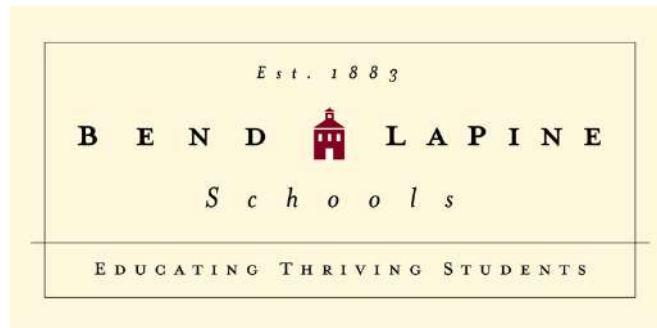


Bend-La Pine Schools



Sites and Facilities Plan 2022

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Exhibits

- Exhibit A** – List of improvements and expansions to existing facilities needed within five years
- Exhibit B** – Enrollment Forecast Data
- Exhibit C** – Enrollment Study Materials - Lora Nordquist
- Exhibit D** – Efficient Use of Schools Study
- Exhibit E** – Maps of Existing Land Holdings

Thank You

Bend-LaPine Schools thanks the 2021-2022 Sites and Facilities Committee for participating in an extremely valuable community service. Over the course of five months Committee members met regularly to create and agree upon the recommendations discussed in this report. Committee discussions were open and respectful, filled with intelligent dialogue, and concern for the Bend-La Pine Schools' students, parents, teachers, and service areas. The District values the input from the community in its planning efforts. The committee members would also like to thank the Board for the opportunity to have participated in this planning process.

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Summary

This document is the final 2022 Bend-La Pine Schools' Sites and Facilities Plan. This report summarizes a yearlong community based process and provides the following items:

- Prioritized list of improvements and expansions to existing facilities needed within the next five years
- Capacity and areas of new schools needed in a 20-year planning period
- Highest and best use of existing land holdings
- Current usage and future needs of the Education Center

Although this Plan is a 20-year plan, the District convenes the Sites and Facilities Committee every five years to update the Plan using the best available information. While the Committee considers needs over the next 20 years, when considering our current facilities their focus is mainly on the needs in the next five to seven years.

List of improvements and expansions needed within the next five years

The complete list of improvements and expansions needed within five years is included as Exhibit A. The original list reviewed by the committee evaluated over 437 projects in the following categories: safety and security, instruction and operation, parity across schools, asset preservation, and sustainability and labor conservation. The list was developed by staff from each facility as well as from our various departments across the District. The Committee prioritized all projects by facility grouping them first by those needed in the next five years with the remaining projects placed in the 10-year priority category. The majority of the high-ranking projects fall into the asset preservation and safety and security categories. The list of 89 projects included at Exhibit A come from the original list of 437 projects and include those projects needed within the next five years. The list includes the estimated cost for each of the 89 projects.

Development of an asset preservation plan by facility

The Sites and Facilities Committee recommended that we include in the Sites and Facilities Plan a long-term schedule for major renovations to our facilities. This schedule is based on the age of the facility and the facility's history of renovations. We have included this information in chapter two of this report.

Capacity and determination of when new schools will be needed

Future capacity needs are determined by enrollment forecast. Relying on a Portland State University (PSU) Population Research Center (PRC) model, the Committee determined that although the District does not have adequate capacity to accommodate the enrollment growth that is forecasted over the 20-year planning horizon, the District does have sufficient capacity within the next 10 years. Accordingly, there is no need to plan for new schools in the five to

seven-year term. If the enrollment exceeds the forecast in the next 2-3 years, a Sites and Facilities Committee should be re-convened to review and update this Report. Although it is estimated that the District, in its entirety, will not be able to meet the forecasted enrollment over the 20-year planning horizon, schools in the southern area of the District were found to have adequate capacity, including La Pine Elementary, Rosland Elementary, Three Rivers, La Pine Middle School, and La Pine High School.

Throughout the remainder of the District (primarily Bend), enrollment is forecast to exceed available capacity and additional schools will be needed. The District should anticipate opening the following schools over the 20-year planning horizon:

- Three 600-student elementary schools, capacity is forecast to be exceeded in the following school years: 2031-2032, 2035-2036, 2039-2040.
- One 800-student middle school, capacity is forecast to be exceeded in school year 2040-2041.
- One 1,500-student high school. Capacity is forecast to be exceeded in school year 2040-41.

Enrollment projections and forecasting methodology are included as Exhibit B.

Areas for future schools to satisfy the needs of the district through 2035

Utilizing City of Bend Urban Growth Boundary (UGB) Expansion forecasts, Deschutes County records, building permit data, and development data, the location of enrollment growth was projected, availability of land was considered, and areas of school need were identified. With regard to enrollment, there has been more uncertainty over the last two years. Over the next few years, the Committee recommends the District monitor enrollment growth by zone and adjust timing if necessary based on actual growth. School areas that are projected to need schools are listed below:

- Elementary schools:
2031-2032 12-15-acre site in the Southwest Sector
2035-2036 12-15-acre site, in the Northwest Sector
2039-2040 12-15-acre site in the Southeast Sector.

General Notes

Strategically place schools, use school boundary adjustments as needed.
Revisit specific locations in the next Sites and Facilities Plan update

- Middle School
2036-2037 25-acre site – Site currently owned by District

General Notes

Strategically place school, and use school boundary adjustments as needed.

- High School
2040-2041 50-acre site - Reassess location needs in subsequent Sites and Facilities Planning Efforts.

General Notes

Strategically place schools, utilize boundary adjustments as needed.

Current usage and future needs of the Education Center / possible alternative sites

The Education Center is used for Bend-La Pine Schools' administration offices, student programs, IT department and it is partially leased by the High Desert Education Service District (ESD). After assessing the Education Center, including a summary of the property from staff, an aerial photograph, and an assessment of the strengths and weaknesses, the Committee determined that the building is well sized, well located, and it provides a great one stop shop for the District. Furthermore, redevelopment potential and marketability are limited by its zoning, general plan designation and historic listings. Given the strengths and weaknesses, the Committee recommends that the building be maintained for its current use. As needed, the District could expand into space being leased to the ESD, and potentially relocate student programs to an alternative site. Reassessment in five years (with the next Sites and Facilities Planning effort) is also recommended.

Over the years the City of Bend has considered a "town square" concept in this area. This Committee recommendation should not prevent the District from participating in any discussions related to this concept.

Highest and best use of existing land holdings

The District owns a number of properties that are not currently being used to provide student instruction or assist in the facilitation of student instruction. Not being utilized, they are considered “land held for future use”. These properties include a mix of large vacant parcels that could accommodate school sites, large lands immediately adjacent to developed District sites that could accommodate another school, and/or smaller remainder parcels immediately adjacent to school sites. The existing land holdings came into the District’s ownership a number of ways, some were acquired to accommodate planned enrollment, some were donated, some are extra areas abutting sites that were acquired and developed to District specifications. The Committee reviewed each of the “existing land holding” sites, including a summary of the property from staff, aerial photographs, and maps.

The general consensus of the Committee is, because the District is projected to grow and land is increasingly more challenging to obtain (particularly within central urban areas), the District should retain larger properties that could accommodate future schools. Existing large acreage areas should be held to provide school sites, or they could be held for a potential future sale or trade, to assist with future school siting needs.

Three exceptions to the general consensus position were recommended:

- 1) The 1 acre parcel immediate adjacent to Silver Rail Elementary - Staff should evaluate three options: affordable/employee housing, collaboration with Bend Metro Park and Recreation District for field use, or the sale and return of the proceeds to the capital fund. Staff should present a recommendation to the Board for consideration.
- 2) The 1.95 acres between Summit High School and Pacific Crest Middle School - staff should evaluate three options: affordable/employee housing or parking for Summit HS. Staff should present a recommendation to the Board for consideration.
- 3) The 12-acre triangular area of land north of High Desert MS was re-designated for commercial use as part of the City’s Southeast Area Plan. Staff should evaluate best options for sale of this land and present a recommendation to the Board for consideration. The remaining land around High Desert Middle School should be held for future development

This report outlines the information relied upon, the decision making process, and formalizes each recommendation of the Committee.

Chapter 1

Project Overview and Background

BEND-LA PINE SCHOOLS - MISSION

In an effort to carry out its mission, Bend-La Pine Schools (District or BLS) regularly engages in long-range planning efforts to ensure exceptional educational facilities are provided and maintained throughout the District. The most recent effort was completed in 2017 and resulted in a \$268.3 million bond measure and an associated capital improvement program. In the fall of 2021, the District began a new school planning process, to update the 2017 Sites and Facilities Plan and plan for growth through 2042. Long range, community-focused, planning efforts provide a consensus based, data driven platform, upon which strategic decisions and investments can be made; ensuring capacity for students, accommodation of changing instructional needs, school safety, and maintenance of community investments. Like any public investment, school development and maintenance require time, money, and a commitment from the community. Long-range, consensus based, planning efforts have proven to result in decisions that are guided by the best available information, that are consistent with the District's purpose, mission, and core values, and that are supported by the community.

The road map to complete the Sites and Facilities Plan involves the following items:

Initial Phase

- Assess existing facilities / identify needed capital improvements
- Forecast enrollment
- Assess school capacity / identify needed capacity
- Assess current usage and future needs of the Education Center
- Assess the highest and best use of existing land holdings

Final Phase

- Establish a financial plan, including cost estimating, for the near-term projects

With the current planning effort, the Board has determined that the initial phase will be completed by a Sites and Facilities Committee. The final phase will be completed by the District, considering the recommendations of the Committee. Upon completion of all phases, staff will formalize the components into the Bend-La Pine Schools Sites and Facilities Plan.

Initial Phase

The initial phase of the Sites and Facilities Plan was accomplished with a Sites and Facilities Committee (Committee) and a Board “charge”. The members included of a mix of District employees and community volunteers. The members were drawn from a broad cross section of the community; teachers, administrators, developers, architects, engineers, public and private sector employees, parents and engaged community members. The Committee charge:

BLS Board Sites and Facilities Charge - September 14, 2021

Executive Limitations (EL#7) - Facilities: *“The Superintendent shall not fail to refresh the 20 year long-range facilities plan every 5 years or more often to address student capacity, site-specific instructional needs, operational and maintenance needs. The planning shall not fail to include the following: a) Formation of a Sites & Facilities Committee to carry out the board-developed charge.”*

Board-Developed Charge:

The Sites and Facilities Committee (SFC) shall:

1. *Assess existing facilities for needed capital improvements*
 - a. *Repairs and deferred maintenance*
 - b. *Upgrades and expansion*
 - i. *Due to changing programming needs*
 - ii. *Due to equity considerations*
 - iii. *Address other needs such as building security, efficiency and seismic safety*
2. *Identify future capacity needs due to changing enrollment*
 - a. *Review enrollment projections and demographic trends*
 - b. *Assess expansion of existing facilities*
 - c. *Identify sites and capacity of new buildings*
 - d. *Identify land needs and possible sites*
3. *Assess current usage and future needs of the Education Center*
 - a. *Identify current strengths and shortcomings of existing building*
 - b. *Identify options for possible relocation of central administration, Strive¹ and the online program*
4. *Assess highest and best use of existing land holdings*
 - a. *Explore public-private partnerships to generate recurring revenue from current assets*
5. *Seek and receive public input*
6. *Form subcommittees as needed*
7. *Report to the BLPS Board*
 - a. *Prioritized list of improvements and expansions to existing facilities*
 - b. *Capacity and sites of new schools needed*

¹ The program housed in the Education Center is Tamarack not Strive.

- c. *Ideal school sites for future schools to satisfy the needs of the district out to 2035*
- d. *Highest and best use of existing land holdings*

To accomplish the elements of the “charge”, the Committee developed a process, a timeline, and the steps of an efficient work plan. The work plan that was established was similar to prior sites and facilities planning efforts and included the Committee dividing itself into two sub-committees (the sub-committees are referred to in this report as “Sub-Committee” or “Committee”). One sub-committee focused on existing facilities (Existing Facilities Sub-Committee) and the other sub-committee focused on future needs (Future Needs Sub-Committee). The Committees met regularly (at least monthly) over a 5 month time period (September – January). Throughout the process it was typical for the district facilitators to provide the Committee with background data and information, and request that recommendations be made by the Committee. Committee members considered all information, discussed, clarified, and ultimately made necessary recommendations. Discussions often resulted in additional questions and/or additional topics for consideration; discussions continued until the Committee felt comfortable making formal recommendations.

The Existing Facilities Sub-Committee addressed the following “charge” item: 1 – Assess existing facilities for needed capital improvements.

The Future Needs Sub-Committee addressed the following “charge” items:

- 2 – Identify future capacity needs due to changing enrollment
- 3 – Assess current usage and future needs of the Education Center
- 4 – Assess highest and best use of existing land holdings

Charge Items 5, “Seek and receive public input” and 6, “Form subcommittees as needed” were incorporated into the Sites and Facilities process and this Sites and Facilities Plan is Charge Item 7, “Report to the BLPS Board”. This plan summarizes the processes, products, outcomes, and recommendations of the Committee’s work.

Final Phase

After the Committee’s work was complete, staff used the Committee’s prioritization work and spent the next five months reducing the list of projects to those needed in the next five years and estimating the cost of each of these projects. This final list is included at Exhibit A.

Chapter 2

Prioritized List of Improvements

2.1 List of Improvements needed

The Committee was tasked with Board charge item #1, assessing all existing facilities operated by the District, to identify needed capital improvements. The Committee was asked to consider repairs and deferred maintenance, along with potential upgrades and expansions due to programming needs, equity considerations, and other needs such as building security, efficiency and safety.

To accomplish its tasks, the Committee reviewed a list of 437 projects in the following categories: safety and security, instruction and operation, parity across schools, asset preservation, and sustainability and labor conservation.

The Committee assessed all facilities owned and operated by the District. In their assessment, committee members reviewed aerial photos, held site visits as needed, and considered input from: school staff, as well as, Maintenance, Diversity Equity and Inclusion, Transportation, Nutrition, and Technology and Safety departments.

Utilizing the best available information and having a clear understanding of each site's unique needs, the Committee combined, prioritized, and ranked over 437 facility improvement requests. The projects were first grouped by facility, then prioritized and grouped by those needed in the next five years with the remaining projects placed in the 10-year need category. The majority of the high-ranking projects fall into the asset preservation and safety and security categories. Some of the common themes across facilities include projects such as updating interior door hardware, fire alarm systems, roof maintenance and repair, and long-term master planning to allow the District to continue using schools built decades ago for instructional models of today and tomorrow.

After the Committee's work was complete, staff used the Committee's prioritization work and spent the next five months reducing the list of projects to those needed in the next five years and estimating the cost of each of these projects. This final list of 89 projects, with their estimated cost, is included at Exhibit A.

2.2 Planning for Major Remodel Needs

The Committee also established a long-term schedule for existing facilities asset preservation based on the following assumptions:

New buildings as well as existing buildings will need a major renovation every 50 years based on the date of construction or the date of the last major remodel.

Major renovations would include work such as interior remodel, space reconfiguration and mechanical, electrical and plumbing upgrades. Minor renovations would include work such as replacement or upgrade of cabinetry, flooring, ceilings, lighting, paint and lockers. The committee proposed the following major renovation schedule:

- 2022-2027 – Bend High School, Juniper Elementary School, Marshall High School, Thompson Elementary School Library
- 2028-2033 – Buckingham Elementary School, Jewell Elementary School, Cascade Middle School, La Pine High School
- 2034-2039 – Mountain View High School, La Pine Middle School
- 2040-2045 – La Pine Elementary School, Lava Ridge Elementary School, Elk Meadow Elementary School, Three Rivers School, High Desert Middle School
- 2046-2051 – High Lakes Elementary School, Sky View Middle School, Summit High School

Chapter 3

Capacity and Sites of New Schools Needed

Future Capacity Needs due to changing enrollment

To facilitate the process of identifying future capacity needs, the Future Needs Sub-Committee reviewed enrollment forecasts, and used development data to predict where and when growth would occur. The Committee considered available school capacity, and identified possible areas for future schools. The overall assessment included a review of statistical data from Portland State University's Population Research Center (PRC), GIS data from the City of Bend and the District, local development data, architectural studies, operational assessments, and alternatives to new school construction, and the consideration of measures to increase efficiencies at existing facilities.

3.1 - Enrollment / Forecasting Student Growth / Available Capacity

As in previous sites and facilities studies, the Portland State University Population Research Center (PRC) was used for enrollment forecasting. The PRC is an interdisciplinary public service, research and training unit for population-related data for the State of Oregon. The mission of PRC is to provide population data, information, and research analysis for Oregon and its communities. The District has historically selected the PRC for enrollment forecasts, finding them to be the best available and most reliable source of data. Some background on the PRC:

- PRC began providing service to the State of Oregon in 1956 under the Oregon Population Estimate Program
- They are the lead Agency working with the US Census Bureau
- Under Oregon Law, they provide coordinated population forecast for Land Use Planning efforts throughout the State
- They provide demographic consulting services
- The District has an established history with the PRC; since 2005 the PRC has provided the District with population trends and forecasts

The PRC Forecast was prepared for the District concurrently with the committee's work. Summary data was provided as the committee met. The Forecast utilized a Cohort/Component Model along with a Grade Progression Enrollment Model. The Cohort-Component Model establishes enrollment as a function of births, capture rates and migration, while the Grade Progression Enrollment Model tracks students through school years, adding the net migration to the forecast. The PRC data studied the District as a whole and provided low, middle and high growth scenario estimates. The Committee reviewed the data, the trends, and the conclusions, and determined that the methodology used by the PRC was appropriate to use for the current sites and facilities process. A complete copy of the final PRC forecast is included in Exhibit B.

3.2 - Enrollment Forecast Limitations

While the Committee agreed that the PRC provides the best available information, they also recognized that due to the uncertainty of enrollment that developed during the pandemic, the enrollment numbers and projections are subject to more volatility than in prior Sites and Facilities planning efforts. Because of this uncertainty, there may be opportunities for refinement over the next few years based on actual enrollment. District-wide high, middle, and low forecasts for 2022-23 differ by the estimated number of students who left District schools during the pandemic will return. The Committee reviewed actual enrollment numbers, the PRC three initial enrollment projections, building permit data, and development data.

3.2.1 2021-2022 Actual Enrollment

The Bend-La Pine Schools' actual enrollment for 2021-2022 was 17,500, a decrease of 111 students from fall 2020. It was the second consecutive annual enrollment decline, though much smaller than the extreme loss of 1,061 students between fall 2019 and fall 2020.

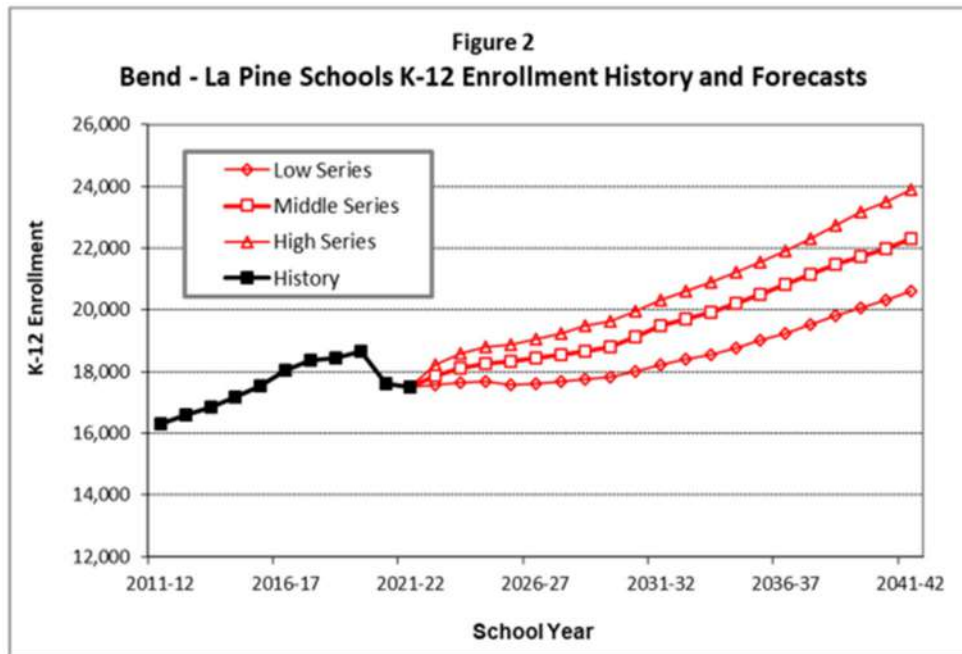
3.2.2 District Near Term Enrollment Forecasts

The Committee evaluated the Middle Series Forecasts. In the middle series forecast, overall K-12 enrollment is expected to rebound by 367 students in 2022-2023, then add another 1,600 students by 2031-2032. Growth is initially slow, just averaging 0.7 percent annually between 2022-23 and 2029-2030. Near the end of the 2020s, kindergarten enrollments finally surpass their recent (2019-2020) peak, ushering in a period of faster growth. For the remainder of the forecast horizon from 2029-30 to 2041-42, K-12 enrollment growth averages 1.4 percent annually. The following figures 1 and 2 summarize the district -wide K-12 forecasts:

Figure 1
Historic and Forecast K-12 Enrollment
Low, Middle, and High Scenarios
Bend - La Pine Schools

School Year	LOW		MIDDLE		HIGH	
	Enroll- ment	5 year growth	Enroll- ment	5 year growth	Enroll- ment	5 year growth
2011-12	16,300		16,300		16,300	
2016-17	18,029	1,729	18,029	1,729	18,029	1,729
2021-22	17,500	-529	17,500	-529	17,500	-529
2026-27 (fcst.)	17,607	107	18,429	929	19,039	1,539
2031-32 (fcst.)	18,209	602	19,475	1,046	20,300	1,261
2036-37 (fcst.)	19,246	1,037	20,807	1,332	21,891	1,591
2041-42 (fcst.)	20,593	1,347	22,311	1,504	23,898	2,007
AAEG*, 2011-12 to 2041-42	0.8%		1.2%		1.6%	

*Note: Average Annual Enrollment Growth.
Historic: Bend - La Pine Schools.
Forecast: Population Research Center, PSU, November 2021.



The Committee evaluated low, middle, and high enrollment projections and determined that, even with the high level of enrollment projections, the District will have adequate capacity within the next 10 years. Accordingly, there is no need to add new schools in the five-to-seven-year term. If actual enrollment exceeds the forecast in the next 2-3 years, a Sites and Facilities Committee should be re-convened to review and update the Report.

3.2.3 Future Capacity Needs by School

The District also asked PSU to provide a total enrollment projection for each school for the next 20 years. This is not a grade level projection and is only at the middle series. The request for school level projections was to help the Committee evaluate where and when new schools will be needed in the next 20 years. From this, the District grouped schools based on geographic area and evaluated when the need will arise in each area. The following table shows where and when new schools will be needed:

Bend-La Pine Schools
Capacity analysis by school and sector
Uses PSU middle forecast

	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31	2031-32	2032-33	2033-34	2034-35	2035-36	2036-37	2037-38	2038-39	2039-40	2040-41	2041-42
Elementary Schools																				
La Pine Schools																				
La Pine Elementary	347	373	392	404	399	402	405	406	419	435	441	447	451	457	465	472	476	479	478	478
Rosland Elementary	246	256	256	249	252	258	261	267	273	279	284	289	295	303	309	316	320	325	329	335
Total La Pine K-5 enrollment	593	629	648	653	651	660	666	673	692	714	725	736	746	760	774	788	796	804	807	813
La Pine Elementary Capacity	575	575	575	575	575	575	575	575	575	575	575	575	575	575	575	575	575	575	575	575
Rosland Elementary Capacity	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275
La Pine K-5 Capacity	850	850	850	850	850	850	850	850	850	850	850	850	850	850	850	850	850	850	850	850
Under (Over) Capacity	257	221	202	197	199	190	184	177	158	136	125	114	104	90	76	62	54	46	43	37
Three Rivers K-8																				
Three Rivers K-8	431	436	441	453	453	459	450	456	460	461	463	468	474	481	488	491	489	486	487	490
Three Rivers Capacity	575	575	575	575	575	575	575	575	575	575	575	575	575	575	575	575	575	575	575	575
Under (Over) Capacity	144	139	134	122	122	116	125	119	115	114	112	107	101	94	87	84	86	89	88	85
Bend Schools																				
Southeast sector enrollment																				
Bear Creek Elementary	556	569	579	577	581	557	549	539	548	561	569	579	587	591	599	608	608	609	612	619
Juniper Elementary	422	421	444	461	453	443	438	432	437	448	453	461	471	478	491	503	516	525	537	549
R.E. Jewell Elementary	431	444	447	456	460	461	465	470	481	496	506	515	524	534	544	552	556	562	569	577
Silver Rail Elementary	454	454	471	485	491	510	524	546	583	627	657	689	722	748	770	797	814	834	853	879
Total Southeast sector enrollment	1,863	1,888	1,941	1,979	1,985	1,971	1,976	1,987	2,049	2,132	2,185	2,244	2,304	2,351	2,404	2,460	2,494	2,530	2,571	2,624
Southeast sector capacity																				
Bear Creek Elementary	575	575	575	575	575	575	575	575	575	575	575	575	575	575	575	575	575	575	575	575
Juniper Elementary	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550
R.E. Jewell Elementary	575	575	575	575	575	575	575	575	575	575	575	575	575	575	575	575	575	575	575	575
Silver Rail Elementary	575	575	575	575	575	575	575	575	575	575	575	575	575	575	575	575	575	575	575	575
Total Southeast sector capacity	2,275	2,275	2,275	2,275	2,275	2,275	2,275	2,275	2,275	2,275	2,275	2,275	2,275	2,275	2,275	2,275	2,275	2,275	2,275	2,275
Under (Over) Capacity	412	387	334	296	290	304	299	288	226	143	90	31	-29	-76	-129	-185	-219	-255	-296	-349
Northeast sector enrollment																				
Buckingham Elementary	387	394	398	404	399	420	420	421	428	436	444	447	450	450	452	452	452	453	453	457
Jack Ensworth Elementary	174	189	192	191	196	195	196	198	204	210	217	222	225	229	232	237	239	238	239	242
Lava Ridge Elementary	403	413	407	410	403	418	420	424	435	450	459	464	472	482	488	492	495	497	497	501
North Star Elementary	317	337	354	358	375	372	380	386	397	410	423	436	449	461	474	486	499	510	523	535
Ponderosa Elementary	463	478	480	491	482	477	483	490	506	528	552	569	585	602	617	631	646	659	671	687
Total Northeast sector enrollment	1,744	1,811	1,831	1,854	1,855	1,882	1,899	1,919	1,970	2,034	2,095	2,138	2,181	2,224	2,263	2,298	2,331	2,357	2,383	2,422
Northeast sector capacity																				
Buckingham Elementary	575	575	575	575	575	575	575	575	575	575	575	575	575	575	575	575	575	575	575	575
Jack Ensworth Elementary	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275
Lava Ridge Elementary	575	575	575	575	575	575	575	575	575	575	575	575	575	575	575	575	575	575	575	575
North Star Elementary	575	575	575	575	575	575	575	575	575	575	575	575	575	575	575	575	575	575	575	575
Ponderosa Elementary	575	575	575	575	575	575	575	575	575	575	575	575	575	575	575	575	575	575	575	575
Total Northeast sector capacity	2,575	2,575	2,575	2,575	2,575	2,575	2,575	2,575	2,575	2,575	2,575	2,575	2,575	2,575	2,575	2,575	2,575	2,575	2,575	2,575
Under (Over) Capacity	831	764	744	721	720	693	676	656	605	541	480	437	394	351	312	277	244	218	192	153
Southwest sector enrollment																				
Elk Meadow Elementary	477	507	516	513	517	524	529	530	535	545	556	566	575	585	596	603	608	615	619	624
Pine Ridge Elementary	539	566	577	573	566	555	558	563	575	594	610	621	634	651	665	677	680	683	684	691
Total Southwest sector enrollment	1,016	1,073	1,093	1,086	1,083	1,079	1,087	1,093	1,110	1,139	1,166	1,187	1,209	1,236	1,261	1,280	1,288	1,298	1,303	1,315
Southwest sector capacity																				
Elk Meadow Elementary	575	575	575	575	575	575	575	575	575	575	575	575	575	575	575	575	575	575	575	575
Pine Ridge Elementary	575	575	575	575	575	575	575	575	575	575	575	575	575	575	575	575	575	575	575	575
Total Southwest sector capacity	1,150	1,150	1,150	1,150	1,150	1,150	1,150	1,150	1,150	1,150	1,150	1,150	1,150	1,150	1,150	1,150	1,150	1,150	1,150	1,150
Under (Over) Capacity	134	77	57	64	67	71	63	57	40	11	-16	-37	-59	-86	-111	-130	-138	-148	-153	-165
Northwest sector enrollment																				
High Lakes Elementary	479	458	457	462	461	456	463	471	491	508	521	534	545	554	558	565	566	567	568	576
William E Miller Elementary	520	523	536	550	518	530	536	545	561	585	603	617	627	640	654	668	678	685	693	705
Total Northwest sector enrollment	999	981	993	1,012	979	986	999	1,016	1,052	1,093	1,124	1,151	1,172	1,194	1,212	1,233	1,244	1,252	1,261	1,281
Northwest sector capacity																				
High Lakes Elementary	575	575	575	575	575	575	575	575	575	575	575	575	575	575	575	575	575	575	575	575
William E Miller Elementary	575	575	575	575	575	575	575	575	575	575	575	575	575	575	575	575	575	575	575	575
Total Northwest sector capacity	1,150	1,150	1,150	1,150	1,150	1,150	1,150	1,150	1,150	1,150	1,150	1,150	1,150	1,150	1,150	1,150	1,150	1,150	1,150	1,150
Under (Over) Capacity	151	169	157	138	171	164	151	134	98	57	26	-1	-22	-44	-62	-83	-94	-102	-111	-131

	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31	2031-32	2032-33	2033-34	2034-35	2035-36	2036-37	2037-38	2038-39	2039-40	2040-41	2041-42
Middle Schools																				
La Pine Middle enrollment	298	298	340	359	371	368	360	349	347	347	345	350	362	379	391	398	398	401	405	412
La Pine Middle capacity	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550
Under (Over) Capacity	252	252	210	191	179	182	190	201	203	203	205	200	188	171	159	152	152	149	145	138
Bend schools																				
Enrollment																				
Cascade Middle	642	655	657	672	698	715	723	715	728	724	715	714	736	755	771	783	795	800	806	817
High Desert Middle	732	743	748	762	774	764	757	777	800	802	811	833	860	880	901	934	954	974	994	1,016
Pacific Crest Middle	606	640	622	629	650	668	673	643	627	630	633	649	665	685	701	715	721	729	737	751
Pilot Butte Middle	690	682	659	632	655	689	725	722	728	721	715	724	747	770	787	798	804	810	813	826
Realms Middle	147	147	146	146	149	149	147	141	139	138	137	138	140	141	142	144	146	148	150	150
Sky View Middle	800	803	624	646	665	671	670	681	684	683	685	699	722	737	755	771	787	799	808	823
Total Middle School enrollment	3,407	3,460	3,456	3,487	3,591	3,656	3,695	3,679	3,706	3,698	3,696	3,756	3,868	3,967	4,056	4,143	4,205	4,258	4,306	4,383
Capacity																				
Cascade Middle	800	800	800	800	800	800	800	800	800	800	800	800	800	800	800	800	800	800	800	800
High Desert Middle	800	800	800	800	800	800	800	800	800	800	800	800	800	800	800	800	800	800	800	800
Pacific Crest Middle	800	800	800	800	800	800	800	800	800	800	800	800	800	800	800	800	800	800	800	800
Pilot Butte Middle	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900
Realms Middle	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150
Sky View Middle	800	800	800	800	800	800	800	800	800	800	800	800	800	800	800	800	800	800	800	800
Total Middle School capacity	4250	4250	4250	4250	4250	4250	4250	4250	4250	4250	4250	4250	4250	4250	4250	4250	4250	4250	4250	4250
Under (Over) Capacity	843	790	794	763	659	594	555	571	544	552	554	494	382	283	194	107	45	-8	-56	-133
High Schools																				
Enrollment																				
La Pine High enrollment	431	464	454	460	468	478	505	521	527	519	512	504	495	496	502	515	527	543	551	558
La Pine High capacity	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550
Under (Over) Capacity	119	86	96	90	82	74	45	29	23	31	38	46	55	54	48	35	23	7	-1	-8
Bend Schools																				
Enrollment																				
Bend High School	1,218	1,054	1,027	1,065	1,087	1,081	1,089	1,100	1,119	1,171	1,204	1,210	1,226	1,228	1,238	1,253	1,287	1,313	1,335	1,366
Caldera High School	1,000	1,291	1,333	1,283	1,258	1,260	1,292	1,270	1,293	1,319	1,312	1,325	1,329	1,329	1,328	1,350	1,377	1,406	1,439	1,473
Marshall High School	196	176	185	185	185	185	185	185	185	185	185	185	185	185	185	185	185	185	185	185
Mountain View High School	1,229	1,258	1,237	1,241	1,227	1,221	1,241	1,252	1,304	1,338	1,358	1,370	1,361	1,366	1,378	1,404	1,431	1,456	1,480	1,502
Realms High School	185	190	182	182	182	182	182	182	182	182	182	182	182	182	184	188	192	196	199	199
Summit High School	1,432	1,315	1,312	1,261	1,275	1,289	1,252	1,317	1,330	1,353	1,377	1,336	1,323	1,327	1,343	1,374	1,413	1,448	1,469	1,488
Total High School enrollment	5,220	5,284	5,278	5,217	5,214	5,218	5,241	5,306	5,413	5,548	5,618	5,608	5,606	5,614	5,656	5,754	5,885	6,004	6,107	6,213
Capacity																				
Bend High School	1,750	1,750	1,750	1,750	1,750	1,750	1,750	1,750	1,750	1,750	1,750	1,750	1,750	1,750	1,750	1,750	1,750	1,750	1,750	1,750
Caldera High School	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500
Marshall High School	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200
Mountain View High School	1,550	1,550	1,550	1,550	1,550	1,550	1,550	1,550	1,550	1,550	1,550	1,550	1,550	1,550	1,550	1,550	1,550	1,550	1,550	1,550
Realms High School	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200
Summit High School	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500
Total High School capacity	6,700	6,700	6,700	6,700	6,700	6,700	6,700	6,700	6,700	6,700	6,700	6,700	6,700	6,700	6,700	6,700	6,700	6,700	6,700	6,700
Under (Over) Capacity	1,480	1,416	1,424	1,483	1,486	1,482	1,459	1,394	1,287	1,152	1,082	1,092	1,094	1,086	1,044	946	815	696	593	487

Although it is estimated that the District capacity, overall, will not be able to meet the forecasted enrollment over the 20-year planning horizon, schools in the southern area of the district were found to have adequate capacity, including La Pine Elementary, Rosland Elementary, Three Rivers Elementary, La Pine Middle School, and La Pine High School.

