

DEVELOPMENT REVIEW APPLICATION

For Office Use Only		
STAFF CONTACT	PROJECT NO(S). CU-15-03 / DR-15-17 / VA-15-01 / 02/03	
NON-REFUNDABLE FEE(S) 6300	REFUNDABLE DEPOSIT(S) 24500	TOTAL 30800

Type of Review (Please check all that apply):

- | | | |
|--|---|--|
| <input type="checkbox"/> Annexation (ANX) | <input type="checkbox"/> Historic Review | <input type="checkbox"/> Subdivision (SUB) |
| <input type="checkbox"/> Appeal and Review (AP) * D / F | <input type="checkbox"/> Legislative Plan or Change | <input type="checkbox"/> Temporary Uses * |
| X Conditional Use (CUP) 4500/200 | <input type="checkbox"/> Lot Line Adjustment (LLA) */** | <input type="checkbox"/> Time Extension * |
| X Design Review (DR) CLASS II F | <input type="checkbox"/> Minor Partition (MIP) (Preliminary Plat or Plan) | X Variance (VAR) CLASS II F |
| <input type="checkbox"/> Easement Vacation 2000 | <input type="checkbox"/> Non-Conforming Lots, Uses & Structures | <input type="checkbox"/> Water Resource Area Protection/Single Lot (WAP) |
| <input type="checkbox"/> Extraterritorial Ext. of Utilities | <input type="checkbox"/> Planned Unit Development (PUD) | <input type="checkbox"/> Water Resource Area Protection/Wetland (WAP) |
| <input type="checkbox"/> Final Plat or Plan (FP) | <input type="checkbox"/> Pre-Application Conference (PA) */** | <input type="checkbox"/> Willamette & Tualatin River Greenway (WRG) |
| <input type="checkbox"/> Flood Management Area | <input type="checkbox"/> Street Vacation | <input type="checkbox"/> Zone Change |
| <input type="checkbox"/> Hillside Protection & Erosion Control | | |

Home Occupation, Pre-Application, Sidewalk Use, Sign Review Permit, and Temporary Sign Permit applications require different or additional application forms, available on the City website or at City Hall.

Site Location/Address: 2351 OXFORD STREET	Assessor's Map No.: 2S1 25DC
	Tax Lot(s): 600, 3700, 5800, 6200, 6300
	Total Land Area: 6.19 ac

Brief Description of Proposal: TO BUILD A NEW PRIMARY SCHOOL ON THE SAME SITE.

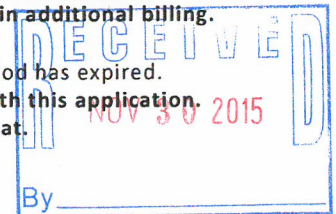
Applicant Name: TIM WOODLEY <small>(please print)</small>	Phone: 503.673.7976
Address: West Linn-Wilsonville Sch. Dist., 2755 SW Borland Rd.	Email: woodleyt@wlwv.k12.or.us
City State Zip: TUALATIN, OR 97062	

Owner Name (required): SAME <small>(please print)</small>	Phone:
Address:	Email:
City State Zip:	

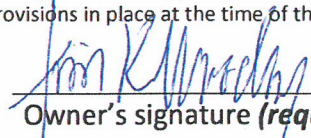
Consultant Name: KEITH LIDEN <small>(please print)</small>	Phone: 503.757.5501
Address: 319 SW Washington St., Suite 914	Email: keith.liden@gmail.com
City State Zip: PORTLAND, OR 97204	

- All application fees are non-refundable (excluding deposit). **Any overruns to deposit will result in additional billing.**
- The owner/applicant or their representative should be present at all public hearings.
- A denial or approval may be reversed on appeal. No permit will be in effect until the appeal period has expired.
- Three (3) complete hard-copy sets (single sided) of application materials must be submitted with this application.**
One (1) complete set of digital application materials must also be submitted on CD in PDF format.
If large sets of plans are required in application please submit only two sets.

* No CD required / ** Only one hard-copy set needed



The undersigned property owner(s) hereby authorizes the filing of this application, and authorizes on site review by authorized staff. I hereby agree to comply with all code requirements applicable to my application. Acceptance of this application does not infer a complete submittal. All amendments to the Community Development Code and to other regulations adopted after the application is approved shall be enforced where applicable. Approved applications and subsequent development is not vested under the provisions in place at the time of the initial application.

Applicant's signature	Date		Date 11-12-15
		Owner's signature (required)	

Transmittal

Project: Sunset Primary School Property – Conditional Use Application
Date: November 30, 2015
To: Darren Wyss
West Linn Planning Department
22500 Salamo Road
West Linn, OR 97068
From: Keith Liden
cc: Tim Woodley, Remo Douglas, Bill Conboy, and Amy Berger
Via: Messenger
Phone: 503.757.5501
Email: keith.liden@gmail.com

Contents:

- West Linn application form (1 original)
 - Application narrative and exhibits (1 copy)
 - Development plan sheets – full size (1 set)
 - Development plan sheets – 11”X17” (1 set)
 - CD of application materials (1 CD)
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Remarks:

- West Linn-Wilsonville School District will contact the city directly to pay the application fee.

SUNSET PRIMARY SCHOOL

Conditional Use, Design Review, Director's Exception, and Class II Variances

November 30, 2015

TABLE OF CONTENTS

APPLICATION SUMMARY	1
GENERAL INFORMATION	1
BACKGROUND INFORMATION	3
COMMUNITY ENGAGEMENT	4
PROPOSED IMPROVEMENTS	5
APPLICABLE CRITERIA – CONDITIONAL USE	13
APPLICABLE CRITERIA – DESIGN REVIEW	20
APPLICABLE CRITERIA – DIRECTOR'S EXCEPTION	27
APPLICABLE CRITERIA – CLASS II VARIANCE	28
CONCLUSION	30

EXHIBITS

- Exhibit A – Neighborhood Meeting
- Exhibit B - Sunset Primary School Transportation Analysis and Safe Routes to School Plan, DKS
- Exhibit C – Arborist Report
- Exhibit D - Noise Study

APPLICATION SUMMARY

For approval of the following three related applications:

- Conditional Use approval to construct a new primary school and related facilities on the existing Sunset Primary School site.
- Design Review approval for the new school and facilities.
- Director's Exception as provided in West Linn Community Development Code (CDC) Section 55.170 A. to allow a 17.1-foot front yard setback where 20 feet is required in CDC Section 11.070.
- Director's Exception approval per CDC Section 55.170 B. to allow 89 parking spaces where 97 spaces are required.
- Class II Variance to allow on-site parking spaces to be located beyond the 200-foot maximum distance to the building entrance as required in CDC Section 46.070.
- Class II Variance to allow on-site bike parking spaces to be located beyond the 50-foot maximum distance to the building entrance as required in CDC Section 46.150.
- A Class II Variance to allow a wall sign of approximately 28 square feet where a maximum of 18 feet is required in CDC Section 52.300.

GENERAL INFORMATION

Location

Sunset Primary School property - 2351 Oxford Street (2S 1E Section 25 DC, Tax Lots 600, 3700, 5800, 6200, and 6300). Its location is shown in Figure 1.

Comprehensive Plan and Zoning Designations

The Comprehensive Plan designation is Low Density Residential.

Consistent with the Comprehensive Plan, the property is zoned Single Family Residential Detached (R-10).

Property Owner and Applicant's Representative

West Linn-Wilsonville School District 3JT
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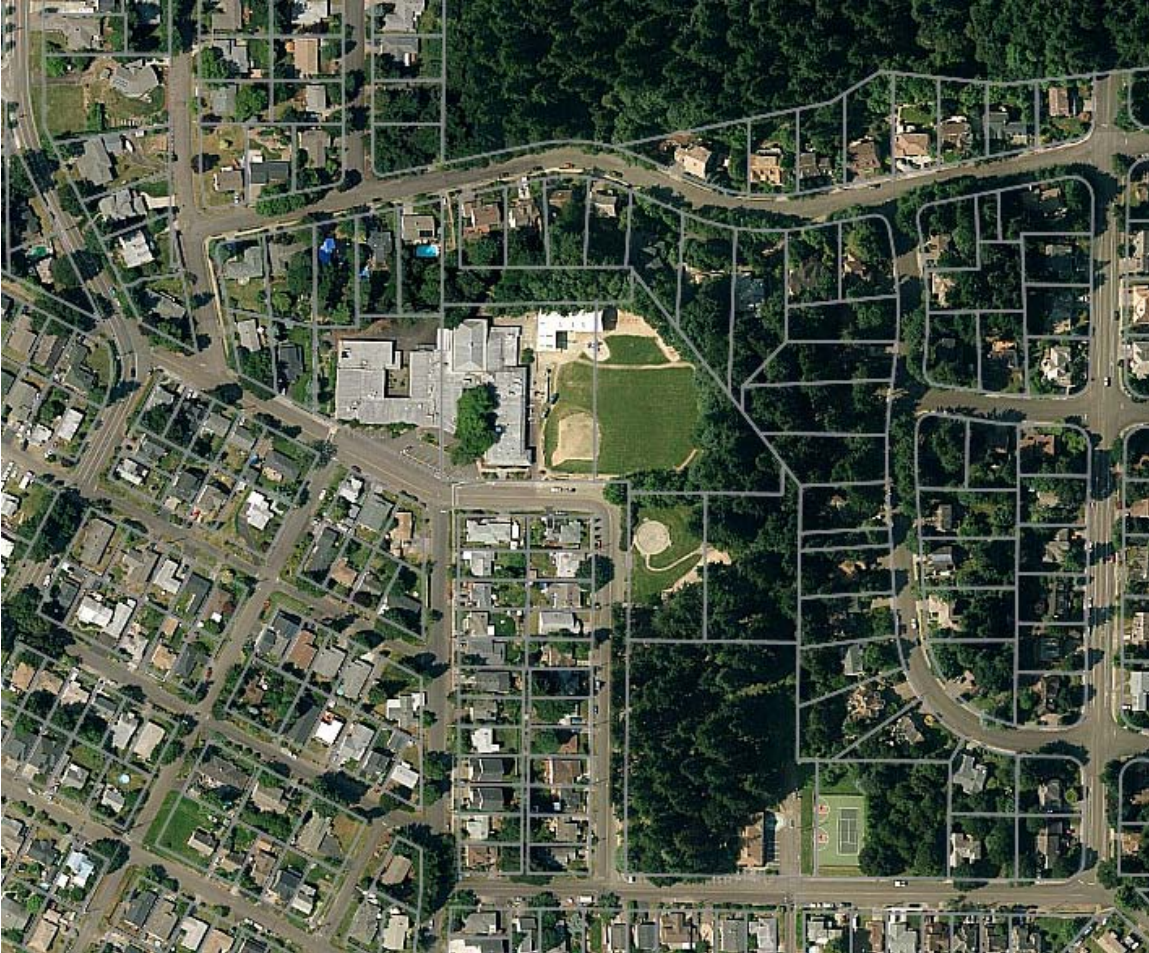
Landscape Architect

Kristina Durant
Walker Macy
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Portland, OR 97204
Phone: 503.228.3122
Email: kdurant@walkermacy.com

Application Plan Sheets

Sheet Number	Description
LU1.00	Site Analysis Map
LU1.01	Existing Conditions
LU1.02	Site Plan
LU1.03	Grading Plan
LU1.04	Utility Plan
LU1.05	Storm Plan
LU1.06	Oxford and Park ROW Plan
LU1.07	Bittner ROW Plan
LU2.02	Landscape Plan
LU2.03	Landscape Planting Plan
LU3.01	Main Floor Plan
LU3.02	Second Floor Plan
LU3.03	Exterior Elevations
LU3.04	Building Sections and Sign
LU3.05	Exterior Materials
LU4.01	Light Coverage Plan

Figure 1: Vicinity Map



Source: Metro

BACKGROUND INFORMATION

Site Description

The site is developed with Sunset Primary School, one of the older facilities in the District. The property includes a 54,000 square-foot building, driveways, parking, and play areas. The entire "L"-shaped site is approximately 6.19 acres. The property was recently expanded to the southeast through the acquisition of approximately 1.6 acres from the city of West Linn. Primary access to the school is provided by Oxford Street, which runs along the south side of the school building. Bittner Street borders the west side of Sunset Park and the southeastern portion of the school property (Sheets LU1.00 and LU1.01). There are two pathway connections with Oregon City Boulevard to the north and Oregon City Loop to the east.

Vicinity Information

The zoning designations and current land use of the surrounding area are summarized in Table 1.

Table 1
Zoning and Land Use Summary

PARCELS	ZONE DESIGNATION	LAND USE
Subject Property	R-10	Primary school building, ancillary facilities, and parking
North/Northwest	R-10	Single family residences
East	R-10	Single family residences
South/Southwest	R-10/R-7/R-5	Single family residences and Sunset Park

COMMUNITY ENGAGEMENT

The District provided notice, as required by the CDC, and held a meeting with the Sunset Neighborhood Association on November 10, 2015 to review the proposed design for the new school. The materials pertaining to this required meeting are provided in Exhibit A.

This meeting was the most recent in an on-going dialogue with the neighborhood about how to best replace the aging Sunset Primary School. In 2007, the school district commissioned a building evaluation of the Sunset Primary School facility by Dull Olson Weekes Architects. The October 1st report recommended replacement of the school rather than renovation of the existing facility based on anticipated cost. A task force was then assembled to review the architectural study, review the structural needs of a primary school, weigh the options of renovation and replacement, and prepare a recommendation to the Long Range Planning Committee in November 2007. Ultimately, the recommendation was to demolish the existing building and build a new facility at Oppenlander field. After considerable response from the community another task force was brought together in 2009 to develop a recommendation for locating a new Sunset Primary School. The recommendation from that task force was to reconstruct the school on the current site with additional land, a smaller school, jointly planned use of Sunset Park with City of West Linn, and to maintain usefulness of Oppenlander field for all West Linn schools.

Given this recommendation, Ballot Measure 3-358 in May 2010 asked voters to approve the sale of a portion of Sunset Park to the school district. After the sale was approved the district and city of West Linn negotiated a land exchange in February 2011, which included use

limitations on the Sunset Park property to be sold to the district. The district agreed to use its best efforts to cooperate with the City when master planning the city property and adjoining school property owned by the district, so as to maximize recreational opportunities while preserving significant trees to the extent practical while meeting the district’s requirements to replace Sunset Primary School.

Having obtained the necessary land, the school district then included the replacement of Sunset Primary School in the 2014 Ballot Measure 3-456 as part of an \$84.5 million dollar capital improvement program. The ballot measure was approved by voters in November 2014.

After a series of meetings with parents, students, teachers, and administrators to develop educational specification in the spring of 2015, the design team spent the summer drafting plans for the school and site. The school district then held a meeting with neighbors on August 20, 2015 to review the first concept plan and received a great deal of input. Various changes were made to the design in response to public comment as well as feedback from regulating bodies. The district asked the Sunset Neighborhood Association to host a meeting on October 20, 2015 to review revised plans. The October presentation included many new details as well as various compromises in response to the public comments. The Sunset Neighborhood Association graciously agreed to host another presentation on November 10th to review the latest plans before submitting the project to the city of West Linn for Land Use.

PROPOSED IMPROVEMENTS

The proposed Sunset Primary School site improvements include three major elements:

- Replacing the existing school building with a new primary school building.
- New on-site circulation and parking.
- New sports field and play areas.

The project will be conducted in two construction phases to allow the school to operate continuously on the site. The first phase will include construction of the new school building in the general location of the existing playground and sports field. The second phase will commence once the new school building is complete to include demolition of the existing school building and construct a new sports field in that location to replace the sports field and play areas lost during the first phase.

**Table 2
New Primary School - Approximate Areas**

LAND USE	AREA
School District Site	6.19 acres
Primary School total building area	61,680 sq. ft.
Primary School total building footprint	42,604 sq. ft.
Existing site impervious area	2.80 acres
Proposed site impervious area	2.89 acres

New Primary School

The new school building will be constructed to the east of the existing school (Sheets LU1.01 and LU1.02). It is proposed to have a 450-student architectural capacity (25 students per classroom) and 30- to 35-person staff. The architectural capacity of the existing school is 575 students. The new school will have fewer classrooms and devote more space to common instruction areas and common facilities, such as gymnasium/commons, library, and multi-purpose rooms. The September 2015 enrollment was 305 students, but it has been significantly higher in the past. The new school will have a total floor area of approximately 61,680 square feet (foot print = 42,604 SF), compared to 54,000 square feet (foot print = 43,185 SF) for the existing school.

The main building entrance and plaza will be oriented to the corner of Park Street and Bittner Street. The building will have a two-story east wing of classrooms and kitchen service, and a one-level west wing including administration, performing arts, physical education, wellness and commons area, mechanical equipment, and enclosed service yard. The maximum building height will be 40 feet (Sheet LU3.03). Open space, playground, and sports field will be located to the south, north, and west of the new school building (Sheet LU1.02).

The minimum building setbacks to the east and north are 31.7 feet and 104 feet respectively. These setbacks exceed the CDC minimums in the R-10 Zone for side yards (7.5 feet) and rear yards (20 feet). The main front building entry will have a 32.3-foot setback from the existing Park Street right-of-way line. The front entry will also feature a 15.2-foot canopy extending from the front wall a 17.1-foot setback from the right-of-way line (Sheet LU1.02). The minimum front yard setback standard for the R-10 Zone is 20 feet. An exception, as provided in CDC Section 55.170 A., is requested to allow this reduced setback.

Integrating the building with the site is an important aspect to sustainability and was a major goal of the school district. All attempts have been made to allow the building to work with the natural contours of the site and orient the teaching spaces in ways to collect the appropriate amount of daylight. This includes sizing and locating windows in a manner that provides natural daylighting for each of the learning environments; reducing the need for artificial lighting through parts of the day. The building location also facilitated the integration of sun screening devices as part of the storefront and curtain wall window systems. Along the east and west are vertical sunshades and the south facades have horizontal shading devices as part of their design. Siting the building with the large gym roof facing south also allows for a large open roof surface that could hold arrays of photovoltaic (PV) panels oriented to maximize their efficiency.

Circulation – On and Adjacent to the Site

Driveways

Access will be provided by three driveways, with one each located on Oxford and Bittner streets. These driveways will be 24 feet wide to accommodate two-way traffic. They will be aligned with Sussex Street and Exeter Street. The Exeter Street driveway will also provide access for emergency and service vehicles to the rear of the new school building and to the service and trash area on the west side of the building. The alignment of the school site access

driveway opposite Exeter Street was developed specifically at the request of the city of West Linn Engineering. The third driveway, which provides required fire access from Bittner Street, will also be 24 feet wide (Sheet LU 1.02).

Street Frontage Improvements

Full street improvements are proposed for the portions of Oxford, Park, and Bittner streets that are adjacent to the school property. The District would normally be responsible for half-street frontage improvements, but the City and District will cooperatively construct full street improvements to provide improved access to the school and for the neighborhood. The improvements will include curbs, street lighting, sidewalks, and crosswalks (Sheets LU1.02, LU1.06 and LU1.07).

The sidewalk adjacent to the school site will have a minimum width of 6 feet along the street frontages to the west of the middle driveway and south of the Bittner Street driveway. The sidewalk will be 10.5 feet adjacent to the bus loading area on Park Street and 8 feet on the remainder of the Bittner Street frontage (Sheets LU1.02, LU1.06 and LU1.07). Street lights are designed to meet applicable city standards for local streets.

Pedestrians and Bicyclists

The *Sunset Primary School Transportation Analysis and Safe Routes to School Plan* developed by DKS (Exhibit B) shows that the sidewalk and bicycle facility system in the vicinity of the school site is not complete. The proposed school improvements Sheets LU1.02, LU1.06, and LU1.07 will make a significant contribution to improving the pedestrian and bicycle facilities in the vicinity by:

- Constructing full street improvements along the entire site frontage including sidewalks, and crosswalks in front of the new school building.
- Creating an on-site pathway connection between the school entrance and the existing pathway connection with Oregon City Loop.
- Enhancing the existing pathway between the property and Oregon City Boulevard by providing a more direct and safe route to the school property.

Emergency Access

Emergency access will be provided via the parking lot driveways plus a driveway and fire lane, which will be located on the west, north and south sides of the school building. These driveways will provide suitable emergency access to all portions of the property.

Traffic Impacts

The *Sunset Primary School Transportation Analysis and Safe Routes to School Plan* (Exhibit B) analyzes the potential traffic impacts associated with the proposed primary school. The primary DKS conclusions are summarized below:

- Based upon an architectural capacity of 575 students for the existing school, a total of 742 daily trips would be anticipated.
- With an architectural capacity of 450 students for the new school, a total of 581 total daily trips would be estimated, representing a decline of 161 trips (DKS report, Tables 1 and 2).

- The existing pedestrian crossings on Oxford Street at Sussex Street and Exeter Street should be removed and replaced with new crosswalks near the new middle driveway on Park (Oxford) Street and the new driveway on Bittner Street.
- The report identifies desirable sidewalk infill to be completed in the neighborhood. The District and City will be cooperating to create full street improvements on the street segments adjacent to the school. These improvements, along with the vastly improved crosswalks, will be a significant first step toward providing a more complete pedestrian network.

Circulation – Safe Routes to School

In addition to making significant right-of-way improvements along the frontage, the district will create a safe routes plan for distribution prior to the opening of the school. This plan will note the locations of sidewalks and preferred walking paths to walk or bicycle to and from the school.

Parking and Loading

During the first construction phase, the existing on-site parking will remain. Once the new school building is in place, the parking will be reconfigured and expanded to include a new 11-space lot immediately south of the east wing and a 78-space lot, including 5 handicapped spaces, on the west side of the property and along Oxford Street. This will represent a significant increase from the current 27 spaces (including 2 handicapped) to a total of 89 spaces (Sheet LU1.02).

CDC 46.090 B requires one space for each employee plus one space for every 1,000 square feet of floor area. With a maximum of 35 employees and a total of 61,680 square feet of floor area, the school is required to have 97 parking spaces. The district could provide an additional 8 parking spaces in the southern parking lot to meet the CDC requirements, but it would necessitate removing additional trees, which neighborhood representatives would like to remain. In response, the district is requesting a Director's Exception to allow 89 on-site parking spaces where 97 are normally required.

The western parking spaces will be located between approximately 180 and 560 feet from the main building entrance. The parking spaces in the southern lot are approximately 110 to 200 feet from the main building entrance. The city's standard for the maximum distance between parking spaces and the primary building entrance is 200 feet. Therefore, a variance is requested to allow parking at distances greater than 200 feet.

CDC Section 46.150 D. requires 2 bicycle parking spaces per classroom with a minimum of 50% being covered. With 18 classrooms, the total required bicycle parking is 36 spaces. Forty bicycle parking spaces are proposed in two locations. Twenty uncovered spaces will be located within 50 feet of the front entrance, and the remaining 20 spaces will be covered and located approximately 130 feet to the west of the front entrance (Sheet LU1.02). A variance to the 50-foot distance standards is requested for the 20 covered bike spaces. .

One loading space is required for a school of less than 100,000 square feet. The proposed primary school will have approximately 61,680 square feet. The required loading space will be provided in a service area located in the west wing with direct access to the central access drive and fire lane (Sheets LU1.02 and 3.01).

Sports Field and Play Areas

The existing school has a grass sports field, play area, and covered play area located in the northeastern portion of the property. These existing facilities are all proposed to be replaced with new play areas between the school building and the north property line, a sports field between the school and western parking lot, and a pathway loop on the east side of the building (Sheets LU1.01 and LU1.02). There is currently a small recreational area and play structures located in the southern part of the property along Bittner Street. These facilities are proposed to be removed to accommodate the required storm treatment and detention facility (Sheet LU1.02).

Trees

There are 126 trees over a 6-inch diameter on the site. To accommodate the new school and related facilities, 37 will need to be removed, and the remaining 99 trees will be protected in place. With the exception of one Alder located near the northern property line, trees are not proposed for removal within 40 feet of the east, north and west property boundaries. One Fir tree will need to be removed near the property boundary with Sunset Park to the south. The retention of trees near the property line will retain important visual buffering for adjacent properties.

In addition to accommodating the new building and parking lots, some additional tree removal is necessitated by a required, storm water detention/treatment area located immediately south of the southern parking lot (Sheets LU1.02 and LU1.05). Every effort has been made to minimize the extent of the tree removal and to maintain existing visual buffers for surrounding properties.

The District retained an arborist to evaluate the trees and proposed tree removal on the site (Exhibit C). The district staff plans to meet with Mike Perkins, the City of West Linn Arborist, to review the proposed removal of trees on site. A summary of the meeting notes from this meeting will be provided as supplemental information in this application. The planning staff confirmed that holding this meeting after the application is submitted, but before it is reviewed, was appropriate.

Landscaping

Understory brush and weeds beneath existing trees along the east property boundary will be removed and replaced with bark mulch, groundcover, shrubs, site trees, and street trees will be provided in the quantities, size and location required by the CDC (Sheets LU2.02 and LU2.03). A 6-foot galvanized chain link fence is proposed along the entire east, north, and west boundary of the site (Sheet LU2.02).

Potential Noise

Potential noise issues have been studied and evaluated by the district. A memorandum of anticipate site noise conditions was prepared by BRC Acoustics and Audiovisual Design was prepared as part of this application (Exhibit D). The study evaluated three primary noise sources: 1) traffic and vehicles, 2) outdoor play areas, and 3) on-site equipment and mechanical systems. The memorandum concludes that the city's noise standards will be met.

Utilities

A number of public facility improvements are proposed as part of the new school construction. Many of them will be part of the street improvements.

Oxford Street Public Improvements

Overall street improvements provided by the District and the City are proposed to include a fully improved street section including two travel lanes, curbs, planter strips in some locations, sidewalks, and several marked crosswalks. No other public utility improvements are proposed for Oxford Street (Sheet LU1.06). A public utility easement (PUE) will be placed for underground extension of power and franchise utilities.

Park Street Public Improvements

Overall half-street improvements provided by the District are to include a 16-foot wide pavement for travel lane and bike lane, 6-inch curb, 5.5-foot wide planter strip and 10-foot wide sidewalk. Bus drop-off will be configured along the sidewalk within the Park Road ROW. Just outside the right-of-way, a 5-foot wide (PUE) will be placed for underground extension of power and franchise utilities. Similar to Oxford Street, the City will provide the remaining street improvements (Sheet LU1.06).

A 12-inch water line will also be extended as part of the Park Street public improvements. Line extension size was confirmed by water modeling provided by city staff. The water line will be extended down Bittner Street as well to complete a loop connection at the intersection of Bittner and Long Streets. Because much of the water system work is intended to improve service in the general area, the city will be financing the water line between the property frontage and Long Street to the south.

Bittner Street Public Improvements

Overall half-street improvements provided by the District are to include a 16-foot wide pavement for travel lane, 6-inch curb, 5.5-foot wide planter strip and 8-foot wide sidewalk. Parent drop-off will be configured along the sidewalk within the Bittner Street right-of-way. Similar to the other streets, the City will provide the remaining street improvements. These surface street improvements are proposed for the length of the school property frontage on Bittner Street.

As described above, the new 12-inch water line will also be extended as part of the Bittner Street public improvements. The new water line will extend south to Long Street. In addition, a 12-inch public storm sewer extension will be installed the length of Bittner to provide a new

storm drainage connection from the school site to the intersection of Bittner and Long Streets to the south.

A 6-inch sanitary line will be extended across Bittner Street and will tie into an existing sanitary sewer on the west side of the street. This has been reviewed with the city Engineering Department. The proposed Bittner Street surface and utility improvements are shown on Sheet LU1.07.

On-site Storm Water Treatment and Drainage

On-site treatment, detention and discharge from the site will be needed for treatment of storm water. Discussed with the city of West Linn, the site is very constrained for the proposed school development. After consultation with city of West Linn Engineering, storm water treatment and detention is proposed for the project with a new storm water facility pond located at the southeast corner of the site (at the location of the existing playground area). The construction of this facility will require removal of the existing playground and a number of the existing trees.

The proposed new water quality planter facility will be designed to provide the required water quality treatment and detention for the entire school site prior to discharge to the city system (new proposed storm sewer extension down Bittner described above).

Note that the site is currently developed and storm water runoff currently drains to an existing system that runs down Exeter Street to Long Street. There is no treatment or detention for the existing development. The new system will be designed to treat stormwater runoff per city requirements and to detain peak flows to pre-development levels (natural undeveloped state - not the existing condition). Consequently, stormwater discharge flows from the new school development will be significantly less than from the existing school site.

The existing public storm drain system currently serving the Sunset Primary School site is underdeveloped and a number of alternatives were evaluated to provide an adequate new storm drain connection for the proposed school development. The proposed option of extending a new public storm main down Bittner was selected for a number of reasons:

1. It was deemed the least disruptive to the neighborhood. The project is already extending a new public water main down Bittner as well, so that street will already be impacted.
2. It is the shortest route (and consequently the least costly) for a new storm sewer extension.
3. It will convey the new school runoff to a system and drainage where it currently goes.

Lighting

On-site lighting will be provided for the driveways, parking lots, play areas, and building, but the play field will not be illuminated. The lighting is designed to only cast light onto the property and not adjoining properties. The lighting plan (Sheet LU4.01) indicates the expected light levels and how light will not escape beyond the property boundary.

Refuse and Recycling

This area will be located in the southwestern corner of the building. There will be an enclosed area for a compactor, refuse, and recycling storage. Access will be provided by the central driveway and fire lane located on the west and north sides of the new school building. It will be partially enclosed to reduce its visibility and any potential noise impacts. The separation and storage of these materials will be consistent with the solid waste hauler and DEQ.

Signs

The district proposes one raised letter building sign above the main building entrance (Sheet LU3.03). This sign is proposed to use 18-inch tall metal letters along the top of the canopy over the front entrance. With a proposed length of approximately 28 feet, the sign would be approximately 42 square feet. It is considered as a wall sign, which has a maximum size requirement of 18 square feet. A variance is requested to allow a wall sign, which is greater than the 18 square feet.

A monument sign is also proposed in front of the main building entrance near the corner of Park and Bittner streets (Sheets LU2.02 and LU3.04). It would have only one side facing the street. The entire sign structure would be approximately 65 square feet with a maximum height of 6 feet and a 12-foot length. The concrete sign would include a prominent place for the historic bell and a message "Sunset Primary School, 2351 Oxford Street" totaling approximately 6 square feet. The sign would employ recessed cut out letters, and it would be illuminated by recessed exterior lighting that is flush with the sidewalk.

Application Elements

To gain city approval for the above improvements, the application contains four elements.

Conditional Use

Schools are categorized as conditional uses in the R-10 Zone. The applicable review criteria are found in Chapter 60 of the CDC.

Design Review

Design review is required for non-residential development. CDC Chapter 55 contains the applicable review criteria along with references to relevant criteria in other portions of the CDC, which must also be satisfied.

Exceptions

An exception to allow a 17.1-foot front yard setback where 20 is required in CDC Section 11.070.

An exception to the required number of parking spaces is requested to allow 89 on-site parking spaces where 97 spaces are required by CDC Section 46.090.

Class II Variances

A Class II Variance to allow on-site parking spaces to be located beyond the 200-foot maximum distance as required in CDC Section 46.070.

A Class II Variance to allow on-site bike parking spaces to be located beyond the 50-foot maximum distance to the building entrance as required in CDC Section 46.150.

A Class II Variance to allow a wall sign of approximately 28 square feet where a maximum of 18 feet is required in CDC Section 52.300.

APPLICABLE CRITERIA - CONDITIONAL USE REVIEW

The relevant review criteria in the CDC include the Single Family Residential Detached, R-10 requirements (Chapter 11), Conditional Use evaluation criteria (Chapter 60), Comprehensive Plan policies, Design Review (Chapter 55), and Variance (Chapter 75). These criteria are addressed below.

Chapter 11 Single Family Residential Detached, R-10

Section 11.060 Conditional Uses

Schools are listed as a conditional use in the R-10 zone. The entire property is located within the R-10 Zone, and therefore, the proposed new primary school is eligible to receive conditional use approval.

Section 11.070 Dimensional Requirements

With the exception of the front yard setback of 17.1 feet where 20 feet is required, the proposed school building exceeds all of the minimum setback standards. The normal maximum height in the R-10 Zone is 35 feet, however, CDC Section 41.040 allows school to have a maximum height of 50 feet, subject to criteria, which are addressed below.

Section 11.080 Dimensional Requirements, Conditional Uses

This section gives the Planning Commission the authority to determine the appropriate parcel size and dimensions for a conditional use.

The school site historically was smaller than it is today. It has operated effectively and in a manner compatible with the surrounding neighborhood for decades. Following the District's acquisition of a portion of a property owned by the city to the southeast, the total property size is now 6.19 acres. This additional land area will allow the school to enhance its operation and benefit the neighborhood.

This property has proven to be suitable for a primary school, and the neighborhood has expressed its support for retaining a primary school on the site. The new school building will not be significantly larger than the existing school, and the actual enrollment capacity of the building will decrease due to more space being programmed for common facilities. The

additional site area will also enable the district to provide significantly more on-site parking. Finally, the proposed street and pathway improvements will provide greatly enhanced multi-modal access to and from the school, which will be less disruptive to the surrounding neighborhood.

Section 11.090 Other Applicable Development Standards

This section lists the other CDC Chapters that apply or potentially apply to all development in the R-10 Zone. The applicable CDC chapters are addressed later in this narrative under Design Review.

Chapter 60 Conditional Uses

Section 60.070 Approval Standards and Conditions

This code section states that the applicant must provide evidence substantiating that the proposed use satisfies seven criteria, which are addressed below:

A. The following criteria shall be satisfied.

1. The site size and dimensions provide:

a. Adequate area for the needs of the proposed use.

