

Lowell Public Schools

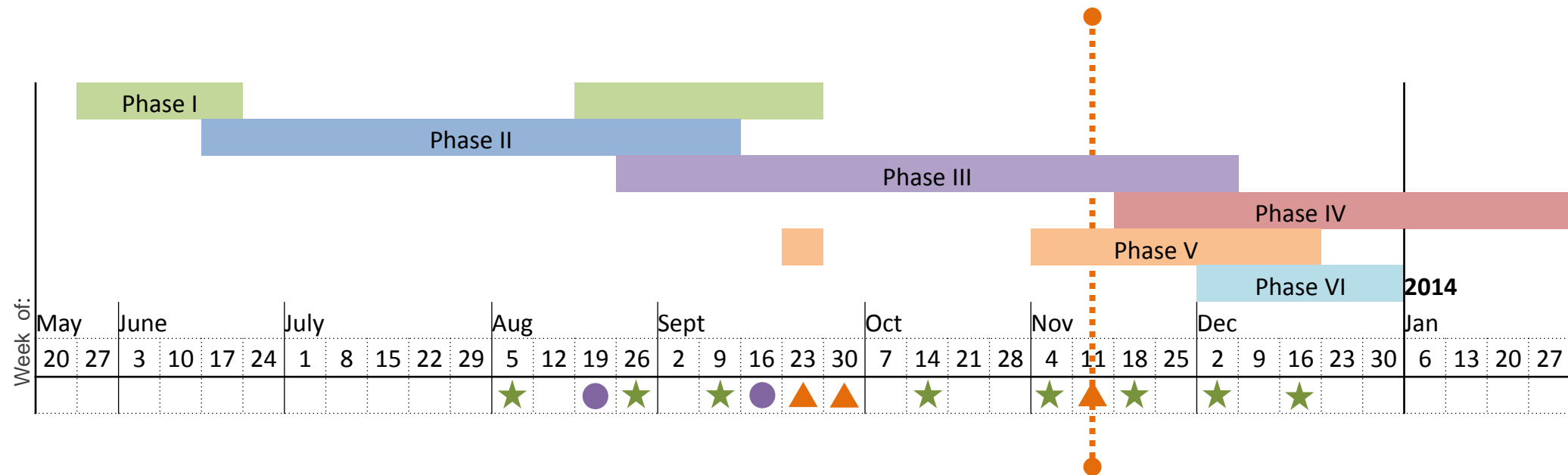


omr architects

Agenda

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- **Schedule, Objectives & Underlying Principles**
 - **PK - 8 Master Planning**
 - Decision Matrix
 - Preliminary Alternatives
 - Potential Sites
 - **Lowell High School**
 - Decision Matrix
 - Potential Sites
 - Preliminary Alternatives
 - **Baseline Repair and Alternative Option Costs**

Project Schedule



- Late May: Work of contract began
- Phase I: Establish goals & enrollment projections
- Phase II: Assess existing building conditions
- Phase III: **Develop Master Plan options for PK-8 schools and high school**
- Phase IV: Prepare draft and final reports
- Phase V: Community presentations
- Phase VI: Massachusetts School Building Authority SOI assistance
- Jan. 2014: Work of contract ends



FINAL Goals, Values & Objectives for the Master Plan Study

OPERATIONAL ORGANIZATION

1. Use **NESDEC's 10 year, projected, average enrollment for all schools, plus 15 swing classes in grades 1-8.**
2. Provide for the **preferred class sizes of 20-22 at elementary, 22-24 at middle and under 25 at high school.**
3. Provide for the **preferred school strand sizes of four at elementary schools, six at middle schools and two at Washington, Moody and K-8 schools.**
4. Consider providing one or multiple Early Childhood Centers for **Universal, half day, Pre-K** in the Lowell school system.
5. Consider restructuring the current **grade configuration to be: K-5, 6-8, and 9-12, while maintaining 2 or more K-8 schools.**
6. Provide **classroom space to allow more special needs students to remain** in the Lowell school system.
7. Consider **sustainability and life cycle operating costs in all budgetary decisions.**
8. Provide a **clear plan to resolve the immediate repair and maintenance** needs in a timely manner.
9. Educate the City on the **need for ongoing investment in the current facilities.**

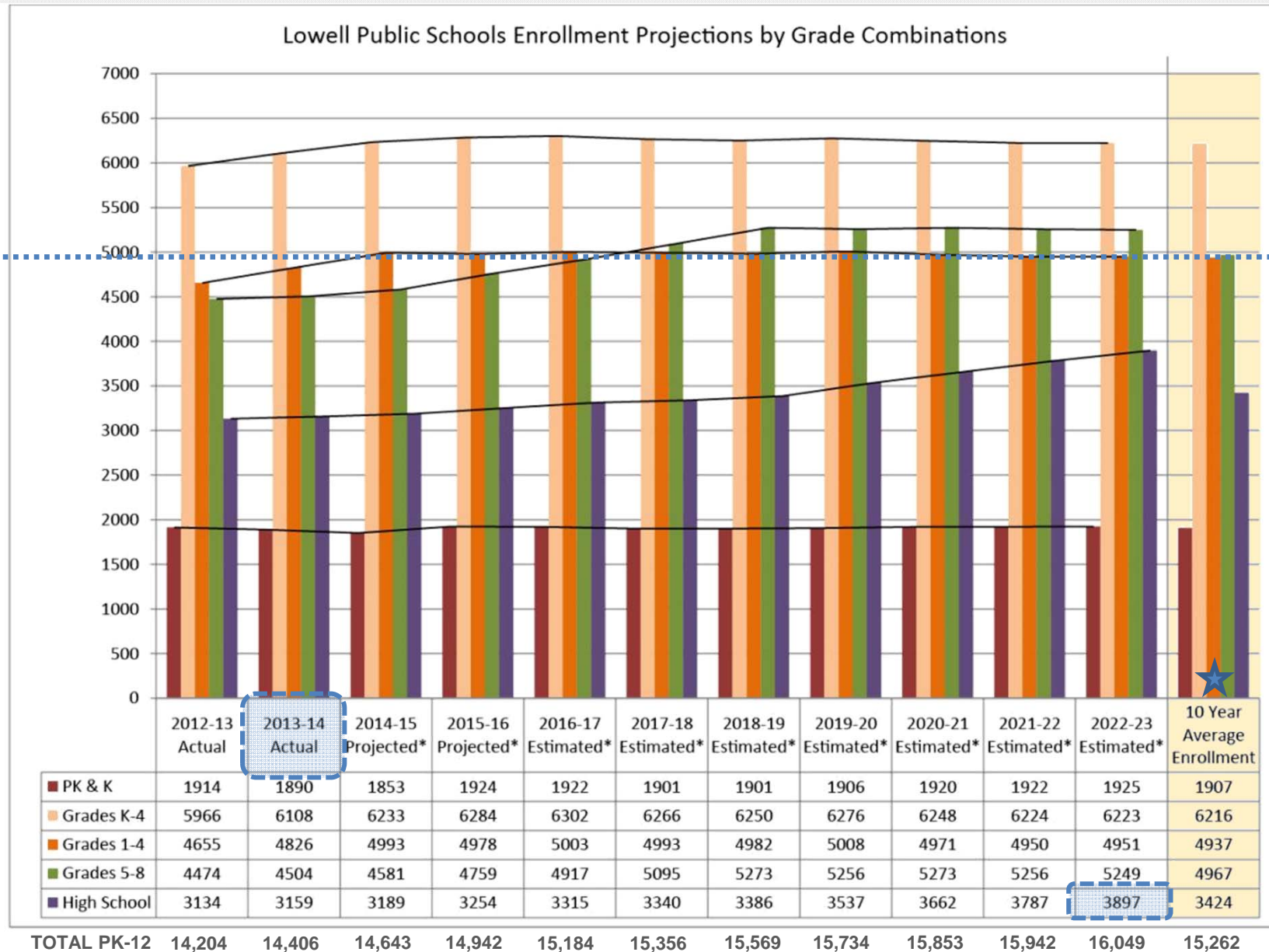
PHYSICAL SPACE & FEATURES

1. Family value in education is important: Schools should be designed to **create a strong partnership with families.**
2. Provide **more dedicated space for Special Education instruction** at each neighborhood school.
3. Consider **multiple Lowell High School location options,** including two similar schools under one roof.
4. Retain **Washington and Moody and upgrade to provide parity** in amenities as compared to other neighborhood schools.
5. Resolve classroom overcrowding while providing **dedicated educational and support spaces at each school per current MSBA guidelines.**
6. Provide **21st century-style, flexible spaces** for the development of critical thinking, creative problem solving, independent learning, and student and teacher collaboration at each school.
7. Safety and Security is a priority: Provide **main offices at all front lobbies, security cameras, secure entry hardware, and functioning lockers.**
8. Upgrade and improve **technology to meet 21st century educational needs,** supporting a wireless network and an environment for 1-to-1 student devices for shared, interactive content.
9. Upgrade **Alternative Schools to meet the other neighborhood school standards.**

Educational Programming - What do 21st century schools include?

- **Flexible spaces for student collaboration, interaction and creative thinking, such as small seminar, large group and breakout spaces**
- **Adaptable and varied spaces that allow for personalization, differentiated instruction and student choice**
- **Distributed spaces adjacent to classrooms to build student - teacher and teacher - teacher connections, such as teacher planning spaces**
- **Spaces with visibility to experiential and hands on activities/ project-based learning, which include places to work and display, such as Fabrication labs**
- **Evolution of the Library to Media Center to Information Commons to Learning Commons**
- **Right sized spaces that allow for today's seamless and interactive technology, evolving tools and accessibility needs**
- **Efficient, interdisciplinary layouts to optimize the time and ways we educate our students**
- **Buildings with a sense of place, indoor/outdoor connections, natural daylight and appropriate environmental systems for sustainability and student engagement**

Final Enrollment Projections by Grades



* Projected or Estimated by NESDEC report dated October 30, 2013

★ = 10 year average enrollment

Building Space – Current Elementary, Middle & K-8 Schools

NET SF				GROSS SF		GROSSING FACTOR	
LPS School	Current Enrollment	Existing NSA	MSBA NSA	Existing GSF	MSBA GSF	Existing Grossing Factor	MSBA Grossing Factor
Elementary Schools							
Bailey	505	42,514	52,030	64,697	78,822	1.52	1.51
Greenhalge	523	46,161	54,410	72,115	80,533	1.56	1.48
Lincoln	522	43,473	54,394	62,456	80,440	1.44	1.48
McAuliffe	508	43,322	52,076	63,655	79,113	1.47	1.52
McAvinnue	538	46,216	54,719	70,326	81,902	1.52	1.50
Moody	268	27,495	35,175	47,296	48,240	1.72	1.37
Morey	547	44,412	55,809	68,405	82,697	1.54	1.48
Murkland	523	42,937	54,410	62,050	80,533	1.45	1.48
Pawtucketville	524	50,934	54,426	78,424	80,626	1.54	1.48
Reilly	594	52,625	59,891	74,129	86,546	1.41	1.45
Shaughnessy	530	42,290	54,594	63,918	81,178	1.51	1.49
Washington	266	22,180	35,160	36,432	47,880	1.64	1.36
Middle Schools				763,903	908,510		
Butler	551	62,877	65,130	96,572	97,558	1.54	1.50
Daley	681	68,116	77,008	111,810	112,988	1.64	1.47
Robinson	655	69,938	75,621	99,181	110,134	1.42	1.46
Stoklosa	671	70,457	76,840	105,465	111,904	1.50	1.46
Sullivan	660	64,092	75,705	97,213	110,691	1.52	1.46
Wang	679	62,506	76,975	93,864	112,772	1.50	1.47
K-8				604,105	656,047		
Bartlett	542	52,999	66,141	95,586	99,211	1.80	1.50
Pyne Arts	520	53,864	64,722	78,963	97,083	1.47	1.50
				174,549	196,294	Delta = (-) 218,294 GSF	

Based on current enrollment conditions:

1. Elementary schools are **3,500 - 13,000 NSF less** than MSBA guidelines; **1,000 - 18,000 GSF less.**
2. Middle schools are **2,500 - 14,000 NSF less** than MSBA guidelines; **1,000 - 20,000 GSF less.**
3. K-8 schools are **11,000 - 13,000 NSF less** than MSBA guidelines; **4,000 - 18,000 GSF less.**

Current Educational Programming – Elementary Schools NSF

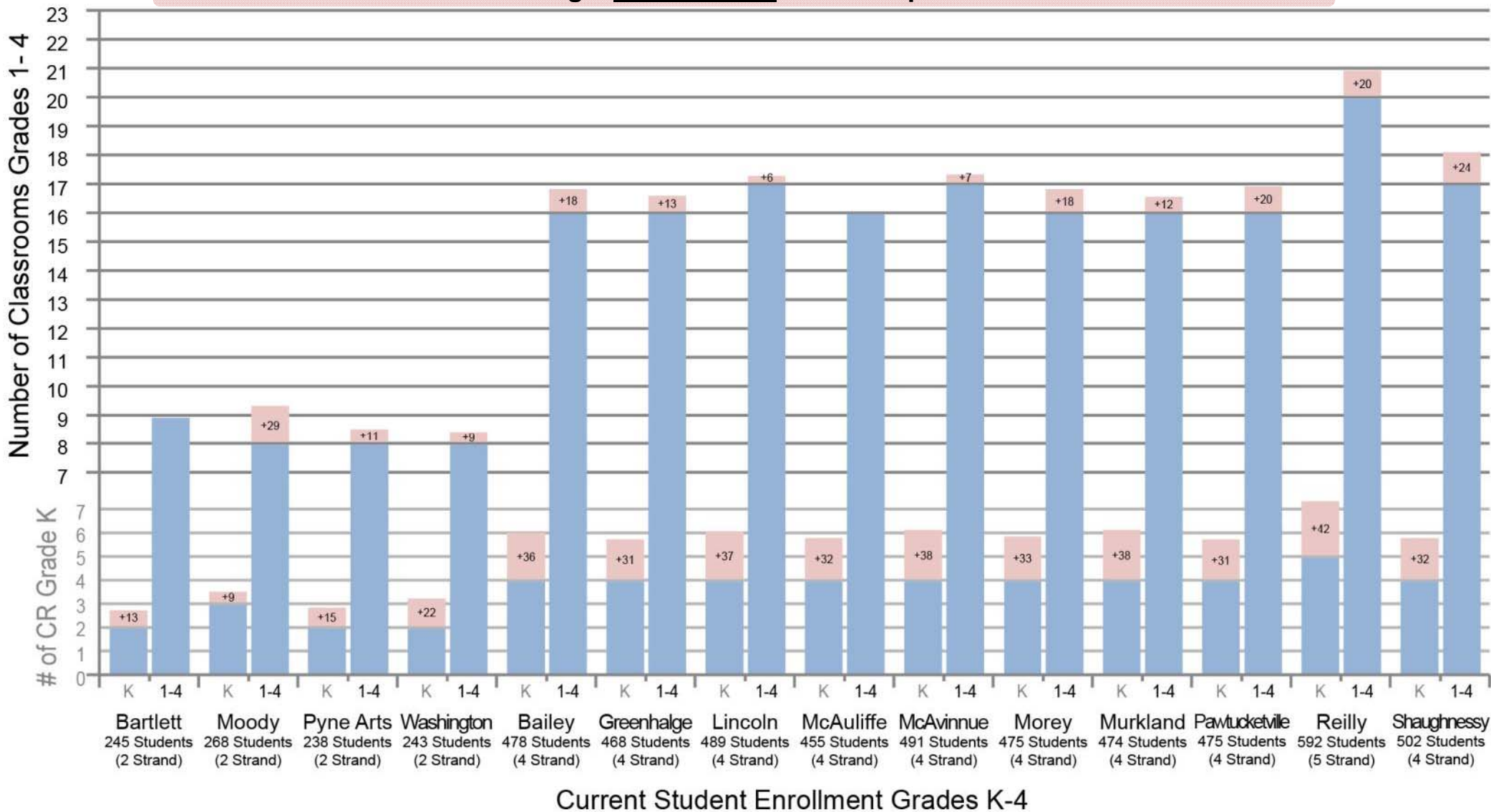
Net SF		Bailey	Greenhalge	Lincoln	McAuliffe	McAvinue	Moody	MOREY	Murkland	PAWTUCKETVILLE	Reilly	SHAUGHNESSY	WASHINGTON	Elementary Total	Comments & Considerations of existing buildings relative to MSBA guidelines
Enrollment	LPS	505	523	522	508	538	268	547	523	524	594	524	266	4,714	
CORE ACADEMIC	Existing Program	19,641	21,239	22,241	21,130	22,097	13,142	20,596	21,084	19,133	26,171	19,987	9,728	236,189	PreK CR replaced 2 core CR on avg per school creating deficiency. More than 1/2 have CR not meeting MSBA min NSF.
	MSBA Guidelines	21,900	22,850	22,850	21,900	22,850	11,900	23,800	22,850	22,850	25,950	22,850	11,900	254,450	
	Delta - SF	(2,259)	(1,611)	(609)	(770)	(753)	1,242	(3,204)	(1,766)	(3,717)	221	(2,863)	(2,172)	(18,261)	
		90%	93%	97%	96%	97%	110%	87%	92%	84%	101%	87%	82%	93%	
SPECIAL EDUCATION	Existing Program	3,669	5,605	4,424	4,227	5,553	1,363	4,238	3,624	6,587	6,321	4,888	3,757	54,256	SPED programs lack parity between schools. Most CR undersized. Most don't have bathrooms for SPED use only.
	MSBA Guidelines	6,040	6,040	6,040	6,040	6,040	3,020	6,040	6,040	6,040	6,040	6,040	3,020	66,440	
	Delta - SF	(2,371)	(435)	(1,616)	(1,813)	(487)	(1,657)	(1,802)	(2,416)	547	281	(1,152)	737	(12,184)	
		61%	93%	73%	70%	92%	45%	70%	60%	109%	105%	81%	124%	82%	
ART & MUSIC	Existing Program	1,888	2,032	1,900	2,398	2,342	1,419	2,206	2,028	2,540	1,990	909	1,527	23,179	MSBA allocates two art vs. one at Lowell. Some missing music CR & practice rooms. Spaces too small.
	MSBA Guidelines	2,575	3,725	3,725	2,575	3,800	2,500	3,800	3,725	3,725	5,000	3,800	2,500	41,450	
	Delta - SF	(687)	(1,693)	(1,825)	(177)	(1,458)	(1,081)	(1,594)	(1,697)	(1,185)	(3,010)	(2,891)	(973)	(18,271)	
		73%	55%	51%	93%	62%	57%	58%	54%	68%	40%	24%	61%	56%	
HEALTH & PHYSICAL ED	Existing Program	5,190	6,187	5,312	5,185	5,192	4,772	5,486	5,164	6,411	7,328	5,155	1,237	62,619	Many of the gyms are undersized by MSBA standards. Is this space suitable for school's needs?
	MSBA Guidelines	6,300	6,300	6,300	6,300	6,300	6,300	6,300	6,300	6,300	6,300	6,300	6,300	75,600	
	Delta - SF	(1,110)	(113)	(988)	(1,115)	(1,108)	(1,528)	(814)	(1,136)	111	1,028	(1,145)	(5,063)	(12,981)	
		82%	98%	84%	82%	82%	76%	87%	82%	102%	116%	82%	20%	83%	
MEDIA CENTER	Existing Program	1,419	1,424	1,374	1,629	1,903	932	2,226	1,219	2,040	1,475	1,097	975	17,713	All have media centers but undersized. Consider 21st century learning commons when updating space.
	MSBA Guidelines	2,943	3,024	3,019	2,956	3,091	2,020	3,132	3,024	3,028	3,343	3,055	2,020	34,653	
	Delta - SF	(1,524)	(1,600)	(1,645)	(1,327)	(1,188)	(1,088)	(906)	(1,805)	(988)	(1,868)	(1,958)	(1,045)	(16,940)	
		48%	47%	46%	55%	62%	46%	71%	40%	67%	44%	36%	48%	51%	
DINING & KITCHEN	Existing Program	4,703	4,553	4,707	4,552	4,744	3,017	5,314	4,610	5,776	5,446	4,979	1,025	53,426	Overall cafeteriums are undersized including the stage and storage areas.
	MSBA Guidelines	7,187	7,351	7,341	7,214	7,487	5,010	7,569	7,351	7,360	7,995	7,414	4,995	84,273	
	Delta - SF	(2,484)	(2,798)	(2,634)	(2,662)	(2,743)	(1,993)	(2,255)	(2,741)	(1,584)	(2,549)	(2,435)	(3,970)	(30,847)	
		65%	62%	64%	63%	63%	60%	70%	63%	78%	68%	67%	21%	63%	
MEDICAL	Existing Program	350	245	194	291	270	89	454	196	354	488	341	150	3,422	Generally nurses suites are undersized and do not account for separate exam and resting areas for students.
	MSBA Guidelines	610	610	610	610	610	510	610	610	610	610	610	510	7,120	
	Delta - SF	(260)	(365)	(416)	(319)	(340)	(421)	(156)	(414)	(256)	(122)	(269)	(360)	(3,698)	
		57%	40%	32%	48%	44%	17%	74%	32%	58%	80%	56%	29%	48%	
ADMIN & GUIDANCE	Existing Program	2,907	1,857	1,710	1,920	2,033	1,315	1,742	2,647	2,823	2,518	2,154	1,907	25,533	Admin area in most schools do not have support space, incl copy, mail, records rooms and offices/areas for secretaries.
	MSBA Guidelines	2,370	2,388	2,387	2,373	2,403	2,015	2,412	2,388	2,389	2,459	2,395	2,015	27,994	
	Delta - SF	537	(531)	(677)	(453)	(370)	(700)	(670)	259	434	59	(241)	(108)	(2,461)	
		123%	78%	72%	81%	85%	65%	72%	111%	118%	102%	90%	95%	91%	
CUSTODIAL & MAINT	Existing Program	1,818	1,483	570	1,136	2,082	1,446	1,257	1,206	2,672	888	1,926	1,874	18,358	Most don't have custodial space required by MSBA but have an extra general storage area that could be repurposed.
	MSBA Guidelines	2,105	2,123	2,122	2,108	2,138	1,900	2,147	2,123	2,124	2,194	2,130	1,900	25,114	
	Delta - SF	(287)	(640)	(1,552)	(972)	(56)	(454)	(890)	(917)	548	(1,306)	(204)	(26)	(6,756)	
		86%	70%	27%	54%	97%	76%	59%	57%	126%	40%	90%	99%	73%	
OTHER	Existing Program	929	1,536	1,041	854	0	0	893	1,159	2,598	0	854	0	9,864	MSBA doesn't incl computer labs at elem.

Current Educational Programming – Middle & K-8 Schools NSF

Net SF		Butler	DALEY	Robinson	Stoklosa	Sullivan	Wang	Middle Total	Comments & Considerations of existing buildings relative to MSBA guidelines	Bartlett	Pyne Arts	K-8 Total	Comments & Considerations of existing buildings relative to MSBA guidelines
Enrollment	LPS	551	681	665	671	660	679	3,907		542	520	1,062	
CORE ACADEMIC	Existing Program	20,593	20,858	28,276	26,633	23,291	24,590	144,241	A majority of the schools do not meet MSBA requirements for number of science labs and sm seminar rooms.	21,909	19,220	41,129	PreK CR replaced one Kindergarten CR in each school creating greater deficiency to number of CR/labs.
	MSBA Guidelines	26,850	31,480	30,530	31,480	30,530	31,480	182,350		25,160	24,210	49,370	
	Delta - SF	(6,257)	(10,622)	(2,254)	(4,847)	(7,239)	(6,890)	(38,109)		(3,251)	(4,990)	(8,241)	
		77%	66%	93%	85%	76%	78%	79%		87%	79%	83%	
SPECIAL EDUCATION	Existing Program	8,339	8,168	7,051	6,808	6,767	6,324	43,457	SPED programs vary between schools, but all lack of bathrooms allocated to SPED students.	4,736	7,652	12,388	Both schools do not MSBA requirements for number of SPED CR & bathrooms.
	MSBA Guidelines	6,040	7,550	7,550	7,550	7,550	7,550	43,790		7,050	7,050	14,100	
	Delta - SF	2,299	618	(499)	(742)	(783)	(1,226)	(333)		(2,314)	602	(1,712)	
		138%	108%	93%	90%	90%	84%	99%		67%	109%	88%	
ART & MUSIC	Existing Program	5,849	4,928	2,044	5,445	3,812	3,794	25,872	Most schools have more space than given by MSBA but some are missing program space, ie, practice rooms.	1,871	4,412	6,283	Art & Music CR are undersized by MSBA standards and are too few.
	MSBA Guidelines	3,050	3,250	3,250	3,250	3,250	3,250	19,300		5,550	5,550	11,100	
	Delta - SF	2,799	1,678	(1,206)	2,195	562	544	6,572		(3,679)	(1,138)	(4,817)	
		192%	152%	63%	168%	117%	117%	134%		34%	79%	57%	
VOCATIONS & TECH	Existing Program	989	3,093	3,248	1,467	2,348	2,250	13,395	VocTech is greatly undersized throughout the schools. In many, multiple classrooms are missing.	873	2,209	3,082	Both schools have a Tech CR but neither have the proper shop areas. Consider 21st C labs.
	MSBA Guidelines	3,200	6,400	6,400	6,400	6,400	6,400	35,200		3,200	3,200	6,400	
	Delta - SF	(2,211)	(3,307)	(3,152)	(4,933)	(4,052)	(4,150)	(21,805)		(2,327)	(991)	(3,318)	
		31%	48%	51%	23%	37%	35%	38%		27%	69%	48%	
HEALTH & PHYSICAL ED	Existing Program	9,175	13,258	11,730	9,342	8,990	9,114	61,609	Overall the phys-ed program space is oversized by MSBA standards.	9,379	6,533	15,912	Schools need larger locker rooms. Bartlett's gym is oversized & has extra stage (not sanctioned by MSBA.)
	MSBA Guidelines	8,400	8,400	8,400	8,400	8,400	8,400	50,400		8,328	8,327	16,655	
	Delta - SF	775	4,858	3,330	942	590	714	11,209		1,051	(1,794)	(743)	
		109%	158%	140%	111%	107%	109%	122%		113%	78%	96%	
MEDIA CENTER	Existing Program	2,672	2,721	2,770	4,377	2,591	2,890	18,021	Most schools have media centers that are undersized. Consider 21st C media center when updating.	1,925	2,547	4,472	Schools have media centers that are undersized. Consider 21st century learning commons when updating.
	MSBA Guidelines	3,548	4,296	4,146	4,238	4,175	4,284	24,688		3,181	2,999	6,180	
	Delta - SF	(876)	(1,575)	(1,376)	139	(1,584)	(1,394)	(6,667)		(1,256)	(452)	(1,708)	
		75%	63%	67%	103%	62%	67%	73%		61%	85%	72%	
DINING & KITCHEN	Existing Program	5,240	6,647	10,115	5,823	5,185	5,112	38,122	Cafeterias, not cafeteriums, are undersized by MSBA standards. Most don't have proper storage SF.	5,374	6,092	11,466	Cafetorium is undersized in both schools and need more space for equipment storage.
	MSBA Guidelines	8,205	9,386	9,149	9,295	9,195	9,367	54,597		8,123	7,923	16,046	
	Delta - SF	(2,965)	(2,739)	966	(3,472)	(4,010)	(4,255)	(16,475)		(2,749)	(1,831)	(4,580)	
		64%	71%	111%	63%	56%	55%	70%		66%	77%	71%	
MEDICAL	Existing Program	467	525	503	615	545	299	2,954	Medical suites meet MSBA guidelines other than the exam room that are either undersized or missing.	432	572	1,004	Medical suites meet MSBA guidelines other than the exam room that are either undersized or missing.
	MSBA Guidelines	610	610	610	610	610	610	3,660		610	610	1,220	
	Delta - SF	(143)	(85)	(107)	5	(65)	(311)	(706)		(178)	(38)	(216)	
		77%	86%	82%	101%	89%	49%	81%		71%	94%	82%	
ADMIN & GUIDANCE	Existing Program	3,228	2,758	2,419	2,364	3,536	2,752	17,057	Admin area in most schools don't have support areas for staff incl. copy, mail, and records rooms.	3,806	2,564	6,370	Admin and Guidance in both schools do not have support areas for staff incl. copy, mail, records, & storage.
	MSBA Guidelines	3,201	3,481	3,455	3,471	3,460	3,479	20,547		2,840	2,792	5,632	
	Delta - SF	27	(723)	(1,036)	(1,107)	76	(727)	(3,490)		966	(228)	738	
		101%	79%	70%	68%	102%	79%	83%		134%	92%	113%	
CUSTODIAL & MAINT	Existing Program	2,038	2,159	1,782	2,694	2,059	1,127	11,859	Custodial areas do not have all the spaces the MSBA requires but have extra general storage included in gsf.	1,458	2,063	3,521	Custodial areas do not have all the spaces the MSBA requires but have extra general storage included in gsf.
	MSBA Guidelines	2,026	2,156	2,130	2,146	2,135	2,154	12,747		2,098	2,061	4,160	
	Delta - SF	12	3	(348)	548	(76)	(1,027)	(888)		(640)	2	(639)	
		101%	100%	84%	126%	96%	52%	93%		69%	100%	85%	
OTHER	Existing Program	4,287	3,001	0	4,889	4,968	4,254	21,399	No MSBA space for Auditoriums.	1,236	0	1,236	No MSBA space for Computer Labs.

