REQUEST FOR PROPOSALS

Central Oregon Community College

Solar Carport Project

RFP DATE: January 29, 2025

SITE VISIT (Optional): February 14, 2025, 1:00 pm

DUE DATE: March 3, 2024 at 5:00 PM (PST)

NOTICE OF AWARD: March 31, 2025 (expected)

Contact:
Dan Orzech
Oregon Clean Power Cooperative
dan@oregoncleanpower.coop
(610) 650-7755

Introduction

Central Oregon Community College (COCC) in partnership with the Oregon Clean Power Cooperative (Oregon Clean Power), received a 2023 ODOE CREP Grant for a 51 kW net metered solar project at COCC's Madras campus. A ground mount location was deemed not viable due to the rocky soil conditions, and the roof was determined to be not suitable. This RFP is for construction of a solar carport. No battery storage is planned for the project.

This Request for Proposals (RFP) seeks to identify a contractor able to provide the most timely and cost-effective solar installation for the project. The contractor selected will execute a construction contract with the Oregon Clean Power Co-op, which will own the project, and sell the power generated to COCC under am executed Power Purchase Agreement. The Oregon Solar Installation Specialty Code in addition to state and local codes will apply, and the project must meet COCC construction standards.

Location
The project is located at:
1170 E. Ashwood Rd.
Madras, OR 97741

Central Oregon Community College was founded in 1949, and is the longest standing community college in Oregon. The Madras campus was opened in 2011. An additional building, located to the west of the current building, is currently under construction, but is not expected to conflict with the solar carport project.

The proposed solar carport PV array will be installed in the SE Parking Lot on the East side of the COCC Madras campus (see Figure 1).

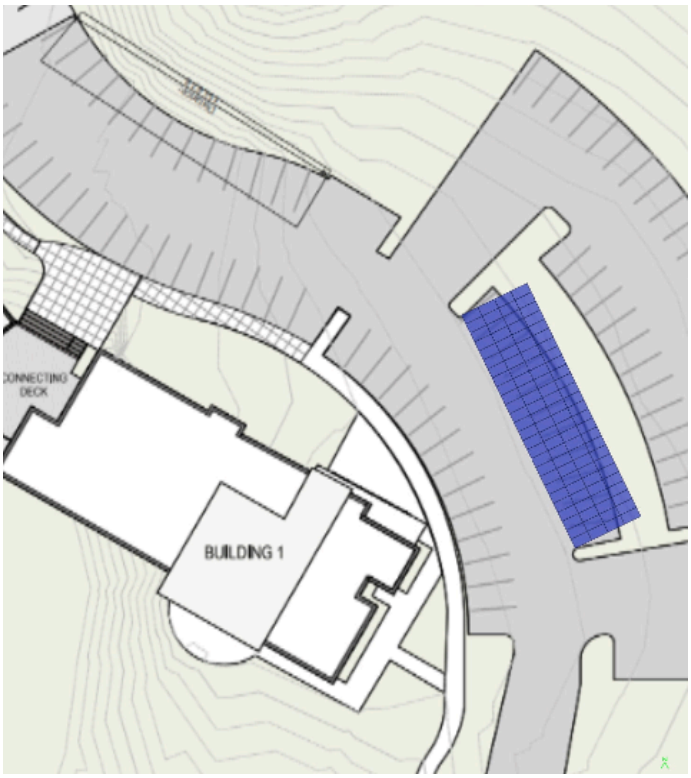


Figure 1: Solar carport location.

Scope of Work
The contractor selected will provide a turnkey, installed and operational solar PV carport system which provides the maximum reasonable amount of energy generated, at the lowest possible cost.

We seek the earliest possible date of installation of the system, understanding that delays cannot always be anticipated.

A feasibility study, attached as Attachment A, generated a preliminary design with a 52 kW solar carport at a 244-degree azimuth. Inverters fed into an outdoor combiner panel, and connecting to the existing building with a 200A supply-side disconnect. Conduit(s) from the carport array to the Madras building

CT cabinet will require excavation from the array site through a finished parking lot, concrete sidewalk, planter, etc. Full restoral of these areas is required under this project scope with equal or better materials. See site plans, attached aa Attachment B. Plans are for informational purposes only.

Contractor will be required to provide engineered drawings suitable for Jefferson County, Oregon, plan review, provide locates, purchase all necessary permits and finalized inspections with all AHJ's; provide all materials, provide all labor, provide all necessary sub-contractors, all project management, and licensing for a true turn-key installation.

Systems shall include monitoring and commissioning, and contractor shall be responsible for ensuring that the system passes all required inspections and meets all COCC and other applicable requirements. Contractor shall also be responsible for ensuring that applications have been properly submitted for Energy Trust of Oregon incentives and Pacific Power net metering. Monitoring must be fully functional before final payment to Contractor will be make.

Size
Minor variations in size are allowed, but array designs smaller than 51 kW may result in the amount of the ODOE CREP being reduced and are discouraged.

Equipment Selection
Contractor will be responsible for evaluating and selecting all equipment provided. No additional points will be awarded for domestically-manufactured equipment. Any established solar carport brand is acceptable, including but not limited to Terrasmart, Polar Racking or Baja.

Contractor shall ensure that inverter(s) selected provide a public or "kiosk" monitoring view, with a link posted on the websites of COCC and Oregon Clean Power.

Proposals must include Contractor's Installation Warranty period, Product Warranties, and Performance Warranty.

Construction Requirements
Contractors will be required to meet all applicable code requirements. All costs associated with the construction of the solar electric system, including insurance coverage, will be the responsibility of the contractor. The contractor shall furnish all labor, materials, permits, transportation, storage, and equipment rental costs to construct the entirety of the solar electric system in accordance with the final approved plans and specifications for the project site.

In the installation of the solar electric system, the contractor and its subcontractors must comply with ORS 279C.800 through 279C.870 which will require the payment of BOLI prevailing wage rates to workers on the installation project.

Construction shall include the cost of power system components and installation of the solar power system (including tie-ins to the existing utility electric service in accordance with the net metering and interconnection agreements with Pacific Power). Any and all wall penetrations must be done by a licensed contractor and must be repaired to the satisfaction of COCC.

Proposal Submittal and Contents
Proposals shall be emailed in PDF format to info@oregoncleanpower.coop. If there are issues with emailing, files may instead be uploaded upon request to a Google Drive or Box.com folder. Proposals submitted on paper will not be accepted.

Please limit proposals to a total of 12 pages, not including manufacturers equipment specification sheets. Brevity and clarity in the proposals are appreciated.

Proposals shall include:

1) A brief list of related project experience, including location, customer and project size, and any other relevant details.
2) Resumes or statement of qualifications of key personnel, no longer than one page each.
3) Proposed solar carport design.
4) Production estimates.
5) Proposed equipment, including spec sheets.
6) Estimated date of project start and completion.
7) Pricing for a turnkey, installed system in both $/W and dollars.
8) Warranty information for equipment and workmanship.
9) Any other relevant information.

Oregon Clean Power reserves the right to obtain clarification of any point in a proposal or to obtain additional information necessary to evaluate a particular proposal.

Evaluation Criteria
Proposals shall be evaluated based on the following criteria:

Price: 50%
Equipment proposed: 30%
Similar project experience & Project team: 20%

Oregon Clean Power intends to select a proposal which serves the best interests of the itself and COCC and reserves the right to reject any or all proposals, and waive any informalities or irregularities.

Site Visit
An option site visit is scheduled for Friday, February 14, 2025, at 1:00 pm. It is suggested that interested bidders confirm before arrival.

Questions
Send to info@oregoncleanpower.coop with the project name in the Subject line.

Updates
Updates, if any, will be posted to www.oregoncleanpower.coop.

