ADAPT Wall Design

		Status:	Acceptable
Model:	adapt-builder_multi-level-tutorial_final	N vs M Util:	0.995
Pier Label:	P1		
Design Section:	L1_Bot_1 (Level 1 (EL 12.5) - 12.50ft)	Shear Util:	0.991
		Maximum:	1.000
Design Code:	ACI2019		

Dimension

Length = 15.00 ft
Thickness = 12.00 in
Lu = 10.00 ft
Hw = 37.00 ft

Governing Loads

	Pu (kip)	Vu (kip)	Mu (kip-ft)	Utilization	GLC
Axial	-252.170	-216.600	-11704.000	0.029	"ULS-5_-EQ1(LR1)_SBS"
Flexure	-116.310	-216.600	-11704.000	0.995	"ULS-7_-EQ1_SBS"
Shear	-230.540	746.260	17659.000	0.991	"ULS-5_EQ1(LR1)_SBS"

Shear Design

Fys = 60.000 ksi
Fyv = 60.000 ksi
Phi sh = 0.750
Phi Vc = 250.969 kip
Phi Vn = 753.169 kip
Phi Vnmax = 1003.877 kip

Panel Bars	Smax (in)	Avmin (in2/ft)	Av req (in2/ft)	Av prov (in2/ft)	Status
(2C) #5 @ 10.00 horz	18.00	0.36	0.73	0.74	"O.K."
(2C) #4 @ 12.00 vert	18.00	0.36	0.36	0.40	"O.K."

Flexure and Axial Design

F'c = 6000.00 psi
phi b = 0.90
phi c = 0.65
Panel bars used:
Aused = 0.04 in2
n = 3.00
Aused/Aprov vert = 0.10

		As in2	As (min) in2	CGS in	Curtains	Spacing in
Zone 1	23 - #10	29.21	2.16	32.73	3	9.00
Zone 2	22 - #8	17.38	2.16	32.73	3	9.00

PM Diagram status: "O.K."

Slenderness check

Lu(ft)	Lu/16	Status
10.00	7.50	"O.K."

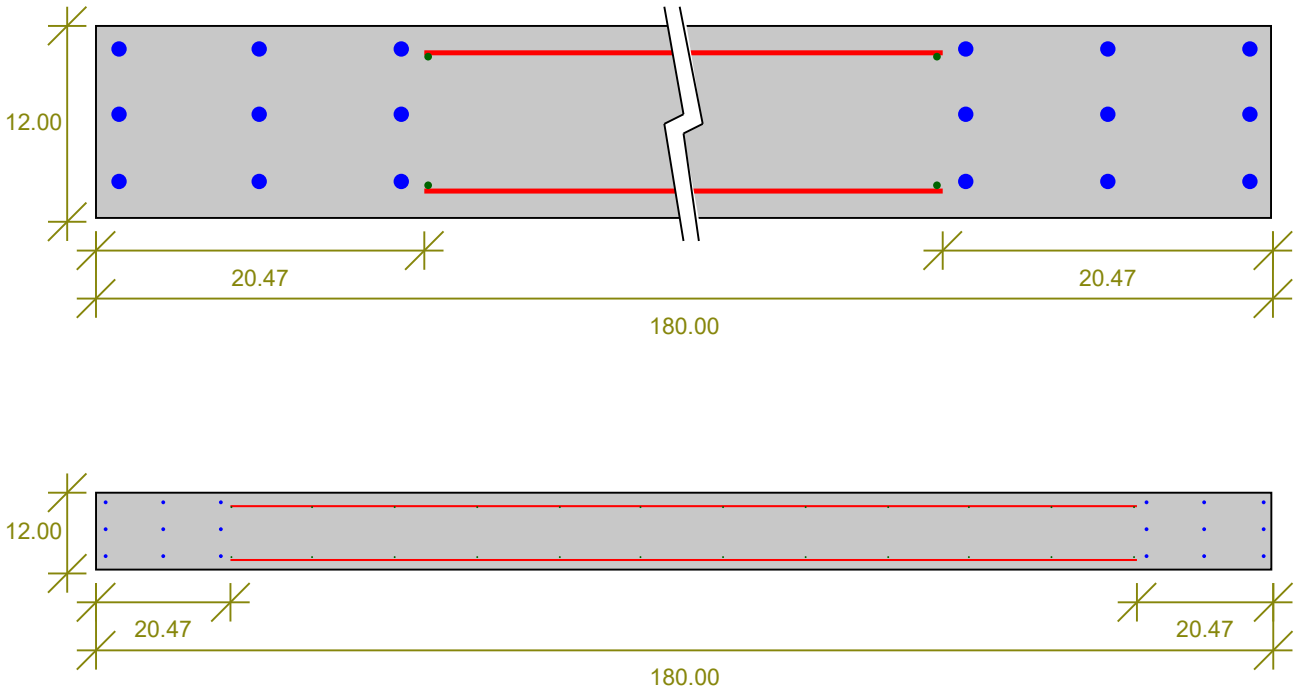
Material statistics

Volume(yard3)	Steel ratio(%)	Steel Density
5.556	2.16	0.03

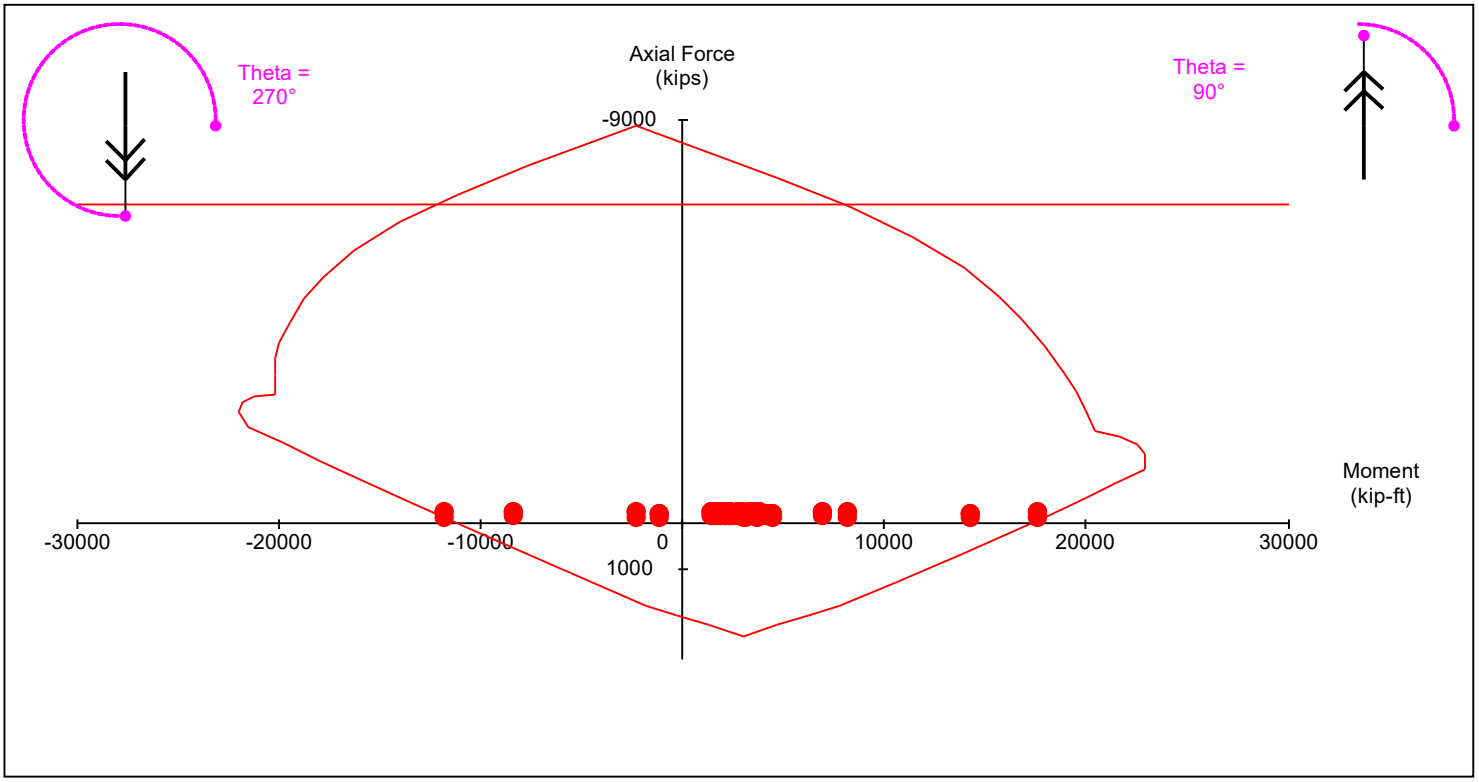
Boundary element check

Method: "N/A"
Du/Hw = 0.00

Wall Diagram



PM Diagram



ADAPT Wall Design

		Status:	Acceptable
Model:	adapt-builder_multi-level-tutorial_final	N vs M Util:	0.999
Pier Label:	P3		
Design Section:	L1_Bot_2 (Level 1 (EL 12.5) - 12.50ft)	Shear Util:	0.938
		Maximum:	1.000
Design Code:	ACI2019		

Dimension

Length = 20.75 ft
Thickness = 12.00 in
Lu = 10.00 ft
Hw = 37.00 ft

Governing Loads

	Pu (kip)	Vu (kip)	Mu (kip-ft)	Utilization	GLC
Axial	-2597.200	680.550	29601.000	0.216	"ULS-5_EQ1_LR1_SEIS"
Flexure	-1346.300	680.550	29601.000	0.999	"ULS-7_EQ1_SEIS"
Shear	-2171.100	-1203.200	-35762.000	0.938	"ULS-5_-EQ1(LR1)_SEIS"

Shear Design

Fys = 60.000 ksi
Fyv = 60.000 ksi
Phi sh = 0.750
Phi Vc = 414.049 kip
Phi Vn = 1282.395 kip
Phi Vnmax = 1388.630 kip

Panel Bars	Smax (in)	Avmin (in2/ft)	Av req (in2/ft)	Av prov (in2/ft)	Status
(2C) #5 @ 8.00 horz	18.00	0.36	0.85	0.93	"O.K."
(2C) #4 @ 9.00 vert	18.00	0.53	0.53	0.53	"O.K."

Flexure and Axial Design

F'c = 6000.00 psi
phi b = 0.90
phi c = 0.65
Panel bars used:
Aused = 0.00 in2
n = 5.00
Aused/Aprov vert = 0.01

		As in2	As (min) in2	CGS in	Curtains	Spacing in
Zone 1	28 - #8	22.12	2.99	41.73	3	9.00
Zone 2	38 - #9	38.00	2.99	55.23	3	9.00

PM Diagram status: "O.K."

Slenderness check

Lu(ft)	Lu/16	Status
10.00	7.50	"O.K."

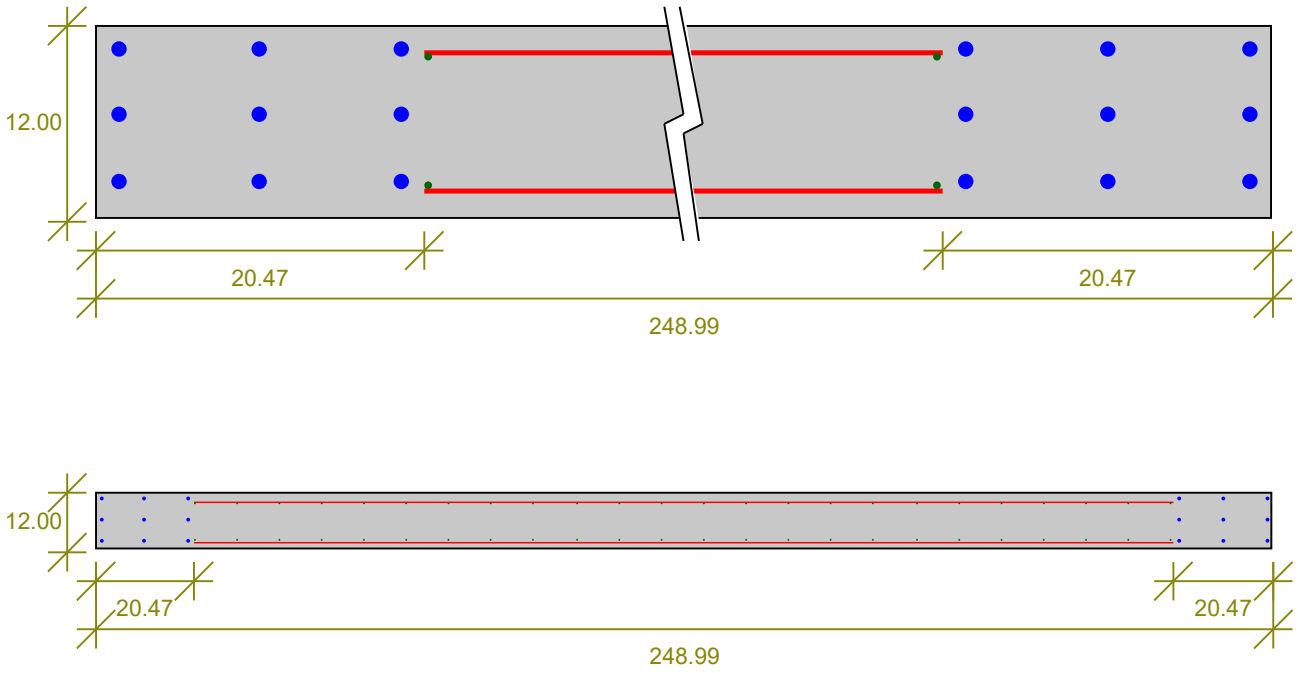
Material statistics

Volume(yard3)	Steel ratio(%)	Steel Density
7.685	2.01	0.03

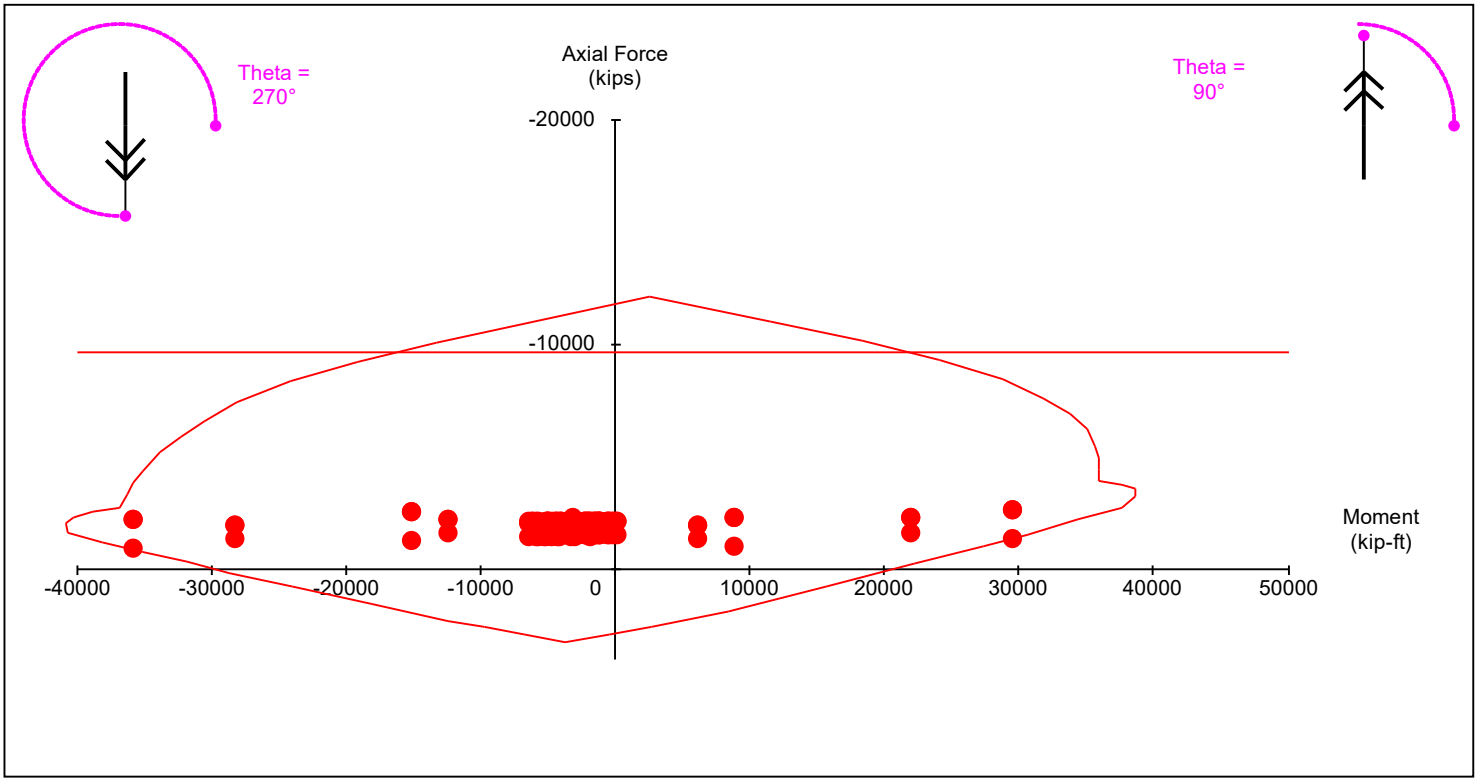
Boundary element check

Method: "N/A"
Du/Hw = 0.00

Wall Diagram



PM Diagram



ADAPT Wall Design

		Status:	Unacceptable
Model:	adapt-builder_multi-level-tutorial_final	N vs M Util:	2.336
Pier Label:	P2		
Design Section:	L1_Bot_3 (Level 1 (EL 12.5) - 12.50ft)	Shear Util:	1.193
		Maximum:	1.000
Design Code:	ACI2019		

Dimension

Length = 10.00 ft
Thickness = 12.00 in
Lu = 10.00 ft
Hw = 37.00 ft

Governing Loads

	Pu (kip)	Vu (kip)	Mu (kip-ft)	Utilization	GLC
Axial	-4168.100	27.546	167.380	0.591	"ULS-5_-EQ1_LR1_SEIS"
Flexure	-2552.100	-770.970	-23243.000	2.336	"ULS-5_EQ2_LR1_SEIS"
Shear	-952.420	798.430	23322.000	1.193	"ULS-5_-EQ2(LR1)_SEIS"

Shear Design

Fys = 60.000 ksi
Fyv = 60.000 ksi
Phi sh = 0.750
Phi Vc = 167.313 kip
Phi Vn = 815.313 kip
Phi Vnmax = 669.252 kip

Panel Bars	Smax (in)	Avmin (in2/ft)	Av req (in2/ft)	Av prov (in2/ft)	Status
(2C) #7 @ 10.00 horz	18.00	0.36	1.40	1.44	"O.K."
(2C) #4 @ 12.00 vert	18.00	0.36	0.36	0.40	"O.K."

Flexure and Axial Design

F'c = 6000.00 psi
phi b = 0.90
phi c = 0.65
Panel bars used:
Aused = 0.04 in2
n = 0.00
Aused/Aprov vert = 0.10

		As in2	As (min) in2	CGS in	Curtains	Spacing in
Zone 1	21 - #11	32.76	1.44	28.23	3	9.00
Zone 2	20 - #11	31.20	1.44	28.23	3	9.00

PM Diagram status: "N.G."

Slenderness check

Lu(ft)	Lu/16	Status
10.00	7.50	"O.K."

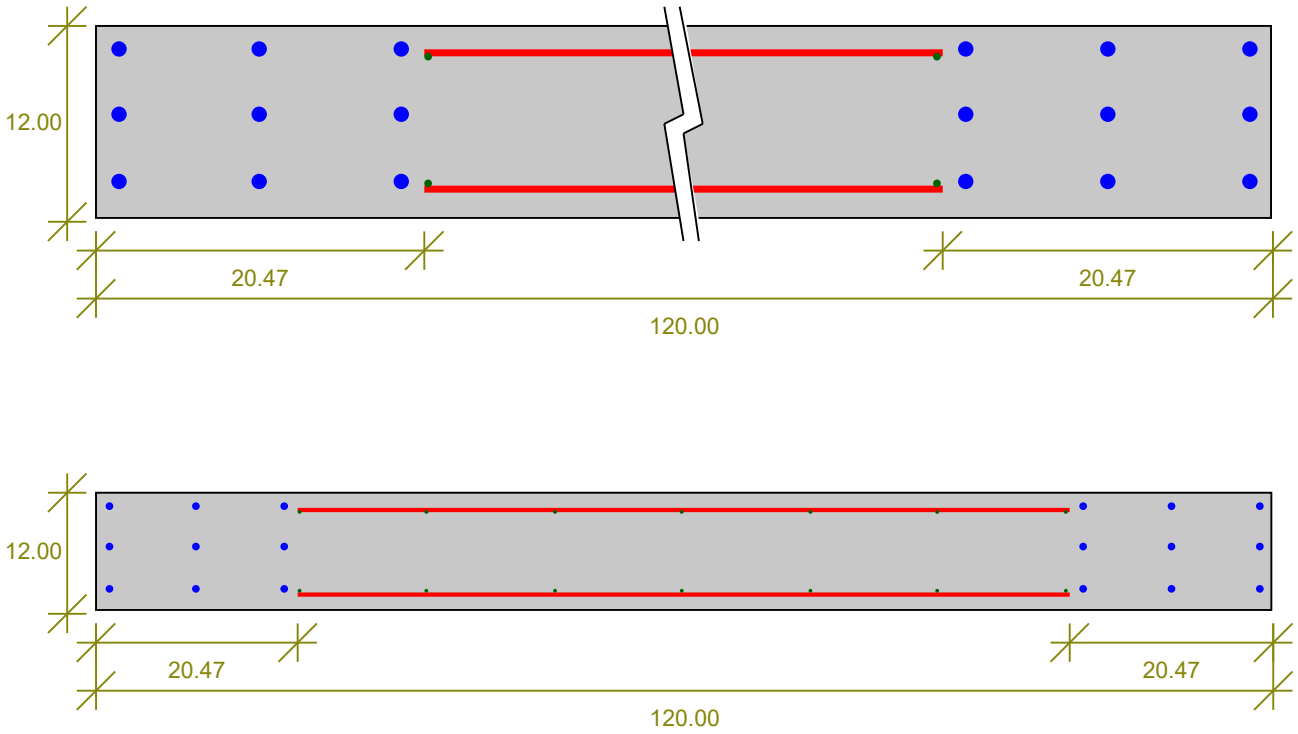
Material statistics

Volume(yard3)	Steel ratio(%)	Steel Density
3.704	4.44	0.05

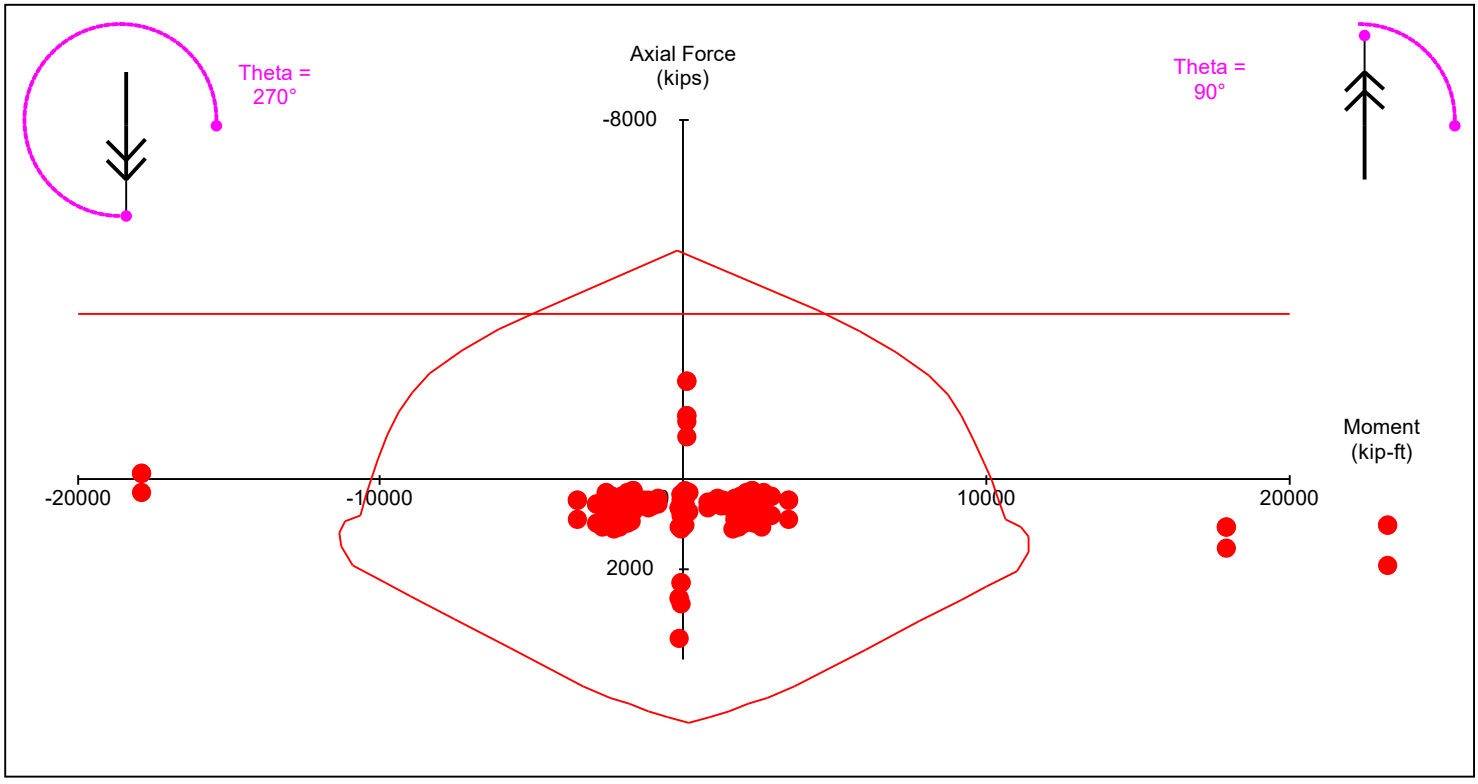
Boundary element check

Method: "N/A"
Du/Hw = 0.00

Wall Diagram



PM Diagram



ADAPT Wall Design

		Status:	Acceptable
Model:	adapt-builder_multi-level-tutorial_final	N vs M Util:	0.984
Pier Label:	P2		
Design Section:	L1_Bot_4 (Level 1 (EL 12.5) - 12.50ft)	Shear Util:	0.940
		Maximum:	1.000
Design Code:	ACI2019		

Dimension

Length = 14.00 ft
Thickness = 12.00 in
Lu = 10.00 ft
Hw = 37.00 ft

Governing Loads

	Pu (kip)	Vu (kip)	Mu (kip-ft)	Utilization	GLC
Axial	-443.550	435.360	6088.400	0.053	"ULS-5_-EQ2_LR1_SEIS"
Flexure	-134.200	760.230	13789.000	0.984	"ULS-7_EQ1_SEIS"
Shear	-316.120	-771.290	-13822.000	0.940	"ULS-5_-EQ1(LR1)_SEIS"

Shear Design

Fys = 60.000 ksi
Fyv = 60.000 ksi
Phi sh = 0.750
Phi Vc = 234.238 kip
Phi Vn = 820.138 kip
Phi Vnmax = 936.952 kip

Panel Bars	Smax (in)	Avmin (in2/ft)	Av req (in2/ft)	Av prov (in2/ft)	Status
(2C) #5 @ 8.00 horz	18.00	0.36	0.85	0.93	"O.K."
(2C) #4 @ 12.00 vert	18.00	0.36	0.36	0.40	"O.K."

Flexure and Axial Design

F'c = 6000.00 psi
phi b = 0.90
phi c = 0.65
Panel bars used:
Aused = 0.04 in2
n = 2.00
Aused/Aprov vert = 0.10

		As in2	As (min) in2	CGS in	Curtains	Spacing in
Zone 1	24 - #9	24.00	2.02	32.73	3	9.00
Zone 2	24 - #9	24.00	2.02	32.73	3	9.00

PM Diagram status: "O.K."

Slenderness check

Lu(ft)	Lu/16	Status
10.00	7.50	"O.K."

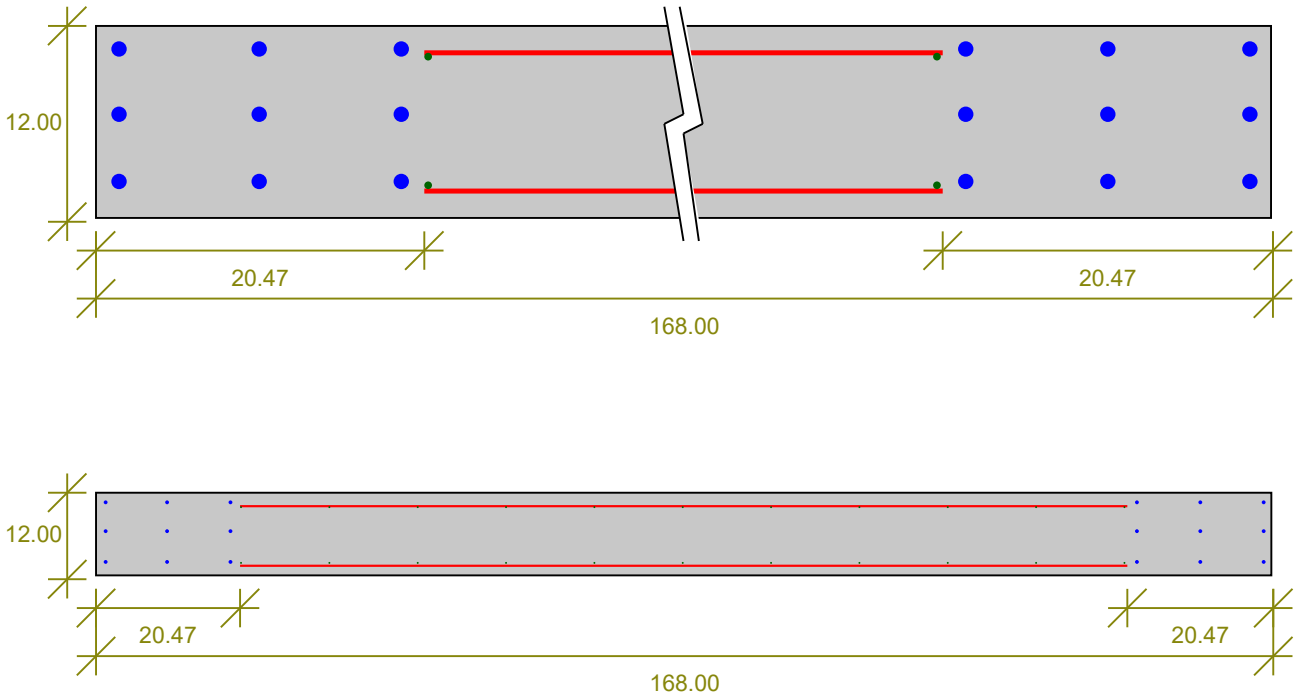
Material statistics

Volume(yard3)	Steel ratio(%)	Steel Density
5.185	2.38	0.03

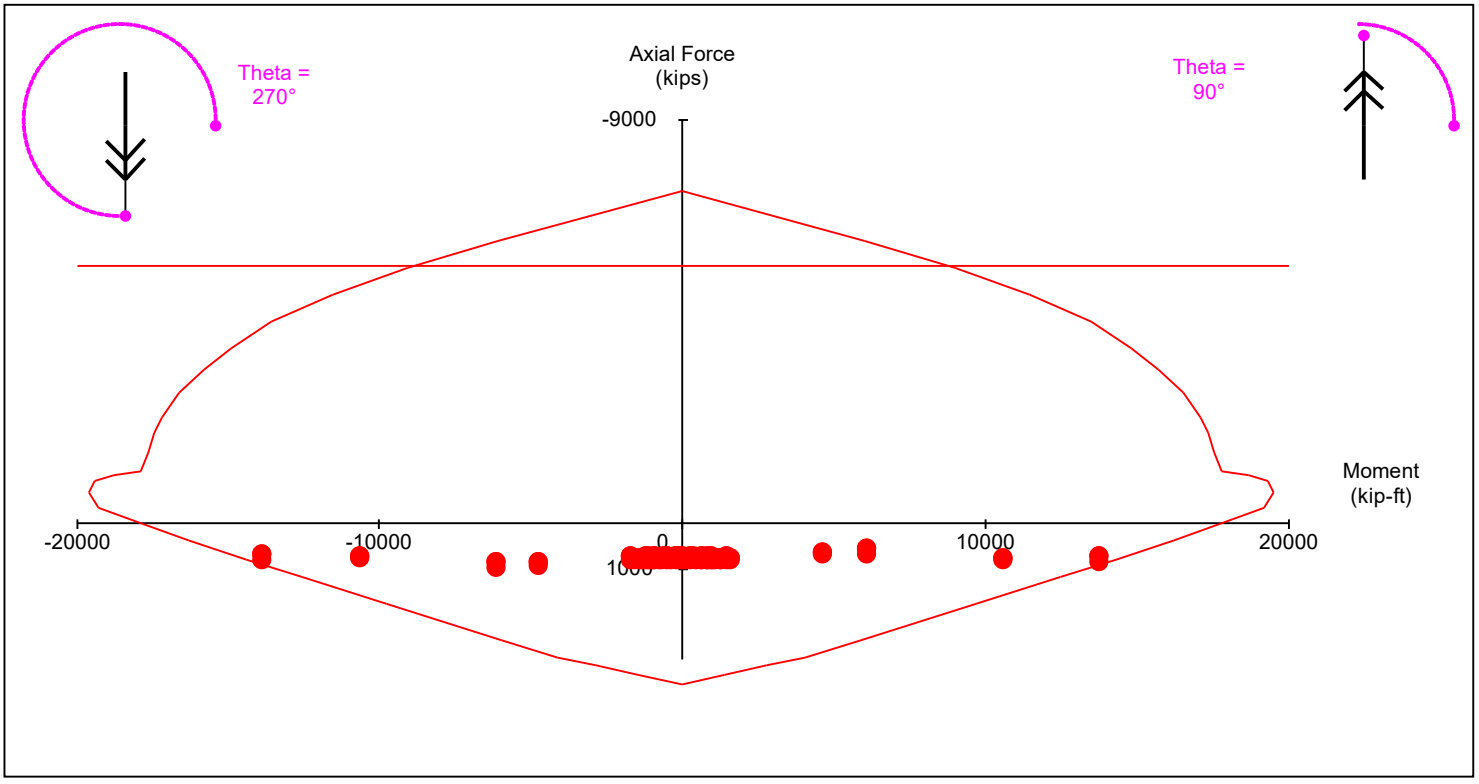
Boundary element check

Method: "N/A"
Du/Hw = 0.00

Wall Diagram



PM Diagram



ADAPT Wall Design

		Status:	Unacceptable
Model:	adapt-builder_multi-level-tutorial_final	N vs M Util:	2.815
Pier Label:	P2		
Design Section:	L1_Bot_5 (Level 1 (EL 12.5) - 12.50ft)	Shear Util:	1.445
		Maximum:	1.000
Design Code:	ACI2019		

Dimension

Length = 10.00 ft
Thickness = 12.00 in
Lu = 10.00 ft
Hw = 37.00 ft

Governing Loads

	Pu (kip)	Vu (kip)	Mu (kip-ft)	Utilization	GLC
Axial	-4308.100	-43.304	-827.320	0.606	"ULS-5_EQ1_LR1_SEIS"
Flexure	-2734.000	-967.080	-27845.000	2.815	"ULS-5_-EQ2_LR1_SEIS"
Shear	-2730.700	-967.080	-27845.000	1.445	"ULS-5_-EQ2(LR1)_SEIS"

Shear Design

Fys = 60.000 ksi
Fyv = 60.000 ksi
Phi sh = 0.750
Phi Vc = 167.313 kip
Phi Vn = 977.313 kip
Phi Vnmax = 669.252 kip

Panel Bars	Smax (in)	Avmin (in2/ft)	Av req (in2/ft)	Av prov (in2/ft)	Status
(2C) #7 @ 8.00 horz	18.00	0.36	1.78	1.80	"O.K."
(2C) #4 @ 12.00 vert	18.00	0.36	0.36	0.40	"O.K."

Flexure and Axial Design

F'c = 6000.00 psi
phi b = 0.90
phi c = 0.65
Panel bars used:
Aused = 0.04 in2
n = 0.00
Aused/Aprov vert = 0.10

		As in2	As (min) in2	CGS in	Curtains	Spacing in
Zone 1	21 - #11	32.76	1.44	28.23	3	9.00
Zone 2	21 - #11	32.76	1.44	28.23	3	9.00

PM Diagram status: "N.G."

Slenderness check

Lu(ft)	Lu/16	Status
10.00	7.50	"O.K."

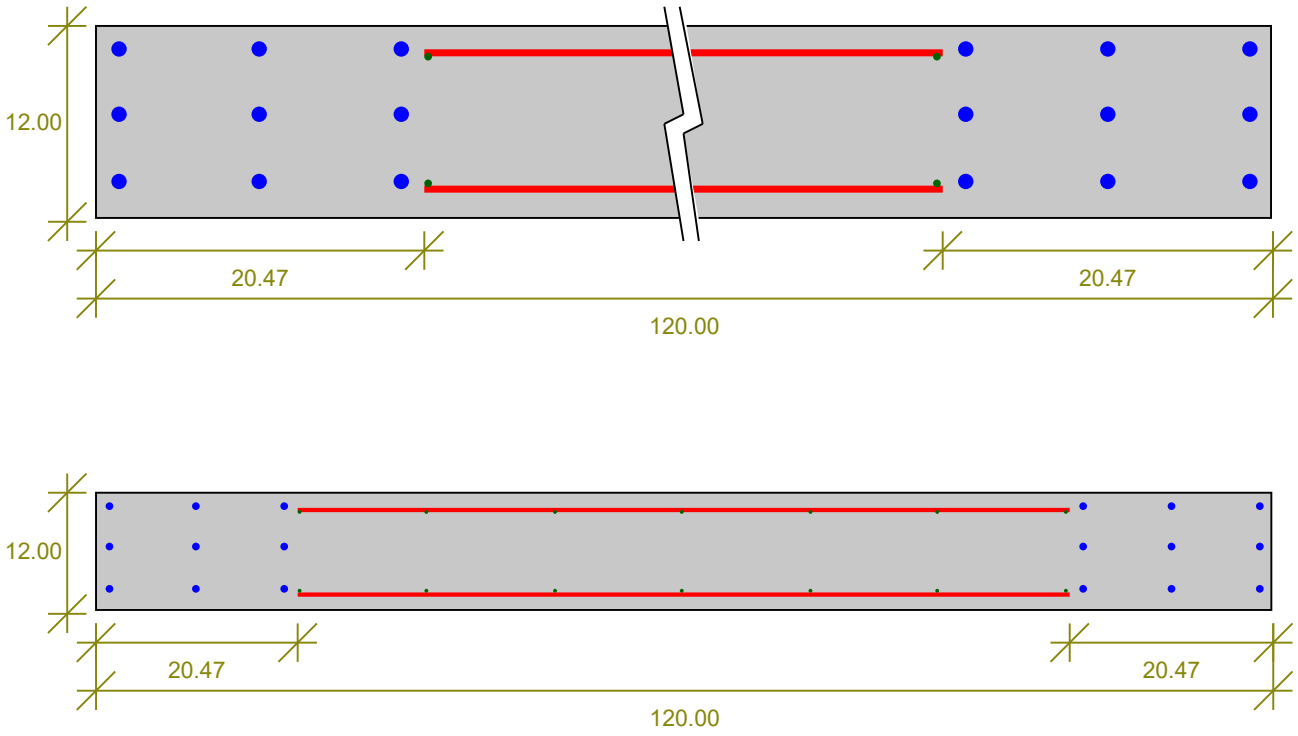
Material statistics

Volume(yard3)	Steel ratio(%)	Steel Density
3.704	4.55	0.06

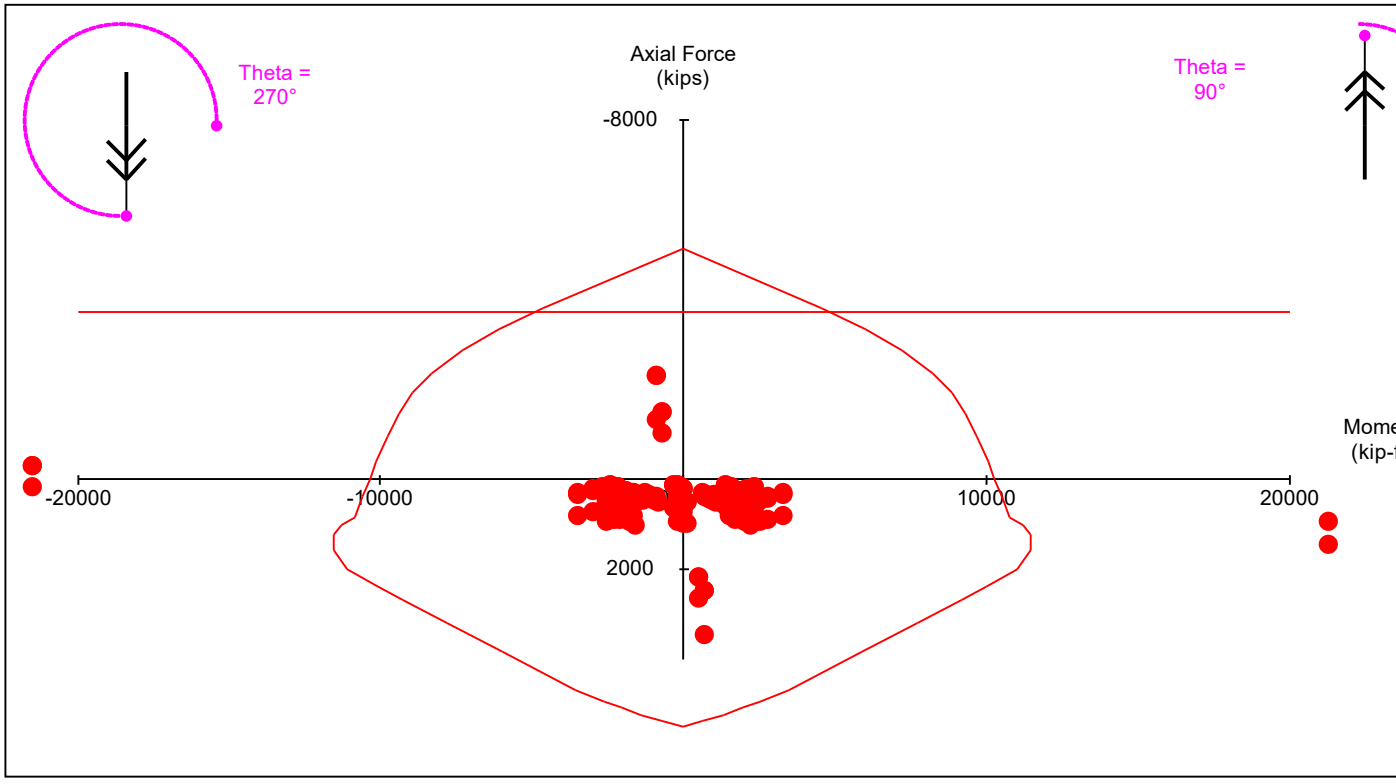
Boundary element check

Method: "N/A"
Du/Hw = 0.00

Wall Diagram



PM Diagram



ADAPT Wall Design

Status: Acceptable

Model: adapt-builder_multi-level-tutorial_final

N vs M Util: 0.987

Pier Label: P1

Design Section: L1_Top_1 (Level 1 (EL 12.5) - 12.50ft)

Shear Util: 0.991

Maximum: 1.000

Design Code: ACI2019

Dimension

Length = 15.00 ft
Thickness = 12.00 in
Lu = 10.00 ft
Hw = 37.00 ft

Governing Loads

	Pu (kip)	Vu (kip)	Mu (kip-ft)	Utilization	GLC
Axial	-214.990	216.600	-8998.100	0.027	"ULS-5_-EQ1(LR1)_SEIS"
Flexure	-75.983	-746.260	8333.400	0.987	"ULS-7_EQ1_SEIS"
Shear	-193.360	-746.260	8333.400	0.991	"ULS-5_EQ1(LR1)_SEIS"

Shear Design

Fys = 60.000 ksi
Fyv = 60.000 ksi
Phi sh = 0.750
Phi Vc = 250.969 kip
Phi Vn = 753.169 kip
Phi Vnmax = 1003.877 kip

Panel Bars	Smax (in)	Avmin (in2/ft)	Av req (in2/ft)	Av prov (in2/ft)	Status
(2C) #5 @ 10.00 horz	18.00	0.36	0.73	0.74	"O.K."
(2C) #4 @ 12.00 vert	18.00	0.36	0.36	0.40	"O.K."

Flexure and Axial Design

F'c = 6000.00 psi
phi b = 0.90
phi c = 0.65
Aused = 0.04 in2
n = 6.00
Aused/Aprov vert = 0.10

Panel bars used:		As in2	As (min) in2	CGS in	Curtains	Spacing in
Zone 1	14 - #8	11.06	2.16	19.23	3	9.00
Zone 2	16 - #8	12.64	2.16	23.73	3	9.00

PM Diagram status: "O.K."

Slenderness check

Lu(ft)	Lu/16	Status
10.00	7.50	"O.K."

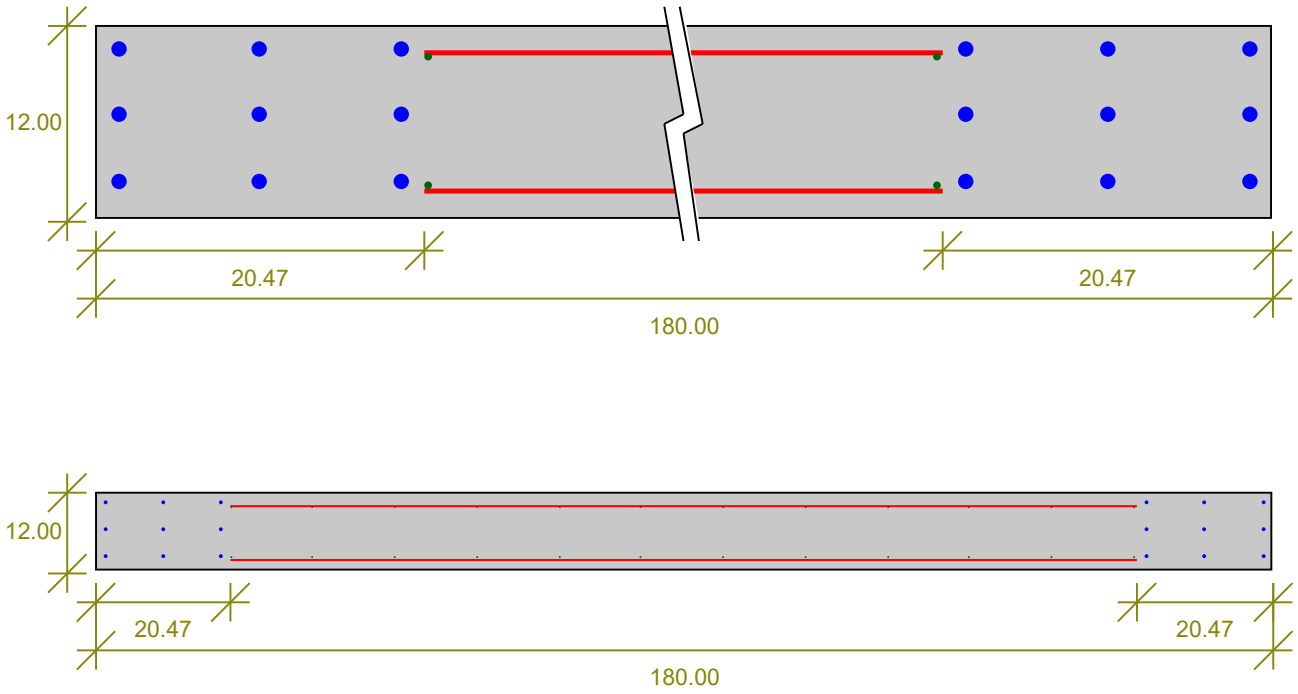
Material statistics

Volume(yard3)	Steel ratio(%)	Steel Density
5.556	1.11	0.02

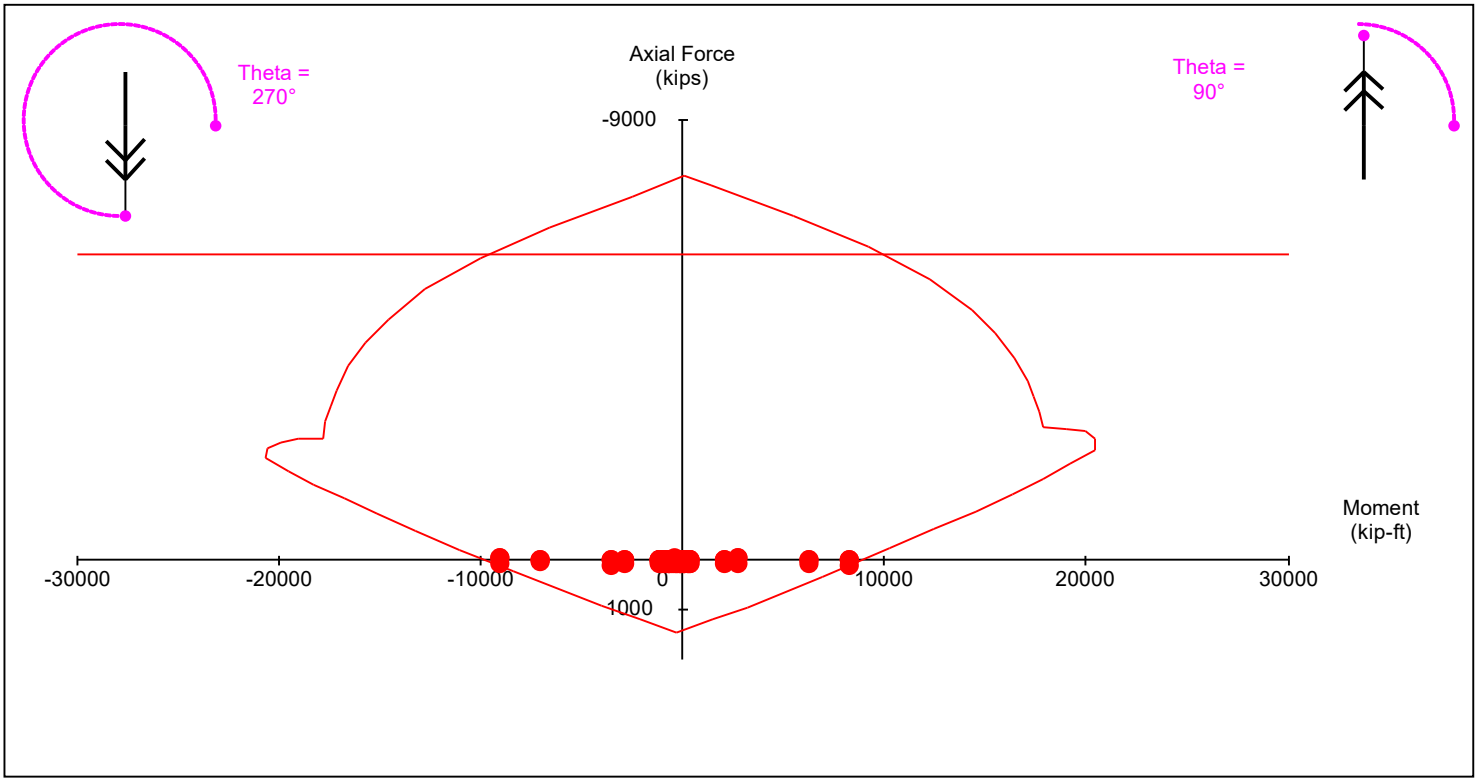
Boundary element check

Method: "N/A"
Du/Hw = 0.00

Wall Diagram



PM Diagram



ADAPT Wall Design

		Status:	Acceptable
Model:	adapt-builder_multi-level-tutorial_final	N vs M Util:	0.988
Pier Label:	P3		
Design Section:	L1_Top_2 (Level 1 (EL 12.5) - 12.50ft)	Shear Util:	0.938
		Maximum:	1.000
Design Code:	ACI2019		

Dimension

Length = 20.75 ft
Thickness = 12.00 in
Lu = 10.00 ft
Hw = 37.00 ft

Governing Loads

	Pu (kip)	Vu (kip)	Mu (kip-ft)	Utilization	GLC
Axial	-2545.800	-680.550	21096.000	0.237	"ULS-5_EQ1_LR1_SEIS"
Flexure	-1320.500	-680.550	21096.000	0.988	"ULS-7_EQ1_SEIS"
Shear	-2119.600	1203.200	-20725.000	0.938	"ULS-5_-EQ1(LR1)_SEIS"

Shear Design

Fys = 60.000 ksi
Fyv = 60.000 ksi
Phi sh = 0.750
Phi Vc = 414.049 kip
Phi Vn = 1282.395 kip
Phi Vnmax = 1388.630 kip

Panel Bars	Smax (in)	Avmin (in2/ft)	Av req (in2/ft)	Av prov (in2/ft)	Status
(2C) #5 @ 8.00 horz	18.00	0.36	0.85	0.93	"O.K."
(2C) #4 @ 9.00 vert	18.00	0.53	0.53	0.53	"O.K."

Flexure and Axial Design

F'c = 6000.00 psi
phi b = 0.90
phi c = 0.65
Panel bars used:
Aused = 0.00 in2
n = 18.00
Aused/Aprov vert = 0.01

		As in2	As (min) in2	CGS in	Curtains	Spacing in
Zone 1	12 - #8	9.48	2.99	14.73	3	9.00
Zone 2	17 - #8	13.43	2.99	23.73	3	9.00

PM Diagram status: "O.K."

Slenderness check

Lu(ft)	Lu/16	Status
10.00	7.50	"O.K."

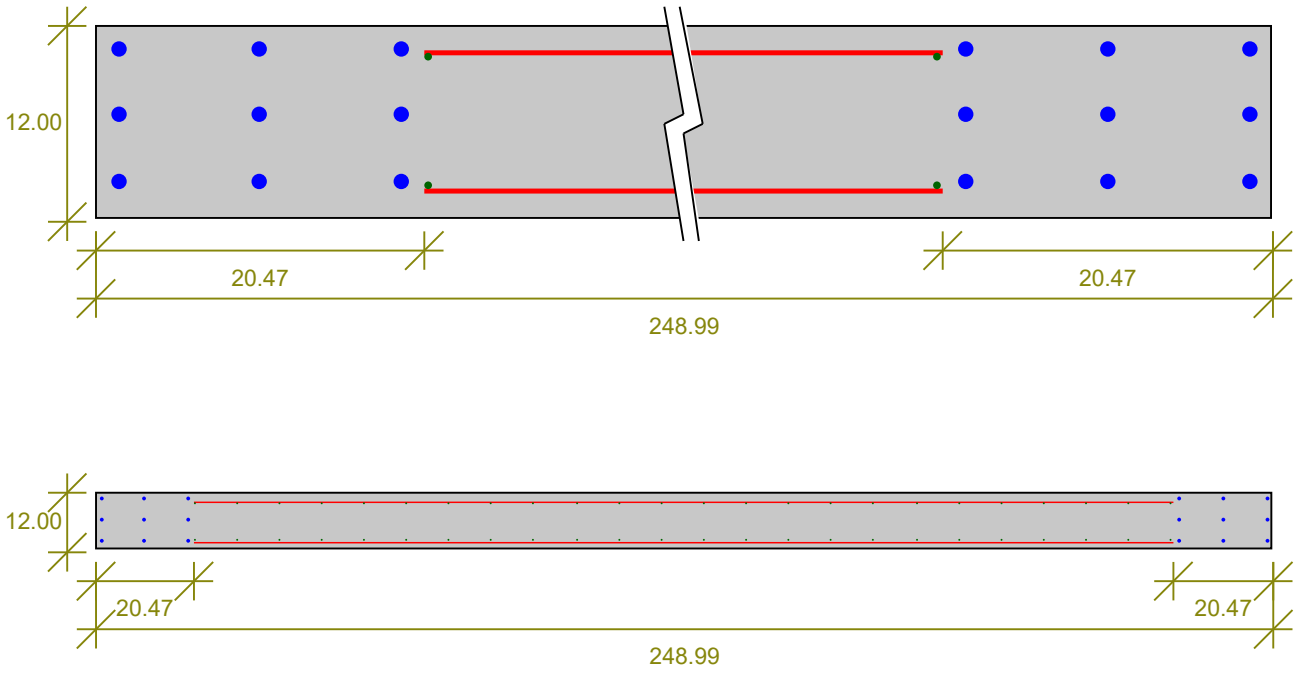
Material statistics

Volume(yard3)	Steel ratio(%)	Steel Density
7.685	0.77	0.02

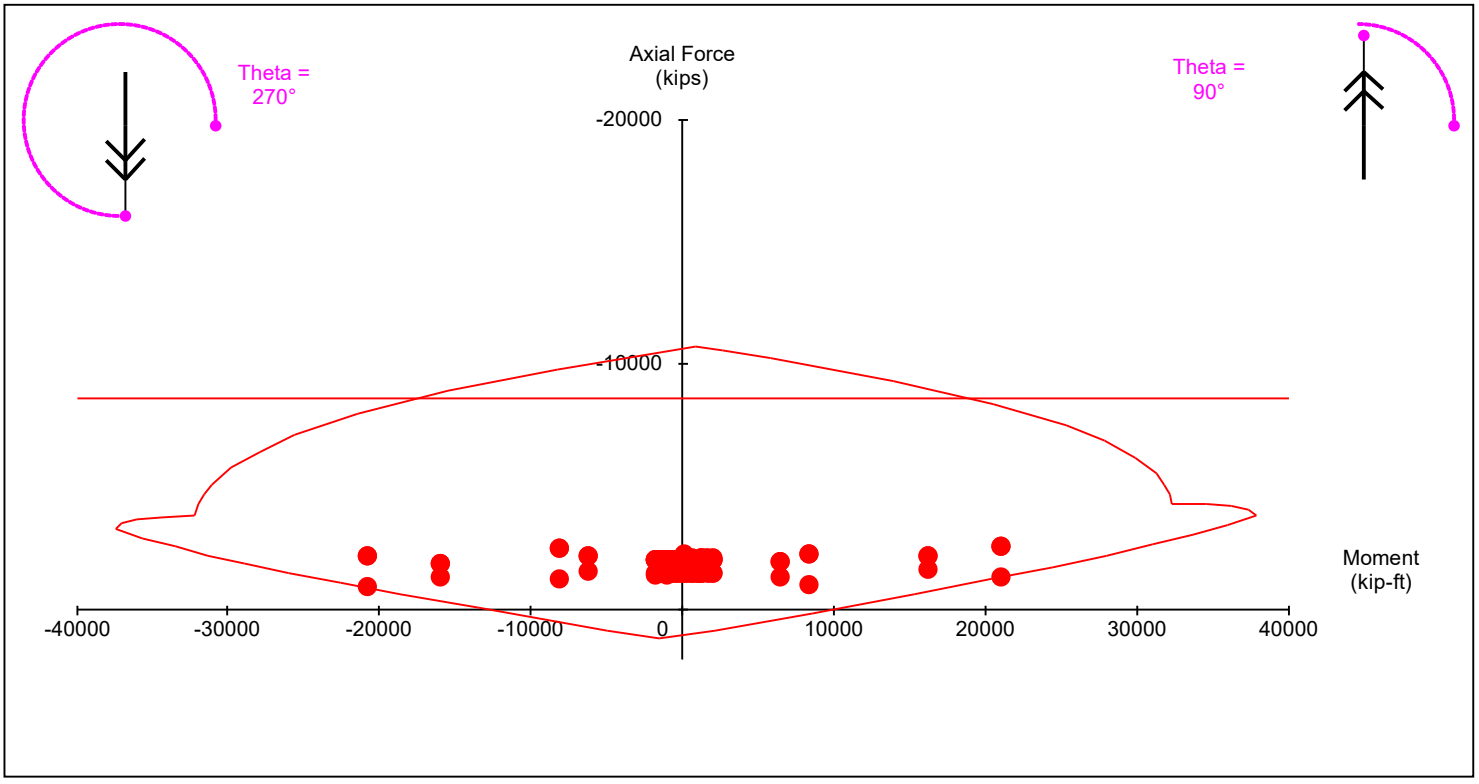
Boundary element check

Method: "N/A"
Du/Hw = 0.00

Wall Diagram



PM Diagram



ADAPT Wall Design

Status: Unacceptable

Model: adapt-builder_multi-level-tutorial_final

N vs M Util: 1.410

Pier Label: P2

Design Section: L1_Top_3 (Level 1 (EL 12.5) - 12.50ft)

Shear Util: 1.193

Maximum: 1.000

Design Code: ACI2019

Dimension

Length = 10.00 ft
Thickness = 12.00 in
Lu = 10.00 ft
Hw = 37.00 ft

Governing Loads

	Pu (kip)	Vu (kip)	Mu (kip-ft)	Utilization	GLC
Axial	-4143.300	-27.546	-176.370	0.609	"ULS-5_-EQ1_LR1_SEIS"
Flexure	-2527.300	770.970	-13645.000	1.410	"ULS-5_EQ2_LR1_SEIS"
Shear	-927.630	-798.430	13379.000	1.193	"ULS-5_-EQ2(LR1)_SEIS"

Shear Design

Fys = 60.000 ksi
Fyv = 60.000 ksi
Phi sh = 0.750
Phi Vc = 167.313 kip
Phi Vn = 815.313 kip
Phi Vnmax = 669.252 kip

Panel Bars	Smax (in)	Avmin (in2/ft)	Av req (in2/ft)	Av prov (in2/ft)	Status
(2C) #7 @ 10.00 horz	18.00	0.36	1.40	1.44	"O.K."
(2C) #4 @ 12.00 vert	18.00	0.36	0.36	0.40	"O.K."

Flexure and Axial Design

F'c = 6000.00 psi
phi b = 0.90
phi c = 0.65
Panel bars used:
Aused = 0.04 in2
n = 0.00
Aused/Aprov vert = 0.10

		As in2	As (min) in2	CGS in	Curtains	Spacing in
Zone 1	21 - #11	32.76	1.44	28.23	3	9.00
Zone 2	19 - #10	24.13	1.44	28.23	3	9.00

PM Diagram status: "N.G."

Slenderness check

Lu(ft)	Lu/16	Status
10.00	7.50	"O.K."

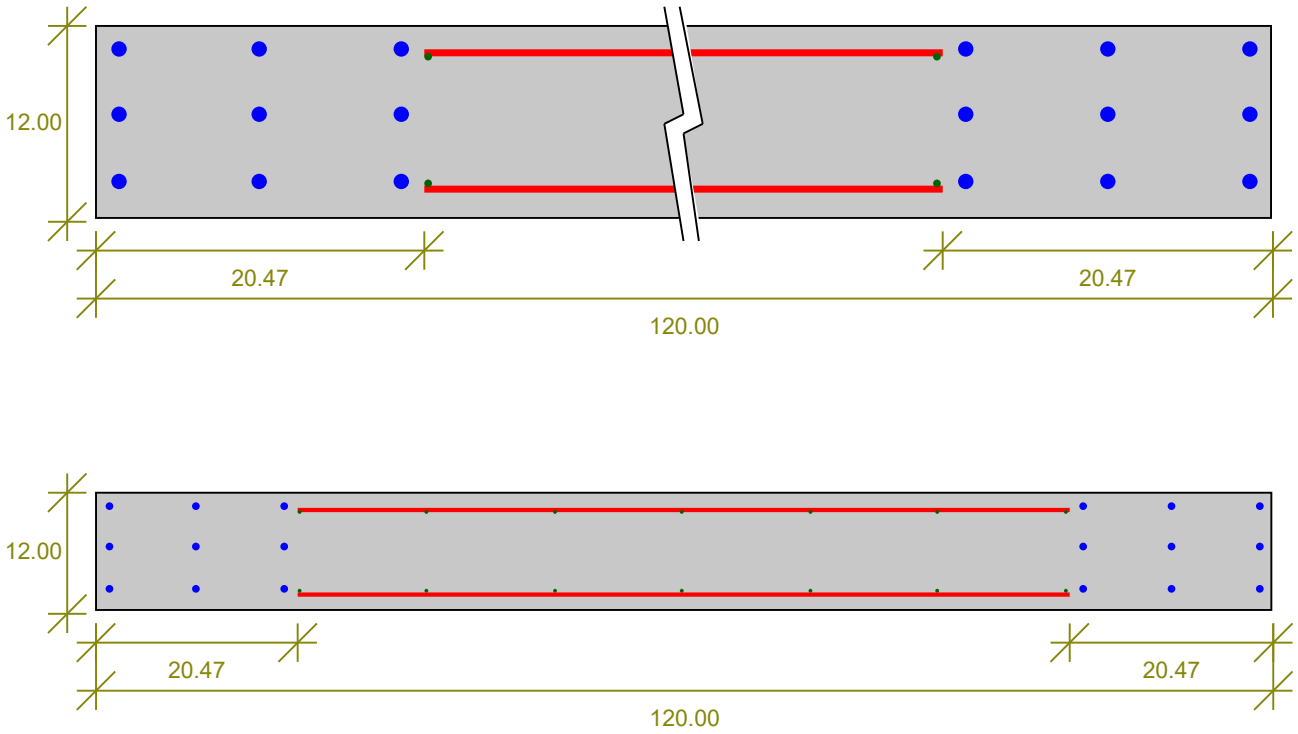
Material statistics

Volume(yard3)	Steel ratio(%)	Steel Density
3.704	3.95	0.05

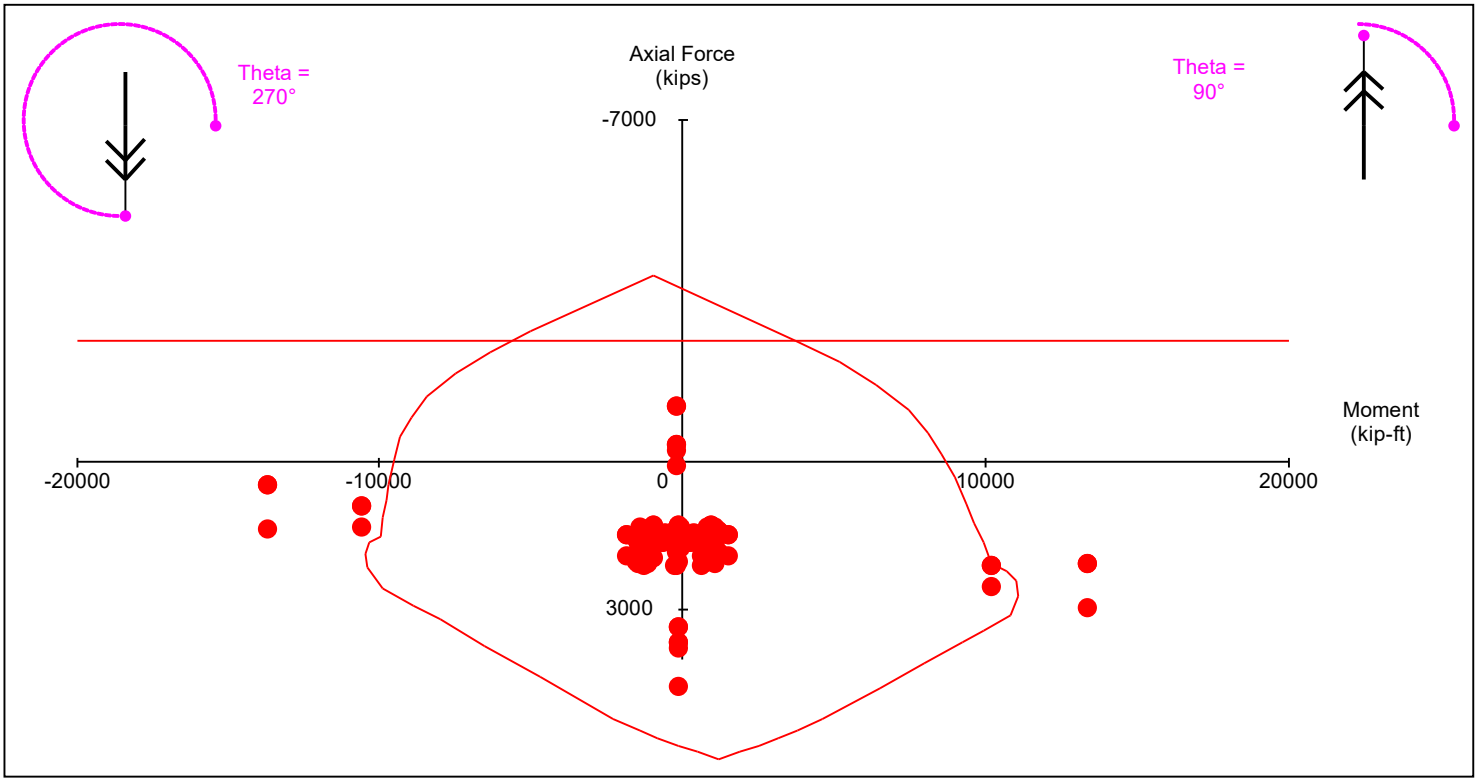
Boundary element check

Method: "N/A"
Du/Hw = 0.00

Wall Diagram



PM Diagram



ADAPT Wall Design

Status: Acceptable

Model: adapt-builder_multi-level-tutorial_final

N vs M Util: 0.994

Pier Label: P2

Design Section: L1_Top_4 (Level 1 (EL 12.5) - 12.50ft)

Shear Util: 0.940

Maximum: 1.000

Design Code: ACI2019

Dimension

Length = 14.00 ft

Thickness = 12.00 in

Lu = 10.00 ft

Hw = 37.00 ft

Governing Loads

	Pu (kip)	Vu (kip)	Mu (kip-ft)	Utilization	GLC
Axial	-408.850	-435.360	649.290	0.058	"ULS-5_-EQ2_LR1_SEIS"
Flexure	-116.750	-760.230	4292.500	0.994	"ULS-7_EQ1_SEIS"
Shear	-281.420	771.290	-4187.100	0.940	"ULS-5_-EQ1(LR1)_SEIS"

Shear Design

Fys = 60.000 ksi

Fyv = 60.000 ksi

Phi sh = 0.750

Phi Vc = 234.238 kip

Phi Vn = 820.138 kip

Phi Vnmax = 936.952 kip

Panel Bars	Smax (in)	Avmin (in2/ft)	Av req (in2/ft)	Av prov (in2/ft)	Status
(2C) #5 @ 8.00 horz	18.00	0.36	0.85	0.93	"O.K."
(2C) #4 @ 12.00 vert	18.00	0.36	0.36	0.40	"O.K."