Grades K-4 Classroom Overcrowding - Current

K-4 Current Overcrowding = 593 students based on preferred classroom sizes



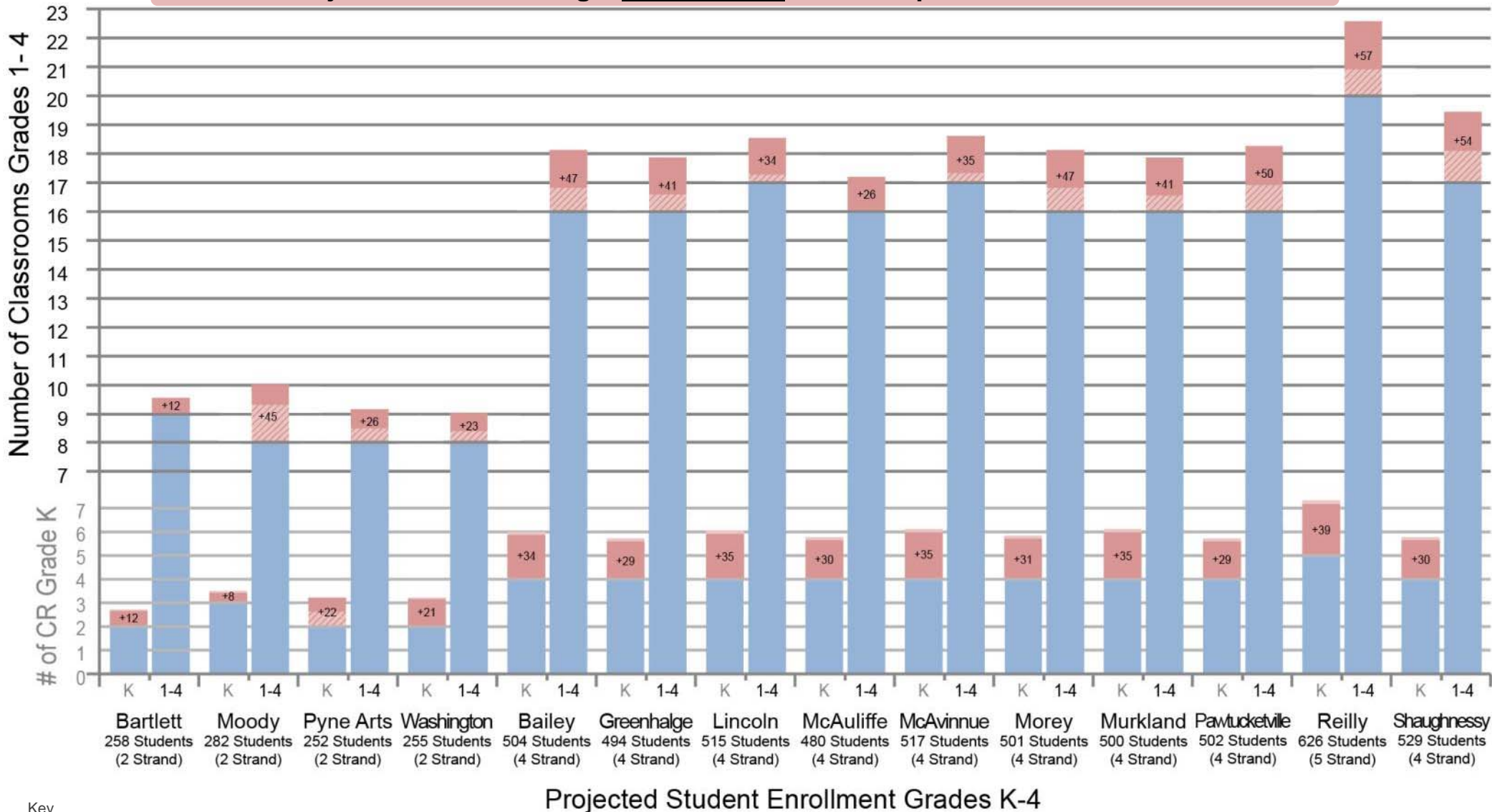
Key

■ Existing number of students placed in current classrooms assuming 18 students in Kindergarten and 22 students in grades 1-4.

■ Number of students not placed in current classrooms based on 18 & 22 student assumption.

Grades K-4 Classroom Overcrowding - Projected

K-4 Projected Overcrowding = 924 students based on preferred classroom sizes*



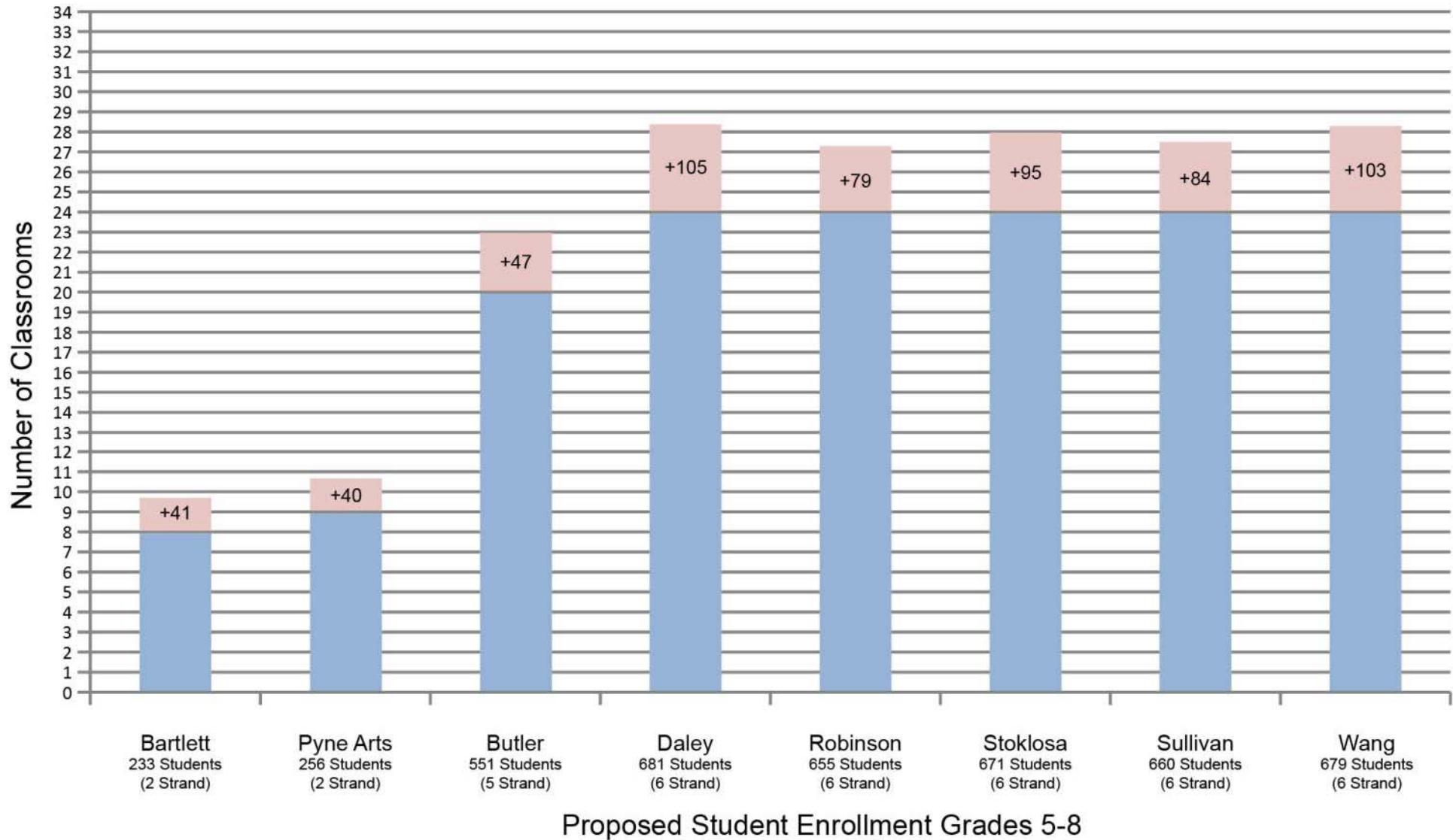
Key

- Number of students placed in current classrooms assuming 18 students in Kindergarten and 22 students in grades 1-4.
- Existing number of students not placed in current classrooms based on 18 & 22 student assumption.
- 10 Year Projected Average NESDEC number of students not placed in current classrooms based on 18 & 22 student assumption.

* Numbers do not include 15 swing classrooms, approximately 330 additional students.

Grades 5-8 Classroom Overcrowding - Current

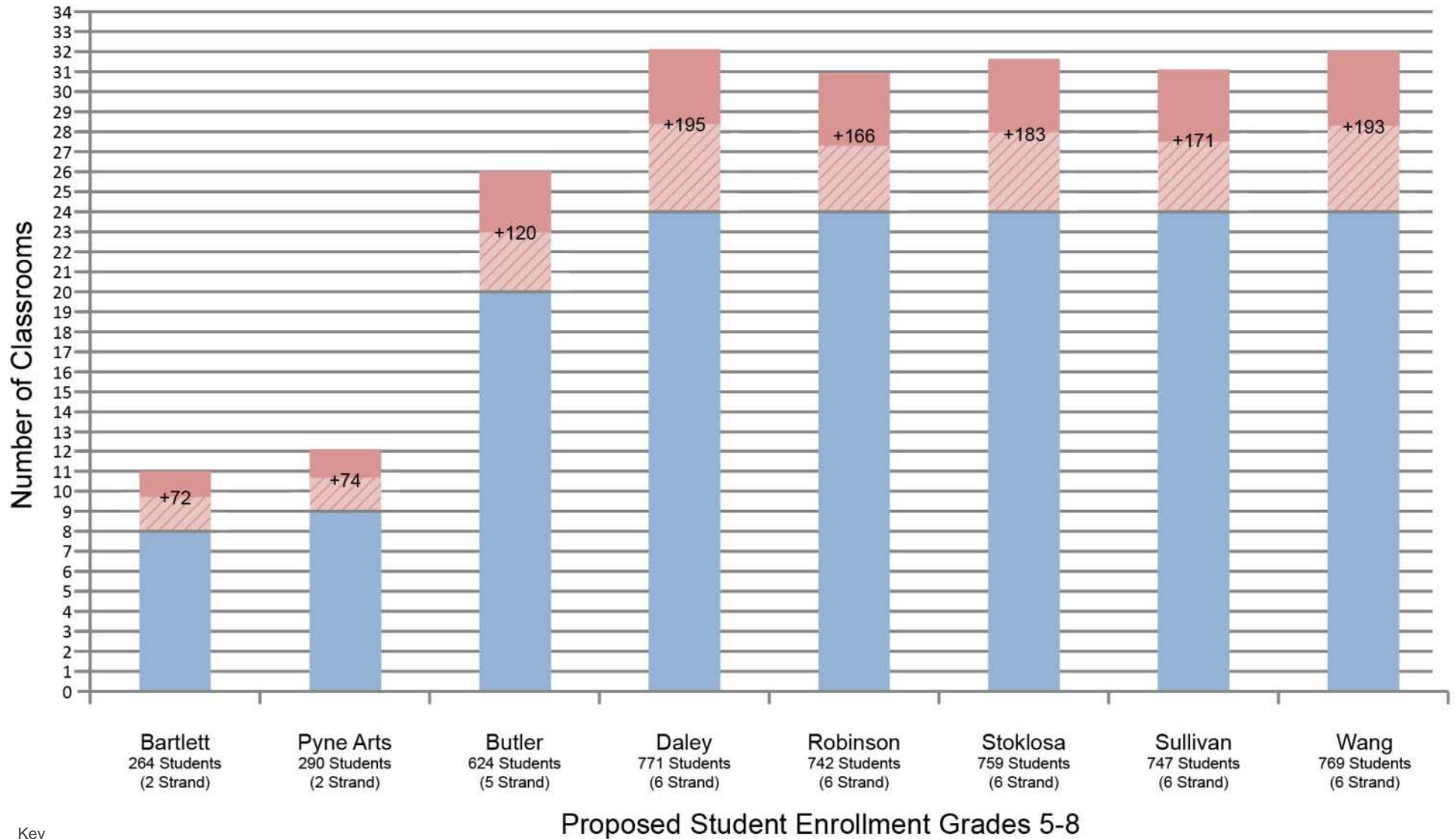
5-8 Current Overcrowding = 594 students based on preferred classroom sizes



- Key
- Existing number of students placed in current classrooms assuming 24 students in grades 5-8.
 - Number of students not placed in current classrooms based on 24 student assumption.

Grades 5-8 Classroom Overcrowding - Projected

5-8 Projected Overcrowding = 1174 students based on preferred classroom sizes*

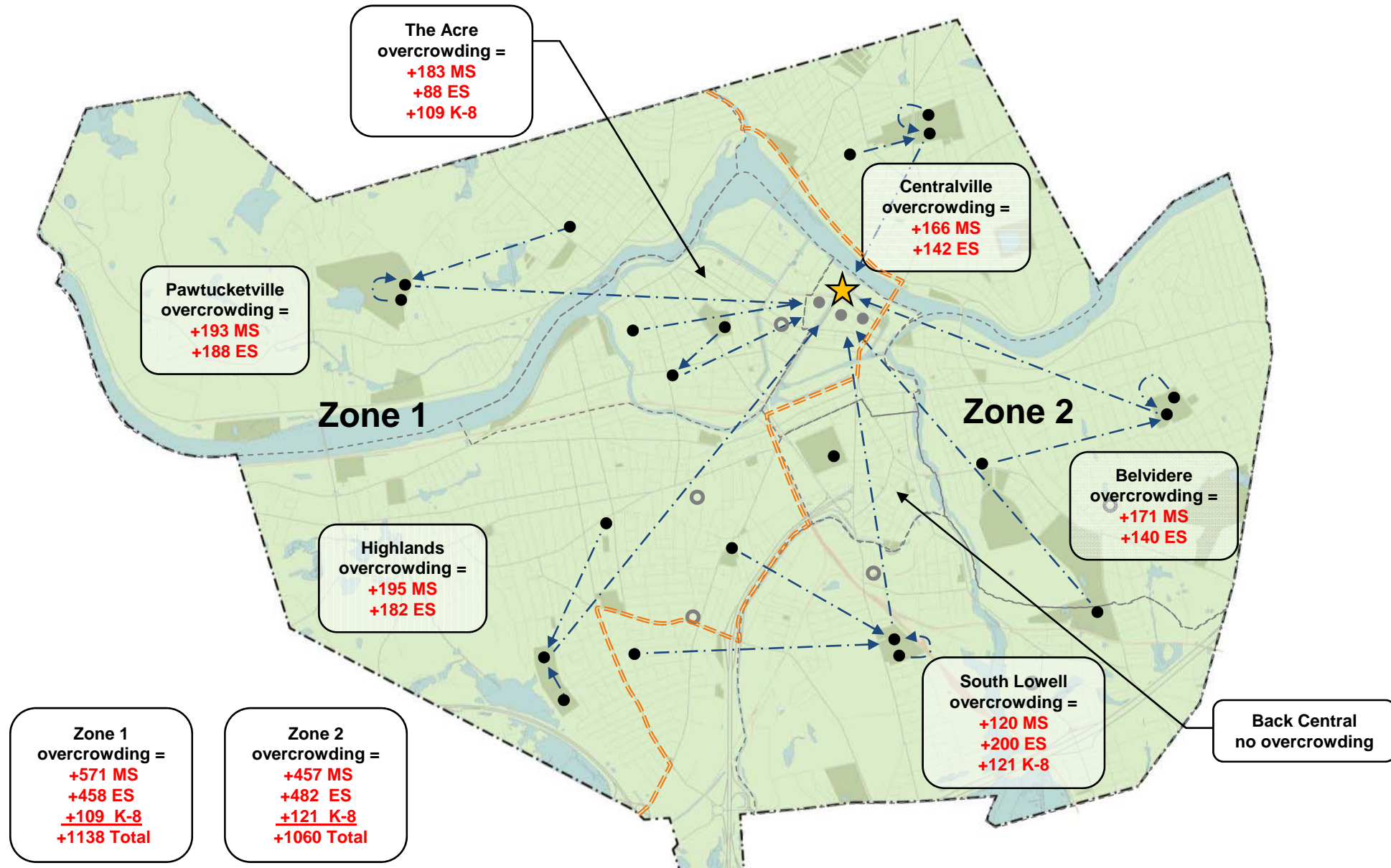


Key

- Number of students placed in current classrooms assuming 24 students in grades 5-8.
- Existing number of students not placed in current classrooms based on 24 student assumption.
- 10 Year Projected Average NESDEC number of students not placed in current classrooms based on 24 student assumption.

* Numbers do not include 15 swing classrooms, approximately 330 additional students.

PK, Elementary, K-8 & Middle School – Projected Overcrowding



Total LPS PK-8 projected overcrowding = +2,198 students + 15 swing classrooms

Educational Programming – Lowell High School

1 School of 3900 students****

Description	Existing Program based on 3200 Enrollment	MSBA Guidelines - 11/2010 3900 Enrollment***	DELTA: Existing space rel. to MSBA SF	%	Comments / Considerations of Existing relative to new using MSBA school guidelines*
CORE ACADEMIC SPACES	121,567	184,410	(62,843)	66%	have fewer Clrm, TPlan, Prep, Seminar; Small Science
SPECIAL EDUCATION	38,872	37,260	1,612	104%	may be allowable with backup*
ART & MUSIC	16,474	14,575	1,899	113%	may be allowable as some VoTec offset*
VOCATIONS & TECHNOLOGY	15,114	44,800	(29,686)	34%	suggest adding large 21st c fab labs and other votech
HEALTH AND PHYSICAL EDUCATION	45,338	38,040	7,298	119%	gym +2x size, lockers 1/2 size; needs msba discuss*+
MEDIA CENTER	11,297	24,275	(12,978)	47%	consider 21st c learning commons
AUDITORIUM / DRAMA	17,092	10,400	6,692	164%	2 auds; larger main space might be allowed*
DINING & FOOD SERVICE	23,733	27,650	(3,917)	86%	dining space too small
MEDICAL	1,718	2,810	(1,092)	61%	additional exam and resting rooms needed
ADMINISTRATION & GUIDANCE	22,854	11,658	11,196	196%	2x guid, admin, teachers work room
CUSTODIAL & MAINTENANCE	11,104	4,550	6,554	244%	space would shift to gross in MSBA guidelines
SUB-TOTAL					
Net Area	325,163	400,428	(75,265)	81%	net is significantly below MSBA guidelines
OTHER **	28,293	0	28,293		some spaces are not msba reimbursable*
GRAND TOTAL					
Net Area	353,456 NSF	400,428 NSF	(46,972)	88%	net is too heavy on non-educational space; consider re-purposed space
Net to Gross Ratio (Gross Area/ Net Area)	1.78 ratio	1.45 ratio+	0.33		
Gross Area	627,645 GSF	580,620 GSF	47,025	108%	gross may be allowable due to enrollment *+

** OTHER includes:

- Natatorium & Support
- Lowell CCTV
- Lowell Community Health Center
- School Store, Year Book, Stud Publication & Activities
- In house Suspension
- Bank
- DARE, UP, Catie's Closet, Plant Room, 2 unknown Programs

* Per MSBA Guidelines; needs further discussion with MSBA

** List of OTHER (assumed non- msba allowable) to the left

*** Based on current NESDEC 10 year projections dated October 30 2013

+ Note that MSBA enrollment guidelines max at 2000 students, and use a grossing factor between 1.4 and 1.5. Depending on the use of existing buildings, these factors will need further discussion with MSBA.

Educational Programming – Lowell High School

2 Schools of 1950 students each

Description	Existing Program 3200 Enrollment	MSBA Guidelines - 2010 1950 Enrollment/ school	2 schools = 3900 Enrollment Total*	DELTA: Existing space rel. to 2 MSBA SF	%	Comments / Considerations of 2 HS relative to 1 HS based on MSBA guidelines*
CORE ACADEMIC SPACES	121,567	91,830	183,660	(62,093)	66%	
SPECIAL EDUCATION	38,872	19,130	38,260	612	102%	may be allowable with backup*
ART & MUSIC	16,474	9,775	19,550			Allows additional band, choral and art space
VOCATIONS & TECHNOLOGY	15,114	22,400	44,800	(29,686)	34%	
HEALTH AND PHYSICAL EDUCATION	45,338	27,120	54,240			Allows additional gymnasiums & PE space
MEDIA CENTER	11,297	12,088	24,175	(12,878)	47%	
AUDITORIUM / DRAMA	17,092	10,400	20,800			Allows additional auditorium space
DINING & FOOD SERVICE	23,733	14,976	29,951	(6,218)	79%	
MEDICAL	1,718	1,510	3,020	(1,302)	57%	
ADMINISTRATION & GUIDANCE	22,854	6,726	13,453	9,402	170%	2x guid, admin, teachers work room
CUSTODIAL & MAINTENANCE	11,104	3,088	6,175	4,929	180%	space would shift to gross in MSBA guidelines
SUB-TOTAL Net Area	325,163	219,042	438,084	(112,921)	74%	net is significantly below MSBA guidelines
OTHER **	28,293	0	0	28,293		some spaces are not msba reimbursable*
GRAND TOTAL Net Area	353,456	219,042 NSF	438,084 NSF	(84,628)	81%	net is too heavy on non-educational space; consider re-purposed space
Net to Gross Ratio (Gross Area/ Net Area)	1.78	1.45 ratio+	1.45 ratio+	0.33		
Gross Area	627,645	317,611 GSF	635,221 GSF	(7,576)	99%	

** OTHER includes:

- Natatorium & Support
- Lowell CCTV
- Lowell Community Health Ctr
- School Store, Year Book, Stud Publication & Activities
- In house Suspension
- Bank
- DARE, UP, Catie's Closet, Plant Room, 2 unknown Programs

* Per MSBA Guidelines; needs further discussion with MSBA

** List of OTHER (assumed non- msba allowable) to the left

*** Based on current NESDEC 10 year projections dated October 30 2013

+ Note that MSBA enrollment guidelines max at 2000 students, and use a grossing factor between 1.4 and 1.5. Depending on the use of existing buildings, these factors will need further discussion with MSBA.

Central Objectives

We know that there is a need for ongoing investment in the current Lowell Public School facilities to address deferred repair and maintenance needs...

How should the current and future overcrowding of over 2,500 students in grades PK thru 8 be addressed by the City of Lowell?

How should the needs of the high school students be addressed by the City of Lowell?

Agenda

- 
- **Schedule, Objectives & Underlying Principles**
 - **PK - 8 Master Planning**
 - Decision Matrix
 - Preliminary Alternatives
 - Potential Sites
 - **Lowell High School**
 - Decision Matrix
 - Potential Sites
 - Preliminary Alternatives
 - **Baseline Repair and Alternative Option Costs**

PK-8 Decision Matrix

How should the overcrowding of over 2,500 students in grades PK thru 8 be addressed by the City of Lowell?

Reduce overcrowding by renovating Rogers

Grade Configuration
ES = K-4
MS = 5-8

Grade Configuration
ES = K-5
MS = 6-8

Option 1
PK Integrated

Option 2
PK Centers

Option 3
PK Integrated

Option 4
PK Centers

Additions
To All
Schools

Build
New
Schools

Build
New
Schools

Additions
To Some
Schools

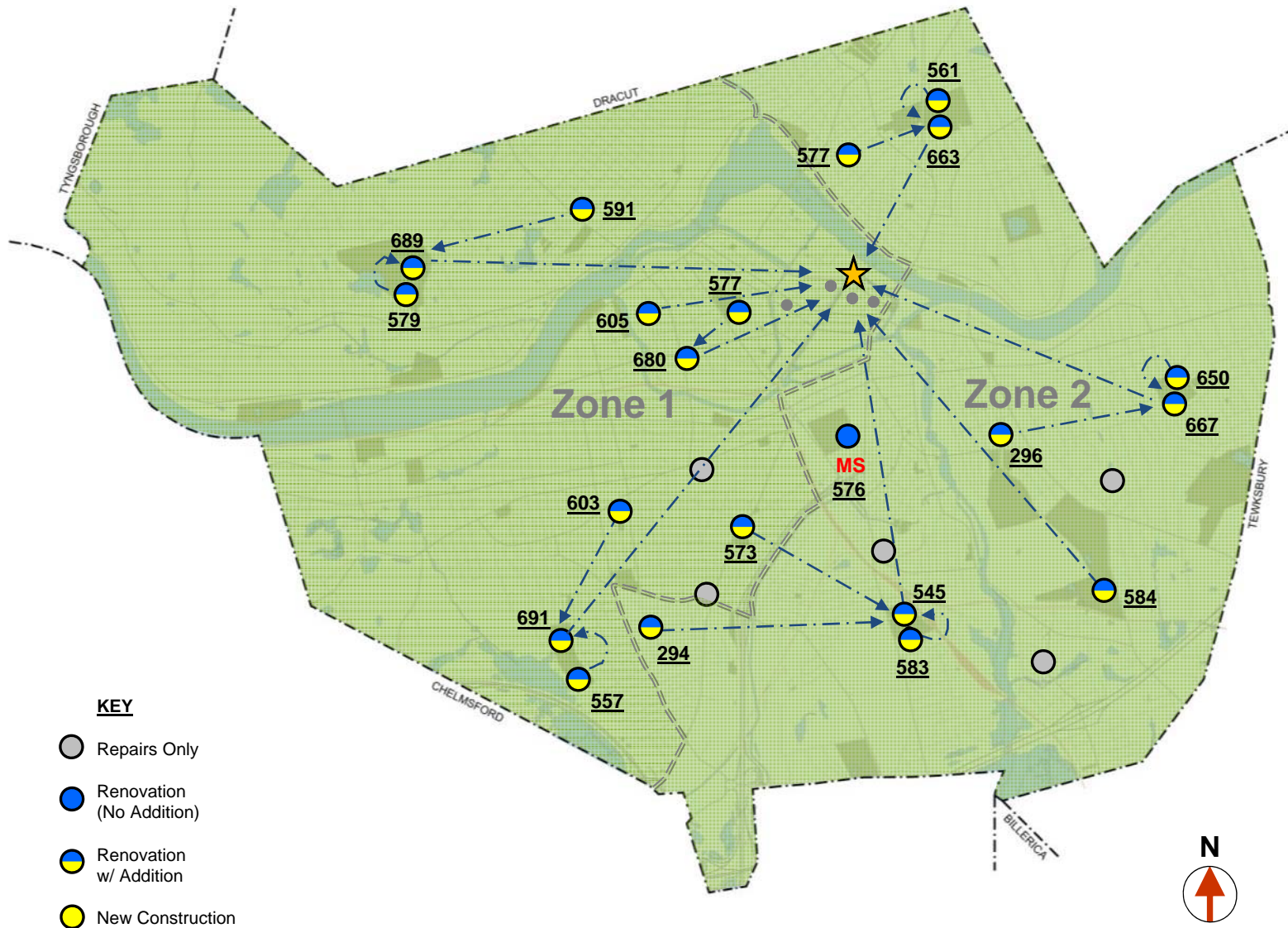
*
Additions
To Some
Schools

*
Build
New
Schools

* Strand Reconfiguration

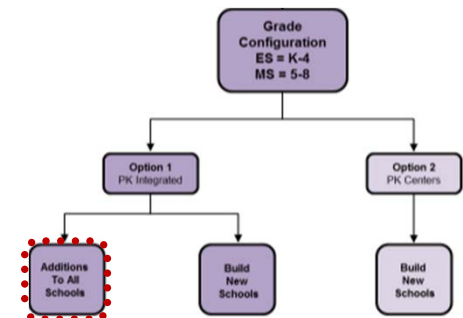
Option 1A:

Additions & Renovations to All ES, MS, & K-8 Schools



Comments / Considerations:

- Current Grade Configuration w/ Pre-K Integrated (PK-4, 5-8)
- Renovate Rogers for M.S.
- Additions and renovations for all (20) PK thru 8 Schools
 - Preferred School size
- Repair (5) Schools
- Limited area for expansion:
 - Urban vs Suburban sites
- Complex Construction Phasing:
 - Duration (many projects)
 - Disruption
 - Minimal swing space

