# ALSEA SCHOOL DISTRICT

POWER SERVICE UPGRADE PHASE 1a.2

100% AGENCY & BID SET: 1-15-2022

## **SHEET SCHEDULE:**

**Cover Sheet** 

## ARCHITECTURAL

Phasing Site Plan - All Bond Projects Architectural Site Plan - Overlay

## ELECTRICAL

E3.4

Electrical Symbols & Sheet Index Electrical Site Plan - Demolition E1.0D Electrical Site Plan - New Electrical Plan - Demolition E2.0D E3.0 Power Distribution Plan - Demolition

E3.1 Power Distribution Plan - New E3.2 One Line Diagram - Demolition One Line Diagram - New E3.3 Electrical Schedules

PLEASE REFER TO THE ASSOCIATED PROJECT MANUAL FOR THIS PROJECT FOR MORE DETAILS & INFORMATION.

AL. 1a.



Version History: V1.0 PHASES (PH): 1a.2

ISSUE: 1-15-22 **BID & PERMIT ISSUE** 

OWNER:

Address:

ALSEA SCHOOL DISTRICT 301 SOUTH 3rd STREET ALSEA, OREGON 97324

CONSTRUCTION MANAGER (CM/GC):



**CB** Construction 1202 Adams Avenue LaGrande, Oregon 97850

Contact: Derek Howard

Scott Marshall, AIA - NCARB, Principal 208.991.0855

**STRAIGHTLINE** 

Address:

800 S. Industry Way, Suite 350 Meridian, Idaho 83642

engineering 4 tomorrow

ELECTRICAL ENGINEER:

Jon Van Stone, PE. Principal Office: 208-378-4450 Email: jvanstone@e2co.com HWY 34 **MARKET ST** PROJECT SITE: 301 S 3rd ST. ALSEA, OR 97324 S 3rd ST

Email:

ARCHITECT:

Address:

Suite 102

541.786.5315 dhoward@cbconst.us Scott@Straightline.biz

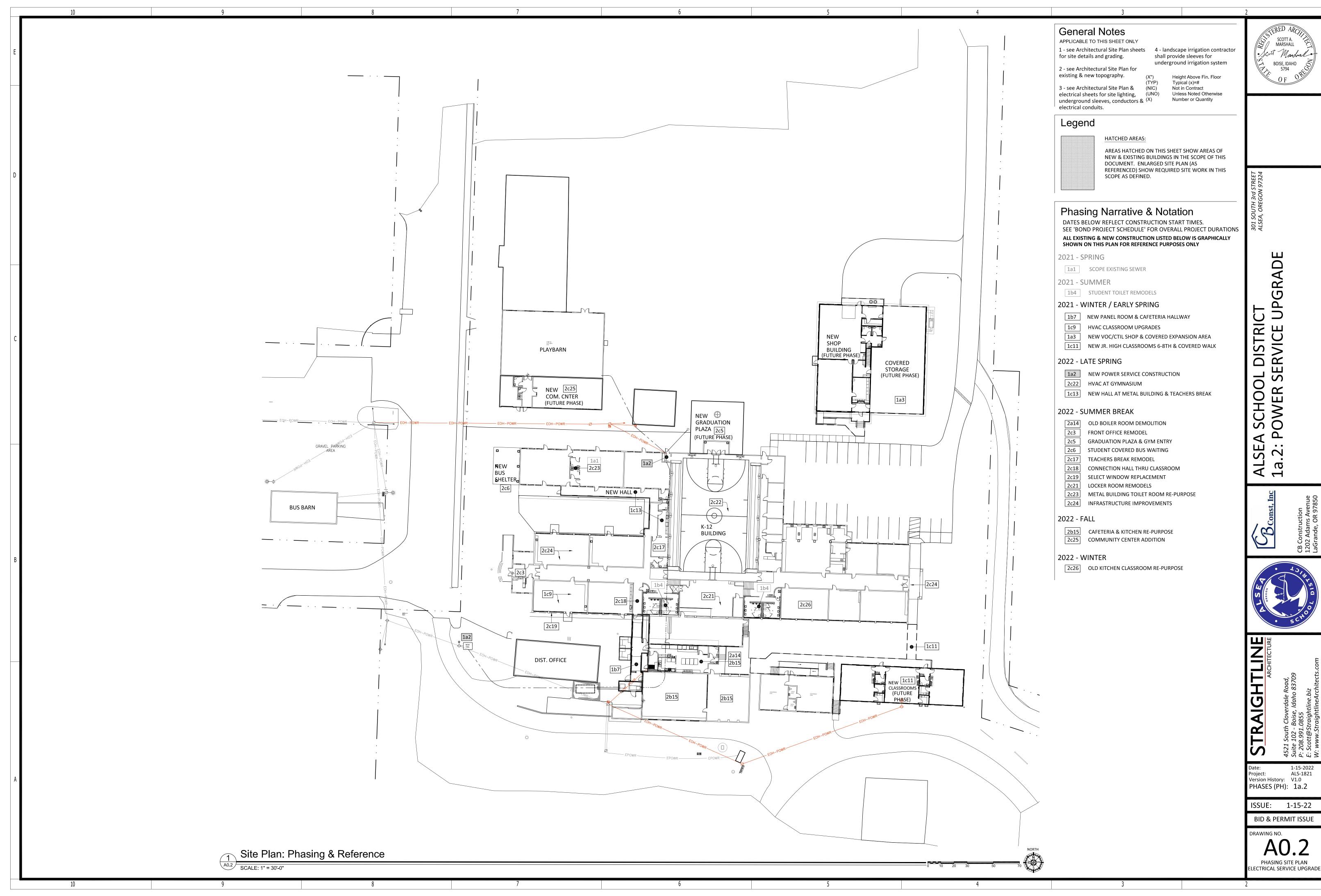
Boise, Idaho 83709

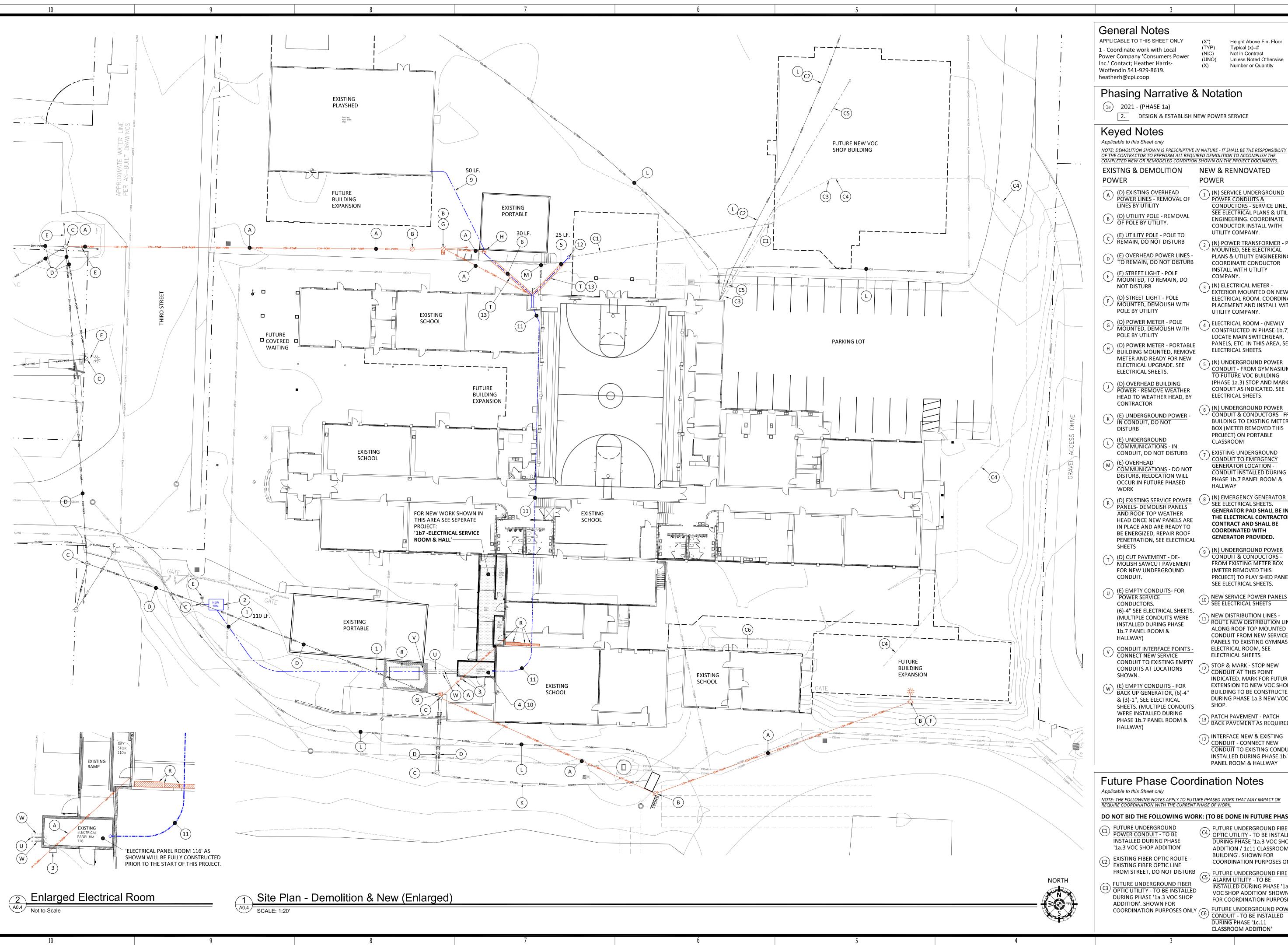
STRAIGHTLINE Architects

4521 South Cloverdale Road

VICINITY MAP:

Cover sheet





1 - Coordinate work with Local Power Company 'Consumers Power Inc.' Contact; Heather Harris-

Height Above Fin. Floor Typical (x)=# Not in Contract (UNO)

Unless Noted Otherwise Number or Quantity

2. DESIGN & ESTABLISH NEW POWER SERVICE

NOTE: DEMOLITION SHOWN IS PRESCRIPTIVE IN NATURE - IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PERFORM ALL REQUIRED DEMOLITION TO ACCOMPLISH THE COMPLETED NEW OR REMODELED CONDITION SHOWN ON THE PROJECT DOCUMENTS. EXISTNG & DEMOLITION NEW & RENNOVATED

### POWER $\setminus$ (N) SERVICE UNDERGROUND POWER CONDUITS &

- MOUNTED, DEMOLISH WITH
- (D) POWER METER PORTABLE BUILDING MOUNTED, REMOVE METER AND READY FOR NEW
- POWER REMOVE WEATHER HEAD TO WEATHER HEAD, BY
- (E) UNDERGROUND COMMUNICATIONS IN
- (E) OVERHEAD COMMUNICATIONS DO NOT DISTURB, RELOCATION WILL OCCUR IN FUTURE PHASED
- PANELS- DEMOLISH PANELS AND ROOF TOP WEATHER **HEAD ONCE NEW PANELS ARE** IN PLACE AND ARE READY TO BE ENERGIZED, REPAIR ROOF PENETRATION, SEE ELECTRICAL
- (D) CUT PAVEMENT DE-MOLISH SAWCUT PAVEMENT FOR NEW UNDERGROUND
- U (E) EMPTY CONDUITS- FOR POWER SERVICE (6)-4" SEE ELECTRICAL SHEETS. (MULTIPLE CONDUITS WERE INSTALLED DURING PHASE
- CONDUIT INTERFACE POINTS -CONNECT NEW SERVICE CONDUIT TO EXISTING EMPTY CONDUITS AT LOCATIONS
- (E) EMPTY CONDUITS FOR BACK UP GENERATOR, (6)-4" & (3)-1", SEE ELECTRICAL SHEETS. (MULTIPLE CONDUITS WERE INSTALLED DURING PHASE 1b.7 PANEL ROOM &