Flexure and Axial Design

F'c = 6000.00 psi

phi b = 0.90

phi c = 0.65

Aused = 0.04 in2

n = 11.00

Aused/Aprov vert = 0.10

Panel bars used:		As in2	As (min) in2	CGS in	Curtains	Spacing in
Zone 1	6 - #8	4.74	2.02	5.73	3	9.00
Zone 2	6 - #8	4.74	2.02	5.73	3	9.00

PM Diagram status: "O.K."

Slenderness check

Lu(ft)	Lu/16	Status
10.00	7.50	"O.K."

Material statistics

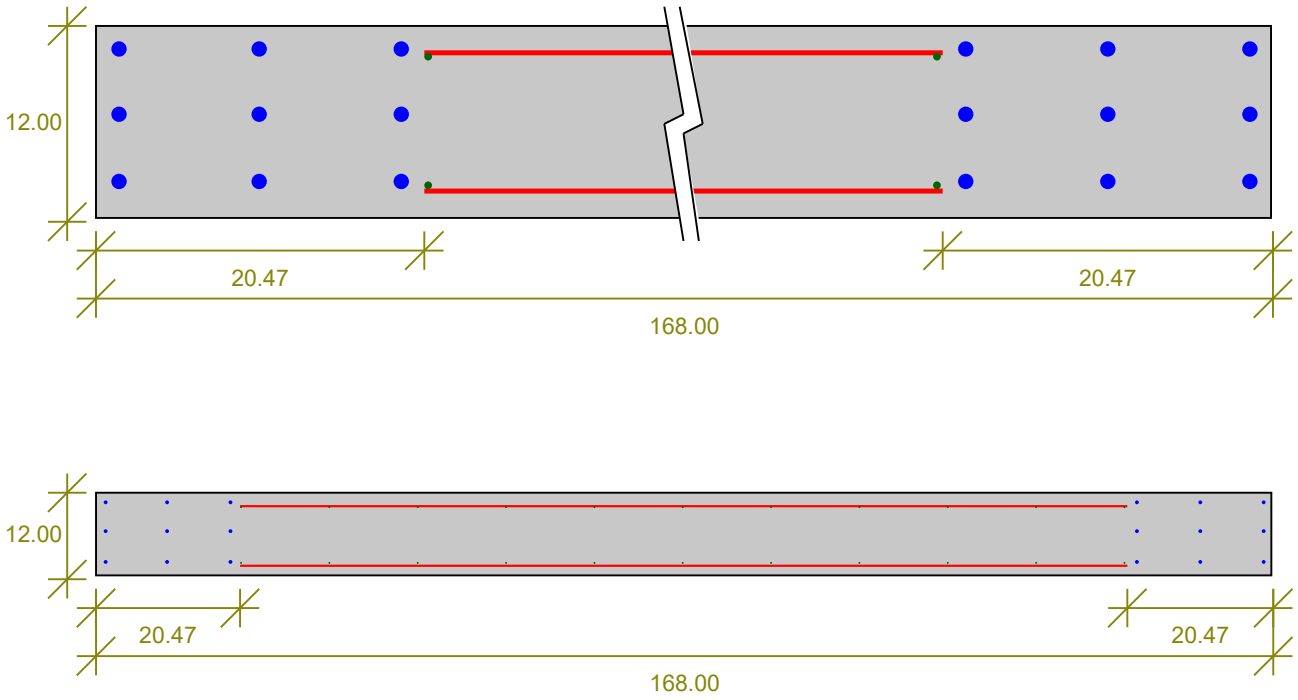
Volume(yard3)	Steel ratio(%)	Steel Density
5.185	0.49	0.01

Boundary element check

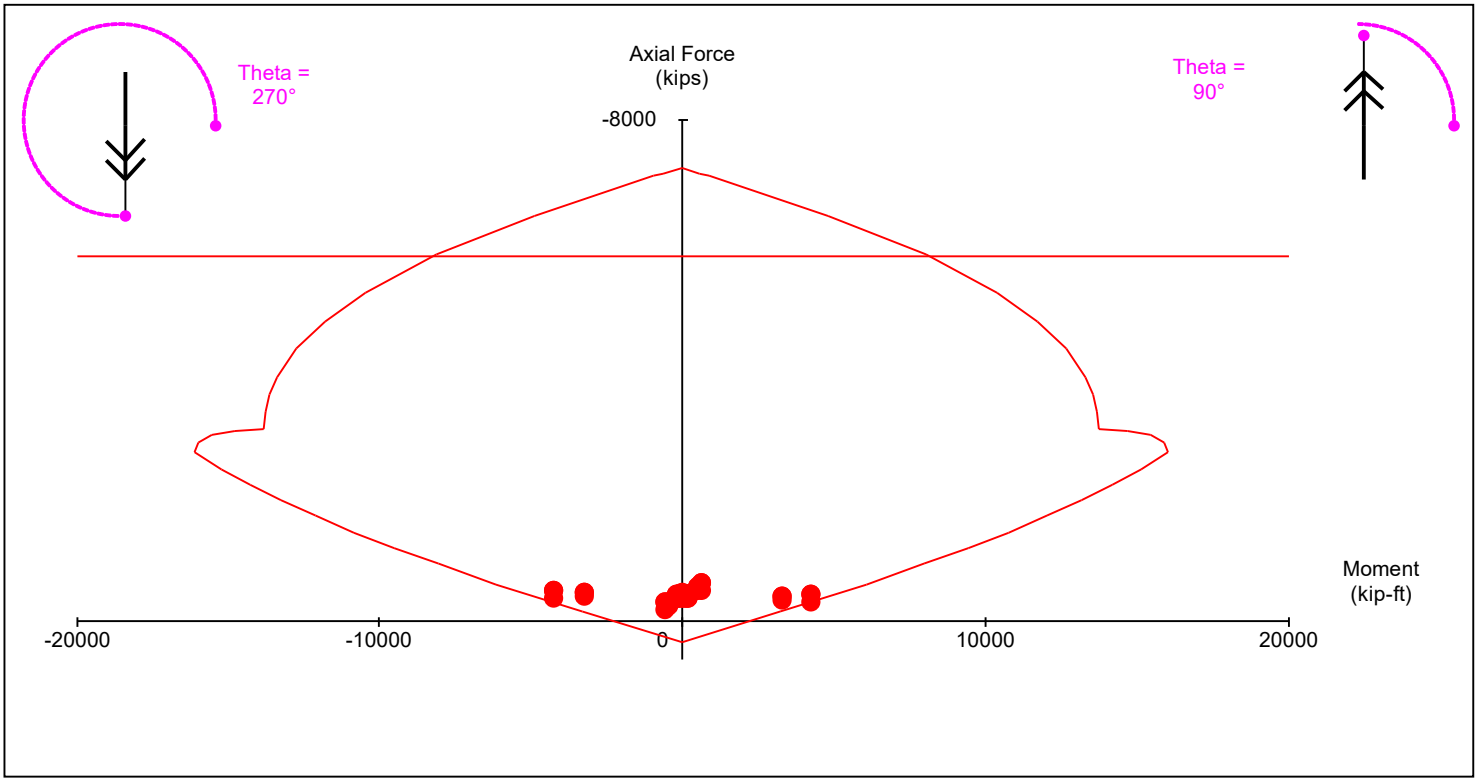
Method: "N/A"

Du/Hw = 0.00

Wall Diagram



PM Diagram



ADAPT Wall Design

Status: Unacceptable

Model: adapt-builder_multi-level-tutorial_final

N vs M Util: 1.635

Pier Label: P2

Design Section: L1_Top_5 (Level 1 (EL 12.5) - 12.50ft)

Shear Util: 1.445

Maximum: 1.000

Design Code: ACI2019

Dimension

Length = 10.00 ft
Thickness = 12.00 in
Lu = 10.00 ft
Hw = 37.00 ft

Governing Loads

	Pu (kip)	Vu (kip)	Mu (kip-ft)	Utilization	GLC
Axial	-4283.300	43.304	-287.440	0.625	"ULS-5_EQ1_LR1_SEIS"
Flexure	-2709.200	967.080	-15801.000	1.635	"ULS-5_-EQ2_LR1_SEIS"
Shear	-2705.900	967.080	-15801.000	1.445	"ULS-5_-EQ2(LR1)_SEIS"

Shear Design

Fys = 60.000 ksi
Fyv = 60.000 ksi
Phi sh = 0.750
Phi Vc = 167.313 kip
Phi Vn = 977.313 kip
Phi Vnmax = 669.252 kip

Panel Bars	Smax (in)	Avmin (in2/ft)	Av req (in2/ft)	Av prov (in2/ft)	Status
(2C) #7 @ 8.00 horz	18.00	0.36	1.78	1.80	"O.K."
(2C) #4 @ 12.00 vert	18.00	0.36	0.36	0.40	"O.K."

Flexure and Axial Design

F'c = 6000.00 psi
phi b = 0.90
phi c = 0.65
Panel bars used:
Aused = 0.04 in2
n = 0.00
Aused/Aprov vert = 0.10

		As in2	As (min) in2	CGS in	Curtains	Spacing in
Zone 1	21 - #11	32.76	1.44	28.23	3	9.00
Zone 2	20 - #10	25.40	1.44	28.23	3	9.00

PM Diagram status: "N.G."

Slenderness check

Lu(ft)	Lu/16	Status
10.00	7.50	"O.K."

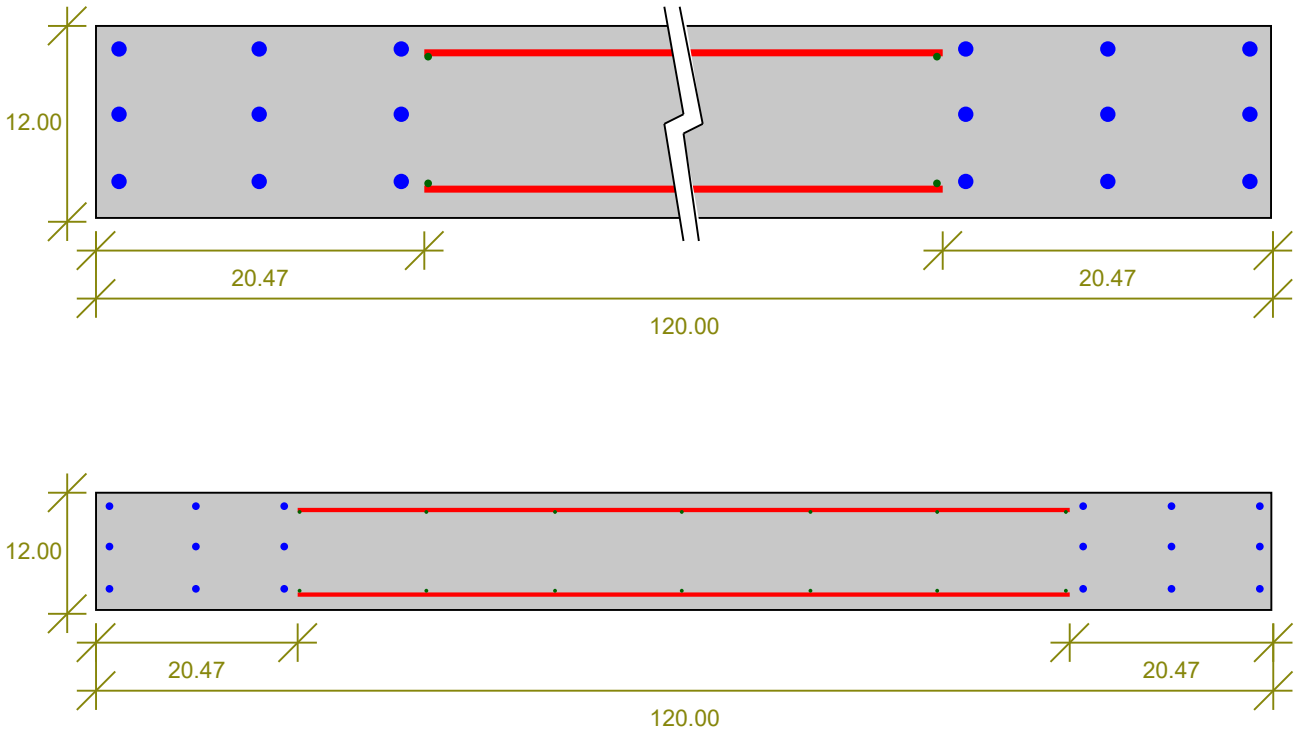
Material statistics

Volume(yard3)	Steel ratio(%)	Steel Density
3.704	4.04	0.05

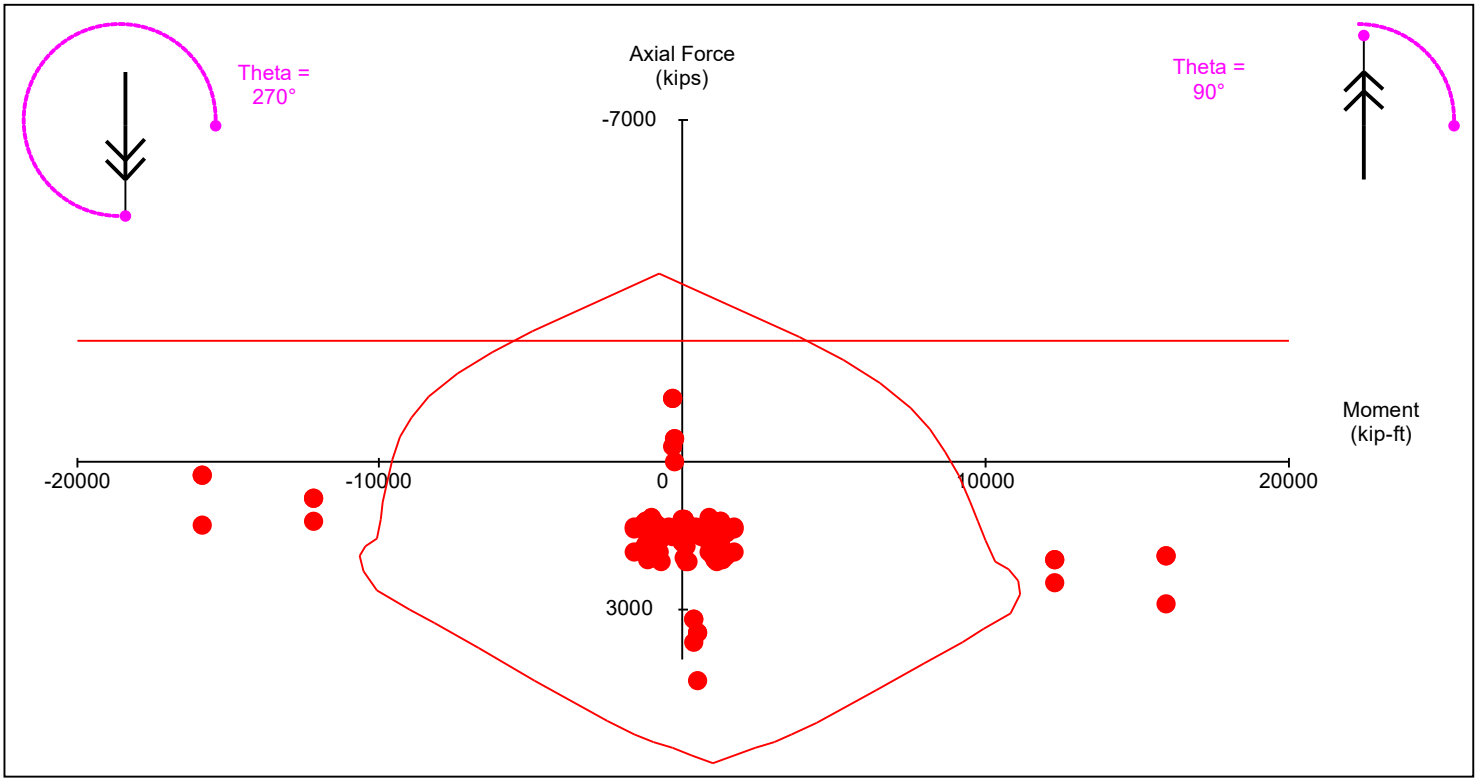
Boundary element check

Method: "N/A"
Du/Hw = 0.00

Wall Diagram



PM Diagram



ADAPT Wall Design

Status: Unacceptable

Model: adapt-builder_multi-level-tutorial_final

N vs M Util: 1.649

Pier Label: P2

Design Section: L2_Bot_10 (Level 2 (EL 25.5) - 25.50ft)

Shear Util: 1.490

Maximum: 1.000

Design Code: ACI2019

Dimension

Length = 10.00 ft
Thickness = 12.00 in
Lu = 10.00 ft
Hw = 37.00 ft

Governing Loads

	Pu (kip)	Vu (kip)	Mu (kip-ft)	Utilization	GLC
Axial	-3627.700	-38.389	-396.560	0.518	"ULS-5_EQ1_LR1_SEIS"
Flexure	-2300.400	-983.100	-16525.000	1.649	"ULS-5_-EQ2_LR1_SEIS"
Shear	-1132.700	997.260	16743.000	1.490	"ULS-5_EQ2(LR1)_SEIS"

Shear Design

Fys = 60.000 ksi
Fyv = 60.000 ksi
Phi sh = 0.750
Phi Vc = 167.313 kip
Phi Vn = 1020.513 kip
Phi Vnmax = 669.252 kip

Panel Bars	Smax (in)	Avmin (in2/ft)	Av req (in2/ft)	Av prov (in2/ft)	Status
(2C) #8 @ 10.00 horz	18.00	0.36	1.84	1.90	"O.K."
(2C) #4 @ 12.00 vert	18.00	0.36	0.36	0.40	"O.K."

Flexure and Axial Design

F'c = 6000.00 psi
phi b = 0.90
phi c = 0.65
Panel bars used:
Aused = 0.04 in2
n = 0.00
Aused/Aprov vert = 0.10

		As in2	As (min) in2	CGS in	Curtains	Spacing in
Zone 1	21 - #11	32.76	1.44	28.23	3	9.00
Zone 2	19 - #11	29.64	1.44	28.23	3	9.00

PM Diagram status: "N.G."

Slenderness check

Lu(ft)	Lu/16	Status
10.00	7.50	"O.K."

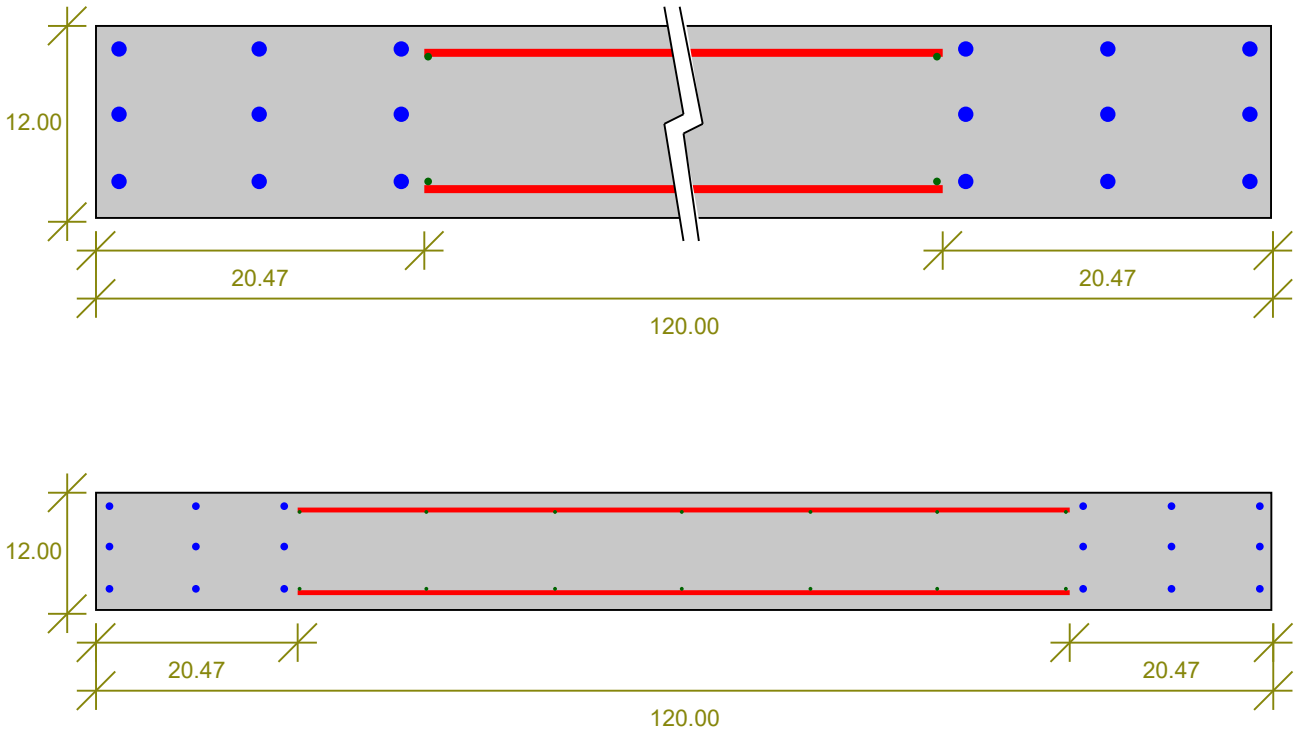
Material statistics

Volume(yard3)	Steel ratio(%)	Steel Density
3.704	4.33	0.06

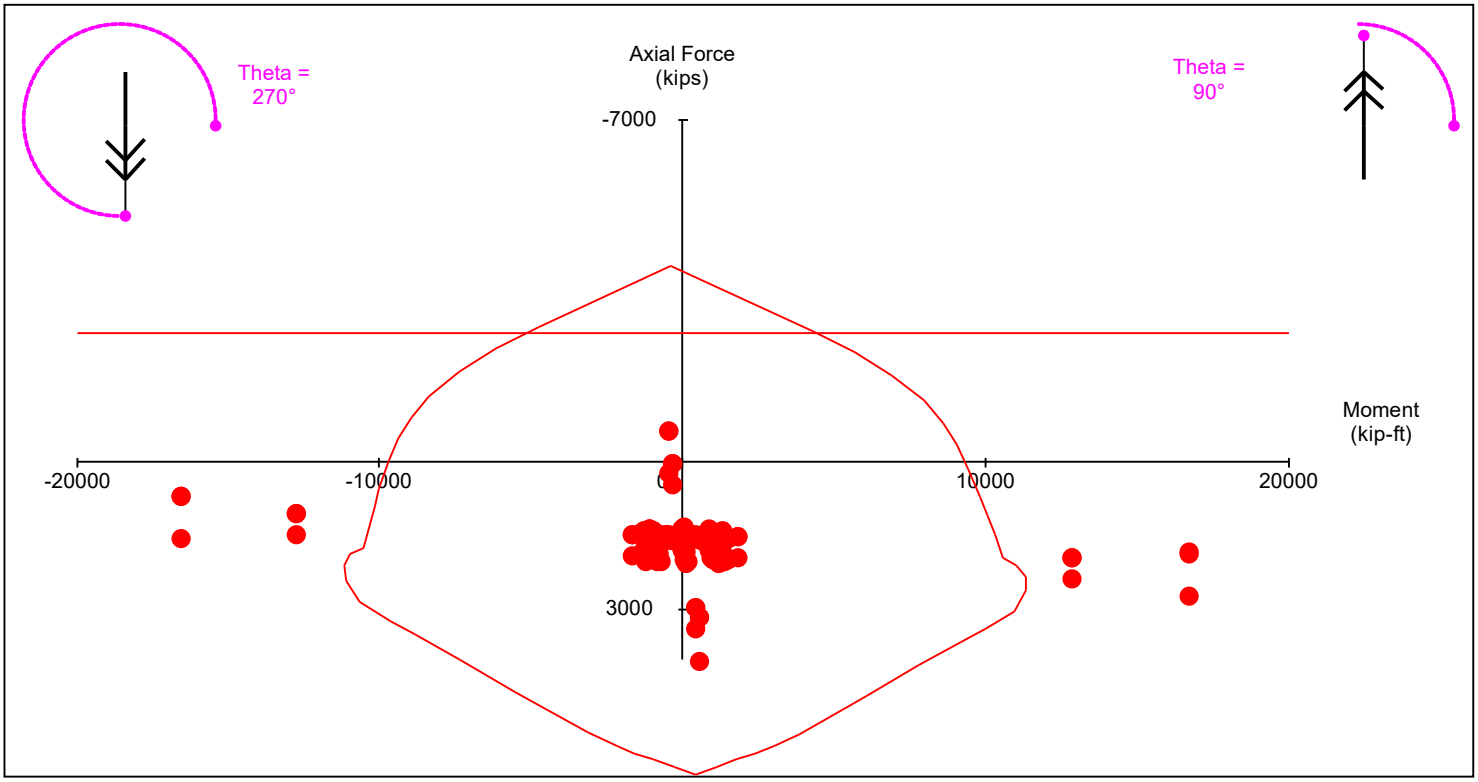
Boundary element check

Method: "N/A"
Du/Hw = 0.00

Wall Diagram



PM Diagram



ADAPT Wall Design

		Status:	Acceptable
Model:	adapt-builder_multi-level-tutorial_final	N vs M Util:	0.996
Pier Label:	P1		
Design Section:	L2_Bot_6 (Level 2 (EL 25.5) - 25.50ft)	Shear Util:	0.817
		Maximum:	1.000
Design Code:	ACI2019		

Dimension

Length = 15.00 ft
Thickness = 12.00 in
Lu = 10.00 ft
Hw = 37.00 ft

Governing Loads

	Pu (kip)	Vu (kip)	Mu (kip-ft)	Utilization	GLC
Axial	-250.430	-399.150	-9061.100	0.031	"ULS-5_-EQ1(LR1)_SBS"
Flexure	-113.670	-399.150	-9061.100	0.996	"ULS-7_-EQ1_SBS"
Shear	-232.850	425.880	8505.700	0.817	"ULS-5_EQ1(LR1)_SBS"

Shear Design

Fys = 60.000 ksi
Fyv = 60.000 ksi
Phi sh = 0.750
Phi Vc = 250.969 kip
Phi Vn = 520.969 kip
Phi Vnmax = 1003.877 kip

Panel Bars	Smax (in)	Avmin (in2/ft)	Av req (in2/ft)	Av prov (in2/ft)	Status
(2C) #4 @ 12.00 horz	18.00	0.29	0.36	0.40	"O.K."
(2C) #4 @ 12.00 vert	18.00	0.36	0.36	0.40	"O.K."

Flexure and Axial Design

F'c = 6000.00 psi
phi b = 0.90
phi c = 0.65
Panel bars used:
Aused = 0.04 in2
n = 7.00
Aused/Aprov vert = 0.10

		As in2	As (min) in2	CGS in	Curtains	Spacing in
Zone 1	15 - #8	11.85	2.16	19.23	3	9.00
Zone 2	15 - #8	11.85	2.16	19.23	3	9.00

PM Diagram status: "O.K."

Slenderness check

Lu(ft)	Lu/16	Status
10.00	7.50	"O.K."

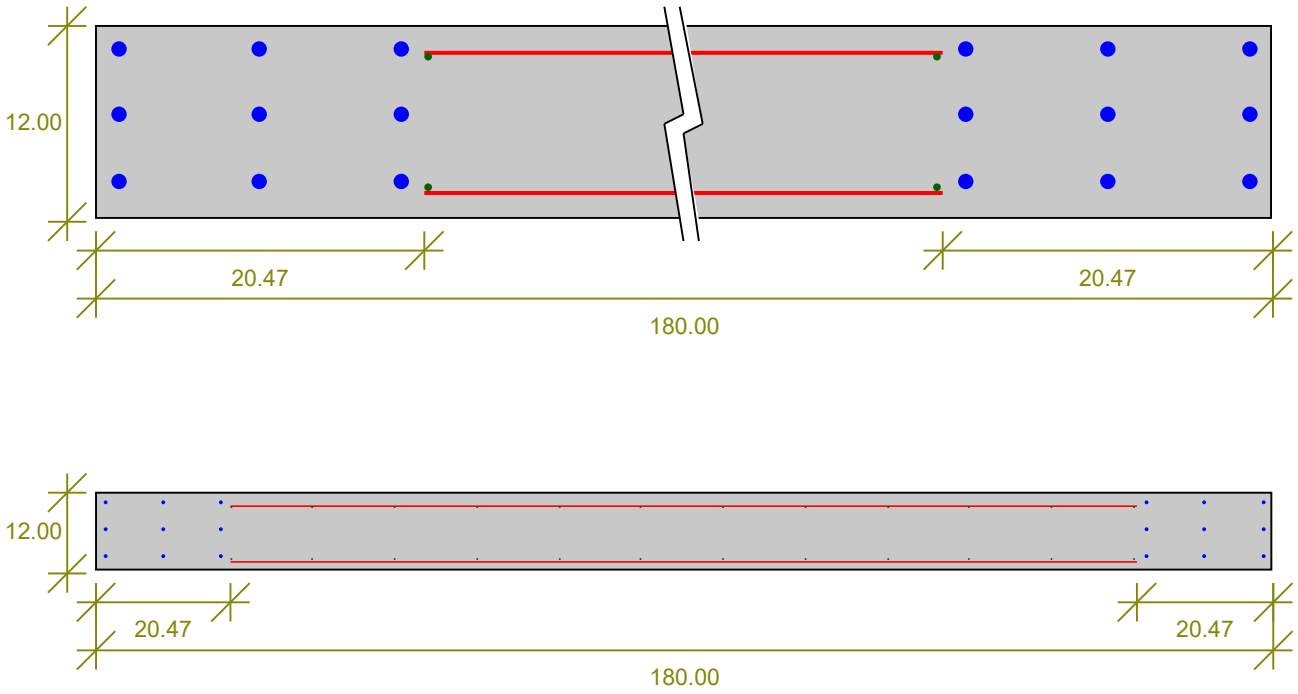
Material statistics

Volume(yard3)	Steel ratio(%)	Steel Density
5.556	1.11	0.02

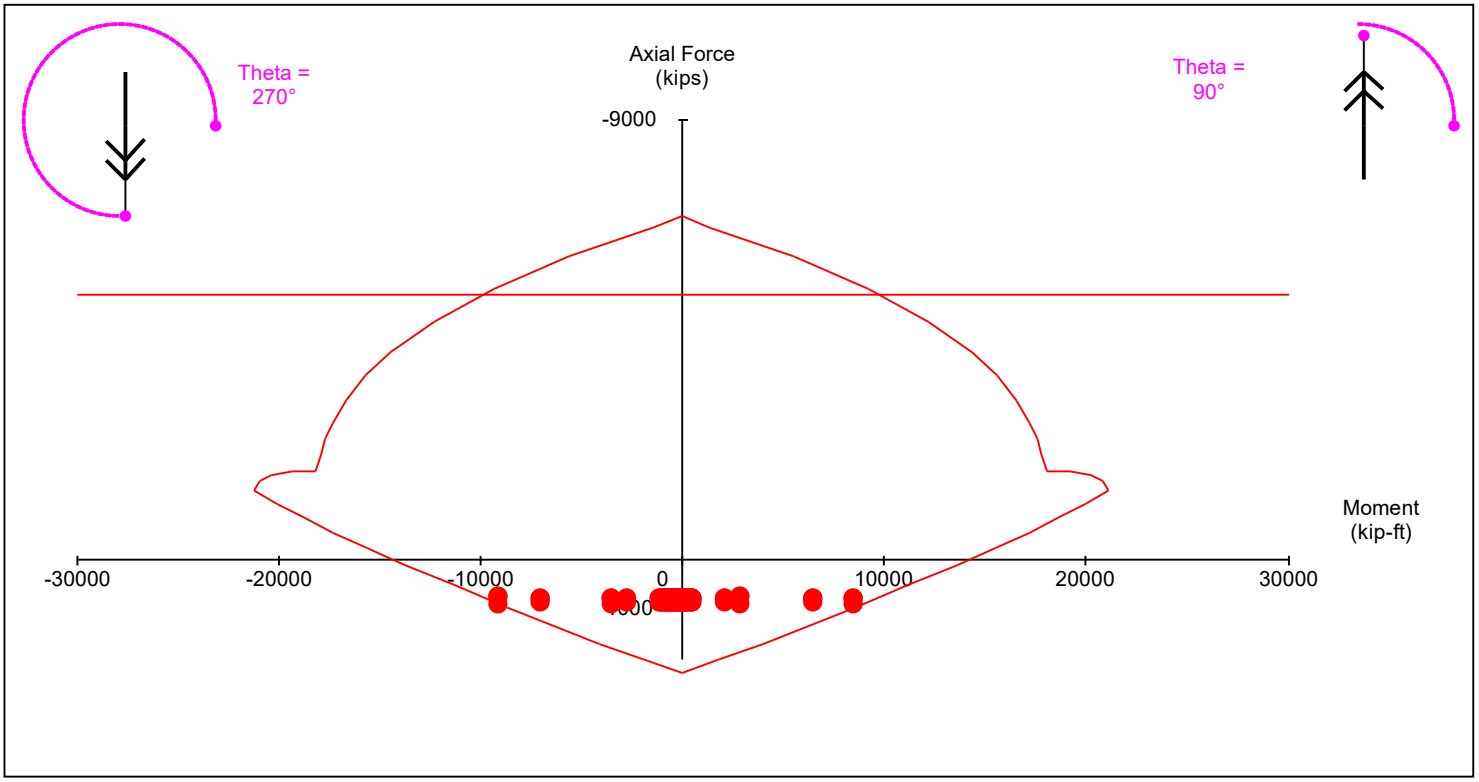
Boundary element check

Method: "N/A"
Du/Hw = 0.00

Wall Diagram



PM Diagram



ADAPT Wall Design

Status: Acceptable

Model: adapt-builder_multi-level-tutorial_final

N vs M Util: 0.991

Pier Label: P3

Design Section: L2_Bot_7 (Level 2 (EL 25.5) - 25.50ft)

Shear Util: 0.972

Maximum: 1.000

Design Code: ACI2019

Dimension

Length = 20.75 ft
Thickness = 12.00 in
Lu = 10.00 ft
Hw = 37.00 ft

Governing Loads

	Pu (kip)	Vu (kip)	Mu (kip-ft)	Utilization	GLC
Axial	-2324.900	889.380	21143.000	0.215	"ULS-5_EQ1_LR1_SEIS"
Flexure	-1224.600	889.380	21143.000	0.991	"ULS-7_EQ1_SEIS"
Shear	-1910.600	-946.910	-20929.000	0.972	"ULS-5_-EQ1(LR1)_SEIS"

Shear Design

Fys = 60.000 ksi
Fyv = 60.000 ksi
Phi sh = 0.750
Phi Vc = 414.049 kip
Phi Vn = 974.272 kip
Phi Vnmax = 1388.630 kip

Panel Bars	Smax (in)	Avmin (in2/ft)	Av req (in2/ft)	Av prov (in2/ft)	Status
(2C) #4 @ 8.00 horz	18.00	0.29	0.57	0.60	"O.K."
(2C) #4 @ 10.00 vert	18.00	0.43	0.43	0.48	"O.K."

Flexure and Axial Design

Fc = 6000.00 psi
phi b = 0.90
phi c = 0.65

Panel bars used:		As in2	As (min) in2	CGS in	Curtains	Spacing in
Aused = 0.04 in2	Zone 1	13 - #8	10.27	2.99	19.23	3	9.00
n = 15.00	Zone 2	18 - #8	14.22	2.99	23.73	3	9.00

Aused/Aprov vert = 0.10

PM Diagram status: "O.K."

Slenderness check

Lu(ft)	Lu/16	Status
10.00	7.50	"O.K."

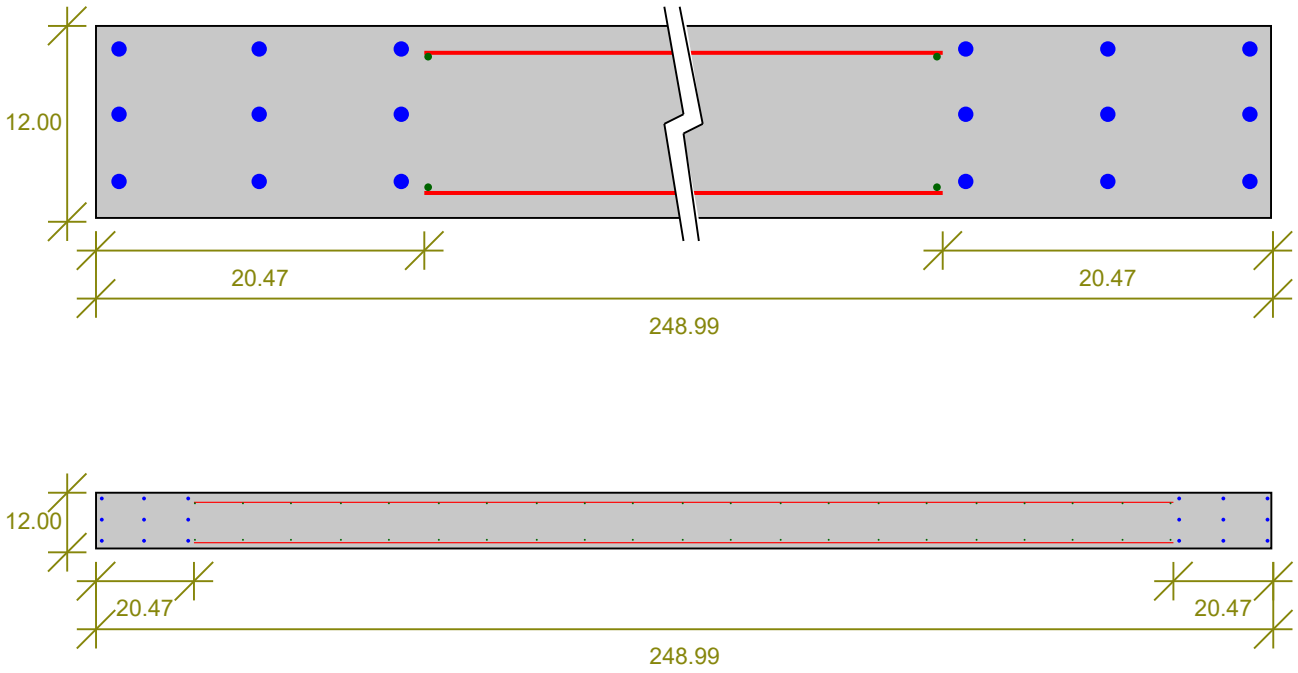
Material statistics

Volume(yard3)	Steel ratio(%)	Steel Density
7.685	0.84	0.01

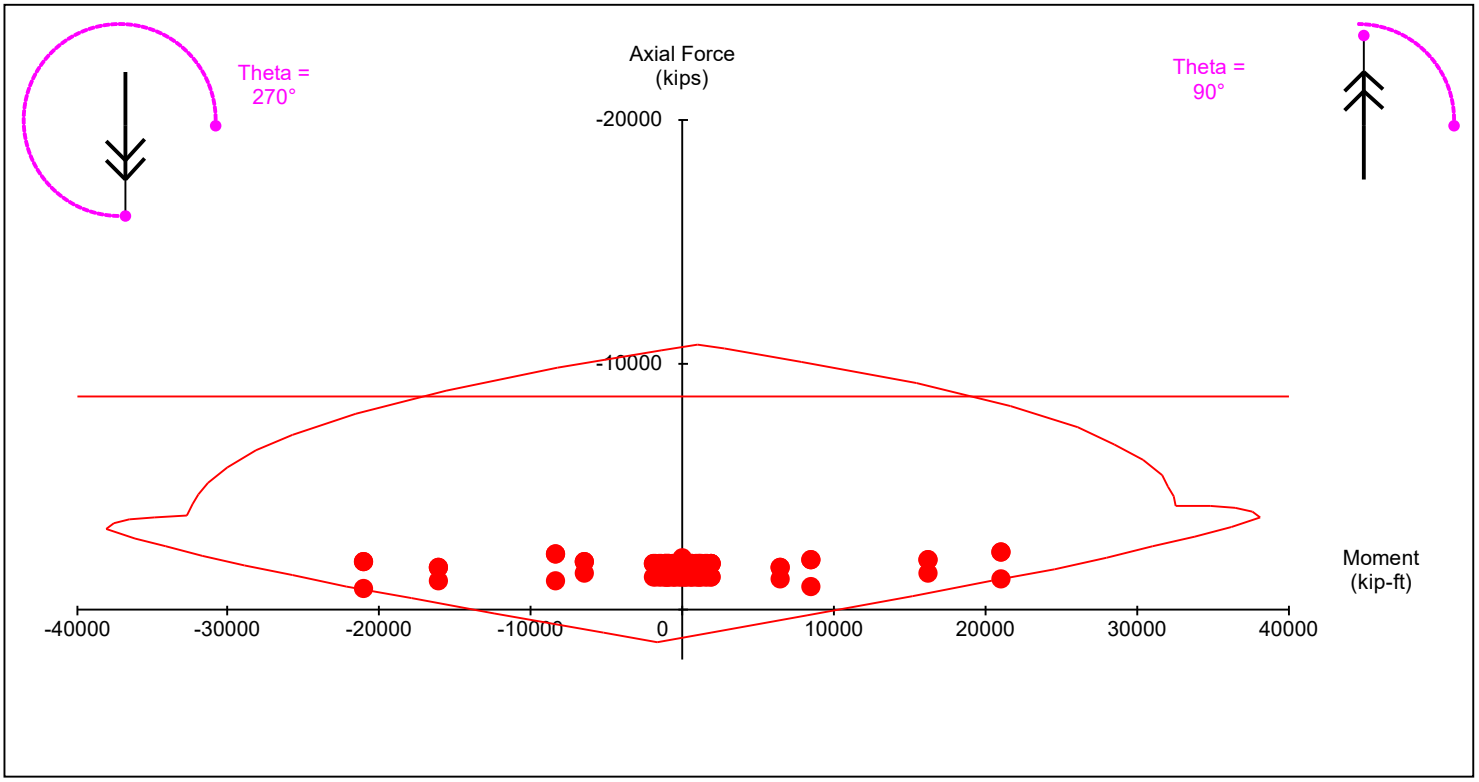
Boundary element check

Method: "N/A"
Du/Hw = 0.00

Wall Diagram



PM Diagram



ADAPT Wall Design

Status: Unacceptable

Model: adapt-builder_multi-level-tutorial_final

N vs M Util: 1.387

Pier Label: P2

Design Section: L2_Bot_8 (Level 2 (EL 25.5) - 25.50ft)

Shear Util: 1.162

Maximum: 1.000

Design Code: ACI2019

Dimension

Length = 10.00 ft
Thickness = 12.00 in
Lu = 10.00 ft
Hw = 37.00 ft

Governing Loads

	Pu (kip)	Vu (kip)	Mu (kip-ft)	Utilization	GLC
Axial	-3511.700	26.749	-91.989	0.502	"ULS-5_-EQ1_LR1_SEIS"
Flexure	-1989.200	-777.710	-14090.000	1.387	"ULS-5_EQ2_LR1_SEIS"
Shear	-1986.200	-777.710	-14090.000	1.162	"ULS-5_EQ2(LR1)_SEIS"

Shear Design

Fys = 60.000 ksi
Fyv = 60.000 ksi
Phi sh = 0.750
Phi Vc = 167.313 kip
Phi Vn = 815.313 kip
Phi Vnmax = 669.252 kip

Panel Bars	Smax (in)	Avmin (in2/ft)	Av req (in2/ft)	Av prov (in2/ft)	Status
(2C) #7 @ 10.00 horz	18.00	0.36	1.36	1.44	"O.K."
(2C) #4 @ 12.00 vert	18.00	0.36	0.36	0.40	"O.K."

Flexure and Axial Design

Fc = 6000.00 psi
phi b = 0.90
phi c = 0.65
Aused = 0.04 in2
n = 0.00
Aused/Aprov vert = 0.10

Panel bars used:		As in2	As (min) in2	CGS in	Curtains	Spacing in
Zone 1	21 - #11	32.76	1.44	28.23	3	9.00
Zone 2	19 - #11	29.64	1.44	28.23	3	9.00

PM Diagram status: "N.G."

Slenderness check

Lu(ft)	Lu/16	Status
10.00	7.50	"O.K."

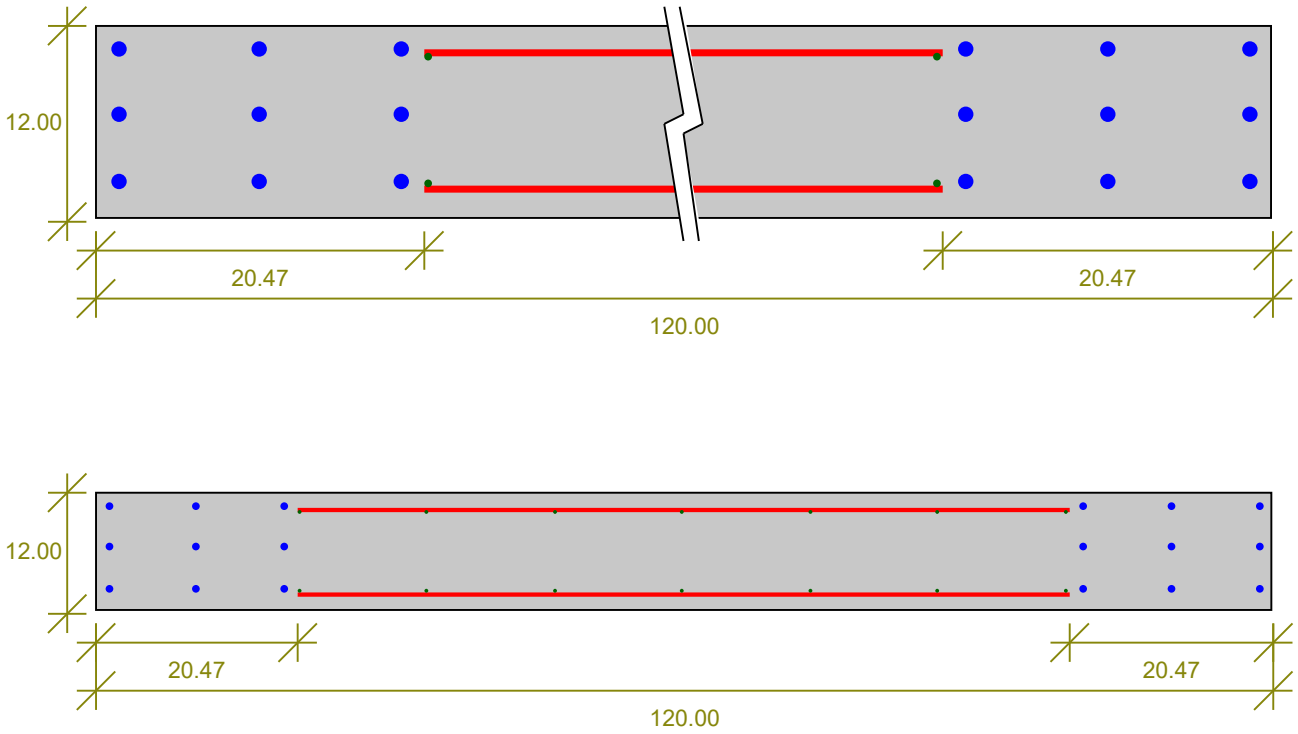
Material statistics

Volume(yard3)	Steel ratio(%)	Steel Density
3.704	4.33	0.05

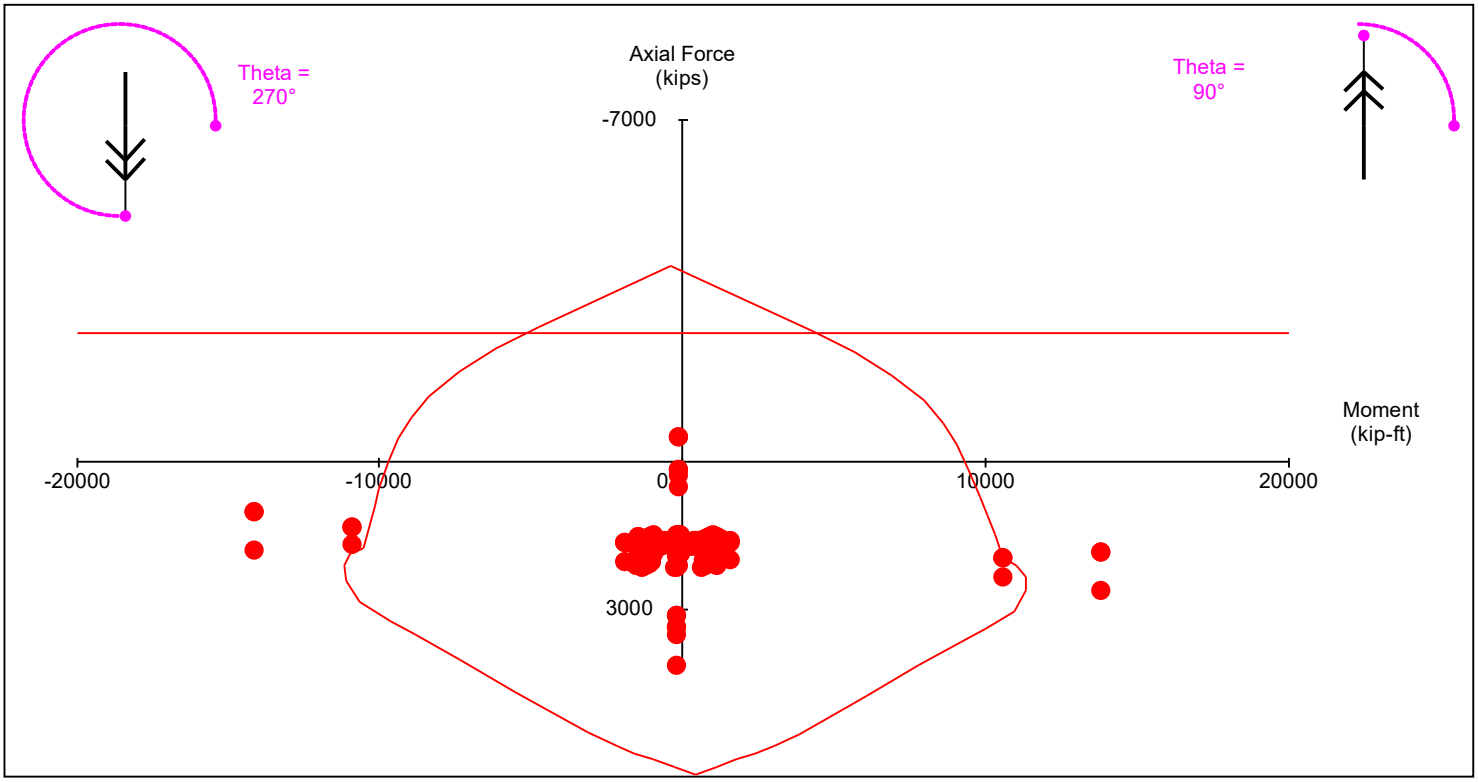
Boundary element check

Method: "N/A"
Du/Hw = 0.00

Wall Diagram



PM Diagram



ADAPT Wall Design

Status: Acceptable

Model: adapt-builder_multi-level-tutorial_final

N vs M Util: 0.990

Pier Label: P2

Design Section: L2_Bot_9 (Level 2 (EL 25.5) - 25.50ft)

Shear Util: 0.992

Maximum: 1.000

Design Code: ACI2019

Dimension

Length = 14.00 ft

Thickness = 12.00 in

Lu = 10.00 ft

Hw = 37.00 ft

Governing Loads

	Pu (kip)	Vu (kip)	Mu (kip-ft)	Utilization	GLC
Axial	-266.150	-785.420	-11173.000	0.033	"ULS-5_-EQ1_LR1_SEIS"
Flexure	-109.650	813.620	11351.000	0.990	"ULS-7_EQ1_SEIS"
Shear	-213.140	813.620	11351.000	0.992	"ULS-5_EQ1(LR1)_SEIS"

Shear Design

Fys = 60.000 ksi

Fyv = 60.000 ksi

Phi sh = 0.750

Phi Vc = 234.238 kip

Phi Vn = 820.138 kip

Phi Vnmax = 936.952 kip

Panel Bars	Smax (in)	Avmin (in2/ft)	Av req (in2/ft)	Av prov (in2/ft)	Status
(2C) #5 @ 8.00 horz	18.00	0.36	0.92	0.93	"O.K."
(2C) #4 @ 12.00 vert	18.00	0.36	0.36	0.40	"O.K."

Flexure and Axial Design

F'c = 6000.00 psi

phi b = 0.90

phi c = 0.65

Panel bars used:

Aused = 0.04 in2

n = 2.00

Aused/Aprov vert = 0.10

		As in2	As (min) in2	CGS in	Curtains	Spacing in
Zone 1	24 - #8	18.96	2.02	32.73	3	9.00
Zone 2	23 - #8	18.17	2.02	32.73	3	9.00

PM Diagram status: "O.K."

Slenderness check

Lu(ft)	Lu/16	Status
10.00	7.50	"O.K."

Material statistics

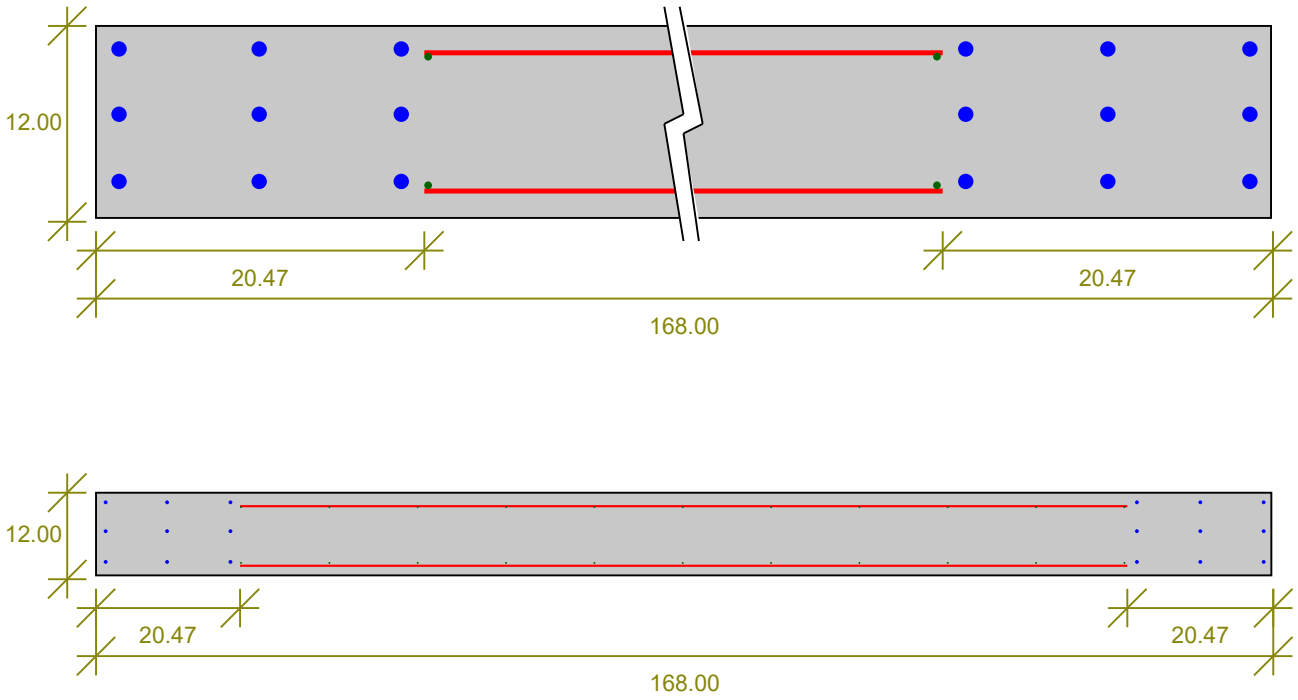
Volume(yard3)	Steel ratio(%)	Steel Density
5.185	1.85	0.03

Boundary element check

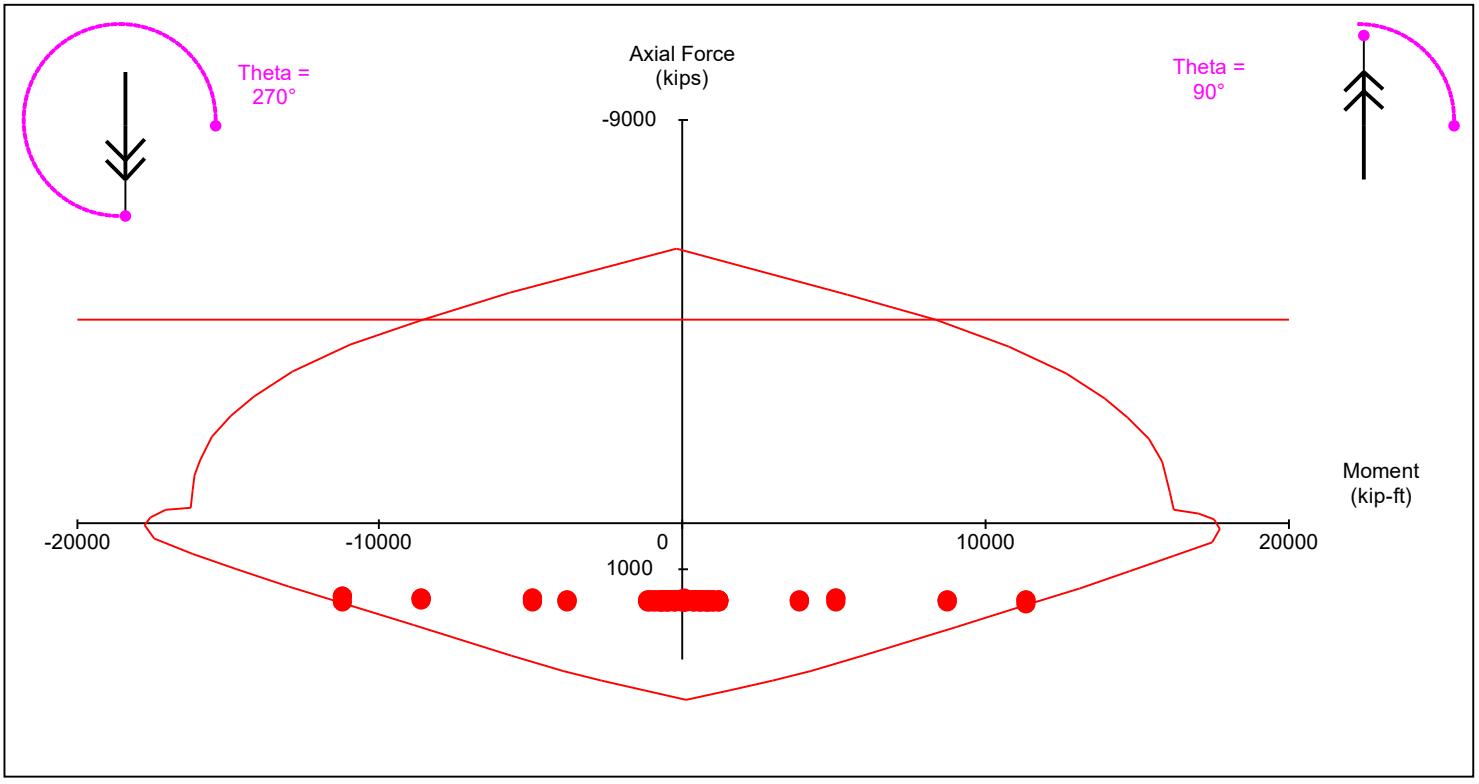
Method: "N/A"

Du/Hw = 0.00

Wall Diagram



PM Diagram



ADAPT Wall Design

Status: Unacceptable

Model: adapt-builder_multi-level-tutorial_final

N vs M Util: 0.978

Pier Label: P2

Design Section: L2_Top_10 (Level 2 (EL 25.5) - 25.50ft)

Shear Util: 1.490

Maximum: 1.000

Design Code: ACI2019

Dimension

Length = 10.00 ft
Thickness = 12.00 in
Lu = 10.00 ft
Hw = 37.00 ft

Governing Loads

	Pu (kip)	Vu (kip)	Mu (kip-ft)	Utilization	GLC
Axial	1090.600	-52.548	-68.623	0.978	"ULS-7_-EQ1_SEIS"
Flexure	-236.670	-997.260	3778.100	0.715	"ULS-7_EQ2_SEIS"
Shear	-1106.800	-997.260	3778.100	1.490	"ULS-5_EQ2(LR1)_SEIS"

Shear Design

Fys = 60.000 ksi
Fyv = 60.000 ksi
Phi sh = 0.750
Phi Vc = 167.313 kip
Phi Vn = 1020.513 kip
Phi Vnmax = 669.252 kip

Panel Bars	Smax (in)	Avmin (in2/ft)	Av req (in2/ft)	Av prov (in2/ft)	Status
(2C) #8 @ 10.00 horz	18.00	0.36	1.84	1.90	"O.K."
(2C) #4 @ 12.00 vert	18.00	0.36	0.36	0.40	"O.K."

Flexure and Axial Design

F'c = 6000.00 psi
phi b = 0.90
phi c = 0.65
Panel bars used:
Aused = 0.04 in2
n = 3.00
Aused/Aprov vert = 0.10

		As in2	As (min) in2	CGS in	Curtains	Spacing in
Zone 1	12 - #8	9.48	1.44	14.73	3	9.00
Zone 2	14 - #8	11.06	1.44	19.23	3	9.00

PM Diagram status: "O.K."

Slenderness check

Lu(ft)	Lu/16	Status
10.00	7.50	"O.K."

