

ETAPA 5 — DEBE LLEVARSE A CABO UN ANÁLISIS ELÁSTICO DE LA ESTRUCTURA Y DE SU SISTEMA DE CIMENTACIÓN PARA LAS SOLICITACIONES EQUIVALENTES DEFINIDAS EN LA ETAPA 4.

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§ PROGRAM INFORMATION
PROGRAM "ETABS" VERSION "9.7.4"

§ CONTROLS
UNITS "KN" "M"
TITLE1 "PALTO LTDA"
PREFERENCE MERGETOL 0.001
RLLF METHOD "TRIBAREAUBC97" USEDEFAULTMIN "YES"

§ STORIES - IN SEQUENCE FROM TOP
STORY "CUMBRERA" HEIGHT 2
STORY "VIGAS CANAL" HEIGHT 2.4
STORY "VIG CIMENTACION" HEIGHT 0.7
STORY "BASE" ELEV 0

§ DIAPHRAGM NAMES
DIAPHRAGM "D1" TYPE RIGID

§ GRIDS
COORDSYSTEM "GLOBAL" TYPE "GENERAL" BUBBLESIZE 1.25

§ MATERIAL PROPERTIES
MATERIAL "STEEL" M 7.8271 W 76.81955 TYPE "ISOTROPIC" E 1.99948E+08 U 0.3 A
1.16999999590917E-05
MATERIAL "STEEL" DESIGNTYPE "STEEL" FY 344737.9 FU 448159.3 PRICE 271447.2
MATERIAL "CONC" M 2.400668 W 23.56538 TYPE "ISOTROPIC" E 1.64502E+09 U 0.2 A
9.89999989542412E-06
MATERIAL "CONC" DESIGNTYPE "CONCRETE" FY 413685.5 FC 18142.3 FYS 413685.5
MATERIAL "OTHER" M 7.8271 W 76.81955 TYPE "ISOTROPIC" E 1.99948E+08 U 0.3 A
1.16999999590917E-05
MATERIAL "OTHER" DESIGNTYPE "OTHER"

§ FRAME SECTIONS
FRAMESECTION "COL-25X25" MATERIAL "CONC" SHAPE "Rectangular" D 0.25 B 0.25
FRAMESECTION "VIGA10X40" MATERIAL "CONC" SHAPE "Rectangular" D 0.4 B 0.1
FRAMESECTION "VIG-15X15" MATERIAL "CONC" SHAPE "Rectangular" D 0.15 B 0.15
FRAMESECTION "VIG-25X25" MATERIAL "CONC" SHAPE "Rectangular" D 0.25 B 0.25
FRAMESECTION "VCANAL" MATERIAL "OTHER" SHAPE "SD Section"
FRAMESECTION "VCANAL" MMOD 0.0372801 WMOD 3.728624E-02

§ REBAR DEFINITIONS
REBARDEFINITION "#2" AREA 3.2258E-05 DIA 0.00635
REBARDEFINITION "#3" AREA 7.09676E-05 DIA 0.009525
REBARDEFINITION "#4" AREA 1.29032E-04 DIA 0.0127
REBARDEFINITION "#5" AREA 1.999996E-04 DIA 0.015875

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REBARDEFINITION "#6" AREA 2.838704E-04 DIA 0.01905
REBARDEFINITION "#7" AREA 3.87096E-04 DIA 0.022225
REBARDEFINITION "#8" AREA 5.096764E-04 DIA 0.0254
REBARDEFINITION "#9" AREA 6.4516E-04 DIA 0.0286512
REBARDEFINITION "#10" AREA 8.193532E-04 DIA 0.032258
REBARDEFINITION "#11" AREA 1.00645E-03 DIA 0.035814
REBARDEFINITION "#14" AREA 1.45161E-03 DIA 0.0430022
REBARDEFINITION "#18" AREA 2.58064E-03 DIA 0.0573278
REBARDEFINITION "10M" AREA 0.0001 DIA 0.0113
REBARDEFINITION "15M" AREA 0.0002 DIA 0.016
REBARDEFINITION "20M" AREA 0.0003 DIA 0.0195
REBARDEFINITION "25M" AREA 0.0005 DIA 0.0252
REBARDEFINITION "30M" AREA 0.0007 DIA 0.0299
REBARDEFINITION "35M" AREA 0.001 DIA 0.0357
REBARDEFINITION "45M" AREA 0.0015 DIA 0.0437
REBARDEFINITION "55M" AREA 0.0025 DIA 0.0564
REBARDEFINITION "6d" AREA 0.0000283 DIA 0.006
REBARDEFINITION "8d" AREA 0.0000503 DIA 0.008
REBARDEFINITION "10d" AREA 0.0000785 DIA 0.01
REBARDEFINITION "12d" AREA 0.000113 DIA 0.012
REBARDEFINITION "14d" AREA 0.000154 DIA 0.014
REBARDEFINITION "16d" AREA 0.000201 DIA 0.016
REBARDEFINITION "20d" AREA 0.000314 DIA 0.02
REBARDEFINITION "25d" AREA 0.000491 DIA 0.025
REBARDEFINITION "26d" AREA 0.000531 DIA 0.026
REBARDEFINITION "28d" AREA 0.000616 DIA 0.028
REBARDEFINITION "N12" AREA 0.000113 DIA 0.012
REBARDEFINITION "N16" AREA 0.000201 DIA 0.016
REBARDEFINITION "N20" AREA 0.000314 DIA 0.02
REBARDEFINITION "N24" AREA 0.000452 DIA 0.024
REBARDEFINITION "N28" AREA 0.000616 DIA 0.028
REBARDEFINITION "N32" AREA 0.000804 DIA 0.032
REBARDEFINITION "N36" AREA 0.00102 DIA 0.036

§ CONCRETE SECTIONS

CONCRETESECTION "COL-25X25" TYPE "COLUMN" PATTERN "R-2-2" TRANSREINF "TIES" COVER 0.025
REBAR "#4" DESIGNCHECK "CHECK"
CONCRETESECTION "VIGA10X40" TYPE "BEAM" COVERTOP 0.04 COVERBOTTOM 0.04 ATI 0.000276 ABI
0.000276 ATJ 0.00076 ABJ 0.000276
CONCRETESECTION "VIG-15X15" TYPE "BEAM" COVERTOP 0.015 COVERBOTTOM 0.015 ATI 0.000276
ABI 0.000276 ATJ 0.000276 ABJ 0.000276
CONCRETESECTION "VIG-25X25" TYPE "BEAM" COVERTOP 0.025 COVERBOTTOM 0.025 ATI 0.000122
ABI 0.000122 ATJ 0.000122 ABJ 0.000122

§ SECTION DESIGNER SECTIONS

SDSECTION "VCANAL" TYPE "FRAME" DESIGNTYPE "OTHER" BASEMATERIAL "OTHER" NUMSHAPES 8
ANGLE 90
SDSECTION "VCANAL" SHAPE 1 SHAPETYPE "REF LINE" X1 0 Y1 0.75 X2 0.25 Y2 0.75
SDSECTION "VCANAL" SHAPE 2 SHAPETYPE "REF LINE" X1 0.25 Y1 0.75 X2 0.25 Y2 0
SDSECTION "VCANAL" SHAPE 3 SHAPETYPE "REF LINE" X1 0.25 Y1 0 X2 1.25 Y2 0
SDSECTION "VCANAL" SHAPE 4 SHAPETYPE "REF LINE" X1 1.25 Y1 0 X2 1.25 Y2 -0.25
SDSECTION "VCANAL" SHAPE 5 SHAPETYPE "REF LINE" X1 1.25 Y1 -0.25 X2 0 Y2 -0.25
SDSECTION "VCANAL" SHAPE 6 SHAPETYPE "REF LINE" X1 0 Y1 -0.25 X2 0 Y2 0.75
SDSECTION "VCANAL" SHAPE 7 MATERIAL "CONC" SHAPETYPE "RECTANGULAR" D 0.3 B 0.125 XC 0.125
YC 0.15
SDSECTION "VCANAL" SHAPE 8 MATERIAL "CONC" SHAPETYPE "RECTANGULAR" D 0.125 B 0.6 XC 0.3624
YC -0.0625

§ WALL/SLAB/DECK PROPERTIES

SHELLPROP "WALL1" MATERIAL "CONC" PROPTYPE "WALL" TYPE "SHELL" PLATETYPE "THIN" TM 0.25
TB 0.25

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SHELLPROP "SLAB1" MATERIAL "CONC" PROPTYPE "SLAB" TYPE "SHELL" PLATETYPE "THIN" TM 0.25 TB
0.25
SHELLPROP "DECK1" PROPTYPE "DECK" TYPE "MEMBRANE"
SHELLPROP "DECK1" DECKTYPE "FILLED" CONCMATERIAL "CONC" SLABDEPTH 0.0889
SHELLPROP "DECK1" RIBDEPTH 0.0762 RIBWIDTH 0.152400001883507 RIBSPACING 0.3048 WEIGHT
0.1101246
SHELLPROP "DECK1" STUDDIA 0.01905 STUDHEIGHT 0.1524 STUDSTRENGTH 413685.5
SHELLPROP "PLANK1" MATERIAL "CONC" PROPTYPE "SLAB" TYPE "SHELL" PLATETYPE "THIN" TM 0.25
TB 0.08
SHELLPROP "PLANK1" F11MOD 0.01 F22MOD 0.01

§ LINK PROPERTIES

LINKPROP "NLPR1" TYPE "DAMPER"
LINKPROP "NLPR1" DOF "U1"

§ PIER/SPANDREL NAMES

PIERNAME "P1"
SPANDRELNAME "S1"

§ POINT COORDINATES

POINT "25" 1.304482 3.46926617622375
POINT "26" 8.695518 3.46926617622375
POINT "27" 5 3.46926617622375
POINT "28" 3.469266 1.30448186397552
POINT "29" 6.530734 1.30448186397552
POINT "30" 1.304482 6.53073358535767
POINT "31" 8.695518 6.53073358535767
POINT "32" 5 6.53073358535767
POINT "33" 3.469266 8.69551849365234
POINT "34" 6.530734 8.69551849365234

§ LINE CONNECTIVITIES

LINE "C1" COLUMN "30" "30" 1
LINE "C2" COLUMN "33" "33" 1
LINE "C3" COLUMN "34" "34" 1
LINE "C4" COLUMN "31" "31" 1
LINE "C5" COLUMN "26" "26" 1
LINE "C6" COLUMN "29" "29" 1
LINE "C7" COLUMN "28" "28" 1
LINE "C8" COLUMN "25" "25" 1
LINE "B31" BEAM "32" "27" 0
LINE "B393" BEAM "25" "30" 0
LINE "B394" BEAM "30" "33" 0
LINE "B395" BEAM "33" "34" 0
LINE "B396" BEAM "34" "31" 0
LINE "B397" BEAM "26" "31" 0
LINE "B398" BEAM "29" "26" 0
LINE "B399" BEAM "28" "29" 0
LINE "B400" BEAM "25" "28" 0
LINE "D1" BRACE "25" "27" 1
LINE "D2" BRACE "26" "27" 1
LINE "D3" BRACE "28" "27" 1
LINE "D4" BRACE "29" "27" 1
LINE "D5" BRACE "34" "32" 1
LINE "D6" BRACE "33" "32" 1
LINE "D7" BRACE "30" "32" 1
LINE "D8" BRACE "31" "32" 1

§ POINT ASSIGNS

POINTASSIGN "25" "BASE" RESTRAINT "UX UY UZ RX RY RZ"
POINTASSIGN "30" "BASE" RESTRAINT "UX UY UZ RX RY RZ"