- Elementary schools:
 - 2031-2032 12-15-acre site in the Southwest Sector
 - 2035-2036 12-15-acre site, in the Northwest Sector
 - 2039-2040 12-15-acre site in the Southeast Sector.

Strategically place schools, use school boundary adjustments as needed.
Revisit specific locations in the next Sites and Facilities Plan update

Strategically place school, and use school boundary adjustments as needed.

- High School
2040-2041 50 acres - reassess location needs in subsequent Sites and Facilities Planning Efforts.

General Notes

Strategically place schools, utilize boundary adjustments as needed.

3.2 - Addressing Capacity Issues

The Committee also considered alternative ways to address the capacity issues, once additional capacity is needed. The Committee considered the following options for addressing capacity issues:

- Alternatives to new school construction
- Measures to increase efficient use of school sites
- Building new schools

3.2.3 Alternatives Analysis

The Committee evaluated alternatives to new school construction. Considering alternatives to new school construction ensures the district assesses viable options before engaging in larger capital improvement projects. To review alternatives, the Committee used the 2010 and 2017 prior studies and considered the following.

- Year 'Round Schools – Multi-track and single track
- Double Shift Schools
- Night School

Based on the research and analysis presented, the Committee determined that while the alternatives may provide temporary relief and/or capacity, in a growing district like Bend-La Pine Schools, the potential alternatives are inferior to well-planned capital construction. The Committee did support the potential of offering a “second” shift of classes (“night school”) as a form of alternative learning schedule for high school students, however they noted that strategy only marginally delays the need for future high school capacity. The Committee further noted that changes resulting in year 'round school options would likely have significant impact on school operations and the community that extends beyond the scope of the Committee's charge. If the Board is interested in year 'round schools, the Committee recommends that the District undertake a community-based process to fully consider and weigh the impacts.

The Committee noted that the studied alternatives could be considered in the event community support for schools diminishes, and/or if growth slows to the point where the referenced options could provide viable long term alternatives to new school construction. However, in the current environment, where schools are generally supported, well-planned capital construction is the preferred solution.

3.3.2 Measures to increase the efficient use of school sites

The Committee also assessed potential measures to increase the efficient use of existing school sites. Like the Alternatives Analysis, this assessment used the 2017 study as the basis for potential measures to increase the efficient use of school sites. In addition to the 2010 and the 2017 study, the Committee consulted Lora Nordquist, Bend-La Pine's Assistant Superintendent, regarding school size and the educational process. The Committee reviewed the 2017 assessment from Steele Associates Architects, LLC regarding school site needs based upon the 2 story buildings: Silver Rail Elementary, Pacific Crest Middle School, and Summit High School. Collectively this data was used to discuss:

- School (Student Enrollment) Size
- School Site and Design Size / Multi-Story
- Multiple Story Design – Redevelopment of Existing School
- Multiple Use of School Sites and Unused Land

School (Student Enrollment) Size:

To accommodate a desired level of instruction/education, while simultaneously ensuring efficient administration and operation of schools, the District has historically built schools that accommodate up to 600 students in elementary, 800 students in middle, and 1,500 students in high school. To understand and assess school size, the Committee was provided with research from Lora Nordquist, Assistant Superintendent. In 2017, Ms. Nordquist evaluated data on school size, design capacity, and the relation to the educational environment. The data looked at six reports/studies/articles pertaining to school size, dating from 2005 to 2015. The results of the studies suggest that there are not definitive findings that would support a “one best size” for students at any level. The literature does suggest that school size can have an impact on “school climate”, which could lead to impacts to academic success and graduation rates. However, the work found that District design capacities (600 at elementary, 800 at middle school and 1,500 at high school) fall in an “average range”, likely on the high end of the range. For 2022, Ms. Nordquist reviewed whether there was any recent data that would alter the prior report, and found none. Based upon the assessment that was reviewed, the Committee agreed that there is nothing to suggest that the District should consider changing the school design capacities at this time. The report is included as Exhibit C.

School Site and Design Size / Multi-Story

To understand school site needs, the Committee considered the data from the prior 2017 Steele Associates assessment (Exhibit D) which evaluated 2 story buildings, including Silver Rail Elementary School, Pacific Crest Middle School, and Summit High School. The analyses, the discussion, and conclusions of the Committee established that the majority of school site requirements are needed for specific purposes, such as District guidelines, code requirements,

access, circulation, parking, drainage, play fields, and sidewalks; thus the majority of school site requirements are fixed.

It is possible to reduce the size of the building envelope portion of the site for multiple story buildings, and the District has done that for schools at all levels. However, the District has found that decreasing only the building envelope results in minor changes to the overall site needs. Based upon current District, City, County, State and Federal requirements, school site should be sized as follows:

- Elementary (600 students / 1 story) – 15 acres
- Elementary (600 students / 2 story) – 12 acres
- Middle (800 students / 2 story) – 25 acres
- High (1,500 students / 2 Story) – 50 acres

Multiple Use of School Sites and Unused Land

Historically, the District has chosen to plan and locate a variety of programs on the same or adjacent sites. In particular, coordinated planning efforts have been undertaken with Bend Metro Parks and Recreation District, La Pine Park District and with the City of Bend. In the Bend area, ten schools are co-developed or jointly located with local or community parks. Four District campuses include multiple schools, including La Pine Elementary/Middle/High Campus, Pilot Butte/Juniper, Lava Ridge/Sky View, and Summit/W.E. Miller/Pacific Crest. Also future shared school locations are anticipated for Caldera High School and High Desert Middle School. A high percentage of Bend-area elementary schools and middle schools are either co-developed with parks or other schools. The site selection criteria that was established by the Committee, continues to encourage the concept of multiple uses for new sites.

Regarding sites that are not fully utilized, the Committee reviewed maps of existing underutilized and undeveloped sites and facilities owned by the District, to determine potential opportunities for uses of existing built and vacant sites. The maps used by the Committee are included in Exhibit E and the recommendations are included in the Highest and Best Use Chapter below (Chapter 5). That section represents ideas the District may want to consider for future use of land.

Chapter 4

Assessment of usage and future needs of the Education Center

The Education Center is located on the south end of downtown Bend and it houses Bend-La Pine Schools' administration offices including the Superintendent's Office, Teaching and Learning, Special Education, Human Resources, Business Office, Nutrition Services, Communication Services, Information Technology, Instructional Technology and Facilities Services. The Education Center also houses student programs and approximately 1/3 of the second floor of the building is leased to the High Desert Education Service District (ESD) through June 30, 2023.

As Bend-La Pine Schools continues to grow, the District anticipates the need for additional space for administration and support services. The current operating plan for the Education Center is to evaluate whether to renew the lease with the ESD when space is needed. Also, if and when appropriate, the District could move the student programs to an alternative site, so that the Education Center could provide administrative space.

Additional information about the Education Center building:

- The site is located downtown next to the Library and City Hall and Thompson Elementary, which currently houses Amity Creek Magnet School.
- The District owns the land from Louisiana Street to Idaho Street, between Wall and Bond Streets.
- District also currently owns the adjacent "Troy Field"
- District owns the Education Center building and the back half of the Boys and Girls Club building. The Bend Park and Recreation District Foundation owns the front half of the Boys and Girls Club building, but the District owns the land underneath the entire building.
- The District has been slowly working to improve the Ed Center building by abating asbestos, replacing windows and flooring, adding cameras and security and generally reconfiguring much of the building for office space.
- The entire property is in the historic district.
- The entire property has the Public Facilities Designation with an underlying PF zoning.
- The District replaced the old maintenance shop behind the Ed Center with a "Utility Shop" to house technology equipment, backup generator(s) and boiler used to heat the Education Center. This area is the "hub" of the network for the entire District.
- The building is highly used by the District for meeting space for large and small groups as well as occasionally for community events. The Boys and Girls Club does use the building grounds (front and back yards) each weekday in the summer for lunch and outdoor activities.
- The District currently does not charge for the use of our parking lot between the Education Center and City Hall. The lot has been posted for use only by Education Center staff and visitors so as to provide adequate parking

After considering the information presented, the Committee determined that building is well sized, well located, and it provides a one-stop shop for District employees. The Committee recognized that the zoning, general plan designation and the historic protections limit the ability for private developers to maximize the use of the property; these conditions could limit the marketability of the property.

Given all of the topics discussed, the committee recommends maintaining the current usage and operating plan; continuing to monitor and assess the needs of the facility, and to consider using the ESD leased space and the student program space if needed.

Chapter 5

Assessment of highest and best use of existing land holdings

The District owns a number of properties that are not currently being utilized to provide student instruction or assist in student instruction. These properties include a mix of large vacant parcels that could accommodate school sites, large lands immediately adjacent to developed District sites that could accommodate another school, and/or smaller remainder parcels immediately adjacent to school sites. The existing land holdings came into the District's ownership a number of different ways, some were acquired to accommodate planned enrollment, some were donated, some are extra areas abutting sites that were acquired and developed to District specifications. The Committee reviewed each of the "existing land holding sites" including a summary of the property from staff and aerial photographs. Current holdings and determinations are listed below:

- Troy Field – Vacant lot near the Education Center.
 - Retain for future use.
- Shevlin Property – Approximately 32 acres in the northwest part of Bend; In the urban area reserve; Approximately 20 acres of the property is relatively flat with the rest sloping to Shevlin Road; Zoned UAR10.
 - Retain for future use
- Vacant land north of Caldera High School – 25 Acres held for future middle school. Zoned RS
 - Retain for future use.
- Pacific Crest Middle School NE Triangle – 1.95 acres inside the UGB; Zoned UAR10 and URA on the comprehensive plan; Located between Summit High and Pacific Crest.
 - Staff should evaluate two options: affordable/employee housing or parking for Summit HS. Staff will present a recommendation to the Board for consideration at a future meeting.
- Silver Rail Elementary NW corner of property –1 acre inside the UGB; Zoned RM and RM on the comprehensive plan.
 - Staff should evaluate three options: affordable/employee housing, collaboration with Bend Metro Park and Recreation District for field use, or the sale and return of the proceeds to the capital fund. Staff will present a recommendation to the Board for consideration at a future meeting.
- High Desert Middle School north triangle – 12+ acres inside the UGB but not annexed; designated Commercial on the comprehensive plan.
 - Staff should evaluate best options for sale of this land and present a recommendation to the Board for consideration at a future meeting.

The remaining land around High Desert Middle School should be held for future District development.

- La Pine north property – 10 acres inside the UGB; Zoned F1 with PF on the comprehensive plan.
 - Hold for future use.

Chapter 6 Summary and Conclusion

As noted above, this document is the final Sites and Facilities Plan. This report summarizes a months-long community based process and provides the following items:

- List of improvements and expansions to existing facilities needed within the next five years
- Capacity and areas of new schools needed in the 20-year planning horizon
- Current usage and future needs of the Education Center
- Highest and best use of existing land holdings

The Bend-La Pine Schools Sites and Facilities Plan is created consistent with ORS 195.115.

EXHIBIT A

Bend-La Pine Schools
Sites and Facilities Project List
June 15,2022

Project Site	Description	Project Cost
Bear Creek Elementary	Fire Alarm System Modernization	158,465
Bear Creek Elementary	Parking Lot and Pedestrian Safety Improvements	4,644,373
Bear Creek Elementary	Classroom Door Hardware Upgrades	310,925
Bear Creek Elementary	Lifeskills Restroom	104,310
Buckingham Elementary	Fire Alarm System Modernization	143,182
Buckingham Elementary	Add Multi-purpose Instructional Space	8,556,491
Buckingham Elementary	Classroom Door Hardware Upgrades	312,569
Elk Meadow Elementary	Classroom Door Hardware Upgrades	84,678
Ensworth Elementary	Fire Alarm System Modernization	99,609
Ensworth Elementary	Classroom Door Hardware Upgrades	53,876
High Lakes Elementary	Replace Roof	3,871,189
High Lakes Elementary	Fire Alarm System Modernization	138,766
High Lakes Elementary	Classroom Climate	20,189
High Lakes Elementary	Classroom Door Hardware Upgrades	84,678
Juniper Elementary	Classroom Door Hardware Upgrades	278,147
Juniper Elementary	Parking Lot and Pedestrian Safety Improvements	190,052
Juniper Elementary	Move main offices to improve student safety. Modernize kitchen and multi-purpose space	10,608,191
Kenwood Elementary	Instructional Space Modernization	222,221
Kenwood Elementary	Classroom Climate	197,862
Kenwood Elementary	Classroom Door Hardware Upgrades	198,763
Kingston Elementary	Fire Alarm System Modernization	81,999
Kingston Elementary	Classroom Door Hardware Upgrades	75,016
La Pine Elementary	Classroom Climate	406,962
La Pine Elementary	Fire Alarm System Modernization	138,343
La Pine Elementary	Classroom Door Hardware Upgrades	84,678
Lava Ridge Elementary	Classroom Door Hardware Upgrades	84,678
Lava Ridge Elementary	Fire Alarm System Modernization	138,296
North Star Elementary	Classroom Climate	12,979
Pine Ridge Elementary	Classroom Door Hardware Upgrades	84,678
Pine Ridge Elementary	Classroom Climate	20,189
Pine Ridge Elementary	Fire Alarm System Modernization	146,199
Ponderosa Elementary	Fire Alarm System Modernization	145,590
Ponderosa Elementary	Classroom Door Hardware Upgrades	82,256
Ponderosa Elementary	Modernize HVAC System	203,476
RE Jewell Elementary	Classroom Climate	33,648
RE Jewell Elementary	Classroom Door Hardware Upgrades	251,382
Rosland Elementary	Classroom Door Hardware Upgrades	70,719
Rosland Elementary	Classroom Climate	287,450
Rosland Elementary	Modernize HVAC System	203,476
Silver Rail Elementary	Classroom Door Hardware Upgrades	271,801
Thompson Elementary	Fire Alarm System Modernization	42,471
Thompson Elementary	Classroom Door Hardware Upgrades	39,781
Three Rivers Elementary	Fire Alarm System Modernization	178,587
Three Rivers Elementary	Classroom Climate	525,347
Three Rivers Elementary	Classroom Door Hardware Upgrades	251,243
WE Miller Elementary	Fire Alarm System Modernization	143,309
WE Miller Elementary	Parking Lot and Pedestrian Safety Improvements	229,731
WE Miller Elementary	Classroom Climate	367,666
WE Miller Elementary	Classroom Door Hardware Upgrades	82,256
WE Miller Elementary	Modernize HVAC System	203,476
Cascade Middle	Classroom Door Hardware Upgrades	403,200
High Desert Middle	Fire Alarm System Modernization	239,679
High Desert Middle	Classroom Door Hardware Upgrades	82,833
La Pine Middle	Fire Alarm System Modernization	318,971
La Pine Middle	Classroom Door Hardware Upgrades	377,496
Pacific Crest Middle	Classroom Door Hardware Upgrades	58,087
Pilot Butte Middle	Parking Lot and Pedestrian Safety Improvements	148,389
Pilot Butte Middle	Classroom Door Hardware Upgrades	8,710
Sky View Middle	Replace Roof	5,524,841
Sky View Middle	Fire Alarm System Modernization	261,316
Sky View Middle	Add Multi-purpose Instructional Space	13,556,210

EXHIBIT A

Bend-La Pine Schools
Sites and Facilities Project List
June 15,2022

Project Site	Description	Project Cost
Sky View Middle	Classroom Door Hardware Upgrades	227,934
Bend Senior High	Replace Roof	464,274
Bend Senior High	Demolition of Bend High's Oldest Buildings	3,141,744
Bend Senior High	Prepare the Bend High Site for Replacement School Buildings	2,529,242
Bend Senior High	Construction of Modernized School Buildings at Bend High	148,046,308
Bend Senior High	Required Site Improvements at Bend High	24,496,558
La Pine High	Replace Roof	869,861
La Pine High	Fire Alarm System Modernization	318,971
La Pine High	Classroom Door Hardware Upgrades	318,547
La Pine High	Classroom Door Hardware Upgrades	36,052
La Pine High	La Pine High Campus Master Plan	117,015
Marshall High	Replace Roof	81,116
Marshall High	Classroom Door Hardware Upgrades	191,940
Marshall High	Classroom Door Hardware Upgrades	30,283
Mountain View High	Fire Alarm System Modernization	517,154
Mountain View High	Classroom Door Hardware Upgrades	633,398
Summit High	Fire Alarm System Modernization	543,842
Summit High	Modernize Tennis Courts	656,899
Summit High	Classroom Door Hardware Upgrades	444,042
Summit High	Classroom Door Hardware Upgrades	43,262
Bend Transportation	Parking Lot and Pedestrian Safety Improvements	181,701
Bend Transportation	Parking Lot and Pedestrian Safety Improvements	156,406
District-Wide Projects	Parking Lot and Pedestrian Safety Improvements	1,000,000
District-Wide Projects	Technology Modernization	4,984,014
Education Center	Seismic Reinforcements	2,586,623
Education Center	Fire Alarm System Modernization	155,047
Education Center	Accessibility Improvements	221,221
La Pine Transportation	Modernize School Bus Dispatch Center	590,265
		249,729,668

Summary by Description

Description	
Fire Alarm System Modernization	3,909,796
Parking Lot and Pedestrian Safety Improvements	6,550,652
Classroom Door Hardware Upgrades	5,557,908
Lifeskills Restroom	104,310
Add Multi-purpose Instructional Space	22,112,701
Replace Roof	10,811,281
Classroom Climate	1,872,292
Move main offices to improve student safety. Modernize kitchen and multi-purpose space	10,608,191
Instructional Space Modernization	222,221
Modernize HVAC System	610,427
Demolition of Bend High's Oldest Buildings	3,141,744
Prepare the Bend High Site for Replacement School Buildings	2,529,242
Construction of Modernized School Buildings at Bend High	148,046,308
Required Site Improvements at Bend High	24,496,558
La Pine High Campus Master Plan	117,015
Modernize Tennis Courts	656,899
Technology Modernization	4,984,014
Seismic Reinforcements	2,586,623
Accessibility Improvements	221,221
Modernize School Bus Dispatch Center	590,265
	249,729,668

**BEND-LAPINE SCHOOLS
ENROLLMENT FORECASTS
2022-23 TO 2041-42**



FEBRUARY, 2022

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**BEND-LAPINE SCHOOLS
ENROLLMENT FORECASTS
2022-23 TO 2041-42**

**Prepared By
Population Research Center
Portland State University**

FEBRUARY, 2022

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EXECUTIVE SUMMARY

This report presents the results of a demographic study conducted by the Portland State University Population Research Center (PRC) for Bend-La Pine Schools (BLS). The study includes analyses of population, housing and enrollment trends affecting the District in recent years, summaries of current and future housing development within BLS, and annual forecasts of district-wide enrollment for the 20-year period from 2022-23 to 2041-42 and individual school enrollments for the 10-year period from 2022-23 to 2031-32. District-wide high, middle, and low forecasts for 2022-23 differ by how many of the students who left BLS schools during the COVID-19 pandemic will return. Longer-run forecasts differ by expected migration levels and the shares of BLS kindergarten-age residents enrolling in BLS kindergartens.

Population and Housing Trends

- BLS added nearly 28,000 residents between the 2000 and 2010 censuses, and just over 29,000 between 2010 and 2020, reaching a 2020 population of 136,534.
- The District's population of children under age 18 grew by 4,807 between 2000 and 2010 and 3,403 between 2010 and 2020.
- While the number of births in both Oregon and the U.S. in 2020 were the lowest annually since the 1980s, the number of births to BLS residents each year has been relatively stable since 2009 due to area population growth.
- The number of vacant or seasonal homes in BLS increased by 4,758 between 2000 and 2010, before falling by 1,431 by 2020. At the time of the 2010 Census the housing crisis left many homes in foreclosure, or built but not occupied. When homebuilding rebounded after 2010 it was a response to Bend's growing population, with fewer homes built as second homes or speculation.

District-wide Enrollment Trends

- BLS enrolled 17,500 K-12 students in fall 2021, a decrease of 111 students (0.6 percent) from fall 2020. It was the second consecutive annual enrollment decline related to the COVID-19 pandemic, though much smaller than the extreme loss of 1,061 students (5.7 percent) seen between fall 2019 and fall 2020.
- The fall 2021 kindergarten class of 1,144 students was 20 students larger than the fall 2020 kindergarten count, and the 1st grade class of 1,252 students was 128 students larger than the previous year's kindergarten class.
- Comparing fall 2021 to pre-pandemic enrollment two years earlier, there were net losses of 703 students (8.6 percent) in grades K-5 and 551 students (12.0 percent) in grades 6-8.
- Grades 9-12 reached a record enrollment of 6,005 students following a net gain of 82 students between fall 2019 and fall 2021.

District-wide Population Forecasts

- The *middle series* forecast predicts that net migration will remain at or above its 2010s level. However, deaths outnumber births by the end of the 2020s, resulting in slightly less growth than the 29,148 added between 2010 and 2020.
- Growth of about 26,900 per decade in the middle series results in a BLS population of 190,322 in 2040.
- Due to the age structure of the population as well as low fertility rates, school-age population is expected to continue to grow at a slower rate than total population.

District-wide Middle Series Enrollment Forecasts

- In the *middle series* forecast, overall K-12 enrollment is expected to rebound by 367 students in 2022-23, then add another 1,600 students by 2031-32.
- Growth is initially slow, averaging just 0.7 percent annually between 2022-23 and 2029-30.
- Near the end of the 2020s, kindergarten enrollments finally surpass their recent (2019-20) peak, ushering in a period of faster growth. For the remainder of the forecast horizon from 2029-30 to 2041-42 K-12 enrollment growth averages 1.4 percent annually.

District-wide Low Series Enrollment Forecasts

- The number of kindergarten students in 2022-23 is unchanged from 2021-22 in the *low series* forecast, and overall K-12 enrollment increases by only 62 students.
- Total K-12 enrollment doesn't completely recover to its pre-pandemic level until 2034 due to capture rates and net migration remaining below historic norms.

District-wide High Series Enrollment Forecasts

- BLS kindergarten enrollment in 2022-23 of 1,250 students is 106 students larger than fall 2021 enrollment under the high series forecast.
- Overall K-12 enrollment in 2022-23 grows by 719 students in 2022-23, and another 2,100 by 2031-32, consistent with rapid housing growth and in-migration.

Figures 1 and 2 summarize the district-wide K-12 forecasts. Details of the enrollment forecasts are presented in Figure 12 on page 26 and in Appendix A for the District. Forecasts for individual schools consistent with the district-wide middle series are presented in Figure 13 on pages 30-31.

Figure 1
Historic and Forecast K-12 Enrollment
Low, Middle, and High Scenarios
Bend - La Pine Schools

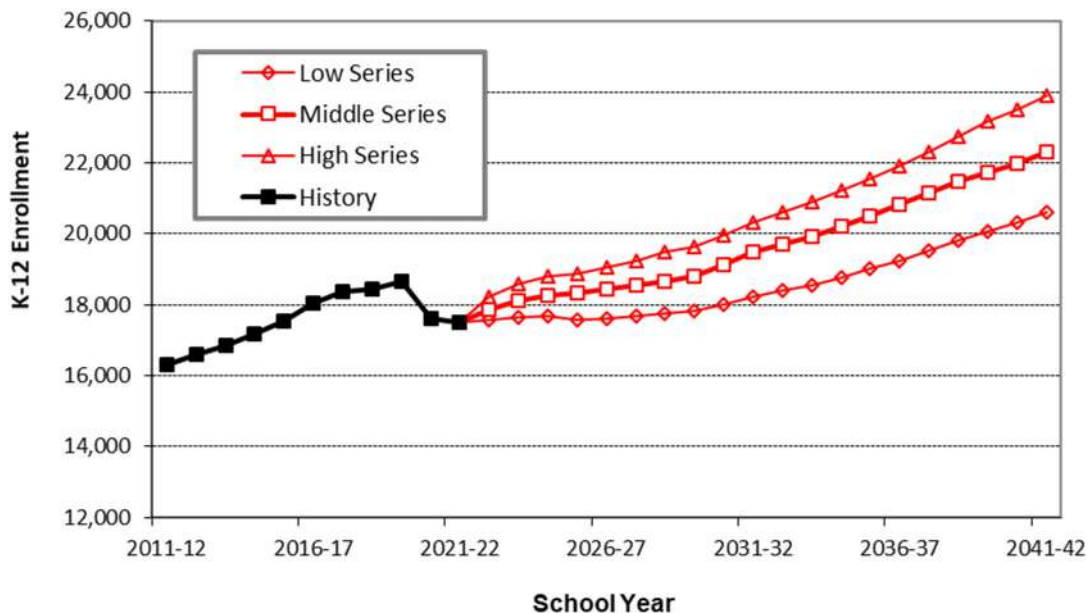
School Year	LOW		MIDDLE		HIGH	
	Enroll-ment	5 year growth	Enroll-ment	5 year growth	Enroll-ment	5 year growth
2011-12	16,300		16,300		16,300	
2016-17	18,029	1,729	18,029	1,729	18,029	1,729
2021-22	17,500	-529	17,500	-529	17,500	-529
2026-27 (fcst.)	17,607	107	18,429	929	19,039	1,539
2031-32 (fcst.)	18,209	602	19,475	1,046	20,300	1,261
2036-37 (fcst.)	19,246	1,037	20,807	1,332	21,891	1,591
2041-42 (fcst.)	20,593	1,347	22,311	1,504	23,898	2,007
AAEG *, 2011-12 to 2041-42	0.8%		1.2%		1.6%	

**Note: Average Annual Enrollment Growth.*

Historic: Bend - La Pine Schools.

Forecast: Population Research Center, PSU, November 2021.

Figure 2
Bend - La Pine Schools K-12 Enrollment History and Forecasts



INTRODUCTION

The Portland State University Population Research Center (PRC) has prepared enrollment forecasts for Bend–La Pine Schools (BLS). This report updates BLS enrollment history and local area population, housing, and economic trends, and presents new district-wide forecasts for a 20-year horizon from 2022-23 to 2041-42 and individual school forecasts for a 10-year horizon from 2022-23 to 2031-32. Information sources include the U.S. Census Bureau, birth data from the Oregon Center for Health Statistics, and population forecasts for Deschutes County and the Bend and La Pine Urban Growth Boundary (UGB) areas produced by PRC. It also uses housing development data from the City of Bend, City of La Pine, and Deschutes County.

The District’s boundaries include the Cities of Bend and La Pine, along with a large portion of unincorporated Deschutes County. The District is entirely within Deschutes County.

Following this introduction are sections presenting recent population, housing, and enrollment trends within the District. Next are the results of the district-wide middle series enrollment forecasts and a description of the methodology used to produce them. The final section contains a brief discussion of the nature and accuracy of forecasts. Appendix A includes details of three district-wide forecasts consistent with low, middle, and high assumptions about future net migration. Appendix B includes a summary profile of population, housing, social, and economic characteristics from the Census Bureau’s American Community Survey.

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POPULATION AND HOUSING TRENDS

The BLS added nearly 28,000 residents between the 2000 and 2010 censuses, and just over 29,000 between 2010 and 2020 censuses. It has grown at about the same rate as Deschutes County overall, and its 69 percent share of county population in 2020 was identical to its 2000 share. Figure 3 includes population for the District, also showing the populations of the cities of Bend and La Pine and the number of BLS residents in the unincorporated remainder of the District in each of the past three decennial censuses. Since 2000 the City of Bend has grown faster than the balance of the District, increasing its share of BLS population from 65.5 percent in 2000 to 72.6 percent in 2020.

Between 2000 and 2010 the District's population of children under age 18 grew by 4,807, from 19,388 to 24,195, an average annual growth rate (AAGR) of 2.2 percent, which was slower than the total population AAGR of 3.1 percent. The under 18 population reached 27,598 in 2020, having grown by 3,403 from 2010, for an AAGR of 1.3 percent, once again slower than overall population growth. Unfortunately, more detailed age categories have not yet been published from the 2020 Census.