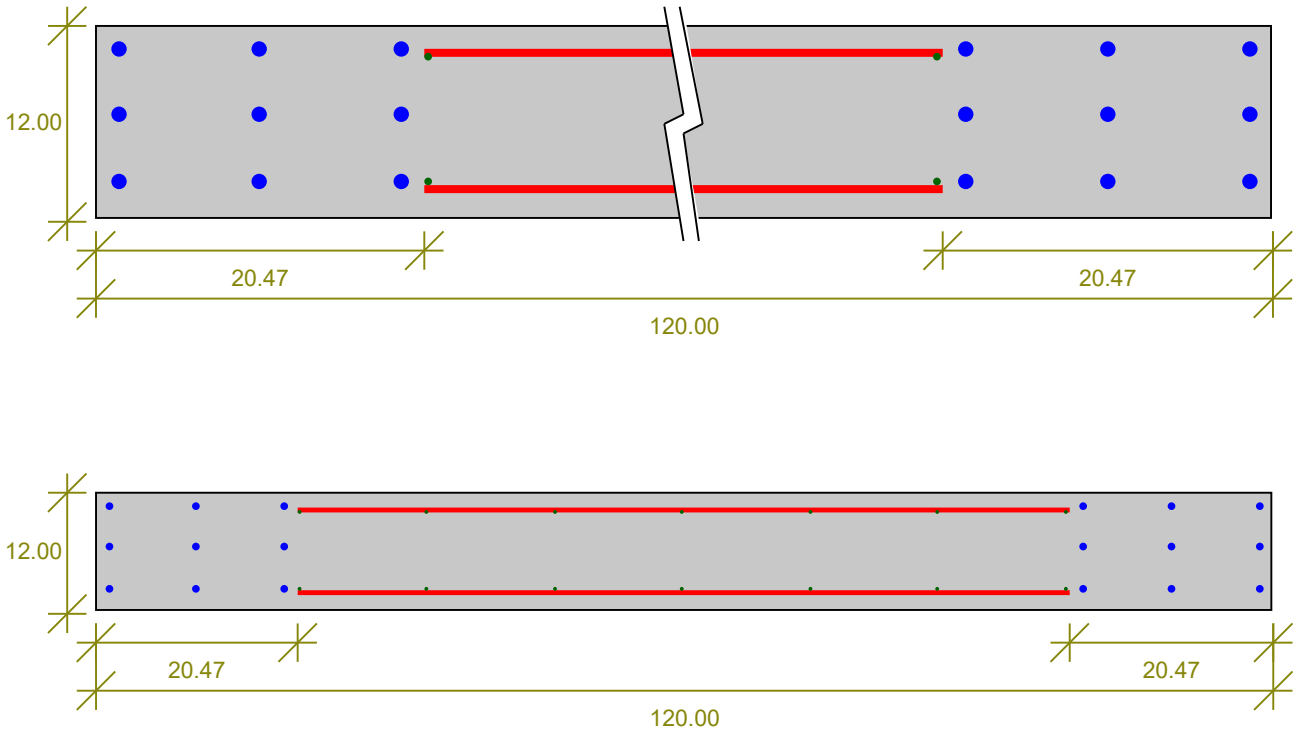
Material statistics

Volume(yard3)	Steel ratio(%)	Steel Density
3.704	1.43	0.03

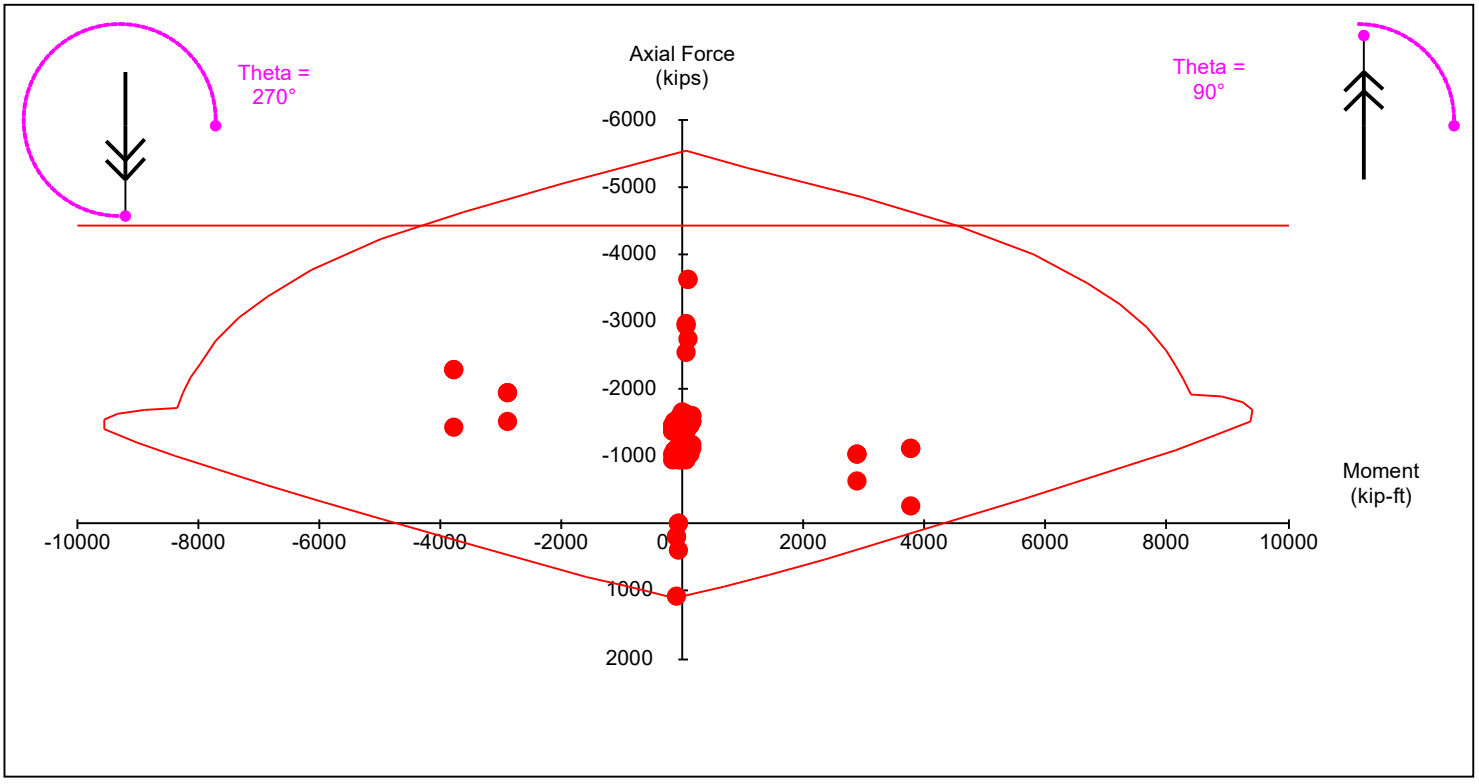
Boundary element check

Method: "N/A"
Du/Hw = 0.00

Wall Diagram



PM Diagram



ADAPT Wall Design

Status: Acceptable

Model: adapt-builder_multi-level-tutorial_final

N vs M Util: 0.993

Pier Label: P1

Design Section: L2_Top_6 (Level 2 (EL 25.5) - 25.50ft)

Shear Util: 0.817

Maximum: 1.000

Design Code: ACI2019

Dimension

Length = 15.00 ft

Thickness = 12.00 in

Lu = 10.00 ft

Hw = 37.00 ft

Governing Loads

	Pu (kip)	Vu (kip)	Mu (kip-ft)	Utilization	GLC
Axial	-211.420	399.150	-3872.100	0.028	"ULS-5_-EQ1(LR1)_SBS"
Flexure	-94.048	399.150	-3872.100	0.993	"ULS-7_-EQ1_SBS"
Shear	-193.840	-425.880	2969.300	0.817	"ULS-5_EQ1(LR1)_SBS"

Shear Design

Fys = 60.000 ksi

Fyv = 60.000 ksi

Phi sh = 0.750

Phi Vc = 250.969 kip

Phi Vn = 520.969 kip

Phi Vnmax = 1003.877 kip

Panel Bars	Smax (in)	Avmin (in2/ft)	Av req (in2/ft)	Av prov (in2/ft)	Status
(2C) #4 @ 12.00 horz	18.00	0.29	0.36	0.40	"O.K."
(2C) #4 @ 12.00 vert	18.00	0.36	0.36	0.40	"O.K."

Flexure and Axial Design

F'c = 6000.00 psi

phi b = 0.90

phi c = 0.65

Aused = 0.04 in2

n = 12.00

Aused/Aprov vert = 0.10

Panel bars used:		As in2	As (min) in2	CGS in	Curtains	Spacing in
Zone 1	4 - #8	3.16	2.16	5.73	3	9.00
Zone 2	5 - #8	3.95	2.16	5.73	3	9.00

PM Diagram status: "O.K."

Slenderness check

Lu(ft)	Lu/16	Status
10.00	7.50	"O.K."

Material statistics

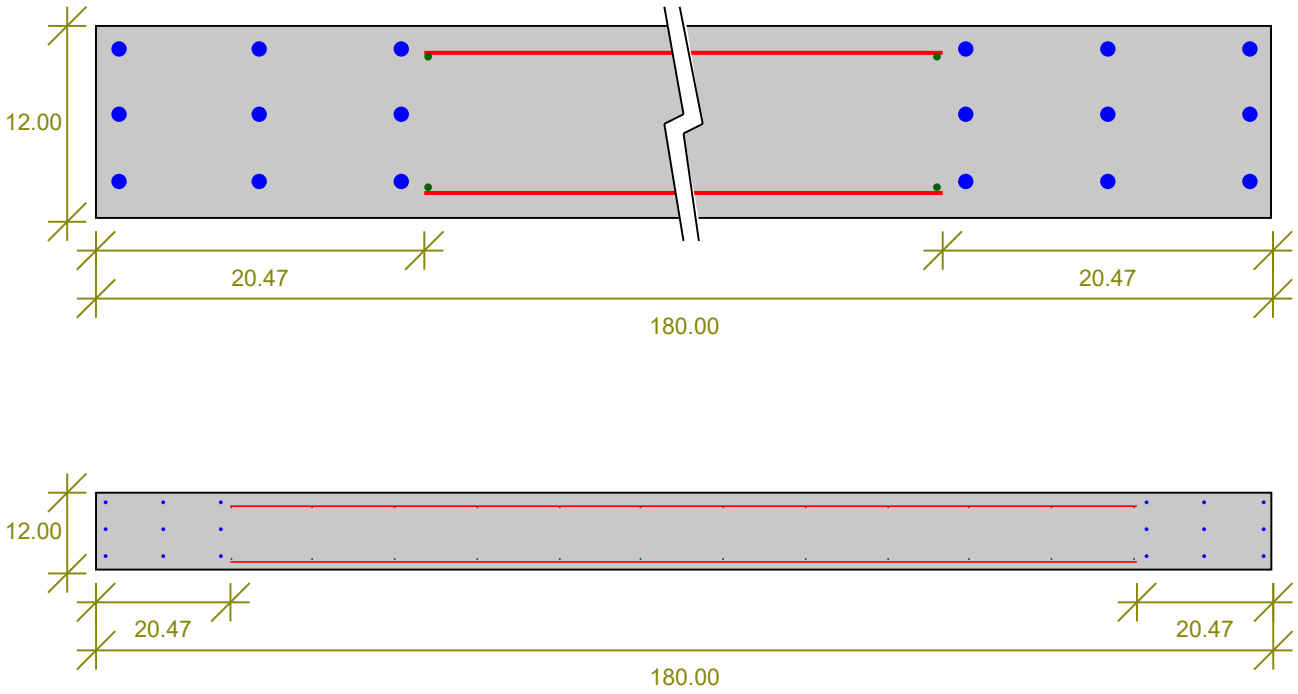
Volume(yard3)	Steel ratio(%)	Steel Density
5.556	0.35	0.01

Boundary element check

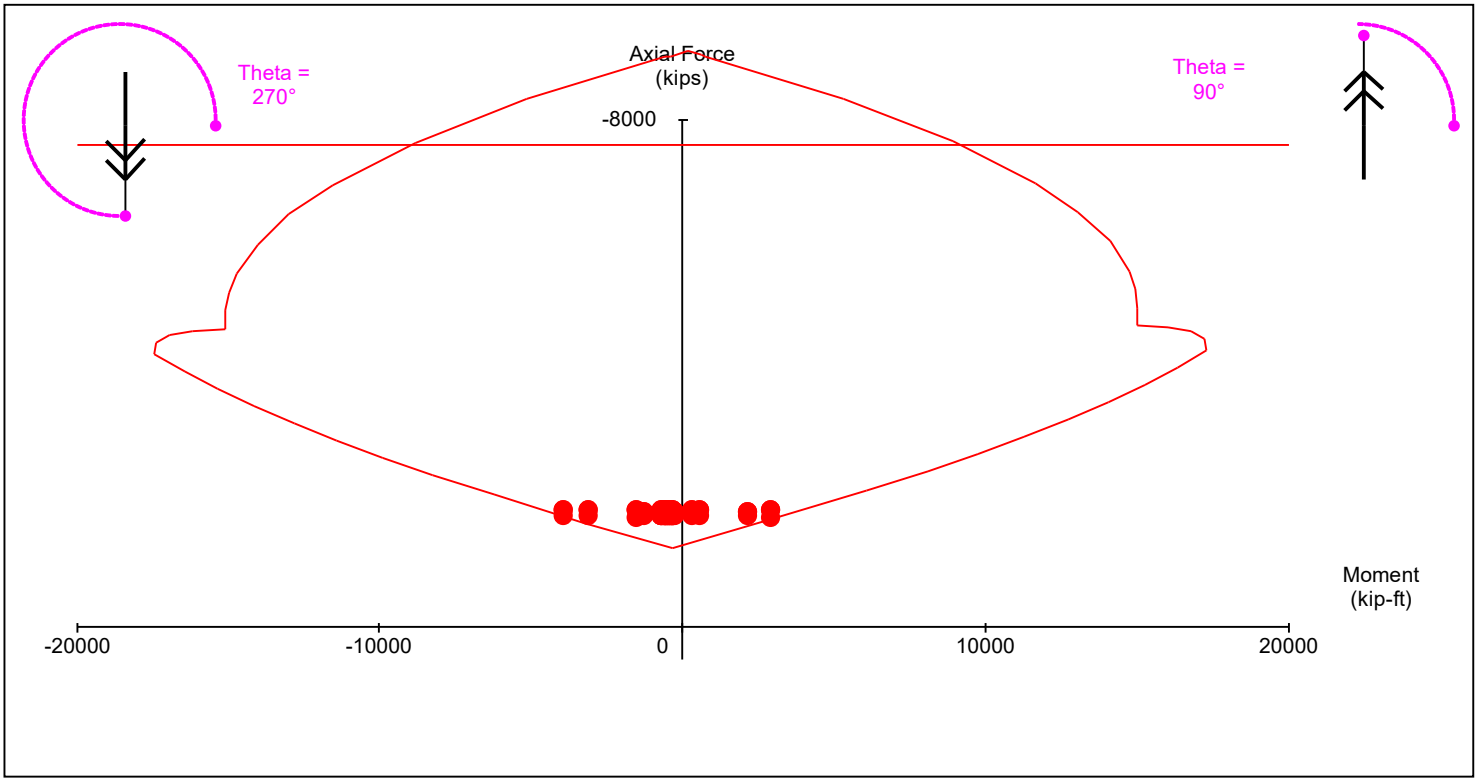
Method: "N/A"

Du/Hw = 0.00

Wall Diagram



PM Diagram



ADAPT Wall Design

Status: Acceptable

Model: adapt-builder_multi-level-tutorial_final

N vs M Util: 0.803

Pier Label: P3

Design Section: L2_Top_7 (Level 2 (EL 25.5) - 25.50ft)

Shear Util: 0.972

Maximum: 1.000

Design Code: ACI2019

Dimension

Length = 20.75 ft
Thickness = 12.00 in
Lu = 10.00 ft
Hw = 37.00 ft

Governing Loads

	Pu (kip)	Vu (kip)	Mu (kip-ft)	Utilization	GLC
Axial	-2271.300	-889.380	9581.000	0.225	"ULS-5_EQ1_LR1_SBS"
Flexure	-787.030	946.910	-8618.800	0.803	"ULS-7_-EQ1_SBS"
Shear	-1857.000	946.910	-8618.800	0.972	"ULS-5_-EQ1(LR1)_SBS"

Shear Design

Fys = 60.000 ksi
Fyv = 60.000 ksi
Phi sh = 0.750
Phi Vc = 414.049 kip
Phi Vn = 974.272 kip
Phi Vnmax = 1388.630 kip

Panel Bars	Smax (in)	Avmin (in2/ft)	Av req (in2/ft)	Av prov (in2/ft)	Status
(2C) #4 @ 8.00 horz	18.00	0.29	0.57	0.60	"O.K."
(2C) #4 @ 10.00 vert	18.00	0.43	0.43	0.48	"O.K."

Flexure and Axial Design

F'c = 6000.00 psi
phi b = 0.90
phi c = 0.65
Panel bars used:
Aused = 0.04 in2
n = 23.00
Aused/Aprov vert = 0.10

		As in2	As (min) in2	CGS in	Curtains	Spacing in
Zone 1	3 - #8	2.37	2.99	1.23	3	9.00
Zone 2	3 - #8	2.37	2.99	1.23	3	9.00

PM Diagram status: "O.K."

Slenderness check

Lu(ft)	Lu/16	Status
10.00	7.50	"O.K."

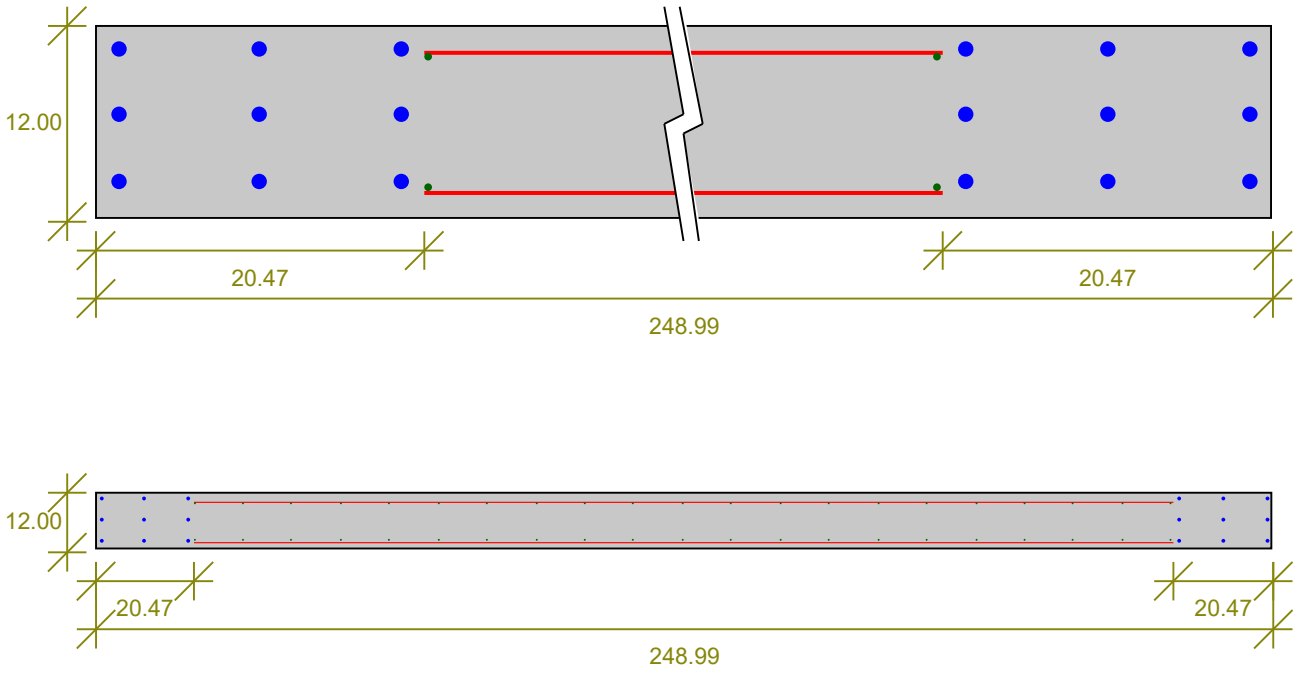
Material statistics

Volume(yard3)	Steel ratio(%)	Steel Density
7.685	0.19	0.01

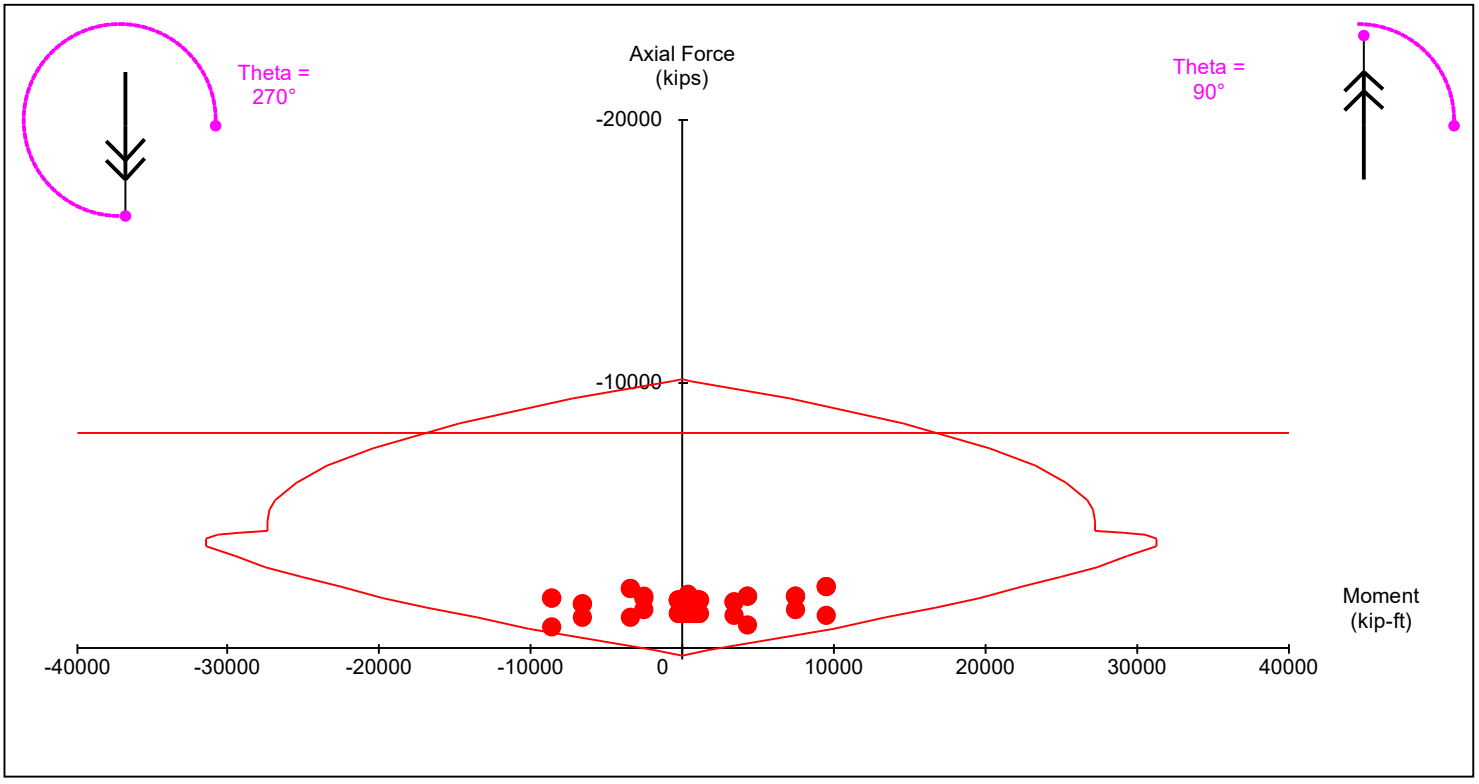
Boundary element check

Method: "N/A"
Du/Hw = 0.00

Wall Diagram



PM Diagram



ADAPT Wall Design

Status: Unacceptable

Model: adapt-builder_multi-level-tutorial_final

N vs M Util: 0.950

Pier Label: P2

Design Section: L2_Top_8 (Level 2 (EL 25.5) - 25.50ft)

Shear Util: 1.162

Maximum: 1.000

Design Code: ACI2019

Dimension

Length = 10.00 ft

Thickness = 12.00 in

Lu = 10.00 ft

Hw = 37.00 ft

Governing Loads

	Pu (kip)	Vu (kip)	Mu (kip-ft)	Utilization	GLC
Axial	1179.900	40.306	355.240	0.950	"ULS-7_EQ1_SEIS"
Flexure	1179.900	40.306	355.240	0.636	"ULS-7_EQ1_SEIS"
Shear	-1960.400	777.710	-3980.000	1.162	"ULS-5_EQ2(LR1)_SEIS"

Shear Design

Fys = 60.000 ksi

Fyv = 60.000 ksi

Phi sh = 0.750

Phi Vc = 167.313 kip

Phi Vn = 815.313 kip

Phi Vnmax = 669.252 kip

Panel Bars	Smax (in)	Avmin (in2/ft)	Av req (in2/ft)	Av prov (in2/ft)	Status
(2C) #7 @ 10.00 horz	18.00	0.36	1.36	1.44	"O.K."
(2C) #4 @ 12.00 vert	18.00	0.36	0.36	0.40	"O.K."

Flexure and Axial Design

F'c = 6000.00 psi

phi b = 0.90

phi c = 0.65

Aused = 0.04 in2

n = 2.00

Aused/Aprov vert = 0.10

Panel bars used:		As in2	As (min) in2	CGS in	Curtains	Spacing in
Zone 1	17 - #8	13.43	1.44	23.73	3	9.00
Zone 2	12 - #8	9.48	1.44	14.73	3	9.00

PM Diagram status: "O.K."

Slenderness check

Lu(ft)	Lu/16	Status
10.00	7.50	"O.K."

Material statistics

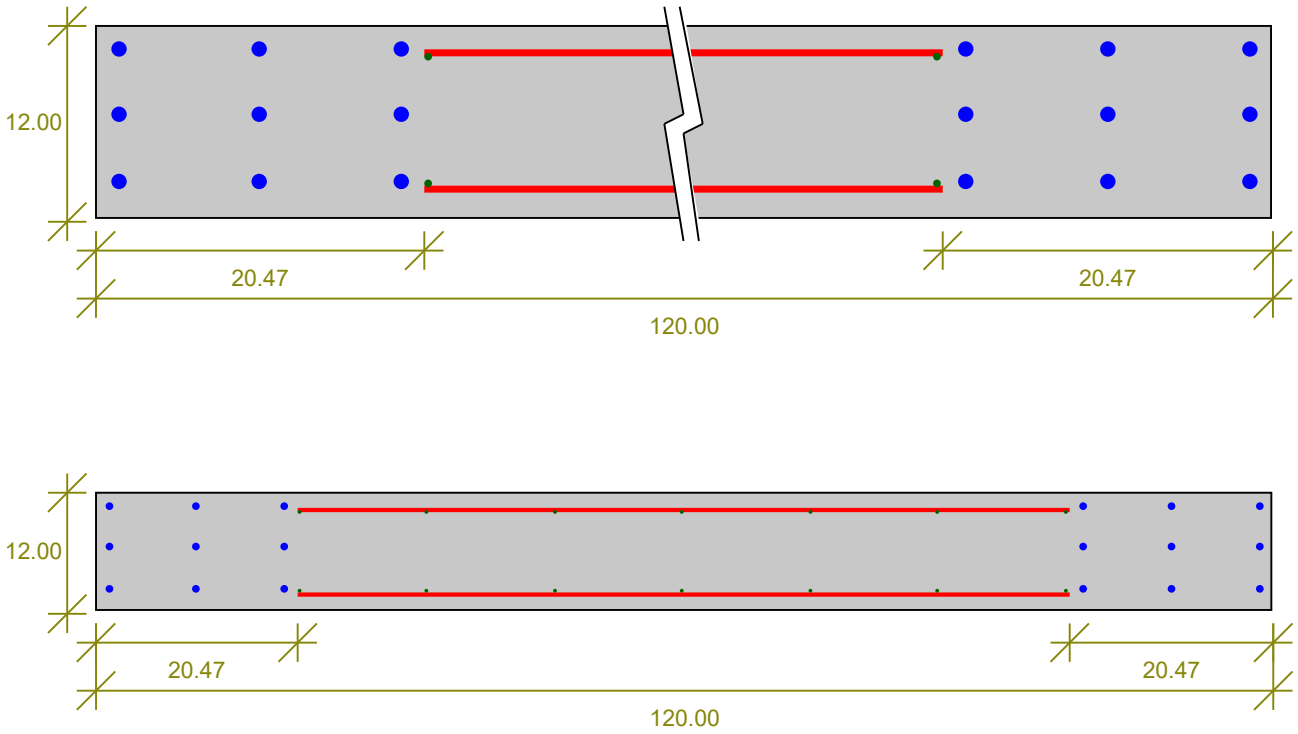
Volume(yard3)	Steel ratio(%)	Steel Density
3.704	1.60	0.03

Boundary element check

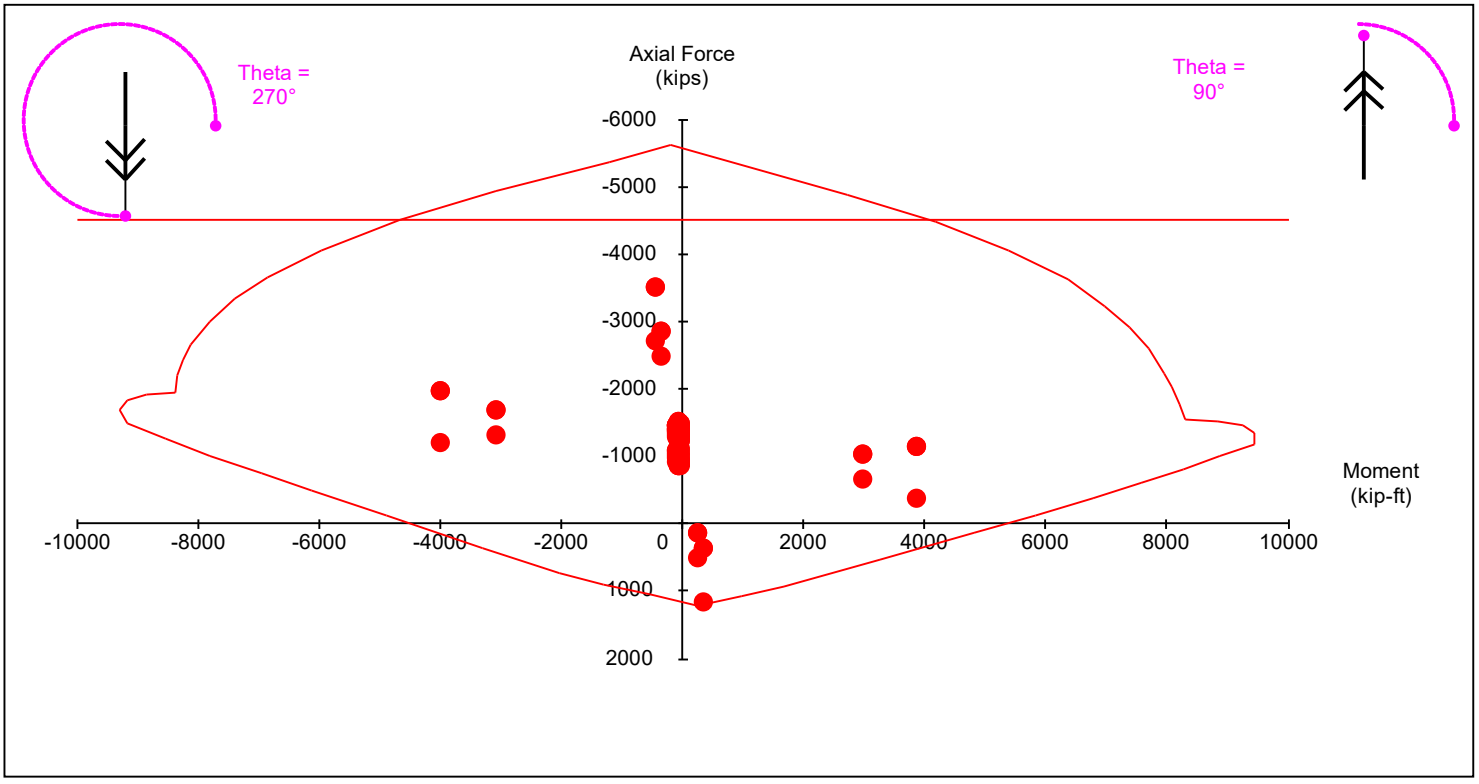
Method: "N/A"

Du/Hw = 0.00

Wall Diagram



PM Diagram



ADAPT Wall Design

Status: Acceptable

Model: adapt-builder_multi-level-tutorial_final

N vs M Util: 0.802

Pier Label: P2

Design Section: L2_Top_9 (Level 2 (EL 25.5) - 25.50ft)

Shear Util: 0.992

Maximum: 1.000

Design Code: ACI2019

Dimension

Length = 14.00 ft

Thickness = 12.00 in

Lu = 10.00 ft

Hw = 37.00 ft

Governing Loads

	Pu (kip)	Vu (kip)	Mu (kip-ft)	Utilization	GLC
Axial	-229.980	785.420	-963.070	0.033	"ULS-5_-EQ1_LR1_SEIS"
Flexure	-118.750	-558.070	-2172.300	0.802	"ULS-7_-EQ2_SEIS"
Shear	-176.980	-813.620	774.740	0.992	"ULS-5_EQ1(LR1)_SEIS"

Shear Design

Fys = 60.000 ksi

Fyv = 60.000 ksi

Phi sh = 0.750

Phi Vc = 234.238 kip

Phi Vn = 820.138 kip

Phi Vnmax = 936.952 kip

Panel Bars	Smax (in)	Avmin (in2/ft)	Av req (in2/ft)	Av prov (in2/ft)	Status
(2C) #5 @ 8.00 horz	18.00	0.36	0.92	0.93	"O.K."
(2C) #4 @ 12.00 vert	18.00	0.36	0.36	0.40	"O.K."

Flexure and Axial Design

F'c = 6000.00 psi

phi b = 0.90

phi c = 0.65

Panel bars used:

Aused = 0.04 in2

n = 12.00

Aused/Aprov vert = 0.10

		As in2	As (min) in2	CGS in	Curtains	Spacing in
Zone 1	3 - #8	2.37	2.02	1.23	3	9.00
Zone 2	3 - #8	2.37	2.02	1.23	3	9.00

PM Diagram status: "O.K."

Slenderness check

Lu(ft)	Lu/16	Status
10.00	7.50	"O.K."

Material statistics

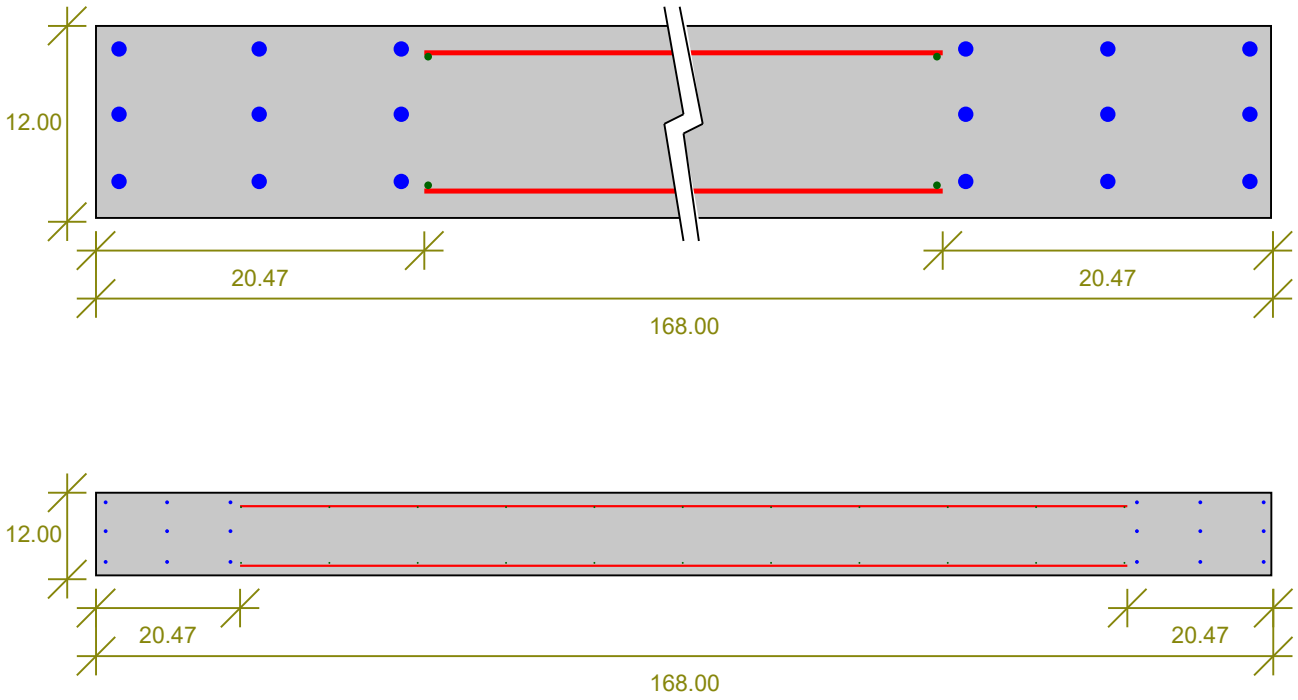
Volume(yard3)	Steel ratio(%)	Steel Density
5.185	0.26	0.01

Boundary element check

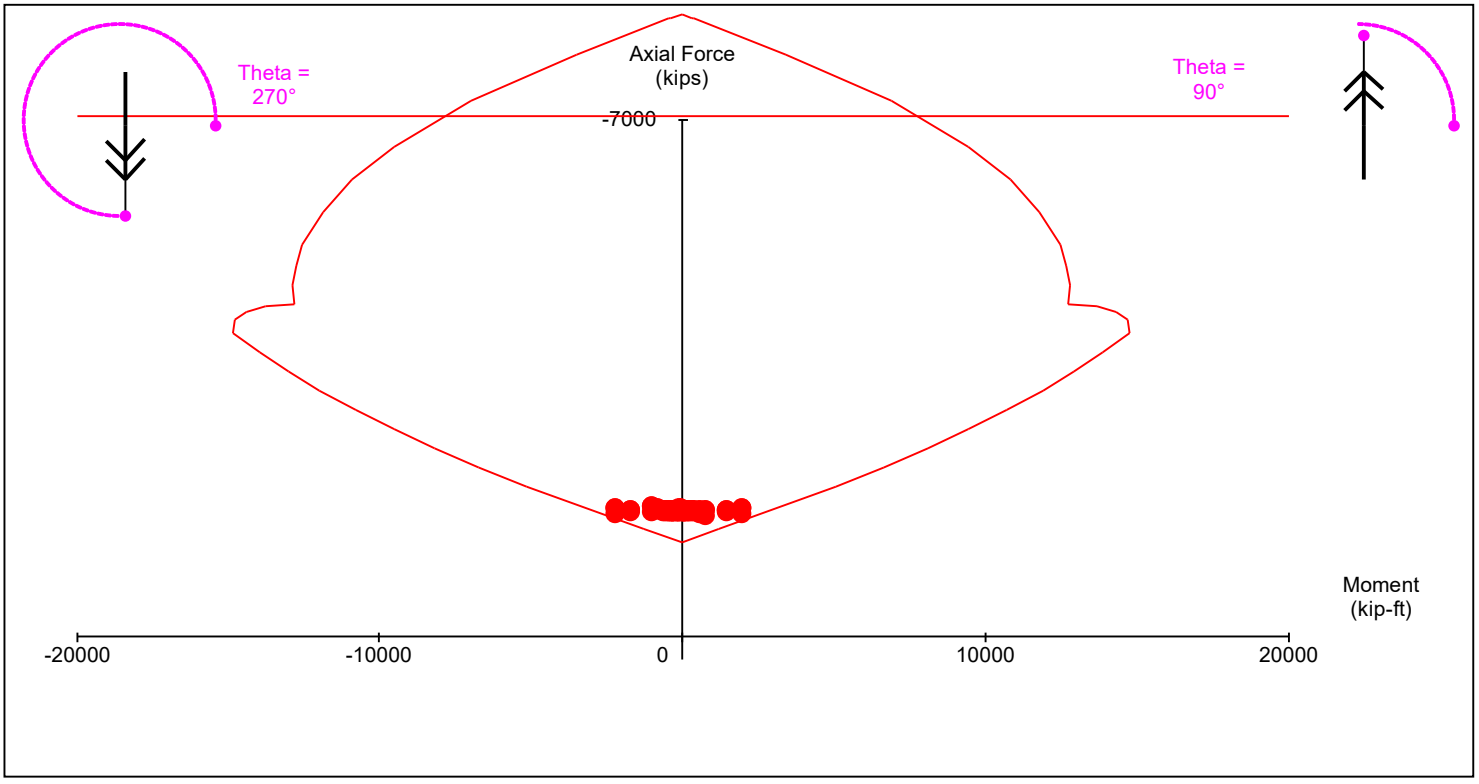
Method: "N/A"

Du/Hw = 0.00

Wall Diagram



PM Diagram



ADAPT Wall Design

Status: Acceptable

Model: adapt-builder_multi-level-tutorial_final

N vs M Util: 0.941

Pier Label: P1

Design Section: L3_Bot_11 (Level 3 (EL37.5) - 37.50ft)

Shear Util: 0.698

Maximum: 1.000

Design Code: ACI2019

Dimension

Length = 15.00 ft
Thickness = 12.00 in
Lu = 10.00 ft
Hw = 37.00 ft

Governing Loads

	Pu (kip)	Vu (kip)	Mu (kip-ft)	Utilization	GLC
Axial	-243.150	-363.610	-4047.800	0.033	"ULS-5_-EQ1(LR1)_SBS"
Flexure	-97.330	280.340	3134.000	0.941	"ULS-7_EQ1_SBS"
Shear	-243.150	-363.610	-4047.800	0.698	"ULS-5_-EQ1(LR1)_SBS"

Shear Design

Fys = 60.000 ksi
Fyv = 60.000 ksi
Phi sh = 0.750
Phi Vc = 250.969 kip
Phi Vn = 520.969 kip
Phi Vnmax = 1003.877 kip

Panel Bars	Smax (in)	Avmin (in2/ft)	Av req (in2/ft)	Av prov (in2/ft)	Status
(2C) #4 @ 12.00 horz	18.00	0.29	0.36	0.40	"O.K."
(2C) #4 @ 12.00 vert	18.00	0.36	0.36	0.40	"O.K."

Flexure and Axial Design

F'c = 6000.00 psi
phi b = 0.90
phi c = 0.65
Panel bars used:
Aused = 0.04 in2
n = 12.00
Aused/Aprov vert = 0.10

		As in2	As (min) in2	CGS in	Curtains	Spacing in
Zone 1	4 - #8	3.16	2.16	5.73	3	9.00
Zone 2	6 - #8	4.74	2.16	5.73	3	9.00

PM Diagram status: "O.K."

Slenderness check

Lu(ft)	Lu/16	Status
10.00	7.50	"O.K."

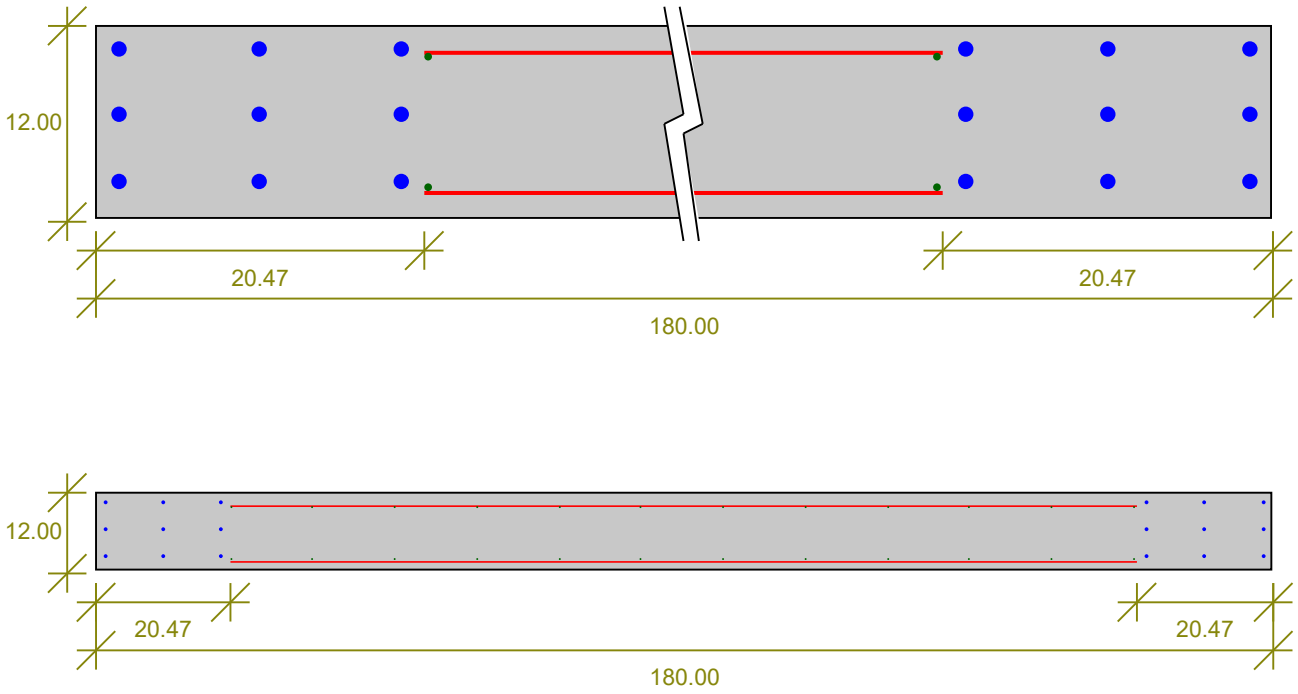
Material statistics

Volume(yard3)	Steel ratio(%)	Steel Density
5.556	0.39	0.01

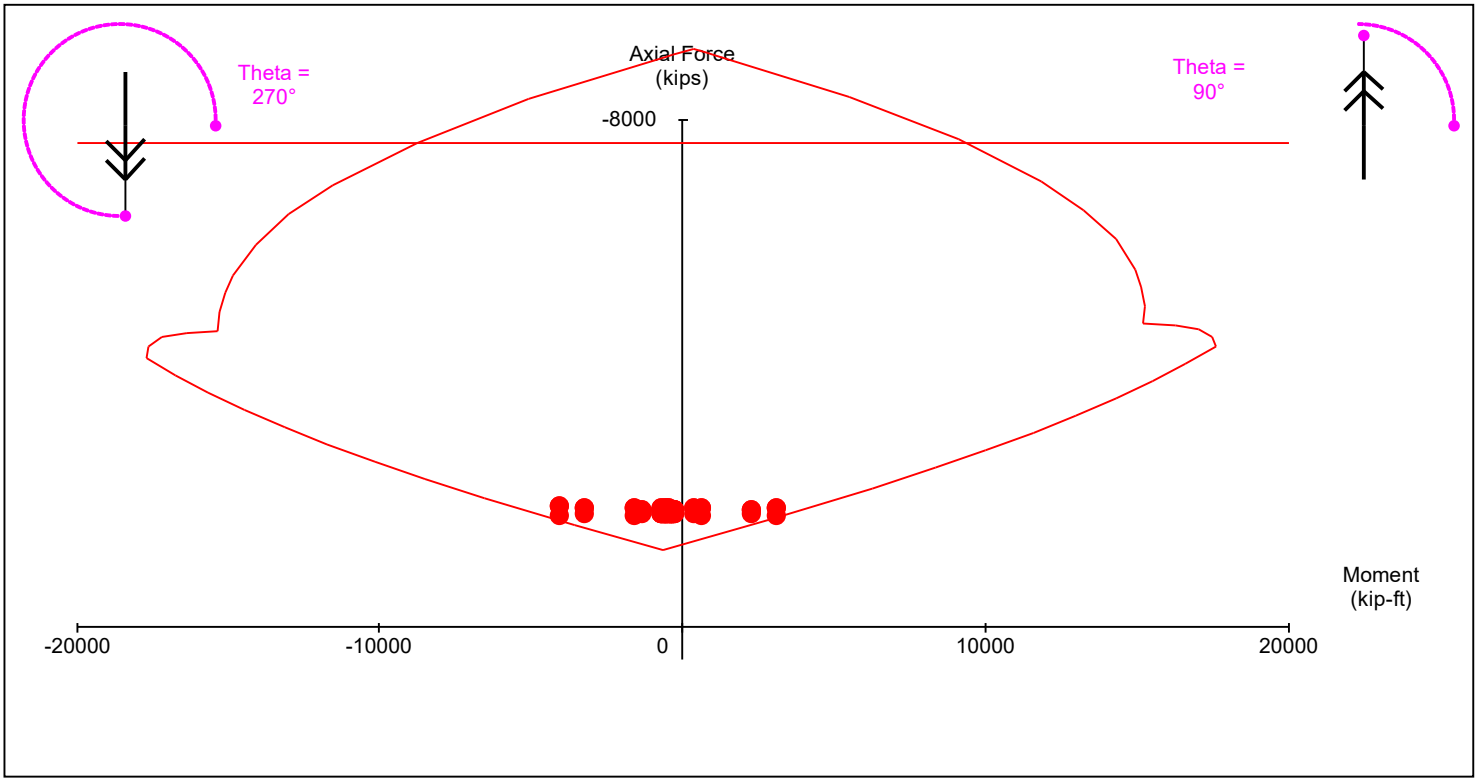
Boundary element check

Method: "N/A"
Du/Hw = 0.00

Wall Diagram



PM Diagram



ADAPT Wall Design

Status: Acceptable

Model: adapt-builder_multi-level-tutorial_final

N vs M Util: 0.865

Pier Label: P3

Design Section: L3_Bot_12 (Level 3 (EL37.5) - 37.50ft)

Shear Util: 0.972

Maximum: 1.000

Design Code: ACI2019

Dimension

Length = 20.75 ft
Thickness = 12.00 in
Lu = 10.00 ft
Hw = 37.00 ft

Governing Loads

	Pu (kip)	Vu (kip)	Mu (kip-ft)	Utilization	GLC
Axial	-2047.600	886.610	9752.700	0.202	"ULS-5_EQ1_LR1_SEIS"
Flexure	-706.770	-835.410	-8854.900	0.865	"ULS-7_-EQ1_SEIS"
Shear	-2044.000	886.610	9752.700	0.972	"ULS-5_EQ1(LR1)_SEIS"

Shear Design

Fys = 60.000 ksi
Fyv = 60.000 ksi
Phi sh = 0.750
Phi Vc = 414.049 kip
Phi Vn = 912.025 kip
Phi Vnmax = 1388.630 kip

Panel Bars	Smax (in)	Avmin (in2/ft)	Av req (in2/ft)	Av prov (in2/ft)	Status
(2C) #4 @ 9.00 horz	18.00	0.29	0.51	0.53	"O.K."
(2C) #4 @ 10.00 vert	18.00	0.41	0.41	0.48	"O.K."

Flexure and Axial Design

F'c = 6000.00 psi
phi b = 0.90
phi c = 0.65
Panel bars used:
Aused = 0.06 in2
n = 23.00
Aused/Aprov vert = 0.14

		As in2	As (min) in2	CGS in	Curtains	Spacing in
Zone 1	3 - #8	2.37	2.99	1.23	3	9.00
Zone 2	3 - #8	2.37	2.99	1.23	3	9.00

PM Diagram status: "O.K."

Slenderness check

Lu(ft)	Lu/16	Status
10.00	7.50	"O.K."

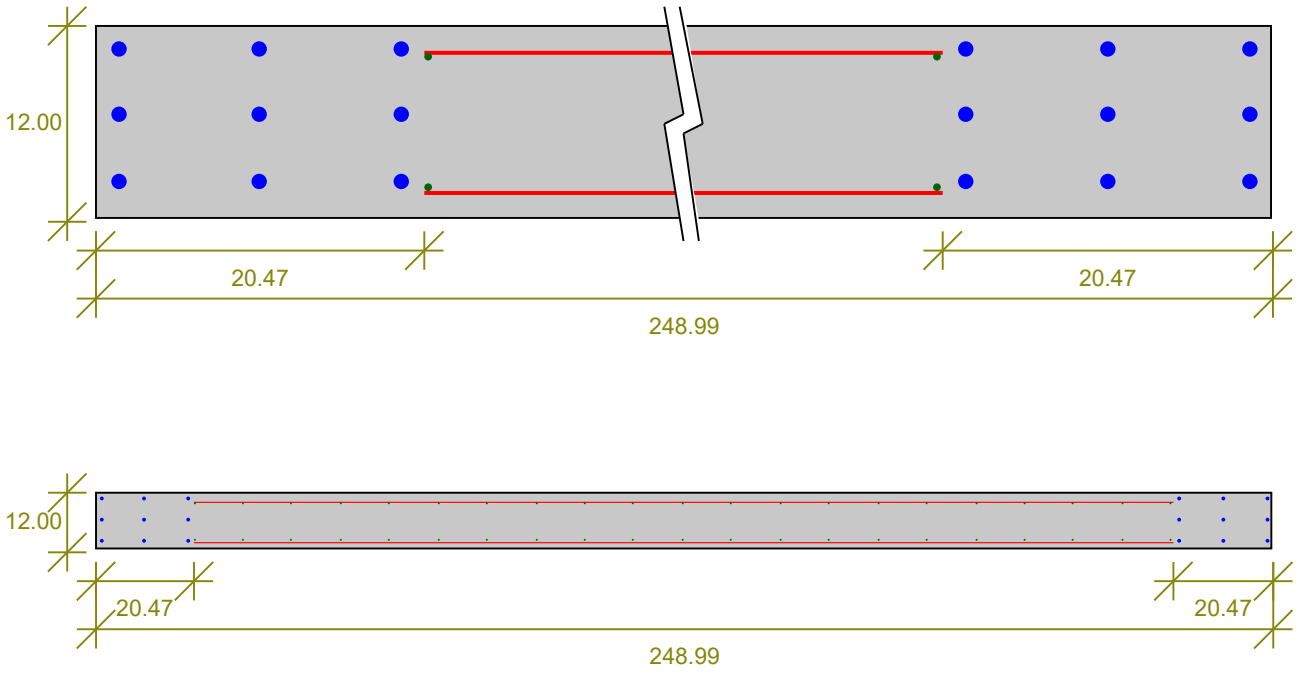
Material statistics

Volume(yard3)	Steel ratio(%)	Steel Density
7.685	0.20	0.01

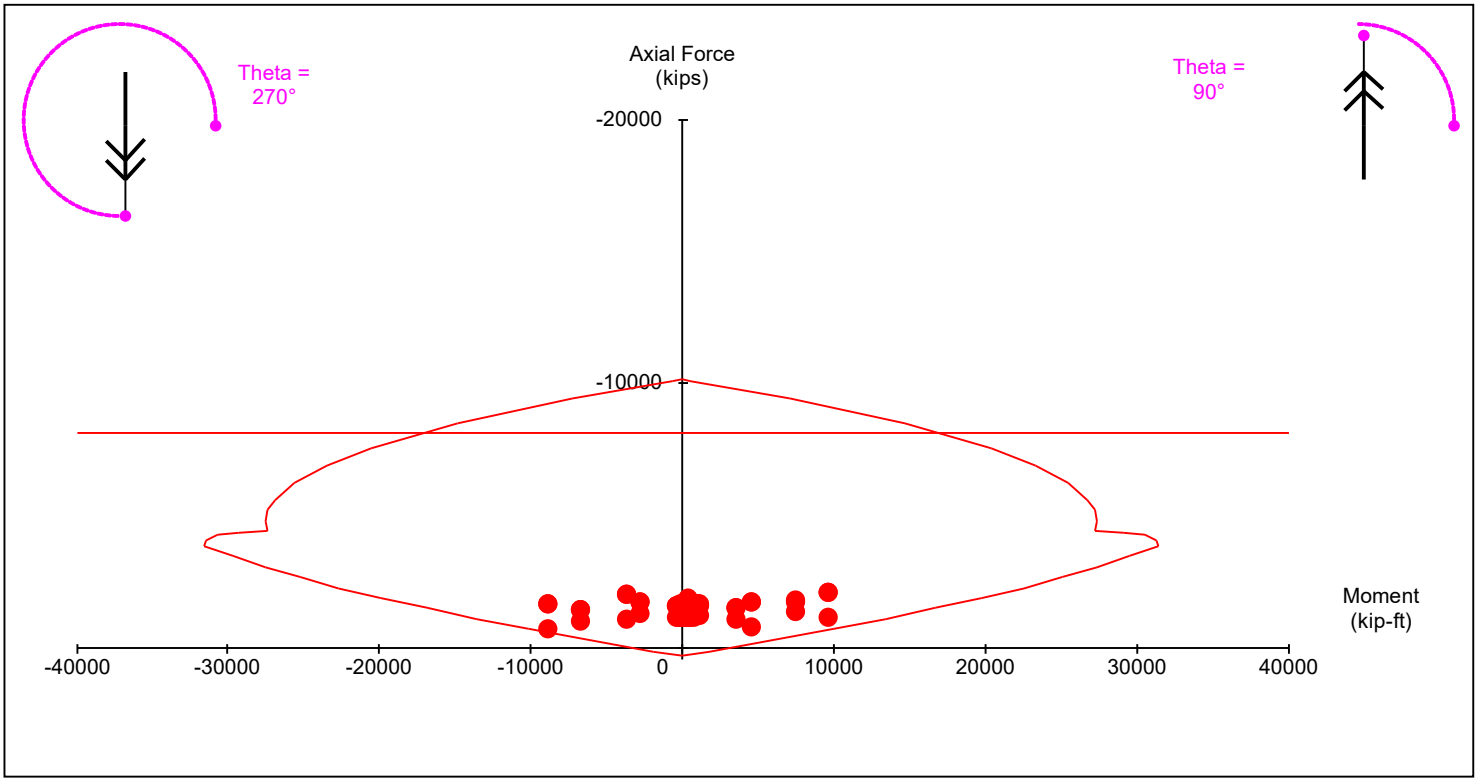
Boundary element check

Method: "N/A"
Du/Hw = 0.00

Wall Diagram



PM Diagram



ADAPT Wall Design

		Status:	Acceptable
Model:	adapt-builder_multi-level-tutorial_final	N vs M Util:	0.945
Pier Label:	P2		
Design Section:	L3_Bot_13 (Level 3 (EL.37.5) - 37.50ft)	Shear Util:	0.962
		Maximum:	1.000
Design Code:	ACI2019		

Dimension

Length = 10.00 ft
Thickness = 12.00 in
Lu = 10.00 ft
Hw = 37.00 ft

Governing Loads

	Pu (kip)	Vu (kip)	Mu (kip-ft)	Utilization	GLC
Axial	723.560	-53.778	253.830	0.945	"ULS-7_EQ1_SEIS"
Flexure	-590.590	614.180	4435.100	0.708	"ULS-7_-EQ2_SEIS"
Shear	-1509.900	-618.020	-4530.700	0.962	"ULS-5_EQ2(LR1)_SEIS"

Shear Design

Fys = 60.000 ksi
Fyv = 60.000 ksi
Phi sh = 0.750
Phi Vc = 167.313 kip
Phi Vn = 642.513 kip
Phi Vnmax = 669.252 kip

Panel Bars	Smax (in)	Avmin (in2/ft)	Av req (in2/ft)	Av prov (in2/ft)	Status
(2C) #6 @ 10.00 horz	18.00	0.36	1.00	1.06	"O.K."
(2C) #4 @ 12.00 vert	18.00	0.36	0.36	0.40	"O.K."

Flexure and Axial Design

F'c = 6000.00 psi
phi b = 0.90
phi c = 0.65
Panel bars used:
Aused = 0.04 in2
n = 6.00
Aused/Aprov vert = 0.10

		As in2	As (min) in2	CGS in	Curtains	Spacing in
Zone 1	6 - #10	7.62	1.44	5.73	3	9.00
Zone 2	8 - #8	6.32	1.44	10.23	3	9.00

PM Diagram status: "O.K."

Slenderness check

Lu(ft)	Lu/16	Status
10.00	7.50	"O.K."

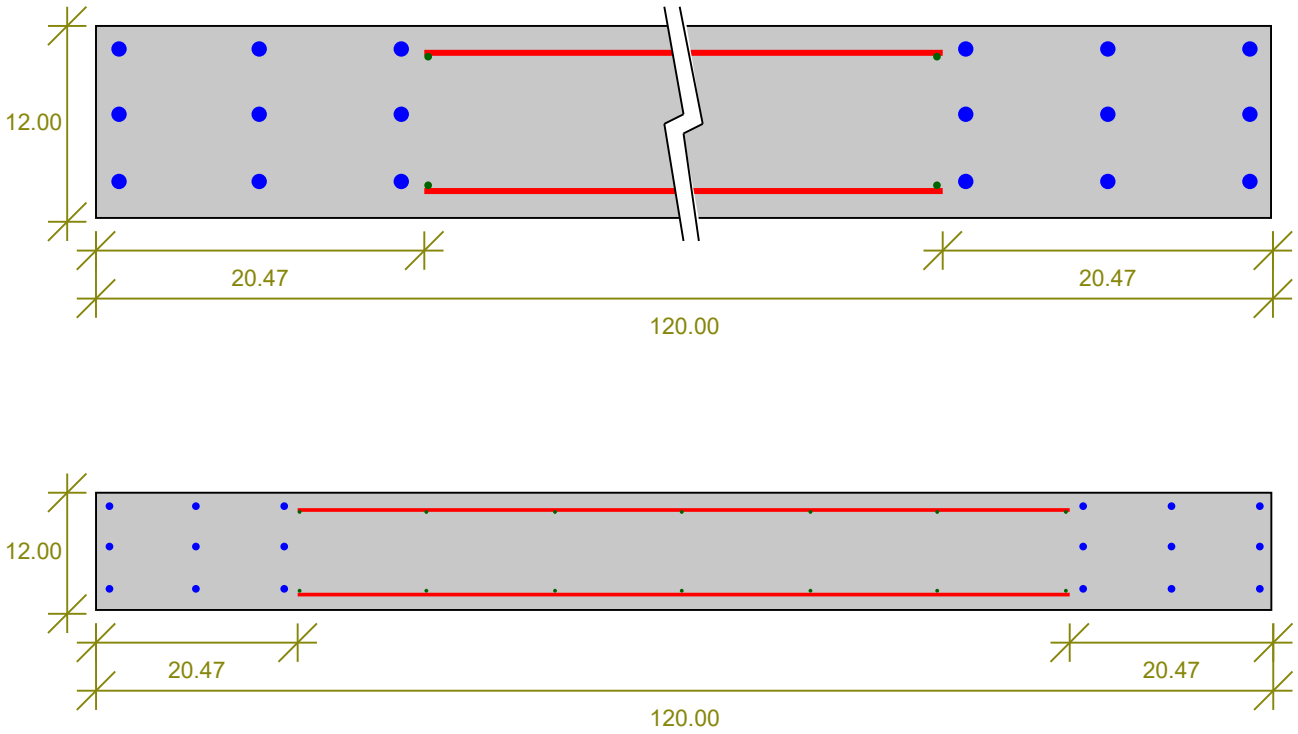
Material statistics

Volume(yard3)	Steel ratio(%)	Steel Density
3.704	0.98	0.02

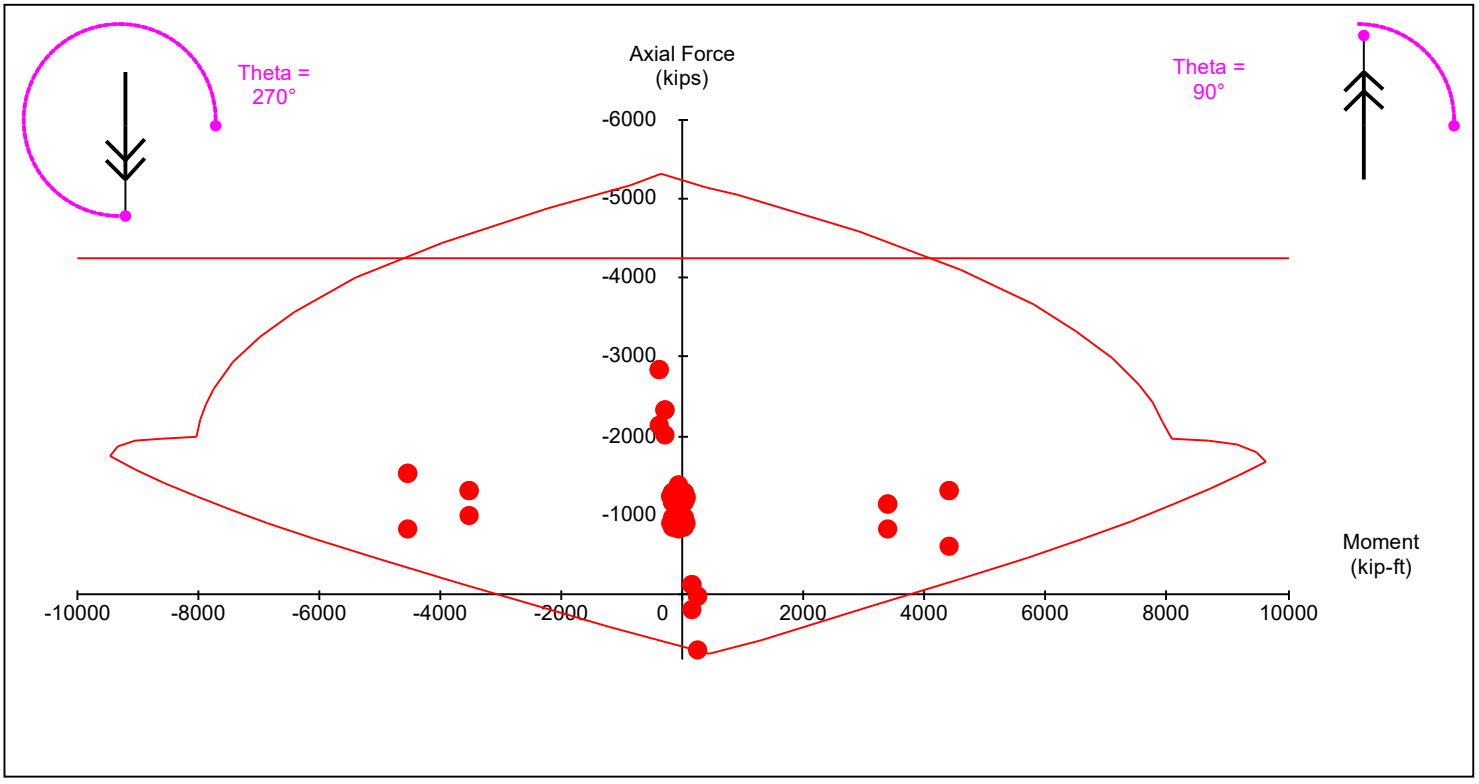
Boundary element check

Method: "N/A"
Du/Hw = 0.00

Wall Diagram



PM Diagram



ADAPT Wall Design

Status: Acceptable

Model: adapt-builder_multi-level-tutorial_final

N vs M Util: 0.994

Pier Label: P2

Design Section: L3_Bot_14 (Level 3 (EL37.5) - 37.50ft)

Shear Util: 0.942

Maximum: 1.000

Design Code: ACI2019

Dimension

Length = 14.00 ft
Thickness = 12.00 in
Lu = 10.00 ft
Hw = 37.00 ft

Governing Loads

	Pu (kip)	Vu (kip)	Mu (kip-ft)	Utilization	GLC
Axial	-232.640	475.310	2654.500	0.031	"ULS-5_-EQ2_LR1_SEIS"
Flexure	-128.230	-739.180	-8479.500	0.994	"ULS-7_-EQ1_SEIS"
Shear	-171.510	772.360	8537.200	0.942	"ULS-5_EQ1(LR1)_SEIS"

Shear Design

Fys = 60.000 ksi
Fyv = 60.000 ksi
Phi sh = 0.750
Phi Vc = 234.238 kip
Phi Vn = 820.138 kip
Phi Vnmax = 936.952 kip

Panel Bars	Smax (in)	Avmin (in2/ft)	Av req (in2/ft)	Av prov (in2/ft)	Status
(2C) #5 @ 8.00 horz	18.00	0.36	0.85	0.93	"O.K."
(2C) #4 @ 12.00 vert	18.00	0.36	0.36	0.40	"O.K."