- ELECTRICAL ROOM, SEE **ELECTRICAL SHEETS** (12) STOP & MARK - STOP NEW CONDUIT AT THIS POINT

## **Future Phase Coordination Notes**

NOTE: THE FOLLOWING NOTES APPLY TO FUTURE PHASED WORK THAT MAY IMPACT OR REQUIRE COORDINATION WITH THE CURRENT PHASE OF WORK.

## DO NOT BID THE FOLLOWING WORK: (TO BE DONE IN FUTURE PHASES)

- **INSTALLED DURING PHASE**
- C2 EXISTING FIBER OPTIC ROUTE EXISTING FIBER OPTIC LINE
- G3 FUTURE UNDERGROUND FIBER OPTIC UTILITY TO BE INSTALLED DURING PHASE '1a.3 VOC SHOP ADDITION'. SHOWN FOR
- C4 FUTURE UNDERGROUND FIBER OPTIC UTILITY TO BE INSTALLED DURING PHASE '1a.3 VOC SHOP ADDITION / 1c11 CLASSROOM
- BUILDING'. SHOWN FOR COORDINATION PURPOSES ONLY FROM STREET, DO NOT DISTURB FUTURE UNDERGROUND FIRE (C5) ALARM UTILITY - TO BE **INSTALLED DURING PHASE '1a.3**
- FOR COORDINATION PURPOSES. COORDINATION PURPOSES ONLY C6 FUTURE UNDERGROUND POWER CONDUIT - TO BE INSTALLED DURING PHASE '1c.11 CLASSROOM ADDITION'

VOC SHOP ADDITION' SHOWN

MARSHALL · Scott Markal BOISE, IDAHO 5794 T. T.

EXTERIOR MOUNTED ON NEW ELECTRICAL ROOM. COORDINATE PLACEMENT AND INSTALL WITH **Q** CONSTRUCTED IN PHASE 1b.7) PANELS, ETC. IN THIS AREA, SEE TRI

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(N) UNDERGROUND POWER CONDUIT - FROM GYMNASIUM TO FUTURE VOC BUILDING (PHASE 1a.3) STOP AND MARK CONDUIT AS INDICATED. SEE ELECTRICAL SHEETS.

LOCATE MAIN SWITCHGEAR,

**CONDUCTORS - SERVICE LINE,** 

ENGINEERING. COORDINATE

CONDUCTOR INSTALL WITH

UTILITY COMPANY.

COMPANY.

**SEE ELECTRICAL PLANS & UTILITY** 

(N) POWER TRANSFORMER - PAD MOUNTED, SEE ELECTRICAL

PLANS & UTILITY ENGINEERING. COORDINATE CONDUCTOR INSTALL WITH UTILITY

\ (N) ELECTRICAL METER -

UTILITY COMPANY.

ELECTRICAL SHEETS.