Figure 3
District, City, and County Population, 2000, 2010, and 2020

	2000 Census	2010 Census	2020 Census	Avg. Annual Growth Rate	
				2000-2010	2010-2020
Bend - La Pine Schools	79,455	107,386	136,534	3.1%	2.4%
City of Bend	52,029	76,639	99,178	3.9%	2.6%
City of La Pine*	N/A	1,653	2,512	N/A	4.3%
Remainder of District	27,426	29,094	34,844	0.6%	1.8%
Deschutes County	115,367	157,733	198,253	3.2%	2.3%

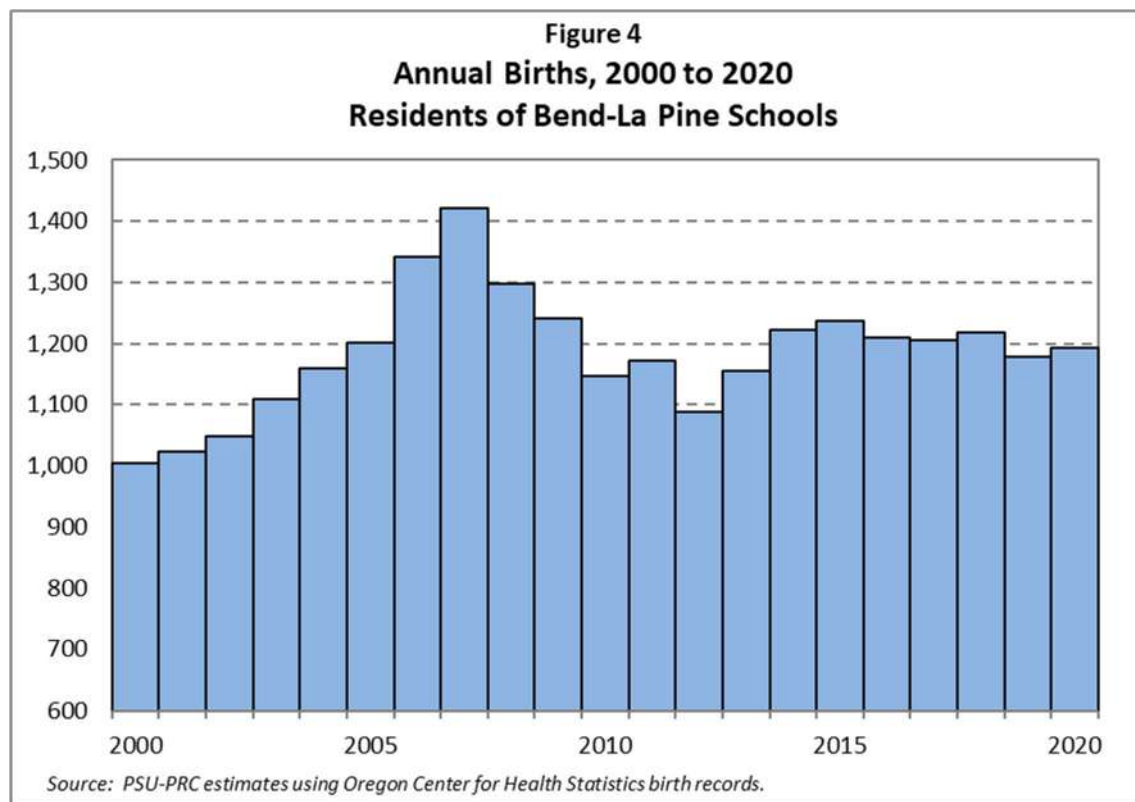
The City of La Pine was incorporated in 2006.

Sources: U.S. Census Bureau, compiled by Population Research Center, PSU.

Births

The number of births to women residing within the District peaked in the 2006 to 2008 period, just as it did nationally and statewide. Figure 4 shows the absolute peak at over 1,400 in 2007. Beginning in 2009 annual birth totals have been lower, but they have

remained relatively stable, averaging about 1,200 per year, and exceed the annual figures from the early 2000s. Although fertility rates have fallen, the rapid population growth seen in BLS has prevented the baby bust experienced in most other parts of the state and nation. Births in calendar year 2020 reached new 21st Century lows in Oregon (fewest since 1987), and in the U.S. (fewest since 1980)¹. In the “Enrollment Forecasts” section of this report we will examine the relationship between births, migration, and subsequent school enrollments.



Year	2000	2001	2002	2003	2004	2005	2006	2007
Births	1,004	1,023	1,049	1,109	1,160	1,202	1,342	1,422
Year	2008	2009	2010	2011	2012	2013	2014	2015
Births	1,297	1,242	1,146	1,172	1,089	1,156	1,223	1,236
Year	2016	2017	2018	2019	2020			
Births	1,210	1,206	1,218	1,179	1,193			

¹ “Births in the United States, 2020, NCHS Data Brief No. 418, September 2021; [Oregon Vital Statistics Annual Report](#), Oregon Health Authority, Center for Health Statistics.

Housing

In this section we present information about housing development within BLS in chronological order. First, 20 years of district-wide housing growth based on census data (Figure 5) and 21 years of City of Bend building permits (Figure 6) show historic trends. Next, building permits by high school attendance area for 2020 and 2021 (Figure 7) show housing construction currently underway. We also compiled building permit data by elementary attendance area, informing our short-term (one to two year) forecasts for individual schools. We gathered land use application records from the cities of Bend and La Pine to account for subdivisions by status — finalized, approved but not yet finalized, and pending but not yet approved. These we also compiled by attendance area, informing our mid-term (roughly three to five year) forecasts. Finally, master plans approved, pending, or under development informed our long-term (five to twenty year) forecasts.

Figure 5 shows that the District added nearly as many households (occupied housing units) in the 2010s as in the 2000s, despite adding fewer housing units in the decade. Prior to the Great Recession of the late 2000s there was an increase in seasonal and vacation homes. Also, at the time of the 2010 Census the housing crisis left many homes in foreclosure, or built but not occupied. The vacancy rate includes homes that were not occupied as a primary residence on census day for any reason, and is typically much higher than the share of homes actually available for sale or rent, indicating a tighter housing market in 2020 compared with 2000 or 2010.

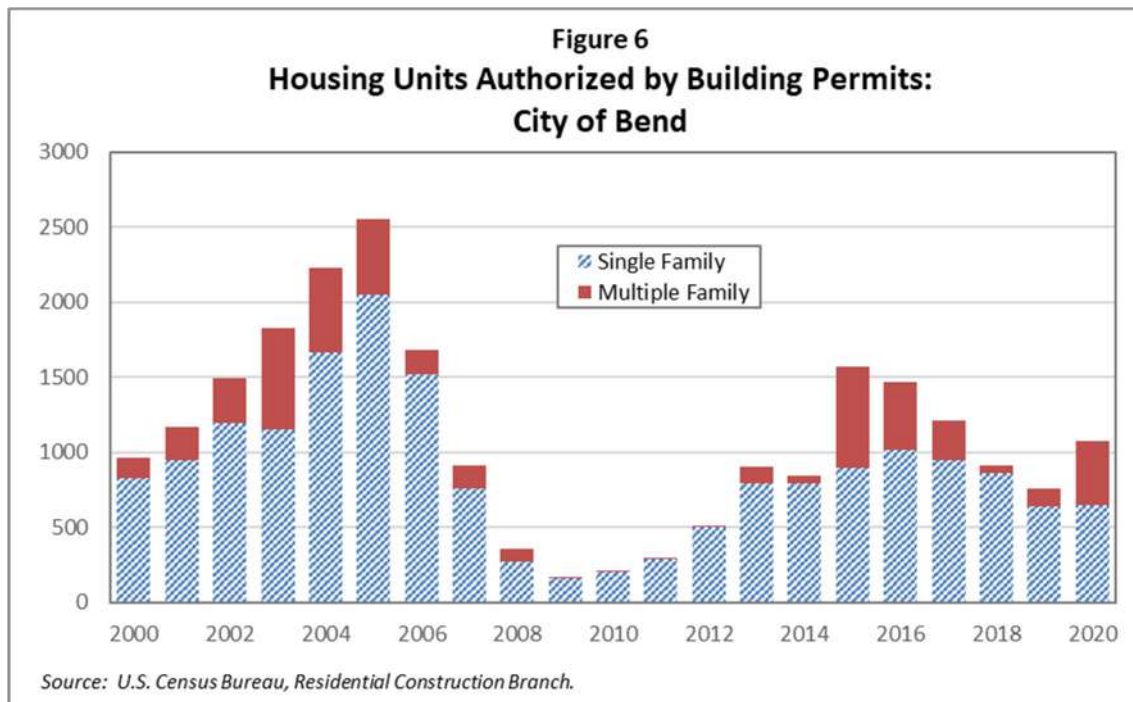
Figure 6 depicts the ramping up of housing construction in the City of Bend prior to the Great Recession. The peak in permits two years before the recession began suggests that overbuilding had occurred and developers were becoming more cautious. However, once the recession hit, homebuilding nearly came to a halt, with 2009 seeing the fewest permits of any year so far this century. The annual average of 232 single family homes permitted between 2008 and 2011 was less than one fifth of the 2000 to 2007 average. A rebound beginning in 2012 has included both single- and multi-family housing, at a

slower pace than in the early 2000s, presumably as a response to Bend's growing population with fewer built as second homes and speculation.

Figure 5
Bend-La Pine Schools
Housing and Household Characteristics, 2000, 2010, and 2020

	2000	2010	2020	Change	
				00-'10	'10-'20
Housing Units	38,258	55,578	65,794	17,320	10,216
Households	31,676	44,238	55,885	12,562	11,647
Households with children < 18 <i>share of total</i>	10,702 34%	13,350 30%	N/A N/A	2,648	N/A
Vacant or Seasonal <i>vacancy rate</i>	6,582 17%	11,340 20%	9,909 15%	4,758	-1,431
Household Population	78,374	106,512	135,072	28,138	28,560
Persons per Household	2.47	2.41	2.42	-0.07	0.01

Source: U.S. Census Bureau. Household composition has not yet been published from the 2020 Census.



Current housing development is distributed widely throughout the District. Figure 7 shows that permits for more than 100 single family homes were issued in the attendance areas of each of BLS' five high schools in both 2020 and 2021. Among the District's

elementary attendance areas, the largest number of new single-family homes are in the Silver Rail, R.E. Jewell, Jack Ensworth, Lava Ridge, North Star, Three Rivers, La Pine, and Rosland areas. Each of these attendance areas included more than 100 homes permitted in the 22 months from January 2020 to October 2021.

Figure 7 also tallies multi-family units. However, many of the permits are for accessory dwelling units, which we include with multi-family units, or for market-rate one- and two-bedroom apartments, not expected to be home to many school-age children. One exception is Stillwater Crossing, 240 units of one, two, and three-bedroom apartments for households making up to 60 percent or less of the area's median income levels, permitted in late 2020 and early 2021, and nearing completion in the Elk Meadow Elementary attendance area (Cascade Middle and Caldera High).

Figure 7 Housing Units Permitted by High School Attendance Area 2020 and 2021²				
High School Attendance Area	Single Family Units		Multi-Family Units ¹	
	2020	2021 ²	2020	2021 ²
BEND HIGH	119	149	190	101
CALDERA	116	124	101	148
CHOICE AREA	90	94	0	0
LA PINE HIGH	143	194	6	52
MOUNTAIN VIEW	172	181	265	219
SUMMIT	200	216	468	33

1. Includes finalized permits for duplexes and accessory dwelling units, and issued permits for apartment units.

2. City of Bend permits through October 15th 2021; Outside of City of Bend permits issued through November 16th 2021.

Sources: City of Bend Community Development Department; Construction Monitor LLC. Assigned to attendance areas by PSU-PRC.

Not included in Figure 7 are several developments for which permits were pending as of December 2021. High, middle, and elementary attendance areas are shown for each.

- Bear Creek Crossing, 176 one, two, and three-bedroom units, and Daly Estates, 57 three-bedroom townhouse units. (BEND HIGH / PILOT BUTTE / BEAR CREEK)

- Canal Commons Two, 48 one, two, and three-bedroom apartments for households making up to 60 percent or less of the area's median income levels. (MOUNTAIN VIEW / SKY VIEW / PONDEROSA)
- Britta Hills Apartments, 116 units including 34 one-bedroom units, 70 two-bedroom units, and 12 three-bedroom units. (MOUNTAIN VIEW / SKY VIEW / NORTH STAR)
- COCC Campus Village Multifamily Housing, 186 units including 46 one-bedroom, 110 two-bedroom, and 30 three-bedroom units. (SUMMIT / PACIFIC CREST / HIGH LAKES)
- 365 Reed Market Apartments, 48 two-bedroom units. (BEND HIGH / PILOT BUTTE / SILVER RAIL)

There are more than 1,000 lots in subdivisions that were recorded in 2021. Roughly 200 of these lots are located in each of five elementary attendance areas: Silver Rail, R.E. Jewell, La Pine, Ponderosa, and W.E. Miller.

Several large master planned developments have been recently approved. The following summary indicates the current high, middle, and elementary attendance areas for each development:

- Discovery West, Treeline, Area #3, and Shevlin West (one area, multiple projects) – 967 units, for owner and renter occupancy, estimated completion next five years. (SUMMIT / PACIFIC CREST / W.E. MILLER)
- Petrosa – 1,101 total units, owner and renter occupancy, estimated completion next five to ten years. (MOUNTAIN VIEW / SKY VIEW / PONDEROSA)
- Easton – 409 total units, owner and renter occupancy, estimated completion next five years.² (CALDERA / HIGH DESERT / SILVER RAIL)
- Southeast Area Plan – planned capacity for 1,231 total units, for owner and renter occupancy, estimated completion TBD.³ (CALDERA / HIGH DESERT / SILVER RAIL)

² See developer website at <https://eastonbend.com/>.

³ See <https://www.bendoregon.gov/government/departments/growth-management/land-use-planning/southeast-area-plan>.

- Stevens Ranch Master Plan – 1,710 total units, for owner and renter occupancy. Estimated completion next five to 10 years.⁴ (BEND HIGH / HIGH DESERT / SILVER RAIL)

As of December 2021, another master plan was pending but not yet approved:

- Talline Major Community Master Plan and Annexation. Talline provides capacity for roughly 266 future homes, including 176 lots for future detached single-unit homes, 48 lots for future townhomes, and 42 units of future plex/multi-unit housing. (SUMMIT / PACIFIC CREST / HIGH LAKES)

Two additional master plans are in development. Neither area is within the current urban growth boundary (UGB).

- North Triangle – planned capacity for 505 housing units, owner and renter occupancy. No schedule for development yet. Development team preparing master plan for area. (MOUNTAIN VIEW / SKY VIEW / NORTH STAR)
- East Stevens Road Concept Plan – concept plan in development, will include at least 20 acres of land for deed-restricted affordable housing. No maximum numbers of units or schedule for completion yet. Master planning underway per 2021 HB 3318.⁵ (BEND HIGH / HIGH DESERT / SILVER RAIL)

⁴ See <https://www.bendoregon.gov/Home/Components/News/News/4835/1499>.

⁵ See <https://www.bendoregon.gov/government/departments/growth-management/what-we-re-working-on/stevens-road-tract-concept-plan#ad-image-0>.

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ENROLLMENT TRENDS

BLS enrolled 17,500 K-12 students in fall 2021, a decrease of 111 students (0.6 percent) from fall 2020. It was the second consecutive annual enrollment decline related to the COVID-19 pandemic, though much smaller than the extreme loss of 1,061 students (5.7 percent) seen between fall 2019 and fall 2020.

Despite the K-12 loss, there were positive signs. The fall 2021 kindergarten class of 1,144 students was 20 students larger than the previous fall kindergarten count, and the 0.95 ratio of kindergarten to cohort births was greater than the fall 2020 ratio of 0.90.⁶ The 1st grade class of 1,252 students was 128 students larger than the previous year's kindergarten class, a significantly larger cohort increase than the average of 74 students during the four years after full-day kindergarten was fully implemented and before the pandemic. Other elementary cohorts were stable, with a net of just five more students in fall 2021 2nd-5th grades compared with 1st to 4th grades the previous year.

Comparing fall 2021 to pre-pandemic enrollment two years earlier, there were net losses of 703 students (8.6 percent) in grades K-5 and 551 students (12.0 percent) in grades 6-8. In contrast, grades 9-12 reached a record enrollment of 6,005 students following a net gain of 82 students between fall 2019 and fall 2021.

Figure 8 includes district-wide enrollment by grade level annually for the past 10 years, from 2011-12 to 2021-22.

⁶ The ratio of kindergarten to cohort births compares fall enrollment to lagged births to women residing within BLS, e.g. fall 2021 kindergarten divided by the number of births between September 2015 and August 2016 — children with a 5th birthday in the 12 months before September 1, 2021.

Figure 8
Bend - La Pine Schools, Enrollment History, 2011-12 to 2021-22

Grade	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
K	1,209	1,260	1,253	1,170	1,238	1,230	1,253	1,236	1,279	1,124	1,144
1	1,206	1,269	1,314	1,331	1,263	1,332	1,314	1,302	1,303	1,222	1,252
2	1,250	1,243	1,319	1,385	1,374	1,308	1,382	1,367	1,310	1,226	1,243
3	1,246	1,268	1,258	1,341	1,426	1,433	1,366	1,402	1,415	1,265	1,230
4	1,215	1,278	1,290	1,288	1,366	1,485	1,477	1,400	1,429	1,346	1,265
5	1,180	1,223	1,300	1,319	1,337	1,429	1,524	1,481	1,427	1,350	1,326
6	1,238	1,219	1,263	1,319	1,364	1,387	1,510	1,554	1,502	1,377	1,329
7	1,214	1,286	1,244	1,300	1,337	1,410	1,408	1,502	1,562	1,399	1,335
8	1,218	1,242	1,284	1,250	1,317	1,384	1,422	1,423	1,522	1,497	1,371
9	1,390	1,313	1,350	1,374	1,354	1,442	1,449	1,494	1,491	1,550	1,586
10	1,315	1,328	1,389	1,339	1,388	1,370	1,439	1,453	1,492	1,445	1,521
11	1,335	1,263	1,329	1,377	1,373	1,438	1,359	1,418	1,487	1,429	1,436
12	1,284	1,408	1,270	1,370	1,397	1,381	1,470	1,396	1,453	1,381	1,462
Total	16,300	16,600	16,863	17,163	17,534	18,029	18,373	18,428	18,672	17,611	17,500
<i>Annual change</i>		300 1.8%	263 1.6%	300 1.8%	371 2.2%	495 2.8%	344 1.9%	55 0.3%	244 1.3%	-1,061 -5.7%	-111 -0.6%
K-5	7,306	7,541	7,734	7,834	8,004	8,217	8,316	8,188	8,163	7,533	7,460
6-8	3,670	3,747	3,791	3,869	4,018	4,181	4,340	4,479	4,586	4,273	4,035
9-12	5,324	5,312	5,338	5,460	5,512	5,631	5,717	5,761	5,923	5,805	6,005

	5 Year Change: 2011-12 to 2016-17		5 Year Change: 2016-17 to 2021-22		10 Year Change: 2011-12 to 2021-22	
	Change	Pct.	Change	Pct.	Change	Pct.
K-5	911	12%	-757	-9%	154	2%
6-8	511	14%	-146	-4%	365	10%
9-12	307	6%	374	7%	681	13%
Total	1,729	11%	-529	-3%	1,200	7%

Source: Bend-La Pine School District

ENROLLMENT FORECASTS

Three scenarios are presented for district-wide enrollment, with key differences in near- and long-range assumptions. For 2022-23, the low forecast assumes that current enrollment in 2021-22 is the new status quo, with cohort growth at other grades reflecting long term averages but not incorporating a return of “missing” students. The middle series anticipates a moderate return in 2022-23, and the high forecast models a substantial, though less than complete return of students to District schools in 2022-23. As in previous forecasts, the long-range forecasts differ in their assumptions about migration and kindergarten capture rates, with differences amplified by the assumptions about students returning in 2022-23.⁷

District-wide Long-range Forecast Methodology

To ensure that enrollment forecasts are consistent with the dynamics of likely population growth within the District, we combine the grade progression enrollment model with a demographic cohort-component model used to forecast population for the District by age and sex. The components of population change are births, deaths, and migration. Using age-specific fertility rates, age-sex specific mortality rates, age-sex specific migration rates, estimates of recent net migration levels, and forecasts of future migration levels, each component is applied to the base year population in a manner that simulates the actual dynamics of population change. In addition to the middle series, or most likely, population and enrollment forecasts, we also prepared high and low series forecasts with alternative assumptions about future net migration.

⁷ At the District level, capture rates refer to the ratio of students enrolled in BLS schools to the total population residing in the District. For example, kindergarten enrollment divided by population age 5. For individual schools, capture rates refer to the ratio of enrollment at a neighborhood school to the number of students residing in the attendance area enrolled in any school in the school district.

Detailed age and sex data from the 2020 Census has been delayed and is not expected until late 2022. Therefore, the 2000 and 2010 Census results are still being used as a baseline for the population forecasts. By “surviving” the 2000 population and 2000s births (estimating the population in each age group that would survive to the year 2010) and comparing the “survived” population to the actual 2010 population by age group, we were able to estimate the overall level of net migration between 2000 and 2010 as well as net migration by gender and age cohort. The net migration data was used to develop initial net migration rates, which were used as a baseline for rates used to forecast net migration for the 2010 to 2040 period.

We estimated the number of births to women residing within the District from 1999 to August 2021, using data from the Oregon Department of Human Services, Center for Health Statistics. Detailed information including the age of mothers is used to calculate fertility rates by age group.

The total fertility rate (TFR) is an estimate of the number of children that would be born to the average woman during her child-bearing years based on age- specific fertility rates observed at a given time. We estimate that the TFR for BLS residents decreased from 1.95 in 2000 to 1.67 in 2010. Based on national trends and BLS births observed through 2020, we adjusted the 2010 age-specific fertility rates, decreasing rates for women under 30 and increasing rates for women age 30 and older. These adjustments result in a decrease in TFR to 1.41 in 2020. Additional small increases to rates for women age 20 and older result in a TFR of 1.45 for 2025 and beyond. The same set of future fertility rates were used in all three forecast scenarios, but the number of births varies between scenarios due to differences in the populations of women in child-bearing ages.

School enrollment is linked to the population forecast in two ways. First, the kindergarten and first grade enrollments at the time of the 2010 census (the 2009-10 school year) are compared to the population at the appropriate ages counted in the census. The “capture rate,” or ratio of enrollment to population, is an estimate of the share of area children who are enrolled in BLS schools. Assumptions for capture rates based on census data are

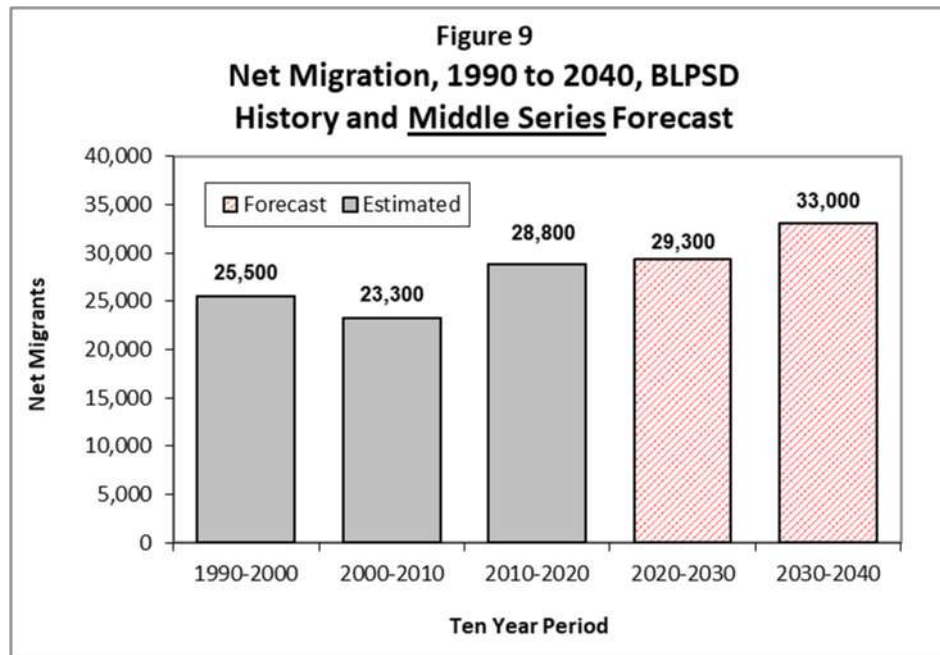
used to bring new kindergarten and first grade students into the District's enrollment. In the middle series forecast the kindergarten capture rate recovers to 0.82 in 2022-23, and settles at 0.83 in 2025-26 and beyond, indicating that 17 percent of BLS kindergarten age residents may be enrolled in private or charter schools, or homeschooled.

The other way that historic population and enrollment are linked is through migration. Annual changes in school enrollment by cohort closely follow trends in the net migration of children in the District's population. Once the students are in first grade, a set of baseline grade progression rates (GPRs) are used to move students from one grade to the next. Grade progression rates are the ratio of enrollment in an individual grade to enrollment in the previous grade the previous year. Baseline rates, usually 1.00 for elementary grades, represent a scenario under which there is no change due to migration. Enrollment change beyond the baseline is added (or subtracted, if appropriate) at each grade level depending on the migration levels of the overall population by single years of age.

District-wide Population Forecasts

Net migration between 2010 and 2020 (people moving into the District minus those moving out) is estimated to have been higher than in the 2000s or 1990s, while natural increase (births minus deaths) was lower due to an aging population and lower fertility. The middle series forecast predicts that net migration will remain at or above its 2010s level. However, deaths outnumber births by the end of the 2020s, resulting in slightly less growth than the 29,148 added in the 2010s. Growth of about 26,900 per decade results in a BLS population of 190,322 in 2040.

Figure 9 shows the 1990 to 2020 estimates and 2020 to 2040 forecasts of BLS population growth attributable to net migration under the middle series. Forecasts of net migration under the high and low series are presented in charts in Appendix A.



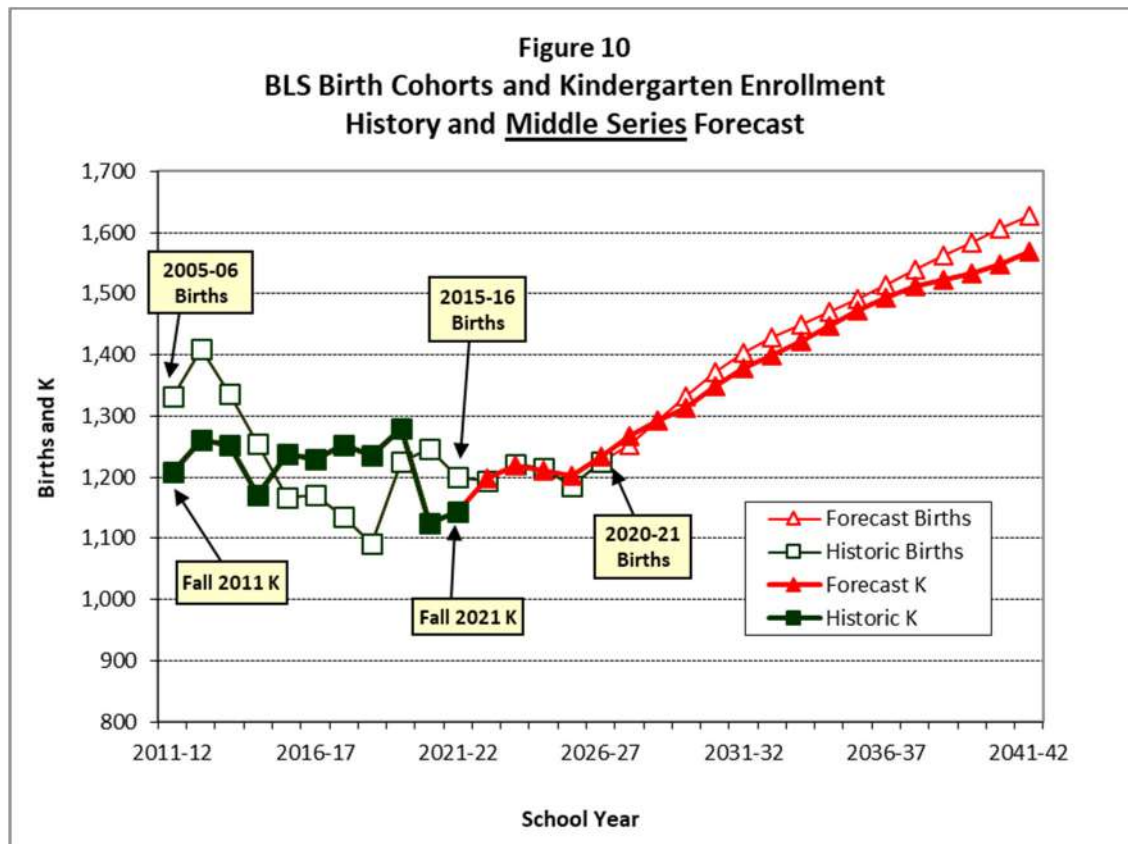
Period	1990-2000	2000-2010	2010-2020	2020-2030	2030-2040
Net Migrants	25,500	23,300	28,800	29,300	33,000

District-wide Enrollment Forecasts

Births are compiled by kindergarten cohorts (September to August). The difference between lagged births and BLS kindergarten enrollment represents a combination of net migration and the kindergarten capture rate, because many children move into and out of the District between birth and age five and not all residents attend BLS kindergartens. Due to fluctuations in migration and capture rates, births can't perfectly predict future kindergarten enrollments. However, over the last 18 years the ratio of kindergarten enrollment to resident births five years earlier has never been below 0.89 or above 1.11. In years of rapid population growth, ratios above 1.00 mean that kindergarten enrollment exceeds cohort births, even though not all five-year-olds enroll in District schools. Ratios below 1.00 resulted from the Great Recession and the COVID-19 pandemic.

Figure 10 aligns historic and middle series forecast births and kindergarten enrollment. Preliminary 2021 birth data reveal an increase from 2020, which continues throughout

the forecast period as BLS population grows. Forecasts of births and kindergarten enrollment under the high and low series are presented in charts in Appendix A.

