

15 SW CUSTER ST DFS-01 RS03-124109

RS.03.124109 DFS.01.

H

NOV 21 2003
MICROFILMED

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CITY OF
PORTLAND, OREGON
BUREAU OF DEVELOPMENT SERVICES
1900 SW 4th Ave, Suite 5000
Portland, OR 97201



RESIDENTIAL 1 & 2 FAMILY PERMIT

03-124109-DFS-01-RS

Site Address: 15 SW CUSTER ST

Issued: 11/19/03

PROJECT INFORMATION		Occ. Group	Const. Type
Single Family Dwelling	Alteration	R3 U1	V-N
Project Description: ROOF TRUSSES			

APPLICANT	GROVE DEVELOPMENT INC *GROVE HUNT*	Phone	(503) 977-2166
PROPERTY OWNER	MARY C SR LEPSCHAT et al	Phone	
CONTRACTOR	GROVE DEVELOPMENT INC *GROVE HUNT*	Phone	

Project Details		Project Details	
Number of Stories	2	Zoning Enforcement Agency	Portland
		PAID NOV 19 2003 CITY OF PORTLAND	

This permit expires if, at any time, 180 days pass without an approved inspection. If you are not able to obtain an inspection approval within 180 days, you may request a one-time only extension of 120 days by calling 503-823-7388.

**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 852-001-0010 through 852-001-0090. You may obtain copies of the rules by calling the center. (Note: the telephone number for the Oregon Utility Notification Center is 1-800-332-2344).

CITY CONTACT

E-Mail:

Phone:

Fax: (503) 823-4172

**INSPECTION REQUEST
PHONE NUMBERS**

Building/Trade Inspections - Call Before 6:00 AM:

(503) 823-7000

TDD: (503) 823-6868

**IVR Inspection Request
Number:**

2296740



CITY OF
PORTLAND, OREGON
BUREAU OF DEVELOPMENT SERVICES
1900 SW 4th Ave, Suite 5000
Portland, OR 97201



RESIDENTIAL 1 & 2 FAMILY PERMIT

03-124109-REV-01-RS

Site Address: 15 SW CUSTER ST

Issued: 11/19/03

PROJECT INFORMATION		Occ. Group	Const. Type
Single Family Dwelling	Alteration	R3 U1	V-N
Project Description: REVISE FOUNDATION, SHEAR WALLS AND NOTCH A BEAM			

<u>APPLICANT</u>	GROVE DEVELOPMENT INC *GROVE HUNT*	Phone (503) 977-2166
<u>PROPERTY OWNER</u>	MARY C SR LEPSCHAT et al	Phone
<u>CONTRACTOR</u>	GROVE DEVELOPMENT INC *GROVE HUNT*	Phone

Project Details		Project Details	
Number of Stories	2	Water District	PORTLAND WATER
Zoning Enforcement Agency	Portland		

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BEFORE YOU DIG	ATTENTION! Oregon law requires you to follow rules adopted by the Oregon Utility Notification Center. These rules are set forth in OAR 952-001-0010 through OAR 952-001-0080. You may obtain copies of this rules by calling the center. (Note: the telephone number for the Oregon Utility Notification Center is 1-800-332-2344).
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TDD: (503) 823-6868		
IVR Inspection Request Number:	2296740	



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CONSULTING
ENGINEERS

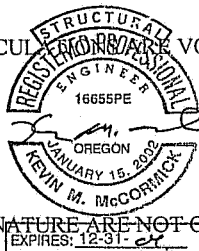
STRUCTURAL CALCULATIONS

MODIFIED BEAM AT SHEARWALL
SW CUSTER STREET, PORTLAND, OREGON
GROVE DEVELOPMENT, INC.

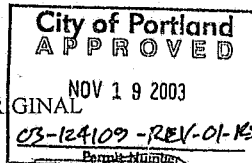
November 18, 2003
Project No. 030587
2 pages

Principal Checked: LTW

THESE CALCULATIONS ARE VOID IF SEAL



AND SIGNATURE ARE NOT ORIGINAL



*** LIMITATIONS ***

ENGINEER WAS RETAINED IN A LIMITED CAPACITY FOR THIS PROJECT.
DESIGN IS BASED UPON INFORMATION PROVIDED BY THE CLIENT,
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NO RESPONSIBILITY AND / OR LIABILITY IS ASSUMED BY,
OR IS TO BE ASSIGNED TO THE ENGINEER FOR ITEMS
BEYOND THAT SHOWN ON THESE SHEETS.

9570 SW BARBUR, #100
PORTLAND, OR 97219
PHONE (503) 246-1250
FAX (503) 246-1395

1670 SW Barbur Blvd., Suite 100 Portland, Oregon 97219-5412
Phone (503) 246-1250 Fax (503) 246-1395 www.millerengrs.com

03-124109-REV-01-KS

PROJECT DESIGN CRITERIA

Building Code: 1997 Uniform Building Code as modified by the State of Oregon

Soils Report: Yes ☐ No ☒ Soils Report by: _____ Dated: _____

Soil Bearing: 1500 Equiv. Fluid Pressure: _____ Min. Footing Embed: _____

Wind Speed: 70, 80, Other 80 Exposure: B, C, D, Other B

Seismic Zone, Z = 0.3 Importance Factor, I_p = 1.0 Structural System Coeff., R = 5.5

Material: Wood ☒ Steel ☐ Concrete ☒ CMU ☐

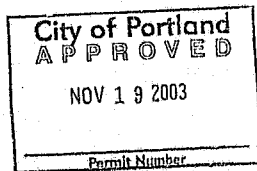
Vertical System: Wood Bearing Walls Lateral System: Wood Shearwalls

Retaining Walls: Yes ☐ No ☒ Roof Framing: Manufactured roof trusses designed by others? Yes ☒ No ☐

<u>psf</u>	<u>psf</u>	<u>psf</u>	<u>psf</u>	<u>psf</u>	<u>psf</u>
<u>Roof SL</u>	<u>Attic Floor LL</u>	<u>Floor LL</u>	<u>Deck LL</u>	<u>Garage Floor LL</u>	<u>Other</u>
Δ = _____	Δ = _____	Δ = _____	Δ = _____	Δ = _____	Δ = _____

DESIGN SUMMARY

Provide design modifications for notching of Paralam Beam at interior garage wall. Due to height constraints, the beam is too low. Notch the beam a maximum of 3 1/2" at the Simpson Strong-Wall Panels. The notched beam is adequate as a reduced section for design level forces. Simpson Strong-Wall panels cantilever off of the footing as previously designed by Miller Consulting Engineers, Inc. dated 7-3-03.



 MILLER CONSULTING ENGINEERS	9570 SW Barbur Blvd. Suite One Hundred Portland, OR 97219 (503) 246-1250 FAX: 246-1395	Project Name <u>Modified Beam at Shearwall</u>		Project # <u>030587</u>	
		Location <u>SW Custer Street, Portland, Oregon</u>			
		Client <u>Grove Development, Inc.</u>			
		By <u>KMM</u>	CK'd <u>[Signature]</u>	Date <u>11/18/03</u>	Page <u>1 of 2</u>

NOTCH PARALLAM BEAM TO FIT OVER
SIMPSON STRONG WALL

$$SPAN = 11'-0" \quad W = (\text{Floor}) + (\text{Roof}) + (\text{Wall}) = 1028$$

$$M = \frac{(1140)(11)^2}{8} = 17,243 \text{ FT-LBS}$$

$$d = 11\frac{7}{8}" - 3.5" = 8\frac{3}{8}"$$

$$S = \frac{(5.25)(8.375)^2}{6} = 61.373 \text{ IN}^3$$

$$f_b = \frac{(17,243)(12)}{61.373} = 3371 \text{ PSI} \approx (2900)(1.15) = 3335 \text{ PSI}$$

$$f_b \text{ NOTCH EFFECT} = (1.15) = 303 \text{ PSI} < 334 \text{ PSI OK.}$$

$$V = \frac{(1140)(11)}{2} = 6270 \text{ LBS.} \quad f_v = \frac{(6270)(1.5)}{(5.25)(8.375)} = 214 \text{ PSI} \leq (290)(1.15) = 334 \text{ PSI}$$

$$\Delta = 0.41" = L/319 \text{ OK.}$$

EXISTING 5 1/4" X 11 7/8"
PARALLAM CAN BE NOTCHED
TO SIT ON SIMPSON STRONG
WALL PANEL. NOTCH 3 1/2"
MAX.

