

MiraCosta College

Chemistry & Biotechnology Building

COLLABORATION PHASE REPORT

MAY 12, 2020

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An aerial photograph of a campus featuring a wide, light-colored paved walkway that leads towards a building. The walkway is flanked by green grass and some trees. In the background, there are more trees and a building. The entire image is covered with a semi-transparent red overlay.

MiraCosta College

Chemistry & Biotechnology Building

NARRATIVE

Design Narrative

1. Building Design Overview

The Chemistry & Biotech building is an exciting milestone in the advancement of science education at MiraCosta and the consolidation of a learning environment for science students as well as the entire student body. Our initial design response highlighted important features that the project should emphasize:

- A. Create comfortable and functional learning outdoor gathering spaces to serve events of varying formality and size.
- B. Make the new building open and inviting so campus space and building space flow together.
- C. Reflect the culture and the history of the region and its people with a forward-looking architecture. Create a "hero" building to complement the existing "soldier" buildings.
- D. The big idea of the "Big Roof" that would shelter meaningful outdoor learning space evolved into a "Front Porch" and a "Gateway" alternative during our collaboration meetings.
- E. The final planning solution comprises the best of all three ideas. The project has a community big roof combined with a front porch to the rest of the campus and the new STEM quad; along with a common gateway area to emphasize views and connections to other portions of the campus.

2. Basis of Design Comments

The following list summarizes design decisions made in the Collaboration Phase and directions to be taken in the Schematic Design Phase. These were established based on review of the RFP documents or over the course of three meetings with campus representatives, faculty, and staff that were held during the Collaboration Phase of the project. This is not an exhaustive list of requirements, but rather intended to highlight certain design items that the DBE and MCC examined and are in general agreement. For any fundamental deviations, reference the Deviations Table or the Design Evolution Log. The basis for the work is outlined in the RFP documents, including the Chemistry & Biotech Design Criteria Document dated August 20, 2019 guided by the MiraCosta College Facilities Master Plan.

Building:

- A. Adjacencies and areas defined with allocated square footages in the Design Criteria documents were verified and determined to be achievable. Every effort will be made to achieve access requirements for each room based on Design Criteria and input from the users. See Programming Table in this report and previous Collaboration Meeting minutes.

- B. The building should be designed to provide natural light to Lab and Prep spaces.
- C. Faculty and Staff Prep spaces are to have connections to the Labs and Service rooms separate from student circulation and access.
- D. Laboratories can be entered directly from the exterior without the addition of interior hallways.
- E. The users requested additional area for certain spaces which are documented in this report package and are beyond the scope of work. These requests will be examined in further detail in Schematic Design through laboratory planning workshops.
- F. Structural system consists of concrete over metal deck floors spanning to steel wide flange beams and girders. The steel girders span to HSS or wide flange steel columns that are founded on shallow spread footings. The lateral system consists of buckling restrained braced frames on all sides of the structure supported by continuous footings. The ground floor will be a 5" thick slab-on-grade underlain with a vapor barrier. Footings may need to be deepened to all bear on formational material or another means of ground improvement. Footings near sloping will need to be deepened or extended with piers to prevent daylighting and provide proper embedment.

Project Site:

- G. Building Massing – The project site area available requires that the project be located on two levels. Chemistry will be located on the second level due to greater exhaust air requirements.
- H. Building Location – Building is sited based on site analysis in order to balance grading and to address numerous site constraints explored with MCC.
- I. Utilities – Rerouting and new UG utility connections will be completed based approximately on the utility scope exhibits in the Design Criteria. The exception to this assumption is the additional storm water requirements – see Deviations Table and Design Evaluation Log.
- J. Construction Phasing – Buildings currently on the project site will be demolished following the construction of the new building due to MiraCosta College scheduling constraints. This necessitates the division of work into two phases as well impacting the new building's general location. Phase One will include building construction and related work, while Phase Two will include the demolition of T400, T 410, T420 and T430, and sitework for the Stem Quad area.
- K. Fire Department Access – Fire Department Access is to be maintained throughout the Phase One construction period to the temporary T Buildings listed above. In addition, Fire Access through the project site to Buildings 4900 is to be maintained. The siting of the new building and the placement of permanent Fire Access Road have been designed and preliminarily approved by the Oceanside Fire Department to achieve these requirements.

- L. Landscape - Intended to enhance and complement the proposed architecture while blending it into the surrounding built and natural environment. Sustainable plant materials that are indigenous to the area and selected to be consistent with the campus. Plant selection based on hardiness, attractiveness, erosion control characteristics, water conservation and minimal maintenance.
- M. Hardscape Areas – There will be a covered courtyard and connections to the new quad and existing campus. Open space within and surrounding the building to be designed to be flexible, creating spaces of diverse scale and character to accommodate both large and small group uses. Amphitheater style seating to be located in the new quad for individual and group functions. Ample shade to be provided throughout with the Big Roof concept and numerous trees. Combination of low decorative walls and raised planters to provide a variety of seating opportunities. High-use pedestrian circulation surfaces will be concrete paving for durability and ease of maintenance. Fire Access Road will likely be a combination of asphalt paving, concrete, and pavers.

Schedule Narrative

The schedule closely aligns with the following durations and milestones outlined in Contract No. MMC0190151 between Mira Costa Community College District and CW Driver, LLC.

NTP through Collaboration Phase	02/03/20	98	05/11/20
MCC Review and Approval of Collaboration Report	05/12/20	5	05/17/20
Design Through Agency Submittal Phase	05/18/20	537	11/06/21
Anticipated Duration for Agency Approvals	11/07/21	120	03/07/22
Formation and Negotiation of Final GMP	03/08/22	61	05/08/22
Construction Services	05/11/22	661	03/02/24
Post Construction Services	TBD		

Budget Narrative

1. The Design-Build team worked together to coordinate the project programming requirements and site/building footprint square footages in order to achieve an acceptable conceptual estimate. The conceptual estimate was developed with historical cost data as well as subcontractor input.

Current Conceptual Estimate =	\$25,000,000
Budget =	\$25,000,000

2. Conceptual Budget Clarifications and Specific Inclusions:
 - A. Pricing is based on a 22-month construction schedule.
 - B. Design Builder preconstruction fee is under a separate contract.
 - C. Architect & Engineer's preconstruction and design fees are under a separate contract.
 - D. Estimate is based on a Limit-of-Work area of 98,010 SF (2.25 acres) per the RFP.
 - E. Estimate is based on no phasing of the project.
3. Conceptual Budget Exclusions:
 - A. Phased construction.
 - B. Storm water detention system and related site work.
 - C. Obtaining a Hazardous Material Consultant to provide a survey and specifications. Assumed by MCC.
 - D. Removal/abatement of any contaminated material within the existing facility.
 - E. All permits and fees.
 - F. All utility company charges and fees.
 - G. Testing and inspection fees.
 - H. Utility usage costs.
 - I. Relocation, removal or repair of unforeseen utilities and other conditions, unless specifically indicated on the documents.
 - J. Moveable equipment and furnishings.
 - K. Furnishings, fixture, and equipment (FF&E) unless specifically indicated in Design Criteria Document Program Data Sheets dated August 20, 2019.
 - L. Noise mitigation measures.
 - M. Building start-up power.
 - N. Guard service or watchmen.
 - O. Cost of offsite construction beyond the project limits unless specifically noted.
 - P. Laboratory equipment.
4. The Design-Build team has created a Design Evolution & Value Engineering Log to track potential additional costs and VE items.

Programming & Criteria Document Deviation Table

Item #	Reference	RFP Description	Proposed Deviation	Benefits/Explanation
1	Sustainability Narrative, Page 37	Project shall be designed and constructed to perform to a LEED Platinum equivalent level. MCC has confirmed this is a goal rather than a mandate.	Project is likely to be able to achieve LEED Gold. See Preliminary LEED Scorecard in this report.	LEED Gold is within project scope and budget. Laboratory buildings have complexities and are not easily categorized under USGBC (among other issues) thus making LEED Platinum not attainable.
2	MEP Overview, Page 21	Code Standards based on 2016 CBC, CMC, CPC.	Project will be required to design based on 2019 CBC, CMC, CPC, and additional current codes.	Project will comply with current code requirements.
3	Mechanical Narrative, Page 27	Screening of equipment: The equipment is located indoors and will not be viewable.	Suggest locating outside on grade or on roof.	Will provide more space inside building for very efficient program requirements. But it will need screening, a footprint at exterior of building, and additional structure to support rooftop equipment.
4	Electrical Narrative, Page 26	See Building Power Provisions listed in Design Criteria.	The ground floor is provided with one (1) 1600 amp, 120/208 volt, 3 phase, 4-wire distribution panel, three (3) 24 circuit, 100 amp, 120/208V, 3 phase, 4 wire panels dedicated for each Lab on the ground floor. Provide two (2) 42 circuit, 225 amp, 120/208V, 3 phase, 4 wire panels for general areas. Provide one (1) 1000A, 4P automatic transfer switch for lab exhaust fans. Provide (1) 1000 amp, 120/208 volt, 3 phase, 4-wire distribution panel for lab exhaust fans. Provide one (1) 100A, 4P automatic transfer switch for emergency lighting. Provide one (1) 100 amp, 42 circuit 120/208V, 3 phase, 4 wire panel for emergency lighting.	Eliminates step down transformer and disconnect. Saves on additional HVAC cooling inside the electrical room due to not having the transformer. But requires a larger feeder from the transformer to the main panelboard. And requires a larger main panelboard, ATS, mechanical panelboard, feeders and circuit breakers for the large mechanical equipment

5	Electrical Narrative, Page 26	See Building Power Provisions listed in Design Criteria.	The second floor is provided with one 400 amp, 42 circuit 277/480V, 3 phase, 4 wire panel for lighting and miscellaneous HVAC loads, and four (4) 24 circuit, 100 amp, 120/208V, 3 phase, 4 wire panels dedicated for each Lab room on the ground floor. Provide two (2) 42 circuit, 225 amp, 120/208V, 3 phase, 4 wire panels for general areas.	Eliminates step down transformer and disconnect. Saves on additional HVAC cooling inside the electrical room due to not having the transformer. But requires larger feeders and circuit breakers for the large mechanical equipment.
6	Storm Water Standards	Project shall meet the Campus EIR for storm water runoff rate and volume.	Storm water shall meet both the city of Oceanside and the revised EIR for storm water standards.	Makes the project compliant with the City of Oceanside storm water standards. Refer to Design Evolution and Value Engineering Log Item No. 1 for estimate of additional cost.
7	Restrooms	The Design Criteria Document Adjacency Diagram for both Biotech and Chemistry indicate One 'Single Occupancy Restroom'.	Initial plumbing fixture code analysis indicates approximately 22 total fixtures in a total of 4 restrooms are required. This is 18 more fixtures than the allocated number of fixtures per RFP Design Criteria.	The current DBE project estimate includes the code required amount of restroom fixtures. This will provide a more functional building for the users and as licensed professionals in the State of California we are required to follow current Title 24 Codes.

COLLABORATION PHASE PROGRAMMING MATRIX

BIOTECH LEVEL

Room Use	ASF	Room Use	ASF
BioTech	8,900	Support	1,410
Bio Processing Lab	1,800	Men's Restroom	250
BioTech Lab	1,600	Women's Restroom	300
BioTech Lab	1,600	Custodial	80
Tissue Culture Room	1,200	IDF	125
Balance and Equipment	400	Electrical Room	200
Prep Room	630	Mechanical Room	300
Autoclave/Glasswash Room	150	Elevator	80
Lab Tech Office	120	Machine Room	75
Classroom	700		
Classroom	700		
		BIOTECH ASF TOTAL	10,310
		BIOTECH GSF TOTAL	12,888
Outside	550		
Transformer Pad Area	200		
Generator Enclosure	250		
Gases Storage	100		

CHEMISTRY LEVEL

Room Use	ASF	Room Use	ASF
Chemistry	9,070	Support	1,075
Organic Chemistry Lab	1,200	Men's Restroom	250
Standard Chemistry Lab	1,800	Women's Restroom	300
Standard Chemistry Lab	1,800	Custodial	80
General Chemistry	1,800	IDF	120
Instrument/Balance Room-Organic	400	Electrical Room	70
Instrument Room-General	400	Mechanical Room	100
Prep Room	1,100	Elevator	80
Organic Chemical Storage	150	Storage	75
Inorganic Chemical Storage	150		
Chemical Waste	80		
Lab Tech Office	120		
Shafts	70		
		CHEMISTRY ASF TOTAL	10,145
		CHEMISTRY GSF TOTAL	12,681

BUILDING GSF TOTAL 25,569

Note: Overall Building GSF may be reduced during the design process. This will be dependent on final allocation of all necessary support spaces, wall assemblies, the efficiency of the layout, the overall design solution, and in keeping with the budget provided.

