



Crabtree, Rohrbaugh & Associates

CONEWAGO VALLEY SCHOOL DISTRICT

DISTRICT-WIDE FEASIBILITY STUDY

FACILITY STUDY UPDATE

January 23, 2023

AGENDA

1 Option Development

2 Cost Estimates

3 Site Analysis

4 Next Steps



OPTION DEVELOPMENT

Options align with District's Vision and Educational Program

OPTION SUMMARY

OPTION 1: Renovate Existing Buildings

CTE & NOE	Renovations & Additions to develop equitable schools
CVIS	Limited Renovations
NOMS/HS	Renovations

OPTION 2: One Campus Model

CTE & NOE	New Construction of one K-3 School on Main Campus
CVIS	Limited Renovations
NOMS/HS	Renovations

OPTION 3: One Campus Model

New K-1	New Construction of K-1 Primary School on Main Campus
NOE	Renovations & Additions to convert to 2nd-3rd Grades
CVIS	Limited Renovations
NOMS/HS	Renovations

A top-down view of a group of people's arms and hands reaching towards the center, stacked on top of each other in a huddle. The people are wearing various casual clothing like t-shirts, sweaters, and a button-down shirt. The background is a light-colored, slightly blurred floor.

OPTION 1

Renovate Existing Buildings

SCOPE OF WORK - CTE

Exterior Envelope

- Window Replacement
- Brick repair
- Roof Fascia and Coping Replacement

Interior

- Secure Vestibule
- Renovations to Administration
- Standardize Classroom layouts
- Upgrade Restrooms
- Replace Casework, Doors, Flooring, Ceilings & Painting
- Natural daylight in all classrooms
- Address life safety code requirements (Egress through Library)

•Building Systems

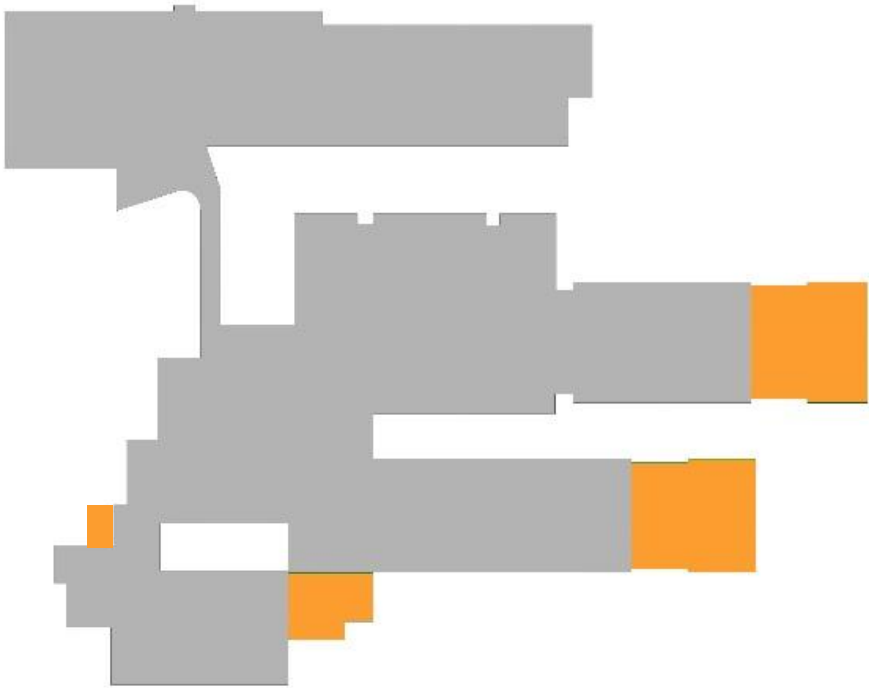
- New HVAC System
- Plumbing, lighting, and electrical upgrades

Building Additions

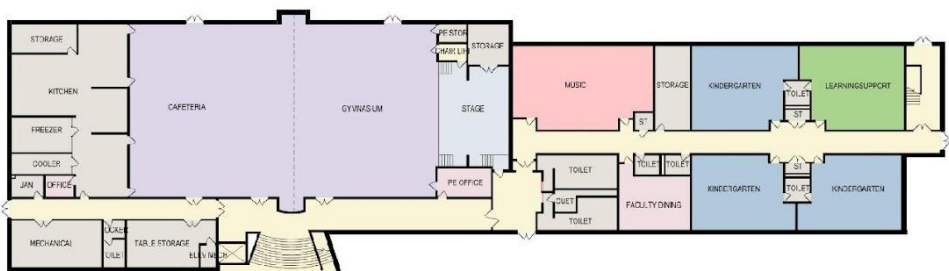
- **6 classroom addition with support spaces**

Site Improvements

- Separation of parent and bus drop-off



PROPOSED PLAN - CTE



SECOND FLOOR PLAN



NEW ADDITION SF: 14,600

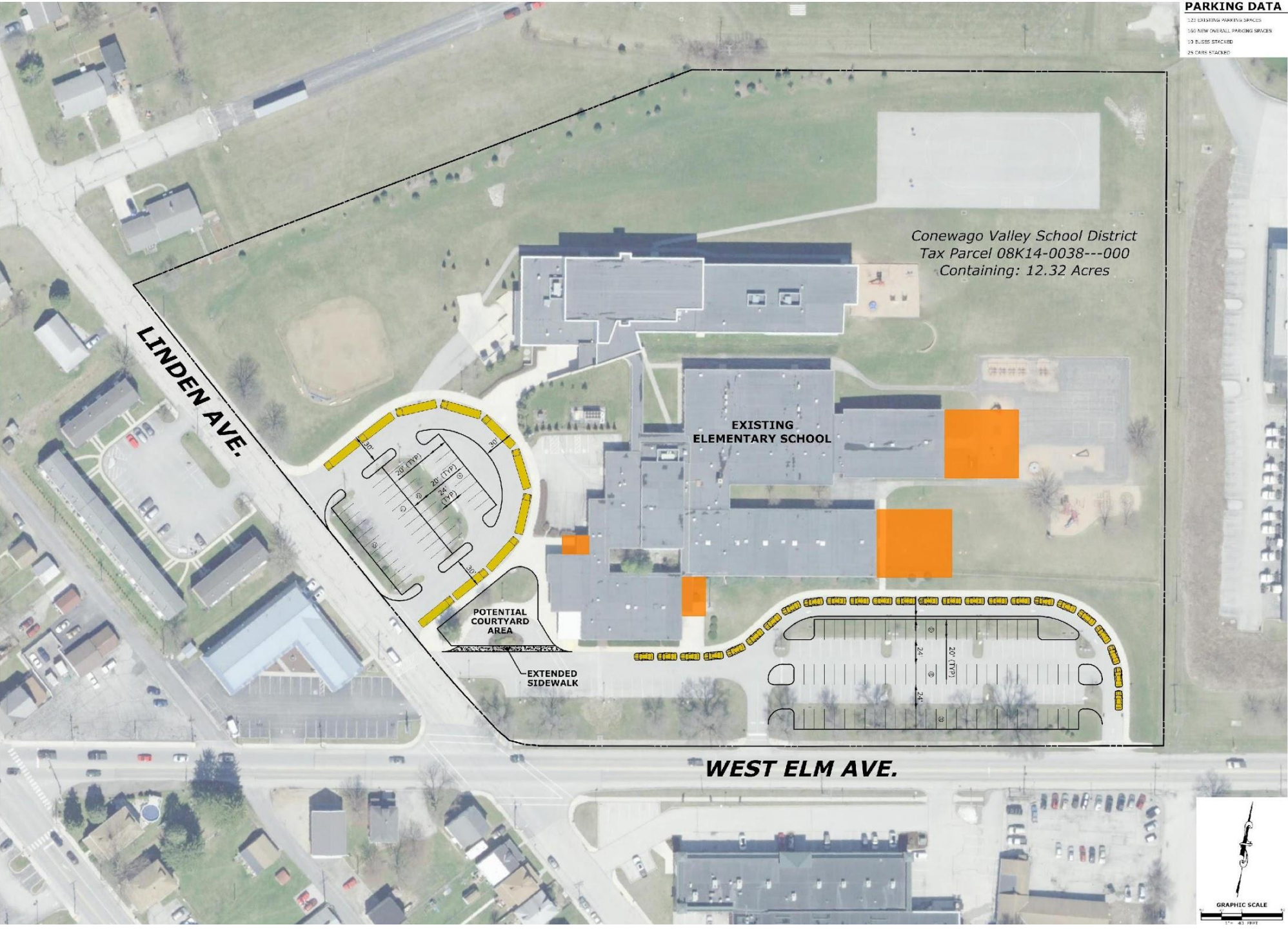
FIRST FLOOR PLAN

NEW ADDITIONS

PARKING DATA	
222 EXISTING PARKING SPACES	
240 NEW OVERALL PARKING SPACES	
10 BUSES STACKED	
25 CARS STACKED	

Site Development

- Add 40 new parking spaces
- 10 buses stacked
- 25 cars stacked



SCOPE OF WORK - NOE



Building Envelope

- Window replacement
- Roof Mitigation, Fascia & Coping

Interior Finishes

- Flooring repair or replacement
- New Casework & Sinks
- Replace Doors
- ADA compliant Rest Rooms

