The City of Grove City

AGENDA

Board of Zoning Appeals

February 26, 2024
5:30 PM
City Hall

A. CALL TO ORDER/ROLL CALL

B. MOMENT OF SILENCE AND PLEDGE

C. APPROVAL OF MINUTES

1. Approve the minutes from the January 22 meeting.

D. NEW ITEMS

1. ACTION ITEM

1. **Hear the appeal of Rebecca Mott, Attorney, Plank Law Firm, LPA representing 3400 Southwest LLC for 3400 Southwest Blvd. (Parcel #040-006747) for the following variances.**

1. **A variance to Section 1136.06 (a) (3): To reduce the required 45-foot truck parking setback, the six-foot earthen mound and three staggered rows of evergreens to a 20-foot truck parking setback with a 4-foot earthen mound, and two staggered rows of evergreens.**

2. **A variance to Section 1136.06 (b) - Rear and side yards adjacent to compatible use districts; To reduce the required 20-foot parking setback from 20' to 0' to the north and 20' to 5' to the east; to provide no parking lot perimeter plantings to the north and to relocate the required parking lot perimeter plantings for the east to the southeast portion of the site, to screen the storage area from Southwest Blvd.**

3. **A variance to Section 1136.06 (d): To waive the requirements to install interior vehicular peninsulas, islands, aisle end islands, and planting areas for landscaping.**

4. **A variance to Section 1137.05 (c): To allow a six-foot high chain link fence.**

5. **A variance to Section 1137.11 (a): To allow the gravel parking area to remain.**

2. **ACTION ITEM** **2. Hear the appeal of Parks Davis, A.I.S. Renovations for 5486 Carlisle Dr. (Parcel #040-017483) for a variance to Section (Table) 1135.14 – II: To encroach the rear yard setback of 25' by 11' for total rear yard setback of 14', by installing a deck.**

3. **ACTION ITEM** **3. Hear the appeal of Chris Bradley, The Camber Company for 3679 Grove City Rd. (Parcel # 040-003263) for a variance to Section 1135.12-II: To exceed the maximum building height of 35' by 2'-6" for an overall building height of 37'-6".**

4. **ACTION ITEM** **4. Hear the appeal of Rebecca Mott, Plank Law Firm LPA for 5824 Quail Run Dr., (Parcel #040-009118), for the following variances. (Staff note: the applicant is appealing the Building Inspectors "Notice of Corrections" decision (Exhibit 2) in sequential order (see Exhibit A.) Staff has attempted to summarize each item as a variance appeal request for this agenda.) BZA Appeal Items:**

1. **Building Review Item #1: Appeal to Notice of Corrections Item 1 requiring sealed plans stamped by Ohio Licensed Engineer to be accepted because 1) the item fails for lack of specific reference and proper legal notice to the Applicant and Property Owners and 2) the applicant provided plans and specifications for the pool enclosure from the manufacturer that included a structural analysis completed by a New York licensed professional engineer, for support of structural load combinations prescribed by the 2015 International Building Code.**

2. **Zoning Review Item #1: Section 1135.10: to appeal the applicability of the current zoning standards establishing the rear setback of 25' and accepting the correct rear yard setback for the property is equal to 15% of the total lot depth of 125', which is 18.75' per the PUD-R (R-1B) standards found in the 1986 lot development standards for the Quail Creek and Meadow Grove extensions table 1135.10.**

3. **Zoning Review Item #2: Section 1135.10(a) – to allow a 960sf pool cover structure because the code section listed in the Notice of Corrections is not applicable to the pool structure and refers only to "garages" as in "residential garage" and "detached garage."**

4. **Zoning Review Item #3: Section 1137.08 (h) – to allow a 9'-6" tall accessory building (pool structure) because the code section listed in the Notice of Corrections is not applicable because the overall height of the pool structure is below the 13' maximum height for an accessory structure.**

5. **Zoning Review Item #4: Section 1135.09 Permit Expiration and 1305.10 Permit Revocation are not applicable to the lawful permit issued for the in-ground pool.**

E. ADJOURN

City of Grove City
BOARD OF ZONING APPEALS
REGULAR MEETING
January 22, 2024

The regular meeting of the Board of Zoning Appeals was called to order by Chair Holinga at 5:30 p.m. at the Grove City Municipal Building, 4035 Broadway.