Flexure and Axial Design

F'c = 6000.00 psi
phi b = 0.90
phi c = 0.65
Panel bars used:
Aused = 0.04 in2
n = 5.00
Aused/Aprov vert = 0.10

	As in2	As (min) in2	CGS in	Curtains	Spacing in
Zone 1	17 - #8	13.43	2.02	23.73	3	9.00
Zone 2	15 - #8	11.85	2.02	19.23	3	9.00

PM Diagram status: "O.K."

Slenderness check

Lu(ft)	Lu/16	Status
10.00	7.50	"O.K."

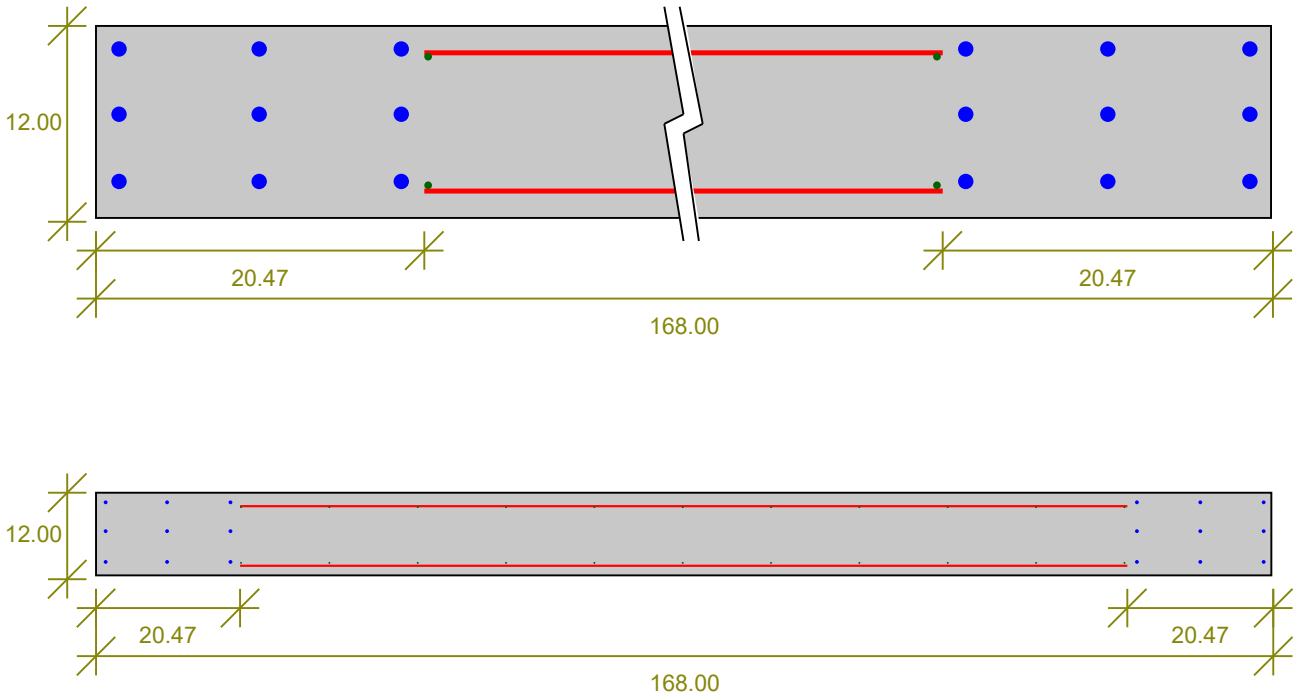
Material statistics

Volume(yard3)	Steel ratio(%)	Steel Density
5.185	1.26	0.02

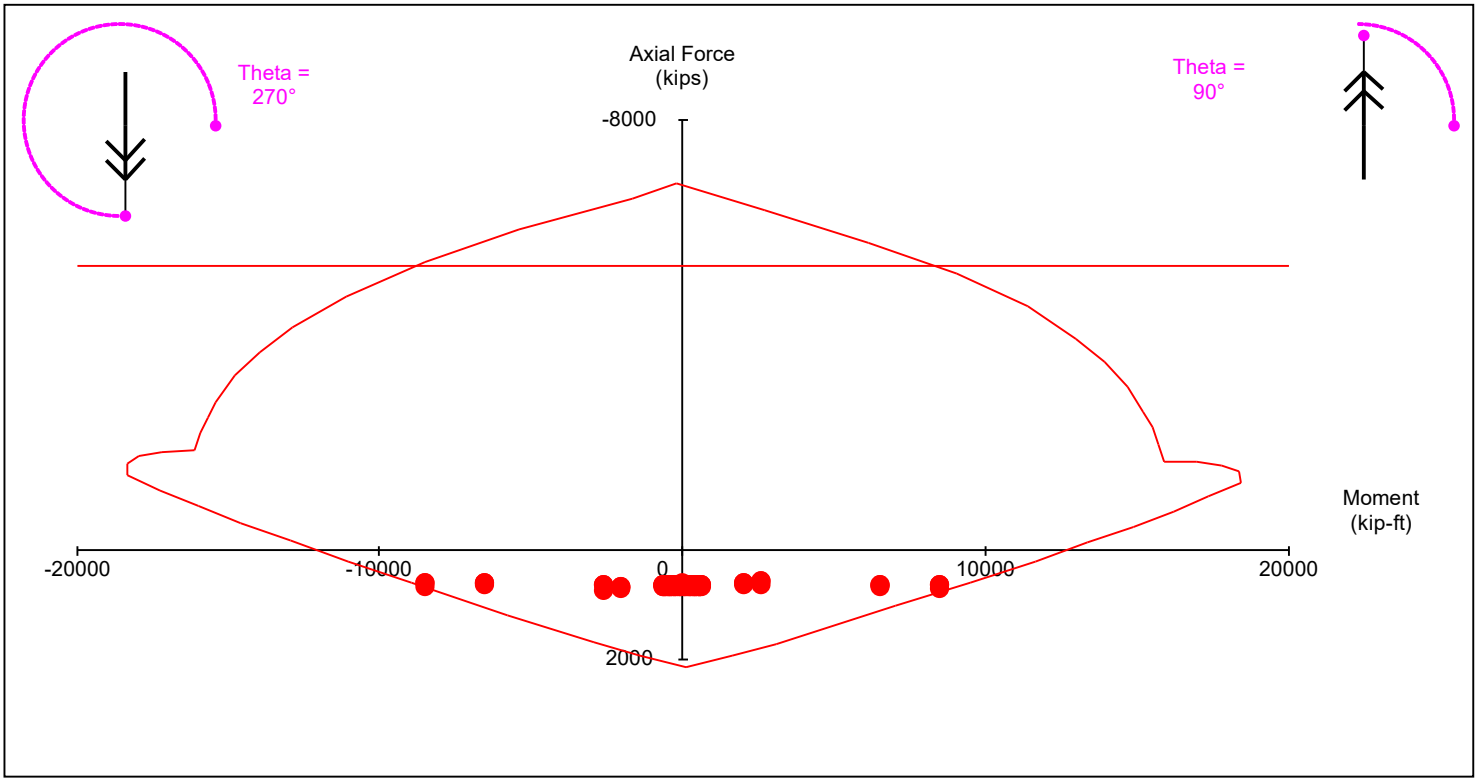
Boundary element check

Method: "N/A"
Du/Hw = 0.00

Wall Diagram



PM Diagram



ADAPT Wall Design

Status: Unacceptable

Model: adapt-builder_multi-level-tutorial_final

N vs M Util: 0.904

Pier Label: P2

Design Section: L3_Bot_15 (Level 3 (EL37.5) - 37.50ft)

Shear Util: 1.260

Maximum: 1.000

Design Code: ACI2019

Dimension

Length = 10.00 ft
Thickness = 12.00 in
Lu = 10.00 ft
Hw = 37.00 ft

Governing Loads

	Pu (kip)	Vu (kip)	Mu (kip-ft)	Utilization	GLC
Axial	651.850	24.001	75.153	0.904	"ULS-7_-EQ1_SEIS"
Flexure	-509.120	842.930	4663.500	0.822	"ULS-7_EQ2_SEIS"
Shear	-1275.400	842.930	4663.500	1.260	"ULS-5_EQ2(LR1)_SEIS"

Shear Design

Fys = 60.000 ksi
Fyv = 60.000 ksi
Phi sh = 0.750
Phi Vc = 167.313 kip
Phi Vn = 887.313 kip
Phi Vnmax = 669.252 kip

Panel Bars	Smax (in)	Avmin (in2/ft)	Av req (in2/ft)	Av prov (in2/ft)	Status
(2C) #7 @ 9.00 horz	18.00	0.36	1.50	1.60	"O.K."
(2C) #4 @ 12.00 vert	18.00	0.36	0.36	0.40	"O.K."

Flexure and Axial Design

F'c = 6000.00 psi
phi b = 0.90
phi c = 0.65
Aused = 0.04 in2
n = 6.00
Aused/Aprov vert = 0.10

Panel bars used:		As in2	As (min) in2	CGS in	Curtains	Spacing in
Zone 1	9 - #8	7.11	1.44	10.23	3	9.00
Zone 2	6 - #9	6.00	1.44	5.73	3	9.00

PM Diagram status: "O.K."

Slenderness check

Lu(ft)	Lu/16	Status
10.00	7.50	"O.K."

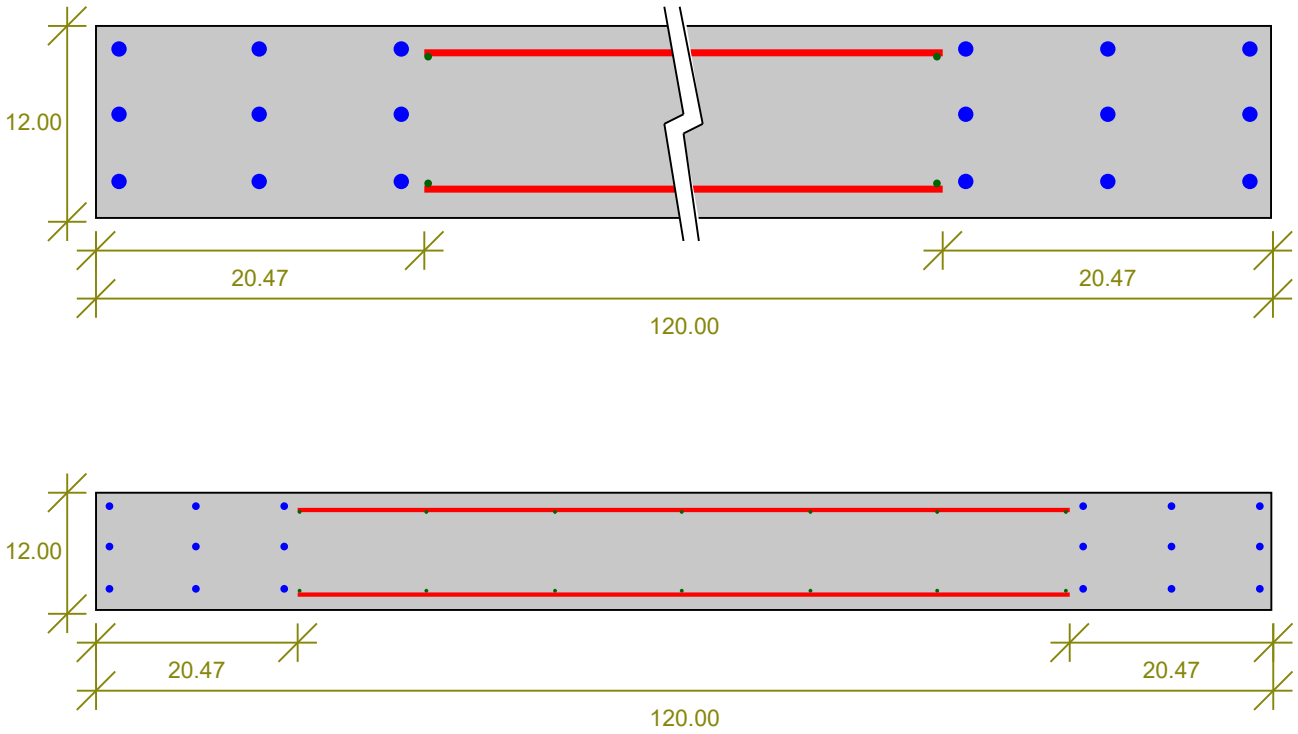
Material statistics

Volume(yard3)	Steel ratio(%)	Steel Density
3.704	0.93	0.02

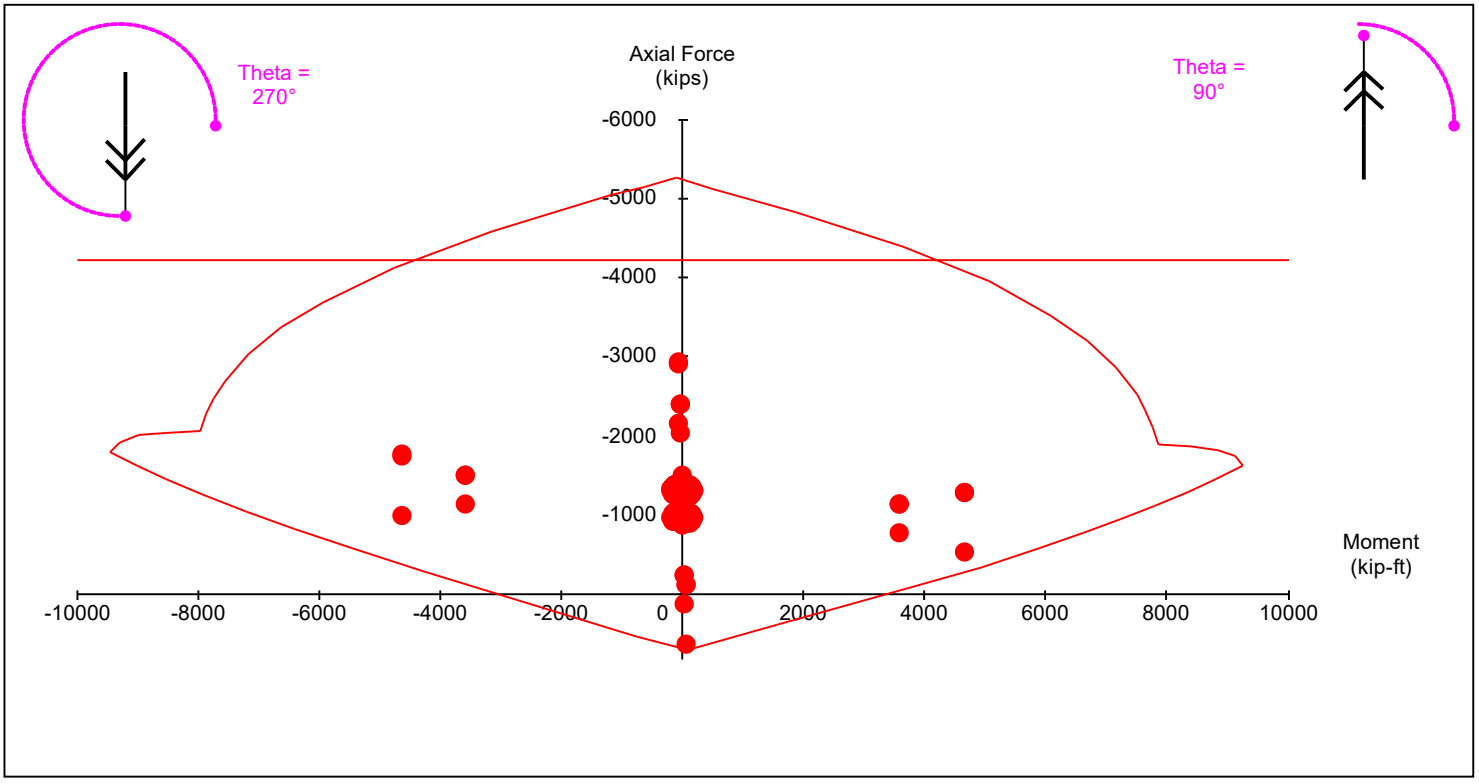
Boundary element check

Method: "N/A"
Du/Hw = 0.00

Wall Diagram



PM Diagram



ADAPT Wall Design

Status: Acceptable

Model: adapt-builder_multi-level-tutorial_final

N vs M Util: 0.116

Pier Label: P1

Design Section: L3_Top_11 (Level 3 (EL37.5) - 37.50ft)

Shear Util: 0.698

Maximum: 1.000

Design Code: ACI2019

Dimension

Length = 15.00 ft

Thickness = 12.00 in

Lu = 10.00 ft

Hw = 37.00 ft

Governing Loads

	Pu (kip)	Vu (kip)	Mu (kip-ft)	Utilization	GLC
Axial	-207.290	363.610	315.580	0.028	"ULS-5_-EQ1(LR1)_SBS"
Flexure	-89.909	363.610	315.580	0.116	"ULS-7_-EQ1_SBS"
Shear	-207.290	363.610	315.580	0.698	"ULS-5_-EQ1(LR1)_SBS"

Shear Design

Fys = 60.000 ksi

Fyv = 60.000 ksi

Phi sh = 0.750

Phi Vc = 250.969 kip

Phi Vn = 520.969 kip

Phi Vnmax = 1003.877 kip

Panel Bars	Smax (in)	Avmin (in2/ft)	Av req (in2/ft)	Av prov (in2/ft)	Status
(2C) #4 @ 12.00 horz	18.00	0.29	0.36	0.40	"O.K."
(2C) #4 @ 12.00 vert	18.00	0.36	0.36	0.40	"O.K."

Flexure and Axial Design

F'c = 6000.00 psi

phi b = 0.90

phi c = 0.65

Aused = 0.04 in2

n = 13.00

Aused/Aprov vert = 0.10

Panel bars used:		As in2	As (min) in2	CGS in	Curtains	Spacing in
Zone 1	3 - #8	2.37	2.16	1.23	3	9.00
Zone 2	3 - #8	2.37	2.16	1.23	3	9.00

PM Diagram status: "O.K."

Slenderness check

Lu(ft)	Lu/16	Status
10.00	7.50	"O.K."

Material statistics

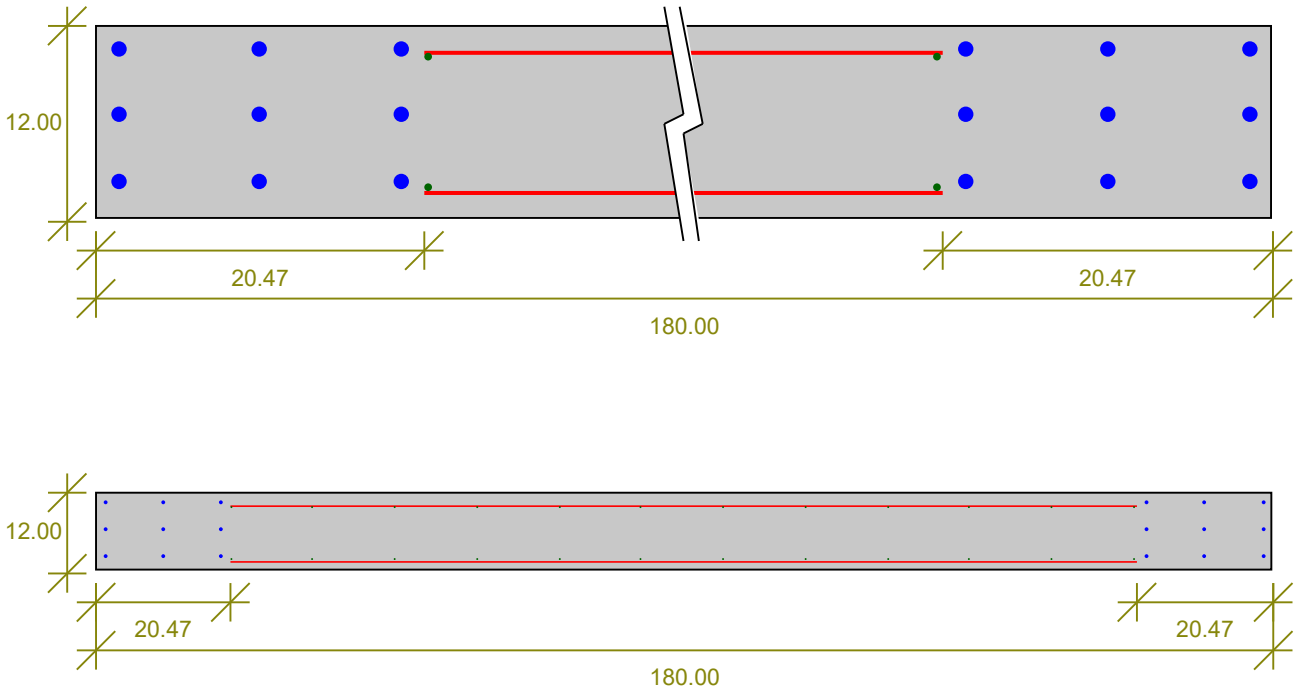
Volume(yard3)	Steel ratio(%)	Steel Density
5.556	0.24	0.01

Boundary element check

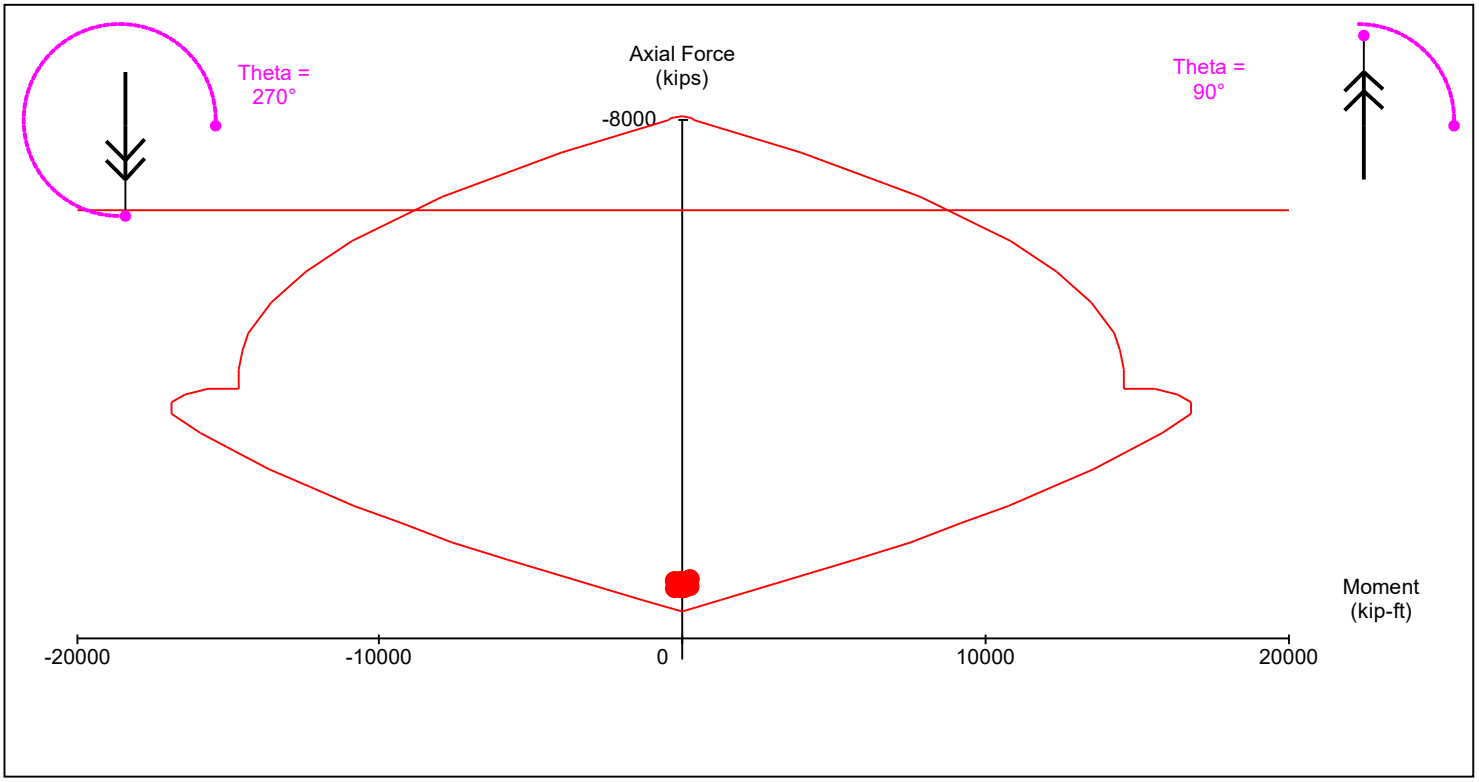
Method: "N/A"

Du/Hw = 0.00

Wall Diagram



PM Diagram



ADAPT Wall Design

Status: Acceptable

Model: adapt-builder_multi-level-tutorial_final

N vs M Util: 0.197

Pier Label: P3

Design Section: L3_Top_12 (Level 3 (EL37.5) - 37.50ft)

Shear Util: 0.972

Maximum: 1.000

Design Code: ACI2019

Dimension

Length = 20.75 ft
Thickness = 12.00 in
Lu = 10.00 ft
Hw = 37.00 ft

Governing Loads

	Pu (kip)	Vu (kip)	Mu (kip-ft)	Utilization	GLC
Axial	-1998.400	-886.610	-886.490	0.197	"ULS-5_EQ1_LR1_SEIS"
Flexure	-682.000	835.410	1169.900	0.117	"ULS-7_-EQ1_SEIS"
Shear	-1994.800	-886.610	-886.490	0.972	"ULS-5_EQ1(LR1)_SEIS"

Shear Design

Fys = 60.000 ksi
Fyv = 60.000 ksi
Phi sh = 0.750
Phi Vc = 414.049 kip
Phi Vn = 912.025 kip
Phi Vnmax = 1388.630 kip

Panel Bars	Smax (in)	Avmin (in2/ft)	Av req (in2/ft)	Av prov (in2/ft)	Status
(2C) #4 @ 9.00 horz	18.00	0.29	0.51	0.53	"O.K."
(2C) #4 @ 10.00 vert	18.00	0.41	0.41	0.48	"O.K."

Flexure and Axial Design

F'c = 6000.00 psi
phi b = 0.90
phi c = 0.65
Panel bars used:
Aused = 0.06 in2
n = 23.00
Aused/Aprov vert = 0.14

		As in2	As (min) in2	CGS in	Curtains	Spacing in
Zone 1	3 - #8	2.37	2.99	1.23	3	9.00
Zone 2	3 - #8	2.37	2.99	1.23	3	9.00

PM Diagram status: "O.K."

Slenderness check

Lu(ft)	Lu/16	Status
10.00	7.50	"O.K."

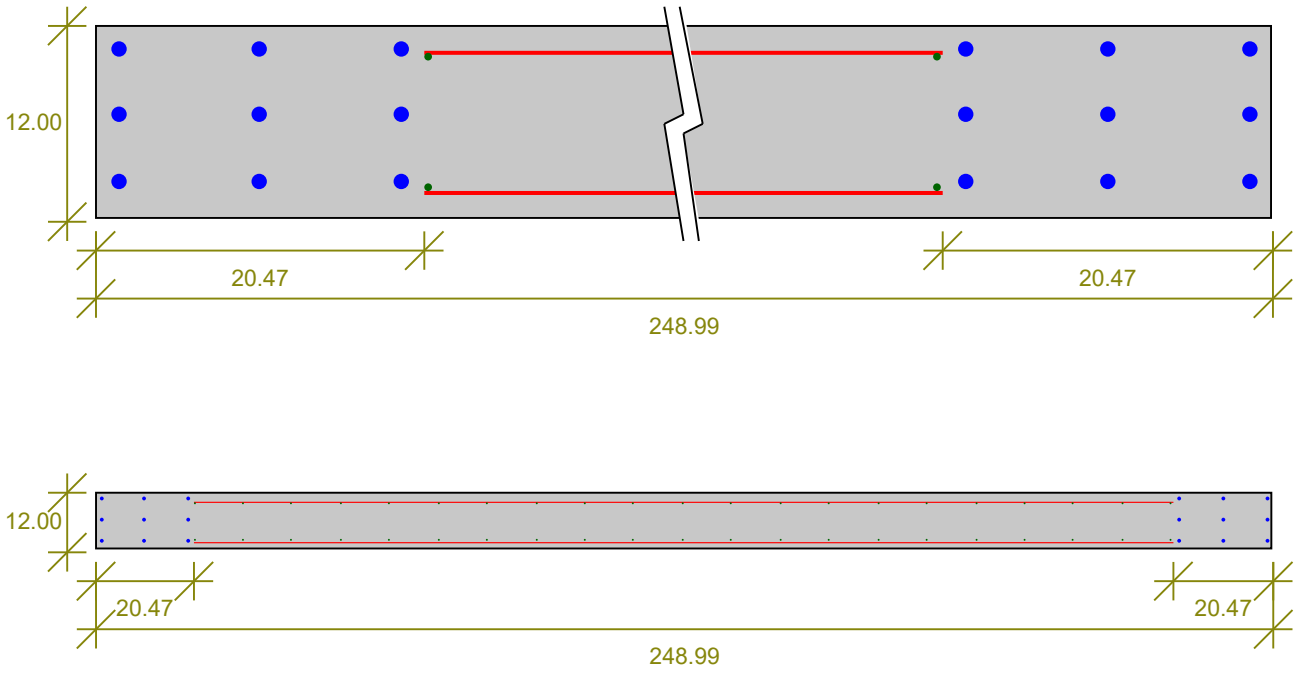
Material statistics

Volume(yard3)	Steel ratio(%)	Steel Density
7.685	0.20	0.01

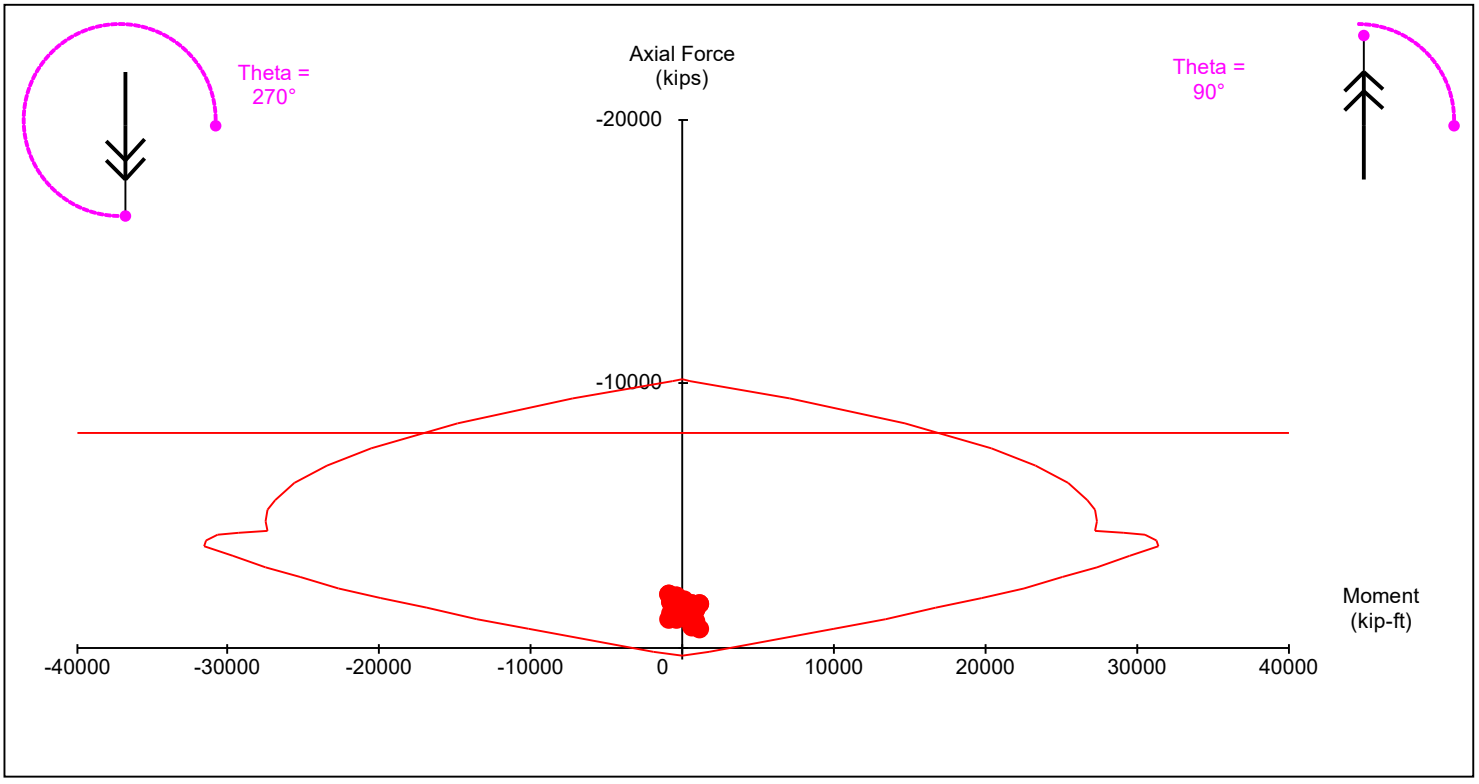
Boundary element check

Method: "N/A"
Du/Hw = 0.00

Wall Diagram



PM Diagram



ADAPT Wall Design

		Status:	Acceptable
Model:	adapt-builder_multi-level-tutorial_final	N vs M Util:	0.945
Pier Label:	P2		
Design Section:	L3_Top_13 (Level 3 (EL37.5) - 37.50ft)	Shear Util:	0.962
		Maximum:	1.000
Design Code:	ACI2019		

Dimension

Length = 10.00 ft
Thickness = 12.00 in
Lu = 10.00 ft
Hw = 37.00 ft

Governing Loads

	Pu (kip)	Vu (kip)	Mu (kip-ft)	Utilization	GLC
Axial	735.500	53.778	899.170	0.945	"ULS-7_EQ1_SEIS"
Flexure	735.500	53.778	899.170	0.926	"ULS-7_EQ1_SEIS"
Shear	-1486.200	618.020	2885.500	0.962	"ULS-5_EQ2(LR1)_SEIS"

Shear Design

Fys = 60.000 ksi
Fyv = 60.000 ksi
Phi sh = 0.750
Phi Vc = 167.313 kip
Phi Vn = 642.513 kip
Phi Vnmax = 669.252 kip

Panel Bars	Smax (in)	Avmin (in2/ft)	Av req (in2/ft)	Av prov (in2/ft)	Status
(2C) #6 @ 10.00 horz	18.00	0.36	1.00	1.06	"O.K."
(2C) #4 @ 12.00 vert	18.00	0.36	0.36	0.40	"O.K."

Flexure and Axial Design

F'c = 6000.00 psi
phi b = 0.90
phi c = 0.65
Panel bars used:
Aused = 0.04 in2
n = 5.00
Aused/Aprov vert = 0.10

		As in2	As (min) in2	CGS in	Curtains	Spacing in
Zone 1	12 - #8	9.48	1.44	14.73	3	9.00
Zone 2	6 - #8	4.74	1.44	5.73	3	9.00

PM Diagram status: "O.K."

Slenderness check

Lu(ft)	Lu/16	Status
10.00	7.50	"O.K."

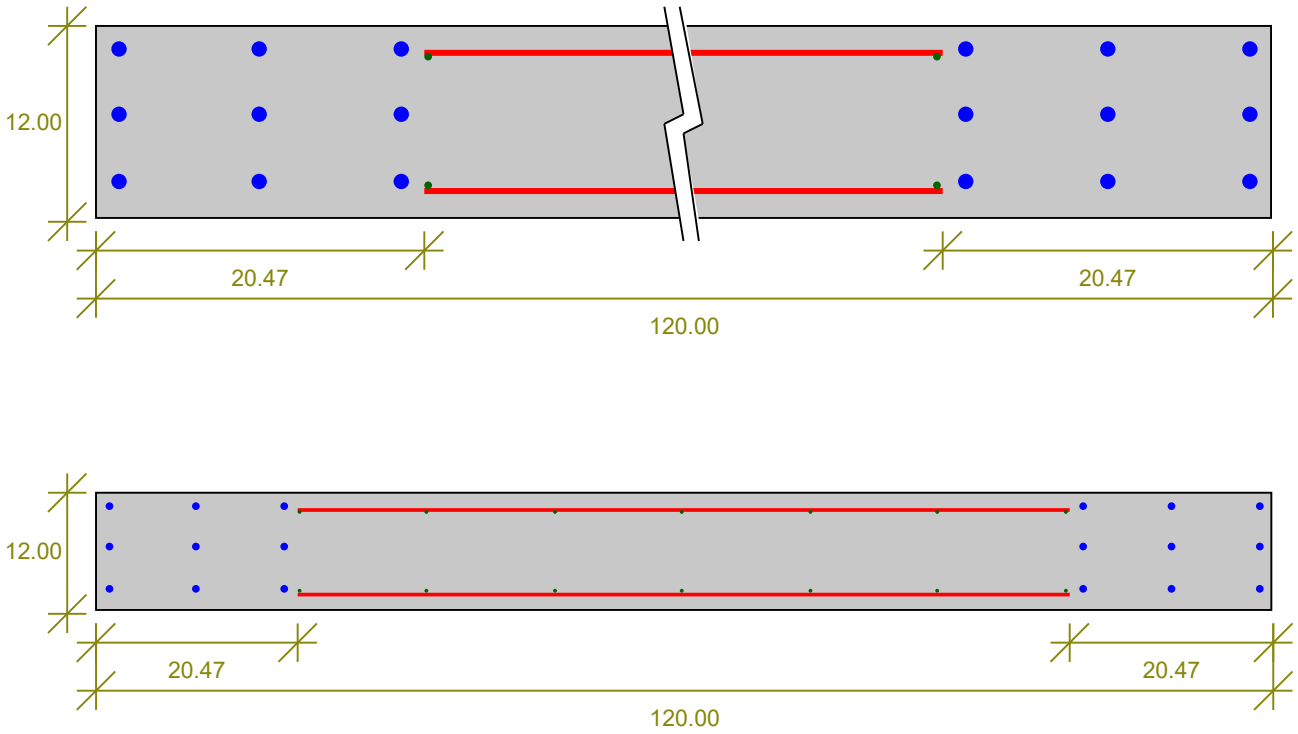
Material statistics

Volume(yard3)	Steel ratio(%)	Steel Density
3.704	1.00	0.02

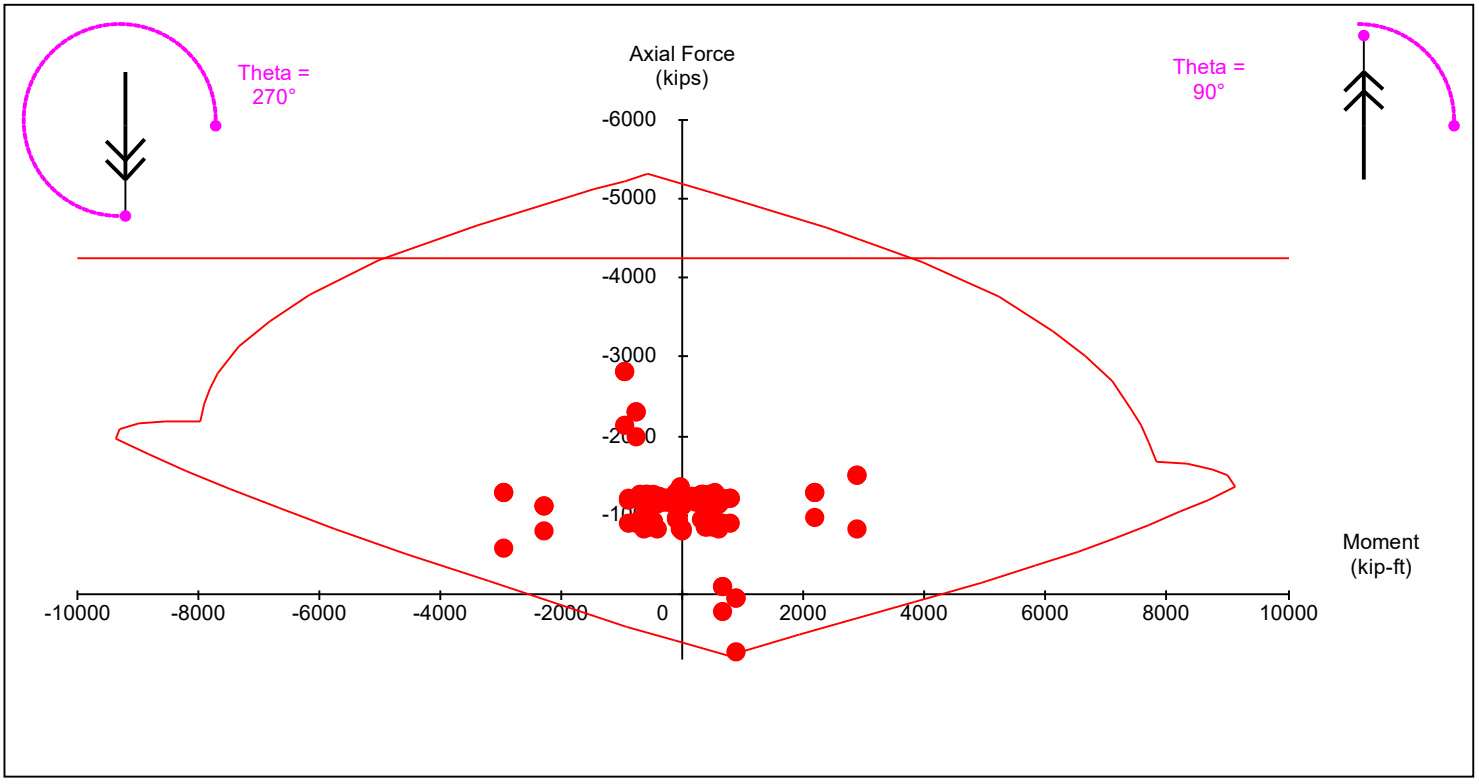
Boundary element check

Method: "N/A"
Du/Hw = 0.00

Wall Diagram



PM Diagram



ADAPT Wall Design

		Status:	Acceptable
Model:	adapt-builder_multi-level-tutorial_final	N vs M Util:	0.974
Pier Label:	P2		
Design Section:	L3_Top_14 (Level 3 (EL37.5) - 37.50ft)	Shear Util:	0.942
		Maximum:	1.000
Design Code:	ACI2019		

Dimension

Length = 14.00 ft
Thickness = 12.00 in
Lu = 10.00 ft
Hw = 37.00 ft

Governing Loads

	Pu (kip)	Vu (kip)	Mu (kip-ft)	Utilization	GLC
Axial	-199.410	-475.310	-3049.200	0.029	"ULS-5_-EQ2_LR1_SEIS"
Flexure	-50.452	442.130	2708.800	0.974	"ULS-7_EQ2_SEIS"
Shear	-138.280	-772.360	-730.850	0.942	"ULS-5_EQ1(LR1)_SEIS"

Shear Design

Fys = 60.000 ksi
Fyv = 60.000 ksi
Phi sh = 0.750
Phi Vc = 234.238 kip
Phi Vn = 820.138 kip
Phi Vnmax = 936.952 kip

Panel Bars	Smax (in)	Avmin (in2/ft)	Av req (in2/ft)	Av prov (in2/ft)	Status
(2C) #5 @ 8.00 horz	18.00	0.36	0.85	0.93	"O.K."
(2C) #4 @ 12.00 vert	18.00	0.36	0.36	0.40	"O.K."

Flexure and Axial Design

F'c = 6000.00 psi
phi b = 0.90
phi c = 0.65
Panel bars used:
Aused = 0.04 in2
n = 11.00
Aused/Aprov vert = 0.10

		As in2	As (min) in2	CGS in	Curtains	Spacing in
Zone 1	4 - #8	3.16	2.02	5.73	3	9.00
Zone 2	4 - #8	3.16	2.02	5.73	3	9.00

PM Diagram status: "O.K."

Slenderness check

Lu(ft)	Lu/16	Status
10.00	7.50	"O.K."

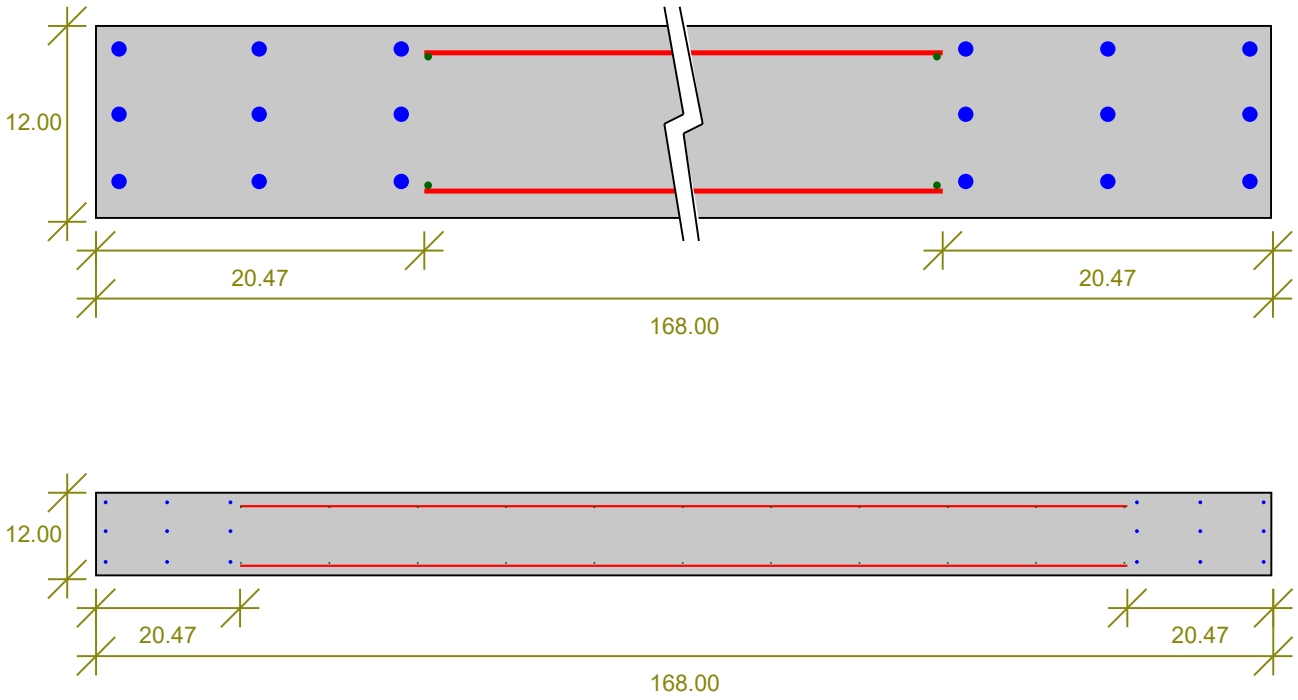
Material statistics

Volume(yard3)	Steel ratio(%)	Steel Density
5.185	0.34	0.01

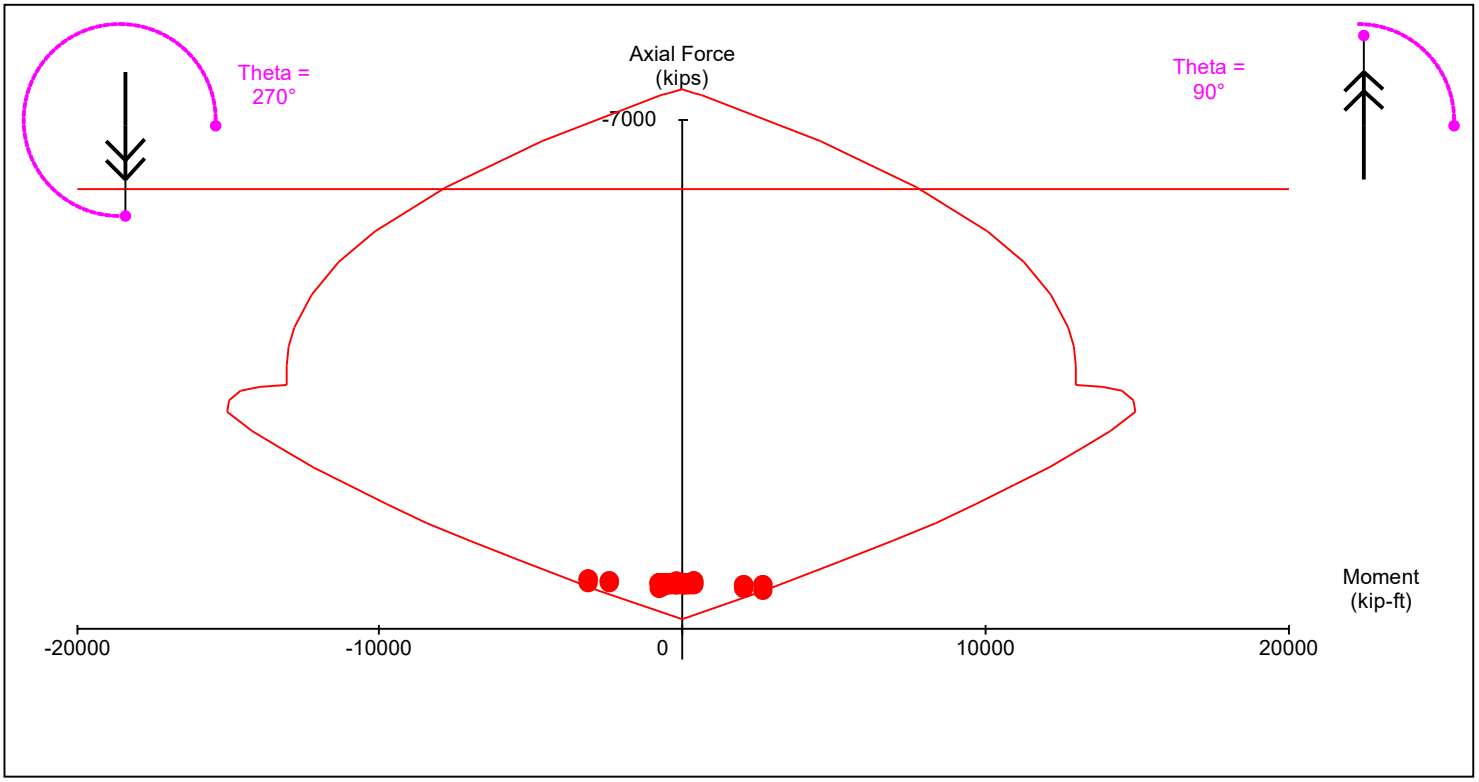
Boundary element check

Method: "N/A"
Du/Hw = 0.00

Wall Diagram



PM Diagram



ADAPT Wall Design

Status: Unacceptable

Model: adapt-builder_multi-level-tutorial_final

N vs M Util: 0.990

Pier Label: P2

Design Section: L3_Top_15 (Level 3 (EL37.5) - 37.50ft)

Shear Util: 1.260

Maximum: 1.000

Design Code: ACI2019

Dimension

Length = 10.00 ft
Thickness = 12.00 in
Lu = 10.00 ft
Hw = 37.00 ft

Governing Loads

	Pu (kip)	Vu (kip)	Mu (kip-ft)	Utilization	GLC
Axial	663.790	-24.001	-212.860	0.957	"ULS-7_-EQ1_SEIS"
Flexure	-497.190	-842.930	-5451.600	0.990	"ULS-7_EQ2_SEIS"
Shear	-1251.700	-842.930	-5451.600	1.260	"ULS-5_EQ2(LR1)_SEIS"

Shear Design

Fys = 60.000 ksi
Fyv = 60.000 ksi
Phi sh = 0.750
Phi Vc = 167.313 kip
Phi Vn = 887.313 kip
Phi Vnmax = 669.252 kip

Panel Bars	Smax (in)	Avmin (in2/ft)	Av req (in2/ft)	Av prov (in2/ft)	Status
(2C) #7 @ 9.00 horz	18.00	0.36	1.50	1.60	"O.K."
(2C) #4 @ 12.00 vert	18.00	0.36	0.36	0.40	"O.K."

Flexure and Axial Design

F'c = 6000.00 psi
phi b = 0.90
phi c = 0.65
Aused = 0.04 in2
n = 5.00
Aused/Aprov vert = 0.10

Panel bars used:		As in2	As (min) in2	CGS in	Curtains	Spacing in
Zone 1	7 - #8	5.53	1.44	10.23	3	9.00
Zone 2	9 - #8	7.11	1.44	10.23	3	9.00

PM Diagram status: "O.K."

Slenderness check

Lu(ft)	Lu/16	Status
10.00	7.50	"O.K."

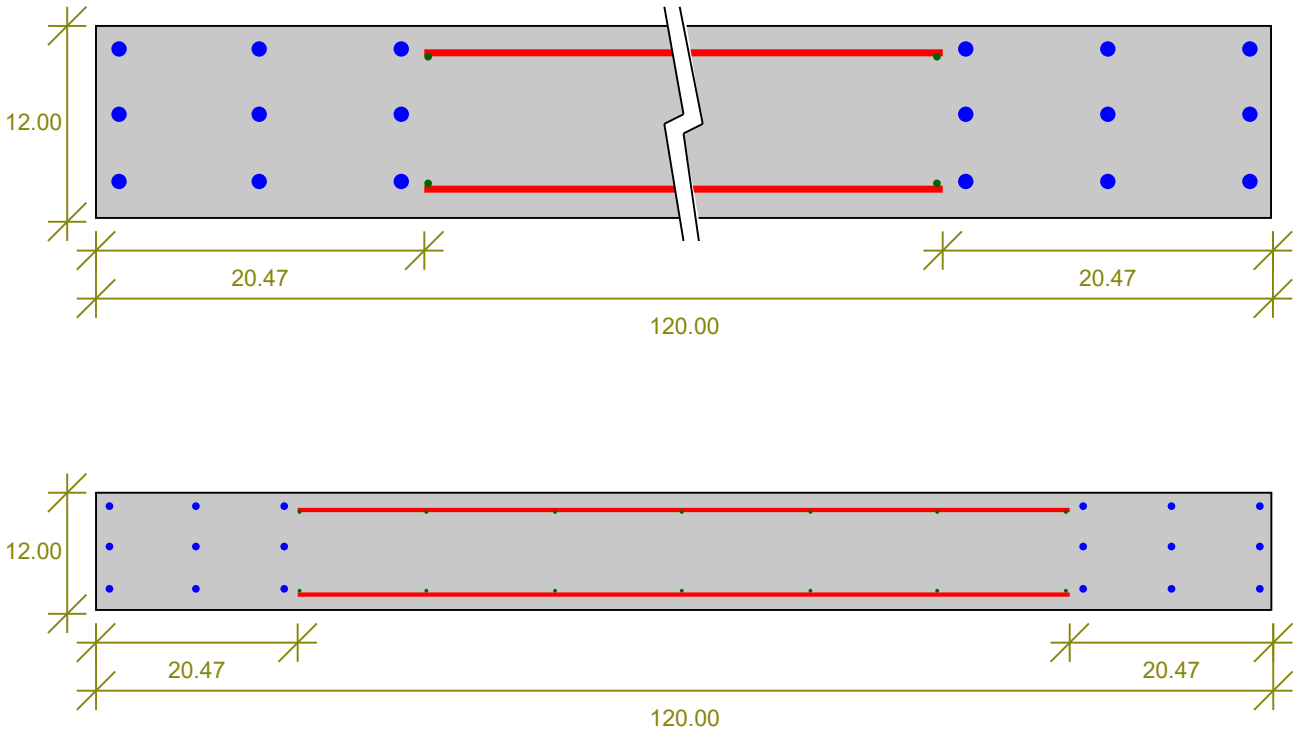
Material statistics

Volume(yard3)	Steel ratio(%)	Steel Density
3.704	0.89	0.02

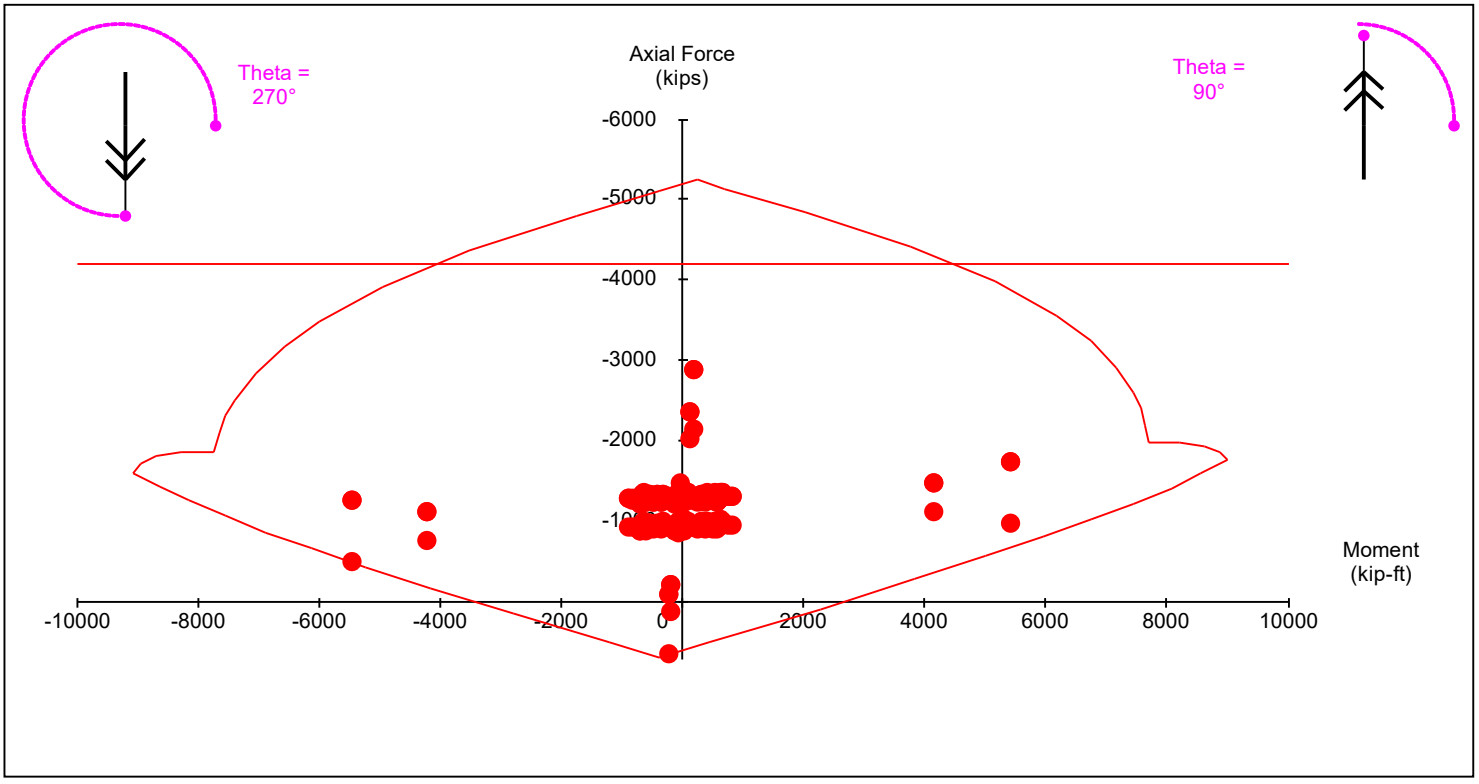
Boundary element check

Method: "N/A"
Du/Hw = 0.00

Wall Diagram



PM Diagram



ADAPT Wall Design

Status: Acceptable

Model: adapt-builder_multi-level-tutorial_final

N vs M Util: 0.210

Pier Label: P3

Design Section: L4_Bot_16 (Level 4 (EL 47.5) - 47.50ft)

Shear Util: 0.510

Maximum: 1.000

Design Code: ACI2019

Dimension

Length = 20.75 ft
Thickness = 12.00 in
Lu = 10.00 ft
Hw = 37.00 ft

Governing Loads

	Pu (kip)	Vu (kip)	Mu (kip-ft)	Utilization	GLC
Axial	-1775.600	-383.360	482.780	0.210	"ULS-5_EQ1_LR1_SEIS"
Flexure	-640.540	-315.410	-1009.500	0.109	"ULS-7_EQ2_SEIS"
Shear	-1772.000	-383.360	482.780	0.510	"ULS-5_EQ1(LR1)_SEIS"

Shear Design

Fys = 60.000 ksi
Fyv = 60.000 ksi
Phi sh = 0.750
Phi Vc = 378.019 kip
Phi Vn = 751.519 kip
Phi Vnmax = 1267.701 kip

Panel Bars	Smax (in)	Avmin (in2/ft)	Av req (in2/ft)	Av prov (in2/ft)	Status
(2C) #4 @ 12.00 horz	18.00	0.29	0.36	0.40	"O.K."
(2C) #4 @ 12.00 vert	18.00	0.36	0.36	0.40	"O.K."

Flexure and Axial Design

F'c = 5000.00 psi
phi b = 0.90
phi c = 0.65
Panel bars used:
Aused = 0.04 in2
n = 19.00
Aused/Aprov vert = 0.10

		As in2	As (min) in2	CGS in	Curtains	Spacing in
Zone 1	3 - #8	2.37	2.99	1.23	3	9.00
Zone 2	3 - #8	2.37	2.99	1.23	3	9.00

PM Diagram status: "O.K."

Slenderness check

Lu(ft)	Lu/16	Status
10.00	7.50	"O.K."

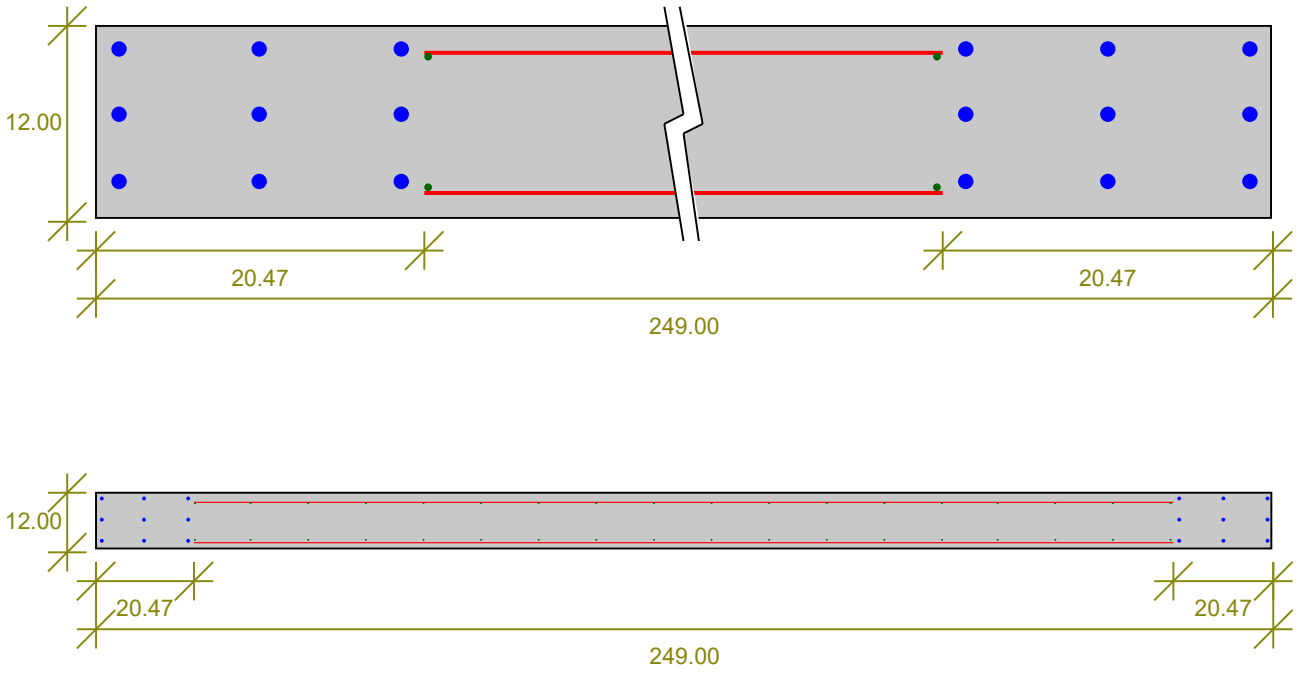
Material statistics

Volume(yard3)	Steel ratio(%)	Steel Density
7.685	0.18	0.01

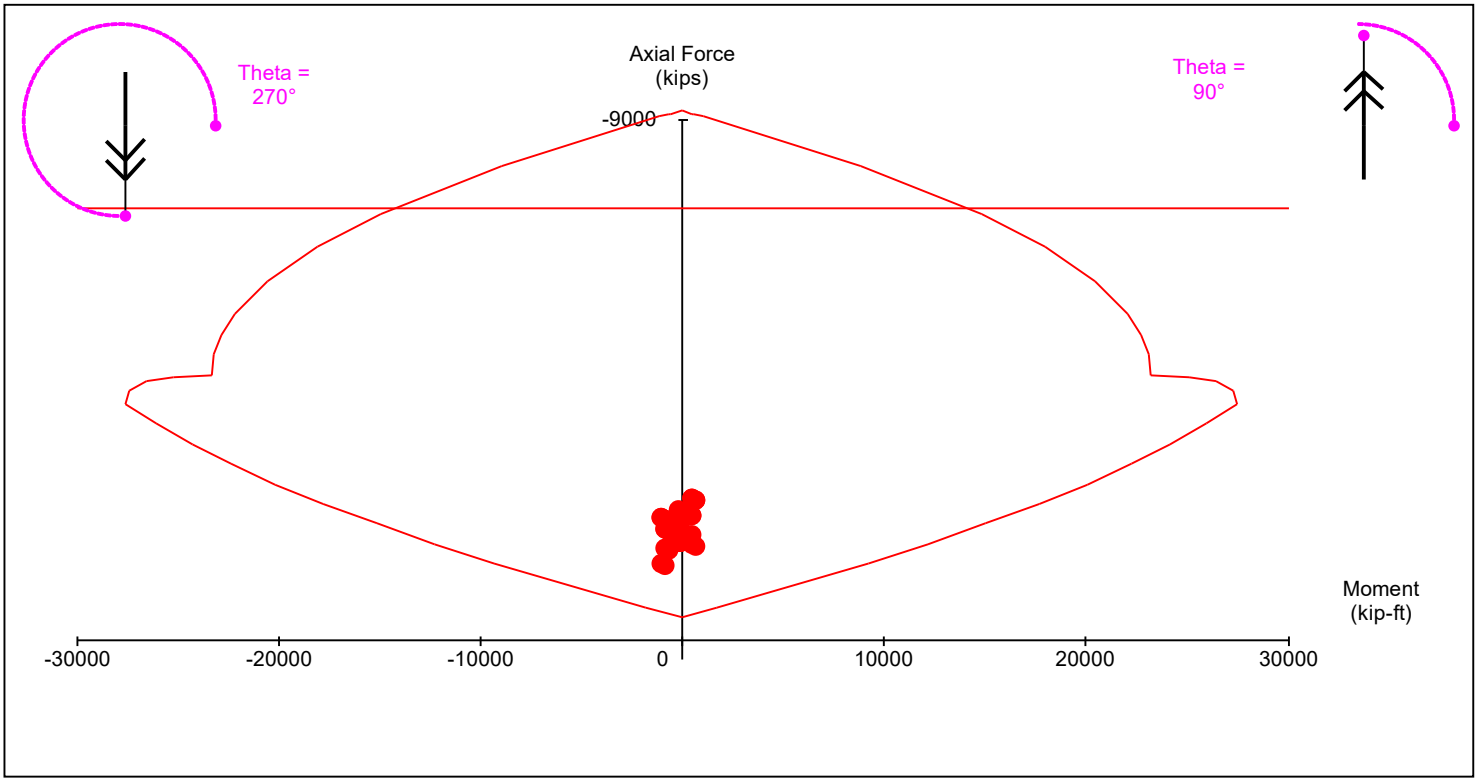
Boundary element check

Method: "N/A"
Du/Hw = 0.00

Wall Diagram



PM Diagram



ADAPT Wall Design

Status: Acceptable

Model: adapt-builder_multi-level-tutorial_final

N vs M Util: 0.767

Pier Label: P2

Design Section: L4_Bot_17 (Level 4 (EL 47.5) - 47.50ft)

Shear Util: 0.984

Maximum: 1.000

Design Code: ACI2019

Dimension

Length = 10.00 ft
Thickness = 12.00 in
Lu = 10.00 ft
Hw = 37.00 ft

Governing Loads

	Pu (kip)	Vu (kip)	Mu (kip-ft)	Utilization	GLC
Axial	291.810	11.282	807.450	0.731	"ULS-7_EQ1_SEIS"
Flexure	291.810	11.282	807.450	0.767	"ULS-7_EQ1_SEIS"
Shear	-1108.700	-415.900	2225.700	0.984	"ULS-5_EQ2(LR1)_SEIS"

Shear Design

Fys = 60.000 ksi
Fyv = 60.000 ksi
Phi sh = 0.750
Phi Vc = 152.735 kip
Phi Vn = 422.735 kip
Phi Vnmax = 610.940 kip

Panel Bars	Smax (in)	Avmin (in2/ft)	Av req (in2/ft)	Av prov (in2/ft)	Status
(2C) #4 @ 8.00 horz	18.00	0.29	0.58	0.60	"O.K."
(2C) #4 @ 12.00 vert	18.00	0.36	0.36	0.40	"O.K."