 $\setminus$  (N) UNDERGROUND POWER CONDUIT & CONDUCTORS - FROM BUILDING TO EXISTING METER BOX (METER REMOVED THIS PROJECT) ON PORTABLE

CLASSROOM

- EXISTING UNDERGROUND CONDUIT TO EMERGENCY **GENERATOR LOCATION -CONDUIT INSTALLED DURING** PHASE 1b.7 PANEL ROOM & HALLWAY
- (D) EXISTING SERVICE POWER
  PANELS- DEMOLISH PANELS

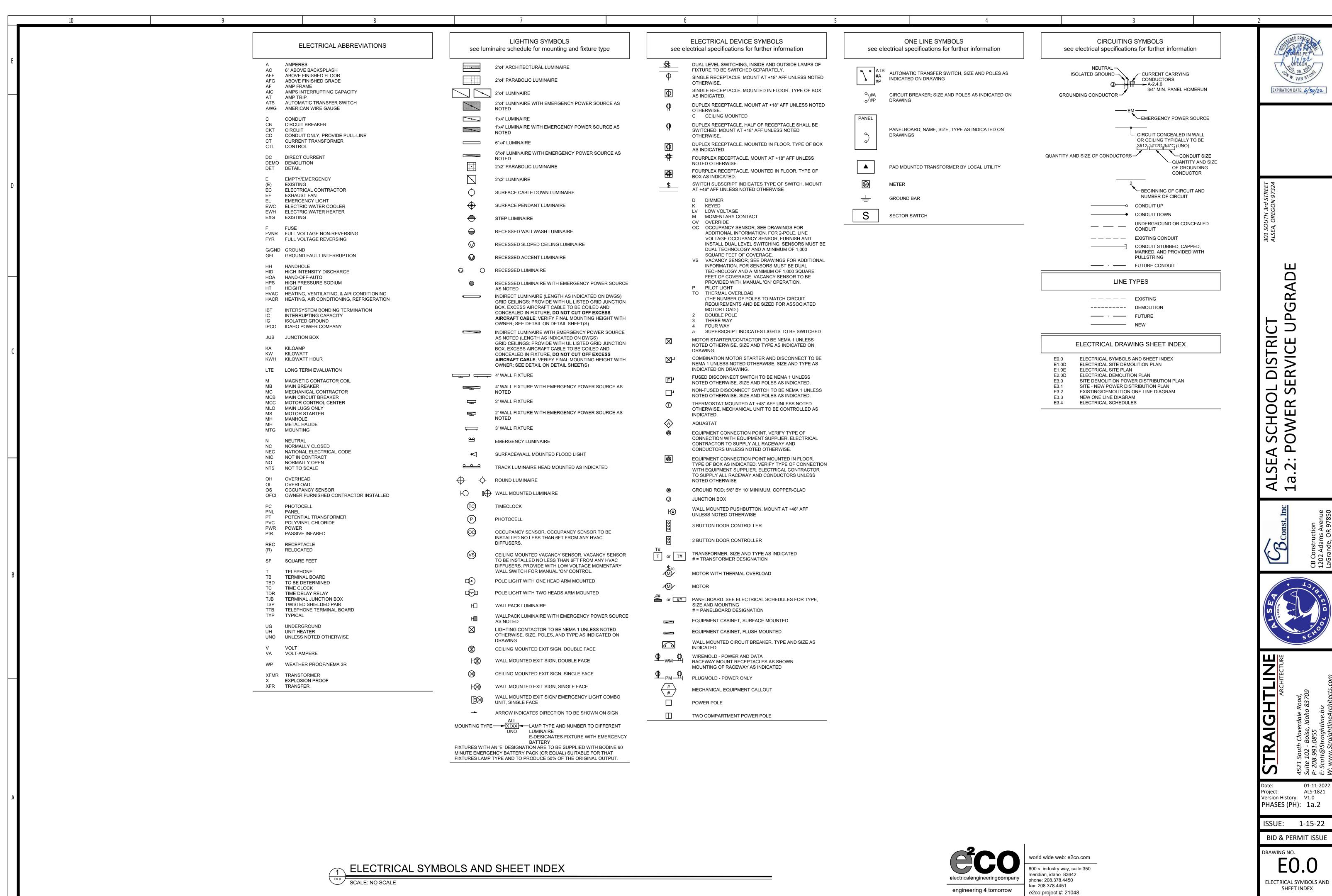
  (N) EMERGENCY GENERATOR SEE ELECTRICAL SHEETS. **GENERATOR PAD SHALL BE IN** THE ELECTRICAL CONTRACTORS CONTRACT AND SHALL BE COORDINATED WITH **GENERATOR PROVIDED.** 
  - 9 (N) UNDERGROUND POWER **CONDUIT & CONDUCTORS -**FROM EXISTING METER BOX (METER REMOVED THIS PROJECT) TO PLAY SHED PANEL, SEE ELECTRICAL SHEETS.
  - $\underbrace{\text{10}}_{\text{SEE ELECTRICAL SHEETS}} \text{-}$
  - NEW DISTRIBUTION LINES -ROUTE NEW DISTRIBUTION LINES
  - ALONG ROOF TOP MOUNTED CONDUIT FROM NEW SERVICE PANELS TO EXISTING GYMNASIUM
  - INDICATED. MARK FOR FUTURE EXTENSION TO NEW VOC SHOP **BUILDING TO BE CONSTRUCTED** DURING PHASE 1a.3 NEW VOC
  - 13 PATCH PAVEMENT PATCH BACK PAVEMENT AS REQUIRED.
  - 12 INTERFACE NEW & EXISTING CONDUIT CONNECT NEW **CONDUIT** TO EXISTING CONDUIT INSTALLED DURING PHASE 1b.7 PANEL ROOM & HALLWAY

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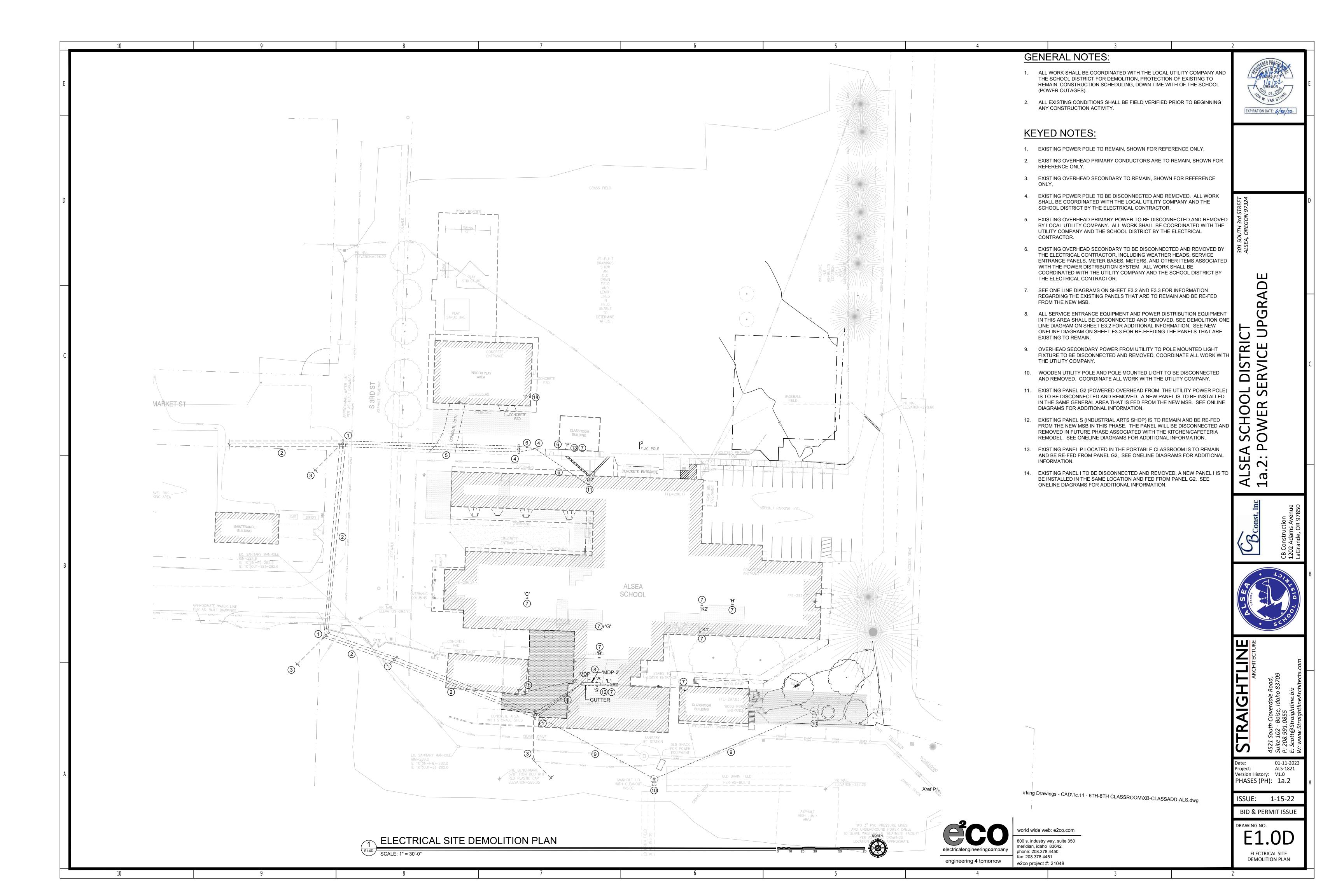
DRAWING NO. Enlarged Architectural Site