1. Roll was called. The following members were present:

George Holinga *Mark "Tony" Haughn* *John Brant*

Staff present: Jesse Shamp, representing the Law Director, Laura Scott, Secretary. Mr. Boso was excused.

Also present: Matt Carver, David Joslin and Brian Sweeney representing Health Care Logistics. Mary and Greg Baker of 4996 Snowy Creek Dr. The speakers were sworn in.

2. Nominations were made for the 2024 chair and vice chair of the Board of Zoning Appeals.

Motion by Mr. Brant to elect George Holinga chair of the Board of Zoning Appeals. Second by Mr. Haughn. All in favor. Motion carried.

Motion by Mr. Haughn to elect John Brant vice chair of the Board of Zoning Appeals. Second by Chair Holinga. All in favor. Motion carried.

3. ***Motion by Chair Holinga to approve the minutes from the December 27, 2023, meeting of the Board of Zoning Appeals. Second by Mr. Brant.***

VOTE: Holinga, YES; Haughn, YES; Brant, YES; **APPROVED.**

3. Hear the appeal of Brian Sweeney, JH Architects Inc. representing Matthew Carver, Health Care Logistics at 1850 Gateway Circle, (Parcel #040-004147), for a variance to Section 1137.05 Yard Obstructions and Fences; to install a 6' tall decorative fence in front of the 30' building front setback, encroaching the setback by 16', leaving a total front setback of 14'.

Mr. Sweeney explained the need for the fence and the variance. The portion of the fence behind the front setback is permitted but the section in front of the setback requires a variance. The parking setback is at 15'. They propose placing the fence section in front of the parking stalls and adding two rolling gates to enclose the parking lot. The owner has had issues with trespassers, people going through the dumpsters and hosting "drifting" parties on the property. Mr. Haughn asked about permitting for the electronic locking devices. Health Care Logistics will use a Knox Box and card reader system. Mrs. Scott said letters had been sent out to adjoining property owners, but no one responded.

Motion by Chair Holinga to grant the appeal of Brian Sweeney, JH Architects Inc. representing Matthew Carver, Health Care Logistics at 1850 Gateway Circle, (Parcel #040-004147), for a variance to Section 1137.05 Yard Obstructions and Fences; to install a 6' tall decorative fence in front of the 30' building front setback, encroaching the setback by 16', leaving a total front setback of 14', with one condition to begin construction within 12 months. Second by Mr. Brant.

VOTE: Holinga, YES; Haughn, YES; Brant, YES; **APPROVED.**

Chair Holinga explained the 21-day waiting period.

4. Hear the appeal of Gregory Baker, property owner at 4996 Snowy Creek Dr., (Parcel #040-012432), for a variance to Section 1137.05 Yard Obstructions and Fences; to install a 4' tall decorative fence in front of the 30' building front setback, on a corner lot along Shoreside Dr., encroaching the setback from 8' to 14' resulting in a front setback ranging from 22' to 16'.

   Greg Baker explained the fence encroachment along Shoreside Dr. is necessary due to the unusual shape of the corner lot property and subsequent layout of the fence to enclose the patio and the mature landscaping around the patio. Mrs. Baker said they have a large golden retriever that they wish to secure in the rear yard. Chair Holinga asked about the black anodized fence material. Mrs. Baker said the black decorative fence was not the only type of fence in the neighborhood. Styles and materials varied greatly. Mrs. Scott said letters had been sent out to adjoining property owners, but no one responded.

   Motion by Chair Holinga to grant the appeal of Gregory Baker, property owner at 4996 Snowy Creek Dr., (Parcel #040-012432), for a variance to Section 1137.05 Yard Obstructions and Fences; to install a 4' tall decorative fence in front of the 30' building front setback, on a corner lot along Shoreside Dr., encroaching the setback from 8' to 14' resulting in a front setback ranging from 22' to 16', with one stipulation to begin construction within 12 months. Second by Mr. Haughn.

   VOTE: Holinga, YES; Haughn, YES; Brant, YES; **APPROVED.**

   Chair Holinga explained the 21-day waiting period.

5. Hear the appeal of Rebecca Mott, Plank Law Firm LPA for 5824 Quail Run Dr., (Parcel #040-009118), for the following variances. (Staff note: the applicant is appealing the Building Inspectors "Notice of Corrections" decision (Exhibit 2) in sequential order (see Exhibit A.) Staff has attempted to summarize each item as a variance appeal request for this agenda.)

