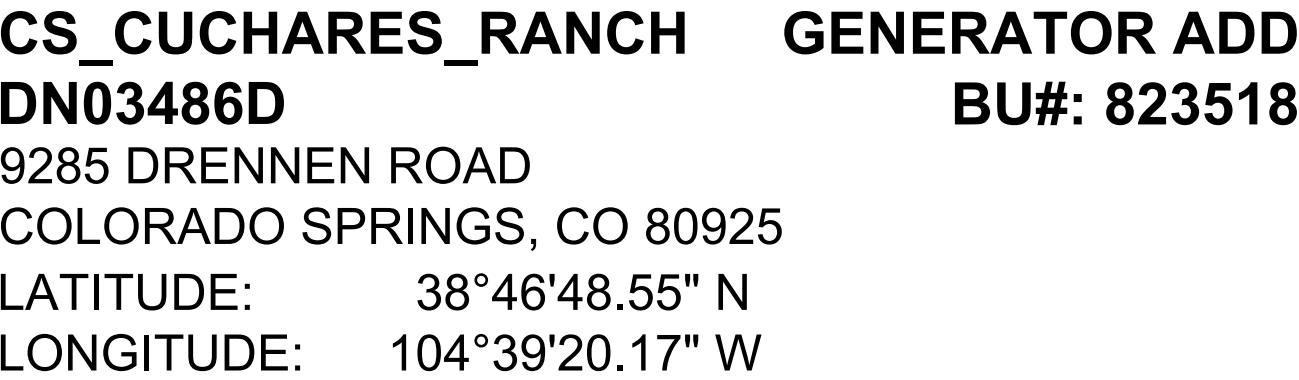




DN03486D
CS_CUCHARS_RANCH

APPROVAL SIGNATURE BLOCK		
The following parties have reviewed these documents.		
All documents are subject to review by the local zoning/building departments and may impose changes or modifications.		
<div></div> <div>Project Manager (Print)</div>	<div></div> <div>Project Manager</div>	<div><div><input type="checkbox"/> Approved</div><div><input type="checkbox"/> Rejected</div></div> <div></div> <div>Date</div>
<div></div> <div>RF Engineer (Print)</div>	<div></div> <div>RF Engineer</div>	<div><div><input type="checkbox"/> Approved</div><div><input type="checkbox"/> Rejected</div></div> <div></div> <div>Date</div>
<div></div> <div>Site Acquisition (Print)</div>	<div></div> <div>Site Acquisition</div>	<div><div><input type="checkbox"/> Approved</div><div><input type="checkbox"/> Rejected</div></div> <div></div> <div>Date</div>
<div></div> <div>Construction Manager (Print)</div>	<div></div> <div>Construction Manager</div>	<div><div><input type="checkbox"/> Approved</div><div><input type="checkbox"/> Rejected</div></div> <div></div> <div>Date</div>
<div></div> <div>TMO Quality Assurance (Print)</div>	<div></div> <div>TMO Quality Assurance</div>	<div><div><input type="checkbox"/> Approved</div><div><input type="checkbox"/> Rejected</div></div> <div></div> <div>Date</div>



PROJECT INFORMATION:

SITE NAME:
CS_CUCHARS_RANCH

SITE ID:
DN03486D

BU#: 823518

9285 DRENNEN ROAD
COLORADO SPRINGS, CO 80925
EL PASO COUNTY

[illegible]

PLANS PREPARED BY:

WYCO
FIELD SERVICES
where quality still counts.

6335 DOWNING ST.
DENVER, CO 80216
WYCOFS.COM

LICENSURE NO:

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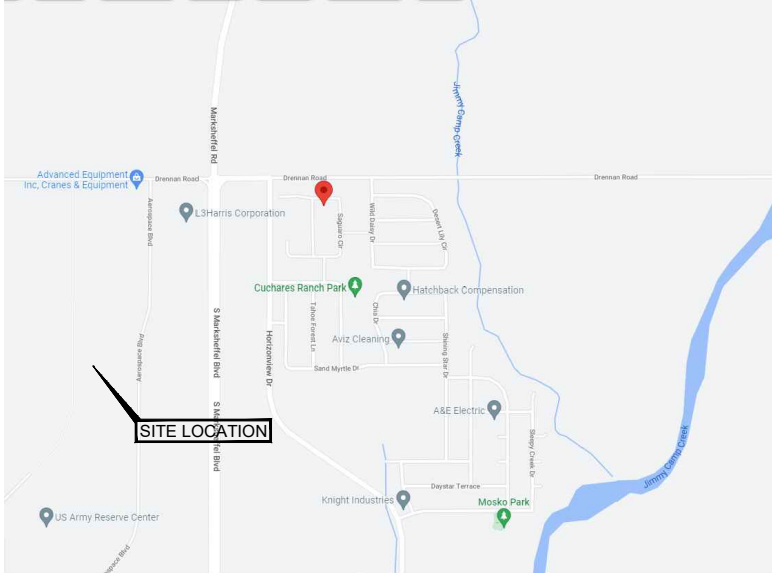

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CBM	TJN	TA

SHEET TITLE:

TITLE SHEET

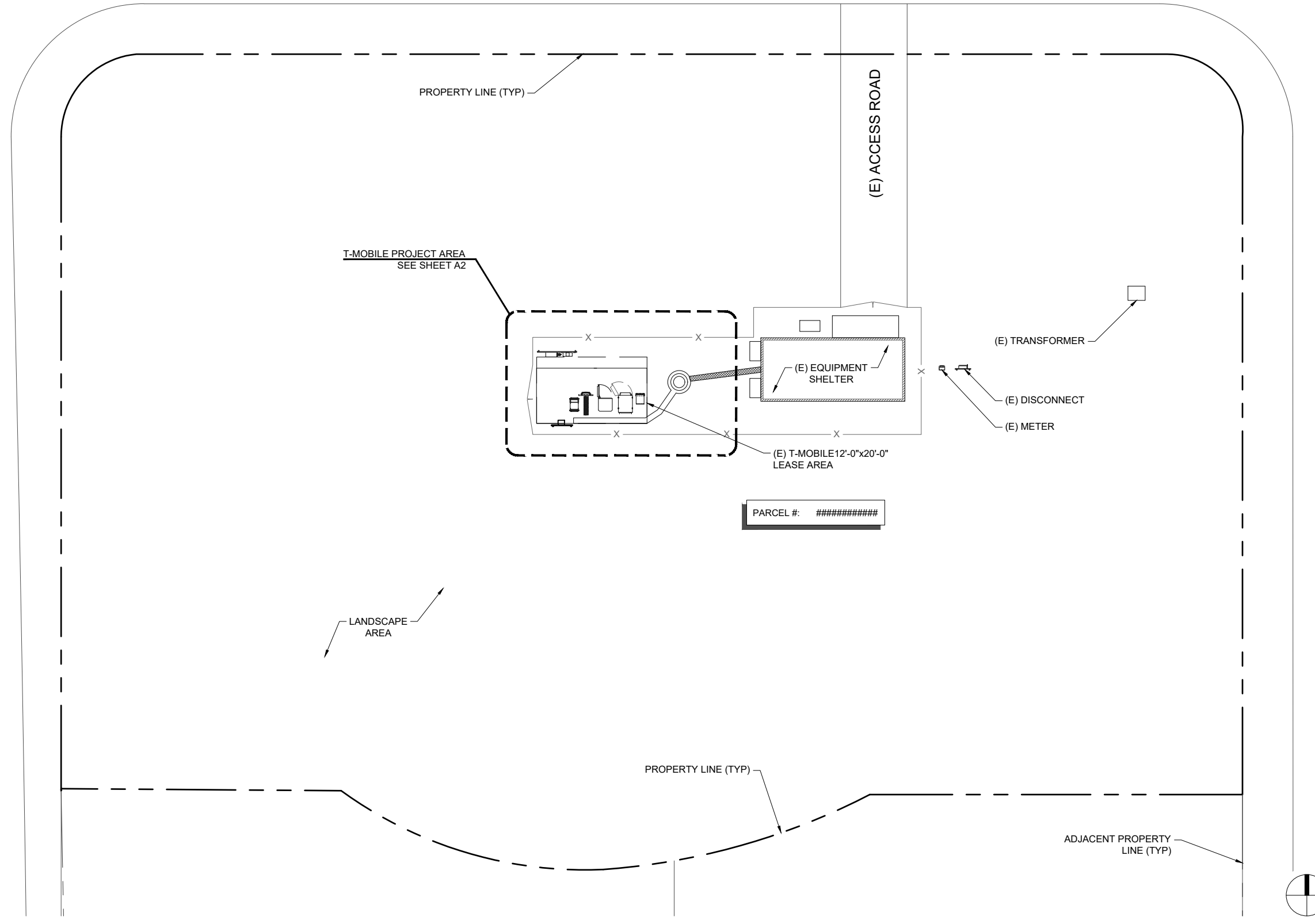
SHEET NUMBER:

T1

VICINITY MAP		SCOPE OF WORK		PROJECT CONTACTS		DRAWING INDEX	
		MODIFICATION OF AN EXISTING "NON-INHABITABLE" T-MOBILE TELECOMMUNICATIONS SITE: -INSTALL (1) RD048 DIESEL GENERATOR -INSTALL (N) CONCRETE PAD -INSTALL (N) AUTOMATIC TRANSFER SWITCH -ADD REQUIRED LEASE AREA (40 S.F.)		SITE CONTACT: CROWN CASTLE 1 CITY PLACE, SUITE 490 ST. LOUIS, MO 63141 AMANDA MCBRIDE, ASSOCIATE PROJECT MANAGER 314.513.0141 APPLICANT: T-MOBILE WEST LLC 990 SOUTH BROADWAY DENVER, CO 80209 303.313.6923 T-MOBILE PROJECT MANAGEMENT BRETT PFLEGER 990 SOUTH BROADWAY DENVER, CO 80209 BRETT.2.PFLEGER@T-MOBILE.COM T-MOBILE CONSTRUCTION MANAGER JEREMY NAUGLE 18400 E 22ND AVE AURORA, CO 80011 303.882.6792 SITE ACQUISITION: WYCO LAND SERVICES 6335 DOWNING ST. DENVER, CO 80216 ANNIE MACKIEWICZ 303.601.7241 A&E ENGINEERING MANAGER WYCO ENGINEERING SERVICES 6335 DOWNING ST. DENVER, CO 80216 TYLER NICHOLLS 720.855.5925 ENGINEER TIM ALEXANDER, PE 602.403.8368 TIMALEXANDER@HOTMAIL.COM		T1 TITLE SHEET A1 OVERALL SITE PLAN A2 ENLARGED SITE PLAN A3 EQUIPMENT PLAN A4 SITE DETAILS A5.1 EQUIPMENT DETAILS A5.2 EQUIPMENT DETAILS A6 EQUIPMENT DETAILS GN1 GENERAL NOTES GN2 GENERATOR NOTES	
SITE PHOTO		SITE INFORMATION					
		SITE TYPE: STRUCTURE NON-BUILDING SITE NAME: CS_CUCHARES_RANCH SITE NUMBER: DN03486D SITE ADDRESS: 9285 DRENNEN ROAD COLORADO SPRINGS, CO 80925 JURISDICTION: EL PASO COUNTY PARCEL NUMBER: 55031-19-017		CODE COMPLIANCE			
		ALL WORK SHALL BE PERFORMED AND MATERIALS INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES. GOVERNING CODES, AS APPLICABLE: 2015 IBC, 2015 IFC, 2015 IMC, 2015 IECC, 2014 NEC A.D.A. COMPLIANCE: NOT REQUIRED PER IBC 1103.2.9.		GENERAL CONSTRUCTION NOTES			
DRIVING DIRECTIONS		1. THE FACILITY IS AN UNOCCUPIED WIRELESS FACILITY. 2. PLANS ARE NOT TO BE SCALED AND ARE INTENDED TO BE A DIAGRAMMATIC OUTLINE ONLY, UNLESS NOTED OTHERWISE. THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS. 3. PRIOR TO THE SUBMISSION OF BIDS, THE CONTRACTORS SHALL VISIT THE JOB SITE AND BE RESPONSIBLE FOR ALL CONTRACT DOCUMENTS, FIELD CONDITIONS AND DIMENSIONS, AND CONFIRMING THAT THE WORK MAY BE ACCOMPLISHED AS SHOWN PRIOR TO PROCEEDING WITH CONSTRUCTION. ANY DISCREPANCIES ARE TO BE BROUGHT TO THE ATTENTION OF THE IMPLEMENTATION ENGINEER AND ARCHITECT/ENGINEER PRIOR TO PROCEEDING WITH THE WORK. 4. THE CONTRACTOR SHALL RECEIVE, IN WRITING, AUTHORIZATION TO PROCEED BEFORE STARTING WORK ON ANY ITEM NOT CLEARLY DEFINED OR IDENTIFIED BY THE CONTRACT DOCUMENTS. 5. CONTRACTOR SHALL CONTACT LOCAL DIGGERS HOTLINE 48 HOURS PRIOR TO PROCEEDING WITH ANY EXCAVATION, SITE WORK OR CONSTRUCTION. 6. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY INDICATED OTHERWISE OR WHERE LOCAL CODES OR REGULATIONS TAKE PRECEDENCE. 7. ALL WORK PERFORMED AND MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES. CONTRACTOR SHALL GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. MECHANICAL AND ELECTRICAL SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS, AND LOCAL AND STATE JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.					
FROM 990 SOUTH BROADWAY DENVER, CO: GET ON I-25 S. FOLLOW I-25 S TO BRADLEY RD IN SECURITY-WIDEFIELD. CONTINUE ON BRADLEY RD. TAKE S MARKS SHEFFEL BLVD TO SAGUARO CIR. WIDEFIELD SCHOOL DISTRICT 3 COLORADO, USA							

DESSERT WILLOW LANE

SAGUARO CIRCLE



990 SOUTH BROADWAY DENVER, CO 80209

PROJECT INFORMATION:

SITE NAME:
CS_CUCHARES_RANCH

SITE ID:
DN03486D

BU#: 823518

9285 DRENNEN ROAD
COLORADO SPRINGS, CO 80925
EL PASO COUNTY

REV:	DATE:	DESCRIPTION:	BY:
A	04-11-22	PRELIMINARY	CBM

PLANS PREPARED BY:

here quality still counts.

6335 DOWNING ST.
DENVER, CO 80216
WYCOFS.COM

LICENSURE NO:

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CBM	TJN	TA

SHEET TITLE:

OVERALL
SITE PLAN

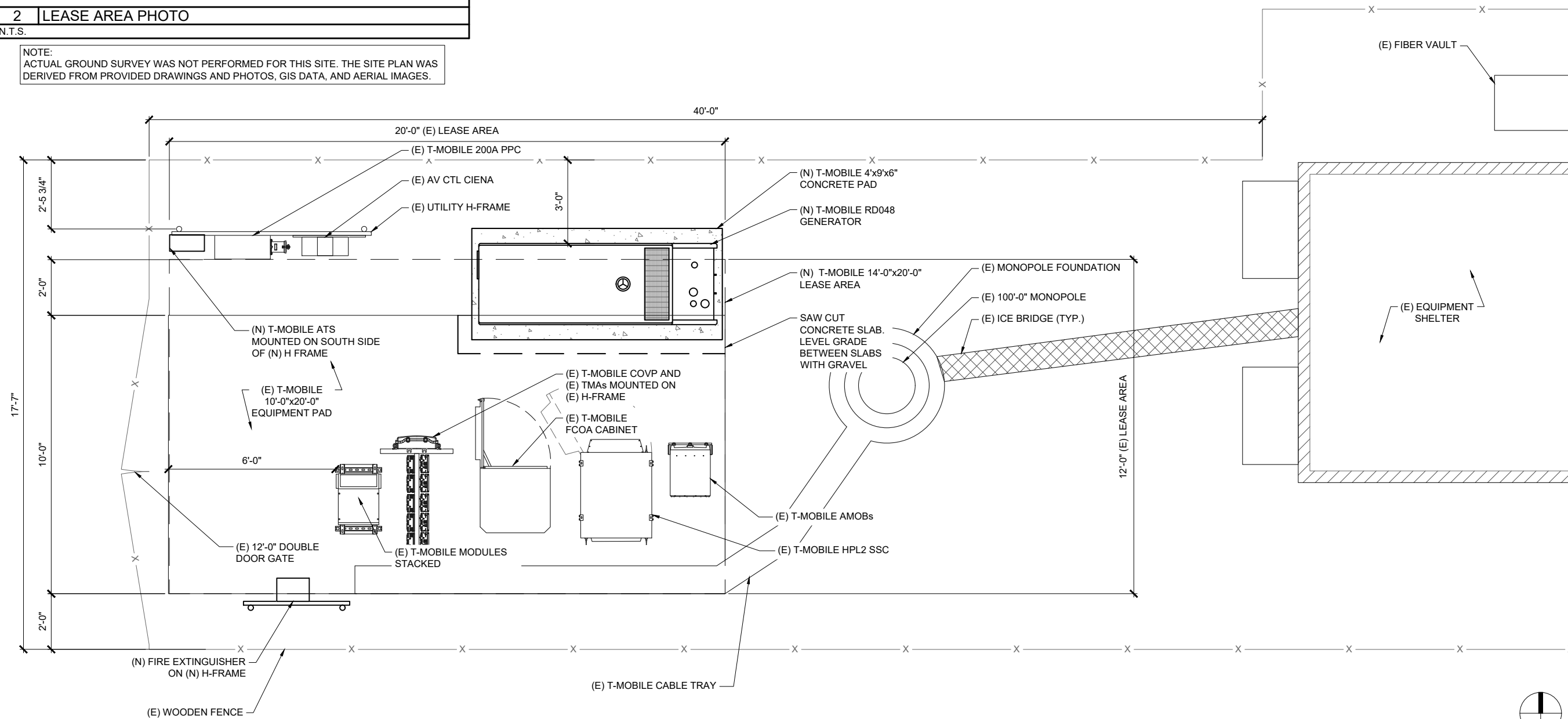
SHEET NUMBER:

A1

2	LEASE AREA PHOTO
---	------------------

N.T.S.

NOTE:
ACTUAL GROUND SURVEY WAS NOT PERFORMED FOR THIS SITE. THE SITE PLAN WAS
DERIVED FROM PROVIDED DRAWINGS AND PHOTOS, GIS DATA, AND AERIAL IMAGES.



1	ENLARGED SITE PLAN
---	--------------------

SCALE: AS NOTED



990 SOUTH BROADWAY DENVER, CO 80209

PROJECT INFORMATION:

SITE NAME:
CS_CUCHARS_RANCH

SITE ID:
DN03486D

BU#: 823518

9285 DRENNEN ROAD
COLORADO SPRINGS, CO 80925

EL PASO COUNTY

REV: DATE: DESCRIPTION: BY:

[illegible]

PLANS PREPARED BY:



6335 DOWNING ST.
DENVER, CO 80216
WYCOFS.COM

LICENSURE NO:

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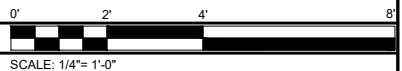
CBM	TJN	TA
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SHEET TITLE:

ENLARGED SITE PLAN

SHEET NUMBER:

A2



PROJECT INFORMATION:

SITE NAME:

CS_CUCHARES_RANCH

SITE ID:

DN03486D

BU#: 823518

9285 DRENNEN ROAD

COLORADO SPRINGS, CO 80925

EL PASO COUNTY

REV:	DATE:	DESCRIPTION:	BY:
A	04-11-22	PRELIMINARY	CBM

PLANS PREPARED BY:

WYCO

FIELD SERVICES

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DENVER, CO 80216
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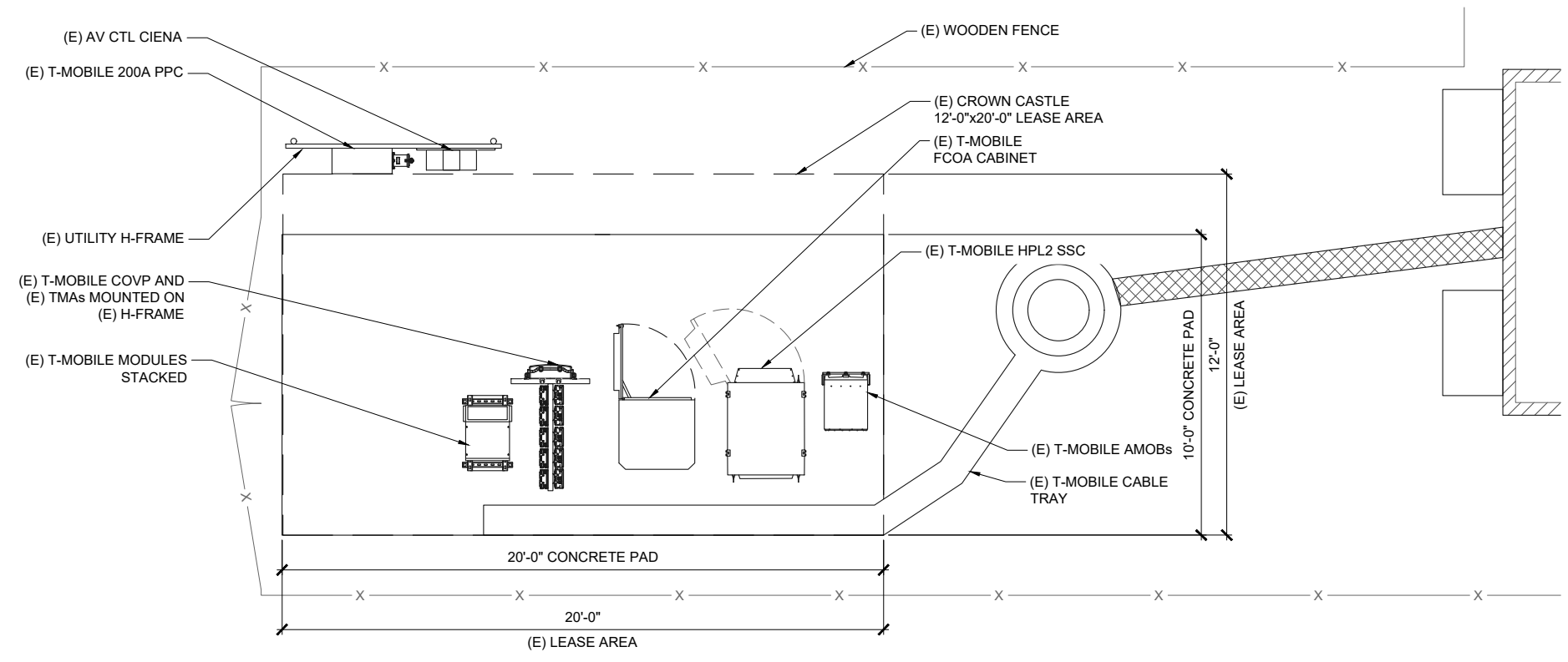
DRAWN BY:	CHK BY:	APV BY:
CBM	TJN	TA

