RIVERSIDE UNIFIED SCHOOL DISTRICT
OPERATIONS DIVISION

Operations Board Subcommittee Meeting
June 15, 2018
2:30 p.m. – 4:30 p.m.
Conference Room 3
3380 14th St., Riverside, CA 92501

A G E N D A

As required by Government Code 54957.5, agenda materials can be reviewed by the public at the District's Administrative Offices, Reception Area, First Floor, 3380 Fourteenth Street, Riverside, California.

Call Meeting to Order

Public Input

The subcommittee will consider requests from the public to comment. Comments should be limited to three minutes or less. If you wish to address the subcommittee concerning an item already on the agenda, please indicate your desire to do so on a provided card. You will have an opportunity to speak prior to the subcommittee's deliberation on that item.

Pursuant to Section 54954.2 of the Government Code, no action or discussion shall be undertaken on any item not appearing on the posted agenda, except that members of the Subcommittee or staff may briefly respond to statements made or questioned posed by persons exercising their public testimony rights. Discussion of items brought forward that are not on the agenda shall be considered for future agendas by the Subcommittee Chair.

Action/Discussion Items

The following agenda items will be discussed and the subcommittee members may choose to introduce and pass a motion as desired.

1. **Approval of Minutes**
   The subcommittee will be asked to approve the minutes of the April 26, 2018, meeting.

2. **STEM High School at UCR Update**
   Staff and design teams will present an update on the Measure O STEM High School at UCR project.

3. **Measure O Project Groups A – C Update**
   Staff and design teams will present project boots on the ground assessments, schematics, design scope of work, cost estimates and schedule, for Arlington High School.

4. **Solar Power Purchase Agreement (PPA) Update**
   Staff will provide an update on the Solar Power Purchase Agreement negotiations for the three Southern California Edison (SCE) schools (Lake Mathews, Woodcrest, and Highgrove Elementary Schools). There have been significant changes in the last 90 days of SCEs rate structures that have had adverse impacts on the current proposals. Attached is a detailed analysis by Sage Renewables.

5. Lead Water Testing

Staff will provide an update on Assembly Bill 746, passed and signed by the Governor on October 13, 2017, requiring a community water system (water utility) to test for elevated levels of lead in all public K-12 school's potable water. The bill went into effect on January 1, 2018, and all testing must be completed prior to July 1, 2019. Specific criteria and procedures for the testing are listed in the Bill.

A 2018 Water Testing Notice for Parent/Guardian has been posted, English and Spanish versions, on the RUSD website, Maintenance and Operations home page: http://www.riversideunified.org/departments/maintenance___operations.

6. Schedule of Meetings

The following is the subcommittee's schedule of meetings from July – December 2018. Time 2:30 - 4:30 p.m. Location: 3380 14th Street, Riverside, CA.

Thursday, July 5
Tuesday, August 7
Tuesday, September 11
Tuesday, October 23
Tuesday, November 13
Tuesday, December 11

Conclusion

Subcommittee Members Comments

Adjournment

Riverside Unified School District
Operations Division
Operations Board Subcommittee Meeting
April 26, 2018
2: 00 p.m. – 4:00 p.m.
Conference Room 3
3380 14th St., Riverside, CA 92501

MINUTES

CALLED TO ORDER: 2:04 p.m. by Mr. Lee

PRESENT: Brent Lee and Tom Hunt, Board Members, and Sergio San Martin, Assistant Superintendent, Operations.

Also present were Ana Gonzalez, Director, Planning and Development; Ken Mueller, Director, Maintenance and Operations; Kevin Hauser, Facilities Planning Assistant Director; Daniel Rodriguez, Facilities Projects Assistant Director; Gaby Adame, Facilities Analyst; Anthony Rice, Principal, Lincoln High School; Michael West, Martin Luther King High School Principal; Harlan Kistler, Wrestling Coach, Martin Luther King High School; Rachel Bramlet, Principal, Riverside Adult School; John Tibbles, Assistant Principal, Ramona High School; Richard Prince, Communications Relations Manager, Brian Jaramillo and Tom Lance, Pastor, The Grove Community Church; Kim Byrens, Bond Counsel, Best Best & Krieger; Adam Bauer, Financial Advisor, Fieldman Rolapp & Associates; Robert Hensley, WLC Architects, Darla Monks, Community Member, and Lizette Delgado, (Recorder).

Public Input

Darla Monks and Harlan Kistler spoke to the Subcommittee regarding the Martin Luther King High School Wrestling Room project.

Action/Discussion Items

1. **Approval of Minutes**
   Mr. Hunt moved and Mr. Lee seconded to approve the minutes of the March 29, 2018, meeting, as presented.

2. **The Grove Community Church Developer Fees Waiver**
   Staff presented a request from The Grove Community Church to waive developer fees for their Transitional Homeless Housing Project for the subcommittee's review.

   The subcommittee briefly discussed the item and agreed to support the request. Staff will present the request to the Board of Education for approval at the June 5, 2018, regularly scheduled meeting.

3. **Community Facilities District (CFD) Formation Process**
   RUSD Financial Advisor, Adam Bauer, and Bond Counsel, Kim Byrens, reviewed the CFD formation process with the subcommittee and stated the need to set up standards on how a CFD should be treated.

   Recommendation was made, supported by staff, to limit the formation of CFDs to projects 70

units or greater beginning July 1, 2018. The subcommittee agreed with the recommendation and requested that the information be posted on the District's website, Developer Fees page.

4. Martin Luther King High School Wrestling Room

Staff presented a preliminary conceptual plan and site request for a proposed modular building to address the current needs for a Wrestling Room at Martin Luther King High School. The cost of the project is estimated to be $1.5 million and it will be funded through Community Facilities Districts funds. Estimated project schedule: April 2018 – January 2019.

The subcommittee discussed the information presented and asked staff to present the project for the Board of Education's approval at a future meeting.

5. Martin Luther King High School – Proposed Traffic and Pedestrian Circulation Plan

Staff presented a preliminary conceptual traffic and pedestrian circulation plan for the Martin Luther King High School campus. The proposed plan included a new ingress/egress campus access from Van Buren Boulevard, new overflow parking lot, student drop-off area, and pedestrian/student safe route access plan. The project will required the Department of the State Architect's approval. The cost of the project is estimated to be $3,999,516.00, and it will be funded through Measure O funds. Estimated project schedule: May 2018 – March 2020.

The subcommittee discussed the information presented. Subcomittee members asked staff and architects to update the conceptual design to incorporate the suggestions made by the subcommittee and to continue negotiations with the City of Riverside regarding a new traffic light on Van Buren Boulevard. Staff was also asked to present an update on the project at a future Measure O Projects Update Board Study Session.

6. Proposed School Auto Shop –Abraham Lincoln High School

Staff presented a preliminary conceptual plan and site request to develop a proposed Auto Shop at the Abraham Lincoln High School campus. The program is a partnership between Lincoln High School and Riverside Adult School, and it will be funded through Career and Technical Education and Riverside Adult School funds. Schools' principals shared aspects of the program.

The proposed building to house the Auto Shop, is a 48' x 40' steel building that will include three permanent lifts, two portable lifts, and a classroom. The building is insulated and has a Heating, Ventilation, and Air Conditioning (HVAC) system. The project's cost estimate is $679,323.00. Estimated project schedule: April 2018 – January 2019.

The subcommittee discussed briefly the information presented and approved the project.

7. California Environmental Quality Act (CEQA) Addendum (20375 Spring Street Site)

Staff presented the California Environmental Quality Act (CEQA) Addendum Report for the 20375 Spring Street, Riverside, CA, Project Site in the Highgrove Spring Mountain Ranch area for the subcommittee's review and informed the subcommittee that on January 18, 2005, the District adopted the Helen Keller Elementary School Mitigated Negative Declaration (MND) Report for a proposed new Elementary School. Pursuant to CEQA and the State CEQA Guidelines, this Addendum focuses on the proposed changes to the project that might cause a change in the conclusions of the 2005 adopted MND, and any change in circumstances or new

information of substantial importance that would substantially change the conclusions of the previous environmental documents.

The subcommittee was informed that, per report findings, there were no new or substantially greater significant impacts identified. The report will be presented for the Board of Education's approval at the June 5, 2018, regularly scheduled meeting.

8. Ramona High School Theater Dedication Plaque

Staff presented the revised dedication plaque and the revised William Shakespeare's quote at the Ramona High School Theater for the subcommittee's review.

The subcommittee discussed the design of a standard dedication plaque to be used for all projects. Board Member Hunt will work with Board Member Allavie on the details for the wording and design for the plaque and will send the revisions to staff.

The revised William Shakespeare's quote was approved as presented.

9. Schedule of Meetings

The subcommittee's next meeting has been scheduled for Thursday, May 24, 2018 at 2:00 p.m., in Conference Room 1, 3380 14th Street, Riverside, CA 92501.

Conclusion

Subcommittee Members Comments

There were no comments from subcommittee members.

Adjournment

Meeting was adjourned at 3:57 p.m.

RUSD

Innovation in Education

STEM High School Update

Operations Board Subcommittee

June 15, 2018

STEM HIGH SCHOOL AT UCR

Project Description:

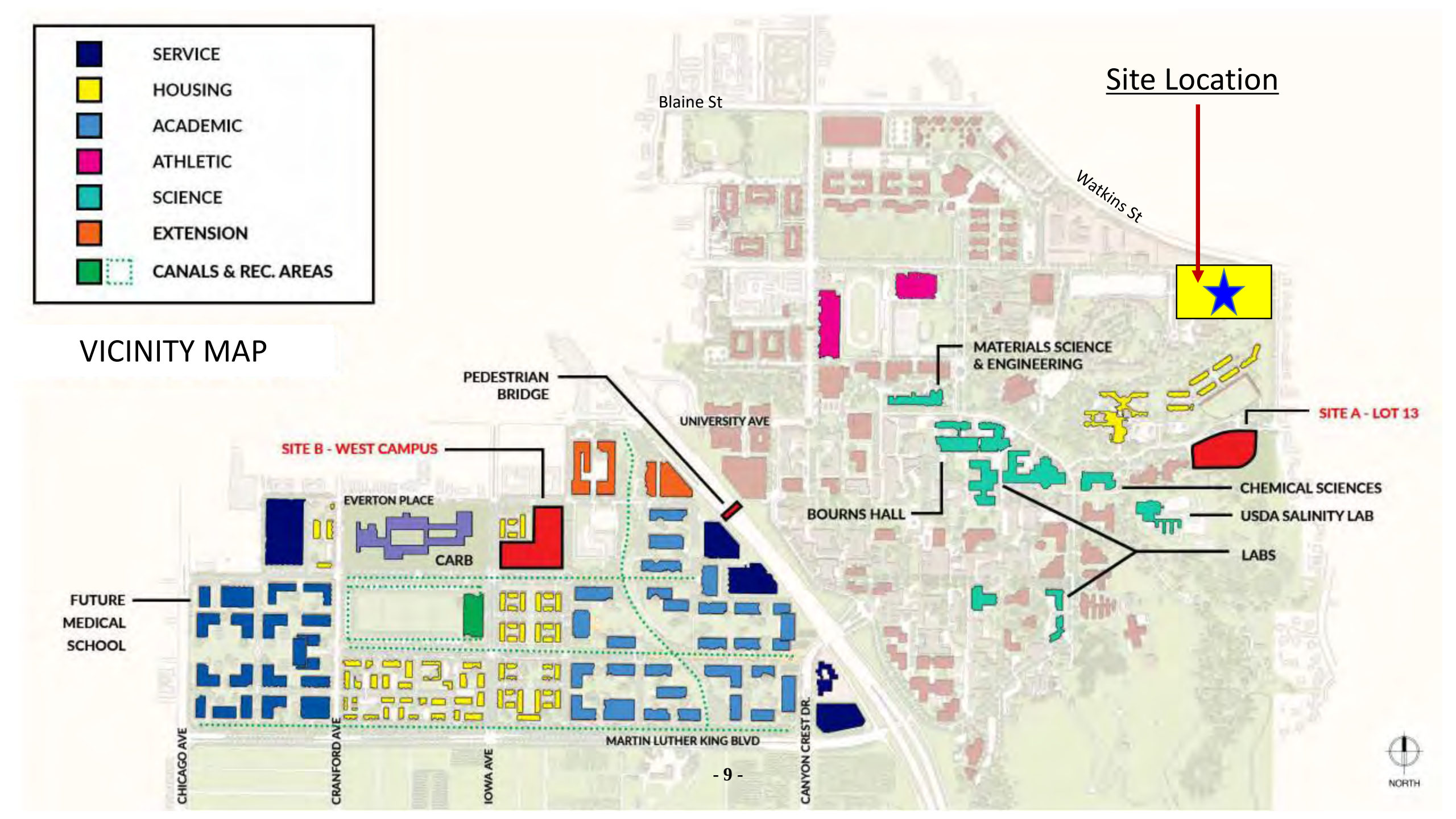
The purpose of the RUSD STEM High School is to promote, foster, and enrich an early college environment, stimulating a greater student interest in science, technology, engineering, and math. The School will be designed with a capacity of 800 students. All spaces will meet Title 5 and Division of State Architect (DSA) regulations. The building(s) will consist of approximately 30 classrooms, staff, student and visitor parking, warming kitchen, commons, outdoor learning spaces, and administration office. Classrooms will incorporate a 21st century design.

Architect:	Ruhnau Clarke Architects
DSA Approval:	May 2019
Bidding & Award:	June 2019
Construction:	Aug 2019 – July 2021
Budget:	$50 million

STATUS

Project Phase:

- Due Diligence Site Studies
- Project Programing & Educational Specifications
- Schematics
- Project CEQA / Environmental - UCR EIR
- Project Design Development



VICINITY MAP


Watkins Dr
Watkins Dr
Watkins Dr
Watkins Dr
Environmental Health and Safety
W Linden St
Parking Lot 20
ChargePoint Charging Station
WATKINS DR. SITE
Pentland Way
Pentland Way
Valencia Hill Dr
Goins Ct

NEXT STEPS

(*10-12 Months)*

1) Complete Due Diligence Site Studies
2) Complete Project Programing & Educational Specifications
3) Complete Project Design Development
4) Complete Project CEQA - UCR EIR
5) Commence Ground Lease Agreement

SCHEMATIC DESIGN UPDATE

EXTERIOR RENDERING
MAIN ENTRY
CONCEPTUAL

STEM HIGH SCHOOL

INTERIOR RENDERING
STUDENT COMMONS
CONCEPTUAL

STEM HIGH SCHOOL

PATHWAYS

4 DISTINCT PATHWAYS INFORM THE DESIGN

Career-focused learning to prepare students for the 21st Century.
The facility is designed to serve.....

Questions & Answers

Arlington High School Improvements

Riverside Unified School District

RUHNAU CLARKE ARCHITECTS

June 7, 2018

Existing Site Aerial

0' 40' 80' 160' NORTH

Arlington High School Improvements

Riverside Unified School District

Expressed Needs Menu:

New Buildings

A. 1 story CR Bldg. (8 Crs)

B. n/a

Modernization/ Reconfiguration

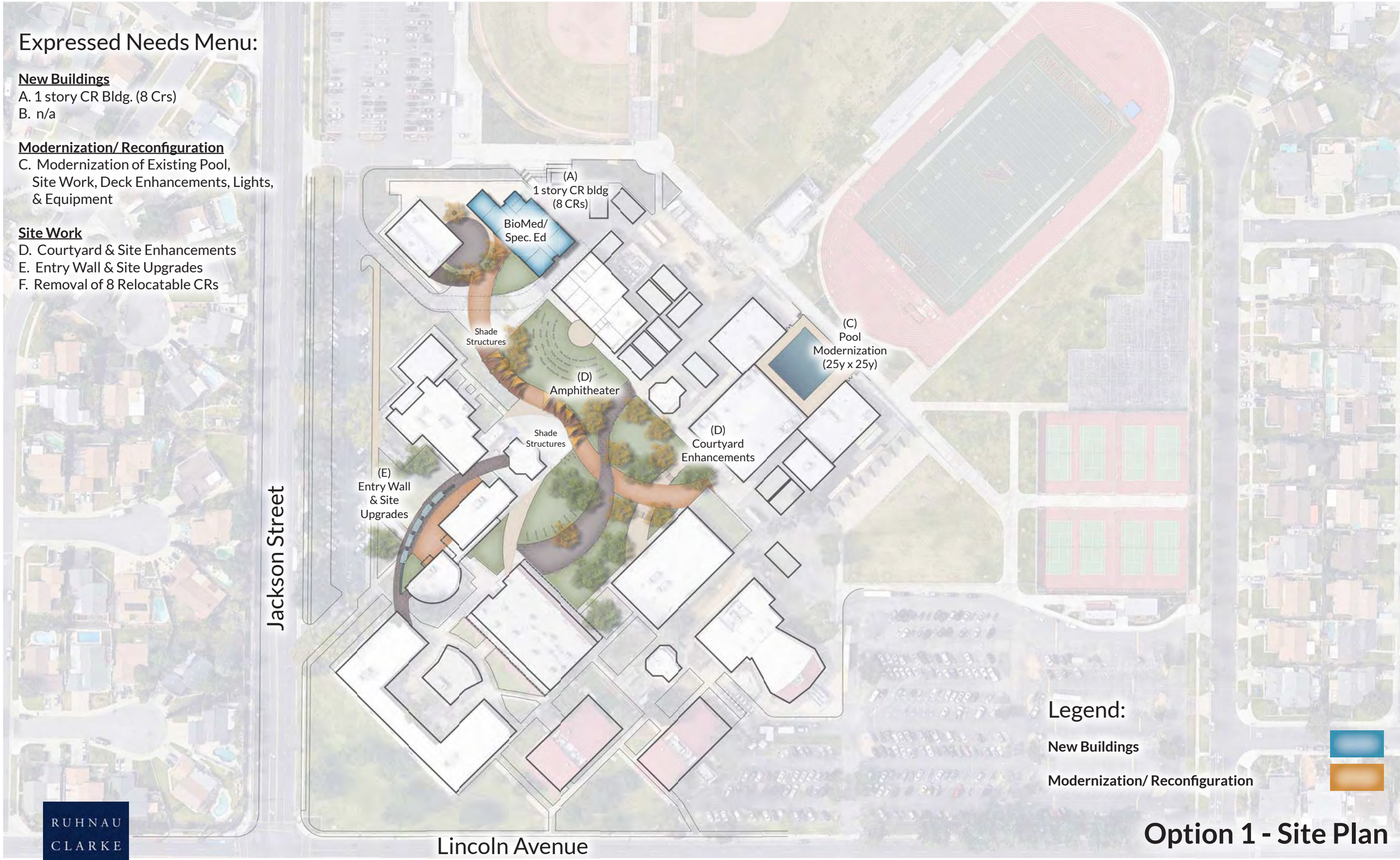
C. Modernization of Existing Pool, Site Work, Deck Enhancements, Lights, & Equipment

Site Work

D. Courtyard & Site Enhancements

E. Entry Wall & Site Upgrades

F. Removal of 8 Relocatable CRs



Option 1 - Site Plan

RUHNAU CLARKE ARCHITECTS

June 7, 2018

0' 25' 50' 100' NORTH

Arlington High School Improvements

Riverside Unified School District

Expressed Needs Menu:

New Buildings

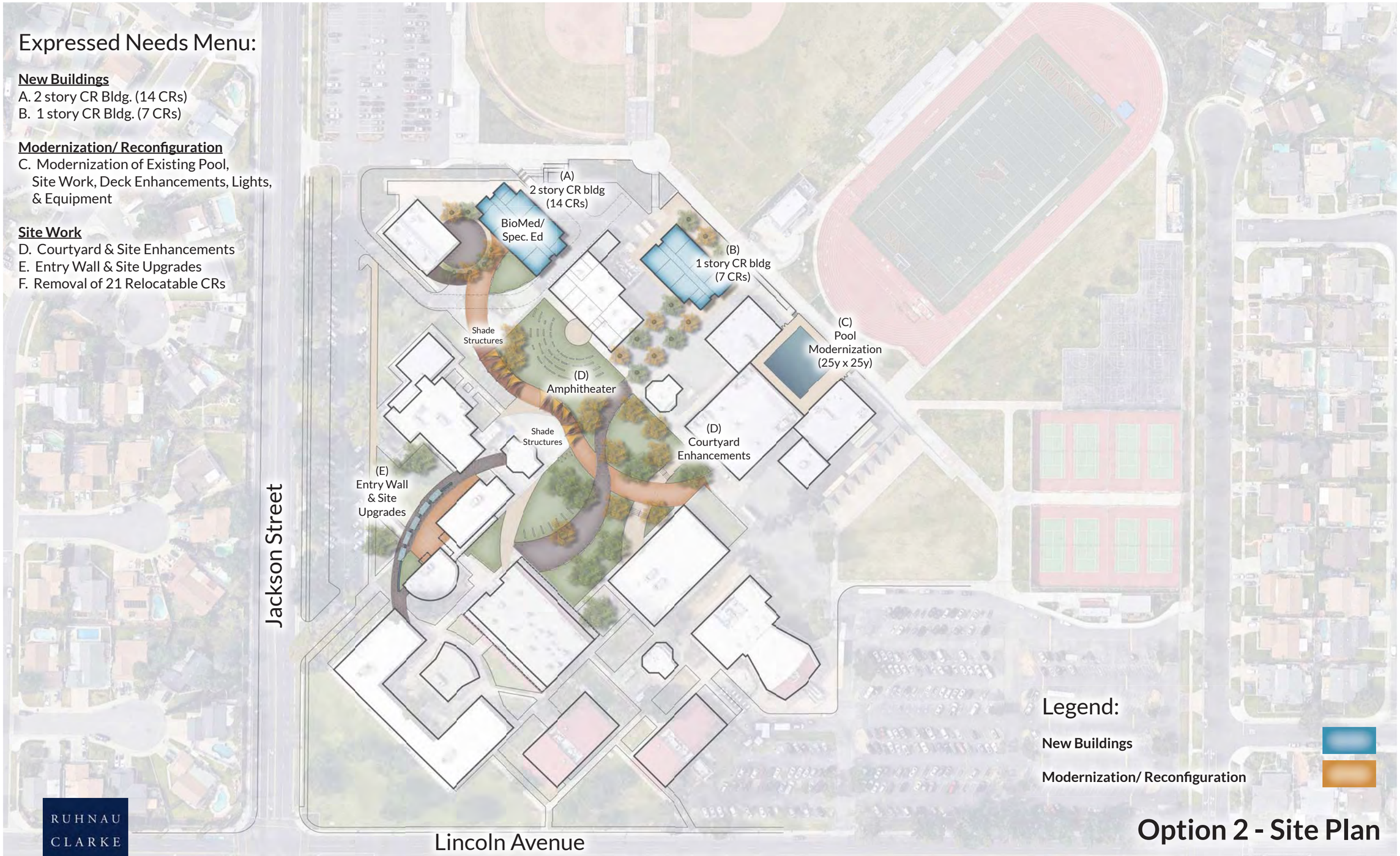
A. 2 story CR Bldg. (14 CRs)
B. 1 story CR Bldg. (7 CRs)

Modernization/ Reconfiguration

C. Modernization of Existing Pool, Site Work, Deck Enhancements, Lights, & Equipment

Site Work

D. Courtyard & Site Enhancements
E. Entry Wall & Site Upgrades
F. Removal of 21 Relocatable CRs



RUHNAU CLARKE ARCHITECTS

June 7, 2018

RUSD

Innovation in Education

Solar Project Update

Operations Board Subcommittee Meeting

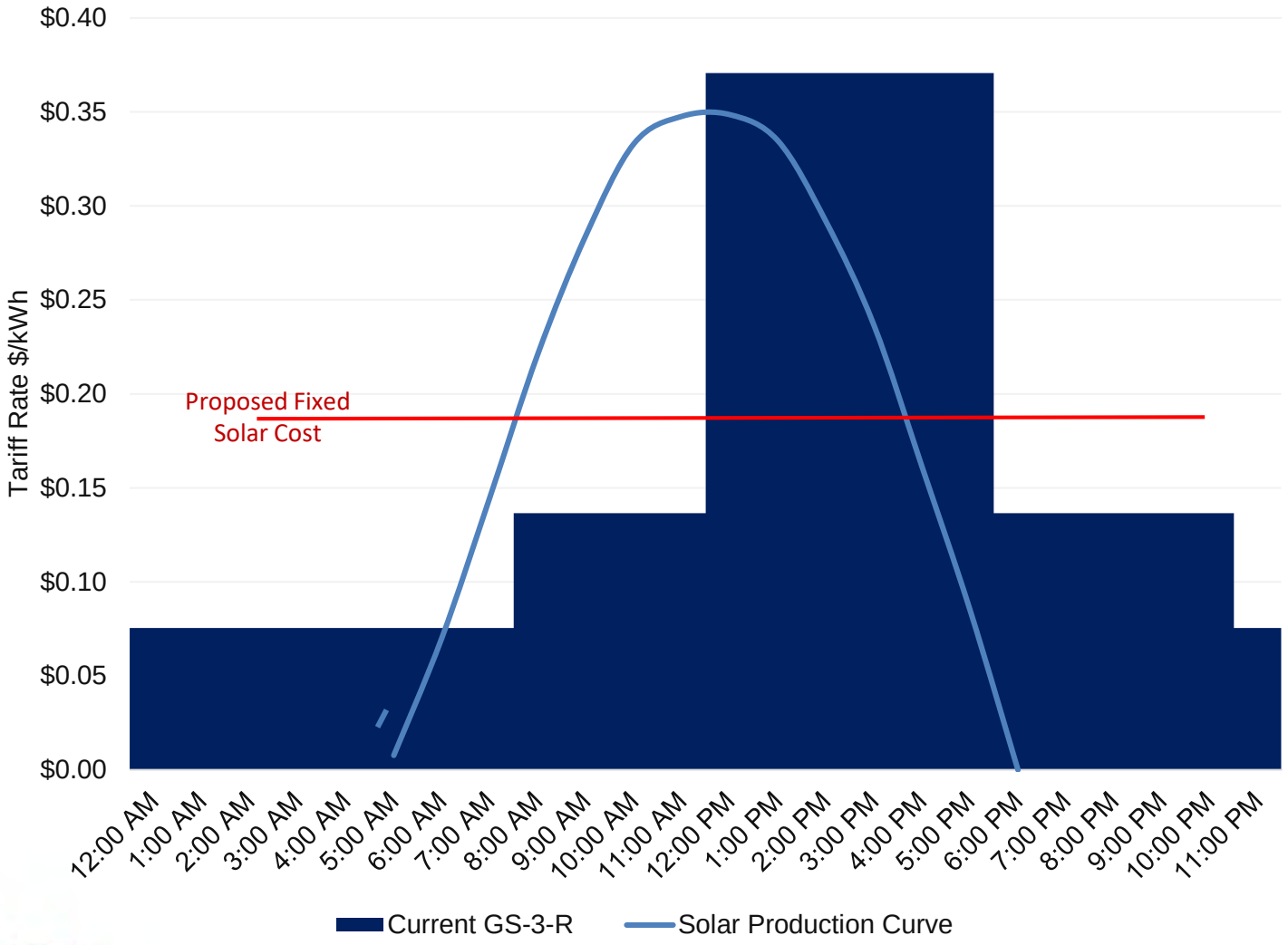
June 15, 2018

Ken Mueller - Director of Maintenance & Operations

Southern California Edison TOU Rate Change #1

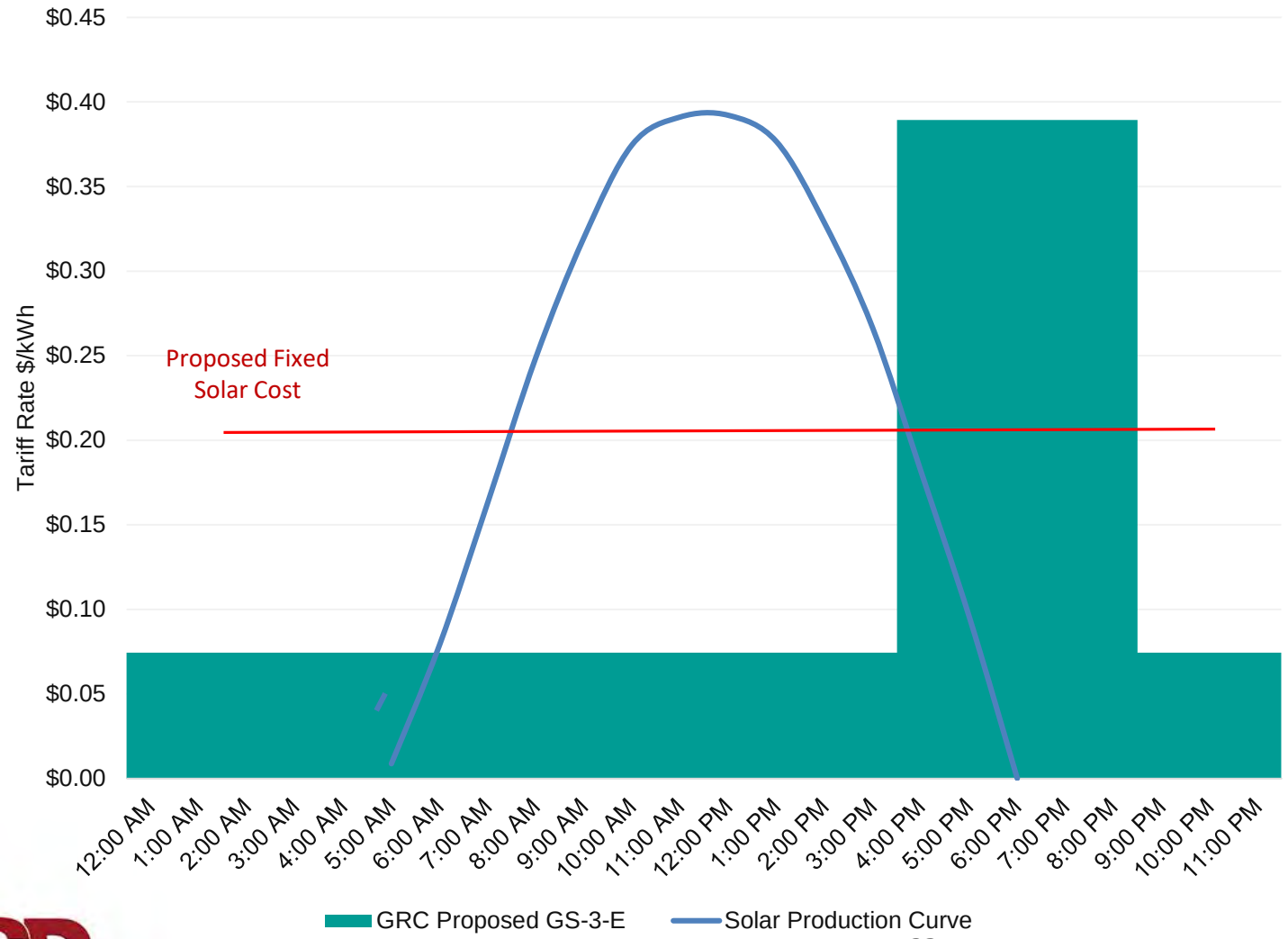
- SCE is changing summer peak TOU periods from 12:00 pm - 6:00 pm to 4:00 pm - 9:00 pm, resulting in diminished value for solar energy.
- The California Public Utilities Commission (CPUC) issued a decision in January 2017, allowing customers with PV systems to grandfather current TOU periods for a period of 10 years from Permission to Operate date to protect expected savings.
- The District achieved TOU grandfathering for all three sites until December 31st, 2027.
- Modeling done by Sage Renewables took this into account.

