AMERICAN RIVER COLLEGE



MECHANICAL, PLUMBING, & ELECTRICAL

SPRING 2022

ALEJANDRO RAYA

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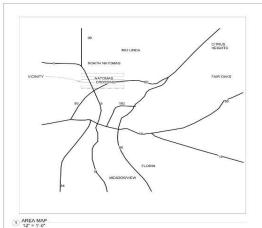


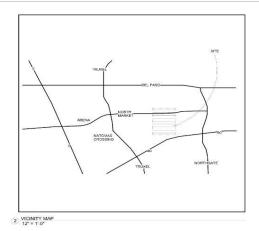
SITE MAP/VICINITY

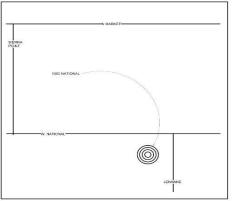
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-	SITE MAP	
3	12" = 1'-0"	

	38	HEET LIST	
SHEET NUMBER	SHEET NUMBER	DRAWN BY	CURRENT REVISION DATE
A101-RS	RS-PROJECT COVER-RS	AR.	3/17/22
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List Project Principals In This Box

- Name
- Afffiliation
- Contact Info

4 PROJECT PRINCIPALS 12" = 1'-0"

DESCRIPTION: ARCDESIGN Environmental Pumps is an expanding company that provides equipment, service, and engineering support to agencies and contractors who are performing environmental water quality control reports and remediation plans.

Their work encompasses providing necessary services in planning and initiation of wastewater remediation projects; as well as in providing specialized equipment for sampling and processing water quality compliance scans.

This company is expanding rapidly due to the development of new predictive software that can help create preventative predictions for water quality dashboards. This ability allows clients to prevent costly remediation plans.

The company currently rents three small facilities ... one for each of its operations. Due to the recent growth, the company wishes to consolidate their engineering, service, and manufacturing operations into one building.

http://www.arc.losrios.edu/ARC_Majors/ Technical Education/Design Technology.htm

DESGN 330 SYSTEM DESIGN MEP

> ARC McClelland Innovation Center

Design Technology 4700 COLLEGE OAK SACRAMENTO CA



ARCDESIGN PUMPS BUILDOUT PLAN

RS-PROJECT

Issue Date Checker

A101

Name:Affiliation:Approved By:	
ARCHITECT SIGNATURE	
MECHANICAL ENGINEER:	
Name:Affiliation:	
Affiliation:Approved By:	Date:
MECHANICAL SIGNATURE 12" = 1'-0"	
Electrical Engineer: Name:	
Affiliation: Approved By:	
	Date:
ELECTRICAL SIGNATURE 12" = 1-0"	
PLUMBING DESIGN:	
Name:Affiliation:	
Approved By:	Date:
PLUMBING SIGNATURE 12" = 1'-0"	

A GENERAL .

1. THESE DRAWNOS INCICATE IN GENERAL THE PROJECT IN TERMS OF ARCHITECTURA, DESIGN INTERF. THE DAMPISCHE OF THE BULDING, THE MAJOR ARCHITECTURA, DESIGN INTERF. THE DAMPISCHE OF THE DISTURDAL CHARGE AND DESIGN INTERF. THE DAMPISCH AND THE DAMPISCH DAMPISCH AND THE DAMPISCH DAMPISCH AND THE CONTRACT DOLUMENTS. AS PROJECTED OR SECRETARIES AND COMPLETION OF THE STREET OF THE PROPER DESICITION AND COMPLETION OF THE WORK THE DAMPISCH DAMPISCH AND COMPLETION OF THE WORK THE DAMPISCH DAMPISCH

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15. ALL BLOCKWALLS ENCLOSING THE FIRE ZONES SHALL BE LIGHT WEIGHT CONCRETE BLOCKWALL AND EXTENDED UP TO THE SOFFIT OF THE SLAB TO PROVIDE