SHEET TITLE:

EQUIPMENT PLAN

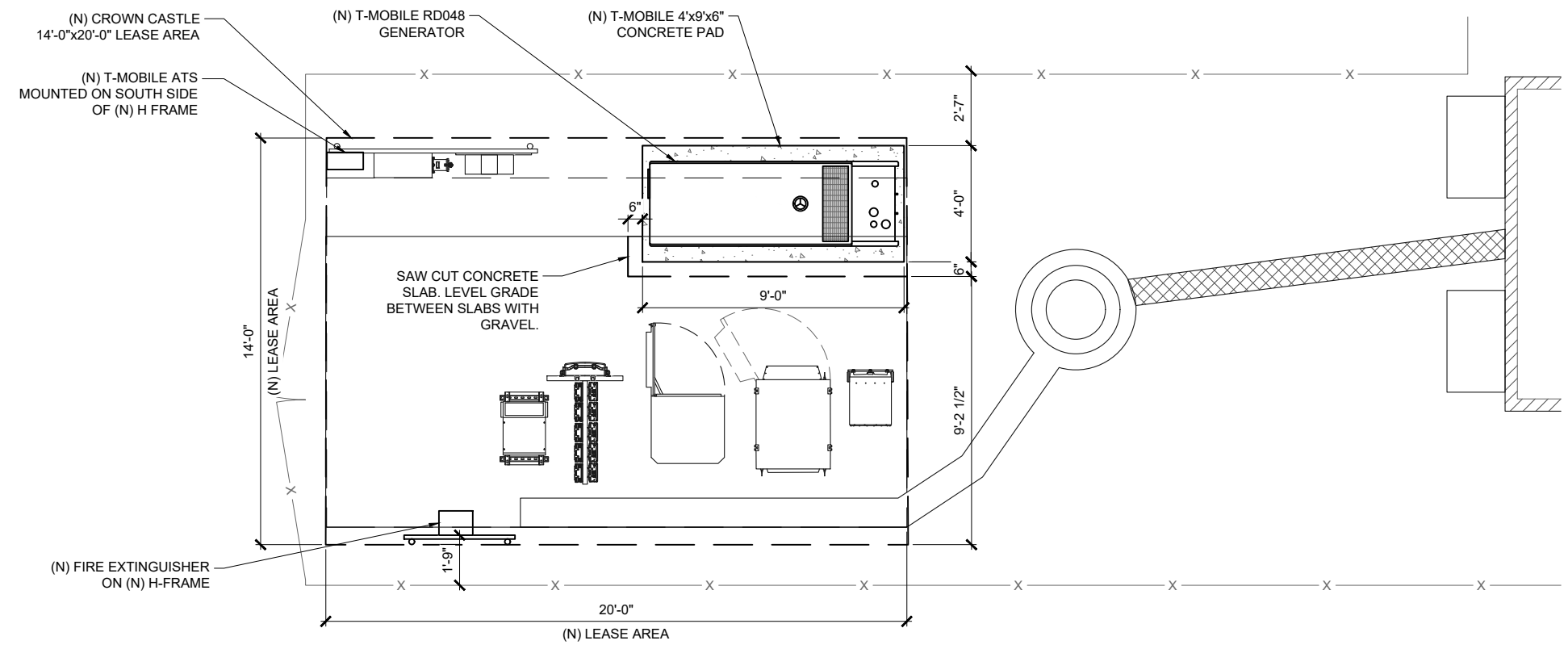
SHEET NUMBER:

