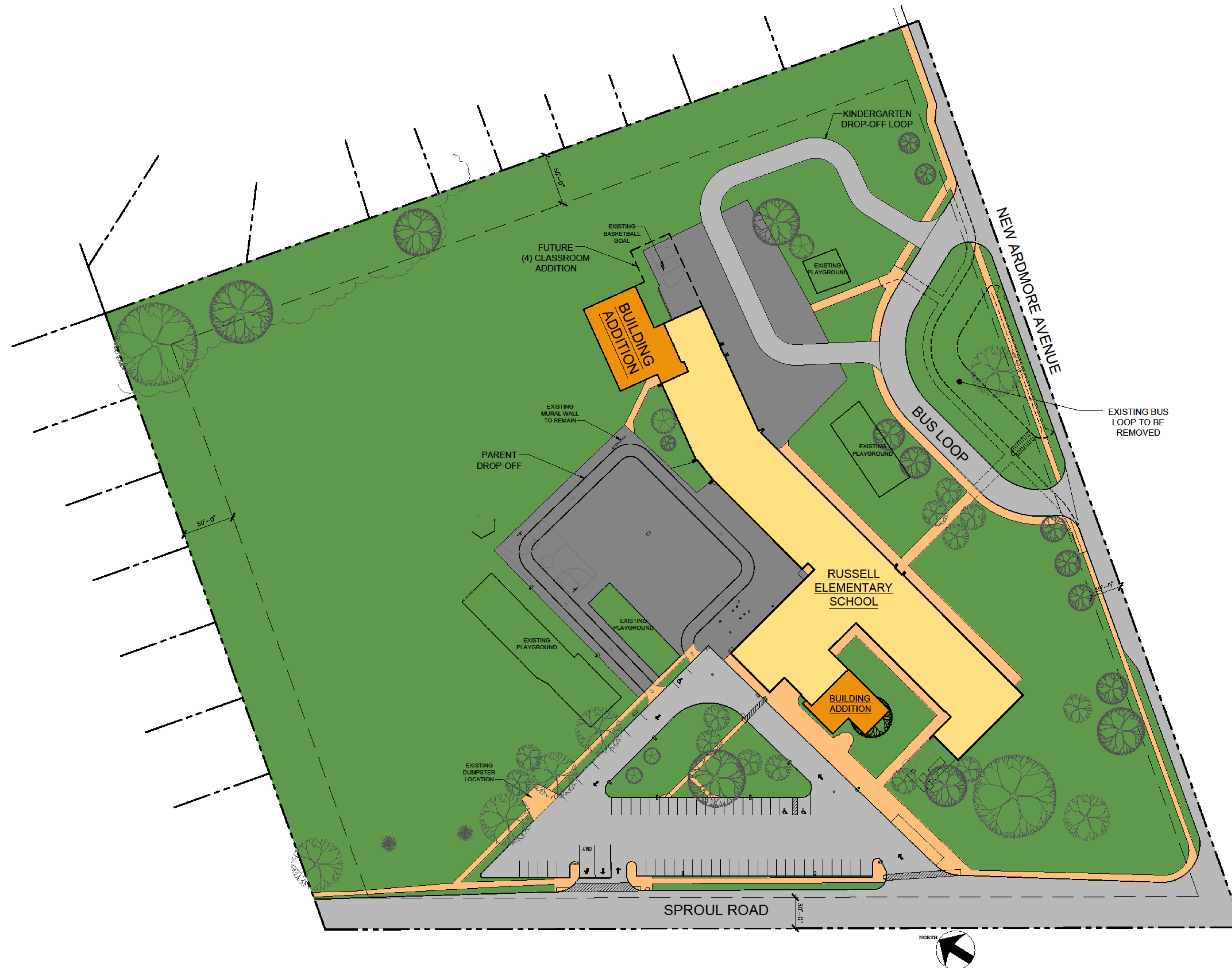
RUSSELL ELEMENTARY SCHOOL
MARPLE NEWTOWN SCHOOL DISTRICT



EXISTING SITE PLAN

RUSSELL ELEMENTARY SCHOOL **MARPLE NEWTOWN SCHOOL DISTRICT**





PROPOSED SITE PLAN

RUSSELL ELEMENTARY SCHOOL

MARPLE NEWTOWN SCHOOL DISTRICT



WORRALL ELEMENTARY SCHOOL
MARPLE NEWTOWN SCHOOL DISTRICT

BA BONNETT ASSOCIATES INCORPORATED
 ARCHITECTS • PLANNERS • ENGINEERS • PROJECT MANAGERS
 220 BALDWIN TOWER • 1510 CHESTER PIKE • EDDYSTONE, PENNSYLVANIA 19022



SEPTEMBER 14, 2021

BUILDING OVERVIEW

- **HVAC:** Worrall Elementary School was constructed in 1957, expanded in 1969 and then renovated in 2000. Most of the existing HVAC systems were replaced during the 2000 project except for the boilers and gravity relief. Therefore, most systems in the school are at least 20 years old and are either at or beyond their useful life. One exception are the roof top units installed in 2018 which will be evaluated further if a major project is undertaken.



HVAC SYSTEM SUMMARY

WORRALL ELEMENTARY SCHOOL ASSESSMENT

ASHRAE SYSTEM LIFE EXPECTANCY

<u>Existing HVAC Systems</u>	<u>Year Installed</u>	<u>Condition</u>	<u>ASHRAE System Life Expectancy</u>
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Boilers	1986	Fair to Poor	35 Years
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Chiller	2000	Fair to Poor	23 Years
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Air Cooled Condensers	2000	Fair	20 Years
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Pumps	2000	Fair	20 Years
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Fan Coil Units	2000	Fair	15 Years
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Rooftop A/C Units	2018	Fair	15 Years
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Gravity Relief	1991	Fair to Poor	20 Years
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Piping	2000	Fair to Good	30 Years
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Automatic Temp Control	2000	Fair	20 Years
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BUILDING OVERVIEW

- **Plumbing:** Plumbing fixtures (lavatories, urinals and water closets) should be replaced to improve water use efficiency. Upgrade water heaters to improved energy efficiency and ensure proper clearances are provided around equipment in mechanical room. Sanitary piping has issues that will require replacement below floor slab in classroom wing.
- **Electrical:** Light fixtures are florescent and should be replaced with LED fixtures to improve energy efficiency. Electrical panels are of various generations and should be considered for replacement with major project.
- **Life Safety:** The Fire Alarm System was replaced in 2000 but should be replaced as part of a major renovation. The Emergency Generator is in good condition but must be evaluated for capacity as part of major renovation and / or additions.
- **Roofing:** There are portions of the existing roof that are out of warranty and some that are still under warranty. However, if part of a major renovation project, additional roof insulation may be required due to new energy code requirements.

