ARCHITECTURE
ENGINEERING
CONSTRUCTION MANAGEMENT

150 W CONGRESS ST.
5TH FLOOR STRUCTURAL EVALUATION

FOR

PIMA COUNTY
FACILITIES MANAGEMENT

PREPARED FOR

Steve Sullivan, RA
150 W Congress Street
Tucson, AZ 85701

July 2019

M3-PN180114.001
Rev 0



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July 10, 2019

Mr. Steve Sullivan, RA
Facilities Management, Pima County
150 W Congress Street
Tucson, AZ 85701
Steve.Sullivan@pima.gov

Re: M3-PN180114.001 150 W Congress 5th floor evaluation

Dear Mr. Sullivan,

Enclosed you will find the structural calculations performed to evaluate the feasibility to install a high-density filing system at the 5th floor of 150 W Congress St. In addition, we have also included the analysis of the floor capacity to support the proposed standard filing room on the same vicinity.

As discussed on May 3rd, 2019 on our phone conversation, the existing concrete joists as well as the concrete girder along gridline 18 between gridlines D and E, have been found deficient in shear reinforcement. The current calculations cover the proposed strengthening using carbon fiber reinforced polymer (CFRP) u-wrapping on those zones deemed under-reinforced.

Shall you have any questions to the enclosed report, please do not hesitate to contact me.

Respectfully yours,

M3 ENGINEERING & TECHNOLOGY CORPORATION

Registered Professional Engineer (Structural)
CERTIFICATE NO.
50642
ALLAN
ORTEGA-GUTIERREZ
DATE SIGNED July 10, 2019
ARIZONA U.S.A.
Expires 3/31/2022

Allan Ortega-Gutierrez, PE
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Attached: Structural Calculations

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SUBJECT: **DATE:** May 2019

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SUBJECT: **DATE:** May 2019

PROJECT DESCRIPTION

The following calculations are prepared to present the results of a structural evaluation to determine the feasibility to relocate a high-density filing system over an existing concrete floor framing at the 5th floor of 150 W Congress St, Tucson. AZ 85745, a 6-story building concrete building. In addition, the special live loading from a standard filing room is evaluated over the existing floor framing.

The filing areas will be located on the 5th floor between gridlines D and E, close to gridline 18 (see keyplan next page)

Information from the existing filing system has been obtained from the system vendor and as-built drawings were provided by Pima County, the building owner.

During the evaluation process, it was determined that some of the existing concrete structural members would requires strengthening. Calculations for such strengthening is presented under these calclations as well.

CODES

1. 2018 International Building Code
2. ASCE 7-16 Minimum Design Loads for Buildings and Other Structures
3. AISC 360-16
4. ACI 318-14

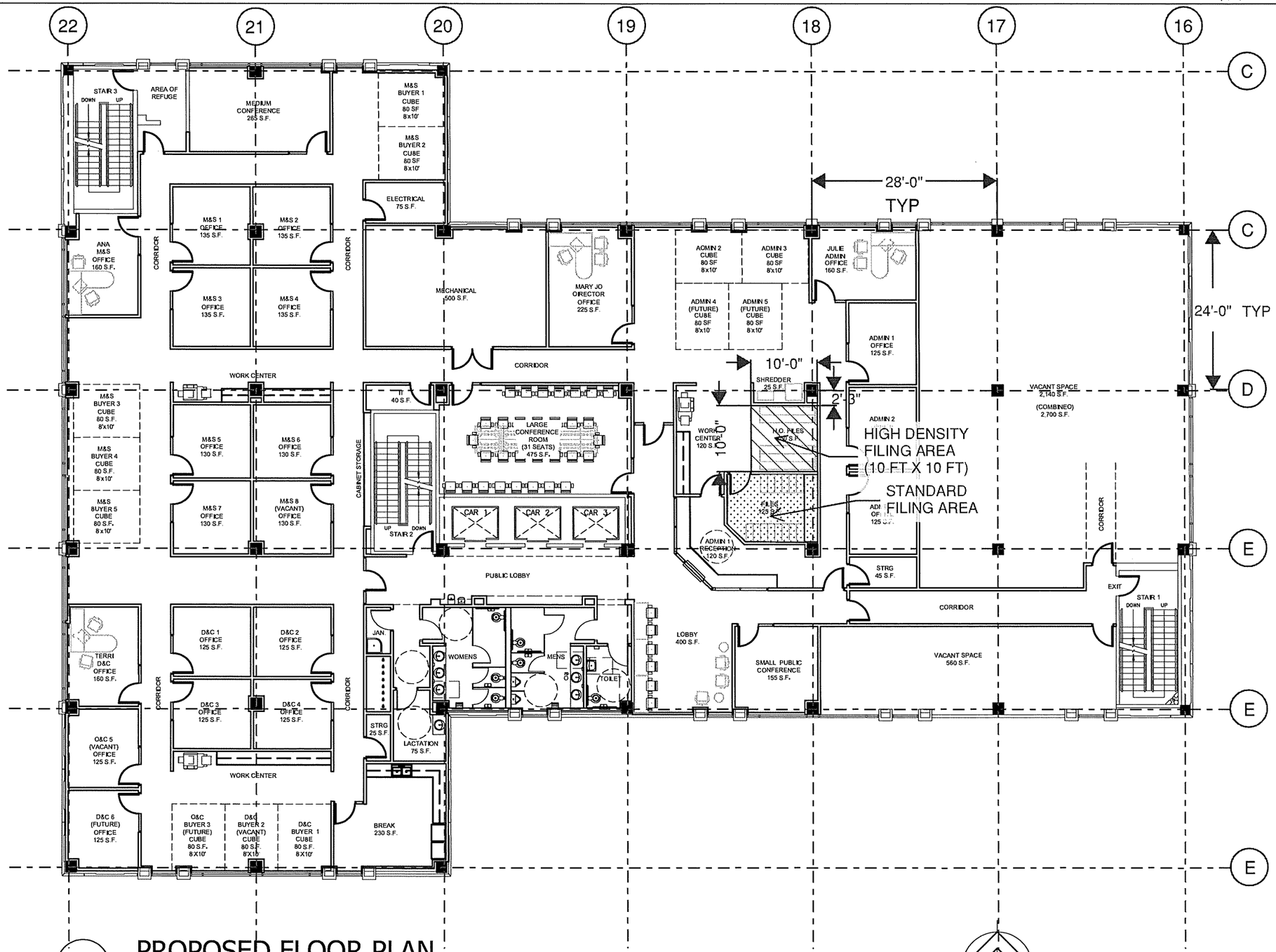
MATERIALS

1. Existing concrete (per as-built information):
   a) Concrete: f'c = 3,000 psi for footings, slabs on grade, elevator pit and motor mounts
   f'c = 4000 psi for beams, joists, girders, walls and other items not noted above or below.
   f'c = 5000 psi for columns

   b) Rebar: Fy = 40 ksi for all elements at or below grade level (foundation members)
   Fy = 60 ksi for all concrete members above foundation level. Including column dowels from footing, column lateral ties, joists, beam and girder longitudinal bars and vertical stirrups
   Welded Wire Fabric ASTM A-185 for all floor slabs (Fy = 65 ksi)

2. Carbon Fiber Reinforced Polymer (CFRP) properties as reported by Dow-Aksa Carbonwrap:
   a) CFU10T
   E = 11,300 KSI
   f_{fu}* = 171 ksi
   e_{fu}* = 0.013
   t_f = 0.021 inches

   b) CFU40T
   E = 14,980 KSI
   f_{fu}* = 137.4 ksi
   e_{fu}* = 0.0093
   t_f = 0.073 inches



1 PROPOSED FLOOR PLAN

SCHEME 5.2

Scale: 1/16" = 1'-0"

EXISTING FRAMING DESCRIPTION:
JOISTS SPAN EAST-WEST SUPPORTED BY CONCRETE GIRDERS RUNNING NORTH-SOUTH BETWEEN COLUMNS.
ADDITIONAL BEAMS RUN BETWEEN COLUMNS IN THE EAST-WEST DIRECTION PARALLEL TO JOISTS.

PIMA COUNTY FACILITIES MANAGEMENT, 150 WEST CONGRESS, TUCSON ARIZONA 85701 (520)724-3085

FIFTH FLOOR
PROPOSED FLOOR PLAN

Building Name
Address
Tucson, AZ

REVS: DATE:
Rev Date

DRWN BY: SS
CKD BY: EV
DATE: 09/10/18
SCALE: Scale
SHEET NO: 1
1 OF 1
W.A. NUMBER 19*10427

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M3ENG.COM

Project No. 180114.001
Project Title PIMA COUNTY 5TH FLR T.I.
Sheet No. 4 of 109 by ACG
Drawing No.

Subject: CHECK FLOOR CAPACITY - 5TH FLOOR Date: APRIL 2019

LOADS

LIVE LOAD
- 235 psf (UNDER HIGH DENSITY FILING SYSTEM - SEE NXT PAGE.
- 80 psf CORRIDORS (ABOVE 1ST FLOOR)
- 65 psf OFFICE AREAS (INCLUDING 15psf FOR PARTITIONS)
- 125 psf UNDER STANDARD FILING AREAS

DEAD LOAD

5" SLAB =	5/12 x 150 pcf	63 psf
MPE =		10 psf
FLOORING/CARPET =		20 psf
MISC.		7 psf
		100 psf

JOIST = (6" x 14" (AVERAGE WIDTH BELOW SLAB) / 144) x 150 pcf = 88 plf

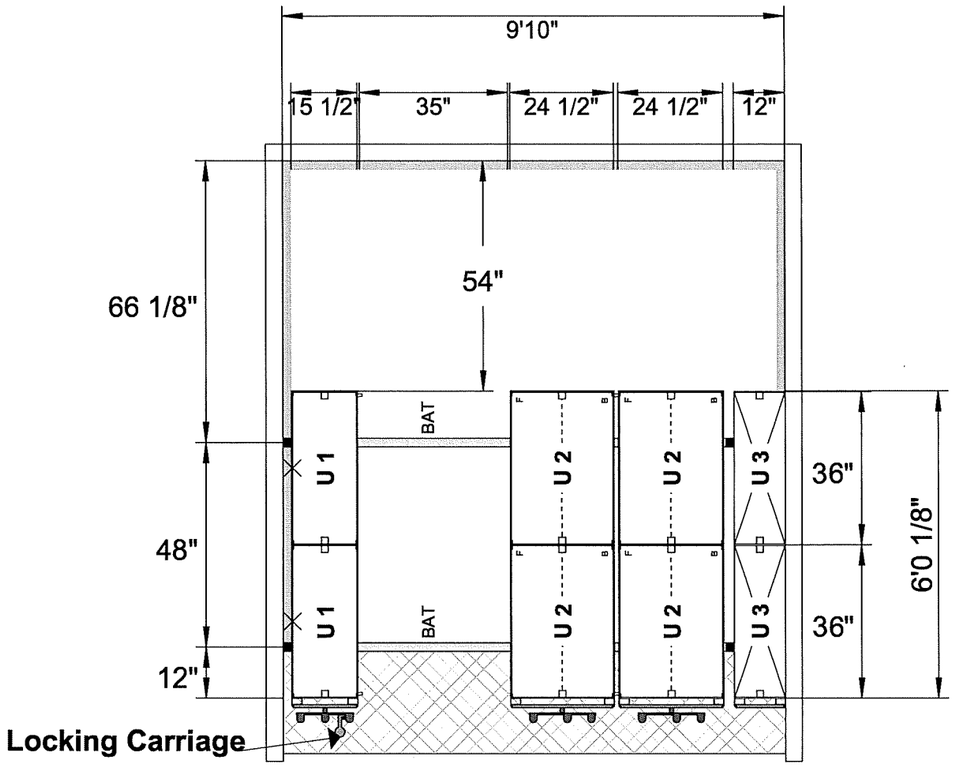
JOIST TYPE 2 & GIRDER ALONG GRID 18 (BETWEEN D & E) HAVE BEEN IDENTIFIED TO BE AFFECTED BY THE NEW LOADING, FROM THE HIGH DENSITY FILING SYSTEM.

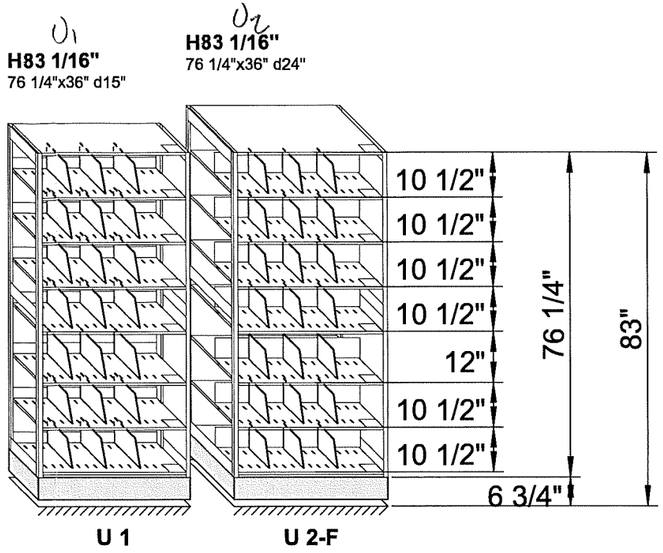
JOISTS TYPE 1 & 4 & GIRDER ALONG GRID 18 (BTWN D&E) HAVE BEEN IDENTIFIED TO BE AFFECTED BY STANDARD FILING LOADS.

PIMA COUNTY PROCUREMENT - RECORDS

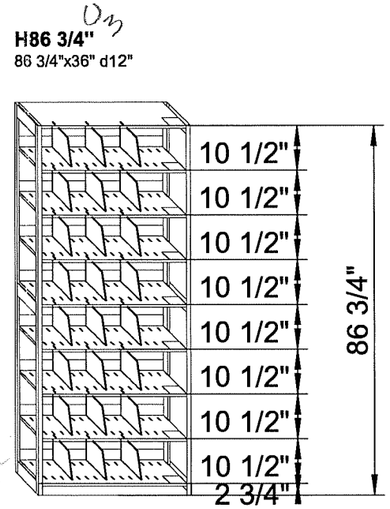
Spacesaver
Storage Solved

180114.001
PM 5/109





SHELVING ELEVATIONS



System Weight Summary Report

Total media weight	6,579.00 lbs	
Total equipment weight	2,443.58 lbs	
Total aisle weight (15 lbs/ft²)	655.06 lbs	
Total system (media, equipment and aisle) weight	9,677.64 lbs	
Total Foot-Print area	90.43 ft²	
Total weight load per square foot (avg unit load)	107.02 lbs/ft²	
Weight load (line load*) under front rail	3,519.75 lbs	398.46 lbs/ft
Weight load (line load*) under back rail	3,531.81 lbs	399.83 lbs/ft

*Line Load calculations do not include the weight of Floor, Ramp, or Aisles.

9677.64 lbs / (6')(9.83 - 35/12) = 233.3 plf
SAY 235 plf

LINE LOADING FROM RAIL DETERMINED NEXT PAGE.

CAPACITIES:

EXISTING - 1,500" LFI
NEW - 2,924" LFI
GROWTH - 1,424" LFI

Concert
architectural interiors

Project Name: Pima County Procurement - Records			Project #: 2007-260
Salesperson: Matt Gawin	Scale: 1/4" = 1'	Rev level: 2	Drawn by: Matt Gawin
			Date Printed: 09/14/2007

APPROVAL
This drawing Approved By:

Dated

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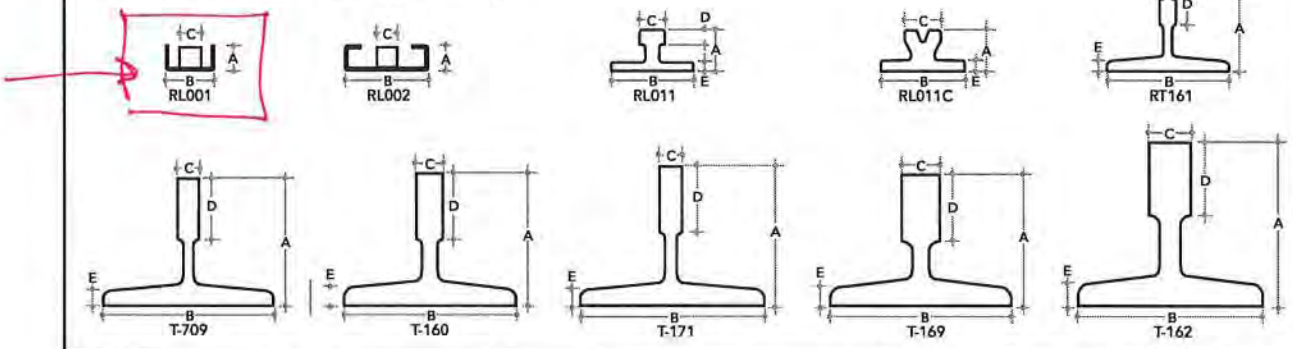
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Pg 6/109

RAIL DATA

Structural steel rails are machined smooth at top and side contact points. Rail joints may be tongue and groove, and may be spliced along any point above bearing structural members. Dimensions and section properties are charted on this page.

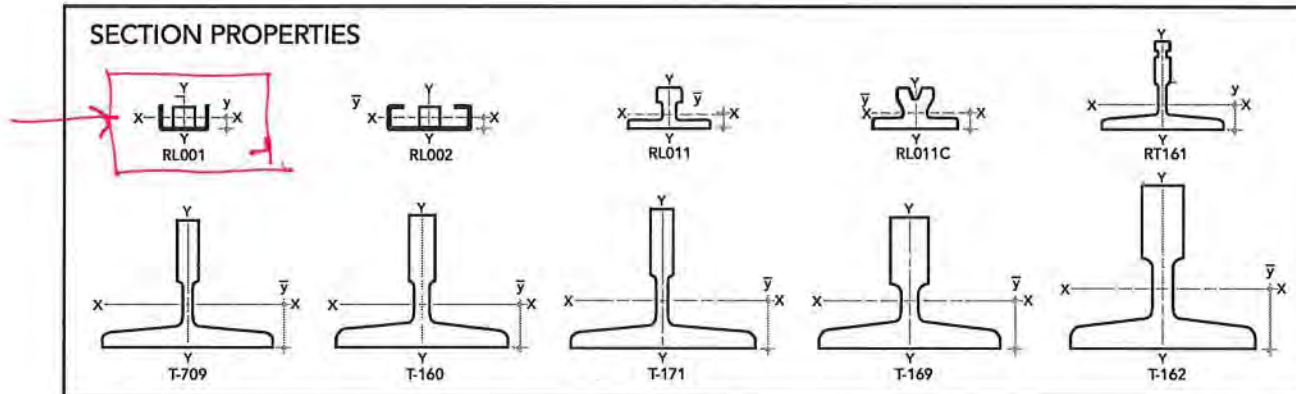
NOMINAL DIMENSIONS (INCHES)



RAIL	Wt/Ft (lbs)	A	B	C	D	E	SYSTEM USAGE
RL001*	4.0	11/16	1-11/16	5/8	–	–	DF
RL002*	5.0	3/4	3-7/16	5/8	–	–	DF
RL011**	3.2	1-1/16	2-1/8	5/8	3/8	1/4	DF, CF, RG
RL011C**	4.0	1-1/16	2-1/8	15/16	1/4	5/16	CF
RT161**	8.0	2-7/16	3-1/2	5/8	1-1/4	5/16	DF, CF, RG
T-709**	12.0	3-1/2	5	5/8	1-3/4	5/16	DF, RG
T-160**	15.0	3-1/2	5	5/8	1-31/32	1/2	DF, RG
T-171**	18.5	4-1/4	5-1/2	3/4	1-31/32	1/2	RG
T-169**	22.5	4	5-1/2	1-1/8	2	9/16	RG, CF
T-162**	30.0	5	5-1/2	1-1/4	2-1/4	11/16	RG, CF

* Rails RL001 and RL002 are 6' long and made of 1045 (cold rolled) steel and Rail RL005 is 8' long and made of 1045 (cold drawn) steel.
**Rails are available in standard lengths of 8'. Rail shall be structural "T" section of AISI C-1035 (hot rolled) steel. Minimum tensile strength of rails is 70,000 psi. Yield strength is 50,0000 psi.

SECTION PROPERTIES



RAIL	Wt/Ft (lbs)	A	$\bar{y}$	I_x	S_x (Top)	S_x (Btm)	r_x	I_y	S_y	r_y
RL001	4.0	.60	.32	.03	.07	.09	.21	.10	.12	.40
RL002	5.0	.94	.36	.06	.15	.16	.25	.96	.56	1.01
RL011	3.2	.94	.39	.11	.17	.28	.34	.21	.21	.48
RL011C	4.0	1.18	.39	.12	.18	.31	.32	.31	.29	.51
RT161	8.0	2.40	.81	1.40	.86	1.73	.78	1.28	.73	.74
T-709	12.0	3.51	1.08	4.49	1.85	4.16	1.13	3.61	1.45	1.01
T-160	15.0	4.41	.94	4.78	1.89	.09	1.04	5.51	2.21	1.12
T-171	18.5	5.44	1.26	9.67	3.23	7.67	1.33	7.45	2.71	1.17
T-169	22.5	6.73	1.38	11.17	4.20	8.09	1.28	8.64	3.10	1.13
T-162	30.0	8.93	1.74	24.00	7.37	13.80	1.64	11.08	4.03	1.11

A = Area in square inches
y = Distance from bottom of rail to axis x – x inches

I_x = Moment of inertia about axis x – x inches^4
S_x = Section modulus about axis x – x inches^3
r_x = Radius of gyration about axis x – x inches

I_y = Moment of inertia about axis y – y inches^4
S_y = Section modulus about axis y – y inches^3
r_y = Radius of gyration about axis y – y inches

Subject: CHECK FLOOR CAPACITY - 5TH FLOOR Date: APRIL 2019

SLAB CAPACITY W/ 6x6 - 6x6 W.W.F. 5" THICK, $f'_c = 4{,}000$ psi (S-2)

$A_s = 0.058$ in²/ft ASTM A-185 $f_y = 65$ ksi

$d = 2.5"$ $b = 12"$

SOLVING FOR $\phi M_n = M_u$

$\phi M_n = 8.325$ k·in/ft

$$A_s = \frac{d \cdot b}{\frac{f_y}{0.85 f'_c}} - \sqrt{\frac{(\phi f_y d)^2 - 4\left(\frac{\phi f_y^2 M_u}{1.7 f'_c b}\right)}{2\left(\frac{\phi f_y^2}{1.7 f'_c b}\right)}}$$

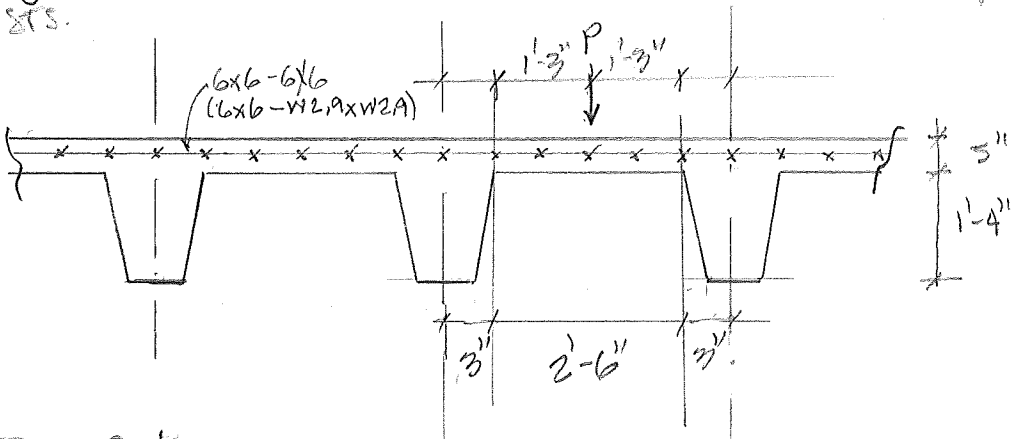
← CONSERVATIVE AS IT CONSIDERS H.D. FILLING ALL LIVE LOAD.

$$M_u = \underbrace{[(235) \times 1.6 + (100) \times 1.2]}_{496 \text{ PSF}} \frac{(3' - 0.5')^2}{12} = 258.3 \text{ LB·FT}$$

(ACI 318-11, 8.3) ↑ SLAB W/ SPAN LESS THAN 10 FT

$= 3.1$ k·in < 8.3 k·in OK

CHECK SLAB AGAINST RAIL LOADING - ASSUME RAILS ARE PARALLEL TO JOIST & ONE OF THEM LANDS BETWEEN MIDSPAN BETWEEN JOISTS.



LINE LOADING

$$P = \frac{6{,}579^{\#} + 2{,}444}{2\left(\frac{15.5 + 24 + 5 \times 2 + 12}{12}\right)} = \frac{9023 \text{ LBS}}{12.75'} = 707.7 \text{ LBS/FT}$$

WHEEL LOAD FOR UNIT "U2" $\Rightarrow 707.7^{\#/ft} \times \frac{245"}{(12)(2)} = 722.5^{\#}$

2 WHEELS PER SIDE

Subject: ~~CHECK~~ FLOOR CAPACITY 5TH FLOOR Date: APRIL 2019

MOMENT

$M_U = (100 \times 1.2 + 15 \times 1.2) \times \frac{2.5^2}{12} + \frac{723\#(2.5) \times 1.6}{8}$

(100 × 1.2: DL; 15 × 1.2: AISLE DL; 723#: WHEEL LOAD)

$M_U = 71.9 \text{ LB.FT} + 361.5 \text{ LB.FT}$

$M_U = 5.2 \text{ K.in} < 8.775 \text{ K.in}$ (OK)

CHECK SHEAR (IF RAIL WAS CLOSE TO JOIST)

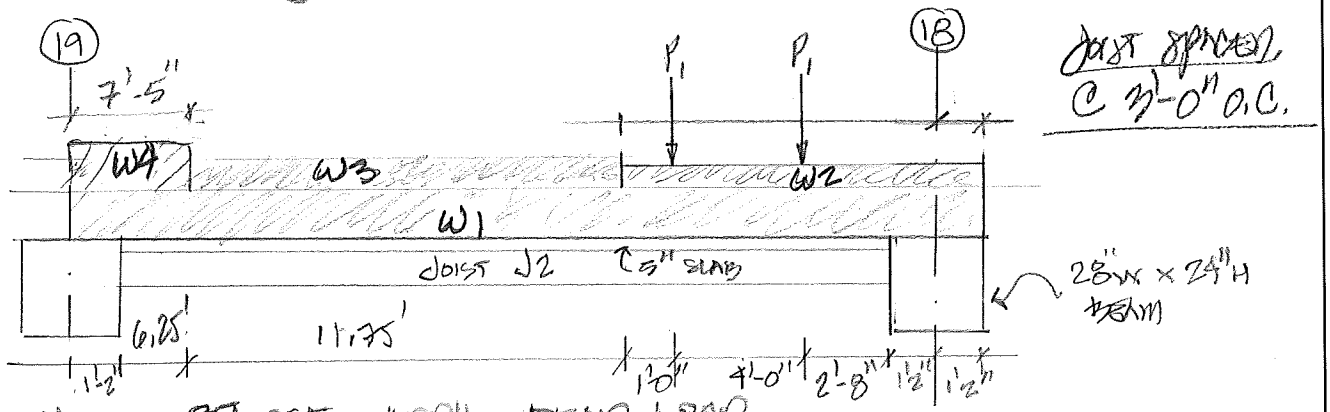
$V_U = 723 \text{ LBS} \times 1.6 + (15 \text{ PSF} + 100 \text{ PSF}) \times 1.2 \times \frac{2.5'}{2} = 1329.3 \text{ LBS}$

(723 LBS: WHEEL NEAR JOIST FACE, 2" inches away; 15 PSF: AISLE DL; 100 PSF: DL; 1329.3 LBS: CONSERVATIVE AS DL SHEAR WAS CALCULATED AT FACE OF JOIST)

$\phi V_C = 2\phi \, bd \sqrt{f'_c}$
$= 2(0.75)(12)(2.5)\sqrt{4000}$
$= 2846 \text{ LBS/FT}$

$\frac{1}{2}\phi V_C = 1423 \text{ LBS/FT} > 1329.3\#/\text{FT}$ ∴ SLAB IS OK FOR LOAD

Subject: CHECK JOIST Date: APRIL 2019



JOIST SPACED @ 3'-0" O.C.

W_1 • 37 PSF ADD'L DEAD LOAD
• SELF WEIGHT

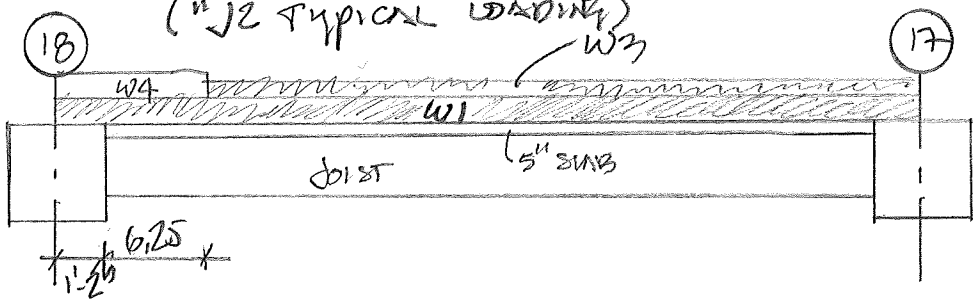
W_2 (*) 15 PSF (DEAD LOAD "AISLE")

W_3 • 65 PSF LIVE LOAD WHERE W2 OR W4 ARE NOT APPLIED

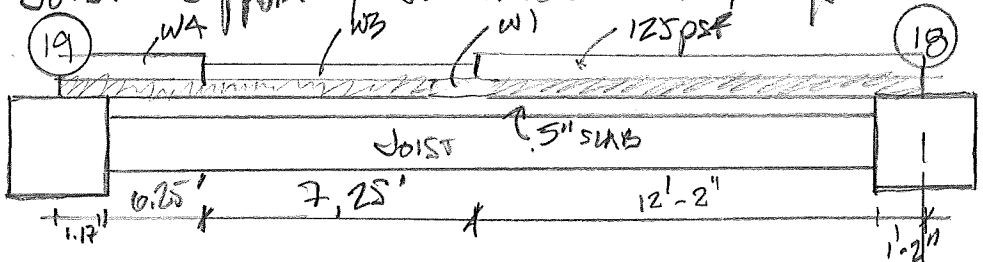
✓ W4 • 80 PSF LIVE LOAD @ CORRIDOR.

P_1 (*) = 708 PLF × 3' = 2,124 LBS (CONCENTRATED LOAD FROM RAIL)

- JOISTS ON EAST SIDE OF GRIDLINE 18 ARE LOADED AS FOLLOWS ("J2 TYPICAL LOADING")



- JOISTS SUPPORTING STANDARD FILING SYSTEM



Subject: CHECK JOISTS Date: APRIL 2019

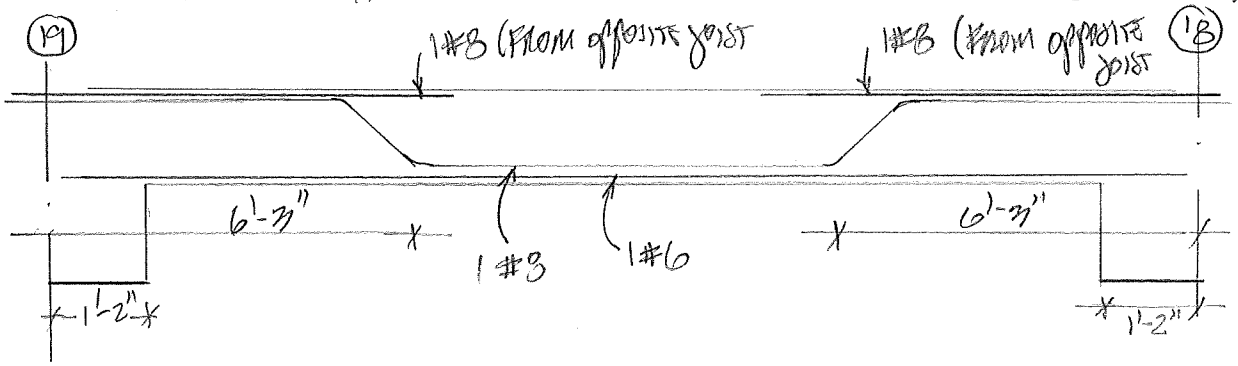
CHECK JOISTS J2

JOIST SPAN BTWN GRIDLINES = 28'-0"

GIRDERS @ GRIDS 1B & 9 ARE 28"W x 24"H

FROM S-5 → REINFORCING INTO (IN ADDITION TO WWF 6x6-W2.9xW2.9) ← $A_s = 0.053 in^2/ft$

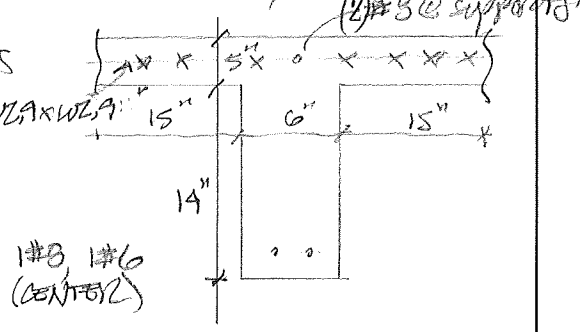
J2 LONG: 2#8 @ ENDS (ONE FROM BENT #8 & ONE FROM OPPOSITE END JOIST)
1#6 @ BOTTOM, CONTINUOUS
1#8 @ BOTTOM FROM 6'3" TO 21'9" (MEASURED FROM GRIDLINE)



CHECK J2 (WORST CASE REINFORCING)

CLEAR SPAN = 28' - 28/12' = 25.67'

EFFECTIVE BEAM FLANGE
ACI 318-14 TABLE 6.3.2.1 EACH SIDE OF WEB, LEAST OF:
8h = 8x5 = 40"
$s_w/2$ = 2.5'/2 * 12 = 15" ← GOVERNS
$l_n/8$ = 28/8 x 12 = 42"



Project Title:
Engineer:
Project ID:
Project Descr:

W/109

Concrete Beam

File = P:\2018\180114\Structural\180114.001 Pma County 5th floor TI - floor check\180114.001.ec6 .
Software copyright ENERCALC, INC. 1983-2018, Build:10.18.12.12 .

