LOS RIOS COMMUNITY COLLEGE DISTRICT

1919 Spanos Court, Sacramento, CA 95825
Phone (916) 568-3071 FAX (916) 568-3145
Purchasing Department

Sacramento City College American River College Cosumnes River College Folsom Lake College

ADDENDUM NO. 2

ISSUE DATE: April 13, 2018

CRC College Center Expansion

LRCCD BID NO. 17021

Issued By:

LOS RIOS COMMUNITY COLLEGE DISTRICT
1919 Spanos Court, Sacramento, CA 95825
Phone (916) 568-3071 Fax (916) 568-3145

This addendum forms a part to the Contract Documents. The addendum items supersede and supplement all portions of the bidding documents with which it conflicts. All workmanship, materials, appliances and equipment which may be included in the following addendum items shall be of the same relative quality as described for similar work set forth in the general or main specifications of which these addendum items shall be considered a part.

This Addendum has been acknowledged in the space provided on the Bid Form and is considered part of the bid documents.

This Addendum consists of 112 pages.

1. **Remove bid form from Project Manual.**
2. **Replace bid form.**

RFI # 4a: Drawings E3.01A and E3.02 do not include 120V power for VAV boxes - please confirm that 120V power for VAV boxes is provided by Div 26.

RESPONSE #4a: See revised sheets E3.01A & E3.02.

RFI #4b: (N) communicating kW meter is located at the main switch gear outside of the building – please confirm Div 26 is to provide a separate conduit between the (N) switchgear and the building to accommodate BAS communication cable for the (N) kW meter.

RESPONSE #4b: See revised key note 5, sheet E1.03.

RFI #5: On Bid 17021 CRC College Center Expansion the contractor qualifications require 2 project with an original contract price of $15,049,250.00. We have two project in the fourteen million range that are almost complete. Can this requirement be relaxed at all?

RESPONSE #5: No.

RFI #6: For Builder's Risk Insurance, are we required to provide existing building coverage? If so, what is the value of the building, and the year of construction?

RESPONSE #6: Refer to Project Manual, Volume 1 of 3, General Conditions, Article 6.

RFI #7: Addendum 1 Section 01 23 00 added six alternates, however, a Bid Form reflecting these additional alternates was not provided. Please provide a revised bid form.

RESPONSE #7: See item #1 & #2 above.

RFI #8: Regarding Sections
27 00 10 - BASIC COMMUNICATIONS REQUIREMENTS
27 13 13 - COMMUNICATIONS COPPER BACKBONE CABLING
27 13 23 - COMMUNICATIONS OPTICAL FIBER BACKBONE CABLING
Please provide an one-line diagram for the Low voltage communications feed cabling.

RESPONSE #8: See Communication Riser on sheet E8.06.

BID FORM

FOR: CRC College Center Expansion Bid # 17021

SUBMIT BID TO:

If US Mail
TO: LRCCD Board of Trustees
Attn: Purchasing Dept.
3753 Bradview Drive
Sacramento, CA 95827

If Hand-Delivered
TO: LRCCD Board of Trustees
Attn: Purchasing Dept.
3753 Bradview Drive
Sacramento, CA 95827

LOCATION OF BID OPENING:

Los Rios Community College District Facilities Management
Purchasing Department
3753 Bradview Drive
Sacramento, CA 95827

BID FROM: _____
(Name of firm submitting Bid Proposal)

_____
(Address)

_____
(City, State, Zip Code)

_____ _____
(Telephone) (Fax)

DATE BID SUBMITTED: _____

NOTE:

1) All portions of the bid form must be completed before the bid is submitted. Failure to do so may result in the bid being rejected as non-responsive. Attached to and submitted with this bid form, bidder must provide the completed Contractor Qualifications, Non-Collusion Declaration signed by bidder, Statement of Compliance, Designation of Subcontractors-Bid Form, the appropriate bid security and any other documents required by the Contract Documents. Failure to submit all required documents may result in the bid being rejected as non-responsive.

2) The bidder agrees that each addendum received and acknowledged herein shall become a part of and included in this bid proposal. The bidder agrees the bid proposal includes the following addenda (**SEPARATELY LIST EACH ADDENDUM RECEIVED**):

Addendum No. ____ Dated _____ Addendum No.____ Dated_____

Addendum No. ____ Dated _____ Addendum No.____ Dated_____

Addendum No. ____ Dated _____ Addendum No.____ Dated_____

The bidder agrees to perform the **Base Bid** work for the lump sum of:

_____ Dollars $_____

(Specify total dollar amount in words printed or typed) **(In figures)**

ALTERNATE #1. ADDITIONAL MODERNIZATION OF EXISTING OFFICE SPACE TO EXTENT SHOWN BETWEEN GRIDLINES C-D.3 and 1-4 AND AS INDICATED ON SHEET AD2.00B, A2.01B, A2.31B, E2.01B, M2.01B AND OTHER SHEETS.

_____Dollars $_____
(Specify total dollar amount in words printed or typed) (In figures)

ALTERNATE #2. REMOVE EXISTING FLOOR FINISH DOWN TO SLAB AT EXISTING LOBBY (WAITING 105) INDICATED ON SHEET AD2.00B. PREPARATION AND CLEANING EXISTING SLAB TO RECEIVE NEW FINISH. PROVIDE AND INSTALL EPOXY TERRAZZO AS INDICATED ON SHEET A2.01B,

_____Dollars $_____
(Specify total dollar amount in words printed or typed) (In figures)

ALTERNATE #3. SKY LIGHTS, 6 ROUND DOOM TYPE AND 1 SLOPE HORIZONTAL ALUMINUM FRAMED SEE SHEET A2.15B FOR DETAILED INFORMATION

_____Dollars $_____
(Specify total dollar amount in words printed or typed) (In figures)

ALTERNATE #4. CLOCK TOWER AND ADDITIONAL STRUCTURAL FRAMING.

_____Dollars $_____
(Specify total dollar amount in words printed or typed) (In figures)

ALTERNATE #5. REMOVE EXISTING SERVICE WINDOWS, BULLNOSE COUNTERTOP AND WALL FINISHES AT (E) LOBBY AS INDICATED ON SHEET AD2.00B AND A2.01B. PROVIDE AND INSTALL NEW WINDOWS, COUNTERTOP AND FINISHES AS INDICATED ON SHEET A4.03.

_____Dollars $_____
(Specify total dollar amount in words printed or typed) (In figures)

ALTERNATE #6. IN PLACE OF FINISH RF1 AT 1ST FLOOR NORTH LOBBY PROVIDE AND INSTALL EPOXY ERRAZZO SP7 AS INDICATED ON SHEET A2.31A

_____Dollars $_____
(Specify total dollar amount in words printed or typed) (In figures)

TOTAL BID _____Dollars $_____
Total bid amount shall include the base bid amounts and the sum of all alternates
The lowest responsive bid shall be determined based on the sum of the base bids, all additive and all deductive alternates.

3) There is herewith enclosed cash, a bid bond for the benefit of, or a certified check or cashier's check for ten percent (10%) of the amount of the bid submitted, made payable to Los Rios Community College District in the amount of:

_____ Dollars $_____
(Specify total dollar amount in words printed or typed) (In figures)

4) The bidder, having the appropriate active license required by the State of California; and having carefully read and examined the plans, specifications, and all related bidding documents as prepared by the Los Rios Community College District for the project described as: CRC College Center Expansion - BID # 17021 having performed a full and complete examination of the site of the proposed work and all information available to bidder, and being familiar with all the conditions related to the proposed work, including the availability of materials, equipment, and labor, hereby offers to furnish all labor, materials, tools, transportation, services, equipment and taxes necessary to complete the work of the described project in accordance with the Contract Documents, and to complete all requirements of the Contract Documents for the sums quoted in this Bid Form. The bidder agrees that it will not withdraw its bid within ninety (90) days after the bid deadline. If the bidder is selected as the apparent lowest responsive responsible bidder, the bidder agrees, within ten (10) days after receipt of notice of selection, to sign and deliver the Contract, and to furnish the Performance Bond, the Payment Bond, Certificates of Insurance, and other required items.

5) The bidder agrees that if the bidder is selected as the apparent lowest responsive responsible bidder, and the bidder fails to sign the Contract and furnish the Performance Bond, the Payment Bond, Certificates of Insurance, or any other required items in proper form and in proper amounts within the time limit specified in the Contract Documents, the Los Rios Community College District may award the work to another bidder or call for new bids. In such event, the bidder shall be liable to the Los Rios Community College District for the difference between the amount of the disqualified bid and the larger amount for which the District procures the work plus all of the District's costs, damages, expenses and liabilities arising from bidder's failure to sign the Contract and/or furnish the required documents.

6) The bidder, if awarded the Contract, agrees to complete all work required by these Contract Documents, in strict compliance with these Contract Documents, within the prescribed calendar days from the start date specified in the Notice to Proceed.

BIDDER'S FIRM:

Bidder is a: (circle one)

Corporation Partnership Individual Joint Venture

Other: _____
(Specify)

Names and Titles of Key Members of Firm:
(Name of person signing the bid on behalf of the bidder and all general partners, if a partnership, must be included.)

_____

Name of President if a Corporation:

_____
(Print or Type Name)

Name of Secretary if a Corporation:

_____
(Print or Type Name)

Corporation is organized under the laws of the State of:

_____

DIR Number:

_____

California Contractors License(s):

_____

Name of License(s):

_____	_____	_____
Classification(s)	Number	Expiration Date

(For Joint Ventures, list Joint Venture's license or licenses for all Joint Venture partners.)

By submission of this bid, bidder certifies:

I am aware of the provisions of section 3700 of the Labor Code which requires every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of that code, and I will comply with such provisions before commencing the performance of the award of this Contract.

Corporate Seal:

Name of Bidder's Firm: _____

Address: _____

_____

_____

By: _____
(Signature)

_____
(Print Name)

_____
(Title)

By: _____
(Signature)

_____
(Print Name)

_____
(Title)

(If signature is by other than the sole proprietor, general partner, or corporate officers, attach an original Power of Attorney.)

The Los Rios Community College District and its Board of Trustees reserves the right to reject any or all bids received and/or waive any minor irregularity of a bid as the public good may require.

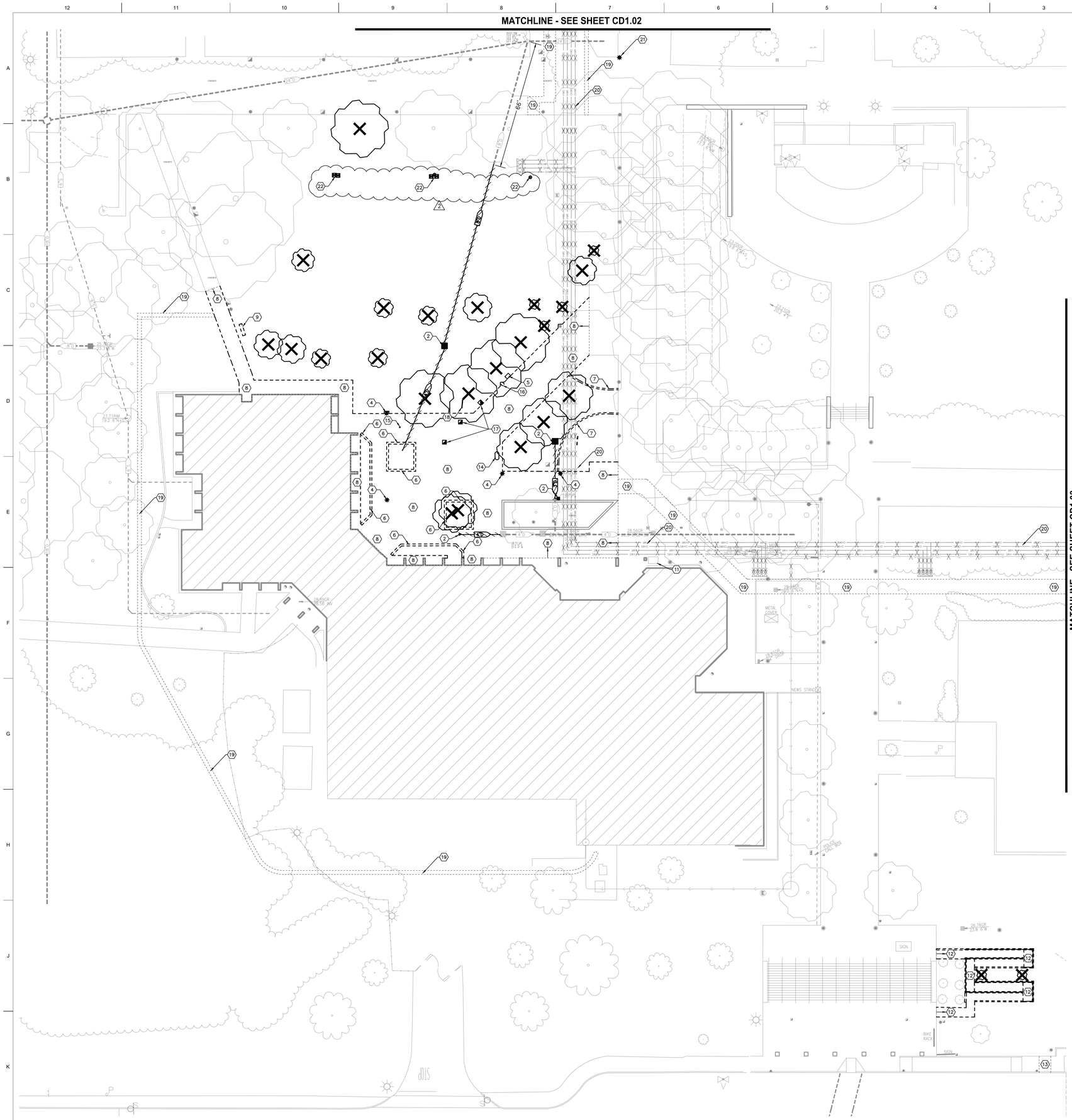
Addendum

PROJECT NAME:	CRC- College Center Expansion
PROJECT NUMBER:	201-0065
TYPE:	Addendums
SUBJECT:	Addendum 02
DUE DATE:	
ID:	ADD-002
SENDER ID:	
INITIATED BY:	Tom Hall
REASONS:	
DISCIPLINE:	
STATUS:	Draft
CONTRACT:	
DESCRIPTION:	Remove sheet A9.81 from Addendum 1

Changes to drawings
CD1.01 - Key Note #22 added to key note list and plan.
LD1.01 - Callouts added to plan clarify extent of irrigation disturbance due to controller relocation. Notes 6 & 7 added to plan.
AD2.00A - Moved demolition of wall from add alt to base bid.
AD2.00B - Moved demolition of wall from add alt to base bid.
C1.00 - Key Note #1 removed from multiple locations on plan
L2.00 - Irrigation controller callout updated.
A2.01A - Move doors 127 and 130 from add alt to base bid. Added storefront tag.
A2.01B - Move doors 127 and 130 from add alt to base bid.
A2.02 – Change configuration of wall at rooms 254K, 254H, 254G and 254F.
A2.42 – Change the location of room signage for rooms 254K, 254H, 254G and 254F.
A2.81 - Move doors 127 and 130 from add alt to base bid.
A2.85 - Added elevation for IS19
A6.01A – Gypsum soffit and light fixtures have been modified in Room 161Q. The light fixtures have shifted in Room 150.
A6.02-Gypsum soffit and T-Bar have been modified in Room 254 & Room 254A. New light fixtures were added in RM 254. The light fixtures were rearranged in Room 237. The light fixtures were rearranged in Room 286 and one light recessed can was added. Change t-bar layout, location of lights and diffusers at office 254K, 254H, 254G and 254F.
A9.11 - Detail F5 was removed. Detail H5 was modified.
A9.81 – Removed detail B9.
A9.82 – Removed detail H3.
S2.01 - Revise graphics to reflect the extents of engineered fill. Note located near grid 8-G.
S2.01 - Revise graphics to remove incorrect column label for stair columns near grid 5-C.2.
M0.02 – Changed the airflow for VAV box based on the room change on the second floor.
M4.22 – Changed the diffuser location based on the change in the room layout per architectural changes.

E0.02 - Added make and model number for Poke-Thru "P1".
E1.02 - Removed fiber from manhole MH6 to MH7.
E1.03 - Revised termination at IDF Room first floor for key note 18. Modified key note 5 for KW Meter cable. Move 12kV loop from transformer to switch.
E2.01A - Revised lighting.
E2.02 - Revised lighting.
E3.01A - Added power for VAV boxes.
E3.02 - Added power for VAV boxes. Revised poke-thru designations. Added poke-thru in open office 254. Added panel "P5". Revised receptacle locations.
E4.02 - Revised poke-thru designations. Revised data locations. Revised key notes 1, 2, 5, 7 and added key note 23.
E7.01 - Added panel "P5" to one line diagram. Added key note 15. Move panel schedule "INV" from sheet E7.02 to E7.01.
E7.02 - Moved panel schedule "INV" from sheet E7.02 to E7.01. Added panel schedule "P5". Revised panel schedules "R" & "R3".
E8.02 - Modified Communication Riser.
FA2.02 - Revised speaker strobe location.

Changes to specifications
Section 01 43 39 Mock Ups - Add section
Section 01 56 00 Temporary Barriers Enclosures - Add section
Section 01 73 33 Protection of Adjacent Construction - Add section
Section 01 74 00 Cleaning and Waste Management - Add section
Section 03 30 00 Cast in Place Concrete - Replace entire section
Section 03 35 11 Concrete Floor Finishes - Add section
Section 03 35 46 Concrete Topical Treatment - Add section
Section 09 05 61 Common Work Results for Flooring Preparation
Section 09 90 00 Painting and Coating - Add section
Section 26 12 00 Medium Voltage Transformers - Add section
Section 27 13 23 Communications Optical Fiber Backbone Cabling - Revised fiber optic cable connector from type SC to LC due to District change in their standards.
Section 28 13 00 Access Control - Added District provided Bulgin model number for toggle button and make and model for dummy plugs.
DSA 103 - Add



DEMOLITION KEYNOTES:

1. REMOVE STORM DRAIN PIPE. INSTALL TEMPORARY PLUG AT END OF REMAINING PIPE.
2. REMOVE DRAIN INLET.
3. REMOVE TREE AND ROOTS OVER 2" IN DIAMETER.
4. REMOVE LIGHT POLE, FOUNDATION AND ASSOCIATED CONDUITS AND CONDUCTORS BACK TO SOURCE.
5. RELOCATE IRRIGATION CONTROLLER, SEE SHEET LD1.00.
6. REMOVE CONCRETE SEAT WALL AND FOUNDATION.
7. REMOVE CONCRETE BAND.
8. SAWCUT AND REMOVE CONCRETE PLAZA PAVEMENT AS INDICATED.
9. RELOCATE BENCH, SEE LANDSCAPE PLANS FOR NEW LOCATION.
10. RELOCATE UTILITY BOXES OUTSIDE OF THE PROPOSED BUILDING FOOTPRINT.
11. EXISTING ATM SHALL BE PROTECTED IN PLACE AND REMAIN UNDAMAGED DURING THROUGHOUT THE DURATION OF THE PROJECT.
12. SAWCUT AND REMOVE EXISTING PEDESTRIAN RAMP INCLUDING RAILINGS, WALLS, FOUNDATIONS, FOOTINGS AND SIDEWALKS AS INDICATED.
13. SAWCUT AND REMOVE EXISTING SIDEWALK AND CURB AS REQUIRED TO INSTALL UNDER-SIDEWALK DRAIN. RECONSTRUCT SIDEWALK AND CURB IN KIND AFTER UNDER-SIDEWALK DRAIN IS INSTALLED.
14. REMOVE TRASH/RECYCLING CAN AND RETURN TO DISTRICT.
15. REMOVE CLEANOUT AND PLUG AT PIPE.
16. REMOVE LIGHT FIXTURE (SEE SHEET E1-01 FOR ADDITIONAL REQUIREMENTS).
17. REMOVE PULLBOX AND ASSOCIATED CONDUITS AND CONDUCTORS BACK TO SOURCE.
18. REMOVE SIGN AND ASSOCIATED FOUNDATION.
19. PROPOSED ROUTE OF NEW UTILITY PIPING. CONTRACTOR SHALL SAWCUT AND REMOVE CONCRETE PAVING TO NEAREST JOINT AS NEEDED TO INSTALL PIPING. CONTRACTOR SHALL RESTORE ALL REMOVED ITEMS (CONCRETE PAVING, ASPHALT PAVING, TURF, DG, LANDSCAPING, IRRIGATION, WALLS, PLANTERS, SEAT WALLS, ETC.) THAT WERE REMOVED TO ORIGINAL (LIKE) CONDITION. NEW CONCRETE PAVING SHALL MATCH EXISTING ADJACENT PAVING (THICKNESS, COLOR, SCORING AND FINISH).
20. EXISTING HYDRONICS PIPING TO BE ABANDONED IN PLACE.
21. EXISTING LIGHT POLE TO BE REMOVED AND RELOCATED. SEE ELECTRICAL PLANS FOR NEW LOCATION, DETAILS AND OTHER REQUIREMENTS.
22. REMOVE IRRIGATION UTILITY BOXES. (2)

DEMOLITION NOTES:

1. SEE SHEET LD1.00 FOR TREE PROTECTION REQUIREMENTS.
2. SEE SHEET LD1.00 FOR IRRIGATION AND LANDSCAPE DEMOLITION.

DEMOLITION LEGEND:

UTILITY TO BE REMOVED (1)

TREE TO BE REMOVED (3)

EARTHWORK NOTES

1. ALL EARTHWORK OPERATIONS AND TESTING OF SOILS COMPACTION SHALL BE IN ACCORDANCE WITH THE GEOTECHNICAL ENGINEERING REPORT PREPARED BY TERRACON CONSULTANTS, INC. (NO. NB165037 DATED MAY 11, 2016). COPIES OF THIS REPORT ARE AVAILABLE AT THE OFFICE OF THE ENGINEER. THE GEOTECHNICAL ENGINEER SHALL BE PRESENT DURING GRADING AND COMPACTION. RESULTS OF ALL SOILS TESTING SHALL BE SUBMITTED TO THE OWNER BY THE SOILS TESTING COMPANY UPON COMPLETION OF GRADING OPERATIONS.
2. TRENCH EXCAVATION, PIPE BEDDING, AND PIPE BACKFILL INCLUDING COMPACTION SHALL BE IN COMPLIANCE WITH THE MATERIAL MANUFACTURER SPECIFICATIONS, CALIFORNIA STATE REGULATIONS, AND PROJECT SPECIFICATIONS. IF IN CONFLICT, THE ENGINEER SHALL DETERMINE WHICH STANDARD SHALL GOVERN.
3. THE CONTRACTOR IS RESPONSIBLE FOR BALANCING THE EARTHWORK IN ACCORDANCE WITH THESE PLANS AND THE GEOTECHNICAL REPORT AND SHALL PAY FOR ALL IMPORT OR EXPORT OF MATERIALS TO ACHIEVE THE BALANCE. THE CONTRACTOR SHALL OFF-HAUL ANY EXCESS MATERIAL AT CONTRACTOR'S EXPENSE.
4. THE CONTRACTOR SHALL MAINTAIN STREETS, CURBS, GUTTERS, BIKE PATHS, AND SIDEWALKS ADJACENT TO SITE IN CLEAN CONDITIONS AT ALL TIMES DURING CONSTRUCTION.
5. GRADING ACTIVITIES SHALL BE REDUCED OR HALTED DURING PERIODS OF HIGH WINDS (GREATER THAN 15 MPH), ALL EXPOSED GRADED AREAS OF THE SITE SHALL BE WATERED AT LEAST TWICE DAILY.
6. STRAIGHT GRADE BETWEEN ELEVATIONS SHOWN ON THE PLANS.

0 10 20 40 60
SCALE IN FEET

LPAS
Architecture + Design 2484 Natomas Park Drive Suite 100
Sacramento CA 95833 916 T 443 0335 F 441 2823 lpas.com

COSUMNES RIVER COLLEGE

COLLEGE CENTER EXPANSION

8401 CENTER PARKWAY, SACRAMENTO, CA 95823

NO.	ISSUE	DATE
2	ADDENDUM 2	2018-04-13

DATE SIGNED: 1/19/18
THESE DRAWINGS ARE NOT CONSIDERED FINAL UNTIL THE ENGINEER'S SEAL BELOW HAS BEEN SIGNED AND DATED.

REGISTERED PROFESSIONAL ENGINEER
DANIEL A. FENOGLIO
No. C51484
CIVIL
STATE OF CALIFORNIA

ENGINEER'S STAMP

FILE NO.43-C1

LICENSED ARCHITECT
TROY PENNINGTON
C-31285
5-31-19
RENEWAL DATE
STATE OF CALIFORNIA

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
02-115990
AC ____ FLS ____ SS. ____
DATE ____

ARCHITECT'S STAMP APPROVAL

CONSULTANT

CUNNINGHAM ENGINEERING
CECWEST.COM
Project Planning + Civil Engineering + Landscape Architecture
Sacramento Office +
2120 20th Street, Suite Three
Sacramento, CA 95818
(916) 455-2026
Davis Office +
2940 Spafford Street, Suite 200
Davis, CA 95618
(530) 758-2026

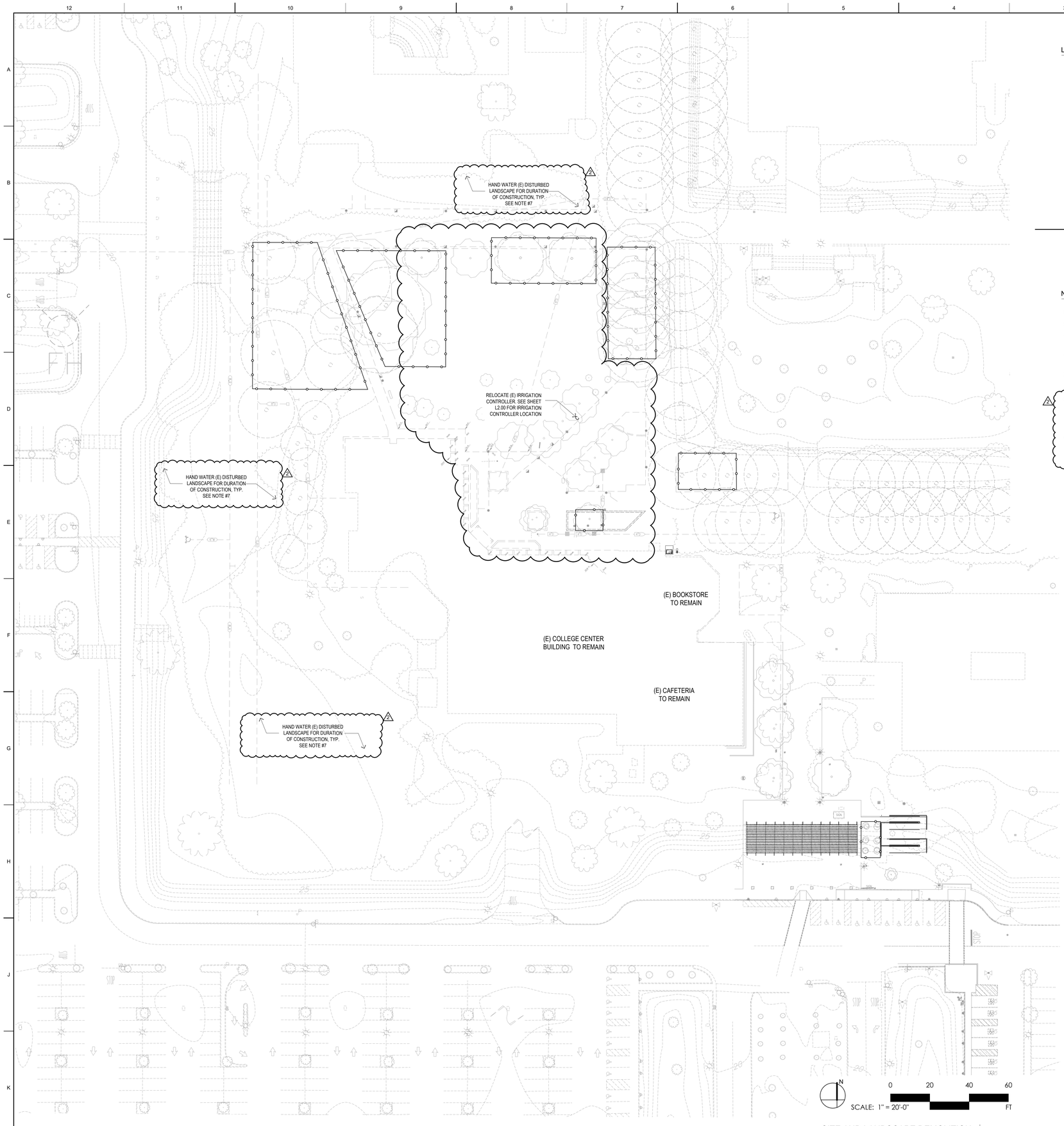
CIVIL SITE DEMOLITION PLAN

PROJECT NO: 201-0065
DATE: 01.19.2018

SHEET NO:

CD1.01

DSA SUBMITTAL



SITE AND LANDSCAPE DEMOLITION
1" = 60'-0" K4

LEGEND

REMOVE ALL TURF AND SHRUBS. REMOVE ALL (E) IRRIGATION EQUIPMENT INCLUDING SPRAY HEADS, VALVES LATERAL LINES AND MAIN LINE.

TREE PROTECTION FENCE TO REMAIN FOR EXTENT OF CONSTRUCTION. ADDITIONAL TREE PROTECTION FENCING TO BE ADDED AS REQUIRED TO COMPLY WITH TREE PROTECTION NOTES ON SHEET LD1.00

LEGEND
N.T.S. B1

NOTES

1. SEE SHEET CD1.00 FOR TREE REMOVAL PLAN.
2. SEE SHEET CD1.00 FOR SITE DEMOLITION
3. REPLACE ALL (E) SHRUBS AND TURF DAMAGED AS A RESULT OF DEMOLITION, CONSTRUCTION OR STAGING. CONSULT WITH DISTRICT LANDSCAPE REPRESENTATIVE FOR REPLACEMENT SHRUB SIZE AND SPECIES, AND TURF SPECIES.
4. REPLACE ALL (E) TREES DAMAGED AS A RESULT OF DEMOLITION, CONSTRUCTION OR STAGING. CONSULT WITH DISTRICT ARBORIST FOR TREE BOX SIZE. THE DISTRICT HAS FINAL SAY ON REPLACEMENT SIZE.
5. ALL LANDSCAPE AREAS WITHIN CONSTRUCTION FENCING MUST BE MAINTAINED AND IRRIGATED DURING CONSTRUCTION. LANDSCAPE AREAS DAMAGED WITHIN FENCING MUST BE TO REPAIRED OR REPLACED TO PRE-CONSTRUCTION CONDITIONS OR BETTER.
6. REPAIR OR REPLACE ALL IRRIGATION AREAS EFFECTED BY DEMOLITION OR CONSTRUCTION. ALL IRRIGATION TO BE REPAIRED AND RECONNECTED TO MAINLINE AND IRRIGATION CONTROLLER. ALL REPAIRED IRRIGATION AREAS MUST MAINTAIN HEAD TO HEAD COVERAGE.
   ALL LANDSCAPE AREAS ON CAMPUS ARE TO HAVE CONTINUOUS IRRIGATION. DISRUPTION TO IRRIGATION SERVICE TO ANY LANDSCAPE AREA SHALL BE FOR A MAXIMUM OF 48HRS.
7. ALL LANDSCAPE AREAS AFFECTED BY (E) CONTROLLER RELOCATION, BOTH INSIDE AND OUTSIDE OF CONSTRUCTION FENCING, MUST BE HAND WATERED FOR DURATION OF CONSTRUCTION. IT WILL BE THE CONTRACTORS RESPONSIBILITY TO REPLACE ANY DAMAGED LANDSCAPE MATERIAL DUE TO CONTROLLER RELOCATION. CONSULT WITH CAMPUS REPRESENTATIVE FOR SIZE AND SPECIES OF REPLACEMENT PLANTS.

LPAS
2484 Natomas Park Drive Suite 100 Sacramento CA 95833
916 443 0335 lpasdesign.com Architecture + Design

COSUMNES RIVER COLLEGE

COLLEGE CENTER EXPANSION

8401 CENTER PARKWAY, SACRAMENTO, CA 95823

NO.	ISSUE	DATE
1	ADDENDUM 1	2018-03-30
2	ADDENDUM 2	2018-04-13

REGISTERED LANDSCAPE ARCHITECT
Signature
5/31/2018
RENEWAL
AUGUST 31, 2019
STATE OF CALIFORNIA

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
02-115990
AC____ FLS____ SS____
DATE ____

ARCHITECT'S STAMP APPROVAL

COLLEGE CENTER EXPANSION LANDSCAPE AND IRRIGATION DEMOLITION

PROJECT NO: 201-0065
DATE: 01.19.2018

SHEET NO:

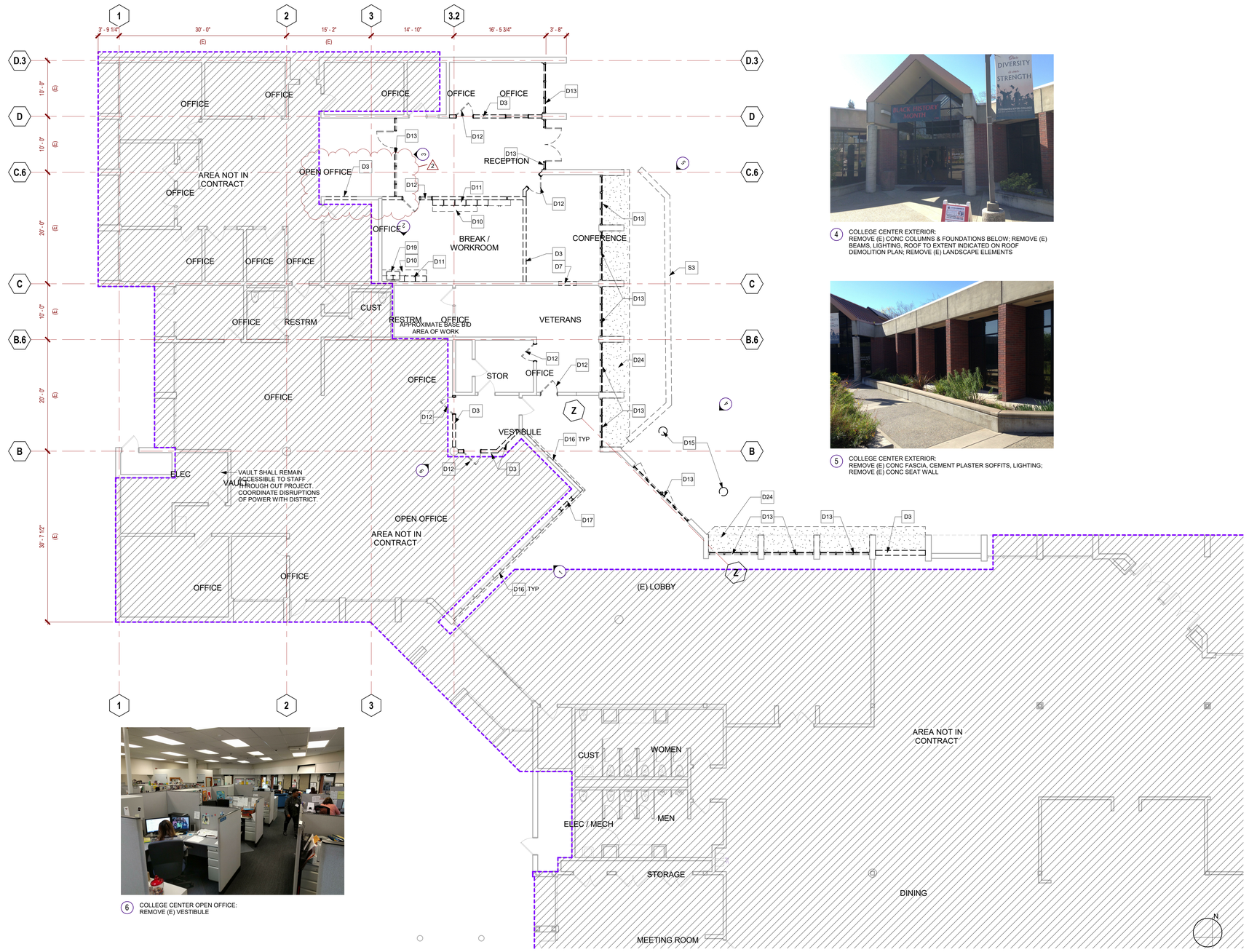
LD1.01

DSA SUBMITTAL

1 COLLEGE CENTER SERVICE WINDOWS:
BASE BID: REMOVE (E) LAMINATE SKIRT, WALLCOVERING ABOVE COUNTERTOP, WOOD TRIM, SIGNAGE
ADD ALT #X: BASE BID PLUS REMOVE (E) BULLNOSE COUNTERTOP, SERVICE WINDOWS

2 COLLEGE CENTER BREAK / WORKROOM:
REMOVE (E) COUNTERTOP, CASEWORK, PLUMBING, ETC.
CAP PLUMBING BEHIND WALL & FINISH WALL TO MATCH ADJACENT WALL SURFACE

3 COLLEGE CENTER OPEN OFFICE:
REMOVE (E) ALUMINUM STOREFRONT PARTITION; REPAIR ACOUSTICAL CEILING GRID AS REQ'D.



6 COLLEGE CENTER OPEN OFFICE:
REMOVE (E) VESTIBULE

4 COLLEGE CENTER EXTERIOR:
REMOVE (E) CONC COLUMNS & FOUNDATIONS BELOW; REMOVE (E) BEAMS, LIGHTING, ROOF TO EXTENT INDICATED ON ROOF DEMOLITION PLAN; REMOVE (E) LANDSCAPE ELEMENTS

5 COLLEGE CENTER EXTERIOR:
REMOVE (E) CONC FASCIA, CEMENT PLASTER SOFFITS, LIGHTING; REMOVE (E) CONC SEAT WALL

PARTIAL FIRST FLOOR DEMOLITION PLAN
1/8" = 1'-0" | K3

GENERAL DEMOLITION NOTES

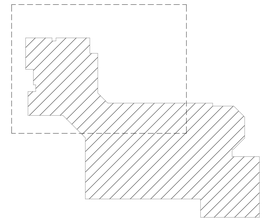
1. THE AREA OF WORK SHOWN IS APPROXIMATE. WORK OUTSIDE THE AREA OF WORK MAY BE REQUIRED FOR A COMPLETE PROJECT. ANY WORK REQUIRED OUTSIDE THE AREA OF WORK TO COMPLETE THIS PROJECT SHALL BE CONSIDERED A PART OF THIS CONTRACT.
2. CONTRACTOR TO NOTIFY OWNER'S REPRESENTATIVE OF ANY CHANGES IN THE DEMOLITION PROCESS/SCOPE OF DEMOLITION.
3. PRIOR TO DEMOLITION, CONTRACTOR TO VERIFY COMPLIANCE WITH LOCAL, STATE, AND FEDERAL AIR QUALITY AGENCIES. HOWEVER, HAZARDOUS MATERIALS ABATEMENT IS OUTSIDE THE SCOPE OF THIS PROJECT. IF ANY SUSPECTED HAZARDOUS MATERIALS ARE ENCOUNTERED DURING DEMOLITION, STOP WORK AND NOTIFY COLLEGE AND ARCHITECT IMMEDIATELY.
4. CONTRACTOR TO PATCH AND REPAIR ALL HOLES AND CRACKS PRIOR TO START OF NEW WORK, INCLUDING BUT NOT LIMITED TO THOSE LEFT BY ITEMS BEING REMOVED.
5. REMOVE ALL EXISTING SWITCHPLATE AND RECEPTACLE COVERS IN THE AREA OF WORK AND PREPARE BOXES TO RECEIVE NEW SWITCHPLATES / RECEPTACLE COVERS.
6. IF A WALL INDICATED TO BE REMOVED CONTAINS A CONCRETE CURB, THE CONCRETE CURB IS TO BE ASSUMED TO BE REMOVED, AS WELL.
7. REMOVE EXISTING CARPET IN AREA OF WORK, UNLESS OTHERWISE NOTED.

LEGEND

- AREA NOT IN CONTRACT
- EXISTING FLOOR / CURB
- EXISTING TILE FLOORING

DEMOLITION KEYNOTES

- D3 REMOVE PORTION OF EXISTING WALL TO EXTENT INDICATED
- D7 REMOVE PORTION OF EXISTING WALL AS REQUIRED FOR NEW DOOR OPENING
- D10 REMOVE EXISTING COUNTERTOP & CASEWORK BELOW
- D11 REMOVE EXISTING WALL-MOUNTED CASEWORK
- D12 REMOVE EXISTING DOOR AND FRAME
- D13 REMOVE EXISTING STOREFRONT SYSTEM AND GLAZING. SALVAGE AND TURN OVER TO DISTRICT.
- D15 REMOVE EXISTING CONCRETE COLUMN - SEE STRUCTURAL FOR ADDITIONAL INFORMATION.
- D16 REMOVE EXISTING WALLCOVERING
- D17 REMOVE EXISTING COUNTERTOP AND LAMINATE PANELS BELOW COUNTERTOP, WINDOWS AND SURROUNDING TRIM AT WINDOWS TO REMAIN
- D19 REMOVE EXISTING SINK; PREPARE LINES FOR NEW SINK INSTALLATION - SEE PLUMBING DRAWINGS FOR ADDITIONAL INFORMATION
- D24 REMOVE EXISTING CONCRETE PAVING / MOW STRIP TO EXTENT INDICATED
- S3 REMOVE EXISTING CONCRETE SEAT WALL TO EXTENT INDICATED



KEY PLAN
1" = 80'-0"

LPAS
2484 Natomas Park Drive Suite 100 Sacramento CA 95833
916 443 0335 lpasdesign.com **Architecture + Design**

COSUMNES RIVER COLLEGE

COLLEGE CENTER EXPANSION

8401 CENTER PARKWAY, SACRAMENTO, CA 95823

NO.	ISSUE	DATE
1	ADDENDUM 1	2018-03-30
2	ADDENDUM 2	2018-04-11

LICENSED ARCHITECT TROY PENNINGTON C31288 RENEWAL 8-31-19 STATE OF CALIFORNIA

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
02-115990
AC_____ FLS_____ SS_____
DATE _____

ARCHITECT'S STAMP APPROVAL

CONSULTANT

PARTIAL FIRST FLOOR DEMO PLAN - BASE BID

PROJECT NO: 201-0065
DATE: 01.15.2018

SHEET NO:

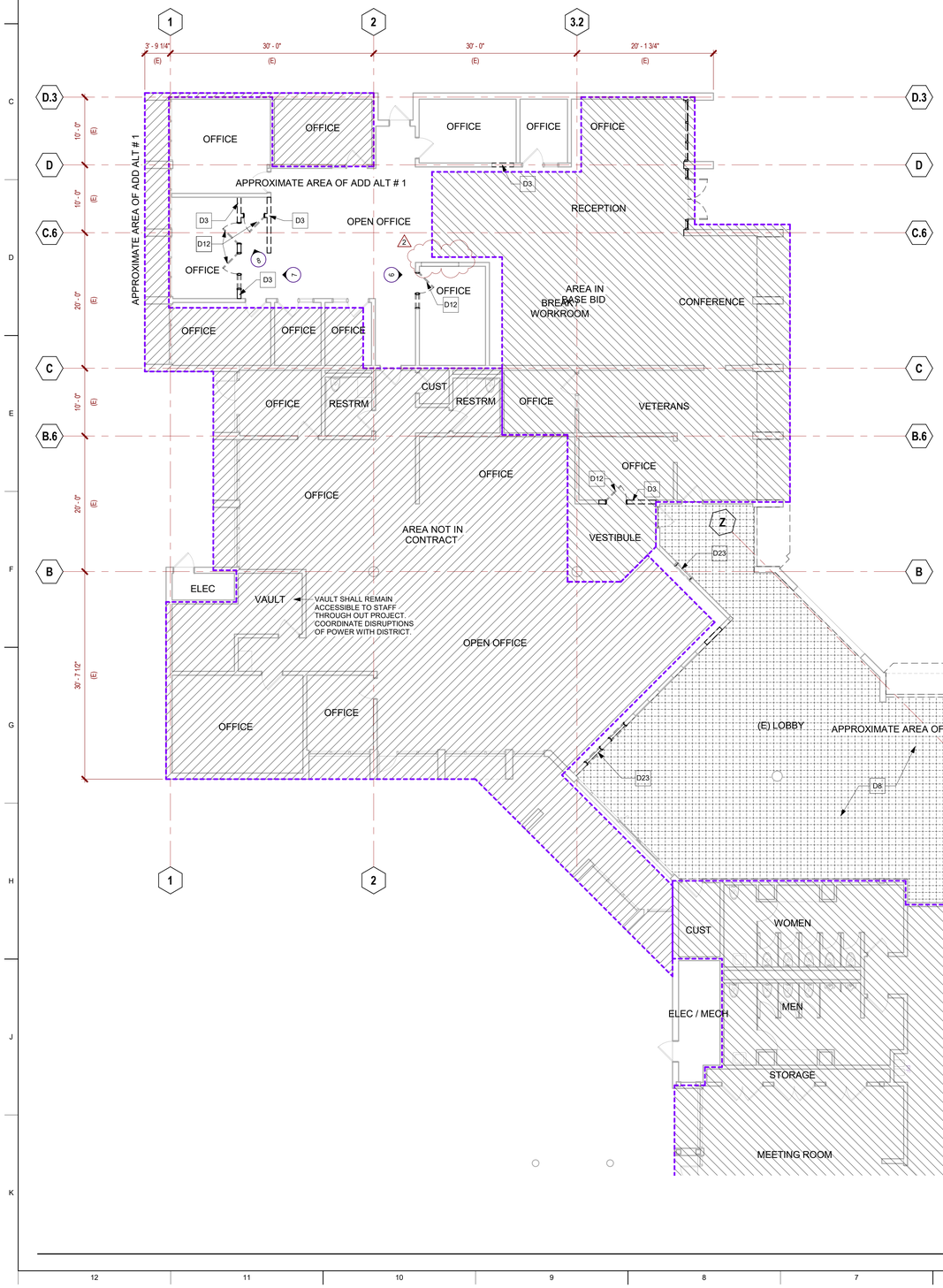
AD2.00A

DSA SUBMITTAL II

7 COLLEGE CENTER (E) PRESIDENT'S SUITE:
ADD ALT #1: BASE BID PLUS REMOVE (E) WALLS, DOORS, ETC. AS INDICATED BELOW

8 COLLEGE CENTER (E) PRESIDENT'S SUITE:
ADD ALT #1: BASE BID PLUS REMOVE (E) WALLS, DOORS, ETC. AS INDICATED BELOW

9 COLLEGE CENTER (E) PRESIDENT'S SUITE:
ADD ALT #1: BASE BID PLUS REMOVE (E) WALLS, DOORS, ETC. AS INDICATED BELOW



PARTIAL FIRST FLOOR DEMOLITION PLAN - ADD ALT
1/8" = 1'-0" K3

GENERAL DEMOLITION NOTES

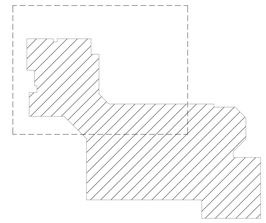
1. THE AREA OF WORK SHOWN IS APPROXIMATE. WORK OUTSIDE THE AREA OF WORK MAY BE REQUIRED FOR A COMPLETE PROJECT. ANY WORK REQUIRED OUTSIDE THE AREA OF WORK TO COMPLETE THIS PROJECT SHALL BE CONSIDERED A PART OF THIS CONTRACT.
2. CONTRACTOR TO NOTIFY OWNER'S REPRESENTATIVE OF ANY CHANGES IN THE DEMOLITION PROCESS/SCOPE OF DEMOLITION.
3. PRIOR TO DEMOLITION, CONTRACTOR TO VERIFY COMPLIANCE WITH LOCAL, STATE, AND FEDERAL AIR QUALITY AGENCIES. HOWEVER, HAZARDOUS MATERIALS ABATEMENT IS OUTSIDE THE SCOPE OF THIS PROJECT. IF ANY SUSPECTED HAZARDOUS MATERIALS ARE ENCOUNTERED DURING DEMOLITION, STOP WORK AND NOTIFY COLLEGE AND ARCHITECT IMMEDIATELY.
4. CONTRACTOR TO PATCH AND REPAIR ALL HOLES AND CRACKS PRIOR TO START OF NEW WORK, INCLUDING BUT NOT LIMITED TO THOSE LEFT BY ITEMS BEING REMOVED.
5. REMOVE ALL EXISTING SWITCHPLATE AND RECEPTACLE COVERS IN THE AREA OF WORK AND PREPARE BOXES TO RECEIVE NEW SWITCHPLATES / RECEPTACLE COVERS.
6. IF A WALL INDICATED TO BE REMOVED CONTAINS A CONCRETE CURB, THE CONCRETE CURB IS TO BE ASSUMED TO BE REMOVED, AS WELL.
7. REMOVE EXISTING CARPET IN AREA OF WORK, UNLESS OTHERWISE NOTED.

LEGEND

- AREA NOT IN CONTRACT
- EXISTING FLOOR / CURB
- EXISTING TILE FLOORING TO BE REMOVED

DEMOLITION KEYNOTES

- D3 REMOVE PORTION OF EXISTING WALL TO EXTENT INDICATED
- D8 REMOVE EXISTING TILE FLOORING - PREPARE FLOOR TO RECEIVE NEW TILE
- D12 REMOVE EXISTING DOOR AND FRAME
- D23 ADD ALT #5 REMOVE EXISTING SERVICE WINDOWS, TYP OF (6)



KEY PLAN
1" = 80'-0"

LPAS
2484 Natomas Park Drive Suite 100 Sacramento CA 95833
916 443 0335 lpasdesign.com **Architecture + Design**

COSUMNES RIVER COLLEGE

COLLEGE CENTER EXPANSION

8401 CENTER PARKWAY, SACRAMENTO, CA 95823

NO.	ISSUE	DATE
1	ADDENDUM 1	2018-03-30
2	ADDENDUM 2	2018-04-11

LICENSED ARCHITECT
TROY PENNINGTON
C-31295
RENEWAL DATE
STATE OF CALIFORNIA

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
02-115990
AC_____ FLS_____ SS_____
DATE _____

ARCHITECT'S STAMP APPROVAL

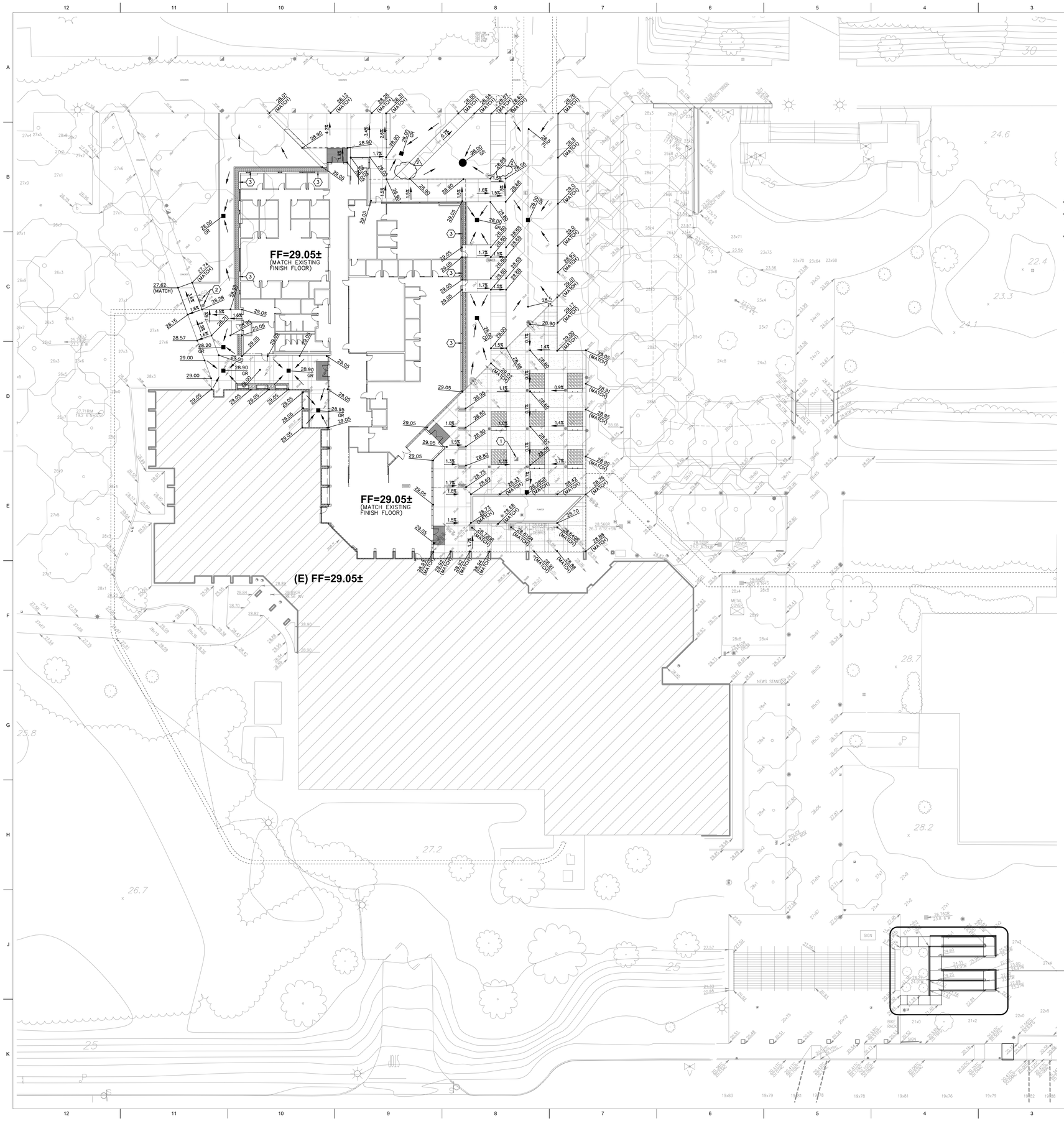
CONSULTANT

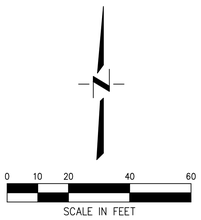
PARTIAL FIRST FLOOR DEMOLITION PLAN - ADD ALT

PROJECT NO: 201-0065
DATE: 01.15.2018

SHEET NO: 1
AD2.00B

DSA SUBMITTAL II





GRADING KEYNOTES:

1. RESET UTILITY BOX TO NEW GRADE.
2. RESET LIGHT POLE AND PULL BOX TO NEW GRADE. SEE SHEET E1.03 ELECTRICAL SITE PLAN FOR ADDITIONAL DETAILS AND REQUIREMENTS.
3. SEE DETAIL D3 ON SHEET A1.11 FOR COBBLE BAND DETAIL AT BUILDING.

GRADING LEGEND:

EXISTING SPOT ELEVATIONS 48X44 48.62 AC

PROPOSED SPOT ELEVATION 49.40

EXISTING ELEVATION CONTOUR 48

GRADING ABBREVIATIONS:

FF FINISH FLOOR ELEVATION
FL FLOWLINE ELEVATION
GR INLET GRATE ELEVATION

EARTHWORK NOTES

1. ALL EARTHWORK OPERATIONS AND TESTING OF SOILS COMPACTION SHALL BE IN ACCORDANCE WITH THE GEOTECHNICAL ENGINEERING REPORT PREPARED BY TERRACON CONSULTANTS, INC. (NO. NB165037 DATED MAY 11, 2016). COPIES OF THIS REPORT ARE AVAILABLE AT THE OFFICE OF THE ENGINEER. THE GEOTECHNICAL ENGINEER SHALL BE PRESENT DURING GRADING AND COMPACTION. RESULTS OF ALL SOILS TESTING SHALL BE SUBMITTED TO THE OWNER BY THE SOILS TESTING COMPANY UPON COMPLETION OF GRADING OPERATIONS.
2. TRENCH EXCAVATION, PIPE BEDDING, AND PIPE BACKFILL INCLUDING COMPACTION SHALL BE IN COMPLIANCE WITH THE MATERIAL MANUFACTURER SPECIFICATIONS, CALIFORNIA STATE REGULATIONS, AND PROJECT SPECIFICATIONS. IF IN CONFLICT, THE ENGINEER SHALL DETERMINE WHICH STANDARD SHALL GOVERN.
3. THE CONTRACTOR IS RESPONSIBLE FOR BALANCING THE EARTHWORK IN ACCORDANCE WITH THESE PLANS AND THE GEOTECHNICAL REPORT AND SHALL PAY FOR ALL IMPORT OR EXPORT OF MATERIALS TO ACHIEVE THE BALANCE. THE CONTRACTOR SHALL OFF-HAUL ANY EXCESS MATERIAL AT CONTRACTOR'S EXPENSE.
4. THE CONTRACTOR SHALL MAINTAIN STREETS, CURBS, GUTTERS, BIKE PATHS, AND SIDEWALKS ADJACENT TO SITE IN CLEAN CONDITIONS AT ALL TIMES DURING CONSTRUCTION.
5. GRADING ACTIVITIES SHALL BE REDUCED OR HALTED DURING PERIODS OF HIGH WINDS (GREATER THAN 15 MPH). ALL EXPOSED GRADED AREAS OF THE SITE SHALL BE WATERED AT LEAST TWICE DAILY.
6. STRAIGHT GRADE BETWEEN ELEVATIONS SHOWN ON THE PLANS.

TREE PROTECTION NOTE:

1. SEE SHEET LD1.00 FOR TREE PROTECTION REQUIREMENTS.

LPAS

Architecture + Design 2484 Natomas Park Drive Suite 100
Sacramento CA 95833 916 T 443 0335 F 441 2823 lpas.com

COSUMNES RIVER COLLEGE

COLLEGE CENTER EXPANSION

8401 CENTER PARKWAY, SACRAMENTO, CA 95823

NO.	ISSUE	DATE
2	ADDENDUM 2	2018-04-13

DATE SIGNED: 1/19/18

THESE DRAWINGS ARE NOT CONSIDERED FINAL UNTIL THE ENGINEER'S SEAL BELOW HAS BEEN SIGNED AND DATED.

REGISTERED PROFESSIONAL ENGINEER DANIEL A. TERUCCHIO No. C51484 CIVIL STATE OF CALIFORNIA

ENGINEER'S STAMP

FILE NO.43-C1

LICENSED ARCHITECT TROY PENNINGTON C-31285 5-31-19 RENEWAL DATE STATE OF CALIFORNIA

ARCHITECT'S STAMP

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
02-115990
AC____ FLS ____ SS____
DATE _____

APPROVAL

CONSULTANT

CUNNINGHAM ENGINEERING
CECWEST.COM
Project Planning + Civil Engineering + Landscape Architecture
Sacramento Office
2120 20th Street, Suite Three
Sacramento, CA 95818
(916) 455-2026
Davis Office
2940 Spafford Street, Suite 200
Davis, CA 95616
(530) 758-2026

SITE GRADING PLAN

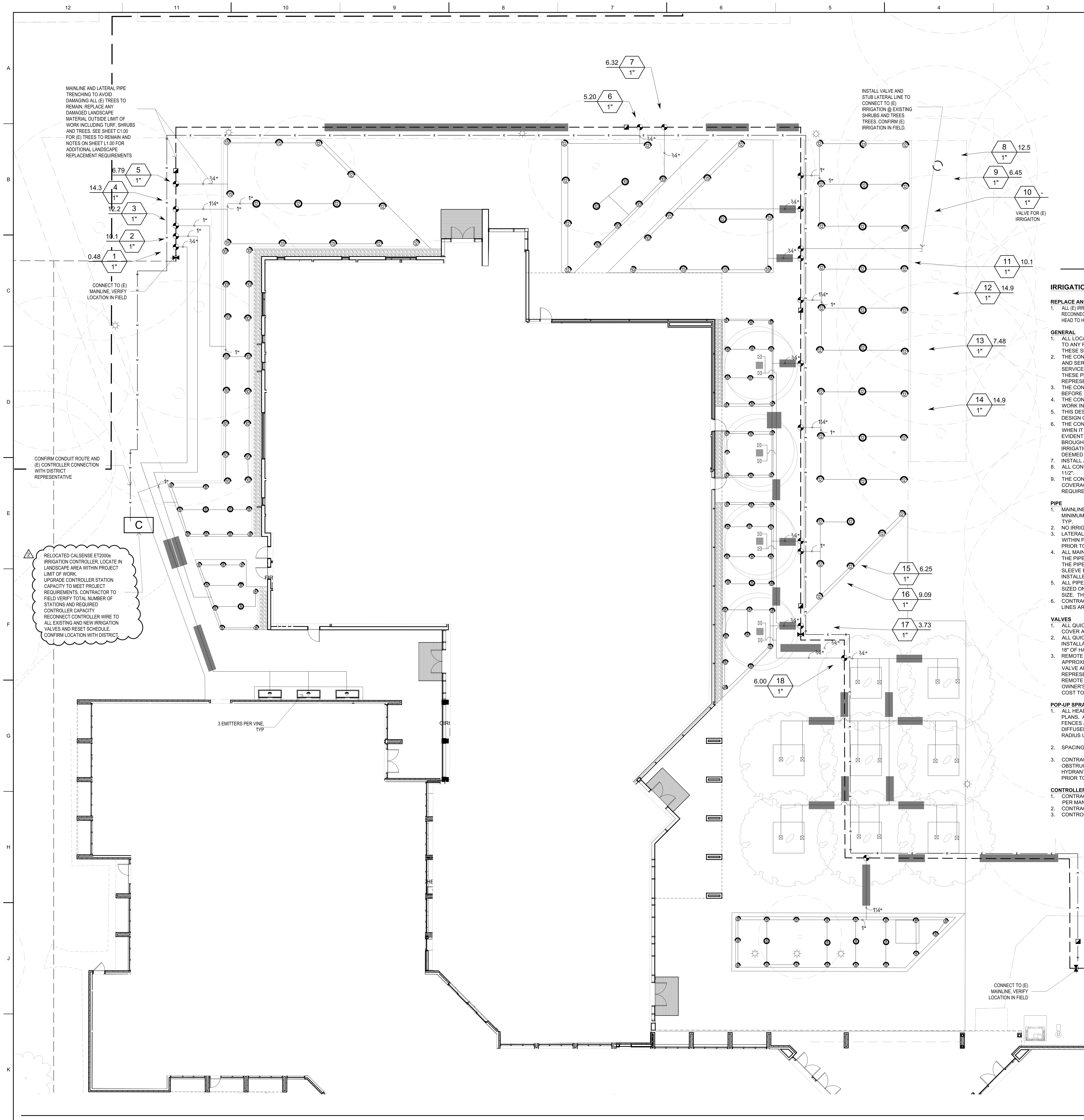
PROJECT NO: 201-0065

DATE: 01.19.2018

SHEET NO:

C1.00

DSA SUBMITTAL



IRRIGATION PLAN K1
1" = 10'-0"

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	GPM	DETAIL
8 8 8 8 8 10 10 10 10 12 12 12 12	Rain Bird 1806-SAM-PRS-U U12 Series Shrub Spray 12.0" Pop-Up Sprinkler with Co-Molded Wiper Seal. 1/2" NPT Female Threaded Inlet. With Seal-A-Matic Check Valve, and Pressure Regulating Device.	0.20	F7 SHEET L2.11
⊠	Hunter RZWS-18 18" long RZWS with installed .25gpm		B7 SHEET L2.11
18	Rain Bird PC Single Outlet, PC Drip Emitter Single Outlet, Pressure Compensating Drip Emitters with Self-Piercing Barb Inlet. Flow rate: 18gph=white. Use with Tree Watering Stake.		B5 SHEET L2.11
1.0	Rain Bird EMT-6XERI w/ Xeri-Bug Multi Outlet Emitter Multi-Outlet Emitter with 6 Xeri-Bug Emitters.Black=1.0gph,		
	Rain Bird PESB-PRS-D 1" 1", 1-1/2", 2" Plastic Industrial Valves. Low Flow Operating Capability, Globe Configuration. With Pressure Regulating Module, and Scrubber		F5 SHEET L2.11
	Rain Bird 33-DLRC 3/4" 3/4" Brass Quick-Coupling Valve, with Corrosion-Resistant Stainless Steel Spring, Locking Thermoplastic Rubber Cover, Double Track Key Lug, and 2-Piece Body.		D5 SHEET L2.11
	Nibco T-113-K Class 125 bronze gate shut off valve with cross handle, same size as mainline pipe diameter at valve location. Size Range - 1/4" - 3"		F5 SHEET L2.11
	Irrigation Lateral Line: PVC Schedule 40 PVC Schedule 40 irrigation pipe. Only lateral transition pipe sizes 1" and above are indicated on the plan, with all others being 3/4" in size.		B3, D3 SHEET L2.11
	4" Irrigation Mainline: PVC Schedule 40, Provide Thrust Blocking at Necessary		B3, D3 SHEET L2.11
	Conduit Wire in 2" PVC Schedule 40 Sleeve		F3 SHEET L2.11

Valve Callout
Valve Number
Valve Flow
Valve Size

IRRIGATION LEGEND C1
NTS

IRRIGATION NOTES

REPLACE AND REPAIR

1. ALL (E) IRRIGATION EFFECTED BY DEMOLITION OR CONSTRUCTION TO BE REPLACED, REPAIRED, AND RECONNECTED TO MAINLINE AND IRRIGATION CONTROLLER. ALL REPAIRED IRRIGATION AREAS MUST MAINTAIN HEAD TO HEAD COVERAGE

GENERAL

1. ALL LOCAL MUNICIPAL AND STATE LAWS, RULES AND REGULATIONS GOVERNING OR RELATING TO ANY PORTION OF THIS WORK ARE HEREBY INCORPORATED INTO AND MADE A PART OF THESE SPECIFICATIONS AND THEIR PROVISIONS SHALL BE CARRIED OUT BY THE CONTRACTOR.
2. THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL EXISTING UTILITIES, STRUCTURES AND SERVICES BEFORE COMMENCING WORK. THE LOCATIONS OF UTILITIES, STRUCTURES AND SERVICES SHOWN IN THESE PLANS ARE APPROXIMATE ONLY. ANY DISCREPANCIES BETWEEN THESE PLANS AND ACTUAL FIELD CONDITIONS SHALL BE REPORTED TO THE OWNER'S REPRESENTATIVE.
3. THE CONTRACTOR SHALL OBTAIN THE PERTINENT ENGINEERING OR ARCHITECTURAL PLANS BEFORE BEGINNING WORK.
4. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS REQUIRED TO PERFORM THE WORK INDICATED HEREIN BEFORE BEGINNING WORK.
5. THIS DESIGN IS DIAGRAMMATIC. ALL IRRIGATION EQUIPMENT SHOWN IN PAVED AREAS IS FOR DESIGN CLARITY ONLY AND IS TO BE INSTALLED WITHIN PLANTING AREAS.
6. THE CONTRACTOR SHALL NOT WILLFULLY INSTALL ANY EQUIPMENT AS SHOWN ON THE PLANS WHEN IT IS OBVIOUS IN THE FIELD THAT UNKNOWN CONDITIONS EXIST THAT WERE NOT EVIDENT AT THE TIME THESE PLANS WERE PREPARED. ANY SUCH CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE PRIOR TO ANY WORK OR THE IRRIGATION CONTRACTOR SHALL ASSUME ALL RESPONSIBILITY FOR ANY FIELD CHANGES DEEMED NECESSARY BY THE OWNER.
7. INSTALL ALL EQUIPMENT AS SHOWN IN THE DETAILS AND PER SPECIFICATIONS.
8. ALL CONTROLLER WIRE SHALL BE INSTALLED IN SCH. 40 CONDUIT, MINIMUM SIZE SHALL BE 11/2".
9. THE CONTRACTOR SHALL PROVIDE ADEQUATE IRRIGATION TO ALL PLANTERS. IRRIGATION COVERAGE OF PLANTER MAY REQUIRE ADDITIONAL IRRIGATION EQUIPMENT TO PROVIDE REQUIRED COVERAGE TO SUSTAIN HEALTH PLANT GROWTH.

