Edison Elementary School
Master Plan

1328 E. 22nd Ave
Eugene, OR 97403

Eugene Public School District 4J

January 2014

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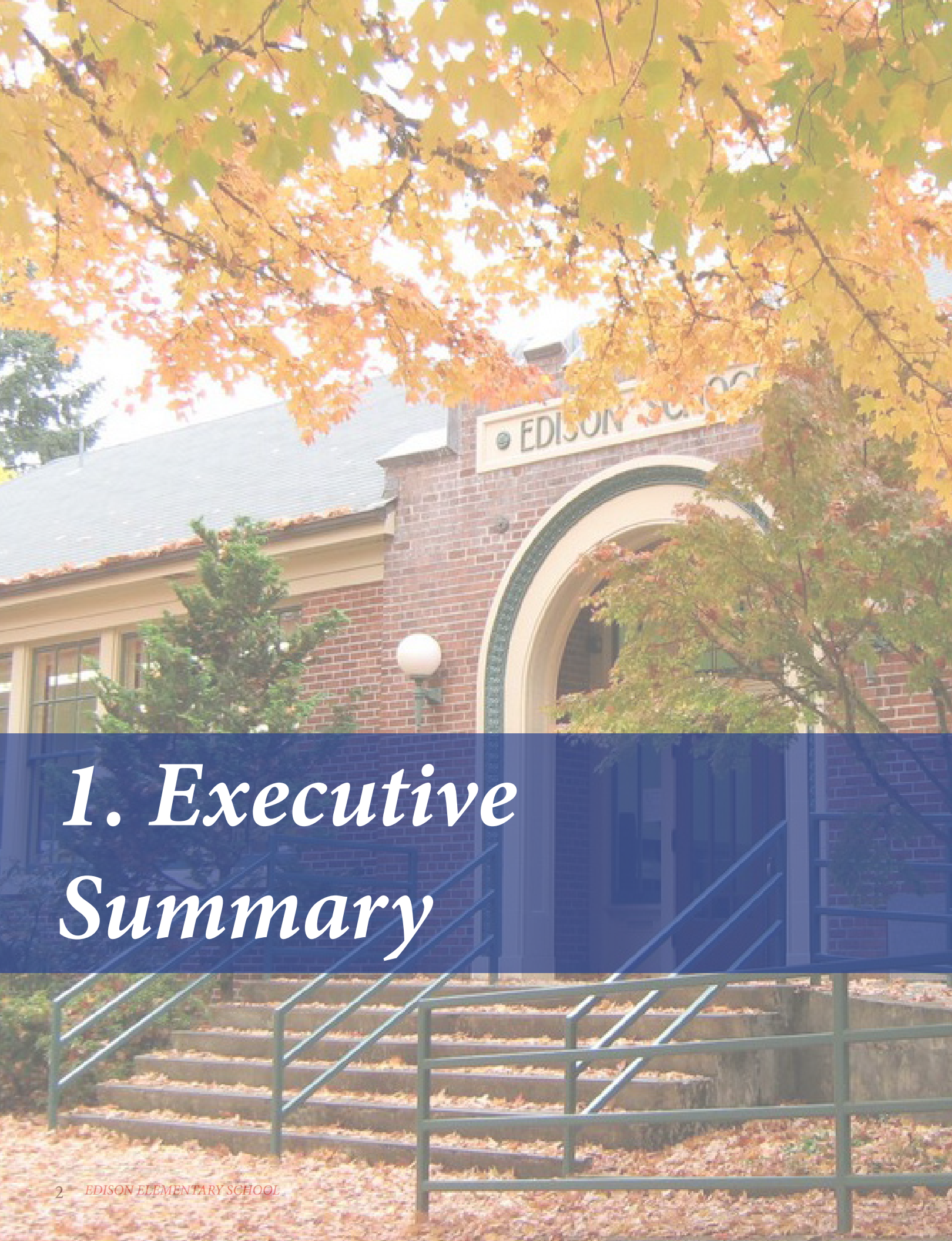

1. Executive Summary

1a. ACKNOWLEDGEMENTS

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EDISON ELEMENTARY SCHOOL
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1b. OVERVIEW

Eugene School District 4J retained Robertson/Sherwood/Architects (RSA) in November 2012 to prepare a master plan to identify immediate and long range improvement needs at Edison Elementary School. The overarching goal is to greatly extend its useful life and more closely align the facility with 21st century pedagogical models. Toward this end, RSA conducted a comprehensive look at the facility needs for the building and site and developed a "road map" to assist the District with planning for future bond measures and/or minor capital upgrades involving Edison Elementary School.

The District previously hired MGT of America, Inc. in 2011 to update its long-range facilities plan. MGT's assessment for Edison determined that the school's enrollment exceeds its capacity (projecting 106% utilization for the 2012-2013 enrollment period). MGT assigned Edison a facility condition score of 63.36, an educational suitability score of 62.71, a site condition assessment of 53.64, and a technology readiness score of 61.70. All of these scores categorize as "poor" or "unsatisfactory" using MGT's scoring metric. MGT calculated the combined score (weighted according to which elements the District wished to emphasize) as 61.96, which is the lowest it assigned to any of the seventeen elementary schools currently operated by the Eugene School District.

Based upon its evaluation and its commensurate low scoring, MGT recommended the consolidation of the Edison and Camas Ridge Elementary School populations in a new building either at the current Roosevelt Middle School site or at the Camas Ridge site. MGT estimated the cost of a new, larger replacement elementary school to be $25 million.

Notwithstanding MGT's recommendation, the District opted to retain both Edison at its current site and not consolidate its enrollment with Camas Ridge. In coming to this conclusion, the District cited strong public sentiment in favor of maintaining the status quo. The District also factored the combined enrollment of Edison and Camas, which at over 750 students would have been well above the number the District believes is appropriate. Additionally, Edison operates effectively as a neighborhood school to which students can walk or bike safely (as opposed to being driven or bused to school because of increased distance). All of these considerations factored into 4J's decision.

This master plan is thusly an outcome of the District's choice to retain Edison Elementary School in some form on its current site rather than consolidating Edison and Camas Ridge elementary schools. It includes a new analysis of Edison's neighborhood context and the desires of the Edison community. The document identifies the most significant shortcomings of the existing physical plan and proposes three distinct options that attempt to meet as many of the objectives of 4J's Educational Specifications for elementary schools as possible. Additionally, it assigns rough-order-of-magnitude budget numbers to each of the options, as well as the pros and cons associated with each.

Despite a lengthy list of universally recognized deficiencies, including an inadequate cafeteria/kitchen, security concerns, accessibility issues, structural (seismic resistance) deficiencies and obsolete infrastructure systems, the District deferred implementation of any improvements pending the completion of this master plan. This was to ensure that all projects would be undertaken within the overall framework described by the plan. The exception has been the District's addition of access controls (card readers) and a front entry buzz-in feature. Complete implementation of the plan is dependent upon the success of a future capital bonds ballot measure.

Three development scenario options for Edison Elementary School present a range of possibilities for creating an up-to-date and functional facility that addresses, to a greater or lesser degree, the Eugene School District 4J Educational Specifications for elementary schools. Below is a brief pros/cons analysis and cost comparison of the three options (costs are expressed in 2013 dollars). A more extensive description of each of the options is contained elsewhere in this Master Plan document.

Option A: New school on the current Edison site

Pros:

- Option with fewest physical encumbrances
- Greatest likelihood of fully meeting 4J Educational Specifications
- Potential to permit continued use of the existing school while new construction underway
- Potential for new construction to replicate the historic look and feel of the original school

Cons:

- Necessitates demolition of the existing Edison Elementary School
- May require accommodation of off-street parking to satisfy City of Eugene Code requirements

Area of new construction: Approximately 49,000 s.f.

Area of renovation: 0 s.f.

Direct Construction Budget: $12, 832,000

Total Project Budget: $18,735,000

Option B: Retain the façade, building new behind

Pros:

- Retains the historic façades while completely replacing the largely deficient existing facility with totally new construction
- Physical encumbrances are limited to retention of the existing historic façades
- Higher likelihood of fulfilling the 4J Educational Specification than a renovation alone would

Cons:

- Necessitates relocation of students, teachers, and staff for at least one full academic year; this could adversely impact enrollment as parents choose to enroll their children at other schools rather than returning to Edison
- May require accommodation of off-street parking to satisfy City of Eugene Code requirements

Area of new construction: Approximately 49,000 s.f.

Area of renovation: 0 s.f. (Work would include restoration and addition of structural support for retained historic façade)

Direct Construction Budget: $14,204,000

Total Project Budget: $20,737,840 (not inclusive of temporary relocation costs)

Option C: Targeted renovation

Pros:

- Retains a significant percentage of the historic building's fabric and character
- Unlikely to result in mandate to provide new off-street parking in accordance with City of Eugene Code
- Assumes complete accessibility, seismic, mechanical, and electrical upgrades to all existing components to remain
- Potential to introduces new classroom "neighborhoods" and other improvements to enhance the school's ability to adapt to current and future educational needs by selectively demolishing awkward portions of the existing building and constructing new additions
- Phased implementation could potentially allow continued use of the facility throughout the construction process

Cons:

- Option with the most physical encumbrances
- Assumes significant expenditures for remediating existing building system deficiencies, including seismic retrofits
- Retention of the older portions of the building limits extent to which current Educational Specification standards may be met
- Necessitates complex phasing of the work if school is to remain in use throughout the construction period
- Impacts of construction activities upon the school and life as usual are unavoidable

Area of new construction (additions): Approximately 18,000 s.f.

Area to be demolished: 7,600 s.f.

Area to be renovated: 34,500 s.f.

Construction Budget: $12,919,000

Total Project Budget: $18,861,740

Draft Recommendation Statement

Given the significant variables under consideration when comparing the three alternative master plan scenarios, it is difficult without the District's input to forward a recommendation. The fact these variables are in play necessitates their careful consideration before coming to a conclusion regarding which option is in the District's best interest to pursue.

The following are the most impactful of these variables:

1. Compliance with the 4J Educational Specification and Program for Elementary Schools
2. Long-term safety of existing building's structure
3. The desirability of avoiding temporary displacement of the school to another site during the period of construction
4. Short-term and long-term (life cycle) costs
5. The value (beyond dollars) of the existing school's historic architecture and its importance to the Edison community

Depending upon how the District prioritizes these variables, the favored recommendation may vary. For example, if the variables are prioritized as ordered above, our recommendation to the District would be to pursue **Option A – New School** because:

- It offers the best opportunity to meet as much of the Ed Spec as possible
- It is conceivable the school population would not have to be temporarily relocated; however, it would require abandonment of outdoor play areas during the construction period

On the negative side of the ledger, Option A entails demolition of the existing building.

Conversely, if the variables are reversed (such that No. 5 is the highest priority and No. 1 is the lowest), our recommendation to the District would be to pursue **Option C – Targeted Renovation** because:

- It retains as much of the existing architecture as possible
- It's conceivable the school population would not require temporary relocation to facilitate the work

However, Option C also presents the greatest challenge when it comes to satisfying the Ed Spec and poses complex phasing issues.

As for **Option B – Retain the Façade**, although it would appear to offer a possible middle ground between Options A and C, it is burdened with the definite need to displace the school population during the period of construction, and is otherwise the most expensive alternative. For these reasons, we do not believe Option B offers the best value to the District, irrespective of the prioritization of the key project variables.

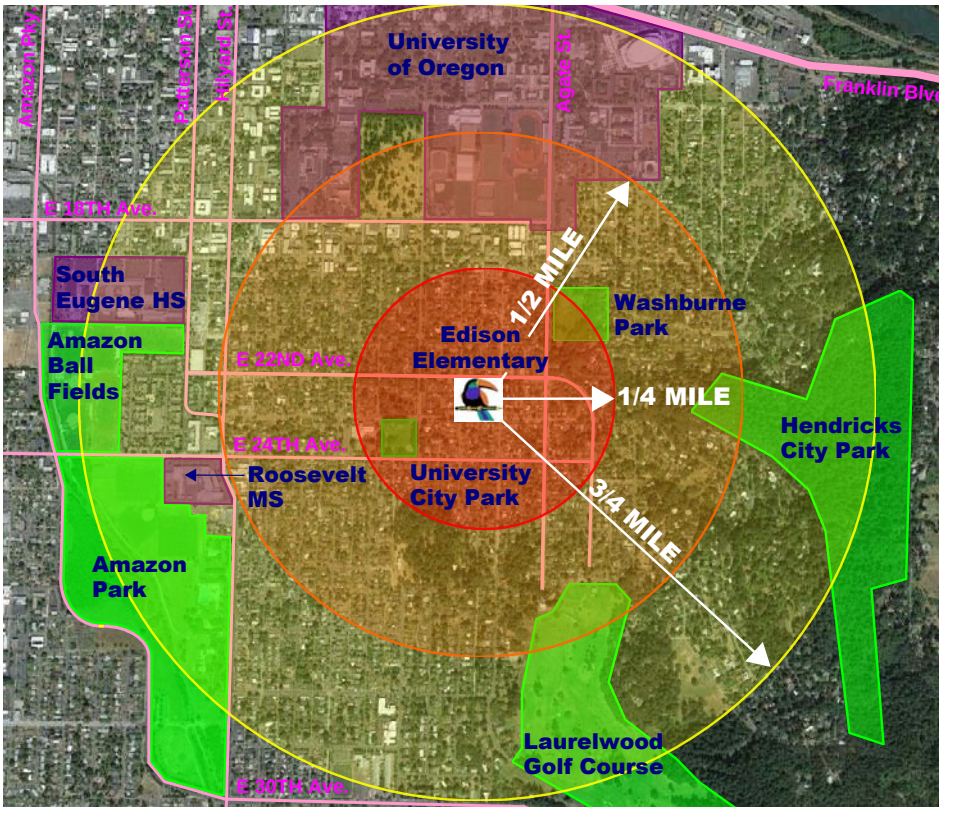
2. Project Context & Existing Conditions

An Emotional Landmark

Edison Elementary School has served as a focal point for the South University neighborhood since it accepted its first students in 1926. Bounded by East 22nd Avenue to the north, Onyx Street to the west, East 23rd Avenue on the south, and Emerald Street on its east side, Edison serves a well-established neighborhood comprised mostly of single-family homes (The notable exception being the growing number of student housing developments between 18th and 19th Avenues a few blocks north of Edison and immediately south of the University of Oregon).

The school enjoys a dedicated, highly active and involved parent community, some of whom attended Edison as children themselves. Indeed, the Edison neighbors appear to be comprised in large part of families and individuals who are thoroughly invested in the school's future, are far from itinerant, and have a strong affection for its small size and architectural character (while remaining cognizant of its myriad shortcomings). On the negative side of the ledger, there is relatively little diversity among the Edison student population with regard to socio-economic status, race, or ethnic origin (refer to Section 2e – Educational Context).

An emotional landmark, Edison's presence stabilizes and sustains its neighborhood by facilitating community involvement and providing a center for community activity. It is in part attributable to the efforts of Edison parents and neighbors that the District chose to not follow MGT of America's recommendation to consolidate its enrollment with Camas Ridge Elementary School (either by adding to Camas Ridge or building on an altogether new site).