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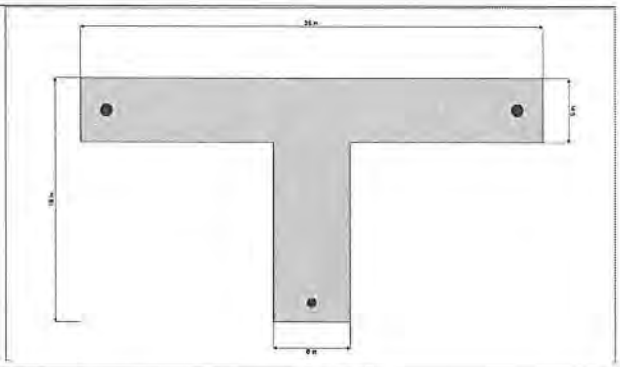
Description : J2 with HD filing load

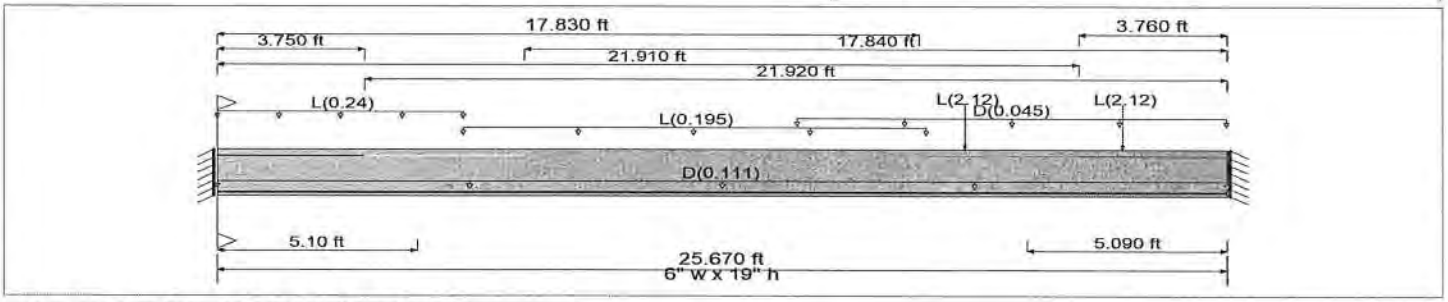
CODE REFERENCES

Calculations per ACI 318-14, IBC 2018, CBC 2019, ASCE 7-16
Load Combination Set : ASCE 7-10

Material Properties

f'c	= 4.0 ksi	ϕ Phi Values	Flexure :	0.90
fr = f'c$^{1/2}$ * 7.50	= 474.342 psi		Shear :	0.750
Ψ Density	= 145.0 pcf	β_1	=	0.850
λ LtWt Factor	= 1.0			
Elastic Modulus	= 3,122.0 ksi	Fy - Stirrups		40.0 ksi
fy - Main Rebar	= 60.0 ksi	E - Stirrups	=	29,000.0 ksi
E - Main Rebar	= 29,000.0 ksi	Stirrup Bar Size #		3
		Number of Resisting Legs Per Stirrup =		2





Cross Section & Reinforcing Details

Tee Section, Stem Width = 6.0 in, Total Height = 19.0 in, Top Flange Width = 36.0 in, Flange Thickness = 5.0 in

Span #1 Reinforcing....

2-#8 at 2.50 in from Top, from 0.0 to 3.750 ft in this span
1-#6 at 1.50 in from Bottom, from 0.0 to 25.670 ft in this span
1-#8 at 2.50 in from Top, from 3.750 to 7.830 ft in this span
2-#8 at 2.50 in from Top, from 21.910 to 25.670 ft in this span
1-#8 at 1.50 in from Bottom, from 5.10 to 20.580 ft in this span
1-#8 at 2.50 in from Top, from 17.830 to 21.910 ft in this span

Applied Loads

Service loads entered. Load Factors will be applied for calculations.

CONSERVATIVELY, NEGLECTED THE FOLLOWING SLAB REINFORCING:
WWF - W2.9 x W2.9 (6x6 - 6/6)
A_s = 0.058 in²/FT

Beam self weight calculated and added to loads
Load for Span Number 1

Uniform Load : D = 0.0370 ksf, Tributary Width = 3.0 ft, (floor dead load)

Uniform Load : L = 0.0650 ksf, Extent = 6.250 -->> 18.0 ft, Tributary Width = 3.0 ft, (floor live)

Uniform Load : D = 0.0150 ksf, Extent = 14.750 -->> 25.667 ft, Tributary Width = 3.0 ft, (aisle load)

Point Load : L = 2.120 k @ 19.0 ft, (HD filing system - conc load)

Point Load : L = 2.120 k @ 23.0 ft, (filing system)

Uniform Load : L = 0.080 ksf, Extent = 0.0 -->> 6.250 ft, Tributary Width = 3.0 ft, (floor live)

DESIGN SUMMARY

Design OK

Maximum Bending Stress Ratio =	**0.547** : 1	Maximum Deflection			
Section used for this span	**Typical Section**	Max Downward Transient Deflection	0.025 in	Ratio =	12291 >=800.
Mu : Applied	-57.570 k-ft	Max Upward Transient Deflection	0.000 in	Ratio =	0 <800.0
Mn * Phi : Allowable	105.255 k-ft	Max Downward Total Deflection	0.087 in	Ratio =	3528 >=360.
Location of maximum on span	25.670 ft	Max Upward Total Deflection	0.000 in	Ratio =	0 <360.0
Span # where maximum occurs	Span # 1				

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Project ID:
Project Descr:

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Concrete Beam

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Description : J2 with HD filing load

Vertical Reactions

Support notation : Far left is #1

Load Combination	Support 1	Support 2
Overall MAXimum	8.156	10.040
Overall MINimum	2.944	3.155
+D+H	4.915	5.250
+D+L+H	8.156	10.040
+D+Lr+H	4.915	5.250
+D+S+H	4.915	5.250
+D+0.750Lr+0.750L+H	7.357	8.831
+D+0.750L+0.750S+H	7.357	8.831
+D+0.60W+H	4.915	5.250
+D+0.70E+H	4.915	5.250
+D+0.750Lr+0.750L+0.450W+H	7.357	8.831
+D+0.750L+0.750S+0.450W+H	7.357	8.831
+D+0.750L+0.750S+0.5250E+H	7.357	8.831
+0.60D+0.60W+0.60H	2.944	3.155
+0.60D+0.70E+0.60H	2.944	3.155
D Only	4.915	5.250
Lr Only		
L Only	3.075	4.956
S Only		
W Only		
E Only		
H Only		

Detailed Shear Information

Load Combination	Span Number	Distance (ft)	'd' (in)	Vu (k) Actual	Vu (k) Design	Mu (k-ft)	d*Vu/Mu	Phi*Vc (k)	Comment	Phi*Vs (k)	Phi*Vn (k)	Spacing (in) Req'd	Spacing (in) Suggest
+1.20D+1.60L+0.50S+1.60H	1	0.00	16.50	10.81	10.81	47.35	0.31	9.85	PhiVc < Vu	0.9558	23.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	0.05	16.50	10.77	10.77	46.85	0.32	9.86	PhiVc < Vu	0.9101	23.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	0.09	16.50	10.73	10.73	46.35	0.32	9.87	PhiVc < Vu	0.8643	23.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	0.14	16.50	10.69	10.69	45.85	0.32	9.87	PhiVc < Vu	0.8183	23.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	0.19	16.50	10.65	10.65	45.35	0.32	9.88	PhiVc < Vu	0.7723	23.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	0.23	16.50	10.61	10.61	44.85	0.33	9.89	PhiVc < Vu	0.7261	23.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	0.28	16.50	10.57	10.57	44.35	0.33	9.89	PhiVc < Vu	0.6799	23.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	0.33	16.50	10.53	10.53	43.86	0.33	9.90	PhiVc < Vu	0.6335	23.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	0.37	16.50	10.50	10.50	43.37	0.33	9.91	PhiVc < Vu	0.5870	23.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	0.42	16.50	10.46	10.46	42.88	0.34	9.92	PhiVc < Vu	0.5403	23.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	0.47	16.50	10.42	10.42	42.39	0.34	9.92	PhiVc < Vu	0.4935	23.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	0.51	16.50	10.38	10.38	41.91	0.34	9.93	PhiVc < Vu	0.4466	23.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	0.56	16.50	10.34	10.34	41.42	0.34	9.94	PhiVc < Vu	0.3996	23.6	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	0.61	16.50	10.30	10.30	40.94	0.35	9.95	PhiVc < Vu	0.3524	23.6	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	0.65	16.50	10.26	10.26	40.46	0.35	9.96	PhiVc < Vu	0.3050	23.6	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	0.70	16.50	10.22	10.22	39.98	0.35	9.96	PhiVc < Vu	0.2576	23.6	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	0.75	16.50	10.18	10.18	39.50	0.35	9.97	PhiVc < Vu	0.2099	23.6	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	0.79	16.50	10.14	10.14	39.03	0.36	9.98	PhiVc < Vu	0.1621	23.6	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	0.84	16.50	10.10	10.10	38.55	0.36	9.99	PhiVc < Vu	0.1141	23.6	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	0.89	16.50	10.06	10.06	38.08	0.36	10.00	PhiVc < Vu	0.06601	23.6	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	0.94	16.50	10.03	10.03	37.61	0.37	10.01	PhiVc < Vu	0.01770	23.6	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	0.98	16.50	9.99	9.99	37.14	0.37	10.02	PhiVc/2 < Vu <=	Min 9.6.3.1	23.6	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	1.03	16.50	9.95	9.95	36.68	0.37	10.03	PhiVc/2 < Vu <=	Min 9.6.3.1	23.6	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	1.08	16.50	9.91	9.91	36.21	0.38	10.04	PhiVc/2 < Vu <=	Min 9.6.3.1	23.6	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	1.12	16.50	9.87	9.87	35.75	0.38	10.05	PhiVc/2 < Vu <=	Min 9.6.3.1	23.7	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	1.17	16.50	9.83	9.83	35.29	0.38	10.06	PhiVc/2 < Vu <=	Min 9.6.3.1	23.7	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	1.22	16.50	9.79	9.79	34.83	0.39	10.07	PhiVc/2 < Vu <=	Min 9.6.3.1	23.7	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	1.26	16.50	9.75	9.75	34.38	0.39	10.08	PhiVc/2 < Vu <=	Min 9.6.3.1	23.7	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	1.31	16.50	9.71	9.71	33.92	0.39	10.09	PhiVc/2 < Vu <=	Min 9.6.3.1	23.7	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	1.36	16.50	9.67	9.67	33.47	0.40	10.10	PhiVc/2 < Vu <=	Min 9.6.3.1	23.7	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	1.40	16.50	9.63	9.63	33.02	0.40	10.11	PhiVc/2 < Vu <=	Min 9.6.3.1	23.7	8.3	8.0

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Concrete Beam

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Description : J2 with HD filing load

Detailed Shear Information

Load Combination	Span Number	Distance (ft)	'd' (in)	Vu (k) Actual	Vu (k) Design	Mu (k-ft)	d*Vu/Mu	Phi*Vc (k)	Comment	Phi*Vs (k)	Phi*Vn (k)	Spacing (in) Req'd	Spacing (in) Suggest
+1.20D+1.60L+0.50S+1.60H	1	1.45	16.50	9.60	9.60	32.57	0.41	10.12	PhiVc/2 < Vu <=	Min 9.6.3.1	23.7	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	1.50	16.50	9.56	9.56	32.12	0.41	10.13	PhiVc/2 < Vu <=	Min 9.6.3.1	23.7	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	1.54	16.50	9.52	9.52	31.67	0.41	10.15	PhiVc/2 < Vu <=	Min 9.6.3.1	23.8	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	1.59	16.50	9.48	9.48	31.23	0.42	10.16	PhiVc/2 < Vu <=	Min 9.6.3.1	23.8	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	1.64	16.50	9.44	9.44	30.79	0.42	10.17	PhiVc/2 < Vu <=	Min 9.6.3.1	23.8	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	1.68	16.50	9.40	9.40	30.35	0.43	10.18	PhiVc/2 < Vu <=	Min 9.6.3.1	23.8	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	1.73	16.50	9.36	9.36	29.91	0.43	10.20	PhiVc/2 < Vu <=	Min 9.6.3.1	23.8	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	1.78	16.50	9.32	9.32	29.47	0.43	10.21	PhiVc/2 < Vu <=	Min 9.6.3.1	23.8	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	1.82	16.50	9.28	9.28	29.04	0.44	10.22	PhiVc/2 < Vu <=	Min 9.6.3.1	23.8	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	1.87	16.50	9.24	9.24	28.60	0.44	10.24	PhiVc/2 < Vu <=	Min 9.6.3.1	23.9	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	1.92	16.50	9.20	9.20	28.17	0.45	10.25	PhiVc/2 < Vu <=	Min 9.6.3.1	23.9	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	1.96	16.50	9.17	9.17	27.74	0.45	10.27	PhiVc/2 < Vu <=	Min 9.6.3.1	23.9	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	2.01	16.50	9.13	9.13	27.31	0.46	10.28	PhiVc/2 < Vu <=	Min 9.6.3.1	23.9	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	2.06	16.50	9.09	9.09	26.89	0.46	10.30	PhiVc/2 < Vu <=	Min 9.6.3.1	23.9	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	2.10	16.50	9.05	9.05	26.46	0.47	10.32	PhiVc/2 < Vu <=	Min 9.6.3.1	23.9	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	2.15	16.50	9.01	9.01	26.04	0.48	10.33	PhiVc/2 < Vu <=	Min 9.6.3.1	23.9	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	2.20	16.50	8.97	8.97	25.62	0.48	10.35	PhiVc/2 < Vu <=	Min 9.6.3.1	24.0	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	2.24	16.50	8.93	8.93	25.20	0.49	10.37	PhiVc/2 < Vu <=	Min 9.6.3.1	24.0	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	2.29	16.50	8.89	8.89	24.79	0.49	10.38	PhiVc/2 < Vu <=	Min 9.6.3.1	24.0	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	2.34	16.50	8.85	8.85	24.37	0.50	10.40	PhiVc/2 < Vu <=	Min 9.6.3.1	24.0	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	2.38	16.50	8.81	8.81	23.96	0.51	10.42	PhiVc/2 < Vu <=	Min 9.6.3.1	24.0	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	2.43	16.50	8.77	8.77	23.55	0.51	10.44	PhiVc/2 < Vu <=	Min 9.6.3.1	24.1	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	2.48	16.50	8.74	8.74	23.14	0.52	10.46	PhiVc/2 < Vu <=	Min 9.6.3.1	24.1	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	2.52	16.50	8.70	8.70	22.73	0.53	10.48	PhiVc/2 < Vu <=	Min 9.6.3.1	24.1	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	2.57	16.50	8.66	8.66	22.32	0.53	10.50	PhiVc/2 < Vu <=	Min 9.6.3.1	24.1	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	2.62	16.50	8.62	8.62	21.92	0.54	10.52	PhiVc/2 < Vu <=	Min 9.6.3.1	24.1	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	2.67	16.50	8.58	8.58	21.52	0.55	10.55	PhiVc/2 < Vu <=	Min 9.6.3.1	24.2	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	2.71	16.50	8.54	8.54	21.12	0.56	10.57	PhiVc/2 < Vu <=	Min 9.6.3.1	24.2	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	2.76	16.50	8.50	8.50	20.72	0.56	10.59	PhiVc/2 < Vu <=	Min 9.6.3.1	24.2	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	2.81	16.50	8.46	8.46	20.32	0.57	10.62	PhiVc/2 < Vu <=	Min 9.6.3.1	24.2	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	2.85	16.50	8.42	8.42	19.93	0.58	10.64	PhiVc/2 < Vu <=	Min 9.6.3.1	24.3	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	2.90	16.50	8.38	8.38	19.54	0.59	10.67	PhiVc/2 < Vu <=	Min 9.6.3.1	24.3	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	2.95	16.50	8.34	8.34	19.14	0.60	10.70	PhiVc/2 < Vu <=	Min 9.6.3.1	24.3	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	2.99	16.50	8.31	8.31	18.76	0.61	10.73	PhiVc/2 < Vu <=	Min 9.6.3.1	24.3	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	3.04	16.50	8.27	8.27	18.37	0.62	10.76	PhiVc/2 < Vu <=	Min 9.6.3.1	24.4	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	3.09	16.50	8.23	8.23	17.98	0.63	10.79	PhiVc/2 < Vu <=	Min 9.6.3.1	24.4	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	3.13	16.50	8.19	8.19	17.60	0.64	10.82	PhiVc/2 < Vu <=	Min 9.6.3.1	24.4	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	3.18	16.50	8.15	8.15	17.22	0.65	10.85	PhiVc/2 < Vu <=	Min 9.6.3.1	24.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	3.23	16.50	8.11	8.11	16.84	0.66	10.88	PhiVc/2 < Vu <=	Min 9.6.3.1	24.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	3.27	16.50	8.07	8.07	16.46	0.67	10.92	PhiVc/2 < Vu <=	Min 9.6.3.1	24.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	3.32	16.50	8.03	8.03	16.08	0.69	10.96	PhiVc/2 < Vu <=	Min 9.6.3.1	24.6	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	3.37	16.50	7.99	7.99	15.71	0.70	11.00	PhiVc/2 < Vu <=	Min 9.6.3.1	24.6	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	3.41	16.50	7.95	7.95	15.33	0.71	11.04	PhiVc/2 < Vu <=	Min 9.6.3.1	24.6	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	3.46	16.50	7.91	7.91	14.96	0.73	11.08	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	3.51	16.50	7.88	7.88	14.59	0.74	11.12	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	3.55	16.50	7.84	7.84	14.23	0.76	11.17	PhiVc/2 < Vu <=	Min 9.6.3.1	24.8	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	3.60	16.50	7.80	7.80	13.86	0.77	11.21	PhiVc/2 < Vu <=	Min 9.6.3.1	24.8	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	3.65	16.50	7.76	7.76	13.50	0.79	11.26	PhiVc/2 < Vu <=	Min 9.6.3.1	24.9	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	3.69	16.50	7.72	7.72	13.14	0.81	11.32	PhiVc/2 < Vu <=	Min 9.6.3.1	24.9	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	3.74	16.50	7.68	7.68	12.78	0.83	11.37	PhiVc/2 < Vu <=	Min 9.6.3.1	25.0	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	3.79	16.50	7.64	7.64	12.42	0.85	11.43	PhiVc/2 < Vu <=	Min 9.6.3.1	25.0	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	3.83	16.50	7.60	7.60	12.06	0.87	11.49	PhiVc/2 < Vu <=	Min 9.6.3.1	25.1	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	3.88	16.50	7.56	7.56	11.71	0.89	11.55	PhiVc/2 < Vu <=	Min 9.6.3.1	25.2	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	3.93	16.50	7.52	7.52	11.35	0.91	11.62	PhiVc/2 < Vu <=	Min 9.6.3.1	25.2	8.3	8.0

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Description : J2 with HD filing load

Detailed Shear Information

Load Combination	Span Number	Distance (ft)	'd' (in)	Vu (k) Actual	Vu (k) Design	Mu (k-ft)	d*Vu/Mu	Phi*Vc (k)	Comment	Phi*Vs (k)	Phi*Vn (k)	Spacing (in) Req'd	Spacing (in) Suggest
+1.20D+1.60L+0.50S+1.60H	1	3.97	16.50	7.48	7.48	11.00	0.94	11.69	PhiVc/2 < Vu <=	Min 9.6.3.1	25.3	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	4.02	16.50	7.45	7.45	10.65	0.96	11.77	PhiVc/2 < Vu <=	Min 9.6.3.1	25.4	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	4.07	16.50	7.41	7.41	10.31	0.99	11.85	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	4.11	16.50	7.37	7.37	9.96	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	4.16	16.50	7.33	7.33	9.62	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	4.21	16.50	7.29	7.29	9.28	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	4.25	16.50	7.25	7.25	8.94	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	4.30	16.50	7.21	7.21	8.60	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	4.35	16.50	7.17	7.17	8.26	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	4.40	16.50	7.13	7.13	7.93	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	4.44	16.50	7.09	7.09	7.60	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	4.49	16.50	7.05	7.05	7.26	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	4.54	16.50	7.02	7.02	6.94	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	4.58	16.50	6.98	6.98	6.61	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	4.63	16.50	6.94	6.94	6.28	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	4.68	16.50	6.90	6.90	5.96	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	4.72	16.50	6.86	6.86	5.64	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	4.77	16.50	6.82	6.82	5.32	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	4.82	16.50	6.78	6.78	5.00	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	4.86	16.50	6.74	6.74	4.68	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	4.91	16.50	6.70	6.70	4.37	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	4.96	16.50	6.66	6.66	4.06	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	5.00	16.50	6.62	6.62	3.75	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	5.05	16.50	6.59	6.59	3.44	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	5.10	16.50	6.55	6.55	3.13	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	5.14	16.50	6.51	6.51	2.83	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	5.19	16.50	6.47	6.47	2.52	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	5.24	16.50	6.43	6.43	2.22	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	5.28	16.50	6.39	6.39	1.92	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	5.33	16.50	6.35	6.35	1.62	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	5.38	16.50	6.31	6.31	1.33	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	5.42	16.50	6.27	6.27	1.03	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	5.47	16.50	6.23	6.23	0.74	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	5.52	16.50	6.19	6.19	0.45	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	5.56	16.50	6.16	6.16	0.16	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	5.61	17.50	6.12	6.12	0.13	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	5.66	17.50	6.08	6.08	0.41	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	5.70	17.50	6.04	6.04	0.69	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	5.75	17.50	6.00	6.00	0.97	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	5.80	17.50	5.96	5.96	1.25	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	5.84	17.50	5.92	5.92	1.53	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	5.89	17.50	5.88	5.88	1.81	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	5.94	17.50	5.84	5.84	2.08	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	5.98	17.50	5.80	5.80	2.35	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	6.03	17.50	5.76	5.76	2.62	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	6.08	17.50	5.72	5.72	2.89	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	6.13	17.50	5.69	5.69	3.16	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	6.17	17.50	5.65	5.65	3.43	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	6.22	17.50	5.61	5.61	3.69	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	6.27	17.50	5.57	5.57	3.95	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	6.31	17.50	5.53	5.53	4.21	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	6.36	17.50	5.50	5.50	4.47	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	6.41	17.50	5.46	5.46	4.72	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	6.45	17.50	5.43	5.43	4.98	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0

Project Title:
Engineer:
Project ID:
Project Descr:

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Concrete Beam

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Description : J2 with HD filing load

Detailed Shear Information

Load Combination	Span Number	Distance (ft)	'd' (in)	Vu (k) Actual	Vu (k) Design	Mu (k-ft)	d*Vu/Mu	Phi*Vc (k)	Comment	Phi*Vs (k)	Phi*Vn (k)	Spacing (in) Req'd	Spacing (in) Suggest
+1.20D+1.60L+0.50S+1.60H	1	6.50	17.50	5.39	5.39	5.23	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	6.55	17.50	5.36	5.36	5.48	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	6.59	17.50	5.32	5.32	5.73	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	6.64	17.50	5.28	5.28	5.98	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	6.69	17.50	5.25	5.25	6.23	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	6.73	17.50	5.21	5.21	6.47	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	6.78	17.50	5.18	5.18	6.71	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	6.83	17.50	5.14	5.14	6.95	1.00	10.29	Vu < PhiVc/2	lot Reqd 9.6.	10.3	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	6.87	17.50	5.11	5.11	7.19	1.00	10.29	Vu < PhiVc/2	lot Reqd 9.6.	10.3	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	6.92	17.50	5.07	5.07	7.43	0.99	10.28	Vu < PhiVc/2	lot Reqd 9.6.	10.3	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	6.97	17.50	5.03	5.03	7.67	0.96	10.25	Vu < PhiVc/2	lot Reqd 9.6.	10.3	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	7.01	17.50	5.00	5.00	7.90	0.92	10.22	Vu < PhiVc/2	lot Reqd 9.6.	10.2	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	7.06	17.50	4.96	4.96	8.14	0.89	10.20	Vu < PhiVc/2	lot Reqd 9.6.	10.2	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	7.11	17.50	4.93	4.93	8.37	0.86	10.17	Vu < PhiVc/2	lot Reqd 9.6.	10.2	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	7.15	17.50	4.89	4.89	8.60	0.83	10.15	Vu < PhiVc/2	lot Reqd 9.6.	10.1	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	7.20	17.50	4.86	4.86	8.82	0.80	10.13	Vu < PhiVc/2	lot Reqd 9.6.	10.1	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	7.25	17.50	4.82	4.82	9.05	0.78	10.10	Vu < PhiVc/2	lot Reqd 9.6.	10.1	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	7.29	17.50	4.78	4.78	9.27	0.75	10.08	Vu < PhiVc/2	lot Reqd 9.6.	10.1	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	7.34	17.50	4.75	4.75	9.50	0.73	10.06	Vu < PhiVc/2	lot Reqd 9.6.	10.1	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	7.39	17.50	4.71	4.71	9.72	0.71	10.05	Vu < PhiVc/2	lot Reqd 9.6.	10.0	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	7.43	17.50	4.68	4.68	9.94	0.69	10.03	Vu < PhiVc/2	lot Reqd 9.6.	10.0	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	7.48	17.50	4.64	4.64	10.16	0.67	10.01	Vu < PhiVc/2	lot Reqd 9.6.	10.0	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	7.53	17.50	4.60	4.60	10.37	0.65	10.00	Vu < PhiVc/2	lot Reqd 9.6.	10.0	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	7.57	17.50	4.57	4.57	10.59	0.63	9.98	Vu < PhiVc/2	lot Reqd 9.6.	10.0	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	7.62	17.50	4.53	4.53	10.80	0.61	9.97	Vu < PhiVc/2	lot Reqd 9.6.	10.0	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	7.67	17.50	4.50	4.50	11.01	0.60	9.95	Vu < PhiVc/2	lot Reqd 9.6.	10.0	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	7.72	17.50	4.46	4.46	11.22	0.58	9.94	Vu < PhiVc/2	lot Reqd 9.6.	9.9	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	7.76	17.50	4.43	4.43	11.43	0.56	9.93	Vu < PhiVc/2	lot Reqd 9.6.	9.9	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	7.81	17.50	4.39	4.39	11.63	0.55	9.92	Vu < PhiVc/2	lot Reqd 9.6.	9.9	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	7.86	17.50	4.35	4.35	11.84	0.54	9.91	Vu < PhiVc/2	lot Reqd 9.6.	9.9	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	7.90	17.50	4.32	4.32	12.04	0.52	9.89	Vu < PhiVc/2	lot Reqd 9.6.	9.9	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	7.95	17.50	4.28	4.28	12.24	0.51	9.88	Vu < PhiVc/2	lot Reqd 9.6.	9.9	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	8.00	17.50	4.25	4.25	12.44	0.50	9.87	Vu < PhiVc/2	lot Reqd 9.6.	9.9	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	8.04	17.50	4.21	4.21	12.64	0.49	9.86	Vu < PhiVc/2	lot Reqd 9.6.	9.9	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	8.09	17.50	4.18	4.18	12.84	0.47	9.85	Vu < PhiVc/2	lot Reqd 9.6.	9.9	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	8.14	17.50	4.14	4.14	13.03	0.46	9.85	Vu < PhiVc/2	lot Reqd 9.6.	9.8	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	8.18	17.50	4.10	4.10	13.22	0.45	9.84	Vu < PhiVc/2	lot Reqd 9.6.	9.8	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	8.23	17.50	4.07	4.07	13.41	0.44	9.83	Vu < PhiVc/2	lot Reqd 9.6.	9.8	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	8.28	17.50	4.03	4.03	13.60	0.43	9.82	Vu < PhiVc/2	lot Reqd 9.6.	9.8	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	8.32	17.50	4.00	4.00	13.79	0.42	9.81	Vu < PhiVc/2	lot Reqd 9.6.	9.8	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	8.37	17.50	3.96	3.96	13.98	0.41	9.80	Vu < PhiVc/2	lot Reqd 9.6.	9.8	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	8.42	17.50	3.93	3.93	14.16	0.40	9.80	Vu < PhiVc/2	lot Reqd 9.6.	9.8	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	8.46	17.50	3.89	3.89	14.34	0.40	9.79	Vu < PhiVc/2	lot Reqd 9.6.	9.8	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	8.51	17.50	3.85	3.85	14.53	0.39	9.78	Vu < PhiVc/2	lot Reqd 9.6.	9.8	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	8.56	17.50	3.82	3.82	14.70	0.38	9.78	Vu < PhiVc/2	lot Reqd 9.6.	9.8	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	8.60	17.50	3.78	3.78	14.88	0.37	9.77	Vu < PhiVc/2	lot Reqd 9.6.	9.8	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	8.65	17.50	3.75	3.75	15.06	0.36	9.76	Vu < PhiVc/2	lot Reqd 9.6.	9.8	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	8.70	17.50	3.71	3.71	15.23	0.36	9.76	Vu < PhiVc/2	lot Reqd 9.6.	9.8	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	8.74	17.50	3.68	3.68	15.41	0.35	9.75	Vu < PhiVc/2	lot Reqd 9.6.	9.8	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	8.79	17.50	3.64	3.64	15.58	0.34	9.74	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	8.84	17.50	3.60	3.60	15.75	0.33	9.74	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	8.88	17.50	3.57	3.57	15.91	0.33	9.73	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	8.93	17.50	3.53	3.53	16.08	0.32	9.73	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	8.98	17.50	3.50	3.50	16.24	0.31	9.72	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0

Project Title:
Engineer:
Project ID:
Project Descr:

16/109

Concrete Beam

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Description : J2 with HD filing load

Detailed Shear Information

Load Combination	Span Number	Distance (ft)	'd' (in)	Vu (k) Actual	Vu (k) Design	Mu (k-ft)	d*Vu/Mu	Phi*Vc (k)	Comment	Phi*Vs (k)	Phi*Vn (k)	Spacing (in) Req'd	Spacing (in) Suggest
+1.20D+1.60L+0.50S+1.60H	1	9.02	17.50	3.46	3.46	16.41	0.31	9.72	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	9.07	17.50	3.43	3.43	16.57	0.30	9.71	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	9.12	17.50	3.39	3.39	16.73	0.30	9.71	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	9.16	17.50	3.35	3.35	16.88	0.29	9.70	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	9.21	17.50	3.32	3.32	17.04	0.28	9.70	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	9.26	17.50	3.28	3.28	17.20	0.28	9.69	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	9.30	17.50	3.25	3.25	17.35	0.27	9.69	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	9.35	17.50	3.21	3.21	17.50	0.27	9.68	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	9.40	17.50	3.18	3.18	17.65	0.26	9.68	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	9.45	17.50	3.14	3.14	17.80	0.26	9.68	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	9.49	17.50	3.10	3.10	17.94	0.25	9.67	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	9.54	17.50	3.07	3.07	18.09	0.25	9.67	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	9.59	17.50	3.03	3.03	18.23	0.24	9.66	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	9.63	17.50	3.00	3.00	18.37	0.24	9.66	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	9.68	17.50	2.96	2.96	18.51	0.23	9.66	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	9.73	17.50	2.93	2.93	18.65	0.23	9.65	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	9.77	17.50	2.89	2.89	18.78	0.22	9.65	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	9.82	17.50	2.85	2.85	18.92	0.22	9.64	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	9.87	17.50	2.82	2.82	19.05	0.22	9.64	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	9.91	17.50	2.78	2.78	19.18	0.21	9.64	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	9.96	17.50	2.75	2.75	19.31	0.21	9.63	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	10.01	17.50	2.71	2.71	19.44	0.20	9.63	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	10.05	17.50	2.68	2.68	19.56	0.20	9.63	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	10.10	17.50	2.64	2.64	19.69	0.20	9.62	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	10.15	17.50	2.60	2.60	19.81	0.19	9.62	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	10.19	17.50	2.57	2.57	19.93	0.19	9.62	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	10.24	17.50	2.53	2.53	20.05	0.18	9.62	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	10.29	17.50	2.50	2.50	20.17	0.18	9.61	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	10.33	17.50	2.46	2.46	20.28	0.18	9.61	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	10.38	17.50	2.43	2.43	20.40	0.17	9.61	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	10.43	17.50	2.39	2.39	20.51	0.17	9.60	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	10.47	17.50	2.35	2.35	20.62	0.17	9.60	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	10.52	17.50	2.32	2.32	20.73	0.16	9.60	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	10.57	17.50	2.28	2.28	20.84	0.16	9.59	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	10.61	17.50	2.25	2.25	20.94	0.16	9.59	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	10.66	17.50	2.21	2.21	21.05	0.15	9.59	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	10.71	17.50	2.18	2.18	21.15	0.15	9.59	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	10.75	17.50	2.14	2.14	21.25	0.15	9.58	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	10.80	17.50	2.10	2.10	21.35	0.14	9.58	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	10.85	17.50	2.07	2.07	21.45	0.14	9.58	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	10.89	17.50	2.03	2.03	21.54	0.14	9.58	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	10.94	17.50	2.00	2.00	21.64	0.13	9.57	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	10.99	17.50	1.96	1.96	21.73	0.13	9.57	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	11.03	17.50	1.93	1.93	21.82	0.13	9.57	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	11.08	17.50	1.89	1.89	21.91	0.13	9.57	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	11.13	17.50	1.85	1.85	22.00	0.12	9.56	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	11.18	17.50	1.82	1.82	22.08	0.12	9.56	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	11.22	17.50	1.78	1.78	22.17	0.12	9.56	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	11.27	17.50	1.75	1.75	22.25	0.11	9.56	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	11.32	17.50	1.71	1.71	22.33	0.11	9.56	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	11.36	17.50	1.67	1.67	22.41	0.11	9.55	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	11.41	17.50	1.64	1.64	22.49	0.11	9.55	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	11.46	17.50	1.60	1.60	22.56	0.10	9.55	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	11.50	17.50	1.57	1.57	22.64	0.10	9.55	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0