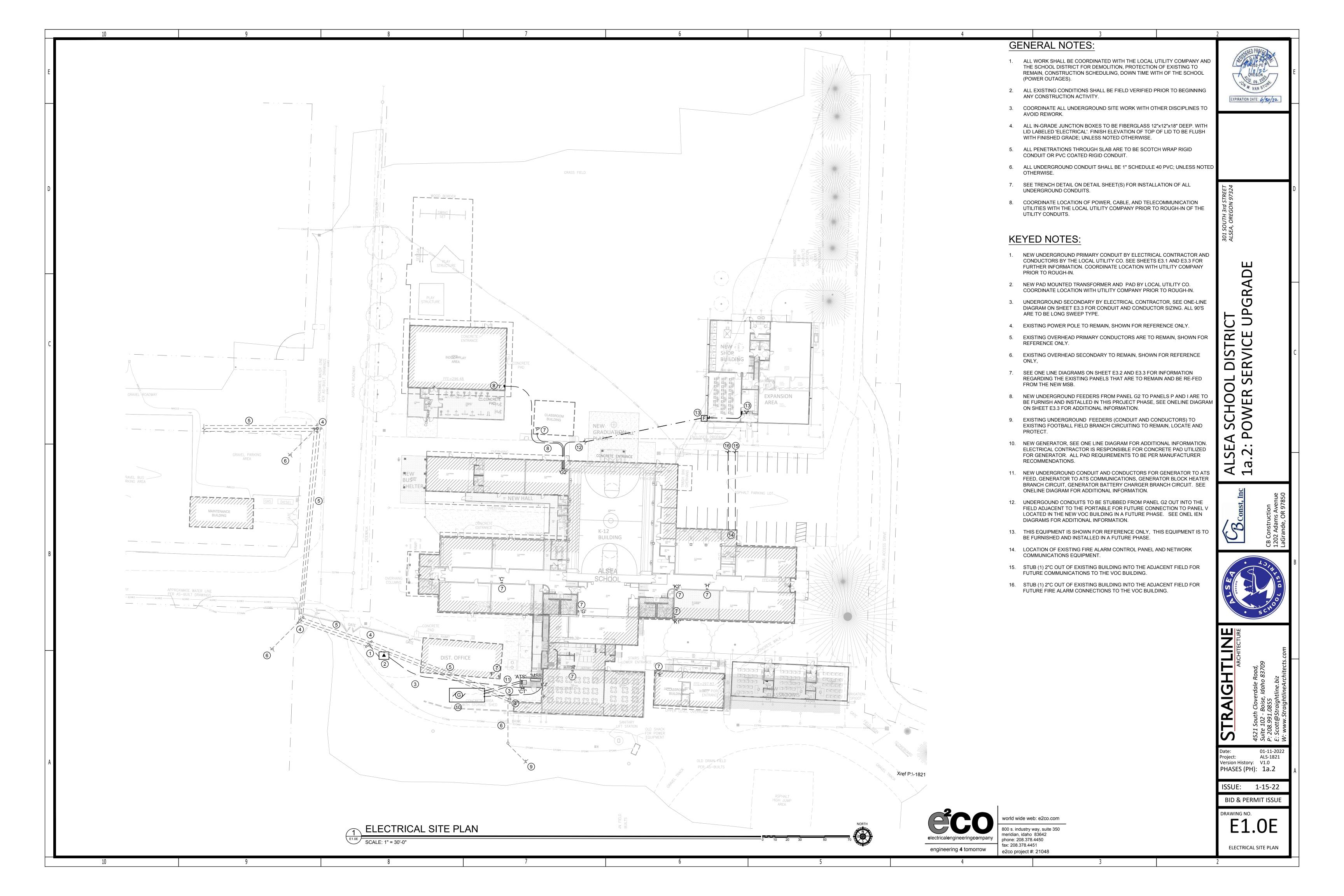
SITE PLAN

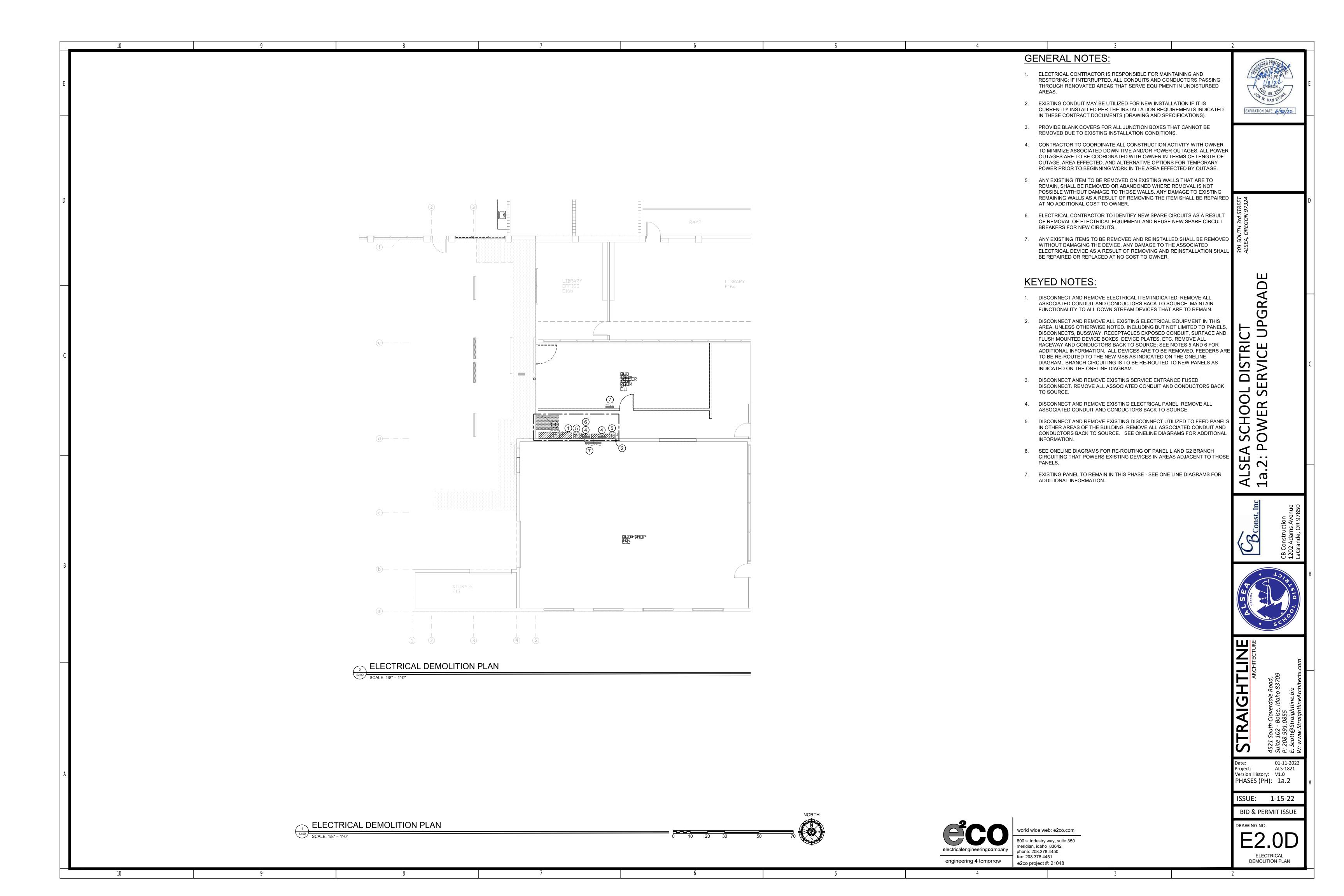


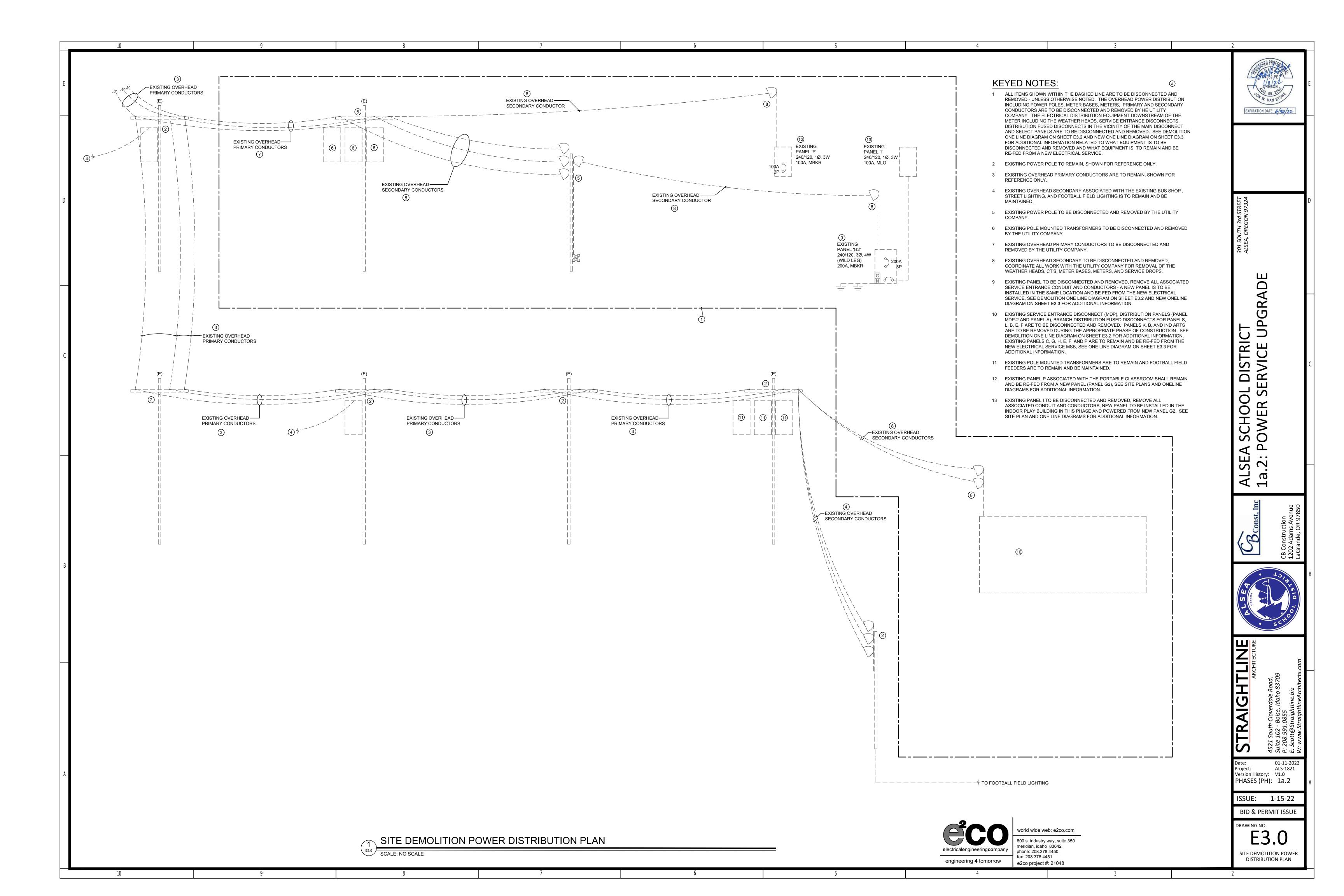
EXPIRATION DATE: 6/30/22