CHECK FOOTING:

$$P = 6270 + (1.5)(1140) = 7980 \text{ LBS.}$$

EXISTING FOOTING IS
ADEQUATE.

$$BEARING = \frac{7980}{(2)(8)} = 1330 \text{ PSF} < 1500 \text{ PSF OK}$$

City of Portland
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NOV 19 2003

Permit Number



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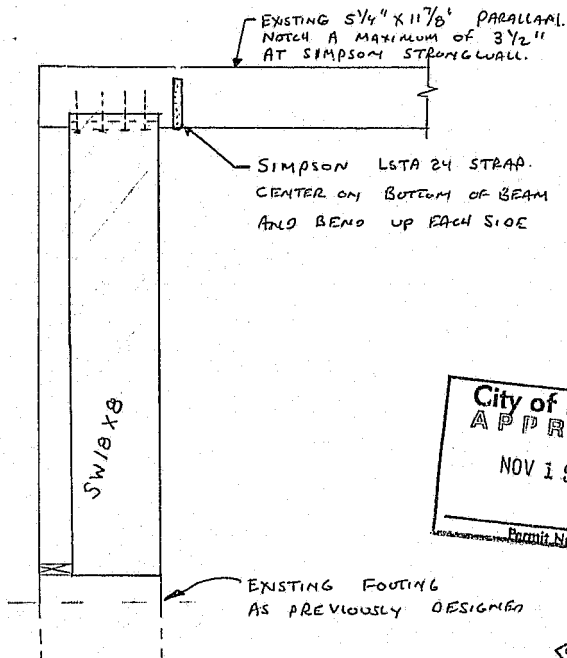
(503) 246-1250
Fax: 246-1395

Project Name MODIFIED BEAM AT SHEARWALL Project # 030587

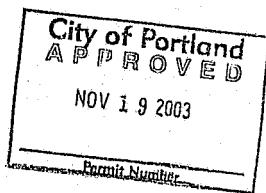
Location SW CUSTER STREET, PORTLAND OR

Client GROVE DEVELOPMENT, INC.

By KMM CK'd Y/M Date 11-18-03 Page 2 OF 2



TYPICAL SW PANEL EACH SIDE.



EXPIRES: 12-31-04



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Fax: 246-1395

Project Name MODIFIED BEAM AT SHEARWALL Project # 030587

Location SW CUSTER STREET, PORTLAND OREGON

Client GROVE DEVELOPMENT, INC.

By KMM CK'd K.C.M. Date 11-18-03 Page D1 OF D1



MILLER
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STRUCTURAL CALCULATIONS

**SHEARWALLS GROVE DEVELOPMENT
SUPPLEMENTAL CALCULATIONS**

SW CUSTER STREET, PORTLAND, OREGON

CLIENT: GROVE DEVELOPMENT, INC.

September 18, 2003

Project No. 030587

1R-3R calculation pages, E1 of E1 detail page

Principal Checked: *Kmm.*

THESE CALCULATIONS VOID IF SEAL



AND SIGNATURE ARE NOT ORIGINAL

EXPIRES: 12-31-04

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WET SIGNED
11-17-03

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PORTLAND, OR 97219
PHONE (503) 246-1250
FAX (503) 246-1395**

**City of Portland
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NOV 19 2003

Permit Number

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Phone (503) 246-1250 Fax (503) 246-1395 www.millerengrs.com

REVISED FOOTINGS FOR STEATHWALLS S1 AND R1

S1 $\Rightarrow$ SEE pg #4 of 6 of CALCULATIONS
DATED 7/3/03 (MCE JOB #030587)

$$W_{REG'D} = 5107 \# / 14' = 365 \# / 1'$$

$$(2') (1') (150 \text{ pcf}) = 300 \# / 1'$$

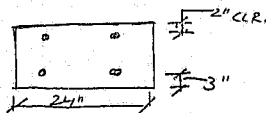
$$W_{SLAB} = (50 \text{ pcf}) (1') = 50 \# / 1'$$

$$350 \# / 1' \approx 365 \# / 1' \text{ O.K. (within 4\% for weight)}$$

STEEL TOP/BOTTOM OF FTS.

$$M_u = 11844 \#'$$

$$V_u = 7890 \#$$



TRY (2) #4 TOP/BOT.

$$a = \frac{(2)(\pi)(2)(60000)}{(0.85)(2500)(24)} = 0.47" \Rightarrow \phi M_n = (0.9)(2)(0.2)(60000) \left[7 - 0.25 - \frac{0.47}{2} \right] \frac{1}{12}$$

$$\phi M_n = 15327 \#' > M_u = 11844 \#' \text{ O.K.}$$

$$p_{min} = \frac{200}{60000} = 0.0033 \quad A_{min} = (24")(12")(0.0033) = 0.96 \text{ in}^2 (4)(0.25) = 0.96 > 0.8 \text{ in}^2$$

$\Rightarrow$ USE (4) #5 (2) TOP/BOTTOM
3'-0" LAPS AT SPACES.

$$\phi V_c = \phi 2 \sqrt{f_c' b d} = (0.85)(2) \sqrt{2500} (24")(9" - 0.25") = 17850 \#$$

$$\phi V_c = 17850 \# > 7890 \# \text{ O.K.}$$

USE 24" WIDE X 12" DEEP FTS. 3'-0" LAPS
WITH (2) #5 TOP 2" CLR 10" HOOK AT ENDS
WITH (2) #5 BOTTOM 3" CLR 10" HOOK AT ENDS

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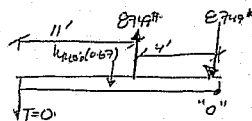
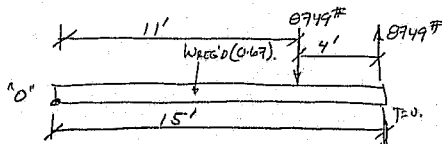
Project Name STEATHWALLS GRAVE DEVELOPMENT Project # 030587

Location SW CUSTER STREET, PORTLAND, OREGON

Client GRAVE DEVELOPMENT, INC.

By LPT Ok'd km Date 9/17/03 Page 1R OF 3R

R1 $\Rightarrow$



$$\frac{1}{2} M_0 = 0 \Rightarrow -8749\#(11') + 8749\#(15') - w_{FESD}(0.67)(7.5') = 0$$

$$w_{FESD} = 6965\#$$

-OR

$$-8749\#(4') + w_{FESD}(0.67)(7.5') = 0$$

$$w_{FESD} = 6964\#$$

$$6964\#/15' = 464\#/\text{ft} \Rightarrow$$

$$\Rightarrow w_1 = \frac{6964\#}{15'} = 464\#/\text{ft}$$

$$M_{OT} = 8749\#(4') = 34996\#'$$

$$M_{MS} = 6965\#(7.5') = 52238\#'$$

$$X = \frac{M_{MS} - M_{OT}}{R} = \frac{(52238\# - 34996\#')}{6964\#} = 2.48'$$

$$e = \frac{1}{2} - X = \frac{15'}{2} - 2.48' = 5.02'$$

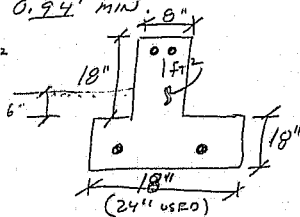
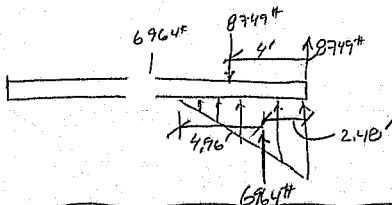
$$G_{RU} = (1500\text{psf})(133) = 1995\text{psf.}$$

$$G_{RU} = \frac{2(6964\#)}{3(15' - 5.02')(8)} \Rightarrow 1995\text{psf}(3)(2.48')(8) = 13928\#$$

$$B = 0.94' \text{ MIN.}$$

$$150\text{psf}(A) = 464\#/\text{ft} \Rightarrow A_2 = 3.09\text{ft}^2$$

$$A = 1\text{ft}^2 + (1.5')(1.5') = 3.25\text{ft}^2 > 3.09\text{ft}^2 \text{ O.K.}$$



$$q_L = 696\#/\text{ft}^2$$

$$q = 1872\#/\text{ft}^2$$

$$q = \frac{1872\#/\text{ft}^2}{1.5'} = 1248\text{psf}$$

USE 24" WIDE X 18" DEEP FTG., 18" STEM X B" WIDE STEM



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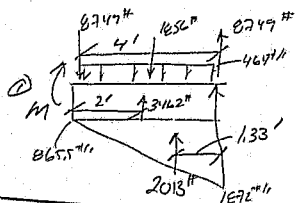
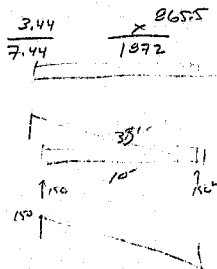
(503) 246-1250
Fax: 246-1395

Project Name SHEWANVILLE GRAVE DEVELOPMENT Project # 030587

Location SW CUSTER STREET, PORTLAND, OREGON

Client GRAVE DEVELOPMENT, INC.

