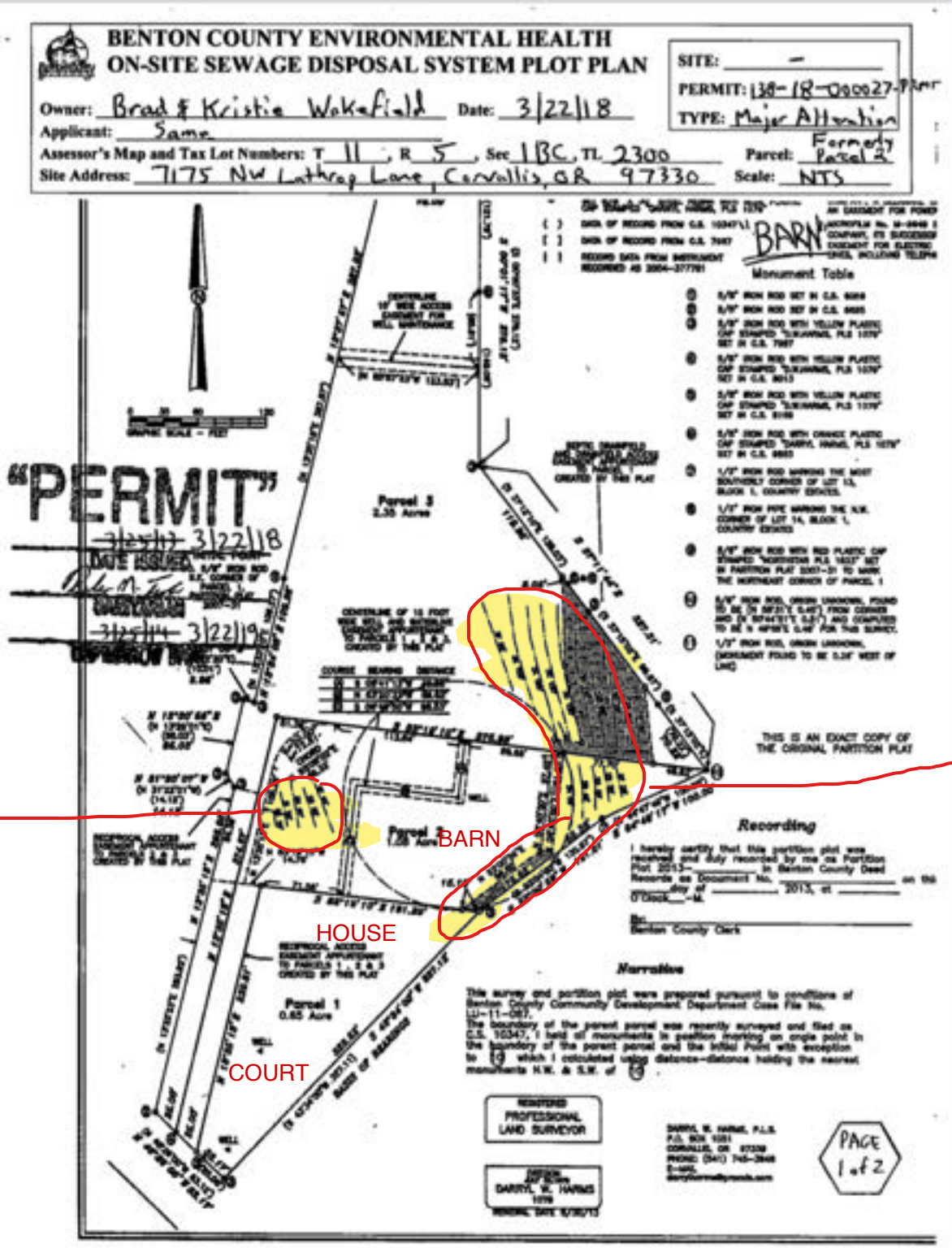
7175 NW Lathrop Lane

Report Portfolio
Septic
Well Log and Reports
Permits
Maintainence Agreements
Radon Test



Septic Field for Barn

Septic Line runs along side of house (gravel space) out to drain field behind barn and neighboring property

BENT 55877

STATE OF OREGON
WATER SUPPLY WELL REPORT
(as required by ORS 537.765 & OAR 690-205-0210)

WELL I.D. LABEL# L 130346
START CARD # 215359
ORIGINAL LOG #

BENT 55877

(1) LAND OWNER Owner Well I.D.
First Name Bradley / Kristie Last Name Wakefield
Company
Address 7175 NW LATHROP LN
City Corvallis State OR Zip 97330

(2) TYPE OF WORK [X] New Well [ ] Deepening [ ] Conversion [ ] Alteration (complete 2a & 10) [ ] Abandonment(complete 5a)

(2a) PRE-ALTERATION

	Dia	+	From	To	Gauge	Stl	Plstc	Wld	Thrd
Casing:									

	Material	From	To	Amt	sacks/lbs
Seal:					

(3) DRILL METHOD
[X] Rotary Air [ ] Rotary Mud [ ] Cable [ ] Auger [ ] Cable Mud
[ ] Reverse Rotary [ ] Other

(4) PROPOSED USE [X] Domestic [ ] Irrigation [ ] Community
[ ] Industrial/ Commericial [ ] Livestock [ ] Dewatering
[ ] Thermal [ ] Injection [ ] Other

(5) BORE HOLE CONSTRUCTION Special Standard [ ] (Attach copy)
Depth of Completed Well 178 ft.

BORE HOLE

Dia	From	To
10	0	47
6	47	178

SEAL

Material	From	To	Amt	sacks/lbs
Cement	0	47	12	
		Calculated	12	
		Calculated		

How was seal placed: Method [ ] A [ ] B [X] C [ ] D [ ] E
[ ] Other
Backfill placed from ft. to ft. Material
Filter pack from ft. to ft. Material Size
Explosives used: [ ] Yes Type Amount

(5a) ABANDONMENT USING UNHYDRATED BENTONITE
Proposed Amount Pounds Actual Amount Pounds

(6) CASING/LINER

Casing	Liner	Dia	+	From	To	Gauge	Stl	Plstc	Wld	Thrd
X		6	X	1½	47	.250	X		X	
	X	4		0	178	160		X	X	

Shoe [ ] Inside [ ] Outside [ ] Other Location of shoe(s)
Temp casing [ ] Yes Dia From To

(7) PERFORATIONS/SCREENS
Perforations Method 1/4 Round Holes Drilled
Screens Type Material

Perf/Screen	Casing/Liner	Screen Dia	From	To	Scrn/slot width	Slot length	# of slots	Tele/pipe size
	✓	4	58	178		1/4RH	600	

(8) WELL TESTS: Minimum testing time is 1 hour
[ ] Pump [ ] Bailer [X] Air [ ] Flowing Artesian

Yield gal/min	Drawdown	Drill stem/Pump depth	Duration (hr)
15		175	1

Temperature 58 °F Lab analysis [ ] Yes By
Water quality concerns? [ ] Yes (describe below) TDS amount 100

From	To	Description	Amount	Units

(9) LOCATION OF WELL (legal description)
County Benton Twp 11 N/S Range 5 E/W WM
Sec 1 SW 1/4 of the NW 1/4 Tax Lot 2000
Tax Map Number Lot
Lat ° ' " or DMS or DD
Long ° ' " or DMS or DD
[X] Street address of well [ ] Nearest address
SAME

(10) STATIC WATER LEVEL

	Date	SWL(psi)	+	SWL(ft)
Existing Well / Pre-Alteration				
Completed Well	12-14-18			54

Flowing Artesian? [ ] Dry Hole? [ ]

WATER BEARING ZONES Depth water was first found 160

SWL Date	From	To	Est Flow	SWL(psi)	+	SWL(ft)
12-14-18	160	163	15			54

(11) WELL LOG Ground Elevation

Material	From	To
Yellow Topsoil	0	4
Brown Shale (Soft)	4	23
Red Volcanic (Soft)	23	35
Blue Basalt (HARD)	35	160
Blue/Red Basalt (med)	160	163
Blue Basalt (HARD)	163	178

RECEIVED
DEC 19 2018
OWRD

RECEIVED
FEB 13 2019
OWRD

Date Started 12-13-18 Completed 12-14-18

(unbonded) Water Well Constructor Certification
I certify that the work I performed on the construction, deepening, alteration, or abandonment of this well is in compliance with Oregon water supply well construction standards. Materials used and information reported above are true to the best of my knowledge and belief.
License Number Date
Signed

(bonded) Water Well Constructor Certification
I accept responsibility for the construction, deepening, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon water supply well construction standards. This report is true to the best of my knowledge and belief.
License Number 1753 Date 12-14-18
Signed
Contact Info (optional)

ORIGINAL - WATER RESOURCES DEPARTMENT
THIS REPORT MUST BE SUBMITTED TO THE WATER RESOURCES DEPARTMENT WITHIN 30 DAYS OF COMPLETION

Shiloh
WATER SYSTEMS

WATER QUALITY & FLOW TEST REPORT

190 W Church St. | PO Box 257 | Mt. Angel, OR 97362
p 503.845.5225 | tf 866.873.1110 | f 503.845.5229
contact@shilohwater.com

Pump Test Data Sheet

Customer Name:	Scott Barnes	**Tested by:** Ridge	**Date:** 10/11/2023
Mailing Address:		**Well ID#:** L130346	
Owner Name:	Wakefiled	**Static Water Level:** 54'	
Well Address:	7175 NW Lathrop Ln, Corvallis (pers	**Well Diameter:** 6"	
Well Depth:	178'	**Standard:** ✔	**Pitless:**
Depth Pump Set:	170'	**Size of Drop Pipe:** 1.25"	
Pump Information:	1 HP 10 gpm	**Pressure Tank:** 81 Gallon	
Start Time:	01:45	**PWS number** OR 41-	

Drawdown Data

Time Since Pump Started	Depth to water from measure point	Depth to water from ground level	Flow Rate GPM		PSI	Comments
0 Mins			10	@	50	
15 Mins			10	@	50	
30 Mins			10	@	50	
45 Mins			9.5	@	50	
60 Mins			9.5	@	50	
75 Mins			9.5	@	50	
90 Mins			9.5	@	50	
105 Mins			9.5	@	50	
120 Mins			9.5	@	50	
135 Mins				@		
150 Mins				@		
165 Mins				@		
180 Mins				@		
195 Mins				@		
210 Mins				@		
225 Mins				@		
240 Mins				@		

Water Quality Mineral Analysis

Iron	0.3	Chlorine	
pH	7.0	Manganese	
Hardness	5.0	Sulphur	
TDS	180		

Notes:

Pump yields approximately 9.5 gallons per minute. Well probe ganging up on wire down well, not able to measure static levels.

Shiloh
WATER SYSTEMS

WATER QUALITY & FLOW TEST REPORT

190 W Church St. | PO Box 257 | Mt. Angel, OR 97362
p 503.845.5225 | tf 866.873.1110 | f 503.845.5229
contact@shilohwater.com

Pump Test Data Sheet

Customer Name:	Scott Barnes	**Tested by:**	Ridge **Date:** 10/11/2023
Mailing Address:		**Well ID#:**	L106720
Owner Name:	Wakefield	**Static Water Level:**	64'
Well Address:	Shared Well at 7175 Lathrop Prop	**Well Diameter:**	6"
Well Depth:	305'	**Standard:**	✔ **Pitless:**
Depth Pump Set:		**Size of Drop Pipe:**	1.25"
Pump Information:		**Pressure Tank:**	WX-201
Start Time:	01:05	**PWS number**	OR 41-

Drawdown Data

Time Since Pump Started	Depth to water from measure point	Depth to water from ground level	Flow Rate GPM		PSI	Comments
0 Mins	64'		20	@	70	
15 Mins	78'		18.5	@	70	
30 Mins	84'		18.5	@	70	
45 Mins	89'		18.5	@	70	
60 Mins	94'		18.5	@	70	
75 Mins	104'		18	@	70	
90 Mins	109'		17.5	@	70	
105 Mins	-		17.5	@	70	
120 Mins	-		17.5	@	70	
135 Mins				@		
150 Mins				@		
165 Mins				@		
180 Mins				@		
195 Mins				@		
210 Mins				@		
225 Mins				@		
240 Mins				@		

Water Quality Mineral Analysis

Iron	.3	Chlorine	
pH	7.5	Manganese	
Hardness	5	Sulphur	
TDS	170		

Notes:

Pump yields approximately 17.5 gallons per minutes. Well probe hung up at about 110', not able to probe past obstruction.

EDGE ANALYTICAL

Burlington, WA *Corporate Laboratory (a)*
1620 S Walnut St - Burlington, WA 98233 - 800.755.9295 - 360.757.1400

Bellingham, WA *Microbiology (b)*
805 Orchard Dr Ste 4 - Bellingham, WA 98225 - 360.715.1242

Portland, OR *Microbiology/Chemistry (c)*
9405 SW Commerce Cir Ste E2 - Wilsonville, OR 97070 - 503.682.7602

Corvallis, OR *Microbiology/Chemistry (d)*
1100 NE Circle Blvd, Ste 130 - Corvallis, OR 97330 - 541.753.4643

Bend, OR *Microbiology (e)*
20332 Empire Blvd Ste 4 - Bend, OR 97701 - 541.639.8425

Drinking Water Report

Client Name: Shiloh Water Systems, Inc.
190 West Church St
Mt. Angel, OR 97362

Reference Number: **23-31521**
Report Date: 10/17/23
Approved By: anp,pap,smv
Authorized by:

Thanh B Phan
Lab Manager, Portland

Project: Barnes, Scott
Field ID: Shared Well - Test Tap
Sample Description: 7175 Northwest Lathrop Lane, Corvallis, OR 97
Sample Date: 10/11/23 13:08

Lab Number: OR100063-62804
Date Received: 10/12/23
Sampled By: Ridge
Sampler Phone:

CAS Number	Analyte	Result	MCL	Pass^	Lab	QL	Units	Analyzed
Coli-To-t	TOTAL COLIFORM	**Absent**		Pass	c	P/A	per 100m	10/13/23
68583-22-2	E. Coli	**Absent**		Pass	c	Y/N	per 100m	10/13/23
7440-38-2	ARSENIC	**ND**	0.010	Pass	a	0.001	mg/L	10/16/23
14797-55-8	NITRATE-N	**4.01**	10	Pass	c	0.005	mg/L	10/12/23

Notation:
MCL = Maximum Contaminant Level, maximum permissible level of a contaminant in water established by EPA; Federal Action Levels are 0.015 mg/L for Lead and 1.3 mg/L for Copper. Sodium has a recommended limit of 20 mg/L. A blank MCL value indicates a level is not currently established.
QL = Quantitation Limit is the lower calibration concentration.
ND = Not detected above the listed specified reporting limit (QL).
CAS Number = Chemical Abstract Service Number is an unique identifier of the chemical tested.
^ = 'PASS', indicates that the parameter tested meets EPA, State, or local jurisdiction MCL. 'Exceeds' indicates EPA secondary limit (Aesthetic) was exceeded. 'Fail' indicates EPA Primary limit (Health) was exceeded.
An * in front of the parameter name indicates it is not NELAP accredited but it is accredited through OR DEQ or USEPA Region 10.

These test results meet all the requirements of NELAC, unless otherwise stated in writing, and relate only to these samples.
If you have any questions concerning this report contact Thanh B Phan at the above phone number.

FORM: ShortList.rpt

EDGE ANALYTICAL

Burlington, WA *Corporate Laboratory (a)*
1620 S Walnut St • Burlington, WA 98233 • 800.755.9295 • 360.757.1400

Bellingham, WA *Microbiology (b)*
805 Orchard Dr Ste 4 • Bellingham, WA 98225 • 360.715.1212

Portland, OR *Microbiology/Chemistry (c)*
9725 SW Commerce Cir Ste A2 • Wilsonville, OR 97070 • 503.682.7602

Corvallis, OR *Microbiology/Chemistry (d)*
1103 NE Circle Blvd Ste 130 • Corvallis, OR 97330 • 541.753.4946

Bend, OR *Microbiology (e)*
20332 Empire Blvd Ste 4 • Bend, OR 97701 • 541.639.8455

Drinking Water Report

Client Name: Shiloh Water Systems, Inc.
190 West Church St
Mt. Angel, OR 97362

Reference Number: **23-31521**
Report Date: 10/17/23
Approved By: anp,pap,smv
Authorized by:

Thanh B Phan
Lab Manager, Portland

Project: Barnes, Scott
Field ID: Personal Well - Test Tap
Sample Description: 7175 Northwest Lathrop Lane, Corvallis, OR 97
Sample Date: 10/11/23 13:05

Lab Number: OR100063-62803
Date Received: 10/12/23
Sampled By: Ridge
Sampler Phone:

CAS Number	Analyte	Result	MCL	Pass^	Lab	QL	Units	Analyzed
Coli-Tc-I	TOTAL COLIFORM	**Absent**		Pass	c	P/A	per 100m	10/13/23
68583-22-2	E. Coli	**Absent**		Pass	c	Y/N	per 100m	10/13/23
7440-38-2	ARSENIC	**ND**	0.010	Pass	a	0.001	mg/L	10/16/23
14797-55-8	NITRATE-N	**4.00**	10	Pass	c	0.005	mg/L	10/12/23

Notation:
Maximum Contaminant Level, maximum permissible level of a contaminant in water established by EPA; Federal Action Levels are 0.015 mg/L for Lead and 1.3 mg/L for Copper. Sodium has a recommended limit of 20 mg/L. A blank MCL value indicates a level is not currently established.
QL = Quantitation Limit is the lower calibration concentration.
ND = Not detected above the listed specified reporting limit (QL).
CAS Number = Chemical Abstract Service Number is an unique identifier of the chemical tested.
^ = 'PASS', indicates that the parameter tested meets EPA, State, or local jurisdiction MCL. 'Exceeds' indicates EPA secondary limit (Aesthetic) was exceeded. 'Fail' indicates EPA Primary limit (Health) was exceeded.
An * in front of the parameter name indicates it is not NELAP accredited but it is accredited through OR DEQ or USEPA Region 10.

These test results meet all the requirements of NELAC, unless otherwise stated in writing, and relate only to these samples.
If you have any questions concerning this report contact Thanh B Phan at the above phone number.

FORM: ShortList.rpt

HOUSE

Inspection Summary Report

Residential 1 & 2 Fam Dwelling (New Only)

Permit #: 138-B1500411

www.co.benton.or.us

BENTON COUNTY
Building Division
360 SW Avery Ave.
Corvallis, OR 97333
Phone: 541-766-6819
Fax: 541-766-6891
building@co.benton.or.us

Applicant: IRON MOUNTAIN HOMES LLC

IVR # 138900021022

Owner: WAKEFIELD BRADLEY T & KRISTIE C, BAINBRIDGE ISLAND, WA, 98110,KNUTSON MARK D & KRISTIN L, 1669 WOODED KNOLLS DR, PHILOMATH, OR, 97370

Address:

Parcel: 11501BC02000

Inspection Type: 1110 Footing
Inspection Date: 05/28/2015
Inspector: dwl
Inspection Result: Approved
Comments: 1. Missing 50 in sq. by 12 inches deep pad on north side of garage.2. Dig out expanded footings required to be min. 12 inches deep.Will check at stemwall.Exteriors ok to pour as noted

---

Inspection Type: 1130 Foundation Wall/Rebar
Inspection Date: 06/02/2015
Inspector: dwl
Inspection Result: Approved
Comments: Stemwall and interior footings approved

Inspection Type: 1220 Underfloor framing
Inspection Date: 06/22/2015
Inspector: DWL
Inspection Result: Approved
Comments: APPROVED

Inspection Type: 1260 Framing
Inspection Date: 11/19/2015
Inspector: dwl
Inspection Result: Denied
Comments: 1. Bathroom exhaust still not complete. 2. Gas test on complete.Call for reinspection

---

Inspection Type: 1260 Framing
Inspection Date: 11/12/2015
Inspector: RPD
Inspection Result: Denied
Comments: 1. Address post size and location of bearing for 5 1/8 x 16 1/2 inch glu lam in great room. Not as per plan.2. Post to beam connections require simpson cap/base connector. See framing notes in plans.

Inspection Type: 1460 Insulation
Inspection Date: 11/18/2015
Inspector: dwl
Inspection Result: Approved
Comments: approved. Still need to look at past corrections

Inspection Summary Report (continued)

Residential 1 & 2 Fam Dwelling (New Only)
Permit #: 138-B1500411

Applicant: IRON MOUNTAIN HOMES LLC IVR # 138900021022
Owner: WAKEFIELD BRADLEY T & KRISTIE C, BAINBRIDGE ISLAND, WA, 98110,KNUTSON MARK D & KRISTIN L, 1669 WOODED KNOLLS DR, PHILOMATH, OR, 97370
Address:

Parcel: 11501BC02000

Inspection Type: 2255 Gas Pressure Test
Inspection Date: 11/24/2015
Inspector: **RPD**
Inspection Result: **Denied**
Comments: Correction not completed

Inspection Type: 2255 Gas Pressure Test
Inspection Date: 11/19/2015
Inspector: **dwl**
Inspection Result: **Denied**
Comments: 1. system dropped 4 psi in 20 minutes. Call for reinspection

---

Inspection Type: 2255 Gas Pressure Test
Inspection Date: 11/16/2015
Inspector: **dwl**
Inspection Result: **Denied**
Comments: 1. No test on system. Left message with general contractor

---

Inspection Type: 2255 Gas Pressure Test
Inspection Date: 11/12/2015
Inspector: **RPD**
Inspection Result: **Denied**
Comments: No test on system

Inspection Type: 2300 Rough Mechanical
Inspection Date: 11/25/2015
Inspector: **RPD**
Inspection Result: **Approved**
Comments: Correction completed

Inspection Type: 2300 Rough Mechanical
Inspection Date: 11/24/2015
Inspector: **RPD**
Inspection Result: **Denied**
Comments: Corrections not completed

Inspection Type: 2300 Rough Mechanical
Inspection Date: 11/19/2015
Inspector: **dwl**
Inspection Result: **Denied**
Comments: 1. Bathroom exhaust still not complete. 2. Gas test on complete.Call for reinspection

Inspection Summary Report (continued)

Residential 1 & 2 Fam Dwelling (New Only)
Permit #: 138-B1500411

Applicant: IRON MOUNTAIN HOMES LLC IVR # 138900021022
Owner: WAKEFIELD BRADLEY T & KRISTIE C, BAINBRIDGE ISLAND, WA, 98110,KNUTSON MARK D & KRISTIN L, 1669 WOODED KNOLLS DR, PHILOMATH, OR, 97370
Address:

Parcel: 11S01BC02000

Inspection Type: 3650 Shower Pan
Inspection Date: 03/02/2016
Inspector: **FD**
Inspection Result: **Approved**
Comments: APPROVE UPSTAIRS N.W MASTER SHOWER PAN.

Inspection Type: 3990 Final Plumbing - Partial
Inspection Date: 06/17/2016
Inspector: **Daryl Long**
Inspection Result: **Approved**
Comments:

Inspection Type: 3990 Final Plumbing - Partial
Inspection Date: 06/16/2016
Inspector: **Daryl Long**
Inspection Result: **Not Ready**
Comments: Final Inspection not ready. Please address punch list and then call for reinspection when ready

---

Schedule Inspections online at: www.buildingpermits.oregon.gov
or by calling: 1-888-299-2821
Use IVR # 138900021022

COMMUNITY DEVELOPMENT DEPARTMENT
360 SW Avery Avenue
Corvallis, OR 97333-1192
(541) 766-6819
Fax (541) 766-6891

ROUTING SLIP

Applied Date: 04/20/2015
Issued Date:
Status: APPLIED
Public: N

PERMIT NUMBER: B1500411
Type of Permit: New SFD Detached
Type of Building: (Y) Residential (N)Commercial
Stories: 2 **Total Sq. Ft.:** 6444 **Number Bedrooms:** 4 **Housing Units:** 1
Work Description: SINGLE FAMILY DWELLING REPLACEMENT **Date**
Finaled:

Owners Name: KNUTSON MARK D & KRISTIN L **Home Phone:**
Site Address: **Alternate Phone:**
Contact Name:
Mailing Address: PETERSON NEAL L & JOHANNA L, TR **Contact Phone:**
1669 WOODED KNOLLS DR
PHILOMATH, OR 97370

Prop Serial Number: 420970 **Township/Range/Section/Lot:** 11501BC02000

Valuation: $617,410.29 **Zone:** RR-2 **Flood Plain:** NO
Minimum Required Setbacks:
Roads: 0 **R-O-W/Front:** 0 **Side1:** 0 **Side2:** 0 **Rear:** 0 **Stream:** 0

Contractor: IRON MOUNTAIN HOMES LLC **Phone:** 541-760-7751
Address: MARK KNUTSON **CCB#:** 176619
1669 WOODED KNOLLS DR
PHILOMATH OR 97370

Permit Fees:

Fee Description	Total Fee	Total Paid	Balance Due
Development Review	47.00	47.00	.00
EH Building Sign Off	70.00	70.00	.00
Plan Check-Building	2,170.60	2,170.60	.00
Zoning Compliance	71.00	71.00	.00
Balance Due			$0.00

Signature: _____

COMMUNITY DEVELOPMENT DEPARTMENT
360 SW Avery Avenue
Corvallis, OR 97333-1192
(541) 766-6819
Fax (541) 766-6891

New

ROUTING SLIP

Applied Date: 04/20/2015
Issued Date:
Status: APPLIED
Public: N

PERMIT NUMBER: B1500411
Type of Permit: New SFD Detached
Type of Building: (Y) **Residential** (N)**Commercial**
Stories: 2 **Total Sq. Ft.:** 6444 **Number Bedrooms:** 4 **Housing Units:** 1
Work Description: SINGLE FAMILY DWELLING REPLACEMENT **Date**
Finaled:

Owners Name: WAKEFIELD BRADLEY T & KRISTIE C **Home Phone:** 206-954-3828
Site Address: **Alternate Phone:**

Contact Name:
Contact Phone:

Mailing Address: 8784 NE ODDFELLOWS RD
BAINBRIDGE ISLAND, WA
98110

Prop Serial Number: 420970 **Township/Range/Section/Lot:** 11501BC02000

Valuation: $617,410.29 **Zone:** RR-2 **Flood Plain:** NO
Minimum Required Setbacks:
Roads: 0 **R-O-W/Front:** 0 **Side1:** 0 **Side2:** 0 **Rear:** 0 **Stream:** 0

Contractor: IRON MOUNTAIN HOMES LLC **Phone:** 541-760-7751
Address: MARK KNUTSON **CCB#:** 176619
1669 WOODED KNOLLS DR
PHILOMATH OR 97370

Permit Fees:

Fee Description	Total Fee	Total Paid	Balance Due
Development Review	47.00	47.00	.00
EH Building Sign Off	70.00	70.00	.00
Plan Check-Building	2,170.60	2,170.60	.00
Zoning Compliance	71.00	71.00	.00
Balance Due		$0.00	

Signature: _____

Residential Certificate of Lighting Fixtures

Benton County Community Development
Building Division
360 SW Avery Ave
Corvallis OR 97333
Phone: 541-766-6819 Fax: 541-766-6891
Web: www.co.benton.or.us

You must submit this form to the Building Division before issuance of the Certificate of Occupancy.

To conform with to the Oregon Residential Specialty Code (ORSC), Section N1107.2, I am notifying the building official that a minimum of 50 percent of the permanently installed lighting fixtures are compact or linear fluorescent or minimum efficacy of 40 lumens permit watt.

Additional Measures (check if applicable):

☐ To conform with Section N1101.1, additional measure "D" or "E" was selected. I am notifying the building official that a minimum of 75 percent of the permanently installed lighting fixtures are compact or linear florescent or minimum efficacy of 40 lumens per watt.

☒ To conform with Section N1101.1, additional measure 2 was selected. I am notifying the building official that a minimum of 65 percent of the permanently install lighting fixtures are compact of linear florescent, or minimum efficacy of 40 lumens.

Date: 6/20/2016

Building permit number: B1500411

Owner's name: Brad Wakefield

Job address: 7175 NW Lathrop Lane State: OR Zip: 97330
Corvallis Dr

General Contractor/owner signature: Mark Knutsen

Printed name: Mark Knutsen

BENTON COUNTY
O·R·E·G·O·N

COMMUNITY DEVELOPMENT DEPARTMENT
360 SW Avery Avenue
Corvallis, OR 97333-1192
(541) 766-6819
FAX (541) 766-6891

RECEIVED
JUN 20 2016
By BR

You must submit this contractor information list to Benton County prior to framing to receive your Final Inspection and Certificate of Occupancy.

To conform to the Oregon Residential Specialty Code (ORSC), Section R110, I am notifying the building official that the following list of contractors worked on this job:

Date: 6-20-2016
Building permit number: B1500411
Owner's name: Wakefield
Job Address: 7175 NW Lathrop Lane Corvallis.

