RS.01.17516

R

MAR 2 9 2002

MICROFILMED

14

CITY OF
PORTLAND, OREGON
BUREAU OF ENVIRONMENTAL SERVICES
1900 SW 4TH AVE, SUITE 2100
Portland, OR 97201

BES PLAN EXAMINATION CHECK SHEET

Application # **01-175516-000-00-RS**

Review Date: **March 4, 2002**

IVR# **2139476**

To:				
	APPLICANT	**BROOKS HOWARD ENDEAVOR DEVELOPMENT L.L.C 8902 SW WASHINGTON DR PORTLAND OR 97223**	Work Fax	503 246-0833 503 246-0448

From:				
	BES	**SEAN BISTOFF**	Phone Fax E-Mail	503-823-7237 503 823-4591 seanb@bes.ci.portland.or.us

cc:				
	OWNER	**ANN L O'NEILL & ALICE M RASMUSSEN 10840 NE BEECH ST PORTLAND, OR 97220**		

PROJECT INFORMATION

Street Address:	**4402 SW PALATINE ST**
Description of Work	**NSFR-WEST PORTLAND PK LOTS 13 & 14 BLK 55 (TEMP POWER ON SEPERATE PERMIT)**

The following are items that will need to be addressed prior to plan approval by the Bureau of Environmental Services. Approval of your plan for sanitary and storm management facilities by BES does not mean your building permit can be immediately issued; BES is only one of many bureaus that review your building plan.

Item #	Location on plans	Clarifications / Corrections Required
1.	NA	An Operations and Maintenance Agreement will be required for a water quality facility (Westside soakage trench) and shall be recorded with *Multnomah County prior to approval of the building permit. If you prefer, you may submit a draft of this document for review **prior** to recording via my fax number. Please refer to the 2000 Stormwater Management Manual (see chapter 8). Copies of the manual are available on the web site www.enviro.ci.portland.or.us or at the Office of Planning and Development Review, 1900 SW 4th Ave. *Multnomah County Recorder Multnomah Building 501 SE Hawthorne, Room 158 Portland, OR 97214 503-388-3034

To respond to this checksheet, come to Document Services (the second floor of 1900 SW Fourth Ave., between 7:30 a.m. and 8:00 p.m.) and update all four sets of the originally submitted drawings. To update the drawings, you may either replace the original sheets with new sheets, or edit the originally submitted sheets. (Specific instructions for updating plans are posted in Document Services.)

Please complete the attached Checksheet Response Form and include it with your re-submittal.

If you have specific questions concerning this Checksheet, please call me at 503-823-7237. To check the status of your project please call (503) 823-7000 and select option 4. Your Plan Review Status will be faxed to you, so please be ready to provide a

DO NOT REMOVE

Approval criteria for Zoning must be attached to plans on construction site.

1 copy to each set of plans
1 copy to DSC file

Plancheck # 01-175516 RS

Planner: NATALIE

ONE & TWO FAMILY RESIDENTIAL PLAN REVIEW SHEET

Date: 1/8/02 10:00 Zone: R7c

Addition and Lot: W. Portland Park lots 13+14
1S 1E 32 BC 7000'

LUR History: 01-00645 SL

Substandard Lot (Y) N
PUD/Cluster Y (N)

ADU Y N
Detached Access. Structure Y N

Lot size: 5000 ☑

Plan District: —

Minimum	*Required*	*Proposed*
Front Setback can be reduced to 0'	10'-15'	2½'
Side Setback	5	5,6
Rear Setback	5	52
Parking Setback can be reduced to 0'	0'-18'	7
Outdoor Area	—	—
Trees (preservation, planting, or fund)	____	PER EN STANDARDS

Maximum			
Vehicle Paving	40%	20'	½' 32%
Building Coverage	35%	1750	1750 35%
Height		30	21
Impervious Surface	—%	—	— %

Base Zone Design Standards Apply

Main Entrance ctl

Street Facing Façade 26½ ctl

Length of Garage Wall 20/12 ctl

Street Lot Line Setbacks ctl

City of Portland
MAR 2 6 2002
Permit Number

Other Req./Notes

EN plan check

Approved Substandard

3500☑ – transitionarea =( )☑ resource dist. areas

✓ Slope

✓ aoa's + recorded?

condition of LUR 01-645 SL. maintain 3-3" caliper trees at rear of lot

CITY OF
PORTLAND, OREGON
OFFICE OF PLANNING AND DEVELOPMENT REVIEW

1900 S.W. 4TH Avenue, Suite 5000
Portland, Oregon 97201
(503) 823-7000
FAX: (503) 823-7692
TDD: (503) 823-6868
www.ci.portland.or.us/buildings

GENERAL NOTES AND SUPPLEMENTAL INFORMATION
2000 OREGON ONE AND TWO FAMILY DWELLING CODE

Date: 1/28/02 Folder number: 01-175516

Project Address: 4402 sw palatine st

1 & 2 Code prescriptive wall bracing ☐ Engineered lateral design ☒ total # pages eng'r'g: 17

Energy Conservation: Path 1 ☒ Path 8 ☐ | Retaining walls >4' or surcharged ☒

The following "General Notes and Supplemental Information" are now part of your approved plans.

- It is the responsibility of the contractor to comply with these requirements during construction.
- Where there is a conflict between a general note and the plans, the more restrictive shall apply.
- If you have any questions regarding any of these items, please contact

Plans Examiner: Ault steve Phone # (503) 823-7349

E-mail address: @ci.portland.or.us Fax # (503)

Foundation/ Under-floor

322.1 & 502.4 — Protection against decay is required or the following conditions must be met:

- Maintain 18" clearance under floor joists, 12" under girders.
- Provide 3" of bearing at beam pockets and 1/2" air space at sides and ends.

322.1.1 — All wood in direct contact with concrete, and all exposed wood supporting porches and decks, to be pressure treated or of natural resistance to decay.

403.1.1 — Foundation and anchorage shall comply with the more restrictive of the following or the approved plans.

Foundation footing shall be 18" below finish grade and:

Number of floors	*Wall Thickness*	*Footing Width*	*Footing Thickness*
1	6"	12"	6"
2	8"	15"	7"
3	10"	18"	8"

403.1.5 — Foundation anchor bolts shall be not less than 1/2" diameter bolts embedded at least 7" into concrete, or masonry, spaced 6'-0" on center maximum, with at least two bolts per plate and within 12" of ends and corners.

404.1.6 — Foundation wall shall extend at least 6" above the finished grade adjacent to the foundation at all points.

405.1 — Foundation drainage shall be provided around foundations enclosing habitable or usable space below grade.

406.2 — Foundation wall enclosing habitable space requires waterproofing on the outside surface.

TO APPLICANT

CITY OF PORTLAND, OREGON

OFFICE OF TRANSPORTATION
Application and Revocable Permit to Perform CONSTRUCTION In Street Right of Way

Permit No: 66152
Permittee Copy
Plan#: 2001-175516-000-00-RS
Map No.: 4125
Issued By: David Nassif
Date Issued: Feb 11, 2002
(Permit Void After 180 Days)

Permittee: ENDEAVOR DEVELOPMENT LLC
Address: 8902 SW WASHINGTON DR
PORTLAND, OR 97223

CCB No: 13299
Phone No: 503-246-0833

Job Address: 4402 SW Palatine St
Legal Property Description: WEST PORTLAND PK - LOTS 13&14, BLOCK 55

Work Location: SW Palatine St between 43rd Ave and 45th Ave PS\SW\SW-PL 19-0-0
Std Plan 3-104 Driveway - 16' WIDE 376.00 sq ft @ 0.31 per sq ft 116.56

TOTAL FEE: $116.56

COMMENTS:
Construct 3-104 driveway approach, with 3' x 5' triangular wings.
Reconstruct any additional sidewalk or curb as directed by the Public Works Inspector.

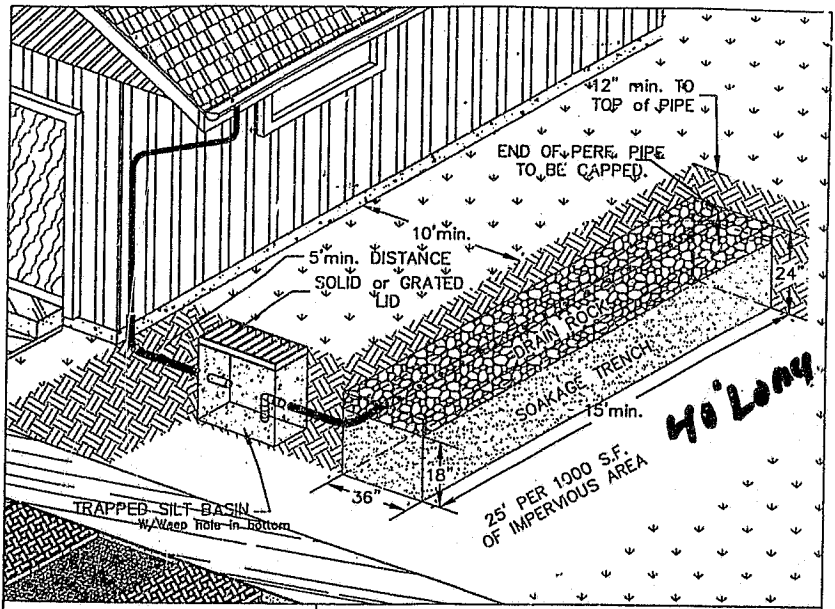
CONDITIONS:

Commencement of work authorized by this permit acknowledges permittee's acceptance of the following conditions:

1. The permittee agrees to comply with the provisions of the City Charter, Ordinances, Resolutions, and Title 17 of the City Code and the City of Portland Standard Construction Specificati pertaining to the above work. The work shall not differ from that permitted without prior approval of the City Engineer.
2. The permittee agrees to protect and save harmless the City of Portland, the City Engineer, and each of its officers and employees against any injury or damage that may result from the of said permittee on or in the said street and against any damage or liability of any character whatsoever arising out of any act of said permittee due to the issuance of this permit
3. Permittee shall be responsible for obtaining approval from the City Traffic Engineer for a traffic control plan for the work zone covered under this permit, prior to commencing work
4. Permittee is responsible for complying with ORS 757.541 to 757.571 as it relates to locating facilities and commencement of work.
5. Permittee is solely responsible for ensuring safety of existing street trees. Contact City Forester prior to commencing work if conflicts with trees or root systems are possible within permit ar Obtain City Foresters approval prior to cutting any tree or root system.
6. This approval covers only that portion of work which is within the dedicated or future street area.
7. Do not pave around water facilities. Contact Bureau of Water Permit Desk.
8. In the event work covered by this permit conflicts with construction under City contract, this permit shall be waived until such construction has been completed.
9. The Permittee is responsible for complying with Title 10 of the City Code, including placement of all erosion control measures and signs.

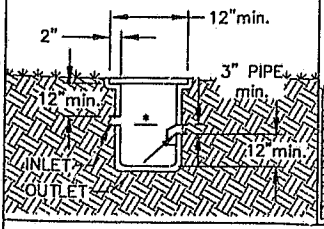
CALL 823-7002 FOR INSPECTION

Allow 4 hours from time of request for inspection. Requests made after 12 Noon may not be inspected until the next working d Inspection requests may be made after normal working hours by calling 823-7002 and leaving information after the recorded message. (Inspection not available weekends and legal holidays.)