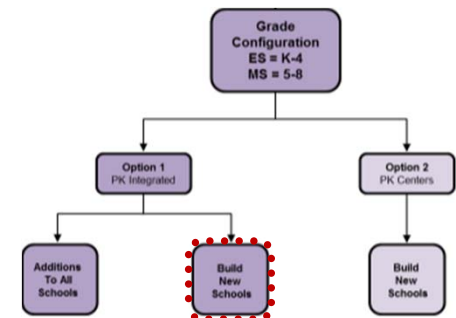
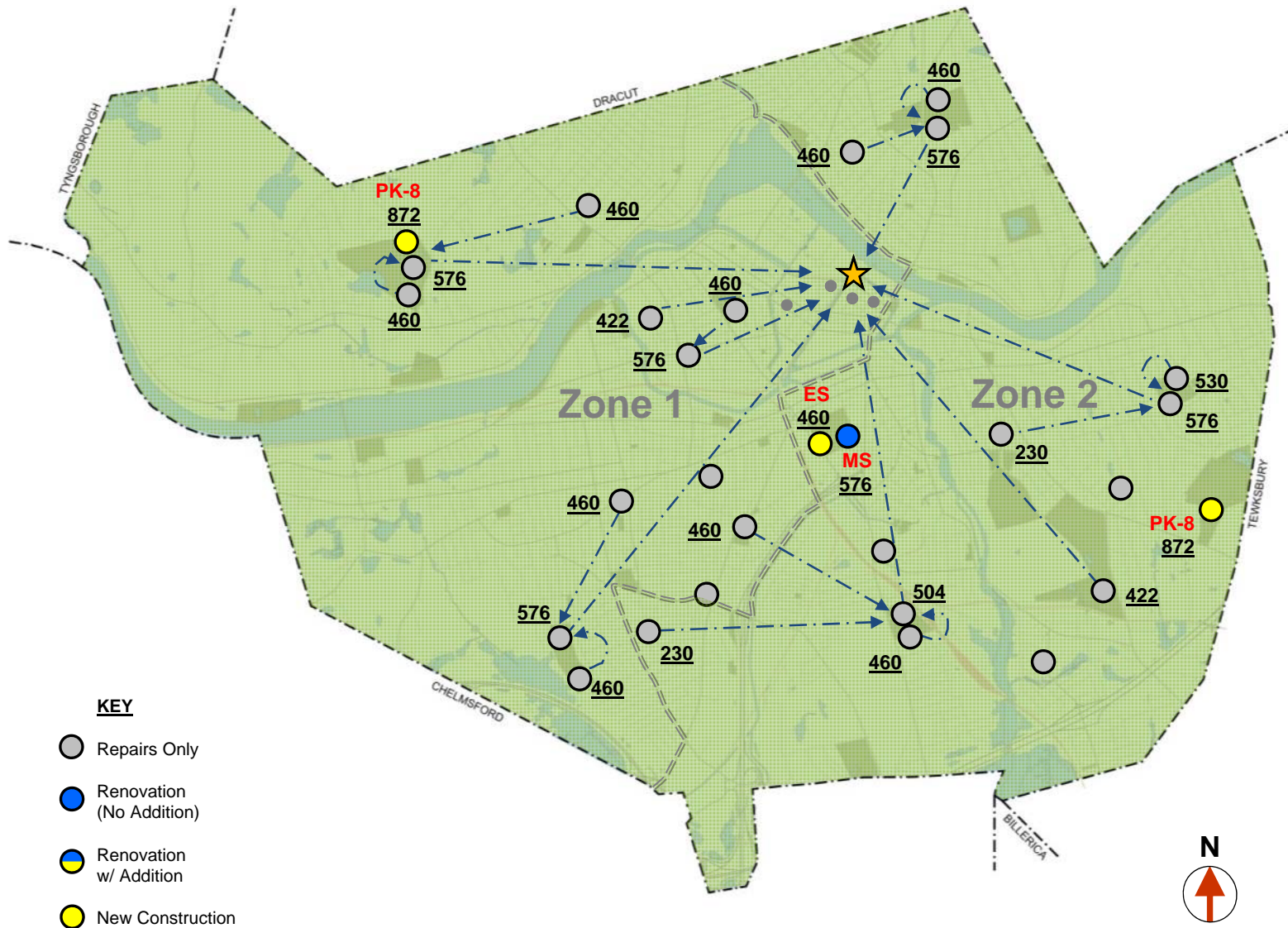


Option 1D:

Add (1) ES, (2) PK-8 Four-Strand Schools

Comments / Considerations:

- Current Grade Configuration w/ Pre-K Integrated
- Renovate Rogers for M.S.
- Cap enrollment at schools based on LPS preferred class sizes
- Build (3) new schools:
 - Build (1) E.S.
 - Build (2) PK-8 (four-strand)
- Repair (25) Schools
- Construction Phasing:
 - Shorter Duration
 - Least Disruption

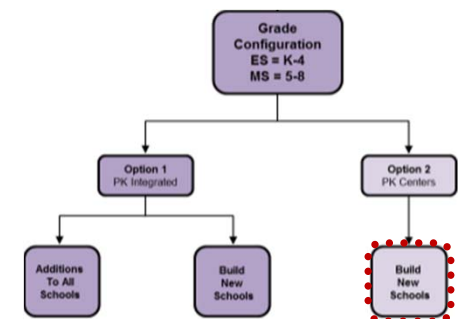
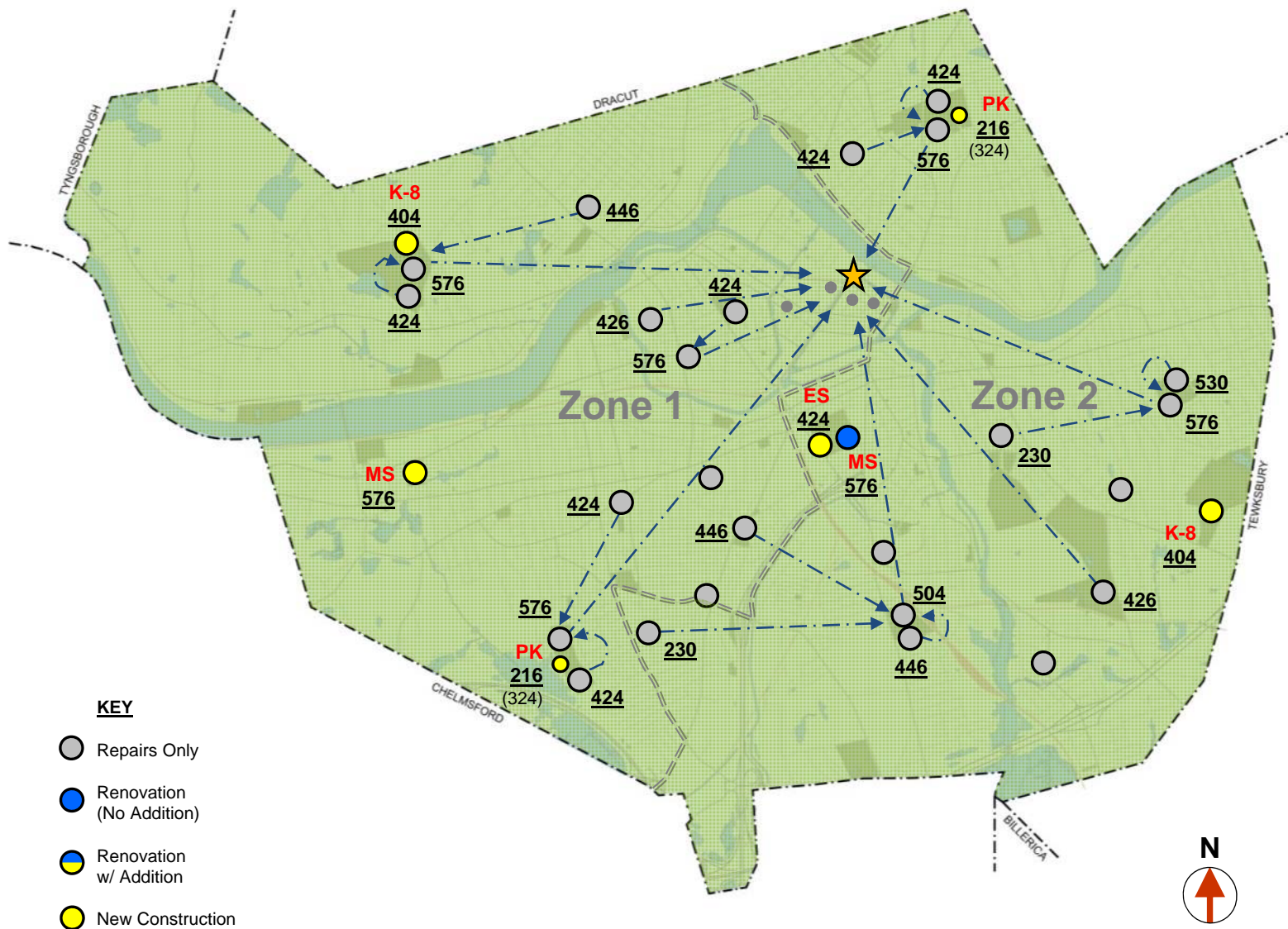


Option 2A:

Add (1) ES, (1) MS, (2) K-8 Two-Strand Schools, (2) PK's

Comments / Considerations:

- Current Grade Configuration w/ Pre-K Centers
- Renovate Rogers for M.S.
- Cap enrollment at schools based on LPS preferred class sizes
- Build (4) new schools:
 - Build (1) E.S.
 - Build (1) M.S.
 - Build (2) K-8 (two-strand)
- Build (2) new Pre-K Centers
- Repair (25) Schools
- Construction Phasing:
 - Duration / Disruption

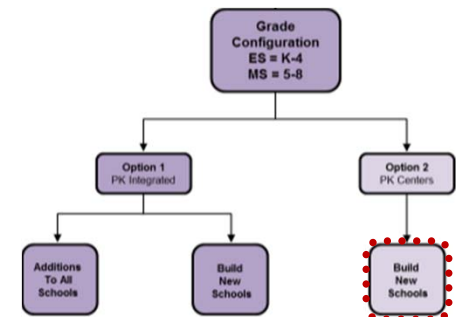
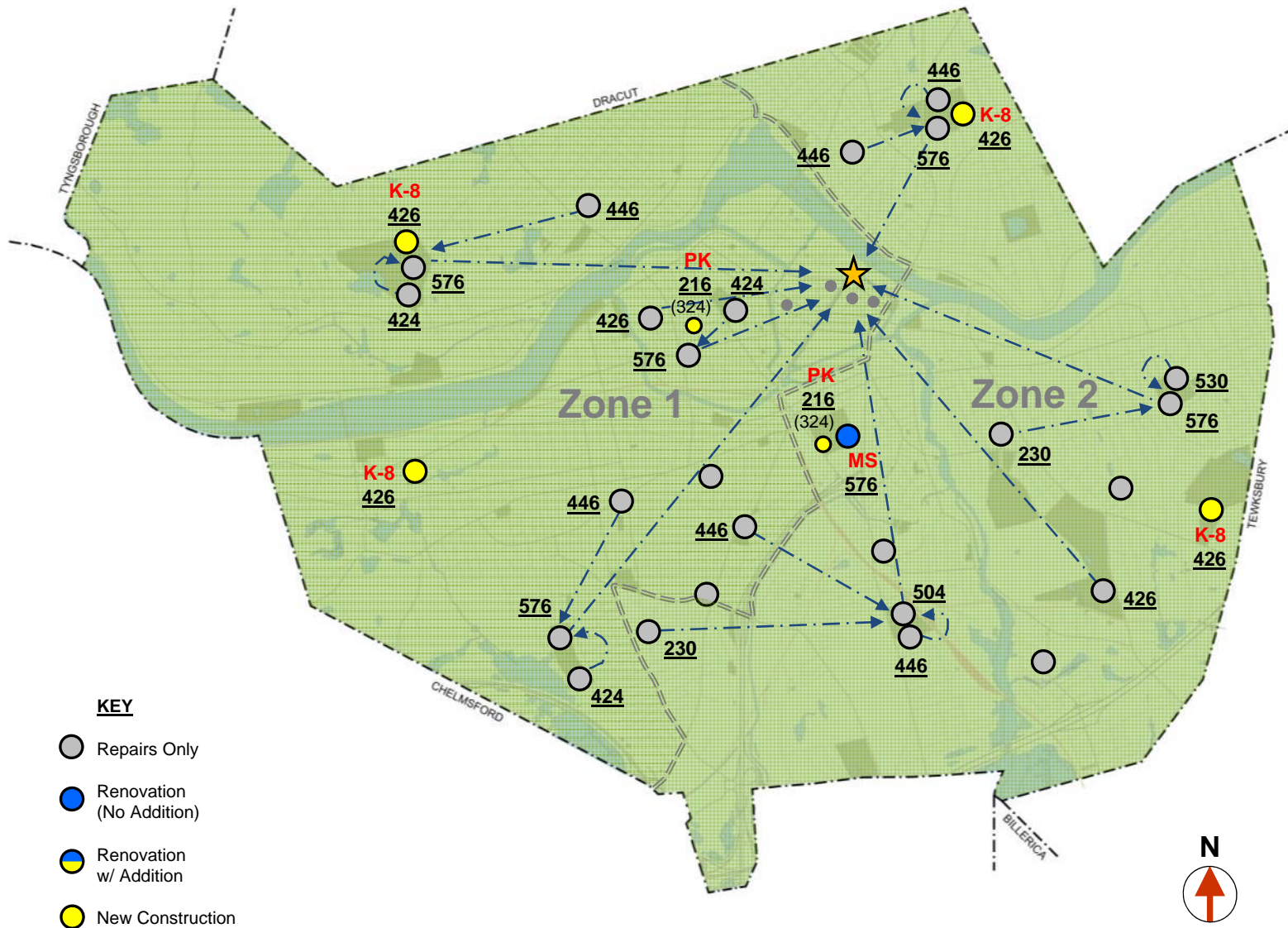


Option 2B:

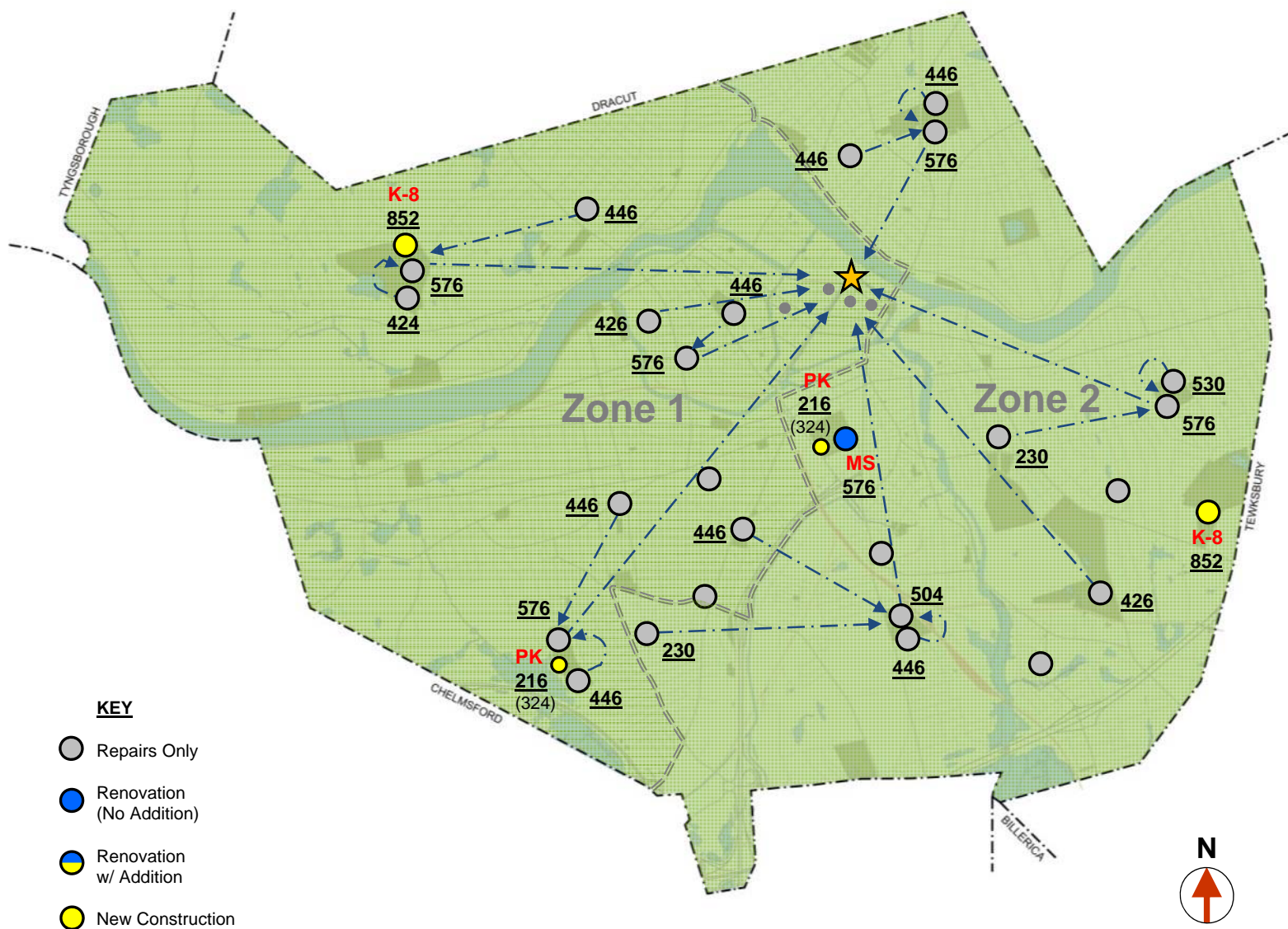
Add (4) K-8 Two-Strand Schools, (2) PK's

Comments / Considerations:

- Current Grade Configuration w/ Pre-K Centers
- Renovate Rogers for M.S.
- Cap enrollment at schools based on LPS preferred class sizes
- Build (4) new schools:
 - Build (4) K-8 (two-strand)
- Build (2) new Pre-K Centers
- Repair (25) Schools
- Construction Phasing:
 - Duration / Disruption

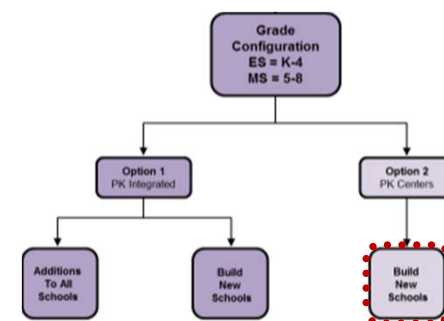


Add (2) K-8 Four-Strand Schools, (2) PK's



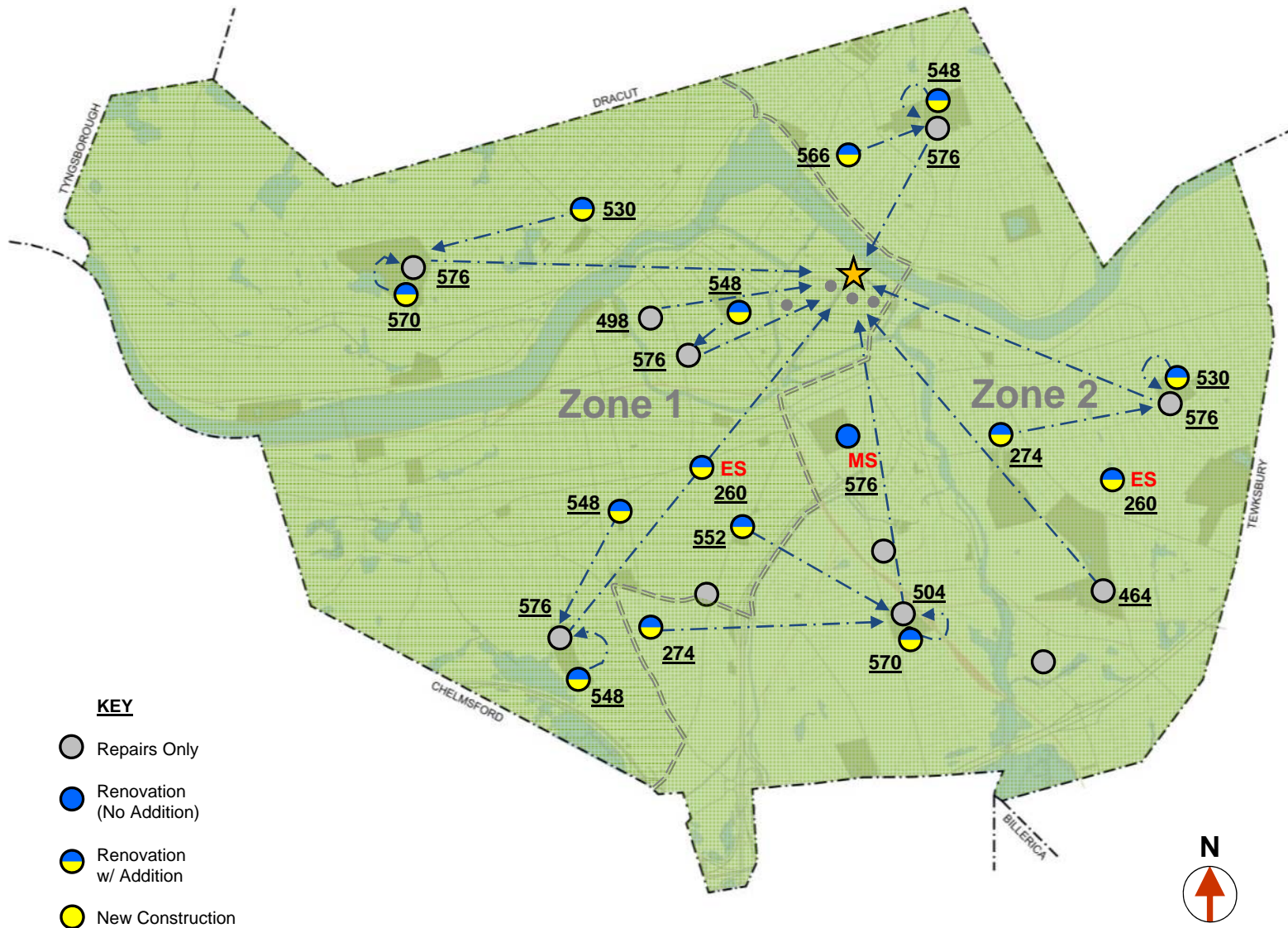
Comments / Considerations:

- Current Grade Configuration w/ Pre-K Centers
- Renovate Rogers for M.S.
- Cap enrollment at schools based on LPS preferred class sizes
- Build (2) new schools:
 - Build (2) K-8 (four-strand)
- Build (2) new Pre-K Centers
- Repair (25) Schools
- Construction Phasing:
 - Duration / Disruption



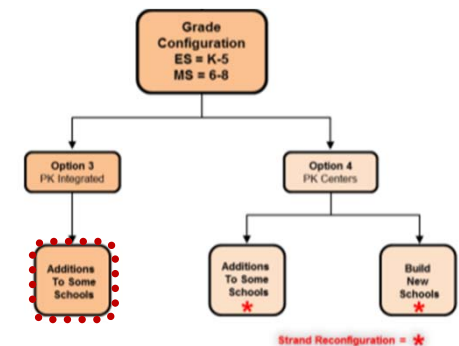
Option 3:

Additions & Renovations to All ES's & (2) Alt/Day Schools



Comments / Considerations:

- Grade Reconfiguration w/ Pre-K Integrated
- Renovate Rogers for M.S.
- Renovations and Additions to all E.S.'s for 5th Grade
 - Parity at Washington & Moody E.S.'s
- Renovations and Additions to Molloy and LeBlanc
 - Relocate existing programs
- Repair (11) Schools
- Construction Phasing:
 - Duration / Disruption
 - Swing space

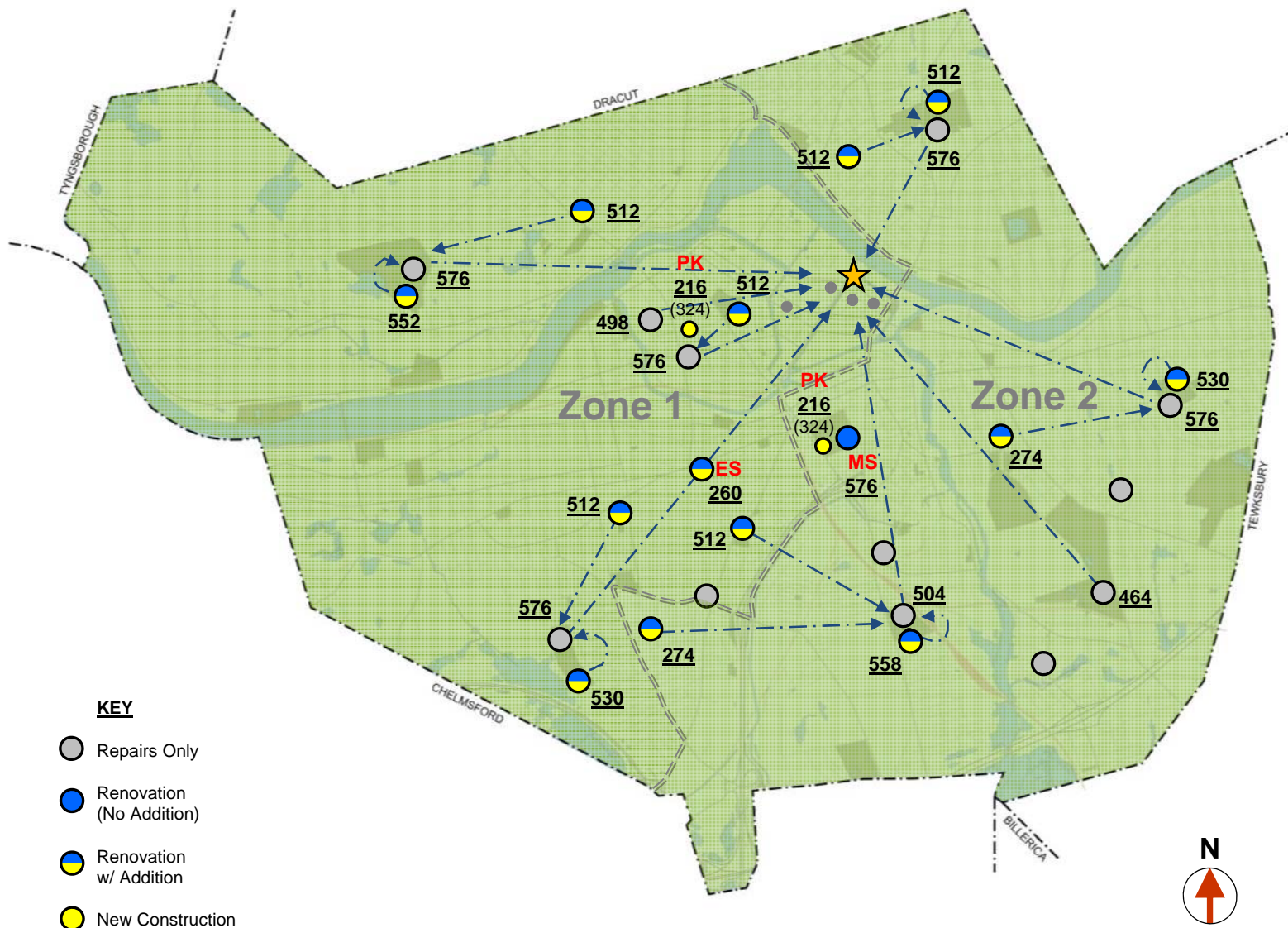


Option 4A:

Additions & Renovations to All ES's & (1) Alt Schools, (2) PK's

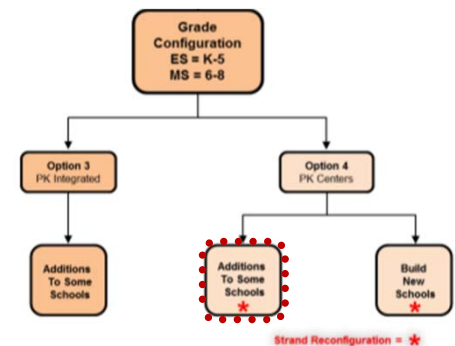
Comments / Considerations:

- Grade Reconfiguration w/ Pre-K Centers
- Renovate Rogers for M.S.
- Renovations and Additions to all E.S.'s for 5th Grade
 - Parity at Washington & Moody E.S.'s
- Renovations and Additions to Molloy
 - Relocate existing program
- Build (2) new Pre-K Centers
- Repair (12) Schools
- Construction Phasing:
 - Duration / Disruption
 - Swing space

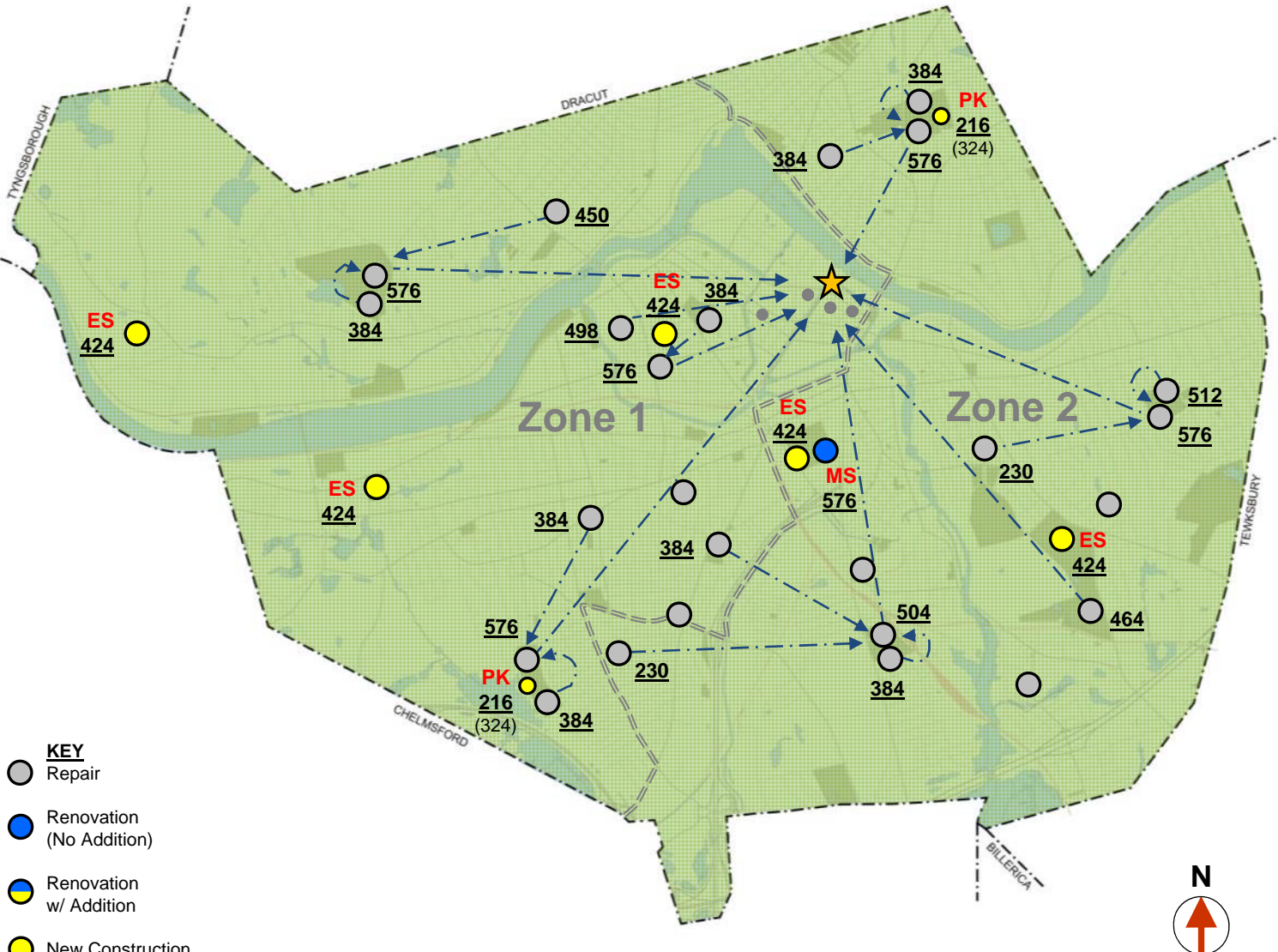


KEY

- Repairs Only
- Renovation (No Addition)
- Renovation w/ Addition
- New Construction