TOU-GS-3-R (CURRENT OPTION R)



- TOU-GS-R is a solar tariff that the sites would be billed under, post installation of the PV system.
- In the current TOU periods on which the District sites are grandfathered, the PV system is producing during the time of the day when electricity is most expensive (on-peak hours).

TOU-GS-3-E (NON TOU-GRANDFATHERED)

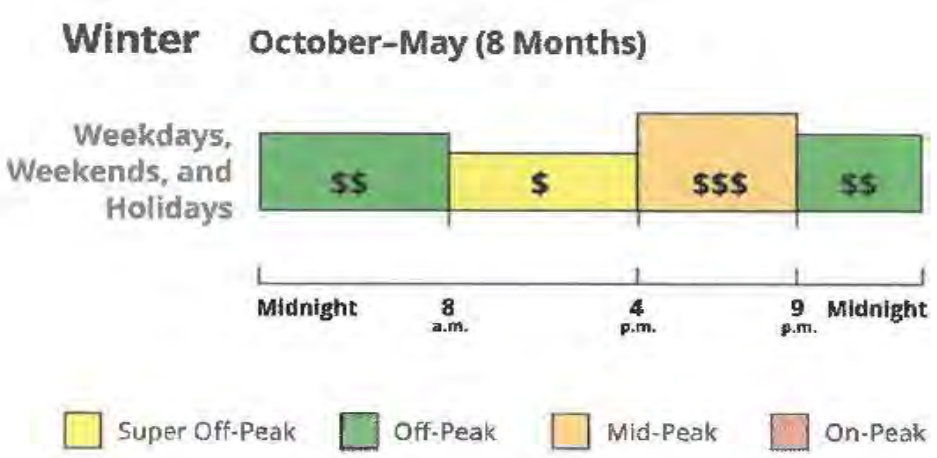


- In the proposed GRC, Option R has been renamed Option E.
- When the sites lose TOU grandfathering status at the end of 2027, the on-peak hours will shift from 12-5 pm to 4-9 pm.
- Due to the TOU shift, the PV system is no longer offsetting high-cost electricity, which diminishes its value.
- The decrease in value of solar energy resulting from the TOU shift is approximately 25%.

SCE change 2: Tariff change

- In addition to changing TOU periods, Every 3 years the Investor Owned Utilities (IOU's) like SCE make a General Rate Case (GRC) to the California Public Utilities Commission (CPUC) that allows for more significant rate changes.
- Although the District sites are TOU grandfathered, tariffs are not grandfathered. Under the new tariff changes, rate differentials will be reduced to a greater extent.
- For instance, the TOU-GS3-R rate currently has a summer peak rate of $0.37/kWh. This will be reduced to $0.21/kWh, significantly reducing the value of solar energy.

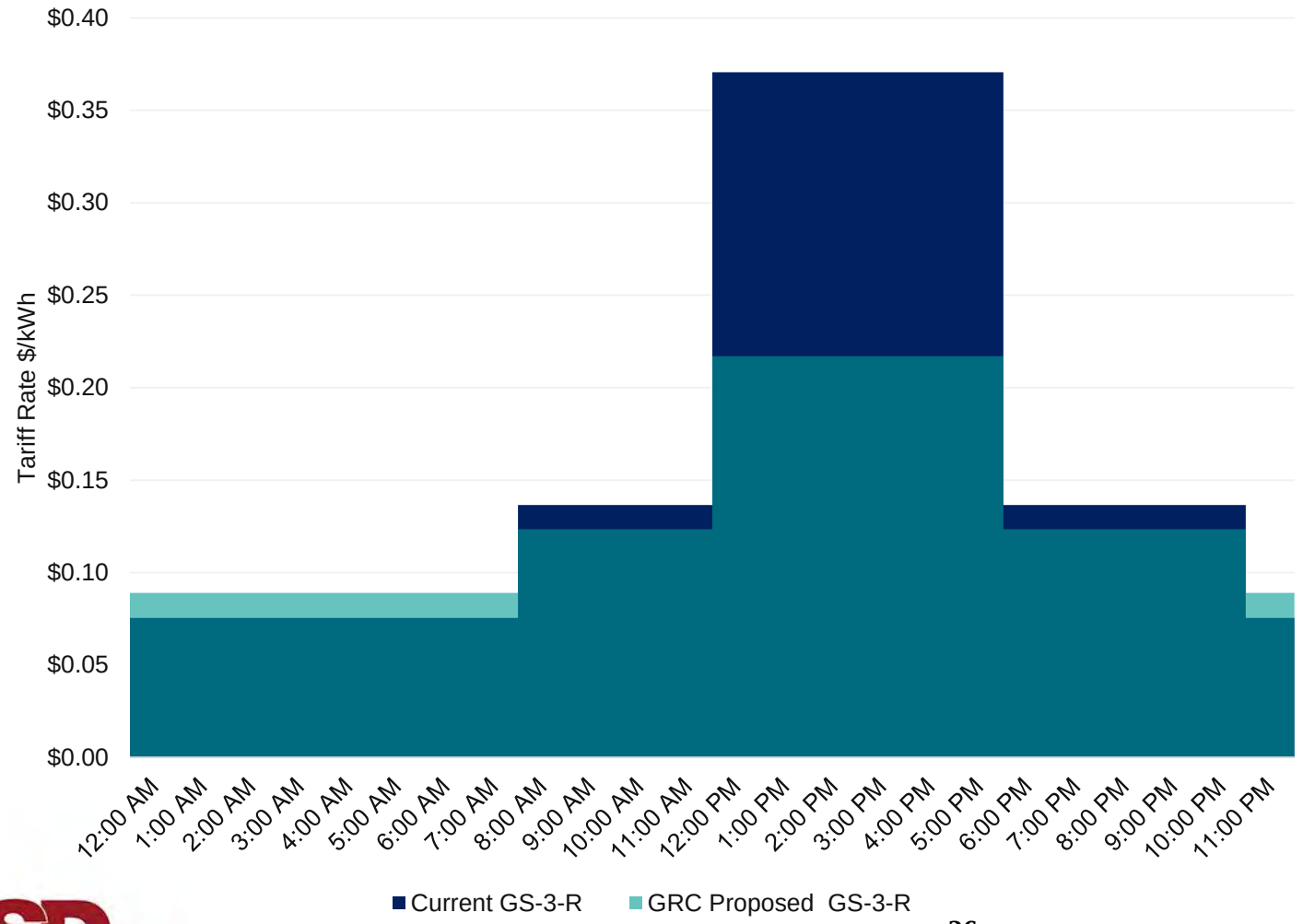
Proposed Standard TOU Periods



- Shifts daily "peak" period to 4-9pm (currently noon to 6pm)
- Introduces "super off-peak" period from 8am-4pm on all Winter days
- Introduces time-differentiated weekend charges (currently all weekend hours are "off-peak")
- Maintains existing seasonal definitions (Summer: June-Sept; Winter: Oct-May)

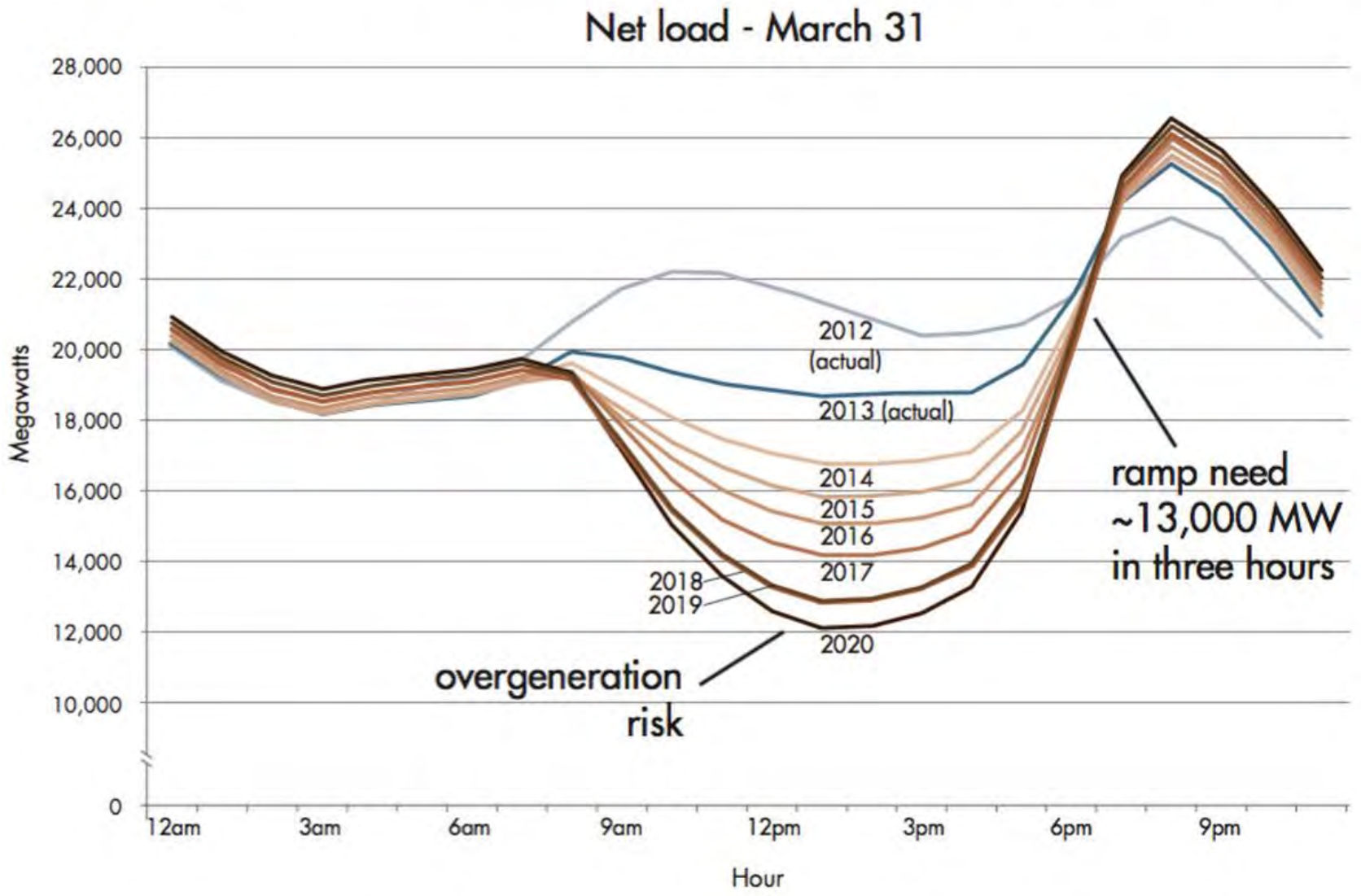
The proposed Time-of-Use (TOU) peak period proposal applies to "standard" TOU rates defined as follows: TOU-8, TOU-GS-3, TOU-GS-2, TOU-GS-1, TOU-PA-3, & TOU-PA-2. CPP events occur on weekdays and will take place 12 times per year.

TOU-GS-3-R (CURRENT OPTION R VS GRC PROPOSED TOU GRANDFATHERED OPTION R)



- Under current tariffs, the PV system is offsetting high-cost energy ($0.37/kWh) during summer on-peak hours (12-5 pm).
- Comparatively in the proposed GRC tariffs, the PV system will offset lower cost energy ($0.21/kWh) during the summer on-peak hours.
- The proposed change is rates will result in a ~6% decrease in value of solar energy.

Figure 2: The duck curve shows steep ramping needs and overgeneration risk



Subject: REC Solar PV Proposal Review Update

Client: Riverside Unified School District

Prepared by: Sage Renewable Energy Consulting, Inc.

Date: Wednesday, May 9, 2018

1 Executive Summary

This memorandum outlines an independent analysis performed by Sage Renewable Energy Consulting, Inc. ("Sage") for the Riverside Unified School District (RUSD, or "District") to evaluate an updated solar photovoltaic (PV) proposal from REC Solar. Important findings are:

1. The combination of significant changes to SCE rate structures which will reduce the value of energy produced by solar PV systems, and REC's updated pricing in response to recent market changes and changes to the system design at Highgrove Elementary, result in negative cumulative and net present value cash flow from the project.
2. Proposed system sizing at Highgrove would result in overproduction, and negatively effects the financial performance. Sage conducted modeling based on an optimized system that would not result in overproduction at that site, but assumed PPA price would remain constant.
3. If the District decides to purchase the PV system in year-10, a near-zero cumulative project cash flow is expected for a 3-site portfolio.
4. If the District decides to alter its portfolio, Sage recommends keeping Lake Matthews and Highgrove Elementary Schools, as they have a high probability of net positive cash flow under a PPA buyout in year-10 scenario. Woodcrest is not feasible when analyzed individually.

Section 6, below, includes all detailed findings of this evaluation, and Section 3 outlines key assumptions used.

2 Overview

RUSD originally contracted Sage to explore the possibility of implementing solar PV generation facilities at several District facilities. The study concluded that the three District schools located in Southern California Edison (SCE) territory could develop solar projects that would likely generate utility savings for the District. In late 2017, Sage assisted RUSD in developing and managing a Request for Proposals (RFP) for solar projects that was released on September 22, 2017. The RFP was conducted under CA Government Code 4217.10 *et seq*., which allows flexibility selection of a vendor for the PV project. The RFP solicited solar proposals for turnkey design-build services, operations and maintenance ("O&M"), and performance guarantees ("PeGu") with both District purchase or third-party owned and operated Power Purchase Agreement ("PPA") financing options. Sage and District staff conducted a mandatory preproposal conference and site walk on September 29, 2017, with sixteen vendors in attendance. On October 20th, seven proposals were submitted, from which REC Solar (REC) was chosen as the top-ranked vendor based on their proposal and subsequent interview process.

2.1 Analysis Goals

1. Conduct a detailed evaluation and 25-year financial modeling of REC Solar's updated PPA proposal utilizing latest SCE proposed tariff information.

2.2 Market Changes Affecting Solar PV Pricing and Financial Performance

Southern California Edison (SCE) has submitted a General Rate Case (a set of proposed rates and time-of-use (TOU) schedules) to the California Public Utilities Commission (CPUC). These rates differ significantly from the rates Sage and the proposers used to model savings to the District. Since Sage submitted interconnect applications for the solar projects prior to the TOU grandfathering deadline in December 2017, the District will be able to keep their current TOU periods, which will increase electric bill savings until the mandatory opt-out date of January 1st, 2028.

Recently effective Section 201 Trade Case solar import tariffs, which put a tax on imported solar cells and modules, as well as new import tariffs on aluminum and steel, have increased solar PV project costs to the extent that some solar projects are currently not profitable.

Lastly, the tax reform passed in December 2017 reduces corporate tax liability and the appetite for tax-equity investment somewhat. This has increased the cost of tax-equity investment, an essential part of PPA financing, which in turn, increases the price of PPA contracts.

2.3 District Requested Design Changes

Due to changes to Highgrove Elementary School (ES), including new buildings and a revised layout of the parking lot structure on the southwest side of campus, an updated solar photovoltaic layout is required. REC has provided two layout options (named A and B) which were analyzed in this update to the project financial modeling.

2.4 REC Solar Updated System Sizing and PPA Rates

Due to new Section 201 solar tariffs, federal tax reform, and the District-requested changes to the solar layouts, REC has re-evaluated its proposal and submitted updated Power Purchase Agreement (PPA) rates. Additionally, they switched from 345-Watt modules to 350-Watt modules, which resulted in new system sizes and guaranteed production. The updated proposals are what Sage has analyzed and used to project District savings throughout the 25-year PPA term.

2.5 Work Performed

1. Acquired and reviewed in detail recent SCE electricity consumption data and load profiles.
2. Acquired and reviewed updated REC pricing, system production data and solar layout proposal for Highgrove.
3. Modeled proposed SCE tariffs for "Do-Nothing" and PV scenarios.
4. Conducted detailed mathematical modeling and statistical projection of District savings.
5. Summarized the results of the updated project evaluation in this memorandum.

3 Key Assumptions

Below are the major modeling assumptions that were made in this evaluation:

- *Solar PV system sizing and production are based on current annual consumption. An average solar system yield for Riverside vicinity of 1,729 kWh/kWp, using medium efficiency, fixed tilt, 96-cell PV modules was assumed for Sage's modeling of Lake Matthews and Woodcrest ES. An average solar system yield of yield of 1694 kWh/kWp, using medium efficiency, fixed tilt, 72-cell PV modules was used in REC's revised photovoltaic site layout. Sage used estimated production data provided by REC for Highgrove in the tariff modeling, resized to 95% of the current electrical usage.*
- *Tariff structure was forecasted based on SCE's General Rate Case (described further in section 5.1). If solar is installed, District will inherit their current time-of-use periods with associated rates. If solar is not installed, customer will not be grandfathered and must transition to new TOU periods and rates. It is assumed these rates will be effective immediately when the solar is interconnected on the scheduled date of 12/31/2018.*
- *The value of solar energy changes when the TOU grandfathering period ends and a different rate schedule is applied; a percent change of -22% was calculated on a per-site basis, through a weighted average based on the kW size of the PV system.*
- *Net Energy Metering (NEM) 2.0 is used to calculate the electric bill when solar is present. Credits are given to the District when electric exports to the grid are received. We conservatively assume that these credits will not be valued when NEM 2.0 ends, at the end of 2038, and the next NEM program begins. A value change of -8.8% was calculated based on these assumptions.*
- *REC's revised PPA prices were used to compute the estimated total PPA price the District will be paying. Please see section 4 for a breakdown of their revised prices.*
- *The remaining assumptions employed in our modeling reflect trends seen in the electric utility industry and data accumulated through RFP procurement. Please see table 3-1 below for a summary.*

Table 3-1: Modeling Assumptions

Utility Information	
Utility Data Source	SCE
Expected Annual Electric Consumption	1,177,000 kWh
Annual Electricity Consumption Escalator	0%
Expected Annual Electric Cost, Year-1	$217,000
Expected Average Cost of Electricity	$0.1845 per kWh
Solar PV Information	
Total System Size	718.2 kW DC (proposed) / 661.5 kW DC (optimized production)
Year-1 Estimated PV Production	1,205,600 kWh (proposed) / 1,138,000 kWh (optimized)
Average PV Yield	1,720 kWh/kW DC

System Production Degradation, per Year	0.50%
Financial Information	
Fixed Upfront Soft Costs & Contingencies	$15,000
PPA Price	Per REC's updated proposal in Section 4
PPA Price Escalator	0%
PPA Term	25 Years
PPA Asset Management	$0.50 per kW DC
NEM 2.0 Export Energy Rate	Full retail rate, minus non-bypassable charges, for 20 years
NEM "3.0" Export Energy Rate	Zero
Annual Utility Inflation Rate	3.0%
Tariff Value Risk Change, per Year	-0.5%
NPV Discount Rate	2.0%

Both REC and Sage used Helioscope to model solar production values. In this analysis, Sage resized REC's production values for Highgrove, and Sage's Helioscope models were used for Lake Matthews and Woodcrest. Table 3-2 below summarizes the assumptions of both Helioscope models. Both assume that the photovoltaic system lifetime is 25 years.

Table 3-2: Solar Facility Production Projection Assumptions

Sage Analysis - Solar Production Information	
Solar Insolation Data	NREL TMY, 10km grid
Shading Assumption	Minimal based on site visits and siting
Soiling Assumption	Moderate, seasonal soiling
PV Panels used in Helioscope	Yingli YL310P-35b, 310W, 72 cell, polycrystalline
Inverters used in Helioscope	SMA Sunny Tripower string inverters (10, 12, 15, & 24 kW)
REC Analysis - Solar Production Information	
Solar Insolation Data	NREL TMY (Prospector), 10km grid
Shading Assumption	Minimal shading based on proposed site layout
Soiling Assumption	Minimal, seasonal soiling
PV Panels used in Helioscope	REC TwinPeak, 350W, 72 cell, multicrystalline
Inverters used in Helioscope	Yaskawa Solectria Solar string inverters (36, 50 kW)

4 Updated REC Proposal Portfolio

Table 4-1 below shows original versus updated system sizing and PPA energy pricing from REC due to the changes mentioned in Section 2.

Table 4-1: Revised System Size and PPA Pricing

System Information			PPA Proposal			
Site Name	Original Proposal PV Capacity (kW DC)	Updated PV Capacity (kW DC)	Original PPA Price ($/kWh)	Revised PPA Price ($/kWh)	Calculated Value of PV Energy on New SCE GRC ($/kWh)	
Highgrove ES	235.98	239.4	$0.1558	$0.1608	$0.1021	Option A
				$0.1613	$0.1023	Option B
Lake Matthews ES	298.08	302.4	$0.1380	$0.1441	$0.1064	
Woodcrest ES	173.88	176.4	$0.1803	$0.1888	$0.1129	

REC also updated their PPA buyout options and early termination values, which allow the District to purchase the system at various points throughout the PPA term or terminate the agreement per the contractual terms. Early buyout scenarios were modeled by Sage and summarized in Section 6. The modification in early buyout prices are summarized in Table 4-2 below.

Table 4-2: REC Updated Pricing – PPA Buyout Values

Site Info	REC Proposal					
Site Name	Original Buyout Options			Updated Buyout Options		
	$, Year-10	$, Year 15	$, Year 20	$, Year-10	$, Year-15	$, Year-20
Highgrove ES	$439,131	$326,590	$196,478	$426,722	$311,358	$174,330
Lake Matthews ES	$506,328	$377,842	$228,473	$491,085	$358,710	$201,409
Woodcrest ES	$352,777	$260,749	$155,640	$339,696	$245,451	$135,864

Note: Updated buyout values shown for Highgrove are for Option A only, since they are similar and Option A would be recommended.

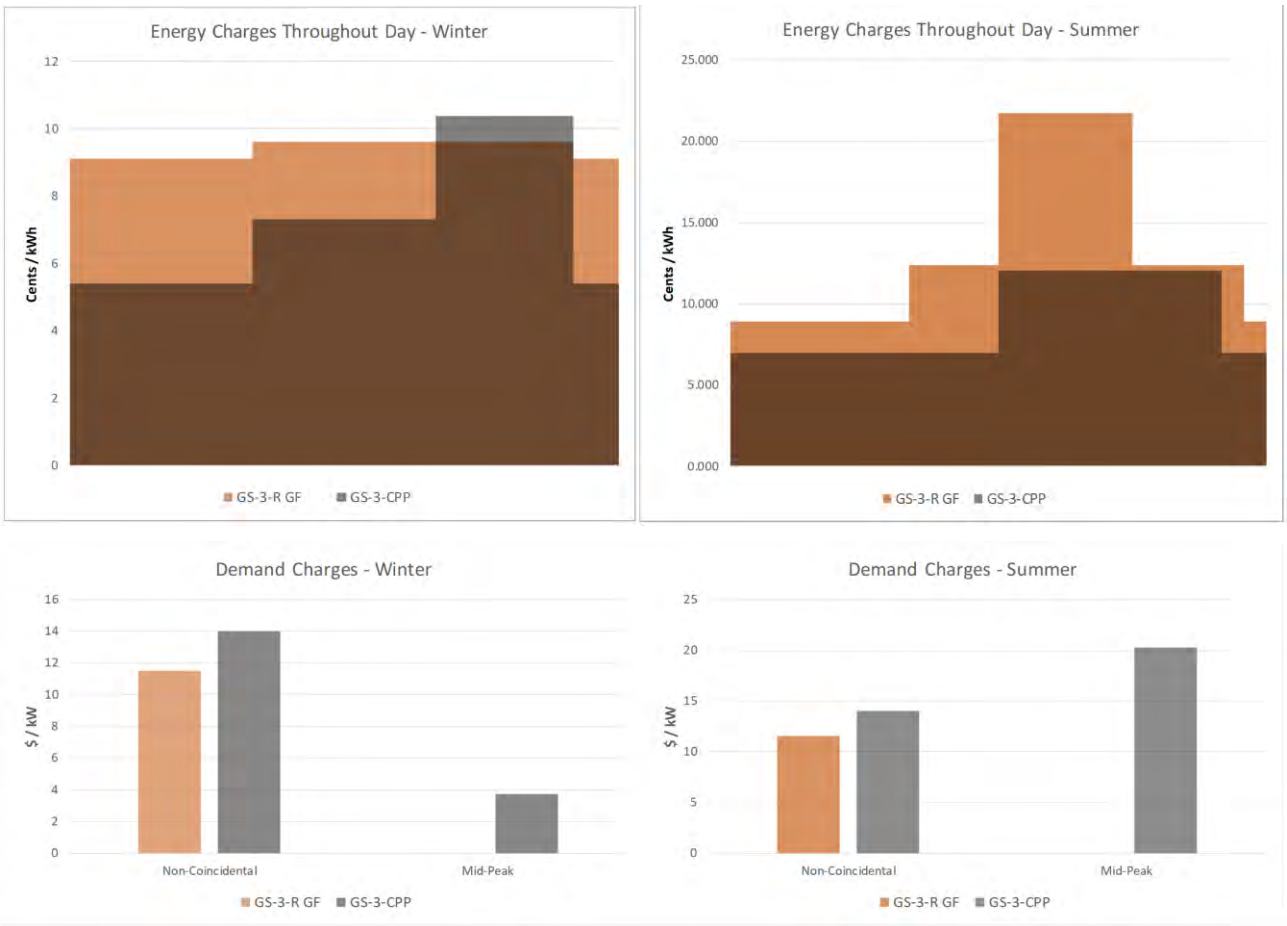
5 Current Regulatory Impacts

This section outlines the market changes that affect the financial feasibility of the RUSD solar project. Alterations to rate schedules will reduce the value of energy generated by solar PV systems. Tariffs and tax reforms alter the financial feasibility from the perspective of the solar provider, REC. These recent regulatory changes have had severe repercussions to this solar project.

5.1 Southern California Edison General Rate Case

The Southern California Edison (SCE) General Rate Case (GRC) is a proposed set of electric rate schedules that differ dramatically from current tariffs. Under the current tariffs, energy is most expensive during the mid-day period (noon to 6pm), when solar is producing energy and able to offset the District's electric usage. In the GRC tariffs, this period is shifted to the late afternoon (4 to 9pm), when solar is producing much less and after-school programs are utilizing energy from SCE's grid. The collection of Charts 5-1 below outline the changes in energy costs (charged on a per kWh usage) and demand costs (charged on a peak kW power usage throughout the month). The dark-grey bars represent the proposed rates the District would pay without implementing solar (i.e. non-solar tariff), while the orange bars represent the grandfathered rate schedule if solar is implemented (i.e. Option R or solar tariff; grandfathering to be explained in the next section).

Charts 5-1: Comparison of Current Tariffs with GRC Tariffs



The solar tariff, Option R, is comprised of high energy rates and relatively low demand rates compared to the non-solar tariff. These attributes, plus the mid-day peak period, are helpful for solar. However, the difference in energy rates between time of use periods has decreased significantly, and hence a decrease in savings during the periods solar is producing is observed.

5.2 Time of Use Grandfathering

The California Public Utilities Commission (CPUC) issued a decision in January 2017, that created grandfathering of existing Time of Use (TOU) periods in PG&E, SCE, and SDG&E territories for solar PV customers.

This is in response to California's three major public utilities shifting summer "peak" energy cost periods from midafternoon to early evening. Solar PV systems generate most of their power and bill savings during summer afternoons. By shifting the summer peak period to early evening after solar PV has stopped producing power, the energy cost savings generated by solar PV are reduced. Sage has modeled a loss of value from the proposed TOU period changes from 10% to as much as 30%, depending on the rate schedule PV system design and site energy usage patterns.

In the January 2017 rulemaking, the CPUC created terms and conditions for customers to be eligible for ten years of grandfathering on current TOU periods. It stated that customers had to submit an initial interconnection application by January 31, 2017, and complete installation by July 31, 2017 for non-school customers and December 31, 2017 for schools.

A new TOU decision issued by the CPUC on October 26, 2017 eliminates the construction deadline and opens up a new interconnection application period until December 31, 2017. Under this new decision, the City can install an eligible system at any time and receive TOU period grandfathering through July 31, 2027.

Because interconnection applications were submitted for the District, the value of the proposed PV systems increased by 22% relative to not grandfathered systems. However, TOU grandfathering only lasts until July 31, 2027, after which the TOU schedule will revert to the TOU periods in place at that time. Sage has included this drop in energy value in its modeling projections.

5.3 201 Trade Case Tariffs

In January of 2018, the Trump Administration placed tariffs on solar cell and module imports, which last for 4 years (spanning the schedule of construction for the RUSD project). The proclamation adds a 30% tax in the first year to solar imports, which declines 5% each following year, and exempts 2.5 gigawatts of cells per year from the tax. Since REC fabricates its panels in Singapore, it is subject to this tax and thus must endure increased costs which result in increased PPA prices.

5.4 Steel & Aluminum Tariffs

In March of 2018, the Trump Administration put tariffs on steel and aluminum imports. These tariffs affect about 45% of total steel and aluminum imports, with certain countries such as Canada and Mexico exempted. The 25% tax on steel and 10% tax on aluminum drive up beam and wiring costs for solar projects, increasing PPA prices.

5.5 Federal Tax Reform

In December of 2017, the federal government passed a tax reform that reduced the corporate tax rate to 21% and included BEAT provisions. The combination of these changes reduced tax equity appetite in the U.S. market and created uncertainty as to tax liability for large, multinational corporations. The result is a softening of the tax equity marketing and associated increase in tax equity returns requirements. An increase in tax-equity financing costs results in increased PPA prices.

6 Summary of Findings

The following are the results of the analysis:

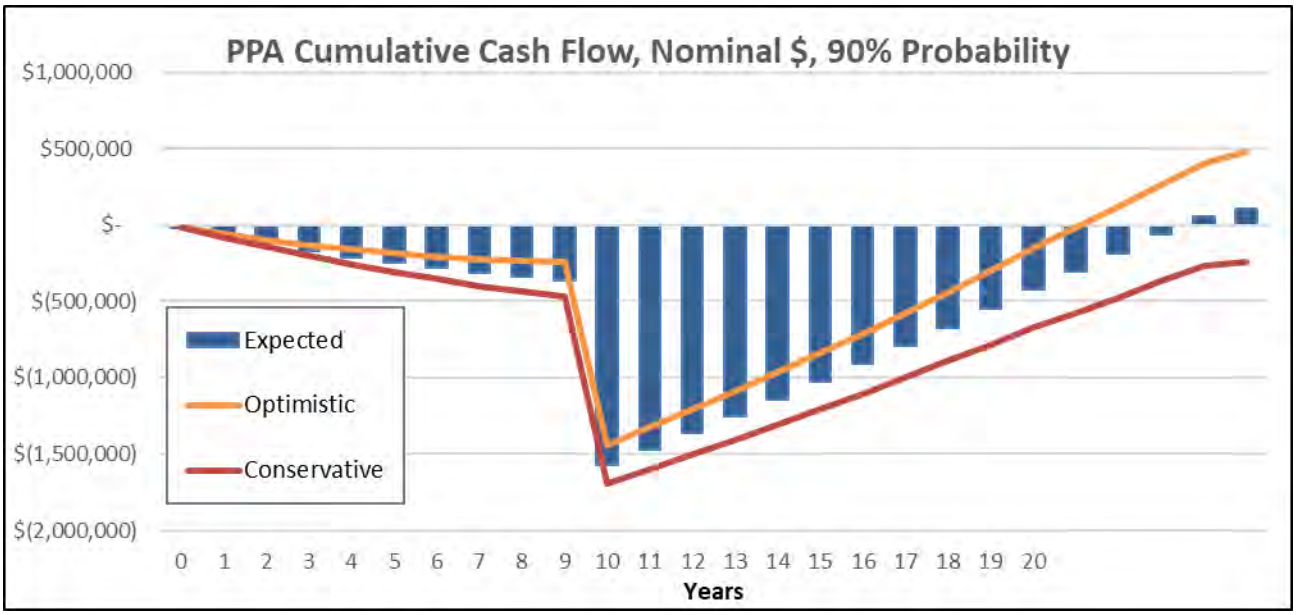
1. With the new changes outlined in Section 5, the RUSD project is only net positive under one financing scenario: PPA contract with a buyout in Year-10. Even so, the project cash flow in this scenario becomes positive within the last couple years of the assumed system lifetime (25 years). This scenario produces the best financials for the District because of the extended amount of time the District owns the solar system (for 15 of the 25 years) and the increased savings from paying less for solar (outlined in detail in Table 6-2 below).
2. NPV's for all scenarios have decreased from the previous modeling conducted for RUSD and are negative for both Highgrove and Woodcrest.
3. If the District decides to move forward with this project as proposed, Sage recommends choosing REC's Option A layout for Highgrove Elementary School, which has greater 25-year NPV, and modifying system size to reduce possibility of overproduction.
4. When analyzing individual sites, Lake Matthews and the resized Highgrove are the only sites where the expected NPV of the site is positive in Year-25. Sage recommends speaking with REC about the option of developing only these sites. Table 6-1 below summarizes the NPV's for each of the sites under a PPA with a Buyout in Year-10.