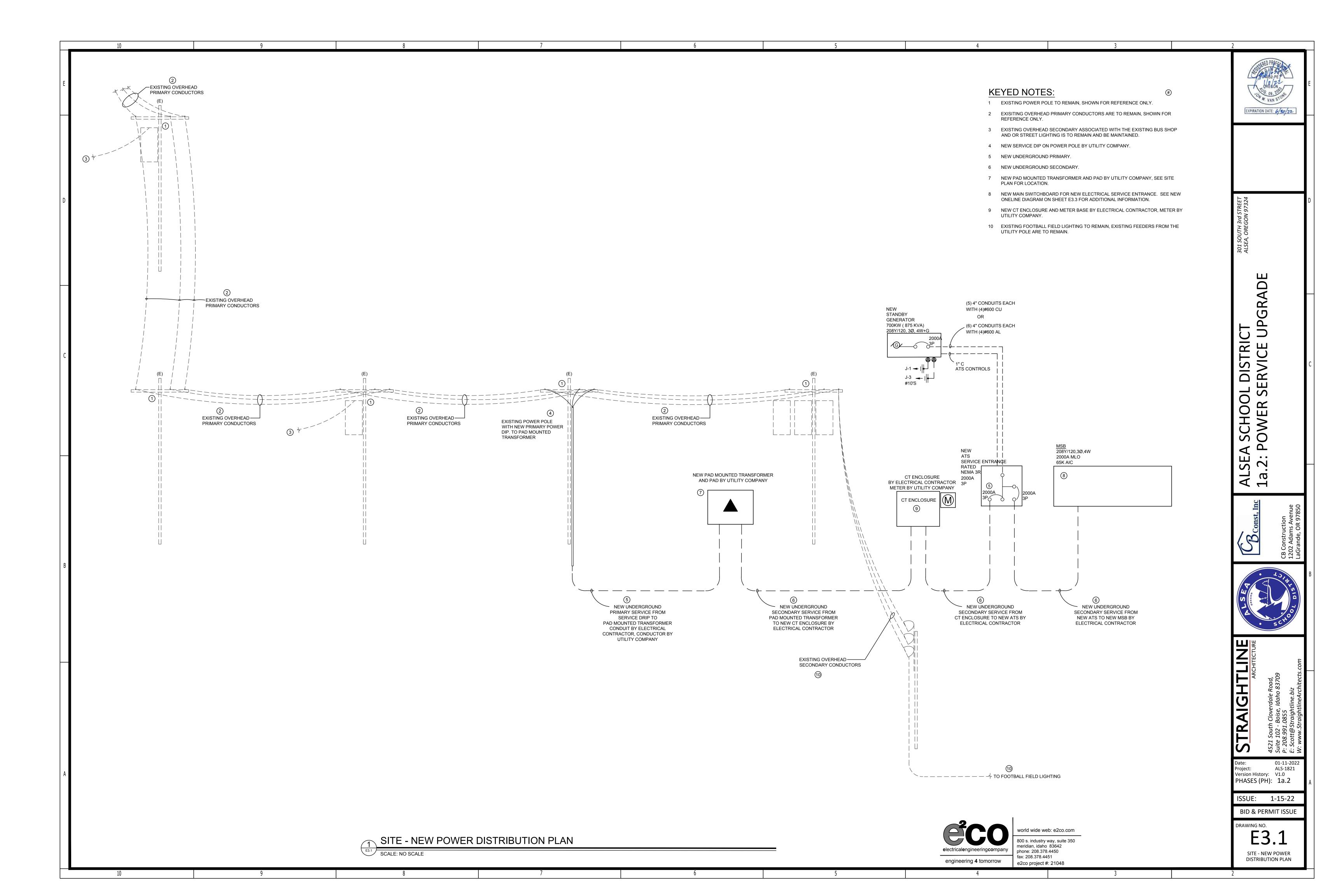
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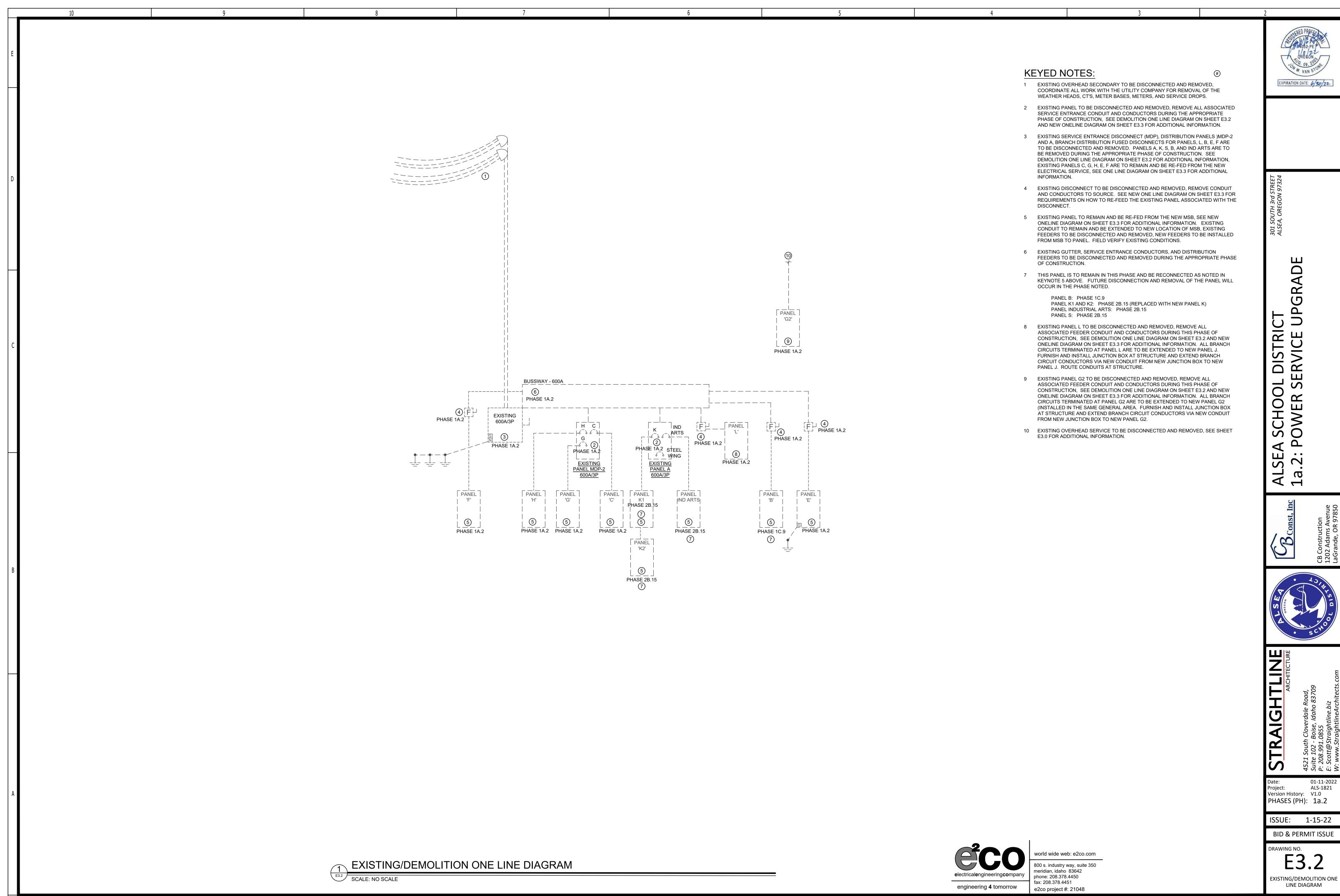