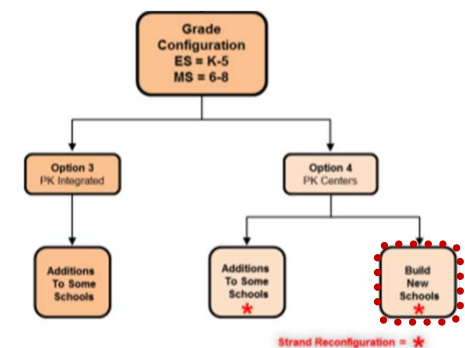


Add (5) ES & (2) PK's



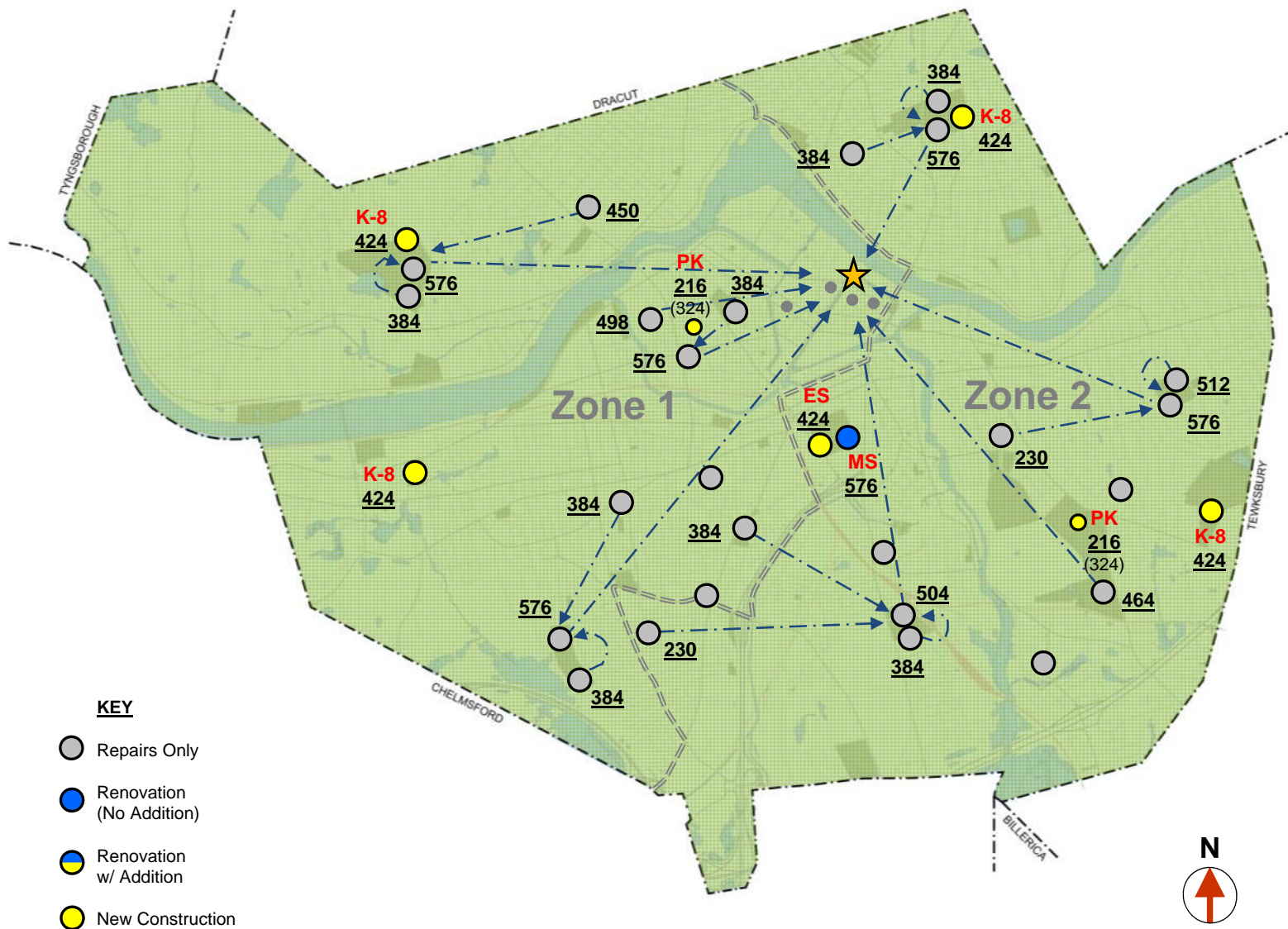
Comments / Considerations:

- Grade Configuration w/ Pre-K Centers
- Renovate Rogers for M.S.
- Reduce the four and three -strand E.S.'s by one strand
 - Additional program space
- Cap enrollment at schools based on LPS preferred class sizes
- Build (5) new schools:
 - Build (5) E.S.'s
- Build (2) new Pre-K Centers
- Repair (25) Schools
- Construction Phasing:
 - Duration / Disruption



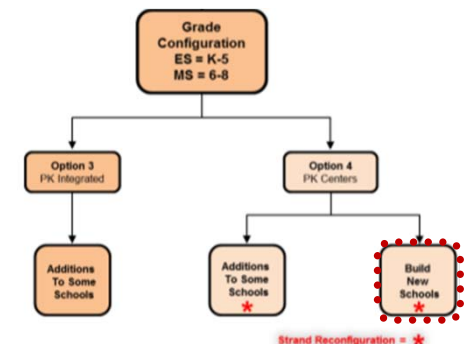
Option 4C:

Add (1) ES & (4) K-8 Two-Strand Schools, (2) PK's



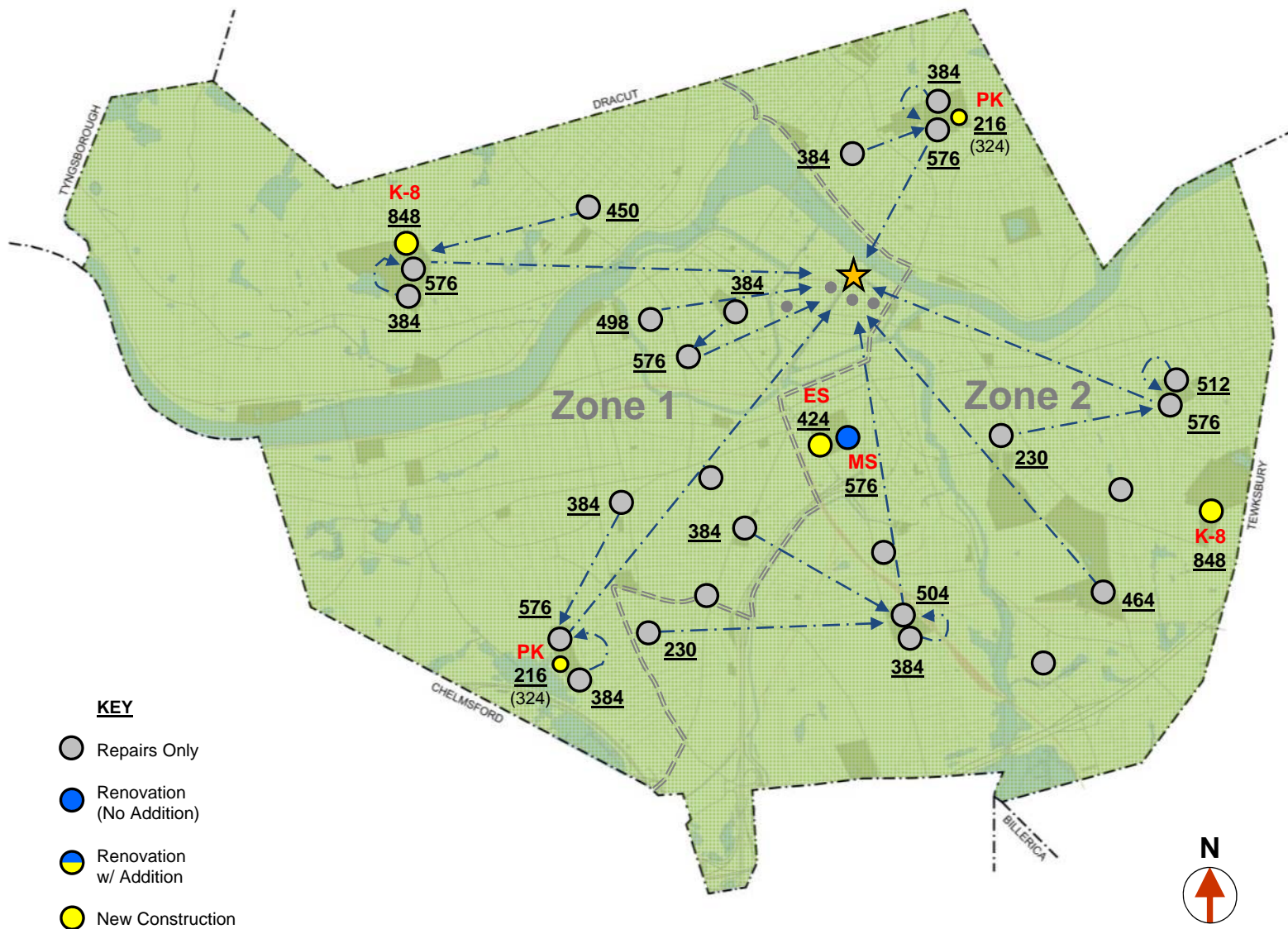
Comments / Considerations:

- Grade Reconfiguration w/ Pre-K Centers
- Renovate Rogers for M.S.
- Reduce the four and three -strand E.S.'s by one strand
 - Additional program space
- Cap enrollment at schools based on LPS preferred class sizes
- Build (5) new schools:
 - Build (1) E.S.'s
 - Build (4) K-8 (two-strand)
- Build (2) new Pre-K Centers
- Repair (25) Schools
- Construction Phasing:
 - Duration / Disruption



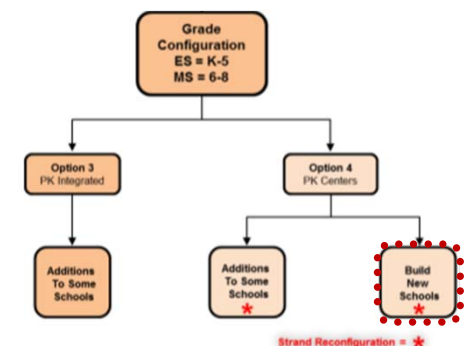
Option 4D:

Add (1) ES & (2) K-8 Four-Strand Schools, (2) PK's

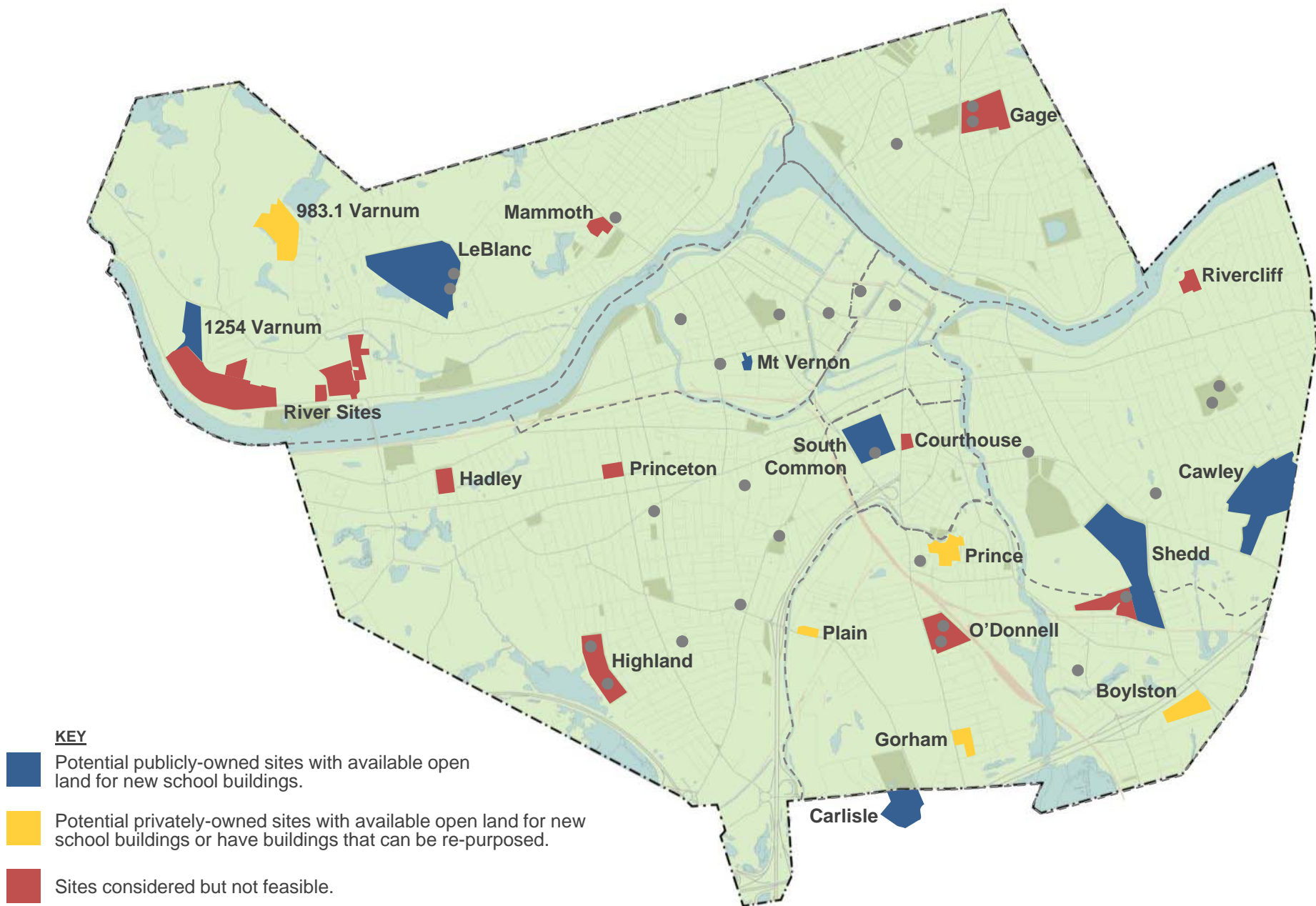


Comments / Considerations:

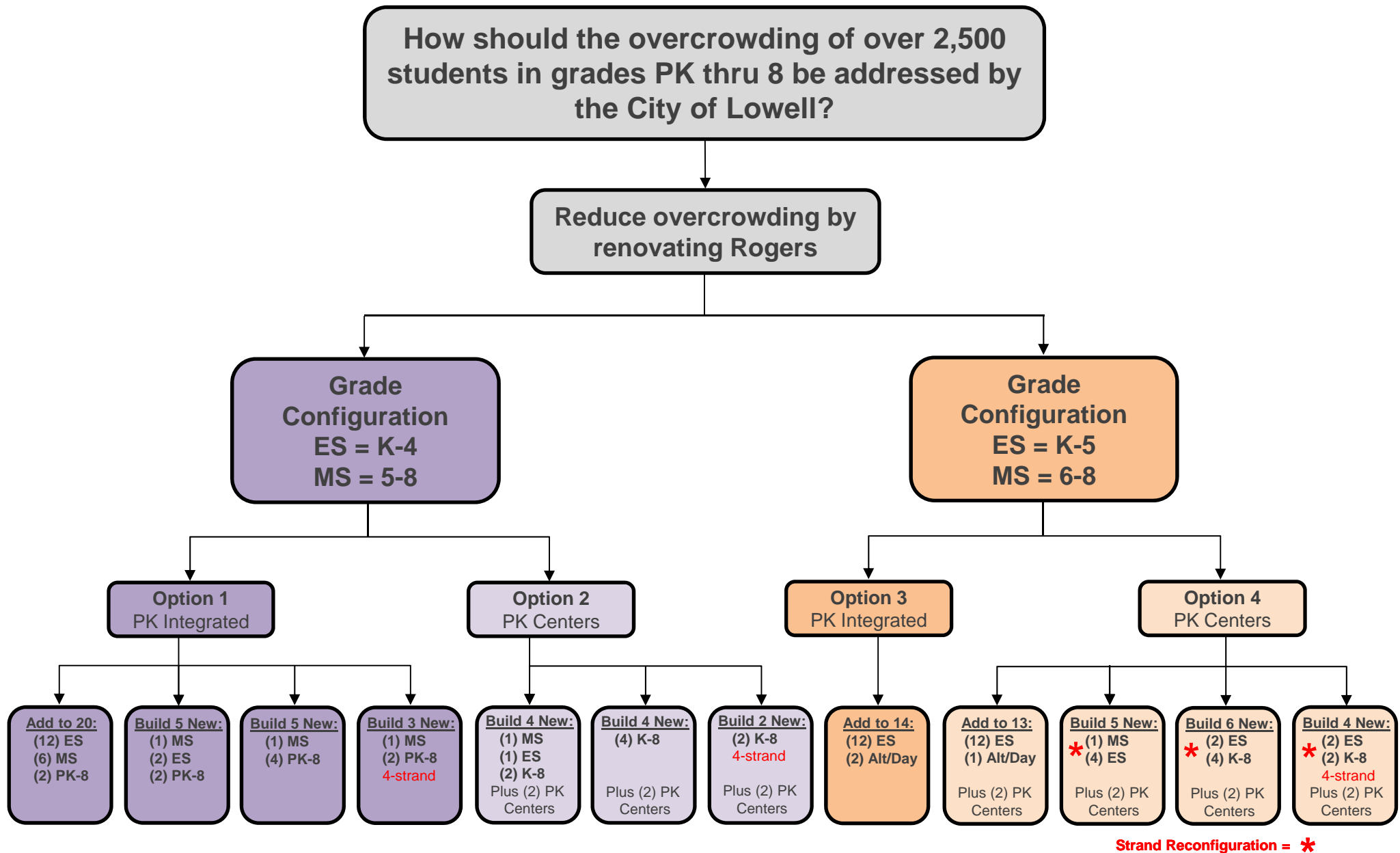
- Grade Reconfiguration w/ Pre-K Centers
- Renovate Rogers for M.S.
- Reduce the four and three -strand E.S.'s by one strand
 - Additional program space
- Cap enrollment at schools based on LPS preferred class sizes
- Build (3) new schools:
 - Build (1) E.S.'s
 - Build (2) K-8 (four-strand)
- Build (2) new Pre-K Centers
- Repair (25) Schools
- Construction Phasing:
 - Duration / Disruption



PK, Elementary, K-8 & Middle School – Site Opportunities



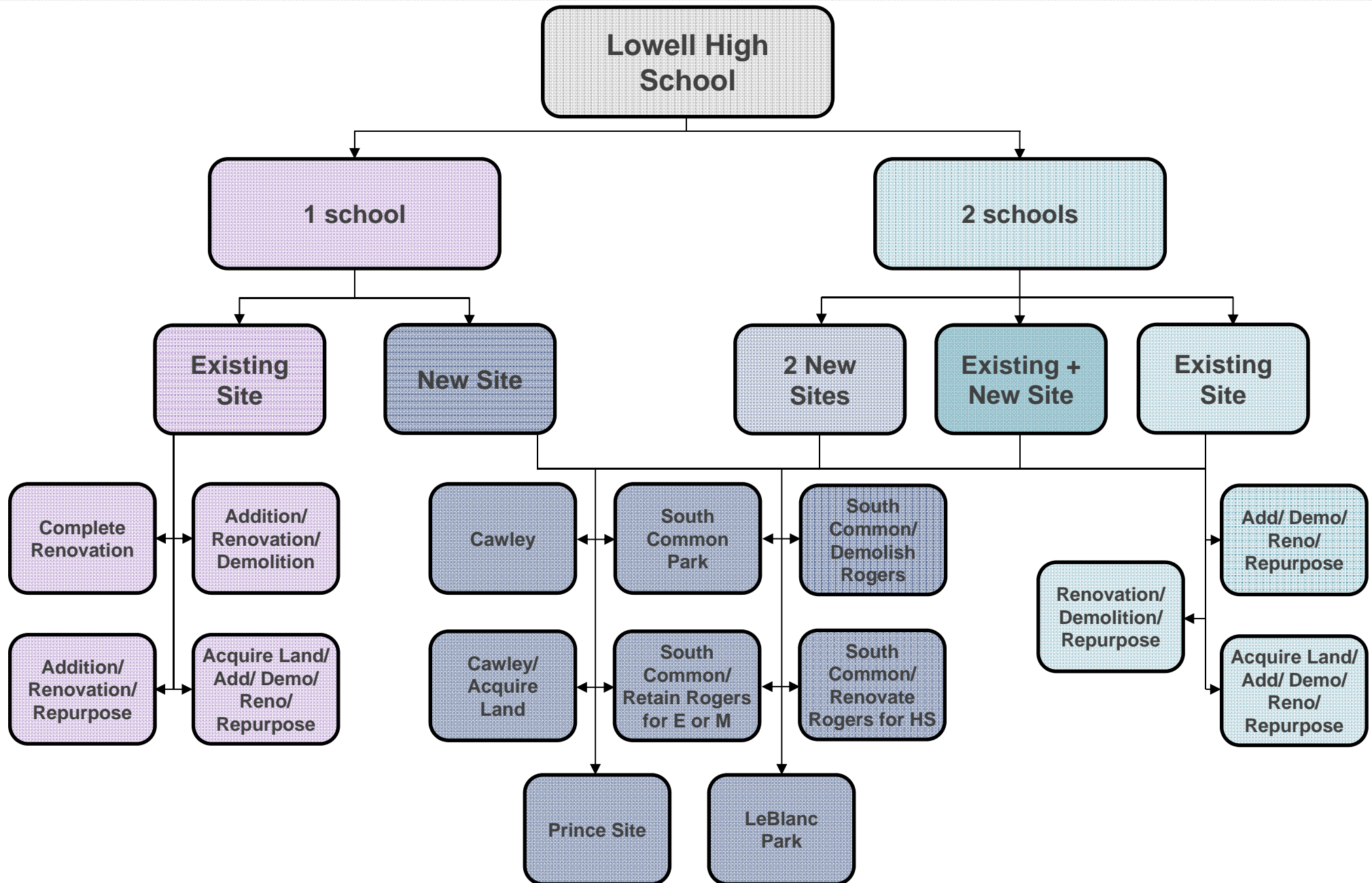
PK-8 Decision Matrix



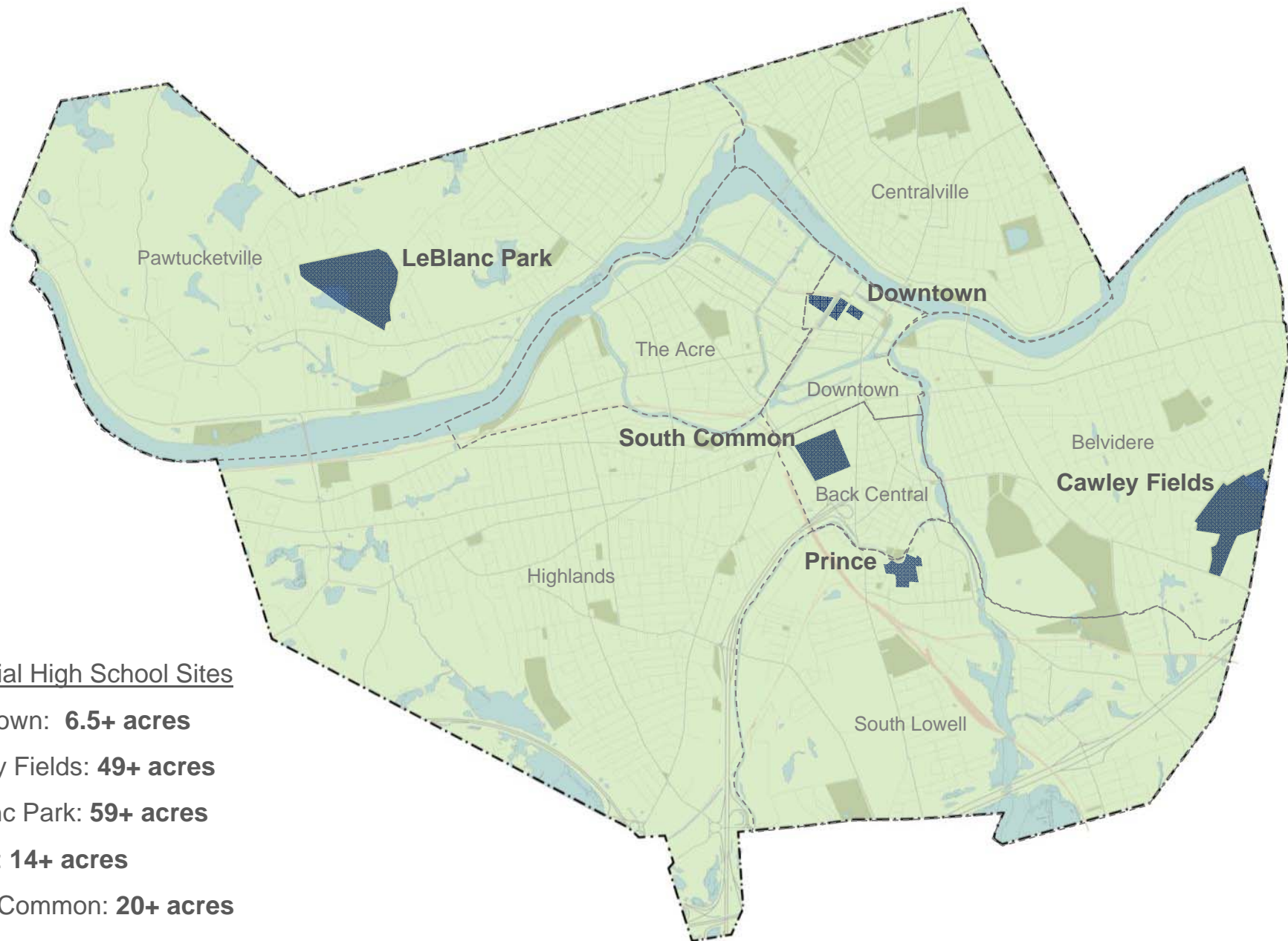
Agenda

- 
- **Schedule, Objectives & Underlying Principles**
 - **PK - 8 Master Planning**
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 - Potential Sites
 - **Lowell High School**
 - Decision Matrix
 - Potential Sites
 - Preliminary Alternatives
 - **Baseline Repair and Alternative Option Costs**