Building Systems

- New HVAC System
- Replace Automatic Temperature Control system
- Lighting and Electrical upgrades
- Plumbing fixture and piping replacement
- Hot Water Heater
- Dedicated Data Closets

Site Improvements

- Increase Parent Drop-off access drive
- Repair asphalt paving and sidewalks

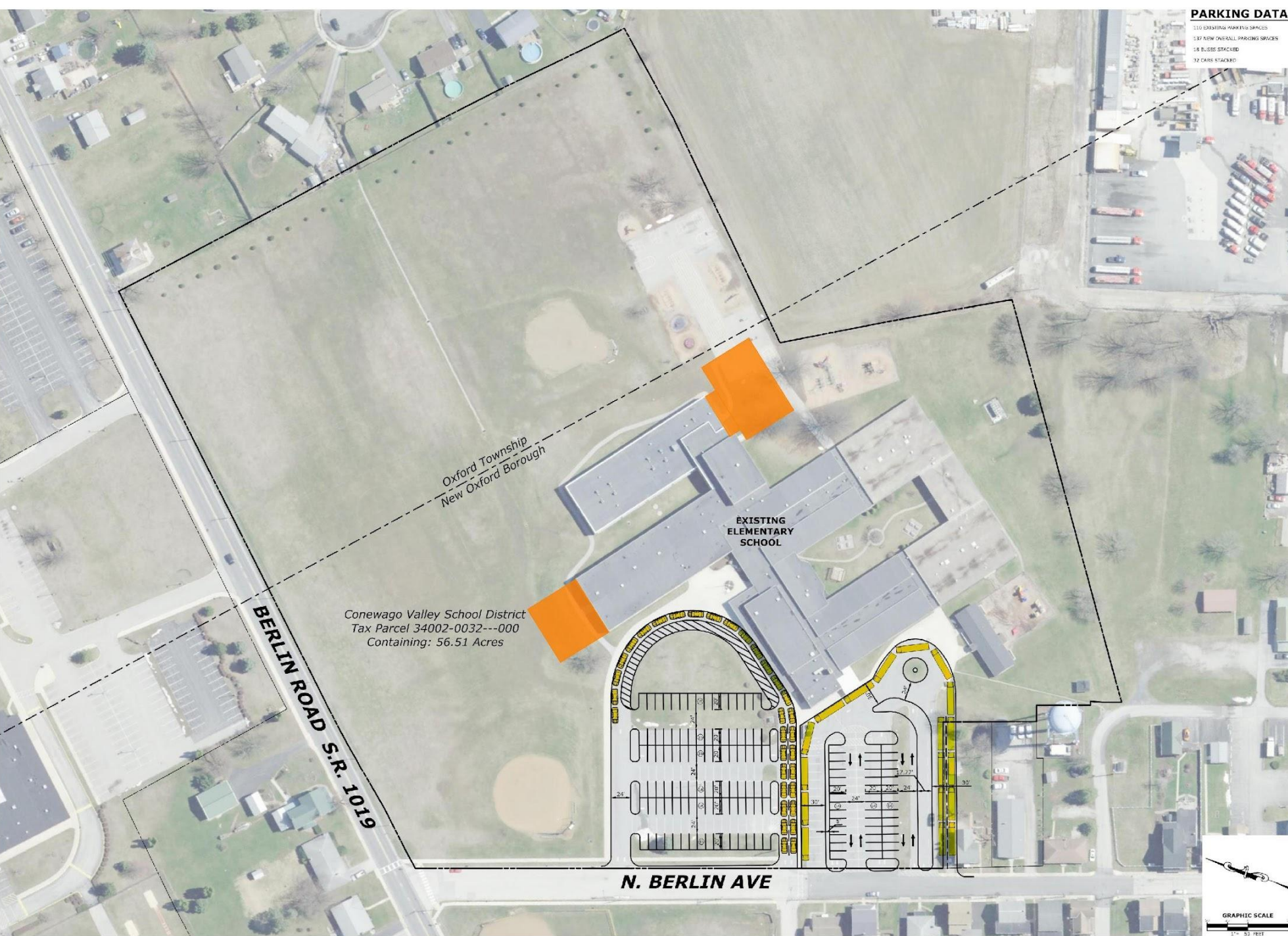
Building Additions

- New Gymnasium (Alternate Bid)
- **4 classroom addition and new toilet rooms**

PROPOSED PLAN - NOE



NEW ADDITIONS



Site Development

- Relocate bus and parent drop-off
- Add 40 new parking spaces
- 18 buses stacked
- 24-32 cars stacked

A top-down view of several people's arms and hands stacked together in a huddle. The individuals are wearing various colored clothing: an orange button-down shirt, a blue long-sleeved sweater, a tan long-sleeved shirt, and a black long-sleeved shirt. The hands are of different skin tones, suggesting a diverse group. The background is a blurred indoor setting.

