

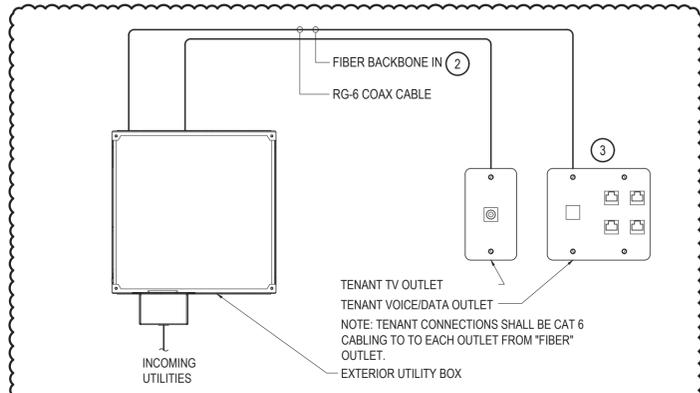
1 UTILITY / METERING GEAR
SCALE: NTS

GENERAL NOTES

- IMMEDIATELY UPON PROJECT INCEPTION THE CONTRACTOR SHALL COORDINATE WITH UTILITY FOR THE INSTALLATION OF A NEW ELECTRICAL SERVICE. EQUIPMENT LAYOUT AS SHOWN IS DIAGRAMMATIC. THE CONTRACTOR SHALL SUBMIT DETAILED INFORMATION REGARDING THE PROPOSED SERVICE ENTRANCE EQUIPMENT TO THE UTILITY COMPANY AND OWNER/ARCHITECT FOR APPROVAL PRIOR TO ORDERING ANY EQUIPMENT. ALL EQUIPMENT AND INSTALLATION SHALL COMPLY WITH CHUGACH STANDARDS AND THE LATEST ADOPTED NEC.
- METERS AND DISCONNECTS SHALL BE LABELED WITH ENGRAVED PLACARDS, IDENTIFYING EACH TENANT WITH THE ADDRESS OR OTHER MEANS AND BUSSED TERMINATION ENCLOSURES SHALL HAVE PROVISIONS TO BE SEALED. EXTERIOR EQUIPMENT WILL BE PROVIDED IN NEMA 3R ENCLOSURES.
- EXPOSED FLEXIBLE CONDUIT IS NOT ALLOWED.

SHEET NOTES INDICATED BY: (#)

- PROVIDE GROUNDING ELECTRODE SYSTEM AS FOLLOWS: #2 CU. TO WATER MAIN, #2 CU. TO BUILDING STEEL, 20' OF #2 CU. ENCASED IN FOOTING CONCRETE AND BONDED TO REBAR, AND #4 CU. TO DRIVEN ROD ELECTRODE.



DETAIL NOTES

- PROVIDE COMPLETE CABLING, CONNECTIONS AND LABELING IN COMPLIANCE WITH EIA/TAI RECOMMENDATIONS FOR RESIDENTIAL INSTALLATIONS AND IN COMPLIANCE WITH THE MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS.
- PROVIDE ESSEX W32002x88 - 2 STRAND FIBER CABLE FROM UTILITY TO EACH UNIT "DEMARC" OUTLET. COORDINATE DEMARC LOCATION WITH CHA PRIOR TO ROUGH-IN.
- PROVIDE 2 GANG BOX WITH FIBER OUTLET AND 4 CAT 6 OUTLETS. FROM UNIT DEMARC OUTLET PROVIDE CAT 6 CABLING FROM JACK TO OTHER OUTLETS IN THE UNIT.