A Walkable School

Walkable communities are those in which citizens live, work, attend school, and find stores or services all within a walkable distance of about a mile. Historically, many older communities developed this way, primarily because the use and ownership of automobiles was limited. The Eugene School District originally constructed Edison Elementary School as a neighborhood school, as opposed to one drawing upon a feeder area that requires students to necessarily travel significant distances by car or bus to attend. Due to walking distance limits and the usual housing density found in older neighborhoods, "walkable" schools tend toward being (because of their walking distance population) smaller schools.

The educational, health, and community benefits of walkable schools are compelling. Schools located in established neighborhoods offer easy accessibility for students to walk or bike to school, rather than having them be driven by their parents or bused to a school far away. This is particularly the case with Edison Elementary School.

Off-Street Parking and Bus Drop-off/Loading

Currently, Edison Elementary School does not provide any off-street parking to accommodate staff and visitors' vehicles; consequently, all parking needs must be met by curbside spaces in the public right-of-way along the streets that immediately bound the school. Because Edison was originally constructed prior to the institution of Eugene's parking code, the City has not mandated compliance with the current requirements. The implementation of resident-only curbside parking throughout the surrounding neighborhood exacerbates the parking challenges. Further complicating the parking question is the fact that a significant percentage of the Edison enrollment resides outside of the Edison school attendance area. These students do not walk, bicycle, or live along established bus routes serving Edison Elementary School.

RSA met with City of Eugene Land Use & Planning staff to discuss the parking question and confirmed that the City will continue to waive the requirement for off-street parking; however, the City states this is the case only if enrollment remains unchanged and there is no anticipated increase in the number of students who will attend Edison. Additionally, the City may not waive the requirement if the existing building is to be replaced with an entirely new structure.

The only way any number of spaces can be accommodated on the current site without displacing outdoor activity areas would be as structured parking, either below the school building or under the play areas. An alternative solution would be to furnish the 40 spaces off-site, which is permitted by the City of Eugene Code if they are located within ¼ mile or 1320 feet of the school (Eugene Code 9.6410(1)). However, this presumes such a location is available for purchase or lease; presently, this is not the case.

Similarly, the site is inadequate in size to accommodate an offstreet vehicular and bus drop-off and loading lane. Accordingly, school buses utilize Onyx Street and Emerald Street, and parents use 22nd Avenue in front of the school to drop off and pick up their children.

The following is a summary of site information and Eugene Land Use Code provisions pertaining to Edison Elementary School:

ADDRESS:
1328 East 22nd Ave
Map: 18030513 Tax Lot: 08300

ZONING INFORMATION
Zone: PL – Public Land (City Code 9.2680)
Overlay Zones: none

Surrounding Zones: R-1 – Low-Density Residential
Association: South University Neighborhood Association

SITE REVIEW
Site review may be required in accordance with City Code 9.2683(2).

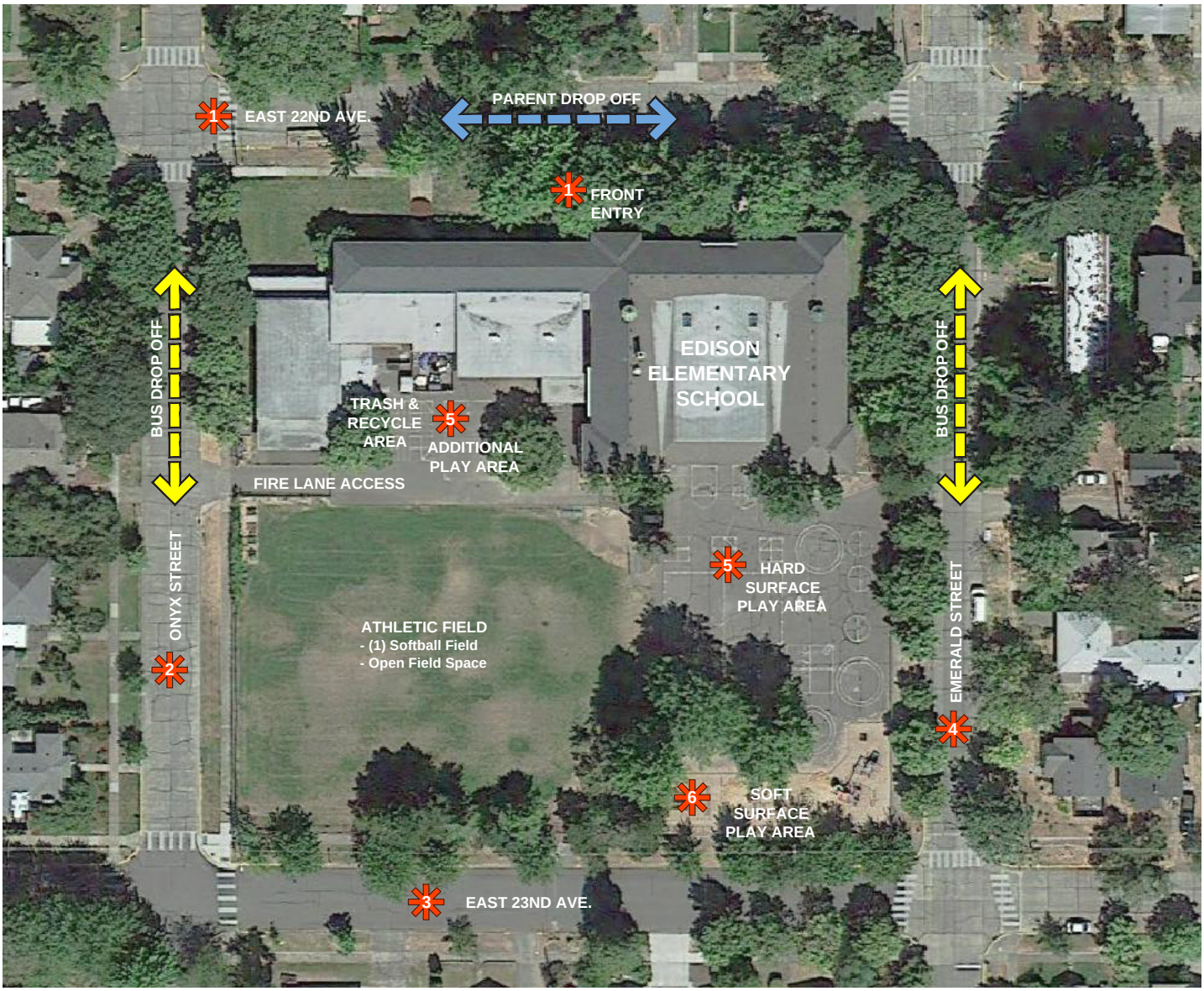
TRAFFIC IMPACT ANALYSIS
Traffic impact analysis may be required per City Code 9.8670(1).

PARKING STANDARDS (CITY CODE 9.6400)
Table 9.6410 Required Off-Street Motor Vehicle Parking: School – 1 space per 8 students of design capacity as determined by the school.

9.6410(2)(a): Except for required parking spaces for persons with disabilities, . . , the maximum number of parking spaces for non-residential uses may not exceed 125 percent of the minimum spaces required by 9.6410(3), unless an adjustment is granted.

A fundamental concern is whether the City of Eugene will mandate the provision of off-street parking in accordance with City Code 9.6400. As noted in Section 2a, there presently is no parking on the Edison Elementary School property.

Aerial site plan (existing conditions)



Edison Elementary School is unique to the Eugene/Springfield area in that it is more urban in nature than the other 4J school sites. Edison does not include onsite parking for staff or visitors and relies on the surrounding neighborhood and streets to support bus and parent drop-off and pick-up, visitor parking, and staff parking.

The following list is a catalog of items of concern and potential improvements for Edison Elementary School. The numbering corresponds to those on the aerial site view shown on the opposite page:

1. Front Entry/East 22nd Avenue:

Items of Concern:

- ADA access is less than desirable.
- Entry stairs are in disrepair. Handrails do not meet ADA requirements.
- Entry plaza concrete in disrepair.
- Minimal existing bike parking at main entry.
- City sidewalks on East 22nd Avenue are in disrepair.
- Potential tree and storm water issues.
- Existing driveway to "no where" west of main entry.
- No ADA access from classroom at northwest corner of building. Stairs do not have handrails.

Potential Improvements:

- Replace ADA ramp, stairs, and handrails at the main entrance.
- Install additional bike racks.
- Inspect existing storm water facilities along East 22nd Avenue. Provide recommendations for repairs if issues are encountered.
- Replace City sidewalk at East 22nd Avenue.
- Install ADA ramp for classroom access.
- Install handrail at existing stairs.

2. Onyx Street:

Items of Concern:

- West entry ramp does not meet ADA requirements.
- Broken existing handrail.
- Erosion at existing downspout.
- City sidewalks on Onyx Street are in disrepair.
- Parts of existing retaining wall are in disrepair.
- Perimeter fence in disrepair.
- Potential drainage issues.

Potential Improvements:

- Replace entry ramp.
- Replace handrail.
- Replace City sidewalk at Onyx Street.
- Repair retaining wall.
- Replace perimeter fence.
- Inspect potential drainage issue area. Provide recommendations for repairs/ improvements if drainage is determined to be inadequate.

3. East 23rd Avenue:

Items of Concern:

- City sidewalks on East 23rd Avenue are in disrepair.
- Retaining wall height too low at edge of playground.

Potential Improvements:

- Replace City sidewalk at East 23rd Avenue.
- Increase retaining wall height or adjust grades at playground.

4. Emerald Street:

Items of Concern:

- Existing grades at playground are significantly higher than the adjacent City sidewalk grades.
- Portions of the City sidewalk at Emerald Street are in disrepair.
- Handrail to lower level entry is not ADA compliant.
- Existing irrigation valve is above grade (not in a below grade valve box).

Potential Improvements:

- Adjust grades at playground or install retaining wall at transition from playground to sidewalk.
- Replace portions of City sidewalk at Emerald Street.
- Replace handrail.
- Adjust height of irrigation valve and install in appropriate box.

5. South Side of School:

Items of Concern:

- Inadequate trash/recycling area.
- Existing bike racks are old, outdated, or in disrepair.
- Existing asphaltic concrete drive is in disrepair.
- Paved play area immediately adjacent to the school is very steep and not appropriate for play.
- Basketball backboards are in disrepair.

Potential Improvements:

- Enlarge trash/recycling area.
- Replace bike racks.
- Repair/replace paving at asphaltic concrete drive.
- Adjust grades at paved play area.
- Replace basketball backboards.

6. Playground Area:

Items of Concern:

- Existing curbs fall within fall protection limits of playground equipment.
- Some of the existing equipment is old, outdated, or in disrepair.

Potential Improvements:

- Remove all curbs/hard edges that fall within fall protection limits. Replace with appropriate playground surface material.
- Replace existing outdated or broken equipment.

Beyond the items previously listed it is also important to review the current school site in terms of how it currently meets or does not meet items categorized within the 4J Education Design Specification. The following documents the current and potential adherence to this specification:

Parking:

60 cars minimum or as required by code

- Does not currently meet and unlikely to meet in the future.

Bus Drop Off:

6 Buses

- Currently bus drop off occurs on Emerald and Onyx Streets.
- Likely to remain the same in the future.

Provide Separate Drop Off and Bus Parking Area.

- Vehicle drop off occurs on 22nd Avenue (separate from buses). Likely to remain the same in the future.

If possible separate on site Bus Circulation from Pedestrian and Automobile Circulation.

- Does not currently meet and unlikely to meet in future.

Covered Play:

Ed Spec requires a 7,000 sf covered play structure.

- There currently is not a covered play area on site.

Locate adjacent to Building and near cafeteria.

- Does not currently meet. Potential to meet in the future.

Hard Surface Play Area:

Provide central hard surface play area of approximately 10,000 sf.

- Current site provides approximately 18,700 sf of hard surface play area.

Locate adjacent to future covered play structure and cafeteria.

- Covered play area does not currently exist however it is feasible that the future location could connect to the hard surface play area and cafeteria.

Provide immediate access to "activity area" of elementary school.

Locate so that activities do not acoustically impact classrooms.

Play Equipment:

Provide 1,500-2,000 sf "soft" play equipment area.

- Current site provides approximately 3500 sf of soft play equipment area.

Activity Fields:

Provide 2 softball fields with overlapping soccer field.

- Current site provides one softball field with an overlapping green space (field).
- Field is undersized for soccer.

Locate near gymnasium.

Cinder track.

- Current site does not include a track. Limited potential to add a track in the future.

Outdoor Education Area:

Configure building and site to create outdoor areas that can be used for on going educational activities and projects. Projects could include science, art or construction activities.

Provide hose bib in each area.

Locate near (preferably adjacent) to the classrooms.

Maintenance:

Provide vehicle paths around perimeter of building for access and repair purposes.

- Current building is surrounded on three sides by public streets while the back of the school has an existing paved vehicle path the entire length for maintenance and trash/recycling access.

Provide hose bib a maximum of 200 feet on center around building (average hose length is 100 ft).

Slope all hard and landscape surfaces away from the building.

- Surfaces currently slope away from building. Some slope too steeply and should be adjusted in the future.

Lighting:

Schools shall provide for both "lighted" and "black out" capabilities.

Lighting should be positioned to avoid light pollution on adjacent properties.

- Currently, there is a lack of lighting at the outdoor play area.

The original portion of Edison Elementary School completed in 1926 was designed by Eugene architect T.M. Gerow. Besides routine replacement or upgrading of key building systems, Edison Elementary School was significantly expanded or renovated several times: in 1927 (T.M. Gerow, Architect), and in 1948, 1949, 1950, and 1962 (in accordance with designs by John Laurin Reynolds of Eugene).

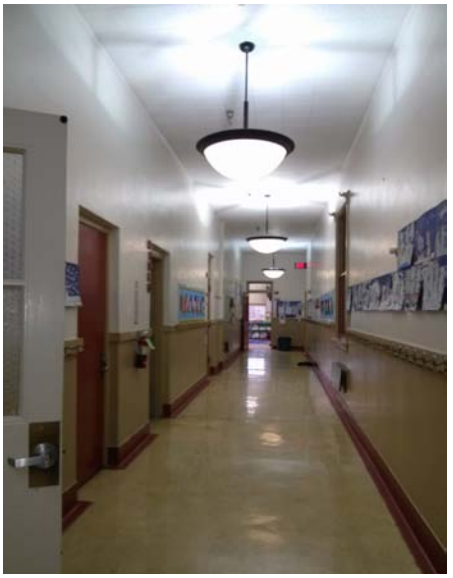
With its round entry arch, predominantly brick cladding, and relatively sparse use of ornament, the school's frontispiece vaguely recalls Romanesque Revival architecture, though it postdates the late 19th century heyday of that style. The expansive classroom windows are also hardly characteristic of Romanesque buildings, which typically featured comparatively small openings. The vocabulary of parts of some of the subsequent additions, particularly the 1949 (west classroom wing) and 1950 (cafeteria) additions more closely resembles the Prairie Style popularized by Frank Lloyd Wright, with its low pitched roofs and continuous bands of fenestration.

The majority of the school occupies two stories (with the notable exceptions of the gymnasium and cafeteria) but the lower level is partially buried below the adjacent grade along the north (22nd Avenue) side of the building. The effect is a pleasantly modest scale; the school fits comfortably within its context of mostly older single-family homes (many of similar vintage to the school itself). The later additions and modifications on the south side are poorly integrated architecturally and arguably would raise the fewest objections if demolished or significantly altered as part of any new work.