Table 6-1: PPA Buyout Year-10 NPV's, per site

25-Year NPV, 2% Discount Rate; PPA Buyout Year-10	
Highgrove, Option A	$20,230
Lake Matthews	$74,376
Woodcrest	($105,365)

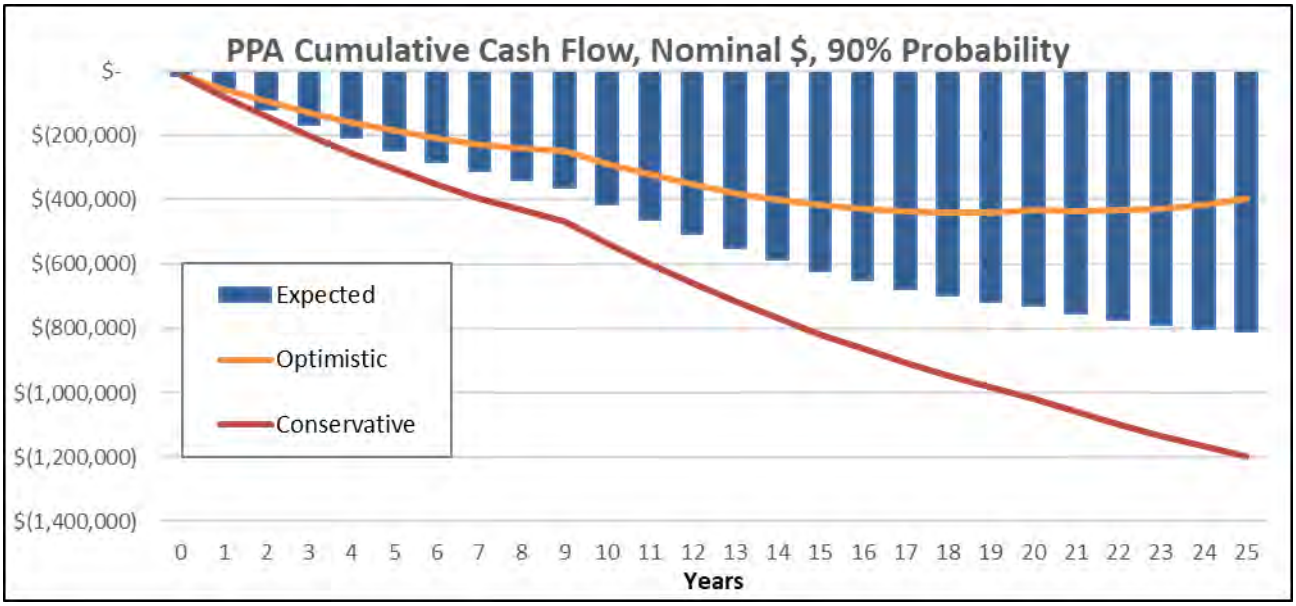
5. Attachment B & C outline the financials of each scenario with cash-flows for the 25-year analysis, assuming a 3-site portfolio. Graph 6-1 below displays the cumulative cash flow for a PPA with a buyout in year-10, showing the statistical spread of possibilities as the lined curves.

Graph 6-1: PPA Buyout Year-10 Cumulative Project Cash Flow



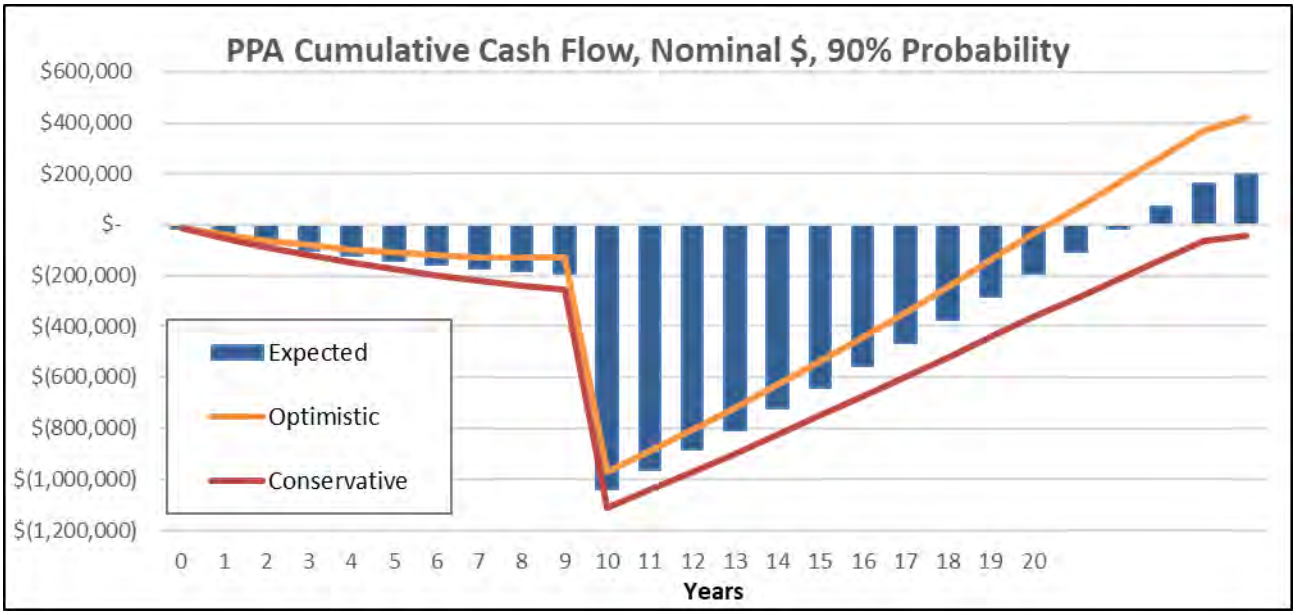
6. Graph 6-2 below portrays the cumulative project cash flow under the current PPA scenario, where the District stays in the contract throughout the lifetime of the PV system. Statistically, there is a negligible chance that the will have a positive cash flow in year-25.

Graph 6-2: PPA Cumulative Project Cash Flow



7. In order to obtain zero net present value in the 25-year PPA scenario, a minimum weighted PPA rate of $0.1462 is needed. The weighted PPA rate for REC's updated proposal is $0.1679 and hence leads to a negative NPV.
8. Another determinant of the feasibility of a project is the cumulative project savings; however, this metric does not take into account inflation. In order to obtain zero net project savings by the end of the PV system lifetime, a minimum weighted PPA rate of $0.1703 is needed. REC's PPA price is under this value, and thus the projected cumulative project savings is positive.
9. Graph 6-3 below displays the 25-year cumulative project cash flow for a portfolio consisting of Lake Matthews and Highgrove only. It is expected to obtain a positive nominal cumulative cash flow by year-23 and has a 90% chance of netting positive in year-25.

Graph 6-3: PPA Buyout Year-10 Cumulative Project Cash Flow, Lake Matt./Highgrove Portfolio



10. If the District buys out the PPA and takes ownership of the system, there will be operation & maintenance, insurance, and inverter replacement costs. Sage has included these costs in this project modeling.
11. If the District decides not to implement this solar PV project, electric bill costs are projected to increase for Highgrove & Woodcrest, while decreasing for Lake Matthews per the anticipated changes to SCE rates. Table 6-2 below summarizes the District costs under different scenarios: current cost (prior to SCE GRC implemented), "Do-Nothing" (post-SCE GRC, no solar), and the PV scenario (post-SCE GRC, with solar, District financed). The post-PV costs outlined in column 4 are the energy costs the District would pay SCE if the systems are purchase outright.

Table 6-2: Summary of Energy Costs, Multiple Scenarios

Cost of Energy				
Site Name	Current Cost ($/kWh)	"Do-Nothing" Cost ($/kWh)	Post-PV Cost ($/kWh)	REC PPA Price ($/kWh)
Highgrove ES	$0.19	$0.20	$0.093	$0.1608
Lake Matthews ES	$0.20	$0.17	$0.075	$0.1613
Woodcrest ES	$0.16	$0.19	$0.095	$0.1888

12. Table 6-3 below summarizes the findings that Sage has compiled from the output of our modeling.

Table 6-3: Summary of Findings Across Scenarios

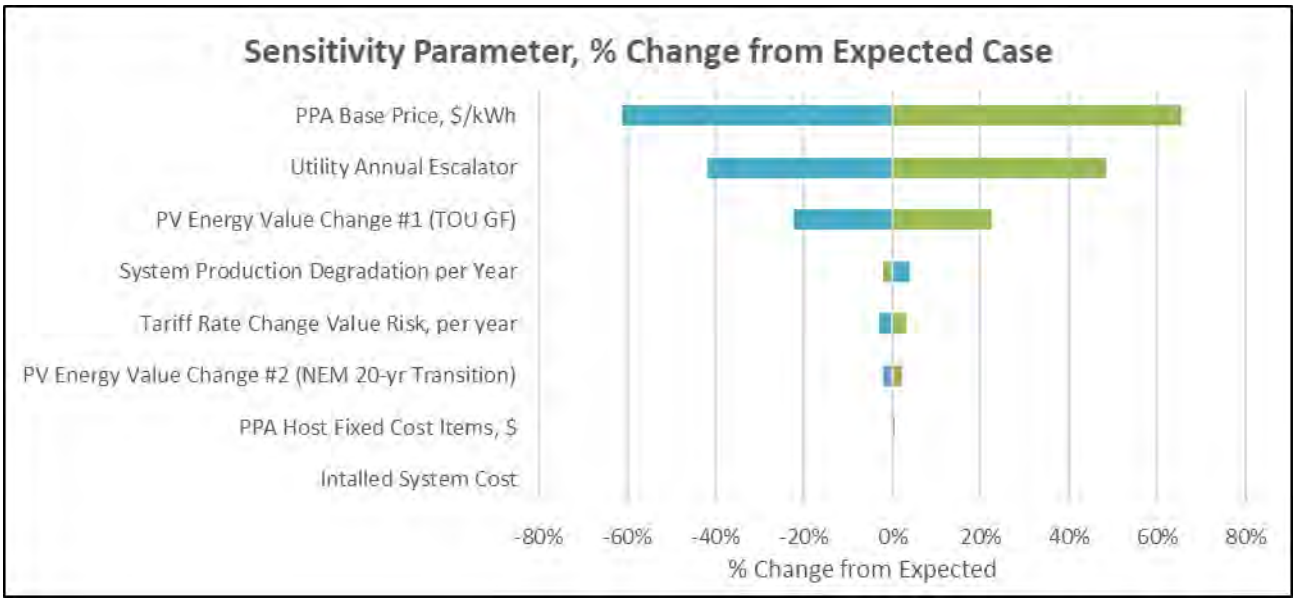
Metric	Scenario			
	25-Year PPA	PPA Buyout Year-10	PPA Buyout Year-15	PPA Buyout Year-20
Total 25-Year Savings, Nominal $	($792,121)	$122,236	($313,773)	($659,744)
Simple Payback	>25 Years	23.5 Years	>25 Years	>25 Years
Net Present Value, 2% Discount Rate	($663,560)	($144,550)	($401,907)	($595,583)
System Size	661.5 kW DC			
Environmental Benefits, 25-Year	10,000 Tons of eCO_2			

7 Sensitivity Analysis

Sage conducts a statistical sensitivity analysis. The top-8 most significant parameters are shown in the charts below. These 8 parameters are what account for most of the variability in the financial outcome of a project and are important to analyze on an individual basis.

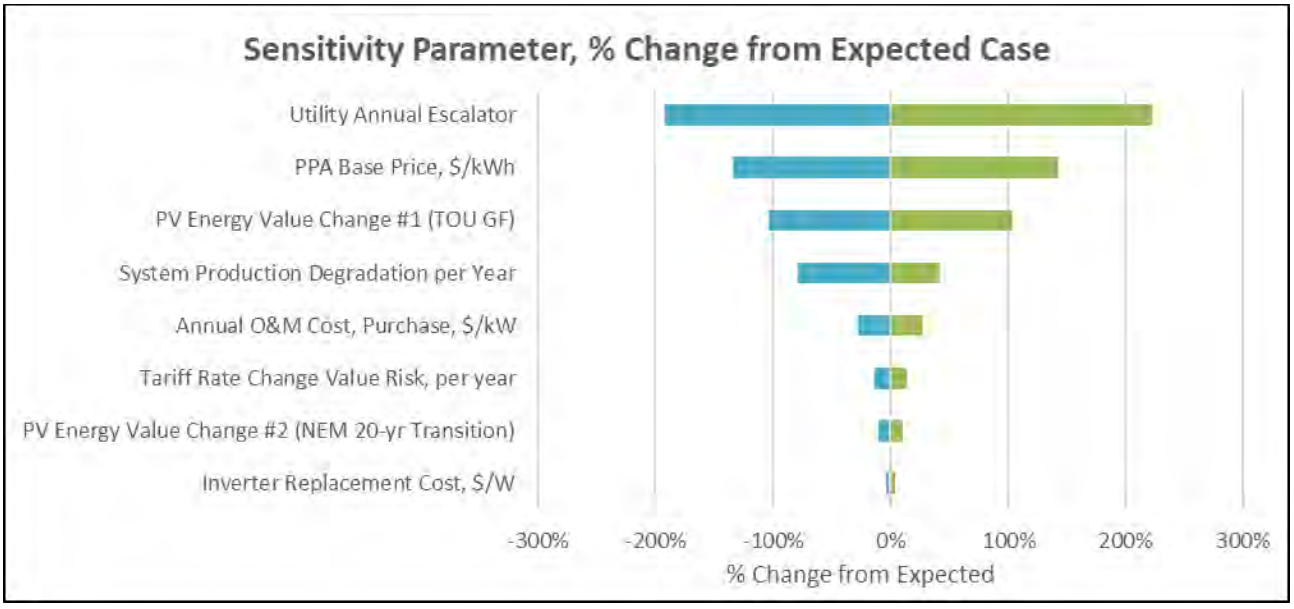
In Chart 7-1, we see that the PPA base price is what drives the financials of the project under a 25-year PPA scenario. The Utility Annual Escalator, the percentage by which the average cost of electricity increases per year, is a sensitive parameter that has been calculated from a 38-year average to be approximately 3%. Due to the recent changes in the SCE GRC, the TOU grandfathering value of energy decrease in year-10 accounts for a significant portion of the variability.

Chart 7-1: Sensitivity Analysis, 25-Year PPA Scenario



In Chart 7-2, we see a similar tornado chart as in 7-1, but for the "PPA Buyout Year-10" scenario. Due to the District owning the system for 15 of the 25 years, other factors such as the 'Annual O&M Cost' and 'Inverter Replacement Cost' are dominant in the top-8 most significant parameters.

Chart 7-2: Sensitivity Analysis, PPA Buyout Year-10 Scenario



8 Next Steps

Sage recommends the District start with the first recommendation, below. If an acceptable option is not viable, pursue one of the three following scenarios (#s 2-4):

1. Review findings with REC and determine if there are options for reducing PPA rates. Some potential options may include evaluating a PPA rate escalator that is below expected utility rate inflation, extending the term of the PPA, or including a Proposition 39 or other grant prepayment to bringdown PPA rates.
2. Negotiate an updated PPA pricing with REC for a two-site portfolio containing only Lake Matthews ES and Highgrove ES. Consider a buyout in year-10 to increase savings over the lifetime of the project.
    a. This is the District's "best-value" scenario, leading to the largest NPV and District savings at the end of the PV lifetime.
    b. The District must fund a $490k buyout in year-10 and arrange for operation and maintenance contracting, funding for inverter replacement, asset management, and decommissioning for the remainder of the PV system lifetime.
3. Enter into a PPA contract with REC with the intention of buying the system in year-10.
    a. If the District decides to implement solar at all sites, this scenario produces the best value.
    b. The District must fund a $1.26M buyout in year-10 and arrange for operation and maintenance contracting, funding for inverter replacement, asset management, and decommissioning for the remainder of the PV system lifetime.
4. Consider abandoning at PPA contract at this time due to the high risk of a negative financial outcome.

Attachment A

Updated REC Proposal Materials

Original Bid - 345W mods, tariffs excluded, Highgrove array over planned building

Site	Sys Size	Guar. Yield	PPA Rate	Buyout Options			Termination Values		
	kW DC	kWh, yr1	$/kWh	$, yr10	$, yr15	$, yr20	$, yr10	$, yr15	$, yr20
Highgrove	235.98	402,052	$0.1558	$439,131	$326,590	$196,478	$441,646	$314,905	$171,374
Lake Matthews	298.08	512,231	$0.1380	$506,328	$377,842	$228,473	$509,505	$364,693	$199,579
Woodcrest	173.88	291,321	$0.1803	$352,777	$260,749	$155,640	$352,777	$260,749	$135,480
NET	**707.94**	**1,205,604**	**$0.1542**	**$1,298,236**	**$965,181**	**$580,590**	**$1,303,928**	**$940,347**	**$506,432**

Bid Refresh - 350W mods, tariffs included, Highgrove redesigned for new bldg.s

Site	Sys Size	Guar. Yield	PPA Rate	Buyout Options			Termination Values		
	kW DC	kWh, yr1	$/kWh	$, yr10	$, yr15	$, yr20	$, yr10	$, yr15	$, yr20
Highgrove (OptA)	239.4	403,290	$0.1608	$426,722	$311,358	$174,330	$452,721	$324,754	$178,232
Highgrove (OptB)	239.4	402,052	$0.1613	$426,725	$311,362	$174,333	$452,725	$324,758	$178,235
Lake Matthews	302.4	512,231	$0.1441	$491,085	$358,710	$201,409	$521,043	$374,165	$205,918
Woodcrest	176.4	291,321	$0.1888	$339,696	$245,451	$135,864	$360,209	$255,943	$138,899
NET	**718.2**	**1,205,604**	**$0.1606**	**$1,257,506**	**$915,523**	**$511,606**	**$1,333,977**	**$954,866**	**$523,052**

% Change (+ is increase, - is decrease)

Site	Sys Size	Guar. Yield	PPA Rate	Buyout Options			Termination Values		
Highgrove (OptA)	1.4%	0.3%	3.2%	-2.8%	-4.7%	-11.3%	2.5%	3.1%	4.0%
Highgrove (OptB)	1.4%	0.0%	3.5%	-2.8%	-4.7%	-11.3%	2.5%	3.1%	4.0%
Lake Matthews	1.4%	0.0%	4.4%	-3.0%	-5.1%	-11.8%	2.3%	2.6%	3.2%
Woodcrest	1.4%	0.0%	4.7%	-3.7%	-5.9%	-12.7%	2.1%	-1.8%	2.5%

Design 4_REC350W Riverside USD - Highgrove Elementary School, 690 Center St, Riverside, CA

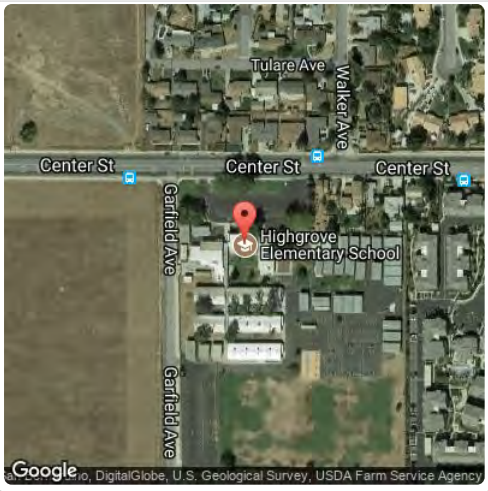
Report

Project Name	Riverside USD - Highgrove Elementary School
Project Address	690 Center St, Riverside, CA
Prepared By	Mohanathan VC mohanathan.vc@lnttechservices.com

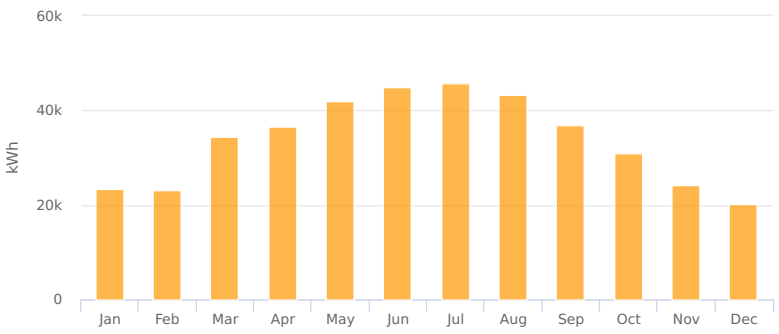
System Metrics

Design	Design 4_REC350W
Module DC Nameplate	239.4 kW
Inverter AC Nameplate	186.0 kW Load Ratio: 1.29
Annual Production	405.7 MWh
Performance Ratio	81.2%
kWh/kWp	1,694.8
Weather Dataset	TMY, 10km grid (34.05,-117.35), NREL (prospector)
Simulator Version	967eea5018-afaa9155f7-9bea7d5241-9a72f5df27

Project Location

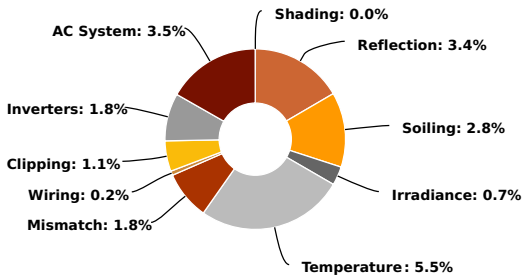


Monthly Production



Month	GHI (kWh/m²)	POA (kWh/m²)	Shaded (kWh/m²)	Nameplate (kWh)	Grid (kWh)
January	103.8	112.8	112.8	25,366.4	23,516.5
February	105.8	111.7	111.7	25,339.6	23,169.8
March	163.2	169.5	169.5	38,819.3	34,437.1
April	186.4	190.2	190.2	42,286.0	36,490.0
May	226.1	227.7	227.6	49,134.0	42,053.0
June	236.8	237.7	237.7	55,046.9	44,862.0
July	246.8	247.8	247.8	55,302.2	45,825.3
August	223.9	227.3	227.3	52,526.9	43,407.7
September	188.3	194.4	194.4	43,122.5	36,796.9
October	145.9	154.1	154.1	35,142.4	30,946.1
November	109.3	117.9	117.9	26,616.9	24,151.8
December	88.3	96.2	96.2	21,547.4	20,068.2

Sources of System Loss



Annual Production

	Description	Output	% Delta
Irradiance (kWh/m²)	Annual Global Horizontal Irradiance	2,024.7	
	Adjusted Global Horizontal Irradiance	2,024.7	0.0%
	POA Irradiance	2,087.3	3.1%
	Shaded Irradiance	2,087.2	0.0%
	Irradiance after Reflection	2,015.6	-3.4%
	Irradiance after Soiling	1,959.5	-2.8%
	Total Collector Irradiance	**1,959.5**	**0.0%**
Energy (kWh)	Nameplate	470,250.4	
	Output at Irradiance Levels	466,985.8	-0.7%
	Output at Cell Temperature Derate	441,448.8	-5.5%
	Output After Mismatch	433,476.7	-1.8%
	Optimal DC Output	432,779.2	-0.2%
	Constrained DC Output	427,882.5	-1.1%
	Inverter Output	420,307.0	-1.8%
	Energy to Grid	**405,724.0**	**-3.5%**
Temperature Metrics			
	Avg. Operating Ambient Temp		18.7 °C
	Avg. Operating Cell Temp		29.5 °C
Simulation Metrics			
	Operating Hours		4664
	Solved Hours		4664

Condition Set

Description	CS_REC_350W											
Weather Dataset	TMY, 10km grid (34.05,-117.35), NREL (prospector)											
Solar Angle Location	Project Lat/Lng											
Transposition Model	Perez Model											
Temperature Model	Diffusion Model											
Temperature Model Parameters	Rack Type			U_{const}		U_{wind}						
	Fixed Tilt			29		0						
	Flush Mount			20		0						
	East-West			29		0						
	Carport			29		0						
Soiling (%)	J	F	M	A	M	J	J	A	S	O	N	D
	1	1	1	4.5	7.5	1	4.5	1	4.5	1	1	1
Irradiation Variance	4%											
Cell Temperature Spread	4° C											
Module Binning Range	-1% to 1.428%											
AC System Derate	3.50%											

Module Characterizations	Module	Characterization
	REC 350TP2S 72.NOV2017 (REC)	REC_350TP2S_72_20171123.PAN, PAN

Component Characterizations	Device	Characterization
	PVI 36TL-480 (Solectria Renewables)	CEC Efficiency Curve 2015-09-05
	PVI 50TL 2-22-2017 (Solectria (Yaskawa Solectria Solar))	Default Characterization

Components

Component	Name	Count
Inverters	PVI 36TL-480 (Solectria Renewables)	1 (36.0 kW)
Inverters	PVI 50TL 2-22-2017 (Solectria (Yaskawa Solectria Solar))	3 (150.0 kW)
Transformer	Primary Side: 208Y/120V , Secondary: 480Y/277V	1
AC Panels	1 input AC Panel	1
AC Panels	3 input AC Panel	1
AC Home Runs	3 AWG (Copper)	1 (482.1 ft)
AC Home Runs	1 AWG (Copper)	1 (2,220.8 ft)
AC Home Runs	350 MCM (Copper)	1 (930.7 ft)
AC Home Runs	400 MCM (Copper)	3 (6,290.3 ft)
Strings	10 AWG (Copper)	38 (2,664.1 ft)
Module	REC, REC 350TP2S 72.NOV2017 (350W)	684 (239.4 kW)

Wiring Zones

Description	Combiner Poles	String Size	Stringing Strategy
Wiring Zone	12	18-18	Along Racking
Wiring Zone 2	12	18-18	Along Racking

Field Segments

Description	Racking	Orientation	Tilt	Azimuth	Intrarow Spacing	Frame Size	Frames	Modules	Power
Carport 2	Carport	Portrait (Vertical)	5°	180°	0.1 ft	6x3	10	180	63.0 kW
Carport 3	Carport	Portrait (Vertical)	5°	269.1°	0.1 ft	6x3	10	180	63.0 kW
Carport 1	Carport	Portrait (Vertical)	5°	180°	0.1 ft	6x3	10	180	63.0 kW
Carport 4	Carport	Portrait (Vertical)	5°	180°	0.1 ft	6x3	8	144	50.4 kW

Detailed Layout

Design 4.1_REC350W Riverside USD - Highgrove Elementary School, 690 Center St, Riverside, CA

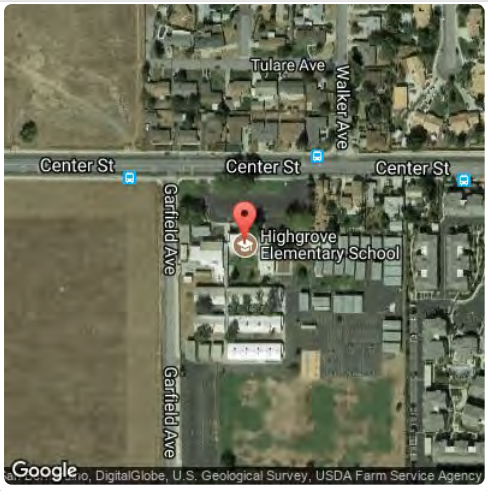
Report

Project Name	Riverside USD - Highgrove Elementary School
Project Address	690 Center St, Riverside, CA
Prepared By	Mohanathan VC mohanathan.vc@lnttechservices.com

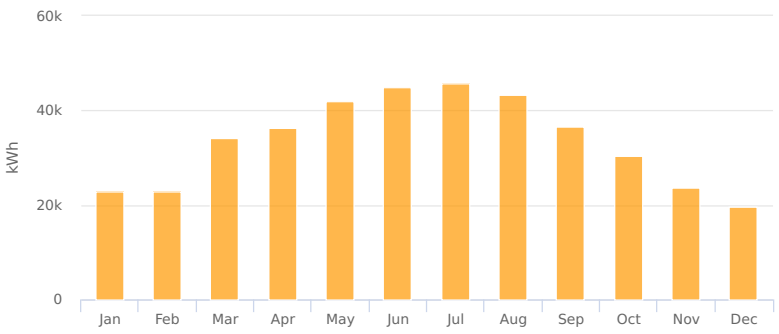
System Metrics

Design	Design 4.1_REC350W
Module DC Nameplate	239.4 kW
Inverter AC Nameplate	186.0 kW Load Ratio: 1.29
Annual Production	402.6 MWh
Performance Ratio	81.2%
kWh/kWp	1,681.9
Weather Dataset	TMY, 10km grid (34.05,-117.35), NREL (prospector)
Simulator Version	967eea5018-afaa9155f7-9bea7d5241-9a72f5df27

Project Location

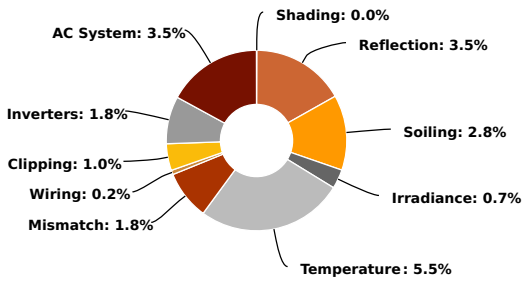


Monthly Production



Month	GHI (kWh/m²)	POA (kWh/m²)	Shaded (kWh/m²)	Nameplate (kWh)	Grid (kWh)
January	103.8	110.3	110.2	24,753.1	22,938.2
February	105.8	110.0	110.0	24,916.0	22,782.7
March	163.2	167.9	167.8	38,416.3	34,171.3
April	186.4	189.7	189.7	42,151.1	36,446.0
May	226.1	227.5	227.5	49,101.6	42,050.3
June	236.8	238.2	238.2	55,153.8	44,983.2
July	246.8	247.7	247.6	55,274.7	45,828.0
August	223.9	226.4	226.4	52,310.2	43,295.6
September	188.3	192.6	192.6	42,707.5	36,485.1
October	145.9	152.0	151.9	34,615.5	30,502.1
November	109.3	115.6	115.5	26,040.0	23,619.1
December	88.3	93.9	93.9	20,987.2	19,536.9