Project Title:
Engineer:
Project ID:
Project Descr:

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Concrete Beam

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Description : J2 with HD filing load

Detailed Shear Information

Load Combination	Span Number	Distance (ft)	'd' (in)	Vu (k) Actual	Vu (k) Design	Mu (k-ft)	d*Vu/Mu	Phi*Vc (k)	Comment	Phi*Vs (k)	Phi*Vn (k)	Spacing (in) Req'd	Spacing (in) Suggest
+1.20D+1.60L+0.50S+1.60H	1	11.55	17.50	1.53	1.53	22.71	0.10	9.54	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	11.60	17.50	1.50	1.50	22.78	0.10	9.54	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	11.64	17.50	1.46	1.46	22.85	0.09	9.54	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	11.69	17.50	1.42	1.42	22.92	0.09	9.54	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	11.74	17.50	1.39	1.39	22.98	0.09	9.54	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	11.78	17.50	1.35	1.35	23.05	0.09	9.53	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	11.83	17.50	1.32	1.32	23.11	0.08	9.53	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	11.88	17.50	1.28	1.28	23.17	0.08	9.53	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	11.92	17.50	1.25	1.25	23.23	0.08	9.53	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	11.97	17.50	1.21	1.21	23.29	0.08	9.53	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	12.02	17.50	1.17	1.17	23.34	0.07	9.52	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	12.06	17.50	1.14	1.14	23.40	0.07	9.52	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	12.11	17.50	1.10	1.10	23.45	0.07	9.52	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	12.16	17.50	1.07	1.07	23.50	0.07	9.52	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	12.20	17.50	1.03	1.03	23.55	0.06	9.52	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	12.25	17.50	1.00	1.00	23.60	0.06	9.51	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	12.30	17.50	0.96	0.96	23.64	0.06	9.51	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	12.34	17.50	0.92	0.92	23.69	0.06	9.51	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	12.39	17.50	0.89	0.89	23.73	0.05	9.51	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	12.44	17.50	0.85	0.85	23.77	0.05	9.51	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	12.48	17.50	0.82	0.82	23.81	0.05	9.50	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	12.53	17.50	0.78	0.78	23.85	0.05	9.50	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	12.58	17.50	0.75	0.75	23.88	0.05	9.50	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	12.62	17.50	0.71	0.71	23.92	0.04	9.50	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	12.67	17.50	0.67	0.67	23.95	0.04	9.50	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	12.72	17.50	0.64	0.64	23.98	0.04	9.50	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	12.76	17.50	0.60	0.60	24.01	0.04	9.49	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	12.81	17.50	0.57	0.57	24.04	0.03	9.49	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	12.86	17.50	0.53	0.53	24.06	0.03	9.49	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	12.91	17.50	0.50	0.50	24.09	0.03	9.49	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	12.95	17.50	0.46	0.46	24.11	0.03	9.49	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	13.00	17.50	0.42	0.42	24.13	0.03	9.48	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	13.05	17.50	0.39	0.39	24.15	0.02	9.48	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	13.09	17.50	0.35	0.35	24.17	0.02	9.48	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	13.14	17.50	0.32	0.32	24.18	0.02	9.48	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	13.19	17.50	0.28	0.28	24.19	0.02	9.48	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	13.23	17.50	0.25	0.25	24.21	0.01	9.48	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	13.28	17.50	0.21	0.21	24.22	0.01	9.47	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	13.33	17.50	0.17	0.17	24.23	0.01	9.47	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.40D+1.60H	1	13.37	17.50	-0.19	0.19	14.99	0.02	9.48	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.40D+1.60H	1	13.42	17.50	-0.21	0.21	14.98	0.02	9.48	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.40D+1.60H	1	13.47	17.50	-0.23	0.23	14.97	0.02	9.48	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.40D+1.60H	1	13.51	17.50	-0.26	0.26	14.96	0.03	9.48	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.40D+1.60H	1	13.56	17.50	-0.28	0.28	14.95	0.03	9.49	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.40D+1.60H	1	13.61	17.50	-0.31	0.31	14.94	0.03	9.49	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.40D+1.60H	1	13.65	17.50	-0.33	0.33	14.92	0.03	9.49	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.40D+1.60H	1	13.70	17.50	-0.36	0.36	14.91	0.04	9.49	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.40D+1.60H	1	13.75	17.50	-0.38	0.38	14.89	0.04	9.49	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.40D+1.60H	1	13.79	17.50	-0.41	0.41	14.87	0.04	9.50	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.40D+1.60H	1	13.84	17.50	-0.43	0.43	14.85	0.04	9.50	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.40D+1.60H	1	13.89	17.50	-0.46	0.46	14.83	0.04	9.50	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.40D+1.60H	1	13.93	17.50	-0.48	0.48	14.81	0.05	9.50	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.40D+1.60H	1	13.98	17.50	-0.51	0.51	14.78	0.05	9.50	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.40D+1.60H	1	14.03	17.50	-0.53	0.53	14.76	0.05	9.51	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0

Project Title:
Engineer:
Project ID:
Project Descr:

18/109

Concrete Beam

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Description : J2 with HD filing load

Detailed Shear Information

Load Combination	Span Number	Distance (ft)	'd' (in)	Vu (k) Actual	Vu (k) Design	Mu (k-ft)	d*Vu/Mu	Phi*Vc (k)	Comment	Phi*Vs (k)	Phi*Vn (k)	Spacing (in) Req'd	Spacing (in) Suggest
+1.40D+1.60H	1	14.07	17.50	-0.56	0.56	14.73	0.05	9.51	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.40D+1.60H	1	14.12	17.50	-0.58	0.58	14.71	0.06	9.51	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.40D+1.60H	1	14.17	17.50	-0.61	0.61	14.68	0.06	9.51	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.40D+1.60H	1	14.21	17.50	-0.63	0.63	14.65	0.06	9.51	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.40D+1.60H	1	14.26	17.50	-0.65	0.65	14.62	0.07	9.52	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.40D+1.60H	1	14.31	17.50	-0.68	0.68	14.59	0.07	9.52	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.40D+1.60H	1	14.35	17.50	-0.70	0.70	14.56	0.07	9.52	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.40D+1.60H	1	14.40	17.50	-0.73	0.73	14.52	0.07	9.52	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.40D+1.60H	1	14.45	17.50	-0.75	0.75	14.49	0.08	9.53	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.40D+1.60H	1	14.49	17.50	-0.78	0.78	14.45	0.08	9.53	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.40D+1.60H	1	14.54	17.50	-0.80	0.80	14.42	0.08	9.53	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.40D+1.60H	1	14.59	17.50	-0.83	0.83	14.38	0.08	9.53	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.40D+1.60H	1	14.64	17.50	-0.85	0.85	14.34	0.09	9.53	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.40D+1.60H	1	14.68	17.50	-0.88	0.88	14.30	0.09	9.54	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.40D+1.60H	1	14.73	17.50	-0.90	0.90	14.26	0.09	9.54	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	14.78	17.50	-0.93	0.93	23.68	0.06	9.51	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	14.82	17.50	-0.97	0.97	23.63	0.06	9.51	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	14.87	17.50	-1.01	1.01	23.59	0.06	9.51	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	14.92	17.50	-1.05	1.05	23.54	0.07	9.52	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	14.96	17.50	-1.09	1.09	23.49	0.07	9.52	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	15.01	17.50	-1.13	1.13	23.44	0.07	9.52	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	15.06	17.50	-1.16	1.16	23.38	0.07	9.52	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	15.10	17.50	-1.20	1.20	23.33	0.08	9.53	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	15.15	17.50	-1.24	1.24	23.27	0.08	9.53	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	15.20	17.50	-1.28	1.28	23.21	0.08	9.53	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	15.24	17.50	-1.32	1.32	23.15	0.08	9.53	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	15.29	17.50	-1.36	1.36	23.09	0.09	9.53	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	15.34	17.50	-1.39	1.39	23.02	0.09	9.54	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	15.38	17.50	-1.43	1.43	22.96	0.09	9.54	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	15.43	17.50	-1.47	1.47	22.89	0.09	9.54	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	15.48	17.50	-1.51	1.51	22.82	0.10	9.54	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	15.52	17.50	-1.55	1.55	22.75	0.10	9.54	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	15.57	17.50	-1.59	1.59	22.67	0.10	9.55	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	15.62	17.50	-1.62	1.62	22.60	0.10	9.55	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	15.66	17.50	-1.66	1.66	22.52	0.11	9.55	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	15.71	17.50	-1.70	1.70	22.44	0.11	9.55	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	15.76	17.50	-1.74	1.74	22.36	0.11	9.56	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	15.80	17.50	-1.78	1.78	22.28	0.12	9.56	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	15.85	17.50	-1.81	1.81	22.20	0.12	9.56	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	15.90	17.50	-1.85	1.85	22.11	0.12	9.56	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	15.94	17.50	-1.89	1.89	22.02	0.13	9.57	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	15.99	17.50	-1.93	1.93	21.94	0.13	9.57	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	16.04	17.50	-1.97	1.97	21.84	0.13	9.57	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	16.08	17.50	-2.01	2.01	21.75	0.13	9.57	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	16.13	17.50	-2.04	2.04	21.66	0.14	9.58	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	16.18	17.50	-2.08	2.08	21.56	0.14	9.58	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	16.22	17.50	-2.12	2.12	21.46	0.14	9.58	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	16.27	17.50	-2.16	2.16	21.36	0.15	9.58	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	16.32	17.50	-2.20	2.20	21.26	0.15	9.59	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	16.37	17.50	-2.24	2.24	21.16	0.15	9.59	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	16.41	17.50	-2.27	2.27	21.05	0.16	9.59	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	16.46	17.50	-2.31	2.31	20.94	0.16	9.60	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	16.51	17.50	-2.35	2.35	20.83	0.16	9.60	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	16.55	17.50	-2.39	2.39	20.72	0.17	9.60	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0

Project Title:
Engineer:
Project ID:
Project Descr:

19/109

Concrete Beam

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Description : J2 with HD filing load

Detailed Shear Information

Load Combination	Span Number	Distance (ft)	'd' (in)	Vu (k) Actual	Vu (k) Design	Mu (k-ft)	d*Vu/Mu	Phi*Vc (k)	Comment	Phi*Vs (k)	Phi*Vn (k)	Spacing (in) Req'd	Spacing (in) Suggest
+1.20D+1.60L+0.50S+1.60H	1	16.60	17.50	-2.43	2.43	20.61	0.17	9.60	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	16.65	17.50	-2.47	2.47	20.50	0.18	9.61	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	16.69	17.50	-2.50	2.50	20.38	0.18	9.61	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	16.74	17.50	-2.54	2.54	20.26	0.18	9.61	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	16.79	17.50	-2.58	2.58	20.14	0.19	9.62	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	16.83	17.50	-2.62	2.62	20.02	0.19	9.62	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	16.88	17.50	-2.66	2.66	19.90	0.19	9.62	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	16.93	17.50	-2.69	2.69	19.77	0.20	9.63	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	16.97	17.50	-2.73	2.73	19.65	0.20	9.63	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	17.02	17.50	-2.77	2.77	19.52	0.21	9.63	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	17.07	17.50	-2.81	2.81	19.39	0.21	9.64	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	17.11	17.50	-2.85	2.85	19.25	0.22	9.64	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	17.16	17.50	-2.89	2.89	19.12	0.22	9.64	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	17.21	17.50	-2.92	2.92	18.98	0.22	9.65	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	17.25	17.50	-2.96	2.96	18.85	0.23	9.65	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	17.30	17.50	-3.00	3.00	18.71	0.23	9.66	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	17.35	17.50	-3.04	3.04	18.57	0.24	9.66	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	17.39	17.50	-3.08	3.08	18.42	0.24	9.66	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	17.44	17.50	-3.12	3.12	18.28	0.25	9.67	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	17.49	17.50	-3.15	3.15	18.13	0.25	9.67	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	17.53	17.50	-3.19	3.19	17.98	0.26	9.68	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	17.58	17.50	-3.23	3.23	17.83	0.26	9.68	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	17.63	17.50	-3.27	3.27	17.68	0.27	9.69	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	17.67	17.50	-3.31	3.31	17.53	0.28	9.69	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	17.72	17.50	-3.35	3.35	17.37	0.28	9.69	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	17.77	17.50	-3.38	3.38	17.22	0.29	9.70	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	17.81	17.50	-3.42	3.42	17.06	0.29	9.70	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	17.86	17.50	-3.46	3.46	16.90	0.30	9.71	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	17.91	17.50	-3.50	3.50	16.73	0.30	9.71	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	17.95	17.50	-3.54	3.54	16.57	0.31	9.72	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	18.00	17.50	-3.57	3.57	16.40	0.32	9.73	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	18.05	17.50	-3.60	3.60	16.23	0.32	9.73	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	18.10	17.50	-3.62	3.62	16.07	0.33	9.73	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	18.14	17.50	-3.65	3.65	15.90	0.33	9.74	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	18.19	17.50	-3.67	3.67	15.72	0.34	9.74	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	18.24	17.50	-3.69	3.69	15.55	0.35	9.75	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	18.28	17.50	-3.72	3.72	15.38	0.35	9.75	Vu < PhiVc/2	lot Reqd 9.6.	9.8	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	18.33	17.50	-3.74	3.74	15.20	0.36	9.76	Vu < PhiVc/2	lot Reqd 9.6.	9.8	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	18.38	17.50	-3.76	3.76	15.03	0.37	9.76	Vu < PhiVc/2	lot Reqd 9.6.	9.8	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	18.42	17.50	-3.79	3.79	14.85	0.37	9.77	Vu < PhiVc/2	lot Reqd 9.6.	9.8	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	18.47	17.50	-3.81	3.81	14.68	0.38	9.78	Vu < PhiVc/2	lot Reqd 9.6.	9.8	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	18.52	17.50	-3.83	3.83	14.50	0.39	9.78	Vu < PhiVc/2	lot Reqd 9.6.	9.8	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	18.56	17.50	-3.86	3.86	14.32	0.39	9.79	Vu < PhiVc/2	lot Reqd 9.6.	9.8	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	18.61	17.50	-3.88	3.88	14.14	0.40	9.79	Vu < PhiVc/2	lot Reqd 9.6.	9.8	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	18.66	17.50	-3.91	3.91	13.95	0.41	9.80	Vu < PhiVc/2	lot Reqd 9.6.	9.8	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	18.70	17.50	-3.93	3.93	13.77	0.42	9.81	Vu < PhiVc/2	lot Reqd 9.6.	9.8	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	18.75	17.50	-3.95	3.95	13.59	0.42	9.81	Vu < PhiVc/2	lot Reqd 9.6.	9.8	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	18.80	17.50	-3.98	3.98	13.40	0.43	9.82	Vu < PhiVc/2	lot Reqd 9.6.	9.8	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	18.84	17.50	-4.00	4.00	13.21	0.44	9.83	Vu < PhiVc/2	lot Reqd 9.6.	9.8	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	18.89	17.50	-4.02	4.02	13.03	0.45	9.83	Vu < PhiVc/2	lot Reqd 9.6.	9.8	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	18.94	17.50	-4.05	4.05	12.84	0.46	9.84	Vu < PhiVc/2	lot Reqd 9.6.	9.8	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	18.98	17.50	-4.07	4.07	12.65	0.47	9.85	Vu < PhiVc/2	lot Reqd 9.6.	9.9	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	19.03	17.50	-7.49	7.49	12.35	0.88	10.19	PhiVc/2 < Vu <=	Min 9.6.3.1	24.6	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	19.08	17.50	-7.51	7.51	12.00	0.91	10.22	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0

Project Title:
Engineer:
Project ID:
Project Descr:

10/109

Concrete Beam

File = P:\2018\180114\Structural\180114.001 Pma County 5th floor TI - floor check\180114.001.ec6 .
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Description : J2 with HD filing load

Detailed Shear Information

Load Combination	Span Number	Distance (ft)	'd' (in)	Vu (k) Actual	Vu (k) Design	Mu (k-ft)	d*Vu/Mu	Phi*Vc (k)	Comment	Phi*Vs (k)	Phi*Vn (k)	Spacing (in) Req'd	Spacing (in) Suggest
+1.20D+1.60L+0.50S+1.60H	1	19.12	17.50	-7.53	7.53	11.65	0.94	10.24	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	19.17	17.50	-7.56	7.56	11.30	0.98	10.27	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	19.22	17.50	-7.58	7.58	10.95	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	19.26	17.50	-7.61	7.61	10.59	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	19.31	17.50	-7.63	7.63	10.23	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	19.36	17.50	-7.65	7.65	9.88	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	19.40	17.50	-7.68	7.68	9.52	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	19.45	17.50	-7.70	7.70	9.16	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	19.50	17.50	-7.72	7.72	8.80	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	19.54	17.50	-7.75	7.75	8.44	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	19.59	17.50	-7.77	7.77	8.07	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	19.64	17.50	-7.79	7.79	7.71	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	19.69	17.50	-7.82	7.82	7.34	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	19.73	17.50	-7.84	7.84	6.98	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	19.78	17.50	-7.87	7.87	6.61	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	19.83	17.50	-7.89	7.89	6.24	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	19.87	17.50	-7.91	7.91	5.87	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	19.92	17.50	-7.94	7.94	5.50	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	19.97	17.50	-7.96	7.96	5.13	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	20.01	17.50	-7.98	7.98	4.76	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	20.06	17.50	-8.01	8.01	4.38	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	20.11	17.50	-8.03	8.03	4.01	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	20.15	17.50	-8.05	8.05	3.63	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	20.20	17.50	-8.08	8.08	3.26	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	20.25	17.50	-8.10	8.10	2.88	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	20.29	17.50	-8.13	8.13	2.50	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	20.34	17.50	-8.15	8.15	2.12	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	20.39	17.50	-8.17	8.17	1.74	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	20.43	17.50	-8.20	8.20	1.35	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	20.48	17.50	-8.22	8.22	0.97	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	20.53	17.50	-8.24	8.24	0.59	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	20.57	17.50	-8.27	8.27	0.20	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	20.62	16.50	-8.29	8.29	0.19	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	20.67	16.50	-8.32	8.32	0.58	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	20.71	16.50	-8.34	8.34	0.97	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	20.76	16.50	-8.36	8.36	1.36	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	20.81	16.50	-8.39	8.39	1.75	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	20.85	16.50	-8.41	8.41	2.14	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	20.90	16.50	-8.43	8.43	2.53	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	20.95	16.50	-8.46	8.46	2.93	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	20.99	16.50	-8.48	8.48	3.32	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	21.04	16.50	-8.50	8.50	3.72	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	21.09	16.50	-8.53	8.53	4.12	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	21.13	16.50	-8.55	8.55	4.52	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	21.18	16.50	-8.58	8.58	4.92	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	21.23	16.50	-8.60	8.60	5.32	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	21.27	16.50	-8.62	8.62	5.72	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	21.32	16.50	-8.65	8.65	6.13	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	21.37	16.50	-8.67	8.67	6.53	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	21.42	16.50	-8.69	8.69	6.94	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	21.46	16.50	-8.72	8.72	7.35	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	21.51	16.50	-8.74	8.74	7.75	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	21.56	16.50	-8.76	8.76	8.16	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	21.60	16.50	-8.79	8.79	8.57	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0

Project Title:
Engineer:
Project ID:
Project Descr:

2/1/09

Concrete Beam

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Description : J2 with HD filing load

Detailed Shear Information

Load Combination	Span Number	Distance (ft)	'd' (in)	Vu (k) Actual	Vu (k) Design	Mu (k-ft)	d*Vu/Mu	Phi*Vc (k)	Comment	Phi*Vs (k)	Phi*Vn (k)	Spacing (in) Req'd	Spacing (in) Suggest
+1.20D+1.60L+0.50S+1.60H	1	21.65	16.50	-8.81	8.81	8.98	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	21.70	16.50	-8.84	8.84	9.40	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	21.74	16.50	-8.86	8.86	9.81	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	21.79	16.50	-8.88	8.88	10.23	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	21.84	16.50	-8.91	8.91	10.64	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	21.88	16.50	-8.93	8.93	11.06	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	21.93	16.50	-8.95	8.95	11.48	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	21.98	16.50	-8.98	8.98	11.90	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	22.02	16.50	-9.00	9.00	12.32	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	22.07	16.50	-9.03	9.03	12.74	0.97	11.81	PhiVc/2 < Vu <=	Min 9.6.3.1	25.4	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	22.12	16.50	-9.05	9.05	13.16	0.95	11.72	PhiVc/2 < Vu <=	Min 9.6.3.1	25.3	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	22.16	16.50	-9.07	9.07	13.58	0.92	11.64	PhiVc/2 < Vu <=	Min 9.6.3.1	25.3	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	22.21	16.50	-9.10	9.10	14.01	0.89	11.57	PhiVc/2 < Vu <=	Min 9.6.3.1	25.2	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	22.26	16.50	-9.12	9.12	14.44	0.87	11.50	PhiVc/2 < Vu <=	Min 9.6.3.1	25.1	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	22.30	16.50	-9.14	9.14	14.86	0.85	11.43	PhiVc/2 < Vu <=	Min 9.6.3.1	25.0	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	22.35	16.50	-9.17	9.17	15.29	0.82	11.36	PhiVc/2 < Vu <=	Min 9.6.3.1	25.0	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	22.40	16.50	-9.19	9.19	15.72	0.80	11.30	PhiVc/2 < Vu <=	Min 9.6.3.1	24.9	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	22.44	16.50	-9.21	9.21	16.15	0.78	11.25	PhiVc/2 < Vu <=	Min 9.6.3.1	24.9	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	22.49	16.50	-9.24	9.24	16.58	0.77	11.19	PhiVc/2 < Vu <=	Min 9.6.3.1	24.8	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	22.54	16.50	-9.26	9.26	17.01	0.75	11.14	PhiVc/2 < Vu <=	Min 9.6.3.1	24.8	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	22.58	16.50	-9.29	9.29	17.45	0.73	11.09	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	22.63	16.50	-9.31	9.31	17.88	0.72	11.04	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	22.68	16.50	-9.33	9.33	18.32	0.70	11.00	PhiVc/2 < Vu <=	Min 9.6.3.1	24.6	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	22.72	16.50	-9.36	9.36	18.75	0.69	10.95	PhiVc/2 < Vu <=	Min 9.6.3.1	24.6	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	22.77	16.50	-9.38	9.38	19.19	0.67	10.91	PhiVc/2 < Vu <=	Min 9.6.3.1	24.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	22.82	16.50	-9.40	9.40	19.63	0.66	10.87	PhiVc/2 < Vu <=	Min 9.6.3.1	24.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	22.86	16.50	-9.43	9.43	20.07	0.65	10.84	PhiVc/2 < Vu <=	Min 9.6.3.1	24.4	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	22.91	16.50	-9.45	9.45	20.51	0.63	10.80	PhiVc/2 < Vu <=	Min 9.6.3.1	24.4	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	22.96	16.50	-9.48	9.48	20.96	0.62	10.76	PhiVc/2 < Vu <=	Min 9.6.3.1	24.4	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	23.00	16.50	-12.89	12.89	21.42	0.83	11.37	PhiVc < Vu	1.516	25.0	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	23.05	16.50	-12.91	12.91	22.02	0.81	11.31	PhiVc < Vu	1.603	24.9	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	23.10	16.50	-12.94	12.94	22.62	0.79	11.25	PhiVc < Vu	1.686	24.9	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	23.15	16.50	-12.96	12.96	23.23	0.77	11.20	PhiVc < Vu	1.766	24.8	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	23.19	16.50	-12.99	12.99	23.84	0.75	11.14	PhiVc < Vu	1.844	24.8	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	23.24	16.50	-13.01	13.01	24.44	0.73	11.09	PhiVc < Vu	1.919	24.7	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	23.29	16.50	-13.03	13.03	25.05	0.72	11.04	PhiVc < Vu	1.991	24.7	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	23.33	16.50	-13.06	13.06	25.66	0.70	10.99	PhiVc < Vu	2.062	24.6	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	23.38	16.50	-13.08	13.08	26.27	0.68	10.95	PhiVc < Vu	2.130	24.6	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	23.43	16.50	-13.10	13.10	26.89	0.67	10.91	PhiVc < Vu	2.196	24.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	23.47	16.50	-13.13	13.13	27.50	0.66	10.87	PhiVc < Vu	2.260	24.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	23.52	16.50	-13.15	13.15	28.11	0.64	10.83	PhiVc < Vu	2.323	24.4	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	23.57	16.50	-13.17	13.17	28.73	0.63	10.79	PhiVc < Vu	2.384	24.4	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	23.61	16.50	-13.20	13.20	29.35	0.62	10.75	PhiVc < Vu	2.444	24.4	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	23.66	16.50	-13.22	13.22	29.96	0.61	10.72	PhiVc < Vu	2.502	24.3	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	23.71	16.50	-13.25	13.25	30.58	0.60	10.69	PhiVc < Vu	2.559	24.3	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	23.75	16.50	-13.27	13.27	31.20	0.58	10.65	PhiVc < Vu	2.615	24.3	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	23.80	16.50	-13.29	13.29	31.82	0.57	10.62	PhiVc < Vu	2.669	24.2	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	23.85	16.50	-13.32	13.32	32.44	0.56	10.59	PhiVc < Vu	2.722	24.2	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	23.89	16.50	-13.34	13.34	33.07	0.55	10.57	PhiVc < Vu	2.775	24.2	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	23.94	16.50	-13.36	13.36	33.69	0.55	10.54	PhiVc < Vu	2.826	24.2	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	23.99	16.50	-13.39	13.39	34.32	0.54	10.51	PhiVc < Vu	2.876	24.1	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	24.03	16.50	-13.41	13.41	34.94	0.53	10.49	PhiVc < Vu	2.926	24.1	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	24.08	16.50	-13.44	13.44	35.57	0.52	10.46	PhiVc < Vu	2.974	24.1	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	24.13	16.50	-13.46	13.46	36.20	0.51	10.44	PhiVc < Vu	3.022	24.0	8.3	8.0

Project Title:
Engineer:
Project ID:
Project Descr:

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Concrete Beam

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Description : J2 with HD filing load

Detailed Shear Information

Load Combination	Span Number	Distance (ft)	'd' (in)	Vu (k) Actual	Vu (k) Design	Mu (k-ft)	d*Vu/Mu	Phi*Vc (k)	Comment	Phi*Vs (k)	Phi*Vn (k)	Spacing (in) Req'd	Spacing (in) Suggest
+1.20D+1.60L+0.50S+1.60H	1	24.17	16.50	-13.48	13.48	36.83	0.50	10.41	PhiVc < Vu	3.069	24.0	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	24.22	16.50	-13.51	13.51	37.46	0.50	10.39	PhiVc < Vu	3.115	24.0	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	24.27	16.50	-13.53	13.53	38.09	0.49	10.37	PhiVc < Vu	3.161	24.0	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	24.31	16.50	-13.55	13.55	38.73	0.48	10.35	PhiVc < Vu	3.205	24.0	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	24.36	16.50	-13.58	13.58	39.36	0.47	10.33	PhiVc < Vu	3.250	23.9	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	24.41	16.50	-13.60	13.60	40.00	0.47	10.31	PhiVc < Vu	3.293	23.9	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	24.45	16.50	-13.62	13.62	40.63	0.46	10.29	PhiVc < Vu	3.336	23.9	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	24.50	16.50	-13.65	13.65	41.27	0.45	10.27	PhiVc < Vu	3.379	23.9	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	24.55	16.50	-13.67	13.67	41.91	0.45	10.25	PhiVc < Vu	3.421	23.9	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	24.59	16.50	-13.70	13.70	42.55	0.44	10.23	PhiVc < Vu	3.462	23.8	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	24.64	16.50	-13.72	13.72	43.19	0.44	10.22	PhiVc < Vu	3.503	23.8	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	24.69	16.50	-13.74	13.74	43.83	0.43	10.20	PhiVc < Vu	3.543	23.8	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	24.73	16.50	-13.77	13.77	44.47	0.43	10.18	PhiVc < Vu	3.583	23.8	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	24.78	16.50	-13.79	13.79	45.12	0.42	10.17	PhiVc < Vu	3.623	23.8	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	24.83	16.50	-13.81	13.81	45.76	0.42	10.15	PhiVc < Vu	3.662	23.8	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	24.88	16.50	-13.84	13.84	46.41	0.41	10.14	PhiVc < Vu	3.701	23.7	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	24.92	16.50	-13.86	13.86	47.06	0.41	10.12	PhiVc < Vu	3.739	23.7	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	24.97	16.50	-13.88	13.88	47.71	0.40	10.11	PhiVc < Vu	3.777	23.7	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	25.02	16.50	-13.91	13.91	48.36	0.40	10.09	PhiVc < Vu	3.814	23.7	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	25.06	16.50	-13.93	13.93	49.01	0.39	10.08	PhiVc < Vu	3.852	23.7	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	25.11	16.50	-13.96	13.96	49.66	0.39	10.07	PhiVc < Vu	3.889	23.7	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	25.16	16.50	-13.98	13.98	50.31	0.38	10.05	PhiVc < Vu	3.925	23.7	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	25.20	16.50	-14.00	14.00	50.97	0.38	10.04	PhiVc < Vu	3.962	23.7	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	25.25	16.50	-14.03	14.03	51.62	0.37	10.03	PhiVc < Vu	3.998	23.6	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	25.30	16.50	-14.05	14.05	52.28	0.37	10.02	PhiVc < Vu	4.033	23.6	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	25.34	16.50	-14.07	14.07	52.94	0.37	10.01	PhiVc < Vu	4.069	23.6	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	25.39	16.50	-14.10	14.10	53.59	0.36	9.99	PhiVc < Vu	4.104	23.6	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	25.44	16.50	-14.12	14.12	54.25	0.36	9.98	PhiVc < Vu	4.139	23.6	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	25.48	16.50	-14.15	14.15	54.92	0.35	9.97	PhiVc < Vu	4.174	23.6	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	25.53	16.50	-14.17	14.17	55.58	0.35	9.96	PhiVc < Vu	4.208	23.6	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	25.58	16.50	-14.19	14.19	56.24	0.35	9.95	PhiVc < Vu	4.242	23.6	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	25.62	16.50	-14.22	14.22	56.90	0.34	9.94	PhiVc < Vu	4.276	23.6	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	25.67	16.50	-14.24	14.24	57.57	0.34	9.93	PhiVc < Vu	4.310	23.5	8.3	8.0

Maximum Forces & Stresses for Load Combinations

Load Combination / Segment	Span #	Location (ft) along Beam	Bending Stress Results (k-ft) Mu : Max	Phi*Mnx	Stress Ratio
MAXimum BENDING Envelope					
Span # 1	1	25.670	-57.57	105.25	0.55
+1.40D+1.60H					
Span # 1	1	25.670	-30.94	105.25	0.29
+1.20D+0.50Lr+1.60L+1.60H					
Span # 1	1	25.670	-57.57	105.25	0.55
+1.20D+1.60L+0.50S+1.60H					
Span # 1	1	25.670	-57.57	105.25	0.55
+1.20D+1.60Lr+0.50L+1.60H					
Span # 1	1	25.670	-36.22	105.25	0.34
+1.20D+1.60Lr+0.50W+1.60H					
Span # 1	1	25.670	-26.52	105.25	0.25
+1.20D+0.50L+1.60S+1.60H					
Span # 1	1	25.670	-36.22	105.25	0.34
+1.20D+1.60S+0.50W+1.60H					
Span # 1	1	25.670	-26.52	105.25	0.25
+1.20D+0.50Lr+0.50L+W+1.60H					
Span # 1	1	25.670	-36.22	105.25	0.34
+1.20D+0.50L+0.50S+W+1.60H					
Span # 1	1	25.670	-36.22	105.25	0.34
+1.20D+0.50L+0.20S+E+1.60H					
Span # 1	1	25.670	-36.22	105.25	0.34

Project Title:
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Project ID:
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Concrete Beam

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Description : J2 with HD filing load

Load Combination / Segment	Span #	Location (ft) along Beam	Bending Stress Results (k-ft) Mu : Max	Phi*Mnx	Stress Ratio
+0.90D+W+0.90H					
Span # 1	1	25.670	-19.89	105.25	0.19
+0.90D+E+0.90H					
Span # 1	1	25.670	-19.89	105.25	0.19

Overall Maximum Deflections

Load Combination	Span	Max. "-" Defl (in)	Location in Span (ft)	Load Combination	Max. "+" Defl (in)	Location in Span (ft)
+D+L+H	1	0.0873	13.256		0.0000	0.000

Project Title:
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Project ID:
Project Descr:

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Concrete Beam

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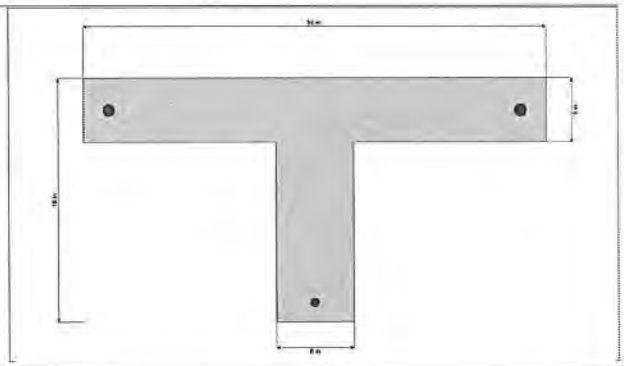
Description : J2 typical loading

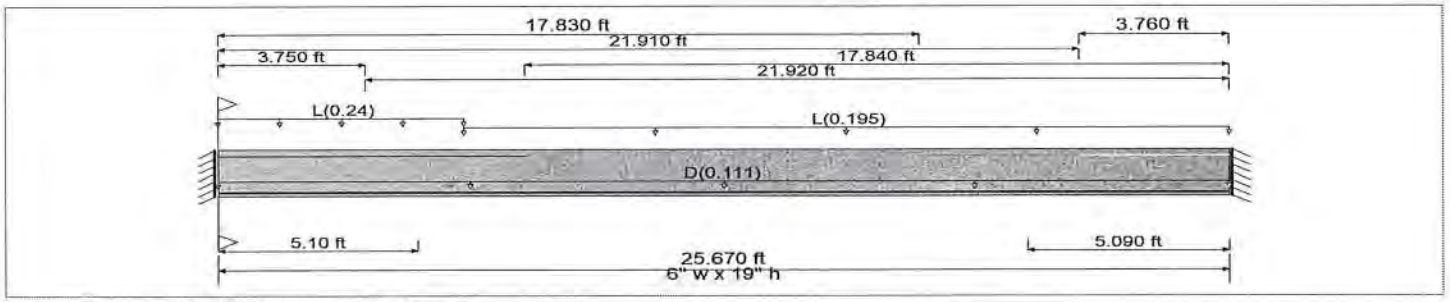
CODE REFERENCES

Calculations per ACI 318-14, IBC 2018, CBC 2019, ASCE 7-16
Load Combination Set : ASCE 7-10

Material Properties

f'c	= 4.0 ksi	ϕ Phi Values	Flexure :	0.90
fr = f'c$^{1/2}$ * 7.50	= 474.342 psi		Shear :	0.750
ψ Density	= 145.0 pcf	β_1	=	0.850
λ LtWt Factor	= 1.0			
Elastic Modulus	= 3,122.0 ksi	Fy - Stirrups		40.0 ksi
fy - Main Rebar	= 60.0 ksi	E - Stirrups	=	29,000.0 ksi
E - Main Rebar	= 29,000.0 ksi	Stirrup Bar Size #		3
		Number of Resisting Legs Per Stirrup =		2





Cross Section & Reinforcing Details

Tee Section, Stem Width = 6.0 in, Total Height = 19.0 in, Top Flange Width = 36.0 in, Flange Thickness = 5.0 in

Span #1 Reinforcing....