A3



1 EXISTING EQUIPMENT PLAN

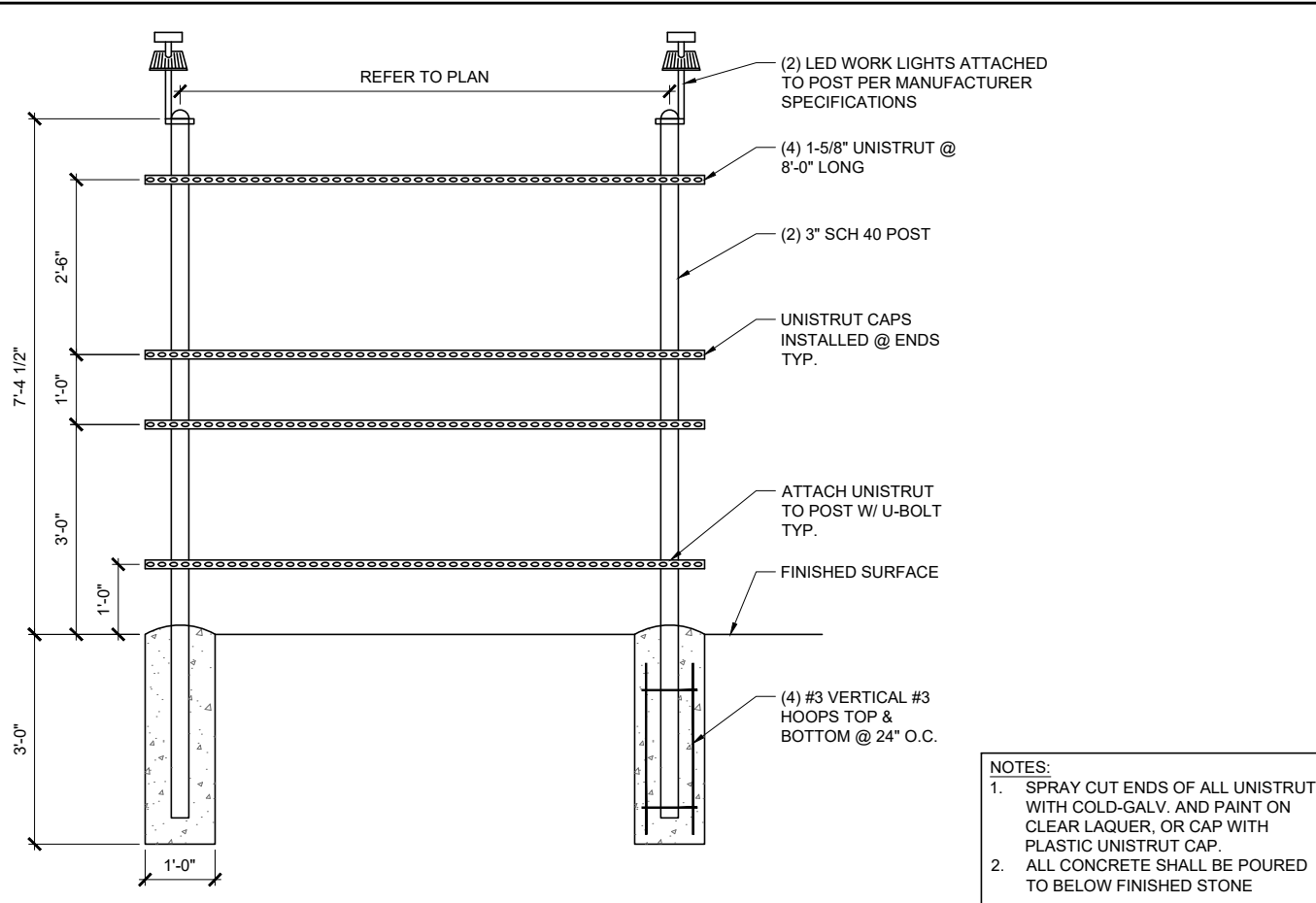
SCALE: AS NOTED



2 PROPOSED EQUIPMENT PLAN

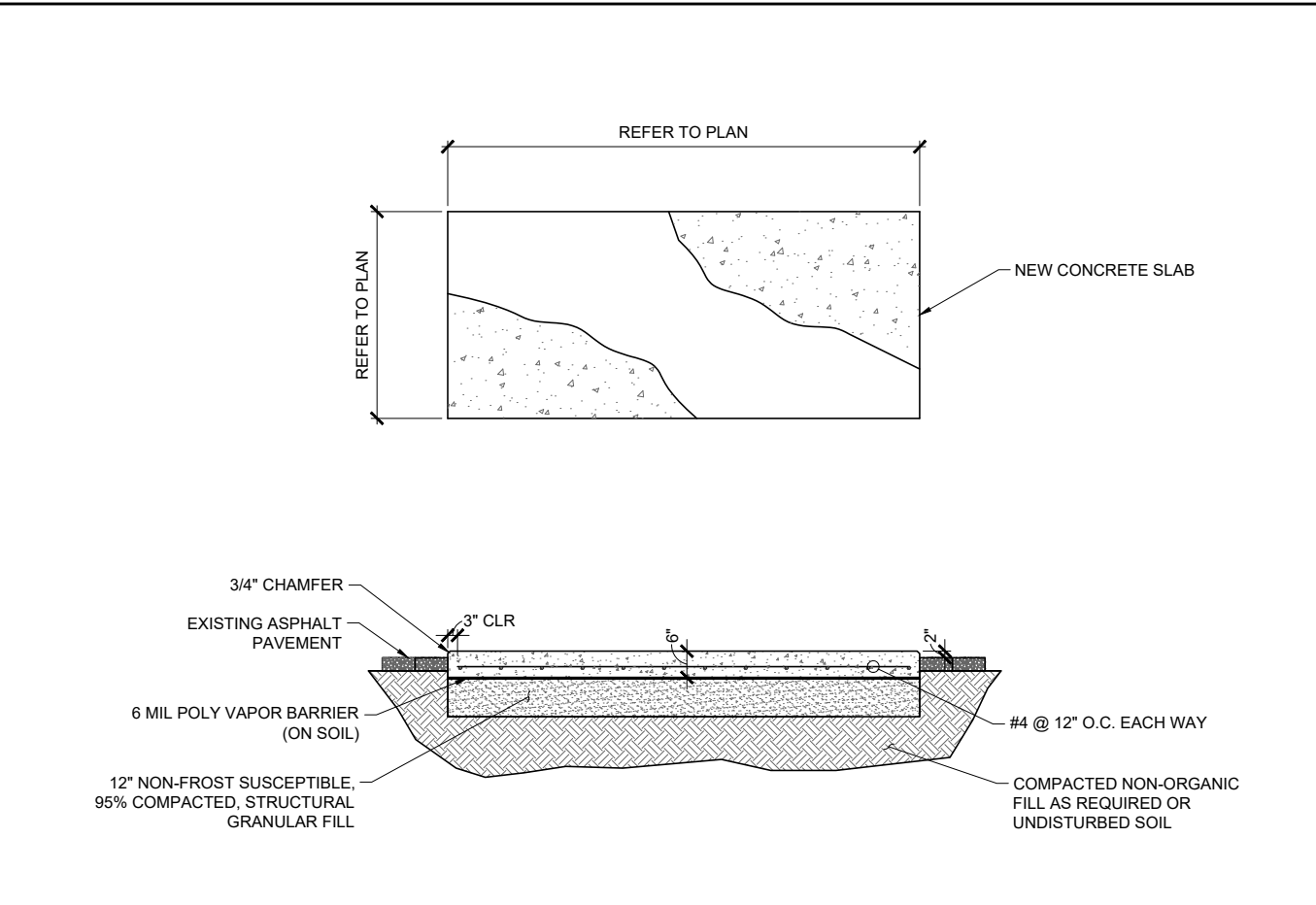
SCALE: AS NOTED





1 UTILITY H-FRAME
N.T.S.

2 NOT USED
SCALE: N.T.S.



3 CONCRETE PAD
N.T.S.

4 NOT USED
SCALE: N.T.S.

990 SOUTH BROADWAY DENVER, CO 80209

PROJECT INFORMATION:

SITE NAME:
CS_CUCHARS_RANCH

SITE ID:
DN03486D

BU#: 823518

9285 DRENNEN ROAD
COLORADO SPRINGS, CO 80925
EL PASO COUNTY

REV:	DATE:	DESCRIPTION:	BY:
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PLANS PREPARED BY:

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6335 DOWNING ST.
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WYCOFS.COM

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CBM	TJN	TA

SHEET TITLE:

**SITE
DETAILS**

SHEET NUMBER:

A4

PROJECT INFORMATION:

SITE NAME:
CS_CUCHARES_RANCH
SITE ID:
DN03486D
BU#: 823518
9285 DRENNEN ROAD
COLORADO SPRINGS, CO 80925
EL PASO COUNTY

REV:	DATE:	DESCRIPTION:	BY:
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6335 DOWNING ST.
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WYCOFS.COM

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CBM	TJN	TA

SHEET TITLE:

EQUIPMENT
DETAILS

SHEET NUMBER:

A5.1

MANUFACTURER:	GENERAC
MODEL NUMBER:	RD048
TYPE:	48kW DIESEL
POWER RATING:	120/240VAC, 1Ø
BREAKER SIZE:	200A/2P
UL142 BASE TANK SIZE (USABLE):	210 GAL
REMOTE FUEL ALARM BOX:	GENERAC PART# OF2908*

*PARTS MAY VARY PER MANUFACTURER (GC TO VERIFY)

NOTE: REFER TO SHEET GN2 FOR ADDITIONAL GENERATOR INFORMATION

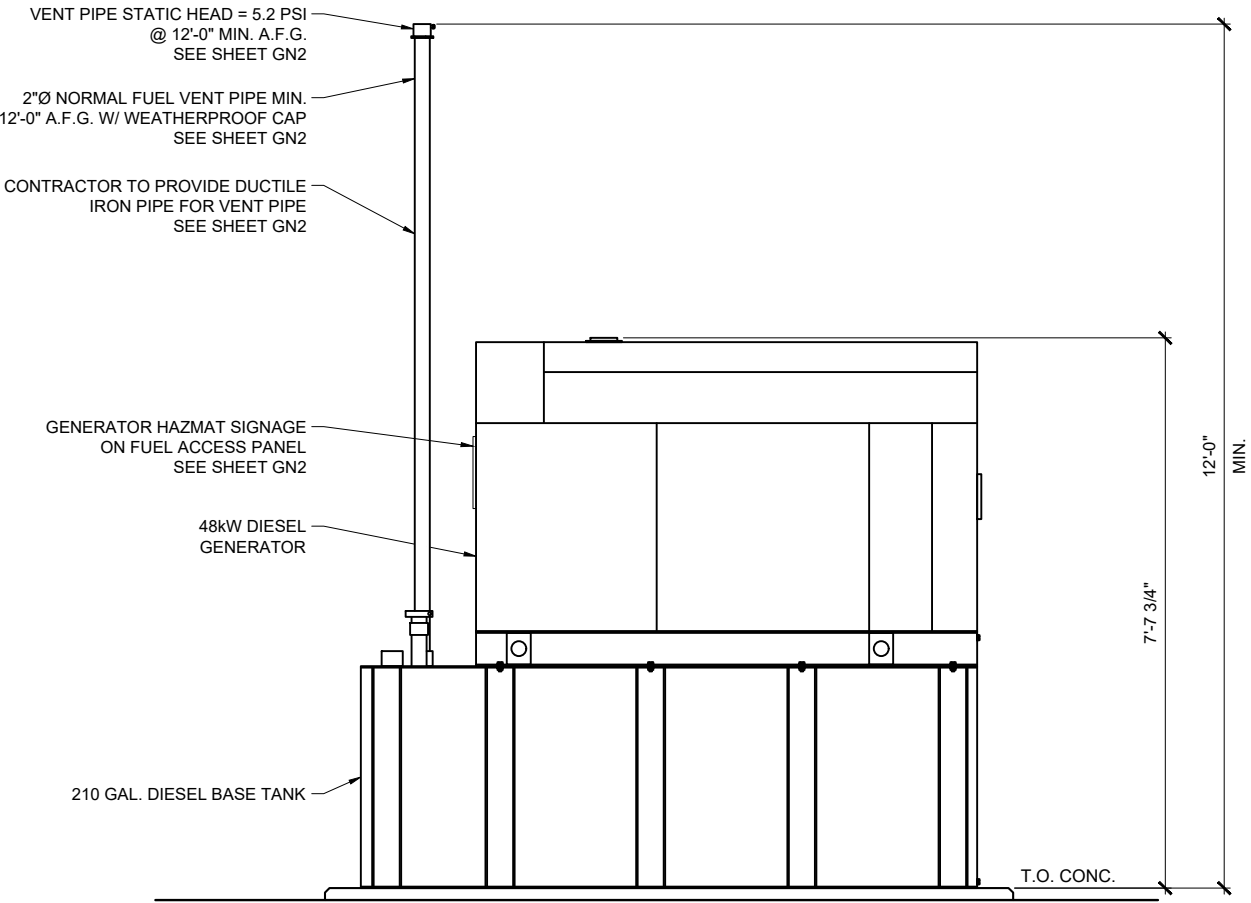
VENT EXTENSION: BILL OF MATERIALS	
2	10' LENGTHS OF SCH 40 STEEL
1	SHORT 2" FEMALE NIPPLE STEEL (FOR VENT CAP)

CONTRACTOR TO PROVIDE THE FOLLOWING:

- SIGNAGE
 - TANK VENTILATION
 - FIRE EXTINGUISHER
 - SPILL CONTAINER KIT
- REFER TO GN2 FOR SPECIFIC REQUIREMENTS

2 GENERATOR PART SPECIFICATION

SCALE: N.T.S.



NOTES:

- CONTRACTOR TO PROVIDE DUCTILE IRON PIPE FOR VENT PIPE (OTHER MATERIALS NOT PERMITTED)
- REFER TO NOTES ON SHEET GN2.
- SEE PLANS FOR ORIENTATION.

1 GENERATOR CLEARANCE PLAN

SCALE: N.T.S.

3 GENERATOR CLEARANCE ELEVATION

SCALE: N.T.S.

RD048 | 3.3L | 48 kW

INDUSTRIAL DIESEL GENERATOR SET

EPA Certified Stationary Emergency



APPLICATION AND ENGINEERING DATA

ENGINE SPECIFICATIONS

General		Cooling System	
Make	Mitsubishi	Cooling System Type	Closed Recovery
Cylinder #	4	Fan Type	Pusher
Type	In-Line	Fan Speed - RPM	2,340
Displacement - in ³ (L)	201.38 (3.3)	Fan Diameter - in (mm)	17 (431.8)
Bore - in (mm)	3.70 (94)	Fuel System	
Stroke - in (mm)	4.72 (120)	Fuel Type	Ultra Low Sulfur Diesel Fuel
Compression Ratio	19:1	Fuel Specification	ASTM
Cylinder Head Type	Cast Iron OHV	Fuel Pump Type	Mechanical Engine Driven Gear
Piston Type	Aluminum	Injector Type	Mechanical
Intake Air System	Turbocharged/Aftercooled	Fuel Supply Line - in (mm)	0.31 (7.94) ID
Engine Governing		Fuel Return Line - in (mm)	0.31 (7.94) ID
Governor	Electronic	Fuel Filtering (Microns)	6
Frequency Regulation (Steady State)	±0.25%	Engine Electrical System	
Lubrication System		System Voltage	12 VDC
Oil Pump Type	Gear	Battery Charger Alternator	Standard
Oil Filter Type	Full Flow Spin-On Canister	Battery Size	Group 27F
Crankcase Capacity - qt (L)	11.2 (10.6)	Battery Voltage	12 VDC
		Ground Polarity	Negative

ALTERNATOR SPECIFICATIONS

Standard Model	Generac	Standard Excitation	Direct
Poles	4	Bearings	Single Sealed Cartridge
Field Type	Rotating	Coupling	Direct via Flexible Disc
Insulation Class - Rotor	F	Prototype Short Circuit Test	Yes
Insulation Class - Stator	H	Voltage Regulator Type	Electronic
Total Harmonic Distortion	<5%	Regulation Accuracy (Steady State)	±1.0%
Telephone Interference Factor (TIF)	<50		

RD048 | 3.3L | 48 kW

INDUSTRIAL DIESEL GENERATOR SET

EPA Certified Stationary Emergency



OPERATING DATA

POWER RATINGS

Standby			
Single-Phase 120/240 VAC @1.0pf	48 kW	Amps: 200	Circuit Breaker Size Amps: 200

MOTOR STARTING CAPABILITIES (skVA)

skVA vs. Voltage Dip at 30%	
120/240 V, Single-Phase at 0.4pf	189 Amps

FUEL CONSUMPTION RATES*

Percent Load	Diesel gph (Lph)
25%	1.23 (4.66)
50%	2.02 (7.66)
75%	3.02 (11.43)
100%	4.02 (15.22)
* Fuel supply installation must accommodate fuel consumption rates at 100% load.	