Overall, the exterior architecture of the school, while not exceptional for a building of its vintage, is appealing. Many people, most importantly the nearby homeowners and Edison parents, express sincere affection for the building. To them it "feels right," and imparts a sense of place within the fabric of their neighborhood.

Building Organization

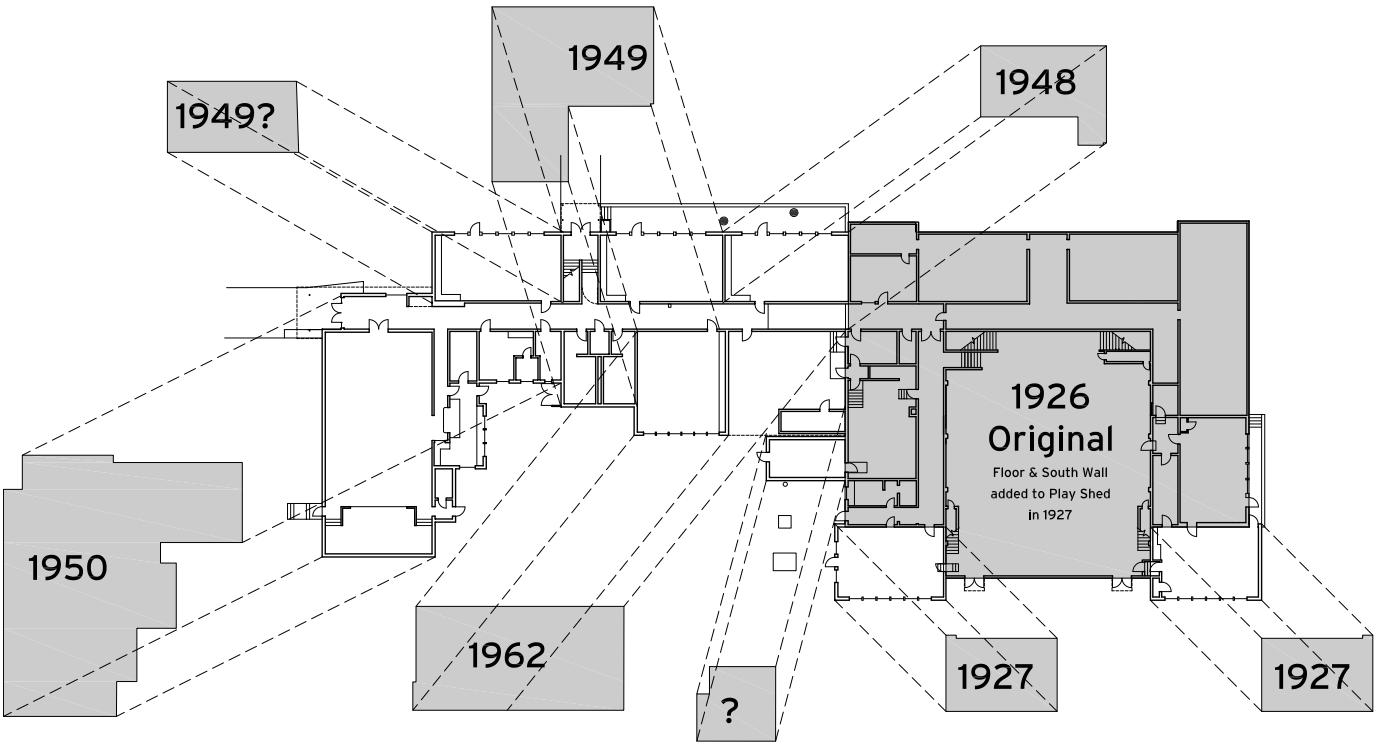
T.M. Gerow's original 1926 design arrayed classrooms on two levels in a symmetrical, U-shaped plan that embraced a covered outdoor play shed open to the south. This plan benefitted from a clear organization and a compact arrangement, conserving site area for playing fields and landscaping. Gerow designed the classrooms as simple rectangular plans, in keeping with the teaching conventions of the day. The classrooms on the upper floor feature tall (12'-0") ceilings and enjoy excellent access to daylight and views, thanks to their generously large double-hung windows. The main hallways on the upper level are likewise tall, and punctuated by decorative pendant-hung light fixtures (which are not original but instead are stylistically sympathetic replacements). The lofty ceilings on the upper level contribute significantly to the unique character of the school.



The subsequent additions extended the building's footprint to the west and south; regardless, thanks to its two-story configuration, Edison remains compact relative to the sprawling one-story elementary schools constructed in the post-war era.

Refer to the notated plans on page 20 to view the current configuration and disposition of spaces/functions within Edison Elementary School.

Diagram: Original Construction & Additions



EDISON ELEMENTARY SCHOOL
ORIGINAL CONSTRUCTION & ADDITIONS

N

0 10' 20' 50' 100'

Deficiencies

As summarized in Section 1.b of this document, the District previously hired MGT of America, Inc. in 2011 to update its long-range facilities plan. MGT calculated an overall score as 61.96, the lowest it assigned to any of the seventeen elementary schools currently operated by the Eugene School District.

Robertson|Sherwood|Architects and its consultant team conducted their own analyses of the existing building. Refer to the notated plans on page 20 for a synopsis of the deficiencies impacting the school's accessibility, life safety, security, and occupant comfort and health. Refer to Sections 2f through 2j for descriptions of the school's existing structural, mechanical/plumbing/fire protection, electrical, information technology, and security systems.

Each of the proposed master plan options described in Part 3 of this document would substantially address the majority of the shortcomings. However, some of the deficiencies are insurmountable regardless of which option is favored. For example, the 4J Educational Specification and Architectural Program prescribes a minimum of sixty parking spaces, which as addressed in Section 2a cannot be accommodated on site without the introduction of a parking structure.

Vinyl asbestos floor tile

Existing kitchen is severely undersized

Evidence of condensation on the single-paned windows resulting in water sitting on the wood window sill

Ceiling finishes are in need of replacement

Asbestos-Containing Materials

A prerequisite to any option will be the removal of asbestos-containing materials (ACM). The District has abated some of the ACM during the course of various renovations and systems upgrades at the school; however, significant quantities remain in the form of vinyl-asbestos floor tiles, mastic, plaster, and thermal insulation systems. The cost estimates associated with each of the master plan options described in Part 3 of this document include the expense associated with complete abatement of ACM (since both demolition or renovation would require this work).

Building Code

The appendix to this document includes a detailed building code analysis based upon the 2010 edition of the Oregon Structural Specialty Code. The least restrictive Type of Construction permissible (given the type of occupancy, building size, and location on the property) is Type VB, fully sprinklered.

Please refer to the notated existing building plans on pages 20 and 21 for identified building code issues.

Other Interior Environment/Comfort/Health Issues

In addition to the deficiencies noted here and in other sections within this document, the following is a list of other significant deficiencies that should be addressed under any of the Edison Elementary School master plan options described in this document:

GENERAL ITEMS:

- The school lacks air conditioning (cooling).
- Most entries lack 6-foot-long walk-off mats. Mats not secured to floor are potential tripping hazards.
- HVAC units within classrooms present noise and cleaning issues.
- Exposed, below-ceiling sprinkler piping and ductwork present cosmetic and cleaning issues.
- Floor and ceiling finishes are generally in need of replacement.
- Walls are inadequately insulated.
- Windows are generally single-paned.
- Crawlspace storage areas are poorly illuminated and lack safe and clean finishes.

Please refer to the notated existing building plans on pages 20 and 21 for identified interior environment/comfort/health issues.

Retaining an Older Building

Many people equate old schools with substandard facilities, but as numerous school districts throughout the United States have shown, well-renovated, well-maintained historic schools can support a first-class, 21st century educational program. Moreover, such schools often provide features lacking in newer schools, such as large windows, and unique craftsmanship and details. Many historic school buildings were constructed with materials and workmanship we cannot duplicate today.

A properly renovated school, regardless of its original construction date, can see its useful life extended significantly. Washington Elementary School in Medford (which is on the National Register of Historic Places) and Marysville Elementary School in Portland (partially rebuilt after a major fire) are two examples of older, historic schools that have been recently renovated while preserving or restoring their most desirable architectural features.

Notated Plans

UPPER LEVEL PLAN - EXISTING CONDITIONS
EDISON ELEMENTARY SCHOOL

NORTH

0 10' 20' 50' 100

LOWER LEVEL PLAN - EXISTING CONDITIONS
EDISON ELEMENTARY SCHOOL

NORTH

0 10' 20' 50' 100'

Notated Plan Legend
(Opposite Page)

- CLASSROOM
- AFTER SCHOOL
- GYMNASIUM
- PLATFORM (STAGE)
- CAFETERIA
- KITCHEN
- MEDIA CENTER
- MUSIC
- ADMINISTRATION
- NURSE
- SUPPORT SPACE
- TOILETS
- ELEVATOR/EXIT STAIR
- STORAGE
- CRAWL SPACE

Plan Notes

ACCESSIBILITY:

1. Ramp edge protection absent (405.9)
2. Openings in grate too large and long dimension not perpendicular to direction of travel (302.3)
3. Steps a barrier to a required accessible route; ramp required (303.4)
4. Ramp missing handrails (405.8)
5. Ramp missing landing (405.7)
6. Stair/ramp handrails lack extensions (505.10)
7. Stair missing handrails on one or both sides (405.8)
8. Inadequate or missing guardrails
9. Reduced vertical clearance without guardrails (307.4)
10. Inaccessible toilet room (603, 604)
11. Drinking fountain not accessible (602)
12. Reduced vertical clearance (307.4)
13. Inadequate space between two doors in series (404.2.5)
14. Stair riser heights are not uniform (504.2)

BUILDING CODE:

The references in parentheses are to the 2010 Oregon Structural Specialty Code.

20. Door encroaches on minimum required egress width (1005.2)
21. Insufficient landing length at door (1008.1.6)
22. Enclosure under stairway required to be 1-hour fire-resistive construction (1009.6.3)
23. Guardrail missing from elevated surface (1013.1)
24. Non-compliant guard at elevated surface (1013.1, 1013.3)

INTERIOR ENVIRONMENT/COMFORT/HEALTH ISSUES:

25. HVAC unit within teaching space
26. Low-voltage cabling exposed and hanging loose

SECURITY DEFICIENCIES:

30. Exterior door is not monitored and has potential for being propped open while school is in session.
31. Recessed area outside classroom doors provide area to hide from on-street surveillance.
32. Shrubs obstruct view of building and provide potential hiding spots.
33. Bike parking is not visually monitored.
34. Bike parking is not fenced.
35. Barriers should be provided to close off unused areas of school during after-school activities.
36. Main entrance is not visible from school office.
37. Secondary exterior entrances should have signage directing visitors to main entrances and to check into office.

2e. FACILITIES ANALYSIS – EDUCATIONAL CONTEXT

Edison Elementary School is one of 21 elementary schools in the Eugene School District 4J. In recent years it has served an average of 320 students from kindergarten through 5th grade, and has an overall student-to-teacher ratio of 23:1 (which is higher than the State of Oregon average). Total teacher FTE is 13.3. It is important to note this master plan document presumes these numbers will basically remain unchanged and that no substantial increase in enrollment will occur.

The middle school into which Edison students matriculate is Roosevelt Middle School. South Eugene High School is the area high school.

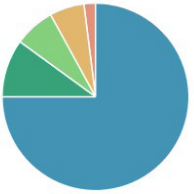
Edison's performance scores have consistently been higher than most elementary schools in the State of Oregon (83.3 percentile in 2012). This largely is attributable to the higher than average (for Eugene) affluence of the families whose children attend the school. Various studies indicate that higher median income levels directly correspond with improved academic performance.

Demographically, Edison's population may be broken down as follows:

- African American: 5 (1.6%)
- American Indian: 1 (0.3%)
- Asian: 20 (6.6%)
- Hispanic: 31 (10.2%)
- Pacific Islander: 1 (0.3%)
- Two or more races: 18 (5.9%)
- White: 229 (75.1%)
- Not Specified:0 (0%)
- Fulltime teachers: 12.9
- Student/Teacher Ratio: 23.6
- Eligible for discounted/free lunch: 22%

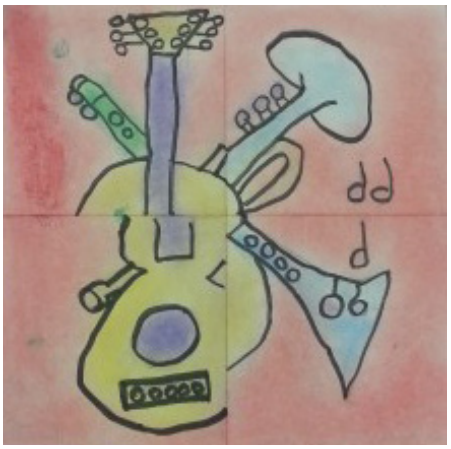
Each grade's enrollment is between 50-60 students and includes two classes per grade.

Student ethnicity



Ethnicity	This school	State average
White	75%	66%
Hispanic	10%	21%
Asian	7%	4%
Two or more races	6%	4%
Black	2%	3%
American Indian/Alaska Native	0%	2%
Hawaiian Native/Pacific Islander	0%	1%

Source: NCES, 2010-2011



School Highlights:

- Strong core academic programs utilizing integrated curricula and differentiated instructional practices
- Experienced, dedicated staff and highly involved parents working together to support each student's academic and interpersonal growth
- Exceptional instruction K–5 offering marine and aquatic science, technology, physical education, art, music
- Family nights, curriculum nights, Winter Sing and other functions that foster a strong parent, school, community connection
- Numerous after-school enrichment classes and on-site child care until 6 p.m.

School Improvement Goals:

- All students will meet or exceed Edison's grade level standards in reading, writing, math and science
- Students, staff and parents will work together to maintain a safe, caring learning environment that fosters academic excellence and positive interpersonal relationships
- Students will actively contribute to a schoolwide culture of respect, cooperation, inclusion, compassion and integrity

2f. FACILITIES ANALYSIS – SECURITY

Background

Due to notorious shootings in schools like Sandy Hook Elementary School and worldwide terrorism events, security concerns figure prominently in new school design and renovations to existing facilities. Schools are often considered "soft targets" and potentially attractive to terrorists because of the psychological consequences resulting from an attack on our children.

Increasing security in schools involves intangible elements like planning, staff training, background checks, and development of school policies, and physical measures such as fencing, elimination of multiple entrances, video surveillance, and lighting.

In a workshop with members of the Edison Elementary School community it was noted that student safety is a prime concern. Specific issues voiced by community members include:

- Multiple building entries at the school are a concern.
- There is a desire for security upgrades as soon as possible.
- Human monitors are preferred over video monitors and as such, the school office should be relocated closer to the main entry.