PIPE

1. MAINLINE SHOWN WITHIN PAVING FOR CLARITY ONLY. ACTUAL MAINLINE LOCATION TO BE A MINIMUM OF 18" OFF ADJACENT HARDSCAPE, FENCE, PROPERTY LINES AND OTHER OBSTACLES TYP.
2. NO IRRIGATION MAINLINES SHALL BE INSTALLED WITHIN THE PUBLIC RIGHT OF WAY.
3. LATERAL LINES ARE SHOWN WITHIN PAVING FOR CLARITY ONLY, ACTUAL LOCATION TO BE WITHIN PLANTER. CONFIRM LAYOUT IN FIELD WITH OWNER'S AUTHORIZED REPRESENTATIVE PRIOR TO COMMENCING WORK.
4. ALL MAINLINE PIPE UNDER PAVED AREAS TO BE INSTALLED IN SLEEVE TWICE THE DIAMETER OF THE PIPE CARRIED; LATERAL LINE SHALL BE INSTALLED IN SLEEVE TWICE THE DIAMETER OF THE PIPE CARRIED. SLEEVES TO EXTEND AT LEAST 18" PAST THE EDGE OF THE PAVING. SLEEVE ENDS SHALL BE FILLED WITH EXPANDING FOAM TO KEEP OUT DIRT AFTER PIPE IS INSTALLED.
5. ALL PIPE SIZES SHALL CONFORM TO THOSE SHOWN ON THE DRAWINGS. LATERAL PIPE NOT SIZED ON DRAWING AND THAT ARE DOWNSTREAM OF 1" PIPE SHALL BE MINIMUM OF 3/4" PIPE SIZE. THE ONLY ALLOWED PIPE SIZE SUBSTITUTIONS WILL BE FOR LARGER SIZED PIPE.
6. CONTRACTOR TO FLUSH MAINLINE AND LATERAL IRRIGATION CLEAR OF ALL DEBRIS BEFORE LINES ARE PRESURIZED.

VALVES

1. ALL QUICK COUPLER AND REMOTE CONTROL VALVES TO BE INSTALLED IN SHRUB OR GROUND COVER AREAS WHERE POSSIBLE.
2. ALL QUICK COUPLER AND REMOTE CONTROL VALVES TO BE INSTALLED AS SHOWN ON THE INSTALLATION DETAILS. INSTALL ALL QUICK COUPLER AND REMOTE CONTROL VALVES WITHIN 18" OF HARDSCAPE.
3. REMOTE CONTROL VALVES AND ISOLATION VALVE LOCATIONS ON THIS DRAWING ARE APPROXIMATE. THE LANDSCAPE CONTRACTOR SHALL STAKE OUT EACH REMOTE CONTROL VALVE AND ISOLATION VALVE LOCATION FOR REVIEW AND APPROVAL BY OWNER REPRESENTATIVE PRIOR TO INSTALLATION OF ALL VALVES. MINOR MODIFICATIONS OF REMOTE CONTROL VALVES AND ISOLATION VALVE LOCATIONS AS REQUESTED BY THE OWNER'S REPRESENTATIVE SHALL BE PROVIDED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.

POP-UP SPRAY

1. ALL HEADS ARE TO BE INSTALLED WITH THE NOZZLE, SCREEN AND ARCS SHOWN ON THE PLANS. ALL HEADS ARE TO BE ADJUSTED TO PREVENT OVER SPRAY ONTO BUILDINGS, WALLS, FENCES AND PAVED SURFACES. THIS INCLUDES, BUT NOT LIMITED TO, ADJUSTMENT OF DIFFUSER PIN OR ADJUSTMENT SCREW, REPLACEMENT OF NOZZLES WITH MORE APPROPRIATE RADIUS UNITS AND THE ADJUSTMENT OF ADJUSTABLE ARC NOZZLES.
2. SPACING OF POP-UP SPRAY HEADS SHALL ALLOW HEAD TO HEAD COVERAGE.
3. CONTRACTOR SHALL ADJUST ALL HEADS AS REQUIRED TO ACCOMMODATE ANY VERTICAL OBSTRUCTIONS THAT MAY OCCUR, INCLUDING BUT NOT LIMITED TO LIGHT POLES, FIRE HYDRANTS, ETC. VERIFY ALL HEAD LAYOUT WITH OWNER'S AUTHORIZED REPRESENTATIVE PRIOR TO COMMENCING WORK.

CONTROLLER

1. CONTRACTOR TO INSTALL RELOCATED CONTROLLER IN STEEL CABINET ENCLOSURE PER MANUFACTURER AND DISTRICTS RECOMMENDATIONS.
2. CONTRACTOR TO COORDINATE 110 V ELECTRICAL SUPPLY POWER FOR CONTROLLER.
3. CONTROLLER TO BE GROUNDED PER MANUFACTURER AND INDUSTRY STANDARDS.

LPAS

2484 Natomas Park Drive Suite 100 Sacramento CA 95833
916 443 0335 lpasdesign.com **Architecture + Design**

COSUMNES RIVER COLLEGE

COLLEGE CENTER EXPANSION

8401 CENTER PARKWAY, SACRAMENTO, CA 95823

NO.	ISSUE	DATE
1	ADDENDUM 1	2018-03-30
2	ADDENDUM 2	2018-04-13

LICENSED LANDSCAPE ARCHITECT
THAIS DEL CASTILLO License No. 6835
Signature
5/31/2019
Renewal Date
4/13/2018
Date
STATE OF CALIFORNIA

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
02-115990
AC ____ FLS ____ SS ____
DATE ____

ARCHITECT'S STAMP APPROVAL

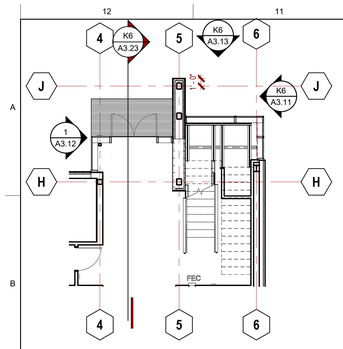
IRRIGATION PLAN

PROJECT NO: 201-0065
DATE: 01.19.2018

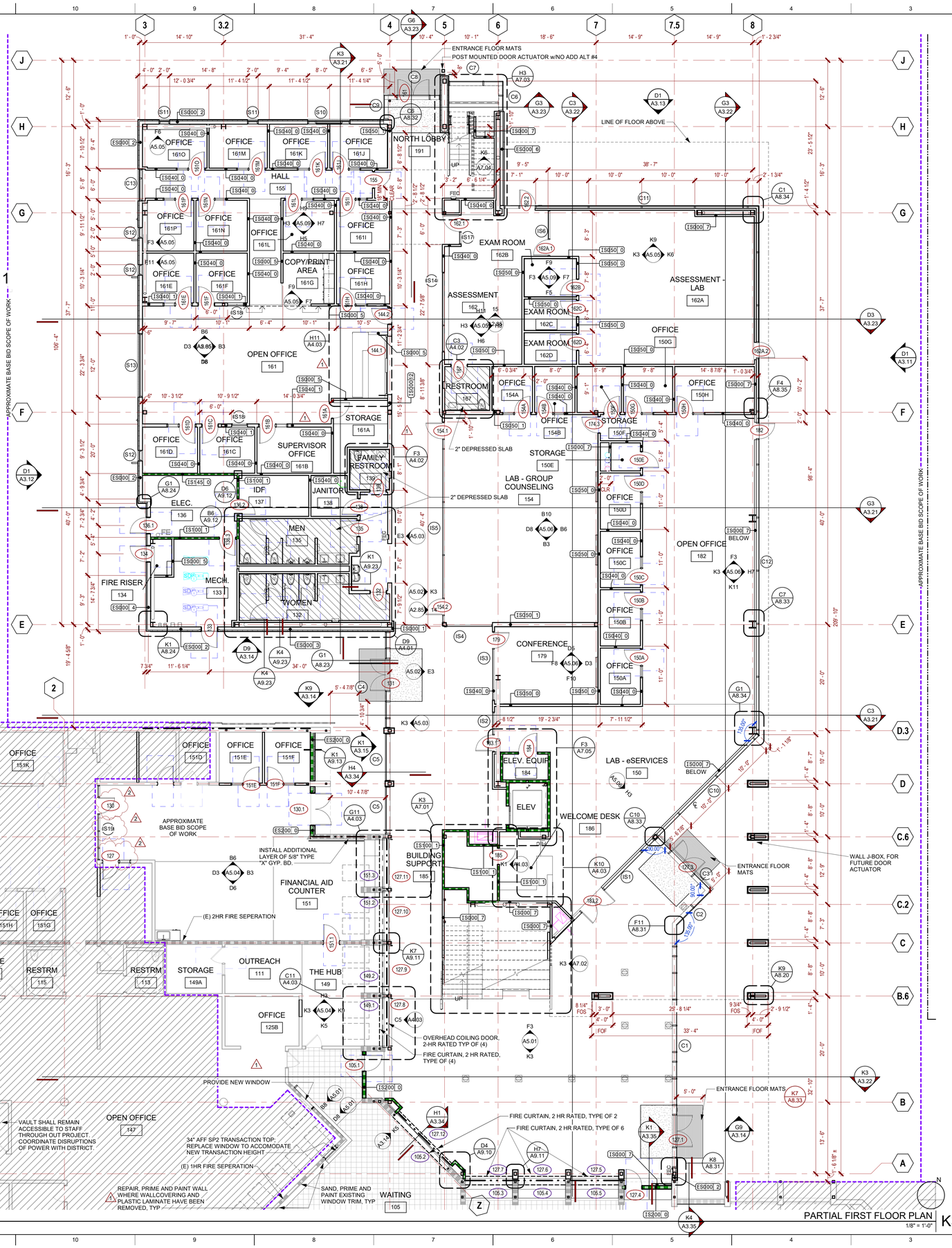
SHEET NO:

L2.00

DSA SUBMITTAL



PARTIAL FIRST FLOOR PLAN ADD ALT #4 C11
1/8" = 1'-0"



PARTIAL FIRST FLOOR PLAN K3
1/8" = 1'-0"

GENERAL NOTES

1. PROVIDE NEW SWITCHPLATES, OUTLET COVERS AND JUNCTION BOX PLATES IN AREAS OF MODERNIZATION.
2. UNLESS OTHERWISE NOTED, INTERIOR WALLS SHALL BE TYPE IS0 50 1.
3. SEE SHEET A2.31 FOR FINISHES.
4. SEE SHEET A0.40 FOR ACCESS COMPLIANCE DIMENSIONS NOT NOTED ON THIS SHEET, INCLUDING BUT NOT LIMITED TO DOOR CLEARANCES, PLUMBING FIXTURES, TOILET STALLS, SHOWERS, ETC.
5. PAINT ALL EXPOSED STEEL COLUMNS.
6. WALLS DAMAGED BY DEMOLITION WORK SHALL BE REPAIRED, TEXTURED AND PAINTED TO MATCH ADJACENT WALL.

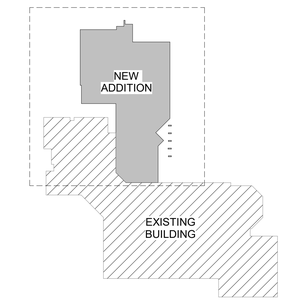
FLOOR PLAN SYMBOLS LEGEND

- EXISTING WALL TO REMAIN
- NEW INTERIOR WALL
- 1-HOUR RATED INTERIOR WALL
- 2-HOUR FIRE WALL
- FLOOR RECEPTACLE
- WALL RECEPTACLE
- FEC — FIRE EXTINGUISHER IN RECESSED CABINET (H3 A9.11)
- 201 — DOOR NUMBER, SEE DOOR SCHEDULE SHEET A2.81
- B — WINDOW/STOREFRONT NUMBER, SEE WINDOW SCHEDULE SHEET A2.82 - A2.85
- CEILING MOUNTED PROJECTOR SEE DETAIL K11 A9.60

WALL TAG LEGEND

REFER TO SHEET A9.20, A9.21 & A9.22 FOR WALL TYPE DETAILS

IS0 45 01
- LOCATION: "I" = INTERIOR, "E" = EXTERIOR
- MATERIAL: "W" = WOOD, "S" = STEEL. "C" = CONCRETE
- FIRE RATING: 1HR, 2HR. ETC..
- STC RATING
- IDENTIFIER: NUMBER DESIGNATION



KEY PLAN
1" = 80'-0"

LPAS
2484 Natomas Park Drive Suite 100 Sacramento CA 95833
916 443 0335 lpasdesign.com **Architecture + Design**

COSUMNES RIVER COLLEGE

COLLEGE CENTER EXPANSION

8401 CENTER PARKWAY, SACRAMENTO, CA 95823

NO.	ISSUE	DATE
1	ADDENDUM 1	2018-03-30
2	ADDENDUM 2	2018-04-11

LICENSED ARCHITECT — TROY PENNINGTON — C-31285 — 5/31-19 RENEWAL DATE — STATE OF CALIFORNIA

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
02-115990
AC_____ FLS_____ SS_____
DATE _____

ARCHITECT'S STAMP APPROVAL

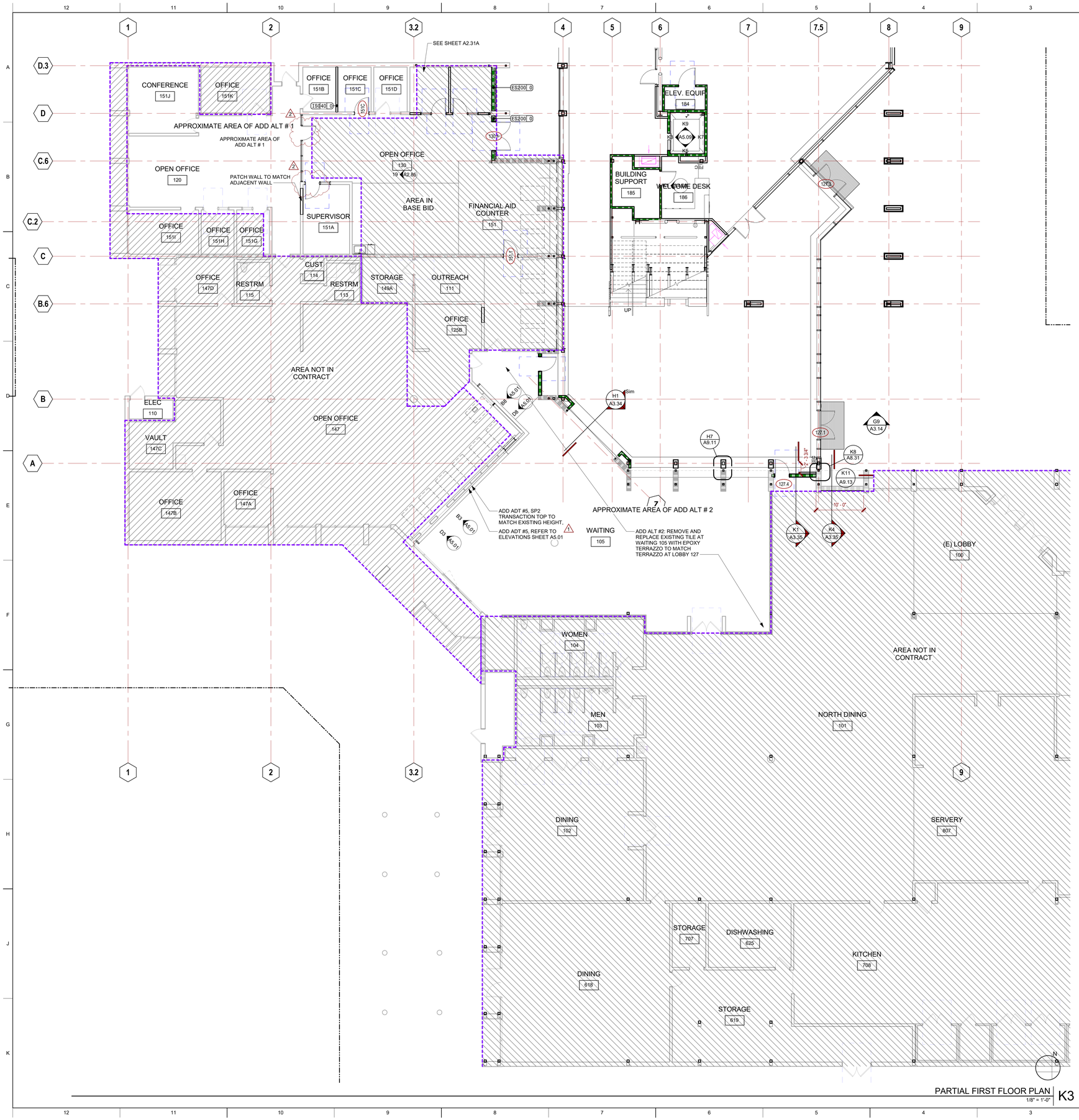
CONSULTANT

PARTIAL FIRST FLOOR PLAN

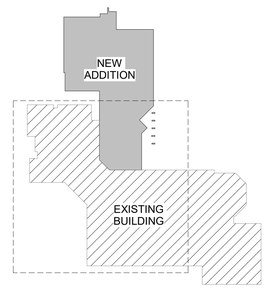
PROJECT NO: 201-0065
DATE: 01.15.2018

SHEET NO:
A2.01A

DSA SUBMITTAL II



PARTIAL FIRST FLOOR PLAN 1/8" = 1'-0" | K3



KEY PLAN 1" = 80'-0"

GENERAL NOTES

1. PROVIDE NEW SWITCHPLATES, OUTLET COVERS AND JUNCTION BOX PLATES IN AREAS OF MODERNIZATION.
2. UNLESS OTHERWISE NOTED, INTERIOR WALLS SHALL BE TYPE IS0 50 1.
3. SEE SHEET A2.31 FOR FINISHES.
4. SEE SHEET A0.40 FOR ACCESS COMPLIANCE DIMENSIONS NOT NOTED ON THIS SHEET, INCLUDING BUT NOT LIMITED TO DOOR CLEARANCES, PLUMBING FIXTURES, TOILET STALLS, SHOWERS, ETC.
5. PAINT ALL EXPOSED STEEL COLUMNS.
6. WALLS DAMAGED BY DEMOLITION WORK SHALL BE REPAIRED, TEXTURED AND PAINTED TO MATCH ADJACENT WALL.

FLOOR PLAN SYMBOLS LEGEND

- EXISTING WALL TO REMAIN
- NEW INTERIOR WALL
- 1-HOUR RATED INTERIOR WALL
- 2-HOUR FIRE WALL
- FLOOR RECEPTACLE
- WALL RECEPTACLE
- FEC — FIRE EXTINGUISHER IN RECESSED CABINET — H3 A9.11
- 201 — DOOR NUMBER, SEE DOOR SCHEDULE SHEET A2.81
- B — WINDOW/STOREFRONT NUMBER, SEE WINDOW SCHEDULE SHEET A2.82 - A2.85
- CEILING MOUNTED PROJECTOR SEE DETAIL — K11 A9.60

WALL TAG LEGEND

REFER TO SHEET A9.20, A9.21 & A9.22 FOR WALL TYPE DETAILS

- LOCATION: "I" = INTERIOR, "E" = EXTERIOR
- MATERIAL: "W" = WOOD, "S" = STEEL, "C" = CONCRETE
- FIRE RATING: 1HR, 2HR, ETC..
- STC RATING
- IDENTIFIER: NUMBER DESIGNATION

LPAS
2484 Natomas Park Drive Suite 100 Sacramento CA 95833
916 443 0335 lpasdesign.com **Architecture + Design**

COSUMNES RIVER COLLEGE

COLLEGE CENTER EXPANSION

8401 CENTER PARKWAY, SACRAMENTO, CA 95823

NO.	ISSUE	DATE
1	ADDENDUM 1	2018-03-30
2	ADDENDUM 2	2018-04-11

LICENSED ARCHITECT TROY PENNINGTON C-31285 RENEWAL DATE 8-31-19 STATE OF CALIFORNIA

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
02-115990
AC_____ FLS_____ SS_____
DATE _____

ARCHITECT'S STAMP APPROVAL

CONSULTANT

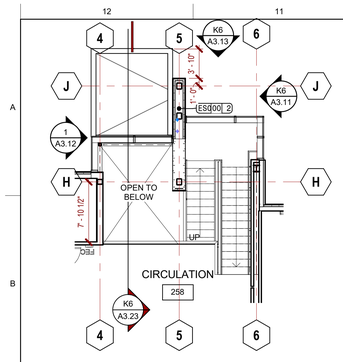
PARTIAL FIRST FLOOR PLAN

PROJECT NO: 201-0065
DATE: 01.15.2018

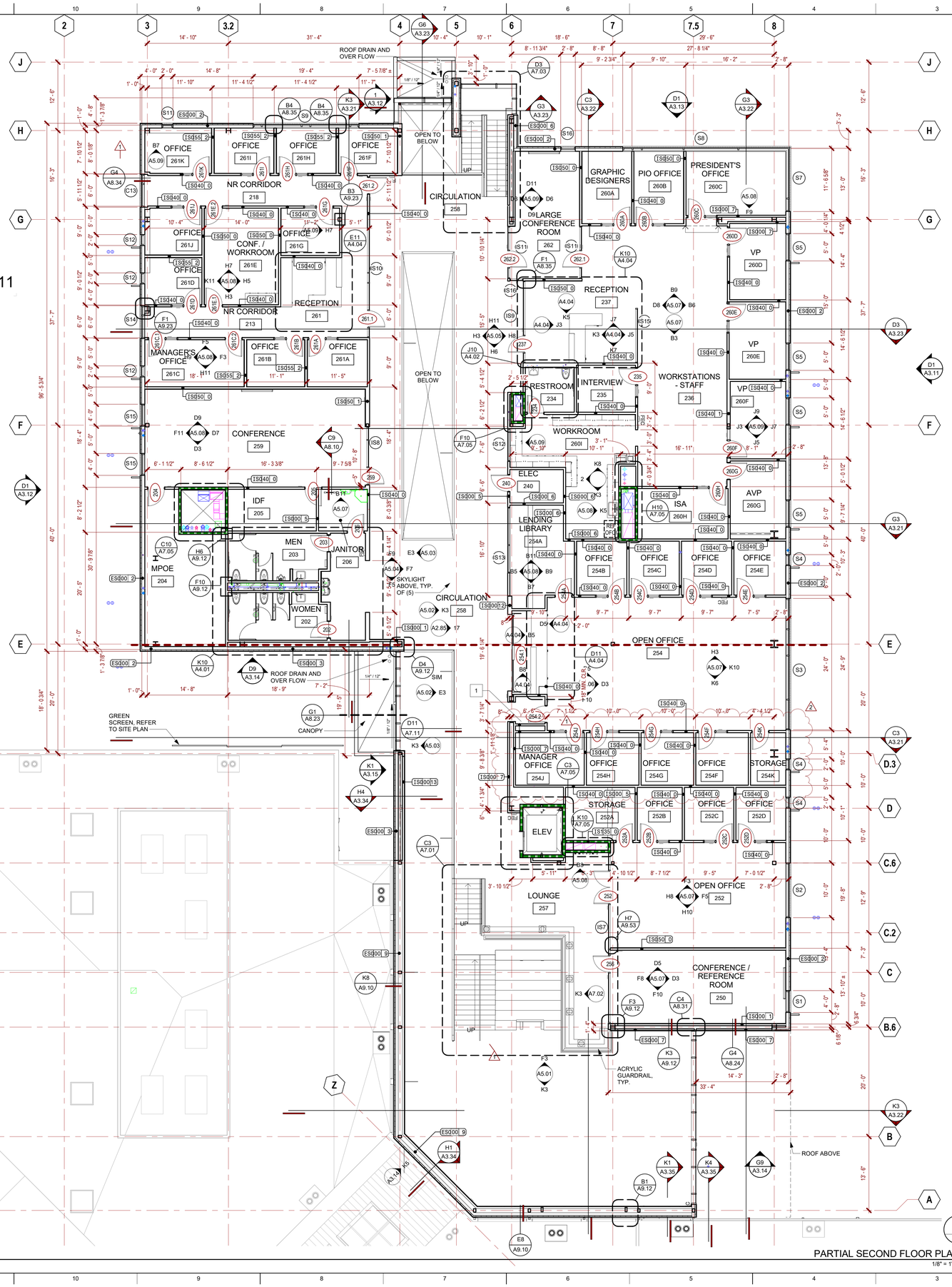
SHEET NO:

A2.01B

DSA SUBMITTAL II



PARTIAL SECOND FLOOR PLAN ADD ALT #4 | C11
1/8" = 1'-0"



PARTIAL SECOND FLOOR PLAN | K3
1/8" = 1'-0"

GENERAL NOTES

1. PROVIDE NEW SWITCHPLATES, OUTLET COVERS AND JUNCTION BOX PLATES IN AREAS OF MODERNIZATION.
2. UNLESS OTHERWISE NOTED, INTERIOR WALLS SHALL BE TYPE IS0 50 1.
3. SEE SHEET A2.31 FOR FINISHES.
4. SEE SHEET A0.40 FOR ACCESS COMPLIANCE DIMENSIONS NOT NOTED ON THIS SHEET, INCLUDING BUT NOT LIMITED TO DOOR CLEARANCES, PLUMBING FIXTURES, TOILET STALLS, SHOWERS, ETC. 1
5. PAINT ALL EXPOSED STEEL COLUMNS.
6. WALLS DAMAGED BY DEMOLITION WORK SHALL BE REPAIRED, TEXTURED AND PAINTED TO MATCH ADJACENT WALL.

FLOOR PLAN SYMBOLS LEGEND

- EXISTING WALL TO REMAIN
- NEW INTERIOR WALL
- 1-HOUR RATED INTERIOR WALL
- 2-HOUR FIRE WALL
- FLOOR RECEPTACLE
- WALL RECEPTACLE
- FEC — FIRE EXTINGUISHER IN RECESSED CABINET (H3 / A9.11)
- 201 — DOOR NUMBER, SEE DOOR SCHEDULE SHEET A2.81
- B — WINDOW/STOREFRONT NUMBER, SEE WINDOW SCHEDULE SHEET A2.82 - A2.85
- CEILING MOUNTED PROJECTOR SEE DETAIL (K11 / A9.60)

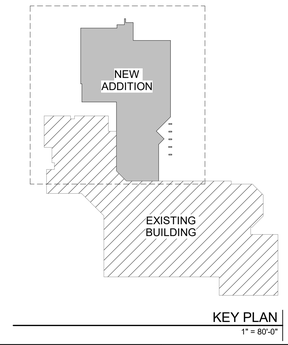
WALL TAG LEGEND

REFER TO SHEET A9.20, A9.21 & A9.22 FOR WALL TYPE DETAILS

ISO 45 01
- LOCATION: "I" = INTERIOR, "E" = EXTERIOR
- MATERIAL: "W" = WOOD, "S" = STEEL, "C" = CONCRETE
- FIRE RATING: 1HR, 2HR, ETC..
- STC RATING
- IDENTIFIER: NUMBER DESIGNATION

SHEET NOTES

1 FACE OF DOOR TO ALIGN WITH FACE OF FINISH



KEY PLAN
1" = 80'-0"

LPAS
2484 Natomas Park Drive Suite 100 Sacramento CA 95833
916 443 0335 lpasdesign.com Architecture + Design

COSUMNES RIVER COLLEGE

COLLEGE CENTER EXPANSION

8401 CENTER PARKWAY, SACRAMENTO, CA 95823

NO.	ISSUE	DATE
1	ADDENDUM 1	2018-03-30
2	ADDENDUM 2	2018-04-11

LICENSED ARCHITECT TROY PENNINGTON C-31285 RENEWAL DATE 08/31/19 STATE OF CALIFORNIA

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
02-115990
AC____ FLS____ SS____
DATE ____

ARCHITECT'S STAMP APPROVAL

CONSULTANT

SECOND FLOOR PLAN

PROJECT NO: 201-0065
DATE: 01.15.2018

SHEET NO:

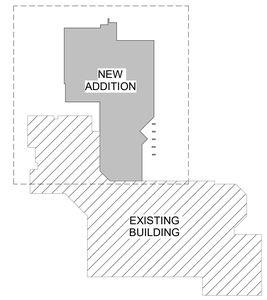
A2.02

DSA SUBMITTAL II

SECOND FLOOR SIGNAGE PLAN | K3
1/8" = 1'-0"

SIGNAGE PLAN GENERAL NOTES

1. REFER TO SHEET A2.43 FOR SIGNAGE TYPES AND SCHEDULE. XXXXX
2. ALL SIGNS MOUNTED TO GLASS SHALL HAVE MATCHING BACKER PLATES ON OPPOSITE SIDE OF GLASS PANEL MATCHING SIZE, SHAPE, MATERIAL AND COLOR OF SIGN.
3. WHERE SIGNS ARE INDICATED ON BOTH SIDES OF GLASS, MATCH SIZE OF SIGNS TO EACH OTHER. LARGER SIGN DIMENSION SHALL GOVERN.



KEY PLAN
1" = 80'-0"

LPAS
2484 Natomas Park Drive Suite 100 Sacramento CA 95833
916 443 0335 lpasdesign.com **Architecture + Design**

COSUMNES RIVER COLLEGE

COLLEGE CENTER EXPANSION

8401 CENTER PARKWAY, SACRAMENTO, CA 95823

NO.	ISSUE	DATE
1	ADDENDUM 1	2018-03-30
2	ADDENDUM 2	2018-04-11

LICENSED ARCHITECT TROY CHENNGTON C-31285 8-31-19 RENEWAL DATE STATE OF CALIFORNIA

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
02-115990
AC_____ FLS_____ SS_____
DATE _____

ARCHITECT'S STAMP APPROVAL

CONSULTANT

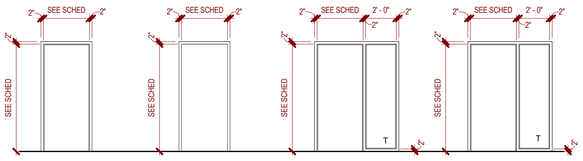
SECOND FLOOR SIGNAGE PLAN

PROJECT NO: 201-0065
DATE: 01.15.2018

SHEET NO:

A2.42

DSA SUBMITTAL II

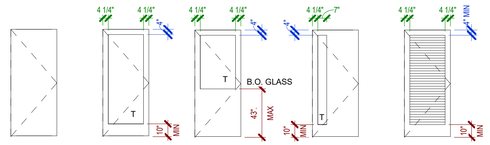


S F SV SF

S STANDARD - DOUBLE RABBET
F FLUSH - NO RABBET
SV STANDARD - DOUBLE RABBET W/ SIDELITE
SF STOREFRONT

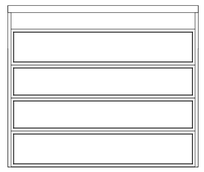
DOOR FRAME TYPES

1/4" = 1'-0"



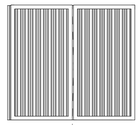
F FV SFM-FV HV NV L

F FLUSH
FV FULL VISION
SFM-FV STOREFRONT FULL VISION
HV HALF VISION
NV NARROW VISION
L LOUVERED



SD - SECTIONAL DOOR

OSD - OVERHEAD SECURITY DOOR OR FIRE DOOR



GATE

FC - FIRE CURTAIN

DOOR TYPES

1/4" = 1'-0"

FIRE CURTAIN SCHEDULE

DOOR				FRAME			RATING	
#	W	H	TYPE	FINISH	HEAD	JAMB	FIRE	REMARKS
105.2	14'-0"	9'-0"	FC	FF	F10/A9.11	H7/A9.11	120 MIN	1
105.3	8'-10 1/2"	9'-0"	FC	FF	F10/A9.11	H7/A9.11	120 MIN	1
105.4	8'-10 1/2"	9'-0"	FC	FF	F10/A9.11	H7/A9.11	120 MIN	1
105.5	8'-10 1/2"	9'-0"	FC	FF	F10/A9.11	H7/A9.11	120 MIN	1
127.5	8'-10 1/2"	9'-0"	FC	FF	F10/A9.11	H7/A9.11	120 MIN	1
127.6	8'-10 1/2"	9'-0"	FC	FF	F10/A9.11	H7/A9.11	120 MIN	1
127.7	8'-10 1/2"	9'-0"	FC	FF	F10/A9.11	H7/A9.11	120 MIN	1
127.12	14'-0"	9'-0"	FC	FF	F10/A9.11	H7/A9.11	120 MIN	1
149.1	9'-0"	9'-0"	FC	FF	K8/A9.10	K7/A9.11	120 MIN	1
149.2	9'-0"	9'-0"	FC	FF	K8/A9.10	K7/A9.11	120 MIN	1
151.2	9'-0"	9'-0"	FC	FF	K8/A9.10	K7/A9.11	120 MIN	1
151.3	9'-0"	9'-0"	FC	FF	K8/A9.10	K7/A9.11	120 MIN	1

NOTE:
1. FIRE CURTAINS ARE BETWEEN (E) BRICK PILASTERS AND THEREFORE THE WIDTH SHALL BE VERIFIED IN THE FIELD.

DOOR SCHEDULE - FIRST FLOOR

DOOR								FRAME						RATING		HDW	
#		W	H	THICK	TYPE	MATL	FINISH	TYPE	MATL	FINISH	HEAD	JAMB	THRESH	FIRE	STC	GROUP	REMARKS
105.1		3' - 0"	7' - 0"	1 3/4"	F	HM	P	S	HM	P	B1/A9.53	B1/A9.53	-	120 MIN		02	3., PROVIDE PANIC HARDWARE
127		3' - 0"	7' - 0"	1 3/4"	F	WD	S	SV	HM	P						06	
127.1	Pair	3' - 0"	9' - 0 1/2"	1 3/4"	SFM-FV	AL	FF	SF	AL	FF	H11/A8.31	K11/A8.31	K7/A8.33			03	PROVIDE PANIC HARDWARE
127.3	Pair	3' - 0"	8' - 11 1/4"	1 3/4"	SFM-FV	AL	FF	SF	AL	FF	H11/A8.31	K11/A8.31	K7/A8.33			04	PROVIDE PANIC HARDWARE
127.4		3' - 0"	7' - 0"	1 3/4"	F	WD	S	S	HM	P				120 MIN		01	
127.8		8' - 11 1/4"	9' - 0"		OSD									120		05	PROVIDE PANIC HARDWARE
127.9		8' - 11 1/4"	9' - 0"		OSD									120		05	
127.10		8' - 11 1/4"	9' - 0"		OSD									120		05	
127.11		8' - 11 1/4"	9' - 0"		OSD									120		05	
130		3' - 0"	7' - 0"	1 3/4"	SFG-FV	AL	FF	SF	AL	FF						23A	
130.1	Pair	3' - 0"	7' - 0"	1 3/4"	F	HM	P	S	HM	P	B1/A9.53	B1/A9.53	-	120			
131	Pair	3' - 0"	8' - 0"	1 3/4"	SFM-FV	AL	FF	SF	AL	FF	H11/A8.31	K11/A8.31	K7/A8.33			03	PROVIDE PANIC HARDWARE
132		3' - 0"	7' - 0"	1 3/4"	F	WD	S	S	HM	P	B1/A9.53	B1/A9.53	-			08	
133		3' - 0"	7' - 0"	1 3/4"	F	HM	P	S	HM	P	B9/A8.20	B11/A8.20	H7/A8.33	20 MIN		09	
134		3' - 0"	7' - 0"	1 3/4"	F	HM	P	S	HM	P	B9/A8.20	B11/A8.20	H7/A8.33			10	PAINT DOOR TO MATCH ADJACENT ALUMINUM COMPOSITE PANEL SYSTEM
135		3' - 0"	7' - 0"	1 3/4"	F	WD	S	S	HM	P	B1/A9.53	B1/A9.53	-			08	
136.1		3' - 0"	7' - 0"	1 3/4"	F	HM	P	S	HM	P	B9/A8.20	B11/A8.20	H7/A8.33	45 MIN		09	PAINT DOOR TO MATCH ADJACENT ALUMINUM COMPOSITE PANEL SYSTEM. PROVIDE PANIC HARDWARE
136.2		3' - 0"	7' - 0"	1 3/4"	F	HM	P	S	HM	P	B1/A9.53	B1/A9.53	-	45 MIN		11	3.
136.3		3' - 0"	7' - 0"	1 3/4"	F	HM	P	S	HM	P	B1/A9.53	B1/A9.53	-	45 MIN		12	3.
138		3' - 0"	7' - 0"	1 3/4"	F	WD	S	S	HM	P	B1/A9.53	B1/A9.53	-			13	3.
139		3' - 0"	7' - 0"	1 3/4"	F	WD	S	S	HM	P	B1/A9.53	B1/A9.53	-			14	
144.1		6' - 0"			SD						C1/A9.54	G1/A9.54	E1/A9.54				
144.2		3' - 0"	7' - 0"	1 3/4"	F	WD	S	S	HM	P	B1/A9.53	B1/A9.53	-			16	
150A		3' - 0"	7' - 0"	1 3/4"	F	WD	S	SV	HM	P	B1/A9.53	B1/A9.53	-			06	
150B		3' - 0"	7' - 0"	1 3/4"	F	WD	S	SV	HM	P	B1/A9.53	B1/A9.53	-			06	
150C		3' - 0"	7' - 0"	1 3/4"	F	WD	S	SV	HM	P	B1/A9.53	B1/A9.53	-			06	
150D		3' - 0"	7' - 0"	1 3/4"	F	WD	S	SV	HM	P	B1/A9.53	B1/A9.53	-			06	
150E		3' - 0"	7' - 0"	1 3/4"	F	WD	S	S	HM	P	B1/A9.53	B1/A9.53	-			15A	
150F		3' - 0"	7' - 0"	1 3/4"	F	WD	S	SV	HM	P	B1/A9.53	B1/A9.53	-			15	
150G		3' - 0"	7' - 0"	1 3/4"	F	WD	S	SV	HM	P	B1/A9.53	B1/A9.53	-			06	
150H		3' - 0"	7' - 0"	1 3/4"	F	WD	S	SV	HM	P	B1/A9.53	B1/A9.53	-			06	
151.1		3' - 0"	7' - 0"	1 3/4"	F	WD	S	S	HM	P	B1/A9.53	B1/A9.53	-	90 MIN		07	
151E		3' - 0"	7' - 0"	1 3/4"	F	WD	S	SV	HM	P	B1/A9.53	B1/A9.53	-			15A	
151F		3' - 0"	7' - 0"	1 3/4"	F	WD	S	SV	HM	P	B1/A9.53	B1/A9.53	-			15	
154.1		3' - 0"	7' - 0"	1 3/4"	SFM-FV	AL	FF	SF	AL	FF	B9/A9.53	D9/A9.53	-			02A	WITH PANIC HARDWARE
154.2		3' - 0"	7' - 0"	1 3/4"	SFM-FV	AL	FF	SF	AL	FF	B9/A9.53	D9/A9.53	-			20	WITH PANIC HARDWARE
154A		3' - 0"	7' - 0"	1 3/4"	F	WD	S	SV	HM	P	B1/A9.53	B1/A9.53	-			06	
154B		3' - 0"	7' - 0"	1 3/4"	F	WD	S	SV	HM	P	B1/A9.53	B1/A9.53	-			06	
155		3' - 0"	7' - 0"	1 3/4"	F	WD	S	S	HM	P	B1/A9.53	B1/A9.53	-			15A	
161	Pair	3' - 0"	8' - 0"	1 3/4"	SFM-FV	AL	FF	SF	AL	FF	H11/A8.31	K11/A8.31	K7/A8.33			04	PROVIDE PANIC HARDWARE
161A		3' - 0"	7' - 0"	1 3/4"	F	WD	S	S	HM	P	B1/A9.53	B1/A9.53	-			15	
161B		3' - 0"	7' - 0"	1 3/4"	F	WD	S	SV	HM	P	B1/A9.53	B1/A9.53	-			06	
161C		3' - 0"	7' - 0"	1 3/4"	F	WD	S	S	HM	P	B1/A9.53	B1/A9.53	-			06	
161D		3' - 0"	7' - 0"	1 3/4"	F	WD	S	SV	HM	P	B1/A9.53	B1/A9.53	-			06	
161E		3' - 0"	7' - 0"	1 3/4"	F	WD	S	SV	HM	P	B1/A9.53	B1/A9.53	-			06	
161F		3' - 0"	7' - 0"	1 3/4"	F	WD	S	S	HM	P	B1/A9.53	B1/A9.53	-			06	
161H		3' - 0"	7' - 0"	1 3/4"	F	WD	S	SV	HM	P	B1/A9.53	B1/A9.53	-			06	
161I		3' - 0"	7' - 0"	1 3/4"	F	WD	S	SV	HM	P	B1/A9.53	B1/A9.53	-			06	
161J		3' - 0"	7' - 0"	1 3/4"	F	WD	S	SV	HM	P	B1/A9.53	B1/A9.53	-			06	
161K		3' - 0"	7' - 0"	1 3/4"	F	WD	S	SV	HM	P	B1/A9.53	B1/A9.53	-			06	
161L		3' - 0"	7' - 0"	1 3/4"	F	WD	S	SV	HM	P	B1/A9.53	B1/A9.53	-			06	
161M		3' - 0"	7' - 0"	1 3/4"	F	WD	S	SV	HM	P	B1/A9.53	B1/A9.53	-			06	
161N		3' - 0"	7' - 0"	1 3/4"	F	WD	S	SV	HM	P	B1/A9.53	B1/A9.53	-			06	
161O		3' - 0"	7' - 0"	1 3/4"	F	WD	S	SV	HM	P	B1/A9.53	B1/A9.53	-			06	
161P		3' - 0"	7' - 0"	1 3/4"	F	WD	S	SV	HM	P	B1/A9.53	B1/A9.53	-			06	
162.1		3' - 0"	7' - 0"	1 3/4"	SFM-FV	AL	FF	SF	AL	FF	B9/A9.53	F9/A9.53	-			17	
162.2		3' - 0"	8' - 0"	1 3/4"	SFM-FV	AL	FF	SF	AL	FF	K4/A8.33	B1/A8.33	H7/A8.33			18	
162A.1		3' - 0"	7' - 0"	1 3/4"	SFM-FV	AL	FF	SF	AL	FF	B9/A9.53	F9/A9.53	-			02A	PROVIDE PANIC HARDWARE
162A.2		3' - 0"	8' - 0"	1 3/4"	SFM-FV	AL	FF	SF	AL	FF	K4/A8.33	B1/A8.33	H7/A8.33			19	PROVIDE PANIC HARDWARE
162B		3' - 0"	7' - 0"	1 3/4"	FV	WD	S	S	HM	P	B1/A9.53	B1/A9.53	-			21	
162C		3' - 0"	7' - 0"	1 3/4"	FV	WD	S	S	HM	P	B1/A9.53	B1/A9.53	-			21	
162D		3' - 0"	7' - 0"	1 3/4"	FV	WD	S	S	HM	P	B1/A9.53	B1/A9.53	-			21	
167		3' - 0"	7' - 0"	1 3/4"	F	WD	S	S	HM	P	B1/A9.53	B1/A9.53	-			22	
174.3		3' - 0"	7' - 0"	1 3/4"	FV	WD	S	S	HM	P	B1/A9.53	B1/A9.53	-			16A	
179		3' - 0"	7' - 0"	1 3/4"	SFM-FV	AL	FF	SF	AL	FF	B9/A9.53	F9/A9.53	-			23	
182		3' - 0"	8' - 0"	1 3/4"	SFM-FV	AL	FF	SF	AL	FF	K4/A8.33	B1/A8.33	H7/A8.33			19	PROVIDE PANIC HARDWARE
183.1		3' - 0"	7' - 0"	1 3/4"	SFM-FV	AL	FF	SF	AL	FF	B9/A9.53	F9/A9.53	-			02A	PROVIDE PANIC HARDWARE
183.2	Pair	3' - 0"	7' - 6"	1 3/4"	SFM-FV	AL	FF	SF	AL	FF	B9/A9.53	F9/A9.53	-			24	
184		3' - 6"	7' - 0"	1 3/4"	F	HM	P	S	HM	P	B1/A9.53	B1/A9.53	-	60 MIN		25	3.
185		3' - 0"	7' - 0"	1 3/4"	F	HM	P	S	HM	P	B1/A9.53	B1/A9.53	-	20 MIN		25	3.

DOOR SCHEDULE - FIRST FLOOR ADD ALT #1

DOOR								FRAME						RATING		HDW	
#		W	H	THICK	TYPE	MATL	FINISH	TYPE	MATL	FINISH	HEAD	JAMB	THRESH	FIRE	STC	GROUP	REMARKS
151C		3' - 0"	7' - 0"	1 3/4"	HV	WD	S	S	HM	P						06	ADD ALT #1

DOOR SCHEDULE - SECOND FLOOR

DOOR								FRAME						RATING		HDW	
#		W	H	THICK	TYPE	MATL	FINISH	TYPE	MATL	FINISH	HEAD	JAMB	THRESH	FIRE	STC	GROUP	REMARKS
202		3' - 0"	7' - 0"	1 3/4"	F	WD	S	S	HM	P	B1/A9.53	B1/A9.53	-			08	
203		3' - 0"	7' - 0"	1 3/4"	F	WD	S	S	HM	P	B1/A9.53	B1/A9.53	-			08	
204		3' - 0"	7' - 0"	1 3/4"	F	WD	S	S	HM	P	B1/A9.53	B1/A9.53	-			15	
205		3' - 0"	7' - 0"	1 3/4"	F	WD	S	S	HM	P	B1/A9.53	B1/A9.53	-			11A	
206		3' - 0"	7' - 0"	1 3/4"	F	HM	P	S	HM	P	B1/A9.53	B1/A9.53	-			13	3.
234		3' - 0"	7' - 0"	1 3/4"	F	WD	S	S	HM	P	B1/A9.53	B1/A9.53	-			22	
235		3' - 0"	7' - 0"	1 3/4"	F	WD	S	SV	AL	FF	B5/A9.53	B5/A9.53	-			06	
237		3' - 0"	7' - 0"	1 3/4"	SFM-FV	AL	FF	SF	AL	FF	B9/A9.53	D9/A9.53	-			17	
240		3' - 0"	7' - 0"	1 3/4"	F	HM	P	S	HM	P	B1/A9.53	B1/A9.53	-			15	3.
252	Pair	3' - 0"	7' - 0"	1 3/4"	SFM-FV	AL	FF	SF	AL	FF	B9/A9.53	D9/A9.53	-			27	
252A		3' - 0"	7' - 0"	1 3/4"	F	WD	S	S	HM	P	B1/A9.53	B1/A9.53	-			15	
252B		3' - 0"	7' - 0"	1 3/4"	F	WD	S	SV	HM	P	B1/A9.53	B1/A9.53	-			06	
252C		3' - 0"	7' - 0"	1 3/4"	F	WD	S	SV	HM	P	B1/A9.53	B1/A9.53	-			06	
252D		3' - 0"	7' - 0"	1 3/4"	F	WD	S	SV	HM	P	B1/A9.53	B1/A9.53	-			06	
254.1		14' - 0"	9' - 0"		SD						C1/A9.54	G1/A9.54	E1/A9.54				
254.2		3' - 0"	7' - 0"	1 3/4"	F	WD	S	S	HM	P	B1/A9.53	B1/A9.53	-			17B	
254A		3' - 0"	7' - 0"	1 3/4"	F	WD	S	SV	HM	P	B1/A9.53	B1/A9.53	-			06A	
254B		3' - 0"	7' - 0"	1 3/4"	F	WD	S	SV	HM	P	B1/A9.53	B1/A9.53	-			06	
254C		3' - 0"	7' - 0"	1 3/4"	F	WD	S	SV	HM	P	B1/A9.53	B1/A9.53	-			06	
254D		3' - 0"	7' - 0"	1 3/4"	F	WD	S	SV	HM	P	B1/A9.53	B1/A9.53	-			06	
254E		3' - 0"	7' - 0"	1 3/4"	F	WD	S	SV	HM	P	B1/A9.53	B1/A9.53	-			06	
254F		3' - 0"	7' - 0"	1 3/4"	F	WD	S	SV	HM	P	B1/A9.53	B1/A9.53	-			06	
254G		3' - 0"	7' - 0"	1 3/4"	F	WD	S	SV	HM	P	B1/A9.53	B1/A9.53	-			06	
254H		3' - 0"	7' - 0"	1 3/4"	F	WD	S	SV	HM	P	B1/A9.53	B1/A9.53	-			06	
254J		3' - 0"	7' - 0"	1 3/4"	F	WD	S	S	HM	P	B1/A9.53	B1/A9.53	-			06	
254K		3' - 0"	7' - 0"	1 3/4"	F	WD	S	S	HM	P	B1/A9.53	B1/A9.53	-			15	
256		3' - 0"	7' - 0"	1 3/4"	SFM-FV	AL	FF	SF	AL	FF	B9/A9.53	D9/A9.53	-			20	
259		3' - 0"	7' - 0"	1 3/4"	SFM-FV	AL	FF	SF	AL	FF	B9/A9.53	F9/A9.53	-			20	
260A		3' - 0"	7' - 0"	1 3/4"	F	WD	S	SV	AL	FF	B5/A9.53	B5/A9.53	-			06	
260B		3' - 0"	7' - 0"	1 3/4"	F	WD	S	SV	AL	FF	B5,B3/A9.53	B5,D5/A9.53	-			06	
260C		3' - 0"	7' - 0"	1 3/4"	F	WD	S	SV	AL	FF	B5,B3/A9.53	B5,D5/A9.53	-			06	
260D		3' - 0"	7' - 0"	1 3/4"	F	WD	S	SV	AL	FF	B5,B3/A9.53	B5,D5/A9.53	-			06	
260E		3' - 0"	7' - 0"	1 3/4"	F	WD	S	SV	AL	FF	B5,B3/A9.53	B5,D5/A9.53	-			06	
260F		3' - 0"	7' - 0"	1 3/4"	F	WD	S	SV	AL	FF	B5,B3/A9.53	B5,D5/A9.53	-			06	
260G		3' - 0"	7' - 0"	1 3/4"	HV	WD	S	S	AL	FF	B5/A9.53	B5/A9.53	-			06	
260H		3' - 0"	7' - 0"	1 3/4"	F	WD	S	SV	AL	FF	B5,B3/A9.53	B5,D5/A9.53	-			06	
261.1		3' - 0"	7' - 0"	1 3/4"	SFM-FV	AL	FF	SF	AL	FF	B9/A9.53	D9/A9.53	-			20A	
261.2		3' - 0"	7' - 0"	1 3/4"	F	WD	S	S	HM	P	B1/A9.53	B1/A9.53	-			16A	
261A		3' - 0"	7' - 0"	1 3/4"	F	WD	S	SV	HM	P	B1/A9.53	B1/A9.53	-			06	
261B		3' - 0"	7' - 0"	1 3/4"	F	WD	S	SV	HM	P	B1/A9.53	B1/A9.53	-			06	
261C.1		3' - 0"	7' - 0"	1 3/4"	F	WD	S	SV	HM	P	B1/A9.53	B1/A9.53	-			06	
261C.2		3' - 0"	7' - 0"	1 3/4"	F	WD	S	S	HM	P	B1/A9.53	B1/A9.53	-			06	
261D		3' - 0"	7' - 0"	1 3/4"	F	WD	S	SV	HM	P	B1/A9.53	B1/A9.53	-			06	
261E.1		3' - 0"	7' - 0"	1 3/4"	F	WD	S	S	HM	P	B1/A9.53	B1/A9.53	-			06	
261E.2		3' - 0"	7' - 0"	1 3/4"	F	WD	S	S	HM	P	B1/A9.53	B1/A9.53	-			06	
261F		3' - 0"	7' - 0"	1 3/4"	F	WD	S	S	HM	P	B1/A9.53	B1/A9.53	-			06	
261G		3' - 0"	7' - 0"	1 3/4"	F	WD	S	SV	HM	P	B1/A9.53	B1/A9.53	-			06	
261H		3' - 0"	7' - 0"	1 3/4"	F	WD	S	SV	HM	P	B1/A9.53	B1/A9.53	-			06	
261I		3' - 0"	7' - 0"	1 3/4"	F	WD	S	SV	HM	P	B1/A9.53	B1/A9.53	-			06	
261J		3' - 0"	7' - 0"	1 3/4"	F	WD	S	SV	HM	P	B1/A9.53	B1/A9.53	-			06	
261K		3' - 0"	7' - 0"	1 3/4"	F	WD	S	SV	HM	P	B1/A9.53	B1/A9.53	-			06	
262.1		3' - 0"	7' - 0"	1 3/4"	SFM-FV	AL	FF	SF	AL	FF	B9/A9.53	D9/A9.53	-			23	
262.2		3' - 0"	7' - 0"	1 3/4"	SFM-FV	AL	FF	SF	AL	FF	B9/A9.53	D9/A9.53	-			17A	
301	Pair	4' - 0 1/2"	8' - 0"		GATE	STL	P	POST	STL	P	-	F7/A8.12	-			28	
302	Pair	3' - 0 1/2"			GATE	STL	P	POST	STL	P	-	F7/A8.12	-			28	
303	Pair	4' - 0 1/2"	8' - 0"		GATE	STL	P	POST	STL	P	-	F7/A8.12	-			28	

DOOR SCHEDULE GENERAL NOTES

1. MATCH EXISTING BUILDING KEYING SYSTEM. CONSULT WITH OWNER FOR KEYWAY TYPES REQUIRED.
2. SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.
3. ALL RATED DOORS ARE TO BE POSITIVE LATCHING AND SELF-CLOSING.
4. "LABEL" SHALL MEAN "FIRE ASSEMBLY" AS DEFINED IN 2016 CBC SECTION 716.5.
5. FIRE DOORS AND FIRE WINDOWS SHALL HAVE AN APPROVED LABEL OR LISTING MARK INDICATING THE FIRE PROTECTION RATING, WHICH IS PERMANENTLY AFFIXED AT THE FACTORY WHERE FABRICATION AND ASSEMBLY ARE DONE. (2016 CBC SECTIONS 716.5.7.1 AND 716.5.8.3)
6. ALL 60-MINUTE RATED ASSEMBLIES SHALL BE PROVIDED WITH APPROVED GASKETING MATERIAL SO INSTALLED TO PROVIDE A SEAL WHERE THE DOOR MEETS THE STOP ON BOTH SIDES AND ACROSS THE TOP. THE DOOR AND FRAME SHALL BEAR AN APPROVED LABEL OR OTHER IDENTIFICATION SHOWING THE RATING THEREOF, FOLLOWED BY THE LETTER "S". (2016 CBC SECTIONS 716.5.7.3)
7. FIRE RATED DOOR FRAMES SHALL BE INSTALLED STRICTLY PER MANUFACTURER'S PRINTED INSTRUCTIONS. (NFPA 80.)
8. ROOMS NOTED AS INCIDENTAL USE AREAS SHALL HAVE DOORS THAT ARE SELF-CLOSING OR AUTOMATIC-CLOSING UPON DETECTION OF SMOKE. DOORS SHALL NOT HAVE AIR TRANSFER OPENINGS AND SHALL NOT BE UNDERCUT IN EXCESS OF THE CLEARANCE PERMITTED IN ACCORDANCE WITH NFPA 80, TABLE 1-11.4.
9. ALL HAND-ACTIVATED DOOR OPENING HARDWARE, HANDLES, PULLS, LATCHES, LOCKS, AND OTHER OPERATING DEVICES ON ACCESSIBLE DOORS SHALL HAVE A SHAPE THAT IS EASY TO GRASP WITH ONE HAND AND DOES NOT REQUIRE TIGHT GRASPING, TIGHT PINCHING OR TWISTING OF THE WRIST TO OPERATE. HARDWARE SHALL BE CENTERED BETWEEN 34" AND 44" ABOVE THE FLOOR. LATCHING AND LOCKING DOORS THAT ARE HAND ACTIVATED AND WHICH ARE IN A PATH OF TRAVEL SHALL BE OPERABLE WITH A SINGLE EFFORT BY LEVER-TYPE HARDWARE, PANIC BARS, PUSH PULL ACTIVATING BARS OR OTHER HARDWARE DESIGNED TO PROVIDE PASSAGE. LOCKED EXIT DOORS SHALL OPERATE AS ABOVE IN EGRESS DIRECTION. (2016 CBC 11B-309)
10. DOOR UNDERCUTS SHALL NOT EXCEED MAXIMUM ALLOWABLE DIMENSION PER NFPA 80.
11. ANY REQUIRED EGRESS DOORS SERVING ROOMS OR SPACES WITH AN OCCUPANT LOAD OF 50 OR MORE SHALL BE PROVIDED WITH PANIC HARDWARE.

ILLUMINATED EXIT SIGN NOTES

1. EXIT DOORS, EXCEPT FOR MAIN EXIT DOORS THAT ARE OBVIOUSLY AND CLEARLY IDENTIFIABLE AS EXITS, SHALL BE MARKED WITH AN APPROVED EXIT SIGN READILY VISIBLE FROM ANY DIRECTION OF EGRESS TRAVEL.
2. EXIT ACCESS DOORS SHALL BE MARKED WITH AN APPROVED EXIT SIGN READILY VISIBLE FROM ANY DIRECTION OF EGRESS TRAVEL. EXIT SIGNS ARE NOT REQUIRED IN ROOMS OR AREAS THAT REQUIRE ONLY ONE EXIT OR EXIT ACCESS.
3. EXIT SIGN PLACEMENT SHALL BE SUCH THAT NO POINT IN A CORRIDOR IS MORE THAN 100 FEET, OR THE LISTED VIEWING DISTANCE OF THE SIGN, WHICHEVER IS LESS, FROM THE NEAREST VISIBLE SIGN.
4. ILLUMINATED EXIT SIGNS ARE SHOWN ON THE ARCHITECTURAL CEILING PLAN FOR REFERENCE ONLY. REFER TO ELECTRICAL PLANS FOR SIGNS.
5. TACTILE EXIT SIGNS ARE REQUIRED WHERE ILLUMINATED EXIT SIGNS ARE PROVIDED.

DOOR FINISH LEGEND

F.F. FACTRY FINISH
S STAINED
P PAINTED

1. PAINTED DOORS AND FRAMES TO BE PAINTED P3; REFER TO FINISH LEGEND ON SHEET A2.30
2. STAINED DOORS TO MATCH PL1; REFER TO FINISH LEGEND ON SHEET A2.30
3. PAINT DOOR & TRIM TO MATCH ADJACENT WALL COLOR

LPAS

2484 Natomas Park Drive Suite 100 Sacramento CA 95833
916 443 0335 lpasdesign.com **Architecture + Design**

COSUMNES RIVER COLLEGE

COLLEGE CENTER EXPANSION

8401 CENTER PARKWAY, SACRAMENTO, CA 95823

NO.	ISSUE	DATE
1	ADDENDUM 1	2018-03-30
2	ADDENDUM 2	2018-04-11

LICENSED ARCHITECT
TROY PENNINGTON
C-31285
Exp. 8-31-19
RENEWAL DATE
STATE OF CALIFORNIA

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
02-115990
AC_____ FLS_____ SS_____
DATE _____

ARCHITECT'S STAMP APPROVAL

CONSULTANT

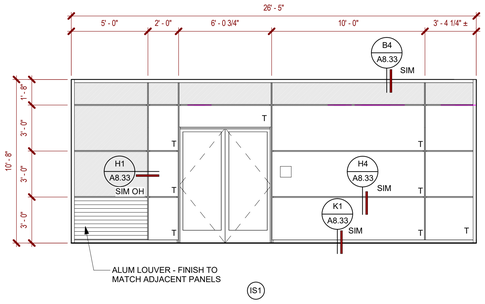
DOOR SCHEDULES

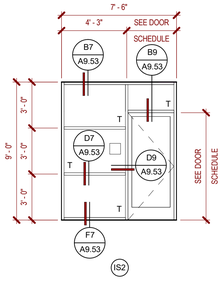
PROJECT NO: 201-0065
DATE: 01.15.2018

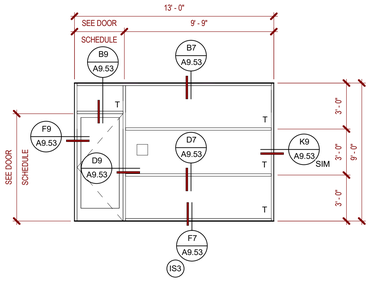
SHEET NO:

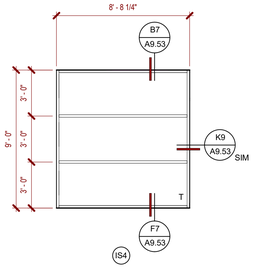
A2.81

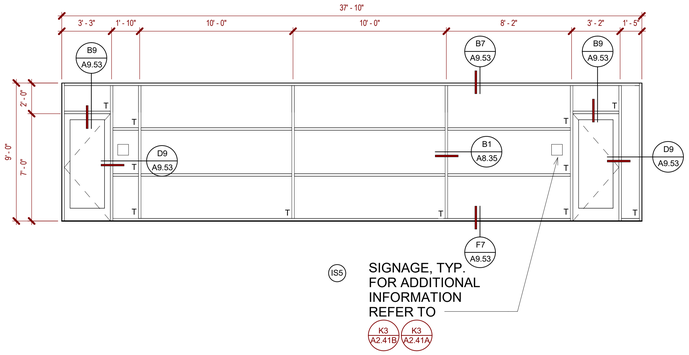
DSA SUBMITTAL II

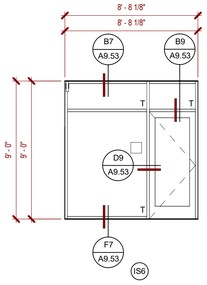


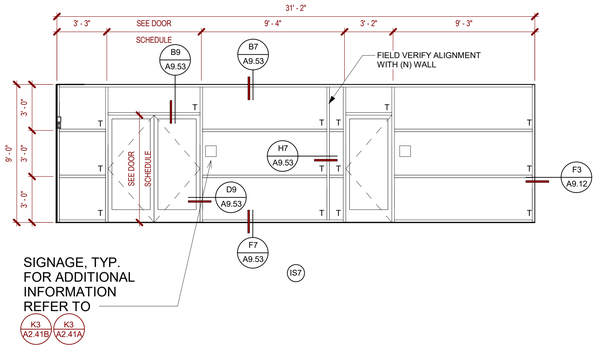


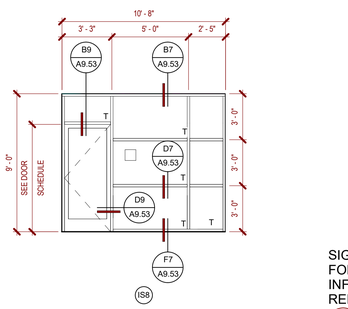


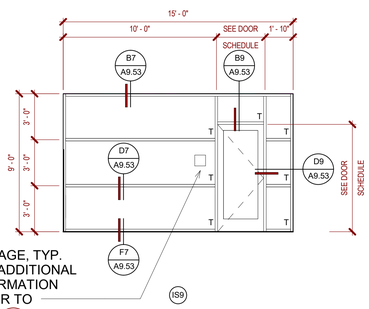


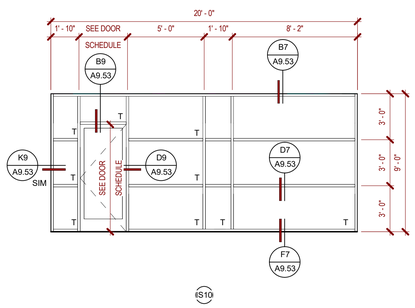


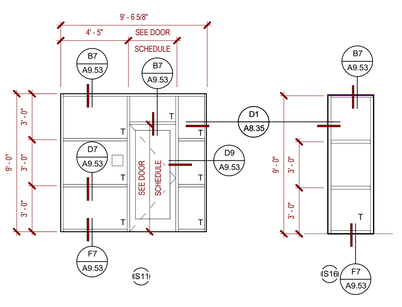




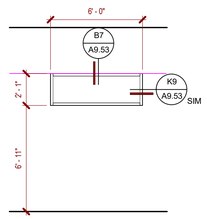


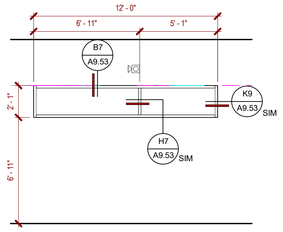


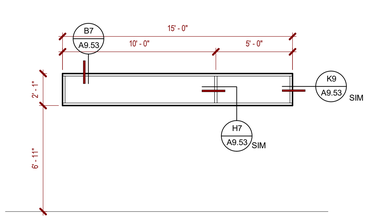


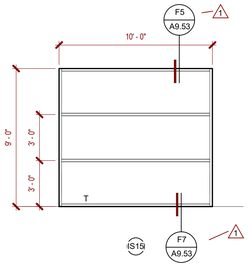


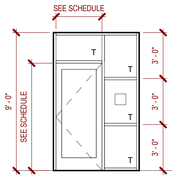
SIGNAGE, TYP.
FOR ADDITIONAL
INFORMATION
REFER TO
K3
A2.41B
K3
A2.41A

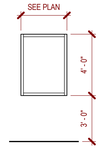


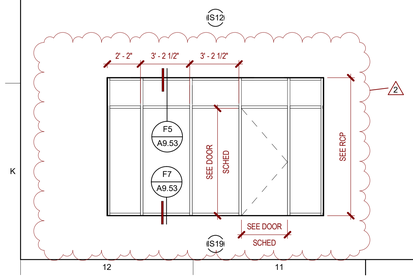












STOREFRONT ELEVATIONS GENERAL NOTES

1. PROVIDE TEMPERED GLAZING WHERE REQUIRED BY CBC SECTION 2406.
2. UNLESS OTHERWISE NOTED, VISION GLAZING SHALL BE 1" INSULATED GLAZING ASSEMBLY. 1
3.A CONTRACTOR TO PROVIDE STANDARD CURTAIN WALL / STOREFRONT SUBMITTAL FOR CURTAIN WALL OR STOREFRONT LESS THAN 10'-0" IN HIEGHT.
3.B CONTRACTOR TO PROVIDE SEPARATE SUBMITTAL FOR CUTAINWALL OR STOREFRONT 10'-0" OR MORE IN HIEGHT. (THIS SUBMITTAL MUST BE REVIEWED AND APROVED BY DSA)
3.C REFER TO SPECIFICATION SECTION 08 43 13 AND 08 44 13 FOR ADDITIONAL SUBMITTAL REQUIREMENTS.