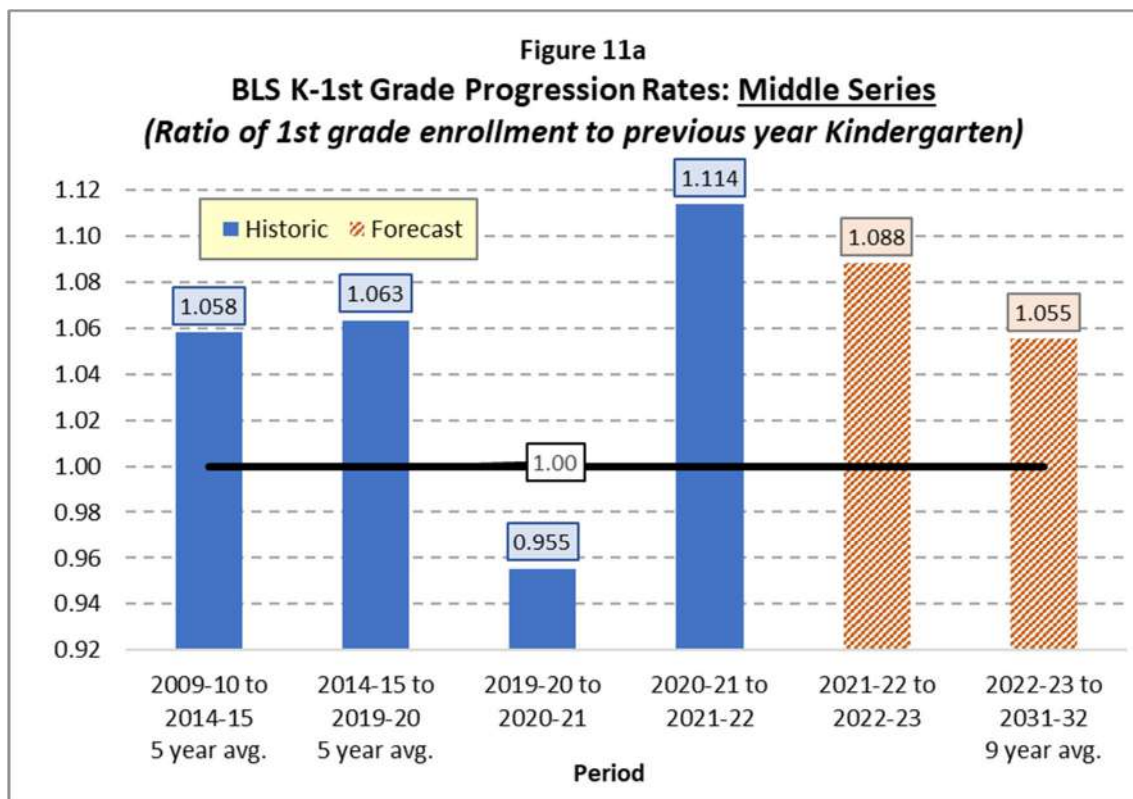


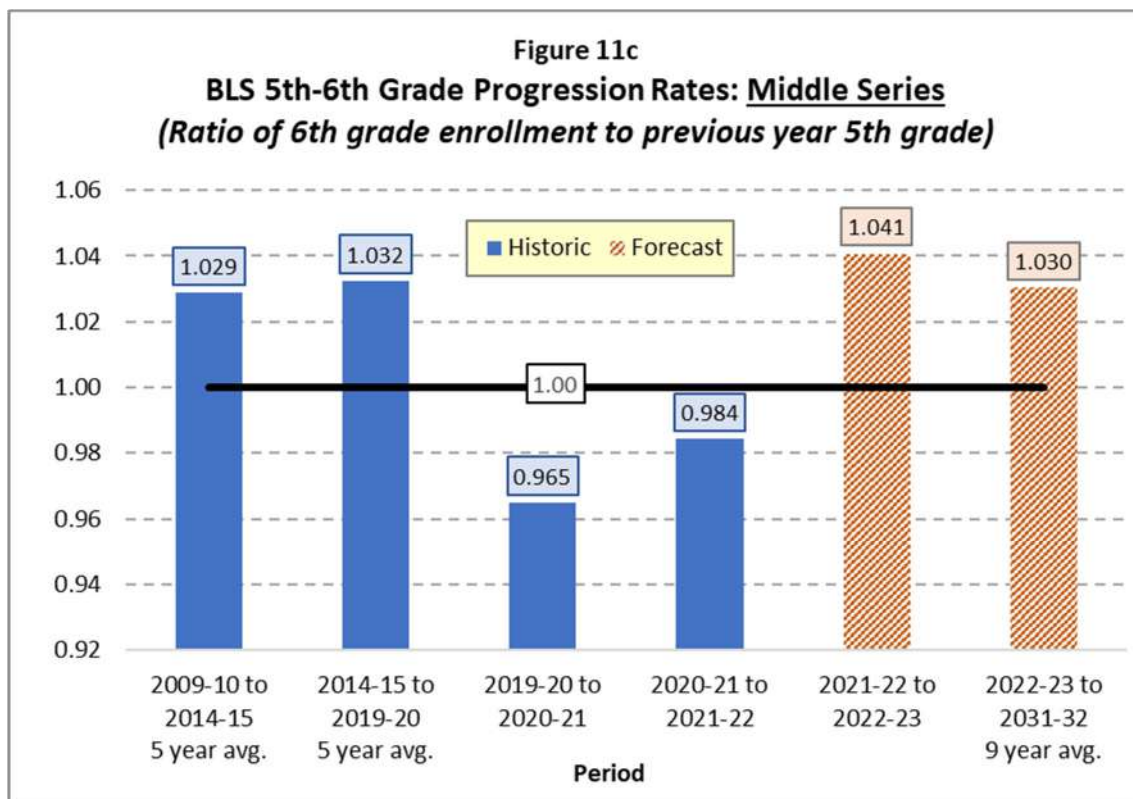
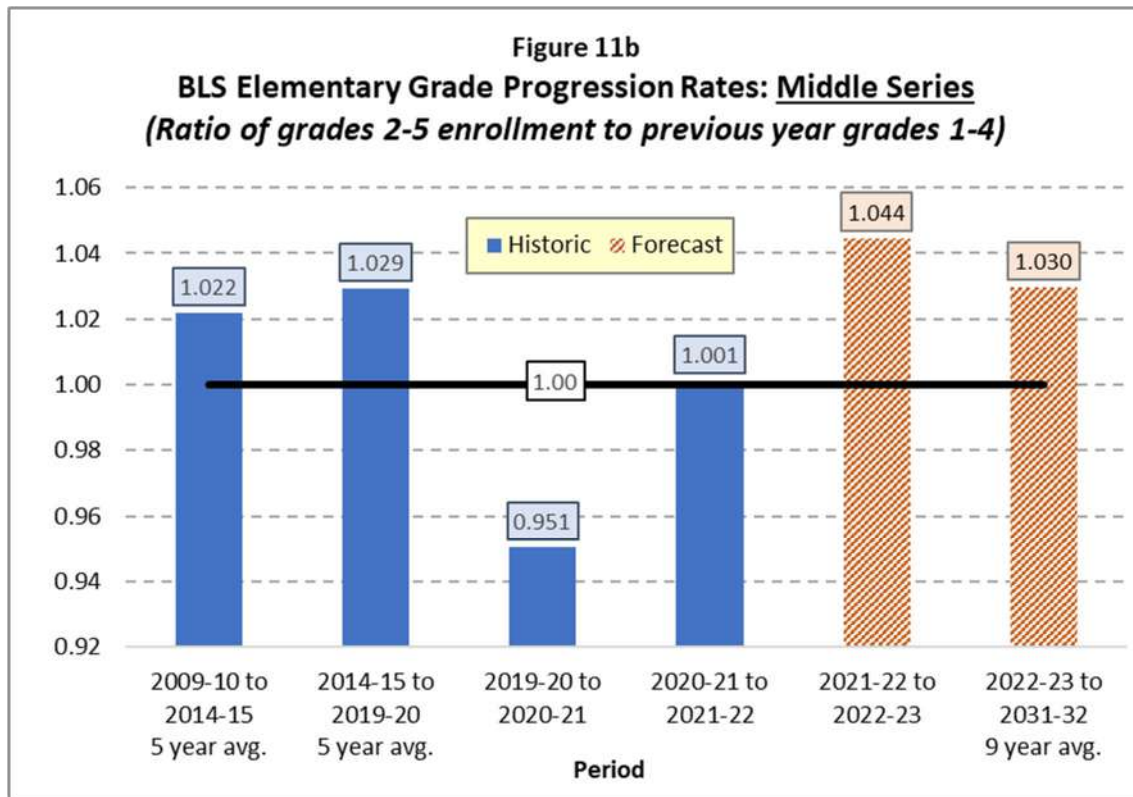
A series of four charts, Figures 11a-11d, show how cohorts progress through BLS schools once they reach kindergarten. Ratios are shown for the transition from kindergarten to 1st grade, for an average of other elementary grades, and for the transitions from elementary to middle and middle to high schools. The columns in each chart depict four historic periods —consecutive five-year periods covering the 2010s decade, the initial pandemic decline between fall 2019 and fall 2020, and the cohort rebound observed in the current school year.

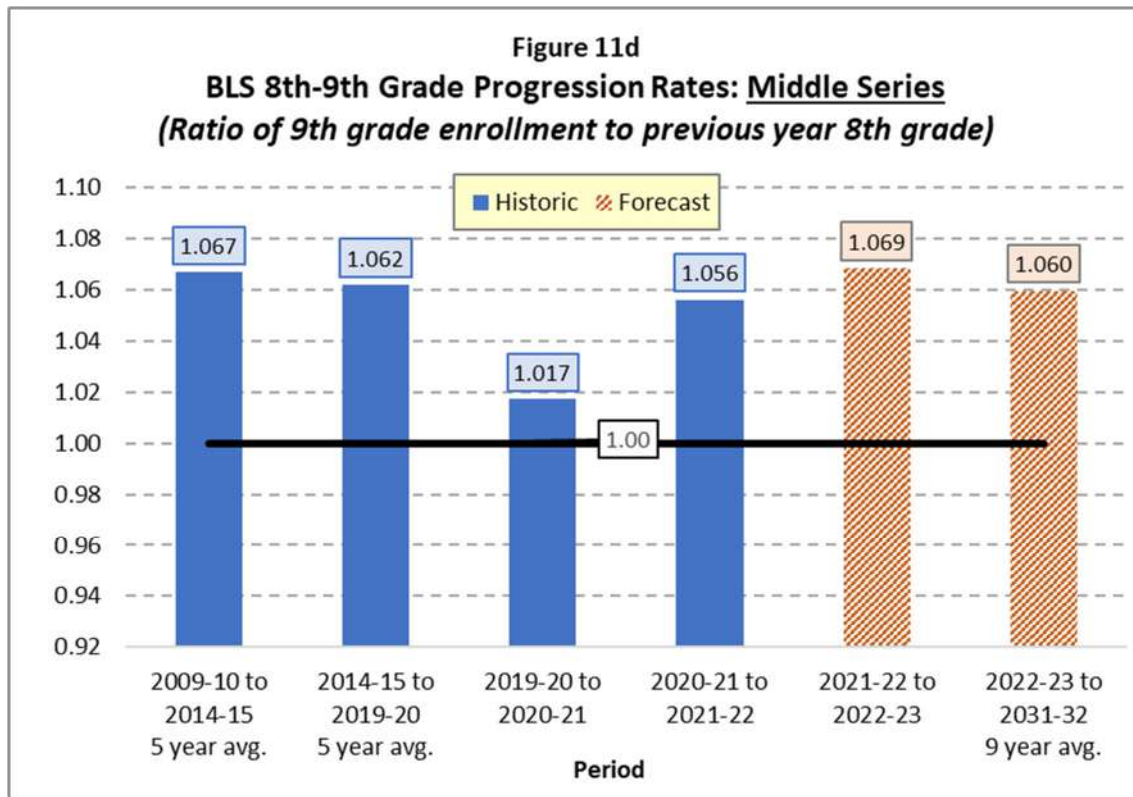
Five-year average rates in the 2014-2019 period were generally higher than during the 2009 to 2014 period when the region was recovering from the recession, though both periods show significant cohort growth. The 2019-20 to 2020-21 columns show cohort losses for elementary and middle grades caused by the COVID-19 pandemic. For example,

the ratio of 0.955 for the K-1 transition means that there were 4.5 percent fewer 1st graders in fall 2020 than kindergarteners in fall 2019, a big loss considering that there had typically been increases of more than five percent. In contrast to the big losses of 2020-21, rates for the current year, 2021-22, show a large recovery between kindergarten and 1st grade, relative stability, though no growth, in the cohorts entering 2nd through 6th grade, and a return to typical grade progression between 8th and 9th grade.

The two columns in each chart depicting the middle series forecasts show the one year forecast for 2022-23, when the return of some students who left BLS during the pandemic boosts GPRs above historic rates, and the average of the next nine years from 2022-23 to 2031-32, when rates settle into the typical ranges seen historically as BLS population continuous to grow.







The number of kindergarten students in 2022-23 is unchanged from 2021-22 in the *low series* forecast, and overall K-12 enrollment increases by only 62 students. Each school level is relatively stable, with one-year growth of just one-half of a percent or less. K-12 enrollments grow slowly for the next several years before accelerating later in the forecast. Total K-12 enrollment doesn't completely recover to its pre-pandemic level until 2034 in the low series forecast due to capture rates and net migration remaining below historic norms.

In the *middle series* forecast, overall K-12 enrollment is expected to rebound by 367 students in 2022-23, then add another 1,600 students by 2031-32. Growth is initially slow, averaging just 0.7 percent annually between 2022-23 and 2029-30. Near the end of the 2020s, kindergarten enrollments finally surpass their recent (2019-20) peak, ushering in a period of faster growth. For the remainder of the forecast horizon from 2029-30 to 2041-42 K-12 enrollment growth averages 1.4 percent annually.

A significant rebound in enrollment at all grades in 2022-23 is evident in the *high series* forecast, beginning with kindergarten, which enrolls 1,250 students — similar to average enrollment before the pandemic and 106 students larger than fall 2021 enrollment. The 1st grade class size of 1,284 reflects the return of students who were eligible but not enrolled in BLS kindergartens in 2021-22, and corresponds to a K-1 GPR of 1.122, similar to the 2020-21 to 2021-22 GPR. Net growth of cohorts entering each grade from 2nd through 8th averages 77 students. Overall K-12 enrollment in 2022-23 grows by 719 students in 2022-23, and another 2,100 by 2031-32, consistent with rapid housing growth and in-migration.

Figure 12 contains district-wide forecasts by school level under the three scenarios for a 10-year horizon ending in 2031-32. Annual forecasts by individual grades for a 20-year horizon ending in 2041-42 are included in Appendix A.

Figure 12

Bend-La Pine Schools, Enrollment Forecasts by School Level, 2022-23 to 2031-32

		LOW SERIES FORECAST						CHANGE FROM 2021-22		
Grade	Actual 2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2031-32	One Year	Five Years	Ten Years
K-5	7,460	7,473	7,534	7,602	7,579	7,524	7,996	13	64	536
6-8	4,035	4,053	4,070	4,080	4,093	4,199	4,110	18	164	75
9-12	6,005	6,036	6,055	5,991	5,894	5,884	6,103	31	-121	98
Total	17,500	17,562	17,659	17,673	17,566	17,607	18,209	62	107	709
<i>Annual change</i>		62	97	14	-107	41	120			
		0.4%	0.6%	0.1%	-0.6%	0.2%	0.7%			

		MIDDLE SERIES FORECAST						CHANGE FROM 2021-22		
Grade	Actual 2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2031-32	One Year	Five Years	Ten Years
K-5	7,460	7,656	7,814	7,957	8,031	8,018	8,595	196	558	1,135
6-8	4,035	4,113	4,157	4,191	4,247	4,354	4,453	78	319	418
9-12	6,005	6,098	6,148	6,107	6,049	6,057	6,427	93	52	422
Total	17,500	17,867	18,119	18,255	18,327	18,429	19,475	367	929	1,975
<i>Annual change</i>		367	252	136	72	102	209			
		2.1%	1.4%	0.8%	0.4%	0.6%	1.1%			

		HIGH SERIES FORECAST						CHANGE FROM 2021-22		
Grade	Actual 2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2031-32	One Year	Five Years	Ten Years
K-5	7,460	7,860	8,088	8,292	8,392	8,414	9,044	400	954	1,584
6-8	4,035	4,191	4,248	4,292	4,334	4,451	4,638	156	416	603
9-12	6,005	6,168	6,236	6,217	6,160	6,174	6,618	163	169	613
Total	17,500	18,219	18,572	18,801	18,886	19,039	20,300	719	1,539	2,800
<i>Annual change</i>		719	353	229	85	153	252			
		4.1%	1.9%	1.2%	0.5%	0.8%	1.3%			

Population Research Center, Portland State University, November 2021.

Individual School Forecasts

Forecasts for individual schools are prepared under a scenario in which current boundaries and grade configurations remain constant. School districts typically respond to enrollment change in various ways that might alter the status quo, such as attendance area boundary changes, opening new schools, or offering special programs. If new charter or private schools open, enrollment at District-run schools may be affected. However, the individual school forecasts depict what future enrollments might be under current conditions.

Because of recent boundary changes as well as the COVID-19 enrollment declines, enrollment trends at individual schools were inadequate to use as a base for the forecasts. For example, Caldera High School opened in 2021, and North Star Elementary opened in 2019, necessitating boundary adjustments at other schools. Our solution was to assign student points to current attendance areas based on home addresses, and prepare forecasts of all BLS kindergarten to 9th grade students residing in each area, regardless of what BLS school that they attend. We then calculated historic capture rates for each year from 2016-17 to 2021-22 for incoming school grades K, 6th, and 9th by dividing enrollment at neighborhood schools by the number of BLS residents in the attendance area. Future capture rates were forecast as the average of the three most recent years, adjusted as needed due to boundary changes, trends, or anomalies.

Before any individual school forecasts were prepared, a complete set of K-9th grade forecasts by resident attendance area was compiled. This was a geographically top-down process in which forecasts were first prepared for high school attendance areas (HSAAs), controlled to match the district-wide middle series forecast, then for whole or partial elementary school areas (ESAAs), controlled to the forecasts for the HSAA that they are nested within. For elementary schools split by a high school or middle school boundary, forecasts were prepared for each part.

Kindergarten resident forecasts for each HSAA were based on their historic shares of district-wide kindergarten enrollment, with very little future deviation among HSAA's due to how widely housing development is spread throughout the district. For residents in 1st to 9th grade, initial GPRs were based on an average of the three pre-pandemic years ending in 2019-20, adjusted as needed to account for outliers and to bring initial forecasts close to the control totals. Unique GPRs were developed for three forecast periods to account for more cohort growth in the near term as enrollment recovers from the pandemic. The highest rates are generally for the 2021-22 to 2022-23 transition, while two other sets of rates cover the three-year period from 2022-23 to 2025-26 and the balance of the forecast from 2025-26 to 2041-42.

Similar methodology is used for kindergarten forecasts for ESAAs, except that future growth differs significantly in both timing and magnitude among ESAAs. We used the housing development information compiled from permits and land use applications to adjust future ESAA kindergarten shares of HSAA kindergarten enrollment as well as GPRs for students entering 1st through 9th grades.

Once the resident K-9th grade forecasts were established, forecasts for individual schools were prepared. For neighborhood schools, future kindergarten (for elementary schools), 6th grade (for middle schools), and 9th grade (for high schools) capture rates defaulted to an average of the three years from 2019-20 to 2021-22, and GPRs for other grades defaulted to the resident GPR for each grade, with manual adjustments as needed. Non-neighborhood schools, those without assigned attendance areas, generally didn't lose enrollment during the pandemic, so their default entry grade enrollment was based on either 2021-22 enrollment or an average of the three most recent years, and GPRs for other grades defaulted to an average of the most recent five years.

The number of potential new homes and their location are important factors for the allocation of district-wide growth to individual schools, particularly when large new developments are underway. The building permit and land use application data presented in the Population, Housing, and Employment Trends section are valuable

resources for judging the relative short- and long-term growth potential among individual schools. However, another driver of “growth” will simply be recovery from the enrollment losses of the past two years. If students return to BLS schools, as anticipated in the district-wide middle and high forecasts, schools that lost students during the pandemic may see future enrollment well above 2021-22 levels, even without housing growth.

Figure 13 includes annual enrollment forecasts for each school for the 10-year period from 2022-23 to 2031-32.

Figure 13

Bend - La Pine Schools, Individual School Forecasts, 2022-23 to 2031-32

School	Actual 2021-22	Forecast										10 year change	Percent change
		2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31	2031-32		
Amity Creek Elementary	140	144	147	152	152	158	159	159	159	159	159	19	14%
Bear Creek Elementary	537	556	569	579	577	581	557	549	539	548	561	24	4%
Buckingham Elementary	386	387	394	398	404	399	420	420	421	428	436	50	13%
Elk Meadow Elementary	447	477	507	516	513	517	524	529	530	535	545	98	22%
High Lakes Elementary	482	479	458	457	462	461	456	463	471	491	508	26	5%
Highland Elementary	368	376	382	388	389	389	389	389	389	389	389	21	6%
Jack Ensworth Elementary	164	174	189	192	191	196	195	196	198	204	210	46	28%
Juniper Elementary	411	422	421	444	461	453	443	438	432	437	448	37	9%
La Pine Elementary	335	347	373	392	404	399	402	405	406	419	435	100	30%
Lava Ridge Elementary	410	403	413	407	410	403	418	420	424	435	450	40	10%
North Star Elementary	288	317	337	354	358	375	372	380	386	397	410	122	42%
Pine Ridge Elementary	510	539	566	577	573	566	555	558	563	575	594	84	16%
Ponderosa Elementary	434	463	478	480	491	482	477	483	490	506	528	94	22%
R.E. Jewell Elementary	421	431	444	447	456	460	461	465	470	481	496	75	18%
Rosland Elementary	232	246	256	256	249	252	258	261	267	273	279	47	20%
Silver Rail Elementary	441	454	454	471	485	491	510	524	546	583	627	186	42%
Three Rivers Elementary (K-5)	263	276	279	285	280	287	281	277	277	284	288	25	10%
Westside Village Magnet (K-5)	145	143	151	155	156	160	166	166	166	166	166	21	14%
William E Miller Elementary	503	520	523	536	550	518	530	536	545	561	585	82	16%
Elementary Totals	6,917	7,154	7,341	7,486	7,561	7,547	7,573	7,618	7,679	7,871	8,114	1,197	17%
Cascade Middle	631	642	655	657	672	698	715	723	715	728	724	93	15%
High Desert Middle	714	732	743	748	762	774	764	757	777	800	802	88	12%
La Pine Middle	299	298	298	340	359	371	368	360	349	347	347	48	16%
Pacific Crest Middle	605	606	640	622	629	650	668	673	643	627	630	25	4%
Pilot Butte Middle	647	680	682	659	632	655	689	725	722	728	721	74	11%
Realms Middle	144	147	147	146	146	149	149	147	141	139	138	-6	-4%

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Population Research Center, Portland State University, December 2021

Figure 13 (continued)

Bend - La Pine Schools, Individual School Forecasts, 2022-23 to 2031-32

School	Actual 2021-22	Forecast										10 year change	Percent change
		2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31	2031-32		
Sky View Middle	583	600	593	624	646	665	671	670	681	684	683	100	17%
Three Rivers Elementary (6-8)	148	155	157	156	173	166	178	173	179	176	173	25	17%
Westside Village Magnet (6-8)	85	82	73	68	65	69	67	68	71	77	77	-8	-9%
Middle School Totals	3,856	3,942	3,988	4,020	4,084	4,197	4,269	4,296	4,278	4,306	4,295	439	11%
Bend High School	1,340	1,218	1,054	1,027	1,065	1,087	1,081	1,089	1,100	1,119	1,171	-169	-13%
Caldera High School	670	1,000	1,291	1,333	1,283	1,258	1,260	1,292	1,270	1,293	1,319	649	97%
La Pine High School	418	431	464	454	460	468	476	505	521	527	519	101	24%
Marshall High School	129	156	176	185	185	185	185	185	185	185	185	56	43%
Mountain View High School	1,203	1,229	1,258	1,237	1,241	1,227	1,221	1,241	1,252	1,304	1,338	135	11%
Realms High School	194	185	190	182	182	182	182	182	182	182	182	-12	-6%
Summit High School	1,529	1,432	1,315	1,312	1,261	1,275	1,289	1,252	1,317	1,330	1,353	-176	-12%
High School Totals	5,483	5,651	5,748	5,730	5,677	5,682	5,694	5,746	5,827	5,940	6,067	584	11%
Bend-La Pine Online (K-12)	525	391	305	276	257	254	255	259	254	248	247	-278	-53%
Other programs (K-12)	70	70	70	70	70	70	70	70	70	70	70	0	0%
Other School Totals	595	461	375	346	327	324	325	329	324	318	317	-278	-47%
District-run School Totals	16,851	17,208	17,452	17,582	17,649	17,750	17,861	17,989	18,108	18,435	18,793	1,942	12%
Bend International Chr. (K-8)	218	216	217	216	217	217	217	219	219	219	219	1	0%
Desert Sky Montessori Chr. (K-6)	167	179	186	193	197	198	198	199	199	199	199	32	19%
COIC (9-12)	98	98	98	98	98	98	98	98	98	98	98	0	0%
J Bar J (9-12)	38	38	38	38	38	38	38	38	38	38	38	0	0%
Oregon Youth Challenge (9-12)	128	128	128	128	128	128	128	128	128	128	128	0	0%
Charter and Spec. Programs	649	659	667	673	678	679	679	682	682	682	682	33	5%
GRAND TOTAL	17,500	17,867	18,119	18,255	18,327	18,429	18,540	18,671	18,790	19,117	19,475	1,975	11%

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FORECAST ERROR AND UNCERTAINTY

The best way to measure potential forecast error is to compare actual enrollments with previous forecasts that were conducted using similar data and methodologies. The most recent PRC forecasts for the BLS were prepared in November 2014. Actual fall 2021 enrollment fell short of those forecasts, but the comparison is fraught due to the impact of COVID-19 on enrollment. Therefore, we evaluate previous forecasts against fall 2019 enrollment.

Total K-12 enrollment observed in fall 2019 was between the middle and high district-wide forecasts prepared in 2014. The middle series was closest, at 321 students (1.7 percent) below actual enrollment. While the K-12 error was small, forecasts for individual grades were less accurate. The five new classes entering BLS after the forecast was prepared, those in K-4th grades in fall 2019, were an average of 99 students larger than the middle series, and each exceeded even the high series forecast. In contrast, enrollment in six of the eight grades from 5th to 12th fell below the middle series, though all were larger than the low series. The average absolute error for grades 5 to 12 in the middle series was 28 students (1.2 percent).

PRC also forecast BLS enrollments in December 2009 and February 2012. Each of these included just one scenario, comparable to a middle series forecast. The K-12 totals for fall 2019 in these older forecasts were even closer to actual enrollment than the November 2014 series. The eight-year forecast with base year enrollment in 2011-12 was 281 students (1.5 percent) higher than actual fall 2019 enrollment, while the 10-year forecast with a base year of 2009-10 was just 132 students (0.7 percent) higher.

In Figure 14, actual BLS enrollment by grade level in fall 2019, the most recent pre-pandemic year, is compared with the 2019-20 forecasts prepared in November 2014. As a measure of average error for grade levels, the mean absolute percentage error (MAPE) is included in the table.

Figure 14
Bend-LaPine School District
Forecast Accuracy by Grade Level, 2019-20 Enrollments

Grade	Actual 2019-20	2019-20 Five Year Enrollment Forecast Scenarios*					
		Low		Middle		High	
		Fcst.	Error	Fcst.	Error	Fcst.	Error
K	1,279	1,148	-10.2%	1,200	-6.2%	1,248	-2.4%
1	1,303	1,116	-14.4%	1,175	-9.8%	1,219	-6.4%
2	1,310	1,175	-10.3%	1,238	-5.5%	1,296	-1.1%
3	1,415	1,225	-13.4%	1,289	-8.9%	1,352	-4.5%
4	1,429	1,275	-10.8%	1,341	-6.2%	1,405	-1.7%
5	1,427	1,361	-4.6%	1,410	-1.2%	1,476	3.4%
6	1,502	1,495	-0.5%	1,555	3.5%	1,613	7.4%
7	1,562	1,533	-1.9%	1,591	1.9%	1,648	5.5%
8	1,522	1,461	-4.0%	1,513	-0.6%	1,565	2.8%
9	1,491	1,465	-1.7%	1,514	1.5%	1,567	5.1%
10	1,492	1,491	-0.1%	1,541	3.3%	1,600	7.2%
11	1,487	1,461	-1.7%	1,511	1.6%	1,568	5.4%
12	1,453	1,418	-2.4%	1,473	1.4%	1,531	5.4%
Total	18,672	17,624	-5.6%	18,351	-1.7%	19,088	2.2%
Mean Absolute Pct. Error			5.8%		4.0%		4.5%

**Note: Base Year 2014-15*

APPENDIX A

DISTRICT-WIDE POPULATION AND ENROLLMENT FORECASTS

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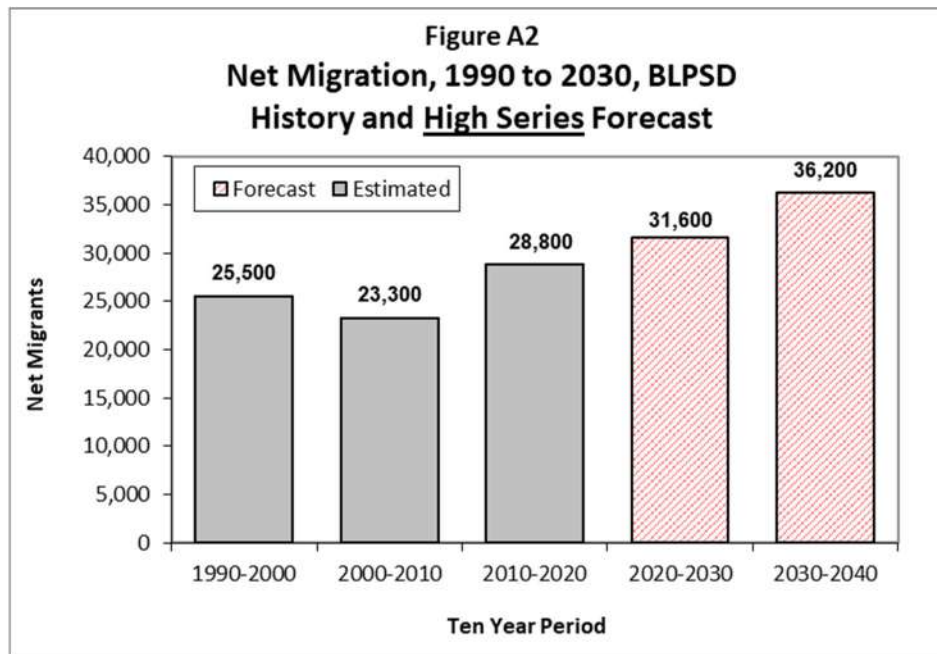
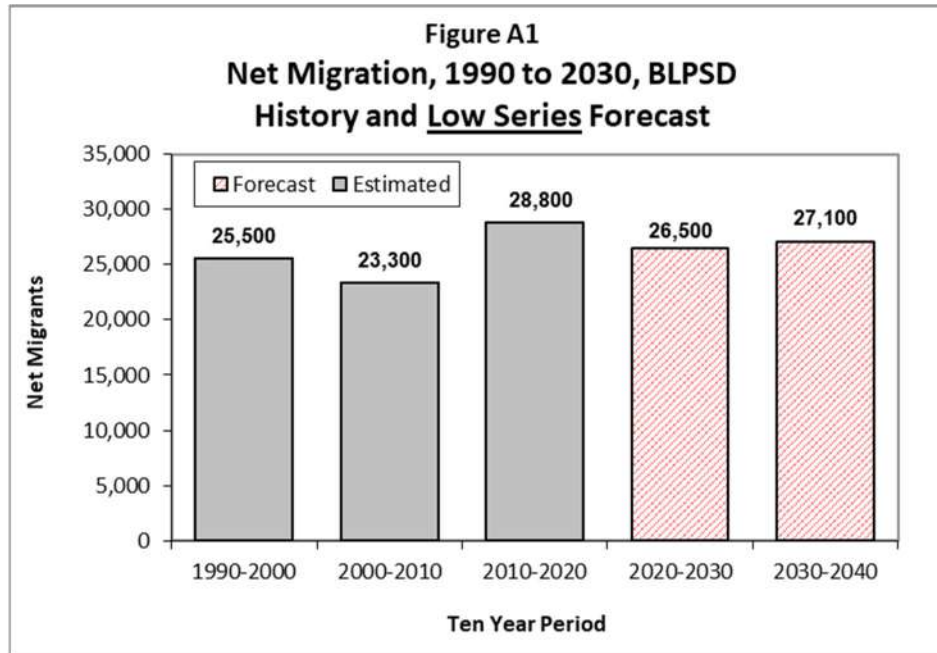


Figure A3
BLS Birth Cohorts and Kindergarten Enrollment
History and Low Series Forecast