COOLING

Standby		
Air Flow	cfm (m³/min)	3,038 (86)
Coolant System Capacity	gal (L)	2.8 (10.6)
Heat Rejection to Coolant	BTU/hr (MJ/hr)	111,000 (117.1)
Temperature Deration	3% for every 5 °C above 25 °C or 1.7% for every 5 °F over 77 °F	
Altitude Deration	1% for every 100 m above 915 m or 3% for every 1,000 ft over 3,000 ft	
Maximum Ambient Temperature Operating Range	°F (°C)	50 (122)
Maximum Radiator Backpressure	in H ₂ O (kPa)	0.5 (0.12)

COMBUSTION AIR REQUIREMENTS

Standby	
Flow at Rated Power - cfm (m³/min)	90 (2.5)

ENGINE		EXHAUST	
Standby		Standby	
Rated Engine Speed	RPM	1,800	
		Exhaust Flow (Rated Output)	cfm (m³/min)
		Exhaust Temperature (Rated Output)	°F (°C)

Deration – Operational characteristics consider maximum ambient conditions. Derate factors may apply under atypical site conditions. Please contact a Generac Power Systems Industrial Dealer for additional details. All performance ratings in accordance with ISO3046, BS5514, ISO8528, and DIN6271 standards.



PROJECT INFORMATION:

SITE NAME:
CS_CUCHARES_RANCH

SITE ID:
DN03486D

BU#: 823518

9285 DRENNEN ROAD
COLORADO SPRINGS, CO 80925
EL PASO COUNTY

REV:	DATE:	DESCRIPTION:	BY:
A	04-11-22	PRELIMINARY	CBM

PLANS PREPARED BY:

6335 DOWNING ST.
DENVER, CO 80216
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EQUIPMENT
DETAILS

SHEET NUMBER:

A5.2

SPEC SHEET

SPEC SHEET



100-400 Amps, Single PhaseAutomatic Smart Transfer Switches

Functions

All timing and sensing functions originate in the generator controller

Utility voltage drop-out.....	<65%
Timer to generator start.....	10 second factory set, adjustable between 2-1500 seconds by a qualified dealer*
Engine warm up delay.....	5 seconds
Standby voltage sensor.....	65% for 5 seconds
Utility voltage pickup.....	>80%
Re-transfer time delay.....	15 seconds
Engine cool-down timer.....	60 seconds
Exerciser.....	5 or 12 minutes adjustable weekly/Bi-weekly/Monthly**

The transfer switch can be operated manually without power applied.

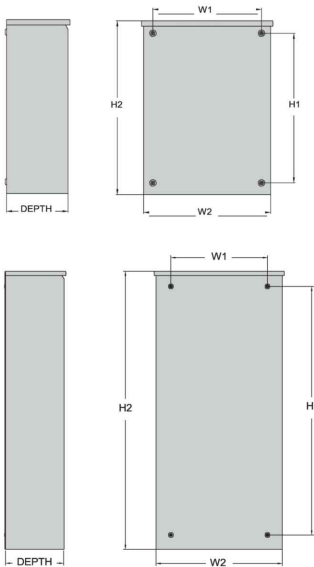
*When used in conjunction with units utilizing Evolution™ controls **Adjustable via the controller

Specifications

Model	RXSC100A3	RXSC200A3
Amps	100	200
Voltage	120/240, 1ø	120/240, 1ø
Load Transition Type (Automatic)	Open Transition	Open Transition
Enclosure Type	NEMA/UL 3R	NEMA/UL 3R
UL Rating	UL/CUL	UL/CUL
Withstand Rating (Amps)	10,000	10,000
Lug Range	1/0 - #14	250 MCM - #6

Dimensions

Model		RXSC100A3	RXSC200A3
Height (in./mm)	H1	17.24/437.9	17.24/437.9
	H2	20/508	20/508
Width (in./mm)	W1	12.5/317.5	12.5/317.5
	W2	14.6/370.8	14.6/370.8
Depth (in./mm)		7.09/180.1	7.09/180.1
Weight (lbs./kilos)		20/9.07	20/9.07



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EQUIPMENT
DETAILS

SHEET NUMBER:

A6

GENERAL CONSTRUCTION NOTES

1. THE FACILITY IS AN UNOCCUPIED WIRELESS FACILITY.
2. PLANS ARE NOT TO BE SCALED AND ARE INTENDED TO BE A DIAGRAMMATIC OUTLINE ONLY, UNLESS NOTED OTHERWISE. THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
3. PRIOR TO THE SUBMISSION OF BIDS, THE CONTRACTORS SHALL VISIT THE JOB SITE AND BE RESPONSIBLE FOR ALL CONTRACT DOCUMENTS, FIELD CONDITIONS AND DIMENSIONS, AND CONFIRMING THAT THE WORK MAY BE ACCOMPLISHED AS SHOWN PRIOR TO PROCEEDING WITH CONSTRUCTION. ANY DISCREPANCIES ARE TO BE BROUGHT TO THE ATTENTION OF THE IMPLEMENTATION ENGINEER AND ARCHITECT/ENGINEER PRIOR TO PROCEEDING WITH THE WORK.
4. THE CONTRACTOR SHALL RECEIVE, IN WRITING, AUTHORIZATION TO PROCEED BEFORE STARTING WORK ON ANY ITEM NOT CLEARLY DEFINED OR IDENTIFIED BY THE CONTRACT DOCUMENTS.
5. CONTRACTOR SHALL CONTACT LOCAL DIGGERS HOTLINE 48 HOURS PRIOR TO PROCEEDING WITH ANY EXCAVATION, SITE WORK OR CONSTRUCTION.
6. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY INDICATED OTHERWISE OR WHERE LOCAL CODES OR REGULATIONS TAKE PRECEDENCE.
7. ALL WORK PERFORMED AND MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES. CONTRACTOR SHALL GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. MECHANICAL AND ELECTRICAL SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS, AND LOCAL AND STATE JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
8. THE GENERAL CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK, USING THE BEST SKILLS AND ATTENTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT INCLUDING CONTACT AND COORDINATION WITH THE CONSTRUCTION FIELD ENGINEER AND WITH THE LANDLORD'S AUTHORIZED REPRESENTATIVE.
9. DETAILS ARE INTENDED TO SHOW END RESULT OF DESIGN. MINOR MODIFICATIONS MAY BE REQUIRED TO SUIT JOB DIMENSIONS OR CONDITIONS, AND SUCH MODIFICATIONS SHALL BE INCLUDED AS PART OF THE WORK.
10. REPRESENTATIONS OF TRUE NORTH, OTHER THAN THOSE FOUND ON THE PLOT OF SURVEY DRAWING, SHALL NOT BE USED TO IDENTIFY OR ESTABLISH THE BEARING OF TRUE NORTH AT THE SITE. THE CONTRACTOR SHALL RELY SOLELY ON THE PLOT OF SURVEY DRAWING AND ANY SURVEYOR'S MARKINGS AT THE SITE FOR THE ESTABLISHMENT OF TRUE NORTH, AND SHALL NOTIFY THE ARCHITECT/ENGINEER PRIOR TO PROCEEDING WITH THE WORK IF ANY DISCREPANCY IS FOUND BETWEEN THE VARIOUS ELEMENTS OF THE WORKING DRAWINGS AND THE TRUE NORTH ORIENTATION AS DEPICTED ON THE PLAT OF SURVEY. THE CONTRACTOR SHALL ASSUME SOLE LIABILITY FOR ANY FAILURE TO NOTIFY THE ARCHITECT/ENGINEER.

STRUCTURAL NOTES

- 1.0 GENERAL CONDITIONS
- 1.1 DESIGN AND CONSTRUCTION OF ALL WORK SHALL CONFORM TO THE APPROVED EDITION OF THE IBC EDITION AND ALL OTHER APPLICABLE STATE CODES, ORDINANCES, AND REGULATIONS. IN CASE OF CONFLICT BETWEEN THE CODES, STANDARDS, AND REGULATIONS. SPECIFICATIONS, GENERAL NOTES AND/OR MANUFACTURER'S REQUIREMENTS. USE THE MOST STRINGENT PROVISION.
- 1.2 IT IS THE EXPRESS INTENT OF THE PARTIES INVOLVED IN THIS PROJECT THAT THE CONTRACTOR OR SUBCONTRACTOR OR INDEPENDENT CONTRACTOR OR THEIR RESPECTIVE EMPLOYEES SHALL EXCULPATE THE ARCHITECT, THE ENGINEER, THE CONSTRUCTION MANAGER, THE OWNER, AND THEIR AGENTS, FROM ANY LIABILITY WHATSOEVER AND HOLD THEM HARMLESS AGAINST LOSS, DAMAGES, LIABILITY OR ANY EXPENSE ARISING IN ANY MATTER FROM THE WRONGFUL OR NEGLIGENT ACT, OR FAILURE TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS, OR THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES OR FAILURE TO CONFORM TO THE STATE SCAFFOLDING ACT IN CONNECTION WITH THE WORK.
- 1.3 DO NOT SCALE DRAWINGS.
- 1.4 VERIFY ALL EQUIPMENT MOUNTING DIMENSIONS PER MANUFACTURER DRAWINGS.
- 1.5 SUBMIT ONE SEPIA AND TWO PRINTS OF ALL STRUCTURAL SHOP DRAWINGS. MARKED UP SEPIA SHALL BE RETURNED.
- 2.0 STRUCTURAL STEEL NOTES:
- 2.1 CHANNELS, ANGLES AND PLATES SHALL BE ASTM A36 MATERIAL, UNLESS NOTED OTHERWISE.
- 2.2 SQUARE AND RECTANGULAR TUBE STEEL HSS SECTIONS SHALL BE ASTM A500, GRADE B (Fy = 46 ksi) MATERIAL.
- 2.3 ROUND PIPE SECTIONS SHALL BE ASTM A53, GRADE B (Fy =35 ksi) MATERIAL.
- 2.4 DESIGN, FABRICATION, AND ERECTION SHALL BE IN ACCORDANCE WITH THE "AISC SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS", WITH COMMENTARY AND THE "CODE OF STANDARD PRACTICE".
- 2.5 ALL STEEL SHALL HAVE ONE COAT OF SHOP PRIMER. DO NOT PAINT AREAS WITHIN 3" OF BOLTS, WELDS OR HEADED STUDS.
- 2.6 BOLTS SHALL BE HIGH STRENGTH BOLTS, A325, CONFORMING TO ASTM SPECIFICATIONS. ALL CONNECTIONS SHALL HAVE A MINIMUM OF 2 BOLTS.
- 2.7 WELDING SHALL BE CONDUCTED BY CERTIFIED WELDERS AND SHALL CONFORM TO THE AWS CODES FOR ARC AND GAS WELDING IN BUILDING CONSTRUCTION.
- 2.8 WELDS SHALL BE MADE USING E70XX ELECTRODES AND SHALL BE 3/16" MINIMUM UNLESS OTHERWISE NOTED.
- 2.9 WELDING SHALL BE PERFORMED IN ACCORDANCE WITH A WELDED PROCEDURE SPECIFICATION (WPS) AS PER AWS D1.1 , D1.3 AND D1.4.
- 2.10 ONLY PRE-QUALIFIED WELDING PROCEDURES SHALL BE USED.
- 2.11 UNLESS SPECIFICALLY ADDRESSED IN THE SPECIFICATIONS OR THE DETAILS, ALL STEEL ITEMS PERMANENTLY EXPOSED TO EARTH OR WEATHER SHALL BE CORROSION-RESISTANT BY GALVANIZING OR BY THE USE OF STAINLESS STEEL.
- 2.12 ALL FIELD WELDS ON GALVANIZED MATERIAL SHALL BE BRUSH-COATED WITH A ZINC-RICH PAINT
- 3.0 STANDARDS FOR ALL CONCRETE WORK
- 3.1 ALL CONCRETE WORK SHALL CONFORM WITH ACI. 318 OR LATEST. DETAIL REINFORCING IN CONFORMANCE WITH ACI. SP66 LATEST.
- 3.2 NO SPLICES OF REINFORCEMENT SHALL BE MADE EXCEPT AS DETAILED OR AUTHORIZED BY THE STRUCTURAL ENGINEER. LAP SPLICES WHERE PERMITTED SHALL BE A MINIMUM OF 30 BAR DIAMETERS.
- 3.3 PROVIDE ALL ACCESSORIES NECESSARY TO SUPPORT REINFORCING AT POSITIONS SHOW ON DRAWINGS.