Flexure and Axial Design

F'c = 5000.00 psi
phi b = 0.90
phi c = 0.65
Aused = 0.04 in2
n = 7.00
Aused/Aprov vert = 0.10

Panel bars used:		As in2	As (min) in2	CGS in	Curtains	Spacing in
Zone 1	6 - #8	4.74	1.44	5.73	3	9.00
Zone 2	3 - #8	2.37	1.44	1.23	3	9.00

PM Diagram status: "O.K."

Slenderness check

Lu(ft)	Lu/16	Status
10.00	7.50	"O.K."

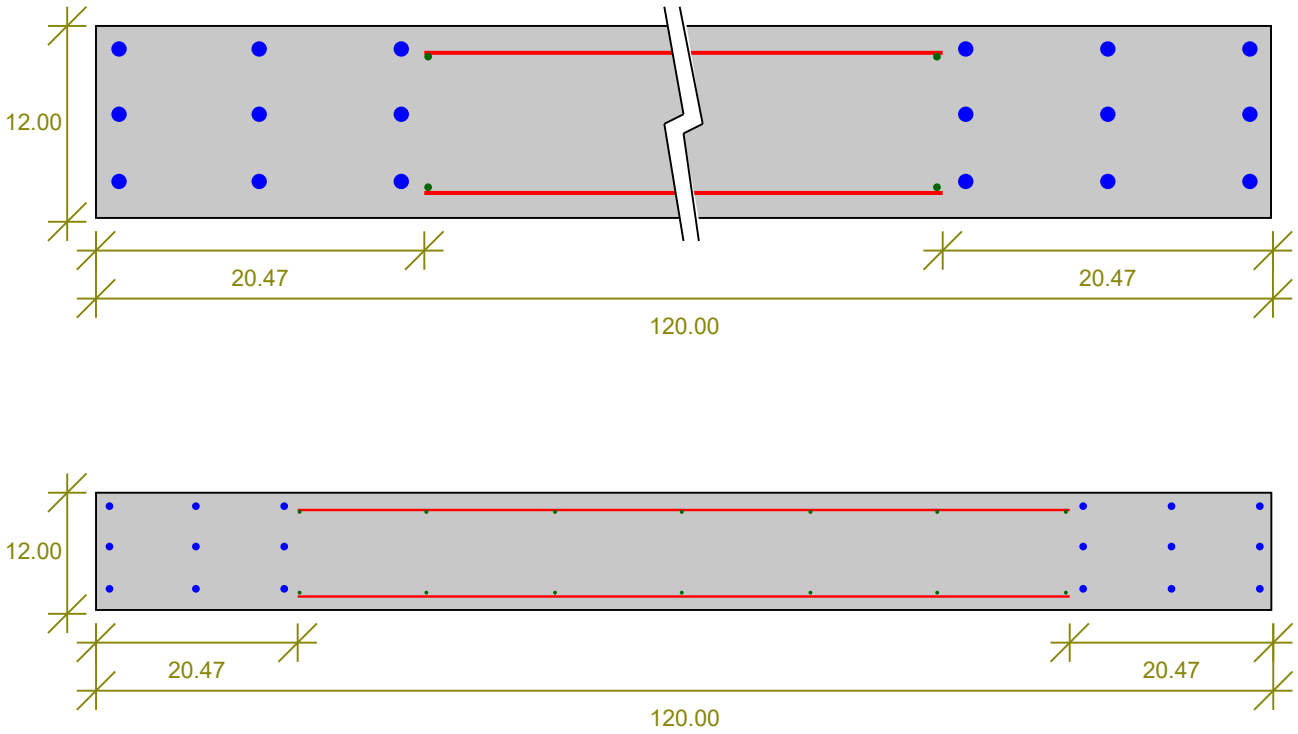
Material statistics

Volume(yard3)	Steel ratio(%)	Steel Density
3.704	0.51	0.01

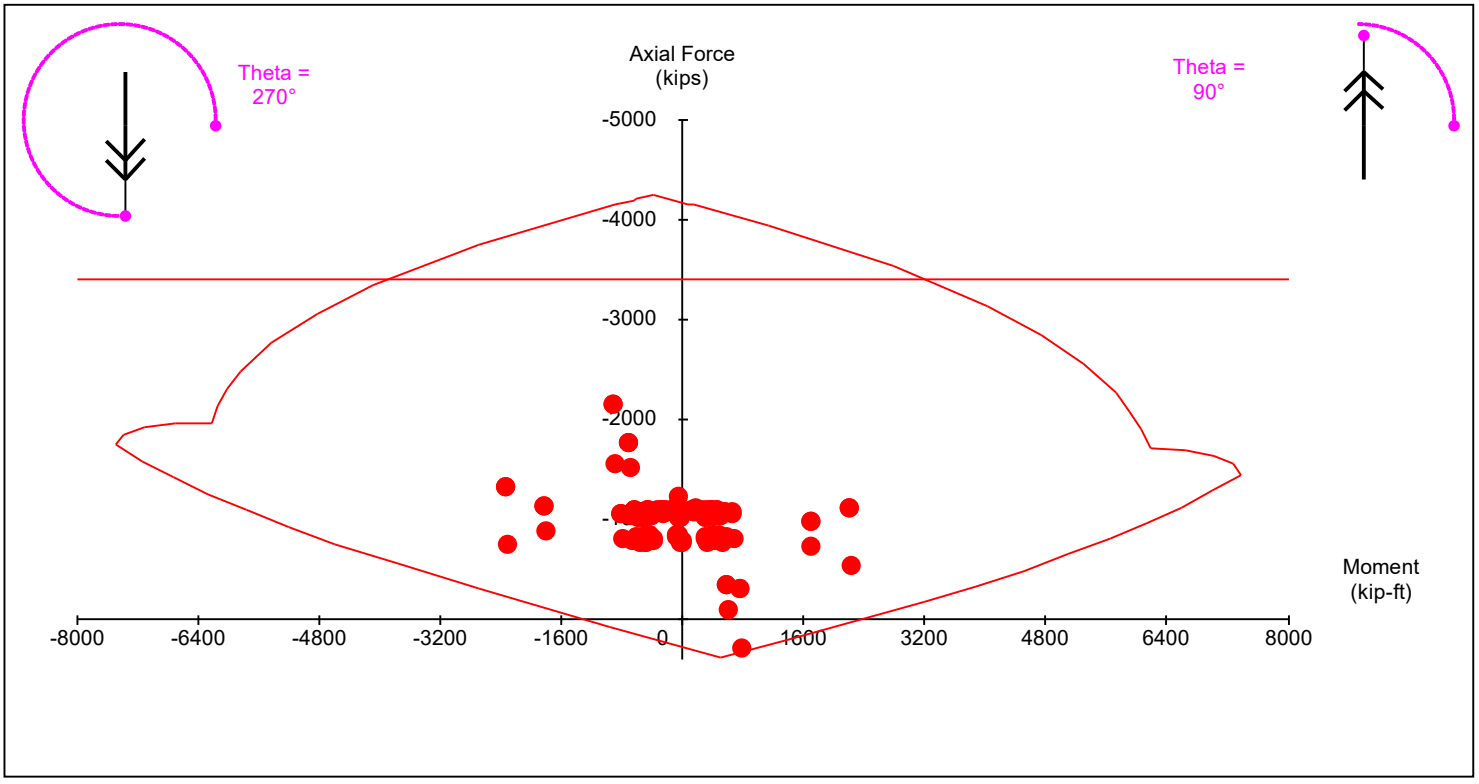
Boundary element check

Method: "N/A"
Du/Hw = 0.00

Wall Diagram



PM Diagram



ADAPT Wall Design

Status: Unacceptable

Model: adapt-builder_multi-level-tutorial_final

N vs M Util: 0.998

Pier Label: P2

Design Section: L4_Bot_18 (Level 4 (EL 47.5) - 47.50ft)

Shear Util: 1.221

Maximum: 1.000

Design Code: ACI2019

Dimension

Length = 14.00 ft

Thickness = 12.00 in

Lu = 10.00 ft

Hw = 37.00 ft

Governing Loads

	Pu (kip)	Vu (kip)	Mu (kip-ft)	Utilization	GLC
Axial	-206.860	272.150	215.580	0.033	"ULS-5_-EQ2_LR1_SEIS"
Flexure	-96.460	-1038.100	-6959.100	0.998	"ULS-7_-EQ1_SEIS"
Shear	-184.830	-1044.100	-6981.100	1.221	"ULS-5_-EQ1(LR1)_SEIS"

Shear Design

Fys = 60.000 ksi

Fyv = 60.000 ksi

Phi sh = 0.750

Phi Vc = 213.829 kip

Phi Vn = 1045.429 kip

Phi Vnmax = 855.316 kip

Panel Bars	Smax (in)	Avmin (in2/ft)	Av req (in2/ft)	Av prov (in2/ft)	Status
(2C) #6 @ 8.00 horz	18.00	0.36	1.32	1.32	"O.K."
(2C) #4 @ 12.00 vert	18.00	0.36	0.36	0.40	"O.K."

Flexure and Axial Design

F'c = 5000.00 psi

phi b = 0.90

phi c = 0.65

Panel bars used:

Aused = 0.04 in2

n = 8.00

Aused/Aprov vert = 0.10

		As in2	As (min) in2	CGS in	Curtains	Spacing in
Zone 1	12 - #8	9.48	2.02	14.73	3	9.00
Zone 2	12 - #8	9.48	2.02	14.73	3	9.00

PM Diagram status: "O.K."

Slenderness check

Lu(ft)	Lu/16	Status
10.00	7.50	"O.K."

Material statistics

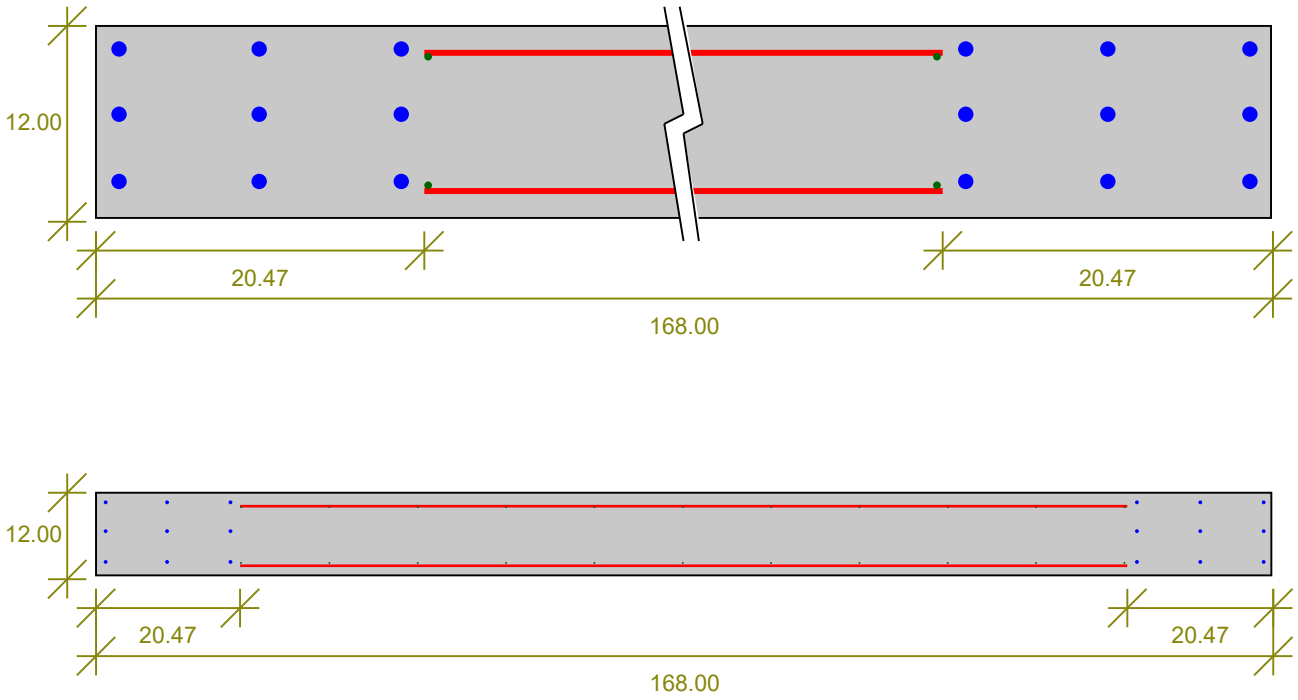
Volume(yard3)	Steel ratio(%)	Steel Density
5.185	0.96	0.02

Boundary element check

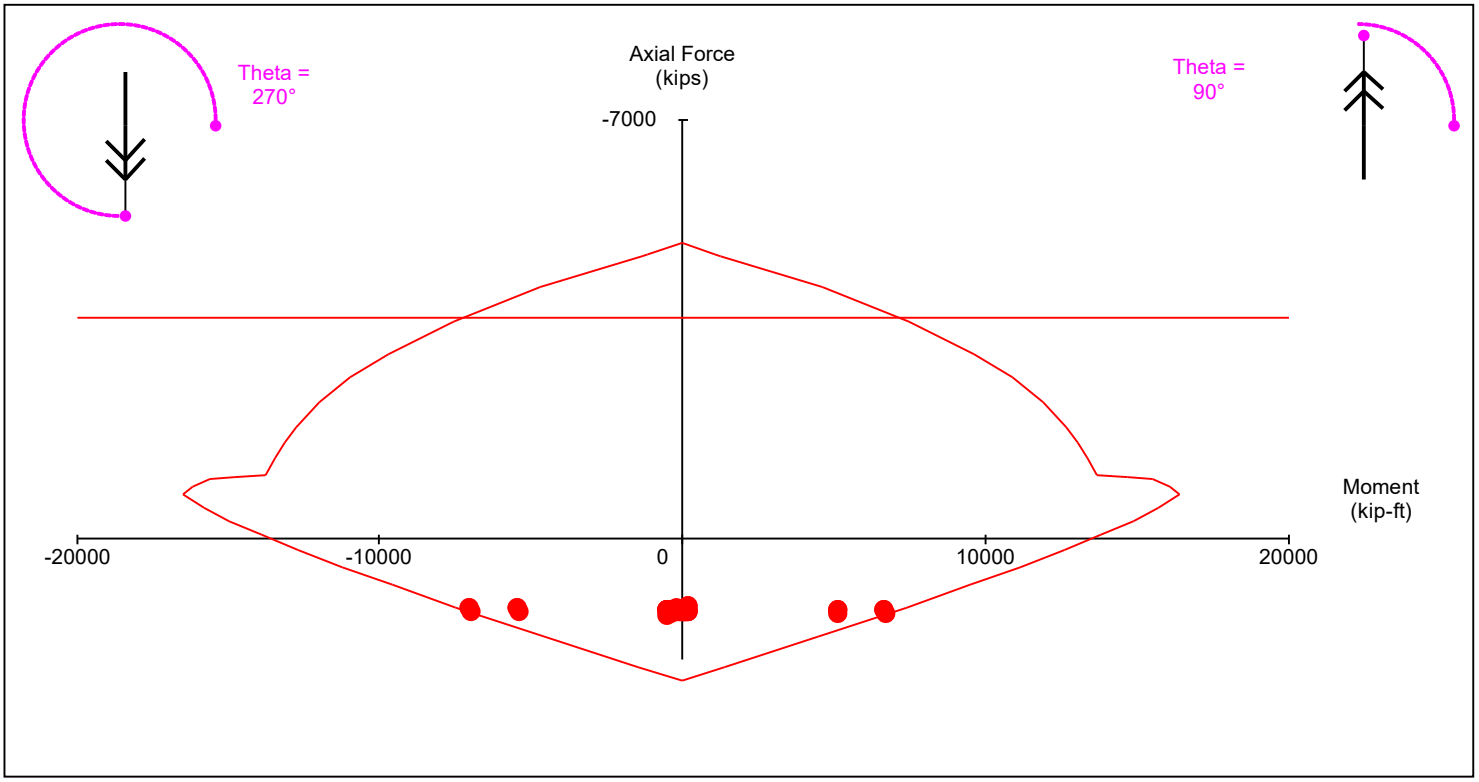
Method: "N/A"

Du/Hw = 0.00

Wall Diagram



PM Diagram



ADAPT Wall Design

		Status:	Acceptable
Model:	adapt-builder_multi-level-tutorial_final	N vs M Util:	0.942
Pier Label:	P2		
Design Section:	L4_Bot_19 (Level 4 (EL 47.5) - 47.50ft)	Shear Util:	0.944
		Maximum:	1.000
Design Code:	ACI2019		

Dimension

Length = 10.00 ft
Thickness = 12.00 in
Lu = 10.00 ft
Hw = 37.00 ft

Governing Loads

	Pu (kip)	Vu (kip)	Mu (kip-ft)	Utilization	GLC
Axial	226.800	15.744	-103.660	0.513	"ULS-7_-EQ1_SEIS"
Flexure	-645.700	458.940	-4538.300	0.942	"ULS-7_EQ2_SEIS"
Shear	-1285.700	460.220	-4513.000	0.944	"ULS-5_EQ2(LR1)_SEIS"

Shear Design

Fys = 60.000 ksi
Fyv = 60.000 ksi
Phi sh = 0.750
Phi Vc = 152.735 kip
Phi Vn = 487.535 kip
Phi Vnmax = 610.940 kip

Panel Bars	Smax (in)	Avmin (in2/ft)	Av req (in2/ft)	Av prov (in2/ft)	Status
(2C) #5 @ 10.00 horz	18.00	0.36	0.68	0.74	"O.K."
(2C) #4 @ 12.00 vert	18.00	0.36	0.36	0.40	"O.K."

Flexure and Axial Design

F'c = 5000.00 psi
phi b = 0.90
phi c = 0.65
Panel bars used:
Aused = 0.04 in2
n = 7.00
Aused/Aprov vert = 0.10

		As in2	As (min) in2	CGS in	Curtains	Spacing in
Zone 1	5 - #8	3.95	1.44	5.73	3	9.00
Zone 2	5 - #8	3.95	1.44	5.73	3	9.00

PM Diagram status: "O.K."

Slenderness check

Lu(ft)	Lu/16	Status
10.00	7.50	"O.K."

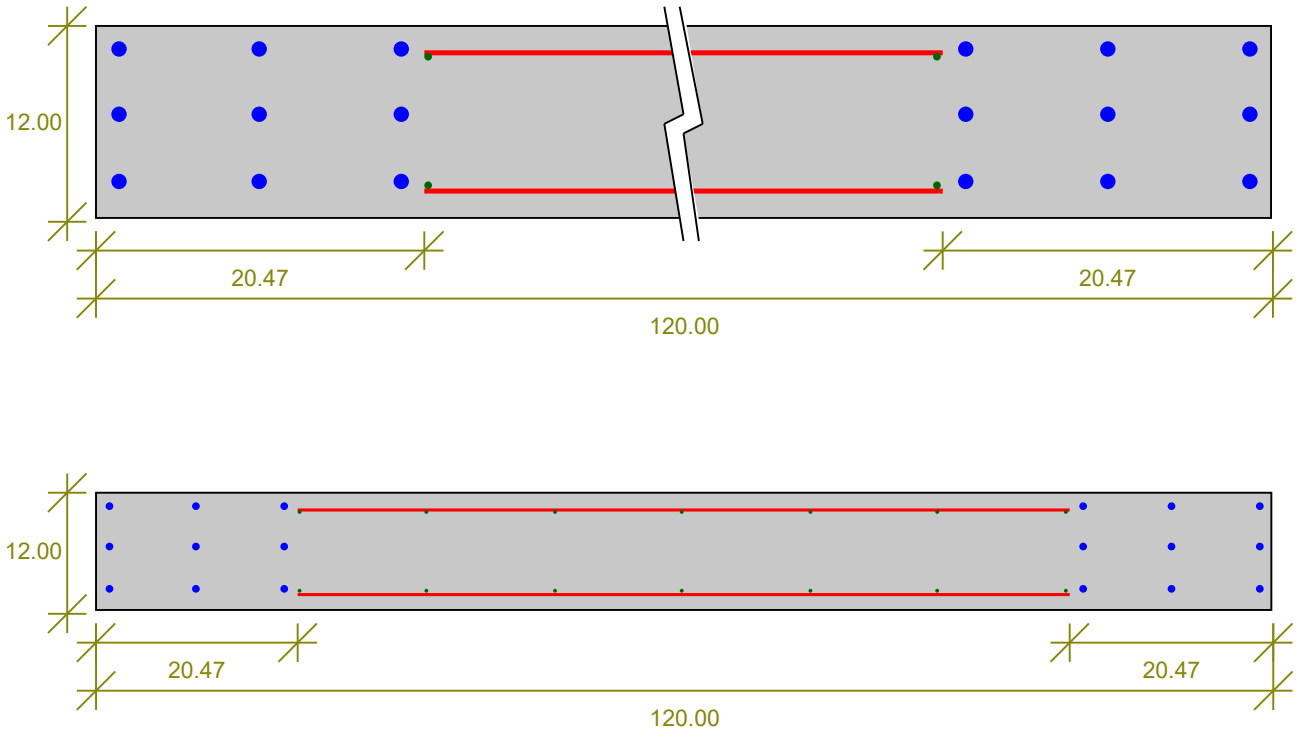
Material statistics

Volume(yard3)	Steel ratio(%)	Steel Density
3.704	0.57	0.01

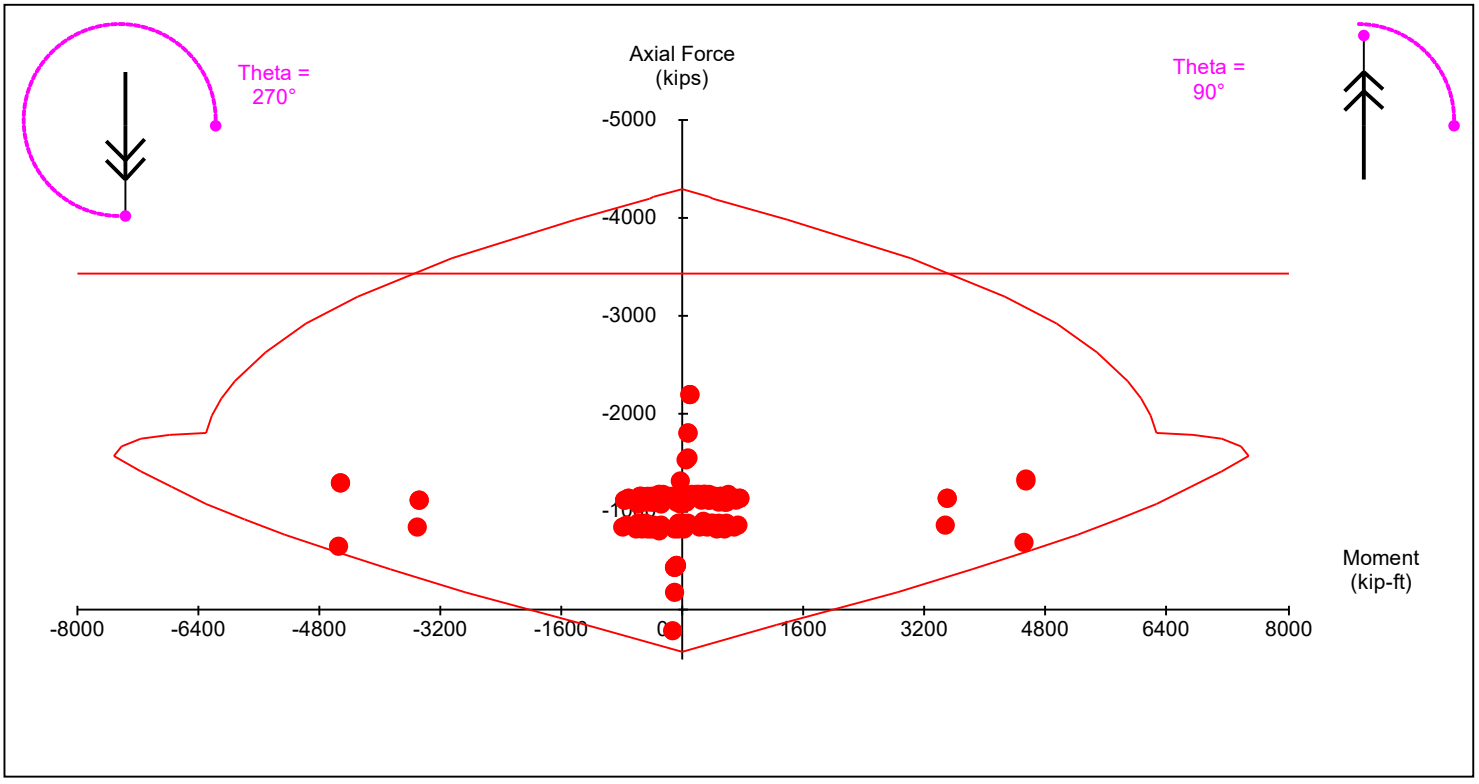
Boundary element check

Method: "N/A"
Du/Hw = 0.00

Wall Diagram



PM Diagram



ADAPT Wall Design

Status: Acceptable

Model: adapt-builder_multi-level-tutorial_final

N vs M Util: 0.490

Pier Label: P3

Design Section: L4_Top_16 (Level 4 (EL 47.5) - 47.50ft)

Shear Util: 0.510

Maximum: 1.000

Design Code: ACI2019

Dimension

Length = 20.75 ft
Thickness = 12.00 in
Lu = 10.00 ft
Hw = 37.00 ft

Governing Loads

	Pu (kip)	Vu (kip)	Mu (kip-ft)	Utilization	GLC
Axial	-1737.000	383.360	4196.300	0.205	"ULS-5_EQ1_LR1_SEIS"
Flexure	-584.000	-363.240	-4274.200	0.490	"ULS-7_-EQ1_SEIS"
Shear	-1733.400	383.360	4196.300	0.510	"ULS-5_EQ1(LR1)_SEIS"

Shear Design

Fys = 60.000 ksi
Fyv = 60.000 ksi
Phi sh = 0.750
Phi Vc = 378.019 kip
Phi Vn = 751.519 kip
Phi Vnmax = 1267.701 kip

Panel Bars	Smax (in)	Avmin (in2/ft)	Av req (in2/ft)	Av prov (in2/ft)	Status
(2C) #4 @ 12.00 horz	18.00	0.29	0.36	0.40	"O.K."
(2C) #4 @ 12.00 vert	18.00	0.36	0.36	0.40	"O.K."

Flexure and Axial Design

F'c = 5000.00 psi
phi b = 0.90
phi c = 0.65
Aused = 0.04 in2
n = 19.00
Aused/Aprov vert = 0.10

Panel bars used:		As in2	As (min) in2	CGS in	Curtains	Spacing in
Zone 1	3 - #8	2.37	2.99	1.23	3	9.00
Zone 2	3 - #8	2.37	2.99	1.23	3	9.00

PM Diagram status: "O.K."

Slenderness check

Lu(ft)	Lu/16	Status
10.00	7.50	"O.K."

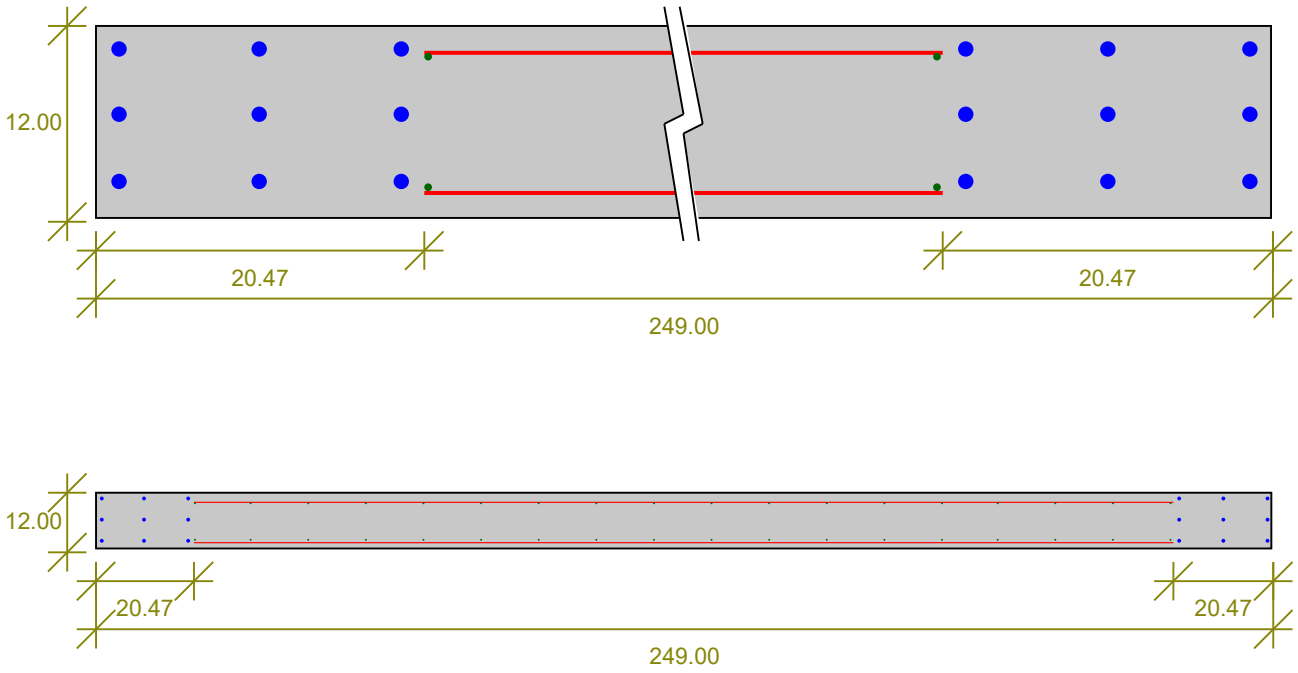
Material statistics

Volume(yard3)	Steel ratio(%)	Steel Density
7.685	0.18	0.01

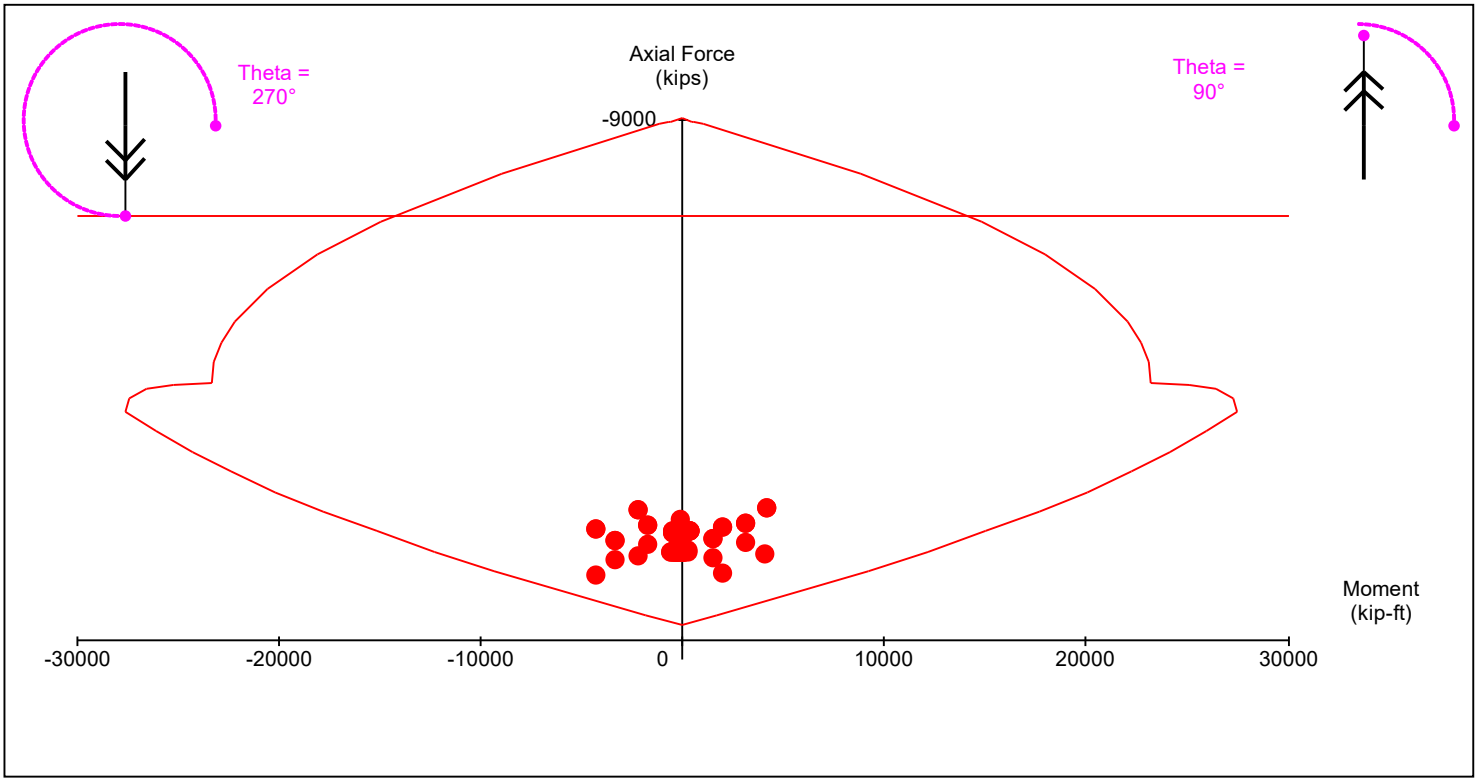
Boundary element check

Method: "N/A"
Du/Hw = 0.00

Wall Diagram



PM Diagram



ADAPT Wall Design

Status: Acceptable

Model: adapt-builder_multi-level-tutorial_final

N vs M Util: 0.979

Pier Label: P2

Design Section: L4_Top_17 (Level 4 (EL 47.5) - 47.50ft)

Shear Util: 0.984

Maximum: 1.000

Design Code: ACI2019

Dimension

Length = 10.00 ft
Thickness = 12.00 in
Lu = 10.00 ft
Hw = 37.00 ft

Governing Loads

	Pu (kip)	Vu (kip)	Mu (kip-ft)	Utilization	GLC
Axial	-2121.600	16.081	-727.210	0.452	"ULS-5_-EQ1_LR1_SEIS"
Flexure	-727.420	-411.100	-6417.200	0.979	"ULS-7_-EQ2_SEIS"
Shear	-1090.100	415.900	6384.600	0.984	"ULS-5_EQ2(LR1)_SEIS"

Shear Design

Fys = 60.000 ksi
Fyv = 60.000 ksi
Phi sh = 0.750
Phi Vc = 152.735 kip
Phi Vn = 422.735 kip
Phi Vnmax = 610.940 kip

Panel Bars	Smax (in)	Avmin (in2/ft)	Av req (in2/ft)	Av prov (in2/ft)	Status
(2C) #4 @ 8.00 horz	18.00	0.29	0.58	0.60	"O.K."
(2C) #4 @ 12.00 vert	18.00	0.36	0.36	0.40	"O.K."

Flexure and Axial Design

F'c = 5000.00 psi
phi b = 0.90
phi c = 0.65
Panel bars used:
Aused = 0.04 in2
n = 3.00
Aused/Aprov vert = 0.10

		As in2	As (min) in2	CGS in	Curtains	Spacing in
Zone 1	14 - #8	11.06	1.44	19.23	3	9.00
Zone 2	11 - #8	8.69	1.44	14.73	3	9.00

PM Diagram status: "O.K."

Slenderness check

Lu(ft)	Lu/16	Status
10.00	7.50	"O.K."

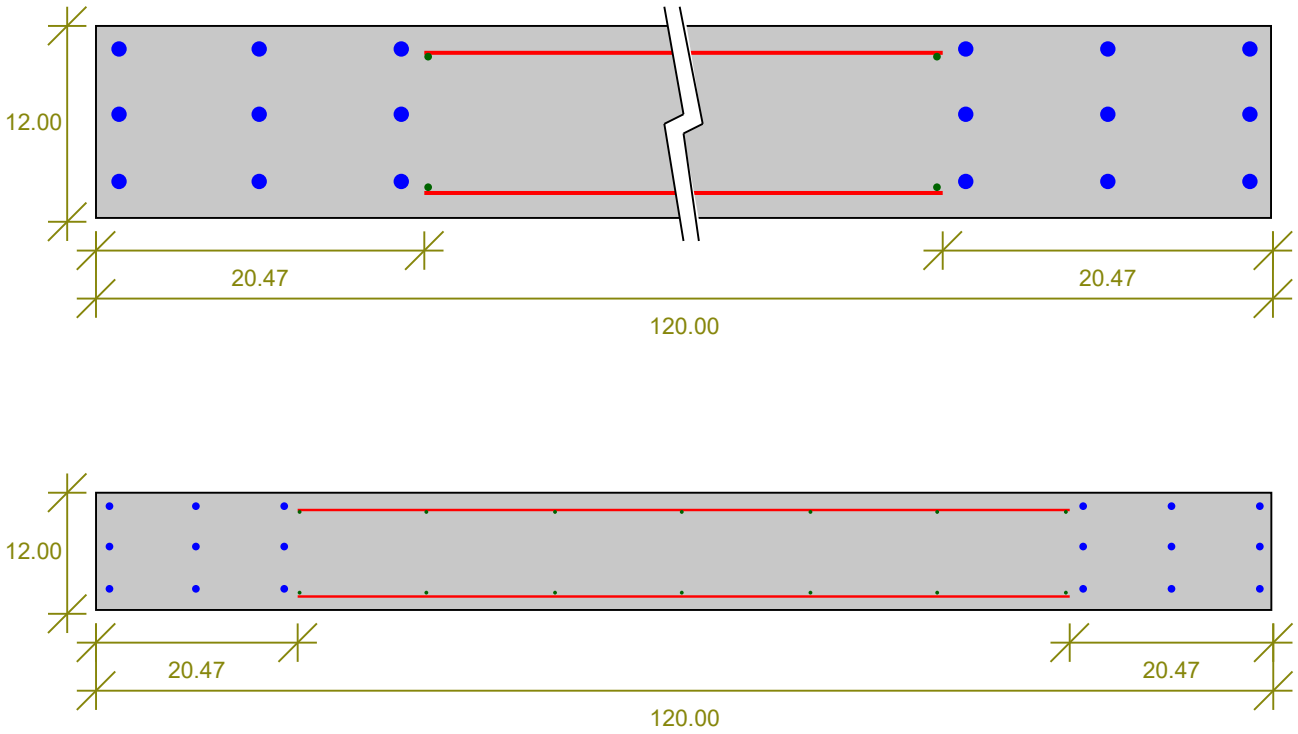
Material statistics

Volume(yard3)	Steel ratio(%)	Steel Density
3.704	1.38	0.02

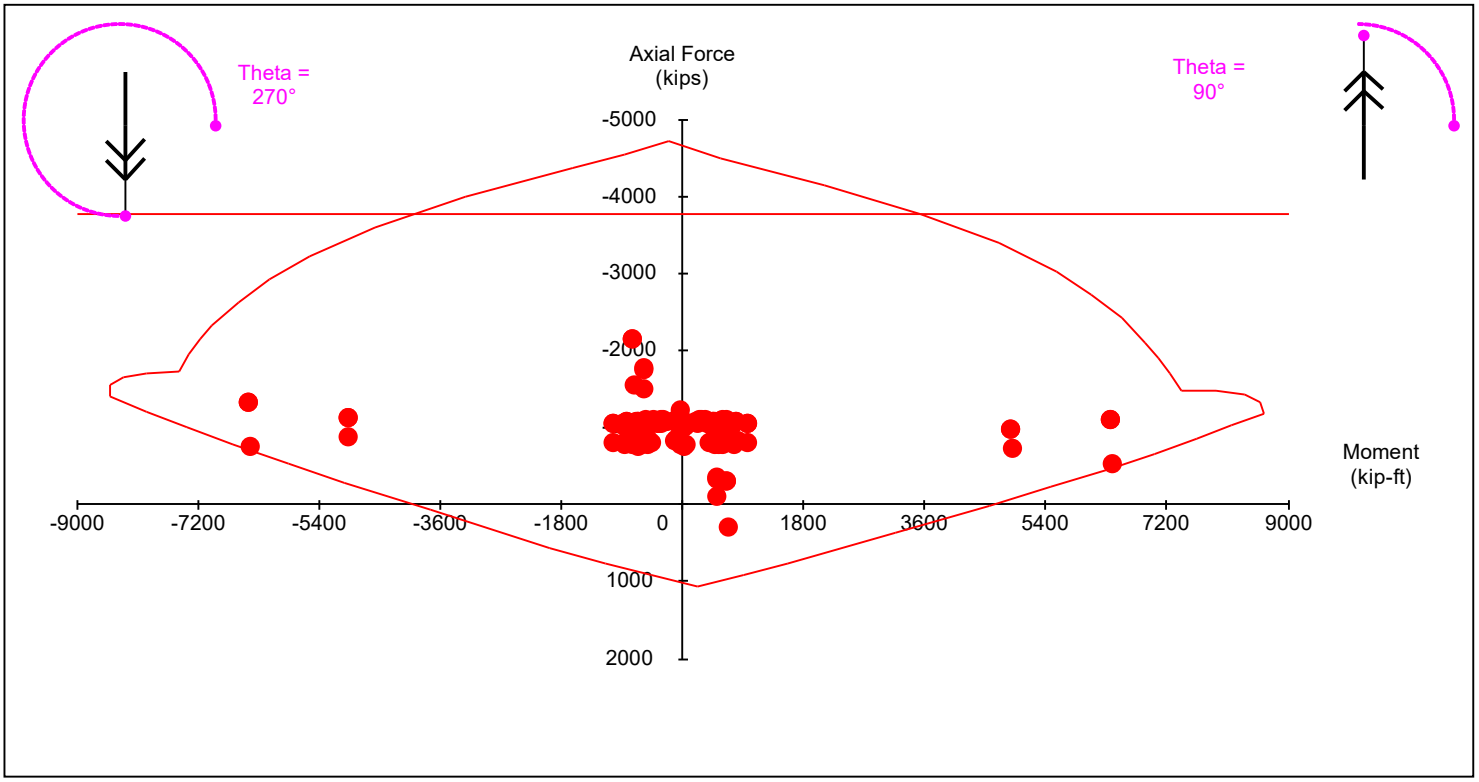
Boundary element check

Method: "N/A"
Du/Hw = 0.00

Wall Diagram



PM Diagram



ADAPT Wall Design

Status: Unacceptable

Model: adapt-builder_multi-level-tutorial_final

N vs M Util: 0.968

Pier Label: P2

Design Section: L4_Top_18 (Level 4 (EL 47.5) - 47.50ft)

Shear Util: 1.221

Maximum: 1.000

Design Code: ACI2019

Dimension

Length = 14.00 ft

Thickness = 12.00 in

Lu = 10.00 ft

Hw = 37.00 ft

Governing Loads

	Pu (kip)	Vu (kip)	Mu (kip-ft)	Utilization	GLC
Axial	-180.840	-272.150	-2505.800	0.031	"ULS-5_-EQ2_LR1_SEIS"
Flexure	-83.372	1038.100	3421.500	0.968	"ULS-7_-EQ1_SEIS"
Shear	-158.810	1044.100	3460.100	1.221	"ULS-5_-EQ1(LR1)_SEIS"

Shear Design

Fys = 60.000 ksi

Fyv = 60.000 ksi

Phi sh = 0.750

Phi Vc = 213.829 kip

Phi Vn = 1045.429 kip

Phi Vnmax = 855.316 kip

Panel Bars	Smax (in)	Avmin (in2/ft)	Av req (in2/ft)	Av prov (in2/ft)	Status
(2C) #6 @ 8.00 horz	18.00	0.36	1.32	1.32	"O.K."
(2C) #4 @ 12.00 vert	18.00	0.36	0.36	0.40	"O.K."

Flexure and Axial Design

F'c = 5000.00 psi

phi b = 0.90

phi c = 0.65

Panel bars used:

Aused = 0.04 in2

n = 11.00

Aused/Aprov vert = 0.10

		As in2	As (min) in2	CGS in	Curtains	Spacing in
Zone 1	5 - #8	3.95	2.02	5.73	3	9.00
Zone 2	6 - #8	4.74	2.02	5.73	3	9.00

PM Diagram status: "O.K."

Slenderness check

Lu(ft)	Lu/16	Status
10.00	7.50	"O.K."

Material statistics

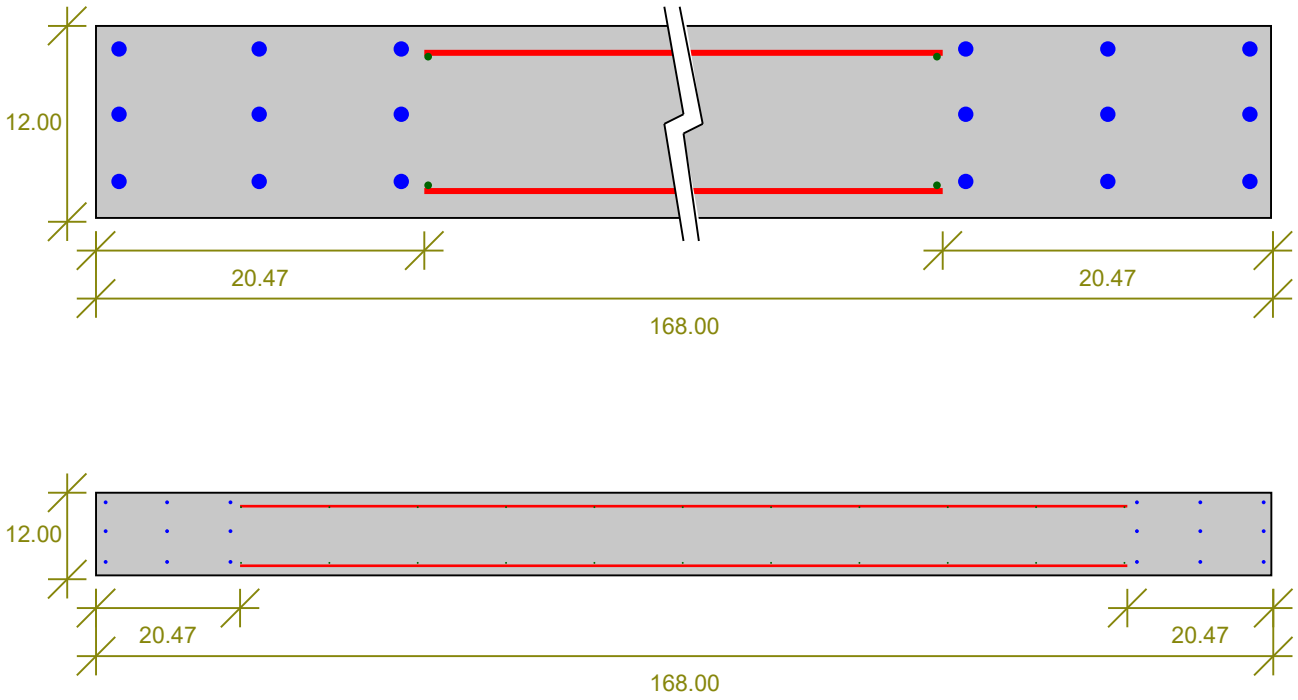
Volume(yard3)	Steel ratio(%)	Steel Density
5.185	0.45	0.02

Boundary element check

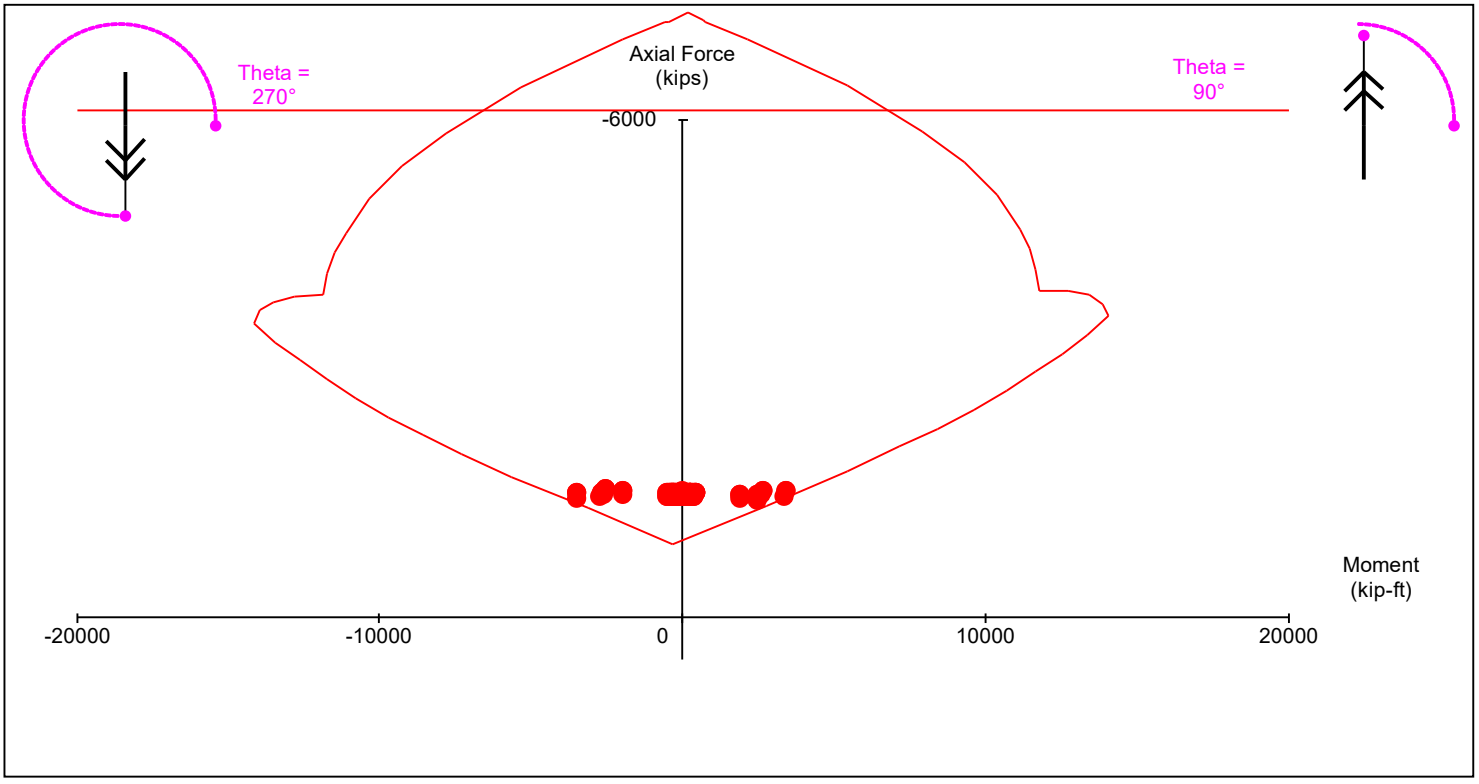
Method: "N/A"

Du/Hw = 0.00

Wall Diagram



PM Diagram



ADAPT Wall Design

Status: Acceptable

Model: adapt-builder_multi-level-tutorial_final

N vs M Util: 0.977

Pier Label: P2

Design Section: L4_Top_19 (Level 4 (EL 47.5) - 47.50ft)

Shear Util: 0.944

Maximum: 1.000

Design Code: ACI2019

Dimension

Length = 10.00 ft
Thickness = 12.00 in
Lu = 10.00 ft
Hw = 37.00 ft

Governing Loads

	Pu (kip)	Vu (kip)	Mu (kip-ft)	Utilization	GLC
Axial	-2165.500	15.083	268.370	0.411	"ULS-5_EQ1_LR1_SEIS"
Flexure	-636.350	-458.940	-9127.600	0.977	"ULS-7_EQ2_SEIS"
Shear	-1267.100	-460.220	-9115.100	0.944	"ULS-5_EQ2(LR1)_SEIS"

Shear Design

Fys = 60.000 ksi
Fyv = 60.000 ksi
Phi sh = 0.750
Phi Vc = 152.735 kip
Phi Vn = 487.535 kip
Phi Vnmax = 610.940 kip

Panel Bars	Smax (in)	Avmin (in2/ft)	Av req (in2/ft)	Av prov (in2/ft)	Status
(2C) #5 @ 10.00 horz	18.00	0.36	0.68	0.74	"O.K."
(2C) #4 @ 12.00 vert	18.00	0.36	0.36	0.40	"O.K."

Flexure and Axial Design

F'c = 5000.00 psi
phi b = 0.90
phi c = 0.65
Panel bars used:
Aused = 0.04 in2
n = 2.00
Aused/Aprov vert = 0.10

		As in2	As (min) in2	CGS in	Curtains	Spacing in
Zone 1	14 - #10	17.78	1.44	19.23	3	9.00
Zone 2	14 - #10	17.78	1.44	19.23	3	9.00

PM Diagram status: "O.K."

Slenderness check

Lu(ft)	Lu/16	Status
10.00	7.50	"O.K."

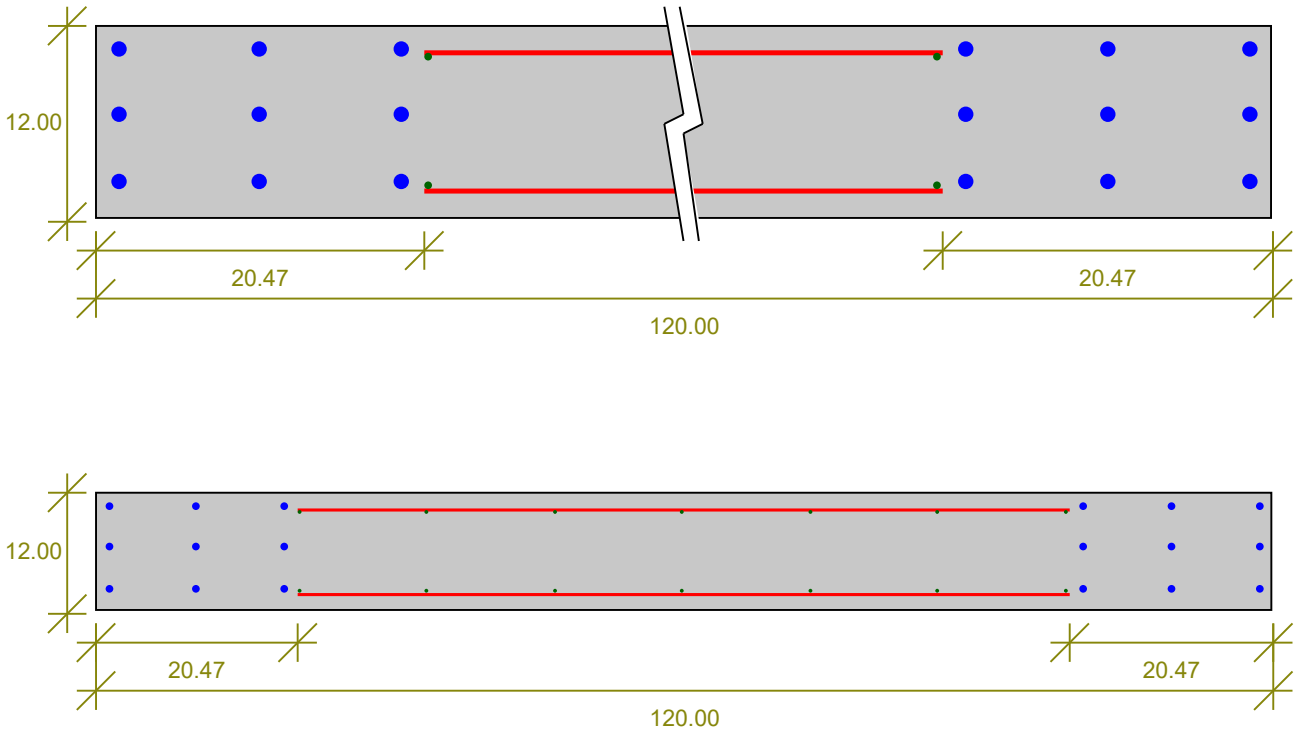
Material statistics

Volume(yard3)	Steel ratio(%)	Steel Density
3.704	2.47	0.03

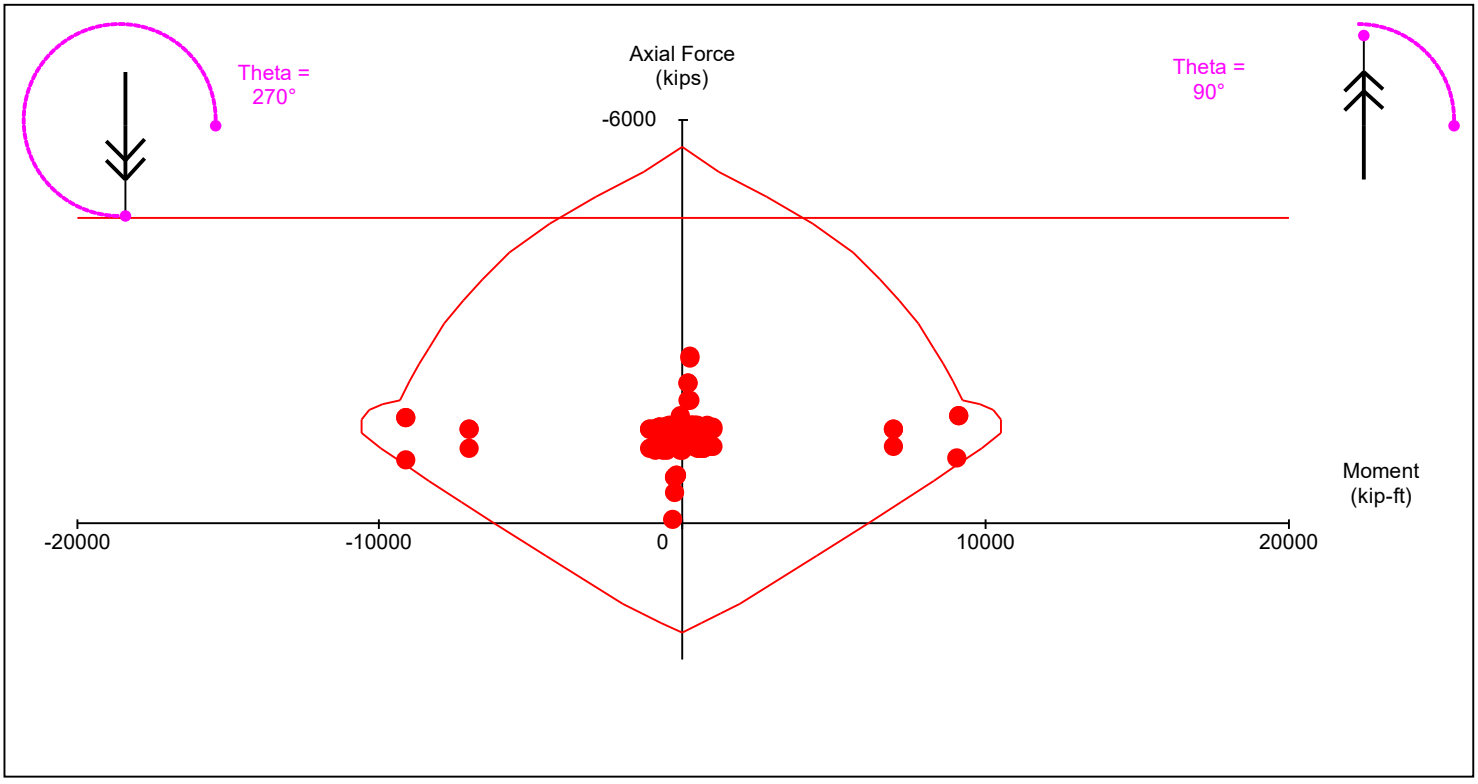
Boundary element check

Method: "N/A"
Du/Hw = 0.00

Wall Diagram



PM Diagram



ADAPT Wall Design

Status: Acceptable

Model: adapt-builder_multi-level-tutorial_final

N vs M Util: 0.272

Pier Label: P3

Design Section: L5_Bot_20 (Level 5 (EL 57.5) - 57.50ft)

Shear Util: 0.240

Maximum: 1.000

Design Code: ACI2019

Dimension

Length = 20.75 ft
Thickness = 12.00 in
Lu = 10.00 ft
Hw = 37.00 ft

Governing Loads

	Pu (kip)	Vu (kip)	Mu (kip-ft)	Utilization	GLC
Axial	-1299.800	-176.820	2498.400	0.151	"ULS-5_EQ1_LR1_SBS"
Flexure	-441.920	180.510	-2501.300	0.272	"ULS-7_-EQ1_SBS"
Shear	-441.920	180.510	-2501.300	0.240	"ULS-7_-EQ1_SBS"

Shear Design

Fys = 60.000 ksi
Fyv = 60.000 ksi
Phi sh = 0.750
Phi Vc = 378.019 kip
Phi Vn = 751.519 kip
Phi Vnmax = 1267.701 kip

Panel Bars	Smax (in)	Avmin (in2/ft)	Av req (in2/ft)	Av prov (in2/ft)	Status
(2C) #4 @ 12.00 horz	18.00	0.29	0.00	0.40	"O.K."
(2C) #4 @ 12.00 vert	18.00	0.17	0.17	0.40	"O.K."

Flexure and Axial Design

F'c = 5000.00 psi
phi b = 0.90
phi c = 0.65
Panel bars used:
Aused = 0.23 in2
n = 19.00
Aused/Aprov vert = 0.57

		As in2	As (min) in2	CGS in	Curtains	Spacing in
Zone 1	3 - #8	2.37	2.99	1.23	3	9.00
Zone 2	3 - #8	2.37	2.99	1.23	3	9.00

PM Diagram status: "O.K."

Slenderness check

Lu(ft)	Lu/16	Status
10.00	7.50	"O.K."