COURSE IS ALCOHOLLAND LESTEROBLE UP TO THE SOFT OF THE SLAE TO PROVIDE IN A LICENSE TO PROVIDE IN A LI

WALL FINISH MATERIAL SHALL BE FROM PLOCK LEVEL TO BOTTOM OF SLAS LEVEL (UNLESS NOTED OTHERWISE) 22. THE CONTRACTOR SHALL SUBBIIT SAMPLES AND DESIGN INFORMATION FOR APPROVAL, 23. MOTES APPEARING ON VARCOUS DRAWINGS FOR DIFFERENT SYSTEMS AND MATERIALS ARE TO BE REVEYED, COORDINATED AND ARE TO BE REVEYED, COORDINATED AND ARE TO BE APPLED TO ALL

5 NOTES- GENERAL 12" = 1'-0"

RELATED DRAWINGS AND DETAILS

EXTERIOR ENVELOPE

DIFFERENT ENVELOP

DIFFERENT ENVE THE DESIGN INTENT SHOWN.
7. SEALANT DRAINGE SYSTEM GASKETS AND WATERPROOFING MEMBRANE SHALL BE ASSEMBLED IN SUICH A MANNER TO PROVIDE A HIGH QUALITY WEATHERPROOF BUILDING ENCLOSURE. BUILDING ENCLOSURE.

8. ALL PROPOSED DETAILS FOR EACH TYPE OF GLAZING ARE TO BE SUBMITTED TO

9. COLOR OF SEALANT SHALL WATCH ADJACENT MATERIALS OR AS SPECIFIED BY THE IS COMPARED CONTROL OF DETERMINATION OF THE PROPERTY OF THE PR

6 NOTES - EXTERIOR ENVELOPE

RESIDUAL PRESSURE CALCULATION XX.X=INLET PRESSURE - PSI YY Y=CRITICAL PATH FRICTION - PSI ZZ.Z=RESIDUAL PRESSURE - PSI

7) RESIDUAL PRESSURE CALCULATION

OCCUPIED AREA - SQFT

XXX=RECEPTION / LOBBY YYY=ADMIN / ENGINEERING / SALES ZZZ=MFG / SERVICE / STAGING

8 OCCUPIED AREA

HVAC SIZING ESTIMATE - RECEPTION / LOBBY

XX.X=MAX COOLING LOAD - TONS YY.Y=MAX HEATING LOAD - TONS 77 7=AIR HANDLER SIZE - TONS

HVAC SIZING ESTIMATE - RECEPTION / 9 LOBBY 12" = 1'-0"

HVAC SIZING ESTIMATE - ADMIN-ENG-SALES

XX.X=MAX COOLING LOAD - TONS YY.Y=MAX HEATING LOAD - TONS ZZ.Z=AIR HANDLER SIZE - TONS

HVAC SIZING ESTIMATE -10 ADMIN-ENG-SALES

> HVAC SIZING ESTIMATE -MFG - SERVICE XX.X=MAX COOLING LOAD - TONS YY.Y=MAX HEATING LOAD - TONS 77 7=AIR HANDLER SIZE - TONS

11 HVAC SIZING ESTIMATE -MFG - SERVICE



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> **DESGN 330** SYSTEM DESIGN MEP