COLLABORATION PHASE PROGRAMMING MATRIX

ADDITIONAL AREA REQUESTED BEYOND DESIGN CRITERIA PROGRAM

Room Use	Program ASF	Proposed ASF	Added ASF
Total	2,700	3,520	820
Classroom	700	800	100
Classroom	700	800	100
Biotech Glasswash	150	200	50
Widen Biotech Hallway	520	770	250
Biotech Prep Room	630	800	170
Chemistry Glasswash	0	150	150
EFFICIENCY:			ADDED ASF TOTAL 820
80%			ADDED GSF TOTAL 1,025
			BUILDING GSF TOTAL 26,594

**LEED v4 for BD+C: New Construction and Major Renovation**

Preliminary Project Checklist

Project: MiraCosta Chemistry & Biotechnology Building

Date: 04/30/20

Y	?	N			Points	Party	Notes
1			d	Integrative Process	1	All Team	Project Team to complete Integrative Process Worksheet

6	1	25		Location and Transportation	32		Notes
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		16	d	Credit	LEED for Neighborhood Development Location	16		
1			d	Credit	Sensitive Land Protection	1	HED	Option 1 - site is located within a previously developed boundary
		2	d	Credit	High Priority Site	2		
		5	d	Credit	Surrounding Density and Diverse Uses	5		
3		2	d	Credit	Access to Quality Transit	5	HED	1 point achieved via Bus routes 302, 315 & 325: 79 daily weekday trips & 52 daily weekend trips. 2 additional points assumed per future transportation center added rides.
	1		d	Credit	Bicycle Facilities	1	HED	Bicycle facilities will be provided per CALGreen but no showers currently provided
1			d	Credit	Reduced Parking Footprint	1	MIRA COSTA	Achieve via Case 1. Reserve one space to be preferred parking for carpools
1			d	Credit	Green Vehicles	1	Civil/ Elec	Designate 1 space for green vehicles + 1 space with electric charging station (additional cost)

5	5			Sustainable Sites	10		Notes
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Y			c	Prereq	Construction Activity Pollution Prevention	Req	Civil	Refer to Erosion and Sedimentation Control plan
1			d	Credit	Site Assessment	1	All Team	Project Team to complete Site Assessment Worksheet
	2		d	Credit	Site Development, Protect or Restore Habitat	2	Land	Protect 40% of greenfield area (close). Restore 30% of areas identified as previously disturbed or Finance for \$39,200.
1			d	Credit	Open Space	1	HED	Greater than 30% of site area is outdoor space and 25% of which is vegetated.
	3		d	Credit	Rainwater Management	3	Civil	Use v4.1 requirements
2			d	Credit	Heat Island Reduction	2	HED	Preliminarily Confirmed. High SRI roof + shade areas + high SRI paving
1			d	Credit	Light Pollution Reduction	1	ELEC	Light fixtures will be BUG compliant

4	3	2	Water Efficiency			11	Notes	
Y			c	Prereq	Outdoor Water Use Reduction	Req	Land	Project will exceed the requirements of this 30% reduction prerequisite
Y			c	Prereq	Indoor Water Use Reduction	Req	PLUMB	40% reduction minimum targeted; confirm waterless urinals
Y			c	Prereq	Building-Level Water Metering	Req	PLUMB	Water meter provided for domestic cold water system
1	1		d	Credit	Outdoor Water Use Reduction	2	Land	Project will likely meet or exceed the 50% total water use reduction requirement for 1 point. Reclaimed water sources would need to be used for additional point.
2	2		d	Credit	Indoor Water Use Reduction	6	PLUMB	40% reduction minimum targeted; confirm waterless urinals. Does not include laboratory sinks.
		2	d	Credit	Cooling Tower Water Use	2		No Cooling Tower. New building connecting to upgraded Central Plant.
1			d	Credit	Water Metering	1	PLUMB	Landscape to install permanent water meters for irrigation and Plumbing to install domestic hot water meter

26	7		Energy & Atmosphere			33	Notes	
Y			c	Prereq	Fundamental Commissioning of the Building Energy Systems	Req	Cx	
Y			d	Prereq	Minimum Energy Performance	Req	MECH	Documented on plans. Title 24 forms show building energy performance which qualifies for prerequisite.
Y			d	Prereq	Building-Level Energy Metering	Req	MECH	Energy Meters added to control diagrams for documentation
Y			d	Prereq	Fundamental Refrigerant Management	Req	MIRA COSTA	Refrigerants for split systems? If necessary, utilize HCFC, which is not a CFC refrigerant and complies with this prerequisite.
6			c	Credit	Enhanced Commissioning	6	MIRA COSTA	Enhanced + monitor- based commissioning and envelope commissioning to be confirmed
15	3		d	Credit	Optimize Energy Performance	18	MECH	20% minimum energy reduction over LEED Baseline. 100% energy offset fro Campus PV System.
1			d	Credit	Advanced Energy Metering	1	ELEC	Metering system will be designed according to minimum LEED req's for this point
1	1		c	Credit	Demand Response	2	MIRA COSTA	Confirm which Case project will comply with
3			d	Credit	Renewable Energy Production	3	ELEC	Future Campus PV system. Building roof to be solar ready.
	1		c	Credit	Enhanced Refrigerant Management	1	MIRA COSTA	Confirm existing central plant refrigerants
	2		c	Credit	Green Power and Carbon Offsets	2	MIRA COSTA	Hold. Cost impact question for MCC. Research current amount for 2 credits.

5	3	5	Materials & Resources				13	Notes	
Y			d	Prereq	Storage & Collection of Recyclables	Req	HED	Owner to approve proposed plans and collection receptacles	
Y			d	Prereq	Construction and Demolition Waste Management Planning	Req	GC	Provide Construction & Waste Management Plan	
		5	c	Credit	Building Life-Cycle Impact Reduction	5			
1	1		c	Credit	Building Product Disclosure + Optimiz. - Env. Product Declaration	2	HED/ GC	Option 1; Min. 20 products from 5 manuf.	
1	1		c	Credit	Building Product Disclosure + Optimiz. - Sourcing of Raw Materi	2	HED/ GC	Option 2; Min. 25% (cost) responsible extraction	
1	1		c	Credit	Building Product Disclosure + Optimiz. - Material Ingredients	2	HED/ GC	Option 1; Min. 20 products from 5 manuf.	
2			c	Credit	Construction and Demolition Waste Management	2	GC	Minimum 95% diversion target	

1321				Indoor Environmental Quality		16		
Y			d	Prereq	Minimum IAQ Performance	Req	MECH	Provide documentation
Y			d	Prereq	Environmental Tobacco Smoke Control	Req	HED	Provide documentation of campus non-smoking policy
2			d	Credit	Enhanced Indoor Air Quality Strategies	2	MECH	Confirm which Option will be pursued
1	1	1	d	Credit	Low-Emitting Materials	3	HED/ GC	Option 1: achieve emissions and content compliance for the applicable number of product categories. 2 categories = 1 point; 4 categories = 2 points; 5 categories = 3 points
1			c	Credit	Construction IAQ Management Plan	1	GC	Provide Indoor Air Quality Management Plan
2			c	Credit	Indoor Air Quality Assessment	2	MIRA COSTA	Air quality testing is req'd for 2 points
1			d	Credit	Thermal Comfort, Design	1	MECH	
2			d	Credit	Interior Lighting	2	ELEC	
2	1		d	Credit	Daylight	3	HED	Demonstrate spatial daylight autonomy for 55%, 75% or 90% of regularly occupied floor areas, or required illuminance levels of 75% or 90% (1 to 3 points)
1			d	Credit	Quality Views	1	HED	Min. 75% req'd of all regularly occupied spaces provided w/ direct line of sight to the exterior + view types 2, 3 or 4.
1			d	Credit	Acoustic Performance	1	HED	

5	1				Innovation & Design Process	6	Notes
1			d	Credit	Innovation in Design: Reduced Parking Footprint	1	HED Exemplary Performance: Case 1, over 60% reduction from base ratio. Parking lot removed.
1			d	Credit	Innovation in Design: Green Building Education	1	MIRA COSTA Two of the following three elements must be included in the educational program: A comprehensive signage program built into the building's spaces to educate the occupants and visitors of the benefits of green buildings. This program may include windows to view energy-saving mechanical equipment or signs to call attention to water-conserving landscape features. The development of a manual, guideline or case study to inform the design of other buildings based on the successes of this project. An educational outreach program or guided tour could be developed to focus on sustainable living, using the project as an example.
1			d	Credit	Innovation in Design: Occupant comfort survey	1	MIRA COSTA Administer at least one occupant comfort survey to collect anonymous responses regarding at least the following: acoustics, building cleanliness, indoor air quality, lighting and thermal comfort. The responses must be collected from a representative sample of building occupants making up at least 30% of the total occupants. Document survey results. Develop and implement a corrective action plan to address comfort issues if the results indicate that more than 20% of occupants are dissatisfied. Perform at least one survey and implement corrective actions. At a minimum, perform one new survey at least once every 2 years.
1			d	Credit	Innovation in Design: Purchasing - Lamps	1	ELEC Specified lighting (LED) will meet credit requirements
	1		d	Credit	Innovation in Design: Construction and Demolition Waste Management	1	GC Exemplary Performance: Achieve both Option 1 (either Path) and Option 2
1			c	Credit	LEED® Accredited Professional	1	HED

1	2	1			Regional Priority	4	Notes
	1		d	Credit	Regional Priority: Indoor Water Use Reduction	1	PLUMB Min. Threshold: 4 points req'd. Verify laboratory requirements and restrictions.
	1		d	Credit	Regional Priority: Access to Quality Transit	1	MIRA COSTA Min. Threshold: 3 points req'd. Need more info on future transportation center.
		1	d	Credit	Regional Priority: Outdoor Water Use Reduction	1	Land Min. Threshold: 2 points req'd
1			d	Credit	Regional Priority: Renewable Energy Production	1	ELEC Min. Threshold: 3 points req'd

Yes ? No

66 24 34

TOTALS

66

Certified: 40 to 49 points, Silver: 50 to 59 points, Gold: 60 to 79 points, Platinum: 80 to 110

Team Goal: Gold Certification

MiraCosta College

Chemistry & Biotechnology Building

CONCEPTUAL ESTIMATE





MCCD Chemistry & Biotech Building
Conceptual Estimate Rev I
Oceanside, CA

MIRACOSTA COLLEGE

CHEMISTRY & BIOTECH BUILDING

COLLABORATION REPORT

Printed: **5/18/20 2:52 PM**
 Date Prepared: **18-May-20**
 Estimate No.: **#197058**
 Gross Sqft: **23,763**
 Months On-Site: **22.0**
 Includes Addenda: **N/A**
 Estimator: **CR**

ESTIMATE SUMMARY

Summary **May 18, 2020**

* Spec No	Seq	Description	Notes	Total	Site	Building	Percent	Cost per GSF
010000	2	General Requirements		40,000	40,000	0	0.2%	\$1.68
017100	3	Final Cleaning		32,683	9,801	22,882	0.1%	\$1.38
019100	4	Testing & Inspection Services	By District	0	0	0	0.0%	\$0.00
022100	5	Surveying & Layout		83,785	75,468	8,317	0.3%	\$3.53
022600	6	Hazardous Material Abatement	NIC	0	0	0	0.0%	\$0.00
024100	7	Bldg Demolition	NIC	0	0	0	0.0%	\$0.00
032000	8	Concrete Reinforcing		307,339	4,800	302,539	1.2%	\$12.93
033000	9	Cast-in-Place Concrete		922,018	14,400	907,618	3.7%	\$38.80
042000	10	Unit Masonry		23,000	23,000	0	0.1%	\$0.97
051000	11	Structural Steel		2,241,926	0	2,241,926	9.0%	\$94.35
053000	12	Metal Decking		368,869	0	368,869	1.5%	\$15.52
055000	13	Metal Fabrications		219,492	0	219,492	0.9%	\$9.24
055100	14	Metal Stairs		50,000	0	50,000	0.2%	\$2.10
055200	15	Metal Railings		232,400	87,500	144,900	0.9%	\$9.78
061000	16	Rough Carpentry		23,763	0	23,763	0.1%	\$1.00
062000	17	Finish Carpentry & Millwork		100,000	0	100,000	0.4%	\$4.21
071000	18	Waterproofing		29,862	6,615	23,247	0.1%	\$1.26
072100	19	Insulation		30,072	0	30,072	0.1%	\$1.27
074213	20	Metal Panels		215,460	0	215,460	0.9%	\$9.07
074600	21	GFRC Rainscreen	Not Req'd	58,673	0	58,673	0.2%	\$2.47
075000	22	PVC Roofing		406,736	0	406,736	1.6%	\$17.12
076000	23	Flashing & Sheet Metal		123,036	0	123,036	0.5%	\$5.18
076100	24	Vertical Perforated Metal Screen		100,000	0	100,000	0.4%	\$4.21
078100	25	Spray Fireproofing	Not Req'd	0	0	0	0.0%	\$0.00