Security Improvement Measures

School District 4J and school staff have previously taken steps to increase security at the school. These include, but are not limited to:

- Access controls have been installed on most exterior doors. These doors are locked at all times and can only be opened with access card or key.
- The main entrance is additionally equipped with two-way audio & video functions allowing remote "buzz-in" capability.
- Exterior doors without access controls are for exit only. The outside lever/knob is always fixed, while the inside is always unlocked to allow free immediate egress. In some cases, the exterior hardware has been removed to eliminate attempts at entry.
- School grounds and building are kept clean and free of debris and graffiti. (Police departments advise that exteriors that are neglected appeal to vandals.)
- Main entrance is physically delineated clearly by form and location.
- Visual surveillance of playground areas is possible from a single point.
- School has central alarm and two-way communication systems.
- Access to electrical panels and mechanical rooms is restricted.
- All exterior areas of school are visible from patrolling vehicles.
- Access to bus and vehicle loading and drop-off areas is restricted by signage.
- Motion detectors tied to the alarm system exist in corridors and many other areas of the school.

Fence surrounding outdoor play area does not have a turned top to prevent unauthorized entry

Security Deficiencies

In addition to the deficiencies noted here and in other sections within this document, the following is a list of other significant security deficiencies that should be addressed under any of the Edison Elementary School master plan options described in this document:

GENERAL ITEMS:

- Fencing around outdoor play areas should be at least 6 feet high.
- Operable windows at ground-level classrooms should have glass break detection and motion sensors should be installed in corridors.
- Convex mirrors should be installed inside the building to see around corners in hallways and stairwells.

Please refer to the notated existing building plans on pages 20 and 21 for identified security deficiency issues.

Lack of constant and direct staff supervision of the front entry

2g. FACILITIES ANALYSIS – STRUCTURAL

Existing School Construction

The typical structure for the original Edison Elementary School and its first two additions is concrete footings supporting unreinforced masonry (hollow clay tile) basement and second floor walls, wood joists on the first floor, and wood trusses supporting the roof. Wood and steel trusses span the gymnasium space and support wood joists at the roof. Subsequent phases of construction included concrete beams supporting concrete floors and reinforced masonry walls with wood joist roofs. Early construction utilized straight sheathing for the floor and roof diaphragms. The straight roof sheathing has been overlaid with plywood sheathing in past re-roofing projects in many areas of the building.

Hollow clay tile was a popular school construction material in the Western United States during the early 1900s. Clay tile was inexpensive, quick to assemble, and resistant to fire. The material was used to replace many original wood schoolhouses. The longevity of these structures is testimony to the durability and decay resistance of structural clay tile. With ongoing improvements in building codes, and an increased knowledge that the western United States was susceptible to earthquakes, the use of structural clay tile diminished until it finally disappeared. However, the buildings stayed in use for many more years.

Existing hollow clay tile walls in the crawl space

Building Review

A walk around inspection reveals very little evidence of settlement or other types of structural damage. Some minor cracking is noted in the wall along the west end of the cafeteria. An interior review indicates that the mortar between the masonry elements in much of the basement and interior portion of the building is in poor condition. It can be easily dislodged or scraped out of the joints. Additionally, there is no indication that the voids inside the wall tiles are filled with grout or reinforcing steel, a practice that is common with modern construction. Unreinforced masonry such as this is particularly vulnerable to damage from seismic events as the cyclical nature of the shaking damages the brittle elements and can lead to a collapse of the structure as has occurred in many earthquake prone areas.

The roof trusses in some areas of the building are not actual trusses but instead are braced framing where roof joists are braced down to ceiling joists at or near interior walls. This type of framing does lend itself to a distributed support system but the roof is ultimately supported by a circuitous load path that is difficult to analyze and subject to disruption in seismic events.

The structure was seismically upgraded in 1994 with plywood stud and shear walls added in the attic space to transfer loads from the roof diaphragm to interior shear walls. Vertical rods were installed in many of the exterior wall columns from the roof to the basement. Additionally, floor joists were connected to the walls and braced frames were added in window wells in some areas of the structure (at the front entry, cafeteria clerestory, and lower floor walls).

Attic framing

Complete plans and calculations for all of the retrofit measures were not available to the Robertson|Sherwood|Architects' team. A review of the installations indicates that in most cases the seismic upgrade feature appears properly installed and likely to act as designed. The vertical rods installed in the exterior wall columns are impossible to inspect without methods beyond the scope of this report. The installation of the plywood shear walls in the attic space does raise some concerns. The stud wall and plywood appear to be adequately constructed; however, the connection of the wall top plate to the roof sheathing is insufficient with blocking installed but not nailed off to the wall or roof. Additionally, there are no hold-down straps or rods that are typically installed at the ends of shear walls to transfer overturning forces to the supporting structure, nor are any blocks installed below the bottom plate of the shear wall to transfer the shear forces to the top plate of the wall below the ceiling joists. In one instance the shear wall is built around an existing duct and no straps or other measures are installed to resist the loads produced by the large hole in the shear wall diaphragm.

The existing school structure appears to be at moderate risk for collapse in a large seismic event despite the retrofit measures. There is no practical way to bring the building as it exists up to current building code requirements for lateral force (seismic) resistance. Any additional retrofit measures will be helpful but there will always be areas that are vulnerable to significant damage and partial collapse during a seismic event.

2h. FACILITIES ANALYSIS – ACCESSIBILITY

Utilizing ANSI A117.1-2003 American National Standard – Accessible and Usable Buildings and Facilities as the basis for evaluation, Robertson|Sherwood|Architects identified numerous barriers to accessibility at Edison Elementary School. Regardless of which option the District selects as the basis of the master plan for Edison, it is imperative that all barriers to accessibility are eliminated.

Because Edison occupies (or as a new replacement school, will occupy) more than one level, an elevator is an inevitable new feature. The school's current configuration is additionally challenging because there are misaligned floor levels in the vicinity of the gymnasium. These will necessitate the introduction of ramps or use of an elevator.

The references in parentheses in the lists below are to ANSI A117.1-2003 American National Standard – Accessible and Usable Buildings and Facilities.

Door hardware not fully compliant

GENERAL ITEMS:

- Much of the door hardware is not compliant (404.2.6)
- Maneuvering clearances at doors frequently non-complying (404.2.3)
- Faucet controls at classroom sinks are not compliant (309.4)

Inaccessible drinking fountain

Please refer to the notated existing building plans on pages 20 and 21 for identified accessibility issues.

Path of travel relies on a stair lift rather than being fully compliant

Boiler room

Noisy unit ventilators in the classrooms

Mechanical System

Heating for Edison Elementary School is currently provided by steam generated by a 2,800,000 Btuh Pacific National boiler of unknown age. The boiler has both natural gas and diesel fuel oil firing capability. The School District operates the boiler primarily on natural gas, with fuel oil used as a backup. The boiler lacks a State Boiler Code required emergency stop button at the entrances to the room. There is an existing single combustion air louver, sized 4 feet wide by 5 feet high. The louver is more than large enough but fails to meet current code because the top of the louver is not within 12 inches of the ceiling.

The two-pipe low pressure steam and condensate distribution system consists of primarily steel pipe and fittings. The piping is generally well insulated with jacketed fiberglass, but some piping in the crawl space and in two rooms on the ground floor is uninsulated, resulting in high heat loss and uncomfortable conditions in those rooms.

Heating equipment providing heat to the various spaces in Edison Elementary School consists of the following steam heated units:

- Floor-mounted unit ventilators in classrooms 1, 2, 4, 10, 11, 12, 14, 16, 17, 18, 19, resource room 15, and cafeteria
- Ceiling-mounted horizontal unit ventilator in classroom 6
- Convectors in the offices, corridors, restrooms, and break rooms
- Unit heaters in the gymnasium and the storage room
- Fan coil units in Classrooms 7, 8, and 13 and in counseling

Unit ventilators are scheduled by time clocks tied to relay panels. All controls are pneumatic. Remote thermostats control all but corridor convectors, which are controlled with onboard thermostats.

The classrooms at Edison Elementary equipped with ventilators bring in outside air through an outside air louver with an automatic damper located on the wall behind the unit ventilator. At times some teachers choose to manually shut off the unit ventilators due to acoustic concerns. When this takes place, it also eliminates the ventilation air since the damper closes when the unit is off. Most classrooms also have operable windows but these are typically not used during cold weather.

The gymnasium is heated solely by overhead unit heaters. The gym receives no ventilation air except air that naturally enters the room when the outside doors are opened.

The cafeteria is heated by two unit ventilators that do not appear to have any outside air intake. Thus, the room typically receives no ventilation.

An exhaust fan located in each of the two cupolas is intended to provide ducted general exhaust for seven first floor classrooms (375 cfm each), two main restrooms, the teachers' break room, and the front administrative offices. In the restrooms, offices and break room, replacement air is likely to come from the adjacent corridors since there is no automatic means for introducing makeup air to the rooms. In the classrooms makeup air enters through the unit ventilators (assuming they are turned on).

There are two type II exhaust hoods with fans in the kitchen. The first is a dishwasher exhaust hood with rooftop downblast mushroom exhaust fan directly above. The second is an oven heat removal hood with rooftop downblast mushroom exhaust fan directly above, and what appears to be an untempered makeup air inlet connected directly to the hood.

Plumbing System

Storm drainage is handled by gutters and downspouts. Some of the storm water has a hard connection but elsewhere it is simply dumped to the pavement. Cleanouts are provided at the base of the some downspouts but not all.

The sanitary drain piping is a combination of cast iron, galvanized steel and ABS. There is a small above grade grease removal device in the kitchen at the outlet of the rinse station.

Cold water enters the building in the east side crawl space. The public water source is protected by an above grade double check valve in the crawl space. The hot and cold water piping is a mix of soldered copper and threaded galvanized steel.

The 2 psi gas service meter is located directly to the south of the electrical room. The fuel oil is stored in an 8,000 gallon underground tank, located to the south of the electrical room. The gas and fuel oil piping is steel with threaded fittings.

The original steam heat exchanger and storage tank for the domestic water heating system were removed in 1994 and a 75 gallon 120,000 Btuh gas-fired water heater currently provides hot water for the entire building. A 40 gallon electric water heater located in the kitchen receives 120F water from the main water heater and boosts it to higher temperatures needed for kitchen use at the dishwasher and rinse station.

The first and second floor restrooms at the west end of the building have floor-mount toilets and urinals with manual flush valves. Wall-mount lavatories in these rooms are fitted with manual single-lever faucets. The remaining second floor restrooms have sensor controls on wall-mount urinals and toilets. The lavatories in these restrooms are also wall-mount with manual single-lever faucets. The classrooms typically have a counter-mounted sink, some with a bubbler. Drinking fountains are found in the hallways and in the gym. The custodial closets on each floor have service sinks with chemical stations. The kitchen is fitted with a stainless steel two-compartment sink for hand-washing and vegetable washing. The cabinet-style dishwasher is preceded by a pre-rinse station with hose attachment and a stainless steel counter.

Pipes on the lower level encroach on overhead clearance

Two toilets within one toilet stall

Fire Sprinkler System

The building is served by both a wet pipe sprinkler system and a dry pipe system (for attics). The risers are located on the northwest side of the building just outside the lunch room. The Siamese fire department connection is located on the outside wall near the west entrance.

Electrical Distribution System – Normal Power

Electrical service to Edison Elementary School is currently fed underground from a 75 kVA pad mount transformer located in the playground area south of the school. An above-ground terminal vault is located between the transformer and the school and serves as the interface between the utility, Eugene Water and Electric Board, and the school. The main electrical room is located adjacent to the boiler room at the south end of the school. A CT and meter are located on the outside wall of the electrical room and serve an 800 amp main breaker distribution panel at 120/208 volts 3 phase, 4 wire. The main distribution panel configuration is shown in the one line diagram in the appendix to this report. Peak demand for the facility is under 200 amps. There are spaces in the distribution panel for the addition of feeder breakers. The service switchgear was upgraded in 1995 and is in good condition.

Electrical power to the building is distributed through (12) separate branch circuit panelboards. The panelboards are generally in good condition. There is a lack of convenience receptacles in the classrooms, with a typical classroom having only 4-6 duplex receptacles, usually concentrated on one wall of the classroom. The addition of receptacles in the classrooms would warrant the addition of panelboards to the electrical system, primarily at the second floor. An accessible attic space and accessible crawl space under the east portion of the school will facilitate the addition of receptacle circuits at the upper level. Additional receptacle circuits would be required for adding receptacles in the three classrooms at the north end of the lower floor. There is space and access for routing conduit above the corridor ceiling for this purpose.

A summary of the existing panelboards is as follows:

- Panel A: 42 circuit, 225 amp panelboard located at the north wall of the Boiler Room. General Electric A series. Panel is fed directly from the main distribution panel. There are 2 spaces for future breakers, other breaker poles appear to be used.
- Panel AA: 42 circuit, 100 amp panelboard located at the north wall of the Boiler Room adjacent to Panel A. General Electric A series. Panel is fed directly from the main distribution panel. There are 10 spaces for future breakers, other breaker poles appear to be used.
- Gym Panel A: 24 circuit, 100 amp panelboard located at the west wall of the Gymnasium. General Electric A series. Panel is fed directly from the main distribution panel. There are 3 spaces for future breakers and 10 20/1 circuit breakers, other breaker poles appear to be used.
- Panel D: 30 circuit, 100 amp panelboard located at the south wall of the Music Room. General Electric A series. Panel is fed directly from the main distribution panel. There are 3 spaces for future breakers and (3) 20/1 spare circuit breakers, other breaker poles appear to be used. Panel J at the second floor is subfed from this panelboard.
- Panel C: 24 circuit, 100 amp panelboard located at the north wall of the east – west Hallway. General Electric A series. Panel is fed directly from the main distribution panel. There is (1) space for future breakers, other breaker poles appear to be used. A 70/3 subfeed breaker feeds an adjacent panelboard section which we call C-2. Panel B at the second floor is also subfed from this panel. Under any renovation scenario that might involve the additional loads, we recommend this panel be replaced with a 42 pole panelboard and that the second floor panel B be refed with a new feeder from the Main Distribution Panel.
- Panel C-2: 12 circuit, 70 amp panelboard located adjacent to Panel C. General Electric A series. Panel is fed from panel C. There are 3 spaces for future breakers, other breaker poles appear to be used.

- Panel F: 24 circuit, 100 amp panelboard located in the Kitchen. General Electric A series. Panel is fed directly from the main distribution panel. There are (7) spaces for future breakers, and a 70/3 and 50/2 spare circuit breaker, other breaker poles appear to be used.
- Panel G: 24 circuit, 100 amp panelboard located at performance stage. General Electric A series. Panel is fed directly from the main distribution panel.
- Panel B: 24 circuit, 100 amp panelboard located at the north wall of the upper level east – west Hallway. General Electric A series. Panel is subfed from Panel C at the lower level. There are no spaces for future breakers. With the addition of classroom receptacles, it is recommend that this panel be replaced with a 42 pole panelboard and refed with a new feeder from the Main Distribution Panel.
- Panel H: 24 circuit, 100 amp panelboard located in a utility room adjacent to the center upper level north – south Hallway. General Electric A series. Panel is fed directly from the main distribution panel. There are (2) spare 20/1 circuit breakers, other breaker poles appear to be used. With the addition of classroom receptacles, it is recommend that this panel be replaced with a 42 pole panelboard.
- Panel J: 24 circuit, 100 amp panelboard located at the south wall of the Upper Level Library. General Electric A series. Panel is subfed from Panel D below. There are 4 spaces for future breakers, other breaker poles appear to be used.
- Panel L-2: 42 circuit, 225 amp panelboard located in a utility room adjacent to the eastern upper level north – south Hallway. General Electric A series. Panel is fed directly from the main distribution panel. There are (3) spare 20/1 circuit breakers, other breaker poles appear to be used. If an renovation scenario is favored, we recommend that a second section be added to this panel.

