

Û Z a File File

DRY LAND DISTILLERS LONGMONT, COLORADO



ABBR	EVIATIONS			CODE	SUMM	ARY		
ABV	ABOVE	М	METER	2018 INTE	RNATION	IAL BUILDING	G CODE	
\FF	ABOVE FINISHED FLOOR	MAS	MASONRY	2018 INTE	RNATION		CONSERVA	
CT.	ACOUSTICAL TILE	MAX	MAXIMUM					
טט'L ייי								
UM	AIR HANDLING UNH AFUMINI M	MTI						
3	ANCHOR BOLT	MFR	MANUFACTURER	2018 INTE	RNATION		JE	
PPROX	APPROXIMATE	MIN	MINIMUM	2017 NAT	IONAL EL	ECTRICAL CO	ODE	
RCH	ARCHITECT,	MIR	MIRROR					
	ARCHITECTURAL	MISC	MISCELLANEOUS					
	DEANA	MO	MASONRY OPENING	BUILDING	DESCRI	PTION		
M	BEADINO	MSG	MANFACTURERS'					
RG LKC		МТО		PROJECT	YPE:	ŀ	RENOVATION	
	BOARD				~-			··
LDG	BUILDING	ND	NAPKIN DISPENSER	PROJECT U	SE:	F		STRIAL/
L	BUILDING LINE	NIC	NOT IN CONTRACT			E	DUSINESS	
O	BOTTOM OF	NV	NAPKIN VENDOR	OCCUPANC	Y TYPE:	F	⁻ -1,B,S-1,H-3	
	•••···	NTS	NOT TO SCALE		NSTRUCTIO	N: \	/-В	
AB		00						
				ALLOWABLI	- AREA (TAB	LE 506.2) S	SEE LS101	
r i I G		OFCI						
 L	CENTERLINE	5.01	CONTR. INSTALLED		FRONTA	GE INCREASE	0	
LASS	CLASSIFICATION	OFOI	OWNER FURNISHED,	F	IRE SPRINKI		/ES	
т	CERAMIC TILE		OWNER INSTALLED			· · · · · · · · · · · · · · · · · · ·		
OL	COLUMN	ОН	OVERHEAD		WABLE ARE	:A 5	DEE LS101	
OMMOD	COMMODITY	OHG	OVERHANG	ACTUAL AR	EA	S	SEE LS101	
ONC	CONCRETE	OPNG	OPENING					
						1	310KIES; 40 F	
UND L		гс PI		ACTUAL HE	IGHT	1	STORY; ±19 FI	EET
CONT	CONTINUOUS		PLASTIC LAMINATE	OCCUPANT		/		SFF I S101)
CONTR	CONTRACTOR	PLMG	PLUMBING			2		
CURT	CURTAIN	PLYWD	PLYWOOD	FIRE PRO	DTECTION	I SYSTEMS		
		PNLG	PANELING					
DESIG	DESIGNATED	PNT	PAINTING				YES	NO
DTL	DETAIL	PTD		AUTOM	ATIC FIRE SP	PRINKLER SYSTE	M X	
		PULY						
UIVI PISP			POLYVINVI CHI ODIDE	A	LTERNATIVE	E AUTOMATIC FIF	RE	X
DF	DRINKING FOUNTAIN				EXTIN	GUISHING SYSTE	Μ	
DN	DOWN	QT	QUARRY TILE	PC	RTABLE FIR	E EXTINGUISHEF	RS X	
DS	DOWNSPOUT	QR	QUARTER RADIUS					
DWG	DRAWING			FIRE EME	RGENCY AL	ARM & DETECTIC	N BY	
		R	RISER		_	SYSTEM	IS OTHERS	
EIFS	EXTERIOR INSULATING	RD	ROOF DRAIN	HVA	C & AIR DIST	RIBUTION SYSTE	M BY	
= 1	FACING SYSTEM	KE: REE				CONTROL	S OTHERS	
EJ FLEC					SMOKE	ONTROL SYSTEM	15	X
ELEV	ELEVATION	REQ'D	REQUIRED					
ENAM	ENAMEL	RM	ROOM	FIRE-RES	SISTANCE	RATED CON	ISTRUCTIO	N
ENVIR	ENVIRONMENT	RO	ROUGH OPENING				TABI F	601. IBC 20
	EQUIPMENT	00						
W		SC SCUED				REQUIRED	PROVIDED	
лют ХР		SO⊓≞D SD		STRUCTU	JRAL FRAME	NO	NO	
<u>-</u> XT	EXTERIOR	SECT	SECTION	EYTEDI		NO	NO	
XH	EXHAUST FAN	SF	SQUARE FEET		WALLS			
		SHT	SHEET					
AR	FLOOR AREA RATIO	SHTG	SHEATHING			NU	NU	
D	FLOOR DRAIN	SIM	SIMILAR		VVALLS			
		SP	SPACE			NO	NO	
		STEU S/S		NON-BEA	TING WALLS			
-EC		sis S	SINK		INTERIOR	YES	YES	1 HOUR
-IN	FINISH	STC	SOUND TRANSMISSION	NON-BEA	KING WALLS			
IXT	FIXTURE		COEFFICIENT	FLOOR CON	ISTRUCTION	NO	NO	
LEX	FLEXIBLE	STOR	STORAGE					
LR	FLOOR	STD	STANDARD	ROOF CON	ISTRUCTION	NO	NO	
LUOR	FLUORESCENT	STL	STEEL					
·K		SIRUCT		FI	RE BARRIER	YES	YES	SEE SHEE
		3037 T RU	SUSPENDED TACK ROAPD					LS101
		עם. י TR	TOWEL BAR	FIRE SEPAR	ATION DIST	ANCE (FT) - Measu	ured to CL of Str	eets
GA	GAUGE	TD	TOWEL DISPENSER					
CALV	GALVANIZED	TELE	TELEPHONE	NORTH	U SOUTI	H 23' EAST	N/A W	EST N
GEN	GENERAL	THLD	THRESHOLD	ROOF COVE	RING CLASS	SIFICATION:	I	I
GL	GLASS GLAZED	TOIL	TOILET					
GYP BD	GYPSUM BOARD	TO	TOP OF	REQUIRED	N/A	PROVIDI	ED N/A	
аг		TPH				I		
1D IC	HOLLOW CORE	IK TS		PROJE	CITE:	:AM		
		TYP						
IDW	HARDWARE			OWNER	DRY LA	ND DISTILLERS -	Nels Wroe	
IORIZ	HORIZONTAL	UNO	UNLESS NOTED	CONTACT	471 Mai	in Street, Unit B		
M	HOLLOW METAL	-	OTHERWISE		Longmo	nt, CO 80501		
IT	HEIGHT	UV	UNIT VENTILATOR		720-352	2-5685		
C	INSIDE DIAMETER			ARCHITECT	OPA DE	SIGN STUDIO		
NSUL	INSULATE,	VB	VINYL BASE		7010 Ea	asy Wind Dr., Suite	200	
	INSULATION	VCT	VINYL COMPOSITE TILE		Austin,	TX 78752		
NT	INTERIOR	VERT	VERTICAL		512-899	9-3100		
		VEST		STRUCTUR	AL G.A. ES	COBAR ASSOCIA	TES, INC.	
JAN		VWC	VINYL WALL COVERING		402 Mai	in Street		
101 IT		\\\!			Longmo	nt, CO 80501		
I	JUINT		WITER CLOSET		303-678	3-5222		
A	LOCAL AMENDMENTS	WD	WOOD	MEP	LEMES	SURIER ENGINEE	ERING, LLC	
AM	LAMINATE	WDW	WINDOW		2835 Ke	enyon Circle		
.AV	LAVATORY	WH	WATER HEATER		Boulder	, CO 80305		
_G	LONG	W/R	WATER RESISTANT		303-554	-7094		
LT	LIGHT	WWM	WELDED WIRE MESH					

A0

A0 A00 LS1 D10 A10 A10 A10 A10 A10 A10 A10 A20 A202 A50 A50 A60 A60 S1. S2.0 S3.0

M10 M1 M1 M20 M20 E10 E201

E202

PROJECT LEGAL DESCRIPTION

THE PROPERTY IS THE FOLLOWING LEGALLY DESCRIBED REAL ESTATE IN COUNT OF BOULDER, COLORADO: LOT 31 BLK 39 LONGMONT OT , KNOWN AS 519 MAIN STREET, LONGMONT CO 80501

PROJECT DESCRIPTION

RENOVATION OF AN EXISTING TENANT SPACE INTO A DISTILLERY & TASTING ROOM

DRAWING INDEX

01	COVER SHEET
)2	ACCESSIBILITY NOTES
)3	ACCESSIBILITY NOTES
01	LIFE SAFETY PLANS
01	DEMO PLAN
01	FLOOR PLAN
)2a	EQUIPMENT PLAN & DISTILLATION ELECTRICAL DE-CLASSIFICATION
)2b	PROCESS DESCRIPTION & 3 WEEK PRODUCTION SCHEDULE
)3	WALL FINISH PLAN
)4	FLOOR FINISH PLAN
)5	REFLECTED CEILING PLAN
06	ROOF PLAN
)1	EXTERIOR ELEVATIONS & SECTIONS
)2	INTERIOR ELEVATIONS
)1	DETAILS
)2	DETAILS
)1	SCHEDULES
)2	WALL TYPES
0	STRUCTURAL GENERAL NOTES
0	ROOF FRAMING & FOUNDATION PLAN
0	DETAILS
00	MECHANICAL SCHEDULES
50 71	
12	
)1	
)2	MECHANICAL & PLUMBING DETAILS
)0	

ELECTRICAL PLAN

REFLECTED CEILING PLAN

	ВΥ				
REVISIONS	DESCRIPTION				
	DATE				
	NO				



7010 Easy Wind Dr. Ste 200 Austin, TX 78752 512.899.3100

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JOB NO.:	201946	
PHASE:	PERMIT	
DRAWN:	DG, TH	
CHECKED:	SO	
DATE:	10/1/2020	





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ACCESSIBILITY NOTES:

- INFORMATION SHOWN ON THESE SHEETS IS BASED ON ACCESSIBILITY GUIDELINES. DO NOT SCALE THESE DRAWINGS 2.
- NOT ALL CONDITIONS SHOWN ON THESE SHEETS MAY APPLY TO THIS PROJECT. COMPARE THE REQUIREMENTS OF THE 3. ARCHITECTURAL DRAWINGS WITH THIS SHEET FOR RELEVANCE OF INFORMATION.
- 4. DIMENSIONS INDICATED ARE MINIMUM/MAXIMUM CLEAR DIMENSIONS, MEASURED TO FINISH. CONTRACTOR IS RESPONSIBLE FOR LAYOUT OF BUILDING ELEMENTS TO ASSURE REQUIREMENTS CAN BE MET.
- 5. NOTIFY ARCHITECT IMMEDIATELY OF ANY DISCREPANCIES BETWEEN ARCHITECTURAL DRAWINGS AND THE INFORMATION SHOWN ON THESE SHEETS.





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ADA GUIDELINES

PLUMBING	COUN	T REQU	IREME	NTS - I.F	P.C. TAE	BLE 403.1		INTERIOR - OCC	UPANCY TYPE A		C	
OCCUPANCY TYPE	TOTAL OCC.	WATER C URINALS	LOSETS /	LAVATOR	IES	OTHER (1009	%) CLASSIFICATION SPE		SPECIFIC USE	AREA	Occupant Load	
	per sex	MALE	FEMALE	MALE	FEMALE	DRINKING	UTIL			(0.1.)	I.B.C. Table 1004.1.2	
		(50%)	(50%)	(50%)	(50%)	FOUNTAIN*	SINK Business (Fixed Seating) Bar S		Bar Seating, Drink Rail	38 LF	1 per 24"	19
BUSINESS (B)	19	1 per 25	1 per 25	1 per 40	1 per 40	1 per 1000	1	Business (Fixed Seating)	Wheelchair & Companion			2
ratio (403.1)		0.8	0.8	0.5	0.5	0.04		Business (Table Seating)	Table Seating	222	15 net	15
FACTORY (F1)	4	1 per 100	1 per 100	1 per 100	1 per 100	1 per 400	1	Business	Bar Service	100	150	1
ratio (403.1)		0.04	0.04	0.04	0.04	0.01		Industrial	Distillery Production	531	100	5
STORAGE (S1)	2	1 per 100	1 per 100	1 per 100	1 per 100	1 per 1000	1	Storage	Distillery Storage	172	300	1
ratio (403.1)		0.02	0.02	0.02	0.02	0.00			Distillery Storage	172	500	1
								Storage	Distillery Storage	172	300	1
								Storage	Barrel Storage	191	300	1
TOTAL REQUIRED		1	1	1	1	*0	2	Mechanical	Boiler Room	103	300	1
TOTAL PROVIDED		*2	*2	*2	*2	*0	2	Storage	Dry Storage, Delivery	546	300	2
NOTES: * WATER F * UNISEX F		F BAR FO BE USED BY	/ BOTH CUSTC) MERS & STAFF	-	1		TOTAL INTERIOR		1,715		48





EXTERIOR - OCCUPANCY TYPE AND LOAD

CLASSIFICATION	SPECIFIC USE	AREA	Occupant Load	OCCUPANT
		(S.F.)	Factor	LOAD
			I.B.C. Table 1004.1.2	
Business	Table Seating	165	15	11
TOTAL EXTERIOR		165		11
TOTAL INTERIOR		1698		48
GRAND TOTAL	Interior & Exterior	1863		59

- 1 HR FIRE BARRIER

1 OCCUPANCY TY SCALE : 1/8" = 1'-0"

LEGEND	OCCU	PANCY CLASSIFICATIC	DN		B	
(10) Cumulative occupant load for exit	Zoning	C-1 General Commercial				
Occupant load of individual space	300	USE	AREA	NOTES	L L L L L L L L L L L L L L L L L L L	
B Occupancy Type		Business (B)	(s.f.)* 1,134		ISION	
F-1 Occupancy Type		Factory (F-1)	874			
		Hazardous (H-3)	219 670			
		Storage (S-T)	070		DA	
S-1 Occupancy Type	Total	Interior Enclosed	2,897		O Z	
Fire Extinguisher (not less than	Exterior	Business (B)	165	Outdoors		
FE 2-A: 10-B; (C)	Total	Exterior Outdoors	165			
	Grand	Interior & Exterior	3062			
ADDITIONAL INFORMATION.	Total		5002		$\left(0 \right)$	oa I
		*Renovation gross areas do not i	nclude exterio	r walls.	04.0	, N ^L
	303 1 1	SMALL BLDG & TENANT SPACI	FS		I'GN S	TUD10'
		A building or tenant space used f	or assembly p	urposes		
		classified as a Group B occupant	o0 persons sha cy.	all de	7010 Easy W	ind Dr. Ste 200
	504.3	ALLOWABLE HEIGHT (Table 50	4.3): 40ft	otivo)	Austin, 512.8	TX 78752 99 3100
	504.4	ALLOWABLE STORIES (Table 5	04.4):	clive)	012.0	55.5100
		Type VB, S (Sprinkler System)(H	-3 most restric	ctive)	www.des	ignopa.com
	506.2	H-3 (High Hazard)	2).	1 story		
	000.2	Type VB, S (Sprinkler System)	-).		_	
	506.2	H-3 (High Hazard)		5,000 sf	-	
	508.2	ACCESSORY OCCUPANCIES -	Accessory Oc	ccupancies		
		are those occupancies that are a	ncillary to min	occupancy		
		shall comply with the provisions of	of Sections 50	8.2.1		
	508.2.4	through 508.2.4.	-0		-	
	500.2.4	Exceptions: 1. Group H-2, H-3, H	=5 - 1-4 & H-5 occu	upancies	co	
		shall be separated from all other accordance with Section 508.4	occupancies i	n		
	508.4	REQUIRED SEPARATION OF O	CCUPANCIE	S -		
		1 hr separation required between	H3 & B occup	oancies.		
-		1 hr separation required between	H3 & F1 occup	ipancies.		
		No separation required between	B & S1 occupa	ancies.		
	601	FIRE RESISTANCE FOR BUILD Table 601 none required for type	ING ELEMEN VB constructi	TS - Per on		
	705.2	PROJECTIONS - Cornices, eave balconies, and similar projections	overhangs, e extending be	xterior yond the	$\overline{\Omega}$	501
	705.2.2	exterior wall shall conform to requerion projections from walls of Type III,	uirements in th IV, V constru	nis section. ction shall		305
	705 8 1	be of any approved material.			\square	\sim
	100.0.1	Exceptions: 2. Buildings whose e	exterior bearing	g walls,		. 0
		exterior nonbearing walls and ext frame are not required to be fire r	erior primary serior primary s	structural ed shall be		
<u>NT LOAD / E</u> GRESS	744.4	permitted to have unlimited unpro	otected openin	igs.		
0	/14.4	fire-resistant-rated floor, floor/ceil	enetrations of ing assembly	a or the		
		ceiling membrane of a roof/ceiling	g assembly no	ot required	\succ	\leq
		protected in accordance with Sec	tions 714.4.1	through	~	
	716.5	FIRE SHUTTER & DOOR ASSE	MBLIES - Per	Table	H	
	000.0.5	716.5				
	903.2.5	be provided in high hazard occup	Automatic Spr pancies as requests as requests as the second secon	inklers shall uired in		
	1004.1.2	OCCUPANT LOAD - Per Table 1	004.1.2. See (Occupant		NON R
	1004 5	Loads and Types above.				all
	1004.0	1004.1.2.	esignated usin	ly rale	L'AS	
	1005 3 2		S - Business	- 37 Occ. x		
	1000.0.2	.2 = 7.4" Req'd (Total Exit Width I	Provided = $36'$	") - Factory		
		1 = 8 Occ. x .2 = 1.6" Req'd (Tota 36") Storage = 3 Occ. x .2 = .6" (ai ⊨xit Width P Total Exit Widt	rovided = th Provided	2020 OPA Design Stur These designs / drawin the Architect, OPA De be reproduced in april	tio. All Rights Reserved. Igs are the sole property of sign Studio. They may not form, by any method for
	1000 0 1	= 36")			any purpose without purform the Architect.	evious written permission
	1006.2.1	required if distance exceeds Tabl	e 1006.2.1 - E	o exits 3	JOB NO.: 2 PHASE: F	201946
		occupancy (sprinkler system) (>4	9 occupants) <49 occupants	= 100' max, s) = 100'	DRAWN: CHECKED:	JG, TH SO
J		max, S occupancy (sprinkler syst	em) (<29 occu	upants) =	DATE: 10/	/2020
	1017.2	EXIT ACCESS TRAVEL OISTAN	em) (<3 occup CE - Per Tabl	bants) = 25', e 1017 2		
NCY TYPE		(Sprinklers) B = 300', F-1 & S-1 =	250', F2=400'	, H3 = 150'	I S	1()1
0"		exit stairway.	exil discharge	e of exterior	LIFF/SAF	ETY PLANS
					, ;, , ,	