MCCD Chemistry & Biotech Building
Conceptual Estimate Rev I
Oceanside, CA

MIRACOSTA COLLEGE

CHEMISTRY & BIOTECH BUILDING

COLLABORATION REPORT

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Date Prepared: 18-May-20

Estimate No.: #197058

Gross Sqft: 23,763

Months On-Site: 22.0

Includes Addenda: N/A

Estimator: CR

ESTIMATE SUMMARY

Summary

May 18, 2020

* Spec No	Seq	Description	Notes	Total	Site	Building	Percent	Cost per GSF
079000	26	Joint Sealants & Caulking		56,704	15,758	40,946	0.2%	\$2.39
081100	27	Doors & Frames & Hardware		276,000	0	276,000	1.1%	\$11.61
083000	28	Special Doors & Frames	Not Req'd	0	0	0	0.0%	\$0.00
083300	29	Coiling Doors & Grilles	Not Req'd	0	0	0	0.0%	\$0.00
083500	30	Folding Doors & Grilles	Not Req'd	0	0	0	0.0%	\$0.00
084100	31	Entrances & Storefronts		552,760	0	552,760	2.2%	\$23.26
084229	32	Automatic Entrances		50,000	0	50,000	0.2%	\$2.10
092000	33	Mtl Stud Framing / Gypsum Board/ Plaster		1,169,374	0	1,169,374	4.7%	\$49.21
093013	34	Ceramic Tile		81,840	0	81,840	0.3%	\$3.44
095100	35	Acoustical Ceilings		133,338	0	133,338	0.5%	\$5.61
096000	36	Flooring		210,990	0	210,990	0.8%	\$8.88
096200	37	Specialty Flooring	Not Req'd	0	0	0	0.0%	\$0.00
097200	38	Wall Coverings	Not Req'd	0	0	0	0.0%	\$0.00
097726	39	Marlite/FRP Paneling		2,376	0	2,376	0.0%	\$0.10
099000	40	Painting & Coating		179,393	20,000	159,393	0.7%	\$7.55
099700	41	Special Coatings	Not Req'd	0	0	0	0.0%	\$0.00
101100	42	Marker & Tack Boards		71,289	0	71,289	0.3%	\$3.00
101200	43	Display Cases		71,289	0	71,289	0.3%	\$3.00
101400	44	Signage		33,763	0	33,763	0.1%	\$1.42
102113	45	Toilet Accessories and Partitions		36,000	0	36,000	0.1%	\$1.51
102613	46	Corner Guards		4,753	0	4,753	0.0%	\$0.20
102616	47	Bumper Guards	Not Req'd	0	0	0	0.0%	\$0.00
104416	48	Fire Extinguishers and Cabinets		8,000	0	8,000	0.0%	\$0.34
107113	49	Exterior Sun Control Devices	Not Req'd	0	0	0	0.0%	\$0.00



MCCD Chemistry & Biotech Building
Conceptual Estimate Rev I
Oceanside, CA

MIRACOSTA COLLEGE

CHEMISTRY & BIOTECH BUILDING

COLLABORATION REPORT

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Date Prepared: 18-May-20

Estimate No.: #197058

Gross Sqft: 23,763

Months On-Site: 22.0

Includes Addenda: N/A

Estimator: CR

ESTIMATE SUMMARY

Summary

May 18, 2020

* Spec No	Seq	Description	Notes	Total	Site	Building	Percent	Cost per GSF
113100	50	Residential Appliances & Equipment	Not Req'd	0	0	0	0.0%	\$0.00
115200	51	Audio-Visual Equipment		237,630	0	237,630	1.0%	\$10.00
115213	52	Projection Screens		50,000	0	50,000	0.2%	\$2.10
115300	53	Laboratory Equipment	By District	0	0	0	0.0%	\$0.00
115313	54	Laboratory Fume Hoods		278,400	0	278,400	1.1%	\$11.72
120000	55	Furnishings/ Fixtures/ Equipment	By District	0	0	0	0.0%	\$0.00
121000	56	Art	By District	0	0	0	0.0%	\$0.00
122000	57	Window Treatments		62,632	0	62,632	0.3%	\$2.64
123553	58	Laboratory Casework		1,075,000	0	1,075,000	4.3%	\$45.24
124800	59	Rugs, Mats & Grilles		10,000	0	10,000	0.0%	\$0.42
133100	60	Fabric Structures	Not Req'd	0	0	0	0.0%	\$0.00
142000	61	Elevators		151,600	0	151,600	0.6%	\$6.38
144200	62	Wheelchair Lifts	Not Req'd	0	0	0	0.0%	\$0.00
211300	63	Fire-Suppression Sprinkler Systems		233,245	0	233,245	0.9%	\$9.82
220010	64	Plumbing		1,156,210	25,320	1,130,890	4.6%	\$48.66
230010	65	HVAC		1,663,410	0	1,663,410	6.7%	\$70.00
260000	66	Electrical		2,064,173	377,000	1,687,173	8.3%	\$86.87
263100	67	Photovoltaic Collectors	NIC	0	0	0	0.0%	\$0.00
270000	68	Tele/ Data Communication Systems		95,052	0	95,052	0.4%	\$4.00
274100	69	Audio-Video Systems		118,815	0	118,815	0.5%	\$5.00
280000	70	Electronic Safety & Security		127,052	0	127,052	0.5%	\$5.35
310000	71	Earthwork		421,171	421,171	0	1.7%	\$17.72
312500	72	Erosion Control/ SWPPP		112,410	112,410	0	0.4%	\$4.73
314000	73	Earth Shoring & Underpinning		12,000	12,000	0	0.0%	\$0.50



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ESTIMATE SUMMARY

Summary May 18, 2020

*	Spec No	Seq	Description	Notes	Total	Site	Building	Percent	Cost per GSF
	321200	74	Asphalt Paving		122,288	122,288	0	0.5%	\$5.15
	321300	75	Site Concrete		613,796	613,796	0	2.5%	\$25.83
	323113	76	Fences & Gates		7,500	7,500	0	0.0%	\$0.32
	323200	77	Site - Retaining Walls	In Concrete	0	0	0	0.0%	\$0.00
	329000	78	Landscape & Irrigation		236,066	236,066	0	0.9%	\$9.93
	330000	79	Site Utilities		430,921	430,921	0	1.7%	\$18.13
****End Of Summary - Do Not Erase****									
SUBTOTAL					17,826,353	2,655,812	15,170,541	71.3%	\$750.17
	80		Indirect Costs		7,173,647	1,068,747	6,104,900	28.7%	\$301.88
Total Estimate					25,000,000	3,724,559	21,275,441	100.0%	\$1,052.06

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CR

May 18, 2020

* Budget#	Description/Scope of Work	Quantity	Unit	Cost/Unit	Total
* 000001	I Project Data				
	1st Floor	12,072.0	sqft	0.00	0
	2nd Floor	11,691.0	sqft	0.00	0
	Total GSF	23,763.0	sqft	0.00	0
	Elevated Walkways	9,156.0	sqft	0.00	0
	Roof	25,421.0	sqft	0.00	0
	Site	98,010.0	sqft	0.00	0
	1st Floor Perimeter	596.0	lnft	0.00	0
	2nd Floor Perimeter	608.0	lnft	0.00	0
	Roof Perimeter	687.0	lnft	0.00	0
	Open Walkway Perimeter	828.0	lnft	0.00	0
	Fir-to-Fir ht 15.0	Exterior Wall 1st Floor	8,940.0	sqft	0.00
	Fir-to-Fir ht 15.0	Exterior Wall 2nd Floor	9,120.0	sqft	0.00
		Roof overhang	13,730.0	sqft	0.00
			0.0	0.00	0
			0.0	0.00	0
			0.0	0.00	0
			0.0	0.00	0
					0
	Alternates	0.0		0.00	
		0.0		0.00	
Grand Total Project Data					0

* 010000	2 General Requirements			
	Temporary access road to reach T-Bldgs	10,000.0	sqft	4.00
				40,000
	Power Consumption - by MCCCCD	0.0		0.00
				By District
	Water Consumption - By MCCCCD	0.0		0.00
				By District
	Phone Company Charge	0.0		0.00
				In GCs
	Temporary Sanitation	0.0		0.00
				In GCs
	Hand Wash Stations	0.0		0.00
				In GCs
	Eye Wash Stations	0.0		0.00
				In GCs
	Temporary 6' Chain Link per year	0.0		0.00
				In GCs
	Temp Chainlink Gates	0.0		0.00
				In GCs
	CWD 6' Wind Scrim per year	0.0		0.00
				In GCs
	Progressive Clean-Up	0.0		0.00
				In GCs
	Trash Removal/Dump	0.0		0.00
				In GCs



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* Budget#	Description/Scope of Work	Quantity	Unit	Cost/Unit	Total
		0.0		0.00	0
					40,000
*	<u>Alternates</u>	0.0		0.00	
		0.0		0.00	
Grand Total General Requirements					40,000
* 017100	3 Final Cleaning				
	Final Clean Bldg	23,763.0	sqft	0.50	11,882
	Final Clean Site	98,010.0	sqft	0.10	9,801
	Punchlist / Cleanup	1.0	mon	11,000.00	11,000
		0.0		0.00	0
		0.0		0.00	0
					32,683
*	<u>Alternates</u>	0.0		0.00	
		0.0		0.00	
Grand Total Final Cleaning					32,683
* 019100	4 Testing & Inspection Services				
	Testing and Inspection Services	0.0		0.00	By District
		0.0		0.00	0
		0.0		0.00	0
		0.0		0.00	0
		0.0		0.00	0
					0
*	<u>Alternates</u>	0.0		0.00	
		0.0		0.00	
Grand Total Testing & Inspection Services					0
* 022100	5 Surveying & Layout				
	Survey Building	23,763.0	sqft	0.35	8,317
	Survey Site	98,010.0	sqft	0.77	75,468
		0.0		0.00	0
		0.0		0.00	0
		0.0		0.00	0
					83,785



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	<u>Alternates</u>	0.0		0.00	
		0.0		0.00	
Grand Total Surveying & Layout					83,785
* 022600	6 Hazardous Material Abatement				
	See DEVE Log Abate Bldgs T-400, 410, 420, 430	7,200.0	sqft	0.00	NIC
	Abate Site	0.0	sqft	0.00	Not Req'd
		0.0		0.00	0
		0.0		0.00	0
		0.0		0.00	0
					0
	<u>Alternates</u>	0.0		0.00	
		0.0		0.00	
Grand Total Hazardous Material Abatement					0
* 024100	7 Bldg Demolition				
	Demo Existing Bldgs T-400, 410, 420, 430	0.0	sqft	0.00	NIC
	Demo Hardscape	98,010.0	sqft	0.00	In Grading
		0.0		0.00	0
		0.0		0.00	0
		0.0		0.00	0
					0
	<u>Alternates</u>	0.0		0.00	
		0.0		0.00	
Grand Total Bldg Demolition					0
* 032000	8 Concrete Reinforcing				
	Foundations	447.1	cuyd	200.00	89,422
	Building SOG	23,763.0	sqft	2.67	63,368
	Concrete on metal deck - mesh	11,691.0	sqft	2.00	23,382
	Concrete on metal deck walkways	9,159.0	sqft	2.00	18,318
	Foundations for plaza roof columns	57.8	cuyd	200.00	11,566
	Topping Slab on walkways	9,156.0	sqft	1.50	13,734
	Curb at building perimeter	1,204.0	lnft	10.00	12,040
	Curb at walkway perimter	828.0	lnft	10.00	8,280
	Drilled pier foundation at walkway columns	6.3	cuyd	200.00	1,256
	CIP Retaining Stem wall	705.0	sqft	66.67	47,000
	Retaining wall footing	52.2	cuyd	200.00	10,444

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* Budget#	Description/Scope of Work	Quantity	Unit	Cost/Unit	Total
	Concrete at stair pans	2.0	lsun	666.67	1,333
Enhancement	Footings for steel trells	0.0	cuyd	200.00	0
	Shotcrete Retaining Wall	240.0	sqft	20.00	4,800
	Mechanical pads	1,197.9	sqft	2.00	2,396
		0.0		0.00	0
					307,339
*	Alternates	0.0		0.00	
		0.0		0.00	
Grand Total Concrete Reinforcing					307,339

#	033000	9 Cast-in-Place Concrete			
		Foundations	447.1 cuyd	600.00	268,267
		SOG	23,763.0 sqft	8.00	190,104
		Concrete on metal deck -interior	11,691.0 sqft	6.00	70,146
		Concrete on metal deck walkways	9,159.0 sqft	6.00	54,954
		Foundations for plaza roof columns	57.8 cuyd	600.00	34,697
		Topping Slab on walkways	9,156.0 sqft	4.50	41,202
		Curb at building perimeter	1,204.0 lnft	30.00	36,120
		Curb at walkway perimeter	828.0 lnft	30.00	24,840
		Drilled pier foundation at walkway (3 ea) columns	6.3 cuyd	600.00	3,768
		CIP Retaining/ stem wall 2"W	705.0 sqft	200.00	141,000
		Retaining wall footing	52.2 cuyd	600.00	31,333
		Concrete at stair pans	2.0 lsum	2,000.00	4,000
	Enhancement	Footings for steel trellis	0.0 cuyd	600.00	0
		Shotcrete Retaining Wall	240.0 sqft	60.00	14,400
		Mechanical pads	1,197.9 sqft	6.00	7,187
			0.0	0.00	0
					922,018
\$:		Alternates	0.0	0.00	
			0.0	0.00	

* 042000	10 Unit Masonry			
	Masonry walls - Building	23,763.0 sqft	0.00	Not Req'd
	Emergency Generator Enclosure (8'H)	520.0 sqft	25.00	13,000
	Gas Storage shed	400.0 sqft	25.00	10,000
		0.0	0.00	0



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* Budget#	Description/Scope of Work	Quantity	Unit	Cost/Unit	Total
					23,000
	<i>Alternates</i>	0.0		0.00	
		0.0		0.00	
	Grand Total Unit Masonry				23,000
* 051000	11 Structural Steel				
	Bldg - Brace Frame	178.2	tons	7,500.00	1,336,669
	Elevated Walkway	59.5	tons	7,500.00	446,355
	Roof overhang	54.9	tons	7,500.00	411,900
	Roof Screen Framing	3.3	tons	7,500.00	24,503
	Mechanical Equipment Support Framing Premium	3.0	tons	7,500.00	22,500
		0.0		0.00	0
					2,241,926
	<i>Alternates</i>	0.0		0.00	
		0.0		0.00	
	Grand Total Structural Steel				2,241,926
* 053000	12 Metal Decking				
	Floor Deck - 3"	11,691.0	sqft	5.50	64,301
	Roof Deck - 1-1/2"	25,421.0	sqft	4.50	114,395
	Walkway Floor Deck - 3"	9,156.0	sqft	5.50	50,358
	Premium for exposed roof deck (dovetail 2.0 verco)	25,421.0	sqft	5.50	139,816
		0.0		0.00	0
					368,869
	<i>Alternates</i>	0.0		0.00	
		0.0		0.00	
	Grand Total Metal Decking				368,869
* 055000	13 Metal Fabrications				
	Bldg - Frame	17.8	tons	7,500.00	133,667
	Elevated Walkway	6.0	tons	7,500.00	44,636
	Roof overhang	5.5	tons	7,500.00	41,190
	Enhancement Steel Trellis	0.0	tons	8,500.00	Not Req'd
		0.0		0.00	0
		0.0		0.00	0