BZA Appeal Items:

a) Building Review Item #1: Appeal to Notice of Corrections Item 1 requiring sealed plans stamped by Ohio Licensed Engineer to be accepted because 1) the item fails for lack of specific reference and proper legal notice to the Applicant and Property Owners and 2) the applicant provided plans and specifications for the pool enclosure from the manufacturer that included a structural analysis completed by a New York licensed professional engineer, for support of structural load combinations prescribed by the 2015 International Building Code.

b) Zoning Review Item #1: Section 1135.10: to appeal the applicability of the current zoning standards establishing the rear setback of 25' and accepting the correct rear yard setback for the property is equal to 15% of the total lot depth of 125', which is 18.75' per the PUD-R (R-1B) standards found in the 1986 lot development standards for the Quail Creek and Meadow Grove extensions table 1135.10.

c) Zoning Review Item #2: Section 1135.10(a) – to allow a 960sf pool cover structure because the code section listed in the Notice of Corrections is not applicable to the pool structure and refers only to "garages" as in "residential garage" and "detached garage."

d) Zoning Review Item #3: Section 1137.08 (h) – to allow a 9'-6" tall accessory building (pool structure) because the code section listed in the Notice of Corrections is not applicable because the overall height of the pool structure is below the 13' maximum height for an accessory structure.

e) Zoning Review Item #4: Section 1135.09 Permit Expiration and 1305.10 Permit Revocation are not applicable to the lawful permit issued for the in-ground pool.

Chair Holinga indicated the appeal from Ms. Mott for 5824 Quail Run Dr. had been postponed until the February 26 Board of Zoning Appeals meeting. Mr. Brant asked Mr. Shamp to advise staff of items being appealed to the BZA that are not within their jurisdiction. Mr. Shamp indicated they were in contact with Ms. Mott and his concern was one of the reasons for the postponement, which was to allow time to sort through the appeal items.

6. New business: Mr. Brant will not attend the February meeting. Mr. Haughn will not attend the March meeting.

The meeting was adjourned at 5:45 p.m.

Adjournment.

George Holinga, Chair

Laura Scott, Secretary

Grove City Building Division
4035 Broadway
Grove City, OH 43123
614-277-3075 (Phone)
614-277-3090 (Fax)
GroveCityOhio.gov

BOARD OF ZONING APPEALS APPLICATION

TO: Board of Zoning Appeals
4035 Broadway, Grove City, Ohio 43123
Phone: 614-277-3075 - Planning & Zoning Coordinator

Checks Made Payable To:
CITY OF GROVE CITY
Filing Fee $100.00

Date: 11-06-2023

Application information must be completed or it will be returned and not placed on an agenda until it is complete and re-submitted. One original set of plans and 13 copies (14 total sets) shall be included when submitting this application. Each set shall include this application form and any additional attachments.

The City of Grove City Building Inspector has refused to issue a:

☐ Building Permit ☐ Certificate of Occupancy ☐ Sign Permit

at the following address 3400 Southwest Boulevard *Grove City, OH 43123* Parcel # 040-006747

as it is in violation of : Building Code No._____ Zoning Code No._____ Other:_____

I appeal to the Board of Zoning Appeals for a variance that will allow me to do the following:

Amended application - Please see Exhibit A.

Names, Address and Parcel numbers of all adjoining property owners (attach a separate sheet if needed):

See Exhibit B

Are you the applicant or representative? ☑ Applicant ☑ Representative ☐ Property Owner

If you are the representative, who you are representing: 3400 Southwest LLC

Please note* *As the representative for this application, all correspondence will be directed to you. If additional space is needed, an addendum may be attached.*

Name of Applicant Rebecca J. Mott Company Plank Law Firm, LPA

Address 411 East Town Street, Floor 2 City/State/Zip Columbus, Ohio 43215

Phone 614-947-8600 Fax 614-228-1790 Email rjm@planklaw.com

Signature of Applicant Rebecca J. Mott, Attorney

Revised 1/2017

Grove City Building Division
4035 Broadway
Grove City, OH 43123
614-277-3075 (Phone)
614-277-3090 (Fax)
GroveCityOhio.gov

BOARD OF ZONING APPEALS
STATEMENT OF HARDSHIP

Under Section 1133.02 of the Grove City Codified Ordinances, the Board of Zoning Appeals has the power to grant variances from the Zoning Code or Sign Code. No variance shall be granted unless the Board finds that **all** of the following facts and conditions exist:

(1) The variance granted will not be contrary to public interest or adversely affect the health or safety of persons residing or working in the vicinity of the proposed development or be injurious to private property or public improvements in the vicinity.