ROOF CONDITION SUMMARY

Google Maps

Worrall Elementary School



Imagery ©2020 Google, Map data ©2020 20 ft

Roof Coating
Warranty Expired 2020

2-Ply Modified/Gravel
Warranty Expires 2030



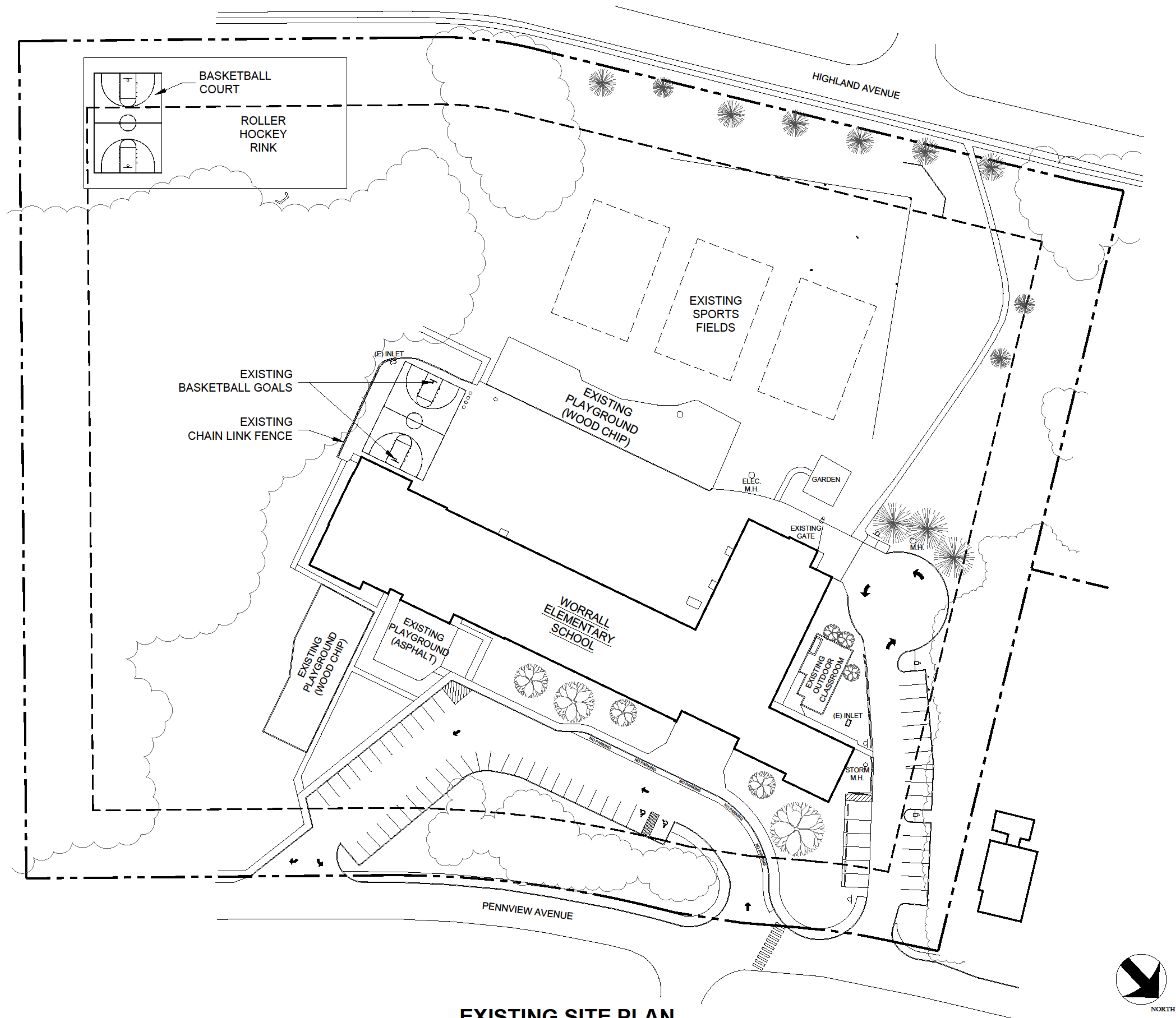
EXISTING AERIAL PHOTO

WORRALL ELEMENTARY SCHOOL **MARPLE NEWTOWN SCHOOL DISTRICT**

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SEPTEMBER 14, 2021



EXISTING SITE PLAN

WORRALL ELEMENTARY SCHOOL **MARPLE NEWTOWN SCHOOL DISTRICT**





PROPOSED SITE PLAN

WORRALL ELEMENTARY SCHOOL **MARPLE NEWTOWN SCHOOL DISTRICT**



PAXON HOLLOW MIDDLE SCHOOL
MARPLE NEWTOWN SCHOOL DISTRICT

BUILDING OVERVIEW

- **HVAC:** Paxon Hollow Middle School was constructed in 1956, expanded in 1991 and then renovated in 2002. Most of the existing HVAC systems were replaced during the 2002 project except for the boilers and cooling tower. Therefore, most systems in the school are at least 19 years old and are either at or beyond their useful life. One exception is the chiller, which was replaced this year.