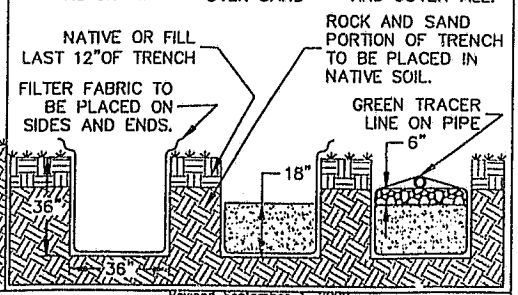
TRAPPED SILT BASIN DETAIL

NOTE: *
THE BOTTOM OF THE INLET PIPE MUST NOT BE LOWER THAN THE TOP OF THE OUTLET PIPE.



SOAKAGE TRENCH CONSTRUCTION DETAIL

STEP 1	STEP 2	STEP 3
FILL TRENCH WITH FILTER FABRIC AS SHOWN	ADD 18" SAND AND FOLD ONE SIDE OF FABRIC OVER SAND	ADD 12 INCHES OF DRAIN ROCK PLACE PERF. PIPE AND COVER ALL.



Revised September 1, 2000

NTS

WEST SOAKAGE TRENCH

WEST SOAKAGE TRENCH.dwg, 07/24/00 at 13:33

01-175.516-RS

8'x 15'

Simplified Approach for Stormwater Management Facilities

The city has produced this form to assist with a quick and simple approach to manage stormwater quality and flow control on projects.
Application of these facilities using the specified sizing factor is required for use of this form.
These facilities, when designed according to the required criteria, are considered over both quality and flow.
Alternative design and sizing will not be considered under this simple approach.

INSTRUCTIONS

1. Enter square footage of non-mitigated impervious area (total impervious site area or, from the Mitigation Form, Box C) in Box 1 at the bottom of column 1.

2. Select the desired management measure(s). In Column 1, enter the amount of impervious area that will be managed by the facility(ies).

3. Add all facility impervious areas in column 1 and enter in Box 2. Note Box 1 and Box 2 areas must be equal.

4. Multiply the unmitigated sf in column 1 by the sizing factor in column 2 for each facility.

5. Use the required facility surface area sf in column 3 to design the facility(s).

6. Go to the "Simplified Approach Design Requirements" for facility descriptions and other requirements.

Facility	Column 1 Non-mitigated Impervious Area	Unit		Column 2 Sizing Factor		Column 3 Required Facility Surface Area	Unit
Landscape Swale		sf	x	0.05	=		sf
Vegetative Filter		sf	x	0.065	=		sf
Stormwater Planter		sf	x	0.045	=		sf
Landscape Infiltration		sf	x	0.04	=		sf
Sand Filter		sf	x	0.045	=		sf
*East Side Soakage Trench		sf	x	0.05	=		sf
*West Side Soakage Trench	1680	sf	x	0.075	=	126	sf

Total Areas _____ Box 2

Total non-mitigated impervious area _____ Box 1
Total impervious area on the site, or the amount of non-mitigated impervious area in Box C, Form MIT

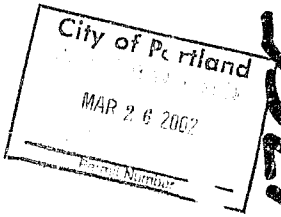
* Soakage Trenches are sized for stormwater disposal and water quality, and therefore cannot be reduced in size with mitigation.

Revised September 1, 2000

POLLARD • HOSMAR
• ASSOCIATES, INC •

B E A M
CALCULATIONS
FOR

PLAN 2084D



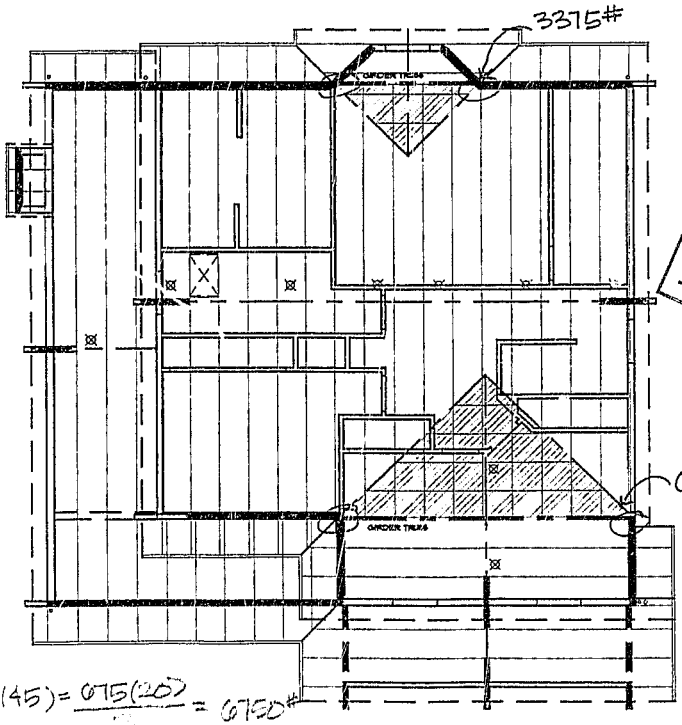
01-177516 RS

DESIGN LIVE LOADS:

ROOF: 25 PSF
CEILING: 20 PSF
FLOOR: 40 PSF
GARAGE FLOOR: 50 PSF & 2000# PT LOAD ON 2' SQUARE
DECK: 75 PSF
STAIRS: 100 PSF
SOIL BEARING CAPACITY (ASSUMED): 1500 PSF

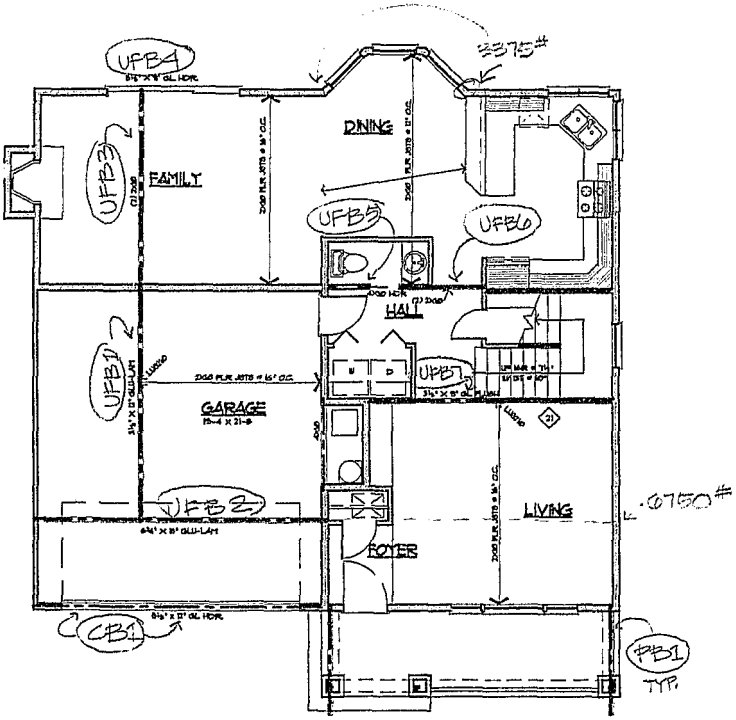
7128 SW GONZAGA • SUITE 200 • TIGARD, OREGON 97223
503.624.9231 • www.pollardhosmar.com • FAX 503.624.9466

$15(45) = \frac{675(10)}{2} = 3375\#$



$15(45) = \frac{675(20)}{2} = 6750\#$

ROOF BEAM KEY



MAIN FLOOR BEAM KEY

POLLARD•HOSMAR•ASSOCIATES•, HOME DESIGNERS, INC.

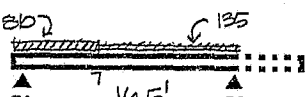
7110 SW FIR LOOP•SUITE 210•TIGARD, OR 97223 (503) 624-9251 FAX: (503)624-9466 www.poho.com

PLAN/PROJECT NUMBER: 2084D / 99071
CLIENT: BELLA VISTA
CALCULATIONS BY: SAM
DATE: 6/2/199

LIVE LOADS: (1)
ROOF _____ #/sf COMP / SHAKE / TILE / TRUSS / STICK FRAME
ATTIC _____ #/sf LIM. STOR. _____ #/sf NO STOR.
FLOOR _____ #/sf

BEAM INFORMATION **DIAGRAM** **LOADS**

EBW: 15 PLF

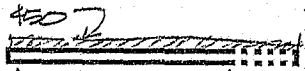


BEAM # CB1 R1 4401# 16.5' R2 2240#

W
0'-7' 18(45) = 810 PLF
W
7'-16.5' 3(45) = 135 PLF

LOCATION: GARAGE DOOR HDR
SIZE: 5 1/8" x 12"

City of Portland
APPROVED
MAR 2 8 2002
Permit Number



EBW = 10 PLF

BEAM # FB1 R1 1342# 6' R2 1878# 1'

W
0'-7' 10(45) = 450 PLF

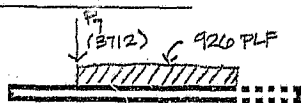
LOCATION: PORCH
SIZE: 4X8 BM #2 DF/L

EBW = 15 PLF

BEAM # UFB1 R1 3712# 16' R2

W
0'-16' 11(45) = 45 PLF (RF)
8(10) = 80 (WALL)
6(54) = 324 (FLR)
449 PLF

LOCATION: GARAGE
SIZE: 5 1/8" x 12" GLB



EBW = 20 PLF

BEAM # UFB2 R1 6625# 20' R2 9625#

W
7'-20' 18(45) = 810 PLF (RF)
8(10) = 80 (WALL)
.61(54) = 330 (FLR)
9226

LOCATION: GARAGE
SIZE: 6 3/4" x 18" GLB

P1 = UFB1 = 3712#

POLLARD•HOSMAR•ASSOCIATES•, HOME DESIGNERS, INC.

7110 SW FIR LOOP•SUITE 210•TIGARD, OR 97223 (503) 624-9251 FAX: (503)624-9466 www.poho.com

PLAN/PROJECT NUMBER: 2084D/99071 (2)
CLIENT: BELLA VISTA
CALCULATIONS BY: SAM
DATE: 10/2/99

LIVE LOADS:
ROOF ____ #/sf COMP / SHAKE / TILE / TRUSS / STICK FRAME
ATTIC ____ #/sf LIM. STOR. ____ #/sf NO STOR.
FLOOR ____ #/sf

BEAM INFORMATION **DIAGRAM** **LOADS**

BEAM # UFB3 R1 594# 13.5 R2

LOCATION: FAMILY RM
SIZE: (2) 2x10

EBW: 8PLF
W
Ø-13.5 8'(10) = 80 PLF (WALL)

P2.5 (594#) 1105 PLF
810
2.5' R1 R2

BEAM # UFB4 R1 5094# 9.5' R2 5356#

LOCATION: SL. DR. HDR
SIZE: 5 1/8" x 10 1/2"

EBW: 10PLF
W
Ø-2.5 18'(45) = 810 PLF (RF)
W
2.5-9.6 15'(45) = 676 PLF (RF)
8'(10) = 80 (WALL
7'(50) = 350 (FLR)
1105 PLF
P2.5 = UFB3 = 594#

BEAM # UFB5 R1 1520# 5 R2

LOCATION: PWDR HDR
SIZE: 4x8 MIN

EBW = 8PLF
W
Ø-5' 12'(150) = 600 PLF (FLR)

BEAM # UFB6 R1 932# 3.5' R2

LOCATION: HALL FLUSH HDR
SIZE: (2) 2x10

EBW = 8 PLF
W
Ø-3.5' 10.5'(50) = 525 PLF (FLR)

POLLARD•HOSMAR•ASSOCIATES•, HOME DESIGNERS, INC.