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POINTASSIGN "33" "BASE" RESTRAINT "UX UY UZ RX RY RZ"
POINTASSIGN "34" "BASE" RESTRAINT "UX UY UZ RX RY RZ"
POINTASSIGN "26" "BASE" RESTRAINT "UX UY UZ RX RY RZ"
POINTASSIGN "29" "BASE" RESTRAINT "UX UY UZ RX RY RZ"
POINTASSIGN "31" "BASE" RESTRAINT "UX UY UZ RX RY RZ"
POINTASSIGN "28" "BASE" RESTRAINT "UX UY UZ RX RY RZ"

§ LINE ASSIGNS

LINEASSIGN "D2" "CUMBRERA" SECTION "VIG-15X15" ANG 0 MINNUMSTA 3 MESH "POINTSANDLINES"
LINEASSIGN "D4" "CUMBRERA" SECTION "VIG-15X15" ANG 0 MINNUMSTA 3 MESH "POINTSANDLINES"
LINEASSIGN "D5" "CUMBRERA" SECTION "VIG-15X15" ANG 0 MINNUMSTA 3 MESH "POINTSANDLINES"
LINEASSIGN "D6" "CUMBRERA" SECTION "VIG-15X15" ANG 0 MINNUMSTA 3 MESH "POINTSANDLINES"
LINEASSIGN "D7" "CUMBRERA" SECTION "VIG-15X15" ANG 0 MINNUMSTA 3 MESH "POINTSANDLINES"
LINEASSIGN "D8" "CUMBRERA" SECTION "VIG-15X15" ANG 0 MINNUMSTA 3 MESH "POINTSANDLINES"
LINEASSIGN "B31" "CUMBRERA" SECTION "VIG-15X15" ANG 0 MAXSTASPC 0.5 CARDINALPT 8 MESH
"POINTSANDLINES"
LINEASSIGN "C1" "VIGAS CANAL" SECTION "COL-25X25" ANG 0 MINNUMSTA 3 MESH
"POINTSANDLINES"
LINEASSIGN "C2" "VIGAS CANAL" SECTION "COL-25X25" ANG 0 MINNUMSTA 3 CARDINALPT 9 MESH
"POINTSANDLINES"
LINEASSIGN "C3" "VIGAS CANAL" SECTION "COL-25X25" ANG 0 MINNUMSTA 3 MESH
"POINTSANDLINES"
LINEASSIGN "C5" "VIGAS CANAL" SECTION "COL-25X25" ANG 0 MINNUMSTA 3 MESH
"POINTSANDLINES"
LINEASSIGN "C6" "VIGAS CANAL" SECTION "COL-25X25" ANG 0 MINNUMSTA 3 MESH
"POINTSANDLINES"
LINEASSIGN "C4" "VIGAS CANAL" SECTION "COL-25X25" ANG 0 MINNUMSTA 3 MESH
"POINTSANDLINES"
LINEASSIGN "C7" "VIGAS CANAL" SECTION "COL-25X25" ANG 0 MINNUMSTA 3 MESH
"POINTSANDLINES"
LINEASSIGN "C8" "VIGAS CANAL" SECTION "COL-25X25" ANG 0 MINNUMSTA 3 MESH
"POINTSANDLINES"
LINEASSIGN "D1" "CUMBRERA" SECTION "VIG-15X15" ANG 0 MINNUMSTA 3 MESH "POINTSANDLINES"
LINEASSIGN "D3" "CUMBRERA" SECTION "VIG-15X15" ANG 0 MINNUMSTA 3 MESH "POINTSANDLINES"
LINEASSIGN "B393" "VIGAS CANAL" SECTION "VIGA10X40" ANG 0 MAXSTASPC 0.5 CARDINALPT 5
MESH "POINTSANDLINES"
LINEASSIGN "B394" "VIGAS CANAL" SECTION "VIGA10X40" ANG 360 MAXSTASPC 0.5 CARDINALPT 5
MESH "POINTSANDLINES"
LINEASSIGN "B395" "VIGAS CANAL" SECTION "VIGA10X40" ANG 360 MAXSTASPC 0.5 CARDINALPT 5
MESH "POINTSANDLINES"
LINEASSIGN "B393" "VIG CIMENTACION" SECTION "VIG-25X25" ANG 0 MAXSTASPC 0.5 CARDINALPT 8
MESH "POINTSANDLINES"
LINEASSIGN "B394" "VIG CIMENTACION" SECTION "VIG-25X25" ANG 0 MAXSTASPC 0.5 CARDINALPT 8
MESH "POINTSANDLINES"
LINEASSIGN "B395" "VIG CIMENTACION" SECTION "VIG-25X25" ANG 0 MAXSTASPC 0.5 CARDINALPT 8
MESH "POINTSANDLINES"
LINEASSIGN "B396" "VIG CIMENTACION" SECTION "VIG-25X25" ANG 0 MAXSTASPC 0.5 CARDINALPT 8
MESH "POINTSANDLINES"
LINEASSIGN "B397" "VIG CIMENTACION" SECTION "VIG-25X25" ANG 0 MAXSTASPC 0.5 CARDINALPT 8
MESH "POINTSANDLINES"
LINEASSIGN "B398" "VIG CIMENTACION" SECTION "VIG-25X25" ANG 0 MAXSTASPC 0.5 CARDINALPT 8
MESH "POINTSANDLINES"
LINEASSIGN "B399" "VIG CIMENTACION" SECTION "VIG-25X25" ANG 0 MAXSTASPC 0.5 CARDINALPT 8
MESH "POINTSANDLINES"
LINEASSIGN "B400" "VIG CIMENTACION" SECTION "VIG-25X25" ANG 0 MAXSTASPC 0.5 CARDINALPT 8
MESH "POINTSANDLINES"
LINEASSIGN "C8" "VIG CIMENTACION" SECTION "VIG-25X25" ANG 0 MINNUMSTA 3 MESH
"POINTSANDLINES"
LINEASSIGN "C1" "VIG CIMENTACION" SECTION "VIG-25X25" ANG 0 MINNUMSTA 3 MESH
"POINTSANDLINES"

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LINEASSIGN "C2" "VIG CIMENTACION" SECTION "VIG-25X25" ANG 0 MINNUMSTA 3 MESH
"POINTSANDLINES"
LINEASSIGN "C3" "VIG CIMENTACION" SECTION "VIG-25X25" ANG 0 MINNUMSTA 3 MESH
"POINTSANDLINES"
LINEASSIGN "C5" "VIG CIMENTACION" SECTION "VIG-25X25" ANG 0 MINNUMSTA 3 MESH
"POINTSANDLINES"
LINEASSIGN "C6" "VIG CIMENTACION" SECTION "VIG-25X25" ANG 0 MINNUMSTA 3 MESH
"POINTSANDLINES"
LINEASSIGN "C7" "VIG CIMENTACION" SECTION "VIG-25X25" ANG 0 MINNUMSTA 3 MESH
"POINTSANDLINES"
LINEASSIGN "B396" "VIGAS CANAL" SECTION "VIGA10X40" ANG 360 MAXSTASPC 0.5 CARDINALPT 5
MESH "POINTSANDLINES"
LINEASSIGN "B397" "VIGAS CANAL" SECTION "VIGA10X40" ANG 0 MAXSTASPC 0.5 CARDINALPT 5
MESH "POINTSANDLINES"
LINEASSIGN "B398" "VIGAS CANAL" SECTION "VIGA10X40" ANG 0 MAXSTASPC 0.5 CARDINALPT 5
MESH "POINTSANDLINES"
LINEASSIGN "B399" "VIGAS CANAL" SECTION "VIGA10X40" ANG 0 MAXSTASPC 0.5 CARDINALPT 5
MESH "POINTSANDLINES"
LINEASSIGN "B400" "VIGAS CANAL" SECTION "VIGA10X40" ANG 0 MAXSTASPC 0.5 CARDINALPT 5
MESH "POINTSANDLINES"

§ STATIC LOADS

LOADCASE "DEAD" TYPE "DEAD" SELFWEIGHT 1
LOADCASE "LIVE" TYPE "LIVE" SELFWEIGHT 0

§ LINE OBJECT LOADS

LINELOAD "B393" "VIGAS CANAL" TYPE "UNIFF" DIR "GRAV" LC "DEAD" FVAL 4
LINELOAD "B394" "VIGAS CANAL" TYPE "UNIFF" DIR "GRAV" LC "DEAD" FVAL 4
LINELOAD "B395" "VIGAS CANAL" TYPE "UNIFF" DIR "GRAV" LC "DEAD" FVAL 4
LINELOAD "B396" "VIGAS CANAL" TYPE "UNIFF" DIR "GRAV" LC "DEAD" FVAL 4
LINELOAD "B397" "VIGAS CANAL" TYPE "UNIFF" DIR "GRAV" LC "DEAD" FVAL 4
LINELOAD "B398" "VIGAS CANAL" TYPE "UNIFF" DIR "GRAV" LC "DEAD" FVAL 4
LINELOAD "B399" "VIGAS CANAL" TYPE "UNIFF" DIR "GRAV" LC "DEAD" FVAL 4
LINELOAD "B400" "VIGAS CANAL" TYPE "UNIFF" DIR "GRAV" LC "DEAD" FVAL 4
LINELOAD "B393" "VIGAS CANAL" TYPE "UNIFF" DIR "GRAV" LC "LIVE" FVAL 0.5
LINELOAD "B394" "VIGAS CANAL" TYPE "UNIFF" DIR "GRAV" LC "LIVE" FVAL 0.5
LINELOAD "B395" "VIGAS CANAL" TYPE "UNIFF" DIR "GRAV" LC "LIVE" FVAL 0.5
LINELOAD "B396" "VIGAS CANAL" TYPE "UNIFF" DIR "GRAV" LC "LIVE" FVAL 0.5
LINELOAD "B397" "VIGAS CANAL" TYPE "UNIFF" DIR "GRAV" LC "LIVE" FVAL 0.5
LINELOAD "B398" "VIGAS CANAL" TYPE "UNIFF" DIR "GRAV" LC "LIVE" FVAL 0.5
LINELOAD "B399" "VIGAS CANAL" TYPE "UNIFF" DIR "GRAV" LC "LIVE" FVAL 0.5
LINELOAD "B400" "VIGAS CANAL" TYPE "UNIFF" DIR "GRAV" LC "LIVE" FVAL 0.5
LINELOAD "D2" "CUMBRERA" TYPE "UNIFF" DIR "GRAV" LC "LIVE" FVAL 0.5
LINELOAD "D4" "CUMBRERA" TYPE "UNIFF" DIR "GRAV" LC "LIVE" FVAL 0.5
LINELOAD "D5" "CUMBRERA" TYPE "UNIFF" DIR "GRAV" LC "LIVE" FVAL 0.5
LINELOAD "D6" "CUMBRERA" TYPE "UNIFF" DIR "GRAV" LC "LIVE" FVAL 0.5
LINELOAD "D7" "CUMBRERA" TYPE "UNIFF" DIR "GRAV" LC "LIVE" FVAL 0.5
LINELOAD "D8" "CUMBRERA" TYPE "UNIFF" DIR "GRAV" LC "LIVE" FVAL 0.5
LINELOAD "B31" "CUMBRERA" TYPE "UNIFF" DIR "GRAV" LC "LIVE" FVAL 0.5
LINELOAD "D1" "CUMBRERA" TYPE "UNIFF" DIR "GRAV" LC "LIVE" FVAL 0.5
LINELOAD "D3" "CUMBRERA" TYPE "UNIFF" DIR "GRAV" LC "LIVE" FVAL 0.5
LINELOAD "D2" "CUMBRERA" TYPE "UNIFF" DIR "GRAV" LC "DEAD" FVAL 0.2
LINELOAD "D4" "CUMBRERA" TYPE "UNIFF" DIR "GRAV" LC "DEAD" FVAL 0.2
LINELOAD "D5" "CUMBRERA" TYPE "UNIFF" DIR "GRAV" LC "DEAD" FVAL 0.2
LINELOAD "D6" "CUMBRERA" TYPE "UNIFF" DIR "GRAV" LC "DEAD" FVAL 0.2
LINELOAD "D7" "CUMBRERA" TYPE "UNIFF" DIR "GRAV" LC "DEAD" FVAL 0.2
LINELOAD "D8" "CUMBRERA" TYPE "UNIFF" DIR "GRAV" LC "DEAD" FVAL 0.2
LINELOAD "B31" "CUMBRERA" TYPE "UNIFF" DIR "GRAV" LC "DEAD" FVAL 0.2
LINELOAD "D1" "CUMBRERA" TYPE "UNIFF" DIR "GRAV" LC "DEAD" FVAL 0.2
LINELOAD "D3" "CUMBRERA" TYPE "UNIFF" DIR "GRAV" LC "DEAD" FVAL 0.2