> > ARC McClelland Innovation Center

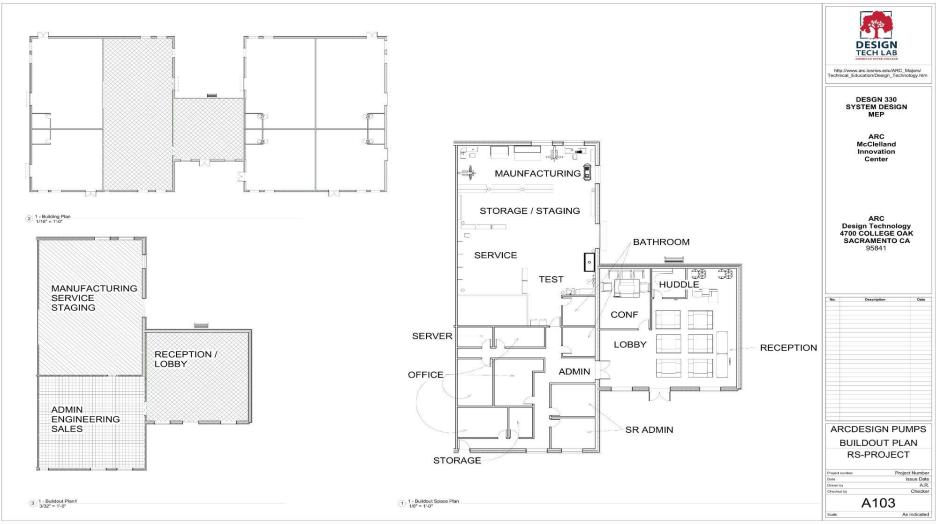
Design Technology 4700 COLLEGE OAK SACRAMENTO CA 95841

ARCDESIGN PUMPS BUILDOUT PLAN **RS-PROJECT**

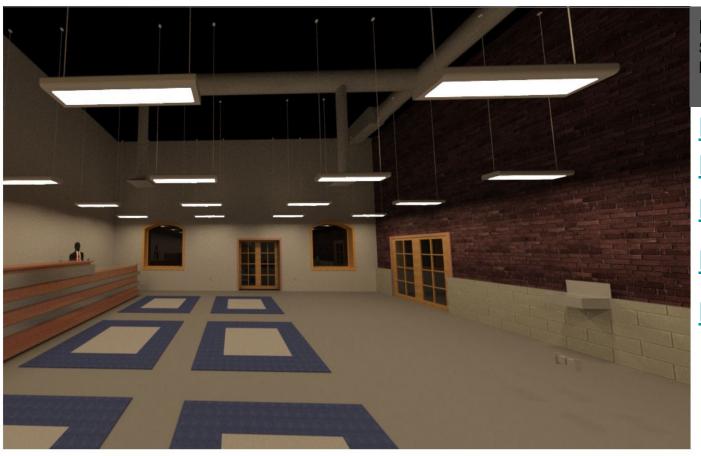
Project number Project Number Issue Date A.R. Checker

A102

Scale



18/2022 12:03:56



HVAC: AIR TERMINALS/ AIR SUPPLY PLANS/ DETAILS & BUILDOUT ZONES/DETAILS

<u>M101</u>

M102

M401

M103

M402



HVAC Zone Schedule Name Zone-Lobby Zone-Admin Zone-MFG





1 - Buildout Zones 3/32" = 1'-0"



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ARCDESIGN PUMPS BUILDOUT PLAN HVAC Zone Plan

Project number WEEK 10
Date 3/27/22

Checked by M101

3/32" = 1'-0"

Checker



Mechanical Eq	uipment Sche	dule
Type	Family	System Name
Johnson Pump FRE(S)32-110	Pump_FRE S32-110_1 5078	
1830 x 900 mm	fume_hood _3523	
Air_Compressor_5635	Air_Compr essor_5635	
30000 Btu	Air Handling Unit - Split System - Horizontal	Mechanical Supply Air 1
30000 Btu	Air Handling Unit - Split System - Horizontal	Mechanical Supply Air 2
30000 Btu	Air Handling Unit - Split System - Horizontal	Mechanical Supply Air 3