2-#8 at 2.50 in from Top, from 0.0 to 3.750 ft in this span
1-#6 at 1.50 in from Bottom, from 0.0 to 25.670 ft in this span
2-#8 at 2.50 in from Top, from 21.910 to 25.670 ft in this span
1-#8 at 2.50 in from Top, from 3.750 to 7.830 ft in this span
1-#8 at 1.50 in from Bottom, from 5.10 to 20.580 ft in this span
1-#8 at 2.50 in from Top, from 17.830 to 21.910 ft in this span

Applied Loads

Service loads entered. Load Factors will be applied for calculations.

CONSERVATIVELY, NEGLECTED SLAB REINFORCING:
WWF - W2.9 x W2.9 (6x6 - 6/6)
A_s = 0.058 in²/FT

Beam self weight calculated and added to loads

Load for Span Number 1

Uniform Load : D = 0.0370 ksf, Tributary Width = 3.0 ft, (floor dead load (slab is included in beam flange))

Uniform Load : L = 0.0650 ksf, Extent = 6.250 -->> 25.670 ft, Tributary Width = 3.0 ft, (floor live)

Uniform Load : L = 0.080 ksf, Extent = 0.0 -->> 6.250 ft, Tributary Width = 3.0 ft, (corridor floor live)

DESIGN SUMMARY

Design OK

Maximum Bending Stress Ratio =	**0.408** : 1	Maximum Deflection			
Section used for this span	**Typical Section**	Max Downward Transient Deflection	0.018 in	Ratio =	17119 >=800.
Mu : Applied	-42.955 k-ft	Max Upward Transient Deflection	0.000 in	Ratio =	0 <800.0
Mn * Phi : Allowable	105.255 k-ft	Max Downward Total Deflection	0.066 in	Ratio =	4637 >=360.
Location of maximum on span	0.000 ft	Max Upward Total Deflection	0.000 in	Ratio =	0 <360.0
Span # where maximum occurs	Span # 1				

Vertical Reactions

Support notation : Far left is #1

Load Combination	Support 1	Support 2
Overall MAXimum	7.593	7.367
Overall MINimum	2.769	2.517
+D+H	4.837	4.837
+D+L+H	7.593	7.367
+D+Lr+H	4.837	4.837

Project Title:
Engineer:
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Concrete Beam

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Description : J2 typical loading

Vertical Reactions

Support notation : Far left is #1

Load Combination	Support 1	Support 2
+D+S+H	4.837	4.837
+D+0.750Lr+0.750L+H	6.904	6.734
+D+0.750L+0.750S+H	6.904	6.734
+D+0.60W+H	4.837	4.837
+D+0.70E+H	4.837	4.837
+D+0.750Lr+0.750L+0.450W+H	6.904	6.734
+D+0.750L+0.750S+0.450W+H	6.904	6.734
+D+0.750L+0.750S+0.5250E+H	6.904	6.734
+0.60D+0.60W+0.60H	2.902	2.902
+0.60D+0.70E+0.60H	2.902	2.902
D Only	4.837	4.837
Lr Only		
L Only	2.769	2.517
S Only		
W Only		
E Only		
H Only		

Detailed Shear Information

Load Combination	Span Number	Distance (ft)	'd' (in)	Vu (k) Actual	Vu (k) Design	Mu (k-ft)	d*Vu/Mu	Phi*Vc (k)	Comment	Phi*Vs (k)	Phi*Vn (k)	Spacing (in) Req'd	Spacing (in) Suggest
+1.20D+1.60L+0.50S+1.60H	1	0.00	16.50	10.24	10.24	42.96	0.33	9.89	PhiVc < Vu	0.3421	23.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	0.05	16.50	10.20	10.20	42.48	0.33	9.90	PhiVc < Vu	0.2959	23.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	0.09	16.50	10.16	10.16	42.00	0.33	9.91	PhiVc < Vu	0.2495	23.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	0.14	16.50	10.12	10.12	41.53	0.34	9.91	PhiVc < Vu	0.2030	23.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	0.19	16.50	10.08	10.08	41.06	0.34	9.92	PhiVc < Vu	0.1563	23.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	0.23	16.50	10.04	10.04	40.59	0.34	9.93	PhiVc < Vu	0.1096	23.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	0.28	16.50	10.00	10.00	40.12	0.34	9.94	PhiVc < Vu	0.06268	23.6	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	0.33	16.50	9.96	9.96	39.65	0.35	9.95	PhiVc < Vu	0.01564	23.6	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	0.37	16.50	9.92	9.92	39.19	0.35	9.95	PhiVc/2 < Vu <=	Min 9.6.3.1	23.6	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	0.42	16.50	9.88	9.88	38.72	0.35	9.96	PhiVc/2 < Vu <=	Min 9.6.3.1	23.6	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	0.47	16.50	9.84	9.84	38.26	0.35	9.97	PhiVc/2 < Vu <=	Min 9.6.3.1	23.6	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	0.51	16.50	9.80	9.80	37.80	0.36	9.98	PhiVc/2 < Vu <=	Min 9.6.3.1	23.6	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	0.56	16.50	9.77	9.77	37.34	0.36	9.99	PhiVc/2 < Vu <=	Min 9.6.3.1	23.6	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	0.61	16.50	9.73	9.73	36.89	0.36	10.00	PhiVc/2 < Vu <=	Min 9.6.3.1	23.6	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	0.65	16.50	9.69	9.69	36.43	0.37	10.01	PhiVc/2 < Vu <=	Min 9.6.3.1	23.6	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	0.70	16.50	9.65	9.65	35.98	0.37	10.01	PhiVc/2 < Vu <=	Min 9.6.3.1	23.6	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	0.75	16.50	9.61	9.61	35.53	0.37	10.02	PhiVc/2 < Vu <=	Min 9.6.3.1	23.6	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	0.79	16.50	9.57	9.57	35.08	0.38	10.03	PhiVc/2 < Vu <=	Min 9.6.3.1	23.6	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	0.84	16.50	9.53	9.53	34.64	0.38	10.04	PhiVc/2 < Vu <=	Min 9.6.3.1	23.7	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	0.89	16.50	9.49	9.49	34.19	0.38	10.05	PhiVc/2 < Vu <=	Min 9.6.3.1	23.7	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	0.94	16.50	9.45	9.45	33.75	0.39	10.06	PhiVc/2 < Vu <=	Min 9.6.3.1	23.7	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	0.98	16.50	9.41	9.41	33.31	0.39	10.07	PhiVc/2 < Vu <=	Min 9.6.3.1	23.7	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	1.03	16.50	9.37	9.37	32.87	0.39	10.08	PhiVc/2 < Vu <=	Min 9.6.3.1	23.7	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	1.08	16.50	9.34	9.34	32.43	0.40	10.09	PhiVc/2 < Vu <=	Min 9.6.3.1	23.7	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	1.12	16.50	9.30	9.30	32.00	0.40	10.11	PhiVc/2 < Vu <=	Min 9.6.3.1	23.7	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	1.17	16.50	9.26	9.26	31.56	0.40	10.12	PhiVc/2 < Vu <=	Min 9.6.3.1	23.7	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	1.22	16.50	9.22	9.22	31.13	0.41	10.13	PhiVc/2 < Vu <=	Min 9.6.3.1	23.7	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	1.26	16.50	9.18	9.18	30.70	0.41	10.14	PhiVc/2 < Vu <=	Min 9.6.3.1	23.8	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	1.31	16.50	9.14	9.14	30.27	0.42	10.15	PhiVc/2 < Vu <=	Min 9.6.3.1	23.8	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	1.36	16.50	9.10	9.10	29.85	0.42	10.16	PhiVc/2 < Vu <=	Min 9.6.3.1	23.8	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	1.40	16.50	9.06	9.06	29.42	0.42	10.18	PhiVc/2 < Vu <=	Min 9.6.3.1	23.8	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	1.45	16.50	9.02	9.02	29.00	0.43	10.19	PhiVc/2 < Vu <=	Min 9.6.3.1	23.8	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	1.50	16.50	8.98	8.98	28.58	0.43	10.20	PhiVc/2 < Vu <=	Min 9.6.3.1	23.8	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	1.54	16.50	8.94	8.94	28.16	0.44	10.22	PhiVc/2 < Vu <=	Min 9.6.3.1	23.8	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	1.59	16.50	8.91	8.91	27.74	0.44	10.23	PhiVc/2 < Vu <=	Min 9.6.3.1	23.8	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	1.64	16.50	8.87	8.87	27.33	0.45	10.24	PhiVc/2 < Vu <=	Min 9.6.3.1	23.9	8.3	8.0

Project Title:
Engineer:
Project ID:
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Concrete Beam

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Description : J2 typical loading

Detailed Shear Information

Load Combination	Span Number	Distance (ft)	'd' (in)	Vu (k) Actual	Vu (k) Design	Mu (k-ft)	d*Vu/Mu	Phi*Vc (k)	Comment	Phi*Vs (k)	Phi*Vn (k)	Spacing (in) Req'd	Spacing (in) Suggest
+1.20D+1.60L+0.50S+1.60H	1	1.68	16.50	8.83	8.83	26.91	0.45	10.26	PhiVc/2 < Vu <=	Min 9.6.3.1	23.9	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	1.73	16.50	8.79	8.79	26.50	0.46	10.27	PhiVc/2 < Vu <=	Min 9.6.3.1	23.9	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	1.78	16.50	8.75	8.75	26.09	0.46	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	23.9	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	1.82	16.50	8.71	8.71	25.68	0.47	10.30	PhiVc/2 < Vu <=	Min 9.6.3.1	23.9	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	1.87	16.50	8.67	8.67	25.28	0.47	10.32	PhiVc/2 < Vu <=	Min 9.6.3.1	23.9	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	1.92	16.50	8.63	8.63	24.87	0.48	10.34	PhiVc/2 < Vu <=	Min 9.6.3.1	23.9	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	1.96	16.50	8.59	8.59	24.47	0.48	10.35	PhiVc/2 < Vu <=	Min 9.6.3.1	24.0	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	2.01	16.50	8.55	8.55	24.07	0.49	10.37	PhiVc/2 < Vu <=	Min 9.6.3.1	24.0	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	2.06	16.50	8.51	8.51	23.67	0.49	10.39	PhiVc/2 < Vu <=	Min 9.6.3.1	24.0	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	2.10	16.50	8.48	8.48	23.27	0.50	10.41	PhiVc/2 < Vu <=	Min 9.6.3.1	24.0	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	2.15	16.50	8.44	8.44	22.88	0.51	10.42	PhiVc/2 < Vu <=	Min 9.6.3.1	24.0	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	2.20	16.50	8.40	8.40	22.48	0.51	10.44	PhiVc/2 < Vu <=	Min 9.6.3.1	24.1	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	2.24	16.50	8.36	8.36	22.09	0.52	10.46	PhiVc/2 < Vu <=	Min 9.6.3.1	24.1	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	2.29	16.50	8.32	8.32	21.70	0.53	10.48	PhiVc/2 < Vu <=	Min 9.6.3.1	24.1	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	2.34	16.50	8.28	8.28	21.31	0.53	10.50	PhiVc/2 < Vu <=	Min 9.6.3.1	24.1	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	2.38	16.50	8.24	8.24	20.93	0.54	10.53	PhiVc/2 < Vu <=	Min 9.6.3.1	24.1	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	2.43	16.50	8.20	8.20	20.54	0.55	10.55	PhiVc/2 < Vu <=	Min 9.6.3.1	24.2	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	2.48	16.50	8.16	8.16	20.16	0.56	10.57	PhiVc/2 < Vu <=	Min 9.6.3.1	24.2	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	2.52	16.50	8.12	8.12	19.78	0.56	10.60	PhiVc/2 < Vu <=	Min 9.6.3.1	24.2	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	2.57	16.50	8.08	8.08	19.40	0.57	10.62	PhiVc/2 < Vu <=	Min 9.6.3.1	24.2	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	2.62	16.50	8.05	8.05	19.02	0.58	10.65	PhiVc/2 < Vu <=	Min 9.6.3.1	24.3	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	2.67	16.50	8.01	8.01	18.65	0.59	10.67	PhiVc/2 < Vu <=	Min 9.6.3.1	24.3	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	2.71	16.50	7.97	7.97	18.27	0.60	10.70	PhiVc/2 < Vu <=	Min 9.6.3.1	24.3	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	2.76	16.50	7.93	7.93	17.90	0.61	10.73	PhiVc/2 < Vu <=	Min 9.6.3.1	24.3	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	2.81	16.50	7.89	7.89	17.53	0.62	10.76	PhiVc/2 < Vu <=	Min 9.6.3.1	24.4	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	2.85	16.50	7.85	7.85	17.16	0.63	10.79	PhiVc/2 < Vu <=	Min 9.6.3.1	24.4	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	2.90	16.50	7.81	7.81	16.80	0.64	10.82	PhiVc/2 < Vu <=	Min 9.6.3.1	24.4	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	2.95	16.50	7.77	7.77	16.43	0.65	10.85	PhiVc/2 < Vu <=	Min 9.6.3.1	24.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	2.99	16.50	7.73	7.73	16.07	0.66	10.88	PhiVc/2 < Vu <=	Min 9.6.3.1	24.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	3.04	16.50	7.69	7.69	15.71	0.67	10.92	PhiVc/2 < Vu <=	Min 9.6.3.1	24.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	3.09	16.50	7.65	7.65	15.35	0.69	10.95	PhiVc/2 < Vu <=	Min 9.6.3.1	24.6	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	3.13	16.50	7.62	7.62	14.99	0.70	10.99	PhiVc/2 < Vu <=	Min 9.6.3.1	24.6	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	3.18	16.50	7.58	7.58	14.64	0.71	11.03	PhiVc/2 < Vu <=	Min 9.6.3.1	24.6	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	3.23	16.50	7.54	7.54	14.29	0.73	11.07	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	3.27	16.50	7.50	7.50	13.93	0.74	11.11	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	3.32	16.50	7.46	7.46	13.58	0.75	11.16	PhiVc/2 < Vu <=	Min 9.6.3.1	24.8	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	3.37	16.50	7.42	7.42	13.24	0.77	11.21	PhiVc/2 < Vu <=	Min 9.6.3.1	24.8	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	3.41	16.50	7.38	7.38	12.89	0.79	11.25	PhiVc/2 < Vu <=	Min 9.6.3.1	24.9	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	3.46	16.50	7.34	7.34	12.55	0.80	11.31	PhiVc/2 < Vu <=	Min 9.6.3.1	24.9	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	3.51	16.50	7.30	7.30	12.20	0.82	11.36	PhiVc/2 < Vu <=	Min 9.6.3.1	25.0	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	3.55	16.50	7.26	7.26	11.86	0.84	11.42	PhiVc/2 < Vu <=	Min 9.6.3.1	25.0	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	3.60	16.50	7.22	7.22	11.53	0.86	11.48	PhiVc/2 < Vu <=	Min 9.6.3.1	25.1	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	3.65	16.50	7.19	7.19	11.19	0.88	11.54	PhiVc/2 < Vu <=	Min 9.6.3.1	25.2	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	3.69	16.50	7.15	7.15	10.85	0.91	11.60	PhiVc/2 < Vu <=	Min 9.6.3.1	25.2	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	3.74	16.50	7.11	7.11	10.52	0.93	11.67	PhiVc/2 < Vu <=	Min 9.6.3.1	25.3	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	3.79	16.50	7.07	7.07	10.19	0.95	11.75	PhiVc/2 < Vu <=	Min 9.6.3.1	25.4	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	3.83	16.50	7.03	7.03	9.86	0.98	11.83	PhiVc/2 < Vu <=	Min 9.6.3.1	25.4	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	3.88	16.50	6.99	6.99	9.53	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	3.93	16.50	6.95	6.95	9.21	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	3.97	16.50	6.91	6.91	8.88	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	4.02	16.50	6.87	6.87	8.56	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	4.07	16.50	6.83	6.83	8.24	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	4.11	16.50	6.79	6.79	7.92	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	4.16	16.50	6.76	6.76	7.60	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0

Project Title:
Engineer:
Project ID:
Project Descr:

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Concrete Beam

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Description : J2 typical loading

Detailed Shear Information

Load Combination	Span Number	Distance (ft)	'd' (in)	Vu (k) Actual	Vu (k) Design	Mu (k-ft)	d*Vu/Mu	Phi*Vc (k)	Comment	Phi*Vs (k)	Phi*Vn (k)	Spacing (in) Req'd	Spacing (in) Suggest
+1.20D+1.60L+0.50S+1.60H	1	4.21	16.50	6.72	6.72	7.29	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	4.25	16.50	6.68	6.68	6.98	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	4.30	16.50	6.64	6.64	6.66	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	4.35	16.50	6.60	6.60	6.35	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	4.40	16.50	6.56	6.56	6.05	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	4.44	16.50	6.52	6.52	5.74	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	4.49	16.50	6.48	6.48	5.44	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	4.54	16.50	6.44	6.44	5.13	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	4.58	16.50	6.40	6.40	4.83	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	4.63	16.50	6.36	6.36	4.54	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	4.68	16.50	6.33	6.33	4.24	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	4.72	16.50	6.29	6.29	3.94	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	4.77	16.50	6.25	6.25	3.65	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	4.82	16.50	6.21	6.21	3.36	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	4.86	16.50	6.17	6.17	3.07	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	4.91	16.50	6.13	6.13	2.78	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	4.96	16.50	6.09	6.09	2.50	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	5.00	16.50	6.05	6.05	2.21	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	5.05	16.50	6.01	6.01	1.93	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	5.10	16.50	5.97	5.97	1.65	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	5.14	16.50	5.93	5.93	1.37	1.00	11.88	Vu < PhiVc/2	lot Reqd 9.6.	11.9	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	5.19	16.50	5.90	5.90	1.10	1.00	11.88	Vu < PhiVc/2	lot Reqd 9.6.	11.9	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	5.24	16.50	5.86	5.86	0.82	1.00	11.88	Vu < PhiVc/2	lot Reqd 9.6.	11.9	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	5.28	16.50	5.82	5.82	0.55	1.00	11.88	Vu < PhiVc/2	lot Reqd 9.6.	11.9	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	5.33	16.50	5.78	5.78	0.28	1.00	11.88	Vu < PhiVc/2	lot Reqd 9.6.	11.9	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	5.38	16.50	5.74	5.74	0.01	1.00	11.88	Vu < PhiVc/2	lot Reqd 9.6.	11.9	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	5.42	17.50	5.70	5.70	0.26	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	5.47	17.50	5.66	5.66	0.52	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	5.52	17.50	5.62	5.62	0.79	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	5.56	17.50	5.58	5.58	1.05	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	5.61	17.50	5.54	5.54	1.31	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	5.66	17.50	5.50	5.50	1.57	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	5.70	17.50	5.47	5.47	1.82	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	5.75	17.50	5.43	5.43	2.08	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	5.80	17.50	5.39	5.39	2.33	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	5.84	17.50	5.35	5.35	2.58	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	5.89	17.50	5.31	5.31	2.83	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	5.94	17.50	5.27	5.27	3.08	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	5.98	17.50	5.23	5.23	3.33	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	6.03	17.50	5.19	5.19	3.57	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	6.08	17.50	5.15	5.15	3.81	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	6.13	17.50	5.11	5.11	4.05	1.00	10.29	Vu < PhiVc/2	lot Reqd 9.6.	10.3	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	6.17	17.50	5.07	5.07	4.29	1.00	10.29	Vu < PhiVc/2	lot Reqd 9.6.	10.3	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	6.22	17.50	5.03	5.03	4.53	1.00	10.29	Vu < PhiVc/2	lot Reqd 9.6.	10.3	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	6.27	17.50	5.00	5.00	4.76	1.00	10.29	Vu < PhiVc/2	lot Reqd 9.6.	10.3	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	6.31	17.50	4.96	4.96	4.99	1.00	10.29	Vu < PhiVc/2	lot Reqd 9.6.	10.3	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	6.36	17.50	4.93	4.93	5.22	1.00	10.29	Vu < PhiVc/2	lot Reqd 9.6.	10.3	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	6.41	17.50	4.89	4.89	5.45	1.00	10.29	Vu < PhiVc/2	lot Reqd 9.6.	10.3	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	6.45	17.50	4.85	4.85	5.68	1.00	10.29	Vu < PhiVc/2	lot Reqd 9.6.	10.3	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	6.50	17.50	4.82	4.82	5.91	1.00	10.29	Vu < PhiVc/2	lot Reqd 9.6.	10.3	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	6.55	17.50	4.78	4.78	6.13	1.00	10.29	Vu < PhiVc/2	lot Reqd 9.6.	10.3	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	6.59	17.50	4.75	4.75	6.35	1.00	10.29	Vu < PhiVc/2	lot Reqd 9.6.	10.3	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	6.64	17.50	4.71	4.71	6.58	1.00	10.29	Vu < PhiVc/2	lot Reqd 9.6.	10.3	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	6.69	17.50	4.68	4.68	6.79	1.00	10.29	Vu < PhiVc/2	lot Reqd 9.6.	10.3	0.0	0.0

Project Title:
Engineer:
Project ID:
Project Descr:

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Concrete Beam

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Description : J2 typical loading

Detailed Shear Information

Load Combination	Span Number	Distance (ft)	'd' (in)	Vu (k) Actual	Vu (k) Design	Mu (k-ft)	d*Vu/Mu	Phi*Vc (k)	Comment	Phi*Vs (k)	Phi*Vn (k)	Spacing (in) Req'd	Spacing (in) Suggest
+1.20D+1.60L+0.50S+1.60H	1	6.73	17.50	4.64	4.64	7.01	0.96	10.26	Vu < PhiVc/2	lot Reqd 9.6.	10.3	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	6.78	17.50	4.60	4.60	7.23	0.93	10.23	Vu < PhiVc/2	lot Reqd 9.6.	10.2	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	6.83	17.50	4.57	4.57	7.44	0.90	10.20	Vu < PhiVc/2	lot Reqd 9.6.	10.2	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	6.87	17.50	4.53	4.53	7.66	0.86	10.18	Vu < PhiVc/2	lot Reqd 9.6.	10.2	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	6.92	17.50	4.50	4.50	7.87	0.83	10.15	Vu < PhiVc/2	lot Reqd 9.6.	10.2	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	6.97	17.50	4.46	4.46	8.08	0.81	10.13	Vu < PhiVc/2	lot Reqd 9.6.	10.1	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	7.01	17.50	4.43	4.43	8.28	0.78	10.11	Vu < PhiVc/2	lot Reqd 9.6.	10.1	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	7.06	17.50	4.39	4.39	8.49	0.75	10.09	Vu < PhiVc/2	lot Reqd 9.6.	10.1	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	7.11	17.50	4.35	4.35	8.69	0.73	10.07	Vu < PhiVc/2	lot Reqd 9.6.	10.1	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	7.15	17.50	4.32	4.32	8.90	0.71	10.05	Vu < PhiVc/2	lot Reqd 9.6.	10.0	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	7.20	17.50	4.28	4.28	9.10	0.69	10.03	Vu < PhiVc/2	lot Reqd 9.6.	10.0	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	7.25	17.50	4.25	4.25	9.30	0.67	10.01	Vu < PhiVc/2	lot Reqd 9.6.	10.0	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	7.29	17.50	4.21	4.21	9.50	0.65	10.00	Vu < PhiVc/2	lot Reqd 9.6.	10.0	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	7.34	17.50	4.18	4.18	9.69	0.63	9.98	Vu < PhiVc/2	lot Reqd 9.6.	10.0	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	7.39	17.50	4.14	4.14	9.89	0.61	9.97	Vu < PhiVc/2	lot Reqd 9.6.	10.0	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	7.43	17.50	4.10	4.10	10.08	0.59	9.95	Vu < PhiVc/2	lot Reqd 9.6.	10.0	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	7.48	17.50	4.07	4.07	10.27	0.58	9.94	Vu < PhiVc/2	lot Reqd 9.6.	9.9	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	7.53	17.50	4.03	4.03	10.46	0.56	9.93	Vu < PhiVc/2	lot Reqd 9.6.	9.9	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	7.57	17.50	4.00	4.00	10.65	0.55	9.91	Vu < PhiVc/2	lot Reqd 9.6.	9.9	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	7.62	17.50	3.96	3.96	10.83	0.53	9.90	Vu < PhiVc/2	lot Reqd 9.6.	9.9	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	7.67	17.50	3.92	3.92	11.02	0.52	9.89	Vu < PhiVc/2	lot Reqd 9.6.	9.9	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	7.72	17.50	3.89	3.89	11.20	0.51	9.88	Vu < PhiVc/2	lot Reqd 9.6.	9.9	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	7.76	17.50	3.85	3.85	11.38	0.49	9.87	Vu < PhiVc/2	lot Reqd 9.6.	9.9	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	7.81	17.50	3.82	3.82	11.56	0.48	9.86	Vu < PhiVc/2	lot Reqd 9.6.	9.9	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	7.86	17.50	3.78	3.78	11.74	0.47	9.85	Vu < PhiVc/2	lot Reqd 9.6.	9.9	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	7.90	17.50	3.75	3.75	11.91	0.46	9.84	Vu < PhiVc/2	lot Reqd 9.6.	9.8	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	7.95	17.50	3.71	3.71	12.09	0.45	9.83	Vu < PhiVc/2	lot Reqd 9.6.	9.8	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	8.00	17.50	3.67	3.67	12.26	0.44	9.82	Vu < PhiVc/2	lot Reqd 9.6.	9.8	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	8.04	17.50	3.64	3.64	12.43	0.43	9.82	Vu < PhiVc/2	lot Reqd 9.6.	9.8	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	8.09	17.50	3.60	3.60	12.60	0.42	9.81	Vu < PhiVc/2	lot Reqd 9.6.	9.8	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	8.14	17.50	3.57	3.57	12.77	0.41	9.80	Vu < PhiVc/2	lot Reqd 9.6.	9.8	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	8.18	17.50	3.53	3.53	12.93	0.40	9.79	Vu < PhiVc/2	lot Reqd 9.6.	9.8	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	8.23	17.50	3.50	3.50	13.10	0.39	9.78	Vu < PhiVc/2	lot Reqd 9.6.	9.8	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	8.28	17.50	3.46	3.46	13.26	0.38	9.78	Vu < PhiVc/2	lot Reqd 9.6.	9.8	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	8.32	17.50	3.42	3.42	13.42	0.37	9.77	Vu < PhiVc/2	lot Reqd 9.6.	9.8	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	8.37	17.50	3.39	3.39	13.58	0.36	9.76	Vu < PhiVc/2	lot Reqd 9.6.	9.8	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	8.42	17.50	3.35	3.35	13.74	0.36	9.76	Vu < PhiVc/2	lot Reqd 9.6.	9.8	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	8.46	17.50	3.32	3.32	13.90	0.35	9.75	Vu < PhiVc/2	lot Reqd 9.6.	9.8	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	8.51	17.50	3.28	3.28	14.05	0.34	9.74	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	8.56	17.50	3.25	3.25	14.20	0.33	9.74	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	8.60	17.50	3.21	3.21	14.35	0.33	9.73	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	8.65	17.50	3.17	3.17	14.50	0.32	9.73	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	8.70	17.50	3.14	3.14	14.65	0.31	9.72	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	8.74	17.50	3.10	3.10	14.80	0.31	9.72	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	8.79	17.50	3.07	3.07	14.94	0.30	9.71	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	8.84	17.50	3.03	3.03	15.08	0.29	9.70	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	8.88	17.50	3.00	3.00	15.22	0.29	9.70	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	8.93	17.50	2.96	2.96	15.36	0.28	9.69	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	8.98	17.50	2.92	2.92	15.50	0.28	9.69	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	9.02	17.50	2.89	2.89	15.64	0.27	9.69	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	9.07	17.50	2.85	2.85	15.77	0.26	9.68	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	9.12	17.50	2.82	2.82	15.90	0.26	9.68	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	9.16	17.50	2.78	2.78	16.03	0.25	9.67	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	9.21	17.50	2.75	2.75	16.16	0.25	9.67	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0

Project Title:
Engineer:
Project ID:
Project Descr:

29/109

Concrete Beam

File = P:\2018\180114\Structural\180114.001 Pma County 5th floor TI - floor check\180114.001.ec6
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Lic. # : KW-06006899