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\$ ANALYSIS OPTIONS

ACTIVEDOF "UX UY UZ RX RY RZ"

DYNAMICS MODES 12 MODETYPE "EIGEN" TOL 0.0000001

MASSOPTIONS GRAVITY 9.80665 SOURCE "MASS" LATERALONLY "YES" STORYLEVELONLY "YES"

\$ FUNCTIONS

FUNCTION "TURBACO" FUNCTYPE "SPECTRUM" DAMPRATIO 0.05 SPECTYPE "USER"

FUNCTION "TURBACO" TIMEVAL "0 0.4 0.78 0.4 1 0.28 2 0.14 3 0.08 4 0.07 5 0.06"

\$ LOAD COMBINATIONS

COMBO "COMB1" TYPE "ADD" DESIGN "CONCRETE"

COMBO "COMB1" LOAD "DEAD" SF 1.2

COMBO "COMB1" LOAD "LIVE" SF 1

COMBO "COMB1" MODE 1SF 1

COMBO "COMB2" TYPE "ADD" DESIGN "CONCRETE"

COMBO "COMB2" LOAD "DEAD" SF 1.2

COMBO "COMB2" LOAD "LIVE" SF 1

COMBO "COMB2" MODE 2SF 1

COMBO "COMB3" TYPE "ADD" DESIGN "CONCRETE"

COMBO "COMB3" LOAD "DEAD" SF 1.2

COMBO "COMB3" LOAD "LIVE" SF 1

COMBO "COMB3" MODE 3SF 1

COMBO "COMB4" TYPE "ADD" DESIGN "CONCRETE"

COMBO "COMB4" LOAD "DEAD" SF 1.2

COMBO "COMB4" LOAD "LIVE" SF 1

COMBO "COMB4" MODE 4SF 1

COMBO "COMB5" TYPE "ADD" DESIGN "CONCRETE"

COMBO "COMB5" LOAD "DEAD" SF 1.2

COMBO "COMB5" LOAD "LIVE" SF 1

COMBO "COMB5" MODE 5SF 1

COMBO "COMB6" TYPE "ADD" DESIGN "CONCRETE"

COMBO "COMB6" LOAD "DEAD" SF 1.2

COMBO "COMB6" LOAD "LIVE" SF 1

COMBO "COMB6" MODE 6SF 1

COMBO "COMB7" TYPE "ADD" DESIGN "CONCRETE"

COMBO "COMB7" LOAD "DEAD" SF 1.2

COMBO "COMB7" LOAD "LIVE" SF 1

COMBO "COMB7" MODE 7SF 1

COMBO "COMB8" TYPE "ADD" DESIGN "CONCRETE"

COMBO "COMB8" LOAD "DEAD" SF 1.2

COMBO "COMB8" LOAD "LIVE" SF 1

COMBO "COMB8" MODE 8SF 1

COMBO "COMB9" TYPE "ADD" DESIGN "CONCRETE"

COMBO "COMB9" LOAD "DEAD" SF 1.2

COMBO "COMB9" LOAD "LIVE" SF 1

COMBO "COMB9" MODE 9SF 1

COMBO "COMB10" TYPE "ADD"

COMBO "COMB10" LOAD "DEAD" SF 1.4

COMBO "COMB11" TYPE "ADD"

COMBO "COMB11" LOAD "DEAD" SF 0.9

COMBO "COMB11" MODE 1SF 1

COMBO "COMB12" TYPE "ADD"

COMBO "COMB12" LOAD "DEAD" SF 0.9

COMBO "COMB12" MODE 2SF 1

COMBO "COMB13" TYPE "ADD"

COMBO "COMB13" LOAD "DEAD" SF 0.9

COMBO "COMB13" MODE 3SF 1

COMBO "COMB14" TYPE "ADD"

COMBO "COMB14" LOAD "DEAD" SF 0.9

COMBO "COMB14" MODE 4SF 1

COMBO "COMB15" TYPE "ADD"

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COMBO "COMB15" LOAD "DEAD" SF 0.9
COMBO "COMB15" MODE 5SF 1
COMBO "COMB16" TYPE "ADD"
COMBO "COMB16" LOAD "DEAD" SF 0.9
COMBO "COMB16" MODE 6SF 1
COMBO "COMB17" TYPE "ADD"
COMBO "COMB17" LOAD "DEAD" SF 0.9
COMBO "COMB17" MODE 7SF 1
COMBO "COMB18" TYPE "ADD"
COMBO "COMB18" LOAD "DEAD" SF 0.9
COMBO "COMB18" MODE 8SF 1
COMBO "COMB19" TYPE "ADD"
COMBO "COMB19" LOAD "DEAD" SF 0.9
COMBO "COMB19" MODE 9SF 1

§ STEEL DESIGN PREFERENCES

STEELPREFERENCE CODE "AISC-LRFD93" THDESIGN "EVERYSTEP" FRAMETYPE "MOMENT FRAME"
STEELPREFERENCE PHIBLRFD 0.9 PHICLRFD 0.85 PHITLRFD 0.9 PHIVLRFD 0.9 PHICANGLELRFD 0.9
STEELPREFERENCE PHIBLRFD 0.9 PHICLRFD 0.85 PHITLRFD 0.9 PHIVLRFD 0.9 PHICANGLELRFD 0.9
STEELPREFERENCE CONSIDERDEFLECTION "YES" RELATIVEDEFLECTION "BOTH"
STEELPREFERENCE DLDEFLECTIONLIMIT 120 SLDEFLECTIONLIMIT 120 LLDEFLECTIONLIMIT 360
TLDEFLECTIONLIMIT 240 TLMCDEFLECTIONLIMIT 240
STEELPREFERENCE DLDEFLECTIONLIMITABS 0.0254 SLDEFLECTIONLIMITABS 0.0254
LLDEFLECTIONLIMITABS 0.0254 TLDEFLECTIONLIMITABS 0.0254 TLMCDEFLECTIONLIMITABS 0.0254
STEELPREFERENCE CALCULATECAMBER "NO" PERCENTCAMBERWDL 1 CAMBERRELMAXLIMIT 180
CAMBERIGNORELIMIT 0.01905
STEELPREFERENCE CAMBERABSMAXLIMIT 0.1016 CAMBERINTERVAL 0.00635 CAMBERROUNDDOWN
"YES"
STEELPREFERENCE PATTERNLLF 0.75 MAXITERATION 1 SRLIMIT 0.95

§ CONCRETE DESIGN PREFERENCES

CONCRETEPREFERENCE CODE "ACI 318-08/IBC 2009" THDESIGN "EVERYSTEP"
CONSIDERMINECENTRICITY "YES"
CONCRETEPREFERENCE NUMINTERCURVES 24 NUMINTERPOINTS 11 PATTERNLLF 0.75 UFLIMIT 0.95
CONCRETEPREFERENCE SDC "D" PHITENSIONCTRL 0.9 PHICOMPRESSIONCTRLTIED 0.65
PHICOMPRESSIONCTRLSPIRAL 0.75 PHISHEARTORSION 0.75 PHISHEARSEISMIC 0.6 PHISHEARJOINT 0.85

§ COMPOSITE DESIGN PREFERENCES

COMPOSITEPREFERENCE CODE "AISC-LRFD93"
COMPOSITEPREFERENCE PHI-B 0.9 PHI-BCNE 0.9 PHI-BCNP 0.85 PHI-BCPE 0.9 PHI-BCPP 0.85 PHI-V 0.9
COMPOSITEPREFERENCE SHORED "NO" %MIDDLERANGE 70 PATTERNLLF 0.75 SRLIMIT 1
SINGLESEGMENT "NO" STUDINCREASEFACTOR 1 MINNUMEXTRASTUDS 0
COMPOSITEPREFERENCE DLLIMIT 0 SLLIMIT 240 LLLIMIT 360 TLLIMIT 240 CREEPFACOR 1
COMPOSITEPREFERENCE %DLCAMBER 100 CAMBERIGNORE 0.01905 CAMBERABSMAX 0.1016
CAMBERRELMAX 180 CAMBERINTERVAL 0.00635 CAMBERROUNDDOWN "YES"
COMPOSITEPREFERENCE %VIBLL 25 CONSIDERFREQ "NO" MINFREQ 8 CONSIDERDAMP "NO"
%INHERENTDAMP 4
COMPOSITEPREFERENCE VIBRATIONCRITERION "WALKING" OCCUPANCYCATEGORY "PAPEROFFICE"
DAMPINGRATIO 0.03 WALKINGACCELERATIONLIMIT 0.005
COMPOSITEPREFERENCE RHYTHMICACTIVITY "AEROBICS" AFFECTEDOCCUPANCYCATEGORY
"PAPEROFFICE"
COMPOSITEPREFERENCE RHYTHMICACCELERATIONLIMIT 0.005 UPPERSTEPFREQUENCY 2.75
LOWERSTEPFREQUENCY 2
COMPOSITEPREFERENCE EQUIPMENTORUSECATEGORY "COMPUTERSYSTEM" VIBVELOCITYLIMIT
0.0002032
COMPOSITEPREFERENCE FOOTFALLIMPULSEFOFAST 5 FOOTFALLIMPULSEFOMODERATE 2.5
FOOTFALLIMPULSEFOSLOW 1.4
COMPOSITEPREFERENCE FOOTFALLIMPULSEFMFAST 1.40119 FOOTFALLIMPULSEFMMODERATE 1.245502
FOOTFALLIMPULSEFMSLOW 1.067573
COMPOSITEPREFERENCE OPTIMIZEPRICE "NO" CONNECTORPRICE 0 CAMBERPRICE 0

KIOSCO

\$ WALL DESIGN PREFERENCES

WALLPREFERENCE CODE "UBC97" THDESIGN "EVERYSTEP"
WALLPREFERENCE REBARUNITS "in^2" REBAR/LENGTHUNITS "in^2/ft"
WALLPREFERENCE PHI-B 0.9 PHI-C 0.7 PHI-VNS 0.85 PHI-VS 0.6 PMAFFACTOR 0.8
WALLPREFERENCE NUMCURVES 24 NUMPOINTS 11
WALLPREFERENCE PTMAX 0.06 PCMAX 0.04 IPMAX 0.02 IPMIN 0.0025
WALLPREFERENCE UFLIMIT 0.95

\$ SPECIAL SEISMIC DATA

SPECIALSEISMICDATA USEFORDESIGN "YES"

\$ DIMENSION LINES

\$ LOG

STARTCOMMENTS

ETABS Nonlinear 9.7.4 File saved as C:\Users\User\Documents\PROYECTOS 2017\TURBACO BOLIVAR\KIOSCO-ICBF-TURBACO.EDB at 04/04/2017 11:57:44 a.m.
ETABS Nonlinear 9.7.4 File saved as C:\Users\User\Documents\PROYECTOS 2017\TURBACO BOLIVAR\KIOSCO-ICBF-TURBACO.EDB at 04/04/2017 11:57:55 a.m.
ETABS Nonlinear 9.7.4 File saved as C:\Users\User\Documents\PROYECTOS 2017\TURBACO BOLIVAR\KIOSCO-ICBF-TURBACO.EDB at 04/04/2017 01:22:36 p.m.
ETABS Nonlinear 9.7.4 File saved as C:\Users\User\Documents\PROYECTOS 2017\TURBACO BOLIVAR\KIOSCO-ICBF-TURBACO.EDB at 04/04/2017 03:36:53 p.m.
ETABS Nonlinear 9.7.4 File saved as C:\Users\User\Documents\PROYECTOS 2017\TURBACO BOLIVAR\KIOSCO-ICBF-TURBACO.EDB at 04/04/2017 11:16:25 p.m.
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ETABS Nonlinear 9.7.4 File saved as C:\Users\User\Documents\PROYECTOS 2017\TURBACO BOLIVAR\KIOSCO-ICBF-TURBACO.EDB at 05/04/2017 08:18:18 a.m.
ENDCOMMENTS

END

\$ END OF MODEL FILE

ETAPA 6 — LA RESISTENCIA EXISTENTE DE LA ESTRUCTURA DEBE DETERMINARSE UTILIZANDO LOS REQUISITOS DE A.10.4.3.3.