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Dry Land Distillers Production Distillation Electrical De-classification	Dry Land Distillers	9/22/2020	Dimensions		
ber 2018 IFC 5703.1.1	// Equipment	Manufacturer Model Number	Quantity W (in) D (in) H(in)) Weight Weight (Y/	VIEP7 (N) Comments
This project includes the installation of an automatic fire sprinkler system in an existing puilding. This system shall be designed by a licensed fire protection engineer or an	0.01 Stool 0.02 2 top Table & Chairs		6		N
ndividual with the appropriate N.I.C.E.T. certification. The sprinkler design may be a deferred or separate submittal per jurisdiction allowances. The sprinkler system shall be	0.03 4 top Table & Chairs (Exterior) 0.04 2 top Table & Chairs (Exterior)		1 2	1	N N
designed per the most current version of NFPA 13, NPPA 30 and the 2018 IFC.	0.05 Base Cabinet 0.06 Wall Cabinet				N
Densities and other parameters shall be determined by the sprinkler designer, except that	0.07 Base Cabinet 0.08 Wall Cabinet 0.09 Drink Bail				N
r4-2.2E (Distilled Spirits Council of the United States).	0.10 Drink Rail w/ Gate 1.0 PRODUCTION		1		· · · · · · · · · · · · · · · · · · ·
Dry Land Distillers operates three stills that may be operated concurrently. This document is	1.01 Mill 1.02 Chain Disk				
The distillery produces two primary spirits – wheat whiskey and cactus spirit – both which	1.03 Fork Lift 1.04 Pallet Jack 1.05 Mach Tur 200 cal	Poelu Min Vessel	1 69.1" 31.5" 81.1" 1 72" dia	" 2200 lb 1 1500 lb 1 2200 lb 10700 lb 1	Battery powered forklift/stacker purchased point includes mater 1000 - Cale May Capacity, Bake/Play System, Steam, Jac
systems; they do not release ethanol vapor. In the event of a breach in the stills, ethanol	1.06 Fermentation Tank 800 gal 1.07 Collection Tank 226 gal	Rocky Min Vessel Rocky Min Vessel Aginox (Vintner's Vault) 1103663	3 72" dia - 132" 3 36" dia - 65"	1700 lb 7538 lb 150 lb	purchased purchased
apor could be released into the electrically classified area. Declassification requires that entilation is sufficient to overcome the maximum potential vapor release.	1.08 Polish Still 200 gal 1.09 Stripping Still 1000 gal	Rod and Forge Custon/Steam Rod and Forge Custon/Steam	1 50" dia. 150" 1	' 1200 lb 2450 lb 2300 lb 8972 lb	43.2" in diameter by 30" in height; including the copper column and aluminum c
Constants:	1.10 Gin Still 22 gal 1.11 Bottler 4 spout 1.20 Urboler	Mile High Stills TBD XF460HP	1 60"-12 1 16" 15.5" 17"	20" 150 lb 400 lb 10 32 lb 250 lb 10 01 lb 201 lb 10	purchased, dual 220V element heaters 4 spout volumetric bottle filler/tabletop mounted with pump
a. Ethanol LFL = 3.3% b. Specific gravity of ethanol = 0.787	1.13 2 Compartment Sink	Regency 600S21821B Regency 600HS12SP	1 3 6" 24.5 " 33 " (4' 1 12 " 16 " 10 "	1") 60 lb 10 lb	
c. Density of ethanol = 6.55 lb/gal d. Classified area of consideration = TBD Sg Ft	1.15 Mop Sink 1.16 Mobile Eye Wash	Advance Tabco 9-0P-241 M-1 GR	1 23-3/8" 24" vcrify	y 10 lb	Y
e. Ethanol = 101.564 lbs/Kmol f. Air pressure = 83427 N/m ² , 12,1 psi (average in Longmont)	1.17 Bottling Table 1.18 Lab Table		1 96" 30" 36" 1 72" 30" 36"		N
g. Ambient temperature = 296.88 K (75 degrees F)	1.19 [Electrical Hose Reel (Clg Mounted) 2.0 BARREL AGE 2.01 Burget Backs				
i. Kmols of Nitrogen per ft3 = 0.00074563	2.07 Barlet Hacks 2.02 H3 Ventilation Battery Backup 3.0 BAB		o 1 5.1" 26" 17"	120lb	ч Ү
J. Percent of oxygen in air = 21% k. Kmols of oxygen per ft3 = 0.00020075	3.01 UC 3 Comp Sink 3.02 Hand Sink	Krowne 18-53C Iay-in sink	1 60" 18.5" 30"(33 2	B")	1 1
I. Percent of argon in air = 0.9% m. Kmols of argon per ft3 = 0.00000860	3.03 Glass Washer 3.04 UC Refrigerator - Single Door	Glastender GW24 Beverage-Air UCF20HC	1 24" 24" 30.75 2 20" 24.5" 31.12 2	5"	Y height includes 6" legs, 120V/60/1PH, 3.5 amps - dedicated 15 amp circuit recor Height includes 6" casters
Ethanol flow rate in stripping still (Still #1)	3.05 Bus Tub 3.06 Glass Rack 3.07 Ice Bin	Regency 600GRSU2324	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	3")	N N
a. 800 gallons of 8% ethanol loaded in to still b. 200 gallons of 22% ethanol will flow from the still during the 10-hour run time	3.08 Open Top Refrigerator 3.09 P.O.S.	Avantco 178SSPT27MLIC	1 27.5" 35" 46"		Y Height includes 5" legs
Ethanol flow rate in spirit still (Still #2)	3.10 Flectric Kettle 3.11 Juicer	UniWorld UJC-N50	1 2 8.5" dia. 16"		Y purchased Y purchased, on counter
a. 200 gallons of 22% ethanol loaded in to still b. 25 gallons of 58% ethanol will flow from the still during the 8-hour run time	3.12 Disposal Bins 3.13 Pot Hiller 3.14 Amplifier				Y nurchased
	3,15 Record Player 4.0 BOILER				f purchased
a. 28 gallons of 58% ethanol will flow from the still during the 6-bour run time	4.01 Boiler 4.02 Blowdown Separator	Allied	1 1 14º dia		
/ontilation Requirements in Cask (Barrol) Storage	4.03 Feedwater Package 4.04 Chemical Bins 4.05 H20 Chemical Controller		1 24" dia 2 16" dia		
2018 IFC 5703.1.1. states that the extent of an electrically declassified area is allowed to be	5.0 STORAGE 5.01 Glycol Chiller Compressor	Legacy IEZA 18: D: F 5	1 65" 30" 37"	1600 lb	r mounted on elevated stand, weight 1500lb, 18 ton capacity
official that a concentration in the area in excess of 25% of the LFL cannot be generated.	5.02 Glycol Chiller Fan 5.03 Glycol Lines	Legacy IEZA-18-D-F-5	1 85" 40" 47" 1	745 lb	Y mounted on roof, weight 7451b
Therefore, the LFL calculations in this plan indicating that ethanol vapor concentration at	5.04 Ice Machine 5.05 Ice Bin	Manitowoc 1Y0304A-161 Manitowoc	1 30" 24.5" 16.5" 1 30" 30" 26.25		Y purchased
ustification to eliminate the classified area around the stills, considering 603 CFM of	5.07 Freezer 5.08 Condensate Receiver		1 1 14" 20"		· · · · · · · · · · · · · · · · · · ·
5% of the LFL.	5.09 Storage Tank 6.0 PREP AREA		2 26" dia		
	6.01 UC 3 Comp Sink 6.02 Hand Sink 6.03 Work Lable	Krowne 18-53C Regency 600HS12SP	1 60" 18.5" 30"(33 1 12" 16" 10" 1 96" 30" 36"	3")	۲ ۲
	6.04 Storage Racks 6.05 Portable Induction Stove		3		Y
	101				
179 SF 191 SF	873 SF			LEGEND	
		///////////////////////////////////////			EQUIPMENT TAG PER EQUIPMENT SCHEDULE
					5' OF POTENTIAL LEAK SOURCE
C1-D2 WITHIN 5'OF POTENTIAL LEAK SOURCE	C1-D2-WITHIN	/3' A.F.F.			3' A.F.F.
<u> </u>					
3.03 (3.10) (ulcer glass kettle) (ulcer 2.01) (2.01) (2.01)	2.01 (1.15) (1.01)	102		— EXHAUST DUCT,	
wash (3.13) barrel barbarbarbarbarbarbarbarbarbarbarbarbarb	barrel rack 1.14			SEE MECHANICAL	
$\begin{array}{c} 3.06\\ \hline 0.05\\ \hline$	2.01 (1.13) space	mash tun	(1.09)		
0.06 wall 309	barrel 2 comp	polish	still	ELECTRICAL CLAS C1-D2 WITHIN 5' OI DOTENITIAL LEAKS	
0.08 cab. p.o.s. 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	lery 2.01 eve wash	9) reel hose feel	(1.07)		
record amp barret i barret i backu	p barrel (1.03) rack (fork lift	bottling table	collection tank		
stools ZZZZZZ (qty: 6)		(1.11) (1.12) bottler labeler	tank		
(0.09)	hos	1.19 a reel aby. bose reel aby	tank		
drink rail					
w/ gate	(1.10) gin still	1.06			
	tank	tank	FIRE		
ext. 2 top ext. 4 top table & chairs table & chairs	C ELECTRICAL CLA C1-D2 WITHIN 5'	ASSIFICATION	ELECTRICAL CLASSIFICATION		
			/		
	1 EQUIPME))		
	SCALE : 3/16"=1'-0"		//		

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REVISIONS	DESCRIPTION				
	DATE				
	NO				



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EBS DISTI 519 MAIN ST. LONGMONT, CO 80501 AND DRY



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Dry Land Distillers Process Description

Dry Land Distillers is a craft distillery that distills small batch whiskey, a specialty spirit from prickly pear cactus (Cactus), and secondary products including gin and rum. The distillery will be producing these spirits from a new distillery located in an existing 3,000 sq ft building on Main street (519 Main). This building will be fully sprinklered as part of the construction of the distillery. The project will include an H-3 occupancy room.

The Dry Land Distillers manufacturing process is described in this document. The process is a scaled-up version of their existing process that is currently in operation at their production distillery just south of the new location (471 Main Street, Unit B, Longmont, CO 80501).

This process description supports the architectural and engineering drawings for the construction of the new manufacturing facility. This is based on the following guidelines: 2018 IBC, IFC, 2018 NFPA 1, and 2018 NFPA 30. The process is a batch process, and the descriptions in this document are representative of a weekly production schedule. Our goal is to document the daily totals of regulated flammable liquids (ethanol – class 1B and 1C) on the premises during a defined period. This process description supports the classification of the premises as 'B' – Business, 'F-1' – Factory, and H-3 – Hazardous with 'S-1" Accessory Storage. The flammable liquid quantities are shown to be below the Maximum Allowable Quantities (MAQ) outside the H-3 barrel storage room.

Dry Land Distillers uses a batch production process that involves three stills:

- 1. Still #1 Stripping Still. This single column closed pot still is used as the first stage distillation, taking approximately 800 gallons of 8% ABV wash to approximately 200 gallons of 22% ABV ethanol solution.
- 2. Still #2 Polish (Spirit) Still. This single column, 5-plate modified closed pot still is used as the second stage in the process to distill 200 gallons of 22% ABV ethanol solution to 25 gallons of 56% ABV spirits and approximately 50 gallons of 22% ABV ethanol solution used for reprocessing.
- 3. Still #3 Gin Column Still. This is a 25-gallon closed pot with a variable plate column. It can distill a range of products, but is primarily used for smaller batches (experimentation and development) and for primary Gin distillation. The highest quantities of ethanol solution loaded in to the still are 25 gallons of 22% ethanol resulting in 3 gallons of 80% ethanol solution (gin) captured in a sealed container.

The distillery does not have a vodka still, nor are there any plans to produce vodka. Similarly, the distillery does not purchase or use Neutral Grain Spirits (NGS), nor has any plans to have NGS as part of their process. Please note that small variations in the process may occur from time to time as the distillery may develop new products for their markets. However, the base product mix consisting of their primary spirits is well defined and is not expected to significantly vary. The distillery will monitor and update the process documents to monitor and maintain MAQs below the permissible limits.

The process for each of the primary spirits is described below.

Whiskey

Grain Mash

- Dry Land Distillers uses pre-milled grain delivered in sealed, hard-sided totes and/or grain bags.
- The grain is mashed in a 1,000 working capacity mash tun (a low-pressure steamjacketed cooking kettle).
- The pre-milled grain is transferred from the hard-sided totes using a flexible augur and a pre-wetting system to reduce/eliminate grain dust upon transfer into the mash tun.
- 1,200 pounds of pre-milled grain is combined into the mash tun with 800 gallons of water at 110 degrees F
- This mixture is slowly cooked at multiple temperature stages over a 4-hour period. Final temperature is 172 degrees f.
- The alcohol content of the mash and the subsequent wash is 0% ABV The liquid wash is lautered from the completed mash into an 800 working gallon fermentation tank.
- Solids remain in the mash tun and are cleaned out and used by several local farms, including Table Mountain Farm and Black Cat Farm to feed chickens, hogs, cattle, and sheep. Very little solids are transferred from the mash tun to the fermentation tanks. (Side note – we get some really great pork and chicken in exchange for the grain.)

Fermentation

Max Ethanol Produced in this Step: 800 Gallons @ 8.5% ABV

- The wash in the fermentation tank is cooled using both an in-line plate chiller and a cooling jacket from 160 degrees (transfer temperature) to 120 degrees.
- At 120 degrees, there is a 12-hour rest period to allow enzymatic reactions to complete the starch conversions to simple sugars. This 12-hour period is typically allowed to 'coast' down to 90 degrees. If additional cooling is needed, cooling water is run through the jacket on the fermentation tank to drop the temperature to 90 degrees F.
- At 90 degrees, a yeast starter (slurry) is pitched into the fermentation tank. Fermentation takes between 5 – 7 days. The resulting wash has an alcohol content of no more than 8.5% ABV. (Basically, we've just made an unhopped beer.) Beer or Wash does not sustain combustion or exhibit a fire point.

Distillation D1

Max Ethanol Produced in this Step: 200 Gallons @ 20% ABV

- Once the fermentation is complete, the wash is transferred to the 1,000 gallon stripping still. This still heats the wash using a closed coil low-pressure steam system.
- The wash is heated rapidly to no more than 200 degrees F. This is the 'strip' where the preliminary alcohol is roughly distilled from the wash. Alcohol begins to vaporize at 140 degrees, climbs through 173 degrees to 178
- degrees, and is completed at just below 200 degrees. The vapor is condensed in a stainless heat exchanger (condenser) that is cooled by
- chambers with cold water. This condenses the vapor back to a liquid for collection. This results in no more than 200 gallons of 20% ABV distillate designated as "D1" (Distillation #1).
- This distillate is collected in a closed stainless collection tank.