2 STRUCTURED MEDIA PANEL DETAIL
SCALE: NTS

ELECTRICAL SERVICE LOAD CALCULATION - BUILDING 1a

GENERAL LIGHTING DEMAND LOAD (NEC 220.42)	
GENERAL LIGHTING (TOTAL TENANT AREA)	
5,085 FT ² @ 3 VA/FT ² =	15,255 VA
SMALL APPLIANCE LOAD	
8 CKTS @ 1,500 VA/CKT =	12,000 VA
LAUNDRY LOAD	
4 CKTS @ 1,500 VA/CKT =	6,000 VA
SUB-TOTAL	33,255 VA
FIRST 3000 VA OR LESS AT 100% =	3,000 VA
FROM 3001 TO 120,000 VA AT 35% =	10,589 VA
REMAINDER OVER 120,000 VA AT 25% =	0 VA
TOTAL GENERAL LIGHTING DEMAND LOAD =	13,589 VA
ELECTRIC CLOTHES DRYER DEMAND LOAD (NEC 220.54)	
4 @ 5,600 VA EACH =	22,400 VA
DEMAND FACTOR PER NEC T220.54 =	100%
TOTAL DRYER DEMAND LOAD =	22,400 VA
ELECTRIC RANGE DEMAND LOAD (NEC 220.55)	
4 @ 9,100 VA EACH =	36,400 VA
DEMAND FACTOR PER NEC T220.55 =	17%
TOTAL RANGE DEMAND LOAD =	6,188 VA
APPLIANCE DEMAND LOAD (NEC 220.54)	
DISHWASHERS 4 @ 1,080 VA EACH =	4,320 VA
RANGE HOODS 4 @ 168 VA EACH =	672 VA
DEMAND FACTOR PER NEC 220.53 =	75%
TOTAL FIXED APPLIANCE DEMAND LOAD =	3,744 VA
TOTAL CALCULATED ELECTRICAL DEMAND LOAD	45,921 VA
	191 AMPS @ 120/240v, 1PH

FEEDER SCHEDULE

FEEDER TAG	COPPER CONDUCTORS		
	CONDUCTORS	RACEWAY	NOTES
125A	3#1, 1#6 EGC	1.25"	
UTIL	CONDUIT ONLY		

NOTES:

FAULT CURRENT CALCULATION SUMMARY

EQUIPMENT	SUPPLY FEEDER RATING AND LENGTH	FAULT CURRENT L-L	ASSUMED UTILITY CONFIGURATION		
			UTILITY CONTRIBUTION:	TRANSFORMER RATING:	TRANSFORMER IMPEDENCE:
UTILITY TRANS SECONDARY	N/A	8,333 A	INFINITE	50kVA	2.5% Z
UTILITY TERMINATION / METERING	1 EA. #250 AL PER PHASE 50'	6,562 A	N/A		
HOUSE PANEL (WORST CASE)	1 EA. #1 CU PER PHASE 20'	5,706 A	4,512 A		

CONTRACTOR TO CONFIRM UTILITY ASSUMPTIONS UTILIZED FOR THIS CALCULATION AS WELL AS INSTALLED CONDUCTOR CONFIGURATIONS AND LENGTHS DURING CONSTRUCTION. REPORT ANY DECREASE IN TRANSFORMER IMPEDENCE AND INSTALLED CABLE LENGTHS AS WELL AS ANY INCREASE IN TRANSFORMER KVA RATING AND CONDUCTOR RATINGS TO ENGINEER FOR RE-EVALUATION PRIOR TO DISTRIBUTION EQUIPMENT PROCUREMENT.