General contractor name: _____
CCB license number: _____
Address: _____

Mechanical contractor name: _____
CCB license number: _____
Address: _____

Plumbing contractor name: _____
CCB license number: _____
Address: _____

Electrical Permit number: _____
Electrical contractor name: _____
CCB license number: _____
Address: _____

General contractor/owner signature: _____
Printed name: Mark Knutson

***Does the home contain an Automatic Fire Sprinkler System that is required to be maintained?**
(Yes) or No

Parcel #1 (House site)
Wakefield

ENVIRONMENTAL HEALTH DIVISION
Health Department
PO Box 579
530 NW 27th Street
Corvallis OR 97339-0579

(541) 766-6841 FAX (541) 766-6248 TTY (541) 766-6835 www.co.benton.or.us

ALTERATION PERMIT
ON-SITE SEWAGE DISPOSAL SYSTEM

03/25/2013

KNUTSON MARK & KRISTIN

1669 WOODED KNOLLS DR
PHILOMATH, OR 97370

Water Source: **Private Well**

Map & Tax Lot #: **11501BC00600** Temp Parcel: **1** Permit #: **SW130002** Issued: **03/25/2013** Expires: **03/25/2014**
Use: **Septic Alteration** Design flow capacity (gpd): **450** Number of bedrooms: **4**

CONSTRUCTION REQUIREMENTS

Initial System Requirements

Type of system: **ATT Delta Whitewater)**
Tank Size: **1500 gallons**
Disposal Trench Length: **175 feet**
Minimum Trench Depth: **24 inches**
Maximum Trench Depth: **24 inches**
Cap Depth: **0 inches**
Trench Width: **24 inches**
Media Depth: **12 inches**

Replacement System Requirements

Type of system: **ATT (Delta Whitewater)**
Tank Size: **1500 gallons**
Disposal Trench Length: **175 feet**
Minimum Trench Depth **24 inches**
Maximum Trench Depth: **24 inches**
Cap Depth: **0 inches**
Trench Width: **24 inches**
Media Depth: **12 inches**

Curtain Drain: **None**

****

1: This major Alteration Permit is for the installation of an Alternative Treatment Technology (ATT) system to serve a replacement dwelling under proposed land partition LU-11-067. All requirements of OAR 340-71 & 73 apply. Maintain all Oregon Department of Environmental Quality (ODEQ) required setbacks.

2: The drainfield is located within a septic easement on Parcel 3 to serve a dwelling on Parcel 1. The septic easement shall be monumented upon recording of the partition plat.

3: The owner of an ATT system must maintain a contract with a maintenance provider certified by the manufacturer to serve and maintain the onsite system. A service contract must be entered before the system is installed and must be maintained until the system is decommissioned. A single service contract and maintenance provider for both the ATT and the other components is preferable to multiple contracts for maintenance providers.

4: The homeowner and maintenance provider must comply with all requirements of OAR 340-71-345(14) Service Contracts. The maintenance provider must submit an annual report evaluation and fee to Benton County Environmental Department as defined by OAR 340-71-140(3)(k)(B).

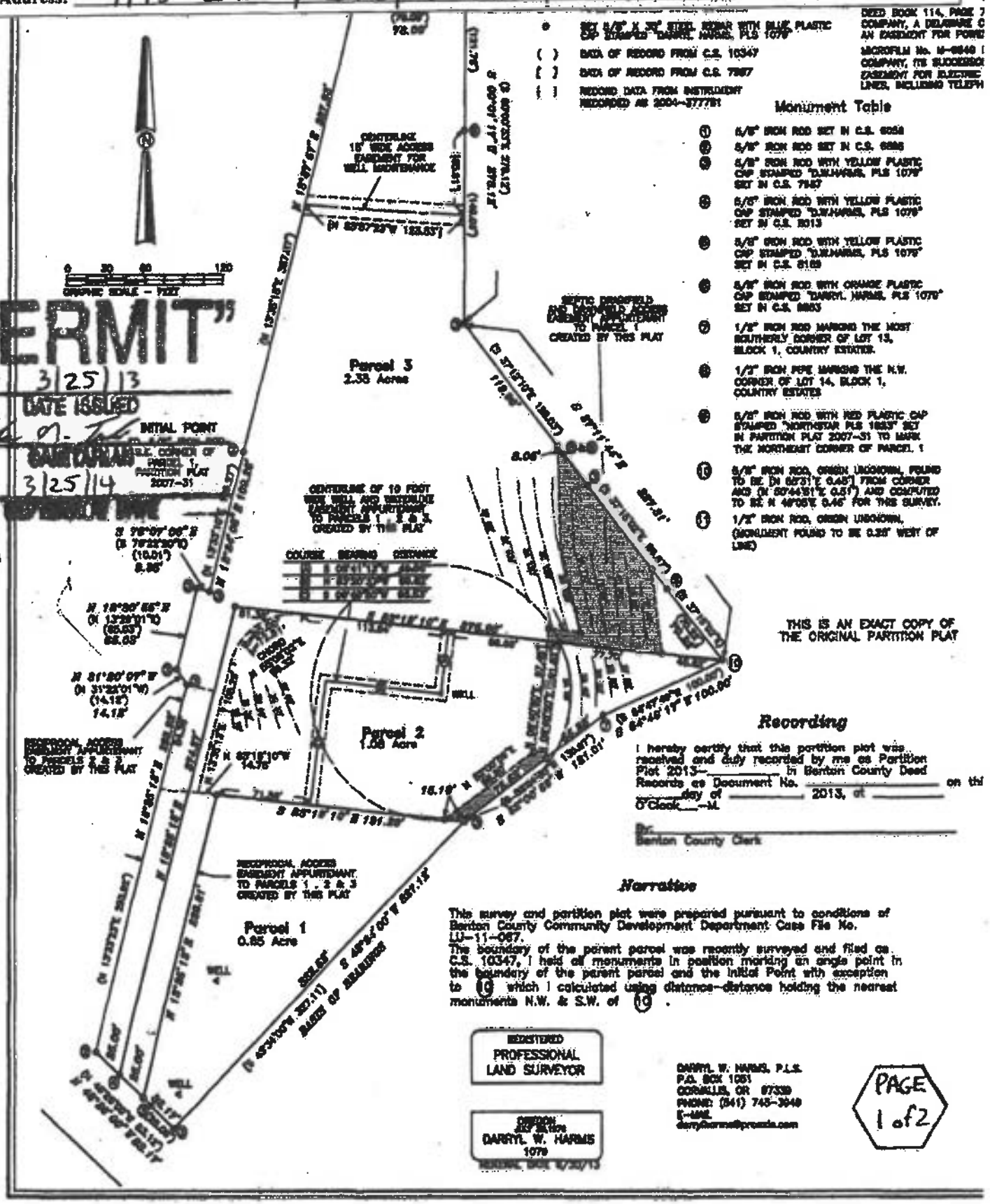
5: Before transferring ownership of real estate served by an onsite system using alternative treatment technology, the seller must have the system evaluated in accordance with OAR 340-71-131.

BENTON COUNTY ENVIRONMENTAL HEALTH
ON-SITE SEWAGE DISPOSAL SYSTEM PLOT PLAN

SITE #: —
PERMIT #: SW13 0002
TYPE: Major Alteration

Owner: Mark Knutson Date: 3/25/13
Applicant: Groundhog, LLC
Assessor's Map and Tax Lot Numbers: T 11, R 5, Sec 1BC, TL 600 Parcel: 1
Site Address: 7175 Lathrop Lane, Corvallis, OR 97330 Scale: NTS

"PERMIT"
3/25/13
DATE ISSUED
3/25/14
EXPIRATION DATE



Monument Table

1. 5/8" IRON ROD SET IN C.S. 6058
2. 5/8" IRON ROD SET IN C.S. 6886
3. 5/8" IRON ROD WITH YELLOW PLASTIC CAP STAMPED "D.W.HARMS, PLS 1079" SET IN C.S. 7567
4. 5/8" IRON ROD WITH YELLOW PLASTIC CAP STAMPED "D.W.HARMS, PLS 1079" SET IN C.S. 8013
5. 5/8" IRON ROD WITH YELLOW PLASTIC CAP STAMPED "D.W.HARMS, PLS 1079" SET IN C.S. 8189
6. 5/8" IRON ROD WITH ORANGE PLASTIC CAP STAMPED "DARYL HARMS, PLS 1079" SET IN C.S. 8803
7. 1/2" IRON ROD MARKING THE MOST SOUTHERLY CORNER OF LOT 13, BLOCK 1, COUNTRY ESTATES.
8. 1/2" IRON PIPE MARKING THE N.W. CORNER OF LOT 14, BLOCK 1, COUNTRY ESTATES
9. 5/8" IRON ROD WITH RED PLASTIC CAP STAMPED "NORTHSTAR PLS 1663" SET IN PARTITION PLAT 2007-31 TO MARK THE NORTHEAST CORNER OF PARCEL 1
10. 5/8" IRON ROD, GREEN UNKNOWN, FOUND TO BE IN 68°31'E 0.45' FROM CORNER AND (N 50°44'51"E 0.51') AND COMPUTED TO BE N 49°05'E 0.46' FOR THIS SURVEY.
11. 1/2" IRON ROD, GREEN UNKNOWN, (MONUMENT FOUND TO BE 0.28' WEST OF LINE)

THIS IS AN EXACT COPY OF THE ORIGINAL PARTITION PLAT

Recording

I hereby certify that this partition plat was received and duly recorded by me as Partition Plat 2013-_____ in Benton County Deed Records as Document No. _____ on this _____ day of _____, 2013, at _____ O'Clock ___M.

By: _____
Benton County Clerk

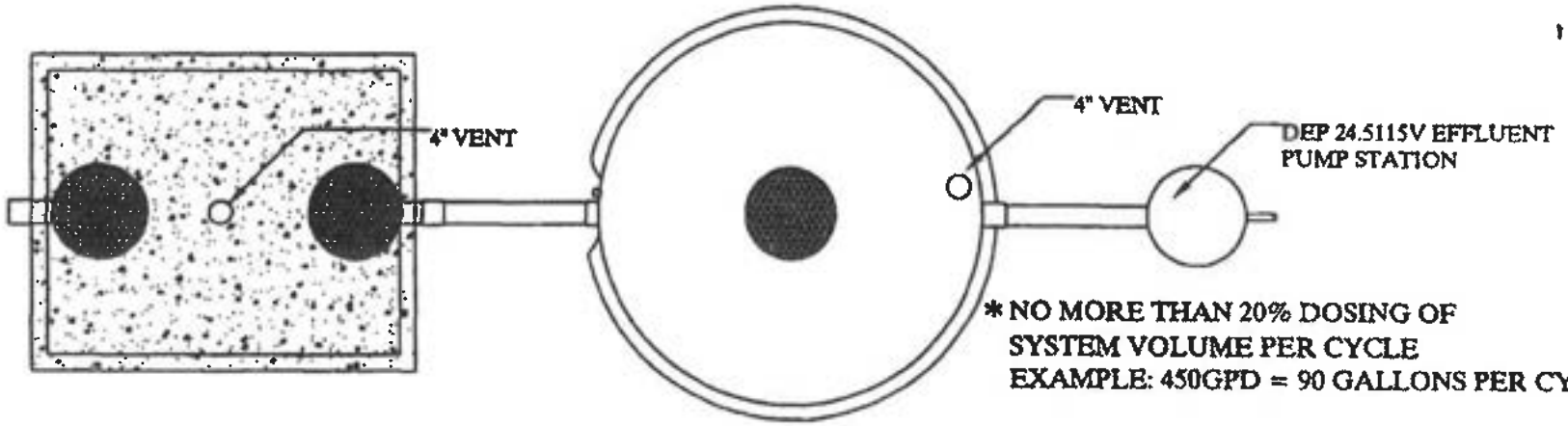
Narrative

This survey and partition plat were prepared pursuant to conditions of Benton County Community Development Department Case File No. LU-11-067.
The boundary of the parent parcel was recently surveyed and filed as C.S. 10347. I held all monuments in position marking an angle point in the boundary of the parent parcel and the Initial Point with exception to (10) which I calculated using distance-distance holding the nearest monuments N.W. & S.W. of (10).

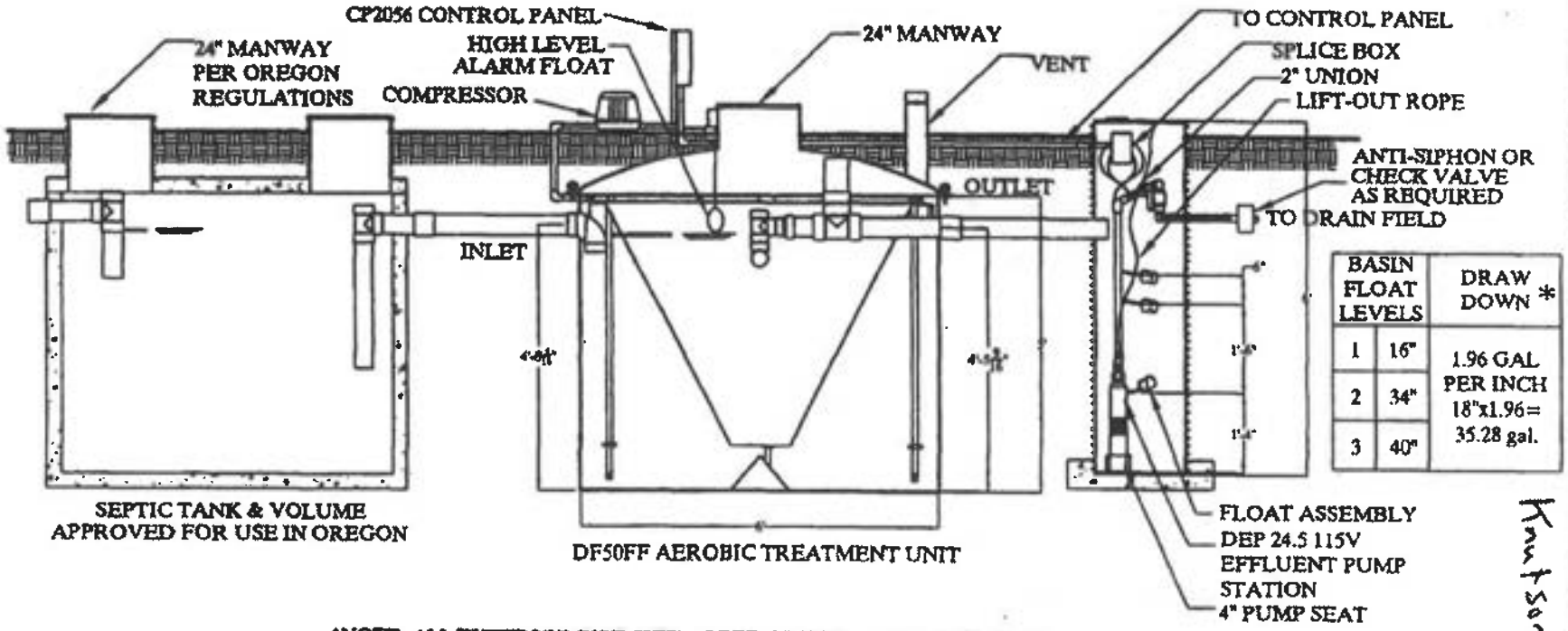
REGISTERED PROFESSIONAL LAND SURVEYOR

OREGON
JULY 30, 1974
DARRYL W. HARMS
1079
RENEWAL DATE 6/30/13

DARRYL W. HARMS, P.L.S.
P.O. BOX 1051
CORVALLIS, OR 97339
PHONE: (541) 745-3949
E-MAIL
darryl@harmsllc.com



* NO MORE THAN 20% DOSING OF SYSTEM VOLUME PER CYCLE
EXAMPLE: 450GPD = 90 GALLONS PER CYCLE.



BASIN FLOAT LEVELS		DRAW DOWN *
1	16"	1.96 GAL PER INCH 18"x1.96= 35.28 gal.
2	34"	
3	40"	

*NOTE: ALL EXTERIOR PIPE SIZE AS PER OREGON REQUIREMENTS
*NOTE: THE VOLUME OF THE SEPTIC TANK WILL BE AS REQUIRED IN OAR 340-071-220(3)

CONFIGURATION 1

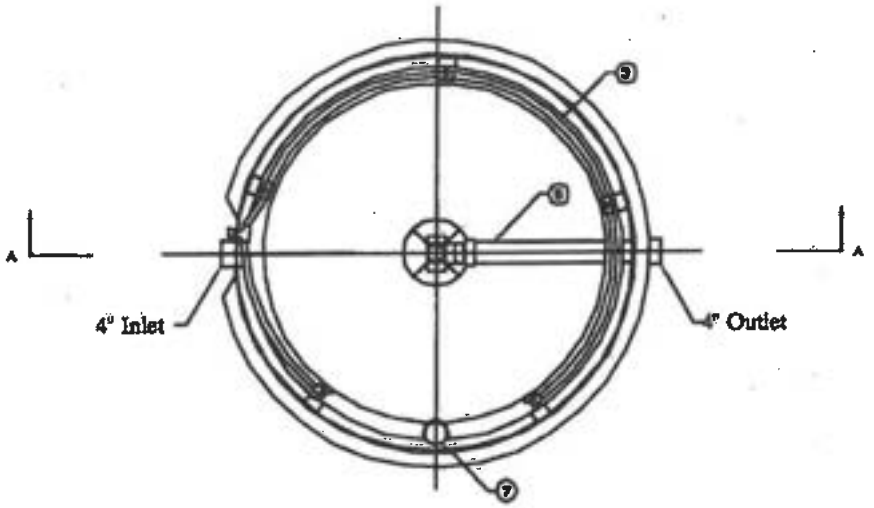
DELTA ENVIRONMENTAL PRODUCTS, INC.
P. O. BOX 969 DENHAM SPRINGS, LA 70727

DELTA WHITEWATER 500GPD UNIT W/ OREGON APPROVED SEPTIC TANK & DEP24.5115V HIGH HEAD PUMP STATION

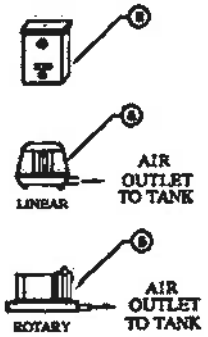
DWN BY:	DATE:	SCALE:	DWG. NO.:
B LANDRY	09/19/05	N.T.S.	DEP248A

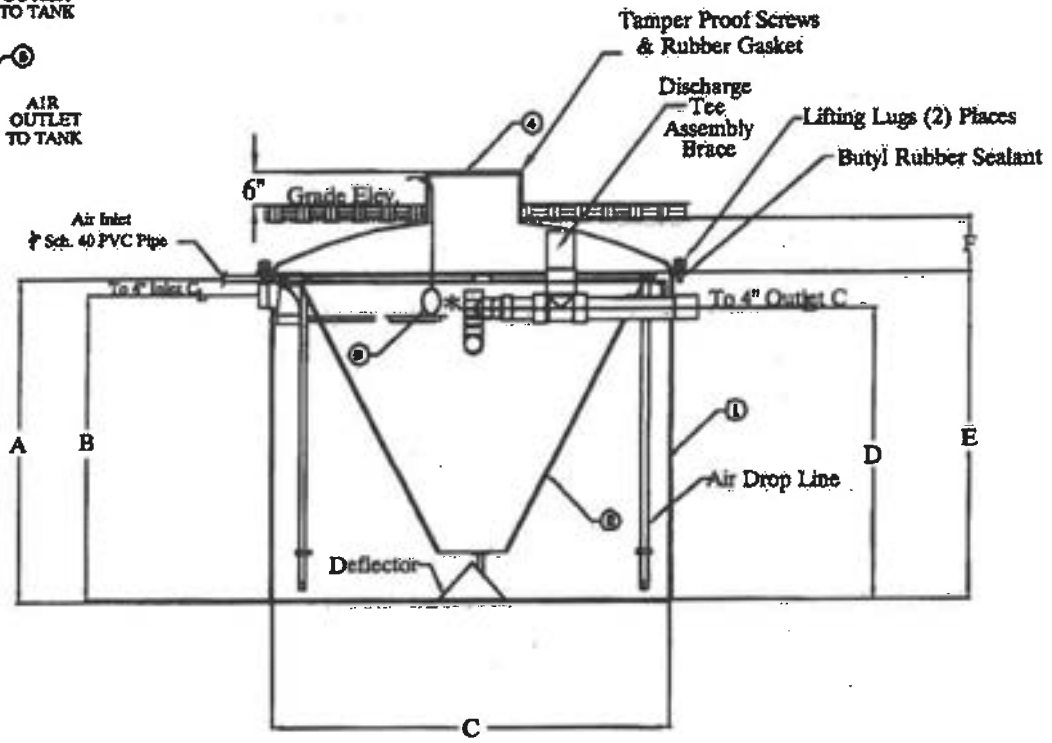
Knutson

SW130002 03 # 04



Plan View
(with cover removed)





Section A-A

* HIGH LEVEL FLOAT NOT REQUIRED WHEN USING CP22 SERIES CONTROL PANELS

Delta Environmental Products
P.O. Box 969 Denham Springs, LA 70727

WASTEWATER TREATMENT UNITS
MODEL DFXX-FF

DWN BY:	DATE:	SCALE:	DWG. NO.:
C.RACHAL	4/16/07	N.T.S.	CRT603

Pump Curve

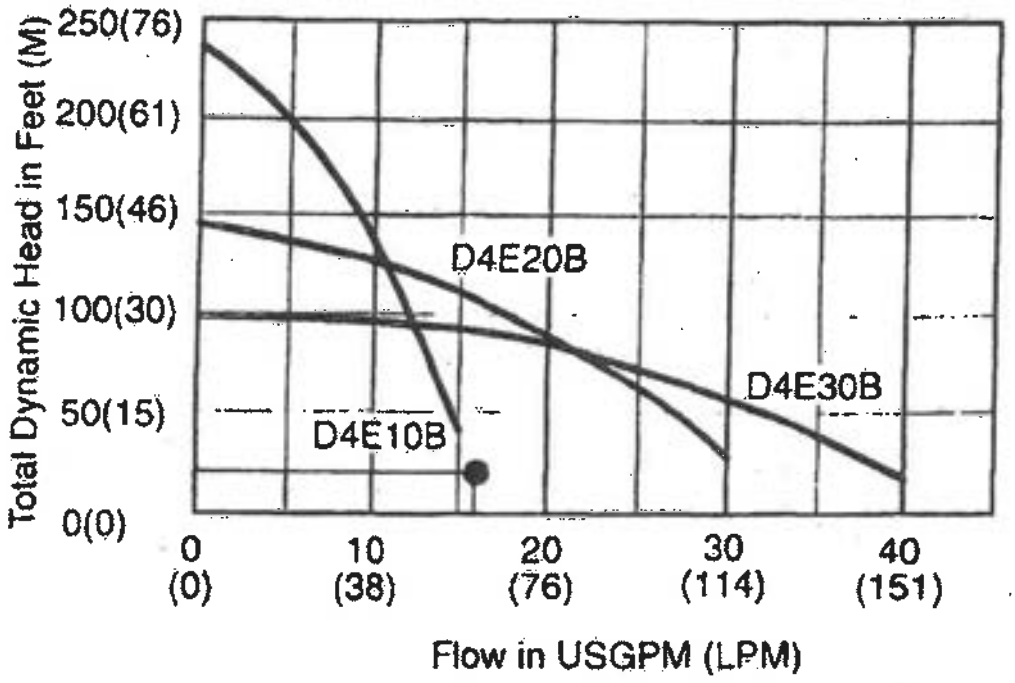


Figure 2: Performance in Feet of Head at Gallons per Minute (M@LPM).

☒ N Structure (other than a dwelling, that has parking requirements under B 91.605 - 91.665? ☐ Y ➔ Apply BCC 91.605 – 91.665..... Requirements met ☐

☒ N **Is the proposed structure w/in 50' of FEMA floodplain?** ☐ Y ➔ FP review (TL) ..... Completed ☐ Added ☐
Conditions (CSF501, 501MH, 502, 504, ...).

☒ N **Is property inside the Corvallis UGB?** ☐ Y ➔ Use Corvallis Urban Fringe Checklist..... Completed ☐

☒ N **FBB Blue Zone?** ☐ Y ➔ Survey completed ☐ **OR** Certificate of Inclusion signed ☐ Date: _____

☒ N **Is the proposed structure in or w/in 20' of BPA easement?** ☐ Y ➔ Notify BPA..... Completed ☐

☒ N **Wetland on the property?** ☐ Y ➔ Notify DSL.(BCC 99.225) ..... Sent (date): _____
(☐NWI Map (list below) ☐Philomath UGB: *paper* map. ☐ Planning file ('90 or later subdiv) ☐Corvallis UGB ☐ GIS ☐ Wetland Explorer
Cond. CSF527 Added ☐
Notes: _____ Entered into Permits Plus ☐

☒ N **Is building, driveway, septic, etc. likely to disturb 1 acre or more of land?** ☐ Y ➔ Add CSF524 ☐
(requires applicant to obtain 1200C Permit from DEQ). ESC Permit Req'd ☐

Soil Type:	SHRINK-SWELL	EROSION	LANDSLIDE	SLOPE
JoD	Low-mod	mod	low	low
	High? ☒N ☐Y	High? ☒N ☐Y	High/Existing? ☒N ☐Y	High/Very High? ☒N ☐Y

If yes to any of these, except erosion or high shrink-swell for M.D., consult with Building Official. If pole bldg., give to D.L. Steps taken: _____

Mitigation measures are listed in BCC 99.110 and 99.115. Add relevant conditions of approval:
☐ *CSF526 (shrink-swell (except M.D.), slide, slope)* ☐ *CSF525 (erosion, slope)* ☐ *CMH032 (high shrink-swell for Manf Dwl.)*

☒ N **Airport Overlay?** ☐ Y ➔ Dist to nearest runway: _____ Consult Ch 86. Covenant required in some portions of T 12S R 5W Sects 15, 16, 20-22, 26-28, 33, 34 and T 13S R 5W Sections 3, 4. ..... Req's met ☐

☒ N **Willamette River/Greenway Management Overlay?** ☐ Y ➔ Consult Chapter 84. ..... Req's met ☐
(Non-water dependent building setback is 75' and dwellings are Conditional Uses.)

☒ N **Is the structure a Historic Resource?** ☐ Y ➔ Consult Chapter 89..... Req's met ☐

☒ N **In Philomath UGB & along Marys River?** ☐ Y ➔ Apply condition CSF117... ..... Added ☐

☒ N **Identified Benton County Riparian?** ☐ Y ➔ Provide handouts & notified Adam S... ..... Complete ☐

☒ N **SHPO: Site w/in 300m. (984 ft.) of a mjr waterway*?** ☐ Y ➔ Added Comm & Insp note in Permits Plus ☐
Add CSF538 ☐
Add comment to Plot Plan ☐

*Specifically: Willamette River, Marys River, Long Tom River, Muddy Creek, Soap Creek, and South Fork.