HVAC SYSTEM SUMMARY

PAXON HOLLOW MIDDLE SCHOOL ASSESSMENT
ASHRAE SYSTEM LIFE EXPECTANCY

<u>Existing HVAC Systems</u>	<u>Year Installed</u>	<u>Condition</u>	<u>ASHRAE System Life Expectancy</u>
Boilers	1991	Fair to Good	35 Years
Chiller	2021	New	23 Years
Cooling Tower	1986	Poor	20 Years
Pumps	2021	New	20 Years
Fan Coil Units	2002	Good	15 Years
Rooftop A/C Units	2002	Good	15 Years
Make Up Air Unit	2003	Fair	15 Years
Piping	2002	Fair to Good	30 Years
Automatic Temp Control	2002	Fair	20 Years

BUILDING OVERVIEW

- **Plumbing:** Plumbing fixtures (lavatories, urinals and water closets) should be replaced to improve water use efficiency. Upgrade water heaters to improved energy efficiency and ensure proper clearances are provided around equipment in mechanical room. Existing sewer ejector pumps are in poor condition and need replacement.
- **Electrical:** Light fixtures are florescent and should be replaced with LED fixtures to improve energy efficiency. Electrical panels are of various generations and should be considered for replacement with major project.
- **Life Safety:** The Fire Alarm System was replaced in 2002 but should be replaced as part of a major renovation. The Emergency Generator is in good condition but must be evaluated for capacity as part of major renovation and / or additions.
- **Roofing:** There are portions of the existing roof that are out of warranty and some that are still under warranty. However, if part of a major renovation project, additional roof insulation may be required due to new energy code requirements.