By LPT Ck'd Kenn Date 9/17/03 Page 2R OF 3R



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$$M = 43502^{\#}$$

$$cl = 36'' - 2'' - 0,3125'' = 33,68''$$

$$\phi_{MN} = 46644^{th} < M_N \text{ NG.} \Rightarrow (2) \neq 5 \Rightarrow \phi_{MN} = 92611^{th}$$

$\phi_{MN} = 92611 \#'$ > $M_u = 56656 \#'$. O.K. TOP STEEL.

$$\phi_{VC} = 0.85(2)\sqrt{2500} \cdot (9'')(32.69'') = 22272^{\#} > 16074^{\#} \quad \underline{O.K.}$$

bottom steel $\Rightarrow$ $2 = \frac{(2)(0.31)(60000)}{(0.9)(180)(2)} = 2.10''$ $d = 32.69''$ $\phi_{\text{dev}} = 98164''$

$$\phi_{mn} = 88164^{th} > 56656^{th} \text{ o.k.}$$

USE (2) #5 TOP / BOTTOM
2" CLR TOP / 3" CLR BOTTOM

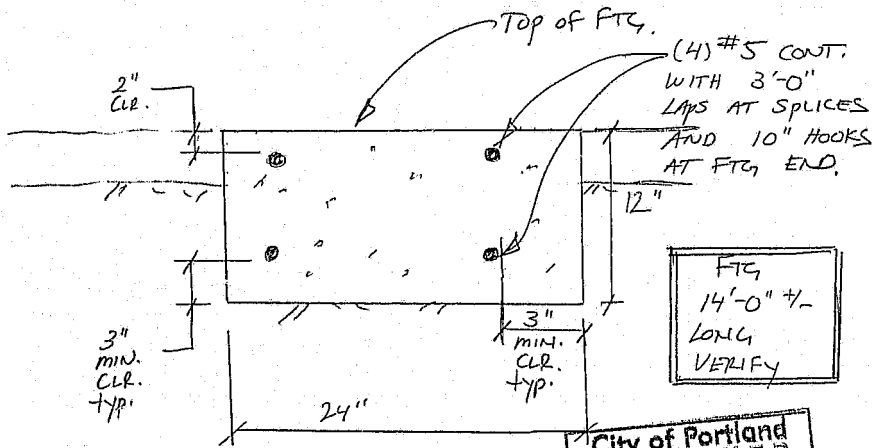


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(503)246-1250
Fax: 246-1395

Project Name SITE RMAUS GROVE DEVELOPMENT Project # 030587
Location SW CUSTER STREET, PORTLAND, OREGON
Client GROVE DEVELOPMENT, INC.
By LPS Ok'd lmm Date 9/17/03 Page 3 of 3

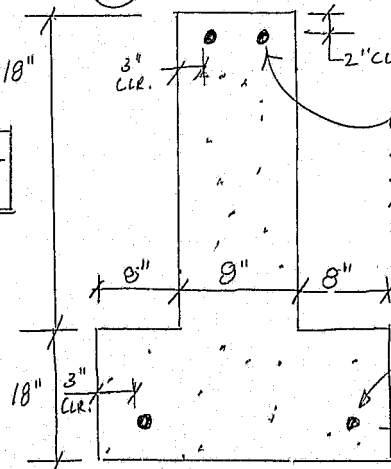
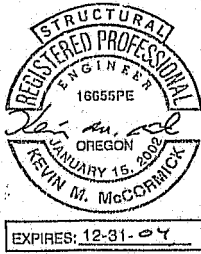


(D1)

REVISED FTG. SECTION

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Permit Number

FTG. 15'-0" +/-
LONG VERIFY



(2) #5 AT TOP
MIN 4'-0" LAPS
AT SPLICES.
MIN 10" VERT HOOKS AT
FTG. END.

(2) #5 AT
BOTTOM MIN
3'-0" LAPS AT
SPLICES.
MIN 10"
VERTICAL
HOOKS AT FTG.
END.

(D2)

REVISED FTG. SECTION

N.T.S.



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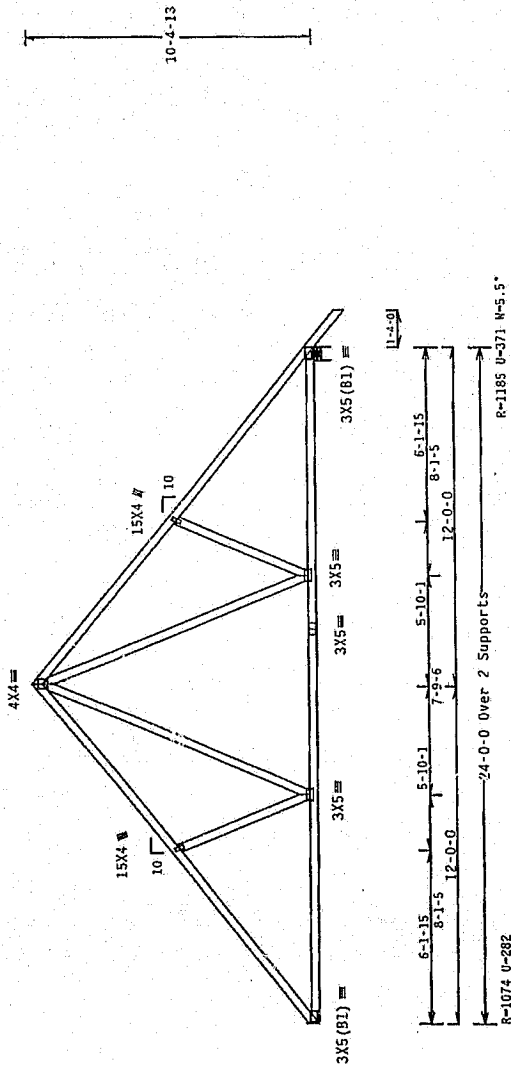
(503) 246-1250
Fax: 246-1395

Project Name SHEARWALLS GRAVE DEVELOPMENT Project # 030527
Location SW CLUSTER STREET, PORTLAND, OREGON
Client GRAVE DEVELOPMENT, INC.
By LPS Ok'd 14mm Date 9/17/03 Page 1 of 1

HF Standard

Deflection meets L/240 live and L/180 total load. Creep increase factor for dead load is 1.00.

10 psf 8C live load per UBC.



OUT TYP HAVE TPT

Design Crit: UBC(STD)/UBC

19.633.

OR/-/11/-1-1-F

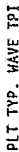
Scale - .25"/Ft.

[illegible]

100 mph wind. 34.40 ft mean hgt, ASCE 7-98. CLOSED bldg. Located anywhere in roof. CAT II, EXP C, wind TC DL-7.0 psf. wind BC DL-7.0 psf.

Deflection meets L/240 live and L/180 total load. Creep increase factor for dead load is 1.00.

10 psf BC live load per UBC.



Design Crft: WBC(STD)/WBC

19.633

CLASSIFIED PROFESSIONALITY-2 OR 1-111-1-1-1-1F

Scale - 25°/Ft.

[illegible]A circular professional engineer seal for the State of California. The text "REGISTERED PROFESSIONAL ENGINEER" is curved along the top and sides, and "15038" is at the bottom. The word "CALIFORNIA" is partially visible at the very bottom.

EXP. 6-30-04
OCT 16 '03

TC LL	25	PSF	REF R7175	46026
TC DL	1	PSF	DATE	10/16/03
BC DL	10.0	PSF	DRW	WMSR7175 03285043
BC LL	0.0	PSF	WA-ENG	/DT
TOT.LO.	45.0	PSF	SEQN-	94449
DUR.FAC.	1.15		FROM	TGW
SPACING	24.0"		JREF-	15717175206

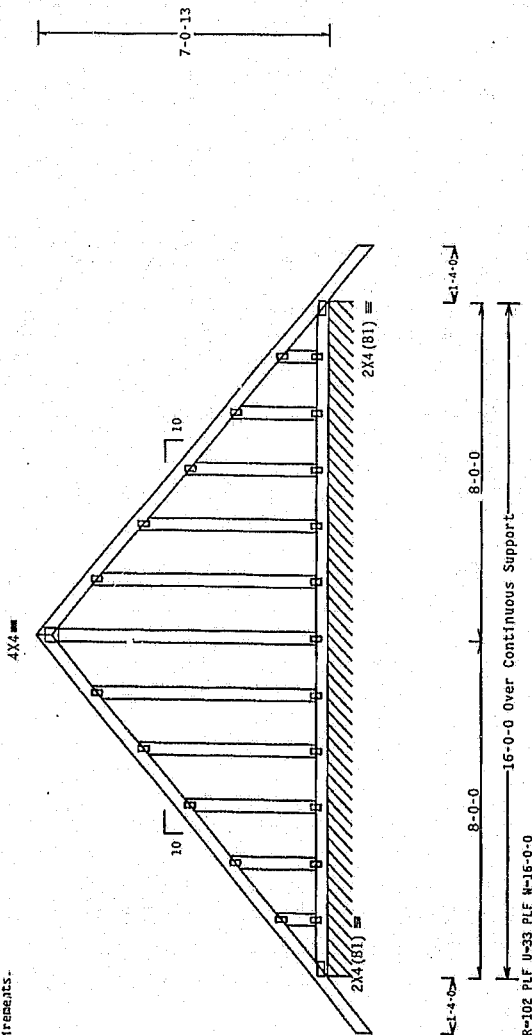
Top chord 2x4 HF #2
Bot chord 2x4 HF #2
Neds 2x4 HF Sta

100 mph wind, 32.18 ft mean hgt, ASCE 7-98, CLOSED bldg, Located anywhere in roof, CAT II, Exp C, wind TC DL-7.0 psf, wind BC DL-7.0 psf.