OPTION 2

New K-3 Elementary on Main Campus

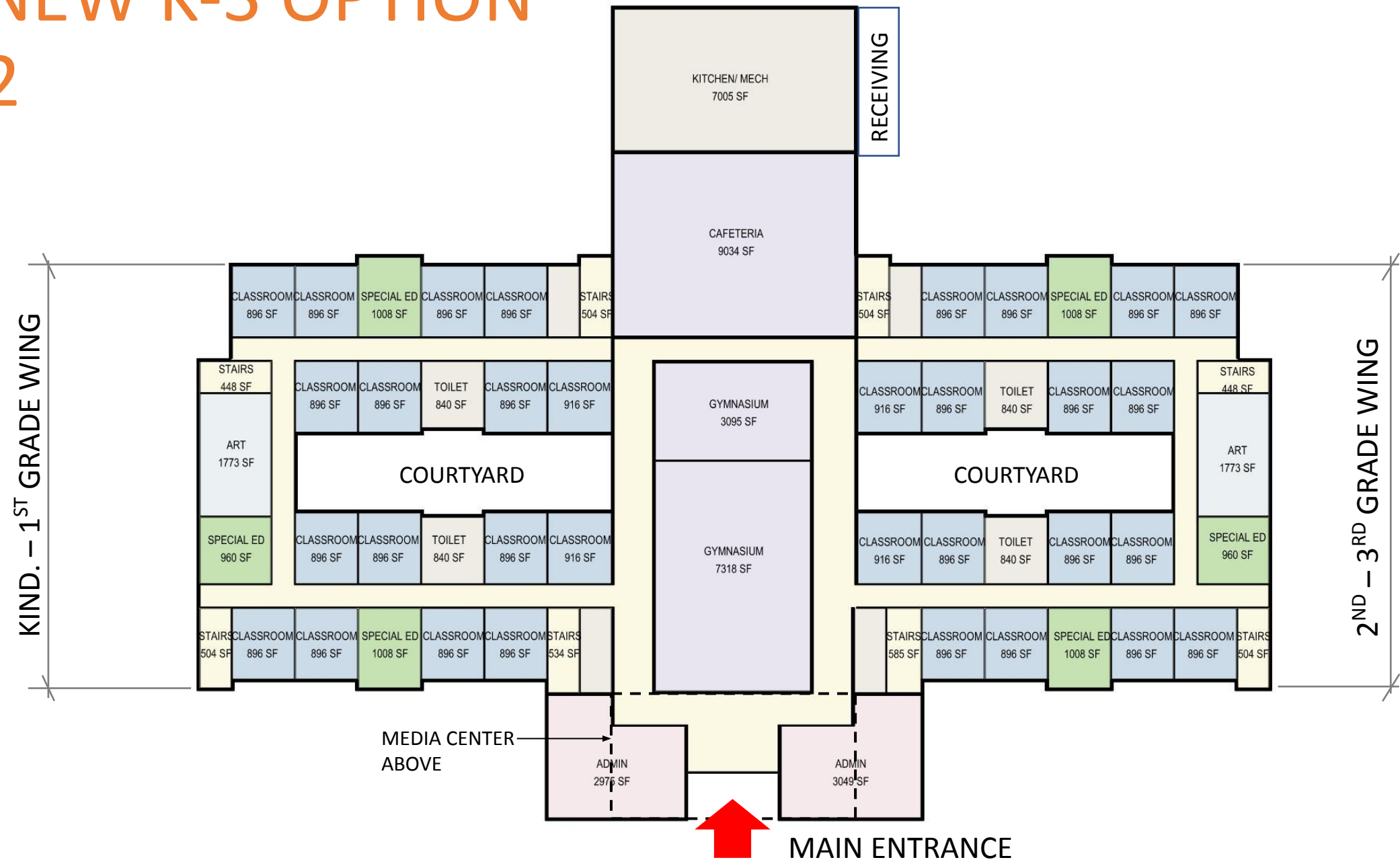
NEW K-3 EDUCATIONAL

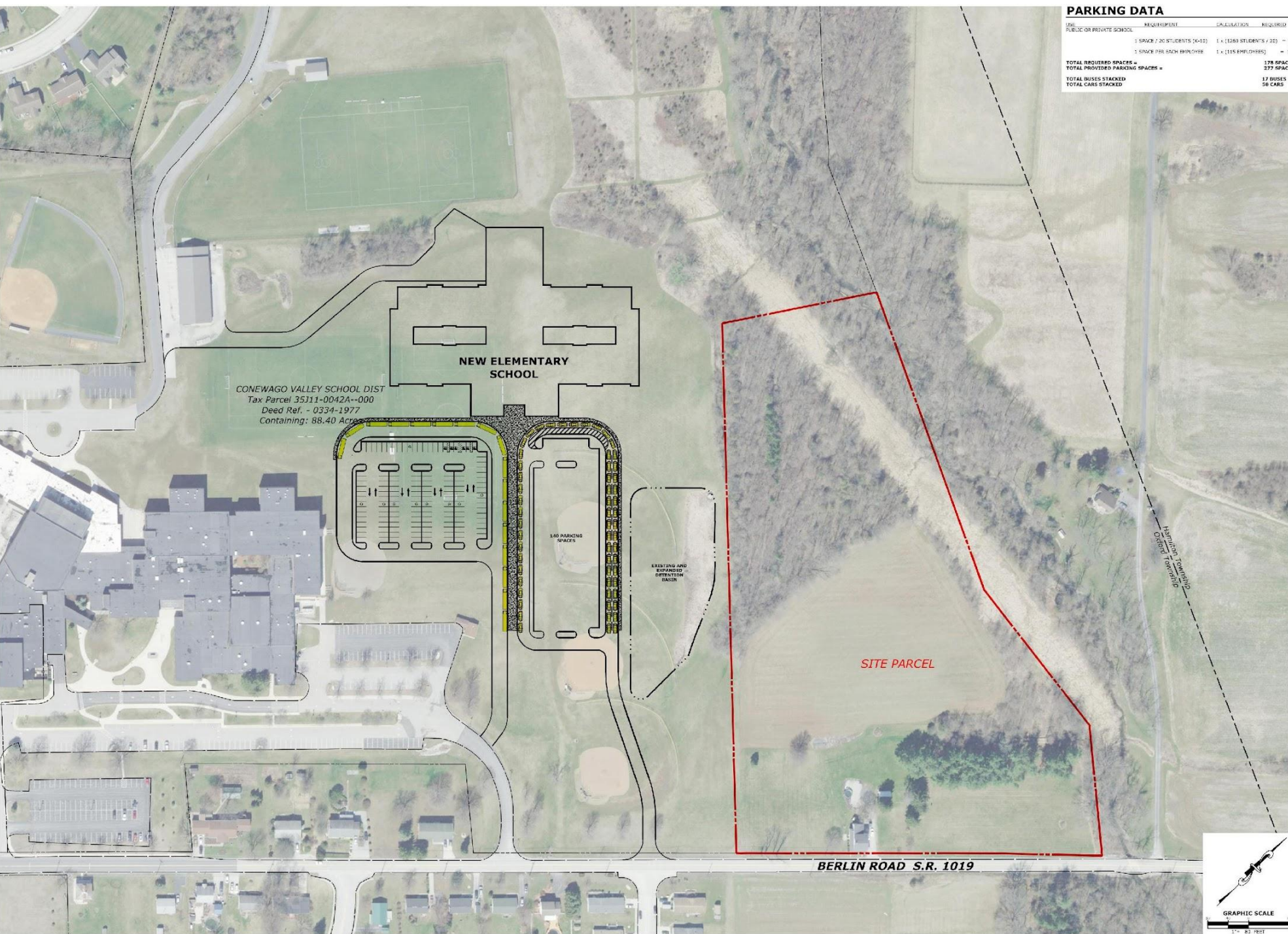
Conewago Valley School District					1073	current enrollment
New K-3 Elementary					1067	projected enrollment
					1.1	90% utilization
Educational Program of Spaces					1174	planned capacity
Capacity Goal		1175				
Current Planned Capacity		1260		PROPOSED		
Kindergarten		Quantity	Capacity 18	SF Each	SF Subtotal	Notes
General Classroom		15	270	1,100	16,500	
1st Grade		Quantity	Capacity 20	SF	SF	Notes
General Classroom		15	300	850	12,750	
2nd Grade		Quantity	Capacity 22	SF	SF	Notes
General Classroom		15	330	850	12,750	
3rd Grade		Quantity	Capacity 24	SF	SF	Notes
General Classroom		15	360	850	12,750	
Total		15	1260		54,750	SF
Special Education		Quantity	Capacity	SF Each	SF Subtotal	Notes
Learning Support L		4		850	3,400	1 @ K-1 and 3 @ 2-3 Grades
Intensive Learning Support		1		850	850	
Autistic Support		4		850	3,400	2 to each wing
MDS		1		850	850	1 @ K Grade Level
Speech (half size CR)		2		450	900	1 per Wing
OTPT (half size CR)		2		450	900	1 per Wing
ESL		1		850	850	
Emotional Support		2		850	1,700	1 per Wing
Reading (half size CR)		8		450	3,600	4 per Wing
Life Skills		2		850	1,700	1 per Wing
Total		27			18,150	SF
Other						
Collaborative Learning Area		3		1,200	3,600	Open Flex Space
Total					3,600	SF
Art		Quantity	Capacity	SF Each	Total SF	Notes
Art Classroom		2		1,200	2,400	
Total					2,400	SF
Music		Quantity	Capacity	SF Each	Total SF	Notes
Music Classroom		2		1,200	2,400	
Total					2,400	SF

Media Center		Quantity	Capacity	SF Each	Total SF	Notes
Library		1		5,500	5,500	
Total					5,500	SF
Physical Education		Quantity	Capacity	SF Each	Total SF	Notes
Gymnasium		1		7,500	7,500	2 teaching stations
Auxiliary Gymnasium		1		3,000	3,000	1 teachign stations
Total					7,500	SF
Food Service		Quantity		SF Each	Total SF	Notes
Cafeteria		1		9,000	9,000	4 lunch servings
Food Court/Kitchen		1		7,000	7,000	
Total					16,000	SF
Faculty		Quantity		SF Each	Total SF	Notes
Faculty Room		2		1,000	2,000	
Instructional Planning Center		8		400	3,200	
Total					5,200	SF
Administration		Quantity		SF Each	Total SF	Notes
Administration Suite		2		1,200	2,400	
Total					2,400	SF
Nurse		Quantity		SF Each	Total SF	Notes
Health Suite		2		1,000	2,000	
Total					2,000	SF
Guidance		Quantity		SF Each	Total SF	Notes
Guidance Suite		2		900	1,800	
Total					1,800	SF
Building Capacity		1260				124,700 SF
Grossing Factor x 1.7		70%				87,290 SF
Total Building Square Footage						211,990 SF

NEW K-3 OPTION

2





Site Development

- 178 parking spaces required
- Up to 277 parking spaces provided
- 17 buses stacked
- 42-58 cars stacked
- Separate service driveway

A top-down view of a group of people's arms and hands stacked in a huddle. The hands are of various skin tones, and the clothing includes an orange shirt, a blue sweater, and a grey hoodie. A black braided wristband is visible on one of the wrists.