GLAZING LEGEND

- VISION GLAZING - TYPE PER SPECIFICATIONS
- SPANDREL GLAZING - COLOR PER SPECIFICATIONS
- ALUMINUM COMPOSITE INFILL PANEL

PANEL INDICATED WITH A 'T' SHALL BE SAFETY GLAZING IN COMPLIANCE WITH CBC 2406.4

LPAS

2484 Natomas Park Drive Suite 100 Sacramento CA 95833
916 443 0335 lpasdesign.com **Architecture + Design**

COSUMNES RIVER COLLEGE

COLLEGE CENTER EXPANSION

8401 CENTER PARKWAY, SACRAMENTO, CA 95823

NO.	ISSUE	DATE
1	ADDENDUM 1	2018-03-30
2	ADDENDUM 2	2018-04-11

LICENSED ARCHITECT
TROY PENNINGTON
C-31285
6-31-19
RENEWAL DATE
STATE OF CALIFORNIA

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
02-115990
AC_____ FLS_____ SS_____
DATE _____

ARCHITECT'S STAMP APPROVAL

CONSULTANT

INTERIOR STOREFRONT ELEVATIONS

PROJECT NO: 201-0065

DATE: 01.15.2018

SHEET NO:

A2.85

DSA SUBMITTAL II

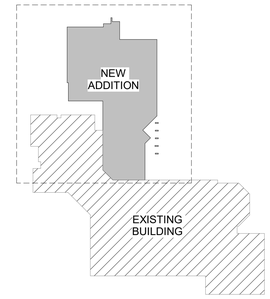
REFLECTED CEILING PLAN GENERAL NOTES

1. THE AREA OF WORK SHOWN IS APPROXIMATE. WORK OUTSIDE THE AREA OF WORK MAY BE REQUIRED FOR A COMPLETE PROJECT. ANY WORK REQUIRED OUTSIDE THE AREA OF WORK TO COMPLETE THIS PROJECT SHALL BE CONSIDERED A PART OF THIS CONTRACT.
2. SEE STRUCTURAL, ELECTRICAL, MECHANICAL, PLUMBING, FIRE ALARM, FIRE PROTECTION DRAWINGS FOR ADDITIONAL INFORMATION.
3. UNLESS OTHERWISE NOTED, CEILING HEIGHT SHALL BE 9'-0" AFF.
4. UNLESS OTHERWISE NOTED, SUSPENDED ACOUSTICAL CEILINGS SHALL BE ARMSTRONG TECH ZONE CEILING SYSTEMS WITH INTEGRATED 4" TECHNICAL ZONES CONTAINING RECESSED LINEAR LIGHTING SYSTEM, MECHANICAL DIFFUSERS AND FIRE SPRINKLER HEADS. LAY-IN PANELS SHALL BE ULTIMA SQUARE TEGULAR IN 9/16" SUPRAFINE XL SUSPENSION SYSTEM.
5. UNLESS OTHERWISE NOTED, PAINT GYPSUM BOARD CEILINGS, SOFFITS, BULKHEADS, ETC. P1.
6. PAINT ALL EXPOSED PIPING, CONDUITS, STRUCTURAL MEMBERS, ETC. EXCEPT IN MECHANICAL, ELECTRICAL ROOMS.
7. UNLESS OTHERWISE NOTED, ALL SCOPE INDICATED SHALL BE CONSIDERED PART OF BASE BID.
8. ALL WIRELESS ACCESS POINTS (WAPS) SHALL BE HIDDEN ABOVE THE CEILING GRID. LOCATIONS TO BE CLEARLY LABELED USING CLEAR LABELS ON METAL GRID LINES; CONFIRM LABELS WITH DISTRICT PRIOR TO INSTALL OF WAPS AND LABELS.

REFLECTED CEILING PLAN LEGEND

- SUSPENDED ACOUSTICAL CEILING
- 5/8" GYPSUM BOARD CEILING / SOFFIT
- ALUMINUM COMPOSITE PANEL SYSTEM MP-1 PER EXTERIOR FINISH LEGEND
- ALUMINUM COMPOSITE PANEL SYSTEM MP-4 PER EXTERIOR FINISH LEGEND
- OPEN TO STRUCTURE
- HVAC SUPPLY
- HVAC RETURN
- EXHAUST VENT
- SURFACE MOUNTED LINEAR LUMINAIRE
- RECESSED 2x4 LUMINAIRE
- RECESSED 2x2 LUMINAIRE
- RECESSED LINEAR LUMINAIRE
- RECESSED LUMINAIRE
- RECESSED SPRINKLER HEAD
- ACCESS HATCH. 24" X 36" MIN

NOTE:
SEE EXTERIOR ELEVATION FOR ADDITIONAL FINISH INFORMATION



KEY PLAN
1" = 80'-0"

LPAS
2484 Natomas Park Drive Suite 100 Sacramento CA 95833
916 443 0335 lpasdesign.com **Architecture + Design**

COSUMNES RIVER COLLEGE

COLLEGE CENTER EXPANSION

8401 CENTER PARKWAY, SACRAMENTO, CA 95823

NO.	ISSUE	DATE
1	ADDENDUM 1	2018-03-30
2	ADDENDUM 2	2018-04-11

LICENSED ARCHITECT
TROY PENNINGTON
C-31285
RENEWAL DATE
STATE OF CALIFORNIA

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
02-115990
AC_____ FLS_____ SS_____
DATE _____

ARCHITECT'S STAMP APPROVAL

CONSULTANT

PARTIAL FIRST FLOOR REFLECTED CEILING PLAN

PROJECT NO: 201-0065

DATE: 01.15.2018

SHEET NO:

A6.01A

DSA SUBMITTAL II

SECOND FLOOR REFLECTED CEILING PLAN | K3
1/8" = 1'-0"

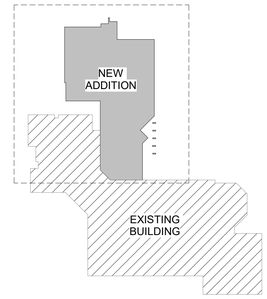
REFLECTED CEILING PLAN GENERAL NOTES

1. THE AREA OF WORK SHOWN IS APPROXIMATE. WORK OUTSIDE THE AREA OF WORK MAY BE REQUIRED FOR A COMPLETE PROJECT. ANY WORK REQUIRED OUTSIDE THE AREA OF WORK TO COMPLETE THIS PROJECT SHALL BE CONSIDERED A PART OF THIS CONTRACT.
2. SEE STRUCTURAL, ELECTRICAL, MECHANICAL, PLUMBING, FIRE ALARM, FIRE PROTECTION DRAWINGS FOR ADDITIONAL INFORMATION.
3. UNLESS OTHERWISE NOTED, CEILING HEIGHT SHALL BE 9'-0" AFF.
4. UNLESS OTHERWISE NOTED, SUSPENDED ACOUSTICAL CEILINGS SHALL BE ARMSTRONG TECH ZONE CEILING SYSTEMS WITH INTEGRATED 4" TECHNICAL ZONES CONTAINING RECESSED LINEAR LIGHTING SYSTEM, MECHANICAL DIFFUSERS AND FIRE SPRINKLER HEADS. LAY-IN PANELS SHALL BE ULTIMA SQUARE TEGULAR IN 9/16" SUPRAFINE XL SUSPENSION SYSTEM.
5. UNLESS OTHERWISE NOTED, PAINT GYPSUM BOARD CEILINGS, SOFFITS, BULKHEADS, ETC. P1.
6. PAINT ALL EXPOSED PIPING, CONDUITS, STRUCTURAL MEMBERS, ETC. EXCEPT IN MECHANICAL, ELECTRICAL ROOMS.
7. UNLESS OTHERWISE NOTED, ALL SCOPE INDICATED SHALL BE CONSIDERED PART OF BASE BID.
8. ALL WIRELESS ACCESS POINTS (WAPS) SHALL BE HIDDEN ABOVE THE CEILING GRID. LOCATIONS TO BE CLEARLY LABELED USING CLEAR LABELS ON METAL GRID LINES; CONFIRM LABELS WITH DISTRICT PRIOR TO INSTALL OF WAPS AND LABELS.

REFLECTED CEILING PLAN LEGEND

- SUSPENDED ACOUSTICAL CEILING
- 5/8" GYPSUM BOARD CEILING / SOFFIT
- ALUMINUM COMPOSITE PANEL SYSTEM MP-1 PER EXTERIOR FINISH LEGEND
- ALUMINUM COMPOSITE PANEL SYSTEM MP-4 PER EXTERIOR FINISH LEGEND
- OPEN TO STRUCTURE
- HVAC SUPPLY
- HVAC RETURN
- EXHAUST VENT
- SURFACE MOUNTED LINEAR LUMINAIRE
- RECESSED 2x4 LUMINAIRE
- RECESSED 2x2 LUMINAIRE
- RECESSED LINEAR LUMINAIRE
- RECESSED LUMINAIRE
- RECESSED SPRINKLER HEAD
- ACCESS HATCH. 24" X 36" MIN

NOTE:
SEE EXTERIOR ELEVATION FOR ADDITIONAL FINISH INFORMATION



KEY PLAN
1" = 80'-0"

LPAS
2484 Natomas Park Drive Suite 100 Sacramento CA 95833
916 443 0335 lpasdesign.com **Architecture + Design**

COSUMNES RIVER COLLEGE

COLLEGE CENTER EXPANSION

8401 CENTER PARKWAY, SACRAMENTO, CA 95823

NO.	ISSUE	DATE
2	ADDENDUM 2	2018-04-11

LICENSED ARCHITECT
TROY PENNINGTON
C-31285
7-31-19
RENEWAL DATE
STATE OF CALIFORNIA

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
02-115990
AC_____ FLS_____ SS_____
DATE _____

ARCHITECT'S STAMP APPROVAL

CONSULTANT

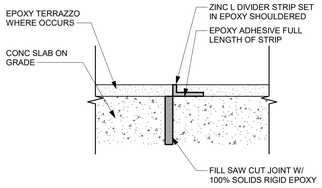
SECOND FLOOR REFLECTED CEILING PLAN

PROJECT NO: 201-0065
DATE: 01.15.2018

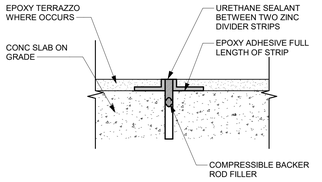
SHEET NO:

A6.02

DSA SUBMITTAL II

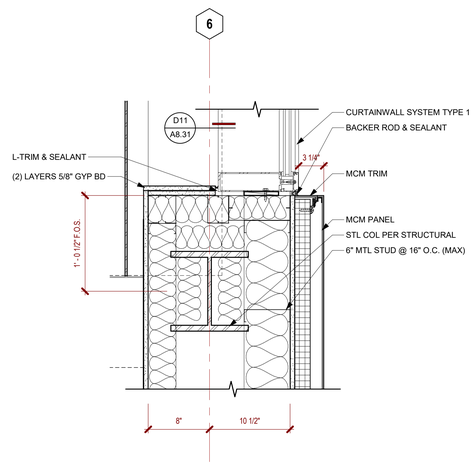


TERRAZZO CONTROL JOINT

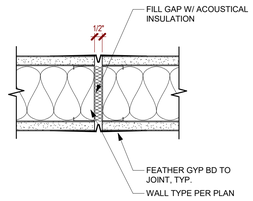


TERRAZZO EXPANSION JOINT

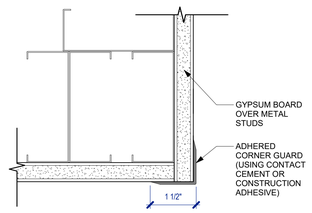
TERRAZZO JOINTS | 1
6" = 1'-0"



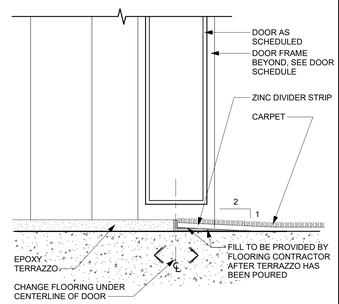
ENLARGED PLAN AT STAIR 2 - FIRST FLOOR - Callout 1 | C7
1 1/2" = 1'-0"



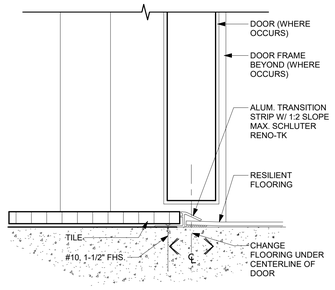
GYP BOARD CONTROL JOINT | B5
3" = 1'-0"



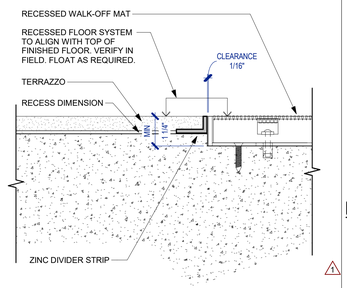
SURFACE MOUNTED CORNER GUARD | B3
6" = 1'-0"



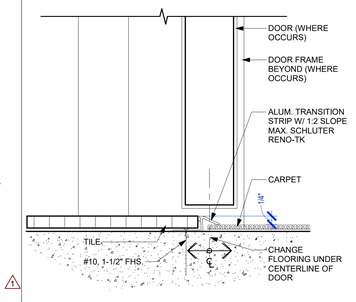
TERRAZZO TO CARPET | B1
6" = 1'-0"



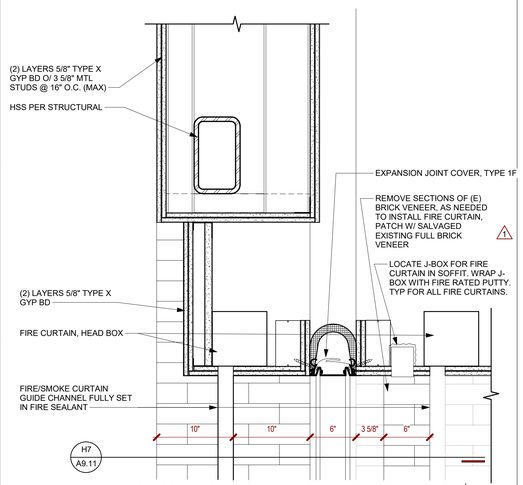
RESILIENT TO TILE TRANSITION | D5
6" = 1'-0"



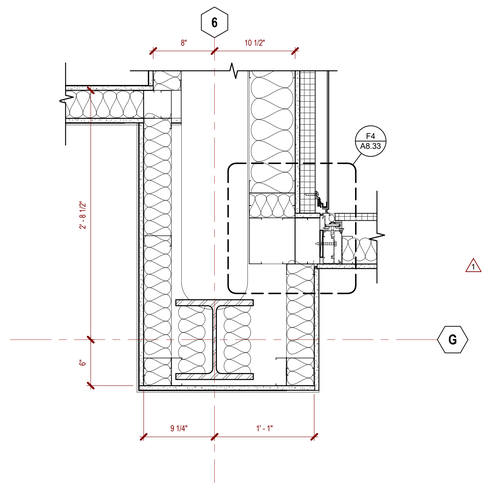
RECESSED ENTRY GRID AT TERRAZZO | D3
6" = 1'-0"



CARPET TO TILE TRANSITION | D1
6" = 1'-0"

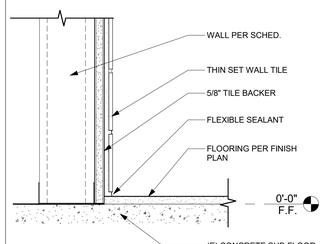


ENLARGED SECTION AT EXISTING BUILDING INTERFACE | F10
1 1/2" = 1'-0"

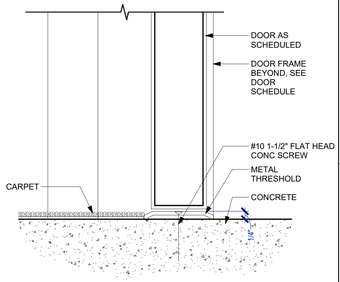


COLUMN FURRING / EXTERIOR WALL INTERSECTION AT GL G/6 | F7
1 1/2" = 1'-0"

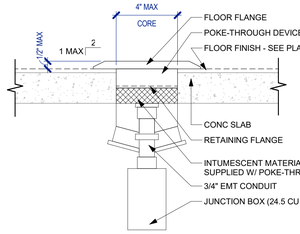
NOTE:
TILE INSTALLATION SHALL FOLLOW MINIMUM REQUIREMENTS SET FORTH BY THE 'TILE COUNCIL OF NORTHERN CALIFORNIA' (T.C.N.A.) FOR THE CONDITIONS OF THE INSTALLATION BEING PERFORMED



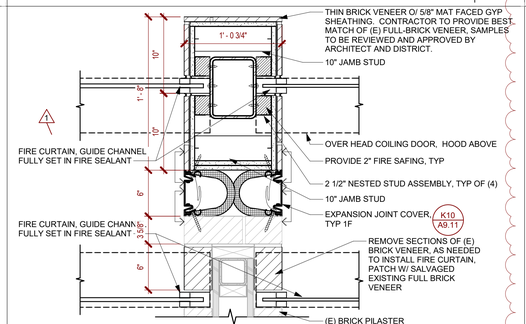
THIN-SET WALL TILE TO FLOOR | F3
3" = 1'-0"



CARPET TO CONCRETE TRANSITION | F1
6" = 1'-0"

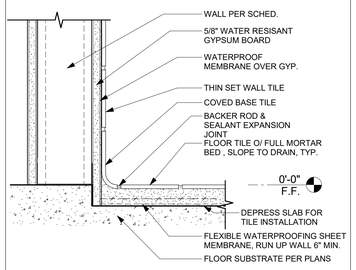


POKETHROUGH DETAIL | H10
3" = 1'-0"

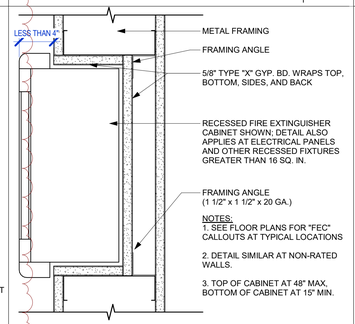


ENLARGED PLAN AT EXPANSION JOINT / SMOKE CURTAIN | H7
1 1/2" = 1'-0"

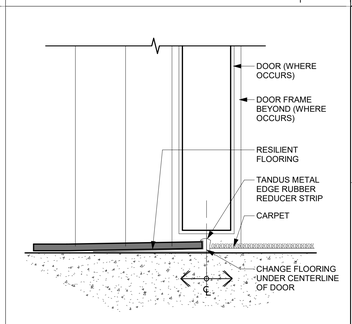
NOTE:
TILE INSTALLATION SHALL FOLLOW MINIMUM REQUIREMENTS SET FORTH BY THE 'TILE COUNCIL OF NORTH AMERICA' (T.C.N.A.) FOR THE CONDITIONS OF THE INSTALLATION BEING PERFORMED



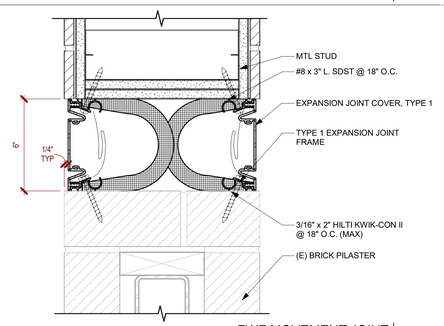
COVE BASE | H5
3" = 1'-0"



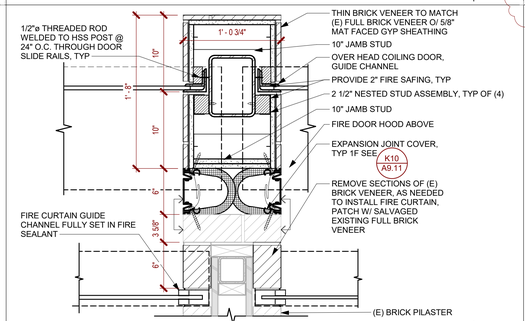
RECESSED F.E.C. AT RATED WALL (NR SIM.) | H3
3" = 1'-0"



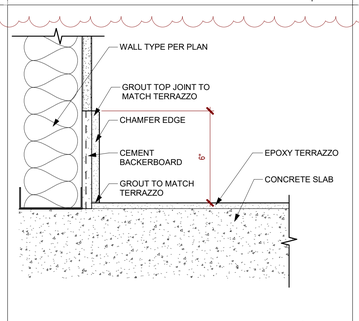
RESILIENT FLR TO CARPET TRANSITION1 | H1
6" = 1'-0"



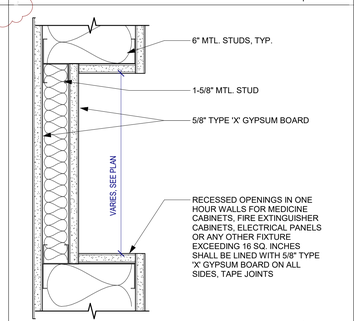
FWF MOVEMENT JOINT | K10
3" = 1'-0"



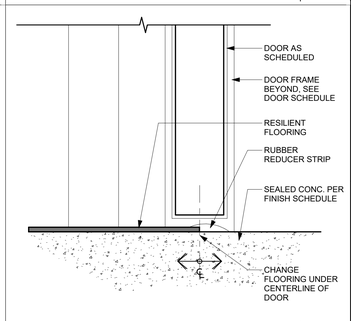
ENLARGED PLAN AT EXPANSION JOINT / OVERHEAD SECURITY DOOR | K7
1 1/2" = 1'-0"



TERRAZZO BASE | K5
3" = 1'-0"



1-HR WALL RECESS | K3
3" = 1'-0"



RESILIENT FLR TO CONCRETE TRANSITION | K1
6" = 1'-0"

LPAS
2484 Natomas Park Drive Suite 100 Sacramento CA 95833
916 443 0335 lpasdesign.com **Architecture + Design**

COSUMNES RIVER COLLEGE

COLLEGE CENTER EXPANSION

8401 CENTER PARKWAY, SACRAMENTO, CA 95823

NO.	ISSUE	DATE
1	ADDENDUM 1	2018-03-30
2	ADDENDUM 2	2018-04-11

LICENSED ARCHITECT
TROY DENNINGTON
C-31285
Exp. 08-31-19
RENEWAL DATE
STATE OF CALIFORNIA

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
02-115990
AC_____ FLS_____ SS_____
DATE _____

ARCHITECT'S STAMP APPROVAL

CONSULTANT

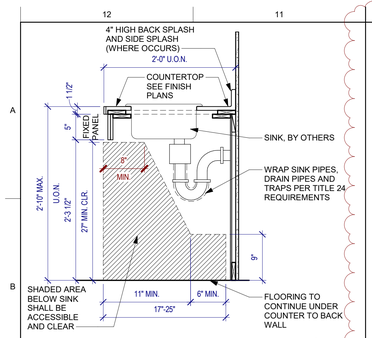
INTERIOR DETAILS

PROJECT NO: 201-0065
DATE: 01.15.2018

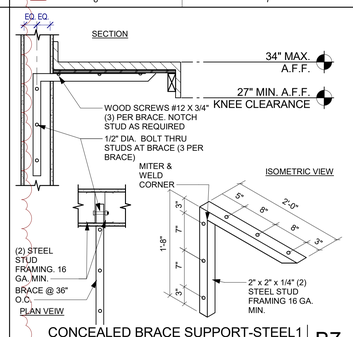
SHEET NO:

A9.11

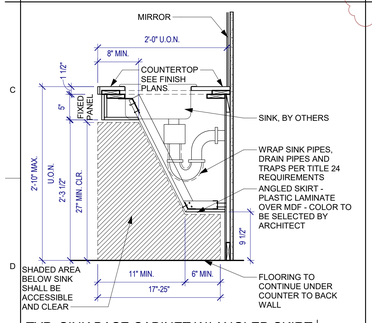
DSA SUBMITTAL II



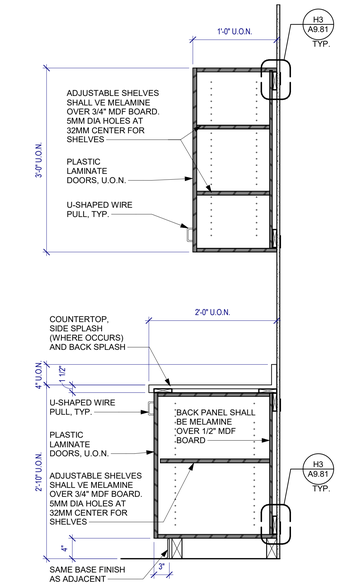
TYP. SINK BASE CABINET W/O APRON | B11
1" = 1'-0"



CONCEALED BRACE SUPPORT-STEEL1 | B7
1" = 1'-0"

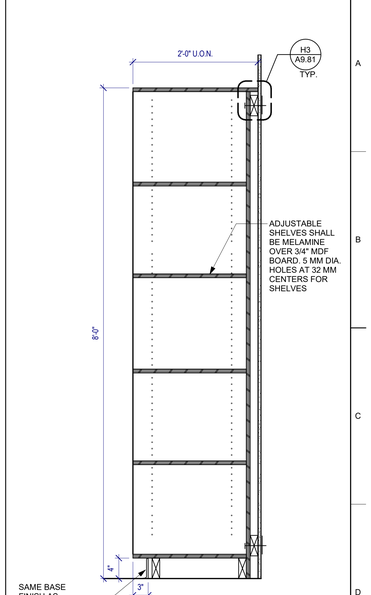


TYP. SINK BASE CABINET W/ ANGLED SKIRT | D11
1" = 1'-0"



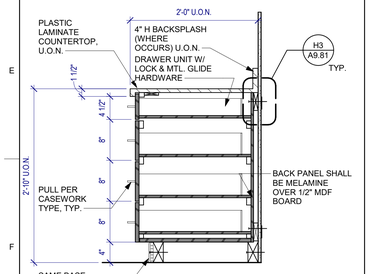
NOTE:
CABINET INTERIORS SHALL BE MELAMINE COLOR TO BE SELECTED BY ARCHITECT

BASE AND UPPER CABINET | D3
1" = 1'-0"

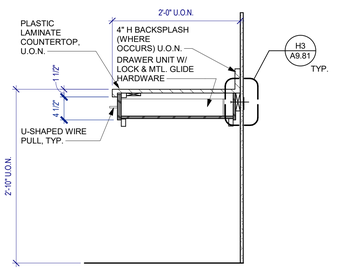


NOTE:
ALL EXPOSED AND SEMI-EXPOSED SURFACES TO BE PLASTIC LAMINATE OVER 3/4" MDF U.O.N.

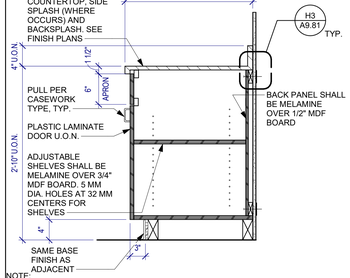
FULL HEIGHT SHELVING | D1
1" = 1'-0"



TYP. DRAWER BASE CABINET | F11
1" = 1'-0"

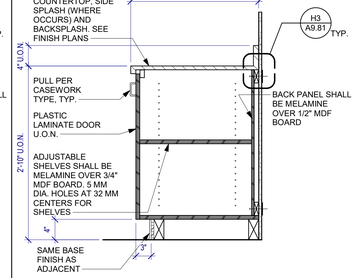


TYP. DRAWER | F9
1" = 1'-0"



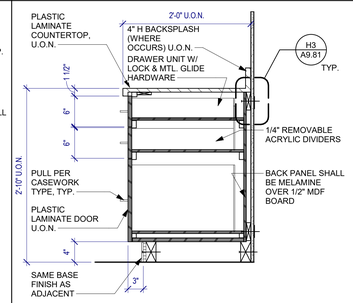
NOTE:
CABINET INTERIORS SHALL BE MELAMINE, COLOR TO BE SELECTED BY ARCHITECT

TYP. BASE CABINET WITH APRON | F7
1" = 1'-0"

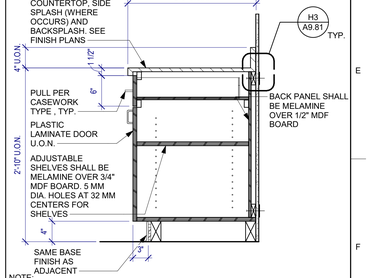


NOTE: CABINET INTERIORS SHALL BE MELAMINE, COLOR TO BE SELECTED BY ARCHITECT

TYP. BASE CABINET WITHOUT DRAWER1 | F5
1" = 1'-0"



TYP. DRAWER BASE CABINET W/FILE DRAWER | F3
1" = 1'-0"



NOTE:
CABINET INTERIORS SHALL BE MELAMINE, COLOR TO BE SELECTED BY ARCHITECT

TYP. BASE CABINET WITH DRAWER | F1
1" = 1'-0"

NOTE: INSULATION & GYPSUM BOARD FINISH NOT SHOWN FOR CLARITY

BACKING AT METAL STUD WALL | H7
3" = 1'-0"

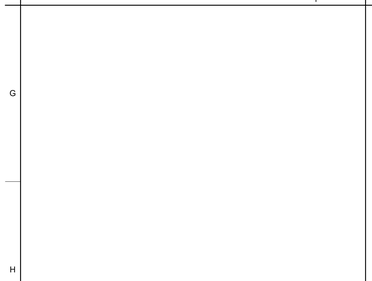
NOTE: ENTIRE FABRICATION TO BE PAINTED BLACK U.O.N.

COUNTER SUPPORT PLAN VIEW1 | H5
1/2" = 1'-0"

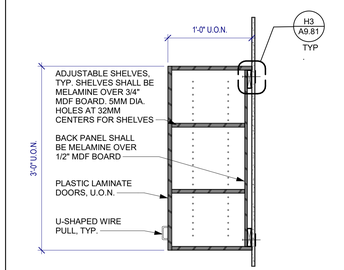
NOTE: EACH CABINET OR UNDIVIDED SPAN SHALL HAVE A MINIMUM OF 4 ANCHORAGE FASTENERS; 2 AT TOP AND 2 AT BOTTOM. MAXIMUM HORIZONTAL SPACING TO BE 16" O.C. OR 12" O.C. IF CABINET OVER 48"H. ANCHORAGE FASTENERS TO BE LOCATED WITHIN 2" OF THE OUTSIDE TOP OR BOTTOM AND WITHIN 2" OF THE OUTSIDE END

BLOCKING FOR WOOD OR METAL STUDS | H3
3" = 1'-0"

CONCEALED BRACE SUPPORT-WOOD | H1
1" = 1'-0"

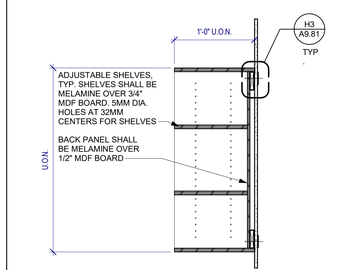


WATERFALL EDGE | H9
1 1/2" = 1'-0"



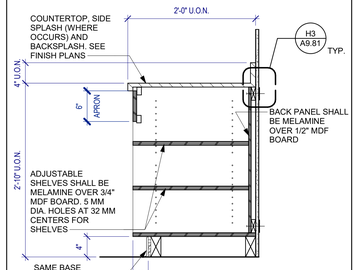
NOTE:
CABINET INTERIORS SHALL BE MELAMINE, COLOR TO BE SELECTED BY ARCHITECT

TYPICAL WALL CABINET1 | K7
1" = 1'-0"



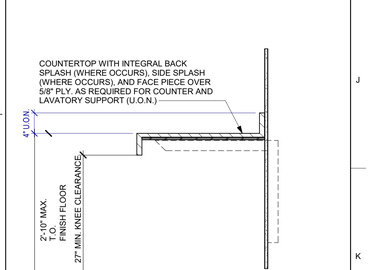
NOTE:
CABINET INTERIORS SHALL BE MELAMINE, COLOR TO BE SELECTED BY ARCHITECT

TYP. WALL CABINET W/ OPEN SHELVING | K5
1" = 1'-0"



NOTE:
CABINET INTERIORS SHALL BE MELAMINE, COLOR TO BE SELECTED BY ARCHITECT

TYP. BASE CABINET W/OPEN SHELVING | K3
1" = 1'-0"



COUNTERTOP | K1
1" = 1'-0"

LPAS
2484 Natomas Park Drive Suite 100 Sacramento CA 95833
916 443 0335 lpasdesign.com **Architecture + Design**

COSUMNES RIVER COLLEGE

COLLEGE CENTER EXPANSION

8401 CENTER PARKWAY, SACRAMENTO, CA 95823

NO.	ISSUE	DATE
2	ADDENDUM 2	2018-04-11

LICENSED ARCHITECT TROY PENNINGTON C-31285 RENEWAL 08/31/19 STATE OF CALIFORNIA

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
02-115990
AC_____ FLS_____ SS_____
DATE _____

ARCHITECT'S STAMP APPROVAL

CONSULTANT

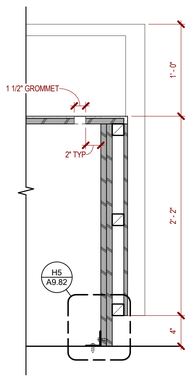
TYPICAL CASEWORK DETAILS

PROJECT NO: 201-0065
DATE: 01.15.2018

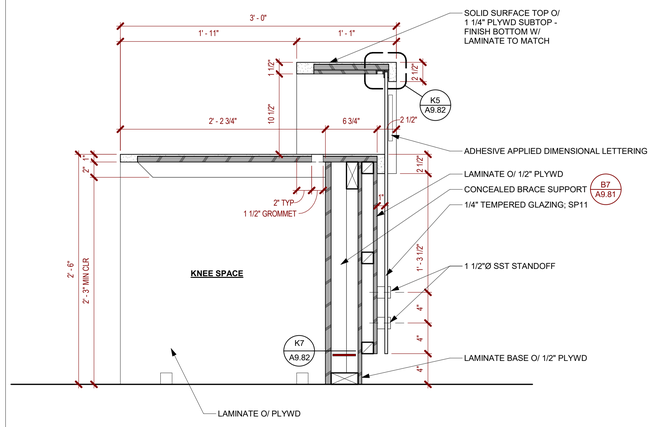
SHEET NO:

A9.81

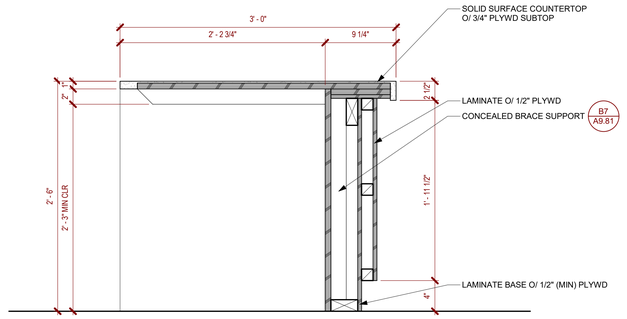
DSA SUBMITTAL II



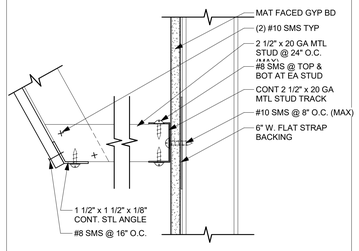
RECEPTION DESK - SECTION 3 | C9
1 1/2" = 1'-0"



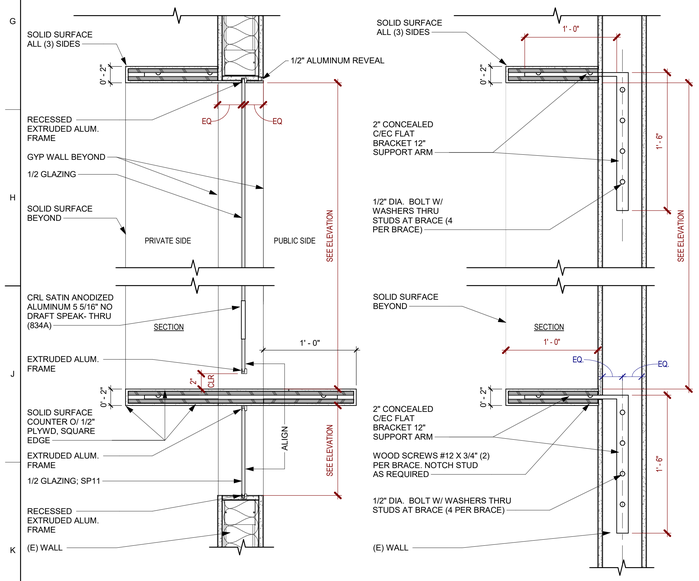
RECEPTION DESK - SECTION 1 | C5
1 1/2" = 1'-0"



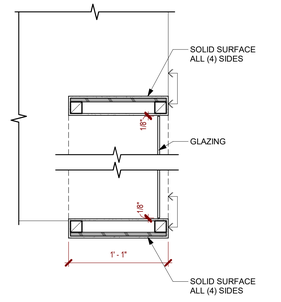
RECEPTION DESK - SECTION 2 | F5
1 1/2" = 1'-0"



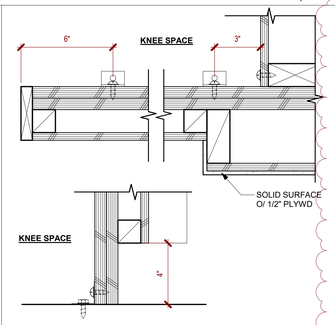
TRACK ATTACHMENT AT SINK CABINET | F3
3" = 1'-0"



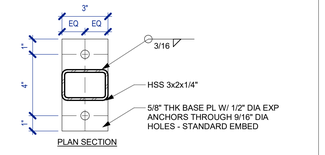
SOLID SURFACE WORKSURROUND | K9
1 1/2" = 1'-0"



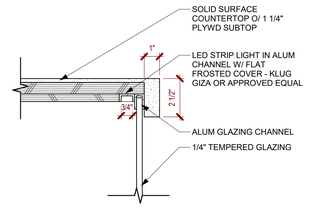
RECEPTION DESK - SECTION 4 | H7
1 1/2" = 1'-0"



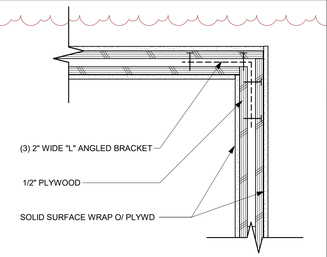
RECEPTION DESK LEG ANCHORAGE | H5
3" = 1'-0"



CONCEALED BRACE ANCHORAGE | K7
3" = 1'-0"



RECEPTION DESK - SECTION 4 - Callout 1 | K5
3" = 1'-0"



SOLID SURFACE SURROUND CORNER | K3
3" = 1'-0"

LPAS
2484 Natomas Park Drive Suite 100 Sacramento CA 95833
916 443 0335 lpasdesign.com **Architecture + Design**

COSUMNES RIVER COLLEGE

COLLEGE CENTER EXPANSION

8401 CENTER PARKWAY, SACRAMENTO, CA 95823

NO.	ISSUE	DATE
1	ADDENDUM 1	2018-03-30
2	ADDENDUM 2	2018-04-11

LICENSED ARCHITECT
TROY PENNINGTON
C-31285
5.31.18
RENEWAL DATE
STATE OF CALIFORNIA

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
02-115990
AC_____ FLS_____ SS_____
DATE _____

ARCHITECT'S STAMP APPROVAL

CONSULTANT

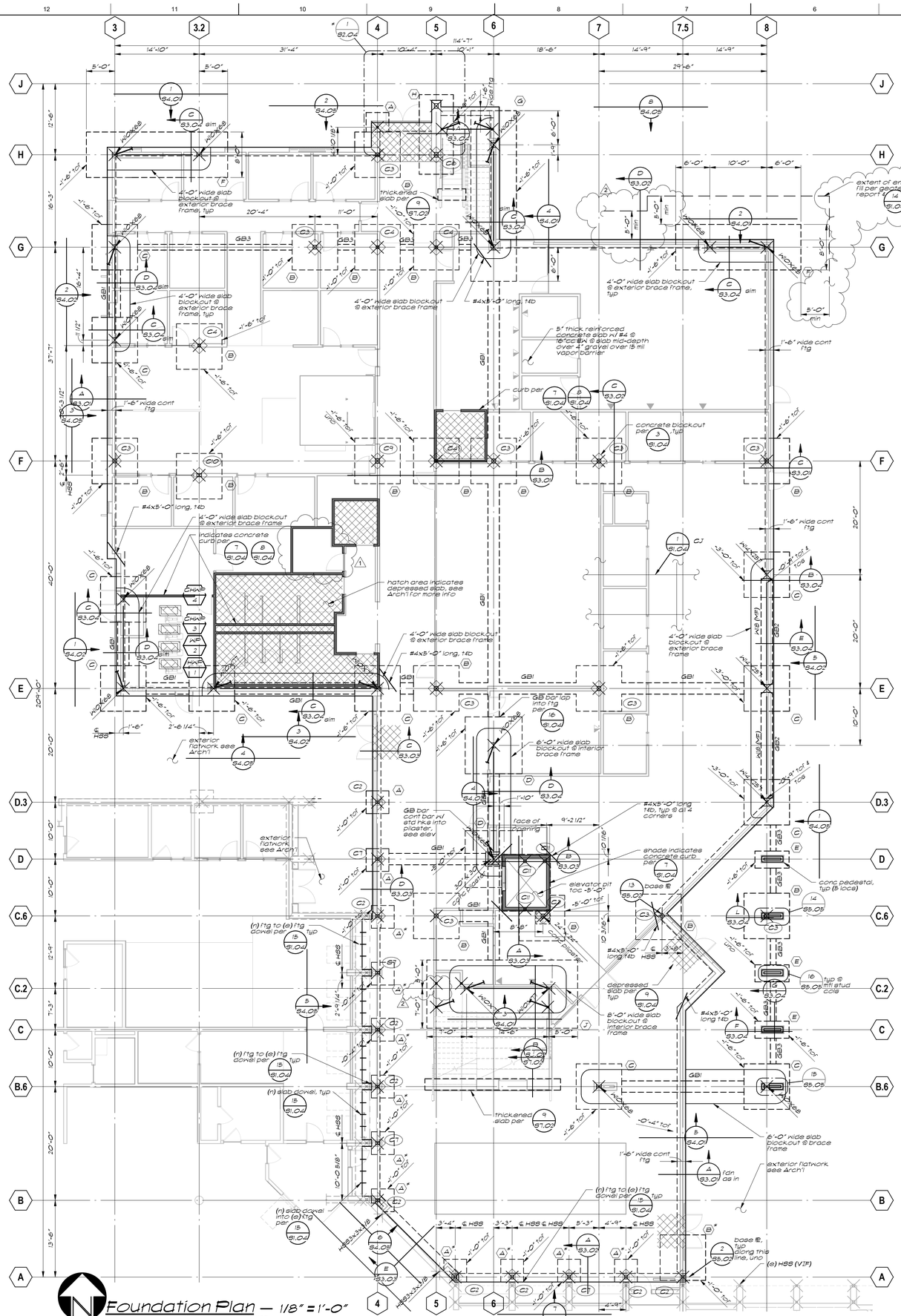
TYPICAL CASEWORK DETAILS

PROJECT NO: 201-0065
DATE: 01.15.2018

SHEET NO:

A9.82

DSA SUBMITTAL II



Foundation Plan Notes:

1. Site preparation and building pad construction shall be done in accordance with Soils Report # NB18031 by Terracon dated May 11, 2018. Bottom of footing excavations shall be reviewed by Geotechnical Engineer prior to placement of reinforcing steel. Foundations shall bear on compacted engineered fill or chemically treated & compacted subgrade soils per the requirements of the Soils Report.
2. Verify all building dimensions and elevations w/ Arch'l drawings. Notify the Architect immediately if there are any conflicts w/ dimensions shown.
3. Dimensions shown are to ℄ of column uno.
4. It is the contractor's responsibility to coordinate slab control joints with any architecturally exposed slab areas or the location of tile crack control joints. Verify special condition control joints with Arch'l drawings.
5. Provide thickened slab @ base of all stairs per (9 / S1.01).
6. Contractor to coordinate exact dimensions and locations of thickened slabs, housekeeping pads, etc. with all other disciplines' dwg's as well as with the equipment provided prior to commencing work.
7. Slab on grade shall be 5" thick concrete w/ #4 @ 16"cc EW at mid-depth. Concrete shall be installed over 4" clean crushed rock over 15 mil vapor retarder. Top of concrete slab is -0'-0" uno.
8. Contractor shall submit an edge of slab plan to Architect & Structural engineer for review. Submittal shall be dimensioned and located relative to structural grids.
9. Provide 3" min. concrete cover at structural steel and anchor bolts below grade typ.
10. Provide slab on grade control joints (SJ) as indicated per typ @ all interior slabs. Construction joints (CJ) may replace control joints as required. (1 / S1.01)
11. See sheets S1.01 thru S1.08 for General Notes & Typical Details which are applicable to all drawings uno.
12. Elevator guide rail support columns uno shown on plan shall be located in shaft for full height of structure. Coordinate location of columns with elevator mfr. For typical connection of support column to elev structure see (4 / S5.04)
13. Verify elevator pit dimensions w/ elevator manufacturer prior to construction.
14. See Arch'l & Civil drawings for all exterior curbs, flatwork, planters, ramps, etc.
15. Continue all reinforcing in continuous footings through spread footings, typ, uno.
16. GB Indicates reference to grade beam schedule, see (B / S2.01)
17. (M1) Indicates reference to footing schedule, see (A / S2.01)
18. Indicates concrete curb. For curbs below non-structural walls, see (7 / S1.01) (8 / S1.01). Verify exact extent w/ Arch'l dwgs.
19. Indicates sloped and/or depressed slab. Depress building pad and provide full slab and base thickness. 3" max depression per (9 / S1.04). Contractor to coordinate in field.
20. All depressions, slopes, curbs, etc. are shown for reference only. For exact depths, slopes, extents, etc. see other disciplines' drawings.
21. Temporary loads applied during construction have not been considered in slab on grade design.
22. -1'-6" / toc Indicates top of footing elevation with respect to reference top of concrete (+0'-0"). The bottom of all footings shall be at least 18" below adjacent minimum prepared building pad elevation (on all sides), typ uno and as shown on sections.
23. Indicates edge of moisture conditioned native soil or engineered fill around entire foundation footprint. Prepare per recommendations of soils report.

Steel

24. (C3) Indicates HSS column & size per (C / S2.01) uno on plan.
25. Indicates Wide Flange column, size per plan & elevation.
26. Indicates steel braced frame, see elevations for additional info.
27. MF Indicates special moment-resisting frame, see elevations.

Metal Studs

28. Anchor bolts at exterior non-shearwalls shall be as indicated on detail (1 / S1.05)
29. Indicates structural metal stud wall. Size & ga per sections. All structural metal stud walls are 6"x18ga uno on plan or sections.
30. Face of concrete @ perimeter of bldg shall be 1/2" outside face of stud, typ uno.
31. * Indicates add alternate items, see Arch'l drawings for coordination.

(A / S2.01) Footing Schedule

Mk	Description
(M1)	4'-0"ø x 1'-6" deep footing w/ 8- #5 EW
(B)	8'-0"ø x 2'-0" deep footing w/ 9- #5 EW
(C)	8'-0"ø x 3'-6" deep footing w/ 9- #6 EW, T&B
(D)	10'-0"ø x 3'-6" deep footing w/ 11- #6 EW
(E)	6'-0" x 3'-0" x 1'-6" deep footing w/ 7- #6 EW
(F)	length per plan x 8'-0" wide x 3'-0" deep w/ 9- #7 bars long, #5 T&B @ 12" cc trans, #4 ties @ 12"cc
(G)	30'-0" long x 8'-0" wide x 3'-6" deep w/ 9- #7 bars long long, #5 T&B @ 12" cc trans, #4 ties @ 12"cc
(H)	14'-0" long x 6'-0" wide x 2'-0" deep w/ 7- #7 bars EW, #5 T&B @ 12" cc trans, #4 ties @ 12"cc max
(H)*	18'-0" long x 6'-0" wide x 2'-0" deep w/ 7- #7 bars EW, #5 T&B @ 12" cc trans, #4 ties @ 12"cc max
(J)	26'-6" long x 12'-0" wide x 3'-6" deep w/ 13- #7 T&B bars long, #5 @ 12"cc T&b trans, #4 ties @ 8"cc max

NOTES:
1. * Indicates footing at Add-Alternate Plans

(B / S2.01) Grade Beam Schedule

GB1	24" wide x 24" deep grade beam w/ 4- #6 T&b w/ #4 ties @ 12" cc max, uno on elevations	(D / S3.01)	
GB2	24" wide x 30" deep grade beam w/ 6- #6 T&b w/ #4 ties @ 12" cc max, uno on elevations	(E / S3.01)	
GB3	12" wide x 12" deep grade beam w/ 2- #5 T&b w/ #3 ties @ 24"cc	(16 / S1.04)	

(C / S2.01) Column Schedule

Column Mk	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11
Clock Tower	not used										
Roof		HSS8x6x5/8	HSS8x6x5/8	HSS8x6x1/2	HSS8x6x5/8	HSS10x8x5/8	HSS8x6x1/4	HSS8x6x1/4	HSS10x8x3/8	HSS10x8x5/8	HSS8x6x1/2
2nd Floor											
+0'-0" T&F		-1'-6" toc									

(D / S2.01) Mech'l Unit Schedule

Mk	Description	Weight	Remarks	Mounting Location
SHAD 4	Pump	400 #	(E / M3.03)	Floor
SHAD 3	Pump	400 #	(E / M3.03)	Floor
MAP 2	Pump	600 #	(E / M3.03)	Floor
MAP 1	Pump	600 #	(E / M3.03)	Floor

LPAS
2484 Natomas Park Drive Suite 100 Sacramento CA 95833
916 443 0335 lpasdesign.com Architecture + Design

COSUMNES RIVER COLLEGE

COLLEGE CENTER EXPANSION

8401 CENTER PARKWAY, SACRAMENTO, CA 95823

NO.	ISSUE	DATE
1	ADDENDUM 1	2018-03-30
2	ADDENDUM 2	2018-04-13

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
02-115990
AC.____ FLS.____ SS.____
DATE ____

ARCHITECT'S STAMP APPROVAL

CONSULTANT

REGISTERED PROFESSIONAL ENGINEER
LAWRENCE E. JONES
No. 3138
STRUCTURAL
STATE OF CALIFORNIA

FOUNDATION PLAN

PROJECT NO: 201-0065
DATE: 01.15.2018

SHEET NO:

S2.01

Buehler & Buehler
Structural Engineers, Inc.
600 Q Street, Suite 200, Sacramento, CA 95811
tel 916.443.0203 fax 916.443.0213
Sacramento . Phoenix . San Francisco . Los Angeles

DSA SUBMITTAL II

4/9/2018 5:39:48 PM C:\revit\2016-0077_CRC College Center Exp_R17_Central_gbali.rvt

AIR HANDLING UNIT SCHEDULE

SYMBOL	MANUFACTURER	MODEL	COOLING COIL														HEATING COIL												SUPPLY FAN						RETURN FAN						ELECTRICAL						MIN. OSA CFM	DCV MODE OSA CFM	OPERATING WEIGHT LBS.	PREFILTER		PREFILTER CLEAN APD (IN. WG.)
			COOLING CAPACITY (MBH)		AIR ENT COIL		AIR LVG COIL		SIZE HxW	EWT	LWT	GPM	ROWS	FPI	WPD	APD	TCV		HEATING CAPACITY	AIR ENT COIL		AIR LVG COIL		SIZE HxW	EWT	LWT	GPM	ROWS	FPI	WPD	APD	TCV		CFM	TSP	ESP	TYPE	(QTY) BHP	(QTY) HP	CFM	ESP	TYPE	(QTY) BHP	(QTY) HP	MOTOR VOLTS	MOTOR PH	MOTOR HZ	CONTROL / LIGHTS VOLTS					EFF %	FA SF	
			TOTAL	SENSIBLE	DB°F	WB°F	DB°F	WB°F									TYPE	CV	MBH	DB°F		DB°F									TYPE	CV																			
AHU 1	ENERGY LABS	C78102 -FCH-L	760.2	520.4	80	67	53.2	53.1	34.5x87	45.0	55.0	151.9	6	12	4.59	0.992	2-WAY	76	679.7	40.0		75.0		34.5x87	180	160	67.82	1	8	3.67	0.082	2-WAY	34	18,000	4.5	2.13	DIRECT DRIVE	(4) 4.74	(4) 5.0	17,000	1.6	DIRECT DRIVE	(4) 1.92	(4) 3.0	208	3	60	120	2400	3600	20,000	30%	38.0	0.50
AHU 2	ENERGY LABS	C6478 -FCH-L	498.3	343.2	80	67	53.5	53.4	58.5x63	45.0	55.0	99.6	6	12	7.18	1.097	2-WAY	50	500.3	40.0		75.0		58.5x63	180	160	50.03	1	10	3.18	0.112	2-WAY	25	12,000	4.5	1.98	DIRECT DRIVE	(2) 6.39	(2) 7.5	11,000	1.75	DIRECT DRIVE	(2) 3.0	(2) 5.0	208	3	60	120	2200	3300	13,000	30%	23.8	0.50

PROVIDE:

1. "MASON" RSC SERIES, SLOPE TO MATCH ROOF SLOPE, 3" DEFELCTION SPRING ISOLATION (OPA-207) CURB REFER TO DETAIL A/M9.01 FOR ADDITIONAL REQUIREMENTS FOR THE CURB
2. REFER TO UNIT SPECIFICATIONS SECTION FOR ACCESSORIES, CONTROLS, AND COMPLETE DESCRIPTION OF UNITS WITH FULL PERIMETER CURB AROUND PIPING VESTIBULES.
3. FACTORY MOUNTED SUPPLY AND RETURN FAN VFD WITH MANUAL BY-PASS
4. SUPPLY AIR DUCT MOUNTED SMOKE DETECTOR FOR AUTOMATIC SHUT-DOWN UPON DETECTION OF PRODUCTS OF COMBUSTION, PROVIDED BY FIRE ALARM CONTRACTOR (SEE FA0.01)
5. FACTORY MOUNTED DISCONNECT
6. 208 VOLT, 3 PHASE - SINGLE POINT POWER CONNECTION
7. 120 VOLT POWER FOR LIGHTING & CONTROLS
8. PROVIDE CONDITIONED ENCLOSURE FOR VFD AND TEMPERATURE CONTROL PANELS - SEE A/M9.05 & B/M9.05
9. PROVIDE MERV-13 DISPOSABLE PRE-FILTERS
10. SEE CONTROL DIAGRAMS FOR ALL AIR FLOW MONITORING STATIONS, DEFERENTIAL PRESSURE SWITCHES, FILTER MONITORING. PROVIDE ADEQUATE CLEARANCE FOR INSTALLATION OF ALL DEVICES.
11. VFD AND TCP (CONTROL PANEL) ENCLOSURES ARE CONDITIONED SPACES AND HAVE SEALED RACE WAYS AND CONDUITS BACK TO ALL DEVISES WITHIN UNIT.
12. PIPING VESTIBULES MUST BE CONSTRUCTED SUBSTANTIAL ENOUGH TO SUPPORT THE CONTRACTOR PROVIDED PIPE SUPPORTS.
13. PROVIDE - FACTORY MOUNTED EBTRON FLOW STATION

CONDENSING UNIT SCHEDULE

SYMBOL	SERVES	MANUFACTURER	MODEL	NOMINAL TONS	TOTAL COOLING MBH	AMBIENT TEMP	SEER	RLA	MCA	MOCP	MAX FUSE (AMPS)	VOLT/PH	WEIGHT	REMARKS
CU 1	ELEVATOR MACHINE ROOM	DAIKIN	RXS18LVJU	1.5	17.2	104	20.3	5.9	13.8	20	20	208/230 1PH	150	R-410A REFRIGERANT
CU 2	IDF 137	DAIKIN	RXS24LVJU	2.0	21.5	104	20.0	12.9	17.1	20	20	208/230 1PH	150	R-410A REFRIGERANT
CU 3	MPOE 204	DAIKIN	RXS36LVJU	3.0	33.2	104	15.9	18.3	17.1	20	20	208/230 1PH	150	R-410A REFRIGERANT
CU 4	IDF 2ND FL	DAIKIN	RXS24LVJU	2.0	21.5	104	20.0	12.9	17.1	20	20	208/230 1PH	150	R-410A REFRIGERANT

GENERAL NOTE:
LOCK-OUT THE HEATING MODE OF HEAT-PUMP TO OPERATE THE UNIT AS COOLING ONLY UNIT

FAN COIL SCHEDULE (INDOOR UNIT)

SYMBOL	SERVES	MANUFACTURER	MODEL	CFM	COOLING				MOTOR				OPERATING WEIGHT LBS.	REMARKS
					EAT °F	LAT °F	TOTAL MBH	SENSIBLE MBH	VOLT	PH	HZ	MCA		
FC 1	ELEVATOR MACHINE ROOM	DAIKIN	FTXS-18LVJU	385	80/67	55	17.2	14.7	208/230	1	60	SEE NOTE # 1	35	1. INDOOR UNIT RECEIVES POWER FROM OUTDOOR UNIT 2. WALL MOUNTED CONFIGURATION 3. CONDENSATE PUMP
FC 2	IDF 137	DAIKIN	FTXS-24LVJU	643	80/67	55	21.5	16.8	208/230	1	60	SEE NOTE # 1	40	1. INDOOR UNIT RECEIVES POWER FROM OUTDOOR UNIT 2. WALL MOUNTED CONFIGURATION 3. CONDENSATE PUMP
FC 3	MPOE 204	DAIKIN	FTXS-36LVJU	915	80/67	55	33.2	23.9	208/230	1	60	SEE NOTE # 1	40	1. INDOOR UNIT RECEIVES POWER FROM OUTDOOR UNIT 2. WALL MOUNTED CONFIGURATION 3. CONDENSATE PUMP
FC 4	IDF 2ND FL	DAIKIN	FTXS-24LVJU	643	80/67	55	21.5	16.8	208/230	1	60	SEE NOTE # 1	40	1. INDOOR UNIT RECEIVES POWER FROM OUTDOOR UNIT 2. WALL MOUNTED CONFIGURATION 3. CONDENSATE PUMP

GENERAL NOTE:
LOCK-OUT THE HEATING MODE OF HEAT-PUMP TO OPERATE THE UNIT AS COOLING ONLY UNIT

PUMP SCHEDULE

SYMBOL	MANUFACTURER	MODEL	PUMP TYPE	GPM	TOTAL HEAD FT WATER	MOTOR					RPM	OPERATING WEIGHT LBS.	REMARKS
						BHP	HP	VOLTS	PH	HZ			
HWP 1	BELL & GOSSETT	SERIES e-1510 2.5BB	CENTRIFUGAL BASE MOUNTED	220	50	3.85	5	208	3	60	1800	400	HEATING WATER PUMP WITH VFD WITH ELECTRO-MECHANICAL BYPASS
HWP 2	BELL & GOSSETT	SERIES e-1510 2.5BB	CENTRIFUGAL BASE MOUNTED	220	50	3.85	5	208	3	60	1800	400	HEATING WATER PUMP WITH VFD WITH ELECTRO-MECHANICAL BYPASS
CHWP 3	BELL & GOSSETT	SERIES e-1510 4BD	CENTRIFUGAL BASE MOUNTED	590	55	9.69	15	208	3	60	1800	600	HEATING WATER PUMP WITH VFD WITH ELECTRO-MECHANICAL BYPASS
CHWP 4	BELL & GOSSETT	SERIES e-1510 4BD	CENTRIFUGAL BASE MOUNTED	590	55	9.69	15	208	3	60	1800	600	HEATING WATER PUMP WITH VFD WITH ELECTRO-MECHANICAL BYPASS

ROOF EXHAUST FAN SCHEDULE

SYMBOL	MANUFACTURER	MODEL	CAPCAITY CFM	BALANCE CFM	ESP	SONES (MAX.)	FAN TYPE	DRIVE	FAN		MOTOR				OPERATING WEIGHT LBS.	REMARKS
									RPM	BHP	HP	VOLTS	PH	HZ		
REF 1	"GREENHECK"	GB-141	1750	1390	0.625	10.7	CENTRIFUGAL ROOF EXHAUST	BELT	1256	0.56	1	208	3	60	150 LBS	PROVIDE CURB, AND BACKDRAFT DAMPER, ROOF CURB. INTERLOCK W/ AHU-1
REF 2	"GREENHECK"	G-097-VG	250	150	0.625	10.1	CENTRIFUGAL ROOF EXHAUST	DIRECT	1725	0.13	1/4	120	1	60	125 LBS	PROVIDE CURB, AND BACKDRAFT DAMPER, ROOF CURB. INTERLOCK W/ AHU-1. ECM MOTOR FOR T-24 COMPLIANCE

VFD SCHEDULE

SYMBOL	SERVES	MANUFACTURER	MODEL	ELECTRICAL			AMPS	OPERATING WEIGHT LBS.	MOUNTING DETAIL	REMARKS
				VOLTS	HP	PHASES				
VFD 1	HWP - 1	ABB	ACH550-VCR	208	5	3	16.7	75	F M9.03	PROVIDE BACNET MSTP INTERFACE, ELECTRO-MECHANICAL BYPASS
VFD 2	HWP - 2	ABB	ACH550-VCR	208	5	3	16.7	75	F M9.03	PROVIDE BACNET MSTP INTERFACE, ELECTRO-MECHANICAL BYPASS
VFD 3	CHWP - 3	ABB	ACH550-VCR	208	15	3	46.2	130	F M9.03	PROVIDE BACNET MSTP INTERFACE, ELECTRO-MECHANICAL BYPASS
VFD 4	CHWP - 4	ABB	ACH550-VCR	208	15	3	46.2	130	F M9.03	PROVIDE BACNET MSTP INTERFACE, ELECTRO-MECHANICAL BYPASS

AIR AND DIRT SEPARATOR SCHEDULE

SYMBOL	MANUFACTURER	MODEL	SYSTEM	SIZE	FLOW GPM	WEIGHT	REMARK
AS 1	SPIROTHERM	VDN-400-FA	HEATING HOT WATER	4"	220 GPM & 1.8 FT HD	250 LBS.	REMOVABLE LOWER HEAD FOR CLEANING
AS 2	SPIROTHERM	VDN-600-FA	CHILLED WATER	6"	590 GPM & 1.2 FT HD	375 LBS.	REMOVABLE LOWER HEAD FOR CLEANING