10 psf BC live load per UBC.

Deflection meets L/240 live and L/180 total load. Creep increase factor for dead load is 1.00.

See DWS A10015EC001, GBLLETIN001, & GBLBRSTC0901
for more requirements.



Note: All Plates Are W15X3 Except As Shown.

P1 T TYP WAVE TP?

Design Crit: UBC (STD) / UBC

19.633

CERTIFIED PROFESSIONAL

Scale - 375°/Et.

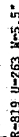
TC LL	25.0 PSF	REF R7175- 46029
TC DL	10.0 PSF	DATE 10/16/03
BC DL	10.0 PSF	DRN #4USR7175 032B046
BC LL	0.0 PSF	WA-ENG /DT
TOT.LD.	45.0 PSF	SEON- 112662
OUR.FAC.	1.15	FROM THG
SPACING	24.0"	JREF- 15717175206

Tyrell Engineering
Edgewood, WA 98371

Webb 2x2 HF Standard

Deflection meets L/240 live and L/280 total load. Creep increase factor for dead load is 1.60.

10. post BC five load per u3c.



PIT TYP. HAVE TPI

Decision Crit- IRC/STN/IRC

79 633

DECLASSIFIED BY: 6032
 AUTHORITY: 25X
 DATE: 08-17-1999

Scale - 375/ft

[illegible]

Top chord 2x4 HF #2

Not chord. 2x6 HF SS

Vars 2x4 HF Standard

100 mph wind, 32.18 ft mean hgt. ASCE 7-98, CL05ED bldg, Located
anywhere in roof, CAT II, EXP C, wind TC DL=7.0 psf, wind SC DL=7.0
psf.

Deflection meets L/240 live and L/180 total load. Creep increase factor for dead load is 1.00.

2 Complete Trusses Required

WATLING SCHEDULE: (0.131x3.0 sigma) (1s)

TOP CHORD= 1 ROW @ 12" O.C.

ROT CHRGD: 1 ROW @ 5" @ 0.3

1001 CHURCH. 1 ROOM. 3 B.C.
WEAK. 1 ROOM. 4th B.C.

SEEN : 1 NOV 1 4 06
SPACING BETWEEN ROWS MR. STAGGER NAILS

THESE EQUATION NUMBERS AND SPACES BETWEEN NUMBERS AND SIGNS MUST BE KEPT EXACTLY AS SHOWN

IN EACH RUN TO AVOID SPLITTING.

38 YH 53108-2/1 (T)

girder supports 24-0-0 span to BC one face and 2-0-0 span to TC/BC solid opposite face. (SIMP HUS26)

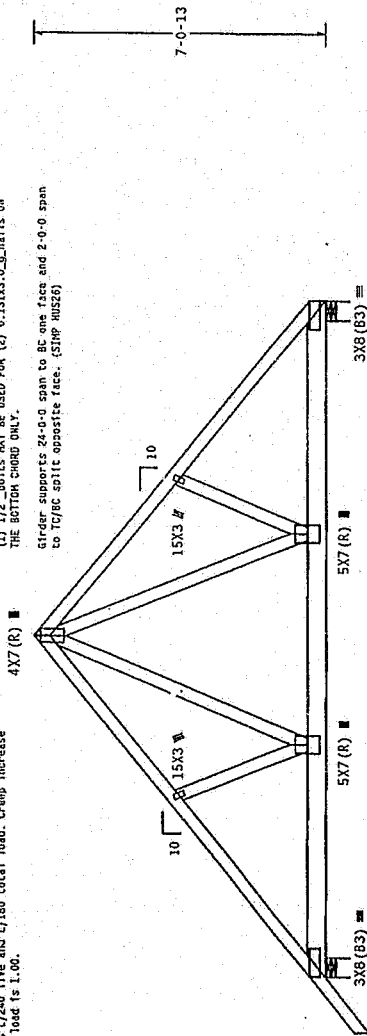


Figure 1 consists of two diagrams illustrating the layout of the bridge deck. The top diagram is a plan view of the deck, showing a rectangular cross-section with dimensions: 4'-3" (width), 5'-6" (length), 8'-0" (width), 4'-11" (length), 3'-8" (width), 14'-13" (length), 3'-8" (width), 14'-13" (length), 5'-6" (length), 8'-0" (width), and 4'-3" (width). The bottom diagram is a side view of the deck, showing a rectangular cross-section with dimensions: 16'-0" (width) and 16'-0" (length). The text "16-0-0 Over 2 Supports" is written below the diagram.

PI T TYP WAVE TOP

Design Crit: IIRC/STN/IIIC

19.633

PROD. PROPERTY - T

081-171-1-1-1E

Scale - 375°F+

[illegible]

Tyrrell Engineering
Edmond, WA 98141

EX(P, 6-30-04

2008

101.50 10.00
118.50 1.15

101.500 10.000

1018 EAC 3 15

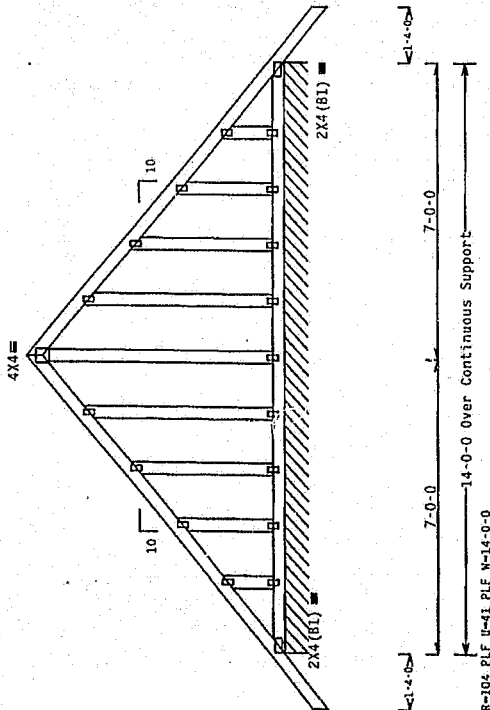
FROM THE

25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277 278 279 280 281 282 283 284 285 286 287 288 289 290 291 292 293 294 295 296 297 298 299 300 301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337 338 339 340 341 342 343 344 345 346 347 348 349 350 351 352 353 354 355 356 357 358 359 360 361 362 363 364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382 383 384 385 386 387 388 389 390 391 392 393 394 395 396 397 398 399 400 401 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 480 481 482 483 484 485 486 487 488 489 490 491 492 493 494 495 496 497 498 499 500 501 502 503 504 505 506 507 508 509 510 511 512 513 514 515 516 517 518 519 520 521 522 523 524 525 526 527 528 529 530 531 532 533 534 535 536 537 538 539 540 541 542 543 544 545 546 547 548 549 550 551 552 553 554 555 556 557 558 559 560 561 562 563 564 565 566 567 568 569 570 571 572 573 574 575 576 577 578 579 580 581 582 583 584 585 586 587 588 589 590 591 592 593 594 595 596 597 598 599 600 601 602 603 604 605 606 607 608 609 610 611 612 613 614 615 616 617 618 619 620 621 622 623 624 625 626 627 628 629 630 631 632 633 634 635 636 637 638 639 640 641 642 643 644 645 646 647 648 649 650 651 652 653 654 655 656 657 658 659 660 661 662 663 664 665 666 667 668 669 670 671 672 673 674 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 799 800 801 802 803 804 805 806 807 808 809 810 811 812 813 814 815 816 817 818 819 820 821 822 823 824 825 826 827 828 829 830 831 832 833 834 835 836 837 838 839 840 841 842 843 844 845 846 847 848 849 850 851 852 853 854 855 856 857 858 859 860 861 862 863 864 865 866 867 868 869 870 871 872 873 874 875 876 877 878 879 880 881 882 883 884 885 886 887 888 889 890 891 892 893 894 895 896 897 898 899 900 901 902 903 904 905 906 907 908 909 910 911 912 913 914 915 916 917 918 919 920 921 922 923 924 925 926 927 928 929 930 931 932 933 934 935 936 937 938 939 940 941 942 943 944 945 946 947 948 949 950 951 952 953 954 955 956 957 958 959 960 961 962 963 964 965 966 967 968 969 970 971 972 973 974 975 976 977 978 979 980 981 982 983 984 985 986 987 988 989 990 991 992 993 994 995 996 997 998 999 1000 1001 1002 1003 1004 1005 1006 1007 1008 1009 1010 1011 1012 1013 1014 1015 1016 1017 1018 1019 1020 1021 1022 1023 1024 1025 1026 1027 1028 1029 1030 1031 1032 1033 1034 1035 1036 1037 1038 1039 1040 1041 1042 1043 1044 1045 1046 1047 1048 1049 1050 1051 1052 1053

Webb 2x4 HF Standard

10 psf BC Tive load per UBC.