Distillation D2

Max Ethanol Produced in this Step: 25 Gallons @ 56% ABV + 7 Gallons @ 70% ABV + 50 Gallons @ 22% (or Less ABV)

- The 200 gallons of D1 distillate are transferred to the Polish (Spirits) still. The distillate is heated to 140 degrees where the early stage alcohols are collected.
- These are low temperature (and low quality) alcohols called the Heads. The Heads are collected in a closed container at a final ABV of no greater than 70% ABV. Final volume of heads does not exceed 7 gallons.
- The heads are destroyed promptly (within 4 hours of collection) by cutting them with water and disposing of them as a waste product.

- long-term aging.
- The remaining alcohol in the wash is distilled and collected in a closed stainless collection tank. These are the Tails, or the final distillate produced in the D2 distillation.
- The tails are 50 gallons at 22% (or less) ABV. These are retained for further processing for either light whiskey or gin in the gin still.
- Barrel harvesting, proofing and bottling

No ethanol is produced in this step

- gauged again prior to bottling.
- The final product is filtered and bottled using a volumetric or gravity filler and stored

Notes to the Whiskey Distillation

- No part of the process involves an open container or a pressure vessel. The system is normally closed. pressure is created.
- Stills and collection tanks are placed on non-combustible materials. Collection temperatures from the condensers are between 60 degrees F and 75 degrees F.
- tube that can be enclosed in glass that allows for the visual monitoring and measurement of the alcohol from the still during distillation. (It's called a parrot because it looks like one.)

Cactus Distillation

Dry Land Distillers produces an original spirit from prickly pear cactus. The manufacturing process for our cactus spirit is similar to the whiskey in terms of total quantities at the key steps. The differences are highlighted below.

Cactus Mash

No Ethanol is Produced in this Step

- pear cactus and 384 pounds of raw, unprocessed sugar. takes 48 hours over a low temperature (140 – 175 degrees F) mesquite smoke in a commercial food smoker.
- degree water in the mash tun.
- Finish temperature is 172 degrees F

Cactus Fermentation

Up to 800 Gallons of Max 8% ABV Alcohol Solution Produced

compost or food for animals.

While the cactus wash is still hot (above 150 degrees), sugar is added to the fermentation tank to ensure consistent sugar levels across batches. Sugar is dissolved in the hot liquid as it is pumped into the fermentation tank. The wash is cooled using the cooling jacket to 90 degrees F. Yeast is pitched and fermentation takes between 5 – 7 days. Final alcohol content of the Cactus wash is between 6 % and 8% ABV

Cactus Distillation D1

Max Ethanol Produced in this Step: 200 Gallons @ 20% ABV

The Cactus wash is transferred to the stripping still and distilled almost identically to the Whiskey.

This results in 200 gallons of 20% ABV distillate. The distillate is stored in a sealed stainless collection tank.

Cactus Distillation D2

Max Ethanol Produced in this Step: 35 Gallons @ 60% ABV

This results in 35 gallons of 60% ABV distillate. The distillate is stored in a sealed stainless collection tank.

Distillation D2

Max Ethanol Produced in this Step: 35 Gallons @ 60% ABV + 9 Gallons @ 70% ABV + 50 Gallons @ 22% (or Less ABV)

- identically to the Whiskey.
- These are low temperature (and low quality) alcohols called the Heads. The Heads
- volume of heads does not exceed 9 gallons. The heads are destroyed promptly (within 4 hours of collection) by cutting them with
- water and disposing of them as a waste product. gallons of 56% ABV ethanol distillate.
- The hearts are collected in a closed container and are bottled shortly after completion.
- collection tank. These are the Tails, or the final distillate produced in the D2 distillation.
- The tails are 50 gallons at 22% (or less) ABV. These are retained for further processing for cactus reposado (a barrel-aged product).

The next stage of alcohol collected during the D2 stage are the Hearts. These are 25 gallons of 56% ABV ethanol distillate. This alcohol is measured, diluted to 55% and transferred to an oak barrel for aging. The barrel is then moved to the H-3 room for

Once the 25-gallon whiskey barrels are gauged and ready for harvesting, the contents of the barrel are transferred into a 50-gallon stainless mixing vessel. The whiskey is proofed down with water to 40% ABV or 50% ABV depending upon the type of whiskey. This results in approximately 35 gallons at 40% or 30 gallons at 50% depending upon the final harvested amount (typically between 22 and 23 gallons from a 25-gallon barrel, accounting for evaporation (angel's share loss)). This whiskey is stored for approximately 48 hours in a sealed tank before being

in sealed (corked) glass bottles as a finished product. The final volume of finished product will vary a small amount depending on evaporation and final proofing level.

Where applicable, stills are equipped with pressure relief and gauging to ensure no

Collection of the distillate from the condenser occurs in the parrot. This is a collection

The production of our Cactus spirit requires no grain. We use 1,000 pounds of prickly Cactus pads are sliced and smoked offsite at the grower's facility. The cactus smoke

Once the smoke is complete, the cactus is shredded in a wood chipper (Yep. Think Fargo) and the collected gooey cactus mash is transferred into 800 gallons of 130

The cactus is cooked at three different temperatures over approximately 2 hours.

The liquid is lautered from the Mash Tun to the fermentation tank at 160 degrees. Solids remain in the Mash Tun and are cleaned out and given to local farmers for

The Cactus D1 distillate is transferred to the polish (spirit) still and distilled almost

The 200 gallons of D1 distillate are transferred to the Polish (Spirits) still. The distillate is heated to 140 degrees where the early stage alcohols are collected.

are collected in a closed container at a final ABV of no greater than 70% ABV. Final

The next stage of alcohol collected during the D2 stage are the Hearts. These are 35

The remaining alcohol in the wash is distilled and collected in a closed stainless

Barrel harvesting, proofing and bottling

No ethanol is produced in this step

- After the D2 distillation, Cactus is moved to bottling. The Cactus is proofed down with water to 40% - 42% ABV. This results in
- approximately 45 gallons at 40%. This cactus is stored for approximately 48 hours in a sealed tank before being
- gauged again prior to bottling. The final product is filtered and bottled using a volumetric or gravity filler and stored in sealed (corked) glass bottles as a finished product.
- The final volume of finished product will vary a small amount depending on evaporation and final proofing level.

Gin Production Process

Gin is produced in a similar method to the other spirits, but it is distilled in the small column still (Still #3). The base for the gin is existing distillate from the whiskey D2 process that is not barreled for whiskey.

Gin Distillation

Max Ethanol Produced in this Step: 4 Gallons @75% ABV

- Up to 25 gallons of 22% ABV distillate is transferred into Still #3. A gin basket containing all native Colorado botanicals (juniper, elderberry, etc.) is
- places in a mesh basket in the top of the still column. The still is heated to approximately 184 degrees at which point the ethanol vapor rises up the column and goes through the botanical basket to extract the flavors.
- The distillate flows through a small condenser that condenses the vapor to liquid. The final distillate is 75% ABV at 60 degrees F. The distillate is collected in glass lab-grade sealed jars.
- Each Gin basket produces 5,000 ml of 75% ABV distillate.
- Total 75% distillate collected in a single gin run is 15,000 ml. (4 gallons). Remaining distillate in the still is discarded and counted as a loss.

Gin proofing and bottling

No ethanol is produced in this step

- After the Gin distillation, the Gin distillate is collected in small glass jars (< 1.3 liters), measured and gauged and proofed down to 50% or less. The glass collection jars are sealed and stored as a bottled product until final
- proofing and bottling.
- This interim bottling step ensures the spirits are sealed and removed from production. They qualify as a bottled product and can be removed from MAQ calculations while stored in bottles. (Note 1)
- When production bottling occurs, the Gin is removed from the sealed bottles and transferred into a mixing tank. It is proofed to 40% ABV in a sealed stainless container.
- After 24 hours, the gin is re-gauged and transferred to a volumetric or gravity bottle
- The gin is filtered, bottled, corked, labeled, and placed in boxes for sale.

Cactus Reposado Production Process

Cactus Reposado is produced in a similar method to gin, but it is distilled in the small column still (Still #3). The base for the cactus reposado is existing distillate from the Cactus D2 process that is not bottled.

DRY LAND DISTILLERS - 3 WEEK SHORT INTERVAL BRODUCTION SCHEDULE

			Week 1		JUIL	JULL				Wook 2							Wook 2							Wook A					
(Quantities in proof gallons and rounded up to nearest	1	2 2	vveek 1	F	6	7	0	0	10	11 VVEEK Z	12	12	14	16	16	17	10	10	20	21	22	12	24	25 VVEEK 4	76	77	10	20	20
whole gallon measurement)		Z 3 T W/	4 Th	5	50	/ Su	8	9 T	10	Th	12 E	13	14 Su	15 M	16 T	1/	18 Th	19	20	21 Su	22	23 T	24	25 Th	26 E	27 Sa	28	29	
Mashing	101	(Clean)		(Clean)	34	Ju	IVI	I	(Clean)	111	(Clean)	Ja	Ju	101	I	(Clean)		(Clean)	Ja	Ju	IVI	1	(Clean)	111	(Clean)	Ja	Ju	101	
Fermentation Tank #1		(clean)		(clean)			(Clean)		(cically		(clean)					(Clean)		(clean)					(clean)		(clean)			(Clean)	
Fermentation Tank #2		(Clean)					(eleany		(Clean)							(0.0011)					(Clean)							(ciouity	
Fermentation Tank #3		(0.00)	,						(erearry					(Clean)							(0.001)		(Clean)						
														(/									(,						
800 G Stripping Still (D1)																													
70 70% ABV Heads		6	.3				6.3		6.3					6.3		6.3					6.3		6.3					6.3	
56 56% ABV Hearts		1:	12				112		112					112		112					112		112					112	
22 22% ABV Tails		-1.3	32				-1.32		-1.32					-1.32		-1.32					-1.32		-1.32					-1.32	
200 G Polish Still (D2)	These volumes o	do not add to c	umulative tot	als																									
70 70% ABV Heads			8.4					8.4		8.4					8.4		8.4					8.4		8.4					8.4
56 56% ABV Hearts			14					14		14					14		14					14		14					14
22 22% ABV Tails			9.24					9.24		9.24					9.24		9.24					9.24		9.24					9.24
Add Tails to Gin				21	21				21	21	21	21				21	21	21	21				21	21	21	21			
25 G Gin Still	These volumes o	do not add to c	umulative tot	als																									
70 70% ABV Heads				0	0	1			0	0	0	0				0	0	0	0				0	0	0	0			
56 56% ABV Hearts				2.24	2.24				2.24	2.24	2.24	2.24				2.24	2.24	2.24	2.24				2.24	2.24	2.24	2.24			
22 22% ABV Tails				-3.74	-3.74	-			-3.74	-3.74	-3.74	-3.74				-3.74	-3.74	-3.74	-3.74				-3.74	-3.74	-3.74	-3.74			
Damauri I franciscustaria 7	Th		41																										
Removal from System	i nese volumes d	deplete cumula	itive totais										76												76				
110 Barrol													-20												-20				
Total Daily Regulated Quantities Added		116.0		21.24	2 7/	0	116.09	0	Q5 7/	3 7/	21.74	2 7/	26	116.09	0	85.74	2 7/	21.24	3 74	0	116 09	0	95 74	2 7/	57.24	2 7/	0	116.09	0
Total Daily Regulated Quantities Added		110.3	0	-31.24	-3.74		110.56	0	05.74	-3.74	-31.24	-3.74	-20	110.56	0	05.74	-3.74	-31.24	-3.74	U	110.56	0	05.74	-3.74	-57.24	-3.74	0	110.56	U
Daily Cumulative Total			116 98	87	74 52	74 52	191 5	191 5	273 5	266.02	231.04	223 56	197 56	314 54	314 54	396 54	389.06	354.08	346.6	346.6	463 58	463 58	545 58	538 1	477 12	469 64	469 64	586 62	586.62
			110.50	02	74.52	. ,4.52	151.5	151.5	275.5	200.02	231.04	225.50	157.50	514.54	514.54	550.54	305.00	334.00	540.0	540.0	405.50	405.50	545.50	550.1	477.12	405.04	405.04	300.02	
legend:																													
Brown or Aged Spirits																													
Water Added																													
Quantities in bottles <1.3G are not limited																													
Process Containing No Alcohol																													
Alcohol-Water Mixtures with less than 20%																													
ABV do not contributed to MAQs																													
	I	I		I		I			I I							I	I												

Cactus Reposado Distillation

Max Ethanol Produced in this Step: 5 Gallons @70% ABV

Cactus reposado proofing and bottling No ethanol is produced in this step

is harvested.

exceeds 250 gallons.

9.1.4(3)).

soaps.

- Up to 25 gallons of 22% ABV distillate is transferred into Still #3.
- The still is heated to approximately 184 degrees at which point the ethanol vapor rises up the column. The distillate flows through a small condenser that condenses the vapor to liquid.
- The final distillate is 70% ABV at 60 degrees F.
- The distillate is collected in glass lab-grade sealed jars.
- Total 75% distillate collected in a single run is 5 gallons. Remaining distillate in the still is discarded and counted as a loss.
- The cactus reposado is stored in a sealed stainless mixing tank until a total of 20 gallons is collected.
- Once 20 gallons is collected, the cactus reposado is proofed down to 55% and transferred to a used oak barrel for long term aging. The barrel is stored in the barrel storage room (H-3).

- After at least three months and no more than 9 months, the cactus reposado barrel
- The distillate is transferred from the barrel to a sealed stainless mixing tank and s proofed down with water to 40% ABV. After 24 hours, the cactus reposado is re-gauged and transferred to a volumetric or
- gravity bottle filler.
- The cactus reposado is filtered, bottled, corked, labeled, and placed in boxes for sale.
- Dry Land Distillers will not be storing in-process alcohol outside the H-3 storage room that
- Storage of the barrels (casks) will be in compliance with Chapter 32 of the 2016 IFC. The barrel racks will be spaced to allow adequate flow of water above and between the barrels to eliminate the requirement for sprinklers between rows of barrels.
- Note 1: Bottles containing less than 1.3 liters of less than 50% ABV are exempt from MAQs (2016 IBC 307.1), (2016 IBC 307.1(1) footnote c), (2016 IFC 5001.1 exceptions 1 and 2), (2016 IFC 5701.2, #2 and #3), and (2015 NFPA 1-66.9.1.4(3)), and (2015 NFPA 30-

Cleaning and Draining Equipment

- All tanks have solids separated from liquid and composted or discarded separately. Our tanks are constructed with cone valves to collect solids below output drains. Liquid from all tanks is cooled to 140 degrees F or less by adding cold water or by running the liquid through a plate chiller prior to draining in accordance with local wastewater requirements.
- pH levels are rarely (if ever) out of acceptable ranges. Levels are tested and adjusted if needed using calcium carbonate or citric acid prior to disposal. There is little to no organic matter in any D1, D2 or D3 distillation.
- There is very little organic matter in remaining D1 wash in the still. This is cooled and drained in accordance with local wastewater requirements. Cleaning and sanitization is completed with water, vinegar, and small amounts of
- Star San sanitizing solution. The only detergents used are fully biodegradable, non-scented low-foaming dish

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	CHECKED:	SO
	DATE:	10/1/2020
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FINISH	H SCHEDULE									LEGEND
ROOM #	ROOM NAME	FLOOR Base Bid	BASE	WALLS				CEILING (SEE RCP)	NOTES	
				NORTH	EAST	SOUTH	WEST	,		 RETNOT
101	PRODUCTION	FL-3 FL-4	B-1	BRK	PT	BRK	PT, WD-1	OPEN		1 WA
102	BARREL AGE	FL-4	CONC	FRP	FRP	FRP	FRP	GWB	FIRE RATED ASSEMBLY	
103	BAR	FL-3	B-1	FRP, T-1, MIR	FRP, WD-1, PT	FRP	PT, WD-1	GWB		INTERIC
104	TASTING ROOM	FL-1	WD, MTL, CONC	N/A	MT-1, PT	BRK	PT	OPEN		FLOORING FL-1 EXIS ⁻ FL-2 NEW
105	UNISEX RESTROOM	FL-1	TILE	T-1, PT	T-1, PT	T-1, PT	T-1, PT	GWB		FL-3 EPOX
106	UNISEX RESTROOM	FL-1	TILE	T-1, PT	T-1, PT	T-1, PT	T-1, PT	GWB		FL-4 EPUX
107	BOILER	FL-1	B-2	PT	PT	BRK	BRK	GWB	FIRE RATED ASSEMBLY	 WALL BASE B-1 6" WC
108	STORAGE	FL-1	B-2	BRK	FRP, PT	BRK, FRP	BRK	OPEN & GWB		B-2 EPOX B-3 RUBE





WALLS

1 WALL FINISH PLAN SCALE : 3/16" = 1'-0"



WALL FINISH TAG

NOTES

WALL ABOVE BAR SOFFIT TO DECK

RIOR FINISH KEY

EXISTING SLAB (PATCH & REPAIR AS NECC.) NEW CONC. RAMP/STEP EPOXY FLOOR COATING (ON EXISTING SLAB) ' WOOD BASE (PAINTED) EPOXY WALL BASE UBBER BASE TILE TILE BASE CONC CONCRETE CONTAINMENT CURB BASE GWB PAINTED GYPSUM BOARD OPEN EXPOSED DECK / STRUCTURE PAINTED

WALLS FRP FIBERGLASS REINFORCED PANEL, COLOR WHITE, FINISH SMOOTH MTL-1 CUSTOM METAL SCREEN (PATTERN TBD) WD-1 CEDAR WOOD SLATS, SEALED EPOXY FLOOR COATING (ON NEW SLOPED SLAB) PT PAINT GYPSUM BOARD (COLOR TBD BY OWNER & ARCHITECT) MIR MIRROR PANELS BRK EXISTING BRICK TO REMAIN T-1 WALL TILE: (MFR, COLOR, SIZE TBD BY OWNER & ARCHITECT) GROUT: TBD T-2 WALL TILE: (MFR, COLOR, SIZE TBD BY OWNER & ARCHITECT) GROUT: TBD **COUNTERTOPS** QTZ QUARTZ, MFR: CAESARSTONE - RAVEN 4120, MITERED EDGE WD-2 BUTCHER BLOCK COUNTER TOP (BACK BAR) WALL & SOFFIT TRIM MTL-2 MILL FINISH STEEL

BRK EXISTING BRICK (PATCH & REPAIR AS NECC.)