ROOF CONDITION SUMMARY

Google Maps

Paxon Hollow Middle School



Imagery ©2020 Maxar Technologies, Map data ©2020 50 ft

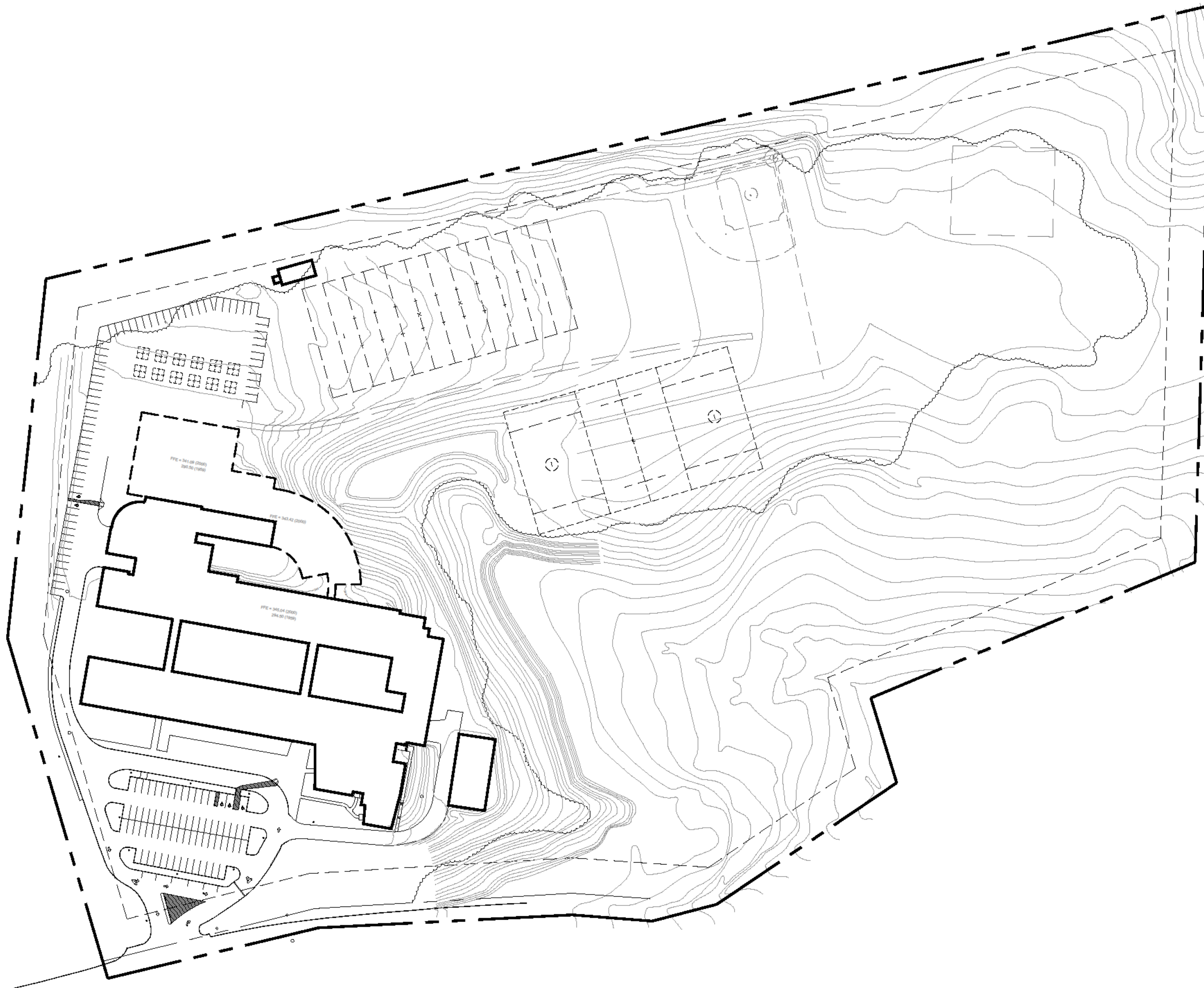