Deflection meets L/240 live and L/180 total load. Creep increase factor for dead load is 1.00.



Note: All plates are W15X3 except as shown.

PIT TYP. HAVE TPI

Destination Crit: IIRC(STD)/IIRC

19-633

Scale = .375" / Ft.

TC LL	25.0 PSF	REF R7175- 46032
TC DL	10.0 PSF	DATE 10/16/03
88 DL	10.0 PSF	DRW KMSR1175 03280949
88C LL	0.0 PSF	WA-ENG /DT
TOT.LD.	45.0 PSF	SCQN 94460
DUR.FAC.	1.15	FROM TNG
SPACING	24.0"	JREF- 15717/175206

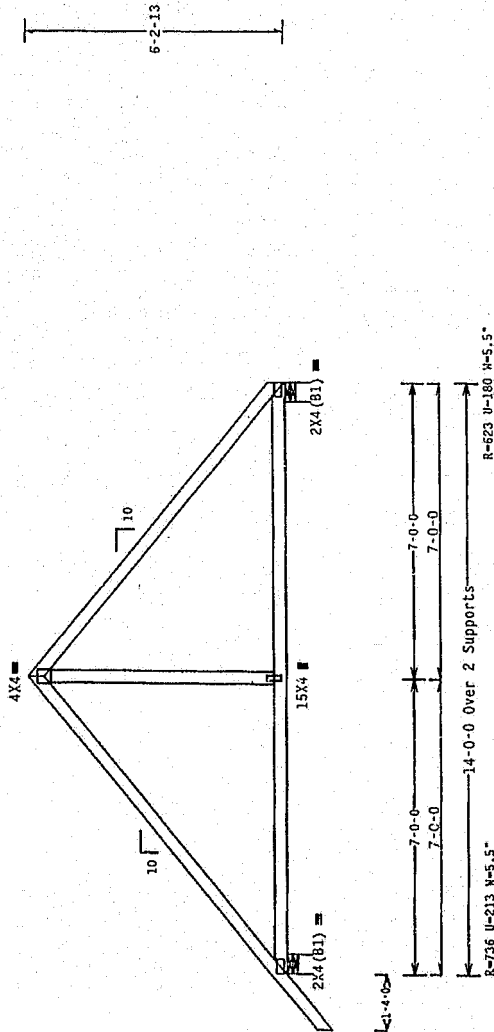
Tyrell Engineering
Edenwood, WA 98341

Bot chord 2x4 HF #2

Deflection meets L/240 live and L/180 total load. Creep increase factor for dead load is 1.00.

10 psf AC live load per UBC.

THIS INC. PREPARED FROM COMPUTER INPUT (LOADS & DIMENSIONS) SUBMITTED BY TRUSS MFR.



01 T TYP HAVE TPT

Design Crit: IIRC (STD) / IIRC.

19.633

REPRODUCED PROPERTY:

Scale = .375"/ft.

[illegible]

TC LL	25.0 PSF	REF	R717175- 46033
TC DL	10.0 PSF	DATE	10/16/03
BC DL	10.0 PSF	DRW	VAUSR7175 032R050
BC LL	0.0 PSF	WA-ENG	/DT
TOI.LD.	45.0 PSF	SEQR-	94462
TUR.FAC.	1.15	FROM	TNG
SPACING	24.0"	JREF-	1S717175Z06

Tyrell Engineering
Edmond, W.A. 94171

Standard

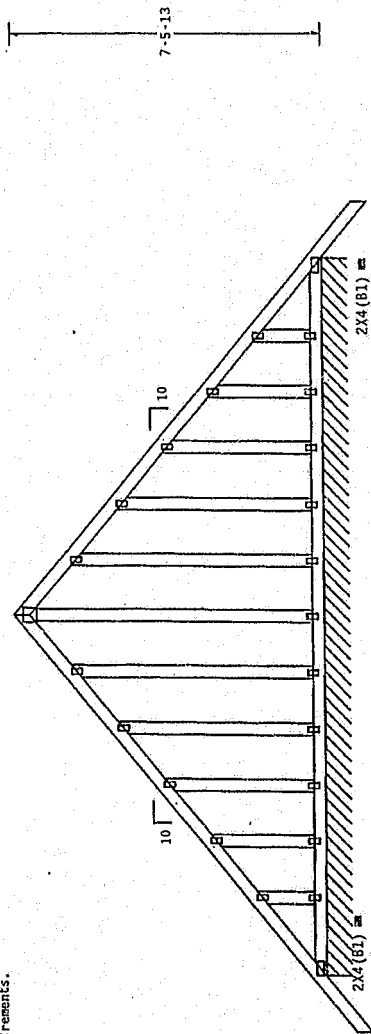
10 psf RC T1ve load per UBC.

See DWGS A10015C0901, GBL1ETIN1001, & GBL8RSTC0901

for core requirements.

100 mph wind, 32.39 ft mean hgt, ASCE 7-98, CLOSED bldg. Located anywhere in roof, CAT II, EXP C. Wind TC DL=7.0 psf, Wind BC DL=7.0 psf.

Deflection meets L/240 live and L/180 total load. Creep increase factor for dead load is 1.00.



7-1-40

8-6-0

0-9-0

-77-0-0 Over Continuous Support-

8-101 PLE 11-44 PLE W-17-0-0

Note- All plates are W15X3 Except As Shown.

BIT TYP. WAVE TPT

Design Crit: WBC(Std)/WBC

19.633

REGISTERED TRADE MARK

Scale = .375"/ft.

[illegible]

REGISTERED ENGINEER 15038 NATIONAL

Oct 16 '03

7

7/26/87

FD-302a (Rev. 5-22-64)

WWW.JY

Age Group	Percentage of Respondents
18-29	85%
30-49	80%
50-69	75%
70+	70%

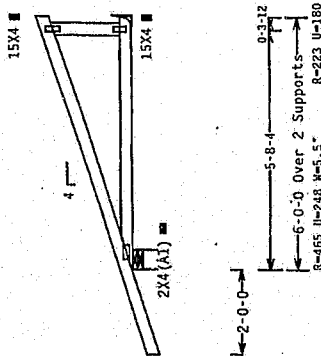
10

(903229-GROVE DEVELOPMENT - X HOLD BACK VERT 2')

Top chord 2x4 HF #2
Bot chord 2x4 HF #2
Webs 2x4 HF Standard

100 mph wind, 20.99 TC mean hgt, ASCE 7-98, CLOSED DL09, not located within 4.50 ft from roof edge, CAT II, EXP C, wind TC DL=7.0 psf, wind BC DL=7.0 psf.

Deflection meets L/240 live and L/180 total load. Creep increase factor for dead load is 1.00.



2-3-15

2-3-15

PLT TYP. WAVE TPI

Design Cmt: UBC (STD) / USC

19.633

Scale = 375" / FT.



DESIGNER'S NOTE: THIS TRUSS WAS DESIGNED FOR THE FOLLOWING CONDITIONS: TRUSSING AND BRACING, REFER TO DRAWING (P) FOR THE TRUSSING AND BRACING, DEVELOPED BY THE TRUSS FABRICATOR, 1400 DOWNEY BL., SUITE 200, WASHINGTON, VA 22192. FOR SAFETY, THE TRUSS FABRICATOR SHALL ATTACH STRUCTURAL PLATES, BOTTOM CHORD SHALL HAVE A PROPERLY ATTACHED RIGID CEILING. "IMPORTANT" FURNISH A COPY OF THIS DESIGN TO THE INSTALLATION CONTRACTOR. ALL THE FOLLOWING CONDITIONS SHALL BE IN CONFORMANCE WITH THE FOLLOWING: MANUFACTURING, SHIPPING, INSTALLATION OR BRACING OF TRUSSES. THIS DESIGN COMPARES WITH APPLICABLE PROVISIONS OF THE NATIONAL DESIGN SPECIFICATION FOR STEEL STRUCTURES AND THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION, INC. (AISC) 360-10. EACH FACE OF TRUSS, AND WALLS OTHERWISE LOCATED ON THIS BEAM, FASTENING CONNECTIONS TO BE SHAPING 150, 150 AND 150 A.F. AT DESIGNER'S SEAL ON THIS DRAWING. SCALE ONLY TO THE DESIGN OF THE TRUSS SHOWN HERE AND SHALL BE USED ONLY IN THE DESIGN OF THE TRUSS.