Lowell High School – Decision Matrix



Lowell High School – Site Opportunities



Potential High School Sites

Downtown: **6.5+ acres**

Cawley Fields: **49+ acres**

LeBlanc Park: **59+ acres**

Prince: **14+ acres**

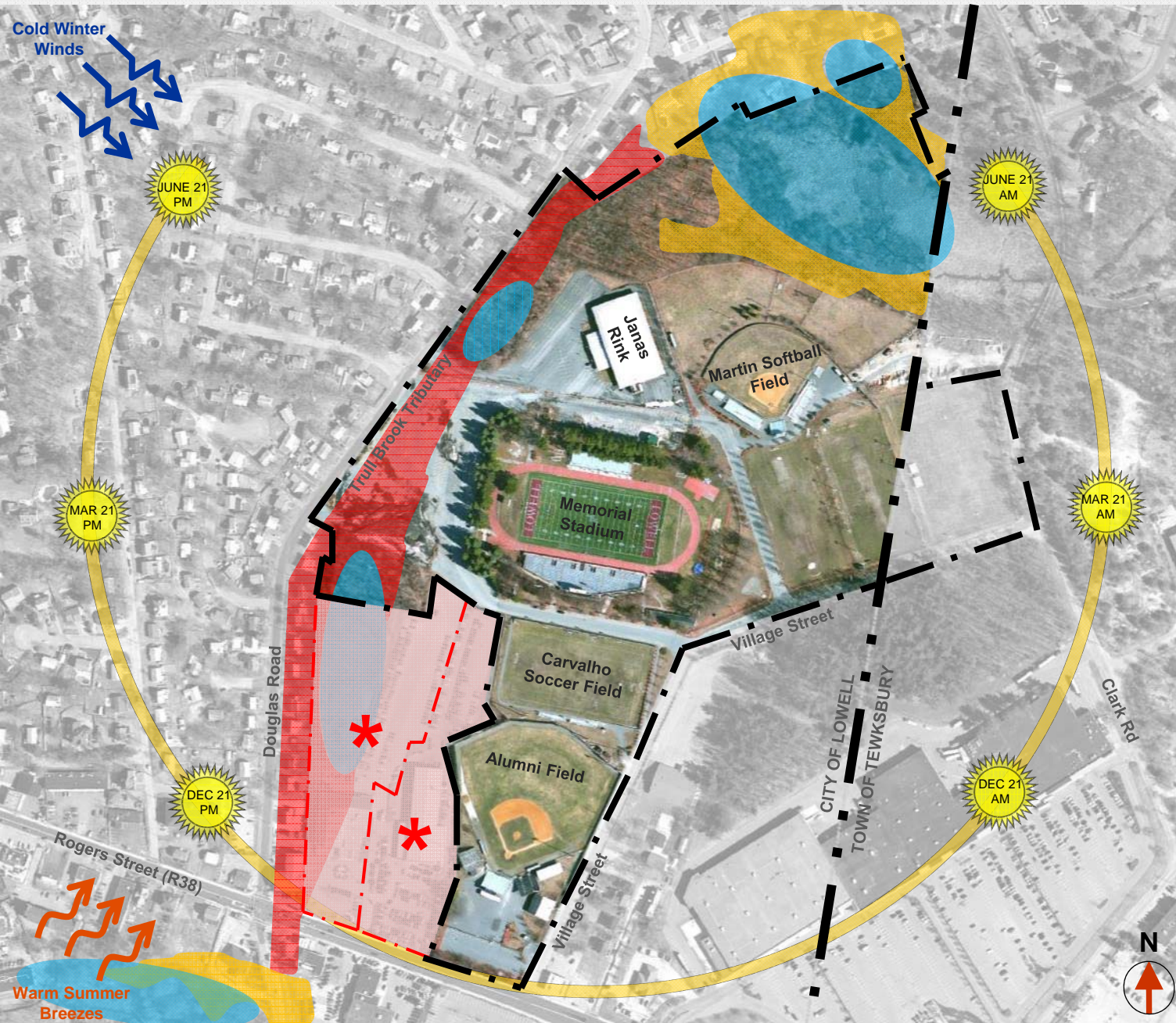
South Common: **20+ acres**

Site Analysis - Downtown



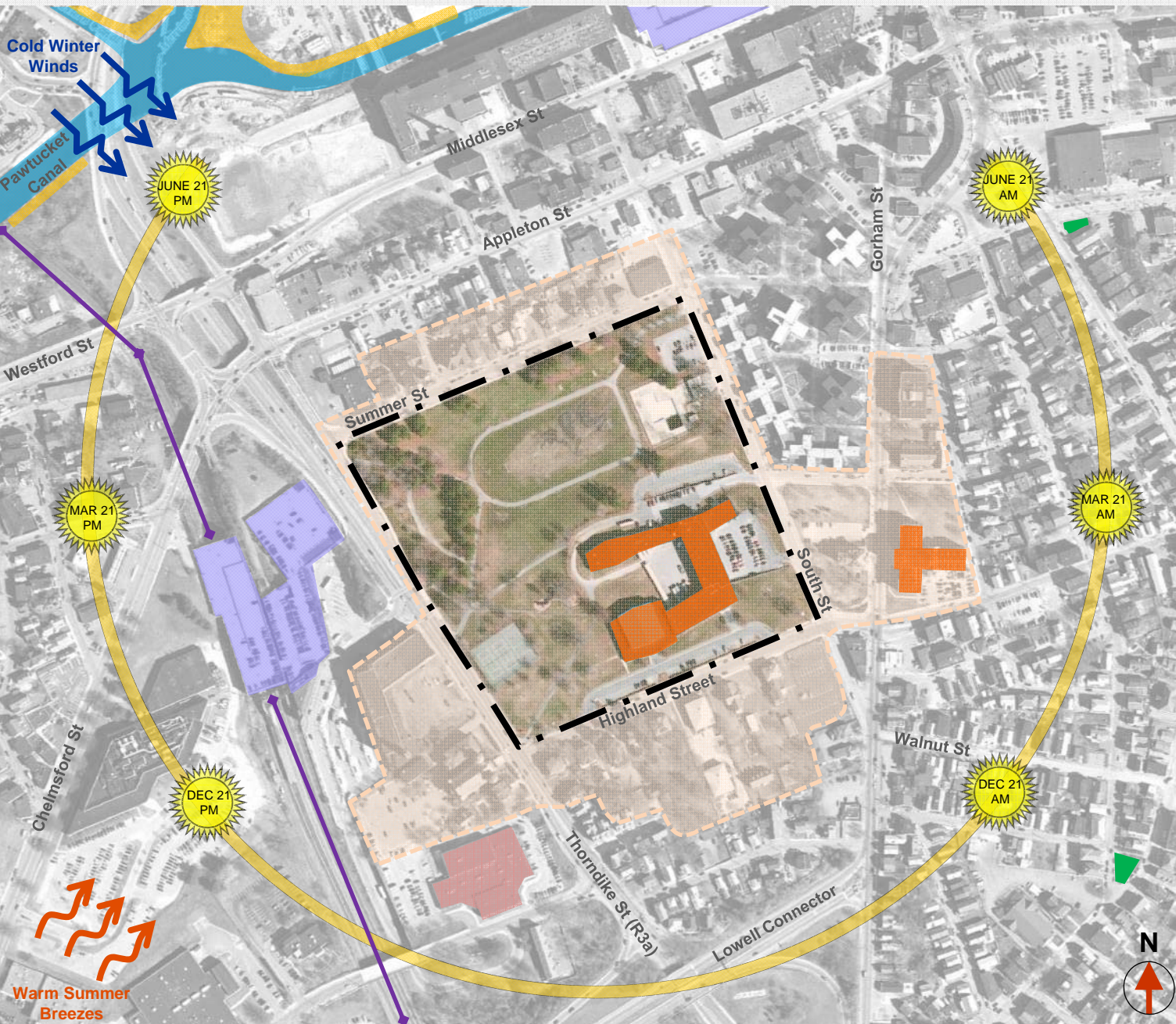
- Sun & Wind
- Flood Zones & Waterways
 - 100 Year
 - 500 Year
 - Waterways
- City Hall Historic District
 - Zone
- Adjacencies
 - City Hall, Library, Tsongas Center
 - Parking Garages
 - Commercial

Site Analysis - Cawley



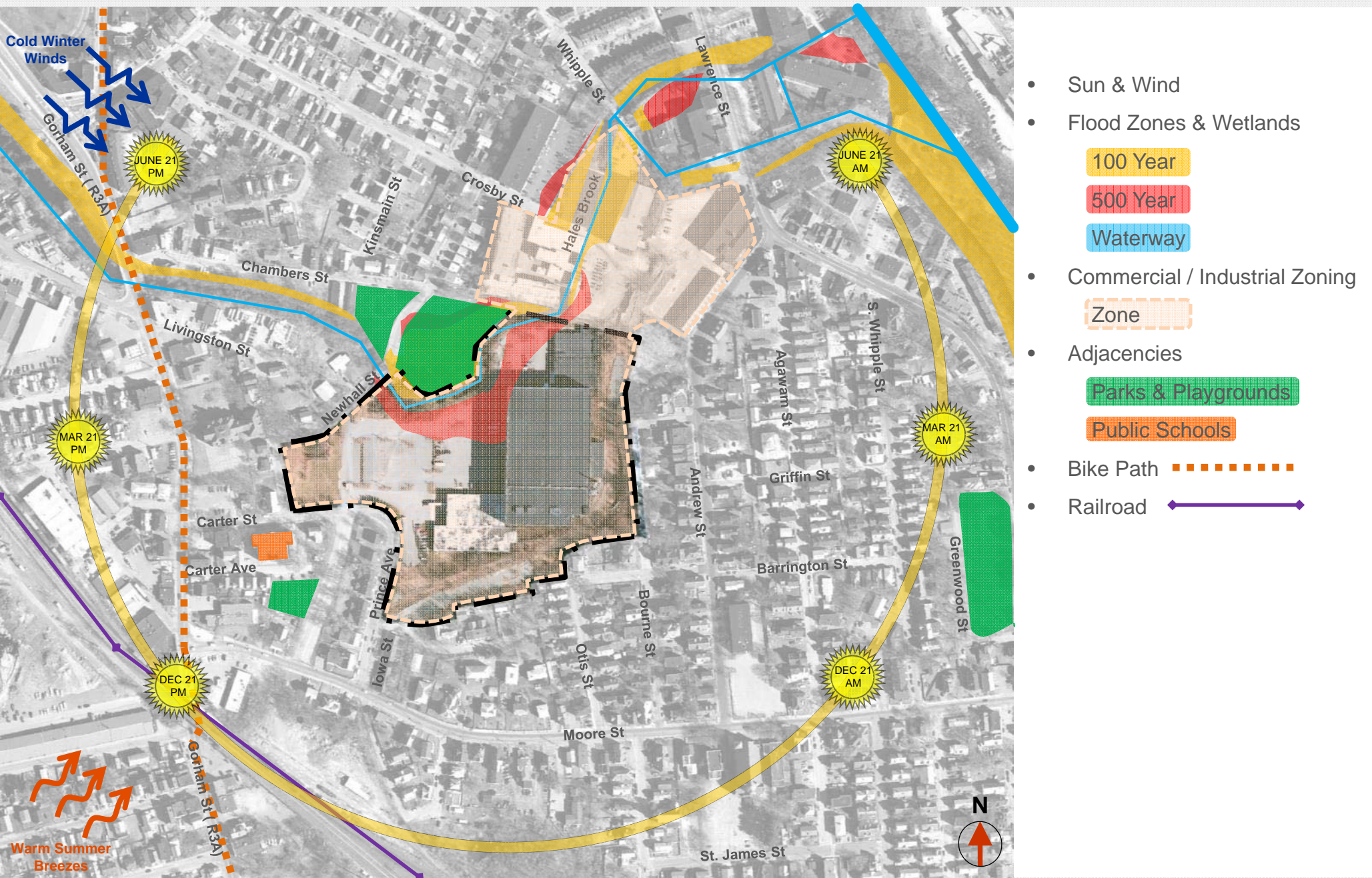
- Sun & Wind
- Flood Zones & Wetlands
 - 100 Year
 - 500 Year
 - Wetlands
- Adjacencies
 - Commercial

Site Analysis – South Common Park

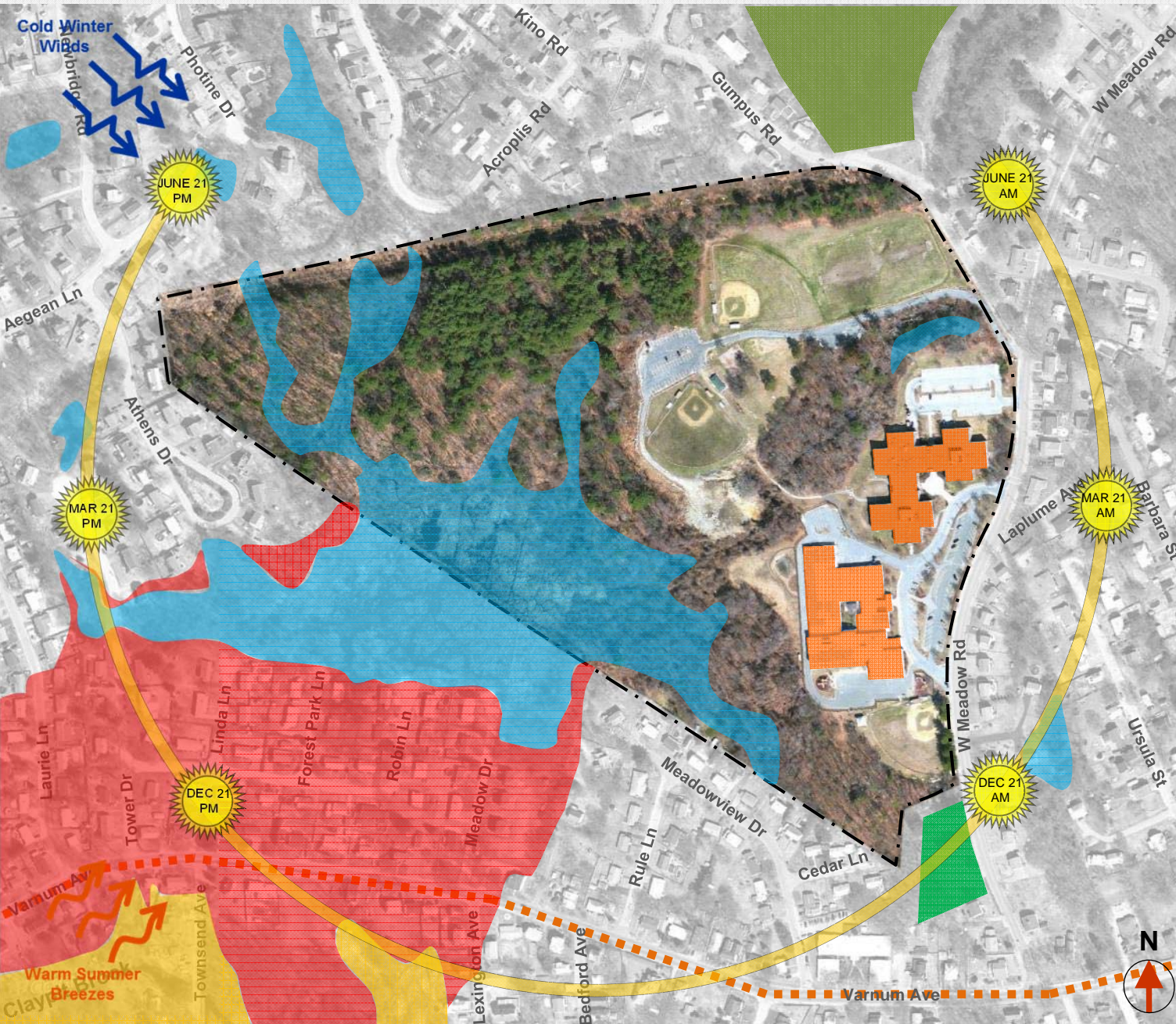


- Sun & Wind
- Flood Zones & Wetlands
 - 100 Year
 - Waterway
- Historic Districts
 - Zone
- Adjacencies
 - Parks & Playgrounds
 - Public School & Courthouse
 - MBTA Terminal & Parking
 - YMCA
- Railroad

Site Analysis – Prince Site



Site Analysis – LeBlanc Park



- Sun & Wind
- Flood Zone & Wetlands
 - 100 Year
 - 500 Year
 - Wetlands
- Adjacencies
 - Public Schools
 - City Park
 - State Forest
- Bike Path

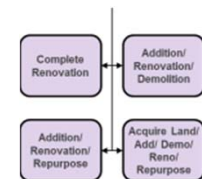
Preliminary Alternative: High School for 3900 Students

RENOVATE

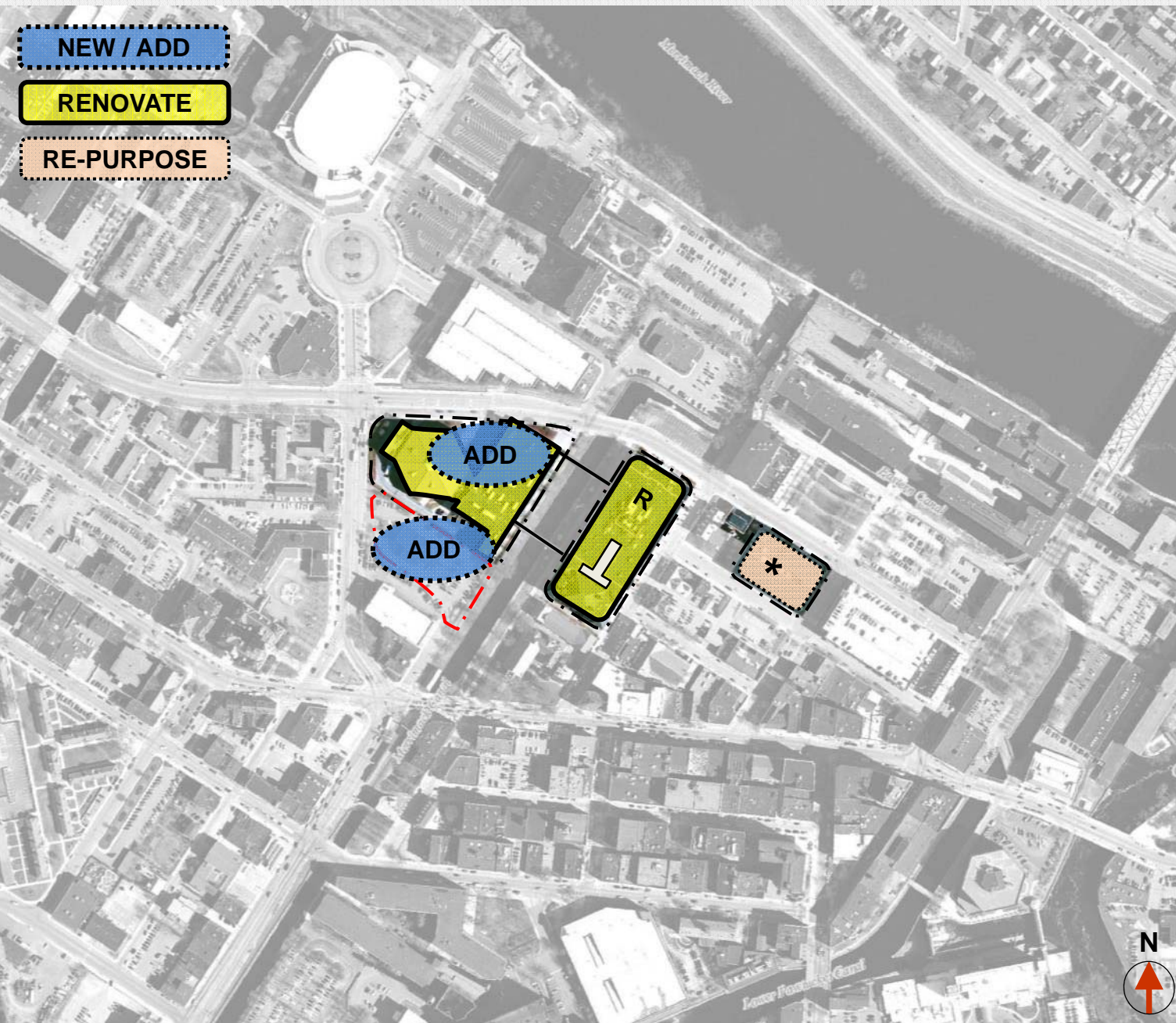


1 School - Renovation

- Upgrade MEP and Building Systems
- Newly Renovated Science Department
- Expand Media Center and 21st Century Common/ Core Spaces
- Full Renovation of Existing Locker/ Toilet/ Shower Rooms
- Miscellaneous and Targeted Renovations
- Multiple Phases over extended period of time = Disruption

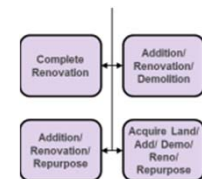


Preliminary Alternative: High School for 3900 Students

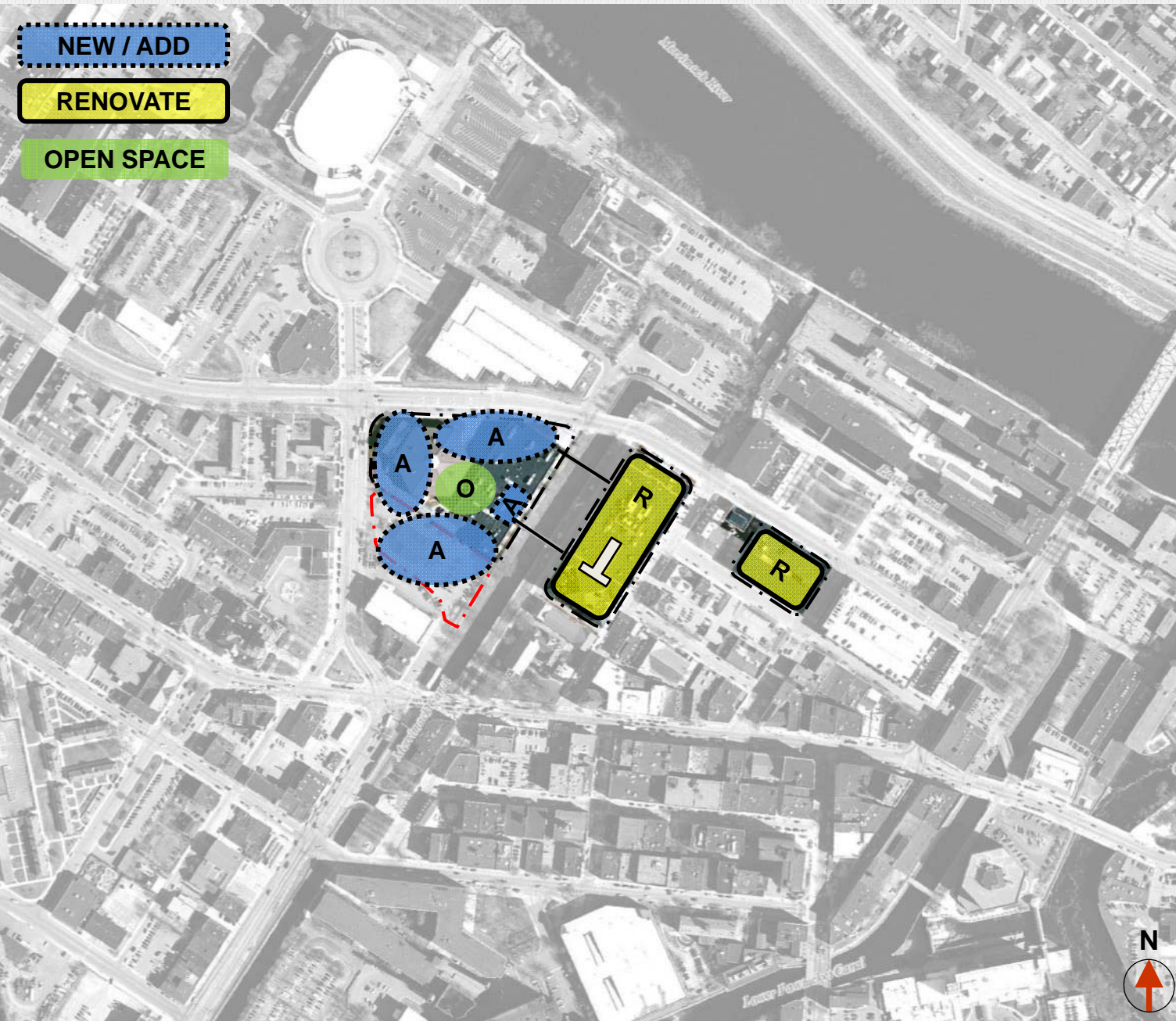


1 School – Renovation / Addition

- Addition over Existing 1980 Building or on Adjacent Property
- Renovate Existing Similar to Reno Approach
- New STEM in Addition
- Freshman in 1890 wing
- Possibly Re-purpose Freshman Academy Building
- Multiple Phases over extended period of time = Disruption

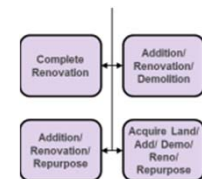


Preliminary Alternative: High School for 3900 Students

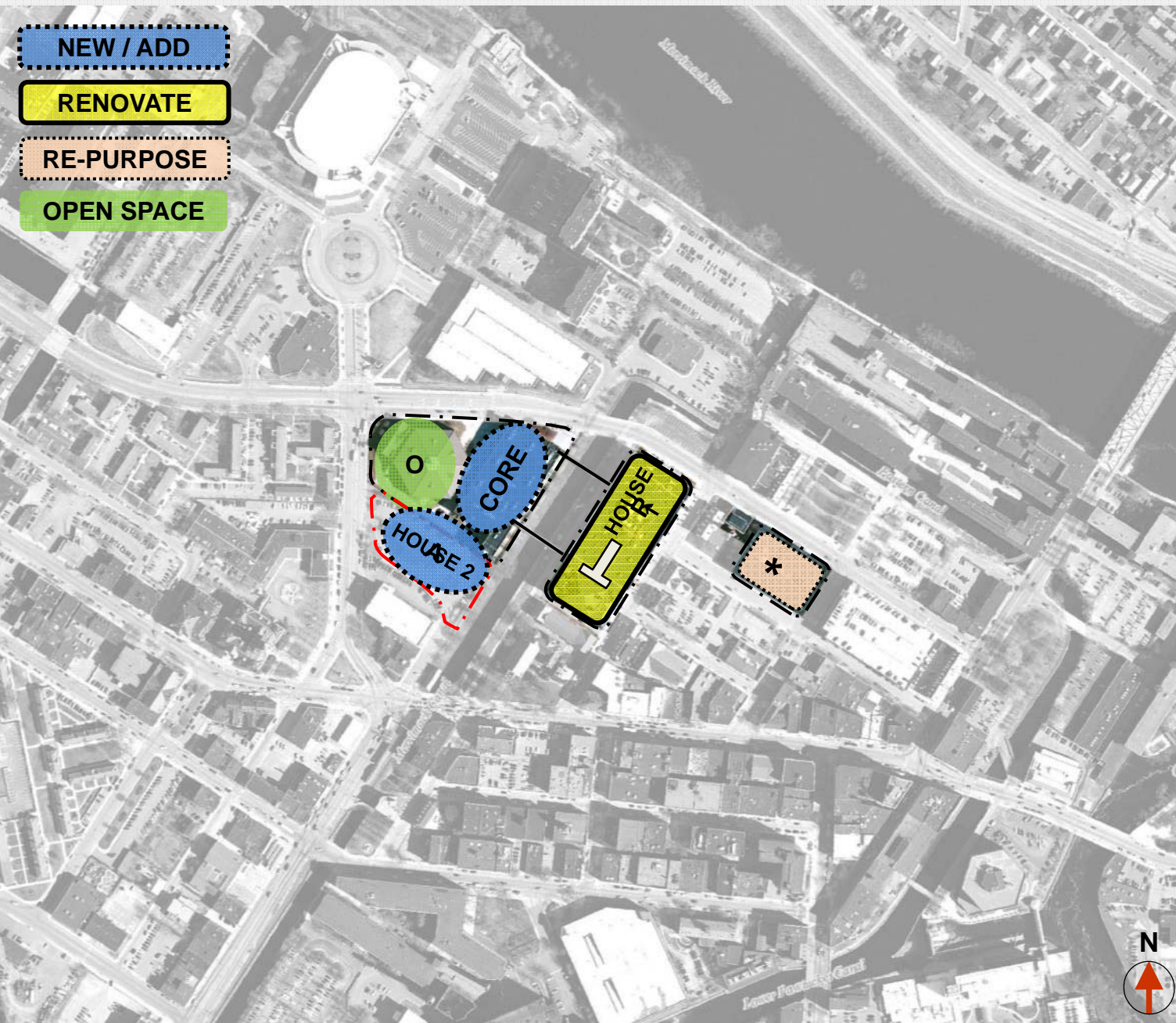


1 School – Lowell Downtown Evolution Plan (LDEP)

- Acquire Adjacent Land
- New STEM and 21st century Core/ Common spaces in Addition
- Renovate 1890/1922 and FA Buildings
- Open space for PE
- Increases Campus Sprawl
- Creates Urban Edge
- Multiple Phases over extended period of time = Disruption
- Consider MSBA guidelines for SF