SpecProp	PropRes	PermitsPlus	Wintegrate	Ascend
☐☒✓	☒☐	☐☒	☐☒	☐☒

Old Permits/Special Restrictions: *Check land use & permit history:*

Permit Number	Description
LU-11-067	Partition
SW130002	As-built
Parent Parcel	11-5-1BC-600
2013-SDS040	Covenant restricting access to "Lathrop Lane"
D1500026	Demo of 1973 MH dwelling removed in 2013 or 2014.
Ascend	Shows property as vacant and unassigned

Planning Sign Off: (Plot Plans, Convenants, Conditional Uses, etc) Lindsey Godwin	Date Approved: 5/1/15 Comments:
Environmental Health Sign Off: (Septic) Gordon Brown via P.P.	Date Approved: 5/22/15 Comments:
Public Works Sign Off: (Water) NA	Date Approved: Comments:
Public Works Sign Off: (Road Approach)	Date Approved: Comments:
Public Works Sign Off: (Road Improvements)	Date Approved: 4/22/15 Comments:
Building Sign Off: (Building Plans)	Date Approved: 5/18/2015 Comments:

Application Date: 04/20/2015 Received By: LINDAMC

Owner: KNUTSON MARK D & KRISTIN L HOMES LLC Applicant: IRON MOUNTAIN

Type of Building: SINGLE FAMILY DWELLING REPLACEMENT Permit No.: B1500411

Contact No.: Lot No.: 11501BC02000

Serial No.: 420970 Parcel Size: 0.65 Zoning: RR-2

Water Source: PRIVATE WELL

Manufactured Home: Year: ?? Make: ?? Size: ?? Bedrooms: 4

Departments	Date	Status/Comments
Environmental Health		SW130002
Public Works - Water NA		
Public Works - RI	4/22/15	Not Required
Public Works - RA	4/22/15	Not Required
Planning - Zoning TL	4/21/15	CSF 508, 512, 513, 514, 521, 589
Building - Building Plans	5/18/2015	

PERMIT NUMBER B15 00411

MECHANICAL FEES

FEE ITEM	QTY	PRICE
Fuel burning stove, fireplace, insert, lighter	4	30.00
Furnace, air conditioner, heat pump	2	30.00
Clothes dryer, exhaust fan, hood	10	20.00
Other appliance or equipment (hydronic heating)		20.00
Gas piping system, new or altered (1 fee for all connections + each appliance)	1	20.00
Alteration to mechanical equipment or system		20.00
~~Minimum Fee~~		~~$0.00~~
Mechanical Plan Review 50% of permit		

CET 5205

PLUMBING FEES

FEE ITEM	QTY	PRICE
New Residential		
1 bathroom / 1 kitchen		$300.00
2 bathrooms / 1 kitchen		$400.00
3 bathrooms / 1 kitchen	1	$500.00
Each additional bathroom over 3	2	$75.00
Each additional kitchen over 1		$75.00
Remodel alteration (min fee)		$80.00
Each fixture, appurtenance, piping		$19.00
Storm water retention/detention facility		$80.00
Irrigation Systems		$80.00
Piping or private storm water drain exceed 100'	2	$30.00
Residential Fire Sprinklers (includes plan review)		
0 to 2,000 square feet		$200.00
2,001 to 3,600 square feet		$250.00
3,601 to 7,200 square feet		$325.00
7,201 square feet and greater		$410.00

FEE ITEM	QTY	PRICE
Manufactured Dwelling / Pre-fab		
Connections to bldg sewer/water		$80.00
RV & MH Dwelling Parks		
Base Fee (includes 1" 10 spaces)		$359.60
Each additional 10 spaces		$312.00
Commercial/Industrial/Dwellings other than 1 & 2 Family		
Minimum Fee		$80.00
Each fixture		$20.00
Sewer 1" 100 feet		$100.00
Sewer each additional 100 feet		$35.00
Water service 1" 100 feet		$100.00
Water service each additional 100 ft		$35.00
Storm and Rain Drain 1" 100 feet		$100.00
Storm and Rain Drain ea add 100 ft		$35.00
Miscellaneous Fees		
Specialty Fixtures		$20.00
Re-inspection # of hours		$80.00/hr
Investigative Fess (= to permit fees)		
Plumbing Plan Check 25% of fees		

Bathrooms 1111

Vent Fans 1111 1111

Furnace & AC 11

GAS & wood Fireplaces · 1111

Community Development
Replacement Permitting System

General Index to All Permits and LUTS

Enter Serial, Old Serial, or Map & Tax Lot Number: 11501bc00600 Search

Clear Close

Name & Address

Name	Mail Address	Property ID	Serial	Prime
GARRARD JAMES L & LAURA M,TR	440 NW ELKS DR #120	R09051501BC00600	036669	036669

Situs

7175-7235 NW LATHROP LN, CORVALLIS

Permits

Permit Type	Permit ID	Serial	MapTaxLot	App Date	Building Use	Permit Status	Final Date	
C	9400374	036669	11501BC00600	03/21/1994	MECHANICAL	F	10/11/1995	View Detail Finalize
C	9501315	036669	11501BC00600	10/06/1995	MECHANICAL	F	10/11/1995	View Detail Finalize
E	90074	036669	11501BC00600	02/20/1990	SERVICE CHANGE ONLY IN AN EXISTING RESIDENCE()	F	02/23/1990	View Detail Finalize
E	93028	036669	11501BC00600	01/19/1993	MOBILE HOME PARK OR REPLACEMENT()	F	01/19/1993	View Detail Finalize
MH	92075	036669	11501BC00600	10/15/1992	MOBILE HOME	F	12/21/1993	View Detail Finalize
P	92283	036669	11501BC00600	10/15/1992	MOBILE HOME PLUMBING CONNECTIONS: REPLACEMENT MOBILE HOME ON PRIVATE PROPERTY (1)	E		View Detail Finalize
S	92229	036669	11501BC00600	08/25/1992	MOBILE HOME	F	10/01/1992	View Detail Finalize

LUTS info

No LUTS data

Old Permits

Permit ID	Application Date	Description	PRA	UGA	Expiration Date
308	07/11/1968	SITE INSPECTION			
7803523					
7803886					
818334					

GODWIN linsey

From: LEWIS Toby A
Sent: Thursday, April 23, 2015 3:44 PM
To: GODWIN linsey
Subject: FW: Building permit number b1500411

From: Prechel, Jeffrey
Sent: Thursday, April 23, 2015 3:44 PM
To: 'Mark Knutson'
Cc: LEWIS Toby A
Subject: RE: Building permit number b1500411

Good afternoon Mark,

Thanks for the driveway detail. CFD will accept the NFPA 13D system as an AM&M for water supply.

Respectfully,

Jeff Prechel
Division Chief - Fire Marshal
Corvallis Fire Dept
541-766-6970
541-766-6938 (FAX)
Jeffrey.Prechel@ci.corvallis.or.us

From: Mark Knutson [mailto:ironmthomes@gmail.com]
Sent: Thursday, April 23, 2015 11:20 AM
To: Prechel, Jeffrey
Subject: Building permit number b1500411

This is in response to the letter I received from Toby Lewis in the planning department regarding a new home to be built on Lathrop Lane tax lot 11501bc00600. We are aware that we will need to put in a fire suppression system and agree to do so. The driveway was put in about 1 year ago and was approved for the construction of a new home at the back of the property. The property address for that new construction built last year is 7235 North northwest Lathrop Lane Corvallis. The existing driveway that will serve the new construction is 21 feet wide. I mistakenly wrote 16 on the plot plan as I had forgotten that we were required to make it wider because it served more than one property. The grade is nearly flat and less than 3% in all areas. The length of the driveway for the proposed new construction is 150 feet.
Please let me know if these answers are sufficient for approval. Thank you. Mark Knutson Iron Mountain homes.

B1500411
11-5-01BC-2000
Knutson
: D Replacement
Corvallis RFD
sent 4/21/15

APPROVED USES OF THE LOT OR PARCEL, TO DETERMINE ANY LIMITS ON LAWSUITS AGAINST FARMING OR FOREST PRACTICES, AS DEFINED IN ORS 30.930, AND TO INQUIRE ABOUT THE RIGHTS OF NEIGHBORING PROPERTY OWNERS, IF ANY, UNDER ORS 195.300, 195.301 AND 195.305 TO 195.336 AND SECTIONS 5 TO 11, CHAPTER 424, OREGON LAWS 2007, SECTIONS 2 TO 9 AND 17, CHAPTER 855, OREGON LAWS 2009, AND SECTIONS 2 TO 7, CHAPTER 8, OREGON LAWS 2010.

DATED: April 28, 2015

Mark Knutson

Kristin Knutson

Neal L. Peterson Living Trust, dated October 11, 1993, as amended and restated November 30, 2011

BY: Trustee
Neal L. Peterson, Trustee

BY: Johanna Peterson, Trustee
Johanna C. Peterson, Trustee

Johanna C. Peterson Living Trust, dated October 11, 1993, as amended and restated November 30, 2011

BY: Johanna Peterson, Trustee
Johanna C. Peterson, Trustee

BY: Trustee
Neal L. Peterson, Trustee

State of OREGON
COUNTY of BENTON

This instrument was acknowledged before me on April 28 2015 by Mark Knutson and Kristin Knutson.

Notary Public - State of Oregon
My commission expires: July 1, 2015

OFFICIAL SEAL
DENISE JOHNSON
NOTARY PUBLIC-OREGON
COMMISSION NO. 459334
MY COMMISSION EXPIRES JULY 01, 2015

State of OREGON
COUNTY of BENTON

This instrument was acknowledged before me on April 28, 2015 by Neal L. Peterson and Johanna C. Peterson as Trustees of the Neal L. Peterson Living Trust dated October 11, 1993, as amended and restated November 30, 2011.

Notary Public - State of Oregon
My commission expires: July 1, 2015

OFFICIAL SEAL
DENISE JOHNSON
NOTARY PUBLIC-OREGON
COMMISSION NO. 459334
MY COMMISSION EXPIRES JULY 01, 2015

State of OREGON
COUNTY of BENTON

This instrument was acknowledged before me on April 28, 2015 by Johanna C. Peterson and Neal L. Peterson as Trustees of the Johanna C. Peterson Living Trust dated October 11, 1993, as amended and restated November 30, 2011.

Notary Public - State of Oregon
My commission expires: July 1, 2015

OFFICIAL SEAL
DENISE JOHNSON
NOTARY PUBLIC-OREGON
COMMISSION NO. 459334
MY COMMISSION EXPIRES JULY 01, 2015

Residential Energy Additional Measure Selection

Department of Consumer and Business Services
Building Codes Division
1535 Edgewater NW, Salem, Oregon
Mailing address: P.O. Box 14470, Salem, OR 97309-0404
503-373-1210 • Fax: 503-378-3656
Web: bcd.oregon.gov

RESIDENTIAL INFORMATION

Date: _____ Building permit number: _____

Owner's name: Brad Wakefield

Job address: 2arthrop LW corvallis

City: Corvallis State: OR ZIP: 97330

INSTRUCTIONS

Please select type of construction below; sign, date, and complete the entire form. Submit this form with your permit application or your project will be placed on hold until the required information is provided.

☑ **New construction.** All conditioned spaces within residential buildings must comply with Table N1101.1(1) and two additional measures (one numbered and one lettered) from Table N1101.1(2) on page 2.

Additions. Additions to existing buildings or structures may be made without making the entire building or structure comply if the new additions comply with the requirements of this chapter. (N1101.3)

☐ **Large additions.** Additions that are equal to or more than 40 percent of the existing building heated floor area or 600 square feet (55 m^2) in area, whichever is less, must comply with Table N1101.1(2) on page 2. (N1101.3.1) *(Note: You must select one numbered and one lettered measure.)*

☐ **Small additions.** Additions that are less than 40 percent of the existing building heated floor area or less than 600 square feet in area, whichever is less, must select one measure from Table N1101.1(2) on page 2 or comply with Table N1101.3 below. (N1101.3.2)

☐ **Exception:** Additions that are less than 15 percent of existing building heated floor area or 200 square feet (18.58 m^2) in area, whichever is less, are not required to comply with Table N1101.1(2) or Table N1101.3.

Selected item number: 2 **Selected item letter:** A

Note: Depending on which Additional Measures you have selected, there may be sub-options that you will have to specify. Check the appropriate box if provided.

Applicant's signature: _____ Print name: Mark Knutson

TABLE N1101.3 – SMALL ADDITION ADDITIONAL MEASURES (SELECT ONE)

☑	1	Increase the ceiling insulation of the existing portion of the home as specified in Table N1101.2.
☐	2	Replace all existing single-pane wood or aluminum windows to be *U*-value as specified in Table N1101.2.
☐	3	Insulate the floor system as specified in Table N1101.2 and install 50 percent of permanently installed lighting fixtures as CFL or linear fluorescent or min. efficacy of 40 lumens per watt as specified in Section N1107.2.
☐	4	Test the entire dwelling with blower door and exhibit no more than 7.0 air changes per hour @ 50 Pascals.
☐	5	Seal and performance test the duct system.
☐	6	Replace existing 78 percent AFUE or less gas furnace with a 92 percent AFUE or greater system.
☐	7	Replace existing electric radiant space heaters with a ductless mini-split system with a minimum HSPF of 8.5.
☐	8	Replace existing electric forced air furnace with an air source heat pump with a minimum HSPF of 8.5.
☐	9	Replace existing water heater for a natural gas/propane water hear with a minimum EF of 0.67.
☐	10	Install a solar water heating system with a minimum of 40 square feet of gross collector area.

B1500411

ALAN Mascord DESIGN ASSOCIATES, INC.

STOCK PLAN

2441

GRAVITY LOADS BASED ON AFPA NDS-05

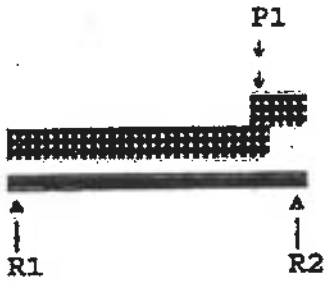
FLOOR	=	40# LIVE, 10# DEAD
ROOF	-	25# SNOW
		15# DEAD (SHAKE/COMP)
		19# DEAD (CONC. TILE)
CEILING	-	20# LIVE, 10# DEAD
DECKS	-	40# LIVE, 10# DEAD
EXITS/STAIRS	-	50# TOTAL LOAD

BEAM CALCULATIONS

B E A M A N A L Y S I S v1.5 STRUCTURAL

PREPARED BY: Alan Mascord Design Associates, Inc.
(503) 225-9161 Portland, OR
Client: STOCK PLAN
Project: 2441
Location: M2- TYPICAL DR HDRS AT EXERCISE
Date: 09-24-2004
Calculation By: L.A.W.
Comment: 6 X 10 DF #2 OK

BEAM AND LOAD DIAGRAM



Reaction R1 = 2,329.7 lbs. Reaction R2 = 2,816.6 lbs.
Total load = 5,146.3 lbs.
Dimensions: Clear span = 7.5 feet, no overhang.

Point loads: P1 = 768.0 lbs. at 6.5 feet.
No triangular loads.
Uniform beam weight= 8 lbs/lf (= 56.25 lbs. total).
Uniform loads: U2 = 500.0 lbs/lf at 6.5 feet to 7.5 feet.
U1 = 588.0 lbs/lf at 0.0 feet to 6.5 feet.
Deflection limit (live load plus dead load): 1/300.

BEAM TYPE WOOD: DFL-SINGL 6X #2

COMPUTED STRESS/STRAIN		DESIGN VAL.	PROPERTIES	REQUIRED	ACTUAL
Shear (lbs)	2,816.6 FV	85.0	Area (Sq.In.)	50	50*
Moment (ft-lbs)	4,554.6 FB	875.0	Sect.Modulus	62	75
Deflection (in)	0.30 E	1.30E6	Mom.Inertia	119	338

Actual Maximum Deflection = 0.11 inches.
Maximum Deflection occurs at 4.0 feet.
Maximum Moment occurs at 4.0 feet.

MINIMUM BEAM SIZE (W x H): 5.500" by 9.037"

MINIMUM BEAM AREA (Sq.In.): 49.70

VERIFY WITH BUILDING OFFICIAL PRIOR TO MAKING MATERIAL SUBSTITUTIONS

ORIGINAL

B E A M A N A L Y S I S v1.5 STRUCTURAL

PREPARED BY: Alan Mascord Design Associates, Inc.
(503) 225-9161 Portland, OR
Client: STOCK PLAN
Project: 2441
Location: M4- MULT JSTS OVER EXERCISE DRS
Date: 09-24-2004
Calculation By: L.A.W.
Comment: (2) 2 X 12 DF #2 OK

BEAM AND LOAD DIAGRAM

Reaction R1 = 1,191.0 lbs. Reaction R2 = 1,191.0 lbs.
Total load = 2,382.0 lbs.
Dimensions: Clear span = 6.0 feet, no overhang.

No point loads.
No triangular loads.
Uniform beam weight= 67 lbs/lf (= 402 lbs. total).
Uniform loads: U1 = 330.0 lbs/lf at 0.0 feet to 6.0 feet.
Deflection limit (live load plus dead load): 1/360.

BEAM TYPE WOOD: DFL-REPET 2X12 #2 COMPUTED STRESS/STRAIN			DESIGN VAL.	PROPERTIES	REQUIRED	ACTUAL
Shear (lbs)	1,191.0	FV	95.0	Area (Sq.In.)	19	19
Moment (ft-lbs)	1,786.5	FB	1,035.0	Sect.Modulus	21	21*
Deflection (in)	0.20	E	1.60E6	Mom.Inertia	36	67

Actual Maximum Deflection = 0.11 inches.
Maximum Deflection occurs at 3.0 feet.
Maximum Moment occurs at 3.0 feet.

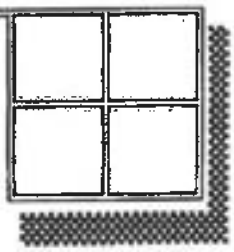
MINIMUM BEAM SIZE (W x H): 3.000" by 6.436"

MINIMUM BEAM AREA (Sq.In.): 19.31

VERIFY WITH BUILDING OFFICIAL PRIOR TO MAKING MATERIAL SUBSTITUTIONS

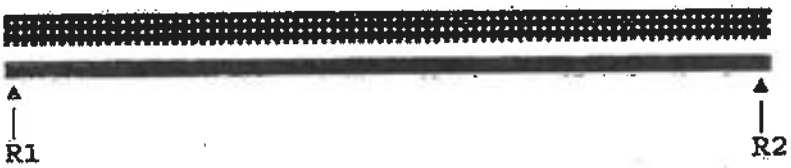
ORIGINAL

B E A M A N A L Y S I S v1.5 STRUCTURAL



PREPARED BY: Alan Mascord Design Associates, Inc.
(503) 225-9161 Portland, OR
Client: STOCK PLAN
Project: 2441
Location: M6- MAIN BM OVER GREAT RM
Date: 09-24-2004
Calculation By: L.A.W.
Comment: 5 1/8" X 16 1/2" 24F GLU-LAM OK

BEAM AND LOAD DIAGRAM



Reaction R1 = 5,830.0 lbs. Reaction R2 = 5,830.0 lbs.
Total load = 11,660.0 lbs.
Dimensions: Clear span = 20.0 feet, no overhang.

No point loads.
No triangular loads.
Uniform beam weight= 20 lbs/lf (= 400 lbs. total).
Uniform loads: U1 = 563.0 lbs/lf at 0.0 feet to 20.0 feet.
Deflection limit (live load plus dead load): 1/360.

BEAM TYPE LAM : GLULAM (2400 Fb)

COMPUTED STRESS/STRAIN		DESIGN VAL.	PROPERTIES	REQUIRED	ACTUAL
Shear (lbs)	5,830.0	FV 240.0	Area (Sq.In.)	36	82
Moment (ft-lbs)	29,150.0	FB 2,400.0	Sect.Modulus	150	218
Deflection (in)	0.67	E 1.80E6	Mom.Inertia	1,747	1,747*

Actual Maximum Deflection = 0.67 inches.
Maximum Deflection occurs at 10.0 feet.
Maximum Moment occurs at 10.0 feet.
Size Factor = 0.969
DETERMINING FACTOR = *

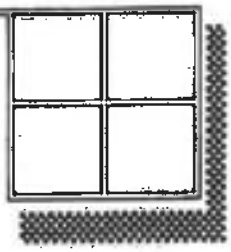
MINIMUM BEAM SIZE (W x H): 5.125" by 15.994"

MINIMUM BEAM AREA (Sq.In.): 81.97

VERIFY WITH BUILDING OFFICIAL PRIOR TO MAKING MATERIAL SUBSTITUTIONS

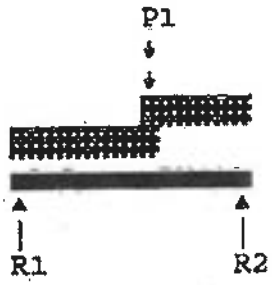
ORIGINAL

B E A M A N A L Y S I S v1.5 STRUCTURAL



PREPARED BY: Alan Mascord Design Associates, Inc.
(503) 225-9161 Portland, OR
Client: STOCK PLAN
Project: 2441
Location: M8- DR HDR AT GREAT RM
Date: 09-24-2004
Calculation By: L.A.W.
Comment: 3 1/8" X 10 1/2" 24F GLU-LAM OK

BEAM AND LOAD DIAGRAM



Reaction R1 = 4,550.7 lbs. Reaction R2 = 3,800.3 lbs.
Total load = 8,351.0 lbs.
Dimensions: Clear span = 6.0 feet, no overhang.

Point loads: P1 = 3,740.0 lbs. at 3.5 feet.
No triangular loads.
Uniform beam weight= 6 lbs/lf (= 36 lbs. total).
Uniform loads: U2 = 213.0 lbs/lf at 3.5 feet to 6.0 feet.
U1 = 1,155.0 lbs/lf at 0.0 feet to 3.5 feet.
Deflection limit (live load plus dead load): 1/360.

BEAM TYPE LAM : GLULAM (2400 Fb)

COMPUTED STRESS/STRAIN		DESIGN VAL.	PROPERTIES	REQUIRED	ACTUAL
Shear (lbs)	4,550.7 FV	240.0	Area (Sq.In.)	28	29
Moment (ft-lbs)	8,816.4 FB	2,400.0	Sect.Modulus	44	44*
Deflection (in)	0.20 E	1.80E6	Mom.Inertia	142	203

Actual Maximum Deflection = 0.14 inches.
Maximum Deflection occurs at 3.0 feet.
Maximum Moment occurs at 3.5 feet.

MINIMUM BEAM SIZE (W x H): 3.125" by 9.200"

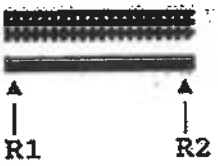
MINIMUM BEAM AREA (Sq.In.): 28.75
VERIFY WITH BUILDING OFFICIAL PRIOR TO MAKING MATERIAL SUBSTITUTIONS

ORIGINAL

B E A M A N A L Y S I S v1.5 STRUCTURAL

PREPARED BY: Alan Mascord Design Associates, Inc.
(503) 225-9161 Portland, OR
Client: STOCK PLAN
Project: 2441
Location: M10- MULT JSTS BTWN FOYER / GREAT RM
Date: 09-24-2004
Calculation By: L.A.W.
Comment: (2) 2 X 12 DF #2 OK

BEAM AND LOAD DIAGRAM



Reaction R1 = 995.6 lbs. Reaction R2 = 995.6 lbs.
Total load = 1,991.3 lbs.
Dimensions: Clear span = 4.5 feet, no overhang.

No point loads.
No triangular loads.
Uniform beam weight= 5 lbs/lf (= 20.25 lbs. total).
Uniform loads: U1 = 438.0 lbs/lf at 0.0 feet to 4.5 feet.
Deflection limit (live load plus dead load): 1/360.

BEAM TYPE WOOD: DFL-SINGL 2X12 #2

COMPUTED STRESS/STRAIN		DESIGN VAL.		PROPERTIES	REQUIRED	ACTUAL
Shear (lbs)	995.6	FV	95.0	Area (Sq.In.)	16	16*
Moment (ft-lbs)	1,106.3	FB	990.0	Sect.Modulus	13	14
Deflection (in)	0.15	E	1.60E6	Mom.Inertia	16	36

Actual Maximum Deflection = 0.07 inches.
Maximum Deflection occurs at 2.0 feet.
Maximum Moment occurs at 2.0 feet.

MINIMUM BEAM SIZE (W x H): 3.000" by 5.240"

MINIMUM BEAM AREA (Sq.In.): 15.72

VERIFY WITH BUILDING OFFICIAL PRIOR TO MAKING MATERIAL SUBSTITUTIONS

ORIGINAL

B E A M A N A L Y S I S v1.5 STRUCTURAL

PREPARED BY: Alan Mascord Design Associates, Inc.
(503) 225-9161 Portland, OR
Client: STOCK PLAN
Project: 2441
Location: M12- DECK BM AT REAR PORCH BY NOOK
Date: 09-24-2004
Calculation By: L.A.W.
Comment: 6 X 12 DF #2 OK

BEAM AND LOAD DIAGRAM

Reaction R1 = 2,217.4 lbs. Reaction R2 = 2,217.4 lbs.
Total load = 4,434.8 lbs.
Dimensions: Clear span = 13.5 feet, no overhang.

No point loads.
No triangular loads.
Uniform beam weight= 14 lbs/lf (= 182.25 lbs. total).
Uniform loads: U1 = 315.0 lbs/lf at 0.0 feet to 13.5 feet.
Deflection limit (live load plus dead load): 1/360.

BEAM TYPE WOOD: DFL-SINGL 6X #2

COMPUTED STRESS/STRAIN		DESIGN VAL.	PROPERTIES	REQUIRED	ACTUAL
Shear (lbs)	2,217.4	FV 85.0	Area (Sq.In.)	39	58
Moment (ft-lbs)	7,473.4	FB 875.0	Sect.Modulus	102	102*
Deflection (in)	0.45	E 1.30E6	Mom.Inertia	418	542

Actual Maximum Deflection = 0.35 inches.
Maximum Deflection occurs at 6.5 feet.
Maximum Moment occurs at 6.5 feet.

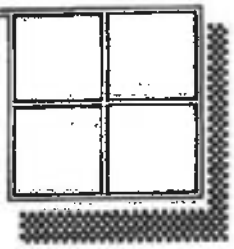
MINIMUM BEAM SIZE (W x H): 5.500" by 10.574"

MINIMUM BEAM AREA (Sq.In.): 58.16

VERIFY WITH BUILDING OFFICIAL PRIOR TO MAKING MATERIAL SUBSTITUTIONS

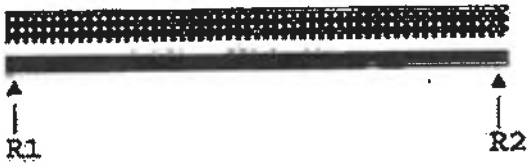
ORIGINAL

B E A M A N A L Y S I S v1.5 STRUCTURAL



PREPARED BY: Alan Mascord Design Associates, Inc.
(503) 225-9161 Portland, OR
Client: STOCK PLAN
Project: 2441
Location: M14- TYPICAL BM AT MUD RM PORCH
Date: 09-24-2004
Calculation By: L.A.W.
Comment: 6 X 12 DF #2 OK

BEAM AND LOAD DIAGRAM



Reaction R1 = 1,436.5 lbs. Reaction R2 = 1,436.5 lbs.
Total load = 2,873.0 lbs.
Dimensions: Clear span = 13.0 feet, no overhang.

No point loads.
No triangular loads.
Uniform beam weight= 13 lbs/lf (= 169 lbs. total).
Uniform loads: U1 = 208.0 lbs/lf at 0.0 feet to 13.0 feet.
Deflection limit (live load plus dead load): 1/300.

BEAM TYPE WOOD: DFL-SINGL 6X #2						
COMPUTED STRESS/STRAIN		DESIGN VAL.	PROPERTIES		REQUIRED	ACTUAL
Shear (lbs)	1,436.5	FV 85.0	Area (Sq.In.)		25	46
Moment (ft-lbs)	4,668.6	FB 875.0	Sect.Modulus		64	64*
Deflection (in)	0.52	E 1.30E6	Mom.Inertia		210	268

Actual Maximum Deflection = 0.41 inches.
Maximum Deflection occurs at 6.5 feet.
Maximum Moment occurs at 6.5 feet.

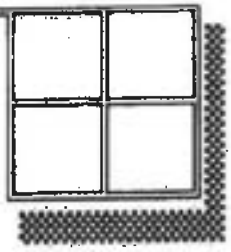
MINIMUM BEAM SIZE (W x H): 5.500" by 8.357"

MINIMUM BEAM AREA (Sq.In.): 45.97

VERIFY WITH BUILDING OFFICIAL PRIOR TO MAKING MATERIAL SUBSTITUTIONS

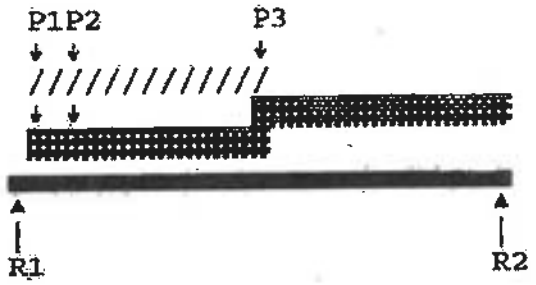
ORIGINAL

B E A M A N A L Y S I S v1.5 STRUCTURAL



PREPARED BY: Alan Mascord Design Associates, Inc.
(503) 225-9161 Portland, OR
Client: STOCK PLAN
Project: 2441
Location: M16- BM OVER GARAGE BY MUD RM DR
Date: 09-24-2004
Calculation By: L.A.W.
Comment: 6 3/4" X 12" 24F GLU-LAM OK

BEAM AND LOAD DIAGRAM



Reaction R1 = 5,643.5 lbs. Reaction R2 = 4,860.5 lbs.
Total load = 10,504.0 lbs.
Dimensions: Clear span = 13.0 feet, no overhang.

Point loads: P1 = 311.0 lbs. at 0.5 feet.
P2 = 258.0 lbs. at 1.5 feet.
P3 = 6,509.0 lbs. at 6.5 feet.
Triangular load: W = 450.0 lbs. at 0.5 feet to 6.5 feet.
Uniform beam weight= 67 lbs/lf (= 871 lbs. total).
Uniform loads: U2 = 130.0 lbs/lf at 6.5 feet to 13.0 feet.
U1 = 210.0 lbs/lf at 0.5 feet to 6.5 feet.
Deflection limit (live load plus dead load): 1/360.

BEAM TYPE LAM : GLULAM (2400 Fb)

COMPUTED STRESS/STRAIN		DESIGN VAL.	PROPERTIES	REQUIRED	ACTUAL
Shear (lbs)	5,643.5	FV 240.0	Area (Sq.In.)	35	79
Moment (ft-lbs)	27,428.4	FB 2,400.0	Sect.Modulus	137	154
Deflection (in)	0.43	E 1.80E6	Mom.Inertia	903	903*

Actual Maximum Deflection = 0.43 inches.
Maximum Deflection occurs at 6.5 feet.
Maximum Moment occurs at 6.5 feet.

MINIMUM BEAM SIZE (W x H): 6.750" by 11.710"

MINIMUM BEAM AREA (Sq.In.): 79.04

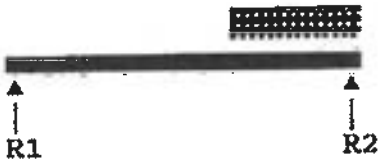
VERIFY WITH BUILDING OFFICIAL PRIOR TO MAKING MATERIAL SUBSTITUTIONS

ORIGINAL

B E A M A N A L Y S I S v1.5 STRUCTURAL

PREPARED BY: Alan Mascord Design Associates, Inc.
(503) 225-9161 Portland, OR
Client: STOCK PLAN
Project: 2441
Location: M18- MULT JSTS REAR GARAGE BY MECH
Date: 09-24-2004
Calculation By: L.A.W.
Comment: (3) 2 X 12 DF #2 OK

BEAM AND LOAD DIAGRAM



Reaction R1 = 801.5 lbs. Reaction R2 = 2,801.5 lbs.
Total load = 3,603.0 lbs.
Dimensions: Clear span = 9.0 feet, no overhang.