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* Budget#	Description/Scope of Work	Quantity	Unit	Cost/Unit	Total
					219,492
*	<u>Alternates</u>	0.0		0.00	
		0.0		0.00	
	Grand Total Metal Fabrications				219,492
* 055100	14 Metal Stairs				
	Ext Isolated Feature Stair	1.0	floors	30,000.00	30,000
	Ext Stair attached to Bldg	1.0	floors	20,000.00	20,000
		0.0		0.00	0
		0.0		0.00	0
					50,000
*	<u>Alternates</u>	0.0		0.00	
		0.0		0.00	
	Grand Total Metal Stairs				50,000
* 055200	15 Metal Railings				
	Walkway Railings	828.0	lnft	175.00	144,900
	Exterior ramp	500.0	lnft	175.00	87,500
		0.0		0.00	0
		0.0		0.00	0
					232,400
*	<u>Alternates</u>	0.0		0.00	
		0.0		0.00	
	Grand Total Metal Railings				232,400
* 061000	16 Rough Carpentry				
	Rough Carpentry	23,763.0	sqft	1.00	23,763
		0.0		0.00	0
		0.0		0.00	0
		0.0		0.00	0
					23,763
*	<u>Alternates</u>	0.0		0.00	
		0.0		0.00	
	Grand Total Rough Carpentry				23,763



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* 062000	17 Finish Carpentry & Millwork				
	Finish Carp Allowance	1.0	lsqm	100,000.00	100,000
		0.0		0.00	0
		0.0		0.00	0
		0.0		0.00	0
					100,000
* Alternates		0.0		0.00	
		0.0		0.00	
	Grand Total Finish Carpentry & Millwork				100,000
* 071000	18 Waterproofing				
	Walkways Waterproofing btwn slabs	9,156.0	sqft	2.00	18,312
	Retaining wall waterproofing	1,650.0	sqft	7.00	11,550
		0.0		0.00	0
		0.0		0.00	0
					29,862
* Alternates		0.0		0.00	
		0.0		0.00	
	Grand Total Waterproofing				29,862
* 072100	19 Insulation				
	Thermal Insulation Exterior Walls	18,060.0	sqft	1.00	18,060
	Acoustical Insulation Interior Walls	17,160.0	sqft	0.70	12,012
		0.0		0.00	0
		0.0		0.00	0
					30,072
* Alternates		0.0		0.00	
		0.0		0.00	
	Grand Total Insulation				30,072
* 074213	20 Metal Panels				
	Metal Composite Rain Screen	0.0	sqft	50.00	Not Req'd
	Roof Screen Metal Panels (10'H)	1,860.0	sqft	40.00	74,400
	Roof Perimeter Fascia (1.5'H)	1,030.5	sqft	40.00	41,220
	Walkway Perimeter Fascia (3'H)	2,496.0	sqft	40.00	99,840
		0.0		0.00	0



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		0.0		0.00	0
					215,460
*	Alternates	0.0		0.00	
		0.0		0.00	
	Grand Total Metal Panels				215,460
* 074600	21 GFRC Rainscreen				
	GFRC Rain Screen with rigid insulation	733.4	sqft	80.00	58,673
		0.0		0.00	0
		0.0		0.00	0
					58,673
*	Alternates	0.0		0.00	
		0.0		0.00	
	Grand Total GFRC Rainscreen				58,673
* 075000	22 PVC Roofing				
	PVC Roofing with rigid insulation	25,421.0	sqft	16.00	406,736
		0.0		0.00	0
		0.0		0.00	0
					406,736
*	Alternates	0.0		0.00	
		0.0		0.00	
	Grand Total PVC Roofing				406,736
* 076000	23 Flashing & Sheet Metal				
	Roof Flashing	687.0	lnft	10.00	6,870
	Walkway Flashing	832.0	lnft	10.00	8,320
	Roof Screen Flashing	372.0	lnft	10.00	3,720
	Misc Flashing and Sheetmetal	23,763.0	sqft	2.00	47,526
	Gutters and Downspouts	0.0		0.00	Not Req'd
	Skylights 6 X 6	360.0	sqft	60.00	21,600
	Solatubes	10.0	each	3,500.00	35,000
		0.0		0.00	0
		0.0		0.00	0
					123,036



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	<u>Alternates</u>	0.0		0.00	
		0.0		0.00	
Grand Total Flashing & Sheet Metal					123,036
* 076100	24 Vertical Perforated Metal Screen				
	Vertical Perforated Screen Allowance	2,000.0	sqft	50.00	100,000
		0.0		0.00	0
		0.0		0.00	0
					100,000
	<u>Alternates</u>	0.0		0.00	
		0.0		0.00	
Grand Total Vertical Perforated Metal Screen					100,000
* 078100	25 Spray Fireproofing				
	F.P. Bldg Interior	23,763.0	sqft	0.00	Not Req'd
	F.P. Walkway	9,156.0	sqft	0.00	Not Req'd
	F.P. Roof Overhang	13,730.0	sqft	0.00	Not Req'd
		0.0		0.00	0
					0
	<u>Alternates</u>	0.0		0.00	
		0.0		0.00	
Grand Total Spray Fireproofing					0
* 079000	26 Joint Sealants & Caulking				
	Bldg Skin Caulking	18,060.0	sqft	1.00	18,060
	Walkway Caulking	9,156.0	sqft	1.00	9,156
	Roof Overhang Caulking	13,730.0	sqft	1.00	13,730
	Site Hardscape	31,515.0	sqft	0.50	15,758
		0.0		0.00	0
		0.0		0.00	0
		0.0		0.00	0
					56,704
	<u>Alternates</u>	0.0		0.00	
		0.0		0.00	
Grand Total Joint Sealants & Caulking					56,704



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* 081100	27 Doors & Frames & Hardware				
	D/F/H - singles	30.0	each	2,200.00	66,000
	D/F/H - pairs	20.0	Pairs	4,500.00	90,000
	Panic HW	50.0	leafs	2,000.00	100,000
	STC premium	50.0	doors	400.00	20,000
		0.0		0.00	0
					276,000
*	Alternates	0.0		0.00	
		0.0		0.00	
	Grand Total Doors & Frames & Hardware				276,000
* 083000	28 Special Doors & Frames				
	Special Doors and Frames	23,763.0	sqft	0.00	Not Req'd
		0.0		0.00	0
		0.0		0.00	0
		0.0		0.00	0
					0
*	Alternates	0.0		0.00	
		0.0		0.00	
	Grand Total Special Doors & Frames				0
* 083300	29 Coiling Doors & Grilles				
	Coiling Doors and Grilles	23,763.0	sqft	0.00	Not Req'd
		0.0		0.00	0
		0.0		0.00	0
		0.0		0.00	0
					0
*	Alternates	0.0		0.00	
		0.0		0.00	
	Grand Total Coiling Doors & Grilles				0
* 083500	30 Folding Doors & Grilles				
	Folding Doors and Grilles	0.0	sqft	0.00	Not Req'd
		0.0		0.00	0
		0.0		0.00	0



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		0.0		0.00	0
					0
*	<u>Alternates</u>	0.0		0.00	
		0.0		0.00	
Grand Total Folding Doors & Grilles					0
* 084100	31 Entrances & Storefronts				
40% of Main Bldg	40.0% Glass and Glazing	5,376.0	sqft	85.00	456,960
	Sunshades 4'D	0.0	sqft	30.00	Not Req'd
	Entry Doors	2.0	pairs	5,000.00	10,000
	Interior Glazing	1,716.0	sqft	50.00	85,800
		0.0		0.00	0
					552,760
*	<u>Alternates</u>	0.0		0.00	
		0.0		0.00	
Grand Total Entrances & Storefronts					552,760
* 084229	32 Automatic Entrances				
	Auto doors premium	2.0	pair	25,000.00	50,000
		0.0		0.00	0
		0.0		0.00	0
		0.0		0.00	0
					50,000
*	<u>Alternates</u>	0.0		0.00	
		0.0		0.00	
Grand Total Automatic Entrances					50,000
* 092000	33 Mtl Stud Framing / Gypsum Board/ Plaster				
	Bldg Exterior Plaster - Vertical	11,950.6	sqft	18.00	215,110
	Exterior Wall Framing & DW - 1 layer each side	12,684.0	sqft	18.00	228,312
	Scaffold	18,060.0	sqft	2.00	36,120
	Interior Framing & DW- 1 layer each side	17,160.0	sqft	16.00	274,560
	Elevator Shaft	1,200.0	sqft	18.00	21,600
	Mechanical Shafts	3,840.0	sqft	18.00	69,120
	Plaster Soffit at walkway	9,156.0	sqft	12.00	109,872
	Soffit Framing at walkway	9,156.0	sqft	10.00	91,560

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		0.0		0.00	0
					210,990
*	<u>Alternates</u>	0.0		0.00	
		0.0		0.00	
	Grand Total Flooring				210,990
* 096200	37 Specialty Flooring				
	Specialty Flooring	0.0	sqft	0.00	In Flooring
		0.0		0.00	0
		0.0		0.00	0
					0
*	<u>Alternates</u>	0.0		0.00	
		0.0		0.00	
	Grand Total Specialty Flooring				0
* 097200	38 Wall Coverings				
	Wall Coverings	0.0	sqft	7.00	Not Req'd
		0.0		0.00	0
		0.0		0.00	0
					0
*	<u>Alternates</u>	0.0		0.00	
		0.0		0.00	
	Grand Total Wall Coverings				0
* 097726	39 Marlite/FRP Paneling				
	FRP Janitor's Closet	23,763.0	sqft	0.10	2,376
		0.0		0.00	0
		0.0		0.00	0
		0.0		0.00	0
					2,376
*	<u>Alternates</u>	0.0		0.00	
		0.0		0.00	
	Grand Total Marlite/FRP Paneling				2,376



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* 099000	40 Painting & Coating				
	Epoxy Paint interior perimeter drywall 1 side	12,684.0	sqft	1.00	12,684
	Elastomeric Paint Bldg Exterior Plaster	12,684.0	sqft	2.00	25,368
	Epoxy paint Interior Drywall - 1 layer each side	34,320.0	sqft	1.00	34,320
	Plaster Soffit at walkway	9,156.0	sqft	2.00	18,312
	exposed structure Plaster Soffit at Roof overhang	0.0	sqft	2.00	Not Req'd
	Hardlid ceilings at Restrooms	2,040.0	sqft	1.00	2,040
	Doors	70.0	each	50.00	3,500
	Misc Site Painting	1.0	lsum	20,000.00	20,000
	Paint exterior columns	30.0	each	500.00	15,000
	Paint underside of exposed roof overhang	13,730.0	sqft	2.00	27,460
	Paint underside of exposed interior floor deck 1st and 2nd floor	19,723.0	sqft	1.05	20,709
	Anti-graffiti	0.0		0.00	Not Req'd
		0.0		0.00	0
					179,393
* Alternates		0.0		0.00	
		0.0		0.00	
	Grand Total Painting & Coating				179,393
* 099700	41 Special Coatings				
	Special Coatings Bldg	0.0	sqft	0.00	Not Req'd
	Special Coatings Site	0.0	sqft	0.00	Not Req'd
		0.0		0.00	0
		0.0		0.00	0
		0.0		0.00	0
					0
* Alternates		0.0		0.00	
		0.0		0.00	
	Grand Total Special Coatings				0
* 101100	42 Marker & Tack Boards				
	Whiteboards & Tackboards	23,763.0	sqft	3.00	71,289
		0.0		0.00	0
		0.0		0.00	0
		0.0		0.00	0



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* Budget#	Description/Scope of Work	Quantity	Unit	Cost/Unit	Total
					71,289
*	<u>Alternates</u>	0.0		0.00	
		0.0		0.00	
Grand Total Marker & Tack Boards					71,289
* 101200	43 Display Cases				
	Display Cases	23,763.0	sqft	3.00	71,289
		0.0		0.00	0
		0.0		0.00	0
		0.0		0.00	0
		0.0		0.00	0
					71,289
*	<u>Alternates</u>	0.0		0.00	
		0.0		0.00	
Grand Total Display Cases					71,289
* 101400	44 Signage				
	Code Signage	23,763.0	sqft	1.00	23,763
	Door Rooms	100.0	each	50.00	5,000
	Building Numbering	1.0	lsun	5,000.00	5,000
		0.0		0.00	0
		0.0		0.00	0
					33,763
*	<u>Alternates</u>	0.0		0.00	
		0.0		0.00	
Grand Total Signage					33,763
* 102113	45 Toilet Accessories and Partitions				
	Toilet Partitions and Accessories	4.0	each	9,000.00	36,000
		0.0		0.00	0
		0.0		0.00	0
		0.0		0.00	0
					36,000
*	<u>Alternates</u>	0.0		0.00	
		0.0		0.00	