AHU-1 VAV BOX SCHEDULE

VAV 1-__	MANUF.	MODEL	SERVED BY	INLET SIZE	MAX. COOLING CFM	MAX. HEATING CFM	MIN. CFM	MAX APD (IN.WG.)	HOT WATER REHEAT COIL								OPERATING WEIGHT LBS.	REMARKS
									MBH	GPM	COIL ROWS	EAT (°F)	LAT (°F)	EWT (°F)	LWT (°F)	VALVE TYPE	CV	
1-1	TITUS	DESV	AHU-1	14	1200	600	360	0.3	17.2	1.2	2	55	81.5	180	150	2-WAY	0.5	81	1, 2, 3, 4
1-2	TITUS	DESV	AHU-1	14	1125	550	340	0.3	16.3	1.1	2	55	82.4	180	150	2-WAY	0.5	81	1, 2, 3, 4
1-3	TITUS	DESV	AHU-1	6	150	75	60	0.3	2.9	0.2	2	55	83.1	180	150	2-WAY	0.1	43	1, 2, 3, 4
1-4	TITUS	DESV	AHU-1	6	260	130	80	0.3	3.3	0.3	2	55	78.4	180	150	2-WAY	0.1	43	1, 2, 3, 4
1-5	TITUS	DESV	AHU-1	6	195	75	60	0.3	2.5	0.2	2	55	79.3	180	150	2-WAY	0.1	43	1, 2, 3, 4
1-6	TITUS	DESV	AHU-1	8	330	130	100	0.3	4.5	0.3	2	55	76.1	180	150	2-WAY	0.2	47	1, 2, 3, 4
1-7	TITUS	DESV	AHU-1	12	945	470	285	0.3	10.2	0.7	2	55	74.2	180	150	2-WAY	0.2	62	1, 2, 3, 4
1-8	TITUS	DESV	AHU-1	12	945	470	285	0.3	10.2	0.7	2	55	74.2	180	150	2-WAY	0.2	62	1, 2, 3, 4
1-9	TITUS	DESV	AHU-1	12	880	440	265	0.3	17.2	1.2	2	55	88.3	180	150	2-WAY	0.5	62	1, 2, 3, 4
1-10	TITUS	DESV	AHU-1	10	660	330	200	0.3	9.3	0.62	2	55	79.3	180	150	2-WAY	0.3	53	1, 2, 3, 4
1-11	TITUS	DESV	AHU-1	6	285 (1)	140	90	0.3	3.4	0.3	2	55	77.9	180	150	2-WAY	0.1	43	1, 2, 3, 4
1-12	TITUS	DESV	AHU-1	8	400	200	120	0.3	4.6	0.4	2	55	76.1	180	150	2-WAY	0.1	47	1, 2, 3, 4
1-13	TITUS	DESV	AHU-1	12	1100	550	330	0.3	19.4	1.3	2	55	85.1	180	150	2-WAY	0.5	62	1, 2, 3, 4
1-14	TITUS	DESV	AHU-1	10	600	300	180	0.3	13.3	0.9	2	55	94.7	180	150	3-WAY	1.0	53	1, 2, 3, 4
1-15	TITUS	DESV	AHU-1	10	660	400	200	0.3	8.9	0.6	2	55	74.3	180	150	2-WAY	0.2	53	1, 2, 3, 4
1-16	TITUS	DESV	AHU-1	6	250	125	75	0.3	4.9	0.4	2	55	91.2	180	150	2-WAY	0.2	43	1, 2, 3, 4
1-17	TITUS	DESV	AHU-1	6	275	135	90	0.3	4.5	0.4	2	55	86.3	180	150	2-WAY	0.2	43	1, 2, 3, 4
1-18	TITUS	DESV	AHU-1	6	200	100	60	0.3	3.9	0.3	2	55	85.8	180	150	2-WAY	0.1	43	1, 2, 3, 4
1-19	TITUS	DESV	AHU-1	8	450	225	135	0.3	5.0	0.4	2	55	75.7	180	150	2-WAY	0.1	47	1, 2, 3, 4
1-20	TITUS	DESV	AHU-1	12	990	495	490	0.3	14.2	0.95	2	55	75.9	180	150	2-WAY	0.4	62	1, 2, 3, 4
1-21	TITUS	DESV	AHU-1	6	175	80	55	0.3	1.9	0.2	2	55	77.8	180	150	2-WAY	0.1	43	1, 2, 3, 4
1-22	TITUS	DESV	AHU-1	6	100	50	30	0.3	1.9	0.2	2	55	84.9	180	150	2-WAY	0.1	43	1, 2, 3, 4
1-23	TITUS	DESV	AHU-1	8	480	330	480	0.3	8.2	0.6	2	55	76.7	180	150	3-WAY	0.2	47	1, 2, 3, 4
1-24	TITUS	DESV	AHU-1	16	1765	880	570	0.3	38.6	2.6	2	55	91.1	180	150	2-WAY	1.2	88	1, 2, 3, 4
1-25	TITUS	DESV	AHU-1	14	1200	680	360	0.3	20.0	1.4	2	55	82.2	180	150	2-WAY	0.4	81	1, 2, 3, 4
1-26	TITUS	DESV	AHU-1	10	570	N/A	175	0.3	-	-	-	-	-	-	-	-	53	1, 3, 4	

NOTE:
1. PROVIDE CONTROL MODULE FOR BMS (HONEYWELL CONTROLS). SEE PLANS FOR LEFT/RIGHT SIDE (FIELD VERIFY).
2. PROVIDE ACCESS PANEL FOR RE-HEAT COILS.
3. CROSS-FLOW SENSORS (CONTROLS BY HONEYWELL, FIELD INSTALLED).
4. 120 VOLT POWER TO EACH BOX BY DIV. 26

AHU-2 VAV BOX SCHEDULE

VAV 2-__	MANUF.	MODEL	SERVED BY	INLET SIZE	MAX. COOLING CFM	MAX. HEATING CFM	MIN. CFM	MAX APD (IN.WG.)	HOT WATER REHEAT COIL								OPERATING WEIGHT LBS.	REMARKS
									MBH	GPM	COIL ROWS	EAT (°F)	LAT (°F)	EWT (°F)	LWT (°F)	VALVE TYPE	CV	
2-1	TITUS	DESV	AHU-2	6	120	60	35	0.35	2.5	0.2	2	55	86.9	180	150	2-WAY	0.1	43	1, 2, 3, 4
2-2	TITUS	DESV	AHU-2	8	350	175	90	0.35	6.3	0.5	2	55	88.4	180	150	2-WAY	0.2	47	1, 2, 3, 4
2-3	TITUS	DESV	AHU-2	6	260	130	110	0.35	4.1	0.3	2	55	76.7	180	150	2-WAY	0.1	43	1, 2, 3, 4
2-4	TITUS	DESV	AHU-2	10	430	215	140	0.35	5.7	0.4	2	55	76.6	180	150	2-WAY	0.2	53	1, 2, 3, 4
2-5	TITUS	DESV	AHU-2	10	545	270	140	0.35	10.3	0.7	2	55	82.3	180	150	2-WAY	0.3	53	1, 2, 3, 4
2-6	TITUS	DESV	AHU-2	12	900	450	380	0.35	12.3	0.82	2	55	76.1	180	150	2-WAY	0.3	62	1, 2, 3, 4
2-7	TITUS	DESV	AHU-2	8	350	350	350	0.35	9.8	0.65	2	55	73.7	180	150	2-WAY	0.3	47	1, 2, 3, 4
2-8	TITUS	DESV	AHU-2	8	330	165	90	0.35	6.3	0.5	2	55	90.7	180	150	2-WAY	0.3	47	1, 2, 3, 4
2-9	TITUS	DESV	AHU-2	6	285	140	80	0.35	6.2	0.42	2	55	85.1	180	150	2-WAY	0.2	43	1, 2, 3, 4
2-10	TITUS	DESV	AHU-2	8	450	225	130	0.35	10.8	0.73	2	55	95.4	180	150	2-WAY	0.3	47	1, 2, 3, 4
2-11	TITUS	DESV	AHU-2	12	1050	530	315	0.35	25.5	1.6	2	55	95.9	180	150	2-WAY	0.8	62	1, 2, 3, 4
2-12	TITUS	DESV	AHU-2	12	1080	540	300	0.35	13.8	0.92	2	55	76.5	180	150	2-WAY	0.3	62	1, 2, 3, 4
2-13	TITUS	DESV	AHU-2	10	560	280	165	0.35	10.1	0.81	2	55	76.3	180	150	2-WAY	0.2	53	1, 2, 3, 4
2-14	TITUS	DESV	AHU-2	12	790	395	225	0.35	10.7	0.72	2	55	73.5	180	150	2-WAY	0.2	62	1, 2, 3, 4
2-15	TITUS	DESV	AHU-2	8	420	210	130	0.35	5.4	0.4	2	55	78.8	180	150	2-WAY	0.2	47	1, 2, 3, 4
2-16	TITUS	DESV	AHU-2	10	810	400	230	0.35	12.5	0.9	2	55	83.8	180	150	2-WAY	0.4	53	1, 2, 3, 4
2-17	TITUS	DESV	AHU-2	12	1080	540	300	0.35	17.1	1.2	2	55	78.7	180	150	2-WAY	0.4	62	1, 2, 3, 4
2-18	TITUS	DESV	AHU-2	10	575	285	150	0.35	6.8	0.45	2	55	77.1	180	150	2-WAY	0.2	53	1, 2, 3, 4
2-19	TITUS	DESV	AHU-2	6	165	80	55	0.35	2.7	0.3	2	55	86.6	180	150	2-WAY	0.1	43	1, 2, 3, 4
2-20	TITUS	DESV	AHU-2	10	645	320	180	0.35	9.7	0.7	2	55	81.2	180	150	2-WAY	0.3	53	1, 2, 3, 4
2-21	TITUS	DESV	AHU-2	14	1200	600	325	0.35	15.7	1.1	2	55	79.2	180	150	2-WAY	0.5	81	1, 2, 3, 4
2-22	TITUS	DESV	AHU-2	10	720	360	220	0.35	10.6	0.72	2	55	78.2	180	150	2-WAY	0.3	53	1, 2, 3, 4

NOTE:
1. PROVIDE CONTROL MODULE FOR BMS (HONEYWELL CONTROLS). SEE PLANS FOR LEFT/RIGHT SIDE (FIELD VERIFY).
2. PROVIDE ACCESS PANEL FOR RE-HEAT COILS.
3. CROSS-FLOW SENSORS (CONTROLS BY HONEYWELL, FIELD INSTALLED).
4. 120 VOLT POWER TO EACH BOX BY DIV. 26

LPAS

2484 Natomas Park Drive Suite 100 Sacramento CA 95833
916 443 0335 lpasdesign.com **Architecture + Design**

COSUMNES RIVER COLLEGE

COLLEGE CENTER EXPANSION

8401 CENTER PARKWAY, SACRAMENTO, CA 95823

NO.	ISSUE	DATE
2	ADDENDUM # 2	4/12/18
1	ADDENDUM # 1	3/20/18

LICENSED ARCHITECT
TROY PENNINGTON
C-31285
5-31-19
RENEWAL DATE
STATE OF CALIFORNIA

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
02-115990
AC_____ FLS_____ SS_____
DATE _____

ARCHITECT'S STAMP APPROVAL

CONSULTANT

TURLEY & ASSOCIATES MECHANICAL ENGINEERING GROUP INC
2431 CAPITOL AVENUE
Sacramento, CA 95816
(916) 325-1065
FAX: (916) 325-1075
Email: office@turleymech.com

Project Engineer:	BP	Job Number:	15247
Project Manager:	NS	Plot Date:	
Project Drafter:	WR	Login:	

REGISTERED PROFESSIONAL ENGINEER
BRYAN J. PRIDEMORE
No. M030646
Exp. 12/31/18
MECHANICAL
STATE OF CALIFORNIA

MECHANICAL NOTES, LEGEND & SCHEDULES

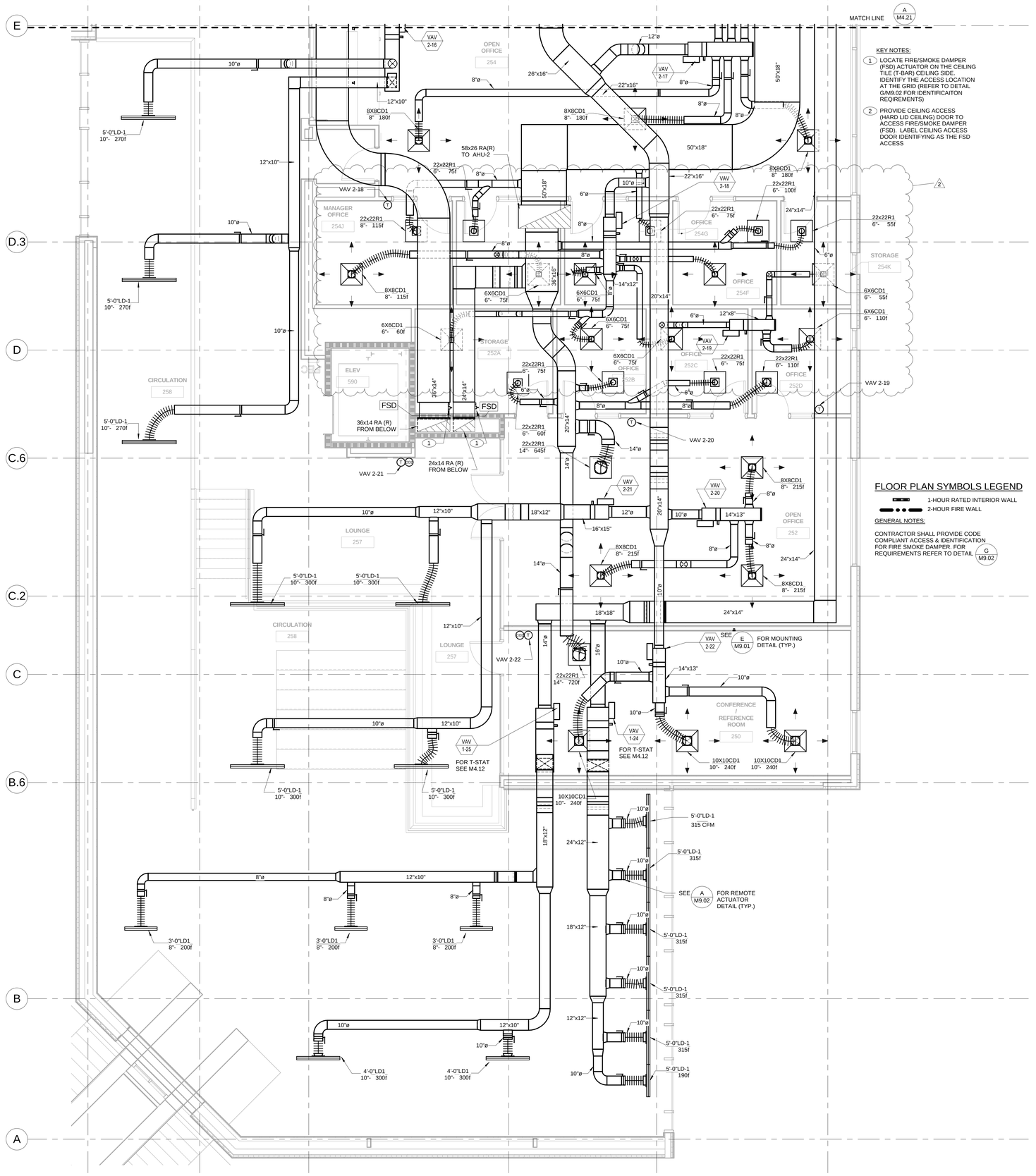
PROJECT NO: 201-0065

DATE: 01.19.2018

SHEET NO:

M0.02

DSA RESUBMITTAL II



1 ENLARGED MECHANICAL SECOND FLOOR PLAN
1/4" = 1'-0"

KEY NOTES:

1. LOCATE FIRE/SMOKE DAMPER (FSD) ACTUATOR ON THE CEILING TILE (T-BAR) CEILING SIDE. IDENTIFY THE ACCESS LOCATION AT THE GRID (REFER TO DETAIL G/M9.02 FOR IDENTIFICAITON REQIREMENTS)
2. PROVIDE CEILING ACCESS (HARD LID CEILING) DOOR TO ACCESS FIRE/SMOKE DAMPER (FSD). LABEL CEILING ACCESS DOOR IDENTIFYING AS THE FSD ACCESS

FLOOR PLAN SYMBOLS LEGEND

1-HOUR RATED INTERIOR WALL
2-HOUR FIRE WALL

GENERAL NOTES:

CONTRACTOR SHALL PROVIDE CODE COMPLIANT ACCESS & IDENTIFICATION FOR FIRE SMOKE DAMPER. FOR REQUIREMENTS REFER TO DETAIL G M9.02

LPAS
2484 Natomas Park Drive Suite 100 Sacramento CA 95833
916 443 0335 lpasdesign.com **Architecture + Design**

COSUMNES RIVER COLLEGE

COLLEGE CENTER EXPANSION

8401 CENTER PARKWAY, SACRAMENTO, CA 95823

NO.	ISSUE	DATE
2	ADDENDUM # 2	4/12/18

KEY PLAN

LICENSED ARCHITECT
TROY PENNINGTON
C-31285
5-31-19
RENEWAL DATE
STATE OF CALIFORNIA

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
02-115990
AC ____ FLS ____ SS ____
DATE ____

ARCHITECT'S STAMP APPROVAL

CONSULTANT

TURLEY & ASSOCIATES
MECHANICAL ENGINEERING GROUP, INC.
2421 CAPITOL AVENUE
Sacramento, CA 95816
(916) 325-1065
FAX: (916) 325-1075
Email: office@turleymech.com

Project Engineer:	BP	Job Number:	15247
Project Manager:	NS	Plot Date:	
Project Drafter:	WR	Logo:	

REGISTERED PROFESSIONAL ENGINEER
BRIAN J. PRINCEVALLE
No. M33044
Exp. 12/31/19
MECHANICAL
STATE OF CALIFORNIA

PARTIAL ENLARGED SECOND FLOOR PLAN

PROJECT NO: 201-0065

DATE: 01.19.2018

SHEET NO:

M4.22

DSA RESUBMITTAL II

ELECTRICAL SYMBOL LEGEND

ALL SYMBOLS SHOWN IN THIS LEGEND ARE NOT NECESSARILY USED ON PLANS IF NOT REQUIRED.

SYMBOL	DESCRIPTION
	LIGHTING
	LED LUMINAIRE – T–BAR LAY–IN
	LED LUMINAIRE – RECESSED IN GYPBOARD
	LED LUMINAIRE – SURFACE LED LUMINAIRE – SUSPENDED
	LED DIRECT/INDIRECT LUMINAIRE – T–BAR LAY–IN
	LED DIRECT/INDIRECT LUMINAIRE – RECESSED IN GYPBOARD
	LED STRIP LIGHT – SURFACE OR SUSPENDED
	DOWNLIGHT LUMINAIRE – RECESSED
	WALLWASH LUMINAIRE – RECESSED
	LUMINAIRE – SURFACE
	LUMINAIRE – WALL
	LUMINAIRE – PENDANT
	TRACK LIGHT – SUSPENDED OR SURFACE MOUNTED
	CONTINUOUS LINEAR LED TAPE OR LED COVE LIGHT
EM EM EM	HATCHED LUMINAIRE WITH "EM" ABBREVIATION INDICATES AN EMERGENCY LUMINAIRE WITH EMERGENCY POWER CONNECTION (UNSWITCHED).
	SINGLE FACE EXIT SIGN. SEE LIGHTING FIXTURE SCHEDULE FOR SPECIFICATION. DIRECTIONAL ARROW AS INDICATED ON PLANS. (CEILING OR WALL)
	DOUBLE FACE EXIT SIGN. SEE LIGHTING FIXTURE SCHEDULE FOR SPECIFICATION. DIRECTIONAL ARROW AS INDICATED ON PLANS. (CEILING OR WALL)
	COMBINATION EMERGENCY EXIT SIGN WITH DUAL HEAD LIGHTS WITH EMERGENCY BATTERY BACK–UP.
	BATTERY POWERED EMERGENCY EGRESS LUMINAIRE – SURFACE MOUNTED
	SPOT/FLOOD LUMINAIRE – CEILING
	SPOT/FLOOD LUMINAIRE – ABOVE GROUND
	EXTERIOR POLE FIXTURE – SINGLE HEAD
	EXTERIOR POLE FIXTURE – TWIN HEAD
	EXTERIOR PATHWAY POLE FIXTURE
	BOLLARD FIXTURE
	STEP LUMINAIRE
	LIGHTING CONTROLS
$	SINGLE POLE TOGGLE SWITCH, 20A, 120–277V @ +46" TO TOP OF BOX, UNO.
$3	THREE WAY TOGGLE SWITCH 20A,120–277V @ +46" TO TOP OF BOX, UNO.
$a,b,c	SUBSCRIPTS "a,b,c" DESIGNATE THE QUANTITY OF SWITCHES AT EACH LOCATION (TYPICAL FOR ALL SWITCH TYPES).
$T	THERMAL OVERLOAD SWITCH
$M	MOTOR RATED SWITCH
$K	SINGLE POLE KEYED TOGGLE SWITCH 20A, 120–277 @ +46" TO TOP OF BOX, UNO.
	PUSH BUTTON
	WALL MOUNTED ROCKER SWITCH
	WALL MOUNTED DIMMER SWITCH
DCM	WALL MOUNTED DIGITAL DIMMER CONTROL
OS	WALL SWITCH OCCUPANCY SENSOR
OS	PIR WALL SWITCH OCCUPANCY SENSOR
OS	DUAL TECH WALL OCCUPANCY SENSOR
DCR	DIGITAL WALL CONTROL (OVERRIDE SWITCH). RUN CABLING BACK TO LIGHTING CONTROL PANEL.
	CORNER MOUNT MOTION SENSOR. DUAL TECHNOLOGY, PIR OR ULTRASONIC
	CEILING MOTION SENSOR. DUAL TECHNOLOGY PIR & ULTRASONIC
	PIR DIGITAL CORNER SENSOR
	DUAL TECH DIGITAL CORNER SENSOR
	ULTRASONIC DIGITAL CEILING SENSOR
PC	PHOTO SENSOR
OS	SKYLIGHT PHOTOCONTROL SENSOR
OS	OPEN LOOP PHOTOCONTROL SENSOR
OC	CLOSED LOOP PHOTOCONTROL SENSOR
	CEILING EXHAUST FAN
	POWER
	MAIN SWITCHBOARD OR DISTRIBUTION PANEL,AS NOTED
	RECESSED MOUNTED LIGHTING OR DISTRIBUTION PANEL
	SURFACE MOUNTED LIGHTING OR DISTRIBUTION PANEL
	RECESSED TERMINAL CABINET w/ ¾"C PLYWOOD BACKBOARD, DUPLEX RECEPTACLE & #6 CU GND, UON.
	SURFACE MOUNTED TERMINAL CABINET w/ ¾"C PLYWOOD BACKBOARD, DUPLEX RECEPTACLE & #6 CU GND, UON.
T	DISTRIBUTION TRANSFORMER, MOUNTING AND SIZE AS NOTED
	NON–FUSED DISCONNECT SWITCH
	ENCLOSED CIRCUIT BREAKER DISCONNECT SWITCH
	FUSED DISCONNECT SWITCH; SIZE DISCONNECT AND FUSES PER UNIT LABEL
	NON–FUSED / FUSED DISCONNECT; SEE DISCONNECT SWITCH SCHEDULE
	MOTOR STARTER/CONTROLLER
	COMBINATION CIRCUIT BREAKER DISCONNECT/MOTOR STARTER.
	COMBINATION FUSIBLE DISCONNECT/MOTOR CONTROLLER; PROVIDE FUSES PER MANUFACTURERE'S REQUIREMENTS. N.F. INDICATES NON–FUSED.
	MOTOR
	POWER CONNECTION
	DUPLEX RECEPTACLE OUTLET 20A, 120V, @ +16" TO BOTTOM OF BOX, UNO.
	DUPLEX RECEPTACLE MOUNTED ABOVE COUNTER TOP, MAX +46" TO TOP OF BOX.
	ISOLATED GROUND DUPLEX RECEPTACLE, 20A, 120V @ +16" TO BOTTOM OF BOX, UNO.
	DEDICATED DUPLEX RECEPTACLE OUTLET 20A, 120V, @ +16" TO BOTTOM OF BOX, UNO.
	GFCI DUPLEX RECEPTACLE OUTLET 20A, 120V, @ +16" TO BOTTOM OF BOX, UNO.
	GFCI DUPLEX RECEPTACLE OUTLET MOUNTED ABOVE COUNTER TOP AND/OR SINK BACKSPLASH. MAX +46" TO TOP OF BOX.
	ISOLATED GROUND GFCI DUPLEX RECEPTACLE OUTLET 20A, 120V, @ +16" TO BOTTOM OF BOX, UNO.
	DEDICATED GFCI DUPLEX RECEPTACLE OUTLET 20A, 120V, @ +16" TO BOTTOM OF BOX, UNO
	FOURPLEX RECEPTACLE OUTLET 20A, 120V, @ +16" TO BOTTOM OF BOX, UNO.
	ISOLATED GROUNDED FOURPLEX RECEPTACLE 20A, 120V @ +16" TO BOTTOM OF BOX, UNO.
	DEDICATED FOURPLEX RECEPTACLE OUTLET 20A, 120V, @ +16" TO BOTTOM OF BOX, UNO.

SYMBOL	DESCRIPTION
	GFCI FOURPLEX RECEPTACLE OUTLET 20A, 120V, @ +16" TO BOTTOM OF BOX, UNO.
	GFCI FOURPLEX RECEPTACLE OUTLET MOUNTED ABOVE COUNTER TOP AND/OR SINK BACKSPLASH, MAX +46" TO TOP OF BOX.
	ISOLATED GROUND GFCI FOURPLEX RECEPTACLE OUTLET 20A, 120V, @ +16" TO BOTTOM OF BOX, UNO.
	DEDICATED GFCI FOURPLEX RECEPTACLE OUTLET 20A, 120V, @ +16" TO BOTTOM OF BOX, UNO
	CONTROLLED/UNCONTROLLED FOURPLEX RECEPTACLE
	SPECIAL RECEPTACLE OUTLET, SIZE AND NEMA CONFIGURATION AS NOTED, MOUNTED @ +16" TO BOTTOM OF BOX, UNO.
	FLOOR MOUNTED DUPLEX RECEPTACLE, 20A, 125V FLUSH IN FINISHED FLOOR (3)
	FLOOR MOUNTED FOURPLEX RECEPTACLE, 20A, 125V FLUSH IN FINISHED FLOOR
	CEILING MOUNTED DUPLEX RECEPTACLE, 20A, 125V
	CEILING MOUNTED FOURPLEX RECEPTACLE, 20A, 125V
	JUNCTION BOX – SIZE AS REQUIRED BY CODE. (WALL MOUNTED AND REGULAR) (3)
	JUNCTION BOX (FLOOR MOUNTED) – SIZE AS REQUIRED BY CODE.
	PLUGMOLD
	POWER POLE
	POWER AND TELEPHONE POKE THROUGH FOR PARTITION FURNITURE
	FLOOR MOUNTED COMBO DUPLEX RECEPTACLE / TWO (2) TELEPHONE/DATA JACKS U.O.N. (1) (3)
	FLOOR MOUNTED COMBO FOURPLEX RECEPTACLE / TWO (2) TELEPHONE/DATA JACKS U.O.N.
4	FLOOR MOUNTED COMBO FOURPLEX RECEPTACLE / (4) TELEPHONE/DATA JACKS
	FLOOR MOUNTED COMBO DUPLEX RECEPTACLE / AUDIO VISUAL BOX
	FLOOR MOUNTED COMBO DUPLEX RECEPTACLE / AUDIO VISUAL BOX / TWO (2) TELEPHONE/DATA JACKS U.O.N.
	FLOOR MOUNTED COMBO FOURPLEX RECEPTACLE / AUDIO VISUAL BOX / TWO (2) TELEPHONE/DATA JACKS U.O.N.
	FLOOR MOUNTED COMBO CONTROLLED/UNCONTROLLED FOURPLEX RECEPTACLE / AUDIO VISUAL BOX / TWO (2) TELEPHONE/DATA JACKS U.O.N.
	TELECOM
	TELEPHONE OUTLET, 4–11/16" SQ. x 2–1/8" DEEP BOX w/ SINGLE DEVICE RING & PLATE @ +16" TO BOTTOM OF BOX & ¾" CONDUIT STUB UP TO ACCESSIBLE CEILING SPACE, UNO (2)
	DATA OUTLET, 4–11/16" SQ. x 2–1/8" DEEP BOX w/ SINGLE DEVICE RING & PLATE @ +16" TO BOTTOM OF BOX & ¾" CONDUIT STUB UP TO ACCESSIBLE CLG SPACE, WITH TWO (2) DATA PORTS & TWO (2) LANMARK 1000 CAT 6 CABLES BACK TO 2ND FLOOR IDF (2)
	TELE/DATA OUTLET, 4–11/16" SQ. x 2–1/8" DEEP BOX w/ SINGLE DEVICE RING & PLATE @ +16" TO BOTTOM OF BOX & TWO (2) ¾" C. STUBS UP TO ACCESSIBLE CLG SPACE, W/ TWO (2) DATA PORTS & TWO (2) LANMARK 1000 CAT 6 CABLES BACK TO 2ND FLOOR IDF (2)
A	TELE/DATA OUTLET, 4–11/16" SQ. x 2–1/8" DEEP BOX w/ SINGLE DEVICE RING & PLATE ABOVE COUNTER AND (2) ¾" CONDUIT STUB UP TO ACCESSIBLE CLG SPACE, WITH TWO (2) DATA PORTS & TWO (2) LANMARK 1000 CAT 6 CABLES BACK TO 2ND FLOOR IDF. MAXIMUM +46" TO TOP OF BOX. (1)
	FLOOR MOUNTED DATA OUTLET, FLUSH IN FINISHED FLOOR – SIZE PER PLAN (2) (3)
	FLOOR MOUNTED TELEPHONE OUTLET, FLUSH IN FINISHED FLOOR – SIZE PER PLAN
	FLOOR MOUNTED TELEPHONE/DATA OUTLET, FLUSH IN FINISHED FLOOR – WITH TWO (2) DATA PORTS & TWO (2) LANMARK 1000 CAT 6 CABLES BACK TO 2ND FLOOR IDF (1) (3)
	CEILING MOUNTED DATA OUTLET, 4" SQ. BOX WITH SINGLE DEVICE RING & PLATE (2)
WAP	WIRELESS ACCESS POINT, WITH TWO (2) CAT 6A XTP CABLES PER WAP. WAP SUPPLIED BY OWNER, CONTRACTOR INSTALLED, AND CONFIGURED BY THE DISTRICT.
	TELEPHONE TERMINAL BACKBOARD
	COAXIAL CABLE OUTLET
	CLOCK
	INTERCOM SPEAKER AND CLOCK COMBINATION
S	CEILING MOUNTED SPEAKER
S	WALL MOUNTED SPEAKER
	SURVEILLANCE CAMERAS
	360 DEGREES CAMERA
	FIXED POSITION CAMERA
WP	WEATHERPROOF FIXED POSITION CAMERA
	ACCESS CONTROL
CR	CARD READER
EL	ELECTRONIC LOCK
	INTRUSION ALARM
KP	KEYPAD
	WALL/CEILING MOUNTED FIXED POSITION INTRUSION SENSOR
	CEILING MOUNTED 360 DEGREES INTRUSION SENSOR
	DOOR CONTACT
	GLASS BREAK
	POPPIT

SYMBOL	DESCRIPTION
	CIRCUITS
	ARROW
	STUB
	STUB AND ARROW
	CONTINUATION
	CONDUIT RISER – UP
	CONDUIT DROP – DOWN
	CONDUIT CONCEALED IN CEILING OR WALL.
	CONDUIT CONCEALED IN FLOOR OR UNDERGROUND
	EXISTING CONDUIT TO REMAIN.
	CONDUIT & CONDUCTORS FOR LOW VOLTAGE MOTION SENSORS
	EXISTING CONDUIT AND/OR CONDUCTORS TO BE REMOVED. UNDERGROUND CONDUIT MAY BE ABANDONED IN PLACE.
	HOMERUN TO PANELBOARD OR TERMINAL CABINET w/ CONDUCTORS AS NOTED
#	CIRCUIT CONDUTORS: LONG DASH INDICATES NEUTRAL CONDUCTOR; SHORT DASHES INDICATE PHASE CONDUCTORS; CURVED DASH INDICATES EQUIPMENT GROUNDING CONDUCTOR; ADDITIONAL CURVED DASH INDICATES ISOLATED GROUNDING CONDUCTOR. NUMBER BY DASHES INDICATE WIRE GAUGE OTHER THAN 12 AWG CU. NO DASHES INDICATE 2#12 CU, 1#12 CU GND, IN ½" CONDUIT. OTHERS AS NOTED ON PLAN.
	FLEXIBLE CONDUIT, 6'–0" LONG MAX. w/ #12 CU GROUND UON.
	TAGS AND LEADERS
	BRACKET
	LEADERS
X	KEY NOTE SHOWN ON SAME SHEET
X	LIGHT FIXTURE TAG
X	FEEDER DESIGNATION TAG
X	KITCHEN EQUIPMENT DESIGNATION TAG
X Ex.1	DETAIL DESIGNATION: TOP LETTER INDICATES DETAIL, BOTTOM LETTER/NUMBER INDICATES SHEET
REF Y	MECHANICAL EQUIPMENT I.D. TAG – MP&S
	ONE LINE DIAGRAM
(N) PANEL "A" 100A	PANEL IDENTIFICATION
100A 3P	CIRCUIT BREAKER
100A 3P	FUSED SWITCH
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
	GROUND
	UNDERGROUND TERMINATION SERVICE LUG
M	UTILITY METER
M	UTILITY METER WITH C.T. COMPARTMENT METER SOCKET
	TRANSFORMER WITH GROUND
	UFER GROUND
	BOND TO COLD WATER PIPE, GAS PIPE, BUILDING STEEL
	AUTOMATIC TRANSFER SWITCH
	NEUTRAL LINK
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSION

EQUIPMENT ANCHORAGE NOTES

ALL MECHANICAL, PLUMBING, AND ELECTRICAL COMPONENTS SHALL BE ANCHORED AND INSTALLED PER THE DETAILS ON THE DSA APPROVED CONSTRUCTION DOCUMENTS. WHERE NO DETAIL IS INDICATED, THE FOLLOWING COMPONENTS SHALL BE ANCHORED OR BRACED TO MEET THE FORCE AND DISPLACEMENT REQUIREMENTS PRESCRIBED IN THE 2016 CBC, SECTIONS 1616A.1.18 THROUGH 1616A.1.26 AND ASCE 7–10 CHAPTER 13, 26 AND 30.

1. ALL PERMANENT EQUIPMENT AND COMPONENTS.
2. TEMPORARY OR MOVABLE EQUIPMENT THAT IS PERMANENTLY ATTACHED (E.G. HARD WIRED) TO THE BUILDING UTILITY SERVICES SUCH AS ELECTRICITY, GAS OR WATER.
3. MOVABLE EQUIPMENT WHICH IS STATIONED IN ONE PLACE FOR MORE THAN 8 HOURS AND HEAVIER THAN 400 POUNDS OR HAS A CENTER OF MASS LOCATED 4 FEET OR MORE ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT ARE REQUIRED TO BE ANCHORED WITH TEMPORARY ATTACHMENTS.

THE FOLLOWING MECHANICAL AND ELECTRICAL COMPONENTS SHALL BE POSITIVELY ATTACHED TO THE STRUCTURE, BUT THE ATTACHMENT NEED NOT BE DETAILED ON THE PLANS. THESE COMPONENTS SHALL HAVE FLEXIBLE CONNECTIONS PROVIDED BETWEEN THE COMPONENT AND ASSOCIATED DUCTWORK, PIPING, AND CONDUIT.

A. COMPONENTS WEIGHING LESS THAN 400 POUNDS AND HAVE A CENTER OF MASS LOCATED 4 FEET OR LESS ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT.
B. COMPONENTS WEIGHING LESS THAN 20 POUNDS, OR IN THE CASE OF DISTRIBUTED SYSTEMS, LESS THAN 5 POUNDS PER FOOT, WHICH ARE SUSPENDED FROM A ROOF OR FLOOR OR HUNG FROM A WALL.

FOR THOSE ELEMENTS THAT DO NOT REQUIRE DETAILS ON THE APPROVED DRAWINGS, THE INSTALLATION SHALL BE SUBJECT TO THE APPROVAL OF THE DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE CHARGE OR STRUCTURAL ENGINEER DELEGATED RESPONSIBILITY AND THE DSA DISTRICT STRUCTURAL ENGINEER. THE PROJECT INSPECTOR WILL VERIFY THAT ALL COMPONENTS AND EQUIPMENT HAVE BEEN ANCHORED IN ACCORDANCE WITH ABOVE REQUIREMENTS.

PIPING AND DUCTWORK DISTRIBUTION SYSTEM BRACING NOTES

PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEMS SHALL BE BRACED TO COMPLY WITH THE FORCES AND DISPLACEMENTS PRESCRIBED IN ASCE 7–10 SECTION 13.3 AS DEFINED IN ASCE 7–10 SECTION 13.6.5.6, 13.6.7, 13.6.8, AND 2016 CBC, SECTIONS 1616A.1.24, 1616A.1.25 AND 1616A.1.26.

THE METHOD OF SHOWING BRACING AND ATTACHMENT TO THE STRUCTURE FOR THE IDENTIFIED DISTRIBUTION SYSTEM ARE AS NOTED BELOW. WHEN BRACING AND ATTACHMENTS ARE BASED ON A PRE–APPROVED INSTALLATION GUIDE (E.G., SMACNA OR OSHPD OPM), COPIES OF THE BRACING SYSTEM INSTALLATION GUIDE OR MANUAL SHALL BE AVAILABLE ON THE JOBSITE PRIOR TO THE START OF AND DURING THE HANGING AND BRACING OF THE DISTRIBUTION SYSTEMS. THE STRUCTURAL ENGINEER OF RECORD SHALL VERIFY THE ADEQUACY OF THE STRUCTURE TO SUPPORT THE HANGER AND BRACE LOADS.

MECHANICAL PIPING (MP), MECHANICAL DUCTS (MD), PLUMBING PIPING (PP), ELECTRICAL DISTRIBUTION SYSTEMS (E):

MP MD PP E
☐ ☐ ☐ ☒ OPTION 1: DETAILED ON THE APPROVED DRAWINGS WITH PROJECT SPECIFIC NOTES AND DETAILS.

MP MD PP E
☐ ☐ ☐ ☐ OPTION 2: SHALL COMPLY WITH THE APPLICABLE OSHPD PRE–APPROVAL (OPM#) #0043–13.

MP MD PP
☐ ☐ ☐ OPTION 3: SHALL COMPLY WITH THE SMACNA SEISMIC RESTRAINT MANUAL, OSHPD EDITION (2009), INCLUDING ANY ADDENDA. FASTENERS AND OTHER ATTACHMENTS NOT SPECIFICALLY IDENTIFIED IN THE SMACNA SEISMIC RESTRAINT MANUAL, OSPHD EDITION, ARE DETAILED ON THE APPROVED DRAWINGS WITH PROJECT SPECIFIC NOTES AND DETAILS. THE DETAILS SHALL ACCOUNT FOR THE APPLICABLE SEISMIC HAZARD LEVEL _____ AND CONNECTION LEVEL _____ FOR THE PROJECT AND CONDITIONS.

KEYNOTES

1. PROVIDE (3) CAT 6 CABLES FROM OUTLET TO DATA PATCH PANEL IN IT ROOM AT SECOND FLOOR UNO. SEE SPECIFICATIONS SECTION 271005, 2.9 TELECOMMUNICATIONS WORKSTATION OUTLETS FOR JACK DEVICES & COVER PLATES.
2. PROVIDE (1) CAT 6 CABLE FROM OUTLET TO DATA PATCH PANEL IN IT ROOM AT SECOND FLOOR UNO. SEE SPECIFICATIONS SECTION 271005, 2.9 TELECOMMUNICATIONS WORKSTATION OUTLETS FOR JACK DEVICES & COVER PLATES.
3. PROVIDE BRASS COVER PLATE FOR ALL FLOOR BOXES.

POKE–THRU LEGEND

ALL SYMBOLS SHOWN IN THIS LEGEND ARE NOT NECESSARILY USED ON PLANS IF NOT REQUIRED.

SYMBOL	DESCRIPTION
P1	POKE–THRU WITH ~~(1) 3/4" AND (1) 1 1/4" TRADE SIZE~~ CONDUIT ASSEMBLY (FLUSH FURNITURE FEED). WIREMOLD #4FFATC (ASSEMBLED UNIT). FINISH PER ARCHITECT.
P2	POKE–THRU WITH (2) DUPLEX RECEPTACLES AND (4) DATA PORTS. WIREMOLD # RC4ATCXX (ASSEMBLED UNIT), WIREMOLD # COM75 (COMMUNICATION ADAPTER – FOR TWO 3/4" TRADE SIZE CONDUIT CONNECTIONS). FINISH PER ARCHITECT.
P3	POKE–THRU WITH (1) DUPLEX RECEPTACLE. WIREMOLD # AV3ATCXX (ASSEMBLED UNIT). PROVIDE (1) HDMI (AUDIO/VIDEO) EXTRON # 70–617–12, (1) CAT. 6A RJ–45 (DATA) ORTRONICS # OR–TJS6A, AND (1) 3.5 MM STEREO MINI JACK TO CAPTIVE SCREW TERMINAL (AUDIO) EXTRON # 70–293–13. FINISH PER ARCHITECT.
P4	POKE–THRU WITH (1) DUPLEX RECEPTACLES AND (4) DATA PORTS. WIREMOLD # RC3ATCXX (ASSEMBLED UNIT), WIREMOLD # COM75 (COMMUNICATION ADAPTER – FOR TWO 3/4" TRADE SIZE CONDUIT CONNECTIONS). FINISH PER ARCHITECT.

LPAS

2484 Natomas Park Drive Suite 100 Sacramento CA 95833
916 443 0335 lpasdesign.com **Architecture + Design**

COSUMNES RIVER COLLEGE

COLLEGE CENTER EXPANSION

8401 CENTER PARKWAY, SACRAMENTO, CA 95823

NO.	ISSUE	DATE
1	ADDENDUM #1	03-29-18
2	ADDENDUM #2	04-13-18

LICENSED ARCHITECT
TROY PENNINGTON
C-31285
5-31-19
RENEW 6
STATE OF CALIFORNIA

FILE NO.43-C1

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
02-115990
AC_____ FLS _____ SS_____
DATE _____

ARCHITECT'S STAMP APPROVAL

CONSULTANT

LP CONSULTING ENGINEERS

MEP & FS / Sustainability / CxA

1209 Pleasant Grove Blvd.
Roseville, CA 95678
p 916-771-0778

www.lpengineers.com
Job #: 15-2266

REGISTERED PROFESSIONAL ENGINEER
SUDEEP T. PAUL
E 16243
EXP. 12-31-18
ELECTRICAL
STATE OF CALIFORNIA

SYMBOL LEGEND & CABLE SCHEDULE

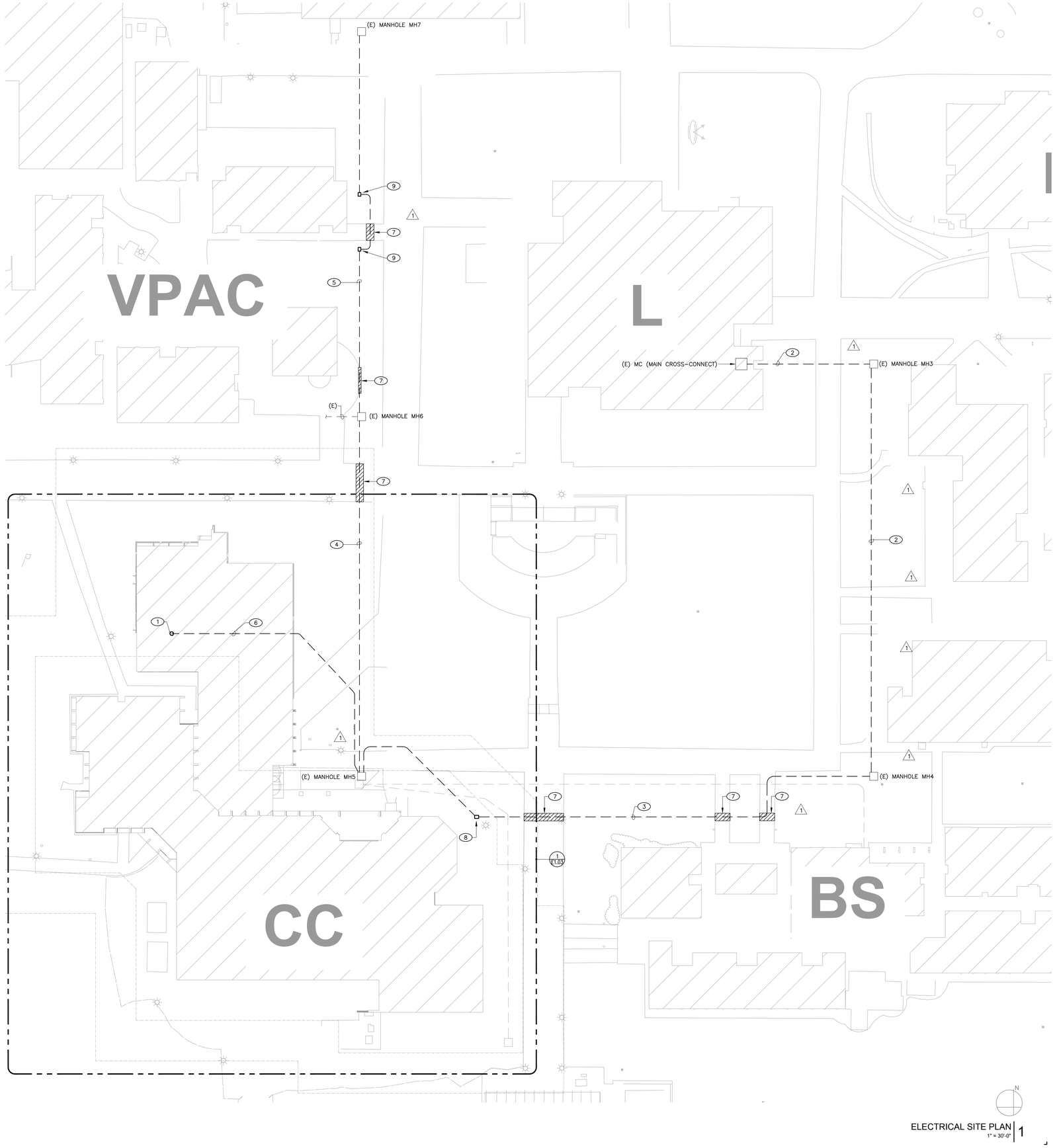
PROJECT NO: 201-0065
DATE: 01.19.2018

SHEET NO:

E0.02

DSA SUBMITTAL II

6/8/2017 7:46:09 AM



ELECTRICAL SITE PLAN
1" = 30'-0" | 1

KEY NOTES

1. PULL A BERK-TEK SINGLE-MODE, ARMORED, 96-STRAND, INDOOR/OUTDOOR FIBER OPTIC CABLE FROM CRC COLLEGE CENTER EXPANSION MPOE ROOM TO THE MAIN MC IN THE LIBRARY BUILDING, USING EXISTING AND NEW CONDUITS AS SPECIFIED IN THIS DRAWING.
2. INSTALL A (N) 96-STRAND SINGLE-MODE FIBER OPTIC CABLE IN (E) COMMUNICATION CONDUIT ALONG EXISTING PATHWAY.
3. PROVIDE TWO (2) 4"C, FROM THE EXISTING MANHOLE MH4 TO THE EXISTING MANHOLE MH5; ONE FOR (N) 96-STRAND SINGLE-MODE FIBER OPTIC CABLE.
4. PROVIDE TWO (2) 4"C TO THE EXISTING SIGNAL DUCT-BANK, FROM THE EXISTING MANHOLE MH5 TO THE EXISTING MANHOLE MH6 FOR COMMUNICATION SYSTEM.
5. PROVIDE ONE (1) 4"C TO THE EXISTING SIGNAL DUCT-BANK FROM THE EXISTING MANHOLE MH6 TO THE EXISTING MANHOLE MH7. (2)
6. PROVIDE THREE (3) 4"C TO THE EXISTING SIGNAL DUCT-BANK WITH 96-STRAND SINGLE MODE FIBER OPTIC CABLE IN (1) 4"C. FROM THE EXISTING MANHOLE MH5 TO CRC COLLEGE CENTER EXPANSION MPOE ROOM. (1)
7. SAW CUT THROUGH (E) HARDSCAPE WHERE REQUIRED. RESTORE AREAS DISTURBED BACK TO ORIGINAL CONDITION.
8. 36" X 28" PULL BOX (LABEL "FIBER"). (1)
9. 32 X 24" PULL BOX (LABEL "FIBER").

GENERAL NOTES

1. ELECTRICAL CONTRACTOR TO NOT DAMAGE TREE ROOTS. RESTORE AREAS DISTURBED BACK TO ORIGINAL CONDITION.

LPAS
2484 Natomas Park Drive Suite 100 Sacramento CA 95833
916 443 0335 lpasdesign.com **Architecture + Design**

COSUMNES RIVER COLLEGE

COLLEGE CENTER EXPANSION

8401 CENTER PARKWAY, SACRAMENTO, CA 95823

NO.	ISSUE	DATE
1	ADDENDUM #1	03-29-18
2	ADDENDUM #2	04-13-18

FILE NO.43-C1

LICENSED ARCHITECT
TROY PENNINGTON
C-31285
5-31-19
RENEWAL DATE
STATE OF CALIFORNIA

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
02-115990
AC_____ FLS_____ SS_____
DATE _____

ARCHITECT'S STAMP APPROVAL

CONSULTANT

CONSULTING ENGINEERS
MEP & FS / Sustainability / CxA
1209 Pleasant Grove Blvd.
Roseville, CA 95678
p 916-771-0778
www.lpengineers.com
Job #: 15-2266

REGISTERED PROFESSIONAL ENGINEER
MICHAEL J. PETERSEN
E-16243
EXP. 12-31-18
ELECTRICAL
STATE OF CALIFORNIA

ELECTRICAL SITE PLAN

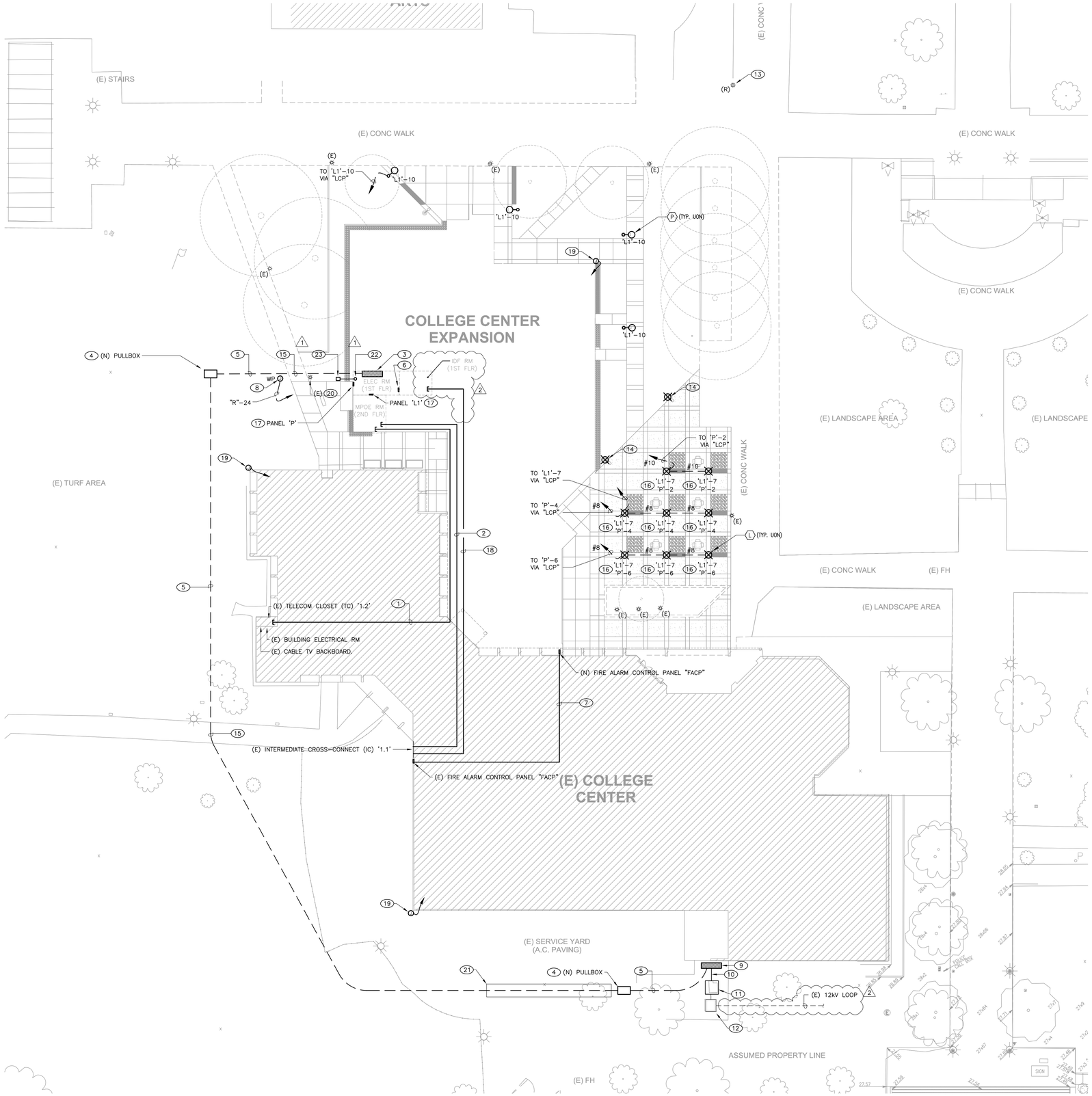
PROJECT NO: 201-0065
DATE: 01.19.2018

SHEET NO:

E1.02

DSA SUBMITTAL II

6/8/2017 7:46:09 AM



ELECTRICAL SITE PLAN | 1
1" = 20'-0"

KEY NOTES

1. PROVIDE AND INSTALL TWO (2) 2"EC FROM ELECTRICAL ROOM IN (E) BUILDING TO CRC COLLEGE CENTER EXPANSION MPOE RM FOR DATA ROUTED ABOVE CEILING. PROVIDE ONE (1) 2"C WITH 25PR CAT5E POWERSUM TIE CABLE + ONE (1) 24 STRAND SINGLE-MODE FIBER LC/LC FROM EXISTING TELECOM CLOSET 1.2 TO SECOND FLOOR MPOE RM ROUTED ABOVE CEILING. PROVIDE ONE (1) 2"EC FROM ELECTRICAL ROOM IN (E) BLD TO CRC COLLEGE CENTER EXPANSION MPOE ROOM FOR CABLE TV.
2. PROVIDE AND INSTALL ONE (1) 4"C + TWO (2) 2"C TO CRC COLLEGE CENTER EXPANSION MPOE ROOM ROUTED ABOVE CEILING.
3. (N) DISTRIBUTION PANEL "DP" IN FIRST FLOOR ELEC RM. REFER TO THE ONE LINE DIAGRAM ON SHEET E7.01 FOR MORE INFORMATION.
4. (N) 60"x60" ELECTRICAL PULLBOX.
5. (N) U/G FEEDER FROM "MSB" TO NEW DISTRIBUTION PANEL "DP". REFER TO THE ONE LINE DIAGRAM ON SHEET E7.01 FOR MORE INFORMATION. ALSO INCLUDE WITH THIS FEEDER A 3/4" CONDUIT WITH CAT6 FROM NEW SWITCHBOARD TO NEW MPOE IN NEW ADDITION FOR KW METER LOCATED IN NEW SWITCHBOARD. SEE KEY NOTE 12, SHEET E7.01. (2)
6. (N) LIGHTING CONTROL PANEL 'LCP'. LOCATED IN 1ST FLOOR ELECTRICAL ROOM.
7. INTERCONNECTION BETWEEN EXISTING FACP AND NEW FACP. SEE FIRE ALARM PLANS FOR MORE INFORMATION.
8. RELOCATED IRRIGATION CONTROLLER BY OTHERS. REFER TO LANDSCAPE DRAWINGS FOR EXACT LOCATION.
9. (E) 2000 AMP SWITCHBOARD; REPLACE WITH A NEW 3000A MAIN SWITCHBOARD, "MSB". VERIFY AVAILABLE SPACE FOR THE SWITCHBOARD BEFORE ORDERING. REFER TO THE ONE LINE DIAGRAM ON SHEET E7.01 FOR MORE INFORMATION.
10. (N) SECONDARY CONDUCTORS. SEE ONE LINE DIAGRAM FOR MORE INFORMATION.
11. (E) 500kVA, 12/0.208kV PAD MOUNTED TRANSFORMER; REPLACE WITH A 1000kVA, 12/0.208kV PAD MOUNTED TRANSFORMER.
12. (E) 12kV SWITCHGEAR. REFER TO THE ONE LINE DIAGRAM ON SHEET E7.01 FOR MORE INFORMATION.
13. RELOCATE EXISTING LIGHT FIXTURE HERE PER KEY NOTE 6 SHEET ED1.01. COORDINATE EXACT LOCATION WITH ARCHITECTURAL DRAWINGS. (1)
14. CONNECT (N) LIGHT FIXTURE USING EXISTING CIRCUITS PER SHEET ED1.01.
15. (N) UNDERGROUND FEEDER, BORE DRILL UNDER EXISTING WALKWAY.
16. PROVIDE 120V CIRCUIT FROM LIGHTING PANEL 'L1' TO POWER BOLLARD LIGHT. PROVIDE 120V CIRCUIT FROM POWER PANEL 'P' TO SUPPLY POWER FOR RECEPTACLE AND USB CHARGING STATION. ROUTE BOTH LIGHTING CIRCUIT AND POWER CIRCUIT THROUGH LIGHTING CONTROL PANEL 'LCP'. POWER/CHARGING CIRCUIT TO BOLLARDS SHALL ONLY BE ENERGIZED DURING CAMPUS HOURS. POWER/CHARGING CIRCUIT SHALL BE TURNED OFF AFTER HOURS.
17. PANEL LOCATED IN FIRST FLOOR ELECTRICAL ROOM.
18. PROVIDE ONE (1) 2"C WITH 25 PAIR CAT 5E POWERSUM TIE CABLE TO FIRST FLOOR IDF ROOM.
19. FUTURE 270° CAMERA BY OWNER. CAMERA TO BE MOUNTED 12'-15' A.F.F. COORDINATE EXACT MOUNTING HEIGHT AND LOCATION WITH LOS RIOS COMMUNITY COLLEGE DISTRICT. PROVIDE 3/4"EC BACK TO SECOND FLOOR IDF ROOM.
20. RESET EXISTING POLE LIGHT AND UNDERGROUND PULL BOX PER DEMOLITION ELECTRICAL SITE PLAN, SHEET ED1.01, KEY NOTE 8. PROVIDE NEW POLE BASE AND UNDERGROUND PULL BOX AS REQUIRED (MATCH EXISTING) AND RECONNECT AS BEFORE.
21. COORDINATE THIS PORTION OF WORK WITH DISTRICT TO SCHEDULE FOR ALL REQUIRED TRUCK TRAFFIC AND OTHER REQUIRED TRAFFIC.
22. (1) STUB UP (2) 2"C.O. (SPARE), (2) 1"C.O. (SPARE), AND (1) 1"C.O. (SPARE FLAG POLE LIGHTING) FROM ELECTRICAL ROOM TO UNDERGROUND PULL BOX (SEE KEY NOTE 23).
23. (N) 22' X 18" ELECTRICAL PULL BOX.

GENERAL NOTES

1. ELECTRICAL CONTRACTOR TO NOT DAMAGE TREE ROOTS. RESTORE AREAS DISTURBED BACK TO ORIGINAL CONDITION.

LPAS
2484 Natomas Park Drive Suite 100 Sacramento CA 95833
916 443 0335 lpasdesign.com **Architecture + Design**

COSUMNES RIVER COLLEGE

COLLEGE CENTER EXPANSION

8401 CENTER PARKWAY, SACRAMENTO, CA 95823

NO.	ISSUE	DATE
1	ADDENDUM #1	03-29-18
2	ADDENDUM #2	04-13-18

FILE NO.43-C1

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
02-115990
AC._____ FLS _____ SS_____
DATE _____

LICENSED ARCHITECT
TROY PENNINGTON
C-31285
5-31-19
RENEWAL DATE
STATE OF CALIFORNIA

ARCHITECT'S STAMP APPROVAL

CONSULTANT

CONSULTING ENGINEERS
MEP & FS / Sustainability / CxA
1209 Pleasant Grove Blvd.
Roseville, CA 95678
p 916-771-0778
www.lpengineers.com
Job #: 15-2266

REGISTERED PROFESSIONAL ENGINEER
JAMES R. PARKER
E 16243
EXP. 12-31-18
ELECTRICAL
STATE OF CALIFORNIA

ENLARGED ELECTRICAL SITE PLAN

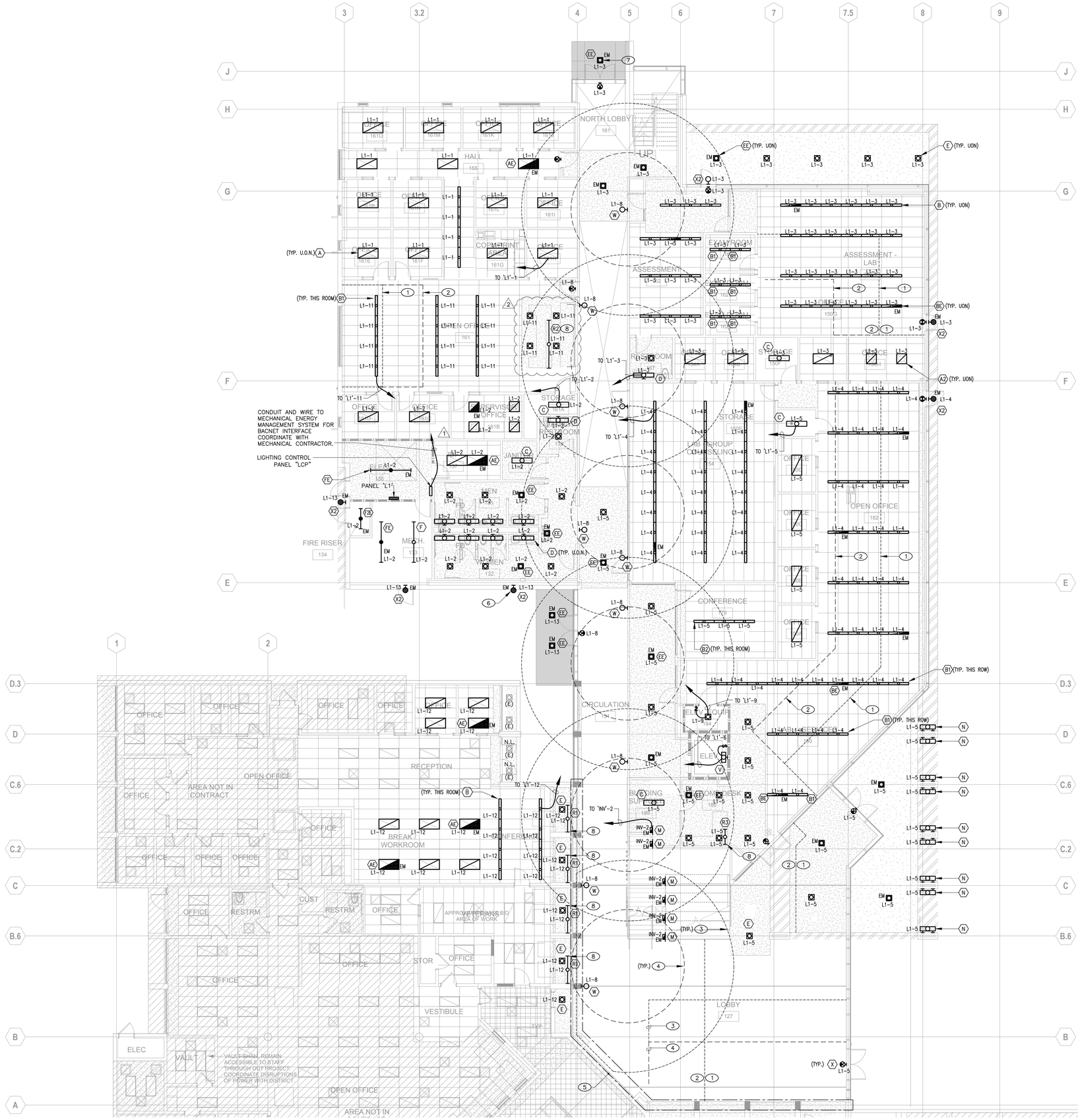
PROJECT NO: 201-0065
DATE: 01.19.2018

SHEET NO:

E1.03

DSA SUBMITTAL II

6/8/2017 7:46:09 AM



BASE BID - 1ST FLOOR LIGHTING PLAN
1/8" = 1'-0"

KEY NOTES

1. PRIMARY SIDELIT DAYLIT ZONE.
2. SECONDARY SIDELIT DAYLIT ZONE.
3. 1ST FLOOR SKYLIT DAYLIT ZONE FROM SKYLIGHTS IN 2ND FLOOR CEILING. DAYLIT ZONE ONLY APPLICABLE IN OPEN CIRCULATION AREA AND LOBBY. SKYLIGHTS ARE ADDITIONAL ALTERNATE #3.
4. 2ND FLOOR SKYLIT DAYLIT ZONE FROM SKYLIGHTS ABOVE. DAYLIT ZONE ONLY APPLICABLE IN OPEN CIRCULATION AREA AND LOBBY. SKYLIGHTS ARE ADDITIONAL ALTERNATE #3.
5. AREA OF BUILDING EXPANSION JOINT. PROVIDE CONDUIT SEISMIC JOINT WHEN PASSING THROUGH THIS LOCATION. SEE ARCHITECTURAL DRAWINGS. REFER TO "SEISMIC JOINT CONDUIT DETAIL" 9/E8.02.
6. MATCH MOUNTING HEIGHT WITH OTHER ABOVE-DOOR FIXTURE X2 ON THIS WALL.
7. THIS FIXTURE TO BE MOUNTED IN THE CENTER OF CANOPY. ADD ALT 4 CHANGES SIZE OF THIS CANOPY. THIS FIXTURE TO BE SHIFTED SLIGHTLY TO BE MOUNTED IN CENTER OF CANOPY FOR ADD ALT 4.
8. LED COVE LIGHT MOUNTED IN DESK CASEWORK. REFER TO ARCHITECTURAL CASEWORK DETAILS, SHEET A9.82, DETAILS C5 AND K5 FOR MORE INFORMATION.

GENERAL NOTES

1. PROVIDE NEW SWITCHPLATES, RECEPTACLE COVERPLATES, AND JUNCTION BOX COVERPLATES IN AREAS OF MODERNIZATION.
2. SEE SHEET E2.06 FOR LIGHT FIXTURE SCHEDULE.