MAXIMA CAPACIDAD DE LA VIGA DE CONCRETO. V-15x15

MATERIALES

Concreto	17 Mpa	Longitudinal	As sup = 0.000138 m ²
		Transversal	As inf = 0.000138 m ²
Acero	240 Mpa		fy = 420 Mpa
m	16.61		Av = 0.000213 m ²

GEOMETRIA

Seccion	Altura	0.15 mts
	Base	0.15 mts
Longitud		mts

Maximo momento resistente

$\rho = \frac{A_s}{b \cdot d} = \frac{0.000138 \text{ m}^2}{0.0180 \text{ m}^2} = 0.0077$	
$R_n = \rho f_y \{1 - 0.5 \rho m\} = 1.7229$	
$M_u = \phi R_n \{b d^2\} = 4.94 \text{ KN-M} = 0.50 \text{ Tn-M}$	

Maximo cortante resistente

Cortante asumido por el concreto		
$\phi v_c = \frac{f_c}{6} = 0.5841 \text{ Mpa}$		
Cortante asumido por flejes		Separados a = 0.07 M
$V_u = \frac{A_v f_y d}{S} + \phi v_c = 0.75 \text{ Mpa}$		
$v = V_u * b * d = 13.45 \text{ KN} = 1.37 \text{ TN}$		

MAXIMA CAPACIDAD DE LA VIGA DE CONCRETO. V-25x25

MATERIALES

Concreto	17 Mpa	Longitudinal	As sup = 0.000244 m ²
		Transversal	As inf = 0.000244 m ²
Acero	240 Mpa		fy = 420 Mpa
m	16.61		Av = 0.000213 m ²

GEOMETRIA

Seccion	Altura	0.25 mts
	Base	0.25 mts
Longitud		mts

Maximo momento resistente

$\rho = \frac{A_s}{b \cdot d} = \frac{0.00 \text{ m}^2}{0.06 \text{ m}^2} = 0.0044$	
$R_n = \rho f_y \{1 - 0.5 \rho m\} = 1.0255$	
$M_u = \phi R_n \{b d^2\} = 13.62 \text{ KN-M} = 1.39 \text{ Tn-M}$	

Maximo cortante resistente

Cortante asumido por el concreto		
$\phi v_c = \frac{f_c}{6} = 0.5841 \text{ Mpa}$		
Cortante asumido por flejes		Separados a = 0.07 M
$V_u = \frac{A_v f_y d}{S} + \phi v_c = 0.86 \text{ Mpa}$		
$v = V_u * b * d = 47.06 \text{ KN} = 4.80 \text{ TN}$		

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MAXIMA CAPACIDAD DE LA VIGA DE CONCRETO. V-10x40

MATERIALES

Concreto	17 Mpa	Longitudinal	As sup =	0.000138	m ²
Acero	240 Mpa		As inf =	0.000138	m ²
m	16.61	Transversal	fy =	420	Mpa
			Av =	0.000213	m ²

GEOMETRIA

Seccion	Altura	0.4	mts
	Base	0.1	mts
Longitud			mts

Maximo momento resistente

$\rho = \frac{A_s}{b*d}$	$\frac{0.00 \text{ m}^2}{0.04 \text{ m}^2}$	=	0.0037
$R_n = \rho f_y \{1 - 0.5 \rho m\}$		=	0.8674
$M_u = \phi R_n \{b d^2\}$		=	11.80 KN-M = 1.20 Tn-M

Maximo cortante resistente

Cortante asumido por el concreto			
$\phi v_c = \frac{\sqrt{f_c}}{6}$		=	0.5841 Mpa
Cortante asumido por flejes			
$V_u = \frac{A_v f_y d}{S} + \phi v_c$		=	1.02 Mpa
$v = V_u * b * d$		=	37.69 KN = 3.85 TN

KIOSCO

MAXIMA CAPACIDAD DE UNA COLUMNA DE CONCRETO.

CUANTIA BALANCEADA

CONCRETO			ACERO		
SECCION		AREA CONCRETO	TIPO	CANTIDAD	AREA
A(m)	B(m)		#	CN2	(M2)
0.25	0.25	0.042025	4	4	0.0005
Recubrimiento	0.045		5	0	0.000
$\beta 1=$	0.850		6	0	0.000
$\rho \text{ max}=6\%$	0.003		7		0.000
			8		0.000
$\rho \text{ min}=1\%$	0.00042		9		0.000
			10		0.000
F'c (Mpa)	21		Fy(Mpa)	420	
TOTAL		0.042025	TOTAL		0.0005
			A tension		0.0003
			A compresion		0.0003

MAXIMA CARGA AXIAL CON APOYOS ARTICULADOS

P=	953.91	KN
Punto de CARGA BALANCEADA	Pb=	45.74 KN
	Mb=	20.40 TON-M

Cuantia		1.21E-02	1.21%
Modulo elasticidad. del acero		2.00E+05	Mpa
$e_y=f_y/E_s$	2.10E-03		
b1=	8.50E-01		

PUNTO BALANCEADO Pb Mb

$C = \frac{\text{lado A-rec}}{e_y + 0.03}$	$C = \frac{\text{lado B-rec}}{e_y + 0.03}$
0.003	0.003
C = 1.21E-01 M	C = 1.21E-01 M

$\frac{e's}{c-5}$	=	$\frac{0.003}{c}$	
$e's = 0.03$	-	$\frac{0.015}{c}$	= -0.09
Si $e's < e_y$	El acero en la zona de compresion no ha fluido.	$e_y =$	0.00
La tension total del acero sera:			
Ts=	As * Fy =	106.41	KN
La compresion total de acero es:			
Cs =	A's * Fy =	106.41	KN
La compresion total de concreto :			
Cc =	$0.85 * \beta * c * b * f'c =$	45.74	KN
Pb =	Cc + Cs - Ts	45.74	KN = 4.67 TN
MOMENTO			
Calculado respecto al centroide de la seccion de la columna.			
Mb =	(Ts + Cs) x (lado - 2 x r)	+Cc ((lado/2)-b1 * c/2)	=
		2.00	
Mb =	20.40 KN-M	=	2.08 TN-M

Etapa 7 — Se debe obtener una resistencia efectiva de la estructura, a partir de la resistencia existente, afectándola por dos coeficientes de reducción de resistencia obtenidos de los resultados de la calificación llevada a cabo en la Etapa 3.

COLUMNA 25X25				
	Nex	Φ_{cc}	Φ_{ec}	Nef
Mu	20.4	0.6	0.6	7.34
Vu	45.74	0.6	0.6	16.46

VIGA 25X25				
	Nex	Φ_{cc}	Φ_{ec}	Nef
Mu	13.63	0.6	0.6	4.9
Vu	47.06	0.6	0.6	17.31

VIGA 15X15				
	Nex	Φ_{cc}	Φ_{ec}	Nef
Mu	4.94	0.6	0.6	1.77
Vu	13.45	0.6	0.6	4.82

VIGA 10X40				
	Nex	Φ_{cc}	Φ_{ec}	Nef
Mu	11.8	0.6	0.6	0.64
Vu	37.69	0.6	0.6	13.57

ETAPA 8 — DEBE DETERMINARSE UN ÍNDICE DE SOBRESFUERZO COMO EL MÁXIMO COCIENTE OBTENIDO PARA CUALQUIER ELEMENTO O SECCIÓN DE ÉSTE, ENTRE LAS FUERZAS INTERNAS SOLICITADAS OBTENIDAS DEL ANÁLISIS ESTRUCTURAL REALIZADO LA ETAPA 7.