Electrical Distribution System – Standby Power

A 30 kW, 3 phase 120/208 volt diesel generator with sub-base tank currently provides emergency/standby power to the school. The generator serves a 100 amp automatic transfer switch located in the boiler room. The transfer switch serves a 100 amp panel adjacent to the electrical switchgear which then subfeeds another 100 amp panel at the north end of the boiler room. Egress lighting in the main school are served from these panels. The emergency egress lighting in the gymnasium and the multipurpose rooms is provided from emergency battery packs.

A description of the standby panelboards is as follows:

- Panel Standby: 18 circuit, 100 amp panelboard located adjacent to the main distribution panel. Panel is an Eaton Pow R Line panel. Panel is fed directly from the automatic transfer switch in the boiler room. There are (5) spaces for future circuit breakers, other breaker poles appear to be used.
- Panel Standby-1: 36 circuit, 100 amp panelboard located at the north end of the boiler room. Panel is an Eaton Pow R Line panel. Panel is fed directly from the automatic transfer switch in the boiler room. There are (15) spare circuit breaker poles, other breaker poles appear to be used. It is recommend that the Gymnasium and Multipurpose Room egress lighting be fed from this panel.

Network Distribution System

Communication Service runs to a communication backboard, located on the lower level at the north end of the building. The telephone switch and fiber interface is located at this location. An IDF rack is located in the office on the opposite wall from the telephone backboard. A 96 port patch panel is located in this IDF with +/- 30 spare ports. A unit heater is located immediately adjacent to the IDF. Relocation of this unit heater is recommended.

The typical classroom is limited to a single network faceplate. There are exceptions in selected computer cluster locations. The existing rack has adequate space for future expansion and its central location makes serving the entire school feasible. New network wiring could be routed in the attic space for upper floor classrooms and in the crawl space and corridor ceiling space at the lower level. The District did install wireless routers in each of the classrooms to augment each room's hard-wired data port(s).

Fire Alarm System

An addressable FCI 7200 system is currently used in the building. The main panel is located at the north wall of the boiler room. Initiating devices include pull stations at building exits and smoke detectors at select building locations. ADA horn strobes are located throughout the building. There are no horn/strobes in classrooms, and the corridor, gymnasium and multipurpose room strobe coverage falls short of current Code requirements. Notification appliances are fed from remote power supplies and could easily be expanded to feed additional notification devices. A remote annunciator panel is located at the main entry to the building. The fire alarm system is in good condition and has adequate capacity for expansion.

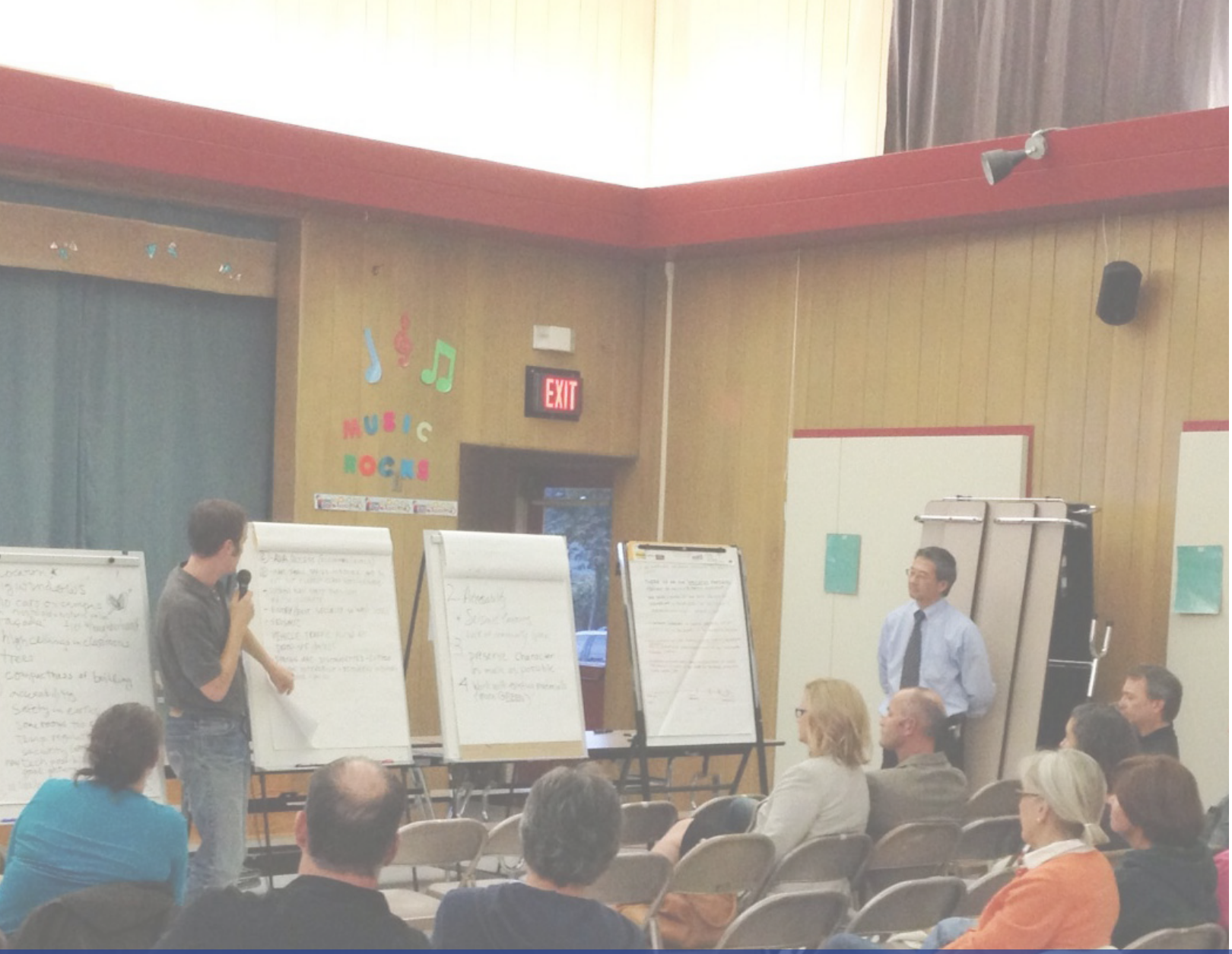
Paging, Intercom and Master Clock System

A Telecor XL system, with head end equipment located in the office, supports clock and intercom functions in the building. Typical classrooms are equipped with a call-in switch, speaker and clock. The Telecor system is in good condition and has expansion capability if needed.

Lighting System

Lighting in the building has been upgraded throughout the years and is reasonably efficient. Wraparound fluorescents are typically used in classrooms and offices. Lighting quality and energy efficiency improvements could be realized with replacement of these fixtures. Pendant bowls are used throughout much of the upper floor corridor system, which adds to the character of the building. Lighting in the gymnasium was recently upgraded with T5HO fluorescent fixtures. Recessed parabolic fluorescent fixtures were recently installed in the Library.

The north side main entry to the building utilizes decorative wall brackets and wall sconces. Surface compact fluorescent fixtures are used at secondary entries on the north side and west side of the building. Wallpacks are used in the playground area at the south side of the building. Wallpacks have yellowed with age so we recommend these be replaced with LED fixtures to improve both lighting quality and energy efficiency (assuming a renovation scenario is favored). An evaluation of building security requirements would need to be included in evaluation of the lighting needs. Use of LED light sources in existing fixtures could be evaluated at other building entries.



3. Master Plan

First and foremost, this master plan is a document tailored to Edison Elementary School's specific needs, vision, and goals, and is as unique as the school itself is. The master plan is appropriately shaped by the values and principles that guide District 4J but also reflects specific challenges, concerns, and possibilities only associated with Edison. It is most assuredly not a "one size fits all" plan.

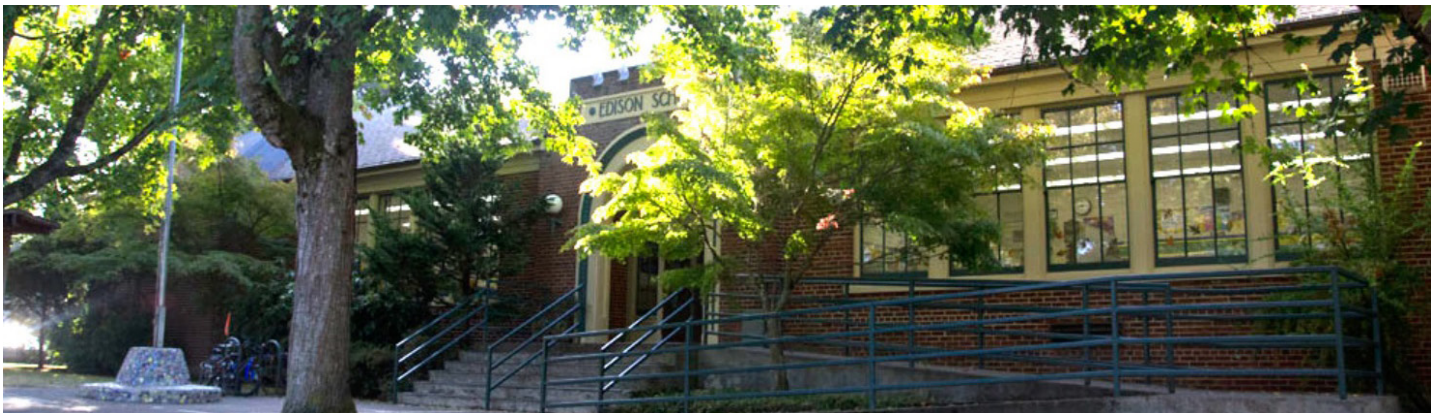
Edison's own mission statement and program description attest to the school's commitment to providing its students with the foundation they need to become the best they can be. Unsaid is the role their learning environment can play in helping to achieve this goal:

Mission Statement:

Edison Elementary School's official mission statement is to "Provide an educational experience that prepares all students to be competent, compassionate, contributing members of the Edison community and inspired global citizens."

Program Description:

Edison is a welcoming place for children and families. We have a strong community of learners and supporters! We place emphasis on all children taking active responsibility for their learning and all staff and parents taking responsibility to support their learning. In addition, teachers teach a challenging, comprehensive curriculum while fostering an environment where mutual respect, exploration and risk-taking are encouraged.



A Sustainable and Holistic Approach to Design

Building energy-efficient school facilities is not just about being "green." It is about providing high-performance facilities that are safe, healthy, and conducive to learning. It is also about building facilities that are cost-effective from their inception and in the long term. Many school districts are working under ever-tightening budgets, so reduced operating costs are welcomed. With careful planning, facilities and construction departments can build schools that encourage learning, reduce long-term operating costs, and lessen the effect on the environment while controlling up-front construction costs.

Green building practices offer an opportunity to create environmentally-sound and resource-efficient buildings by using an integrated approach to design. Green buildings promote resource conservation, including energy efficiency, renewable energy, and water conservation features; consider environmental impacts and waste minimization; create a healthy and comfortable environment; reduce operation and maintenance costs; and address issues such as historical preservation, access to public transportation, and other community infrastructure systems. Sustainable design considers the entire life-cycle of the building and its components.

Can an Existing Building be "Green?"

It's important to note that the "greenest" building is often the one that already exists. Extending the life of an existing facility is often less impactful on the environment than putting up a replacement from scratch, regardless of how super energy-efficient a new building might be. An older school building such as Edison Elementary School is a significant community asset that should not be discarded without first carefully evaluating the implications.

Experience has also shown that it can be less expensive to alter and rehabilitate an existing school rather than build a new one. Of course, Edison is in many respects in poor condition and does not meet current educational needs. The challenge therefore is determining how best to cost-effectively rehabilitate Edison to meet 21st century educational standards while preserving its most desirable attributes. Refer to Section 3g of this document for an analysis of the relative costs of new construction options versus a targeted retrofit approach. Additionally, project stakeholders must determine to what extent they are willing to compromise achieving a school ideally suited to meet current educational needs for the sake of saving the building's historic fabric. Ultimately, the price paid for preserving as much of the "old Edison" as possible (both in dollar terms and with respect to pedagogical compromises) may exceed a value the majority of stakeholders are willing to incur.

A Note about Green Building Certification Programs

Introduced by the U.S. Green Building Council in 1998, the LEED (Leadership in Energy and Environmental Design) Green Building Rating System is the most commonly used framework to evaluate the effectiveness of green building design practices. Its emphasis is on conservation of resources, protection of the environment, recycling of materials, waste reduction, optimal energy performance and renewable energy and reduction of indoor air pollutants. LEED's major areas of evaluation include:

- Sustainable Sites
- Water Efficiency
- Energy and Atmosphere
- Materials and Resources
- Indoor Environmental Quality

Other green building certification programs and metrics exist (Green Globes, The Living Building Challenge, etc.) so LEED is by no means the only gauge of the degree to which a building is sustainable; however, its use is increasingly pervasive among government agencies, school districts among them. At the time of this writing, District 4J has not mandated the use of any green building certification for Edison Elementary School or any of its current capital projects. A primary drawback of LEED is that it does add to a project's design, compliance management, construction, and commissioning costs (some estimates range from four to as much as eleven percent of the direct construction value). Another criticism is that the system is driven by the pursuit of points rather than being truly holistic.

No matter whether the District chooses to employ LEED or not, it clearly encourages energy efficiency, healthy buildings, and the incorporation of green building technologies that support quality teaching and learning environments. On the other hand, the District also qualifies their implementation by stating within its Educational Specification that economic feasibility must be part of the equation. Additionally, when it comes to its allocation of financial resources, the District's first priority is to direct those resources to instructional needs. This guiding principle does not invalidate the implementation of creative sustainable design strategies, especially those which are consistent with the District's building system and material requirements.

3c. THE MASTER PLANNING PROCESS

The RSA team performed the following tasks in developing the Master Plan:

- Background research, including review of previous structural analyses, field verification, photography to document existing conditions, code review, and review of the 2012 Master Plan Update & Facilities Assessment prepared by MGT of America, Inc. These are found in Section 2 of this document.

- Analysis of existing site and building conditions, considering fire & life safety code, accessibility, and security issues in addition to the state of the current physical plant (structure, M/E/P systems). These are found in Section 2 of this document.

- Participation in workshops with 4J staff, teachers, and community members.

- Evaluation of Edison's potential to adapt to current instructional requirements and standards.

- Preparation of three distinct development scenarios:

  Option A: New School on the current Edison site
  Option B: Retain the façade only, building new behind
  Option C: Targeted Renovation

- Preparation of cost estimates associated with each of the three development scenarios.

Parent-Teacher Council Meeting, September 17, 2013

RSA facilitated several workshops with members of the Edison Elementary School community, including teachers and staff, the Edison Parent Council, Sustainable Eugene Neighborhoods and Schools for Everyone (SENSE), and other stakeholders. The purpose of the workshops was to solicit as much input as possible prior to and during the process of developing the master plan. RSA believes the high level of involvement in the process of research, development of criteria, and evaluation, translates to a master plan more likely to fulfill shared goals and expectations.