7110 SW FIR LOOP•SUITE 210•TIGARD, OR 97223 (503) 624-9251 FAX: (503)624-9466 www.poho.com

PLAN/PROJECT NUMBER: 2084D/99071
CLIENT: BELLA VISTA
CALCULATIONS BY: SAM
DATE: 10/2/99

LIVE LOADS: (3)
ROOF_____#/sf COMP / SHAKE / TILE / TRUSS / STICK FRAME
ATTIC_____#/sf LIM. STOR. _____#/sf NO STOR.
FLOOR_____#/sf

BEAM INFORMATION **DIAGRAM** **LOADS**

EBW: 15 PLF

W
@-4' 11'(50) = 550 PLF (FLR)

W
4'-10' 7.5'(50) = 375 PLF (FLR)

Received
MAR 2 4 2000
Permit Number

BEAM # UPB7 R1 2610# 10' R2 2090#

LOCATION: STAIRS / LIVING
SIZE: 3 1/8" x 9"

BEAM # _____ R1 _____ R2 _____

LOCATION: _____
SIZE: _____

BEAM # _____ R1 _____ R2 _____

LOCATION: _____
SIZE: _____

BEAM # _____ R1 _____ R2 _____

LOCATION: _____
SIZE: _____

B E A M A N A L Y S I S

SHAKE ROOF

PREPARED BY: POLLARD - HOSMAR Designers, Inc.
Tigard, Oregon
CALCULATION BY: SAM
Client: BELLA VISTA
Project: 99071/2084D
Location: GARAGE DOOR HDR.
Date: 06-02-1999
Comment: CB1 = 5 1/8" x 12" GLB.

BEAM AND LOAD DIAGRAM

Reaction R1 = 4,960.2 lbs. Reaction R2 = 2,239.8 lbs.
Total load = 7,200.0 lbs.
Dimensions: Clear span = 16.5 feet, no overhang.

No point loads.
No triangular loads.
Uniform beam weight= 15 lbs/lf (= 247.5 lbs. total).
Uniform loads: U2 = 135.0 lbs/lf at 7.0 feet to 16.5 feet.
U1 = 810.0 lbs/lf at 0.0 feet to 7.0 feet.
Deflection limit (live load plus dead load): 1/240.

BEAM TYPE LAM : 24 F GLULAM

COMPUTED STRESS/STRAIN		DESIGN VAL.	PROPERTIES	REQUIRED	ACTUAL
Shear (lbs)	4,960.2	FV 189.8	Area (Sq.In.)	39	52
Moment (ft-lbs)	14,911.4	FB 2,760.0	Sect.Modulus	65	89
Deflection (in)	0.83	E 1.80E6	Mom.Inertia	458	458*

Actual Maximum Deflection = 0.82 inches.
Maximum Deflection occurs at 7.5 feet.
Maximum Moment occurs at 6.0 feet.

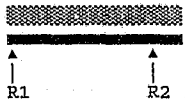
MINIMUM BEAM SIZE (W x H): 5.125" by 10.234"

MINIMUM BEAM AREA (Sq.In.): 52.45

B E A M A N A L Y S I S SHAKE ROOF

PREPARED BY: POLLARD - HOSMAR Designers, Inc.
Tigard, Oregon
CALCULATION BY: SAM
Client: BELLA VISTA
Project: 99071/2084D
Location: PORCH BEAM
Date: 06-02-1999
Comment: PB1 = 4x8 #2 DF/L BM

BEAM AND LOAD DIAGRAM



Reaction R1 = 1,341.7 lbs. Reaction R2 = 1,878.3 lbs.
Total load = 3,220.0 lbs.
Dimensions: Clear span = 6.0 feet, overhang = 1.0 feet.

No point loads.
No triangular loads.
Uniform beam weight= 10 lbs/lf (= 70 lbs. total).
Uniform loads: U1 = 450.0 lbs/lf at 0.0 feet to 7.0 feet.
Deflection limit (live load plus dead load): 1/240.

BEAM TYPE WOOD : FIR/LARCH 4X #2

COMPUTED STRESS/STRAIN		DESIGN VAL.	PROPERTIES	REQUIRED	ACTUAL
Shear (lbs)	1,418.3	FV 109.3	Area (Sq.In.)	19	22
Moment (ft-lbs)	1,955.0	FB 1,006.3	Sect.Modulus	23	23*
Deflection (in)	0.30	E 1.60E6	Mom.Inertia	26	74

Actual Maximum Deflection = 0.10 inches.
Maximum Deflection occurs at 3.0 feet.
Maximum Moment occurs at 3.0 feet.

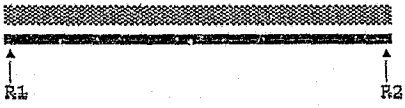
MINIMUM BEAM SIZE (W x H): 3.500" by 6.322"

MINIMUM BEAM AREA (Sq.In.): 22.13

B E A M A N A L Y S I S SHAKE ROOF

PREPARED BY: POLLARD - HOSMAR Designers, Inc.
Tigard, Oregon
CALCULATION BY: SAM
Client: BELLA VISTA
Project: 99071/2084D
Location: GARAGE BM
Date: 06-02-1999
Comment: UFB1 = 5 1/8" x 12" GLB

BEAM AND LOAD DIAGRAM



Reaction R1 = 3,712.0 lbs. Reaction R2 = 3,712.0 lbs.
Total load = 7,424.0 lbs.
Dimensions: Clear span = 16.0 feet, no overhang.

No point loads.
No triangular loads.
Uniform beam weight= 15 lbs/lf (= 240 lbs. total).
Uniform loads: U1 = 449.0 lbs/lf at 0.0 feet to 16.0 feet.
Deflection limit (live load plus dead load) 1/360.

BEAM TYPE LAM : 24 F GLULAM

COMPUTED STRESS/STRAIN		DESIGN VAL.		PROPERTIES	REQUIRED	ACTUAL
Shear (lbs)	3,712.0	FV	165.0	Area (Sq.In.)	34	61
Moment (ft-lbs)	14,848.0	FB	2,400.0	Sect.Modulus	74	120
Deflection (in)	0.53	E	1.80E6	Mom.Inertia	712	712*

Actual Maximum Deflection = 0.53 inches.
Maximum Deflection occurs at 8.0 feet.
Maximum Moment occurs at 8.0 feet.

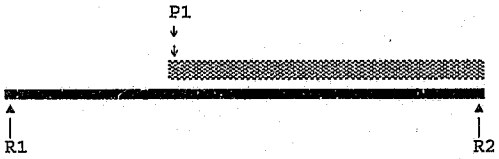
MINIMUM BEAM SIZE (W -- H): 5.125" by 11.855"

MINIMUM BEAM AREA (Sq.In.): 60.76

B E A M A N A L Y S I S SHAKE ROOF

PREPARED BY: POLLARD - HOSMAR Designers, Inc.
Tigard, Oregon
CALCULATION BY: SAM
Client: BELLA VISTA
Project: 99071/2084D
Location: GARAGE
Date: 06-02-1999
Comment: UFB2 = (2) 3/4" x 18" GLB

BEAM AND LOAD DIAGRAM



Reaction R1 = 6,525.2 lbs. Reaction R2 = 9,624.8 lbs.
Total load = 16,150.0 lbs.
Dimensions: Clear span = 20.0 feet, no overhang.

Point loads: P1 = 3,712.0 lbs. at 7.0 feet.
No triangular loads.
Uniform beam weight= 20 lbs/lf (= 400 lbs. total).
Uniform loads: U1 = 926.0 lbs/lf at 7.0 feet to 20.0 feet.
Deflection limit (live load plus dead load): 1/360.

BEAM TYPE LAM : 24 F GLULAM

COMPUTED STRESS/STRAIN		DESIGN VAL.		PROPERTIES	REQUIRED	ACTUAL
Shear (lbs)	9,624.8	FV	165.0	Area (Sq.In.)	87	116
Moment (ft-lbs)	48,948.5	FB	2,400.0	Sect.Modulus	255	333
Deflection (in)	0.67	E	1.80E6	Mom.Inertia	2,868	2,868*

Actual Maximum Deflection = 0.67 inches.
Maximum Deflection occurs at 10.0 feet.
Maximum Moment occurs at 10.0 feet.
Size Factor = 0.961 DETERMINING FACTOR = *

MINIMUM BEAM SIZE (W x H): 6.750" by 17.212"

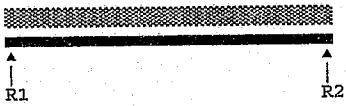
MINIMUM BEAM AREA (Sq.In.): 116.18

B E A M A N A L Y S I S

SHAKE ROOF

PREPARED BY: POLLARD - HOSMAR Designers, Inc.
Tigard, Oregon
CALCULATION BY: SAM
Client: BELLA VISTA
Project: 99071/2084D
Location: FAMILY RM
Date: 06-02-1999
Comment: UFB3 = LAM(C) 2X10

BEAM AND LOAD DIAGRAM



Reaction R1 = 594.0 lbs. Reaction R2 = 594.0 lbs.
Total load = 1,188.0 lbs.
Dimensions: Clear span = 13.5 feet, no overhang.

No point loads.
No triangular loads.
Uniform beam weight= 8 lbs/lf (= 108 lbs. total).
Uniform loads: U1 = 80.0 lbs/lf at 0.0 feet to 13.5 feet.
Deflection limit (live load plus dead load): 1/360.

BEAM TYPE WOOD : 2 X 10 No.2 JSTS.

COMPUTED STRESS/STRAIN		DESIGN VAL.	PROPERTIES	REQUIRED	ACTUAL
Shear (lbs)	594.0	FV 95.0	Area (Sq.In.)	9	21
Moment (ft-lbs)	2,002.0	FB 1,105.0	Sect.Modulus	22	25
Deflection (in)	0.45	E 1.60E6	Mom.Inertia	91	91*

Actual Maximum Deflection = 0.45 inches.
Maximum Deflection occurs at 6.5 feet.
Maximum Moment occurs at 6.5 feet.

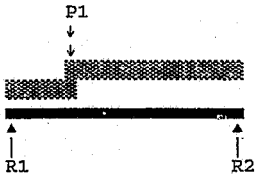
MINIMUM BEAM SIZE (W x H): 3.000" by 7.140"

MINIMUM BEAM AREA (Sq.In.): 21.42

B E A M A N A L Y S I S SHAKE ROOF

PREPARED BY: POLLARD - HOSMAR Designers, Inc.
Tigard, Oregon
CALCULATION BY: SAM
Client: BELLA VISTA
Project: 99071/2084D
Location: SLIDING DOOR HDR
Date: 06-02-1999
Comment: UFB4 = 5 1/8" x 10 1/2" GLB

BEAM AND LOAD DIAGRAM



Reaction R1 = 5,093.5 lbs. Reaction R2 = 5,355.5 lbs.
Total load = 10,449.0 lbs.
Dimensions: Clear span = 9.5 feet, no overhang.

Point loads: P1 = 594.0 lbs. at 2.5 feet.
No triangular loads.
Uniform beam weight= 10 lbs/lf (= 95 lbs. total).
Uniform loads: U2 = 1,105.0 lbs/lf at 2.5 feet to 9.5 feet.
U1 = 810.0 lbs/lf at 0.0 feet to 2.5 feet.
Deflection limit (live load plus dead load): 1/360.