OPTION 3

**New K-1 Elementary on Main Campus & Convert NOE to
2-3**

NEW K-1 EDUCATIONAL

Conewago Valley School District New K-3 Elementary Educational Program of Spaces										1067 projected enrollment 1.2 90% utilization with 1280.4 planned capacity				
Capacity Goal		1175		K-1 GRADES					2-3 GRADES					
Current Planned Capacity		NEW PRIMARY SCHOOL					NOE RENOVATION							
Kindergarten		Quantity	Capacity 18	SF	Each	SF Subtotal	Quantity	Capacity 18	SF	Each	SF Subtotal	Notes		
NEW Classroom		15	270	1,100		16,500	0	0	0		0			
SubTotal		15	270			16,500	0	0			0			
1st Grade		Quantity	Capacity 20	SF	Each	SF Subtotal	Quantity	Capacity 20	SF	Each	SF Subtotal	Notes		
NEW 1st Grade Classroom		15	300	850		12,750	0	0	0		0			
SubTotal		15	300			12,750	0	0			0			
2nd Grade		Quantity	Capacity 22	SF	Each	SF Subtotal	Quantity	Capacity 22	SF	Each	SF Subtotal	Notes		
NOE 2nd Grade Classroom		0	0	0		0	15	330	850		12,750			
SubTotal		0	0			0	15	330			12,750			
3rd Grade		Quantity	Capacity 24	SF	Each	SF Subtotal	Quantity	Capacity 24	SF	Each	SF Subtotal	Notes		
NOE 3rd Grade Classroom		0	0	0		0	15	360	850		12,750			
SubTotal		0	0			0	15	360			12,750			
Total		30	570			29,250	30	690				5-6 CR difference		
Special Education		Quantity	Capacity 0	SF	Each	SF Subtotal	Quantity	Capacity 0	SF	Each	SF Subtotal	Notes		
Learning Support		2		450		900	2		450			half size CR		
Intensive Learning Support		1		850		850			850					
Autistic Support		2		850		1,700	2		850					
MDS		1		850					850					
Speech		1		450		450	1		450			half size CR		
OTPT		1		450		450	1		450			half size CR		
ESL		1		450		450	1		450			half size CR		
Emotional Support		1		850			1		850					
Reading		2		450		900	2		450			half size CR		
Life Skills				850			1.0		850					
Deaf and Hard of Hearing		1		850		850			850					
Gifted		1		450		450	1		450			half size CR		
K & LS Aide				850					850					
Total		14	0			7,000	12	0						

Collaborative Learning Area	2	2,300	4,600					Open Flex Space	
Total	4,600								
Art	Quantity	Capacity	SF Each	Total SF	Quantity	Capacity	SF Each	Total SF	Notes
Art Classroom	1		1,200	1,200	1		0		
Total	1,200				0				
Music	Quantity	Capacity	SF Each	Total SF	Quantity	Capacity	SF Each	Total SF	Notes
Music Classroom	1	0	1,200	1,200	1		944	944	
Total	1,200				944				
Media Center	Quantity	Capacity	SF Each	Total SF	Quantity	Capacity	SF Each	Total SF	Notes
Library	1	0	3,000	3,000	1		0		
Total	3,000				0				
Physical Education	Quantity	Capacity	SF Each	Total SF	Quantity	Capacity	SF Each	Total SF	Notes
Gymnasium	1	0	6,500	6,500	1		0		
Total	6,500				0				
Food Service	Quantity		SF Each	Total SF	Quantity		SF Each	Total SF	Notes
Cafeteria	1		5,000	5,000	1		0		
Food Court/Kitchen	1		2,500	2,500	1		0		
Total	7,500				0				
Faculty	Quantity		SF Each	Total SF	Quantity		SF Each	Total SF	Notes
Faculty Room	1		850	850	1		624	624	
Instructional Planning Center	2		450	900	1		250	250	
Total	1,750				874				
Building Support	Quantity		SF Each	Total SF	Quantity		SF Each	Total SF	Notes
Total	1		2,500	2,500					
Administration	Quantity		SF Each	Total SF	Quantity		SF Each	Total SF	Notes
Administration Suite	1		1,100	1,100	1		0		
Total	1,100				0				
Nurse	Quantity		SF Each	Total SF	Quantity		SF Each	Total SF	Notes
Health Suite	1		900	900	1		0		
Total	900				0				
Guidance	Quantity		SF Each	Total SF	Quantity		SF Each	Total SF	Notes
Guidance Suite	1		1,000	1,000	1		0		
Total	1,000				0				
Building Capacity 570				67,500 SF					
Grossing Factor X 1.7				70%	47,250 SF				
Total Building Square Footage				114,750 SF					



COST ESTIMATE

Construction & Total Project Costs

OPTION 1 COST ESTIMATE - CTE

Conewago Township Elementary				January 23, 2023
K-3 Additions & Renovations		COST RANGE		
Renovation Construction Costs	50,100 SF	\$ 13,266,123		\$ 14,592,735
Additions Construction Costs	14,600 SF	\$ 3,790,691		\$ 4,161,000
New Building Construction Costs		\$ 4,600,909		\$ 5,061,000
Site Construction Costs				
Escalation & Contingency	13%	\$ 2,217,386	13%	\$ 2,437,986
Subtotal Construction Costs		\$ 19,274,199		\$ 21,191,721
Construction Soft Costs	10.0%	\$ 1,927,420	10%	\$ 2,119,172
Total Construction Costs		\$ 21,201,619		\$ 23,310,893
Project Soft Costs	14.0%	\$ 2,968,227	16%	\$ 3,729,743
TOTAL PROJECT COSTS		\$ 24,169,846		\$ 27,040,635

**Costs do not include Site Construction Costs*

*** Costs do not include Fire Protection System*

OPTION 1 COST ESTIMATE - NOE

New Oxford Elementary					Date: 1/23/2023
K-3 Renovations & Gymnasium Addition		COST RANGE			
Renovation Construction Costs	68,600 SF	\$	11,196,091		\$ 12,323,200
Additions Construction Costs	16,000 SF	\$	4,279,273		\$ 4,720,000
MEP Renovation Construction Costs	SF	\$	1,183,636		\$ 1,302,000
Site Construction Costs					
Escalation & Contingency	13%	\$	2,202,525		\$ 2,426,996
Subtotal Construction Costs		\$	19,145,025		\$ 21,096,196
Construction Soft Costs	10.0%	\$	1,914,503	10%	\$ 2,109,620
Total Construction Costs		\$	21,059,528		\$ 23,205,816
Project Soft Costs	14.0%	\$	2,948,334	16%	\$ 3,712,930
TOTAL PROJECT COSTS		\$	24,007,861		\$ 26,918,746

**Costs do not include Site Construction Costs*

*** Costs do not include Fire Protection System*

OPTION 2 COST ESTIMATE – NEW K-3

New K-3 Elementary				Date: 1/23/2023
New Construction		COST RANGE		
New Building Construction Costs	212,000 SF	\$ 56,817,927		\$ 58,300,000
Site Construction Costs				
Escalation & Contingency	8%	\$ 4,603,674	8%	\$ 4,736,800
Subtotal Construction Costs		\$ 62,149,601		\$ 63,946,800
Construction Soft Costs	10.0%	\$ 6,214,960	10%	\$ 6,394,680
Total Construction Costs		\$ 68,364,562		\$ 70,341,480
Project Soft Costs	14.0%	\$ 9,571,039	16%	\$ 11,254,637
TOTAL PROJECT COSTS		\$ 77,935,600		\$ 81,596,117