The school has been in continuous use for many years, and this site has proven to be suitable for the primary school, its operation, and for maintaining a compatible relationship with the surrounding neighborhood. As mentioned above, the new primary school will have the advantage of a larger site as a result of the 1.6-acre expansion. The new primary school will function similarly to the existing school by maintaining an enrollment comparable to the existing school.

b. Adequate area for aesthetic design treatment to mitigate any possible adverse effect from the use on surrounding properties and uses.

As shown on the site plan information, the setback distances for buildings, parking, play areas, and related facilities from all property lines will continue to be substantial. The new school will address several problems related to the existing school including:

- More than tripling the deficient on-site parking.
- Improving the safety and convenience of access to the site for all modes.
- Improved bus loading and parent drop-off areas.
- Maintaining the majority of the trees on the site.
- Providing improved landscaping that meets city standards.

2. *The characteristics of the site are suitable for the proposed use considering size, shape, location, topography and natural features.*

The existing primary school site has proven to be suitable for the district and the community. The approval of the new bond measure to provide the funding for the new school demonstrates continued community support for the proposed reconstruction of the school. Although the site is smaller than many of the existing primary school sites in the district, the school has demonstrated it can operate in a manner that is compatible with the surrounding neighborhood. Because the capacity of the school will be slightly reduced, the proposed improvements will not pose any new potential impacts for the surrounding neighborhood.

3. *The granting of the proposal will provide for a facility that is consistent with the overall needs of the community.*

The needs of the community are best expressed by its approval of the bond measure to finance these improvements. In addition, the Sunset Neighborhood Association held a meeting on November 10, 2015 to review and comment on the proposed school. Questions regarding specific aspects of the facility design were asked, but no significant concerns were raised. The association did not take a formal vote on the proposal. The relevant city policies are addressed under criterion 7 below.

4. *Adequate public facilities will be available to provide service to the property at the time of occupancy.*

Transportation

As noted in the project description, significant street, sidewalk, and pathway improvements will be made as part of the project. These improvements will vastly improve the safety and convenience for all transportation modes.

Water

Water service is presently adequate, and because no additional demands will be placed on the system, it will adequately continue to serve the school.

Sanitary and Storm Sewer

Sanitary and storm sewer service is currently satisfactory. In coordination with the city, facilities will be upgraded to comply with current standards. In particular, storm drainage will now receive more thorough treatment and detention.

5. *The applicable requirements of the zone are met except as modified by this (Conditional Use) chapter.*

The applicable CDC requirements for building setbacks and lot coverage will continue to be satisfied as explained above.

The appropriate lot size is confirmed as part of the conditional use review. Because the use is proposed to remain essentially as it is today, the expanded 6.19-acre site continues to be appropriate for a primary school.

Two exceptions and three variances are requested as part of this application. As noted later in this narrative, they all satisfy the applicable approval criteria.

6. *The supplementary requirements set forth in Chapters 52 to 55 CDC, if applicable, are met.*

Chapter 52 - Signs

One wall sign and one freestanding sign are requested as part of this application. The applicable approval criteria are addressed later in this narrative.

Chapter 55 – Design Review

CDC Section 55.100 A. includes a list of CDC chapters, which must be satisfied as part of Design Review. The applicable approval criteria are addressed later in this narrative.

7. *The use will comply with the applicable policies of the Comprehensive Plan.*

The relevant city policies for schools are found in the West Linn Comprehensive Plan. The relevant policies are addressed below.

Policy 4 (Section 1: Air Quality – GOAL 6: Air, Water, and Land Resources Quality)

Encourage the use of alternative modes of transportation, including mass transit, walking, and bicycling.

In the design of the school, the supporting transportation infrastructure, and pathway improvements will facilitate safe and convenient multi-modal access.

Policy 1 (Section 2: Water Quality – GOAL 6: Air, Water, and Land Resources Quality)

Require that new development be designed and constructed to prevent degradation of surface and ground water quality by runoff.

Appropriate erosion control and water quality measures will be taken to comply with this policy and related regulations. These measures will be reviewed by the city as part of the building permit process.

Policy 4 (Water Quality)

Require that new development be connected to the City's sanitary sewer system.

The school will continue to be connected to sanitary sewer.

Policy 2 (Section 4: Noise Control)

Require development proposals that are expected to generate noise to incorporate landscaping and other techniques to reduce noise impacts to levels compatible with surrounding land uses.

Policy 3 (Section 4: Noise Control)

Require new commercial, industrial, and public facilities to be designed and landscaped to meet Department of Environmental Quality (DEQ) and City noise standards.

Policy 4 (Section 4: Noise Control)

As part of the land use application submittal for a noise-generating use, require the applicant to include a statement from a licensed acoustical engineer, and, if necessary, from DEQ, declaring that all applicable standards can be met.

Noise policies 2, 3, and 4 above will be satisfied because the proposed improvements will not appreciably change use patterns on the site or increase associated noise. Most important, the building function, orientation, and capacity will remain essentially as it is today. The noise analysis, provided in Exhibit C, shows that all applicable noise standards can be met.

Policy 3 (Section 3: Storm Drainage - GOAL 11: Public Facilities and Services)

Protect downstream areas from increased storm water runoff by managing runoff from upstream development and impacts on adjacent natural drainageways and their associated vegetation.

The proposed site work has been designed to meet this policy. The proposed site work will not have any appreciable impact on storm water runoff because the amount of impervious surface will remain virtually the same as it is today. In addition, a new storm water treatment and detention facility is proposed in the southern portion of the site.

Policy 1: (Section 7: Schools - GOAL 11: Public Facilities and Services)

Encourage the School District to build schools on collectors or arterial streets and, where possible, along transit lines.

As noted in this application, the school has been in this location for a long time, and it is well-integrated with the neighborhood. Access to the school has been provided without

undue impacts on the neighborhood. The multi-modal access improvements coupled with slight decrease in the potential enrollment will enhance accessibility and compatibility with the surrounding neighborhood.

Policy 2: (Section 7: Schools - GOAL 11: Public Facilities and Services)

Encourage the use of energy-responsive materials and processes in the design of schools where economically feasible.

As noted in the project description, the school will employ energy-saving design features. In addition, the school will be required to meet current building and energy codes, which will result in vastly superior energy and resource conservation compared to the existing building.

Policy 4: (Section 7: Schools - GOAL 11: Public Facilities and Services)

School design, use, and parking will be responsive to and compatible with surrounding neighborhoods and existing land uses.

As noted in this application, the school has been in this location for a long time, and it is well-integrated with the neighborhood. The proposed school will further enhance its relationship with the neighborhood by having a slightly reduced enrollment capacity, greatly improved street and multi-modal accessibility, significantly more on-site parking, and an improved building design.

Policy 4: Bicycles (GOAL 12: Transportation)

Require new commercial, industrial, and institutional development to provide on-site facilities for bicycle parking and storage.

The proposed bicycle parking spaces will continue to provide improved parking convenience for cyclists, including a combination of covered and uncovered spaces near the front entrance.

Policy 1b: Pedestrians (GOAL 12: Transportation)

Provide connections to schools, recreation facilities, community centers, and transit facilities.

The public street and on-site walkway system will be enhanced significantly, including new sidewalks, crosswalks, and pathway improvements.

Policy 1c: Pedestrians (GOAL 12: Transportation)

Use off-street pedestrian "short-cut" pathways to provide routes where physical constraints or existing development preclude the construction of streets with sidewalks.

The school site will continue to take advantage of the two existing pathway connections

with Oregon City Boulevard to the north and Oregon City Loop to the east. The northern pathway will be improved to create a straight, more visible, and safer route in and out of the site. Connection between the eastern pathway and the school entrance will also be provided.

Policy 1e: Pedestrians (GOAL 12: Transportation)

Eliminate gaps in the existing walkway network and provide pedestrian linkages between neighborhoods.

The existing school does not have full half-street improvements including sidewalk. In partnership with the City, the District will provide full street improvements for the portions of Oxford, Park, and Bittner streets, which abut the school property. This will include sidewalk on both sides of the street and new, clearly delineated crosswalks. These improvements, along with the pathways noted above, will greatly improve the safety and convenience of walking or bicycling to school.

Policy 2: Pedestrians (GOAL 12: Transportation)

Employ a variety of methods to promote safe and convenient pedestrian access in addition to, or instead of, sidewalks in older developed areas of West Linn without sidewalks.

The school site will continue to take advantage of the two existing pathway connections with Oregon City Boulevard to the north and Oregon City Loop to the east. The northern pathway will be improved to create a straight, more visible, and safer route in and out of the site. A better connection between the eastern pathway and the school entrance will also be provided.

Policy 6: (GOAL 13: Energy Conservation)

Encourage the use of energy-conscious design and materials in all public facilities.

As noted in the project description, the building design incorporates methods to reduce energy demand for lighting, heating, and cooling. It also features a roof design that can accommodate solar energy equipment.

Policy 7: (GOAL 13: Energy Conservation)

Encourage the construction and maintenance of sidewalks and bike paths/ways to promote alternative modes of transportation.

As noted above, the new school will include improvements to the existing pathway connections in addition to the full street improvements to Oxford, Park, and Bittner streets.

B. Development review provisions in Chapter 55 shall be satisfied.

These criteria are addressed below.

C. The Planning Commission may impose conditions.

The District understands that the Planning Commission has the authority to impose conditions.

D. Aggregate extraction uses.

This subsection is not relevant because aggregate extraction is not proposed.

E. Historic review.

This subsection is not relevant because the school is not a designated historic resource.

Section 60.100 Additional Criteria for Schools and other Government Facilities

This code section states that schools and other government facilities, which will attract a regular and significant volume of users should be centrally located relative to the population to be served.

The Sunset Primary School has been serving the central West Linn neighborhoods for decades, and the community has expressed a desire to replace, not move, the school so the new school may continue to serve this area of the city. It is centrally located within its attendance area.

APPLICABLE CRITERIA - DESIGN REVIEW

At the conclusion of the pre-application conference, the planning staff determined that a Class II Design Review application would be necessary. The application must meet criteria in CDC Chapter 55 as identified and responded to below:

CDC 55.100 Approval Standards – Class II Design Review

A. The provisions of the following chapters shall be met:

1. Chapter 34 – Accessory Structures, Dwelling Units, and Uses

This chapter is not applicable because no accessory structures or uses are proposed.

2. Chapter 38 – Additional Yard Area

Section 38.030 requires minimum setbacks from street centerlines of 25 feet plus the required yard setback. The design of Oxford, Park, and Bittner streets have been developed in coordination with the city staff and the proposed building will provide the setbacks required in this section.

3. Chapter 41 – Building Height, Structures on Steep Lots, Exceptions

Section 41.040 states that a school may be a maximum of 50 feet in height subject to meeting three approval criteria, which are met by the school design featuring a maximum height of 40 feet because:

- A. The total floor area represents less than 25% of the 6.19-acre site area.
- B. The side and rear yard dimensions (minimum of 31 feet) are more than two-thirds of the building height. The front building setbacks from Park Street and Bittner Street range between 17.1 to over 90 feet. For the eastern wing of the building, which has portions reaching 40 feet, the front building setbacks are over 40 feet.
- C. This request for additional building height is included as part of a conditional use application.

4. Chapter 42 – Clear Vision Areas

Section 42.040 requires that a 30-foot triangular area be kept clear of obstructions and vegetation, which would inhibit visibility for motorists and other street users. These clear vision requirements adjacent to street intersections and driveways will be provided as indicated in site and landscaping plans.

5. Chapter 44 – Fences

Section 44.020 contains the requirements for fence heights in front, side, and rear yards. The proposed 6-foot high chain link fencing on the boundaries of the site satisfy the requirements of this CDC chapter.

6. Chapter 46 – Off-Street Parking and Loading

Section 46.070 B. requires parking spaces to be within 200 feet of main building entrances, and as indicated, some of the required parking spaces are farther from main building entrances up to 560 feet. Therefore, a variance is requested. The variance criteria are addressed later in this application narrative.

Section 46.090 requires 1 vehicle parking space for every employee, plus 1 space for every 1,000 square feet of floor area. With a maximum of 35 staff and a total of 61,680 square feet, a total of 97 spaces is required. The district is proposing to provide 89 spaces. Section 55.170 allows for parking exceptions for reductions of no more than 10%. The exception criteria are addressed later in this application narrative.

Section 46.120 requires a driveway to accommodate forward traffic flow for the purpose of loading/unloading passengers. The site plan proposes providing this function along the street as illustrated on the site plan.

Section 46.130 requires one loading berth for the school, which is provided on the west side of the building.

Section 46.150 contains design standards for parking lots, and the proposed site plan

complies with these standards. Section 46.150 D. requires two bike parking spaces per classroom with the parking located within 50 feet of the building entrance and a minimum of 50% of the spaces covered. The proposed bike parking will include 20 uncovered spaces within 50 feet of the building entrance and another 20 covered spaces within 130 feet of the front entrance. A variance is requested to exceed the distance standard for the 20 covered spaces. The variance criteria are addressed later in this narrative.

7. Chapter 48 – Access, Egress and Circulation

Section 48.040 requires driveway widths of 24 feet for 2-way and 15 feet for 1-way traffic. The proposed driveways and on-site circulation will satisfy the standards in this section.

Section 48.060 regulates curb cut location and widths, the proposed driveway locations, spacing and widths meet these standards.

8. Chapter 52 – Signs

Section 52.210 contains several approval standards that must be met. The wall sign and freestanding sign proposed for the Sunset Primary School meet the sign permit approval standards as noted below:

- A. The scale of the signs and their components is appropriate for their location near the main building entrance. At 6 feet tall with an approximate 6 square-foot message for the school name and address, the freestanding sign is well within the maximum size requirements in CDC 52.300. The lighting and materials will be very low-key and in keeping with the surrounding residential neighborhood.

At approximately 15 feet in height with 18-inch metal letters, the proposed wall sign on the front entrance canopy satisfies all of the code standards except for the maximum area standard of 18 square feet.

- B. The signs are consistent with this standard because the freestanding sign will be illuminated by lights directed at the sign, and the light will not shine directly to any off-site location. The proposed wall sign will not be illuminated.
- C. The signs will not be within a clear vision area.
- D. This criterion is not applicable because the signs will not be located over or adjacent to vehicle driveways or roadways.
- E. This criterion is satisfied because the freestanding lighting will be shielded from any off-site vantage point, and the wall sign will not be illuminated.
- F. The signs will not cause the removal of any trees or affect any natural features on the site.
- G. This criterion is met because the signs will be located within a landscaped area, and the concrete construction will be able to withstand weather and insects.

- H. This standard is not applicable because changeable copy is not proposed.
- I. This standard is not applicable because changeable electronic copy is not proposed.
- J. This criterion is not applicable because the signs shall only be visible from one side.

52.300 Permanent Sign Design Standards

Section 52.300 contains design standards for permanent signs. The proposed freestanding sign is significantly smaller than the allowed maximum 20-foot height and 24 square-foot sign area. As indicated above, the wall sign requires a variance because it exceeds the maximum sign area of 18 square feet.

9. Chapter 54 - Landscaping

Section 54.020 contains several approval standards that must be met. The proposed landscaping satisfies the approval standards as noted below:

- A. The majority of the existing trees on the site will be preserved. As demonstrated in the landscaping plan, the retained trees will be incorporated into the landscaping theme for the entire site.
- B. The parking area is proposed to be reduced by 8 spaces to help minimize the number of trees to be removed. Providing 89 spaces in lieu of the required 97 spaces represents an 8% reduction, which is within the 10% reduction allowed in this section.
- C. The District has complied with the municipal code requirements for tree protection.
- D. This criterion is not applicable because there are no heritage trees on the site.
- E. This section requires a minimum landscaped area of 20%. This is exceeded with 33% landscaped area. The remaining dimensional and design requirements for landscaped areas are satisfied as illustrated in the landscaping plans.
- F. This subsection is not applicable because it applies to subdivisions.
- G. This criterion is not applicable because there are no water resource areas on the site.

B. Relationship to the Natural and Physical Environment

Section 55.100 B. 1. and 2. are not relevant because there are no heritage trees on the site. The impact of removing the trees noted in this application will be mitigated by the new landscaping proposed.

Section 55.100 B. 3. is satisfied because the existing grade, drainage pattern, and the amount of landscaped area will remain consistent with the overall grade and drainage patterns of the existing site.

Section 55.100 B. 4. is satisfied because the property features very gentle terrain and is

geologically stable.

Section 55.100 B. 5. is satisfied because the school building will provide setbacks, which exceed minimum standards, with the exception of a canopy over the front entry area. As noted in the plans, the trash and recycling area is partially enclosed with significant setbacks from any neighboring residences.

Section 55.100 B. 6. is satisfied because the school building and development of the site will meet the applicable criteria:

- a. This criterion is satisfied because the new building will be of similar scale to the existing school. The site arrangement will utilize the existing trees, along with significant building setbacks, will buffer the tallest portions of the building from adjoining properties. The contemporary design offers a pleasing design with a variety of quality building materials and façade treatments.
- b. The proposed design provides an appropriate transition with adjacent residences by providing a combination of substantial setbacks, retention of many of the existing trees, and a landscaping plan that features substantial buffering and quality materials throughout the site.
- c. The proposed design of the school naturally will be a contrast to surrounding residences. Compatibility with the neighborhood will be accomplished by providing a superior design to the existing school, a more distinct and welcoming entrance, quality exterior finish materials, and landscaping that will provide superior buffering to what is present on the site today.
- d. The proposed school will create a much more human scale environment by providing significantly improved pedestrian facilities, a much more visible and welcoming entrance, and public spaces surrounding the building – particularly along the street frontage.
- e. Main front level transparency applies to commercial and office buildings and is not directly relevant to the school. However, the school design and its orientation to the street are consistent with these standards.
- f. The criterion calls for roofline variations and avoiding continuous flat elevations over 100 feet. As demonstrated in the building plans, the school building design easily complies with the standards along with providing pleasing visual interest and design excellence.
- g. This criterion is satisfied because the main building entrance is oriented toward the sun while including an extensive canopy to provide protection from the elements.
- h. As is evident in this application, significant improvements are proposed to provide a safe and attractive pedestrian environment, including new sidewalks, crosswalks, improved pathways, and pedestrian amenities such as public spaces, landscaping, and

street trees.

- i.* This criterion deals with commercial uses and pedestrian amenities in commercial districts, and it is not relevant to the school.

Section 55.100 B. 7. regarding Transportation Planning Rule compliance is satisfied because the school building and development of the site will meet the applicable criteria:

- a.* This criterion relating to street orientation applies to commercial and office development and is not relevant.
- b.* This criterion relating to parking lot location applies to multi-family development and is not relevant.
- c.* This criterion relating to building location applies to commercial, office, and multi-family development and is not relevant.
- d.* This criterion requires accessways, parking lots, and internal driveways to accommodate pedestrian circulation. The proposed site plan includes clearly delineated pedestrian routes, which are direct and separate from vehicular traffic. In addition, the number of potential conflict points is minimized to the extent possible.
- e.* The two existing pathways to the school will both be improved to provide greater utility, convenience and safety.
- f.* This criterion requires at least one main building entrance on the main street. This is satisfied because the building will have a prominent front building entrance, which will be located near, and oriented to, the street.
- g.* This criterion calls for providing good pedestrian access between a transit stop and the main entrance. The school buses represent a form of transit and the proposed bus loading area along the street frontage will provide excellent access to and from the main building entrance without any potential vehicle/pedestrian conflicts.
- h.* This criterion requires portions of building projects to be oriented towards the main street. As described in this application, the main building entrance is directly oriented to the street. Access driveways and parking are located to the side, allowing an exceptionally welcoming building entrance and relationship to the public realm.
- i.* This criterion applies to public utilities and infrastructure and is not relevant to the school.
- j.* This criterion applies to trailhead parking and is not relevant to the school.

C. Compatibility between Adjoining Uses, Buffering, and Screening

This section calls for buffering and screening to minimize potential visual and noise impacts

affecting adjoining uses. The proposed building architecture and site design provide the necessary buffering in the following ways:

1. The potential noise sources identified in the noise evaluation (Exhibit C) will be installed and/or buffered to meet applicable noise standards.
2. On-site parking will be landscaped and screened in accordance with CDC standards.
3. Existing trees will be protected and new landscaping will be installed to provide desirable buffering for surrounding residences.
4. All rooftop equipment will be screened as shown in the architectural plans.

D. Privacy and Noise

School activities and associated noise will continue to be compatible with the surrounding neighborhood. Building entrances and vehicle circulation will continue the current orientation to Oxford, Park, and Bittner streets. The trash and recycling area will be located within an enclosed space to minimize noise and visual impacts. Other noise-generating sources will be able to satisfy applicable noise requirements. The proposed lighting plan for the parking lots and public spaces surrounding the school will be designed to not shed light on surrounding properties. In addition, the sports field will not have lights.

E. Private Outdoor Area

This section only applies to multi-family development and is not relevant.

F. Shared Outdoor Recreation Area

This section only applies to multi-family development and is not relevant.

G. Demarcation of Public, Semi-Public and Private Spaces

The operation, main school entry, and playground layout will emphasize safety and surveillance, and their boundaries will continue to be clearly delineated. All exterior spaces will be visible from multiple directions inside and outside of the building.

H. Public Transit

This section only applies to development on a public transit route and is not relevant.

I. Public Facilities

Suitable public facilities shall be provided in conjunction with the new school including:

1. Streets will be improved to meet city standards and comply with the recommendations in the DKS transportation analysis (Exhibit B).
2. Municipal water and sanitary sewer are currently available to the site, and they will be upgraded as necessary.
3. Solid waste and recycling storage will be provided with sufficient area and accessibility to accommodate service providers.

J. Crime Prevention and Safety/Defensible Space

The operation, main school entry, and playground layout will emphasize safety and surveillance, and their boundaries will continue to be clearly delineated. All exterior spaces will be visible from multiple directions inside and outside of the building.

K. Provisions for Persons with Disabilities

Provisions for persons with disabilities will be greatly improved compared to the current situation. Full street improvements and crosswalks, ADA parking near the front entrance, and the entire building design will be in full compliance with today's standards.

L. Signs

This section is satisfied because the two signs will be consistent with the overall building architecture. The freestanding sign will include the old school bell to convey a sense of history related to the school site and neighborhood identity. The graphics and lettering will be simple, tasteful, and only large enough to be legible from the street. Traffic control markings and signs will be installed as desired by the city.

M. Utilities

As noted in this application, the necessary utility facilities will be provided to serve the new school.

N. Wireless Communication Facilities

This section only applies to these types of facilities and is not relevant.

O. Refuse and Recycling Standards

As described in this application:

1. The proposed service yard will provide adequate spaces for recycling equipment and receptacles.
2. The service yard is designed to adequately handle recycling and solid waste.
3. Recycling and solid waste will be handled in the services yard.
4. Special waste is not anticipated.
5. The service yard is completely screened from surrounding properties.
6. Litter receptacles are not proposed in the public right-of-way.

APPLICABLE CRITERIA - EXCEPTION

Director's Exception approvals are sought for the following:

- Approval per CDC Section 55.170 A. to allow a 17.1-foot front yard setback where 20 feet is required in CDC Section 11.070.

- Approval per CDC Section 55.170 B. to allow 89 parking spaces where 97 spaces are required.

Front Yard Setback Exception

The exception criteria in Section 55.170 A. are satisfied based upon the following:

1. The front yard setback is not is not greater than 20%. The requested setback reduction from 20 to 17.1 feet is less than a 15% reduction.
2. At 6.19 acres, available space on this school site is limited. The reduction allows for a more efficient use of the site because the play and buffer areas on the rear of the building can be slightly larger.
3. The exception will allow for greater buffering for neighboring properties. In addition, because of the 90 degree bend in the street at the building entrance, the effective front setback is consistent with the normal 20-foot setback. The properties on the opposite side of the street will not experience any visual encroachment from the minor reduction in the front yard setback.
4. As demonstrated in the site plan, the front entrance orientation and distance to the street will actually enhance pedestrian access by establishing a direct route to the front entry and eliminating any potential vehicle-pedestrian conflicts in this area.

Off-Street Parking Exception

The exception criteria in Section 55.170 B. are satisfied based upon the following:

1. The reduction of required parking spaces is not is not greater than 10%. The requested parking reduction from 97 to 89 spaces is approximately an 8% reduction.
2. The school is a permanent use, which does not have a high daily demand with 35 staff and a student body that does not drive. Parking demand for special school events will always exceed on-site parking available at virtually any school. The parking represents a significant increase compared to the current situation.
3. The opportunity for shared parking is not applicable in this case.
4. Public transportation, in the form of school buses, is available to the site. In addition, substantial improvements will be made to further encourage walking and bicycling to school. Finally, the required parking could be provided in the southeastern portion of the site, but it would require removal of several additional trees.

APPLICABLE CRITERIA - VARIANCE

Class II Variance approvals are sought for the following:

- Class II Variance to allow on-site parking spaces to be located beyond the 200-foot maximum distance to the building entrance as required in CDC Section 46.070.
- Class II Variance to allow on-site bike parking spaces to be located beyond the 50-foot maximum distance to the building entrance as required in CDC Section 46.150.
- A Class II Variance to allow a wall sign of approximately 28 square feet where a maximum of 18 feet is required in CDC Section 52.300.

These variance requests must be found to comply with the criteria in CDC 75.020 B. 1. The variance criteria are noted below followed by the findings for each of the variance requests noted in the order above.

Chapter 75 requires that a variance will only be approved if it meets four criteria:

- 1. The variance is the minimum variance necessary to make reasonable use of the property.***

On-site Parking Space Location

For a facility like a school, it is extremely difficult to get all parking spaces within 200 feet of the main entrance. This could be possible, but it would mean locating the main entrance a significant distance from the street and surrounding it with parking. The western parking lot could be brought closer to compliance, but it would mean that the sports field would be removed from the school by a significant distance. The school is different from a commercial development, which would have multiple building entrances and the ability to locate all spaces within 200 feet of at least one entrance.

On-site Bike Parking Space Location

Bicycle use at primary schools is relative low, and it will tend to be somewhat higher during good weather. With this in mind, 20 of the required spaces are proposed within 50 feet of the building entrance. The remaining spaces are covered, but approximately 130 feet from the entrance. Unless the proposed canopy is made exceptionally large, providing the required covered bike spaces near the entrance would interfere with pedestrian access in and out of the school. The proposed arrangement offers a reasonable combination of convenience and secure bike parking.

Wall Sign Area

The purpose of the sign regulations is to ensure that signs are sufficient to identify different land uses in a tasteful way that is not visually obtrusive. While the wall sign is proposed to be larger than allowed, it will be complimentary to the school's design and the surrounding neighborhood.

Although the school would be entitled to multiple signs, it only needs one to identify the school for the general public. The proposed sign area of 28 square feet would be less than two conforming wall signs, which could total 36 square feet.

- 2. The variance will not result in violations(s) of any other code standard, and the variance will meet the purposes of the regulation being modified.***

On-site Parking Space Location

Except for the exception to allow 89 parking spaces instead of 97, the proposed parking will meet all city standards.

On-site Bike Parking Space Location

Except for not having all of the bike parking within 50 feet of the main entrance, the

bike parking will meet all other city standards.

Wall Sign Area

The proposed signs for the school, including the wall sign and one, single-sided monument sign, will satisfy all other city requirements for signs. In addition, the entire signage program is well within the desired maximums for total number of signs and sign area.

3. ***The need for the variance was not created by the applicant and/or owner requesting the variance.***

The District did not create the need for the variances through any previous actions. The variances are requested to address unique conditions and desired design results for the school operation and appearance.

4. ***If more than one variance is requested, the cumulative effect of the variances results in a project that is consistent with the overall purpose of the zone.***

The three variances represent requests to allow modest deviations from the CDC standards to achieve a practical result that is in keeping with the purpose and intent of the CDC and West Linn Comprehensive Plan. The variances will allow the District to achieve a more desirable result regarding the location of parking and total sign area.

Chapter 99 Procedures for Decision-Making: Quasi-Judicial

This chapter requires the applicant to contact the affected neighborhood to present the proposed development application. In addition to the required neighborhood meeting, the district held several neighborhood meetings to inform the community about the new school and to solicit input.

CONCLUSION

The proposed applications satisfy the relevant criteria for approval. The long-awaited replacement of the Sunset Primary School will meet the needs of the students and neighborhood.

EXHIBIT A
Neighborhood Meeting



CITY OF West Linn

PLANNING COMMISSION DECISION

PROJECT #

CUP-15-03/DR-15-17/VAR-15-01/VAR-15-02/VAR-15-03

CITIZEN CONTACT INFORMATION

To lessen the bulk of agenda packets, land use application notice, and to address the worries of some City residents about testimony contact information and online application packets containing their names and addresses as a reflection of the mailing notice area, this sheet substitutes for the photocopy of the testimony forms and/or mailing labels. A copy is available upon request.



West Linn – Wilsonville Schools

PUBLIC NOTICE

THE PUBLIC IS INVITED to attend a Sunset Neighborhood Association Meeting to discuss the proposed Construction of a New Sunset Primary School at West Linn – Wilsonville School District's Sunset Primary School site

**November 10, 2015 at 7:00 pm
Sunset Primary School
2351 Oxford St
West Linn, OR 97068**

Property Information:

- **LOCATION:** Sunset Primary School
- **ADDRESS:** 2351 Oxford St
West Linn, OR 97068
- **DESCRIPTION:** Parcel Number 00386987
Assessor's Map 21E25DC05800

Improvements Description:

The major elements of this work include:

- Construction of new Sunset Primary School at the current school site
- New playground and playfield
- New parking and student drop-off areas
- New sidewalks along school frontage

This is an informal meeting to discuss the improvements planned for the Sunset Primary School site. This meeting is in support of a Conditional Use and Class I Design Review application to the city of West Linn. The plan may be modified or altered prior to actual submittal.

For further information, please contact Amy Berger, West Linn – Wilsonville School District 503-673-7977; or visit us on the web at www.bond.wlww.k12.or.us. Concerned citizens are also encouraged to contact their neighborhood association president, or their association designee, with any questions that they may want to relay to the school district.

Notice Dated October 20, 2015

AFFIDAVIT

I, Remo Douglas so hereby solemnly attest that the following statement is true.

A copy of the letter to officers of the Sunset Neighborhood Association and property owners within 500 feet of the proposed structure was mailed on October 19, 2015. A copy of the mailing list with names and addresses is attached.

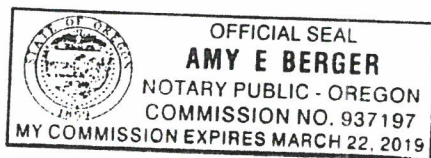
Remo Douglas: *R.D.G.* Date: 10-21-15

State of Oregon

County of Clackamas

Signed or attested before me on October 21, 2015
by Remo Douglas, Notary Public State of Oregon.
My Commission expires: March 22, 2019

Notary: *Amy E Berger*



AFFIDAVIT

I, Remo Douglas so hereby solemnly attest that the following statement is true.

Signage for the public notice of the West Linn – Wilsonville School District land use application presentation to the Sunset Neighborhood Association meeting was posted on or before October 20, 2015. A copy of the sign is attached.

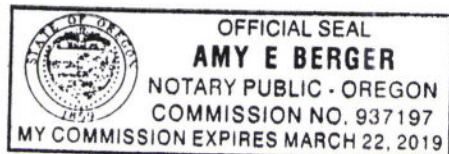
Remo Douglas:  **Date:** 10-21-15

State of Oregon

County of Clackamas

Signed or attested before me on October 21, 2015
by Remo Douglas, **Notary Public State of Oregon.**
My Commission expires: March 22, 2019

Notary: 



2nd Special Sunset Neighborhood Association Meeting Minutes

November 10, 2015

Location: Sunset Primary School - cafeteria

CALL TO ORDER

Doreen Vokes, Secretary/Treasurer, of the Sunset Neighborhood Association (SNA), called the meeting to order at 7:05 p.m.

PRESENT

21 members and guests: WLWV School District representatives and DOWA-IBI Group Architects

The meeting attendance sign-in sheet is in our files and is available upon request.

NO SECRETARY OR TREASURER REPORT GIVEN.

SUNSET SCHOOL DISCUSSION:

The DOWA-IBI Group Architects displayed designs of the new Sunset Primary School to those in attendance. The designs included an overhead view, layouts for both floors, locations and sizes of play field and parking lot, playground equipment configurations, and fire access lanes. Also shown were perspective street level views looking toward the main entrance.

Tim Woodley, Director of Operation, opened the meeting by talking about the history of the school, ballot measures, and the task force that lead to the decision to keep the school at the Oxford St location. He presented via Power Point the latest design and noted the various changes:

- Moved 8 parking spots from the south lot to the western lot
- With the City allotted 10% reduction, the total new parking spots would now be 88 instead 97, if approved.
- New on-street parking on Oxford St, Park St, and Bittner, including sidewalks
- A multi-way stop at the intersection of Oxford, Park and Exeter St
- Storm planter detention area near the south parking lot
- The school district will talk to every neighbor whose property abuts the school district property to help with creating a buffer zone such as fencing, trees, shrubbery, etc.

Concerns and questions brought up:

1. Number of new on-street parking spaces created on the streets? Unknown
2. Would those parking spaces offset the required number of spaces on the school property? No
3. Why is there a new design for each meeting? That's part of the iterative design process.
4. Why is the school being designed for 450 students? It supports the number of kids within the Sunset boundary.
5. How much smaller will the field be after reduction? No full size baseball field
6. Security concerns? Police will have access to the playground; cameras installed

7. It was mentioned that the deed for the property has a restriction that the Sunset Park property purchased by the school is to be used only for recreation purposes. Note that the original property was deeded to the City by Crown Zellerbach, now Georgia Pacific. Mr. Woodley felt that the land usage is covered by the (IGA) Inter Governmental Agreement signed as part of the land sale.
8. Will remnants of the old school be displayed in the new structure? Yes
9. Over-all security for the occupants of the building? A portion of the money for the bond is to hire a National School Safety Consultant. The front door to the building might be controlled with possible card access, security cameras, etc. Mr. Woodley has been meeting with the Clackamas County Sheriff Dept. to help formulate a security plan for all the schools within the Clackamas area. It is anticipated that the concepts developed here will become a model for the state of Oregon.