			HVAC Zone	e Schedule 2			
Calculated Area per Cooling Load	Calculated Area per Heating Load	Calculated Cooling Load	Calculated Cooling Load per area	Calculated Heating Load	Calculated Heating Load per area	Calculated Supply Airflow	Calculated Supply Airflow per area
Not Computed	Not Computed	1539.2 Btu/h	Not Computed	0.0 Btu/h	Not Computed	66 CFM	Not Computed
Not	Not	Not	Not	Not	Not	Not	Not
Computed	Computed	Computed	Computed	Computed	Computed	Computed	Computed
Not	Not	Not	Not	Not	Not	Not	Not
Computed	Computed	Computed	Computed	Computed	Computed	Computed	Computed
Not	Not	Not	Not	Not	Not	Not	Not
Computed	Computed	Computed	Computed	Computed	Computed	Computed	Computed





1 - Buildout Zones HVAC 3/32" = 1'-0"



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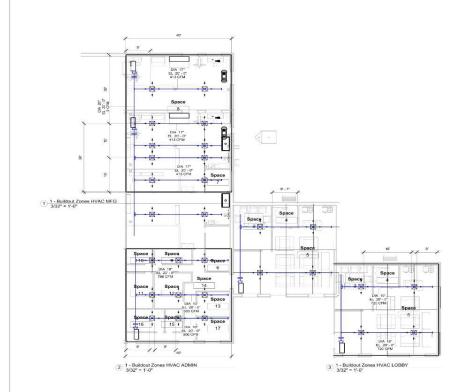


ARCDESIGN PUMPS **BUILDOUT PLAN**

HVAC Components

Project number WEEK 10 3/27/22 AR Checked by Checker M102

3/32" = 1'-0"





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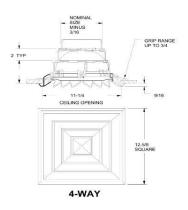
No.	Description	Date

ARCDESIGN PUMPS BUILDOUT PLAN HVAC Supply Air Plan

Project number	WEEK 1
Date	3/27/2
Drawn by	Autho
Checked by	Checke

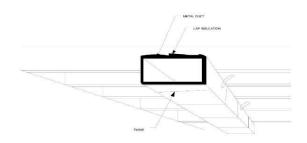
M103

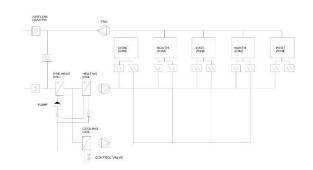
3/32" = 1'-0"



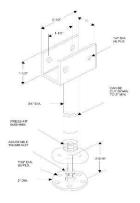
1 AIR REGISTER MOUNTING

3 Duct Insulation 12" = 1'-0"





2 Dual Fan Dual Duct Schematics 12" = 1'-0"



4 Partition Floor Bracket 12" = 1"-0"



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ARCDESIGN PUMPS
BUILDOUT PLAN

DETAILS

 Project number
 WEEK 10

 Date
 3/27/22

 Drawn by
 Author

 Checked by
 Checker

M402

FIXTURE PLAN PLUMBING/DETAILS

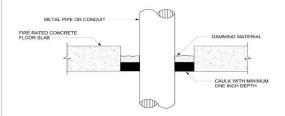
<u>A104</u>

M403



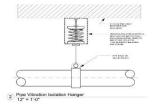


Autodesk Revit www.autodesk.com/revit Consultant Address Address Address Phone Date Description **ARCDESIGN PUMPS BUILDOUT PLAN** FIXTURE PLAN PLUMBING Project Number WEEK 10 4/8/22 Checked By Checker A104 3/32" = 1'-0"

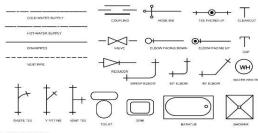


FIRE RATED PIPE PENETRATION DETAIL

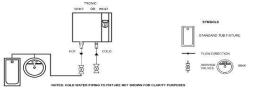
- CAULK SHALL BE 3M FIRE BARRIER CP25 N/S, NO SAG CAULK FOR FILLING VERTICAL OR HORIZONTAL GAPS FROM BELOW OR APPROVED EQUAL.
- MATRIAL USED FOR DAMMING SHALL EITHER BE FIBERGLASS INSULATION, BACKER ROD OR MINERAL WOOL.
- MATERIALS SHALL BE INSTALLED PER MANUFACTURERS INSTALLATION INSTRUCTIONS.
- 1 Conduit Penetration 12" = 1'-0"