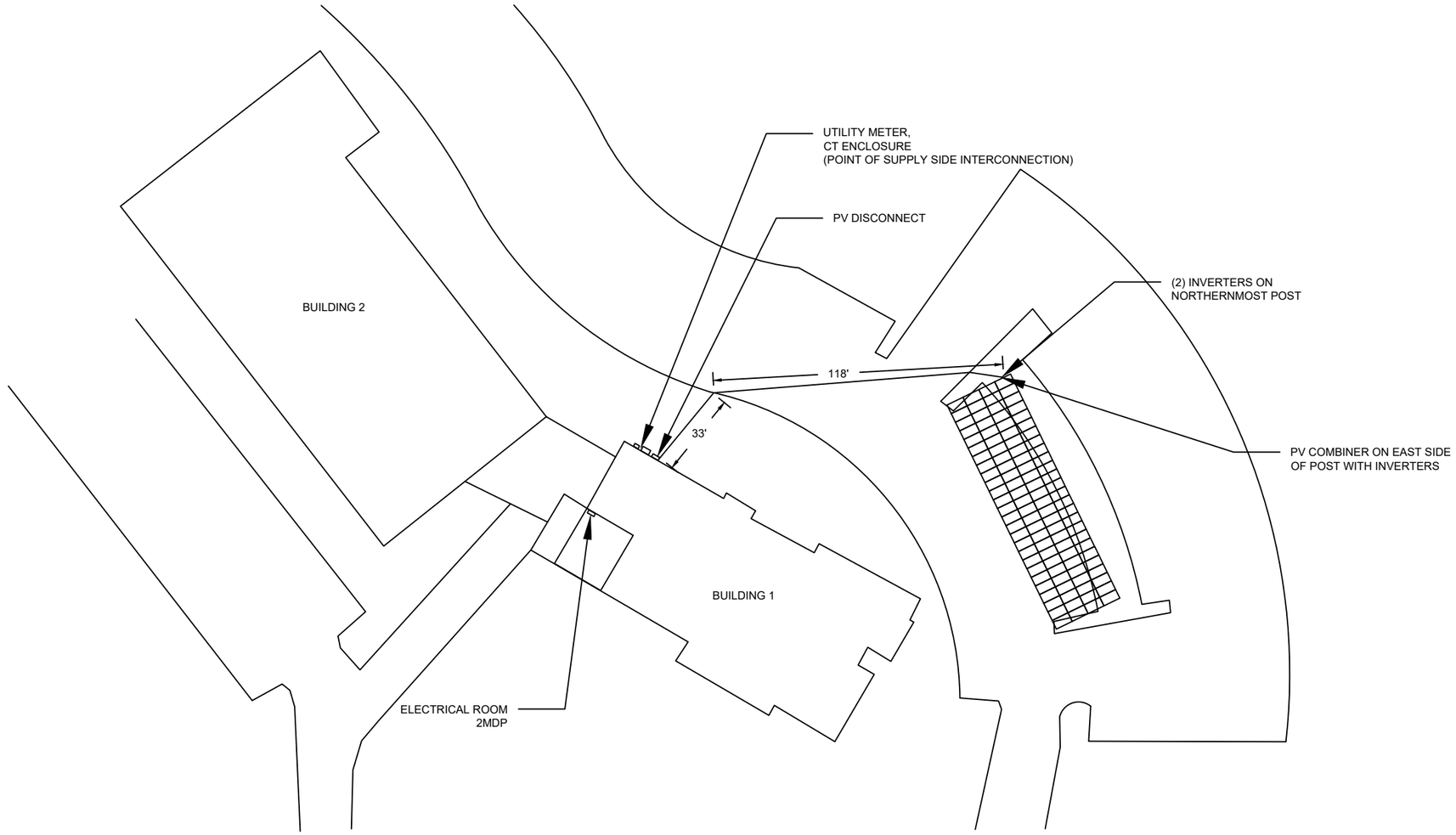
ARRAY SPECIFICATIONS

(104) SILFAB SIL-500HM 500W PV MODULES
(2) SOLECTRIA PVI-25TL-208 INVERTERS

ARRAY
5° TILT
244° AZIMUTH
4X26 MODULES

CARPORTS SPECIFICATIONS

METAL PURLINS
PITCH: 5°
AZIMUTH: 244°



N

SUNBREAK
Energy Advisors LLC

SUNBREAK ENERGY ADVISORS
3504 SW JERALD CT.
PORLAND, OR 97221
P: 503-803-5537
SUNBREAKENERGY.COM
CCB #240886

COCC MADRAS
CENTRAL OREGON COMMUNITY COLLEGE

COCC
MADRAS

PROJECT DESCRIPTION
52.0kW SOLAR PV
PROJECT
PROJECT ADDRESS
1170 ASHWOOD RD, BLDG 1
MADRAS, OR 97741

CONTACT INFORMATION
RANDY FELDHAUS
503-803-5537
randy@sunbreakenergy.com

SITE PLAN

REVISION	DATE	REASON

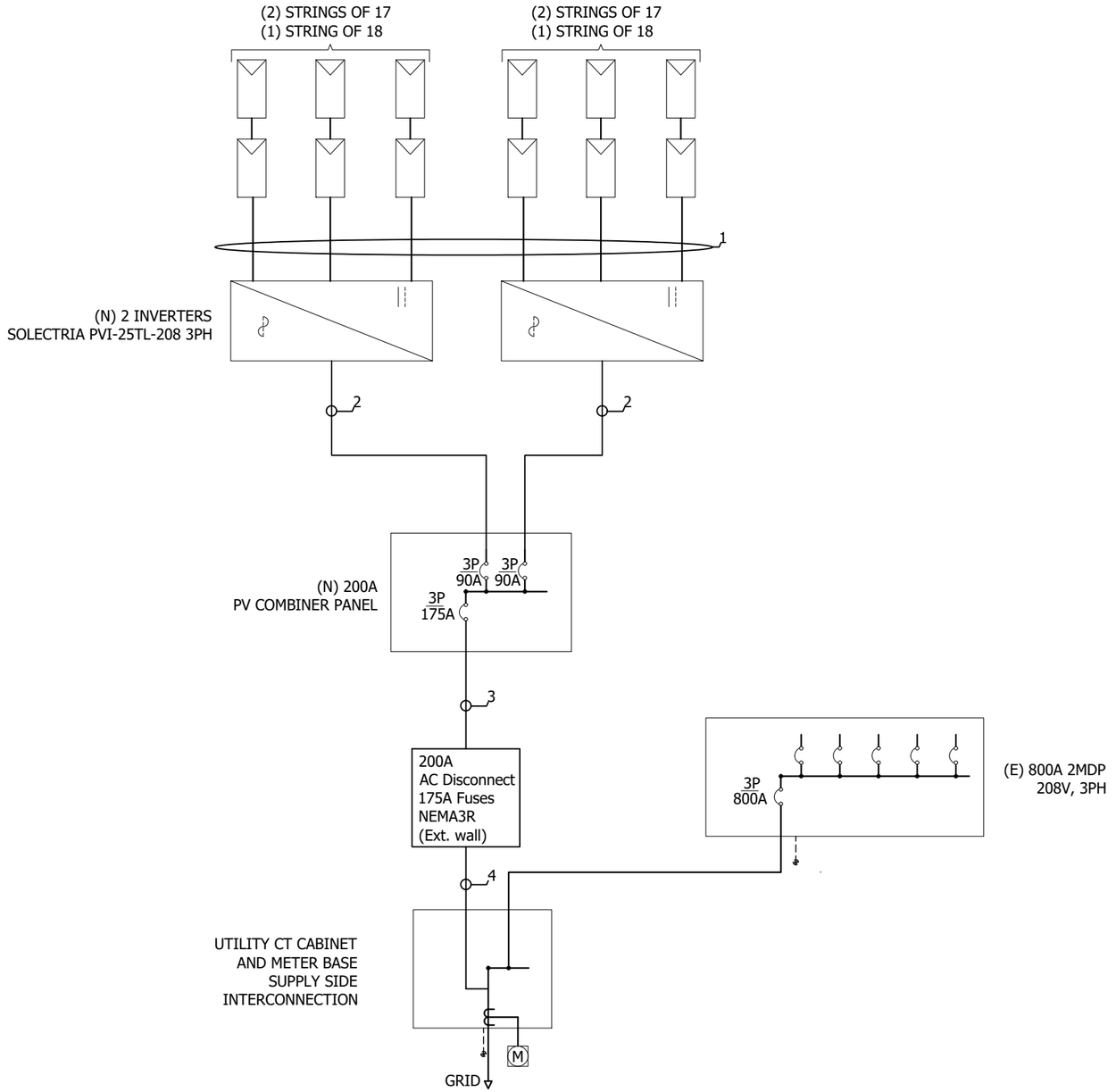
DESIGNED BY
RANDY FELDHAUS

DRAWN BY
SEPHORA MORALES

DRAWN ON
7/5/24

SCALE
1" = 50'

SHEET NUMBER
A1.0



SUPPLY-SIDE CONNECTION TO BE IN PACIFIC POWER CT CABINET. PERMISSION MUST BE GRANTED BY PACIFIC POWER TO CONNECT WITH CT CABINET.

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randy@sunbreakenergy.com

WIRING DIAGRAM

REVISION	DATE	REASON

DESIGNED BY
RANDY FELDHAUS

DRAWN BY
SEPHORA MORALES

DRAWN ON
7/5/24

SHEET NUMBER
E1.0

SCALE
NTS

SYSTEM INFORMATION

MODULE SPECIFICATION	
MODEL	SILFAB SIL-500 HM
MODULE POWER @ STC	500W
OPEN CIRCUIT VOLTAGE:Voc	45.78V
MAX POWER VOLTAGE:Vmp	38.80V
SHORT CIRCUIT VOLTAGE:Isc	13.48A
MAX POWER CURRENT:Imp	12.89A

INVERTER SPECIFICATION	
MODEL	SOLECTRIA PVI-25TL-208
POWER RATING	25.0kW
MAX CONTINUOUS OUTPUT CURRENT	69.5A
CEC WEIGHTED EFFICIENCY	96.5%
MAX DC POWER	45.0kW
MAX DC VOLTAGE	1000V

WIRE CALCULATIONS

AC WIRE CALCULATIONS: -MATERIAL:COPPER & TEMPERATURE RATING:90°C

CONDUIT SCHEDULE

TAG ID	REQUIRED CONDUCTOR AMPACITY									CORRECTED AMPACITY CALCULATION							TERMINAL RATING CHECK			DERATED CONDUCTOR AMPACITY CHECK			75C AMPACITY	LENGTH	VDROP
1	12.89	X	1	=	12.89	X	1.25	=	16.11A	40	X	0.96	X	0.5	=	19.20A	16.11A	<	35A	16.11A	<	19.20A	35A	90	1.33%
2	69.50	X	1	=	69.50	X	1.25	=	86.88A	115	X	0.96	X	1.0	=	110.40A	86.88A	<	100A	86.88A	<	110.40A	100A	5	0.07%
3	139.00	X	1	=	139.00	X	1.25	=	173.75A	225	X	1.00	X	1.0	=	225.00A	173.75A	<	200A	173.75A	<	225.00A	200A	150	1.52%
4	139.00	X	1	=	139.00	X	1.25	=	173.75A	195	X	0.96	X	1.0	=	187.20A	173.75A	<	175A	173.75A	<	187.20A	175A	5	0.07%

VOLTAGE DROP SUMMARY
TOTAL DC VOLTAGE DROP: 1.33%
TOTAL AC VOLTAGE DROP: 1.66%

CONDUIT SCHEDULE				
TAG ID	CONDUIT SIZE	CONDUCTOR	NEUTRAL	GROUND
1	NONE	(12) 10 PV WIRE CU	NONE	(1) 6AWG BARE COPPER
2	1.25" EMT OR EQUIV	(3) 3AWG THHN/THWN-2	(1) 8AWG THHN/THWN-2	(1) 8AWG THHN/THWN-2
3	2" PVC-40 OR EQUIV	(3) 3/0AWG THHN/THWN-2	(1) 4AWG THHN/THWN-2	(1) 4AWG THHN/THWN-2
4	1.5" EMT OR EQUIV	(3) 2/0AWG THHN/THWN-2	(1) 6AWG THHN/THWN-2	(1) 6AWG THHN/THWN-2

705.11(A) Service Connections.
An electric power production source shall be permitted to be connected to a service by one of the following methods:
(1) To a new service in accordance with 230.2(A)
(2) To the supply side of the service disconnecting means in accordance with 230.82(6)
(3) To an additional set of service entrance conductors in accordance with 230.40, Exception No.5
These connections shall comply with 705.11(B) through (F).