TC LL 25.0 PSF
TC DL 10.0 PSF
BC DL 10.0 PSF
BC LL 0.0 PSF
TOT. LD. 45.0 PSF
DUR. FAC. 1.15
SPACING 24.0"

REF. 87175- 46035
DATE 10/16/03
DRW. WAUSRIJVS 03289952
WA-ENG /DT
SEQU- 112660
FROM THG
JREF- 1571775206

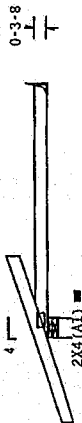
Tyrell Engineering
Edgewood, VA 22121

Top chord	2x4 HF #2
Bot chord	2x4 HF #2

100 mph wind, 20.31 ft mean hgt, ASCE 7-98, CLOSED bldg, not
located within 4.50 ft from roof edge, CAT II, EXP C, wind TC
DL-7.0 psf, wind EC DL-7.0 psf.

Deflection meets L/240 live and L/180 total load. Creep increase factor for dead load is 1.00.

In lieu of structural panels use purlins: to brace all flat TC @ 24" OC.



$\leftarrow 2-0-0 \rightarrow$
 $\leftarrow 5-8-4 \rightarrow$
 $\leftarrow 6-0-0 \text{ Over 2 Supports} \rightarrow$
 $\leftarrow 0-3-12 \rightarrow$
 R-364 U-218 W-5.5° R-43 U-180

PIT TYP WAVE TPT

Design Crit: $UAC(STD)/UAC$

"WARNING-- TRUSSES REQUIRE EXTREME CARE IN FABRICATION, HANDLING, SHIPPING, INSTALLING AND BRACING. REFER TO NIB-81 (SMILING INSTALLING AND BRACING), PUBLISHED BY THE (TRUSS PLATE INSTITUTE, 363 DOWNTOWN DR., SUITE 200, MADISON, VT 55719). FOR SAFETY PRACTICES PRIOR TO PERFORMING THESE FUNCTIONS. UNLESS OTHERWISE INDICATED, TOP CHORD SHALL HAVE PROPERLY ATTACHED PERFORATIONS. MINOR BOTTOM CHORD SHALL HAVE A BARELY ATTACHED SLIGHT CUTTING

[illegible]

Tyrell Engineering
Edgewood, WA 98371

loading on this truss calculated by Job-Designer

SPECTRA! LOADS

----- / NUMBER DUR.FAC.-1.15 / PLATE DUR.FAC.-1.15)

70 PIF at -2.00 to 70 PIF at -1.91

TC	FROM	2 PLE at 191 to	? PLF at 6.00
TC	FROM	2 PLE at 191 to	? PLF at 6.00

Year	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099
1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	

[illegible]

CBC - FFDZ : Z07 PTL AL 0-00 20 17L at 0.00

BC - -3 TB conc. Load at 2.00

0-11-9

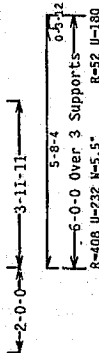
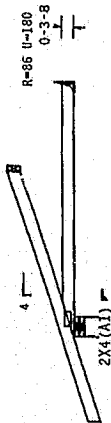
(903229-GROVE DEVELOPMENT - E02)

Top chord 2x4 WF #2
Bot chord 2x4 WF #2

Deflection meets L/240 live and L/180 total load. Creep increase factor for dead load is 1.00.

100 mph wind, 20.65 ft mean hgt., ASCE 7-98, CLOSED bldg, not located within 4.50 ft from roof edge, CAT II, EXP C, wind TC DL=7.0 psf, wind RC DL=7.0 psf.

In lieu of structural panels use purlins: to brace all flat TC @ 24" OC.



PLT TYP. WAVE TPI

Design Crit: UBC (STD) / UBC

19 633

RESIDENTIAL PROGRAM

QTY: 1 08 / - / 1 / - / - / F

Scale = 375" / ft.

	THIS DESIGN CONFORMS WITH APPLICABLE PROVISIONS OF THE NATIONAL DESIGN SPECIFICATION FOR STEEL STRUCTURES AND THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION, INC. (AISC) 1989. THIS DESIGN CONFORMS WITH THE REQUIREMENTS OF THE UBC (STD) / UBC 1997. THE DESIGNER HAS REVIEWED THE PROJECT AND FOUND IT TO BE A RESIDENTIAL TRUSS. THE DESIGNER HAS REVIEWED THE PROJECT AND FOUND IT TO BE A RESIDENTIAL TRUSS. THE DESIGNER HAS REVIEWED THE PROJECT AND FOUND IT TO BE A RESIDENTIAL TRUSS.	RESIDENTIAL PROGRAM QTY: 1 08 / - / 1 / - / - / F	TC LL 25.0 PSF TC DL 10.0 PSF DL 10.0 PSF RC LL 0.0 PSF TOT. LD. 45.0 PSF	REF R7175- 46037 DATE 10/16/03 DRW NUMBER 03280054 WA-ENG /DT SEQ# 112658 FROM THG JRLC- 15717175206

Tynall Engineering
Eagle, WA 98011

1903229-GROVE DEVELOPMENT - SJJ

100 mph wind, 20.37 ft mean hgt, ASCE 7-98, CLOSED bldg, Located anywhere in roof, CAT II, EXP C, 1 TC DL-7.0 psf, wind SC DL-7.0 psf.

0-3-8 R-44 U-180

0-11-9
T

1-2-0-0-1-9-12⁰⁻⁰⁻⁵
1-11-4 Over 3 Support

1-11-A Over 3 Supports

0-357 11-378 11-380

8-3 11-184

BIT TYP. WAVE TPT

06-07-2018 11:00 AM

19.633

001-171-1-1-1E

Sc310 375 154

Tyrell Engineering

TV

THE UNIVERSITY OF CHICAGO

1000

85067

Oct 16 '03

19

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2. The

P. 6-30-04

100

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100

THIS DWG PREPARED FROM COMPUTER INPUT (LOGS & DIMENSIONS) SUPPLIED BY TRUSS MFG.

100 mph wind, 20.65 ft mean hgt., ASCE 7-98, CLOSED bldg, not located within 4.50 ft from roof edge, CAT II, EXP C, wind TC 01-7.0 psf, wind BC 01-7.0 psf.



01 Y TYO WAVE TDI

19.633

Decision C-574-118C/STN/118C

ED PRINCE

09-1-17-1-1-15

Scap10 = 375 = 154.

[illegible]

REF	R7175-	46039
DATE	10/16/03	
ORW	K4USR7175	03289056
WA-ENG	/DT	
SEQN-	112653	
FROM	TWG	
JREF-	1S717175Z06	

Tyrell Engineering
1186 Woodside Dr. SE
Tacoma, WA 98401

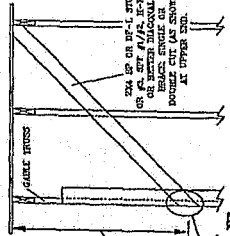
ASCE 7-93:

[illegible]

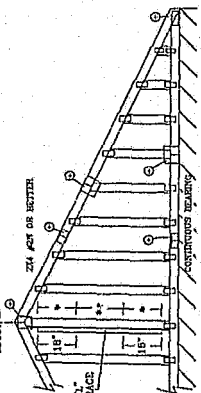
DIAGONAL BRACE OPTION:
VERTICAL LENGTH MAY BE
OBTAINED WHEN DIAGONAL
BRACE IS USED. CONDUCT
DIAGONAL BRACE FOR 7404
AT EACH END. MAX WTB
TOTAL LENGTH IS 14'.

ABOUT THESE
MONTHS EIGHT TWELVE

CONNECT DIAGONAL AT



REFER TO CHART ABOVE FOR MAX. CABLE VERTICAL LENGTH.



GABLE TRUSS DETAIL NOTES:

LIVE LOAD DEFLECTION CRITERIA IS $L/240$.
IMPROVE UPLIFT CONDITIONS FOR 105 PLF OVER
CONTINUOUS BEARING (8 PSF TO DEAD LOAD).
GABLE END SUPPORTS LOAD FROM 4' 0"
OUTLOOKERS WITH 5" OVERHANG, OR 12"
PLYWOOD OVERHANG.