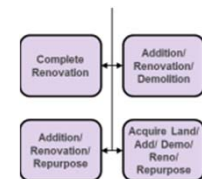


Preliminary Alternative: High School for 3900 Students



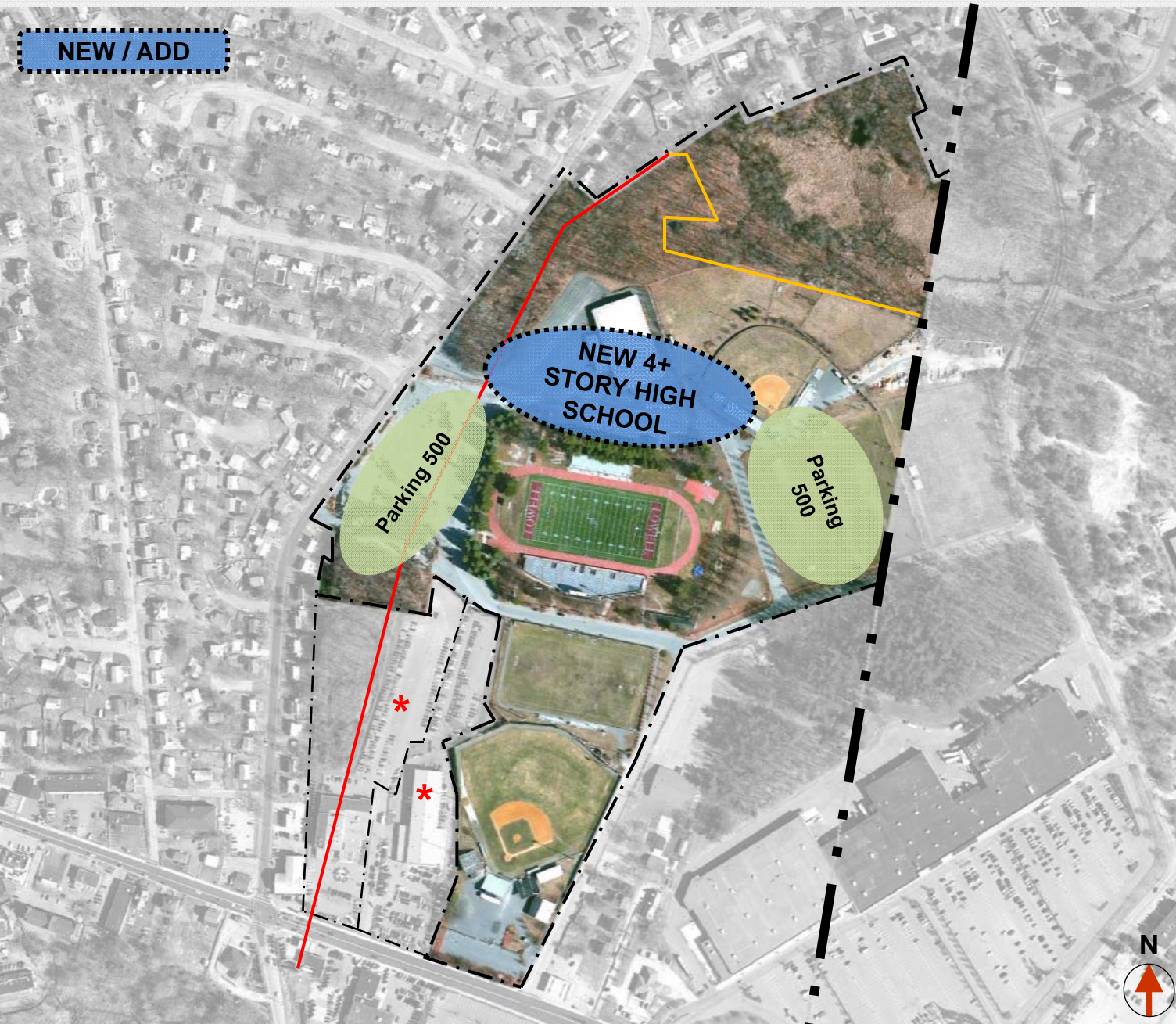
1 School – LDEP Alternative

- Acquire Adjacent Land
- Construct New Academic Wing
- Demo Classroom Wing of 1980
- Construct new Café, Gym, Core/ Common & STEM/STEAM
- Demo Fieldhouse
- Renovate 1890/1922 Building with Freshman wing
- Possibly Re-purpose Freshman Academy
- Open Land for PE/ Athletics
- Possibility of Rooftop PE/ Athletics
- Could organize as 2 similar Houses
- Multiple Phases over extended period of time = Disruption



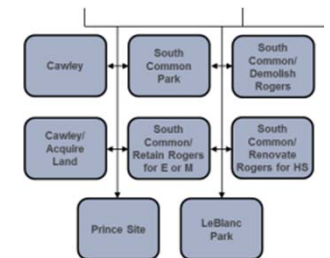
Preliminary Alternative: High School for 3900 Students

NEW / ADD



1 School – Cawley Site

- New Multi-story High School
- Consider solar orientation when siting
- Remote Location w/ Limited Site Access
- Site Constraints from Wetlands and adjacent businesses
- Impact on the Existing Stadium and/or Ice Rink
- Good Adjacency to PE/Athletic Fields
- Minimal Disruption during construction



Preliminary Alternative: High School for 3900 Students

NEW / ADD

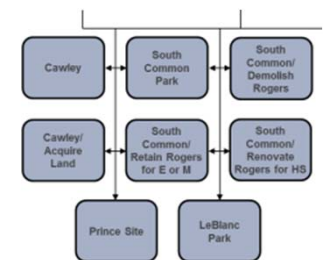
NEW 4+
STORY HIGH
SCHOOL

OPEN SPACE

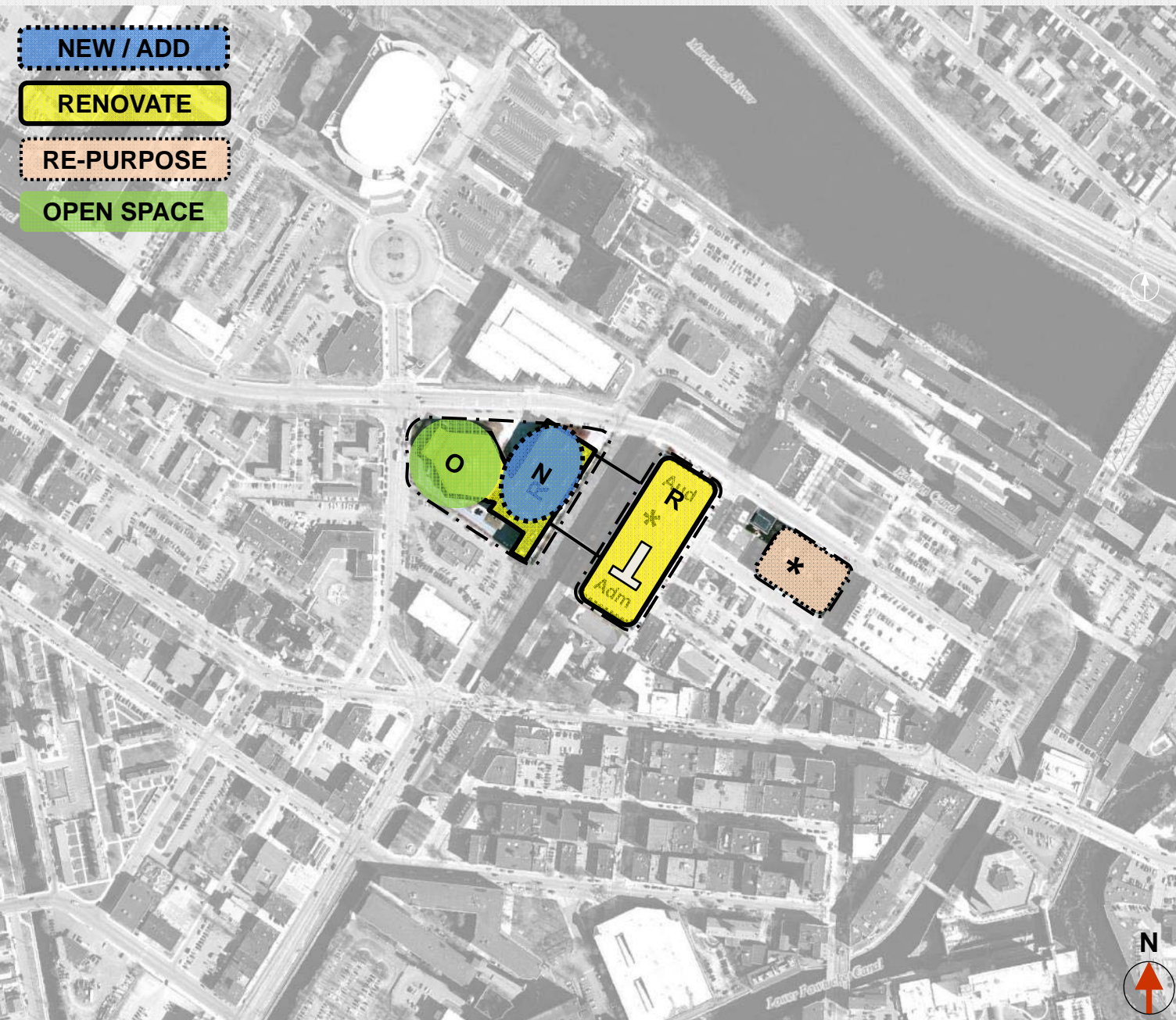


1 School – South Common Site

- New Multi-story High School
- Consider solar orientation when siting
- Central and easy city and site access for all of Lowell
- Close to existing garages, transportation and YMCA
- New surface or underground parking if needed
- Open Space for PE or some Athletics
- Consider demolition of Existing Rogers School to maximize Park
- Minimal Disruption but impact on existing park during construction



Preliminary Alternative: High School for 1950 Students

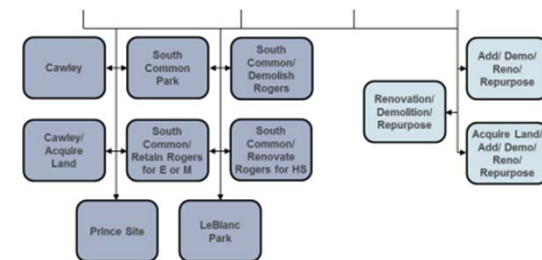


1/2 School – Existing Site

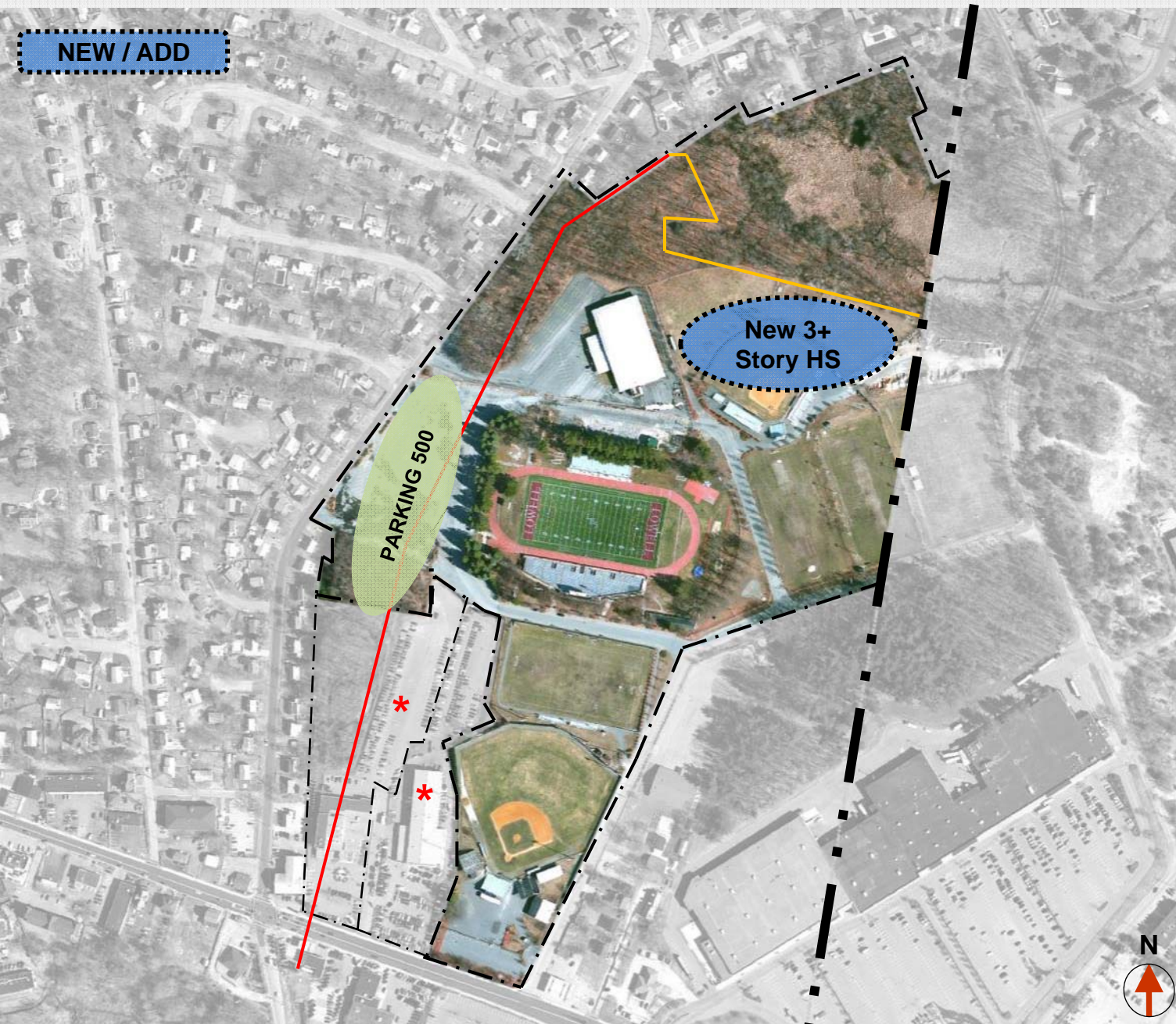
- Build New Café/Gym on Existing 1980's Footprint
- Renovate existing 1922 and bring freshman to rear wing
- Demolish Existing Fieldhouse
- Repurpose FA building
- Utilize open space for PE/Athletics

Or

- Renovate 1980's & Field House
- Retain use of Auditorium in 1922
- Repurpose FA and 1890/1922 buildings for District Administration, etc.
- Consider land acquisition for open PE space

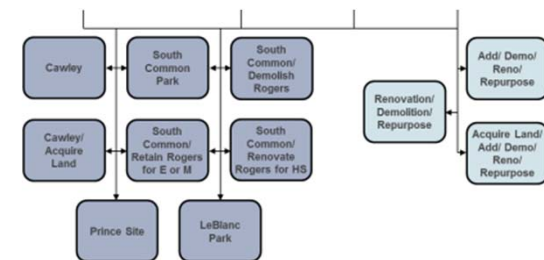


Preliminary Alternative: High School for 1950 Students



1/2 School – Cawley Site

- New smaller Multi-story High School
- Consider solar orientation when siting
- Remote Location w/ Limited Site Access
- Site Constraints from Wetlands and adjacent businesses
- No impact on the Existing Stadium and/or Ice Rink
- Good Adjacency to PE/Athletic Fields
- Minimal Disruption during construction



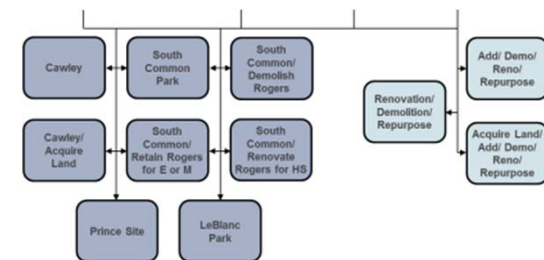
Preliminary Alternative: High School for 1950 Students

NEW / ADD

New 3+
STORY

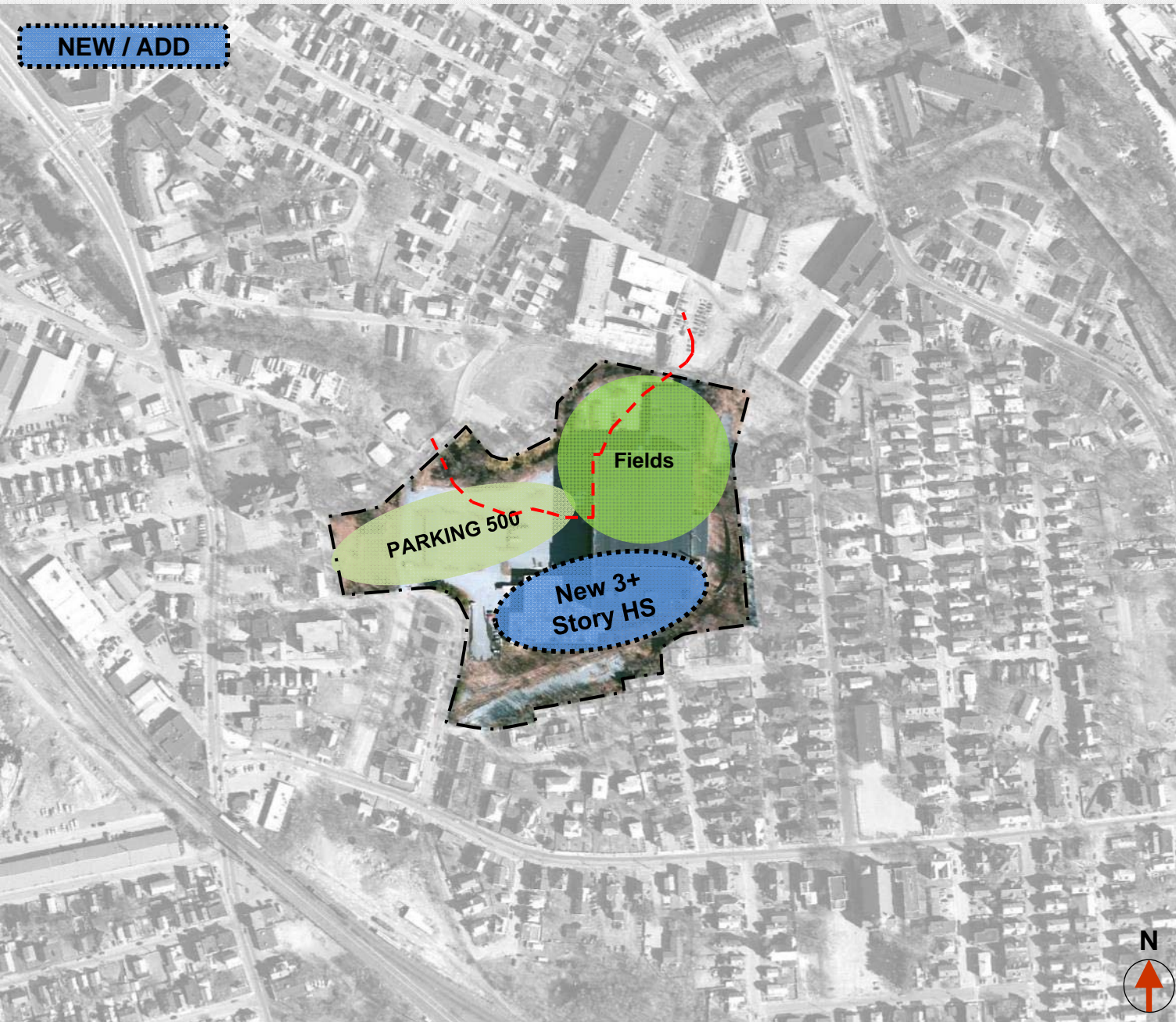
1/2 School – South Common Site

- New smaller Multi-story High School
- Consider solar orientation when siting
- Central and easy city and site access for all of Lowell
- Close to existing garages, transportation and YMCA
- New surface or underground parking if needed
- Open Space for PE or some Athletics
- Potential to Re-use Rogers School for E or M
- Minimal Disruption but impact on existing park during construction



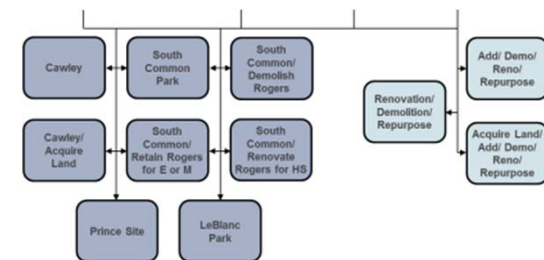
Preliminary Alternative: High School for 1950 Students

NEW / ADD

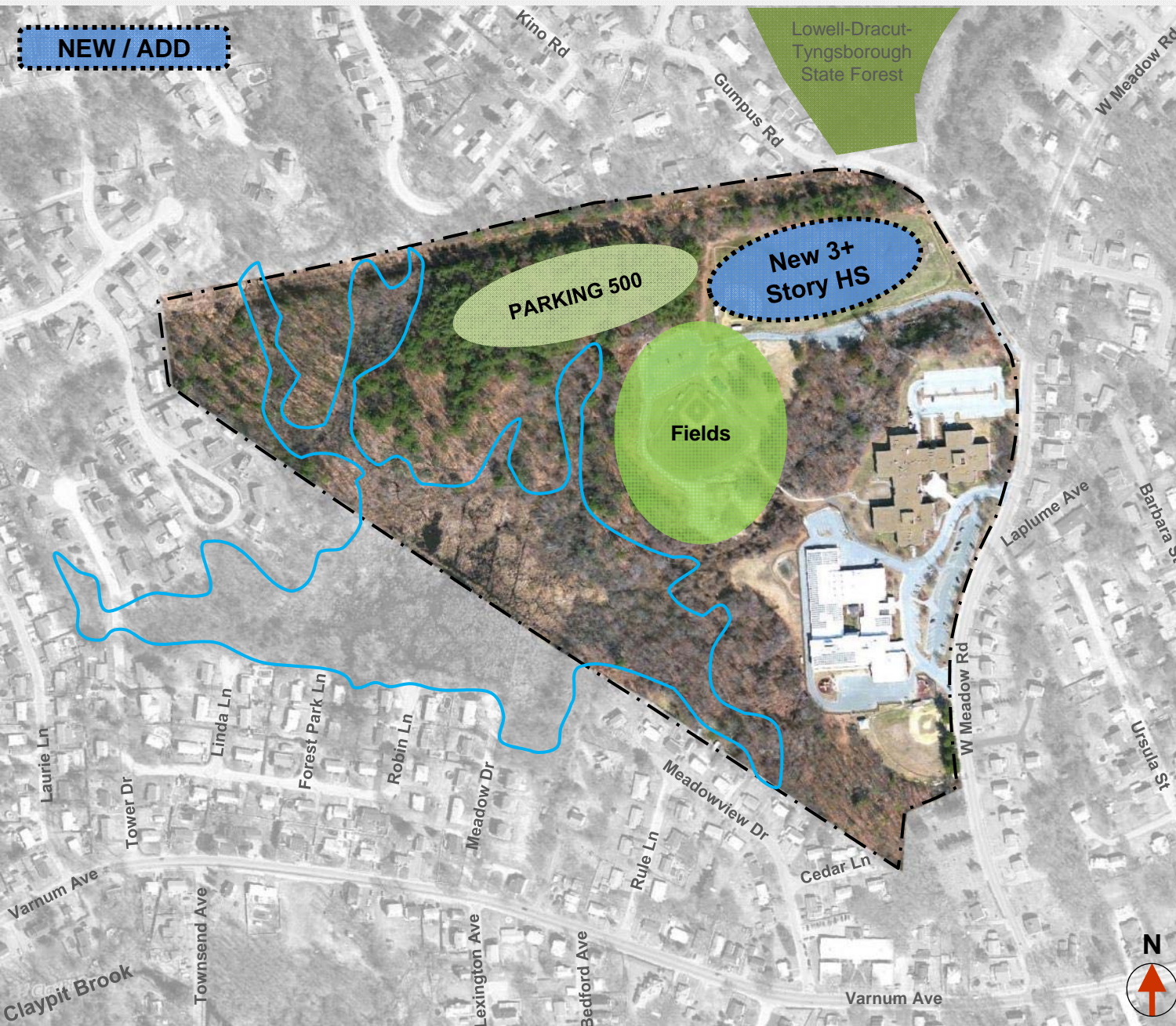


1/2 School – Prince Site

- New smaller Multi-story High School
- Consider solar orientation when siting
- Central city and site access for all of Lowell
- Commercial/ Industrial Zoning may have other uses
- Site Constraints from Wetlands limits land to a smaller urban school
- No Disruption during construction

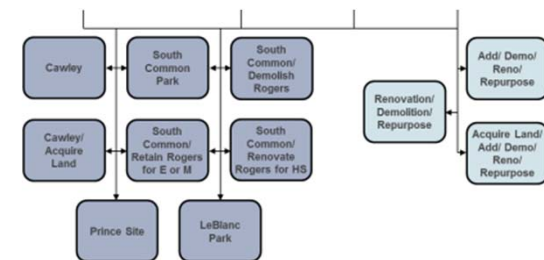


Preliminary Alternative: High School for 1950 Students



1/2 School – LeBlanc Park

- New smaller Multi-story High School
- Consider solar orientation when siting
- Remote Location w/ Limited Site Access
- Site Constraints from Wetlands and other school uses limits land to a smaller urban school
- Consider below grade parking to allow for fields
- Minimal Disruption at E/M fields during construction



Agenda

- 
- **Schedule, Objectives & Underlying Principles**
 - **PK - 8 Master Planning**
 - Decision Matrix
 - Preliminary Alternatives
 - Potential Sites
 - **Lowell High School**
 - Decision Matrix
 - Potential Sites
 - Preliminary Alternatives
 - **Baseline Repair and Alternative Option Costs**

Baseline Repair Cost Estimates – Assumptions & Cost Drivers

Included

- MAAB upgrades relative to basic access for All to every building, every floor, every stage, and toilet rooms on each floor for student and staff.
- Public safety recommendations
- Building envelope recommendations
- Major interior and/or finishes work
- MEP/FP recommendations
- Major hardscape recommendations
- Comprehensive Reno of LHS locker room
- Significant Natatorium repair allowance
- Assumed general contractor markups and general conditions
- Assumed estimating contingency
- Assumed project cost multiplier
- Costs are order of magnitude and developed based on square footage

Not Included

- Basic maintenance such as:
 - Interior/ Exterior painting
 - Minor wall surface repair
 - Minor ACT replacement
 - Minor wood refinishing
 - Minor casework hardware/ edge band repair
 - Minor locker repairs
 - Missing/damaged toilet accessories
 - General roof maintenance
 - General landscape maintenance
 - Parking space striping & signage
- Science room upgrade at LHS
- Additional MAAB & Building code triggers assumed for larger renovation projects
- Escalation (assuming today's dollars)
- Programmatic changes

Baseline Repair Cost Estimates – Elementary Schools

Building	Bailey Elementary School	Greenhalge Elementary School	Lincoln Elementary School	McAuliffe Elementary School	McAvinne Elementary School	Moody Elementary School	Morey Elementary School	Murkland Elementary School	Pawtucketville Memorial Elementary School	Reilly Elementary School	Shaughnessy Elementary School	Washington Elementary School
Size (GSF)	64,697	72,115	62,456	63,655	70,326	47,296	68,405	62,050	78,424	74,129	63,918	36,432
Architectural & Structural Costs (0-5 yrs)	\$162,845	\$608,279	\$604,331	\$150,837	\$701,669	\$1,007,833	\$67,831	\$582,779	\$98,990	\$165,240	\$479,687	\$1,218,642
MEPFP Costs (0-5 yrs)	\$2,246,471	\$1,433,646	\$2,527,282	\$2,272,935	\$2,146,701	\$2,504,756	\$0	\$1,867,705	\$937,951	\$2,048,926	\$1,431,763	\$1,914,502
Total Construction Cost (1.4214 multiplier)	\$3,424,602	\$2,902,392	\$4,451,275	\$3,445,150	\$4,048,673	\$4,992,794	\$96,415	\$3,483,118	\$1,473,908	\$3,147,216	\$2,716,935	\$4,453,451
TOTAL SHORT TERM PROJECT COST (1.25 multiplier)	\$4,280,752	\$3,627,990	\$5,564,093	\$4,306,437	\$5,060,841	\$6,240,993	\$120,519	\$4,353,897	\$1,842,385	\$3,934,019	\$3,396,169	\$5,566,814
Architectural & Structural Costs (6-10 yrs)	\$274,160	\$349	\$8,600	\$293,000	\$16,543	\$288,650	\$2,520	\$10,250	\$20,000	\$47,400	\$20,620	\$45,575
MEPFP Costs (6-10 yrs)	\$364,244	\$1,021,610	\$138,278	\$173,051	\$420,920	\$177,360	\$264,205	\$133,408	\$178,765	\$997,622	\$290,029	\$306,742
Total Construction Cost (1.4214 multiplier)	\$907,427	\$1,452,613	\$208,772	\$662,445	\$621,810	\$662,387	\$379,123	\$204,195	\$282,525	\$1,485,394	\$441,556	\$500,783
TOTAL LONG TERM PROJECT COST (1.25 multiplier)	\$1,134,284	\$1,815,766	\$260,965	\$828,056	\$777,262	\$827,983	\$473,904	\$255,244	\$353,156	\$1,856,743	\$551,946	\$625,979
TOTAL Costs over 10 Years (NIC escalation or market condition changes)	\$5,415,037	\$5,443,756	\$5,825,059	\$5,134,493	\$5,838,104	\$7,068,976	\$594,422	\$4,609,142	\$2,195,541	\$5,790,762	\$3,948,114	\$6,192,793

Baseline Repair Cost Estimates – Middle, K-8, Rogers Schools

Building	Butler Middle School	Daley Middle School	Robinson Middle School	Stoklosa Middle School	Sullivan Middle School	Wang Middle School	Bartlett Community Partnership K-8 School	Pyne Arts K-8 School	Rogers Kindergarten/ Administration
Size (GSF)	96,572	111,810	99,181	105,465	97,213	93,864	95,586	78,963	111,786
Architectural & Structural Costs (0-5 yrs)	\$591,996	\$1,096,580	\$930,628	\$278,276	\$318,204	\$100,912	\$806,435	\$441,012	\$1,156,374
MEPFP Costs (0-5 yrs)	\$2,148,727	\$3,948,303	\$3,942,445	\$984,788	\$2,007,448	\$1,883,403	\$1,476,804	\$761,203	\$4,720,964
Total Construction Cost (1.4214 multiplier)	\$3,895,664	\$7,170,797	\$6,926,586	\$1,795,319	\$3,305,682	\$2,820,505	\$3,245,396	\$1,708,828	\$8,354,048
TOTAL SHORT TERM PROJECT COST (1.25 multiplier)	\$4,869,580	\$8,963,496	\$8,658,232	\$2,244,149	\$4,132,102	\$3,525,632	\$4,056,745	\$2,136,036	\$10,442,560
Architectural & Structural Costs (6-10 yrs)	\$43,375	\$20,400	\$20,250	\$20,568	\$630,710	\$633,435	\$65,892	\$1,688	\$180,190
MEPFP Costs (6-10 yrs)	\$525,110	\$783,039	\$247,953	\$270,096	\$715,488	\$669,647	\$863,362	\$302,439	\$243,791
Total Construction Cost (1.4214 multiplier)	\$808,045	\$1,142,008	\$381,224	\$413,150	\$1,913,486	\$1,852,201	\$1,320,842	\$432,286	\$602,647
TOTAL LONG TERM PROJECT COST (1.25 multiplier)	\$1,010,056	\$1,427,510	\$476,530	\$516,437	\$2,391,857	\$2,315,251	\$1,651,052	\$540,358	\$753,308
TOTAL Costs over 10 Years (NIC escalation or market condition changes)	\$5,879,635	\$10,391,006	\$9,134,762	\$2,760,586	\$6,523,959	\$5,840,883	\$5,707,797	\$2,676,393	\$11,195,869