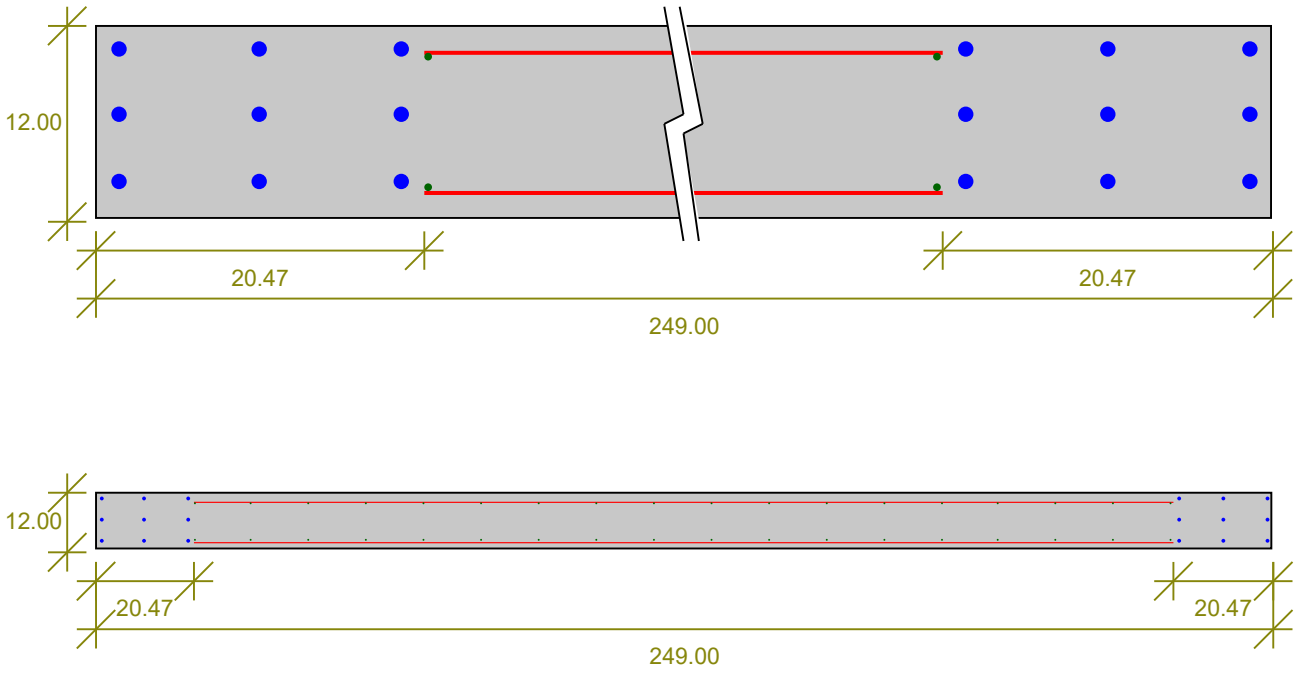
Material statistics

Volume(yard3)	Steel ratio(%)	Steel Density
7.685	0.30	0.01

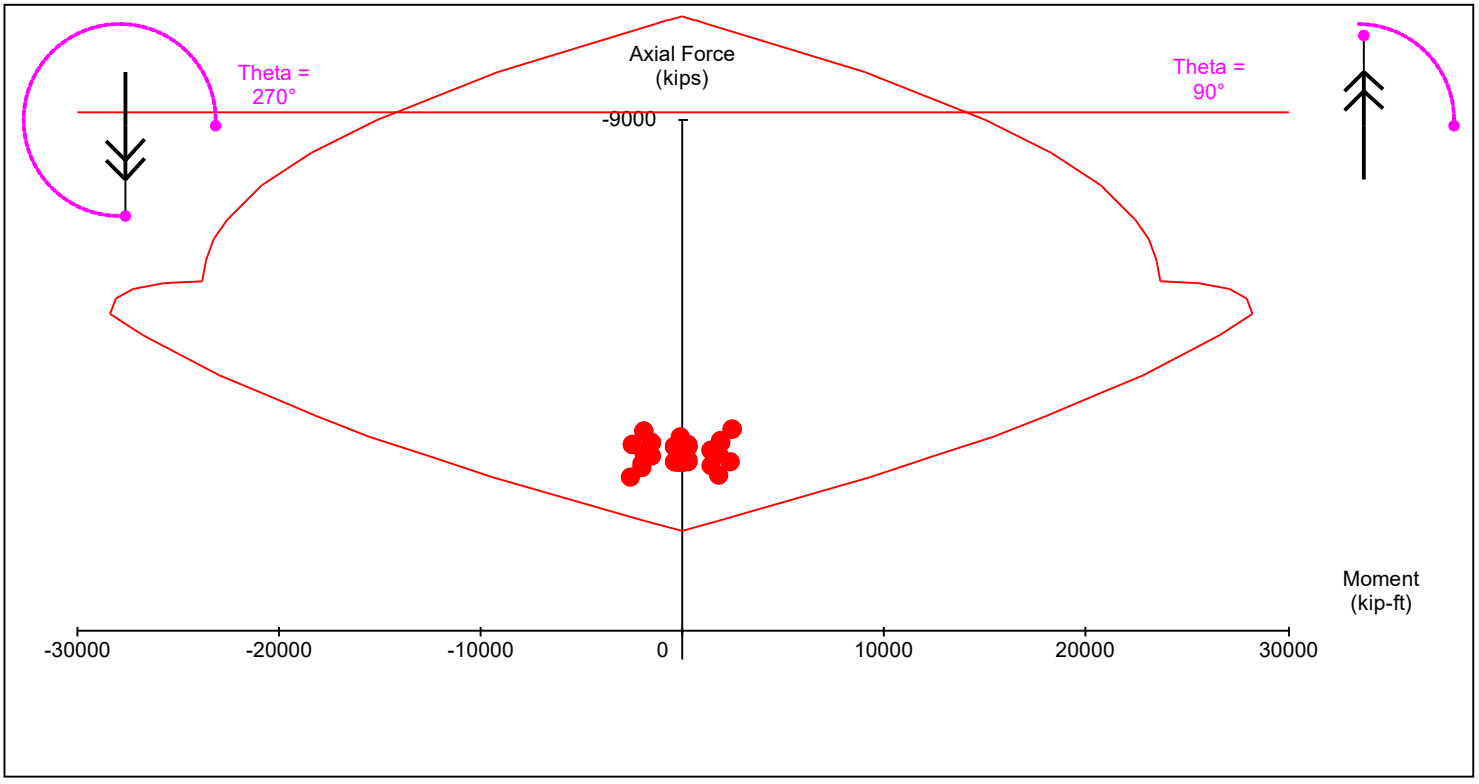
Boundary element check

Method: "N/A"
Du/Hw = 0.00

Wall Diagram



PM Diagram



ADAPT Wall Design

Status: Acceptable

Model: adapt-builder_multi-level-tutorial_final

N vs M Util: 0.961

Pier Label: P2

Design Section: L5_Bot_21 (Level 5 (EL 57.5) - 57.50ft)

Shear Util: 0.564

Maximum: 1.000

Design Code: ACI2019

Dimension

Length = 10.00 ft
Thickness = 12.00 in
Lu = 10.00 ft
Hw = 37.00 ft

Governing Loads

	Pu (kip)	Vu (kip)	Mu (kip-ft)	Utilization	GLC
Axial	-1364.400	-63.311	-765.870	0.319	"ULS-5_-EQ1_LR1_SEIS"
Flexure	-274.610	-187.210	3799.700	0.961	"ULS-7_EQ2_SEIS"
Shear	-704.490	-187.570	3787.000	0.564	"ULS-5_EQ2(LR1)_SEIS"

Shear Design

Fys = 60.000 ksi
Fyv = 60.000 ksi
Phi sh = 0.750
Phi Vc = 152.735 kip
Phi Vn = 332.735 kip
Phi Vnmax = 610.940 kip

Panel Bars	Smax (in)	Avmin (in2/ft)	Av req (in2/ft)	Av prov (in2/ft)	Status
(2C) #4 @ 12.00 horz	18.00	0.29	0.36	0.40	"O.K."
(2C) #4 @ 12.00 vert	18.00	0.36	0.36	0.40	"O.K."

Flexure and Axial Design

F'c = 5000.00 psi
phi b = 0.90
phi c = 0.65
Panel bars used:
Aused = 0.04 in2
n = 7.00
Aused/Aprov vert = 0.10

		As in2	As (min) in2	CGS in	Curtains	Spacing in
Zone 1	7 - #8	5.53	1.44	10.23	3	9.00
Zone 2	3 - #8	2.37	1.44	1.23	3	9.00

PM Diagram status: "O.K."

Slenderness check

Lu(ft)	Lu/16	Status
10.00	7.50	"O.K."

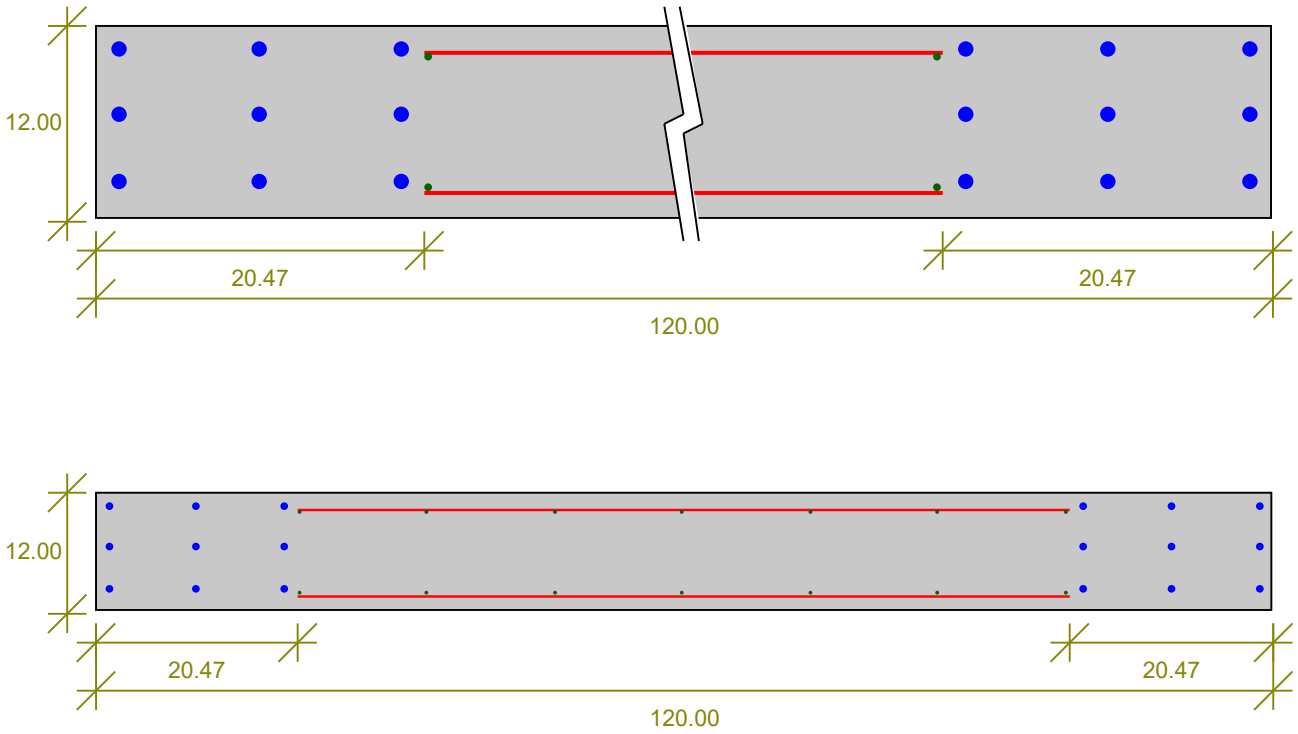
Material statistics

Volume(yard3)	Steel ratio(%)	Steel Density
3.704	0.57	0.01

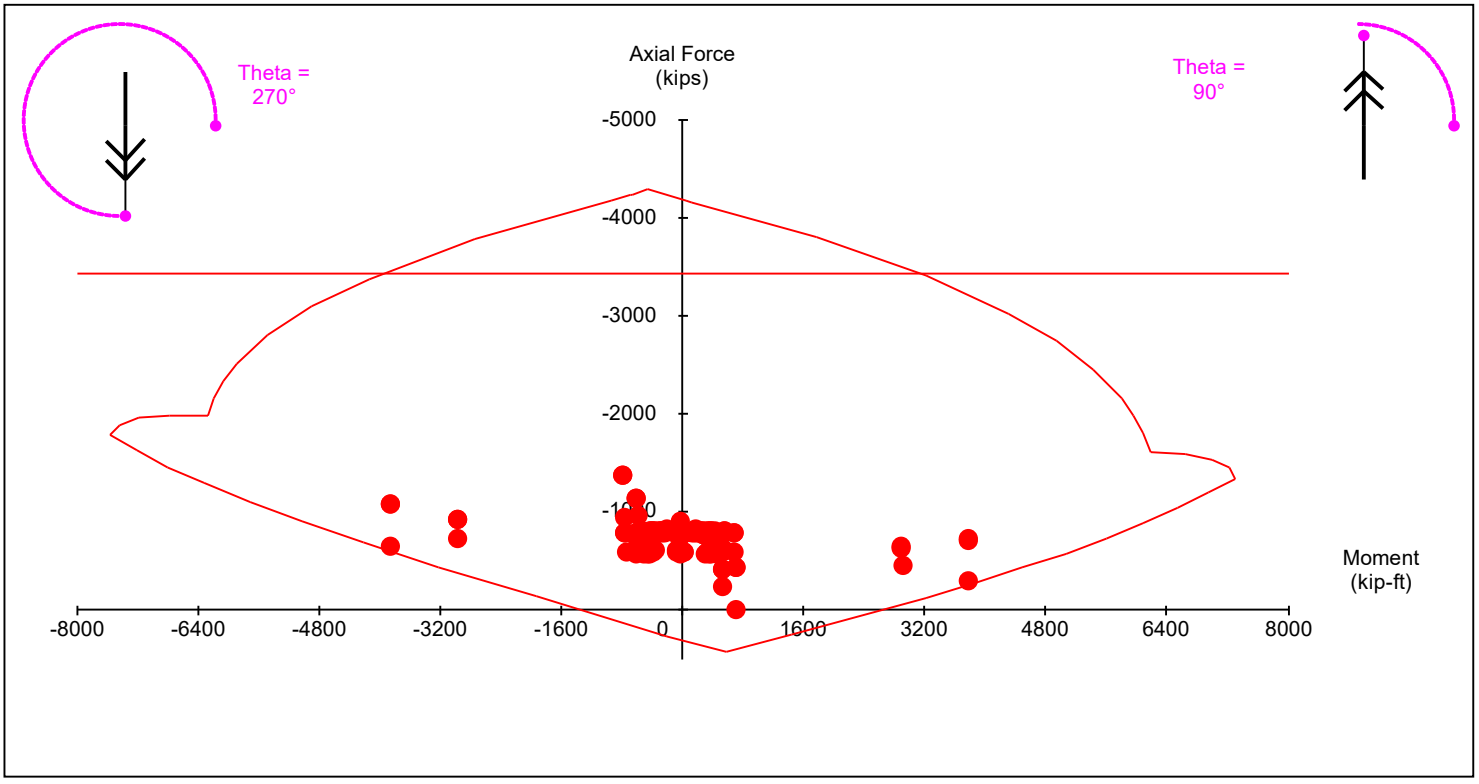
Boundary element check

Method: "N/A"
Du/Hw = 0.00

Wall Diagram



PM Diagram



ADAPT Wall Design

Status: Acceptable

Model: adapt-builder_multi-level-tutorial_final

N vs M Util: 0.960

Pier Label: P2

Design Section: L5_Bot_22 (Level 5 (EL 57.5) - 57.50ft)

Shear Util: 0.995

Maximum: 1.000

Design Code: ACI2019

Dimension

Length = 14.00 ft

Thickness = 12.00 in

Lu = 10.00 ft

Hw = 37.00 ft

Governing Loads

	Pu (kip)	Vu (kip)	Mu (kip-ft)	Utilization	GLC
Axial	-154.020	8.896	-890.790	0.025	"ULS-5_-EQ2_LR1_SEIS"
Flexure	-51.275	837.760	4628.300	0.960	"ULS-7_EQ1_SEIS"
Shear	-134.610	-851.400	-4755.200	0.995	"ULS-5_-EQ1(LR1)_SEIS"

Shear Design

Fys = 60.000 ksi

Fyv = 60.000 ksi

Phi sh = 0.750

Phi Vc = 213.829 kip

Phi Vn = 879.109 kip

Phi Vnmax = 855.316 kip

Panel Bars	Smax (in)	Avmin (in2/ft)	Av req (in2/ft)	Av prov (in2/ft)	Status
(2C) #6 @ 10.00 horz	18.00	0.36	1.01	1.06	"O.K."
(2C) #4 @ 12.00 vert	18.00	0.36	0.36	0.40	"O.K."

Flexure and Axial Design

F'c = 5000.00 psi

phi b = 0.90

phi c = 0.65

Aused = 0.04 in2

n = 9.00

Aused/Aprov vert = 0.10

Panel bars used:		As in2	As (min) in2	CGS in	Curtains	Spacing in
Zone 1	8 - #8	6.32	2.02	10.23	3	9.00
Zone 2	8 - #8	6.32	2.02	10.23	3	9.00

PM Diagram status: "O.K."

Slenderness check

Lu(ft)	Lu/16	Status
10.00	7.50	"O.K."

Material statistics

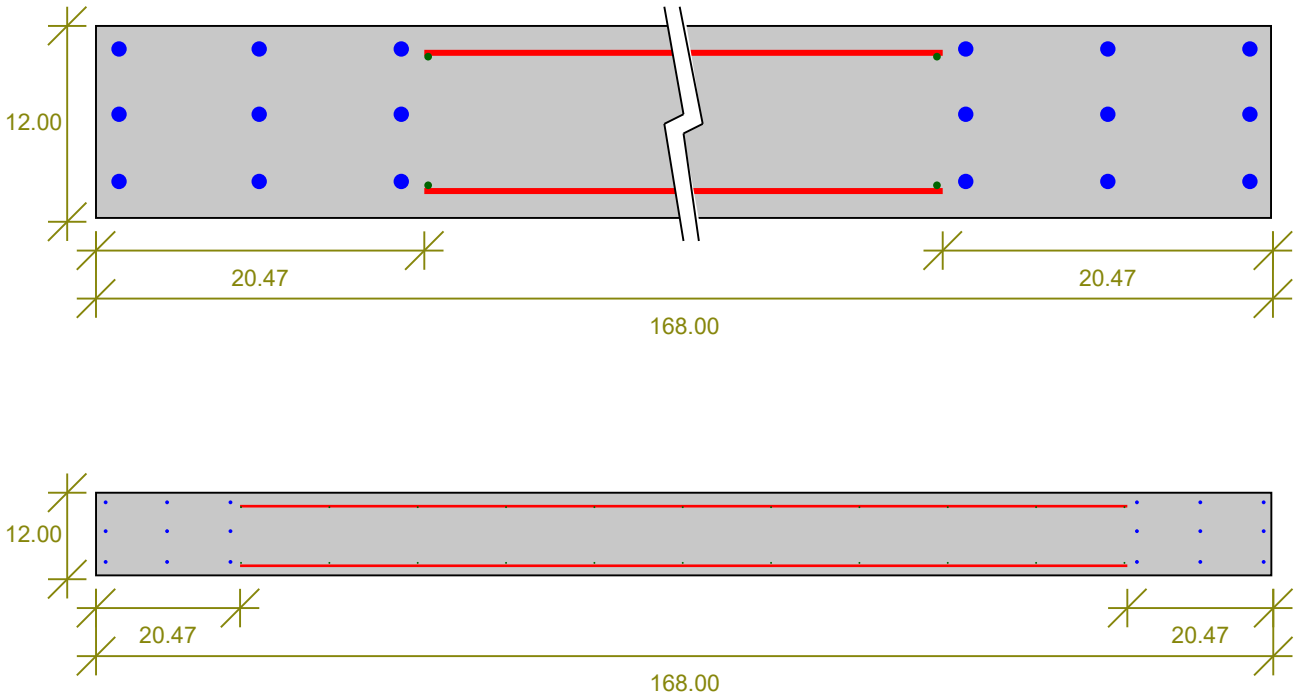
Volume(yard3)	Steel ratio(%)	Steel Density
5.185	0.64	0.02

Boundary element check

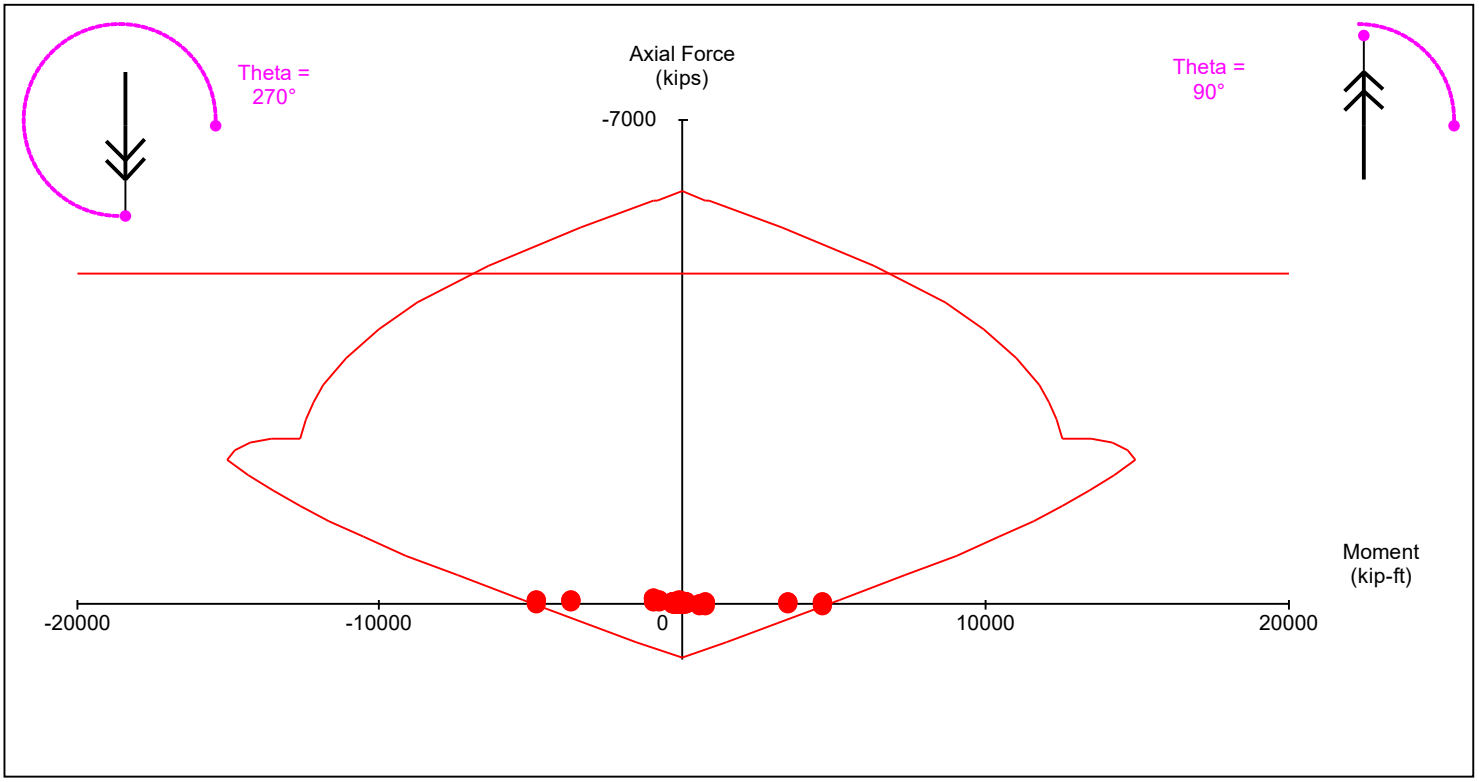
Method: "N/A"

Du/Hw = 0.00

Wall Diagram



PM Diagram



ADAPT Wall Design

Status: Acceptable

Model: adapt-builder_multi-level-tutorial_final

N vs M Util: 0.991

Pier Label: P2

Design Section: L5_Bot_23 (Level 5 (EL 57.5) - 57.50ft)

Shear Util: 0.243

Maximum: 1.000

Design Code: ACI2019

Dimension

Length = 10.00 ft
Thickness = 12.00 in
Lu = 10.00 ft
Hw = 37.00 ft

Governing Loads

	Pu (kip)	Vu (kip)	Mu (kip-ft)	Utilization	GLC
Axial	-1403.300	0.912	89.444	0.299	"ULS-5_EQ1_LR1_SEIS"
Flexure	-365.830	-80.473	6031.400	0.991	"ULS-7_-EQ2_SEIS"
Shear	-838.430	-80.775	6038.900	0.243	"ULS-5_-EQ2(LR1)_SEIS"

Shear Design

Fys = 60.000 ksi
Fyv = 60.000 ksi
Phi sh = 0.750
Phi Vc = 152.735 kip
Phi Vn = 332.735 kip
Phi Vnmax = 610.940 kip

Panel Bars	Smax (in)	Avmin (in2/ft)	Av req (in2/ft)	Av prov (in2/ft)	Status
(2C) #4 @ 12.00 horz	18.00	0.29	0.36	0.40	"O.K."
(2C) #4 @ 12.00 vert	18.00	0.36	0.36	0.40	"O.K."

Flexure and Axial Design

F'c = 5000.00 psi
phi b = 0.90
phi c = 0.65
Panel bars used:
Aused = 0.04 in2
n = 3.00
Aused/Aprov vert = 0.10

		As in2	As (min) in2	CGS in	Curtains	Spacing in
Zone 1	14 - #8	11.06	1.44	19.23	3	9.00
Zone 2	11 - #8	8.69	1.44	14.73	3	9.00

PM Diagram status: "O.K."

Slenderness check

Lu(ft)	Lu/16	Status
10.00	7.50	"O.K."

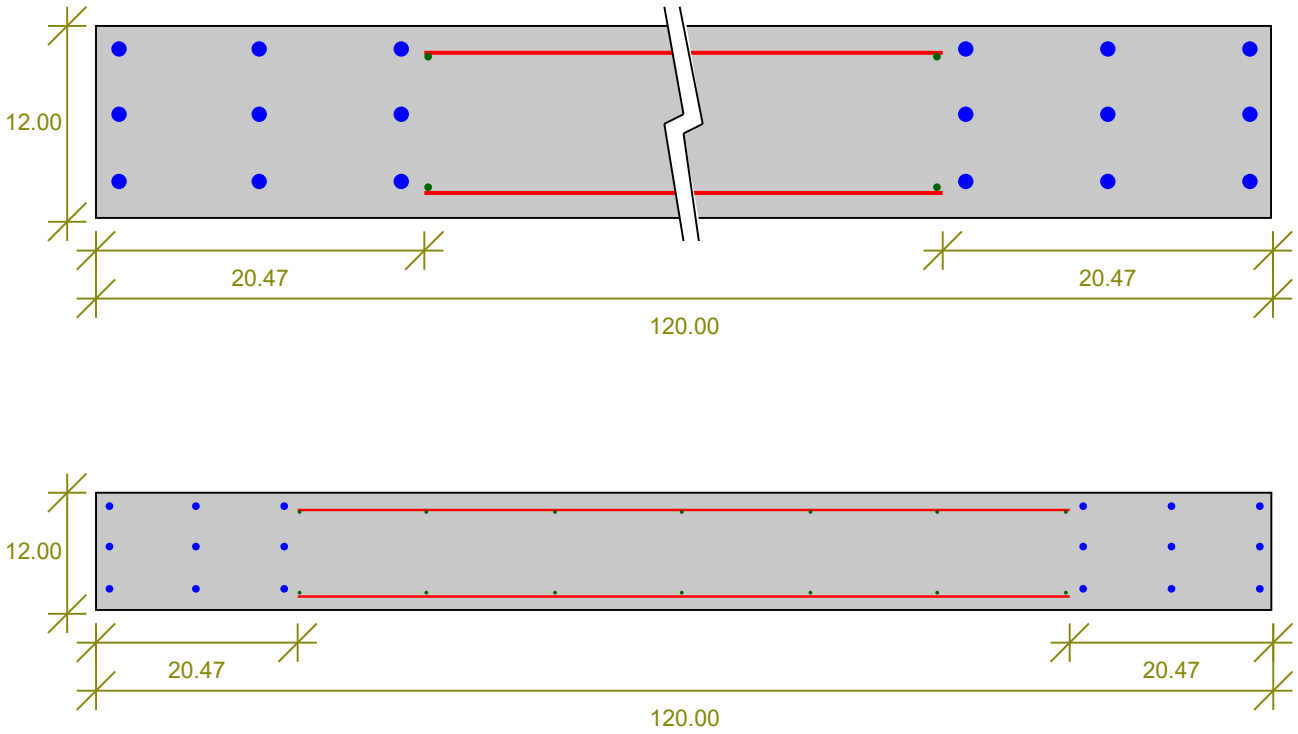
Material statistics

Volume(yard3)	Steel ratio(%)	Steel Density
3.704	1.38	0.02

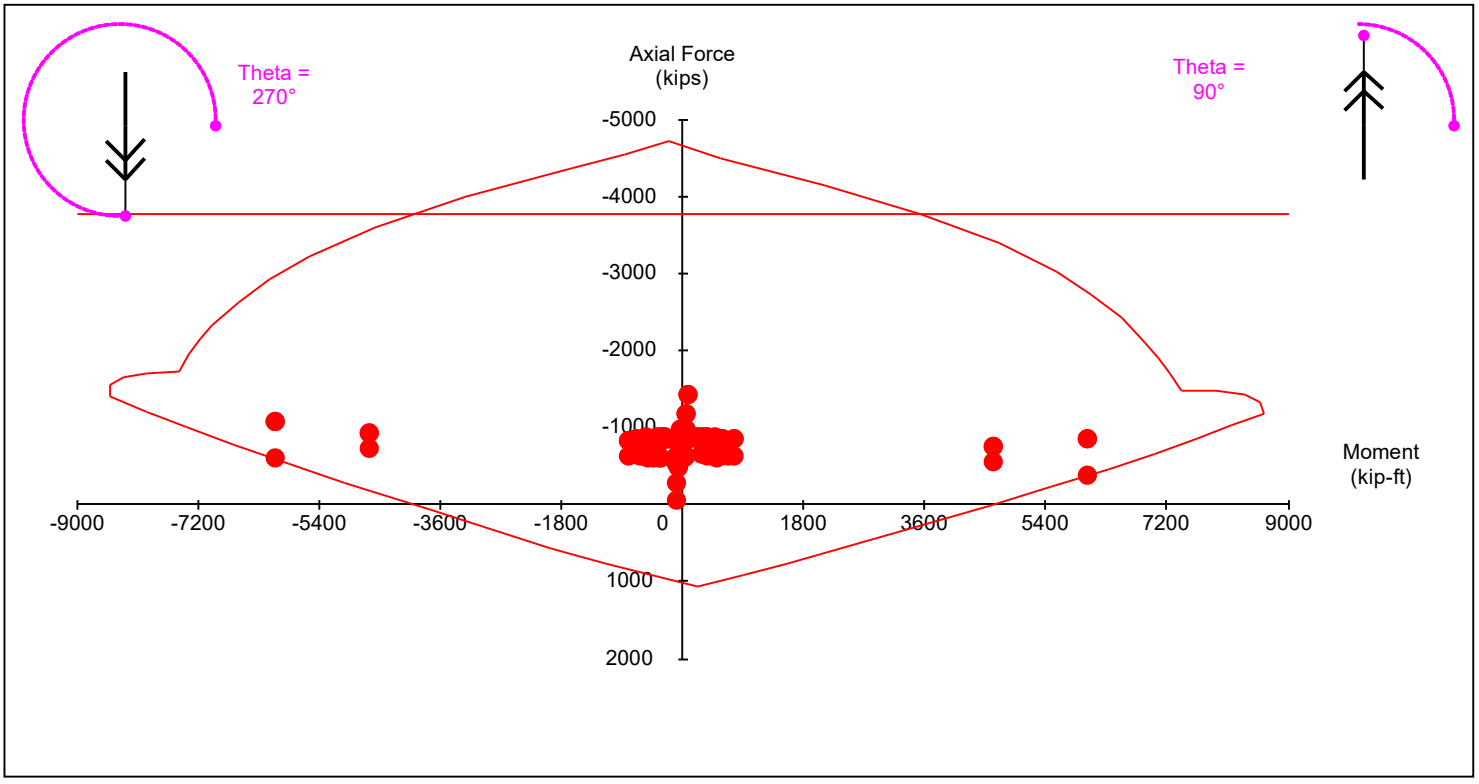
Boundary element check

Method: "N/A"
Du/Hw = 0.00

Wall Diagram



PM Diagram



ADAPT Wall Design

Status: Acceptable

Model: adapt-builder_multi-level-tutorial_final

N vs M Util: 0.478

Pier Label: P3

Design Section: L5_Top_20 (Level 5 (EL 57.5) - 57.50ft)

Shear Util: 0.240

Maximum: 1.000

Design Code: ACI2019

Dimension

Length = 20.75 ft
Thickness = 12.00 in
Lu = 10.00 ft
Hw = 37.00 ft

Governing Loads

	Pu (kip)	Vu (kip)	Mu (kip-ft)	Utilization	GLC
Axial	-1261.200	176.820	4266.600	0.147	"ULS-5_EQ1_LR1_SBS"
Flexure	-422.520	-180.510	-4306.500	0.478	"ULS-7_-EQ1_SBS"
Shear	-422.520	-180.510	-4306.500	0.240	"ULS-7_-EQ1_SBS"

Shear Design

Fys = 60.000 ksi
Fyv = 60.000 ksi
Phi sh = 0.750
Phi Vc = 378.019 kip
Phi Vn = 751.519 kip
Phi Vnmax = 1267.701 kip

Panel Bars	Smax (in)	Avmin (in2/ft)	Av req (in2/ft)	Av prov (in2/ft)	Status
(2C) #4 @ 12.00 horz	18.00	0.29	0.00	0.40	"O.K."
(2C) #4 @ 12.00 vert	18.00	0.17	0.17	0.40	"O.K."

Flexure and Axial Design

F'c = 5000.00 psi
phi b = 0.90
phi c = 0.65
Panel bars used:
Aused = 0.23 in2
n = 19.00
Aused/Aprov vert = 0.57

		As in2	As (min) in2	CGS in	Curtains	Spacing in
Zone 1	3 - #8	2.37	2.99	1.23	3	9.00
Zone 2	3 - #8	2.37	2.99	1.23	3	9.00

PM Diagram status: "O.K."

Slenderness check

Lu(ft)	Lu/16	Status
10.00	7.50	"O.K."

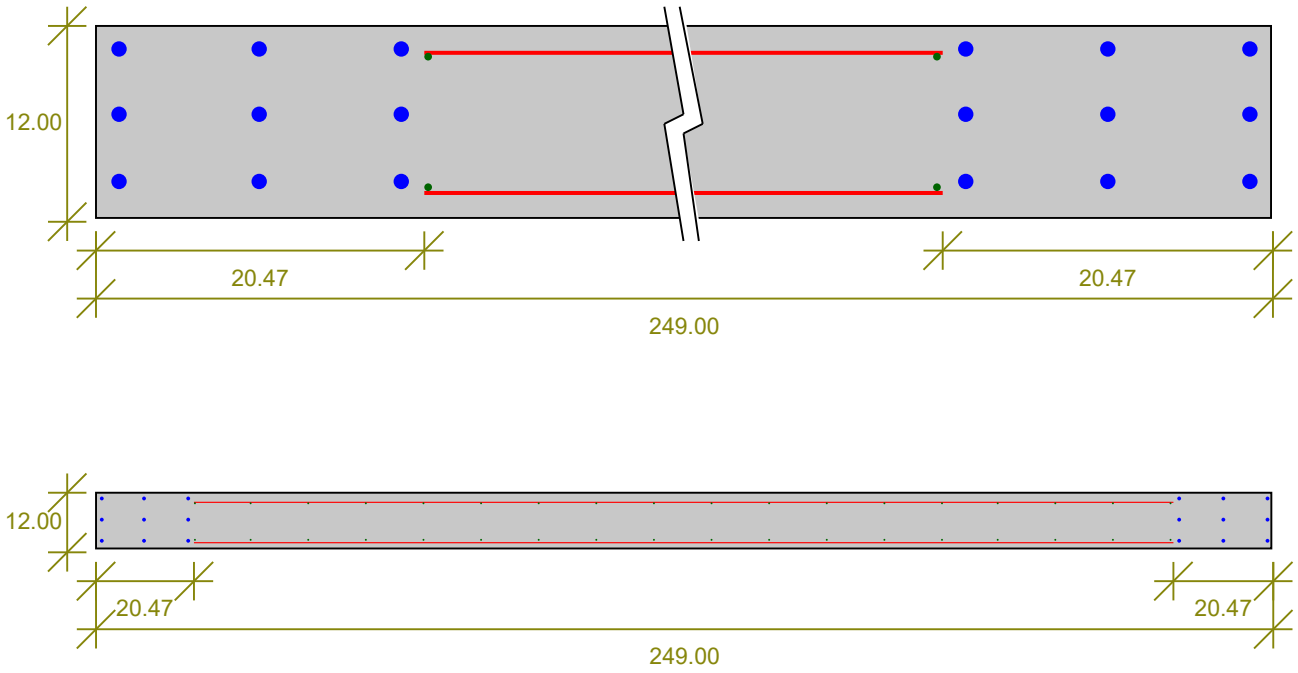
Material statistics

Volume(yard3)	Steel ratio(%)	Steel Density
7.685	0.30	0.01

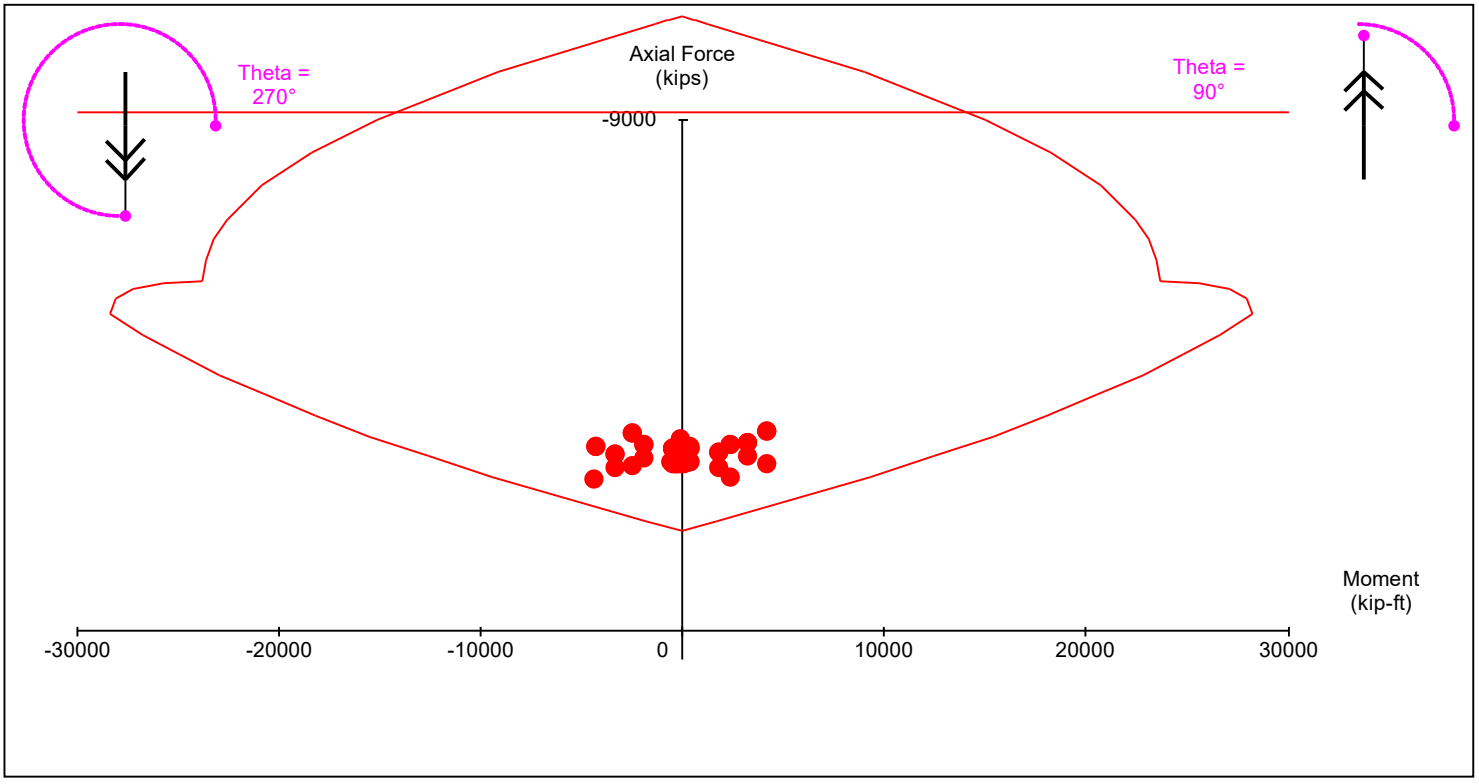
Boundary element check

Method: "N/A"
Du/Hw = 0.00

Wall Diagram



PM Diagram



ADAPT Wall Design

Status: Acceptable

Model: adapt-builder_multi-level-tutorial_final

N vs M Util: 0.979

Pier Label: P2

Design Section: L5_Top_21 (Level 5 (EL 57.5) - 57.50ft)

Shear Util: 0.564

Maximum: 1.000

Design Code: ACI2019

Dimension

Length = 10.00 ft
Thickness = 12.00 in
Lu = 10.00 ft
Hw = 37.00 ft

Governing Loads

	Pu (kip)	Vu (kip)	Mu (kip-ft)	Utilization	GLC
Axial	-1345.800	63.311	-132.770	0.290	"ULS-5_-EQ1_LR1_SEIS"
Flexure	-631.850	-183.340	-5662.900	0.979	"ULS-7_-EQ2_SEIS"
Shear	-685.900	187.570	5662.700	0.564	"ULS-5_EQ2(LR1)_SEIS"

Shear Design

Fys = 60.000 ksi
Fyv = 60.000 ksi
Phi sh = 0.750
Phi Vc = 152.735 kip
Phi Vn = 332.735 kip
Phi Vnmax = 610.940 kip

Panel Bars	Smax (in)	Avmin (in2/ft)	Av req (in2/ft)	Av prov (in2/ft)	Status
(2C) #4 @ 12.00 horz	18.00	0.29	0.36	0.40	"O.K."
(2C) #4 @ 12.00 vert	18.00	0.36	0.36	0.40	"O.K."

Flexure and Axial Design

F'c = 5000.00 psi
phi b = 0.90
phi c = 0.65
Panel bars used:
Aused = 0.04 in2
n = 4.00
Aused/Aprov vert = 0.10

		As in2	As (min) in2	CGS in	Curtains	Spacing in
Zone 1	14 - #8	11.06	1.44	19.23	3	9.00
Zone 2	9 - #8	7.11	1.44	10.23	3	9.00

PM Diagram status: "O.K."

Slenderness check

Lu(ft)	Lu/16	Status
10.00	7.50	"O.K."

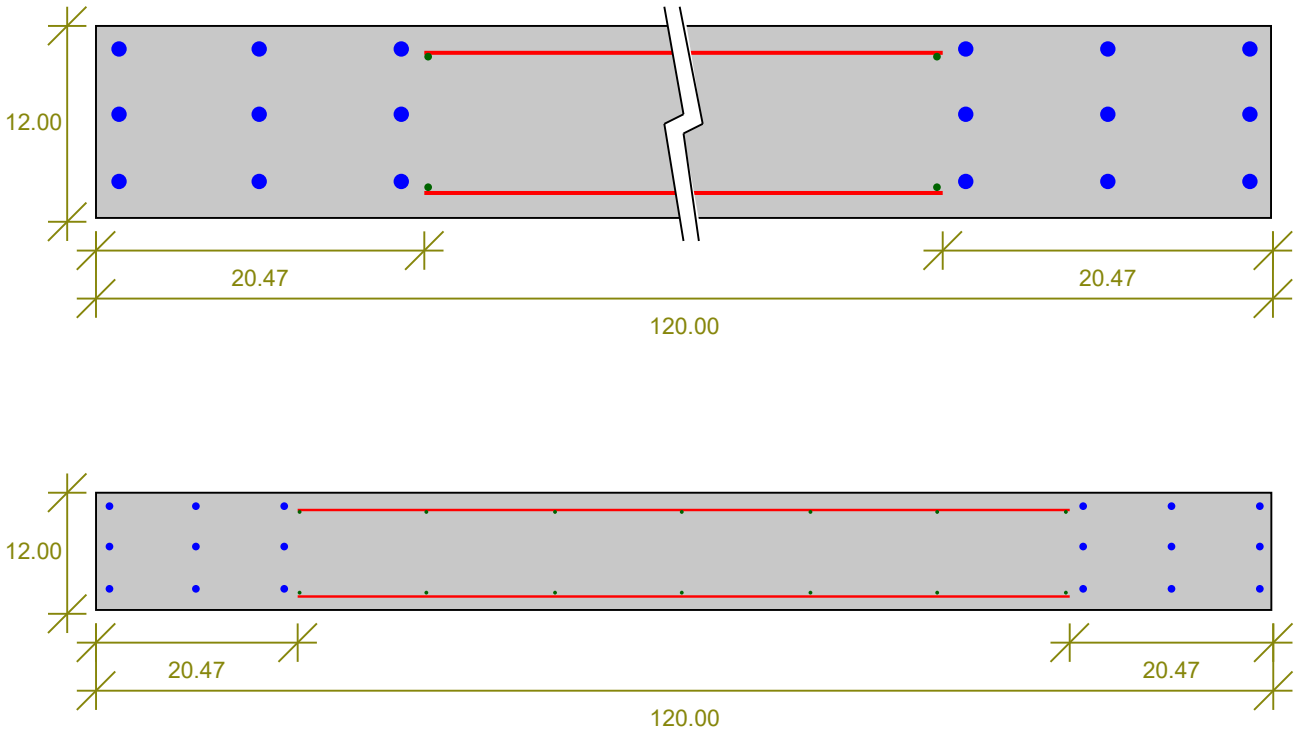
Material statistics

Volume(yard3)	Steel ratio(%)	Steel Density
3.704	1.27	0.02

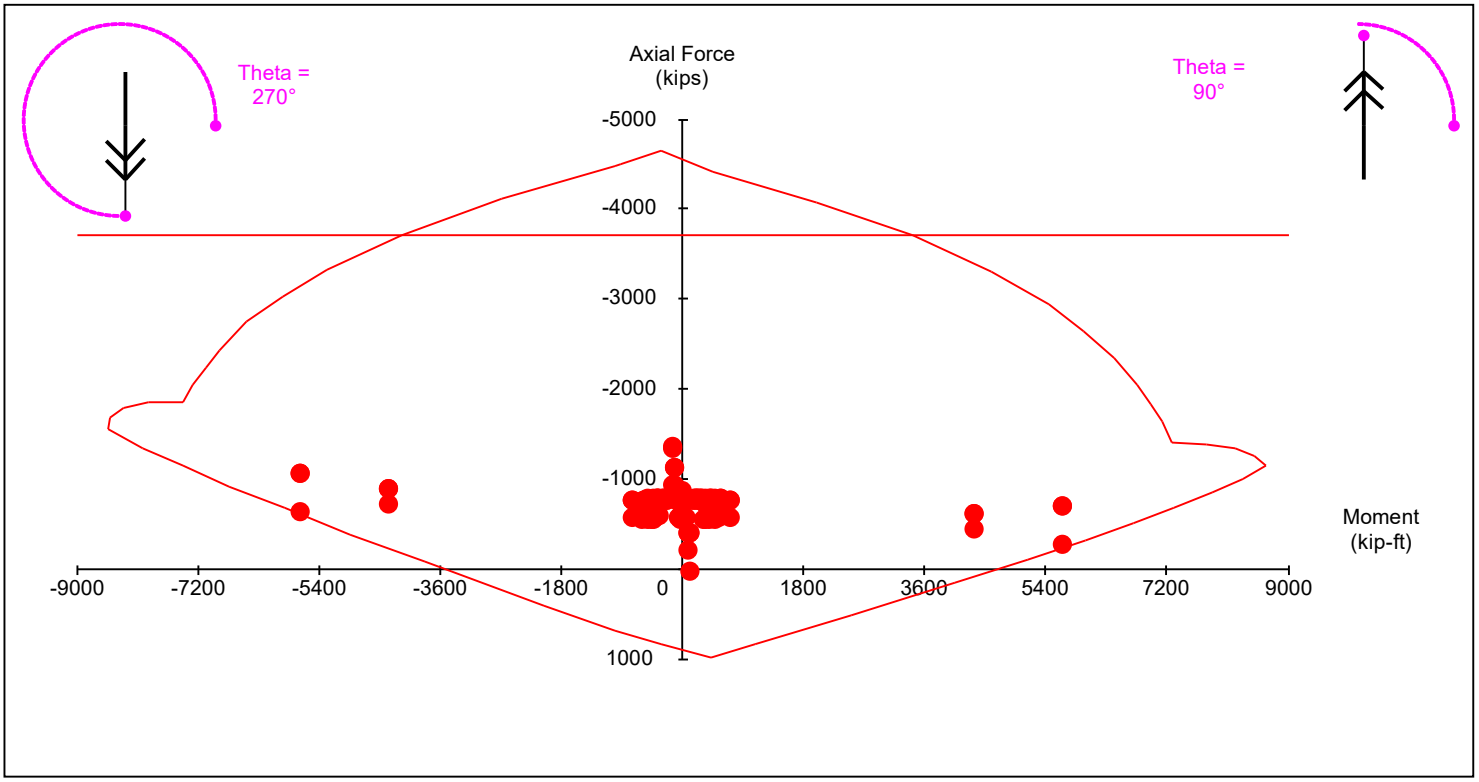
Boundary element check

Method: "N/A"
Du/Hw = 0.00

Wall Diagram



PM Diagram



ADAPT Wall Design

Status: Acceptable

Model: adapt-builder_multi-level-tutorial_final

N vs M Util: 0.988

Pier Label: P2

Design Section: L5_Top_22 (Level 5 (EL 57.5) - 57.50ft)

Shear Util: 0.995

Maximum: 1.000

Design Code: ACI2019

Dimension

Length = 14.00 ft
Thickness = 12.00 in
Lu = 10.00 ft
Hw = 37.00 ft

Governing Loads

	Pu (kip)	Vu (kip)	Mu (kip-ft)	Utilization	GLC
Axial	-128.000	-8.896	-979.760	0.022	"ULS-5_-EQ2_LR1_SEIS"
Flexure	-38.188	-837.760	-3749.300	0.988	"ULS-7_EQ1_SEIS"
Shear	-108.580	851.400	3758.700	0.995	"ULS-5_-EQ1(LR1)_SEIS"

Shear Design

Fys = 60.000 ksi
Fyv = 60.000 ksi
Phi sh = 0.750
Phi Vc = 213.829 kip
Phi Vn = 879.109 kip
Phi Vnmax = 855.316 kip

Panel Bars	Smax (in)	Avmin (in2/ft)	Av req (in2/ft)	Av prov (in2/ft)	Status
(2C) #6 @ 10.00 horz	18.00	0.36	1.01	1.06	"O.K."
(2C) #4 @ 12.00 vert	18.00	0.36	0.36	0.40	"O.K."

Flexure and Axial Design

F'c = 5000.00 psi
phi b = 0.90
phi c = 0.65
Panel bars used:
Aused = 0.04 in2
n = 11.00
Aused/Aprov vert = 0.10

		As in2	As (min) in2	CGS in	Curtains	Spacing in
Zone 1	6 - #8	4.74	2.02	5.73	3	9.00
Zone 2	6 - #8	4.74	2.02	5.73	3	9.00

PM Diagram status: "O.K."

Slenderness check

Lu(ft)	Lu/16	Status
10.00	7.50	"O.K."

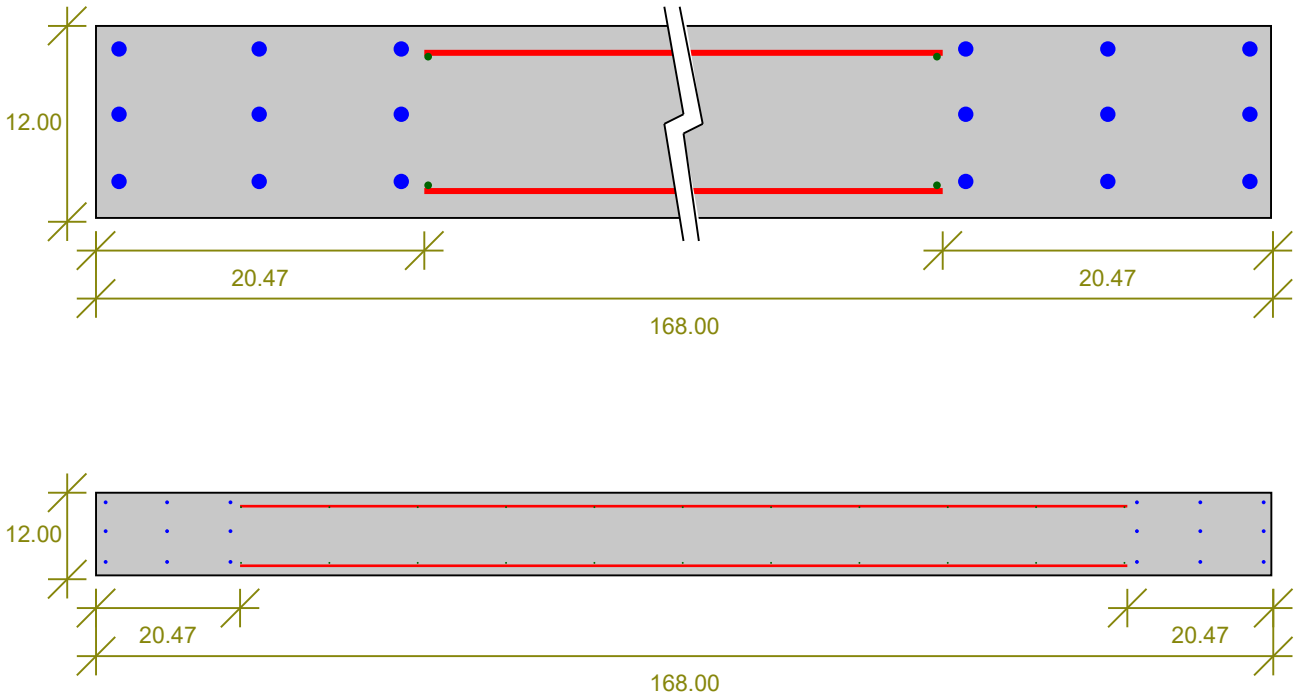
Material statistics

Volume(yard3)	Steel ratio(%)	Steel Density
5.185	0.49	0.01

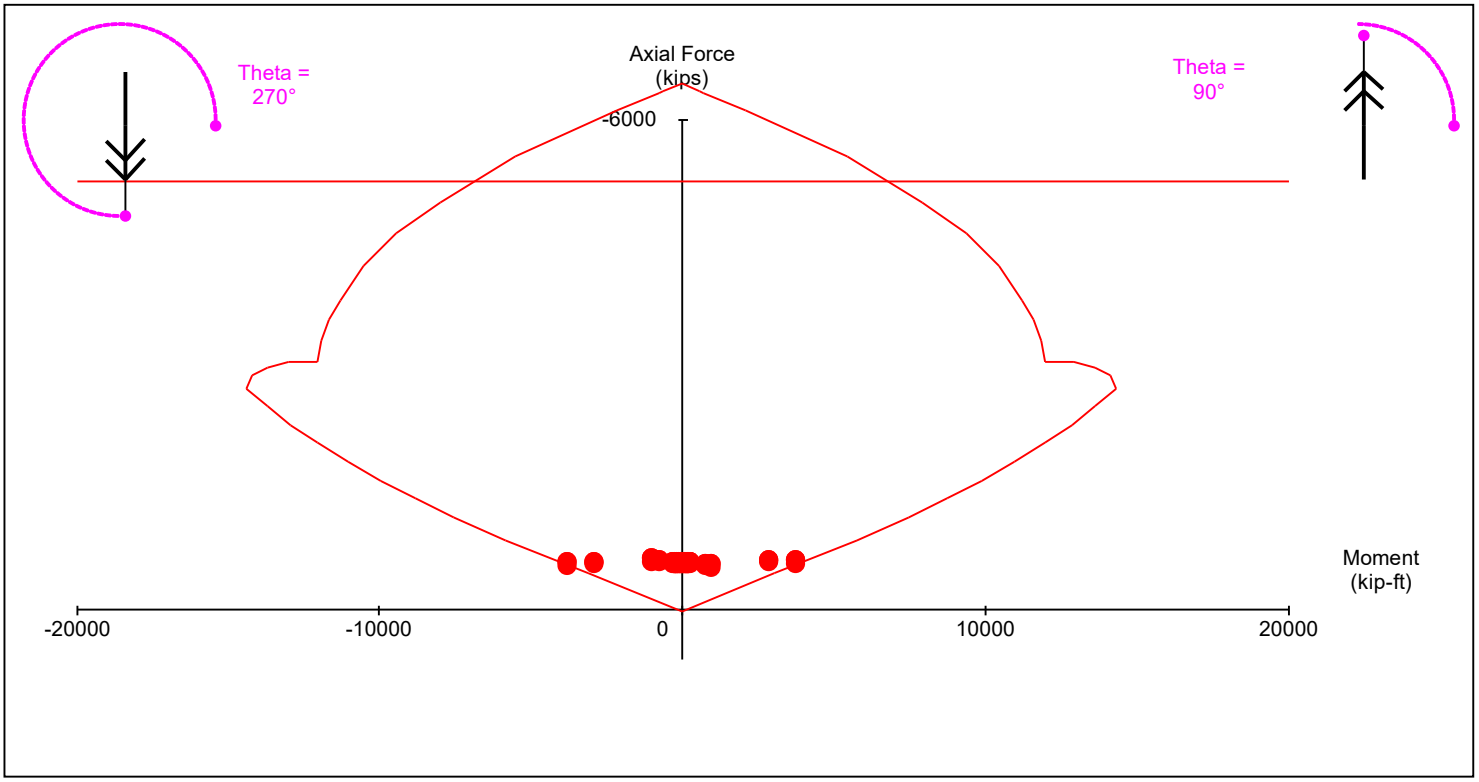
Boundary element check

Method: "N/A"
Du/Hw = 0.00

Wall Diagram



PM Diagram



ADAPT Wall Design

Status: Acceptable

Model: adapt-builder_multi-level-tutorial_final

N vs M Util: 0.987

Pier Label: P2

Design Section: L5_Top_23 (Level 5 (EL 57.5) - 57.50ft)

Shear Util: 0.243

Maximum: 1.000

Design Code: ACI2019

Dimension

Length = 10.00 ft
Thickness = 12.00 in
Lu = 10.00 ft
Hw = 37.00 ft

Governing Loads

	Pu (kip)	Vu (kip)	Mu (kip-ft)	Utilization	GLC
Axial	-1384.700	-0.912	80.323	0.278	"ULS-5_EQ1_LR1_SEIS"
Flexure	-584.040	-80.156	-6833.900	0.987	"ULS-7_EQ2_SEIS"
Shear	-819.840	80.775	6846.600	0.243	"ULS-5_-EQ2(LR1)_SEIS"

Shear Design

Fys = 60.000 ksi
Fyv = 60.000 ksi
Phi sh = 0.750
Phi Vc = 152.735 kip
Phi Vn = 332.735 kip
Phi Vnmax = 610.940 kip

Panel Bars	Smax (in)	Avmin (in2/ft)	Av req (in2/ft)	Av prov (in2/ft)	Status
(2C) #4 @ 12.00 horz	18.00	0.29	0.36	0.40	"O.K."
(2C) #4 @ 12.00 vert	18.00	0.36	0.36	0.40	"O.K."

Flexure and Axial Design

F'c = 5000.00 psi
phi b = 0.90
phi c = 0.65
Panel bars used:
Aused = 0.04 in2
n = 1.00
Aused/Aprov vert = 0.10

		As in2	As (min) in2	CGS in	Curtains	Spacing in
Zone 1	20 - #8	15.80	1.44	28.23	3	9.00
Zone 2	15 - #8	11.85	1.44	19.23	3	9.00

PM Diagram status: "O.K."

Slenderness check

Lu(ft)	Lu/16	Status
10.00	7.50	"O.K."

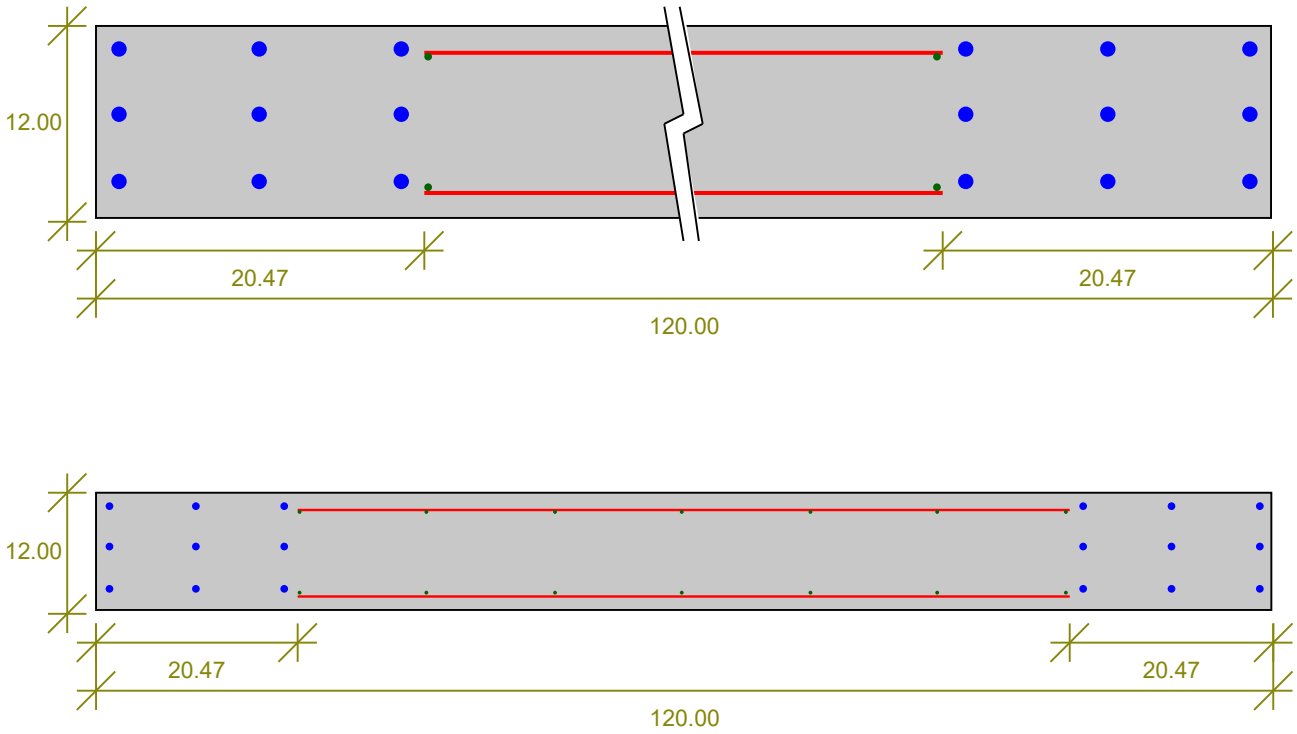
Material statistics

Volume(yard3)	Steel ratio(%)	Steel Density
3.704	1.92	0.02

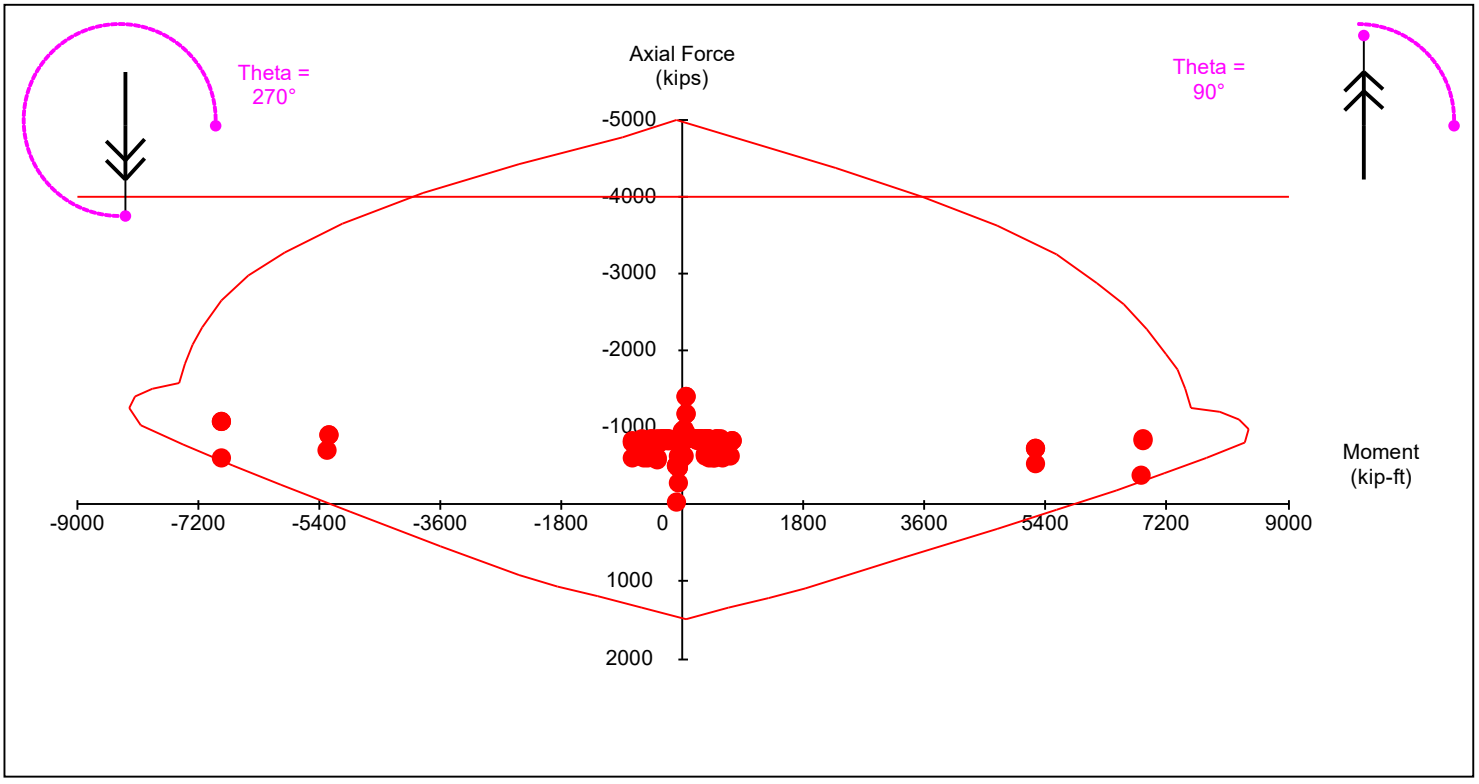
Boundary element check

Method: "N/A"
Du/Hw = 0.00

Wall Diagram



PM Diagram



ADAPT Wall Design

Status: Acceptable

Model: adapt-builder_multi-level-tutorial_final

N vs M Util: 0.354

Pier Label: P3

Design Section: L6_Bot_24 (Level 6 (EL 67.5) - 67.50ft)

Shear Util: 0.121

Maximum: 1.000

Design Code: ACI2019

Dimension

Length = 20.75 ft

Thickness = 12.00 in

Lu = 10.00 ft

Hw = 37.00 ft

Governing Loads

	Pu (kip)	Vu (kip)	Mu (kip-ft)	Utilization	GLC
Axial	-826.350	-74.357	2728.600	0.096	"ULS-5_EQ1_LR1_SEIS"
Flexure	-277.940	83.068	-2687.300	0.354	"ULS-7_-EQ1_SEIS"
Shear	-676.230	91.134	2365.000	0.121	"ULS-5_EQ2(LR1)_SEIS"

Shear Design

Fys = 60.000 ksi

Fyv = 60.000 ksi

Phi sh = 0.750

Phi Vc = 378.019 kip

Phi Vn = 751.519 kip

Phi Vnmax = 1267.701 kip

Panel Bars	Smax (in)	Avmin (in2/ft)	Av req (in2/ft)	Av prov (in2/ft)	Status
(2C) #4 @ 12.00 horz	18.00	0.29	0.00	0.40	"O.K."
(2C) #4 @ 12.00 vert	18.00	0.17	0.17	0.40	"O.K."

Flexure and Axial Design

F'c = 5000.00 psi

phi b = 0.90

phi c = 0.65

Aused = 0.23 in2

n = 19.00

Aused/Aprov vert = 0.57

Panel bars used:		As in2	As (min) in2	CGS in	Curtains	Spacing in
Zone 1	3 - #8	2.37	2.99	1.23	3	9.00
Zone 2	3 - #8	2.37	2.99	1.23	3	9.00

PM Diagram status: "O.K."