BEAM TYPE LAM : 24 F GLULAM

COMPUTED STRESS/STRAIN		DESIGN VAL.	PROPERTIES	REQUIRED	ACTUAL
Shear (lbs)	5,355.5	FV 165.0	Area (Sq.In.)	49	49*
Moment (ft-lbs)	12,840.1	FB 2,400.0	Sect.Modulus	64	77
Deflection (in)	0.32	E 1.80E6	Mom.Inertia	364	366

Actual Maximum Deflection = 0.31 inches.
Maximum Deflection occurs at 4.5 feet.
Maximum Moment occurs at 4.5 feet.

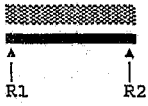
MINIMUM BEAM SIZE (W x H): 5.125" by 9.500"

MINIMUM BEAM AREA (Sq.In.): 48.69

B E A M A N A L Y S I S SHAKE ROOF

PREPARED BY: POLLARD - HOSMAR Designers, Inc.
Tigard, Oregon
CALCULATION BY: SSAM
Client: BELLA VISTA
Project: 99071/2084D
Location: POWDER RM HDR
Date: 06-02-1999
Comment: UFB5 - 4x8 #2DF/L (min.)

BEAM AND LOAD DIAGRAM



Reaction R1 = 1,520.0 lbs. Reaction R2 = 1,520.0 lbs.
Total load = 3,040.0 lbs.
Dimensions: Clear span = 5.0 feet, no overhang.

No point loads.
No triangular loads.
Uniform beam weight= 8 lbs/lf (= 40 lbs. total).
Uniform loads: U1 = 600.0 lbs/lf at 0.0 feet to 5.0 feet.
Deflection limit (live load plus dead load): 1/360.

BEAM TYPE WOOD : FIR/LARCH 4X #2

COMPUTED STRESS/STRAIN		DESIGN VAL.		PROPERTIES	REQUIRED	ACTUAL
Shear (lbs)	1,520.0	FV	95.0	Area (Sq.In.)	24	24*
Moment (ft-lbs)	1,900.0	FB	875.0	Sect.Modulus	26	27
Deflection (in)	0.17	E	1.60E6	Mom.Inertia	32	94

Actual Maximum Deflection = 0.06 inches.
Maximum Deflection occurs at 2.5 feet.
Maximum Moment occurs at 2.5 feet.

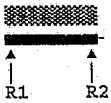
MINIMUM BEAM SIZE (W x H): 3.500" by 6.857"

MINIMUM BEAM AREA (Sq.In.): 24.00

B E A M A N A L Y S I S SHAKE ROOF

PREPARED BY: POLLARD - HOSMAR Designers, Inc.
Tigard, Oregon
CALCULATION BY: SSAM
Client: BELLA VISTA
Project: 99071/2084D
Location: HALL FLUSH HDR
Date: 06-02-1999
Comment: UFB6 = LAM(2) 2x10

BEAM AND LOAD DIAGRAM



Reaction R1 = 932.8 lbs. Reaction R2 = 932.8 lbs.
Total load = 1,865.5 lbs.
Dimensions: Clear span = 3.5 feet, no overhang.

No point loads.
No triangular loads.
Uniform beam weight= 8 lbs/lf (= 28 lbs. total).
Uniform loads: U1 = 525.0 lbs/lf at 0.0 feet to 3.5 feet.
Deflection limit (live load plus dead load): 1/360.

BEAM TYPE WOOD : 2 X 10 No.2 JSTS.

COMPUTED STRESS/STRAIN		DESIGN VAL.	PROPERTIES	REQUIRED	ACTUAL
Shear (lbs)	932.8	FV 95.0	Area (Sq.In.)	15	15*
Moment (ft-lbs)	799.5	FB 1,105.0	Sect.Modulus	9	12
Deflection (in)	0.12	E 1.60E6	Mom.Inertia	9	30

Actual Maximum Deflection = 0.04 inches.
Maximum Deflection occurs at 1.5 feet.
Maximum Moment occurs at 1.5 feet.

MINIMUM BEAM SIZE (W x H): 3.000" by 4.909"

MINIMUM BEAM AREA (Sq.In.): 14.73

B E A M A N A L Y S I S

SHAKE ROOF

PREPARED BY: POLLARD - HOSMAR Designers, Inc.
Tigard, Oregon
CALCULATION BY: SSAM
Client: BELLA VISTA
Project: 99071/2084D
Location: STAIRS/LIVING
Date: 06-02-1999
Comment: UFB7 - 3 1/8" X 9" GLB

BEAM AND LOAD DIAGRAM

Reaction R1 = 2,510.0 lbs. Reaction R2 = 2,090.0 lbs.
Total load = 4,600.0 lbs.
Dimensions: Clear span = 10.0 feet, no overhang.

No point loads.
No triangular loads.
Uniform beam weight= 15 lbs/lf (= 150 lbs. total).
Uniform loads: U2 = 375.0 lbs/lf at 4.0 feet to 10.0 feet.
U1 = 550.0 lbs/lf at 0.0 feet to 4.0 feet.
Deflection limit (live load plus dead load): 1/360.

BEAM TYPE LAM : 24 F GLULAM

COMPUTED STRESS/STRAIN		DESIGN VAL.	PROPERTIES	REQUIRED	ACTUAL
Shear (lbs)	2,510.0	FV 165.0	Area (Sq.In.)	23	27
Moment (ft-lbs)	5,596.3	FB 2,400.0	Sect.Modulus	28	39
Deflection (in)	0.33	E 1.80E6	Mom.Inertia	168	168*

Actual Maximum Deflection = 0.33 inches.
Maximum Deflection occurs at 5.0 feet.
Maximum Moment occurs at 4.5 feet.

MINIMUM BEAM SIZE (W x H): 3.125" by 8.642"

MINIMUM BEAM AREA (Sq.In.): 27.01

Tualatin Valley Builders Supply

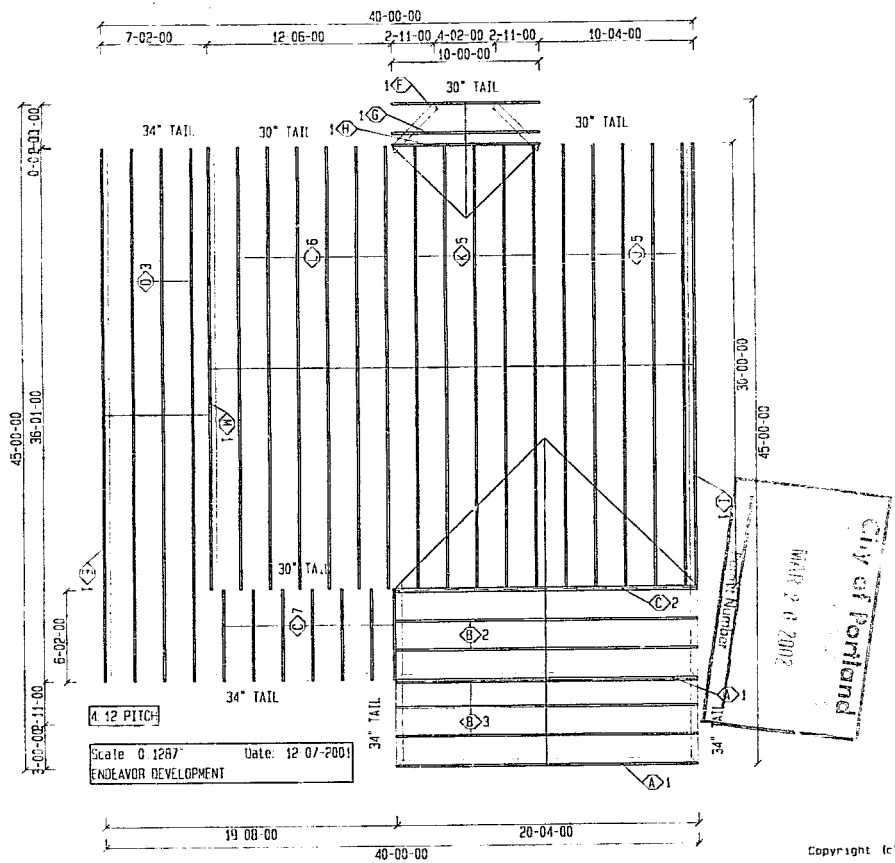
5974 Jean Road Lake Oswego, OR 97035
Phone: (503) 635-7731 Fax: (503) 635-5947

01-175516 RS

MANUFACTURED ROOF TRUSS DESIGN

ENDEAVOR DEVELOPMENT

Salesman: Doug Minor (503) 705-0102
doug.minor@tvbsinc.com



CSA CONSULTING ENGINEERS
ENGINEERING EXCELLENCE

December 19, 2001

Brooks Howard
Endeavor Development

RE: Addition of Ponywalls; Lots 13 & 14, Job #2911

CSA Consulting Engineers has reviewed the lateral bracing requirements resulting from the addition of ponywalls below our specified main level shearwalls. We have determined that our original lateral design is valid with the following modifications: the shear wall along the front of the house should have a C/12A schedule, and detail HD5/S2 is applicable for the main floor hold down connections to the ponywalls and to the foundation.

We trust that this will provide the information you need at this time. If we can be of further help please do not hesitate to call.

Sincerely,
CSA Consulting Engineers

Kendra D. Flemmer, E.I.T.

City of Portland
APPROVED
MAR 2 6 2002
Permit Number

REGISTERED PROFESSIONAL ENGINEER 17903 OREGON JANUARY 25, 1985 JEFFREY S. SENKEL
6-30-02

01-173516 CO

321 S.W. 4th, 4th Floor • Portland, Oregon 97204
(503) 228-3848 E-mail: csa@cnnw.net FAX (503) 228-0475

CSA CONSULTING ENGINEERS
ENGINEERING EXCELLENCE

RETAINING WALL DESIGN

For
ENDEAVOR DEVELOPMENT
PLAN #2084-D

CSA JOB #2911

1/7/02 - OREGON

321 S.W. 4th, 4th Floor • Portland, Oregon 97204
(503) 228-3848
E-mail: csa@cnnw.net
FAX (503) 228-0475

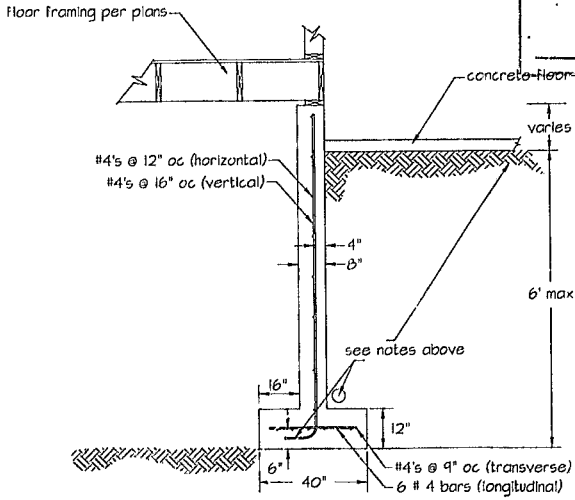
CSA Consulting Engineers
321 SW 4th, Fourth Floor
Portland, OR 97204

RETAINING WALL SECTION
(see foundation plan)