Licensee : m3 engineering & technology corp

Description : J2 typical loading

Detailed Shear Information

Load Combination	Span Number	Distance (ft)	'd' (in)	Vu (k) Actual	Vu (k) Design	Mu (k-ft)	d*Vu/Mu	Phi*Vc (k)	Comment	Phi*Vs (k)	Phi*Vn (k)	Spacing (in) Req'd	Spacing (in) Suggest
+1.20D+1.60L+0.50S+1.60H	1	9.26	17.50	2.71	2.71	16.29	0.24	9.66	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	9.30	17.50	2.67	2.67	16.42	0.24	9.66	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	9.35	17.50	2.64	2.64	16.54	0.23	9.66	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	9.40	17.50	2.60	2.60	16.66	0.23	9.65	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	9.45	17.50	2.57	2.57	16.78	0.22	9.65	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	9.49	17.50	2.53	2.53	16.90	0.22	9.64	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	9.54	17.50	2.50	2.50	17.02	0.21	9.64	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	9.59	17.50	2.46	2.46	17.14	0.21	9.64	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	9.63	17.50	2.42	2.42	17.25	0.20	9.63	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	9.68	17.50	2.39	2.39	17.36	0.20	9.63	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	9.73	17.50	2.35	2.35	17.47	0.20	9.63	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	9.77	17.50	2.32	2.32	17.58	0.19	9.62	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	9.82	17.50	2.28	2.28	17.69	0.19	9.62	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	9.87	17.50	2.25	2.25	17.80	0.18	9.61	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	9.91	17.50	2.21	2.21	17.90	0.18	9.61	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	9.96	17.50	2.17	2.17	18.00	0.18	9.61	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	10.01	17.50	2.14	2.14	18.10	0.17	9.61	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	10.05	17.50	2.10	2.10	18.20	0.17	9.60	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	10.10	17.50	2.07	2.07	18.30	0.16	9.60	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	10.15	17.50	2.03	2.03	18.40	0.16	9.60	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	10.19	17.50	2.00	2.00	18.49	0.16	9.59	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	10.24	17.50	1.96	1.96	18.58	0.15	9.59	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	10.29	17.50	1.92	1.92	18.67	0.15	9.59	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	10.33	17.50	1.89	1.89	18.76	0.15	9.58	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	10.38	17.50	1.85	1.85	18.85	0.14	9.58	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	10.43	17.50	1.82	1.82	18.94	0.14	9.58	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	10.47	17.50	1.78	1.78	19.02	0.14	9.58	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	10.52	17.50	1.75	1.75	19.10	0.13	9.57	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	10.57	17.50	1.71	1.71	19.18	0.13	9.57	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	10.61	17.50	1.67	1.67	19.26	0.13	9.57	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	10.66	17.50	1.64	1.64	19.34	0.12	9.57	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	10.71	17.50	1.60	1.60	19.42	0.12	9.56	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	10.75	17.50	1.57	1.57	19.49	0.12	9.56	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	10.80	17.50	1.53	1.53	19.56	0.11	9.56	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	10.85	17.50	1.50	1.50	19.63	0.11	9.55	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	10.89	17.50	1.46	1.46	19.70	0.11	9.55	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	10.94	17.50	1.42	1.42	19.77	0.11	9.55	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	10.99	17.50	1.39	1.39	19.84	0.10	9.55	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	11.03	17.50	1.35	1.35	19.90	0.10	9.54	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	11.08	17.50	1.32	1.32	19.96	0.10	9.54	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	11.13	17.50	1.28	1.28	20.02	0.09	9.54	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	11.18	17.50	1.25	1.25	20.08	0.09	9.54	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	11.22	17.50	1.21	1.21	20.14	0.09	9.54	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	11.27	17.50	1.17	1.17	20.20	0.08	9.53	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	11.32	17.50	1.14	1.14	20.25	0.08	9.53	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	11.36	17.50	1.10	1.10	20.30	0.08	9.53	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	11.41	17.50	1.07	1.07	20.35	0.08	9.53	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	11.46	17.50	1.03	1.03	20.40	0.07	9.52	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	11.50	17.50	0.99	0.99	20.45	0.07	9.52	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	11.55	17.50	0.96	0.96	20.49	0.07	9.52	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	11.60	17.50	0.92	0.92	20.54	0.07	9.52	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	11.64	17.50	0.89	0.89	20.58	0.06	9.52	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	11.69	17.50	0.85	0.85	20.62	0.06	9.51	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	11.74	17.50	0.82	0.82	20.66	0.06	9.51	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0

Project Title:
Engineer:
Project ID:
Project Descr:

30/109

Concrete Beam

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Description : J2 typical loading

Detailed Shear Information

Load Combination	Span Number	Distance (ft)	'd' (in)	Vu (k) Actual	Vu (k) Design	Mu (k-ft)	d*Vu/Mu	Phi*Vc (k)	Comment	Phi*Vs (k)	Phi*Vn (k)	Spacing (in) Req'd	Spacing (in) Suggest
+1.20D+1.60L+0.50S+1.60H	1	11.78	17.50	0.78	0.78	20.70	0.05	9.51	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	11.83	17.50	0.74	0.74	20.73	0.05	9.51	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	11.88	17.50	0.71	0.71	20.77	0.05	9.50	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	11.92	17.50	0.67	0.67	20.80	0.05	9.50	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	11.97	17.50	0.64	0.64	20.83	0.04	9.50	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	12.02	17.50	0.60	0.60	20.86	0.04	9.50	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	12.06	17.50	0.57	0.57	20.89	0.04	9.50	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	12.11	17.50	0.53	0.53	20.91	0.04	9.49	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	12.16	17.50	0.49	0.49	20.94	0.03	9.49	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	12.20	17.50	0.46	0.46	20.96	0.03	9.49	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	12.25	17.50	0.42	0.42	20.98	0.03	9.49	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	12.30	17.50	0.39	0.39	21.00	0.03	9.49	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	12.34	17.50	0.35	0.35	21.02	0.02	9.48	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	12.39	17.50	0.32	0.32	21.03	0.02	9.48	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	12.44	17.50	0.28	0.28	21.05	0.02	9.48	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	12.48	17.50	0.24	0.24	21.06	0.02	9.48	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	12.53	17.50	0.21	0.21	21.07	0.01	9.48	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	12.58	17.50	0.17	0.17	21.08	0.01	9.47	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	12.62	17.50	0.14	0.14	21.08	0.01	9.47	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	12.67	17.50	0.10	0.10	21.09	0.01	9.47	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	12.72	17.50	0.07	0.07	21.09	0.00	9.47	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.40D+1.60H	1	12.76	17.50	0.04	0.04	14.48	0.00	9.47	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.40D+1.60H	1	12.81	17.50	0.01	0.01	14.48	0.00	9.46	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	12.86	17.50	-0.04	0.04	21.10	0.00	9.47	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	12.91	17.50	-0.08	0.08	21.09	0.01	9.47	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	12.95	17.50	-0.11	0.11	21.09	0.01	9.47	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	13.00	17.50	-0.15	0.15	21.08	0.01	9.47	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	13.05	17.50	-0.18	0.18	21.07	0.01	9.47	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	13.09	17.50	-0.22	0.22	21.06	0.02	9.48	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	13.14	17.50	-0.26	0.26	21.05	0.02	9.48	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	13.19	17.50	-0.29	0.29	21.04	0.02	9.48	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	13.23	17.50	-0.33	0.33	21.03	0.02	9.48	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	13.28	17.50	-0.36	0.36	21.01	0.03	9.48	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	13.33	17.50	-0.40	0.40	20.99	0.03	9.49	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	13.37	17.50	-0.43	0.43	20.97	0.03	9.49	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	13.42	17.50	-0.47	0.47	20.95	0.03	9.49	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	13.47	17.50	-0.51	0.51	20.93	0.04	9.49	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	13.51	17.50	-0.54	0.54	20.90	0.04	9.49	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	13.56	17.50	-0.58	0.58	20.88	0.04	9.50	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	13.61	17.50	-0.61	0.61	20.85	0.04	9.50	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	13.65	17.50	-0.65	0.65	20.82	0.05	9.50	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	13.70	17.50	-0.68	0.68	20.79	0.05	9.50	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	13.75	17.50	-0.72	0.72	20.76	0.05	9.50	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	13.79	17.50	-0.76	0.76	20.72	0.05	9.51	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	13.84	17.50	-0.79	0.79	20.69	0.06	9.51	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	13.89	17.50	-0.83	0.83	20.65	0.06	9.51	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	13.93	17.50	-0.86	0.86	20.61	0.06	9.51	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	13.98	17.50	-0.90	0.90	20.57	0.06	9.52	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	14.03	17.50	-0.93	0.93	20.53	0.07	9.52	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	14.07	17.50	-0.97	0.97	20.48	0.07	9.52	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	14.12	17.50	-1.01	1.01	20.43	0.07	9.52	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	14.17	17.50	-1.04	1.04	20.39	0.07	9.52	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	14.21	17.50	-1.08	1.08	20.34	0.08	9.53	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	14.26	17.50	-1.11	1.11	20.29	0.08	9.53	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0

Project Title:
Engineer:
Project ID:
Project Descr:

31/109

Concrete Beam

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Description : J2 typical loading

Detailed Shear Information

Load Combination	Span Number	Distance (ft)	'd' (in)	Vu (k) Actual	Vu (k) Design	Mu (k-ft)	d*Vu/Mu	Phi*Vc (k)	Comment	Phi*Vs (k)	Phi*Vn (k)	Spacing (in) Req'd	Spacing (in) Suggest
+1.20D+1.60L+0.50S+1.60H	1	14.31	17.50	-1.15	1.15	20.23	0.08	9.53	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	14.35	17.50	-1.18	1.18	20.18	0.09	9.53	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	14.40	17.50	-1.22	1.22	20.12	0.09	9.54	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	14.45	17.50	-1.26	1.26	20.06	0.09	9.54	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	14.49	17.50	-1.29	1.29	20.00	0.09	9.54	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	14.54	17.50	-1.33	1.33	19.94	0.10	9.54	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	14.59	17.50	-1.36	1.36	19.88	0.10	9.55	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	14.64	17.50	-1.40	1.40	19.82	0.10	9.55	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	14.68	17.50	-1.43	1.43	19.75	0.11	9.55	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	14.73	17.50	-1.47	1.47	19.68	0.11	9.55	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	14.78	17.50	-1.51	1.51	19.61	0.11	9.56	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	14.82	17.50	-1.54	1.54	19.54	0.12	9.56	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	14.87	17.50	-1.58	1.58	19.47	0.12	9.56	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	14.92	17.50	-1.61	1.61	19.39	0.12	9.56	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	14.96	17.50	-1.65	1.65	19.32	0.12	9.57	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	15.01	17.50	-1.68	1.68	19.24	0.13	9.57	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	15.06	17.50	-1.72	1.72	19.16	0.13	9.57	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	15.10	17.50	-1.76	1.76	19.08	0.13	9.57	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	15.15	17.50	-1.79	1.79	19.00	0.14	9.58	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	15.20	17.50	-1.83	1.83	18.91	0.14	9.58	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	15.24	17.50	-1.86	1.86	18.82	0.14	9.58	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	15.29	17.50	-1.90	1.90	18.74	0.15	9.59	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	15.34	17.50	-1.94	1.94	18.65	0.15	9.59	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	15.38	17.50	-1.97	1.97	18.56	0.15	9.59	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	15.43	17.50	-2.01	2.01	18.46	0.16	9.59	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	15.48	17.50	-2.04	2.04	18.37	0.16	9.60	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	15.52	17.50	-2.08	2.08	18.27	0.17	9.60	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	15.57	17.50	-2.11	2.11	18.17	0.17	9.60	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	15.62	17.50	-2.15	2.15	18.07	0.17	9.61	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	15.66	17.50	-2.19	2.19	17.97	0.18	9.61	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	15.71	17.50	-2.22	2.22	17.87	0.18	9.61	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	15.76	17.50	-2.26	2.26	17.76	0.19	9.62	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	15.80	17.50	-2.29	2.29	17.66	0.19	9.62	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	15.85	17.50	-2.33	2.33	17.55	0.19	9.62	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	15.90	17.50	-2.36	2.36	17.44	0.20	9.63	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	15.94	17.50	-2.40	2.40	17.33	0.20	9.63	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	15.99	17.50	-2.44	2.44	17.22	0.21	9.63	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	16.04	17.50	-2.47	2.47	17.10	0.21	9.64	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	16.08	17.50	-2.51	2.51	16.98	0.22	9.64	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	16.13	17.50	-2.54	2.54	16.87	0.22	9.64	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	16.18	17.50	-2.58	2.58	16.75	0.22	9.65	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	16.22	17.50	-2.61	2.61	16.63	0.23	9.65	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	16.27	17.50	-2.65	2.65	16.50	0.23	9.66	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	16.32	17.50	-2.69	2.69	16.38	0.24	9.66	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	16.37	17.50	-2.72	2.72	16.25	0.24	9.66	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	16.41	17.50	-2.76	2.76	16.12	0.25	9.67	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	16.46	17.50	-2.79	2.79	15.99	0.25	9.67	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	16.51	17.50	-2.83	2.83	15.86	0.26	9.68	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	16.55	17.50	-2.86	2.86	15.73	0.27	9.68	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	16.60	17.50	-2.90	2.90	15.59	0.27	9.69	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	16.65	17.50	-2.94	2.94	15.46	0.28	9.69	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	16.69	17.50	-2.97	2.97	15.32	0.28	9.70	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	16.74	17.50	-3.01	3.01	15.18	0.29	9.70	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	16.79	17.50	-3.04	3.04	15.04	0.30	9.71	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0

Project Title:
Engineer:
Project ID:
Project Descr:

32/109

Concrete Beam

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Licensee : m3 engineering & technology corp

Description : J2 typical loading

Detailed Shear Information

Load Combination	Span Number	Distance (ft)	'd' (in)	Vu (k) Actual	Vu (k) Design	Mu (k-ft)	d*Vu/Mu	Phi*Vc (k)	Comment	Phi*Vs (k)	Phi*Vn (k)	Spacing (in) Req'd	Spacing (in) Suggest
+1.20D+1.60L+0.50S+1.60H	1	16.83	17.50	-3.08	3.08	14.90	0.30	9.71	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	16.88	17.50	-3.11	3.11	14.75	0.31	9.72	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	16.93	17.50	-3.15	3.15	14.60	0.31	9.72	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	16.97	17.50	-3.19	3.19	14.46	0.32	9.73	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	17.02	17.50	-3.22	3.22	14.31	0.33	9.73	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	17.07	17.50	-3.26	3.26	14.16	0.34	9.74	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	17.11	17.50	-3.29	3.29	14.00	0.34	9.75	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	17.16	17.50	-3.33	3.33	13.85	0.35	9.75	Vu < PhiVc/2	lot Reqd 9.6.	9.8	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	17.21	17.50	-3.36	3.36	13.69	0.36	9.76	Vu < PhiVc/2	lot Reqd 9.6.	9.8	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	17.25	17.50	-3.40	3.40	13.53	0.37	9.77	Vu < PhiVc/2	lot Reqd 9.6.	9.8	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	17.30	17.50	-3.44	3.44	13.37	0.37	9.77	Vu < PhiVc/2	lot Reqd 9.6.	9.8	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	17.35	17.50	-3.47	3.47	13.21	0.38	9.78	Vu < PhiVc/2	lot Reqd 9.6.	9.8	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	17.39	17.50	-3.51	3.51	13.05	0.39	9.79	Vu < PhiVc/2	lot Reqd 9.6.	9.8	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	17.44	17.50	-3.54	3.54	12.88	0.40	9.79	Vu < PhiVc/2	lot Reqd 9.6.	9.8	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	17.49	17.50	-3.58	3.58	12.72	0.41	9.80	Vu < PhiVc/2	lot Reqd 9.6.	9.8	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	17.53	17.50	-3.61	3.61	12.55	0.42	9.81	Vu < PhiVc/2	lot Reqd 9.6.	9.8	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	17.58	17.50	-3.65	3.65	12.38	0.43	9.82	Vu < PhiVc/2	lot Reqd 9.6.	9.8	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	17.63	17.50	-3.69	3.69	12.21	0.44	9.83	Vu < PhiVc/2	lot Reqd 9.6.	9.8	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	17.67	17.50	-3.72	3.72	12.03	0.45	9.84	Vu < PhiVc/2	lot Reqd 9.6.	9.8	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	17.72	17.50	-3.76	3.76	11.86	0.46	9.84	Vu < PhiVc/2	lot Reqd 9.6.	9.8	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	17.77	17.50	-3.79	3.79	11.68	0.47	9.85	Vu < PhiVc/2	lot Reqd 9.6.	9.9	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	17.81	17.50	-3.83	3.83	11.50	0.49	9.86	Vu < PhiVc/2	lot Reqd 9.6.	9.9	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	17.86	17.50	-3.86	3.86	11.32	0.50	9.87	Vu < PhiVc/2	lot Reqd 9.6.	9.9	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	17.91	17.50	-3.90	3.90	11.14	0.51	9.88	Vu < PhiVc/2	lot Reqd 9.6.	9.9	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	17.95	17.50	-3.94	3.94	10.96	0.52	9.90	Vu < PhiVc/2	lot Reqd 9.6.	9.9	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	18.00	17.50	-3.97	3.97	10.77	0.54	9.91	Vu < PhiVc/2	lot Reqd 9.6.	9.9	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	18.05	17.50	-4.01	4.01	10.59	0.55	9.92	Vu < PhiVc/2	lot Reqd 9.6.	9.9	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	18.10	17.50	-4.04	4.04	10.40	0.57	9.93	Vu < PhiVc/2	lot Reqd 9.6.	9.9	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	18.14	17.50	-4.08	4.08	10.21	0.58	9.94	Vu < PhiVc/2	lot Reqd 9.6.	9.9	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	18.19	17.50	-4.11	4.11	10.02	0.60	9.96	Vu < PhiVc/2	lot Reqd 9.6.	10.0	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	18.24	17.50	-4.15	4.15	9.83	0.62	9.97	Vu < PhiVc/2	lot Reqd 9.6.	10.0	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	18.28	17.50	-4.19	4.19	9.63	0.63	9.99	Vu < PhiVc/2	lot Reqd 9.6.	10.0	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	18.33	17.50	-4.22	4.22	9.43	0.65	10.00	Vu < PhiVc/2	lot Reqd 9.6.	10.0	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	18.38	17.50	-4.26	4.26	9.24	0.67	10.02	Vu < PhiVc/2	lot Reqd 9.6.	10.0	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	18.42	17.50	-4.29	4.29	9.04	0.69	10.03	Vu < PhiVc/2	lot Reqd 9.6.	10.0	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	18.47	17.50	-4.33	4.33	8.83	0.71	10.05	Vu < PhiVc/2	lot Reqd 9.6.	10.1	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	18.52	17.50	-4.36	4.36	8.63	0.74	10.07	Vu < PhiVc/2	lot Reqd 9.6.	10.1	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	18.56	17.50	-4.40	4.40	8.43	0.76	10.09	Vu < PhiVc/2	lot Reqd 9.6.	10.1	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	18.61	17.50	-4.44	4.44	8.22	0.79	10.11	Vu < PhiVc/2	lot Reqd 9.6.	10.1	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	18.66	17.50	-4.47	4.47	8.01	0.81	10.13	Vu < PhiVc/2	lot Reqd 9.6.	10.1	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	18.70	17.50	-4.51	4.51	7.80	0.84	10.16	Vu < PhiVc/2	lot Reqd 9.6.	10.2	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	18.75	17.50	-4.54	4.54	7.59	0.87	10.18	Vu < PhiVc/2	lot Reqd 9.6.	10.2	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	18.80	17.50	-4.58	4.58	7.38	0.91	10.21	Vu < PhiVc/2	lot Reqd 9.6.	10.2	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	18.84	17.50	-4.62	4.62	7.16	0.94	10.24	Vu < PhiVc/2	lot Reqd 9.6.	10.2	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	18.89	17.50	-4.65	4.65	6.94	0.98	10.27	Vu < PhiVc/2	lot Reqd 9.6.	10.3	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	18.94	17.50	-4.69	4.69	6.73	1.00	10.29	Vu < PhiVc/2	lot Reqd 9.6.	10.3	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	18.98	17.50	-4.72	4.72	6.51	1.00	10.29	Vu < PhiVc/2	lot Reqd 9.6.	10.3	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	19.03	17.50	-4.76	4.76	6.28	1.00	10.29	Vu < PhiVc/2	lot Reqd 9.6.	10.3	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	19.08	17.50	-4.79	4.79	6.06	1.00	10.29	Vu < PhiVc/2	lot Reqd 9.6.	10.3	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	19.12	17.50	-4.83	4.83	5.84	1.00	10.29	Vu < PhiVc/2	lot Reqd 9.6.	10.3	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	19.17	17.50	-4.87	4.87	5.61	1.00	10.29	Vu < PhiVc/2	lot Reqd 9.6.	10.3	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	19.22	17.50	-4.90	4.90	5.38	1.00	10.29	Vu < PhiVc/2	lot Reqd 9.6.	10.3	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	19.26	17.50	-4.94	4.94	5.15	1.00	10.29	Vu < PhiVc/2	lot Reqd 9.6.	10.3	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	19.31	17.50	-4.97	4.97	4.92	1.00	10.29	Vu < PhiVc/2	lot Reqd 9.6.	10.3	0.0	0.0

Project Title:
Engineer:
Project ID:
Project Descr:

33/109

Concrete Beam

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Description : J2 typical loading

Detailed Shear Information

Load Combination	Span Number	Distance (ft)	'd' (in)	Vu (k) Actual	Vu (k) Design	Mu (k-ft)	d*Vu/Mu	Phi*Vc (k)	Comment	Phi*Vs (k)	Phi*Vn (k)	Spacing (in) Req'd	Spacing (in) Suggest
+1.20D+1.60L+0.50S+1.60H	1	19.36	17.50	-5.01	5.01	4.69	1.00	10.29	Vu < PhiVc/2	lot Reqd 9.6.	10.3	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	19.40	17.50	-5.04	5.04	4.45	1.00	10.29	Vu < PhiVc/2	lot Reqd 9.6.	10.3	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	19.45	17.50	-5.08	5.08	4.22	1.00	10.29	Vu < PhiVc/2	lot Reqd 9.6.	10.3	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	19.50	17.50	-5.12	5.12	3.98	1.00	10.29	Vu < PhiVc/2	lot Reqd 9.6.	10.3	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	19.54	17.50	-5.15	5.15	3.74	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	19.59	17.50	-5.19	5.19	3.49	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	19.64	17.50	-5.22	5.22	3.25	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	19.69	17.50	-5.26	5.26	3.01	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	19.73	17.50	-5.29	5.29	2.76	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	19.78	17.50	-5.33	5.33	2.51	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	19.83	17.50	-5.37	5.37	2.26	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	19.87	17.50	-5.40	5.40	2.01	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	19.92	17.50	-5.44	5.44	1.76	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	19.97	17.50	-5.47	5.47	1.50	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	20.01	17.50	-5.51	5.51	1.24	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	20.06	17.50	-5.54	5.54	0.99	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	20.11	17.50	-5.58	5.58	0.73	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	20.15	17.50	-5.62	5.62	0.46	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	20.20	17.50	-5.65	5.65	0.20	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	20.25	16.50	-5.69	5.69	0.06	1.00	11.88	Vu < PhiVc/2	lot Reqd 9.6.	11.9	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	20.29	16.50	-5.72	5.72	0.33	1.00	11.88	Vu < PhiVc/2	lot Reqd 9.6.	11.9	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	20.34	16.50	-5.76	5.76	0.60	1.00	11.88	Vu < PhiVc/2	lot Reqd 9.6.	11.9	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	20.39	16.50	-5.79	5.79	0.87	1.00	11.88	Vu < PhiVc/2	lot Reqd 9.6.	11.9	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	20.43	16.50	-5.83	5.83	1.14	1.00	11.88	Vu < PhiVc/2	lot Reqd 9.6.	11.9	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	20.48	16.50	-5.87	5.87	1.41	1.00	11.88	Vu < PhiVc/2	lot Reqd 9.6.	11.9	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	20.53	16.50	-5.90	5.90	1.69	1.00	11.88	Vu < PhiVc/2	lot Reqd 9.6.	11.9	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	20.57	16.50	-5.94	5.94	1.97	1.00	11.88	Vu < PhiVc/2	lot Reqd 9.6.	11.9	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	20.62	16.50	-5.97	5.97	2.24	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	20.67	16.50	-6.01	6.01	2.52	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	20.71	16.50	-6.04	6.04	2.81	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	20.76	16.50	-6.08	6.08	3.09	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	20.81	16.50	-6.12	6.12	3.38	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	20.85	16.50	-6.15	6.15	3.66	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	20.90	16.50	-6.19	6.19	3.95	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	20.95	16.50	-6.22	6.22	4.24	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	20.99	16.50	-6.26	6.26	4.53	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	21.04	16.50	-6.29	6.29	4.83	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	21.09	16.50	-6.33	6.33	5.12	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	21.13	16.50	-6.37	6.37	5.42	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	21.18	16.50	-6.40	6.40	5.72	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	21.23	16.50	-6.44	6.44	6.02	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	21.27	16.50	-6.47	6.47	6.32	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	21.32	16.50	-6.51	6.51	6.62	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	21.37	16.50	-6.54	6.54	6.93	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	21.42	16.50	-6.58	6.58	7.23	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	21.46	16.50	-6.62	6.62	7.54	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	21.51	16.50	-6.65	6.65	7.85	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	21.56	16.50	-6.69	6.69	8.16	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	21.60	16.50	-6.72	6.72	8.48	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	21.65	16.50	-6.76	6.76	8.79	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	21.70	16.50	-6.79	6.79	9.11	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	21.74	16.50	-6.83	6.83	9.43	1.00	11.87	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	21.79	16.50	-6.87	6.87	9.75	0.97	11.79	PhiVc/2 < Vu <=	Min 9.6.3.1	25.4	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	21.84	16.50	-6.90	6.90	10.07	0.94	11.71	PhiVc/2 < Vu <=	Min 9.6.3.1	25.3	8.3	8.0

Project Title:
Engineer:
Project ID:
Project Descr:

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Concrete Beam

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Description : J2 typical loading

Detailed Shear Information

Load Combination	Span Number	Distance (ft)	'd' (in)	Vu (k) Actual	Vu (k) Design	Mu (k-ft)	d*Vu/Mu	Phi*Vc (k)	Comment	Phi*Vs (k)	Phi*Vn (k)	Spacing (in) Req'd	Spacing (in) Suggest
+1.20D+1.60L+0.50S+1.60H	1	21.88	16.50	-6.94	6.94	10.39	0.92	11.64	PhiVc/2 < Vu <=	Min 9.6.3.1	25.3	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	21.93	16.50	-6.97	6.97	10.72	0.89	11.57	PhiVc/2 < Vu <=	Min 9.6.3.1	25.2	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	21.98	16.50	-7.01	7.01	11.05	0.87	11.51	PhiVc/2 < Vu <=	Min 9.6.3.1	25.1	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	22.02	16.50	-7.04	7.04	11.37	0.85	11.45	PhiVc/2 < Vu <=	Min 9.6.3.1	25.1	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	22.07	16.50	-7.08	7.08	11.71	0.83	11.39	PhiVc/2 < Vu <=	Min 9.6.3.1	25.0	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	22.12	16.50	-7.12	7.12	12.04	0.81	11.33	PhiVc/2 < Vu <=	Min 9.6.3.1	24.9	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	22.16	16.50	-7.15	7.15	12.37	0.79	11.28	PhiVc/2 < Vu <=	Min 9.6.3.1	24.9	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	22.21	16.50	-7.19	7.19	12.71	0.78	11.23	PhiVc/2 < Vu <=	Min 9.6.3.1	24.8	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	22.26	16.50	-7.22	7.22	13.04	0.76	11.18	PhiVc/2 < Vu <=	Min 9.6.3.1	24.8	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	22.30	16.50	-7.26	7.26	13.38	0.75	11.13	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	22.35	16.50	-7.29	7.29	13.72	0.73	11.09	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	22.40	16.50	-7.33	7.33	14.06	0.72	11.05	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	22.44	16.50	-7.37	7.37	14.41	0.70	11.01	PhiVc/2 < Vu <=	Min 9.6.3.1	24.6	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	22.49	16.50	-7.40	7.40	14.75	0.69	10.97	PhiVc/2 < Vu <=	Min 9.6.3.1	24.6	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	22.54	16.50	-7.44	7.44	15.10	0.68	10.93	PhiVc/2 < Vu <=	Min 9.6.3.1	24.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	22.58	16.50	-7.47	7.47	15.45	0.67	10.89	PhiVc/2 < Vu <=	Min 9.6.3.1	24.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	22.63	16.50	-7.51	7.51	15.80	0.65	10.86	PhiVc/2 < Vu <=	Min 9.6.3.1	24.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	22.68	16.50	-7.55	7.55	16.15	0.64	10.83	PhiVc/2 < Vu <=	Min 9.6.3.1	24.4	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	22.72	16.50	-7.58	7.58	16.50	0.63	10.79	PhiVc/2 < Vu <=	Min 9.6.3.1	24.4	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	22.77	16.50	-7.62	7.62	16.86	0.62	10.76	PhiVc/2 < Vu <=	Min 9.6.3.1	24.4	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	22.82	16.50	-7.65	7.65	17.22	0.61	10.73	PhiVc/2 < Vu <=	Min 9.6.3.1	24.3	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	22.86	16.50	-7.69	7.69	17.57	0.60	10.70	PhiVc/2 < Vu <=	Min 9.6.3.1	24.3	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	22.91	16.50	-7.72	7.72	17.94	0.59	10.68	PhiVc/2 < Vu <=	Min 9.6.3.1	24.3	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	22.96	16.50	-7.76	7.76	18.30	0.58	10.65	PhiVc/2 < Vu <=	Min 9.6.3.1	24.3	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	23.00	16.50	-7.80	7.80	18.66	0.57	10.62	PhiVc/2 < Vu <=	Min 9.6.3.1	24.2	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	23.05	16.50	-7.83	7.83	19.03	0.57	10.60	PhiVc/2 < Vu <=	Min 9.6.3.1	24.2	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	23.10	16.50	-7.87	7.87	19.39	0.56	10.57	PhiVc/2 < Vu <=	Min 9.6.3.1	24.2	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	23.15	16.50	-7.90	7.90	19.76	0.55	10.55	PhiVc/2 < Vu <=	Min 9.6.3.1	24.2	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	23.19	16.50	-7.94	7.94	20.13	0.54	10.53	PhiVc/2 < Vu <=	Min 9.6.3.1	24.1	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	23.24	16.50	-7.97	7.97	20.50	0.53	10.51	PhiVc/2 < Vu <=	Min 9.6.3.1	24.1	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	23.29	16.50	-8.01	8.01	20.88	0.53	10.49	PhiVc/2 < Vu <=	Min 9.6.3.1	24.1	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	23.33	16.50	-8.05	8.05	21.25	0.52	10.46	PhiVc/2 < Vu <=	Min 9.6.3.1	24.1	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	23.38	16.50	-8.08	8.08	21.63	0.51	10.44	PhiVc/2 < Vu <=	Min 9.6.3.1	24.1	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	23.43	16.50	-8.12	8.12	22.01	0.51	10.42	PhiVc/2 < Vu <=	Min 9.6.3.1	24.0	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	23.47	16.50	-8.15	8.15	22.39	0.50	10.41	PhiVc/2 < Vu <=	Min 9.6.3.1	24.0	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	23.52	16.50	-8.19	8.19	22.77	0.49	10.39	PhiVc/2 < Vu <=	Min 9.6.3.1	24.0	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	23.57	16.50	-8.22	8.22	23.15	0.49	10.37	PhiVc/2 < Vu <=	Min 9.6.3.1	24.0	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	23.61	16.50	-8.26	8.26	23.54	0.48	10.35	PhiVc/2 < Vu <=	Min 9.6.3.1	24.0	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	23.66	16.50	-8.30	8.30	23.93	0.48	10.33	PhiVc/2 < Vu <=	Min 9.6.3.1	23.9	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	23.71	16.50	-8.33	8.33	24.32	0.47	10.32	PhiVc/2 < Vu <=	Min 9.6.3.1	23.9	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	23.75	16.50	-8.37	8.37	24.71	0.47	10.30	PhiVc/2 < Vu <=	Min 9.6.3.1	23.9	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	23.80	16.50	-8.40	8.40	25.10	0.46	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	23.9	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	23.85	16.50	-8.44	8.44	25.49	0.46	10.27	PhiVc/2 < Vu <=	Min 9.6.3.1	23.9	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	23.89	16.50	-8.47	8.47	25.89	0.45	10.26	PhiVc/2 < Vu <=	Min 9.6.3.1	23.9	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	23.94	16.50	-8.51	8.51	26.28	0.45	10.24	PhiVc/2 < Vu <=	Min 9.6.3.1	23.9	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	23.99	16.50	-8.55	8.55	26.68	0.44	10.23	PhiVc/2 < Vu <=	Min 9.6.3.1	23.8	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	24.03	16.50	-8.58	8.58	27.08	0.44	10.21	PhiVc/2 < Vu <=	Min 9.6.3.1	23.8	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	24.08	16.50	-8.62	8.62	27.49	0.43	10.20	PhiVc/2 < Vu <=	Min 9.6.3.1	23.8	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	24.13	16.50	-8.65	8.65	27.89	0.43	10.19	PhiVc/2 < Vu <=	Min 9.6.3.1	23.8	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	24.17	16.50	-8.69	8.69	28.29	0.42	10.17	PhiVc/2 < Vu <=	Min 9.6.3.1	23.8	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	24.22	16.50	-8.72	8.72	28.70	0.42	10.16	PhiVc/2 < Vu <=	Min 9.6.3.1	23.8	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	24.27	16.50	-8.76	8.76	29.11	0.41	10.15	PhiVc/2 < Vu <=	Min 9.6.3.1	23.8	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	24.31	16.50	-8.80	8.80	29.52	0.41	10.14	PhiVc/2 < Vu <=	Min 9.6.3.1	23.7	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	24.36	16.50	-8.83	8.83	29.93	0.41	10.12	PhiVc/2 < Vu <=	Min 9.6.3.1	23.7	8.3	8.0