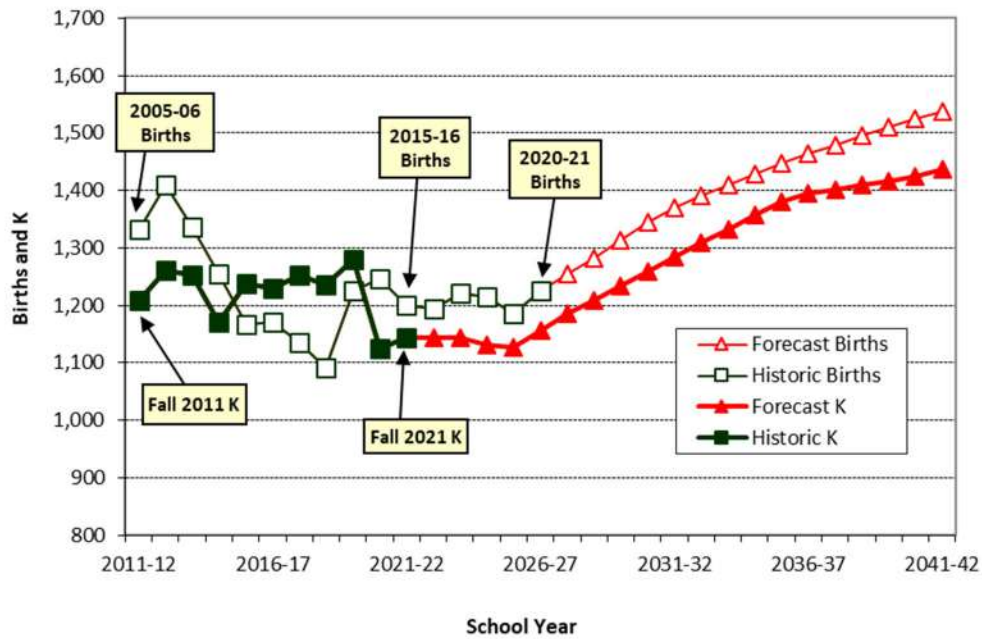


Figure A4
BLS Birth Cohorts and Kindergarten Enrollment
History and High Series Forecast

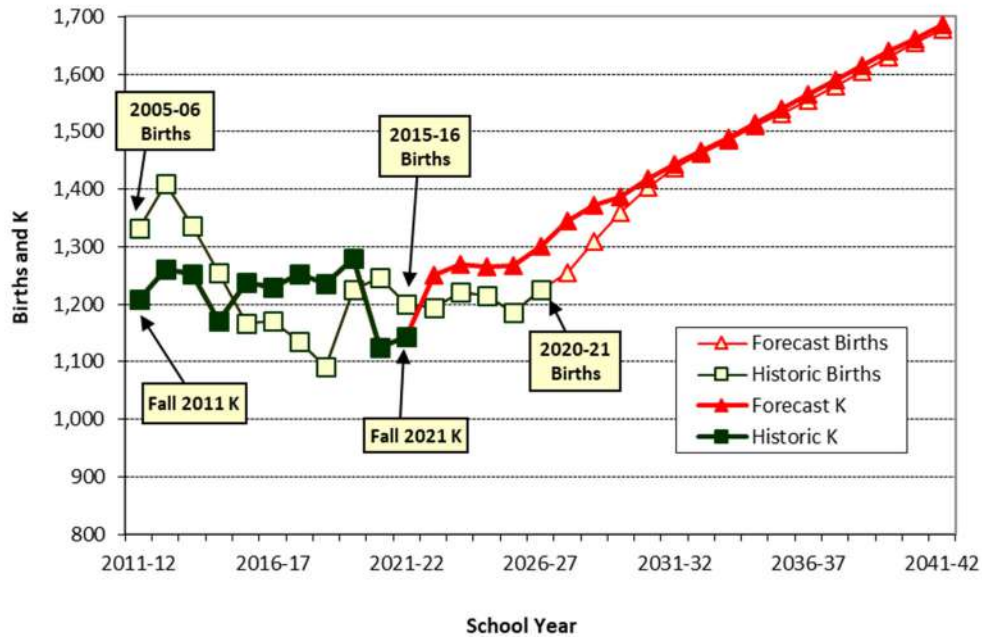


Table A5

Bend - La Pine Schools, Low Series Enrollment Forecasts, 2022-23 to 2041-42

Actual		Forecast									
Grade	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31	2031-32
K	1,144	1,144	1,143	1,131	1,127	1,156	1,185	1,209	1,233	1,259	1,283
1	1,252	1,202	1,206	1,207	1,188	1,185	1,212	1,243	1,268	1,297	1,324
2	1,243	1,297	1,248	1,256	1,250	1,231	1,225	1,252	1,284	1,314	1,344
3	1,230	1,275	1,334	1,287	1,288	1,282	1,259	1,253	1,281	1,318	1,349
4	1,265	1,260	1,310	1,374	1,319	1,320	1,311	1,287	1,281	1,313	1,351
5	1,326	1,295	1,293	1,347	1,407	1,350	1,348	1,339	1,315	1,312	1,345
6	1,329	1,357	1,329	1,330	1,379	1,440	1,379	1,377	1,367	1,347	1,344
7	1,335	1,345	1,377	1,351	1,347	1,396	1,455	1,393	1,391	1,385	1,364
8	1,371	1,351	1,364	1,399	1,367	1,363	1,409	1,469	1,406	1,408	1,402
9	1,586	1,455	1,436	1,452	1,485	1,451	1,444	1,493	1,556	1,494	1,497
10	1,521	1,578	1,452	1,435	1,447	1,479	1,444	1,437	1,485	1,553	1,492
11	1,436	1,544	1,601	1,480	1,460	1,472	1,501	1,467	1,460	1,512	1,578
12	1,462	1,459	1,566	1,624	1,502	1,482	1,492	1,521	1,487	1,485	1,536
Total	17,500	17,562	17,659	17,673	17,566	17,607	17,664	17,740	17,814	17,997	18,209
<i>Annual change</i>		62 0.4%	97 0.6%	14 0.1%	-107 -0.6%	41 0.2%	57 0.3%	76 0.4%	74 0.4%	183 1.0%	212 1.2%
K-5	7,460	7,473	7,534	7,602	7,579	7,524	7,540	7,583	7,662	7,813	7,996
6-8	4,035	4,053	4,070	4,080	4,093	4,199	4,243	4,239	4,164	4,140	4,110
9-12	6,005	6,036	6,055	5,991	5,894	5,884	5,881	5,918	5,988	6,044	6,103

5 Year Change:**2021-22 to 2026-27**

	Growth	Pct.
K-5	64	1%
6-8	164	4%
9-12	-121	-2%
Total	107	1%

10 Year Change:**2021-22 to 2031-32**

	Growth	Pct.
K-5	536	7%
6-8	75	2%
9-12	98	2%
Total	709	4%

Population Research Center, Portland State University, November 2021

(continued on next page)

Table A5 (continued from previous page)
Bend - La Pine Schools, Low Series Enrollment Forecasts, 2022-23 to 2041-42

Forecast										
Grade	2032-33	2033-34	2034-35	2035-36	2036-37	2037-38	2038-39	2039-40	2040-41	2041-42
K	1,308	1,333	1,357	1,380	1,394	1,402	1,409	1,416	1,424	1,437
1	1,349	1,375	1,399	1,424	1,444	1,459	1,467	1,475	1,482	1,494
2	1,372	1,398	1,422	1,447	1,469	1,490	1,505	1,514	1,522	1,533
3	1,379	1,408	1,431	1,456	1,478	1,501	1,522	1,537	1,547	1,558
4	1,383	1,414	1,440	1,464	1,486	1,509	1,532	1,554	1,569	1,583
5	1,384	1,417	1,445	1,472	1,493	1,516	1,539	1,563	1,585	1,604
6	1,378	1,417	1,448	1,477	1,501	1,522	1,546	1,569	1,594	1,620
7	1,361	1,396	1,432	1,464	1,490	1,514	1,535	1,560	1,583	1,611
8	1,381	1,378	1,410	1,447	1,476	1,502	1,526	1,548	1,573	1,599
9	1,490	1,468	1,462	1,496	1,533	1,563	1,591	1,616	1,639	1,669
10	1,494	1,488	1,464	1,458	1,489	1,526	1,555	1,583	1,607	1,632
11	1,519	1,521	1,513	1,490	1,482	1,512	1,548	1,576	1,603	1,629
12	1,601	1,543	1,543	1,536	1,511	1,503	1,533	1,568	1,595	1,624
Total	18,399	18,556	18,766	19,011	19,246	19,519	19,808	20,079	20,323	20,593
<i>Annual change</i>	<i>190</i> <i>1.0%</i>	<i>157</i> <i>0.9%</i>	<i>210</i> <i>1.1%</i>	<i>245</i> <i>1.3%</i>	<i>235</i> <i>1.2%</i>	<i>273</i> <i>1.4%</i>	<i>289</i> <i>1.5%</i>	<i>271</i> <i>1.4%</i>	<i>244</i> <i>1.2%</i>	<i>270</i> <i>1.3%</i>
K-5	8,175	8,345	8,494	8,643	8,764	8,877	8,974	9,059	9,129	9,209
6-8	4,120	4,191	4,290	4,388	4,467	4,538	4,607	4,677	4,750	4,830
9-12	6,104	6,020	5,982	5,980	6,015	6,104	6,227	6,343	6,444	6,554

15 Year Change: 2021-22 to 2036-37		
	Growth	Pct.
K-5	1,304	17%
6-8	432	11%
9-12	10	0%
Total	1,746	10%

20 Year Change: 2021-22 to 2041-42		
	Growth	Pct.
K-5	1,749	23%
6-8	795	20%
9-12	549	9%
Total	3,093	18%

Population Research Center, Portland State University, November 2021

Table A6

Bend - La Pine Schools, Middle Series Enrollment Forecasts, 2022-23 to 2041-42

Actual		Forecast									
Grade	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31	2031-32
K	1,144	1,199	1,219	1,210	1,202	1,233	1,267	1,293	1,313	1,348	1,379
1	1,252	1,245	1,273	1,293	1,284	1,265	1,293	1,329	1,356	1,391	1,428
2	1,243	1,309	1,291	1,320	1,340	1,319	1,296	1,325	1,361	1,402	1,439
3	1,230	1,300	1,357	1,338	1,368	1,377	1,351	1,328	1,357	1,408	1,450
4	1,265	1,285	1,346	1,405	1,385	1,404	1,409	1,383	1,359	1,402	1,454
5	1,326	1,318	1,328	1,391	1,452	1,420	1,435	1,440	1,414	1,401	1,445
6	1,329	1,380	1,361	1,371	1,436	1,487	1,451	1,466	1,471	1,457	1,443
7	1,335	1,365	1,407	1,388	1,398	1,454	1,501	1,465	1,480	1,499	1,484
8	1,371	1,368	1,389	1,432	1,413	1,413	1,466	1,514	1,477	1,506	1,526
9	1,586	1,471	1,461	1,483	1,529	1,500	1,497	1,553	1,604	1,576	1,607
10	1,521	1,595	1,474	1,464	1,486	1,525	1,494	1,491	1,546	1,606	1,578
11	1,436	1,559	1,625	1,507	1,497	1,512	1,547	1,517	1,514	1,577	1,636
12	1,462	1,473	1,588	1,653	1,537	1,520	1,533	1,567	1,538	1,544	1,606
Total	17,500	17,867	18,119	18,255	18,327	18,429	18,540	18,671	18,790	19,117	19,475
<i>Annual change</i>		367 2.1%	252 1.4%	136 0.8%	72 0.4%	102 0.6%	111 0.6%	131 0.7%	119 0.6%	327 1.7%	358 1.9%
K-5	7,460	7,656	7,814	7,957	8,031	8,018	8,051	8,098	8,160	8,352	8,595
6-8	4,035	4,113	4,157	4,191	4,247	4,354	4,418	4,445	4,428	4,462	4,453
9-12	6,005	6,098	6,148	6,107	6,049	6,057	6,071	6,128	6,202	6,303	6,427

5 Year Change:**2021-22 to 2026-27**

	Growth	Pct.
K-5	558	7%
6-8	319	8%
9-12	52	1%
Total	929	5%

10 Year Change:**2021-22 to 2031-32**

	Growth	Pct.
K-5	1,135	15%
6-8	418	10%
9-12	422	7%
Total	1,975	11%

Population Research Center, Portland State University, November 2021

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Table A6 (continued from previous page)
Bend - La Pine Schools, Middle Series Enrollment Forecasts, 2022-23 to 2041-42

Forecast										
Grade	2032-33	2033-34	2034-35	2035-36	2036-37	2037-38	2038-39	2039-40	2040-41	2041-42
K	1,399	1,422	1,447	1,472	1,494	1,512	1,522	1,534	1,547	1,568
1	1,452	1,473	1,498	1,524	1,551	1,574	1,583	1,594	1,607	1,630
2	1,469	1,493	1,515	1,541	1,567	1,595	1,610	1,619	1,630	1,653
3	1,480	1,511	1,536	1,558	1,585	1,612	1,631	1,647	1,656	1,676
4	1,490	1,521	1,553	1,578	1,601	1,629	1,647	1,667	1,683	1,702
5	1,492	1,528	1,560	1,593	1,619	1,642	1,663	1,681	1,701	1,726
6	1,481	1,529	1,566	1,599	1,633	1,660	1,675	1,696	1,715	1,744
7	1,463	1,502	1,550	1,588	1,621	1,656	1,675	1,690	1,711	1,739
8	1,504	1,482	1,522	1,570	1,609	1,642	1,670	1,689	1,704	1,733
9	1,623	1,599	1,576	1,618	1,669	1,711	1,739	1,769	1,789	1,811
10	1,604	1,619	1,596	1,573	1,614	1,665	1,701	1,728	1,758	1,783
11	1,603	1,629	1,643	1,621	1,599	1,639	1,683	1,718	1,745	1,779
12	1,659	1,627	1,652	1,666	1,645	1,623	1,658	1,701	1,735	1,767
Total	19,719	19,935	20,214	20,501	20,807	21,160	21,457	21,733	21,981	22,311
<i>Annual change</i>	<i>244</i> <i>1.3%</i>	<i>216</i> <i>1.1%</i>	<i>279</i> <i>1.4%</i>	<i>287</i> <i>1.4%</i>	<i>306</i> <i>1.5%</i>	<i>353</i> <i>1.7%</i>	<i>297</i> <i>1.4%</i>	<i>276</i> <i>1.3%</i>	<i>248</i> <i>1.1%</i>	<i>330</i> <i>1.5%</i>
K-5	8,782	8,948	9,109	9,266	9,417	9,564	9,656	9,742	9,824	9,955
6-8	4,448	4,513	4,638	4,757	4,863	4,958	5,020	5,075	5,130	5,216
9-12	6,489	6,474	6,467	6,478	6,527	6,638	6,781	6,916	7,027	7,140

15 Year Change: 2021-22 to 2036-37		
	Growth	Pct.
K-5	1,957	26%
6-8	828	21%
9-12	522	9%
Total	3,307	19%

20 Year Change: 2021-22 to 2041-42		
	Growth	Pct.
K-5	2,495	33%
6-8	1,181	29%
9-12	1,135	19%
Total	4,811	27%

Population Research Center, Portland State University, November 2021

Table A7

Bend - La Pine Schools, High Series Enrollment Forecasts, 2022-23 to 2041-42

Actual		Forecast									
Grade	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31	2031-32
K	1,144	1,250	1,270	1,265	1,267	1,301	1,344	1,372	1,386	1,418	1,444
1	1,252	1,284	1,343	1,349	1,335	1,330	1,365	1,410	1,435	1,460	1,494
2	1,243	1,348	1,346	1,407	1,405	1,382	1,377	1,413	1,455	1,490	1,516
3	1,230	1,325	1,399	1,397	1,451	1,440	1,417	1,411	1,444	1,496	1,532
4	1,265	1,310	1,374	1,451	1,440	1,487	1,475	1,452	1,441	1,483	1,537
5	1,326	1,343	1,356	1,423	1,494	1,474	1,522	1,510	1,482	1,478	1,521
6	1,329	1,406	1,389	1,403	1,464	1,528	1,508	1,557	1,540	1,519	1,515
7	1,335	1,392	1,438	1,421	1,427	1,481	1,546	1,526	1,571	1,562	1,540
8	1,371	1,393	1,421	1,468	1,443	1,442	1,496	1,562	1,538	1,592	1,583
9	1,586	1,491	1,489	1,519	1,563	1,530	1,529	1,587	1,653	1,636	1,693
10	1,521	1,613	1,496	1,494	1,518	1,557	1,524	1,523	1,578	1,648	1,631
11	1,436	1,576	1,644	1,530	1,523	1,542	1,580	1,547	1,544	1,602	1,670
12	1,462	1,488	1,607	1,674	1,556	1,545	1,563	1,601	1,566	1,567	1,624
Total	17,500	18,219	18,572	18,801	18,886	19,039	19,246	19,471	19,633	19,951	20,300
<i>Annual change</i>		719 4.1%	353 1.9%	229 1.2%	85 0.5%	153 0.8%	207 1.1%	225 1.2%	162 0.8%	318 1.6%	349 1.7%
K-5	7,460	7,860	8,088	8,292	8,392	8,414	8,500	8,568	8,643	8,825	9,044
6-8	4,035	4,191	4,248	4,292	4,334	4,451	4,550	4,645	4,649	4,673	4,638
9-12	6,005	6,168	6,236	6,217	6,160	6,174	6,196	6,258	6,341	6,453	6,618

5 Year Change:
2021-22 to 2026-27

	Growth	Pct.
K-5	954	13%
6-8	416	10%
9-12	169	3%
Total	1,539	9%

10 Year Change:
2021-22 to 2031-32

	Growth	Pct.
K-5	1,584	21%
6-8	603	15%
9-12	613	10%
Total	2,800	15%

Population Research Center, Portland State University, November 2021

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Table A7 (continued from previous page)
Bend - La Pine Schools, High Series Enrollment Forecasts, 2022-23 to 2041-42

Forecast										
Grade	2032-33	2033-34	2034-35	2035-36	2036-37	2037-38	2038-39	2039-40	2040-41	2041-42
K	1,466	1,490	1,515	1,540	1,565	1,590	1,615	1,640	1,661	1,686
1	1,521	1,544	1,570	1,595	1,622	1,649	1,675	1,702	1,723	1,749
2	1,552	1,580	1,604	1,631	1,657	1,685	1,713	1,740	1,763	1,789
3	1,559	1,596	1,625	1,649	1,677	1,704	1,733	1,761	1,784	1,813
4	1,574	1,601	1,639	1,669	1,694	1,723	1,750	1,780	1,804	1,833
5	1,576	1,614	1,642	1,681	1,711	1,737	1,767	1,794	1,821	1,850
6	1,559	1,615	1,654	1,683	1,723	1,753	1,780	1,811	1,834	1,866
7	1,536	1,581	1,638	1,677	1,707	1,747	1,778	1,805	1,832	1,860
8	1,561	1,557	1,603	1,660	1,700	1,730	1,771	1,802	1,825	1,857
9	1,683	1,660	1,656	1,705	1,765	1,807	1,839	1,883	1,912	1,940
10	1,687	1,678	1,655	1,651	1,699	1,758	1,800	1,831	1,872	1,903
11	1,654	1,708	1,699	1,677	1,673	1,720	1,777	1,818	1,846	1,888
12	1,691	1,676	1,729	1,720	1,698	1,694	1,740	1,797	1,834	1,864
Total	20,619	20,900	21,229	21,538	21,891	22,297	22,738	23,164	23,511	23,898
<i>Annual change</i>	319 1.6%	281 1.4%	329 1.6%	309 1.5%	353 1.6%	406 1.9%	441 2.0%	426 1.9%	347 1.5%	387 1.6%
K-5	9,248	9,425	9,595	9,765	9,926	10,088	10,253	10,417	10,556	10,720
6-8	4,656	4,753	4,895	5,020	5,130	5,230	5,329	5,418	5,491	5,583
9-12	6,715	6,722	6,739	6,753	6,835	6,979	7,156	7,329	7,464	7,595

15 Year Change: 2021-22 to 2036-37		
	Growth	Pct.
K-5	2,466	33%
6-8	1,095	27%
9-12	830	14%
Total	4,391	25%

20 Year Change: 2021-22 to 2041-42		
	Growth	Pct.
K-5	3,260	44%
6-8	1,548	38%
9-12	1,590	26%
Total	6,398	37%

Population Research Center, Portland State University, November 2021

APPENDIX B

POPULATION, HOUSING, SOCIAL, AND ECONOMIC PROFILE

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Population, Housing, Social and Economic Profile

Bend-La Pine Administrative School District 1, Oregon

	2010-2014			2015-2019			Compare
	Estimate	CV *	Margin of Error (+/-)	Estimate	CV *	Margin of Error (+/-)	Statistically Different?
POPULATION							
Total population	110,491	●	1,125	128,182	●	1,063	**
Percent under 18 years	21.4%	●	0.6%	20.7%	●	0.5%	
Percent 65 years and over	16.2%	●	0.5%	18.7%	●	0.5%	**
Median age (years)	41.3	●	0.5	41.4	●	0.7	
Percent white alone, non-Latino	88.7%	●	0.8%	87.4%	●	0.6%	**
HOUSING							
Total housing units	55,795	●	668	62,535	●	634	**
Occupied housing units	44,799	●	782	51,691	●	819	**
Owner occupied	28,632	●	901	33,587	●	928	**
Percent owner-occupied	63.9%	●	1.8%	65.0%	●	1.6%	
Renter occupied	16,167	●	899	18,104	●	903	**
Vacant housing units***	10,996	●	652	10,844	●	729	
Vacancy rate	19.7%	●	1.1%	17.3%	●	1.1%	**
Average household size	2.45	●	0.04	2.46	●	0.03	
Renter households paying more than 30 percent of household income on rent plus utilities	56.0%	●	4.3%	51.9%	●	4.1%	
SOCIAL							
Age 25+ with a bachelor's degree or higher	34.3%	●	1.5%	39.0%	●	1.6%	**
Foreign-born population	4,720	●	732	6,008	●	675	**
Percent foreign-born	4.3%	●	0.7%	4.7%	●	0.5%	
Age 5+ language other than English at home	6,157	●	870	8,842	●	1,022	**
Percent language other than English	5.9%	●	0.8%	7.3%	●	0.8%	**
ECONOMIC							
Median household income (2019 dollars)	\$55,351	●	\$2,417	\$66,648	●	\$2,650	**
Per capita income (2019 dollars)	\$32,379	●	\$1,282	\$36,640	●	\$1,296	**
Percent of persons below poverty level	13.1%	●	1.3%	10.9%	●	1.2%	**

* **Green**, **yellow**, and **red** icons indicate the reliability of each estimate using the coefficient of variation (CV). The lower the CV, the more reliable the data. **High reliability** (CV <15%) is shown in green, **medium reliability** (CV between 15-30% - be careful) is shown in yellow, and **low reliability** (CV >30% - use with extreme caution) is shown in red. However, there are no absolute rules for acceptable thresholds of reliability. Users should consider the margin of error and the need for precision.

** Indicates that the two estimates are statistically different based on results of z-test taking into account the difference between the two estimates as well as an approximation of the standard errors of both estimates.

*** Vacant units include those for sale or rent, those sold or rented but not yet occupied, those held for seasonal, recreational, or occasional use, as well as other vacant such as homes under renovation, settlement of an estate, or foreclosures.

**** Indicates that the estimate is controlled. A statistical test for sampling variability is not appropriate.

Source: U.S. Census Bureau, American Community Survey 5 year estimates. Surveys are collected over a 60 month period. Estimates represent average characteristics over the entire period. Tabulated by Population Research Center, Portland State University, with additional calculations from source data as needed.

www.pdx.edu/prc

**Bend-La Pine Schools
Sites and Facilities Committee
Board Report**

**Exhibit C
*Enrollment Study Materials***



- Research Review: School Size, Prepared by Lora Nordquist, EdD, Assistant Superintendent

Research Review: School Size
Prepared for the Sites and Facilities Committee
By Lora Nordquist, EdD, Assistant Superintendent

What follows below are summaries from six reports/studies/articles pertaining to school size, dating from 2005 to 2015. For the convenience of the committee, the reports/studies/articles are organized by year, beginning with the most recent. At the end, I have included some overarching conclusions.

Gershenson, S., & Langbein, L. (2015). The effect of primary school size on academic Achievement. *Educational Evaluation and Policy Analysis*, 37(1S), 135S-155S.

The researchers in this study used student-level academic records of approximately 700,000 students in grades 3-5 in North Carolina between 2003-2010. Students included the study remained at the same school during all three grades. Researchers were also able to access information on school demographics, attendance, discipline, etc.-other factors that predict student achievement, measured in this study by student-level Value Added Measures (VAM's).

In the study they found no evidence of a causal relationship between school size and student achievement, at least within the range of school sizes included (most of the schools were in the 400-600 range, with a very few schools smaller than 200 or larger than 800). However, the researchers did note that the math and reading achievement of students with disabilities, and the reading achievement of high-poverty students, are "disproportionately harmed" by increases in school size. The researchers speculate that "weaker social bonds likely inherent in larger schools" to be the reason. They believe their study highlights the importance of school climate in the educational process, which raises deeper questions of "how and why school climate is a function of school size and why certain subsets of the student populations are particularly influenced by school climate."

Manpower Demonstration Research Corporation (MDRC). (2014, October). *Headed to college: The effects of New York City's small high schools of choice on post-secondary enrollment* (Policy Brief). New York, New York: Author.

This policy brief summarizes findings from its research reports on the New York City Department of Education's "multiyear initiative to create small public high schools that are open to any student who wants to attend" (SSCs). Starting in 2002, over 100 new SSC's have been created. These schools serve students who are approximately 95% black or Hispanic. 84% qualify for free or reduced-price

lunches, and 75% percent enter high school performing below grade level in reading or mathematics. These schools typically serve about 400 students, 100 per grade. Because interest in the SSCs exceeds space, enrollment is determined by lottery. This procedure has allowed researchers from MDRC to identify a sample of over 100 SSCs and over 21,000 students, with the existence of lotteries providing a “random assignment-like experimental condition,” allowing researchers to estimate the effects of attending an SSC instead of another NYC public high school.

A series of studies have found the SSCs to have a multitude of statistically significant positive effects on student achievement: higher graduation rates among all subgroups, including black males and students eligible for special education services, and higher scores on Regents exams. Additionally, the SSCs achieve these ends at a lower total cost per graduate, primarily because of higher “on time” (four-year) graduation rates. The most recent study, taking advantage of the existence of a cohort of students out of high school, examined admission to and persistence in postsecondary institutions. Researchers found that students attending SSCs increased the probability of graduating on time and attending a postsecondary school the following year by 8.4%. As the brief states, “It is rare to find such large positive effects for a rigorously evaluated large-scale education reform and rarer still to see such effects continue into college.”

(2010, March 11). Does the size of the school matter? *Room for Debate: A New York Times Blog*. Retrieved November 17, 2015, from <http://roomfordebate.blogs.nytimes.com>

This blog is a series of short editorials, written by “national education experts.” Herbert Walker, a University Scholar at the University of Illinois, states definitively that according to a large body of research, “other things being equal, smaller schools produce higher academic achievement than larger schools.” Don Soifer, an education analyst at the Lexington Institute, also makes reference to “substantial research” that shows that many children respond especially well to smaller learning environments. According to Soifer, this is part of the attraction of many charter schools. Leonie Haimson, the executive director of Class Size Matters, a citywide advocacy group, argues that class size, not school size, is the more important issue affecting student achievement. Valerie Lee, a professor at the University of Michigan whose research focuses on learning, school organization and size, cites her finding that students learned more in high schools enrolling between 600-900 students than in either smaller or larger schools. Thus, she says, the relationship between school size and student learning is “not linear.” She adds that the effects of school size on learning are even more important for less advantage students.

Stevenson, K. (2006, April). *School size and its relationship to student outcomes and school climate: A review and analysis of eight South Carolina state-wide studies*. Washington, D.C.: National Clearinghouse for Educational Facilities.

In this report, the author summarizes findings from eight studies of school size, involving South Carolina schools at all three levels. The studies' publication dates range from 1996-2005.

At the elementary level, the first study discussed (Stevenson, 1996) "revealed a small but significant positive relationship between school student enrollment and the number of times elementary schools have won the Incentive Award" (given to schools meeting or exceeding expected student gains in achievement). In this study, larger schools (approximately 800 students) performed better. In another study, five years later, the same researcher found no effects related to school size, when poverty levels were included as a control variable. A third study, published in 2004 (McCathern), found among all the variables included, "school size was the least predicative of student academic outcomes." In 2005 White examined the effects of school size on school climate. She found no relationship between size and school climate, when controlling for SES, operating cost per pupil, and the percentage of students receiving special education services.

At middle school, in Stevenson's 2001 study, school size was not a factor at all in student performance, when controls were included. Student attendance was the only factor beyond SES that was consistently related to academic performance. Roberts' study (2002) did show a statistically significant relationship between school size and student academic achievement, with smaller middle schools associated with better academic productivity. Finally, Gettys (2003) studied the relationship between school size and school climate. When control variables were applied, she found no correlations between school size and school climate.

The first high school study discussed was Durbin's (2001). Her analysis showed a statistically significant and positive relationship between school size and student achievement, with students in larger high schools outperforming those in smaller schools. Stevenson's 2001 study, when controls were applied, revealed no relationship between achievement and school size. Crenshaw (2003) studied school size and its relationship to both climate and achievement. While she concluded that schools with higher achievement ratings tended to be larger, she also noted that more affluent schools also tended to be larger. She also stated: "The factors promoting success in lower socio-economic schools are not necessarily the same as those that promote success in higher socio-economic schools."

Ready, D. & Lee, V. (2006, May). *Optimal elementary school size for effectiveness and equity: Disentangling the effects of class size and school size*. Paper prepared for the conference *What do We Know about the Effects of School Size and Class Size?* Brookings Institution, Washington, D.C.

The research questions for this study involved 1) the relationship between class size, school size and student learning in reading and mathematics in kindergarten and first grade; 2) the extent to which the effects of these various size elements differed between kindergarten and first grade, as well as between literacy and mathematics; and 3) the relationship between the social distribution of learning (the effects of race and social class on learning) and organizational size. The researchers used multiple measures of learning, as well as survey and interview data, to follow a cohort of students through several years of elementary schools. The study included 24-student cohorts from 1000 public and private schools. They labeled schools with fewer than 275 students "small," 401-600 students "medium," and over 800 "large." (The researchers also included categories such as "medium-small," etc.)

In discussing their findings, the researchers made distinctions between two types of small schools: "small by design" and "small by default." In other words, schools that deliberately organize around a theme or ideology and enroll only students to whom this theme appeals "inherently possess many advantages" over schools that are small because of a lack of students in the community. The findings related to class size were much more powerful than those related to school size. Interestingly, the researchers concluded: "With kindergarten literacy and mathematics as well as first grade mathematics, small (fewer than 18 students) and medium (18-24) classes did not differentially influence student learning. Rather, large (more than 24) classes were detrimental to student learning." But their study found little evidence of school-size effects on student learning, regardless of students' race or social class. They concluded their report with this statement: "Our findings in this paper lead us away from an unquestioning allegiance to small size. Rather than the constant mantra of 'small is good,' our results lead us to a different proclamation: 'large is bad.'"

Slate, J. & Jones, C. (2005). *Effects of school size: A review of the literature with recommendations*.

This literature review includes almost 90 citations to studies and theoretical perspectives, dating from 1959 to 1998. In their review, the writers express several methodological concerns about the study. First, as is typical in school research, studies are not experimental because students cannot be randomly assigned to schools. Second, a number of the studies cited were what the authors term "advocacy research," done either in support of or in opposition to school consolidation practices, which could lead to intentional or unintentional bias.