PLUMBING SYMBOLS



4 Plumbing Symbols 12" = 1'-0"



3 POU On Demand HW



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ARCDESIGN PUMPS BUILDOUT PLAN

DETAILS

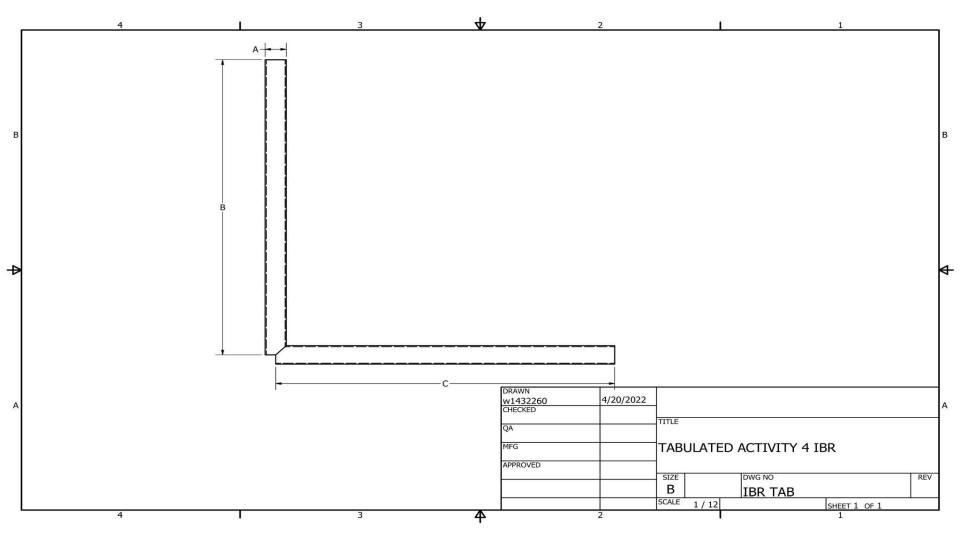
 Project number
 WEEK 10

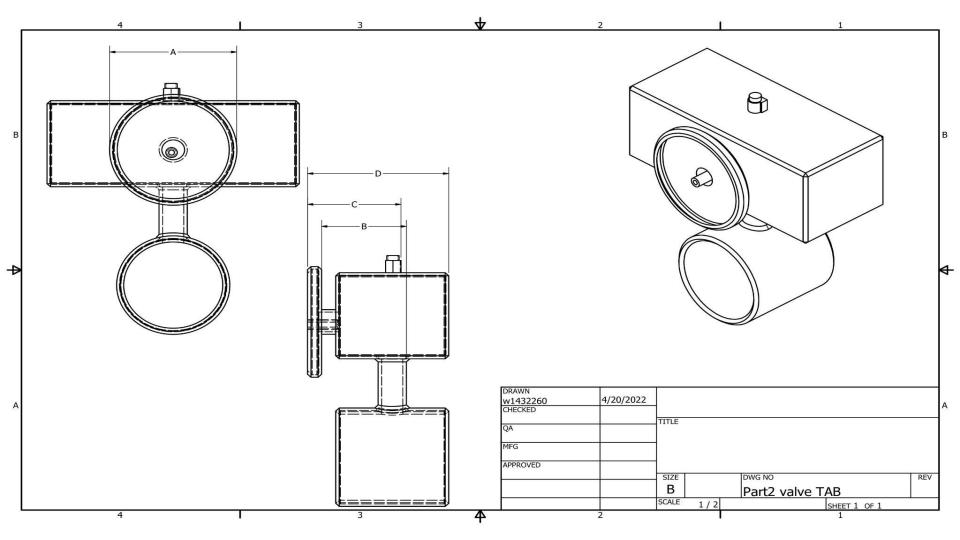
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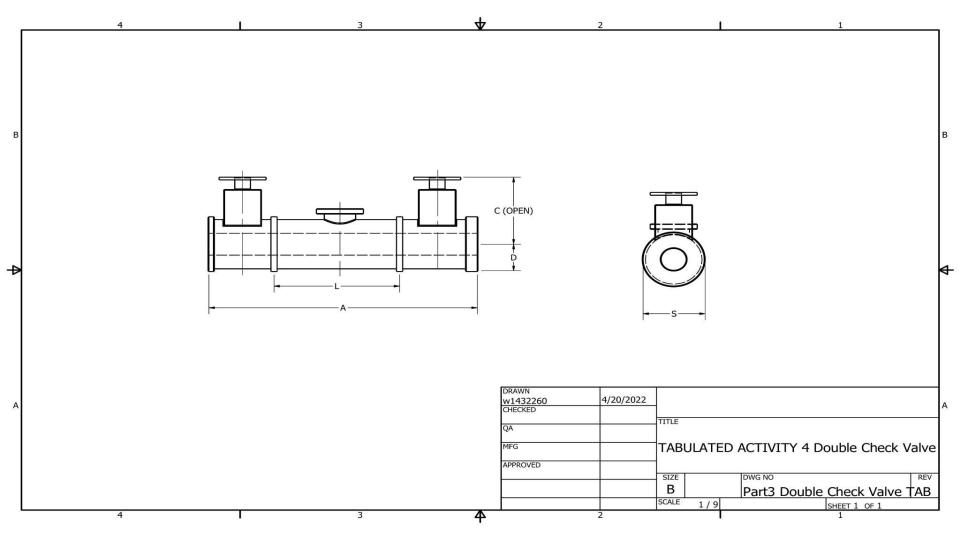
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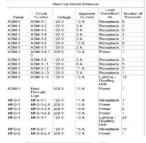


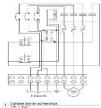


MECHANICAL: POWER DISTRIBUTION & LIGHTING

E200 E101

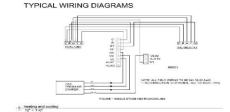








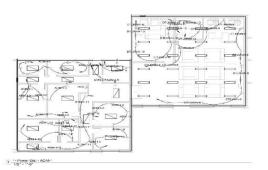


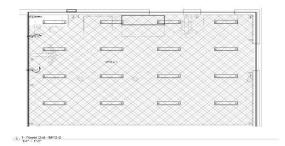


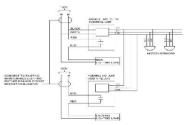
AUTODESK. www.autodosk.com/revit Consultant Address Address Address Phone No. Description Date **ALEJANDRO** RAYA **WEEK 15**

SCHEDULES & DETAILS

Project Number	WEEK 14
Date	5/8/22
Drawn By	AR
Checked By	Checker

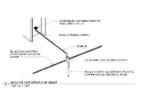


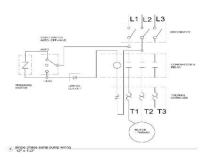


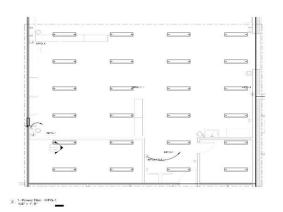


MOTION SENSOR LIGHT CONTROL WIRING SCHEMATIC DIAGRAM

(5) motion sensor light wring diagram 12" = 1".0"







AUTODESK. www.autodosk.com/revit Consultant Address Address Address Phone Description Date **ALEJANDRO RAYA WEEK 15** LIGHTING PLAN Project Number WEEK 14 5/8/22 Checked By Checker E101

Scale

As indicated