LPAS
2484 Natomas Park Drive Suite 100 Sacramento CA 95833
916 443 0335 lpasdesign.com **Architecture + Design**

COSUMNES RIVER COLLEGE

COLLEGE CENTER EXPANSION

8401 CENTER PARKWAY, SACRAMENTO, CA 95823

NO.	ISSUE	DATE
1	ADDENDUM #1	03-29-18
2	ADDENDUM #2	04-13-18

FILE NO.43-C1

LICENSED ARCHITECT
TROY PENNINGTON
C-31285
5-31-19
RENEWAL DATE
STATE OF CALIFORNIA

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
02-115990
AC_____ FLS_____ SS_____
DATE _____

ARCHITECT'S STAMP

APPROVAL

CONSULTANT

LP CONSULTING ENGINEERS
MEP & FS / Sustainability / CxA
1209 Pleasant Grove Blvd.
Roseville, CA 95678
p 916-771-0778
www.lpengineers.com
Job #: 15-2266

REGISTERED PROFESSIONAL ENGINEER
JAMES T. PAPPAS
E 16243
EXP. 12-31-18
ELECTRICAL
STATE OF CALIFORNIA

1ST FLOOR LIGHTING PLAN

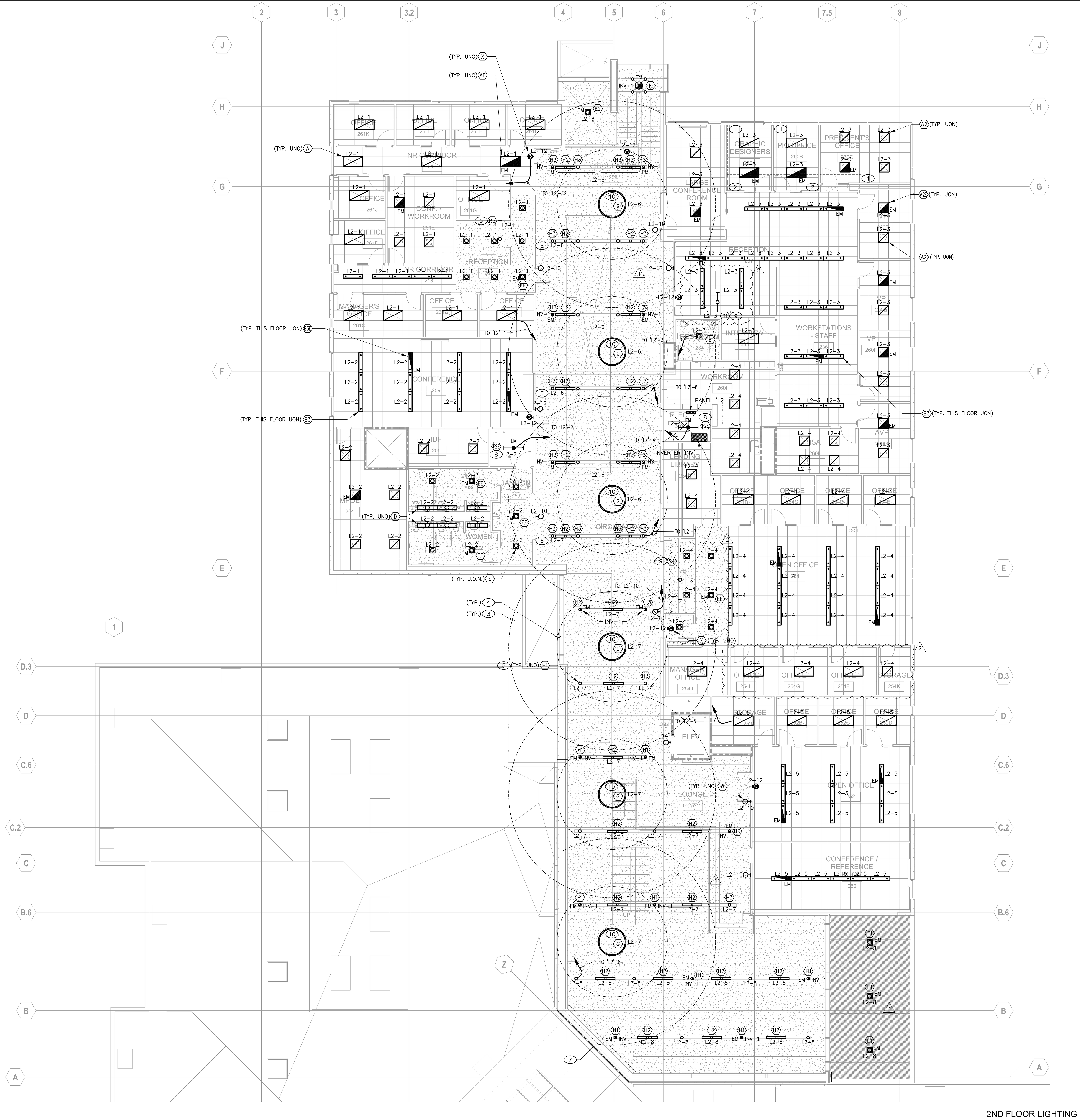
PROJECT NO: 201-0065
DATE: 01.19.2018

SHEET NO:

E2.01A

DSA SUBMITTAL II

6/8/2017 7:46:09 AM



KEY NOTES

1. PRIMARY SIDELIT DAYLIT ZONE.
2. SECONDARY SIDELIT DAYLIT ZONE.
3. 1ST FLOOR SKYLIT DAYLIT ZONE FROM SKYLIGHTS IN 2ND FLOOR CEILING. DAYLIT ZONE ONLY APPLICABLE IN OPEN CIRCULATION AREA AND LOBBY. SKYLIGHTS ARE PART OF ADDITIONAL ALTERNATE #3.
4. 2ND FLOOR SKYLIT DAYLIT ZONE FROM SKYLIGHTS ABOVE. DAYLIT ZONE ONLY APPLICABLE IN OPEN CIRCULATION AREA AND LOBBY. SKYLIGHTS ARE PART OF ADDITIONAL ALTERNATE #3.
5. DOWNLIGHT RECESSED IN MULTI–DISCIPLINE RECESSED TRACK, TYPICAL.
6. TYPICAL, THIS ROW.
7. AREA OF BUILDING EXPANSION JOINT. PROVIDE CONDUIT SEISMIC JOINT WHEN PASSING THROUGH THIS LOCATION. SEE ARCHITECTURAL DRAWINGS. REFER TO "SEISMIC JOINT CONDUIT DETAIL" 9/E8.02.
8. SPECIFY "AYC–CHAIN/SET" ACCESSORY FOR FIXTURE TYPE F2E IN THIS ROOM.
9. LED COVE LIGHT MOUNTED IN DESK CASEWORK. REFER TO ARCHITECTURAL CASEWORK DETAILS, SHEET A9.82 FOR MORE INFORMATION.
10. LED FIXTURE IS PART OF ADDITIONAL ALTERNATE #3.

GENERAL NOTES

1. SEE SHEET E2.06 FOR LIGHT FIXTURE SCHEDULE.

LPAS

2484 Natomas Park Drive Suite 100 Sacramento CA 95833
916 443 0335 lpasdesign.com Architecture + Design

COSUMNES RIVER COLLEGE

COLLEGE CENTER EXPANSION

8401 CENTER PARKWAY, SACRAMENTO, CA 95823

NO.	ISSUE	DATE
1	ADDENDUM #1	03-29-18
2	ADDENDUM #2	04-13-18

FILE NO.43-C1

LICENSED ARCHITECT
TROY PENNINGTON
C-31285
5-31-19
RENEWAL DATE
STATE OF CALIFORNIA

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
02-115990
AC____ FLS ____ SS____
DATE ____

ARCHITECT'S STAMP APPROVAL

CONSULTANT

LP CONSULTING ENGINEERS
MEP & FS / Sustainability / CxA
1209 Pleasant Grove Blvd.
Roseville, CA 95678
p 916-771-0778
www.lpengineers.com
Job #: 15-2266

REGISTERED PROFESSIONAL ENGINEER
E 16243
EXP. 12-31-18
ELECTRICAL
STATE OF CALIFORNIA

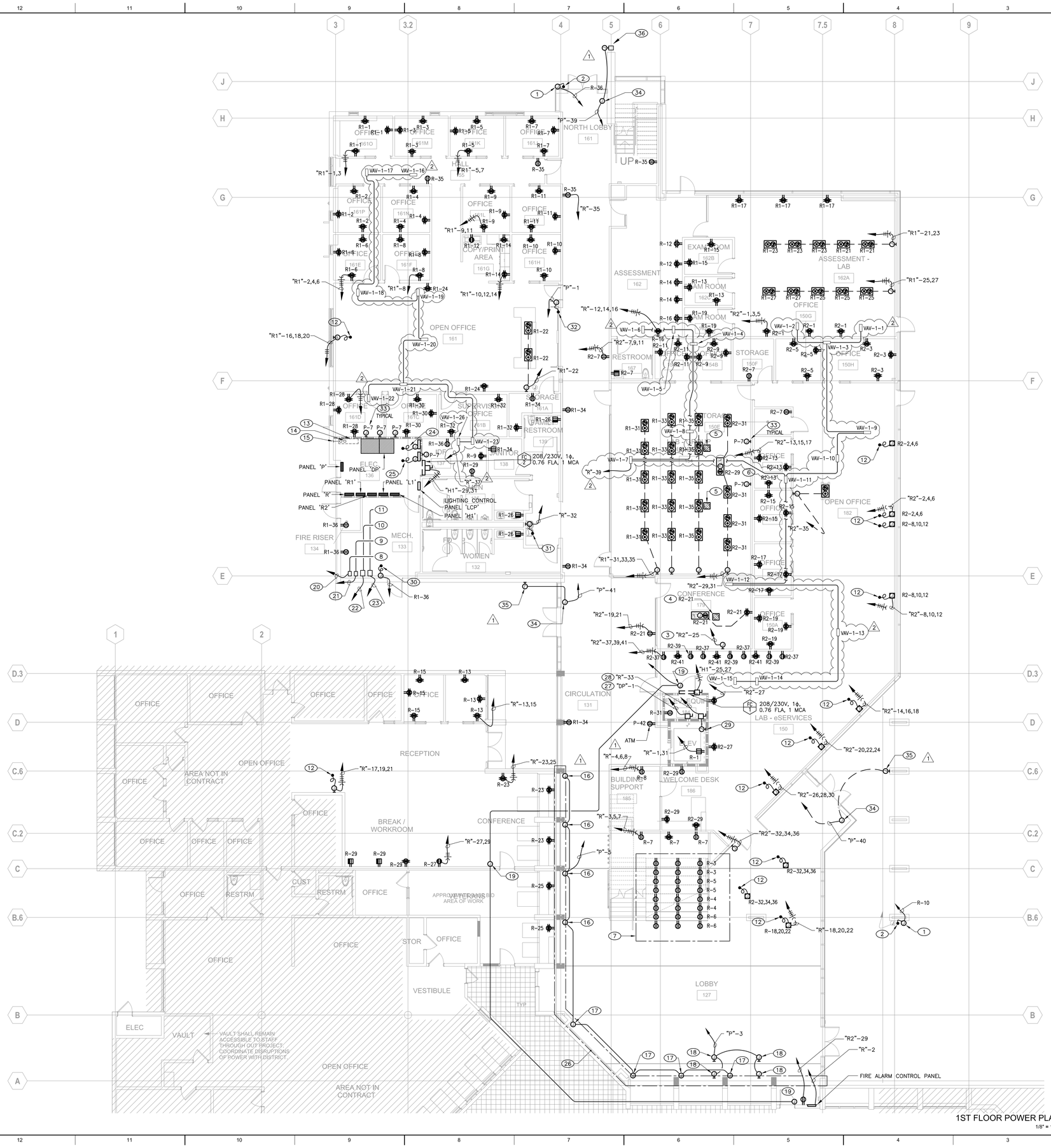
2ND FLOOR LIGHTING PLAN

PROJECT NO: 201-0065
DATE: 01.19.2018

SHEET NO:
E2.02

DSA SUBMITTAL II

6/8/2017 7:46:09 AM



1ST FLOOR POWER PLAN
1/8" = 1'-0"

KEY NOTES

1. EMERGENCY PHONE. VERIFY LOCATION WITH ARCHITECT. PROVIDE NECESSARY COMPONENTS AND CONNECTIONS FOR A COMPLETE AND OPERABLE SYSTEM. PROVIDE LIGHTNING SURGE PROTECTION MODULES AS FOLLOWS: PART # 25-175 SERIES (GAS TUBES PROTECTOR MODULES) PART # 25025-110-M110 (ENTRANCE TERMINAL)
2. PROVIDE 120VAC POWER CONNECTION TO EMERGENCY PHONE, EACH PHONE TO HAVE SEPARATE DEDICATED CIRCUIT.
3. DEDICATED CIRCUIT FOR WALL JUNCTION BOX WITH A/V CONTROLLER.
4. CEILING RECEPTACLE TO POWER PROJECTOR. PRIOR TO INSTALLATION VERIFY LOCATION WITH OWNER.
5. CEILING RECEPTACLE TO POWER PROJECTOR FED BY CIRCUIT "R2"-33. PRIOR TO INSTALLATION VERIFY LOCATION WITH OWNER.
6. "R2"-29 (DEDICATED CIRCUIT FOR SMART PODIUM AT TEACHER STATION).
7. SPECIAL USB CHARGING TYPE DUPLEX RECEPTACLES IN THIS AREA. RECEPTACLES SHALL BE HALF DUPLEX HALF USB OUTLET, LEGRAND MODEL #ARUSBW4 & #ARTR202W4 WITH COVER PLATE LEGRAND #AWP1G3WHW4.
8. 'HWP-1' 208V/3ϕ, 5 HP, 17.5 FLA, 35 MOCP PUMP.
9. 'HWP-2' 208V/3ϕ, 5 HP, 17.5 FLA, 35 MOCP PUMP.
10. 'CHWP-3' 208V/3ϕ, 15 HP, 48.3 FLA, 90 MOCP PUMP.
11. 'CHWP-4' 208V/3ϕ, 15 HP, 48.3 FLA, 90 MOCP PUMP.
12. FURNITURE FEED. EACH OPEN OFFICE CUBICLE/PRIVATE OFFICE SHALL HAVE CONTROLLED AND NON-CONTROLLED RECEPTACLES PER TITLE 24. CONTROLLED RECEPTACLES SHALL BE CONTROLLED VIA NEAREST CEILING MOUNTED OCCUPANCY SENSOR AND ROOM CONTROLLER. SEE LIGHTING CONTROL DIAGRAMS.
13. PERMANENTLY MARK RESERVED SPACE "FOR FUTURE SOLAR ELECTRIC".
14. FUTURE PATHWAY FROM SOLAR ELECTRIC EQUIPMENT UP TO ROOF FUTURE SOLAR ZONE. PROVIDE 4"C SPARE FROM ELECTRICAL ROOM CAPPED BELOW ROOF AT BOTH FUTURE SOLAR ZONES. LOCATION MARKED BY KEYNOTE #8 ON ROOF POWER PLAN SHEET E3.03.
15. FUTURE PATHWAY FROM SOLAR ELECTRIC EQUIPMENT TO INTERCONNECTION OF ELECTRICAL SERVICE.
16. ONE FIRE SHUTTER AND ONE FIRE CURTAIN AT THIS LOCATION (ONE ON EACH SIDE OF WALL). SEE ARCHITECTURAL DETAIL F10/A9.11. COORDINATE ELECTRICAL REQUIREMENTS WITH SHUTTER CURTAIN SUPPLIER AND PROVIDE ALL COMPONENTS AND CONNECTIONS FOR A COMPLETE AND OPERABLE SYSTEM. NO EXPOSED CONDUIT OR BOXES ALLOWED FOR THESE SYSTEMS.
17. TWO FIRE CURTAINS AT THIS LOCATION ONE AT EACH SIDE OF WALL). SEE ARCHITECTURAL DETAIL F10/A9.11. COORDINATE ELECTRICAL REQUIREMENTS WITH CURTAIN SUPPLIER AND PROVIDE ALL COMPONENTS AND CONNECTIONS FOR A COMPLETE AND OPERABLE SYSTEM. NO EXPOSED CONDUIT OR BOXES ALLOWED FOR THESE SYSTEMS.
18. ADD ALT #6. LED DISPLAY (TYP. OF 4). COORDINATE EXACT MOUNTING LOCATION WITH ARCHITECT. 1
19. DOOR HOLD.
20. VFD-1 SERVING 208V/3ϕ, 5HP PUMP 'HWP-1'. PROVIDE AND INSTALL ONE 3/4"C, WITH 4#12 AWG CU + 1#12 AWG CU GND, HOME RUN TO PANEL "H1"-1,3,5.
21. VFD-2 SERVING 208V/3ϕ, 5HP PUMP 'HWP-2'. PROVIDE AND INSTALL ONE 3/4"C, WITH 4#12 AWG CU + 1#12 AWG CU GND, HOME RUN TO PANEL "H1"-7,9,11.
22. VFD-3 SERVING 208V/3ϕ, 15HP PUMP 'CHWP-3'. PROVIDE AND INSTALL ONE 1"C, WITH 4#6 AWG CU + 1#8 AWG CU GND, HOME RUN TO PANEL "H1"-13,15,17.
23. VFD-4 SERVING 208V/3ϕ, 15HP PUMP 'CHWP-4'. PROVIDE AND INSTALL ONE 1"C, WITH 4#6 AWG CU + 1#8 AWG CU GND, HOME RUN TO PANEL "H1"-19,21,23.
24. PROVIDE DEDICATED 120VAC POWER CONNECTION TO FIRE ALARM POWER SUPPLY 'FAPS1' FROM CIRCUIT 'R'-26. PROVIDE DEDICATED 120VAC POWER CONNECTION TO EMERG. COMMUNICATION SYSTEM POWER SUPPLY 'ECPS1' FROM CIRCUIT 'R'-34.
25. PROVIDE DEDICATED 120VAC POWER CONNECTION TO FIRE ALARM EVAC1 AMP FROM CIRCUIT 'R'-28.
26. AREA OF BUILDING EXPANSION JOINT. PROVIDE CONDUIT SEISMIC JOINT WHEN PASSING THROUGH THIS LOCATION. SEE ARCHITECTURAL DRAWINGS. REFER TO "SEISMIC JOINT CONDUIT DETAIL" 9 ON SHEET E8.02.
27. ELEVATOR CONTROLLER 208V, 3ϕ. VERIFY HORSE POWER WITH ELEVATOR SUPPLIER. PROVIDE DISCONNECT SWITCH AND SHUNT TRIP PER ONE LINE DIAGRAM ON SHEET E7.01. LABEL IDENTIFYING LOCATION OF POWER SUPPLY. 1
28. PROVIDE LOCK-ABLE 30 AMP DISCONNECT SWITCH WITH 20 AMP FUSE FOR ELEVATOR CAB LIGHTING AND VENTILATION. LABEL IDENTIFYING LOCATION OF POWER SUPPLY.
29. COORDINATE LOCATION WITH ELEVATOR INSTALLER FOR ELEVATOR CAB LIGHTING AND POWER.
30. PROVIDE 120VAC POWER CONNECTION TO BUILDING MANAGEMENT SYSTEM CONTROL PANEL.
31. PROVIDE 120VAC POWER CONNECTION TO ELECTRIC DRINKING FOUNTAIN.
32. PROVIDE 120VAC POWER CONNECTION TO OVERHEAD DOOR. COORDINATE ELECTRICAL REQUIREMENTS WITH DOOR VENDOR.
33. PROVIDE 120VAC POWER CONNECTION TO FIRE SMOKE DAMPERS. COORDINATE ELECTRICAL REQUIREMENTS WITH MECHANICAL.
34. MOTORIZED DOOR.
35. ADA PUSH PAD, +48" A.F.G.
36. ADA PUSH PAD, +48" A.F.G. MOUNT ON POST (BASE BID) MOUNT ON WALL (ADDITIVE ALTERNATE) 1

GENERAL NOTES

1. PROVIDE NEW SWITCHPLATES, RECEPTACLE COVERPLATES, AND JUNCTION BOX COVERPLATES IN AREAS OF MODERNIZATION.
2. CONTRACTOR SHALL MAKE FINAL CONNECTION TO ALL PRE-WIRED FABRICATED FURNITURE. PROVIDE ALL COMPONENTS AND CONNECTIONS FOR A COMPLETE AND OPERABLE SYSTEM.
3. PROVIDE 3/4"C TO ACCESSIBLE CEILING FOR EACH EXTERIOR DOOR.

LPAS
2484 Natomas Park Drive Suite 100 Sacramento CA 95833
916 443 0335 lpasdesign.com **Architecture + Design**

COSUMNES RIVER COLLEGE

COLLEGE CENTER EXPANSION

8401 CENTER PARKWAY, SACRAMENTO, CA 95823

NO.	ISSUE	DATE
1	ADDENDUM #1	03-29-18
2	ADDENDUM #2	04-13-18

FILE NO.43-C1

LICENSED ARCHITECT TROY PENNINGTON C-31285 5-31-19 RENEWAL DATE STATE OF CALIFORNIA

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
02-115990
AC_____ FLS _____ SS_____
DATE _____

ARCHITECT'S STAMP APPROVAL

CONSULTANT

LP CONSULTING ENGINEERS
MEP & FS / Sustainability / CxA
1209 Pleasant Grove Blvd.
Roseville, CA 95678
p 916-771-0778
www.lpengineers.com
Job #: 15-2266

REGISTERED PROFESSIONAL ENGINEER TIMOTHY J. PAGE E-16243 EXP. 12-31-18 ELECTRICAL STATE OF CALIFORNIA

1ST FLOOR POWER PLAN

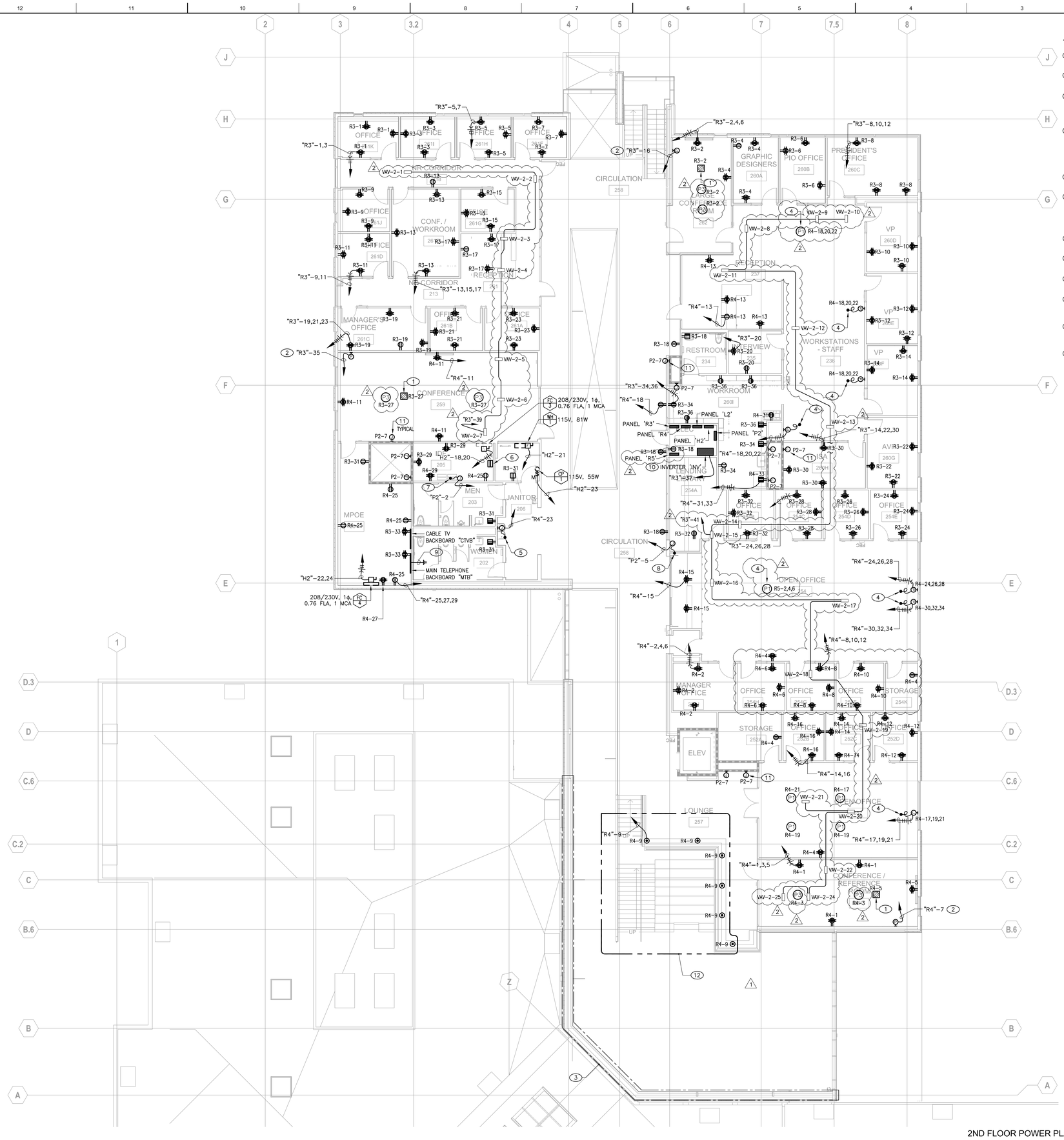
PROJECT NO: 201-0065
DATE: 01.19.2018

SHEET NO:

E3.01A

DSA SUBMITTAL II

6/8/2017 7:46:09 AM



KEY NOTES

1. CEILING RECEPTACLE TO POWER PROJECTOR. PRIOR TO INSTALLATION VERIFY LOCATION WITH OWNER.
2. DEDICATED CIRCUIT FOR WALL JUNCTION BOX WITH A/V CONTROLLER.
3. AREA OF BUILDING EXPANSION JOINT. PROVIDE CONDUIT SEISMIC JOINT WHEN PASSING THROUGH THIS LOCATION. SEE ARCHITECTURAL DRAWINGS. REFER TO "SEISMIC JOINT CONDUIT DETAIL" 9 ON SHEET E8.02.
4. FURNITURE FEED. EACH OPEN OFFICE CUBICLE/PRIVATE OFFICE SHALL HAVE CONTROLLED AND NON-CONTROLLED RECEPTACLES PER TITLE 24. CONTROLLED RECEPTACLES SHALL BE CONTROLLED VIA NEAREST CEILING MOUNTED OCCUPANCY SENSOR AND ROOM CONTROLLER. SEE LIGHTING CONTROL DIAGRAMS ON SHEET E2.05.
5. PROVIDE 120VAC POWER CONNECTION TO ELECTRIC DRINKING FOUNTAIN.
6. PROVIDE DEDICATED 120VAC POWER CONNECTION TO FIRE ALARM POWER SUPPLY 'FAPS2' FROM CIRCUIT "P2"-1. PROVIDE DEDICATED 120VAC POWER CONNECTION TO EMERG. COMMUNICATION SYSTEM POWER SUPPLY 'ECPS2' FROM CIRCUIT "P2"-3.
7. PROVIDE 120VAC POWER CONNECTION TO SECURITY PANEL POWER SUPPLY.
8. PROVIDE 120VAC POWER CONNECTION TO OVERHEAD DOOR. COORDINATE ELECTRICAL REQUIREMENTS WITH DOOR VENDOR.
9. 3/4"C WITH 1#6 CU GROUND TO ELECTRICAL POWER SERVICE GROUNDING ELECTRODE.
10. INVERTER 'INV' (CRUCIAL POWER PRODUCTS: WR3.0A010ON1-VA); 120V/1Φ, 2.1 KW EMERGENCY LIGHTING INVERTER SYSTEM.
11. PROVIDE 120VAC POWER CONNECTION TO FIRE SMOKE DAMPERS. COORDINATE ELECTRICAL REQUIREMENTS WITH MECHANICAL.
12. SEE ARCHITECTURAL DETAIL D6/A7.11 FOR LOCATION OF RECEPTACLES

GENERAL NOTES

1. CONTRACTOR SHALL MAKE FINAL CONNECTION TO ALL PRE-WIRED FABRICATED FURNITURE. PROVIDE ALL COMPONENTS AND CONNECTIONS FOR A COMPLETE AND OPERABLE SYSTEM.
2. PROVIDE 3/4"C TO ACCESSIBLE CEILING FOR EACH EXTERIOR DOOR.

2ND FLOOR POWER PLAN 1
1/8" = 1'-0"

6/8/2017 7:46:09 AM

LPAS
2484 Natomas Park Drive Suite 100 Sacramento CA 95833
916 443 0335 lpasdesign.com **Architecture + Design**

COSUMNES RIVER COLLEGE

COLLEGE CENTER EXPANSION

8401 CENTER PARKWAY, SACRAMENTO, CA 95823

NO.	ISSUE	DATE
1	ADDENDUM #1	03-29-18
2	ADDENDUM #2	04-13-18

FILE NO.43-C1

LICENSED ARCHITECT TROY PENNINGTON C-31285 5-31-19 RENEWAL DATE STATE OF CALIFORNIA

IDENTIFICATION STAMP DIV. OF THE STATE ARCHITECT OFFICE OF REGULATION SERVICES 02-115990 AC____ FLS____ SS____ DATE____

ARCHITECT'S STAMP APPROVAL

CONSULTANT

LP CONSULTING ENGINEERS
MEP & FS / Sustainability / CxA
1209 Pleasant Grove Blvd.
Roseville, CA 95678
p 916-771-0778
www.lpengineers.com
Job #: 15-2266

REGISTERED PROFESSIONAL ENGINEER ROBERT J. PRATT E 16243 EXP. 12-31-18 ELECTRICAL STATE OF CALIFORNIA

2ND FLOOR POWER PLAN

PROJECT NO: 201-0065
DATE: 01.19.2018

SHEET NO:

E3.02

DSA SUBMITTAL II

KEY NOTES

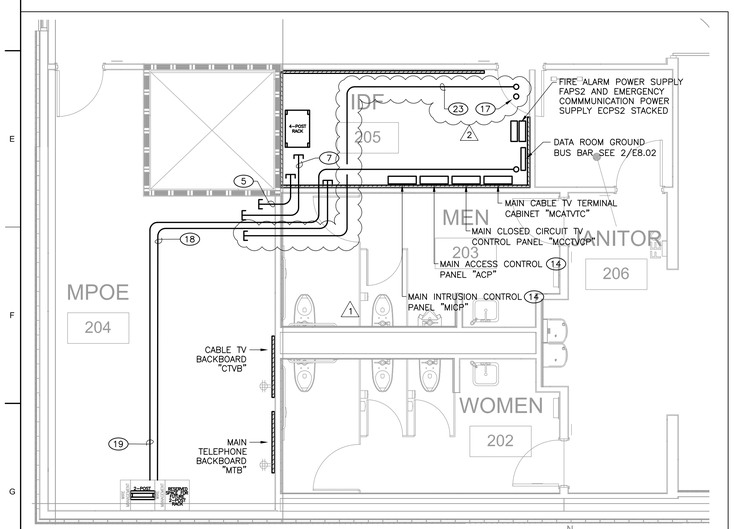
1. ONE 1 1/4" EC FROM FLOOR BOX TO CEILING MOUNTED PROJECTOR. PROVIDE VGA/HDMI CABLES TO PROJECTOR WITH ALL NECESSARY COMPONENTS AND CONNECTIONS FOR A COMPLETE AND OPERABLE SYSTEM. (2)
2. ONE 1 1/4 "EC FROM WALL BOX TO CEILING MOUNTED PROJECTOR TO FACILITATE A/V CONTROLLER.PROVIDE VGA/HDMI CABLES TO PROJECTOR WITH ALL NECESSARY COMPONENTS AND CONNECTIONS FOR A COMPLETE AND OPERABLE SYSTEM. (2)
3. JUNCTION BOX LOCATED IN CEILING, ABOVE CEILING MOUNTED PROJECTOR. VERIFY FINAL LOCATION WITH COLLEGE.
4. 3/4"C WITH FOUR (4) CAT 6 CABLES.
5. PROVIDE EIGHT (8) 4"EC FROM MPOE TO IDF ROOM ABOVE CEILING. (2)
6. PRE-WIRED FURNITURE FEED (DATA). PROVIDE 1 1/2" CONDUIT UP TO ACCESSIBLE CEILING WITH EIGHT (8) CAT 6 CABLES TO DATA PATCH PANEL IN IDF ROOM AT SECOND FLOOR..
7. PROVIDE ONE (1) 2"C WITH ONE (1) 25 PAIR CAT5E TIE CABLES FROM MPOE TO IDF ROOM 205 ABOVE CEILING. (2)
8. AREA OF BUILDING EXPANSION JOINT. PROVIDE CONDUIT SEISMIC JOINT WHEN PASSING THROUGH THIS LOCATION. SEE ARCHITECTURAL DRAWINGS. REFER TO "SEISMIC JOINT CONDUIT DETAIL" 9/E8.02.
9. CARD READER WITH TOGGLE. SEE SECURITY (INTRUSION, ACCESS, CCTV) SYMBOL LEGEND ON E0.01 FOR MORE INFORMATION.
10. PRE-WIRED FURNITURE FEED (DATA). PROVIDE 1 1/2" CONDUIT UP TO ACCESSIBLE CEILING WITH FOUR (4) CAT 6 CABLES TO DATA PATCH PANEL IN IDF ROOM AT SECOND FLOOR.
11. LADDER TRAY. SEE LADDER TRAY DETAILS, SHEET E8.07.
12. PROVIDE ONE (1) 1 1/4" CONDUIT TO SECOND FLOOR ACCESSIBLE CEILING WITH EIGHT (8) CAT 6 CABLES TO DATA PATCH PANEL IN IDF ROOM AT SECOND FLOOR.
13. ALL SECURITY CONDUCTORS AND CABLES TERMINATE AT INTRUSION TERMINAL CABINET IN SECOND FLOOR IDF ROOM.
14. CANS 1 THROUGH 5, INTRUSION & ACCESS CONTROL PANELS. SEE SHEET E8.04 DETAIL 4 FOR EXACT MOUNTING LOCATIONS.
15. 3/4"C UP TO ACCESSIBLE CEILING WITH EIGHT (8) CAT 6 CABLES TO DATA PATCH PANEL IN IDF ROOM AT SECOND FLOOR.
16. FOUR (4) 4" SLEEVES BETWEEN 1ST AND 2ND FLOOR IDF ROOMS.
17. 2"C TO RUN FROM SECOND FLOOR IDF ROOM TO FIRST FLOOR IDF ROOM ROUTED ADJACENT TO CONDUIT SLEEVES PER KEYNOTE 16.

KEY NOTES (CONTINUED)

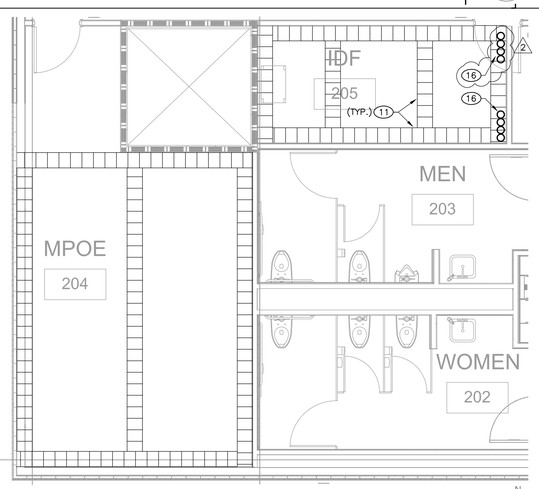
18. PROVIDE ONE (1) 1"C WITH ONE (1) 24 STRAND SINGLE-MODE FIBER LC/LC FROM MPOE TO IDF ROOM 205.
19. PROVIDE ONE (1) 1"C WITH ONE (1) 24 STRAND SINGLE-MODE FIBER LC/LC FROM MPOE DOWN TO FIRST FLOOR IDF ROOM 137. WHERE APPLICABLE, ROUTE FIBER OPTIC CABLE ALONG LADDER RACK.
20. 3/4"C WITH TWO (2) CAT 6 CABLES.
21. AT ROOF HATCH.
22. BOX TO PROVIDE FUTURE CAMERA COORDINATE EXACT LOCATION WITH LOS RIOS DISTRICT IT DEPARTMENT. (1)
23. PROVIDE ONE (1) 25 PAIR CAT5E TIE CABLE FROM MPOE TO FIRST FLOOR IDF ROOM 137. (2)

GENERAL NOTES

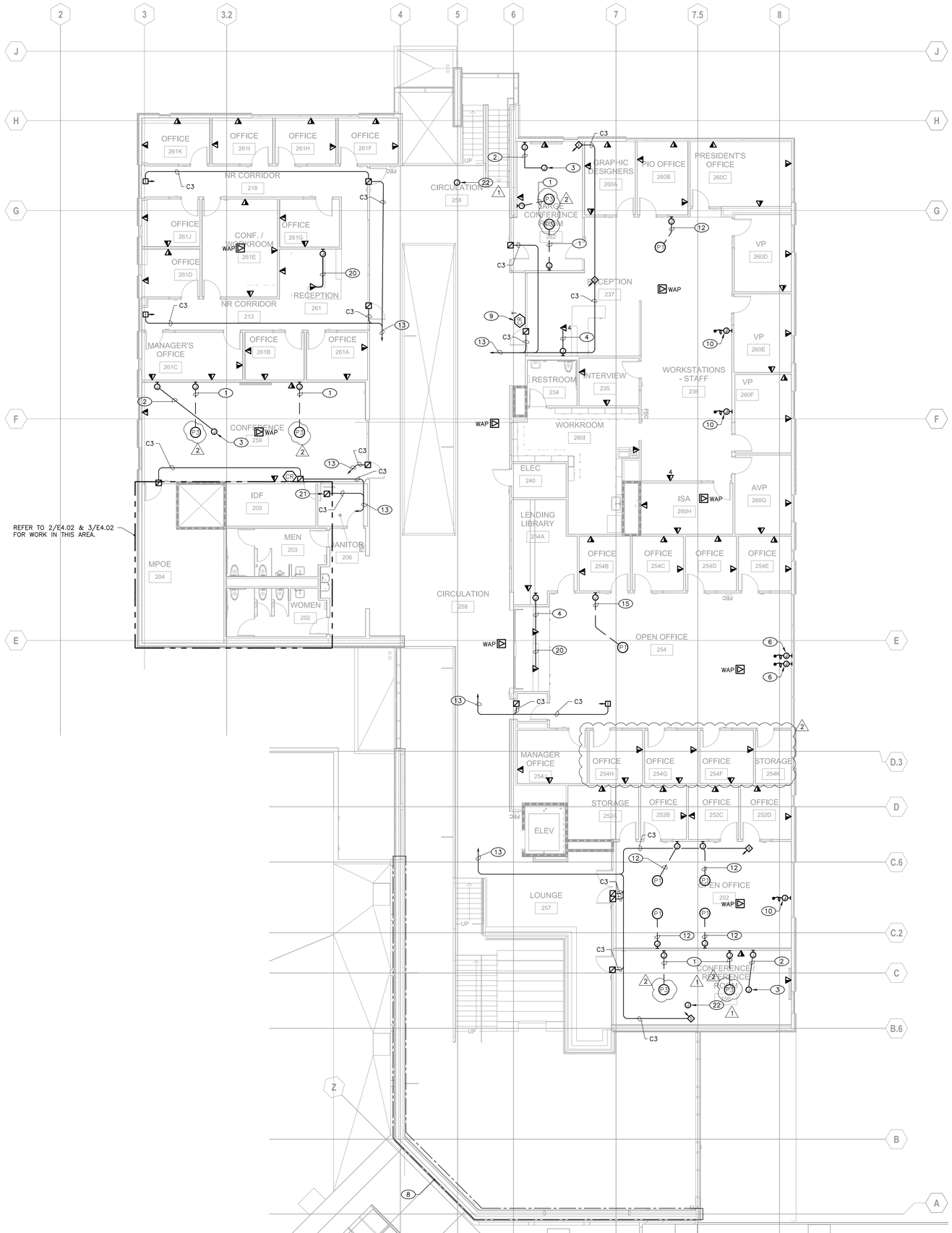
1. ALL INTERIOR AND EXTERIOR DOORS SHALL HAVE 3\4" CONDUIT ONLY STUBBED ABOVE ACCESSIBLE CEILING AT EACH DOOR REGARDLESS OF WHETHER THE DOOR IS EQUIPPED WITH SECURITY OR ELECTRONIC HARDWARE.
2. REFER TO SHEET E4.05 FOR ASSISTED LISTENING SYSTEM NOTES.
3. REFER TO SHEET E4.04 FOR CABLE TRAY ROUTING.
4. CONTRACTOR SHALL MAKE FINAL CONNECTION TO ALL PRE-WIRED FABRICATED FURNITURE. PROVIDE ALL COMPONENTS AND CONNECTIONS FOR A COMPLETE AND OPERABLE SYSTEM.



ENLARGED IDF & MPOE ROOMS 2
1/4" = 1'-0"



ENLARGED IDF & MPOE ROOMS - CABLE TRAY MOUNTING 3
1/4" = 1'-0"



2ND FLOOR DATA & COMMUNICATIONS PLAN 1
1/8" = 1'-0"

LPAS
2484 Natomas Park Drive Suite 100 Sacramento CA 95833
916 443 0335 lpasdesign.com **Architecture + Design**

COSUMNES RIVER COLLEGE

COLLEGE CENTER EXPANSION

8401 CENTER PARKWAY, SACRAMENTO, CA 95823

NO.	ISSUE	DATE
1	ADDENDUM #1	03-29-18
2	ADDENDUM #2	04-13-18

FILE NO.43-C1

LICENSED ARCHITECT
TROY PENNINGTON
C-31285
5-31-19
RENEWAL DATE:
STATE OF CALIFORNIA

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
02-115990
AC_____ FLS_____ SS_____
DATE _____

ARCHITECT'S STAMP APPROVAL

CONSULTANT

CONSULTING ENGINEERS
MEP & FS / Sustainability / CxA
1209 Pleasant Grove Blvd.
Roseville, CA 95678
p 916-771-0778
www.lpengineers.com
Job #: 15-2266

REGISTERED PROFESSIONAL ENGINEER
MATTHEW J. PENN
E16243
EXP. 12-31-18
ELECTRICAL
STATE OF CALIFORNIA

2ND FLOOR DATA & COMMUNICATIONS PLAN

PROJECT NO: 201-0065

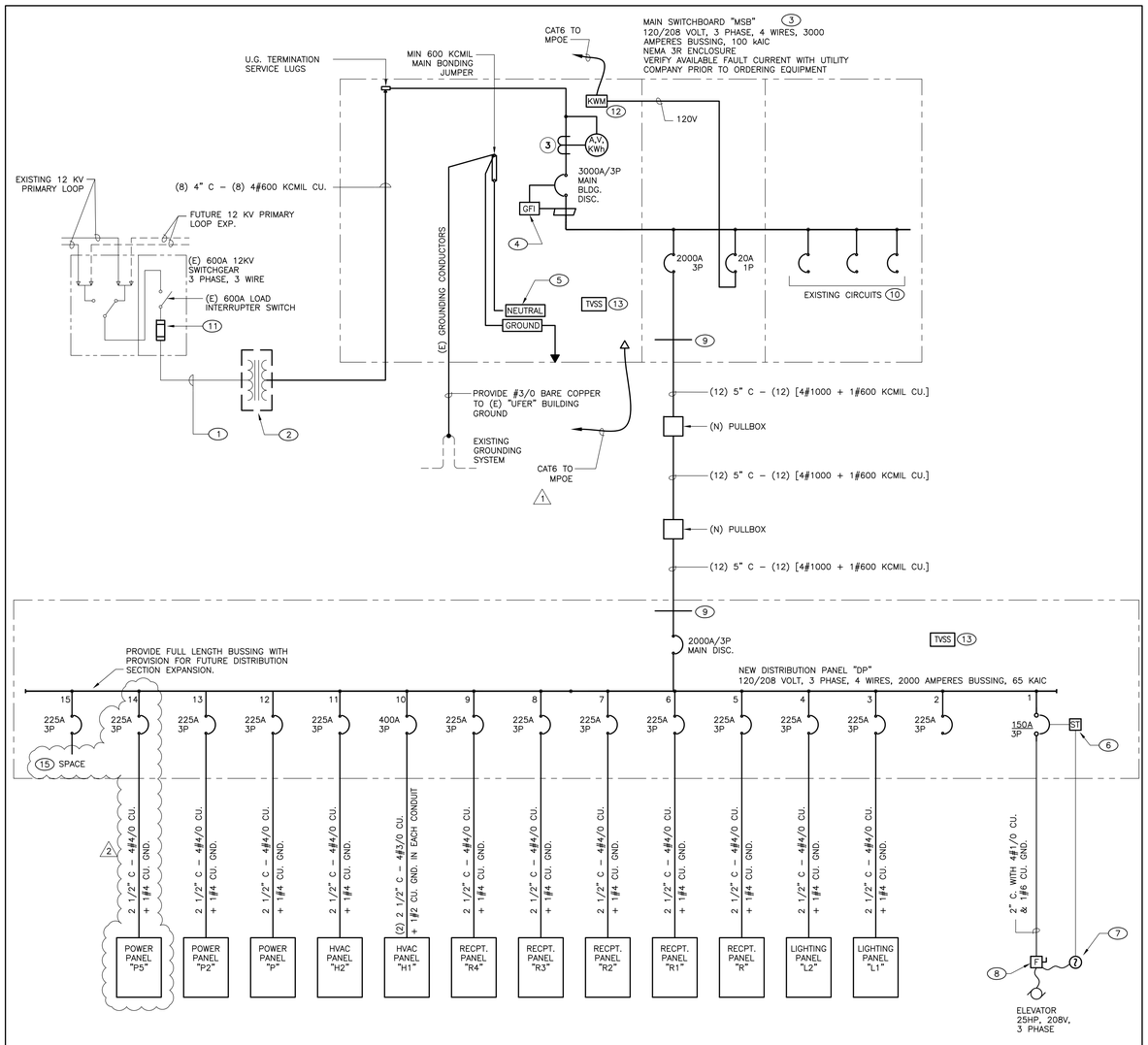
DATE: 01.19.2018

SHEET NO:

E4.02

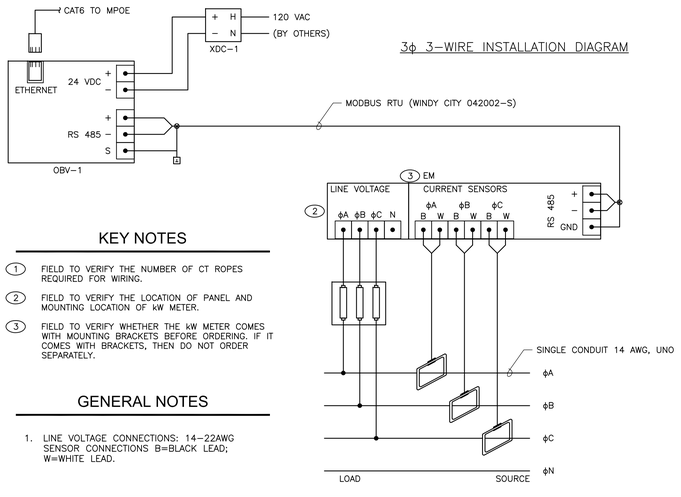
DSA SUBMITTAL II

6/8/2017 7:40:09 AM

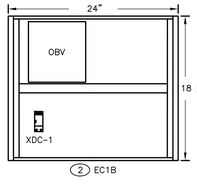


ONE LINE RISER DIAGRAM — NTS — 1

KW METER WIRING DETAILS



3ϕ 3–WIRE INSTALLATION DIAGRAM



KEY NOTES

1. FIELD TO VERIFY THE NUMBER OF CT ROPES REQUIRED FOR WIRING.
2. FIELD TO VERIFY THE LOCATION OF PANEL AND MOUNTING LOCATION OF kW METER.
3. FIELD TO VERIFY WHETHER THE kW METER COMES WITH MOUNTING BRACKETS BEFORE ORDERING. IF IT COMES WITH BRACKETS, THEN DO NOT ORDER SEPARATELY.

GENERAL NOTES

1. LINE VOLTAGE CONNECTIONS: 14–22AWG SENSOR CONNECTIONS B=BLACK LEAD; W=WHITE LEAD.

SEQUENCE OF OPERATION

EBI WILL MONITOR CAMPUS kW AND CAMPUS kWh VALUES OVER THE NETWORK. PROGRAMMING OF A8810–O AQUISUITE GATEWAY TO BE DONE ON SITE.

BILL OF MATERIAL

FIELD DEVICES			
TAG NAME	TOT QTY	PART #	DESCRIPTION
EM	1	E50C3A	VERIS: ENERGY METER, MODBUS OUTPUT, DATA LOGGING
(1)	1	U018–0001	VERIS: CT ROPE, 12"
	1	AH04	VERIS: FUSE PACK, 1/2 AMP 600VAC SLOW BLOW, 14AWG, 18", 600VAC

PANEL DEVICES			
TAG NAME	TOT QTY	PART #	DESCRIPTION
OBV	1	A8810–O	OBVIUS: DATA ACUISITION SERVER.
XDC	1	PS5R–SC24	KELE: DC POWER SUPPLY, 120VAC TO 24VAC, 1.3A

KW METER WIRING DIAGRAM — NTS — 2

KEY NOTES

1. EXISTING PRIMARY FEEDER; 5"C.– 3#1/0 15KV CABLE.
2. REPLACE THE EXISTING 500KVA TRANSFORMER WITH A NEW 1000KVA, 12kV TO 120/208 VOLT, 3 PHASE, 4 WIRE PAD MOUNTED TRANSFORMER.
3. REPLACE THE EXISTING 2000A SWITCHBOARD WITH A NEW SWITCHBOARD AS SPECIFIED. DISCONNECT AND REMOVE EXISTING 2000A, 120/208V, MAIN SWITCHBOARD TO BE REPLACED WITH NEW 3000A, 120/208V, MAIN SWITCHBOARD. CAMPUS IS REPLACING SOME PRIMARY ELECTRICAL EQUIPMENT. CONTRACTOR SHALL COORDINATE COLLEGE CENTER SHUTDOWN WITH CAMPUS WIDE SHUTDOWN TO MINIMIZE CAMPUS OUTAGE
4. PROVIDE ZERO SEQUENCE GROUND FAULT.
5. PROVIDE FULL LENGTH 100% RATED NEUTRAL AND GROUND BUS.
6. PROVIDE SHUNT TRIP FOR INTERFACE WITH THE ELEVATOR MACHINE ROOM FIRE ALARM SYSTEM DETECTOR, AS PER ELEVATOR CODE.
7. FIRE ALARM SYSTEM DETECTOR AND WIRING PER FIRE ALARM PLANS, AS REQUIRED BY ELEVATOR CODE.
8. 200 AMP DISCONNECT WITH 150 AMP FUSES. COORDINATE WITH ELEVATOR SUPPLIER AND NAMEPLATE DATA.
9. PROVIDE MIN. 36" DEEP PANEL/SWITCBOARD ACCEPTING REQUIRED NUMBER OF THE SPECIFIED CONDUCTORS. COORDINATE WITH THE MANUFACTURER FOR PROVISION REQUIRED TO TERMINATE REQUIRED NUMBER OF THE SPECIFIED CONDUCTORS.
10. VERIFY THE EXISTING CIRCUIT BREAKERS SIZE AND NUMBER; PROVIDE NEW BREAKERS OF THE SAME SIZE. DISCONNECT THE EXISTING OUTGOING FEEDER FROM EXISTING SWITCHBOARD; REMOVE THE EXISTING SWITCHBOARD AND RECONNECT THE CIRCUITS TO NEW SWITCHBOARD AT THE SAME LOCATION. USE COMPRESSION TYPE TERMINATION LUGS.
11. REPLACE EXISTING 50E CURRENT LIMITING FUSES WITH NEW 100 AMP FUSES OF THE SAME TYPE AND RATINGS.
12. REFER TO 2/E7.01 FOR KW METER WIRING DIAGRAM.
13. PROVIDE TRANSIENT VOLTAGE SURGE SUPPRESSION.
14. PROVIDE FACTORY POWER MONITORING BACNET OVER IP.
15. PROVIDE A MINIMUM CAPACITY OF (4) 225 AMP SPACES. (1) (2)

GENERAL NOTES

1. REFER TO SHEET E7.02 FOR PANEL SCHEDULES.

INVERTER "INV"

(FED BY PANEL "R3") (2)

120 Volt, 1 Phase, 2 Wire
20 Amp BUS CU.
Amp MCB
20 Amp MLO
10 KAIC Rating
SURFACE Mounted
NEMA 1 Type

CKT.	BKR	DESCRIPTION	LOAD (WATTS)
1	20/1	EGRESS LTG - SECOND FLOOR	852
2	20/1	EGRESS LTG - FIRST FLOOR	24
3	20/1	SPARE	
		LOAD TOTAL	876

PANEL AND CIRCUIT BREAKER NOTES:
[1] MULTIPLE CIRCUITS SHARING THE SAME CONDUIT AND NEUTRAL SHALL HAVE HANDLE TIES AT BREAKERS AND WIRE IN PANEL TIES PER CEC 210.4.
[2]

DEMAND LOADS		
LIGHTING / CONTINUOUS LOAD x 125%	1095	Watts
RECEPTACLES / OTHER x 100%		Watts
LARGEST MOTOR x 25%		Watts
TOTAL DEMAND LOADS	1095	Watts
TOTAL DEMAND AMPS	9	AMPS

EXISTING ELECTRICAL SERVICE LOAD CALCULATION

EXISTING MAXIMUM PEAK DEMAND LOAD (LOAD ON EXISTING SWITCHBOARD BEING REPLACED WITH NEW)				
READING				149.7 KVA
PLUS 25% OF EXISTING CONNECTED LOAD				37.4 KVA
TOTAL EXISTING CONNECTED LOAD			=	187.1 KVA
ADD NEW LOAD (CEC 220)				
INTERIOR LIGHTING	30000 SQ. FT. @	3.00 WATTS PER SQ. FT.		90.00 KVA
25% CONTINUOS LOAD FACTOR				22.50 KVA
EXTERIOR LIGHTING				1.00 KVA
SHOW WINDOW (NEC 220-12)		0.20 KVA/L.F.	0.00	0.00 KVA
GENERAL PURPOSE RECEPTACLE OUTLETS		30.00 KVA		
FIRST 10 KW OR LESS		@ 100% =		10.00 KVA
REMAINDER OVER 10 KW =		20.00 @ 50% =		10.00 KVA
HEATING, VENTILATING AND AIR CONDITIOINING EQUIPMENT				
AIR CONDITIONING				450.00 KVA
WATER HEATING				0.08 KVA
EQUIPMENT AND APPLIANCES				
IT SMART ROW				36.00 KVA
ELEVATOR		26.90 KVA EA.	1	26.90 KVA
KITCHEN EQUIPMENT				5.00 KVA
IDF ROOM EQUIPMENT				1.00 KVA
FLAT SCREEN DISPLAYS				1.60 KVA
LARGEST MOTOR =	26.90 KVA @ 25% =			6.73 KVA
TOTAL ADDED LOAD			=	660.8 KVA
EXISTING AND ADDED TOTAL SERVICE LOAD			=	847.9 kva
847.9 KVA @ 120/208 VOLT , 3 PHASE = 2355 AMPERES				
PROVIDE 3000 AMP, 120/208 VOLT, 3 PHASE, 4 WIRE SERVICE.				

LPAS
2484 Natomas Park Drive Suite 100 Sacramento CA 95833
916 443 0335 lpasdesign.com **Architecture + Design**

COSUMNES RIVER COLLEGE

COLLEGE CENTER EXPANSION

8401 CENTER PARKWAY, SACRAMENTO, CA 95823

NO.	ISSUE	DATE
1	ADDENDUM #1	03-29-18
2	ADDENDUM #2	04-13-18

LICENSED ARCHITECT — TROY PENNINGTON — C-31285 — 5-31-19 RENEWAL DATE — STATE OF CALIFORNIA

FILE NO.43-C1

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
02-115990
AC_____ FLS _____ SS_____
DATE _____

ARCHITECT'S STAMP — APPROVAL

CONSULTANT

CONSULTING ENGINEERS
MEP & FS / Sustainability / CxA
1209 Pleasant Grove Blvd.
Roseville, CA 95678
p 916-771-0778
www.lpengineers.com
Job #: 15-2266

REGISTERED PROFESSIONAL ENGINEER — SCOTT A. [illegible] — E 16243 — EXP. 12-31-18 — ELECTRICAL — STATE OF CALIFORNIA

ONE LINE DIAGRAM

PROJECT NO: 201-0065
DATE: 01.19.2018

SHEET NO:

E7.01

DSA SUBMITTAL II

6/8/2017 7:46:09 AM

PANEL "R"

120/208 Volt, 3 Phase, 4 Wire — 35 KAIC Rating
225 Amp BUS CU. — SURFACE Mounted
Amp MCB — NEMA 1 Type
225 Amp MLO

PHASE SUMMARY (WATTS)

CKT.	BKR	DESCRIPTION	A	B	C	A	B	C	DESCRIPTION	BKR	CKT.
1	20/1	RECEPT - ELEVATOR	180			100			FIRE ALARM CONTROL PANEL	20/1	2
3	20/1	RECEPT - STAIRS		1,080			1,080		RECEPT - STAIRS	20/1	4
5	20/1	RECEPT - STAIRS			1,080			1,080	RECEPT - STAIRS	20/1	6
7	20/1	RECEPT - STAIRS	720			180			RECEPT - BUILDING SUPPORT	20/1	8
9	20/1	RECEPT - IDF		360			50		EMERGENCY PHONE	20/1	10
11	20/1	RECEPT - IDF			180			540	FURNITURE - ASSESS. RM	20/1	12
13	20/1	RECEPT - OFFICE	1,080			540			FURNITURE - ASSESS. RM	20/1	14
15	20/1	RECEPT - OFFICE		1,080			540		FURNITURE - ASSESS. RM	20/1	16
17	20/1	FURNITURE - OPEN OFFICE			540			720	FURNITURE - LOBBY	20/1	18
19	20/1	FURNITURE - OPEN OFFICE	540			720			FURNITURE - LOBBY	20/1	20
21	20/1	FURNITURE - OPEN OFFICE		540			720		FURNITURE - LOBBY	20/1	22
23	20/1	RECEPT - FINANCIAL AID			1,440			200	IRRIGATION CONTROLLER	20/1	24
25	20/1	RECEPT - FINANCIAL AID	1,440			500			FIRE ALARM POWER SUPPLY	20/1	26
27	20/1	RECEPT - SCAN RM [2]		500			200		FIRE ALARM EVAC1 AMP	20/1	28
29	20/1	RECEPT - BREAK RM [2]			720			540	FURNITURE - OFFICE [2]	20/1	30
31	20/1	RECEPT - ELEVATOR EQP RM	180			370			DRINKING FOUNTAIN	20/1	32
33	20/1	ELEVATOR CAB DISCONNECT		180			200		EMERG. COMM. POWER SUPP	20/1	34
35	20/1	RECEPT - HALL & LOBBY			720			50	EMERGENCY PHONE	20/1	36
37	20/1	VAV BOXES	180						SPARE	20/1	38
39	20/1	VAV BOXES		300					SPARE	20/1	40
41	20/1	SPARE							SPARE	20/1	42

△2

PHASE TOTALS		
A	B	C
6,730	6,830	7,810

PANEL AND CIRCUIT BREAKER NOTES:
[1] MULTIPLE CIRCUITS SHARING THE SAME CONDUIT AND NEUTRAL SHALL HAVE HANDLE TIES AT BREAKERS AND WIRE IN PANEL TIES PER CEC 210.4.
[2] CIRCUIT APPLICABLE TO ALTERNATE BID.

DEMAND LOADS		
LIGHTING / CONTINUOUS LOAD x 125%		Watts
RECEPTACLES / OTHER x 100%	21,370	Watts
LARGEST MOTOR x 25%		Watts
TOTAL DEMAND LOADS	21,370	Watts
TOTAL DEMAND AMPS	59	AMPS

PANEL "R3"

120/208 Volt, 3 Phase, 4 Wire — 14 KAIC Rating
225 Amp BUS CU. — SURFACE Mounted
Amp MCB — NEMA 1 Type
225 Amp MLO

PHASE SUMMARY (WATTS)

CKT.	BKR	DESCRIPTION	A	B	C	A	B	C	DESCRIPTION	BKR	CKT.
1	20/1	RECEPT - OFFICE	1,080			900			RECEPT - LRG CONF RM	20/1	2
3	20/1	RECEPT - OFFICE		1,080			1,080		RECEPT - GRAPHIC DESGN. RM	20/1	4
5	20/1	RECEPT - OFFICE			1,080			1,080	RECEPT - OFFICE	20/1	6
7	20/1	RECEPT - OFFICE	1,080			1,080			RECEPT - OFFICE	20/1	8
9	20/1	RECEPT - OFFICE		1,080			1,080		RECEPT - OFFICE	20/1	10
11	20/1	RECEPT - OFFICE			1,080			1,080	RECEPT - OFFICE	20/1	12
13	20/1	RECEPT - CONF. RM	1,260			1,080			RECEPT - OFFICE	20/1	14
15	20/1	RECEPT - OFFICE		1,080			100		RECEPT - AV CONTRL CONF	20/1	16
17	20/1	RECEPT - RECECPTION			1,260			900	RECEPT - HALL, RR	20/1	18
19	20/1	RECEPT - OFFICE	1,260			720			RECEPT - INTERVIEW	20/1	20
21	20/1	RECEPT - OFFICE		1,080			1,080		RECEPT - OFFICE	20/1	22
23	20/1	RECEPT - OFFICE			1,080			1,080	RECEPT - OFFICE	20/1	24
25	20/1	RECEPT - CONFERENCE RM	1,080			1,080			RECEPT - OFFICE	20/1	26
27	20/1	RECEPT - CONFERENCE RM		900			1,080		RECEPT - OFFICE	20/1	28
29	20/1	RECEPT - IDF RM			720			1,080	RECEPT - ISA RM	20/1	30
31	20/1	RECEPT - MPOE, JANITOR, RR	720			1,260			RECEPT - OFFICE	20/1	32
33	20/1	RECEPT - MPOE		360			720		RECEPT - WORK RM	20/1	34
35	20/1	RECEPT - AV CONTRL CONF RM			100			720	RECEPT - WORK RM	20/1	36
37	20/1	INVERTER 'INV'	1,095						SPARE	20/1	38
39	20/1	VAV BOXES		140					SPARE	20/1	40
41	20/1	VAV BOXES			340				SPARE	20/1	42

△2

PHASE TOTALS		
A	B	C
13,695	10,860	11,600

PANEL AND CIRCUIT BREAKER NOTES:
[1] MULTIPLE CIRCUITS SHARING THE SAME CONDUIT AND NEUTRAL SHALL HAVE HANDLE TIES AT BREAKERS AND WIRE IN PANEL TIES PER CEC 210.4.
[2]

DEMAND LOADS		
LIGHTING / CONTINUOUS LOAD x 125%	1,369	Watts
RECEPTACLES / OTHER x 100%	35,060	Watts
LARGEST MOTOR x 25%		Watts
TOTAL DEMAND LOADS	36,429	Watts
TOTAL DEMAND AMPS	101	AMPS

PANEL "P"

120/208 Volt, 3 Phase, 4 Wire — 35 KAIC Rating
225 Amp BUS CU. — SURFACE Mounted
Amp MCB — NEMA 1 Type
225 Amp MLO

PHASE SUMMARY (WATTS)

CKT.	BKR	DESCRIPTION	A	B	C	A	B	C	DESCRIPTION	BKR	CKT.
1	20/1	OVER HEAD DOOR	300			720			EXT USB CHARGING STATION	20/1	2
3	20/1	TV DISPLAYS LOBBY [2]		1,080			1,080		EXT USB CHARGING STATION	20/1	4
5	20/1	FIRE SHUTTER			400			1,080	EXT USB CHARGING STATION	20/1	6
7	20/1	FIRE SMOKE DAMPER	200						SPARE	20/1	8
9	20/1	SPARE							SPARE	20/1	10
11	20/1	SPARE							SPARE	20/1	12
13	20/1	SPARE							SPARE	20/1	14
15	20/1	SPARE							SPARE	20/1	16
17	20/1	SPARE							SPARE	20/1	18
19	20/1	SPARE							SPARE	20/1	20
21	20/1	SPARE							SPARE	20/1	22
23	20/1	SPARE							SPARE	20/1	24
25	20/1	SPARE							SPARE	20/1	26
27	20/1	SPARE							SPARE	20/1	28
29	20/1	SPARE							SPARE	20/1	30
31	20/1	SPARE							SPARE	20/1	32
33	20/1	SPARE							SPARE	20/1	34
35	20/1	SPARE							SPARE	20/1	36
37	20/1	SPARE							SPARE	20/1	38
39	20/1	MOTORIZED DOOR		500			500		MOTORIZED DOOR	20/1	40
41	20/1	MOTORIZED DOOR			500			500	ATM	20/1	42

△1

PHASE TOTALS		
A	B	C
1,220	3,160	2,480

PANEL AND CIRCUIT BREAKER NOTES:
[1] MULTIPLE CIRCUITS SHARING THE SAME CONDUIT AND NEUTRAL SHALL HAVE HANDLE TIES AT BREAKERS AND WIRE IN PANEL TIES PER CEC 210.4.
[2] CIRCUIT APPLICABLE TO ALTERNATE BID.