Finally, the studies share no common definition for the terms "large school" or "small school."

One of the major conclusions the authors reached was that both very large and very small schools are negatively related to school quality. They also made some recommendations for policy makers, including the following: 1) Educational decision-makers should avoid "simplistic notions of economic efficiency based upon perceived economies of scale"; and 2) They should also keep the characteristics of their community and school in mind when considering school size.

Conclusions

One thing is abundantly clear: advocates for smaller schools or larger schools who claim the research is definitively in their favor are misinformed or duplicitous. While more research has been done on school size at the high school level (v. class size at the elementary level), there are not definitive findings about the "one best size" for students at any level. However, I will close with some impressions, based on my review of the research:

- A school's poverty level trumps all other individual factors in predicting both student achievement and student growth. There is some evidence to indicate that students in poverty, along with students with disabilities, are better served in smaller environments.
- The relationships between school size and "school climate" indicators such as attendance and behavior appear to be stronger than those between school size and academic indicators. Attendance is a predictor of academic success and ultimately graduation, so this may be another consideration.
- While ideal school sizes are not clear, numerous studies conclude that very large environments do not serve all student groups well.
- "Small for its own sake" is not recommended in any of the studies referenced in this report. Rather, researchers who note positive findings in small schools state that a further area for study would involve the examination of *why* these gains occur.



Memo

To: Mike Tiller
From: Scott Steele
Subject: Efficient Use of School Sites
Date: March 8, 2016

We have performed a site analysis of the newest examples of Elementary, Middle and High School development in the Bend La Pine School District in an effort to assist the District in determining the efficiency of uses on the subject sites, per Oregon Revised Statute ORS 195.110(5). No effort was made to analyze all District assets in these categories. This analysis expands upon the previous elementary school example in the Site Development Analysis dated April 19, 2010, and provided to our office by the School District.

From our analysis it is clear that a two story building design provides distinct benefits to the District in procuring smaller properties for future development.

- The building site for a single-story 600 student elementary school can be reduced from 15 Acres to 12.5 Acres by utilizing a two-story configuration.
- Site Design at Silver Rail also provided for an undisturbed “natural area” that acts as a buffer between the school and the adjacent industrial development. Additionally, it can be used as a teaching area.
- While the single-story and two-story designs have similar parking areas, the design constraints imposed by a smaller site results in less paving for access drives and bus lanes.

Site utilization is dependent on the type and configuration of land on which the facilities were built. Based on review of the Summit High School, Pacific Crest Middle School and Silver Rail Elementary School sites it is clear that the shape of the site is a critical factor in determining the utilization of the site.

For example:

Summit is a fairly compact, regular property that is fully utilized.

The Pacific Crest Middle School site is a roughly triangular shape that is transected by two roads, which results in two irregular parcels and one nearly rectangular parcel. This leaves about 9% of the site unused and separated from the main parcel by a road. This unused area was set aside for future development of athletic fields.

Silver Rail Elementary is sited on a small, compact, regular shaped property. The regular shape of the site is advantageous to the extent that, while it has a similar percentage of the site unused, the unused area is a regular shape and is almost entirely usable. This provides value to the District in either utilizing the area for District functions or as an asset for future sale.

To summarize, two-story schools with maximum student populations could be sited on slightly smaller parcels if the sites and structures are regular in shape. Our evaluation has determined that in order to allow for reasonable site variations (shape, topography, infrastructure, etc.) the minimum acreage for each school should be as follows:

Elementary School: 12.5 Acres

Middle School: 27.5 Acres

High School: 50 Acres

Attachments: (A) Site Development Example Elementary School, (B) Site Development Example Middle School and (C) Site Development Example High School,

Site Development Example

ELEMENTARY SCHOOL

Based on Silver Rail Elementary School

Site Component	Percent of Total	Approx. Area* (Square Feet)	Notes	
Zoning Setbacks/ R.O.W.	3.94%	21,456	As required by A.H.J.	
Building Footprint	8.03%	43,713	As Required by Programs	
Access Drives / Fire Lanes / Bus	11.86%	64,571	Separated Bus and Auto Access	
Parking Areas	9.83%	53,541	142	Auto parking spaces
Landscape Areas	9.04%	49,238	Around Building and Parking Areas	
Non-Landscape Areas	7.58%	41,291	Natural Areas / Buffers	
Hardscape Play Areas	5.80%	31,582	Includes "soft-fall" zone play areas	
Sidewalk / Outdoor Areas	6.47%	35,216	Includes Outdoor Teaching Areas	
Drainage Swales	1.56%	8,477	Varies with Type of Soil	
Play Fields / Softball / Soccer	27.13%	147,692	As Required by Programs	
Unused Area	8.76%	47,705		

Totals: 100.00% **544,482** **12.50 Acres**

* Based on take-offs from Record Set Sheet C2.0, dated September 29, 2015

Attachment A

Site Development Example

MIDDLE SCHOOL

Based on Pacific Crest Middle School

Site Component	Percent of Total	Approx. Area* (Square Feet)	Notes	
Zoning Setbacks/ R.O.W.	4.50%	53,925	As required by A.H.J.	
Building Footprint	7.92%	94,885	As Required by Programs, includes storage building	
Access Drives / Fire Lanes / Bus	5.49%	65,788	Separated Bus and Auto Access	
Parking Areas	1.42%	16,993	120	Auto parking spaces
Landscape Areas	13.14%	157,391	Around Building and Parking Areas	
Non-Landscape Areas	0.00%	0	Natural Areas / Buffers	
Hardscape Play Areas	0.62%	7,418	Tennis Court	
Sidewalk / Outdoor Areas	4.29%	51,358	Includes Outdoor Teaching Areas	
Drainage Swales	5.96%	71,388	Varies with Type of Soil	
Play Fields / Softball / Soccer	47.70%	571,414	As Required by Programs	
Unused Area	8.96%	107,340		
Totals:	100.00%	1,197,900	27.50	Acres

* Based on take-offs from City Approved Set, Sheet C2.0, dated May 15, 2014

Attachment B

Site Development Example

686 NW York Drive Suite 150 Bend, Oregon 97703 541.382.9867 FAX 541.385.8816 info@steele-arch.com

HIGH SCHOOL

Based on Summit High School

Site Component	Percent of Total	Approx. Area* (Square Feet)	Notes
Zoning Setbacks/ R.O.W.	0.00%	0	As required by Development Code
Building Footprint	8.15%	160,929	As Required by Programs
Access Drives / Fire Lanes / Bus	9.02%	178,095	Separated Bus and Auto Access
Parking Areas	5.33%	105,285	539 Auto parking spaces
Landscape Areas	22.76%	449,454	Around Building and Parking Areas
Non-Landscape Areas	9.34%	184,398	Natural Areas / Buffers
Hardscape Play Areas	3.88%	76,699	Tennis Courts and Track
Sidewalk / Outdoor Areas	6.92%	136,601	Includes Outdoor Teaching Areas
Drainage Swales	0.00%	0	Drywells
Play Fields / Softball / Soccer	34.60%	683,113	As Required by Programs
Unused Area	0.00%	0	

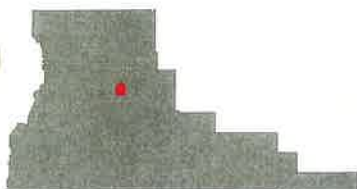
Totals: 100.00% **1,974,575** **45.33 Acres (50 Acres recommended to allow for less efficient shaped and sloped sites.)**

* Based on take-offs from Record Set Sheet C2.1, dated May 1, 2002.

Attachment C

Amity Creek @ Thompson

437 NW Wall Street, Bend, Built 1948



Date: 9/1/2021



0 40 80 160
ft

1 inch = 94 feet

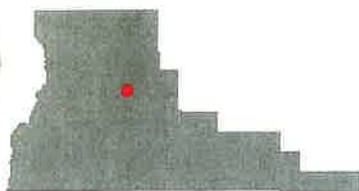


Bear Creek Elementary

51 SE 13th Street, Bend, Built 1963



Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, Deschutes County GIS



Date: 9/1/2021

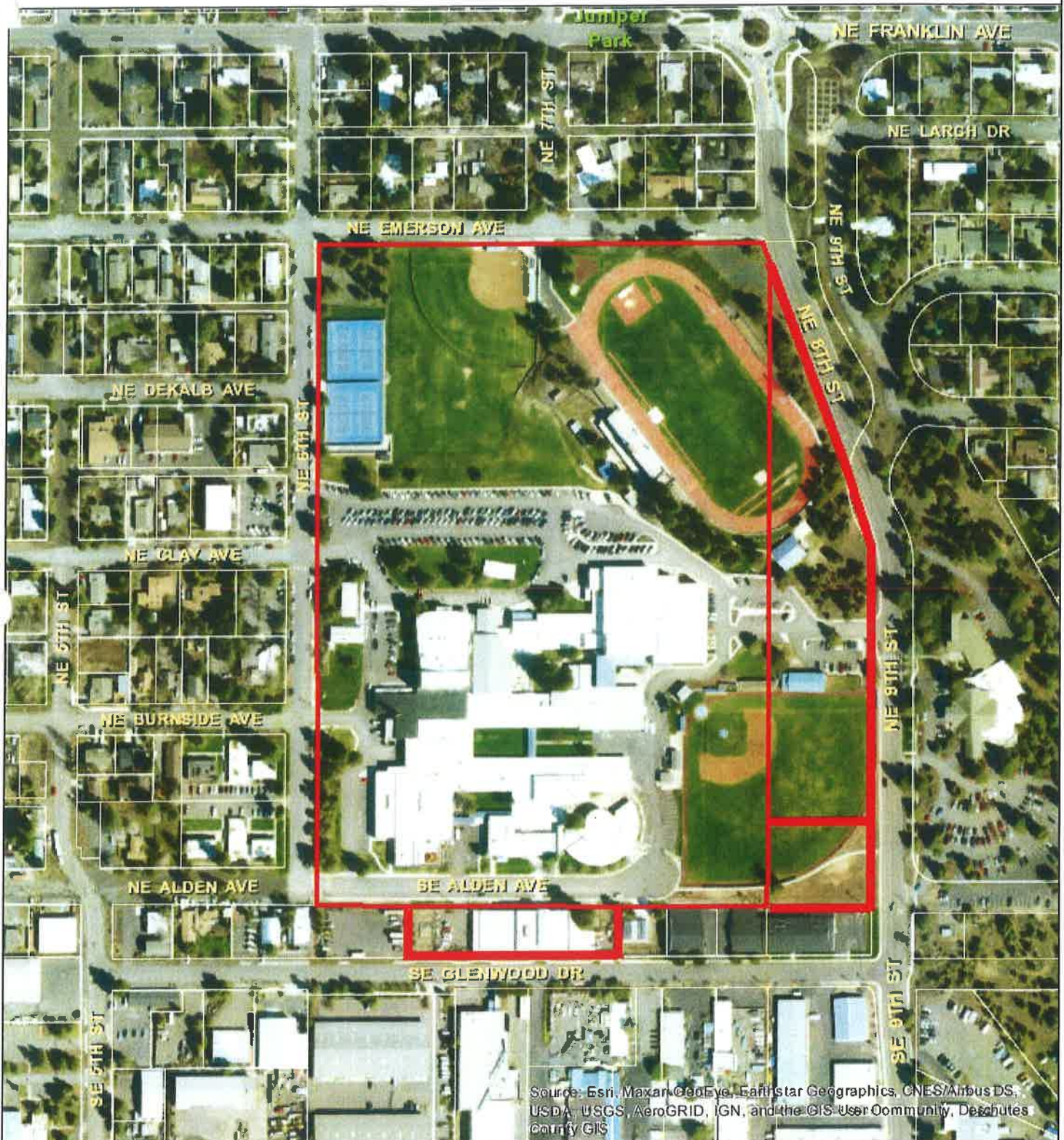


0 162.5 325 650
1 inch = 375 feet



Bend Senior High School

230 NE 6th Street, Bend, Built 1956



Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, Deschutes County GIS



Date: 9/1/2021

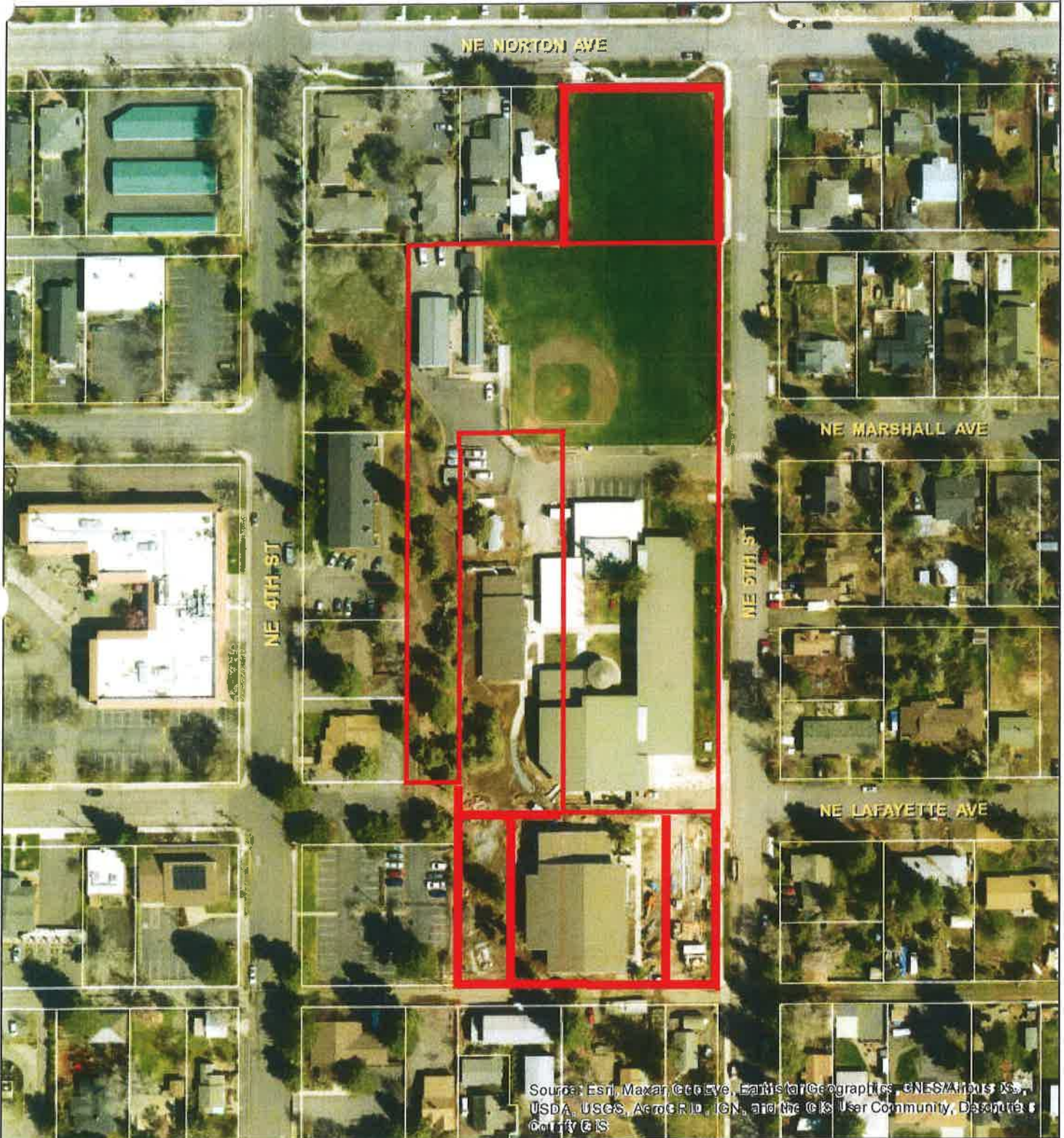


0 162.5 325 650
1 inch = 326 feet



Bend Tech Academy @ Marshall

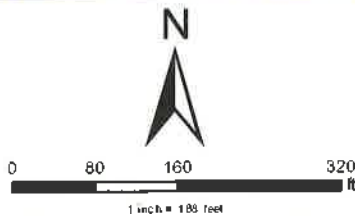
1291 NE 5th St, Bend, Built 1948



Source: Esri, Maxar, GeoEye, EarthstarGeographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, Datacube, and others

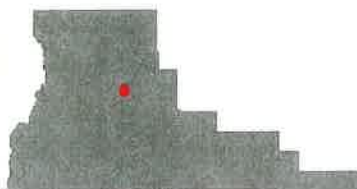


Date: 9/1/2021



Bend Transportation

501 SE 2nd St, Bend, Built 1948



Date: 9/1/2021

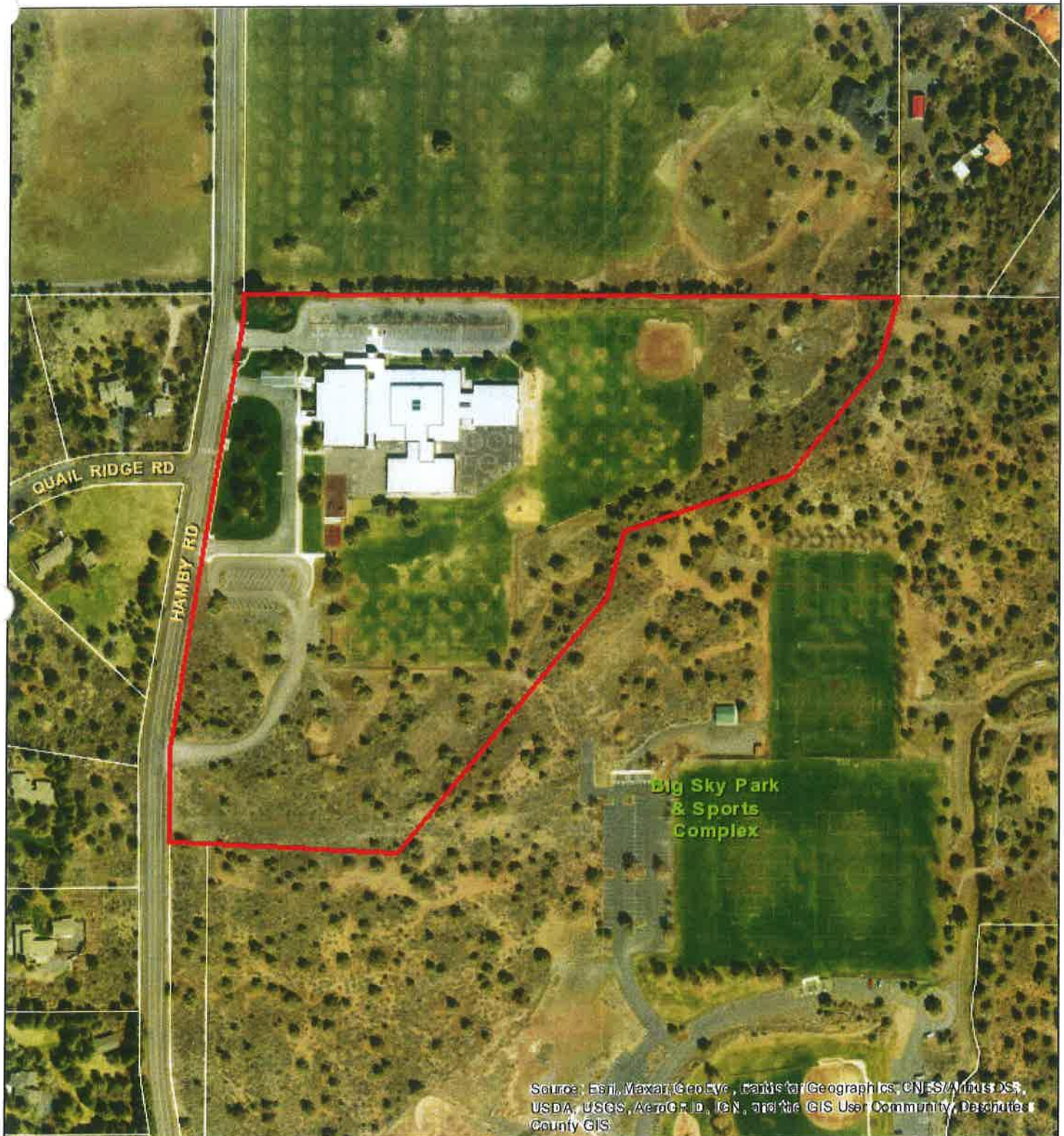


0 80 160 320
ft
1 inch = 165 feet



Buckingham Elementary

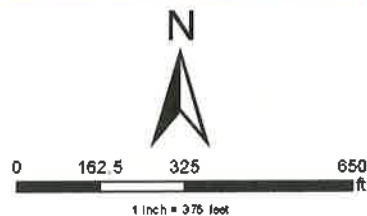
62560 Hamby Road, Bend, Built 1980



Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, Deschutes County GIS

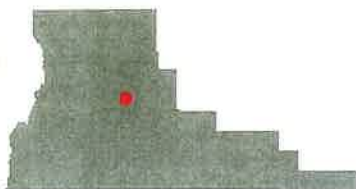


Date: 9/1/2021



Caldera High School

60925 SE 15th St, Bend, Built 2021



Date: 9/1/2021



0 162.5 325 650
ft
1 inch = 375 feet



Cascade Middle School

19619 Mountaineer Way, Bend, Built 1978



Source: Esri, Maxar GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, Deschutes County GIS



Date: 9/1/2021



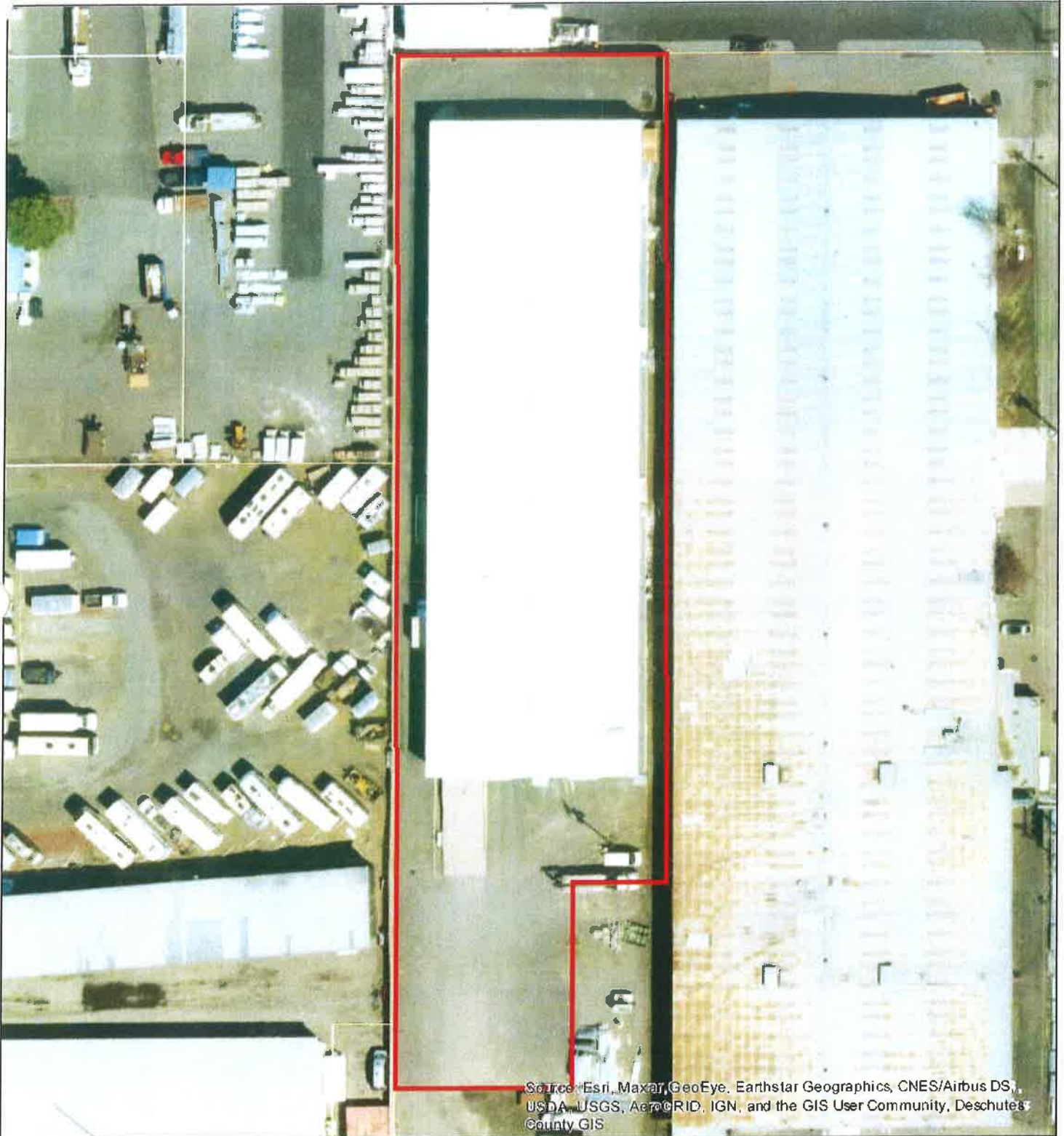
0 162.5 325 650
ft

1 inch = 375 feet

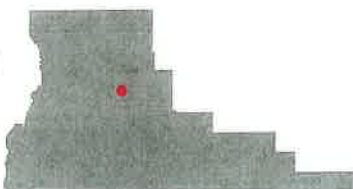


Distribution Warehouse

151 SE 9th Street, Bend, Built 1967



Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS,
USDA, USGS, AeroGRID, IGN, and the GIS User Community, Deschutes
County GIS



Date: 9/1/2021

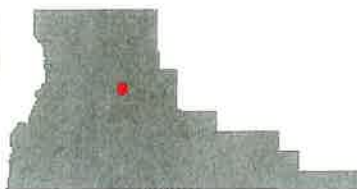


0 40 80 160
ft
1 inch = 84 feet



Education Center and Troy Field

520 NW Wall Street, Bend, Built 1917



Date: 9/1/2021



0 80 160 320
ft
1 inch = 160 feet



Elk Meadow Elementary

60880 Brookwood Blvd, Bend, Built 1993



Date: 9/1/2021



0 162.5 325 650
ft
1 inch = 375 feet

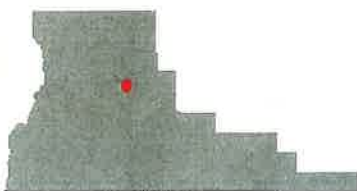


Ensworth Elementary

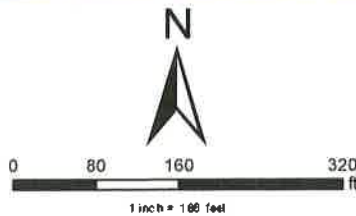
2150 NE Daggett Lane, Bend, Built 2004



Sources: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, Deschutes County GIS

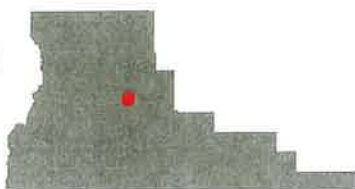
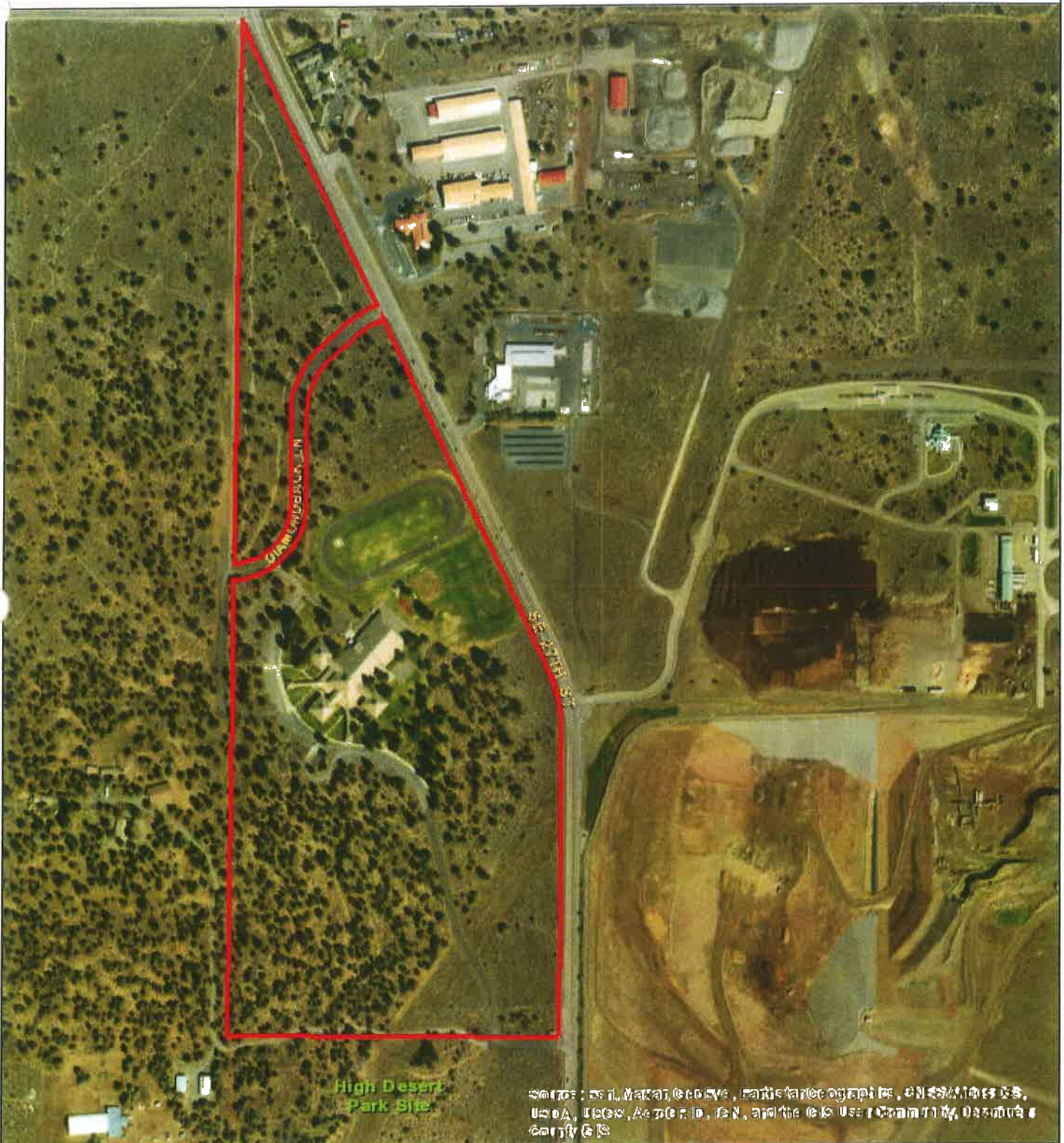