**Costs do not include Site Construction Costs*

OPTION 3 COST ESTIMATE – NEW K-1

New K-1 Elementary				Date: 1/23/2022
New Construction		COST RANGE		
New Building Construction Costs	115,000 SF	\$ 30,821,045		\$ 31,625,000
Site Construction Costs		\$ -		\$ -
Escalation & Contingency	8%	\$ 2,465,684	8%	\$ 2,530,000
Subtotal Construction Costs		\$ 33,286,729		\$ 34,155,000
Construction Soft Costs	10.0%	\$ 3,328,673	10%	\$ 3,415,500
Total Construction Costs		\$ 36,615,402		\$ 37,570,500
Project Soft Costs	14.0%	\$ 5,126,156	16%	\$ 6,011,280
TOTAL PROJECT COSTS		\$ 41,741,558		\$ 43,581,780

**Costs do not include Site Construction Costs*

OPTION 3 COST ESTIMATE - NOE

New Oxford Elementary				Date: 1/23/2023
K-3 Renovations & Gymnasium Addition		COST RANGE		
Renovation Construction Costs	68,600 SF	\$ 11,196,091		\$ 12,323,200
Additions Construction Costs	10,000 SF	\$ 2,674,545		\$ 2,950,000
MEP Renovations Construction Costs	SF	\$ 1,183,636		\$ 1,302,000
Site Construction Costs				
Escalation & Contingency	13%	\$ 1,993,910		\$ 2,196,896
Subtotal Construction Costs		\$ 17,331,683		\$ 19,096,096
Construction Soft Costs	10.0%	\$ 1,733,168	10%	\$ 1,909,610
Total Construction Costs		\$ 19,064,852		\$ 21,005,706
Project Soft Costs	14.0%	\$ 2,669,079	16%	\$ 3,360,913
TOTAL PROJECT COSTS		\$ 21,733,931		\$ 24,366,618

**Costs do not include Site Construction Costs*

*** Costs do not include Fire Protection System*

COST ESTIMATE SUMMARY

Option Summary	OPTION 1		OPTION 2		OPTION 3	
	Add/Reno		New K-3		New K-1	
	Low	High	Low	High	Low	High
CTE	\$24.2	\$27.0				
NOE	\$24.0	\$26.9			\$21.7	\$24.4
SUBTOTAL	\$48.18	\$54.0				
New Elementary School			\$77.9	\$81.6	\$41.7	\$43.6
CVIS	\$2.8	\$4.8	\$2.8	\$4.8	\$2.8	\$4.8
MS/HS	\$23.1	\$25.5	\$23.1	\$25.5	\$23.1	\$25.5
TOTAL	\$74.1	\$84.3	\$103.8	\$111.9	\$89.4	\$98.2

ENERGY COST COMPARISON

CONEWAGO VALLEY SCHOOL DISTRICT ENERGY COST COMPARISON			
SCHOOL	SQUARE FEET	ESTIMATED ANNUAL ENERGY COST/SF	ESTIMATED ANNUAL ENERGY COST
New Oxford ES	97,000	\$1.08	\$104,760
Conewago Township ES	107,700	\$1.06	\$114,162
TOTAL	204,700	\$1.07	\$218,922
New K-3 Elementary School	212,000	\$0.86	\$182,320
Estimated Annual Energy Savings of the New K-3 ES vs. Renovation of NOE and CTE			\$36,602



SITE ANALYSIS

Site Development on District-Owned Residential
Site

LANDOWNER
CONEWAGO VALLEY SCHOOL DIST
TAX PARCEL 35J11-0019---000
DEED REF. - 6442-0421
CONTAINING: 12.15 ACRES

Site Analysis

- District owned site
parcel site analysis



ZONING DATA

ZONING DISTRICT: RM (RESIDENTIAL
MEDIUM-DENSITY)