The design shown today will be part of the package submitted to the city planning department. Once all the paperwork has been finalized, there will be a four month window for additional public input. The school would like to begin construction June, 2016.

The parks and recreation department supervisor Ken Worcester has agreed to attend our next neighborhood meeting in January to discuss the new master plan for Sunset Park.

ADJOURNMENT

With no further business before the SNA, the President adjourned the meeting at 8:20pm.

****Next quarterly meeting Tuesday, January 26, 2016 @ 7pm****

Respectfully submitted by Doreen Vokes, Secretary of the SNA.

Association info and meeting minutes, or for general City information, Visit www.ci.west-linn.or.us Please see the link for our new Facebook page <https://www.facebook.com/sunsetneighborhoodwestlinn>

SNA OFFICERS

President,	Randall Jahnsen	SunsetNA@westlinnoregon.gov
Vice President,	<i>open</i>	SunsetNA@westlinnoregon.gov
Secretary/Treasurer,	Doreen Vokes	SunsetNA@westlinnoregon.gov

For association info and meeting minutes, or for general city information, visit

www.westlinnoregon.gov

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EXHIBIT B
Sunset Primary School Transportation Analysis and
Safe Routes to School Plan



117 Commercial Street NE
Suite 310
Salem, OR 97301
503.391.8773
www.dksassociates.com

MEMORANDUM

DATE: November 23, 2015

TO: Remo Douglas, West Linn-Wilsonville School District

FROM: Scott Mansur, P.E. *Sm*
Jordin Ketelsen, E.I.T.

SUBJECT: **Sunset Primary School Transportation Analysis and Safe Routes to School Plan** P15142-001

A bond was recently passed for the West Linn-Wilsonville School District which created funding to replace Sunset Primary School (K-5). The school is located at 2351 Oxford Street in the City of West Linn, Oregon. As part of this school replacement, the City of West Linn agreed to sell 1.6 acres of Sunset Park to the school district thereby creating adequate land to rebuild on the same site. The school boundary extends to the south to I-205, to the east to West A Street, west to Wild Rose Drive, and to the north near Rosemont Road. Oxford Street provides access to the current school site and is classified as a Neighborhood Route by the City of West Linn. Details regarding the existing conditions project trip generation, safe routes to school assessment, site circulation and loading review, and project recommendations summary can be found in the following sections.



Existing Conditions

Evaluation of the existing pedestrian and bike environment can be used to identify where gaps in the network exist as well as identify locations where improvements are needed to improve safe routes to Sunset Primary School. Identifying the key routes that Sunset Primary School students are most likely to frequent while traveling to and from school will also be considered to improve safety for the high use facilities and accessibility.

Existing Sidewalk Connectivity

The existing sidewalk inventory can be seen in Figure 1. As shown, the only streets that have complete sidewalks on both sides of the facility are to the northeast of the school including Windsor Terrace, Clark Street, Crown Street, and Kobuk Court. Many significant sidewalk gaps exist within the walking boundary, especially in the immediate vicinity of Sunset Primary School between Cornwall Road and Walden Road. Furthermore, as shown in the image to the top right, the existing sidewalks are in poor condition, are very narrow, and have frequent gaps. The lack of standard sidewalks, narrow streets, and lack of bike facilities is likely due to the age of the surrounding neighborhood.



Existing Sidewalk Quality in the School's Vicinity

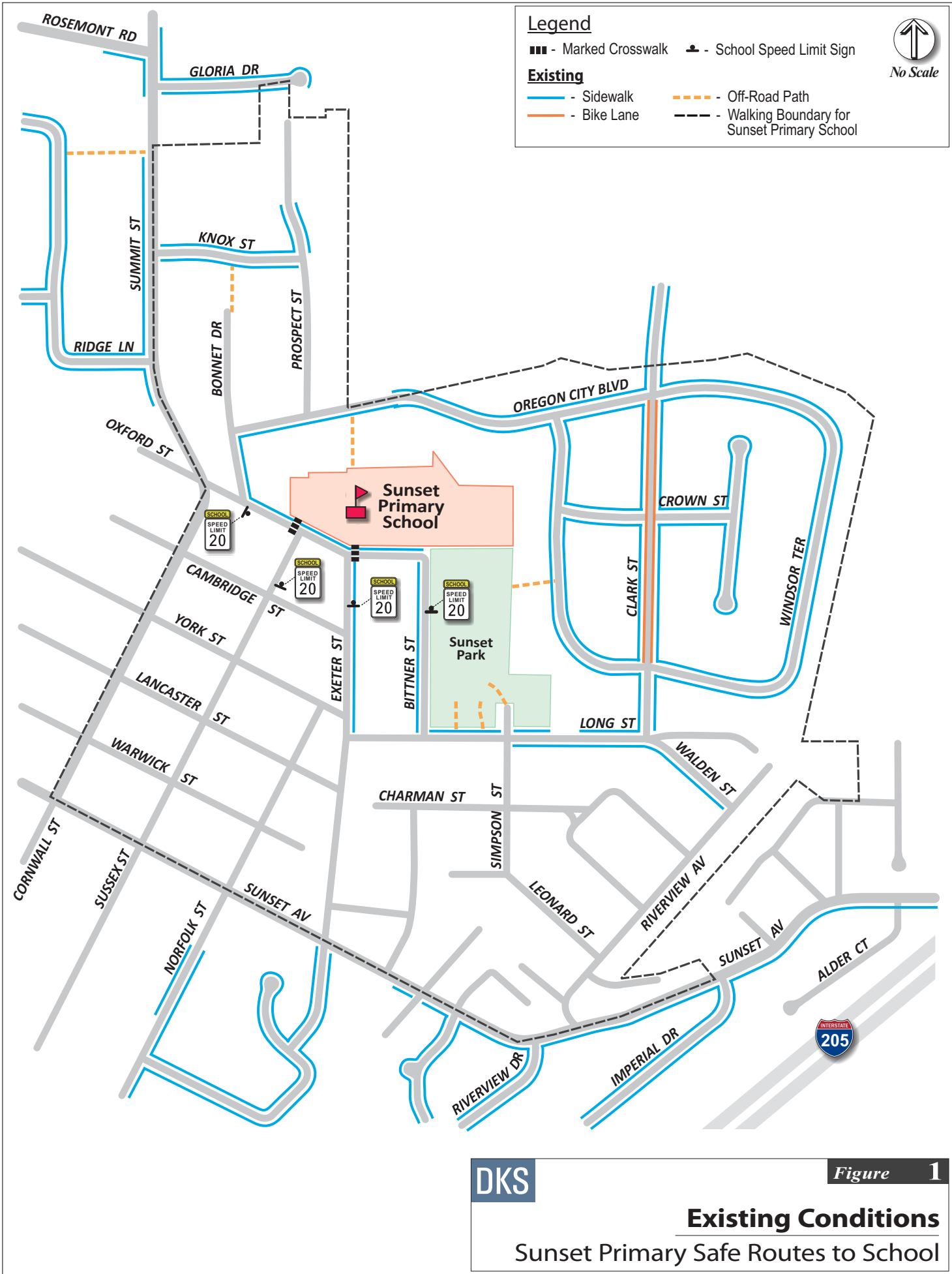
Sunset Park is directly adjacent to the existing Sunset Primary School building and has several paths connecting neighborhoods to Sunset Primary School via Sunset Park. One path connects from the east side of Sunset Park to Windsor Terrace (see figure in the bottom right). Another pedestrian path exists north of the existing Sunset Primary School and connects to Windsor Terrace. These paths do not have any pathway lighting and do not meet ADA standards. Two additional paths on the south side of Sunset Park connect to Long Street but are not ADA accessible.



Pedestrian Path Connecting Windsor Terrace to Sunset Park

School Crossing Evaluation

Two marked crossings currently exist adjacent to Sunset Primary School; one on the west leg of the Sussex Street/Oxford Street intersection and one on the east leg of the Exeter Street/Oxford Street intersection. As shown in the figures at the top of the next page, the Sussex Street crossing does not connect to any sidewalks on Sussex Street and the Exeter Crossing does not directly connect to the building causing students to also have to cross the busy drop off entrance before reaching the School's sidewalks. The south leg of this crossing (Exeter Street) does have sidewalks.



No Scale

DKS

Figure 1

Existing Conditions

Sunset Primary Safe Routes to School



Sussex Crossing with No Sidewalks on South Side



Exeter Crossing does not Connect Directly to the Building

School Speed Zone Evaluation

Due to the residential land uses surrounding the school, the posted speed along the majority of the roads within the walking boundary are 25 mph which is the default statutory speed for a residential street.¹ School zones (speed 20 mph) are signed adjacent to Sunset Primary School along Oxford Street as well as the approaches to Oxford Street on Sussex Street, Exeter Street, and Bittner Street.

Existing Bicycle Network

Bike lanes currently exist along Clark Street between Long Street and Windsor Terrace (See Figure 1). No other bike facilities currently exist within the Sunset Primary School walking boundary.

¹ Speed Zoning Program. ODOT Traffic-Roadway Section (TRS). http://www.oregon.gov/odot/hwy/traffic-roadway/pages/speed_zone_program.aspx. Accessed June 20, 2012.



Trip Generation

Trip generation estimates were performed for the existing Sunset Primary School to provide a baseline for determining how the proposed replacement would affect traffic to and from the site. The traffic impacts for the existing school and the proposed rebuild is discussed in the following sections.

Existing Trip Generation

The trip generation estimates for the existing Primary School were performed using rates obtained from the Institute of Transportation Engineers (ITE), *Trip Generation, 9th Edition*.² The architectural capacity of the current school is 575 students³. Even though the highest historical enrollment at the school was only 471 students, the architectural capacity of the existing Sunset Primary School was the maximum enrollment utilized to estimate traffic impacts of the existing site to ensure an equal comparison with the architectural capacity of the proposed replacement. As shown in Table 1, the existing school’s trip generation is estimated to be 259 a.m. peak hour trips, 86 p.m. peak hour trips and approximately 742 daily trips.

Table 1: Existing Trip Generation

Peak Hour	Land Use (ITE Code)	Size	Trip Rate	Peak Hour Trips
AM	Elementary School (520)	575 Students	0.45 trips/student	259 (142 in, 117 out)
PM			0.15 trips/student	86 (42 in, 44 out)
Daily			1.29 trips/student	742 Daily Trips

Proposed Trip Generation

Trip generation estimates were also performed for the proposed replacement using applicable ITE rates. Based on information provided by the School District, the future Sunset Primary School building will have an architectural capacity of 450 students (125 less students than the existing building). As shown in Table 2, it is estimated that the proposed rebuild would generate 581 daily trips, 203 a.m. peak hour trips and 68 p.m. peak hour trips. As shown, the proposed replacement would add less total traffic to the study area network than the Sunset Primary School historical use for both the architectural capacity and the historical maximum capacity.

Table 2: Proposed Land Use Trip Generation

Peak Hour	Land Use (ITE Code)	Size	Trip Rate	Peak Hour Trips	Net Effect
AM	Elementary School (520)	450 Students	0.45 trips/student	203 (112 in, 91 out)	-56 trips
PM			0.15 trips/student	68 (33 in, 35 out)	-18 trips
Daily			1.29 trips/student	581 Daily Trips	-161 trips

² *Trip Generation, 9th Edition*, Institute of Transportation Engineers, 2012.

³ Email conversation with Remo Douglas, West Linn-Wilsonville School District, June 29, 2015.



Site Plan Review

The site plan provided by the School District⁴ was evaluated to identify potential concerns related to site access, intersection sight distance, school speed zone, bus loading, parent loading, pedestrian and bicycle access, bicycle parking, site parking needs, and frontage improvements. A copy of the site plan is included in the appendix.

Site Access

The preliminary site plan includes three proposed driveways; two via Oxford Street aligned with Exeter Street and Sussex Street and one via Bittner Street approximately 375 feet from the easternmost Oxford Street Driveway. Minimum access spacing along Oxford Street (classified as a neighborhood route) is desired at 100 feet and a 50 foot minimum access spacing is desired for Bittner Street (classified as a local residential street).⁵ The location of the proposed accesses as shown in the site plan meets City spacing requirements. Additionally, the westernmost proposed access on Oxford Street is recommended to align with Sussex Street to reduce any intersection offset.

Intersection Sight Distance

Preliminary sight distance at each access was evaluated and found to be sufficient for all movements in and out of each driveway. However, at the time that the project site is constructed, sight distance at all proposed project access points will need to be verified, documented, and stamped by a registered professional Civil or Traffic Engineer licensed in the State of Oregon prior to occupancy.

School Speed Zones and Posted Speed

ODOT's guide to school area safety⁶ provides guidance on the application of reduced school speed zones along roadways adjacent to middle and primary schools. During school hours Oxford Street, Bittner Street, Exeter Street, and Sussex Street are currently posted as a school speed zone 20 mph in the immediate vicinity of the Sunset Primary School building. It is recommended that the existing school speed zones be replaced and enforced with school speed zone flashers consistent with operations at other similar primary schools in the West Linn-Wilsonville School District. Furthermore, the location of the existing school speed zone sign on Bittner Street is recommended to relocate to the corner of Bittner Street and Long Street to expand the school speed zone based on the proposed site modifications of the rebuild (see Figure 2 in the Safe Routes to School Assessment section of this memorandum).

⁴ Site Plan for Sunset Primary School provided via email by Rebecca Stuecker, IBI Group Architects, November 16, 2015.

⁵ *West Linn Transportation System Plan*, Chapter 8, December 2008.

⁶ *A Guide to School Area Safety*, Oregon Department of Transportation, July 2006 revised February 2009.



During the 2011 legislative session, House Bill (HB) 3150 was signed into law by the Governor. HB 3150 allows the road authority to establish by ordinance a designated speed for a roadway under their jurisdiction that is five miles per hour lower than the statutory speed.⁷ Additional stipulations to this authority are that the roadway is located in a residence district, it has average volumes fewer than 2,000 motor vehicles per day, and more than 85 percent of which are traveling less than 30 MPH. Since Sussex Street, Exeter Street, Lancaster Street, Leonard Street, Simpson Street, and Long Street meet the criteria of HB 3150, the City could consider lowering the posted speed from 25 MPH to 20 MPH in the vicinity of Sunset Primary School. Lowering the posted speed has been shown to reduce crash severity and will improve the safe routes for pedestrians and bicyclists.

Bus Loading

Based on the site plan, buses will pick up and drop off students along the school frontage between the proposed access on Bittner Street and the proposed accesses on Oxford Street that aligns with Exeter Street. The buses would enter the pick-up/drop-off zone via Bittner Street onto Oxford Street, and exit along Oxford Street toward the west project access. The new bus loading area includes approximately 300 feet of curb space along the frontage of the school, which is more than sufficient for the estimated 5 buses expected to better serve the school⁸ (assuming a 40 foot design length and ten foot spacing⁹). Based on the site plan, the proposed on-street bus loading area provides sufficient space for student loading while allowing adequate space for two-way motor vehicle traffic along Oxford Street.

Parent Loading

The current site plan provides a designated parent loading area on Oxford Street west of the proposed project access that aligns with Sussex Street as well as the space on Bittner Street behind the buses in the bus loading area. Parents would enter the pick-up/drop-off zones going northbound on Bittner Street, and exit going west on Oxford Street.

The designated parent loading area on Oxford Street includes approximately 150 feet of curb space along the frontage of the school and approximately 100 feet of curb space along Bittner Street is expected to be available behind the five buses in the bus loading zone which is sufficient for approximately ten vehicles (assuming 25 feet per vehicle). Clear delineation should be provided between the designated bus loading and parent loading along Bittner Street and Oxford Street between the south and east project accesses. It also important to note that additional parent loading space is available on Oxford Street west of Sussex Street if the designated parent loading spaces reach capacity.

⁷ Enrolled House Bill 3150. Oregon Legislature. <http://www.leg.state.or.us/11reg/measpdf/hb3100.dir/hb3150.en.pdf>. Accessed June 20, 2012.

⁸ Five bus routes serve Sunset Primary School including routes 27, 30, 50, 51, and 52.

⁹ *Geometric Design of Highways and Streets*, AASHTO, 2011; Figure 2-8, p. 2-17.



A raised pedestrian crossing across the proposed east access on Oxford Street is recommended. This would allow for students to exit the parent loading area and access the school building with no change in grade, as well as reducing the speeds of motor vehicle entering the driveway.

Pedestrian and Bicycle Access

A sidewalk on both sides of Bittner Street and Oxford Street is shown along the extents of the project frontage. It is recommended to have marked pedestrian crossings on each leg of the proposed access on Oxford Street that aligns with Exeter Street as well as the south leg of the proposed access on Bittner Street. The provision of connected facilities improves safety and also encourages walking and bicycling to school, which are important travel modes for students who live close to the school.

Site Parking Needs

There are currently only 27 regular parking stalls incorporated in the existing Sunset Primary School which is below the City of West Linn’s minimum parking standards. The future configuration of Sunset Primary School proposes a total of 91 parking stalls even though it is decreasing in both size and classrooms. The proposed 91 parking stalls for the future configuration of Sunset Primary School and the City’s vehicular parking requirements¹⁰ are shown in Table 3 below.

Table 3: Vehicular Parking Summary

Scenario	Number of Parking Stalls
City Minimum Requirements	97
Future Proposed Parking	91
Net Parking Deficiency	6

¹⁰ The City of West Linn’s minimum parking standards for primary schools are based on the number of employees and building square footage.



As shown, the proposed 91 parking stalls still falls short nine stalls from the City’s parking requirements. However, it does bring Sunset Primary School closer to conformance with City code. Furthermore, the current site plan states that an intentional reduction of the six stalls required was made in order to preserve existing trees.¹¹ If additional parking demand is needed, on-street parking along residential streets in the vicinity of Sunset Primary School is available.

Table 4 shows the minimum bicycle parking requirements compared with the proposed bicycle parking facilities for the future Sunset Primary School. As shown, the site plan shows sufficient bicycle parking for the primary school.

Table 4: Bicycle Parking Summary

Land Use	Size	Bicycle Parking		
		<i>City Code Requirement</i>	<i>Minimum Spaces</i>	<i>Proposed Spaces</i>
Primary School	18 classrooms	2 spaces per class	36	40

Safe Routes to School Assessment

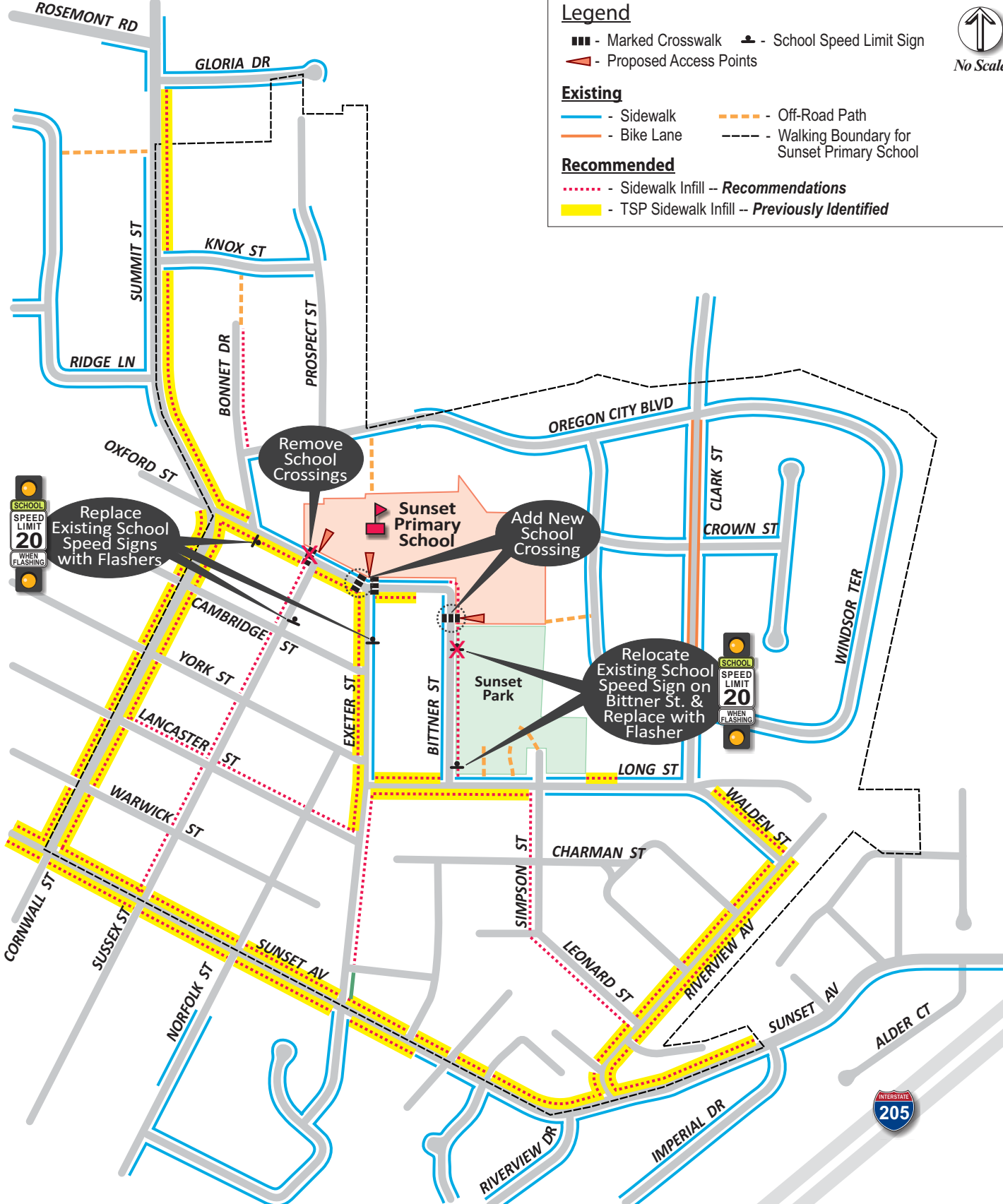
Based on the evaluation of the existing conditions assessment, recommendations to improve connectivity and safety in the Sunset Primary School walking boundary have been developed. Recommendations regarding pedestrian and bicycle connectivity are shown in Figure 2 and discussed in the following sections.

Sidewalk Infill

As was shown in Figure 1, significant gaps in the sidewalk system exists in the vicinity of Sunset Primary School. Children within the walking boundary are not provided bus transportation to school, as such; recommendations for sidewalk infill have been identified at the end of the memorandum. Sidewalk infill locations can be seen in Figure 2. Sidewalk infill is being recommended along key walking routes primarily in the southeast, southwest, and northwest areas of the Sunset Primary walking boundary to improve safety for residents in these areas.

Key sidewalk connectors include Summit Street, Bonnet Drive, Bittner Street, Sussex Street, Long Street, Riverview Avenue, Leonard Street, and Simpson Street. Additionally, lighting along the off street path that connects Windsor Terrace to Sunset Park and that connects Windsor Terrace to the Sunset Primary school campus would make these pathways more attractive walking options for students that live in the neighborhoods north and east of Sunset Primary School.

¹¹ CDC55.170



Legend

- ▬ - Marked Crosswalk
- ⬇ - School Speed Limit Sign
- ◀ - Proposed Access Points



Existing

- - Sidewalk
- - Bike Lane
- - Off-Road Path
- - - - - Walking Boundary for Sunset Primary School

Recommended

- ⋯ - Sidewalk Infill -- *Recommendations*
- █ - TSP Sidewalk Infill -- *Previously Identified*



Replace Existing School Speed Signs with Flashers

Remove School Crossings

Sunset Primary School

Add New School Crossing

Sunset Park

Relocate Existing School Speed Sign on Bittner St. & Replace with Flasher



DKS

Figure 2

Recommendations
Sunset Primary Safe Routes to School



Crosswalk Pavement Markings

Changes to the key crossing locations are also being recommended based on the sidewalk infill recommendations and changes to the school building location. The proposed crosswalk locations can be seen in Figure 2. As shown, additional crossings at the Sussex Street/Oxford Street and Exeter Street/Oxford Street crossings are recommended to better serve the new school layout. These marked crosswalks will help to facilitate connectivity at key locations for children walking to and from the rebuilt Sunset Primary School. A crossing was not recommended at the Bittner Street/Oxford Street curve due to sight distance issues.

Bicycle Connectivity

Since Bittner Street, Oxford Street, Sussex Street, Exeter Street, Lancaster Street, Leonard Street, Simpson Street, and Long Street are low volume roadways, they are preferred routes for bicyclists to travel to Sunset Primary School. To enhance the awareness of potential bicyclists in the vicinity of the school, pavement markings could be added to these streets to provide a clear understanding as to which facilities bikes would use to access the school.

The City of West Linn follows guidelines presented in their Bicycle Master Plan, as well standards from the AASHTO Guide to Bicycle Facilities, the Oregon Bicycle and Pedestrian Plan, and the Manual on Uniform Traffic Control Devices (MUTCD). The 2009 MUTCD recommends using the more visible Shared Lane Marking (Sharrow).¹² Based on our evaluation of both roadways, and to be consistent with current standards, Sharrow lane markings could be added along the aforementioned roadways to better define a bicycle path from the residential neighborhoods to Sunset Primary School.

The West Linn TSP also calls out a need for bike lines on both sides of Summit Street from Skyline Drive to Cornwall Street and on Sunset Avenue from Parker Road to Willamette Falls Drive. On-street bike lanes on these key connectors would enhance the comfort and safety of bicyclists in the vicinity of Sunset Primary School.

¹² Part 9 – Traffic Control for Bicycle Facilities, Figure 9C-9. Shared Lane Marking. Manual on Uniform Traffic Control Devices. <http://mutcd.fhwa.dot.gov/pdfs/2009/part9.pdf>. Accessed June 21, 2012.



Project Recommendations Summary

Several projects are recommended as a result of the safe routes to school analysis for Sunset Primary School. These projects are listed in Table 5 below. Note that the following projects are not listed in order of priority and project numbers should be used for reference only.

Table 5: Project Recommendations

Roadway	From	To	Project Type	
<i>School Crosswalks</i>				
1	Bittner Street	-	-	Add new school crossing
2	Oxford Street (East Access)	-	-	Add new school crossing
<i>School Speed Zones</i>				
3	School Speed Zone Improvements	-	-	Replace existing school speed signs with flashers
<i>Sidewalk Infill</i>				
5	Bittner Street	Long Street	Oxford Street	Sidewalk infill - east side
6*	Oxford Street	Sussex Street	Proposed School Crossing	Sidewalk infill - south side
7	Bonnet Drive	Beginning of Road	Windsor Terrace	Sidewalk infill - east side
8*	Summit Street	Gloria Drive	Knox Street	Sidewalk infill - east side
9*	Long Street	Clark Street	Simpson Street	Sidewalk infill - north side
10	Simpson Street	Leonard Street	Long Street	Sidewalk infill - west side
11	Leonard Street	Riverview Avenue	Simpson Street	Sidewalk infill - west side
12*	Riverview Avenue	Sunset Avenue	Leonard Street	Sidewalk infill - north side
13	Sussex Street	Sunset Avenue	Oxford Street	Sidewalk infill - west side
14*	Summit Street	Knox Street	Oxford Street	Sidewalk infill - east side
15*	Long Street	Simpson Street	Exeter Street	Sidewalk infill - south side
16	Lancaster Street	Cornwall Street	Exeter Street	Sidewalk infill - north side
17	Exeter Street	Sunset Avenue	Long Street	Sidewalk infill - west side
18*	Riverview Avenue	Walden Street	Leonard Street	Sidewalk infill - north side
19*	Sunset Avenue	Imperial Drive	Cornwall Street	Sidewalk infill - both sides
20*	Cornwall Street	Sunset Avenue	Oxford Street	Sidewalk infill - both sides
21*	Oxford Street	Cornwall Street	Sussex Street	Sidewalk infill - south side
22*	Exeter Street	Lancaster Street	Oxford Street	Sidewalk infill - west side
23*	Long Street	Exeter Street	Bittner Street	Sidewalk infill - north side
24*	Riverview Avenue	Sunset Avenue	Walden Street	Sidewalk infill - west side
25*	Walden Street	Riverview Avenue	Long Street	Sidewalk infill - west side

* Identified in the City of West Linn's TSP as part of the Pedestrian Master Plan.

EXHIBIT C
Arborist Report



November 20, 2015

Remo Douglas
Project Manager
West Linn-Wilsonville School District
2755 Borland Rd
Tualatin, OR 97062

Project: Sunset Primary School located at 2351 Oxford Street, West Linn, OR

Enclosed is the certified arborist report and tree protection plan regarding the rebuilding of Sunset Primary School located at 2351 Oxford Street in the West Linn-Wilsonville School District that complies with West Linn Municipal code.

Summary

Initially the majority of the large, significant trees on the site would be retained on the property. Both architect firms; Dull Olson Weekes Architects & Walker Macy Landscape Architects have done an excellent job of reworking blue prints to minimize the number of trees requiring removal or being impacted by the project. These reconfigurations should help ease the mind of neighbors with concerns.

Early blue prints call for removal of only two healthy native trees. One maple will be damaged with the demolition of the building and a second is a border tree on the edge of the eastern forest area.

Under that plan only (34) trees are scheduled for removal. These include:

- ◆ (5) pin oaks in the turf (messy, high maintenance trees)
- ◆ Forest Perimeter Trees
 - (4) maples (Three of which are in decline with significant dead crown)
 - (9) cherries (not alders) (all leaning at approximately 45 degree angle seeking light)
- ◆ Around School
 - (2) cherries on east side(not apple)
 - (1) 26" DBH maple at back corner too close to building (not alder)
 - (7) styrax across front
 - (2) cherries in front island

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- (1) hinoki cypress in front
- (3) pin oaks in court yard

Unfortunately, with the updated redesign dictated by the city engineers, nine additional trees need to be removed to accommodate the runoff holding pond/bio-swale.

- ◆ (2) 33” DBH Douglas firs are in line with piping
- ◆ (7) more Douglas firs ranging in DBH ranging from 24-36” are in the pond zone

It is my recommendation to remove at least (17) more hazardous trees and consider (4) others*. These include:

- ◆ Forest
 - Non tagged damaged flowering plum
 - #4426 Douglas fir snag
 - #4572 Douglas fir with dead top
 - #4597 small dead Douglas fir
 - #4595 small dying big leaf maple (not cottonwood)
 - #4118 dead maple just south of main forest
- ◆ North side of property
 - Outside of fence by covered play area
 - (8) damaged big leaf maples with decay and lean over property (pink dots)
 - Outside fence
 - *The next (2) big leaf maples are in better shape, but due to their size (24” & 26” DBH) and condition should be considered for removal
 - (3) Lombardy poplars (approximate 12, 18, & 30”DBH) are in serious decline, pose a threat and owner is in agreement about removal need
 - *(1) healthier approximately 36” DBH Lombardy poplar, just west of others, should be considered due to species and their short life
 - Inside fence
 - *(1) young healthy 24” Lombardy popular-due to nature of tree

The eastern forest will need to be cleaned up. Invasive understory shrubs will need to be removed. Ivy needs to be removed from trunks of the trees so further evaluation can be made. Large Douglas firs and big leaf maples will need closer inspection and maintenance pruning and fertilization to reduce hazards and help them adapt to change.

As long as the protection plan is enforced and the forest stand is not disturbed, other than careful maintenance following arboricultural standards, the trees should do well. It will also be important



to maintain the current grade near the trees. Water flow through the site will need to be managed to ensure that surfaces and below ground flows are not significantly altered from current levels. The impact to neighborhood trees should be minimal. On the east side there should not be any impact. On the north boundary many of the trees are in poor condition. Exposing these trees could lead to failure.

Assignment

1. Certify the trees on site and their condition, note trees of unique significance
2. Review conditions and impact to trees on the adjacent north property line
3. Review the impact of proposed tree removals on groves
4. Recommend tree protection measures to protect trees that will remain on site
5. Assessment and recommendations for invasive species removal
6. Assessment for potentially hazardous trees and conditions
7. Recommendations for tree and plant removal methods within existing forest

Report Purpose

The report is to certify the trees that are on site as well as their condition and to outline the tree protection steps needed to protect the trees. This report is written to meet all the requirements for tree protection on properties being developed in the City of West Linn.

Observations

The property was walked on October 16, 2015 with project manager and project architects. Blue prints and overlays were studied. The tree inventory list of trees in the forest and park area was reviewed. This list was compiled in March of 2015 by Compass Land surveyors. Due to dormant season identification, a few trees were misnamed. Trees 4119, 4120, and 4121 are not alders, they are cherries. The trees surrounding the existing school are not numbered but can be clearly identified on the map. There a couple discrepancies of species that include:

- ◆ The (5) maples in the turf are pin oaks
- ◆ The (2) apples on the east end of the school are weeping cherries

On November 4th, 2015 fellow certified arborist, Jim Sherwood and I visited the site and took further notes. It was observed that some of the tags have already fallen off in the forest. We

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more closely examined the forest area that will become the outdoor classroom, the perimeter trees scheduled for removal and northern boundary trees with significant defects.

On November 10th I revisited the site and checked the complete inventory that is on the blue print. All species names were corrected and passed on for an update.

Discussion

The subject property is to be developed for construction of the new Sunset Primary Elementary School. Due to limited time to prepare this document the focus on the published tree inventory chart was on trees to be removed. The only significant discrepancy noted on this list is that the native cherries were misidentified as alders. On 11/11/2015 all corrections were submitted. Additional time would be needed if it is necessary to confirm all trees not impacted by construction and to number the trees that are documented & mapped surrounding the school.

Areas of Concern

Nine Douglas firs on perimeter

There are (9) trees 4124, 4128, 4399, 4400, 4401, 4402, 4571, 4572 & 4574 near the southeast corner of the proposed new building that could be affected by the construction process. The building footprint appears to encroach on the critical root zone, to some degree, on all (9) trees. Root damage from construction could potentially increase the risk of tree failure to an unacceptable level. Each tree will have to be monitored individually through the process. Preservation of these firs is vital, as they are predominantly large edge trees that provide a good buffer for the forested area from the prevailing southwest winds.