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* Budget#	Description/Scope of Work	Quantity	Unit	Cost/Unit	Total
Grand Total Toilet Accessories and Partitions					36,000
* 102613	46 Corner Guards				
	Corner guards	23,763.0	sqft	0.20	4,753
		0.0		0.00	0
					4,753
*	Alternates	0.0		0.00	
		0.0		0.00	
Grand Total Corner Guards					4,753
* 102616	47 Bumper Guards				
	Bumper guards	0.0	sqft	0.00	Not Req'd
		0.0		0.00	0
					0
*	Alternates	0.0		0.00	
		0.0		0.00	
Grand Total Bumper Guards					0
* 104416	48 Fire Extinguishers and Cabinets				
	Fire Extinguishers	16.0	each	500.00	8,000
		0.0		0.00	0
		0.0		0.00	0
		0.0		0.00	0
					8,000
*	Alternates	0.0		0.00	
		0.0		0.00	
Grand Total Fire Extinguishers and Cabinets					8,000
* 107113	49 Exterior Sun Control Devices				
	Exterior Sun Control Devices	0.0	lsun	0.00	Not Req'd
		0.0		0.00	0
					0
*	Alternates	0.0		0.00	
		0.0		0.00	



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* Budget#	Description/Scope of Work	Quantity	Unit	Cost/Unit	Total
	Grand Total Exterior Sun Control Devices				0
* 113100	50 Residential Appliances & Equipment				
	Residential Appliances	0.0	sqft	0.00	Not Req'd
		0.0		0.00	0
					0
*	<u>Alternates</u>	0.0		0.00	
		0.0		0.00	
	Grand Total Residential Appliances & Equipment				0
* 115200	51 Audio-Visual Equipment				
	AV Equipment Allowance	23,763.0	sqft	10.00	237,630
		0.0		0.00	0
					237,630
*	<u>Alternates</u>	0.0		0.00	
		0.0		0.00	
	Grand Total Audio-Visual Equipment				237,630
* 115213	52 Projection Screens				
	Projection Screens	10.0	each	5,000.00	50,000
		0.0		0.00	0
					50,000
*	<u>Alternates</u>	0.0		0.00	
		0.0		0.00	
	Grand Total Projection Screens				50,000
* 115300	53 Laboratory Equipment				
	Lab Equipment	23,763.0	sqft	0.00	By District
		0.0		0.00	0
		0.0		0.00	0
					0
*	<u>Alternates</u>	0.0		0.00	
		0.0		0.00	
	Grand Total Laboratory Equipment				0



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* Budget#	Description/Scope of Work	Quantity	Unit	Cost/Unit	Total
* 115313	54 Laboratory Fume Hoods				
	Fume Hoods - Standard Chemistry	16.0	each	9,600.00	153,600
	Fume Hoods - General Chemistry	2.0	each	9,600.00	19,200
	Fume Hoods - Organic Chemistry	11.0	each	9,600.00	105,600
		0.0		0.00	0
					278,400
*	Alternates	0.0		0.00	
		0.0		0.00	
	Grand Total Laboratory Fume Hoods				278,400
* 120000	55 Furnishings/ Fixtures/ Equipment				
	FF&E	23,763.0	sqft	0.00	By District
		0.0		0.00	0
					0
*	Alternates	0.0		0.00	
		0.0		0.00	
	Grand Total Furnishings/ Fixtures/ Equipment				0
* 121000	56 Art				
	Art	23,763.0	sqft	0.00	By District
		0.0		0.00	0
					0
*	Alternates	0.0		0.00	
		0.0		0.00	
	Grand Total Art				0
* 122000	57 Window Treatments				
	Window Treatment	5,376.0	sqft	7.00	37,632
	Remote controlled shutters at skylights	10.0	sqft	2,500.00	25,000
		0.0		0.00	0
		0.0		0.00	0
					62,632
*	Alternates	0.0		0.00	
		0.0		0.00	



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* Budget#	Description/Scope of Work	Quantity	Unit	Cost/Unit	Total
Grand Total Window Treatments					62,632
* 123553	58 Laboratory Casework				
	Lab Casework	1.0	lsum	1,075,000.00	1,075,000
		0.0		0.00	0
					1,075,000
*	Alternates	0.0		0.00	
		0.0		0.00	
Grand Total Laboratory Casework					1,075,000
* 124800	59 Rugs, Mats & Grilles				
	Entry Grilles	2.0	each	5,000.00	10,000
		0.0		0.00	0
					10,000
*	Alternates	0.0		0.00	
		0.0		0.00	
Grand Total Rugs, Mats & Grilles					10,000
* 133100	60 Fabric Structures				
	Fabric Shade Structure	1.0	lsum	0.00	Not Req'd
		0.0		0.00	0
					0
*	Alternates	0.0		0.00	
		0.0		0.00	
Grand Total Fabric Structures					0
* 142000	61 Elevators				
	Elevator 2-stop service/ passenger	1.0	lsum	150,000.00	150,000
	Elevator finish floor	80.0	sqft	20.00	1,600
		0.0		0.00	0
		0.0		0.00	0
					151,600
*	Alternates	0.0		0.00	
		0.0		0.00	



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* Budget#	Description/Scope of Work	Quantity	Unit	Cost/Unit	Total
Grand Total Elevators					151,600
* 144200	62 Wheelchair Lifts				
	Wheelchair lift	23,763.0	sqft	0.00	Not Req'd
		0.0		0.00	0
		0.0		0.00	0
		0.0		0.00	0
					0
	<u>Alternates</u>	0.0		0.00	
		0.0		0.00	
					0
Grand Total Wheelchair Lifts					0
* 211300	63 Fire-Suppression Sprinkler Systems				
	Fire Sprinklers - Bldg Interior	23,763.0	sqft	5.00	118,815
	1st Floor walkway	9,156.0	sqft	5.00	45,780
	Roof overhang	13,730.0	sqft	5.00	68,650
	Dry Suppression system	0.0		0.00	Not Req'd
		0.0		0.00	0
					233,245
	<u>Alternates</u>	0.0		0.00	
		0.0		0.00	
					233,245
Grand Total Fire-Suppression Sprinkler System					233,245
* 220010	64 Plumbing				
	Plumbing Building	23,763.0	sqft	45.00	1,069,335
	Deck drains on walkway	41.0	each	1,500.00	61,555
	New Gas	211.0	lnft	120.00	25,320
		0.0		0.00	0
					1,156,210
	<u>Alternates</u>	0.0		0.00	
		0.0		0.00	
					1,156,210
Grand Total Plumbing					1,156,210
* 230010	65 HVAC				
	HVAC	23,763.0	sqft	70.00	1,663,410



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		0.0		0.00	0
		0.0		0.00	0
		0.0		0.00	0
					1,663,410
*	<u>Alternates</u>	0.0		0.00	
		0.0		0.00	
	Grand Total HVAC				1,663,410
* 260000	66 Electrical				
	Bldg Electrical	23,763.0	sqft	70.00	1,663,410
	Site Elec Power Distribution	1.0	lsum	100,000.00	100,000
	Site light poles	20.0	each	7,600.00	152,000
	Emergency Generator	1.0	lsum	125,000.00	125,000
	Temporary power	23,763.0	sqft	1.00	23,763
		0.0		0.00	0
					2,064,173
*	<u>Alternates</u>	0.0		0.00	
		0.0		0.00	
	Grand Total Electrical				2,064,173
* 263100	67 Photovoltaic Collectors				
	Photovoltaic	23,763.0	sqft	0.00	NIC
		0.0		0.00	0
		0.0		0.00	0
		0.0		0.00	0
					0
*	<u>Alternates</u>	0.0		0.00	
		0.0		0.00	
	Grand Total Photovoltaic Collectors				0
* 270000	68 Tele/ Data Communication Systems				
	Communications	23,763.0	sqft	4.00	95,052
		0.0		0.00	0
		0.0		0.00	0
		0.0		0.00	0



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					95,052
*	<u>Alternates</u>	0.0		0.00	
		0.0		0.00	
Grand Total Tele/ Data Communication System					95,052
* 274100	69 Audio-Video Systems				
	AV Systems	23,763.0	sqft	5.00	118,815
		0.0		0.00	0
		0.0		0.00	0
		0.0		0.00	0
					118,815
*	<u>Alternates</u>	0.0		0.00	
		0.0		0.00	
Grand Total Audio-Video Systems					118,815
* 280000	70 Electronic Safety & Security				
	Safety & Security	23,763.0	sqft	4.00	95,052
	Card readers	16.0	each	2,000.00	32,000
		0.0		0.00	0
		0.0		0.00	0
					127,052
*	<u>Alternates</u>	0.0		0.00	
		0.0		0.00	
Grand Total Electronic Safety & Security					127,052
* 310000	71 Earthwork				
	Rough Grade	98,010.0	sqft	1.00	98,010
	Cut	4,466.7	cuyd	20.00	89,333
	Fill	3,888.9	cuyd	20.00	77,779
	Mixing or Import premium	977.8	cuyd	25.00	24,446
	Remove & Recompact 5' under building	2,235.6	cuyd	5.00	11,178
	Remove & Recompact 2' under hardscape	2,390.2	cuyd	5.00	11,951
	Finegrade Hardscape	32,268.0	sqft	0.50	16,134
	Finegrade Landscape	34,680.0	sqft	0.50	17,340
	Demolition allowance	25,000.0	lsun	3.00	75,000
		0.0		0.00	0
					421,171



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* Budget#	Description/Scope of Work	Quantity	Unit	Cost/Unit	Total
	<u>Alternates</u>	0.0		0.00	
		0.0		0.00	
Grand Total Earthwork					421,171
* 312500	72 Erosion Control/ SWPPP				
	Erosion Control SWPPP	98,010.0	sqft	1.00	98,010
	Monthly Maintenance	12.0	months	1,200.00	14,400
		0.0		0.00	0
		0.0		0.00	0
					112,410
	<u>Alternates</u>	0.0		0.00	
		0.0		0.00	
Grand Total Erosion Control/ SWPPP					112,410
* 314000	73 Earth Shoring & Underpinning				
	Earthshoring	240.0	sqft	50.00	12,000
	Underpinning	0.0	sqft	0.00	Not Req'd
		0.0		0.00	0
		0.0		0.00	0
		0.0		0.00	0
					12,000
	<u>Alternates</u>	0.0		0.00	
		0.0		0.00	
Grand Total Earth Shoring & Underpinning					12,000
* 321200	74 Asphalt Paving				
	AC Paving 5"AC/ 10" Base - 2 lifts	13,039.0	sqft	7.50	97,793
	Scarify and recompact	13,039.0	sqft	0.72	9,388
	Wash down AC Paving for 2nd	13,039.0	sqft	0.20	2,608
	Grind and overlay	5,000.0	sqft	2.50	12,500
		0.0		0.00	0
					122,288
	<u>Alternates</u>	0.0		0.00	
		0.0		0.00	
Grand Total Asphalt Paving					122,288



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* 321300	75 Site Concrete				
	Flatwork	17,257.0	sqft	10.00	172,570
	Walkways	4,400.0	sqft	12.00	52,800
	Sloped walkway	3,915.0	sqft	12.00	46,980
	Ramp Walkways	1,810.0	sqft	12.00	21,720
	Firelane pavers	3,629.0	sqft	12.00	43,548
	Ampitheater seating (keyway on bottom tier)	504.0	lnft	375.00	189,000
	Seatwalls	90.0	lnft	300.00	27,000
	Curbs	331.5	lnft	35.00	11,603
	Curb and Gutter	331.5	lnft	50.00	16,575
	Ramp cheek walls	0.0	lnft	50.00	Not Req'd
	Light pole bases	20.0	each	1,600.00	32,000
		0.0		0.00	0
					613,796
	Alternates	0.0		0.00	
		0.0		0.00	
	Grand Total Site Concrete				613,796
* 323113	76 Fences & Gates				
	Gates at Generator Enclosure	1.0	lsum	5,000.00	5,000
	Gates at Gas Storage Enclosure	1.0	lsum	2,500.00	2,500
		0.0		0.00	0
		0.0		0.00	0
					7,500
	Alternates	0.0		0.00	
		0.0		0.00	
	Grand Total Fences & Gates				7,500
* 323200	77 Site - Retaining Walls				
	Site CIP Retaining wall	0.0		0.00	In Concrete
	Site Retaining wall footing	0.0		0.00	In Concrete
		0.0		0.00	0
		0.0		0.00	0
					0
	Alternates	0.0		0.00	
		0.0		0.00	



MCCD Chemistry & Biotech Building

Conceptual Estimate Rev1

C. W. DRIVER

SCOPE AND PRICING SHEETS

Printed: 5/18/20 2:56 PM

Prepared: 18-May-20

#197058

TO

CR

May 18, 2020

* Budget#	Description/Scope of Work	Quantity	Unit	Cost/Unit	Total
Grand Total Site - Retaining Walls					0
* 329000	78 Landscape & Irrigation				
	Landscape & Irrigation	0.0	sqft	8.00	0
	Planting areas	8,658.0	sqft	8.00	69,264
	Decomposed granite	13,655.0	sqft	4.00	54,620
	Seeded area	6,987.0	sqft	3.00	20,961
	Planted bioswale	2,492.0	sqft	6.00	14,952
	Grass Turf	1,367.0	sqft	3.00	4,101
	Terrace landscape	1,521.0	sqft	8.00	12,168
	Trees	40.0	each	1,500.00	60,000
		0.0		0.00	0
		0.0		0.00	0
					236,066
* Alternates		0.0		0.00	
		0.0		0.00	
Grand Total Landscape & Irrigation					236,066
* 330000	79 Site Utilities				
	Site Utilities	0.0	lsum	0.00	0
	Fireline	350.0	lnft	120.00	42,000
	Domestic Water	100.0	lnft	120.00	12,000
	Sewer	848.0	lnft	150.00	127,200
	Storm water	200.0	lnft	150.00	30,000
	Gas	0.0	lnft	0.00	In Plumbing
	Stormwater Detention System	1.0	lsum	0.00	NIC
	Biofiltration area	2,492.0	sqft	30.00	74,760
	Modular Wetlands	1.0	lsum	20,000.00	20,000
	Chilled Water Line	125.0	lnft	250.00	31,250
	Temporary utilities	1.0	lsum	93,710.50	93,711
		0.0		0.00	0
					430,921
* Alternates		0.0		0.00	
		0.0		0.00	
Grand Total Site Utilities					430,921
End Of Scope & Pricing Sheets					