Date: 9/1/2021



High Desert Middle School

61000 Diamondback Lane, Bend, Built 1993



Date: 9/1/2021



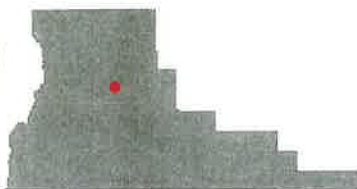
0 320 640 1,280
ft

1 inch = 762 feet



High Lakes Elementary

2500 NW High Lakes Loop, Bend, Built 1998



Date: 9/1/2021



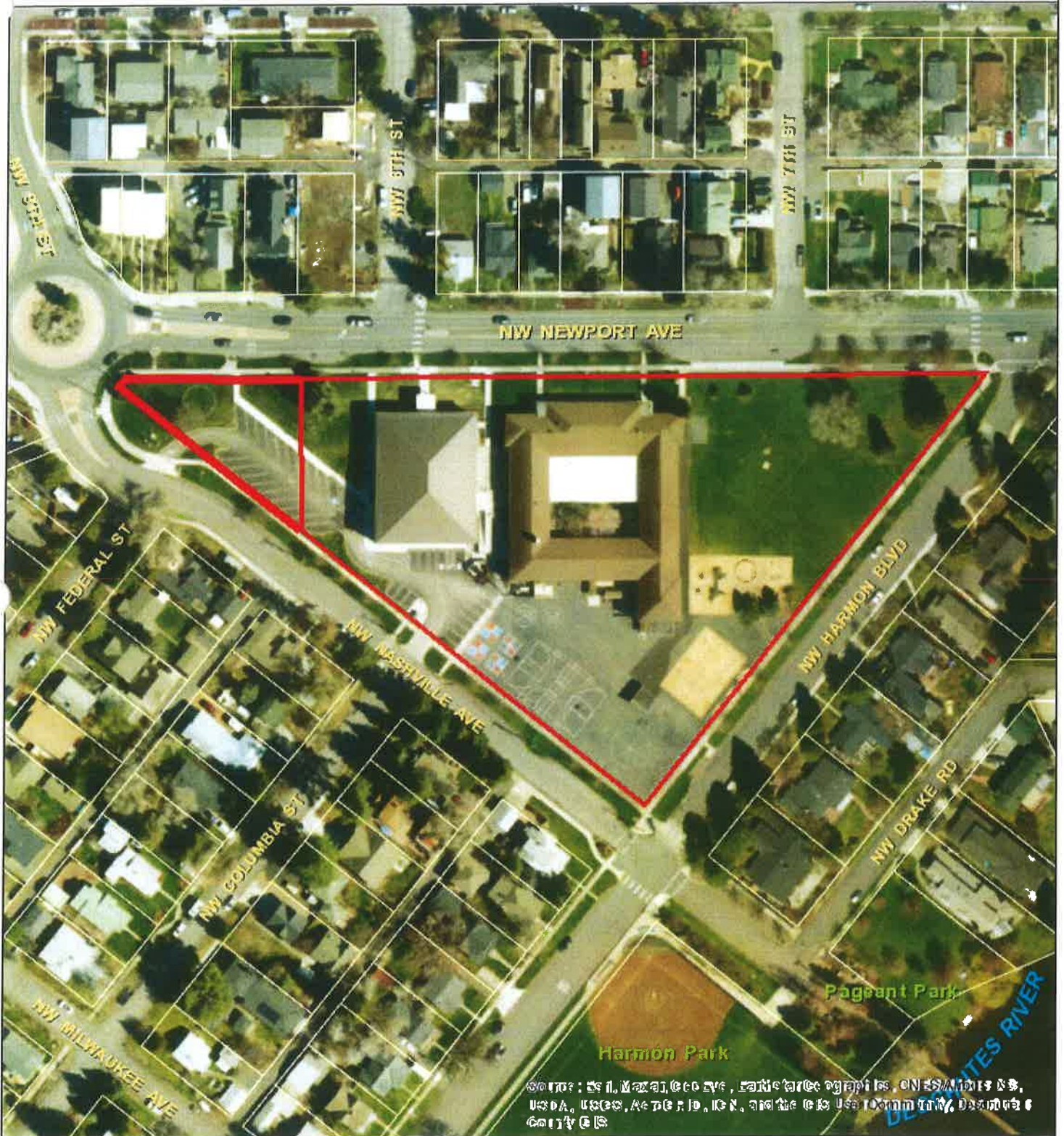
0 80 160 320
ft

1 inch = 100 feet



Highland @ Kenwood

701 NW Newport Ave, Bend, Built 1918



Date: 9/1/2021

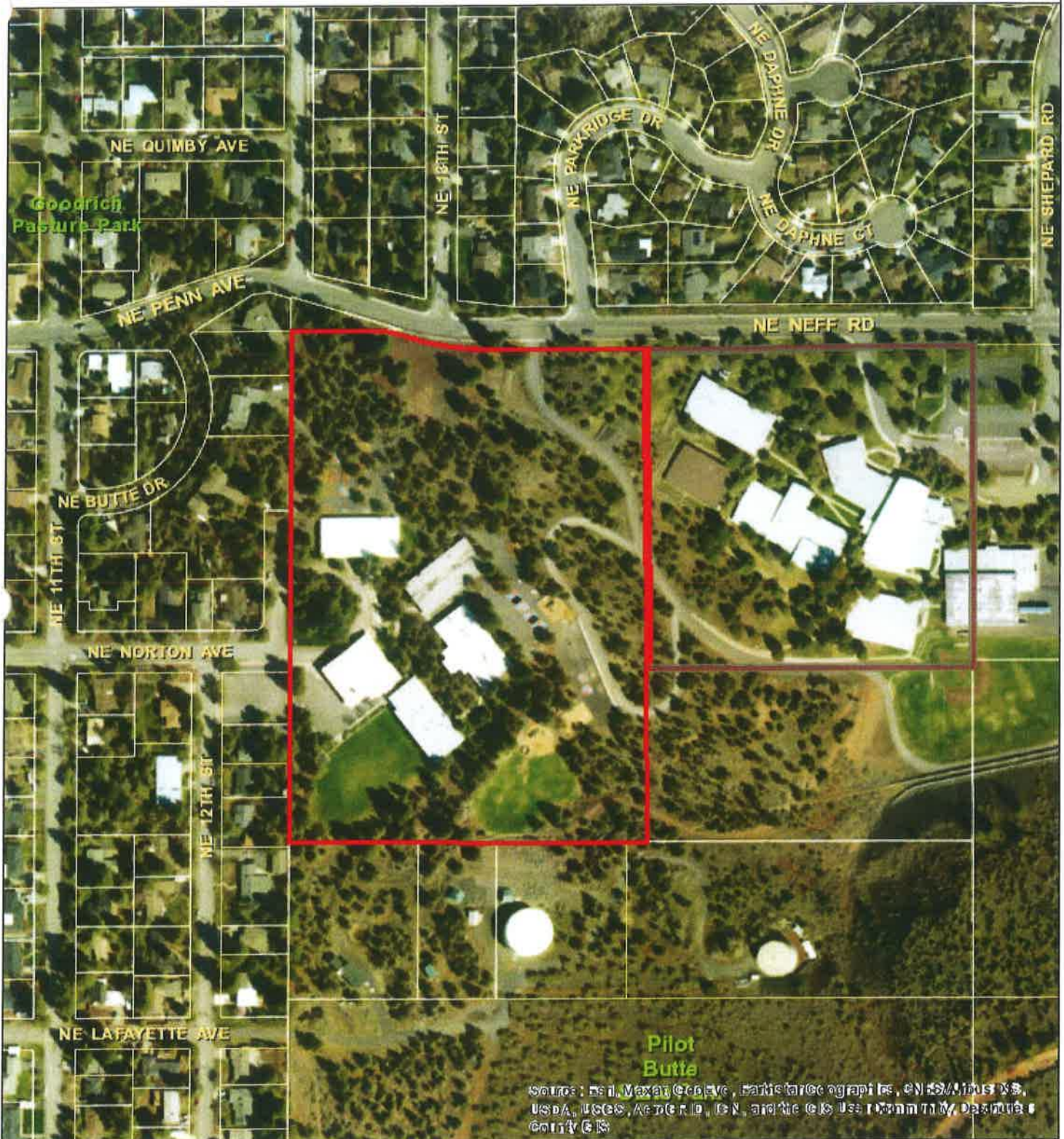


0 80 160 320
feet
1 inch = 160 feet

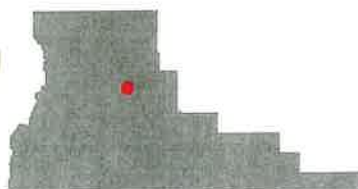


Juniper Elementary

1300 NE Norton Ave, Bend, Built 1965



Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, Deschutes County GIS



Date: 9/1/2021



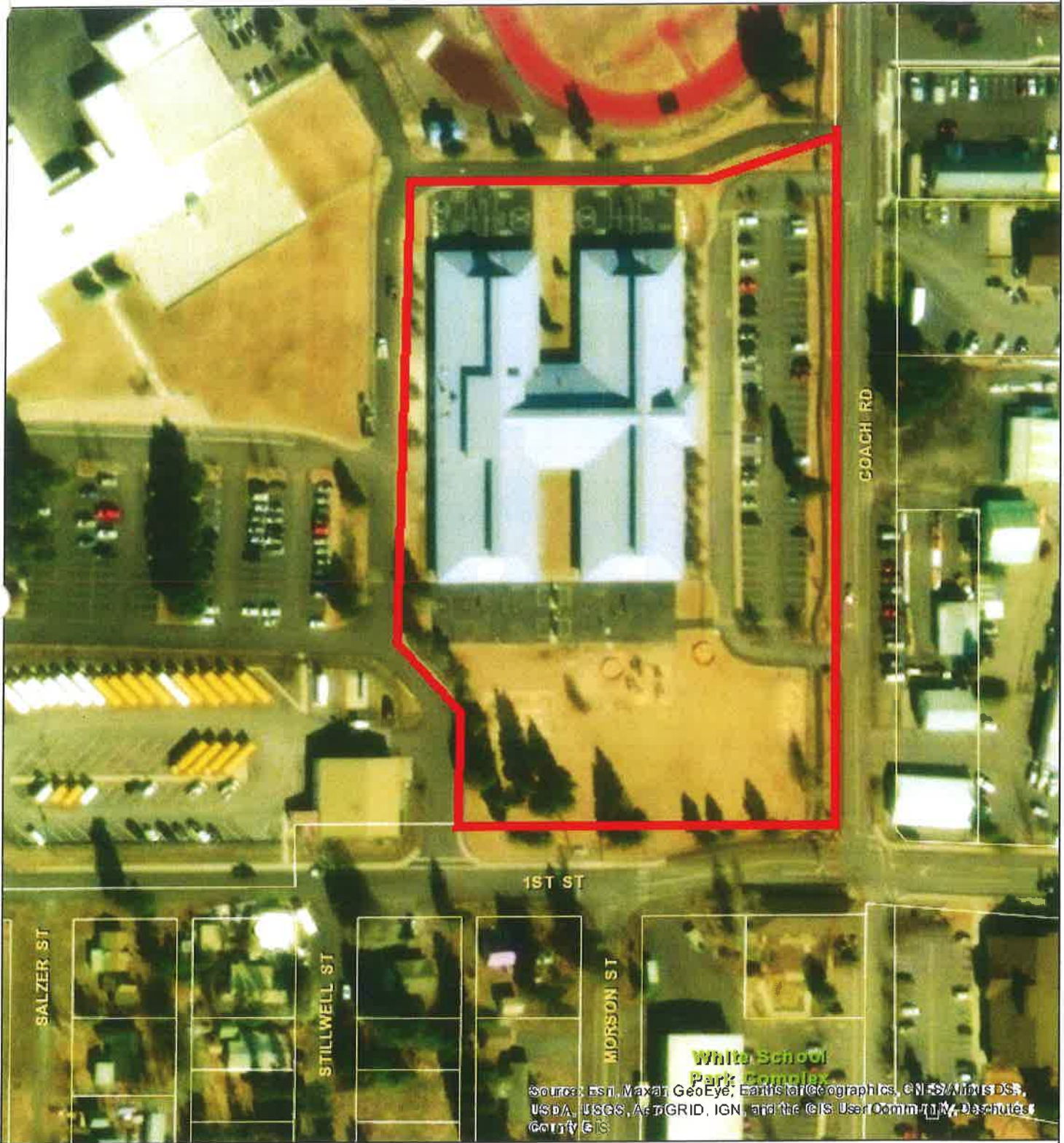
0 162.5 325 650
ft

1 inch = 378 feet



La Pine Elementary

51615 Coach Road, La Pine, Built 1994



Date: 9/1/2021

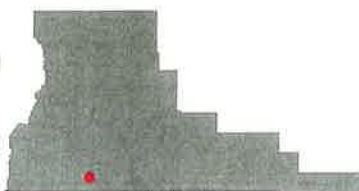
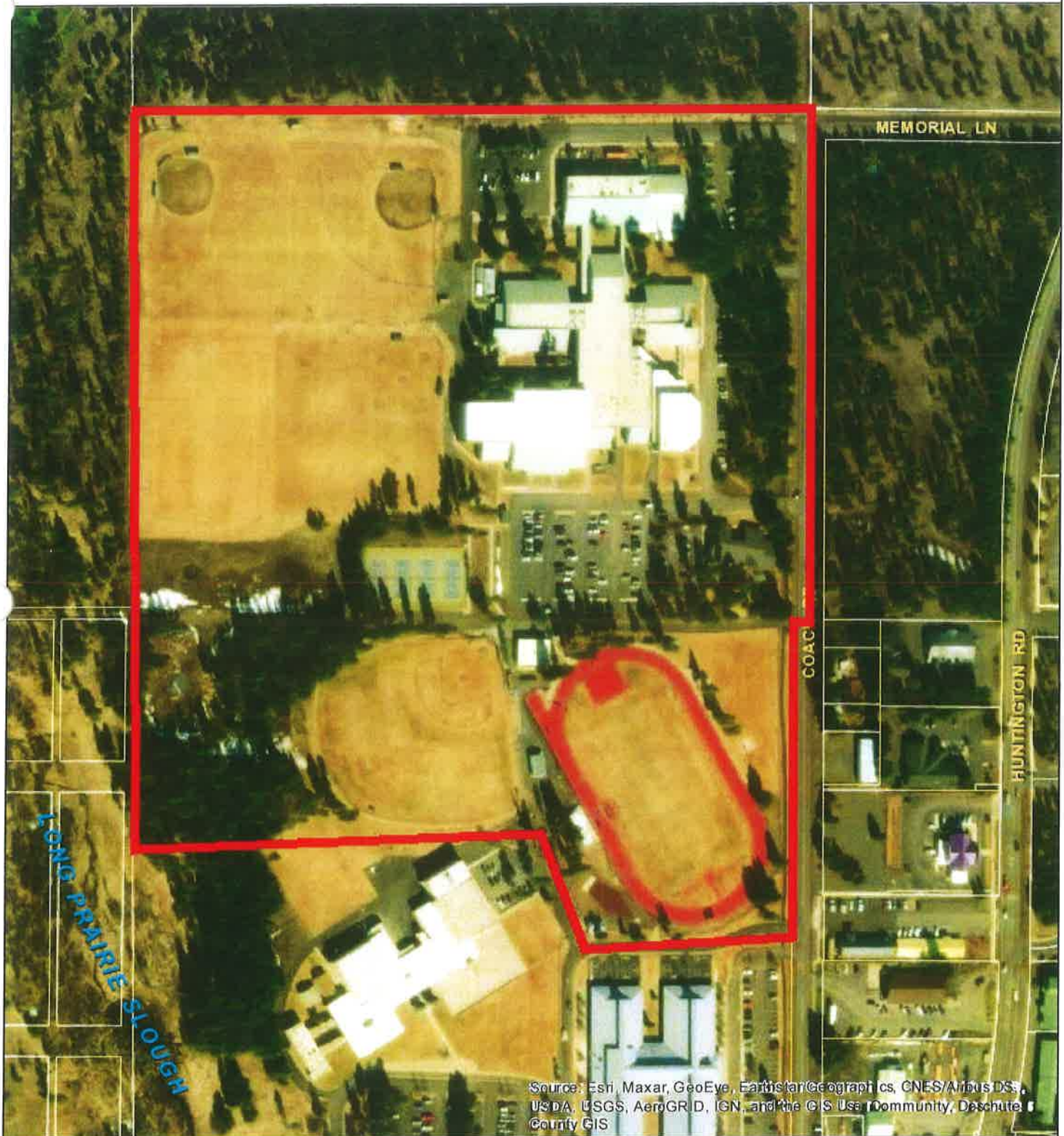


0 80 160 320
ft
1 inch = 100 feet



La Pine High School

51633 Coach Road, La Pine, Built 1979



Date: 9/1/2021

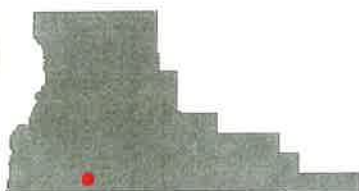


0 162.5 325 650
1 inch = 328 feet



La Pine Middle School

16350 1st Street, La Pine, Built 1978



Date: 9/1/2021



0 162.5 325 650
1 inch = 375 feet



La Pine Transportation

16360 1st Street, La Pine, Built 1980



Source: Esri, Maxar, GeoEye, Earthstar, Geographic, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, Deschutes County GIS



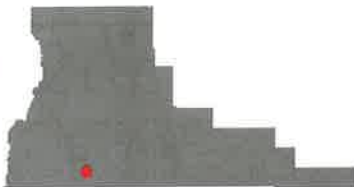
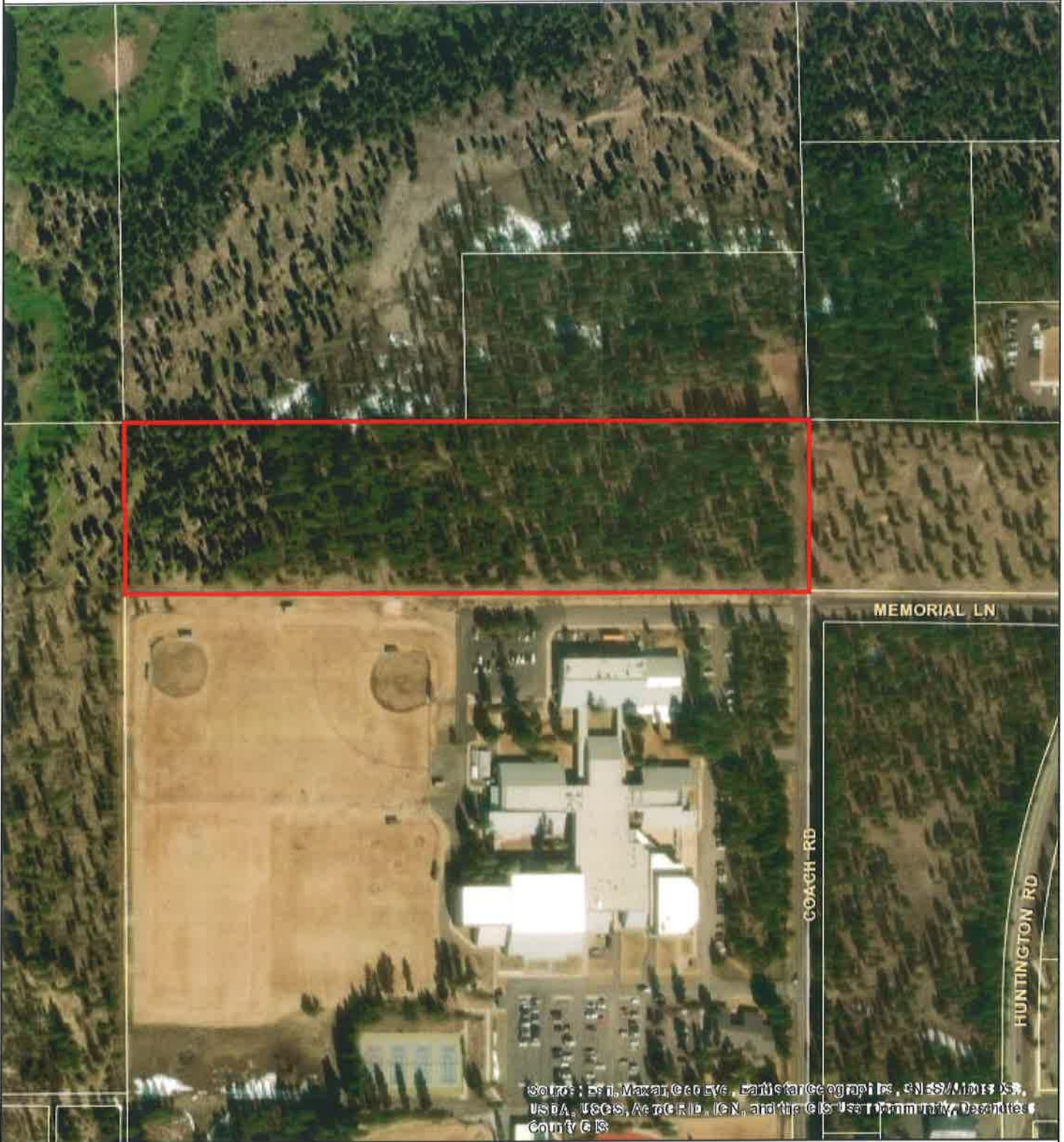
Date: 9/1/2021



0 80 160 320
1 inch = 160 feet



La Pine Vacant Lot



Date: 9/15/2021



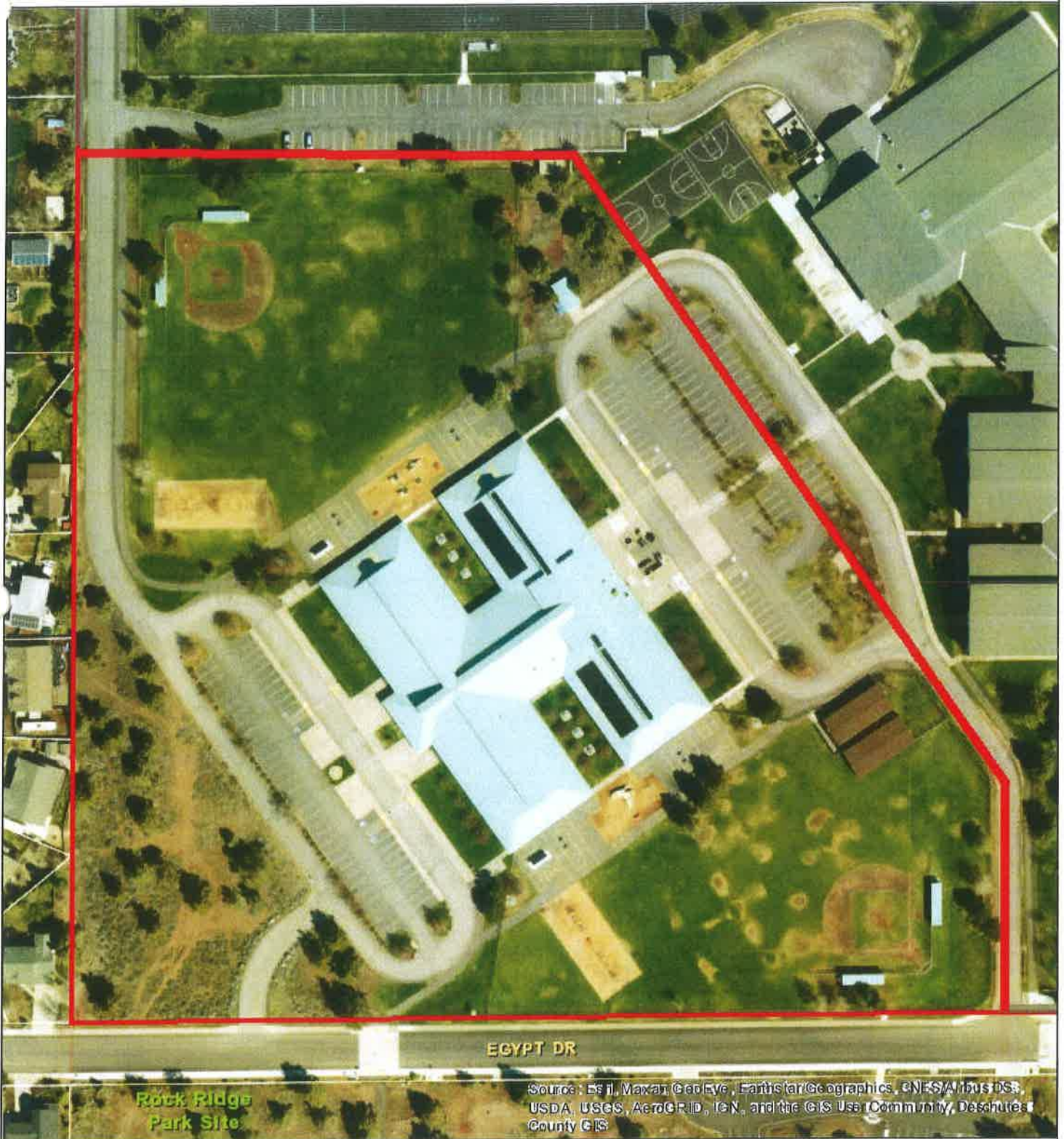
0 162.5 325 650
ft

1 inch = 378 feet

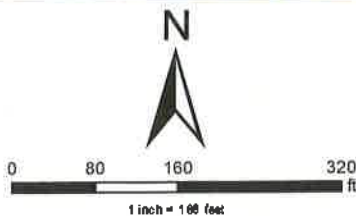


Lava Ridge Elementary

20805 Cooley Road, Bend, Built 1993

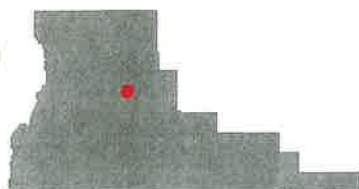


Date: 9/1/2021



Maintenance Department

1410 SE Wilson Ave, Bend, Built 2004



Date: 9/1/2021



0 162.5 325 650
ft

1 inch = 370 feet

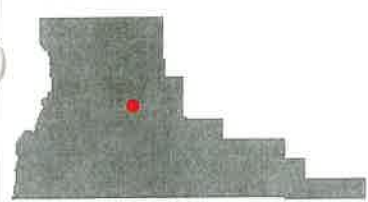


Middle School Site

SE 15th St, Bend



Source: Esri, Maxar Geoeye, Earthstar Geographics, CNES/Airbus DS, USDA, AeroGRID, IGN, and the GIS User Community, Descartes



Date: 9/1/2021



0 162.5 325 650
1 inch = 328 feet

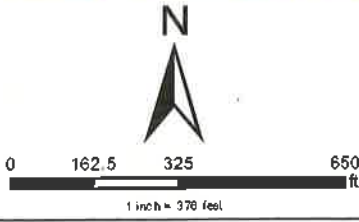


Mountain View High School

2755 NE 27th St, Bend, Built 1978



Date: 9/1/2021

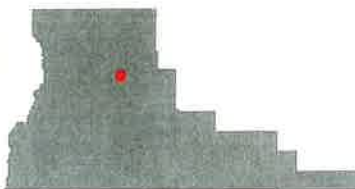


North Star Elementary

63567 NW Brownrigg Ln, Bend, Built 2019



Source: Esri, Maxar GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, Descartes, Garmin GIS



Date: 9/1/2021



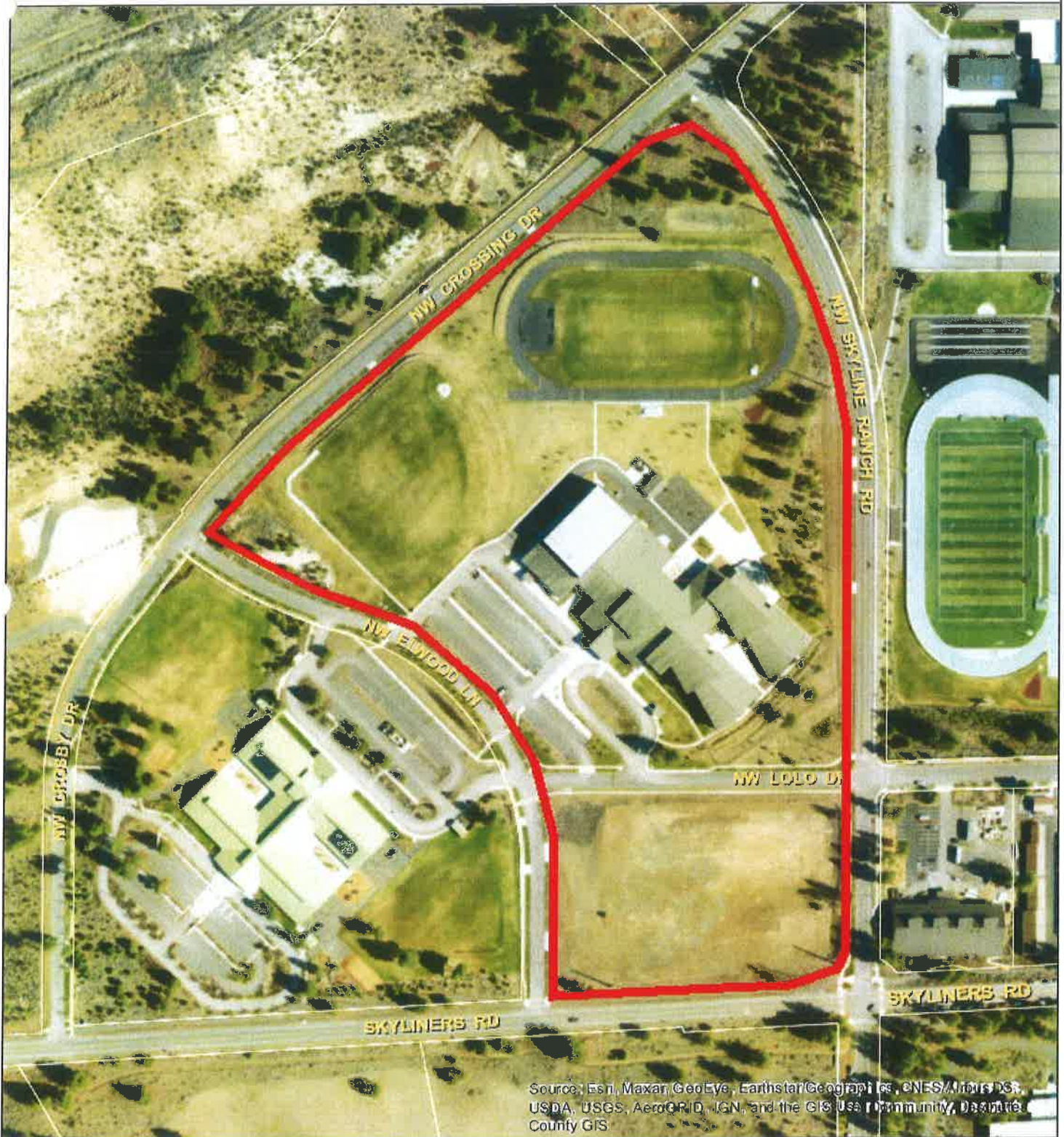
0 80 160 320
ft

1 inch = 166 feet

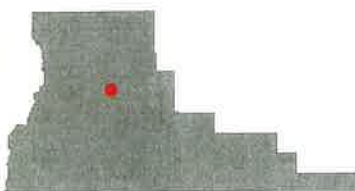


Pacific Crest Middle School

3030 NW Elwood Ln, Bend, Built 2015



Source: Esri, Maxar, GeoEye, Earthstar/Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, Deschutes County GIS