COLUMNAS

STORY	COLUMN	ITEM	P	V2	V3	T	M2	M3	Mu Nef	20.4	Vu Nef	45.74
									ÍNDICE SOBRE ESFUERZO			
									V2	V3	M2	M3
VIGAS CANAL	C1	Min Value	-237.15	-9.7	-113.92	-2.029	-135.081	-16.618	-0.4754902	-5.58431373	-0.33861165	-2.75243712
		Min Case	COMB8	COMB4	COMB5	COMB6	COMB5	COMB5				
		Max Value	255.39	43.31	11.94	3.916	92.768	88.458	2.12303922	0.58529412	0.49305795	0.51708155
		Max Case	COMB16	COMB19	COMB1	COMB5	COMB5	COMB19				
VIGAS CANAL	C2	Min Value	-505.81	-21.77	-33.33	-0.902	-67.193	-24.899	-1.06715686	-1.63382353	-0.68072567	-1.83702157
		Min Case	COMB7	COMB4	COMB19	COMB6	COMB19	COMB4				
		Max Value	471.28	45.22	12.95	10.51	23.133	72.608	2.21666667	0.63480392	1.97726192	0.62995813
		Max Case	COMB18	COMB19	COMB1	COMB5	COMB5	COMB19				
VIGAS CANAL	C3	Min Value	-518.81	-20.3	-28.37	-10.51	-33.609	-23.859	-0.99509804	-1.39068627	-1.36094498	-1.91709627
		Min Case	COMB8	COMB14	COMB5	COMB5	COMB5	COMB14				
		Max Value	458.29	46.69	36.82	2.596	69.658	73.647	2.28872549	1.80490196	0.65663671	0.62107078
		Max Case	COMB17	COMB9	COMB9	COMB4	COMB9	COMB9				
VIGAS CANAL	C4	Min Value	-249.82	-33.8	-113.92	-3.916	-135.081	-50.974	-1.65686275	-5.58431373	-0.33861165	-0.8973202
		Min Case	COMB7	COMB5	COMB5	COMB5	COMB5	COMB5				
		Max Value	255.39	47.14	50.54	2.029	92.768	91.102	2.31078431	2.47745098	0.49305795	0.5020746
		Max Case	COMB16	COMB9	COMB9	COMB6	COMB5	COMB9				
VIGAS CANAL	C5	Min Value	-249.85	-43.31	-115.6	-3.943	-136.228	-88.458	-2.12303922	-5.66666667	-0.33576064	-0.51708155
		Min Case	COMB7	COMB19	COMB5	COMB5	COMB5	COMB19				
		Max Value	255.39	38.49	49.16	1.935	94.973	54.199	1.88676471	2.40980392	0.48161056	0.84392701
		Max Case	COMB16	COMB5	COMB19	COMB14	COMB5	COMB5				
VIGAS CANAL	C6	Min Value	-302.26	-45.22	-32.62	-10.529	-36.594	-72.608	-2.21666667	-1.59901961	-1.24993168	-0.62995813
		Min Case	COMB6	COMB19	COMB5	COMB5	COMB5	COMB19				
		Max Value	471.29	22.21	33.33	2.583	67.194	25.507	1.08872549	1.63382353	0.68071554	1.79323323
		Max Case	COMB18	COMB2	COMB19	COMB14	COMB19	COMB2				
VIGAS CANAL	C7	Min Value	-518.83	-46.69	-36.82	-1.242	-69.658	-73.647	-2.28872549	-1.80490196	-0.65663671	-0.62107078
		Min Case	COMB8	COMB9	COMB9	COMB17	COMB9	COMB9				
		Max Value	24.54	20.74	9.45	10.529	28.647	24.467	1.01666667	0.46323529	1.59667679	1.86945682
		Max Case	COMB19	COMB12	COMB11	COMB5	COMB5	COMB12				
VIGAS CANAL	C8	Min Value	-112.97	-47.14	-115.6	-1.806	-136.228	-91.102	-2.31078431	-5.66666667	-0.33576064	-0.5020746
		Min Case	COMB9	COMB9	COMB5	COMB19	COMB5	COMB9				
		Max Value	255.38	10.85	10.55	3.943	94.973	22.781	0.53186275	0.51715686	0.48161056	2.00781353
		Max Case	COMB16	COMB12	COMB11	COMB5	COMB5	COMB5				
VIG CIMENTA	C1	Min Value	-230.58	-552.07	-136.61	-7.61	-117.061	-264.302	-27.0622549	-6.69656863	-0.39073645	-0.17305961
		Min Case	COMB8	COMB19	COMB5	COMB7	COMB5	COMB9				
		Max Value	233.17	106.69	559.54	10.991	246.916	58.866	5.22990196	27.4284314	0.18524518	0.77701899
		Max Case	COMB16	COMB8	COMB19	COMB19	COMB9	COMB5				
VIG CIMENTA	C2	Min Value	-479.48	-490.78	-267.25	-10.773	-136.151	-214.382	-24.0578431	-13.1004902	-0.33595053	-0.21335746
		Min Case	COMB7	COMB19	COMB7	COMB9	COMB17	COMB9				
		Max Value	431.15	129.88	365.34	7.864	176.551	64.668	6.36666667	17.9088235	0.25907528	0.707305
		Max Case	COMB18	COMB7	COMB19	COMB5	COMB9	COMB17				
VIG CIMENTA	C3	Min Value	-492.32	-490.93	-366.09	-10.763	-176.331	-214.218	-24.0651961	-17.9455882	-0.25939852	-0.21352081
		Min Case	COMB8	COMB9	COMB9	COMB19	COMB19	COMB19				
		Max Value	418.32	129.72	266.5	3.3	136.374	64.828	6.35882353	13.0637255	0.33540118	0.70555933
		Max Case	COMB17	COMB17	COMB17	COMB7	COMB7	COMB7				
VIG CIMENTA	C4	Min Value	-241.87	-552.49	-559.71	-7.598	-246.759	-263.809	-27.0828431	-27.4367647	-0.18536305	-0.17338302
		Min Case	COMB7	COMB9	COMB9	COMB17	COMB19	COMB19				
		Max Value	233.17	117.71	28.08	11.003	22.339	65.721	5.77009804	1.37647059	2.04754018	0.69597237
		Max Case	COMB16	COMB16	COMB14	COMB9	COMB4	COMB6				
VIG CIMENTA	C5	Min Value	-241.9	-147.66	-559.54	-3.317	-246.916	-72.907	-7.23823529	-27.4284314	-0.18524518	-0.6273746
		Min Case	COMB7	COMB7	COMB19	COMB6	COMB9	COMB17				
		Max Value	233.17	552.07	28.25	10.991	22.182	264.302	27.0622549	1.38480392	2.06203228	0.17305961
		Max Case	COMB16	COMB19	COMB4	COMB19	COMB14	COMB9				
VIG CIMENTA	C6	Min Value	-293.71	-26.25	-365.34	-10.773	-176.552	-12.497	-1.28676471	-17.9088235	-0.25907381	-3.66007842
		Min Case	COMB6	COMB5	COMB19	COMB9	COMB9	COMB13				
		Max Value	431.16	490.78	114.38	1.498	65.328	214.382	24.0578431	5.60686275	0.7001592	0.21335746
		Max Case	COMB18	COMB19	COMB6	COMB14	COMB16	COMB9				
VIG CIMENTA	C7	Min Value	-492.33	-13.75	-27.26	-10.763	-44.092	-12.659	-0.67401961	-1.33627451	-1.03737639	-3.61323959
		Min Case	COMB8	COMB13	COMB5	COMB19	COMB5	COMB3				
		Max Value	50.22	490.93	366.09	7.877	176.331	214.218	24.0651961	17.9455882	0.25939852	0.21352081
		Max Case	COMB19	COMB9	COMB9	COMB5	COMB19	COMB19				
VIG CIMENTA	C8	Min Value	-151.67	-147.27	-136.35	-1.519	-117.248	-73.414	-7.21911765	-6.68382353	-0.39011326	-0.62304193
		Min Case	COMB5	COMB17	COMB5	COMB5	COMB5	COMB7				
		Max Value	233.16	552.49	559.71	11.003	246.759	263.809	27.0828431	27.4367647	0.18536305	0.17338302
		Max Case	COMB16	COMB9	COMB9	COMB9	COMB19	COMB19				

VIGAS 10X40

STORY	COLUMN	ITEM	P	V2	V3	T	M2	M3	Mu Nef	11.8	Vu Nef	37.69
									INDICE SOBRE ESFUERZO			
									V2	V3	M2	M3
VIGAS CANAL	C1	Min Value	-139.62	-94.57	0	0	-22.541	-123.065	-8.01	0.00	-0.60	-3.27
		Min Case	COMB16	COMB5	COMB7	COMB7	COMB5	COMB5				
		Max Value	1.33	13.22	16.04	5.47	22.548	117.389	1.12	1.36	0.60	3.11
		Max Case	COMB8	COMB1	COMB5	COMB5	COMB5	COMB5				
VIGAS CANAL	C2	Min Value	-180.54	-19.43	-6.65	-2.704	-10.409	-17.951	-1.65	-0.56	-0.28	-0.48
		Min Case	COMB16	COMB6	COMB5	COMB5	COMB5	COMB1				
		Max Value	103.19	18.64	2.79	0.648	8.281	18.184	1.58	0.24	0.22	0.48
		Max Case	COMB8	COMB1	COMB17	COMB16	COMB5	COMB5				
VIGAS CANAL	C3	Min Value	1.6	-18.09	-3.86	-2.792	-5.57	-42.502	-1.53	-0.33	-0.15	-1.13
		Min Case	COMB14	COMB4	COMB7	COMB19	COMB8	COMB9				
		Max Value	97.33	37.28	3.96	0	5.567	37.696	3.16	0.34	0.15	1.00
		Max Case	COMB6	COMB9	COMB8	COMB1	COMB18	COMB19				
VIGAS CANAL	C4	Min Value	-180.51	-19.13	-3.54	-0.648	-10.409	-17.951	-1.62	-0.30	-0.28	-0.48
		Min Case	COMB16	COMB4	COMB18	COMB16	COMB5	COMB1				
		Max Value	158.47	19.43	6.65	2.704	8.281	18.184	1.65	0.56	0.22	0.48
		Max Case	COMB7	COMB6	COMB5	COMB5	COMB5	COMB5				
VIGAS CANAL	C5	Min Value	-139.61	-94.57	-16.04	-5.47	-22.548	-123.065	-8.01	-1.36	-0.60	-3.27
		Min Case	COMB16	COMB5	COMB5	COMB5	COMB5	COMB5				
		Max Value	128.3	40.54	3.32	3.406	22.541	117.389	3.44	0.28	0.60	3.11
		Max Case	COMB7	COMB9	COMB13	COMB19	COMB5	COMB5				
VIGAS CANAL	C6	Min Value	-180.53	-16.92	-3.55	-0.379	-10.392	-22.737	-1.43	-0.30	-0.28	-0.60
		Min Case	COMB16	COMB8	COMB8	COMB3	COMB5	COMB5				
		Max Value	158.52	19.43	6.64	2.688	8.266	17.218	1.65	0.56	0.22	0.46
		Max Case	COMB7	COMB6	COMB5	COMB5	COMB5	COMB9				
VIGAS CANAL	C7	Min Value	-14.85	-37.28	-1.16	-2.792	-5.567	-42.502	-3.16	-0.10	-0.15	-1.13
		Min Case	COMB5	COMB9	COMB19	COMB19	COMB18	COMB9				
		Max Value	97.33	21.17	3.96	0.356	5.57	37.696	1.79	0.34	0.15	1.00
		Max Case	COMB6	COMB2	COMB18	COMB12	COMB8	COMB19				
VIGAS CANAL	C8	Min Value	-180.52	-19.43	-6.64	-2.688	-10.392	-22.737	-1.65	-0.56	-0.28	-0.60
		Min Case	COMB16	COMB6	COMB5	COMB5	COMB5	COMB5				
		Max Value	37.85	19.13	0.63	0.268	8.266	13.633	1.62	0.05	0.22	0.36
		Max Case	COMB9	COMB4	COMB9	COMB2	COMB5	COMB16				

VIGAS 15X15

STORY	COLUMN	ITEM	P	V2	V3	T	M2	M3	Mu Nef	4.94	Vu Nef	13.45
									INDICE SOBRE ESFUERZO			
									V2	V3	M2	M3
VIGAS CANAL	C1	Min Value	-112.49	-12.35	-9.38	-1.526	-20.467	-24.1	-2.50	-1.90	-1.52	-1.79
		Min Case	COMB9	COMB5	COMB5	COMB5	COMB5	COMB5				
		Max Value	593.31	3.01	0.25	0.117	18.958	17.106	0.61	0.05	1.41	1.27
		Max Case	COMB16	COMB2	COMB17	COMB2	COMB5	COMB5				
VIGAS CANAL	C2	Min Value	-484.92	-12.35	-1.1	-0.375	-18.958	-24.1	-2.50	-0.22	-1.41	-1.79
		Min Case	COMB7	COMB5	COMB13	COMB9	COMB5	COMB5				
		Max Value	593.33	3.53	9.38	1.526	20.467	17.106	0.71	1.90	1.52	1.27
		Max Case	COMB16	COMB9	COMB5	COMB5	COMB5	COMB5				
VIGAS CANAL	C3	Min Value	-846.56	-17.53	-4.32	-1.353	-6.481	-28.625	-3.55	-0.87	-0.48	-2.13
		Min Case	COMB8	COMB5	COMB5	COMB5	COMB5	COMB5				
		Max Value	114.14	3.4	1.05	0.254	7.855	23.525	0.69	0.21	0.58	1.75
		Max Case	COMB19	COMB8	COMB16	COMB9	COMB5	COMB5				
VIGAS CANAL	C4	Min Value	-478.02	-17.53	-1.05	-0.208	-7.855	-28.625	-3.55	-0.21	-0.58	-2.13
		Min Case	COMB6	COMB5	COMB16	COMB2	COMB5	COMB5				
		Max Value	836.14	3.77	4.32	1.353	6.481	23.525	0.76	0.87	0.48	1.75
		Max Case	COMB18	COMB9	COMB5	COMB5	COMB5	COMB5				
VIGAS CANAL	C5	Min Value	-846.54	-3.71	-0.93	-0.118	-7.7	-25.348	-0.75	-0.19	-0.57	-1.88
		Min Case	COMB8	COMB9	COMB9	COMB13	COMB5	COMB5				
		Max Value	812.51	17.59	4.27	1.422	6.481	27.023	3.56	0.86	0.48	2.01
		Max Case	COMB17	COMB5	COMB5	COMB5	COMB5	COMB5				
VIGAS CANAL	C6	Min Value	-822.91	-3.33	-4.27	-1.422	-6.481	-25.348	-0.67	-0.86	-0.48	-1.88
		Min Case	COMB7	COMB8	COMB5	COMB5	COMB5	COMB5				
		Max Value	836.12	17.59	0.37	0.199	7.7	27.023	3.56	0.07	0.57	2.01
		Max Case	COMB18	COMB5	COMB8	COMB19	COMB5	COMB5				
VIGAS CANAL	C7	Min Value	-477.06	-3.28	-9.34	-1.63	-20.464	-20.916	-0.66	-1.89	-1.52	-1.56
		Min Case	COMB8	COMB6	COMB5	COMB5	COMB5	COMB5				
		Max Value	593.32	12.54	0.22	0.201	18.787	21.106	2.54	0.04	1.40	1.57
		Max Case	COMB16	COMB5	COMB6	COMB17	COMB5	COMB5				
VIGAS CANAL	C8	Min Value	-484.85	-3.33	-1.13	-0.292	-18.787	-20.916	-0.67	-0.23	-1.40	-1.56
		Min Case	COMB7	COMB9	COMB3	COMB19	COMB5	COMB5				
		Max Value	593.32	12.54	9.34	1.63	20.464	21.106	2.54	1.89	1.52	1.57
		Max Case	COMB16	COMB5	COMB5	COMB5	COMB5	COMB5				