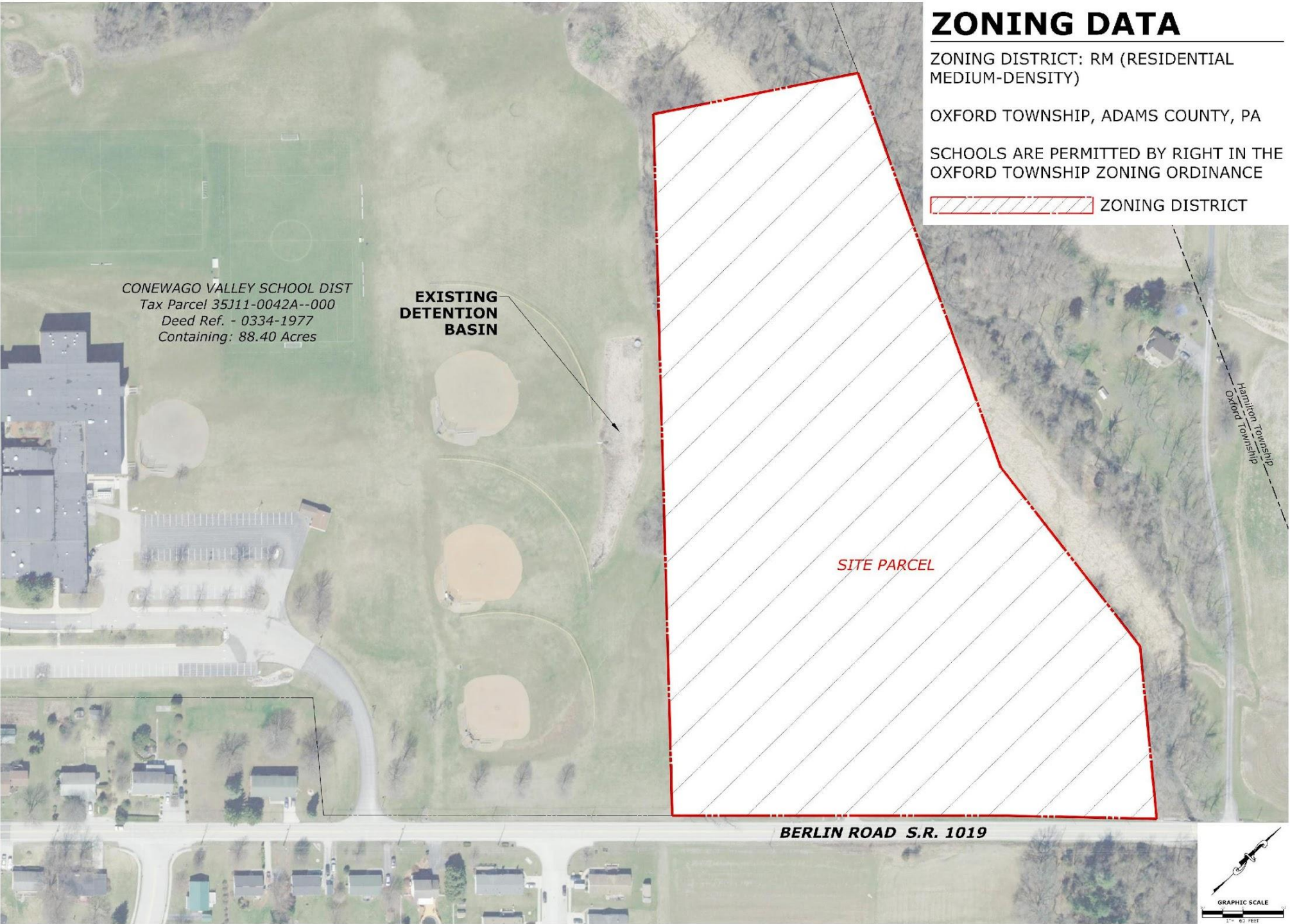
OXFORD TOWNSHIP, ADAMS COUNTY, PA

SCHOOLS ARE PERMITTED BY RIGHT IN THE
OXFORD TOWNSHIP ZONING ORDINANCE

 ZONING DISTRICT

Site Analysis

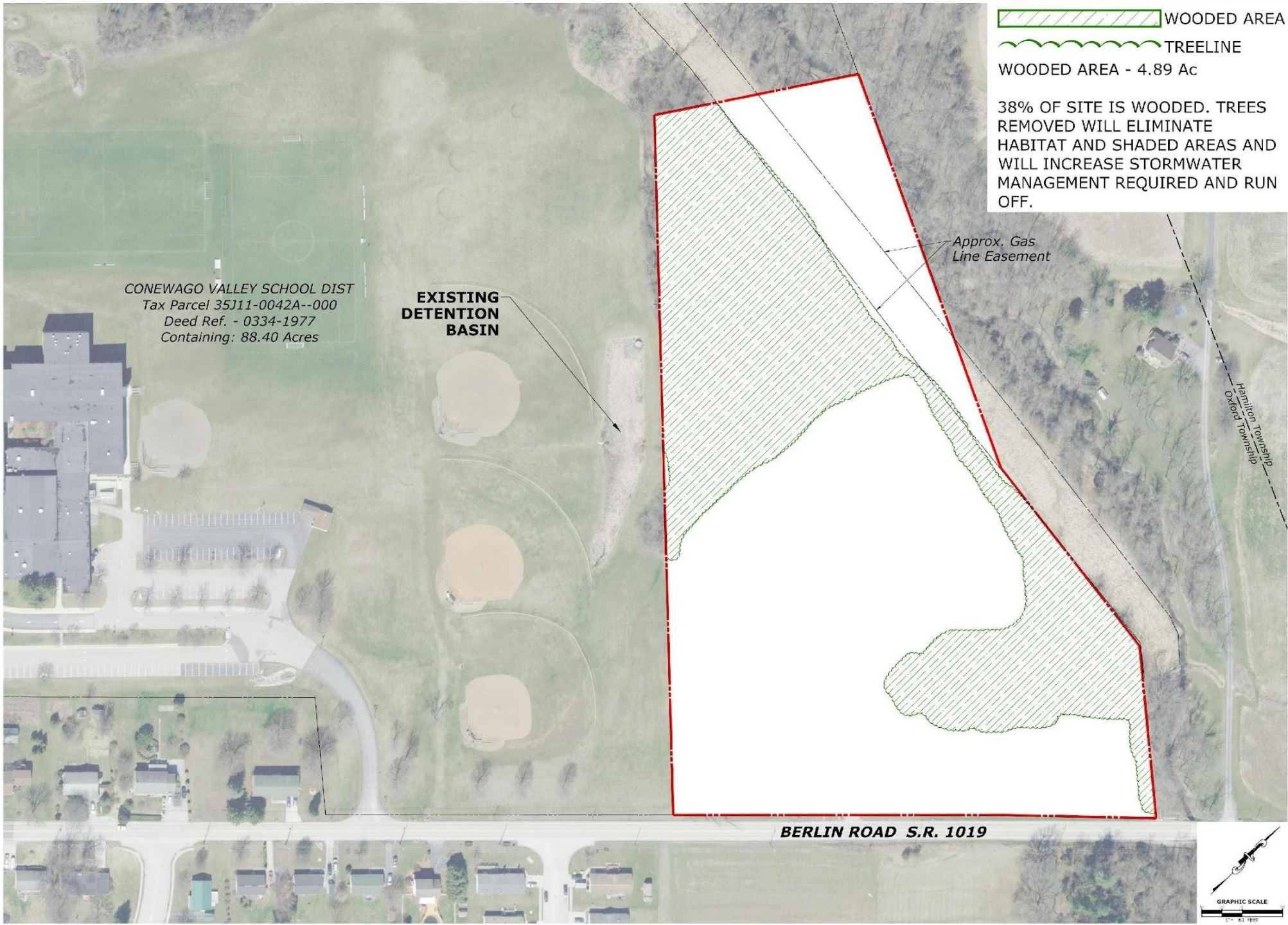
- Schools are permitted in Zoning





Site Analysis

- Site is relatively level



Site Analysis

- Elimination of wooded area will increase construction costs and stormwater runoff

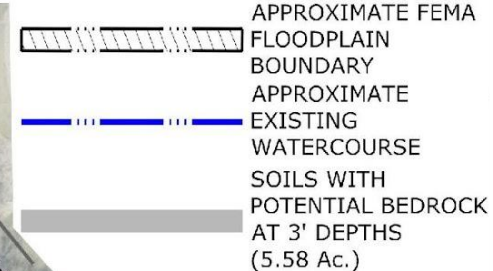
SOILS INFORMATION

AbbA ABBOTTSTOWN SILT LOAM 0 TO 3 PERCENT SLOPES [HYDROLOGIC GROUP D]	CrB CROTON SILT LOAM, OCCASIONALLY PONDED 3 TO 8 PERCENT SLOPES [HYDROLOGIC GROUP D]
AbbB ABBOTTSTOWN SILT LOAM 3 TO 8 PERCENT SLOPES [HYDROLOGIC GROUP D]	PcB PENN SILT LOAM 3 TO 8 PERCENT SLOPES [HYDROLOGIC GROUP B]
Bo BOWMANVILLE SILT LOAM [HYDROLOGIC GROUP C/D]	PcC PENN SILT LOAM 8 TO 15 PERCENT SLOPES [HYDROLOGIC GROUP B]
CrA CROTON SILT LOAM, OCCASIONALLY PONDED 0 TO 3 PERCENT SLOPES [HYDROLOGIC GROUP D]	StB STEINBURG CHANNERY SANDY LOAM 3 TO 8 PERCENT SLOPES [HYDROLOGIC GROUP B]

CONEWAGO VALLEY SCHOOL DIST
Tax Parcel 35J11-0042A--000
Deed Ref. - 0334-1977
Containing: 88.40 Acres

EXISTING
DETENTION
BASIN

BERLIN ROAD S.R. 1019



Approx.
Unnamed
Tributary
AbbA

CrA
POTENTIAL 100'
FLOODPLAIN
(50' EACH SIDE)

StB

CrB

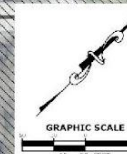
PcC

Bo

Hamilton Township
Oxford Township

Site Analysis

- Site has existing wetlands and located in a flood plain
- Site may have shallow bedrock which would increase construction costs