Baseline Repair Cost Estimates – High School Facilities

Building	LHS Freshman Academy	Lowell High School	LHS Steam Plant
Size (GSF)	92,758	536,766	2,500
Architectural & Structural Costs (0-5 yrs)	\$942,698	\$6,191,921	\$15,940
MEPFP Costs (0-5 yrs)	\$17,648,872		
Total Construction Cost (1.4214 multiplier)	\$35,249,911		
TOTAL SHORT TERM PROJECT COST (1.25 multiplier)	\$44,062,389		
Architectural & Structural Costs (6-10 yrs)	\$219,707	\$1,095,695	\$27,675
MEPFP Costs (6-10 yrs)	\$7,308,514		
Total Construction Cost (1.4214 multiplier)	\$12,297,371		
TOTAL LONG TERM PROJECT COST (1.25 multiplier)	\$15,371,714		
TOTAL Costs over 10 Years (NIC escalation or market condition changes)	\$59,434,103		

Baseline Repair Cost Estimates – Alternative & Day Facilities

Building	Cardinal O'Connell Alternative School	Laura Lee Therapeutic Day School	LeBlanc Therapeutic Day School	Molloy Alternative School	Riverside Alternative School	Green School- Adult Education Center
Size (GSF)	23,989	15,448	26,654	20,545	19,094	22,885
Architectural & Structural Costs (0-5 yrs)	\$897,945	\$542,198	\$495,898	\$698,870	\$1,217,502	\$916,396
MEPFP Costs (0-5 yrs)	\$1,161,068	\$609,424	\$1,079,091	\$929,661	\$938,833	\$1,153,404
Total Construction Cost (1.4214 multiplier)	\$2,926,681	\$1,636,916	\$2,238,689	\$2,314,794	\$3,065,015	\$2,942,014
TOTAL SHORT TERM PROJECT COST (1.25 multiplier)	\$3,658,351	\$2,046,144	\$2,798,362	\$2,893,492	\$3,831,268	\$3,677,517
Architectural & Structural Costs (6-10 yrs)	\$268,015	\$43,975	\$42,375	\$253,375	\$42,375	\$147,400
MEPFP Costs (6-10 yrs)	\$183,839	\$178,997	\$254,546	\$271,571	\$140,818	\$148,743
Total Construction Cost (1.4214 multiplier)	\$642,265	\$316,932	\$422,044	\$746,158	\$260,391	\$420,938
TOTAL LONG TERM PROJECT COST (1.25 multiplier)	\$802,832	\$396,166	\$527,554	\$932,698	\$325,488	\$526,172
TOTAL Costs over 10 Years (NIC escalation or market condition changes)	\$4,461,183	\$2,442,310	\$3,325,916	\$3,826,190	\$4,156,756	\$4,203,689

PK-8 Master Planning Cost Options

Key			New		Addition		Renovation		Repair		Total			Values						
+ Positive			# of Buildings	Cost	# of Buildings	Cost	# of Buildings	Cost	# of Buildings	Cost	# of Buildings	Construction Cost	Project Cost	21 st C. Educ. Spaces/ MSBA Program Regs	Sustainability / Energy Efficiency	Minimal Phasing / Disruption	Expandability	Minimal Project Cost	Site Location & Availability	
O Neutral																				
- Negative																				
Existing Grade Configuration (K-4, 5-8)	PK Integrated	Option 1A Addition & Renos to All ES, MS, & K-8 schools			20	\$86.2M	21	\$179.7M	5	\$14.6M	26	\$308.6M	\$385.6M	-	-	-	-	-	-	
		Option 1B Add (1) MS, (2) ES, (2) PK-8 schools	5	\$134.7M			1	\$12.1M	25	\$100.2M	31	\$247.0M	\$308.8M	O	O	O	O	O	O	
		Option 1C Add (1) ES, (4) PK-8 two-strand schools	5	\$132.9M			1	\$12.1M	25	\$100.2M	31	\$245.2M	\$306.5M	O	O	O	O	O	O	
		Option 1D Add (1) ES, (2) PK-8 four-strand schools	3	\$107.8M			1	\$12.1M	25	\$100.2M	29	\$220.1M	\$275.1M	O	+	+	+	+	O	
	Separate PK Centers	Option 2A Add (1) ES, (1) MS, (2) K-8 two-strand schools, (2) PK's	6	\$137.2M			1	\$12.1M	25	\$100.2M	32	\$249.5M	\$311.9M	-	-	O	-	O	-	
		Option 2B Add (4) K-8 two-strand schools, (2) PK's	6	\$136.0M			1	\$12.1M	25	\$100.2M	30	\$248.3M	\$310.4M	O	O	O	O	O	O	
		Option 2C Add (2) K-8 four-strand schools, (2) PK's	4	\$113.9M			1	\$12.1M	25	\$100.2M	30	\$226.2M	\$282.8M	O	+	+	+	+	O	
	Grade Reconfiguration (K-5, 6-8)	PK Int.	Option 3 Additions & Renos to All ES's & (2) Alt/Day schools			14	\$83.2M	15	\$97.4M	11	\$41.3M	26	\$244.1M	\$305.1M	-	-	-	-	O	-
		Separate PK Centers	Option 4A Additions & Renos to All ES's & (1) Alt school, (2) PK's	2	\$29.1M	13	\$58.5M	14	\$94.2M	12	\$44.0M	28	\$245.5M	\$306.8M	-	-	-	-	O	-
Option 4B Add (5) ES & (2) PK's			7	\$139.3M			1	\$12.1M	25	\$100.2M	34	\$251.6M	\$314.5M	+	O	O	O	O	O	
Option 4C Add (1) ES & (4) K-8 two-strand, (2) PK's			7	\$158.8M			1	\$12.1M	25	\$100.2M	33	\$271.1M	\$338.9M	O	O	O	O	-	O	
Option 4D Add (1) ES & (2) K-8 four-strand, (2) PK's			5	\$136.7M			1	\$12.1M	25	\$100.2M	31	\$249.0M	\$311.3M	O	+	O	+	O	O	

Notes: Green Adult Education Center not included in these cost options.
Dollar values are shown in millions (M).
Gross Square Footage (GSF) calculated using MSBA average grossing factor of 1.45.
Costs do not include escalation or land acquisition.

High School Cost Options

Key			GSF	New		Addition		Renovation		Repair		Total			Values					
+ Posititve				# of Buildings	Cost	# of Buildings	Cost	# of Buildings	Cost	# of Buildings	Cost	# of Buildings	Construction Cost	Project Cost	21 st C. Educ. Spaces/ MSBA Program Regs Sustainability / Energy Efficiency	Minimal Phasing / Disruption	Expandability	Minimal Project Cost	Site Location & Availability	
O Neutral																				
- Negative			Total GSF																	
One 3900 Student School	Existing Site	Option 1A 1 School - Major Repair/Minor Renovation	630,000					1	\$29.6M	2	\$48.9M	3	\$78.5M	\$98.1M	-	-	-	-	+	+
		Option 1B 1 School - Full Renovation	630,000					3	\$121.6M			3	\$121.6M	\$152.0M	-	-	-	-	+	+
		Option 1C 1 School - Renovation/Addition - w/o Freshman Academy Building	650,000			1	\$8.2M	1	\$121.6M			2	\$129.8M	\$162.3M	O	O	-	-	+	+
		Option 1D 1 School - Lowell Downtown Evolution Plan (LDEP)	650,000			1	\$134.1M	1	62.2M			2	\$196.3M	\$245.4M	+	O	-	-	O	+
		Option 1E 1 School - LDEP Alternative Design Concept	650,000			1	\$134.1M	1	62.2M			2	\$196.3M	\$245.4M	+	O	-	-	O	+
	New Site	Option 2A New 1 School - Cawley Site	650,000	1	\$232.4M							1	\$232.4M	\$290.5M	+	+	+	O	-	O
		Option 2B New 1 School - South Common**	650,000	1	\$234.1M							1	\$234.1M	\$292.6M	+	+	+	O	-	O
	1950 Student Schools (Select Two)	Ex. Site	Option 3 1/2 School - Existing Site*	331,000			1	\$35.0M	1	\$48.6M			2	\$83.6M	\$104.5M	O	O	O	O	O
New Site		Option 4A New 1/2 School - Cawley Site	331,000	1	\$118.4M							1	\$118.4M	\$198.0M	+	+	+	O	-	O
		Option 4B New 1/2 School - South Common Site	331,000	1	\$118.4M							1	\$118.4M	\$198.0M	+	+	+	O	-	O
		Option 4C New 1/2 School - LeBlanc Park Site	331,000	1	\$118.4M							1	\$118.4M	\$198.0M	+	+	+	O	-	O
		Option 4D New 1/2 School - Prince Site**	331,000	1	\$123.7M							1	\$123.7M	\$154.6M	+	+	+	O	O	-

Notes: - Green Adult Education Center not included in these cost options.

- Dollar values shown in millions (M).

- For new and addition schemes, Gross Square Footage (GSF) is calculated using MSBA avg. grossing factor of 1.45.

Additional GSF has been included to account for LHS unique programs in addition to MSBA standard SF per student.

- Costs do not include escalation or land acquisition.

* Repurpose existing Freshman Academy and 1892 Building.

** Demolish existing building on site.



Reference materials

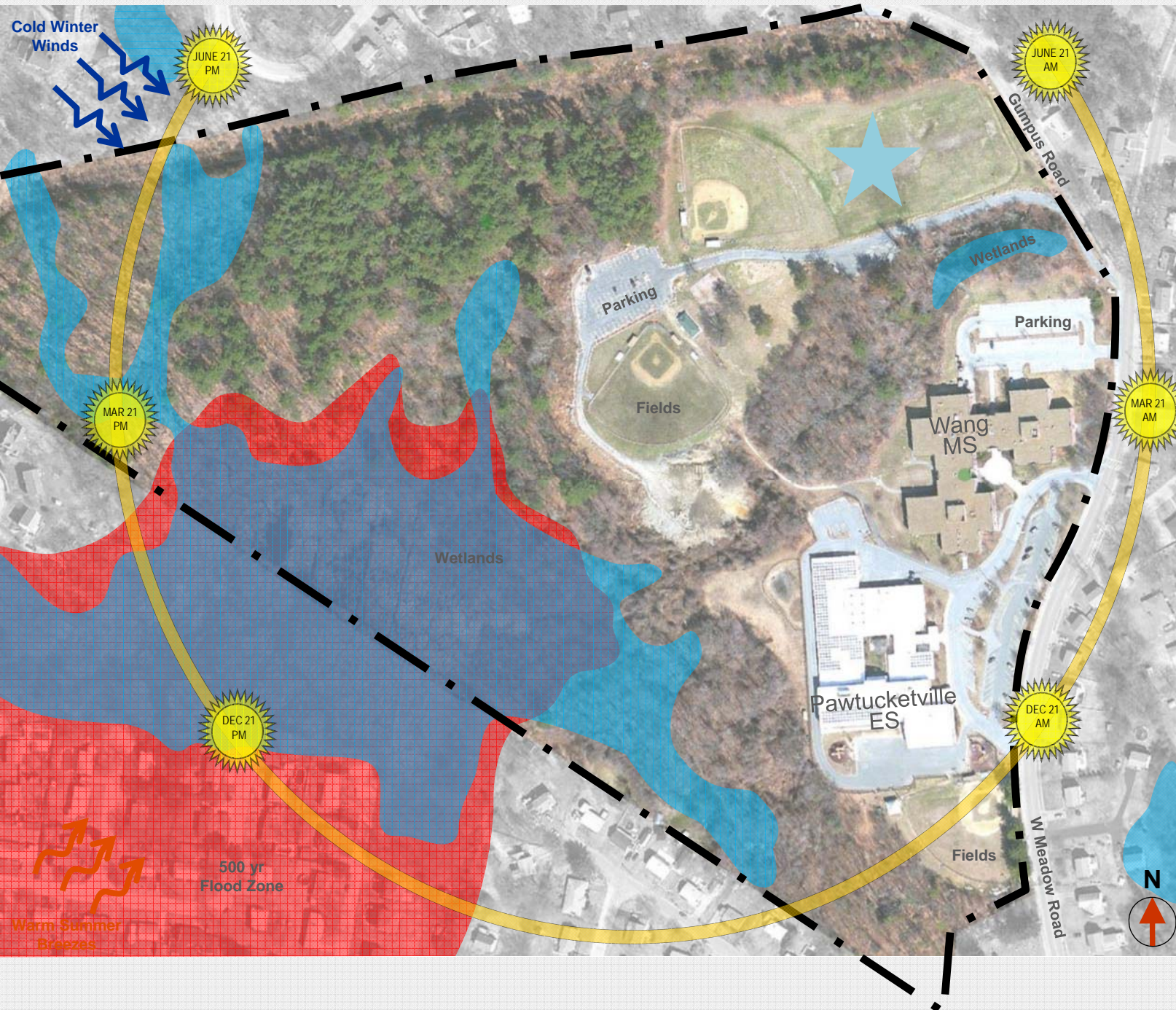
Preliminary Site: 1254 Varnum Ave



Pawtucketville

- 11+ Acres
- Site owned by City of Lowell Water Department
- Very wooded site
- Not in flood zones but some wetlands
- Located next to an existing baseball diamond

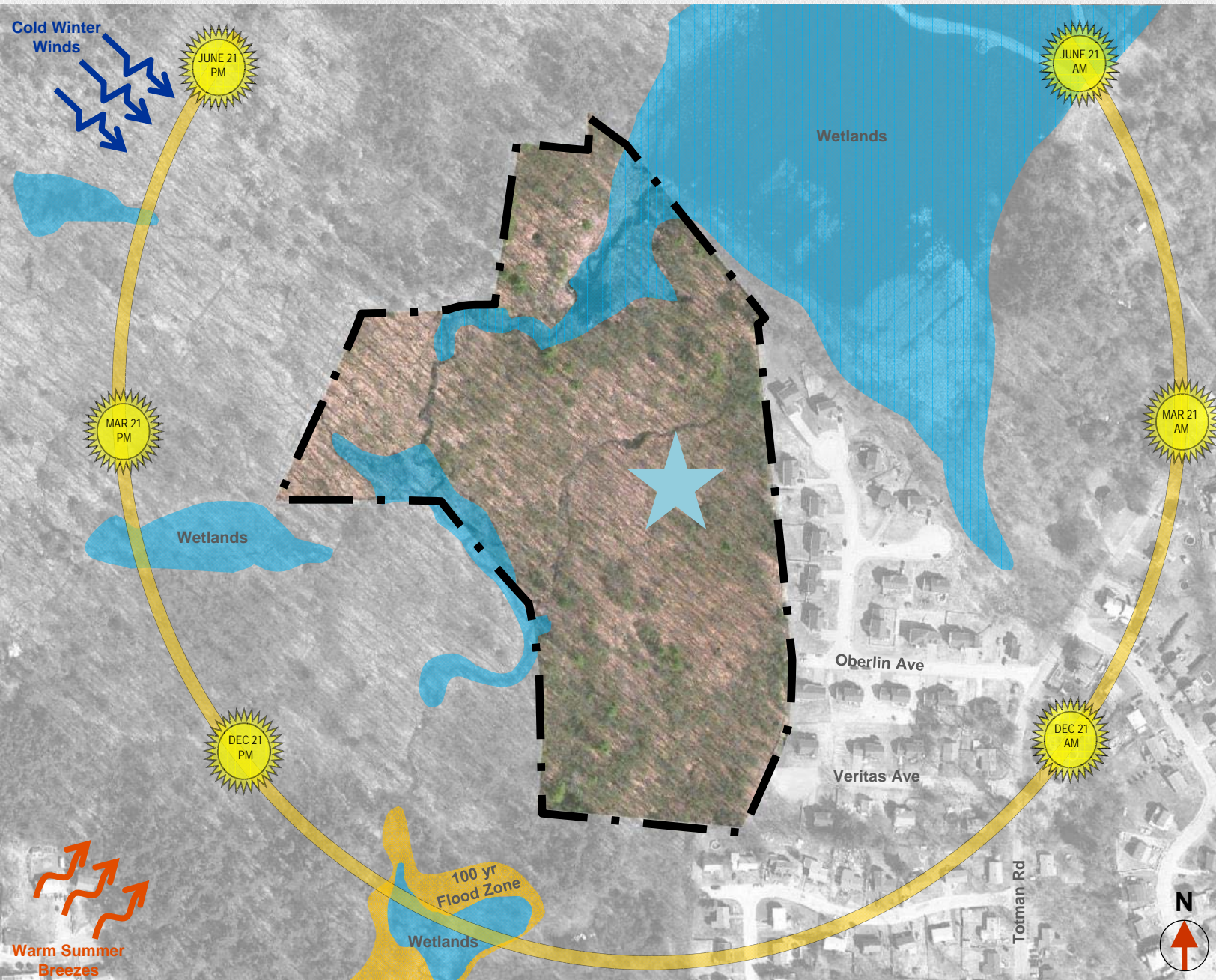
Preliminary Site: LeBlanc Park



Pawtucketville

- 59+ Acres
- City owned property
- Wang & Pawtucketville share site
- Proposed new school next to existing schools
- Site restrictions include wetlands and flood zones
- Some disruption to Wang & Pawtucketville fields during construction

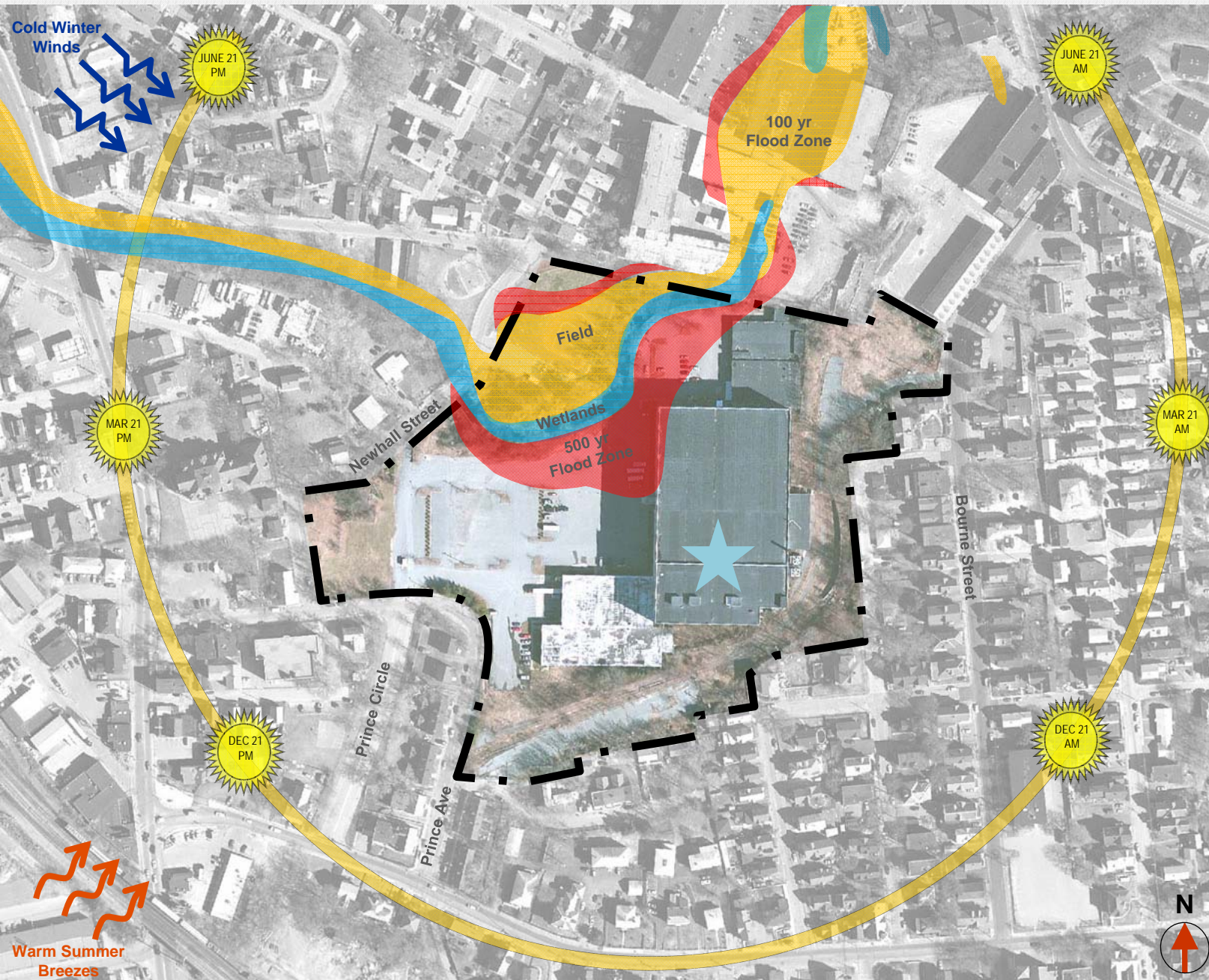
Preliminary Site: 983.1 Varnum Ave



Pawtucketville

- 16 Acres +/-
- Not currently owned by the City
- Some wetlands
- Limited access
- Potential for future residential growth to the west

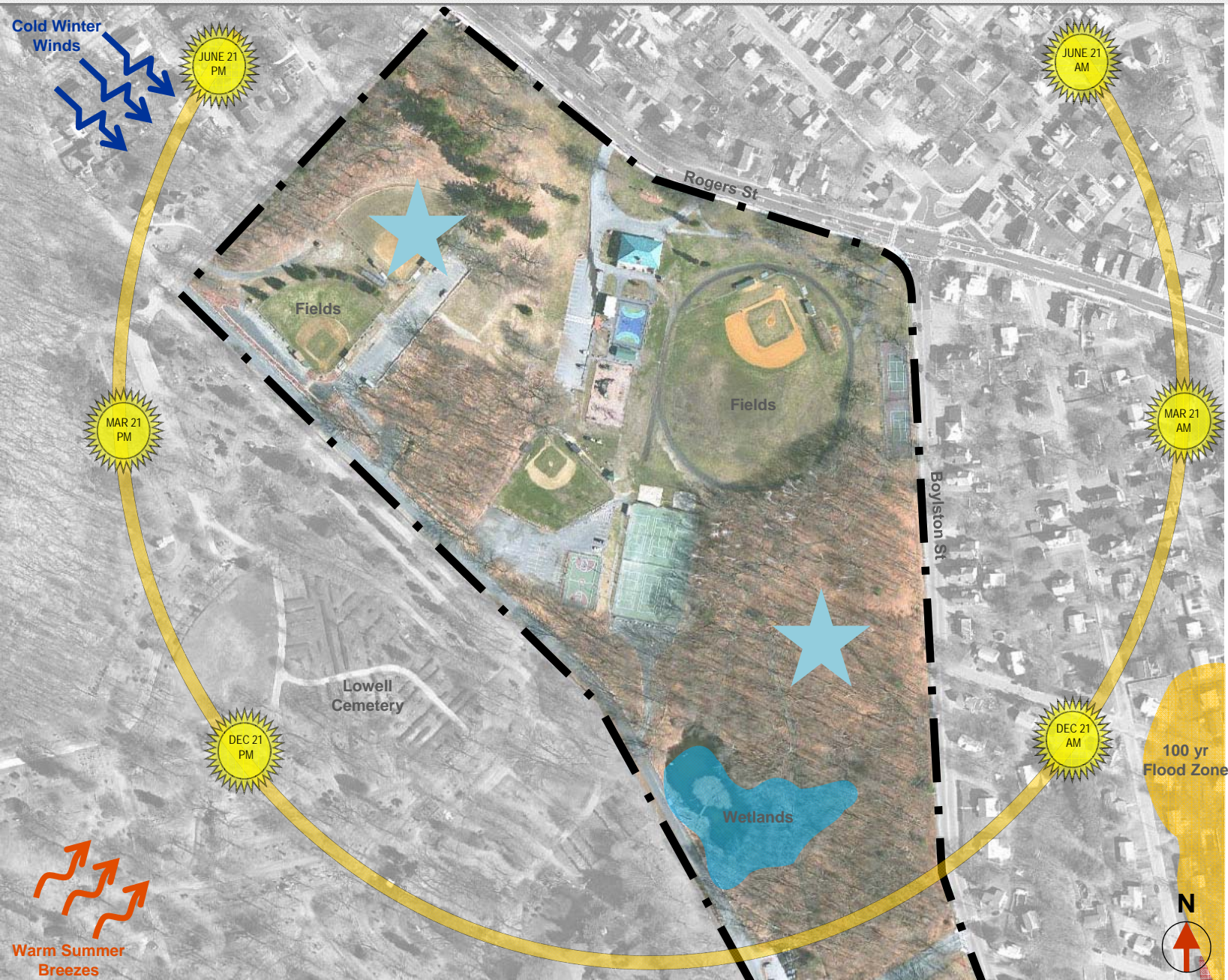
Preliminary Site: Prince



South Lowell

- 14+ Acres
- Privately owned land
- Wetlands and Flood zone
- Commercial/ Industrial Zone
- Site currently has old Prince factory building
- Near alternate/day school
- Propose new school or repurpose existing building

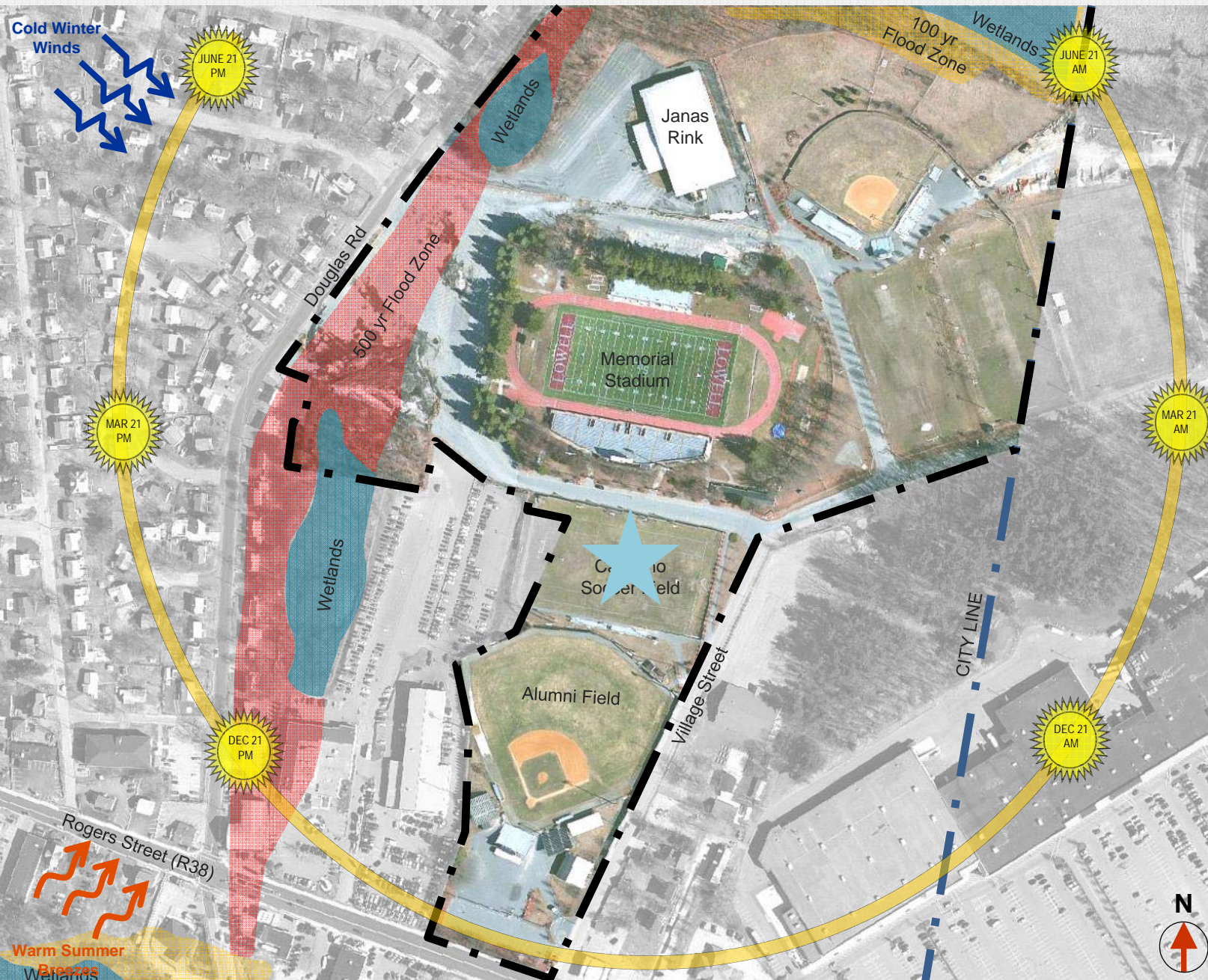
Preliminary Site: Upper Shedd Park



South Lowell / Belvidere

- Shedd: 23+ Acres
- City owned land
- Pyne Arts on site
- Active recreational use
- Proposed new school next to existing facilities