Project Title:
Engineer:
Project ID:
Project Descr:

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Concrete Beam

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Description : J2 typical loading

Detailed Shear Information

Load Combination	Span Number	Distance (ft)	'd' (in)	Vu (k) Actual	Vu (k) Design	Mu (k-ft)	d*Vu/Mu	Phi*Vc (k)	Comment	Phi*Vs (k)	Phi*Vn (k)	Spacing (in) Req'd	Spacing (in) Suggest
+1.20D+1.60L+0.50S+1.60H	1	24.41	16.50	-8.87	8.87	30.35	0.40	10.11	PhiVc/2 < Vu <=	Min 9.6.3.1	23.7	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	24.45	16.50	-8.90	8.90	30.76	0.40	10.10	PhiVc/2 < Vu <=	Min 9.6.3.1	23.7	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	24.50	16.50	-8.94	8.94	31.18	0.39	10.09	PhiVc/2 < Vu <=	Min 9.6.3.1	23.7	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	24.55	16.50	-8.97	8.97	31.60	0.39	10.08	PhiVc/2 < Vu <=	Min 9.6.3.1	23.7	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	24.59	16.50	-9.01	9.01	32.02	0.39	10.07	PhiVc/2 < Vu <=	Min 9.6.3.1	23.7	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	24.64	16.50	-9.05	9.05	32.44	0.38	10.06	PhiVc/2 < Vu <=	Min 9.6.3.1	23.7	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	24.69	16.50	-9.08	9.08	32.86	0.38	10.05	PhiVc/2 < Vu <=	Min 9.6.3.1	23.7	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	24.73	16.50	-9.12	9.12	33.29	0.38	10.04	PhiVc/2 < Vu <=	Min 9.6.3.1	23.7	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	24.78	16.50	-9.15	9.15	33.72	0.37	10.03	PhiVc/2 < Vu <=	Min 9.6.3.1	23.6	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	24.83	16.50	-9.19	9.19	34.15	0.37	10.02	PhiVc/2 < Vu <=	Min 9.6.3.1	23.6	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	24.88	16.50	-9.22	9.22	34.58	0.37	10.01	PhiVc/2 < Vu <=	Min 9.6.3.1	23.6	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	24.92	16.50	-9.26	9.26	35.01	0.36	10.00	PhiVc/2 < Vu <=	Min 9.6.3.1	23.6	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	24.97	16.50	-9.30	9.30	35.44	0.36	9.99	PhiVc/2 < Vu <=	Min 9.6.3.1	23.6	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	25.02	16.50	-9.33	9.33	35.88	0.36	9.98	PhiVc/2 < Vu <=	Min 9.6.3.1	23.6	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	25.06	16.50	-9.37	9.37	36.32	0.35	9.97	PhiVc/2 < Vu <=	Min 9.6.3.1	23.6	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	25.11	16.50	-9.40	9.40	36.75	0.35	9.96	PhiVc/2 < Vu <=	Min 9.6.3.1	23.6	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	25.16	16.50	-9.44	9.44	37.19	0.35	9.96	PhiVc/2 < Vu <=	Min 9.6.3.1	23.6	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	25.20	16.50	-9.47	9.47	37.64	0.35	9.95	PhiVc/2 < Vu <=	Min 9.6.3.1	23.6	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	25.25	16.50	-9.51	9.51	38.08	0.34	9.94	PhiVc/2 < Vu <=	Min 9.6.3.1	23.6	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	25.30	16.50	-9.55	9.55	38.53	0.34	9.93	PhiVc/2 < Vu <=	Min 9.6.3.1	23.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	25.34	16.50	-9.58	9.58	38.97	0.34	9.92	PhiVc/2 < Vu <=	Min 9.6.3.1	23.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	25.39	16.50	-9.62	9.62	39.42	0.34	9.92	PhiVc/2 < Vu <=	Min 9.6.3.1	23.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	25.44	16.50	-9.65	9.65	39.87	0.33	9.91	PhiVc/2 < Vu <=	Min 9.6.3.1	23.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	25.48	16.50	-9.69	9.69	40.33	0.33	9.90	PhiVc/2 < Vu <=	Min 9.6.3.1	23.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	25.53	16.50	-9.72	9.72	40.78	0.33	9.89	PhiVc/2 < Vu <=	Min 9.6.3.1	23.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	25.58	16.50	-9.76	9.76	41.23	0.33	9.89	PhiVc/2 < Vu <=	Min 9.6.3.1	23.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	25.62	16.50	-9.80	9.80	41.69	0.32	9.88	PhiVc/2 < Vu <=	Min 9.6.3.1	23.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	25.67	16.50	-9.83	9.83	42.15	0.32	9.87	PhiVc/2 < Vu <=	Min 9.6.3.1	23.5	8.3	8.0

Maximum Forces & Stresses for Load Combinations

Load Combination / Segment	Span #	Location (ft) along Beam	Bending Stress Results (k-ft) Mu : Max	Phi*Mnx	Stress Ratio
MAXimum BENDING Envelope					
Span # 1	1	25.670	-42.96	105.25	0.41
+1.40D+1.60H					
Span # 1	1	25.670	-28.97	105.25	0.28
+1.20D+0.50Lr+1.60L+1.60H					
Span # 1	1	25.670	-42.96	105.25	0.41
+1.20D+1.60L+0.50S+1.60H					
Span # 1	1	25.670	-42.96	105.25	0.41
+1.20D+1.60Lr+0.50L+1.60H					
Span # 1	1	25.670	-30.50	105.25	0.29
+1.20D+1.60Lr+0.50W+1.60H					
Span # 1	1	25.670	-24.83	105.25	0.24
+1.20D+0.50L+1.60S+1.60H					
Span # 1	1	25.670	-30.50	105.25	0.29
+1.20D+1.60S+0.50W+1.60H					
Span # 1	1	25.670	-24.83	105.25	0.24
+1.20D+0.50Lr+0.50L+W+1.60H					
Span # 1	1	25.670	-30.50	105.25	0.29
+1.20D+0.50L+0.50S+W+1.60H					
Span # 1	1	25.670	-30.50	105.25	0.29
+1.20D+0.50L+0.20S+E+1.60H					
Span # 1	1	25.670	-30.50	105.25	0.29
+0.90D+W+0.90H					
Span # 1	1	25.670	-18.62	105.25	0.18
+0.90D+E+0.90H					
Span # 1	1	25.670	-18.62	105.25	0.18

Project Title:
Engineer:
Project ID:
Project Descr:

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Description : J2 typical loading

Overall Maximum Deflections

Load Combination	Span	Max. "-" Defl (in)	Location in Span (ft)	Load Combination	Max. "+" Defl (in)	Location in Span (ft)
+D+L+H	1	0.0664	12.835		0.0000	0.000

Project Title:
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Project ID:
Project Descr:

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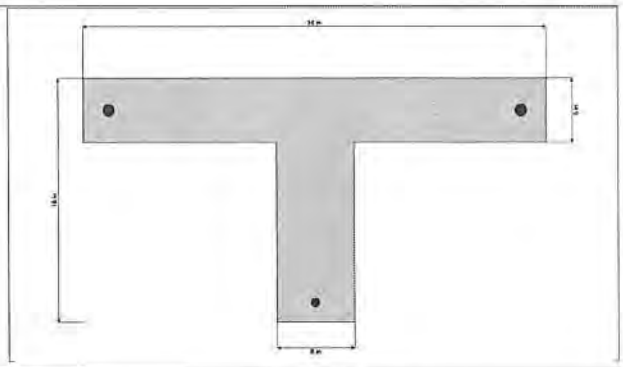
Description : J2 with Standard filing load

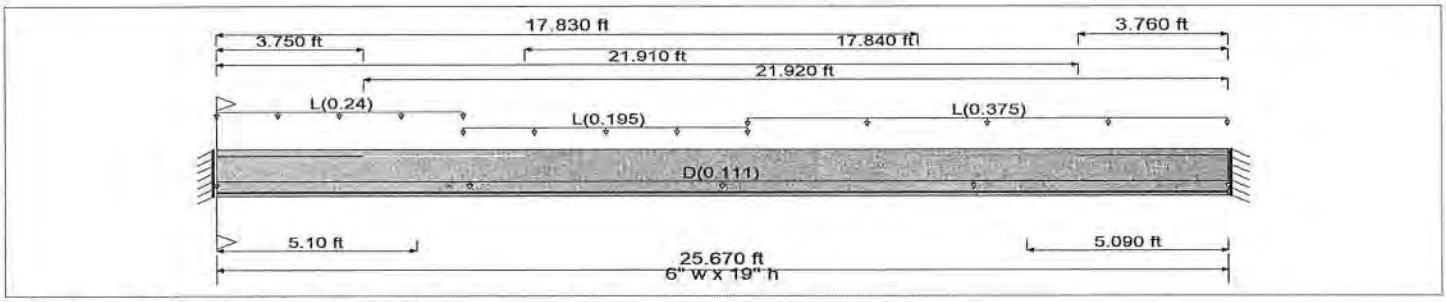
CODE REFERENCES

Calculations per ACI 318-14, IBC 2018, CBC 2019, ASCE 7-16
Load Combination Set : ASCE 7-10

Material Properties

f'c	= 4.0 ksi	ϕ Phi Values	Flexure :	0.90
fr = f'c$^{1/2}$ * 7.50	= 474.342 psi		Shear :	0.750
ψ Density	= 145.0 pcf	β_1	=	0.850
λ LtWt Factor	= 1.0			
Elastic Modulus	= 3,122.0 ksi	Fy - Stirrups		40.0 ksi
fy - Main Rebar	= 60.0 ksi	E - Stirrups	=	29,000.0 ksi
E - Main Rebar	= 29,000.0 ksi	Stirrup Bar Size #		3
		Number of Resisting Legs Per Stirrup =		2





Cross Section & Reinforcing Details

Tee Section, Stem Width = 6.0 in, Total Height = 19.0 in, Top Flange Width = 36.0 in, Flange Thickness = 5.0 in

Span #1 Reinforcing....

2-#8 at 2.50 in from Top, from 0.0 to 3.750 ft in this span
1-#6 at 1.50 in from Bottom, from 0.0 to 25.670 ft in this span
1-#8 at 2.50 in from Top, from 3.750 to 7.830 ft in this span
2-#8 at 2.50 in from Top, from 21.910 to 25.670 ft in this span
1-#8 at 1.50 in from Bottom, from 5.10 to 20.580 ft in this span
1-#8 at 2.50 in from Top, from 17.830 to 21.910 ft in this span

Applied Loads

Service loads entered. Load Factors will be applied for calculations.

CONSERVATIVELY, NEGLECTED SOME REINFORCING:
WWF-W2.9xW2.9 (6x6-6/6)
A_s = 0.058 in²/FT

Beam self weight calculated and added to loads

Load for Span Number 1

Uniform Load : D = 0.0370 ksf, Tributary Width = 3.0 ft, (floor dead load)

Uniform Load : L = 0.0650 ksf, Extent = 6.250 -->> 13.50 ft, Tributary Width = 3.0 ft, (office space floor live with partition load)

Uniform Load : L = 0.1250 ksf, Extent = 13.50 -->> 25.667 ft, Tributary Width = 3.0 ft, (standard filing live load)

Uniform Load : L = 0.080 ksf, Extent = 0.0 -->> 6.250 ft, Tributary Width = 3.0 ft, (floor live)

DESIGN SUMMARY

Design OK

Maximum Bending Stress Ratio =	**0.498** : 1	Maximum Deflection			
Section used for this span	**Typical Section**	Max Downward Transient Deflection	0.025 in	Ratio =	12146 >=800.
Mu : Applied	-52.393 k-ft	Max Upward Transient Deflection	0.000 in	Ratio =	0 <800.0
Mn * Phi : Allowable	105.255 k-ft	Max Downward Total Deflection	0.083 in	Ratio =	3713 >=360.
Location of maximum on span	25.670 ft	Max Upward Total Deflection	0.000 in	Ratio =	0 <360.0
Span # where maximum occurs	Span # 1				

Vertical Reactions

Support notation : Far left is #1

Load Combination	Support 1	Support 2
Overall MAXimum	8.071	9.078
Overall MINimum	2.902	2.902

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Engineer:
Project ID:
Project Descr:

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Description : J2 with Standard filing load

Vertical Reactions

Support notation : Far left is #1

Load Combination	Support 1	Support 2
+D+H	4.837	4.837
+D+L+H	8.071	9.078
+D+Lr+H	4.837	4.837
+D+S+H	4.837	4.837
+D+0.750Lr+0.750L+H	7.264	8.016
+D+0.750L+0.750S+H	7.264	8.016
+D+0.60W+H	4.837	4.837
+D+0.70E+H	4.837	4.837
+D+0.750Lr+0.750L+0.450W+H	7.264	8.016
+D+0.750L+0.750S+0.450W+H	7.264	8.016
+D+0.750L+0.750S+0.5250E+H	7.264	8.016
+0.60D+0.60W+0.60H	2.902	2.902
+0.60D+0.70E+0.60H	2.902	2.902
D Only	4.837	4.837
Lr Only		
L Only	3.145	4.331
S Only		
W Only		
E Only		
H Only		

Detailed Shear Information

Load Combination	Span Number	Distance (ft)	'd' (in)	Vu (k) Actual	Vu (k) Design	Mu (k-ft)	d*Vu/Mu	Phi*Vc (k)	Comment	Phi*Vs (k)	Phi*Vn (k)	Spacing (in) Req'd	Spacing (in) Suggest
+1.20D+1.60L+0.50S+1.60H	1	0.00	16.50	10.84	10.84	47.30	0.32	9.86	PhiVc < Vu	0.9806	23.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	0.05	16.50	10.80	10.80	46.79	0.32	9.86	PhiVc < Vu	0.9348	23.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	0.09	16.50	10.76	10.76	46.29	0.32	9.87	PhiVc < Vu	0.8889	23.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	0.14	16.50	10.72	10.72	45.79	0.32	9.88	PhiVc < Vu	0.8429	23.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	0.19	16.50	10.68	10.68	45.29	0.32	9.88	PhiVc < Vu	0.7968	23.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	0.23	16.50	10.64	10.64	44.79	0.33	9.89	PhiVc < Vu	0.7505	23.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	0.28	16.50	10.60	10.60	44.29	0.33	9.90	PhiVc < Vu	0.7042	23.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	0.33	16.50	10.56	10.56	43.80	0.33	9.90	PhiVc < Vu	0.6577	23.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	0.37	16.50	10.52	10.52	43.30	0.33	9.91	PhiVc < Vu	0.6111	23.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	0.42	16.50	10.48	10.48	42.81	0.34	9.92	PhiVc < Vu	0.5644	23.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	0.47	16.50	10.45	10.45	42.32	0.34	9.93	PhiVc < Vu	0.5175	23.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	0.51	16.50	10.41	10.41	41.84	0.34	9.94	PhiVc < Vu	0.4705	23.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	0.56	16.50	10.37	10.37	41.35	0.34	9.94	PhiVc < Vu	0.4233	23.6	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	0.61	16.50	10.33	10.33	40.87	0.35	9.95	PhiVc < Vu	0.3760	23.6	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	0.65	16.50	10.29	10.29	40.39	0.35	9.96	PhiVc < Vu	0.3286	23.6	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	0.70	16.50	10.25	10.25	39.91	0.35	9.97	PhiVc < Vu	0.2810	23.6	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	0.75	16.50	10.21	10.21	39.43	0.36	9.98	PhiVc < Vu	0.2333	23.6	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	0.79	16.50	10.17	10.17	38.95	0.36	9.99	PhiVc < Vu	0.1853	23.6	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	0.84	16.50	10.13	10.13	38.48	0.36	10.00	PhiVc < Vu	0.1373	23.6	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	0.89	16.50	10.09	10.09	38.00	0.37	10.00	PhiVc < Vu	0.08901	23.6	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	0.94	16.50	10.05	10.05	37.53	0.37	10.01	PhiVc < Vu	0.04057	23.6	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	0.98	16.50	10.02	10.02	37.06	0.37	10.02	PhiVc/2 < Vu <=	Min 9.6.3.1	23.6	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	1.03	16.50	9.98	9.98	36.60	0.37	10.03	PhiVc/2 < Vu <=	Min 9.6.3.1	23.6	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	1.08	16.50	9.94	9.94	36.13	0.38	10.04	PhiVc/2 < Vu <=	Min 9.6.3.1	23.7	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	1.12	16.50	9.90	9.90	35.67	0.38	10.05	PhiVc/2 < Vu <=	Min 9.6.3.1	23.7	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	1.17	16.50	9.86	9.86	35.20	0.39	10.06	PhiVc/2 < Vu <=	Min 9.6.3.1	23.7	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	1.22	16.50	9.82	9.82	34.74	0.39	10.07	PhiVc/2 < Vu <=	Min 9.6.3.1	23.7	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	1.26	16.50	9.78	9.78	34.29	0.39	10.08	PhiVc/2 < Vu <=	Min 9.6.3.1	23.7	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	1.31	16.50	9.74	9.74	33.83	0.40	10.10	PhiVc/2 < Vu <=	Min 9.6.3.1	23.7	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	1.36	16.50	9.70	9.70	33.37	0.40	10.11	PhiVc/2 < Vu <=	Min 9.6.3.1	23.7	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	1.40	16.50	9.66	9.66	32.92	0.40	10.12	PhiVc/2 < Vu <=	Min 9.6.3.1	23.7	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	1.45	16.50	9.62	9.62	32.47	0.41	10.13	PhiVc/2 < Vu <=	Min 9.6.3.1	23.7	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	1.50	16.50	9.58	9.58	32.02	0.41	10.14	PhiVc/2 < Vu <=	Min 9.6.3.1	23.8	8.3	8.0

Project Title:
Engineer:
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Project Descr:

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Concrete Beam

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Description : J2 with Standard filing load

Detailed Shear Information

Load Combination	Span Number	Distance (ft)	'd' (in)	Vu (k) Actual	Vu (k) Design	Mu (k-ft)	d*Vu/Mu	Phi*Vc (k)	Comment	Phi*Vs (k)	Phi*Vn (k)	Spacing (in) Req'd	Spacing (in) Suggest
+1.20D+1.60L+0.50S+1.60H	1	1.54	16.50	9.55	9.55	31.57	0.42	10.15	PhiVc/2 < Vu <=	Min 9.6.3.1	23.8	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	1.59	16.50	9.51	9.51	31.13	0.42	10.17	PhiVc/2 < Vu <=	Min 9.6.3.1	23.8	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	1.64	16.50	9.47	9.47	30.69	0.42	10.18	PhiVc/2 < Vu <=	Min 9.6.3.1	23.8	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	1.68	16.50	9.43	9.43	30.24	0.43	10.19	PhiVc/2 < Vu <=	Min 9.6.3.1	23.8	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	1.73	16.50	9.39	9.39	29.80	0.43	10.21	PhiVc/2 < Vu <=	Min 9.6.3.1	23.8	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	1.78	16.50	9.35	9.35	29.37	0.44	10.22	PhiVc/2 < Vu <=	Min 9.6.3.1	23.8	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	1.82	16.50	9.31	9.31	28.93	0.44	10.23	PhiVc/2 < Vu <=	Min 9.6.3.1	23.8	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	1.87	16.50	9.27	9.27	28.50	0.45	10.25	PhiVc/2 < Vu <=	Min 9.6.3.1	23.9	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	1.92	16.50	9.23	9.23	28.06	0.45	10.26	PhiVc/2 < Vu <=	Min 9.6.3.1	23.9	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	1.96	16.50	9.19	9.19	27.63	0.46	10.28	PhiVc/2 < Vu <=	Min 9.6.3.1	23.9	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	2.01	16.50	9.15	9.15	27.20	0.46	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	23.9	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	2.06	16.50	9.12	9.12	26.78	0.47	10.31	PhiVc/2 < Vu <=	Min 9.6.3.1	23.9	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	2.10	16.50	9.08	9.08	26.35	0.47	10.33	PhiVc/2 < Vu <=	Min 9.6.3.1	23.9	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	2.15	16.50	9.04	9.04	25.93	0.48	10.34	PhiVc/2 < Vu <=	Min 9.6.3.1	24.0	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	2.20	16.50	9.00	9.00	25.51	0.49	10.36	PhiVc/2 < Vu <=	Min 9.6.3.1	24.0	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	2.24	16.50	8.96	8.96	25.09	0.49	10.38	PhiVc/2 < Vu <=	Min 9.6.3.1	24.0	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	2.29	16.50	8.92	8.92	24.67	0.50	10.40	PhiVc/2 < Vu <=	Min 9.6.3.1	24.0	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	2.34	16.50	8.88	8.88	24.25	0.50	10.41	PhiVc/2 < Vu <=	Min 9.6.3.1	24.0	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	2.38	16.50	8.84	8.84	23.84	0.51	10.43	PhiVc/2 < Vu <=	Min 9.6.3.1	24.0	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	2.43	16.50	8.80	8.80	23.42	0.52	10.45	PhiVc/2 < Vu <=	Min 9.6.3.1	24.1	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	2.48	16.50	8.76	8.76	23.01	0.52	10.47	PhiVc/2 < Vu <=	Min 9.6.3.1	24.1	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	2.52	16.50	8.72	8.72	22.60	0.53	10.49	PhiVc/2 < Vu <=	Min 9.6.3.1	24.1	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	2.57	16.50	8.69	8.69	22.20	0.54	10.52	PhiVc/2 < Vu <=	Min 9.6.3.1	24.1	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	2.62	16.50	8.65	8.65	21.79	0.55	10.54	PhiVc/2 < Vu <=	Min 9.6.3.1	24.2	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	2.67	16.50	8.61	8.61	21.39	0.55	10.56	PhiVc/2 < Vu <=	Min 9.6.3.1	24.2	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	2.71	16.50	8.57	8.57	20.99	0.56	10.59	PhiVc/2 < Vu <=	Min 9.6.3.1	24.2	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	2.76	16.50	8.53	8.53	20.59	0.57	10.61	PhiVc/2 < Vu <=	Min 9.6.3.1	24.2	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	2.81	16.50	8.49	8.49	20.19	0.58	10.64	PhiVc/2 < Vu <=	Min 9.6.3.1	24.2	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	2.85	16.50	8.45	8.45	19.79	0.59	10.66	PhiVc/2 < Vu <=	Min 9.6.3.1	24.3	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	2.90	16.50	8.41	8.41	19.40	0.60	10.69	PhiVc/2 < Vu <=	Min 9.6.3.1	24.3	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	2.95	16.50	8.37	8.37	19.01	0.61	10.72	PhiVc/2 < Vu <=	Min 9.6.3.1	24.3	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	2.99	16.50	8.33	8.33	18.62	0.62	10.75	PhiVc/2 < Vu <=	Min 9.6.3.1	24.4	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	3.04	16.50	8.29	8.29	18.23	0.63	10.78	PhiVc/2 < Vu <=	Min 9.6.3.1	24.4	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	3.09	16.50	8.26	8.26	17.84	0.64	10.81	PhiVc/2 < Vu <=	Min 9.6.3.1	24.4	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	3.13	16.50	8.22	8.22	17.46	0.65	10.84	PhiVc/2 < Vu <=	Min 9.6.3.1	24.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	3.18	16.50	8.18	8.18	17.07	0.66	10.87	PhiVc/2 < Vu <=	Min 9.6.3.1	24.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	3.23	16.50	8.14	8.14	16.69	0.67	10.91	PhiVc/2 < Vu <=	Min 9.6.3.1	24.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	3.27	16.50	8.10	8.10	16.31	0.68	10.94	PhiVc/2 < Vu <=	Min 9.6.3.1	24.6	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	3.32	16.50	8.06	8.06	15.93	0.70	10.98	PhiVc/2 < Vu <=	Min 9.6.3.1	24.6	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	3.37	16.50	8.02	8.02	15.56	0.71	11.02	PhiVc/2 < Vu <=	Min 9.6.3.1	24.6	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	3.41	16.50	7.98	7.98	15.18	0.72	11.06	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	3.46	16.50	7.94	7.94	14.81	0.74	11.11	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	3.51	16.50	7.90	7.90	14.44	0.75	11.15	PhiVc/2 < Vu <=	Min 9.6.3.1	24.8	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	3.55	16.50	7.86	7.86	14.07	0.77	11.20	PhiVc/2 < Vu <=	Min 9.6.3.1	24.8	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	3.60	16.50	7.83	7.83	13.71	0.79	11.25	PhiVc/2 < Vu <=	Min 9.6.3.1	24.9	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	3.65	16.50	7.79	7.79	13.34	0.80	11.30	PhiVc/2 < Vu <=	Min 9.6.3.1	24.9	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	3.69	16.50	7.75	7.75	12.98	0.82	11.35	PhiVc/2 < Vu <=	Min 9.6.3.1	25.0	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	3.74	16.50	7.71	7.71	12.62	0.84	11.41	PhiVc/2 < Vu <=	Min 9.6.3.1	25.0	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	3.79	16.50	7.67	7.67	12.26	0.86	11.47	PhiVc/2 < Vu <=	Min 9.6.3.1	25.1	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	3.83	16.50	7.63	7.63	11.90	0.88	11.53	PhiVc/2 < Vu <=	Min 9.6.3.1	25.1	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	3.88	16.50	7.59	7.59	11.54	0.90	11.60	PhiVc/2 < Vu <=	Min 9.6.3.1	25.2	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	3.93	16.50	7.55	7.55	11.19	0.93	11.67	PhiVc/2 < Vu <=	Min 9.6.3.1	25.3	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	3.97	16.50	7.51	7.51	10.84	0.95	11.75	PhiVc/2 < Vu <=	Min 9.6.3.1	25.4	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	4.02	16.50	7.47	7.47	10.49	0.98	11.83	PhiVc/2 < Vu <=	Min 9.6.3.1	25.4	8.3	8.0

Project Title:
Engineer:
Project ID:
Project Descr:

40/109

Concrete Beam

File = P:\2018\180114\Structural\180114.001 Pma County 5th floor TI - floor check\180114.001.ec6 .
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Description : J2 with Standard filing load

Detailed Shear Information

Load Combination	Span Number	Distance (ft)	'd' (in)	Vu (k) Actual	Vu (k) Design	Mu (k-ft)	d*Vu/Mu	Phi*Vc (k)	Comment	Phi*Vs (k)	Phi*Vn (k)	Spacing (in) Req'd	Spacing (in) Suggest
+1.20D+1.60L+0.50S+1.60H	1	4.07	16.50	7.43	7.43	10.14	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	4.11	16.50	7.40	7.40	9.79	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	4.16	16.50	7.36	7.36	9.45	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	4.21	16.50	7.32	7.32	9.10	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	4.25	16.50	7.28	7.28	8.76	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	4.30	16.50	7.24	7.24	8.42	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	4.35	16.50	7.20	7.20	8.08	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	4.40	16.50	7.16	7.16	7.75	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	4.44	16.50	7.12	7.12	7.42	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	4.49	16.50	7.08	7.08	7.08	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	4.54	16.50	7.04	7.04	6.75	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	4.58	16.50	7.00	7.00	6.42	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	4.63	16.50	6.97	6.97	6.10	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	4.68	16.50	6.93	6.93	5.77	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	4.72	16.50	6.89	6.89	5.45	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	4.77	16.50	6.85	6.85	5.13	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	4.82	16.50	6.81	6.81	4.81	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	4.86	16.50	6.77	6.77	4.49	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	4.91	16.50	6.73	6.73	4.18	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	4.96	16.50	6.69	6.69	3.86	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	5.00	16.50	6.65	6.65	3.55	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	5.05	16.50	6.61	6.61	3.24	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	5.10	16.50	6.57	6.57	2.93	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	5.14	16.50	6.54	6.54	2.63	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	5.19	16.50	6.50	6.50	2.32	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	5.24	16.50	6.46	6.46	2.02	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	5.28	16.50	6.42	6.42	1.72	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	5.33	16.50	6.38	6.38	1.42	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	5.38	16.50	6.34	6.34	1.12	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	5.42	16.50	6.30	6.30	0.83	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	5.47	16.50	6.26	6.26	0.53	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	5.52	16.50	6.22	6.22	0.24	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	5.56	17.50	6.18	6.18	0.05	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	5.61	17.50	6.14	6.14	0.34	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	5.66	17.50	6.11	6.11	0.62	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	5.70	17.50	6.07	6.07	0.91	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	5.75	17.50	6.03	6.03	1.19	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	5.80	17.50	5.99	5.99	1.47	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	5.84	17.50	5.95	5.95	1.75	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	5.89	17.50	5.91	5.91	2.03	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	5.94	17.50	5.87	5.87	2.30	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	5.98	17.50	5.83	5.83	2.58	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	6.03	17.50	5.79	5.79	2.85	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	6.08	17.50	5.75	5.75	3.12	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	6.13	17.50	5.71	5.71	3.39	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	6.17	17.50	5.68	5.68	3.65	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	6.22	17.50	5.64	5.64	3.92	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	6.27	17.50	5.60	5.60	4.18	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	6.31	17.50	5.56	5.56	4.44	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	6.36	17.50	5.53	5.53	4.70	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	6.41	17.50	5.49	5.49	4.96	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	6.45	17.50	5.46	5.46	5.22	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	6.50	17.50	5.42	5.42	5.47	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	6.55	17.50	5.38	5.38	5.72	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0

Project Title:
Engineer:
Project ID:
Project Descr:

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Concrete Beam

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Description : J2 with Standard filing load