- 3.4 WIRE FABRIC REINFORCEMENT MUST LAP ONE FULL MESH AT SIDE AND END LAPS SHALL BE TIED TOGETHER.
- 3.5 CURE AFTER FINISHING CONCRETE. KEEP MOIST FOR 7 DAYS AFTER POURING.
- 3.6 COMPACT STRUCTURAL FILL 95% PROCTOR DENSITY PRIOR TO PLACING CONCRETE UNDER SLABS.
- 3.7 1/4" CHAMFER ON ALL CORNERS AND EDGES.
- 3.8 ALL CONCRETE SHALL BE PORTLAND, TYPE 1 CEMENT WITH A MINIMUM OF 28 DAY STRENGTH OF 3000 PSI., 4" SLUMP AND A MINIMUM AIR ENTRAPMENT OF 4%.
- 3.9 ALL REINFORCING STEEL SHALL BE GRADE 60. ALL REINFORCING MESH SHALL CONFORM TO ASTM A 185.
- 4.0 FRP NOTES:
- 4.1 ALL FRP MATERIAL SHALL BE EXTREN SERIES 500 OR EQUIVALENT, PRODUCED BY THE PULTRUSION METHOD.
- 4.2 ALL ADHESIVE RESIN SHALL BE PLEXUS METHACRYLATE OR AN EQUIVALENT ADHESIVE RESIN THAT IS COMPATIBLE WITH THE RESIN MATRIX USED IN THE STRUCTURAL SHAPES.
- 4.3 ALL FRP CONNECTIONS SHALL BE FULLY-BONDED AT EACH SIDE WITH A 1/4" PLATE AND A MINIMUM OF (2) 3/8" DIAMETER FLATHEAD FRP SCREWS PER MEMBER.
- 4.4 ISOPLAST NUTS AND BOLTS SHALL BE TIGHTENED TO A SNUG-TIGHT FIT PLUS AN ADDITIONAL 1/2 TURN, PRIOR TO BEING LOCKED WITH EPOXY.
- 4.5 ALL PANELS / SHEATHING SHALL BE FULLY BONDED WITH 3/8" FLATHEAD FRP SCREWS AT 12" O.C.
- 4.6 ALL FIELD CUT AND DRILLED EDGES, HOLES AND ABRASIONS SHALL BE SEALED WITH A CATALYZED EPOXY RESIN COMPATIBLE WITH THE MANUFACTURER'S ORIGINAL RESIN.

ELECTRICAL NOTES

1. SUBMITTAL OF BID INDICATES CONTRACTOR IS COGNIZANT OF ALL JOB SITE CONDITIONS AND WORK TO BE PERFORMED UNDER THIS CONTRACT. CONTRACTOR IS RESPONSIBLE FOR ALL FIELD VERIFICATION.
2. THESE PLANS ARE DIAGRAMMATIC ONLY, AND NOT TO BE SCALED.
3. ELECTRICAL CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS, INSURANCE, EQUIPMENT, INSTALLATION, CONSTRUCTION TOOLS, TRANSPORTATION, ETC. FOR A COMPLETE AND PROPERLY OPERATIVE SYSTEM ENERGIZED THROUGHOUT AND AS INDICATED ON DRAWINGS, AS SPECIFIED HEREIN AND/OR AS OTHERWISE REQUIRED.
4. ALL MATERIALS AND EQUIPMENT SHALL BE NEW AND IN PERFECT CONDITION WHEN INSTALLED AND SHALL BE OF THE BEST GRADE OR GROUP OF EQUIPMENT. MATERIALS SHALL BE LISTED AND APPROVED BY UNDER-WRITER'S LABORATORY AND SHALL BEAR THE INSPECTION LABEL "J" WHERE SUBJECT TO SUCH APPROVAL. MATERIALS SHALL MEET WITH APPROVAL OF THE DIVISION OF INDUSTRIAL SAFETY AND ALL GOVERNING BODIES HAVING JURISDICTION. MATERIALS SHALL BE MANUFACTURED IN ACCORDANCE WITH APPLICABLE STANDARDS ESTABLISHED BY ANSI, NEMA AND NBFU.
5. ALL CONDUIT INSTALLED SHALL BE SURFACE MOUNTED UNLESS OTHERWISE NOTED.
6. ELECTRICAL CONTRACTOR SHALL CARRY OUT HIS WORK WITH ACCORDANCE WITH ALL GOVERNING STATE, COUNTY, LOCAL CODES AND O.S.H.A.
7. ELECTRICAL CONTRACTOR SHALL SECURE ALL NECESSARY ELECTRICAL PERMITS, AND PAY ALL REQUIRED FEES.
8. COMPLETE JOB SHALL BE GUARANTEED FOR A PERIOD OF NO LESS THAN ONE YEAR AFTER THE DATE OF JOB COMPLETION. ANY WORK, MATERIAL, OR EQUIPMENT FOUND TO BE FAULTY DURING THAT PERIOD SHALL BE CORRECTED AT ONCE, UPON WRITTEN NOTIFICATION, AT THE EXPENSE OF THE ELECTRICAL CONTRACTOR.
9. ALL CONDUIT ONLY (C.O.) SHALL HAVE A PULL WIRE OR ROPE, AND TRUE TAPE.
10. PROVIDE THE OWNER WITH ONE SET OF COMPLETE DIMENSIONS AND CIRCUITS, WITHIN 10 WORKING DAYS OF PROJECT COMPLETION. ELECTRICAL "AS BUILT" DRAWINGS, SHOWING ACTUAL LOCATION OF CONDUITS.
11. ALL BROCHURES, OPERATING MANUALS, CATALOGS, SHOP DRAWINGS, ETC. SHALL BE TURNED OVER TO PROJECT MANAGER AT JOB COMPLETION.
12. USE T-TAP CONNECTIONS ON ALL MULTI-CIRCUITS WITH COMMON NEUTRAL CONDUCTOR FOR LIGHTING FIXTURE. ALL CONDUCTORS SHALL BE COPPER.
13. THE EXTERIOR GROUND RING SHALL BE TESTED PER CCI SPECIFICATIONS AND SHALL HAVE A RESISTANCE TO EARTH OF 5 OHMS OR LESS. IF NOT NOTIFY ENGINEER.
14. ALL CIRCUIT BREAKERS, FUSES AND ELECTRICAL EQUIPMENT SHALL HAVE AN INTERRUPTING RATING NOT LESS THAN THE MAXIMUM SHORT -CIRCUIT CURRENT TO WHICH THEY MAY BE SUBJECTED, AND A MINIMUM OF 10,000 A.I.C.
15. THE ENTIRE ELECTRICAL INSTALLATION SHALL BE GROUNDED AS REQUIRED BY ALL APPLICABLE CODES.
16. PATCH, REPAIR, AND PAINT ANY AREA THAT HAS BEEN DAMAGED IN THE COURSE OF THE ELECTRICAL WORK.
17. IN DRILLING HOLES INTO CONCRETE (WHETHER FOR FASTENING OR ANCHORING PURPOSES OR PENETRATIONS THROUGH THE FLOOR FOR CONDUIT RUNS, PIPE RUNS, ETC.) IT MUST BE CLEARLY UNDERSTOOD THAT TENDONS AND RE-BARS WILL NOT BE DRILLED INTO, CUT, OR DAMAGED UNDER ANY CIRCUMSTANCES.
18. LOCATION OF TENDONS AN RE-BARS ARE NOT DEFINITELY KNOWN AND THEREFORE MUST BE SEARCHED FOR BY APPROPRIATE METHODS AND EQUIPMENT VIA X-RAY, OR OTHER DEVICES THAT CAN ACCURATELY LOCATE THE REINFORCING STEEL TENDONS.
19. PENETRATIONS IN FIRE RATED WALLS SHALL BE FIRE STOPPED IN ACCORDANCE WITH APPLICABLE LOCAL BUILDING CODES. USING U.L. RATED MATERIALS.
20. ELECTRICAL CONTRACTOR IS TO COORDINATE WITH UTILITY COMPANY FOR CONNECTION OF TEMPORARY AND PERMANENT POWER TO THE SITE. THE TEMPORARY POWER AND ALL HOOK-UP COSTS SHALL BE PAID BY THE CONTRACTOR.
21. ELECTRICAL CONTRACTOR SHALL SUBMIT SHOP DRAWINGS AND/OR CATALOG CUT-SHEETS ON ALL NON-SPECIFIED ORIGINAL MATERIALS AND EQUIPMENT, TO PROJECT MANAGER PRIOR TO COMMENCEMENT OF THE WORK.
22. UPON COMPLETION OF WORK, CONDUCT CONTINUITY AND SHORT CIRCUIT, AS WELL AS, GROUNDING TEST, GROUNDING TEST SHALL BE PREFORMED BY INDEPENDENT TESTING AGENCY, WITH WRITTEN REPORT SUBMITTED TO THE PROJECT MANAGER FOR REVIEW AND APPROVAL.
23. CLEAN PREMISES DAILY OF ALL DEBRIS RESULTING FROM WORK AND LEAVE WORK PREMISES IN A COMPLETE AND UNDAMAGED CONDITION.
24. ALL EXTERIOR WALL PENETRATIONS SHALL BE SEALED WITH POLYSEAM SEALANT.
25. ALL #2 TINNED BARE COPPER DOWNLEADS TO BE PROTECTED BY 1/2" P.V.C. PIPE AND SECURED.
26. COMPRESSION FITTINGS TO BE USED ON ALL CONDUITS (NO SET SCREWS).
27. ALL #6 STRANDED COPPER WITH GREEN INSULATION TO BE ATTACHED WITH CRIMPED DOUBLE LUG, ATTACHED WITH NUTS, BOLTS AND STAR WASHERS TYPICAL AND NO-OX GREASE BETWEEN LUG AND BUS BAR.