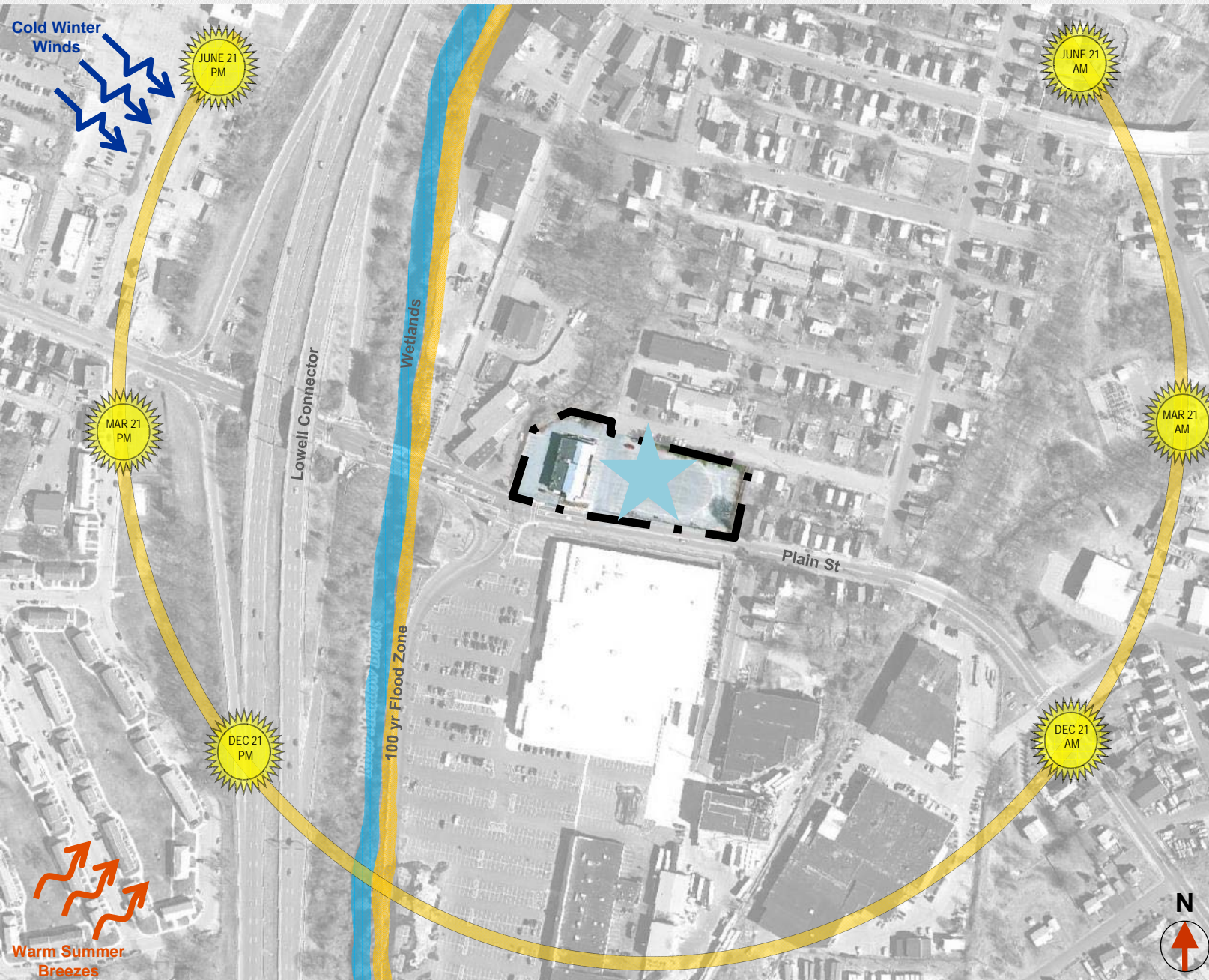
Preliminary Site: Cawley



Belvidere

- City Owned
- Athletic Facilities share the site
- Proposed new school next to existing facilities
- Consider acquisition of additional land

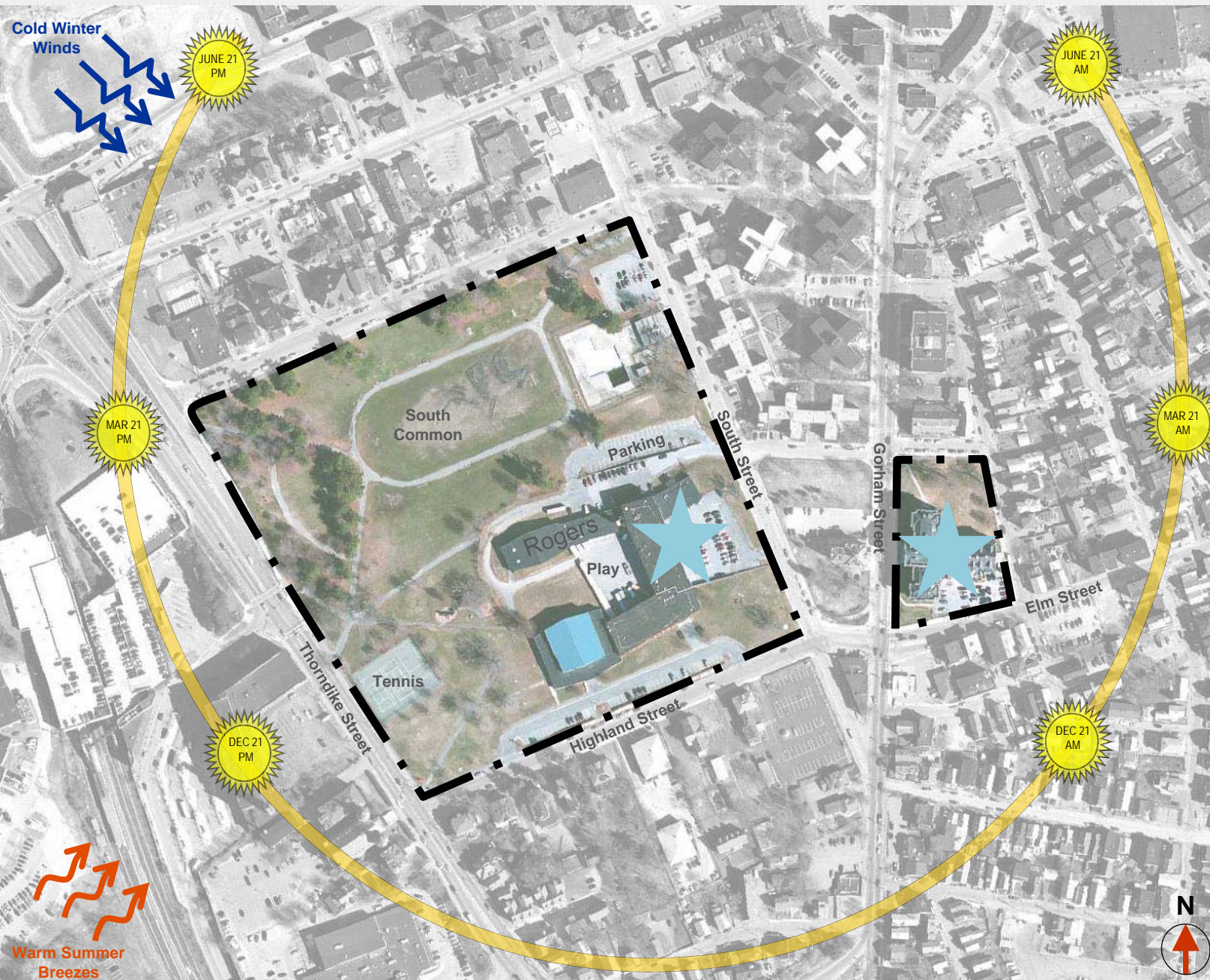
Preliminary Site: Plain St



Highlands

- 2 Acres +/-
- Not currently owned by the City
- Actively on the market
- Requires abandonment of a section of roadway to make a contiguous parcel and possible relocation of VFW
- Main transportation route and ease of access
- Potential site for a PK center

Preliminary Site: South Common & Courthouse



Back Central

Courthouse

- 1.63 Acres
- City owned land
- Existing Courthouse on site but New Courthouse planned off-site (JAM)
- Potential 2 Strand School or Alternative School

South Common

- 20.5 Acres
- City owned land
- Existing Rogers School building on site
- South Common Master Plan revitalization project is in development now
- Potential Elementary or Middle School



Preliminary Site: Boylston St / N Billerica Rd



South Lowell

- 11.5 Acres +/-
- Not currently owned by the City
- Adjacent to highway
- Existing fields on land
- Main transportation route and ease of access

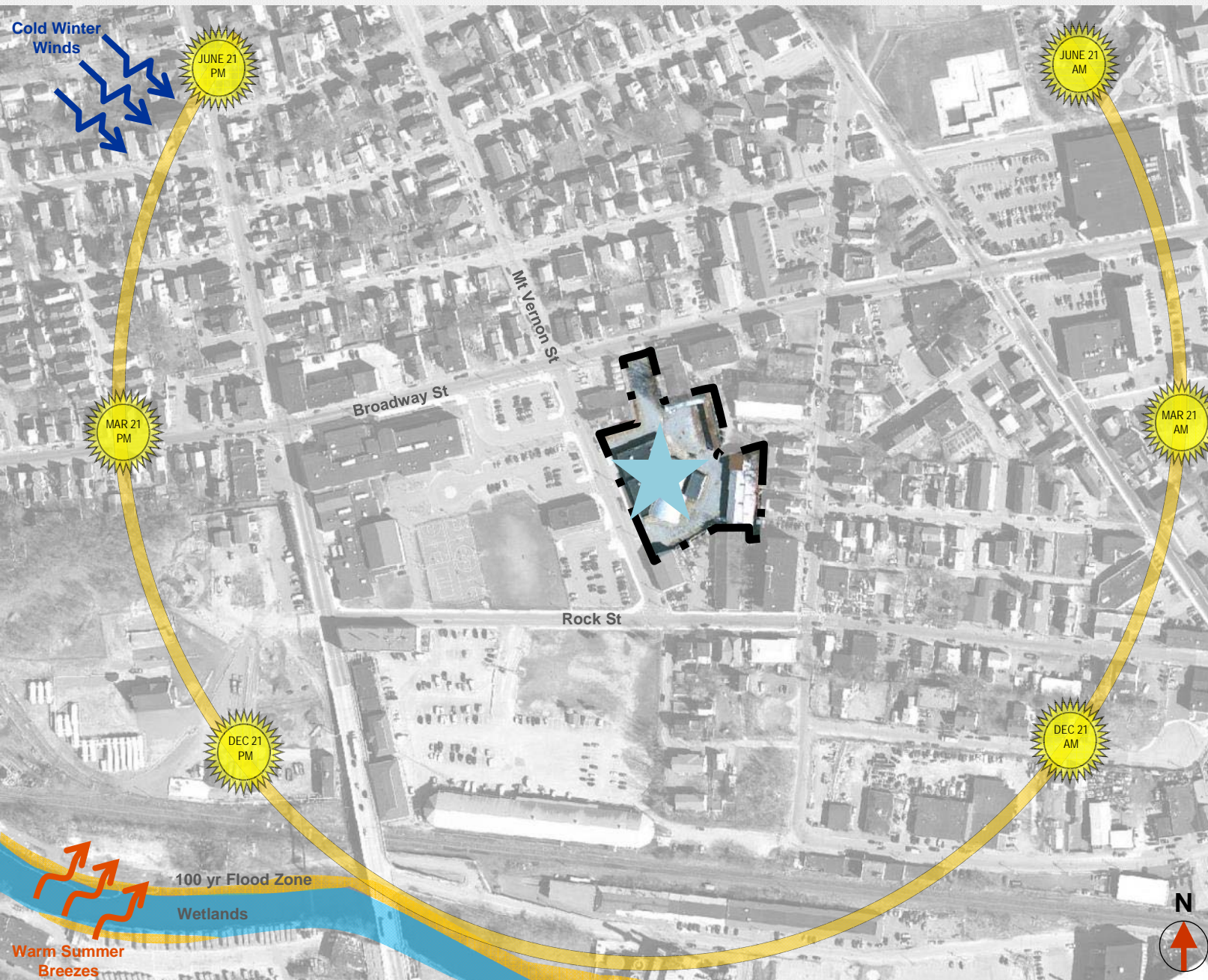
Preliminary Site: Gorham St



South Lowell

- 3.3 +/- Acres
- Not currently owned by the City
- Former car dealership currently on the market
- Main transportation route and ease of access

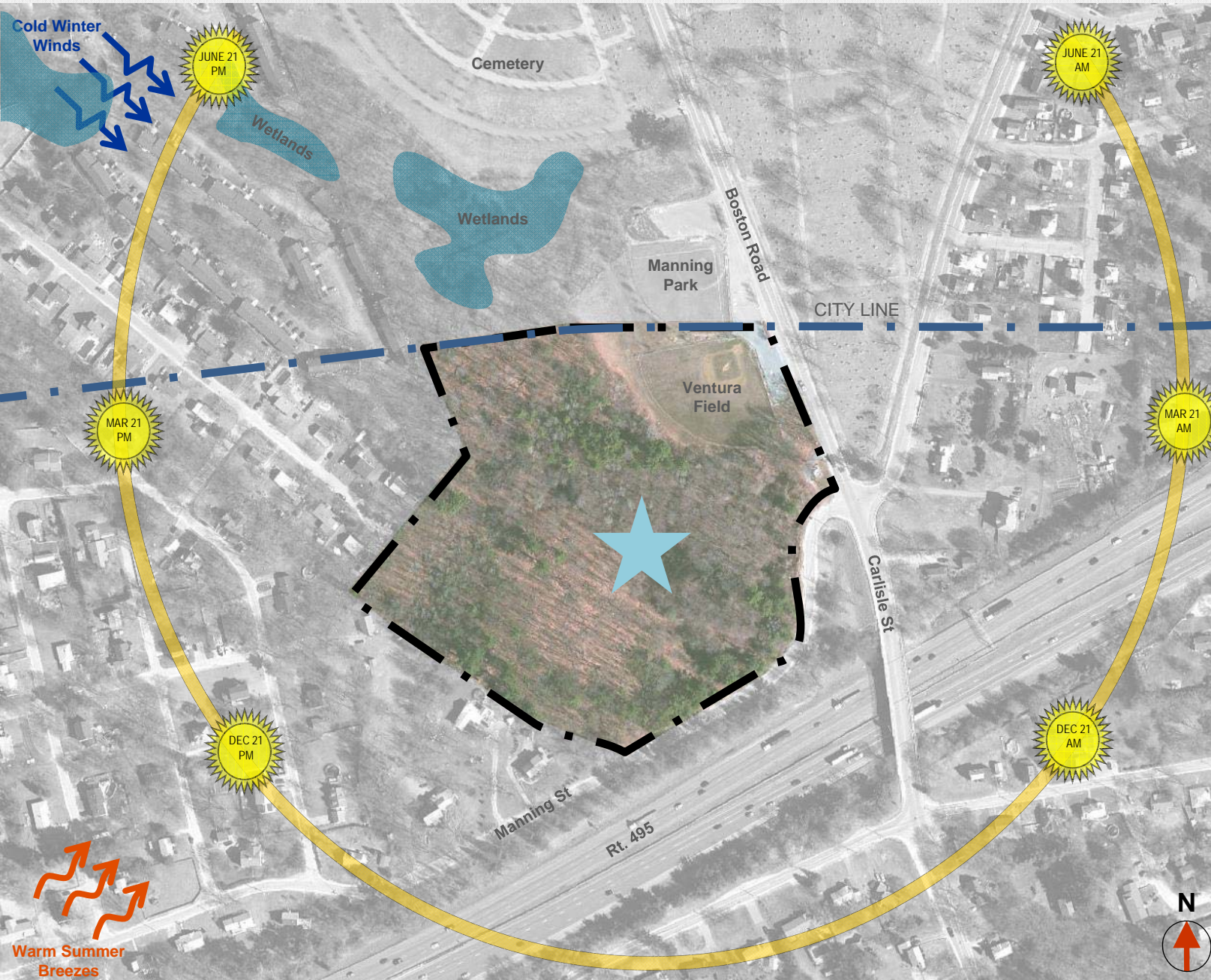
Preliminary Site: Mt Vernon St./ Farnham St.



The Acre

- 3 Acres +/-
- Site owned by the City
- Urban renewal area plan calls for other uses and would need to be amended.
- An additional adjacent site may be available
- May share recreational and parking facilities with Stoklosa
- Central to City

Preliminary Site: Carlisle Street



Chelmsford

- 14.3 +/- Acres
- Currently owned by the City but located in the town of Chelmsford
- Field currently located on site

Red Sites

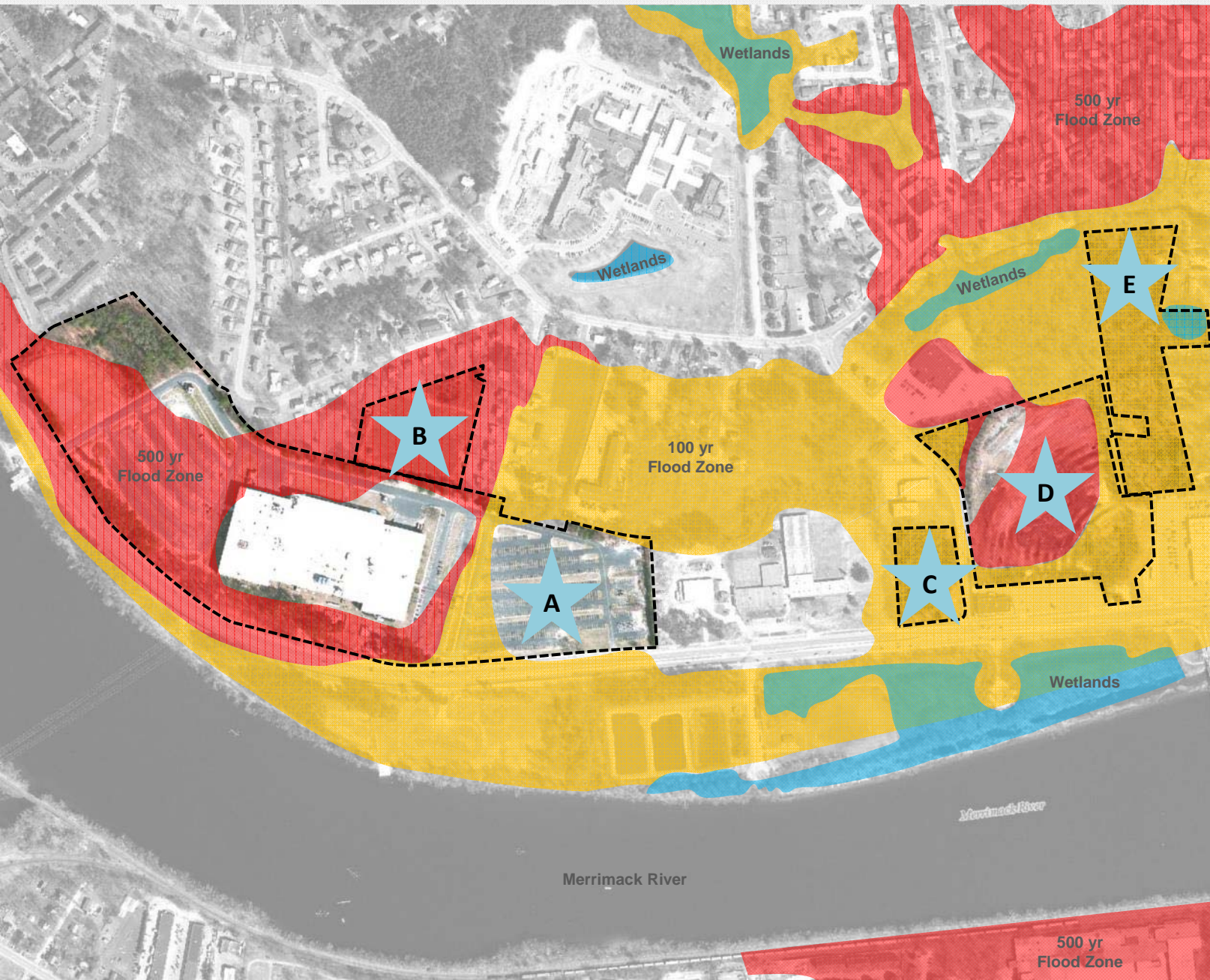
Preliminary Site: Mammoth



Pawtucketville

- 3+ Acres
- Former Archdiocese of Boston property
- Across from McAvinnue School & near fields
- Might share resources, including new parking for McAvinnue
- Main transportation route and ease of access
- Potential site for Elementary or Middle School

Preliminary Site: River Sites



Pawtucketville

- A. 1001 Pawtucket Blvd
 - 7 +/- Acres
 - Underdeveloped, privately owned site
- B. 72.1 Fowler Rd
 - 4 +/- Acres
 - City owned agricultural site
- C. 751 Pawtucket Blvd
 - 2.7 +/- Acres
 - City owned site, flood zone
- D. 677 Pawtucket Blvd
 - 12.6 Acres
 - Privately owned, plans for temple on site
- E. 800.1 Varnum Ave
 - 8 +/- Acres
 - Privately owned



Preliminary Site: Gage Park



Centralville

- 21 +/- Acres
- City owned property
- Robinson & McAuliffe share site
- Proposed new school next to existing schools

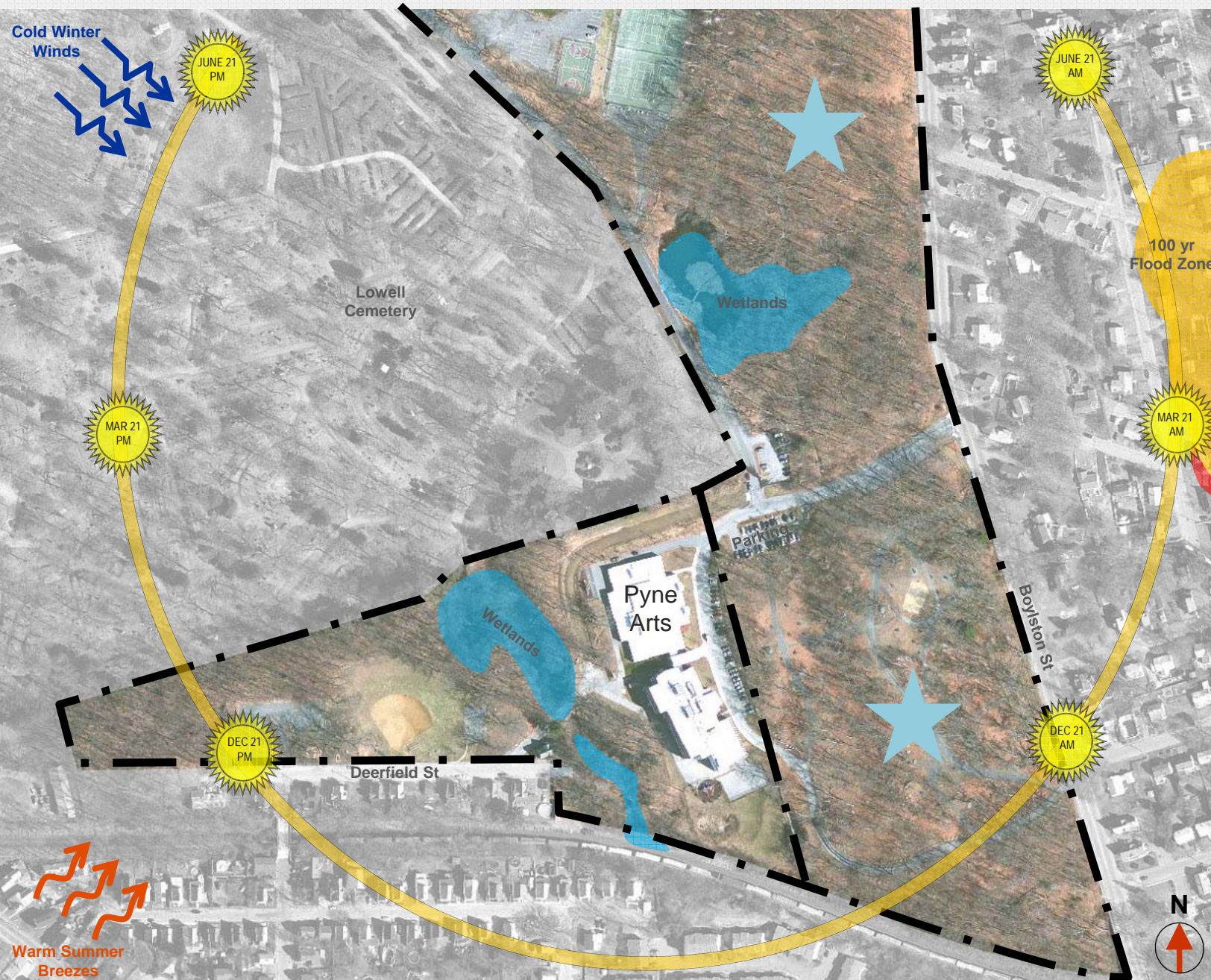
Preliminary Site: O'Donnell



South Lowell

- 11+ Acres
- City owned land
- Butler & Shaughnessy share site
- Tight for a third school, but an addition may be feasible

Preliminary Site: Lower Shedd Park



South Lowell / Belvidere

- Donahoe: 13+ Acres
- Shedd: 23+ Acres
- City owned land
- Pyne Arts site
- Active recreational use
- Proposed new school next to existing

Preliminary Site: Rivercliff



Belvidere

- 4 +/- Acres
- Privately owned site, currently single family parcel
- Potential site for new school or Pre-K center

Preliminary Site: Highland Park



Highlands

- 20 Acres
- City owned land
- Bailey & Daley share site
- Proposed new school next to existing

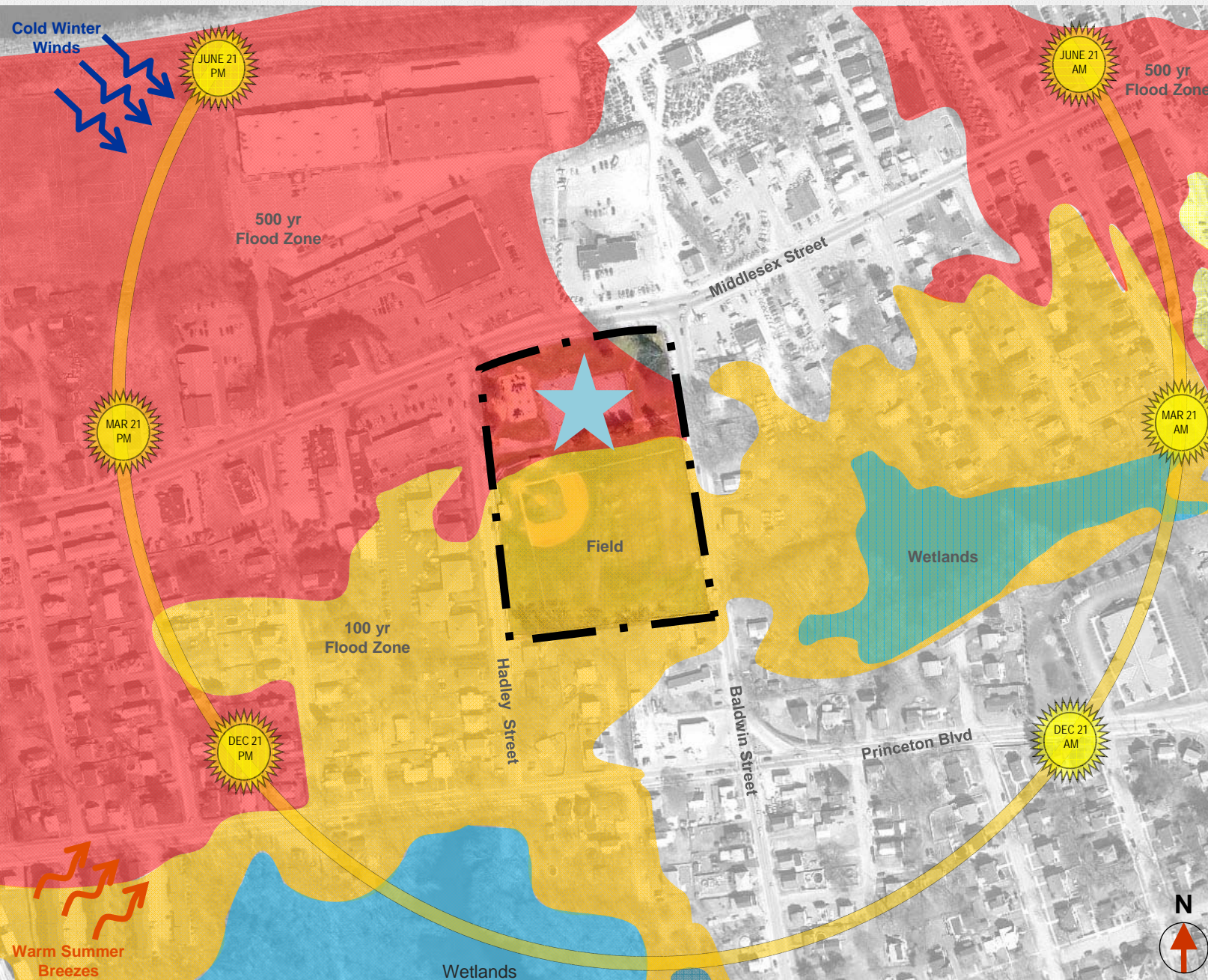
Preliminary Site: Princeton Blvd



Highlands

- 3 Acres +/-
- Not currently owned by the City
- Church and private school occupy a full city block
- Main transportation route and ease of access

Preliminary Site: Hadley Park



Highlands

- 5+ Acres
- Site owned by town
- Site slotted for school location in the past
- Currently is a park with athletic field
- Site in 100/500 year flood zones
- Main transportation route and ease of access