Slenderness check

Lu(ft)	Lu/16	Status
10.00	7.50	"O.K."

Material statistics

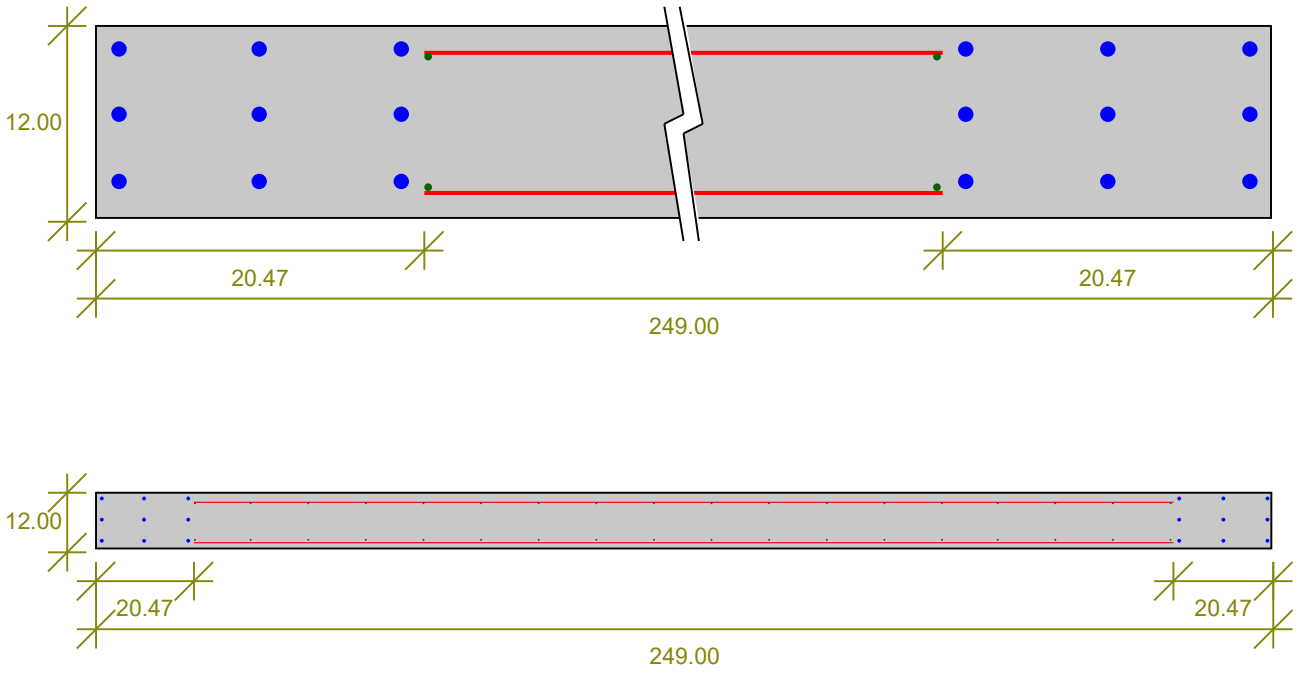
Volume(yard3)	Steel ratio(%)	Steel Density
7.685	0.30	0.01

Boundary element check

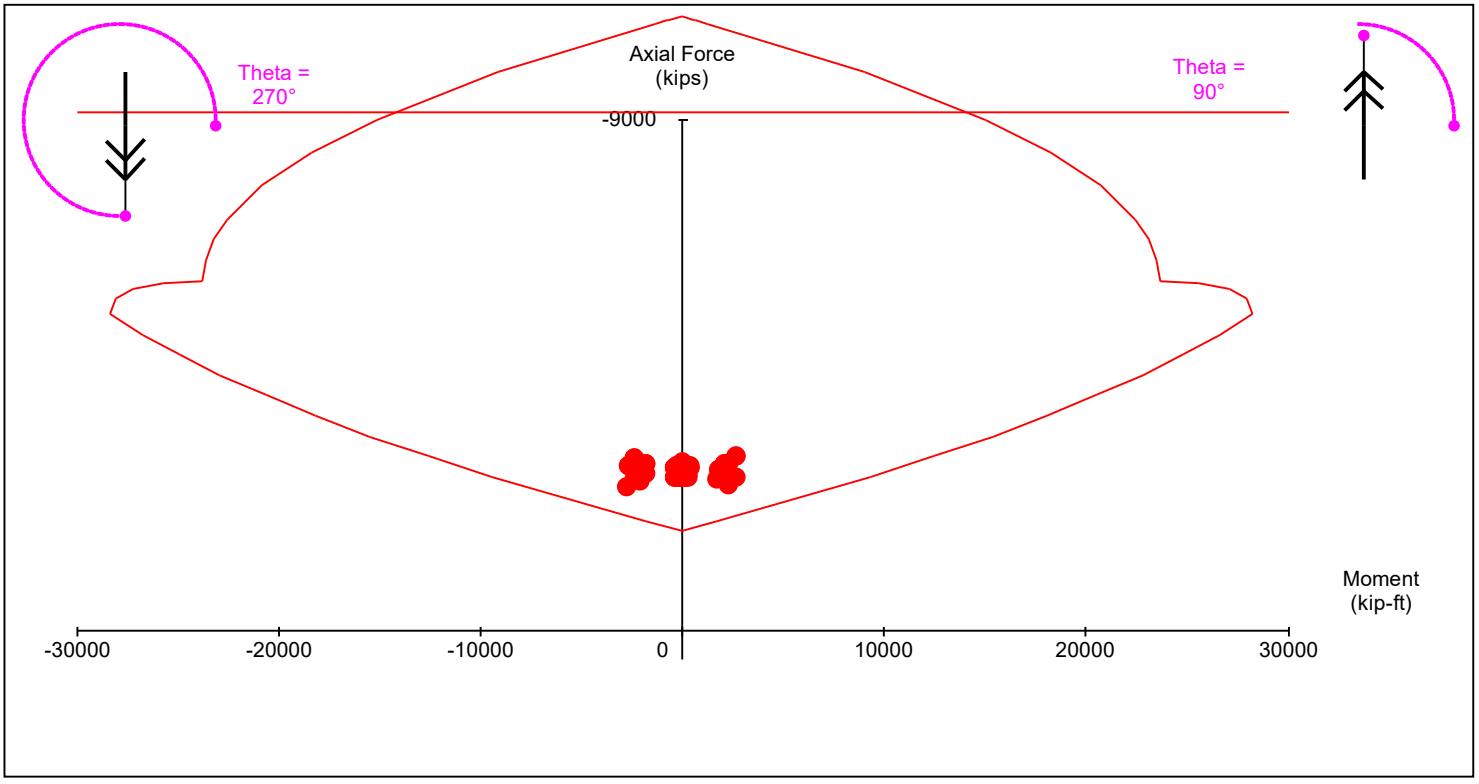
Method: "N/A"

Du/Hw = 0.00

Wall Diagram



PM Diagram



ADAPT Wall Design

Status: Acceptable

Model: adapt-builder_multi-level-tutorial_final

N vs M Util: 0.961

Pier Label: P2

Design Section: L6_Bot_25 (Level 6 (EL 67.5) - 67.50ft)

Shear Util: 0.244

Maximum: 1.000

Design Code: ACI2019

Dimension

Length = 10.00 ft
Thickness = 12.00 in
Lu = 10.00 ft
Hw = 37.00 ft

Governing Loads

	Pu (kip)	Vu (kip)	Mu (kip-ft)	Utilization	GLC
Axial	-724.600	-42.257	-296.300	0.167	"ULS-5_-EQ1_LR1_SEIS"
Flexure	-433.910	78.621	-3393.700	0.961	"ULS-7_-EQ2_SEIS"
Shear	-412.790	-81.185	3381.100	0.244	"ULS-5_EQ2(LR1)_SEIS"

Shear Design

Fys = 60.000 ksi
Fyv = 60.000 ksi
Phi sh = 0.750
Phi Vc = 152.735 kip
Phi Vn = 332.735 kip
Phi Vnmax = 610.940 kip

Panel Bars	Smax (in)	Avmin (in2/ft)	Av req (in2/ft)	Av prov (in2/ft)	Status
(2C) #4 @ 12.00 horz	18.00	0.29	0.36	0.40	"O.K."
(2C) #4 @ 12.00 vert	18.00	0.36	0.36	0.40	"O.K."

Flexure and Axial Design

F'c = 5000.00 psi
phi b = 0.90
phi c = 0.65
Aused = 0.04 in2
n = 6.00
Aused/Aprov vert = 0.10

Panel bars used:		As in2	As (min) in2	CGS in	Curtains	Spacing in
Zone 1	8 - #8	6.32	1.44	10.23	3	9.00
Zone 2	4 - #8	3.16	1.44	5.73	3	9.00

PM Diagram status: "O.K."

Slenderness check

Lu(ft)	Lu/16	Status
10.00	7.50	"O.K."

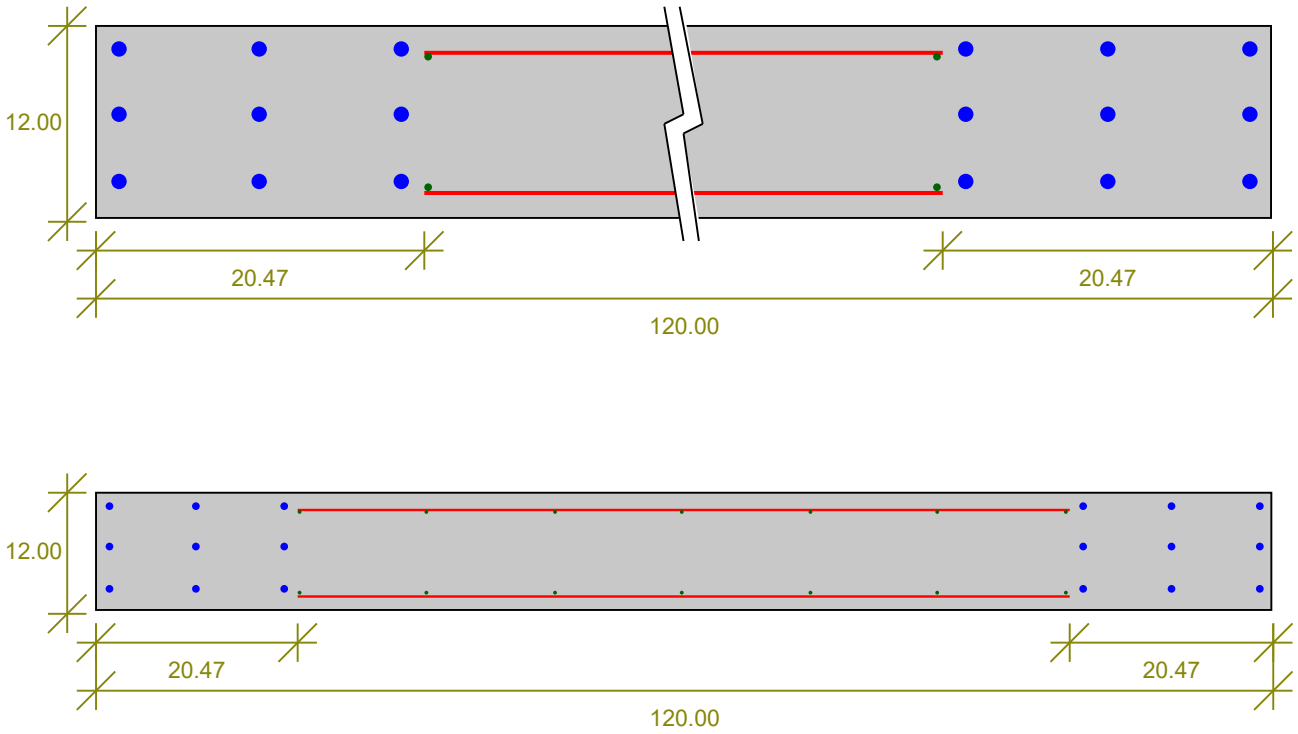
Material statistics

Volume(yard3)	Steel ratio(%)	Steel Density
3.704	0.68	0.01

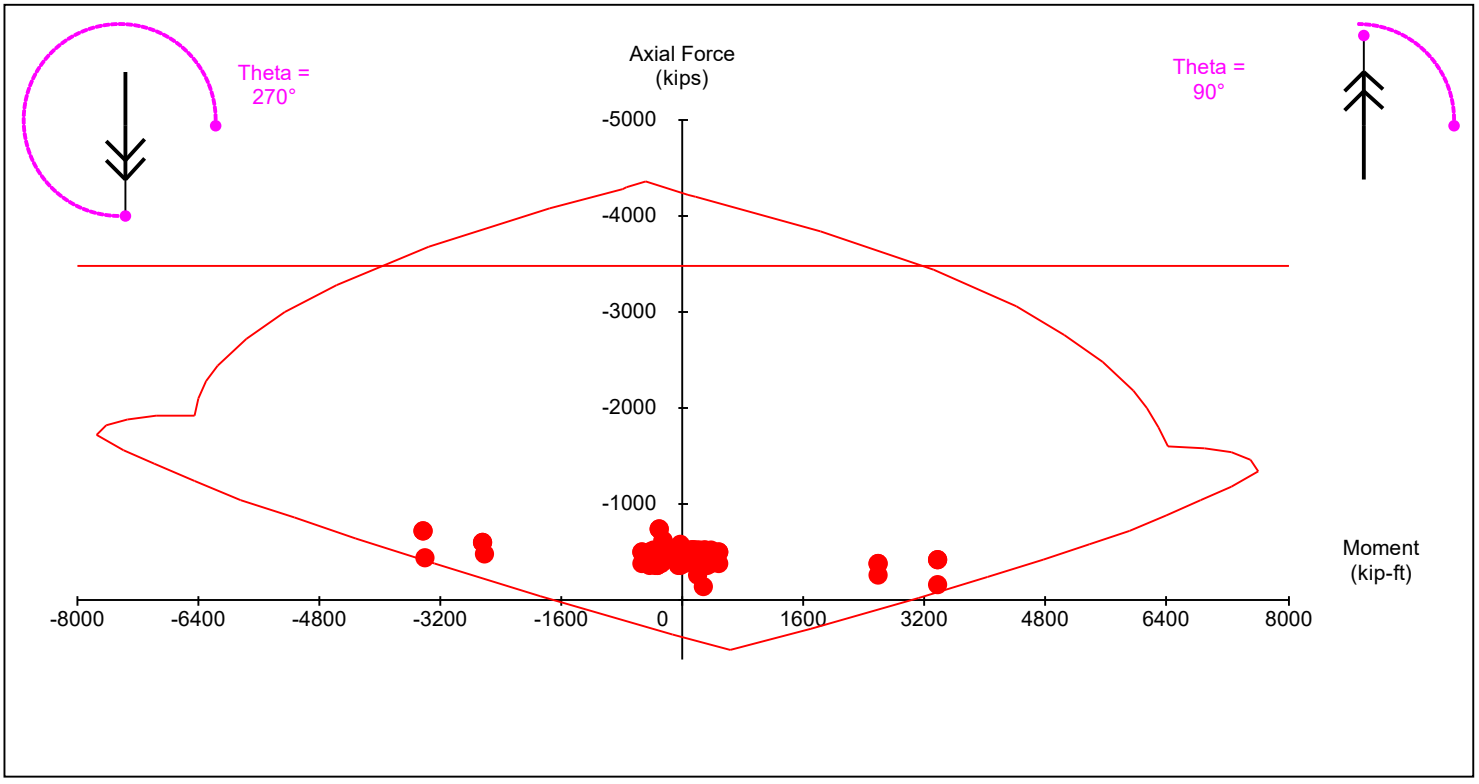
Boundary element check

Method: "N/A"
Du/Hw = 0.00

Wall Diagram



PM Diagram



ADAPT Wall Design

Status: Acceptable

Model: adapt-builder_multi-level-tutorial_final

N vs M Util: 0.965

Pier Label: P2

Design Section: L6_Bot_26 (Level 6 (EL 67.5) - 67.50ft)

Shear Util: 0.957

Maximum: 1.000

Design Code: ACI2019

Dimension

Length = 14.00 ft
Thickness = 12.00 in
Lu = 10.00 ft
Hw = 37.00 ft

Governing Loads

	Pu (kip)	Vu (kip)	Mu (kip-ft)	Utilization	GLC
Axial	-98.782	-107.260	-1094.000	0.017	"ULS-5_-EQ2_LR1_SEIS"
Flexure	-33.438	560.610	2566.200	0.965	"ULS-7_EQ1_SEIS"
Shear	-50.434	-566.320	-2624.300	0.957	"ULS-7_-EQ1_SEIS"

Shear Design

Fys = 60.000 ksi
Fyv = 60.000 ksi
Phi sh = 0.750
Phi Vc = 213.829 kip
Phi Vn = 591.829 kip
Phi Vnmax = 855.316 kip

Panel Bars	Smax (in)	Avmin (in2/ft)	Av req (in2/ft)	Av prov (in2/ft)	Status
(2C) #4 @ 8.00 horz	18.00	0.29	0.56	0.60	"O.K."
(2C) #4 @ 12.00 vert	18.00	0.36	0.36	0.40	"O.K."

Flexure and Axial Design

F'c = 5000.00 psi
phi b = 0.90
phi c = 0.65
Aused = 0.04 in2
n = 11.00
Aused/Aprov vert = 0.10

Panel bars used:		As in2	As (min) in2	CGS in	Curtains	Spacing in
Zone 1	4 - #8	3.16	2.02	5.73	3	9.00
Zone 2	4 - #8	3.16	2.02	5.73	3	9.00

PM Diagram status: "O.K."

Slenderness check

Lu(ft)	Lu/16	Status
10.00	7.50	"O.K."

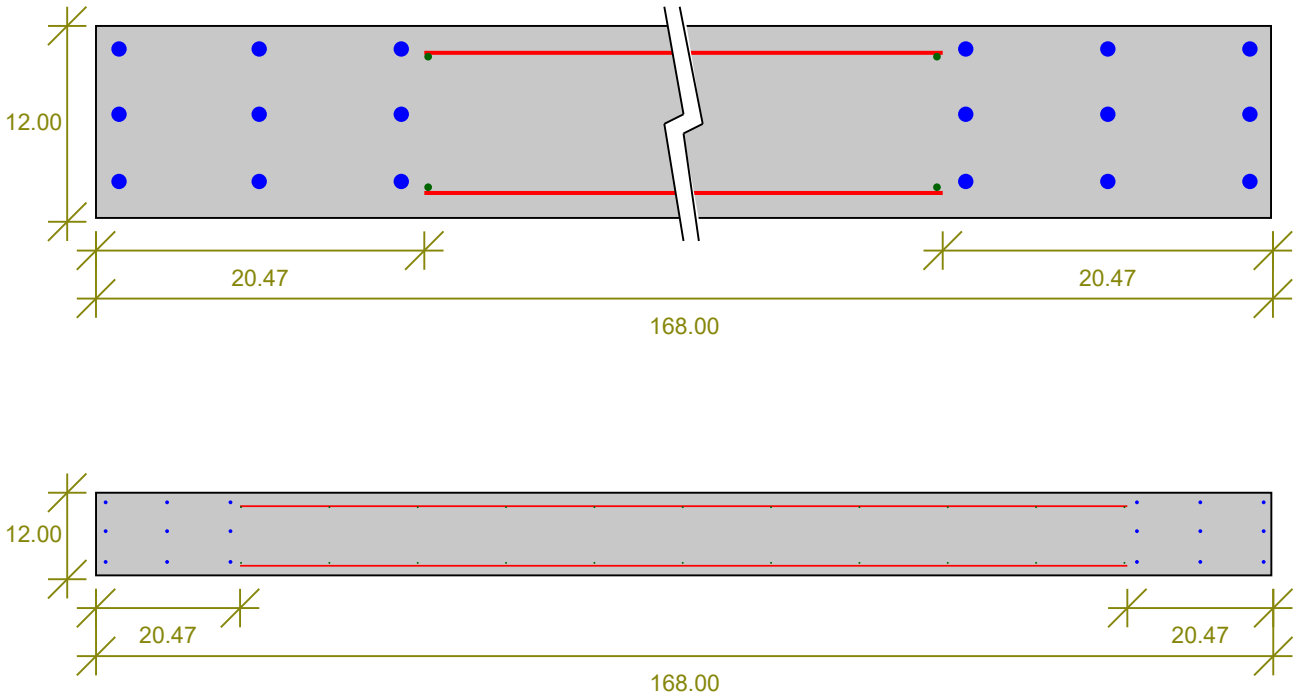
Material statistics

Volume(yard3)	Steel ratio(%)	Steel Density
5.185	0.34	0.01

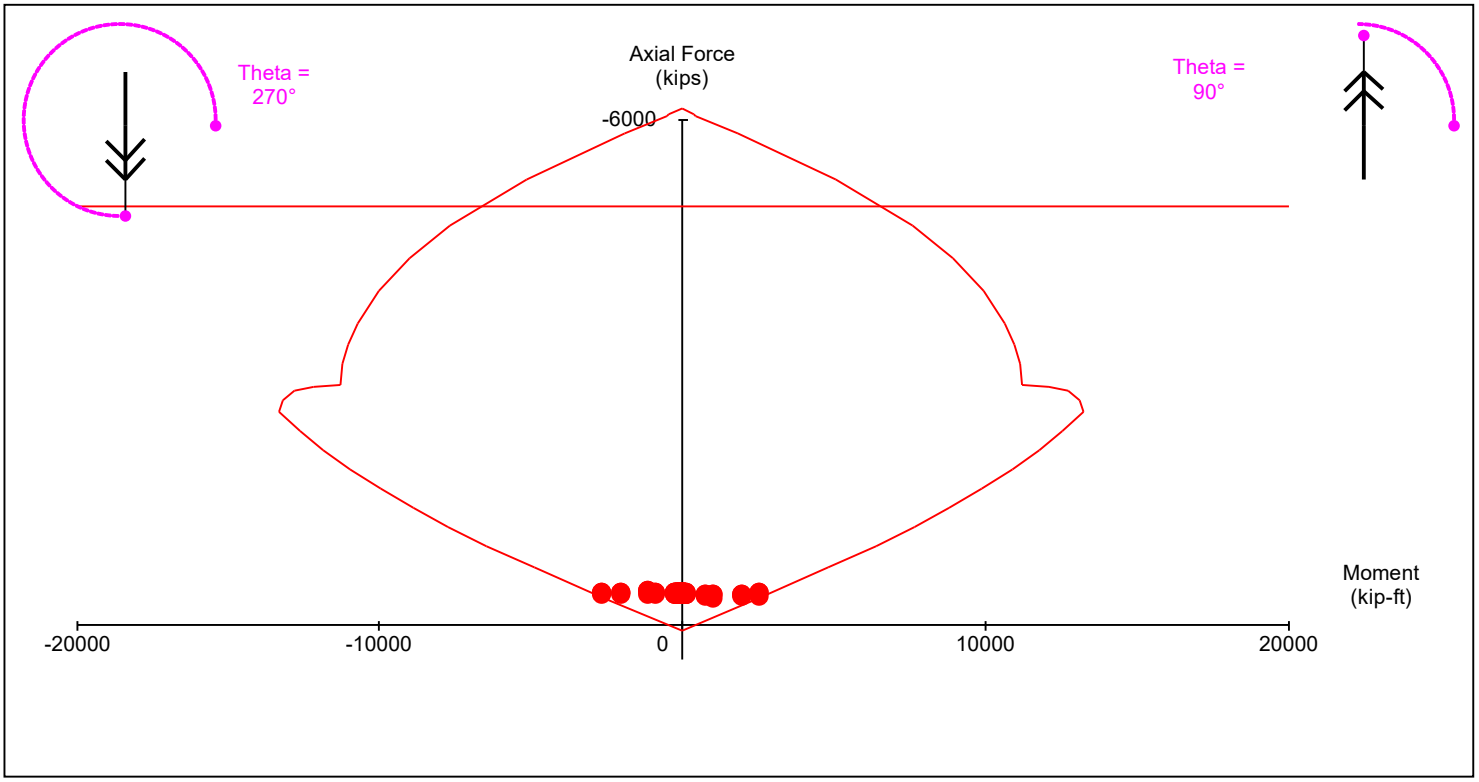
Boundary element check

Method: "N/A"
Du/Hw = 0.00

Wall Diagram



PM Diagram



ADAPT Wall Design

Status: Acceptable

Model: adapt-builder_multi-level-tutorial_final

N vs M Util: 0.985

Pier Label: P2

Design Section: L6_Bot_27 (Level 6 (EL 67.5) - 67.50ft)

Shear Util: 0.072

Maximum: 1.000

Design Code: ACI2019

Dimension

Length = 10.00 ft

Thickness = 12.00 in

Lu = 10.00 ft

Hw = 37.00 ft

Governing Loads

	Pu (kip)	Vu (kip)	Mu (kip-ft)	Utilization	GLC
Axial	-748.710	0.098	-25.225	0.166	"ULS-5_EQ1_LR1_SEIS"
Flexure	-190.690	-23.006	4479.000	0.985	"ULS-7_-EQ2_SEIS"
Shear	-414.520	23.903	-4474.300	0.072	"ULS-7_EQ2_SEIS"

Shear Design

Fys = 60.000 ksi

Fyv = 60.000 ksi

Phi sh = 0.750

Phi Vc = 152.735 kip

Phi Vn = 332.735 kip

Phi Vnmax = 610.940 kip

Panel Bars	Smax (in)	Avmin (in2/ft)	Av req (in2/ft)	Av prov (in2/ft)	Status
(2C) #4 @ 12.00 horz	18.00	0.29	0.00	0.40	"O.K."
(2C) #4 @ 12.00 vert	18.00	0.17	0.17	0.40	"O.K."

Flexure and Axial Design

F'c = 5000.00 psi

phi b = 0.90

phi c = 0.65

Panel bars used:

Aused = 0.23 in2

n = 4.00

Aused/Aprov vert = 0.57

		As in2	As (min) in2	CGS in	Curtains	Spacing in
Zone 1	10 - #8	7.90	1.44	14.73	3	9.00
Zone 2	7 - #8	5.53	1.44	10.23	3	9.00

PM Diagram status: "O.K."

Slenderness check

Lu(ft)	Lu/16	Status
10.00	7.50	"O.K."

Material statistics

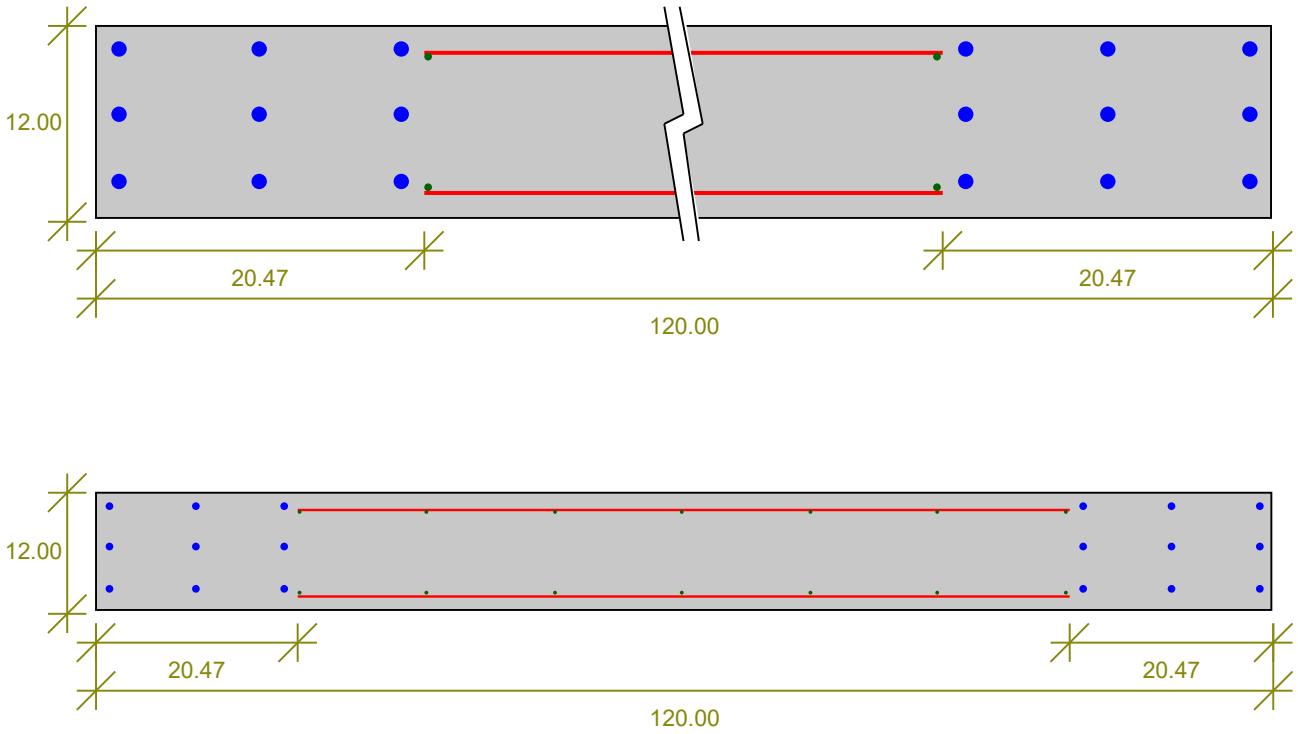
Volume(yard3)	Steel ratio(%)	Steel Density
3.704	1.00	0.01

Boundary element check

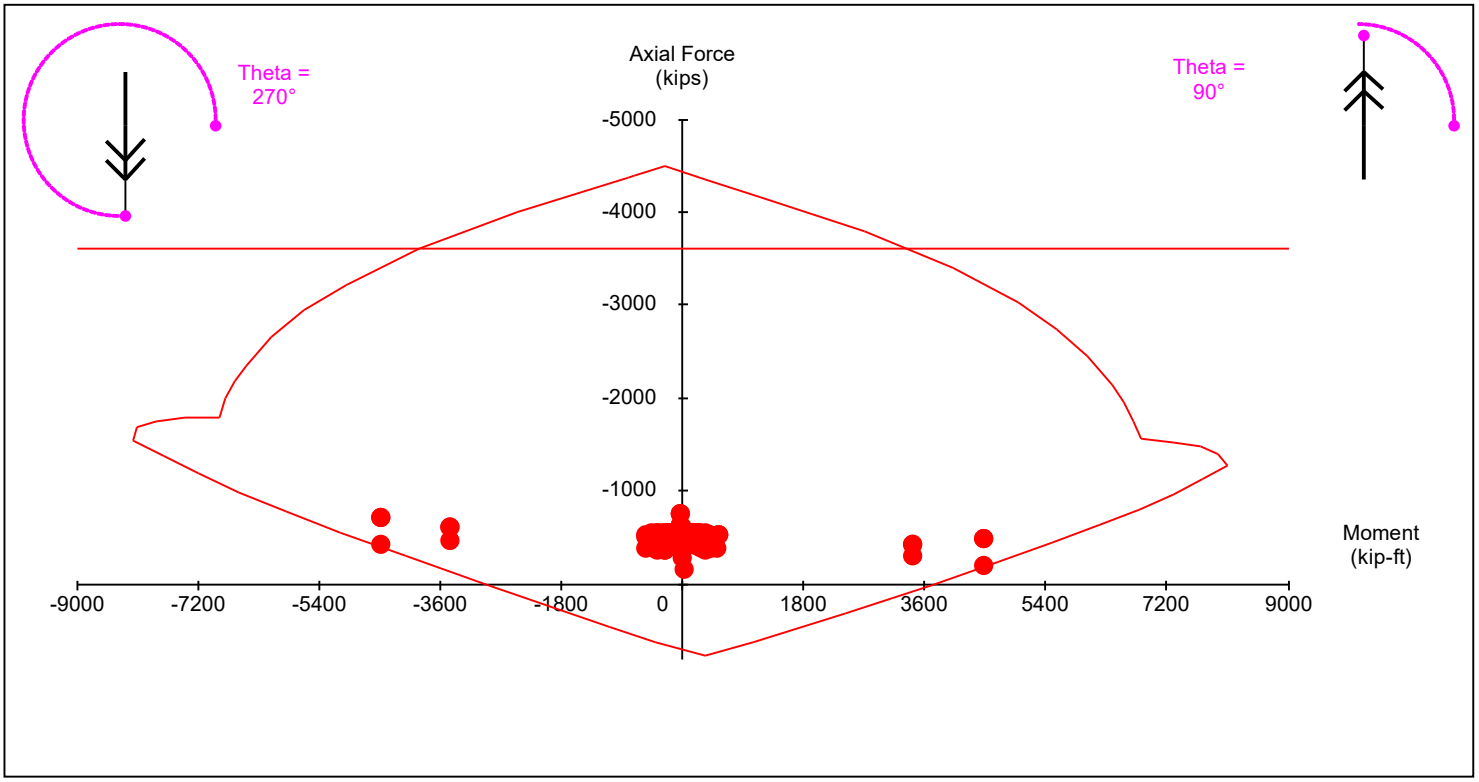
Method: "N/A"

Du/Hw = 0.00

Wall Diagram



PM Diagram



ADAPT Wall Design

Status: Acceptable

Model: adapt-builder_multi-level-tutorial_final

N vs M Util: 0.475

Pier Label: P3

Design Section: L6_Top_24 (Level 6 (EL 67.5) - 67.50ft)

Shear Util: 0.121

Maximum: 1.000

Design Code: ACI2019

Dimension

Length = 20.75 ft
Thickness = 12.00 in
Lu = 10.00 ft
Hw = 37.00 ft

Governing Loads

	Pu (kip)	Vu (kip)	Mu (kip-ft)	Utilization	GLC
Axial	-787.780	74.357	3472.200	0.092	"ULS-5_EQ1_LR1_SEIS"
Flexure	-258.550	-83.068	-3518.000	0.475	"ULS-7_-EQ1_SEIS"
Shear	-637.650	-91.134	1453.700	0.121	"ULS-5_EQ2(LR1)_SEIS"

Shear Design

Fys = 60.000 ksi
Fyv = 60.000 ksi
Phi sh = 0.750
Phi Vc = 378.019 kip
Phi Vn = 751.519 kip
Phi Vnmax = 1267.701 kip

Panel Bars	Smax (in)	Avmin (in2/ft)	Av req (in2/ft)	Av prov (in2/ft)	Status
(2C) #4 @ 12.00 horz	18.00	0.29	0.00	0.40	"O.K."
(2C) #4 @ 12.00 vert	18.00	0.17	0.17	0.40	"O.K."

Flexure and Axial Design

F'c = 5000.00 psi
phi b = 0.90
phi c = 0.65
Panel bars used:
Aused = 0.23 in2
n = 19.00
Aused/Aprov vert = 0.57

		As in2	As (min) in2	CGS in	Curtains	Spacing in
Zone 1	3 - #8	2.37	2.99	1.23	3	9.00
Zone 2	3 - #8	2.37	2.99	1.23	3	9.00

PM Diagram status: "O.K."

Slenderness check

Lu(ft)	Lu/16	Status
10.00	7.50	"O.K."

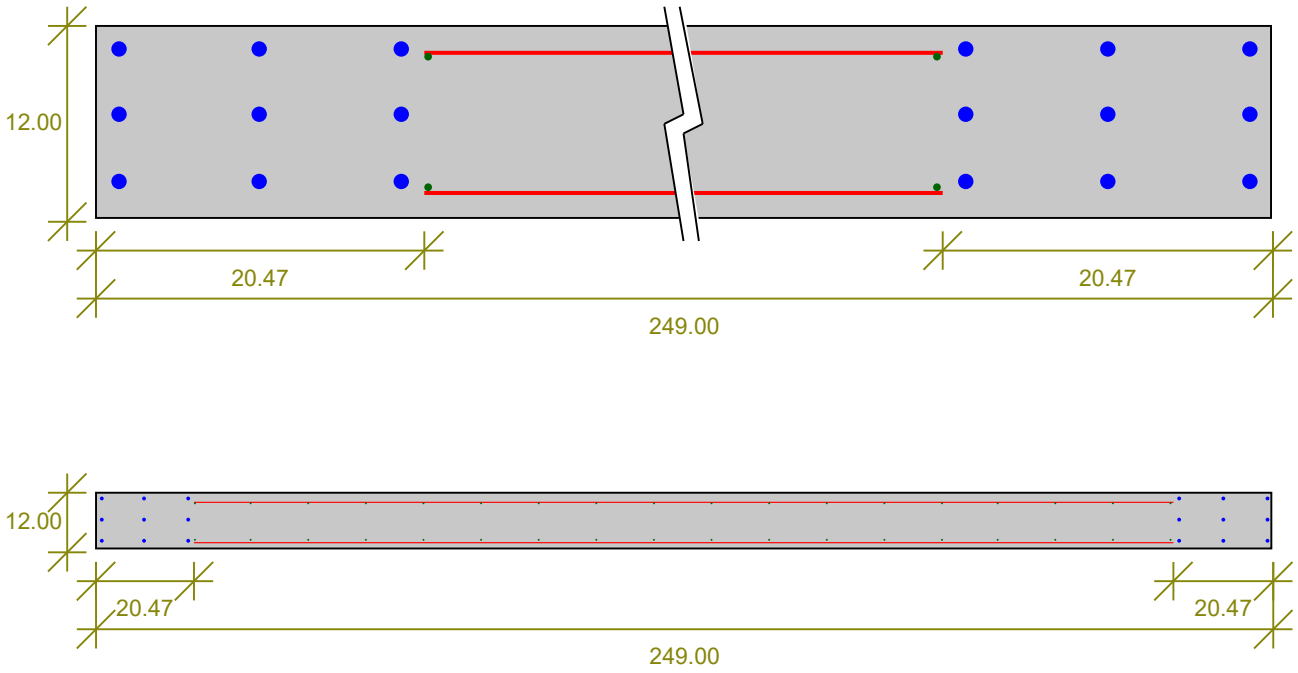
Material statistics

Volume(yard3)	Steel ratio(%)	Steel Density
7.685	0.30	0.01

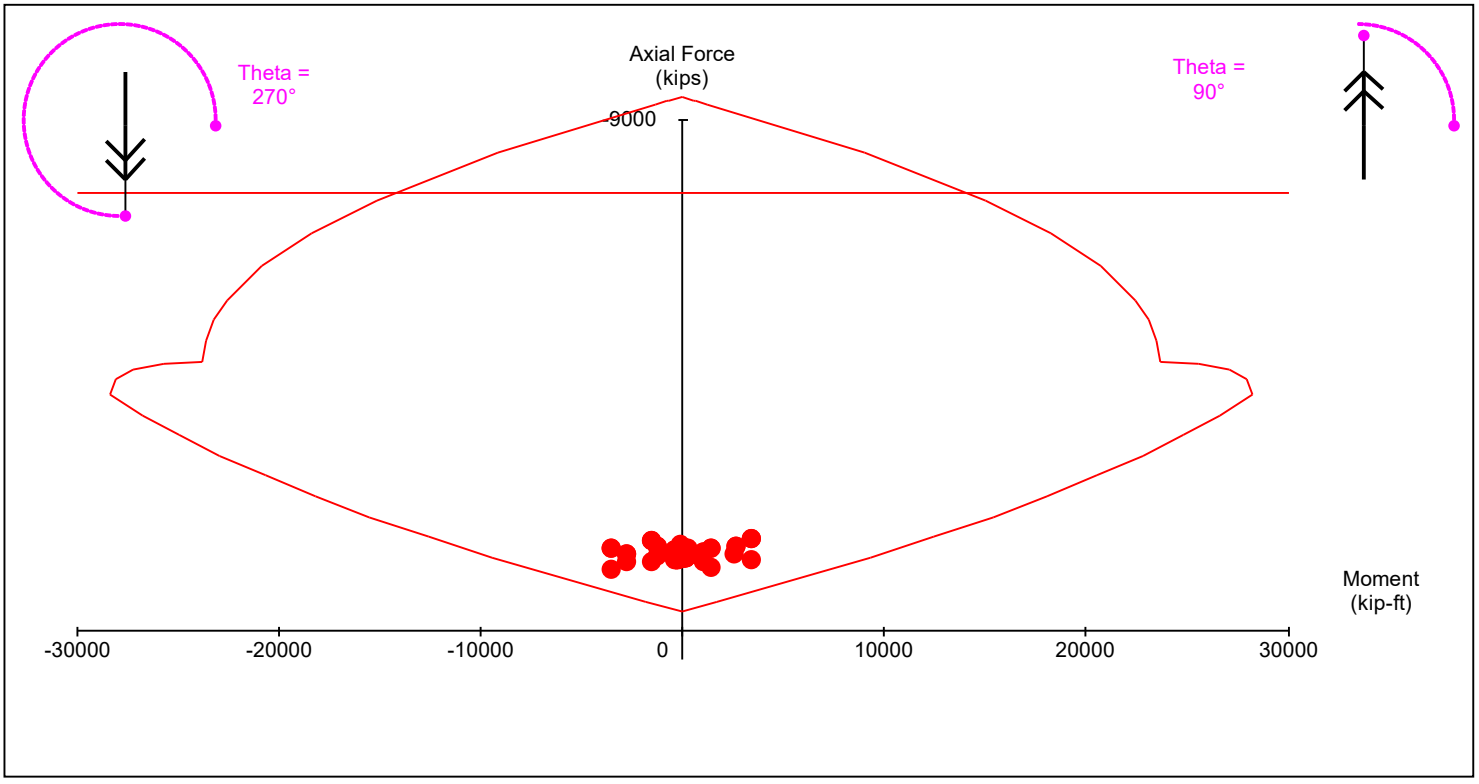
Boundary element check

Method: "N/A"
Du/Hw = 0.00

Wall Diagram



PM Diagram



ADAPT Wall Design

		Status:	Acceptable
Model:	adapt-builder_multi-level-tutorial_final	N vs M Util:	0.998
Pier Label:	P2		
Design Section:	L6_Top_25 (Level 6 (EL 67.5) - 67.50ft)	Shear Util:	0.244
		Maximum:	1.000
Design Code:	ACI2019		

Dimension

Length = 10.00 ft
Thickness = 12.00 in
Lu = 10.00 ft
Hw = 37.00 ft

Governing Loads

	Pu (kip)	Vu (kip)	Mu (kip-ft)	Utilization	GLC
Axial	-706.010	42.257	126.250	0.158	"ULS-5_-EQ1_LR1_SEIS"
Flexure	-424.560	-78.621	-4179.900	0.998	"ULS-7_-EQ2_SEIS"
Shear	-394.200	81.185	4193.000	0.244	"ULS-5_EQ2(LR1)_SEIS"

Shear Design

Fys = 60.000 ksi
Fyv = 60.000 ksi
Phi sh = 0.750
Phi Vc = 152.735 kip
Phi Vn = 332.735 kip
Phi Vnmax = 610.940 kip

Panel Bars	Smax (in)	Avmin (in2/ft)	Av req (in2/ft)	Av prov (in2/ft)	Status
(2C) #4 @ 12.00 horz	18.00	0.29	0.36	0.40	"O.K."
(2C) #4 @ 12.00 vert	18.00	0.36	0.36	0.40	"O.K."

Flexure and Axial Design

F'c = 5000.00 psi
phi b = 0.90
phi c = 0.65
Panel bars used:
Aused = 0.04 in2
n = 5.00
Aused/Aprov vert = 0.10

		As in2	As (min) in2	CGS in	Curtains	Spacing in
Zone 1	11 - #8	8.69	1.44	14.73	3	9.00
Zone 2	6 - #8	4.74	1.44	5.73	3	9.00

PM Diagram status: "O.K."

Slenderness check

Lu(ft)	Lu/16	Status
10.00	7.50	"O.K."

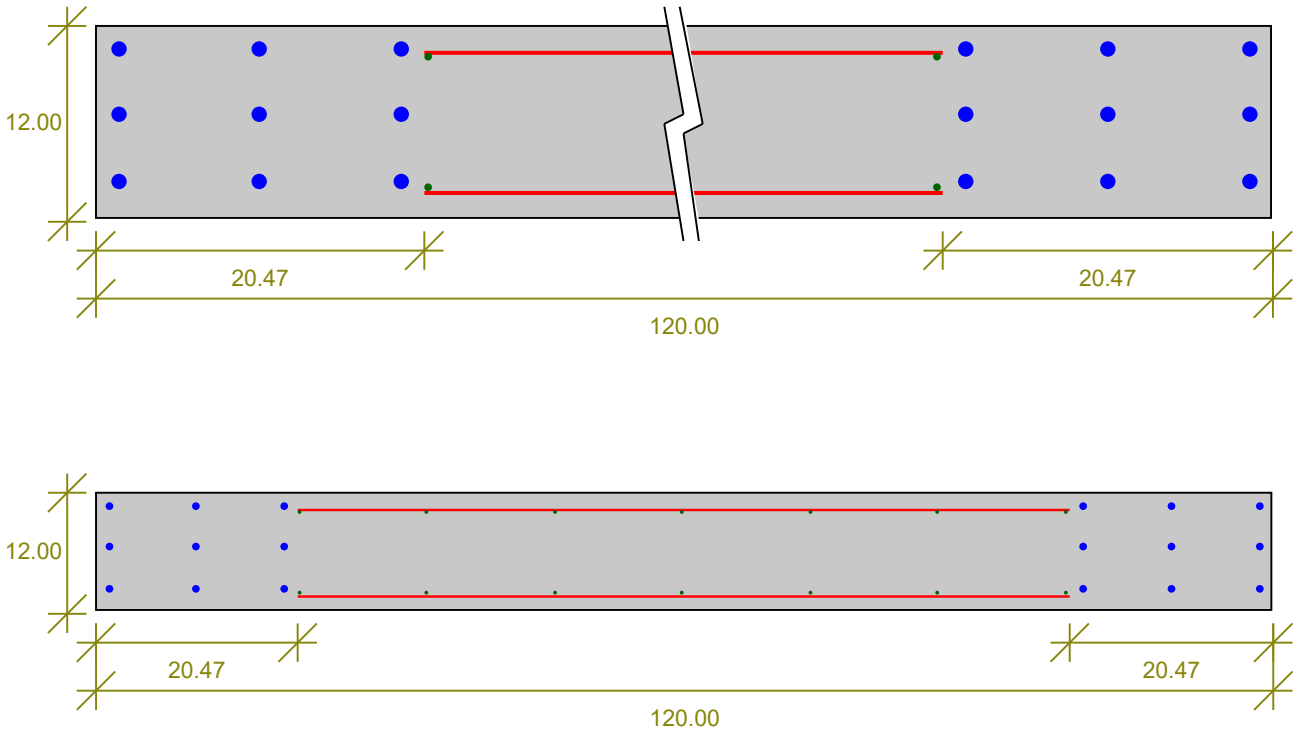
Material statistics

Volume(yard3)	Steel ratio(%)	Steel Density
3.704	0.95	0.01

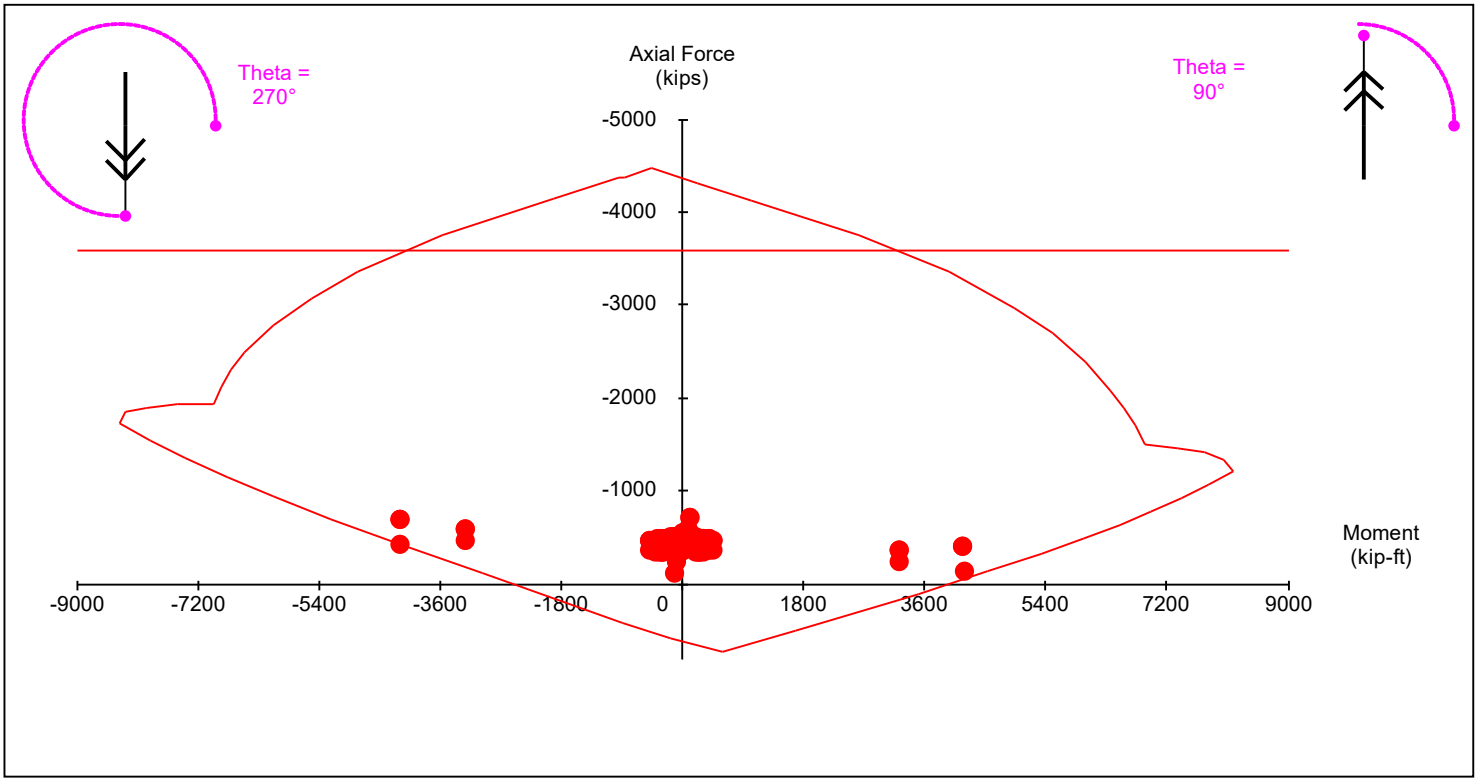
Boundary element check

Method: "N/A"
Du/Hw = 0.00

Wall Diagram



PM Diagram



ADAPT Wall Design

Status: Acceptable

Model: adapt-builder_multi-level-tutorial_final

N vs M Util: 0.972

Pier Label: P2

Design Section: L6_Top_26 (Level 6 (EL 67.5) - 67.50ft)

Shear Util: 0.957

Maximum: 1.000

Design Code: ACI2019

Dimension

Length = 14.00 ft
Thickness = 12.00 in
Lu = 10.00 ft
Hw = 37.00 ft

Governing Loads

	Pu (kip)	Vu (kip)	Mu (kip-ft)	Utilization	GLC
Axial	-72.757	107.260	-21.463	0.012	"ULS-5_-EQ2_LR1_SEIS"
Flexure	-20.351	-560.610	-3039.900	0.972	"ULS-7_EQ1_SEIS"
Shear	-37.347	566.320	3038.900	0.957	"ULS-7_-EQ1_SEIS"

Shear Design

Fys = 60.000 ksi
Fyv = 60.000 ksi
Phi sh = 0.750
Phi Vc = 213.829 kip
Phi Vn = 591.829 kip
Phi Vnmax = 855.316 kip

Panel Bars	Smax (in)	Avmin (in2/ft)	Av req (in2/ft)	Av prov (in2/ft)	Status
(2C) #4 @ 8.00 horz	18.00	0.29	0.56	0.60	"O.K."
(2C) #4 @ 12.00 vert	18.00	0.36	0.36	0.40	"O.K."

Flexure and Axial Design

F'c = 5000.00 psi
phi b = 0.90
phi c = 0.65
Panel bars used:
Aused = 0.04 in2
n = 11.00
Aused/Aprov vert = 0.10

		As in2	As (min) in2	CGS in	Curtains	Spacing in
Zone 1	5 - #8	3.95	2.02	5.73	3	9.00
Zone 2	5 - #8	3.95	2.02	5.73	3	9.00

PM Diagram status: "O.K."

Slenderness check

Lu(ft)	Lu/16	Status
10.00	7.50	"O.K."

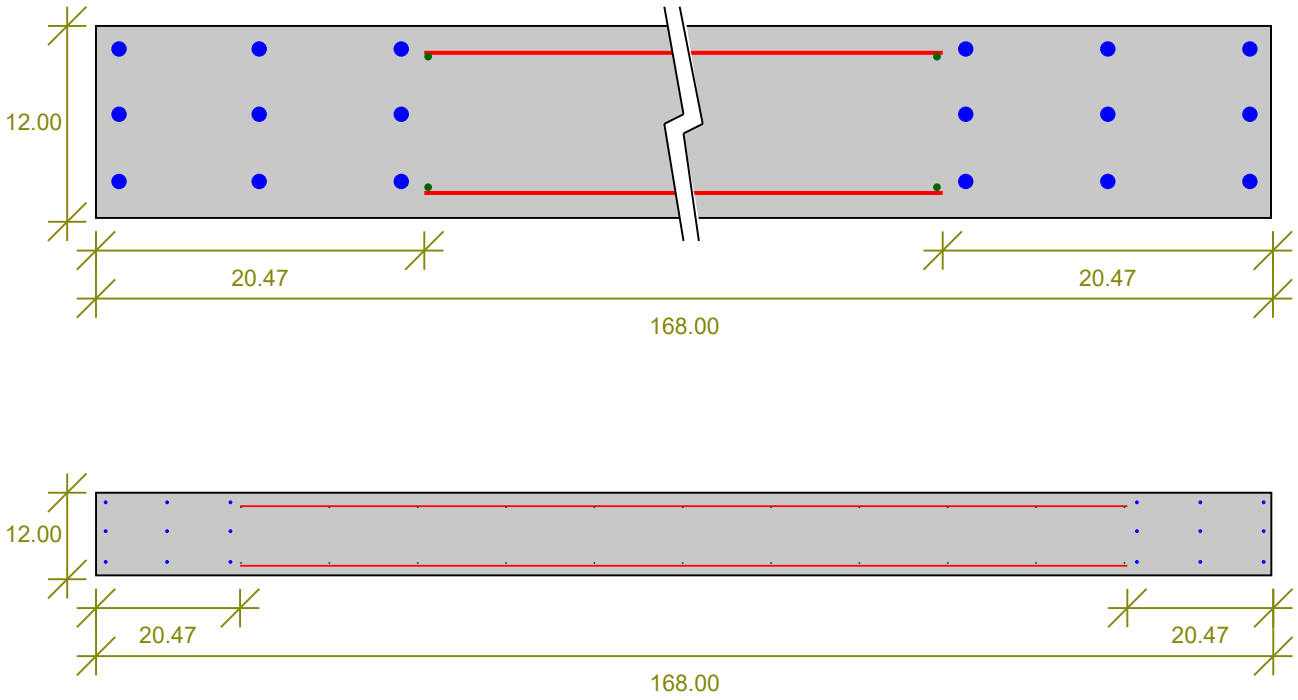
Material statistics

Volume(yard3)	Steel ratio(%)	Steel Density
5.185	0.41	0.01

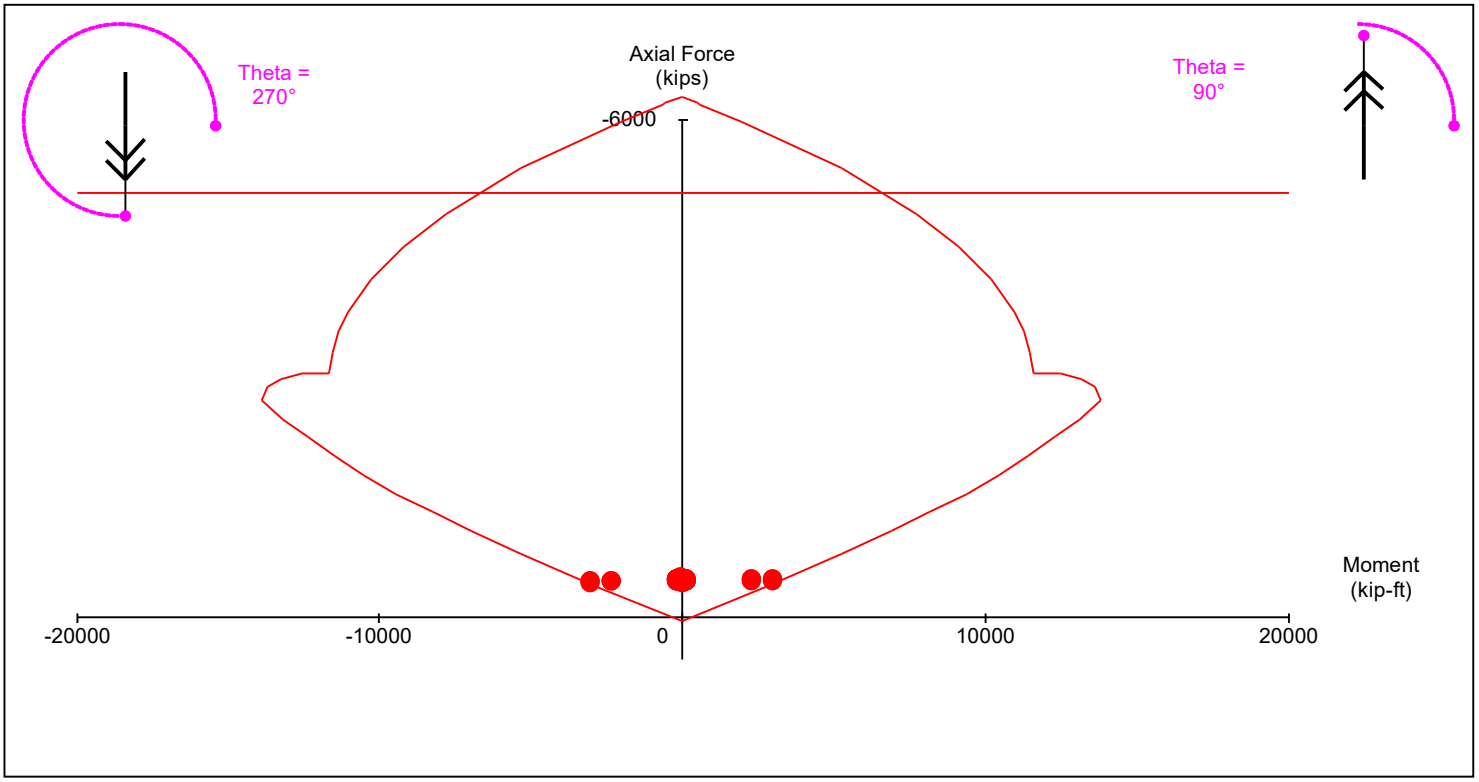
Boundary element check

Method: "N/A"
Du/Hw = 0.00

Wall Diagram



PM Diagram



ADAPT Wall Design

Status: Acceptable

Model: adapt-builder_multi-level-tutorial_final

N vs M Util: 0.973

Pier Label: P2

Design Section: L6_Top_27 (Level 6 (EL 67.5) - 67.50ft)

Shear Util: 0.072

Maximum: 1.000

Design Code: ACI2019

Dimension

Length = 10.00 ft
Thickness = 12.00 in
Lu = 10.00 ft
Hw = 37.00 ft

Governing Loads

	Pu (kip)	Vu (kip)	Mu (kip-ft)	Utilization	GLC
Axial	-730.120	-0.098	-26.203	0.160	"ULS-5_EQ1_LR1_SEIS"
Flexure	-405.170	-23.903	-4713.400	0.973	"ULS-7_EQ2_SEIS"
Shear	-405.170	-23.903	-4713.400	0.072	"ULS-7_EQ2_SEIS"

Shear Design

Fys = 60.000 ksi
Fyv = 60.000 ksi
Phi sh = 0.750
Phi Vc = 152.735 kip
Phi Vn = 332.735 kip
Phi Vnmax = 610.940 kip

Panel Bars	Smax (in)	Avmin (in2/ft)	Av req (in2/ft)	Av prov (in2/ft)	Status
(2C) #4 @ 12.00 horz	18.00	0.29	0.00	0.40	"O.K."
(2C) #4 @ 12.00 vert	18.00	0.17	0.17	0.40	"O.K."

Flexure and Axial Design

F'c = 5000.00 psi
phi b = 0.90
phi c = 0.65
Panel bars used:
Aused = 0.23 in2
n = 4.00
Aused/Aprov vert = 0.57

		As in2	As (min) in2	CGS in	Curtains	Spacing in
Zone 1	11 - #8	8.69	1.44	14.73	3	9.00
Zone 2	8 - #8	6.32	1.44	10.23	3	9.00

PM Diagram status: "O.K."

Slenderness check

Lu(ft)	Lu/16	Status
10.00	7.50	"O.K."

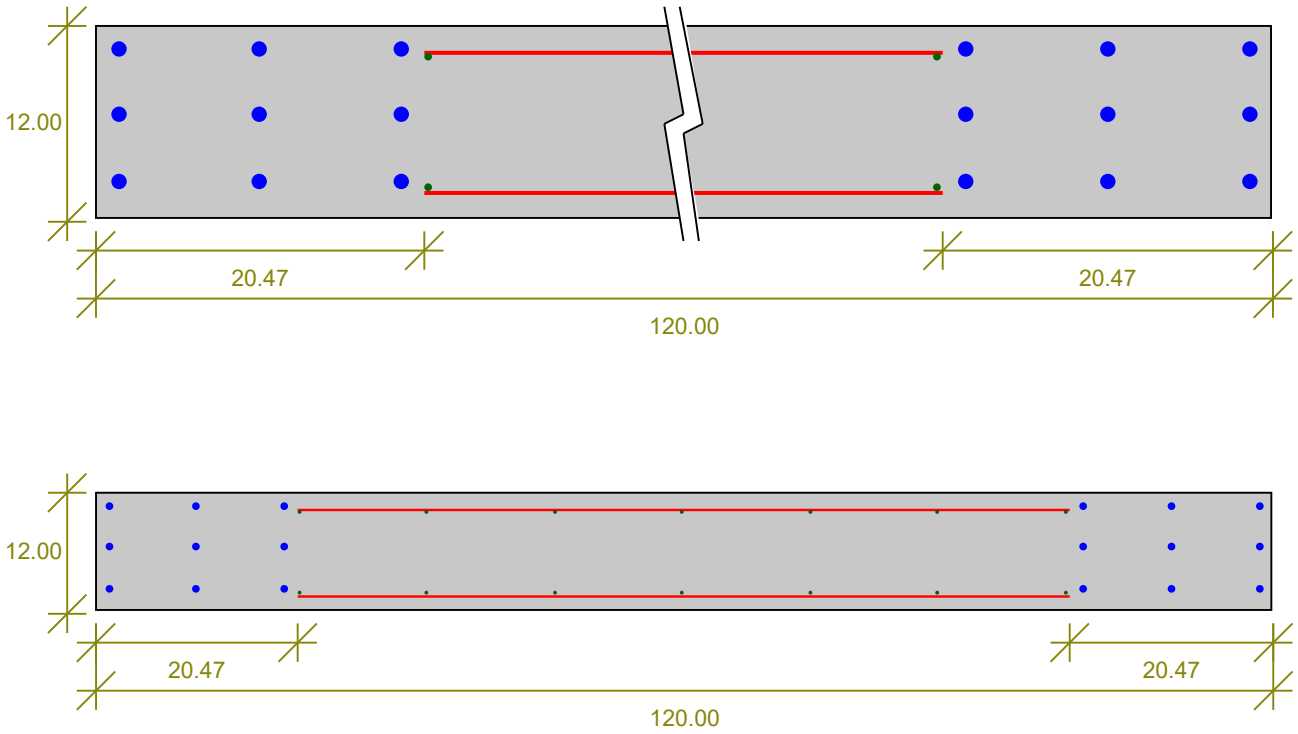
Material statistics

Volume(yard3)	Steel ratio(%)	Steel Density
3.704	1.11	0.01

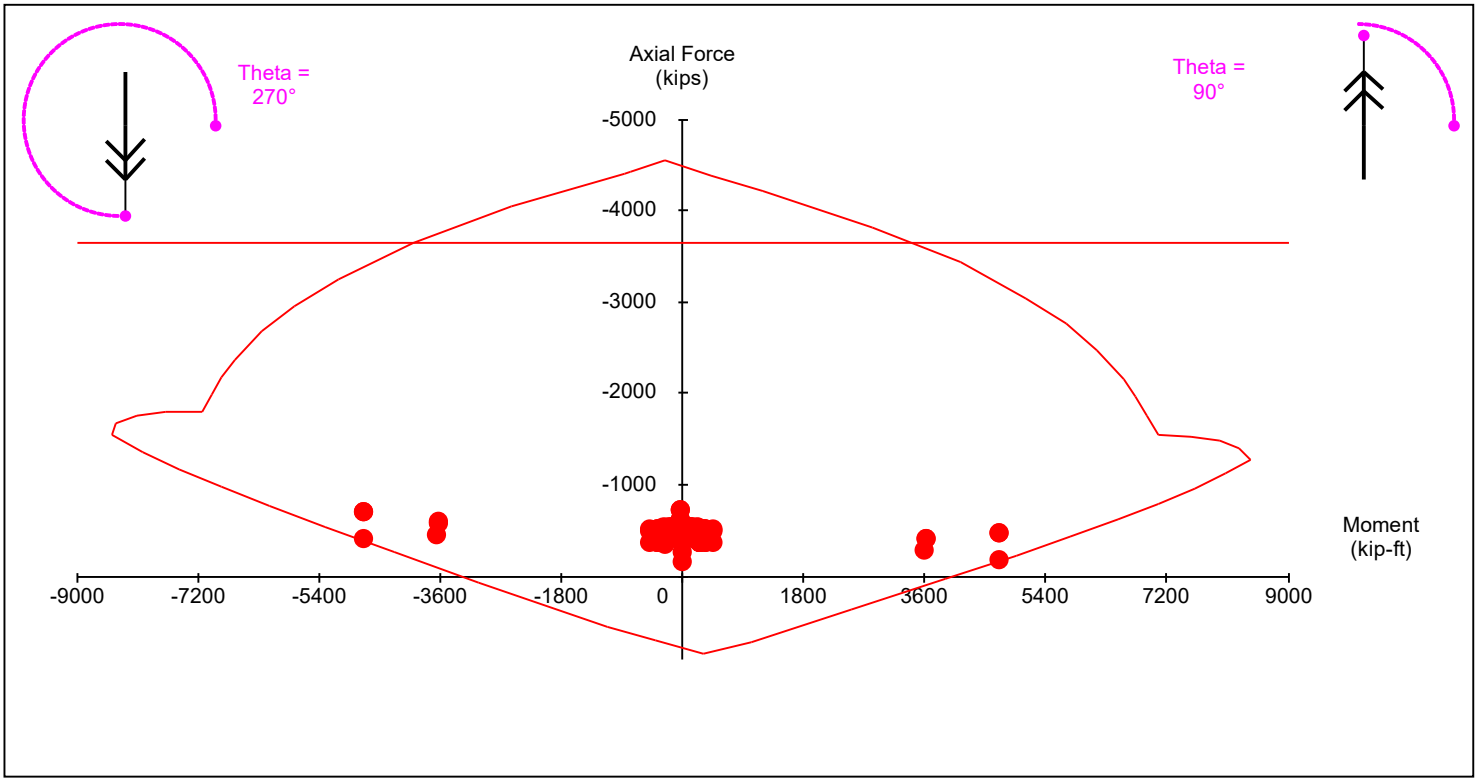
Boundary element check

Method: "N/A"
Du/Hw = 0.00

Wall Diagram



PM Diagram



ADAPT Wall Design

Status: Acceptable

Model: adapt-builder_multi-level-tutorial_final

N vs M Util: 0.323

Pier Label: P3

Design Section: L7_Bot_28 (Roof (EL 79.5) - 79.50ft)

Shear Util: 0.192

Maximum: 1.000

Design Code: ACI2019

Dimension

Length = 20.75 ft
Thickness = 12.00 in
Lu = 10.00 ft
Hw = 37.00 ft

Governing Loads

	Pu (kip)	Vu (kip)	Mu (kip-ft)	Utilization	GLC
Axial	-354.880	58.102	1966.400	0.041	"ULS-5_EQ1_LR1_SEIS"
Flexure	-112.000	-47.990	-1929.200	0.323	"ULS-7_-EQ1_SEIS"
Shear	-285.140	144.660	1509.100	0.192	"ULS-5_EQ2(LR1)_SEIS"

Shear Design

Fys = 60.000 ksi
Fyv = 60.000 ksi
Phi sh = 0.750
Phi Vc = 378.019 kip
Phi Vn = 751.519 kip
Phi Vnmax = 1267.701 kip

Panel Bars	Smax (in)	Avmin (in2/ft)	Av req (in2/ft)	Av prov (in2/ft)	Status
(2C) #4 @ 12.00 horz	18.00	0.29	0.00	0.40	"O.K."
(2C) #4 @ 12.00 vert	18.00	0.17	0.17	0.40	"O.K."