STAY FOR HIM THERE. I HAVE HOPEFULLY

* FOR (1) 2 BRACE SPACE NAILS AT 2' O.C.
IN 18" END ZONES AND 4" O.C. BETWEEN ZONES
** FOR (3) 1" BRACE SPACE NAILS AT 3' O.C.
IN 18" END ZONES AND 6" O.C. BETWEEN ZONES
1" BRACING MUST BE A MINIMUM OF ONE OF THE
MEMBER LENGTH.

CABLE VERTICAL PLATE SIZES	
VERTICAL LENGTH	NO STUCCO
LESS THAN 4' 0"	1X4 OR 2X3
GREATER THAN 4' 0" BUT LESS THAN 11' 6"	2X4
GREATER THAN 11' 6"	2X6

* REFER TO COMMON TRUSS DESIGN FOR
PEAK, STUCCO, AND HOLE PLATE.

THIS DRAWING REPLACES DRAWING A10015E

REF	ASCE-GABI0015
DATE	06/25/99
DRWG	A10015EN0699
	-ENG

D. 09. 05

EXP 6-30-64

MAX. SPACING	24.0"
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WATERBURY BRIDGE ENGINE COMPANY, 100 Exchange Street, Waterbury, Conn., is manufacturing the new "Bridges" for the New York State Thruway Authority. The new bridges are being built on the New York State Thruway, which is a toll road, and the bridges are being built on the New York State Thruway, which is a toll road. The new bridges are being built on the New York State Thruway, which is a toll road, and the bridges are being built on the New York State Thruway, which is a toll road.



ALPINE ENGINEERED PRODUCTS, INC.
POMPAHO BEACH, FLORIDA

GABLE DETAIL FOR LET-IN VERTICALS

CABLE VERTICAL PLATE SIZES			
VERTICAL LENGTH	PLATE SIZE	IF PLATES	
SECTION CLOSURE	SIZE	OVERLAP*	
LESS THAN 4" 0" 0"	2X4 OR 2X6	2X4	2X6
GREATER THAN 4" 0" 0"	2X4	2X4	2X6
LESS THAN 11" 0"	2X4	2X4	2X6
GREATER THAN 11" 0"	2X4	2X4	2X6

* IF PLATES ARE USED TO JOIN THE WELDER
SEWEL PLATE TO TOP OF THE WELDER

EXAMPLE: 2X4 2X4 2X6

VERTICAL LENGTH
SECTION CLOSURE
IF PLATES
OVERLAP*

IF PLATES
OVERLAP*

IF PLATES
OVERLAP*

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PROVIDE CONNECTIONS FOR UPSET SPECIFIED ON
THE ENGINEERED TRUSS DESIGN.

ATTACH EACH "Y" REINFORCING MEMBER WITH
BAND DRIVEN NAILS:

164 COMMON TENSILES AT 4" O.C. THIS (4) 164
COMMON TENSILES AT 4" O.C. THIS (4) 164

164 COMMON TENSILES AT 4" O.C. THIS (4) 164
COMMON TENSILES AT 4" O.C. THIS (4) 164

164 COMMON TENSILES AT 4" O.C. THIS (4) 164
COMMON TENSILES AT 4" O.C. THIS (4) 164

164 COMMON TENSILES AT 4" O.C. THIS (4) 164
COMMON TENSILES AT 4" O.C. THIS (4) 164

164 COMMON TENSILES AT 4" O.C. THIS (4) 164
COMMON TENSILES AT 4" O.C. THIS (4) 164

164 COMMON TENSILES AT 4" O.C. THIS (4) 164
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164 COMMON TENSILES AT 4" O.C. THIS (4) 164
COMMON TENSILES AT 4" O.C. THIS (4) 164

164 COMMON TENSILES AT 4" O.C. THIS (4) 164
COMMON TENSILES AT 4" O.C. THIS (4) 164

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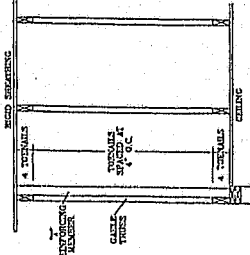
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WIND BRACING

TENSILES

CABLE TRUSS

STEEL ASSEMBLY

STEEL ASSEMBLY

STEEL ASSEMBLY

STEEL ASSEMBLY

STEEL ASSEMBLY

STEEL ASSEMBLY

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STEEL ASSEMBLY

THIS DRAWING REPLACES DRAWINGS G496117, 874,719, & HC2629,005

REF LET-IN VERT

DATE 06/25/89

DRWG G496117,005

-ENG DLI/KAR

EXP 6-30-91

OUR FAC. ANY

TOT. ID. 80 PSF

MAX SPACING 24.0"

EXP 6-30-91

OUR FAC. ANY

TOT. ID. 80 PSF

MAX SPACING 24.0"

ALPINE
ALPINE ENGINEERED PRODUCTS, INC.
P.O. BOX 1000, LANSING, MI 48206

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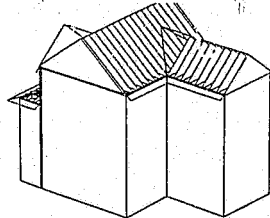
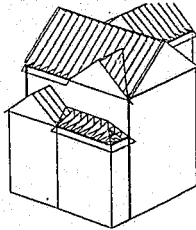
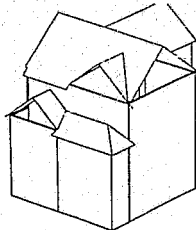
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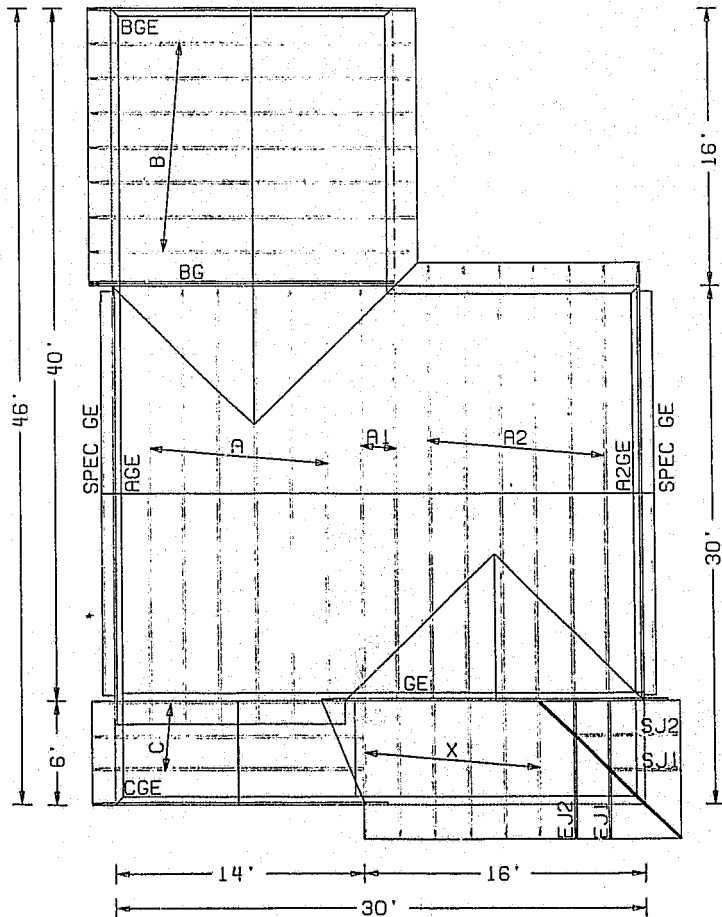
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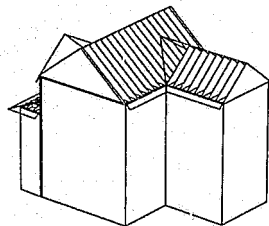
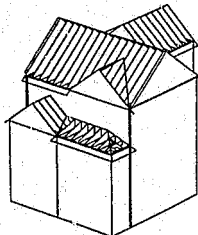
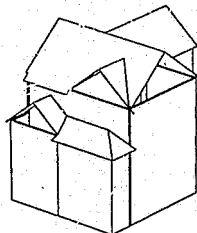
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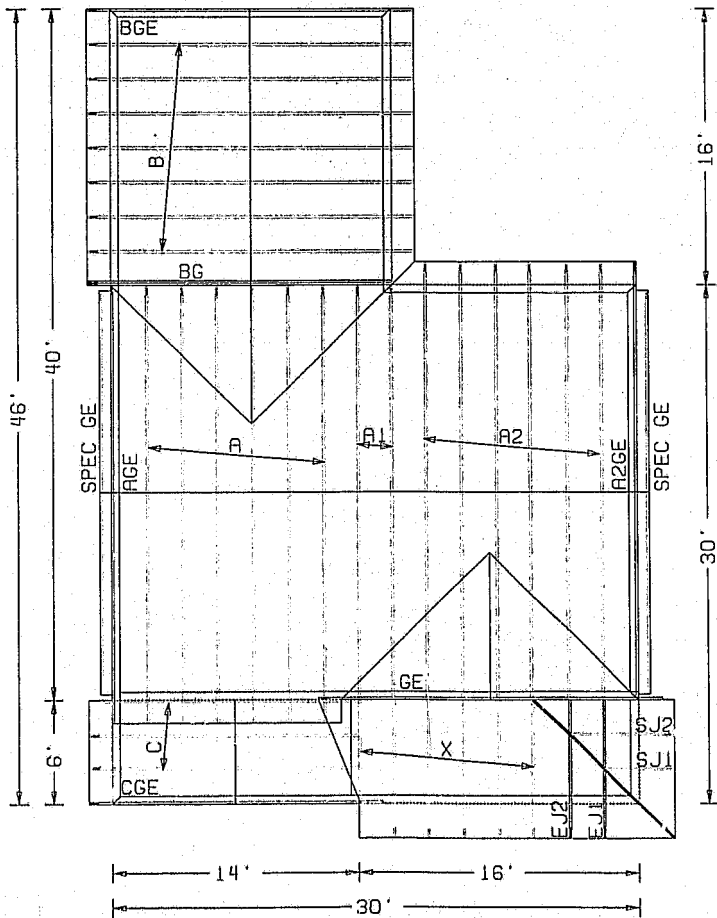
16' 14'