Date: 9/1/2021



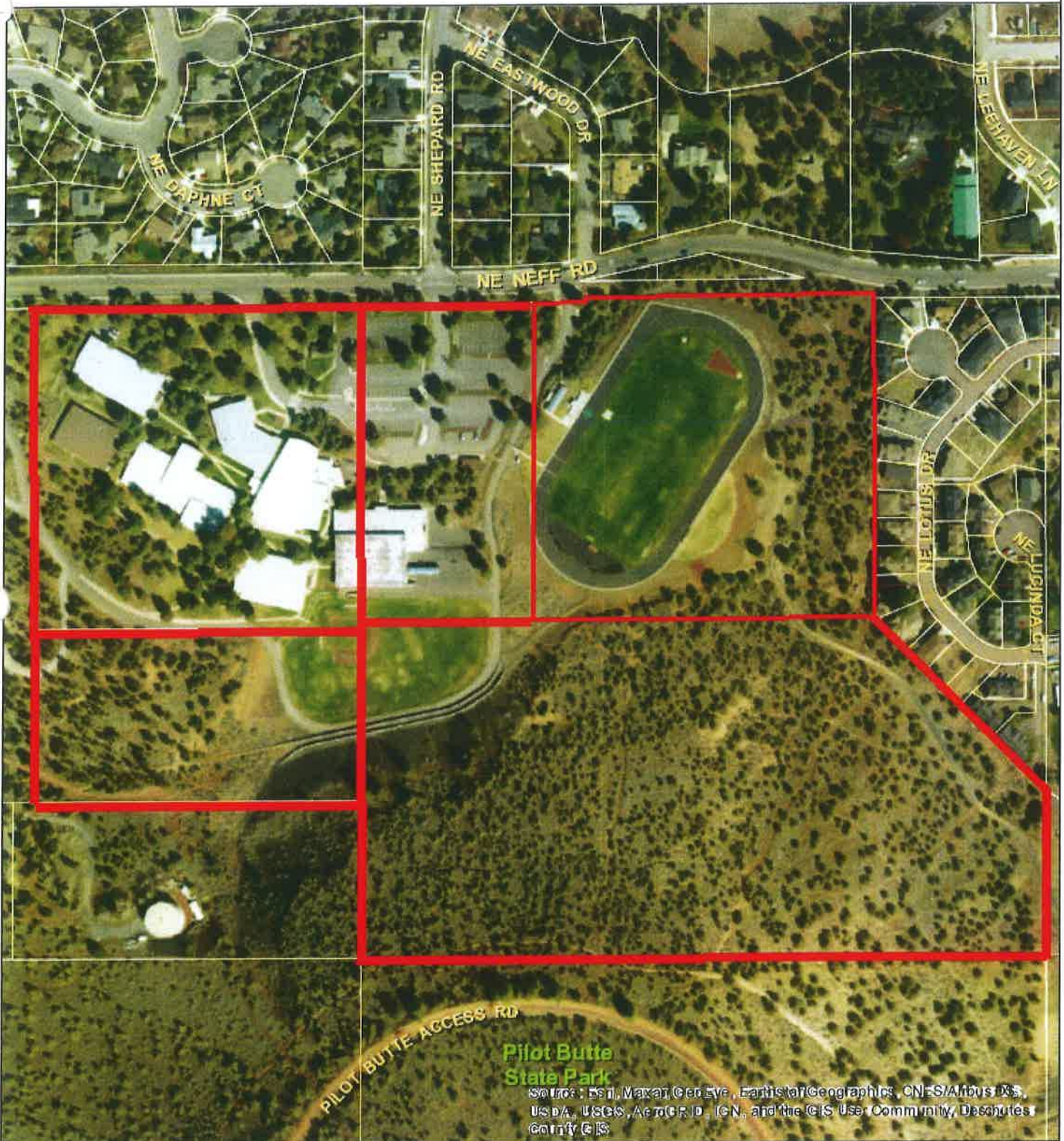
0 162.5 325 650
ft

Each = 375 feet



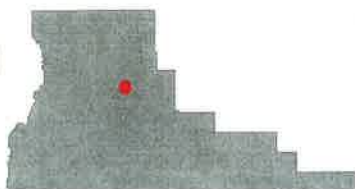
Pilot Butte Middle School

1501 NE Neff Rd, Bend, Built 1968



Pilot Butte
State Park

Sources: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS,
USDA, USGS, AeroGRID, IGN, and the GIS User Community, Deschutes
County GIS



Date: 9/1/2021



0 162.5 325 650
1 inch = 375 feet

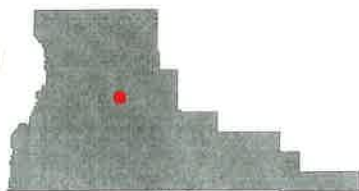


Pine Ridge Elementary

19840 Hollygrape St, Bend, Built 2002



Source: Esri, Maxar, GeoEye, Earthstar, CNES/Airbus DS,
USDA, USGS, AeroGRID, IGN, and the GIS User Community, Descartes
Carto GIS



Date: 9/1/2021



0 162.5 325 650
1 inch = 376 feet

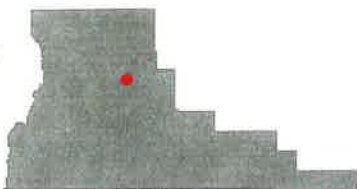


Ponderosa Elementary

3790 NE Purcell Blvd, Bend, Built 2007



Sources: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, Deschutes County GIS



Date: 9/1/2021



0 162.5 325 650
1 inch = 376 feet



RE Jewell Elementary

20550 Murphy Rd, Bend, Built 1974



Source: Esri, Maxar, GeoEye, EarthstarGeographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, Deschutes County GIS



Date: 9/1/2021

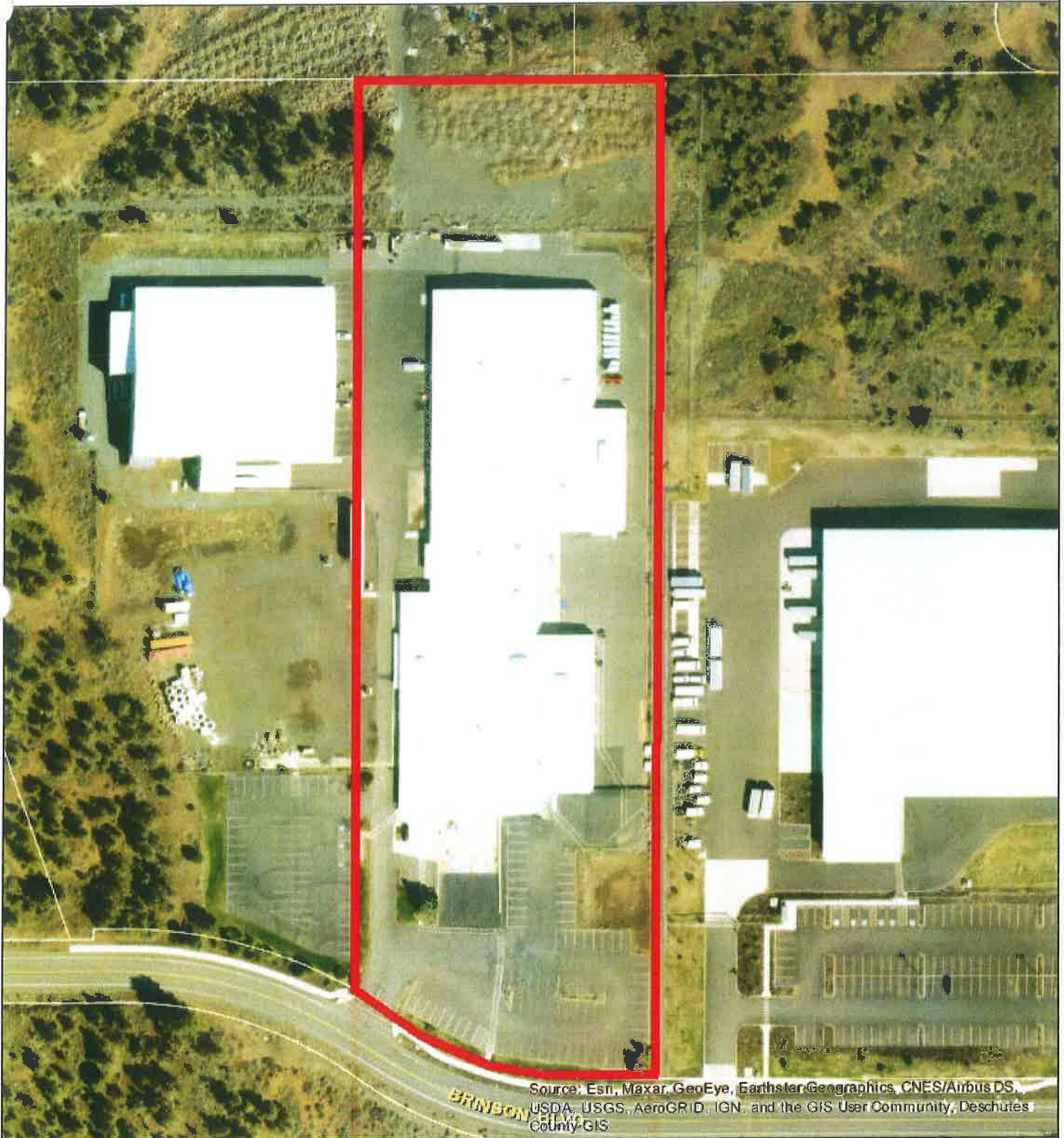


0 162.5 325 650
1 inch = 370 feet

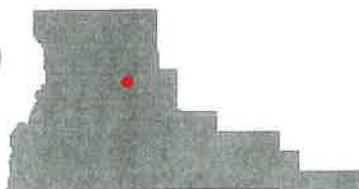


REALMS High School (Leased)

20730 Brinson Blvd, Bend



Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, Deschutes County GIS



Date: 9/1/2021



0 80 160 320
1 inch = 160 feet

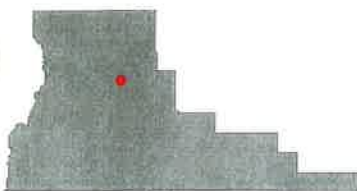


REALMS School (Leased)

63175 OB Riley Rd, Bend



Sources: Esri, Maxar, GeoEye, Earthstar, GeoEye, IGN, CNES Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, Descartes & Co. GIS



Date: 9/1/2021



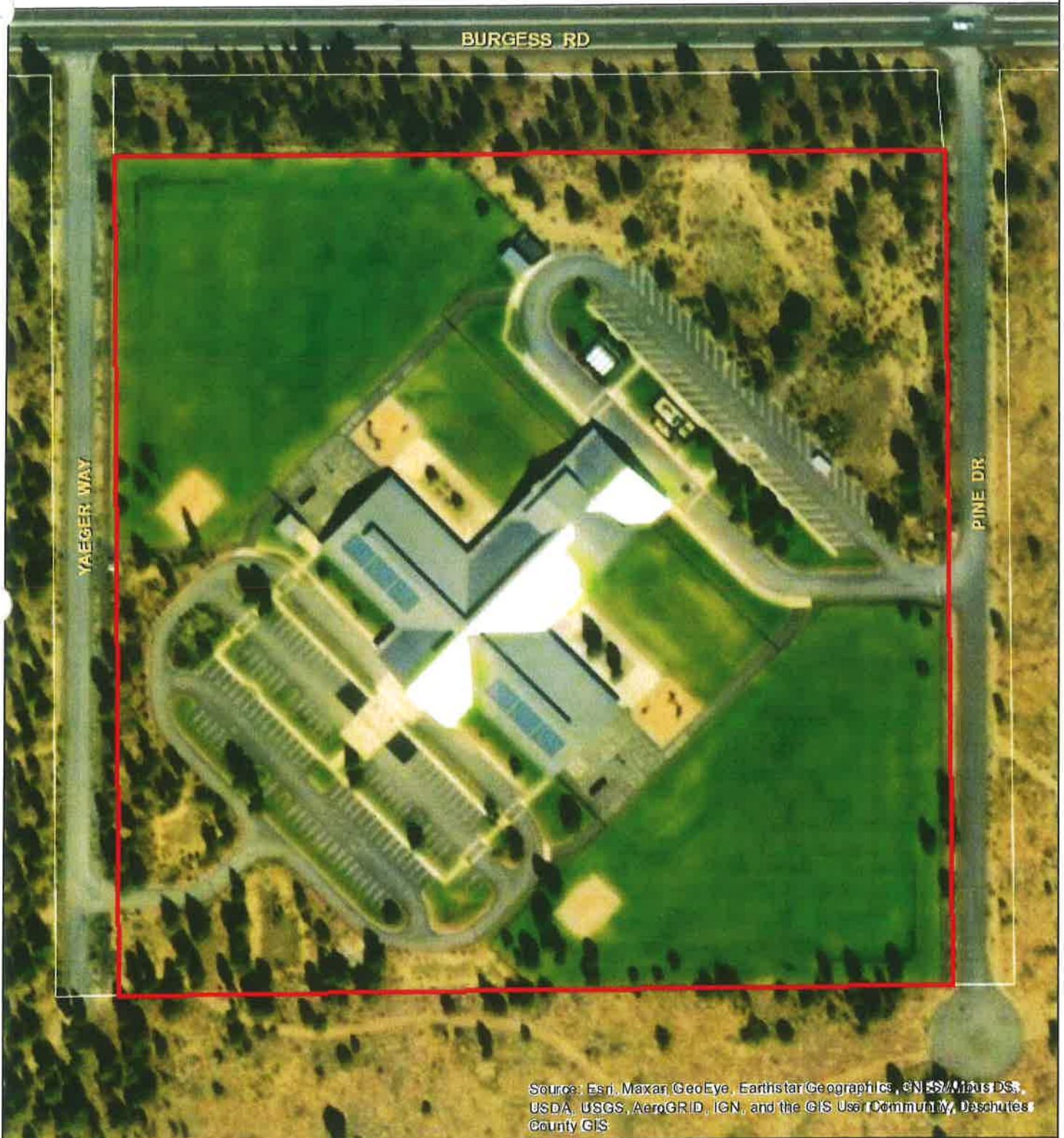
0 80 160 320
ft

1 inch = 186 feet

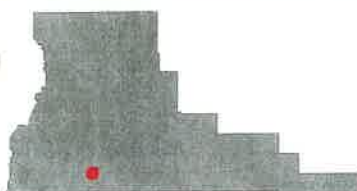


Rosland Elementary

52350 Yaeger Way, La Pine, Built 2010



Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, Deschutes County GIS



Date: 9/1/2021



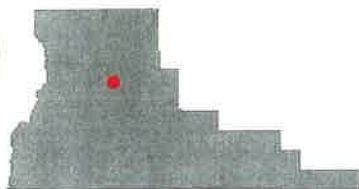
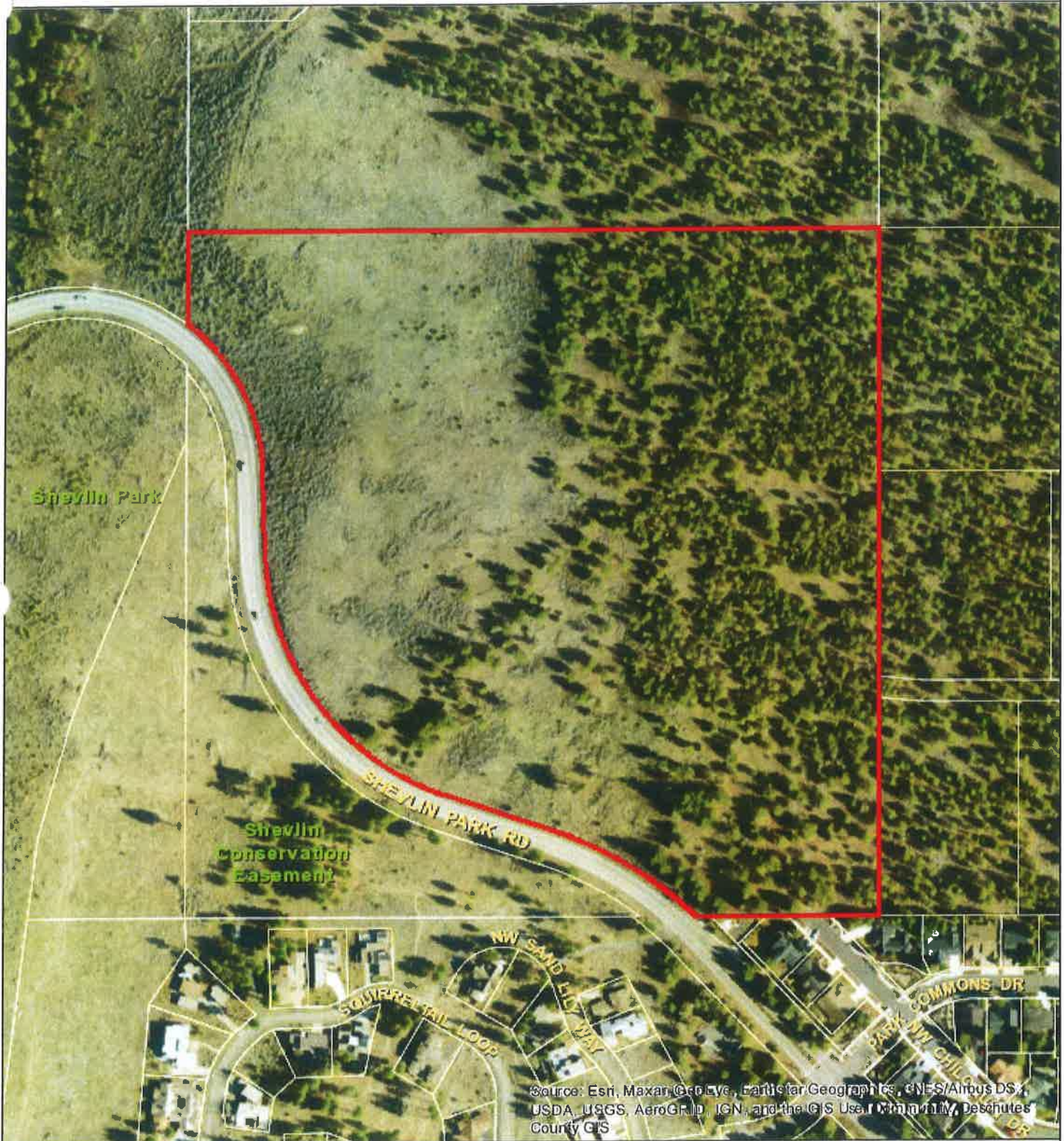
0 80 160 320
ft

1 inch = 160 feet



Northwest Vacant Lot

Shevlin Park Rd, Bend



Date: 9/1/2021

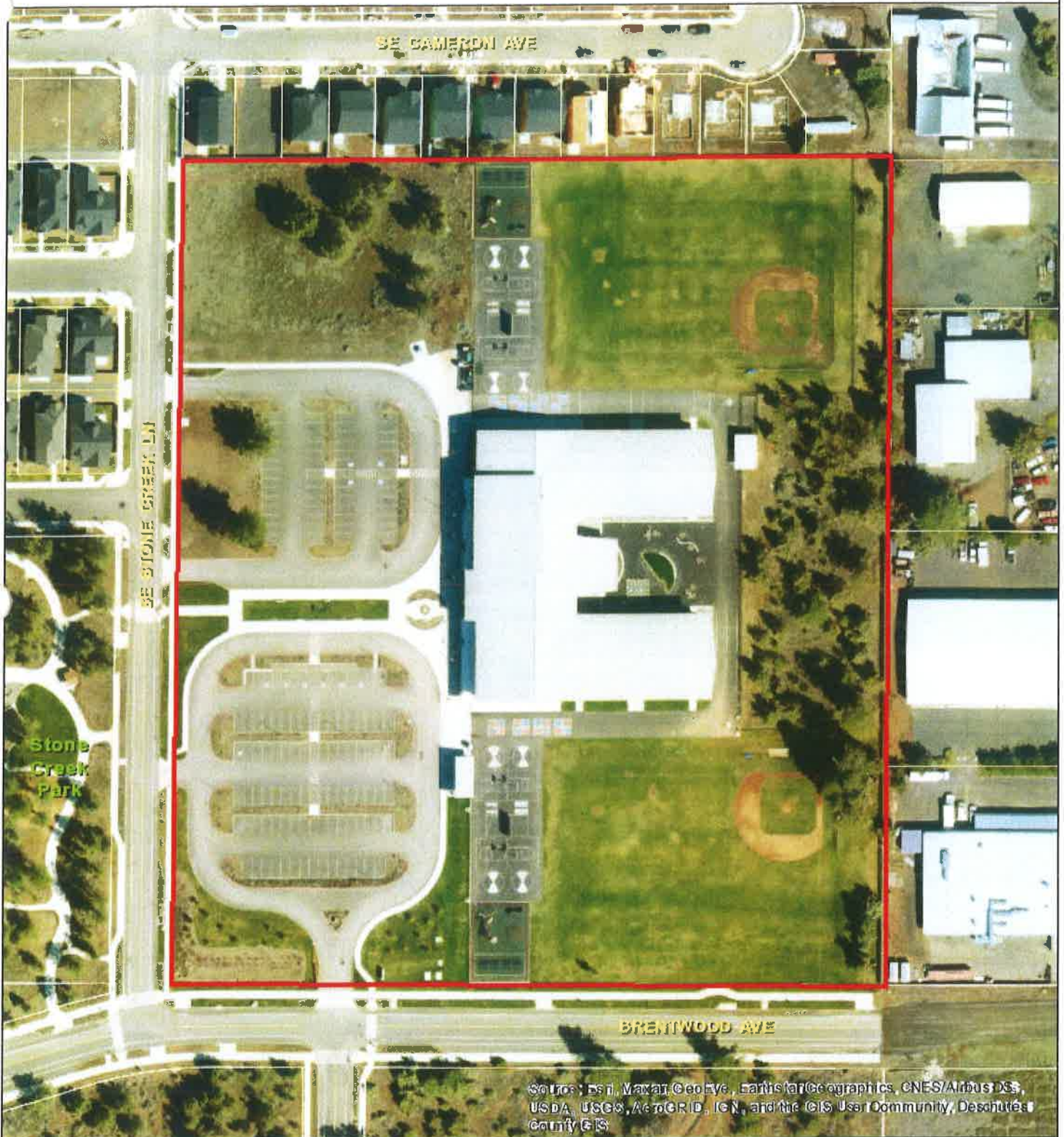


0 162.5 325 650
ft
1 inch = 376 feet

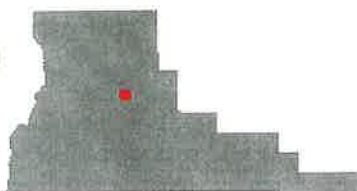


Silver Rail Elementary

61530 SE Stone Creek Ln, Bend, Built 2015



Source: Esri, Maxar GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, Deschutes County GIS



Date: 9/1/2021



0 80 160 320
ft

1 inch = 169 feet



Sky View Middle School

63555 18th Street, Bend, Built 1999



Date: 9/1/2021

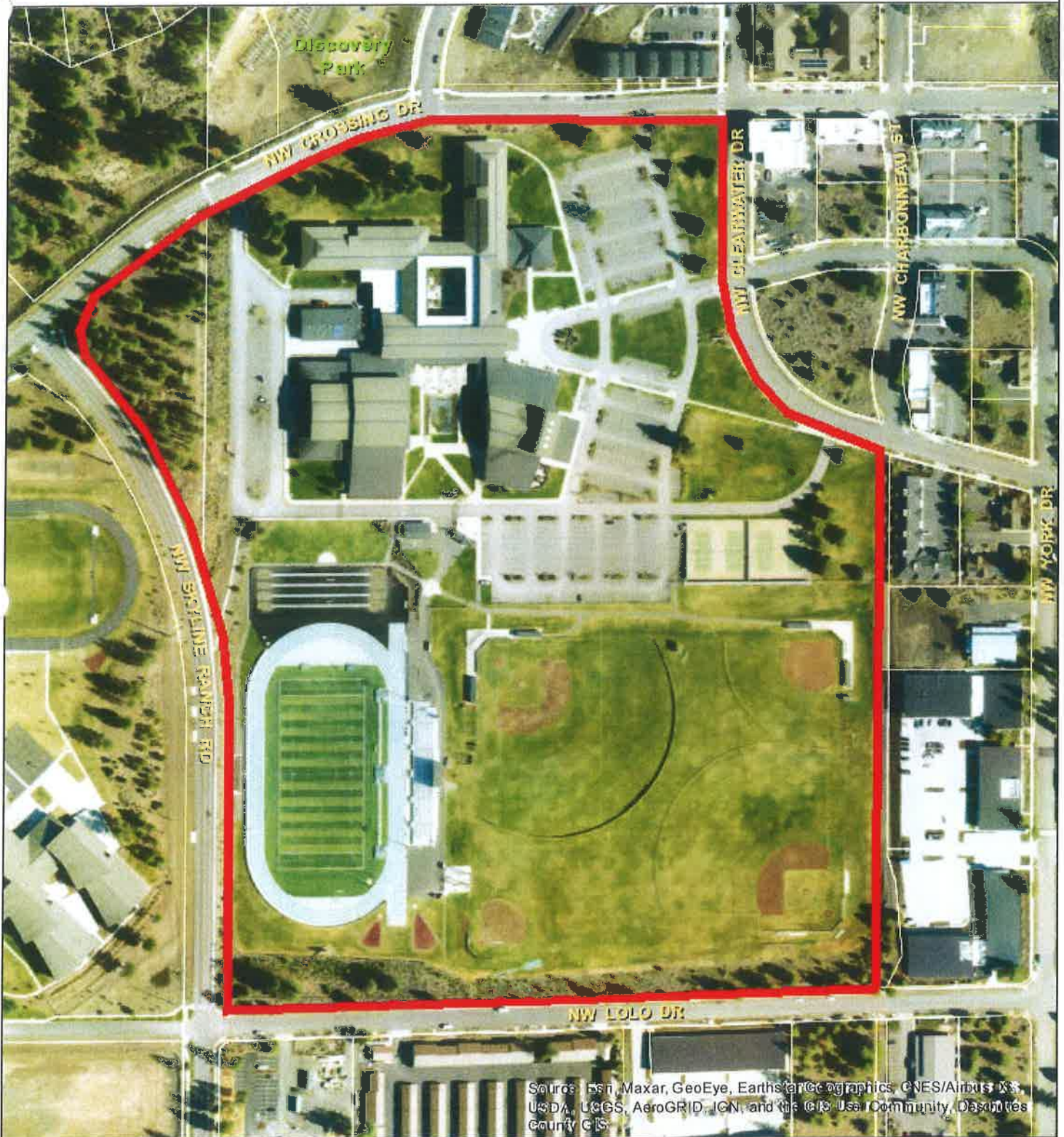


0 162.5 325 650
1 inch = 375 feet

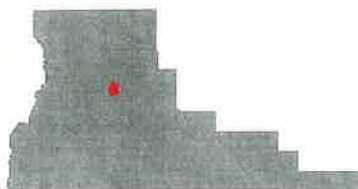


Summit High School

2655 NW Clearwater Dr, Bend, Built 2002



Source: Esri, Maxar, GeoEye, Earthstar, GeoGraphics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, Deschutes County GIS



Date: 9/1/2021



0 162.5 325 650
ft
1 inch = 370 feet

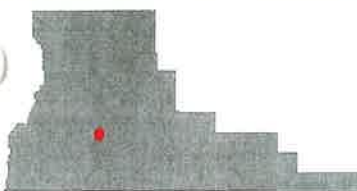


Three Rivers School

56900 Enterprise Dr, Sunriver, Built 1992



Source: Esri, Maxar, GeoEye, Earthstar, GeoGraphics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, Deschutes County GIS



Date: 9/1/2021



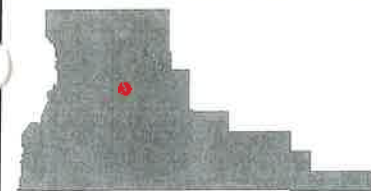
0 162.5 325 650

1 inch = 375 feet



WE Miller Elementary

300 NW Crosby Dr, Bend, Built 2009



Date: 9/1/2021



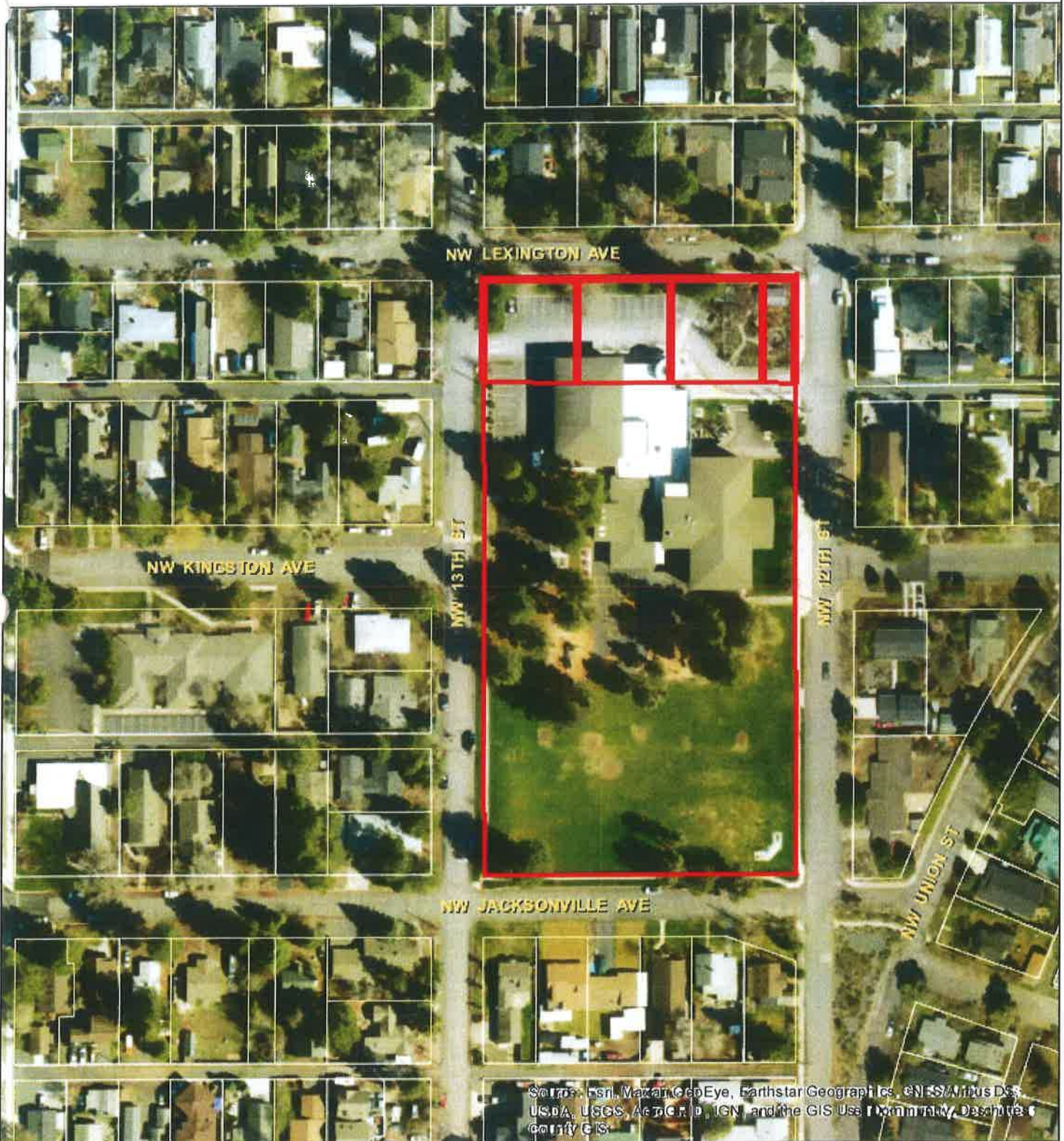
0 60 160 320
ft

1 inch = 160 feet

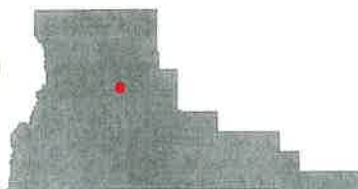


Weestside Village @ Kingston

1101 NW 12th St, Bend, Built 1949



Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNR/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, Deschutes County GIS



Date: 9/1/2021



0 80 160 320
ft
1 inch = 100 feet

