

Routt County

Planning Department

PO Box 73749
Steamboat Springs, CO 80477
(970) 879-2704
fax (970) 879-3992
www.co.routt.co.us

APPLICATION FORM: LAND USE & ZONING

Activity No. PL-17-166 OFFICE USE
Base Fee \$ \$800 Receipt No. _____
Received By CS Date 11/7/17
Deemed Complete By CS Date 11/7/17

I. PROJECT NAME

LUCKY 8 RANCH TEMPORARY WORKFORCE HOUSING

II. TYPE OF REVIEW

This application form must be accompanied by the applicable submittal checklist.

- ☐ Minor Use Permit ☐ Administrative Permit ☐ Site Plan Review ☐ Conditional Use Permit (CUP)
☐ Sign Permit ☐ Water Body Setback Permit ☐ Pre-Application Conference ☒ Special Use Permit (SUP)
☐ Special Event Permit ☐ Floodplain Development Permit ☐ Zoning Amendment/Rezoning ☐ Conceptual PUD
☐ Administrative Amendment to CUP/SUP/PUD/Site Plan ☐ Variance ☐ Final PUD

III. APPLICANT

Name NICHOLAS OSADCHUK
Mailing Address 23850 TOSTANO TRL
City CORTEZ State CO Zip 80467
Phone 970-896-5592 Email Nick@lucky8ranchco.com

Representative / Primary Contact _____

Mailing Address _____

City _____

State _____

Zip _____

Phone _____

Email _____

IV. PROPERTY OWNER

Name DWAYNE OSADCHUK
Mailing Address 23850 TOSTANO TRL
City CORTEZ State CO Zip 80467
Phone 970-617-1115 Email Dwayne@lucky8ranchco.com

V. PROPERTY INFORMATION

Property Address 23850 TOSTANO TRL
General Location CR 29
Legal Description (may be attached) TR in Sec 36-5-86, 31-5-85 R20AC
Parcel Identification No. (PIN) 946312001 Property Size (acres) 120
Current Use Ag Zoning A1F
Proposed Use TEMPORARY WORKFORCE HOUSING

VI. SIGNATURES

This application form must be signed by both the applicant and legal owner of the property. Attach additional pages if necessary.

By signing below, the applicant acknowledges that all information contained on this application form and within accompanying submittals are true and correct and agrees to pay all required fees associated with this application. The base fee is intended to cover the estimated minimum staff hours to process the application. Any additional staff hours will be assessed at \$120 per hour. The applicant signing below is responsible for all additional hourly fees. Failure to pay fees may result in revocation of a permit/approval.

Nick Osadchuk
Applicant's Signature

NICHOLAS OSADCHUK
Print/type name of applicant

Dan Osadchuk
Property Owner's Signature

Dwayne Osadchuk Trust
Print/type name of property owner

see within

Lucky 8 Ranch Special Use Permit Application Temporary Workforce Housing Written Narrative



Description of Use:

Our primary mission for our land use is and will always be:

The revival of a once endangered species and the reclamation of the American farmland, by providing a safe work environment and practicing Holistic Land Management while being environmentally conscious and involving the community. We will provide the highest quality Original American Red Meat and other products!

Currently we raise just 150 head and growing of Bison. We use our 1100 acres primarily for agriculture use. We graze and hay on all of our properties, owned & leased. We also go out and hay other properties in the Routt County area. We will also be sharing our ranch with the public for various ranch tours.

In the past we have had potential employees turned away from us due to our lack of employee housing and with the high prices of housing options in the surrounding area, they too have needed to search for jobs outside of Routt County. We would like to add temporary workforce housing units to our ranch to offset the lack of affordable housing in our surrounding area. This is a very cost effective way for us, as the property owner, to not spend the costly capital and time it takes to construct new buildings.

We would like to add temporary workforce housing, similar to that of the oil & gas industry, on our property to allow our employees to live on site and not have to travel to work everyday. We are proposing three wellsite trailers, also known as man camps, to house seasonal employees. Each wellsite trailer has 2 separate living quarter, 2 bedrooms, 2 kitchens, and 2 bathrooms. These trailers are self contained with utilities, except for sewage. They each have a

400 gallon fresh water holding tank, which we would fill by delivery from a local water delivery service, such as rain drop or by our own hauling. They use propane for furnace & water heat. The electrical source is from a generator. We would however need to construct a new septic system to manage the waste water. We have contacted NWCC and they have started the design process.

Hours of Operation:

The temporary housing units will be used to house employees and/or family of the ranch entity. They will not be rented out to others therefore will not have business hours of operation.

General Ranch Work Hours: 7am or earlier (depending on the season) – when the job is done
Ranch Tours Hours: 9am – sundown
Special Events Hours: 8am – 12am with amplified music cut off at 10pm

Anticipated number of employees:

Lucky 8 Ranch currently has 4 full time members on staff (1 General Manager, 1 Ranch Manager, 1 Ranch Hand, 1 Animal Care Taker/Trainer). We anticipate to hire seasonal employees for various positions at the ranch.

Projected 2018 Positions Available:

3-5 Ranch Hands to help out with all projects and activities at the ranch

We are not looking to house families in these units. We are expecting 2 tenants per trailer for a total of 6 persons in the housing camp. If a potential employee does however have a spouse we would allow that person to stay in the unit with their spouse.

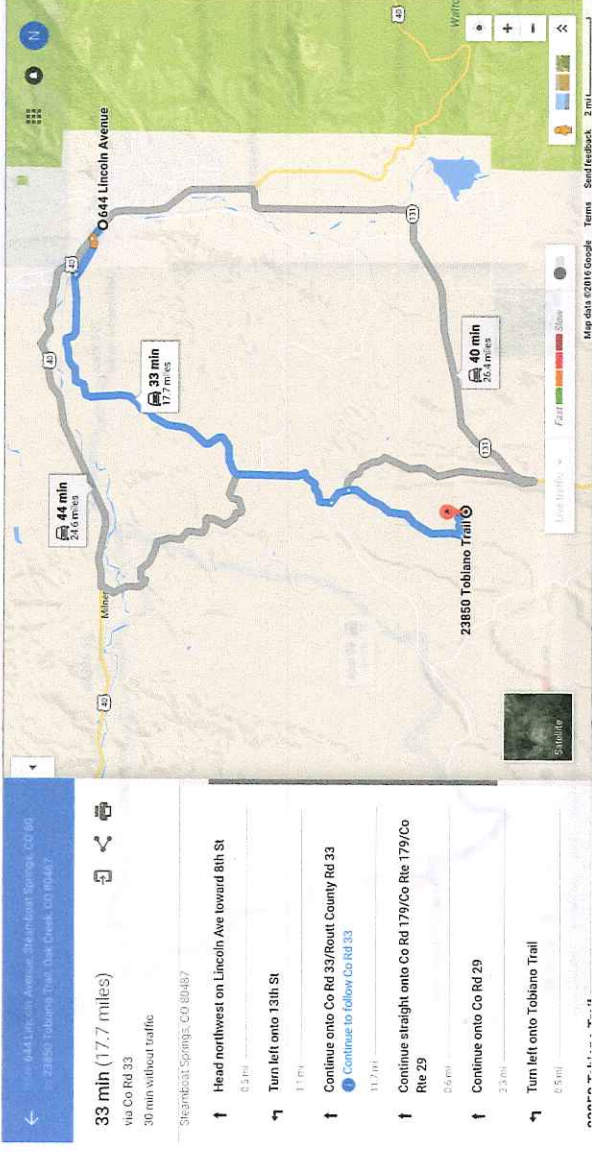
Anticipated Traffic:

By adding these units, we anticipated less traffic traveling to the ranch. With them being housed at the ranch, there will be no need for them to drive in and out daily.