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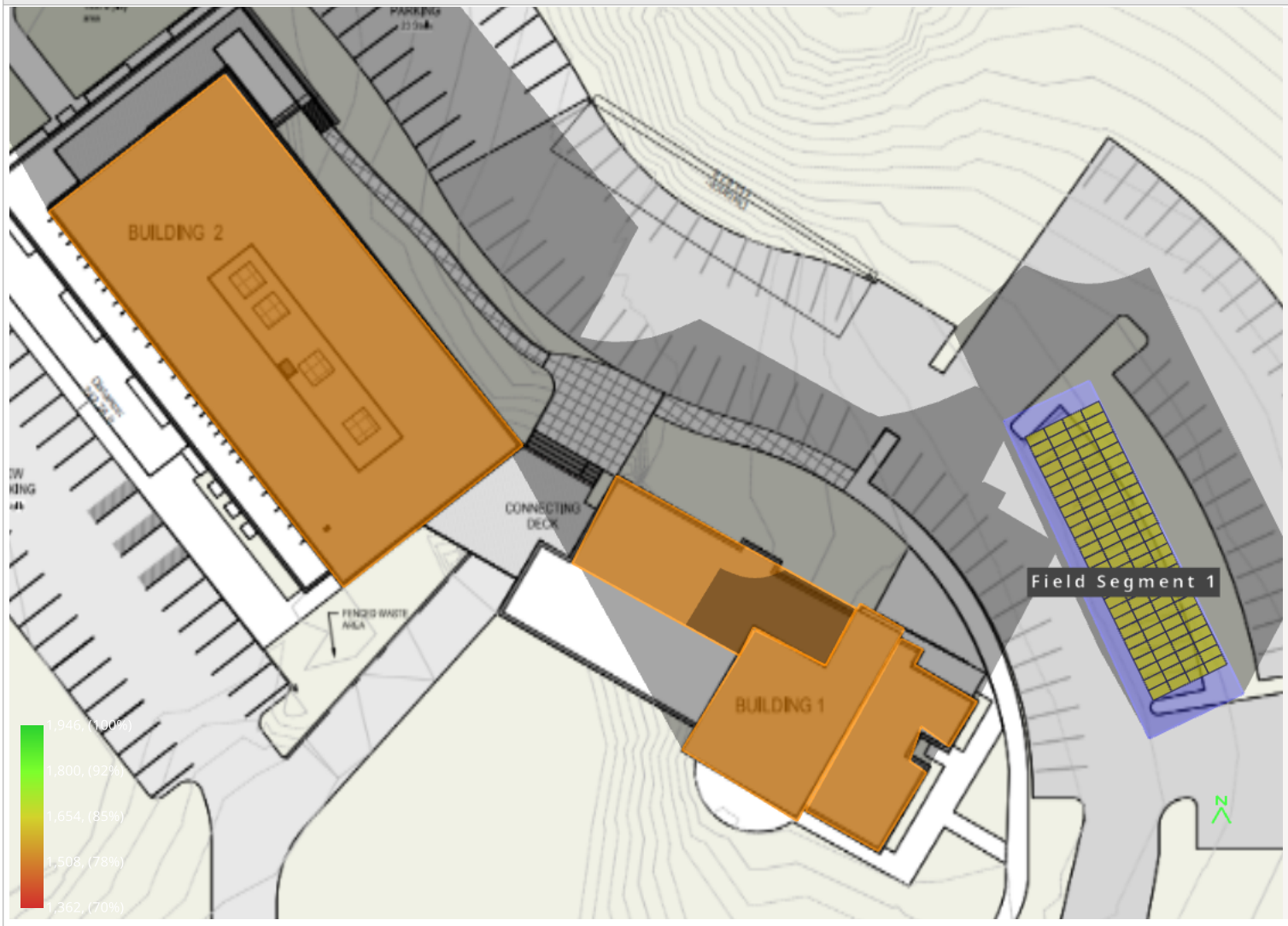
WIRE CALCS

REVISION	DATE	REASON

DESIGNED BY
RANDY FELDHAUS
DRAWN BY
SEPHORA MORALES
DRAWN ON
7/5/24
SHEET NUMBER
E2.0
SCALE
NTS

COCC Madras 1 Carport 1170 E Ashwood Rd, Bldg 1, Madras OR 97741

Shading Heatmap



Shading by Field Segment

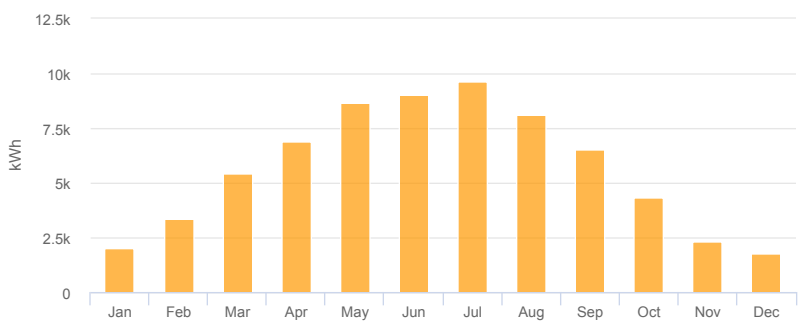
Description	Tilt	Azimuth	Modules	Nameplate	Shaded Irradiance	AC Energy	TOF[2]	Solar Access	Avg TSRF [2]
Field Segment 1	5.0°	244.0°	104	52.0 kWp	1,648.4kWh/m^2	68.1 MWh[1]	85.1%	99.6%	84.7%
Totals, weighted by kWp			**104**	**52.0 kWp**	**1,648.4kWh/m^2**	**68.1 MWh**	**85.1%**	**99.6%**	**84.7%**

[1] approximate, varies based on inverter performance
[2] based on location Optimal POA Irradiance of 1,945.8kWh/m^2 at 39.6° tilt and 182.5° azimuth

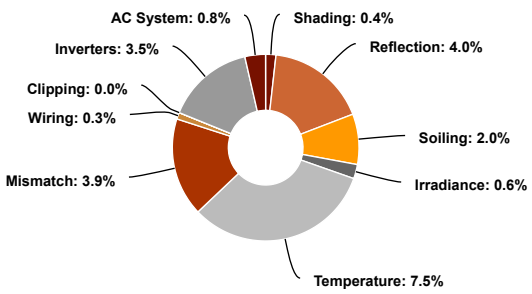
Solar Access by Month

Description	jan	feb	mar	apr	may	jun	jul	aug	sep	oct	nov	dec
Field Segment 1	99%	99%	99%	100%	100%	100%	100%	100%	100%	99%	99%	98%
AC Power (kWh)	**2,020.5**	**3,350.1**	**5,424.5**	**6,912.7**	**8,631.1**	**9,045.5**	**9,651.9**	**8,127.7**	**6,513.4**	**4,336.2**	**2,332.2**	**1,749.7**

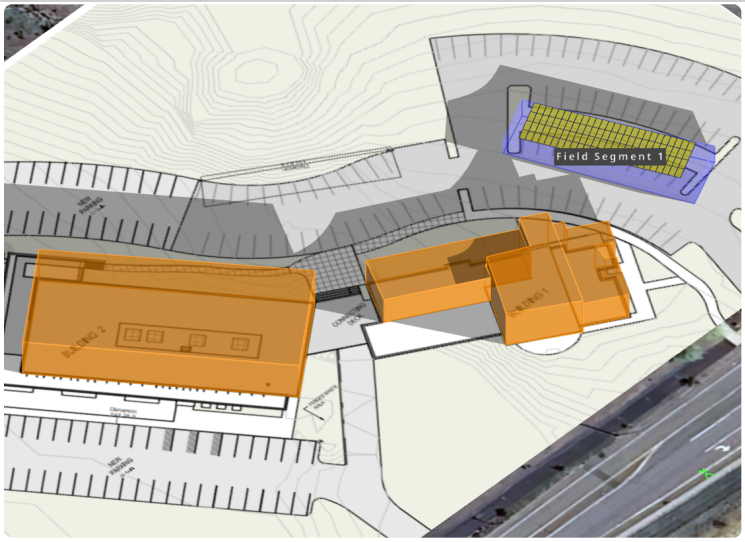
Monthly Production



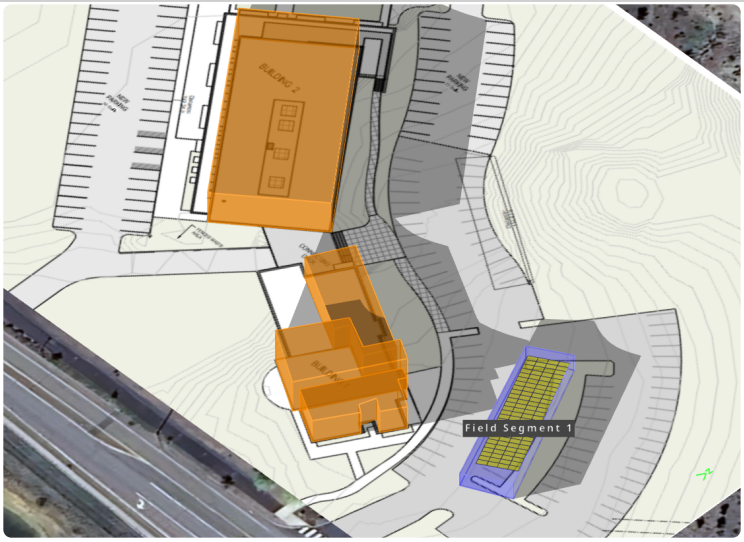
Sources of System Loss



Southwestern Angle



Southeastern Angle



COCC Madras 1 Carport COCC Madras 1, 1170 E Ashwood Rd, Bldg 1, Madras OR 97741

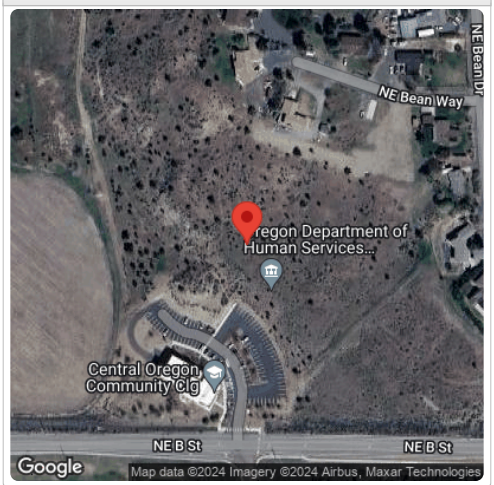
Report

Project Name	COCC Madras 1
Project Address	1170 E Ashwood Rd, Bldg 1, Madras OR 97741
Prepared By	Randall Feldhaus randy@sunbreakenergy.com