KIOSCO

VIGAS 25X25

STORY	COLUMN	ITEM	P	V2	V3	T	M2	M3	Mu Nef	13.63	Vu Nef	47.06
									INDICE SOBRE ESFUERZO			
									V2	V3	M2	M3
VIGAS CANAL	C1	Min Value	-2.13	-63.15	-18.2	-22.782	-25.588	-86.402	-4.63	-1.34	-1.88	-6.34
		Min Case	COMB17	COMB5	COMB19	COMB19	COMB19	COMB5				
		Max Value	3.71	47.41	9.51	16.615	25.596	84.162	3.48	0.70	1.88	6.17
		Max Case	COMB8	COMB9	COMB18	COMB5	COMB9	COMB5				
VIGAS CANAL	C2	Min Value	-11.6	-17.68	-11.77	-9.361	-16.782	-22.299	-1.30	-0.86	-1.23	-1.64
		Min Case	COMB5	COMB6	COMB8	COMB18	COMB7	COMB6				
		Max Value	53.81	14.18	13.96	9.684	18.104	21.355	1.04	0.69	1.33	1.57
		Max Case	COMB9	COMB8	COMB17	COMB7	COMB18	COMB5				
VIGAS CANAL	C3	Min Value	-31.52	-39.64	-13.07	-13.818	-19.634	-53.345	-2.91	-0.96	-1.44	-3.91
		Min Case	COMB5	COMB9	COMB17	COMB17	COMB8	COMB9				
		Max Value	3.73	20.8	13.96	15.616	19.627	51.398	1.53	1.02	1.44	3.77
		Max Case	COMB9	COMB7	COMB18	COMB19	COMB18	COMB19				
VIGAS CANAL	C4	Min Value	-47.78	-17.08	-11.77	-9.379	-18.107	-22.299	-1.25	-0.86	-1.33	-1.64
		Min Case	COMB19	COMB7	COMB18	COMB8	COMB8	COMB6				
		Max Value	6.6	17.68	9.42	9.665	16.779	21.355	1.30	0.69	1.23	1.57
		Max Case	COMB7	COMB6	COMB7	COMB17	COMB17	COMB5				
VIGAS CANAL	C5	Min Value	1.44	-63.15	-18.2	-22.782	-25.596	-86.402	-4.63	-1.34	-1.88	-6.34
		Min Case	COMB16	COMB5	COMB19	COMB19	COMB9	COMB5				
		Max Value	8.03	13.38	9.51	5.021	25.588	84.162	0.98	0.70	1.88	6.17
		Max Case	COMB7	COMB4	COMB18	COMB18	COMB19	COMB5				
VIGAS CANAL	C6	Min Value	-3.35	-17.13	-11.77	-9.666	-18.105	-23.515	-1.26	-0.86	-1.33	-1.73
		Min Case	COMB16	COMB5	COMB8	COMB17	COMB18	COMB5				
		Max Value	53.81	17.68	5.22	9.283	14.978	20.705	1.30	0.38	1.10	1.52
		Max Case	COMB9	COMB6	COMB19	COMB5	COMB8	COMB16				
VIGAS CANAL	C7	Min Value	-4.94	-9.27	0	-1.719	-19.628	-53.345	-0.68	0.00	-1.44	-3.91
		Min Case	COMB16	COMB3	COMB1	COMB14	COMB18	COMB9				
		Max Value	38.93	39.64	13.96	15.616	19.634	51.398	2.91	1.02	1.44	3.77
		Max Case	COMB5	COMB9	COMB18	COMB19	COMB8	COMB19				
VIGAS CANAL	C8	Min Value	-47.78	-17.68	-11.77	-9.683	-14.979	-23.515	-1.30	-0.86	-1.10	-1.73
		Min Case	COMB19	COMB6	COMB18	COMB7	COMB18	COMB5				
		Max Value	19.2	17.13	5.22	3.491	18.107	20.706	1.26	0.38	1.33	1.52
		Max Case	COMB5	COMB5	COMB9	COMB19	COMB8	COMB16				

ETAPA 9 — UTILIZANDO LOS DESPLAZAMIENTOS HORIZONTALES OBTENIDOS EN EL ANÁLISIS DE LA ETAPA 5 DEBEN OBTENERSE LAS DERIVAS DE LA ESTRUCTURA.

STORY	POINT	LOAD	UX	UY	MAXIMOS		DERIVA
					DESP X	DESP Y	
VIGAS CANA	L 26	COMB1	0.0373	0.0397	0.317	0.0993	0.33
VIGAS CANA	L 26	COMB2	0.0861	-0.0003			
VIGAS CANA	L 26	COMB3	-0.0875	0.0553			
VIGAS CANA	L 26	COMB4	0.0188	0.0993			
VIGAS CANA	L 26	COMB5	0.317	-0.503			
VIGAS CANA	L 26	COMB6	0.0852	0.0032			
VIGAS CANA	L 26	COMB7	-0.0488	-0.003			
VIGAS CANA	L 26	COMB8	-0.0541	0.0117			
VIGAS CANA	L 26	COMB9	0.0032	0.0032			
VIGAS CANA	L 26	COMB10	0.0001	0			
VIGAS CANA	L 26	COMB11	0.0372	0.0397			
VIGAS CANA	L 26	COMB12	0.086	-0.0003			
VIGAS CANA	L 26	COMB13	-0.0876	0.0553			
VIGAS CANA	L 26	COMB14	0.0186	0.0993			
VIGAS CANA	L 26	COMB15	0.0634	-0.1006			
VIGAS CANA	L 26	COMB16	0.085	0.0032			
VIGAS CANA	L 26	COMB17	-0.0489	-0.003			
VIGAS CANA	L 26	COMB18	-0.0542	0.0118			
VIGAS CANA	L 26	COMB19	0.0031	0.0032			
VIGAS CANA	L 27	COMB1	0	0	0	0	0.00
VIGAS CANA	L 27	COMB2	0	0			
VIGAS CANA	L 27	COMB3	0	0			
VIGAS CANA	L 27	COMB4	0	0			
VIGAS CANA	L 27	COMB5	0	0			
VIGAS CANA	L 27	COMB6	0	0			
VIGAS CANA	L 27	COMB7	0	0			
VIGAS CANA	L 27	COMB8	0	0			
VIGAS CANA	L 27	COMB9	0	0			
VIGAS CANA	L 27	COMB10	0	0			
VIGAS CANA	L 27	COMB11	0	0			
VIGAS CANA	L 27	COMB12	0	0			
VIGAS CANA	L 27	COMB13	0	0			
VIGAS CANA	L 27	COMB14	0	0			
VIGAS CANA	L 27	COMB15	0	0			
VIGAS CANA	L 27	COMB16	0	0			
VIGAS CANA	L 27	COMB17	0	0			
VIGAS CANA	L 27	COMB18	0	0			
VIGAS CANA	L 27	COMB19	0	0			
VIGAS CANA	L 29	COMB1	-0.0002	0.0774	0.0855	0.0979	0.13
VIGAS CANA	L 29	COMB2	0.0855	-0.0005			
VIGAS CANA	L 29	COMB3	-0.0554	0.0233			
VIGAS CANA	L 29	COMB4	0.0768	0.0411			
VIGAS CANA	L 29	COMB5	-0.0003	-0.1848			
VIGAS CANA	L 29	COMB6	0.0023	0.0979			
VIGAS CANA	L 29	COMB7	0.0438	-0.106			
VIGAS CANA	L 29	COMB8	0.0508	-0.1			
VIGAS CANA	L 29	COMB9	-0.01	0.0185			
VIGAS CANA	L 29	COMB10	0.0001	0			
VIGAS CANA	L 29	COMB11	-0.0003	0.0775			
VIGAS CANA	L 29	COMB12	0.0854	-0.0004			
VIGAS CANA	L 29	COMB13	-0.0554	0.0234			
VIGAS CANA	L 29	COMB14	0.0767	0.0412			
VIGAS CANA	L 29	COMB15	-0.0001	-0.037			
VIGAS CANA	L 29	COMB16	0.0022	0.0979			
VIGAS CANA	L 29	COMB17	0.0437	-0.1059			
VIGAS CANA	L 29	COMB18	0.0508	-0.0999			
VIGAS CANA	L 29	COMB19	-0.0101	0.0186			

KIOSCO

VIGAS CANA	L 30	COMB1	0.0369	0.0397	0.3166	0.0397	0.32
VIGAS CANA	L 30	COMB2	0.0857	-0.0002			
VIGAS CANA	L 30	COMB3	0.0875	-0.0553			
VIGAS CANA	L 30	COMB4	-0.0188	-0.0993			
VIGAS CANA	L 30	COMB5	0.3166	-0.5029			
VIGAS CANA	L 30	COMB6	-0.0852	-0.0032			
VIGAS CANA	L 30	COMB7	-0.0492	-0.0029			
VIGAS CANA	L 30	COMB8	0.0541	-0.0117			
VIGAS CANA	L 30	COMB9	-0.0032	-0.0032			
VIGAS CANA	L 30	COMB10	-0.0001	0			
VIGAS CANA	L 30	COMB11	0.037	0.0397			
VIGAS CANA	L 30	COMB12	0.0858	-0.0003			
VIGAS CANA	L 30	COMB13	0.0876	-0.0553			
VIGAS CANA	L 30	COMB14	-0.0186	-0.0993			
VIGAS CANA	L 30	COMB15	0.0633	-0.1006			
VIGAS CANA	L 30	COMB16	-0.085	-0.0032			
VIGAS CANA	L 30	COMB17	-0.0491	-0.003			
VIGAS CANA	L 30	COMB18	0.0542	-0.0117			
VIGAS CANA	L 30	COMB19	-0.0031	-0.0032			
VIGAS CANA	L 31	COMB1	-0.0369	0.0397	0.0879	0.0994	0.13
VIGAS CANA	L 31	COMB2	0.0861	0.0003			
VIGAS CANA	L 31	COMB3	0.0879	0.0554			
VIGAS CANA	L 31	COMB4	-0.0184	0.0994			
VIGAS CANA	L 31	COMB5	-0.3166	-0.5029			
VIGAS CANA	L 31	COMB6	0.0852	-0.0032			
VIGAS CANA	L 31	COMB7	-0.0488	0.003			
VIGAS CANA	L 31	COMB8	0.0545	0.0118			
VIGAS CANA	L 31	COMB9	-0.0028	0.0032			
VIGAS CANA	L 31	COMB10	0.0001	0			
VIGAS CANA	L 31	COMB11	-0.037	0.0397			
VIGAS CANA	L 31	COMB12	0.086	0.0003			
VIGAS CANA	L 31	COMB13	0.0878	0.0553			
VIGAS CANA	L 31	COMB14	-0.0185	0.0993			
VIGAS CANA	L 31	COMB15	-0.0633	-0.1006			
VIGAS CANA	L 31	COMB16	0.085	-0.0032			
VIGAS CANA	L 31	COMB17	-0.0489	0.003			
VIGAS CANA	L 31	COMB18	0.0544	0.0118			
VIGAS CANA	L 31	COMB19	-0.0029	0.0032			
VIGAS CANA	L 32	COMB1	0	0	0	0	0.00
VIGAS CANA	L 32	COMB2	0	0			
VIGAS CANA	L 32	COMB3	0	0			
VIGAS CANA	L 32	COMB4	0	0			
VIGAS CANA	L 32	COMB5	0	0			
VIGAS CANA	L 32	COMB6	0	0			
VIGAS CANA	L 32	COMB7	0	0			
VIGAS CANA	L 32	COMB8	0	0			
VIGAS CANA	L 32	COMB9	0	0			
VIGAS CANA	L 32	COMB10	0	0			
VIGAS CANA	L 32	COMB11	0	0			
VIGAS CANA	L 32	COMB12	0	0			
VIGAS CANA	L 32	COMB13	0	0			
VIGAS CANA	L 32	COMB14	0	0			
VIGAS CANA	L 32	COMB15	0	0			
VIGAS CANA	L 32	COMB16	0	0			
VIGAS CANA	L 32	COMB17	0	0			
VIGAS CANA	L 32	COMB18	0	0			
VIGAS CANA	L 32	COMB19	0	0			