Five Pin Oaks

These (5) Pin oaks are identified as maples in the turf area, are to be removed. They are a very maintenance intensive tree with poor aesthetic qualities.

Perimeter Trees

Three big leaf maples (4122, 4123, 4129) need to be removed. These trees are in decline and have considerable dead wood throughout the canopy. There are (9) cherries also scheduled for removal. They are identified as alders on the blueprints. The numbers are 4114, 4115 (2 stems), 4119 (4 stems), 4120, 4121. These trees are in very poor condition and are growing at about a 45 degree angle searching for sun light.



Holding Pond/Bio-Swale

Two Douglas firs have to be removed due to underground boring & pipe installation. There are (7) more Douglas firs either in the proposed bio-swale or at the edge that need to be removed due to grade change. There are approximately (6) other nearby firs that will need to be protected and will need therapy to help them adjust to the altered environment.

Trees around Existing School

There are (12) small planted trees that will be removed as part of the school demolition. These include (2) weeping cherries (not apples) on the east side. There are (7) 6-7" DBH styrax , (2) ornamental cherries and (1) Hinoki Cypress in front of the school. There are also (3) nuisance 27-28" DBH pin oaks in the court yard that will be damaged by demolition and will need to be removed.

North Property Line

There is only (1) 26" DBH big leaf maple scheduled for removal. It is inside the fence on the northwest corner of the building. Demolition and construction will severely damage this tree. It will need to be removed.

There are (11) hazardous trees along the north property line that definitely need to be removed. Applying hazard tree risk assessment criteria, these trees all have high ratings due to size, chance of failure and the target of the children.

- ◆ (8) big leaf maples behind the covered play area - These trees have significant defects: poor taper, most have eye bolts installed in trunk, they heavily lean over play structure.
Starting at the east end:
 - 13" DBH bolts, lean
 - 13" DBH bolts, dead top
 - 13" DBH over hang
 - 19" DBH topped, crack in trunk, decay
 - 12" DBH dead limbs, over hang
 - 10"&15"DBH bolts, lean and decay
 - 14" DBH dying, dead limbs, 1 sided
 - 21" DBH cavity, lean & dead limbs

Moving down the fence line to the west are two more large big leaf maples 24" & 26" DBH that have some serious defects. Removal should be considered. At a minimum they should be hazard pruned removing limbs and reducing end weight.



There are (3) Lombardy poplars, (12", 18" & 30" DBH). Two of the three trees are dying and are in very poor conditions. By nature these are a short lived tree, subject to early failure. They are an inappropriate tree for this site. The home owner is in agreement and would like these trees removed.

Further west in the back yard of an adjacent property owner there is another large Lombardy popular that is approximately 36" DBH. Even though this one is healthy, due to the nature of the tree as previously described, I recommend approaching the owner and removing this one as well.

Inside the fence is another 24" Lombardy popular that should also come out before becoming hazardous.

Forest to Become Outdoor Class Room

This is a great stand of trees consisting predominantly of Douglas fir with some big leaf maples. There are many significant firs in this stand with many trees having DBH's range from 30" to 48". Unfortunately there is a large population of invasive, non-native under story plants. These include black berry, holly, hawthorn, English laurel and worst of all English ivy. These will all need to be carefully removed avoiding damaging to native under story plants, tree roots and the soil food web.

The ivy will need to be removed so an arborist can carefully inspect the trunks of the trees being preserved. At that time a better determination can be made if there are any hazard situations that need remedied.

Initially I found (7) trees needing removal. They include:

- ◆ Non tagged damaged flowering plum
- ◆ #4597 12" DBH dead Douglas fir
- ◆ #4595 8" DBH dead big leaf maple
- ◆ #4118 12" DBH maple snag
- ◆ #4426 48" DBH snag Douglas fir
- ◆ #4572 16" dead Douglas fir
- ◆ #4427 dead cherry just south of main woods

All the trees in the natural area will need maintenance pruning to remove significant broken and dead limbs. This area is a great asset to the school and the community. Proper care should be taken in cleaning up and managing this area. There will be further details in my recommendation section.

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Tree Protection

Ideally tree roots inside the drip line of all trees should not be disturbed. In some cases with other precautions, protection zones can be pulled back to the Critical Root Zone (CRZ) which equals one foot for each inch of diameter at breast height. A 20" DBH tree would minimally need a protection zone of a 20' radius out from the trunk, all the way around the tree or grove. I would like to set all protection fences at drip or at the CRZ whichever is greater. Any deviations from these parameters must be approved by the consulting arborist.

As the improvements are constructed on site, there may be some need for review and adjustment of tree protection measures. Project arborist must approve any and all deviations.

No storage or dumping of any materials, parking of extra vehicles for construction, parking of utility or office trailers and even the pedestrian traffic of construction workers will be allowed inside fencing. Any deviation on protection outlined here or in the appendix must be approved by the consulting arborist. Please refer to appendix #1 for additional steps in protection.

Certification of Performance & Limiting Conditions

I, Greg Doering certify:

- I and representatives of General Tree Service have inspected the trees and the property referred to in this report. The findings have been accurately stated to the extent of the evaluation and appraisal stated in this report.
- An ISA certified arborist has been utilized in gathering all data.
- All data was verified insofar as feasible. However General Tree Service will not be responsible for the accuracy of information provided by others.
- Legal descriptions and survey provided by Walker Macy are assumed to be correct and accurate. That information was the basis of this report.
- Unless otherwise expressed, information in report covers only items that were examined at the time of inspection. The reports reflect the condition of those items at that point in time. The inspection is limited to visual inspection of accessible items unless otherwise noted. If any other analysis or diagnostic tools were utilized, such as lab work, dissection, excavation, coring or other evaluations, extra reports would be attached.
- The analysis, opinions and conclusion were developed and prepared based on commonly accepted arboricultural practices and procedures.

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- The report and values expressed within are based entirely on the professional opinion of the consultant and in no way contingent on any desired values, results, or findings that might be reported.
- General Tree Service's compensation is not based on any contingent results, conclusions or findings.
- Client hereby waives any right to seek or recover from General Tree Service any monetary damages, expenses or losses, including consequential or incidental damages arising out of or from acts or omissions of General Tree Service. The limitation will not apply to the extent of the client's damages that were caused by General Tree's reckless or willful misconduct in performance or nonperformance of services.
- Our role as consultants is to make recommendations; inaction of those receiving the report is not our responsibility.
- I further certify that I am a member of the International Society of Arboriculture and am both a certified arborist and tree risk assessment qualified.

Conclusion

By following the recommended tree protection and maintenance procedures the remaining trees should be far enough away from the construction zones to survive and adapt to site changes. Tree protection zones must be established prior to all construction on site. Any deviation from the protection plan must be reviewed and approved by the project arborist. Protecting remaining trees needs to be a priority on the project.

Recommendations

1. Remove all (43) trees that are designated on the blue print.(Note some of the smaller trees are grouped together on the blue print.)
2. Remove (11) hazardous trees on the north property line
3. Seek removal permits for (4) additional trees on north property line
4. Remove (7) trees in the forest and others if determined hazardous once ivy is removed.
5. Install tree protection fencing at drip line of all trees or groves to be preserved at the construction site (an addition of 2" chips in root zones will reduce stress to roots)
6. Pay careful attention to construction trauma near (9) Douglas firs 4124, 4128, 4399, 4400, 4401, 4402, 4571, 4572 & 4574. These are dominant trees that will not tolerate significant impact to their roots. Reducing the distance of the tree protection barriers can lead to significant health issues or complete tree failure. These trees will definitely need some level of therapy if preserved.

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7. Remove all non-native, invasive understory plants in the forest. This includes black berry, English laurel, hawthorn, holly, and English Ivy. Removal will open up the forest to be used for an outdoor class room and reduce security risks. The ivy needs to be removed from the trees so they can be examined closer to search for any flaws or concerns. No heavy equipment to be allowed in the area. All removals should be accomplished using hand equipment. Disturbing of the soil food web, roots and favorable small native trees and shrubs should be avoided. I would recommend cleaning up early in the project to provide adequate time before landscaping. Follow up spot herbicide treatments or additional hand removal will be needed to prevent reestablishment of undesirable plant material.
8. Native trees in forest will need hazard reduction pruning prior to planting and opening back up. Crown cleaning of dead, diseased or hazardous limbs 2" and greater should be scheduled along with removal of any remaining ivy in the trees.
9. Trees should be monitored by consulting arborist and receive deep root fertilization or other therapies if needed. Insect or disease treatments would be recommended if damage thresholds are reached.
10. If drought conditions exist or there is possible root damage, supplemental watering may be advised if conditions dictate.
11. Planting and landscaping in the forest should be carefully planned. Turf or succulent plants requiring large amount of water should be avoided. The focus should be with native shade loving understory plants. Mulch, bark, compost, logs, rock and natural materials should be utilized. If irrigation is required for establishing plant material it should be drip or low volume in nature.

Please call if you have questions or concerns regarding this report.

Sincerely,

Greg Doering
ISA Certified Arborist PN-0676A
ISA Tree Risk Assessment Qualified
503-705-2878
g.doering@generaltree.com

Enclosures:

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Appendix # 1

Tree Protection Steps

It is critical that the following steps be taken to ensure that the trees that are to be retained are protected.

Prior to Construction

I. Notification

- a. All contractors will be notified of the tree protection procedures. For successful tree protection on the construction site, all contractors must know and understand the goals of tree protection. One mistake can destroy the future health of a tree.
 1. Hold a Tree Protection meeting with all contractors to fully explain goals of tree protection
 2. Have all sub contractors sign a 'memoranda of understanding' outlining the goals and procedures of the tree protection. The document includes a penalty for violating the plan. Penalty is equal to the appraised value of tree or trees within the violated tree protection zone. The value will be determined based the Trunk Formula Method outlined by the Council of Tree & Landscape Appraisers current edition of the **Guide for Plant Appraisal**. The penalty to be paid by the property owner.

II. Fencing

- a. Fencing must be installed around each tree or grove of trees to be retained
- b. Installation will be prior to grown breaking of the project.
- c. Fencing to be placed at the edge of the root protection zone established. These zones are established by the project arborist. Unless other wise noted, this should be at or beyond the drip line.
- d. Fencing will be 6' foot high steel fence secured on concrete blocks or with 8' metal posts. The fence should be secure so it can not readily be moved by contractors or damaged by weather or equipment.
- e. Fencing is to remain in place as determined by the consulting arborist and remain in place until completion of the project. It can not be removed without written permission from the project arborist.

III. Signage

- a. All tree protection fencing should have signage as follows so all contractors understand the purpose of the fencing.
- b. The signs should be laminated to withstand weather
- c. Signage should be visible from all sides of the protection area. Signs should be no further than 75' apart.



TREE PROTECTION ZONE

DO NOT REMOVE OR ADJUST THE APPROVED LOCATION OF THIS TREE PROTECTION FENCING.

Note: Moving these fences is a civil violation of West Linn Codes

Please contact the project arborist or owner if alterations to the approved location of the tree protection fencing are necessary.

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During Construction

- I. Protection Guidelines Within the Root Protection Zone
 - a. No traffic allowed within the root protection zone including vehicle or heavy equipment. Foot traffic should be minimized
 - b. No parking or storage of vehicles or equipment in the root protection zone.
 - c. No storage of materials, soil or waste including fuel, oil, paint, cleaners or thinners.
 - d. No activities that may cause soil compaction are allowed in the root protection zone.
- II. The trees shall be protected from cutting, debarking or breaking of branches.
- III. Any roots that are to be cut from existing trees that are to be retained, the project consulting arborist shall be notified to evaluate and oversee the proper cutting of roots with sharp cutting tools. Cut roots are to be immediately covered with soil or mulch to prevent them from drying out.
 - a. No grade change should be allowed within the root protection zone.
 - b. Any necessary deviation of the root protection zone shall be cleared by the project consulting arborist or project owner.
 - c. Provide water to trees during the summer months for tree(s) that will have had root system(s) cut back. Such trees will need supplemental water to overcome the loss of the ability to absorb necessary moisture during the summer months.
 - d. Any necessary passage of utilities through the root protection zone shall be by means of tunneling under roots by hand digging or boring under the observation of the project consulting arborist.

After Construction

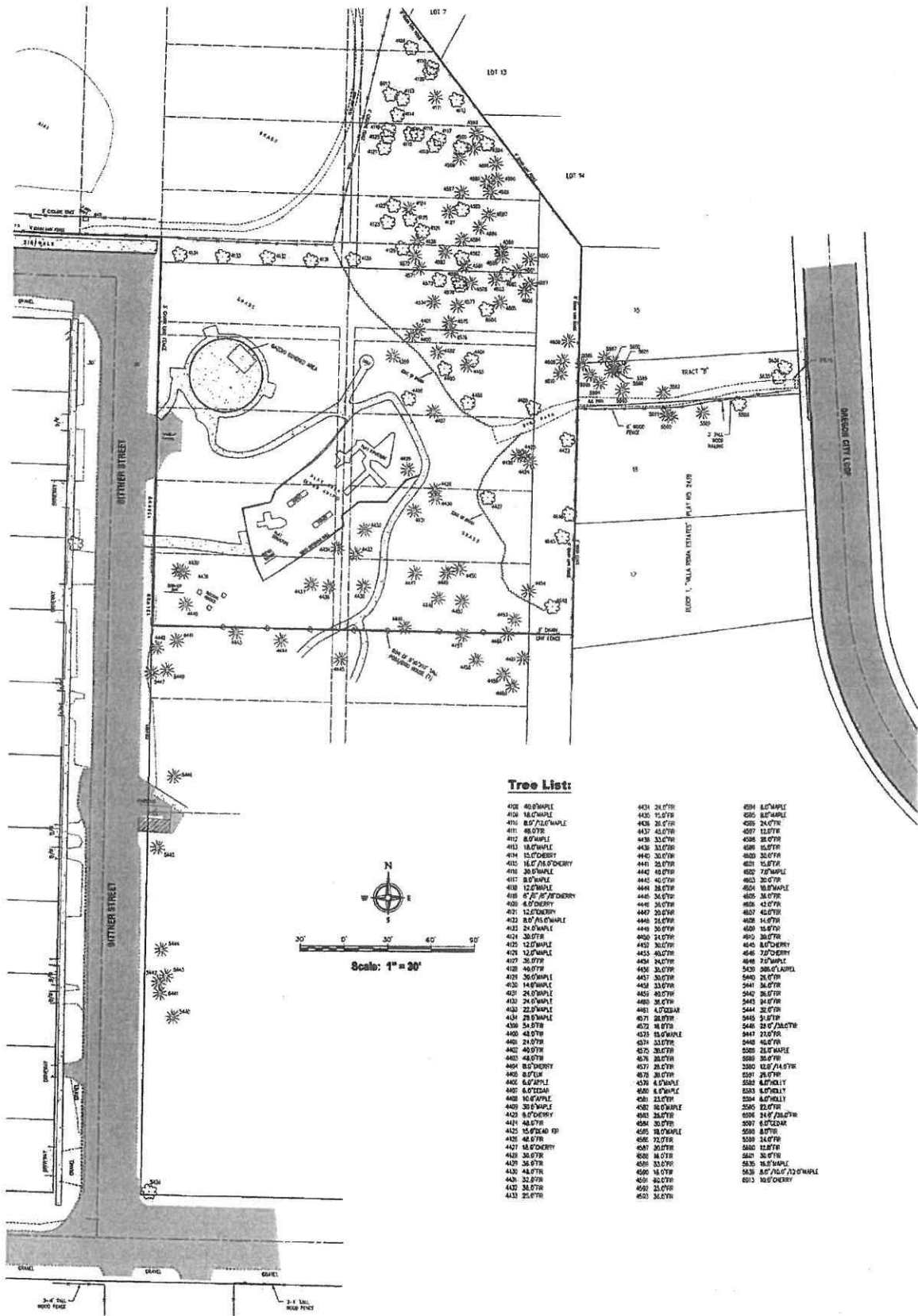
- I. Carefully landscape in the area of the tree. Do not allow trenching within the root protection zone. Carefully plant new plants within the root protection zone. Avoid cutting the roots of the existing trees.
- II. Do not plan for irrigation within the root protection zone of existing trees unless it is drip irrigation for a specific planting or cleared in writing by the project consulting arborist.
- III. Provide for adequate drainage of the location around the retained trees.
- IV. Pruning of the trees should be completed as one of the last steps of the landscaping process before the final placement of trees, shrubs, ground covers, mulch or turf.

Provide for inspection and treatment of insect and disease populations that are capable of damaging the retained trees and plants. Trees that are retained may need to be fertilized as called for by the project consulting arborist after final inspection.

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Appendix # 2



Tree List:

408 48" MAPLE	431 24" FR	638 48" MAPLE
409 18" MAPLE	432 24" FR	639 24" MAPLE
410 18" MAPLE	433 24" FR	640 24" FR
411 48" FR	434 48" FR	641 48" FR
412 8" FR	435 31" FR	642 24" FR
413 18" MAPLE	436 31" FR	643 18" FR
414 15" DOBSONY	437 31" FR	644 31" FR
415 16" JAS DOBSONY	438 31" FR	645 31" FR
416 38" MAPLE	439 31" FR	646 31" FR
417 18" MAPLE	440 31" FR	647 31" FR
418 12" MAPLE	441 31" FR	648 31" FR
419 8" JAS DOBSONY	442 31" FR	649 31" FR
420 4" DOBSONY	443 31" FR	650 31" FR
421 12" DOBSONY	444 31" FR	651 31" FR
422 18" MAPLE	445 31" FR	652 31" FR
423 24" MAPLE	446 31" FR	653 31" FR
424 38" FR	447 31" FR	654 31" FR
425 12" MAPLE	448 31" FR	655 31" FR
426 12" MAPLE	449 31" FR	656 31" FR
427 38" FR	450 31" FR	657 31" FR
428 48" FR	451 31" FR	658 31" FR
429 38" FR	452 31" FR	659 31" FR
430 38" FR	453 31" FR	660 31" FR
431 24" MAPLE	454 31" FR	661 31" FR
432 22" MAPLE	455 31" FR	662 31" FR
433 28" MAPLE	456 31" FR	663 31" FR
434 28" MAPLE	457 31" FR	664 31" FR
435 54" FR	458 31" FR	665 31" FR
436 48" FR	459 31" FR	666 31" FR
437 24" FR	460 31" FR	667 31" FR
438 48" FR	461 31" FR	668 31" FR
439 48" FR	462 31" FR	669 31" FR
440 18" DOBSONY	463 31" FR	670 31" FR
441 8" FR	464 31" FR	671 31" FR
442 6" JAS DOBSONY	465 31" FR	672 31" FR
443 16" MAPLE	466 31" FR	673 31" FR
444 16" MAPLE	467 31" FR	674 31" FR
445 38" FR	468 31" FR	675 31" FR
446 38" FR	469 31" FR	676 31" FR
447 38" FR	470 31" FR	677 31" FR
448 38" FR	471 31" FR	678 31" FR
449 38" FR	472 31" FR	679 31" FR
450 38" FR	473 31" FR	680 31" FR
451 38" FR	474 31" FR	681 31" FR
452 38" FR	475 31" FR	682 31" FR
453 38" FR	476 31" FR	683 31" FR
454 38" FR	477 31" FR	684 31" FR
455 38" FR	478 31" FR	685 31" FR
456 38" FR	479 31" FR	686 31" FR
457 38" FR	480 31" FR	687 31" FR
458 38" FR	481 31" FR	688 31" FR
459 38" FR	482 31" FR	689 31" FR
460 38" FR	483 31" FR	690 31" FR
461 38" FR	484 31" FR	691 31" FR
462 38" FR	485 31" FR	692 31" FR
463 38" FR	486 31" FR	693 31" FR
464 38" FR	487 31" FR	694 31" FR
465 38" FR	488 31" FR	695 31" FR
466 38" FR	489 31" FR	696 31" FR
467 38" FR	490 31" FR	697 31" FR
468 38" FR	491 31" FR	698 31" FR
469 38" FR	492 31" FR	699 31" FR
470 38" FR	493 31" FR	700 31" FR

Tree List:

4108	40.0"MAPLE	4434	24.0"FR	4594	6.0"MAPLE
4109	18.0"MAPLE	4435	15.0"FR	4595	8.0"MAPLE
4110	8.0"/12.0"MAPLE	4436	26.0"FR	4596	24.0"FR
4111	48.0"FR	4437	45.0"FR	4597	12.0"FR
4112	8.0"MAPLE	4438	33.0"FR	4598	28.0"FR
4113	18.0"MAPLE	4439	33.0"FR	4599	15.0"FR
4114	15.0"CHERRY	4440	30.0"FR	4600	30.0"FR
4115	16.0"/16.0"CHERRY	4441	25.0"FR	4601	15.0"FR
4116	30.0"MAPLE	4442	40.0"FR	4602	7.0"MAPLE
4117	8.0"MAPLE	4443	40.0"FR	4603	30.0"FR
4118	12.0"MAPLE	4444	28.0"FR	4604	10.0"MAPLE
4119	6"/6"/6"/8"CHERRY	4445	36.0"FR	4605	36.0"FR
4120	6.0"CHERRY	4446	36.0"FR	4606	42.0"FR
4121	12.0"CHERRY	4447	20.0"FR	4607	40.0"FR
4122	8.0"/15.0"MAPLE	4448	26.0"FR	4608	14.0"FR
4123	24.0"MAPLE	4449	30.0"FR	4609	15.0"FR
4124	30.0"FR	4450	24.0"FR	4610	30.0"FR
4125	12.0"MAPLE	4452	30.0"FR	4645	8.0"CHERRY
4126	12.0"MAPLE	4453	40.0"FR	4646	7.0"CHERRY
4127	36.0"FR	4454	24.0"FR	4648	7.0"MAPLE
4128	40.0"FR	4456	35.0"FR	5439	306.0"LAUREL
4129	30.0"MAPLE	4457	30.0"FR	5440	26.0"FR
4130	14.0"MAPLE	4458	33.0"FR	5441	36.0"FR
4131	24.0"MAPLE	4459	40.0"FR	5442	36.0"FR
4132	24.0"MAPLE	4460	36.0"FR	5443	24.0"FR
4133	22.0"MAPLE	4461	4.0"CEDAR	5444	32.0"FR
4134	28.0"MAPLE	4571	28.0"FR	5445	51.0"FR
4389	54.0"FR	4572	16.0"FR	5446	28.0"/38.0"FR
4400	48.0"FR	4573	15.0"MAPLE	5447	27.0"FR
4401	24.0"FR	4574	33.0"FR	5448	40.0"FR
4402	40.0"FR	4575	30.0"FR	5588	28.0"MAPLE
4403	48.0"FR	4576	20.0"FR	5589	30.0"FR
4404	8.0"CHERRY	4577	26.0"FR	5590	12.0"/14.0"FR
4405	8.0"ELM	4578	30.0"FR	5591	26.0"FR
4406	6.0"APPLE	4579	6.0"MAPLE	5592	6.0"HOLLY
4407	6.0"CEDAR	4580	6.0"MAPLE	5593	6.0"HOLLY
4408	10.0"APPLE	4581	23.0"FR	5594	6.0"HOLLY
4409	30.0"MAPLE	4582	10.0"MAPLE	5595	22.0"FR
4423	6.0"CHERRY	4583	25.0"FR	5596	24.0"/38.0"FR
4424	48.0"FR	4584	30.0"FR	5597	6.0"CEDAR
4425	15.0"DEAD FR	4585	18.0"MAPLE	5598	8.0"FR
4426	48.0"FR	4586	12.0"FR	5599	24.0"FR
4427	18.0"CHERRY	4587	30.0"FR	5600	12.0"FR
4428	30.0"FR	4588	16.0"FR	5601	30.0"FR
4429	36.0"FR	4589	33.0"FR	5635	16.0"MAPLE
4430	48.0"FR	4590	16.0"FR	5636	8.0"/10.0"/12.0"MAPLE
4431	32.0"FR	4591	60.0"FR	6013	10.0"CHERRY
4432	36.0"FR	4592	25.0"FR		
4433	25.0"FR	4593	36.0"FR		

EXHIBIT D
Noise Study

November 13, 2015

To: Bill Conboy
Dull Olson Weekes Architects

From: Dennis Noson, PhD

Re: *Anticipated Site Noise Conditions*
Sunset Primary School, West Linn, OR

BRC Acoustics has prepared an acoustical analysis of noise sources, and sound propagation conditions at the school site, for a new Sunset Primary School structure, to be located just to the east, and immediately adjacent to the existing school. In the analysis which follows, the noise reduction provisions of the school design will comply with noise *limits* of the Noise Regulations of the City of West Linn. Note that an evaluation of *increases* to ambient (existing) noise (Oregon DEQ, OAR 340-035-0035, par. 1(b)) are not applicable in the case of a reuse at an existing school site.

Noise from school noise sources, as received at neighboring properties, are subject to limits imposed by Chapter 55 of the City of West Linn's Community Development Code, which, in turn, is based upon the Oregon Administrative Regulations (OAR 340-35-035) limiting noise from industrial and commercial noise sources. For the purposes of this noise analysis, the school site is considered a commercial noise source, rather than a residential noise source, which would have a different set of noise limits.

The Noise limits are as follows (City of West Linn, Chapter 55):

Existing Industrial and Commercial Noise Source Standards

Allowable Statistical Noise Levels in Any One Hour

7am – 10 pm

L₅₀ – 55 dBA

L₁₀ – 60 dBA

L₁ – 75dBA

10 pm – 7am

L₅₀ – 50 dBA

L₁₀ – 55 dBA

L₁ – 60 dBA

Noise from the school site will vary with time, within a given hour, and over the school day. The City of West Linn noise limits are evaluated by determining on a statistical basis. The noise limit is relative to the percent of the time in any school day hour the sound level is higher than the

noise limits given in the table (above). Allowable sound levels therefore are dependent upon whether the noise is steady during the hour, versus varying noise.

In the case of varying noise sources, the noise evaluation determines how often in a given hour a noise source will affect the receiver (typically evaluated at the nearest residence). Based upon the table of allowable noise, sources of variable noise are acceptable for 50% of full time if equal to or less than 55 dBA (L_{50} sound statistic); if present no more than 10% of the time, sound sources are allowed to be higher, at 60 dBA. Noise up 75 dBA is allowed if the noise exceeding this level occurs less than 1% of the time.

Refer to Appendix A for definitions and descriptions of sound measurements in decibels, and characteristics of sound loudness and sound sources.

Site Noise Sources

Noise from sources affecting the neighborhood include the following:

- Vehicle noise from school transit buses, parent vehicles (for drop-off), and vehicles entering and leaving staff parking
- Play area sounds from sports and free play activities
- Equipment and mechanical system noise, including the following:
 - Trash compactor noise
 - Pad mounted outdoor power transformer
 - Testing of engine generator (providing emergency power)
 - Mechanical system: rooftop fans and air handlers

Noise sources as listed above are shown in the school site plan, attached.

Note: Chiller equipment providing cooling to the rooftop systems will *not* take the form of a stand-alone air cooled chiller, sitting on ground level. Chillers are often a source of noise complaint by residents adjacent to schools. Cooling will, instead, be provided internally by compressors in each of the rooftop air handlers.

Traffic & Vehicle Noise

Noise levels from vehicle traffic will remain unchanged. The number of vehicles accessing the school site (vehicles per hour) and their operation speeds will be the same as current conditions. Parking areas will be relocated relative to the current school parking area. School bus operations will take place in the same manner as the current bus use of the site. Since the primary source of vehicle noise is the arrival and departure of school buses, any change in traffic noise exposure during the school day at neighboring residences will be insignificant (i. e. less than 1 or 2 dB difference).

Play Area Noise

The siting of new play areas will be essentially at the same locations as existing play areas, relative to the neighborhood. The ballfield will shift approximately 250 feet west, with no

significant change in sound path exposure to the near-by residences. No change in sound level from ballfield activity is anticipated.

Trash Compactor Noise

The school will be utilizing a trash compactor to reduce the size of waste storage, rather than handling school waste and school recycling by means of truck transfer from storage containers. The use of a compactor will also reduce the number of visits required by waste and recycling services.

Noise ratings for the compactor, as provided by the manufacturer, are as follows:

on-axis	75 to 77 dBA
left & right	75 to 78
panel end	76 to 77

All distances are at 5 feet from the actuator power source (data provided by Marathon Equipment).

Predictions of operational noise at residences nearest to the compactor were carried out using the worst case of on-axis noise at 78 dBA as the source level. Prediction results:

South @ 135 ft	39 dBA	noise is obstructed by service area wall
SW @ 210 ft	43 dBA	in line of sight

Refer to the noise source site plan, with sound paths and distances shown (attached).

Results of Analysis: Maximum allowable sound levels at the nearest residence will not be exceeded, neither during normal operating hours (7:00am – 10:00pm) nor during nighttime hours when the City noise limit is stricter (50 dBA).

PGE Power Transformer Noise

The largest outdoor electric power transformers provided by the electric utility (PGE) are rated at 60 dBA. Which size and model to be installed by PGE is not known, but is expected to be smaller than 1500 kVA. A large transformer of this size is slightly louder than the smaller utility sizing options, and is sound rated at 60 dB, which then can be considered as the likely upper noise level for the transformer. At this sound level, the transformer should be located at least 75 feet from any home to assure sound levels are below the nighttime limit of 50 dBA.

Results of Analysis: In the current design, the transformer is located 135 feet north of the nearest residence on Park Street, which is a compliant condition at this and all other more distant residences, for a 60 dB rated transformer.

Emergency Power Engine Generator

The Cummins model 60DSFAD planned for the school is sound rated by the manufacturer, when provided in an acoustical-upgraded weather enclosure, as follows:

average @ 7 m.	79 dBA
----------------	--------

Engine noise sources are primarily the muffler exhaust, engine radiator fan, combustion air inlet, and engine casing (cylinders & crankcase). If tested for the usual engine exercise time of 30 minutes, the generator *must not exceed 55 dBA* at the nearest residences.

The new generator will be located in service yard enclosure at the west side of the school building. The generator will likely be tested monthly, but no more often than weekly.

Generator sound paths will be obstructed on the north, east, and south sides by the building structure. The west side will be closed with a louvered gate and fence. Given this location, and the sound attenuating package for the generator, the expected noise levels at the nearest residences are as follows:

West @ 425 ft (nearest residence)	49	partially shielded by louvered gate
SW @ 210 ft	53	nearest receiver via louvered gate
South @ 135 ft (obscured by wall)	45	fully obstructed by service yard wall

Based upon BRC measurements of engine generators, the lowest sound levels are emitted by the engine enclosure from the long sides, with higher sound levels on the air inlet and radiator fan ends of the generator (the narrow width sides). Noise on the quieter sides reduces the radiated sound below the average reported by the manufacturer (79 dBA).

Results of Analysis: Noise of engine testing is expected to meet the 55 dBA limit (for 30 minute duration of engine operation). To do so, the generator enclosure as specified will include a manufacturer's F172 "Quiet Site II First Stage" silencing package. The package includes a higher sound-attenuating muffler, air inlet and discharge silencers, and heavier casing of the enclosure.

Mechanical Systems

Mechanical system equipment noise ratings were determined based upon the mechanical engineer's Schematic Design for the school, including heating/ventilating/air-conditioning equipment (HVAC) at rooftop locations and exhaust fans for the kitchen and restrooms:

Noise performance, as supplied by HVAC manufacturers, is provided in Appendix B, and is based upon the current sizing and type of equipment selected by the mechanical engineer.

Tabulated noise ratings for the mechanical equipment (in Appendix B) are given in *sound power* values, which can be converted to *sound pressure* levels, in dBA, at a given (or known) measurement distance. Predicted sound levels (sound pressure) are reduced (weakened) as (a) receiver distances increase, (b) line of sight to the equipment is obstructed by parapet walls, or equipment "wells" at roof top locations, and as (c) landform topography and landscape plant cover intervenes in the source to receiver sound path (minor noise reduction effect for plant cover).

Given these variables, the preliminary noise levels as received at the nearest residences, to the south and west, across Park Street, are as follows:

25,000 cfm air handlers	48 dBA	including sound barrier (parapet or screen wall)
10,000 cfm air handlers	42 dBA	" " "

Kitchen exhaust fans	41 dBA	“	“	“	(well, or screen wall)
Gym HRU	43 dBA	without	sound	barrier	
Building exhaust fans	43 dBA	without	sound	barrier	

All rooftop mechanical equipment, when operated simultaneously, will produce a total noise level summed by logarithm analysis (see Appendix A, at paragraph “Decibels”).

The highest possible noise level, combining rooftop air handlers and exhaust fan noise sources, is 51 dBA (nearest air handler at 145 feet). The actual sound level will be significantly lower, since each of the equipment noise sources is farther from the residences than the nearest (at 145 feet). See the Site Plan, attached.

Results of Analysis: Mechanical equipment operates steadily during the school hours, and complies with the City’s noise limit of 55 dBA for daytime hours. At night, most mechanical system equipment will be shut down, and will be maintaining lower temperatures. Estimated noise levels for the night condition are 44 to 46 dBA (rooftop air handlers operating intermittently, exhaust fans off).