Detailed Shear Information

Load Combination	Span Number	Distance (ft)	'd' (in)	Vu (k) Actual	Vu (k) Design	Mu (k-ft)	d*Vu/Mu	Phi*Vc (k)	Comment	Phi*Vs (k)	Phi*Vn (k)	Spacing (in) Req'd	Spacing (in) Suggest
+1.20D+1.60L+0.50S+1.60H	1	6.59	17.50	5.35	5.35	5.97	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	6.64	17.50	5.31	5.31	6.22	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	6.69	17.50	5.28	5.28	6.47	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	6.73	17.50	5.24	5.24	6.72	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	6.78	17.50	5.20	5.20	6.96	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	6.83	17.50	5.17	5.17	7.20	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	6.87	17.50	5.13	5.13	7.44	1.00	10.29	Vu < PhiVc/2	lot Reqd 9.6.	10.3	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	6.92	17.50	5.10	5.10	7.68	0.97	10.26	Vu < PhiVc/2	lot Reqd 9.6.	10.3	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	6.97	17.50	5.06	5.06	7.92	0.93	10.23	Vu < PhiVc/2	lot Reqd 9.6.	10.2	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	7.01	17.50	5.03	5.03	8.16	0.90	10.20	Vu < PhiVc/2	lot Reqd 9.6.	10.2	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	7.06	17.50	4.99	4.99	8.39	0.87	10.18	Vu < PhiVc/2	lot Reqd 9.6.	10.2	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	7.11	17.50	4.95	4.95	8.62	0.84	10.15	Vu < PhiVc/2	lot Reqd 9.6.	10.2	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	7.15	17.50	4.92	4.92	8.85	0.81	10.13	Vu < PhiVc/2	lot Reqd 9.6.	10.1	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	7.20	17.50	4.88	4.88	9.08	0.78	10.11	Vu < PhiVc/2	lot Reqd 9.6.	10.1	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	7.25	17.50	4.85	4.85	9.31	0.76	10.09	Vu < PhiVc/2	lot Reqd 9.6.	10.1	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	7.29	17.50	4.81	4.81	9.54	0.74	10.07	Vu < PhiVc/2	lot Reqd 9.6.	10.1	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	7.34	17.50	4.78	4.78	9.76	0.71	10.05	Vu < PhiVc/2	lot Reqd 9.6.	10.1	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	7.39	17.50	4.74	4.74	9.98	0.69	10.03	Vu < PhiVc/2	lot Reqd 9.6.	10.0	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	7.43	17.50	4.70	4.70	10.20	0.67	10.02	Vu < PhiVc/2	lot Reqd 9.6.	10.0	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	7.48	17.50	4.67	4.67	10.42	0.65	10.00	Vu < PhiVc/2	lot Reqd 9.6.	10.0	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	7.53	17.50	4.63	4.63	10.64	0.64	9.99	Vu < PhiVc/2	lot Reqd 9.6.	10.0	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	7.57	17.50	4.60	4.60	10.86	0.62	9.97	Vu < PhiVc/2	lot Reqd 9.6.	10.0	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	7.62	17.50	4.56	4.56	11.07	0.60	9.96	Vu < PhiVc/2	lot Reqd 9.6.	10.0	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	7.67	17.50	4.53	4.53	11.28	0.59	9.95	Vu < PhiVc/2	lot Reqd 9.6.	9.9	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	7.72	17.50	4.49	4.49	11.49	0.57	9.93	Vu < PhiVc/2	lot Reqd 9.6.	9.9	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	7.76	17.50	4.45	4.45	11.70	0.56	9.92	Vu < PhiVc/2	lot Reqd 9.6.	9.9	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	7.81	17.50	4.42	4.42	11.91	0.54	9.91	Vu < PhiVc/2	lot Reqd 9.6.	9.9	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	7.86	17.50	4.38	4.38	12.12	0.53	9.90	Vu < PhiVc/2	lot Reqd 9.6.	9.9	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	7.90	17.50	4.35	4.35	12.32	0.51	9.89	Vu < PhiVc/2	lot Reqd 9.6.	9.9	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	7.95	17.50	4.31	4.31	12.52	0.50	9.88	Vu < PhiVc/2	lot Reqd 9.6.	9.9	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	8.00	17.50	4.28	4.28	12.72	0.49	9.87	Vu < PhiVc/2	lot Reqd 9.6.	9.9	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	8.04	17.50	4.24	4.24	12.92	0.48	9.86	Vu < PhiVc/2	lot Reqd 9.6.	9.9	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	8.09	17.50	4.20	4.20	13.12	0.47	9.85	Vu < PhiVc/2	lot Reqd 9.6.	9.8	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	8.14	17.50	4.17	4.17	13.31	0.46	9.84	Vu < PhiVc/2	lot Reqd 9.6.	9.8	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	8.18	17.50	4.13	4.13	13.51	0.45	9.83	Vu < PhiVc/2	lot Reqd 9.6.	9.8	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	8.23	17.50	4.10	4.10	13.70	0.44	9.82	Vu < PhiVc/2	lot Reqd 9.6.	9.8	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	8.28	17.50	4.06	4.06	13.89	0.43	9.81	Vu < PhiVc/2	lot Reqd 9.6.	9.8	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	8.32	17.50	4.03	4.03	14.08	0.42	9.81	Vu < PhiVc/2	lot Reqd 9.6.	9.8	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	8.37	17.50	3.99	3.99	14.27	0.41	9.80	Vu < PhiVc/2	lot Reqd 9.6.	9.8	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	8.42	17.50	3.95	3.95	14.45	0.40	9.79	Vu < PhiVc/2	lot Reqd 9.6.	9.8	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	8.46	17.50	3.92	3.92	14.64	0.39	9.79	Vu < PhiVc/2	lot Reqd 9.6.	9.8	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	8.51	17.50	3.88	3.88	14.82	0.38	9.78	Vu < PhiVc/2	lot Reqd 9.6.	9.8	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	8.56	17.50	3.85	3.85	15.00	0.37	9.77	Vu < PhiVc/2	lot Reqd 9.6.	9.8	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	8.60	17.50	3.81	3.81	15.18	0.37	9.77	Vu < PhiVc/2	lot Reqd 9.6.	9.8	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	8.65	17.50	3.78	3.78	15.36	0.36	9.76	Vu < PhiVc/2	lot Reqd 9.6.	9.8	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	8.70	17.50	3.74	3.74	15.53	0.35	9.75	Vu < PhiVc/2	lot Reqd 9.6.	9.8	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	8.74	17.50	3.70	3.70	15.71	0.34	9.75	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	8.79	17.50	3.67	3.67	15.88	0.34	9.74	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	8.84	17.50	3.63	3.63	16.05	0.33	9.74	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	8.88	17.50	3.60	3.60	16.22	0.32	9.73	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	8.93	17.50	3.56	3.56	16.39	0.32	9.72	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	8.98	17.50	3.53	3.53	16.55	0.31	9.72	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	9.02	17.50	3.49	3.49	16.72	0.30	9.71	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	9.07	17.50	3.45	3.45	16.88	0.30	9.71	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0

Project Title:
Engineer:
Project ID:
Project Descr:

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Concrete Beam

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Description : J2 with Standard filing load

Detailed Shear Information

Load Combination	Span Number	Distance (ft)	'd' (in)	Vu (k) Actual	Vu (k) Design	Mu (k-ft)	d*Vu/Mu	Phi*Vc (k)	Comment	Phi*Vs (k)	Phi*Vn (k)	Spacing (in) Req'd	Spacing (in) Suggest
+1.20D+1.60L+0.50S+1.60H	1	9.12	17.50	3.42	3.42	17.04	0.29	9.70	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	9.16	17.50	3.38	3.38	17.20	0.29	9.70	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	9.21	17.50	3.35	3.35	17.36	0.28	9.70	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	9.26	17.50	3.31	3.31	17.51	0.28	9.69	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	9.30	17.50	3.28	3.28	17.67	0.27	9.69	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	9.35	17.50	3.24	3.24	17.82	0.27	9.68	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	9.40	17.50	3.20	3.20	17.97	0.26	9.68	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	9.45	17.50	3.17	3.17	18.12	0.26	9.67	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	9.49	17.50	3.13	3.13	18.26	0.25	9.67	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	9.54	17.50	3.10	3.10	18.41	0.25	9.67	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	9.59	17.50	3.06	3.06	18.55	0.24	9.66	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	9.63	17.50	3.03	3.03	18.70	0.24	9.66	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	9.68	17.50	2.99	2.99	18.84	0.23	9.65	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	9.73	17.50	2.95	2.95	18.98	0.23	9.65	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	9.77	17.50	2.92	2.92	19.11	0.22	9.65	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	9.82	17.50	2.88	2.88	19.25	0.22	9.64	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	9.87	17.50	2.85	2.85	19.38	0.21	9.64	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	9.91	17.50	2.81	2.81	19.52	0.21	9.64	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	9.96	17.50	2.78	2.78	19.65	0.21	9.63	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	10.01	17.50	2.74	2.74	19.77	0.20	9.63	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	10.05	17.50	2.70	2.70	19.90	0.20	9.63	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	10.10	17.50	2.67	2.67	20.03	0.19	9.62	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	10.15	17.50	2.63	2.63	20.15	0.19	9.62	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	10.19	17.50	2.60	2.60	20.27	0.19	9.62	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	10.24	17.50	2.56	2.56	20.39	0.18	9.61	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	10.29	17.50	2.53	2.53	20.51	0.18	9.61	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	10.33	17.50	2.49	2.49	20.63	0.18	9.61	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	10.38	17.50	2.45	2.45	20.75	0.17	9.61	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	10.43	17.50	2.42	2.42	20.86	0.17	9.60	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	10.47	17.50	2.38	2.38	20.97	0.17	9.60	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	10.52	17.50	2.35	2.35	21.08	0.16	9.60	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	10.57	17.50	2.31	2.31	21.19	0.16	9.59	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	10.61	17.50	2.27	2.27	21.30	0.16	9.59	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	10.66	17.50	2.24	2.24	21.40	0.15	9.59	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	10.71	17.50	2.20	2.20	21.51	0.15	9.59	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	10.75	17.50	2.17	2.17	21.61	0.15	9.58	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	10.80	17.50	2.13	2.13	21.71	0.14	9.58	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	10.85	17.50	2.10	2.10	21.81	0.14	9.58	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	10.89	17.50	2.06	2.06	21.91	0.14	9.58	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	10.94	17.50	2.02	2.02	22.00	0.13	9.57	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	10.99	17.50	1.99	1.99	22.10	0.13	9.57	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	11.03	17.50	1.95	1.95	22.19	0.13	9.57	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	11.08	17.50	1.92	1.92	22.28	0.13	9.57	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	11.13	17.50	1.88	1.88	22.37	0.12	9.56	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	11.18	17.50	1.85	1.85	22.46	0.12	9.56	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	11.22	17.50	1.81	1.81	22.54	0.12	9.56	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	11.27	17.50	1.77	1.77	22.62	0.11	9.56	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	11.32	17.50	1.74	1.74	22.71	0.11	9.56	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	11.36	17.50	1.70	1.70	22.79	0.11	9.55	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	11.41	17.50	1.67	1.67	22.87	0.11	9.55	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	11.46	17.50	1.63	1.63	22.94	0.10	9.55	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	11.50	17.50	1.60	1.60	23.02	0.10	9.55	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	11.55	17.50	1.56	1.56	23.09	0.10	9.54	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	11.60	17.50	1.52	1.52	23.16	0.10	9.54	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0

Project Title:
Engineer:
Project ID:
Project Descr:

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Concrete Beam

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Description : J2 with Standard filing load

Detailed Shear Information

Load Combination	Span Number	Distance (ft)	'd' (in)	Vu (k) Actual	Vu (k) Design	Mu (k-ft)	d*Vu/Mu	Phi*Vc (k)	Comment	Phi*Vs (k)	Phi*Vn (k)	Spacing (in) Req'd	Spacing (in) Suggest
+1.20D+1.60L+0.50S+1.60H	1	11.64	17.50	1.49	1.49	23.23	0.09	9.54	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	11.69	17.50	1.45	1.45	23.30	0.09	9.54	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	11.74	17.50	1.42	1.42	23.37	0.09	9.54	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	11.78	17.50	1.38	1.38	23.44	0.09	9.53	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	11.83	17.50	1.35	1.35	23.50	0.08	9.53	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	11.88	17.50	1.31	1.31	23.56	0.08	9.53	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	11.92	17.50	1.27	1.27	23.62	0.08	9.53	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	11.97	17.50	1.24	1.24	23.68	0.08	9.53	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	12.02	17.50	1.20	1.20	23.74	0.07	9.52	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	12.06	17.50	1.17	1.17	23.79	0.07	9.52	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	12.11	17.50	1.13	1.13	23.85	0.07	9.52	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	12.16	17.50	1.10	1.10	23.90	0.07	9.52	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	12.20	17.50	1.06	1.06	23.95	0.06	9.52	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	12.25	17.50	1.02	1.02	24.00	0.06	9.51	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	12.30	17.50	0.99	0.99	24.05	0.06	9.51	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	12.34	17.50	0.95	0.95	24.09	0.06	9.51	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	12.39	17.50	0.92	0.92	24.13	0.06	9.51	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	12.44	17.50	0.88	0.88	24.18	0.05	9.51	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	12.48	17.50	0.85	0.85	24.22	0.05	9.51	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	12.53	17.50	0.81	0.81	24.26	0.05	9.50	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	12.58	17.50	0.77	0.77	24.29	0.05	9.50	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	12.62	17.50	0.74	0.74	24.33	0.04	9.50	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	12.67	17.50	0.70	0.70	24.36	0.04	9.50	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	12.72	17.50	0.67	0.67	24.39	0.04	9.50	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	12.76	17.50	0.63	0.63	24.42	0.04	9.49	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	12.81	17.50	0.60	0.60	24.45	0.04	9.49	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	12.86	17.50	0.56	0.56	24.48	0.03	9.49	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	12.91	17.50	0.52	0.52	24.51	0.03	9.49	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	12.95	17.50	0.49	0.49	24.53	0.03	9.49	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	13.00	17.50	0.45	0.45	24.55	0.03	9.49	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	13.05	17.50	0.42	0.42	24.57	0.02	9.48	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	13.09	17.50	0.38	0.38	24.59	0.02	9.48	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	13.14	17.50	0.35	0.35	24.61	0.02	9.48	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	13.19	17.50	0.31	0.31	24.62	0.02	9.48	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	13.23	17.50	0.27	0.27	24.64	0.02	9.48	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	13.28	17.50	0.24	0.24	24.65	0.01	9.47	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.40D+1.60H	1	13.33	17.50	-0.26	0.26	14.42	0.03	9.48	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.40D+1.60H	1	13.37	17.50	-0.28	0.28	14.41	0.03	9.49	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.40D+1.60H	1	13.42	17.50	-0.31	0.31	14.39	0.03	9.49	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.40D+1.60H	1	13.47	17.50	-0.33	0.33	14.38	0.03	9.49	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.40D+1.60H	1	13.51	17.50	-0.36	0.36	14.36	0.04	9.49	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.40D+1.60H	1	13.56	17.50	-0.38	0.38	14.35	0.04	9.50	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.40D+1.60H	1	13.61	17.50	-0.41	0.41	14.33	0.04	9.50	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.40D+1.60H	1	13.65	17.50	-0.43	0.43	14.31	0.04	9.50	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.40D+1.60H	1	13.70	17.50	-0.46	0.46	14.29	0.05	9.50	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.40D+1.60H	1	13.75	17.50	-0.48	0.48	14.27	0.05	9.50	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.40D+1.60H	1	13.79	17.50	-0.51	0.51	14.24	0.05	9.51	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.40D+1.60H	1	13.84	17.50	-0.53	0.53	14.22	0.05	9.51	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.40D+1.60H	1	13.89	17.50	-0.56	0.56	14.19	0.06	9.51	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.40D+1.60H	1	13.93	17.50	-0.58	0.58	14.17	0.06	9.51	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.40D+1.60H	1	13.98	17.50	-0.60	0.60	14.14	0.06	9.51	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.40D+1.60H	1	14.03	17.50	-0.63	0.63	14.11	0.07	9.52	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.40D+1.60H	1	14.07	17.50	-0.65	0.65	14.08	0.07	9.52	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.40D+1.60H	1	14.12	17.50	-0.68	0.68	14.05	0.07	9.52	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0

Project Title:
Engineer:
Project ID:
Project Descr:

44/109

Concrete Beam

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Description : J2 with Standard filing load

Detailed Shear Information

Load Combination	Span Number	Distance (ft)	'd' (in)	Vu (k) Actual	Vu (k) Design	Mu (k-ft)	d*Vu/Mu	Phi*Vc (k)	Comment	Phi*Vs (k)	Phi*Vn (k)	Spacing (in) Req'd	Spacing (in) Suggest
+1.40D+1.60H	1	14.17	17.50	-0.70	0.70	14.02	0.07	9.52	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.40D+1.60H	1	14.21	17.50	-0.73	0.73	13.98	0.08	9.53	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.40D+1.60H	1	14.26	17.50	-0.75	0.75	13.95	0.08	9.53	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	14.31	17.50	-0.78	0.78	24.39	0.05	9.50	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	14.35	17.50	-0.83	0.83	24.36	0.05	9.50	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	14.40	17.50	-0.88	0.88	24.32	0.05	9.51	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	14.45	17.50	-0.93	0.93	24.27	0.06	9.51	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	14.49	17.50	-0.98	0.98	24.23	0.06	9.51	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	14.54	17.50	-1.03	1.03	24.18	0.06	9.51	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	14.59	17.50	-1.08	1.08	24.13	0.07	9.52	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	14.64	17.50	-1.13	1.13	24.08	0.07	9.52	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	14.68	17.50	-1.17	1.17	24.03	0.07	9.52	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	14.73	17.50	-1.22	1.22	23.97	0.07	9.52	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	14.78	17.50	-1.27	1.27	23.91	0.08	9.53	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	14.82	17.50	-1.32	1.32	23.85	0.08	9.53	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	14.87	17.50	-1.37	1.37	23.79	0.08	9.53	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	14.92	17.50	-1.42	1.42	23.73	0.09	9.54	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	14.96	17.50	-1.47	1.47	23.66	0.09	9.54	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	15.01	17.50	-1.52	1.52	23.59	0.09	9.54	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	15.06	17.50	-1.57	1.57	23.52	0.10	9.54	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	15.10	17.50	-1.62	1.62	23.44	0.10	9.55	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	15.15	17.50	-1.67	1.67	23.36	0.10	9.55	Vu < PhiVc/2	lot Reqd 9.6.	9.5	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	15.20	17.50	-1.72	1.72	23.29	0.11	9.55	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	15.24	17.50	-1.76	1.76	23.20	0.11	9.55	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	15.29	17.50	-1.81	1.81	23.12	0.11	9.56	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	15.34	17.50	-1.86	1.86	23.03	0.12	9.56	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	15.38	17.50	-1.91	1.91	22.95	0.12	9.56	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	15.43	17.50	-1.96	1.96	22.86	0.13	9.57	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	15.48	17.50	-2.01	2.01	22.76	0.13	9.57	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	15.52	17.50	-2.06	2.06	22.67	0.13	9.57	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	15.57	17.50	-2.11	2.11	22.57	0.14	9.58	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	15.62	17.50	-2.16	2.16	22.47	0.14	9.58	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	15.66	17.50	-2.21	2.21	22.37	0.14	9.58	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	15.71	17.50	-2.26	2.26	22.26	0.15	9.59	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	15.76	17.50	-2.31	2.31	22.16	0.15	9.59	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	15.80	17.50	-2.35	2.35	22.05	0.16	9.59	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	15.85	17.50	-2.40	2.40	21.94	0.16	9.59	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	15.90	17.50	-2.45	2.45	21.82	0.16	9.60	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	15.94	17.50	-2.50	2.50	21.71	0.17	9.60	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	15.99	17.50	-2.55	2.55	21.59	0.17	9.61	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	16.04	17.50	-2.60	2.60	21.47	0.18	9.61	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	16.08	17.50	-2.65	2.65	21.35	0.18	9.61	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	16.13	17.50	-2.70	2.70	21.22	0.19	9.62	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	16.18	17.50	-2.75	2.75	21.09	0.19	9.62	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	16.22	17.50	-2.80	2.80	20.96	0.19	9.62	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	16.27	17.50	-2.85	2.85	20.83	0.20	9.63	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	16.32	17.50	-2.90	2.90	20.70	0.20	9.63	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	16.37	17.50	-2.95	2.95	20.56	0.21	9.64	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	16.41	17.50	-2.99	2.99	20.42	0.21	9.64	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	16.46	17.50	-3.04	3.04	20.28	0.22	9.64	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	16.51	17.50	-3.09	3.09	20.14	0.22	9.65	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	16.55	17.50	-3.14	3.14	19.99	0.23	9.65	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	16.60	17.50	-3.19	3.19	19.84	0.23	9.66	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	16.65	17.50	-3.24	3.24	19.69	0.24	9.66	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0

Project Title:
Engineer:
Project ID:
Project Descr:

45/109

Concrete Beam

File = P:\2018\180114\Structural\180114.001 Pma County 5th floor TI - floor check\180114.001.ec6 .
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Lic. # : KW-06006899

Licensee : m3 engineering & technology corp

Description : J2 with Standard filing load

Detailed Shear Information

Load Combination	Span Number	Distance (ft)	'd' (in)	Vu (k) Actual	Vu (k) Design	Mu (k-ft)	d*Vu/Mu	Phi*Vc (k)	Comment	Phi*Vs (k)	Phi*Vn (k)	Spacing (in) Req'd	Spacing (in) Suggest
+1.20D+1.60L+0.50S+1.60H	1	16.69	17.50	-3.29	3.29	19.54	0.25	9.67	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	16.74	17.50	-3.34	3.34	19.39	0.25	9.67	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	16.79	17.50	-3.39	3.39	19.23	0.26	9.68	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	16.83	17.50	-3.44	3.44	19.07	0.26	9.68	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	16.88	17.50	-3.49	3.49	18.91	0.27	9.68	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	16.93	17.50	-3.54	3.54	18.74	0.28	9.69	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	16.97	17.50	-3.58	3.58	18.58	0.28	9.70	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	17.02	17.50	-3.63	3.63	18.41	0.29	9.70	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	17.07	17.50	-3.68	3.68	18.24	0.29	9.71	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	17.11	17.50	-3.73	3.73	18.06	0.30	9.71	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	17.16	17.50	-3.78	3.78	17.89	0.31	9.72	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	17.21	17.50	-3.83	3.83	17.71	0.32	9.72	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	17.25	17.50	-3.88	3.88	17.53	0.32	9.73	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	17.30	17.50	-3.93	3.93	17.35	0.33	9.74	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	17.35	17.50	-3.98	3.98	17.16	0.34	9.74	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	17.39	17.50	-4.03	4.03	16.98	0.35	9.75	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	17.44	17.50	-4.08	4.08	16.79	0.35	9.76	Vu < PhiVc/2	lot Reqd 9.6.	9.8	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	17.49	17.50	-4.13	4.13	16.59	0.36	9.76	Vu < PhiVc/2	lot Reqd 9.6.	9.8	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	17.53	17.50	-4.18	4.18	16.40	0.37	9.77	Vu < PhiVc/2	lot Reqd 9.6.	9.8	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	17.58	17.50	-4.22	4.22	16.20	0.38	9.78	Vu < PhiVc/2	lot Reqd 9.6.	9.8	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	17.63	17.50	-4.27	4.27	16.00	0.39	9.78	Vu < PhiVc/2	lot Reqd 9.6.	9.8	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	17.67	17.50	-4.32	4.32	15.80	0.40	9.79	Vu < PhiVc/2	lot Reqd 9.6.	9.8	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	17.72	17.50	-4.37	4.37	15.60	0.41	9.80	Vu < PhiVc/2	lot Reqd 9.6.	9.8	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	17.77	17.50	-4.42	4.42	15.40	0.42	9.81	Vu < PhiVc/2	lot Reqd 9.6.	9.8	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	17.81	17.50	-4.47	4.47	15.19	0.43	9.82	Vu < PhiVc/2	lot Reqd 9.6.	9.8	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	17.86	17.50	-4.52	4.52	14.98	0.44	9.83	Vu < PhiVc/2	lot Reqd 9.6.	9.8	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	17.91	17.50	-4.57	4.57	14.76	0.45	9.84	Vu < PhiVc/2	lot Reqd 9.6.	9.8	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	17.95	17.50	-4.62	4.62	14.55	0.46	9.84	Vu < PhiVc/2	lot Reqd 9.6.	9.8	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	18.00	17.50	-4.67	4.67	14.33	0.47	9.85	Vu < PhiVc/2	lot Reqd 9.6.	9.9	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	18.05	17.50	-4.72	4.72	14.11	0.49	9.87	Vu < PhiVc/2	lot Reqd 9.6.	9.9	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	18.10	17.50	-4.77	4.77	13.89	0.50	9.88	Vu < PhiVc/2	lot Reqd 9.6.	9.9	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	18.14	17.50	-4.81	4.81	13.67	0.51	9.89	Vu < PhiVc/2	lot Reqd 9.6.	9.9	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	18.19	17.50	-4.86	4.86	13.44	0.53	9.90	Vu < PhiVc/2	lot Reqd 9.6.	9.9	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	18.24	17.50	-4.91	4.91	13.21	0.54	9.91	Vu < PhiVc/2	lot Reqd 9.6.	9.9	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	18.28	17.50	-4.96	4.96	12.98	0.56	9.92	PhiVc/2 < Vu <=	Min 9.6.3.1	24.4	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	18.33	17.50	-5.01	5.01	12.75	0.57	9.94	PhiVc/2 < Vu <=	Min 9.6.3.1	24.4	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	18.38	17.50	-5.06	5.06	12.51	0.59	9.95	PhiVc/2 < Vu <=	Min 9.6.3.1	24.4	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	18.42	17.50	-5.11	5.11	12.28	0.61	9.96	PhiVc/2 < Vu <=	Min 9.6.3.1	24.4	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	18.47	17.50	-5.16	5.16	12.04	0.63	9.98	PhiVc/2 < Vu <=	Min 9.6.3.1	24.4	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	18.52	17.50	-5.21	5.21	11.79	0.64	9.99	PhiVc/2 < Vu <=	Min 9.6.3.1	24.4	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	18.56	17.50	-5.26	5.26	11.55	0.66	10.01	PhiVc/2 < Vu <=	Min 9.6.3.1	24.4	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	18.61	17.50	-5.31	5.31	11.30	0.68	10.03	PhiVc/2 < Vu <=	Min 9.6.3.1	24.5	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	18.66	17.50	-5.36	5.36	11.05	0.71	10.05	PhiVc/2 < Vu <=	Min 9.6.3.1	24.5	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	18.70	17.50	-5.41	5.41	10.80	0.73	10.07	PhiVc/2 < Vu <=	Min 9.6.3.1	24.5	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	18.75	17.50	-5.45	5.45	10.55	0.75	10.09	PhiVc/2 < Vu <=	Min 9.6.3.1	24.5	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	18.80	17.50	-5.50	5.50	10.29	0.78	10.11	PhiVc/2 < Vu <=	Min 9.6.3.1	24.5	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	18.84	17.50	-5.55	5.55	10.03	0.81	10.13	PhiVc/2 < Vu <=	Min 9.6.3.1	24.6	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	18.89	17.50	-5.60	5.60	9.77	0.84	10.15	PhiVc/2 < Vu <=	Min 9.6.3.1	24.6	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	18.94	17.50	-5.65	5.65	9.51	0.87	10.18	PhiVc/2 < Vu <=	Min 9.6.3.1	24.6	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	18.98	17.50	-5.70	5.70	9.24	0.90	10.21	PhiVc/2 < Vu <=	Min 9.6.3.1	24.6	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	19.03	17.50	-5.75	5.75	8.97	0.93	10.23	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	19.08	17.50	-5.80	5.80	8.70	0.97	10.26	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	19.12	17.50	-5.85	5.85	8.43	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	19.17	17.50	-5.90	5.90	8.16	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0

Project Title:
Engineer:
Project ID:
Project Descr:

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Concrete Beam

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Description : J2 with Standard filing load

Detailed Shear Information

Load Combination	Span Number	Distance (ft)	'd' (in)	Vu (k) Actual	Vu (k) Design	Mu (k-ft)	d*Vu/Mu	Phi*Vc (k)	Comment	Phi*Vs (k)	Phi*Vn (k)	Spacing (in) Req'd	Spacing (in) Suggest
+1.20D+1.60L+0.50S+1.60H	1	19.22	17.50	-5.95	5.95	7.88	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	19.26	17.50	-6.00	6.00	7.60	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	19.31	17.50	-6.04	6.04	7.32	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	19.36	17.50	-6.09	6.09	7.04	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	19.40	17.50	-6.14	6.14	6.75	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	19.45	17.50	-6.19	6.19	6.46	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	19.50	17.50	-6.24	6.24	6.17	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	19.54	17.50	-6.29	6.29	5.88	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	19.59	17.50	-6.34	6.34	5.58	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	19.64	17.50	-6.39	6.39	5.29	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	19.69	17.50	-6.44	6.44	4.99	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	19.73	17.50	-6.49	6.49	4.68	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	19.78	17.50	-6.54	6.54	4.38	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	19.83	17.50	-6.59	6.59	4.07	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	19.87	17.50	-6.64	6.64	3.76	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	19.92	17.50	-6.68	6.68	3.45	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	19.97	17.50	-6.73	6.73	3.14	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	20.01	17.50	-6.78	6.78	2.82	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	20.06	17.50	-6.83	6.83	2.50	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	20.11	17.50	-6.88	6.88	2.18	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	20.15	17.50	-6.93	6.93	1.86	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	20.20	17.50	-6.98	6.98	1.53	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	20.25	17.50	-7.03	7.03	1.21	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	20.29	17.50	-7.08	7.08	0.88	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	20.34	17.50	-7.13	7.13	0.55	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	20.39	17.50	-7.18	7.18	0.21	1.00	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	20.43	16.50	-7.23	7.23	0.13	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	20.48	16.50	-7.27	7.27	0.46	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	20.53	16.50	-7.32	7.32	0.81	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	20.57	16.50	-7.37	7.37	1.15	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	20.62	16.50	-7.42	7.42	1.50	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	20.67	16.50	-7.47	7.47	1.84	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	20.71	16.50	-7.52	7.52	2.19	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	20.76	16.50	-7.57	7.57	2.55	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	20.81	16.50	-7.62	7.62	2.90	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	20.85	16.50	-7.67	7.67	3.26	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	20.90	16.50	-7.72	7.72	3.62	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	20.95	16.50	-7.77	7.77	3.98	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	20.99	16.50	-7.82	7.82	4.35	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	21.04	16.50	-7.87	7.87	4.71	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	21.09	16.50	-7.91	7.91	5.08	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	21.13	16.50	-7.96	7.96	5.45	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	21.18	16.50	-8.01	8.01	5.83	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	21.23	16.50	-8.06	8.06	6.20	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	21.27	16.50	-8.11	8.11	6.58	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	21.32	16.50	-8.16	8.16	6.96	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	21.37	16.50	-8.21	8.21	7.34	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	21.42	16.50	-8.26	8.26	7.73	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	21.46	16.50	-8.31	8.31	8.12	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	21.51	16.50	-8.36	8.36	8.50	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	21.56	16.50	-8.41	8.41	8.90	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	21.60	16.50	-8.46	8.46	9.29	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	21.65	16.50	-8.50	8.50	9.69	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	21.70	16.50	-8.55	8.55	10.09	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0

Project Title:
Engineer:
Project ID:
Project Descr:

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Concrete Beam

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Description : J2 with Standard filing load

Detailed Shear Information

Load Combination	Span Number	Distance (ft)	'd' (in)	Vu (k) Actual	Vu (k) Design	Mu (k-ft)	d*Vu/Mu	Phi*Vc (k)	Comment	Phi*Vs (k)	Phi*Vn (k)	Spacing (in) Req'd	Spacing (in) Suggest
+1.20D+1.60L+0.50S+1.60H	1	21.74	16.50	-8.60	8.60	10.49	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	21.79	16.50	-8.65	8.65	10.89	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	21.84	16.50	-8.70	8.70	11.30	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	21.88	16.50	-8.75	8.75	11.70	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	21.93	16.50	-8.80	8.80	12.11	1.00	11.88	PhiVc/2 < Vu <=	Min 9.6.3.1	25.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	21.98	16.50	-8.85	8.85	12.53	0.97	11.80	PhiVc/2 < Vu <=	Min 9.6.3.1	25.4	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	22.02	16.50	-8.90	8.90	12.94	0.95	11.72	PhiVc/2 < Vu <=	Min 9.6.3.1	25.3	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	22.07	16.50	-8.95	8.95	13.36	0.92	11.65	PhiVc/2 < Vu <=	Min 9.6.3.1	25.3	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	22.12	16.50	-9.00	9.00	13.78	0.90	11.58	PhiVc/2 < Vu <=	Min 9.6.3.1	25.2	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	22.16	16.50	-9.05	9.05	14.20	0.88	11.52	PhiVc/2 < Vu <=	Min 9.6.3.1	25.1	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	22.21	16.50	-9.10	9.10	14.62	0.86	11.46	PhiVc/2 < Vu <=	Min 9.6.3.1	25.1	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	22.26	16.50	-9.14	9.14	15.05	0.84	11.40	PhiVc/2 < Vu <=	Min 9.6.3.1	25.0	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	22.30	16.50	-9.19	9.19	15.48	0.82	11.34	PhiVc/2 < Vu <=	Min 9.6.3.1	25.0	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	22.35	16.50	-9.24	9.24	15.91	0.80	11.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.9	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	22.40	16.50	-9.29	9.29	16.34	0.78	11.24	PhiVc/2 < Vu <=	Min 9.6.3.1	24.9	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	22.44	16.50	-9.34	9.34	16.78	0.77	11.19	PhiVc/2 < Vu <=	Min 9.6.3.1	24.8	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	22.49	16.50	-9.39	9.39	17.22	0.75	11.14	PhiVc/2 < Vu <=	Min 9.6.3.1	24.8	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	22.54	16.50	-9.44	9.44	17.66	0.74	11.10	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	22.58	16.50	-9.49	9.49	18.10	0.72	11.06	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	22.63	16.50	-9.54	9.54	18.55	0.71	11.02	PhiVc/2 < Vu <=	Min 9.6.3.1	24.6	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	22.68	16.50	-9.59	9.59	18.99	0.69	10.98	PhiVc/2 < Vu <=	Min 9.6.3.1	24.6	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	22.72	16.50	-9.64	9.64	19.44	0.68	10.94	PhiVc/2 < Vu <=	Min 9.6.3.1	24.6	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	22.77	16.50	-9.69	9.69	19.89	0.67	10.91	PhiVc/2 < Vu <=	Min 9.6.3.1	24.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	22.82	16.50	-9.73	9.73	20.35	0.66	10.87	PhiVc/2 < Vu <=	Min 9.6.3.1	24.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	22.86	16.50	-9.78	9.78	20.80	0.65	10.84	PhiVc/2 < Vu <=	Min 9.6.3.1	24.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	22.91	16.50	-9.83	9.83	21.26	0.64	10.81	PhiVc/2 < Vu <=	Min 9.6.3.1	24.4	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	22.96	16.50	-9.88	9.88	21.72	0.63	10.78	PhiVc/2 < Vu <=	Min 9.6.3.1	24.4	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	23.00	16.50	-9.93	9.93	22.19	0.62	10.75	PhiVc/2 < Vu <=	Min 9.6.3.1	24.4	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	23.05	16.50	-9.98	9.98	22.65	0.61	10.72	PhiVc/2 < Vu <=	Min 9.6.3.1	24.3	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	23.10	16.50	-10.03	10.03	23.12	0.60	10.69	PhiVc/2 < Vu <=	Min 9.6.3.1	24.3	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	23.15	16.50	-10.08	10.08	23.59	0.59	10.66	PhiVc/2 < Vu <=	Min 9.6.3.1	24.3	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	23.19	16.50	-10.13	10.13	24.06	0.58	10.64	PhiVc/2 < Vu <=	Min 9.6.3.1	24.2	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	23.24	16.50	-10.18	10.18	24.54	0.57	10.61	PhiVc/2 < Vu <=	Min 9.6.3.1	24.2	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	23.29	16.50	-10.23	10.23	25.01	0.56	10.59	PhiVc/2 < Vu <=	Min 9.6.3.1	24.2	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	23.33	16.50	-10.28	10.28	25.49	0.55	10.56	PhiVc/2 < Vu <=	Min 9.6.3.1	24.2	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	23.38	16.50	-10.33	10.33	25.98	0.55	10.54	PhiVc/2 < Vu <=	Min 9.6.3.1	24.2	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	23.43	16.50	-10.37	10.37	26.46	0.54	10.52	PhiVc/2 < Vu <=	Min 9.6.3.1	24.1	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	23.47	16.50	-10.42	10.42	26.95	0.53	10.50	PhiVc/2 < Vu <=	Min 9.6.3.1	24.1	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	23.52	16.50	-10.47	10.47	27.43	0.52	10.48	PhiVc/2 < Vu <=	Min 9.6.3.1	24.1	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	23.57	16.50	-10.52	10.52	27.93	0.52	10.46	PhiVc < Vu	0.06471	24.1	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	23.61	16.50	-10.57	10.57	28.42	0.51	10.44	PhiVc < Vu	0.1335	24.1	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	23.66	16.50	-10.62	10.62	28.91	0.51	10.42	PhiVc < Vu	0.2017	24.0	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	23.71	16.50	-10.67	10.67	29.41	0.50	10.40	PhiVc < Vu	0.2694	24.0	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	23.75	16.50	-10.72	10.72	29.91	0.49	10.38	PhiVc < Vu	0.3366	24.0	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	23.80	16.50	-10.77	10.77	30.41	0.49	10.36	PhiVc < Vu	0.4033	24.0	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	23.85	16.50	-10.82	10.82	30.92	0.48	10.35	PhiVc < Vu	0.4696	24.0	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	23.89	16.50	-10.87	10.87	31.43	0.48	10.33	PhiVc < Vu	0.5354	23.9	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	23.94	16.50	-10.92	10.92	31.93	0.47	10.31	PhiVc < Vu	0.6008	23.9	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	23.99	16.50	-10.96	10.96	32.45	0.46	10.30	PhiVc < Vu	0.6658	23.9	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	24.03	16.50	-11.01	11.01	32.96	0.46	10.28	PhiVc < Vu	0.7303	23.9	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	24.08	16.50	-11.06	11.06	33.48	0.45	10.27	PhiVc < Vu	0.7945	23.9	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	24.13	16.50	-11.11	11.11	33.99	0.45	10.25	PhiVc < Vu	0.8584	23.9	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	24.17	16.50	-11.16	11.16	34.52	0.44	10.24	PhiVc < Vu	0.9219	23.9	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	24.22	16.50	-11.21	11.21	35.04	0.44	10.23	PhiVc < Vu	0.9850	23.8	8.3	8.0