Sources of System Loss



Annual Production

	Description	Output	% Delta
Irradiance (kWh/m²)	Annual Global Horizontal Irradiance	2,024.7	
	Adjusted Global Horizontal Irradiance	2,024.7	0.0%
	POA Irradiance	2,071.8	2.3%
	Shaded Irradiance	2,071.4	0.0%
	Irradiance after Reflection	1,999.4	-3.5%
	Irradiance after Soiling	1,943.6	-2.8%
	Total Collector Irradiance	**1,943.6**	**0.0%**
Energy (kWh)	Nameplate	466,427.0	
	Output at Irradiance Levels	463,099.8	-0.7%
	Output at Cell Temperature Derate	437,829.5	-5.5%
	Output After Mismatch	429,851.7	-1.8%
	Optimal DC Output	429,159.4	-0.2%
	Constrained DC Output	424,889.7	-1.0%
	Inverter Output	417,393.0	-1.8%
	Energy to Grid	**402,639.0**	**-3.5%**
Temperature Metrics			
	Avg. Operating Ambient Temp		18.7 °C
	Avg. Operating Cell Temp		29.4 °C
Simulation Metrics			
	Operating Hours		4664
	Solved Hours		4664

Condition Set

Description	CS_REC_350W											
Weather Dataset	TMY, 10km grid (34.05,-117.35), NREL (prospector)											
Solar Angle Location	Project Lat/Lng											
Transposition Model	Perez Model											
Temperature Model	Diffusion Model											
Temperature Model Parameters	Rack Type			U_{const}			U_{wind}					
	Fixed Tilt			29			0					
	Flush Mount			20			0					
	East-West			29			0					
	Carport			29			0					
Soiling (%)	J	F	M	A	M	J	J	A	S	O	N	D
	1	1	1	4.5	7.5	1	4.5	1	4.5	1	1	1
Irradiation Variance	4%											
Cell Temperature Spread	4° C											
Module Binning Range	-1% to 1.428%											
AC System Derate	3.50%											
Module Characterizations	Module					Characterization						
	REC 350TP2S 72.NOV2017 (REC)					REC_350TP2S_72_20171123.PAN, PAN						
Component Characterizations	Device								Characterization			
	PVI 36TL-480 (Solectria Renewables)								CEC Efficiency Curve 2015-09-05			
	PVI 50TL 2-22-2017 (Solectria (Yaskawa Solectria Solar))								Default Characterization			

Components

Component	Name	Count
Inverters	PVI 36TL-480 (Solectria Renewables)	1 (36.0 kW)
Inverters	PVI 50TL 2-22-2017 (Solectria (Yaskawa Solectria Solar))	3 (150.0 kW)
Transformer	Primary Side: 208Y/120V , Secondary: 480Y/277V	1
AC Panels	1 input AC Panel	1
AC Panels	3 input AC Panel	1
AC Home Runs	3 AWG (Copper)	1 (1,249.1 ft)
AC Home Runs	1 AWG (Copper)	1 (1,999.0 ft)
AC Home Runs	350 MCM (Copper)	1 (915.0 ft)
AC Home Runs	400 MCM (Copper)	3 (6,064.4 ft)
Strings	10 AWG (Copper)	38 (2,716.7 ft)
Module	REC, REC 350TP2S 72.NOV2017 (350W)	684 (239.4 kW)

Wiring Zones

Description	Combiner Poles	String Size	Stringing Strategy
Wiring Zone	12	18-18	Along Racking
Wiring Zone 2	12	18-18	Along Racking

Field Segments

Description	Racking	Orientation	Tilt	Azimuth	Intrarow Spacing	Frame Size	Frames	Modules	Power
Carport 2	Carport	Portrait (Vertical)	5°	180°	0.1 ft	6x3	10	180	63.0 kW
Carport 3	Carport	Portrait (Vertical)	5°	269.1°	0.1 ft	6x3	10	180	63.0 kW
Carport 4	Carport	Portrait (Vertical)	5°	269.1°	0.1 ft	6x3	8	144	50.4 kW
Carport 1	Carport	Portrait (Vertical)	5°	180°	0.1 ft	6x3	10	180	63.0 kW

Detailed Layout

Attachment B

Financial & Environmental Summary

25-year Financial-Environmental Summary

Riverside Unified School District Solar PV Project

Assumptions

System Assumptions	
System Size	661.5 kW DC
PV Yield, Yr 1	1,720 kWh/kW
PV Production, Yr 1	1,138,000 kWh
Annual Electricity Consumption	1,181,000 kWh
Incentives/Rebates	$0.0000 per kWh
NEM 2.0 Ends	1/1/2039
Historical Blended Utility Energy Cost	$0.1873 per kWh
SCE GRC Blended Utility Energy Cost, Year-1	$0.1871 per kWh

Financing Assumptions	
NPV Discount Rate Investments	2.00%
REC PPA	
PPA Contract Term	25.0 years
PPA Base Price (Weighted Average)	$0.1606 per kWh
PPA Annual Rate Escalator	0.00%
PPA Buyout Year Options	10, 15, 20
PV Energy Summary	
Avoided Value of Solar Year-1 ($/kWh)	$0.1134 per kWh
25-Year Average Avoided Value of Solar ($/kWh)	$0.1653 per kWh

Financial Performance Analysis

25-Year Project Financial Performance

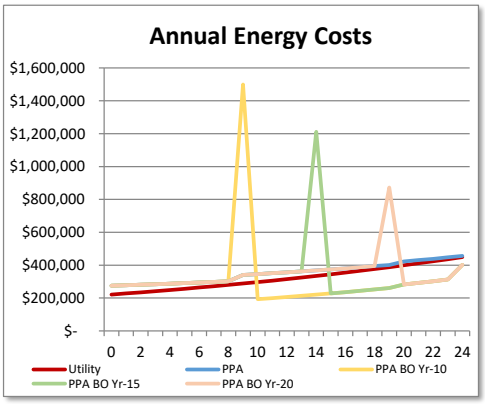
	No PV (Utility Only)	PV PPA Financed	PV PPA Buyout (Yr-10)	PV PPA Buyout (Yr-15)	PV PPA Buyout (Yr-20)
Energy Cost, Nominal $	$8,057,000	$8,849,619	$7,935,262	$8,371,271	$8,717,241
Project Development Costs $	$0	$15,000	$15,000	$15,000	$15,000
Savings vs. Utility, Nominal $	$0	-$792,121	$122,236	-$313,773	-$659,744
Simple Payback	N/A	>25 Years	23.5 years	>25 Years	>25 Years
Project IRR	N/A	N/A	$0	$0	$0
Lifetime Energy Savings @ 2% D.	$0	-$807,121	$107,236	-$328,773	-$674,744
Net Present Value @ 2% D.R.	$0	-$663,560	-$144,550	-$401,907	-$595,583

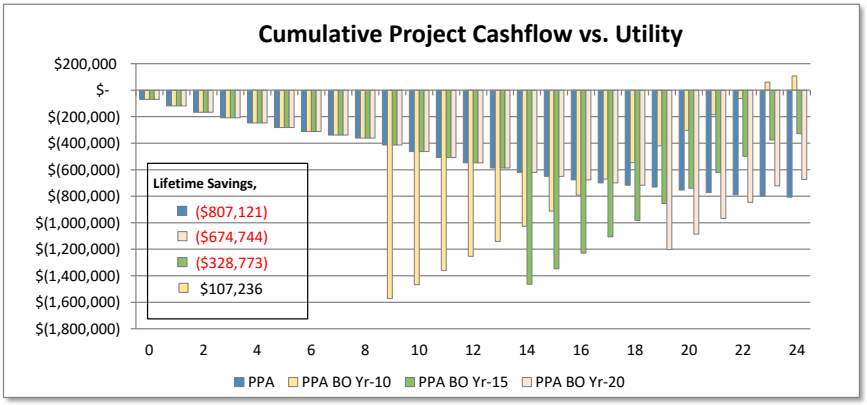
Energy Cost and Savings Over Time

Cumulative Energy Cost, Nominal $, Not Including Development Cost

	No PV (Utility Only)	PV PPA Financed		PV PPA Buyout (Yr-10)		PV PPA Buyout (Yr-15)		PV PPA Buyout (Yr-20)	
	Utility	PPA	Savings	PPA	Savings	PPA	Savings	PPA	Savings
Year 1	$221,000	$275,000	-24.4%	$275,000	-24.4%	$275,000	-24%	$275,000	-24%
Year 5	$1,173,000	$1,406,000	-19.9%	$1,406,000	-19.9%	$1,406,000	-20%	$1,406,000	-20%
Year 10	$2,534,000	$2,932,000	-15.7%	$4,090,000	-61.4%	$2,932,000	-16%	$2,932,000	-16%
Year 15	$4,110,000	$4,716,000	-14.7%	$5,123,000	-24.6%	$5,559,000	-35%	$4,716,000	-15%
Year 20	$5,938,000	$6,654,000	-12.1%	$6,343,000	-6.8%	$6,779,000	-14%	$7,125,000	-20%
Year 25	$8,057,000	$8,850,000	-9.8%	$7,935,000	1.5%	$8,371,000	-4%	$8,717,000	-8%
Year 30	$10,514,000	$11,306,000	-7.5%	$10,392,000	1.2%	$10,828,000	-3%	$11,174,000	-6%

Financial Performance Charts





Environmental Analysis

CO_2 Offset per Year (Avg)	400 Tons per Year
CO_2 Offset Total	9,000 Tons Total
Passenger Car Emissions	60 Equivalent Cars
Equivalent Trees Planted	71,000 Trees

Attachment C

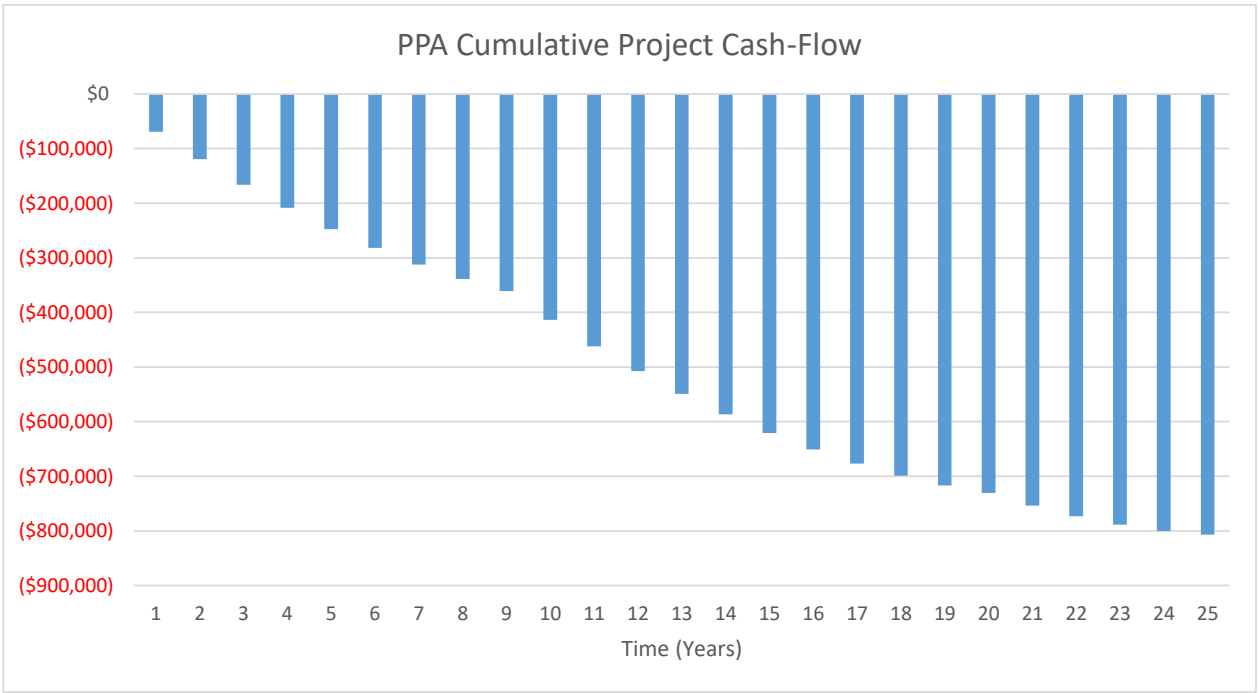
Cash Flow Tables

SAGE RENEWABLES

25-Year Cash Flow - NEM 2.0 Assumptions, PPA Financed

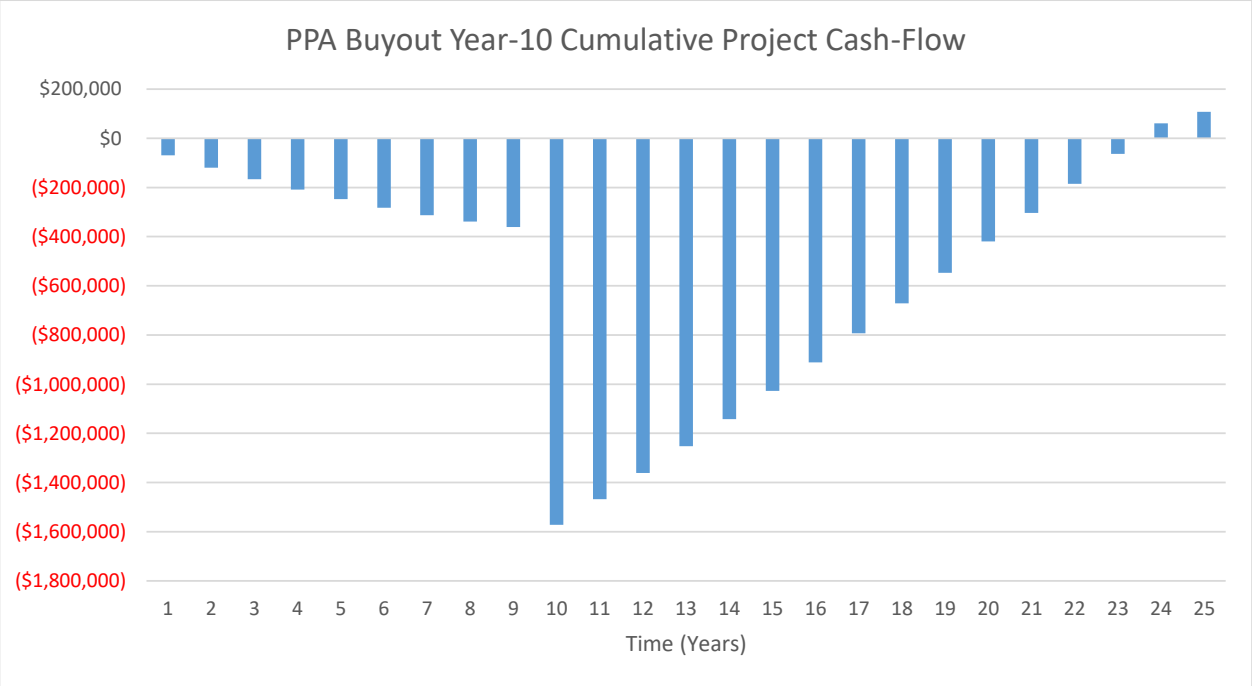
PPA-Financed

Year	Estimated Utility Usage (kWh)	Annual Estimated Utility Cost w/o PV	Utility Energy Cost w/PV	Cost of PPA Payments	PV Operating Costs	Net Annual Savings	Cumulative Project Cash Flow
0	$0	$0	$0	$0	$0	$0	($15,000)
1	1,181,000	$221,000	$92,000	182,800	$331	($54,130)	($69,130)
2	1,181,000	$227,630	$95,755	181,886	$341	($50,351)	($119,481)
3	1,181,000	$234,459	$99,644	180,976	$351	($46,512)	($165,994)
4	1,181,000	$241,493	$103,673	180,071	$361	($42,613)	($208,607)
5	1,181,000	$248,737	$107,846	179,171	$372	($38,652)	($247,259)
6	1,181,000	$256,200	$112,168	178,275	$383	($34,627)	($281,886)
7	1,181,000	$263,886	$116,644	177,384	$395	($30,537)	($312,423)
8	1,181,000	$271,802	$121,278	176,497	$407	($26,380)	($338,802)
9	1,181,000	$279,956	$126,077	175,614	$419	($22,154)	($360,957)
10	1,181,000	$288,355	$165,654	174,736	$432	($52,467)	($413,424)
11	1,181,000	$297,006	$171,570	173,863	$445	($48,871)	($462,295)
12	1,181,000	$305,916	$177,684	172,993	$458	($45,220)	($507,515)
13	1,181,000	$315,093	$184,003	172,128	$472	($41,510)	($549,025)
14	1,181,000	$324,546	$190,534	171,268	$486	($37,742)	($586,767)
15	1,181,000	$334,282	$197,284	170,411	$500	($33,913)	($620,680)
16	1,181,000	$344,311	$204,259	169,559	$515	($30,022)	($650,702)
17	1,181,000	$354,640	$211,466	168,711	$531	($26,068)	($676,771)
18	1,181,000	$365,279	$218,914	167,868	$547	($22,050)	($698,820)
19	1,181,000	$376,238	$226,610	167,029	$563	($17,964)	($716,785)
20	1,181,000	$387,525	$234,562	166,193	$580	($13,811)	($730,596)
21	1,181,000	$399,151	$256,602	165,362	$597	($23,411)	($754,007)
22	1,181,000	$411,125	$265,399	164,536	$615	($19,425)	($773,432)
23	1,181,000	$423,459	$274,485	163,713	$634	($15,373)	($788,805)
24	1,181,000	$436,163	$283,868	162,894	$653	($11,253)	($800,058)
25	1,181,000	$449,247	$293,559	162,080	$672	($7,063)	($807,121)



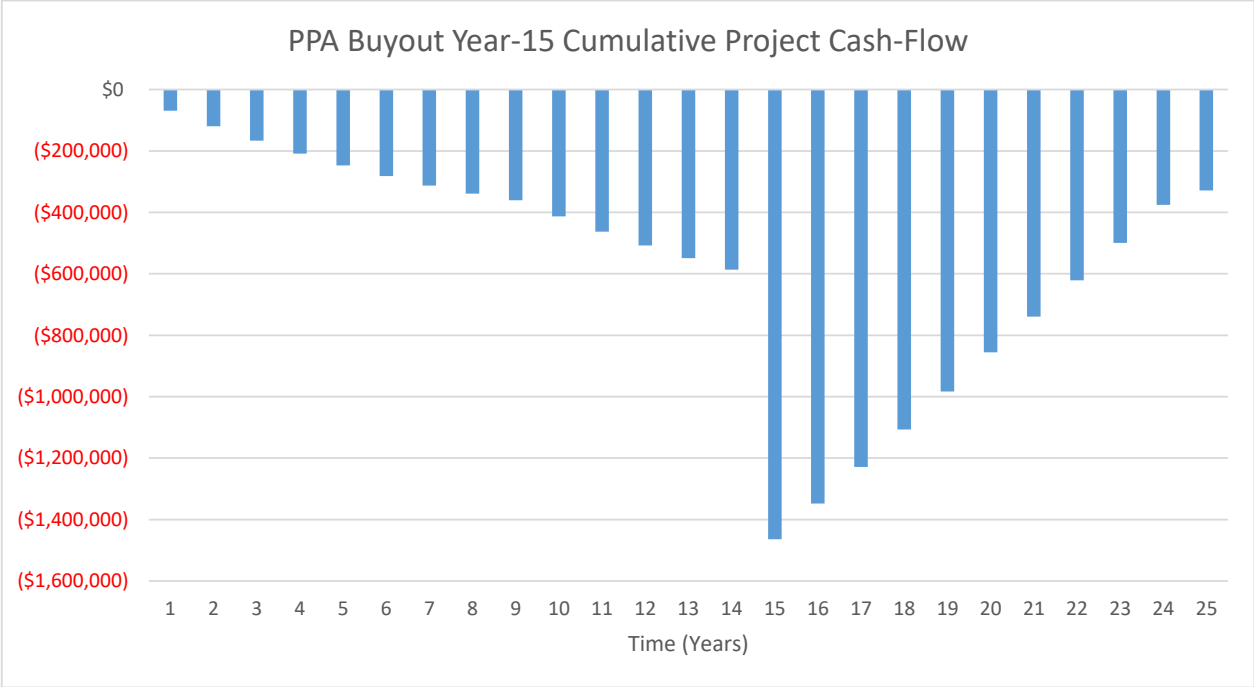
PPA-Financed; Buyout Year-10

Year	Estimated Utility Usage (kWh)	Annual Estimated Utility Cost w/o PV	Utility Energy Cost w/PV	Cost of PPA Payments	PV Operating Costs	Net Annual Savings	Cumulative Project Cash Flow
0	$0	$0	$0	$0	$0	$0	($15,000)
1	1,181,000	$221,000	$92,000	182,800	$331	($54,130)	($69,130)
2	1,181,000	$227,630	$95,755	181,886	$341	($50,351)	($119,481)
3	1,181,000	$234,459	$99,644	180,976	$351	($46,512)	($165,994)
4	1,181,000	$241,493	$103,673	180,071	$361	($42,613)	($208,607)
5	1,181,000	$248,737	$107,846	179,171	$372	($38,652)	($247,259)
6	1,181,000	$256,200	$112,168	178,275	$383	($34,627)	($281,886)
7	1,181,000	$263,886	$116,644	177,384	$395	($30,537)	($312,423)
8	1,181,000	$271,802	$121,278	176,497	$407	($26,380)	($338,802)
9	1,181,000	$279,956	$126,077	175,614	$419	($22,154)	($360,957)
10	1,181,000	$288,355	$165,654	174,736	$1,158,789	($1,210,825)	($1,571,781)
11	1,181,000	$297,006	$171,570	-	$21,486	$103,950	($1,467,831)
12	1,181,000	$305,916	$177,684	-	$21,911	$106,320	($1,361,511)
13	1,181,000	$315,093	$184,003	-	$22,351	$108,738	($1,252,773)
14	1,181,000	$324,546	$190,534	-	$22,807	$111,205	($1,141,568)
15	1,181,000	$334,282	$197,284	-	$23,278	$113,720	($1,027,848)
16	1,181,000	$344,311	$204,259	-	$23,766	$116,286	($911,561)
17	1,181,000	$354,640	$211,466	-	$24,270	$118,903	($792,658)
18	1,181,000	$365,279	$218,914	-	$24,792	$121,573	($671,085)
19	1,181,000	$376,238	$226,610	-	$25,331	$124,296	($546,789)
20	1,181,000	$387,525	$234,562	-	$25,889	$127,074	($419,715)
21	1,181,000	$399,151	$256,602	-	$26,465	$116,084	($303,631)
22	1,181,000	$411,125	$265,399	-	$27,061	$118,665	($184,966)
23	1,181,000	$423,459	$274,485	-	$27,676	$121,298	($63,668)
24	1,181,000	$436,163	$283,868	-	$28,312	$123,983	$60,314
25	1,181,000	$449,247	$293,559	-	$108,767	$46,922	$107,236



PPA-Financed; Buyout Year-15

Year	Estimated Utility Usage (kWh)	Annual Estimated Utility Cost w/o PV	Utility Energy Cost w/PV	Cost of PPA Payments	PV Operating Costs	Net Annual Savings	Cumulative Project Cash Flow
0	$0	$0	$0	$0	$0	$0	($15,000)
1	1,181,000	$221,000	$92,000	182,800	$331	($54,130)	($69,130)
2	1,181,000	$227,630	$95,755	181,886	$341	($50,351)	($119,481)
3	1,181,000	$234,459	$99,644	180,976	$351	($46,512)	($165,994)
4	1,181,000	$241,493	$103,673	180,071	$361	($42,613)	($208,607)
5	1,181,000	$248,737	$107,846	179,171	$372	($38,652)	($247,259)
6	1,181,000	$256,200	$112,168	178,275	$383	($34,627)	($281,886)
7	1,181,000	$263,886	$116,644	177,384	$395	($30,537)	($312,423)
8	1,181,000	$271,802	$121,278	176,497	$407	($26,380)	($338,802)
9	1,181,000	$279,956	$126,077	175,614	$419	($22,154)	($360,957)
10	1,181,000	$288,355	$165,654	174,736	$432	($52,467)	($413,424)
11	1,181,000	$297,006	$171,570	173,863	$445	($48,871)	($462,295)
12	1,181,000	$305,916	$177,684	172,993	$458	($45,220)	($507,515)
13	1,181,000	$315,093	$184,003	172,128	$472	($41,510)	($549,025)
14	1,181,000	$324,546	$190,534	171,268	$486	($37,742)	($586,767)
15	1,181,000	$334,282	$197,284	170,411	$843,678	($877,090)	($1,463,857)
16	1,181,000	$344,311	$204,259	-	$23,766	$116,286	($1,347,571)
17	1,181,000	$354,640	$211,466	-	$24,270	$118,903	($1,228,667)
18	1,181,000	$365,279	$218,914	-	$24,792	$121,573	($1,107,094)
19	1,181,000	$376,238	$226,610	-	$25,331	$124,296	($982,798)
20	1,181,000	$387,525	$234,562	-	$25,889	$127,074	($855,724)
21	1,181,000	$399,151	$256,602	-	$26,465	$116,084	($739,641)
22	1,181,000	$411,125	$265,399	-	$27,061	$118,665	($620,975)
23	1,181,000	$423,459	$274,485	-	$27,676	$121,298	($499,678)
24	1,181,000	$436,163	$283,868	-	$28,312	$123,983	($375,695)
25	1,181,000	$449,247	$293,559	-	$108,767	$46,922	($328,773)

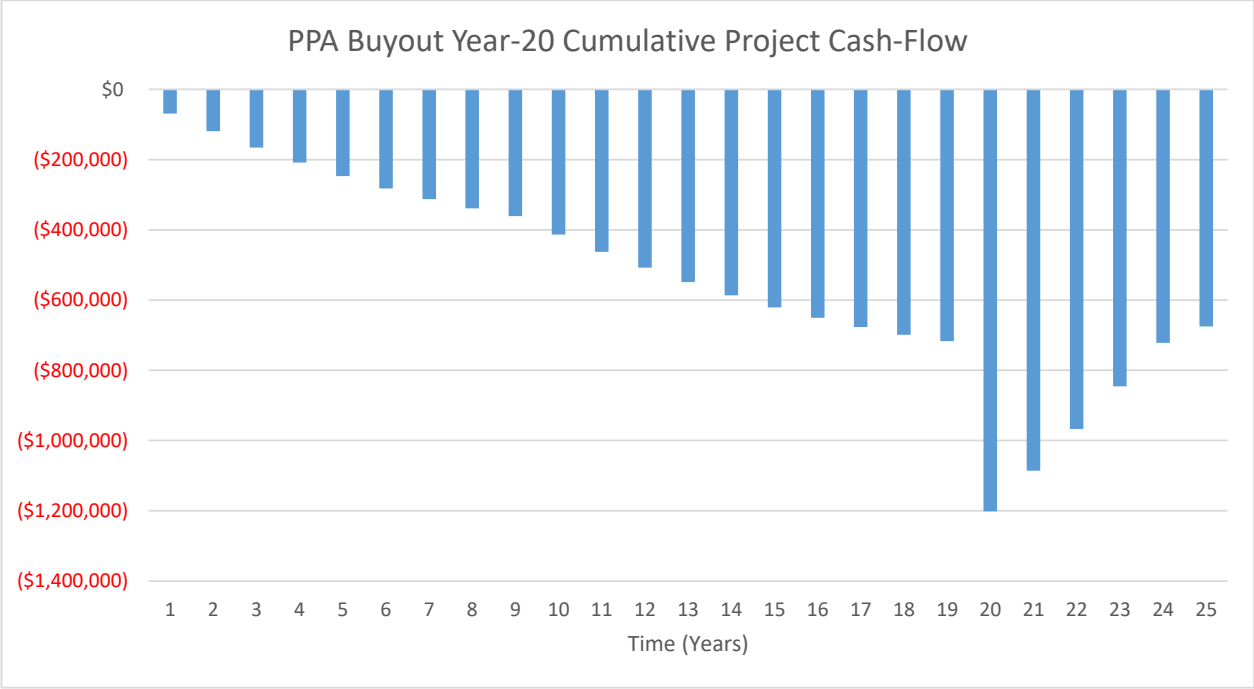


SAGE RENEWABLES

25-Year Cash Flow - NEM 2.0 Assumptions, PPA Financed

PPA-Financed; Buyout Year-20

Year	Estimated Utility Usage (kWh)	Annual Estimated Utility Cost w/o PV	Utility Energy Cost w/PV	Cost of PPA Payments	PV Operating Costs	Net Annual Savings	Cumulative Project Cash Flow
0	$0	$0	$0	$0	$0	$0	($15,000)
1	1,181,000	$221,000	$92,000	182,800	$331	($54,130)	($69,130)
2	1,181,000	$227,630	$95,755	181,886	$341	($50,351)	($119,481)
3	1,181,000	$234,459	$99,644	180,976	$351	($46,512)	($165,994)
4	1,181,000	$241,493	$103,673	180,071	$361	($42,613)	($208,607)
5	1,181,000	$248,737	$107,846	179,171	$372	($38,652)	($247,259)
6	1,181,000	$256,200	$112,168	178,275	$383	($34,627)	($281,886)
7	1,181,000	$263,886	$116,644	177,384	$395	($30,537)	($312,423)
8	1,181,000	$271,802	$121,278	176,497	$407	($26,380)	($338,802)
9	1,181,000	$279,956	$126,077	175,614	$419	($22,154)	($360,957)
10	1,181,000	$288,355	$165,654	174,736	$432	($52,467)	($413,424)
11	1,181,000	$297,006	$171,570	173,863	$445	($48,871)	($462,295)
12	1,181,000	$305,916	$177,684	172,993	$458	($45,220)	($507,515)
13	1,181,000	$315,093	$184,003	172,128	$472	($41,510)	($549,025)
14	1,181,000	$324,546	$190,534	171,268	$486	($37,742)	($586,767)
15	1,181,000	$334,282	$197,284	170,411	$500	($33,913)	($620,680)
16	1,181,000	$344,311	$204,259	169,559	$515	($30,022)	($650,702)
17	1,181,000	$354,640	$211,466	168,711	$531	($26,068)	($676,771)
18	1,181,000	$365,279	$218,914	167,868	$547	($22,050)	($698,820)
19	1,181,000	$376,238	$226,610	167,029	$563	($17,964)	($716,785)
20	1,181,000	$387,525	$234,562	166,193	$471,679	($484,910)	($1,201,694)
21	1,181,000	$399,151	$256,602	-	$26,465	$116,084	($1,085,611)
22	1,181,000	$411,125	$265,399	-	$27,061	$118,665	($966,946)
23	1,181,000	$423,459	$274,485	-	$27,676	$121,298	($845,648)
24	1,181,000	$436,163	$283,868	-	$28,312	$123,983	($721,665)
25	1,181,000	$449,247	$293,559	-	$108,767	$46,922	($674,744)



Riverside Unified School District

ADMINISTRATION BUILDING
3380 14TH STREET - P. O. BOX 2800
RIVERSIDE, CALIFORNIA 92516

OFFICE OF THE SUPERINTENDENT
(951) 788-7131
FAX: (951) 778-5668

June 8, 2018

Riverside Unified School District
3380 14th Street
Riverside, CA 92501

Dear RUSD Parent or Guardian,

As we begin to wind down the school year, Riverside Unified School District (RUSD) will take advantage of the upcoming summer months to perform water testing across all our schools. We will begin testing at the end of May 2018 and will be finished with all schools by the end of September 2018.

The purpose of this memo is not only to keep you informed, but also to assure you that your school district proactively works to provide a fun, engaging and safe learning environment for your child. RUSD follows and abides by California State and Federal safety standards to make certain every school and every student has access to safe drinking water.

If you have any questions about the upcoming water tests, you can contact Maintenance & Operations at (951)788-7496 for more information, or you can visit us on our web page at http://www.riversideunified.org/departments/maintenance___operations.