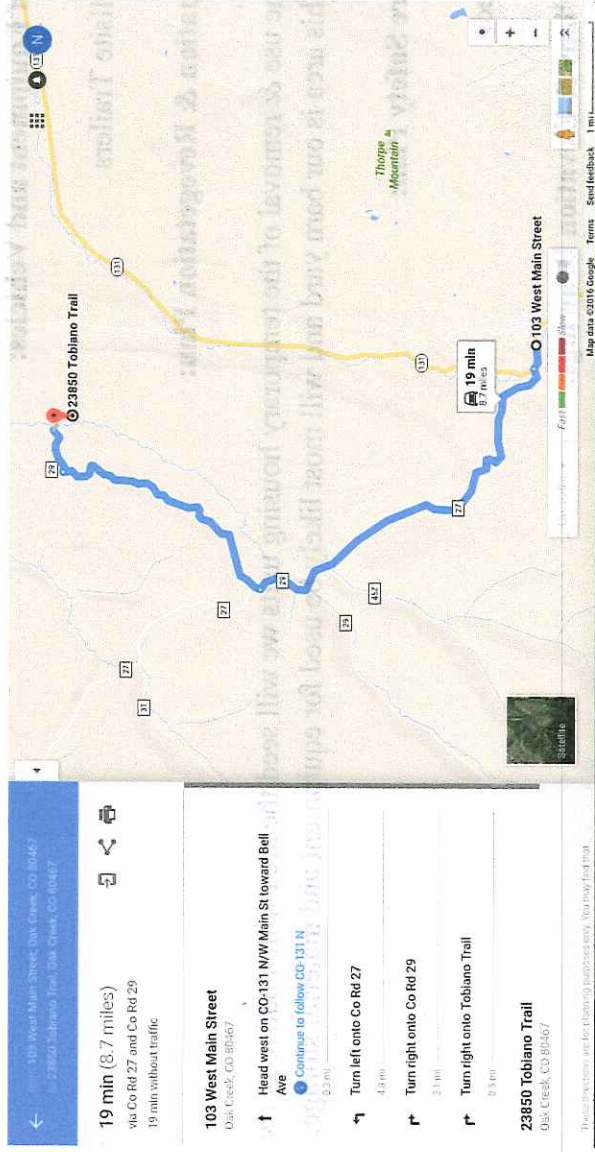
Access to the Property:

Access to the proposed units is through the barn yard at the ranch headquarters on the Homestead Ditch Road/Trail.

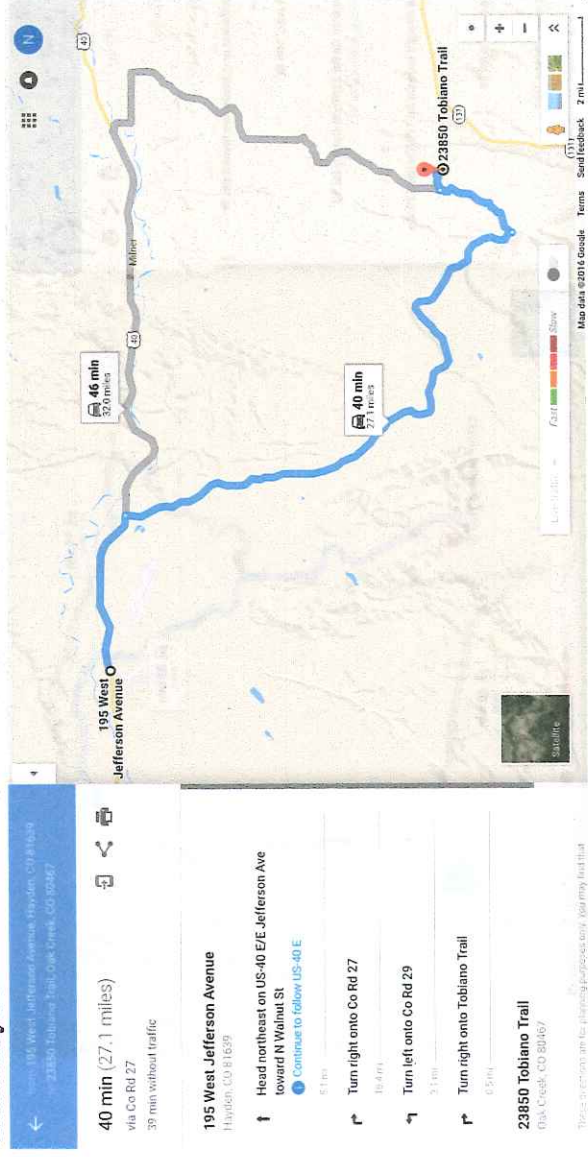
From Downtown Steamboat Springs Google Maps shows three routes.



From Oak Creek



From Hayden



Type of Equipment and Vehicles:

3 – Wellsite Trailers

Reclamation & Revegetation Plan:

After the use & removal of the temporary housing units we will seed the area with a native grass mix. This area is our barn yard and will most likely be used for equipment and material storage.

Site Fire Safety Plan:

Attached.

Floor Plans & Elevation Drawings:

Attached.

Lucky 8 Ranch Special Use Permit Application Temporary Workforce Housing Mitigation Plan



As always, we at Lucky 8 Ranch put Safety first. We will make sure our property is always in good standing for the Health, Safety, and Welfare of our lands, our employees, and our visitors. The entire property is our home and we will maintain and preserve it to the highest standards.

Public Roads, Service & Infrastructure, Road Capacity, Traffic & Traffic Safety

To avoid any negative impacts to our public roads leading to the ranch we are offering housing on site, this will reduce the number of vehicles traveling along these roadways daily.

Natural Hazards

We do not have any avalanche, landslide, rock fall, mudflow, unstable slopes, seismic, or radioactive areas within the proposed location.

To help minimize wildfire areas, we graze our livestock and harvest hay pastures to keep the grass height to an appropriate level. We also maintain and mow within a 50-foot radius of any structures.

To help fight possible fire, fire extinguishers are located in all structures and vehicles located on the ranch. We also have multiple water pumps, water tanks, and water trucks to pump water if needed to specific areas.

There are no known existing flood hazard areas within the proposed site.

Wildlife & Wildlife Habitat

The proposed temporary workforce housing site is not located in a known critical wildlife area.

To avoid disturbing the local wildlife, we will avoid known breeding grounds, nesting areas, dens, and other high concentrated animal habitats, to not disturb these animal species. There are no known areas within the proposed site location.

We have a bear proof dumpster on site to keep rubbish contained and rodents away.

Water Quality & Quantity

We will maintain and preserve the water that runs through or under our ranch to the highest standards.