Attachments

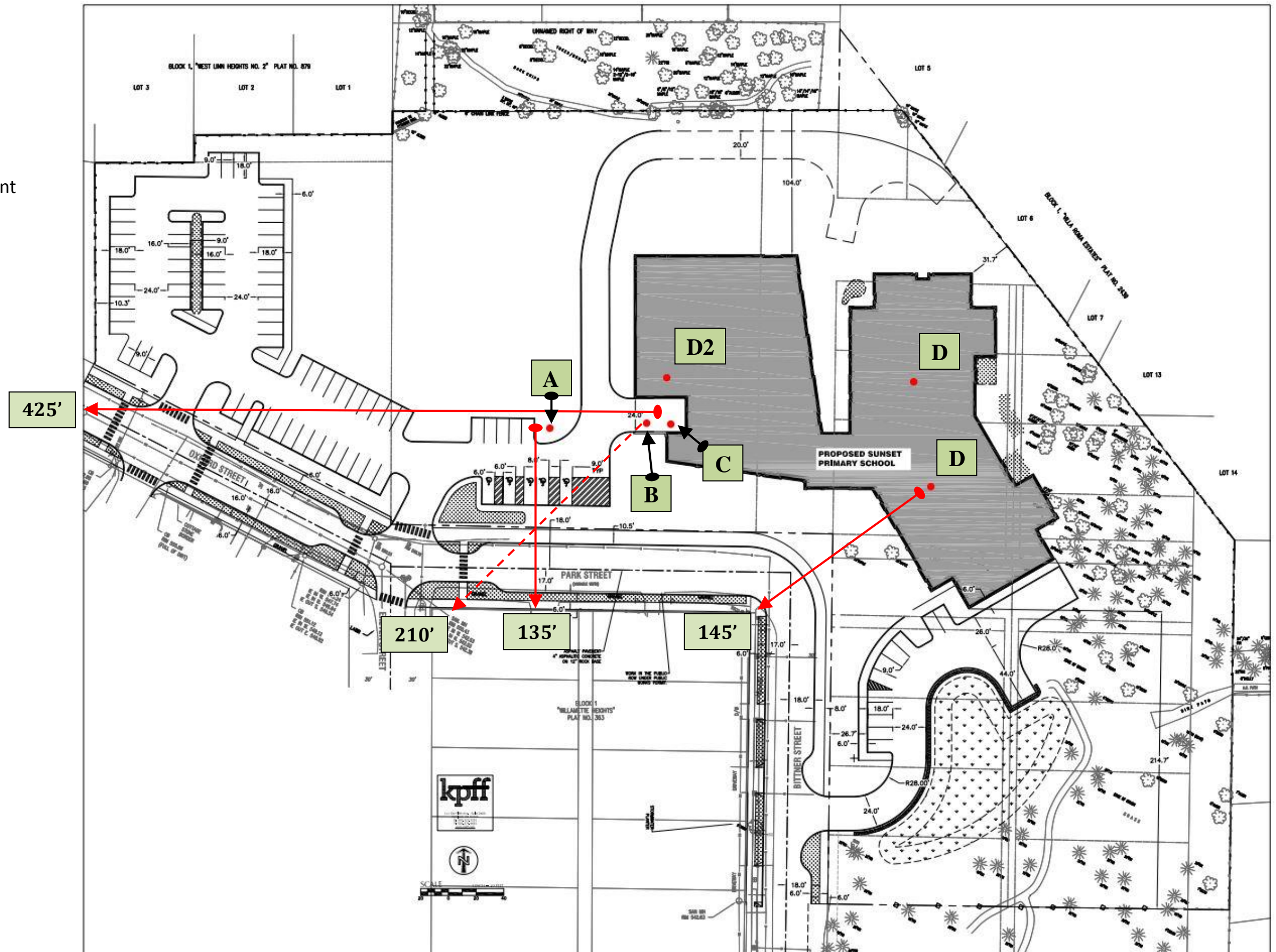
Site Plan: Noise source locations

Appendix A: Acoustical Terms and Definitions

Appendix B: HVAC Equipment—noise ratings

Noise Sources:

- A: PGE transformer
- B: Trash compactor
- C: Emergency generator
- D: Mechanical rooftop equipment
- D2: Heat recovery unit



Appendix A: Acoustical Terms and Definitions

Summary -- Decibels and Loudness Differences

Noise levels referred to in noise ordinances and noise measurements are expressed in decibels “dB,” which are, in turn, weighted to conform with the normal sensitivity of the human ear. Measurement when weighted, the standard practice in acoustics, are referred to as A-weighted sound level, abbreviated “dBA.”

A noise level at 60 dBA, for example, is about equally as loud as a normal conversation, but nevertheless strongly affects talking and listening, and is considered very annoying in otherwise quiet outdoor environments. A major highway at a distance of 100 feet measures about 75 to 80 dBA, nearly drowning out conversation.

Noise levels which differ by less than 3 dB are difficult to distinguish in loudness. A 5 dB increase is significantly louder, and a 10 dB difference when comparing two continuous noise sources is twice as loud.

Decibels

The decibel scale is universally applied in the measurement of sound pressure levels and is abbreviated as “dB.” The decibel is a logarithmic function of the acoustic energy, a measurement scale for sound which is not directly proportional to the loudness of a noise or sound source. With a *linear* measuring scale, a sound source rated at 40 would be measured at 80 for two equally-loud sources. Because of the logarithmic scale, however, sound levels cannot be added using simple arithmetic. Nor does the ear hear two equal sounds as twice as loud. As a result, using decibels, two equal sound sources at 40 dB add together to a 43 dB combined sound level, using the 3 dB rule for each doubling of acoustical energy. The same result applies to A-weighted decibel sound levels.

Typical Decibel Sound Levels

Commonly-occurring distant noise sources have levels ranging from 30 dBA in quiet rural areas, to about 45 dBA in suburban areas, on up to 85 to 90 dBA when adjacent to power saws, chain saws, or un-muffled lawn mower engines. Urban street traffic noise ranges from 65 to 75 dBA, and is very unsteady in character, due to passage of louder vehicles, which can increase noise levels (briefly) to 80 dBA or more. At the middle of the range of sound levels is speech: conversational speech levels vary with time and with vocal emphasis, typically varying from 50 to 65 dBA. A final example: At locations across the street from active construction sites, noise levels can, at times, exceed 85 to 90 dBA, although average construction noise is normally 10 to 20 dB less.

A-weighted Decibels

Noise levels are usually measured in A-weighted decibels, abbreviated “dBA.” Noise measurements indicated with the abbreviation “dB” are not A-weighted, unless indicated otherwise. Application of A-weighting is the standard adjustment method for sound measurements and is used to compensate for the varying sensitivity of human hearing to high

versus low pitched sounds (drums versus piccolos). The ear's weighting, and the sound level meter's, is applied to each of many sound components comprising the sound spectrum (see the definition of *sound spectrum*).

When summed together, the weighted spectrum components comprise the total or overall sound level. The sound level weighting mimics diminished human sensitivity to low frequency components of noise sources, sounds characterized as rumbling or humming in nature. For example, the human ear evaluates an 80 dB shrill whistle as quite loud, while an electrical system hum at the same measured 80 dB level (unweighted) is perceived to be less than one-third as loud.

Loudness

The loudness of sound is not linear in response to changes in decibel levels. That is, a 20% increase in decibel level is *not* 20% louder. A sound or noise at 50 dBA is 100% louder (twice as loud) when increasing to 60 dBA, which arithmetically is only 20% larger in value (60 dBA is 20% more than 50 dBA as measured on the sound meter). Since an increase of at least 10 dB is needed to cause an approximate doubling of judged loudness, then conversely a 10 dB *decrease* is perceived as half as loud. Going from 50 to 60 dBA is judged to be twice as loud, and therefore a 70 dBA noise level is *four* times louder than a 50 dBA steady noise source (doubling twice).

The smallest distinctly noticeable increase in sound level is approximately 3 dB, which represents a doubling of the sound wave *energy*, but does *not* correspond to a doubling of the perceived change in loudness.

Sound Spectrum (in dB) and Sound Wave Frequency (Hz)

Sound or noise consists of a mix of pressure waves traveling in air. Each component of the sound has its own rate of oscillation, the more rapid the oscillation the higher the *frequency*. Sound wave frequency is roughly equivalent to pitch in music. Sound at 250 cycles per second (measured as *Hertz*, abbreviated as *Hz*) is equivalent to the musical pitch of middle C. The *spectrum* of a particular sound is the *specific* mix of all its component frequencies or pitches. A sound with strong components at high frequencies has a "brighter" quality compared with the same sound source with reduced high frequencies in its mix, which is heard as duller or muffled. An example is the muffled sound of a voice heard through a closed door.

Noise Criteria (NC)

Noise Criteria are single number noise ratings of the *spectrum* of noise measured in rooms, applied most commonly to noise from ducted supply and return air flow and fans, i.e. the operation of mechanical systems serving a room, or by noise from the mechanical unit adjacent to an occupied room. NC levels for rooms can be predicted using standardized calculations (ASHRAE) or by using other predictive procedures. The higher the NC rating, the noisier or more annoying the background noise of the mechanical system. Measured NC values run anywhere from about 3 to 7 points lower than the A-weighted decibel sound level. However, unlike the measured decibel sound pressure level, the NC rating penalizes mechanical systems

for any peaks in the room's noise spectrum, thereby arriving at a more accurate assessment of *noise annoyance* or noise distraction relative to the NC rating for noise which has no tonal or rumble peaks in its spectrum.

Spectrum Analysis

Spectrum analysis is used to extract individual noise components from the overall measured noise level. Often the spectral components are no louder than the average noise level, but are easily detectable by the human ear due to their identifiable character, and are considered the primary cause of noise annoyance. Examples are the hum of transformers and whine from pumps.

Each component of noise is measured in a series of consecutive frequency bands. The bands may be linearly spaced or, more often, the bands are based on a doubling of frequencies, known as octave bands. The frequency of a band component is analogous to the pitch of a musical note. For example, the 250 Hertz (Hz) band is centered at the frequency of middle C and the 125 Hz band is one octave lower than middle C. Third octave band analysis (1/3 octave) further divides the sound components for finer detail in the spectral picture. When all frequency component decibel levels are summed together, using logarithmic addition rules, the total is equal to the overall noise level.

Appendix B: HVAC Equipment—noise ratings

2 x 25,000 cfm air handlers:

Sound								
Sound Power (db)								
Frequency	63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz
Inlet	88	89	80	78	74	68	60	53
Discharge	87	86	77	75	72	66	58	50
Radiated	-	94	91	89	89	86	83	82

2 x 10,000 cfm air handlers

Sound								
Sound Power (db)								
Frequency	63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz
Inlet	78	77	85	77	72	71	66	63
Discharge	84	83	88	83	81	78	73	68
Radiated	88	88	84	81	79	74	67	60

Gym HRU (heat recovery unit)

Unit Sound Power (dB)								
Type	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz
Radiated:	73	74	77	65	62	54	46	51
Unit Discharge:	83	78	88	83	84	82	76	71
Unit Return:	73	74	77	65	65	65	57	56

MAU for kitchen (make-up air system)

Sound Performance in Accordance with AMCA

Fan	Sound Power by Octave Band								Lwa	dBA	Sones
	62.5	125	250	500	1000	2000	4000	8000			
Supply	87	88	87	83	81	78	77	70	87	76	27

3 x Kitchen exhaust fans:

Sound Power by Octave Band

Sound Data	62.5	125	250	500	1000	2000	4000	8000	LwA	dBA	Sones
Inlet	87	85	82	86	77	72	69	65	85	74	22

3 x exhaust fans:

Sound Power by Octave Band

Sound Data	62.5	125	250	500	1000	2000	4000	8000	LwA	dBA	Sones
Inlet	73	79	80	72	66	69	60	53	76	65	13.3

Note: The HVAC equipment ratings were provided during Schematic Design phase of the project, with final selection to be determined at completion of the mechanical system design.

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CONTENTS

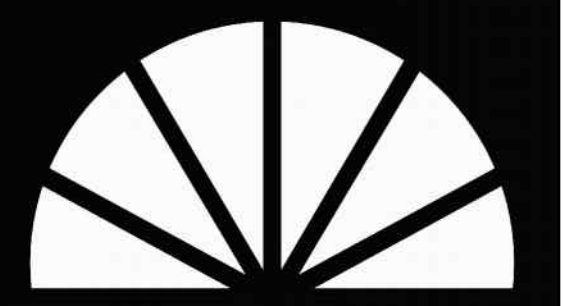
land use

LU1.00	SITE ANALYSIS MAP
LU1.01	EXISTING CONDITIONS
LU1.02	SITE PLAN
LU1.03	GRADING PLAN
LU1.04	UTILITY PLAN
LU1.05	STORM PLAN
LU1.06	OXFORD & PARK ROW PLAN
LU1.07	BITTNER ROW PLAN
LU2.01	TREE REMOVAL PLAN
LU2.02	LANDSCAPE PLAN
LU2.03	LANDSCAPE PLANTING PLAN
LU3.01	MAIN FLOOR PLAN
LU3.02	SECOND FLOOR PLAN
LU3.03	EXTERIOR ELEVATIONS
LU3.04	BUILDING SECTIONS & SIGN
LU3.05	EXTERIOR MATERIALS
LU4.01	LIGHT COVERAGE PLAN

VICINITY MAP

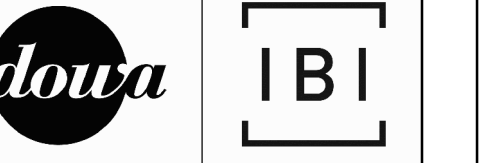


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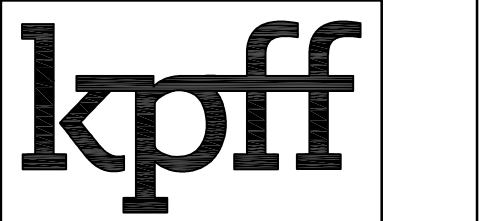
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Dill Olson Weekes - IBI Group
Architects, Inc.

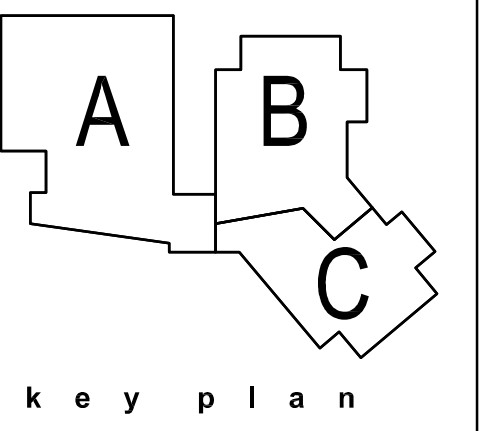
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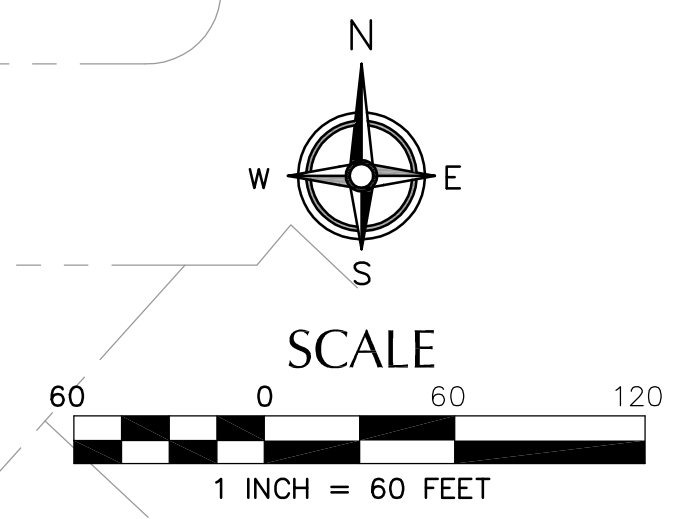
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date	NOVEMBER 13, 2015
revisions	

project # | 15015
SITE ANALYSIS MAP

LU1.00

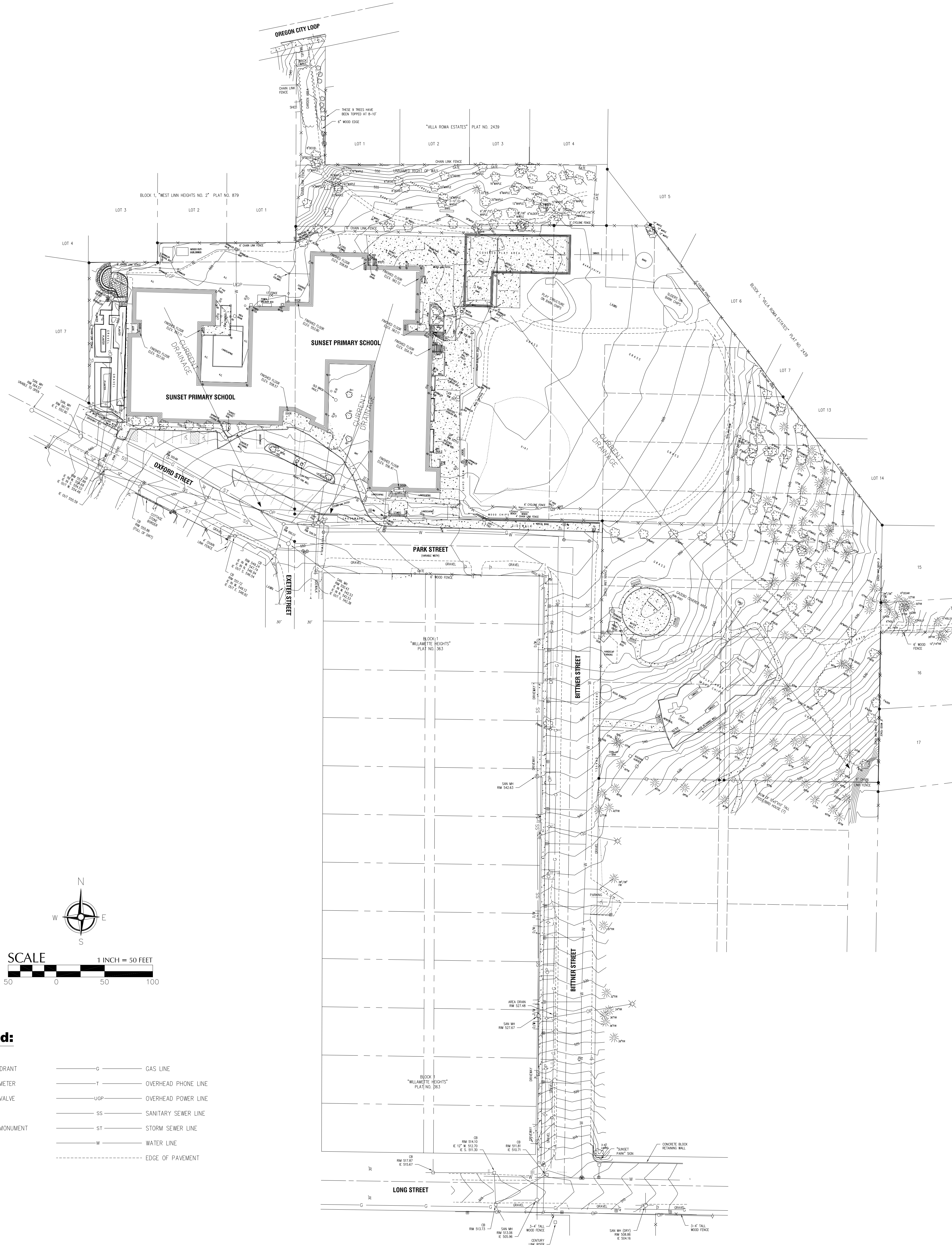


1 SITE ANALYSIS MAP
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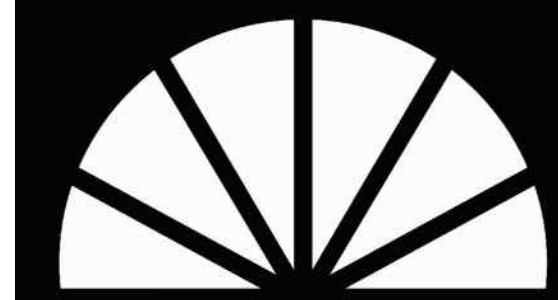


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3. BASIS OF ELEVATIONS IS NAVD '88 UTILIZING GPS OBSERVATIONS ON HARN STATION "TERM" IN OREGON CITY, UPDATED 2-25-09.
4. CONTOUR INTERVALS ARE ONE FOOT.
5. EASEMENTS NOT SHOWN.
6. THE LOCATION OF BUILDINGS SHOWN ON THIS SURVEY ARE BASED UPON FIELD MEASUREMENTS TAKEN AT THE BUILDING FACE.
7. THIS SURVEY DOES NOT CONSTITUTE A BOUNDARY SURVEY AND SHOULD NOT BE CONSTRUED AS SUCH. PROPERTY LINES SHOWN ARE BASED ON EXISTING MONUMENTS AND SURVEYS OF RECORD.

Legend:

- | | | | |
|---|----------------|-----------|---------------------|
| ○ | FIRE HYDRANT | —C— | GAS LINE |
| ⊕ | WATER METER | —T— | OVERHEAD PHONE LINE |
| ⊙ | WATER VALVE | —UPP— | OVERHEAD POWER LINE |
| — | SIGN | —SS— | SANITARY SEWER LINE |
| ● | FOUND MONUMENT | —ST— | STORM SEWER LINE |
| | | —W— | WATER LINE |
| | | - - - - - | EDGE OF PAVEMENT |



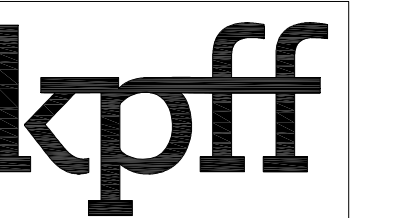
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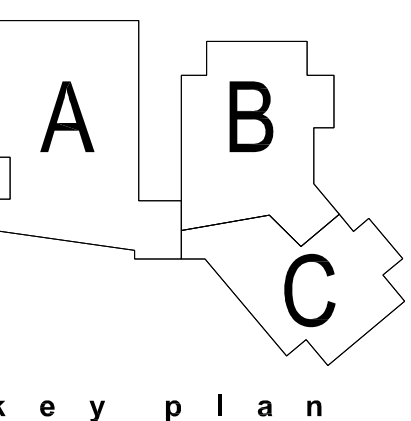
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phase | Land Use

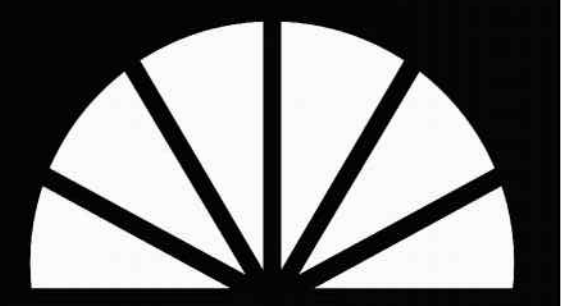
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revisions

project # | 15015

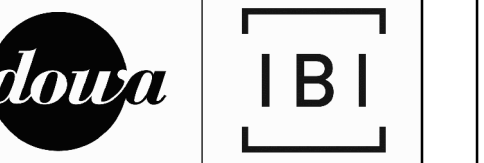
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LU1.01



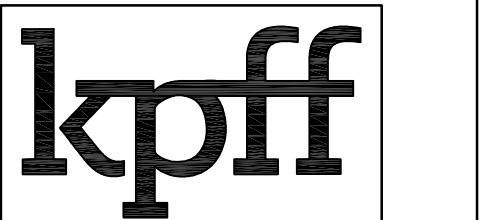
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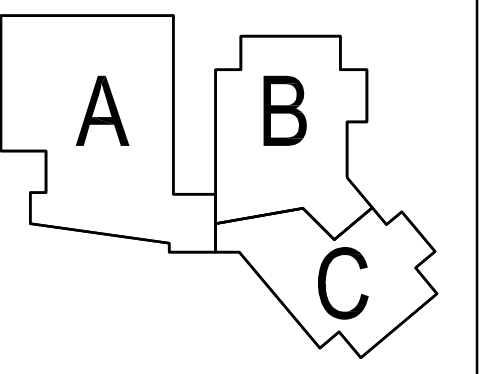
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key plan

phase | Land Use

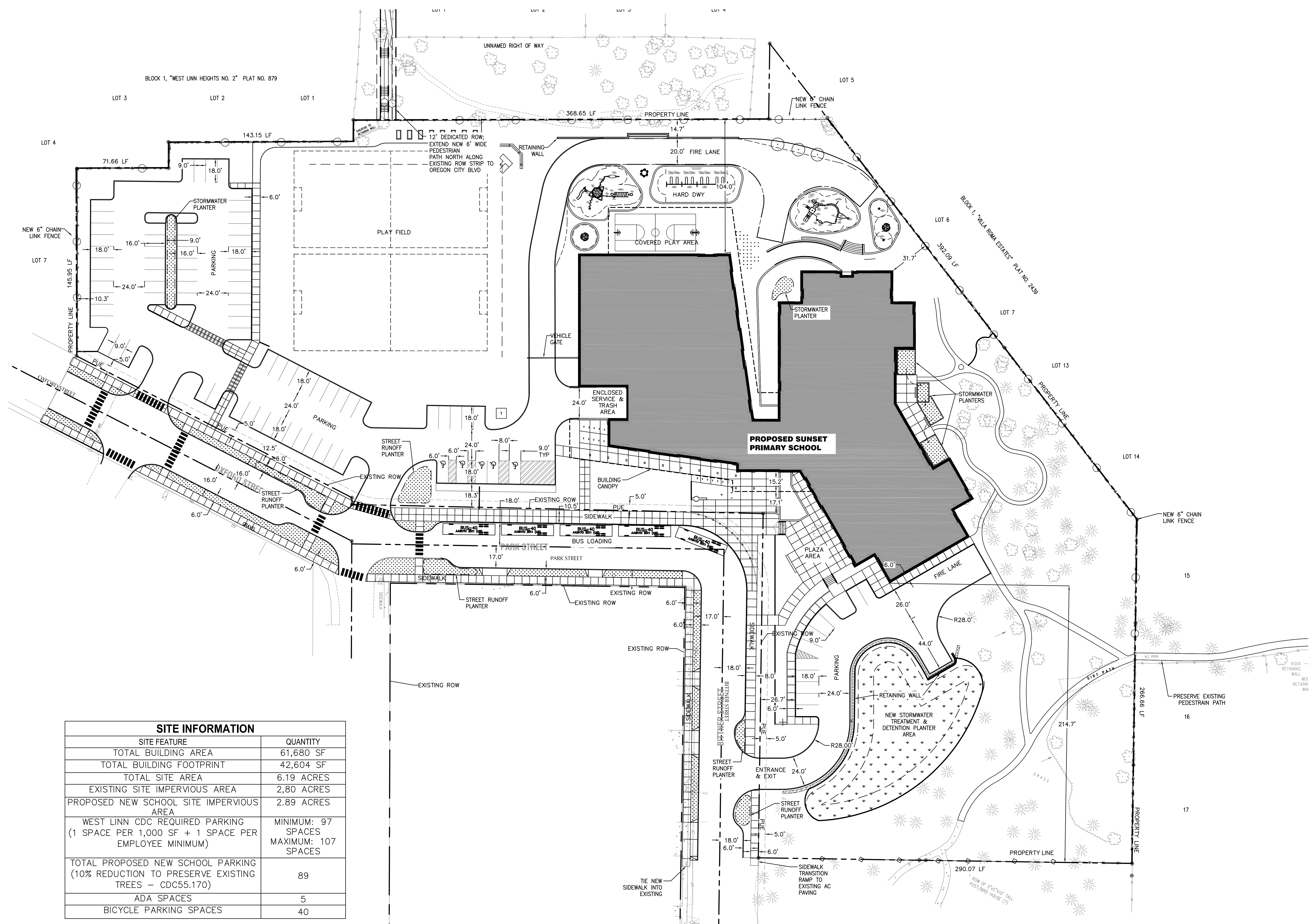
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revisions

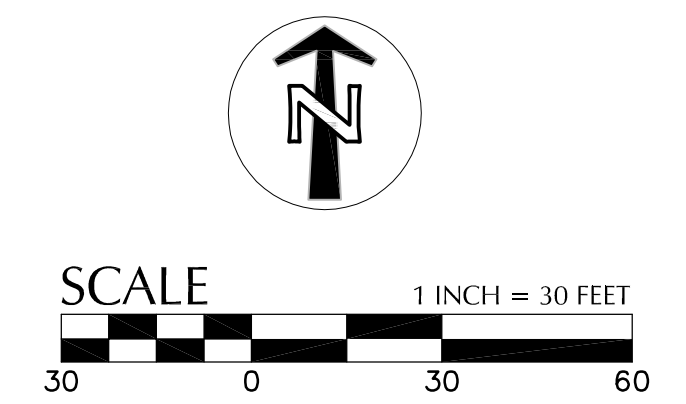
project # | 15015

SITE PLAN

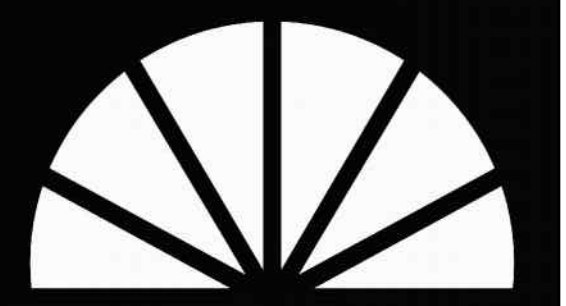
LU1.02



SITE INFORMATION	
SITE FEATURE	QUANTITY
TOTAL BUILDING AREA	61,680 SF
TOTAL BUILDING FOOTPRINT	42,604 SF
TOTAL SITE AREA	6.19 ACRES
EXISTING SITE IMPERVIOUS AREA	2.80 ACRES
PROPOSED NEW SCHOOL SITE IMPERVIOUS AREA	2.89 ACRES
WEST LINN CDC REQUIRED PARKING (1 SPACE PER 1,000 SF + 1 SPACE PER EMPLOYEE MINIMUM)	MINIMUM: 97 SPACES MAXIMUM: 107 SPACES
TOTAL PROPOSED NEW SCHOOL PARKING (10% REDUCTION TO PRESERVE EXISTING TREES - CDC55.170)	89
ADA SPACES	5
BICYCLE PARKING SPACES	40



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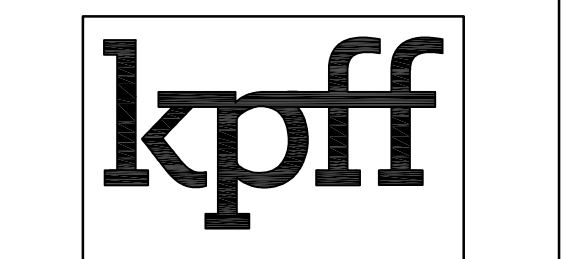
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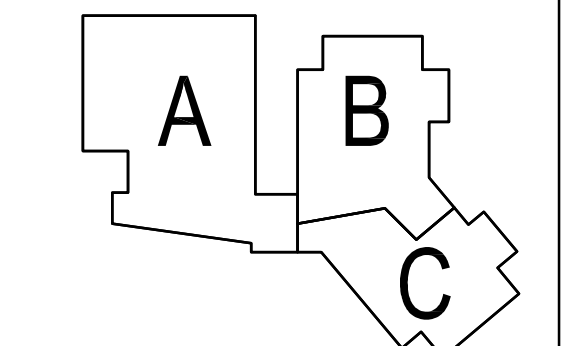
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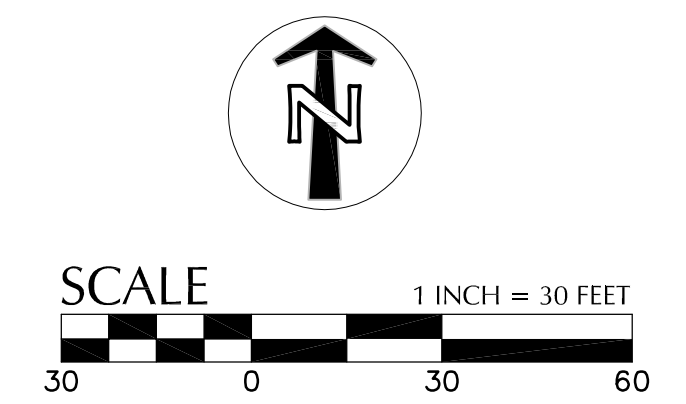
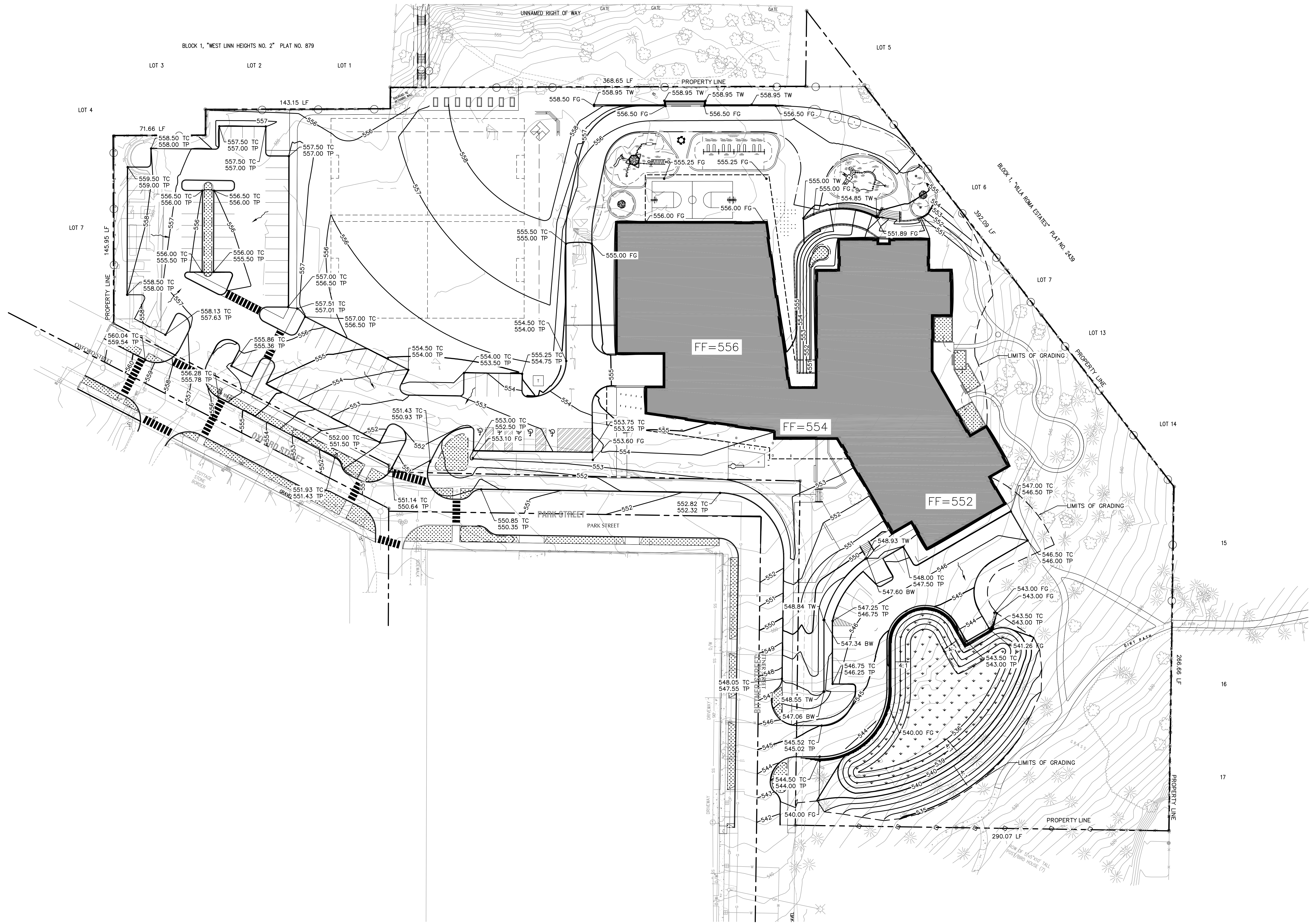
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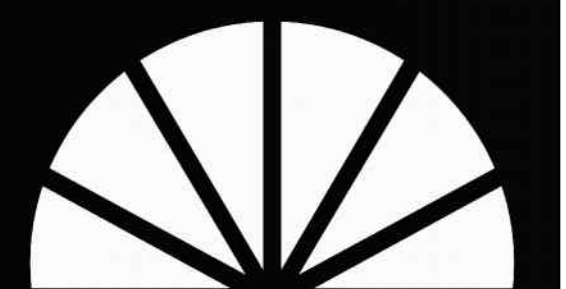
key plan

phase	Land Use
date	NOVEMBER 13, 2015
revisions	
project #	15015
	GRADING PLAN

LU1.03



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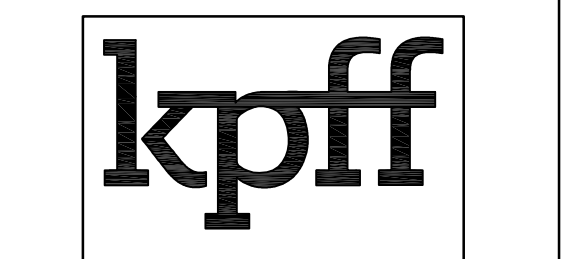