CSA Job #2911
Endeavor Development
Plan 2084-D

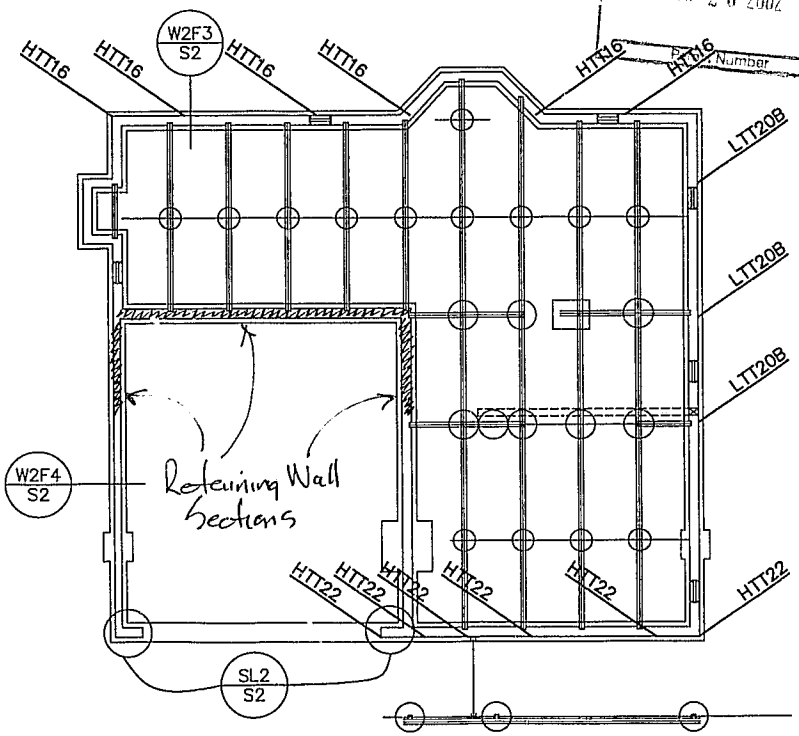
NOTES AND SPECIFICATIONS

This drawing is not to scale.
This design is invalid without an engineering stamp with "WET" signature in RED ink.
This design is valid only for the structure and location(s) indicated.
This design is valid only if the soil values listed in the calculations are verified before placement of concrete.
Specified concrete strength: 3000 psi (design uses 2500 psi - special inspections not be required per UBC 1701.5.
Specified reinforcement strength: 60000 psi
Specified lap lengths (unless otherwise noted): #4 bars-20"; #5 bars-24"; #6 bars-28"
Provide standard hook (UBC 1907.1) with 3" clearance from bottom.
Provide 4" perforated drain as shown, embedded in drain rock, covered with filter fabric.
Backfill with material that drains freely.
Base to rest on undisturbed soil or engineered fill.
For stepped construction, the base width, depth, and longitudinal reinforcement must be continuous at the change in elevation of the base.
The horizontal reinforcement in the wall and the longitudinal reinforcement in the base must extend a minimum of the required lap length into all abuting walls.



Job#2911
Plan#2084D

2/4



Retaining Wall Sections
Endeavor Development

NOTE: ~~Sect~~ The base of section along back wall of garage must be levd.....
(no steps in base)

3/S1 FOUNDATION PLAN

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

CSA Job #2911
Jan 4, 2002

CSA *Consulting Engineers*
321 SW 4th Street Portland, OR 97321 (503) 228-3848

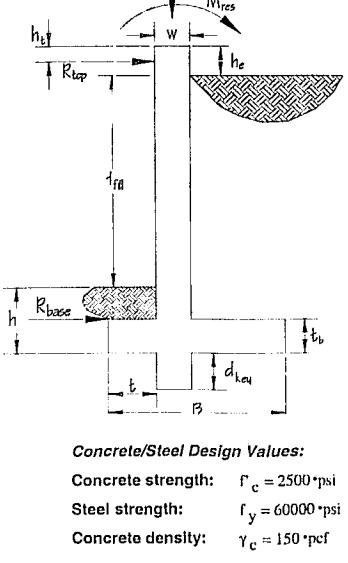
Endeavor Development
Plan 2084-D

Retaining wall design calculations

(Version 15 - 4/30/99)

PARAMETERS CONSTANT WITH HEIGHT

NOTE: The drawing below is intended only to identify the parameters used in the calculations, it is *NOT* to be used for construction or permit approval.



Wall Geometry

Height (top above backfill): $h_e = 12$ in
Distance (restaint from top): $h_t = 0$ in
Depth of Soil @ Toe: $h = 0$ in
Surcharge Angle: $\beta_f = 0$ deg
Distance (line surcharge): $d_q = 0$ ft

Soil Parameters

Equivalent Fluid Pressure: EFP = 45 pcf
Soil Density: $\gamma_s = 115$ pcf
Allowable soil bearing: $B_{pmin} = 1800$ psf
Allowable lateral press: $P_p = 285$ pcf
Sliding friction coeff: $f_{slide} = 0.35$
Alwble brng adjmnt: $UBC_{adj} = 0$

Loading:

Stemwall Load (L+D): $P_{min} = 80$ plf
$P_{max} = 1800$ plf
Surcharge: $q_{min} = 40$ psf
$q_{max} = 90$ psf
Line surcharge: $q' = 0$ plf

Concrete/Steel Design Values:

Concrete strength: $f'_c = 2500$ psi
Steel strength: $f_y = 60000$ psi
Concrete density: $\gamma_c = 150$ pcf

Restraining Conditions:

Max Restraint @ Top (R_{top}): $R_{tmax} = 0.001$ plf
Max Restraint @ Base R_{base}): $R_{bmax} = 1 \cdot 10^{307}$ plf
"0" to be interpreted as unrestrained
"10^{307}" as totally restrained
Max Resisting Moment: $M_{res} = 0$ lb

Top Restraining Conditions: $T_i = 1$
"0" means no restraint
"1" means partially restrained for worst case stem reinforcement
"2" means totally restrained

Base Restraint..
Dstnc btwn abtng walls: $l_d = 24$ ft
"0" to be interpreted as abutting walls not used for resitance against sliding

CSA Job #2911
Jan 4, 2002

CSA Consulting Engineers

Endeavor Development
Plan 2084-D

PARAMETERS WHICH VARY WITH HEIGHT

Geometry:

stem width: $w = 8 \cdot in$ Base Length: $B = 40 \cdot in$

base thickness: $t_b = 12 \cdot in$ Toe Length: $t = 16 \cdot in$ Height (H_{fill}+h): $H = 6 \cdot ft$

Key depth: $d_{key} = 0 \cdot in$ Heel Length: $h_l = 16 \cdot in$

Reinforcement: (Specified clearances are from fill face for stem and from bottom of base for toe and heel)

		Bar #	Spacing	Clearance	Number of bars
Vertical:	pos:	$s_{vp} = 4$	$sp_{vp} = 16 \cdot in$	$c_{ps} = 4 \cdot in$	
	neg:	$s_{vn} = 4$	$sp_{vn} = 16 \cdot in$	$c_{ns} = 4 \cdot in$	
Horizontal:		$s_h = 4$	$sp_h = 12 \cdot in$		
Transverse:	toe:	$b_t = 4$	$s_t = 9 \cdot in$	$c_t = 6 \cdot in$	
	heel:	$b_{th} = 4$	$s_{th} = 9 \cdot in$	$c_{th} = 6 \cdot in$	
Lontitudinal:	toe:	$b_l = 4$	$s_l = 7 \cdot in$		$n_{rl} = 6$

(disregard n_{rl} if abutting walls not used to resist sliding)

City of Portland
APPROVED
MAR 2 6 2002
Permit Number

SUMMARY OF CALCULATIONS

Sum of vertical forces: $F_v = 3787 \cdot plf$

Sum of overturning horiz forces: $F_h = 1021 \cdot plf$

Sum of resisting horiz forces: $F_r = 1 \cdot 10^{12} \cdot plf$

Sum of moments (@ middle of base): $M_o = 1367 \cdot lb$

Allowable soil pressure: $ASP = 1800 \cdot psf$

Required restaint at top: $R_{top} = 0 \cdot plf$

Required restaint at base: $R_{breq} = 809 \cdot plf$

Sfty fctrs ovrtrng: $SF_{toe} = 3.5$

Sfty fctr sldng: $SF_{sld} = 3$

Soil pressure(s):

@ toe: $SP_f = 1874 \cdot psf$

@ heel: $SP_b = 398 \cdot psf$

Position of resultant: $x_{bar} = 0.61$

	Pos Stem/Key	Neg Stem/Key	Toe	Heel
Induced Moment (ft-lbs):	$M_{barp} = 2342$	$M_{barn} = 782$	$M_{bart} = 2215$	$M_{barh} = 320$
Allowable Moment:	$M_{upos} = 2536$	$M_{uneg} = 2536$	$M_{utoe} = 6251$	$M_{uheel} = 6251$

Induced Shear (lbs): $V_{stem} = 978$ $V_{bart} = 898$ $V_{barh} = 187$

Allowable Shear: $V_{ustem} = 4080$ $V_{ubse} = 6120$

Rdctn factors for lack of development (toe and heel only): $r_t = 0.93$ $r_h = 0.93$

Moment sign convention: positive stem - tension on fill face: positive toe - tension on bottom: positive heel - tension on top

CAPACITY OF BASE TO RESIST SLIDING (not applicable if l_d=0)

$l_d = 24 \cdot ft$

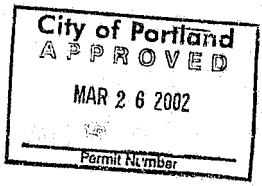
		Resistance:	Shear (lbs):	Moment (ft-lbs):
Induced:	@ shallow end:	$R_{bsml} = 809 \cdot plf$	$V_{sml} = 11433$	$M_{sml} = 0$
	@ middle:			$M_{mid} = 94979$
	@ deep end:	$R_{blrg} = 809 \cdot plf$	$V_{lrg} = 11433$	$M_{lrg} = 0$
Allowable:			$V_{ubase} = 20400$	$M_{ubase} = 98343$

CSA CONSULTING ENGINEERS
ENGINEERING EXCELLENCE

LATERAL LOAD

------ *CALCULATIONS AND DESIGN* ------

CSA JOB # 2911



01-175196

The engineering stamp affixed hereto is valid only with the original "WET" stamp, with the signature in RED ink, and only for the structure and/or the locations(s) indicated below.