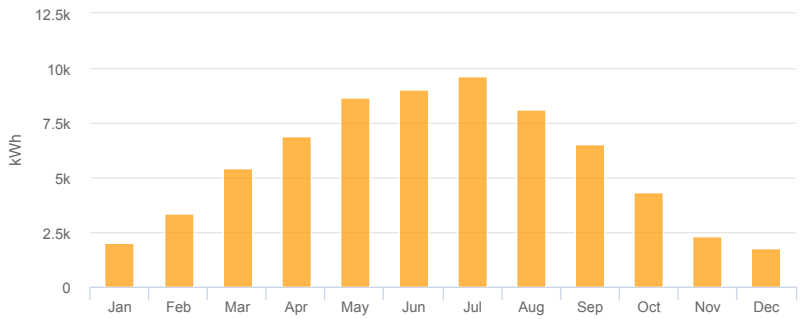
System Metrics

Design	COCC Madras 1 Carport
Module DC Nameplate	52.0 kW
Inverter AC Nameplate	50.0 kW Load Ratio: 1.04
Annual Production	68.10 MWh
Performance Ratio	79.1%
kWh/kWp	1,309.5
Weather Dataset	TMY, 10km Grid (44.65,-121.15), NREL (prospector)
Simulator Version	7330c4b3fe-6fd40504ac-080d2e95e1-18f6275ff1

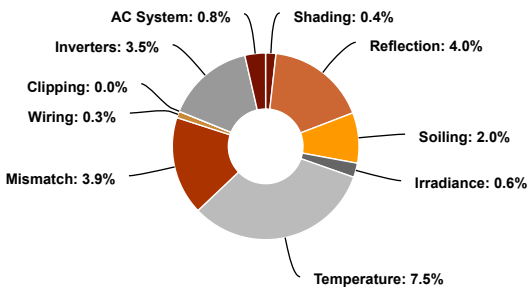
Project Location



Monthly Production



Sources of System Loss



Annual Production

	Description	Output	% Delta
Irradiance (kWh/m²)	Annual Global Horizontal Irradiance	1,627.0	
	POA Irradiance	1,655.1	1.7%
	Shaded Irradiance	1,648.4	-0.4%
	Irradiance after Reflection	1,582.7	-4.0%
	Irradiance after Soiling	1,551.0	-2.0%
	Total Collector Irradiance	**1,551.0**	**0.0%**
Energy (kWh)	Nameplate	80,675.3	
	Output at Irradiance Levels	80,218.1	-0.6%
	Output at Cell Temperature Derate	74,238.6	-7.5%
	Output After Mismatch	71,336.2	-3.9%
	Optimal DC Output	71,150.8	-0.3%
	Constrained DC Output	71,148.7	0.0%
	Inverter Output	68,658.5	-3.5%
	Energy to Grid	**68,095.4**	**-0.8%**
Temperature Metrics			
	Avg. Operating Ambient Temp		11.4 °C
	Avg. Operating Cell Temp		28.4 °C
Simulation Metrics			
	Operating Hours		4708
	Solved Hours		4708

Condition Set

Description	Condition Set 1											
Weather Dataset	TMY, 10km Grid (44.65,-121.15), NREL (prospector)											
Solar Angle Location	Meteo Lat/Lng											
Transposition Model	Perez Model											
Temperature Model	Sandia Model											
Temperature Model Parameters	Rack Type	a	b	Temperature Delta								
	Fixed Tilt	-3.56	-0.075	3°C								
	Flush Mount	-2.81	-0.0455	0°C								
	East-West	-3.56	-0.075	3°C								
	Carport	-3.56	-0.075	3°C								
Soiling (%)	J	F	M	A	M	J	J	A	S	O	N	D
	2	2	2	2	2	2	2	2	2	2	2	2
Irradiation Variance	5%											
Cell Temperature Spread	4° C											
Module Binning Range	-2.5% to 2.5%											
AC System Derate	0.50%											
Module Characterizations	Module	Uploaded By	Characterization									
	SIL-500 HM (Silfab Solar Inc.)	HelioScope	Spec Sheet Characterization, PAN									
Component Characterizations	Device	Uploaded By	Characterization									
	PVI 25TL-208 (Solectria)	HelioScope	Spec Sheet									

Components

Component	Name	Count
Inverters	PVI 25TL-208 (Solectria)	2 (50.0 kW)
AC Home Runs	2 AWG (Copper)	2 (1,474.5 ft)
Strings	10 AWG (Copper)	6 (639.5 ft)
Module	Silfab Solar Inc., SIL-500 HM (500W)	104 (52.0 kW)

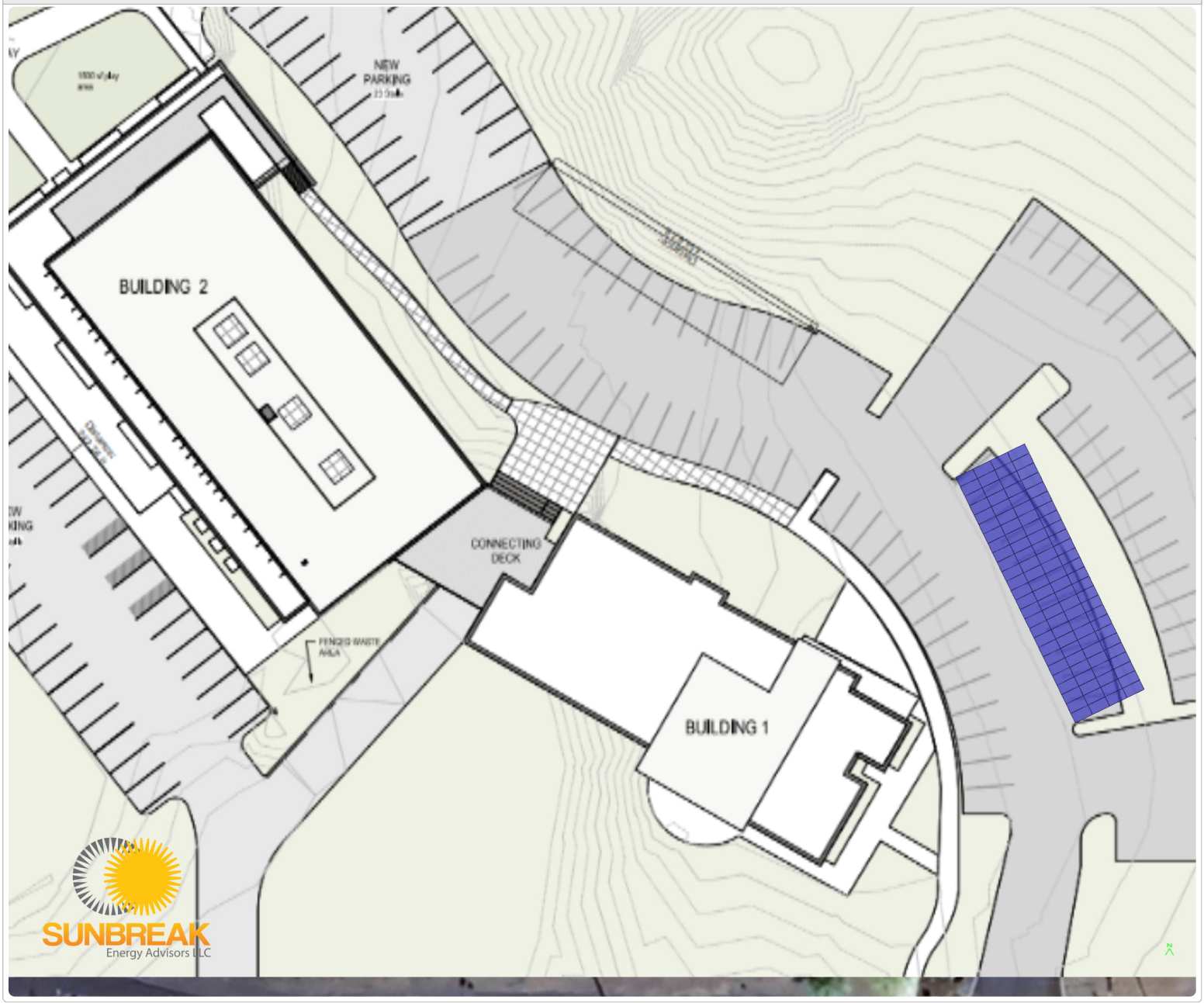
Wiring Zones

Description	Combiner Poles	String Size	Stringing Strategy
Wiring Zone	-	13-19	Along Racking

Field Segments

Description	Racking	Orientation	Tilt	Azimuth	Intrarow Spacing	Frame Size	Frames	Modules	Power
Field Segment 1	Flush Mount	Portrait (Vertical)	5°	244°	0.0 ft	1x1	104	104	52.0 kW