Have a great summer break!

Sincerely,

Maintenance & Operations Department
Riverside Unified School District

Distrito Escolar Unificado de Riverside

EDIFICIO DE ADMINISTRACIÓN
3380 14TH STREET - P. O. BOX 2800
RIVERSIDE, CALIFORNIA 92516

OFICINA DEL SUPERINTENDENTE
(951) 788-7131
FAX: (951) 778-5668

RUSD
Innovation in Education

8 de junio de 2018

Estimado Padre o Tutor legal de RUSD,

Al llegar hacia el final del año escolar, el Distrito Escolar Unificado de Riverside (RUSD) se aprovechará de los próximos meses de verano para realizar pruebas de agua a través de todas nuestras escuelas. Comenzaremos las pruebas a finales de mayo de 2018 y terminaremos con todas las escuelas a finales de septiembre de 2018.

El propósito de esta notificación no es solo para informarle, sino también para asegurarle que su distrito escolar trabaja proactivamente para proveer un ambiente de aprendizaje divertido, cautivador y seguro para su hijo. RUSD sigue y cumple con los estándares de seguridad estatal y federal para asegurar que toda escuela y cada alumno tienen acceso a agua sana para beber.

Si tiene alguna pregunta sobre las próximas pruebas de agua, puede comunicarse con Mantenimiento y operaciones al (951)788-7496 para más información, o puede visitarnos en nuestra página de Internet al http://www.riversideunified.org/departments/maintenance___operations.

¡Que tengan unas fabulosas vacaciones de verano!

Atentamente,

Departamento de mantenimiento y operaciones
Distrito Escolar Unificado de Riverside

ARLINGTON HIGH SCHOOL

MEASURE O PROJECT

Operation Board Subcommittee

June 15, 2018

Table of Contents

Measure O Project Budget Summary

Project: **Arlington High School**
OPTION 1
Group: **B**

A	**Total Allocation:**	$	9,471,372
	Modernization Allocation:	$	2,908,234
	New Construction Allocation:	$	6,563,138
	Funding Sources:		
	Measure O:	$	15,028,405
	*State Match:	$	1,035,000
	Other:	$	-
	Total:	$	16,063,405
	*Pending State application and award of funds		
	Project Budget:		
	Hard Construction Cost:	$	10,447,850
	Constr. Escalation/Contingency:	$	1,160,950
	Soft Costs (design, survey, etc.):	$	2,195,500.00
	Furniture/Equipment:	$	570,830.00
	Interim Housing:	$	658,650.00
	Project Contingency	$	966,020.00
	Total:	$	15,999,800

B	Hard Cost Budget + escalation:	$	11,608,800

RIVERSIDE UNIFIED SCHOOL DISTRICT
Arlington High School Project Summary

OPTION 1

Priority #	Description	Program and Scope	Cost Est (Recommended SOW)	Note
1	Site Work	Courtyard improvements, curb appeal, front entrance security, and removal of relocatable classrooms	$ 2,644,800	
2	Maintenance Items	Modernize existing pool, modernize remaining relocatable classrooms, roof recertification, HVAC relpacement, replace wheelchair lift at stage, exterior painting, and asphalt seal and stripe	$ 4,130,000	
3	Modernization	Minor upgrades to Media Arts Academy	$ 1,300,000	
4	New Construction	1-Story Classroom Building (8 classrooms)	$ 3,534,000	
		TOTAL PROJECT COST*	**$ 11,608,800**	

Jackson Street

Arlington High School

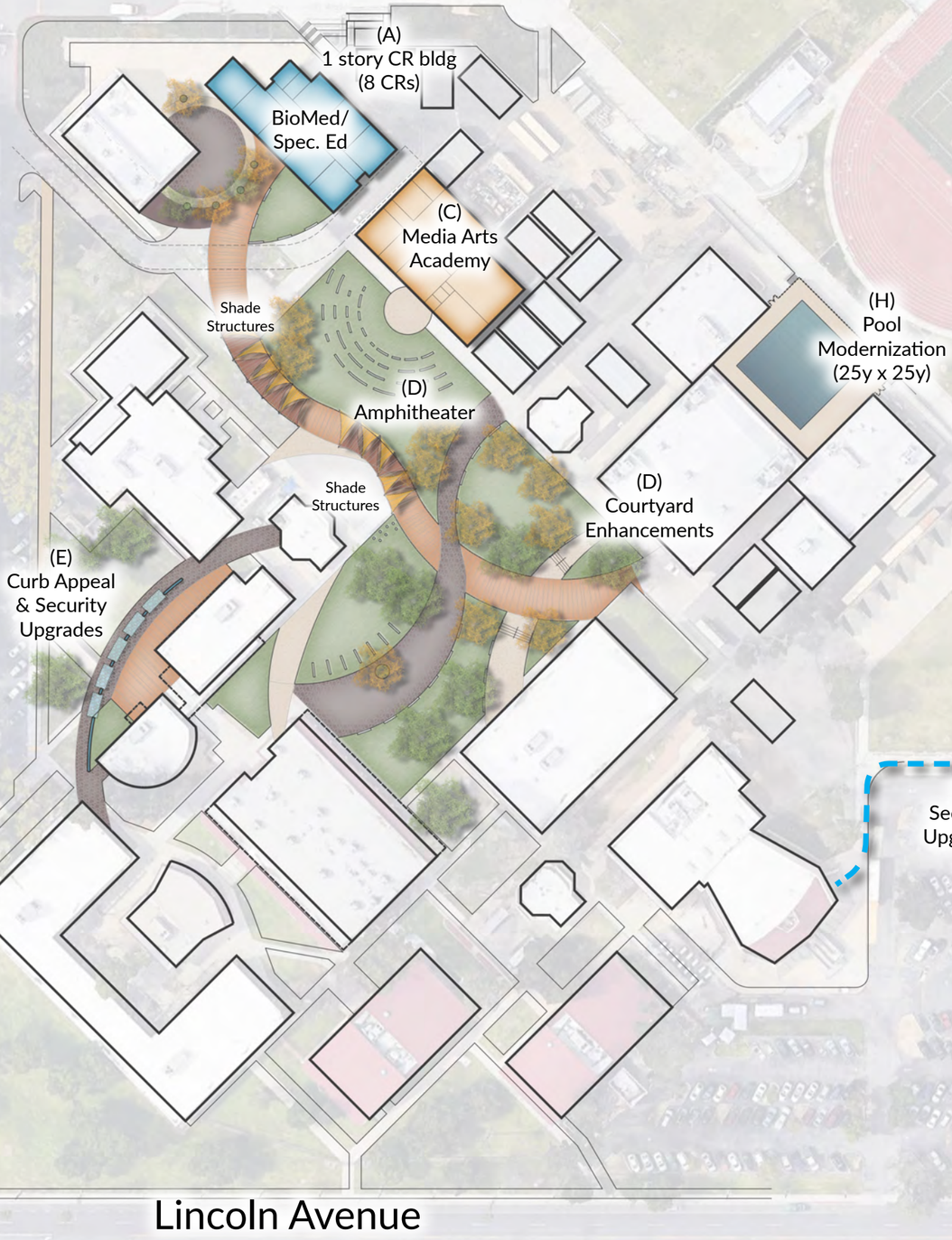
Scope
of Work

Lincoln Avenue

ARLINGTON

NORTH

Existing Site Aerial



Expressed Needs Menu:

New Buildings

A. 1 story CR Bldg. (8 CRs)
B. n/a

Modernization

C. Minor Upgrades to Media Arts Academy

Site Work

D. Courtyard & Site Enhancements
E. Curb Appeal and Security Upgrades
F. General Security Upgrades
G. Removal of 8 Relocatable CRs

Maintenance Items

H. Modernization of Existing Pool, Site Work, Deck Enhancements, Lights & Equipment

Legend:

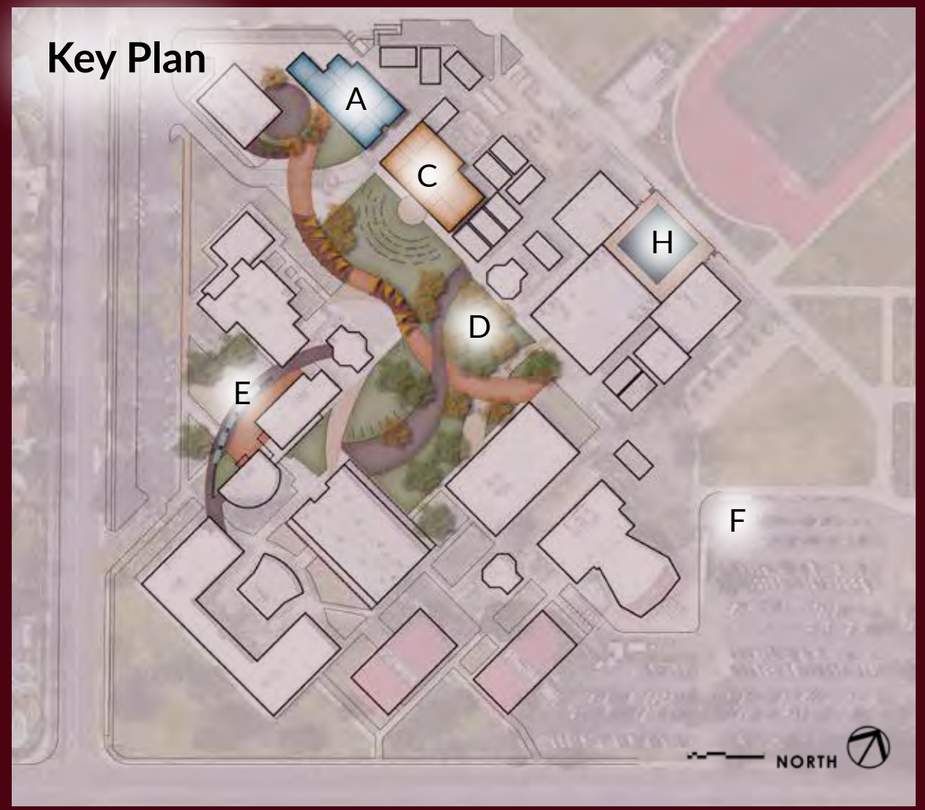
New Buildings

Modernization/ Reconfiguration

Option 1 - Site Plan

COST ESTIMATE

OPTION 1



NEW CONSTRUCTION

DESCRIPTION	EST. AMOUNT
A. New 1-Story Classroom Building (8 CRs)	$3,534,000
B. n/a	
SUBTOTAL (NEW)	**$3,534,000**

MODERNIZATION

DESCRIPTION	EST. AMOUNT
C. Minor Upgrades to Media Arts Academy	$1,300,000
SUBTOTAL (MODERNIZATION)	**$1,300,000**

SITE WORK

DESCRIPTION	EST. AMOUNT
D. General Courtyard and Site Enhancements	$1,760,000
E. Curb Appeal and Security at Main Entrance	$708,000
F. General Security Upgrades	$100,000
G. Removal of Relocatable Classrooms*	$76,800
SUBTOTAL (SITE)	**$2,644,800**

***Assumes Relos will be saved and sold**

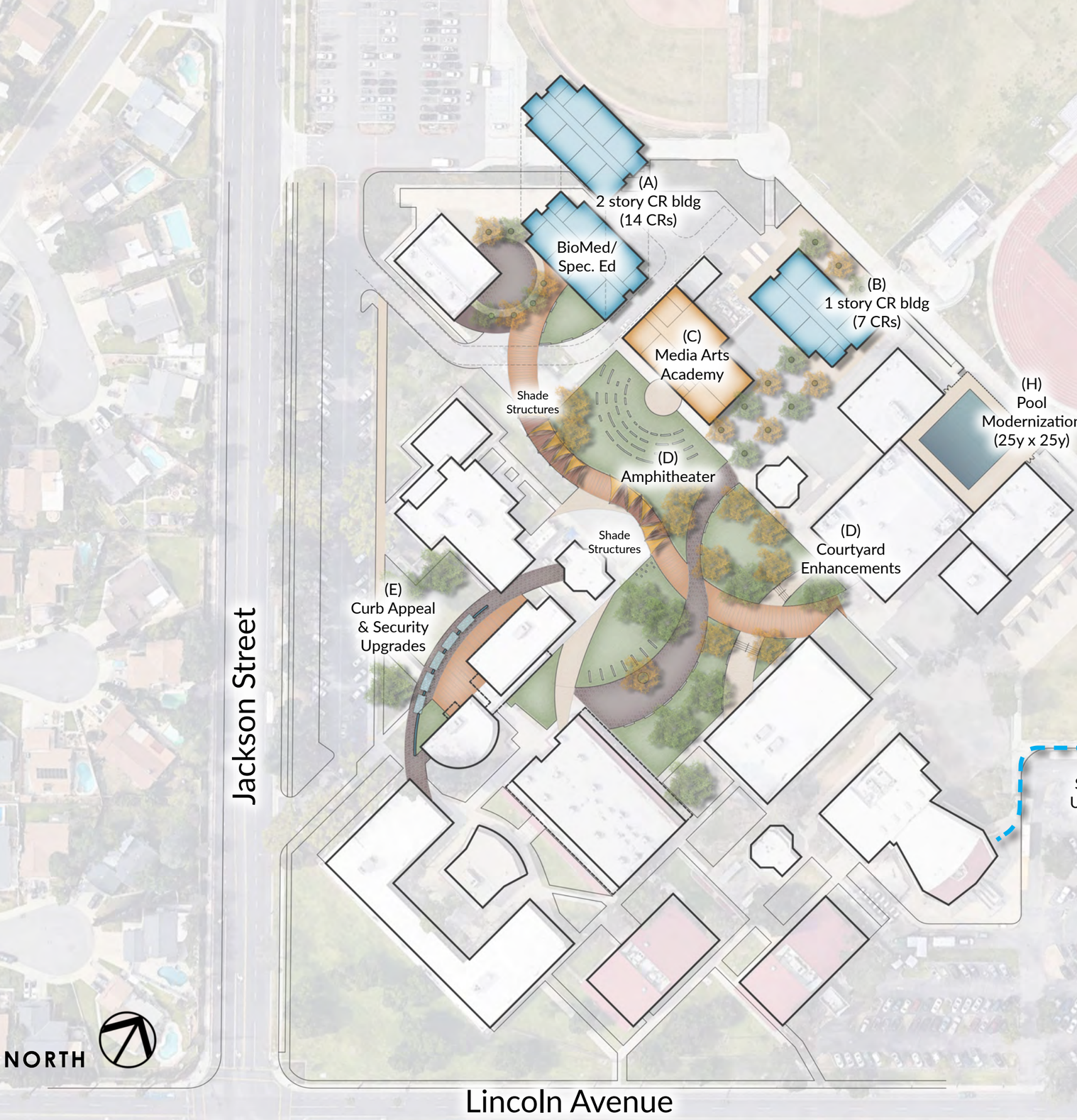
MAINTENANCE ITEMS

DESCRIPTION	EST. AMOUNT
H. Modernization of Existing Pool, Sitework, Deck Enhancements, Lights, & Equipment	$2,100,000
Portable Classroom Refurbishment	$510,000
Roof Recertification	$240,000
HVAC Replacement	$1,000,000
Stage WC Lift Replacement	$100,000
Paint Exterior	$120,000
Asphalt Seal and Stripe	$60,000
SUBTOTAL (MAINTENANCE)	**$4,130,000**

TOTAL

Total Construction Cost (Hard Costs)	**$11,608,800**
Soft Costs	$4,391,000
Total Project Cost	**$15,999,800**

* Escalation included in hard costs, contingency included in soft costs



Expressed Needs Menu:

New Buildings

A. 2 story CR Bldg. (14 CRs)
B. 1 story CR Bldg. (7 CRs)

Modernization

C. Minor Upgrades to Media Arts Academy

Site Work

D. Courtyard & Site Enhancements
E. Curb Appeal and Security Upgrades
F. General Security Upgrades
G. Removal of 21 Relocatable CRs

Maintenance Items

H. Modernization of Existing Pool, Site Work, Deck Enhancements, Lights & Equipment

Legend:

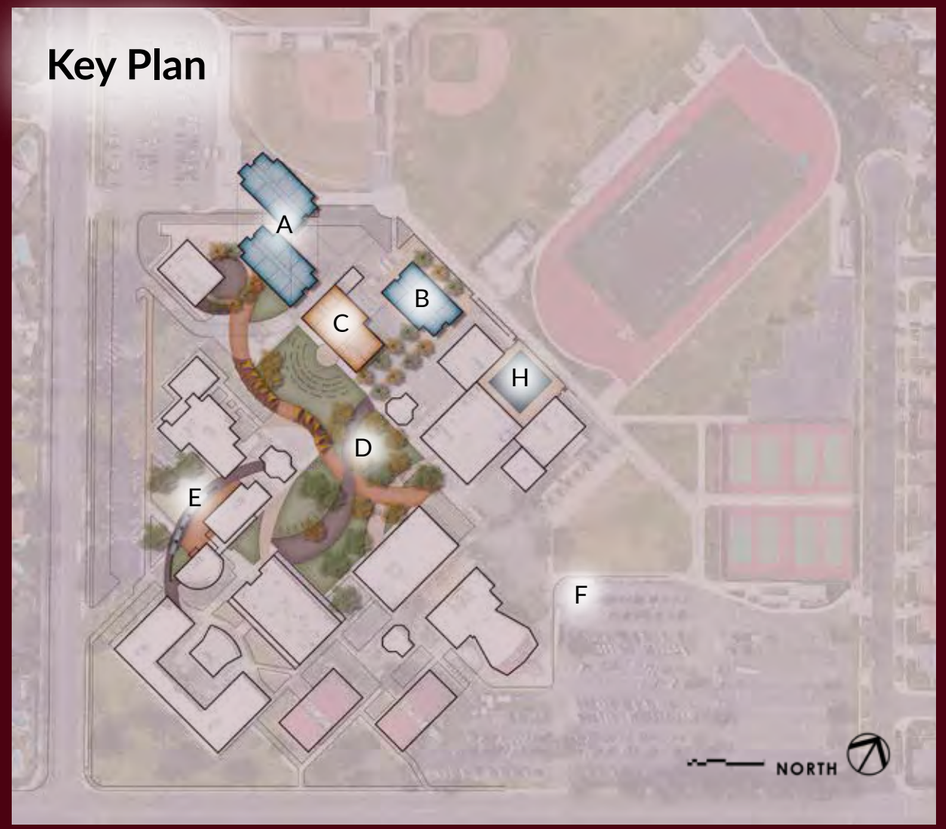
New Buildings

Modernization/ Reconfiguration

Option 2 - Site Plan

COST ESTIMATE

OPTION 2



NEW CONSTRUCTION

DESCRIPTION	EST. AMOUNT
A. New 2-Story Classroom Building (14 CRs)	$6,992,000
B. New 1-Story Classroom Building (7 CRs)	$3,534,000
SUBTOTAL (NEW)	**$10,526,000**

MODERNIZATION

DESCRIPTION	EST. AMOUNT
C. Minor Upgrades to Media Arts Academy	$1,300,000
SUBTOTAL (MODERNIZATION)	**$1,300,000**

SITE WORK

DESCRIPTION	EST. AMOUNT
D. General Courtyard and Site Enhancements	$1,912,000
E. Curb Appeal and Security at Main Entrance	$708,000
F. General Security Upgrades	$100,000
G. Removal of Relocatable Classrooms*	$201,600
SUBTOTAL (SITE)	**$2,921,600**

*Assumes Relos will be saved and sold

MAINTENANCE ITEMS

DESCRIPTION	EST. AMOUNT
H. Modernization of Existing Pool, Sitework, Deck Enhancements, Lights, & Equipment	$2,100,000
Portable Classroom Refurbishment	
Roof Recertification	$240,000
HVAC Replacement	$1,000,000
Stage WC Lift Replacement	$100,000
Paint Exterior	$120,000
Asphalt Seal and Stripe	$60,000
SUBTOTAL (MAINTENANCE)	**$3,620,000**

TOTAL

Total Construction Cost (Hard Costs)	**$18,367,600**
Soft Costs	$6,600,000
Total Project Cost	**$24,967,600**

* Escalation included in hard costs, contingency included in soft costs

MENU OF COSTS

DESCRIPTION		EST. AMOUNT
Soft Costs	$	8,500,000
Furniture & Equipment	$	350,000
Subtotal	$	8,850,000

	EST. AMOUNT
1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	
TOTAL PROJECT COST	**$ 8,850,000**

* Escalation included in hard costs for items A-L, contingency included in soft costs

(A)
2 story CR bldg
(14 CRs - BioMed/Spec. Ed)
$7,126,400

(B)
1 story CR bldg
(7 CRs)
$3,236,400

(C)
Media Arts
Academy Mod.
$2,744,000

Shade Structures

Shade Structures

(D)
Courtyard
Enhancements
$1,912,000

(E)
Curb Appeal &
Security Upgrades
$708,000

(I)
Administration
Mod. & Expansion
$2,858,600

(K)
Gymnasium
Expansion
$3,750,000

(L)
Stadium Expansion to 3,000 seats
Expand Home Bleachers
New Visitor Bleachers
New Press Box
New Restroom Building
$2,379,750

(H)
Competition Pool (25y x 34m)
& Pool Building
$5,800,000

(J)
Aux. Gym/
Fitness & Training Ctr.
(Sports Medicine)
$4,800,000

(F)
Security
Upgrades
$100,000

Jackson Street

NORTH

Legend:

New Buildings

Modernization/ Reconfiguration

Menu of Costs - Site Plan

SCHEDULE

SCHEMATIC DESIGN
July 5, 2018 –
August 31, 2018

DESIGN DEVELOPMENT
September 3, 2018 –
November 15, 2018

CONSTRUCTION DOCUMENTS
November 16, 2018 –
February 15, 2019

DSA
February 18, 2019 –
July 19, 2019

BIDDING
Feb 2020 – Apr 2020

- Advertise: February 2020
- Bid Opening: March 2020
- Board Award: April 2020

CONSTRUCTION
May 2020 –
August 2021

PROJECT CLOSEOUT
August 2021 –
October 2021

STEM High School

Riverside Unified School District

RUHNAU CLARKE ARCHITECTS

DESIGN PRESENTATION

JUNE 15, 2018

RUHNAU CLARKE ARCHITECTS

PATHWAYS

4 DISTINCT PATHWAYS INFORM THE DESIGN

Career-focused learning to prepare students for the 21st Century.
The facility is designed to serve.....

PATHWAY INTRODUCTION

ENGINEERING AND ADVANCED MANUFACTURING

AREAS OF STUDY:

Engineering

Advanced Manufacturing

Bio-Engineering

Mechanical Engineering

Electrical Engineering

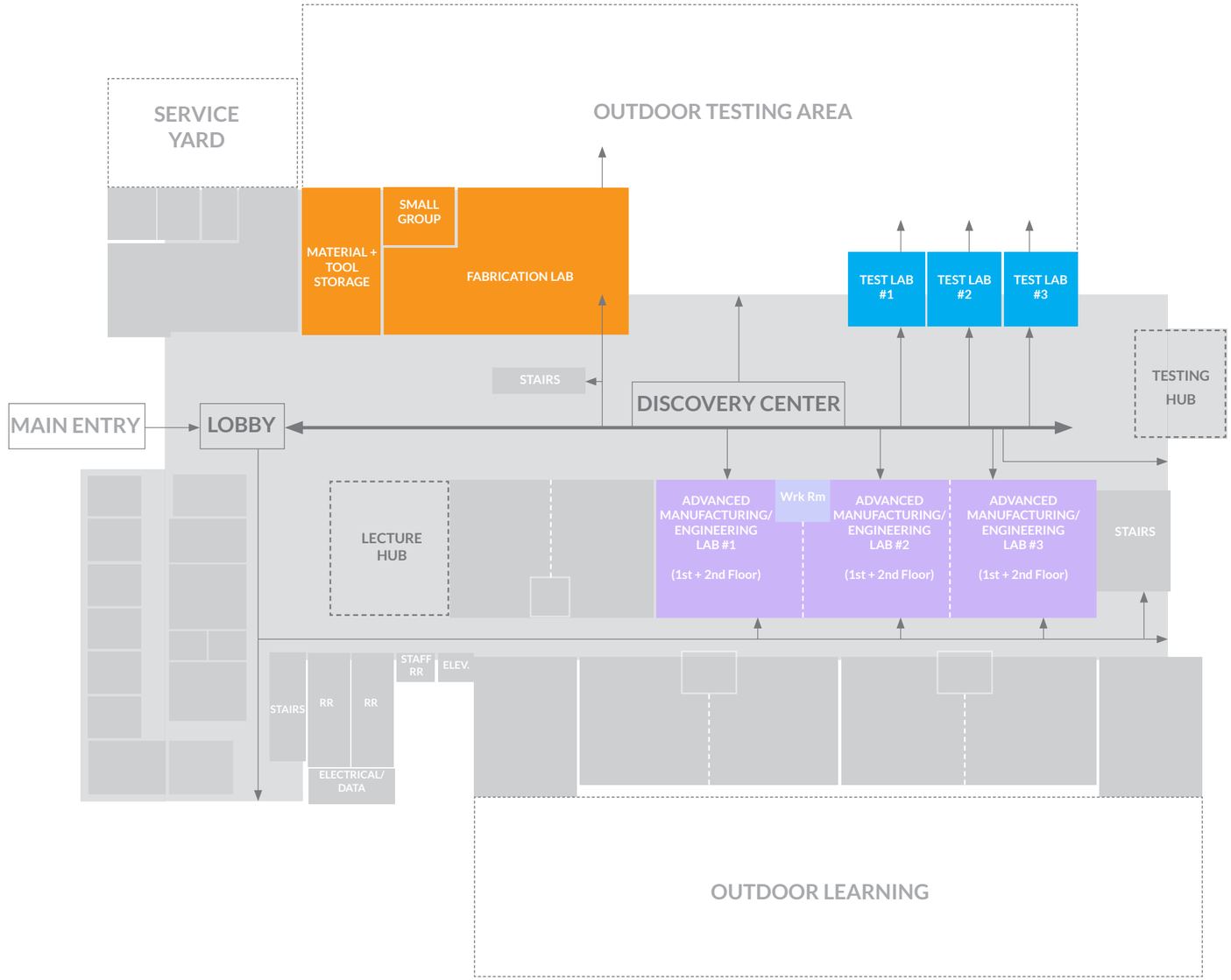
Structural Engineering

Aerospace

Aeronautics

Rocketry

ORGANIZATIONAL PRINCIPLES



Advanced Manufacturing/ Engineering

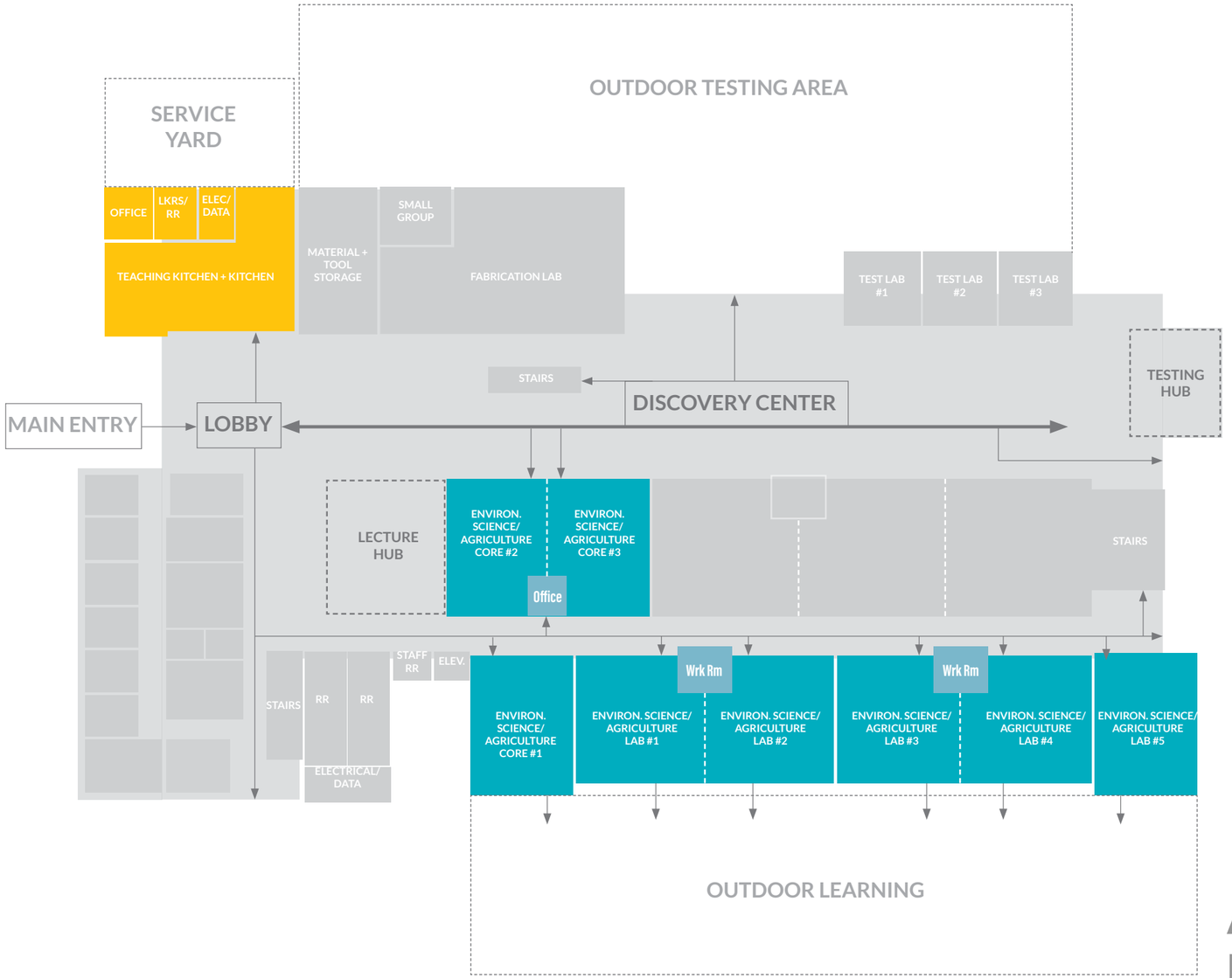
PATHWAY INTRODUCTION

ENVIRONMENTAL / AGRICULTURAL SCIENCE

AREAS OF STUDY:

- Environmental Sciences
- Water Resources
- Urban Farming
- Air Quality
- Solar Energy
- Precision Agriculture