FINISH SCHEDULE NOTES

1. DOOR FRAMES TO BE PAINTED UNLESS NOTED OTHERWISE.

2. CLEANABLE / WASHABLE SURFACES REQUIRED AT BAR AND RESTROOMS PER HEALTH CODE.

3. GYPSUM BOARD WALLS TO BE LEVEL 4 WITH SMOOTH FINISH, UNLESS NOTED OTHERWISE.

4. NO PAINT COLOR SHOULD TERMINATE OR END ON AN OUTSIDE CORNER. 5. INTERIOR PAINT AT WALLS TO BE SEMI-GLOSS IN RESTROOMS & EGGSHELL AT OTHER LOCATIONS.

6. CONTRACTOR TO PROVIDE AN ALLOWANCE FOR UP TO 4 DIFFERENT PAINT COLORS. COLOR TBD.

7. PROVIDE WATER RESISTANT GYPSUM BOARD WITHIN 4' OF ANY PLUMBING FIXTURE.

8. CONTRACTOR TO PROVIDE ALL FINISH SAMPLES & MOCK UPS FOR OWNER & ARCHITECT APPROVAL PRIOR TO PURCHASE. 9. EPOXY BASE / CURBS AT ALL EPOXY FLOORING.

10. SEE FINISH PLAN AND RCP FOR MORE INFORMATION ON MATERIAL LOCATIONS.

11. CONTRACTOR TO CONFIRM TILE MANUFACTURER, COLOR, SIZE AND GROUT WITH OWNER & ARCHITECT PRIOR TO PURCHASE. 12. CONTRACTOR TO CONFIRM ALL PAINT COLORS AND LOCATIONS WITH OWNER & ARCHITECT PRIOR TO PURCHASE.

TRUE PLAN





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PHASE:	PERMIT	
DRAWN:	DG, TH	
CHECKED:	SO	
DATE:	10/1/2020	







FLOOR HATCH LEGEND		×		
FL-1 EXISTING SLAB (PATCH & REPAIR AS NECC.)		ш		
FL-2 NEW CONCRETE RAMP/STEP		NOI		
FL-3 EPOXY FLOOR COATING (ON EXISTING SLAB)	SNO	SCRIPT		
FL-4 NEW SLOPED SLAB W/ EPOXY FLOOR COATING (SEE STRUCTURAL)	REVIS	DES		
6" HT. CONTAINMENT CURB		ш		
FLOOR FINISH GENERAL NOTES		DAT		
 PROVIDE EPOXY CURB BASE AT ALL EPOXY FLOOR LOCATIONS SEE STRUCTURAL FOR NEW SLAB DETAILS TYING INTO EXISTING SLAB. SEE PLUMBING PLAN FOR FURTHER DRAIN INFORMATION PATCH & REPAIR EXIST. SLAB AS NECC. PATCH & REPAIR EXIST. SLAB @ ALL AREAS OF DEMO FOR INSTALLATION OF PLUMBING. 				
FLOOR FINISH PLAN KEYNOTES				
1 6" HT. CONCRETE CONTAINMENT CURB & WALL BASE, SEE STRUC.		0	pa	
2 FLOOR / SINK DRAIN, SEE PLUMBING		or	L.	
3 TRENCH DRAIN		516	W STUDIO.	
4 CRICKET AT SLOPING SLAB				
5 4" HT. CONCRETE CONTAINMENT CURB @ SLOPING SLABS, SEE STRUC.				
6 CONFIRM LANDING AT SLOPED SLAB IS FLAT AT EXTERIOR DOOR TRANSITION, V.I.F.	701	0 Easy Aust	y Wind Dr. Ste in, TX 78752	200
(7) EXISTING EXTERIOR GRADE IS 1'-7 $\frac{1}{2}$ " A.F.F. , V.I.F.		512	2.899.3100	



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	DATE:	10/1/2020	
1 3			









EXISTING STRUCTURE

STRUCTURE, PAINTED

(8) BOILER VENT, SEE MECHANICAL

(11) 1HR RATED WINDOW FIRE SHUTTER

(12) EXHAUST DUCT, SEE MECHANICAL

(9) ELECTRICAL HOSE REEL, SEE ELECTRICAL

(10) INSTALL R-38 RIGID INSULATION PANELS BETWEEN EXISTING

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ROOF ASSEMBLIES	В
EXISTING ROOF, PATCH & REPAIR AS NECC.	
	z
	S ID
HATCH LEGEND	
ROOF OF ADJACENT TENANT	DE
ROOF ASSEMBLY R1	DATE
ROOF PLAN GENERAL NOTES	O Z
 MANUFACTURER'S REP TO INSPECT ALL ROOFING APPLICATIONS TO ENSURE ADHERENCE TO MFG. GUIDELINES AND CERTIFY TO THE GENERAL CONTRACTOR THAT ROOF IS INSTALLED PER MFG. GUIDELINES. ROOF PENETRATIONS SHOWN ARE SCHEMATIC IN NATURE AND FOR THE CONVENIENCE OF THE CONTRACTOR. GENERAL CONTRACTOR RESPONSIBLE FOR MAKING FINAL COORDINATION OF SIZE, TYPE AND LOCATION OF CURBS (WHERE APPLICABLE) AND ANY OTHER ROOF PENETRATIONS THAT MAY BE REQUIRED AT NO ADDITIONAL COST TO THE OWNER. SEE MEP DRAWINGS FOR ROOF MOUNTED EQUIPMENT (WHERE APPLICABLE) AND PENETRATIONS, MAINTAIN ENGINEER'S MINIMUM REQUIREMENTS FROM VENTS TO AIR INTAKES. 	oppa esign studio. Inc.
FLOOR PLAN KEY NOTES	
1 EXIST. GUTTER	7010 Easy Wind Dr. Sta 200
(2) EXIST. DOWNSPOUT	Austin TX 78752
(3) EXIST. EQUIPMENT TO REMAIN, REF. MEP	512 899 3100
4 EXIST. PARAPET	
6 ROOF OF AD IACENT TENANT	www.designopa.com
7 CHILLER FAN. REF. EQUIPMENT SCHEDULE & REF. MEP	
8) DEMO EQUIPMENT, REF. MEP	
9 HVAC EQUIPMENT, REF. MEP	
UENT, REF. MEP	
11) INTAKE HOOD, REF. MEP	
12 STEEL CANOPY, PTD. SEE STRUCTURAL	
13 SUPPLY DUCT, REF. MEP	
(14) EXHAUST DUCT, REF. MEP	

TRUE PLAN

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CAD

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SCALE : 1/4" = 1'-0"

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5 AWNING SECTION

2 CABINET SECTION

1 BAR SOFFIT & BACK BAR SECTION & CABINET ELEVATION SCALE : 1" = 1'-0"

A502 DETAILS

HA		CHEDUL	E		SPECIFICATIONS	
	EXTERIOR - PUSH/PULL	W/ CLOSER				
HW-1	3- FULL MORTISE HINGE 1 PUSH BAR 1 PULL HANDLE	1 CYLINDER 1 DEADLOCK 1 CORE	1 AUTO FLUSHBOLT 1 ASTRAGAL 1 SWEEP	1 CLOSER 1 THRESHOLD	1 JAMB WEATHERSTRIP 1 SILENCER 2 WALL STOPS	
	INTERIOR - PUSH/PULL	W/ CLOSER				
HW-2	3- FULL MORTISE HINGE 1 PUSH PLATE 1 PULL PLATE	1 CLOSER 1 CYLINDER 1 DEADLOCK	1 SIGN 1 SILENCER 1 WALL STOP			
	INTERIOR - STORAGE					
HW-3	3- FULL MORTISE HINGE 1 CYLINDRICAL STORAGE 1 CLOSER	1 SILENCER LOCK				
	INTERIOR - PAIR STORA	GE				
HW-4	6 FULL MORTISE HINGE 1 CYLINDRICAL PASSAGE	2 WALL STO LEVER 2 SILENCEF 2 MANUAL F	DPS RS FLUSHBOLTS			
	INTERIOR - SLIDING BA	RN DOOR				
HW-5	1 SLIDING BARN DOOR TR 2 BARN DOOR ROLLERS 1 PULL HANDLE	ACK 1 RECESS 1 FLR. MT 3 WALL S ⁻	ED PULL HANDLE D. GUIDE TOPS			
1.	CONFIRM ALL EXISTING HAR W/ OWNER FOR ANY LOCKIN EXISTING DOORS TO MATCH PURCHASE.	DWARE & LOCKS A G CORE/CYLINDER COLOR OF DOOR,	RE OPERABLE & FUNCTIC REPLACEMENT. ALL NEV VERIFY W/ OWNER & ARC	ONING. CONFIRM W HARDWARE FOR CHITECT PRIOR TO	R	
2.	HARDWARE @ DOOR 102, 103, 104, 105, 107, 109, 110, 111, & 112 TO HAVE BLACK FINISH, VERIFY W/ OWNER & ARCHITECT PRIOR TO PURCHASE.					
3.	NEW HARDWARE TO BE INSTALLED AS SPECIFIED OR TO MATCH BUILDING STANDARDS. COORDINATE WITH OWNER & ARCHITECT PRIOR TO PURCHASE OF NEW HARDWARE.					
4.	LL DOOR HANDLES SHALL BE LEVER TYPE, EXCEPT WHERE NOTED OTHERWISE. ALL PERABLE HARDWARE SHALL BE MOUNTED BETWEEN 34" AND 48" ABOVE FINISHED LOOR.					

DOOR SCHEDULE

SVMBOL		МІРТН	НЕІСНТ	DOOR		EDAME TYDE / EINISH				NOTES
STMBOL			HEIGHT	TYPE	FINISH		(GLAZING AREA, SQ. IN.)	(ENTIRE ASSMEMBLY)	DOOR HARDWARE	NOTES
100	PRODUCTION	EXIST	EXIST	EXIST	EXIST	EXIST	EXIST	N/A	EXIST	EXTERIOR DOOR
101	PRODUCTION	EXIST	EXIST	EXIST	EXIST	EXIST	EXIST	N/A	EXIST	EXTERIOR DOOR
102	TASTING ROOM	8'-0"	9'-0"	1	OVERHEAD GLASS SECTIONAL	PER DOOR MFR.	PER TYPE	N/A	PER DOOR MFR.	EXTERIOR DOOR
103	TASTING ROOM	3'-0"	7'-0"	2	ALUM STOREFRONT	ALUM STOREFRONT	PER TYPE	N/A	HW-1	EXTERIOR DOOR
104	TASTING ROOM	3'-0"	7'-0"	2	ALUM STOREFRONT	ALUM STOREFRONT	PER TYPE	N/A	HW-1	EXTERIOR DOOR
105	STORAGE	6'-0"	7'-0"	3	OVERHEAD ROLLING	PER DOOR MFR.	NONE	N/A	PER DOOR MFR.	EXTERIOR DOOR
106	STORAGE	EXIST	EXIST	EXIST	EXIST	EXIST	EXIST	N/A	EXIST	EXTERIOR DOOR
107	BARREL AGE	3'-0"	7'-0"	4	HM / PAINTED	HM / PAINTED	NONE	1 HR	HW-3	INTERIOR DOOR
108	BARREL AGE	6'-0"	8'-0"	5	OVERHEAD ROLLING	PER DOOR MFR.	NONE	1 HR	PER DOOR MFR.	INTERIOR DOOR
109	UNISEX RESTROOM	3'-0"	6'-8"	6	SCW / WOOD VENEER	HM / PAINTED	NONE	N/A	HW-2	INTERIOR DOOR
110	UNISEX RESTROOM	3'-0"	6'-8"	6	SCW / WOOD VENEER	HM / PAINTED	NONE	N/A	HW-2	INTERIOR DOOR
111	STORAGE	5'-0"	7'-0"	8	CUSTOM WOOD	CUSTOM WOOD	NONE	N/A	HW-5	INTERIOR DOOR
112	BOILER	6'-0"	7'-0"	7	HM / PAINTED	HM / PAINTED	NONE	1 HR	HW-4	INTERIOR DOOR

* HARDWARE NOTES:

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1. CONTRACTOR SHALL PROVIDE FULL HARDWARE SETS BASED ON LOCK FUNCTION DESCRIBED IN THIS SCHEDULE.

- BOTTOM OF CLG / STRUCTURE

- FRP @ 8'-0" A.F.F. ON PLYWOOD SUBSTRATE - ACOUSTICAL INSULATION - WOOD STUD @ 16" O.C. - CONC. SLAB

- BOTTOM OF CLG / STRUCTURE

4W NON-BEARING STUD WALL 2 NON-RATED 4" STUD, FRP W/ PLYWD

4W NON-BEARING STUD WALL NON-RATED 4" STUD, TILE ABV. FRP

>>

3 1/2"

- BOTTOM OF DECK / STRUCTURE - FIRE SEALANT ON BOTH SIDES - 1 LAYER OF 🖁 TYPE 'X' GWB, ON BOTH SIDES

- SEE FINISH PLAN FOR FINISHES - MIN. R-11 ACOUSTICAL INSULATION - WOOD STUD @ 16" O.C.

- FIRE SEALANT ON BOTH SIDES

- CONC. SLAB

4W NON-BEARING STUD WALL UL1A 1 HR. FIRE BARRIER UL DESIGN U305, U314 (@ WALL)

5 1/2"

5/8" TYPE "X" FIRE RATED GWB @ CLG. ⁻ 2 LAYERS ⁵/₈" TYPE "X" FIRE RATED GWB - SEE WALL FINISH PLAN FOR FINISHES - ACOUSTICAL INSULATION – WD. STUD @ 16" O.C. ----- FIRE SEALANT - CONC. CONTAINMENT CURB, SEE FLOOR FINISH PLAN BARREL AGE RM.

- FIRE SEALANT

BOTTOM OF ROOF DECK

WD. JOIST OR RAFTER

CONC. SLAB 6W NON-BEARING STUD WALL UL1A 1 HR. FIRE BARRIER SIM. UL DESIGN U301 (@ WALL)

UL DESIGN L512 (@ CLG)

— 1 LAYER TYPE 'X' GWB SUBSTRATE, PAINTED

- TILE @ 4'-0" A.F.F. ON TILE BACKER BOARD ACOUSTICAL INSULATION

WOOD STUD @ 16" O.C.