No point loads.
No triangular loads.
Uniform beam weight= 67 lbs/lf (= 603 lbs. total).
Uniform loads: U1 = 1,000.0 lbs/lf at 6.0 feet to 9.0 feet.
Deflection limit (live load plus dead load): 1/360.

BEAM TYPE WOOD: DFL-REPET 2X12 #2

COMPUTED STRESS/STRAIN		DESIGN VAL.		PROPERTIES	REQUIRED	ACTUAL
Shear (lbs)	2,801.5	FV	95.0	Area (Sq.In.)	44	44*
Moment (ft-lbs)	3,669.4	FB	1,035.0	Sect.Modulus	43	72
Deflection (in)	0.30	E	1.60E6	Mom.Inertia	97	356

Actual Maximum Deflection = 0.08 inches.
Maximum Deflection occurs at 5.0 feet.
Maximum Moment occurs at 6.5 feet.

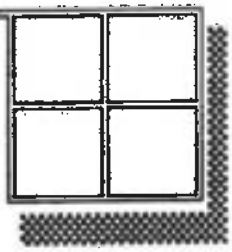
MINIMUM BEAM SIZE (W x H): 4.500" by 9.830"

MINIMUM BEAM AREA (Sq.In.): 44.23

VERIFY WITH BUILDING OFFICIAL PRIOR TO MAKING MATERIAL SUBSTITUTIONS

ORIGINAL

B E A M A N A L Y S I S v1.5 STRUCTURAL



PREPARED BY: Alan Mascord Design Associates, Inc.
(503) 225-9161 Portland, OR
Client: STOCK PLAN
Project: 2441
Location: M20- MULT JSTS OVER REAR MID GARAGE
Date: 09-24-2004
Calculation By: L.A.W.
Comment: (2) 2 X 12 DF #2 OK

BEAM AND LOAD DIAGRAM

Reaction R1 = 370.9 lbs. Reaction R2 = 482.1 lbs.
Total load = 853.0 lbs.
Dimensions: Clear span = 9.0 feet, no overhang.

No point loads.
No triangular loads.
Uniform beam weight= 67 lbs/lf (= 603 lbs. total).
Uniform loads: U1 = 50.0 lbs/lf at 4.0 feet to 9.0 feet.
Deflection limit (live load plus dead load): 1/360.

BEAM TYPE WOOD: DFL-REPET 2X12 #2

COMPUTED STRESS/STRAIN		DESIGN VAL.	PROPERTIES	REQUIRED	ACTUAL
Shear (lbs)	482.1	FV 95.0	Area (Sq.In.)	8	15
Moment (ft-lbs)	992.2	FB 1,035.0	Sect.Modulus	12	12
Deflection (in)	0.30	E 1.60E6	Mom.Inertia	30	30*

Actual Maximum Deflection = 0.30 inches.
Maximum Deflection occurs at 4.5 feet.
Maximum Moment occurs at 5.0 feet.

MINIMUM BEAM SIZE (W x H): 3.000" by 4.905"

MINIMUM BEAM AREA (Sq.In.): 14.72

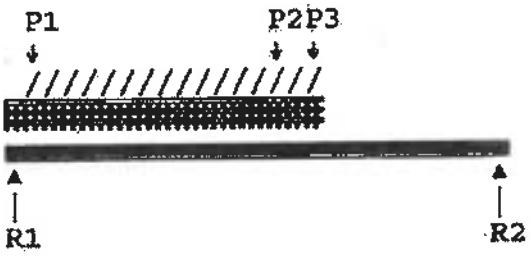
VERIFY WITH BUILDING OFFICIAL PRIOR TO MAKING MATERIAL SUBSTITUTIONS

ORIGINAL

B E A M A N A L Y S I S v1.5 STRUCTURAL

PREPARED BY: Alan Mascord Design Associates, Inc.
(503) 225-9161 Portland, OR
Client: STOCK PLAN
Project: 2441
Location: M22- BM OVER MID FRONT GARAGE
Date: 09-24-2004
Calculation By: L.A.W.
Comment: 6 3/4" X 12" 24F GLU-LAM OK

BEAM AND LOAD DIAGRAM



Reaction R1 = 5,257.6 lbs. Reaction R2 = 4,855.4 lbs.
Total load = 10,113.0 lbs.
Dimensions: Clear span = 13.0 feet, no overhang.

Point loads: P1 = 311.0 lbs. at 0.5 feet.
P2 = 5,625.0 lbs. at 7.0 feet.
P3 = 906.0 lbs. at 8.0 feet.
Triangular load: W = 720.0 lbs. at 0.5 feet to 8.0 feet.
Uniform beam weight= 67 lbs/lf (= 871 lbs. total).
Uniform loads: U1 = 210.0 lbs/lf at 0.0 feet to 8.0 feet.
Deflection limit (live load plus dead load): 1/360.

BEAM TYPE LAM : GLULAM (2400 Fb)

COMPUTED STRESS/STRAIN		DESIGN VAL.	PROPERTIES	REQUIRED	ACTUAL
Shear (lbs)	5,257.6	FV 240.0	Area (Sq.In.)	33	79
Moment (ft-lbs)	26,820.1	FB 2,400.0	Sect.Modulus	134	153
Deflection (in)	0.43	E 1.80E6	Mom.Inertia	890	890*

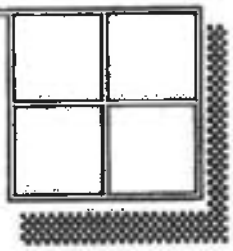
Actual Maximum Deflection = 0.43 inches.
Maximum Deflection occurs at 6.5 feet.
Maximum Moment occurs at 7.0 feet.

MINIMUM BEAM SIZE (W x H): 6.750" by 11.651"

MINIMUM BEAM AREA (Sq.In.): 78.64
VERIFY WITH BUILDING OFFICIAL PRIOR TO MAKING MATERIAL SUBSTITUTIONS

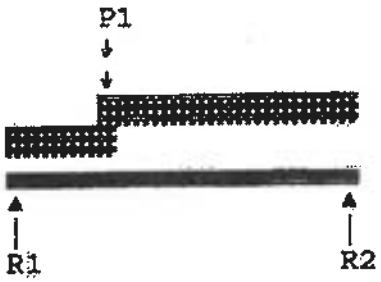
ORIGINAL

B E A M A N A L Y S I S v1.5 STRUCTURAL



PREPARED BY: Alan Mascord Design Associates, Inc.
(503) 225-9161 Portland, OR
Client: STOCK PLAN
Project: 2441
Location: M24- MID 9/0 O.H. GARAGE DR HDR
Date: 09-24-2004
Calculation By: L.A.W.
Comment: 5 1/8" X 10 1/2" 24F GLU-LAM OK

BEAM AND LOAD DIAGRAM



Reaction R1 = 8,345.7 lbs. Reaction R2 = 5,149.3 lbs.
Total load = 13,495.0 lbs.
Dimensions: Clear span = 9.0 feet, no overhang.

Point loads: P1 = 5,258.0 lbs. at 2.5 feet.
No triangular loads.
Uniform beam weight= 9 lbs/lf (= 81 lbs. total).
Uniform loads: U2 = 774.0 lbs/lf at 2.5 feet to 9.0 feet.
U1 = 1,250.0 lbs/lf at 0.0 feet to 2.5 feet.
Deflection limit (live load plus dead load): 1/360.

BEAM TYPE LAM : GLULAM (2400 Fb)

COMPUTED STRESS/STRAIN			DESIGN VAL.	PROPERTIES	REQUIRED	ACTUAL
Shear (lbs)	8,345.7	FV	240.0	Area (Sq.In.)	52	52*
Moment (ft-lbs)	16,929.8	FB	2,400.0	Sect.Modulus	85	88
Deflection (in)	0.30	E	1.80E6	Mom.Inertia	426	450

Actual Maximum Deflection = 0.28 inches.
Maximum Deflection occurs at 4.5 feet.
Maximum Moment occurs at 2.5 feet.

MINIMUM BEAM SIZE (W x H): 5.125" by 10.178"

MINIMUM BEAM AREA (Sq.In.): 52.16

VERIFY WITH BUILDING OFFICIAL PRIOR TO MAKING MATERIAL SUBSTITUTIONS

ORIGINAL

BeamChek v2.4 licensed to: Alan Mascord Design Associates, Inc. Reg # 7515-1210

STOCK PLAN: 244-I — MAIN GARAGE BM

M26 — Date: 9/24/04

Selection 6-3/4x 25-1/2 24F GLU-LAM — Lu = 0.0 Ft

Conditions

Min Bearing Area R1= 23.9 in² R2= 31.0 in²

Data

Beam Span	24.0 ft				
Beam Wt per ft	41.83 #	Reaction 1 TL	15518 #	Reaction 2 TL	20135 #
Bm Wt Included	1004 #	Maximum V	20135 #		
Max Moment	88302 '#	Max V (Reduced)	19444 #		
TL Max Defl	L / 360	TL Actual Defl	L / 429		

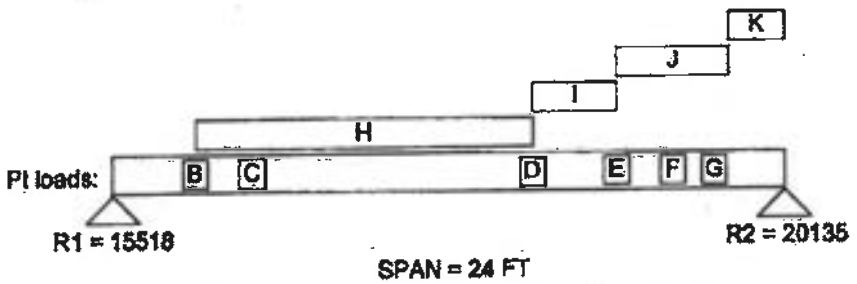
Attributes	Section (in³)	Shear (in²)	TL Defl (in)
Actual	731.53	172.13	0.67
Critical	495.95	121.53	0.80
Status	OK	OK	OK
Ratio	68%	71%	84%

USER'S CUSTOM BASE VALUES	Fb (psi)	Fv (psi)	E (psi x mil)	Fc⊥ (psi)
Values Base Values	2400	240	1.8	650
Base Adjusted	2137	240	1.8	650
Adjustments Cv Volume	0.890			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00

Cl Stability 1.0000 — Rb = 0.00 — Le = 0.00 Ft — Kbe = 0.0

Loads

Point TL	Distance	Par Unif TL	Start	End
B = 7732	3.0	H = 805	3.0	15.0
C = 371	5.0	I = 1115	15.0	18.0
D = 802	15.0	J = 605	18.0	22.0
E = 2393	18.0	K = 263	22.0	24.0
F = 468	20.0			
G = 9332	21.5			



SPAN = 24 FT

Uniform and partial uniform loads are lbs per lineal ft.

ORIGINAL

B E A M A N A L Y S I S v1.5 STRUCTURAL

PREPARED BY: Alan Mascord Design Associates, Inc.
(503) 225-9161 Portland, OR
Client: STOCK PLAN
Project: 2441
Location: M28- DECK BM OVER FRONT ENTRY
Date: 09-24-2004
Calculation By: L.A.W.
Comment: 6 X 12 DF #2 OK

BEAM AND LOAD DIAGRAM

Reaction R1 = 1,525.1 lbs. Reaction R2 = 1,525.1 lbs.
Total load = 3,050.3 lbs.
Dimensions: Clear span = 10.5 feet, no overhang.

No point loads.
No triangular loads.
Uniform beam weight= 11 lbs/lf (= 110.25 lbs. total).
Uniform loads: U1 = 280.0 lbs/lf at 0.0 feet to 10.5 feet.
Deflection limit (live load plus dead load): 1/360.

BEAM TYPE WOOD: DFL-SINGL 6X #2

COMPUTED STRESS/STRAIN		DESIGN VAL.	PROPERTIES	REQUIRED	ACTUAL
Shear (lbs)	1,525.1	FV 85.0	Area (Sq.In.)	27	43
Moment (ft-lbs)	3,994.4	FB 875.0	Sect.Modulus	55	55*
Deflection (in)	0.35	E 1.30E6	Mom.Inertia	174	212

Actual Maximum Deflection = 0.29 inches.
Maximum Deflection occurs at 5.0 feet.
Maximum Moment occurs at 5.0 feet.

MINIMUM BEAM SIZE (W x H): 5.500" by 7.730"

MINIMUM BEAM AREA (Sq.In.): 42.52

VERIFY WITH BUILDING OFFICIAL PRIOR TO MAKING MATERIAL SUBSTITUTIONS

ORIGINAL

Alan Mascord Design Associates, Inc.
1305 NW 18th Avenue
Portland, OR 97209 (503) 225-9161

Isolated Footing Worksheet

Bearing Footing Information:	Project:	STOCK PLAN: 2441
	Location:	FT2- FOOTING BTWN 1ST & 2ND GARAGE BAY
	Callout:	**USE 31" x 31" x 12" CONC. FTG. W/ (3) #4 BARS EA. WAY**

	Rebar Grade	40	Steel Grade of reinforcing bars
f'c	fc (ksi)	3.00	Specified Concrete compressive strength (kips/in²)
fs	fs (ksi)	20.00	Allowable tensile stress of steel reinforcement (kips/in²)
fy	fy (ksi)	40.00	Yield strength of steel reinforcement (kips/in²)
	rebar size (number)	4	bar number... the bar diameter in eighths of an inch
	Soil Bearing Pressure (psf)	1,500	
drc	Rebar Cover (in)	3.00	minimum rebar cover

Entered Values

dcs	Square Column Side Dimension (in)	5.50	assumes a square section column or column with square bearing plate
j	Value "j"	0.90	Lookup from table of Balanced Section Properties
wc	concrete weight (psf)	150.00	(h/12)*150
P	Column Load (lbs)	9,000.00	
Ar	Rebar cross section area	0.20	$in^2 = \pi * (0.5 * 0.5)^2$

Computed Values

Dr	rebar diameter (in)	0.50	rebar number divided by 8
h	h= footing height	12	
d	footing thickness less bar & cover	8.50	h-(drc + Dr) = (12 - (3 + 0.5))
wf	Net Footing Pressure (psf)	150.00	(h / 12) * wc = (12 / 12) * 150
pn	Net Usable Soil Pressure (psf)	1,350.00	(1500 - 150) = 1350
Abp	Req'd Footing "Pad" Plan Area (sf)	6.67	P / pn = (9000 / 1500)
dpr	Req'd Length of Pad Side (in.)	30.99	((√dpr) * 12) = ((√6.67) *12)
b	Length of Pad Side (in.) - rounded	31	round dpr up to whole inch
bf	Length of Pad Side (ft.) - rounded	2.58	express dpr in square feet based upon rounded value
d1	beam shear consideration dist (in)	4.25	(0.5 * b) - ((0.5 * dcs) + d) = (0.5 * 31) - ((0.5 * 5.5) + 8.5)

Beam Shear Investigation

V	Shear Force (V)	1,233.6	(pn * bf * (d1 / 12)) = (1350 * 2.58 * (4.25 / 12))
v	Shear Stress (v)	4.68	V / (b * d) = 1233.6 / (31 * 8.5)
Vc	Maximum Stress (vc)	60.25	1.1 * √ (f'c * 1000) = 1.1 * √ (3 * 1000)
	Shear Investigation Result	PASSES	check to see if Shear stress "v" is less than maximum "vc"

Perpheral Shear Investigation

d2	peripheral shear consideration dist (in)	14.00	(d + dcs) = (8.5 + 5.5)
V	Peripheral Shear (V)	7,148.6	$V * ((bf)^2-(d2/12)^2) = 1350 * ((2.58)^2 - (14 / 12)^2)$
v	Peripheral Shear stress (v)	15.02	V / ((d2 * 4) * d) = 1350 / ((14 * 4) * 8.5)
Vc	Maximum Perpheral Stress (vc)	109.54	2 * √ (f'c * 1000) = 2 * √ (3 * 1000)
	Peripheral Shear Investigation Result	PASSES	check to see if Peripheral shear "v" is less than the maximum "vc"

Cantilever Moment Investigation

d3	Bending/dev. consideration dist (in)	12.75	(0.5 * b)-(0.5 * dcs) = (0.5 * 31) - (0.5 * 5.5)
M	Cantilever Moment (M)	1,966.0	pn * bf * (d3/12) * (0.5 * (d3/12)) = 1350 * 2.58 * (12.75 / 12) * (0.5 * (12.75 / 12))
As	Required Steel Area "As" (sq. in.)	0.15	M * 12 / ((fs * 1000) * j * d) = (1966 * 12) / ((20 * 1000) * 0.9 * 8.5)
	Total Number of bars required (min)	1	total req. steel area divided by area of a bar, rounded up
	Number of bars each way (min)	1	total number of bars divided by two and rounded up
	Rule of thumb no. of bars each way	3	by preference, space rebar no more than footing thickness (h)
	Callout rebar to use each way	3	greater of calculated or preference rebar spacing to determine number of bars

ORIGINAL

Prepared by L.A.W. on 9/24/2004 at 1:08 PM

Alan Mascord Design Associates, Inc.
1305 NW 18th Avenue
Portland, OR 97209 (503) 225-9161

Isolated Footing Worksheet

Bearing Footing Information:		
	Project:	STOCK PLAN 2441
	Location:	FT4- FOOTING AT HALF BATH BY MUD RM.
	Callout:	USE 50" x 50" x 12" CONC. FTG. W/ (4) #4 BARS EA. WAY

	Rebar Grade	40	Steel Grade of reinforcing bars
f'c	f'c (ksi)	3.00	Specified Concrete compressive strength (kips/in²)
fs	fs (ksi)	20.00	Allowable tensile stress of steel reinforcement (kips/in²)
fy	fy (ksi)	40.00	Yield strength of steel reinforcement (kips/in²)
	rebar size (number)	4	bar number... the bar diameter in eighths of an inch
	Soil Bearing Pressure (psf)	1,500	
drc	Rebar Cover (in)	3.00	minimum rebar cover

Entered Values

dcs	Square Column Side Dimension (in)	5.50	assumes a square section column or column with square bearing plate
j	Value "j"	0.90	Lookup from table of Balanced Section Properties
wc	concrete weight (psf)	150.00	(h/12)*150
P	Column Load (lbs)	23,000.00	
Ar	Rebar cross section area	0.20	$in^2 = \pi * (0.5 * 0.5)^2$

Computed Values

Dr	rebar diameter (in)	0.50	rebar number divided by 8
h	h=footing height	12	
d	footing thickness less bar & cover	8.50	h-(drc + Dr) = (12 - (3 + 0.5))
wf	Net Footing Pressure (psf)	150.00	(h / 12) * wc = (12 / 12) * 150
pn	Net Usable Soil Pressure (psf)	1,350.00	(1500 - 150) = 1350
	Req'd Footing "Pad" Plan Area (sf)	17.04	P / pn = (23000 / 1500)
	Req'd Length of Pad Side (in.)	49.54	((√dpr) * 12) = ((√17.04) *12)
b	Length of Pad Side (in.) - rounded	50	round dpr up to whole inch
bf	Length of Pad Side (ft.) - rounded	4.17	express dpr in square feet based upon rounded value
d1	beam shear consideration dist (in)	13.75	(0.5 * b) - ((0.5 * dcs) + d) = (0.5 * 50) - ((0.5 * 5.5) + 8.5)

Beam Shear Investigation

V	Shear Force (V)	6,450.5	(pn * bf * (d1 / 12)) = (1350 * 4.17 * (13.75 / 12))
v	Shear Stress (v)	15.18	V / (b * d) = 6450.5 / (50 * 8.5)
Vc	Maximum Stress (vc)	60.25	1.1 * √ (f'c * 1000) = 1.1 * √ (3 * 1000)
	Shear Investigation Result	PASSES	check to see if Shear stress "v" is less than maximum "vc"

Peripheral Shear Investigation

d2	peripheral shear consideration dist (in)	14.00	(d + dcs) = (8.5 + 5.5)
V	Peripheral Shear (V)	21,637.5	V * ((bf)²-(d2/12)²) = 1350 * ((4.17)² - (14 / 12)²)
v	Peripheral Shear stress (v)	45.46	V / ((d2 * 4) * d) = 1350 / ((14 * 4) * 8.5)
Vc	Maximum Peripheral Stress (vc)	109.54	2 * √ (f'c * 1000) = 2 * √ (3 * 1000)
	Peripheral Shear Investigation Result	PASSES	check to see if Peripheral shear "v" is less than the maximum "vc"

Cantilever Moment Investigation

d3	Bending/dev. consideration dist (in)	22.25	(0.5 * b)-(0.5 * dcs) = (0.5 * 50) - (0.5 * 5.5)
M	Cantilever Moment (M)	9,676.9	pn * bf * (d3/12) * (0.5 * (d3/12)) = 1350 * 4.17 * (22.25 / 12) * (0.5 * (22.25 / 12))
As	Required Steel Area "As" (sq. in.)	0.76	M * 12 / ((fs * 1000) * j * d) = (9676.9 * 12) / ((20 * 1000) * 0.9 * 8.5)
	Total Number of bars required (min)	4	total req. steel area divided by area of a bar, rounded up
	Number of bars each way (min)	2	total number of bars divided by two and rounded up
	Rule of thumb no. of bars each way	4	by preference, space rebar no more than footing thickness (h)
	Callout rebar to use each way	4	greater of calculated or preference rebar spacing to determine number of bars

ORIGINAL

Prepared by L.A.W. on 9/24/2004 at 1:09 PM

Alan Mascord Design Associates, Inc.
1305 NW 18th Avenue
Portland, OR 97209 (503) 225-9161

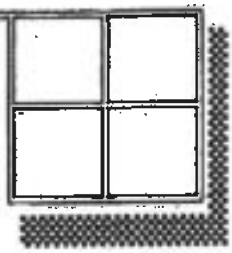
Isolated Footing Worksheet

	Bearing Footing Information:		
		Project:	STOCK PLAN : 2441
		Location:	FT6-FOOTING UNDER STUDY
		Callout:	USE 50" x 50" x 12" CONC. FTG. W/ (4) #4 BARS EA. WAY
	Rebar Grade	40	Steel Grade of reinforcing bars
f'c	f'c (ksi)	3.00	Specified Concrete compressive strength (kips/in²)
fs	fs: (ksi)	20.00	Allowable tensile stress of steel reinforcement (kips/in²)
fy	fy (ksi)	40.00	Yield strength of steel reinforcement (kips/in²)
	rebar size (number)	4	bar number... the bar diameter in eighths of an inch
	Soil Bearing Pressure (psf)	1,500	
drc	Rebar Cover (in)	3.00	minimum rebar cover
	Entered Values		
dcs	Square Column Side Dimension (in)	5.50	assumes a square section column or column with square bearing plate
j	Value "j"	0.90	Lookup from table of Balanced Section Properties
wc	concrete weight (psf)	150.00	(h/12)*150
P	Column Load (lbs)	23,000.00	
Ar	Rebar cross section area	0.20	$\pi r^2 = \pi * (0.5 * 0.5)^2$
	Computed Values		
Dr	rebar diameter (in)	0.50	rebar number divided by 8
h	h= footing height	12	
d	footing thickness less bar & cover	8.50	h-(drc + Dr) = (12 - (3 + 0.5))
wf	Net Footing Pressure (psf)	150.00	(h / 12) * wc = (12 / 12) * 150
pn	Net Usable Soil Pressure (psf)	1,350.00	(1500 - 150) = 1350
Abp	Req'd Footing "Pad" Plan Area (sf)	17.04	P / pn = (23000 / 1500)
dpr	Req'd Length of Pad Side (in.)	49.54	(($\sqrt{}$dpr) * 12) = (($\sqrt{}$17.04) *12)
b	Length of Pad Side (in.) - rounded	50	round dpr up to whole inch
bf	Length of Pad Side (ft.) - rounded	4.17	express dpr in square feet based upon rounded value
d1	beam shear consideration dist (in)	13.75	(0.5 * b) - ((0.5 * dcs) + d) = (0.5 * 50) - ((0.5 * 5.5) + 8.5)
	Beam Shear Investigation		
V	Shear Force (V)	6,450.5	(pn * bf * (d1 / 12)) = (1350 * 4.17 * (13.75 / 12))
v	Shear Stress (v)	15.18	V / (b * d) = 6450.5 / (50 * 8.5)
Vc	Maximum Stress (vc)	60.25	1.1 * $\sqrt{}$ (f'c * 1000) = 1.1 * $\sqrt{}$ (3 * 1000)
	Shear Investigation Result	PASSES	check to see if Shear stress "v" is less than maximum "vc"
	Perpheral Shear Investigation		
d2	peripheral shear consideration dist (in)	14.00	(d + dcs) = (8.5 + 5.5)
V	Peripheral Shear (V)	21,637.5	V * ((bf)²-(d2/12)²) = 1350 * ((4.17)² - (14 / 12)²)
v	Perpiheral Shear stress (v)	45.46	V / ((d2 * 4) * d) = 1350 / ((14 * 4) * 8.5)
Vc	Maximum Perpheral Stress (vc)	109.54	2 * $\sqrt{}$ (f'c * 1000) = 2 * $\sqrt{}$ (3 * 1000)
	Peripheral Shear Investigation Result	PASSES	check to see if Peripheral shear "v" is less than the maximum "vc"
	Cantilever Moment Investigation		
d3	Bending/dev. consideration dist (in)	22.25	(0.5 * b)-(0.5 * dcs) = (0.5 * 50) - (0.5 * 5.5)
M	Cantilever Moment (M)	9,676.9	pn * bf * (d3/12) * (0.5 * (d3/12)) = 1350 * 4.17 * (22.25 / 12) * (0.5 * (22.25 / 12))
As	Required Steel Area "As" (sq. in.)	0.76	M * 12 / ((fs * 1000) * j * d) = (9676.9 * 12) / ((20 * 1000) * 0.9 * 8.5)
	Total Number of bars required (min)	4	total req. steel area divided by area of a bar, rounded up
	Number of bars each way (min)	2	total number of bars divided by two and rounded up
	Rule of thumb no. of bars each way	4	by preference, space rebar no more than footing thickness (h)
	Callout rebar to use each way	4	greater of calculated or preference rebar spacing to determine number of bars

ORIGINAL

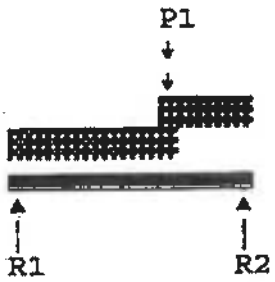
Prepared by L.A.W. on 9/24/2004 at 2:32 PM

B E A M A N A L Y S I S v1.5 STRUCTURAL



PREPARED BY: Alan Mascord Design Associates, Inc.
(503) 225-9161 Portland, OR
Client: STOCK PLAN
Project: 2441
Location: U1- WINDOW HDR AT BR. 3
Date: 09-23-2004
Calculation By: L.A.W.
Comment: 3 1/8" X 9" 24F GLU-LAM OK

BEAM AND LOAD DIAGRAM



Reaction R1 = 3,740.3 lbs. Reaction R2 = 4,210.7 lbs.
Total load = 7,951.0 lbs.
Dimensions: Clear span = 6.0 feet, no overhang.

Point loads: P1 = 4,063.0 lbs. at 4.0 feet.
No triangular loads.
Uniform beam weight= 6 lbs/lf (= 36 lbs. total).
Uniform loads: U2 = 200.0 lbs/lf at 4.0 feet to 6.0 feet.
U1 = 863.0 lbs/lf at 0.0 feet to 4.0 feet.
Deflection limit (live load plus dead load): 1/300.

BEAM TYPE LAM : GLULAM (2400 Fb)

COMPUTED STRESS/STRAIN		DESIGN VAL.		PROPERTIES	REQUIRED	ACTUAL
Shear (lbs)	4,210.7	FV	240.0	Area (Sq.In.)	26	27
Moment (ft-lbs)	8,009.3	FB	2,400.0	Sect.Modulus	40	40*
Deflection (in)	0.24	E	1.80E6	Mom.Inertia	109	176

Actual Maximum Deflection = 0.15 inches.
Maximum Deflection occurs at 3.0 feet.
Maximum Moment occurs at 4.0 feet.

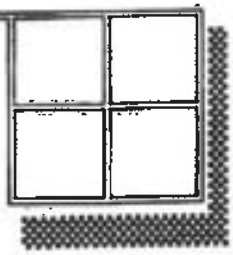
MINIMUM BEAM SIZE (W x H): 3.125" by 8.769"

MINIMUM BEAM AREA (Sq.In.): 27.40

VERIFY WITH BUILDING OFFICIAL PRIOR TO MAKING MATERIAL SUBSTITUTIONS

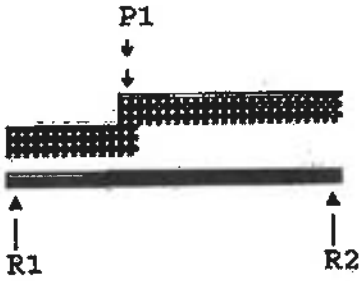
ORIGINAL

B E A M A N A L Y S I S v1.5 STRUCTURAL



PREPARED BY: Alan Mascord Design Associates, Inc.
(503) 225-9161 Portland, OR
Client: STOCK PLAN
Project: 2411
Location: U3- BM AT UPPER PORCH BY STAIRS
Date: 09-23-2004
Calculation By: L.A.W.
Comment: 5 1/8" X 9" 24F GLU-LAM OK

BEAM AND LOAD DIAGRAM



Reaction R1 = 4,367.0 lbs. Reaction R2 = 2,355.2 lbs.
Total load = 6,722.3 lbs.
Dimensions: Clear span = 8.5 feet, no overhang.