MiraCosta College

Chemistry & Biotechnology Building

DESIGN EVOLUTION & VALUE ENGINEERING LOG



Mira Costa Community College Chemistry and Biotech Building
Collaboration Phase Design Evolution and Value Engineering Log

1	2	3	4	5	6	7	8	9	10	11	12	13
Item No.	Document Stage	Stage Resolution Required	Trade(s) Involved	Scope of Work Description:	Reason	Potential Cost Impact	Next Action Required	Action By	Priority A,B,C	Accepted? Yes/No	Accepted Value	Included in Current Estimate or Add/Deduct
1a	Conceptual	Schematic	TBD	<u>Additional Stormwater Retention and Filtration Scope DESIGN</u> - Add Storm Water Requirements per 2013 standards to meet City of Oceanside. Retain and treat on site estimated 140,000 gallon of stormwater in order for site to meet pre-development conditions. These are stricter stormwater requirements than set forth in the RFP. See item #6 of the 'Programming and Criteria Document Deviation Table'.	Code Requirement	\$91,300	D/B Team to research alternate tank locations, e.g. in upper branch of the fire lane or across the Barnard Drive.	DBE	TBD	Pending	TBD	Add
1b	Conceptual	TBD	TBD	<u>Additional Stormwater Retention and Filtration Scope CONSTRUCTION</u> - Add Storm Water Requirements per 2013 standards to meet C.O. Oceanside. Retain and treat on site estimated 140,000 gallon of stormwater in order for site to meet pre-development conditions. These are stricter stormwater requirements than set forth in the RFP. See item #6 of the 'Programming and Criteria Document Deviation Table'.	Code Requirement	ROM \$850k	Further develop the design for cost estimating.	DBE	TBD	Pending	TBD	Add
2	Conceptual	Schematic	TBD	<u>Additional Site Square Footage:</u> Onsite project area included in the current estimate is 98,010 SF (2.25 acres) as per the RFP narrative. During collaboration phase design evolution, it was suggested to add 24,275 SF beyond the 98,010 SF to maximize the building impact with surrounding areas. Note that the 'approximate scope of work area' shown on the scope exhibit drawing on pages 93-105 indicate a different site area.	Needs Further Development	TBD	D/B Team to assess what areas beyond the 2.25 acres must be included or can be afforded as design develops.	DBE	TBD	Pending	TBD	Add
3	Conceptual	TBD	TBD	<u>Sound Wall:</u> The Design-Build team has noted that the construction of the new building is very close proximity to the existing temporary buildings (T400, T410, T420, T430). As these buildings are scheduled to be occupied during construction it has been suggested a sound wall may be required to keep construction activities from disturbing students and staff.	Enhancement	TBD	District and Design Build Team to review further.	MCC and DBE	TBD	Pending	TBD	Add
4	Conceptual	Construction	TBD	<u>Delays Related to Removal of Temporary Buildings:</u> The temporary buildings (T400, T410, T420, T430) are located within the project's construction limits. It is understood that these buildings cannot be removed until the Allied Health Building is occupied. There is potential for delays to the Chem-Bio project should the temporary buildings not be able to be demolished according to the construction schedule. This item has been added to the log as a tracking device to closely monitor the two project schedules.	Unforeseen	TBD	District and CWD to monitor campus project schedules.	DBE	TBD	Pending	TBD	Add
5	Conceptual	Construction	TBD	<u>Temporary Classroom Hazardous Material Survey:</u> A hazmat abatement survey has not been provided. It will need to be determined if hazardous materials exist prior to demolition and removal of the temporary classrooms. It is understood that removal of the temporary classrooms is not included in the Chem-Bio project scope.	Code Requirement	TBD	District to research further if survey report exists. If not, District to authorize a hazmat survey be performed.	MCC	TBD	Pending	TBD	Add
6	Conceptual	Construction	TBD	<u>Demolition and Removal of Existing Temporary Classrooms:</u> This scope is not currently included in the project budget. Included demolition and removal of buildings T400, T410, T420 and T430).	Added Scope	ROM \$75k	Demolition scope to be reviewed at future date.	DBE	TBD	Pending	TBD	Add
7	Conceptual	Schematic	TBD	<u>Rain Screen Enhancement:</u> The D/B team is developing the additional of a rain screen system to the building in lieu of stucco system. Rain screen system will provide performance value for LEED and aesthetic value for a HERO building.	Enhancement	TBD	Further design required to determine if can be added.	DBE	TBD	Pending	TBD	Add
8	Conceptual	Schematic	TBD	<u>Steel Trellis Structure:</u> Furnish and install a steel trellis shade structure above the outdoor amphitheater. (2,035 square feet, 7 tons of steel)	Enhancement	\$95,934	Further design required to determine if can be added.	DBE	TBD	Pending	TBD	Add
9	Conceptual	Design Development	TBD	<u>Operable Glass Walls:</u> It was suggested in a Collaboration Phase Meeting that operable glass walls be added to 2 classrooms to enhance indoor-outdoor collaboration space. This was not a requirement per the RFP.	Enhancement	TBD	Further design required to determine if can be added.	DBE	TBD	Pending	TBD	Add

				Programmed Area Addition from Collab Meeting #3: It was suggested in Collaboration Meeting #3 to add square footage to several spaces. Reference below for breakout as well as page 11 'Additional Area Requested Beyond Design Criteria Program' matrix provided by HED.								
10a	Conceptual	Schematic	TBD	2 Classrooms: Current budget includes the criteria requirement of 700sf. It has been suggested to add 100sf to each classroom for a total addition of 200sf.	End User Request	ROM \$200,000	District and Design Build Team to review further.	MCC and DBE	TBD	Pending	TBD	Add
10b	Conceptual	Schematic	TBD	Biotech Glass Wash: Current budget includes the criteria requirement of 150sf. It has been suggested to add 50sf.	End User Request	ROM \$50,000	District and Design Build Team to review further.	MCC and DBE	TBD	Pending	TBD	Add
10c	Conceptual	Schematic	TBD	Biotech Hallway: Current budget includes the criteria requirement of 520sf. It has been suggested to widen the hallway which would add 250sf.	End User Request	ROM \$250,000	District and Design Build Team to review further.	MCC and DBE	TBD	Pending	TBD	Add
10d	Conceptual	Schematic	TBD	Biotech Prep Room: Current budget includes the criteria requirement of 630sf. It has been suggested to add 170sf.	End User Request	ROM \$170,000	District and Design Build Team to review further.	MCC and DBE	TBD	Pending	TBD	Add
10e	Conceptual	Schematic	TBD	Chemistry Glass Wash: Current budget includes the criteria requirement of 0sf. It is clear that Chemistry will require a glass wash area. Suggested addition of 150sf.	End User Request	ROM \$150,000	District and Design Build Team to review further.	MCC and DBE	TBD	Pending	TBD	Add
*All costs listed on this log are all inclusive of design and construction costs.												

MiraCosta College

Chemistry & Biotechnology Building

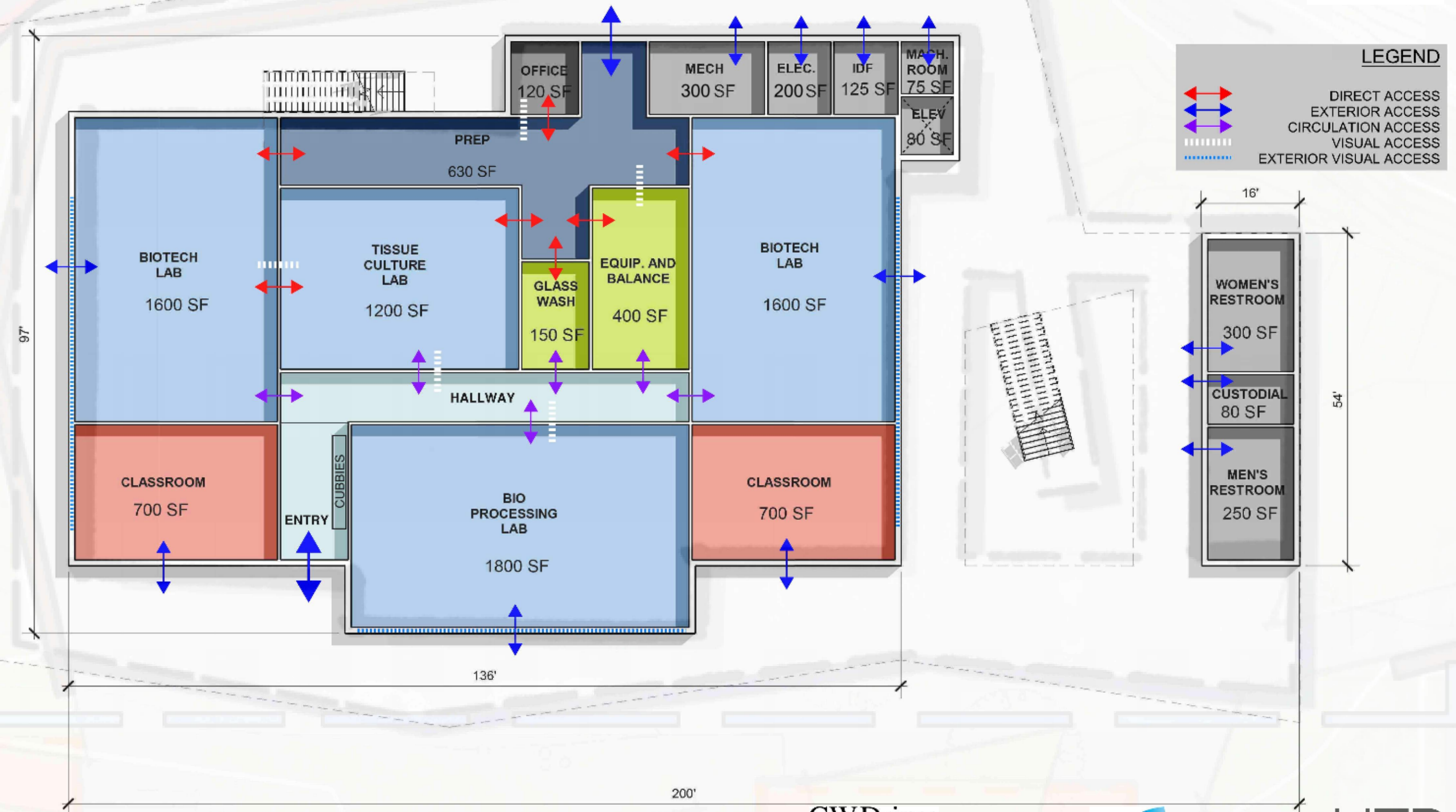
DRAWINGS



MIRACOSTA CHEM & BIOTECH CONCEPT LAYOUT BIOTECH LEVEL 1

APRIL 17, 2020

SCALE: 1/16" = 1'-0"