KIOSCO

VIGAS CANA	L 33	COMB1	-0.0004	0.0776	0.0854	0.1	0.13
VIGAS CANA	L 33	COMB2	0.0853	-0.0003			
VIGAS CANA	L 33	COMB3	0.0554	-0.0233			
VIGAS CANA	L 33	COMB4	-0.0768	-0.0411			
VIGAS CANA	L 33	COMB5	-0.0005	-0.1846			
VIGAS CANA	L 33	COMB6	-0.0023	-0.0979			
VIGAS CANA	L 33	COMB7	0.0436	-0.1058			
VIGAS CANA	L 33	COMB8	-0.0508	0.1			
VIGAS CANA	L 33	COMB9	0.01	-0.0185			
VIGAS CANA	L 33	COMB10	-0.0001	0			
VIGAS CANA	L 33	COMB11	-0.0003	0.0776			
VIGAS CANA	L 33	COMB12	0.0854	-0.0003			
VIGAS CANA	L 33	COMB13	0.0554	-0.0234			
VIGAS CANA	L 33	COMB14	-0.0767	-0.0412			
VIGAS CANA	L 33	COMB15	-0.0001	-0.0369			
VIGAS CANA	L 33	COMB16	-0.0022	-0.0979			
VIGAS CANA	L 33	COMB17	0.0436	-0.1058			
VIGAS CANA	L 33	COMB18	-0.0508	0.0999			
VIGAS CANA	L 33	COMB19	0.0101	-0.0186			
VIGAS CANA	L 34	COMB1	0.0004	0.0776	0.0855	0.106	0.14
VIGAS CANA	L 34	COMB2	0.0855	0.0005			
VIGAS CANA	L 34	COMB3	0.0556	0.0235			
VIGAS CANA	L 34	COMB4	-0.0766	0.0413			
VIGAS CANA	L 34	COMB5	0.0005	-0.1846			
VIGAS CANA	L 34	COMB6	0.0023	-0.0979			
VIGAS CANA	L 34	COMB7	0.0438	0.106			
VIGAS CANA	L 34	COMB8	-0.0506	-0.0998			
VIGAS CANA	L 34	COMB9	0.0102	0.0188			
VIGAS CANA	L 34	COMB10	0.0001	0			
VIGAS CANA	L 34	COMB11	0.0003	0.0776			
VIGAS CANA	L 34	COMB12	0.0854	0.0004			
VIGAS CANA	L 34	COMB13	0.0555	0.0234			
VIGAS CANA	L 34	COMB14	-0.0766	0.0412			
VIGAS CANA	L 34	COMB15	0.0001	-0.0369			
VIGAS CANA	L 34	COMB16	0.0022	-0.0979			
VIGAS CANA	L 34	COMB17	0.0437	0.1059			
VIGAS CANA	L 34	COMB18	-0.0507	-0.0999			
VIGAS CANA	L 34	COMB19	0.0102	0.0187			
VIGAS CANA	L 25	COMB1	-0.0373	0.0397	0.0858	0.0397	0.09
VIGAS CANA	L 25	COMB2	0.0857	0.0002			
VIGAS CANA	L 25	COMB3	-0.0879	-0.0554			
VIGAS CANA	L 25	COMB4	0.0184	-0.0994			
VIGAS CANA	L 25	COMB5	-0.317	-0.503			
VIGAS CANA	L 25	COMB6	-0.0852	0.0032			
VIGAS CANA	L 25	COMB7	-0.0492	0.0029			
VIGAS CANA	L 25	COMB8	-0.0545	-0.0118			
VIGAS CANA	L 25	COMB9	0.0028	-0.0032			
VIGAS CANA	L 25	COMB10	-0.0001	0			
VIGAS CANA	L 25	COMB11	-0.0372	0.0397			
VIGAS CANA	L 25	COMB12	0.0858	0.0003			
VIGAS CANA	L 25	COMB13	-0.0878	-0.0553			
VIGAS CANA	L 25	COMB14	0.0185	-0.0993			
VIGAS CANA	L 25	COMB15	-0.0634	-0.1006			
VIGAS CANA	L 25	COMB16	-0.085	0.0032			
VIGAS CANA	L 25	COMB17	-0.0491	0.0029			
VIGAS CANA	L 25	COMB18	-0.0544	-0.0118			
VIGAS CANA	L 25	COMB19	0.0029	-0.0032			

KIOSCO

VIGAS CANA	L 28	COMB1	0.0002	0.0774	0.0854	0.1058	0.14
VIGAS CANA	L 28	COMB2	0.0853	0.0003			
VIGAS CANA	L 28	COMB3	-0.0556	-0.0235			
VIGAS CANA	L 28	COMB4	0.0766	-0.0413			
VIGAS CANA	L 28	COMB5	0.0003	-0.1848			
VIGAS CANA	L 28	COMB6	-0.0023	0.0979			
VIGAS CANA	L 28	COMB7	0.0436	0.1058			
VIGAS CANA	L 28	COMB8	0.0506	0.0998			
VIGAS CANA	L 28	COMB9	-0.0102	-0.0188			
VIGAS CANA	L 28	COMB10	-0.0001	0			
VIGAS CANA	L 28	COMB11	0.0003	0.0775			
VIGAS CANA	L 28	COMB12	0.0854	0.0003			
VIGAS CANA	L 28	COMB13	-0.0555	-0.0234			
VIGAS CANA	L 28	COMB14	0.0766	-0.0412			
VIGAS CANA	L 28	COMB15	0.0001	-0.037			
VIGAS CANA	L 28	COMB16	-0.0022	0.0979			
VIGAS CANA	L 28	COMB17	0.0436	0.1058			
VIGAS CANA	L 28	COMB18	0.0507	0.0999			
VIGAS CANA	L 28	COMB19	-0.0102	-0.0187			

ETAPA 10 — DEBE DETERMINARSE UN ÍNDICE DE FLEXIBILIDAD POR EFECTOS HORIZONTALES COMO EL MÁXIMO COCIENTE ENTRE LAS DERIVAS OBTENIDAS EN LA ETAPA 9 Y LAS DERIVAS PERMITIDAS POR EL REGLAMENTO EN EL CAPÍTULO A.6. IGUALMENTE DEBE DETERMINARSE UN ÍNDICE DE FLEXIBILIDAD POR EFECTOS VERTICALES COMO EL MÁXIMO COCIENTE ENTRE LAS DEFLEXIONES VERTICALES MEDIDAS EN LA EDIFICACIÓN Y LAS DEFLEXIONES PERMITIDAS POR EL PRESENTE REGLAMENTO.

DERIVA MAXIMO PERMITIDA = 1% = 0.024						
STORY	POINT	LOAD	UX	UY	DERIVA	INDICE DE FLEXIBILIDAD
VIGAS CANA	L 26	COMB1	0.0373	0.0397	0.33	13.84
VIGAS CANA	L 26	COMB2	0.0861	-0.0003		
VIGAS CANA	L 26	COMB3	-0.0875	0.0553		
VIGAS CANA	L 26	COMB4	0.0188	0.0993		
VIGAS CANA	L 26	COMB5	0.317	-0.503		
VIGAS CANA	L 26	COMB6	0.0852	0.0032		
VIGAS CANA	L 26	COMB7	-0.0488	-0.003		
VIGAS CANA	L 26	COMB8	-0.0541	0.0117		
VIGAS CANA	L 26	COMB9	0.0032	0.0032		
VIGAS CANA	L 26	COMB10	0.0001	0		
VIGAS CANA	L 26	COMB11	0.0372	0.0397		
VIGAS CANA	L 26	COMB12	0.086	-0.0003		
VIGAS CANA	L 26	COMB13	-0.0876	0.0553		
VIGAS CANA	L 26	COMB14	0.0186	0.0993		
VIGAS CANA	L 26	COMB15	0.0634	-0.1006		
VIGAS CANA	L 26	COMB16	0.085	0.0032		
VIGAS CANA	L 26	COMB17	-0.0489	-0.003		
VIGAS CANA	L 26	COMB18	-0.0542	0.0118		
VIGAS CANA	L 26	COMB19	0.0031	0.0032		
VIGAS CANA	L 27	COMB1	0	0	0.00	0.00
VIGAS CANA	L 27	COMB2	0	0		
VIGAS CANA	L 27	COMB3	0	0		
VIGAS CANA	L 27	COMB4	0	0		
VIGAS CANA	L 27	COMB5	0	0		
VIGAS CANA	L 27	COMB6	0	0		
VIGAS CANA	L 27	COMB7	0	0		
VIGAS CANA	L 27	COMB8	0	0		
VIGAS CANA	L 27	COMB9	0	0		
VIGAS CANA	L 27	COMB10	0	0		
VIGAS CANA	L 27	COMB11	0	0		
VIGAS CANA	L 27	COMB12	0	0		
VIGAS CANA	L 27	COMB13	0	0		
VIGAS CANA	L 27	COMB14	0	0		
VIGAS CANA	L 27	COMB15	0	0		
VIGAS CANA	L 27	COMB16	0	0		
VIGAS CANA	L 27	COMB17	0	0		
VIGAS CANA	L 27	COMB18	0	0		
VIGAS CANA	L 27	COMB19	0	0		
VIGAS CANA	L 29	COMB1	-0.0002	0.0774	0.13	5.42
VIGAS CANA	L 29	COMB2	0.0855	-0.0005		
VIGAS CANA	L 29	COMB3	-0.0554	0.0233		
VIGAS CANA	L 29	COMB4	0.0768	0.0411		
VIGAS CANA	L 29	COMB5	-0.0003	-0.1848		
VIGAS CANA	L 29	COMB6	0.0023	0.0979		
VIGAS CANA	L 29	COMB7	0.0438	-0.106		
VIGAS CANA	L 29	COMB8	0.0508	-0.1		
VIGAS CANA	L 29	COMB9	-0.01	0.0185		
VIGAS CANA	L 29	COMB10	0.0001	0		
VIGAS CANA	L 29	COMB11	-0.0003	0.0775		
VIGAS CANA	L 29	COMB12	0.0854	-0.0004		
VIGAS CANA	L 29	COMB13	-0.0554	0.0234		
VIGAS CANA	L 29	COMB14	0.0767	0.0412		
VIGAS CANA	L 29	COMB15	-0.0001	-0.037		
VIGAS CANA	L 29	COMB16	0.0022	0.0979		
VIGAS CANA	L 29	COMB17	0.0437	-0.1059		
VIGAS CANA	L 29	COMB18	0.0508	-0.0999		
VIGAS CANA	L 29	COMB19	-0.0101	0.0186		