Point loads: P1 = 3,375.0 lbs. at 3.0 feet.
No triangular loads.
Uniform beam weight= 9 lbs/lf (= 72.25 lbs. total).
Uniform loads: U2 = 200.0 lbs/lf at 3.0 feet to 8.5 feet.
U1 = 725.0 lbs/lf at 0.0 feet to 3.0 feet.
Deflection limit (live load plus dead load): 1/360.

BEAM TYPE LAM : GLULAM (2400 Fb)

COMPUTED STRESS/STRAIN			DESIGN VAL.	PROPERTIES	REQUIRED	ACTUAL
Shear (lbs)	4,367.0	FV	240.0	Area (Sq.In.)	27	40
Moment (ft-lbs)	9,800.3	FB	2,400.0	Sect.Modulus	49	53
Deflection (in)	0.28	E	1.80E6	Mom.Inertia	211	211*

Actual Maximum Deflection = 0.28 inches.
Maximum Deflection occurs at 4.0 feet.
Maximum Moment occurs at 3.0 feet.

MINIMUM BEAM SIZE (W x H): 5.125" by 7.902"

MINIMUM BEAM AREA (Sq.In.): 40.50

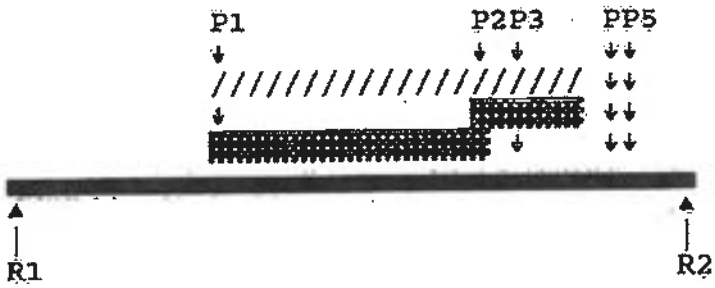
VERIFY WITH BUILDING OFFICIAL PRIOR TO MAKING MATERIAL SUBSTITUTIONS

ORIGINAL

B E A M A N A L Y S I S v1.5 STRUCTURAL

PREPARED BY: Alan Mascord Design Associates, Inc.
(503) 225-9161 Portland, OR
Client: STOCK PLAN
Project: 2441
Location: U5- MAIN BM OVER BONUS
Date: 09-23-2004
Calculation By: L.A.W.
Comment: 5 1/8" X 16 1/2" 24F GLU-LAM OK

BEAM AND LOAD DIAGRAM



Reaction R1 = 5,624.8 lbs. Reaction R2 = 6,014.2 lbs.
Total load = 11,639.0 lbs.
Dimensions: Clear span = 18.0 feet, no overhang.

Point loads: P1 = 2,101.0 lbs. at 5.5 feet.
P2 = 621.0 lbs. at 12.5 feet.
P3 = 77.0 lbs. at 13.5 feet.
P4 = 110.0 lbs. at 16.0 feet.
P5 = 279.0 lbs. at 16.5 feet.
Triangular load: W = 1,128.0 lbs. at 5.5 feet to 15.0 feet.
Uniform beam weight= 323 lbs/lf (= 5814 lbs. total).
Uniform loads: U2 = 192.0 lbs/lf at 12.5 feet to 15.0 feet.
U1 = 147.0 lbs/lf at 5.5 feet to 12.5 feet.
Deflection limit (live load plus dead load): 1/360.

BEAM TYPE LAM : GLULAM (2400 Fb)

COMPUTED STRESS/STRAIN		DESIGN VAL.	PROPERTIES	REQUIRED	ACTUAL
Shear (lbs)	6,014.2	FV 240.0	Area (Sq.In.)	38	79
Moment (ft-lbs)	29,107.2	FB 2,400.0	Sect.Modulus	150	205
Deflection (in)	0.60	E 1.80E6	Mom.Inertia	1,583	1,583*

Actual Maximum Deflection = 0.60 inches.
Maximum Deflection occurs at 9.0 feet.
Maximum Moment occurs at 9.0 feet.
Size Factor = 0.972
DETERMINING FACTOR = *

MINIMUM BEAM SIZE (W x H): 5.125" by 15.474"

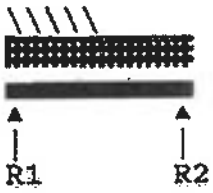
MINIMUM BEAM AREA (Sq.In.): 79.31

ORIGINAL

B E A M A N A L Y S I S v1.5 STRUCTURAL

PREPARED BY: Alan Mascord Design Associates, Inc.
(503) 225-9161 Portland, OR
Client: STOCK PLAN
Project: 2441
Location: U7- BM OVER ATTIC BY BR. 2
Date: 09-23-2004
Calculation By: L.A.W.
Comment: 4 X 10 DF #2 OK

BEAM AND LOAD DIAGRAM



Reaction R1 = 1,151.0 lbs. Reaction R2 = 1,119.3 lbs.
Total load = 2,270.3 lbs.
Dimensions: Clear span = 4.5 feet, no overhang.

No point loads.
Triangular load: W = 45.0 lbs. at 2.0 feet to 0.0 feet.
Uniform beam weight= 5 lbs/lf (= 20.25 lbs. total).
Uniform loads: U1 = 490.0 lbs/lf at 0.0 feet to 4.5 feet.
Deflection limit (live load plus dead load): 1/300.

BEAM TYPE WOOD: DFL-SINGL 4X #2

COMPUTED STRESS/STRAIN		DESIGN VAL.		PROPERTIES	REQUIRED	ACTUAL
Shear (lbs)	1,151.0	FV	95.0	Area (Sq.In.)	18	18*
Moment (ft-lbs)	1,253.9	FB	990.0	Sect.Modulus	15	16
Deflection (in)	0.18	E	1.60E6	Mom.Inertia	16	41

Actual Maximum Deflection = 0.07 inches.
Maximum Deflection occurs at 2.0 feet.
Maximum Moment occurs at 2.0 feet.

MINIMUM BEAM SIZE (W x H): 3.500" by 5.192"

MINIMUM BEAM AREA (Sq.In.): 18.17

VERIFY WITH BUILDING OFFICIAL PRIOR TO MAKING MATERIAL SUBSTITUTIONS

ORIGINAL

ALAN Mascord

DESIGN ASSOCIATES, INC.

STOCK PLAN

2441

SHAKE ROOF

GRAVITY LOADS DESIGNED TO AFPA NDS-97 & NDS-01

FLOOR	-	40# LIVE, 10# DEAD
ROOF	-	25# SNOW 15# DEAD (SHAKE/COMP) 19# DEAD (CONC. TILE)
CEILING	-	20# LIVE, 10# DEAD
DECKS	-	60# LIVE, 10# DEAD
EXITS/STAIRS	-	100# TOTAL LOAD

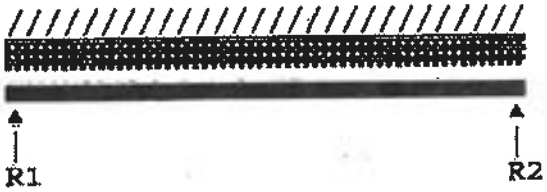
BEAM CALCULATIONS

ALAN MASCORD DESIGN ASSOCIATES, INC. 1305 N.W. 18TH AVE. PORTLAND, OR. 97209

B E A M A N A L Y S I S v1.5 STRUCTURAL

PREPARED BY: Alan Mascord Design Associates, Inc.
(503) 225-9161 Portland, OR
Client: STOCK PLAN
Project: 2441
Location: H1- MAIN HIP OVER BONUS
Date: 09-23-2004
Calculation By: L.A.W.
Comment: 1 3/4" X 11 7/8" LVL OK

BEAM AND LOAD DIAGRAM



Reaction R1 = 1,479.5 lbs. Reaction R2 = 2,216.5 lbs.
Total load = 3,696.0 lbs.
Dimensions: Clear span = 13.5 feet, no overhang.

No point loads.
Triangular load: W = 2,211.0 lbs. at 0.0 feet to 13.5 feet.
No uniform beam weight.
Uniform loads: U1 = 110.0 lbs/lf at 0.0 feet to 13.5 feet.
Deflection limit (live load plus dead load): 1/240.

BEAM TYPE LVL : 1.8E MICROLAM LVL

COMPUTED STRESS/STRAIN		DESIGN VAL.	PROPERTIES	REQUIRED	ACTUAL
Shear (lbs)	2,216.5	FV 285.0	Area (Sq.In.)	12	18
Moment (ft-lbs)	6,292.7	FB 2,600.0	Sect.Modulus	29	32
Deflection (in)	0.68	E 1.80E6	Mom.Inertia	168	168*

Actual Maximum Deflection = 0.67 inches.
Maximum Deflection occurs at 7.0 feet.
Maximum Moment occurs at 7.5 feet.

MINIMUM BEAM SIZE (W x H): 1.750" by 10.483"

MINIMUM BEAM AREA (Sq.In.): 18.34

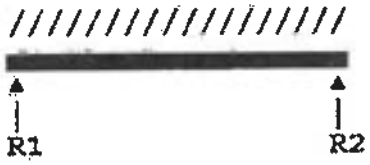
VERIFY WITH BUILDING OFFICIAL PRIOR TO MAKING MATERIAL SUBSTITUTIONS

ORIGINAL

B E A M A N A L Y S I S v1.5 STRUCTURAL

PREPARED BY: Alan Mascord Design Associates, Inc.
(503) 225-9161 Portland, OR
Client: STOCK PLAN
Project: 2441.
Location: H3- HIP OVER RER BONUS
Date: 09-23-2004
Calculation By: L.A.W.
Comment: 2 X 12 DF #2 OK

BEAM AND LOAD DIAGRAM



Reaction R1 = 310.7 lbs. Reaction R2 = 621.3 lbs.
Total load = 932.0 lbs.
Dimensions: Clear span = 8.5 feet, no overhang.

No point loads.
Triangular load: W = 932.0 lbs. at 0.0 feet to 8.5 feet.
No uniform beam weight.
No uniform loads.
Deflection limit (live load plus dead load): 1/240.

BEAM TYPE WOOD: DFL-SINGL 2X12 #2

COMPUTED STRESS/STRAIN		DESIGN VAL.		PROPERTIES	REQUIRED	ACTUAL
Shear (lbs)	621.3	FV	95.0	Area (Sq.In.)	10	11
Moment (ft-lbs)	1,013.2	FB	990.0	Sect.Modulus	12	12*
Deflection (in)	0.43	E	1.60E6	Mom.Inertia	19	43

Actual Maximum Deflection = 0.19 inches.
Maximum Deflection occurs at 4.5 feet.
Maximum Moment occurs at 5.0 feet.

MINIMUM BEAM SIZE (W x H): 1.500* by 7.009"

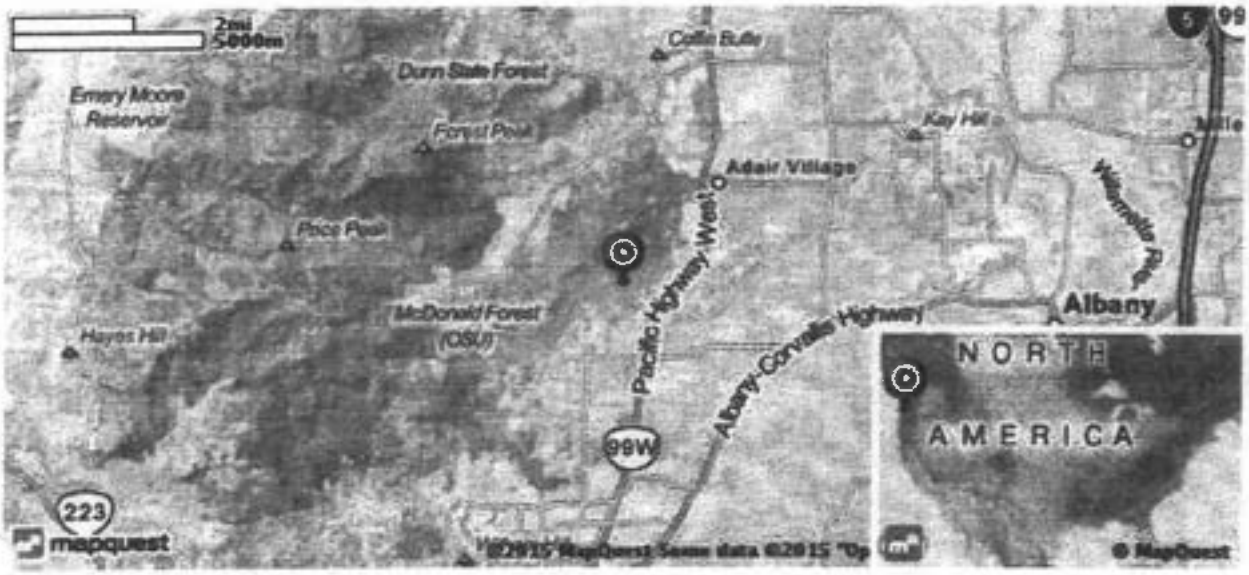
MINIMUM BEAM AREA (Sq.In.): 10.51
VERIFY WITH BUILDING OFFICIAL PRIOR TO MAKING MATERIAL SUBSTITUTIONS

ORIGINAL

USGS Design Maps Summary Report

User-Specified Input

Report Title	15-0284 WAKEFIELD RESIDENCE Tue April 14, 2015 19:45:56 UTC
Building Code Reference Document	ASCE 7-10 Standard (which utilizes USGS hazard data available in 2008)
Site Coordinates	44.64536°N, 123.24956°W
Site Soil Classification	Site Class D – "Stiff Soil"
Risk Category	I/II/III

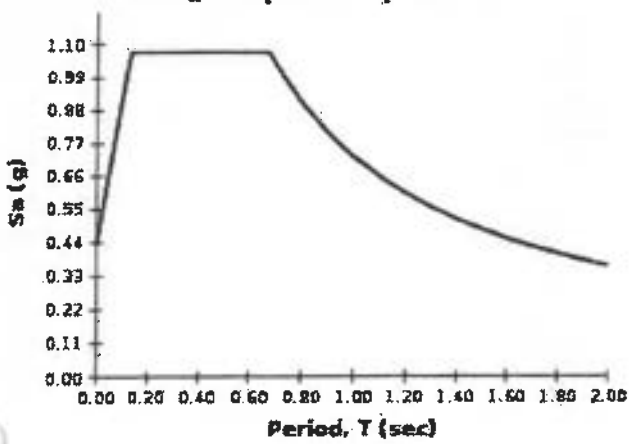


USGS-Provided Output

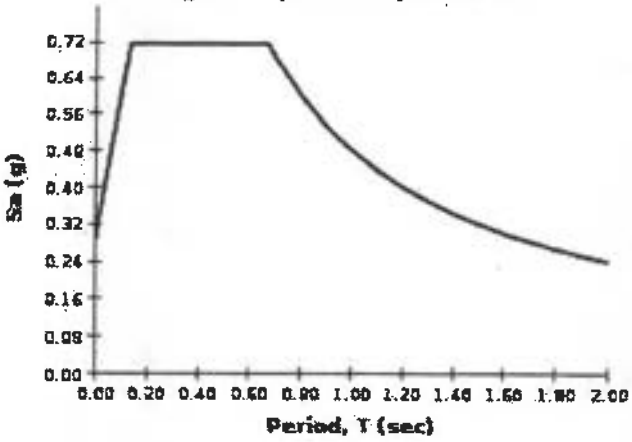
S_S =	0.964 g	S_{MS} =	1.075 g	S_{DS} =	0.716 g
S_1 =	0.472 g	S_{M1} =	0.721 g	S_{D1} =	0.481 g

For information on how the SS and S1 values above have been calculated from probabilistic (risk-targeted) and deterministic ground motions in the direction of maximum horizontal response, please return to the application and select the "2009 NEHRP" building code reference document.

MCE_R Response Spectrum



Design Response Spectrum



For PGA_M, T_L, C_{RS}, and C_{R1} values, please view the detailed report.

STABILITY ENGINEERING INC.
P.O. Box 2646 Corvallis, Oregon 97339
p: 541.223.5360 f: 541.223.5278

PROJECT: 15-0284 WAKEFIELD RESIDENCE DATE: 4/14/15

GENERAL BUILDING DATA Name: CK

Snow Load	25	psf
Allowable Soil Pressure	1500	psf
Occupancy Category	2	

	Plate Max. Ht(ft)	Roof
Roof	0	0
3rd fl	20	38
2nd fl	10	0
1st fl	0	

LATERAL LOAD SUMMARY

—WIND(OSSC 14, SIMPLIFIED)—

Basic Wind Speed:	120	mph
Adjustment Factor:	1	
Important Factor:	1	
K_{zt} #:	1	

$P_s = \lambda \times I_w \times K_{zt} \times P_{wss}$

		Zones									
		Horizontal Pressures				Vertical Pressures				Overhangs	
		A	B	C	D	E	F	G	H	E_{oh}	G_{oh}
Load Case 1	P_{wss}	25.7	17.6	20.4	14	2	-15.6	0.7	-13.4	-9	-10.3
	P_s	25.7	17.6	20.4	14.0	2.0	-15.6	0.7	-13.4	-9.0	-10.3

	Wind Exposure:	b	
	Roof Slope:	10	12
	Degrees:	39.80557	
	Load combination factor:	.6*W	

	FRONT WALLS		BACK WALLS					
	Exp. Width	Shear	Exp. Width	Shear	Exp. Width	Shear	Exp. Width	Shear
Story	(ft)	(K)	(ft)	(K)	(ft)	(K)	(ft)	(K)
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	23.0	5.4	23.0	5.4	0.0	0.0	0.0	0.0
1	23.0	3.7	23.0	3.7	0.0	0.0	0.0	0.0

—SEISMIC(OSSC 14)—

Seismic Design Category:	D	Seismic Soil Classification Sc:	D	Roof Dead Load(psf):	15
The short period spectral acceleration (S_s):	0.964	Lateral Resisting Factor (R):	6.5	Exterior wall Dead Load(psf):	12
1-sec spectral acceleration (S_1):	0.472	Importance Factor (I):	1	Floor Dead Load(psf):	12
Design Spectral Analysis Short Period Time(S_{DS}):	0.77	Structural Period (T):	0.3081	Interior wall Dead Load(psf):	10
Design Spectral Analysis 1-sec Time(S_{D1}):	0.50				

Total Dead Load(K): 129.38 (W)

Design Base Shear(K): 15 (0.12 x W)

Shear Force Distribution:

						FRONT WAL		BACK WALLS					
Story	Weight (K)	Height (ft)	Force F_x(K)	Summation (K)	Force F_{px}(K)	Weight (K)	Shear (K)	Weight (K)	Shear (K)	Weight (K)	Shear (K)	Weight (K)	Shear (K)
3	0.0	0	0	0	#DIV/0!	0.00		0.00		0.00		0.00	
2	53.3	20	9	9	9	37.94	6.38	37.94	6.38	0.00		0.00	
1	76.1	10	6	15	12	47.68	4.02	47.68	4.02	0.00		0.00	

Redundancy Calculation:

	Area	Fx(K)	S_{max}	b
3rd flr	0	0	0	
2nd flr	2123	8.9515	0	1
1st flr	0	6.3985	0	1

Redundancy Factor(b): 1.00

Project: 15-0284 WAKEFIELD RESIDENCE
Loading Direction: R-L
Loading Area: BACK WALLS

Date: 4/14/15
Name: CK

STABILITY ENGINEERING INC.

P.O. Box 2646 Corvallis, Oregon 97339
p: 541.223.5360 f: 541.223.5278

WALL DESIGN

Nailing:	10						
Sheathing :	7/16	Rated		DTT2Z-1.5	1826 lb		
Capacity(plf):				DTT2Z-3.0	2145 lb		
SW1	240	SW5	700	HDU2	3075 lb		
SW2	350	SW6	900	HDU4	4565 lb	Strap options (18" Span)	
SW3	450	SW7	1170	HDU5	5645 lb	MSTA49	2020 LB
SW4	585			HDU8-3.5	6970 lb	MSTC28	1540 LB
Thickness of Sill Plate(in):	1.5			HDU8-5.5	7870 lb	MSTC40	3080 LB
Sill Bolt Size (in):	0.5			HDU11-6.5	9535 lb	MSTC52	4620 LB
Sill Bolt Capacity (lbs/bolt):	844			HDU14-6.5	14445 lb	MSTC66	5850 LB
Max. Sill Bolt Spacing (in):	28			HD19-1 1/8	16775 lb	MSTC78	5860 LB
				HD19-1 1/4	19070 lb		

	3RD	2ND	1ST
Length of Bolt(in): (In Vertical Wood Member)	3	3	3
Anchor Bolt Capacity(lbs):			

	G_{wall}	L	D	W	H_{max}	C_o	FR_{trib}	Offset Y/N	Wind V_{wind}	HD_{wind}	Seismic V_{seis}	HD_{seis}	Wall Type	HD Type
		0	0	0	0	1			0					
	1	0	0	0	0	1	3		0					
		0	0	0	0	1			0					
		0	0	0	0	1			0					
	2	0	0	0	0	1	3		0					
		0	0	0	0	1			0					
		0	0	0	0	1		n	0					
	3	0	0	0	0	1	3	n	0					
		0	0	0	0	1			0					
	4	0	0	0	0	1			0					
	5	0	0	0	0	1	3		0					
	6	0	0	0	0	1			0					
	7	0	0	0	0	1			0					
	8	0	0	0	0	1	3		0					
	9	0	0	0	0	1			0					
		6	0	0	0	1		N	539	5.3	455	4.2	SW4	HDU5
	1	4	0	0	0	1	3		539	5.3	455	4.3	SW4	HDU5
2ND		0	0	0	0	1			0		0			
Transverse:Y		0	0	0	0	1			0		0			
Total Length: 10 ft	2	0	0	0	0	1	3		0		0			
Effective Length: 10 ft		0	0	0	0	1			0		0			
Roof Height: 18 ft		0	0	0	0	1			0		0			
Wall Height: 10 ft	3	0	0	0	0	1	3		0		0			
		0	0	0	0	1			0		0			
Tributary Width: 23 ft	4	0	0	0	0	1			0		0			
Wind Force: 6.39 K	5	0	0	0	0	1	3		0		0			
Roof Area: 1527 ft2	6	0	0	0	0	1			0		0			
Wall Area: 2506 ft2	7	0	0	0	0	1			0		0			
Floor Area: 0 ft2	8	0	0	0	0	1	3		0		0			
Seismic Force: 4.55 K	9	0	0	0	0	1			0		0			
		6	0	0	0	1			484	9.9	464	8.4	SW4	HDU14-6.5
	1	4	0	0	0	1	3		484	10.0	464	8.7	SW4	HDU14-6.5
1ST		7	0	0	0	1			484	4.6	464	4.2	SW4	HDU4
Transverse:Y		5	0	0	0	1			167	1.5	196	1.6	SW1	DTT2Z-1.5
Total Length: 22 ft	2	0	0	0	0	1	3		0	0.0	0	0.0		
Effective Length: 22 ft		0	0	0	0	1			0	0.0	0	0.0		
		0	0	0	0	1			0	0.0	0	0.0		
Wall Height: 10 ft	3	0	0	0	0	1	3		0	0.0	0	0.0		
		0	0	0	0	1			0	0.0	0	0.0		
Tributary Width: 23 ft	4	0	0	0	0	1			0	0.0	0	0.0		
Wind Force: 3.67 K	5	0	0	0	0	1	3		0	0.0	0	0.0		
Roof Area: 342 ft2	6	0	0	0	0	1			0	0.0	0	0.0		
Wall Area:2500 ft2	7	0	0	0	0	1			0	0.0	0	0.0		
Floor Area: 1060 ft2	8	0	0	0	0	1	3		0	0.0	0	0.0		
Seismic Force: 4 K.	9	0	0	0	0	1			0	0.0	0	0.0		

Definitions

L: Wall Length
D: Door Length
H_{max}: Opening height
W: Window Length
V_{wind}: Wind Shear
HD_{wind}: Hold-Down Force(wind)
V_{seis}: Seismic Shear
HD_{seis}: Hold-Down Force(seismic)
FR_{trib}: Framing Tributary Width
Load Combo: .6D +-.7E, .6D + W

Project: 15-0284 WAKEFIELD RESIDENCE
Loading Direction: F-B
Loading Area: LEFT WALLS

Date: 4/16/15
Name: CK

STABILITY ENGINEERING INC.
P.O. Box 2646 Corvallis, Oregon 97339
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WALL DESIGN

Nailing:	10								3RD	2ND	1ST
Sheathing :	7/16	Rated		DTT22-1.5	1825 lb			Length of Bolt(in):	3	3	3
Capacity(plf):				DTT22-3.0	2145 lb			(In Vertical Wood Member)			
SW1	240	SW5	700	HDU2	3075 lb			Anchor Bolt Capacity(lbs):			
SW2	350	SW6	900	HDU4	4565 lb	Strap options (16" Span)					
SW3	450	SW7	1170	HDU5	5645 lb	MSTA49	2020 LB				
SW4	585			HDU8-3.5	6970 lb	MSTC28	1540 LB				
Thickness of Sill Plate (in):	1.5			HDU8-5.5	7870 lb	MSTC40	3080 LB				
Sill Bolt Size (in):	0.5			HDU11-5.5	9535 lb	MSTC52	4620 LB				
Sill Bolt Capacity (lbs/bolt):	944			HDU14-5.5	14445 lb	MSTC66	5860 LB				
Max. Sill Bolt Spacing (in):	22			HD19-1 1/8	18775 lb	MSTC78	5860 LB				
Transverse Direction:				HD19-1 1/4	19070 lb						

	G_{num}	L	D	W	H_{open}	C_o	FR_{trib}	Offset Y/N	Wind V_{wind}	HD_{wind}	Seismic V_{seis}	HD_{seis}	Wall Type	HD Type
		0	0	0	0	1		n	0					
	1	0	0	0	0	1	3	n	0					
		0	0	0	0	1		n	0					
		0	0	0	0	1		n	0		0			
	2	0	0	0	0	1	3	n	0					
		0	0	0	0	1		n	0		0			
		0	0	0	0	1		n	0					
	3	0	0	0	0	1	3	n	0					
		0	0	0	0	1		n	0					
	4	0	0	0	0	1			0					
	5	0	0	0	0	1	3		0					
	6	0	0	0	0	1			0					
	7	0	0	0	0	1			0					
	8	0	0	0	0	1	3		0					
	9	0	0	0	0	1			0					
		12.5	0	0	0	1		n	206	1.8	96	0.2	SW1	DTT22-3.0
	1	0	0	0	0	1	3		0		0			
2ND		0	0	0	0	1			0		0			
Transverse:Y		0	0	0	0	1			0		0			
Total Length: 12.5 ft	2	0	0	0	0	1	3		0		0			
Effective Length: 12.5 ft		0	0	0	0	1			0		0			
Roof Height: 18 ft		0	0	0	0	1			0		0			
Wall Height: 10 ft	3	0	0	0	0	1	3		0		0			
		0	0	0	0	1			0		0			
Tributary Width: 11 ft	4	0	0	0	0	1			0		0			
Wind Force: 2.56 K	5	0	0	0	0	1	3		0		0			
Roof Area: 398 ft2	6	0	0	0	0	1			0		0			
Wall Area: 666 ft2	7	0	0	0	0	1			0		0			
Floor Area: 0 ft2	8	0	0	0	0	1	3		0		0			
Seismic Force: 1.20 K	9	0	0	0	0	1			0		0			
		0	0	0	0	1			0	4.2	0	1.1		HDU4
	1	3	0	0	0	1	3		510	5.0	287	2.7	SW3	HDU5
1ST		5.5	0	0	0	1			510	4.9	287	2.5	SW3	HDU5
Transverse:Y		0	0	0	0	1			0	0.0	0	0.0		
Total Length: 8.5 ft	2	0	0	0	0	1	3		0	0.0	0	0.0		
Effective Length: 8.5 ft		0	0	0	0	1			0	0.0	0	0.0		
		0	0	0	0	1			0	0.0	0	0.0		
Wall Height: 10 ft	3	0	0	0	0	1	3	n	0	0.0	0	0.0		
		0	0	0	0	1			0	0.0	0	0.0		
Tributary Width: 11 ft	4	0	0	0	0	1			0	0.0	0	0.0		
Wind Force: 1.76 K	5	0	0	0	0	1	3		0	0.0	0	0.0		
Roof Area: 171 ft2	6	0	0	0	0	1			0	0.0	0	0.0		
Wall Area: 669 ft2	7	0	0	0	0	1			0	0.0	0	0.0		
Floor Area: 276 ft2	8	0	0	0	0	1	3		0	0.0	0	0.0		
Seismic Force: 1.25 K	9	0	0	0	0	1			0	0.0	0	0.0		

Definitions

L: Wall Length; D: Door Length; H_{open}: Opening height; W: Window Length; V_{wind}: Wind Shear; HD_{wind}: Hold-Down Force(wind); V_{seis}: Seismic Shear; HD_{seis}: Hold-Down Force(seismic); FR_{trib}: Framing Tributary Width; Load Combo: .6D + .7E, .6D + W

Project: 15-0284 WAKEFIELD RESIDENCE
Loading Direction: F-B
Loading Area: MID-RIGHT WALLS

Date: 4/14/15
Name: CK

STABILITY ENGINEERING INC.