Air Quality

To reduce the amount of dust stirred up from the county road we have already started to treat our roadways within our property limits with magnesium chloride, applied by Routt County Road & Bridge. We also use water during dry periods to wet our driveways when increased traffic is expected and high winds.

Visual Amenities and Scenic Qualities

We are currently reclaiming all our land especially where the Chevron Mine use to exist.

Noise

We will use whisper watt generators to power the temporary workforce housing units, which will reduce noise impact.

To minimize noise to surrounding residents the temporary workforce housing units will be surrounded by hay/equipment barns.

Wetlands

The proposed temporary workforce housing site is not located in a wetland.

Agriculture Uses

The proposed temporary workforce housing units will aid in the agricultural use of our property.

Outdoor Lighting

The units each have small outdoor light fixtures and will be downcast and opaquely shielded. We do not propose adding any additional outdoor lighting to the units.

Other

We will get a Site Fire Safety Plan approved by our local fire safety authority.

Lucky 8 Ranch will adhere to any of the proposed mitigation techniques set forth in Section 6 of the Routt County Zoning Regulations as decided by the planning commission.

Lucky 8 Ranch Special Use Permit Application Temporary Workforce Housing Site Plan Narrative



Existing/Future Buildings, Structures, Fencing:

Currently 4 hay & equipment barns are constructed around the proposed temporary workforce housing location.

- 1 – 50' x 100'
- 2 – 40' x 80'
- 1 – 30' x 60'

Outdoor Storage, Trash Enclosures, Staging Areas, and Outdoor Use Areas:

We have 2 dumpsters. 1 for construction materials and 1 bear proof dumpster for household rubbish. We are currently reorganizing our barn yard and have not set a location for these units.

Parking Areas:

We have plenty of parking area around the proposed site for the tenants of the wellsite trailer units.

Snow Storage:

We do not store any snow. All plowed roads/paths get the snow blown into the adjacent pasture.

Sanitation Facilities:

Each wellsite trailer has 2 bathrooms. NWCC is currently designing the waste water management system.

Utilities:

Each unit has its own water holding tank and propane tanks attached to the unit. Electricity will be supplied by a whisper watt generator. We will need to construct a new septic system to manage the waste water from the units. NWCC is currently designing this system.

Water Bodies, Drainages, and Ditches.

The homestead ditch runs 3-5' underneath (in 42" culverts) the proposed temporary workforce housing location and portions of the barn yard.

Wetlands, Floodplains, and Steep Slopes:

The proposed area is not in a wetland nor in a floodplain. There is a steep slope area a couple hundred feet to the east of the proposed temporary workforce housing site location.

Easements, Building Envelopes, and Minimum Setbacks:

All structures existing and proposed will be the 50' minimum building setback.

Sidewalks & Trails:

We do not have any built sidewalks. There is an established trail that leads from the driveway, through the barn yard, and to the temporary workforce housing location.

Hazardous Materials Storage:

We currently use a sealed shipping container (conex) for all our hazardous materials storage located next to the barn.

Proposed Landscaping:

We propose to plant grass around the temporary workforce housing units.

Lucky 8 Ranch Area Map

Property boundary

COLORADO STATE
HIGHWAY 131

C.R. 29

Town of Oak Creek

0 0.2 0.5 1.0 1.5 2.0 2.2 Miles



Insert - Location/names
of Lease Holdings

- Legend**
- Highway
 - County Road
 - Public Road
 - City Street or Private
 - USFS Road
 - BLM
 - Parcels
 - CDOW/STATE
 - USFS
 - Private
 - State Cities

This map is for planning purposes only. It was prepared from publicly available information. Any other use or reproduction of the information is the sole responsibility of the user. This map should not be used to establish legal title, boundary lines, locations of improvements or utilities. Routt County expressly disclaims all liability regarding accuracy or completeness of this map.

Created by Routt County Planning Office, 11/2/2006

Site
Vicinity
Map



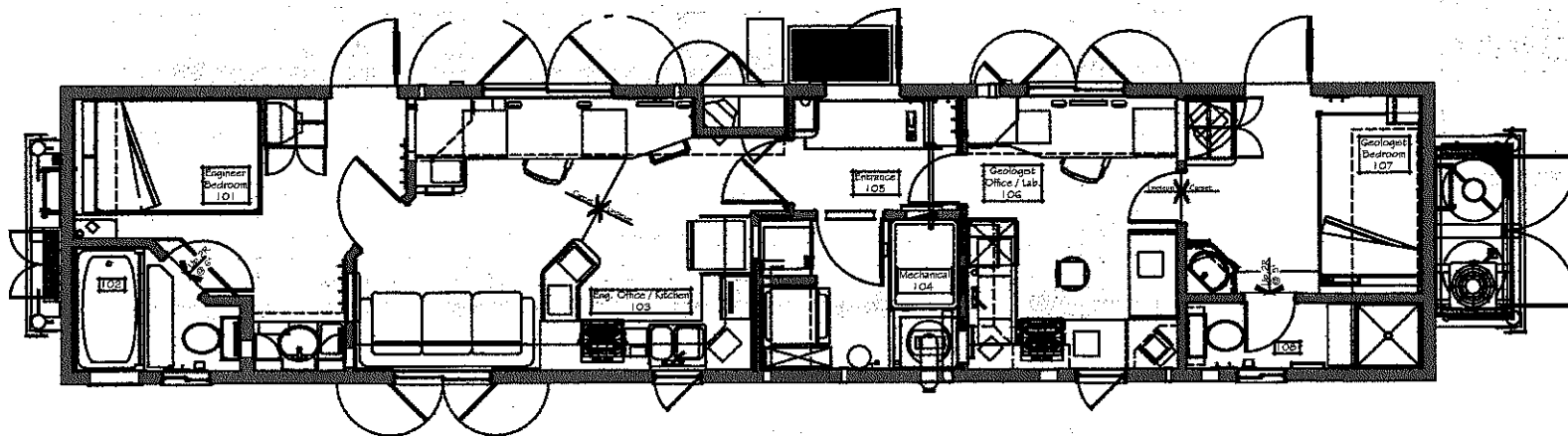
Assessor's Property Search Clerk's Records Search