28. ALL ABOVE GROUND CONDUIT SHALL BE RIGID GALVANIZED CONDUIT WITH WEATHERPROOF FITTINGS.

GROUNDING

1. ALL METALLIC PARTS OF ELECTRICAL EQUIPMENT WHICH DO NOT CARRY CURRENT SHALL BE GROUNDED IN ACCORDANCE WITH THE REQUIREMENTS OF THE BUILDING MANUFACTURER, T-MOBILE GROUNDING AND BONDING STANDARDS, AND THE NATIONAL ELECTRICAL CODE.
2. PROVIDE ELECTRICAL GROUNDING AND BONDING SYSTEM INDICATED WITH ASSEMBLY OF MATERIALS, INCLUDING GROUNDING ELECTRODES, BONDING JUMPERS AND ADDITIONAL ACCESSORIES AS REQUIRED FOR A COMPLETE INSTALLATION.
3. ALL GROUNDING CONDUCTORS SHALL PROVIDE A STRAIGHT DOWNWARD PATH TO GROUND WITH GRADUAL BEND AS REQUIRED. GROUNDING CONDUCTORS SHALL NOT BE LOOPED OR SHARPLY BENT. ROUTE GROUNDING CONNECTIONS AND CONDUCTORS TO GROUND IN THE SHORTEST AND STRAIGHTEST PATHS POSSIBLE TO MINIMIZE TRANSIENT VOLTAGE RISES. BUILDINGS AND/OR NEW TOWERS GREATER THAN 75 FEET IN HEIGHT AND WHERE THE MAIN
4. GROUNDING CONDUCTORS ARE REQUIRED TO BE ROUTED TO GRADE, THE CONTRACTOR SHALL ROUTE TWO GROUNDING CONDUCTORS FROM THE ROOFTOP, TOWERS, AND WATER TOWERS GROUND RING, TO THE EXISTING GROUNDING SYSTEM, THE GROUNDING CONDUCTORS SHALL NOT BE SMALLER THAN #2 AWG COPPER. ROOFTOP GROUND RING SHALL BE BONDED TO THE EXISTING GROUNDING SYSTEM, THE BUILDING STEEL COLUMNS, LIGHTNING PROTECTION SYSTEM, AND BUILDING MAIN WATER LINE (FERROUS OR NONFERROUS METAL PIPING ONLY).
5. TIGHTEN GROUNDING AND BONDING CONNECTORS, INCLUDING SCREWS AND BOLTS, IN ACCORDANCE WITH MANUFACTURER'S PUBLISHED TORQUE TIGHTENING VALUES FOR CONNECTORS AND BOLTS. WHERE MANUFACTURER'S TORQUING REQUIREMENTS ARE NOT AVAILABLE, TIGHTEN CONNECTIONS TO COMPLY WITH TIGHTENING TORQUE VALUES SPECIFIED IN UL TO ASSURE PERMANENT AND EFFECTIVE GROUNDING. CONTRACTOR SHALL VERIFY THE LOCATIONS OF GROUNDING TIE-IN-POINTS TO THE EXISTING
6. ALL UNDERGROUND GROUNDING CONNECTIONS SHALL BE MADE BY THE GROUNDING SYSTEM. EXOTHERMIC WELD PROCESS AND INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
7. ALL GROUNDING CONNECTIONS SHALL BE INSPECTED FOR TIGHTNESS. EXOTHERMIC WELDED CONNECTIONS SHALL BE APPROVED BY THE INSPECTOR HAVING JURISDICTION BEFORE BEING PERMANENTLY CONCEALED.
8. APPLY CORROSION-RESISTANCE FINISH TO FIELD CONNECTIONS AND PLACES WHERE FACTORY APPLIED PROTECTIVE COATINGS HAVE BEEN DESTROYED.
9. A SEPARATE, CONTINUOUS, INSULATED EQUIPMENT GROUNDING CONDUCTOR SHALL BE INSTALLED IN ALL FEEDER AND BRANCH CIRCUITS.
10. BOND ALL INSULATED GROUNDING BUSHINGS WITH A BARE 6 AWG GROUNDING CONDUCTOR TO A GROUND BUS.
11. DIRECT BURIED GROUNDING CONDUCTORS SHALL BE INSTALLED AT A NOMINAL DEPTH OF 36" MINIMUM BELOW GRADE, OR 6" BELOW THE FROST LINE, USE THE GREATER OF THE TWO DISTANCES.
12. ALL GROUNDING CONDUCTORS EMBEDDED IN OR PENETRATING CONCRETE SHALL BE INSTALLED IN SCHEDULE 40 PVC CONDUIT.
13. THE INSTALLATION OF CHEMICAL ELECTROLYTIC GROUNDING SYSTEM IN STRICT ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. REMOVE SEALING TAPE FROM LEACHING AND BREATHER HOLES. INSTALL PROTECTIVE BOX FLUSH WITH GRADE.
14. DRIVE GROUND RODS UNTIL TOPS ARE A MINIMUM DISTANCE OF 36" DEPTH OR 6" BELOW FROST LINE, USING THE GREATER OF THE TWO DISTANCES.
15. IF COAX ON THE ICE BRIDGE IS MORE THAN 6 FT. FROM THE GROUND BAR AT THE BASE OF THE TOWER, A SECOND GROUND BAR WILL BE NEEDED AT THE END OF THE ICE BRIDGE, TO GROUND THE COAX CABLE GROUNDING KITS AND IN-LINE ARRESTORS
16. CONTRACTOR SHALL REPAIR, AND/OR REPLACE, EXISTING GROUNDING SYSTEM COMPONENTS DAMAGED DURING CONSTRUCTION AT THE CONTRACTORS EXPENSE.



PROJECT INFORMATION:

SITE NAME:
CS_CUCHARES_RANCH

SITE ID:
DN03486D

BU#: 823518

9285 DRENNEN ROAD
COLORADO SPRINGS, CO 80925
EL PASO COUNTY

REV:	DATE:	DESCRIPTION:	BY:
A	04-11-22	PRELIMINARY	CBM

PLANS PREPARED BY:

6335 DOWNING ST.
DENVER, CO 80216
WYCOFS.COM

LICENSURE NO:

ALL SCALES ARE SET FOR 11"x17" SHEET

DRAWN BY:	CHK BY:	APV BY:
CBM	TJN	TA

SHEET TITLE:

GENERAL
NOTES

SHEET NUMBER:

GN1

GENERATOR NOTES

DIESEL GENERATOR: EXTERIOR
EMERGENCY BACKUP POWER
48kW GENERAC DIESEL GENERATOR ABOVE GROUND SUB-BASE TANK
CONTAINING 210 GALLONS OF #2D FUEL

FUEL TANK LOAD DURATION CALC:
TANK SIZE = 210 PER MFR DATA FUEL FILL ALARM @ 90% = 189 GALLONS
FUEL CONSUMPTION RATE = 4.02 GPH @ 100% PER MFR CUT SHEET
LOW FUEL ALARM SET @ 2HRS RUNTIME x 133% = 10.693 GALS
(4.02 GPH x 2HRS x 133% = 10.693 GALS)
210 GAL TANK PROVIDED / 4.02GPH = 52.2 HR RUN TIME

1. LOCATION OF EXTERIOR TANKS

- A. CLEARANCE (IFC 5704.2.9.6.1.1 & NFPA TABLE 22.4.1.1A & NFPA 37.4.1.4) GENERATOR TANKS WITH A CAPACITY LESS THAN 275 GALLONS MUST BE A MIN. OF 5' FROM A PROPERTY LINE, R.O.W. OPENINGS IN WALLS OR STRUCTURE WITH COMBUSTIBLE WALLS. TANKS WITH CAPACITY 276-750 MUST BE 10' FROM PROPERTY LINE
- B. WORKING SPACE (NFPA 70 TABLE 110.26.A1) WORKING SPACE FOR ELECTRICAL EQUIPMENT OF 0-600 VOLTS SHALL BE A MIN. OF 3' ON FRONT/SERVICE SIDE
- C. WORKING CLEARANCE (IFC 604.1.2 & NFPA 110 7.9.12.1) A MINIMUM CLEARANCE OF 3FT SHALL BE MAINTAINED ON ALL SIDES OF FUEL TANK.