------*FOR*------

POLLARD HOSMAR
ENDEAVOR DEVELOPMENT—PLAN #2084D

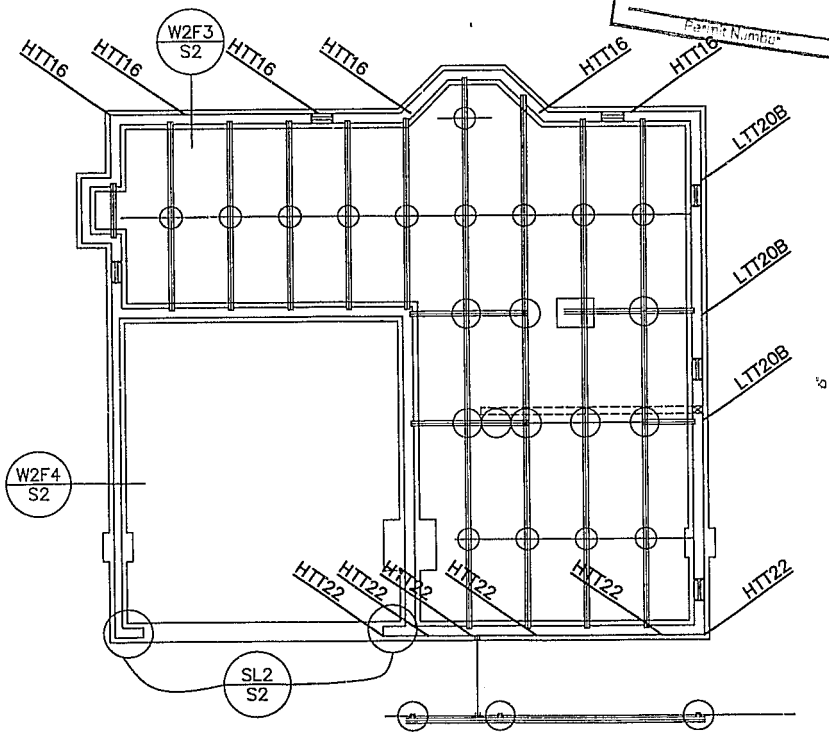
PORTLAND, OREGON

12/11/01

CSA Consulting Engineers has provided engineering drawings for this project which are consistent with the calculations contained herein and which specify the design parameters, relevant codes, and information required to implement the design.

321 S.W. 4th, 4th Floor • Portland, Oregon 97204
(503) 228-3848 E-mail: csa@cnnw.net FAX (503) 228-0475

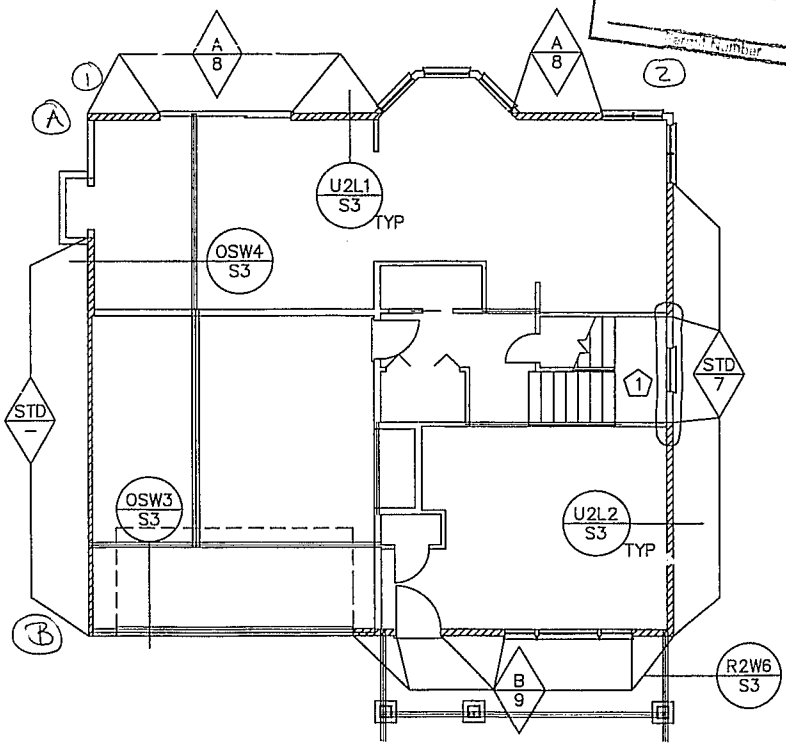
Job#2911 1/17
Plan#2084D



3/S1 FOUNDATION PLAN

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

Job #2911 2/17
Plan #2084D



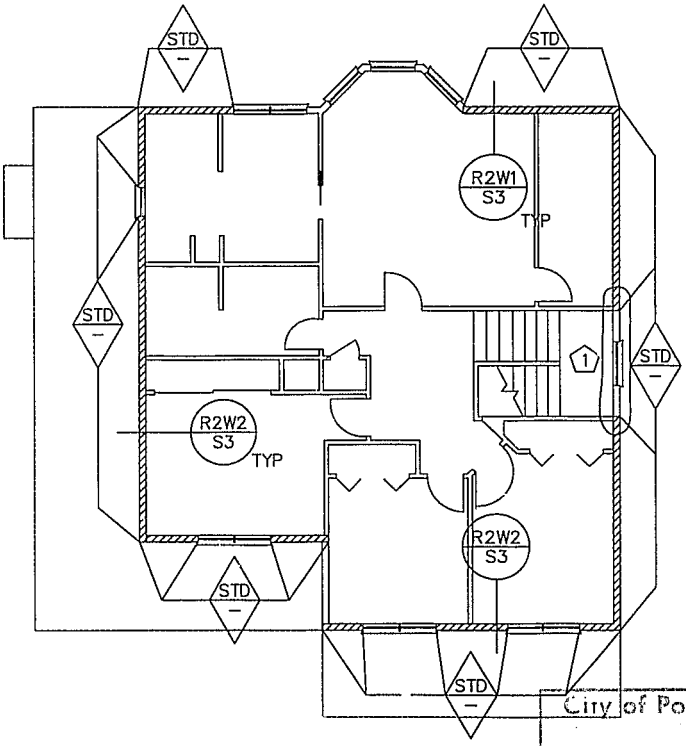
Note #1 → Balloon Frame
USE 2x6 DF-L #2
@16" o.c & (2)2x6 King studs on each side of window.

1/S1 MAIN FLOOR SHEAR WALL PLAN

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

Job# 2911
Plan# 2084D

3/17



2/S1 UPPER FLOOR SHEAR WALL PLAN

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

4/17

SHEARWALL SCHEDULE PER 1997 UBC

MARK #	PANEL TYPE	FASTENERS	@ PANEL EDGES	INTER. STUDS	REMARKS	ALLOWABLE SHEAR
GWB1	1/2" GWB EACH SIDE	5d COOLER OR 1-5/8 WALLBOARD	7" O.C.	7" O.C.	UNBLOCKED	200 PLF WIND 100 PLF SEISMIC
GWB2	5/8" GWB EACH SIDE	5d COOLER OR 1-5/8 WALLBOARD	7" O.C.	7" O.C.	UNBLOCKED	230 PLF WIND 115 PLF SEISMIC
STD	7/16" APA-RATED PANEL	8d COMMON NAILS	6" O.C.	12" O.C.		260 PLF
A	7/16" APA-RATED PANEL	8d COMMON NAILS	4" O.C.	12" O.C.		380 PLF
B	7/16" APA-RATED PANEL	8d COMMON NAILS	3" O.C.	12" O.C.		490 PLF
C	7/16" APA-RATED PANEL	8d COMMON NAILS	2" O.C.	12" O.C.	SOLID 3X MATRL. @ ADJOINING PANELS	640 PLF
D	7/16" APA-RATED PANEL EACH SIDE	8d COMMON NAILS	3" O.C.	6" O.C.	SOLID 3X MATRL. @ ADJOINING PANELS	980 PLF
E	7/16" APA-RATED PANEL EACH SIDE	8d COMMON NAILS	2" O.C.	6" O.C.	SOLID 3X MATRL. @ ADJOINING PANELS	1280 PLF
F	7/16" APA-RATED PANEL EACH SIDE	10d COMMON NAILS	2" O.C.	6" O.C.	SOLID 3X MATRL. @ ADJOINING PANELS	1740 PLF

NOTES:

1. THE LETTER IN THE TOP HALF OF THE DIAMOND (◇) ON THE FLOOR PLANS SPECIFIES THE TYPE OF SHEARWALL.
2. UNLESS OTHERWISE NOTED, ALL SHEARWALL FRAMING TO BE 16" O.C. MAXIMUM.
3. UNLESS OTHERWISE NOTED, DESIGNATED SHEARWALLS ARE TO BE BLOCKED AT ALL PANEL EDGES AND SHEATHING IS TO EXTEND FROM BOTTOM PLATE TO TOP PLATE.
4. WHERE SPECIFIED SHEARWALLS REST ON FLOORS, THE BOTTOM PLATE IS TO BE FASTENED TO A FLOOR JOIST OR BLOCKING BELOW THE FLOOR SHEATHING WITH 16d NAILS @ 4" O.C. STAGGERED.
5. 8d GALVANIZED BOX NAILS MAY BE SUBSTITUTED FOR 8d COMMON NAILS.
6. UNLESS OTHERWISE NOTED, ANCHOR BOLTS FOR "GWB1", "GWB2", AND "STD" SCHEDULE WALLS ARE TO BE 1/2" DIA. ANCHOR BOLTS @ 48" O.C. W/ 7" EMBEDMENT AND A 2x MUDSILL. FOR "A", "B", "C", "D", E" SCHEDULE WALLS, SEE THE TABLE BELOW FOR MAXIMUM SPACING OF BOLTS EMBEDED 7".

	A	B	C	D	E
1/2"	30" O.C.	24" O.C.	18" O.C.	12" O.C.	9" O.C.
5/8"	44" O.C.	34" O.C.	26" O.C.	16" O.C.	12" O.C.
3/4"	60" O.C.	46" O.C.	36" O.C.	24" O.C.	19" O.C.

5/5

HOLDOWN SCHEDULE (PER SIMPSON CATALOG)

MARK #	HOLDOWN	ALLOWABLE CAPACITY	FASTENERS CONNECTION TO FRAMING MEMBER	MIN. SIZE MEMBER / BEARING LENGTH	FASTENERS CONNECTION TO FOUNDATION
—	NONE REQ'D				
1	LSTA36 MSTA36	1,715	(26) 10d	2x4	
2	CS16 CS16R	1,650	(28) 8d (22) 10d	2x4	
3	MST37	1,905	(20) 16d	(2) 2x4	
4	MST48	3,135	(32) 16d	(2) 2x4	
5	MST60	4,785	(48) 16d	(2) 2x4	
6	MST72	5,800	(56) 16d	(2) 2x4	
7	LTT20B	1,750	(10) 16d	(2) 2x4	SSTB16 OR 5/8" J-BOLT
8	HTT16	3,480	(18) 16d	(2) 2x4	SSTB16 OR 5/8" J-BOLT
9	HTT22	4,565	(32) 16d SINKERS	(2) 2x4	SSTB24
10	PHD6-SDS3	5,860	(18) SDS 1/4X3 WOOD SCREWS	(2) 2x4	SSTB28 -- SINGLE POUR SSTB34 -TWO POUR
11	PHD8-SDS3	6,730	(24) SDS 1/4X3 WOOD SCREWS	(2) 2x4	SSTB28 -- SINGLE POUR SSTB34 -TWO POUR
12 A B C	HD8A	6,465 7,460 7,910	(3) 7/8" DIA. A307 BOLTS	3" 3 1/2" 5 1/2"	SSTB28 -- SINGLE POUR SSTB34 -TWO POUR
13 A B C	HD10A	8,310 9,540 9,900	(4) 7/8" DIA. A307 BOLTS	3" 3 1/2" 5 1/2"	SSTB28 -- SINGLE POUR SSTB34 -TWO POUR
14	HD14A	13,380	(4) 1" DIA. A307 BOLTS	5 1/2"	1" DIA. ASTM A36 STEEL THREADED ROD W/ 28" EMBEDMENT

City of Portland
APPROVED
MAR 26 2002
Permit Number

NOTES:

1. THE NUMBER IN THE BOTTOM HALF OF THE DIAMOND (◇) ON THE FLOOR PLANS SPECIFIES THE TYPE OF HOLDOWN REQUIRED.
2. ALL SPECIFIED PRODUCTS SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S SPECIFICATIONS. ANY PRODUCT OF EQUAL OR GREATER CAPACITY MAY BE SUBSTITUTED.
3. WOOD MEMBERS ARE EXPRESSED IN "NOMINAL" DIMENSIONS. LARGER MEMBERS MAY BE USED.
4. "BEARING LENGTH" REFERS TO THE LENGTH OF BOLT THAT MUST BE IN THE WOOD MEMBER. FOR 3" BEARING LENGTH, TWO 2" MEMBERS MAY BE USED.
5. WHERE TWO OR MORE STEMWALLS MEET, AND ONE OR MORE CONTINUE PAST THE OTHERS, IT IS NOT CONSIDERED A CORNER FOR DETERMINING HOLDOWN LOCATIONS.
6. WHERE DISCREPANCIES OCCUR BETWEEN THE SHEARWALL AND HOLDOWN SCHEDULES, THE MORE STRINGENT CRITERIA SHALL GOVERN.