DEMAND LOADS		
LIGHTING / CONTINUOUS LOAD x 125%		Watts
RECEPTACLES / OTHER x 100%	6,860	Watts
LARGEST MOTOR x 25%	125	Watts
TOTAL DEMAND LOADS	6,985	Watts
TOTAL DEMAND AMPS	19	AMPS

PANEL "R1"

120/208 Volt, 3 Phase, 4 Wire — 35 KAIC Rating
225 Amp BUS CU. — SURFACE Mounted
Amp MCB — NEMA 1 Type
225 Amp MLO

PHASE SUMMARY (WATTS)

CKT.	BKR	DESCRIPTION	A	B	C	A	B	C	DESCRIPTION	BKR	CKT.
1	20/1	RECEPT - OFFICE	1,080			1,080			RECEPT - OFFICE	20/1	2
3	20/1	RECEPT - OFFICE		1,080			1,080		RECEPT - OFFICE	20/1	4
5	20/1	RECEPT - OFFICE			1,080			1,080	RECEPT - OFFICE	20/1	6
7	20/1	RECEPT - OFFICE	1,080			1,080			RECEPT - OFFICE	20/1	8
9	20/1	RECEPT - OFFICE		1,080			1,080		RECEPT - OFFICE	20/1	10
11	20/1	RECEPT - OFFICE			1,260			360	RECEPT - PRINT AREA	20/1	12
13	20/1	RECEPT - EXAM ROOM	720			720			RECEPT - PRINT AREA	20/1	14
15	20/1	RECEPT - EXAM ROOM		720			1,080		FURNITURE - OPEN OFFICE	20/1	16
17	20/1	RECEPT - ASSESSMENT LAB			1,080			1,080	FURNITURE - OPEN OFFICE	20/1	18
19	20/1	RECEPT - EXAM ROOM	720			1,080			FURNITURE - OPEN OFFICE	20/1	20
21	20/1	RECEPT - ASSESSMENT LAB		720			720		RECEPT - OPEN OFFICE	20/1	22
23	20/1	RECEPT - ASSESSMENT LAB			1,080			720	RECEPT - OPEN OFFICE	20/1	24
25	20/1	RECEPT - ASSESSMENT LAB	1,080			540			RECEPT - RR	20/1	26
27	20/1	RECEPT - ASSESSMENT LAB		720			1,080		RECEPT - OFFICE	20/1	28
29	20/1	RECEPT - IDF			180			1,080	RECEPT - OFFICE	20/1	30
31	20/1	RECEPT - LAB-GROUP COUNS	1,080			1,080			RECEPT - SUP. OFFICE	20/1	32
33	20/1	RECEPT - LAB-GROUP COUNS		1,080			900		RECEPT - JANITOR & HALL	20/1	34
35	20/1	RECEPT - LAB-GROUP COUNS			1,080			800	RECEPT - ELEC, FIRE RISER	20/1	36
37	20/1	SPARE							SPARE	20/1	38
39	20/1	SPARE							SPARE	20/1	40
41	20/1	SPARE							SPARE	20/1	42

PHASE TOTALS		
A	B	C
11,340	11,340	10,880

PANEL AND CIRCUIT BREAKER NOTES:
[1] MULTIPLE CIRCUITS SHARING THE SAME CONDUIT AND NEUTRAL SHALL HAVE HANDLE TIES AT BREAKERS AND WIRE IN PANEL TIES PER CEC 210.4.
[2]

DEMAND LOADS		
LIGHTING / CONTINUOUS LOAD x 125%		Watts
RECEPTACLES / OTHER x 100%	33,560	Watts
LARGEST MOTOR x 25%		Watts
TOTAL DEMAND LOADS	33,560	Watts
TOTAL DEMAND AMPS	93	AMPS

PANEL "R4"

120/208 Volt, 3 Phase, 4 Wire — 14 KAIC Rating
225 Amp BUS CU. — SURFACE Mounted
Amp MCB — NEMA 1 Type
225 Amp MLO

PHASE SUMMARY (WATTS)

CKT.	BKR	DESCRIPTION	A	B	C	A	B	C	DESCRIPTION	BKR	CKT.
1	20/1	RECEPT - CONF. RM	1,080			1,080			RECEPT - OFFICE	20/1	2
3	20/1	RECEPT - CONF. RM		720			1,080		RECEPT - STORAGE	20/1	4
5	20/1	RECEPT - CONF. RM			280			1,080	RECEPT - OFFICE	20/1	6
7	20/1	CONF RM - AV CONTROLLER	100			1,080			RECEPT - OFFICE	20/1	8
9	20/1	RECEPT - LOUNGE		1,080			1,080		RECEPT - OFFICE	20/1	10
11	20/1	RECEPT - CONF. RM			1,080			1,080	RECEPT - OFFICE	20/1	12
13	20/1	RECEPT - RECEPTION	1,260			1,080			RECEPT - OFFICE	20/1	14
15	20/1	RECEPT - OFFICE		720			1,080		RECEPT - OFFICE	20/1	16
17	20/1	FURNITURE			1,080			1,080	FURNITURE	20/1	18
19	20/1	FURNITURE	1,260			1,080			FURNITURE	20/1	20
21	20/1	FURNITURE		1,080			1,080		FURNITURE	20/1	22
23	20/1	DRINKING FOUNTAIN			370			720	FURNITURE	20/1	24
25	20/1	RECEPT - MPOE	900			720			FURNITURE	20/1	26
27	20/1	RECEPT - MPOE		360			720		FURNITURE	20/1	28
29	20/1	RECEPT - 2ND FLR IDF RM			360			720	FURNITURE	20/1	30
31	20/1	RECEPT - COPY MCHN. RM	500			720			FURNITURE	20/1	32
33	20/1	RECEPT		1,200			720		FURNITURE	20/1	34
35	20/1	RECEPT - ROOF			540			200	CLOCK - ROOF	20/1	36
37	20/1	SPARE							SPARE	20/1	38
39	20/1	SPARE							SPARE	20/1	40
41	20/1	SPARE							SPARE	20/1	42

PHASE TOTALS		
A	B	C
10,860	10,920	8,590

PANEL AND CIRCUIT BREAKER NOTES:
[1] MULTIPLE CIRCUITS SHARING THE SAME CONDUIT AND NEUTRAL SHALL HAVE HANDLE TIES AT BREAKERS AND WIRE IN PANEL TIES PER CEC 210.4.
[2]

DEMAND LOADS		
LIGHTING / CONTINUOUS LOAD x 125%		Watts
RECEPTACLES / OTHER x 100%	30,370	Watts
LARGEST MOTOR x 25%		Watts
TOTAL DEMAND LOADS	30,370	Watts
TOTAL DEMAND AMPS	84	AMPS

PANEL "P2"

120/208 Volt, 3 Phase, 4 Wire — 35 KAIC Rating
225 Amp BUS CU. — SURFACE Mounted
Amp MCB — NEMA 1 Type
225 Amp MLO

PHASE SUMMARY (WATTS)

CKT.	BKR	DESCRIPTION	A	B	C	A	B	C	DESCRIPTION	BKR	CKT.
1	20/1	FA POWER SUPPLY 'FAPS2'	200			200			SECURITY PANEL PWR SUPPLY	20/1	2
3	20/1	COMM SYS POWER SUPPLY		200					SPARE	20/1	4
5	20/1	OVER HEAD DOOR			300				SPARE	20/1	6
7	20/1	FIRE SMOKE DAMPER	200						SPARE	20/1	8
9	20/1	SPARE							SPARE	20/1	10
11	20/1	SPARE							SPARE	20/1	12
13	20/1	SPARE							SPARE	20/1	14
15	20/1	SPARE							SPARE	20/1	16
17	20/1	SPARE							SPARE	20/1	18
19	20/1	SPARE							SPARE	20/1	20
21	20/1	SPARE							SPARE	20/1	22
23	20/1	SPARE							SPARE	20/1	24
25	20/1	SPARE							SPARE	20/1	26
27	20/1	SPARE							SPARE	20/1	28
29	20/1	SPARE							SPARE	20/1	30
31	20/1	SPARE							SPARE	20/1	32
33	20/1	SPARE							SPARE	20/1	34
35	20/1	SPARE							SPARE	20/1	36
37	20/1	SPARE							SPARE	20/1	38
39	20/1	SPARE							SPARE	20/1	40
41	20/1	SPARE							SPARE	20/1	42

PHASE TOTALS		
A	B	C
600	200	300

PANEL AND CIRCUIT BREAKER NOTES:
[1] MULTIPLE CIRCUITS SHARING THE SAME CONDUIT AND NEUTRAL SHALL HAVE HANDLE TIES AT BREAKERS AND WIRE IN PANEL TIES PER CEC 210.4.
[2] CIRCUIT APPLICABLE TO ALTERNATE BID.

DEMAND LOADS		
LIGHTING / CONTINUOUS LOAD x 125%		Watts
RECEPTACLES / OTHER x 100%	1,100	Watts
LARGEST MOTOR x 25%		Watts
TOTAL DEMAND LOADS	1,100	Watts
TOTAL DEMAND AMPS	3	AMPS

PANEL "R2"

120/208 Volt, 3 Phase, 4 Wire — 35 KAIC Rating
225 Amp BUS CU. — SURFACE Mounted
Amp MCB — NEMA 1 Type
225 Amp MLO

PHASE SUMMARY (WATTS)

CKT.	BKR	DESCRIPTION	A	B	C	A	B	C	DESCRIPTION	BKR	CKT.
1	20/1	RCPT - ASSESSMENT LAB	1,080			1,080			FURNITURE - OPEN OFFICE	20/1	2
3	20/1	RECEPT - OFFICE		1,080			1,080		FURNITURE - OPEN OFFICE	20/1	4
5	20/1	RECEPT - OFFICE			1,080			1,080	FURNITURE - OPEN OFFICE	20/1	6
7	20/1	RECEPT - RR, STORAGE	900			1,080			FURNITURE - OPEN OFFICE	20/1	8
9	20/1	RECEPT - OFFICE		1,080			1,080		FURNITURE - OPEN OFFICE	20/1	10
11	20/1	RECEPT - OFFICE			1,080			1,080	FURNITURE - OPEN OFFICE	20/1	12
13	20/1	RECEPT - OFFICE	1,080			1,080			FURN - LAB E-SERVICES	20/1	14
15	20/1	RECEPT - OFFICE		1,080			1,080		FURN - LAB E-SERVICES	20/1	16
17	20/1	RECEPT - OFFICE			1,080			1,080	FURN - LAB E-SERVICES	20/1	18
19	20/1	RECEPT - OFFICE	1,080			1,080			FURN - LAB E-SERVICES	20/1	20
21	20/1	RECEPT - CONF. RM		1,080			1,080		FURN - LAB E-SERVICES	20/1	22
23	20/1	SPARE			1,080			1,080	FURN - LAB E-SERVICES	20/1	24
25	20/1	CONF. RM - AV CONTROLLER	100			1,080			FURN - LAB E-SERVICES	20/1	26
27	20/1	RCPT - LAB E-SERVICES		720			1,080		FURN - LAB E-SERVICES	20/1	28
29	20/1	RECEPT - WELCOME DESK			900			1,080	FURN - LAB E-SERVICES	20/1	30
31	20/1	RCPT - LAB-GROUP COUNS	1,080			1,080			FURNITURE - LOBBY	20/1	32
33	20/1	RCPT - LAB-GROUP COUNS		360			1,080		FURNITURE - LOBBY	20/1	34
35	20/1	RECEPT - COPY/FAX MACHINE			360			1,080	FURNITURE - LOBBY	20/1	36
37	20/1	RECEPT - STANDING STATIONS	720						SPARE	20/1	38
39	20/1	RECEPT - STANDING STATIONS		540					SPARE	20/1	40
41	20/1	RECEPT - STANDING STATIONS			1,080				SPARE	20/1	42

PHASE TOTALS		
A	B	C
12,520	12,420	13,140

PANEL AND CIRCUIT BREAKER NOTES:
[1] MULTIPLE CIRCUITS SHARING THE SAME CONDUIT AND NEUTRAL SHALL HAVE HANDLE TIES AT BREAKERS AND WIRE IN PANEL TIES PER CEC 210.4.
[2]

DEMAND LOADS		
LIGHTING / CONTINUOUS LOAD x 125%		Watts
RECEPTACLES / OTHER x 100%	38,080	Watts
LARGEST MOTOR x 25%		Watts
TOTAL DEMAND LOADS	38,080	Watts
TOTAL DEMAND AMPS	106	AMPS

PANEL "H1"

120/208 Volt, 3 Phase, 4 Wire — 35 KAIC Rating
225 Amp BUS CU. — SURFACE Mounted
Amp MCB — NEMA 1 Type
225 Amp MLO

PHASE SUMMARY (WATTS)

CKT.	BKR	DESCRIPTION	A	B	C	A	B	C	DESCRIPTION	BKR	CKT.
1	35/3	HOT WATER PUMP 'HWP-1'	2,102						SPACE	PFB	2
3	-			2,102					SPACE	PFB	4
5	-				2,102				SPACE	PFB	6
7	35/3	HOT WATER PUMP 'HWP-2'	2,102						SPACE	PFB	8
9	-			2,102					SPACE	PFB	10
11	-				2,102				SPACE	PFB	12
13	90/3	CHILLED WATER PUMP 'CHWP-3'	5,800						SPACE	PFB	14
15	-			5,800					SPACE	PFB	16
17	-				5,800				SPACE	PFB	18
19	90/3	CHILLED WATER PUMP 'CHWP-4'	5,800						SPACE	PFB	20
21	-			5,800					SPACE	PFB	22
23	-				5,800				SPACE	PFB	24
25	15/2	FAN COIL 'FC-1'	79						SPACE	PFB	26
27	-			79					SPACE	PFB	28
29	15/2	FAN COIL 'FC-2'			79				SPACE	PFB	30
31	-		79						SPACE	PFB	32
33	PFB	SPACE							SPACE	PFB	34
35	PFB	SPACE							SPACE	PFB	36
37	PFB	SPACE							SPACE	PFB	38
39	PFB	SPACE							SPACE	PFB	40
41	PFB	SPACE							SPACE	PFB	42

PHASE TOTALS		
A	B	C
15,962	15,883	15,883

PANEL AND CIRCUIT BREAKER NOTES:
[1] MULTIPLE CIRCUITS SHARING THE SAME CONDUIT AND NEUTRAL SHALL HAVE HANDLE TIES AT BREAKERS AND WIRE IN PANEL TIES PER CEC 210.4.
[2]

DEMAND LOADS		
LIGHTING / CONTINUOUS LOAD x 125%		Watts
RECEPTACLES / OTHER x 100%	47,728	Watts
LARGEST MOTOR x 25%	1,450	Watts
TOTAL DEMAND LOADS	49,178	Watts
TOTAL DEMAND AMPS	137	AMPS

PANEL "L1"

120/208 Volt, 3 Phase, 4 Wire — 35 KAIC Rating
225 Amp BUS CU. — SURFACE Mounted
Amp MCB — NEMA 1 Type
225 Amp MLO

PHASE SUMMARY (WATTS)

CKT.	BKR	DESCRIPTION	A	B	C	A	B	C	DESCRIPTION	BKR	CKT.
1	20/1	LTG - NW 1ST FLOOR	1,150			1,236			LTG - RR,WEST OFFICES,MECH	20/1	2
3	20/1	LTG - NE 1ST FLOOR		1,274			1,405		LTG - OPEN OFFICES	20/1	4
5	20/1	LTG - SE 1ST FLOOR			1,363			20	LTG - ELEVATOR PIT	20/1	6
7	20/1	LTG - EXTERIOR	175			180			LTG - EDGE LIT SIGNS	20/1	8
9	20/1	LTG - ELEVATOR CNTR RM		32			205		LTG - EXTERIOR	20/1	10
11	20/1	LTG - NW 1ST FLOOR			286			905	LTG - EXIST COLLEGE CENTER	20/1	12
13	20/1	LTG - EXTERIOR	135			1,488			LTG - EXIST COLLEGE CNTR [2]	20/1	14
15	20/1	SPARE					744		LTG - EXIST COLLEGE CNTR [2]	20/1	16
17	20/1	SPARE							SPARE	20/1	18
19	20/1	SPARE							SPARE	20/1	20
21	20/1	SPARE							SPARE	20/1	22
23	20/1	SPARE							SPARE	20/1	24
25	20/1	SPARE							SPARE	20/1	26
27	20/1	SPARE							SPARE	20/1	28
29	20/1	SPARE							SPARE	20/1	30

PHASE TOTALS		
A	B	C
4,364	3,660	2,574

PANEL AND CIRCUIT BREAKER NOTES:
[1] MULTIPLE CIRCUITS SHARING THE SAME CONDUIT AND NEUTRAL SHALL HAVE HANDLE TIES AT BREAKERS AND WIRE IN PANEL TIES PER CEC 210.4.
[2] CIRCUIT APPLICABLE TO ALTERNATE BID.

DEMAND LOADS		
LIGHTING / CONTINUOUS LOAD x 125%	13,248	Watts
RECEPTACLES / OTHER x 100%		Watts
LARGEST MOTOR x 25%		Watts
TOTAL DEMAND LOADS	13,248	Watts
TOTAL DEMAND AMPS	37	AMPS

PANEL "R5"

△2

120/208 Volt, 3 Phase, 4 Wire — 14 KAIC Rating
225 Amp BUS CU. — SURFACE Mounted
Amp MCB — NEMA 1 Type
225 Amp MLO

PHASE SUMMARY (WATTS)

CKT.	BKR	DESCRIPTION	A	B	C	A	B	C	DESCRIPTION	BKR	CKT.
1	20/1	SPARE				1,080			FURNITURE	20/1	2
3	20/1	SPARE					1,080		FURNITURE	20/1	4
5	20/1	SPARE						1,080	FURNITURE	20/1	6
7	20/1	SPARE							SPARE	20/1	8
9	20/1	SPARE							SPARE	20/1	10
11	20/1	SPARE							SPARE	20/1	12
13	20/1	SPARE							SPARE	20/1	14
15	20/1	SPARE							SPARE	20/1	16
17	20/1	SPARE							SPARE	20/1	18
19	20/1	SPARE							SPARE	20/1	20
21	20/1	SPARE							SPARE	20/1	22
23	20/1	SPARE							SPARE	20/1	24
25	PFB	SPACE							SPACE	PFB	26
27	PFB	SPACE							SPACE	PFB	28
29	PFB	SPACE							SPACE	PFB	30
31	PFB	SPACE							SPACE	PFB	32
33	PFB	SPACE							SPACE	PFB	34
35	PFB	SPACE							SPACE	PFB	36
37	PFB	SPACE							SPACE	PFB	38
39	PFB	SPACE							SPACE	PFB	40
41	PFB	SPACE							SPACE	PFB	42

PHASE TOTALS		
A	B	C
1,080	1,080	1,080

PANEL AND CIRCUIT BREAKER NOTES:
[1] MULTIPLE CIRCUITS SHARING THE SAME CONDUIT AND NEUTRAL SHALL HAVE HANDLE TIES AT BREAKERS AND WIRE IN PANEL TIES PER CEC 210.4.
[2]

DEMAND LOADS		
LIGHTING / CONTINUOUS LOAD x 125%		Watts
RECEPTACLES / OTHER x 100%	3,240	Watts
LARGEST MOTOR x 25%		Watts
TOTAL DEMAND LOADS	3,240	Watts
TOTAL DEMAND AMPS	9	AMPS

PANEL "H2"

120/208 Volt, 3 Phase, 4 Wire — 22 KAIC Rating
400 Amp BUS CU. — SURFACE Mounted
Amp MCB — NEMA 1 Type
400 Amp MLO

PHASE SUMMARY (WATTS)

CKT.	BKR	DESCRIPTION	A	B	C	A	B	C	DESCRIPTION	BKR	CKT.
1	125/3	AIR HANDLER UNIT 'AHU-1'	13,113			1,675			CHILLED WATER PUMP 'CHWP-3'	20/2	2
3	-			13,113			1,675			-	4
5	-				13,113			1,675	CONDENSING UNIT 'CU-3'	20/2	6
7	110/3	AIR HANDLER UNIT 'AHU-2'	9,823			1,675				-	8
9	-			9,823			1,675		CONDENSING UNIT 'CU-4'	20/2	10
11	-				9,823			1,675		-	12
13	15/3	MECH UNIT 'REF-1'	576			1,310			CONDENSING UNIT 'CU-1'	15/2	14
15	-			576			1,310			-	16
17	-				576			79	FAN COIL 'FC-3'	15/2	18
19	15/1	MECH UNIT 'REF-2'	360			79				-	20
21	20/1	WATER HEATER 'WH-1'		81			79		FAN COIL 'FC-4'	15/2	22
23	15/1	CIRC PUMP 'CP-1'			55			79		-	24
25	PFB	SPACE							SPACE	PFB	26
27	PFB	SPACE							SPACE	PFB	28
29	PFB	SPACE							SPACE	PFB	30
31	PFB	SPACE							SPACE	PFB	32
33	PFB	SPACE							SPACE	PFB	34
35	PFB	SPACE							SPACE	PFB	36
37	PFB	SPACE							SPACE	PFB	38
39	PFB	SPACE							SPACE	PFB	40
41	PFB	SPACE							SPACE	PFB	42

PHASE TOTALS		
A	B	C
28,666	28,332	27,075

PANEL AND CIRCUIT BREAKER NOTES:
[1] MULTIPLE CIRCUITS SHARING THE SAME CONDUIT AND NEUTRAL SHALL HAVE HANDLE TIES AT BREAKERS AND WIRE IN PANEL TIES PER CEC 210.4.
[2]

DEMAND LOADS		
LIGHTING / CONTINUOUS LOAD x 125%		Watts
RECEPTACLES / OTHER x 100%	84,018	Watts
LARGEST MOTOR x 25%	3,278	Watts
TOTAL DEMAND LOADS	87,296	Watts
TOTAL DEMAND AMPS	242	AMPS

PANEL "L2"

120/208 Volt, 3 Phase, 4 Wire — 14 KAIC Rating
225 Amp BUS CU. — SURFACE Mounted
Amp MCB — NEMA 1 Type
225 Amp MLO

PHASE SUMMARY (WATTS)

CKT.	BKR	DESCRIPTION	A	B	C	A	B	C	DESCRIPTION	BKR	CKT.
1	20/1	LTG - SECOND FLOOR - N.W.	1,272			932			LTG - SECOND FLOOR - N.E.	20/1	2
3	20/1	LTG - SECOND FLOOR - WEST		1,515			1,423		LTG - SECOND FLOOR - EAST	20/1	4
5	20/1	LTG - SECOND FLOOR - S.E.			608			1,171	LTG - CORRIDOR	20/1	6
7	20/1	LTG - CORRIDOR	1,081			725			LTG - CORRIDOR	20/1	8
9	20/1	LTG - ROOF SIGN		500			140		LTG - EDGE LIT	20/1	10
11	20/1	SPARE						44	LTG - EXIT LIGHTS	20/1	12
13	20/1	SPARE							SPARE	20/1	14
15	20/1	SPARE							SPARE	20/1	16
17	20/1	SPARE							SPARE	20/1	18
19	20/1	SPARE							SPARE	20/1	20
21	20/1	SPARE							SPARE	20/1	22
23	20/1	SPARE							SPARE	20/1	24
25	20/1	SPARE							SPARE	20/1	26
27	20/1	SPARE							SPARE	20/1	28
29	20/1	SPARE							SPARE	20/1	30

PHASE TOTALS		
A	B	C
4,010	3,578	1,823

PANEL AND CIRCUIT BREAKER NOTES:
[1] MULTIPLE CIRCUITS SHARING THE SAME CONDUIT AND NEUTRAL SHALL HAVE HANDLE TIES AT BREAKERS AND WIRE IN PANEL TIES PER CEC 210.4.
[2]

DEMAND LOADS		
LIGHTING / CONTINUOUS LOAD x 125%	11,764	Watts
RECEPTACLES / OTHER x 100%		Watts
LARGEST MOTOR x 25%		Watts
TOTAL DEMAND LOADS	11,764	Watts
TOTAL DEMAND AMPS	33	AMPS

LPAS
2484 Natomas Park Drive Suite 100 Sacramento CA 95833
916 443 0335 lpasdesign.com Architecture + Design

COSUMNES RIVER COLLEGE

COLLEGE CENTER EXPANSION

8401 CENTER PARKWAY, SACRAMENTO, CA 95823

NO.	ISSUE	DATE
1	ADDENDUM #1	03-29-18
2	ADDENDUM #2	04-13-18

LICENSED ARCHITECT — TROY PENNINGTON C-31285 — 5-31-19 RENEWAL DATE — STATE OF CALIFORNIA

FILE NO.43-C1
IDENTIFICATION STAMP DIV. OF THE STATE ARCHITECT OFFICE OF REGULATION SERVICES
02-115990
AC ____ FLS ____ SS ____
DATE ____

ARCHITECT'S STAMP — APPROVAL

CONSULTANT

CONSULTING ENGINEERS
MEP & FS / Sustainability / CxA
1209 Pleasant Grove Blvd.
Roseville, CA 95678
p 916-771-0778
www.lpengineers.com
Job #: 15-2266

REGISTERED PROFESSIONAL ENGINEER — JINGPEI ZHANG — E 16243 — EXP. 12-31-18 — ELECTRICAL — STATE OF CALIFORNIA

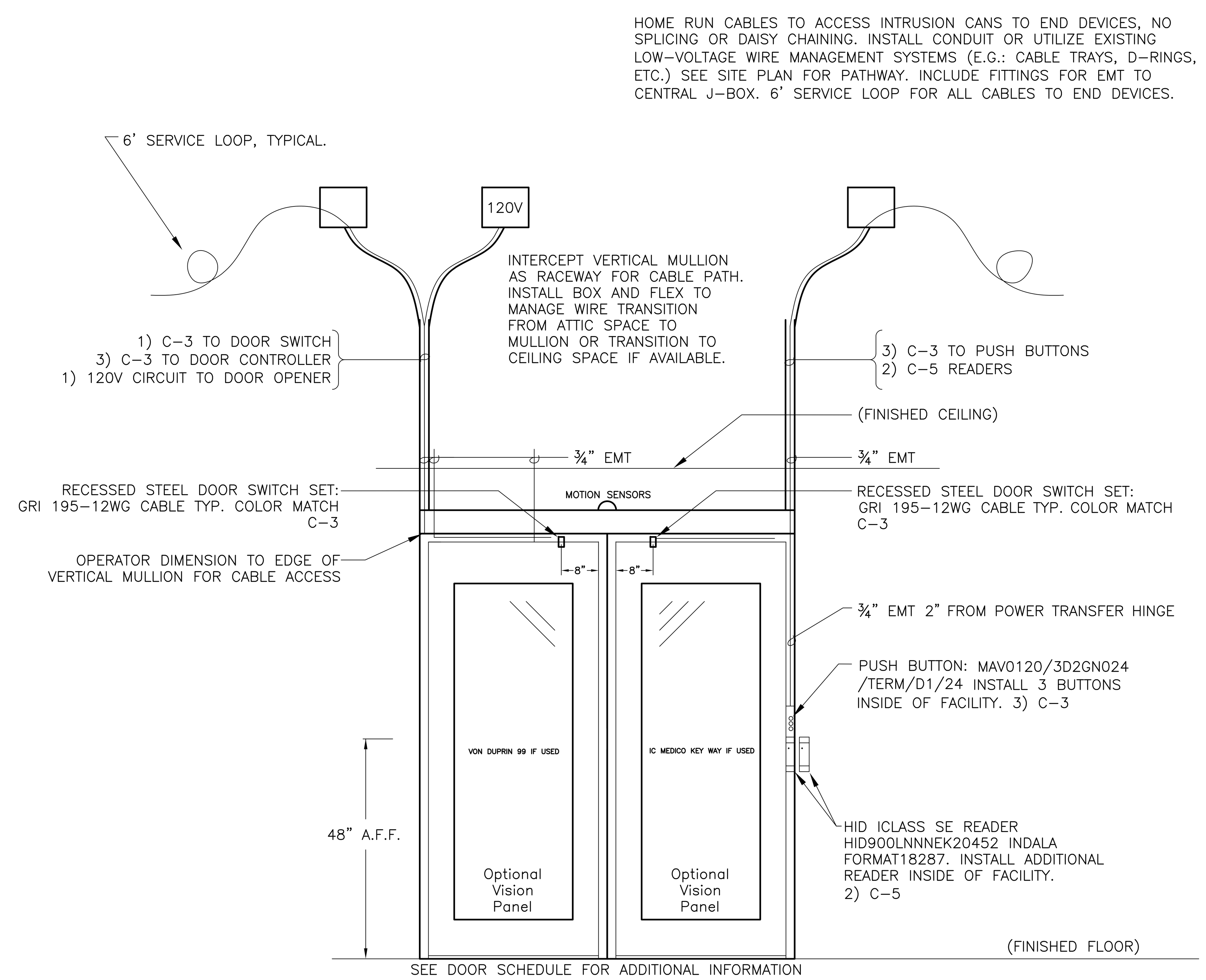
ELECTRICAL PANEL SCHEDULES

PROJECT NO: 201-0065
DATE: 01.19.2018

SHEET NO:
E7.02

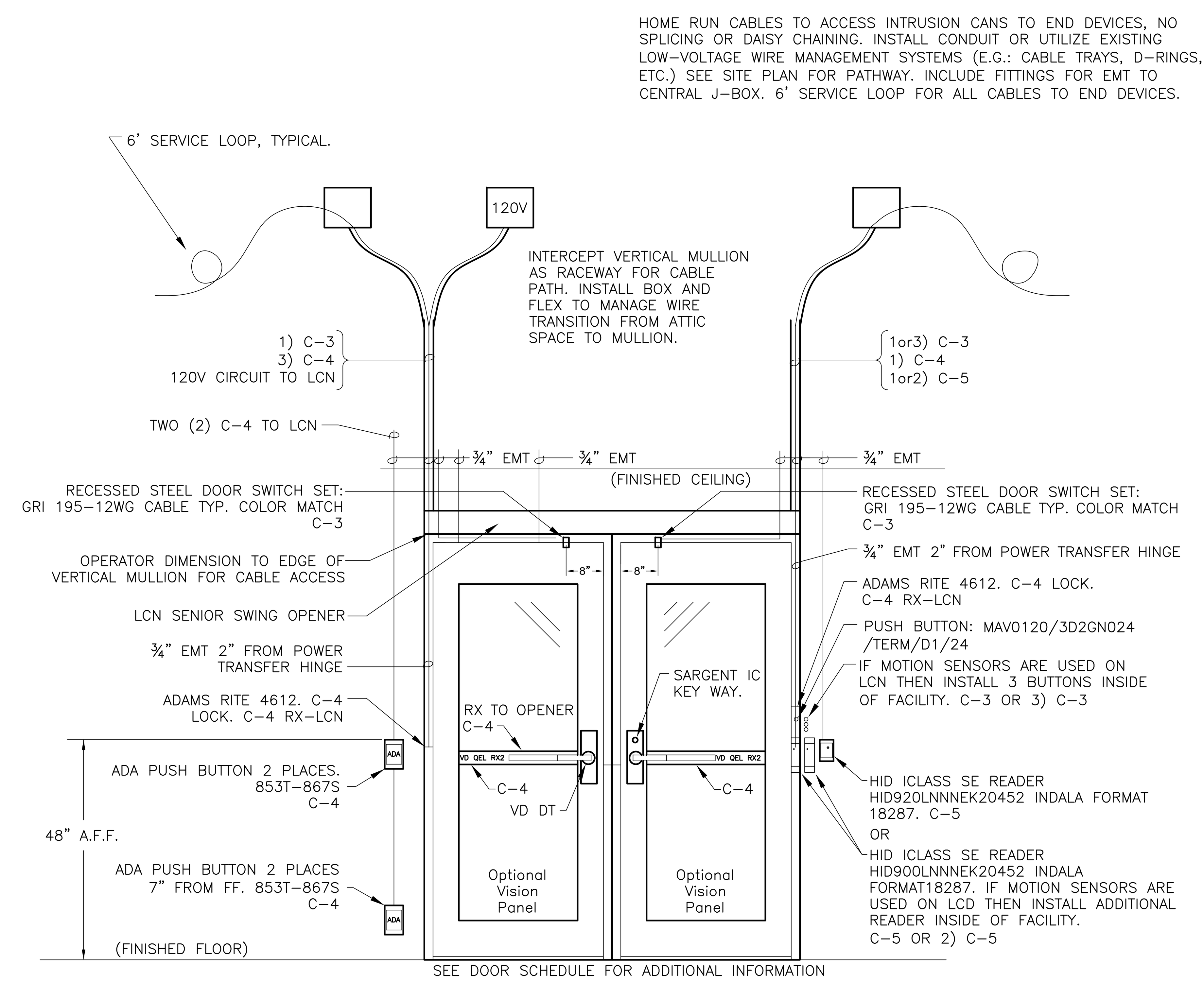
DSA SUBMITTAL II

6/8/2017 7:46:09 AM



FILENAME

STOREFRONT SLIDER WITH MOTION SENSOR OPENER — NTS — 2



FILENAME

STOREFRONT DOUBLE OR SLIDER WITH OPENER — NTS — 1

GENERAL NOTES

1. FINAL FIBER TERMINATIONS BY ELECTRICAL CONTRACTOR.
2. FIBER SHALL BE CORE ALIGNED FUSION SPLICE.
3. THE FIBER TERMINATIONS AND CONNECTOR TYPE FOR ALL NEW SIGLE–MODE FIBER SHALL BE FACTORY POLISHED UPC LC AT BOTH ENDS.
4. BACKBONE TWISTED PAIR CABLE SHALL ROUTE UNDERGROUND BETWEEN BUILDINGS FROM THE MAIN DISTRIBUTION CROSS CONNECT ROOM (MC), TO THE BUILDING INTERMEDIATE DISTRIBUTION CROSS CONNECT (IC), IN A STAR TOPOLOGY, AND SHALL CONSIST OF ONE MULT–CONDUCTOR PAIR, CATEGORY 3, UTP, OSP, FILLED BLOCKS.
5. PROVIDE FUSE PROTECTORS TO OSP CABLE TO 110 TERMINAL BLOCKS.
6. BACKBONE CAT 5E CABLE RISER BETWEEN THE BUILDING TR ON THE 1ST FLOOR TO THE 2ND FLOOR TR. CABLE SHALL BE TERMINATED ON 110 STYLE PUNCH DOWN BLOCKS AT EACH END FOR CROSS–CONNECTED PURPOSES.
7. TIE COPPER FIELD WITH WALL–MOUNTED, 110 STYLE PUNCH DOWN BLOCKS FOR CROSS–CONNECT PURPOSES WITH ADJACENT BACKBONE FIELD AT THE TR. 110 BLOCKS SHALL BE WIRED TO 25–PAIR POWER SUM CABLES TO INTERFACE WITH RACK MOUNTED, 24 PORT, CATEGORY 5E VOICE FIELD PATCH PANELS. ONE PAIR PER PORT.
8. BACKBONE TWISTED PAIR CABLING:
   A. SHALL BE SUITABLE FOR INDOOR INSTALLATIONS, EXPOSED WITHIN TELECOM ROOMS ON CABLE RUNWAY, ABOVE CEILINGS IN CABLE TRAY AND OR J–HOOKS AND BELOW RAISED FLOORS IN CABLE TRAYS. EACH ABLE RUN SHALL BE CONTINUOUS SINGLE 25 PAIR CABLE, HOMOGENOUS IN NATURE, WITHOUT SPLICES. TO PROVIDE SUPPORT FOR BACKBONE AND HORIZONTAL APPLICATIONS. TO BRING THE BACKBONE ANALOG TELEPHONE CIRCUIT TO DATA EQUIPMENT RACK TELEPHONE PATCH PANEL. WILL SUPPORT 10BASET THROUGH 1000BASET EHTERNET, ATM & TOKEN RING.
   B. CABLES SHALL MEET CAT5E POWER SUM PERFORMANCE CRITERIA.
   C. CABLES SHALL BE CMR OR CMP RATED.
9. BEP TERMINALS BE DESIGNED FOR WALL MOUNTED CONFIGURATIONS AND SHALL HAVE THE CAPACITY TO ACCEPT 50 TO 100–PAIR INCOMING AND/OR OUTGOING CABLE PAIRS.
10. BACKBONE FIBER OPTIC CABLE SHALL ROUTE BETWEEN THE EXISTING BUILDING MDF AND THE NEW IC TELECOM ROOM ON THE 1ST FLOOR OF THE NEW BUILDING, AND SHALL CONSIST OF ONE 48–STRAND SINGLE MODE FIBER OPTIC CABLE. THIS CAN BE 12–STRAND.

2 (revision)

KEY NOTES

(1) TWO (2) 2"EC FROM ELECTRICAL/COMMUNICATION ROOM IN (E) COLLEGE CENTER BUILDING TO COLLEGE CENTER EXPANSION MPOE FOR DATA ROUTED ABOVE CEILING. ONE (1) 2"C WITH 25PR CAT5E POWERSUM TIE CABLE + ONE (1) 24 STRAND SINGLE–MODE FIBER LC/LC CABLE FROM MPOE TO EXISTING TELECOM CLOSET 1.2 IN EXISTING COLLEGE CENTER BUILDING ROUTED ABOVE CEILING. ONE (1) 2"EC FROM ELECTRICAL ROOM IN (E) COLLEGE CENTER BUILDING TO COLLEGE CENTER EXPANSION MPOE FOR CABLE TV PER DRAWING E1.03.

(2) PROVIDE AND INSTALL ONE (1) 24 STRAND SINGLE–MODE FIBER LC/LC CABLE + ONE (1) 4"C + TWO (2) 2"C TO CRC COLLEGE CENTER EXPANSION MPOE ROOM PER DRAWING E1.03.

(3) ONE (1) 2"C WITH 25 PAIR CAT 5E POWERSUM TIE CABLE + ONE (1) 24 STRAND SINGLE–MODE FIBER LC/LC CABLE TO FIRST FLOOR IDF ROOM PER DRAWING E1.03.

(4) BERK–TEK SINGLE–MODE, ARMORED, 96–STRAND, INDOOR/OUTDOOR FIBER OPTIC CABLE FROM THE MAIN MC IN THE LIBRARY BUILDING TO THE COLLEGE CENTER EXPANSION MPOE, USING EXISTING AND NEW CONDUITS PER DRAWING E1.02.

KEY NOTES CONTINUED

(5) ONE (1) 24 STRAND SINGLE–MODE FIBER LC/LC CABLE FROM MPOE TO SECOND FLOOR IDF ROOM.

(6) ONE (1) 24 STRAND SINGLE–MODE FIBER LC/LC CABLE FROM MPOE TO FIRST FLOOR IDF ROOM.

(7) REFER TO ELECTRICAL SITE PLAN ON SHEET E1.03 FOR TELECOM ROOM DEVICE LOCATIONS.

(8) ONE (1) 25 PAIR CAT5E TIE CABLE FROM (E) IC 1.1 TO MPOE.

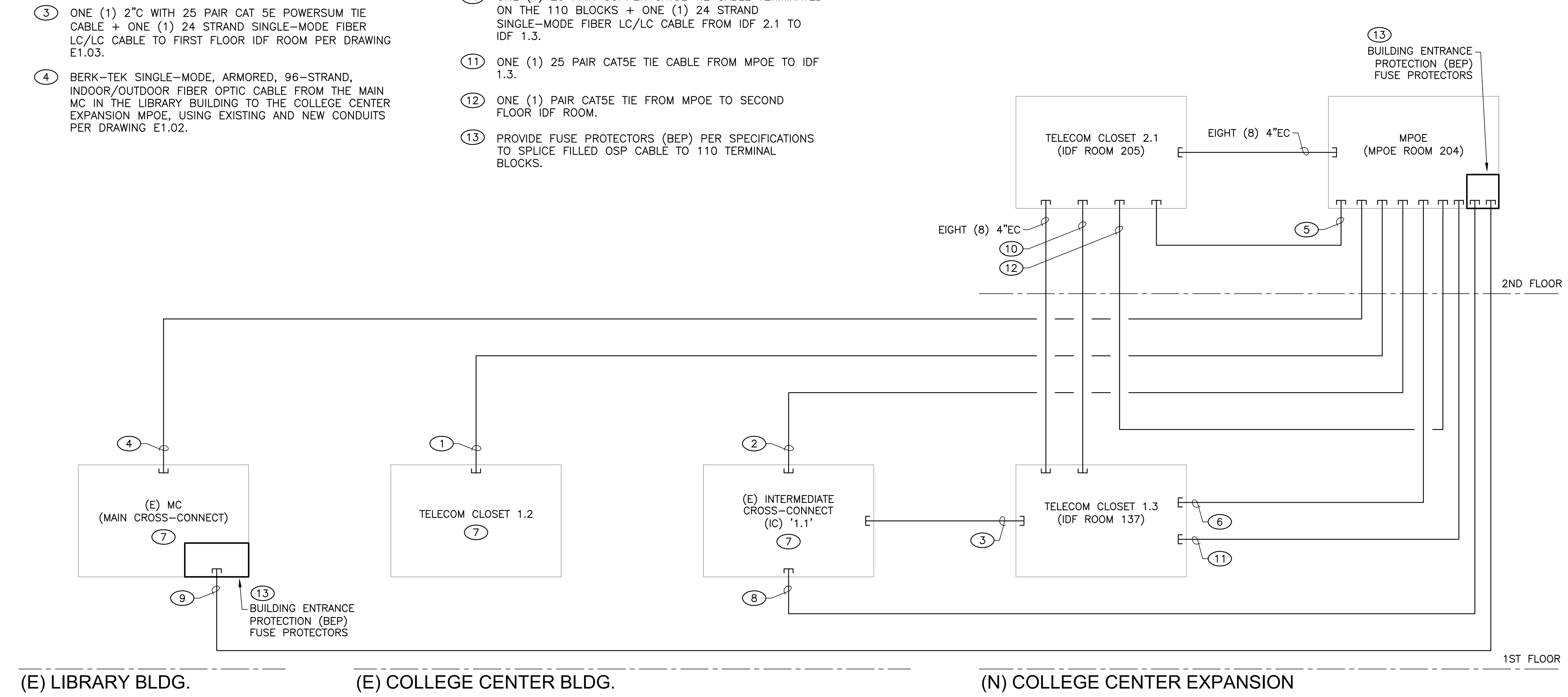
(9) ONE (1) 50 PAIR CAT3 TIE CABLE FROM MPOE TO LIBRARY (E) MC.

(10) ONE (1) 25 PAIR COPPER CAT5E TIE CABLE TERMINATED ON THE 110 BLOCKS + ONE (1) 24 STRAND SINGLE–MODE FIBER LC/LC CABLE FROM IDF 2.1 TO IDF 1.3.

(11) ONE (1) 25 PAIR CAT5E TIE CABLE FROM MPOE TO IDF 1.3.

(12) ONE (1) PAIR CAT5E TIE FROM MPOE TO SECOND FLOOR IDF ROOM.

(13) PROVIDE FUSE PROTECTORS (BEP) PER SPECIFICATIONS TO SPLICE FILLED OSP CABLE TO 110 TERMINAL BLOCKS.



COMMUNICATION RISER — NTS — 3

LPAS

2484 Natomas Park Drive Suite 100 Sacramento CA 95833
916 443 0335 lpasdesign.com Architecture + Design

COSUMNES RIVER COLLEGE

COLLEGE CENTER EXPANSION

8401 CENTER PARKWAY, SACRAMENTO, CA 95823

NO.	ISSUE	DATE
1	ADDENDUM #1	03-29-18
2	ADDENDUM #2	04-13-18

LICENSED ARCHITECT — TROY PENNINGTON C-31285 — 5-31-19 RENEWAL DATE — STATE OF CALIFORNIA

ARCHITECT'S STAMP

FILE NO.43-C1

IDENTIFICATION STAMP DIV. OF THE STATE ARCHITECT OFFICE OF REGULATION SERVICES
02-115990
AC____ FLS____ SS____
DATE ____

APPROVAL

CONSULTANT

LP CONSULTING ENGINEERS
MEP & FS / Sustainability / CxA
1209 Pleasant Grove Blvd.
Roseville, CA 95678
p 916-771-0778
www.lpengineers.com
Job #: 15-2266

REGISTERED PROFESSIONAL ENGINEER — JINGPEI ZHANG — E 16243 — EXP. 12-31-18 — ELECTRICAL — STATE OF CALIFORNIA

DETAILS - SECURITY

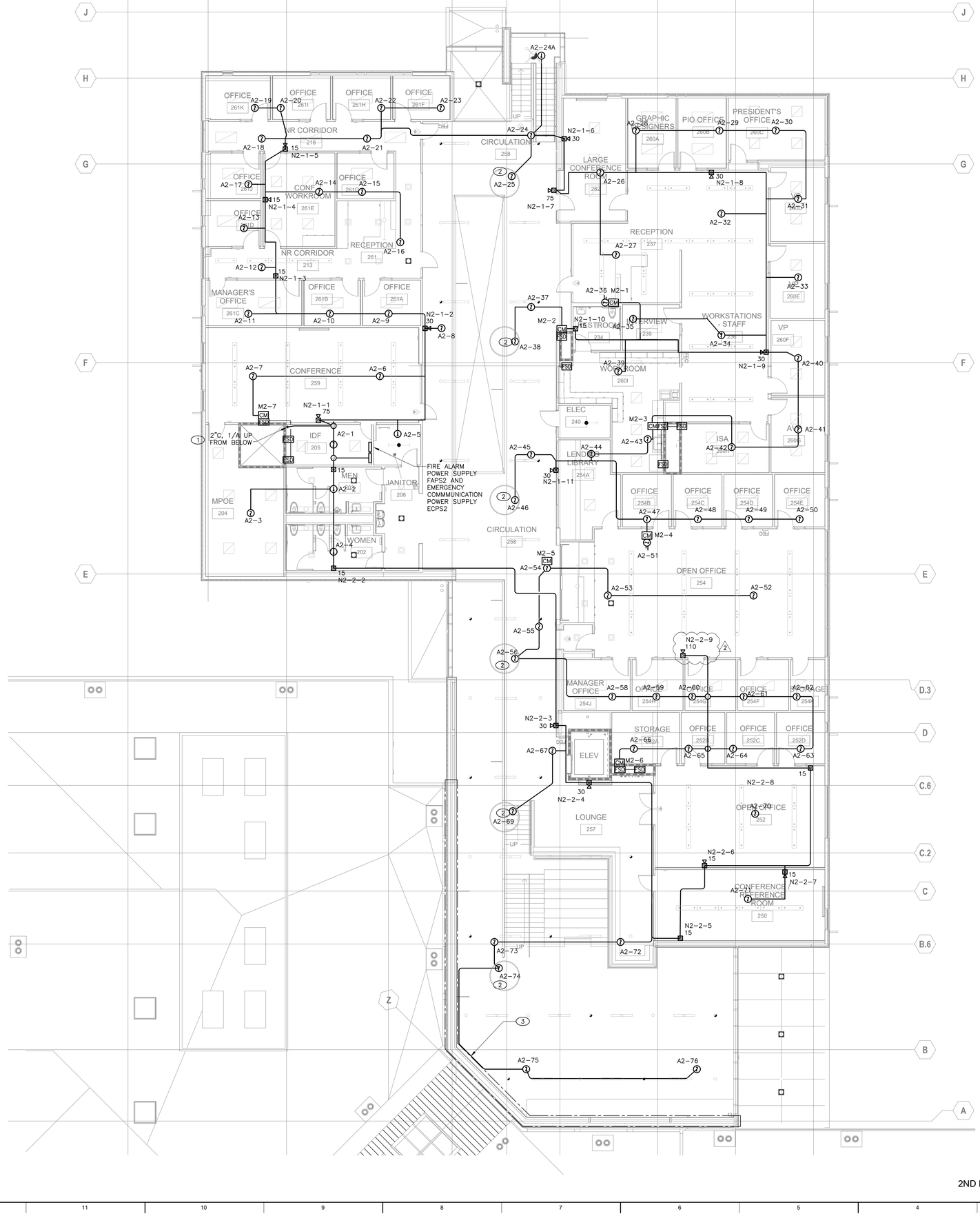
PROJECT NO: 201-0065
DATE: 01.19.2018

SHEET NO:

E8.06

DSA SUBMITTAL II

6/8/2017 7:46:09 AM



KEY NOTES

1. DOWN TO FIRST FLOOR.
2. INSTALL SMOKE DETECTOR ON SIDE OF SKY LIGHT. (ADDITIVE ALTERNATE 3) /1
3. AREA OF BUILDING EXPANSION JOINT. PROVIDE CONDUIT SEISMIC JOINT WHEN PASSING THROUGH THIS LOCATION. SEE ARCHITECTURAL DRAWINGS. REFER TO "SEISMIC JOINT CONDUIT DETAIL" 9/E8.02.

2ND FLOOR FIRE ALARM PLAN 1/8" = 1'-0" | 1

LPAS

2484 Natomas Park Drive Suite 100 Sacramento CA 95833
916 443 0335 lpasdesign.com **Architecture + Design**

COSUMNES RIVER COLLEGE

COLLEGE CENTER EXPANSION

8401 CENTER PARKWAY, SACRAMENTO, CA 95823

NO.	ISSUE	DATE
/1	ADDENDUM □1	03-29-18
/2	ADDENDUM □2	04-13-18

LICENSED ARCHITECT TROY PENNINGTON C-31289 5-31-19 RENEWAL DATE STATE OF CALIFORNIA

FILE NO.43-C1

IDENTIFICATION STAMP DIV. OF THE STATE ARCHITECT OFFICE OF REGULATION SERVICES
02-115990
AC_____ FLS _____ SS_____
DATE _____

ARCHITECT'S STAMP

APPROVAL

CONSULTANT

CONSULTING ENGINEERS

MEP & FS / Sustainability / CxA

1209 Pleasant Grove Blvd.
Roseville, CA 95678
p 916-771-0778

□□□.pen□neers.co□
Jo□□ 15-2266

REGISTERED PROFESSIONAL ENGINEER SHANNET ZINKE E 16243 EXP. 12-31-18 ELECTRICAL STATE OF CALIFORNIA

2ND FLOOR FIRE ALARM PLAN

PROJECT NO: 201-0065

DATE: 01.19.2018

SHEET NO:

FA2.02

DSA SUBMITTAL II

6/8/2017 7:46:09 AM

SECTION 00 01 10

TABLE OF CONTENTS

END OF SECTION

Table of Contents

SECTION 01 43 39
MOCK-UPS

PART 1 – GENERAL

1.1 MOCK-UPS

A. General mock-up requirements
   1. Intent of mock-up is to permit review of appearance, quality of workmanship, coordination, compatibility, and relationships with adjacent materials, to test air and water infiltration performance, and to provide Contractor with opportunity to coordinate Subcontractor Work.
   2. Maintain quality control over Work of various Sections of Specifications, manufacturers, products, services, workmanship, and site conditions to produce mock-ups in accordance with the Contract Documents.
   3. Mock-ups include, but are not necessarily limited to, the following:
      a. Exterior claddings, and finishes
      b. Special Exterior Materials
      c. Special Interior Finishes

B. Related Sections include the following:
   1. Section 031000 - Concrete Formwork.
   2. Section 032000 - Concrete Reinforcement.
   3. Section 033000 - Cast-in-Place Concrete.
   4. Section 034500 - Architectural Precast Concrete Fabrications.
   5. Section 057000 - Decorative Metal.
   6. Section 072500 – Water Resistive Barriers.
   7. Section 074264 – Aluminum Composite Metal Wall Panels.
   8. Section 075423 – TPO Roofing.
   9. Section 076200 - Sheet Metal Flashing and Trim.
   10. Section 079200 - Joint Sealants.
   11. Section 084313 - Aluminum-Framed Storefronts.
   12. Section 084413 - Glazed Aluminum Curtain Walls.
   13. Section 092400 - Portland Cement Plastering.

1.2 SUMMARY

A. Location of the mock-up assembly at Project site must be approved by the District's Representative.

B. Provide a freestanding exterior building mock-up to permit review of appearance, quality of workmanship, coordination, compatibility, and relationships with adjacent materials. The Contractor shall provide composite mock-up drawings prior to fabrication for approval by the District's Representative. Mock-up shall be constructed out of sequence as a part of this Contract and will not be incorporated into the final building. The mock-up will stand through the completion of the building exterior and serve as the standard for workmanship once it has been accepted in writing by the District's Representative. Provide the following exterior building mock-ups:
   1. Exterior wall assembly systems and finishes, including all transitions and interfaces between different materials and walls to openings/curtain wall and storefronts. This is a single comprehensive mock-up.
      a. Stucco: screeds, flashings, control and expansion joints, intersections with heads/jambs/sills of windows and doors and penetrations.
      b. Thin brick to metal, with inside corner.
      c. Metal panel to metal panel, with inside and outside corners.
      d. Curtain wall to metal panel, with inside corner.

e. Curtain wall to curtain wall, with outside corner.
f. Curtain wall to thin brick, with inside corner.

2. Exterior paving including all finishes specified.

C. Provide full size room mock-ups within the building. The rooms to serve as the mock-ups shall be determined at time of construction. Room mock-up shall include all required floor, wall, and ceilings finishes, casework, light fixtures, door(s) and frame(s), glazing, mechanical diffusers, and other required materials and finishes. Make necessary modifications until room mock-up is accepted by the District's Representative. Mock-up shall be constructed out of sequence as a part of this Contract. Upon acceptance, the room mock-up will be incorporated into the final completed Project.

Provide the following room mock-ups:

1. Typical Office/Conference Room including all finishes
2. Typical Open Student Space (Academic Advising Center/Computer Center) including all finishes and casework sections
3. Typical ornamental handrail/guardrail at double height volumes

D. Special Finishes Mock-ups: Provide special finishes mock-ups of the following materials in specified rooms. Mock-ups shall show materials and workmanship to be expected in the completed work. Make necessary revisions as required until each special finishes mock-up is accepted by the District's Representative. Accepted mock-ups will be allowed to remain in place. Provide special finishes mock-ups of the following:

1. Typical Interior Corridor including all finishes– at both the 2 story volume and single story volume conditions.
2. Typical Corridor niche and alcove conditions.

1.3 SUBMITTALS

A. Mock-ups shall not be fabricated until after acceptance of required submittals for all finish materials to be incorporated into the mock-ups. This means that the Project schedule shall take into account early submittal of these components to the District's Representative.

B. Shop Drawings: Submit shop drawings for the mock-up that integrate shop drawings of each finish material and footings and bracing. Clearly identify components and materials to be integrated into the assembly.

C. Samples: Prior to construction of mock-ups, provide material samples as specified in the respective Specification Sections included as part of the mock-ups.

D. Structural Calculations: Submit structural calculations as required to ensure the structural integrity of the mock-up. The calculations shall be signed by a licensed California structural or civil engineer and shall be submitted to the District's Representative for review.

E. Qualification Data: For qualified testing agency.

1.4 QUALITY ASSURANCE

A. Testing Agency Qualifications: Qualified according to ASTM E 699 for testing indicated.

B. Performance: Mock-ups shall be constructed for the District's Representative's review for compliance with the Contract Documents.

C. Make necessary additions and modifications to mock-ups as indicated by the District's Representative.

D. Modify mock-ups, or construct or install new components if requested by the District's Representative, until final acceptance is obtained.

E. Provide as many modifications as required to achieve mock-ups that are acceptable to the

F. District's Representative and of sufficient quality to serve as the standard for the complete Project.

G. Following acceptance, mock-ups shall serve as a performance standard of quality and appearance of the work it represents, including the interface with adjacent materials and components as applicable.

H. Coordinate fabrication, delivery, assembly, and installation with related materials to be included in the mock-up personnel who will be employed for the subsequent work.

I. Maintain mock-ups in neat, clean condition until removal or final acceptance. Repair damage as required to maintain in condition suitable for review and approval.

J. Accepted building mock-up shall be removed from the Project site when indicated by the District's Representative. Accepted room mock-up may be incorporated into the work.
   1. Remove and clear area after approval of the field mock-up only as indicated by the District's Representative.

K. Scheduling:
   1. Construct mock-ups in a timely manner to permit review and modifications such that the work is not delayed.
   2. Do not proceed with ordering of components or start construction subject to mock-up acceptance until after acceptances have been obtained.
   3. Provide the District's Representative not less than 10 working days notice of the time each component is ready for review.
   4. Include line item in the construction schedule for the exterior building mock-up, showing submittals, construction, review, and approval periods.
   5. Allow sufficient time in the schedule to accommodate failures of tests and necessity to modify and retest. The mock-up shall be erected in sufficient time to allow final approval of window frame color, glass selection, and sealant colors. Allow sufficient time to accommodate adjustments in colors without detrimental effects on the Project Schedule.

1.5 PERFORMANCE TESTING

A. Test Methods: The on-site exterior wall assembly mock-ups shall be tested in accordance with the following ASTM test procedures:
   1. ASTM E 783: Field Measurement for Air Leakage through Installed Exterior Windows and Doors.
   2. ASTM E 1105: Field Determination of Water Penetration of Installed Exterior Windows, Skylights, Doors, and Curtain Walls by Cyclic Static Air Pressure Difference.

PART 2 - PRODUCTS

2.1 MATERIALS

A. As specified in the respective Sections of the Specifications.

2.2 EXTERIOR BUILDING MOCK-UPS

A. Purpose: Establish standards for work indicated and specified to be included in mock-up to demonstrate quality of workmanship, materials, colors, and textures required by the Contract Documents. Include windows, sealants, siding, flashing, and other exterior materials.
   1. Mock-up will be used by the District's Representative to test color and material alternatives and to review and accept final colors, textures and workmanship. A maximum of 5 different colors may be tested as the mock-up for each component.
   2. Interior finishes will not be required to be installed on the interior side of the exterior building mock-up.

B. Design Concept: Engineer and construct mock-up, including required shoring, bracing, foundations, power, etc., making required additions and modifications to details as required.
   1. Comply with performance requirements specified in the individual Specification Sections while maintaining basic design concept, member profiles, and alignment of components.

C. 76Location: As agreed with the District's Representative.

2.3 ROOM MOCK-UPS

A. Rooms designated for the interior mock-up rooms shall be approved by the District's Representative. Room mock-up shall include all required floor, wall, and ceilings finishes, casework, light fixtures, door(s) and frame(s), glazing, mechanical diffusers, and other materials and finishes.

B. Purpose: Establish standards for work indicated and specified to be included in mock-up to demonstrate quality of workmanship, materials, colors, finishes, and textures required by the Contract Documents.
   1. Mock-ups will be used by the District's Representative to test color and material alternatives and to accept final colors, textures and workmanship. Up to 7 colors may be tested for each component as part of the mock-up.

PART 3 - EXECUTION

3.1 PREPARATION

A. Pre-Engineering Conference for Exterior wall assembly: Prior to commencement of work, schedule meetings at mutually agreeable time to include University, Architect, Structural Engineer, Waterproofing Consultant, Contractor, Contractor's Superintendent, Subcontractor and Subcontractor's engineers involved in associated exterior work, manufacturer's representative and other interested parties to review methods and procedure to be used to achieve design and Performance Requirements.

3.2 INSTALLATION

A. Installers proposed for use on the actual work shall install the mock-ups. Personnel representing manufacturers, fabricators, and installers of exterior wall components shall be present during mockup construction and testing as appropriate for efficient evaluation and revision if required.

3.3 SEQUENCE OF INSPECTION

A. Notify the District's Representative at the start of construction of mock-ups and transmit progress reports to allow the District's Representative to schedule reviews.

B. Visual examination of mock-ups shall be made by the District's Representative.

C. After approximately 50 percent of each mock-up has been built, request the District's Representative's preliminary review before completion. Incorporate visual and technical changes or variations requested by the District's Representative into mock-ups during their construction and prior to their completion.

D. Obtain the District's Representative's acceptance of visual and technical qualities of mock-ups before commencing the corresponding work for the Project.

E. Should the mock-ups fail to meet the District's Representative's expectations, they shall be taken down or dismantled, and reconstructed to the extent necessary, until acceptance has been obtained.

F. Time the completion and reworking of mock-ups necessary to obtain acceptance to avoid delay in the construction schedule of the Project. Update the Construction Schedule to reflect required revisions to mock-ups.

G. Maintain and protect mock-ups during construction to serve as a standard for judging work incorporated into the Project. Do not alter, remove, or destroy remote mock-ups until authorized by the District's Representative.

3.4 TESTING MOCK-UPS

A. After the District's Representative's preliminary approval of the proposed exterior wall components, build mock-ups listed in 1.2A 1 an on-site and appurtenances sufficient to perform the specified tests for water penetration and air infiltration.

B. Secure mock-ups in place with positive anchorage devices designed and sized to withstand stresses, vibration, and racking.

3.5 TESTING PROCEDURES

A. Conduct tests of mock-ups in the presence of the District's Representative, the Contractor, the Installer and the District's Design Professional. Proceed with each test only after acceptance of the detailed outline of test procedure.
   1. Current test protocol requires that air infiltration testing precede water tests. Should it be necessary for a water test to be performed in advance of the air rest, the specimen must be allowed to completely dry before air test.
   2. The wind machine used for the dynamic water test shall generate wind speeds equivalent to 10 psf.
   3. Center deflection readings shall be taken for glass during testing.

B. Tests: Make the following tests of the mock-ups in the order listed:
   1. Preliminary loading at 20 psf.
   2. Air Infiltration (Static Pressure): ASTME E783, except test pressure difference shall be 6.24 psf. Infiltration for entire assembly shall not exceed 0.1 cfm/sf/min.
   3. Water Penetration (Cyclic Pressure): ASTM E 1105. Test to full design pressure without derating. No water intrusion is acceptable. The definition of water intrusion includes any water visible from the finished building interior, whether or not defined as controlled.
   4. Water penetration testing of exterior wall claddings. CBC Section 1403.2. Test all claddings, following this test procedure. Test to the code prescribed minimum pressure or building design pressure, whichever is greater.

C. Preconstruction Test Report:
   1. Photographs:
      a. Take a minimum of 20 photographs at locations and intervals required by the Architect.
      b. Submit digital color images of mock-up before, during, and after testing. Include these images in the test report.
   2. Details of Test Results:
      a. List test results in order of testing.
      b. All tests required by the specifications are to be set forth in the test report stating each of the following:
         1) Test results achieved
         2) In the case where any revisions are made to the rest specimen to achieve the rest results reported. ALL such changes shall be noted in the test report and graphically described on the mock-up shop drawings.
         3) Testing dates.
         4) A failure analysis sheet as an appendix to the test report indicting any corrective action taken to achieve compliance with the specification.

D. Corrective Measures:
   1. Correct any deficiencies in the mock-up observed during testing and repeat tests as may be required to show compliance with the specified performance standards and the Contract Documents. Resubmit any submittals affected by these corrections. Resubmit Shop Drawings with changes made to assemblies to successfully complete preconstruction testing.
   2. Deficiencies requiring repair or modification to the mock-up shall mandate a complete retesting of the mock-up beginning with the specified Preliminary Test unless otherwise requested by the District's Design Professional. If compliance with the performance standards is not achieved after two (2) complete retests the Contractor shall replace mock-up completely with revised construction and start testing from the beginning.
   3. Incorporate corrective measures indicated by the test report into the final exterior wall assemblies after review by the District's Design Professional.

E. Final Acceptance
   1. Final Acceptance of the mock-up shall be done in writing. Successful testing results and the completed test report are required for this acceptance.

3.6 FIELD QUALITY CONTROL

A. Testing Agency: Engage a qualified testing agency to perform tests and inspections.

3.7 DISPOSAL

A. After project completion and when authorized by District's Representative, demolish and remove all components of composite mockups from project site.

END OF SECTION 01 43 39

SECTION 01 56 00
TEMPORARY BARRIERS AND ENCLOSURES

PART 1 - GENERAL

1.1 TEMPORARY FACILITIES

A. Contractor shall provide and maintain the following temporary facilities as required to complete the Contract:
   1. Rubbish chutes, barricades around openings, ladders between floors and similar equipment.
   2. Barricades, lights and similar safety precautions.
   3. All materials and equipment required to safely accomplish Work under this Section shall be in conformance with requirements of California Occupational Safety and Health act (Cal/OSHA), Chapter 5 of CalTrans Traffic Manual and other State and Federal Codes and regulations where applicable.

B. Removal: Upon completion of the Work, and before the final payment, Contractor shall remove all temporary Work and facilities to put the Project site in the condition required by the General Conditions with no additional cost to the Project/ District.

1.2 TEMPORARY PROJECT CONSTRUCTION FENCE

A. Provide 6 foot high chain link fence type Project barricades with privacy screening around construction site as required. All construction fencing materials shall be new.

B. The Contractor is responsible for removal of the fence at the end of construction.

C. Provide gates complete with locking devices.

D. Use material with smooth surfaces for Work exposed to the public.

E. Provide fence layout to the University's Representative for approval.

F. Maintain fence in secure and safe condition to the satisfaction of the District's Representative at all times.

G. Contractor shall not place any signs, advertisements, notices, or graphic materials on construction fencing that have not been approved in advance by District’s Representative.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION 01 56 00

SECTION 01 71 33
PROTECTION OF ADJACENT CONSTRUCTION

PART 1 - GENERAL

1.1 SURROUNDING SITE CONDITION SURVEY

A. Prior to commencing the Work, tour the Project site with District's Representative to examine and record damage to existing adjacent buildings, campus streets and city streets, bicycle paths, sidewalks, and all other improvements. This record shall serve as a basis for determination of subsequent damage due to Contractor's operations and shall be signed by all parties making the tour. Any cracks, sags, or damage to the adjacent buildings and improvements not noted in the original survey, but subsequently discovered, shall be reported to the District's Representative.

1.2 PROTECTION OF EXISTING STRUCTURES AND UTILITIES

A. The Drawings show, if applicable, existing above and below grade structures, drainage lines, storm drains, sewers, water, gas, electrical, hot water, steam and steam condensate return lines, chilled water, landscape irrigation, site lighting and other utilities that are known to the University in their approximate location. Exercise care in avoiding damage to these facilities. The Contractor will be held responsible for the repair if damaged. The District or District's Representative does not guarantee that all utilities or obstructions are shown or that the locations indicated are accurate.

B. Locate and surface mark (various colors specified by USA) all known existing underground structures and utilities before proceeding with construction operations that may damage them. Stake and flag utility valve boxes and other surface structures. Prior to commencing excavation and trenching. Existing underground structures and utilities shall be kept in service unless approval to interrupt or shutdown service is obtained from District's Representative. If damaged, the utility shall be repaired at no additional cost to the University.

C. Uncover, prior to any earthwork for new construction, all existing piping where crossings, interferences, close proximity (5 feet or less) or connections are shown on the Drawings, from 1foot below proposed construction limit to the existing ground surface. Any variation in the actual elevations and the indicated elevations shall be brought to the District's Representative's attention. If the Contractor does not expose all existing utilities, Contractor shall not be entitled to additional compensation for Work necessary to avoid interferences.

D. If interferences occur at locations other than the general locations shown on the Drawings, and such utilities are damaged before their locations have been established, or create an interference, notify the District's Representative and a method for repairing the damage or correcting the interference shall be supplied by the District's Representative. Payment for additional Work due to interferences not shown on the Drawings shall be in accordance with the General Conditions.

E. Care shall be exercised to prevent damage to adjacent facilities including walks, streets, curbs, and gutters from settlement, lateral movement, undermining, and washout and other hazards; where equipment will pass over these obstructions suitable planking shall be placed. Damaged facilities, due to the Contractor operations, shall be removed and replaced at no additional cost to the University.

F. If any other structures or utilities are encountered, request District's Representative to provide direction on how to proceed with the Work.

G. If any structure or utility is damaged, take immediate action to ensure the safety of persons and property. Correct damage immediately. Contractor shall bear all costs of correction, replacement, repair, restoration, including related damages additional testing, inspection, and compensation for District's Representatives services and expenses. Compensation to the University shall be made by deductive Change Order. H. No Work is to be performed on energized electrical equipment

unless scheduled with the District's Representative. The University reserves the right to specify specific conditions for all Work involving energized high-voltage electrical equipment.

1.3 ADJACENT BUILDING AIR INTAKES

A. For existing building air intakes located within 100 feet of the construction site boundary, provide and maintain prefilters on the exterior of the louvers.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION 01 71 33

SECTION 01 73 29
CUTTING AND PATCHING

PART 1 - GENERAL

1.1 DESCRIPTION

A. Work Included
   1. Patching and matching existing Work altered or disturbed to accommodate new construction.
   2. Patching and matching existing Work damaged or defaced during new construction as required to restore to condition at time of award of Contract.
   3. Matching of new Work in existing construction to adjacent existing Work unless otherwise noted.
   4. Execute cutting, patching and matching in a manner to prevent damage to other Work and to provide proper surfaces for the installation of repairs, penetrations through surfaces, equipment, or other items.