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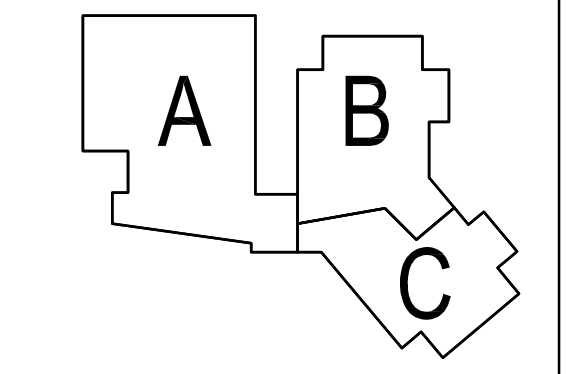
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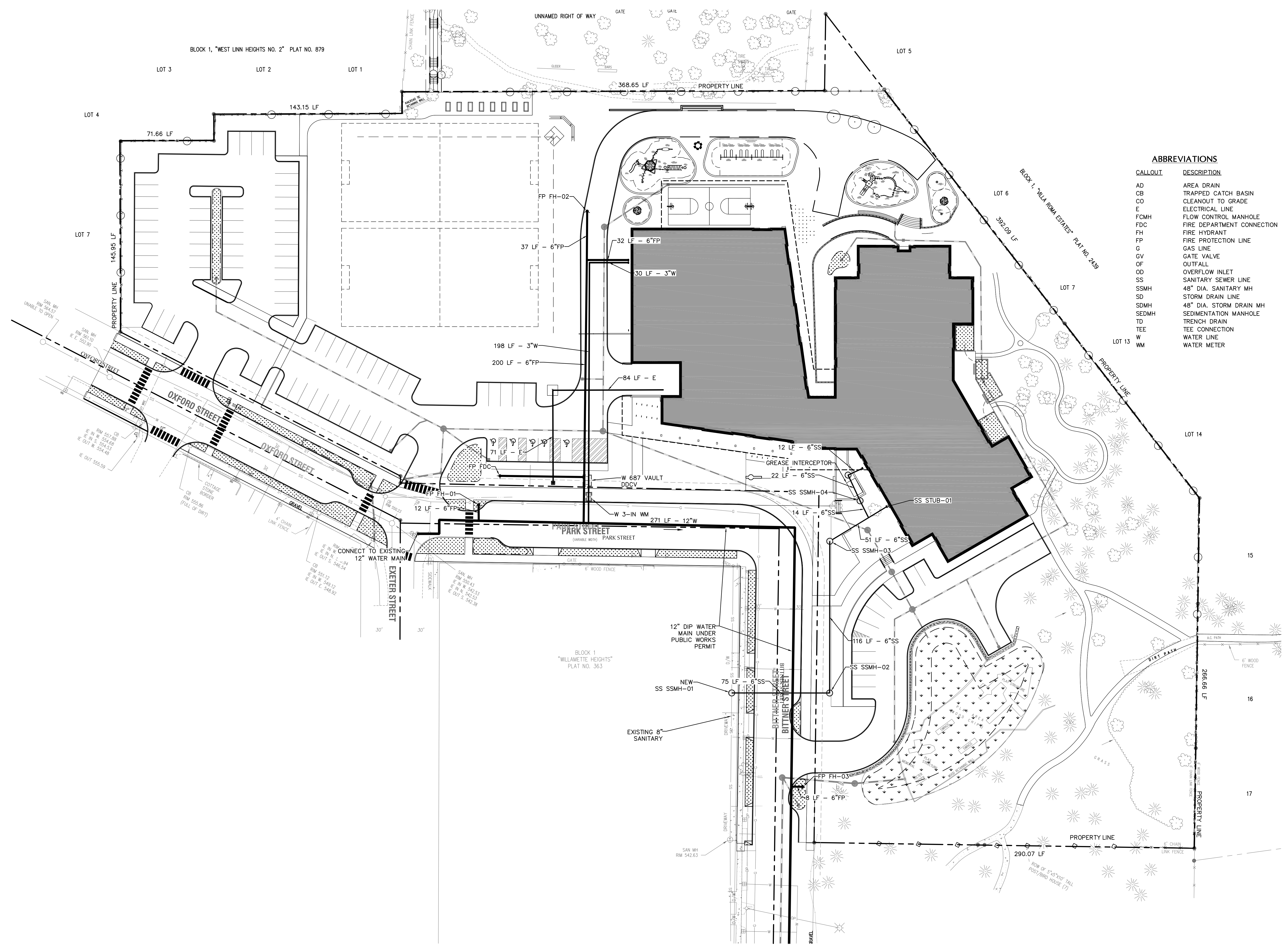


key plan

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project #	15015

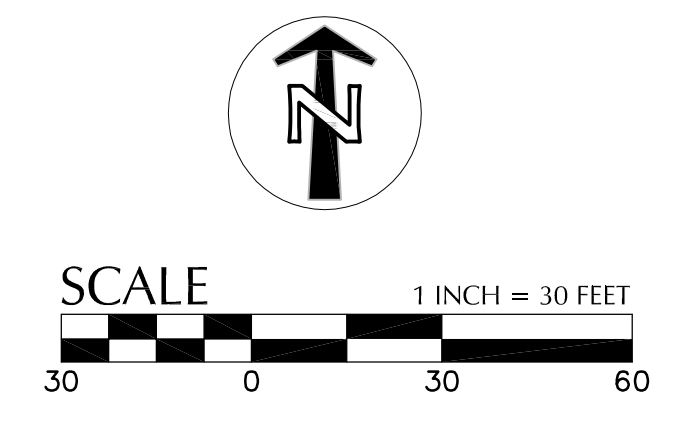
UTILITY PLAN

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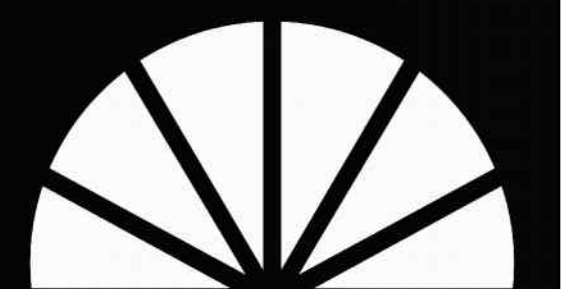


ABBREVIATIONS

CALLOUT	DESCRIPTION
AD	AREA DRAIN
CB	TRAPPED CATCH BASIN
CO	CLEANOUT TO GRADE
E	ELECTRICAL LINE
FCMH	FLOW CONTROL MANHOLE
FDC	FIRE DEPARTMENT CONNECTION
FH	FIRE HYDRANT
FP	FIRE PROTECTION LINE
G	GAS LINE
GV	GATE VALVE
OF	OUTFALL
OD	OVERFLOW INLET
SS	SANITARY SEWER LINE
SSMH	48" DIA. SANITARY MH
SD	STORM DRAIN LINE
SDMH	48" DIA. STORM DRAIN MH
SEDMH	SEDIMENTATION MANHOLE
TD	TRENCH DRAIN
TE	TEE CONNECTION
W	WATER LINE
WM	WATER METER



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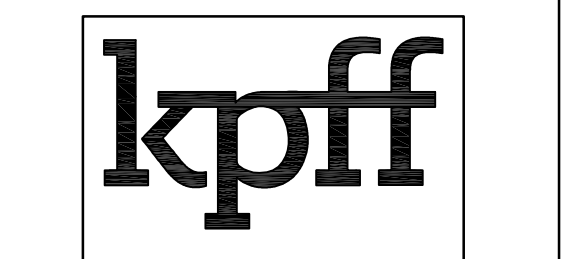


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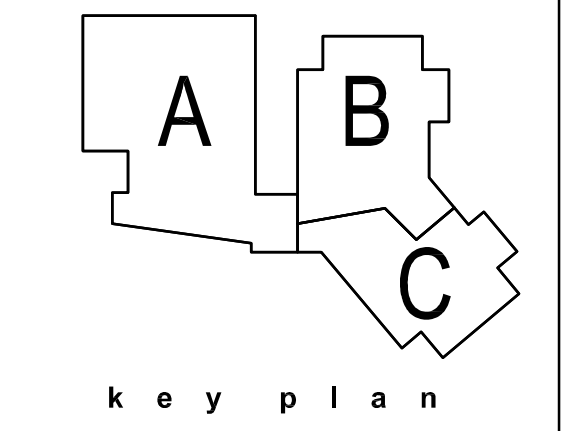
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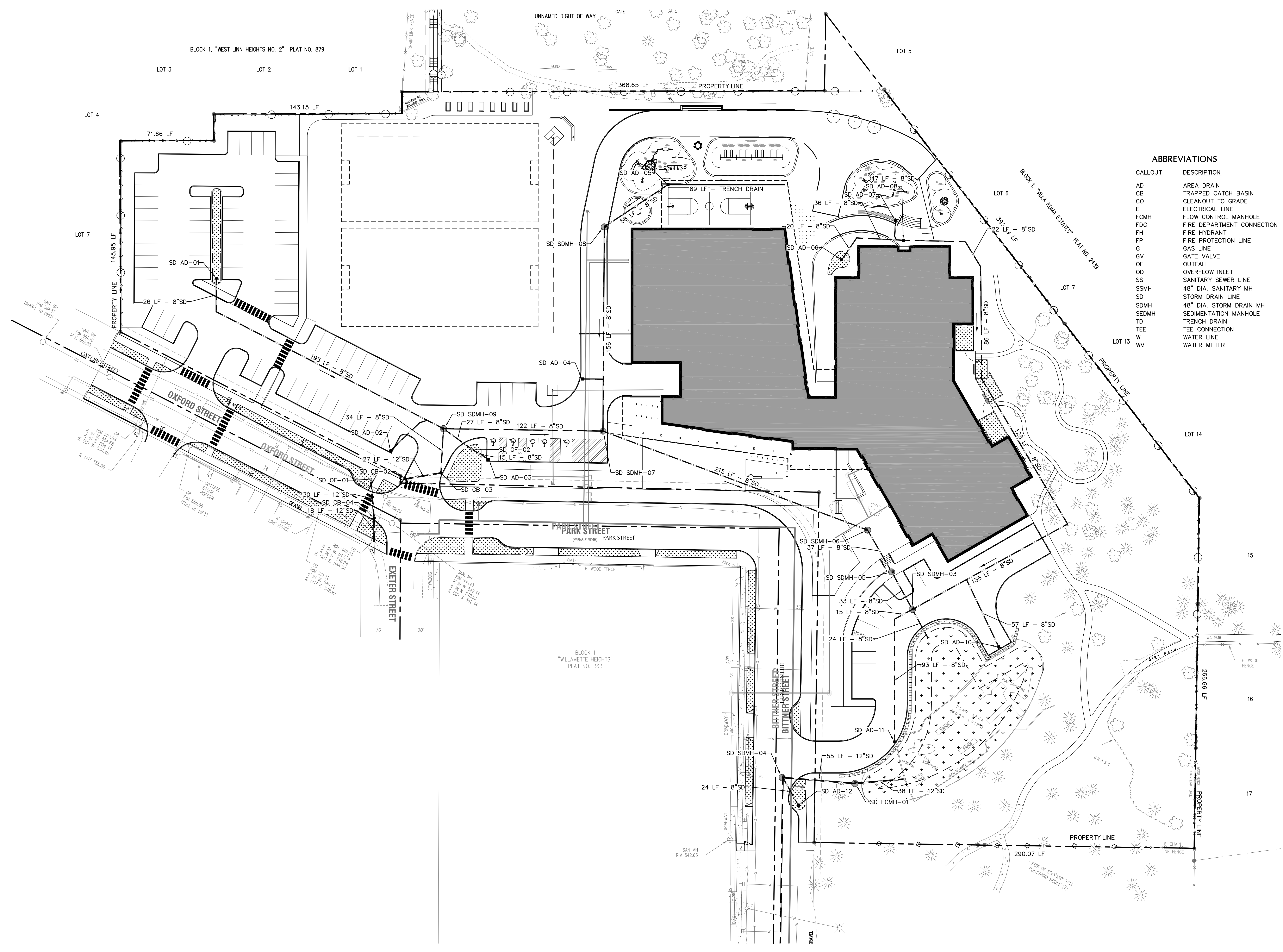
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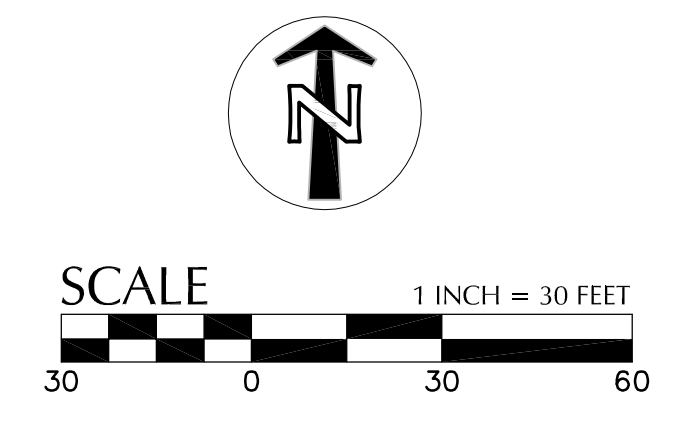
phase	Land Use
date	NOVEMBER 13, 2015
revisions	
project #	15015
STORM PLAN	

LU1.05

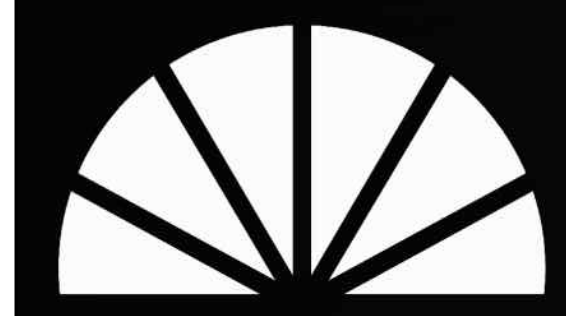


ABBREVIATIONS

CALLOUT	DESCRIPTION
AD	AREA DRAIN
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CO	CLEANOUT TO GRADE
E	ELECTRICAL LINE
FCMH	FLOW CONTROL MANHOLE
FDC	FIRE DEPARTMENT CONNECTION
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TD	TRENCH DRAIN
TEE	TEE CONNECTION
W	WATER LINE
WM	WATER METER



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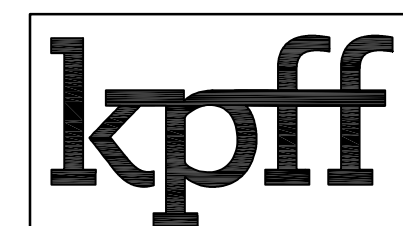
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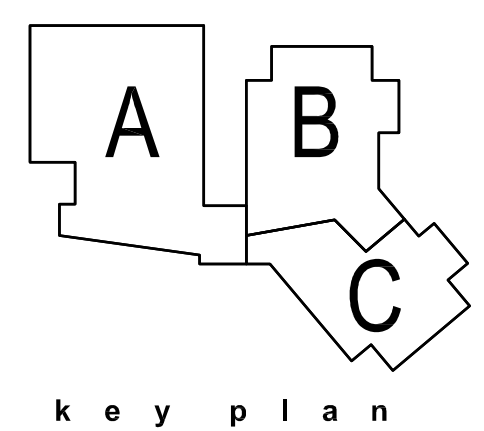
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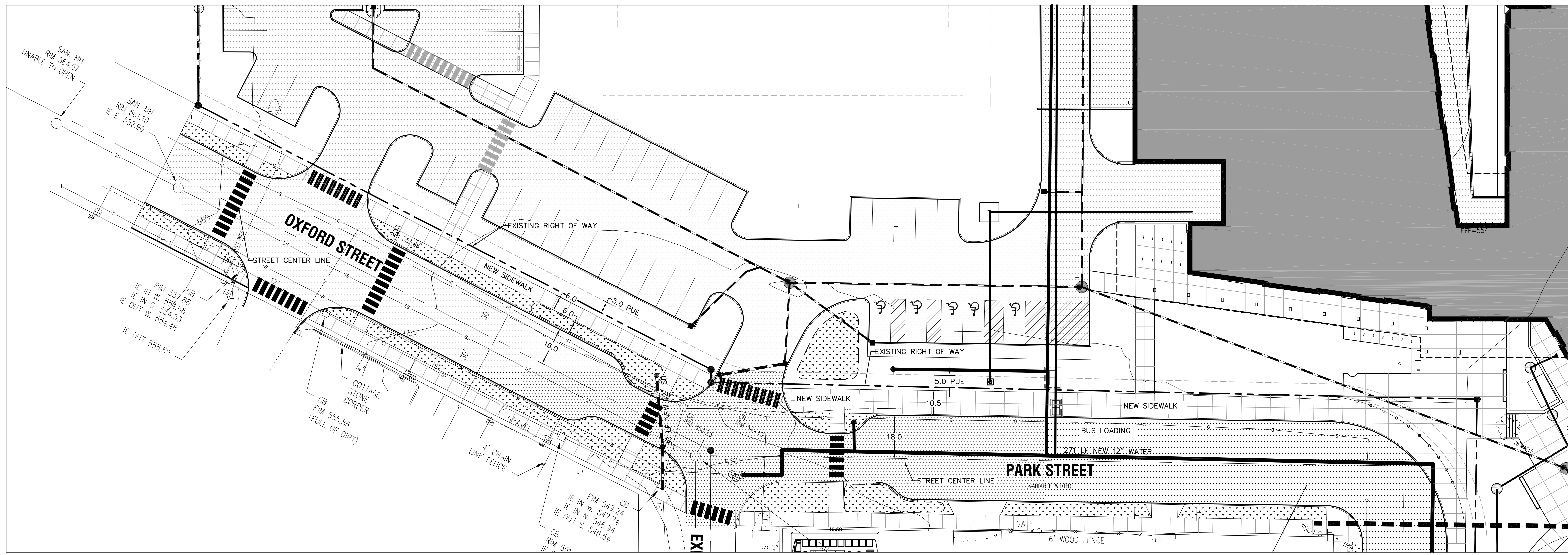
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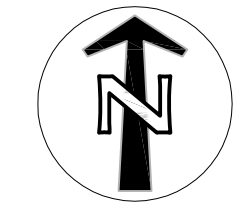
phase	Land Use
date	NOVEMBER 13, 2015
revisions	
project #	15015

OXFORD & PARK ROW PLAN

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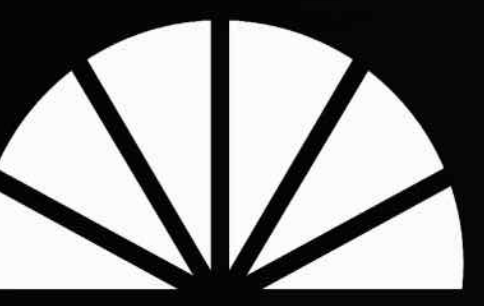


OXFORD AND PARK STREET ROW PLAN



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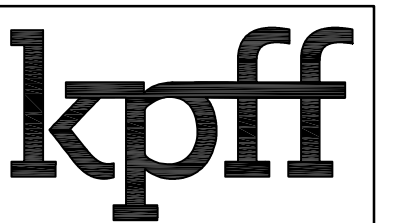
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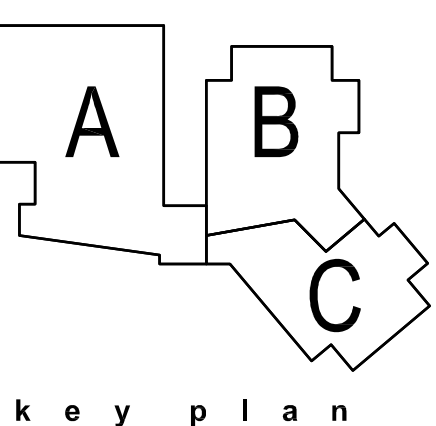
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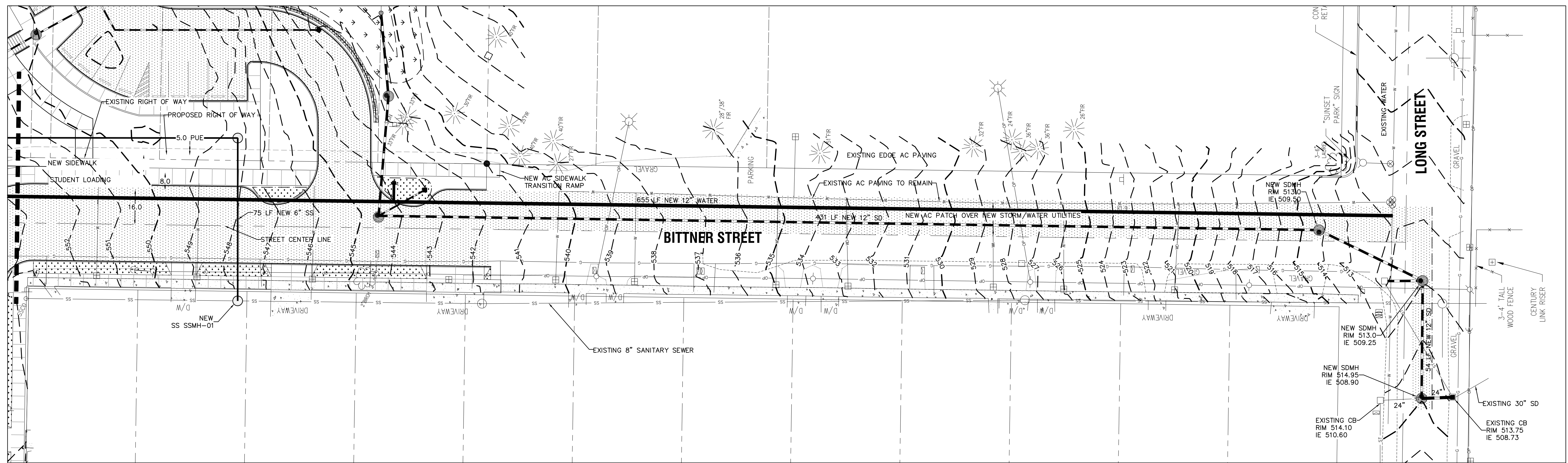
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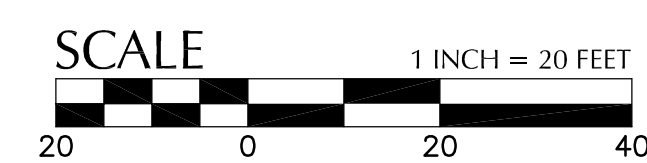
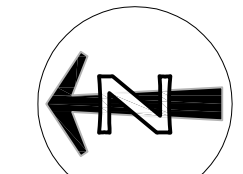
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BITTNER ROW PLAN

LU1.07

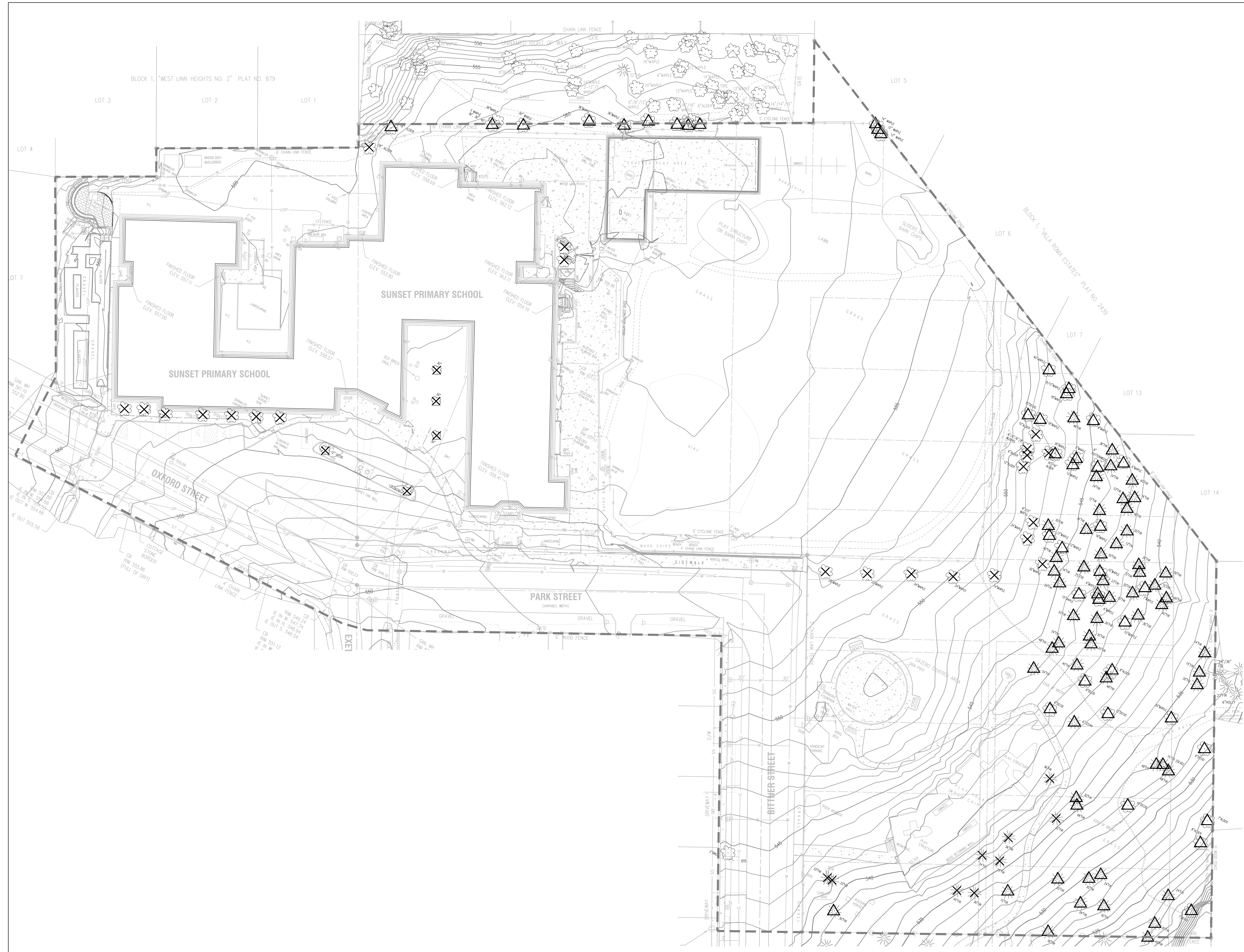


BITTNER STREET ROW PLAN



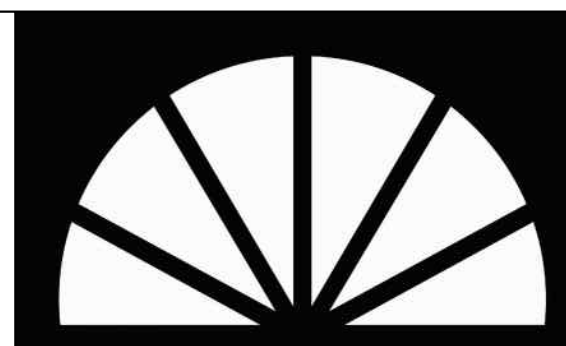
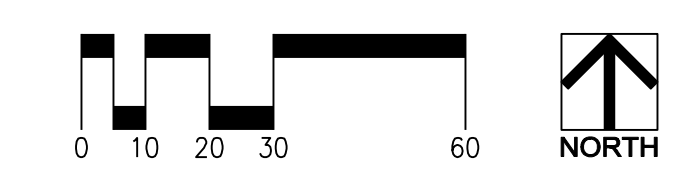
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LEGEND

- △ (99) EXISTING TREE PROTECT-IN-PLACE
- × (37) EXISTING TREE TO BE REMOVED
- LIMIT OF WORK



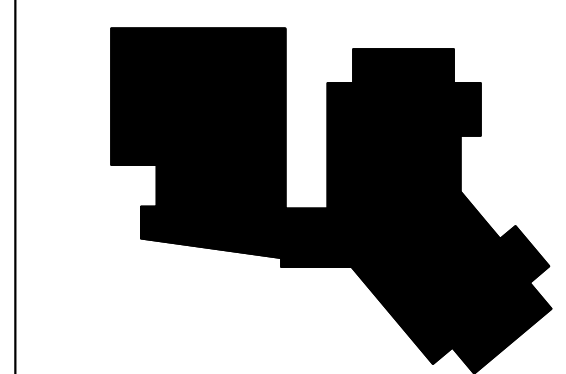
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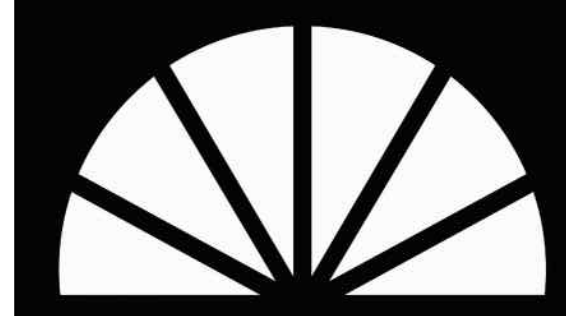
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phase	LAND USE
date	November 13, 2015
revisions	
project #	15015
Tree Removal Plan	