UNLESS OTHERWISE NOTED:

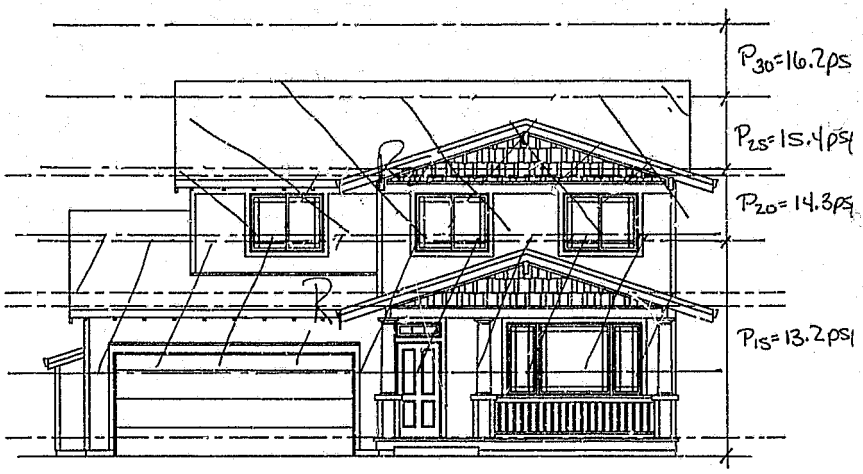
a. SPECIFIED HOLDOWNS SHALL BE INSTALLED AS CLOSE AS PRACTICAL TO THE END OF THE SHEARWALL.
b. ANCHOR BOLTS SHALL BE LOCATED NO CLOSER THAN 6" FROM A CORNER OF THE FOUNDATION.
c. USE COMMON NAILS.
d. FOUNDATION STEMWALLS SHALL BE A MINIMUM WIDTH OF 6".
e. BOTTOM PLATE OF SHEARWALLS SHALL BE NAILED TO FLOOR BELOW WITH 16d NAILS AT 4" O.C. AND/OR MUDSILL SHALL BE ANCHORED TO FOUNDATION PER FOOTNOTE "7" ON SHEARWALL SCHEDULE.
f. AT THE INTERSECTION OF TWO SPECIFIED SHEARWALLS, WHERE THE SHEATHING IS FASTENED TO THE END STUDS ACCORDING TO THE SPECIFIED NAILING SCHEDULE, THE HOLDOWN WITH THE LESSOR CAPACITY NEED TO BE USED.

REVISED 10/4/01

Job#2911
Plan #2084D

6/17

City of Portland
APPROVED
MAR 26 2002
Permit Number



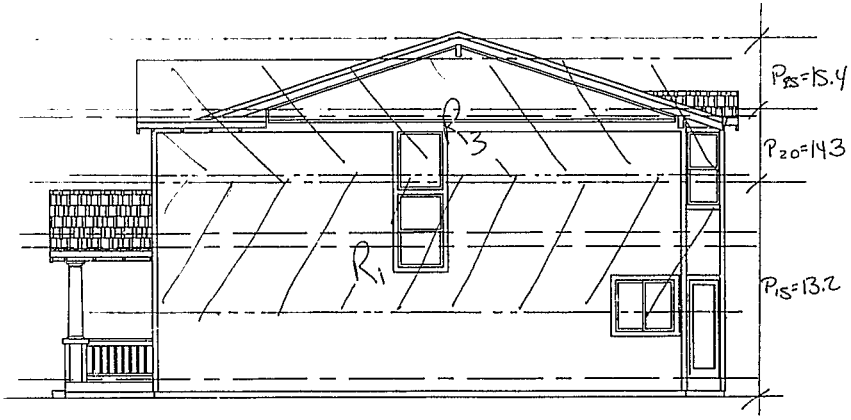
$R_1 = 9'(13.2\,psf) + 0.5'(14.3\,psf) = 130\,plf$

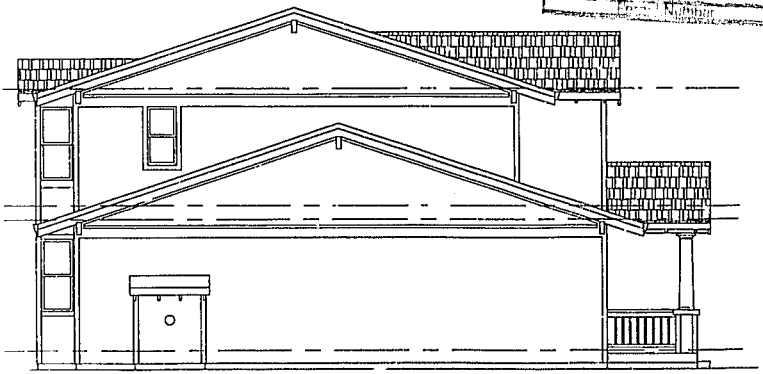
$R_2 = 4.5'(14.3\,psf) + 5'(15.4\,psf) + 1'(16.2\,psf) = 157.6\,plf$

$R_3 = 4.5'(14.3\,psf) + 3.5'(15.1\,psf) = 118.3\,plf$

Job# 2911
P'jn# 20841

7/17





Job # 2911
Plan # 2084D

8/17

9/17

WIND LOADS (Section 1620, 1997 UBC) 80mph Exposure B

Job #2911
Plan #2084D

$C_q := 1.3$ Pressure Coefficient (projected area method Table 16-H)

$q_s := 16.4$ Stagnation Factor 80mph (Table 16-F)

$I_w := 1.0$ Wind Importance Factor (Table 16-K)

Height	Exposure Factor "B"	Design Wind Pressure	
0-15'	$C_{e15} := .62$	$P_{15} := C_{e15} \cdot C_q \cdot q_s \cdot I_w$	$P_{15} = 13.2$
15'-20'	$C_{e20} := .67$	$P_{20} := C_{e20} \cdot C_q \cdot q_s \cdot I_w$	$P_{20} = 14.3$
20'-25'	$C_{e25} := .72$	$P_{25} := C_{e25} \cdot C_q \cdot q_s \cdot I_w$	$P_{25} = 15.4$
25'-30'	$C_{e30} := .76$	$P_{30} := C_{e30} \cdot C_q \cdot q_s \cdot I_w$	$P_{30} = 16.2$
30'-40'	$C_{e40} := .84$	$P_{40} := C_{e40} \cdot C_q \cdot q_s \cdot I_w$	$P_{40} = 17.9$
40'-60'	$C_{e60} := .95$	$P_{60} := C_{e60} \cdot C_q \cdot q_s \cdot I_w$	$P_{60} = 20.3$

See attached elevations for wind loading calculations

SEISMIC LOADS (Section 1630, 1997 UBC)

$Z := .3$ Seismic Zone 3 (Table 16-I)

$C_a := .36$ Soil Profile Type (Table 16-Q)

$R := 5.5$ (Table 16-N)

$I := 1.0$ Seismic Importance Factor (Table 16-K)

Roof = 15psf
Floor = 15psf
Exterior Walls = 12psf
Interior Walls = 8psf

Seismic Dead Load Calculations

Upper: $h_u := 18$

$W_{uroof} := 33 \cdot 36 \cdot 15$ $W_{uroof} = 17820$

$W_{ufloor} := 0$ $W_{ufloor} = 0$

$W_{uextwalls} := 138 \cdot 4 \cdot 12$ $W_{uextwalls} = 6624$

$W_{uintwalls} := 149 \cdot 4 \cdot 8$ $W_{uintwalls} = 4768$

$W_u := W_{uroof} + W_{ufloor} + W_{uextwalls} + W_{uintwalls}$ $W_u = 29212$

City of Portland
APPROVED
MAR 0 6 2002
Permit Number

Main: $h_m := 9$

$W_{mroof} := 0$ $W_{mroof} = 0$

$W_{mfloor} := 40 \cdot 36 \cdot 15$ $W_{mfloor} = 21600$

$W_{mextwalls} := 152 \cdot 9 \cdot 12$ $W_{mextwalls} = 16416$

$W_{mintwalls} := 97 \cdot 9 \cdot 8$ $W_{mintwalls} = 6984$

$W_m := W_{mroof} + W_{mfloor} + W_{mextwalls} + W_{mintwalls}$ $W_m = 45000$

$W := W_u + W_m$ $W = 74212$

11/17

Base Shear

Job #2911
Plan #2084D

$V = \frac{2.5\,C_a\,I}{R} \cdot W$ Static Force Procedure (Section 1630.2) $V = 12144$

$F_h = \frac{V}{1.4}$ (for allowable stress design)

Vertical Distribution of Force (Section 1630.5)

$F_u = \frac{E_h \cdot W_u \cdot h_u}{W_u \cdot h_u + W_m \cdot h_m}$ $F_u = 4900$

$F_m = \frac{E_h \cdot W_m \cdot h_m}{W_u \cdot h_u + W_m \cdot h_m}$ $F_m = 3774$

See following spread sheet which proportions lateral loads to shear walls assuming diaphragms are flexible

12/17

LATERAL SHEAR CALCULATIONS

Due to Wind and Seismic Loads:

Date: 12/11/01

Job: 2311

Shear Wall	Seismic Line Shear (lbs)	Wind Line Shear (lbs)	Seismic Line Shear Above (lbs)	Wind Line Shear Above (lbs)	Total Seismic Line Shear (lbs)	Total Wind Line Shear (lbs)	Total Full-Height Wall Pier Length (ft)	Seismic Shear Before (plf)	ρ	ρ max	Seismic Shear After (plf)	Wind Shear (plf)	Max Shear (plf)	Shear Wall Type
A_B	1440													
Upper Floor Left-to-Right														
A	2450	2129			2450	2129	17.50	140	1.00	1.00	140	122	140	STD
B	2450	2129			2450	2129	19.00	129	1.00	1.00	129	112	129	STD
				sum	4900									
Main Floor Left-to-Right														
A	1887	2340	2450	2129	4337	4469	17.00	255	1.00	1.00	255	263	263	A
B	1887	2340	2450	2129	4337	4469	9.50	457	1.00	1.00	457	470	470	B
				sum	8674									
Upper Floor Front-to-Rear														
1	2450	2600			2450	2600	28.00	88	1.00	1.00	88	93	93	STD
2	2450	2600			2450	2600	29.00	84	1.00	1.00	84	90	90	STD
				sum	4900									
Main Floor Front-to-Rear														
1	1887	2600	2450	2600	4337	5200	26.50	164	1.00	1.00	164	196	196	STD
2	1887	2600	2450	2600	4337	5200	24.00	181	1.00	1.00	181	217	217	STD
				sum	8674									