ORGANIZATIONAL PRINCIPLES



Agriculture + Environmental Science

PATHWAY INTRODUCTION

BIO-MEDICAL / ALLIED HEALTH

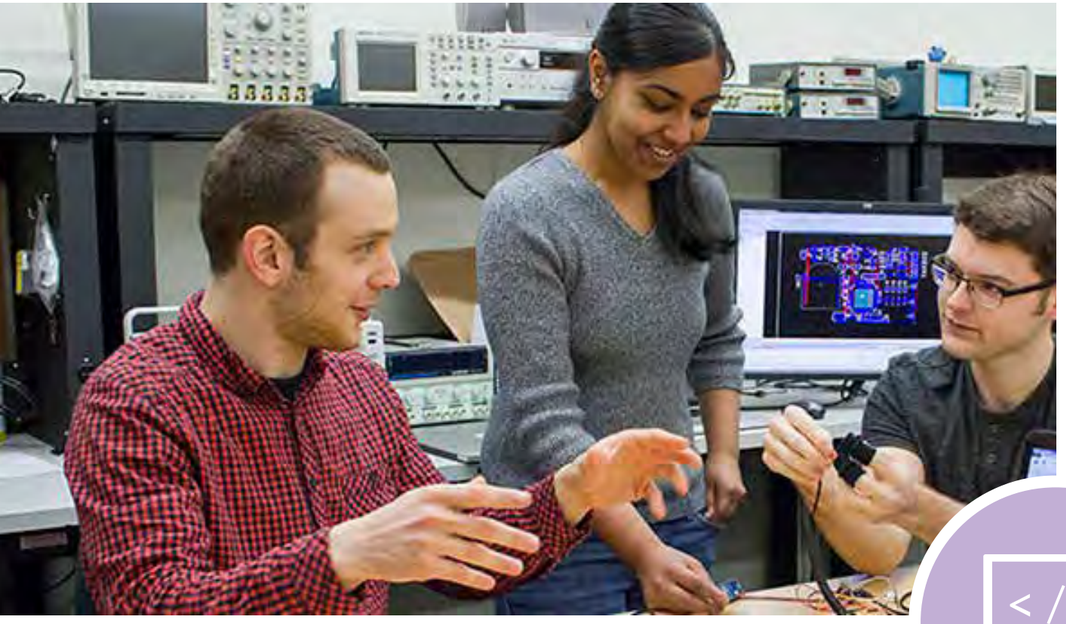
AREAS OF STUDY:

- Bioinformatics
- Genomics
- Gene Editing
- Bio Mimicry
- Biomedics
- Medicine
- Life Sciences
- Zoology
- Wellness
- Chemistry Nursing

ORGANIZATIONAL PRINCIPLES

Bio-Medical/ Allied Health

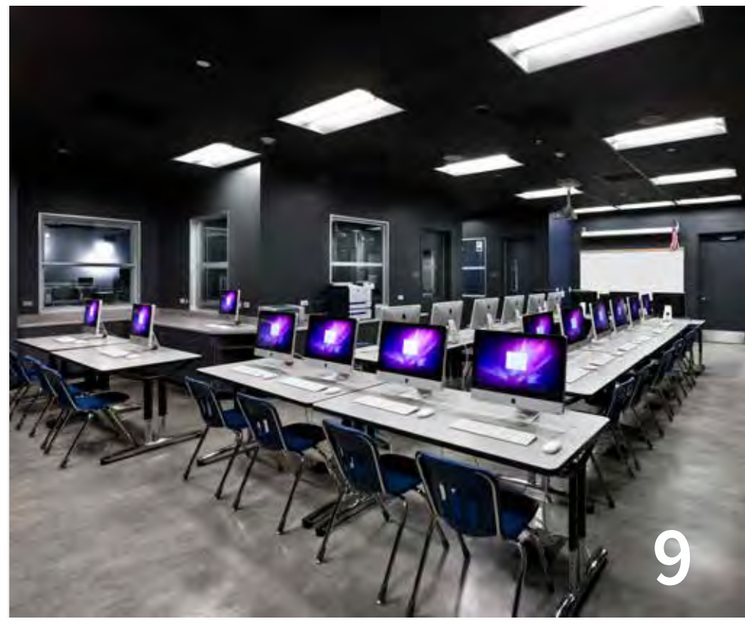
PATHWAY INTRODUCTION



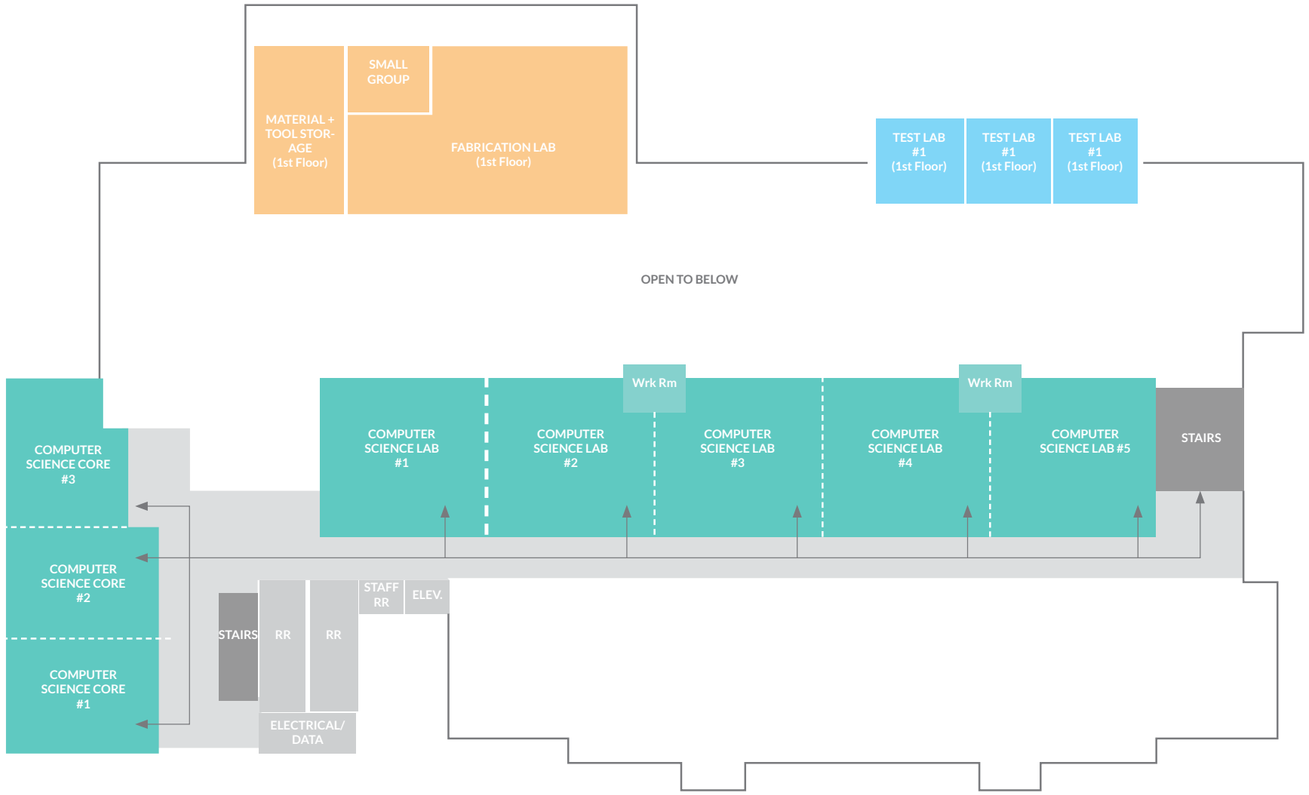
COMPUTER SCIENCE

AREAS OF STUDY:

- Computer Science
- Coding
- Programming
- Robotics
- Artificial Intelligences
- Smart Devices



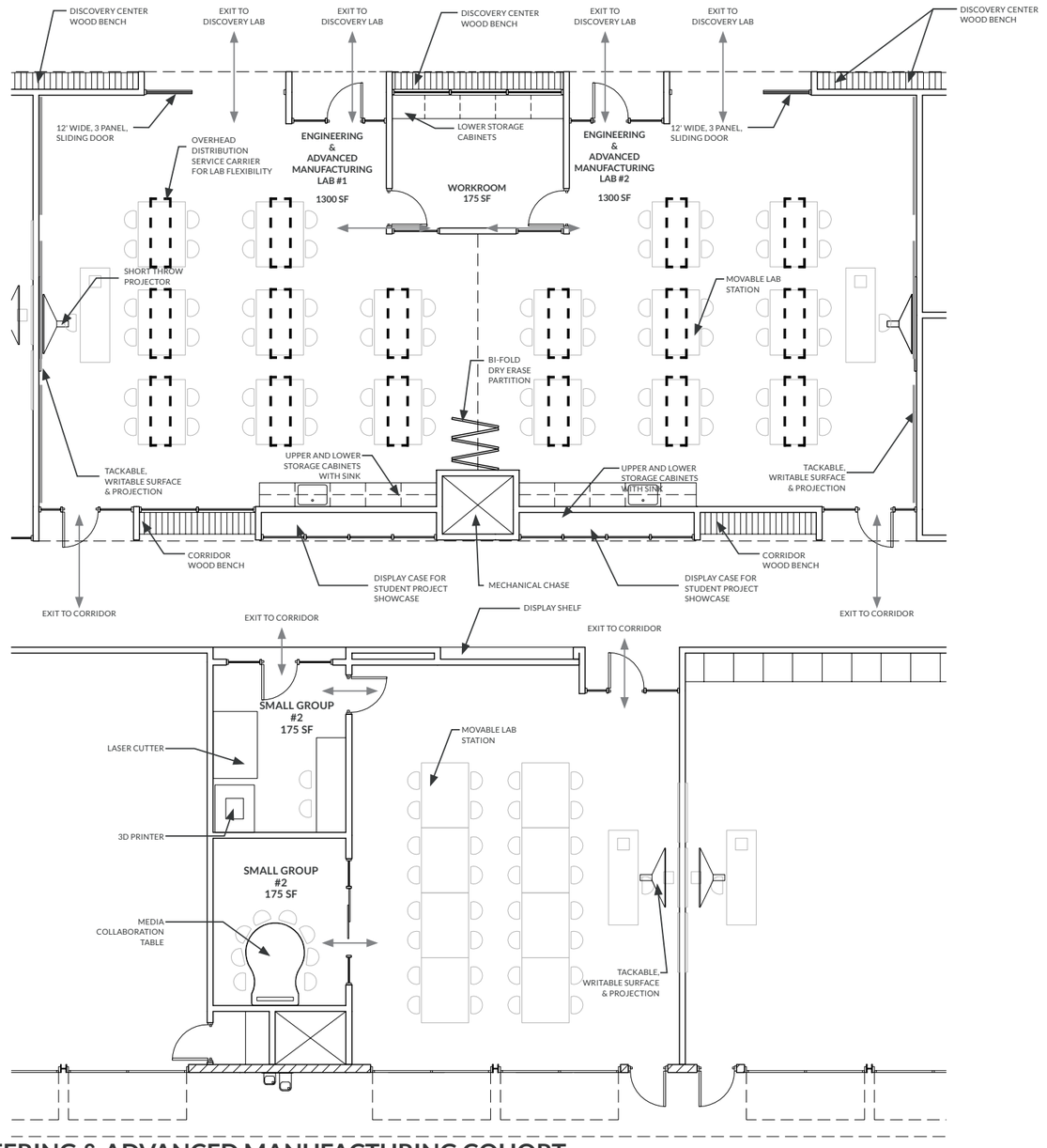
ORGANIZATIONAL PRINCIPLES



Computer Science

ENLARGED FLOOR PLAN

DISCOVERY CENTER



BI-FOLD DRY ERASE PARTITION

OVERHEAD DISTRIBUTION SERVICE CARRIER

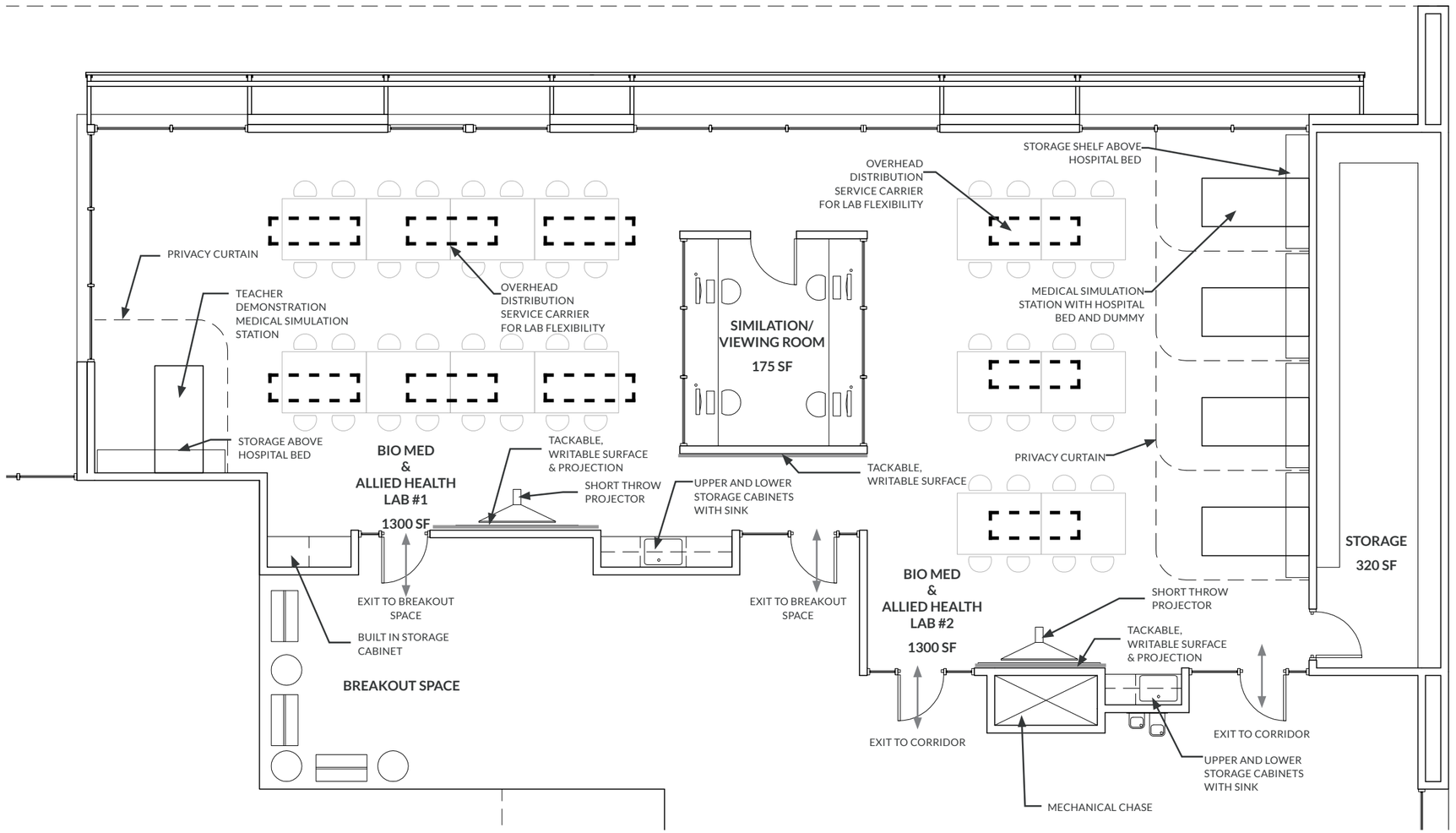
FLEXIBLE LAB STATIONS

1ST FLOOR ENGINEERING & ADVANCED MANUFACTURING COHORT: ENLARGED FLOOR PLAN

SCALE: 3/32" = 1'-0"

0' 5' 10' 25' N

ENLARGED FLOOR PLAN



2ND FLOOR BIO-MED & ALLIED HEALTH LAB: ENLARGED FLOOR PLAN

SCALE: 1/8" = 1'-0"

OVERHEAD DISTRIBUTION SERVICE CARRIER

MEDICAL SIMULATION STATIONS

MEDICAL VIEWING ROOM

CONTEXT DIAGRAM

SITE KEY

- PEDESTRIAN PATH 1
- PEDESTRIAN PATH 2

SITE OPTION 1

PROS

1 ALL VEHICULAR ENTRANCES ARE FROM WATKINS DR.

2 A FACULTY PARKING LOT WITH 39 SPACES IS PROVIDED ON THE NORTH SIDE OF THE BUILDING.

3 ALTHOUGH THE BUS AND PARENT VEHICLE ENTRANCES ARE ON WATKINS, THEY ARE SEPARATED BY 275 FT.

4 THE PARENT DROP-OFF (1) IS SEPARATED FROM THE BUS DROP-OFF (2) LOCATION TO AVOID CONGESTION.

5 NO TRAFFIC INCREASE ON VALENCIA HILL DR.

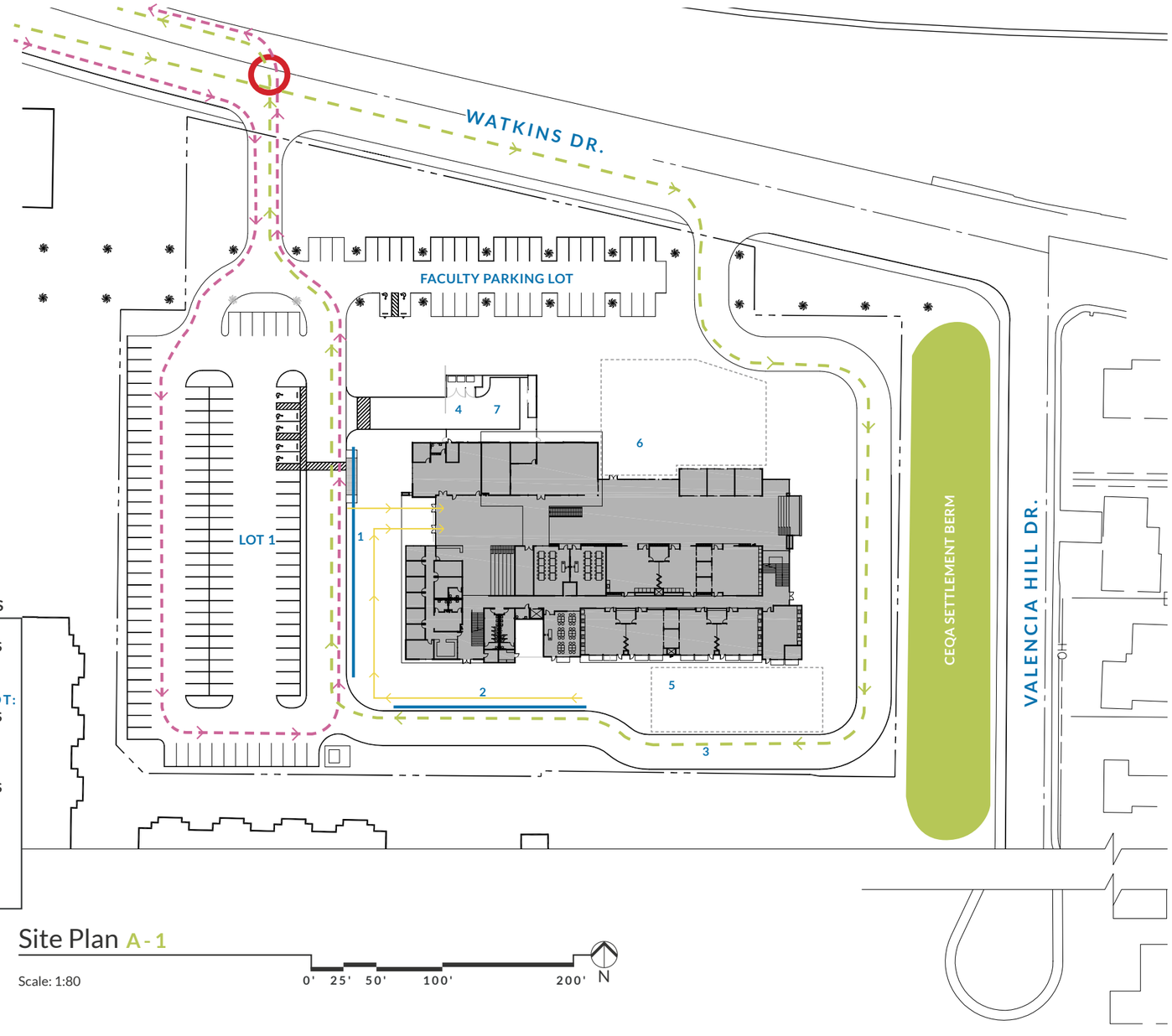
CONS

1 ALL BUSES MERGE WITH PARENT DROP-OFF TRAFFIC AT SOUTH WEST CORNER. THIS COULD BE A SOURCE OF TRAFFIC CONGESTION.

2 ONE OR TWO TRAFFIC LIGHTS MAY BE REQUIRED ON WATKINS DR.

3 THE ENTIRE FIRE LANE IS PAVED RATHER THAN A DG PATH FOR OUTDOOR FITNESS AND LEARNING.

4 PARENT TRAFFIC CAN BLOCK BUSES FROM DROP-OFF.



SITE KEY

- PARENT DROP-OFF CIRCULATION
- BUS DROP-OFF CIRCULATION
- STUDENT / PEDESTRIAN CIRCULATION
- POSSIBLE TRAFFIC LIGHT LOCATION
- 1 PARENT DROP-OFF LOCATION
- 2 BUS DROP-OFF LOCATION
- 3 FIRE LANE
- 4 SERVICE YARD
- 5 AGRICULTURE GARDENS
- 6 OUTDOOR TESTING SPACE
- 7 MATERIAL DROP-OFF

PARKING ANALYSIS

LOT 1:
124 PUBLIC SPACES
5 ADA

FACULTY PARKING LOT:
37 PUBLIC SPACES
2 ADA

TOTAL
160 PUBLIC SPACES
7 ADA

Site Plan A-1

Scale: 1:80

0' 25' 50' 100' 200' N

SITE OPTION 2

PROS

1 A FACULTY PARKING LOT WITH 36 SPACES IS PROVIDED ON THE NORTH SIDE OF THE BUILDING.

2 AN ADDITIONAL PARKING LOT WITH 29 SPACES IS PROVIDED ON THE SOUTH SIDE OF THE BUILDING.

3 THE BUS DROP-OFF IS LOCATED ON WATKINS, ELIMINATING THE ON-SITE CONGESTION BETWEEN PARENT DROP-OFF TRAFFIC AND BUS TRAFFIC.

4 NO SIGNIFICANT TRAFFIC INCREASE ON VALENCIA HILL DR.

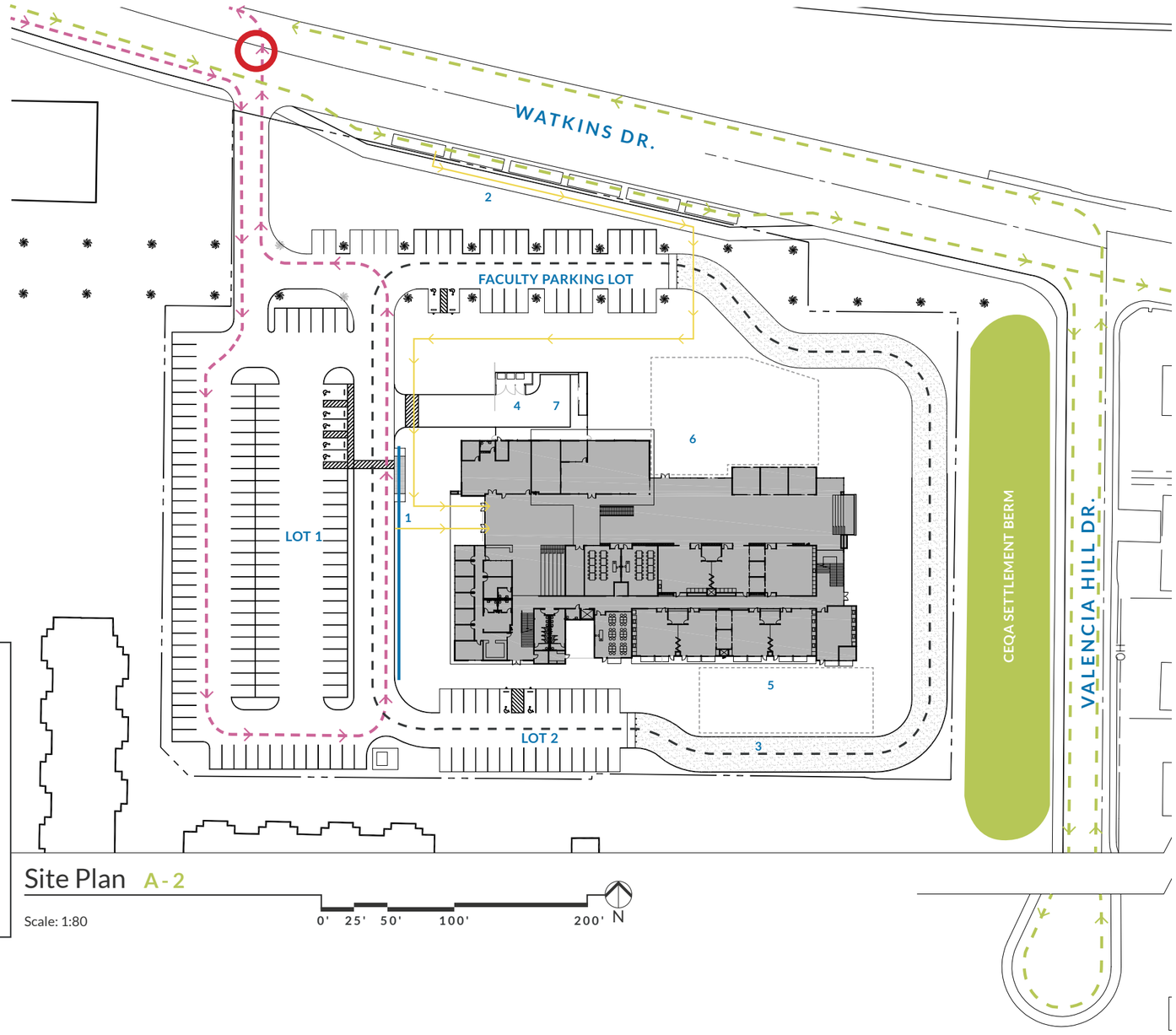
5 MOST OF THE FIRE LANE IS DG ALLOWING FOR OPPURTUNITIES FOR FITNESS INTEGRATION AND OUTDOOR LEARNING.

CONS

1 AFTER PARENTS DROP-OFF STUDENTS, THEY MERGE WITH BUS TRAFFIC ONTO WATKINS.

2 ONE TRAFFIC LIGHT MAY BE REQUIRED ON WATKINS DR.

3 BUS DROP-OFF TIMES HAVE TO BE STAGGERED.



SITE KEY

	PARENT DROP-OFF CIRCULATION
	BUS DROP-OFF CIRCULATION
	STUDENT / PEDESTRIAN CIRCULATION
	POSSIBLE TRAFFIC LIGHT LOCATION
1	PARENT DROP-OFF LOCATION
2	BUS DROP-OFF LOCATION
3	FIRE LANE
4	SERVICE YARD
5	AGRICULTURE GARDENS
6	OUTDOOR TESTING SPACE
7	MATERIAL DROP-OFF

PARKING ANALYSIS

LOT 1:
124 PUBLIC SPACES
5 ADA

LOT 2:
27 PARKING SPACES
2 ADA

FACULTY PARKING LOT:
34 PUBLIC SPACES
2 ADA

TOTAL
187 PUBLIC SPACES
9 ADA

Site Plan A-2

Scale: 1:80

0' 25' 50' 100' 200' N

SITE OPTION 3

PROS

1 THE BUS DROP-OFF IS LOCATED ON WATKINS DR., ELIMINATING CONGESTION BETWEEN PARENT DROP-OFF TRAFFIC AND BUS TRAFFIC.

2 THE PARENT DROP-OFF TRAFFIC IS EFFICIENT WITH MINIMAL CONGESTION IN THE PARKING LOT.

3 MOST OF THE FIRE LANE IS DG ALLOWING FOR OPPURTUNITIES FOR FITNESS INTEGRATION AND OUTDOOR LEARNING.

4 NO TRAFFIC ADDED TO LINDEN ST.

5 A FACULTY PARKING LOT WITH 35 SPACES IS PROVIDED ON THE NORTH SIDE OF THE BUILDING.

CONS

1 ADDITIONAL TRAFFIC ON VALENCIA HILL DR. MAY REQUIRE A NEW TRAFFIC LIGHT AT THE INTERSECTION WITH WATKINS DR.

2 ADDITIONAL TRAFFIC ON VALENCIA HILL DR. COULD GET PUSH BACK FROM NEIGHBORS.

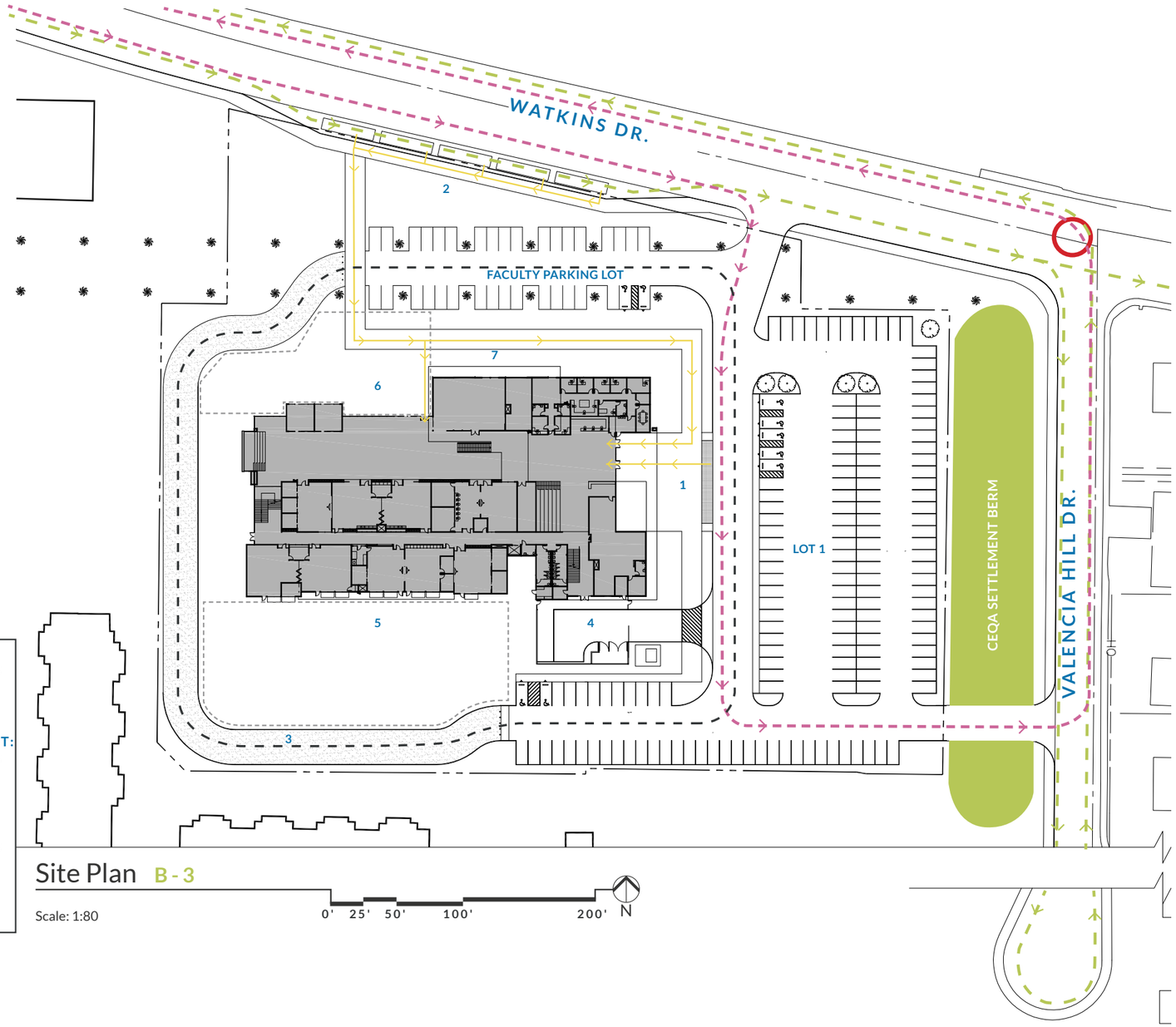
3 BUS TRAFFIC MERGES WITH PARENT DROP-OFF TRAFFIC AT ENTRANCE TO PARKING LOT. THIS MAY REQUIRE A TRAFFIC SIGNAL ON WATKINS DR.