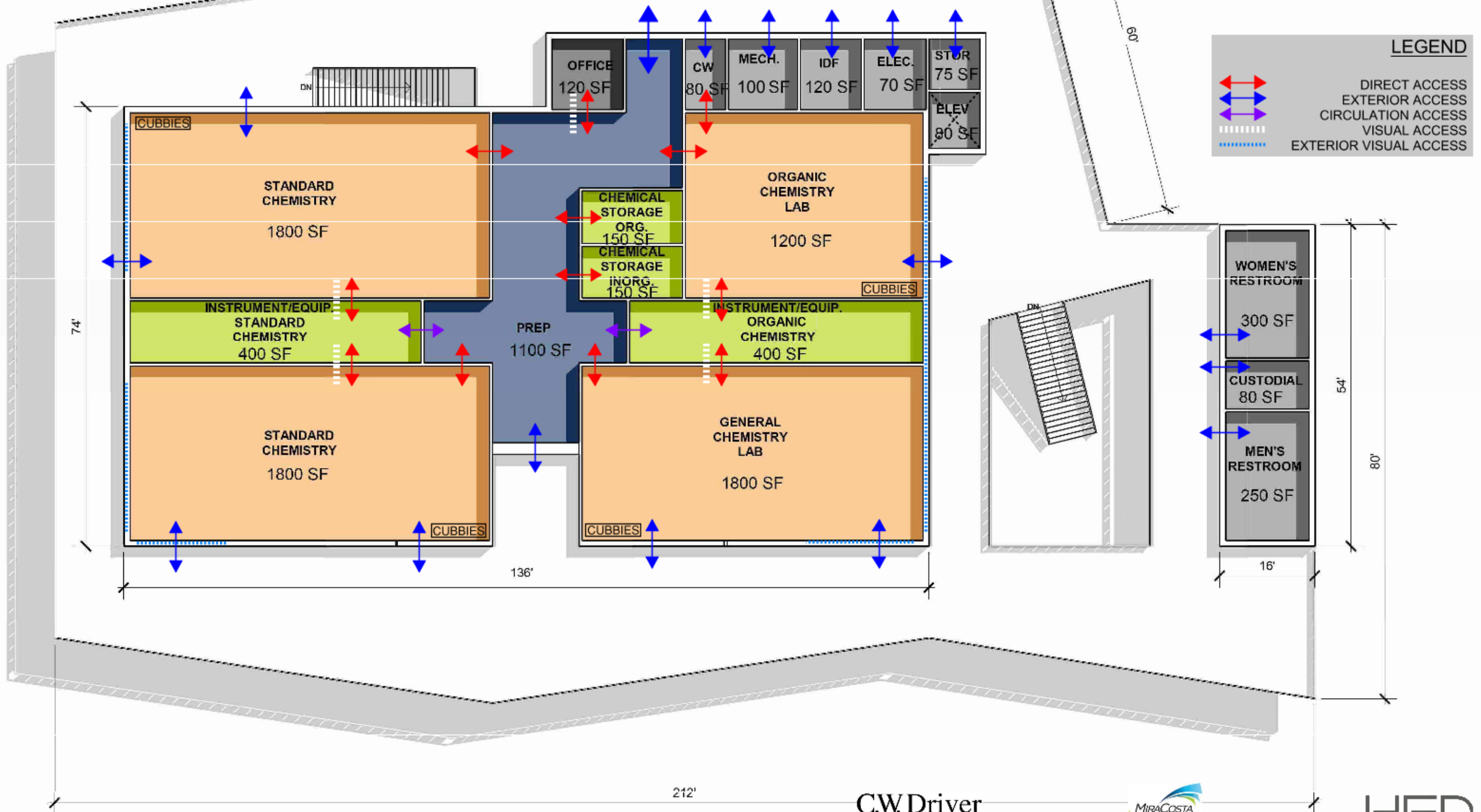
MIRACOSTA CHEM & BIOTECH

CONCEPT LAYOUT

CHEMISTRY LEVEL 2

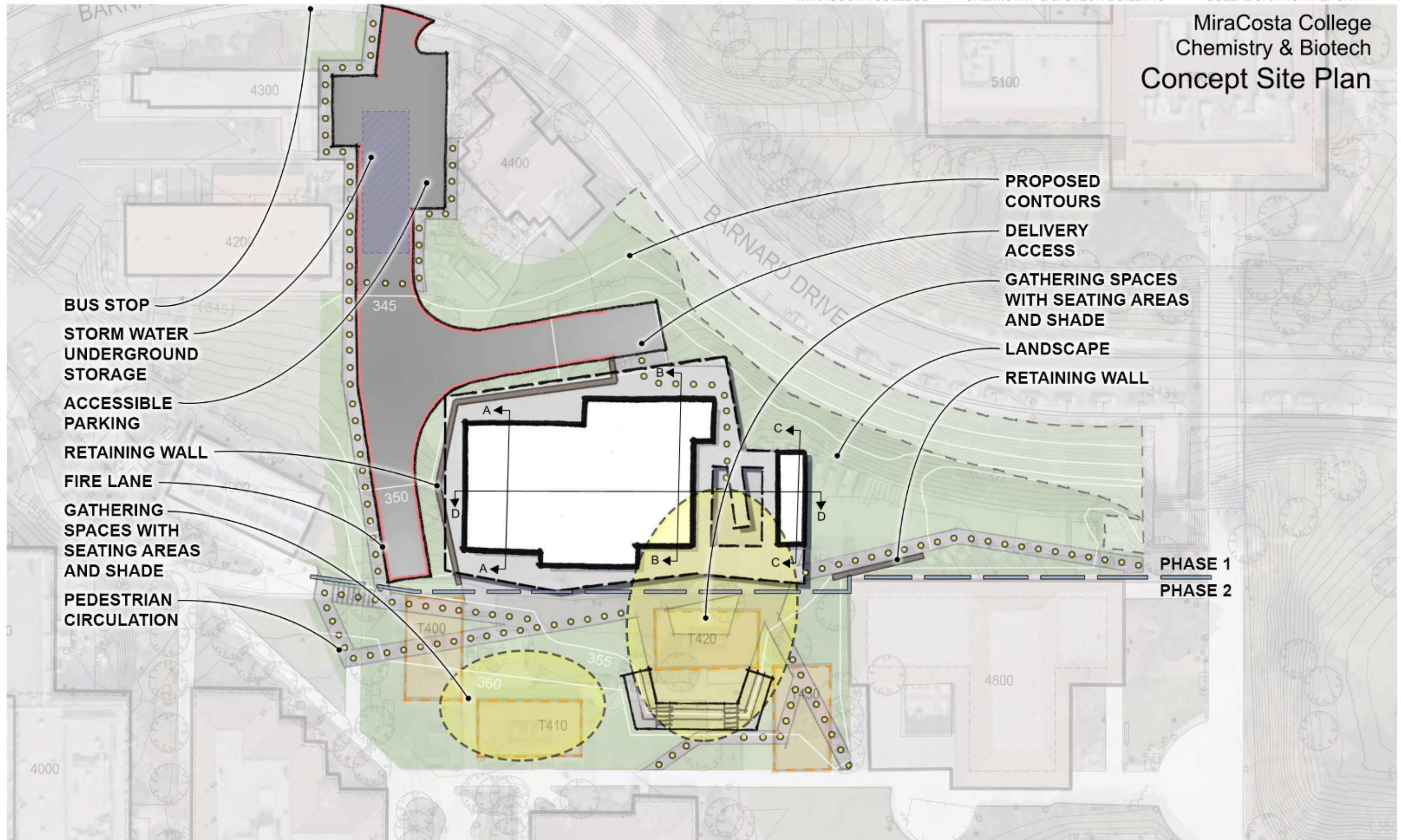
APRIL 17, 2020

SCALE: 1/16" = 1'-0"

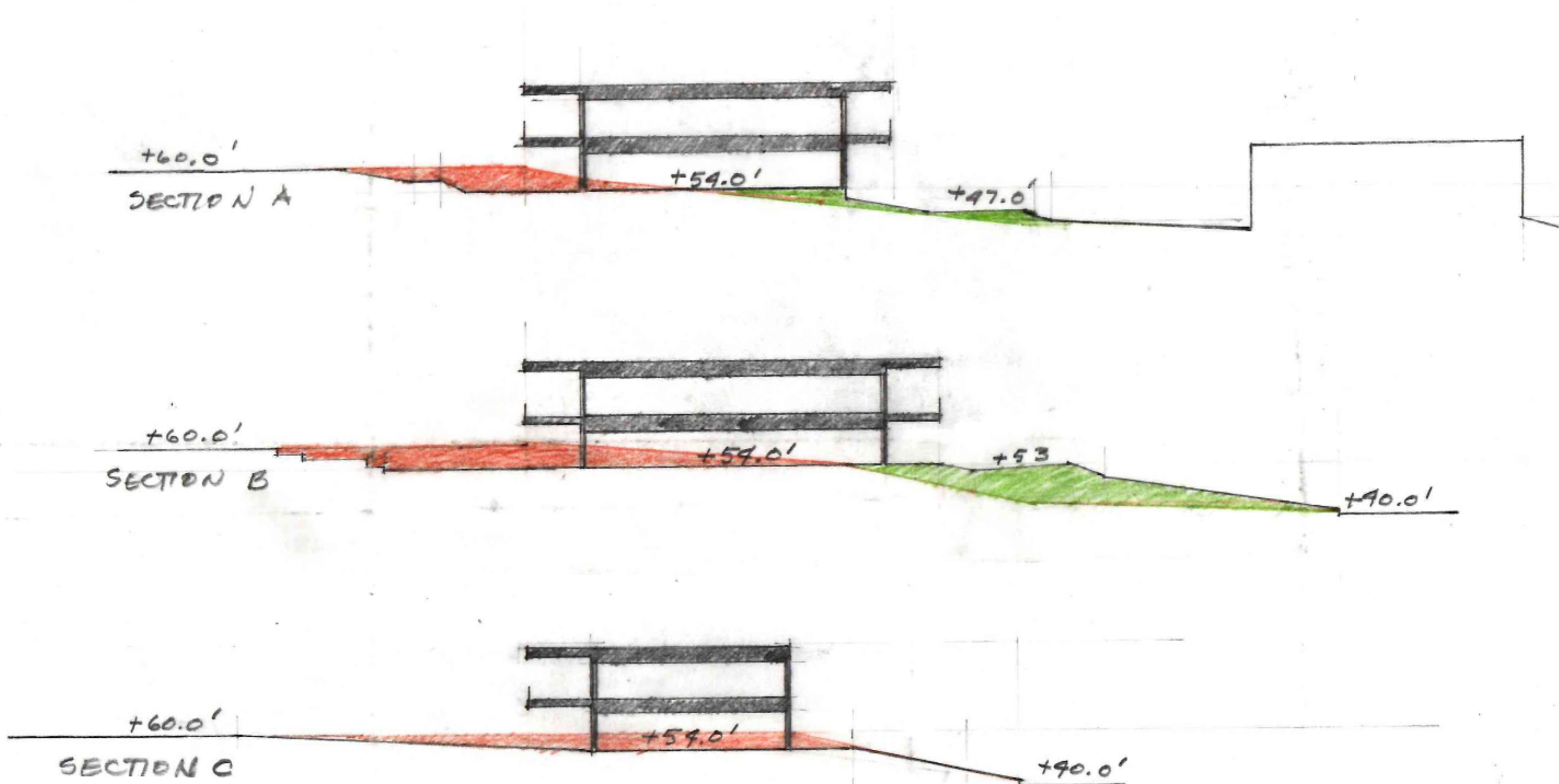


212'

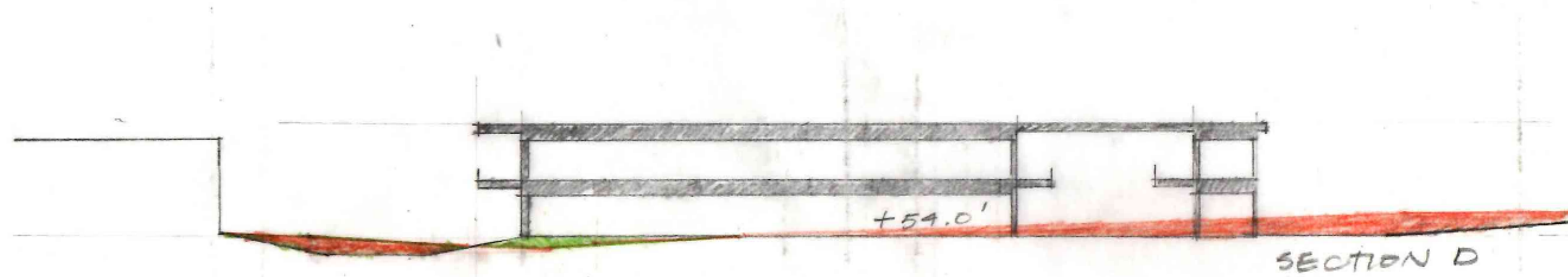
MiraCosta College Chemistry & Biotech Concept Site Plan