Calculation of ρ:

$$r_i = \frac{\text{Wall Line Shear}}{\text{Story Shear}} * \frac{10}{\text{Total Wall Length}}, \quad \rho = 2 - \frac{20}{r_i * A_B^{1/2}},$$

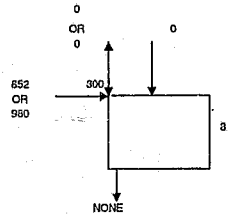
Therefore: $$\rho = 2 - \frac{20}{\frac{\text{Wall Line Shear}}{\text{Story Shear}} * \frac{10}{\text{Total Wall Length}} * A_B^{1/2}}$$

City of Portland
APPROVED
MAR 2 6 2002
Permit Number

Job# 2911

UPLIFT CALCULATIONS

Mark: A — Upper Floor Left-to-Right



Horizontal Shear

Wind Shear (plf)	Seismic Shear (plf)	Length of wall pair (ft)
122	140	7

Dead Load

	Length of surface (ft)	Height or Trib width (ft)	Area Weight (psf)	Dead Load (lb)
Wall:	7	8	12	672
Roof:	7	17	15	1732.5
Floor:	7	0	10	0

Dead Load @ end of wall (lbs) 300
Upper floor uplift @ end of wall (lbs) 0

Wind Uplift (lbs) -29
Seismic Uplift (lbs) -232
Holdown Required >: NONE

Mark	Wind Unit Shear (plf)	Seismic Unit Shear (plf)	Length of Wall Pier (ft)	Height of Wall Pier (ft)	Dead Load Information				Wind Uplift From Upper Floor (lbs)	Seismic Uplift From Upper Floor (lbs)	Wind Uplift (lbs)	Seismic Uplift (lbs)	Hldown Req'd
					Roof Trib. Length	Floor Trib. Length	Total Wall Dead Load	End Dead Load					
Upper Floor Left-to-Right													
A	122	140	7	8	17	0	2405	300			-29	-232	NONE
B	112	129	3	8	17	0	1031	200			420	388	NONE
Main Floor Left-to-Right													
A	263	255	5	9	0	7	690		-29	-232	2041	1664	HTT16
B	470	457	2	9	4	2	376		420	388	4528	4327	HTT22
Upper Floor Front-to-Rear													
1	93	88	8	8	2	0	593	300			312	118	NONE
2	90	84	16	8	2	0	2016	650			-389	-816	NONE
Main Floor Front-to-Rear													
1	96	164	29	9	0	10	5928		312	118	101	-1077	NONE
2	217	181	12	9	0	2	1472		-389	-816	1071	148	LTT20B

Uplift Calculation Notes:
1. Shear (lb) = Unit shear (plf) x Length of wall pier (ft)
2. Dead Load (lb) = Dead load of wall and floors and/or roof resting on wall
3. Wind Uplift (lb) =
[(Wind shear (lb) x Wall height (ft)) + (Upper floor uplift (lbs) x Length wall pair (ft)) - (2/3 x Dead Load x 1/2 Length wall pier)] - (2/3 x End Dead Load x Length wall pair)]
Length wall pair (ft)
4. Seismic Uplift (lb) =
[(Seismic shear (lb) x Wall height (ft)) + (Upper floor uplift (lbs) x Length wall pair (ft)) - (.9 x Dead Load x 1/2 Length wall pier)] - (.9 x End Dead Load x Length wall pair)]
Length wall pair (ft)

City of Portland
APPROVED
MAR 2 6 2002
Permit Number

14/17

Gravity + Lateral Loads on Stud

NDS 1997--Section 3.9.2

Job # 2911
Studs

W = wind loading (psf)
w = wind loading to stud (psf)
s = stud spacing (ft)
L = length of stud (ft)
M = moment (ft*lbs)
S = section modulus (in^3/ft) (7.56 for 2x6)
f_b = applied bending stress (psi)
F'_b = allowable bending stress
C_{DW} = load duration factor (wind)
C_{DP} = load duration factor (axial)
C_M = wet factor
C_t = temperature factor
C_p = column stability factor
C_L = beam stability factor
C_F = size factor
C_r = repetitive member factor
f_c = applied compression stress (psi)
P = axial load (plf) (Roof live load not included)
p = axial load to stud (lbs)
A = area of stud (in^2)
l_e = unbraced length of column (in)
d = depth of stud (in)
F_{cE} = critical buckling for compression (psi)
E = modulus of elasticity (16000000 psi DF#2)
K_{cE} = Euler buckling coefficient for columns (0.3)
F'_c = allowable compression parallel to grain (psi)

c = buckling and crushing interaction factor for columns (0.8)

2x6 DF#2 Stud @ 16" o.c.

W = 15.4	C_{DW} = 1.6	C_{DP} = .9	b = 2·1.5
s = 1.33	C_M = 1.0	C_r = 1.15	d = 3.5
L = 18	C_t = 1.0	C_L = 1.0	A = b·d
P = 60	F_b = 875	C_{Fb} = 1.3	p = P·s
S = 7.56	c = .8	C_{Fc} = 1.1	w = W·s
K_{cE} = .3	E = 1600000	F_c = 1400	l_e = L

Bending

$$M = \frac{w \cdot L^2}{8} \qquad f_b := M \cdot \frac{12}{S} \qquad F'_b := F_b \cdot C_{DW} \cdot C_M \cdot C_t \cdot C_L \cdot C_{Fb} \cdot C_r$$

f_b = 1317 $\qquad F'_b$ = 2093 $\qquad F'_b > f_b$ OK

Axial

$$F_{cE} := \frac{K_{cE} \cdot E}{\left(\frac{l_e \cdot 12}{d}\right)^2} \qquad F'_c := F_c \cdot C_{DP} \cdot C_M \cdot C_t \cdot C_{Fc} \qquad f_c = \frac{p}{A}$$

F_{cE} = 126 $\qquad F'_c$ = 1386 $\qquad f_c$ = 8

$$C_p = \frac{1 + \frac{F_{cE}}{F''_c}}{2 \cdot c} - \sqrt{\left(\frac{1 + \frac{F_{cE}}{F''_c}}{2 \cdot c}\right)^2 - \frac{\frac{F_{cE}}{F''_c}}{c}} \qquad C_p = 0.089$$

$F'_c = F''_c \cdot C_p$ $F'_c = 124$ $f_c = 8$ $F'_c > f_c$ OK

Combined Stresses

$$\left(\frac{f_c}{F'_c}\right)^2 + \frac{f_b}{F'_b \cdot \left(1 - \frac{f_c}{F_{cE}}\right)} = 0.673 \quad < 1 \quad \text{OK}$$

City of Portland
APPROVED
MAR 2 6 2002
Permit Number

16/17

Gravity + Lateral Loads on Stud

NDS 1997--Section 3.9.2

Job # 2911
Window Studs

W = wind loading (psf)
w = wind loading to stud (psf)
s = stud spacing (ft)
L = length of stud (ft)
M = moment (ft*lbs)
S = section modulus (in^3/ft) (7.56 for 2x6)
f_b = applied bending stress (psi)
F'_b = allowable bending stress
C_{DW} = load duration factor (wind)
C_{DP} = load duration factor (axial)
C_M = wet factor
C_t = temperature factor
C_p = column stability factor
C_L = beam stability factor
C_F = size factor
C_r = repetitive member factor
f_c = applied compression stress (psi)
P = axial load (plf) (Roof live load not included)
p = axial load to stud (lbs)
A = area of stud (in^2)
l_e = unbraced length of column (in)
d = depth of stud (in)
F_{cE} = critical buckling for compression (psi)
E = modulus of elasticity (16000000 psi DF#2)
K_{cE} = Euler buckling coefficient for columns (0.3)
F'_c = allowable compression parallel to grain (psi)

c = buckling and crushing interaction factor for columns (0.8)

(2) 2x6 DF#2 King Studs @ 3' o.c.

W := 15.4	C_{DW} := 1.6	C_{DP} := .9	b := 2·1.5
s := 3	C_M := 1.0	C_r := 1.15	d := 3.5
L := 18	C_t := 1.0	C_L := 1.0	A := b·d
P := 60	F_b := 875	C_{Fb} := 1.3	p := P·s
S := 2·7.56	c := .8	C_{Fc} := 1.1	w := W·s
K_{cE} := .3	E := 1600000	F_c := 1400	l_e := L

Bending

$$M := \frac{w \cdot L^2}{8} \qquad f_b := M \cdot \frac{12}{S} \qquad F'_b := F_b \cdot C_{DW} \cdot C_M \cdot C_t \cdot C_L \cdot C_{Fb} \cdot C_r$$

f_b = 1485 $\qquad$ F'_b = 2093 $\qquad$ $F'_b > f_b$ OK

Axial

$$F_{cE} := \frac{K_{cE} \cdot E}{\left(\frac{l_e \cdot 12}{d}\right)^2} \qquad F'_c := F_c \cdot C_{DP} \cdot C_M \cdot C_t \cdot C_{Fc} \qquad f_c := \frac{p}{A}$$

F_{cE} = 126 $\qquad$ F'_c = 1386 $\qquad$ f_c = 17

$$C_p = \frac{1 + \frac{F_{cE}}{F''_c}}{2 \cdot c} - \sqrt{\left(\frac{1 + \frac{F_{cE}}{F''_c}}{2 \cdot c}\right)^2 - \frac{\frac{F_{cE}}{F''_c}}{c}} \qquad C_p = 0.089$$

$F_c = F''_c \cdot C_p$ $F_c = 124$ $f_c = 17$ $F_c > f_c$ OK

Combined Stresses

$$\left(\frac{f_c}{F_c}\right)^2 + \frac{f_b}{F_b \cdot \left(1 - \frac{f_c}{F_{cE}}\right)} = 0.84 \quad < 1 \quad \text{OK}$$

ENVIRONMENTAL SITE PLAN

TOP OF STREAM BANK (+25' TO CENTER)

City of Portland
APPROVED
MAR 2 6 2002
Permit Number

City of Portland
Office of Planning and Development Review
By [illegible] Date 3/7/02
Approved by Planning and Zoning Review

DISPOSE OF STORM WATER ON PROPERTY AS PRESCRIBED BY OPDR, PLUMBING DIVISION
SmB/BES 3/4/02 - DR.

SEPARATE SEWER CONNECTION PERMIT REQUIRED. CONNECTION IS IN THE PUBLIC RIGHT OF WAY

FLATWORK AREA:

DRIVEWAY	352 ♯
WALKWAY	50 ♯
TOTAL	402 ♯

LOT COVERAGE:

Lot AREA	5000 ♯
BLDG AREA w/ OVERHANGS	1680 ♯

5000 ÷ 1680 = 2.98

NO BUILDINGS W/IN 5' OF PROP. LINES

OVERHEAD UTILITIES

8 TREES PLANTED - MAPLE 1½" DIA-MIN

BUILDER:
ENDEAVOR DEVELOP. LLC
8902 SW WASHINGTON DR
PORTLAND OR 97223
503-246-0833

1" = 10'

N

STREET TREES REQUIRED BEFORE FINAL INSPECTION

RESIDENTIAL STREET TREE REQUIREMENTS
TWO 2 INCH CALIPER STREET TREES REQUIRED CHOOSE FROM NATIVE LIST
PLANT TREES PER CITY URBAN FORESTRY GUIDELINES FOR MORE INFO CALL 823-4489

6" CURB