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Concrete Beam

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Description : J2 with Standard filing load

Detailed Shear Information

Load Combination	Span Number	Distance (ft)	'd' (in)	Vu (k) Actual	Vu (k) Design	Mu (k-ft)	d*Vu/Mu	Phi*Vc (k)	Comment	Phi*Vs (k)	Phi*Vn (k)	Spacing (in) Req'd	Spacing (in) Suggest
+1.20D+1.60L+0.50S+1.60H	1	24.27	16.50	-11.26	11.26	35.56	0.44	10.21	PhiVc < Vu	1.048	23.8	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	24.31	16.50	-11.31	11.31	36.09	0.43	10.20	PhiVc < Vu	1.110	23.8	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	24.36	16.50	-11.36	11.36	36.62	0.43	10.19	PhiVc < Vu	1.173	23.8	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	24.41	16.50	-11.41	11.41	37.15	0.42	10.17	PhiVc < Vu	1.234	23.8	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	24.45	16.50	-11.46	11.46	37.69	0.42	10.16	PhiVc < Vu	1.296	23.8	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	24.50	16.50	-11.51	11.51	38.22	0.41	10.15	PhiVc < Vu	1.357	23.8	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	24.55	16.50	-11.56	11.56	38.76	0.41	10.14	PhiVc < Vu	1.418	23.7	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	24.59	16.50	-11.60	11.60	39.31	0.41	10.12	PhiVc < Vu	1.479	23.7	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	24.64	16.50	-11.65	11.65	39.85	0.40	10.11	PhiVc < Vu	1.540	23.7	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	24.69	16.50	-11.70	11.70	40.40	0.40	10.10	PhiVc < Vu	1.60	23.7	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	24.73	16.50	-11.75	11.75	40.94	0.39	10.09	PhiVc < Vu	1.660	23.7	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	24.78	16.50	-11.80	11.80	41.49	0.39	10.08	PhiVc < Vu	1.720	23.7	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	24.83	16.50	-11.85	11.85	42.05	0.39	10.07	PhiVc < Vu	1.780	23.7	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	24.88	16.50	-11.90	11.90	42.60	0.38	10.06	PhiVc < Vu	1.839	23.7	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	24.92	16.50	-11.95	11.95	43.16	0.38	10.05	PhiVc < Vu	1.899	23.7	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	24.97	16.50	-12.00	12.00	43.72	0.38	10.04	PhiVc < Vu	1.958	23.7	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	25.02	16.50	-12.05	12.05	44.28	0.37	10.03	PhiVc < Vu	2.017	23.6	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	25.06	16.50	-12.10	12.10	44.85	0.37	10.02	PhiVc < Vu	2.075	23.6	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	25.11	16.50	-12.15	12.15	45.41	0.37	10.01	PhiVc < Vu	2.134	23.6	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	25.16	16.50	-12.19	12.19	45.98	0.36	10.00	PhiVc < Vu	2.192	23.6	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	25.20	16.50	-12.24	12.24	46.55	0.36	9.99	PhiVc < Vu	2.250	23.6	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	25.25	16.50	-12.29	12.29	47.13	0.36	9.98	PhiVc < Vu	2.308	23.6	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	25.30	16.50	-12.34	12.34	47.70	0.36	9.98	PhiVc < Vu	2.366	23.6	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	25.34	16.50	-12.39	12.39	48.28	0.35	9.97	PhiVc < Vu	2.424	23.6	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	25.39	16.50	-12.44	12.44	48.86	0.35	9.96	PhiVc < Vu	2.481	23.6	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	25.44	16.50	-12.49	12.49	49.44	0.35	9.95	PhiVc < Vu	2.539	23.6	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	25.48	16.50	-12.54	12.54	50.03	0.34	9.94	PhiVc < Vu	2.596	23.6	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	25.53	16.50	-12.59	12.59	50.62	0.34	9.94	PhiVc < Vu	2.653	23.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	25.58	16.50	-12.64	12.64	51.21	0.34	9.93	PhiVc < Vu	2.710	23.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	25.62	16.50	-12.69	12.69	51.80	0.34	9.92	PhiVc < Vu	2.767	23.5	8.3	8.0
+1.20D+1.60L+0.50S+1.60H	1	25.67	16.50	-12.73	12.73	52.39	0.33	9.91	PhiVc < Vu	2.822	23.5	8.3	8.0

Maximum Forces & Stresses for Load Combinations

Load Combination / Segment	Span #	Location (ft) along Beam	Bending Stress Results (k-ft) Mu : Max	Phi*Mnx	Stress Ratio
MAXimum BENDING Envelope					
Span # 1	1	25.670	-52.39	105.25	0.50
+1.40D+1.60H					
Span # 1	1	25.670	-28.97	105.25	0.28
+1.20D+0.50Lr+1.60L+1.60H					
Span # 1	1	25.670	-52.39	105.25	0.50
+1.20D+1.60L+0.50S+1.60H					
Span # 1	1	25.670	-52.39	105.25	0.50
+1.20D+1.60Lr+0.50L+1.60H					
Span # 1	1	25.670	-33.44	105.25	0.32
+1.20D+1.60Lr+0.50W+1.60H					
Span # 1	1	25.670	-24.83	105.25	0.24
+1.20D+0.50L+1.60S+1.60H					
Span # 1	1	25.670	-33.44	105.25	0.32
+1.20D+1.60S+0.50W+1.60H					
Span # 1	1	25.670	-24.83	105.25	0.24
+1.20D+0.50Lr+0.50L+W+1.60H					
Span # 1	1	25.670	-33.44	105.25	0.32
+1.20D+0.50L+0.50S+W+1.60H					
Span # 1	1	25.670	-33.44	105.25	0.32
+1.20D+0.50L+0.20S+E+1.60H					
Span # 1	1	25.670	-33.44	105.25	0.32
+0.90D+W+0.90H					
Span # 1	1	25.670	-18.62	105.25	0.18
+0.90D+E+0.90H					

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Concrete Beam

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Description : J2 with Standard filing load

Load Combination Segment	Span #	Location (ft) along Beam	Bending Stress Results (k-ft) Mu : Max	Phi*Mnx	Stress Ratio
Span # 1	1	25.670	-18.62	105.25	0.18

Overall Maximum Deflections

Load Combination	Span	Max. "-" Defl (in)	Location in Span (ft)	Load Combination	Max. "+" Defl (in)	Location in Span (ft)
+D+L+H	1	0.0830	13.256		0.0000	0.000

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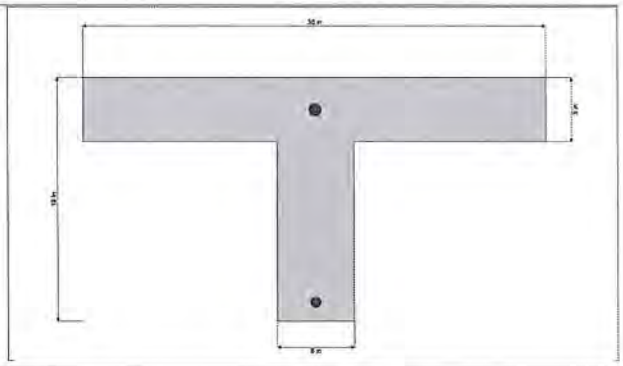
Description : J1 with Standard filing load

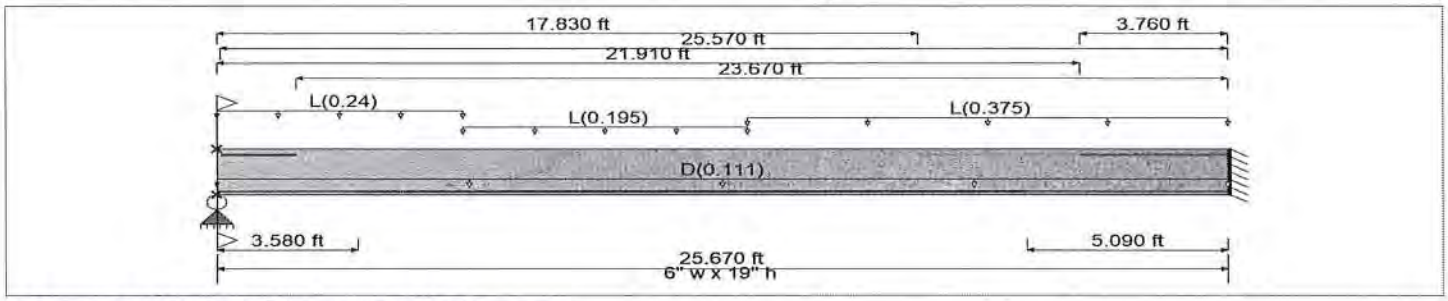
CODE REFERENCES

Calculations per ACI 318-14, IBC 2018, CBC 2019, ASCE 7-16
Load Combination Set : ASCE 7-10

Material Properties

f'c	= 4.0 ksi	ϕ Phi Values	Flexure :	0.90
fr = f'c^1/2 * 7.50	= 474.342 psi		Shear :	0.750
ψ Density	= 145.0 pcf	β_1	=	0.850
λ LtWt Factor	= 1.0			
Elastic Modulus	= 3,122.0 ksi	Fy - Stirrups		40.0 ksi
fy - Main Rebar	= 60.0 ksi	E - Stirrups	=	29,000.0 ksi
E - Main Rebar	= 29,000.0 ksi	Stirrup Bar Size #		3
		Number of Resisting Legs Per Stirrup =		2





Cross Section & Reinforcing Details

Tee Section, Stem Width = 6.0 in, Total Height = 19.0 in, Top Flange Width = 36.0 in, Flange Thickness = 5.0 in

Span #1 Reinforcing....

1-#8 at 2.50 in from Top, from 0.0 to 2.0 ft in this span
1-#7 at 1.50 in from Bottom, from 0.0 to 25.670 ft in this span
1-#4 at 2.50 in from Top, from 0.0 to 0.10 ft in this span
2-#8 at 2.50 in from Top, from 21.910 to 25.670 ft in this span
1-#8 at 1.50 in from Bottom, from 3.580 to 20.580 ft in this span
1-#8 at 2.50 in from Top, from 17.830 to 21.910 ft in this span

Applied Loads

Service loads entered. Load Factors will be applied for calculations.

CONSERVATIVELY, NEGLECTED SLAB REINFORCING:
WWF - W2.9 x W2.9 (6x6 - 6/6)
A_s = 0.058 in²/FT

Beam self weight calculated and added to loads
Load for Span Number 1

Uniform Load : D = 0.0370 ksf, Tributary Width = 3.0 ft, (floor dead load)

Uniform Load : L = 0.0650 ksf, Extent = 6.250 -->> 13.50 ft, Tributary Width = 3.0 ft, (office space floor live with partition load)

Uniform Load : L = 0.1250 ksf, Extent = 13.50 -->> 25.667 ft, Tributary Width = 3.0 ft, (standard filing live load)

Uniform Load : L = 0.080 ksf, Extent = 0.0 -->> 6.250 ft, Tributary Width = 3.0 ft, (aisle floor live)

DESIGN SUMMARY

Design OK

Maximum Bending Stress Ratio =	**0.716** : 1	Maximum Deflection			
Section used for this span	**Typical Section**	Max Downward Transient Deflection	0.051 in	Ratio =	5998 >=800.
Mu : Applied	-76.043 k-ft	Max Upward Transient Deflection	0.000 in	Ratio =	0 <800.0
Mn * Phi : Allowable	106.170 k-ft	Max Downward Total Deflection	0.219 in	Ratio =	1409 >=360.
Location of maximum on span	25.670 ft	Max Upward Total Deflection	0.000 in	Ratio =	0 <360.0
Span # where maximum occurs	Span # 1				

Vertical Reactions

Support notation : Far left is #1

Load Combination	Support 1	Support 2
Overall MAXimum	6.339	10.811
Overall MINimum	2.176	3.627

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Description : J1 with Standard filing load

Vertical Reactions

Support notation : Far left is #1

Load Combination	Support 1	Support 2
+D+H	3.764	5.910
+D+L+H	6.339	10.811
+D+Lr+H	3.764	5.910
+D+S+H	3.764	5.910
+D+0.750Lr+0.750L+H	5.738	9.542
+D+0.750L+0.750S+H	5.738	9.542
+D+0.60W+H	3.764	5.910
+D+0.70E+H	3.764	5.910
+D+0.750Lr+0.750L+0.450W+H	5.738	9.542
+D+0.750L+0.750S+0.450W+H	5.738	9.542
+D+0.750L+0.750S+0.5250E+H	5.738	9.542
+0.60D+0.60W+0.60H	2.176	3.627
+0.60D+0.70E+0.60H	2.176	3.627
D Only	3.764	5.910
Lr Only		
L Only	2.346	5.130
S Only		
W Only		
E Only		
H Only		

Detailed Shear Information

Load Combination	Span Number	Distance (ft)	'd' (in)	Vu (k) Actual	Vu (k) Design	Mu (k-ft)	d*Vu/Mu	Phi*Vc (k)	Comment	Phi*Vs (k)	Phi*Vn (k)	Spacing (in) Req'd	Spacing (in) Suggest
+1.20D+1.60L+0.50S+1.60H	1	0.00	17.50	8.07	8.07	0.00	1.00	10.59	PhiVc/2 < Vu <=	Min 9.6.3.1	25.0	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	0.05	17.50	8.03	8.03	0.38	1.00	10.59	PhiVc/2 < Vu <=	Min 9.6.3.1	25.0	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	0.09	17.50	7.99	7.99	0.75	1.00	10.59	PhiVc/2 < Vu <=	Min 9.6.3.1	25.0	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	0.14	17.50	7.95	7.95	1.12	1.00	10.59	PhiVc/2 < Vu <=	Min 9.6.3.1	25.0	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	0.19	17.50	7.92	7.92	1.50	1.00	10.59	PhiVc/2 < Vu <=	Min 9.6.3.1	25.0	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	0.23	17.50	7.88	7.88	1.86	1.00	10.59	PhiVc/2 < Vu <=	Min 9.6.3.1	25.0	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	0.28	17.50	7.84	7.84	2.23	1.00	10.59	PhiVc/2 < Vu <=	Min 9.6.3.1	25.0	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	0.33	17.50	7.80	7.80	2.60	1.00	10.59	PhiVc/2 < Vu <=	Min 9.6.3.1	25.0	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	0.37	17.50	7.76	7.76	2.96	1.00	10.59	PhiVc/2 < Vu <=	Min 9.6.3.1	25.0	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	0.42	17.50	7.72	7.72	3.32	1.00	10.59	PhiVc/2 < Vu <=	Min 9.6.3.1	25.0	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	0.47	17.50	7.68	7.68	3.68	1.00	10.59	PhiVc/2 < Vu <=	Min 9.6.3.1	25.0	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	0.51	17.50	7.64	7.64	4.04	1.00	10.59	PhiVc/2 < Vu <=	Min 9.6.3.1	25.0	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	0.56	17.50	7.60	7.60	4.40	1.00	10.59	PhiVc/2 < Vu <=	Min 9.6.3.1	25.0	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	0.61	17.50	7.56	7.56	4.75	1.00	10.59	PhiVc/2 < Vu <=	Min 9.6.3.1	25.0	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	0.65	17.50	7.52	7.52	5.10	1.00	10.59	PhiVc/2 < Vu <=	Min 9.6.3.1	25.0	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	0.70	17.50	7.49	7.49	5.46	1.00	10.59	PhiVc/2 < Vu <=	Min 9.6.3.1	25.0	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	0.75	17.50	7.45	7.45	5.81	1.00	10.59	PhiVc/2 < Vu <=	Min 9.6.3.1	25.0	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	0.79	17.50	7.41	7.41	6.15	1.00	10.59	PhiVc/2 < Vu <=	Min 9.6.3.1	25.0	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	0.84	17.50	7.37	7.37	6.50	1.00	10.59	PhiVc/2 < Vu <=	Min 9.6.3.1	25.0	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	0.89	17.50	7.33	7.33	6.84	1.00	10.59	PhiVc/2 < Vu <=	Min 9.6.3.1	25.0	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	0.94	17.50	7.29	7.29	7.18	1.00	10.59	PhiVc/2 < Vu <=	Min 9.6.3.1	25.0	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	0.98	17.50	7.25	7.25	7.52	1.00	10.59	PhiVc/2 < Vu <=	Min 9.6.3.1	25.0	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	1.03	17.50	7.21	7.21	7.86	1.00	10.59	PhiVc/2 < Vu <=	Min 9.6.3.1	25.0	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	1.08	17.50	7.17	7.17	8.20	1.00	10.59	PhiVc/2 < Vu <=	Min 9.6.3.1	25.0	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	1.12	17.50	7.13	7.13	8.53	1.00	10.59	PhiVc/2 < Vu <=	Min 9.6.3.1	25.0	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	1.17	17.50	7.09	7.09	8.86	1.00	10.59	PhiVc/2 < Vu <=	Min 9.6.3.1	25.0	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	1.22	17.50	7.06	7.06	9.20	1.00	10.59	PhiVc/2 < Vu <=	Min 9.6.3.1	25.0	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	1.26	17.50	7.02	7.02	9.52	1.00	10.59	PhiVc/2 < Vu <=	Min 9.6.3.1	25.0	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	1.31	17.50	6.98	6.98	9.85	1.00	10.59	PhiVc/2 < Vu <=	Min 9.6.3.1	25.0	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	1.36	17.50	6.94	6.94	10.18	0.99	10.58	PhiVc/2 < Vu <=	Min 9.6.3.1	25.0	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	1.40	17.50	6.90	6.90	10.50	0.96	10.54	PhiVc/2 < Vu <=	Min 9.6.3.1	25.0	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	1.45	17.50	6.86	6.86	10.82	0.92	10.50	PhiVc/2 < Vu <=	Min 9.6.3.1	24.9	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	1.50	17.50	6.82	6.82	11.14	0.89	10.47	PhiVc/2 < Vu <=	Min 9.6.3.1	24.9	8.8	8.0

Project Title:
Engineer:
Project ID:
Project Descr:

52/109

Concrete Beam

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Description : J1 with Standard filing load

Detailed Shear Information

Load Combination	Span Number	Distance (ft)	'd' (in)	Vu (k) Actual	Vu (k) Design	Mu (k-ft)	d*Vu/Mu	Phi*Vc (k)	Comment	Phi*Vs (k)	Phi*Vn (k)	Spacing (in) Req'd	Spacing (in) Suggest
+1.20D+1.60L+0.50S+1.60H	1	1.54	17.50	6.78	6.78	11.46	0.86	10.43	PhiVc/2 < Vu <=	Min 9.6.3.1	24.9	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	1.59	17.50	6.74	6.74	11.78	0.84	10.40	PhiVc/2 < Vu <=	Min 9.6.3.1	24.8	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	1.64	17.50	6.70	6.70	12.09	0.81	10.37	PhiVc/2 < Vu <=	Min 9.6.3.1	24.8	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	1.68	17.50	6.66	6.66	12.40	0.78	10.34	PhiVc/2 < Vu <=	Min 9.6.3.1	24.8	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	1.73	17.50	6.63	6.63	12.71	0.76	10.32	PhiVc/2 < Vu <=	Min 9.6.3.1	24.8	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	1.78	17.50	6.59	6.59	13.02	0.74	10.29	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	1.82	17.50	6.55	6.55	13.33	0.72	10.27	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	1.87	17.50	6.51	6.51	13.64	0.70	10.25	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	1.92	17.50	6.47	6.47	13.94	0.68	10.22	PhiVc/2 < Vu <=	Min 9.6.3.1	24.7	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	1.96	17.50	6.43	6.43	14.24	0.66	10.20	PhiVc/2 < Vu <=	Min 9.6.3.1	24.6	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	2.01	17.50	6.39	6.39	14.54	0.64	10.18	PhiVc/2 < Vu <=	Min 9.6.3.1	24.6	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	2.06	17.50	6.35	6.35	14.84	0.62	10.17	PhiVc/2 < Vu <=	Min 9.6.3.1	24.6	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	2.10	17.50	6.31	6.31	15.13	0.61	10.15	PhiVc/2 < Vu <=	Min 9.6.3.1	24.6	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	2.15	17.50	6.27	6.27	15.43	0.59	10.13	PhiVc/2 < Vu <=	Min 9.6.3.1	24.6	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	2.20	17.50	6.23	6.23	15.72	0.58	10.11	PhiVc/2 < Vu <=	Min 9.6.3.1	24.6	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	2.24	17.50	6.20	6.20	16.01	0.56	10.10	PhiVc/2 < Vu <=	Min 9.6.3.1	24.5	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	2.29	17.50	6.16	6.16	16.30	0.55	10.08	PhiVc/2 < Vu <=	Min 9.6.3.1	24.5	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	2.34	17.50	6.12	6.12	16.59	0.54	10.07	PhiVc/2 < Vu <=	Min 9.6.3.1	24.5	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	2.38	17.50	6.08	6.08	16.87	0.53	10.05	PhiVc/2 < Vu <=	Min 9.6.3.1	24.5	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	2.43	17.50	6.04	6.04	17.16	0.51	10.04	PhiVc/2 < Vu <=	Min 9.6.3.1	24.5	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	2.48	17.50	6.00	6.00	17.44	0.50	10.03	PhiVc/2 < Vu <=	Min 9.6.3.1	24.5	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	2.52	17.50	5.96	5.96	17.72	0.49	10.02	PhiVc/2 < Vu <=	Min 9.6.3.1	24.5	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	2.57	17.50	5.92	5.92	17.99	0.48	10.00	PhiVc/2 < Vu <=	Min 9.6.3.1	24.4	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	2.62	17.50	5.88	5.88	18.27	0.47	9.99	PhiVc/2 < Vu <=	Min 9.6.3.1	24.4	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	2.67	17.50	5.84	5.84	18.54	0.46	9.98	PhiVc/2 < Vu <=	Min 9.6.3.1	24.4	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	2.71	17.50	5.80	5.80	18.82	0.45	9.97	PhiVc/2 < Vu <=	Min 9.6.3.1	24.4	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	2.76	17.50	5.77	5.77	19.09	0.44	9.96	PhiVc/2 < Vu <=	Min 9.6.3.1	24.4	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	2.81	17.50	5.73	5.73	19.36	0.43	9.95	PhiVc/2 < Vu <=	Min 9.6.3.1	24.4	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	2.85	17.50	5.69	5.69	19.62	0.42	9.94	PhiVc/2 < Vu <=	Min 9.6.3.1	24.4	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	2.90	17.50	5.65	5.65	19.89	0.41	9.93	PhiVc/2 < Vu <=	Min 9.6.3.1	24.4	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	2.95	17.50	5.61	5.61	20.15	0.41	9.92	PhiVc/2 < Vu <=	Min 9.6.3.1	24.4	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	2.99	17.50	5.57	5.57	20.41	0.40	9.91	PhiVc/2 < Vu <=	Min 9.6.3.1	24.3	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	3.04	17.50	5.53	5.53	20.67	0.39	9.90	PhiVc/2 < Vu <=	Min 9.6.3.1	24.3	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	3.09	17.50	5.49	5.49	20.93	0.38	9.89	PhiVc/2 < Vu <=	Min 9.6.3.1	24.3	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	3.13	17.50	5.45	5.45	21.19	0.38	9.89	PhiVc/2 < Vu <=	Min 9.6.3.1	24.3	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	3.18	17.50	5.41	5.41	21.44	0.37	9.88	PhiVc/2 < Vu <=	Min 9.6.3.1	24.3	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	3.23	17.50	5.37	5.37	21.69	0.36	9.87	PhiVc/2 < Vu <=	Min 9.6.3.1	24.3	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	3.27	17.50	5.34	5.34	21.94	0.35	9.86	PhiVc/2 < Vu <=	Min 9.6.3.1	24.3	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	3.32	17.50	5.30	5.30	22.19	0.35	9.85	PhiVc/2 < Vu <=	Min 9.6.3.1	24.3	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	3.37	17.50	5.26	5.26	22.44	0.34	9.85	PhiVc/2 < Vu <=	Min 9.6.3.1	24.3	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	3.41	17.50	5.22	5.22	22.68	0.34	9.84	PhiVc/2 < Vu <=	Min 9.6.3.1	24.3	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	3.46	17.50	5.18	5.18	22.92	0.33	9.83	PhiVc/2 < Vu <=	Min 9.6.3.1	24.3	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	3.51	17.50	5.14	5.14	23.17	0.32	9.83	PhiVc/2 < Vu <=	Min 9.6.3.1	24.3	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	3.55	17.50	5.10	5.10	23.41	0.32	9.82	PhiVc/2 < Vu <=	Min 9.6.3.1	24.3	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	3.60	17.50	5.06	5.06	23.64	0.31	9.81	PhiVc/2 < Vu <=	Min 9.6.3.1	24.3	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	3.65	17.50	5.02	5.02	23.88	0.31	9.81	PhiVc/2 < Vu <=	Min 9.6.3.1	24.2	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	3.69	17.50	4.98	4.98	24.11	0.30	9.80	PhiVc/2 < Vu <=	Min 9.6.3.1	24.2	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	3.74	17.50	4.94	4.94	24.35	0.30	9.80	PhiVc/2 < Vu <=	Min 9.6.3.1	24.2	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	3.79	17.50	4.91	4.91	24.58	0.29	9.79	PhiVc/2 < Vu <=	Min 9.6.3.1	24.2	8.8	8.0
+1.20D+1.60L+0.50S+1.60H	1	3.83	17.50	4.87	4.87	24.80	0.29	9.78	Vu < PhiVc/2	lot Reqd 9.6.	9.8	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	3.88	17.50	4.83	4.83	25.03	0.28	9.78	Vu < PhiVc/2	lot Reqd 9.6.	9.8	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	3.93	17.50	4.79	4.79	25.26	0.28	9.77	Vu < PhiVc/2	lot Reqd 9.6.	9.8	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	3.97	17.50	4.75	4.75	25.48	0.27	9.77	Vu < PhiVc/2	lot Reqd 9.6.	9.8	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	4.02	17.50	4.71	4.71	25.70	0.27	9.76	Vu < PhiVc/2	lot Reqd 9.6.	9.8	0.0	0.0

Project Title:
Engineer:
Project ID:
Project Descr:

Concrete Beam

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Description : J1 with Standard filing load

Detailed Shear Information

Load Combination	Span Number	Distance (ft)	'd' (in)	Vu (k) Actual	Vu (k) Design	Mu (k-ft)	d*Vu/Mu	Phi*Vc (k)	Comment	Phi*Vs (k)	Phi*Vn (k)	Spacing (in) Req'd	Spacing (in) Suggest
+1.20D+1.60L+0.50S+1.60H	1	4.07	17.50	4.67	4.67	25.92	0.26	9.76	Vu < PhiVc/2	lot Reqd 9.6.	9.8	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	4.11	17.50	4.63	4.63	26.14	0.26	9.75	Vu < PhiVc/2	lot Reqd 9.6.	9.8	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	4.16	17.50	4.59	4.59	26.35	0.25	9.75	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	4.21	17.50	4.55	4.55	26.57	0.25	9.74	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	4.25	17.50	4.51	4.51	26.78	0.25	9.74	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	4.30	17.50	4.48	4.48	26.99	0.24	9.74	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	4.35	17.50	4.44	4.44	27.20	0.24	9.73	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	4.40	17.50	4.40	4.40	27.40	0.23	9.73	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	4.44	17.50	4.36	4.36	27.61	0.23	9.72	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	4.49	17.50	4.32	4.32	27.81	0.23	9.72	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	4.54	17.50	4.28	4.28	28.01	0.22	9.71	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	4.58	17.50	4.24	4.24	28.21	0.22	9.71	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	4.63	17.50	4.20	4.20	28.41	0.22	9.71	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	4.68	17.50	4.16	4.16	28.60	0.21	9.70	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	4.72	17.50	4.12	4.12	28.80	0.21	9.70	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	4.77	17.50	4.08	4.08	28.99	0.21	9.69	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	4.82	17.50	4.05	4.05	29.18	0.20	9.69	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	4.86	17.50	4.01	4.01	29.37	0.20	9.69	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	4.91	17.50	3.97	3.97	29.55	0.20	9.68	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	4.96	17.50	3.93	3.93	29.74	0.19	9.68	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	5.00	17.50	3.89	3.89	29.92	0.19	9.68	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	5.05	17.50	3.85	3.85	30.10	0.19	9.67	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	5.10	17.50	3.81	3.81	30.28	0.18	9.67	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	5.14	17.50	3.77	3.77	30.46	0.18	9.67	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	5.19	17.50	3.73	3.73	30.63	0.18	9.66	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	5.24	17.50	3.69	3.69	30.81	0.17	9.66	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	5.28	17.50	3.65	3.65	30.98	0.17	9.66	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	5.33	17.50	3.61	3.61	31.15	0.17	9.65	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	5.38	17.50	3.58	3.58	31.32	0.17	9.65	Vu < PhiVc/2	lot Reqd 9.6.	9.7	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	5.42	17.50	3.54	3.54	31.48	0.16	9.65	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	5.47	17.50	3.50	3.50	31.65	0.16	9.64	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	5.52	17.50	3.46	3.46	31.81	0.16	9.64	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	5.56	17.50	3.42	3.42	31.97	0.16	9.64	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	5.61	17.50	3.38	3.38	32.13	0.15	9.64	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	5.66	17.50	3.34	3.34	32.29	0.15	9.63	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	5.70	17.50	3.30	3.30	32.44	0.15	9.63	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	5.75	17.50	3.26	3.26	32.60	0.15	9.63	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	5.80	17.50	3.22	3.22	32.75	0.14	9.62	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	5.84	17.50	3.18	3.18	32.90	0.14	9.62	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	5.89	17.50	3.15	3.15	33.05	0.14	9.62	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	5.94	17.50	3.11	3.11	33.19	0.14	9.62	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	5.98	17.50	3.07	3.07	33.34	0.13	9.61	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	6.03	17.50	3.03	3.03	33.48	0.13	9.61	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	6.08	17.50	2.99	2.99	33.62	0.13	9.61	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	6.13	17.50	2.95	2.95	33.76	0.13	9.61	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	6.17	17.50	2.91	2.91	33.89	0.13	9.60	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	6.22	17.50	2.87	2.87	34.03	0.12	9.60	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	6.27	17.50	2.83	2.83	34.16	0.12	9.60	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	6.31	17.50	2.80	2.80	34.30	0.12	9.60	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	6.36	17.50	2.76	2.76	34.43	0.12	9.59	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	6.41	17.50	2.73	2.73	34.55	0.12	9.59	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	6.45	17.50	2.69	2.69	34.68	0.11	9.59	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	6.50	17.50	2.66	2.66	34.81	0.11	9.59	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0
+1.20D+1.60L+0.50S+1.60H	1	6.55	17.50	2.62	2.62	34.93	0.11	9.59	Vu < PhiVc/2	lot Reqd 9.6.	9.6	0.0	0.0