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VIGAS CANA	L 30	COMB1	0.0369	0.0397	0.32	13.29
VIGAS CANA	L 30	COMB2	0.0857	-0.0002		
VIGAS CANA	L 30	COMB3	0.0875	-0.0553		
VIGAS CANA	L 30	COMB4	-0.0188	-0.0993		
VIGAS CANA	L 30	COMB5	0.3166	-0.5029		
VIGAS CANA	L 30	COMB6	-0.0852	-0.0032		
VIGAS CANA	L 30	COMB7	-0.0492	-0.0029		
VIGAS CANA	L 30	COMB8	0.0541	-0.0117		
VIGAS CANA	L 30	COMB9	-0.0032	-0.0032		
VIGAS CANA	L 30	COMB10	-0.0001	0		
VIGAS CANA	L 30	COMB11	0.037	0.0397		
VIGAS CANA	L 30	COMB12	0.0858	-0.0003		
VIGAS CANA	L 30	COMB13	0.0876	-0.0553		
VIGAS CANA	L 30	COMB14	-0.0186	-0.0993		
VIGAS CANA	L 30	COMB15	0.0633	-0.1006		
VIGAS CANA	L 30	COMB16	-0.085	-0.0032		
VIGAS CANA	L 30	COMB17	-0.0491	-0.003		
VIGAS CANA	L 30	COMB18	0.0542	-0.0117		
VIGAS CANA	L 30	COMB19	-0.0031	-0.0032		
VIGAS CANA	L 31	COMB1	-0.0369	0.0397	0.13	5.53
VIGAS CANA	L 31	COMB2	0.0861	0.0003		
VIGAS CANA	L 31	COMB3	0.0879	0.0554		
VIGAS CANA	L 31	COMB4	-0.0184	0.0994		
VIGAS CANA	L 31	COMB5	-0.3166	-0.5029		
VIGAS CANA	L 31	COMB6	0.0852	-0.0032		
VIGAS CANA	L 31	COMB7	-0.0488	0.003		
VIGAS CANA	L 31	COMB8	0.0545	0.0118		
VIGAS CANA	L 31	COMB9	-0.0028	0.0032		
VIGAS CANA	L 31	COMB10	0.0001	0		
VIGAS CANA	L 31	COMB11	-0.037	0.0397		
VIGAS CANA	L 31	COMB12	0.086	0.0003		
VIGAS CANA	L 31	COMB13	0.0878	0.0553		
VIGAS CANA	L 31	COMB14	-0.0185	0.0993		
VIGAS CANA	L 31	COMB15	-0.0633	-0.1006		
VIGAS CANA	L 31	COMB16	0.085	-0.0032		
VIGAS CANA	L 31	COMB17	-0.0489	0.003		
VIGAS CANA	L 31	COMB18	0.0544	0.0118		
VIGAS CANA	L 31	COMB19	-0.0029	0.0032		
VIGAS CANA	L 32	COMB1	0	0	0.00	0.00
VIGAS CANA	L 32	COMB2	0	0		
VIGAS CANA	L 32	COMB3	0	0		
VIGAS CANA	L 32	COMB4	0	0		
VIGAS CANA	L 32	COMB5	0	0		
VIGAS CANA	L 32	COMB6	0	0		
VIGAS CANA	L 32	COMB7	0	0		
VIGAS CANA	L 32	COMB8	0	0		
VIGAS CANA	L 32	COMB9	0	0		
VIGAS CANA	L 32	COMB10	0	0		
VIGAS CANA	L 32	COMB11	0	0		
VIGAS CANA	L 32	COMB12	0	0		
VIGAS CANA	L 32	COMB13	0	0		
VIGAS CANA	L 32	COMB14	0	0		
VIGAS CANA	L 32	COMB15	0	0		
VIGAS CANA	L 32	COMB16	0	0		
VIGAS CANA	L 32	COMB17	0	0		
VIGAS CANA	L 32	COMB18	0	0		
VIGAS CANA	L 32	COMB19	0	0		

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VIGAS CANA	L 33	COMB1	-0.0004	0.0776	0.13	5.48
VIGAS CANA	L 33	COMB2	0.0853	-0.0003		
VIGAS CANA	L 33	COMB3	0.0554	-0.0233		
VIGAS CANA	L 33	COMB4	-0.0768	-0.0411		
VIGAS CANA	L 33	COMB5	-0.0005	-0.1846		
VIGAS CANA	L 33	COMB6	-0.0023	-0.0979		
VIGAS CANA	L 33	COMB7	0.0436	-0.1058		
VIGAS CANA	L 33	COMB8	-0.0508	0.1		
VIGAS CANA	L 33	COMB9	0.01	-0.0185		
VIGAS CANA	L 33	COMB10	-0.0001	0		
VIGAS CANA	L 33	COMB11	-0.0003	0.0776		
VIGAS CANA	L 33	COMB12	0.0854	-0.0003		
VIGAS CANA	L 33	COMB13	0.0554	-0.0234		
VIGAS CANA	L 33	COMB14	-0.0767	-0.0412		
VIGAS CANA	L 33	COMB15	-0.0001	-0.0369		
VIGAS CANA	L 33	COMB16	-0.0022	-0.0979		
VIGAS CANA	L 33	COMB17	0.0436	-0.1058		
VIGAS CANA	L 33	COMB18	-0.0508	0.0999		
VIGAS CANA	L 33	COMB19	0.0101	-0.0186		
VIGAS CANA	L 34	COMB1	0.0004	0.0776	0.14	5.67
VIGAS CANA	L 34	COMB2	0.0855	0.0005		
VIGAS CANA	L 34	COMB3	0.0556	0.0235		
VIGAS CANA	L 34	COMB4	-0.0766	0.0413		
VIGAS CANA	L 34	COMB5	0.0005	-0.1846		
VIGAS CANA	L 34	COMB6	0.0023	-0.0979		
VIGAS CANA	L 34	COMB7	0.0438	0.106		
VIGAS CANA	L 34	COMB8	-0.0506	-0.0998		
VIGAS CANA	L 34	COMB9	0.0102	0.0188		
VIGAS CANA	L 34	COMB10	0.0001	0		
VIGAS CANA	L 34	COMB11	0.0003	0.0776		
VIGAS CANA	L 34	COMB12	0.0854	0.0004		
VIGAS CANA	L 34	COMB13	0.0555	0.0234		
VIGAS CANA	L 34	COMB14	-0.0766	0.0412		
VIGAS CANA	L 34	COMB15	0.0001	-0.0369		
VIGAS CANA	L 34	COMB16	0.0022	-0.0979		
VIGAS CANA	L 34	COMB17	0.0437	0.1059		
VIGAS CANA	L 34	COMB18	-0.0507	-0.0999		
VIGAS CANA	L 34	COMB19	0.0102	0.0187		
VIGAS CANA	L 25	COMB1	-0.0373	0.0397	0.09	3.94
VIGAS CANA	L 25	COMB2	0.0857	0.0002		
VIGAS CANA	L 25	COMB3	-0.0879	-0.0554		
VIGAS CANA	L 25	COMB4	0.0184	-0.0994		
VIGAS CANA	L 25	COMB5	-0.317	-0.503		
VIGAS CANA	L 25	COMB6	-0.0852	0.0032		
VIGAS CANA	L 25	COMB7	-0.0492	0.0029		
VIGAS CANA	L 25	COMB8	-0.0545	-0.0118		
VIGAS CANA	L 25	COMB9	0.0028	-0.0032		
VIGAS CANA	L 25	COMB10	-0.0001	0		
VIGAS CANA	L 25	COMB11	-0.0372	0.0397		
VIGAS CANA	L 25	COMB12	0.0858	0.0003		
VIGAS CANA	L 25	COMB13	-0.0878	-0.0553		
VIGAS CANA	L 25	COMB14	0.0185	-0.0993		
VIGAS CANA	L 25	COMB15	-0.0634	-0.1006		
VIGAS CANA	L 25	COMB16	-0.085	0.0032		
VIGAS CANA	L 25	COMB17	-0.0491	0.0029		
VIGAS CANA	L 25	COMB18	-0.0544	-0.0118		
VIGAS CANA	L 25	COMB19	0.0029	-0.0032		

KIOSCO

VIGAS CANA	L 28	COMB1	0.0002	0.0774		
VIGAS CANA	L 28	COMB2	0.0853	0.0003		
VIGAS CANA	L 28	COMB3	-0.0556	-0.0235		
VIGAS CANA	L 28	COMB4	0.0766	-0.0413		
VIGAS CANA	L 28	COMB5	0.0003	-0.1848		
VIGAS CANA	L 28	COMB6	-0.0023	0.0979		
VIGAS CANA	L 28	COMB7	0.0436	0.1058		
VIGAS CANA	L 28	COMB8	0.0506	0.0998		
VIGAS CANA	L 28	COMB9	-0.0102	-0.0188		
VIGAS CANA	L 28	COMB10	-0.0001	0	0.14	5.67
VIGAS CANA	L 28	COMB11	0.0003	0.0775		
VIGAS CANA	L 28	COMB12	0.0854	0.0003		
VIGAS CANA	L 28	COMB13	-0.0555	-0.0234		
VIGAS CANA	L 28	COMB14	0.0766	-0.0412		
VIGAS CANA	L 28	COMB15	0.0001	-0.037		
VIGAS CANA	L 28	COMB16	-0.0022	0.0979		
VIGAS CANA	L 28	COMB17	0.0436	0.1058		
VIGAS CANA	L 28	COMB18	0.0507	0.0999		
VIGAS CANA	L 28	COMB19	-0.0102	-0.0187		

INDICE DE FLEXIBILIDAD DE PISO.-

MAXIMA DERIVA OBTENIDA EN EL ANÁLISIS DE LA ESTRUCTURA. 0.33
MAXIMA DERIVA PERMITIDA POR EL REGLAMENTO 0.024 = 1.00%

INDICE DE FLEXIBILIDAD.= 13.84

ETAPA 11 — LA INTERVENCIÓN ESTRUCTURAL DEBE DEFINIRSE DE ACUERDO CON EL TIPO DE MODIFICACIÓN ESTABLECIDA EN A.10.6 DENTRO DE UNA DE TRES CATEGORÍAS: (A) AMPLIACIONES ADOSADAS, (B) AMPLIACIONES EN ALTURA Y (C) ACTUALIZACIÓN AL REGLAMENTO.

La edificación del presente estudio, construida en PÓRTICOS RESISTENTES A MOMENTOS CON ESTRUCTURA EN CONCRETO en el año posterior a 1998, NO está adecuadamente concebida para el manejo de las cargas actuantes, de acuerdo con lo estipulado en la norma NSR 10.

ETAPA 12 — EL CONJUNTO DEBE ANALIZARSE NUEVAMENTE INCLUYENDO LA INTERVENCIÓN PROPUESTA, LA CUAL DEBE DISEÑARSE PARA LAS FUERZAS Y ESFUERZOS OBTENIDOS DE ESTE NUEVO ANÁLISIS. EL DISEÑO GEOTÉCNICO Y ESTRUCTURAL Y LA CONSTRUCCIÓN DEBEN LLEVARSE A CABO DE ACUERDO CON LOS REQUISITOS QUE PARA CADA TIPO DE MODIFICACIÓN ESTABLECE EL PRESENTE CAPÍTULO.

Por su condición de mala construcción y no cumplir con los principios básicos exigidos por la NSR, como son, tener elementos de secciones inferiores a las exigidas por el código, aceros de refuerzo en diámetro 3/8" para refuerzo longitudinal, no permitidos para elementos sísmicos, calidad del concreto inferior a 18.5 Mpa, se recomienda demoler y construir un kiosco que cumpla con las normas exigidas por la NSR-10.