Some of the more significant general conclusions include the following:

- The plan should be flexible and not be tailored too specifically to current pedagogy as the science of teaching is constantly changing
- As much of the existing look, scale, and feel of the original architecture as possible should be retained; a generic school without character is undesirable
- Any plan involving preserving significant portions of the existing school's historic architecture will necessitate compromises with respect to meeting the 4J Educational Specifications & Architectural Program
- The back (south) side of the school presents the greatest opportunity for significant improvement and/or new interventions
- On-site parking is neither necessary (assuming enrollment remains constant for the foreseeable future at approximately 320 students) nor desirable
- Improvements to accessibility and security are high priorities

3e. PROGRAM

The District 4J Educational Specification & Architectural Program for Elementary Schools dates to 2002. The District (with Dull Olson Weekes Architects, pc as its consultant) developed the Ed Spec primarily for the purpose of providing an architectural program for two new elementary schools. Additionally, the program and the resultant schools (completed in 2004 as Bertha Holt Elementary School and Cesar Chavez Elementary School) were intended to be models for additional future elementary schools.

The Ed Spec outlines the District's guiding principles, its Educational Program, and its design vision & goals. The Ed Spec also summarizes functional program requirements assuming an enrollment of 600 students for each new school. This number is much higher than Edison's recent five-year average of approximately 320 students, which this Master Plan presumes will generally remain constant. This assumption is critical to the successful implementation of any of the possible options presented herein.

Interior Area Program

The 2002 Architectural Program totaled 70,000 square feet in gross building area. The program for Edison Elementary School totals less than 50,000 square feet. This is a function of the much lower number of students to be accommodated but is not entirely proportionate to that reduced number. There is a greater economy of scale associated with a larger enrollment. For example, a gymnasium for an elementary school of 700 students needs to be about 5,000 square feet in size; Edison's gym cannot be appreciably smaller (its current gymnasium is 4,850 s.f.) despite the fact its enrollment is only 53% as large as a prototypical new facility programmed in the 4J Ed Spec. Likewise, our assumptions for Edison's media center, kitchen, administrative spaces, music room, and support spaces do not reflect a linear calculation for reduced area requirements.

Refer to the program area summaries on page 42. The table on the upper half of page 42 is the program for new elementary school in accordance with the 2002 Ed Spec. The table on the lower half of the page is the program proposed for Edison Elementary School, and is based upon the significantly lower enrollment number.

The area requirements for Edison assume the following regular/special education/ auxiliary classroom needs:

General Classrooms:	12 @ 1,100 s.f. (2 classrooms each per Kindergarten through 5th grade)
Multipurpose Classrooms:	3 @ 1,100 s.f.

Our assumptions for the future of Edison Elementary School do not include the introduction of a Head Start program or an early childhood center. If this is desired, additional and appropriate space accommodations will need to be made. Edison does currently offer after-school enrichment programs. This program presumes these or similar programs will continue for the foreseeable future.

We believe the organizational and design characteristics listed in the 2002 4J Ed Spec remain valid today. The challenge for the architects selected by 4J to implement design improvements for Edison will be overcoming the inherent obstacles to satisfying the organizational and design objectives outlined in the Ed Spec. Given the resolution to retain Edison at its current location, it is unlikely all of these objectives can be met. This reality will greatly influence the fundamental decision regarding which development option is favored by the District.

Exterior Functions/Needs

Regarding exterior functions and needs, the relatively small size of Edison Elementary School's site presents significant limitations relative to the 4J Architectural Program. The principal shortcoming is the inability to accommodate off-street parking and bus drop-off/pick-up areas. If the District was to construct a new Edison Elementary School at another location, the required number of motor vehicle parking spaces would be one (1) space per eight (8) students (Eugene Code Table 9.6410). This would translate to a minimum of 40 parking spaces (a reduction of up to 25 percent of this minimum requirement is allowed as a right of development). The only way such a number of spaces can be accommodated on the current site would be as structured parking, either below the school building or under the outdoor play areas. An alternative solution would be to furnish the 40 spaces off-site, which is permitted by the City of Eugene Code if they are located within ¼ mile or 1320 feet of the school (Eugene Code 9.6410(1)). However, this presumes such a location is available for purchase or lease; presently, this is not the case.

It may be possible to accommodate a bus drop-off/pick-up lane on site behind the building on a swath through the site that in part may be dual-purposed as hard-surface play areas.

Additionally, the small site area would likely limit the requisite activity fields to only one softball field with an overlapping soccer field, rather than two softball fields as listed in the 4J Architectural Program for new schools. The limited area would also likely necessitate the listed hard surface play area being coincidental with a possible covered play structure, rather than as adjacent and in addition to each another.

2002 District 4j Summary of Elementary School Building Function/Needs

Interior Area	Area (s.f.)	Comments
Administration	2,245	
Gynasium/Cafeteria	10,177	
Classrooms	33,150	*(20) general clssrms + (6) multi-use/special clssrms; (5) commons & (5) small group rms*
Media	3,950	
Music	1,200	
Support	6,920	
Net Interior Area	57,642	
Net to Gross Factor	9,858	*17%*
Total Interior Area	67,500	
Mechanical Fan Rooms	2,500	
TOTAL AREA	**70,000**	*600 student enrollment (K-5th grade)*

Summary of Edison Elementary School Building Function/Needs

Interior Area	Area (s.f.)	Comments
Administration	2,000	
Gymnasium/Cafeteria	9,000	
Classrooms	19,620	*(12) general clssrms + (3) multi-use/special clssrms; (3) commons & (3) small group rms*
Media	3,000	
Music	1,200	
Support	5,190	
Net Interior Area	40,010	
Net to Gross Factor	7,602	*19%*
Total Interior Area	47,612	
Mechanical Fan Rooms	1,750	
TOTAL AREA	**49,362**	*320 student enrollment (K-5th grade)*

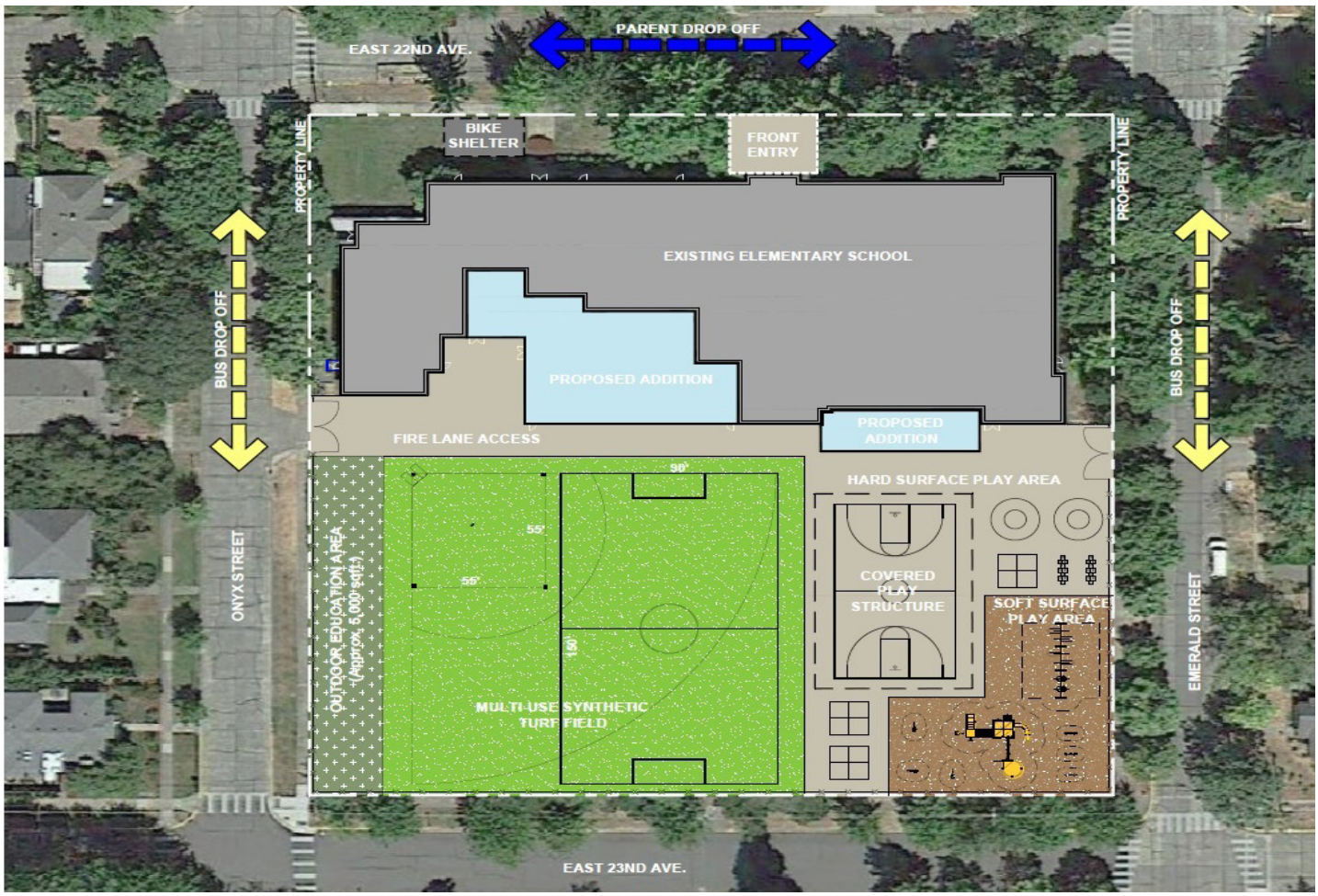
The three development scenario options described in this section offer a range of possibilities for creating an up-to-date and functional facility that addresses to a greater or lesser degree the Eugene School District 4J Educational Specifications for elementary schools.

Site Design

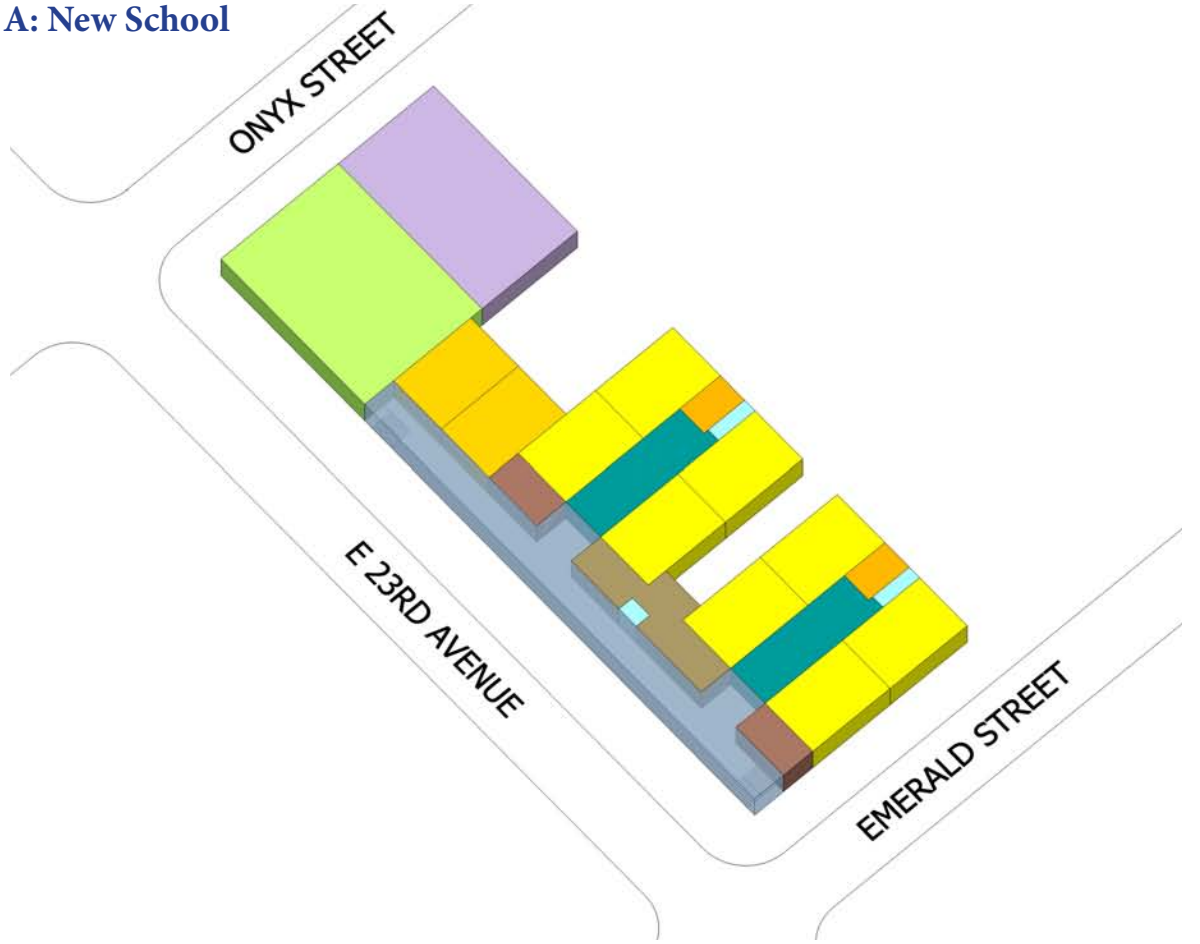
The most impactful and limiting characteristic of Edison's site is its small size. The lot upon which the school sits is only 111,556 square feet or 2.56 acres in area. By comparison, Bertha Holt Elementary School occupies more than 8 acres. Bertha Holt's enrollment is significantly greater than Edison's (540+ students vs. 320); however, Edison's site is disproportionately smaller and clearly is inadequate to accommodate all of the 4J Ed Spec requirements for exterior functions and needs (for example, Bertha Holt has a full-size soccer field whereas Edison does not). Consequently, the continued viability of Edison at its current location presumes the Ed Spec cannot be met and that key functions—such as parking and bus drop off—must occur in the public right-of-way rather than on site*.

The image below depicts a possible site configuration associated with one of the three options presented in this section (Option C – Targeted Renovation). In the case of all three options, it would be difficult, if not impossible, to fully address the 4J program area requirements. The complement of outdoor spaces rendered below reflects a balanced allotment of areas for as many of the desired functions/needs as possible.