LU2.01



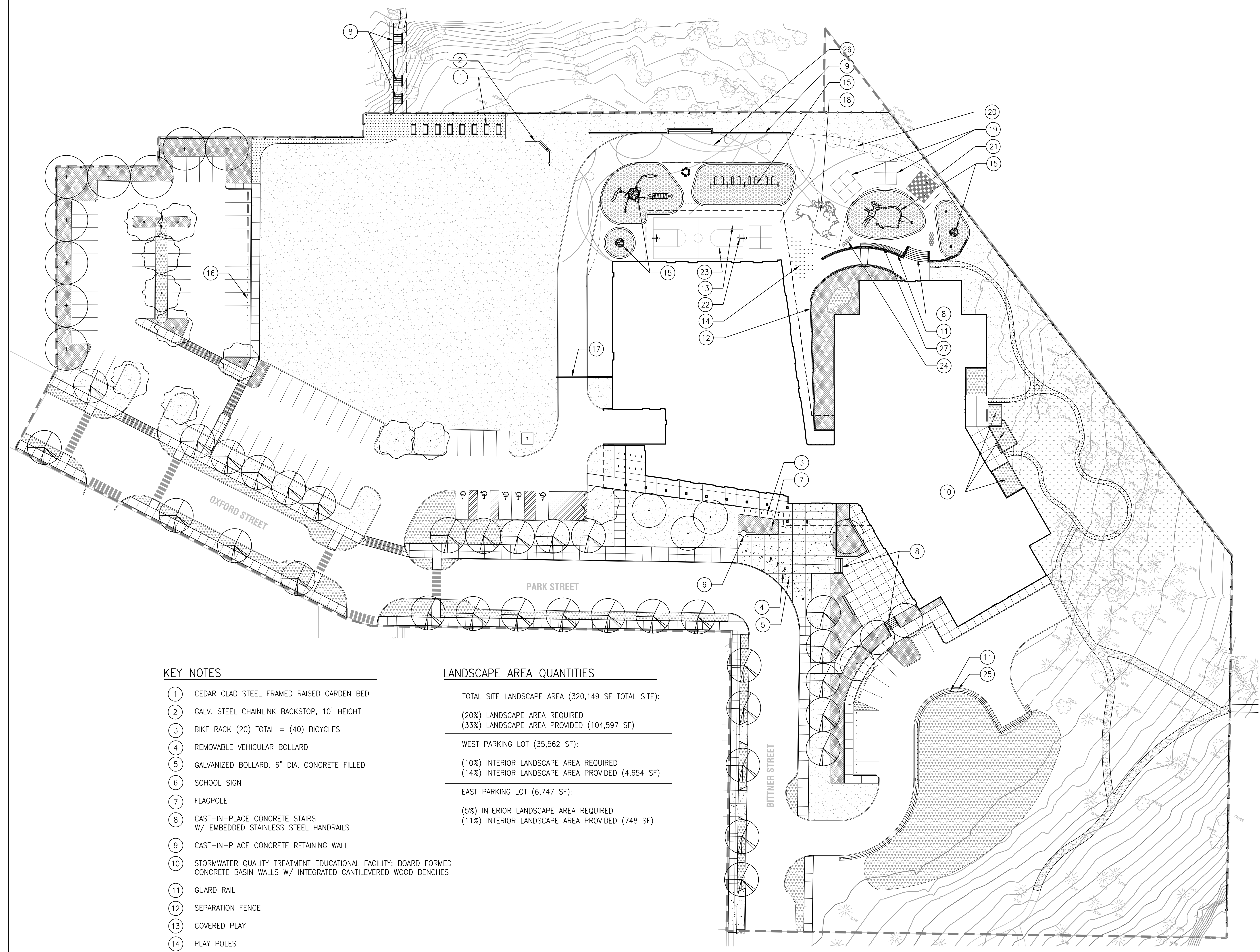
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- LEGEND**
- PEDESTRIAN CONCRETE PAVING
 - VEHICULAR CONCRETE PAVING
 - AGGREGATE PAVING W/STEEL EDGER
 - SOFT PLAY SURFACING
 - FIRE ACCESS AND TURNAROUND
 - 6' TALL GALVANIZED CHAINLINK FENCE
 - SEPARATION FENCE
 - GUARD RAIL
 - PAINTED GAMES
 - 3.5'x8' GARDEN PLANTER
 - FIXED SEATING & TABLE
 - BASKETBALL HOOP
 - BIKE RACK
 - FLAG POLE
 - VEHICULAR BOLLARD
 - REMOVABLE VEHICULAR BOLLARD
 - BENCH
 - CONCRETE SEAT WALL
 - 12" CONCRETE BAND AT PLAY SURFACING

- PLANTING AND IRRIGATION LEGEND**
- LAWN AREAS WITH PERMANENT IRRIGATION
 - PLANTING AREAS WITH PERMANENT IRRIGATION
 - BARK MULCH
 - LOW-IMPACT BARK MULCH PATH (NOT ACCESSIBLE). MAKE MINOR ADJUSTMENTS IN THE FIELD TO AVOID DAMAGING EXISTING TREES.
 - WATER QUALITY PLANTINGS AT STORMWATER SWALES AND DETENTION AREAS WITH PERMANENT IRRIGATION
 - BUFFER TREE
 - STREET TREE
 - FLOWERING TREE
 - PARKING LOT TREE
 - EXISTING TREE



KEY NOTES

- 1 CEDAR CLAD STEEL FRAMED RAISED GARDEN BED
- 2 GALV. STEEL CHAINLINK BACKSTOP, 10' HEIGHT
- 3 BIKE RACK (20) TOTAL = (40) BICYCLES
- 4 REMOVABLE VEHICULAR BOLLARD
- 5 GALVANIZED BOLLARD, 6" DIA. CONCRETE FILLED
- 6 SCHOOL SIGN
- 7 FLAGPOLE
- 8 CAST-IN-PLACE CONCRETE STAIRS W/ EMBEDDED STAINLESS STEEL HANDRAILS
- 9 CAST-IN-PLACE CONCRETE RETAINING WALL
- 10 STORMWATER QUALITY TREATMENT EDUCATIONAL FACILITY: BOARD FORMED CONCRETE BASIN WALLS W/ INTEGRATED CANTILEVERED WOOD BENCHES
- 11 GUARD RAIL
- 12 SEPARATION FENCE
- 13 COVERED PLAY
- 14 PLAY POLES
- 15 PLAYGROUND EQUIPMENT
- 16 PRE-CAST CONCRETE WHEEL STOP
- 17 GALVANIZED STEEL VEHICULAR SWING GATE, MANUAL OPERATION & MANUAL LOCK W/ KNOX BOX FOR EMERGENCY ACCESS
- 18 20' x 40' NORTH AMERICA GRAPHIC
- 19 16' x 16' FOURSQUARE GAME
- 20 TETHER BALL GAME, EMBEDDED
- 21 16' x 16' CHESS GAME
- 22 BASKETBALL GOAL
- 23 BASKETBALL COURT STRIPING
- 24 18' x 18' HOPSCOTCH GAME
- 25 RETAINING WALL
- 26 PAINTED GAMES
- 27 CUSTOM INTEGRAL WOOD BENCH

LANDSCAPE AREA QUANTITIES

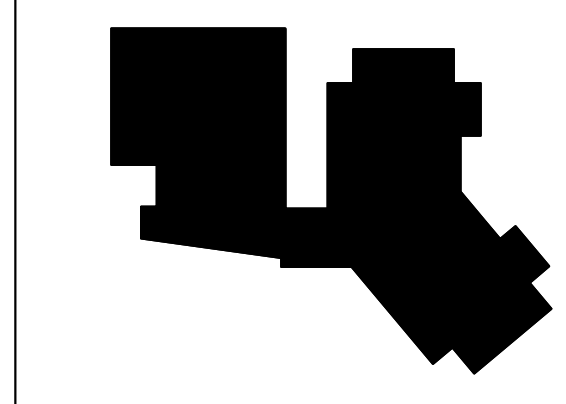
TOTAL SITE LANDSCAPE AREA (320,149 SF TOTAL SITE):
 (20%) LANDSCAPE AREA REQUIRED
 (33%) LANDSCAPE AREA PROVIDED (104,597 SF)

WEST PARKING LOT (35,562 SF):
 (10%) INTERIOR LANDSCAPE AREA REQUIRED
 (14%) INTERIOR LANDSCAPE AREA PROVIDED (4,654 SF)

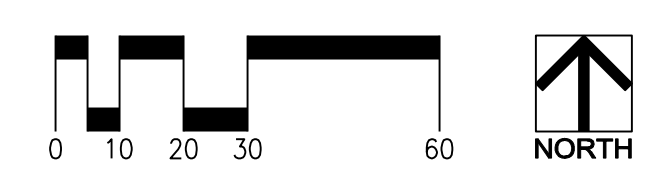
EAST PARKING LOT (6,747 SF):
 (5%) INTERIOR LANDSCAPE AREA REQUIRED
 (11%) INTERIOR LANDSCAPE AREA PROVIDED (748 SF)

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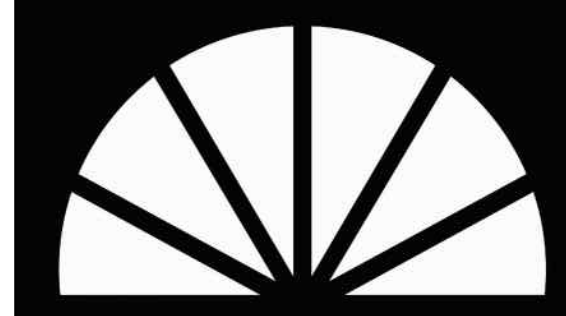
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phase	LAND USE
date	November 13, 2015
revisions	
project #	15015
Landscape Plan	



LU2.02



WEST LINN WILSONVILLE
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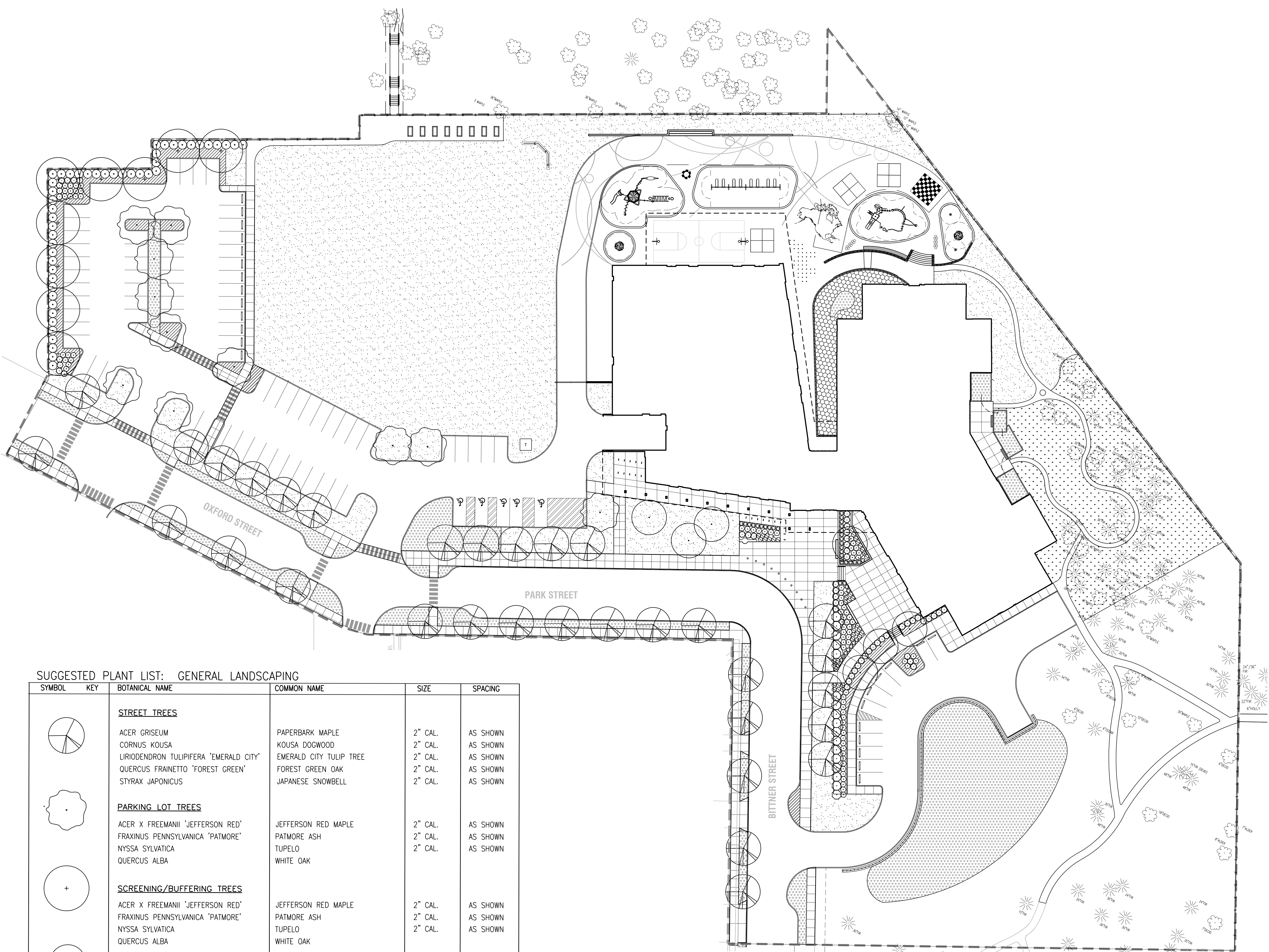
phase | LAND USE

date | November 13, 2015

revisions

project # | 15015
 Landscape Planting Plan

LU2.03



SUGGESTED PLANT LIST: GENERAL LANDSCAPING

SYMBOL	KEY	BOTANICAL NAME	COMMON NAME	SIZE	SPACING
STREET TREES					
		ACER GRISEUM	PAPERBARK MAPLE	2" CAL.	AS SHOWN
		CORNUS KOUSA	KOUSA DOGWOOD	2" CAL.	AS SHOWN
		LIRIODENDRON TULIPIFERA 'EMERALD CITY'	EMERALD CITY TULIP TREE	2" CAL.	AS SHOWN
		QUERCUS FRAINETTO 'FOREST GREEN'	FOREST GREEN OAK	2" CAL.	AS SHOWN
		STYRAX JAPONICUS	JAPANESE SNOWBELL	2" CAL.	AS SHOWN
PARKING LOT TREES					
		ACER X FREEMANII 'JEFFERSON RED'	JEFFERSON RED MAPLE	2" CAL.	AS SHOWN
		FRAXINUS PENNSYLVANICA 'PATMORE'	PATMORE ASH	2" CAL.	AS SHOWN
		NYSSA SYLVATICA	TUPELO	2" CAL.	AS SHOWN
		QUERCUS ALBA	WHITE OAK	2" CAL.	AS SHOWN
SCREENING/BUFFERING TREES					
		ACER X FREEMANII 'JEFFERSON RED'	JEFFERSON RED MAPLE	2" CAL.	AS SHOWN
		FRAXINUS PENNSYLVANICA 'PATMORE'	PATMORE ASH	2" CAL.	AS SHOWN
		NYSSA SYLVATICA	TUPELO	2" CAL.	AS SHOWN
		QUERCUS ALBA	WHITE OAK	2" CAL.	AS SHOWN
FLOWERING TREES					
		LAGERSTROEMIA INDICA 'CATAWBA'	CATAWBA CRAPEMYRTLE	1 1/2" CAL.	AS SHOWN
		MAGNOLIA GRANDIFLORA 'EDITH BOGUE'	EDITH BOGUE SOUTHERN MAGNOLIA	1 1/2" CAL.	AS SHOWN
		PRUNUS SERRULATA 'KWANZAN'	KWANZAN CHERRY	1 1/2" CAL.	AS SHOWN
		SYRINGA RETICULATA	JAPANESE TREE LILAC	1 1/2" CAL.	AS SHOWN
SMALL SHRUBS					
		SPIRAEA JAPONICA CVS.	JAPANESE SPIREA	1 GAL.	AS SHOWN
		LONICERA PILEATA	BOX HONEYSUCKLE	1 GAL.	AS SHOWN
		NANDINA DOMESTICA 'HARBOR DWARF'	HARBOR DWARF HEAVENLY BAMBOO	1 GAL.	AS SHOWN
		RHODODENDRON SPP.	RHODODENDRON	1 GAL.	AS SHOWN
MEDIUM SHRUBS					
		CISTUS SPP.	ROCKROSE	1 GAL.	AS SHOWN
		BERBERIS X GLADYNYNSIS 'WILLIAM PENN'	WILLIAM PENN BARBERRY	1 GAL.	AS SHOWN
		LONICERA NITIDA	BOX HONEYSUCKLE	1 GAL.	AS SHOWN
		VIBURNUM DAVIDII	DAVID VIBURNUM	1 GAL.	AS SHOWN
LARGE SHRUBS					
		CEANOTHUS 'VICTORIA'	CALIFORNIA LILAC	5 GAL.	AS SHOWN
		LIGUSTRUM JAPONICUM 'TEXANUM'	WAX-LEAF PRIVET	5 GAL.	AS SHOWN
		MYRICA CALIFORNICA	PACIFIC WAX MYRTLE	5 GAL.	AS SHOWN
		VIBURNUM TINUS	LAURUSTINUS VIBURNUM	5 GAL.	AS SHOWN

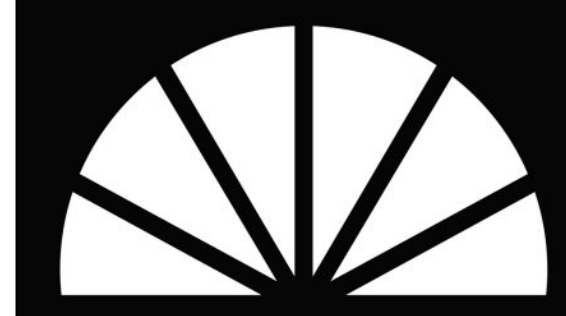
SUGGESTED PLANT LIST: GENERAL LANDSCAPING CONT.

	NATIVE PLANTING				
	ACER CIRCINATUM	VINE MAPLE	6-8' B&B	AS SHOWN	
	AMELANCHIER ALNIFOLIA	WESTERN SERVICEBERRY	5 GAL.	8" O.C.	
	POLYSTICHUM MUNITUM	SWORD FERN	1 GAL.	3" O.C.	
	SPIREA DOUGLASII	DOUGLAS SPIREA	5 GAL.	5" O.C.	
	SYMPHORICARPOS ALBUS	SNOWBERRY	1 GAL.	3" O.C.	
	THUJA PLICATA 'HOGAN'	HOGAN WESTERN RED CEDAR	6-8' B&B	AS SHOWN	
	GROUND COVER				
	COTONEASTER DAMMERI	BEARBERRY COTONEASTER	1 GAL.	36" O.C.	
	FRAGARIA CHILOENSIS	STRAWBERRY	1 GAL.	36" O.C.	
	MAHONIA REPENS	CREeping MAHONIA	1 GAL.	36" O.C.	
	RUBUS CALYCINOIDES	BRAMBLE	1 GAL.	36" O.C.	
	WALDSTEINIA FRAGRARIODES	BARREN STRAWBERRY	1 GAL.	36" O.C.	
	OTHER				
	SEEDED LAWN	SEE SPECS.			
	BARK MULCH	SEE SPECS.			
	EXISTING TREE				
	LIMIT OF WORK				

SUGGESTED PLANT LIST: STORMWATER FACILITIES

SYMBOL	KEY	BOTANICAL NAME	COMMON NAME	SIZE	SPACING
HERBACEOUS					
		DESCHAMPSIA CESPITOSA	TUFTED HAIRGRASS	4" POT	12" O.C.
		JUNCUS PATENS	SPREADING RUSH	4" POT	12" O.C.
		SCIRPUS MICROCARPUS	SMALL FRUITED BULRUSH	4" POT	12" O.C.
SHRUBS					
		CORNUS SERICEA 'KELSEY'	KELSEY DOGWOOD	1 GAL.	30" O.C.
		MAHONIA AQUIFOLIUM 'COMPACTA'	COMPACT OREGON GRAPE	1 GAL.	4" O.C.
		SPIRAEA DOUGLASII	DOUGLAS SPIREA	1 GAL.	5" O.C.
GROUND COVER					
		GAULTHERIA SHALLON	SALAL	4" POT	36" O.C.
		MAHONIA REPENS	CREeping MAHONIA	4" POT	36" O.C.
		SEED			
	HYDROSEED PROTOME 840	NATIVE BIO-FILTER MIX	1 LB/1000 SF		

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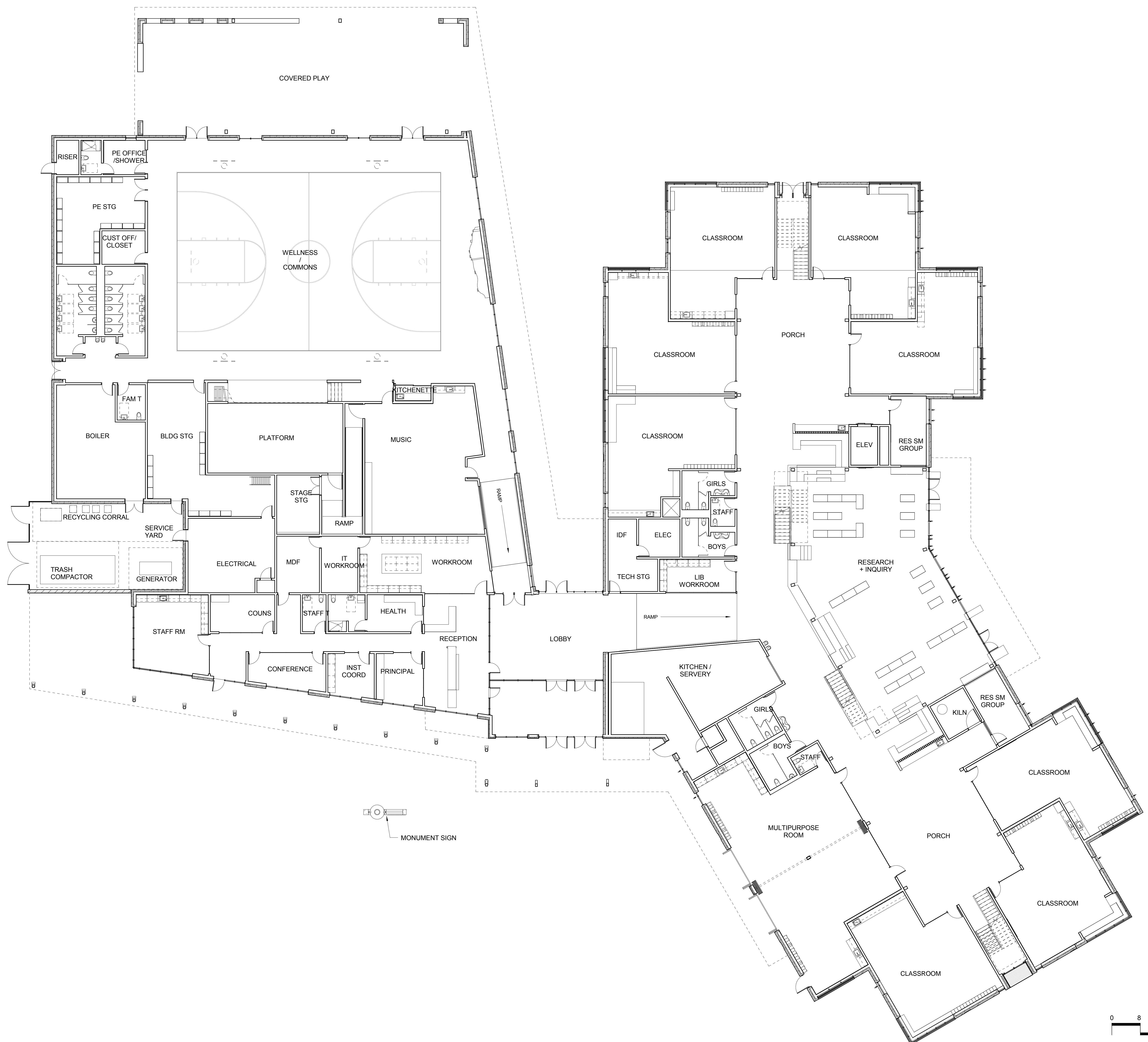


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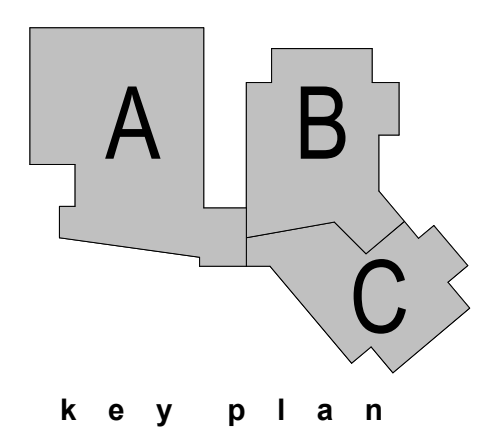


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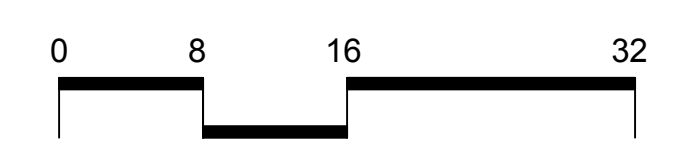


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project # 15015
 MAIN FLOOR PLAN



FIRST FLOOR PLAN OVERALL 1
 SCALE: 3/32" = 1'-0"

LU3.01



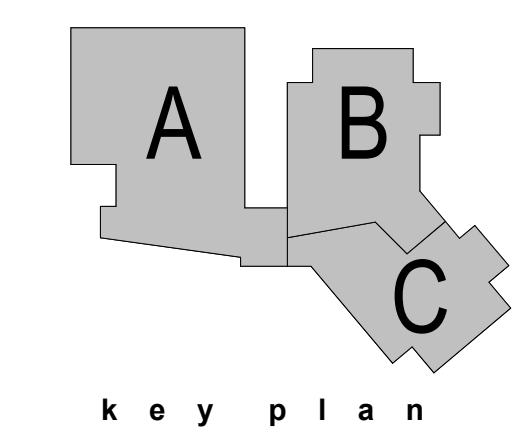
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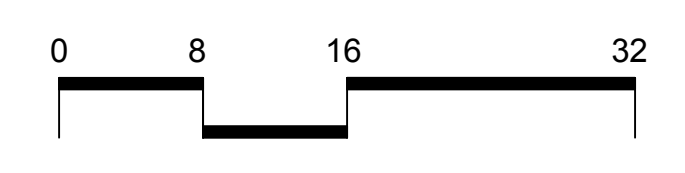
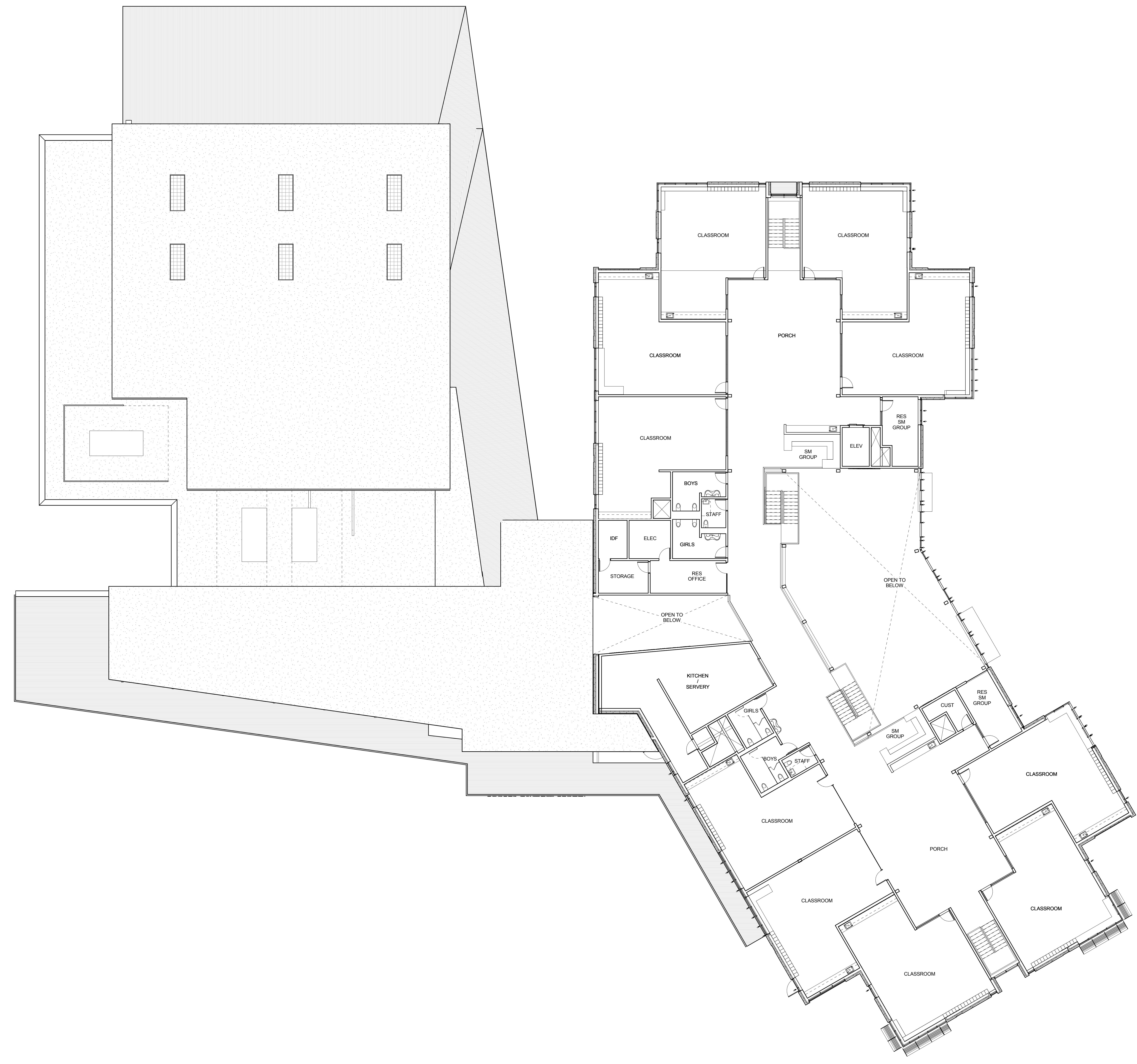
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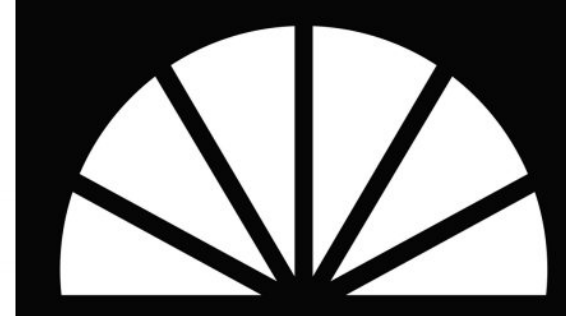
phase	LAND USE
date	November 13, 2015
revisions	
project #	15015
SECOND FLOOR PLAN	

LU3.02



SECOND FLOOR PLAN OVERALL 1
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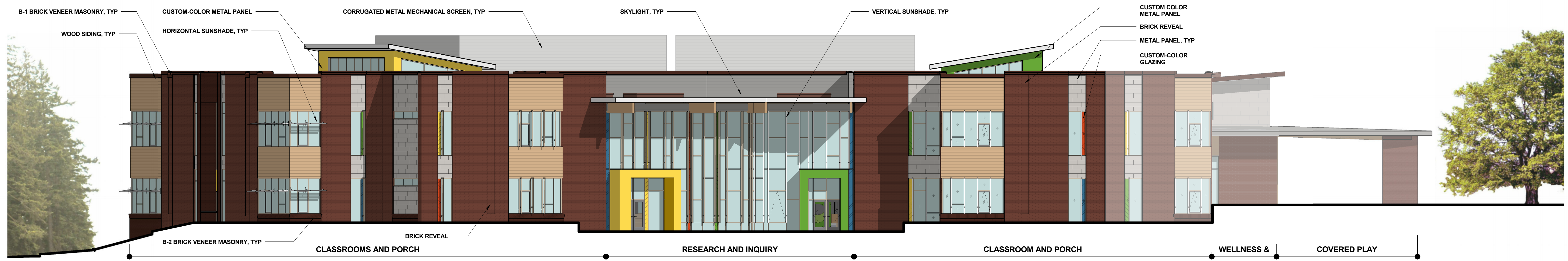
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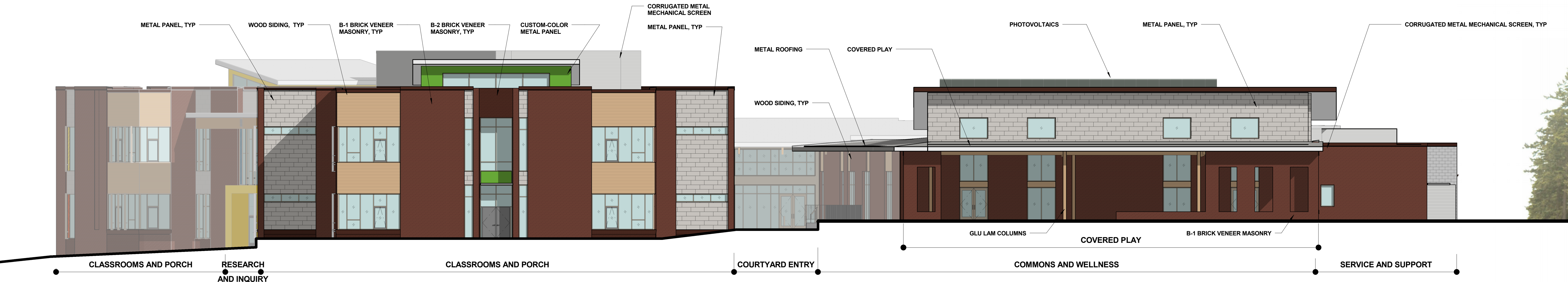
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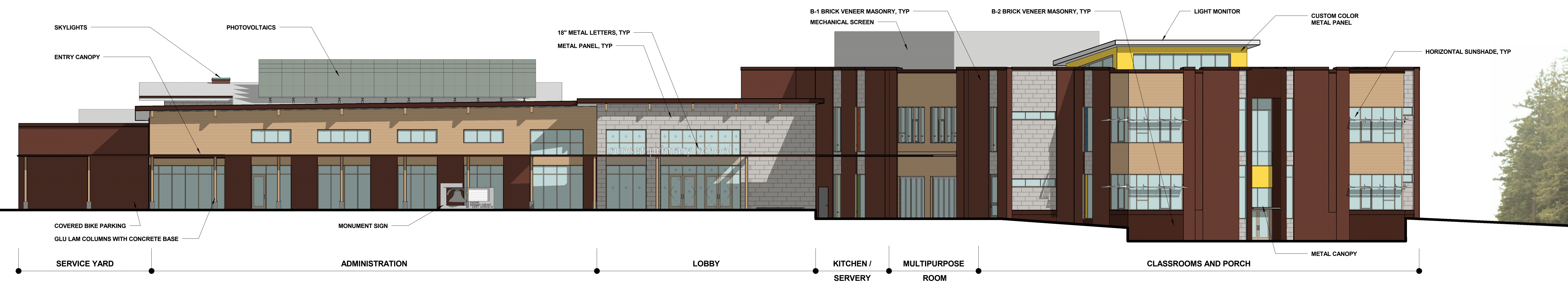
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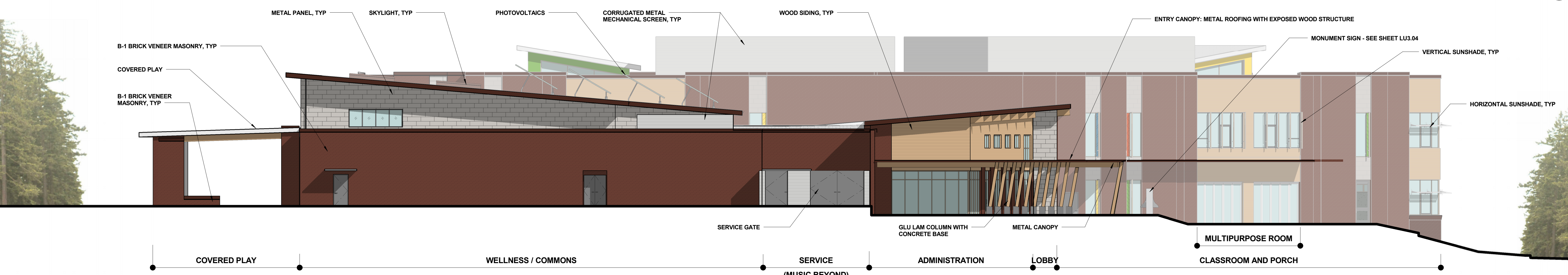
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 SCALE: 1" = 10'-0"