1.2 SUBMITTALS

A. Submit in accordance with Section 01 33 23 Shop Drawings, Product Data and Samples.

B. Product Literature and Shop Drawings: Submit for review materials, methods, or systems different from existing Work to be matched.

C. Samples as requested by the District's Representative.

1.3 QUALITY ASSURANCE

A. Design Criteria
   1. Patching shall achieve security and protection where exposed to weather, and shall preserve the continuity of existing fire ratings.
   2. Cutting, patching and matching shall successfully duplicate the undisturbed adjacent finishes, colors, textures, and profiles. Where there is dispute over whether the duplication is successful or has been achieved to a reasonable degree, the judgment of the District's Representative shall be final.
   3. Notify University Representative in writing if non-complying existing construction or field conditions are encountered.

1.4 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials in the original packages, containers or bundles with seals unbroken and labels intact until time of use.

1.5 PROJECT CONDITIONS

A. Environmental Requirements: Follow the manufacturer's recommendations.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Materials shall be as required to match the appearance, quality and performance of the existing finishes to be duplicated and materials to be replaced.

B. Where the existing finish to be duplicated was achieved with materials now out of production or otherwise unavailable, obtain review and acceptance by the District's Representative of substitutions.

C. Provide primers, sealers, underlayments, backing, blocking, furring, suspension systems, and related items required for any purpose in patching existing Work.

D. Materials shall be subject to the review of and acceptance by the District's Representative.

PART 3 – EXECUTION

3.1 GENERAL REQUIREMENTS

A. Perform Work in accordance with the manufacturer's recommendations, deviating only as directed by the District's Representative to achieve a good match.

B. For the following items, employ the installer or fabricator to perform any cutting, patching or matching of such items:
   1. Weather-exposed or moisture-resistance elements.
   2. Fireproofing.
   3. Finishes surfaces exposed to view.

C. Adjust and fit products to provide a neat installation.

D. Inform the District's Representative of locations where Work will be noisy, and obtain the District's Representative approval of the times during which such Work will be done; otherwise keep noise to a minimum.

E. Finish or refinish surfaces as required to match adjacent finishes. Refinish to nearest intersection or refinish entire assembly.

F. Patching of old ceramic tile surfaces:
   1. Match tile if practical.
   2. If matching tile is unavailable, provide stock tile of color acceptable to District's Representative. Install replacement tile in a uniform, rectilinear pattern that is symmetrical to the repair area e.g., not a zigzag or checkerboard. Pattern shall be acceptable to District's Representative.
   3. Minor small screw holes may be filled with a rubberized grout of a color close to the tile color.

3.2 PAINTING

A. Extent of Painting
   1. Paint over the entire surface plane, unless otherwise noted.
   2. Over patched wall, soffit, or ceiling surfaces, paint to the nearest cut off line for the entire surface, such as the intersection with the adjacent wall or ceiling, a beam, a pilaster, or to nearest opening frame where a total cut off does not occur within 10 feet of the patch, unless otherwise noted.

B. Ensure painted surfaces do not present a spotty, touched-up appearance.

C. Provide a smooth continuous surface in texture, coverage, and color.

3.3 PAVEMENT

A. Asphaltic and Portland Cement concrete shall be patched to match adjacent surfaces and thickness, with similar material, e.g., exposed aggregate concrete, colored concrete, etc.

B. Remove and replace all damaged concrete and all concrete to be demolished to the nearest full depth joint. Surface scribed and partial depth sawn joints shall not be acceptable in lieu of full depth joints unless specifically approved by the University Representative.

C. Restore pavement markings.

D. Other paving materials and systems such as decomposed granite; stone pavers, etc. shall be replaced or restored in kind. Replace or restore an entire panel or area to present a uniform appearance to the satisfaction of the District's Representative.

E. All new surfaces shall be within 1/4 inch elevation of adjacent surfaces. All slopes to adjacent surfaces shall be less than 1 in 20, unless approved by District's Representative.

3.4 LANDSCAPING AND IRRIGATION

A. Restore to pre-existing condition, using similar materials.

3.5 MECHANICAL AND ELECTRICAL SYSTEMS

A. Matching non-compliant materials currently in place will not be acceptable.

B. Where equipment or devices have been removed, and where the active side of the pipe remains, cap or plug all abandoned piping using either threaded or soldered fittings. Do not rely on the existing valves for a positive shutoff.

END OF SECTION 01 73 29

SECTION 01 74 00
CLEANING AND WASTE MANAGEMENT

PART 1 - GENERAL

1.1 REQUIREMENTS

A. During the progress of the Work, keep the Project site in a neat and clean condition that is free of debris to the satisfaction of the District's Representative. All materials and debris accumulated in conjunction with completing this Work shall be legally recycled or disposed of by Contractor off campus. Refer to Section 017700 Closeout Procedures for final cleaning requirements.

B. Furnish labor, containers, transportation and payment of fees associated with recycling, reuse, salvage and disposal of demolition and construction materials. Do not use University refuse or recycling containers except as specifically permitted below.

1.2 RECYCLING

A. Recover for reuse and recycling debris and waste materials from the Work to achieve a minimum goal of diverting 75 percent of total Project waste (by weight) from landfill. Materials that cannot be reused nor recovered and recycled shall be disposed of as waste and debris in a legal and conscientious manner. Contractor may keep all revenues and other incentives for recycling materials from the project.

B. Recycle, re-use or salvage all of the following materials removed during demolition or transported to the project site and not incorporated into the Project. Provide separate containers with identifying signage for source separation of the following resources. Do not transport these materials to a landfill site:
   1. Household recyclables including office paper, plastic bottles, plastic wrapping, etc.
   2. Clean dimensional wood, pallet wood
   3. Concrete
   4. Concrete Block, Brick
   5. Cardboard and paper board
   6. Glass
   7. Gypsum Boards
   8. Paint (Non-Lead Base Paint)
   9. Metal/Copper/ Steel/Aluminum
   10. Organic material suitable for composting or other recycling
   11. Carpet and carpet padding

C. Asphalt grindings shall be delivered from the Project to a location on University property, within 5 road miles from the Project site as designated by the District's Representative. Transportation cost shall be borne by the Contractor.

1.3 DISPOSAL

A. All excess soil shall be disposed of by the Contractor off the University property, at no additional cost to the University.

B. Solvents, oils and any other material that may be harmful to plant life shall be disposed of in containers. At completion of Work, any contaminated soil shall be removed from the District's property and replaced with good soil by Contractor at no additional cost to the University.

C. Do not burn or bury rubbish or waste materials on the District's property.

1.4 SUBMITTALS

A. Waste Management Plan (Non-Hazardous Materials):
   1. The Waste Management Plan shall include a list of anticipated types and quantities of waste materials generated from the Project site and proposed siting locations (including map) for

waste/recycling containers. The plan shall identify materials to be recycled, re-used or salvaged. It shall include efforts at source reduction, material handling procedures and collection of weight and hauling destination information.

2. Source Reduction: List processes that minimize waste such as working with suppliers to take back or buy back substandard, rejected or unused items and to deliver supplies using returnable pallets and containers. Also include procedures to minimize breakage, mishandling, contamination, and other factors that reduce job site waste.
3. Material Handling Procedures: List means by which source separated waste materials will be protected from contamination, and the means for recycling them consistent with requirements for acceptance by designated facilities.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 WASTE MANAGEMENT IMPLEMENTATION

A. Designate an on-site person responsible for instructing workers and overseeing sorting and recording of waste/recyclable materials.

B. Instruction: Provide on-site instruction of appropriate separation, handling, and recycling, salvage, reuse, and return methods to be used by all parties at the appropriate stages of the Project.

C. Meetings: The Construction Waste Management meetings shall include subcontractors affected by the Waste Management Plan as well as the District's Representative.

END OF SECTION 01 74 00

SECTION 03 30 00
CAST-IN-PLACE CONCRETE

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Concrete formwork.

B. Concrete building frame members.

C. Concrete for composite floor construction.

D. Floors and slabs on grade.

E. Concrete reinforcement.

F. Joint devices associated with concrete work.

G. Miscellaneous concrete elements, including equipment pads, light pole bases, flagpole bases, thrust blocks, and manholes.

H. Concrete curing.

1.02 RELATED REQUIREMENTS

A. Section 03 10 00 - Concrete Forming and Accessories: Forms and accessories for formwork.

B. Section 03 20 00 - Concrete Reinforcing.

C. Section 03 35 11 - Concrete Floor Finishes: Densifiers, hardeners, applied coatings, and polishing.

D. Section 07 92 00 - Joint Sealants: Products and installation for sealants for saw cut joints and isolation joints in slabs.

E. Section 32 13 13 - Concrete Paving: Sidewalks, curbs and gutters.

1.03 REFERENCE STANDARDS

A. ACI 117 - Standard Specifications for Tolerances for Concrete Construction and Materials; 2010.

B. ACI 301 - Specifications for Structural Concrete; 2010 (Errata 2012).

C. ACI 302.1R - Guide for Concrete Floor and Slab Construction; 2004 (Errata 2007).

D. ACI 304R - Guide for Measuring, Mixing, Transporting, and Placing Concrete; 2000.

E. ACI 305R - Hot Weather Concreting; 2010.

F. ACI 308R - Guide to Curing Concrete; 2001 (Reapproved 2008).

G. ACI 318 - Building Code Requirements for Structural Concrete and Commentary; 2011.

H. ACI 347R - Guide to Formwork for Concrete; 2014.

I. ASTM A615/A615M - Standard Specification for Deformed and Plain Carbon Steel Bars for Concrete Reinforcement; 2015.

J. ASTM E1155 - Standard Test Method for Determining F(F) Floor Flatness and F(L) Floor Levelness Numbers; 1996 (Reapproved 2008).

K. ASTM E1155M - Standard Test Method for Determining F(F) Floor Flatness and F(L) Floor Levelness Numbers (Metric); 2014.

1.04 SUBMITTALS

A. See Section 01 33 00 - Submittal Procedures, for submittal procedures.

B. Product Data: Submit manufacturers' data on manufactured products showing compliance with specified requirements and installation instructions.

1. For curing compounds, provide data on method of removal in the event of incompatibility with floor covering adhesives.

C. Mix Design: Submit proposed concrete mix design.

1. Indicate proposed mix design complies with requirements of ACI 301, Section 4 - Concrete Mixtures.
2. Indicate proposed mix design complies with requirements of ACI 318, Chapter 5 - Concrete Quality, Mixing and Placing.

D. Project Record Documents: Accurately record actual locations of embedded utilities and components that will be concealed from view upon completion of concrete work.

1.05 QUALITY ASSURANCE

A. Perform work of this section in accordance with ACI 301 and ACI 318.
1. Maintain one copy of each document on site.

B. Follow recommendations of ACI 305R when concreting during hot weather.

1.06 WARRANTY

A. See Section 01 78 00 - Closeout Submittals, for additional warranty requirements.

B. Moisture Emission Reducing Curing and Sealing Compound: Provide warranty to cost of flooring delamination failures for 10 years.
1. Include cost of repair or removal of failed flooring, remediation with a moisture vapor impermeable surface coating, and replacement of flooring with comparable flooring system.

PART 2 PRODUCTS

2.01 FORMWORK

A. Comply with requirements of Section 03 10 00.

B. Formwork Design and Construction: Comply with guidelines of ACI 347R to provide formwork that will produce concrete complying with tolerances of ACI 117.

C. Form Materials: Contractor's choice of standard products with sufficient strength to withstand hydrostatic head without distortion in excess of permitted tolerances.
1. Form Facing for Exposed Finish Concrete: Contractor's choice of materials that will provide smooth, stain-free final appearance.
2. Form Coating: Release agent that will not adversely affect concrete or interfere with application of coatings.
3. Form Ties: Cone snap type that will leave no metal within 1-1/2 inches of concrete surface.

2.02 REINFORCEMENT

A. Comply with requirements of Section 03 20 00.

B. Reinforcing Steel: ASTM A615/A615M, Grade 60 (60,000 psi).
1. Type: Deformed billet-steel bars.
2. Finish: Unfinished, unless otherwise indicated.

2.03 CONCRETE MATERIALS

2.04 BONDING AND JOINTING PRODUCTS

A. Slab Isolation Joint Filler: 1/2 inch thick, height equal to slab thickness, with removable top section that will form 1/2 inch deep sealant pocket after removal.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify lines, levels, and dimensions before proceeding with work of this section.

3.02 PREPARATION

A. Formwork: Comply with requirements of ACI 301. Design and fabricate forms to support all applied loads until concrete is cured, and for easy removal without damage to concrete.

B. Verify that forms are clean and free of rust before applying release agent.

C. Coordinate placement of embedded items with erection of concrete formwork and placement of form accessories.

D. Interior Slabs on Grade: Install vapor retarder under interior slabs on grade. Lap joints minimum 6 inches. Seal joints, seams and penetrations watertight with manufacturer's recommended products and follow manufacturer's written instructions. Repair damaged vapor retarder before covering.

3.03 PLACING CONCRETE

A. Place concrete in accordance with ACI 304R.

B. Place concrete for floor slabs in accordance with ACI 302.1R.

C. Finish floors level and flat, unless otherwise indicated, within the tolerances specified below.

3.04 SLAB JOINTING

A. Locate joints as indicated on the drawings.

B. Anchor joint fillers and devices to prevent movement during concrete placement.

C. Isolation Joints: Use preformed joint filler with removable top section for joint sealant, total height equal to thickness of slab, set flush with top of slab.

3.05 FLOOR FLATNESS AND LEVELNESS TOLERANCES

A. An independent testing agency, as specified in Section 01 45 00, will inspect finished slabs for conformance to specified tolerances.

B. Maximum Variation of Surface Flatness:
   1. Exposed Concrete Floors: 1/4 inch in 10 feet.
   2. Under Seamless Resilient Flooring: 1/4 inch in 10 feet.
   3. Under Carpeting: 1/4 inch in 10 feet.

C. Correct the slab surface if tolerances are less than specified.

D. Minimum F(F) Floor Flatness and F(L) Floor Levelness Values:
   1. Exposed to View and Foot Traffic: F(F) of 20; F(L) of 15, on-grade only.
   2. Under Thick-Bed Tile: F(F) of 20; F(L) of 15, on-grade only.
   3. Under Carpeting: F(F) of 25; F(L) of 20, on-grade only.
   4. Under Thin Resilient Flooring and Thinset Tile: F(F) of 35; F(L) of 25, on-grade only.

E. Measure F(F) Floor Flatness and F(L) Floor Levelness in accordance with ASTM E1155 (ASTM E1155M), within 48 hours after slab installation; report both composite overall values and local values for each measured section.

F. Correct the slab surface if composite overall value is less than specified and if local value is less than two-thirds of specified value or less than F(F) 13/F(L) 10.

G. Correct defects by grinding or by removal and replacement of the defective work. Areas requiring corrective work will be identified. Re-measure corrected areas by the same process.

3.06 CONCRETE FINISHING

A. Repair surface defects, including tie holes, immediately after removing formwork.

B. Unexposed Form Finish: Rub down or chip off fins or other raised areas 1/4 inch or more in height.

C. Exposed Form Finish: Rub down or chip off and smooth fins or other raised areas 1/4 inch or more in height. Provide finish as follows:

D. Concrete Slabs: Finish to requirements of ACI 302.1R, and as follows:
   1. Surfaces to Receive Thick Floor Coverings: "Wood float" as described in ACI 302.1R; thick floor coverings include quarry tile, ceramic tile, and Portland cement terrazzo with full bed setting system.
   2. Surfaces to Receive Thin Floor Coverings: "Steel trowel" as described in ACI 302.1R; thin floor coverings include carpeting, resilient flooring, seamless flooring, resinous matrix terrazzo, thin set quarry tile, and thin set ceramic tile.

3. Other Surfaces to Be Left Exposed: Trowel as described in ACI 302.1R, minimizing burnish marks and other appearance defects.

3.07 CURING AND PROTECTION

A. Comply with requirements of ACI 308R. Immediately after placement, protect concrete from premature drying, excessively hot or cold temperatures, and mechanical injury.

B. Maintain concrete with minimal moisture loss at relatively constant temperature for period necessary for hydration of cement and hardening of concrete.

C. Surfaces Not in Contact with Forms:
   1. Slabs and Floors To Receive Adhesive-Applied Flooring: Curing compounds and other surface coatings are usually considered unacceptable by flooring and adhesive manufacturers. If such materials must be used, either obtain the approval of the flooring and adhesive manufacturers prior to use or remove the surface coating after curing to flooring manufacturer's satisfaction.
   2. Initial Curing: Start as soon as free water has disappeared and before surface is dry. Keep continuously moist for not less than three days by water ponding, water-saturated sand, water-fog spray, or saturated burlap.
   3. Final Curing: Begin after initial curing but before surface is dry.

3.08 DEFECTIVE CONCRETE

A. Test Results: The testing agency shall report test results in writing to Architect and Contractor within 24 hours of test.

B. Defective Concrete: Concrete not conforming to required lines, details, dimensions, tolerances or specified requirements.

3.09 PROTECTION

A. Do not permit traffic over unprotected concrete floor surface until fully cured.

END OF SECTION

SECTION 03 35 11
CONCRETE FLOOR FINISHES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Surface treatments for concrete floors and slabs.

B. Single application sealer-hardener for existing concrete floors.

C. Precautions for avoiding staining concrete before and after application.

1.02 RELATED REQUIREMENTS

A. Section 03 30 00 - Cast-in-Place Concrete: Finishing of concrete surface to tolerance; floating, troweling, and similar operations; curing.

B. Section 03 30 00 - Cast-in-Place Concrete: Curing compounds that also function as sealers.

C. Section 09 66 23 - Resinous Matrix Terrazzo Flooring.

D. Section 09 67 00 - Fluid-Applied Flooring.

E. Section 09 96 00 - High-Performance Coatings.

1.03 ADMINISTRATIVE REQUIREMENTS

A. Coordinate the work with concrete floor placement and concrete floor curing.

1.04 SUBMITTALS

A. See Section 01 33 00 - Submittal Procedures, for submittal procedures.

B. Product Data: Manufacturer's published data on each finishing product, including information on compatibility of different products and limitations.

C. Certificates: Manufacturer’s certification that the installer is acceptable.

D. Maintenance Data: Provide data on maintenance and renewal of applied finishes.

1.05 MOCK-UP

A. For coatings, construct mock-up area under conditions similar to those that will exist during application, with coatings applied.

B. Mock-Up Size: 10 feet square.

C. Locate where directed.

D. Mock-up may remain as part of the work.

1.06 DELIVERY, STORAGE, AND HANDLING

A. General: Comply with Division 01 Product Requirements section.

B. Storage and Protection: Store materials protected from exposure to harmful environmental conditions and at temperature and humidity conditions recommended by the manufacturer.

C. Handling: Protect materials from dirt, corrosion, oil, grease and other contaminants.

D. Delivery: Deliver materials in manufacturer’s original, unopened, undamaged containers with identification labels intact.

PART 2 PRODUCTS

2.01 CONCRETE FLOOR FINISH APPLICATIONS

2.02 MATERIALS

A. Manufacturer:?Curecrete Distribution, Inc.
   1. Contact:?1203 W. Spring Creek Place, Springville, UT 84663-0551; Telephone:?(800) 998-5664, (801) 489-5663; Fax:?(801) 489-3307; Email:?info@ashfordformula.com; Website:?www.ashfordformula.com.

B. Cure-Seal-Hardener: Ashford Formula, a water-based, chemically reactive penetrating sealer and hardener that densifies concrete to seal against water molecules, but allows air and water

vapor to pass, so that concrete can achieve full compressive strength for minimized surface crazing and elimination of dusting.

1. Abrasion Resistance to Revolving Disks: At least a 32.5% improvement over untreated samples when tested in accordance with ASTM C779.
2. Surface Adhesion: At least a 22% increase in adhesion for epoxy when tested in accordance with ASTM D3359.
3. Hardening: As follows when tested in accordance with ASTM C39:
   a. After 7 Days: An increase of at least 40% over untreated samples.
   b. After 28 Days: An increase of at least 38% over untreated samples.
4. Coefficient of Friction: 0.86 dry, 0.69 wet when tested in accordance with ASTM C1028.
5. Rebound Number: An increase of at least 13.3% over untreated samples when tested in accordance with ASTM C805.
6. Light Exposure Degradation:?No evidence of adverse effects on treated samples when tested in accordance with ASTM G23.
7. Test Method for Measuring Wet SCOF of Common Hard-Surface Floors in accordance with ANSI B101.1.
8. Test Method for Measuring Wet DCOF of Common Hard-Surface Floors in accordance with ANSI B101.3.
9. Certified as High Traction by the National Floor Safety Institute (NFSI), Phase 2 testing.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that floor surfaces are acceptable to receive the work of this section.

B. Verify that flaws in concrete have been patched and joints filled with methods and materials suitable for further finishes.

C. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.02 MANUFACTURER'S INSTRUCTIONS

A. Apply materials in accordance with manufacturer's instructions.

3.03 PREPARATION

A. Clean surfaces thoroughly prior to installation.

B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

C. Do not use frozen material. Thaw and agitate prior to use.

D. If construction equipment must be used for application, diaper all components that might drip oil, hydraulic fluid or other liquids.

3.04 INSTALLATION

A. New Concrete: Apply cure-seal hardener to new concrete as soon as the concrete is firm enough to work on after troweling; with colored concrete, wait a minimum of 30 days before application.
   1. Spray on at rate of 200 ft2/gal (5 m2/L).
   2. Keep surface wet with cure-seal-hardener for a minimum soak-in period of 30 minutes without allowing it to dry or become slippery. If slipperiness occurs before the 30 minute time period has elapsed, apply additional cure-seal-hardener, as needed, to keep the entire surface in a non-slippery state for the first 15 minutes; for the remaining 15 minutes, mist the surface as needed with water to keep the material in a non-slippery state. In hot weather conditions, follow manufacturer’s special application procedures.
   3. When the treated surface becomes slippery after this period, lightly mist with water until slipperiness disappears.
   4. Wait for surface to become slippery again, and then flush entire surface with water to remove all cure-seal-hardener residue.

5. Squeegee surface completely dry, flushing any remaining slippery areas until no residue remains.
6. Wet vacuum or scrubbing machines can be used in accordance with manufacturer's instructions to remove residue.

B. Existing Concrete: Apply cure-seal-hardener only to clean, bare concrete.
1. Thoroughly remove previous treatments, laitance, oil and other contaminants.
2. Saturate surface with cure-seal-hardener; respray or broom excess onto dry spots.
3. Keep surface wet with cure-seal-hardener for a minimum soak-in period of 30-40 minutes.
4. If most of the material has been absorbed after the 30 minute soak-in period, remove all excess material, especially from low spots, using broom or squeegee.
5. If most of the material remains on the surface after the 30 minute soak-in period, wait until the surface becomes slippery and then flush with water, removing all cure-seal-hardener residue. Squeegee completely dry, flushing any remaining slippery areas until no residue remains.
6. If water is not available, remove residue using squeegee.

3.05 PROTECTION

A. Protect installed floors for at least 3 months until chemical reaction process is complete.
1. Do not allow traffic on floors for 3 hours after application.
2. Do not allow parking of vehicles on concrete slab.
3. If vehicles must be temporarily parked on slab, place drop cloths under vehicles during entire time parked.
4. Do not allow pipe cutting using pipe cutting machinery on concrete slab.
5. Do not allow temporary placement and storage of steel members on concrete slabs.
6. Clean up spills immediately and spot-treat stains with degreaser or oil emulsifier.
7. Clean floor regularly in accordance with manufacturer's recommendations.

B.

END OF SECTION

SECTION 03 35 46

CONCRETE TOPICAL TREATMENTS

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes: Application of hardening, sealing, and dustproofing product for exposed concrete floor slabs.

1.02 RELATED REQUIREMENTS

A. Section 03 3000 - Cast-In-Place Concrete.

1.03 REFERENCES

A. Corps of Engineers Specification: CEGS 03300 4-79.

B. American Concrete Institute (ACI) 308: Standard Specification for Curing Concrete.

1.04 DEFINITIONS

A. Sealed Concrete: Concrete to receive clear topical sealer / hardener product. Concrete floor appearance will be exposed to view for the life of the building. No concrete surface discoloration, marks, or other appearance blemishes are allowed. Concrete to receive sealer must be protected from all activities that might alter the finished appearance.

1.05 SUBMITTALS

A. Product Data: For each item specified. Include installation instructions.

1.06 QUALITY ASSURANCE

A. Preinstallation Meeting: Conduct meeting at Project site with Owner, Architect, and product manufacturer's representative to review:
   1. Approved submittal.
   2. Requirements for application, including surface preparation.
   3. Minimum drying period.
   4. Forecasted weather conditions.
   5. Special details.
   6. Installation procedures.
   7. Protection.
   8. Repairs.

1.07 DELIVER, STORAGE, AND HANDLING

A. Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact.

B. Store tightly sealed materials off ground and away from moisture, direct sunlight, extreme heat, and freezing temperatures.

1.08 SITE CONDITIONS

A. Ensure that substrate surface and ambient air temperature are minimum of 35 degrees F and remain above 35 degrees F for at least 24 hours after application. Allow surfaces to attain temperature and conditions specified before proceeding with surface hardener application.

B. Store in unopened packaging in clean, dry environment protected from sunlight at 40 degrees F to 85 degrees F. Prevent material from freezing.

C. Do not place surface hardener in areas without roof cover.

D. Perform Work of this Section in well-ventilated areas.

PART 2 PRODUCTS

2.01 SEALER HARDENER

A. Sealer / Hardener: Fluid-applied, water-soluble sealer and densifier for new concrete.

B. Basis of Design Manufacturer and Product: BASF, MasterKure CC 200WB.
   1. Compressive Strength (ASTM C109): 6,000 psi.
   2. Color: Clear.

C. Substitutions: See Section 01 2500 - Substitution Procedures.

2.02 REGULATORY REQUIREMENTS

A. VOC Restrictions: Confirm products are acceptable to VOC restriction requirements. See Section 01 6116 - Volatile Organic Compound (VOC) Content Restrictions.

B. Slip-Resistance: Confirm product meets requirements of ANSI A137.1.

PART 3 EXECUTION

3.01 PREPARATION

A. Properly finish freshly-placed concrete surfaces. Surface is ready for application when it is damp but not wet and when it can no longer be marred by foot traffic.

3.02 INSTALLATION

A. Install according to manufacturers instructions. Confirm requirements below are consistent with product if substitute product is used.

B. Apply sealer / hardener to finished, damp concrete surface with low pressure sprayer. Keep the treated surface area wet with product for thirty (30) minutes by spraying additional product and/or brooming excess material from low areas. Do not allow dry spots to occur. Prevent any drying of surface for thirty (30) minutes.

C. As product begins to penetrate and react, mist the surface lightly with clean water and brush, broom or power scrub with non-aggressive brush or pad into surface to aid penetration / reaction.

D. After thirty (30) minutes, depending on temperature and humidity, product will begin to gel. Keep all treated surfaces moist, and continue brushing/scrubbing action for 5 to 15 minutes. At this stage, the surface can be slippery. Use caution.

E. Flush the surface with water and squeegee the surface to remove excess material and all impurities present on the surface. Rinse with generous amounts of water to enhance product performance. Finish with a damp mop. Product may be flushed directly into drains, confirm with manufacturer.

3.03 QUALITY CONTROL

A. Place barriers and signage around areas that have received sealer material.

B. Prevent surface traffic.

C. Prevent material spillage or torching activities adjacent to installed product area while product is drying.

3.04 CLEANING

A. Clean tools immediately after use with clean water.

B. Properly dispose of debris related to product application.

3.05 PROTECTION

A. Protect installed surfaces for minimum 24 hours after product installation, or other duration specified by manufacturer.

END OF SECTION

SECTION 09 05 61

COMMON WORK RESULTS FOR FLOORING PREPARATION

PART 1 GENERAL

1.01 SECTION INCLUDES

A. This section applies to all floors identified in the contract documents as to receive the following types of floor coverings:
   1. Resilient tile and sheet.
   2. Terrazzo flooring.
   3. Carpet tile.
   4. Thin-set tile.

B. Removal of existing floor coverings.

C. Preparation of new and existing concrete floor slabs for installation of floor coverings.

D. Testing of concrete floor slabs for moisture and alkalinity (pH).

E. Remediation of concrete floor slabs due to unsatisfactory moisture or alkalinity (pH) conditions.
   1. Contractor shall perform all specified remediation of concrete floor slabs. If such remediation is indicated by testing agency's report and is due to a condition not under Contractor's control or could not have been predicted by examination prior to entering into the contract, a contract modification will be issued.

F. Patching compound.

G. Remedial floor coatings.

1.02 RELATED REQUIREMENTS

A. Division One: Allowances.

B. Section 01 22 00 - Unit Prices: Bid pricing for remediation treatments if required.

C. Section 03 30 00 - Cast-in-Place Concrete: Moisture emission reducing curing and sealing compound for slabs to receive adhered flooring, to prevent moisture content-related flooring failures; to remain in place, not to be removed.

1.03 REFERENCES

A. ASTM C109/C109M - Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 2-in. or (50-mm) Cube Specimens); 2013.

B. ASTM C472 - Standard Test Methods for Physical Testing of Gypsum, Gypsum Plasters and Gypsum Concrete; 1999 (Reapproved 2014).

C. ASTM D4259 - Standard Practice for Abrading Concrete; 1988 (Reapproved 2012).

D. ASTM F710 - Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring; 2011.

E. ASTM F1869 - Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride; 2011.

F. ASTM F2170 - Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using in situ Probes; 2011.

G. RFCI (RWP) - Recommended Work Practices for Removal of Resilient Floor Coverings; Resilient Floor Covering Institute; October 2011.

1.04 ADMINISTRATIVE REQUIREMENTS

A. Coordinate scheduling of cleaning and testing, so that preliminary cleaning has been completed for at least 24 hours prior to testing.

1.05 SUBMITTALS

A. Visual Observation Report: For existing floor coverings to be removed.

B. Floor Covering and Adhesive Manufacturers' Product Literature: For each specific combination of substrate, floor covering, and adhesive to be used; showing:
   1. Moisture and alkalinity (pH) limits and test methods.
   2. Manufacturer's required bond/compatibility test procedure.

C. Testing Agency's Report:
   1. Description of areas tested; include floor plans and photographs if helpful.
   2. Summary of conditions encountered.
   3. Moisture and alkalinity (pH) test reports.
   4. Copies of specified test methods.
   5. Recommendations for remediation of unsatisfactory surfaces.
   6. Submit report to Architect.
   7. Submit report not more than two business days after conclusion of testing.

D. Adhesive Bond and Compatibility Test Report.

E. Copy of RFCI (RWP).

F. Remedial Materials Product Data: Manufacturer's published data on each product to be used for remediation.
   1. Manufacturer's qualification statement.
   2. Test reports indicating compliance with specified performance requirements, performed by nationally recognized independent testing agency.
   3. Manufacturer's installation instructions.
   4. Specimen Warranty: Copy of warranty to be issued by coating manufacturer and certificate of underwriter's coverage of warranty.

1.06 QUALITY ASSURANCE

A. Moisture and alkalinity (pH) testing shall be performed by an independent testing agency employed and paid by Contractor.

B. Testing Agency Qualifications: Independent testing agency experienced in the types of testing specified.
   1. Submit evidence of experience consisting of at least 3 test reports of the type required, with project District's project contact information.

C. Contractor's Responsibility Relating to Independent Agency Testing:
   1. Provide access for and cooperate with testing agency.
   2. Confirm date of start of testing at least 10 days prior to actual start.
   3. Allow at least 4 business days on site for testing agency activities.
   4. Achieve and maintain specified ambient conditions.
   5. Notify Architect when specified ambient conditions have been achieved and when testing will start.

D. Remedial Coating Installer Qualifications: Company specializing in performing work of the type specified in this section, trained by or employed by coating manufacturer, and able to provide at least 3 project references showing at least 3 years' experience installing moisture emission coatings.

1.07 DELIVERY, STORAGE, AND HANDLING

A. Deliver, store, handle, and protect products in accordance with manufacturer’s instructions and recommendations.

B. Deliver materials in manufacturer’s packaging; include installation instructions.

C. Keep materials from freezing.

1.08 FIELD CONDITIONS

A. Maintain ambient temperature in spaces where concrete testing is being performed, and for at least 48 hours prior to testing, at not less than 65 degrees F or more than 85 degrees F.

B. Maintain relative humidity in spaces where concrete testing is being performed, and for at least 48 hours prior to testing, at not less than 40 percent and not more than 60 percent.

PART 2 PRODUCTS

2.01 MATERIALS

A. Patching Compound: Floor covering manufacturer's recommended product, suitable for conditions, and compatible with adhesive and floor covering. In the absence of any recommendation from flooring manufacturer, provide a product with the following characteristics:
   1. Cementitious moisture-, mildew-, and alkali-resistant compound, compatible with floor, floor covering, and floor covering adhesive, and capable of being feathered to nothing at edges.
   2. Latex or polyvinyl acetate additions are permitted if acceptable to flooring manufacturer; gypsum content is prohibited.
   3. Compressive Strength: 3000 psi, minimum, after 28 days, when tested in accordance with ASTM C109/C109M or ASTM C472, whichever is appropriate.

B. Remedial Floor Coating: Single- or multi-layer coating or coating/overlay combination intended by its manufacturer to resist water vapor transmission to degree sufficient to meet flooring manufacturer's emission limits, resistant to the level of alkalinity (pH) found, and suitable for adhesion of flooring without further treatment.
   1. If testing agency recommends any particular products, use one of those.
   2. Products:
      a. Custom Building Products: www.custombuildingproducts.com.
      b. Floor Seal Technology, Inc: www.floorseal.com.
      c. Koster American Corporation: www.kosterusa.com.
      d. LATICRETE International, Inc: www.laticrete.com.
      e. Sika Corporation: www.sikaflooruse.com.
      f. Substitutions: See Section 01 25 00 - Substitution Procedures.

C. Surface Preparation Equipment: Automatic, dry shot blast type, self contained capable of recycling blast materials and collecting surface abrasions.

PART 3 EXECUTION

3.01 CONCRETE SLAB PREPARATION

A. Perform following operations in the order indicated:
   1. Existing concrete slabs with coatings or penetrating sealers/hardeners/dustproofers:
   2. Preliminary cleaning.
   3. Moisture vapor emission tests; 3 tests in the first 1000 square feet and one test in each additional 1000 square feet, unless otherwise indicated or required by flooring manufacturer.
   4. Internal relative humidity tests; in same locations as moisture vapor emission tests, unless otherwise indicated.
   5. Alkalinity (pH) tests; in same locations as moisture vapor emission tests, unless otherwise indicated.
   6. Specified remediation, if required.
   7. Patching, smoothing, and leveling, as required.
   8. Other preparation specified.
   9. Adhesive bond and compatibility test.
   10. Protection.

B. Remediations:
   1. Active Water Leaks or Continuing Moisture Migration to Surface of Slab: Correct this condition before doing any other remediation; re-test after correction.
   2. Excessive Moisture Emission or Relative Humidity: If an adhesive that is resistant to the level of moisture present is available and acceptable to flooring manufacturer, use that

adhesive for installation of the flooring; if not, apply remedial floor coating over entire suspect floor area.

3. Excessive Alkalinity (pH): If remedial floor coating is necessary to address excessive moisture, no additional remediation is required; if not, if an adhesive that is resistant to the level present is available and acceptable to the flooring manufacturer, use that adhesive for installation of the flooring; otherwise, apply a skim coat of specified patching compound over entire suspect floor area.

3.02 REMOVAL OF EXISTING FLOOR COVERINGS

A. Comply with local, State, and federal regulations and recommendations of RFCI Recommended Work Practices for Removal of Resilient Floor Coverings, as applicable to floor covering being removed.

B. Dispose of removed materials in accordance with local, State, and federal regulations and as specified.

3.03 PRELIMINARY CLEANING

A. Clean floors of dust, solvents, paint, wax, oil, grease, asphalt, residual adhesive, adhesive removers, film-forming curing compounds, sealing compounds, alkaline salts, excessive laitance, mold, mildew, and other materials that might prevent adhesive bond.

B. Do not use solvents or other chemicals for cleaning.

3.04 MOISTURE VAPOR EMISSION TESTING

A. Where the floor covering manufacturer's requirements conflict with either the referenced test method or this specification, comply with the manufacturer's requirements.

B. Where this specification conflicts with the referenced test method, comply with the requirements of this section.

C. Test in accordance with ASTM F1869 and as follows.

D. Plastic sheet test and mat bond test may not be substituted for the specified ASTM test method, as those methods do not quantify the moisture content sufficiently.

E. In the event that test values exceed floor covering manufacturer's limits, perform remediation as indicated. In the absence of manufacturer limits, perform remediation if test values exceed 3 pounds per 1000 square feet per 24 hours.

F. Report: Report the information required by the test method.

3.05 INTERNAL RELATIVE HUMIDITY TESTING

A. Where the floor covering manufacturer's requirements conflict with either the referenced test method or this specification, comply with the manufacturer's requirements.

B. Where this specification conflicts with the referenced test method, comply with the requirements of this section.

C. Test in accordance with ASTM F2170 Procedure A and as follows.

D. Testing with electrical impedance or resistance apparatus may not be substituted for the specified ASTM test method, as the values determined are not comparable to the ASTM test values and do not quantify the moisture content sufficiently.

E. In the event that test values exceed floor covering manufacturer's limits, perform remediation as indicated. In the absence of manufacturer limits, perform remediation if any test value exceeds 75 percent relative humidity.

F. Report: Report the information required by the test method.

3.06 ALKALINITY TESTING

A. Where the floor covering manufacturer's requirements conflict with either the referenced test method or this specification, comply with the manufacturer's requirements.

B. The following procedure is the equivalent of that described in ASTM F710, repeated here for the Contractor's convenience.

C. Use a wide range alkalinity (pH) test paper, its associated chart, and distilled or deionized water.

D. Place several drops of water on a clean surface of concrete, forming a puddle approximately 1 inch in diameter. Allow the puddle to set for approximately 60 seconds, then dip the alkalinity (pH) test paper into the water, remove it, and compare immediately to chart to determine alkalinity (pH) reading.

E. In the event that test values exceed floor covering manufacturer's limits, perform remediation as indicated. In the absence of manufacturer limits, perform remediation if alkalinity (pH) test value is over 10.

3.07 MECHANICAL ABRASION

A. Mechanically clean concrete substrate and create surface profile in existing concrete substrate in accordance with ASTM D4259.
   1. Mechanically clean concrete substrate to remove surface and penetrating contaminates to produce a surface profile appropriate to finish flooring. Confirm required surface profile with finish flooring manufacturer.
   2. Acceptable substrate surfaces will be free of laitance, oil, grease, flooring adhesive, paint, and other surface contaminates capable of affecting bond of specified floor finishes to concrete substrate.
   3. Repair surface irregularities after cleaning.
      a. Fill bugholes, spalls, cracks, deteriorated joints and other surface damage exposed or created as a result of substrate cleaning operations flush with adjacent surfaces to provide sound substrate for specified floor finish.
   4. Product representative, testing agency, or similar qualified party to visually inspect substrate for conformance to required surface profile, and prepare field quality control report.
      a. When report indicates portions are unsatisfactory, repeat process until field quality control report indicates there are no unsatisfactory portions remaining.

3.08 PREPARATION

A. See individual floor covering section(s) for additional requirements.

B. Comply with requirements and recommendations of floor covering manufacturer.

C. Fill and smooth surface cracks, grooves, depressions, control joints and other non-moving joints, and other irregularities with patching compound.

D. Do not fill expansion joints, isolation joints, or other moving joints.

E. Dry broom or vacuum clean concrete substrates immediately before application of specified floor finishes in accordance with ASTM D 4258 to remove loose materials on substrate surface.

3.09 ADHESIVE BOND AND COMPATIBILITY TESTING

A. Comply with requirements and recommendations of floor covering manufacturer.

3.10 APPLICATION OF REMEDIAL FLOOR COATING

A. Comply with requirements and recommendations of coating manufacturer.

3.11 PROTECTION

A. Cover prepared floors with building paper or other durable covering.

END OF SECTION

SECTION 09 90 00
PAINTING AND COATING

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Surface preparation.

B. Field application of paints, stains, varnishes, and other coatings.

C. Scope: Finish all interior and exterior surfaces exposed to view, unless fully factory-finished and unless otherwise indicated, including the following:
   1. Both sides and edges of plywood backboards for electrical and telecom equipment before installing equipment.
   2. Elevator pit ladders.
   3. Exposed surfaces of steel lintels and ledge angles.
   4. Prime surfaces to receive wall coverings.
   5. Mechanical and Electrical:
      a. In finished areas, paint all insulated and exposed pipes, conduit, boxes, insulated and exposed ducts, hangers, brackets, collars and supports, mechanical equipment, and electrical equipment, unless otherwise indicated.
      b. In finished areas, paint shop-primed items.

D. Do Not Paint or Finish the Following Items:
   1. Items fully factory-finished unless specifically so indicated; materials and products having factory-applied primers are not considered factory finished.
   2. Items indicated to receive other finishes.
   3. Items indicated to remain unfinished.
   4. Fire rating labels, equipment serial number and capacity labels, and operating parts of equipment.
   5. Stainless steel, anodized aluminum, bronze, terne, and lead items.
   6. Marble, granite, slate, and other natural stones.
   7. Floors, unless specifically so indicated.
   8. Ceramic and other tiles.
   9. Glass.
   10. Acoustical materials, unless specifically so indicated.
   11. Concealed pipes, ducts, and conduits.

1.2 RELATED REQUIREMENTS

A. Section 01 6116 - Volatile Organic Compound (VOC) Content Restrictions.

B. Section 05 5000 - Metal Fabrications: Shop-primed items.

C. Section 05 7113 - Fabricated Metal Spiral Stairs: Shop-primed items.

1.3 REFERENCE STANDARDS

A. 40 CFR 59, Subpart D - National Volatile Organic Compound Emission Standards for Architectural Coatings; U.S. Environmental Protection Agency; current edition.

B. ASTM D16 - Standard Terminology for Paint, Related Coatings, Materials, and Applications; 2012.

C. GreenSeal GS-11 - Paints; 2013.

D. SSPC (PM1) - Good Painting Practice: SSPC Painting Manual, Vol. 1; Society for Protective Coatings; Fourth Edition.

E. USGBC LEED-NC - LEED Green Building Rating System for New Construction and Major Renovations; U.S. Green Building Council; 2009.

1.4 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide complete list of all products to be used, with the following information for each:
   1. Manufacturer's name, product name and/or catalog number, and general product category (e.g. "Alkyd Enamel").
   2. Cross-reference to specified paint system(s) product is to be used in; include description of each system.
   3. Manufacturer's installation instructions.
   4. If proposal of substitutions is allowed under submittal procedures, explanation of all substitutions proposed.

C. Samples: Submit three paper "draw down" samples, 8-1/2 by 11 inches (216 by 279 mm) in size, illustrating range of colors available for each finishing product specified.
   1. Where sheen is specified, submit samples in only that sheen.

D. Certification: By manufacturer that all paints and coatings do not contain any of the prohibited chemicals specified; GreenSeal GS-11 certification is not required but if provided shall constitute acceptable certification.

E. LEED Report: VOC content of all interior opaque coatings actually used.

F. Manufacturer's Instructions: Indicate special surface preparation procedures.

G. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
   1. See Section 01 6000 - Product Requirements, for additional provisions.
   2. Extra Paint and Coatings: 1 gallon (4 L) of each color; store where directed.
   3. Label each container with color in addition to the manufacturer's label.

1.5 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the products specified, with minimum three years documented experience.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Deliver products to site in sealed and labeled containers; inspect to verify acceptability.

B. Container Label: Include manufacturer's name, type of paint, brand name, lot number, brand code, coverage, surface preparation, drying time, cleanup requirements, color designation, and instructions for mixing and reducing.

C. Paint Materials: Store at minimum ambient temperature of 45 degrees F (7 degrees C) and a maximum of 90 degrees F (32 degrees C), in ventilated area, and as required by manufacturer's instructions.

1.7 FIELD CONDITIONS

A. Do not apply materials when surface and ambient temperatures are outside the temperature ranges required by the paint product manufacturer.

B. Follow manufacturer's recommended procedures for producing best results, including testing of substrates, moisture in substrates, and humidity and temperature limitations.

C. Do not apply exterior coatings during rain or snow, or when relative humidity is outside the humidity ranges required by the paint product manufacturer.

D. Minimum Application Temperatures for Latex Paints: 45 degrees F (7 degrees C) for interiors; 50 degrees F (10 degrees C) for exterior; unless required otherwise by manufacturer's instructions.

E. Minimum Application Temperature for Varnish Finishes: 65 degrees F (18 degrees C) for interior or exterior, unless required otherwise by manufacturer's instructions.

F. Provide lighting level of 80 ft candles (860 lx) measured mid-height at substrate surface.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Provide all paint and coating products used in any individual system from the

same manufacturer; no exceptions.

B. Paints:
   1. Base Manufacturer: Dunn-Edwards Corporation https://www.dunnedwards.com/

C. Transparent Finishes:
   1. Gemini Coatings http://www.gemini-coatings.com/

D. Stains:
   1. Gemini Coatings http://www.gemini-coatings.com/

E. Primer Sealers: Same manufacturer as top coats.

F. Block Fillers: Same manufacturer as top coats.

2.2 PAINTS AND COATINGS - GENERAL

A. Paints and Coatings: Ready mixed, unless intended to be a field-catalyzed coating.
   1. Provide paints and coatings of a soft paste consistency, capable of being readily and uniformly dispersed to a homogeneous coating, with good flow and brushing properties, and capable of drying or curing free of streaks or sags.
   2. Supply each coating material in quantity required to complete entire project's work from a single production run.
   3. Do not reduce, thin, or dilute coatings or add materials to coatings unless such procedure is specifically described in manufacturer's product instructions.

B. Primers: As follows unless other primer is required or recommended by manufacturer of top coats; where the manufacturer offers options on primers for a particular substrate, use primer categorized as "best" by the manufacturer.

C. Volatile Organic Compound (VOC) Content:
   1. Provide coatings that comply with the most stringent requirements specified in the following:
      a. 40 CFR 59, Subpart D--National Volatile Organic Compound Emission Standards for Architectural Coatings.
      b. Architectural coatings VOC limits of the State in which the Project is located and Cal Green.
      c. USGBC LEED Rating System, edition as stated in Section 01 3515; for interior wall and ceiling finish (all coats), anti-corrosive paints on interior ferrous metal, clear wood stains and finishes, sanding sealers, other sealers, shellac, and floor coatings.
   2. Determination of VOC Content: Testing and calculation in accordance with 40 CFR 59, Subpart D (EPA Method 24), exclusive of colorants added to a tint base and water added at project site; or other method acceptable to authorities having jurisdiction.

D. Flammability: Comply with applicable code for surface burning characteristics.

E. Colors: As indicated on drawings.
   1. In finished areas, finish pipes, ducts, conduit, and equipment the same color as the wall/ceiling they are mounted on/under.

2.3 PAINT SYSTEMS - EXTERIOR

A. Paint E-OP - All Exterior Surfaces Indicated to be Painted, Unless Otherwise Indicated: Including concrete, concrete masonry, brick, cement board, primed wood, and primed metal.
   1. Preparation as specified by manufacturer. For exterior textured coating: Prime: 1 Coat EFF-STOP Premium Primer/Sealer (ESPR00). Top Coats: 2 Coats 4-50 Permacrete Texture (fine.)
   2. Two top coats and one coat primer recommended by manufacturer.
   3. MPI gloss level 1 flat; use this sheen at all locations.
   4. Satin: MPI gloss level 4; use this sheen at all locations.
   5. Semi-Gloss: MPI gloss level 5; use this sheen at all locations.
   6. Gloss: MPI gloss level 6; use this sheen at all locations.

7. High Gloss: MPI gloss level 7; use this sheen at all locations.
8. Top Coat Product(s): SPARTSHIELD Series

B. Paint ME-OP-2L - Ferrous Metals, Primed, Latex, 3 Coat:100% Acrylic.

C. Touch-up with rust-inhibitive primer recommended by top coat manufacturer. BLOC-RUST Premium Rust Preventative Primer (BRPR00)

D. One additional coat of primer. Prime: 1 Coat BLOC-RUST Premium Rust Preventative Primer (BRPR00).
1. Semi-gloss: Two coats of Latex Enamel; Top: 2 coats SPARTSHIELD Premium 100% Acrylic Semi-Gloss (SSHL50).

E. Paint MgE-OP-3L - Galvanized Metals, Latex, 3 Coat: 100% Acrylic
1. One coat galvanize primer. Prime: 1 Coat ULTRASHIELD Galvanized Metal Primer (ULGM00).
2. Semi-gloss: Two coats of Latex Enamel; Top: 2 Coats SPARTSHIELD Premium 100% Acrylic Semi-Gloss (SSHL50).

F. Paint MaE-OP-3A - Aluminum and Copper, Unprimed, Water-Borne 100% Acrylic, 3 Coat:
1. One coat ULTRASHIELD Galvanized Metal Primer (ULGM00).
2. Semi-gloss: Two coats of 100% Acrylic Enamel; SPARTSHIELD Premium 100% Acrylic Semi-Gloss (SSHL50).

2.4 PAINT SYSTEMS - INTERIOR

A. Paint.
1. Two top coats and one coat primer. Prime, N/A
2. Top: 2 Coats N/A

B. Paint WI-OP-3L - Wood, Opaque, Water-Borne Alkyd, 3 Coat:
1. One coat of latex primer sealer. Prime: INTER-KOTE Premium 100% Acrylic Enamel Undercoater (IKPR00)
2. Semi-gloss: Two coats of Water-Borne Alkyd ARISTOSHIELD Ultra-Premium Interior Exterior Enamel Semi-Gloss (ASHL50)

C. Paint WI-TR-VS - Wood, Transparent, Varnish, Stain: Alkyd Semi-gloss
1. One coat of Stain; Gemini 275 Lacquer Stain.
2. One coat sealer; Gemini 275 Clear Sealer.
3. Satin: One coat of Varnish; Gemini 275 Clear Satin Lacquer.

D. Paint CI-OP-3L - Concrete/Masonry, Opaque, Latex, 3 Coat:
1. One coat of block filler. Prime, Coat Smooth BLOCFIL Premium 100% Acrylic Block Filler (SBPR00).
2. Satin: Two coats of Latex Enamel; SPARTAZERO Premium Zero VOC Low Sheen (SZRO40).

E. Paint MI-OP-3L - Ferrous Metals, Unprimed, Latex, 3 Coat: 100% Acrylic.

F. One coat of Latex Primer. BLOC-RUST Premium Rust Preventative Primer (BRPR00)
1. Semi-gloss: Two coats of Latex Enamel; SPARTAZERO Premium Zero VOC Semi-Gloss (SZRO50).

G. Paint MI-OP-2L - Ferrous Metals, Primed, Latex, 2 Coat: High Performance.
1. Touch-up with latex primer. US COATINGS MULTI-GRIP 7010 Primer.
2. Semi-gloss: Two coats of latex enamel; US COATINGS AQUAGRIP 5000 Acrylic Latex Coating.

H. Paint MgI-OP-3L - Galvanized Metals, Latex, 3 Coat: 100% Acrylic.
1. One coat galvanize primer. ULTRASHIELD Galvanized Metal Primer (ULGM00)
2. Semi-gloss: Two coats of Latex Enamel; US COATINGS AQUAGRIP 5000 Acrylic Latex Coating.

I. Paint CI-OP-3E - Concrete/Masonry, Epoxy Enamel, 3 Coat:
1. One coat of Catalyzed Epoxy Primer. US COATINGS EPOXYGRIP 2000 Epoxy Mastic

Coating
2. Semi-gloss loss: Two coats of Catalyzed Epoxy Enamel; Pitt-glaze WB1 Pre-Catalyzed Semi-gloss Epoxy.

J. Paint GI-OP-3LA - Gypsum Board/Plaster, 3 Coat: (low occupancy/usage areas.)
1. One coat of Latex Primer. VINYLASTIC Select Acrylic Wall Sealer (VNSL00)
2. Semi-gloss: Two coats of Latex Enamel; SPARTAZERO Premium Zero VOC Series (SZRO__)
3. One coat of Acrylic primer sealer. Speedhide Zero Primer 6-4900.
4. Eggshell: Two coats of Acrylic Enamel; Speedhide Zero VOC Eggshell 9-300.

K. Paint GI-OP-HP - Impact Resistant Gypsum Board, Breakthrough HP 100% Light Ind SATIN (Hallways)
1. One coat of Latex Prime Sealer Pure Performance 9-900 Zero Voc Primer.
2. Two Coats High Performance 100% Light Ind Acrylic Breakthrough High Performance 100% Acrylic Satin V56-410 Series.

L. Restroom Showers Wet Areas. Gypsum Board.
1. One Coat Primer 17-921 Seal Grip Int/Ext Acrylic Universal Primer.
2. 2 Coats: Pittglaze WB1 Epoxy 16-510 Pre-Catalyzed Epoxy Semi-gloss.

M. Dry Erase Paint
1. One coat of Latex Prime Sealer Pure Performance 9-900 Zero Voc Primer.
2. One coat Dry Erase Paint, in white, over level 4 finish.

N. Anti-Graffiti
1. RAINGUARD Sacrificial

2.5 ACCESSORY MATERIALS

A. Accessory Materials: Provide all primers, sealers, cleaning agents, cleaning cloths, sanding materials, and clean-up materials required to achieve the finishes specified whether specifically indicated or not; commercial quality.

B. Patching Material: Latex filler.

C. Fastener Head Cover Material: Latex filler.

PART 3 EXECUTION

3.1 EXAMINATION

A. Do not begin application of coatings until substrates have been properly prepared.

B. Verify that surfaces are ready to receive work as instructed by the product manufacturer.

C. Examine surfaces scheduled to be finished prior to commencement of work. Report any condition that may potentially affect proper application.

D. Test shop-applied primer for compatibility with subsequent cover materials.

E. Measure moisture content of surfaces using an electronic moisture meter. Do not apply finishes unless moisture content of surfaces are below the following maximums:
1. Gypsum Wallboard: 12 percent.
2. Plaster and Stucco: 12 percent.
3. Masonry, Concrete, and Concrete Unit Masonry: 12 percent.
4. Interior Wood: 15 percent, measured in accordance with ASTM D4442.
5. Exterior Wood: 15 percent, measured in accordance with ASTM D4442.

3.2 PREPARATION

A. Clean surfaces thoroughly and correct defects prior to coating application.

B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

C. Remove or mask surface appurtenances, including electrical plates, hardware, light fixture trim, escutcheons, and fittings, prior to preparing surfaces or finishing.

D. Seal surfaces that might cause bleed through or staining of topcoat.

E. Remove mildew from impervious surfaces by scrubbing with solution of tetra-sodium phosphate and bleach. Rinse with clean water and allow surface to dry.

F. Concrete and Unit Masonry Surfaces to be Painted: Remove dirt, loose mortar, scale, salt or alkali powder, and other foreign matter. Remove oil and grease with a solution of tri-sodium phosphate; rinse well and allow to dry. Remove stains caused by weathering of corroding metals with a solution of sodium metasilicate after thoroughly wetting with water. Allow to dry.

G. Gypsum Board Surfaces to be Painted: Fill minor defects with filler compound. Spot prime defects after repair.

H. Plaster Surfaces to be Painted: Fill hairline cracks, small holes, and imperfections with latex patching plaster. Make smooth and flush with adjacent surfaces. Wash and neutralize high alkali surfaces.

I. Aluminum Surfaces to be Painted: Remove surface contamination by steam or high pressure water. Remove oxidation with acid etch and solvent washing. Apply etching primer immediately following cleaning.

J. Galvanized Surfaces to be Painted: Remove surface contamination and oils and wash with solvent. Apply coat of etching primer.

K. Corroded Steel and Iron Surfaces to be Painted: Prepare using at least SSPC-SP 2 (hand tool cleaning) or SSPC-SP 3 (power tool cleaning) followed by SSPC-SP 1 (solvent cleaning).

L. Uncorroded Uncoated Steel and Iron Surfaces to be Painted: Remove grease, mill scale, weld splatter, dirt, and rust. Where heavy coatings of scale are evident, remove by hand or power tool wire brushing or sandblasting; clean by washing with solvent. Apply a treatment of phosphoric acid solution, ensuring weld joints, bolts, and nuts are similarly cleaned. Prime paint entire surface; spot prime after repairs.

M. Shop-Primed Steel Surfaces to be Finish Painted: Sand and scrape to remove loose primer and rust. Feather edges to make touch-up patches inconspicuous. Clean surfaces with solvent. Prime bare steel surfaces. Re-prime entire shop-primed item.

N. Interior Wood Surfaces to Receive Opaque Finish: Wipe off dust and grit prior to priming. Seal knots, pitch streaks, and sappy sections with sealer. Fill nail holes and cracks after primer has dried; sand between coats. Back prime concealed surfaces before installation.

O. Exterior Wood Surfaces to Receive Opaque Finish: Remove dust, grit, and foreign matter. Seal knots, pitch streaks, and sappy sections. Fill nail holes with tinted exterior calking compound after prime coat has been applied. Back prime concealed surfaces before installation.

P. A. Non- Ferrous Metal, Galvanized, Aluminum, Copper: Metal Etch and Solvent clean per SSPC-SP1 or clean with TSP or other appropriate cleaner followed by thorough water rinsing. Brush Blast or Sand with 80-100 grit sandpaper to remove pretreatments and produce lightly etched surface. Apply a test patch of the coating system specified. Allow product(s) to cure at least one week before testing adhesion per ASTM D3359 (tape Adhesion).

Q. Wood Doors to be Field-Finished: Seal wood door top and bottom edge surfaces with clear sealer.

3.3 APPLICATION

A. Remove unfinished louvers, grilles, covers, and access panels on mechanical and electrical components and paint separately.

B. Exterior Wood to Receive Opaque Finish: If final painting must be delayed more than 2 weeks after installation of woodwork, apply primer within 2 weeks and final coating within 4 weeks.

C. Apply products in accordance with manufacturer's instructions.

D. Do not apply finishes to surfaces that are not dry. Allow applied coats to dry before next coat is applied.

E. Apply each coat to uniform appearance.

F. Sand wood and metal surfaces lightly between coats to achieve required finish.

G. Vacuum clean surfaces of loose particles. Use tack cloth to remove dust and particles just prior to applying next coat.

H. Reinstall electrical cover plates, hardware, light fixture trim, escutcheons, and fittings removed prior to finishing.

END OF SECTION

SECTION 26 12 00

MEDIUM-VOLTAGE TRANSFORMERS

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes the following types of transformers with medium-voltage primaries:

1. Pad-mounted, liquid-filled transformers.

1.2 SUBMITTALS

A. Product Data: For each type and size of transformer indicated.

B. Shop Drawings: Diagrams including power wiring.

C. Manufacturer Seismic Qualification Certification: Submit certification that transformers, accessories, and components will withstand seismic forces defined in Division 26 Section "Vibration and Seismic Controls for Electrical Systems."

D. Operation and maintenance data.

1.3 QUALITY ASSURANCE

A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

B. Comply with IEEE C2 and NFPA 70.

C. Comply with ANSI C57.12.28, IEEE C57.12.10, IEEE C57.12.70, and IEEE C57.12.80.

1.4 PROJECT CONDITIONS

A. Service Conditions: IEEE C37.121, usual service conditions.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

B. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Acme Electric Corporation; Power Distribution Products Division.

2. Cooper Industries; Cooper Power Systems Division.

3. Cutler-Hammer.

4. Federal Pacific Transformer Company; Division of Electro-Mechanical Corp.

5. GE Electrical Distribution & Control.

6. Hammond Manufacturing; Transformer Group.

7. Kuhlman Electric Corporation.

8. Pauwels Transformers.

9. Pioneer Transformers Ltd.

10. Siemens Energy & Automation, Inc.

11. Square D/Groupe Schneider NA.

12. Uptegraff, R. E. Mfg. Co.

13. Virginia Transformer Corp.

2.2 PAD-MOUNTED, LIQUID-FILLED TRANSFORMERS

A. Description: Comply with ANSI C57.12.13, IEEE C57.12.00, IEEE C57.12.22 for pad-mounted, 2-winding transformers. Stainless-steel tank base, cabinet, and sills.

B. Insulating Liquid: Mineral oil, ASTM D 3487, Type II, tested according to ASTM D 117.

C. Insulating Liquid: Less flammable, edible-seed-oil based, and listed by a NRTL acceptable to authority having jurisdiction as complying with NFPA 70 requirements for fire point of not less than 300 deg C when tested according to ASTM D 92. Liquid shall be biodegradable and nontoxic.

D. Insulating Liquid: Less flammable, dielectric, and listed by a NRTL acceptable to authority having jurisdiction as complying with NFPA 70 requirements for fire point of not less than 300 deg C when tested according to ASTM D 92. Liquid shall be biodegradable and nontoxic.

E. Insulating Liquid: Less flammable, silicone-based dielectric, and listed by a NRTL acceptable to authority having jurisdiction as complying with NFPA 70 requirements for fire point of not less than 300 deg C when tested according to ASTM D 92. Liquid shall have low toxicity and be nonhazardous.

F. Insulation Temperature Rise: 55 deg C when operated at rated kVA output in a 40 deg C ambient temperature.

G. Basic Impulse Level: 95 kV.

H. Full-Capacity Voltage Taps: Four, 2.5 percent taps, 2 above and 2 below rated high voltage; with externally operable, de-energized, tap changer; position indicator; and padlock hasp.

I. High-Voltage Switch: 200 A, make-and-latch rating of 10-kA RMS, symmetrical, arranged for radial feed with 2 positions, gang-operated, load-break switch, oil immersed in transformer tank with hook-stick operating handle in primary compartment.

J. Primary Fuses: 15.5-kV fuse assembly with fuses complying with IEEE C37.47. Rating of current-limiting fuses shall be 50-kA RMS at specified system voltage.

1. Current-limiting type in dry-fuse holder wells, mechanically interlocked with liquid-immersed switch in transformer tank to prevent disconnect under load.

2. Bay-O-Net liquid-immersed fuses in series with liquid-immersed current-limiting fuses. Bay-O-Net fuses shall be externally replaceable without opening transformer tank.

K. Surge Arresters: Distribution class, one for each primary phase; complying with IEEE C62.11 and NEMA LA 1. Transformers shall have three arresters for radial-feed circuits.

L. High-Voltage Terminations and Equipment: Dead front with universal-type bushing wells for dead-front bushing-well inserts, complying with IEEE 386 and including the following:

1. Bushing-Well Inserts: One for each high-voltage bushing well.

2. Surge Arresters: Dead-front, elbow-type, metal-oxide-varistor units.

3. Parking Stands: One for each high-voltage bushing well.

4. Portable Insulated Bushings: Arranged for parking insulated, high-voltage, load-break cable terminators; one for each primary feeder conductor terminating at transformer.

M. Accessories:

1. Drain Valve: 1 inch (25 mm), with sampling device.

2. Dial-type thermometer.

3. Liquid-level gage.

4. Pressure-vacuum gage.

5. Pressure Relief Device: Self-sealing with an indicator.

6. Mounting provisions for low-voltage current transformers.

7. Busway terminal connection at low-voltage compartment.

8. Alarm contacts for gages and thermometer listed above.

2.3 IDENTIFICATION DEVICES

A. Nameplates: Engraved, laminated-plastic or metal nameplate for each transformer, mounted with corrosion-resistant screws.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install and anchor transformers on concrete bases according to manufacturer's written instructions and according to seismic codes applicable to Project.

1. Construct concrete bases of dimensions indicated, but not less than 4 inches (100 mm) larger in both directions than supported unit and 4 inches (100 mm) high.

2. Use 3000-psi (20.7-MPa), 28-day compressive-strength concrete and reinforcement as specified in Division 03 Section "Cast-in-Place Concrete."

3. Install dowel rods to connect concrete bases to concrete floor. Unless otherwise indicated, install dowel rods on 18-inch (450-mm) centers around full perimeter of base.

4. Anchor equipment with epoxy-embedded anchor bolts that extend through concrete base and anchor into structural concrete floor.

B. Maintain minimum clearances according to manufacturer's written instructions and NFPA 70.

3.2 IDENTIFICATION

3.3 Identify components and provide warning signs as specified in Division 26 Section "Identification for Electrical Systems."

3.4 FIELD QUALITY CONTROL

A. Perform electrical test and visual and mechanical inspection stated in NETA ATS, Section 7.2. Certify compliance with test parameters.

B. Test and adjust controls and safeties.

3.5 FOLLOW-UP SERVICE

A. Voltage Monitoring and Adjusting: Perform the following voltage monitoring after Substantial Completion but not more than six months after Final Acceptance:

1. During a period of normal load cycles, perform seven days of continuous three-phase voltage recording at secondary terminals of each transformer. Voltage unbalance greater than 1 percent between phases, or deviation of any phase voltage from nominal value by more than plus or minus 5 percent during test period, is unacceptable.

2. Corrective Actions: If test results are unacceptable, perform the following corrective actions, as appropriate:

   a. Adjust transformer taps.

   b. Prepare written request for voltage adjustment by electric utility.

3. Retests: After corrective actions have been performed, repeat monitoring until satisfactory results are obtained.

4. Report: Prepare written report covering monitoring and corrective actions performed.

END OF SECTION

SECTION 27 13 23

COMMUNICATIONS OPTICAL FIBER BACKBONE CABLING

PART 1 GENERAL

1.01 SUMMARY

A. Work included: Labor, materials and equipment necessary to complete the installation required for the item specified under this Division, including but not limited to:
   1. Backbone fiber optic cabling.
   2. Fiber Optic Cable testing.