Roof Coating
Warranty Expired 2019

EPDM Roof
Warranty Expired

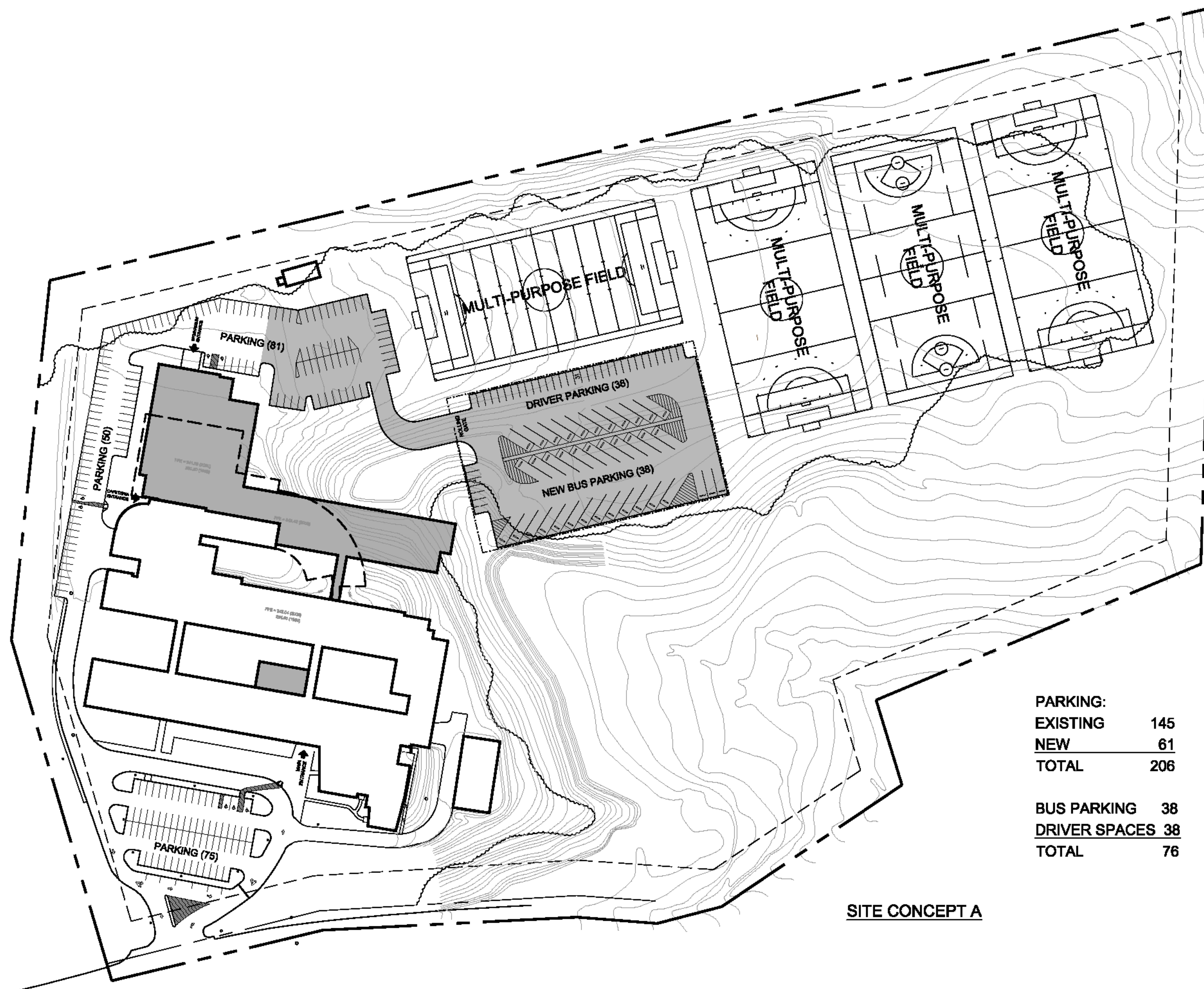
2-Ply Modified/Gravel
Warranty Expires 2029