SOILS INFORMATION

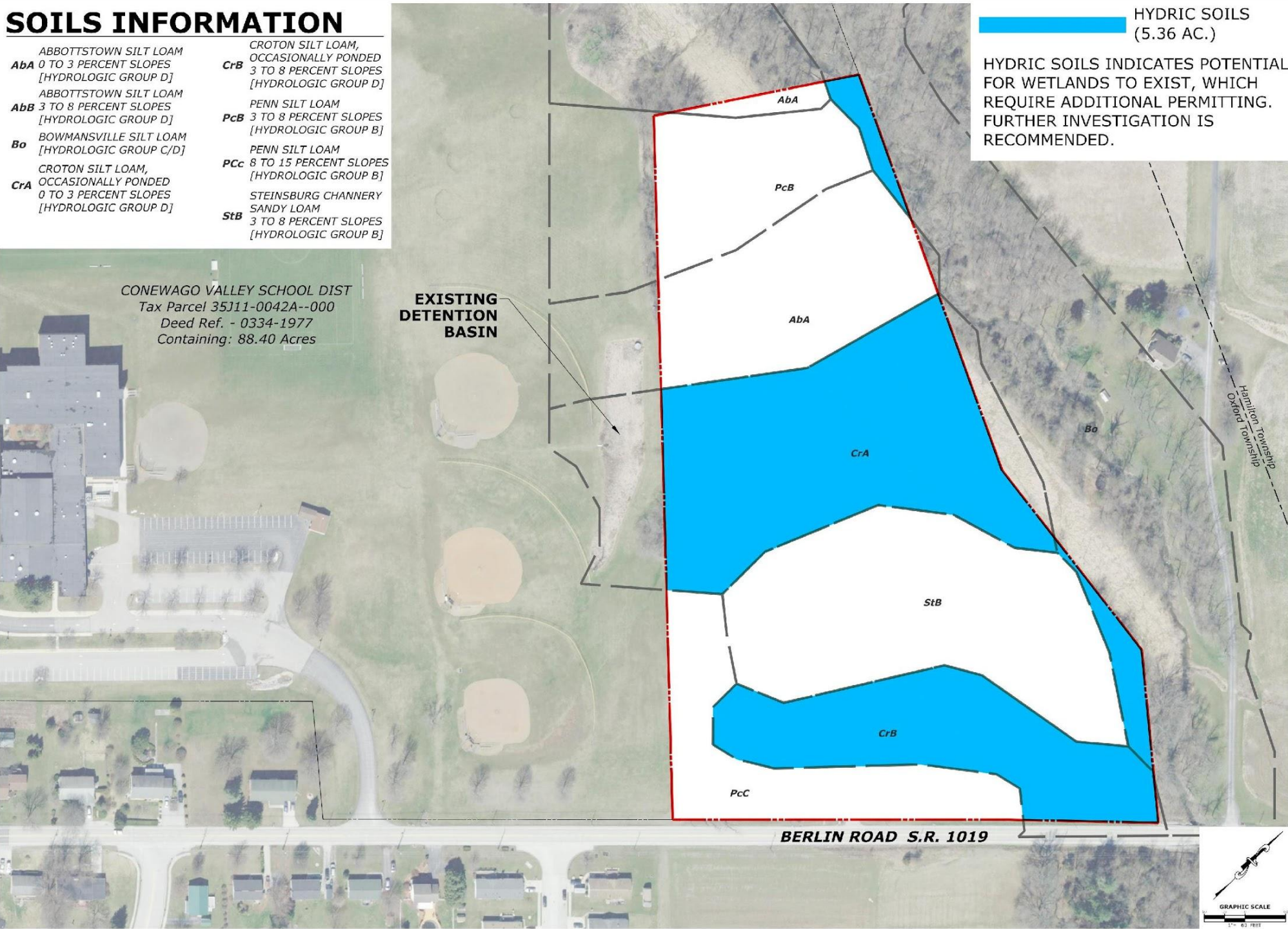
AbbA	ABBOTTSTOWN SILT LOAM 0 TO 3 PERCENT SLOPES [HYDROLOGIC GROUP D]	CrB	CROTON SILT LOAM, OCCASIONALLY PONDED 3 TO 8 PERCENT SLOPES [HYDROLOGIC GROUP D]
AbbB	ABBOTTSTOWN SILT LOAM 3 TO 8 PERCENT SLOPES [HYDROLOGIC GROUP D]	PcB	PENN SILT LOAM 3 TO 8 PERCENT SLOPES [HYDROLOGIC GROUP B]
Bo	BOWMANVILLE SILT LOAM [HYDROLOGIC GROUP C/D]	PcC	PENN SILT LOAM 8 TO 15 PERCENT SLOPES [HYDROLOGIC GROUP B]
CrA	CROTON SILT LOAM, OCCASIONALLY PONDED 0 TO 3 PERCENT SLOPES [HYDROLOGIC GROUP D]	StB	STEINBURG CHANNERY SANDY LOAM 3 TO 8 PERCENT SLOPES [HYDROLOGIC GROUP B]

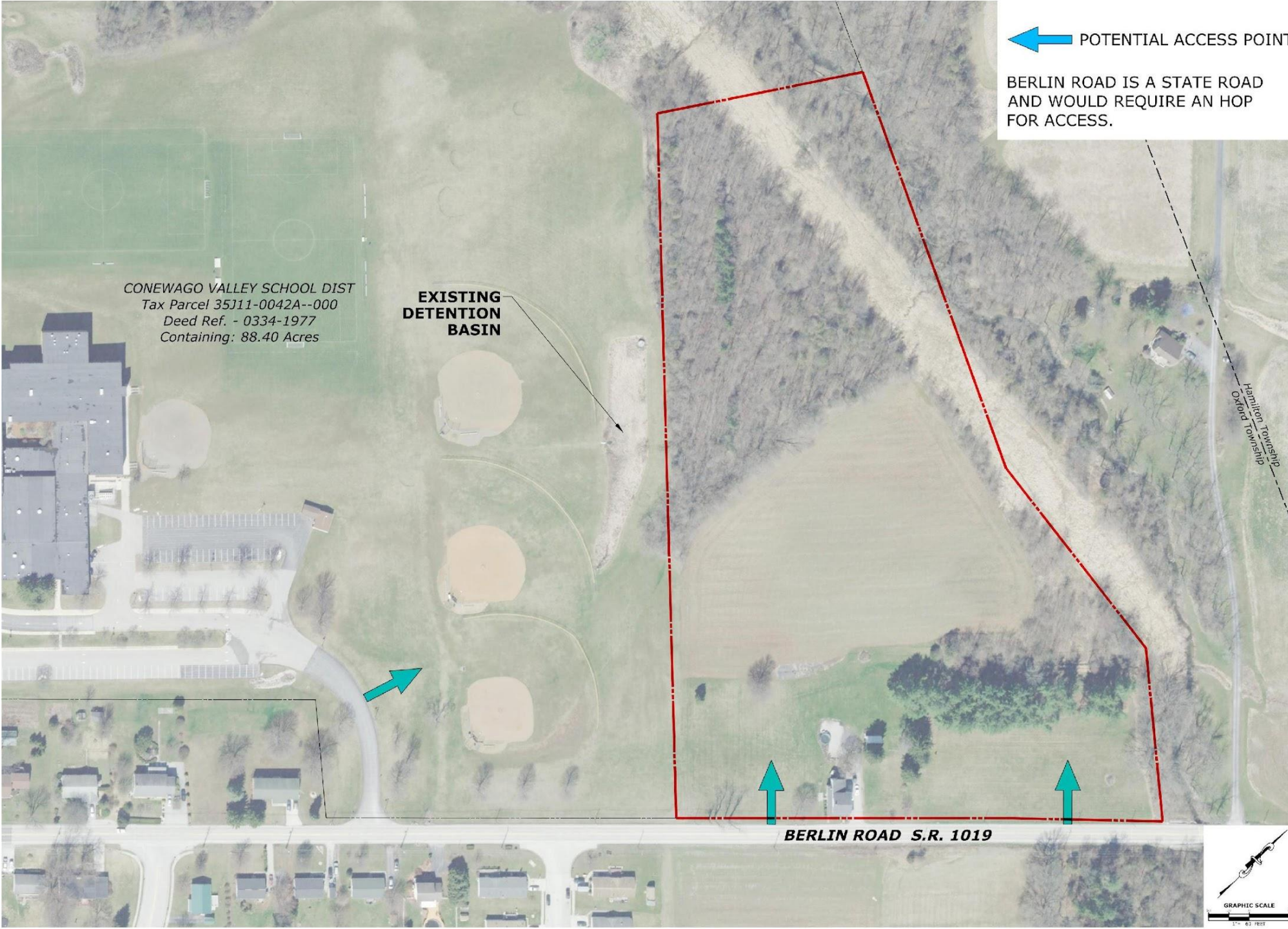
HYDRIC SOILS
(5.36 AC.)

HYDRIC SOILS INDICATES POTENTIAL FOR WETLANDS TO EXIST, WHICH REQUIRE ADDITIONAL PERMITTING. FURTHER INVESTIGATION IS RECOMMENDED.

Site Analysis

- Site has potential for hydric soils which may increase construction costs





← POTENTIAL ACCESS POINT

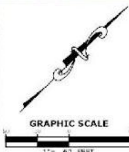
BERLIN ROAD IS A STATE ROAD
AND WOULD REQUIRE AN HOP
FOR ACCESS.