PIN, Acct #, Address



GIS



12' x 56' (skid) Wellsite "Plus" - Bathtub Model

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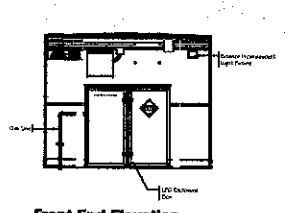
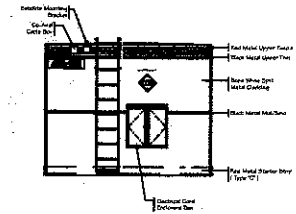
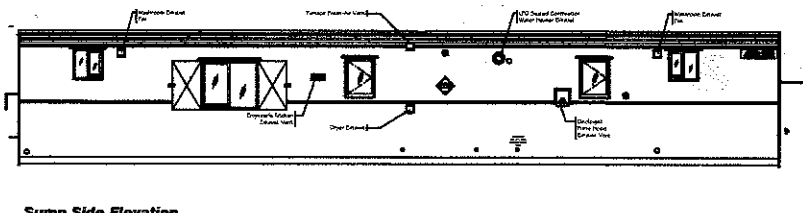
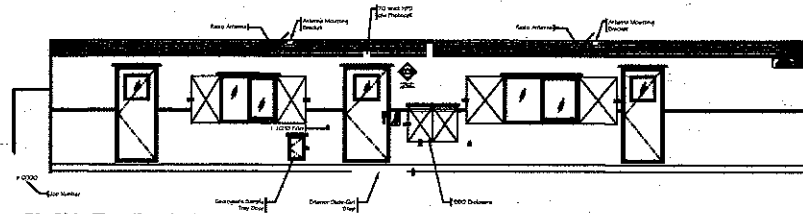
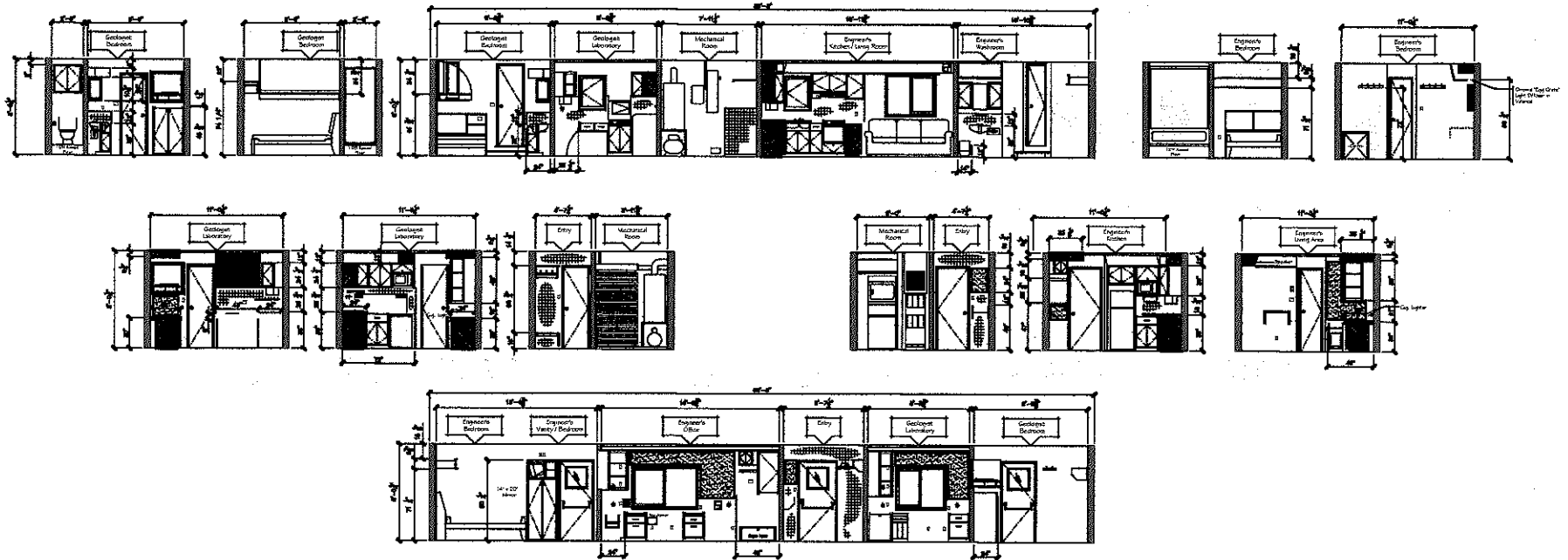
Drawing No. 12x56-WSP-B Drawn By: K. Kramers, A.Sc.T. Date: July 15 /99

ALTA-FAB

structures ltd.

the Ultimate in transportable buildings ...

504 - 13th Avenue, Nisku, Alberta T9E 7P6
telephone: (780)955-7733 fax: (780)955-7851
toll free: 1-800-252-7990



Revisions: 12' x 56' (skid) Wellsite "Plus"

Rev.	Date	Description	By	App.
1	10/25/88	General Revision	KJC	

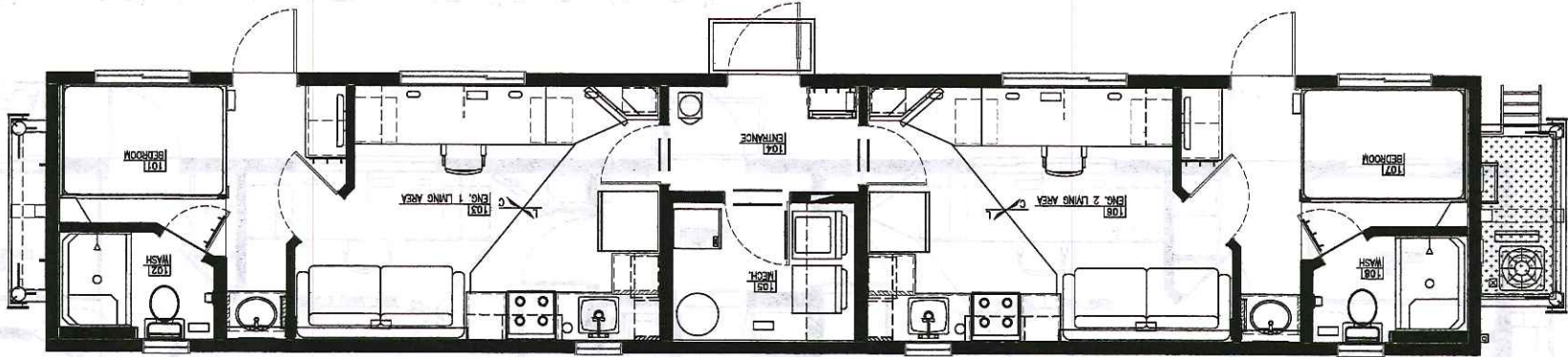
ALTA-FAB
 2341 - 12th Avenue, West
 Aurora, Colorado
 Telephone: (303) 885-7733
 Fax: (303) 885-7840
 Toll Free: 1-800-488-7840

Client: Alta-Pak Structures Ltd.
 Engineering Firm:
 Project Site Description:
 12' x 56' (skid) Wellsite "Plus"

Drawn: LAF - TLP
 Checked: VJD
 Date: March 20, 1990
 Design: G. Rother, A.S.T.
 Approved: J.A.T.
 ARJ Serial Number: 981256-5-
 WSP-B
 1c
 1