PARR HILL SBORO: GROVE DEVELOPMENT - SW CUSTER JOB
TRUSS COMPONENTS OF OREGON
TIM GARDNER JOB #903229



16' 14'



PARR HILLSBORO GROVE DEVELOPMENT - SW CUSTER JOB
TRUSS COMPONENTS OF OREGON
TIM GARDNER JOB #903229

DANIEL TYRRELL, P.E.

Consulting Engineer

October 15, 2002

Truss Components of Oregon, Inc.
P.O. Box 463
Cornelius, OR 97113

Dear Sir:

I am writing in regard to your questions concerning the overframing of trusses.

It is perfectly acceptable to overframe trusses, with the following provision:

1. The top chord of the truss must either be sheathed with plywood or covered with 2x4 strips at 24" OC in order to provide lateral support. Secure strips with 2-16d nails at each truss crossing.
2. Verticals must be installed at a maximum of 48" OC between all the overframing members and the trusses beneath them in order to prevent the build-up of large concentrated loads.

If you have any further questions, please contact me at your earliest convenience.

Sincerely,



Daniel J. Tyrrell, P.E.



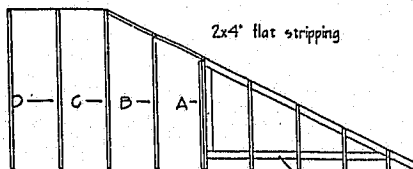
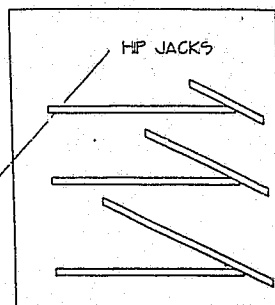
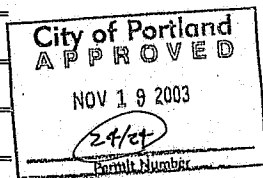
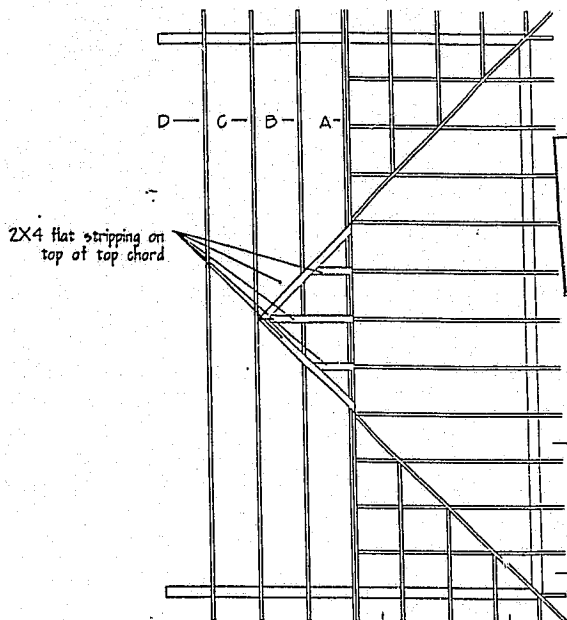
6-30-04



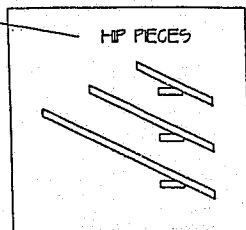
EXPIRE 6/16/03

TRUSS COMPONENTS

Hip Framing Detail



See Root Plan for set back of grade
(trusses from end wall)



SW CUSTER STREET

PORTLAND, OREGON

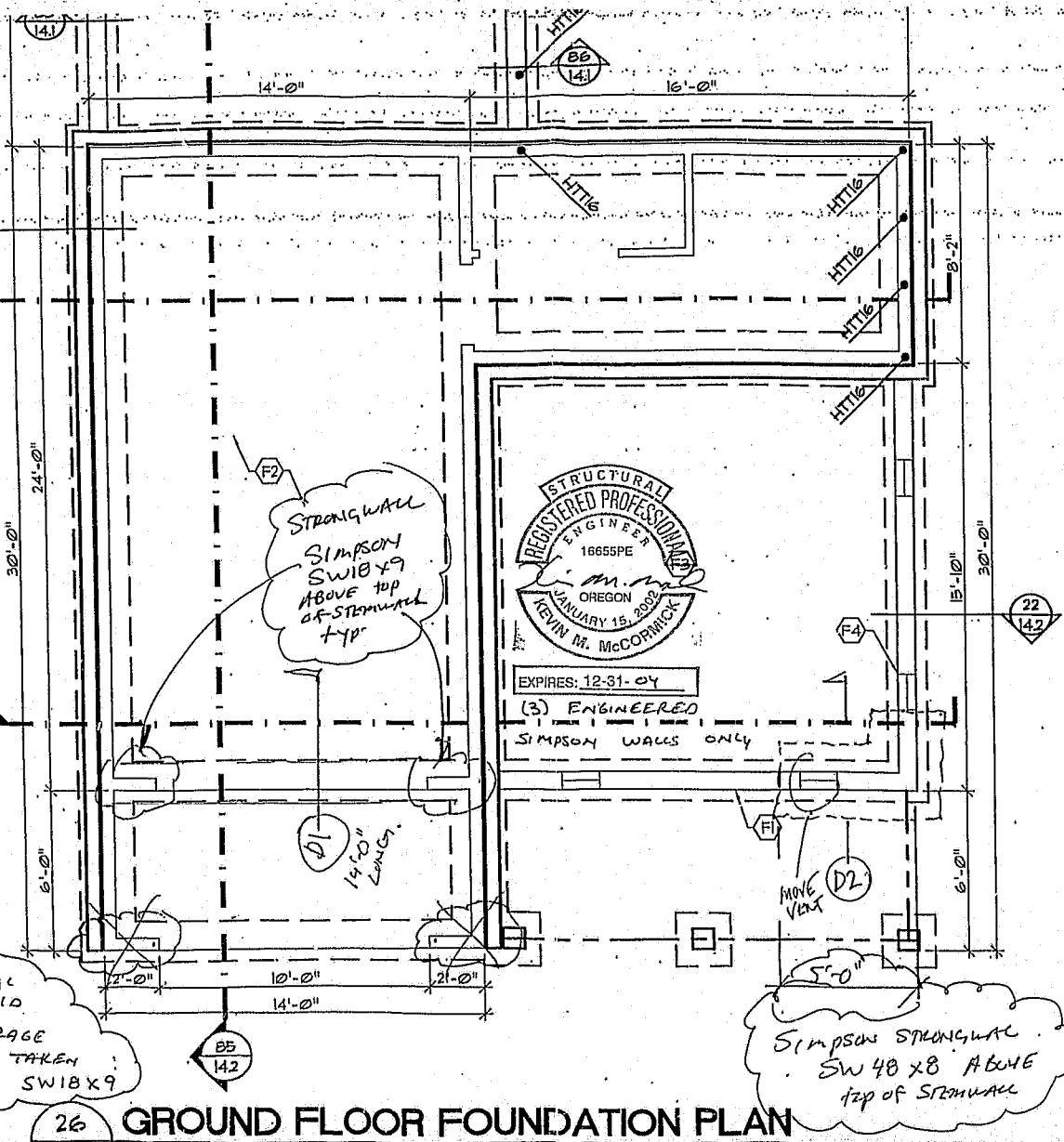
GROVE DEVELOPMENT INC.

STRUCTURAL PLANS

City of Portland
APPROVED
NOV 19 2003

10/10

14.1



ING PLAN

26

GROUND FLOOR FOUNDATION PLAN

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