4 BUILDING A PARKING LOT ENTRANCE OFF VALENCIA HILL DR. WILL BE CHALLENGING BECAUSE THE PROPERTY LINE DOES NOT EXTEND TO THE STREET.

5 BUSES MAY GET DELAYED BY PARENT TRAFFIC.

SITE KEY	
	PARENT DROP-OFF CIRCULATION
	BUS DROP-OFF CIRCULATION
	STUDENT / PEDESTRIAN CIRCULATION
	POSSIBLE TRAFFIC LIGHT LOCATION
1	PARENT DROP-OFF LOCATION
2	BUS DROP-OFF LOCATION
3	FIRE LANE
4	SERVICE YARD
5	AGRICULTURE GARDENS
6	OUTDOOR TESTING SPACE
7	MATERIAL DROP-OFF

PARKING ANALYSIS	
LOT 1:	
151	PUBLIC SPACES
7	ADA
158	TOTAL
FACULTY PARKING LOT:	
33	PUBLIC SPACES
2	ADA
35	TOTAL
TOTAL	
184	PUBLIC SPACES
9	ADA
193	TOTAL



Site Plan B-3

Scale: 1:80

RIVERSIDE UNIFIED SCHOOL DISTRICT
JUNE 2018

OPTION 1

$47.4
MILLION

HIGHLIGHTS

- 2 story
- 24 classrooms, 4 pathways
- Loading at 36 students/classroom (864 student capacity @ one time)
- Decreased number of laboratories and program spaces to reduce cost
- Elimination of rooftop project area
- Outdoor, non-conditioned discovery lab
- Overall project cost $47.4M

FIRST FLOOR

$47M

OPTION 1

Building	$26,500,000
Site Improvements	$3,800,000
Utilities	$950,000
Design Contingency	$3,500,000
Total Construction Cost	$34,750,000
Escalation	$2,780,000
Total Construction	$37,530,000
Soft Costs	
CM Fees	$1,700,000
GC	$1,700,000
DSA Fees	$495,000
CDE Fees	$32,000
A/E Fees	$2,234,000
Tests and Inspiration	$750,000
FF&E	$2,000,000
Survey	$35,000
Geotechnical	$40,000
Legal	$200,000
UCR Fees	$750,000
Total Soft Costs	$9,936,000
Total Project Cost	**$47,466,000**

PROJECT FUNDING

$50M

State Funding	$15,000,000
Local Funds	$35,000,000

TOTAL LABS:	14
TOTAL CLASSROOMS:	8
NUTRITION LAB	1
FITNESS LAB	1
TOTAL:	24
TOTAL LOADING @ 36 STUDENTS PER TEACHING STATION	864 STUDENTS
1ST FLOOR	35,375 SF
2ND FLOOR	30,750 SF
TOTAL AREA:	66,125 SF

SECOND FLOOR

$47M

OPTION 1

Building	$26,500,000
Site Improvements	$3,800,000
Utilities	$950,000
Design Contingency	$3,500,000
Total Construction Cost	$34,750,000
Escalation	$2,780,000
Total Construction	$37,530,000
Soft Costs	
CM Fees	$1,700,000
GC	$1,700,000
DSA Fees	$495,000
CDE Fees	$32,000
A/E Fees	$2,234,000
Tests and Inspiration	$750,000
FF&E	$2,000,000
Survey	$35,000
Geotechnical	$40,000
Legal	$200,000
UCR Fees	$750,000
Total Soft Costs	$9,936,000
Total Project Cost	**$47,466,000**

PROJECT FUNDING

$50M

State Funding	$15,000,000
Local Funds	$35,000,000

TOTAL LABS:	14
TOTAL CLASSROOMS:	8
NUTRITION LAB	1
FITNESS LAB	1
TOTAL:	24
TOTAL LOADING @ **36** STUDENTS PER TEACHING STATION	864 STUDENTS
1ST FLOOR	35,375 SF
2ND FLOOR	30,750 SF
TOTAL AREA:	66,125 SF

OPTION 2

$49.2
MILLION

HIGHLIGHTS

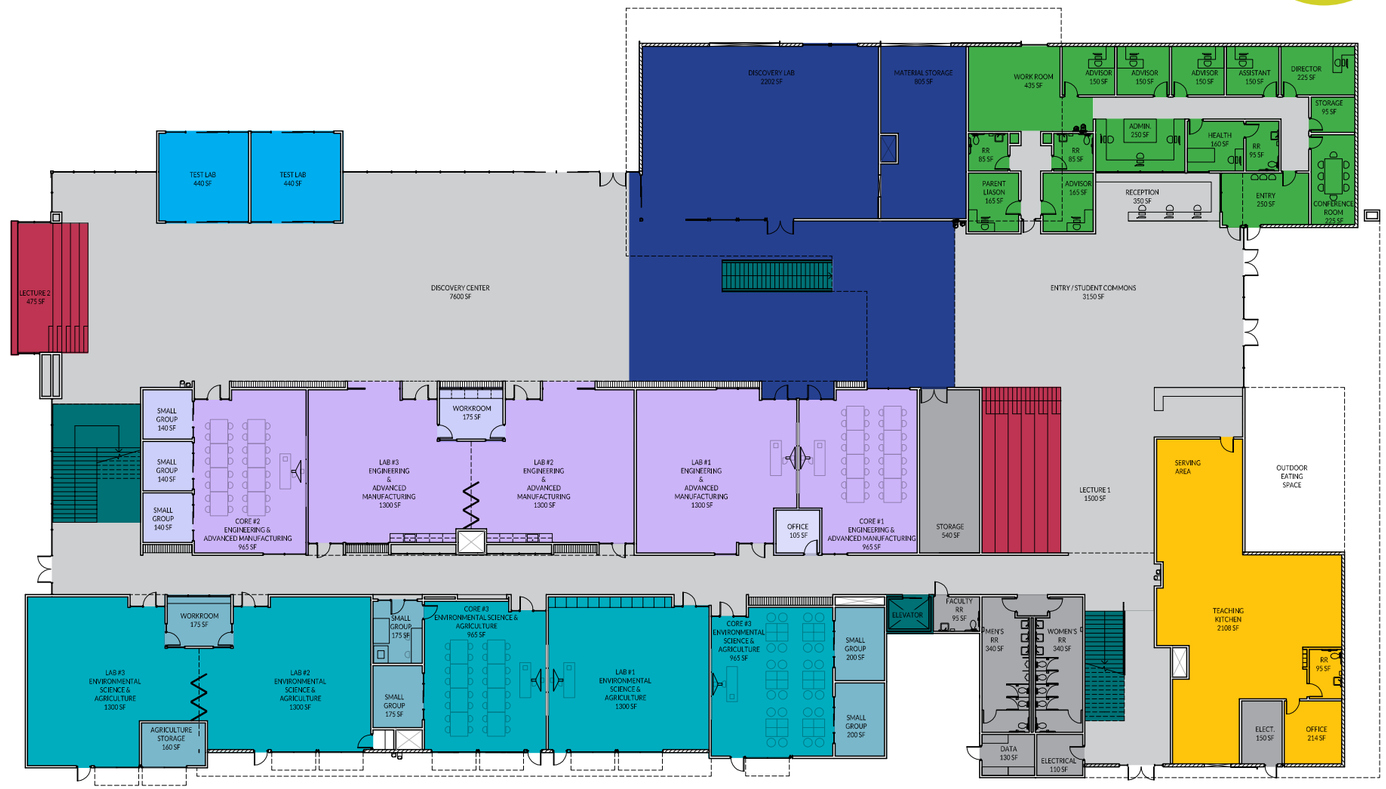
- 2 story
- 24 classrooms, 4 pathways
- Loading at 36 students/classroom (864 student capacity @ one time)
- Decreased number of laboratories and program spaces to reduce cost
- Elimination of rooftop project area
- Conditioned discovery lab
- Inclusion of test labs and lecture #2
- Overall project cost $49.2M

FIRST FLOOR

$49M

Option 2

Building	$28,183,550
Site Improvements	$3,800,000
Utilities	$950,000
Design Contingency	$3,500,000
Total Construction Cost	$36,433,550
Escalation	$2,780,000
Total Construction	$39,213,550
Soft Costs	
CM Fees	$1,700,000
GC	$1,700,000
DSA Fees	$515,000
CDE Fees	$34,000
A/E Fees	$2,318,200
Tests and Inspiration	$750,000
FF&E	$2,000,000
Survey	$35,000
Geotechnical	$40,000
Legal	$200,000
UCR Fees	$750,000
Total Soft Costs	$10,042,200
Total Project Cost	**$49,255,750**



PROJECT FUNDING

$50M

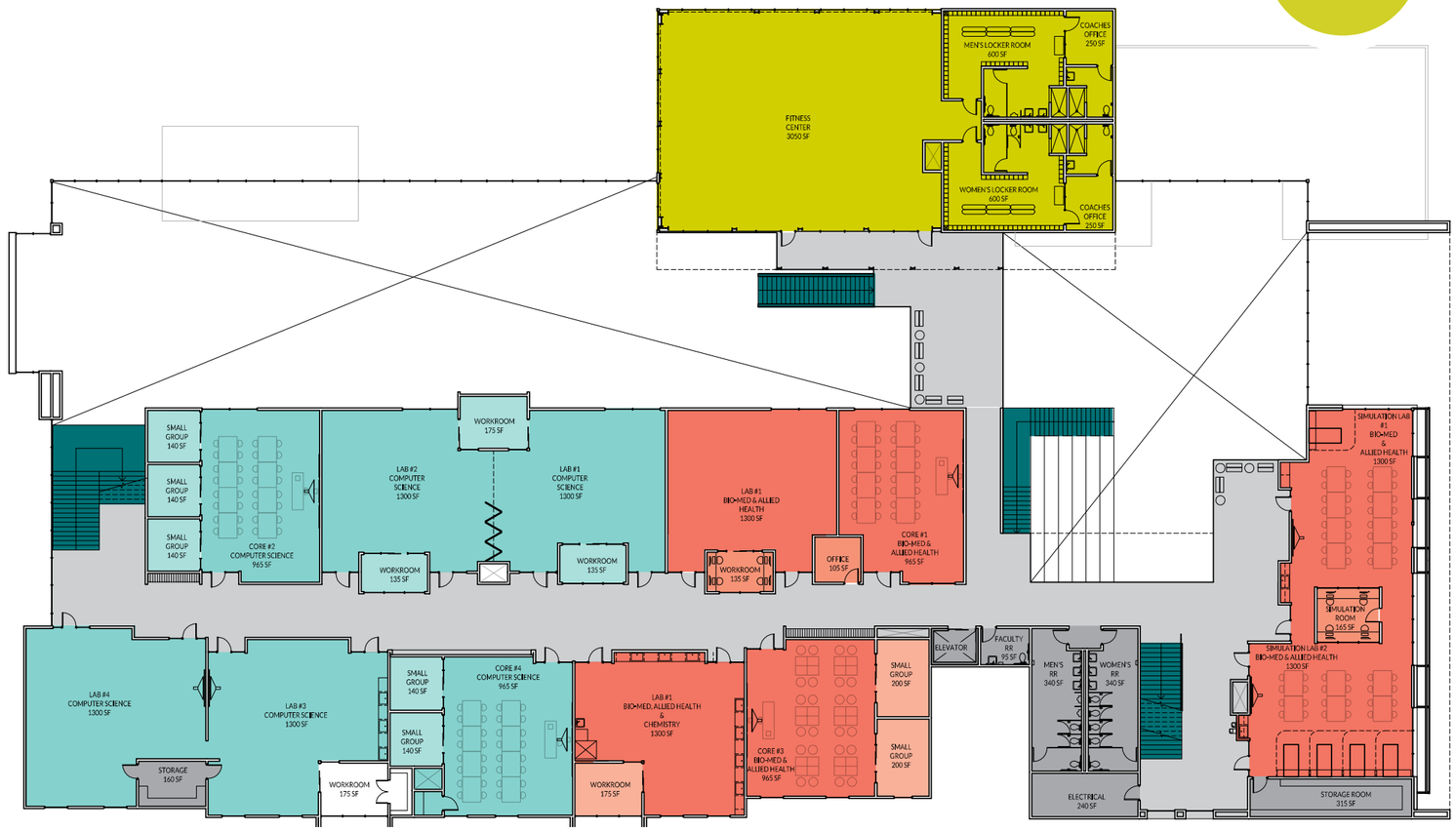
State Funding	$15,000,000
Local Funds	$35,000,000

TOTAL LABS:	14
TOTAL CLASSROOMS:	8
NUTRITION LAB	1
FITNESS LAB	1
TOTAL:	24
TOTAL LOADING @ 36 STUDENTS PER TEACHING STATION	864 STUDENTS
1ST FLOOR:	43,125 SF
2ND FLOOR:	28,675 SF
TOTAL:	71,800 SF

SECOND FLOOR

$49M

Option 2	
Building	$28,183,550
Site Improvements	$3,800,000
Utilities	$950,000
Design Contingency	$3,500,000
Total Construction Cost	$36,433,550
Escalation	$2,780,000
Total Construction	$39,213,550
Soft Costs	
CM Fees	$1,700,000
GC	$1,700,000
DSA Fees	$515,000
CDE Fees	$34,000
A/E Fees	$2,318,200
Tests and Inspiration	$750,000
FF&E	$2,000,000
Survey	$35,000
Geotechnical	$40,000
Legal	$200,000
UCR Fees	$750,000
Total Soft Costs	$10,042,200
Total Project Cost	**$49,255,750**



PROJECT FUNDING

$50M

State Funding	$15,000,000
Local Funds	$35,000,000

TOTAL LABS:	14
TOTAL CLASSROOMS:	8
NUTRITION LAB	1
FITNESS LAB	1
TOTAL:	24
TOTAL LOADING @ **36** STUDENTS PER TEACHING STATION	864 STUDENTS
1ST FLOOR:	43,125 SF
2ND FLOOR:	28,675 SF
TOTAL:	71,800 SF

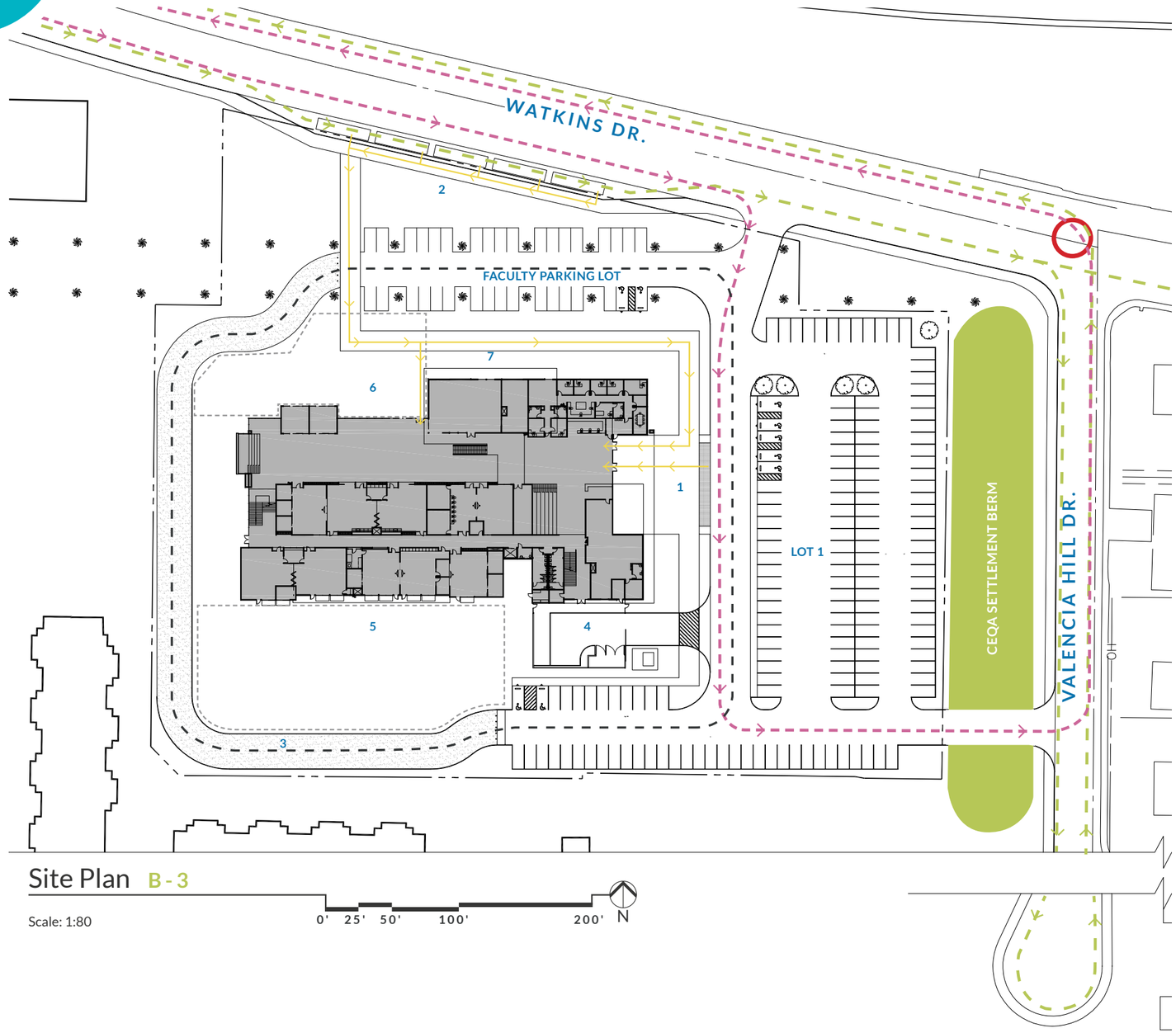
OPTION 3

$60.9
MILLION

HIGHLIGHTS

- 3 story
- 32 classrooms, 4 pathways
- Additional lab, classroom, small group instruction areas, and rooftop project area
- Conditioned discovery lab
- Test labs
- Overall project cost $60.9M

SITE DIAGRAM



Site Plan B - 3

Scale: 1:80

0' 25' 50' 100' 200' N

PROS

1 THE BUS DROP-OFF IS LOCATED ON WATKINS DR., ELIMINATING CONGESTION BETWEEN PARENT DROP-OFF TRAFFIC AND BUS TRAFFIC.

2 THE PARENT DROP-OFF TRAFFIC IS EFFICIENT WITH MINIMAL CONGESTION IN THE PARKING LOT.

3 MOST OF THE FIRE LANE IS DG ALLOWING FOR OPPORTUNITIES FOR FITNESS INTEGRATION AND OUTDOOR LEARNING.

4 NO TRAFFIC ADDED TO LINDEN ST.

5 A FACULTY PARKING LOT WITH 35 SPACES IS PROVIDED ON THE NORTH SIDE OF THE BUILDING.

CONS

1 ADDITIONAL TRAFFIC ON VALENCIA HILL DR. MAY REQUIRE A NEW TRAFFIC LIGHT AT THE INTERSECTION WITH WATKINS DR.

2 ADDITIONAL TRAFFIC ON VALENCIA HILL DR. COULD GET PUSH BACK FROM NEIGHBORS.

3 BUILDING A PARKING LOT ENTRANCE OFF VALENCIA HILL DR. WILL BE CHALLENGING BECAUSE THE PROPERTY LINE DOES NOT EXTEND TO THE STREET.

4 BUSES MAY GET DELAYED BY PARENT TRAFFIC.

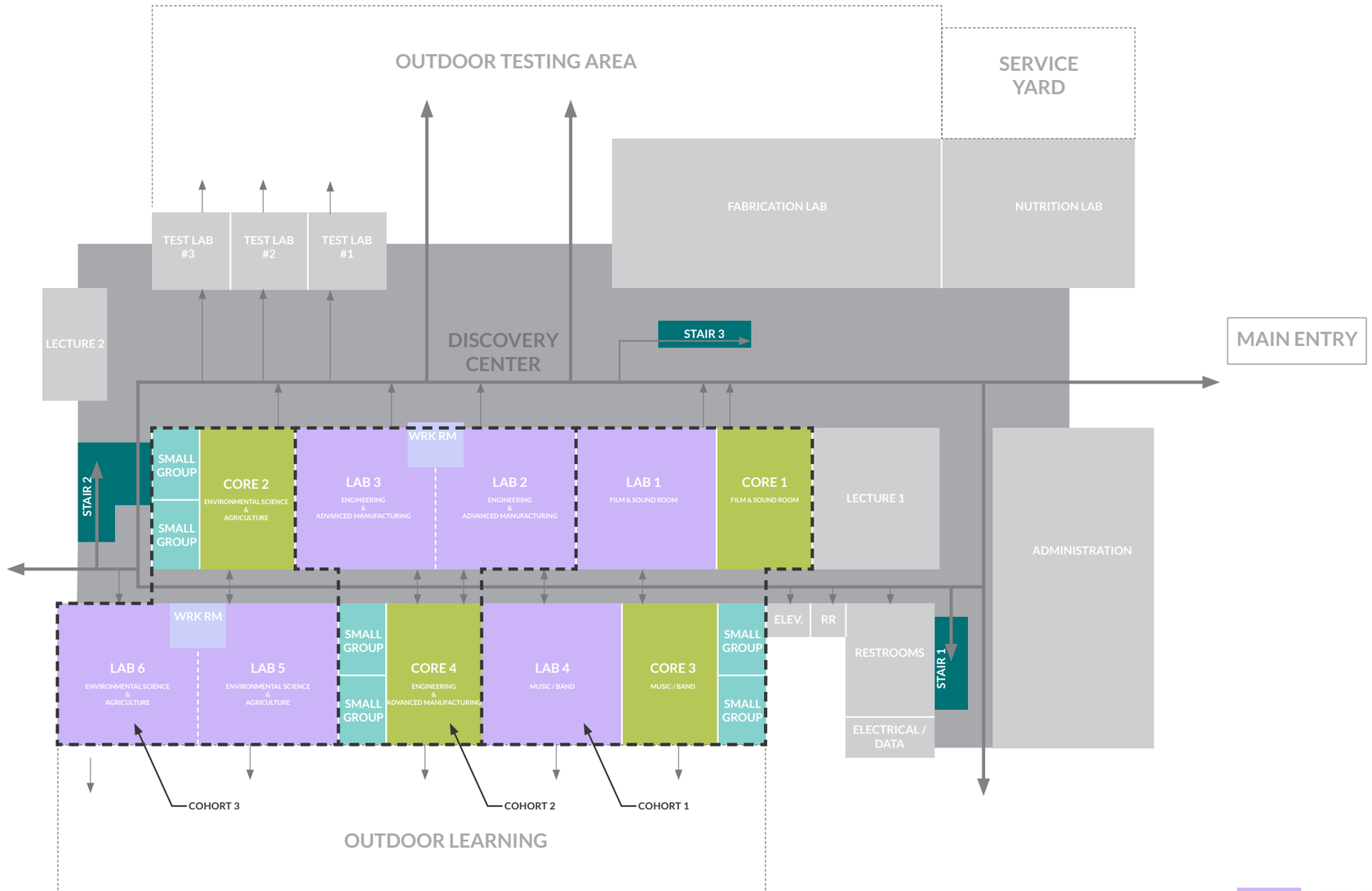
SITE KEY	
	PARENT DROP-OFF CIRCULATION
	BUS DROP-OFF CIRCULATION
	STUDENT / PEDESTRIAN CIRCULATION
	POSSIBLE TRAFFIC LIGHT LOCATION
1	PARENT DROP-OFF LOCATION
2	BUS DROP-OFF LOCATION
3	FIRE LANE
4	SERVICE YARD
5	AGRICULTURE GARDENS
6	OUTDOOR TESTING SPACE

PARKING ANALYSIS	
LOT 1:	
151	PUBLIC SPACES
7	ADA
158	TOTAL
FACULTY PARKING LOT:	
33	PUBLIC SPACES
2	ADA
35	TOTAL
TOTAL	
184	PUBLIC SPACES
9	ADA
193	TOTAL

SITE PLAN

SITE AREA:	250,130 SF 5.74 ACRES
BUILDING FOOTPRINT:	43,130 SF
LANDSCAPE:	83,000 SF
HARDSCAPE:	43,000 SF
ASPHALT:	81,000 SF

FIRST FLOOR - PROGRAM DIAGRAM



A-1: FIRST FLOOR PLAN

SCALE: 1/32" = 1'-0"

0' 25' 50' 100' N

- 6 LABS - 1200 - 1400 SF
- 2 WORK ROOMS - 175 SF
- 4 CORES - 960 SF
- 6 SMALL GROUPS - 175 SF

FIRST FLOOR

$60M

Option 3	
Building	$35,000,000
Site Improvements	$4,200,000
Utilities	$950,000
Design Contingency	$4,850,000
Total Construction Cost	$45,000,000
Escalation	$3,600,000
Total Construction	$48,600,000
Soft Costs	
CM Fees	$2,200,000
GC	$2,200,000
DSA Fees	$620,000
CDE Fees	$36,500
A/E Fees	$2,797,500
Tests and Inspiration	$850,000
FF&E	$2,500,000
Survey	$35,000
Geotechnical	$40,000
Legal	$200,000
UCR Fees	$750,000
Total Soft Costs	$12,229,000
Total Project Cost	**$60,829,000**

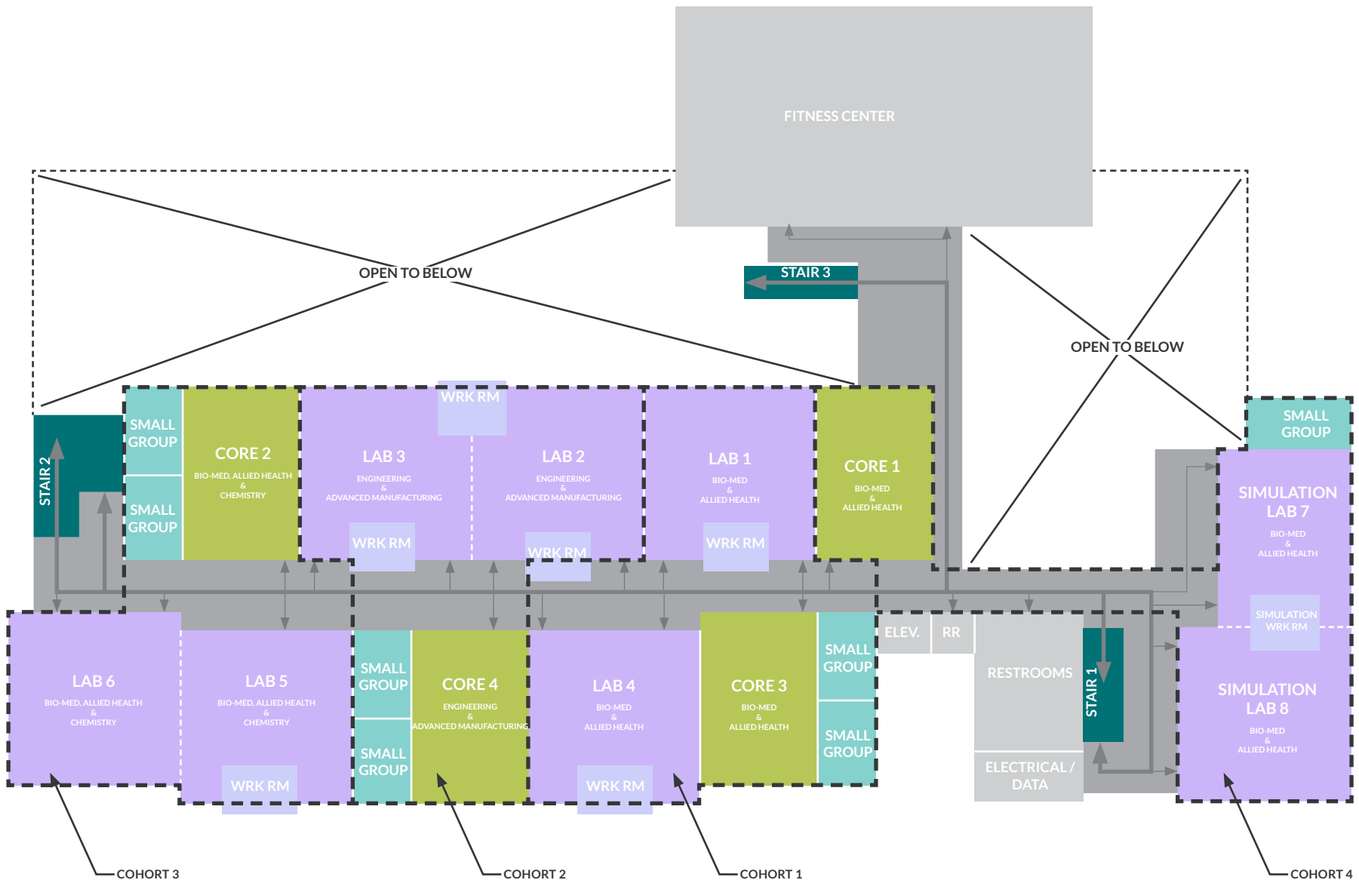
PROJECT FUNDING

$50M

State Funding	$15,000,000
Local Funds	$35,000,000

TOTAL LABS:	14
TOTAL CLASSROOMS:	11
NUTRITION LAB	1
FITNESS LAB	1
TOTAL:	31
TOTAL LOADING @ 27 STUDENTS PER TEACHING STATION	837 STUDENTS
1ST FLOOR:	43,125 SF
2ND FLOOR:	28,675 SF
3RD FLOOR:	16,425 SF
TOTAL:	88,225 SF

SECOND FLOOR - PROGRAM DIAGRAM



A-1: SECOND FLOOR PLAN

SCALE: 1/32" = 1'-0"