presented to ...
Client: TBA

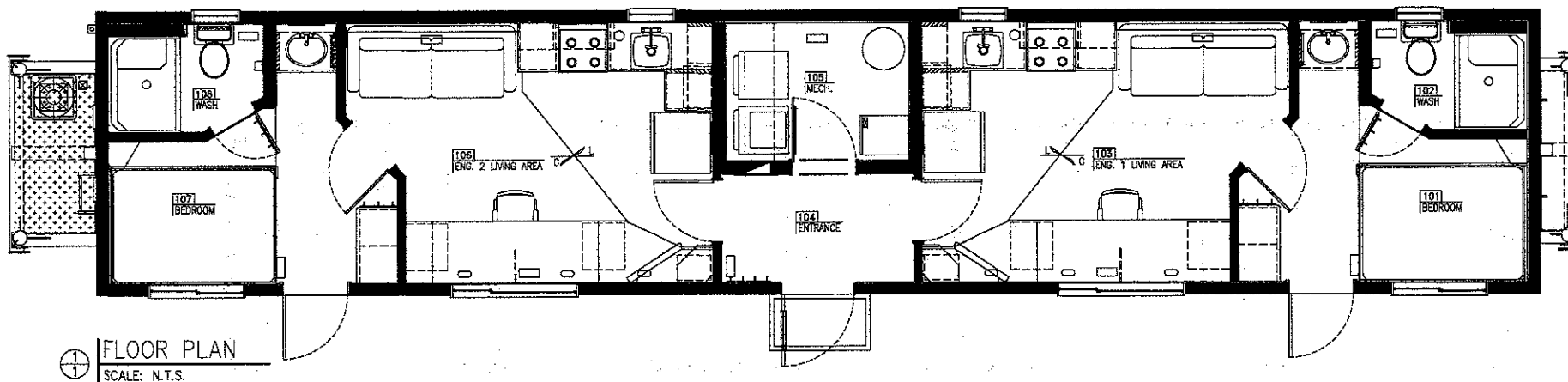
12' x 60' (skid) WELLSITE "ENG./ENG."



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Drawing No. WSEE Drawn By: RC Date: MAR. 25, 2011

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11'-9" x 60' (skid) WELLSITE "ENG./ENG."

CLIENT: -
PROJECT NUMBER: PROTO
SERIAL NUMBER: NHAF2375
MODEL NUMBER: 111260-S-WSEE
ENGINEERED REFERENCE#: SE(1260USWSEE)

FLOOR LIVE LOAD: 40 PSF
FLOOR DEAD LOAD: 10 PSF
ROOF LIVE LOAD: 40 PSF
ROOF DEAD LOAD: 12 PSF
HORIZONTAL WIND LOAD: IRC MPH (EXPOSURE C)
SEISMIC ZONE: D1
SITE CLASS: D
BUILDING TYPE: RESIDENTIAL
CONSTRUCTION: TYPE V S
NUMBER OF STORIES: ONE STORY
ALLOWABLE WIDTHS: 11'-9" MAX. PER FLOOR

NOTES BY STATE:

NORTH DAKOTA:

1. 2009 INTERNATIONAL RESIDENTIAL CODE WITH AMENDMENTS.
2. 2009 INTERNATIONAL MECHANICAL CODE WITH AMENDMENTS.
3. 2009 INTERNATIONAL FUEL GAS CODE WITH AMENDMENTS.
4. 2011 NATIONAL ELECTRICAL CODE WITH AMENDMENTS.
5. 2009 UNIFORM PLUMBING CODE WITH STATE AMENDMENTS.
6. 2009 INTERNATIONAL ENERGY CONSERVATION CODE.
7. 1999 ANSI A117.1 OR AMERICAN WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES (ADAAG).

MONTANA:

1. 2006 INTERNATIONAL RESIDENTIAL CODE.
2. 2009 UNIFORM PLUMBING CODE.
3. 2008 NATIONAL ELECTRICAL CODE.
4. 2009 INTERNATIONAL MECHANICAL CODE.
5. 2009 INTERNATIONAL FUEL GAS CODE.
6. 2009 INTERNATIONAL ENERGY CONSERVATION CODE.

WYOMING:

1. 2006 INTERNATIONAL RESIDENTIAL CODE.
2. PLUMBING PER LOCAL JURISDICTION.
3. 2006 INTERNATIONAL FIRE CODE (INCLUDING APPENDIX D, E, F, AND G).
4. 2006 INTERNATIONAL MECHANICAL CODE.
5. 2006 INTERNATIONAL FUEL GAS CODE.
6. 2006 NATIONAL ELECTRICAL CODE.

COLORADO:

1. 2006 INTERNATIONAL RESIDENTIAL CODE.
2. INTERNATIONAL MECHANICAL CODE.
3. 2006 INTERNATIONAL PLUMBING CODE.
4. 2006 NATIONAL ELECTRIC CODE.
5. 2006 INTERNATIONAL FUEL GAS CODE.
6. 2009 INTERNATIONAL ENERGY CONSERVATION CODE.

SOUTH DAKOTA:

1. 2006 INTERNATIONAL RESIDENTIAL CODE. **
 2. 2009 INTERNATIONAL MECHANICAL CODE. **
 3. 2011 NATIONAL ELECTRICAL CODE.
 4. 2009 UNIFORM PLUMBING CODE.
- ** VERIFY WITH LOCAL BUILDING OFFICIAL



nashua
HOMES OF IDAHO, INC.
5200 FEDERAL WAY, P.O. BOX 170008
BOISE, IDAHO, 83717

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CLIENT:

PLANS

TITLE SHEET

ALTA-FAB

The Ultimate in transportable buildings...
504-13th Avenue, Nisku, AB, Canada T9E7P6
Telephone: 780.955.7733 Fax: 780.955.7851
Toll Free: 1.800.252.7990

DATE: APRIL 5, 2011

DWG FILE:

DRAWN:

DLG

TEMPLATE FILE:

SALES PERSON:

KN

DEPARTMENT:

CHECKED:

APPROVED:

1

13

12' x 56' (skid) Wellsite "Plus" Trailer

(Double end Eng. / Geo. c/w 2 showers)

General Construction Specifications

(May 1997)

Client : Command Drilling Inc.

General Information:

Client's Responsibility	It is the Client's sole responsibility to read, understand, and/or question any and all aspects of this specification.
Permit's	It is the Client's sole responsibility to apply, and pay for any and all development, and building permits required by the local jurisdiction having authority.
Warranty	The unit (s) is <i>Warranted</i> for a period of One (1) year, from the date of manufacture against all workmanship, and materials.

Skid Structure:

Main Members	3 - WF12" @ 30 lb./ft. steel beams.
Gross Members	4.5" dia. steel pipe @ 8'-0" o.c.
End Members	7" dia. steel pipe c/w winch caps.
Bumper Posts	4 - 7" dia. steel pipe c/w gussets.
Painting	"Black" enamel rust inhibitor paint.

Floor Structure:

(exterior to interior)	
Undercoating	1 coat latex enamel paint.
Under sheathing	1/2" Spruce plywood, glued & nailed.
Floor Joists	2 x 10 Spruce @ 16" o.c.
Insulation	R-30 Fiberglas batt.
Sub-floor	One layer of 5/8" select Fir T & G 3/4" Fir T & G plywood.
Carpet	"Omega III" 32 oz. Berber jute backed,
Linoileum	"Tarkeit" 2.0 mm commercial grade, heat welded seams.

Exterior Walls:

(exterior to interior)	
Metal Cladding	26 ga. prefinished G-90 Hot Dipped
Color Scheme	Red / Bone White / Black trim / Red.
Sheathing	1/2" Fir plywood, glued & stapled.
Wall studs	2 x 6 Spruce studs @ 16" o.c.
Insulation	R-20 Fiberglas batt.
Screwing Ribs	3 - horizontal rows.
Finish	3/8" GIS Fir, clad with 8 mil Vinyl finish (All Areas).

plywood, glued & screwed to One layer of

deep pile carpet.

polyurethane reinforced Vinyl flooring, c/w

Galvanized steel cladding.