Detailed Layout



1 SITE PLAN
SCALE: 1" = 20' - 0"

KEY NOTES

1. EXISTING FENCE TO BE REMOVED
2. TRANSFORMER, MAINTAIN 3'-Ø" CLR. - SEE CIVIL FOR RETAINING WALL REQUIREMENTS - SEE ELECTRICAL DRAWINGS
3. SITE LIGHTING - SEE ELECTRICAL DRAWINGS
4. RIP RAP DAYLIGHT OUTFALL AT RETENTION SWALE, SEE CIVIL FOR CONTINUATION AND # PLUMBING
5. CLEAR VISION AREA
6. BIKE PARKING, (4) 2 STALL RACKS, O.F./C.I. SEE DETAIL 6/A1Ø3
7. NEW 5'-Ø" WIDE SIDEWALK, EXTEND TO STREET
8. 5' WIDE PEDESTRIAN CROSSING STRIPING - SEE CIVIL DRWAINGS
9. PROJECT CONSTRUCTION SIGN - SEE DETAIL 23/A1Ø3
10. EXISTING TREES TO REMAIN. PROVIDE PROTECTION TO TREES SCHEDULED TO REMAIN WITHIN THE LIMITS OF WORK. USE BEST PRACTICES TO MAINTAIN TREES IN A HEALTHY CONDITION
11. EXISTING TREES TO BE REMOVED
12. LIMITS OF WORK
13. RELOCATED WATER METER
14. FIRE HYDRANT - SEE CIVIL DRAWINGS
15. ADA PARKING SIGN - SEE DETAIL 11/A1Ø3
16. TRASH/RECYCLING ENCLOSURE - SEE DETAIL 1/A1Ø3
17. 4" WHITE PARKING STALL STRIPING, PER CITY STANDARDS
18. CONCRETE CONTROL JOINTS, SEE DETAIL 19/A1Ø3
19. ASPHALT PAVING - SEE CIVIL DRAWINGS
20. CONCRETE CURB, SEE CIVIL DRAWINGS
21. FUTURE PATH BY CITY
22. ACCESSIBLE ROUTE TO PUBLIC WAY
23. CONSTRUCTION STAGING AREA
24. KNOX BOX, SEE DETAIL 22/A1Ø3
25. ASSUMED PROPERTY LINE
26. NEW 8'-Ø" WIDE ASPHALT PATH- BY OTHERS
27. TRASH & ASH RECEPTACLE
28. WHEEL STOPS- SEE CIVIL DRAWINGS
29. DEDUCTIVE ALTERNATE BUILDING OUTLINE, SEE A2Ø1a, A2Ø2a, A4Ø1
30. FIRE RISER ROOM (BASE BID)
31. NEW COMPACTED GRAVEL SURFACE
32. DRAINAGE RETENTION SWALE- SEE CIVIL DRAWINGS
33. FLAG POLE WITH CONC. BASE - PROVIDE POWER FOR LIGHTING
34. CURB BREAK AND CONCRETE AREA W / RIP RAP -SEE CIVIL DRAWINGS
35. DETECTABLE WARNING STRIP
36. 15 MIN. PARKING SIGN - SEE DETAIL 13/A1Ø3
37. PEDESTRIAN CROSSING NON-ADA
38. AREA OF SNOW MELT SYSTEM - SEE ELECTRICAL SITE PLAN
39. ROUTE FOOTING DRAINS TO DAYLIGHT ABOVE OVERFLOW LINE OF STORM WATER RETENTION POND.
40. ACCESS CONTROL SIGN - SEE DETAIL 12/A1Ø3. (PR-15)

GENERAL NOTES

A. REFER TO CIVIL DRAWINGS FOR HORIZONTAL CONTROL INFORMATION, DRAINAGE, FLOOR AND PAVING ELEVATIONS, AND SITE UTILITIES. REFER TO STRUCTURAL DRAWINGS FOR FOUNDATION AND SLAB DESIGN. REFER TO MECHANICAL, PLUMBING, LANDSCAPE AND ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.

B. FOLLOW ALL RECOMMENDATIONS AND REQUIREMENTS OF THE GEOTECHNICAL INVESTIGATION UNLESS MORE STRINGENT REQUIREMENTS APPEAR IN THESE CONTRACT DOCUMENTS AND SPECIFICATIONS.

C. LIMITS OF WORK: THE CONTRACTOR SHALL CONFINE OPERATIONS AT THE SITE TO AREAS PERMITTED BY LAW, ORDINANCES, PERMITS AND THE CONTRACT DOCUMENTS. HE SHALL NOT UNREASONABLY ENCUMBER THE SITE WITH MATERIALS AND/OR EQUIPMENT.

D. STAGING AREA: THE CONTRACTOR AND SUBCONTRACTORS SHALL LIMIT STORAGE OF MATERIALS AND PORTABLE FIELD OFFICES WITHIN THE AREAS APPROVED BY THE CITY OF MADRAS AND THE OWNER. CONTRACTOR TO MAINTAIN ACCESS TO, FROM AND THROUGH PUBLIC WAYS.

E. GENERAL CONTRACTOR SHALL TAKE CARE NOT TO DAMAGE OR DISRUPT EXISTING UTILITIES, INCLUDING DRAINS WHILE EXCAVATING OR GRADING DURING CONSTRUCTION. CONFIRM LOCATION OF EXISTING UTILITIES OF ADJACENT PROPERTIES. CALL BEFORE YOU DIG.

F. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PREVENTING THE ACCUMULATION OF WATER OR DAMAGE TO ANY FOUNDATIONS ON THE PREMISES OR THE ADJOINING PROPERTIES SURROUNDING THE PROJECT SITE. (OSSC 2204, SECTION 3307.)

G. PRIOR TO START OF WORK THE CONTRACTOR SHALL COORDINATE WITH EACH RESPECTIVE GOVERNING AUTHORITY IN VERIFYING THE LOCATION (INVERT ELEVATIONS, HORIZONTAL CONTROLS, EASEMENTS) OF EXISTING SANITARY AND STORM SEWER, WATER, NATURAL GAS, ELECTRICAL, FIBER OPTIC, TELEPHONE, OVERHEAD POWER LINES AND OTHER UTILITY SYSTEMS, BOTH ONSITE AND OFFSITE. THE CONTRACTOR SHALL CAREFULLY COMPARE THE UTILITY INFORMATION WITH THE CONTRACT DOCUMENTS. IF A CONSTRUCTION CONFLICT IS DISCOVERED BETWEEN THE UTILITY INFORMATION OBTAINED AND THE CONTRACT DOCUMENTS NOTIFY THE ARCHITECT IMMEDIATELY.

H. UNLESS NOTED OTHERWISE SIDEWALKS AND RAMPS SHALL BE CONSTRUCTED TO THE FOLLOWING REQUIREMENTS:
   1. MAX. CROSS SLOPE OF SIDEWALKS & LANDINGS: 1:5Ø
   2. MAXIMUM SLOPE OF SIDEWALKS: 1:2Ø
   3. MAXIMUM SLOPE OF RAMPS: 1:12
   4. MAXIMUM SLOPE OF DISABLED PARKING STALLS: 2% IN ANY DIRECTION
   5. 2% MAXIMUM SLOPE FOR 5'-Ø" IN DIRECTION OF TRAVEL AT ALL BUILDING ENTRANCES

I. EMERGENCY VEHICLE ACCESS: THE CONTRACTOR SHALL MAINTAIN FIRE TRUCK ACCESS TO THE SITE THROUGHOUT THE CONSTRUCTION PROCESS UNLESS AN ALTERNATE PLAN IS APPROVED IN WRITING BY THE FIRE DEPARTMENT.

J. SEE PLANS AND ELEVATIONS FOR DETAILED LOCATION AND SIZE OF GLAZING AND BUILDING ENTRANCES

K. REFER TO CIVIL DRAWINGS FOR HORIZONTAL CONTROL INFORMATION

L. REFER TO CIVIL DRAWINGS FOR PAVEMENT SECTION DESIGN

M. ALL CURB RADII SHOWN ON PLAN TO BE 3Ø" TO OUTSIDE FACE OF CURB UNLESS OTHERWISE INDICATED.

BUILDING / SITE DATA

SITE DATA:

SITE:	(14.93 AC)	65Ø,559 SF
BUILDING:		9,167 SF
ASPHALT PARKING LOT:		27,952 SF
CONCRETE WALKS:		6,6ØØ SF
GRAVEL PARKING LOT:		12,944 SF
LANDSCAPING:		
REQUIRED (15% MIN.)		97,584 SF
PROVIDED (91.4%)		594,846 SF
BUILDING LOT COVERAGE:		1.4%
IMPERVIOUS LOT COVERAGE: (BLDG. + PAVING)		6.1% 9,167+ 34,352+43,118 SF

ZONE: OPEN SPACE/ PUBLIC FACILITIES (OS/PF)

BUILDING HEIGHT:

ALLOWABLE 35' (8-12.3.B, D)	35 FEET
DESIGN HEIGHT	18-26 FEET

SETBACKS: NONE

OFF STREET PARKING:
ALL REQUIRED PARKING IS PROVIDED ON-SITE.

COMMERCIAL ADULT SCHOOL USE:
SPACES REQUIRED (BASED ON CITY MEETING 10-Ø7-10)

TOTAL SPACES REQUIRED	65
TOTAL SPACES PROVIDED	100

70 PAVED SPACES
30 GRAVELED SPACES

changed Per PR#15
Posted on C200

ACCESSIBLE SPACES

REQUIRED (OSSC 1104.1)	
INCLUDING VAN ACCESSIBLE	4
PROVIDED	4

BICYCLE PARKING (4.7, C)

REQUIRED	7
PROVIDED	8

LOADING SPACES

REQUIRED	Ø
PROVIDED	Ø

SITE LIGHTING:

SITE LIGHTING SHALL PROVIDE 1 FOOT-CANDLE (MIN.) AT ALL ACCESSIBLE AREAS AND EGRESS PATHS

SIGNAGE:

SIGNAGE SHALL CONFORM TO CITY OF MADRAS STANDARDS. EXTERIOR SIGNAGE, OTHER THAN BUILDING SIGN, IS NOT IN CONTRACT.

SYMBOLS LEGEND

- LIMITS OF WORK
- ASSUMED PROPERTY LINE
- NEW CONCRETE PATIO, INTEGRAL COLOR W/ LIGHT "BASKET WEAVE" BROOM FINISH PATTERN, ARROW INDICATES DIRECTION OF FINISH
- NEW CONCRETE SIDEWALK, LIGHT BROOM FINISH - CONTROL JOINTS @ 5'-Ø" O.C.
- NEW COMPACTED GRAVEL SURFACE - SEE CIVIL
- NEW ASPHALT PAVING, SEE CIVIL
- NEW SITE LIGHTING, SEE ELECTRICAL DRAWINGS.
- EXTERIOR BUILDING LIGHTING, SEE ELECTRICAL DRAWINGS
- T — NEW TRANSFORMER
- BUILDING ACCESSIBLE ENTRY/EGRESS
- W — WATER METER, SEE CIVIL
- E — ELECTRICAL METER, SEE ELECTRICAL SITE PLAN
- G — GAS METER, SEE PLUMBING
- FDC — FIRE DEPARTMENT CONNECTION, SEE CIVIL DRAWINGS
- PIV — POST INDICATOR VALVE, SEE CIVIL DRAWINGS
- ACCESSIBLE ROUTE TO PUBLIC WAY
- FOUNDATION VENTILATION WELL
- NEW FIRE HYDRANT - SEE CIVIL DRAWINGS
- CURB BREAK WITH RIP RAP - SEE CIVIL
- RIP RAP DAYLIGHT OUTFALL - SEE CIVIL
- SNOW MELT SYSTEM - SEE ELECTRICAL SITE PLAN
- FLAG POLE WITH CONCRETE BASE - PROVIDE POWER FOR LIGHTING

REGISTERED ARCHITECT
5315
SCOTT T. STEELE
BEND, OREGON
STATE OF OREGON

STEELE ASSOCIATES
ARCHITECTS LLC
760 NW YORK DRIVE, SUITE 200
541.382.9867
BEND, OR 97701
FAX 541.385.8816
info@steele-arch.com

COCC MADRAS CAMPUS
EDUCATION CENTER
ASHWOOD ROAD
MADRAS, OREGON

SITE PLAN

PRINTS ISSUED	DATE

JOB NO. 1Ø1101.01
DATE 12/28/10
DRAWN BY JT, DR, CS, ES
CHECKED BY JW, STS
REVISIONS
PR Ø1 / CITY COMMENTS — DATE Ø1/11/11

SHEET NO. A101
OF SHEETS

CONSTRUCTION SET - 02/11/11

E:\00Projects\10110.01 COCC Madras\CADD\10110.01-A101.dwg, 2/17/2011 9:53:15 AM, jtaylor

Jeff Wellman

From: Alec Hansen <Ahacht@knoxbend.com>
Sent: Monday, March 28, 2011 1:40 PM
To: Jeff Wellman
Subject: Fence

Jeff,

I talked with Jack Robinson and they will dig along the North side of the fence and will not disturb the fence's location. The only way that would change is if the telephone locate marks are not accurate and we have to shift to the South to avoid the phone line.