P.O. Box 2646 Corvallis, Oregon 97339
p: 541.223.5360 f: 541.223.5278

WALL DESIGN

Nailing:	10							3RD	2ND	1ST
Sheathing Thickness(in):	7/16	Rated		DTT2Z-1.5	1825 lb		Length of Bolt(in):	3	3	3
Capacity(plf):				DTT2Z-3.0	2145 lb		(In Vertical Wood Member)			
SW1	240	SW5	700	HDU2	3075 lb		Anchor Bolt Capacity(lbs):			
SW2	350	SW6	900	HDU4	4565 lb	Strap options (16" Span)				
SW3	450	SW7	1170	HDU5	5645 lb	MSTA49	2020 LB			
SW4	585			HDU8-3.5	6970 lb	MSTC28	1540 LB			
Thickness of Sill Plate(in):	1.5			HDU8-5.5	7870 lb	MSTC40	3080 LB			
Sill Bolt Size (in):	0.5			HDU11-5.5	9535 lb	MSTC52	4620 LB			
Sill Bolt Capacity (lbs/bolt):	944			HDU14-5.5	14445 lb	MSTC66	5860 LB			
Max. Sill Bolt Spacing (in):	35			HD19-1 1/8	16775 lb	MSTC78	5860 LB			
				HD19-1 1/4	19070 lb					

	G_{line}	L	D	W	H_{open}	C_o	FR_{trib}	Offset Y/N	Wind V_{wind}	HD_{wind}	Seismic V_{seis}	HD_{seis}	Wall Type	HD Type
		0	0	0	0	1.00		n	0					
	1	0	0	0	0	1.00	3		0					
		0	0	0	0	1.00		n	0					
		0	0	0	0	1.00			0					
	2	0	0	0	0	1.00	3	n	0					
		0	0	0	0	1.00		n	0					
		0	0	0	0	1.00		n	0					
	3	0	0	0	0	1.00	3		0					
		0	0	0	0	1.00			0					
	4	0	0	0	0	1.00			0					
	5	0	0	0	0	1.00	3		0					
	6	0	0	0	0	1.00			0					
	7	0	0	0	0	1.00			0					
	8	0	0	0	0	1.00	3		0					
	9	0	0	0	0	1.00			0					
		46	0	0	0	1.00		N	112	0.3	73	0.0	SW1	DTT2Z-1.5
	1	0	0	0	0	1.00	3		0		0			
2ND		0	0	0	0	1.00			0		0			
Transverse:Y		0	0	0	0	1.00			0		0			
Total Length: 46 ft	2	0	0	0	0	1.00	3		0		0			
Effective Length: 46 ft		0	0	0	0	1.00			0		0			
Roof Height: 18 ft		0	0	0	0	1.00			0		0			
Wall Height: 10 ft	3	0	0	0	0	1.00	3		0		0			
		0	0	0	0	1.00			0		0			
Tributary Width: 22 ft	4	0	0	0	0	1.00			0		0			
Wind Force: 5.15 K	5	0	0	0	0	1.00	3		0		0			
Roof Area: 1129 ft2	6	0	0	0	0	1.00			0		0			
Wall Area: 1839 ft2	7	0	0	0	0	1.00			0		0			
Floor Area: 0 ft2	8	0	0	0	0	1.00	3		0		0			
Seismic Force: 3.36 K	9	0	0	0	0	1.00			0		0			
		4	0	0	0	1.00			370	3.8	253	2.3	SW2	HDU4
	1	13	0	0	0	1.00	3		370	3.2	253	1.7	SW2	HDU4
1ST		5	0	0	0	1.00			370	3.5	253	2.2	SW2	HDU4
Transverse:Y		6	0	0	0	1.00			136	1.1	100	0.6	SW1	DTT2Z-1.5
Total Length: 28 ft	2	0	0	0	0	1.00	3		0		0	0.0		
Effective Length: 28 ft		0	0	0	0	1.00			0		0	0.0		
		0	0	0	0	1.00			0		0	0.0		
Wall Height: 10 ft	3	0	0	0	0	1.00	3		0		0	0.0		
		0	0	0	0	1.00			0		0	0.0		
Tributary Width: 29 ft	4	0	0	0	0	1.00			0		0	0.0		
Wind Force: 3.81 K	5	0	0	0	0	1.00	3		0		0	0.0		
Roof Area: 171.0 ft2	6	0	0	0	0	1.00			0		0	0.0		
Wall Length: 1378 ft	7	0	0	0	0	1.00			0		0	0.0		
Floor Area: 784 ft2	8	0	0	0	0	1.00	3		0		0	0.0		
Seismic Force: 2.81 K	9	0	0	0	0	1.00			0		0	0.0		

Definitions

L: Wall Length	H_{open}: Opening height	V_{wind}: Wind Shear	V_{seis}: Seismic Shear	FR_{trib}: Framing Tributary Width
D: Door Length	W: Window Length	HD_{wind}: Hold-Down Force(wind)	HD_{seis}: Hold-Down Force(seismic)	Load Combo: .6D + .7E, .6D + W

Project: 15-0284 WAKEFIELD RESIDENCE

Location: BALCONY ROOF BEAM
Roof Beam
[2009 International Building Code(2005 NDS)]
IN x 9.5 IN x 8.0 FT
- Douglas-Fir-Larch - Dry Use
Section Adequate By: 97.5%
Controlling Factor: Moment

James DiNardo
Stability Engineering Inc.
P.O. Box:2646
Corvallis, Oregon 97339

StruCalc Version 8.0.113.0 4/17/2015 8:30:27 AM

DEFLECTIONS Center

Live Load	0.04	IN L/2379
Dead Load	0.03	in
Total Load	0.07	IN L/1439

Live Load Deflection Criteria: L/240 Total Load Deflection Criteria: L/180

REACTIONS

	A	B
Live Load	850 lb	850 lb
Dead Load	555 lb	555 lb
Total Load	1405 lb	1405 lb
Bearing Length	0.41 in	0.41 in

BEAM DATA

Span Length	8 ft
Unbraced Length-Top	0 ft
Unbraced Length-Bottom	0 ft
Roof Pitch	0 :12
Roof Duration Factor	1.15

LOADING DIAGRAM

MATERIAL PROPERTIES

#2 - Douglas-Fir-Larch

	Base Values		Adjusted	
Bending Stress:	Fb = 875 psi		Fb' = 805 psi	
	Cd=1.15 CF=1.00 Ci=0.80			
Shear Stress:	Fv = 170 psi		Fv' = 156 psi	
	Cd=1.15 Ci=0.80			
Modulus of Elasticity:	E = 1300 ksi		E' = 1235 ksi	
Min. Mod. of Elasticity:	E_min = 470 ksi		E_min' = 447 ksi	
	Ci=0.85			
mp. ⊥ to Grain:	Fc - ⊥ = 625 psi		Fc - ⊥' = 625 psi	

ROOF LOADING

Side One:

Roof Live Load:	LL =	25	psf
Roof Dead Load:	DL =	15	psf
Tributary Width:	TW =	7.5	ft

Side Two:

Roof Live Load:	LL =	25	psf
Roof Dead Load:	DL =	15	psf
Tributary Width:	TW =	1	ft
Wall Load:	WALL =	0	plf

SLOPE/PITCH ADJUSTED LENGTHS AND LOADS

Adjusted Beam Length:	Ladj =	8	ft
Beam Self Weight:	BSW =	11	plf
Beam Uniform Live Load:	wL =	213	plf
Beam Uniform Dead Load:	wD_adj =	139	plf
Total Uniform Load:	wT =	351	plf

Controlling Moment: 2811 ft-lb
4.0 ft from left support
Created by combining all dead and live loads.

Controlling Shear: 1152 lb
At a distance d from support.
Created by combining all dead and live loads.

Comparisons with required sections:	Req'd	Provided
Section Modulus:	41.9 in3	82.73 in3
Area (Shear):	11.05 in2	52.25 in2
Moment of Inertia (deflection):	49.15 in4	392.96 in4
Moment:	2811 ft-lb	5550 ft-lb
Shear:	1152 lb	5448 lb

NOTES

Project: 15-0284 WAKEFIELD RESIDENCE

Location: BALCONY ROOF POST

Column

[2009 International Building Code(2005 NDS)]

IN x 5.5 IN x 9.0 FT

- Hem-Fir - Dry Use

Section Adequate By: 74.0%

James DiNardo
Stability Engineering Inc.
P.O. Box 2646
Corvallis, Oregon 97339

StruCalc Version 6.0.113.0 4/17/2015 8:31:29 AM

VERTICAL REACTIONS

Live Load:	Vert-LL-Rxn =	1600	lb
Dead Load:	Vert-DL-Rxn =	1141	lb
Total Load:	Vert-TL-Rxn =	2741	lb

COLUMN DATA

Total Column Length:	9	ft
Unbraced Length (X-Axis) Lx:	9	ft
Unbraced Length (Y-Axis) Ly:	9	ft
Column End Condtion-K (e):	1	
Load Eccentricity (X-Axis) - ex:	0.5	in
Load Eccentricity (Y-Axis) - ey:	0.5	in
Axial Load Duration Factor	1.15	

COLUMN PROPERTIES

#2 - Hem-Fir

	Base Values		Adjusted	
Compressive Stress:	Fc = 575 psi		Fc' = 431	psi
	Cd=1.15 Cp=0.81 Ci=0.80			
Bending Stress (X-X Axis):	Fbx = 575 psi		Fbx' = 529	psi
	Cd=1.15 CF=1.00 Ci=0.80			
Bending Stress (Y-Y Axis):	Fby = 575 psi		Fby' = 529	psi
	Cd=1.15 CF=1.00 Ci=0.80			
Modulus of Elasticity:	E = 1100 ksi		E' = 1045	ksi
Min. Mod. of Elasticity:	E_min = 400 ksi		E_min' = 380	ksi

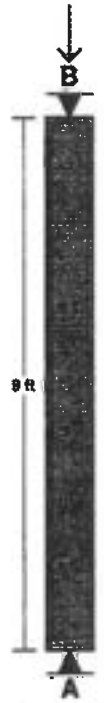
Column Section (X-X Axis):	dx = 5.5	in
Column Section (Y-Y Axis):	dy = 5.5	in
Area:	A = 30.25	in2
Section Modulus (X-X Axis):	Sx = 27.73	in3
Section Modulus (Y-Y Axis):	Sy = 27.73	in3
Slenderness Ratio:	Lex/dx = 19.64	
	Ley/dy = 19.64	

Column Calculations (Controlling Case Only):

Controlling Load Case: Axial Total Load Only (L + D)

Actual Compressive Stress:	Fc = 91	psi
Allowable Compressive Stress:	Fc' = 431	psi
Eccentricity Moment (X-X Axis):	Mx-ex = 112	ft-lb
Eccentricity Moment (Y-Y Axis):	My-ey = 112	ft-lb
Moment Due to Lateral Loads (X-X Axis):	Mx = 0	ft-lb
Moment Due to Lateral Loads (Y-Y Axis):	My = 0	ft-lb
Bending Stress Lateral Loads Only (X-X Axis):	Fbx = 0	psi
Allowable Bending Stress (X-X Axis):	Fbx' = 529	psi
Bending Stress Lateral Loads Only (Y-Y Axis):	Fby = 0	psi
Allowable Bending Stress (Y-Y Axis):	Fby' = 529	psi
Combined Stress Factor:	CSF = 0.26	

LOADING DIAGRAM



AXIAL LOADING

Live Load:	PL =	1600	lb
Dead Load:	PD =	1090	lb
Column Self Weight:	CSW =	51	lb
Total Load:	PT =	2741	lb

NOTES

Project: 15-0284 WAKEFIELD RESIDENCE

Location: BALCANY FLOOR BEAM
Uniformly Loaded Floor Beam
[2009 International Building Code(2006 NDS)]
5 IN x 9.0 IN x 15.0 FT
24F-V4 - Visually Graded Western Species - Dry Use
Section Adequate By: 56.8%
Controlling Factor: Deflection

Chris King
Stability Engineering
PO Box 2646
Corvallis, OR 97339

StruCalc Version 8.0.112.0 4/16/2015 4:17:35 PM

DEFLECTIONS	Center	
Live Load	0.32	IN L/564
Dead Load	0.14	in
Total Load	0.46	IN L/391

Live Load Deflection Criteria: L/360 Total Load Deflection Criteria: L/240

REACTIONS	A	B
Live Load	1200 lb	1200 lb
Dead Load	530 lb	530 lb
Total Load	1730 lb	1730 lb
Bearing Length	0.48 in	0.48 in

BEAM DATA	Center
Span Length	15 ft
Unbraced Length-Top	0 ft
Floor Duration Factor	1.00
Camber Adj. Factor	1.5
Camber Required	0.21
Notch Depth	0.00

LOADING DIAGRAM

FLOOR LOADING

		Side 1	Side 2
Floor Live Load	FLL =	40 psf	40 psf
Floor Dead Load	FDL =	15 psf	15 psf
Floor Tributary Width	FTW =	4 ft	0 ft
Wall Load	WALL =	0 plf	

BEAM LOADING

Beam Total Live Load:	wL =	160 plf
Beam Total Dead Load:	wD =	60 plf
Beam Self Weight:	BSW =	11 plf
Total Maximum Load:	wT =	231 plf

MATERIAL PROPERTIES
24F-V4 - Visually Graded Western Species

		Base Values		Adjusted	
Bending Stress:	Fb =	2400	psi	*Controlled by:*	
	Fb_cmpr =	1850	psi	Fb' =	1920 psi
	Cd=1.00 Ci=0.80				
Shear Stress:	Fv =	265	psi	Fv' =	212 psi
	Cd=1.00 Ci=0.80				
Modulus of Elasticity:	E =	1800	ksi	E' =	1710 ksi
Min. Mod. of Elasticity:	E_min =	930	ksi	E_min' =	884 ksi
	Ci=0.95				
Comp. ⊥ to Grain:	Fc - ⊥ =	650	psi	Fc - ⊥' =	650 psi

Controlling Moment: 6489 ft-lb
7.5 ft from left support
Created by combining all dead and live loads.
Controlling Shear: 1557 lb
At a distance d from support.
Created by combining all dead and live loads.

Comparisons with required sections:	Req'd	Provided
Section Modulus:	40.56 in3	74.25 in3
Area (Shear):	11.02 in2	49.5 in2
Moment of Inertia (deflection):	213.12 in4	334.13 in4
Moment:	6489 ft-lb	11880 ft-lb
Shear:	1557 lb	6996 lb

Project: 15-0284 WAKEFIELD RESIDENCE

Location: BALCONY POST FOOTING

Footing

09 International Building Code(2005 NDS)]

ting Size: 3.0 FT x 3.0 FT x 12.00 IN

Reinforcement: #4 Bars @ 9.00 IN. O.C. E/W / (4) min.

Section Footing Design Adequate

James DiNardo
Stability Engineering Inc.
P.O. Box 2646
Corvallis, Oregon 97339

StruCalc Version 8.0.13.0 4/17/2015 8:53:04 AM

FOOTING PROPERTIES

Allowable Soil Bearing Pressure:	Qs = 1500	psf
Concrete Compressive Strength:	F'c = 2500	psi
Reinforcing Steel Yield Strength:	Fy = 60000	psi
Concrete Reinforcement Cover:	c = 3	in

FOOTING SIZE

Width:	W = 3	ft
Length:	L = 3	ft
Depth:	Depth = 12	in
Effective Depth to Top Layer of Steel:	d = 8.25	in

COLUMN AND BASEPLATE SIZE

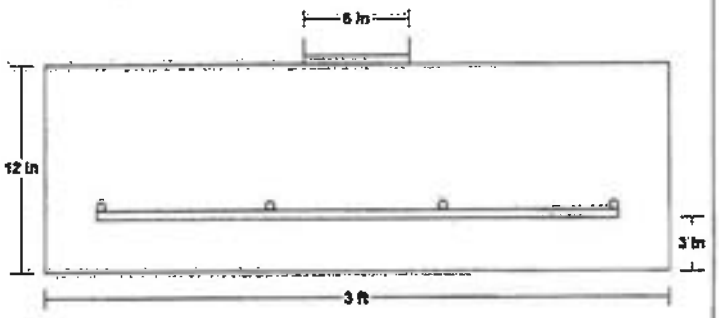
Column Type:	Steel	
Column Width:	m = 6	in
Column Depth:	n = 6	in
Baseplate Width:	bsw = 6	in
Baseplate Length:	bsl = 6	in

FOOTING CALCULATIONS

Bearing Calculations:			
Ultimate Bearing Pressure:	Qu =	1006	psf
Effective Allowable Soil Bearing Pressure:	Qe =	1350	psf
Required Footing Area:	Areq =	6.71	sf
Area Provided:	A =	9.00	sf
Baseplate Bearing:			
Bearing Required:	Bear =	13105	lb
Allowable Bearing:	Bear-A =	99450	lb
Beam Shear Calculations (One Way Shear):			
Beam Shear:	Vu1 =	2457	lb
Allowable Beam Shear:	Vc1 =	22275	lb
Punching Shear Calculations (Two Way Shear):			
Critical Perimeter:	Bo =	57	in
Punching Shear:	Vu2 =	11051	lb
Allowable Punching Shear (ACI 11-35):	vc2-a =	105806	lb
Allowable Punching Shear (ACI 11-36):	vc2-b =	137363	lb
Allowable Punching Shear (ACI 11-37):	vc2-c =	70538	lb
Controlling Allowable Punching Shear:	vc2 =	70538	lb
Bending Calculations:			
Factored Moment:	Mu =	40953	in-lb
Nominal Moment Strength:	Mn =	336668	in-lb
Reinforcement Calculations:			
Concrete Compressive Block Depth:	a =	0.62	in
Steel Required Based on Moment:	As(1) =	0.09	in2
Min. Code Req'd Reinf. Shrink./Temp. (ACI-10.5.4):	As(2) =	0.78	in2
Controlling Reinforcing Steel:	As-reqd =	0.78	in2
Selected Reinforcement:	#4's @ 9.0 in. o.c. e/w (4) Min.		
Reinforcement Area Provided:	As =	0.79	in2
Development Length Calculations:			
Development Length Required:	Ld =	15	in
Development Length Supplied:	Ld-sup =	12	in

Note: Plain concrete adequate for bending, therefore adequate development length not required.

FOOTING DESIGN



FOOTING LOADING

Live Load:	PL = 5600	lb
Dead Load:	PD = 3454	lb
Total Load:	PT = 9054	lb
Ultimate Factored Load:	Pu = 13105	lb
Weight to resist uplift w/ 1.5 F.S.:	U.R. = 870	lb

NOTES

Barn

BENTON COUNTY, OREGON 2015-531634
DE-COV
Cnt=1 Stn=47 COUNTER2 05/29/2015 02:22:08 PM
$5.00 $11.00 $22.00 $38.00

00300837201505316340010010

I, James V. Morales, County Clerk for Benton County, Oregon, certify that the instrument identified herein was recorded in the Clerk records.

James V. Morales - County Clerk

COVENANT

Current Deeded Owner's Name: Bradley Thomas Wakefield and Kristie Close Wakefield,
Permit Numbers: B1500482
T11S, R5W, Section 01BC, Tax Lots 2000 & 2100

In consideration for the approval by Benton County of Building Permit No. B1500482 authorizing an accessory structure with a loft, the undersigned, being the legal owner(s) of the real property described below, including heirs, assigns and lessees, hereby consent and covenant as follows:

(1) The subject property is approved for one single-family dwelling.

(2) No portion of the accessory structure with a loft authorized by B1500482 shall be used as a secondary dwelling unit, including but not limited to a rental dwelling or a dwelling for a relative, unless a statement of release is signed as described below. Grantee acknowledges that such use would be in violation of Benton County land use regulations. Grantee recognizes that such violation may result in fines and mandatory modification of the structure.

(3) No portion of the accessory structure with a loft authorized by B1500482 shall contain a second kitchen (defined by the installation or culinary use of a stove or range), and no 220-volt electrical lines nor gas lines shall be installed in any portion of the structure for the purpose of supporting a second kitchen.

Property Description: Described on document #2015-530434, Benton County Deed Records.

This covenant shall be binding upon the undersigned and their heirs, successors, and assigns as a covenant running with the land unless a statement of release is signed by the Planning Official upon determination that applicable land use laws or other circumstances have changed, or a land use application has been approved, such that a second dwelling may be authorized. Grantee, his successors, assigns or heirs, agrees to bear the entire cost, including but not limited to attorney fees, to Benton County, of any judicial proceeding which results in a determination that a violation of the covenant has occurred as a result of any conduct or action by Grantee, his agents, assigns or successors, or persons acting at the direction of the Grantee.

Owner Signature | Printed Name | Address

1. Kristie Close Wakefield | Kristie Close Wakefield | 8784 NE Odfellows Rd Bainbridge Island, WA 98110

State of ~~Oregon~~) Washington
County of ~~Benton~~) ss Kitsap

On May 20, 2015 before me a notary public personally appeared the above-named Kristie Close Wakefield and acknowledged the foregoing instrument to be a voluntary act and deed.

Before me: _____
Notary Public of ~~Oregon~~ Washington

PETER C SWEENEY
NOTARY PUBLIC
STATE OF WASHINGTON
COMMISSION EXPIRES 02/16/2018

Owner Signature | Printed Name | Address

2. _____ | Brad Wakefield | 8784 NE Odfellows Rd B.I. WA 98110

State of ~~Washington~~) Oregon
County of ~~Kitsap~~) ss Benton

On May 14, 2015 before me a notary public personally appeared the above-named Brad Wakefield and acknowledged the foregoing instrument to be a voluntary act and deed.

Before me: Debra A. Huntsman
Notary Public of ~~Washington~~ Oregon

OFFICIAL SEAL
DEBRA A HUNTSMAN
NOTARY PUBLIC-OREGON
COMMISSION NO. 467959
MY COMMISSION EXPIRES APRIL 25, 2016

After Recording Return to:
COMMUNITY DEVELOPMENT DEPARMENT
360 SW Avery Ave, Corvallis OR 97333-1139
(541) 766-6819 FAX (541) 766-6891

BENTON COUNTY, OREGON 2015-531070
DE-COV 05/15/2015 01:22:61 PM
Cnt=1 Stn=47 COUNTER2 $38.00
$5.00 $11.00 $22.00
00298983201506310700010013
I, James V. Morales, County Clerk for Benton County, Oregon, certify that the instrument identified herein was recorded in the Clerk records.
James V. Morales - County Clerk

COVENANT

Current Deeded Owner's Name: Bradley Thomas Wakefield and Kristie Close Wakefield, as tenants by the entirety,

File Number: B1500482

T11S, R5W, Section 01BC, Tax Lots 2000 & 2100

Be it known to all that the undersigned, being the legal owner(s) of the real property described below; hereby consent and covenant as follows:

In consideration for the approval by Benton County of Construction Permit B1500482 authorizing construction of an accessory building – identified as a Barn on the plot plan submitted with the building permit application – located on T11S, R5W, Section 01BC, Tax Lot 2100 to be accessory to the dwelling located on T11S, R5W, Section 01BC, Tax Lot 2000 the grantee, including heirs, assigns and lessees, recognizes that the properties listed above will be considered by the County as a single unit of land for all future land use purposes.

Prior to any sale or transfer of ownership for either tax lot separate from the other, the accessory building shall be (1) removed, and any new placement shall meet all applicable siting standards, (2) the property owner shall finalize a property line adjustment in order to meet the required setbacks for the zone, or (3) a dwelling shall be permitted and constructed on T11S, R5W, Section 01BC, Tax Lot 2100. This restriction is irrevocable unless a statement of release is signed by the Planning Official.

Property Description: As described on Document No. 2015-530434 (Benton County Plat Records)

This covenant shall be binding upon the undersigned and their heirs, successors, and assigns as a covenant running with the land or released by Benton County and/or as otherwise noted above.

	Owner's Signature	Printed Name(s)	Address
1.	Kristie Close Wakefield	Kristie Close Wakefield	8784 NE Oddfellows Rd Bainbridge Island, WA 98110

State of ~~Oregon~~ Washington)
County of ~~Benton~~ Kitsap) ss
On May 7th 2015 before me a notary public personally appeared the above-named Kristie Close Wakefield and acknowledged the foregoing instrument to be a voluntary act and deed.

Before me: _____
Notary Public of ~~Oregon~~ Washington

ED FRANSHAM
COMMISSION EXPIRES
NOTARY PUBLIC
03-12-19
STATE OF WASHINGTON

	Owner's Signature	Printed Name(s)	Address
2.		Brad Wakefield	8784 NE Oddfellows Rd Bainbridge Island, WA 98110

State of Oregon)
County of Benton) ss
On May 14 2015 before me a notary public personally appeared the above-named Brad Wakefield and acknowledged the foregoing instrument to be a voluntary act and deed.

Before me: Debra A. Huntsman
Notary Public of Oregon

OFFICIAL SEAL
DEBRA A HUNTSMAN
NOTARY PUBLIC-OREGON
COMMISSION NO. 467959
MY COMMISSION EXPIRES APRIL 26, 2018

After Recording Return to:
COMMUNITY DEVELOPMENT DEPARMENT
360 SW Avery Ave, Corvallis OR 97333-1139
(541) 766-6819 FAX (541) 766-6891

www.co.benton.or.us

Inspection Summary Report

Residential Structural

Permit #: 138-20-000036-STR

BENTON COUNTY
Building Division
360 SW Avery Ave.
Corvallis,OR 97333
Phone: 541-766-6819
Fax: 541-766-6891
building@co.benton.or.us

IVR # 138027453593

Applicant: WAKEFIELD KRISTIE CLOSE
Owner: WAKEFIELD KRISTIE CLOSE, 7175 NW LATHROP LN, CORVALLIS, OR, 97330
Address: 7175 NW LATHROP LN
Corvallis OR 97330

Parcel: 11501BC02000

Inspection Type: 1999 Final Building
Inspection Date:
Inspector:
Inspection Result: **Cancelled**
Comments:

Inspection Type: 1999 Final Building
Inspection Date:
Inspector:
Inspection Result: **Cancelled**
Comments:

Inspection Type: 1999 Final Building
Inspection Date:
Inspector:
Inspection Result: **Cancelled**
Comments:

Inspection Type: 1999 Final Building
Inspection Date: 01/31/2020
Inspector: **Daryl Long**
Inspection Result: **Approved**
Comments:

Schedule Inspections online at: www.buildingpermits.oregon.gov
or by calling: 1-888-299-2821
Use IVR # 138027453593

Benton County
Building Division
360 SW Avery Ave.
Corvallis, OR 97333
541-766-6819
Fax: 541-766-6891

Building Permit

Residential Structural

Permit Number: 138-20-000036-STR

IVR Number: 138027453593

Web Address: www.co.benton.or.us

Email Address: building@co.benton.or.us

Permit Issued: January 14, 2020

Project: WAKEFIELD

TYPE OF WORK

Category of Construction: Detached Accessory Struct

Type of Work: Alteration

Submitted Job Value: $2,000.00

Description of Work: ENCLOSING EXISTING STORAGE BUILDING WITH NO CHANGE IN FOOTPRINT OR SIZE AND INSTALLING WOOD FLOOR SYSTEM.

JOB SITE INFORMATION

Worksite Address	Parcel	Owner:	WAKEFIELD KRISTIE CLOSE
7175 NW LATHROP LN Corvallis, OR 97330	11501BC02000	Address:	7175 NW LATHROP LN CORVALLIS, OR 97330

LICENSED PROFESSIONAL INFORMATION

Business Name	License	License Number	Phone
SEE PROPERTY OWNER INFORMATION - Primary	Owner (Property)	OWNER	

SCHEDULING INSPECTIONS

Various inspections are minimally required on each project and often dependent on the scope of work. Contact the issuing jurisdiction indicated on the permit to determine required inspections for this project.

Schedule or track inspections at www.buildingpermits.oregon.gov

Call or text the word "schedule" to 1-888-299-2821 use IVR number: 138027453593

Schedule using the Oregon ePermitting Inspection App, search "epermitting" in the app store

PERMIT FEES

Fee Description	Quantity	Fee Amount
Structural building permit fee		$105.75
Structural plan review fee		$105.75
State of Oregon Surcharge - Bldg (12% of applicable fees)		$12.69
	Total Fees:	$224.19

Permits expire if work is not started within 180 Days of issuance or if work is suspended for 180 Days or longer depending on the issuing agency's policy.

All provisions of laws and ordinances governing this type of work will be complied with whether specified herein or not. Granting of a permit does not presume to give authority to violate or cancel the provisions of any other state or local law regulating construction or the performance of construction.

ATTENTION: Oregon law requires you to follow rules adopted by the Oregon Utility Notification Center. Those rules are set forth in OAR 952-001-0010 through OAR 952-001-0090. You may obtain copies of the rules by calling the Center at (503) 232-1987.

All persons or entities performing work under this permit are required to be licensed unless exempted by ORS 701.010 (Structural/Mechanical), ORS 479.540 (Electrical), and ORS 693.010-020 (Plumbing).

Benton County
Building Division
360 SW Avery Ave.
Corvallis, OR 97333
541-766-6819
Fax: 541-766-6891

FP NO

Building Permit

Residential Structural

Permit Number: 138-20-000036-STR

IVR Number: 138027453593

Web Address: www.co.benton.or.us

Email Address: building@co.benton.or.us

Permit Issued: January 14, 2020

Project: WAKEFIELD

TYPE OF WORK

Category of Construction: Detached Accessory Struct
Type of Work: Alteration
Submitted Job Value: $2,000.00

Description of Work: ENCLOSING EXISTING STORAGE BUILDING WITH NO CHANGE IN FOOTPRINT OR SIZE AND INSTALLING WOOD FLOOR SYSTEM.