Interior Partitions:

Finish	Matched as above.
Partition Studs	2 x 4 Spruce studs @ 16" o.c.
Finish	Matched as above.

Roof Structure:

(exterior to interior)	
Ceiling Height	8'-0" from top of floor to U/S of ceiling.
Roofing	40 mil reinforced white Vinyl roofing.
Sheathing	5/8" select Fir T & G plywood, glued &
Roof Joists	2 x 8 Spruce @ 16" o.c. crowned.
Drainage	Continuous aluminum drip channel.
Insulation	R-49 Fiberglas batt.
Vapor Barrier	6 mil Polyethylene vapor barrier.
Backing:	3/8" OSB plywood backing.
Ceiling Finish	1/2" white "Modulux" acoustical paneling.

one piece 100% adhered to roof deck.
screwed to roof joists.

Doors & Windows:

(sizes & locations as shown on the floor plan)	
Doors (exterior)	"Glenox" premium metal clad, insulated
Doors (interior)	Prefinished "WSF" Oak hollow core c/w
Windows	"Loewen" residential double glazed
Blinds	Metal Venetian blinds.
Shutters	All windows are c/w center closing, metal

c/w panic bar hardware & lock.
doorset.
sliders c/w wood interior jambs.
clad protection shutters.

Mechanical Section:

Heating	"Infertherm" #MGHA-056 LPG fired
Air Conditioning	The mech. system is c/w a 2 Ton central
Plumbing	Copper flared fittings & pipe.
Fixtures:	2 - low flush water closets c/w seat. 1 - 36" x 48" Fiberglas shower/bathub 1 - 32" x 32" Fiberglas shower (Geo.). 2 - lavatory sinks c/w 4" deck set. 1 - single cell s.s. sink c/w 8" deck set. 1 - custom made s.s. Geo. sink c/w 2 side 1 - 400 gal. Polyethylene plastic water 1 - "Jacuzzi" 5-C (1/2 hp) pressure pump.

furnace c/w in floor ducts, & registers.
A/C system, completely hooked up.

(non-jetted) (Eng.).

drain pans, hooks, and sprayer.
tank, complete.

DWM : 1 - "State" 40 gal. sealed combust. HWH.
Gas : ABS plastic fittings & pipe.
regulator, and metal clad enclosure.

line run to 2 - 400 lb. LPG pigs, c/w

Electrical Section:

Power Supply : 120/240 volt, single phase, 60 Hz.
Panel : 42 cct. panel c/w 40 amp main, and
Power Feed : Panel to be c/w 150 ft. #8/4 SOW cab tire
Int. Lighting : 2 x 40 watt fluorescent lights, 100 watt
Ext. Lighting : 75 watt High Pressure Sodium light c/w
Receptacles : Duplex electrical receptacles.
Telephone : Telephone outlets stubbed thru floor.
Metering : 1 - direct wired Hertz (cycles) and Voltage

branch circuit breakers.
cord, and "Hubbell" male cord end.
incandescent globes.
automatic photocell control.

meters mounted above Eng. desk.

Furnishings/Accessories:

General Note : All cabinets, furnishings, and appliances
Cabinets : All cabinets are manufactured in-house by
Steps/Landings : Slide out entrance step, and New "Safety
Appliances : 2 - "Zenith" 20" color / remote televisions.
1 - "Zenith" 13" color / remote television.
2 - "Zenith" Video Cassette Recorders.
1 - "Panasonic" am/fm, dual cassette,
2 - "Panasonic" built in car stereo
1 - "Danby" 11.0 cu. ft. fridge / freezer.
1 - "Danby" 5.0 cu. ft. fridge / freezer.
2 - "B & D" automatic coffee makers.
2 - 0.6 cu. ft. microwave ovens.
1 - 3 burner stove c/w oven.
1 - 3 burner stove top c/w s.s. Fume Hood
1 - range hood fan c/w light, and 2 speed
1 - "Inglis" stack Washer / Dryer unit.
1 - "Beam" built-in Vacuum system c/w
1 - wall mounted Gas detector c/w alarm.
2 - LCD clocks c/w indoor & outdoor
1 - barbeque assembly c/w all hardware

shown on drawing are included.
AFS to maintain Quality fit & finishing.
Platform" above LPG is included.

stereo system c/w CD player.
systems.

and exhaust fan.
controls.

accessories, and hose.

Thermometers.
and hook-ups.

*Note:

Unit construction specifications are subject to change without notice with product improvements.
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5. FIRE PREVENTION AND SAFETY

This section first describes how to recognize those hazards that can lead to a fire and then describes guidelines for fire prevention and safety in the office and in the field. The following information is provided:

- Recognition of fire hazards
- Fire extinguishers
- Fire safety in the office
- Fire safety in the field

RECOGNITION OF FIRE HAZARDS

Fire and explosions are pretty easy to recognize—but the goal is to recognize those conditions that can lead to a fire or explosion.

Fires and explosions occur when there is oxygen or air, a fuel, and a heat or ignition source. For a fire to occur, the oxygen and fuel (a combustible or flammable substance) must be present in the proper proportions. However, these proportions differ because every combustible or flammable substance has a specific flammable or explosive range. The lower-end point of that range (typically a mixture of 1% to 5% of the substance and the rest air) is the lower flammable limit (LFL) or the lower explosive limit (LEL). Below this point, there is not enough fuel to support the fire or cause an explosion.

The upper-end point is the upper flammable limit (UFL) or upper explosive limit (UEL), which is typically a mixture of 10% to 15% of the substance and the rest air. Above this concentration of the substance, there is not enough air or oxygen to support the fire or explosion.

Another important factor is the flash point of the substance. The flash point is the temperature at which a substance begins to give off enough vapor to form an explosive or flammable atmosphere. Following are some typical flash points for some of the substances you may encounter.

Acetone: 0°F
Isopropyl alcohol: 53°F
Kerosene: 100°F
Ethyl benzene: 59°F
2-Butanone (MEK): 21°F
Toluene: 40°F

Gasoline: 45°F
No. 2 Diesel Fuel: 110°-190°F
Mineral Spirits: 102°-110°F

Identification of a Fire Hazard

To identify a fire hazard you need to know the difference between a flammable substance and a combustible substance. A flash point of 200°F is the usual dividing line between what is considered flammable and what is considered combustible. If the substance has a flash point of less than 200°F, it is considered to be flammable. If a substance has a flash point of 200°F or higher, it is considered to be combustible.

Safety Manual

The table below shows the different classifications of flammables and combustibles based on their flash point and boiling point temperatures.

Combustible and Flammable Classifications

Temperature Category	Temperature		Classification
	Centigrade	Fahrenheit	
Flash point temperature	93.4°C or above	200°F or above	Class IIIB - Combustible
	60.0°C or above	140°F or above	Class IIIA - Combustible
	37.8°C or above	100°F or above	Class II - Combustible
	22.8°C or above	73°F or above	Class IC - Flammable
Boiling point temperature (Flash point less than 73°F)	37.8°C or above	100°F or above	Class IB - Flammable
	Less than 37.8°C	Less than 100°F	Class IA - Flammable

Class IA Flammable, Class IB Flammable, and Class II Combustible materials are considered "ignitable" for waste disposal purposes. **Class IA Flammable materials are extremely ignitable and require special handling precautions.**

If you know the identity of the substance you are working with you can look up the flash point on the manufacturer's Material Safety Data Sheet (MSDS), if one is available.