Thanks,
Alec

Alec Hansen
Project Superintendent
Kirby Nagelhout Construction Co.
20535 Brown Blvd
Bend, OR 97701
Cell: 541-410-4583
Ph: 541-389-7119
Fax: 541-385-5834
ahacht@knoxbend.com
www.knoxbend.com

INCOMING ELECTRICAL SERVICE DIVISION OF RESPONSIBILITY					
	ELEC. CONTR.	UTILITY CO.		ELEC. CONTR.	UTILITY CO.
PRIMARY CONDUIT	X		SECONDARY CONDUIT	X	
PRIMARY CONDUCTORS		X	SECONDARY CONDUCTORS	X	
TRANSFORMER		X	C/T ENCLOSURE	X	
XFMR PAD/VAULT	X		C/T's		X
BOLLARDS	X		METER BASE	X	
TRANSFORMER CONNECTIONS		X	METER		X

NOTES:
1. THE ELECTRICAL CONTRACTOR SHALL CONTACT AND COORDINATE ALL REQUIREMENTS AND RESPONSIBILITIES WITH UTILITY CO. PRIOR TO SUBMITTING BID

POWER UTILITY CONTACT:
CENTRAL ELECTRIC COOPERTIVE
LANCE WOODERSON
2098 HWY 97 PO BOX 846
REDMOND, OR 97756
PHONE: (541) 312-7738
FAX: (541) 548-0369
lwooderson@cec.coop

PHONE UTILITY CONTACT:
QWEST
TRAVIS VAUGHN
100 NW KEARNEY AVE
BEND, OR 97701
PHONE: (541) 385-0298
FAX: (541) 385-0229
travis.vaughn@qwest.com

SHEET KEYNOTES

1 SEE ONE-LINE FOR FEEDER SIZING.

2 PROVIDE TWO 1" CONDUITS TO THE FIRE SPRINKLER VAULT. PROVIDE ONE CONDUIT FOR POWER CONNECTION TO SUMP PUMP. PROVIDE ONE EMPTY CONDUIT WITH PULL CORD FOR FUTURE CONNECTION TO TAMPER SWITCHES. INTERCONNECT TAMPER SWITCHES AND PIV WITH 1" CONDUIT. COORDINATE LOCATION OF PIV PRIOR TO ROUGH-IN.

3 ROUTE CONDUITS IN JOINT TRENCH WITH THE ELECTRICAL UTILITY CONDUITS. MAINTAIN CONDUIT SPACING PER UTILITY REQUIREMENTS.

4 PROVIDE TYCO THERMAL RAYCHEM ELECTROMELT SURFACE SNOW MELTING SYSTEM WITH AMBIENT AIR THERMOSTAT AND MOISTURE SENSOR FOR CONTROL. COORDINATE AND INSTALL EQUIPMENT PER MANUFACTURER REQUIREMENTS.

5 ROUTE CONDUIT TO SNOW MELT SYSTEM CONTROL PANEL. SEE THE ONE-LINE FOR FEEDER SIZING.

6 PROVIDE A 30"X43" PULL BOX. UTILITY VAULT 1730-1B BOX AND COVER OR APPROVED.

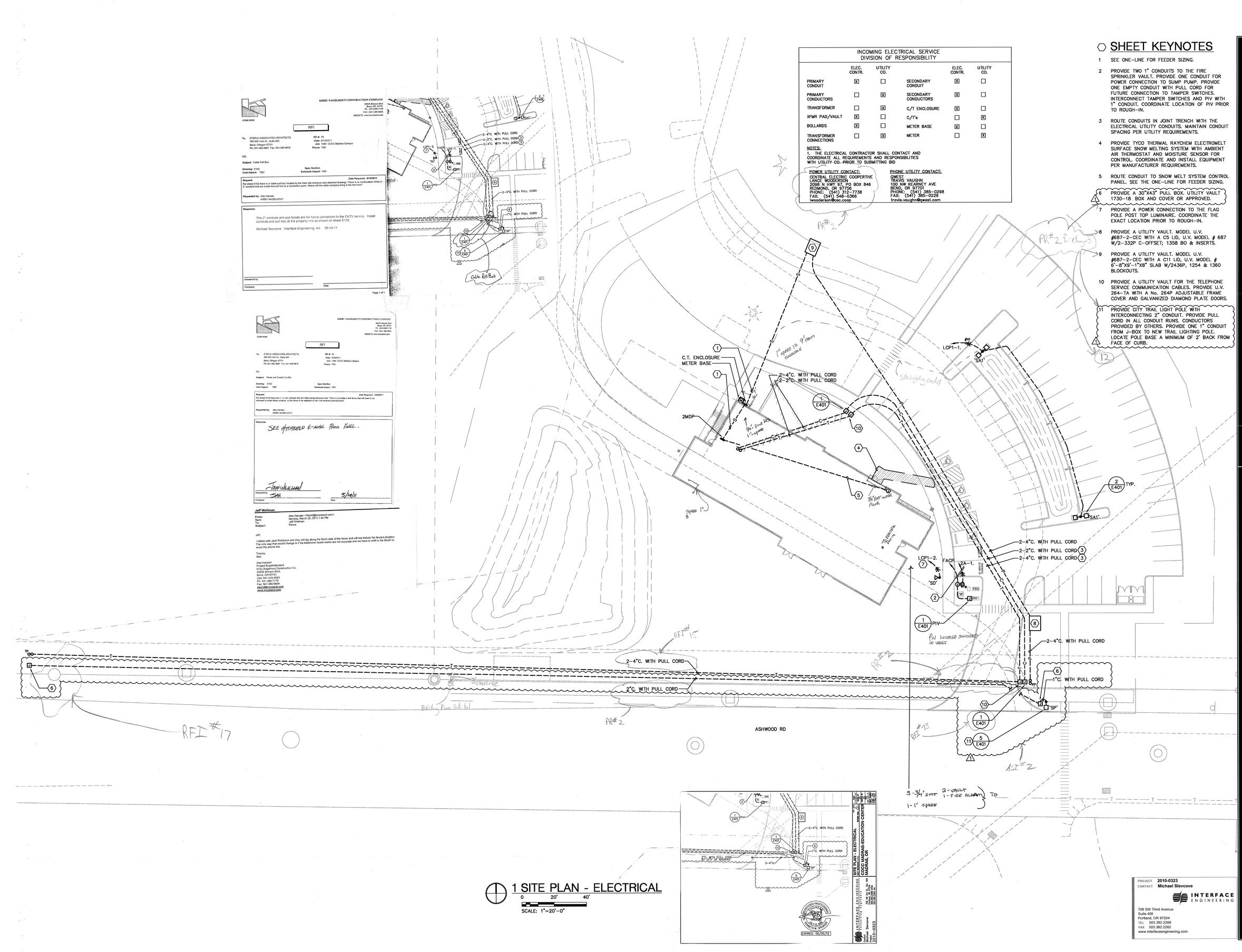
7 PROVIDE A POWER CONNECTION TO THE FLAG POLE POST TOP LUMINAIRE. COORDINATE THE EXACT LOCATION PRIOR TO ROUGH-IN.

8 PROVIDE A UTILITY VAULT. MODEL U.V. #687-2-CEC WITH A C5 LID, U.V. MODEL # 687 W/2-332P C-OFFSET; 1358 BO & INSERTS.

9 PROVIDE A UTILITY VAULT. MODEL U.V. #687-2-CEC WITH A C11 LID, U.V. MODEL # 6'-8"X9'-1"X8" SLAB W/2436P, 1254 & 1360 BLOCKOUTS.

10 PROVIDE A UTILITY VAULT FOR THE TELEPHONE SERVICE COMMUNICATION CABLES. PROVIDE U.V. 264-TA WITH A No. 264P ADJUSTABLE FRAME COVER AND GALVANIZED DIAMOND PLATE DOORS.

11 PROVIDE CITY TRAIL LIGHT POLE WITH INTERCONNECTING 2" CONDUIT. PROVIDE PULL CORD IN ALL CONDUIT RUNS. CONDUCTORS PROVIDED BY OTHERS. PROVIDE ONE 1" CONDUIT FROM J-BOX TO NEW TRAIL LIGHTING POLE. LOCATE POLE BASE A MINIMUM OF 2' BACK FROM FACE OF CURB.