EXISTING AERIAL PHOTO
PAXON HOLLOW MIDDLE SCHOOL
 MARPLE NEWTOWN SCHOOL DISTRICT



EXISTING SITE PLAN
PAXON HOLLOW MIDDLE SCHOOL
 MARPLE NEWTOWN SCHOOL DISTRICT



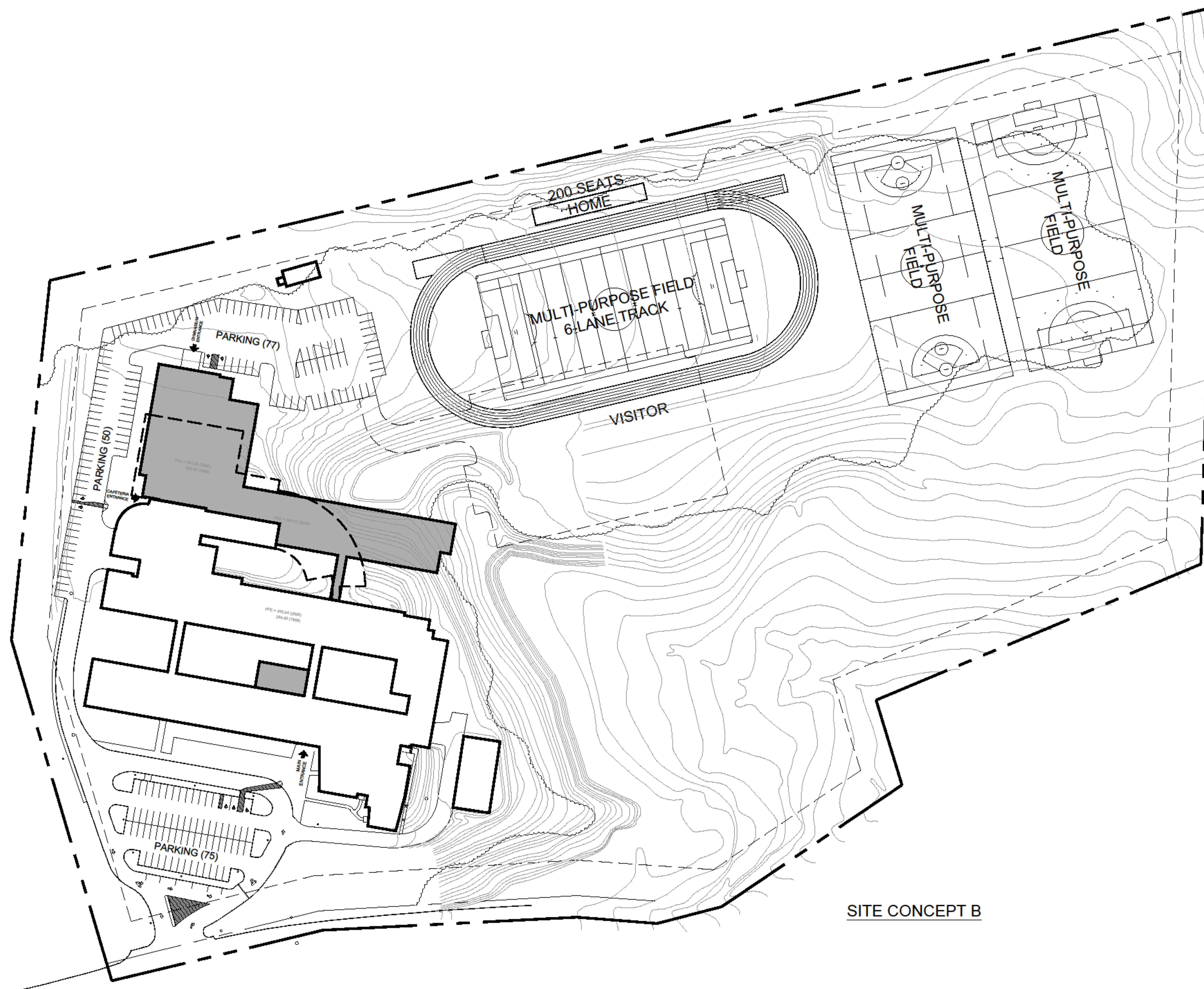
PARKING:	
EXISTING	145
NEW	61
TOTAL	206

BUS PARKING	38
DRIVER SPACES	38
TOTAL	76

SITE CONCEPT A

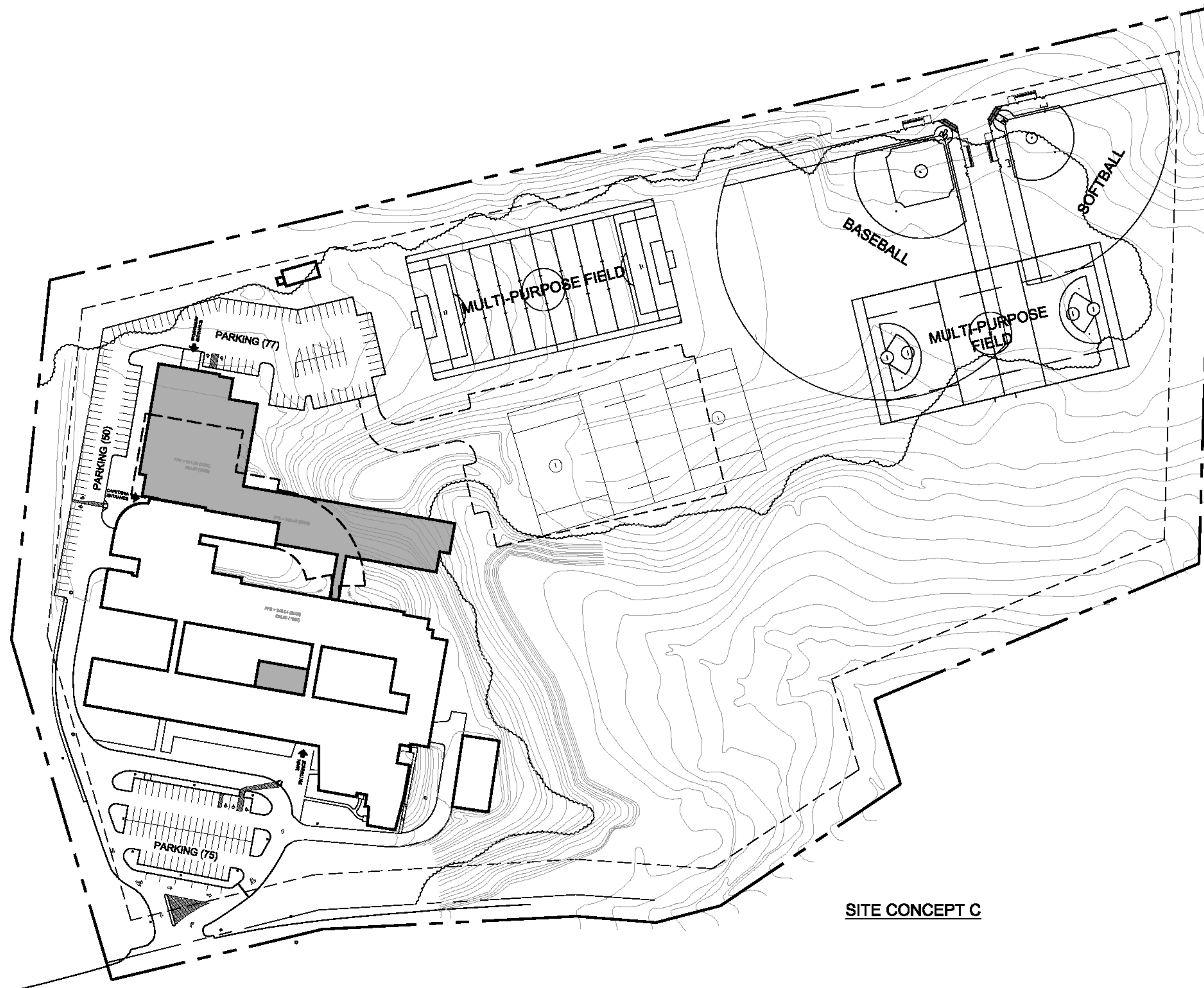
**PRELIMINARY PROPOSED SITE PLAN
(6th-8th GRADES)**

**PAXON HOLLOW MIDDLE SCHOOL
MARPLE NEWTOWN SCHOOL DISTRICT**



PRELIMINARY PROPOSED SITE PLAN
(6th-8th GRADES)

PAXON HOLLOW MIDDLE SCHOOL
MARPLE NEWTOWN SCHOOL DISTRICT



PRELIMINARY PROPOSED SITE PLAN
(6th-8th GRADES)

PAXON HOLLOW MIDDLE SCHOOL
MARPLE NEWTOWN SCHOOL DISTRICT

BUS GARAGE PARKING

- **Objective:** Explore ways to reduce congestion of bus parking at Bus Garage Parking area.
- Options considered at Gauntlett Center and at Paxon Hollow Middle School.
- Gauntlett Center Option expands current bus parking area towards Route 3 by converting existing car parking to bus parking. Additional car parking would be provided as shown on plan.

BUS PARKING	
LONG BUS (40')	17
SHORT BUS (25')	1



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BUS PARKING AT THE GAUNTLETT CENTER

MARPLE NEWTOWN SCHOOL DISTRICT