1.02 RELATED SECTIONS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

SECTION NO.	SECTION TITLE
270526	COMMUNICATIONS GROUNDING AND BONDING
270536	COMMUICATIONS CABLE TRAYS
270800	COMMUNICATIONS COMMISSIONING
271100	COMMUNICATIONS EQUIPMENT ROOMS
271313	COMMUNICATIONS COPPER BACKBONE CABLING
271500	COMMUNICATIONS HORIZONTAL CABLING
274100	INTEGRATED AUDIO VIDEO SYSTEM
283120	FIRE ALARM SYSTEM
281300	ACCESS CONTROL
281600	INTRUSION DETECTION

1.03 REFERENCES

A. Comply with the latest edition of the following applicable Specifications and standards except as otherwise indicated or specified:
   1. Federal Communications Commission (FCC) Regulations:
      a. FCC Part 15; Radio Frequency Devices & Radiation Limits.
      b. FCC Part 68; Connection of Terminal Equipment to the Telephone Network.
   2. Electronics Industries Alliance (EIA):
      a. EIA; Testing Standards.
   3. American National Standards Institute, Inc. (ANSI) / Telecommunications Industry Association (TIA) / Electronics Industries Alliance (EIA):
      a. ANSI/TIA/EIA-568-C; Commercial Building Telecommunications Cabling Standards, including the following:
         1) Part 3: Optical Fiber Cabling Components Standard.
      b. ANSI/TIA/EIA-598-C; Optical Fiber Cable Color Coding.
      c. ANSI/TIA/EIA-606-A; Administration Standard for Commercial Telecommunications Infrastructure.
      d. ANSI/TIA/EIA-758; Customer-Owner Outside Plant Telecommunications Cabling Standard (TIA/EIA-758-1: Addendum No. 1).
   4. Building Industry Consulting Service International, Inc. (BICSI):
      a. BICSI (TDMM); Telecommunication Distribution Methods Manual.
      b. BICSI; Customer-Owner Outside Plant Design Manual.
      c. ICEA S-83-596-1994; Fiber Optic Premises Distribution Cable.
      d. ICEA S-87-640-1999; Fiber Optic Outside Plant Communications Cable.
      e. ICEA S-104-696-2001; Standard for Indoor-Outdoor Optical Cable.
   5. Underwriters Laboratories, Inc. (UL):
      a. UL 1651; Optical Fiber Cable.

b. UL 2024A; Optical Fiber Cable Routing Assemblies.

1.04 DEFINITIONS

A. Above finish floor (AFF) - Standard mounting height (e.g., 18 inch AFF) for a device using the center line of the device as the measurement point.

B. Administration - The methodology defining the documentation requirements of a cabling system and its containment, the labeling of functional elements and the process by which moves, additions, and changes are recorded.

C. ANSI/TIA/EIA - Associations involved in developing telecommunications industry standards.

D. Attenuation - The decrease in magnitude of transmission signal strength between points, expressed in dB as the ratio of output to input signal level.

E. Attenuation-to-crosstalk ratio (ACR) - The ratio obtained by subtracting insertion loss (attenuation [dB]) from near-end crosstalk (dB). ACR is normally stated at a given frequency.

F. Auditory assistance device - An intentional radiator used to provide auditory assistance to a handicapped person or persons. Such a device may be used for auricular training in an educational institution, for auditory assistance at places of public gatherings, such as a church, theater, or auditorium, and for auditory assistance to handicapped individuals, only, in other locations.

G. Backboard - Backboard generally refers to the 3/4" A-C grade plywood sheeting, lining the walls of the telecommunications room. Plywood shall be void-free, with two coats of fire retardant paint matching the painted interior walls covering both sides.

H. Backbone - A facility (e.g., pathway, cable, or conductors) between any of the following spaces: telecommunications rooms, common telecommunications rooms, floor-serving terminals, entrance facilities, equipment rooms, and common equipment rooms.

I. Basic link test configuration - Horizontal cable of up to 90m (295 ft.) plus up to 2m (6.5 ft.) of test equipment cord from the main unit of the tester to the local connection, and up to 2m (6.5 ft.) of test equipment cord from the remote connection to the remote unit of the tester. Maximum length is 94 m (308 ft.).

J. Bonding Conductor (BC) - A conductor used specifically for the purpose of bonding.

K. Cable Labeling System –
   1. The scheme employed when identifying cable or its associated hardware.
   2. Scheme adapted for labeling cables to identify them based on ANSI/TIA/ EIA-606-A, Administration Standard for Commercial Telecommunications Infrastructure.

   See administration.

L. Cable Runway - Hardware designed and manufactured for horizontal pathway distribution of cable and inside wiring inside the MC, IC, or TR rooms.

M. CAT - Category used when identifying the performance characteristics of twisted pair cabling.

N. Ceiling Distribution System - A distribution system that utilizes the space between a suspended or false ceiling and the structural surface above.

O. Closed-Circuit Television (CCTV) - A private television system, typically used for security purposes, in which the signal is transmitted to a limited number of receivers.

P. Communications plenum cable (CMP) - Type CMP communications plenum cable shall be listed as being suitable for use in ducts, plenums, and other spaces used for environmental air and shall also be listed as having adequate fire-resistant and low smoke-producing characteristics. (NEC)Cables must pass required test for fire and smoke characteristics of wires and cables, NFPA 262 or UL 910.

Q. Communications Riser Cable (CMR) - Type CMR communications riser cable shall be listed as being suitable for use in a vertical run in a shaft or from floor to floor and shall also be listed as having fire-resistant characteristics capable of preventing the carrying of fire from floor to floor. (NEC) Cables must pass requirements for flame propagation.

R. Electromagnetic Interference (EMI) - Radiated or conducted electromagnetic energy that has an undesirable effect on electronic equipment or signal transmissions.

S. Entrance Conduit - Conduit that connects the campus underground infrastructure with the building's Telecommunications Room.

T. Fire Retardant - Any substance added to delay the start or ignition of fire or slow the spread of the flame of any material.

U. Firestopping - The process of installing [specialty] listed fire-rated materials into penetrations of fire-rated barriers to reestablish the fire-resistance rating of the barrier.

V. Firestopping Location. A penetration through a fire-rated wall with a sleeve.

W. Firestop System - A specific installation consisting of the material(s) (firestop penetration seals) that fill the opening in the wall or floor assembly, and around and between any items that penetrate the wall or floor (e.g., cables, cable trays, conduit, ducts, pipes), and any termination devices (e.g., electrical outlet boxes) along with their means of support.

X. Grounding Conductor - A conductor used to connect the grounding electrode to the buildings main grounding busbar.

Y. Grounding System - A system of hardware and wiring that provides an electrical path from a specified location to an earth ground point.

Z. Horizontal Cabling - The part of the cabling system that extends from the work area telecommunications outlet to the horizontal cross-connect in the telecommunications room.

AA. Hybrid Cable - An assembly of two or more cables, of the same or different types or categories, covered by one overall sheath.

BB. Infrastructure (Telecommunications) - A collection of those telecommunications components, excluding equipment, that together provide the basic support for the distribution of all information within a building or campus.

CC. Intermediate Cross-connect (IC) - the connection point between a backbone cable that extends from the main cross-connect and the backbone cable from the horizontal cross- connect.

DD. Loose Tube - A type of optical fiber cable construction where one or more fibers are laid loosely in a tube. Also called loose tube fiber.

EE. Main Cross-connect (MC) - The cross-connect normally located in the Telecommunications Equipment Room for cross-connection and interconnection of entrance cables, first-level backbone cables, and equipment cables.

FF. Metropolitan Area Network (MAN) - A data communications network that covers an area larger than a campus area and smaller than a wide area network. Typically interconnects two or more LANs and usually covers an entire metropolitan area.

GG. MPOE - Minimum Point of Entry, Utility Partnerships/Alternate Carrier, usually located within the Telecommunications Room.

HH. Multimode Fiber (MMF) - An optical fiber that carries many paths of light or an optical waveguide that allows many bound modes to propagate.

II. Single-mode Fiber (SMF) - An optical fiber, usually step-index grade, which supports only one mode of light propagation. This does not necessarily imply single wavelength operation. The light source is normally a laser.

JJ. Strand (STR) - A single unit of optical fiber within a cable (e.g., a 12-strand fiber cable has 12 individual optical fibers within the cable sheath).

KK. Telecommunications Entrance Facility - Utility Partnerships/Alternate Carrier Minimum Point of Entry that is usually located within the Main Cross-connect Room (MC).

LL. Telecommunications Equipment Room (TER) - A centralized space that provides space and maintains a suitable operating environment for the termination of backbone and campus cabling and house centralized communications and/ or computer equipment (such as Core

Switches and Servers). Note: An equipment room is considered distinct from a telecommunications closet because of the nature or complexity of the equipment housed by the equipment room.

MM. Telecommunications Main Grounding Busbar (TMGB) - A grounding busbar, located in the MC, connected to the main building ground electrode by a continuous 2/0 - #4 AWG wire (Wire size is dependent on the distance between the busbar and the building main).

NN. Telecommunications Room (TR) – A room dedicated to housing a group of telecommunications connectors (e.g., patch panel or punch-down block) that allows equipment and backbone cabling to be cross connected with patch cords or jumpers.

OO. Underwriters Laboratories (UL) - A United States-based independent testing laboratory that sets safety tests and standards.

PP. Uninterruptible Power Supply (UPS) - A device that is inserted between a primary power source (e.g., a commercial utility) and the primary power input of equipment to be protected (e.g., a computer system) to eliminate the effects of transient variances or temporary outages. Retain acronyms, abbreviations, and terms that remain after this Section has been edited.

1.05 SYSTEM DESCRIPTION

A. Provide a complete telecommunication fiber optic cabling system installation as specified herein and as shown on the Drawings. In general, system shall include, but not be limited to, the following:
   1. OSP backbone fiber optic cable:
      a. Backbone fiber optic cable shall route between the existing building MDF and the new IC Telecom room on the 1st floor of the new building, and shall consist of one 48-strand single mode fiber optic cable.
      b. OSP backbone fiber optic cable shall be fusion spliced to single mode fiber pigtails with LC connectors.
      c. OSP Fiber optic cable connector standard shall be Type LC.
   2. ISP backbone fiber optic cabling:
      a. Backbone fiber optic cable shall route between IC Telecom room on the 1st floor and 2nd floor TR, and shall consist of one 24-strand single mode fiber optic cable.
      b. ISP backbone fiber optic cable shall be fusion spliced to fiber optic pigtails in the IC.
      c. The TR ends of the fiber shall terminate at the equipment racks with LC connectors and installed in a rack mounted, 24 port patch panel as required with patch cord management integrated into each panel. Locate rack mounted, 24- port patch panels at top of equipment rack with patch cord management integrated into the patch panels.
      d. Fiber optic backbone cables shall terminate on backside of fiber patch panels.
      e. ISP backbone fiber optic patch panel field shall interface with routing/switching equipment, furnished by Owner, at the TR via fiber patch cords from modular connectors on patch panel front side.
      f. ISP Fiber optic cable connector standard shall be Type LC. Connectors shall be single plex type.
   3. Patch cords:
      a. Provide duplex patch cords as required to patch between Backbone (SC) and equipment (SC/LC/FC etc...) as required. Coordinate with owner's representative.

B. Refer to Drawings for complete documentation of above requirements and all additional requirements.

1.06 SUBMITTALS

A. Submit in accordance with the requirements of Section 270010: Basic Communications Requirements, the following items:
   1. Data/catalog cuts for each product and component specified herein, listing all physical and electrical characteristics and ratings indicating compliance with all listed standards.

2. Describe system operation, equipment, dimensions and indicate features of each component.
3. Clearly mark on each data sheet the specific item(s) being submitted and the proposed application.
4. Shop Drawings prepare in AutoCAD Release 2012, to include the following:
    a. Building floor plans showing location of all outlets and cable routing to each device at same scale as construction documents.
    b. Riser diagram(s) indicating all major components of fiber optic system with required cable inter-ties and backbone cable identification labels.
    c. Provide 1/4" scale plans of equipment layout in MPOE, MC, IC and TR rooms.
    d. Provide wall elevations of MPOE, MC, IC and TR rooms at 1/2" scale.
    e. Provide equipment rack elevations at 1/2" scale.
    f. Use identical symbols as those used in construction documents.
    g. Text shall be a minimum of 3/32" high when plotted at full scale.
    h. Screen all background information.
5. Furnish structural calculations for equipment anchorage as described in Section 270010: Basic Communications Requirements.
6. Complete bill of materials listing all components.
7. Warranty.

B. Installer's qualifications: Furnish satisfactory proof of required experience specified herein for system installer.

C. Record Drawings:
1. Furnish Record Drawings as described in Section 270010: Basic Communications Requirements, utilizing Shop-Drawing submissions with updated field conditions. These Drawings shall include but not be limited to the following:
    a. Plot plans and building floor plans, showing point-to-point wiring location of all devices.
    b. Block Diagram/Riser Diagram showing the system components and all conduit and wire type/sizes between each.
2. Drawings shall be incorporated into the Record Drawing submission.
3. Final acceptance will not be made until the Engineer has approved the Record Drawings.

1.07 OPERATION AND MAINTENANCE MANUAL

A. Supply operation and maintenance manuals in accordance with the requirements of Section 270010: Basic Communications Requirements, to include the following:
1. A detailed explanation of the operation of the system.
2. Pictorial parts list and part numbers.
3. Schematic wiring diagrams.
4. Telephone numbers for the authorized parts and service distributor.
5. Final testing reports.

1.08 QUALITY ASSURANCE

A. All materials, equipment and parts comprising the units specified herein shall be new, unused and currently under production.

B. Only products and applications listed in this section may be used on the Project unless otherwise submitted.

C. Manufacturer qualifications: Manufacturer must have a minimum 5 continuous years of experience in design and manufacturing of the materials and equipment specified herein.

D. Installer's qualifications:
1. Installer must have a minimum 5 continuous years of experience in satisfactory completion for Projects similar in scope and cost. Provide backup information on 5 such Projects.

2. Installer shall possess a current, active and valid C7 or C10 California State Contractors License.
3. The installer shall be the Manufacturer's certified reseller/installer of the telecommunication equipment provided. Provide evidence of this certification.

1.09 PRODUCT DELIVERY, STORAGE AND HANDLING

A. Delivery: Telecommunication system components shall not be delivered to the Project site until protected storage space is available. Storage outdoors covered by rainproof material is not acceptable. Equipment damaged during shipping shall be replaced and returned to Manufacturer at no cost to Owner.

B. Storage: Store in clean, dry, ventilated space free from temperature extremes. Maintain factory wrapping or provide a heavy canvas/plastic cover to protect units from dirt, water, construction debris and traffic.

C. Handling: Handle in accordance with Manufacturer's written instructions. Be careful to prevent internal components damage, breakage, denting and scoring. Damaged units shall not be installed. Replace damaged units and return equipment to Manufacturer.

1.10 WARRANTY

A. ISP riser and Horizontal Fiber cable and components offered under this Section shall be covered by a minimum 25 year product and application warranty for malfunctions resulting from defects in materials, workmanship and performance as specified by the manufacturer. Warranty shall begin upon acceptance by the Owner.

1.11 MAINTENANCE

A. Maintenance services:
1. Distributor of the major system components shall maintain a replacement parts department and provide testing equipment when needed. A complete parts department shall be located close enough to supply replacement parts within a 4 hour period.
2. Service must be rendered within 4 hours of system failure notification.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. The following Manufacturer shall be acceptable and in compliance with the owners standards as specified herein and indicated on the Drawings. If any discrepancy between the products listed and the owners standard, the owners standard products shall apply.
1. Backbone fiber optic cable:
   a. Superior Essex
2. Fiber optic terminations:
   a. Leviton
3. Fiber Splice Trays
   a. Leviton
4. Fiber Innerduct and duct plugs:
   a. Max Cell
5. Test equipment:
   a. Corning Cable Systems
   b. Fluke Networks.
   c. Laser Precision.
   d. Tektronix.

B. Substitutions: Substitutions will not be accepted.

2.02 BACKBONE FIBER OPTIC CABLING

A. ISP backbone fiber optic cable:
1. Application:
   a. Suitable for indoor installations, between floors exposed in equipment rooms as vertical risers, or above suspended ceilings and below raised floors exposed in cable

trays, hangers or on deck. If space is used as an air plenum, cable shall either be plenum rated or installed in EMT conduit.
b. Exhibit stable performance in a building environment.
c. Optical transmission performance is not significantly affected by environmental fluctuations, installation or aging.
d. Materials do not evolve hydrogen in quantities that will increase light attenuation.

2. Single mode fiber strands shall meet or exceed the following physical criteria:
a. Core diameter: 8.3µm.
b. Cladding diameter: 125µm, ±1.0µm.
c. Core/cladding offset: ≤0.5µm.
d. Coating diameter: 254µm, ±7.0µm.
e. Coating/cladding concentricity: 12.0µm.
f. Minimum tensile strength: 100,000psi.

3. Single mode fiber strands shall meet or exceed the following performance criteria:
a. Attenuation: 0.35dB/km at 1310nm and 0.25dB/km at 1550nm wavelengths, maximum.
b. Mode field diameter: 9.2µm ±0.3µm at 1310nm and 10.5µm ±1.0µm at 1550nm.
c. Cutoff wavelength: ≤1260nm.
d. Dispersion: 3.2ps/nm●km at 1285-1330nm and 18ps/nm●km at 1550nm.

4. Primary coating:
a. Each fiber shall be completely covered with a “primary coating” (acrylate material).
b. Coating diameter: 250µm, ±5µm.

5. Buffering:
a. Each coated fiber shall be fully covered with a material extruded over and directly onto the coating. This shall be the tight buffer.
1) Tight buffer diameter: 900µm, ±5µm.
2) Material: PVC or equivalent flame retardant thermoplastic.
b. Buffer strands shall be individually color-coded to meet the requirements of ANSI/TIA/EIA-598-A-1995 (also reference ANSI/ICEA S-83-596-1994 and EIA- 230).

6. Cable sheath:
a. Strength element: The cable shall have an internal strength element such as aramid yarn.
b. Outer jacket: The cable shall have a seamless outer jacket, LS-PVC or equal, applied to and completely covering the internal components (fiber strands, strength element, etc.).
c. Tensile strength: The cable shall have a 300lb minimum install rated load and a 90lb minimum long term load.
d. Flame rating: OFNP for plenum rated or OFNR for non-plenum riser rated, according to NEC Article 770, tested to NFPA 262 and UL Listed as such.

7. Manufacturer:
a. Berk-Tek (24 Strand SMF)

B. OSP backbone fiber optic cable:
1. Application:
a. Suitable for outdoors, in underground PVC conduit installations where protection against water and moisture entry is required.
b. Optical transmission performance is not significantly affected by environmental fluctuations, installation or aging.
c. Materials do not evolve hydrogen in quantities that will increase light attenuation.

2. Single mode fiber strands shall meet or exceed the following physical criteria:
a. Core diameter: 8.3µm.
b. Cladding diameter: 125µm, ±0.7µm.
c. Core/cladding offset: ≤0.5µm.
d. Coating diameter: 254µm, ±7.0µm.
e. Coating/cladding concentricity: 12.0µm.
f. Minimum tensile strength: 100,000psi.

3. Single mode fiber strands shall meet or exceed the following performance criteria:
    a. Attenuation: 0.4dB/km at 1310nm and 0.3dB/km at 1550nm wavelengths, maximum.
    b. Mode field diameter: 8.4µm ±0.6µm at 1310nm and 8.9µm ±0.6µm at 1550nm.
    c. Cutoff wavelength: ≤1260nm.
    d. Dispersion: 8.0ps/nm●km at 1310nm and 2.6-6.0ps/nm●km at 1530- 1565nm.
4. Buffering:
    a. Fibers shall be loosely buffered, either in a core tube or in multiple tubes around central member.
    b. Buffering tube(s) shall be filled with compound to protect against moisture penetration. Filling compound shall be non-hygroscopic and non-nutritive to fungus ("FLEXGEL," or equivalent). The compound shall be easily removed with conventional nontoxic solvents.
    c. Fibers and buffer tube(s) shall be individually color-coded to meet the requirements of ANSI/TIA/EIA-598-A-1995 (also reference ANSI/ICEA S- 83-596-1994 and EIA-230).
5. Cable and sheath:
    a. Central member: Dielectric rod (glass-reinforced plastic, GRP).
    b. Fillers (where required to maintain circularity): Plastic rods matched to buffer tube diameter.
    c. Water blocking tape: Applied longitudinally over the central member/buffer tube(s)/filler core.
    d. Strength element: The cable shall have an internal strength element such as aramid yarn.
    e. Rip cord: Nylon or similar (to aid splitting the outer jacket).
    f. Outer jacket: The cable shall have a seamless outer jacket, high or medium density polyethylene or equal, applied to and completely covering the internal components (central member, buffer tube(s), fillers, strength element, etc.). The outer jacket shall contain UV inhibitors for stable performance in direct sunlight. The outer jacket shall be non-hygroscopic and non-nutritive to fungus.
    g. Printing: The jacket shall be printed/permanently marked with the manufacturer, sequential length (feet), fiber type, month and year or quarter and year of manufacture.
6. Tensile strength: The cable shall have a 600lb minimum install rated load and 200lb minimum long term rated load..
7. Operating temperature range: -30ºC to 75ºC.

C. Manufacturer
1. Superior Essex, Berk-Tek, Corning
2. Per Plan and approved submittal

2.03 BACKBONE FIBER OPTIC TERMINATIONS:

1. Fiber optic patch panels:
    a. Patch panels shall be an enclosed housing for protecting, storing and organizing the termination of fiber cables and fiber strands. Shall also contain facilities to store fiber slack and provide patch cord management.
    b. Patch panels shall be passive physical equipment and apparatus used in terminating, interconnecting and cross-connecting fiber optic cabling. Panel shall possess a minimum fire resistant rating of UL94V-1 and shall conform to existing OSHA Health and Safety Laws.
    c. Patch panels shall come equipped with safety labels such as laser identification or warning labels as required by system considerations.
    d. Panels shall be 1U, 2U or 4U high, 19" rack mountable, accepting up to adapter panels with 6-ports in each panel. Panels shall contain rear fiber entry slots, wire retainers and fiber storage drums. Furnish with slide out rails for front access and jumper troughs for cable management. Panels shall be suitable for fusion splicing single mode fiber cable.

e. Panels shall be provided with SC couplings for termination of fiber cables with matching connectors.
f. Provide patch panel and port quantities as required for cable terminations.
g. Manufacturer
1) Leviton
a) 2U Panel: #5R2UH-S06
b) 4U Panel: #5R4UH-S12
c) Connector Panels: 5F100-2LL

2. Fiber optic connectors:
a. Single mode
1) Materials:
a) Precision pre-radiused zirconia ferrules.
b) Connector housing: Plastic.
2) Connector shall meet or exceed Ultra PC performance.
3) Connector shall have an integral strain relief feature, including a bend limiting rear boot.
4) Connector shall be installable via fusion splice.
5) Connector type shall be UPC polished LC.
6) Manufacturer:
a) Leviton LC UPC polish

3. Fiber Splice Trays:
a. Splice trays shall support 12-24 fusion splices.
b. Trays shall be compatible with the splice closure application and product and match existing trays.
c. Provide the required quantity of fiber trays and splicing materials as required for a complete system.

B. Fiber optic patch cords:
1. Suitable for indoor installations within equipment rooms.
2. Cords shall be factory-assembled from a single, continuous length of cordage, homogenous in nature, and terminated at both ends via connectors as required. Splices are not permitted anywhere.
3. Cordage:
a. Conductors: 2 optical conductors/strands, matching physical and optical performance parameters of the multimode cable plant specified above.
b. Construction: “Mini Zipcord” type with strength member (aramid yarn) and jacket of PVC.
c. Flame rating: NEC OFN rated or higher, and UL Listed as such.
4. Connectors:
a. Multimode patch cords shall be terminated with duplex SC-ST Ultra PC connectors at both ends for connection with the new riser cable plant and the existing campus fiber plant (ST) connector.

C. Labels:
1. Label type shall be a durable plastic tag, suitable for indoor and/or outdoor use, and shall contain UV inhibitors. The tag shall attach to the cable via a separate steel or plastic tie wrap.
2. Labels shall have a self-laminating feature.
3. Printable area shall be 3.5” x 2”, minimum.
4. Color shall be yellow with black legend test.

D. Miscellaneous:
1. Fiber slack storage rings.
a. Leviton
1) ISP #48900-IFR
2) OSP #48900-OFR

2. Velcro cable ties:

a. Width: 0.75” or larger.
b. Color: Same color as the cable to which it is being applied.

E. Labels:
1. Label type shall be a durable plastic tag, suitable for indoor and/or outdoor use, and shall contain UV inhibitors. The tag shall attach to the cable via a separate steel or plastic tie wrap.
2. Labels shall have a self-laminating feature.
3. Printable area shall be 3.5” x 2”, minimum.
4. Color shall be yellow with black legend test.
5. Plenum cable ties:
a. Suitable for use in plenums or air handling spaces.
b. Color: Maroon or other distinctive non-white color.

F. Innerduct:
1. Suitable for outdoor installations within underground duct banks to create multiple “cells” within a single conduit for fiber optic cables installed during the same phase of construction or for future installations of cables.
2. Innerduct shall be manufactured from internally processed polyester and nylon resins, factory lubricated. Materials shall be halogen-free.
3. Innerduct shall be flexible engineered fabric sub-ducting, stitched into multi-cell design. Cells shall come equipped with pulling tape/rope and shall be color-coded via printing and/or stitching.
4. MaxCell Part #MXC2002PRxxx (xxx=Length)

G. Miscellaneous:
1. Fiber slack storage rings.
a. Leviton
1) ISP #48900-IFR
2. Velcro cable ties:
a. Width: 0.75” or larger.
b. Color: Same color as the cable to which it is being applied.

2.04 CABLE TESTING EQUIPMENT

A. Fiber optic cabling:
1. Fiber optic light source:
a. Connection interfaces shall be factory installed.
b. Output shall be continuous wavelengths.
c. The light sources may contain internal lenses, pigtails, and modal conditioners, provided they meet the launch conditions as described in “Post-Installation” Passive Link Attenuation Testing Procedures.
d. LASER-based light source foe single mode fiber testing shall have the following:
1) Center wavelength of 1320nm ±20nm and 1550nm ±20nm
2) Special width (FWHM) of ≤5nm at 1310nm and ≤5nm at 1550nm.
3) Minimum output power level of ≥3dBm.
2. Fiber optic power meter:
a. Power meter for single mode testing shall be capable of measuring relative of absolute power (or both) and must be independent of modal distribution.
b. Power meters used must be calibrated and traceable to the National Bureau of Standards.
c. Power meter used shall have the following:
1) Dynamic range of 0dBm to -40dBm minimum.
2) Accuracy of ±0.2dBm.
d. Single mode fiber optic test cords:

1) The fiber of the single mode test cords shall have the core diameter and numerical aperture nominally equal to that of the single mode fiber optic passive link.
2) Test cord length for testing insertion loss: 1m to 5m.
3) Connectors of the test cords shall be compatible with the connector types of the light source and the power meter, and with the cabling plant.
4) The connectors shall exhibit ≤0.5 dB loss per connection @ both 1300 nm and 1550 nm, as measured per FOTP-171 D3. The connectors shall inhibit Fresnel reflections (i.e. have a "PC" finish).

PART 3 EXECUTION

3.01 EXAMINATION

A. Contractor shall thoroughly examine Project site conditions for acceptance of the telecommunication fiber optic cabling system installation to verify conformance with manufacturer and specification tolerances. Do not commence with installation until all conditions are made satisfactory.

B. Verify that pathways and supporting devices are properly and completely installed prior to cable installation.

C. Verify dimensions of pathways to include length, i.e. "true tape" conduit runs.

D. Prior to installation, verify that equipment rooms are ready to accept cables and terminations.

E. ISP backbone fiber optic cabling:
1. Cabling:
a. Cable runs shall have continuous sheath continuity, homogenous in nature, without any splices.
b. Maximum cable length of 1,600 feet (500m) between the terminations at IC, and TR.
c. Placement:
1) Place cables within designated pathways.
2) Maintain a minimum bend radius of 20 times the cable diameter during installation and a minimum bending radius of 10 times the cable diameter after installation.
3) Maintain pulling tension within manufacturer's limits.
4) Place and suspend cables in a manner to protect them from physical interference or damage. Place cables with no kinks, twists, or impact damage to the sheath. Replace cables damaged during installation.
5) Do not use cable-pulling compounds for indoor installations.
6) Provide 20 feet minimum sheath cable slack at each end of the run within the equipment rooms. Store cable slack in a fiber slack storage ring mounted on wall.
7) Place a pull rope along with cables where run in conduit and spare capacity still exists in the conduit. Tie off ends of pull rope.
d. Routing:
1) Within equipment rooms, neatly dress and organize cables on designated cable routing facilities and fasten cables to routing facilities via tie wraps or Velcro type straps.
2) When routing horizontally within equipment rooms, utilize the overhead cable support system. When routing vertically within equipment rooms, utilize the vertical cable support system and provide approved cable straps at 24" intervals.
3) Provide 20' of slack cable on each end and place in a fiber storage ring on backboard.
e. Terminations:
1) Properly relieve strain from cables at termination points, at or within the fiber optic termination panels) per manufacturer's instructions.
2) Provide breakout kits to furcated fibers from buffer tubes. Provide required accessories and consumables for the complete termination of fiber strands.

3) Terminate fiber strands at both ends using the specified fiber optic connectors appropriate for the mode type of the fiber. Perform termination in accordance with manufacturer's instructions.
4) Provide 3 feet of unsheathed fiber (tight buffer) slack within the patch panel/termination enclosure at each end of the link. Properly store fiber slack in rear of patch panel into the routing rings, per manufacturer's instructions.

2. Termination apparatus:
   a. Provide fully assembled termination patch panels in designated equipment racks, located a top of rack. "Fully assembled" includes installation and mounting components and accessories such as adapter panels, coupling adapters, etc. required for operation.
   b. Provide accessories required for proper installation of each termination patch panel, including connector panels and adapters.
   c. Termination sequence:
      1) Rack-mount panels: Terminate single mode fibers in sequential strand order.

3.02 LABELING

A. General requirements:
   1. Labeling, label colors, and identifier assignments shall conform to EIA/EIA-606-A Administration Standards and as approved by the Owner.
   2. Provide permanent and machine-generated labels. Hand written labels will not be accepted.

B. Backbone and horizontal fiber optic cable labeling:
   1. Cables:
      a. Text color shall be black with #10 font size.
      b. Identifier assignment:
         1) First field: Type of cable.
         2) Second field: Total strand count.
         3) Third field: Cable number.
         4) Fourth field: Strands in use and dead strands.
         5) Fifth field: Source and destination.
         6) Sixth field: Terminal number (MPOE, MC, IC, TR).
      c. Label installation:
         1) Provide labels on both ends of cables.
         2) Install such that they are visible by a technician from normal stance.
         3) Fully wrap label around the cable jacket (self-lamination).
         4) Provide one label within 12" of the termination apparatus.
         5) Provide one label at the point where the cable enters/exits the equipment room.
         6) Provide one label at the approximate mid-point between where the cable enters/exits the room and the termination apparatus.
   2. Fiber patch panels:
      a. Text color shall be black, #10 font size.
      b. Label installation:
         1) Provide labels at each port.
         2) Install labels into label window.

3.03 FIELD QUALITY CONTROL AND TESTING

A. General:
   1. Calibrate test sets and associated equipment per the manufacturer's instructions at the beginning of each day's testing and after each battery charge. Fully charge the test sets prior to each day's testing to ensure proper operation.
   2. Ensure test equipment and test cords are clean and undamaged during testing activities. Per the Engineer's discretion, halt testing activity and clean testing equipment, test cords and related apparatus.
   3. Permanently record test results electronically within test equipment at the time of testing.

B. Fiber optic testing:
   1. Test fiber optic passive links as follows:

TESTS FOR FIBER OPTIC CABLING TABLE				
Subsystem	**Type**	**Test**	**Direction**	**Wavelength**
ISP backbone	Single mode	Passive link insertion loss	Both	1310nm and 1550nm

   2. Precautions:
      a. Adhere to the equipment manufacturer's instructions during testing.
      b. Prior to testing activity or measurements taken, complete the following activities:
         1) Ensure the test equipment is at room temperature, approximately 70ºF.
         2) Turn the light source and power meter power on for at least 5 minutes.
         3) Clean test/launch cords and system cords, if applicable, connectors and the cabling system adapters with a lint-free wipe and 90% (or higher) isopropyl alcohol.
      c. Do not power off OTDR's light source during testing activity.
      d. Do not remove launch cord from the OTDR's light source at any time (unless the testing is complete or the equipment is being put away for the evening or during trouble shooting).
      e. Do not bend the launch cord smaller than 20 times the cord diameter during testing activities, as this may induce loss into the cord reducing the accuracy of the measurements).

C. Fiber optic characterization testing:
   1. Equipment settings/measurement parameters:
      a. Index of refraction: Match cable-under-test fiber parameters, default settings as follows:
         1) Single mode: 1.466-1.467 @ 1310nm and 1.467-1.4677 @ 1559nm.
      b. Pulse width (50ns for single mode):
         1) Single mode: 10ns for cable lengths up to 6,560 feet (2,000m); 50ns for cable lengths between 6,560 feet (2,000m) and 32,800 feet (10,000m).
      c. Backscatter:
         1) Single mode: -74dB @ 1310nm and 1550nm.
      d. Event threshold: 0.05dB.
      e. Reflection threshold:
         1) Single mode: -60dB.
      f. Fiber break/end-of-fiber: 3dB.
   2. Waveform: The waveform shall be real-time and normal density.
   3. Obtain measurements using a "launch" cord connected to the test instrument and the cable under test.
      a. The fiber of the launch cord shall match the fiber of the cable under test in physical and performance parameters (i.e. type, core/cladding size, index of reflection, refraction profile, etc.). The fiber of the launch cord should match the fiber of the cable under test in manufacturer and product.
      b. Use launch cord length between 25 and 100 meters.

D. Fiber optic passive link insertion loss testing:
   1. Test cords performance verification:
      a. Connect test cord #1 between the light source and the power meter.
      b. The value displayed on the power meter is the Reference Power (Pref) measurement. If the power meter has a Relative Power Measurement Mode, enter this Reference Power Measurement (Pref) value into the meter. If it does not, hand-write Pref onto the record document for future reference.

c. Disconnect test cord #1 form the power meter. Do not disconnect test cord #1 from the light source.
d. Connect the “open” end of test cord #1 to an adapter of matching connector type. Connect one end of test cord #2 to the adapter and the other end to the power meter.
e. The value displayed on the power meter is the Power Measurement (Psum). If the power meter is in Relative Power Measurement Mode, the meter reading represents the test cord #2 connection attenuation. If the meter does not have a Relative Power Measurement Mode, perform the following calculation to determine the connection attenuation:
   1) If Psum and Pref are in the same logarithmic units (dBm, dBu, etc.): Connection attenuation (dB) = (Psum - Pref)
   2) If Psum and Pref are in watts: Connection attenuation (dB) = [10 x log10 (Psum/Pref)]
   3) The measured connection attenuation must be less than or equal to the value found in the Table below.
f. Flip the ends of test cord #2, so that the end connected to the power meter is now connected to the adapter, and the end connected to the adapter is now connected to the power meter.
g. The meter reading is the reversed Power Measurement (Psum). Perform the proper calculations if not using Relative Power Measurement Mode.
h. Verify that both connection attenuation measurements are less than or equal to the value found in the following Table:

ACCEPTABLE TEST CORD CONNECTION ATTENUATION	
Cable Type	**SC (or other Mini-Connector) Cord**
Singlemode	0.30dB maximum

i. If both measurements are found to be less than or equal to the values found in the Table, then test cord #1 is acceptable for testing purposes. Unacceptable attenuation measurements may be attributable to test cord #1 or #2. Examine each cord with a portable microscope and clean, polish or replace as necessary.
j. Repeat this test procedure from the beginning, reversing the test cords in order to verify the performance of test cord #2.

2. Test equipment set-up:
   a. Follow the test equipment manufacturer’s initial adjustment and set-up instructions.
   b. If the meter has a Relative Power Measurement Mode, select this mode.
   c. If the meter can display power levels in dBm, select this unit of measurement to simplify subsequent calculations.
   d. Set the light source and power meter to the same wavelength.
3. Single mode passive link insertion loss testing procedure:
   a. Determine the launch conditions:
      1) Use the launch conditions as described in FOTP-78.
      2) Employ a method to remove high-order propagating modes as described in FOTP-77.
   b. Test method: Perform the passive link insertion loss testing of single mode fibers according to the “Test Method A.1: One Jumper Reference,” per OFSTP-7.
      1) After setting up the test equipment and verifying the performance of the test cords, the insertion loss of the passive link segments can be measured.
      2) Connect test cord #1 between the light source and the power meter.
      3) The meter reading is the Reference Power Measurement (Pref). If the power meter has a Relative Power Measurement Mode, enter the Pref value into the meter. If it does not have this mode, then hand-write the Pref for future reference and to be included in the Record Documents.
      4) Disconnect test cord #1 from the power meter. Do not disconnect test cord #1 from the light source.

5) Connect test cord #1 to the passive link segment input.
6) At the opposite end of the passive link segment, connect test cord #2 to the link segment input and the power meter.
7) The meter reading is the Power Measurement (Psum). If the power meter is in Relative Power Measurement Mode, the meter reading represents the insertion loss. If the meter does not have this mode, perform the following calculation to determine the insertion loss:
   a) If Psum and Pref are in the same logarithmic units (dBm, dBu, etc.): Link segment attenuation (dB) = (Psum - Pref)
   b) If Psum and Pref are in watts: Link segment attenuation (dB) = [10 x log10 (Psum/Pref)]
8) Record Psum for inclusion into the record documents.

4. Acceptable measurement values:
   a. Remove and replace any cabling links failing to meet the criteria described in this Specification, at no cost to the Owner, with cables that prove to meet the minimum requirements.
   b. The general insertion loss equation for any link segment is as follows:
      1) Insertion loss = cable loss + connection loss + splice loss + CPR adjustment.
      2) Note: A connection is defined as the joint made by two mating fibers terminated with re-mateable connectors.
   c. 50/125µm multimode attenuation coefficients:
      1) Cable loss = Cable length (km) x (3.0dB/km @ 850nm) or (1.0dB/km @ 1300nm).
      2) Connection loss = (Connections x 0.14dB) + 0.24dB.
      3) Splice loss = Splice x 0.05dB.
      4) CPR adjustment = See Table below.

MULTIMODE LIGHT SOURCE CPR ADJUSTMENT TABLE					
	Cat-1	**Cat-2**	**Cat-3**	**Cat-4**	**Cat-5**
Links w/ SC connectors	+0.25	0.00	-0.10	-0.20	-0.30

   d. Single mode attenuation coefficients:
      1) ISP cable loss = Cable length (km) x (0.650dB/km @ 1310nm) or (0.50dB/km @1550nm).
      2) Connection loss = (Connection x 0.24dB) + 0.24dB.
      3) Splice loss = Splices x 0.07dB.
      4) CPR adjustment = Not applicable for single mode.

E. Record documents:
   1. Permanently record all test results.
   2. Export test results' numerical values to a single Microsoft Excel spreadsheet.
   3. Submit test results in a format acceptable to the Owner, Owner's Representative and the Engineer before system acceptance.
   4. Cable, and fiber identifiers of the test reports shall match the identifiers as labeled in the field, i.e. use the same ID on the cable/termination label as what appears on the test report.
   5. Measurements shall carry a precision through one significant decimal place, minimum.
   6. Use feet for the units for measurements shown on the print of the test measurements.
   7. Print report such that fiber strands of a given cabling link have matching axis scales. The "X" and the "Y" axis shall be the same from report-to-report.
   8. The trace of the printed test report shall show the launch cord.
   9. For each fiber optic backbone cable test, report shall contain the following information:
      a. Project name and address.
      b. Test company's and Operator's name.
      c. Date measurements were taken.

d. Test equipment type to include model and serial numbers.
e. Cable identification number, fiber/strand number and fiber type (i.e. multimode, single mode, etc).
f. Measurement direction.
g. Set-up parameters (i.e. wavelength, pulse width, refractive index, event threshold, etc.)
h. OTDR trace.
i. Length of fiber.
j. Overall link loss.
k. Passive link insertion loss testing:
    1) Wavelength.
    2) Loss measurement.

10. For each cabling link, include either a schematic graphic or a brief narrative accurately describing the test set-up. The description shall include test/launch cord (with length), expected events (connectors, slices, etc.) with expected distances, etc. This information will eliminate many questions the Engineer will have while reviewing the reports.
11. For each twisted pair backbone and horizontal cable test, report shall contain the following information:
    a. Project name and address.
    b. Test company's and Operator's name.
    c. Date measurements were taken.
    d. Test equipment type to include model and serial numbers.
    e. Cable identification number and pair number.
    f. Measurement results.

3.04 INSPECTION AND ADJUSTMENTS

A. Contractor shall inspect all installed Work in conjunction with the General Contractor and develop a "punch list" for all items needing correction. Provide punch list to the Engineer prior to their final walk of Project.

B. Punch list work and the required remediation shall be performed prior to system final acceptance.

C. Replace or repair work completed by others that was defaced or destroyed during the installation of the telecommunication cabling system by this contractor.

D. Make changes to adjust the system to optimum operation for final use. Contractor is responsible for making changes to the system such that any defects in workmanship are correct and all cables and the associated termination hardware passes the minimum test requirements.

3.05 CLEANING

A. Remove all unused, excess and left over products, to include debris, spills, and installation equipment.

B. Leave finished work and adjacent surfaces in neat, clean conditions with no evidence of damage.

C. Legally dispose of debris.

D. Clean installed products in accordance with manufacturer's instructions prior to final punch list.

END OF SECTION 27 13 23

SECTION 28 13 00
ACCESS CONTROL

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Security access devices.

B. Access control panel.

1.02 RELATED REQUIREMENTS

A. Section 087100 - Door Hardware.

B. Section 111200 - Parking Control Equipment.

C. Section 142010 - Passenger Elevators.

D. Section 260519 - Low-Voltage Electrical Power Conductors and Cables (600 V and Less).

E. Section 270526 – Communications Grounding and Bonding

F. Section 270536 – Communication Cable Trays

G. Section 270600 – Communication Commissioning

1.03 REFERENCES

A. NFPA 70 - National Electrical Code; National Fire Protection Association 2017 with California Electrical Code 2016 Amendments.

1.04 SYSTEM DESCRIPTION

A. Security Access System: Control access to building using coded key pads:

1. Selected Exterior Doors: Control access into building.

1.05 SUBMITTALS

A. See Section 013000 - Administrative Requirements, for submittal procedures.

B. Shop Drawings: Provide system wiring diagram showing each device and wiring connection required.

C. Product Data: Provide electrical characteristics and connection requirements.

D. Test Reports: Indicate satisfactory completion of required tests and inspections.

E. Manufacturer's Installation Instructions: Indicate application conditions and limitations of use stipulated by product testing agency. Include instructions for storage, handling, protection, examination, preparation, installation, and starting of product.

F. Project Record Documents: Record actual locations of access authorization equipment.

G. Operation Data: Operating instructions.

H. Maintenance Data: Maintenance and repair procedures.

I. Maintenance Materials: Furnish the following for Los Rios Community College District's use in maintenance of project.

1. See Section 016000 - Product Requirements, for additional provisions.

2. Deliver keys/cards not used in initial installation to Los Rios Community College District as directed.

1.06 QUALITY ASSURANCE

A. Conform to requirements of NFPA 70.

B. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years documented experience and with

service facilities within 100 miles of Project.

C. Installer Qualifications: Company specializing in installing the products specified in this section with minimum three years documented experience.

D. Products: Furnish products listed and classified by Underwriters Laboratories Inc. as suitable for purpose specified and indicated.

PART 2 PRODUCTS (IMRON)

2.01 GENERAL

A. The products listed should be considered “District standards, no substitutions” unless approved by district.

2.02 CANS (See CAN layout on drawing design details)

A. Access – MIER BW-LRC103 Rev. A(25).

B. Power Supply / Spare – MIER BW-LRC103 Rev. A(25).

C. Battery Box – FireLite BB25.

2.03 ELECTRONICS (See panel detail for layout on drawing design details)

A. Imron SCP-M

B. Imron MR-52

C. Imron 8 Port multiplexer (RS 485 data expander)

D. Imron output SO-16

E. Imron input SI-16

F. Power Supply – Altronix 1024ULXB

G. Power Distribution – Altronix PD8ULCB

2.04 BATTERIES

A. Powersonic 12350

2.05 WIRE (See Cable Legend on drawings)

A. C1 – Honeywell 5281 or plenum 5381

B. C2 – Honeywell 4978 or plenum 5088

C. C3 – Honeywell 1104 or plenum 3104

D. C4 – Honeywell 1125 or plenum 3121

E. C5 – Honeywell 1207 or plenum 3206

2.06 DEVICES

A. Toggle door, mullion mount reader – HID IClass 900LNNNEK20452 Indala 18287

B. Toggle door, wall mount reader – HID IClass 920LNNNEK20452 Indala 18287

C. Non toggle door, mullion mount reader – HID IClass 900LNNNEK200D3 Indala 18287

D. Reader behind Elk keypad – HID IClass 900LNNNEK200D4 Indala 18287

E. Toggle Button – Bulgin MAV0120/3D2GN024

F. Door Release – Rutherford RCI 909S or 909F

G. Dummy Plugs - George Risk Industries, Inc.

1. 3/8” Diameter, White or Brown (DP-20RS)
2. 1/4 “ Diameter, Round Flanged, White or Brown (DP-50RF)
3. 1/4” Diameter, Black Only (DP-250)
4. 3/8” Diameter, Self Locking (DP-375)

5. 1/2” Diameter, Self Locking (DP-500)
6. 9/16” Diameter, Self Locking (DP-562)
7. 5/8” Diameter, Self Locking (DP-625)
8. 3/4” Diameter, Self Locking (DP-750)
9. 7/8” Diameter, Self Locking (DP-875)
10. 1” Diameter, Self Locking (DP-1.0)
11. 1 1/4” Diameter, Self Locking (DP-1.25)
12. 1.093” Diameter, For Electrical Box Knockouts, Gray Only (6726)

PART 3 EXECUTION

3.01 INSTALLATION

A. Install in accordance with manufacturer's instructions.

B. Use 16 AWG minimum size conductors for detection and signal circuit conductors. Install wiring in conduit.

C. Make conduit and wiring connections to door hardware devices furnished and installed under Section 087100.

3.02 FIELD QUALITY CONTROL

A. Perform field inspection and testing in accordance with Section 014500.

B. Manufacturer Services: Furnish services of technician to supervise installation, adjustments, final connections, system testing, and to train Los Rios Community College District personnel.

3.03 CLOSEOUT ACTIVITIES

A. Demonstrate normal and abnormal modes of operation, and required response to each.

B. Provide 2 hours minimum of instruction each for two persons.

1. Conduct instruction at project site with manufacturer's representative.

3.04 MAINTENANCE

A. See Section 017000 - Execution Requirements, for additional requirements relating to maintenance service.

B. Furnish service and maintenance of security access system for one year from Date of Substantial Completion.

END OF SECTION

DSA DIVISION OF THE STATE ARCHITECT
DEPARTMENT OF GENERAL SERVICES

DSA-103 Issued 12/30/2016

List of Required Structural Tests & Special Inspections - 2016 CBC

INCREMENT # | DSA File No.: | Application No.: 02-115990 | Date Submitted: 1/15/2018 | Revised: | Revised:

School Name	Consumnes River College	District	Los Rios

IMPORTANT: This form is only a summary list of structural tests and some of the special inspections required for the project. Generally, the structural tests and special inspections noted on this form are those that will be performed by the Geotechnical Engineer of Record, Laboratory of Record, or Special Inspector. The actual complete test and inspection program must be performed as detailed on the DSA approved documents. The appendix at the bottom of this form identifies work NOT subject to DSA requirements for special inspection or structural testing. The project inspector is responsible for providing inspection of all facets of construction, including but not limited to, special inspections not listed on this form such as structural wood framing, high-load wood diaphragms, cold-formed steel framing, anchorage of non-structural components, etc., per Title 24, Part 2, Chapter 17A.
NOTE: This form is also available for projects submitted for review under the 2007, 2010, and 2013 CBC.

INSTRUCTIONS: Click a plus sign (+) before any category or subcategory to reveal additional tests and special inspections. A shaded box indicates a test or special inspection that may be required, depending on the scope of the construction and other issues. A shaded box can be clicked indicating your selection of that test. **Note:** A minus (-) on a category or subcategory heading indicates that it can be collapsed. However, any selections you may have made will be cleared. Click on the "COMPILE" button to show only the tests and inspections finally selected. **For more information on use of this form, see DSA-103.INSTR.**

Note: References are to the 2016 edition of the California Building Code (CBC) unless otherwise noted.

REQUIRED	TEST OR SPECIAL INSPECTION	TYPE [1]	PERFORMED BY [2]	CODE REFERENCE AND NOTES
-	**SOILS**			
-	**1. GENERAL:**	**Table 1705A.6**		
X	a. Verify that: • site has been prepared properly prior to placement of controlled fill and/or excavations for foundations, • foundation excavations are extended to proper depth and have reached proper material, and • materials below footings are adequate to achieve the design bearing capacity.	**Periodic**	**GE***	* By geotechnical engineer or his or her qualified representative. (See Appendix for exemptions.)
-	**2. COMPACTED FILLS:**	**Table 1705A.6**		
X	b. Verify use of proper materials, densities and inspect lift thicknesses, placement, and compaction during placement of fill.	**Continuous**	**GE***	* By geotechnical engineer or his or her qualified representative.
X	c. Test compaction of fill.	**Test**	**LOR***	* Under the supervision of the geotechnical engineer.
-	**CONCRETE**	**Table 1705A.3, ACI 318-14 Sections 26.12 & 26.13**		
-	**7. CAST IN PLACE CONCRETE**			
	Material Verification and Testing:			
X	a. Verify use of required design mix.	**Periodic**	**SI***	**Table 1705A.3 Item 5, 1910A.1** (1909.2.3+). * To be performed by qualified batch-plant inspector and concrete sampling technician
X	b. Identifiy, sample, and test reinforcing steel.	**Test**	**LOR**	**1910A.2** (1909.2.4+); ACI 318-14 Section 26.6.1.2. DSA IR 17-10
X	c. During concrete placement, fabricate specimens for strength tests,perform slump and air content tests, and determine the temperature of the concrete.	**Test**	**LOR**	**Table 1705A.3 item 6**; ACI 318-14 Sections 26.5 & 26.12

+ In the CODE REFERENCE AND NOTES column indicates DSA-SS/CC sections that may be used by community colleges, per 2013~~6~~ CBC Sec. 1.9.2.2.

DSA DIVISION OF THE STATE ARCHITECT
DEPARTMENT OF GENERAL SERVICES

DSA-103 Issued 12/30/2016

List of Required Structural Tests & Special Inspections - 2016 CBC

INCREMENT #

DSA File No.: FALSE
Application No.: 02-115990
Date Submitted: 1/15/2018
Revised:
Revised:

X	d. Test concrete (f'_c).	Test	LOR	**1905A.1.16** (1909.3.7+); ACI 318-14 Section 26.12.
	Inspection:			
X	e. Batch plant inspection ◉ Continuous ○ Periodic	See Notes	SI	Default of **'Continuous'** per **1705A.3.3**; If approved by DSA, batch plant inspection may be reduced to **'Periodic'** subject to requirements in Section **1705A.3.3.1** or eliminated per **1705A.3.3.2.** (See Appendix for exemptions.)
X	h. Welding of reinforcing steel.	Provide special inspection per STEEL, category 19.1(d) & (e) and/or 19.2(g) & (h) below.		
-	**9. PRECAST CONCRETE (in addition to Cast in Place Concrete tests and inspections):**			
X	a. Inspect fabrication of precast concrete members.	Continuous	SI	ACI 318-14 Section 26.13
X	b. Inspect erection of precast concrete members.	Periodic	SI*	**Table 1705A.3 Item 10;*** May be performed by PI when specifically approved by DSA.
-	**11. POST-INSTALLED ANCHORS:**			
X	a. Inspect installation of post-installed anchors	See Notes	SI*	**Table 1705A.3 Item 4a (Continuous) & 4b (Periodic)** (see Appendix for exemptions). ACI 318-14 Sections 17.8 & 26.13 * May be performed by the project inspector when specifically approved by DSA.
X	b. Test post-installed anchors.	Test	LOR	**1910A.5** (1909.2.7+). (See Appendix for exemptions.)
+	**MASONRY**	**TMS 402-13/ACI 530-13/ASCE 5-13 Table 3.1.3 & TMS 602-13/ACI 530.1-13/ASCE 6-13 Table 5**		
-	**STEEL, ALUMINUM**	**Table 1705A.2.1, AISC 303-10, AISC 360-10, AISC 341-10, AISC 358-10, AISI S100-07/S2-10**		
-	**17. STRUCTURAL STEEL, COLD-FORMED STEEL, AND ALUMINUM USED FOR STRUCTURAL PURPOSES**			
	Material Verification:			
X	a. Verify identification of all materials and: • Mill certificates indicate material properties that comply with requirements, • Material sizes, types and grades comply with requirements.	Periodic	*	**2203A.1** (2203.1+), **Table 1705A.2.1 Item 3a-3c;** AISI S100-07/S2-10 Section A2.1 & A2.2, AISI S200-12 Section A3, AISI S220-11 Section A4. * By special inspector or qualified technician when performed off-site.
X	b. Test unidentified materials	Test	LOR	**2203A.1** (2203.1+).
	Inspection:			
X	e. Verify and document steel fabrication per DSA approved construction documents.	Periodic	SI	Not applicable to cold-formed steel light-frame construction, except for trusses (**1705A.2.4**).
-	**18. HIGH STRENGTH BOLTS:**	**RCSC 2009**		
	Material Verification of High-Strength Bolts, Nuts, and Washers:			
X	a. Verify identification markings and manufacturer's certificates of compliance conform to ASTM standards specified in the DSA approved documents.	Periodic	SI	**Table 1705A.2.1 Item 1, 2203A.1;** RCSC 2009 Section 2.1. DSA IR 17-9
X	b. Test high-strength bolts, nuts and washers.	Test	LOR	**2213A.1** (2212.6.1+). RCSC 2009 Section 7.2 DSA IR 17-8
	Inspection of High-Strength Bolt Installation:			
X	c. Bearing-type ("snug tight") connections.	Periodic	SI	**Table 1705A.2.1 Item 2a;** RCSC 2009 Section 9.1. DSA IR 17-9
X	d. Slip-critical connections.	*	SI	**Table 1705A.2.1 Item 2b & 2c.** RCSC 2009 Section 9.2 & 9.3. * "Continuous" or "Periodic" depends on the tightening method used, DSA IR 17-9 and **1705A.2.1.**
-	**19. WELDING:**			**1705A.2.5, Table 1705A.2.1 Items 4 & 5;** DSA IR 17-3, AWS D1.1 and AWS D1.8 for structural steel, AWS D1.2 for Aluminum, AWS D1.3 for cold-formed steel, AWS D1.4 for reinforcing steel. (See Appendix for exemptions.)
	Verification of Materials, Equipment, Welders, etc:			
X	a. Verify weld filler material identification markings per AWS designation listed on the DSA approved documents and the WPS.	Periodic	SI	DSA IR 17-3.

+ In the CODE REFERENCE AND NOTES column indicates DSA-SS/CC sections that may be used by community colleges, per 2013~~6~~ CBC Sec. 1.9.2.2.

DSA DIVISION OF THE STATE ARCHITECT
DEPARTMENT OF GENERAL SERVICES

DSA-103 Issued 12/30/2016

List of Required Structural Tests & Special Inspections - 2016 CBC

INCREMENT #:

DSA File No.: FALSE

Application No.: 02-115990

Date Submitted: 1/15/2018

Revised:

Revised:

X	b. Verify weld filler material manufacturer's certificate of compliance.	Periodic	SI	DSA IR 17-3.
X	c. Verify WPS, welder qualifications and equipment.	Periodic	SI	DSA IR 17-3.
-	**19.1 SHOP WELDING:**			
X	a. Inspect groove welds, multi-pass fillet welds, single pass fillet welds > 5/16", plug and slot welds	Continuous	SI	**Table 1705A.2.1 Item 5a1-4.** Per AISC 360-10 (and AISC 341-10 as applicable). DSA IR 17-3.
X	c. Inspect welding of stairs and railing systems.	Periodic	SI	**1705A.2.1.** Per AISC 360-10 (and AISC 341-10 as applicable). AWS D1.1 & D1.3. DSA IR 17-3.
X	e. Inspect welding of reinforcing steel.	Continuous	SI	**1705A.3.1, Table 1705A.3 Item 2, and Table 1705A.2.1 Item 5b, 1903A.8.** AWS D1.4. DSA IR 17-3.
-	**19.2 FIELD WELDING:**			
X	a. Inspect groove welds, multi-pass fillet welds, single pass fillet welds > 5/16", plug and slot welds	Continuous	SI	**Table 1705A.2.1 Item 5a1-4.** Per AISC 360-10 (and AISC 341-10 as applicable). DSA IR 17-3.
X	b. Inspect single-pass fillet welds ≤ 5/16"	Periodic	SI	**Table 1705A.2.1 Item 5a.5.** Per AISC 360-10 (and AISC 341-10 as applicable). DSA IR 17-3.
X	c. Inspect end-welded studs (ASTM A-108) installation (including bend test)	Periodic	SI	**2213A.2** (2212.6.2[+]); per AISC 360-10 (and AISC 341-10 as applicable), AWS D1.1. DSA IR 17-3.
X	d. Inspect floor and roof deck welds	Periodic	SI	**1705A.2.2, Table 1705A.2.1 Item 5a.6;** per AISC 360 (and AISC 341 as applicable) & AWS D1.3. DSA IR 17-3.
X	e. Inspect welding of structural cold-formed steel	Periodic	SI*	**1705A.2.5;** AWS D1.3. * May be performed by the project inspector when specifically approved by DSA. DSA IR 17-3.
X	f. Inspect welding of stairs and railing systems	Periodic	SI*	**1705A.2.1;** Per AISC 360-10 (and AISC 341-10 as applicable). AWS D1.1 & D1.3. DSA IR 17-3. * May be performed by the project inspector when specifically approved by DSA.
X	g. Verification of reinforcing steel weldability	Periodic	SI	**1705A.3.1**; verify carbon equivalent reported on mill certificates. DSA IR 17-3.
X	h. Inspect welding of reinforcing steel.	Continuous	SI	**1705A.3.1, Table 1705A.3 Item 2, and Table 1705A.2.1 Item 5b, 1903A.8.** AWS D1.4. DSA IR 17-3.
-	**20. NONDESTRUCTIVE TESTING:**			
X	a. Ultrasonic	Test	LOR	**1705A.2.1 & 1705A.2.5.** AISC 360-10 N5.5, AISC 341-10 App. Q 5.2. AWS D1.1, D1.8. ANSI/ASNT CP-189, SNT-TC-1A. DSA IR 17-2.
X	b. Magnetic Particle	Test	LOR	
-	**23. ANCHOR BOLTS, ANCHOR RODS, & OTHER STEEL:**			
X	a. Anchor Bolts and Anchor Rods	Test	LOR	IR 17-11 Sample and test anchor bolts and anchor rods not readily identifiable.
-	**WOOD**			
+	**OTHER**			

+ In the CODE REFERENCE AND NOTES column indicates DSA-SS/CC sections that may be used by community colleges, per 2013~~6~~ CBC Sec. 1.9.2.2.

DSA DIVISION OF THE STATE ARCHITECT
DEPARTMENT OF GENERAL SERVICES

DSA-103 Issued 12/30/2016

List of Required Structural Tests & Special Inspections - 2016 CBC

INCREMENT #		DSA File No.:	FALSE
		Application No.:	02-115990
Date Submitted:	1/15/2018	Revised:	
		Revised:	

List of required verified report(s):

1 Soils testing and Inspection: Geotechnical Verified Report - Form DSA-293
2 All Structural Testing: Laboratory Verified Report - Form DSA-291
3 Concrete Batch Plant Inspection: Laboratory Verified Report - Form DSA-291, or, for independently contracting SI, Special Inspection Verified Report - Form DSA-292
4 Precast Concrete Inspection: Laboratory Verified Report - Form DSA-291, or, for independently contracting SI, Special Inspection Verified Report - Form DSA-292
5 Shop Welding Inspection: Laboratory Verified Report - Form DSA-291, or, for independently contracting SI, Special Inspection Verified Report - Form DSA-292
6 Field Welding Inspection: Laboratory Verified Report - Form DSA-291, or, for independently contracting SI, Special Inspection Verified Report - Form DSA-292
7 HS Bolt Installation Inspection: Laboratory Verified Report - Form DSA-291, or, for independently contracting SI, Special Inspection Verified Report - Form DSA-292

KEY to Columns

1 Type -	2 Performed By -
Continuous – Indicates that a continuous special inspection is required	**GE** – Indicates that the special inspection is to be performed by a registered geotechnical engineer or his or her authorized representative
Periodic – Indicates that a periodic special inspection is required	**LOR** – Indicates that the test or inspection is to be performed by a testing laboratory accepted in the DSA Laboratory Evaluation and Acceptance (LEA) Program. See section 4-335, 2013 CCR Title 24, Part 1.
Test – Indicates that a test is required	**SI** – Indicates that the special inspection is to be performed by a special inspector
COMPILE PRINT	

Troy Pennington
Name of Architect or Engineer in general responsible charge

Lawrence Jones, SE
Name of Structural Engineer (When structural design has been delegated)

Signature of Architect or Structural Engineer — 2/12/2018 date

IDENTIFICATION STAMP
DIV OF THE STATE ARCHITECT
APP. # 02-115990
AC N/A F/LS N/A SS dg
DATE 02/28/2018

+ In the CODE REFERENCE AND NOTES column indicates DSA-SS/CC sections that may be used by community colleges, per 2013~~6~~ CBC Sec. 1.9.2.2.

DSA DIVISION OF THE STATE ARCHITECT DEPARTMENT OF GENERAL SERVICES

DSA-103 Issued 12/30/2016

List of Required Structural Tests & Special Inspections - 2016 CBC

INCREMENT #

DSA File No.: FALSE

Application No.: 02-115990

Date Submitted: 1/15/2018

Revised:

Revised:

Appendix: Work Exempt from DSA Requirements for Special Inspection or Structural Testing

Exempt items given in IR A-22 or the 2016 CBC (including DSA amendments) and those items identified below with an "X" by the design professional are NOT subject to DSA requirements for the structural tests and special inspections noted. The project inspector shall verify all construction complies with the approved construction documents.

Exempted by Design Prof.	Soils:
X	1. Deep foundations acting as a cantilever footing designed based on minimum allowable pressures per 2016 CBC Table 1806A.2 and having no geotechnical report for the following types of structures: free standing sign, scrolling message sign, scoreboard, covered walkway or shade structure with dead load less than 5 psf and other light-weight structures of which the apex is less than 8' above the highest adjacent grade.
X	2. Shallow foundations meeting the exception item #1 criteria specified in 2016 CBC Section 1803A.2.
(Optional) List details for applicable exempt items:	
	Concrete/Masonry:
X	1. Post-installed anchors for the following: 1) exempt non-structural components (e.g., mechanical, electrical, plumbing equipment) given in ASCE 7-10, Section 13.1.4 (and modified by CBC Section 1616A.1.18) or 2) interior nonstructural wall partitions meeting criteria listed in exempt item 3 for "Welding."
X	2. Concrete batch plant inspection is not required for items given in CBC Section 1705A.3.3.2 subject to the requirements and limitations in that section. Exempt retaining walls shall be less than 4'-0" above the top of foundation not supporting a surcharge and free standing nonbearing non-shear walls up to 6'-0" above adjacent grade.

Exempted by Design Prof.	Welding:
X	1. Solid-clad and open-mesh gates with maximum leaf span or rolling section for rolling gates of 10' and apex height less than 8'-0" above lowest adjacent grade. When located above circulation or occupied space below, these gates are not located within 1.5x gate/fence height (max 8'-0") to the edge of floor or roof.
X	2. Handrails, guardrails, and modular or relocatable ramps associated with walking surfaces less than 30" above adjacent grade (excluding post base connections per the 'Exception' language in Section 1705A.2.1); fillet welds cannot be ground flush.
X	3. Non-structural interior cold-formed steel framing spanning less than 15'-0", such as in interior partitions, interior soffits, etc. supporting only self weight and light-weight finishes or adhered tile, masonry, stone, or terra cotta veneer no more than 5/8" thickness and apex less than 20'-0" in height and not over an exit way. Maximum tributary load to a member shall not exceed the equivalent of that occurring from a 10'x10' opening in a 15' tall wall for a header or king stud.
X	4. Manufactured support frames and curbs using hot rolled or cold-formed steel (i.e., light gauge) for mechanical, electrical, or plumbing equipment weighing less than 2000# (equipment only) (connections of such frames to superstructure elements using welding will require special inspection as noted in selected item(s) for section 19, 19.1 and/or 19.2 of listing above).
X	5. Manufactured components (e.g., Tolco, B-Line, Afcon, etc.) for mechanical, electrical, or plumbing hanger support and bracing (connections of such components to superstructure elements using welding will require special inspection as noted in selected item(s) for section 19, 19.1 and/or 19.2 of listing above).
X	6. TV Brackets, projector mounts with a valid listing (see DSA IR A-5) and recreational equipment (e.g., playground structures, basketball backstops, etc.) (connections of such elements to superstructure elements using welding will require special inspection as noted in selected item(s) for section 19, 19.1 and/or 19.2 of listing above).

+ In the CODE REFERENCE AND NOTES column indicates DSA-SS/CC sections that may be used by community colleges, per 2013~~6~~ CBC Sec. 1.9.2.2.

DSA DIVISION OF THE STATE ARCHITECT
DEPARTMENT OF GENERAL SERVICES

DSA-103 Issued 12/30/2016

List of Required Structural Tests & Special Inspections - 2016 CBC

INCREMENT #:

DSA File No.: FALSE

Application No.: 02-115990

Date Submitted: 1/15/2018

Revised:

Revised:

	3. Masonry retaining walls less than 4'-0" above the top of foundation not supporting a surcharge and free standing nonbearing non-shear masonry walls up to 6'-0" above adjacent grade do not require mortar or masonry core testing or DSA special inspection.
X	4. Epoxy shear dowels in site flatwork.

(Optional) List details for applicable exempt items:

X	7. Any support for exempt non-structural components given in ASCE 7-10, Section 13.1.4 (and modified by CBC Section 1616A.1.18) meeting the following: 1) when supported on a floor/roof, <400# and resulting composite center of mass (including component's center of mass) <= 4' above supporting floor/roof, 2) when hung from a wall or roof/floor, <20# for discrete units or <5 plf for distributed systems.

(Optional) List details for applicable exempt items:

+ In the CODE REFERENCE AND NOTES column indicates DSA-SS/CC sections that may be used by community colleges, per 2013~~6~~ CBC Sec. 1.9.2.2.