6W NON-BEARING STUD WALL NON-RATED 6" STUD, GWB ABV. TILE

1 WALL TYPES SCALE : 1" = 1'-0"

SEE FLOOR FINISH PLAN

- ACOUSTICAL INSULATION — WD. STUD @ 16" O.C. - CONC. CONTAINMENT CURB,

- 5/8" TYPE "X" FIRE RATED GWB - 2 LAYERS ⁵/₈" TYPE "X" FIRE RATED GWB

- FIRE SEALANT - WD. JOIST OR RAFTER

- BOTTOM OF ROOF DECK

— BOTTOM OF CLG / STRUCTURE

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WALL TYPES

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OJECT	NUMBER:	201
OJECT	DESCRIPTION:	Dry

Land Distillers - Renovation 519 Main Street Longmont, CO 80301

- 010000 GENERAL REQUIREMENTS: All construction, unless specifically noted otherwise, shall conform to the following: Authority Having Jurisdiction: City of Longmont, CO International Building Code (IBC) - 2018 Edition
- Amendments included in Denver Building Code 2018 Edition • Minimum Design Loads for Building and Other Structures - ASCE 7-16
- DESIGN LIVE LOADS a. Ground Snow Load, Pg 30 psf
- b. Roof (SL). 30 psf c Floor (LL)
- 40 psf d. Wind Speed (3-Sec Gust) 110 mph (V_{ASD}), 142 mph (V_{ULT})
- e. Exposure Seismic Design Category ...
- 013100 COORDINATION:
- The contract structural drawings and specifications represent the finished structure. They do not indicate the means or method or sequence of construction. The Contractor shall be responsible for and provide all measures necessary to protect the structure during construction. These measures shall include, but not be limited to: bracing, shoring of loads due to construction equipment, etc. The Contractor shall be responsible for the design and implementation of all scaffolding, bracing and shoring. Observation visits to the site by the Structural Engineer shall not include inspection of the above items. The Structural Engineer will not be responsible for the Contractor's means, methods, techniques, sequences or procedures of construction, nor will the Structural Engineer be responsible or construction site safety, or the safety precautions and the programs incident thereto. The contractor shall comply with all applicable safety regulations and shall
- retain the services of a third party consultant to instruct the contractor of all OSHA standards and advise/assist the contractor in complying with all OSHA requirements applicable to this project including any design that may be required for shoring and/or bracing. Any changes proposed by the OSHA consultant to the structure shall be brought to the attention of the Architect at least 15 working days prior to start of construction or ordering materials so that modifications to drawings and design can be performed as
- Contractor shall verify all dimensions and coordinate site conditions with the drawings prior to construction. Any discrepancies and omissions shall be resolved with the Architect prior to construction and prior to proceeding. Do not use scaled dimensions.
- Construction materials shall be spread out if placed on framed floors or roofs so as not to exceed the design live load per square foot. The intent of the drawings, specifications, and details is to include all necessary items for the proper execution of the work; items that are required in one part of the documents are binding as if required by all. Architect/Engineer shall give final interpretation of requirements to the
- Contractor. Not all openings or equipment are shown on the structural drawings, and it is the general contractor's responsibility to coordinate with the subcontractors and equipment suppliers/manufacturers. Equipment being supported by or suspended from the structure shall be coordinated with the manufacturer of any pre-engineered framing or components. All openings
- shall be properly reinforced as approved by the Engineer. Refer to architectural, mechanical, plumbing, electrical and civil drawings for location and details of blockouts, inserts, openings, curbs, equipment loads, equipment bases and pads, piping, ducts, site work items, etc. and dimensions not shown on structural drawings.
- Approved equal options are for the Contractor's convenience and are subject to approval by the Architect. If an option is chosen, the Contractor shall be responsible for all changes and costs necessary and for coordination of all details as required to incorporate the option into the work. . All pre-engineered/prefabricated items and materials shall be installed in
- strict accordance with the manufacturer's requirements and alterations are allowed only in writing. 10. All details shown shall be incorporated into the project at all appropriate locations, whether specifically indicated or not. Typical details may or may
- not be cut on the drawings, and details may or may not be cut at all specific locations, but shall apply unless noted otherwise. Where reference is made to various test standards for materials or
- performance, such standards shall be the latest edition and/or addendum. 12. For clarity, all roof, floor and wall openings may not be shown on structural drawings. For exact size, number and location of openings, see architectural, mechanical, electrical and plumbing drawings. For framing at openings, see typical structural details. Verify all sizes, weights and location of mechanical and electrical equipment, ducts, etc. with mechanical and electrical engineers through Architect. 13. Coordinate all shop drawing submittal requirements with the structural notes
- and the Architect. 013300 - SUBMITTALS - SHOP DRAWINGS & PRODUCT DATA:
- Shop drawings shall be submitted for all structural items in addition to any items required by the architectural specifications. Construction documents shall not be reproduced for use as shop drawings.
- The general contractor shall review and stamp all shop drawings and product data for conformance with the construction documents prior to submittal. Any shop drawings or product data not reviewed and stamped by the general contractor will be returned without review. The contractor shall cloud or flag all items not in accordance with the contract documents. Verify all dimensions and elevations with architect.
- Any changes, substitutions, or deviations from the original contract drawings shall be clouded by the manufacturer or fabricator. Any changes, substitutions, or deviations which are not clouded or flagged by submitting parties, shall not be considered allowed after the engineer's review, unless noted accordingly by the Structural
- The structural engineer reserves the right to allow or not allow any changes to the original contract drawings at any time before or after shop drawing review. The shop drawings do not replace the original contract drawings. Items omitted or shown incorrectly and which are not noted as allowed by the Structural Engineer or Architect are not to be considered changes to the original contract drawings. It is
- the Contractor's responsibility to ensure that items omitted or shown incorrectly are constructed in accordance with the original contract drawings. Reviewing submittals is intended only as an aid to the Contractor in obtaining correct shop drawings. Responsibility for correctness and completeness shall rest
- with the Contractor. Shop drawings will be returned for resubmittal if major errors are found during
- . No more than two sets of black and white prints will be reviewed for any individual submittal. Allow a minimum of ten working days for review of each shop drawings submittal by
- the Structural Engineer. Each individual specification section is considered a submittal.

- SUBMITTALS STRUCTURAL DESIGN REQUIRED: Submittals under this section pertain to supplier or sub-contractor designed
- components or systems. Where specific loading criteria is not outlined on the structural contract drawings, designer shall follow applicable requirements outlined in the referenced codes above. 2. All engineering designs and layouts performed by others shall be sealed by a
- civil or structural engineer registered in the State of Colorado. Complete design calculations, erection plans, and fabrication details, as applicable shall be included in the submittal process.
- 014000 SPECIAL INSPECTIONS & QUALITY CONTROL Special inspections shall be performed by a qualified inspector, employed by
- the owner, and approved by the Building Official. Special inspections for reinforcing steel, structural masonry and anchor bolts shall be performed by a qualified inspector under the direct supervision of a Colorado registered structural engineer who is familiar with the structural design of this project. The special inspection certificate shall be sealed by the supervising structural engineer. The Contractor shall be responsible for providing a minimum of 24 hours notice to the special inspector and the testing laboratory prior to beginning any work for which special inspection or testing is required.
- Special inspection is required during the following operations per IBC Section Grading, excavation and filling: During earthwork excavations, grading
- and filling as required to satisfy requirements of IBC Chapters 18 & 33 and Appendix J and during placement of engineered fill. Concrete: During taking of specimens and placement of all concrete. Unless noted otherwise, special inspection of foundation concrete and
- slabs on grade is not required. See general structural notes and/or project specifications for frequency of testing and strength requirements. Reinforcing steel: During placing of reinforcing steel in reinforced concrete required to have special inspection.
- Structural masonry: During preparation of prisms, placement of reinforcing, inspection of grout space immediately prior to closing of cleanouts and during placement of all grout. Special inspection for placing of units may be performed on a periodic basis. Welding: During all structural field welding and shop welding (including
- welding of reinforcing steel), except welding performed in the shop of a building official-approved fabricator. High strength bolting: Review of all bolt installations to ensure that the
- plies of the connected elements have been brought into snug contact and during bolt installations and tightening operations. Expansion bolting: Review torque of all bolts to ensure that installation and embedment requirements have been met. Epoxy bolting: During installation of all bolts to ensure that installation
- and embedment requirements have been met. Anchor bolts: Prior to and during placement of concrete.
- Duties and responsibilities of the special inspector: The special inspector shall observe the work assigned for conformance with
- the approved design drawings and specifications. The special inspector shall furnish inspection reports to the building official and to the engineer or Architect of record. All discrepancies shall be brought to the immediate attention of the Contractor for correction, then, uncorrected, to the Engineer or Architect of record and the Building
- Upon completion of the assigned work, the special inspector shall complete and sign a final report certifying that to the best of the inspector's knowledge, the work is in conformance with the approved plans and specifications, and the applicable workmanship provisions of the code.
- 033000 CAST-IN-PLACE CONCRETE
- Concrete work shall conform to all requirements of ACI 301, "Specifications for Structural Concrete for Buildings" and ACI 318, "Building Code Requirements for Reinforced Concrete". Concrete shall be ready mixed concrete in accordance with ASTM C94
- Minimum 28 day compressive strength shall be 4000 psi. Cement shall conform to ASTM C150, type I/II. Provide low Alkali aggregate per ASTM C33. Lightweight aggregate per ASTM C330. Maximum 3" slump for slabs on grade, 4" for other concrete. Maximum water cement ratio (W/C) shall be 0.40 for slabs on grade and for foundation walls and footings. Do <u>not</u> tamp slabs (use roller bug, vibrating screed or bull float only). Concrete containing superplasticizing admixture shall have field-verified " maximum slump prior to adding admixture and 8" maximum slump at placement. Mix designs shall be designed by the concrete production facility in accordance with ACI 301 and approved by the Structural Engineer prior to construction. Provide air-entraining admixture at all exposed concrete at a rate adequate to provide 3% air at point of placement. No flyash allowed.
- Concrete shall be free of chloride. No fly ash additives shall be used in concrete when used in flatwork or architecturally exposed concrete. Provide sleeves for utility openings in concrete before placing concrete. Do
- not cut any conflicting reinforcing. No construction joints other than those shown on the drawings shall be installed without approval of the Structural Engineer. Coordinate with architect regarding chamfer at all corners. Tvp. u.n.o. 8. Concrete shall not be dropped more than five feet vertically without use of
- tremies Concrete footings and pads may be poured against neat excavations provided the required concrete coverage for reinforcing is maintained. . Mechanically vibrate all concrete when placed, except that slabs on grade need be vibrated only around embedded items and underfloor ducts, etc.
- Mechanically vibrate only the top 5 feet of caisson concrete. Revibrate top of caisson 15 minutes after placing concrete. Cast closure pour around columns after column dead load is applied. Concrete which has contained water for more than 90 minutes (60 minutes
- if air temperature exceeds 85°) shall not be used. Retempering of concrete after initial set has occurred is not permitted 2. Cure exposed concrete for a minimum of 7 days in accordance with ACI 301 procedures in order to prevent cracking. Cure with curing and sealing compound, moist curing, moisture—retaining cover curing, or combinations
- thereof. If curing compound is used, apply at a rate specified by the manufacturer, but not less than 1 gallon per 200 square feet of surface area, coordinate with Architect. 13. Concrete compressive strength and slump shall be tested per "structural tests and inspections" specification 01470. In the absence of specification
- 01470 provide testing as required by ASTM, ACI, and IBC. 14. All cold and warm weather requirements per ACI shall be followed before, during and after placement of concrete.

033100 - REINFORCING STEEL

Reinforcing steel deformed bars shall conform to ASTM A615, grade 60 (fy = 60 ksi). Reinforcing to be welded shall conform to ASTM A706, grade 60 (fy = 60 ksi) low alloy deformed bars. Welded wire fabric per ASTM A185, 1. wire per ASTM A82. Welding of reinforcing shall be according to AWS D1.4. No tack welding of reinforcing bars allowed. Architect shall approve welding procedure and mill test reports prior to execution of welding. All reinforcing steel shall be detailed and placed in conformance with the latest editions of ACI 318 and the CRSI "Manual of Standard Practice for Reinforced Concrete Construction", and as modified by the drawings. All

reinforcing bar bends shall be made cold. All reinforcing steel, including welded wire fabric in slabs on grade, shall be accurately placed and supported by galvanized metal chairs, spacers or hanaers. Provide the following minimum clear concrete coverage: cast against and permanently

ast against and permanently exposed to earth	3″
xposed to earth or weather:	
#6 and larger	2"
#5 and smaller	11/2"
olumns (to ties)	11/5"
eams (to stirrups)	1 <i>1</i> ⁄⁄⁄⁄,"
levated slabs	3/4"

all others per latest edition of ACI 318. Unless noted otherwise, lap splices in concrete shall be class "B" tension lap splices (2'-6" minimum) per the latest edition of ACI 318. Stagger alternate splices a minimum of one lap length. Lap welded wire fabric so that the overlap between outermost cross wires of each sheet is not less than the cross wire spacing plus 2 inches. All splice locations subject to approval and shall be made only where indicated on the drawings. Extend all norizontal reinforcing continuous around corners and intersections or provide bent corner bars to match and lap with horizontal bars at corners and intersections of footings and walls.

Around openings in walls and slabs provide (2) #5's along each side extending 2'-0'' beyond each edge of opening. Provide (1) #4x2'-0'' at slab mid-depth across all re-entrant corners, unless noted otherwise. Reinforcing bar spacings given are maximum on centers. Dowel all vertical reinforcing to foundation. Skew hooks as required for concrete cover Securely tie all bars in position before placing concrete. Concrete column dowel embedment length shall be a standard compression dowel embedment enath per the latest edition of ACI 318. Spliced bars shall be placed at the same effective depth unless noted otherwise. Reinforcing bars noted "continuous" or with length not shown shall be fully continuous and spliced only as shown, or where approved by the Engineer.

Reinforcing bar hooks shall be standard ACI hooks unless noted otherwise. Provide shop drawings for all reinforcing steel to Architect for review prior to beginning any fabrication.

051200 - STRUCTURAL STEEL

Structural steel construction shall conform with the latest AISC "Code of Standard Practice for Steel Buildings and Bridges". AISC "Specification for Structural Steel Buildinas - Allowable Stress Design and Plastic Design", including commentary, and applicable provisions of AWS "Structural Welding Code". Paragraph 4.2.1 of the AISC "Code of Standard Practice for Steel Buildings and Bridges" is hereby modified by deletion of the following sentence: "this approval constitutes the owner's acceptance of all responsibility for the design adequacy of any detail configuration of connections developed by the fabricator as part of his preparation of these shop drawinas Structural steel WF shapes shall be ASTM A992 (Fy = 50 ksi). Structural

steel channels, angles and plates shall be ASTM A36 (Fy = 36 ksi). Structural tube shapes shall be ASTM A500, grade B (Fy = 46 ksi). Steel pipe shall be ASTM A501 (Fy = 36 ksi) or ASTM A53, Type E or S, grade B (Fv = 36 ksi).Bolts shall be ASTM A307. All bolts shall be tightened as defined by AISC

unless noted otherwise. Anchor bolts and plain threaded bars and anchors shall be ASTM A36 or A307, Grade A. Bolts, anchor bolts, expansion bolts, etc., shall be installed with steel

washers. Welding electrodes shall conform to AWS D1.1, Grade E70xx. E90 series electrodes shall be used for ASTM A706 reinforcing bars. All welding shall be done by welders holding valid certificates issued by an accepted testing agency and having current experience in type of welds shown on the drawings or notes. All welding per American Welding Society standards. All welds on drawings are shown as shop welds. Contractor may shop weld or field weld at their discretion. Shop welds or field welds shall be shown on shop drawings. Full penetration welds shall be tested and certified by an

independant testing laboratory. Beams, columns and braces shall not be spliced without prior approval of structural engineer. Headed study shall be Nelson granular flux-filled headed anchor study or

approved equal made from cold finished low carbon steel, and shall conform to ASTM A108, Grades 1015 or 1020 with a mininmum tensile strength of 60,000 psi. Stud welding inspection and testing shall conform to AWS D1.1. Deformed bar anchor studs shall be Nelson D2I aranular flux-filled rebar studs or approved equal made from low carbon cold rolled steel with a minimum tensile strength of 70,000 psi. Stud welding inspection and testing shall conform to AWS D1.1.

10. Drypack for column base plates and bearing plates shall be Five Star grout or an equal nonmetallic shrinkage-resistant grout with a minimum 28 day compressive strength of 5000 psi. Provide fabricator's standard rust-inhibiting primer shop paint for all steel

surfaces except surfaces encased in concrete, or to receive spray-applied fireproofing.

06 1000, 06 1300 - STRUCTURAL WOOD FRAMING (U.N.O. on <u>31 0000 - FOUNDATIONS</u> - SPREAD FOOTINGS drawings)

- Except where noted on the drawings, all 2" lumber shall be Doualas Fir-Larch S4S No. 2 and better, and all solid timber beams and posts shall be Douglas Fir-Larch No. 1. All exposed wood for exterior use shall be pressure treated.
- Studs shall be Douglas Fir-Larch No. 2 and better. Top and bottom plates shall be Douglas Fir-Larch No. 2 and better.
- 4. Provide solid blocking at supports for wood joists. Within joist spaces beneath solid or built-up columns noted on drawings, blocking of area equivalent to column above shall be provided.
- 5. Except as noted otherwise on the drawings, minimum nailing shall be provided as specified in Table 2304.9.1 "Fastening Schedule" of the IBC, 20XX edition. Structural nailing shall be with common nails.
- Steel connectors manufactured by Simpson Strong-Tie Company, San Leandro, CA., shall be used to join 3 rafters, joists, or beams to other members at flush-framed conditions. Connector conditions not otherwise noted shall utilize Type U, Type IU or Type HU hangers of a size specifically designed for the member supported, as shown in the manufacturer's published tables. Install all connectors in accordance with the manufacturer's instructions to attain maximum rated loads. Note: all steel connectors including fasteners in contact with treated wood shall be ZINC Galvanized.
- Bolts for timber connections shall be ASTM A307 machine bolts. Bolts shall be installed in accordance with the requirements of the latest edition of the National Desian Specification for Wood Construction by the National Forest Products Association. Anchor bolts shall be ASTM A36 or A307. Grade A and shall be installed with steel washers.
- Wood screws shall be steel (pre-drill holes to prevent splitting), as per the requirements of the National Design Specification for Wood Construction by the National Forest Products Association.
- All wood in contact with CMU, concrete or soil shall be treated. Using a product that produces no corrosion to steel and that is EPA approved.
-). Provide double joist under all partition walls that are parallel to floor framing and blocking between joist under all partition walls that are perpendicular to floor framina.