(2) Granting the variance requested will not confer on the applicant any special privilege that is denied by the Zoning Code or Sign Code to other lands or structures in the same zoning district.

(3) A literal enforcement of the Zoning Code and Sign Code will result in unnecessary hardship by depriving the applicant of rights commonly enjoyed by other properties in the same zoning district under the terms of the Zoning Code or Sign Code.

(4) Special conditions and circumstances exist which are peculiar to the land or structure involved, and which are not applicable to other lands or structures in the same zoning district.

(5) The special conditions and circumstances do not result from the action of the applicant.

(6) The variance so granted does not violate the spirit of the Zoning Code. In granting a variance, the Board may impose such requirements and/or conditions it deems necessary and are not inconsistent with substantial justice and avoiding unreasonable hardship to property owners.

I have read Section 1133.02 and believe that my application for relief satisfies each of the six criteria set forth above in the following ways (attach a separate sheet if needed):

1. Please see Exhibit A for full argument under Section 1133.02

2.

3.

4.

5.

6.

Signature of Applicant _____ Date: 11-06-2023

Revised 1/2017

Exhibit A

Variances Identified

1.) **Section 1136.06(a)(3) – for truck vehicular use areas and parking, the setback requirement is 45', with a continuous 6' in height earthen mound. In addition, three staggered rows of 6' in height minimum evergreen trees spaced at 20' on center, and one 2" caliper minimum small class tree per each 40 lineal feet of frontage are to be planted.** Applicant seeks a partial variance from this standard, as Applicant shall provide a setback of 20', with a continuous 4' in height earthen mound. In addition, Applicant will provide for two (2) staggered rows of 6' in height minimum evergreen trees spaced at 20' on center, and no 2" caliper minimum small class trees per each 40 lineal feet of frontage.

2.) **Section 1136.06(b) – For rear and side yards adjacent compatible use districts, the setback shall be 20' for truck vehicular use areas. In addition, truck vehicular use areas are to have a 6' in height minimum evergreen tree planted for every 20 lineal feet of property line and two 18" in height deciduous shrubs are to be planted for each 40 lineal feet of property line.** Applicant seeks a variance from this standard. However, the Applicant is installing and grouping seventeen (17) additional five-foot (5') in height evergreen trees (20' on center) and two (2) eighteen inch (18") in height deciduous shrubs (40' on center) in front of the existing 6' tall earthen landscaped mound along Southwest Boulevard and wrapping that landscaped treatment along the northeast property line to act as an additional screening buffer of the rear yard outside storage area from the view of vehicular and pedestrian passersby on and along Southwest Boulevard into the Property.

3.) **Section 1136.06(d) – Within interior vehicular use areas peninsulas, islands, aisles, end islands, and planting areas are to be constructed for landscape plantings. Each peninsula, island, island, aisle, end island, or planting area is to contain at least one 2" minimum caliper large or medium class tree.** Applicant seeks a variance from this requirement, as the gravel lot will be used for truck storage, maneuverability, and parking.

4.) **Section 1137.05(c) – Provides that no fence shall be erected more than five (5) feet in height above the plane of the finished grade of a lot as the location of the fence on the lot, except screening or privacy fences.** This variance request is for the installation of a 6' chain link fence for security and protection of a rear portion of the subject real property, as shown on the site plan accompanying this application. The proposed fence (i) exceeds the fence height standard of five feet (5') for a non-opaque fence, and (ii) will be installed within the area of the building setback line and the right of way of Lewis Centre Way (located at 20' from the right-of-way, instead of at 30' from the right-of-way, which is the building setback line), deviating from the requirements of Section 1137.05(c). The fence will be erected behind the landscaped mound and treatments along Lewis Centre Way and will not be visible, at plant maturity, from the right-of-way of Lewis Centre Way.

5.) **Section 1137.11(a) – Provides that driveways and parking spaces in all districts shall be smoothly graded with an asphaltic or Portland concrete surface, and properly drained.** The outside storage area and truck vehicular use area as a legal, non-conforming condition will remain gravel, so Applicant is seeking a variance.