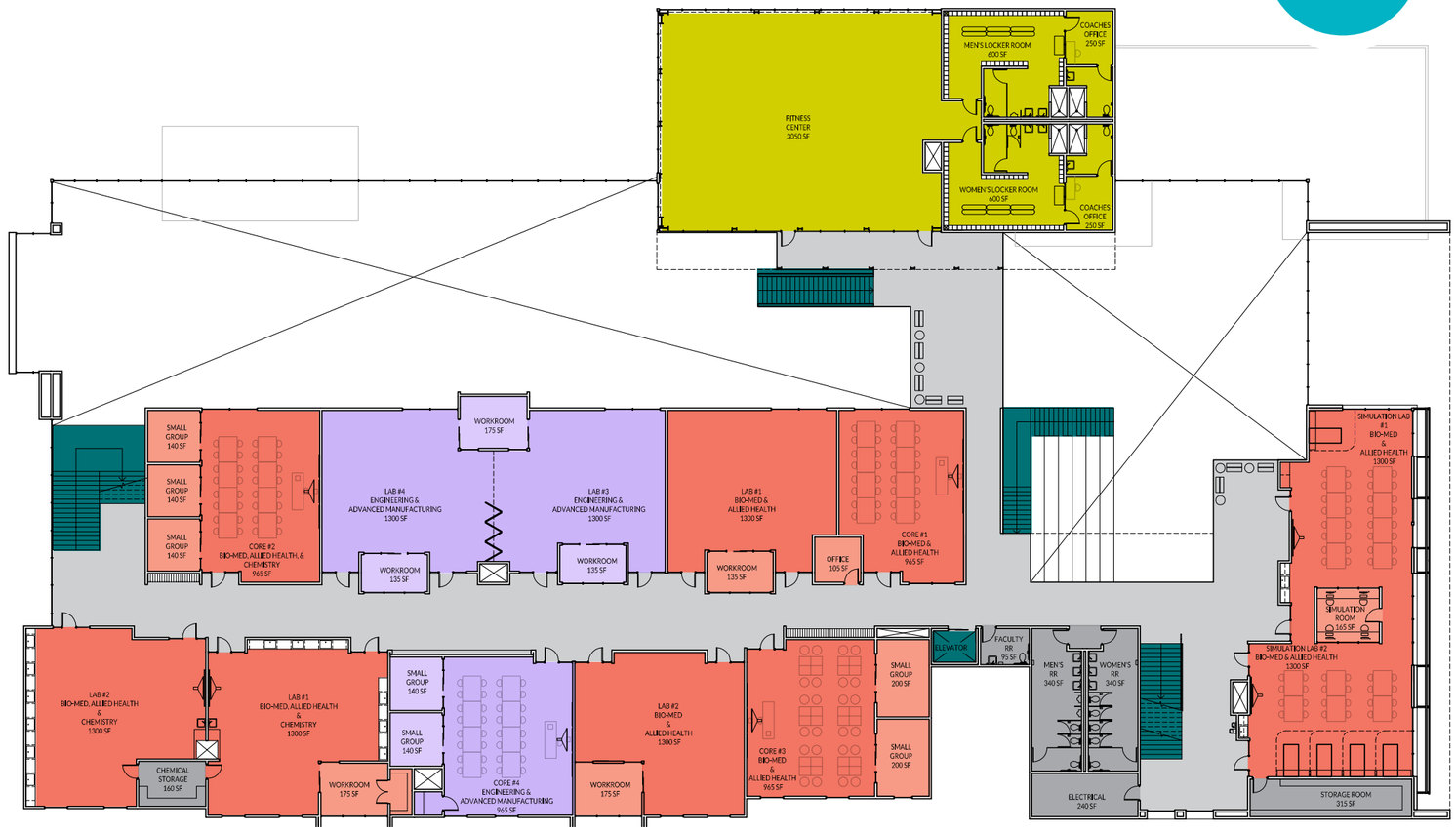
0' 25' 50' 100' N

- 8 LABS - 1200 - 1400 SF
- 7 WORK ROOMS - 175 SF
- 4 CORES - 960 SF
- 7 SMALL GROUPS - 175 SF

SECOND FLOOR

$60M

Option 3	
Building	$35,000,000
Site Improvements	$4,200,000
Utilities	$950,000
Design Contingency	$4,850,000
Total Construction Cost	$45,000,000
Escalation	$3,600,000
Total Construction	$48,600,000
Soft Costs	
CM Fees	$2,200,000
GC	$2,200,000
DSA Fees	$620,000
CDE Fees	$36,500
A/E Fees	$2,797,500
Tests and Inspiration	$850,000
FF&E	$2,500,000
Survey	$35,000
Geotechnical	$40,000
Legal	$200,000
UCR Fees	$750,000
Total Soft Costs	$12,229,000
Total Project Cost	**$60,829,000**



PROJECT FUNDING

$50M

State Funding	$15,000,000
Local Funds	$35,000,000

TOTAL LABS:	14
TOTAL CLASSROOMS:	11
NUTRITION LAB	1
FITNESS LAB	1
TOTAL:	31
TOTAL LOADING @ 27 STUDENTS PER TEACHING STATION	837 STUDENTS
1ST FLOOR:	43,125 SF
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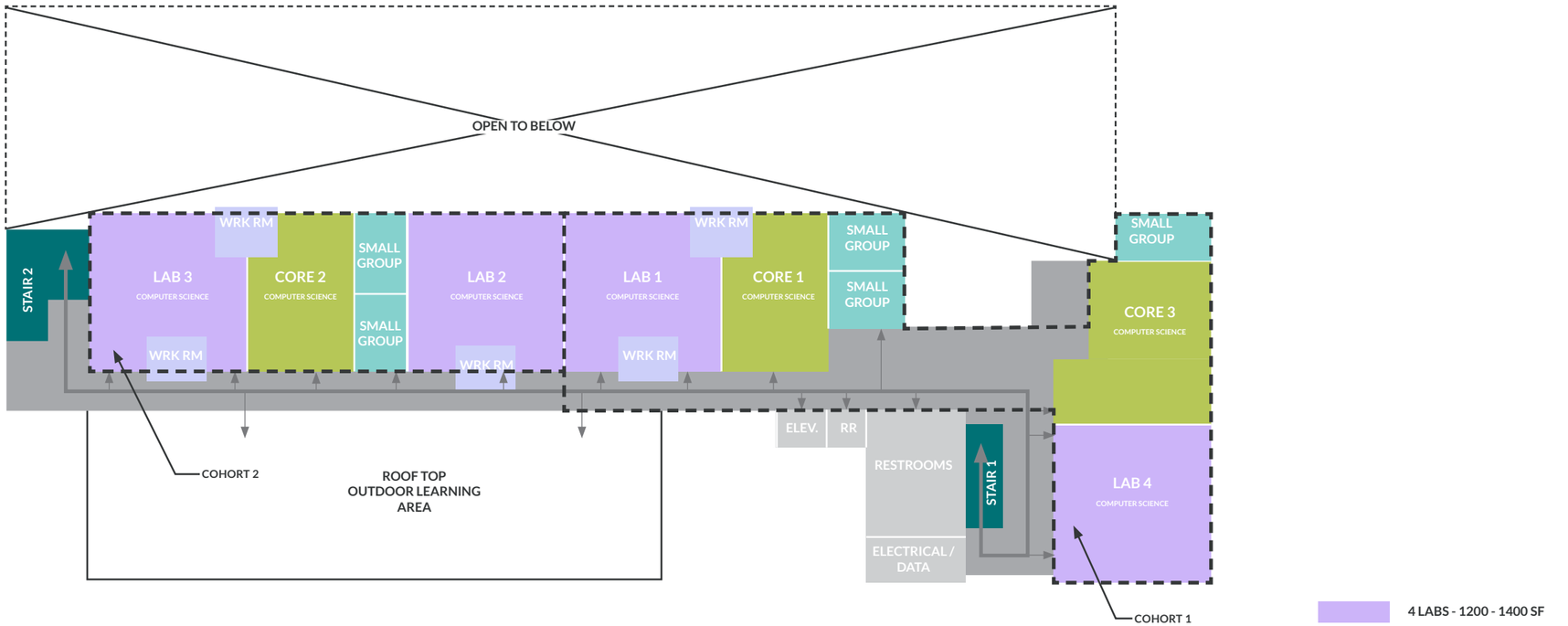
3RD FLOOR:	16,425 SF
TOTAL:	88,225 SF

THIRD FLOOR- PROGRAM DIAGRAM



A-1: THIRD FLOOR PLAN

SCALE: 1/32" = 1'-0"

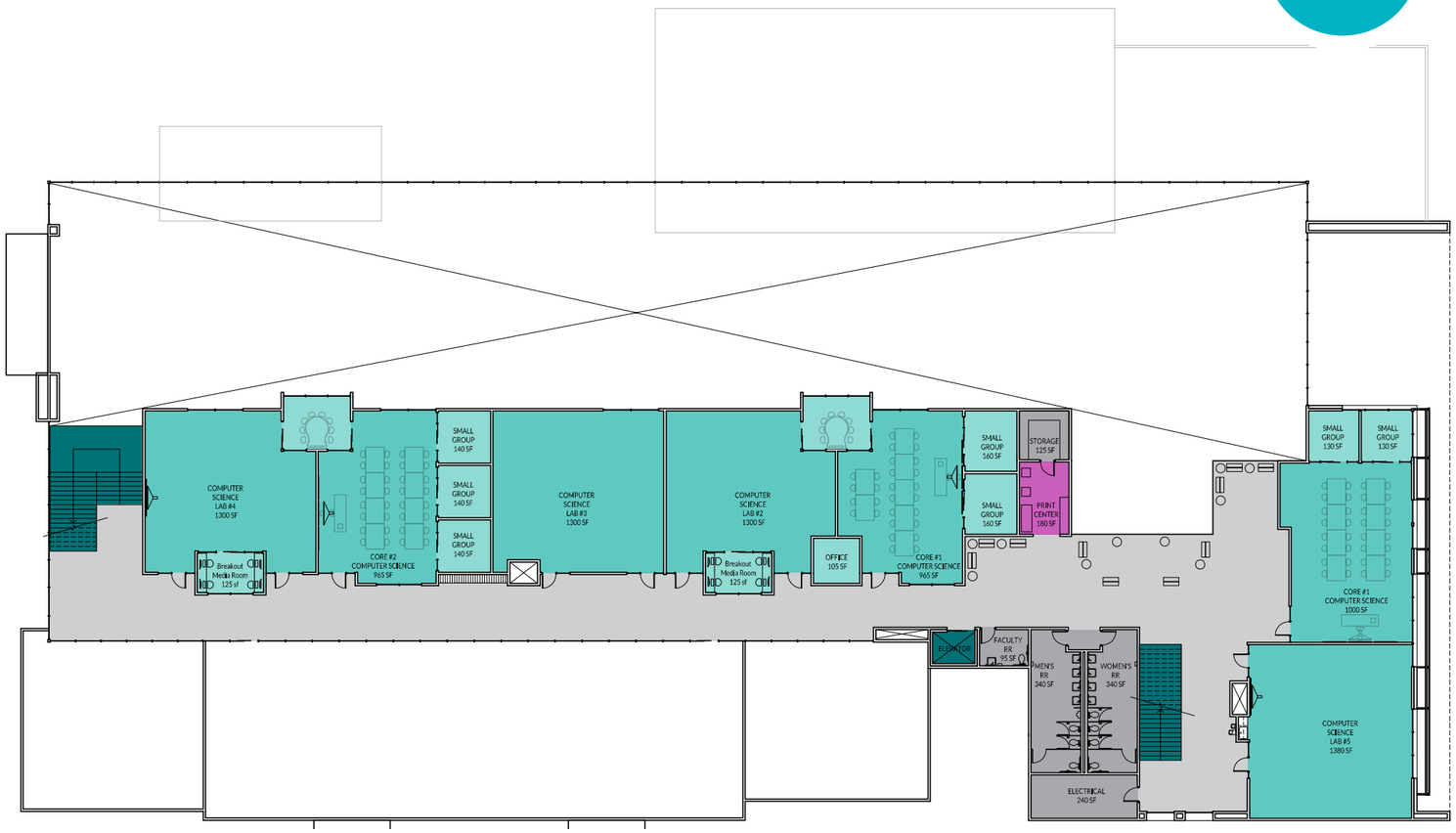
0' 25' 50' 100' N

- 4 LABS - 1200 - 1400 SF
- 4 WORK ROOMS - 175 SF
- 3 CORES - 960 SF
- 5 SMALL GROUPS - 175 SF

THIRD FLOOR

$60M

Option 3	
Building	$35,000,000
Site Improvements	$4,200,000
Utilities	$950,000
Design Contingency	$4,850,000
Total Construction Cost	$45,000,000
Escalation	$3,600,000
Total Construction	$48,600,000
Soft Costs	
CM Fees	$2,200,000
GC	$2,200,000
DSA Fees	$620,000
CDE Fees	$36,500
A/E Fees	$2,797,500
Tests and Inspiration	$850,000
FF&E	$2,500,000
Survey	$35,000
Geotechnical	$40,000
Legal	$200,000
UCR Fees	$750,000
Total Soft Costs	$12,229,000
Total Project Cost	**$60,829,000**



PROJECT FUNDING

$50M

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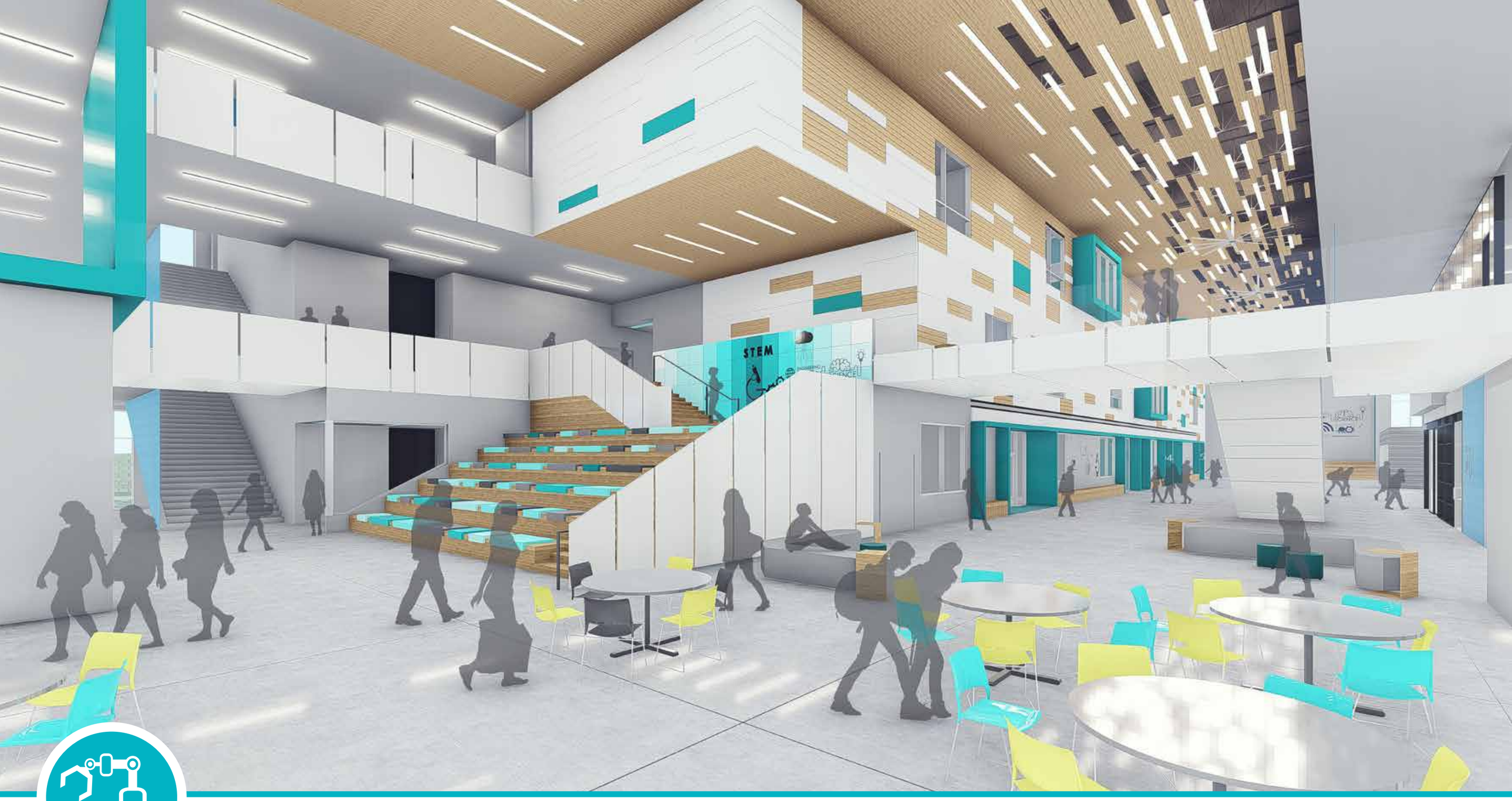
EXTERIOR RENDERING

EXTERIOR RENDERING

EXTERIOR RENDERING



INTERIOR RENDERING

INTERIOR RENDERING

INTERIOR INSPIRATION

WAYFINDING

ENTRANCE LOBBY CORRIDOR FEATURE WALL DOUBLES AS SEATING AND A MODERN RECEPTION GREETS STUDENTS

SPECIALTY

STEPS + WALL GRAPHICS ARE UTILIZED TO CELEBRATE CENTRAL HUB OF ACTIVITY

LEARNING STAIR

MASSING + COLOR ACCENT KEY AREAS WITH BANDS OF COLOR THAT DIRECT TRAFFIC AND PROVIDE MOVEMENT IN THE SPACE

INTERIOR

MASSING + PERFORATIONS HELP ZONE SPACES WHILE PROVIDING ACOUSTICS

CEILINGS

SIMPLE MATERIAL SELECTIONS INCLUDE STACKED CMU WITH WHITE AND SLATE METAL PANELING THAT USE PERFORATIONS IN KEY AREAS FOR BRANDING

EXTERIOR

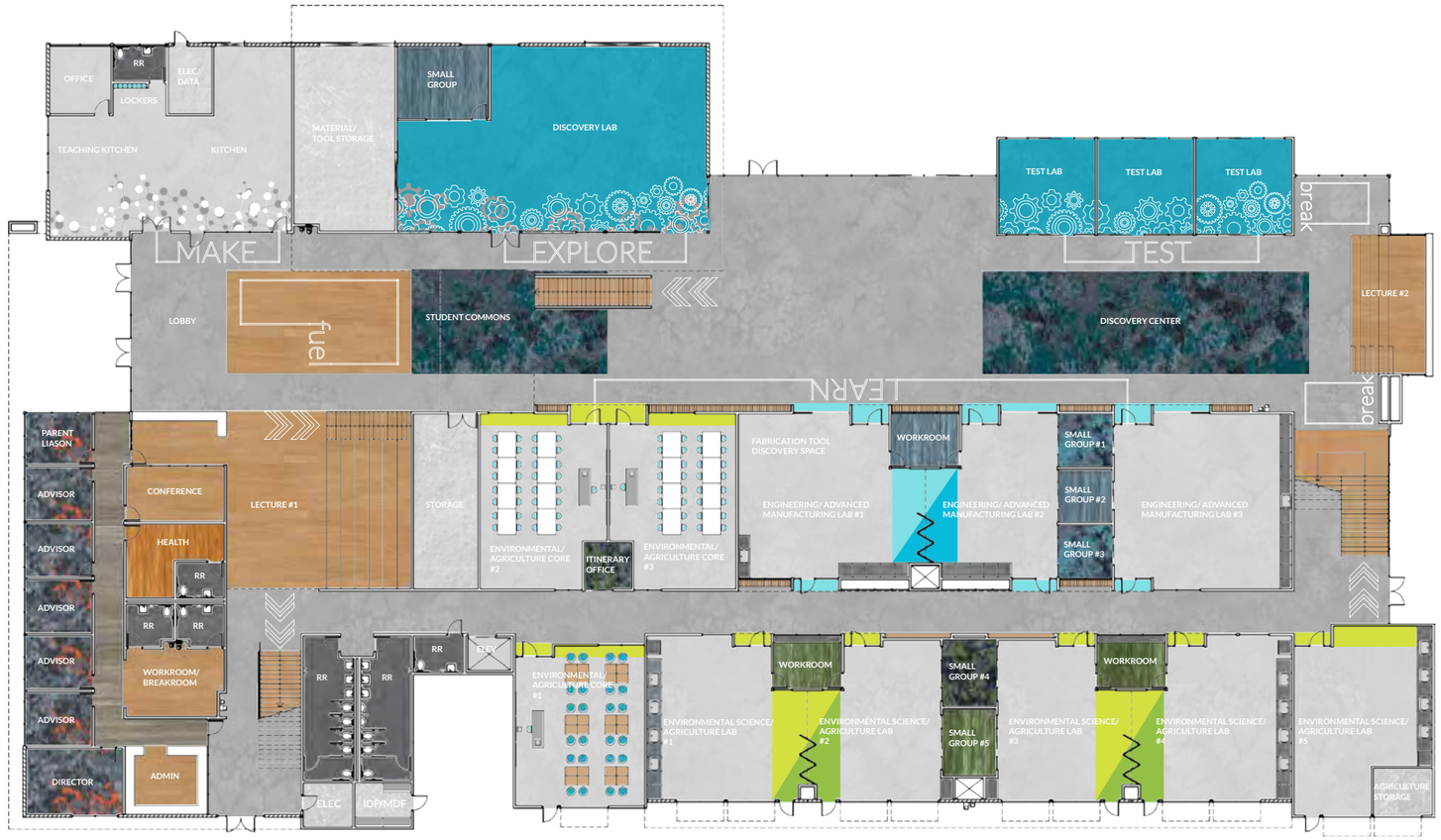
MINIMAL APPROACH IS CARRIED INTO LINEWORK+ GEOMETRY HEAVY GRAPHICS THAT ARE SCIENTIFIC IN NATURE AND LIMITED IN COLOR

GRAPHICS

COOL/MODERN TONES DRAW INSPIRATION FROM EXTERIOR AND ARE TRANSFERRED ACROSS GRAPHICS AND ACCENTS THROUGHOUT SPACE

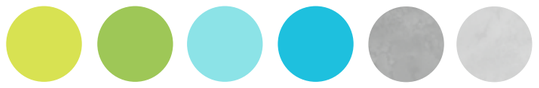
PALETTE

FLOOR FINISH PLANS



CARPET

PORCELAIN TILE



STAINED CONCRETE

LUXURY VINYL TILE

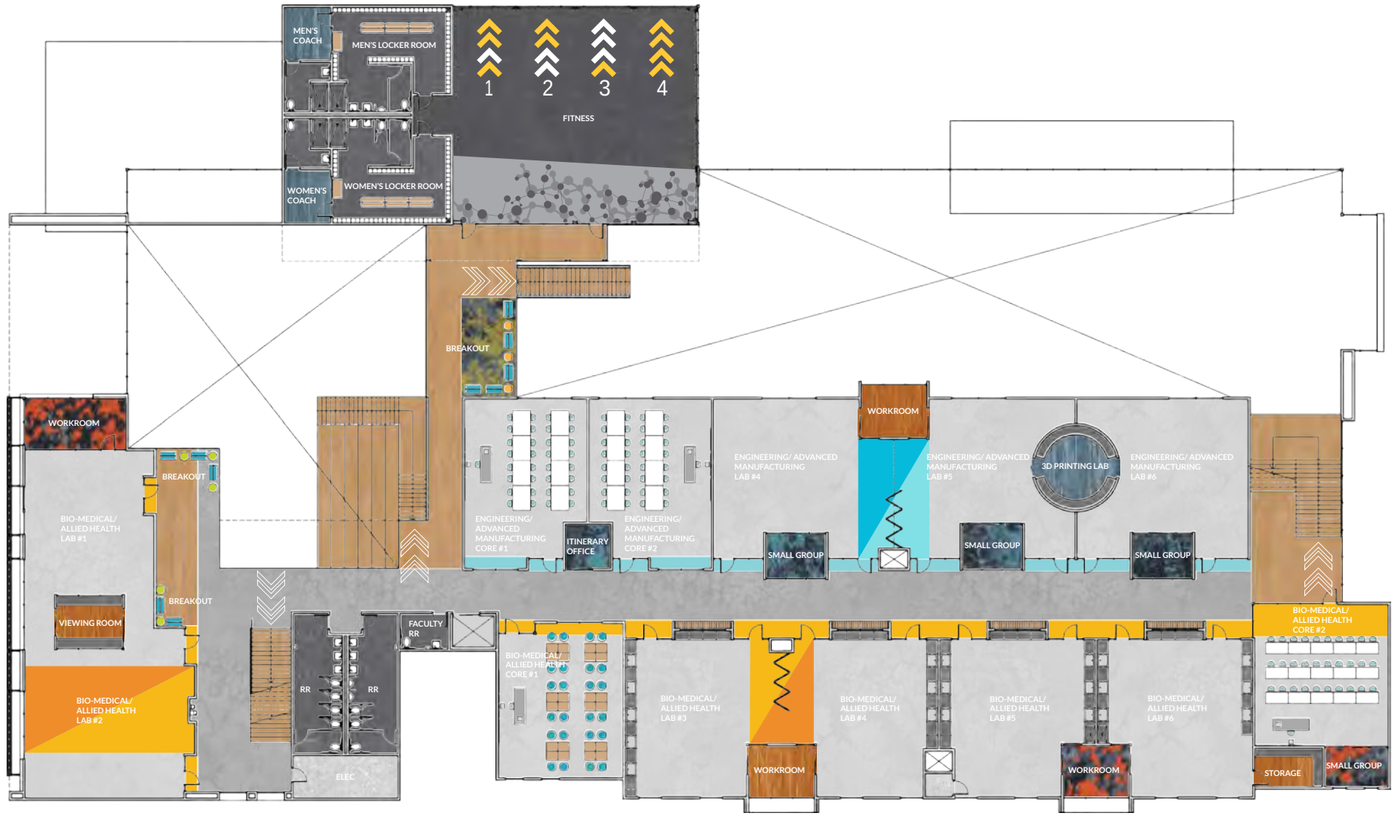
NATURAL CONCRETE

1st Floor Finish Plan

Scale: 1/32” = 1’-0”

0’ 10’ 25’ 50’ 100’ N

FLOOR FINISH PLANS



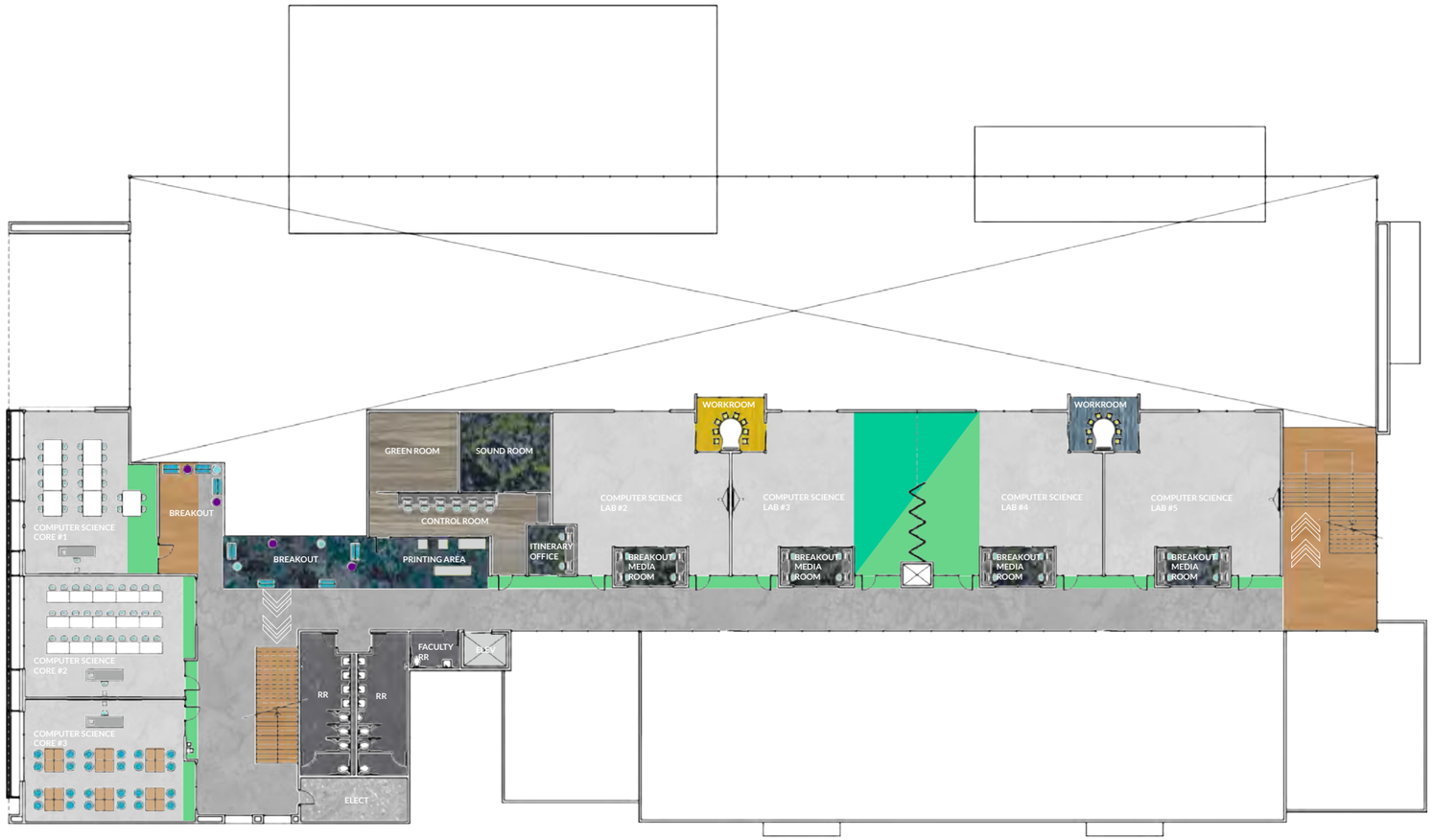
2nd Floor Finish Plan

Scale: 1/32” = 1’-0”

0’ 10’ 25’ 50’ 100’

N

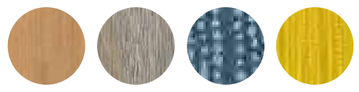
FLOOR FINISH PLANS



CARPET

PORCELAIN TILE

STAINED CONCRETE



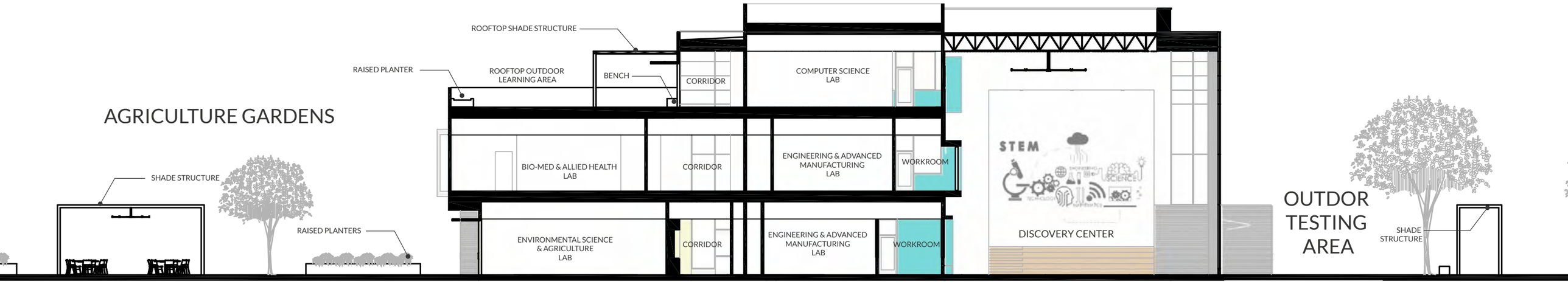
LUXURY VINYL TILE

NATURAL CONCRETE

3rd Floor Finish Plan

Scale: 1/32” = 1’-0”

0’ 10’ 25’ 50’ 100’ N



SITE SECTION

PROJECT SCHEDULE

2018

STEM HIGH SCHOOL PROJECT SCHEDULE

SCHEMATIC DESIGN
February 1, 2018 – August 15, 2018

DESIGN DEVELOPMENT
August 15, 2018 – December 1, 2018

CONSTRUCTION DOCUMENTS
December 1, 2018 – April 30, 2019

DSA
April 30, 2019 – September 15, 2019

BIDDING
September 15, 2019 – November 15, 2019

CONSTRUCTION
December 2019 – March 2022

CEQA TIMELINE

UCR – PROJECT INITIATION FOR CEQA INITIAL STUDY
June 1, 2018 – June 30, 2018

UCR – INITIAL STUDY/ NOTICE OF PREPARATION
July 1, 2018 – September 30, 2018

UCR – PREPARATION AND CIRCULATION OF DRAFT EIR
August 1, 2018 – February 15, 2019

UCR – PREPARATION OF FINAL EIR AND RELATED DOCUMENTS
February 4, 2019 – May 24, 2019

UCR – FINAL DOCUMENTS SUBMITTAL TO UCOP
June 3, 2019 – June 28, 2019

UCR – REGENTS CEQA/ DESIGN APPROVAL
July 1, 2019 – July 31, 2019

2019

2020-2022

QUESTIONS

RUHNAU
CLARKE
ARCHITECTS