LIGHTING FIXTURE SCHEDULE

TYPE ID	MANUFACTURER MODEL NUMBER	FIXTURE DESCRIPTION	LAMP		LED		MOUNTING	
			TYPE	QTY	LUMENS	WATTS	TYPE	HEIGHT
A	JUNO LIGHTING #JSF-71N 10LM-30K-90CRI-MVOLT-WH	SLIM FORM SURFACE MOUNT WITH 7" DIAMETER, 3000K COLOR TEMPERATURE, AND WHITE FINISH.	LED		1,000	13	SURFACE	CEILING
B	JUNO LIGHTING #JSF-131N 18LM-30K-90CRI-MVOLT-WH	SLIM FORM SURFACE MOUNT WITH 13" DIAMETER, 3000K COLOR TEMPERATURE, AND WHITE FINISH.	LED		1,800	20	SURFACE	CEILING
C	LITHONIA LIGHTING #LBLAW-8000LM-80CRI-30K-NODIM-MVOLT	16"x4" MODULAR LINEAR LED WITH 3000K COLOR TEMPERATURE WHITE ACRYLIC SOFT CLOUD DIFFUSER.	LED		7,840	64	SURFACE	CEILING
D	DVI #DVP9001	INTERIOR WALL SCONCE WITH GLASS SHADE. INCLUDE MEDIUM BASE LED BULB WITH 1500 LUMEN OUTPUT AND 3000K COLOR TEMPERATURE.	E26 LED	1	1,500	14	WALL	66" TO BOTTOM
F	TECH LIGHTING #700BCBAS-24-S-LED927	24" WIDE VANITY FIXTURE WITH BRUSHED NICKEL FINISH AND SATIN ETCHED WHITE SHADES.	LED		1,052	24	WALL	66" TO BOTTOM
G	LITHONIA LIGHTING #OLLWD-LED-P1-40K-MVOLT-DOB	LED WALL-MOUNTED GENERAL PURPOSE LIGHT WITH 4000K COLOR TEMPERATURE, WITH VARIABLE INPUT VOLTAGE, AND DARK BRONZE FINISH.	LED		533	9	SURFACE	WALL +8'-0" AFF
H	LITHONIA #ZL1N-L48-SMR-3000LM-FST-MVOLT-40K-80CRI-WH	4' LINEAR STRIPLIGHT WITH 4000K COLOR TEMPERATURE AND WHITE FINISH.	LED		3,293	25	SURFACE	CEILING / WALL
J	JUNO LIGHTING #DPEND-MP-G2-P314-GLAC #SNA	CYLINDRICAL PENDANT WITH "GLACIER" FINISH, SATIN NICKEL 78" CORDSET, SATIN NICKEL MONOPOINT ADAPTER, AND 3000K COLOR TEMPERATURE.	LED		389	6	PENDANT	76" TO BOTTOM

TYPICAL UNIT A & UNIT E PANEL

CKT	AMP	POLE	LOAD DESCRIPTION	PHASE A VA		PHASE B VA		LOAD DESCRIPTION	POLE	AMP	CKT
				VA	VA	VA	VA				
A 1	20	1	REC - KITCHEN REF, ABOVE COUNTER	1,500	4,550			RANGE	2	50	2
A 3	20	1	REC - KITCHEN ABOVE COUNTER, DINING			1,500	4,550		2	4	4
A 5	20	1	REC - DISHWASHER	1,080	360			REC/FAN - POWDER ROOM	1	20	6
A 7	20	1	REC - CLOTHES WASHER			1,440	200	REC/FAN - BATHROOM 1	1	20	8
A 9	30	2	REC - CLOTHES DRYER	2,800	1,080			REC - 3RD LEVEL HALL, BEDROOM 1	1	20	10
G 11	2	2				2,800	720	REC - BEDROOM 2	1	20	12
A 13	20	1	REC - HEAD BOLT HEATER	600				SPARE	1	20	14
A 15	20	1	REC - GARAGE, GARAGE DOOR OPENER, SM PANEL			1,200		SPACE	1	-	16
A 17	20	1	REC - HALL, LIVING ROOM	900				SPACE	1	-	18
A 19	20	1	SMOKE/CO DETECTORS			30		SPACE	1	-	20
A 21	20	1	RANGE HOOD	216				SPACE	1	-	22
A 23	20	1	LIGHTING					SPACE	1	-	24
A 25	20	1	BOILER SYSTEM	600				SPACE	1	-	26
A 27	20	1	HEAT TRACE			50		SPACE	1	-	28
A 29	-	1	SPACE					SPACE	1	-	30
A 31	-	1	SPACE					SPACE	1	-	32
A 33	-	1	SPACE					SPACE	1	-	34
A 35	-	1	SPACE					SPACE	1	-	36
A 37	-	1	SPACE					SPACE	1	-	38
A 39	-	1	SPACE					SPACE	1	-	40
A 41	-	1	SPACE					SPACE	1	-	42
CONNECTED LOAD (VA)				13,686	12,980			26,666 VA			
CONNECTED LOAD (AMPERES)				114	108			114 A			
DEMAND LOAD (VA)				13,686	13,103			26,789 VA			
DEMAND LOAD (AMPERES)				114	109			112 A			