However, in many (probably most) situations, you will be working with mixtures of chemicals or unknowns. Therefore, in identifying the hazards of fire and explosion of a substance, you should make some assumptions:

- If the substance is liquid and it smells, it is vaporizing and the vapor is mixing with air.
- Unless you are certain that the substance is not flammable, assume that it is.

Evaluation and Measurement

After identifying that the hazards of fire or explosion exist, you need to evaluate the risk of that happening. In some cases, you may need to measure the presence of combustible or flammable vapors in the atmosphere using a direct reading instrument, usually called a combustible gas meter. Two factors must be remembered when using a combustible gas meter:

- The instrument must be calibrated. In most cases, unless you know or need to know exactly the substance you are dealing with, the meter is calibrated using methane gas. Therefore, you will not be measuring the concentration of a specific substance in the air, but the amount of non-specific combustible vapors in the air.
- The meter is set to indicate a percentage of the lower flammable limit (LEL) of methane (or the specific substance used in the calibration). The needle is not indicating the percentage of substance measured in the air. The instrument is usually set to alarm at 10% of the LEL.

Safety Manual

Control of Fire Hazards

Separation of fuel, air, and ignition sources will lead to fire prevention. However, it is not always possible or practical to separate the fuel and air, but the ignition sources can usually be controlled or minimized. For example, static electricity is one of the most common ignition sources for fire and explosion. Grounding and bonding of equipment and containers of hazardous materials is the most effective way to control static electricity.

FIRE EXTINGUISHERS

Because Oz Directional Drilling rents or leases our office facilities, it is the owner's responsibility to supply and maintain appropriate fire extinguishers. The following guidelines from the National Fire Protection Association may represent minimum requirements. State or local requirements may be more rigorous.

A fire extinguisher, rated not less than 2A, should be provided for each 3,000 square feet of protected building area. Travel distance from any point of the protected area to the nearest fire extinguisher should not exceed 75 feet. Each floor should have at least one 2A fire extinguisher.

The building owner should also:

- Protect extinguishers subject to freezing
- Have all fire extinguishers inspected periodically and maintained in accordance with Maintenance and Use of Portable Fire Extinguishers, National Fire Protection Association (NFPA)

Employees should familiarize themselves with the location of fire extinguishers in their office.

Oz Directional Drilling provides fire extinguishers, rated not less than 10B, in any vehicle that carries flammables with a flash point below 100° F. This requirement does not apply to the gasoline in the integral fuel tanks of motor vehicles.

The classification of the fire hazard determines the type of extinguisher that is needed.

The table below lists the types of extinguishers.

Types of Extinguishers

<u>Fire Hazard Classification and Extinguisher Marking</u>	<u>Fire Hazard Description</u>	<u>Extinguishing Effect Necessary</u>	<u>Extinguishing Agents</u>
Class A Green Marking	Ordinary combustible materials (e.g., wood, paper textiles, rubbish)	Cooling quenching	Loaded stream, soda acid, foam water on anti-freeze. Solution, multi-purpose dry chemical

Safety Manual

Class B Red Marking	Flammable liquids (e.g., grease, oil, paint, gasoline)	Smothering blanketing	Foam, carbon dioxide, loaded stream, dry chemical, multi- purpose dry chemical
Class C Blue Marking	Electrical equipment (energized)	Nonconducting agent	Carbon dioxide, dry chemical, multi- purpose dry chemical
Class D Yellow Marking	Combustible materials	Smothering blanketing	Special powder agents

Most, if not all, of our offices are considered "light fire hazard" facilities, meaning that the fire hazards are mainly Class A or Class B. The following table lists the minimum extinguisher rating that is needed to provide adequate fire protection in a given area for these types of hazards.

Minimum Extinguisher Rating Requirements

<u>Type of Fire Hazard</u>	<u>Minimum Extinguisher Rating for Area Specified</u>	<u>Size of Area to be Protected by Extinguisher (sq ft)</u>	<u>Maximum Travel Distance to Extinguisher (ft)</u>
Class A	1A 2A 3A 4A 6A	3,000 6,000 9,000 11,250 11,250	75 75 75 75 75
Class B	4B	---	50

FIRE SAFETY IN THE OFFICE

Fire Prevention

Good housekeeping will eliminate many conditions that can cause fires in or around our offices and buildings. Rubbish, trash, or other combustible materials should not be permitted to accumulate in buildings or on grounds, and weeds and brush that constitute fire hazards should be cleared from the vicinity of buildings and structures.

Spilled flammables should be cleaned up immediately. Materials used to absorb flammables should be disposed of safely, with particular care given to prevent spontaneous combustion. Never allow rags or paper soaked with volatile flammable liquids to be placed in wastebaskets or similar containers. Either allow them to thoroughly dry first, or place them in containers designed specifically for that purpose.

Safety Manual

Gasoline and other highly flammable liquids must be stored in proper containers or cabinets and should not be used for cleaning or degreasing.

Smoking Policy

Smoking is not allowed in any Oz Directional Drilling office facility.

Emergency Action Plan

If the local area emergency agency cannot be reached by dialing 911, the phone number of the local fire department and reporting instructions should be conspicuously posted at phones and at employee entrances. Employees should be familiar with evacuation procedures in case of fire.

In the event of a fire in one of our offices or in a building complex housing one of our offices, employees must respond promptly and appropriately. The following emergency action plan should be followed:

- If the building is equipped with a fire alarm system, activate the alarm system immediately.
- Notify emergency response authorities by dialing 911 or the appropriate telephone number.
- Notify the office receptionist/switchboard operator and request that an evacuation announcement be made over the public address system.
- If the fire is localized, small, and appears to be controllable with an available fire extinguisher, attempt to extinguish the fire. Do so only if you have been trained in the operation of fire extinguishers, and feel your safety is not in danger. Never compromise your personal safety.
- Evacuate the building immediately.
 - Use designated exits or evacuation routes
 - Do not try to collect valuables or return for them
 - Do not use elevators
 - Assist others who may need help in leaving the area
 - Do not attempt to re-enter the building for any reasons
- Remain in the area to assist emergency personnel in determining if all employees are accounted for.

FIRE SAFETY IN THE FIELD

Employees will likely encounter a variety of fire hazards in the field.

Safety Manual

Smoking Policy

On project sites, smoking is prohibited at or in the vicinity of operations that constitute a fire hazard. When such hazards exist at Oz Directional Drilling' controlled locations, they should be conspicuously posted as "No Smoking or Open Flame" if appropriate.

Transporting Flammable and Combustible Liquids

Only approved containers, e.g., approved metal, red, Type II, spring-loaded "safety" cans, should be used for the storage, handling, and transporting of flammable and combustible liquids of one gallon or more.

Transporting of flammable liquids should be avoided. If necessary, only the minimal amount needed should be transported. For quantities of one gallon or less, only the original container or an approved metal safety can should be used for storage, use, and handling of flammable liquids. Larger volumes must be kept in approved metal safety cans with spring-loaded caps.