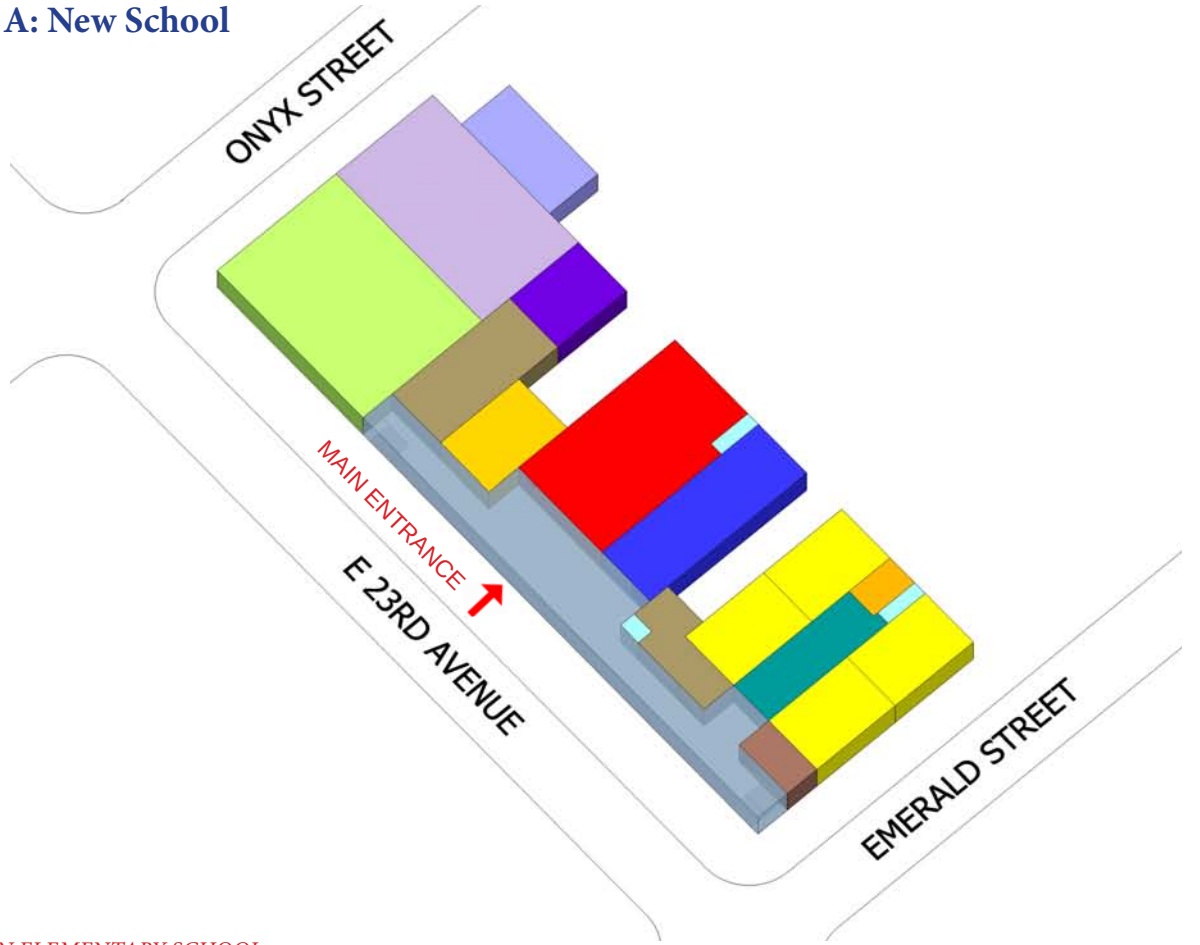
**A possibility is to develop structured parking (either underground or above grade) to provide off-street parking; however, this is expensive and likely undesirable.*



Option A: New School
Level 2



Option A: New School
Level 1



Plan legend
(Opposite page)

- CLASSROOM
- COLLABORATION SPACE
- SMALL GROUP ROOM
- AFTER SCHOOL
- GYMNASIUM
- PLATFORM (STAGE)
- CAFETERIA
- KITCHEN
- MEDIA CENTER
- MUSIC
- ADMINISTRATION
- NURSE
- SUPPORT SPACE
- TOILETS
- ELEVATOR/EXIT STAIR
- STORAGE
- CRAWL SPACE
- CIRCULATION

Option A: New School on the current Edison site

Option A, construction of a new school on the current site, would offer the best opportunity for the school to meet 4J Educational Specifications. Classrooms would be adequately sized and collaborative learning spaces would be included as part of the design. The building would meet or exceed current seismic-resistance and accessibility standards, and it would be built under the current energy code, resulting in low energy use and healthy interior spaces.

This option does necessitate the demolition of the existing Edison Elementary School, which many in the community and school users would lament for the loss of the building's historic characteristics. They feel that the appearance and scale of the existing building fits well into the neighborhood, and fear a new school would be unlikely to replicate the historic look and feel of the original school.

Logistically, Option A can work because it's possible to imagine allowing the existing school to operate while the new school is being constructed. The major inconvenience to school users is that outdoor learning and recreation spaces would be unavailable during construction and those functions would need to be relocated temporarily to another site.

A possible impediment to Option A is that off-street parking may be required by the City of Eugene with construction of a new building. Another is that even though an entirely new building would be constructed, the physical limitation of the existing site may not allow the new facility and grounds to completely meet 4J Educational Specifications for an elementary school.

PHASING:

Phase 1: First Summer:

- Clear south half of site
- Protect existing school and maintain paths of egress and fire lane
- Initiate construction of the replacement school on the south half of the site

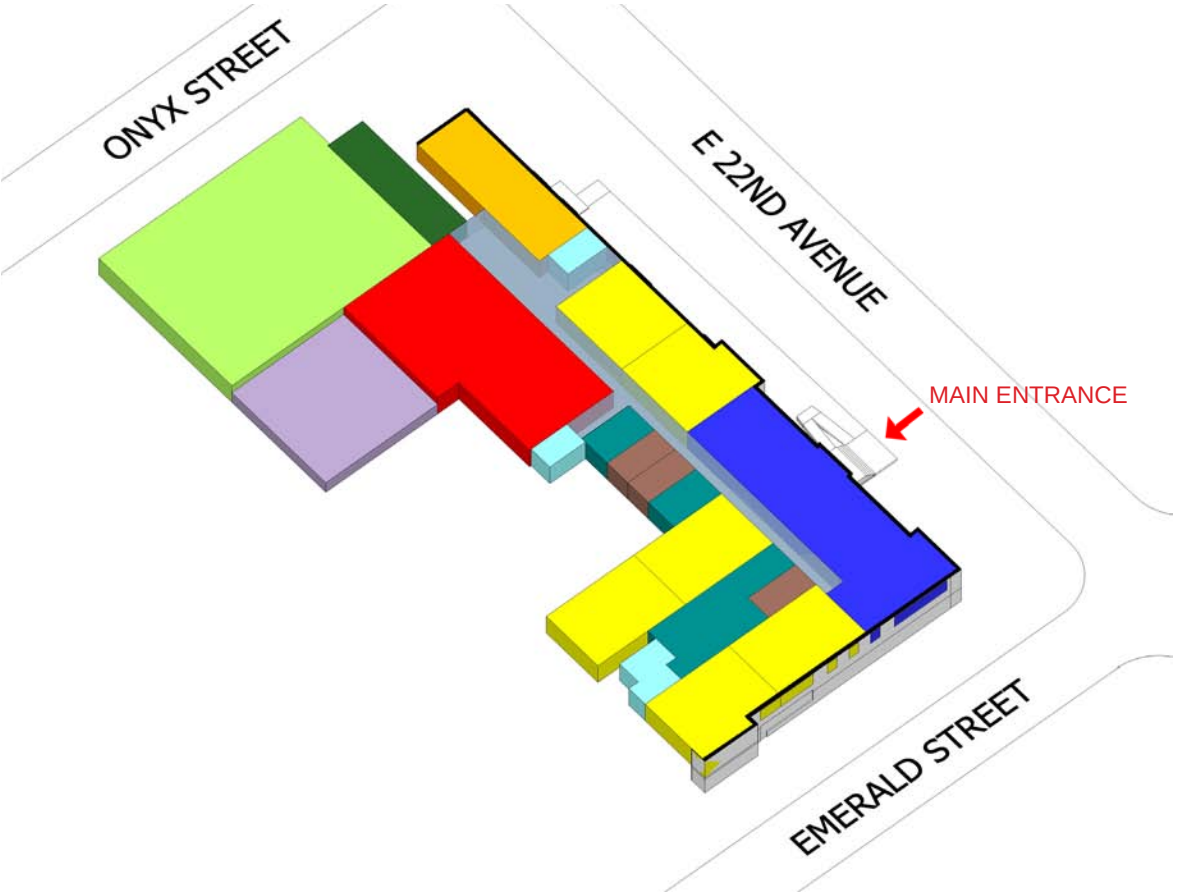
Phase 2: School Year

- Existing school remains in use but loses access to outdoor play areas
- Construction of the new school continues

Phase 3: Second Summer

- Completion of the new school building
- Abatement of asbestos-containing materials from the existing school building
- Demolition of the existing school
- Site repair, construction of new outdoor play areas/fields on north half of site

Option B: Retain Facade Only
Level 2



Option B: Retain Facade Only
Level 1

Plan legend
(Opposite page)

- CLASSROOM
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- CIRCULATION

Option B: Retain the façade, building new behind

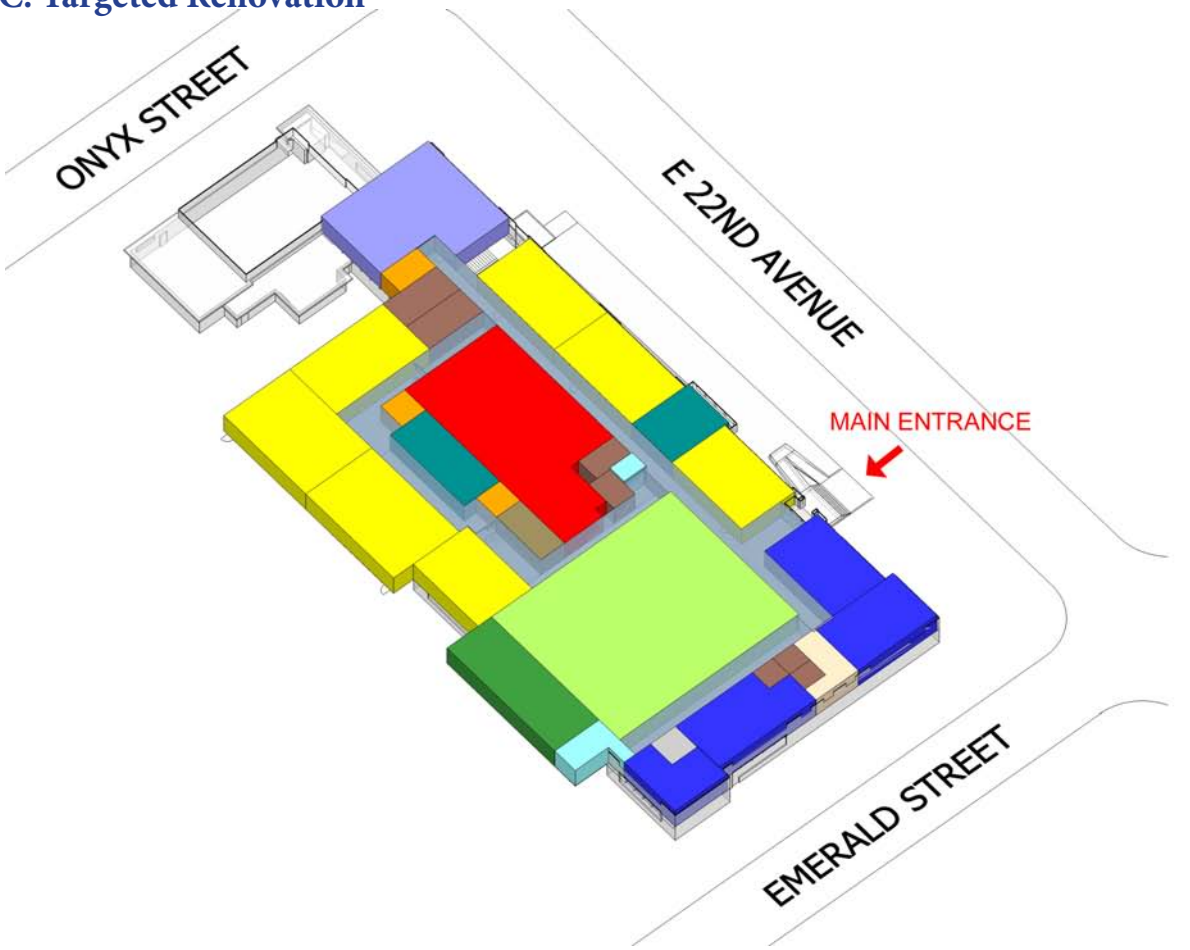
The intent of Option B is to retain the facades and roof lines of the existing building to maintain the neighborhood ambience and historic character of the school. The steps to achieve this would include complete demolition of everything except the east facade facing Emerald Street and the north facade facing 22nd Avenue. A new structural system would be installed on the back side of the brick facade and foundation walls to ensure seismic stability and the windows would be replaced or reglazed with energy-efficient glazing.

Behind the walls that remain, all new construction would result in a facility fully accessible to students and staff, classrooms that meet current size requirements, and with other qualities expected of current public buildings. The facility would be energy-efficient and would meet seismic requirements. This option also includes renovation of existing outdoor spaces on the south half of the site.

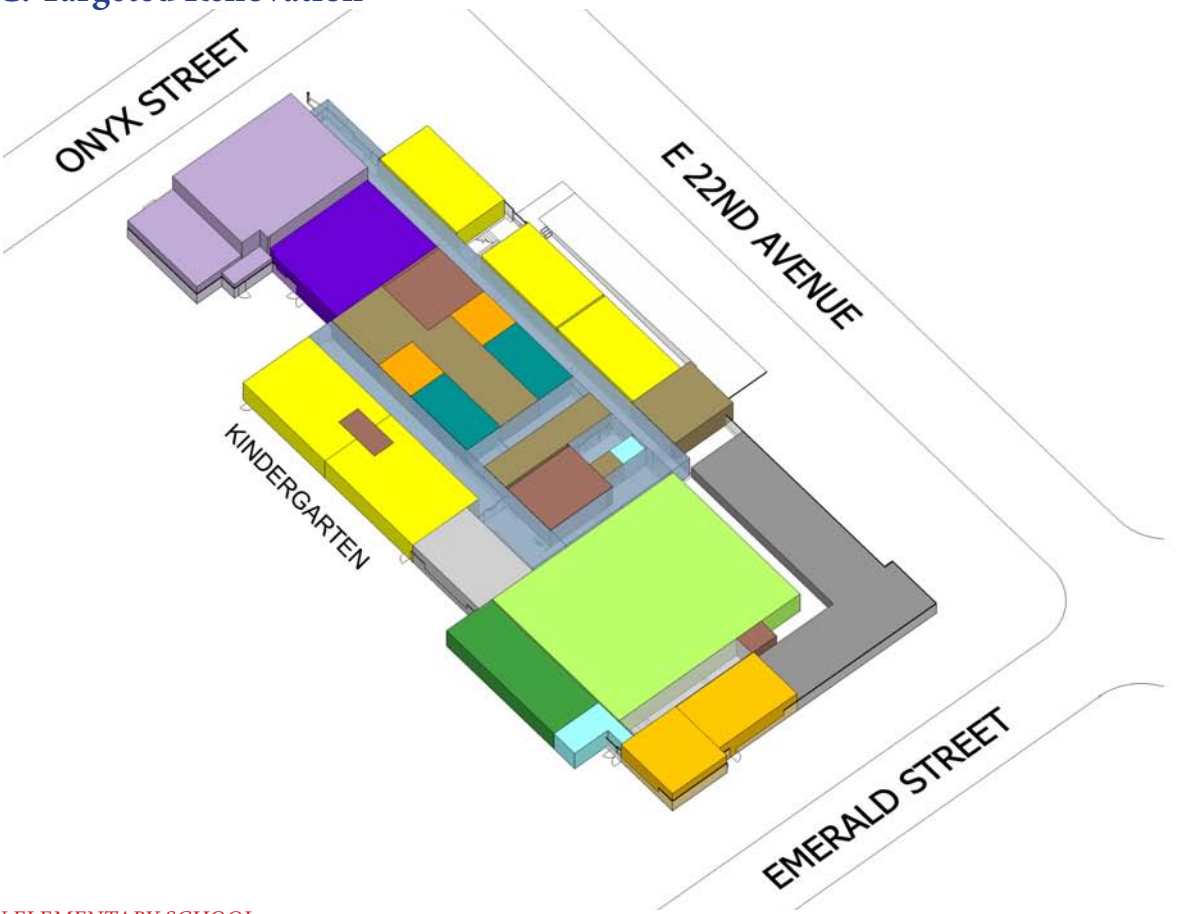
As with Option A, a potential hurdle with Option B is that off-street parking may be required by the City of Eugene. As long as the most of the original building remains in place, Planning Division staff have indicated that the facility is exempt from off-street parking requirements. This option would also require the entire school program to relocate to another facility for at least one academic year. The costs associated with relocation are not accounted for in this report's cost estimates (Section 3j).