JOB SITE INFORMATION

Worksite Address	Parcel		
7175 NW LATHROP LN Corvallis, OR 97330	11501BC02000	**Owner:**	WAKEFIELD KRISTIE CLOSE
		Address:	7175 NW LATHROP LN CORVALLIS, OR 97330

LICENSED PROFESSIONAL INFORMATION

Business Name	License	License Number	Phone
SEE PROPERTY OWNER INFORMATION - Primary	Owner (Property)	OWNER	

SCHEDULING INSPECTIONS

Various inspections are minimally required on each project and often dependent on the scope of work. Contact the issuing jurisdiction indicated on the permit to determine required inspections for this project.

Schedule or track inspections at www.buildingpermits.oregon.gov

Call or text the word "schedule" to 1-888-299-2821 use IVR number: 138027453593

Schedule using the Oregon ePermitting Inspection App, search "epermitting" in the app store

PERMIT FEES

Fee Description	Quantity	Fee Amount
Structural building permit fee		$105.75
Structural plan review fee		$105.75
State of Oregon Surcharge - Bldg (12% of applicable fees)		$12.69
	Total Fees:	$224.19

Permits expire if work is not started within 180 Days of issuance or if work is suspended for 180 Days or longer depending on the issuing agency's policy.

All provisions of laws and ordinances governing this type of work will be complied with whether specified herein or not. Granting of a permit does not presume to give authority to violate or cancel the provisions of any other state or local law regulating construction or the performance of construction.

ATTENTION: Oregon law requires you to follow rules adopted by the Oregon Utility Notification Center. Those rules are set forth in OAR 952-001-0010 through OAR 952-001-0090. You may obtain copies of the rules by calling the Center at (503) 232-1987.

All persons or entities performing work under this permit are required to be licensed unless exempted by ORS 701.010 (Structural/Mechanical), ORS 479.540 (Electrical), and ORS 693.010-020 (Plumbing).

138-20-000036-STR

Structural Permit Application

Jurisdiction name: Benton County
Address: 360 SW Avery Ave, Corvallis OR 97333
Phone: 541-766-6819 Fax: 541-766-6891
Inspection #: 541-766-6898 Web: www.co.benton.or.us

DEPARTMENT USE ONLY
Permit no.:
Date:

This permit is issued under OAR 918-460-0030. Permits expire if work is not started within 180 days of issuance or if work is suspended for 180 days.

LOCAL GOVERNMENT APPROVAL	
This project has final land-use approval. Signature:	Date:
This project has DEQ approval. Signature:	Date:
Zoning approval verified: ☐ Yes ☐ No	
Property is within flood plain: ☐ Yes ☐ No	

CATEGORY OF CONSTRUCTION		
☑ Residential	☐ Government	☐ Commercial

JOB SITE INFORMATION AND LOCATION		
Job site address: 7175 NW Lathrop Ln		
City: Corvallis	State: OR	ZIP: 97330
Subdivision:	Lot no.:	

PROPERTY OWNER INSTALLATION		
Name: Kristie WAKefield		
Address: 7175 NW Lathrop Ln		
City: Corvallis	State: OR	ZIP: 97330
Phone: 206 954-3828	Fax: - -	
E-mail: KCWAKe1919@gmail.com		

This installation is being made on residential or farm property owned by me or a member of my immediate family, and is exempt from licensing requirements under ORS 701.010.

Sign here: Kristie Wakefield

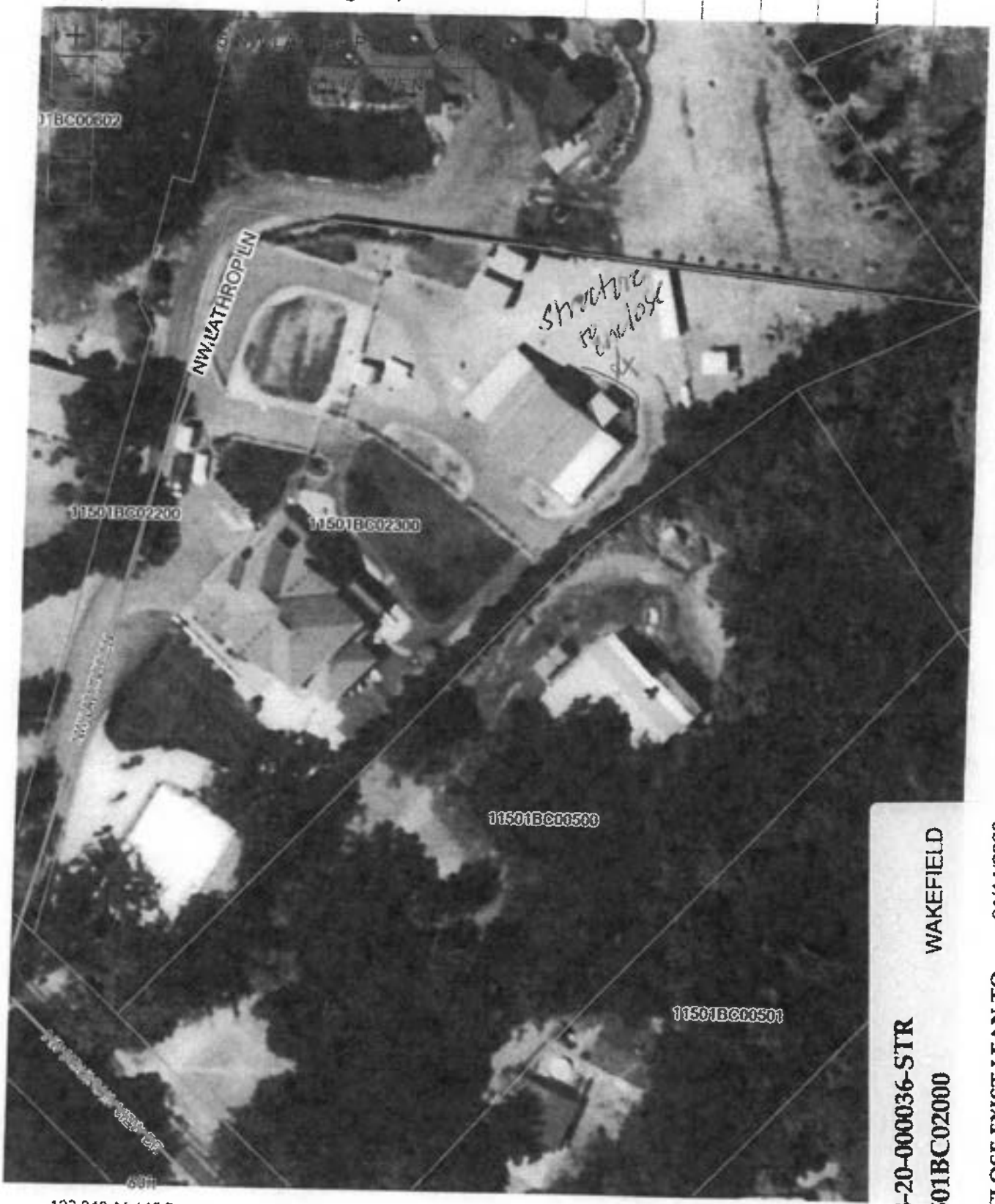
CONTRACTOR INSTALLATION		
Business name:		
Address:		
City:	State:	ZIP:
Phone: - -	Fax: - -	
E-mail:		
CCB license no.:		
Print name:		
Signature:		

CREDIT CARD INFORMATION	
☐ Visa ☐ MasterCard ☐ Discover	Phone: - -
Credit card number	Expiration / -
Name of cardholder as shown on credit card	$
Cardholder signature	Amount

(Do not fill in credit card information unless you are faxing or mailing application.)

FEE SCHEDULE	
1. Valuation information	
(a) Job description: Enclose existing storage shed	
Occupancy	
Construction type:	
Square feet:	
Cost per square foot:	
Other information:	
☐ new ☒ alteration ☐ addition	
(b) Foundation-only permit? ☐ Yes ☒ No	
(c) Plan review only? ☐ Yes ☒ No	
Total valuation:	$2,000
2. Building fees	
(a) Permit fee (use valuation table):	$
(b) Investigative fee:	$
(c) Re-inspection ($40.00 per hour): (number of hours x fee per hour)	$
(d) Enter 12% surcharge (.12 x [2a+2b+2c]):	$
(e) Subtotal of fees above (2a through 2d):	$
3. Plan review fees	
(a) Plan review (100% x permit fee [2a]):	$
(b) Fire and life safety (40% x permit fee [2a]):	$
(c) Subtotal of fees above (3a and 3b):	$
4. Miscellaneous fees	
(a) Seismic fee, 1% (.01 x permit fee [2a]):	$
TOTAL fees and surcharges (2e+3c+4a):	$

Benton County Zoning Map



-123.248 44.645 Degrees

138-20-000036-STR
11501BC02000
WAKEFIELD
01/14/2020
ENCLOSE EXIST LEAN TO

*separate permits for any plumbing, mechanical or electrical

CALL BEFORE YOU DIG!
ATTENTION: Oregon Law requires you to follow rules adopted by the Oregon Utility Notification Center. Those rules are set forth in OAR 952-001-0010 through 952-001-0090. You may obtain copies of the rules from the Center. Note: the telephone number for the Center is (503)232-1987 or (800)332-2344.

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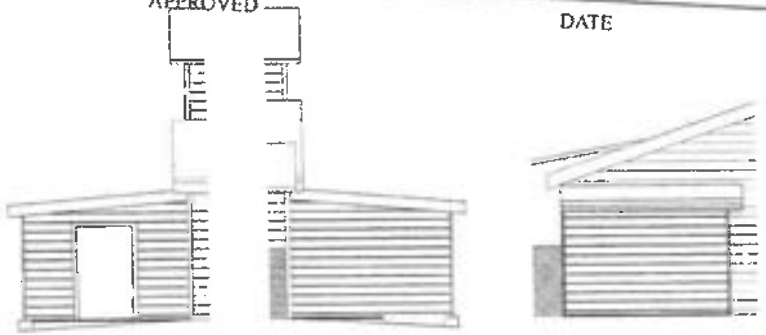
APPROVED

DATE

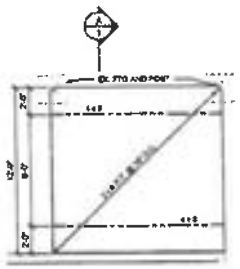
APPROVED
JAN 14 2020
DEVELOPMENT DEPT
BENTON COUNTY



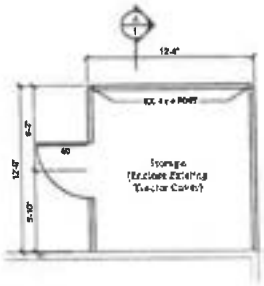
1 LEFT ELEVATION
SCALE 1/8" = 1'-0"

2 RIGHT ELEVATION
SCALE 1/8" = 1'-0"

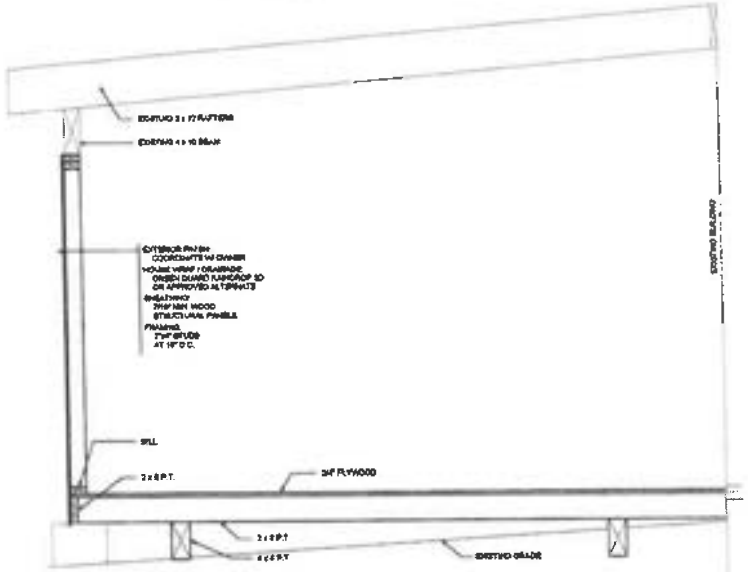
3 REAR ELEVATION
SCALE 1/8" = 1'-0"



4 FLOOR FRAMING PLAN
SCALE 1/8" = 1'-0"



5 FIRST FLOOR PLAN
SCALE 1/8" = 1'-0"



A BUILDING SECTION
SCALE 1/4" = 1'-0"

DRAFTING:
CCS

PROJECT:
Wakefield Storage

SHEET:
Elevations, Foundation & Floor Framing, Floor Plan and Section

PROJECT LOCATION

SHEET
1

FILE

www.co.benton.or.us

Inspection Summary Report

Residential Structural

Permit #: 138-20-000036-STR

BENTON COUNTY
Building Division
360 SW Avery Ave.
Corvallis,OR 97333
Phone: 541-766-6819
Fax: 541-766-6891
building@co.benton.or.us

IVR # 138027453593

Applicant: WAKEFIELD KRISTIE CLOSE
Owner: WAKEFIELD KRISTIE CLOSE, 7175 NW LATHROP LN, CORVALLIS, OR, 97330
Address: 7175 NW LATHROP LN
Corvallis OR 97330

Parcel: 11501BC02000

Inspection Type: 1999 Final Building
Inspection Date:
Inspector:
Inspection Result: **Cancelled**
Comments:

Inspection Type: 1999 Final Building
Inspection Date:
Inspector:
Inspection Result: **Cancelled**
Comments:

Inspection Type: 1999 Final Building
Inspection Date:
Inspector:
Inspection Result: **Cancelled**
Comments:

Inspection Type: 1999 Final Building
Inspection Date: 01/31/2020
Inspector: **Daryl Long**
Inspection Result: **Approved**
Comments:

Schedule Inspections online at: www.buildingpermits.oregon.gov
or by calling: 1-888-299-2821
Use IVR # 138027453593

Benton County
Building Division
360 SW Avery Ave.
Corvallis, OR 97333
541-766-6819
Fax: 541-766-6891

FP ND

Building Permit

Residential Structural

Permit Number: 138-20-000036-STR

IVR Number: 138027453593

Web Address: www.co.benton.or.us

Email Address: building@co.benton.or.us

Permit Issued: January 14, 2020

Project: WAKEFIELD

TYPE OF WORK

Category of Construction: Detached Accessory Struct
Type of Work: Alteration
Submitted Job Value: $2,000.00

Description of Work: ENCLOSING EXISTING STORAGE BUILDING WITH NO CHANGE IN FOOTPRINT OR SIZE AND INSTALLING WOOD FLOOR SYSTEM.

JOB SITE INFORMATION

Worksite Address	Parcel		
7175 NW LATHROP LN Corvallis, OR 97330	11501BC02000	**Owner:**	WAKEFIELD KRISTIE CLOSE
		Address:	7175 NW LATHROP LN CORVALLIS, OR 97330

LICENSED PROFESSIONAL INFORMATION

Business Name	License	License Number	Phone
SEE PROPERTY OWNER INFORMATION - Primary	Owner (Property)	OWNER	

SCHEDULING INSPECTIONS

Various inspections are minimally required on each project and often dependent on the scope of work. Contact the issuing jurisdiction indicated on the permit to determine required inspections for this project.

Schedule or track inspections at www.buildingpermits.oregon.gov

Call or text the word "schedule" to 1-888-299-2821 use IVR number: 138027453593

Schedule using the Oregon ePermitting Inspection App, search "epermitting" in the app store

PERMIT FEES

Fee Description	Quantity	Fee Amount
Structural building permit fee		$105.75
Structural plan review fee		$105.75
State of Oregon Surcharge - Bldg (12% of applicable fees)		$12.69
	Total Fees:	$224.19

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138-20-000036-STR

Structural Permit Application

Jurisdiction name: Benton County
Address: 360 SW Avery Ave, Corvallis OR 97333
Phone: 541-766-6819 Fax: 541-766-6891
Inspection #: 541-766-6898 Web: www.co.benton.or.us

DEPARTMENT USE ONLY
Permit no.:
Date:

This permit is issued under OAR 918-460-0030. Permits expire if work is not started within 180 days of issuance or if work is suspended for 180 days.

LOCAL GOVERNMENT APPROVAL	
This project has final land-use approval. Signature:	Date:
This project has DEQ approval. Signature:	Date:
Zoning approval verified: ☐ Yes ☐ No	
Property is within flood plain: ☐ Yes ☐ No	

CATEGORY OF CONSTRUCTION		
☑ Residential	☐ Government	☐ Commercial

JOB SITE INFORMATION AND LOCATION		
Job site address: 7175 NW Lathrop Ln		
City: Corvallis	State: OR	ZIP: 97330
Subdivision:	Lot no.:	

PROPERTY OWNER INSTALLATION		
Name: Kristie WAKefield		
Address: 7175 NW Lathrop Ln		
City: Corvallis	State: OR	ZIP: 97330
Phone: 206 954-3828	Fax: - -	
E-mail: KCWAKe1919@gmail.com		

This installation is being made on residential or farm property owned by me or a member of my immediate family, and is exempt from licensing requirements under ORS 701.010.

Sign here: Kristie Wakefield

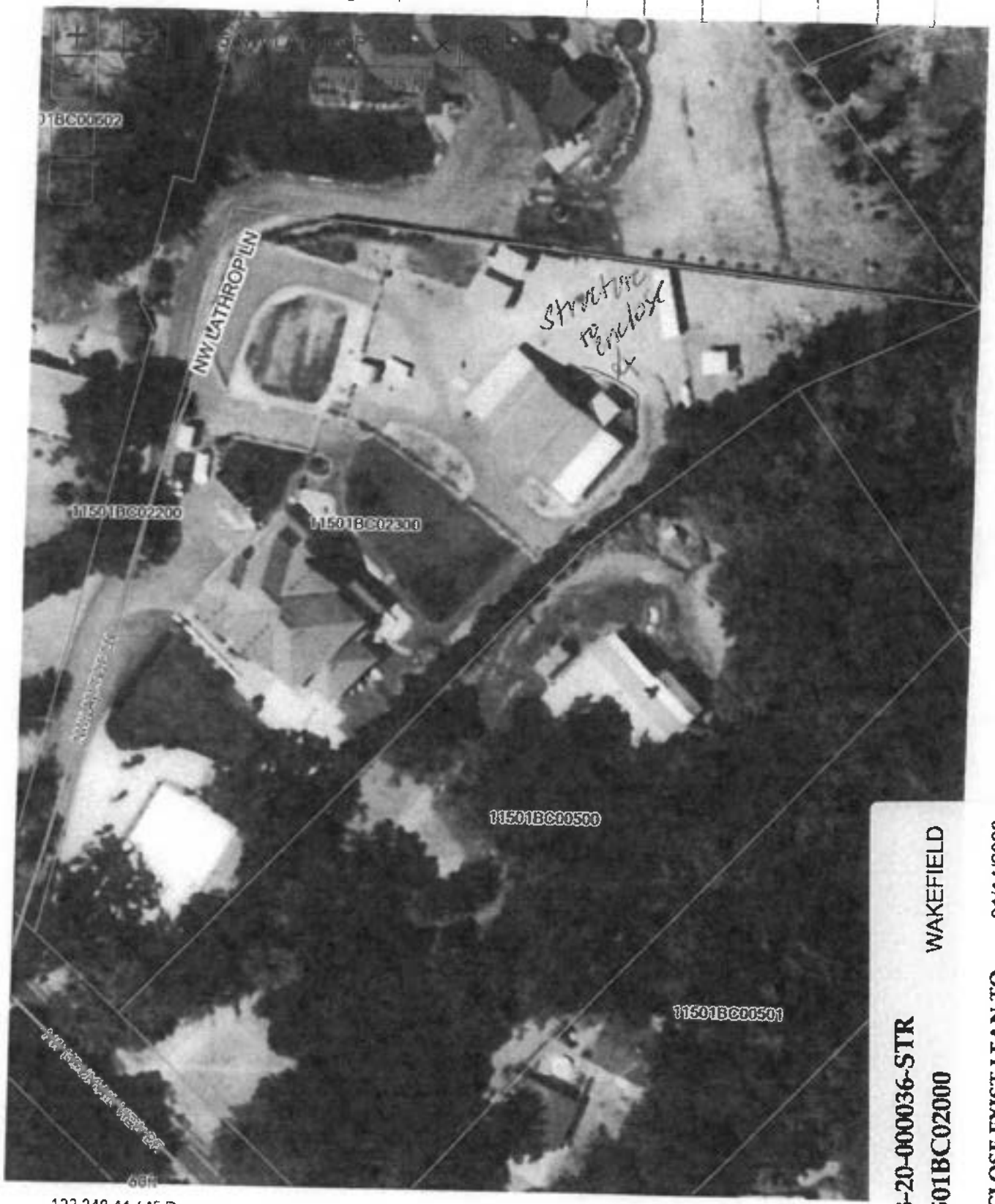
CONTRACTOR INSTALLATION		
Business name:		
Address:		
City:	State:	ZIP:
Phone: - -	Fax: - -	
E-mail:		
CCB license no.:		
Print name:		
Signature:		

CREDIT CARD INFORMATION	
☐ Visa ☐ MasterCard ☐ Discover	Phone: - -
Credit card number	Expiration /
Name of cardholder as shown on credit card	
Cardholder signature	$ Amount

(Do not fill in credit card information unless you are faxing or mailing application.)

FEE SCHEDULE	
1. Valuation information	
(a) Job description: enclose existing storage shed	
Occupancy	
Construction type:	
Square feet:	
Cost per square foot:	
Other information:	
☐ new ☒ alteration ☐ addition	
(b) Foundation-only permit? ☐ Yes ☒ No	
(c) Plan review only? ☐ Yes ☒ No	
Total valuation:	$2,000
2. Building fees	
(a) Permit fee (use valuation table):	$
(b) Investigative fee:	$
(c) Re-inspection ($40.00 per hour): (number of hours x fee per hour)	$
(d) Enter 12% surcharge (.12 x [2a+2b+2c]):	$
(e) Subtotal of fees above (2a through 2d):	$
3. Plan review fees	
(a) Plan review (100% x permit fee [2a]):	$
(b) Fire and life safety (40% x permit fee [2a]):	$
(c) Subtotal of fees above (3a and 3b):	$
4. Miscellaneous fees	
(a) Seismic fee, 1% (.01 x permit fee [2a]):	$
TOTAL fees and surcharges (2e+3c+4a):	$

Benton County Zoning Map



-123.248 44.645 Degrees

138-20-000036-STR
11501BC02000
WAKEFIELD
01/14/2020
ENCLOSE EXIST LEAN TO

*separate permits for any plumbing, mechanical or electrical

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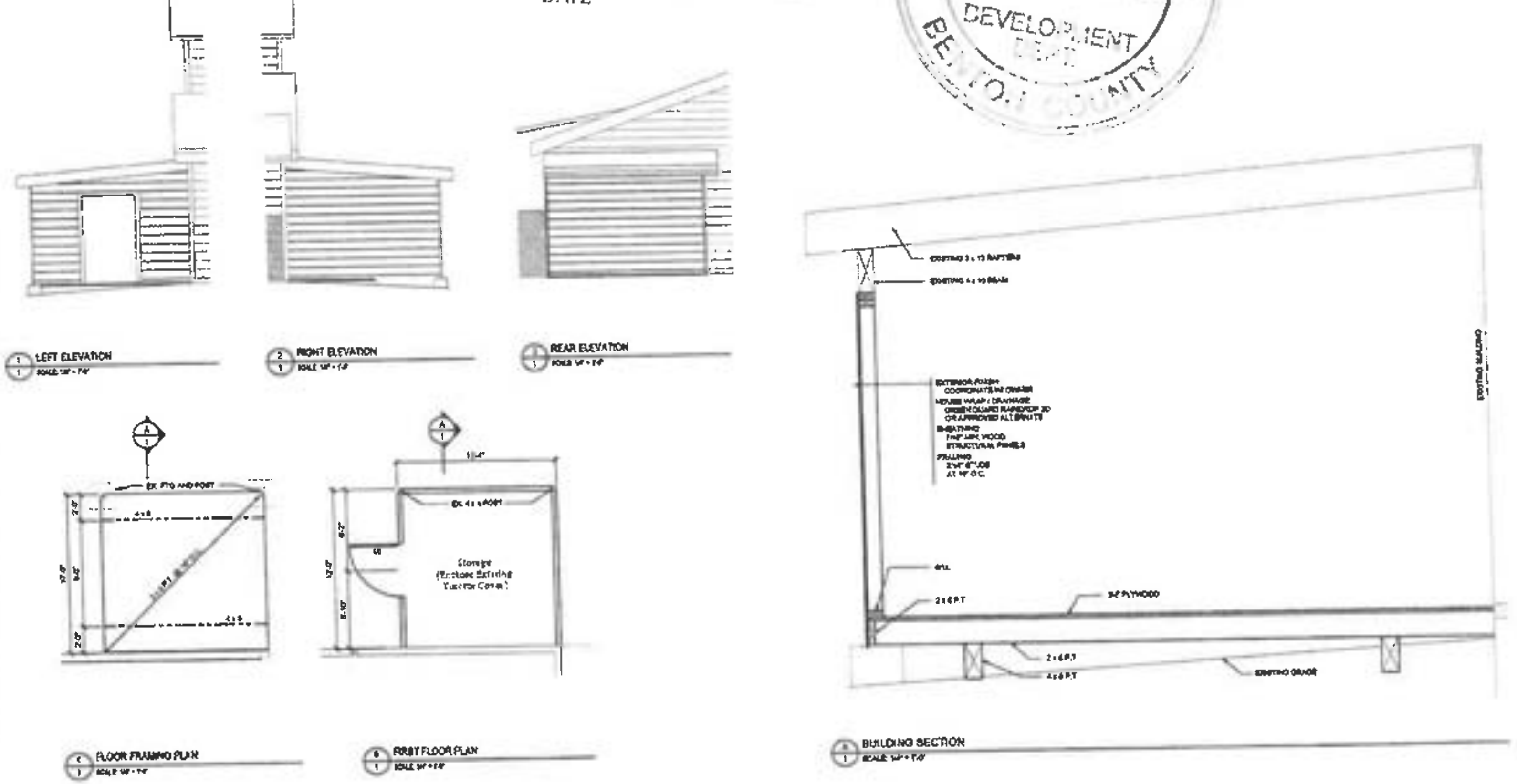
APPROVED ______ DATE ______

APPROVED
JAN 14 2020
DEVELOPMENT DEPT
BENTON COUNTY



Wakefield Storage

Elevations, Foundation & Floor Framing, Floor Plan and Section

SHEET 1

FILE

Sports Court

Building Permit

Residential Structural

138-16-000146-STR

BENTON COUNTY
Building Division
360 SW Avery Ave.
Corvallis,OR 97333
541-766-6819
Fax: 541-766-6891

www.co.benton.or.us

building@co.benton.or.us

Permit Issued: June 03, 2016

Job Name:

TYPE OF WORK

Type of Work: New
Submitted Value: $8,500.00

Category of Construction: Detached Accessory Stru
Description of Work: SPORTS COURT FENCE

JOB SITE INFORMATION

Property Address:
7175 NW Lathrop Ln, Corvallis, OR 97330

Parcel:

Owner: WAKEFIELD BRADLEY
Address: THOMAS & KRISTIE CLOSE
7175 NW LATHROP LN
CORVALLIS OR 97330

LICENSED PROFESSIONAL INFORMATION

Work performance not designated

Property Owner Affidavit Has Not Been Filed

INSPECTIONS - Additional inspections may be required through the life of the project.

The list of inspections below represents the minimum inspections recommended for this project at the time of permit printing.

1999 Final Building

Schedule Inspections online at www.buildingpermits.oregon.gov or by calling: 1-888-299-2821
When calling for an inspection, use **IVR Number: 138026992864**
OR search "ePermitting" at the Apple App Store to download the **Oregon ePermitting Inspection App** for iOS.

PERMIT FEES - Permit fees may change after staff review

Fee Description	Quantity	Amount
Zoning Compliance Review	1 Ea	$75.00
EH Review of Building Permit	1 Ea	$70.00
PW Review of Building Permit	1 Ea	$49.00
Structural plan review fee		$159.65
Structural building permit fee		$159.65
State of Oregon Surcharge - Bldg (12% of applicable fees)		$19.16
	Total Fees:	$532.46

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All persons or entities performing work under this permit are required to be licensed unless exempted by ORS 701.010.

Address:7175 Nw Lathrop Ln, Corvallis, OR 97330

PLAN REVIEW COMMENTS / CONDITIONS

Reviewer: Alex Pichacz **Date:** April 29, 2016

Planning Review: Planning has reviewed Permit No. 138-16-000146-STR (10 foot fence) and determined that the proposed project complies with zoning regulations, if certain conditions are met. Required conditions are identified on the approved plot plan(s), which will be included with your issued permit.