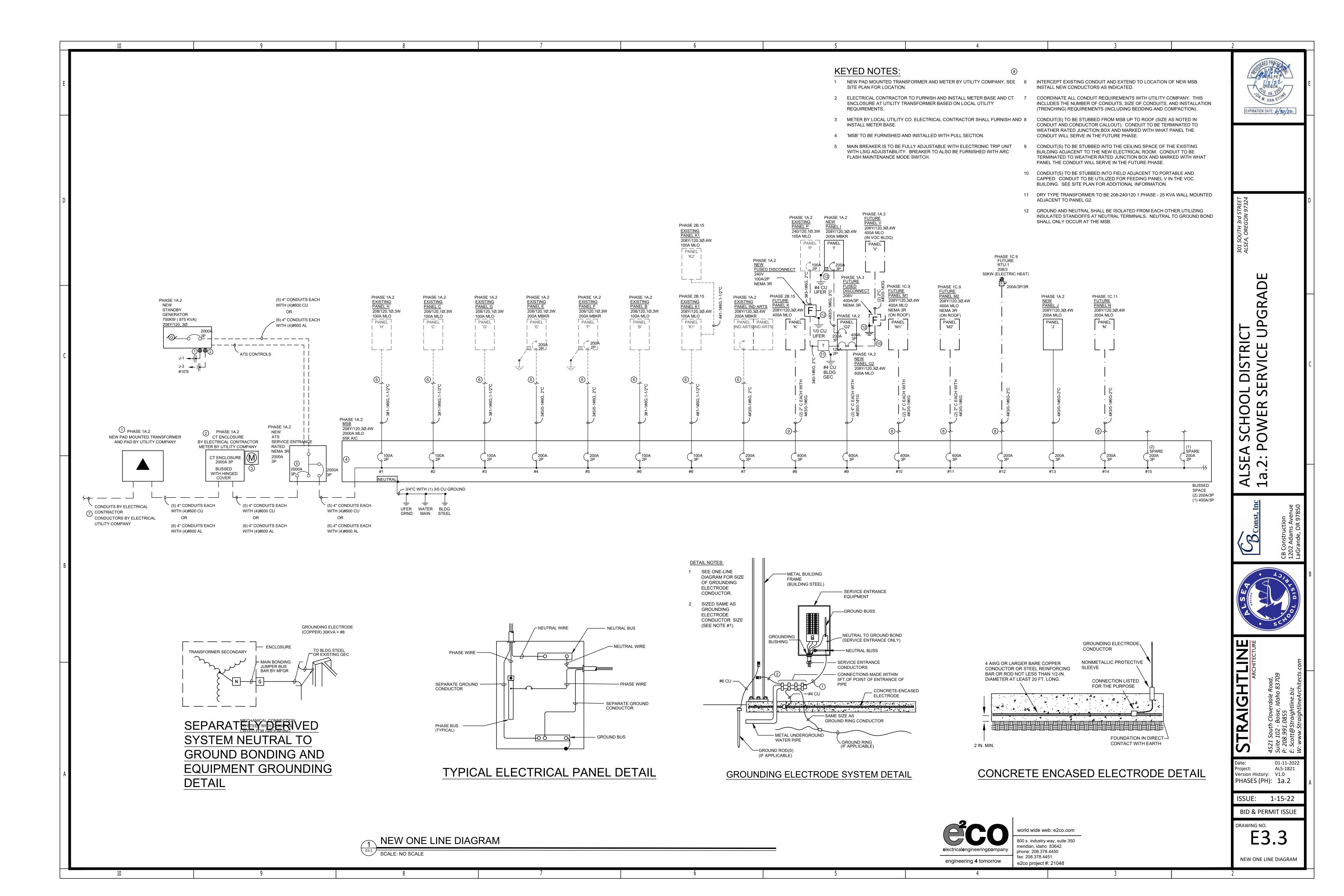


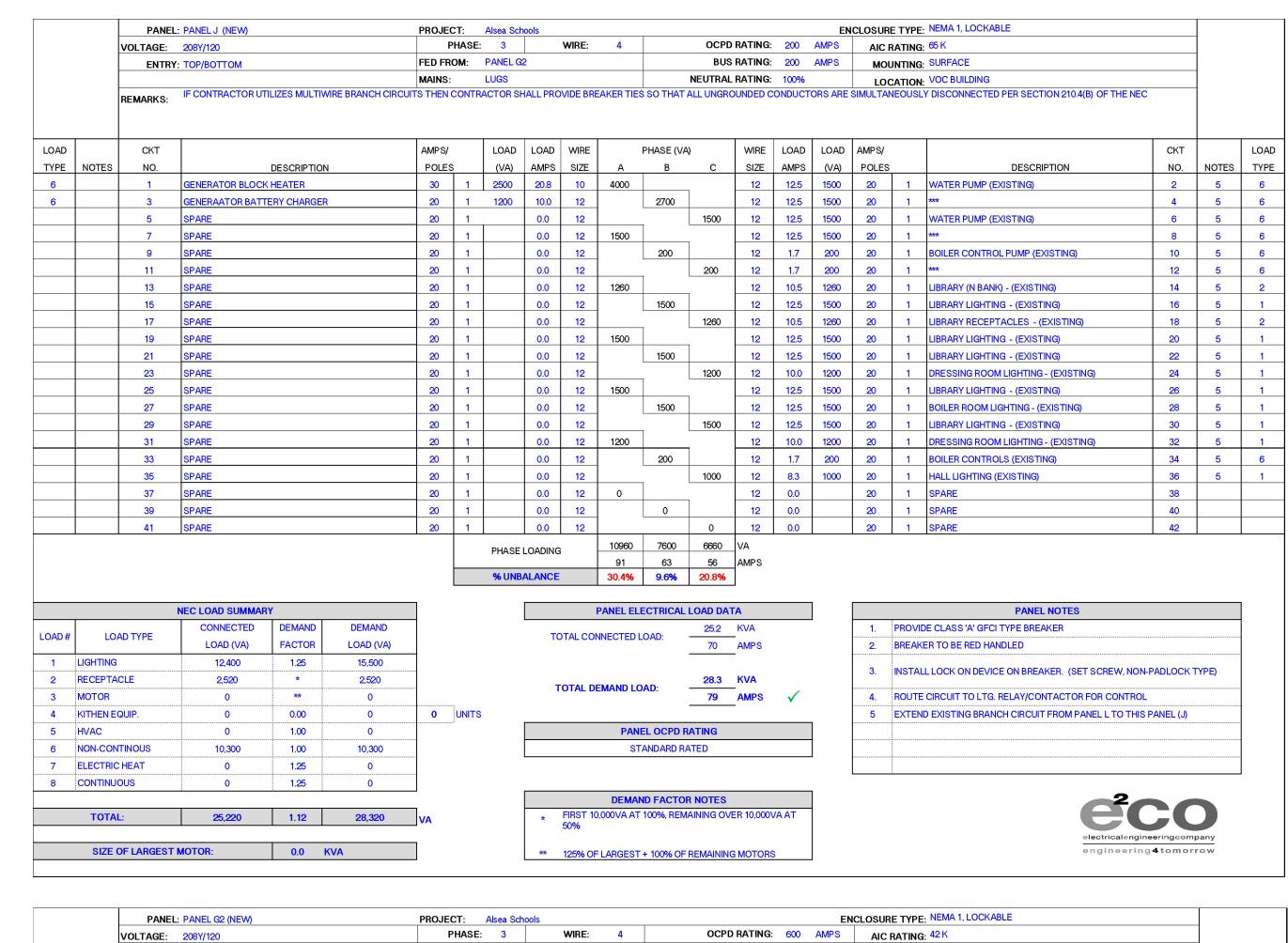
EXPIRATION DATE: 6/30/22



**BID & PERMIT ISSUE** 

**EXISTING/DEMOLITION ONE** 





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	PANEL: PANEL G2 (NEW)  VOLTAGE: 208Y/120				PROJE	PROJECT: Alsea Schools ENCLOSURE TYPE: NEMA 1, LOCKABLE																
					ı	PHASE: 3 WIRE: 4 OCPD RATING: 600 AMPS AIC RATING: 42 K																
		ENTRY: BOTTOM				FED FF	FED FROM: PANEL G2 BUS RATING: 600 AMPS MOUNTING: SURFACE															
						MAINS	:	LUGS					NEUTRAL	RATING:	100%		LO	CATION	VOC BUILDING			
		REMARKS:								VIDE BRE	AKER TIE	S SO THAT	ALL UNGRO	OUNDED C	ONDUCT	ORS ARE	SIMULTA	NEOUSL	Y DISCONNECTED PER SECTION 210.4(B) OF TH	E NEC		
			PANEL SHALL E	BE I-LINE T	YPE PANELBO			RUCTION						1		Ι			I			_
LOAD		CKT				AMPS/		LOAD	LOAD	WIRE		PHASE (VA	.)	WIRE	LOAD	LOAD	AMPS/			СКТ		LO
TYPE	NOTES	NO.		DESCRIPTION	N	POLE		(VA)	AMPS	SIZE	Α	В	С	SIZE	AMPS	(VA)	POLES		DESCRIPTION	NO.	NOTES	TY
5	5	1	GYM FAN			20	3	1000	8.3	12	4800		1	8	31.7	3800	40	2	SIGN	2	5	(
5	5	3	***			20	3	1000	8.3	12		4800		8	31.7	3800	40	2	***	4	5	1
5	5	5	***			20	3	1000	8.3	12		7	1000	12	0.0		20	1	SPARE	6		
5	5	7	FURNACE FAN			20	2	1200	10.0	12	1200		7	12	0.0		20	1	SPARE	8		
5	5	9	***			20	2	1200	10.0	12		2460		12	10.5	1260	20	1	CLASSROOM (RECEPTACLES)	10	5	2
		11	SPARE			20	1		0.0	12			1260	12	10.5	1260	20	1	CLASSROOM (RECEPTACLES)	12	5	2
		13	SPARE			20	1		0.0	12	1260		_	12	10.5	1260	20	1	CLASSROOM (RECEPTACLES)	14	5	2
		15	SPARE			20	1		0.0	12		1500		12	12.5	1500	20	1	RECEPTACLES (HEATER)	16	5	2
		17	SPARE			20	1		0.0	12			1500	12	12.5	1500	20	1	RECEPTACLES (HEATER)	18	5	2
		19	SPARE			20	1		0.0	12	0			12	0.0		20	1	SPARE	20		
		21	SPARE			20	1		0.0	12	.00	1200	]	12	10.0	1200	20	1	WATER HEATER	22	5	6
		23	SPARE			20	1		0.0	12		1200	1260	12	10.5	1260	20	1	RECEPTACLES (GRETTAS ROOM)	24	5	2
		25	SPARE			20	1		0.0	12	0	7	1200	12	0.0	1200	20	1	SPARE	26		<u> </u>
6		27	PANEL I (PLAY BARN	Λ		200	3	14100	117.5	3/0	- 0	14100	]	#N/A	0.0		20	<u> </u>	BLANK	28		+
6		29	+++	<u> </u>		200	3	21600	180.0	3/0		14100	21600		0.0				BLANK	30		+
6			***								10000	7	21600	#N/A								-
6		31		/00 PL III PINO		200	3	13600	113.3	3/0	13600	05000	1	#N/A	0.0				BLANK	32		-
6		33	PANEL V (FUTURE) V	/OC BUILDING	)	400	3	25020	208.5	500		25020		#N/A	0.0				BLANK	34		+
6		35	***			400	3	29820	248.5	500		7	29820	#N/A	0.0			-	BLANK	36		+
6		37	***		Moreover in the	400	3	28740	239.5	500	28740		1	#N/A	0.0				BLANK	38		-
6		39	TRANSFORMER FOR	PANEL P (EXI	ISTING)	125	2	5000	41.7	1		5000		#N/A	0.0				BLANK	40		-
6		41	***			125	2	5000	41.7	1			5000	#N/A	0.0				BLANK	42		
								PHASE	LOADING	;	49600	54080	61440	VA								
											413	451	512	AMPS								
								% UNB	ALANCE	e C	9.9%	1.7%	11.6%									
			NEC LOAD SUMMAR	Υ			PANEL ELECTRICAL LOAD DATA PANEL NOTES										1					
			CONNECTED	DEMAND	DEMAND								165.1			_	1.	PROVI	DE CLASS 'A' GFCI TYPE BREAKER			1
OAD#	LOA	AD TYPE	LOAD (VA)	FACTOR	LOAD (VA)				TC	OTAL CON	INECTED I	LOAD:		AMPS			2.		ER TO BE RED HANDLED			
1	LIGHTING		0	1.25	0									-								
	RECEPTAG		8,040	*	8,040								165.1	KVA			3.	INSTAL	L LOCK ON DEVICE ON BREAKER. (SET SCREW	, NON-PADLOCK	TYPE)	
	MOTOR		0,040	**	0,040				T	OTAL DE	MAND LO	DAD:		AMPS	/		4	ROUTE	CIRCUIT TO LTG. RELAY/CONTACTOR FOR CON	JTROI		