EXTERIOR ELEVATION OVERALL - NORTH 2
 SCALE: 1" = 10'-0"

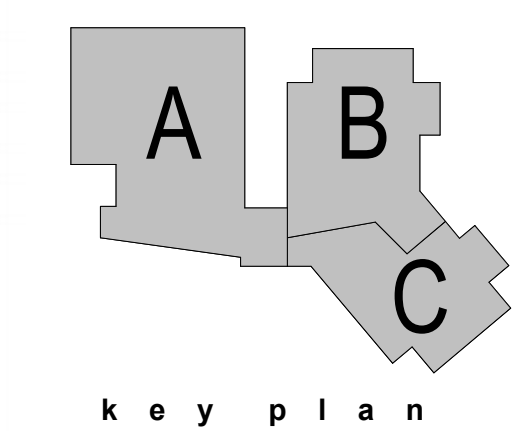


EXTERIOR ELEVATION OVERALL - SOUTH 3
 SCALE: 1" = 10'-0"



EXTERIOR ELEVATION OVERALL - WEST 4
 SCALE: 1" = 10'-0"

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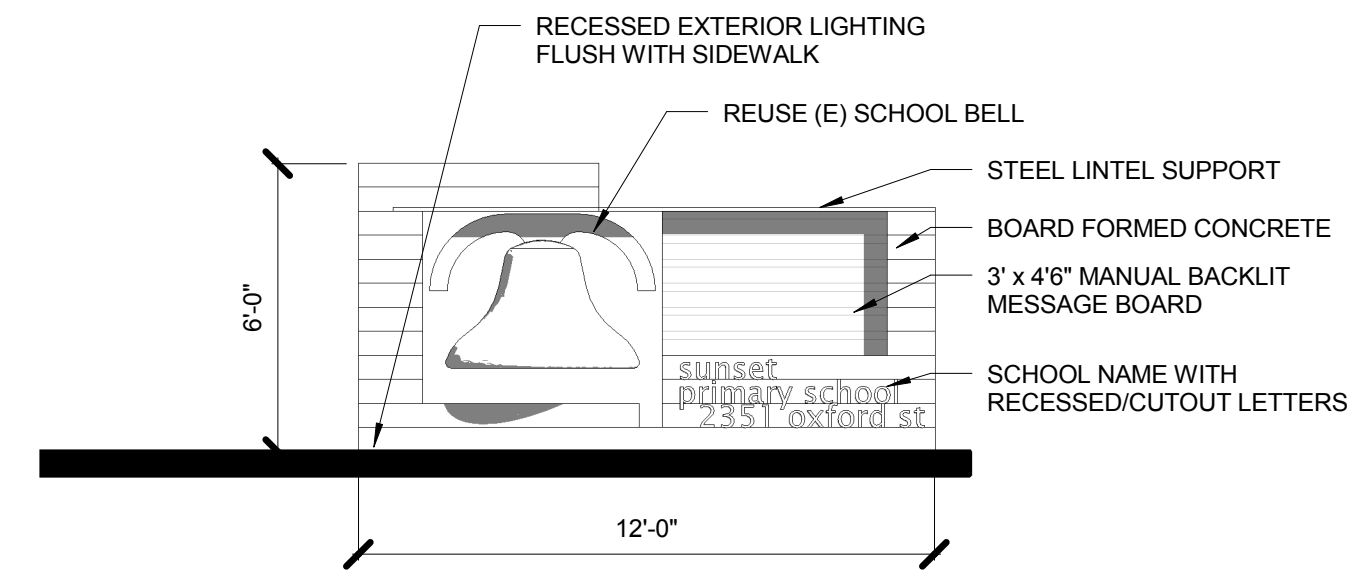


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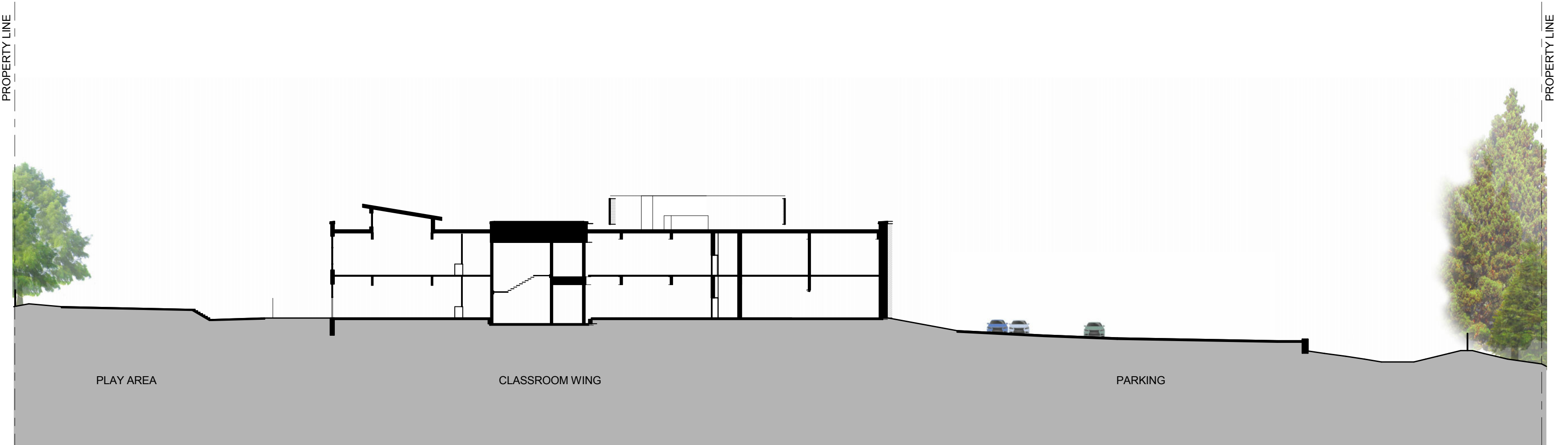
project # 15015
 EXTERIOR ELEVATIONS

LU3.03

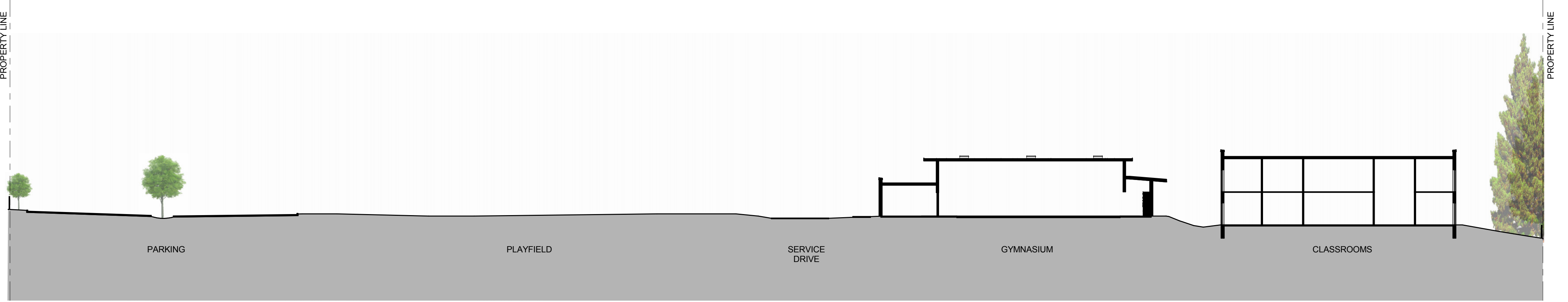
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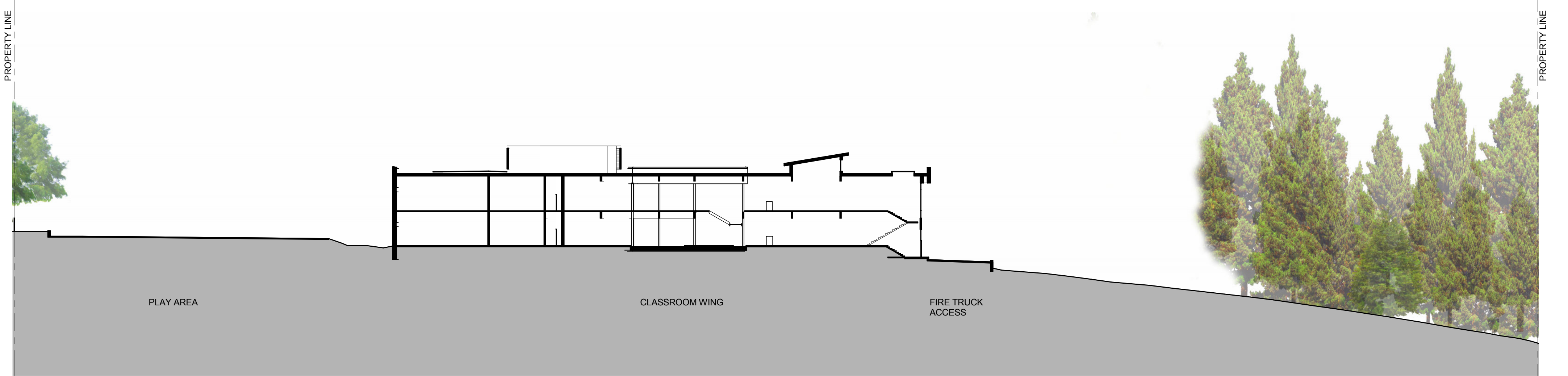
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SCALE: 1/4" = 1'-0" **7**



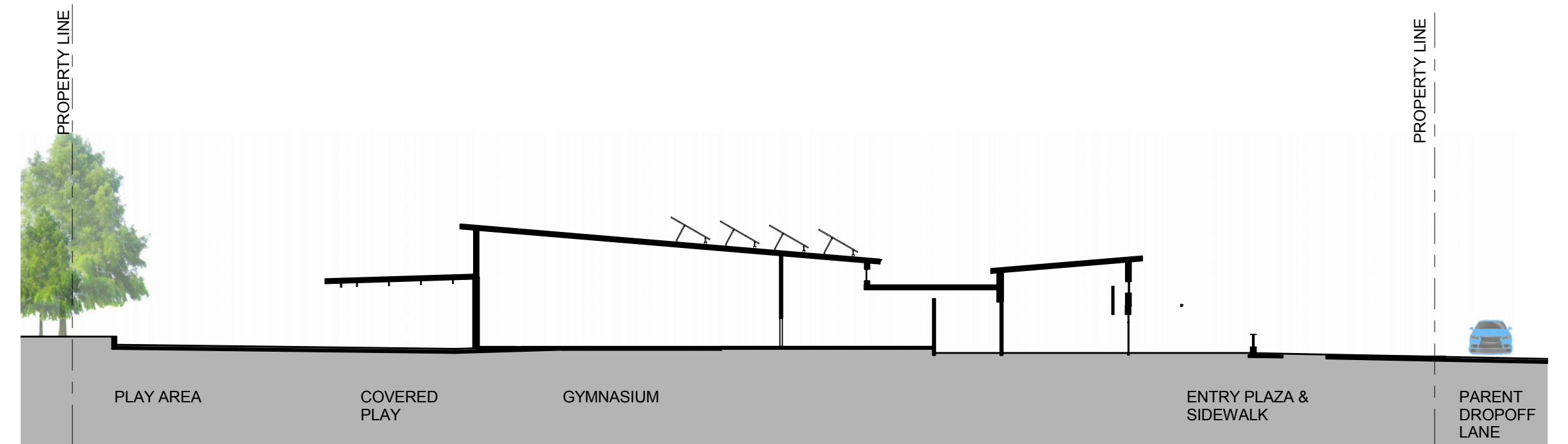
SITE SECTION
SCALE: 1" = 30'-0" **5**



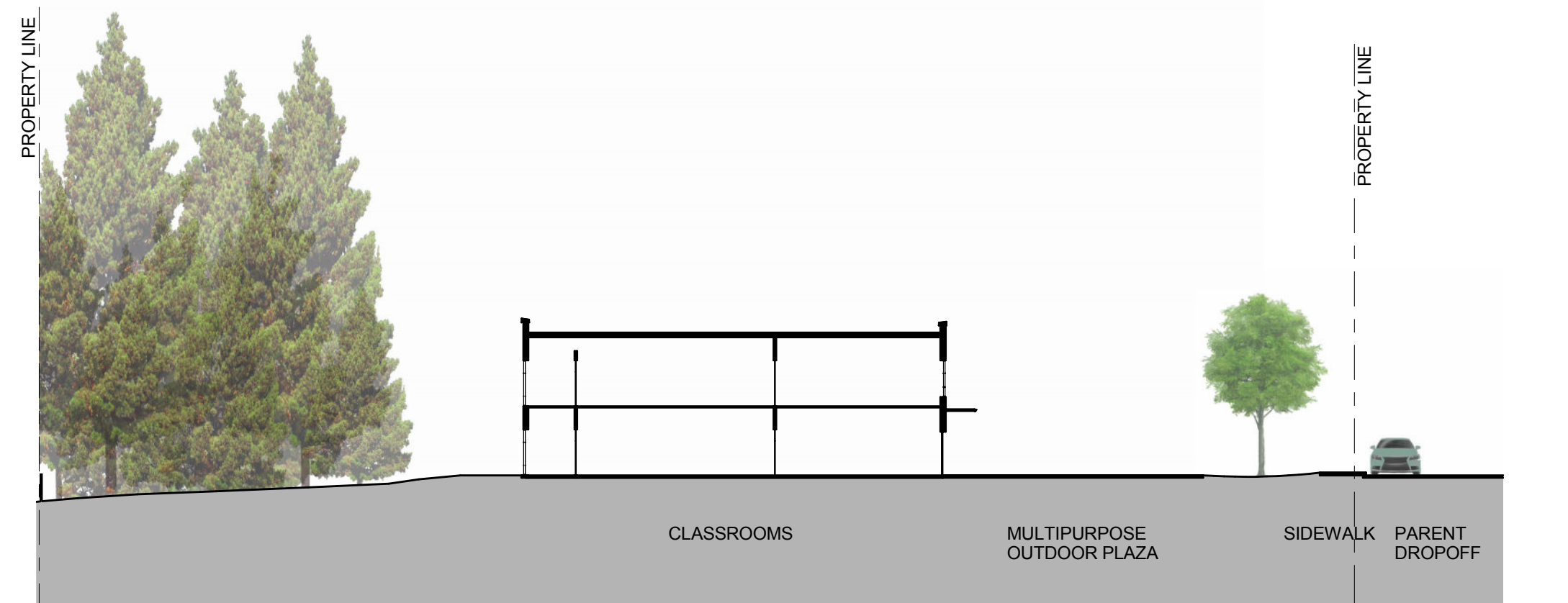
SITE SECTION
SCALE: 1" = 30'-0" **4**



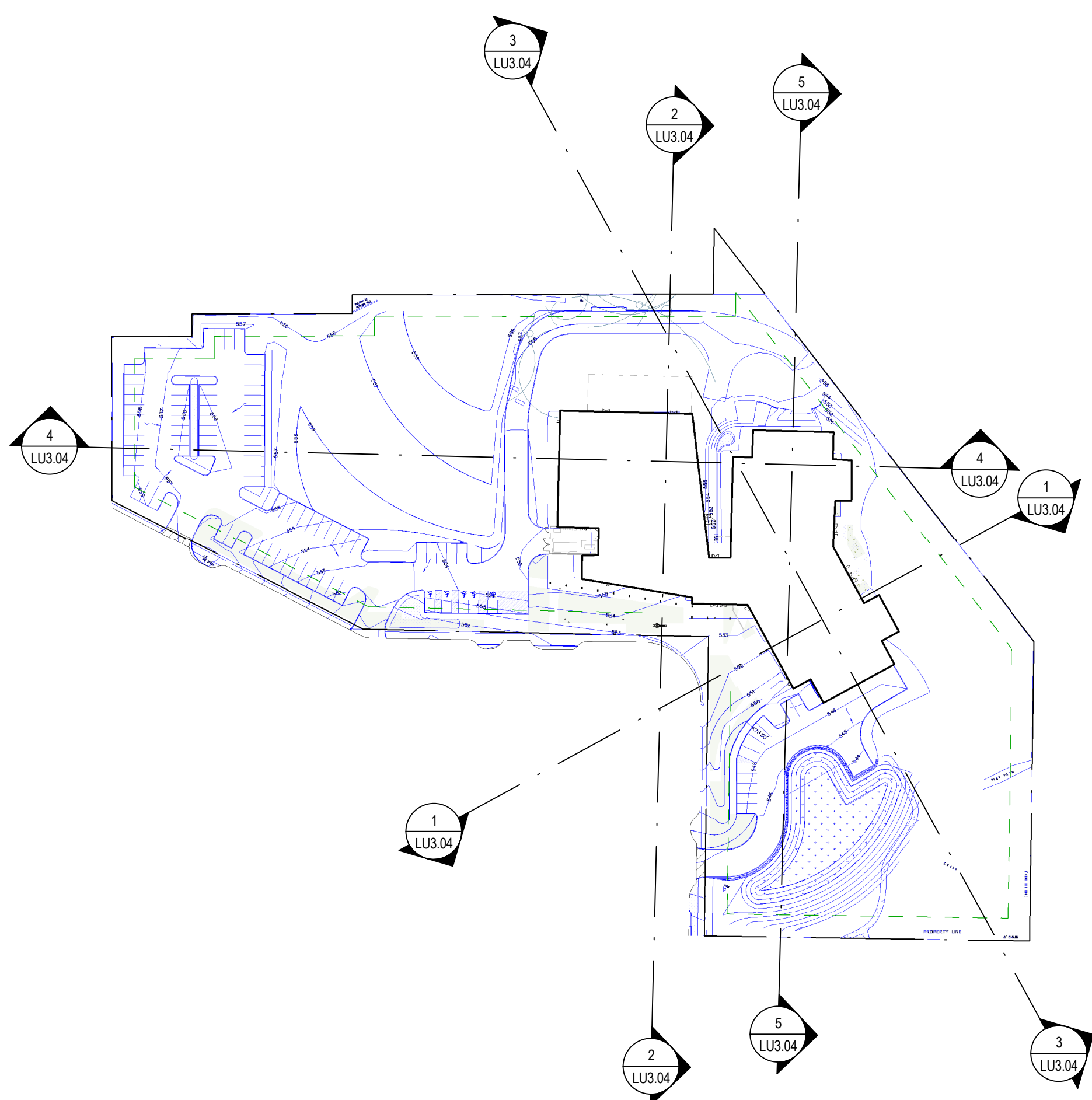
SITE SECTION
SCALE: 1" = 30'-0" **3**



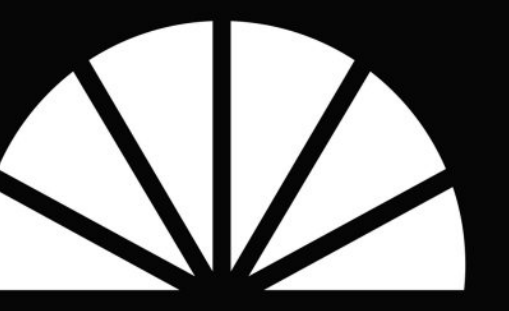
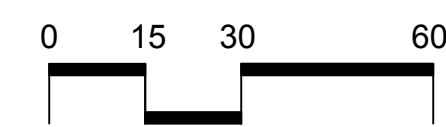
SITE SECTION
SCALE: 1" = 30'-0" **2**



SITE SECTION
SCALE: 1" = 30'-0" **1**



SITE PLAN SECTION CUTS
SCALE: 1" = 100'-0" **6**



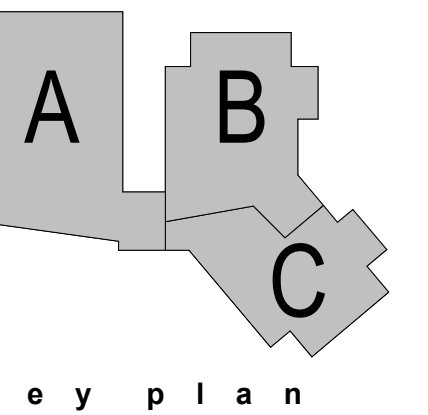
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BUILDING SECTIONS &
SIGN

LU3.04



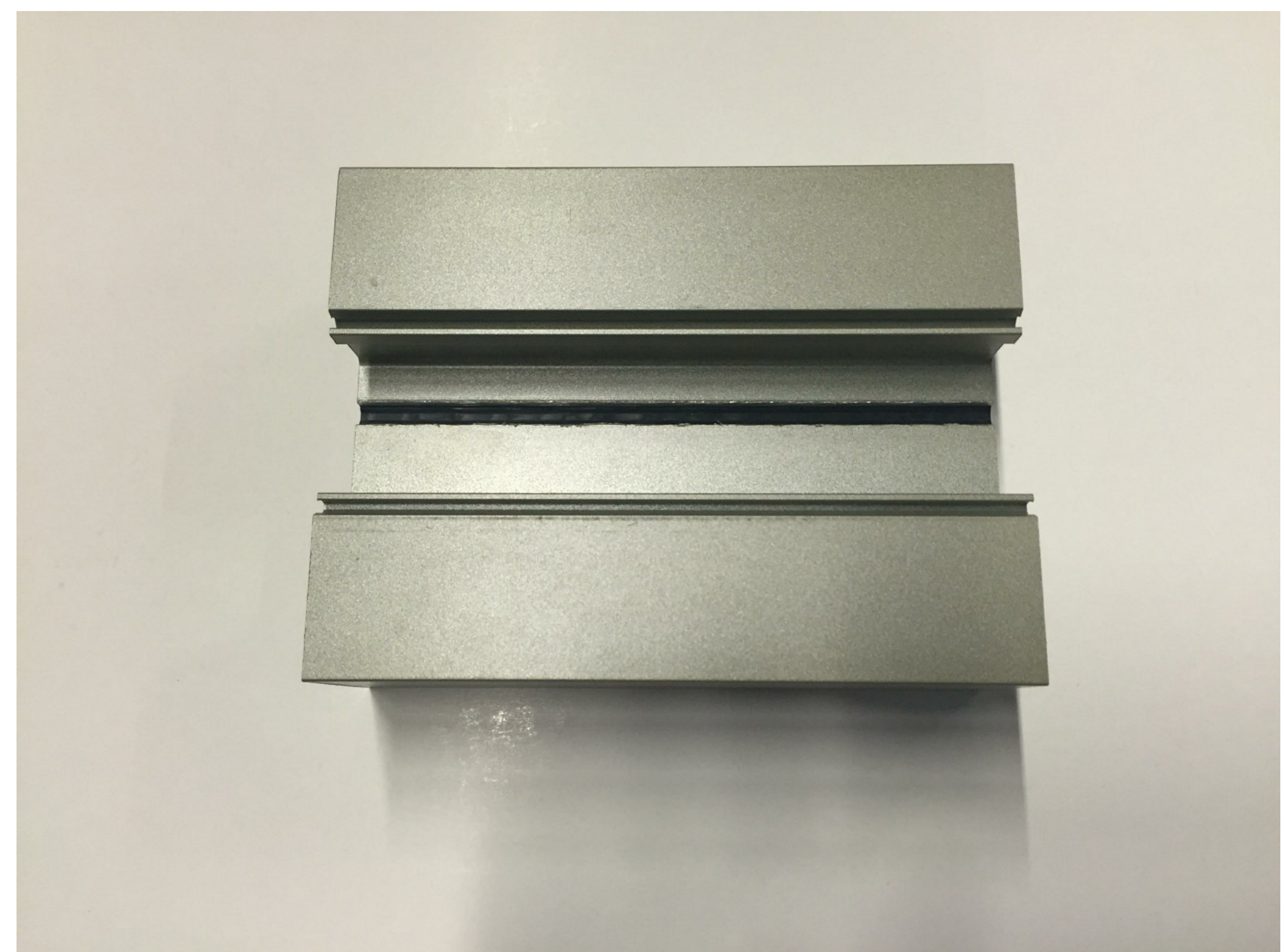
BRICK VENEER
 BV-1: MOUNTAIN BLEND w/MISSION TEXTURE
 FIELD BRICK
 BV-2: MAUNA LOA w/MISSION TEXTURE
 LEVEL 1 AND BELOW
 WALL BASE BELOW WINDOW AT WOOD SIDING CORNER



METAL PANEL



WOOD SIDING



CURTAIN WALL / STOREFRONT
 CHAMPAGNE - EFCO / KAWNEER
 HORIZONTAL AND VERTICAL INTEGRATED LOUVERS

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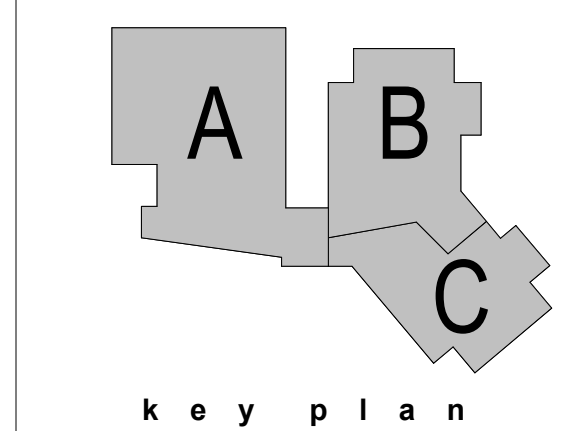


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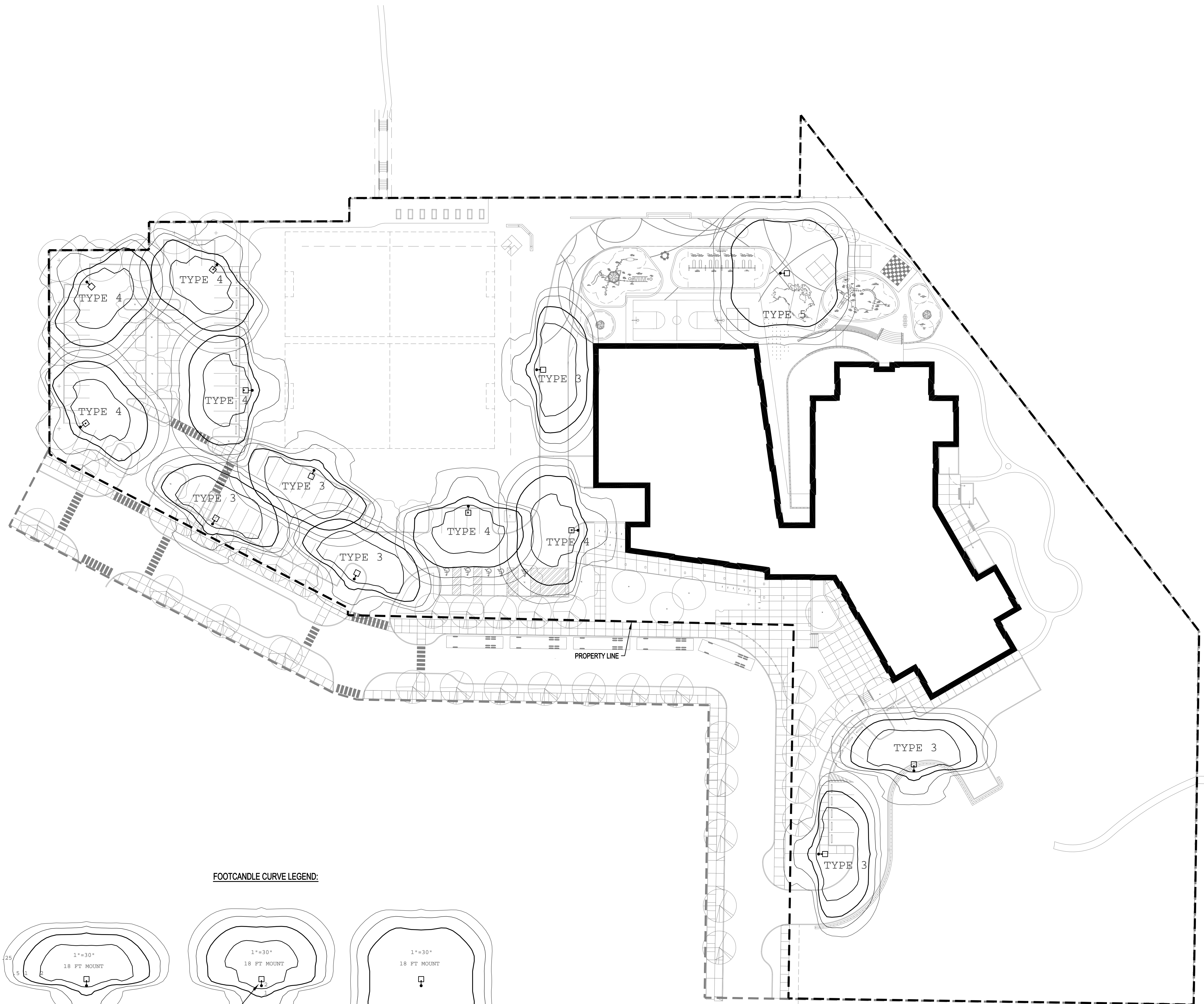
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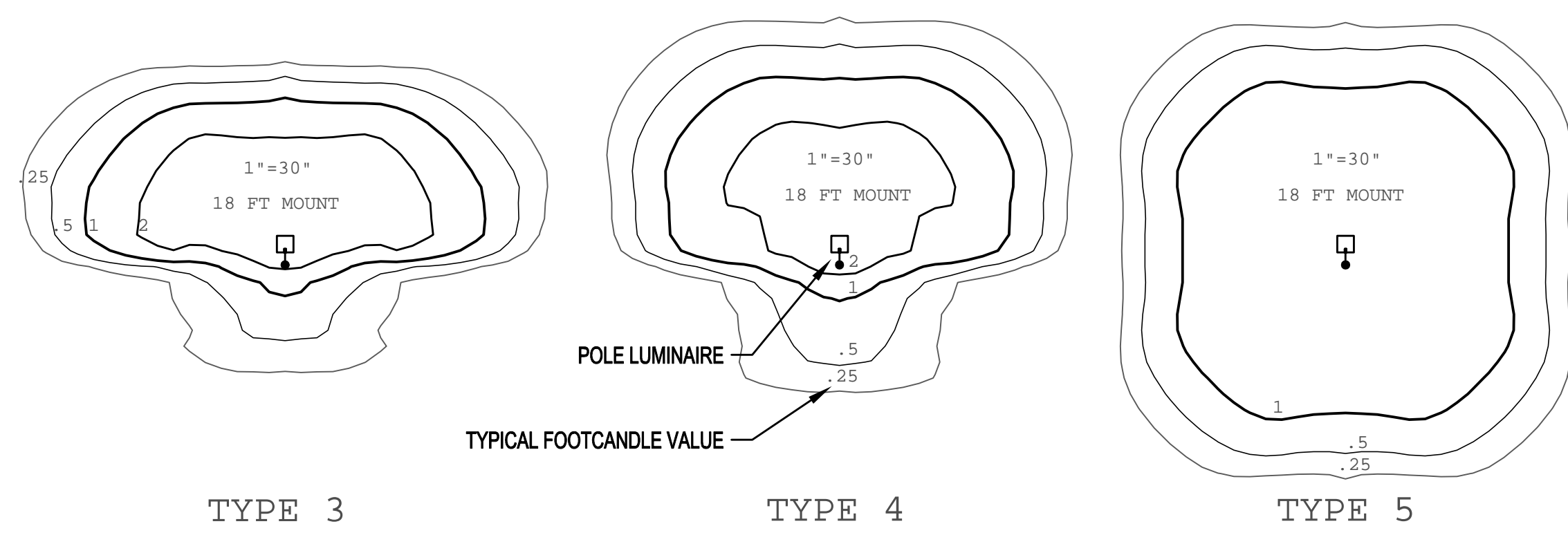


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date	November 13, 2015
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project #	15015
EXTERIOR MATERIALS	

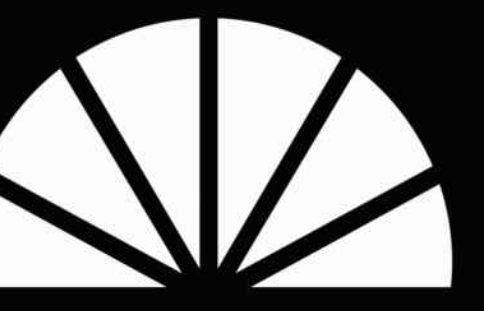
LU3.05



FOOTCANDLE CURVE LEGEND:



1 LIGHT COVERAGE PLAN
 LU4.01 SCALE: 1" = 30'-0"



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project #	15015
LIGHT COVERAGE PLAN	

LU4.01