PHASING:
None; the existing school is entirely vacated and the majority of existing construction (with the exception of the existing historic facades) will be demolished to make way for new construction. Demolition of the existing school and construction of the new building would be performed over the period of one academic year plus the summer breaks (mid-June year 1 through August year 2 – total of 14.5 months). Additionally, final landscaping would optimally occur during the fall months; therefore, total elapsed project time might be 16 months.

Option C: Targeted Renovation
Level 2



Option C: Targeted Renovation
Level 1



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- TOILETS
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- STORAGE
- CRAWL SPACE
- CIRCULATION

Option C: Targeted Renovation

Option C is the possibly the most challenging of the three options. While it maintains the most of what the community and school population loves about the existing building, including the exterior forms and materials, location of the gymnasium and surrounding corridors, it also requires tackling many of the inherent problems with the facility. Seismic, accessibility, HVAC, plumbing, electrical and IT issues, as outlined in Sections 3g, 3h, & 3i, would need to be addressed. Changes in the ground floor elevations would need to be accommodated with ramps and an elevator.

On the positive side, as long as student capacity is not increased, the lack of off-street parking is not likely to be an issue. Many of the existing undersized classrooms would be converted to other uses and new classrooms meeting current requirements would be provided within the new infill construction. New heating, cooling, and ventilating systems, new lighting, and new non-toxic finishes would result in healthy and comfortable spaces. New classroom wings and renovation of existing classroom areas would be a step toward making the facility adaptable to meet current and future educational needs. As with Option B, outdoor learning and play spaces would be fully renovated.

The facility could remain in use continually but users would be inconvenienced by occupying spaces converted to temporary uses and other spaces sharing multiple functions, i.e. placing the cafeteria within the gymnasium for one full school year. If the school is to remain in continuous use during construction, this option would also have the longest construction schedule, taking a minimum of two full school years and three summers before completion.

PHASING:

Phase 1: First Summer (3 months):
- Demolish kitchen and adjacent offices, library, and music room. Construct temporary exterior weather enclosure along south edge of main corridor.
- Remodel upper floor Classrooms 9 & 10 to serve as temporary music room.
- Prepare gym to server as temporary gym/cafeteria:
    - Relocate dining tables to gym.
    - Construct stage platform and extend south end of gym
    - Begin remodel of Classrooms 7 & 8 (after-school spaces) at east side of gym to provide exiting from gym/cafeteria.
    - Prepare cafeteria to serve as temporary library.
- Perform site/landscaping work as appropriate.

Phase 2: First School Year, Second Summer, & Second School Year (21 months)
- Gym to serve also as cafeteria.
- Cafeteria to serve as temporary Library.
- Remodel west toilet rooms.
- Reinforce 1926 foundation walls and gym roof.
- Construct classroom infill addition, new kitchen, elevator area, and new toilet rooms.
- Construct tunnels from existing to new Boiler & Electrical Rooms; relocate transformer & electrical vault.
- Complete remodel of Classrooms 7 & 8.
- Reinforce 1926/1927 masonry walls (sequentially, one or two rooms at a time.)

Phase 3: Third Summer (3 months)
- Switch over new electrical service.
- Remodel rooms on north, west, and east sides of Gym.
- Complete remaining site/landscape work.

3g. PROPOSED IMPROVEMENTS – STRUCTURAL

Unreinforced masonry structures such as the older portions of Edison Elementary School are vulnerable to collapse primarily from damage to the walls under cyclical seismic load. The masonry loses its ability to provide vertical support leading to a collapse of the structure. Generally, seismic retrofit measures are designed to prevent the masonry elements from collapsing, provide vertical support after the masonry elements fail, or both prevent the element from failing as well as provide vertical support.

Some general seismic retrofit measures that can still be applied to this structure are:

- Providing hold-down hardware at the ends of the attic shear walls as well as blocking between the bottom shear wall plate and the top wall plate. Inspecting and repairing any blocking between the attic shear walls and the roof sheathing. Also, verifying that the roof sheathing is nailed to the upper shear wall blocking.
- Installing a supplemental support wall inside the masonry basement and interior walls. Supplemental walls may be constructed of reinforced shotcrete (concrete sprayed onto the wall over a mesh of reinforcing) or wood or metal studs with straps or plywood sheathing designed to laterally support the wall and vertically support the floor during seismic shaking.
- Installing supplemental vertical steel members and attaching them to the interior of the narrow masonry columns to provide supplemental vertical and horizontal support for seismic loading.
- Upgrading the connections of the roof to the walls with metal clips or straps.

Given the age and historic nature of the structure, any retrofit measures must fit in well with both the use and the historic fabric of the building. The repairs and upgrades should minimize modifications to the exterior of the building; therefore, most of all of the work should be done from the interior of the building.

The retrofit measures that appear to meet the needs of the building best are to apply a reinforced layer of shotcrete to the interior walls of the unoccupied, lower basement area of the building. Helical anchors should be installed in the masonry walls prior to shotcreteing to provide a means of mechanical anchorage between the wall and the shotcrete. The shotcrete should be installed from the existing footing up to the underside of the wood or concrete flooring.

The interior of the classrooms and other occupied spaces would be impacted by the introduction of a metal stud wall system on the interior of the exterior walls. This system would be anchored to the existing masonry walls using adhesive anchors and screen tubes to provide a connection to the masonry. The metal stud wall would be sheathed with plywood and interior finishes applied.

One additional structural item that should be addressed is the condition of the roof trusses over the gymnasium. The (mostly) wood roof trusses are nearly 90 years old and currently covered with plywood. The finishes should be partially removed to allow inspection and any shortcomings addressed at that time.

It's important to note these seismic upgrades will greatly improve the performance and safety of the facility but will not guarantee that it would not be irreparably damaged during a significant seismic event

Proposed Mechanical Improvements

The proposed new (Options A or B) or replacement (Option C) mechanical system includes both heating and cooling to meet the School District's Guidelines. Heating should be provided by high efficiency gas condensing boilers. Preferably, the boiler room would have double doors to the exterior. The combustion air and vent for the boilers could be through the roof or out the side wall. Under Option C (targeted retrofit option) the existing steam heating system would be completely removed, in accordance with the District's wish to avoid the maintenance and inefficiencies of steam heating systems. Mechanical cooling would to be provided by an air cooled chiller located on grade. The hydronic distribution would be by a two-pipe changeover system, meaning the piping could be used for heating water or chilled water, but not both at the same time. The coils at the air handlers should be sized for the greater of the two loads. Controls would be an expansion of the District standard Automated Logic DDC system. The controls would ensure that water and air to unoccupied zones can be scheduled.

The proposed system for the Option C – Targeted Renovation includes VAV and single-zone air handlers serving the following areas:

- New and remodeled core areas plus existing rooms to the north and west (approx 30,000 cfm) - VAV air handler located on the roof of the new addition, in a penthouse mechanical room, or attic mechanical room (if a flat roof is not desired)
- Gym and platform (6500 cfm) - Single-zone unit located in a mechanical room near the gym platform
- East side classrooms, offices (6500 cfm) - VAV air handler located in the same mechanical room near the gym platform or possibly in the same space as unit 1 (with ducts routed through the gym)
- Cafeteria and kitchen (2500 cfm) - located in a mechanical room near the cafeteria stage; this unit can serve as the make up air unit for the kitchen exhaust
- Other small independent split systems to serve 24/7 spaces such as IT rooms

Phased construction (per Master Plan Option C) will necessitate the continued operation of the existing steam system until the end of Phase 2. As the new core structure is built directly to the west of the existing boiler room, combustion air will eventually be blocked. A temporary pathway for combustion air will have to be maintained until the steam boilers are decommissioned. The gas meter will be relocated during Phase 2, with temporary piping to the existing boiler room and new piping to the new boiler room. 4J's current strategy is to phase out the use of oil as a backup fuel source so the underground fuel oil tank will be emptied and removed, as it is located directly under the new building footprint.

Air handling unit 1, with its terminal units, ductwork and piping, should be installed during Phase 2 so that it will not disturb school activities. Ductwork and diffuser installation for the north classrooms should be accomplished during Phase 3. Crossing the existing east west hallway will be challenging and merits special consideration.

Air handling units 2 and 3 could be installed during Phase 2 with the ductwork and piping completed during Phase 3.

Air handling unit 4 could be installed during Phase 2 if worked into the kitchen plan. Ductwork would again be installed during Phase 3.

The existing steam unit ventilators serving Classrooms 9 and 10 could remain in service until Phase 3 if one of the units is temporarily relocated to accommodate the proposed floor plan revisions. The remodel of Classrooms 7 and 8 could include the installation of ductwork during Phase 1, but the existing unit ventilators would have to remain in operation until Phase 3.

Proposed Plumbing Improvements

New storm and sanitary sewer piping would be provided for new construction (Options A or B) or any additions (Option C). Replacement of the existing galvanized steel drain piping with cast iron or plastic piping is also recommended in the existing building.

A new kitchen would require a more substantial grease treatment system with an accessible grease trap or exterior interceptor meeting City of Eugene requirements.

Assuming the Option C scenario, we recommend that all galvanized steel domestic cold and hot water piping be replaced with copper or pex. In some instances the restroom renovations will incorporate these changes, but there are also piping mains in the existing building that should be replaced.

Under Option C, the existing gas-fired water heater should be replaced with a high-efficiency gas-fired condensing water heater located in the new boiler room. Booster heating will still be provided for kitchen hot water use.

Restroom upgrades should include toilets and urinals with sensor-controlled flushometers and lavatories with sensor-controlled faucets, in accordance with School District guidelines. Wall-mount toilets and urinals are preferred. The new kitchen should be fitted with stainless steel fixtures throughout.

Proposed Fire Sprinkler Improvements

Any new additions associated with Option C would be fully sprinkled. The existing wet pipe system would be modified in response to the revised floor plans in the existing building.

Under the new construction scenarios (Options A or B), the various electrical systems (distribution, branch circuits, and lighting, security, fire alarm, communication and data systems) would be designed to conform with the District's current building systems requirements

Assuming the Option C – Targeted Retrofit scenario, the following are the proposed improvements to the various electrical systems. The references to the phases of work correspond to those described for Option C.

Proposed Electrical Distribution System Revisions – Normal Power

Phase 1: The existing service transformer should be replaced with a new service transformer and should serve a freestanding switchboard located in what will become the future electrical room. The existing main distribution panel would be refed from this distribution panel and the existing service transformer removed.

Phase 2: Under phase 2, the existing electrical distribution panel would be removed and the automatic transfer switch relocated to a new electrical room. A new subdistribution panel would be installed in the vicinity of the existing boiler room and fed from the main distribution panel installed under Phase 1.

The following is a summary of the individual panelboards that will be impacted by Phase 2 construction:

- Panels B, C, C-2, D, F, and J would be replaced and served directly from the main distribution panel
- Standby Panels 1 and 2 would be replaced by a new panel in the electrical room and served from the relocated automatic transfer switch; existing emergency lighting circuits will be refed from the new panel
- Panels A and AA would be replaced and served from the new subdistribution panel
- Panel G would be refed from the main distribution panel

The following is a summary of the individual panelboards that will be impacted by Phase 3 construction:

- Gym panel A would be refed from the subdistribution panel
- Panels H and L2 would be replaced and served from the new subdistribution panel

Proposed Electrical Distribution System Revisions – Standby Power

Phase 2: The automatic transfer switch would be relocated to the main electrical room and the generator feeder rerouted. A new emergency power panel would be installed and existing emergency system circuits rerouted to this panel.

Proposed Network Distribution System Revisions

Phase 2: A new network distribution facility should be constructed. This facility would be refed from the existing MDF. New Phase 2 network faceplates would be served from the new IDF and the existing faceplates in the Phase 2 area refed from this IDF.

Phase 3: New Phase 3 network faceplates at the east side of the school would be served from the existing MDF.

Proposed Fire Alarm System Revisions

New fire alarm devices would be served from the existing fire alarm system. Under Phase 2, the existing fire alarm panel would be relocated. Under all phases, notification appliances would be added to meet ADA requirements and would be served from distributed power supplies.

Proposed Paging, Intercom and Master Clock System Revisions

New speakers, call switches and clocks would be served from the existing Telecor system. Under Phase 2 the existing fire alarm panel would be relocated. Under all phases notification appliances would be added to meet ADA requirements and would be served from distributed power supplies.

Proposed Lighting System Revisions

New classroom lighting would typically be linear fluorescent or LED. The existing pendant lighting system used in the corridor system should be extended to the new corridor systems. Existing lighting in remodeled areas would be reused where the existing lighting is in good condition and meets the energy goals of the District. Occupancy sensors would be used in new offices, classrooms and storage rooms.

3j. COST ESTIMATES

The cost figures listed for each of the three master plan options reflect the "hard" costs of construction only. These costs include the direct costs for materials and labor (at prevailing wage rates), demolition and hazardous materials abatement, as well as the general contractor's overhead, profit, and contingency. The numbers are also inclusive of a 10% design contingency, which reflects the very preliminary nature of the master plan options; they cannot be characterized as "designs" at this point.

The estimates do not include the cost of furnishings & equipment, design fees, inspection & testing costs, plan review and permit fees, financing costs, and the District's associated administrative and project management expenses. In the District's experience, these "indirect" costs typically amount to an additional 46% to 49% on top of the direct construction values (the total budget figures below assume 46%).

Note that the estimate for Master Plan Option B - Retain the Façade, Building New Behind also does not include any outlay associated with the displacement of the school population necessitated under that option.

The estimates do assume a competitively bid project, with at least three qualified bidders in each of the major sub-trades as well as the general contractors.

The numbers are quoted in 2013 dollars. Index the estimates at a rate of 3% to 4% per year (compounded) to project the cost of each option in future years.

OPTION A: COMPLETELY NEW SCHOOL ON THE CURRENT EDISON SITE

Direct Construction Cost:	$12,832,000
Total Project Budget:	**$18,735,000**

OPTION B: RETAIN THE FAÇADE ONLY, BUILDING NEW BEHIND

Direct Construction Cost:	$14,204,000
Total Project Budget:	**$20,737,840**
	(not inclusive of temporary relocation costs)

OPTION C: TARGETED RENOVATION

Direct Construction Cost:	$12,919,000
Total Project Budget:	**$18,861,740**

Refer to the Appendix for detailed breakdowns of the costs associated with each master plan option.

4. Appendix

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