1 SITE PLAN - ELECTRICAL
0 20' 40'
SCALE: 1"=20'-0"

REGISTERED PROFESSIONAL ENGINEER
OREGON
JULY 13, 1995
KENNETH W. SPENCER
EXPIRES: 06/30/12

STEELE ASSOCIATES
ARCHITECTS LLC
760 NW YORK DRIVE, SUITE 200
541.382.9867 FAX 541.385.8816
BEND, OR 97701
info@steele-arch.com

COCC MADRAS CAMPUS
EDUCATION CENTER
ASHWOOD ROAD MADRAS, OREGON
SITE PLAN - ELECTRICAL

ISSUED FOR: PERMIT SET	DATE: 11/11/11
JOB NO.	1010.01
DATE	12/20/10
DRAWN BY	CHECKED BY
REVISIONS PER CITY COMMENTS	DATE 02/1/1

PROJECT 2010-0323
CONTACT Michael Slevcove
INTERFACE ENGINEERING
708 SW Third Avenue
Suite 400
Portland, OR 97204
TEL 503.382.2666
FAX 503.382.2262
www.interfaceengineering.com

SHEET NO. E102 OF SHEETS

CONSTRUCTION SET - 02/11/11

ZONE LIGHTING CONTROL SCHEDULE

ZONE NUMBER	DESCRIPTION	INPUTS	KEYPAD TYPE	BUTTON	TEXT	FUNCTION
1	Hallways/Corridors	Low Voltage Switches	One button	1	ON	All area lighting ON during building's occupied hours per timeclock schedule; lights blink 5 minutes prior to being swept off
		Time Clock				Provide a 2hr override delay if button is pressed after lights blink prior to being swept off.
						After 5 minutes and no override input, turn all lights off once outside building occupied hours per Owner's schedule. See the
						drawings for the quantity and locations of the overide low voltage switches.
2	Exterior	Low Voltage Switch	Two button	1	ON	Override Switch: All normal exterior lighting ON.
				2	OFF	Override switch: All normal exterior lighting OFF
		Open Loop Photocell				ON per exterior photo sensor
		Time Clock				OFF per Owner defined schedule.
3	Lobby	Time Clock				All area lighting ON during building's occupied hours per timeclock schedule; lights blink 5 minutes prior to being swept off
		ZONE 1 Button				Provide a 2hr override delay if button is pressed after lights blink prior to being swept off.
						After 5 minutes and no override input, turn all lights off once outside building occupied hours per Owner's schedule. See the
						drawings for the quantity and locations of the overide low voltage switches.

MECHANICAL EQUIPMENT CONNECTION SCHEDULE

ITEM	DESCRIPTION	LOCATION	VOLTS / PHASE	LOAD		MCA	MOCP	WIRE / CONDUIT	CIRCUIT	NOTES
F-1	GAS FURNACE	MECH/ELEC. RM	120/1			18.4	30	302	2M-1.	1.
F-2	GAS FURNACE	MECH/ELEC. RM	120/1			13.4	20	202	2M-3.	1.
F-3	GAS FURNACE	MECH/ELEC. RM	120/1			18.4	30	302	2M-5.	1.
F-4	GAS FURNACE	MECH/ELEC. RM	120/1			13.4	20	202	2M-7.	1.
F-5	GAS FURNACE	MECH/ELEC. RM	120/1			18.4	30	302	2M-9.	1.
F-6	GAS FURNACE	MECH/ELEC. RM	120/1			10.0	20	202	2M-11.	1.
F-7	GAS FURNACE	MECH/ELEC. RM	120/1			12.8	20	202	2M-13.	1.
F-8	GAS FURNACE	MECH/ELEC. RM	120/1			12.8	20	202	2M-15.	1.
F-9	GAS FURNACE	MECH/ELEC. RM	120/1			18.4	30	302	2M-17.	1.
CU-1	CONDENSING UNIT	ROOF	208/1			34.3	50	502	2M-19,21.	
CU-2	CONDENSING UNIT	ROOF	208/1			23.7	40	402	2M-23,25.	
CU-3	CONDENSING UNIT	ROOF	208/1			34.3	50	502	2M-27,29.	
CU-4	CONDENSING UNIT	ROOF	208/1			23.7	40	402	2M-31,33.	
CU-5	CONDENSING UNIT	ROOF	208/1			28.5	45	502	2M-35,37.	
CU-6	CONDENSING UNIT	ROOF	208/1			17.5	25	302	2M-39,41.	
CU-7	CONDENSING UNIT	ROOF	208/1			21.9	35	402	2M-2,4.	
CU-8	CONDENSING UNIT	ROOF	208/1			21.9	35	402	2M-6,8.	
CU-9	CONDENSING UNIT	ROOF	208/1			34.3	50	502	2M-10,12.	
EWH-1	ELECTRIC WALL HEATER	FIRE RISER ROOM	120/1	1.0	KW		20	202	2M-16.	
ACU-1	AIR CONDITIONING UNIT	ROOF	208/1			13	20	202	2M-18,20.	
ACU-1A	AIR CONDITIONING UNIT	IT ROOM	208/1					202	--	2.
EF-1	EXHAUST FAN	ROOF	120/1	0.2	HP		20	202	2M-14.	
EF-2	EXHAUST FAN	MECH/ELEC. RM	120/1	0.5	HP		20	202	2M-36.	
EF-3	EXHAUST FAN	MECH/ELEC. RM	120/1	0.5	HP		20	202	2M-38.	
EF-4	EXHAUST FAN	JAN. 124 (ALT. PLAN)	120/1	200	W		20	202	2M-40.	
SP-1A	SUMP PUMP	MECH/ELEC. RM	120/1	0.3	HP		20	202	2M-22.	
SP-1B	SUMP PUMP	MECH/ELEC. RM	120/1	0.3	HP		20	202	2M-24.	
WH-1	WATER HEATER	JAN. 124	208/1	4.5	KW		40	402	2M-26,28.	
WH-2	WATER HEATER	ADMIN. KITCHEN	120/1	1.5	KW	12.5	20	202	2M-30.	
WH-3	WATER HEATER	CLASSROOM 2	120/1	1.5	KW	12.5	20	202	2M-32.	

GENERAL MECHANICAL EQUIPMENT CONNECTION SCHEDULE NOTES

A. THE ABOVE INFORMATION IS FOR A SPECIFIC MANUFACTURER. ACTUAL MANUFACTURER FOR EQUIPMENT MAY BE DIFFERENT. COORDINATE WITH MECHANICAL EQUIPMENT SUBMITTALS FOR LOADS AND OVER CURRENT PROTECTION REQUIREMENTS PRIOR TO INSTALLATION OF WIRING.

B. MOCP = MAXIMUM OVER CURRENT PROTECTION
MCA = MINIMUM CIRCUIT AMPACITY

MECHANICAL EQUIPMENT CONNECTION SCHEDULE NOTES

1. PROVIDE A NEMA 5-15P CORD CAP FOR EACH FURNACE CONDENSATE PUMPS.
2. PROVIDE POWER CONNECTION FROM OUTDOOR UNIT.

COPPER FEEDER SCHEDULE

202 2 #12 CU, 1 #12 CU GND., IN 3/4" C.
302 2 #10 CU, 1 #10 CU GND., IN 3/4" C.
402 2 #8 CU, 1 #10 CU GND., IN 3/4" C.
502 2 #6 CU, 1 #10 CU GND., IN 3/4" C.

LIGHTING CONTROL CABINET
RELAY PANEL 'LCP'

ENCLOSURE:
FLUSH
SURFACE X
NEMA RATING 1

RELAY#	CIRCUIT	DESCRIPTION	CONTROL	ZONE	NOTES
1	2A-4,6.	PARKING LOT POLE TOP LTG.	TC,PC,LV	2	1.
2	2A-4.	FLAG POLE TOP LTG.	TC,PC,LV	2	
3	2A-8.	EXT. BUILDING MOUNTED LTG.	TC,PC,LV	2	
4	2A-12.	ROOF TOP HOLLIDAY LTG. RECEPTACLES	TC,PC,LV	2	
5	2A-14.	ROOF TOP HOLLIDAY LTG. RECEPTACLES	TC,PC,LV	2	
6	2A-16.	ROOF TOP HOLLIDAY LTG. RECEPTACLES	TC,PC,LV	2	
7	2A-18.	HALLWAY	TC,LV	1	
8	2A-20.	LOBBY	TC,LV	3	
9	2A-22.	LOBBY--ROPE LIGHT	TC,LV	3	
10	2A-24.	LOBBY--ROPE LIGHT	TC,LV	3	
11					
12		SPARE			
13		SPARE			
14		SPARE			
15		SPARE			
16		SPARE			

NOTES:
1) PROVIDE A 2-POLE RELAY.

CONTROLS:
TC TIMECLOCK
PC PHOTOCELL
LV LOW VOLTAGE SWITCH

KIRBY NAGELHOUT CONSTRUCTION COMPANY
CCB# 95590
20630 Brown Blvd
Bend, OR 97701
Ph: (541)389-7118
FAX: (541) 385-5834
WEBSITE: www.knutsend.com

RFI

To: STEELE ASSOCIATES ARCHITECTS
760 NW York Dr., Suite 200
Bend, Ofregon 97701
Ph: 541-382-9867 Fax: 541-385-8816

RFI #: 55
Date: 5/12/2011
Job: 1060 COCC Madras Campus
Phone: TBD

CC:

Subject: Panel 2A SPD

Drawing: E402, E500
Cost Impact: YES

Spec Section: 262000
Schedule Impact: YES

Request: Date Required: 5/16/2011
Submitted Review comment for panel 2A under 262000 Low Voltage Electrical Distribution states "Panel 2A Provide with integral surge protective device." Panel 2A has no notes on the panel schedule nor on the one line diagram stating it requires a SPD. Panelboard MDP has a SPD installed and this was submitted and approved by the engineer. Adding a SPD to Panel 2A will result in additional costs of approximately $1200. Please confirm if an SPD is required on Panel 2A.

Requested by: Chris Prahl
KIRBY NAGELHOUT

Response:
Owner as elected to not install a SPD on panel 2A.

Steve Olson
5/17/11

Answered by
Company Date

KIRBY NAGELHOUT CONSTRUCTION COMPANY
CCB# 95590
20630 Brown Blvd
Bend, OR 97701
Ph: (541)389-7118
FAX: (541) 385-5834
WEBSITE: www.knutsend.com

RFI

To: STEELE ASSOCIATES ARCHITECTS
760 NW York Dr., Suite 200
Bend, Ofregon 97701
Ph: 541-382-9867 Fax: 541-385-8816

RFI #: 54
Date: 5/22/2011
Job: 1060 COCC Madras Campus
Phone: TBD

CC:

Subject: LCP Off Site Control

Drawing:
Cost Impact: YES

Spec Section: 260915
Schedule Impact: YES

Request: Date Required: 6/24/2011
Per specification 260915-2.1-A-2, the LCP is to be programmed "through either the RS-232 port or the network connection." Submittal response to submittal 260915-1 states "provide digital time clock with modem for off-site control and scheduling." The LCP installed has a RS-232 port and a modem (phone line) but is not currently configured to be controllable over the campus network. To retrofit the panel to operate on the COCC network would result in approximately $2000 additional costs. Please advise.