Flexure and Axial Design

F'c = 5000.00 psi
phi b = 0.90
phi c = 0.65
Panel bars used:
Aused = 0.23 in2
n = 19.00
Aused/Aprov vert = 0.57

		As in2	As (min) in2	CGS in	Curtains	Spacing in
Zone 1	3 - #8	2.37	2.99	1.23	3	9.00
Zone 2	3 - #8	2.37	2.99	1.23	3	9.00

PM Diagram status: "O.K."

Slenderness check

Lu(ft)	Lu/16	Status
10.00	7.50	"O.K."

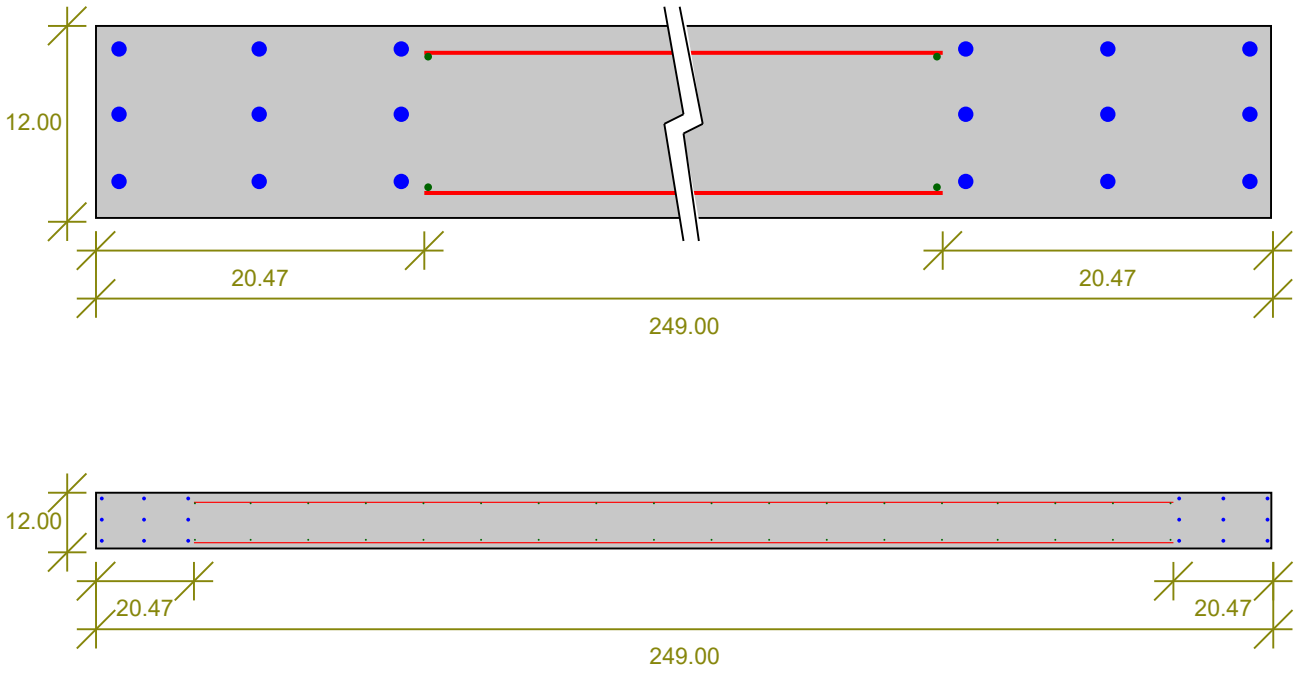
Material statistics

Volume(yard3)	Steel ratio(%)	Steel Density
7.685	0.30	0.01

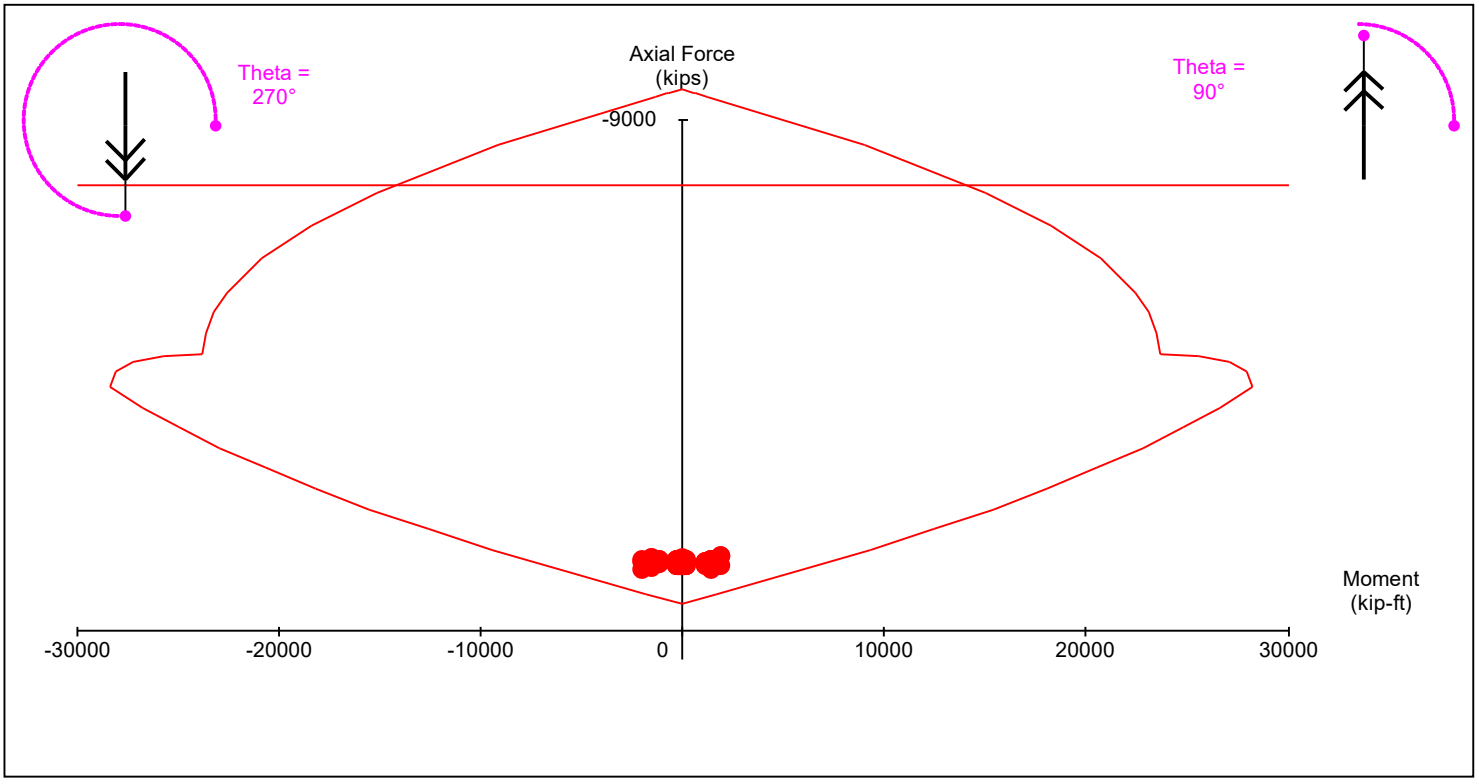
Boundary element check

Method: "N/A"
Du/Hw = 0.00

Wall Diagram



PM Diagram



ADAPT Wall Design

Status: Acceptable

Model: adapt-builder_multi-level-tutorial_final

N vs M Util: 0.969

Pier Label: P2

Design Section: L7_Bot_29 (Roof (EL 79.5) - 79.50ft)

Shear Util: 0.175

Maximum: 1.000

Design Code: ACI2019

Dimension

Length = 10.00 ft
Thickness = 12.00 in
Lu = 10.00 ft
Hw = 37.00 ft

Governing Loads

	Pu (kip)	Vu (kip)	Mu (kip-ft)	Utilization	GLC
Axial	-295.470	-58.294	-2175.900	0.070	"ULS-5_-EQ2_LR1_SEIS"
Flexure	-59.041	57.349	2176.500	0.969	"ULS-7_EQ2_SEIS"
Shear	-292.520	-58.294	-2175.900	0.175	"ULS-5_-EQ2(LR1)_SEIS"

Shear Design

Fys = 60.000 ksi
Fyv = 60.000 ksi
Phi sh = 0.750
Phi Vc = 152.735 kip
Phi Vn = 332.735 kip
Phi Vnmax = 610.940 kip

Panel Bars	Smax (in)	Avmin (in2/ft)	Av req (in2/ft)	Av prov (in2/ft)	Status
(2C) #4 @ 12.00 horz	18.00	0.29	0.00	0.40	"O.K."
(2C) #4 @ 12.00 vert	18.00	0.17	0.17	0.40	"O.K."

Flexure and Axial Design

F'c = 5000.00 psi
phi b = 0.90
phi c = 0.65
Panel bars used:
Aused = 0.23 in2
n = 7.00
Aused/Aprov vert = 0.57

		As in2	As (min) in2	CGS in	Curtains	Spacing in
Zone 1	4 - #8	3.16	1.44	5.73	3	9.00
Zone 2	3 - #8	2.37	1.44	1.23	3	9.00

PM Diagram status: "O.K."

Slenderness check

Lu(ft)	Lu/16	Status
10.00	7.50	"O.K."

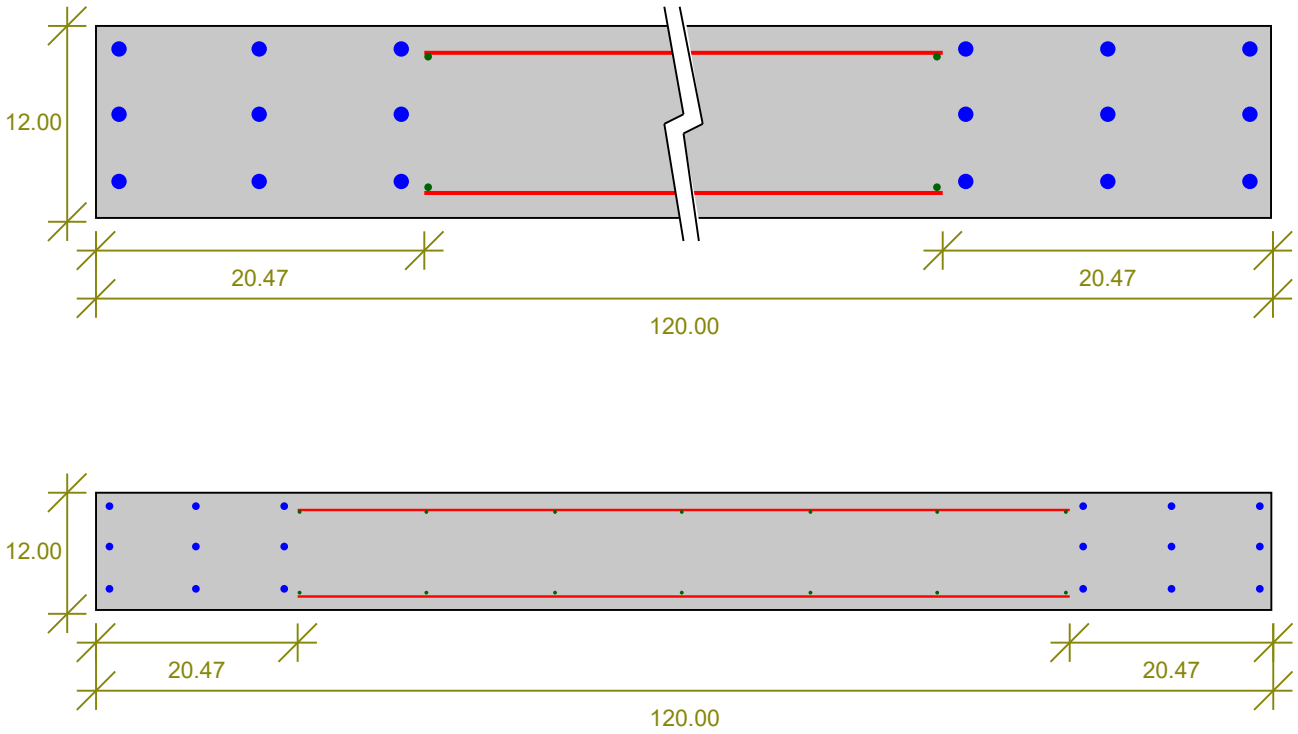
Material statistics

Volume(yard3)	Steel ratio(%)	Steel Density
3.704	0.49	0.01

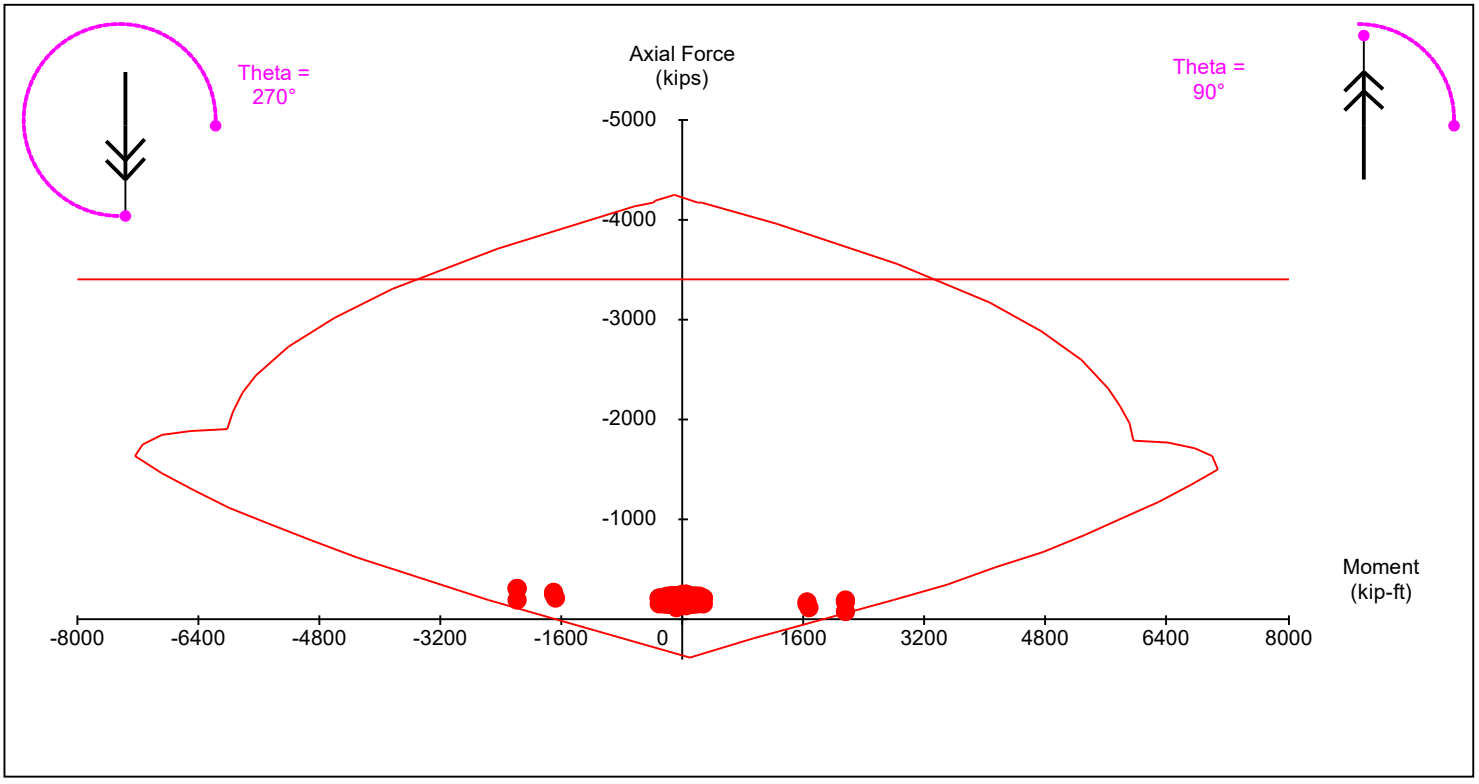
Boundary element check

Method: "N/A"
Du/Hw = 0.00

Wall Diagram



PM Diagram



ADAPT Wall Design

		Status:	Acceptable
Model:	adapt-builder_multi-level-tutorial_final	N vs M Util:	0.678
Pier Label:	P2		
Design Section:	L7_Bot_30 (Roof (EL 79.5) - 79.50ft)	Shear Util:	0.554
		Maximum:	1.000
Design Code:	ACI2019		

Dimension

Length = 14.00 ft
Thickness = 12.00 in
Lu = 10.00 ft
Hw = 37.00 ft

Governing Loads

	Pu (kip)	Vu (kip)	Mu (kip-ft)	Utilization	GLC
Axial	-44.035	-138.140	-901.270	0.008	"ULS-5_-EQ2_LR1_SEIS"
Flexure	-19.005	-257.960	-1384.800	0.678	"ULS-7_-EQ1_SEIS"
Shear	-19.005	-257.960	-1384.800	0.554	"ULS-7_-EQ1_SEIS"

Shear Design

Fys = 60.000 ksi
Fyv = 60.000 ksi
Phi sh = 0.750
Phi Vc = 213.829 kip
Phi Vn = 465.829 kip
Phi Vnmax = 855.316 kip

Panel Bars	Smax (in)	Avmin (in2/ft)	Av req (in2/ft)	Av prov (in2/ft)	Status
(2C) #4 @ 12.00 horz	18.00	0.29	0.36	0.40	"O.K."
(2C) #4 @ 12.00 vert	18.00	0.36	0.36	0.40	"O.K."

Flexure and Axial Design

F'c = 5000.00 psi
phi b = 0.90
phi c = 0.65
Panel bars used:
Aused = 0.04 in2
n = 12.00
Aused/Aprov vert = 0.10

		As in2	As (min) in2	CGS in	Curtains	Spacing in
Zone 1	3 - #8	2.37	2.02	1.23	3	9.00
Zone 2	3 - #8	2.37	2.02	1.23	3	9.00

PM Diagram status: "O.K."

Slenderness check

Lu(ft)	Lu/16	Status
10.00	7.50	"O.K."

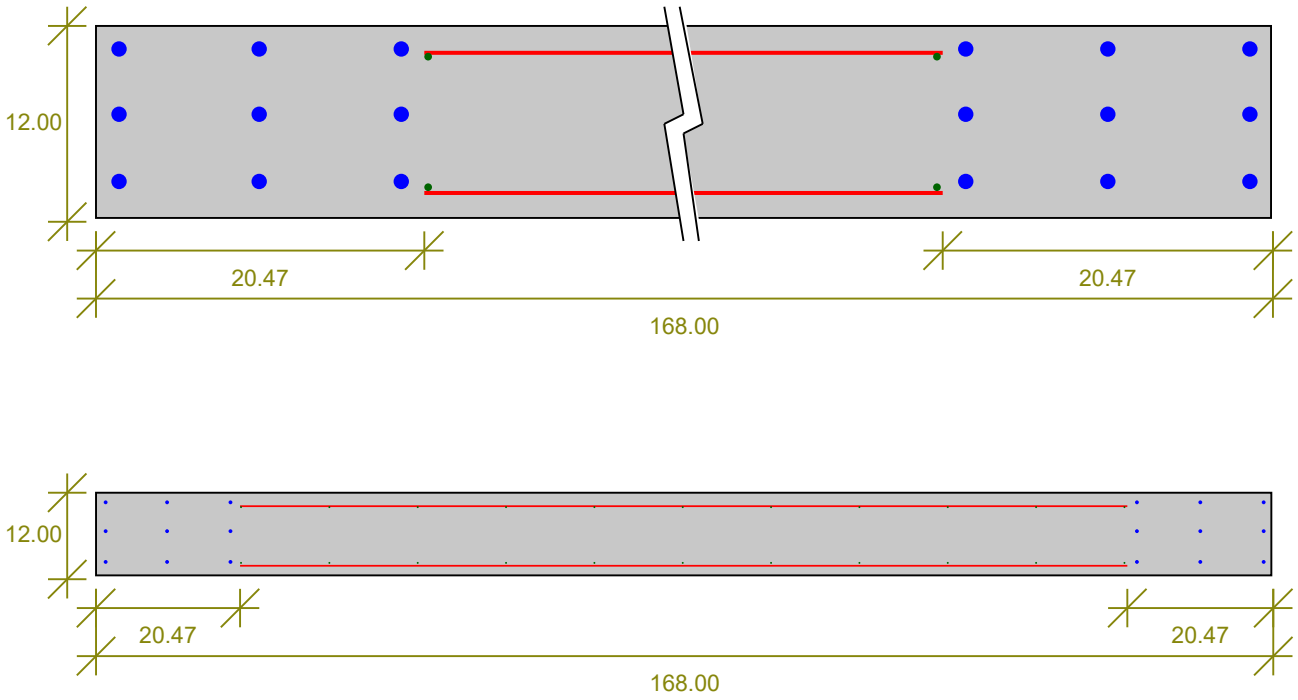
Material statistics

Volume(yard3)	Steel ratio(%)	Steel Density
5.185	0.26	0.01

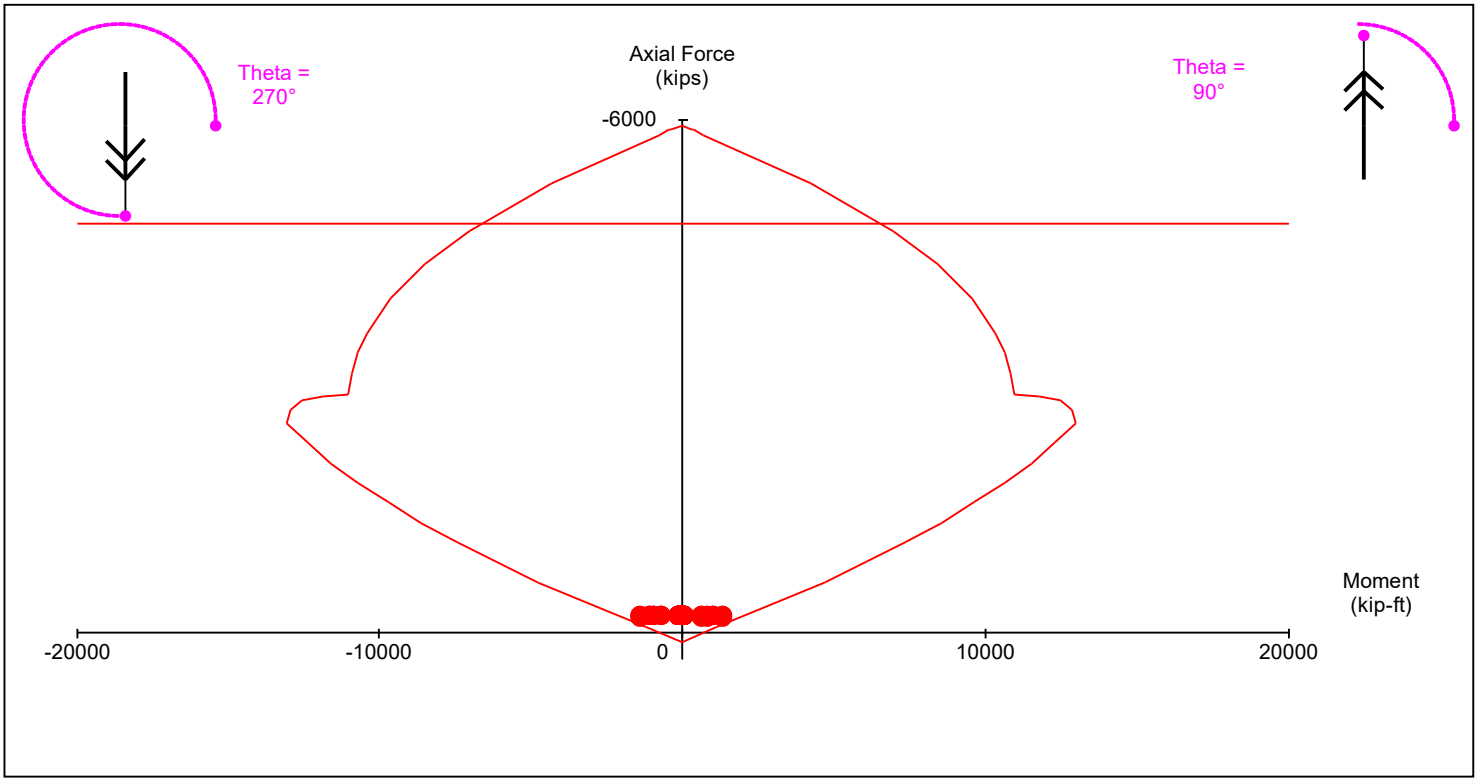
Boundary element check

Method: "N/A"
Du/Hw = 0.00

Wall Diagram



PM Diagram



ADAPT Wall Design

		Status:	Acceptable
Model:	adapt-builder_multi-level-tutorial_final	N vs M Util:	0.983
Pier Label:	P2		
Design Section:	L7_Bot_31 (Roof (EL 79.5) - 79.50ft)	Shear Util:	0.336
		Maximum:	1.000
Design Code:	ACI2019		

Dimension

Length = 10.00 ft
Thickness = 12.00 in
Lu = 10.00 ft
Hw = 37.00 ft

Governing Loads

	Pu (kip)	Vu (kip)	Mu (kip-ft)	Utilization	GLC
Axial	-302.480	-111.640	-2727.100	0.070	"ULS-5_EQ2_LR1_SEIS"
Flexure	-73.312	111.870	2727.800	0.983	"ULS-7_-EQ2_SEIS"
Shear	-73.312	111.870	2727.800	0.336	"ULS-7_-EQ2_SEIS"

Shear Design

Fys = 60.000 ksi
Fyv = 60.000 ksi
Phi sh = 0.750
Phi Vc = 152.735 kip
Phi Vn = 332.735 kip
Phi Vnmax = 610.940 kip

Panel Bars	Smax (in)	Avmin (in2/ft)	Av req (in2/ft)	Av prov (in2/ft)	Status
(2C) #4 @ 12.00 horz	18.00	0.29	0.36	0.40	"O.K."
(2C) #4 @ 12.00 vert	18.00	0.36	0.36	0.40	"O.K."

Flexure and Axial Design

F'c = 5000.00 psi
phi b = 0.90
phi c = 0.65
Panel bars used:
Aused = 0.04 in2
n = 7.00
Aused/Aprov vert = 0.10

		As in2	As (min) in2	CGS in	Curtains	Spacing in
Zone 1	6 - #8	4.74	1.44	5.73	3	9.00
Zone 2	5 - #8	3.95	1.44	5.73	3	9.00

PM Diagram status: "O.K."

Slenderness check

Lu(ft)	Lu/16	Status
10.00	7.50	"O.K."

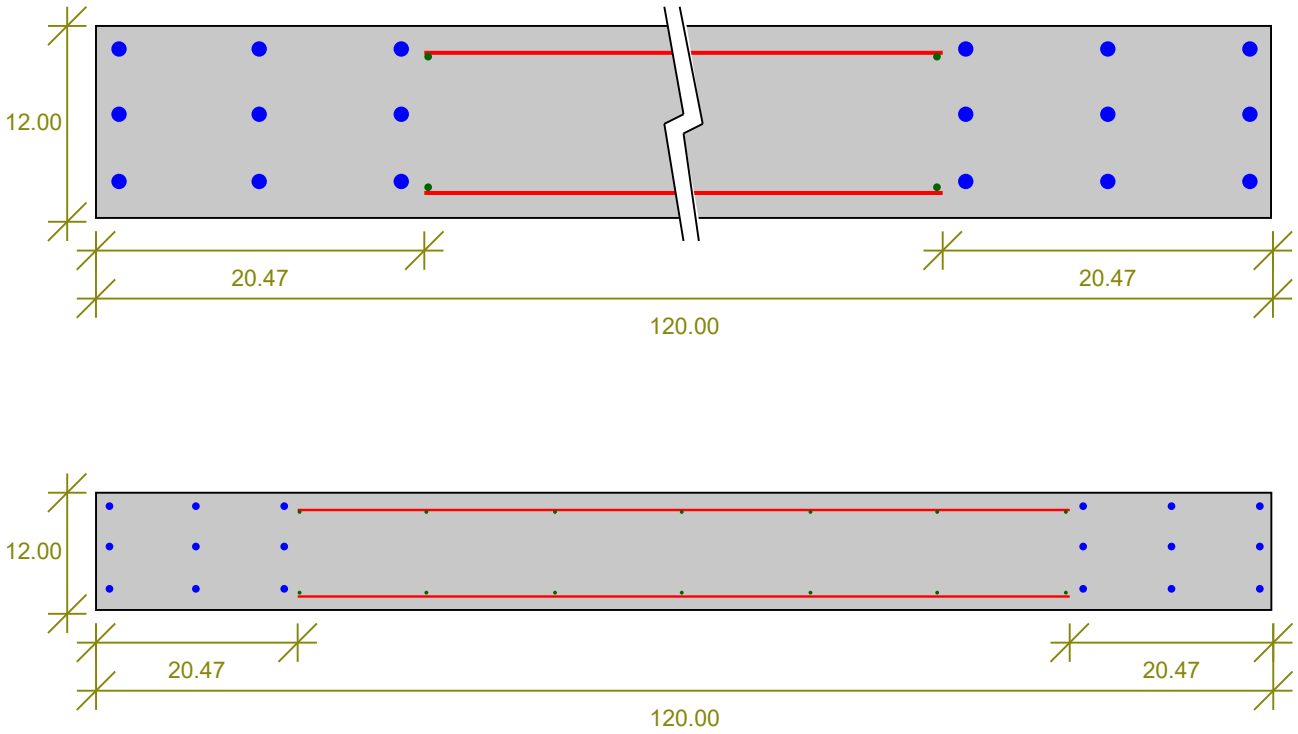
Material statistics

Volume(yard3)	Steel ratio(%)	Steel Density
3.704	0.62	0.01

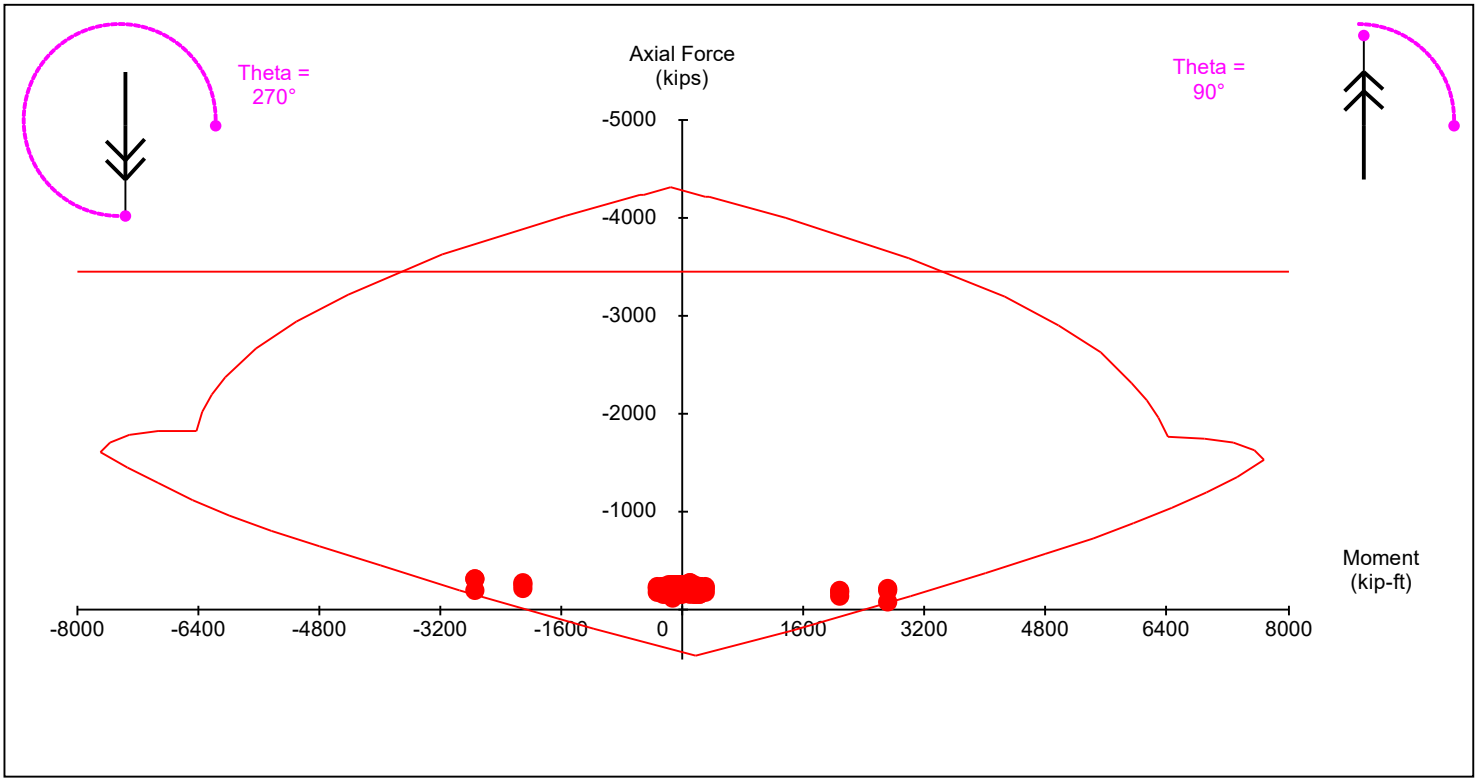
Boundary element check

Method: "N/A"
Du/Hw = 0.00

Wall Diagram



PM Diagram



ADAPT Wall Design

Status: Acceptable

Model: adapt-builder_multi-level-tutorial_final

N vs M Util: 0.236

Pier Label: P3

Design Section: L7_Top_28 (Roof (EL 79.5) - 79.50ft)

Shear Util: 0.192

Maximum: 1.000

Design Code: ACI2019

Dimension

Length = 20.75 ft
Thickness = 12.00 in
Lu = 10.00 ft
Hw = 37.00 ft

Governing Loads

	Pu (kip)	Vu (kip)	Mu (kip-ft)	Utilization	GLC
Axial	-307.620	-58.102	1269.100	0.036	"ULS-5_EQ1_LR1_SEIS"
Flexure	-88.234	47.990	-1353.300	0.236	"ULS-7_-EQ1_SEIS"
Shear	-237.870	-144.660	-226.780	0.192	"ULS-5_EQ2(LR1)_SEIS"

Shear Design

Fys = 60.000 ksi
Fyv = 60.000 ksi
Phi sh = 0.750
Phi Vc = 378.019 kip
Phi Vn = 751.519 kip
Phi Vnmax = 1267.701 kip

Panel Bars	Smax (in)	Avmin (in2/ft)	Av req (in2/ft)	Av prov (in2/ft)	Status
(2C) #4 @ 12.00 horz	18.00	0.29	0.00	0.40	"O.K."
(2C) #4 @ 12.00 vert	18.00	0.17	0.17	0.40	"O.K."

Flexure and Axial Design

F'c = 5000.00 psi
phi b = 0.90
phi c = 0.65
Panel bars used:
Aused = 0.23 in2
n = 19.00
Aused/Aprov vert = 0.57

		As in2	As (min) in2	CGS in	Curtains	Spacing in
Zone 1	3 - #8	2.37	2.99	1.23	3	9.00
Zone 2	3 - #8	2.37	2.99	1.23	3	9.00

PM Diagram status: "O.K."

Slenderness check

Lu(ft)	Lu/16	Status
10.00	7.50	"O.K."

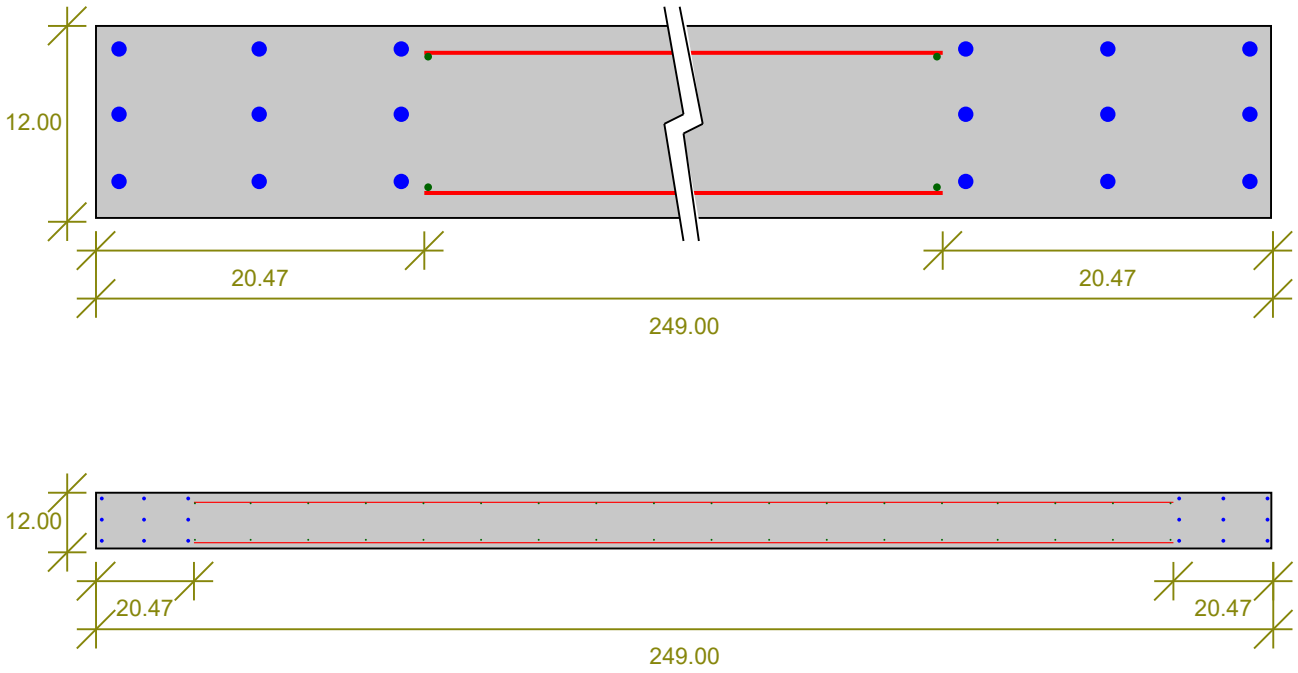
Material statistics

Volume(yard3)	Steel ratio(%)	Steel Density
7.685	0.30	0.01

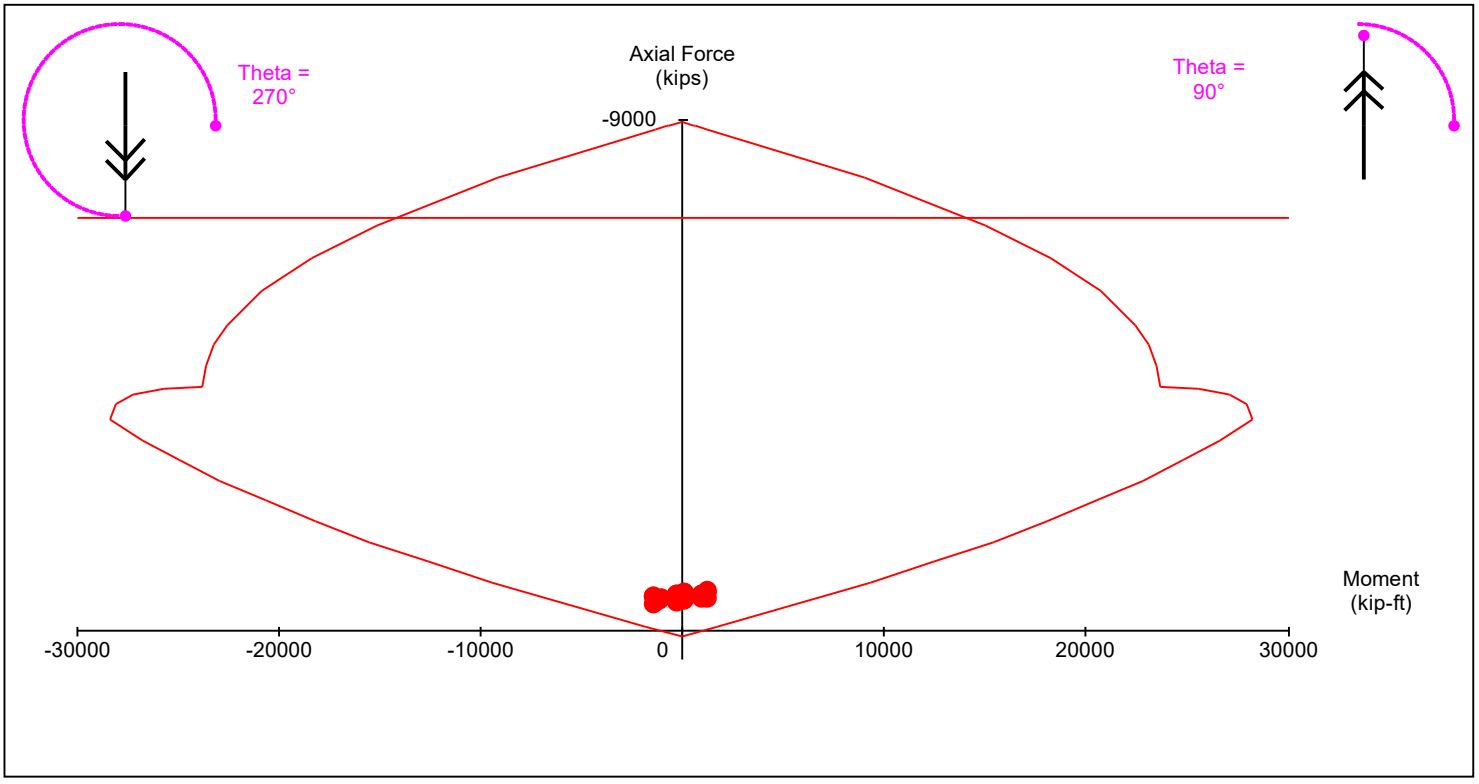
Boundary element check

Method: "N/A"
Du/Hw = 0.00

Wall Diagram



PM Diagram



ADAPT Wall Design

Status: Acceptable

Model: adapt-builder_multi-level-tutorial_final

N vs M Util: 0.770

Pier Label: P2

Design Section: L7_Top_29 (Roof (EL 79.5) - 79.50ft)

Shear Util: 0.175

Maximum: 1.000

Design Code: ACI2019

Dimension

Length = 10.00 ft
Thickness = 12.00 in
Lu = 10.00 ft
Hw = 37.00 ft

Governing Loads

	Pu (kip)	Vu (kip)	Mu (kip-ft)	Utilization	GLC
Axial	-272.690	58.294	-1476.400	0.065	"ULS-5_-EQ2_LR1_SEIS"
Flexure	-47.587	-57.349	1488.400	0.770	"ULS-7_EQ2_SEIS"
Shear	-269.740	58.294	-1476.400	0.175	"ULS-5_-EQ2(LR1)_SEIS"

Shear Design

Fys = 60.000 ksi
Fyv = 60.000 ksi
Phi sh = 0.750
Phi Vc = 152.735 kip
Phi Vn = 332.735 kip
Phi Vnmax = 610.940 kip

Panel Bars	Smax (in)	Avmin (in2/ft)	Av req (in2/ft)	Av prov (in2/ft)	Status
(2C) #4 @ 12.00 horz	18.00	0.29	0.00	0.40	"O.K."
(2C) #4 @ 12.00 vert	18.00	0.17	0.17	0.40	"O.K."

Flexure and Axial Design

F'c = 5000.00 psi
phi b = 0.90
phi c = 0.65
Panel bars used:
Aused = 0.23 in2
n = 8.00
Aused/Aprov vert = 0.57

		As in2	As (min) in2	CGS in	Curtains	Spacing in
Zone 1	3 - #8	2.37	1.44	1.23	3	9.00
Zone 2	3 - #8	2.37	1.44	1.23	3	9.00

PM Diagram status: "O.K."

Slenderness check

Lu(ft)	Lu/16	Status
10.00	7.50	"O.K."

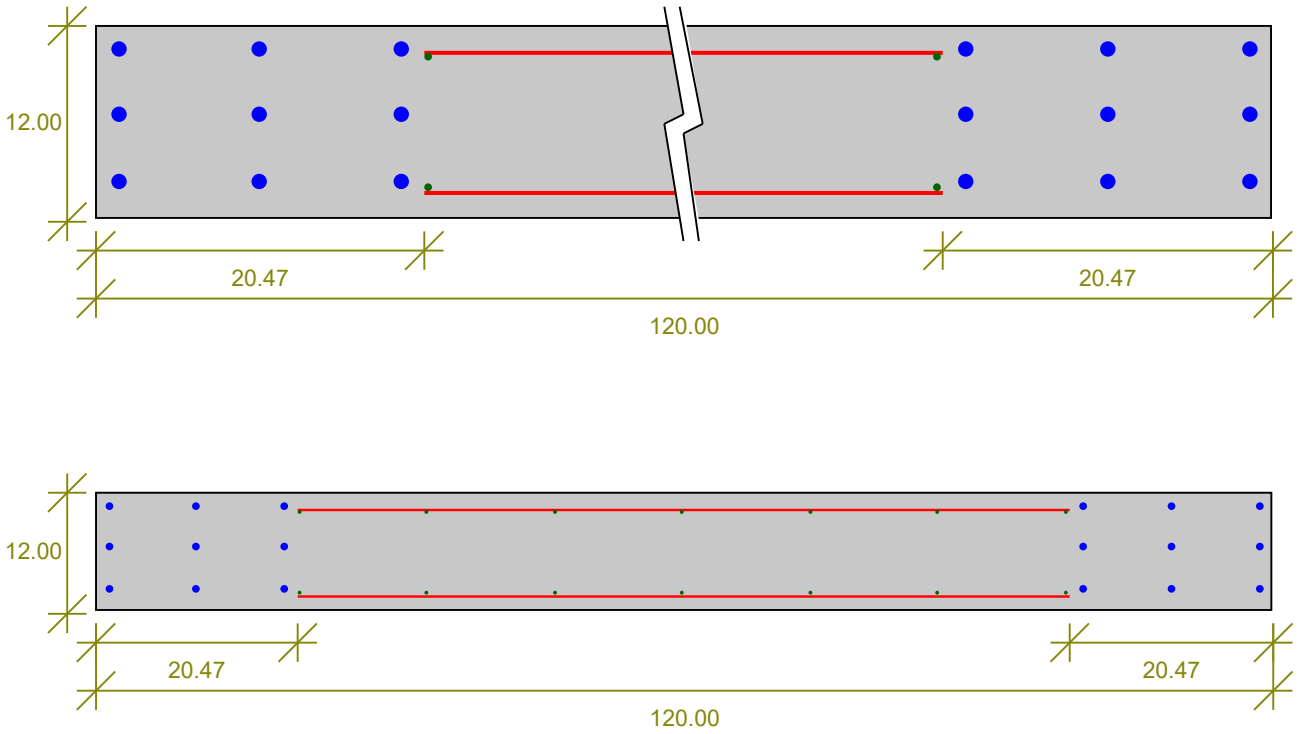
Material statistics

Volume(yard3)	Steel ratio(%)	Steel Density
3.704	0.46	0.01

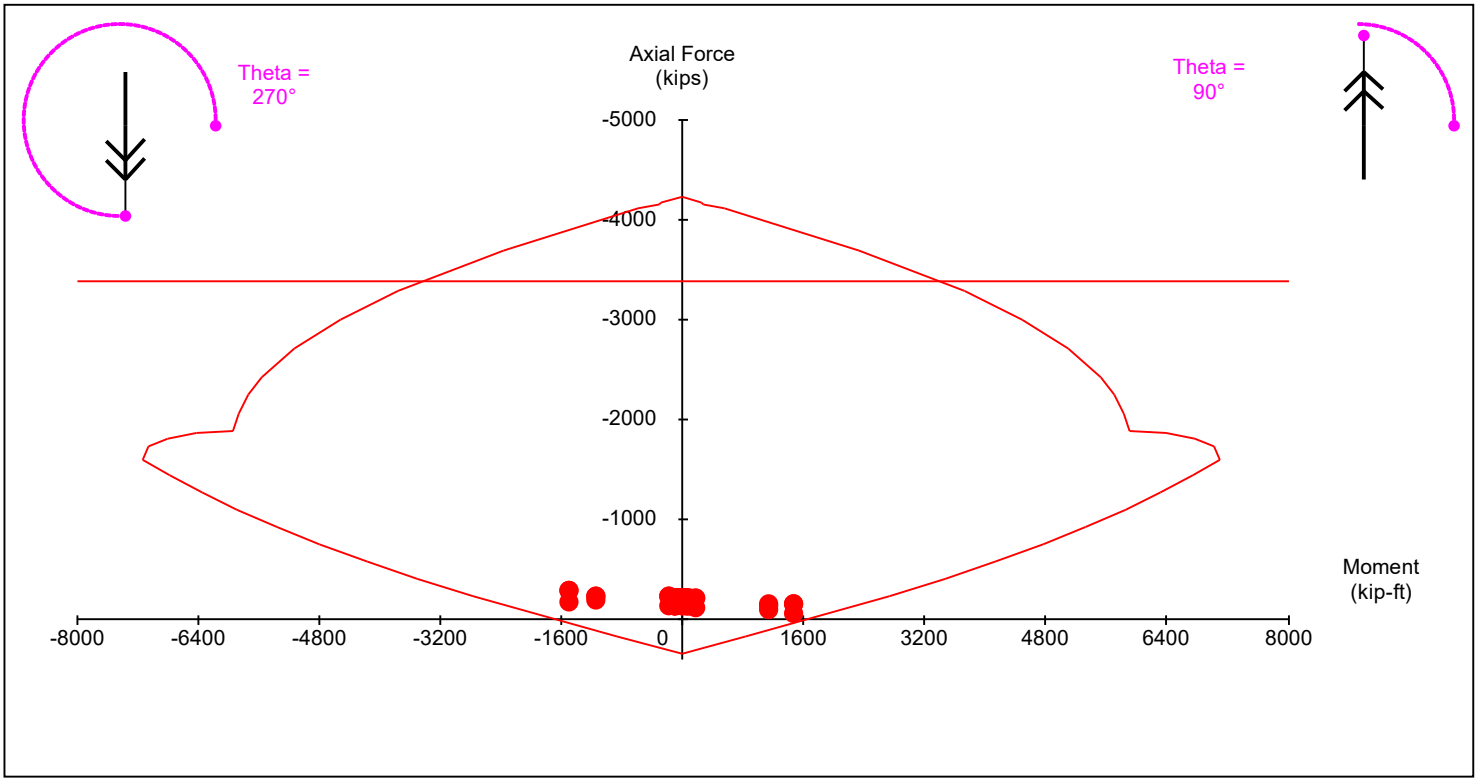
Boundary element check

Method: "N/A"
Du/Hw = 0.00

Wall Diagram



PM Diagram



ADAPT Wall Design

Status: Acceptable

Model: adapt-builder_multi-level-tutorial_final

N vs M Util: 0.883

Pier Label: P2

Design Section: L7_Top_30 (Roof (EL 79.5) - 79.50ft)

Shear Util: 0.554

Maximum: 1.000

Design Code: ACI2019

Dimension

Length = 14.00 ft
Thickness = 12.00 in
Lu = 10.00 ft
Hw = 37.00 ft

Governing Loads

	Pu (kip)	Vu (kip)	Mu (kip-ft)	Utilization	GLC
Axial	5.231	-134.830	-738.710	0.019	"ULS-7_EQ2_SEIS"
Flexure	-2.969	257.960	1710.700	0.883	"ULS-7_-EQ1_SEIS"
Shear	-2.969	257.960	1710.700	0.554	"ULS-7_-EQ1_SEIS"

Shear Design

Fys = 60.000 ksi
Fyv = 60.000 ksi
Phi sh = 0.750
Phi Vc = 213.829 kip
Phi Vn = 465.829 kip
Phi Vnmax = 855.316 kip

Panel Bars	Smax (in)	Avmin (in2/ft)	Av req (in2/ft)	Av prov (in2/ft)	Status
(2C) #4 @ 12.00 horz	18.00	0.29	0.36	0.40	"O.K."
(2C) #4 @ 12.00 vert	18.00	0.36	0.36	0.40	"O.K."

Flexure and Axial Design

F'c = 5000.00 psi
phi b = 0.90
phi c = 0.65
Panel bars used:
Aused = 0.04 in2
n = 12.00
Aused/Aprov vert = 0.10

		As in2	As (min) in2	CGS in	Curtains	Spacing in
Zone 1	3 - #8	2.37	2.02	1.23	3	9.00
Zone 2	3 - #8	2.37	2.02	1.23	3	9.00

PM Diagram status: "O.K."

Slenderness check

Lu(ft)	Lu/16	Status
10.00	7.50	"O.K."

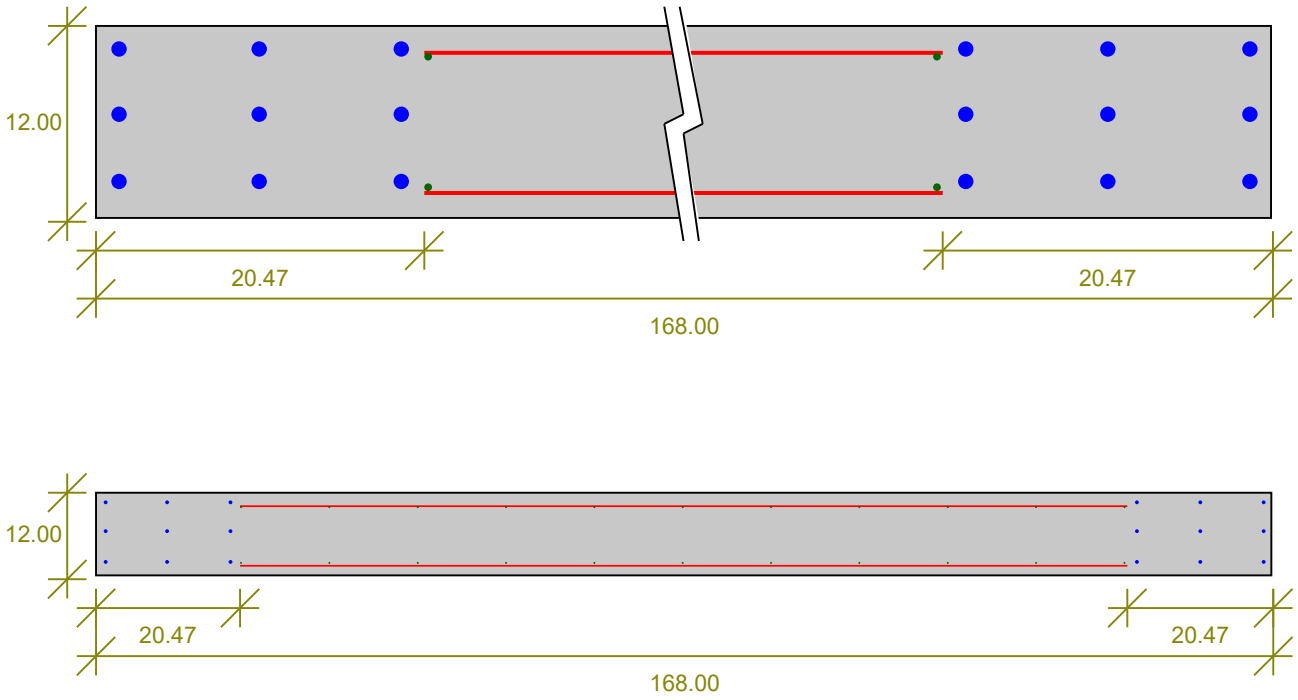
Material statistics

Volume(yard3)	Steel ratio(%)	Steel Density
5.185	0.26	0.01

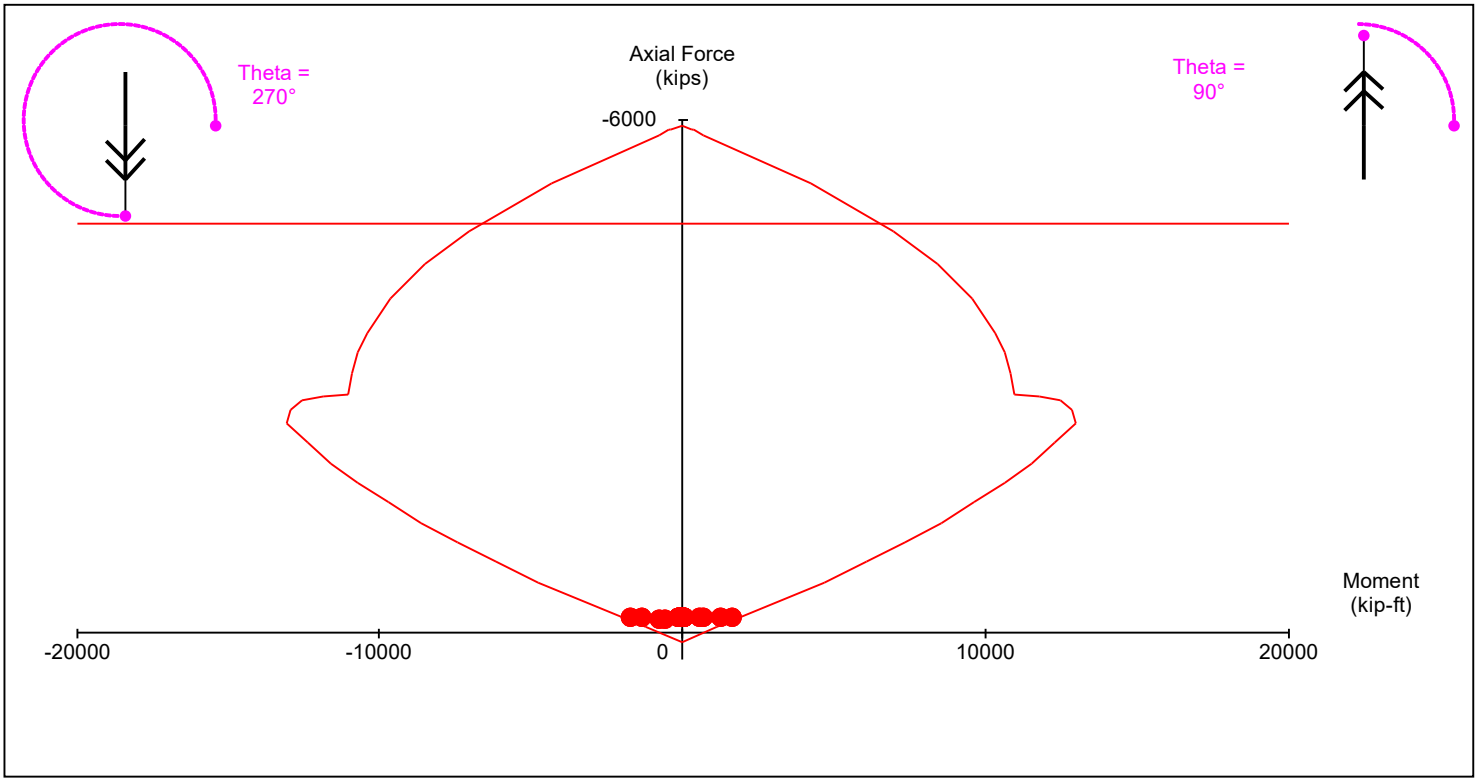
Boundary element check

Method: "N/A"
Du/Hw = 0.00

Wall Diagram



PM Diagram



ADAPT Wall Design

		Status:	Acceptable
Model:	adapt-builder_multi-level-tutorial_final	N vs M Util:	0.857
Pier Label:	P2		
Design Section:	L7_Top_31 (Roof (EL 79.5) - 79.50ft)	Shear Util:	0.336
		Maximum:	1.000
Design Code:	ACI2019		

Dimension

Length = 10.00 ft
Thickness = 12.00 in
Lu = 10.00 ft
Hw = 37.00 ft

Governing Loads

	Pu (kip)	Vu (kip)	Mu (kip-ft)	Utilization	GLC
Axial	-279.700	111.640	-1387.500	0.067	"ULS-5_EQ2_LR1_SEIS"
Flexure	-61.858	-111.870	1385.400	0.857	"ULS-7_-EQ2_SEIS"
Shear	-61.858	-111.870	1385.400	0.336	"ULS-7_-EQ2_SEIS"

Shear Design

Fys = 60.000 ksi
Fyv = 60.000 ksi
Phi sh = 0.750
Phi Vc = 152.735 kip
Phi Vn = 332.735 kip
Phi Vnmax = 610.940 kip

	Panel Bars	Smax (in)	Avmin (in2/ft)	Av req (in2/ft)	Av prov (in2/ft)	Status
	(2C) #4 @ 12.00 horz	18.00	0.29	0.36	0.40	"O.K."
	(2C) #4 @ 12.00 vert	18.00	0.36	0.36	0.40	"O.K."

Flexure and Axial Design

F'c = 5000.00 psi
phi b = 0.90
phi c = 0.65
Panel bars used:
Aused = 0.04 in2
n = 8.00
Aused/Aprov vert = 0.10

		As in2	As (min) in2	CGS in	Curtains	Spacing in
Zone 1	3 - #8	2.37	1.44	1.23	3	9.00
Zone 2	3 - #8	2.37	1.44	1.23	3	9.00

PM Diagram status: "O.K."

Slenderness check

Lu(ft)	Lu/16	Status
10.00	7.50	"O.K."

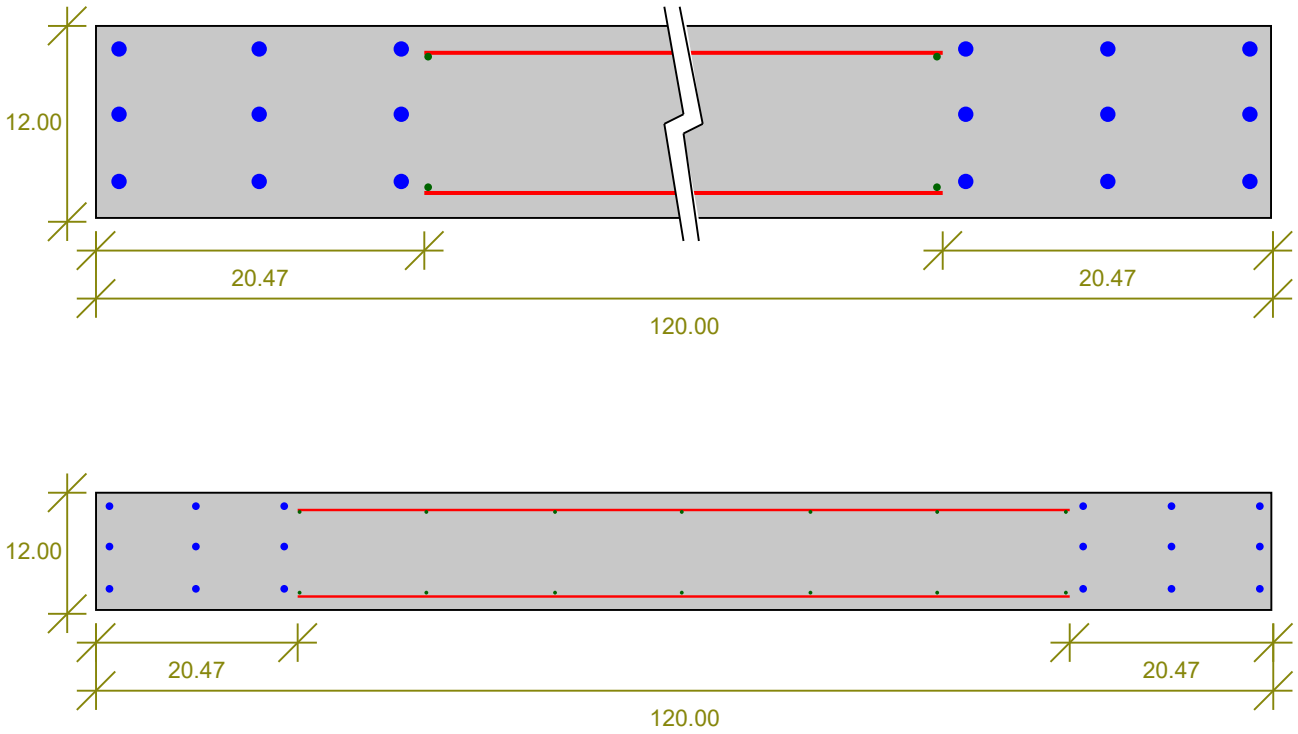
Material statistics

Volume(yard3)	Steel ratio(%)	Steel Density
3.704	0.35	0.01

Boundary element check

Method: "N/A"
Du/Hw = 0.00

Wall Diagram



PM Diagram