A - PROVIDE ARC-FAULT TYPE CIRCUIT BREAKERS, G - PROVIDE GFCI TYPE CIRCUIT BREAKER, GP - PROVIDE CLASS A GFI TYPE CIRCUIT BREAKER (5mA), L - PROVIDE CIRCUIT BREAKER LOCK
* - PROVIDE ONLY WHERE REQUIRED, SEE DRAWINGS FOR OVERFLOW SCUPPER HEAT TRACE LOCATIONS, PROVIDE SPACE IN PANELS WHERE HEAT TRACE CIRCUIT IS NOT REQUIRED.

TYPICAL UNIT B & UNIT D PANEL

CKT	AMP	POLE	LOAD DESCRIPTION	PHASE A VA		PHASE B VA		LOAD DESCRIPTION	POLE	AMP	CKT
				VA	VA	VA	VA				
A 1	20	1	REC - KITCHEN REF, ABOVE COUNTER	1,500	4,550			RANGE	2	50	2
A 3	20	1	REC - KITCHEN ABOVE COUNTER, DINING			1,500	4,550		2	4	4
A 5	20	1	REC - DISHWASHER	1,200	560			REC/FAN/HEAT - POWDER ROOM	1	20	6
A 7	20	1	REC - CLOTHES WASHER			1,500	420	REC/FAN/HEAT - BATHROOM 1	1	20	8
A 9	30	2	REC - CLOTHES DRYER	2,800	1,260			REC - 2ND LEVEL HALL, BEDROOM	1	20	10
G 11	2	2				2,800		SPARE	1	20	12
A 13	20	1	REC - HEAD BOLT HEATER	600				SPACE	1	-	14
A 15	20	1	REC/HEAT - GARAGE, GARAGE DOOR OPENER			1,220		SPACE	1	-	16
A 17	20	1	REC/HEAT - HALL, LIVING ROOM, SM PANEL	1,460				SPACE	1	-	18
A 19	20	1	SMOKE/CO DETECTORS			30		SPACE	1	-	20
A 21	20	1	RANGE HOOD	216				SPACE	1	-	22
A 23	20	1	LIGHTING					SPACE	1	-	24
A 25	20	1	BOILER SYSTEM & PUMP	600		548		SPACE	1	-	26
A 27	-	1	SPACE					SPACE	1	-	28
A 29	-	1	SPACE					SPACE	1	-	30
A 31	-	1	SPACE					SPACE	1	-	32
A 33	-	1	SPACE					SPACE	1	-	34
A 35	-	1	SPACE					SPACE	1	-	36
A 37	-	1	SPACE					SPACE	1	-	38
A 39	-	1	SPACE					SPACE	1	-	40
A 41	-	1	SPACE					SPACE	1	-	42
CONNECTED LOAD (VA)				14,746	12,568			27,314 VA			
CONNECTED LOAD (AMPERES)				123	105			114 A			
DEMAND LOAD (VA)				14,746	12,705			27,451 VA			
DEMAND LOAD (AMPERES)				123	106			114 A			

A - PROVIDE ARC-FAULT TYPE CIRCUIT BREAKERS, G - PROVIDE GFCI TYPE CIRCUIT BREAKER, L - PROVIDE CIRCUIT BREAKER LOCK



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VRS
OLD MATANUSKA TOWNHOUSE DEVELOPMENT
PHASE 2
UNIT GROUP 1A/1B

REVISION SCHEDULE

#	DESCRIPTION	DATE
1	ADDENDUM #3	03.30.23

JOB NO. 2022.091.0
DATE 02.10.2023
DRAWN MUM
REVIEWED TCA

SHEET NAME
UTILITY RISER DIAGRAMS
SHEET NO.
E5.01