<u>06 1600 - FLOOR SHEATHING</u> (U.N.O. on drawings)

- Provide $\frac{3}{4}$ " thick, tongue and groove, Sturd-I-Floor APA rated sheathing, rated @ 20" O.C., Exp 1, over framing per plan. Block all edges. Glue and nail panels to all supports.
- All sheathing shown on these drawings shall be C-D with exterior glue in accordance with U.S. Product Standard PS 1-95. All panels shall be marked with an APA arade mark with an identification index in accordance with IBC Table No. 2304.7(3). Use 4'x 8' panels, minimum, except at boundaries and framina changes where minimum panel dimension shall be 24 unless panel is supported at all four sides by framing or blocking.
- Nail sheathing to framing members with 10d nails @ 6"o.c. at all panel edges, 10"o.c. at all intermediate
- supports, unless noted otherwise on the drawings. All panels shall be installed long side perpendicular to framing.
-)6 1733 PARALLEL STRAN<u>D LUMBER (PSL):</u>
- PSL beams shall be Parallam beams as manufactured by the Trus-Joist Corporation, Boise, Idaho or approved equivalent. Minimum allowable design stresses are as follows:
- Flexural Stress (Fb) 2,900 psi Compression Perpendicular to Grain (Fc) ... 750 psi Horizontal Shear (Fv) .. 290 psi Modulus of Elasticity (E) .. 2,000,000 psi

- non-expansive compacted engineered fill.
- accepts no responsibility for existing soils conditions.
- minimum in accordance to ASTM D698.
- of the soils engineer immediately.
- directed by the soils engineer.

Design of foundations is based on an assumed maximum allowable bearing pressure of 1,500 lbs. per square foot (dead load plus full live load), placed on approved non-expansive undisturbed soil or approved

2. It is recommended that the Owner retain the services of a soils engineer licensed in the state where the project is to be located who shall verify all design assumptions including, but not limited to, verification of soil expansive characteristics and allowable soil bearing pressures and to determine whether unsuitable soil conditions (i.e. expansive or collapsible soils, loose fill, etc.) exist during excavation. If the Owner chooses not to retain the services of a soils engineer as described above, the Owner shall assume all responsibility for existing soil conditions and related effects to the foundation and/or structure. The Structural Engineer

Contractor shall provide proper soil compaction under foundations and slabs on grade as specified and approved by the soils engineer. All sub-base material under slabs on grade including soil supporting foundations shall be approved by soils engineer before placement of any slabs or foundations. As a minimum, unless directed otherwise by the Soils Engineer, all soils below footings and slabs shall be compacted to 95% The contractor shall consult and coordinate with the

Architect and Soils Engineer and provide any and all necessary perimeter drain systems that may be required. Filled excavations or buried structures such as cesspools, cisterns, existing foundations, tree roots, etc., or any unusual soils conditions encountered during site clearing or excavation shall be brought to the attention

Abandoned footings, new or existing utilities, etc., that interfere with new construction shall be rerouted or removed as coordinated with the Architect and as

	ABBREVIATIONS						
A.B. ABV. ADD'TL ADJ. ALT. APPROX. ARCH.	ANCHOR BOLT ABOVE ADDITIONAL ADJACENT ALTERNATE APPROXIMATE ARCHITECTURAL	F.F. F.G. FIN. FLR F.N. FND F.O.C.	FINISH FLOOR FINISH GRADE FINISH FLOOR FACE NAIL FOUNDATION FACE OF CONCRETE FACE OF	0.C. 0.H. OPN'G OPP. 0.S.B. 0.W.S.J	ON CENTER OPPOSITE HANE OPENING OPPOSITE ORIENTED STRAND BOARD OPEN WEB STEEL JOIST		
BAL. BLD'G BLK'G BLW BM BOT. B.O. BRG B.S. BTMN	BALANCE BUILDING BLOCKING BELOW BEAM BOTTOM BOTTOM BOTTOM OF BEARING BOTH SIDES BETWEEN	F.O.M. F.O.S. F.R.T. FTG GA. GAL V	MASONRY FACE OF STUD FIRE RETARDANT TREATED FAR SIDE FOOTING GAGE GAL VANIZED	PC. PL. PPT PROJ. P.S.F. P.W.	PIECE PLATE PRESSURE PRESERVATIVE TREATED PROJECT POUNDS PER SQUARE FOOT PLYWOOD		
BTWN BTR BD BSMT	BETWEEN BETTER BOARD BASEMENT	G.L. GLB GYP. BD G.T.	GRID LINE GLU-LAM BEAM GYPSUM BOARD GIRDER TRUSS	REF. REINF. REINF'G REQ'D	REFERENCE REINFORCEMENT REINFORCING REQUIRED REQUIREMENTS		
C.J. C.L. CLG CLR	CONSTRUCTION JOINT CENTER LINE CEILING CLEAR	HD HDR H.F. HK	HOLDOWN HEADER HEM FIR HOOK	REQ'MTS RWD RE: SHT'G	REQUIREMENTS REDWOOD REGARDING SHEATHING		
CMU COL. CONC. CONSTR. CONN. CONT. COORD. C.P.	CONCRETE MASONRY UNIT COLUMN CONCRETE CONSTRUCTION CONTINUOUS COORDINATE COMPLETE PENETRATION	HORIZ. H.S. HT HAS INFO. INT. INTRM. INCL.	HORIZONTAL HIGH STRENGTH HEADED ANCHOR STUD INFORMATION INTERIOR INTERMEDIATE INCLUDING	SIM. SQ. STD STG'D STIFF. STL S.W. SYM. SHT SHR	SIMILAR SQUARE STANDARD STAGGERED STIFFENER STEEL SHEARWALL SYMMETRICAL SHEET SHEAR		
CSK CTR CTRD CHG	COUNTERSINK CENTER CENTERED CHANGE	J.B. JT JST	JOIST BEARING JOINT JOIST	Т.&В. Т.&G.	TOP AND BOTTOM TONGUE AND GROOVE		
DBL. DTL D.F. DIAG. DIM. D.O. DWG DIA. DEPT. DWL DIST. DN	DOUBLE DETAIL DOUGLAS FIR DIAGONAL DIMENSIONS DITTO DRAWING DIAMETER DEPARTMENT DOWEL DISTANCE DOWN	LCTN LOC. LONGIT. LLV LLH LT MAS. MAX. MECH. MCJ	LOCATION LOCATION LONGITUDINAL LONG LEG VERTICAL LONG LEG HORIZONTAL LIGHT MASONRY MAXIMUM MECHANICAL MASONRY	THK. THRU. T.N. T.O.C. T.O.S. T.O.W. T.O.M. T.O.P.	THICK THROUGH TOE NAIL TOP OF CONCRETE TOP OF STEEL TOP OF WALL TOP OF MASONRY TOP OF PAPRAPET		
(E)/EXST'G EA. E.F. E.J.	EXISTING EACH EACH FACE EXPANSION JOINT	MIN. M—L MFG'D	CONTROL JOINT MINIMUM MICRO LAMINATED MANUFACTURED	TRANS. T.S. TYP. TRT'D U.N.O.	TRANSVERSE TUBE STEEL TYPICAL TREATED UNLESS NOTED		
ELEV. E.N. EQ. EQUIP.	ELEVATION EDGE NAILING EQUAL EQUIPMENT	MFG'R MID.	MANUFACTURER MIDDLE NEW	VERT. VIF, V.I.F.	otherwise Vertical Verify in Field		
E.S. EXT. E.W. EXP. ENG'R ENCL.	EACH SIDE EXTERIOR EACH WAY EXPANSION ENGINEER ENCLOSURE	N.S. N.T.S.	NEAR SIDE NOT TO SCALE	w/ W.P. WWF WD W.F.	WITH WORK POINT WELDED WIRE FABRIC WOOD WIDE FLANGE WEIGHT		

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SYMBOLS

SYMBOL	DESCRIPTION	MARK	DESCRIPTION
	TYPICAL DETAIL	F#	FOOTING DESIGNATION
***	CUT ON PLANS)	C#	COLUMN DESIGNATION
	DETAIL SECTION	BP#	BASE PLATE DESIGNATION
(###)	CUT ON PLAN	B#	BEAM DESIGNATION
	ELEVATION CALLOUT	J#	JOIST DESIGNATION
***	ON PLAN	L#	LINTEL DESIGNATION
		GB#	GRADE BEAM DESIGNATION
\ <u>#</u> /	PLAN KET NOTE		
	OPENING IN FLOOR OR ROOF		

(5) (2) 2x10 LEDGER WITH $\frac{3}{4}$ "ø THREADED ROD @ 16" O.C. SET 8" INTO (E) BRICK WALL WITH SIMPSON "SET" ADHESIVE. (6) PROVIDE CEILING IN ROOMS SHOWN AS FOLLOWS (CEILING JOISTS BEARING ON STUD WALLS SHALL HAVE FULL HEIGHT BLOCKING,

COORDINATE GYP-BOARD CEILING WITH ARCHITECT.): A. FOR CEILING ONLY: 2x8 @ 16" O.C. WITH LUS28 HANGERS.

B. FOR STORAGE: 2x10 @ 16" O.C. WITH LUS210 HANGERS AND 34" PLYWOOD ABOVE.

(7) NEW INTERIOR WALL FRAMING TO BE 2x6 @ 16" O.C. AS IN DETAIL 700. WALLS PARALLEL TO ROOF TRUSSES THAT SUPPORT ROOF TOP MECHANICAL UNITS SHALL FRAME TO UNDERSIDE OF ROOF SHEATHING. WALLS PERPENDICULAR TO ROOF TRUSSES SHALL FRAME TO DOUBLE TOP PLATE AT ELEVATION DETERMINED BY ARCHITECT.

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JENSATE REC	CEIVER		8 GALLON: 12 GPM, 20 PSIG	_								INTEGRAL STARTER	By EC	DISTILLE	ERY		
	OIL UNIT	rs				_1											
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			STEAM & CHILLED WATER FOU. 1950 CFM SMART PUMP	120-1-60	3/4			I	<u> </u> <u> </u>	20	450	ECM	By EC	DISTILLE	ERY	_	
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		CI	HILLED V	VAT	ER 8	STE	MA	FAN	CO		CHED	ULE			
				BLO\	NER		(COOLING			LP S	TEAM	ELEC	TRICAL	
TAG	MANUFACT (M)	SERVICE	MODEL NUMBER	CFM (SL)	ESP	TMBH	SHR	EADB	GPM	LAT	PPH	DEG F RISE	VOLTS	W/AMPS	NOTES
FCU-1	CARRIER	TABLES	42DCA10HRA-5	1000	0.5	30	95%	78	6.0	55	42.0	44	115	10	A,B,C,D,E,F,G,H,I,J
FCU-2	CARRIER	BAR	42DCA10HRA-5	1000	0.5	30	95%	78	6.0	55	42.0	44	115	10	A,B,C,D,E,F,G,H,I,K
FCU-3	CARRIER	DISTILLERY	42CGA12HRA-5	1200	0.5	36	95%	78	6.0	55	50.0	44	115	12	A,B,C,D,E,F,G,L

A) PROVIDE PROGRAMMABLE THERMOSTAT WITH MODULATING HEATING AND COOLING AND 3 SPEED FAN CONTROL

B) PROVIDE EC MOTORS C) PROVIDE 1" MERV 8 PLEATED FILTERS

D) THERMOSTAT SHALL PROVIDE SET POINT CONTROL TO PREVENT HEATING AND COOLING SIMULTANEOUSLY AND PROVIDE NIGHT SET BACK

E) INCLUDE 24 VAC CONTROL TRANSFORMER

F) SELECT HEATING COILS FOR 12 PSIG STEAM

G) SELECT COOLING COILS FOR 46 DEGREE EWT AND 56 DEGREE LWT

H) PROVIDE RECESSED ACCESS PANEL TO ACCEPT DRYWALL FINISH AS SPECIFIED UNDER DIVISION 8 TO ACCESS FILTERS & BLOWERS I) PROVIDE RECESSED ACCESS PANEL TO ACCEPT DRYWALL FINISH AS SPECIFIED UNDER DIVISION 8 TO ACCESS VALVES AND PIPING

J) RUN COOLING COIL CONDENSATE TO BOILER ROOM FLOOR SINK K) RUN COOLING COIL CONDENSATE TO NEAREST FLOOR SINK

L) RUN COOLING COIL CONDENSATE TO MOP SINK

M) ETI, WILLIAMS, TRANE ALSO ACCEPTABLE

PLAN	MODEL				SUPPLY	r			F	EXHAUS	ST .	ELECTRICAL	REMARKS
MARK	NO. (1)	CFM	FM ESP FAN SUMMER WINTER							ESP	FAN	VOLT/PH	TUDION HURS
			(IN) HP EAT LAT EAT LAT							(IN)	HP		
					DB	DB							
ERV-1	01-S11-02XM-23-L2	1000	0.75"	1.5	90	81	-15	35	1000	0.75"	1.5	208/3	(2)(3)(4)(5)

(2) PROVIDE WASHABLE PERMANENT INLET AIR FILTERS. (3) UNIT SHALL BE EQUIPPED WITH AUTOMATIC INLET DAMPER. (4) PROVIDE LOW AMBIENT DEFROST CONTROL (5) PROVIDE 14" ROOF CURB (CAPPED)

	EXHAUST FAN SCHEDULE													
PLAN	MODEL	LOCATION	STYLE	CFM	ESP	ľ	мотс	R DATA		REMARKS				
MARK	NO.				(IN)	VOLT	PH	POWER	SPD					
EF-1	CUE-080-VG	H-3 ROOM ROOF	CENTRIFUGAL	200	0.50	120	1	1/10HP	ECM	(1)(2)(3)				

(2) REFERS TO GREENHECK

		rumir sche	DU					
PLAN	MODEL		GPM	HEAD				REMARKS
MARK	NO.	SERVICE		(FT)	HP	VOLTS	FLUID	
CR-1	SKIDMORE	CONDENSATE PUMP	6	45	0.33	120-1-60	H2O	(3)(4)(9)
DHWP	UPS-40-80-F-N	140 DEGREE DHW RETURN WATER PUMP	6	20	280W	120-1-60	H2O	(1)(2)(4)(5)(6)(10)
P-1	MAGNA3- 40-80-F	FCU-1 COOLING PUMP	6	24	280W	120-1-60	H2O	(1)(2)(4)(6)(7)(8)(11)
P-2	MAGNA3- 40-80-F	FCU-2 COOLING PUMP	6	24	280W	120-1-60	H2O	(1)(2)(4)(6)(7)(8)(11)
P-3	MAGNA3- 40-80-F	FCU-3 COOLING PUMP	6	24	280W	120-1-60	H2O	(1)(2)(4)(6)(7)(8)(11)
P-4	MAGNA3- 40-80-F	MASHTUN COOLING PUMP	10	30	280W	120-1-60	H2O	(1)(2)(4)(6)(7)(8)
P-5	MAGNA3- 40-80-F	BIG STILL COOLING PUMP	6	24	280W	120-1-60	H2O	(1)(2)(4)(6)(7)(8)
P-6	MAGNA3- 40-80-F	LITTLE STILL COOLING PUMP	4	20	280W	120-1-60	H2O	(1)(2)(4)(6)(7)(8)
P - 7	MAGNA3- 40-80-F	FERMENTER 1 COOLING PUMP	4	20	280W	120-1-60	H2O	(1)(2)(4)(6)(7)(8)
P-8	MAGNA3- 40-80-F	FERMENTER 2 COOLING PUMP	4	20	280W	120-1-60	H2O	(1)(2)(4)(6)(7)(8)
P-9	MAGNA3- 40-80-F	FERMENTER 3 COOLING PUMP	4	20	280W	120-1-60	H2O	(1)(2)(4)(6)(7)(8)
P-10	MAGNA3- 40-80-F	ELECTRIC STILL COOLING PUMP	4	20	280W	120-1-60	H2O	(1)(2)(4)(6)(7)(8)
P-11	MAGNA3- 40-80-F	HX-1 DOMESTIC HOT WATER PUMP	6	24	280W	120-1-60	H2O	(1)(2)(4)(6)(8)(12)
	A ADUDIDEOG		-					

(1) REFERS TO GRUNDFOS

(2) PROVIDE TWO SERVICE VALVES, STRAINER, AND TWO P & T TEST PORTS (3) PROVIDE TWO STAINLESS STEEL FLEX CONNECTIONS (4) PROVIDE 20 AMP DISCONNECT

(5) GRUNDFOS STAINLESS STEEL PUMP HOUSING, ROTOR CAN AND BEARING PLATE FOR OPEN SYSTEMS (6) MOTOR HAS INTERNAL ELECTRONIC OVERLOAD RELAYS (7) PROGRAM PUMP TO MAINTAIN COOLING WATER RETURN TEMPERATURE (8) INSTALL PUMP IN RETURN PIPING FROM SERVED LOAD

(9) PROVIDE DISCHARGE CHECK VALVE (10) 3 SPEED PUMP FOR BALANCING (11) POWER FROM SAME CIRCUIT AS SERVED FAN COIL UNIT

(12) PROGRAM PUMP TO MAINTAIN 140 DEGREE LEAVING WATER TEMPERATURE

DRYLAND DISTILLERY STEAM TRAP SCHEDULE

TRAP	MODEL	TYPE	PRESSU	RE RATINGS, PS	SIG	INLET	OUTLET	ORIFICE	STEAM	LOAD PPH	SERVICE
#	NO. (1)		OPERATING	TRAP INLET	MAX	FPT (IN)	FPT (IN)	(INCHES)	DESIGN	MAX	
TR-1	15-BI-4-VB	F&T	12	0.25	250	1"	1"	5/16"	400	1000	BIG STILL
TR-2	211	IB	12	12	250	3/4"'	3/4"''	1/8"	100	300	BIG STILL DRIP
TR-3	15-BI-3-VB	F&T	12	0.25	250	3/4"'	3/4"'	7/32"	100	300	SMALL STILL
TR-4	211	IB	12	12	250	3/4"'	3/4"'	1/8"	100	300	SMALL STILL DRIP
TR-5	15-BI-3-VB	F&T	12	0.25	250	3/4"'	3/4"'	7/32"	200	300	HW HEAT EXCHANGER
TR-6	211	IB	12	12	250	3/4"'	3/4"'	1/8"	100	300	HW HX DRIP
TR-7	15-B-4-VB	F&T	12	0.25	250	1"	1"	5/16"	400	1000	MASHTUN
TR-8	211	IB	12	12	250	3/4"''	3/4"'	1/8"	100	300	MASHTUN DRIP
TR-9	15-BI-3-VB	F&T	12	0.25	250	3/4"'	3/4"'	7/32"	50	300	FAN COIL UNIT #1
TR-10	15-BI-3-VB	F&T	12	0.25	250	3/4"'	3/4"'	7/32"	50	300	FAN COIL UNIT #2
TR-11	15-BI-3-VB	F&T	12	0.25	250	3/4"'	3/4"''	7/32"	50	300	FAN COIL UNIT #3

(1) REFERS TO ARMSTRONG

LOW PRESSURE, GAS FIRED S INPUT OUTPUT OUTPUT OPERATING FUEL COMB. THERMAL FL MAX MBH MBH PPH PRESSURE TYPE EFF% EFF% (1 **3-15** 840 690 720 12 NAT. GAS 83 81.3

/ENT 2 FEET ABOVE ANY STRUCTURE WITHIN 10 FEET, WITH APPROVED GAS VENT CAP E PENETRATION WITH ROOF JACK AND ROOFING CEMENT

TO START AND TEST BOILER.