	KITHEN EC	OLIIP	0	0.00	0		UNITS							- AMI O	*				D EXISTING BRANCH CIRCUIT FROM PANEL G TO		······································	
		QUIF.				+ "	ONITO				DAN	EL OCDD D	ATING			1	5	LATEN	D EXISTING BRANCH CIRCUIT FROM FAIREL G. TO	7 THIS PANEL (GZ)	<u> </u>	+
	HVAC	5,400 1.00 5,400						PANEL OCPD RATING														
6		NTINOUS 151,680 1.00 151,680				STANDARD RATED								***								
7 ELECTRI																	╛					
8	CONTINUO	OUS	0	1.25	0						DEMA	UD EACTS:	NOTES			1						
	TOTAL	Ŀ	165,120	1.00	165,120	VA					520000	ND FACTOI 100%, REM	100000000000000000000000000000000000000	ER 10,000\	/A AT	-			e	CC		
						_				50%									electrica	engineeringcom	pany	
$\overline{}$	200	OF LARGEST		0.0	KVA				**				REMAINING							ering <b>4</b> tomor		

Alsea Schools														
		ELECTRICAL LOAD (KVA)									CONNECTED LOAD		DEMAND LOAD	
PANEL AND/OR EQUIPMENT	VOLTAGE	LIGHTING	REC.	MOTORS	KITCHEN	HVAC	NON- CONT.	ELEC. HEAT	CONT.	KVA	AMPS	KVA	AMPS	
PANEL J (NEW)	208Y/120	12.40	2.52	-	-	-	10.30	-	-	25.2	70	28.3	79	
PANEL G2 (NEW)	208Y/120	-	8.04	-	-	5.40	151.68	-	-	165.1	458	165.1	458	
PANEL K (NEW - FUTURE PHASE)	208Y/120	8.64	D=	-	16.50	91.80	2.50	-	-	119.4	332	115.8	321	
PANEL M1 (NEW - FUTURE PHASE)	208Y/120	-	1.80	-	-	86.40	-	-	-	88.2	245	88.2	245	
PANEL M2 (NEW - FUTURE PHASE)	208Y/120	-	1.80	=1	-	96.00	-	-	-	97.8	271	97.8	271	
PANEL H (EXISTING)	208Y/120	-	-	-	-	-	-	-	-	0.0	0	0.0	0	
PANEL C (EXISTING)	208Y/120	-	je.	=.1	-	-	1-	-	-	0.0	0	0.0	0	
PANEL G (EXISTING)	208Y/120	-	-	-	-	-	-	-	-	0.0	0	0.0	0	
PANEL E (EXISTING)	208Y/120	-	-		-	-	-	-	-	0.0	0	0.0	0	
PANEL F (EXISTING)	208Y/120	-	-	-	-	-	-	-	-	0.0	0	0.0	0	
RTU-1 (GYM) (NEW - FUTURE PHASE)	208	-	per .	-	-	50.00	-	-	-	50.0	139	50.0	139	
OTAL (NEW)		9	4	0	17	324	3	0	0	355	987	352	977	
EXISTING DEMAND KW:	125						1	1						
XISTING DEMAND X 125%:										156.3	434	156.3	434	
OTAL (NEW + EXISTING):										512	1420	508	1410	
								RATING	<b>✓</b>					
MAINS	ERVICE DIS	CONNECT/E	QUIPMEN	NT RATING:	2000	AMPS	STANDAF	RD RATED	• •					
Fault Curre	ent at Service E	quipment												
**MAXIMUM AVAILABLE FAULT CURRE	ENT TO BE FIE	ELD MARKED	ON SERVICE	CE EQUIPMEN	NT PER NEC 1	10.24(A).								

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NEC DEMAND FACTORS										
	CONNECTED	DEMAND	DEMAND							
LOAD TYPE	LOAD (VA)	FACTOR	LOAD (VA)							
LIGHTING	8,640	125%	10,800							
RECEPTACLES	3,600	-	3,600	FIRST 10,000VA AT 100% + REMAINDER OVER 10,000VA AT 50%						
MOTORS	0	-	0	125% OF LARGEST MOTOR + 100% OF ALL OTHER MOTORS						
KITCHEN EQUIPMENT	16,500	65%	10,725	1-2 UNITS=100%, 3 UNITS=90%, 4 UNITS=80%, 5 UNITS=70%, >=6 UNITS=65%	>6	UNITS				
HVAC EQUIPMENT	324,201	100%	324,201							
NON-CONTINUOUS LOADS	2,500	100%	2,500							
ELECTRIC HEAT	0	125%	0							
CONTINOUS LOADS	0	125%	0							
TOTALS	355,441	99%	351,826	VA						

\*\*\*SERIES RATED EQUIPMENT SHALL BE PROVIDED IN ACCORDANCE WITH N.E.C., AND SERIES RATED COMBINATIONS SHALL BE LISTED BY UNDERWRITERS LABORATORIES\*\*\*



vorld wide web: e2co.com 800 s. industry way, suite 350 meridian, idaho 83642 phone: 208.378.4450 fax: 208.378.4451 e2co project #: 21048



DISTRICT ERVICE UPGRADE A SCHOOL E POWER SEF

ALSEA 1a.2: P



STRAIGHTLINE

01-11-2022 ALS-1821 Version History: V1.0 PHASES (PH): 1a.2

ISSUE: 1-15-22 **BID & PERMIT ISSUE** 

DRAWING NO.

ELECTRICAL SCHEDULES

ELECTRICAL SCHEDULES SCALE: NO SCALE