CONCEPT SECTIONS

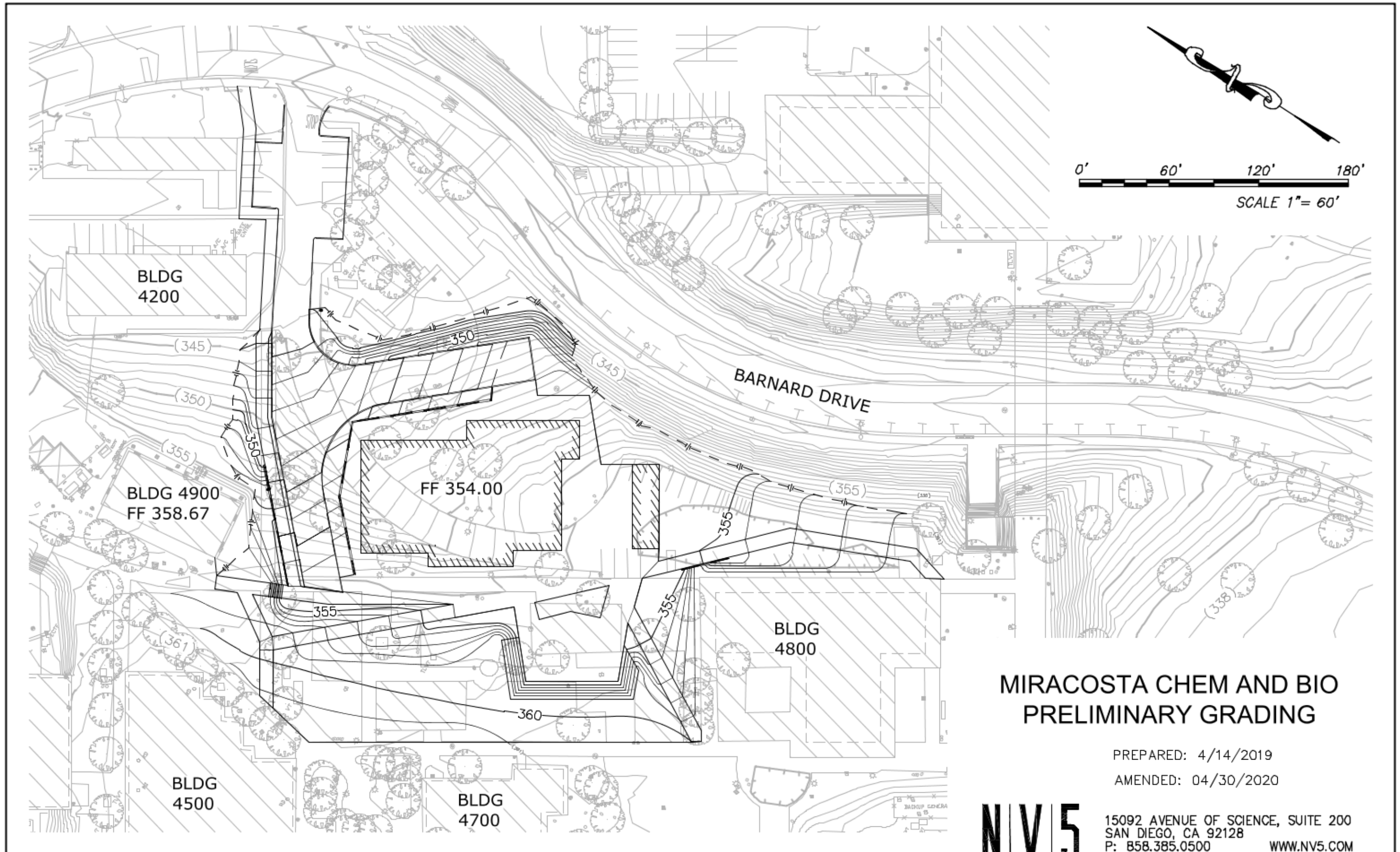


CONCEPT SECTIONS



MiraCosta College Chemistry & Biotech SITE DIAGRAM





MIRACOSTA CHEM AND BIO PRELIMINARY GRADING

PREPARED: 4/14/2019

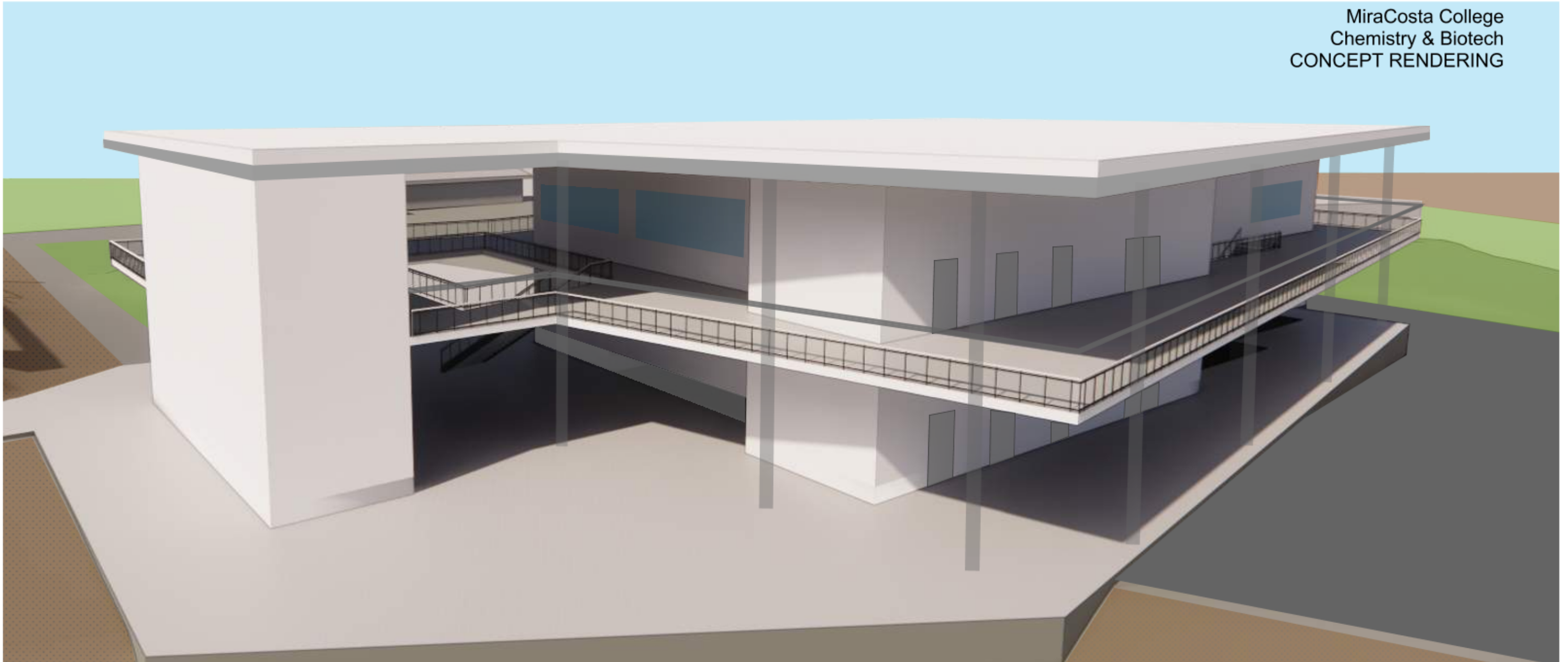
AMENDED: 04/30/2020

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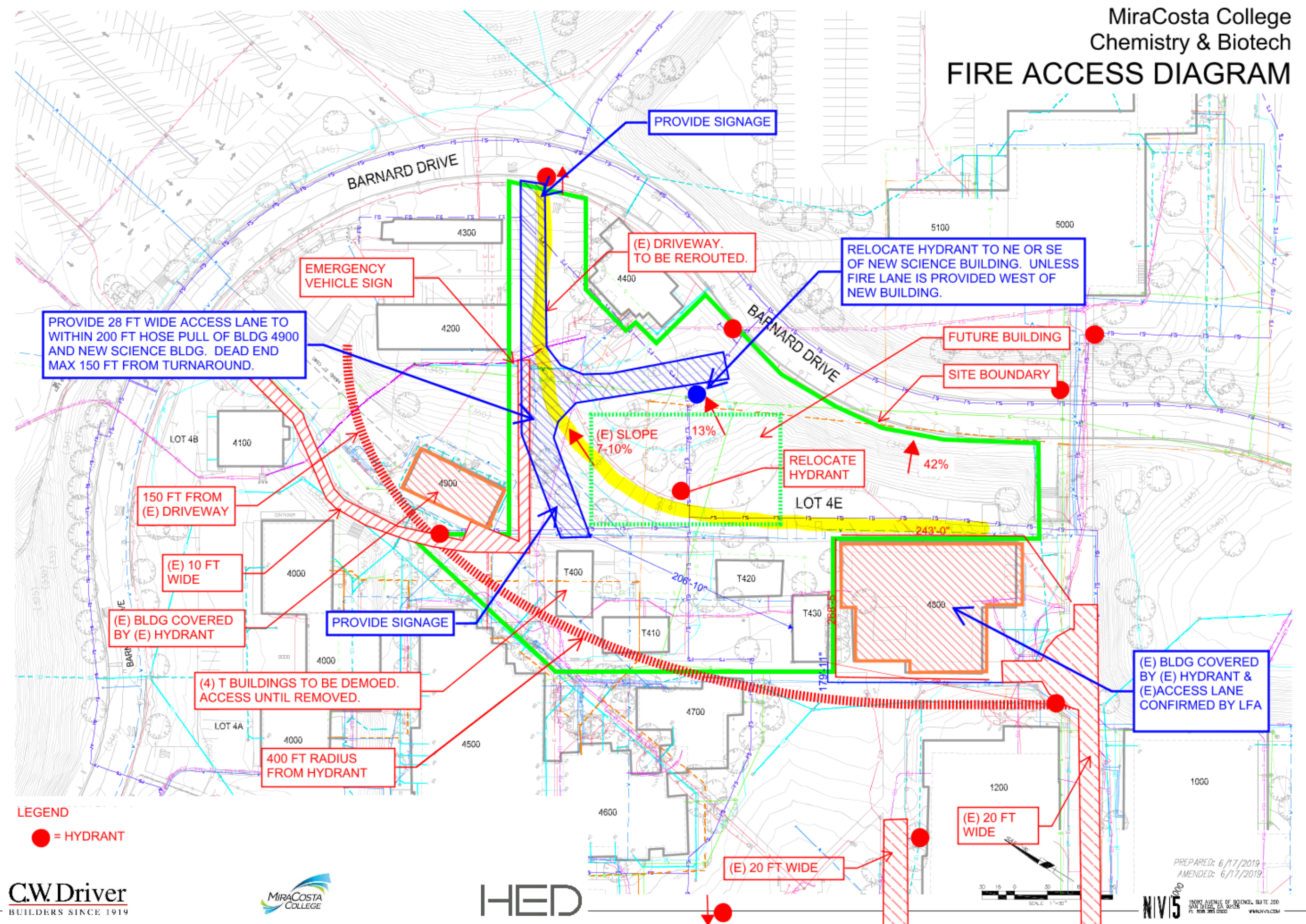
15092 AVENUE OF SCIENCE, SUITE 200
SAN DIEGO, CA 92128
P: 858.385.0500 WWW.NV5.COM



MiraCosta College
Chemistry & Biotech
CONCEPT RENDERING



MiraCosta College Chemistry & Biotech FIRE ACCESS DIAGRAM



LEGEND
● = HYDRANT

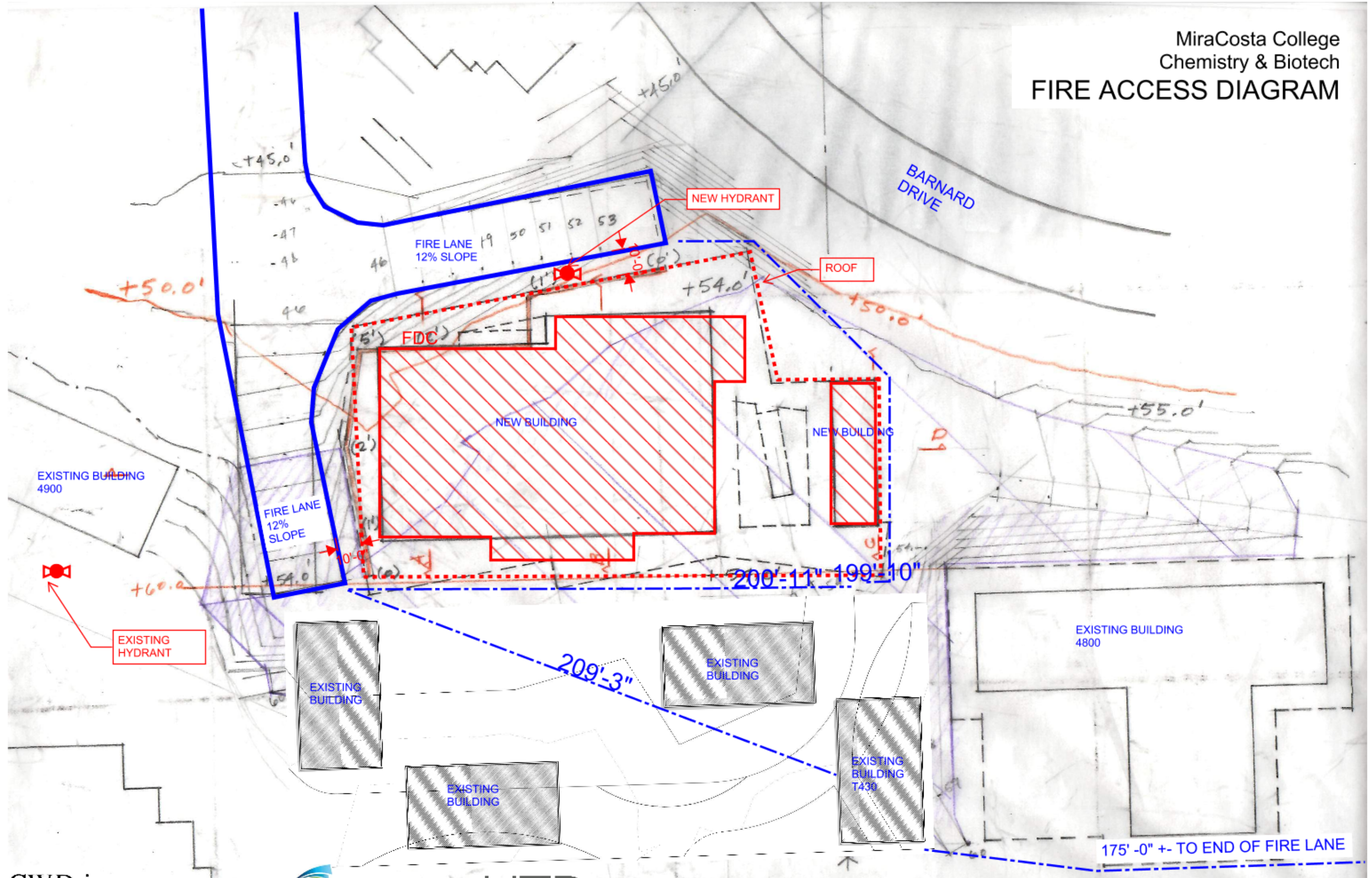
C.W. Driver
BUILDERS SINCE 1919



HED

PREPARED: 6/17/2019
AMENDED: 6/17/2019
NIVIS
1500 AVENUE OF REVENUE, SUITE 200
SAN DIEGO, CA 92108
P: 619.393.0200 WWW.NIVIS.COM

MiraCosta College
Chemistry & Biotech
FIRE ACCESS DIAGRAM



END OF DOCUMENT