E COOLER OPTION

AL BOTTOM BLOW DOWN VALVES PIPED TO BLOWDOWN SEPARATOR

(6) PROVIDE 3/4" MANUAL WATER COLUMN BLOW DOWN VALVE PIPED TO BLOWDOWN SEPARATOR

1 NEW E PMENT SCHEDULES

W	Ε	Q	U	IP

(1) RUNS 24/7/365, PROVIDE DIFFERENTIAL PRESSURE SWITCH AND ALARM STROBE FOR FAN FAILURE

(3) PROVIDE MANUAL SPEED DIAL OPTION FOR BALANCING

PUMP SCHEDULF

(2) SEE MANUFACTURERS INSTALLATION INSTRUCTIONS FOR EACH TRAP

T]	EAM	BOI	LER S	CHI	EDUL	E			
LUE	STEAM	FW	RELIEF	GAS	GAS	GAS	WET		REMARKS
[N]	OUTLET	CONN	CONN (IN)	NPT	"W.C. MIN	"W.C. MAX	WEIGHT	POWER	
8	4"	1" NPT	1.5"	1-1/4"	6"	14	3150	120/1	(1)(2)(3)(4)(5)(6)
САР									

	ВΥ				
REVISIONS	DESCRIPTION				
	DATE				
	NO.				

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	22		
		% ABV	MAX
	200	gallons	PROCESS
	10	hours	LOAD
	4.4	max gph	ethanol generation
	6.55	#/gallon	ethanol density
	28.82	PPH	pounds per hour ethanol
ethanol	101.6	lb/kmol	
ethanol	3.3%	LFL	
ethanol	0.825%	25% of LFL	
ethanol	0.2837	kmols/hr	max production rate
	at altitude		
air	0.0009510	kmol/ft3	at 5300 feet elevation
nitrogen	0.0007425	kmol/ft3	at 5300 feet elevation
argon	0.000085	kmol/ft3	at 5300 feet elevation
oxygen	0.0002000	kmol/ft3	at 5300 feet elevation
height	2	feet	SPACE TO BE
area	700	sq feet	ELECTRICALLY DE-
volume	1400	cubic feet	CLASSIFIED
in air	1.3314	kmols	
in 0.825%	0.0110	kmols	
	0.0387	hours	to reach 0.825%
	2.3233	minutes	to reach 0.825%
	603	cfm	required continuous ventilation

		ВΥ				
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DATE: 0	9/30/2020

12" ROUND EXHAUST OPEN 12" A.F.F., UP THROUGH ROOF TO **ERV-1. INSULATE AND PROTECT** FROM WEATHER ABOVE ROOF

> COMCHECK HAS BEEN OMITTED AS IT SERVES NO MEANINGFUL PURPOSE ON THIS PROJECT AND NEVER SERVES ANY MEANINGFUL PURPOSE WHEN AN EXPERIENCED ENGINEER PROPERLY IMPLEMENTS DESIGNS MEETING ALL APPLICABLE CODES. AN ENGINEER'S STAMP ON THESE PLANS MEANS THAT ALL OF THESE REQUIREMENTS WILL BE MET. THIS ENGINEER CHARGES CLIENTS HOURLY SO TIME SPENT ON COMCHECK WOULD BE ADDED COST TO THE CUSTOMER WITH NO ADDED VALUE TO SOCIETY. AS SUCH PLEASE WAIVE THE COMCHECK REQUIREMENT FOR THIS PROJECT.

IF. AFTER NOTING THE ENERGY RECOVERY VENTILATOR. THE VARIABLE SPEED PUMPS. THE 3 SPEED FAN COIL UNITS WITH PROGRAMMABLE THERMOSTATS, THE LED LIGHTING WITH STAGED CIRCUITS, AND THE INTEGRATED BOILER AND CHILLER THAT SERVE ALL PROCESS AND HVAC LOADS THE REVIEWING PLANS EXAMINER DISAGREES PLEASE EXPLAIN WHAT VALUE THEY FIND IN COMCHECK AND THIS ENGINEER WILL PROVIDE COMCHECK DOCS

WA	TER TA	NK	[/ PU	JMI	P SCI	HEDULE			
ODEL		GPM	HEAD	RPM	HP	RECEIVER		OPER.	REMARKS
D. (1)	SERVICE		(FT)			VOLUME (GAL)	VOLTS	WEIGHT	

IO. (1)	SERVICE		(FT)			VOLUME (GAL)	VOLTS	WEIGHT	
CRT-7	CONDENSATE	5	35	3450	0.33	22	120-1-60	390	(2)(3)(4)(5)
	MOLA DOLLEDG	TVICT	NC. DEL		EDOM 47	2 MADI CTDEET			

(1) REFERS TO COLUMBIA BOILERS. EXISTING: RELOCATE FROM 473 MAIN STREET (2) 3/4" STEAM SPARGE TUBE FOR OXYGEN REMOVAL W/SELF CONTAINED CONTROL VALVE

(3) 3/4" MAKE-UP WATER CONNECTION

(4) 1" DRAIN & 1" OVERFLOW CONNECTIONS

(5) 2" VENT AND 1-1/4" RETURN CONNECTIONS

SCI	HEDU	ULE								
]	EVAPORA	TOR		VOLT/PH	FLA	MCA	WORKIN	WORKING FLUID		
LWT	FLOW	WPD	FOULING				TYPE	% CONC		
(F)	(GPM)	(FT)	FACTOR							
44	18	10	0.00010	208/3	87	110	H2O	100	(2)(3)	
NA 472	MAINIGT	DEET DE	DEODMANC	T 0025 T A T	TELEV					

1¹1/4"

RPBFP

1 MECHANICAL DETAILS SCALE : NTS

Sequences Of Operation for Dry Land Distillery

System Concept

The hydronic (closed) chilled water piping system is a one pipe series loaded loop where each cooling load is connected to the loop sequentially such that each load gets warmer entering chilled water than the preceeding load. It serves space cooling loads and process heat rejection. Chilled water may drop to 40 degrees and returning cooling water may rise to 150 degrees during still-condenser operation. The design intent is to flow the chiller pump at 100% speed whenever any load is calling for cooling. With the chiller set at 44 degrees at peak loads the return water temperature may reach 64 degrees.

Potable water will be heated to 140 degrees by a steam-to-water brazed plate heat exchanger controlled by a modulating single loop controller with a modulating steam valve and a recirculation pump for continuous flow. Hand sinks and lavatory's shall be fitted with adjustable anti-scald valves, initially set at 110 degrees F.

Low pressure steam (12 psig) will serve the three fan coil units, the mashtun, and two stills. Condensate shall return by gravity to a condensate receiver located next to the chiller. Condensate piping shall be carefully routed through the wall cavity behind the H-3 room, the kitchen and the rest rooms.

An existing gas / DX packaged roof top unit shall be serviced and have a new programmable thermostat installed. The unit will be used for back up space conditioning when boiler or chiller are not available in unfavorable weather.

<u>Fan Coil Units</u>

FCU-1, 2 and 3 are return air only, shall control the modulating heating valve and cooling pump to maintain space set point. Provide minimum 7 day programmable thermostats with an adjustable dead band between heating and cooling set points, 3 selectable speeds and fan /off/auto controls on the thermostat. Logic shall allow for day and night temperature set points.

Low Pressure Steam Boiler

The low pressure steam boiler shall be started as needed, operate at 12 psig and be fed by a vented feedwater tank and pump. The gas fired burner shall be fully modulating with minimum 4 to 1 turndown. A low water cut-out switch and a high pressure cut-out switch and an E-stop switch exiting the room shall shut off the boiler.

Provide a ¾" check valve and pressure regulator set at 30 psi with a three valve bypass on the cold water make-up line to the feed water tank for service and quick system filling.

<u>Chiller</u>

The chiller shall be enabled to run 24/7 and provide 44 degree chilled water supply water and receive 64 degree return. In cold weather the chilled water setpoint may be manually raised to 50 degrees.

<u>Pumps</u>

Chiller Pump shall run whenever any load is calling for cooling.

Domestic Hot Water Return pump shall run during all occupied periods.

Pumps P-1 through P-10 shall be programmed to control flow to maintain return cooling water temperature from the respective load

P-1, 2, and 3 shall serve FCU-1,2,3 cooling coils, respectively

- P-4 Cools the mashtun
- P-5 Cools the big still
- P-6 Cools the little still
- P-7 Cools Fermenter #1
- P-8 Cools Fermenter #2
- P-9 Cools Fermenter #3.
- P-10 Cools the electric still

Heat Exchangers

HX-1 uses 12 psig steam to heat cold water up to 140 degrees for use at the hose bib.

Feedwater Pump

This pump shall run whenever the Allied Boiler water level controller calls for water.

Condensate Receiver Pump

This receiver shall pump vented condensate back to the feed water tank.

<u>Exhaust Fan</u>

EF-1 shall run 24/7 to provide the H-3 barrel room with the required continuous exhaust. A current switch and a differential pressure switch shall prove air flow and motor operation. In the event of fan failure the steam boiler shall be shunted off.

Energy Recovery Ventilator

This unit is sized to provide the required continuous ventilation for ventilation codes as well as to meet the need to electrically de-classify the Distillery area by dilution and exhaust. ERV-1 shall run 24/7 to provide the Distillery with the required continuous ventilation and exhaust. A current switch and a differential pressure switch shall prove air flow and motor operation. In the event of exhaust fan failure the electric still shall be shunted off and a Normally Closed, two position, power open steam valve in the steam supply line after the three fan coil units have branched off but before any distillery steam loads, shall close.

2 SEQUENCES OF OPERATIONS

	ВΥ				
REVISIONS	DESCRIPTION				
	DATE				
	NO				

7010 Easy Wind Dr. Ste 200 Austin, TX 78752 512.899.3100

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BOULDER, CO 80305 (303) 588-0071 peter@

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JOB NO.: 2005 PERMIT DRAWINGS PHASE: DRAWN: PL CHECKED: PL DATE: 09/30/2020

PLAN

PLUMBING NOTES

2

- ALL WORK SHALL MEET THE REQUIREMENTS OF IPC 2018 AND THE CITY OF LONGMONT.
- PROVIDE SERVICE STOPS FOR EACH WATER CONNECTION TO EACH PLUMBING FIXTURE.
- PROVIDE ADA REQUIRED INSULATED LAVATORY PIPING WITH PROTECTIVE COVERING. - 3
- PROVIDE ANTI SCALD VALVES UNDER LAVATORY'S AND HAND SINKS 4 5
- PROVIDE A 1-1/4" REDUCED PRESSURE BACKFLOW PREVENTER MEETING REQUIREMENTS OF LONGMONT WATER DEPARTMENT.

1 PLUMBING FLOOR PLAN SCALE : 3/16"=1'-0" TRUE PLAN

GAS PIPING NOT SHOWN YET

ALL DCW AND DHW PIPING TO BE INSULATED WITH $\frac{3}{4}$ " FIBERGLASS PRE-FORMED **INSULATION WITH AN ALL** SERVICE JACKET

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TEST PORT FOR PROCESS SANITARY DISCHARGES

PLUMBER TO SCOPE SANITARY MAIN TO DETERMINE DEPTH. CONNECT TO (EX) UNDER FLOOR NEAR WEST END. IF NOT DEEP ENOUGH TO MAINTAIN 1/8" PER FOOT PITCH THROUGHOUT SYSTEM THEN COORDINATE WITH LONGMONT SANITARY DEPARTMENT AND CONNECT TO (EX) UNDER ALLEY TO THE WEST.