CONEWAGO VALLEY SCHOOL DIST
Tax Parcel 35J11-0042A--000
Deed Ref. - 0334-1977
Containing: 88.40 Acres

EXISTING
DETENTION
BASIN

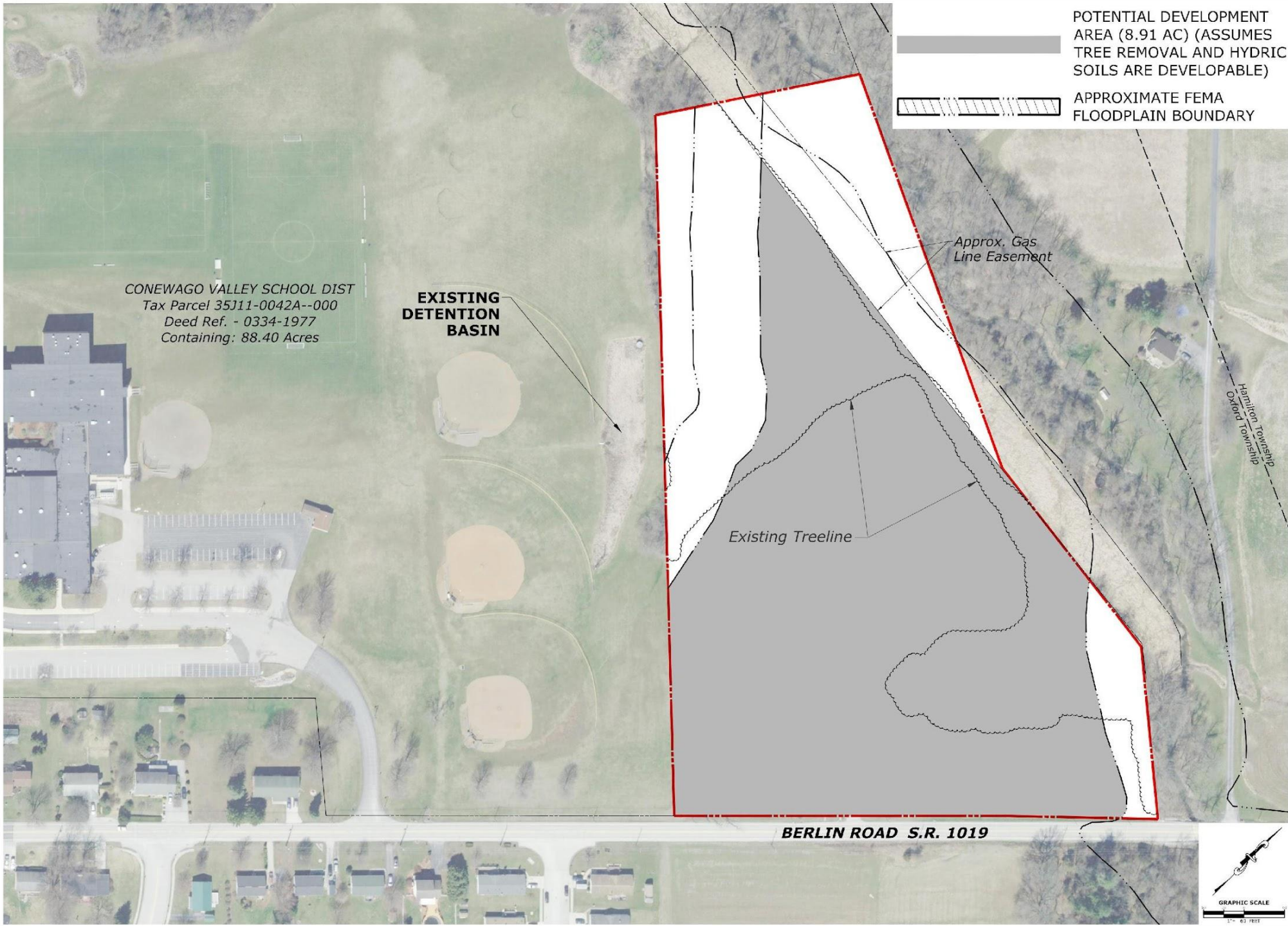
BERLIN ROAD S.R. 1019

Hamilton Township
Oxford Township



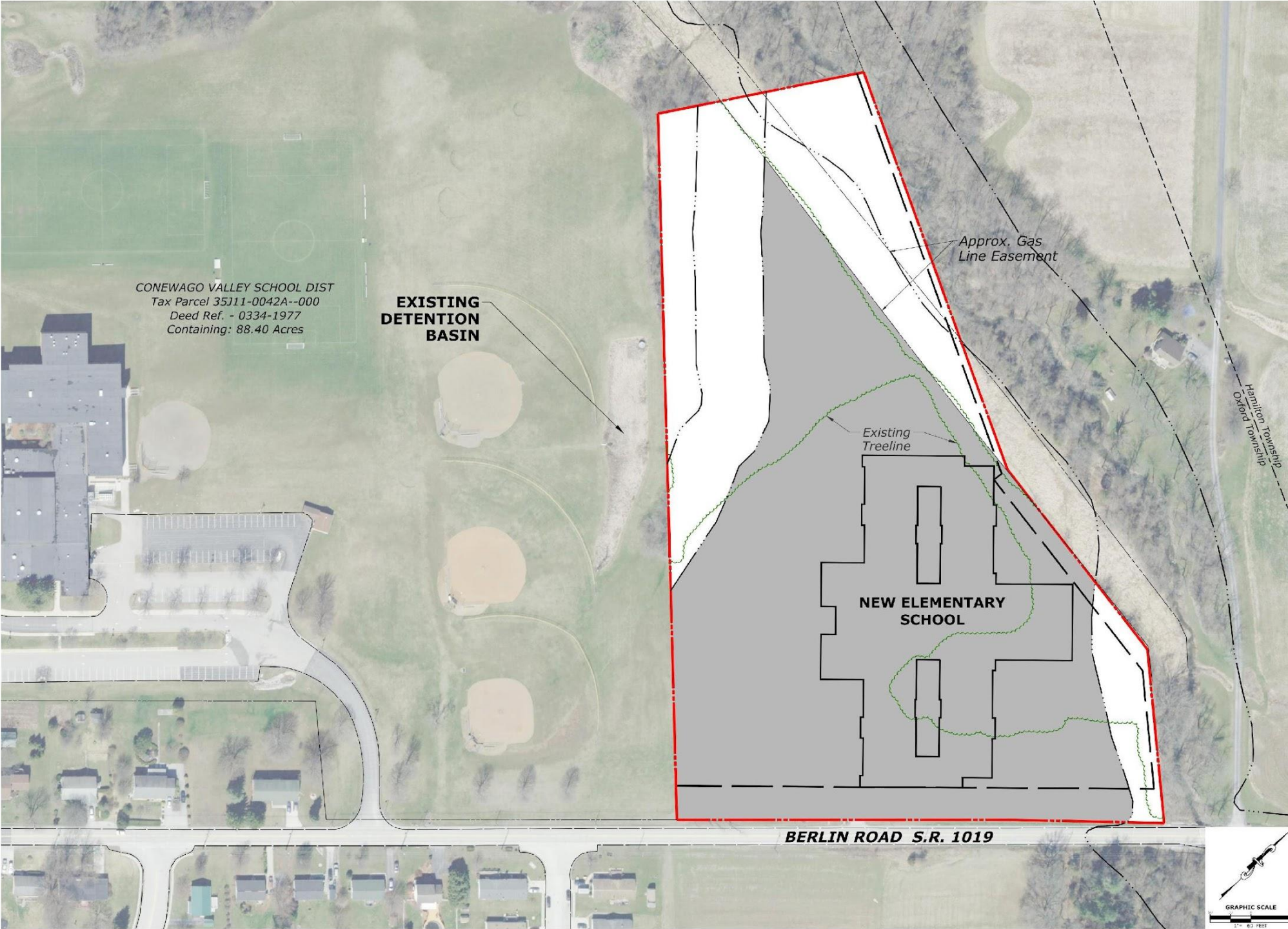
Site Analysis

- Highway Occupancy
Permit would be
required



Site Analysis

- Less than 9 acres can be utilized for site development



Site Analysis

- Portion of site suitable for construction is odd geometry and challenging to fit school and site amenities



NEXT STEPS

Schedule

NEXT STEPS

1. Board follow-up of options and estimate
2. Community outreach and involvement to review Options
3. Board selects Option that aligns with District vision & budget
4. Amendment to CRA contract
5. Civil Engineer review land development approval process with municipality

Questions?



Crabtree, Rohrbaugh & Associates
www.cra-architects.com