All solvent waste, oily rags and flammable liquids should be kept in a fire-resistant covered container until removed from the site.

Compressed Gases

The use of compressed gases, including those in aerosol cans, can lead to safety (fire and explosion) hazards as well as health hazards. Appropriate employees will be trained in:

- Inspection of compressed gas cylinders
- Proper use (how to turn on, bleed line)
- Proper storage
- Appropriate action in the event of a leak or defect

Use the following procedures when dealing with compressed gases:

- Check that all compressed gases are listed on the Chemical Inventory and that each cylinder is labeled with the identity of the gas.
- Obtain the Material Safety Data Sheet for each gas.
- Handle all cylinders carefully and inspect before use for cracks or defects in the valve assembly.
- Store cylinders securely, either attached to the wall or placed so that they will not fall over. Store cylinders in an upright position at all times, except, if necessary, for short periods while cylinders are being hoisted or carried.
- Keep the cylinder valve closed whenever the cylinders are moved, the cylinders are empty, or the work is finished.
- Protect cylinders from the weather and from extremes of temperature. Use and store cylinders away from sources of ignition and place them where they will not become part of an electrical circuit.
- Never smoke in any areas where compressed gases are used.

Safety Manual

- Protect cylinders from damage due to falling objects or work activity in the area. Never use cylinders as rollers or supports.
- Keep cylinder valves, couplings, regulators, and hoses clean and free from oil or grease and never handle cylinders with oily hands or gloves. Keep valve protection caps in place and secure. Never use valve caps for lifting the cylinder.
- Handle and store empty cylinders in the same manner as full cylinders.
- Handle aerosol cans with the same care as the gas cylinders. Never use aerosol cans, full or empty, as a hammer.
- If an aerosol can is punctured, remove the can to an area, preferably outside, where there is adequate dilution ventilation. A punctured aerosol canister may contain flammable substances as well as chlorofluorocarbons that can lead to acute health effects.

Flammable Gases and Liquids

Construction sites commonly have a variety of flammable gases and liquids that present potential flammability hazards during storage, handling, and use. These substances include the following:

- Gases
 - Acetylene
 - Oxygen
 - Liquefied petroleum gas
 - Methane (from landfills or sewage)
- Liquids
 - Gasoline
 - Kerosene
 - Fuel oil
 - Petroleum
 - Solvents
 - Form oils
 - Turpentine
 - Paints
 - Varnishes
 - Cleaning fluids

This listing is not inclusive; there are many other types of flammable gases and liquids, such as adhesives, accelerators, and solvents. All gases and liquids should be considered flammable unless their label clearly indicates otherwise. Conditions on construction sites change so rapidly that extreme care is necessary whenever flammable gases or liquids are being used.

Flammable liquids and gases can be ignited by open flames, sparks, and excessive heat and should always be properly stored, handled, and used.

Safety Manual

Storage of Flammable Gases and Liquids

The following storage practices will assist in reducing the fire hazard:

- Never store equipment and other materials in flammable gas or liquid storage areas.
- Mark all areas that are to be used for the storage of flammable liquids or gases and post with "No Smoking" signs.
- Locate flammable liquid and gas storage in areas where public fire protection has access.
- Clear away dry brush, grass, and other debris from all flammable gas and liquid storage areas.
- Compressed flammable and combustible gasses must be stored at least 20 feet from any compressed oxygen cylinders or be separated by a 5 foot fire resistant wall with a rating of at least 1 hour.
- Post the telephone number of the local fire department at all telephones.
- Locate areas to be used for the storage of flammable gases or liquids away from equipment, materials, or other structures that could burn if a fire were to break out in the storage area.
- Use only well-ventilated structures of fire-resistive construction for the storage of flammable gases or liquids and locate these structures away from burning, welding, and other operations involving flames or heat. Any motors, switches, and other electrical equipment (including light fixtures and bulbs) within storage areas should meet National Fire Protection Association (NFPA) Codes.
- Locate suitable fire extinguishers within the storage area so that they are readily accessible.
- Ground all containers from which flammable liquids are dispensed.
- When transferring flammable liquids, bond the dispensing container to the receiving container.
- Store all flammable gases and liquids in containers providing identification of the contents. If there is any question regarding the content of a container, the contents should not be used until they have been properly identified and the container labeled. Unidentified containers should be properly labeled to prevent improper use.
- Never use containers for a different substance than they originally contained.
- Keep the storage of flammable gases and liquids to a practical minimum.
- Use only appropriate containers for the storage of flammable liquids.
- Restrict access to flammable gas and liquid storage areas to trained workers. All other workers should be instructed to stay out of storage areas.

Handling of Flammable Gases and Liquids

Workers having access to storage areas should be trained in the characteristics of the substances, potential exposures, and precautions that should be taken. The following handling practices will help reduce the hazard of flammable gases and liquids:

Safety Manual

- Handle containers so that identification of their content is always possible.
- Use only appropriate containers for storing and dispensing of flammable gases and liquids.
- Inspect all containers, nozzles, and related dispensing equipment regularly.
- Keep all pumps, containers, and other dispensing equipment clean.
- Use non-sparking tools in storage and dispensing areas.
- When transferring flammable liquids from storage containers to smaller containers, bond the containers together.
- Transfer flammable liquids only in well-ventilated areas.
- Keep the sources of ignition away from all areas where flammable gases and liquids are being handled.
- Replace all damaged or faulty dispensing equipment or containers.
- Berm aboveground storage tanks to contain the entire contents of the full tank and line the berm with an impervious liner to prevent the flammable material from leaking into the ground.

Fueling Equipment

The fueling of vehicles or internal combustion engines of any type requires special attention. The following procedures should be followed.

- Shut off the ignition before beginning refueling operations.
- Avoid spillage by remaining at the nozzle until refueling has been completed.
- Never completely fill a fuel tank or container. Allow for expansion of the fuel.
- Use only appropriate dispensing pumps, hoses, and nozzles.
- Never smoke within fueling areas.
- Perform all refueling operations in open air.
- Provide all fueling areas with appropriate fire extinguishers.

Use of Flammable Gases and Liquids

The following procedures should be followed when using flammable gases and liquids:

- Use only appropriate solvents for cleaning operations. Never use gasoline.
- Never use flammable gases or liquids near welding, burning, or other operations involving open flames, sparks, or heat.
- Never use containers that do not identify the contents.
- Provide adequate ventilation where flammable substances are being used.
- Never apply heat to flammable liquids or solvents.
- Dispose of all flammable rags in appropriate containers.

Safety Manual

- Return all containers of flammable gases or liquids to proper storage areas after each use.
- Do not enter any vessel that has contained flammable gases or liquids without following appropriate confined space entry procedures. Many flammable gases and liquids are asphyxiates.
- Take all precautions as described in the Material Safety Data Sheets (MSDS) for the specific material. MSDS are required by OSHA's Hazard Communication Standard,

Fire Extinguisher Training

Prior to initial assignment and annually thereafter all new employees will be trained how to properly use a fire extinguisher and will be familiarized with the general principles of fire extinguisher use and the hazards involved in incipient state fire fighting.

Fire Extinguish Maintenance

Fire extinguishers will be checked visually on a monthly basis by the Site Safety Representative and will be subjected to annual maintenance check.