MARK	WASTE	VENT	CW	HW	DESCRIPTION
1 0.1	4	0	2/4		ADA HAMED GLOGEM AMEDICAN GEANDADD MADEDA #2042 102 OD GIMILAD
WC-1	4	2	3/4	-	ADA WATER CLOSET: AMERICAN STANDARD MADERA #3043.102 OR SIMILAR.
					FULLY GLAZED 2" TRAPWAY, 1 1/2" TOP SPUD. 10" ROUGH-IN AND WALL ESCUTCHEON PL
					TOILET SEAT: OLSONITE #95SS-FR.
					OPEN FRONT, LESS COVER, HIGH IMPACT SOLID PLASTIC, COMMERCIAL WEIGHT STAINLES
					POSTS AND SELF SUSTAINING CHECK HINGES.
-1	2	2	3/4	-	URINAL: WATERLESS, TOTO OR EQUAL
					WALL HUNG, VITREOUS CHINA, 2" BACK OUTLET,
					WALL HANGERS, AND INTEGRAL STRAINER.
1	2	2	1/2	1/2	WALL HUNG LAVATORY: AMERICAN STANDARD #0356.421 OR SIMILAR.
					VITREOUS CHINA, 20X18 WALL HUNG LAVATORY, FRONT OVERFLOW, FITTING LEDGE, SEAL
					SINGLE FAUCET HOLE.
					FAUCEI: CHICAGO #2201-AK-E2005 OR SIMILAR. SINGLE HANDLE CAST BRASS BODY CERAMIC DISC CARTRIDGE ADJUSTABLE HOT WATER
					VOLUME CONTROL, 4 3/4" SPOUT, 0.5 GPM AERATOR, FLEXIBLE TUBE WATER SUPPLY LIN
					ANGLE STOPS, OPEN GRID DRAIN WITH 1 1/4" X 6, 18 GAGE SEAMLESS BRASS TAIL PIE
					TRUEBRO TRAP WRAP OR SIMILAR.
1	2	2	1/2	1/2	1-COMPARTMENT WALL HUNG HAND SINK: ELKAY 3ELV-2219 OR SIMILAR.
					22X19X6 1/4 ONE COMPARTMENT SINK, 18 G #302 STAINLESS STEEL, SELF RIMMING LED
					THOROUGHLY SOUND DEADENED, 3-HOLE PUNCH 4" ON CENTER.
					FAUCET: ELKAY LK-4121 GOOSENECK WITH SINGLE LEVER FAUCET OR SIMILAR.
					1 1/4" SEAMLESS BRASS TAIL PIECE, STRAINER, ANGLE STOPS, FLEXIBLE TUBE SUPPLY
0		-	1 /0	1 /0	AND ESCUTCHEONS.
4	2	Z	1/2	1/2	<u>I-COMPARIMENT DINK:</u> ELKAI D-12521 UK SIMILAK. 2582286 1/2" DEED ONE COMDADEMENT CINK 10 C #202 CHAINTERS CHEET CELE DINMI
					THOROUGHLY SOUND DEADENED 3-HOLE PHNCH 4" ON CENTED
					FAUCET: ELKAY #4301 KITCHEN FAUCET WITH SINGLE LEVER FAUCET OR SIMILAR
					CERAMIC DISC CARTRIDGE, LOW PROFILE 10" SPOUT, SINGLE LEVER HANDLE. 2.0 GPM A
					PLATE, 3 1/2" STAINLESS STEEL BASKET STRAINER, 1 1/2" 17G CAST BRASS P-TRAP
					ESCUTCHEON, FLEXIBLE TUBE SUPPLY LINES AND COMPRESSION TYPE ANGLE STOPS.
					GARBAGE DISPOSER: IN-SINK AERATOR BADGER 5XP.
					3/4 HP, 120/1/60, WITH DISHWASHER DRAIN CONNECTION. PROVIDE DISHWASHER DRAIN
2	2	2	1/2	1/2	<u>2-COMPARTMENT SINK:</u> ELKAY D-23322 OR SIMILAR.
					33X22X6 1/2" DEEP TWO COMPARTMENT SINK, 18 G #302 STAINLESS STEEL, SELF RIMMI
					THOROUGHLY SOUND DEADENED, 3-HOLE PUNCH 4" ON CENTER.
					FAUCET: ELKAY #4301 KITCHEN FAUCET WITH SINGLE LEVER FAUCET OR SIMILAR.
					CERAMIC DISC CARIRIDGE, LOW PROFILE IO" SPOUL, SINGLE LEVER HANDLE, 2.0 GPM A DIATE 3 1/2" STAINIESS STEEL BASKET STDAINED 1 1/2" 176 CAST BDASS D_TDAD
					ESCUTCHEON FLEXIBLE TUBE SUPPLY LINES AND COMPRESSION TYPE ANGLE STOPS
					GARBAGE DISPOSER: IN-SINK AERATOR BADGER 5XP.
					3/4 HP, 120/1/60, WITH DISHWASHER DRAIN CONNECTION. PROVIDE DISHWASHER DRAIN
a.	2	2	1/2	1/2	3-COMPARTMENT SINK: ELKAY MN8300LR OR SIMILAR.
					CUSTOM 20X24X14 3-COMPT. COMPARTMENT SINK WITH LEFT AND RIGHT 24-INCH DRAIN B
					OF 103-INCHES, TWO 1 1/2" FAUCET HOLES ON 8" O.C. OVER EACH PARTITION FOR (2
					3 1/2" FROM TOP OF 8" BACKSPLASH, 3 1/2" DRAIN OUTLETS IN EACH COMPARTMENT.
					FAUCET: ELKAY LK66B OR SIMILAR.
1	2	2	1/2	1/2	BACK MOUNTED FAUCET WITH 6" BRASS SWING SPOUT WITH AERATOR, ADJUSTABLE 8" CEN
<u>т</u>	3	2	1/2	1/2	PRE-CAST TERRAZZO, FRONT DROP RRASS DRAIN NICKEL RDON7F STDAINED STAINES
					ON ALL SIDES.
					FAUCET: CHICAGO #897 OR SIMILAR.
			1	1	
					WALL MOUNTED 24" ABOVE TOP LEDGE OF BASIN, ALL BRASS SUPPLY FAUCET, 10" SPOUT
					WALL MOUNTED 24" ABOVE TOP LEDGE OF BASIN, ALL BRASS SUPPLY FAUCET, 10" SPOUT BRACE AND PAIL HOOK, 3/4" MALE HOSE THREADED OUTLET AND VACUUM BREAKER, LEVER
					WALL MOUNTED 24" ABOVE TOP LEDGE OF BASIN, ALL BRASS SUPPLY FAUCET, 10" SPOUT BRACE AND PAIL HOOK, 3/4" MALE HOSE THREADED OUTLET AND VACUUM BREAKER, LEVER INTERGRAL STOP ARMS, WALL FLANGES, 1/2" FEMALE THREADED INLETS AND ADJUSTABLE
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1. CONTRACTOR TO COORDINATE FINAL SELECTIONS OF ALL PLOMBING FIXTORES WITH OWNER PRIOR TO ORDERING. 2. FLOOR DRAINS SHALL BE PROVIDED WITH TRAP PRIMER. PROVIDE 12X12 ACCESS PANEL FOR AUTOMATIC TRAP PRIMER.

3 PLUMBING SCHEDULE SCALE : NTS

7010 Easy Wind Dr. Ste 200 Austin, TX 78752 512.899.3100

www.designopa.com

2835 KENYON CIR BOULDER, CO 80305 (303) 588-0071

peter@ lemessurierengineering.com

ERS DISTI CO 80501 Z S LONGMONT, <MAIN $\mathbf{\Gamma}$ 6 51

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2005
PERMIT DRAWINGS
PL
PL
09/30/2020

PANEL L1

VOLTAGE 120/208 PHASE 3 MAIN BREAKER MLO

TYPE MTG SURFACE WIRES 4

LARGEST MOTOR

BUS RATING 400

			1	-	r			T		r	T
	CKT DESCRIPTION	LOAD	BKR	р		PHAS	SE	p	RKR	LOAD	CKT DESCRIPTION
CD	CRI DESCRII HON	LUAD	DIAX	1	C	CIRCU	JIT		DIXIX	LOAD	CKI DESCAII HON
R	RECEPTACLES BOILER ROOM	540	20	1	1	A	2	1	20	250	FIRE ALARM PANEL
Μ	BOILER	400	20	1	3	B	4	1	20	622	LITES TABLE SEATING AREA
Μ	FEED WATER PUMP	400	20	1	5	C	6	1	20	24	LITES BOILER ROOM
R	BATHROOM RECEPTACLES	540	20	1	7	A	8	1	20	144	LITES CHILLER AREA
R	RECEPTACLES PREP AREA 1	360	20	1	9	B	10	1	20	168	LITES REST ROOMS
R	RECEPTACLES - PREP AREA 2	360	20	1	11	C	12	1	20	100	EXTERIOR LITES WEST
Μ	ICE MACHINE	1296	20	1	13	A	14	1	20	500	EXTERIOR LITES SOUTH
X	FORK LIFT CHARGER	1800	20	1	15	B	16	1	20	200	SIGN LITE
			1	/	17	C	18	1	20	322	LITES BAR AREA 1
R	RECEPTACLES CHILLER AREA	360	20	1	19	A	20	1	20	115	LITES BAR AREA 2
R	H3 ROOM UPS	600	20	2	21	B	22	1	20	45	LITES PREP KITCHEN
			/	[/	23	C	24	1	20		SPARE BREAKER
R	AMP OUTLET	180	20	1	25	A	26	1	/		BUSSED SPACE
R	RECORD PLAYER OUTLET	180	20	1	27	B	28	/	/		BUSSED SPACE
Μ	CONDENSATE RECEIVER	450	20	1	29	C	30	1	/		BUSSED SPACE
Μ	DHW RECIRC PUMP	300	20	1	31	A	32	1	/		BUSSED SPACE
R	SOUTH WALL RECEPTACLES	540	20	1	33	B	34	/	1		BUSSED SPACE
R	BAR OUTLETS	540	20	1	35	C	36	/	/		BUSSED SPACE
X	GLASSWASHER	364	15	1	37	A	38	3	110	26784	CHILLER
Μ	BAR OUTLETS JUICER	1200	20	1	39	B	40	1	1		
R	BAR OUTLETS - GFCI	540	20	1	41	C	42	1	/		
R	BAR OUTLETS ELECTRIC KETTLE	360	20	1	43	A	44	3	20	1200	CHILLER CONDENSER
Μ	BAR OUTLETS - OPEN TOP FRIG	450	15	1	45	B	46	1	/		
Μ	BAR OUTLETS UC FRIG	540	15	1	47	C	48	1	/		
X	POINT-OF-SALE	50	15	1	49	A	50	1	/		BUSSED SPACE
R	BAR OUTLETS	540	20	1	51	B	52	1	20	1480	FAN COIL UNIT #1
R	BAR OUTLETS UC FRIG	540	15	1	53	C	54	1	20	1480	FAN COIL UNIT #2
L	LIGHTING	2240	1.25						2800		
R	RECEPTACLES UP TO 10 KVA	6180	1.00						6180		PHASE A
	RECEPTACLES OVER TO 10 KVA	0	0.50						0		PHASE B
Μ	MOTORS	35980	1.00						35980		PHASE C
	LARGEST MOTOR	2000	0.25						500		
C	COMPUTER RECEPTACLES	0	1.25						0		CONNECTED
A	APPLIANCES	0	0.65						0		DESIGN
X	MISC EQUIP/MIXED LOADS	2464.0	1.00						2464		DEMAND
	CONNECTED TOTAL	46.864	KVA		Ľ	DEMAN	ID TO	TAL	47.924	KVA	SPARE
	CONNECTED LOAD	130.2	AMPS			DEMA	ND LO	DAD	133.1	AMPS	
						SPA	RE LO	DAD	66.9	AMPS	NEC DEMAND
Ν	NON-COINCIDENTAL LOAD	0		SEF	VIC	e desi	GN LC	DAD	200	AMPS	NEC DEMAND

A. PORTABLE PUMPS: PROVIDE 4 CONDUCTOR #12 SOOW HARD SERVICE CORD, WITH 20A / 600 VOLT / 5 HP RATED TWIST LOCK OUTLET AND CORD CAP. "DISCONNECT TO BE MOUNTED ON WALL 48" AFF AND AT LEAST 60" FROM ANY ALCOHOL CONTAINING VESSEL. PROVIDE 20 AMP RATED RETRACTABLE CORD REEL. RESTRICT CORD REEL LENGTH TO KEEP CORD CAP A MINIMUM OF 36" AFF. PORTABLE PUMPS SHALL BE LISTED FOR USE IN THEIR PARTICULAR ENVIRONMENT AND SHALL BE INTERNALLY PROTECTED.

B. PROVIDE GFI PROTECTION OF ALL RECEPTACLES WITHIN 6 FEET OF SINKS OR HOSE BIBS

C. LOCATIONS OF DEVICES SHOWN ARE DIAGRAMMATIC ONLY. FIELD VERIFY FINAL LOCATION WITH ARCHITECT AND ADJUST PER CODE

D. ALL RECEPTACLES IN AREAS OUTSIDE OF DISTILLERY @ 18" AFF U.N.O.

ASC 10K

_____ _____ BALA 14327.0 17613.0 14924.0 46.86 72.00 47.92 24.08 KVA

47.92 KVA

133.1 AMPS

VOLTAGE 120/208 PHASE 3 MAIN BREAKER MLO

PANEL L2 TYPE BOLT ON

MTG SURFACE WIRES 4

LARGEST MOTOR

	CD	CKT DESCRIPTION	LOAD	BKR	P	C	PHA: TRC	SE UIT	Р	BKR	LOAD	CKT DESCRIPTION
	Х	ELECTRIC STILL	6240	40	2	1	A	2	1	20	100	EXIT LIGHTS
				1	[/	3	B	4	1	20	200	EXTERIOR LIGHTS - EAST SIDE
	R	RETRACTABLE RECEPTACLE #1	180	20	1	5	С	6	1	20	468	DISTILERY LIGHTS I
	R	RETRACTABLE RECEPTACLE #2	180	20	1	7	A	8	1	20	348	DISTILERY LIGHTS 2
	R	RETRACTABLE RECEPTACLE #3	180	20	1	9	B	10	1	20	840	P-4, P-5, P-6 - MT & LPS STILLS PUMP
	R	RETRACTABLE RECEPTACLE #4	180	20	1	11	C	12	1	20	840	P-7, P-8, P-9 FERMENTER PUMPS
[Μ	MASHTUN AGITATOR	4500	20	3	13	A	14	1	15	280	P-10 ELECTRIC STILL PUMP
				1	[/	15	B	16	1	1		BUSSED SPACE
				1	[/	17	С	18	1	1		BUSSED SPACE
	R	DISTILLERY RECEPTACLES	360	20	1	19	A	20	1	1		BUSSED SPACE
Γ	Μ	MASHTUN AUGER	1200	20	1	21	B	22	1	1		BUSSED SPACE
		BUSSED SPACE		1	/	23	С	24	1	1		BUSSED SPACE
		BUSSED SPACE		1	/	25	A	26	1	1		BUSSED SPACE
[BUSSED SPACE		- /	1	27	B	28	1	/		BUSSED SPACE
	Μ	FAN COIL UNIT #3	1480	20	1	29	С	30	1	1		BUSSED SPACE
		BUSSED SPACE		1	1	31	A	32	1	1		BUSSED SPACE
	М	BUSSED SPACE		1	1	33	B	34	1	1		BUSSED SPACE
	М	HEAT RECOVERY VENTILATOR	4140	20	3	35	С	36	1	1		BUSSED SPACE
				1	/	37	A	38	3	20	2700	(EX) ROOF TOP UNIT
ſ				1	/	39	B	40	1	/		
		BUSSED SPACE		1	/	41	С	42	1	1		
	L	LIGHTING	1116	1.25						1395		
	R	RECEPTACLES UP TO 10 KVA	1080	1.00						1080		PHASE A
		RECEPTACLES OVER TO 10 KVA	0	0.50						0		PHASE B
	Μ	MOTORS	15980	1.00						15980		PHASE C
		LARGEST MOTOR	2000	0.25						500		
	С	COMPUTER RECEPTACLES	0	1.25						0		CONNECTED
	А	APPLIANCES	0	0.65						0		DESIGN
	Х	MISC EQUIP/MIXED LOADS	6240	1.00						6240		DEMAND
		CONNECTED TOTAL	24.416	KVA		D	EMA	ND TO	ΓAL	25.195	KVA	SPARE
		CONNECTED LOAD	67.8	AMPS			DEM/	AND LO)AD	70.0	AMPS	
							SPA	ARE LO)AD	130.0	AMPS	NEC DEMAND
	Ν	NON-COINCIDENTAL LOAD	0		SEF	VICI	E DES	IGN LO	DAD	200	AMPS	NEC DEMAND

DRYLAND DISTILLERY TOTAL DEMAND

	DEMAND
	KVA
L1	47.9
L2	25.2
	73.1

1. PROVIDE 50' RETRACTABLE SPRING LOADED STATIC GROUNDING WIRE REEL, 3/32" CORROSION RESISTANT STEEL CABLE WITH 50# PLIER CLIP, STAINLESS POINTS, 3/4" GRIP RANGE FOR ALCOHOL PUMPING TO LOOSE VESSELS AT LOCATION SHOWN ON CODE PLAN.

2. STATIC GROUNDING: PROVIDE SOLID COPPER #6 AWG STATIC GROUND TIED TO TO BUILDING ELECTRICAL SERVICE GROUNDING. MOUNT AT 24" AFF, PROTECT FROM DAMAGE AS NEEDED. CONNECT ALL EQUIPMENT, VESSELS, AND STATIC GROUND STRAPS WHERE >20% ABV EXISTS WITH STATIC GROUND STRAPS IN A DAISY CHAIN PATTERN OR WITH INDIVIDUAL GROUND STRAPS OR #6 AWG TAPS OF THE MAIN GROUND CONDUCTOR. BOND GROUND SYSTEM TO PANEL PP GROUND TAP.

UNISEX R/R 1 [106] GWB @ 8'-0"

L1-8

L1-4 L1-4

GWB 8"-0"

\ | 1

TAS<u>TING</u> RM.

OPEN TO STRUC., V.I.F.

104 -

L1-10

<u>HEAD</u>ER 7"-0"

	LIGHTING SCHEDULE						
TAG	DESCRIPTION	# OF LAMPS	W/LAMP	W/FIXTURE	CRI	LUMENS	VOLTS
A	RECESSED CAN FIXTURE	1	23	23	TBD	TBD	120
В	RECESSED DIRECTIONAL CAN FIXTURE	1	23	23	TBD	TBD	120
С	RECESSED CAN FIXTURE, LOW VOLTAGE	1	15	15	TBD	TBD	24 VDC
D	D WALL SCONCE (RESTROOM)		15	15	TBD	TBD	120
E	E WALL SCONCE (TASTING RM.)		15	15	TBD	TBD	120
F	PENDANT FIXTURE (GENERAL LIGHTING)	1	27	27	TBD	TBD	120
G	CHANDELIER FIXTURE	12	9	108	TBD	TBD	120
Н	PENDANT FIXTURE (BAR)	1	23	23	TBD	TBD	120
I	STRIP FIXTURE	1	24	24	TBD	TBD	120
J	TRACK FIXTURE (4' TRACK - MULTIPLE HEADS)	3	15	45	TBD	TBD	120
K	VERTICAL TRACK FIXTURE (2' TRACK - 2 HEADS)	2	15	30	TBD	TBD	120
Х	EXIT SIGN	1	4	4	TBD	TBD	120
AA	EXTERIOR ARM MOUNTED SIGNAGE PENDANT	1	27	27	TBD	TBD	120
BB	EXTERIOR SURFACE MTD. FIXTURE	1	100	100	TBD	TBD	120
CC	EXTERIOR TREE STRING LIGHTING	1	20	20	TBD	TBD	120
EX	EXISTING EXTERIOR ARM MTD. PENDANT	1	27	27	TBD	TBD	120

	BΥ			
REVISIONS	DESCRIPTION			
	DATE			
	NO			
		-	-	

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Engineer.	
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DRAWN:	PL
CHECKED:	PL
DATE:	09/30/2020