Requested by: Chris Prahl
KIRBY NAGELHOUT

Response:
SEE RFI 21

JAMES TAYLOR
SAA
3-30-11

Answered by
Company Date

Page 1 of 1

Panel '2A'

120/208V, 3 Ph., 4 W.; 200A Bus with Main Lug Only — 2010-0323 COCC
Surface Mounted, Lighting & Appliance Branch Panelboard — Available Fault: 14695A RMS

Ckt. No.	Description / Location	Load (VA)	Type	C.B. A/Pole	Note	Ph.	Note	C.B. A/Pole	Load (VA)	Type	Description / Location	Ckt. No.
1	FIRE SPRINKLER VLT SUMP PUMP	500	R	20/1		A		20/1	1,000	L	LGT. CONT. PNL. LCP1	2
3	FACP	1,000	R	20/1		B		20/2	450	L	EXTERIOR PARKING LOT LTG.	4
5	IRRIGATION CONTROLLER	500	R	20/1		C		---	320	L	---	6
7	R-TELECOM DEMARK	400	R	20/1		A		20/1	800	L	BUILDING MOUNTED LTG.	8
9	R-TELECOM DEMARK	400	R	20/1		B		20/1	400	L	L-BASEMENT	10
11	R-MECH/ELEC. RM	600	R	20/1		C		20/1	400	R	R-ROOF TOP HOLLIDAY LTG.	12
13	R-MECH/ELEC. RM	600	R	20/1		A		20/1	400	R	R-ROOF TOP HOLLIDAY LTG.	14
15	R-OFFICE 110	1,000	R	20/1		B		20/1	400	R	R-ROOF TOP HOLLIDAY LTG.	16
17	R-ADMIN. 106	1,000	R	20/1		C		20/1	700	L	L-HALL WAY	18
19	R-ADMIN. 106	800	R	20/1		A		20/1	1,200	L	L-LOBBY	20
21	R-CLASSROOM 114	1,200	R	20/1		B		20/1	1,000	L	L-ROPE LIGHT	22
23	R-CLASSROOM 114	1,200	R	20/1		C		20/1	1,000	L	L-ROPE LIGHT	24
25	R-CLASSROOM 114	1,100	R	20/1		A		20/1	1,460	L	L-ADMIN AREA / OFFICES	26
27	R-CLASSROOM 115	1,200	R	20/1		B		20/1	1,150	L	L-RECEPTION / RESTROOMS	28
29	R-CLASSROOM 115	1,200	R	20/1		C		20/1	1,440	L	L-CLASSROOMS	30
31	R-CLASSROOM 115	1,100	R	20/1		A		20/1	1,510	L	L-COMMUNITY ROOM	32
33	R-CLASSROOM 116	1,200	R	20/1		B		20/1	1,000	L	L-COMPUTER LAB	34
35	R-CLASSROOM 116	1,000	R	20/1		C		20/1			SPARE	36
37	R-CLASSROOM 116	1,000	R	20/1		A		20/1			SPARE	38
39	R-COMMUNITY ROOM 117	1,000	R	20/1		B		20/1	600	R	R-ADMIN. KITCHEN	40
41	R-COMMUNITY ROOM 117	800	R	20/1		C		20/1	1,000	R	R-ADMIN. KITCHEN	42
43	R-COMMUNITY ROOM 117	1,000	R	20/1		A		20/1	200	R	R-ADMIN. KITCHEN	44
45	R-STUDENT STUDY	1,000	R	20/1		B		20/1	1,000	R	R-TESTING 104	46
47	R-COMPUTER LAB	1,000	R	20/1		C		20/1	1,000	R	R-TESTING 104	48
49	R-COMPUTER LAB	1,000	R	20/1		A		20/1	1,000	R	R-VENDING MACHINE	50
51	R-COMPUTER LAB	1,000	R	20/1		B		20/1	1,000	R	R-VENDING MACHINE	52
53	R-COMPUTER LAB	800	R	20/1		C		20/1	1,000	R	R-VENDING MACHINE	54
55	R-COMPUTER LAB	800	R	20/1		A		20/1	800	R	R-OFFICE 109	56
57	R-COMPUTER LAB	800	R	20/1		B		20/1	600	R	R-OFFICE 108	58
59	R-COMPUTER LAB	800	R	20/1		C		20/1	600	R	R-OFFICE 107	60
61	R-HALL	1,000	R	20/1		A		20/1			SPARE	62
63	R-HALL	600	R	20/1		B		20/1				64
65	SPARE			20/1		C		20/1			SPARE	66
Total Connected Load: Ph. A		17,670 VA		147 Amps				Panel Connected Load:			51.8 KVA	144.0 Amps
Total Connected Load: Ph. B		18,000 VA		150 Amps				Sub-Fed Connected Load:			0.0 KVA	0.0 Amps
Total Connected Load: Ph. C		16,160 VA		135 Amps				Total Demand Load			41.0 KVA	113.9 Amps

Notes: Accessories:
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Panel '2B'

120/208V, 3 Ph., 4 W.; 200A Bus with Main Lug Only — 2010-0323 COCC
Surface Mounted, Lighting & Appliance Branch Panelboard — Available Fault: 14271A RMS

Ckt. No.	Description / Location	Load (VA)	Type	C.B. A/Pole	Note	Ph.	Note	C.B. A/Pole	Load (VA)	Type	Description / Location	Ckt. No.
1	R-STUDENT ADVISOR 111	800	R	20/1		A		20/1			DOOR 100 Pwr/Annunc	2
3	R-TUTOR 105 / DIRECTOR 103	1,000	R	20/1		B		20/1			DOOR 100A Pwr/Annunc	4
5	R-RECEPTION 102	1,000	R	20/1		C		20/1			DOOR 124 Pwr/Annunc	6
7	R-I.T. 125	400	R	20/1		A		20/1			Room Control Panel-LS	8
9	R-I.T. 125	800	R	20/1		B		20/1			SPARE	10
11	R-I.T. 125	800	R	20/1		C		20/1			SPARE	12
13	R-LOBBY 101 / HALL	1,000	R	20/1		A		20/1			SPARE	14
15	R-MENS / WOMENS RESTROOM.	1,200	R	20/1		B		20/1			SPARE	16
17	R-MENS RESTROOM FLUSH VLV	500	R	20/1		C		20/1			SPARE	18
19	R-WOMENS REST. FLUSH VLV	500	R	20/1		A		20/1			SPARE	20
21						B		20/1			SPARE	22
23						C		20/1			SPARE	24
25						A						26
27						B						28
29						C						30
31						A						32
33						B						34
35						C						36
37						A						38
39						B						40
41						C						42
Total Connected Load: Ph. A		2,700 VA		23 Amps				Panel Connected Load:			8.0 KVA	22.2 Amps
Total Connected Load: Ph. B		3,000 VA		25 Amps				Sub-Fed Connected Load:			0.0 KVA	0.0 Amps
Total Connected Load: Ph. C		2,300 VA		19 Amps				Total Demand Load			8.0 KVA	22.2 Amps

Notes: Accessories:
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Panel '2M'

120/208V, 3 Ph., 4 W.; 225A Bus with Main Lug Only — 2010-0323 COCC
Surface Mounted, Lighting & Appliance Branch Panelboard — Available Fault: 13868A RMS

Ckt. No.	Description / Location	Load (VA)	Type	C.B. A/Pole	Note	Ph.	Note	C.B. A/Pole	Load (VA)	Type	Description / Location	Ckt. No.
1	F-1	1,800	M	30/1		A		35/2	1,850	M	CU-7	2
3	F-2	1,300	M	20/1		B		---	1,850	M	---	4
5	F-3	1,800	M	30/1		C		35/2	1,850	M	CU-8	6
7	F-4	1,300	M	20/1		A		---	1,850	M	---	8
9	F-5	1,800	M	30/1		B		50/2	2,900	M	CU-9	10
11	F-6	960	M	20/1		C		---	2,900	M	---	12
13	F-7	1,250	M	20/1		A		20/1	700	M	EF-1	14
15	F-8	1,250	M	20/1		B		20/1	1,000	H	EWH-1	16
17	F-9	1,800	M	30/1		C		20/2	1,200	M	ACU-1	18
19	CU-1	2,900	M	50/2		A		---	1,200	M	---	20
21	---	2,900	M	---		B		20/1	900	M	SP-1A	22
23	CU-2	2,000	M	40/2		C		20/1	900	M	SP-1B	24
25	---	2,000	M	---		A		40/2	2,250	WH	WH-1	26
27	CU-3	2,900	M	50/2		B		---	2,250	WH	---	28
29	---	2,900	M	---		C		20/1	1,500	WH	WH-2	30
31	CU-4	2,000	M	40/2		A		20/1	1,500	WH	WH-3	32
33	---	2,000	M	---		B		20/1	600	R	ROOF TOP MAINTENANCE RECEPT.	34
35	CU-5	2,400	M	45/2		C		20/1	1,175	M	EF-2	36
37	---	2,400	M	---		A		20/1	1,175	M	EF-3	38
39	CU-6	1,500	M	25/2		B		20/1				40
41	---	1,500	M	---		C		20/1				42
Total Connected Load: Ph. A		24,175 VA		201 Amps				Panel Connected Load:			70.4 KVA	195.6 Amps
Total Connected Load: Ph. B		23,350 VA		195 Amps				Sub-Fed Connected Load:			0.0 KVA	0.0 Amps
Total Connected Load: Ph. C		22,885 VA		191 Amps				Total Demand Load			73.7 KVA	204.8 Amps

Notes: Accessories:
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REGISTERED PROFESSIONAL ENGINEER
OREGON
JULY 13, 1979
KENNETH W. SPENCER
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EDUCATION CENTER
ASHWOOD ROAD
MADRAS, OREGON

SCHEDULES - ELECTRICAL

ISSUED/REVISED	DATE
PERMIT MEETING	11/15/10

JOB NO. 10110.01
DATE 12/28/10
DRAWN BY MHS
CHECKED BY AC, KS
REVISIONS PRE/CITY COMMENTS
DATE 02/11/11

SHEET NO. E402 OF SHEETS

CONSTRUCTION SET - 02/11/11

PROJECT 2010-0323
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