844 571 2836
att.oandm@gmail.com

A&B SEPTIC SERVICE
Operations and Maintenance Dept

P.O. Box 444
Albany, OR 97321

Kristie Wakefield
7175 NW Lathrop Ln.
Corvallis, OR 97330

May 4, 2023

Re: Extended Contract

The current O&M Service Contract on your Advantex Waste Water Treatment System expires on **June 4, 2023.** To keep in compliance with DEQ and County rules you need to have a continuous O&M Service Contract on your System at all times. I am sending you an Extended O&M Service Contract for your review. The service is billed annually on or about your anniversary date; ***the first year is payable with the return of the signed contract.*** Also review Schedule "A" to see the maintenance the contract covers.

The following is due within 10 days of signing this contract;

Annual payment of $ 390.00 per year _____
Signature Date

With this letter you will find:

1. This payment agreement page requiring your signature
2. An Extended Service Contract requiring your signature
3. Schedule "A" listing the services covered by this contract
4. The above documents must be returned within 30 days of the date of this letter.

If you have any questions, please do not hesitate to call me at 844-571-2836 any time, we are here to help you whenever you need it.

Thank you for allowing A&B Septic Service to serve you, we appreciate your business.

Thank You,

Angela Dyer
ATT Administrative Assistant
A & B Septic Service

Feb will contact us re: Next Steps

844 571 2836
an.oandm@gmail.com

A&B SEPTIC SERVICE
Operations and Maintenance Dept

PO Box 444
Albany OR 97321

RE: EXTENDED CONTRACT UPDATE

NEW CONTRACT STRUCTURE

I'm sending you an extended contract. As you review this contract, you may notice that you no longer select a timeframe, and there is no end date listed. We are implementing open-ended contracts with no expiration date. This will help to reduce waste and save both our customers and ourselves time as renewals will not be necessary.

BILLING

The way you are billed for your annual maintenance fee will not change. You will continue to receive invoices annually on the 1st of the month of your original renewal date (as you have previously).

PRICE INCREASE PROCESS

While we don't anticipate a price increase in our annual maintenance fees any time soon, from time to time, we do have to make pricing adjustments based on cost-of-living increases. Should a price increase occur, we will notify you at least 30 days prior to your annual invoice.

CANCELLATION

The contract can be terminated by either party at any time following the guidelines listed within the contract.

If you have any questions, please do not hesitate to call me at 844-571-2836 any time, we are here to help you whenever you need it. Thank you for allowing A&B Septic Service to serve you, we appreciate your business.

Thank You,
Angela Dyer
ATT Administrative Assistant

Delta Environmental Products™

Pentair Water

Extended DF Series Service Contract

For the State of Oregon

Parties: (Authorized Delta Service Provider)

Name:	A&B SEPTIC SERVICE
Address:	PO BOX 444
City, State, Zip Code:	ALBANY, OR 97321
Telephone:	844-571-2836
Fax:	541-917-1861
Email:	att.oandm@gmail.com

And: (Customer)

Name:	KRISTIE WAKEFIELD
Address:	7175 NW LATHROP LN.
City, State, Zip Code:	CORVALLIS, OR 97330
Telephone:	541-368-5970
Email:	KCWAKE1919@GMAIL.COM

System Location

Address:	7175 NW LATHROP LN.
City, State, Zip Code:	CORVALLIS, OR 97330
Legal Description:	
GPS Coordinates:	

Installed by:

Serial #:

Agency Contact Information

Agency:	BENTON COUNTY
Address:	PO BOX 579
City, State, Zip Code:	CORVALLIS, OR 97339
Telephone:	541-766-6841
Email:	N/A

Date: 05/04/2023

NOW, THEREFORE, in consideration of the terms, provisions, covenants, and conditions herein, the Parties hereto agree as follows:

1.0 Performance of Basic Services

1.1 Initial Service Policy
The Authorized Delta Service Provider shall perform the System Inspection/Service Visits throughout the duration of the contract.:

Inspection/Service Visits EVERY 6 MONTHS. *As required by NSF, these services will be included as part of the initial purchase of the system.*

These services shall be performed during normal business hours Monday through Friday (excluding national holidays) on a pre-scheduled basis and as the Authorized Delta Service Provider deems necessary or advisable.

At each service visit the System shall be inspected and serviced in accordance with the instructions in the Systems O & M Manual. Additionally, as effluent quality inspection consisting of a visual assessment of color, turbidity, and scum overflow and an olfactory assessment for odor shall be performed.

The Service Provider will affix a "For Service, Call **A & B SEPTIC SERVICE 844-571-2836**" label near the control panel's alarm signal and fill in his or her phone number.

Performance of the Inspection/Service visits shall include notification of needed repair, replacement or addition of parts used in the system.

The Authorized Service Provider shall be responsible for submitting the Annual Report and Annual Evaluation Fee to the appropriate Regulatory Agency as required. **The Annual Fee set by Regulatory Agency shall be paid by the homeowner to A & B SEPTIC SERVICE within 10 days of receiving the Invoice for said fee.** Should this Annual Fee not be paid in full to A & B Septic within the aforementioned period of time, the Annual Report will not be sent to the Regulatory Agency placing the homeowner out of compliance with the Regulatory Agency.

The Service Provider shall notify the owner in writing if any improper system operation cannot be remedied at the time of servicing. The written notification shall include an estimated date of correction.

1.2 Extended Service Policy
The Delta Authorized Service Provider shall make available for purchase by owner an extended service policy with terms comparable to those in the initial service policy.

1.3 Stand By Parts
In the event that a mechanical or electrical component must undergo off site repairs the local authorized representative should maintain a stock of mechanical and electrical components that may be temporally installed until repairs are completed.

1.4 Availability of Service
The service provider shall provide emergency service within 48 hours of service request.

2.0 Term of Agreement
This Agreement shall be in effect until otherwise terminated by either party in writing as provided herein.

3.0 Definitions
For purposes of this agreement, the following definitions shall apply:

3.1 System shall mean a Delta ANS/NSF 40-certified wastewater treatment system.
3.2 "System Start-Up Date" shall mean the date the System begins operating for its intended purpose.

4.0 Charges
The basic services including service, inspection, effluent quality evaluation, and service, may be included with the purchase of the System. Optional, additional services shall be provided at the agreed-upon contract price and terms. Service Provider may increase all or any of the charges for those Services described in Schedule A by giving the Customer written notice at least thirty (30) days before each yearly anniversary of the Effective Date of this Agreement. **The annual report and annual evaluation fee required by DEQ is not optional and are not included in the cost of basic services.** Refer to the Service Provider's fee schedule for an outline of the cost of basic services and optional services to be provided under this contract.

5.0 Warranty
The Delta Service provider warrants that all services shall be performed in a good and workmanlike manner and that the service provider will correct any system errors, malfunctions, or defects directly caused by the service provider's failure to perform the services and additional services in such manner.

6.0 Limitation of Liability
The sole liability of the Service Provider under this agreement shall be to correct any errors, malfunctions, or defects in the system directly caused by the Delta Service Providers' failure to perform any services in a good and workmanlike manner pursuant to section 4 above. In no event should the Service provider's liability to the customer hereunder exceed the total of the amounts paid to the service provider hereunder by the customer. In no event shall the Delta Service Provider be liable to the customer or any other third-party claimant for any indirect, special, punitive, consequential, or incidental damages or lost profits arising out of or related to this agreement or the performance or breach thereof, whether based upon a claim or action of contract, warranty, negligence, or strict liability or another tort. Breach of any statutory duty, indemnity, or contribution or otherwise, even if the service provider has been advised of the possibility of such damage.

7.0 Termination/Cancellation
This agreement may be terminated or canceled only upon:

- Written notice by one Party effective as of the effective date thereof if the other Party is in default of any provision of this Agreement and such default is not cured by the defaulting Party within fifteen (15) days after the effective date of said notice from the non-defaulting party, or by the mutual agreement of both Parties.
- Copy of such written notice shall be forwarded to the regulatory agency.

8.0 Miscellaneous Provisions

This agreement is personal in nature and may not be delegated, assigned, or transferred by either Party without the prior written consent of the other Party.

The laws of the State of Oregon shall govern the Agreement.

The homeowner shall be responsible for complying with the Delta DF Series Installation, Operation & Maintenance Manual provided to them with the purchase of the system.

Any notice or other communication required or permitted to be given under this Agreement shall be in writing and shall be mailed by certified mail, return receipt requested, postage prepaid, addressed to the Parties at the addresses shown on the first page of the Agreement. Any notice or other communication shall be deemed given at the expiration of the second day after the date of deposit in the United States mail. The addresses to which notices or other communications shall be mailed may be changed from time to time by giving written notice to the other Party as provided in this Section.

The value of this maintenance contract is $390. per year and is payable within 10 days of invoice. The contract begins June 5, 2023, and will remain in effect until otherwise terminated in writing by either party. Inspection and maintenance of the pump basin and pump apparatus following the Whitewater Treatment System included in this contract. We will observe and record the conditions of the drain field as per State requirements.

Delta Service Provider

Name: A & B SEPTIC SERVICE

Signature: *Angela Dyer*

Title: Oregon Certified Service Provider

Customer(s)

_____
SIGNATURE

_____
DATE

EXTENDED SERVICE CONTRACT WHITEWATER
AEROBIC TREATMENT UNIT
SCHEDULE A

1. **HOMEOWNERS RESPONSIBILITY**
    a. **Daily**
        i. Observe the warning device
        ii. Check for unusual noise
        iii. Check for total failure
    b. **Weekly**
        i. Check treatment plant for offensive odor.
    c. **Quarterly**
        i. Clean the air filter on air pump.

A & B SEPTIC SERVICE RESPONSIBILITY

2. System Maintenance and Servicing performed **SEMI-ANNUALLY**
    a. Aerobic Treatment Unit
        i. Record motor amps
        ii. Activate all floats
        iii. Perform 30-minute settle ability test
        iv. Measure sludge and scum
        v. Check tank for pumping
        vi. Inspect for ponding
        vii. Check splice box
        viii. Check/record clarity (turbidity)
        ix. Check/record D.O. test.
        x. Check for odor (sniff)
        xi. Check for oily film (visual inside tank)
        xii. Check for foam (visual inside tank)
        xiii. Check/record pH

    b. Maintain disposal field pump Basin/Inspect disposal field
        i. Check pump intake screen
        ii. Check floats for proper operation
        iii. Record Amps and Volts on pump(s)
        iv. Visually inspect disposal field surface for ponding
        v. Check liquid level in disposal field's monitoring ports if installed

    c. Reporting
        i. Report to homeowner any improper system function and date of correction
        ii. Submit Annual report to Regulatory Agency
        iii. **Homeowner will be invoiced for Regulatory Agency Fee in separately from the annual maintenance contract invoice**

EXTENDED SERVICE CONTRACT WHITEWATER
AEROBIC TREATMENT UNIT

d. Alarm Response
   I. Alarm response will be handled by a certified Service Technician that is dedicated to O&M for our customers.
   We are available 24 hours a day –7 days a week for emergencies.

- Total Fee to be paid to A&B Septic Service by the customer within 30 days of invoice.

- Contract is void, if not signed within 30 days from date of letter.

- Emergency call outs; Lab Testing; or Parts not covered by warranty will be billed at Travel Time, Labor and Materials.

- **GENERAL TERMS AND CONDITIONS FOR A&B SEPTIC SERVICE.** Customer agrees to pay all sums due and owing to **A&B Septic Service** in a timely manner. Interest shall accrue on all past due sums at the rate of 18% per annum. Customer also agrees to pay **A&B Septic Service** for all costs relating to actions to collect past due sums, including reasonable attorney fees in any forum regardless of whether a lawsuit is filed. Customer also agrees to release, hold harmless, and indemnity **A&B Septic Service** from any and all damages to persons and real and personal property arising out of or resulting from services rendered by **A&B Septic Service.**

- When filing the Annual report to Regulatory Authority we must notify them if a new extended service contract is not in place.

- Thank you for choosing A&B Septic Service we appreciate your business.

TOTAL PRICE $390.00 PER YR

Please update your contact information and return the completed form

Name: _____

Site Address: _____

_____

Mailing address if different from site address:

_____

_____

Home Phone: _____

Cell Phone: _____

Business Phone: _____

Which phone number is the best number to reach you on? (Please check)

Home Phone: _____ Cell Phone: _____ Business Phone: _____

Email Address: _____

Thank you,

Angela Dyer
ATT Administrator
A & B Septic Service
844-571-2836
att.oandm@gmail.com

After recording return to:
Neal Peterson
1667 Wooded Knolls Drive
Philomath, Oregon 97370

Grantors:
Mark and Kristin Knutson
1669 Wooded Knolls Drive
Philomath, OR 97370

Neal L. Peterson, Trustee
and Johanna C. Peterson, Trustee
1667 Wooded Knolls Drive
Philomath, Oregon 97370

BENTON COUNTY, OREGON **2013-506078**
DE-EAS **04/29/2013 01:51:20 PM**
Stn=1 PF
$10.00 $11.00 $10.00 $17.00 $20.00 **$68.00**

I, James V. Morales, County Clerk for Benton County, Oregon, certify that the instrument identified herein was recorded in the Clerk records.
James V. Morales - County Clerk

Maintenance Agreement for Vehicle Access

Mark and Kristin Knutson, as tenants by the entirety, as to an undivided 1/2 interest, and Neal L. and Johanna C. Peterson, Trustees or their successor in trust of the Neal L. Peterson Living Trust, dated October 11,1993, as amended and restated on November 30, 2011, as to a one-quarter interest; and Johanna C. Peterson and Neal L. Peterson, Trustees or their successor in trust of the Johanna C. Peterson Living Trust dated October 11, 1993, as amended and restated on November 30, 2011, as to a one-quarter interest, all together as tenants in common hereinafter referred to as grantors to Parcels 1, 2 and 3 of Benton County Partition Plat No. 2013-012, , do hereby grant, assign including heirs, successors the following maintenance agreement for vehicle access to the grantees Mark and Kristin Knutson and Trustees Neal L. Peterson and Johanna C. Peterson.

The cost for maintaining the common driveway from Northwest Mountain View Drive shall be shared equally between Parcels 1, 2, and 3 when access is provide to all three parcels. The cost for maintaining the driveway shall be shared equally between Parcels 2 and 3 when access only serves these two parcels. The cost for maintaining the driveway for serving only Parcel 3 is the responsibility of the owner of Parcel 3.

The owner of Parcel 2 agrees that no physical barrier is to be constructed along the West property line of Parcel 1. The owner of Parcel 2 further agrees that the property between the improved driveway and the West property line of Parcel 1 shall be maintained by the owner of Parcel 1.

This is a maintenance agreement for vehicle access, thus there is no consideration.

BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON TRANSFERRING FEE TITLE SHOULD INQUIRE ABOUT THE PERSON'S RIGHTS, IF ANY, UNDER ORS 195.300, 195.301 AND 195.305 TO 195.336 AND SECTIONS 5 TO 11, CHAPTER 424, OREGON LAWS 2007, SECTIONS 2 TO 9 AND 17, CHAPTER 855, OREGON LAWS 2009, AND SECTIONS 2 TO 7, CHAPTER 8, OREGON LAWS 2010. THIS INSTRUMENT DOES NOT ALLOW USE OF THE PROPERTY DESCRIBED IN THIS INSTRUMENT IN VIOLATION OF APPLICABLE LAND USE LAWS AND REGULATIONS. BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON ACQUIRING FEE TITLE TO THE PROPERTY SHOULD CHECK WITH THE APPROPRIATE CITY OR COUNTY PLANNING DEPARTMENT TO VERIFY THAT THE UNIT OF LAND BEING TRANSFERRED IS A LAWFULLY ESTABLISHED LOT OR PARCEL, AS DEFINED IN ORS 92.010 OR 215.010, TO VERIFY THE APPROVED USES OF THE LOT OR PARCEL, TO DETERMINE ANY LIMITS ON LAWSUITS AGAINST FARMING OR FOREST PRACTICES, AS DEFINED IN ORS 30.930, AND TO INQUIRE ABOUT THE RIGHTS OF NEIGHBORING PROPERTY OWNERS, IF ANY, UNDER ORS 195.300, 195.301 AND 195.305 TO 195.336 AND SECTIONS 5 TO 11, CHAPTER 424, OREGON LAWS 2007, SECTIONS 2 TO 9 AND 17, CHAPTER 855, OREGON LAWS 2009, AND SECTIONS 2 TO 7, CHAPTER 8, OREGON LAWS 2010.

Amerititle: 505526

In Witness Whereof, the grantors have executed this instrument _____, 2013.

Mark Knutson

Kristin Knutson

Neal L. Peterson, Trustee

Johanna C. Peterson, Trustee

STATE OF OREGON)
County of Benton) ss

This Maintenance Agreement for Vehicle Access is acknowledged before me 4/19, 2013, by Mark Knutson and Kristin Knutson, and Trustees Neal L. Peterson and Johanna C. Peterson.

Notary Public for Oregon

My commission expires: July 2015

OFFICIAL SEAL
DENISE JOHNSON
NOTARY PUBLIC-OREGON
COMMISSION NO. 459384
MY COMMISSION EXPIRES JULY 01, 2015

BENTON COUNTY, OREGON **2013-506079**
DE-EAS
Stn=1 PF **04/29/2013 01:51:20 PM**
$10.00 $11.00 $10.00 $17.00 $20.00 **$68.00**

I, James V. Morales, County Clerk for Benton County, Oregon, certify that the instrument identified herein was recorded in the Clerk records.
James V. Morales - County Clerk

After recording return to:
Neal Peterson
1667 Wooded Knolls Drive
Philomath, Oregon 97370

Grantors:
Mark and Kristin Knutson
1669 Wooded Knolls Drive
Philomath, OR 97370

Neal L. Peterson, Trustee
and Johanna C. Peterson, Trustee
1667 Wooded Knolls Drive
Philomath, Oregon 97370

Amer Title: 505528

MAINTENANCE AGREEMENT FOR WATER LINE AND WELL

Mark and Kristin Knutson, as tenants by the entirety, as to an undivided 1/2 interest, and Neal L. and Johanna C. Peterson, Trustees or their successor in trust of the Neal L. Peterson Living Trust, dated October 11,1993, as amended and restated on November 30, 2011, as to a one-quarter interest; and Johanna C. Peterson and Neal L. Peterson, Trustees or their successor in trust of the Johanna C. Peterson Living Trust dated October 11, 1993, as amended and restated on November 30, 2011, as to a one-quarter interest, all together as tenants in common of Parcel 2 and 3 of Benton County Partition Plat No. 2013-012, hereinafter known as owners,. do hereby grant, assign including heirs, successors the following maintenance agreement for a water line and well to the grantees Mark and Kristin Knutson and trustees Neal L. Peterson and Johanna C. Peterson.

THIS AGREEMENT between the owners of Parcel 2 and Parcel 3 is for the purpose of providing water from a well located on Parcel 2 to Parcel 3 as shown as Course A on Benton County Partition Plat 2013-012, Partition Plat Records of Benton County, Oregon.

The owner of parcel 3 shall have the right, privilege and authority to construct, maintain, replace, reconstruct, and/or remove a water line with all the appurtenances incident thereto or necessary therewith, on, under and across said easement, and to cut and remove from the easement as shown on the partition plat any trees and other obstructions which may endanger the safety or interfere with the construction, use, or maintenance of said water line and the right of ingress and egress to, over and from the above-described premises at any and all times for the purpose of doing anything necessary, or useful, or convenient for the enjoyment of the water line easement granted on the partition plat.

The owner of parcel 3 shall, upon each and every occasion that such water line is reconstructed, maintain , replaced or removed, restore the conditions in the easement over Parcel 2 to a condition as near as practicable as existed prior to any such installation or work.

The owners of parcel 2 and parcel 3 agree to share equally the cost of maintaining the well, well pump and pump controller(s). The owners also agree the power usage to run the pump will be paid proportionately to the amount of water consumed by metering each parcel.

This is an establishment of maintenance agreement, thus there is no consideration.

BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON TRANSFERRING FEE TITLE SHOULD INQUIRE ABOUT THE PERSON'S RIGHTS, IF ANY, UNDER ORS 195.300, 195.301 AND 195.305 TO 195.336 AND SECTIONS 5 TO 11, CHAPTER 424, OREGON LAWS 2007, SECTIONS 2 TO 9 AND 17, CHAPTER 855, OREGON LAWS 2009, AND SECTIONS 2 TO 7, CHAPTER 8, OREGON LAWS 2010. THIS INSTRUMENT DOES NOT ALLOW USE OF THE PROPERTY DESCRIBED IN THIS INSTRUMENT IN VIOLATION OF APPLICABLE LAND USE LAWS AND REGULATIONS. BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON ACQUIRING FEE TITLE TO THE PROPERTY SHOULD CHECK WITH THE APPROPRIATE CITY OR COUNTY PLANNING DEPARTMENT TO

VERIFY THAT THE UNIT OF LAND BEING TRANSFERRED IS A LAWFULLY ESTABLISHED LOT OR PARCEL, AS DEFINED IN ORS 92.010 OR 215.010, TO VERIFY THE APPROVED USES OF THE LOT OR PARCEL, TO DETERMINE ANY LIMITS ON LAWSUITS AGAINST FARMING OR FOREST PRACTICES, AS DEFINED IN ORS 30.930, AND TO INQUIRE ABOUT THE RIGHTS OF NEIGHBORING PROPERTY OWNERS, IF ANY, UNDER ORS 195.300, 195.301 AND 195.305 TO 195.336 AND SECTIONS 5 TO 11, CHAPTER 424, OREGON LAWS 2007, SECTIONS 2 TO 9 AND 17, CHAPTER 855, OREGON LAWS 2009, AND SECTIONS 2 TO 7, CHAPTER 8, OREGON LAWS 2010.

In Witness Whereof, the owners have executed this instrument April 10, 2013.

Mark Knutson

Kristin Knutson

STATE OF OREGON)
County of Benton) ss.

This Maintenance Agreement is acknowledged before me April 10, 2013, by Mark Knutson and Kristin Knutson.

Notary Public for Oregon

My commission expires: July 1, 2015

OFFICIAL SEAL
DENISE JOHNSON
NOTARY PUBLIC-OREGON
COMMISSION NO. 459334
MY COMMISSION EXPIRES JULY 01, 2015

In Witness Whereof, the owners have executed this instrument 4/9, 2013.

Neal L. Peterson, Trustee

Johanna C. Peterson, Trustee

Johanna C. Peterson, Trustee

STATE OF OREGON)
County of Deschutes) ss.

This Maintenance Agreement is acknowledged before me April 9, 2013, by Trustees Neal L. Peterson and Johanna C. Peterson.

Notary Public for Oregon

My commission expires: 10/7/14

OFFICIAL SEAL
LAUREL ANNA BERGSON
NOTARY PUBLIC-OREGON
COMMISSION NO. 451134
MY COMMISSION EXPIRES OCTOBER 07, 2014

Radon Measurement Report

GREATER PURPOSE
Home Inspections, LLC

COMPANY INFORMATION

Name:	Greater Purpose Home Inspections, LLC
Phone Number:	(541) 231-4598
Email:	info@GPhomeinspections.com
Address:	2755 Commercial Street SE (101-278), Salem, OR 97302, United States

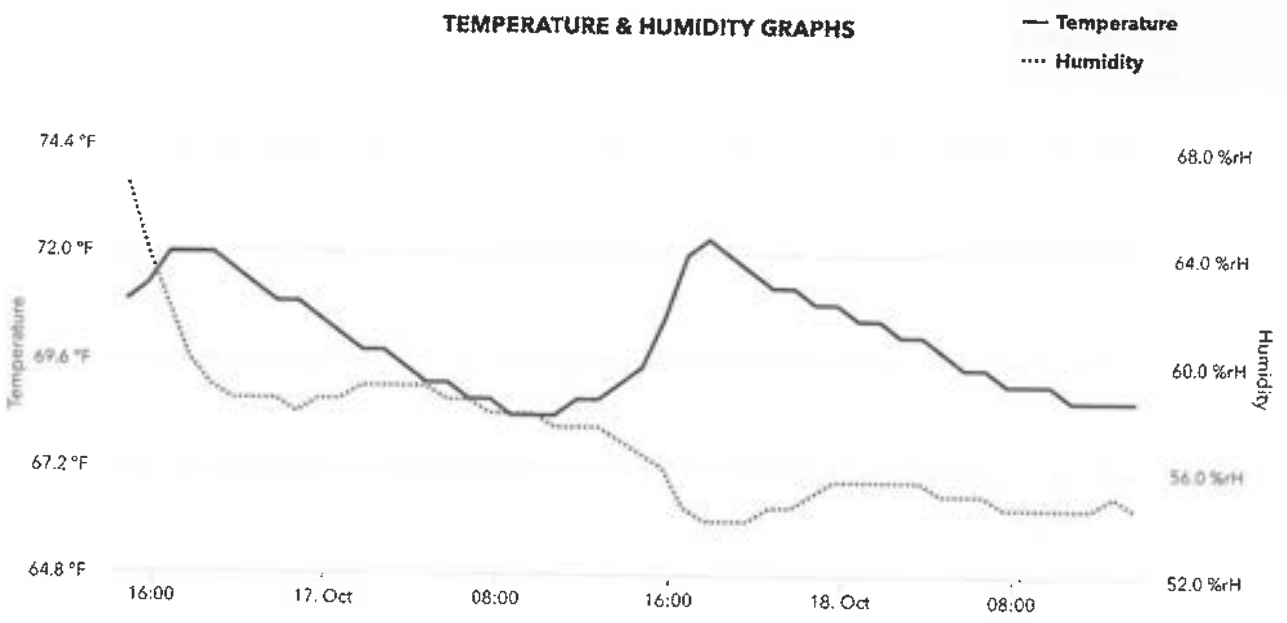
CERTIFICATIONS

Name:	Number:	Expiration Date:
CCB	205033	12/31/2024

PROPERTY INFORMATION

Property Name:	Lathrop
Address:	7175 NW Lathrop Ln, Corvallis, OR 97330, United States
Building Year:	2016
Ventilation Type:	Standard Makeup Air
Building Type:	House
Foundation Type:	Stem Wall Construction
Radon Mitigation System:	None

TEMPERATURE & HUMIDITY GRAPHS



33	2023-10-17, 10:32 p.m. PDT	0.0 pCi/L	29.7603 inHg	70.9 °F	55.0 %rH
34	2023-10-17, 11:32 p.m. PDT	2.1 pCi/L	29.7651 inHg	70.9 °F	55.5 %rH
35	2023-10-18, 12:32 a.m. PDT	0.9 pCi/L	29.7704 inHg	70.5 °F	55.5 %rH
36	2023-10-18, 1:32 a.m. PDT	0.9 pCi/L	29.7680 inHg	70.5 °F	55.5 %rH
37	2023-10-18, 2:32 a.m. PDT	0.9 pCi/L	29.7698 inHg	70.2 °F	55.5 %rH
38	2023-10-18, 3:32 a.m. PDT	1.2 pCi/L	29.7674 inHg	70.2 °F	55.5 %rH
39	2023-10-18, 4:32 a.m. PDT	0.6 pCi/L	29.7592 inHg	69.8 °F	55.0 %rH
40	2023-10-18, 5:32 a.m. PDT	1.8 pCi/L	29.7503 inHg	69.4 °F	55.0 %rH
41	2023-10-18, 6:32 a.m. PDT	1.5 pCi/L	29.7468 inHg	69.4 °F	55.0 %rH
42	2023-10-18, 7:32 a.m. PDT	2.1 pCi/L	29.7456 inHg	69.1 °F	54.5 %rH
43	2023-10-18, 8:32 a.m. PDT	0.9 pCi/L	29.7473 inHg	69.1 °F	54.5 %rH
44	2023-10-18, 9:32 a.m. PDT	0.6 pCi/L	29.7550 inHg	69.1 °F	54.5 %rH
45	2023-10-18, 10:32 a.m. PDT	0.9 pCi/L	29.7550 inHg	68.7 °F	54.5 %rH
46	2023-10-18, 11:32 a.m. PDT	0.9 pCi/L	29.7550 inHg	68.7 °F	54.5 %rH
47	2023-10-18, 12:32 p.m. PDT	0.9 pCi/L	29.7473 inHg	68.7 °F	55.0 %rH
48	2023-10-18, 1:32 p.m. PDT	1.5 pCi/L	29.7349 inHg	68.7 °F	54.5 %rH

TEST INFORMATION

Average Radon Level:	0.9 pCi/L
Dataset Name:	Lathrop
Measurement Type:	Initial
Start Date:	Oct 16, 2023, 1:32 p.m. PDT
End Date:	Oct 18, 2023, 1:32 p.m. PDT
Measurement Duration:	48h
Floor/Level:	1
Room:	Bedroom
Comment:	No comments documented.

TEMPORARY CONDITIONS & DEVIATIONS FROM PROTOCOL

Temporary Conditions:	None documented.
Deviations from Protocol:	None documented.

Recommended Actions

STATEMENT OF LIMITATIONS

There is an uncertainty with any radon measurement result due to statistical variations in radiation, and other factors such as conditions which change daily and seasonally which can cause variations in indoor radon levels. These conditions can change based on the weather, the use or disuse of appliances, systems, and components of the structure, tampering with the radon test, or failure to comply with the closed-building conditions necessary for a valid radon measurement result.

ADDITIONAL RADON INFORMATION

For further information regarding your radon measurement report, radon exposure risk, a radon professional, or to obtain a list of certified radon measurement and mitigation professionals in your area, contact your jurisdiction's Department of Health.

RADON PROFESSIONAL'S SIGNATURE

This report is certified by Greater Purpose Home Inspections, LLC.

Greater Purpose Home Inspections, LLC

Electronic Signature

2023-10-18
Corvallis