2. SIGNAGE

- A. "NO SMOKING OR OPEN FLAME" (IFC 5704.2.3.1) THE FOLLOWING SIGNS MADE OF DURABLE MATERIAL ARE REQUIRED ON THE GENERATOR ROOM DOOR (SEE EXAMPLE AT BOT. OF NOTES)
- B. NFPA HAZMAT PLACARD: (IFC 5003.5 & NFPA 704) VISIBLE HAZARD IDENTIFICATION SIGNS AS SPECIFIED BY NFPA 704 SHALL BE PLACED ON GENERATOR ROOM DOOR REFLECTING THE HIGHEST HAZARD WITHIN THE COMPOUND (SEE EXAMPLE)
- C. FILLING INSTRUCTIONS: (IFC 5704.2.9.7.6.1) A PERMANENT SIGN SHALL BE PROVIDED AT THE FILL POINT FOR THE TANK, DOCUMENTING THE FILLING PROCEDURE AND TANK CALIBRATION CHART.
- D. EMERGENCY SHUT DOWN PROCEDURES: (NFPA 37.10.2.1) PROVIDE CLEAR EMERGENCY SHUTDOWN PROCEDURES FOR SAFELY DISABLING THE GENERATOR

3. TANK VENTILATION (IFC 5704.2.9.7.2 & IFC 5704.2.7.3. & NFPA 30 & DFC 5704.2.7.3.3)

- A. CLEARANCE: STORAGE TANKS MUST BE EQUIPPED WITH NORMAL AND EMERGENCY VENTING. NORMAL TANK VENT PIPES MUST EXIT STRUCTURE AND SHALL BE NO SHORTER THAN 12 FEET ABOVE FINISHED GROUND. VAPORS SHALL BE DISCHARGED AWAY FROM EAVES OR OBSTRUCTIONS. EMERGENCY VENT PIPES MUST EXIT STRUCTURE AND SHALL COMPLY WITH NFPA 30/22.7.
- A. WEATHER PROOF CAPS: (IMC 1305.7) WEATHER PROOF CAPS SHALL BE PROVIDED ON ALL VENT PIPES WITH THE SAME FREE OPEN VENT AREA AS THE CROSS SECTION OF THE VENT PIPE. SCREENS SHALL NOT BE FINER THEN NO.4 MESH
- B. VENT PIPE STATIC HEAD (IMC 1305.7) IF THE STATIC HEAD WITH A VENT PIPE FILLED WITH OIL EXCEEDS 10 PSI THE TANK SHALL BE DESIGNED FOR THE MAXIMUM STATIC HEAD THAT WILL BE IMPOSED. ALL VENT PIPES AT THIS SITE ARE 12' HIGH WHICH DO NOT EXCEED 10 PSI.
- a. 1 PSI = 2.31 FT OF VENT RISE
- b. 12FT H VENT / 2.31 FT = 5.19 PSI

4. GENERATOR EXHAUST PIPE: (NFPA 37 8.2.3.2) EXHAUST SYSTEM TERMINATIONS SHALL NOT BE DIRECTED TOWARD COMBUSTIBLE MATERIAL OR STRUCTURES OR INTO ATMOSPHERES CONTAINING FLAMMABLE GASSES, FLAMMABLE VAPORS, OR COMBUSTIBLE DUSTS.

5. OVERFILL PREVENTION TANKS INSIDE BUILDINGS: (5704.2.9.5.1) TANKS SHALL BE EQUIPPED WITH THE FOLLOWING:

- A. A FLOAT VALVE
- B. PRESET METER ON FILL LINE
- C. A VALVE ACTUATED BY THE WEIGHT OF THE TANKS CONTENTS
- D. LOW-HEAD PUMP WHICH IS INCAPABLE OF PRODUCING OVERFLOW OR A LIQUID TIGHT OVERFLOW PIPE AT LEAST ONE PIPE SIZE LARGER THAN THE FILL PIPE AND DISCHARGING BY GRAVITY BACK TO THE OUTSIDE SOURCE OF LIQUID OR TO AN APPROVED LOCATION

6. VEHICLE IMPACT PROTECTION: (IFC 5703.64 & 312.2) GUARD POSTS / BOLLARDS MEETING THE FOLLOWING REQUIREMENTS SHALL BE PROVIDED TO PROTECT TANKS WITH COMBUSTIBLE / FLAMMABLE LIQUIDS.

- A. CONSTRUCTED OF MIN. 4"Ø STL PIPE IN FOOTING MIN. 15"Ø & MIN. 3' DEPTH
- B. SPACED NO MORE THAN 4' APART BETWEEN POSTS ON CENTER
- C. LOCATED NO LESS THAN 3' FROM PROTECTED OBJECT AND STANDING MIN. 3' TALL

7. HAZARDOUS MATERIALS INVENTORY STATEMENT: (IFC APPENDIX H)

- A. ALL HAZARDOUS CHEMICALS MUST BE REPORTED TO LOCAL COUNTY FIRE DEPARTMENT PRIOR TO INSPECTION.

8. FIRE EXTINGUISHER: (IFC 906.1, NFPA-10, NFPA-76, OSHA 29 CGR 1910.157)

- A. FIRE EXTINGUISHER INSTALLED SHALL BE A MIN. RATING OF 4A:40B:C
- B. LOCATION: (NFPA 10-6.1.3.1) A FIRE EXTINGUISHER SHALL BE CONSPICUOUSLY LOCATED WHERE IT IS READILY ACCESSIBLE AND IMMEDIATELY AVAILABLE IN THE EVENT OF A FIRE.
- C. LOCATION: (NFPA 10-6.3.1.1) A FIRE EXTINGUISHER RATED 40-B MUST BE WITHIN 30' OF CLASS B LIQUID HAZARD. FIRE EXTINGUISHER RATED 80-B MUST BE WITHIN 50' OF CLASS B LIQUID HAZARD.
- D. HEIGHT: (NFPA 10-6.1.3.8) FIRE EXTINGUISHER SHALL BE INSTALLED SO THAT THE TOP OF THE FIRE EXTINGUISHER IS BETWEEN 3.5 AND 5 FT A.F.F.

9. SPILL CONTAINER KIT: (IFC 5704.2.9.7.8 & IFC 5704.2.7.5.6) A SPILL CONTAINER WITH A CAPACITY OF AT LEAST 5 GALLONS SHALL BE PROVIDED WITH EACH FILL CONNECTION. FOR TOP FILL TANKS CONTAINER MUST BE NON-COMBUSTIBLE, FIXED TO TANK AND EQUIPPED WITH MANUAL DRAIN VALVE THAT DRAINS INTO PRIMARY TANK. A PORTABLE CONTAINER IS ALLOWED WITH REMOTE FILL TANKS. TANK MUST BE MAX 5' A.F.G. AND MIN. 5' FROM BUILDING OPENINGS.

10. INSPECTIONS: CONTRACTOR SHALL VERIFY WITH LOCAL FIRE DEPARTMENT INSPECTION REQUIREMENTS INCLUDING

- A. INSPECTION TEAM WITNESS FILLING OF THE DIESEL TANK.
- B. INSPECTION TEAM WITNESS DEMONSTRATION OF FLOAT SWITCH SET POINTS OF 90% AND 40 %.

11. DIESEL SUB BASE TANK CONSTRUCTION: (IFC 5704.2.7, NFPA 30-21.4.2.1.1, UL 142)

- A. FUEL CONTAINMENT BASIN: SUB BASE TANK SHALL INCLUDE WELDED STEEL CONTAINMENT BASIN SIZED AT A MINIMUM OF 125% OF THE TANK CAPACITY TO PREVENT ESCAPE OF FUEL IN THE EVENT OF A TANK RUPTURE
- B. LEAK DETECTION SYSTEM: A FUEL CONTAINMENT BASIN LEAK DETECTOR SHALL BE SUPPLIED AND WIRED FOR ALARM CONDITION VISIBLE FOR GENERATOR CONTROL PANEL
- C. SUB BASE TANK VENTING: NORMAL EMERGENCY VENTING SHALL BE SIZED PER UL 142 SPECIFICATION FOR WETTED SURFACE AREA OF TANK.
- D. ENGINE ENVIRONMENTAL SPILL PROTECTION: TOP OF FUEL TANK BASE SHALL INCLUDE SPILL CONTAINMENT TO CATCH ANY EXCESS SPILL OR LEAKS FROM ENGINE AND COOLING SYSTEM. THIS SHALL BE SIZED FOR 125% OF ENGINE FLUIDS AND FUEL SPILL CONTAINMENT.

12. REMOTE MANUAL STOP: (NFPA 110 5.6.5.6 & 5.6.5.6.1) ROTATING PRIME MOVER EQUIPMENT (DIESEL ENGINE) SHALL HAVE A REMOTE MANUAL STOP STATION LOCATED IN APPROVED LOCATION. REMOTE MANUAL STOP STATION SHALL BE CLEARLY LABELED.

13. REMOTE STATUS PANEL: ALL GENERATORS SHALL BE PROVIDED WITH A REMOTE STATUS PANEL THAT SHOWS THE FOLLOWING:

- A. OPERATING STATUS (ON-OFF) AND MALFUNCTION INDICATION PANEL (PER NFPA 110)
- B. INDICATION OF TRANSFER SWITCH POSITION (NORMAL-EMERGENCY)
- C. INDICATION THAT GENERATOR IS IN AUTOMATIC MODE
- D. MAIN FUEL OIL STORAGE TANK LOW FUEL LEVEL ALARM. THE LOW FUEL SENSING SWITCH SHALL INDICATE WHEN LESS THAN THE MINIMUM FUEL NECESSARY FOR FULL LOAD RUNNING AS PER NFPA 110 SECTION 5.5.2 OR A MINIMUM OF 75% OF THE TANK SIZE.

14. GENERATOR TANK MAX STATIC HEAD (IMC 1305.7) "IF THE STATIC HEAD WITH A VENT PIPE FILLED WITH OIL EXCEEDS 10 POUNDS PER SQUARE INCH (PSI) (69 KPA), THE TANK SHALL BE DESIGNED FOR THE MAXIMUM STATIC HEAD THAT WILL BE IMPOSED." GENERAC TANKS ARE DESIGNED TO RELEASE PRESSURE CAP LIMITING PRESSURE AT 2.5 PSI. REFER TO GENERAC TANK CUT SHEET.

15. MAXIMUM ALLOWABLE QUANTITY HAZARDOUS MATERIALS (IFC TABLE 5003.1.1(1), 5003.9.10, 903.3.1.1) MAXIMUM ALLOWABLE QUANTITY OF CLASS II LIQUID IS 240 GALLONS WHEN STORED IN EXHAUSTED ENCLOSURE. AMOUNT INCREASES TO 480 GAL WHEN ALSO INSTALLING APPROVED FIRE SUPPRESSION SYSTEM.



PERMIT & INSPECTION NOTES

1. CONTRACTOR SHALL PROVIDE ANY INSPECTIONS REQUIRED BY LOCAL JURISDICTION PRIOR TO FUELING THE GENERATOR.
2. LEGALLY REQUIRED EMERGENCY OR STANDBY GENERATORS SHALL BE ACCEPTANCE TESTED IN ACCORDANCE WITH NFPA 110. DOCUMENTATION SHALL BE PROVIDED BY CONTRACTOR TO THE LOCAL JURISDICTION OUTLINING THE NFPA 110 ACCEPTANCE TEST CONDUCTED AND RESULTS SHOWING CONFORMITY WITH NFPA 110 ACCEPTANCE TESTING REQUIREMENTS.
3. CONTRACTOR SHALL INQUIRE WITH LOCAL JURISDICTION FOR ANY ADDITIONAL ANNUAL PERMITS RELATING TO GENERATORS OR COMBUSTIBLE STORAGE.



PROJECT INFORMATION:

SITE NAME:
CS_CUCHARES_RANCH
SITE ID:
DN03486D
BU#: 823518
9285 DRENNEN ROAD
COLORADO SPRINGS, CO 80925
EL PASO COUNTY

REV: DATE: DESCRIPTION: BY:

A	04-11-22	PRELIMINARY	CBM

PLANS PREPARED BY:



LICENSURE NO:

ALL SCALES ARE SET FOR 11"x17" SHEET

DRAWN BY: CHK BY: APV BY:

CBM	TJN	TA
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SHEET TITLE:

**GENERATOR
NOTES**

SHEET NUMBER:

GN2