Statement of Hardship/Practical Difficulties

1) **The variance granted will not be contrary to public interest or adversely affect the health or safety of persons residing or working in the vicinity of the proposed development or be injurious to private property or public improvements in the vicinity.**

The fence is needed for security and protection of the property, with business equipment that will be stored within the rear portion of the property. In addition, the fence encloses a portion of the property that is immediately adjacent to other industrial zoned properties (on the west, north, and east). Thus, the proposed fence installation will not be injurious or impact adjacent properties. In addition, the variance from Section 1136.06(a)(3) is a partial variance request, as Applicant is providing the following: A setback of 20', with a continuous 4' in height earthen mound. In addition, Applicant will provide for two (2) staggered rows of 6' in height minimum evergreen trees spaced at 20' on center, and no 2" caliper minimum small class trees per each 40 lineal feet of frontage. These landscaping treatments will shield and screen, adequately, the storage lot from the right-of-way of Lewis Centre Way, and are an attractive, aesthetic installation of landscaping treatments that will also not be injurious, in any manner, to the other adjacent, industrially-zoned properties. In addition, as it relates to the compatible districts to the east and north, there is no reason to add brand new landscaped screening to buffer and screen uses that are similar (and manufacturing in nature), so no new landscaping is intended to be provided along the east property line. In addition, the Applicant owns the tracts of land to the north in the Village of Urbancrest, so there is no reason to screen the uses from those tracts of land that are also owned by Applicant. In support of the variance from Section 1136.06(b), Applicant will install the requisite quantity of plantings that would have been required along the east property line for the "adjacent compatible use districts" standard along the Southwest Boulevard frontage (in addition to the existing 6' tall earthen mound). The additional seventeen (17) five-foot (5') in height evergreen trees (20' on center) and two (2) eighteen inch (18") in height deciduous shrubs (40' on center) in front of the existing 6' tall earthen landscaped mound along Southwest Boulevard (wrapping that landscaped treatment along the northeast property line) will provide more effective screening of the storage and parking areas. These are existing, legal, non-conforming conditions that should be allowed to remain. The adjacent properties and this Property represent uses that are compatible and have been good neighbors with each other time, and with this variances request, that will not change. In fact, Applicant has a letter of support of this request from neighboring property owner and operator to the west, known as American Nitrile.

2) **Granting the variance requested will not confer on the applicant any special privilege that is denied by the Zoning Code or Sign Code to other lands or structures in the same zoning district.**

A fence is often needed to enclose and protect outside storage areas for industrial properties for deterrence of trespassing, property protection, and protection of expensive equipment (to safeguard business operations). The granting of this variance will not confer on the applicant any

special privilege, because other industrial properties often obtain this same variance. In addition, the other variances for gravel and the landscaping are very similar to those variances granted to other industrial and manufacturing users that have and use outside storage areas for storage of equipment used in the operation of a business, by special permit, or otherwise, and for truck/trailer storage and maneuvering. Applicant has also committed to providing landscaping elsewhere on the Property in order to effectively screen the storage and parking areas.

3) **A literal enforcement of the Zoning Code and Sign Code will result in unnecessary hardship by depriving the applicant of rights commonly enjoyed by other properties in the same zoning district under the terms of the Zoning Code or Sign Code.**

The fence is needed for security and protection. The landscaping provided and installed along Lewis Centre Way screens the fence and the graveled outside storage area from the public right-of-way. A literal enforcement of the Zoning Code would mean the Applicant would need to decrease the size of the fence to five feet (5') and move it back ten more feet from the right of way line, which would allow trespassers to easily traverse the fence and get into the storage area and decrease the size of the storage area, which makes little sense.

4) **Special conditions and circumstances exist which are peculiar to the land or structure involved, and which are not applicable to other lands or structures in the same zoning district.**

The Applicant will install a new 4' earthen mound with two (2) rows of evergreen trees staggered, 20' on center, and other landscaping on top of the mound, as shown on the site plan with landscape details. The variances can be granted because the fence and outside storage area will not be visible from the right-of-way of Lewis Centre Way (or Southwest Boulevard, especially since Applicant is installing additional landscaped screening along Southwest Boulevard as well), so the aesthetic aims of the Zoning Code regulations can be met. In addition, the graveled surface and outside storage areas are existing conditions, and again, will also be screened from view.

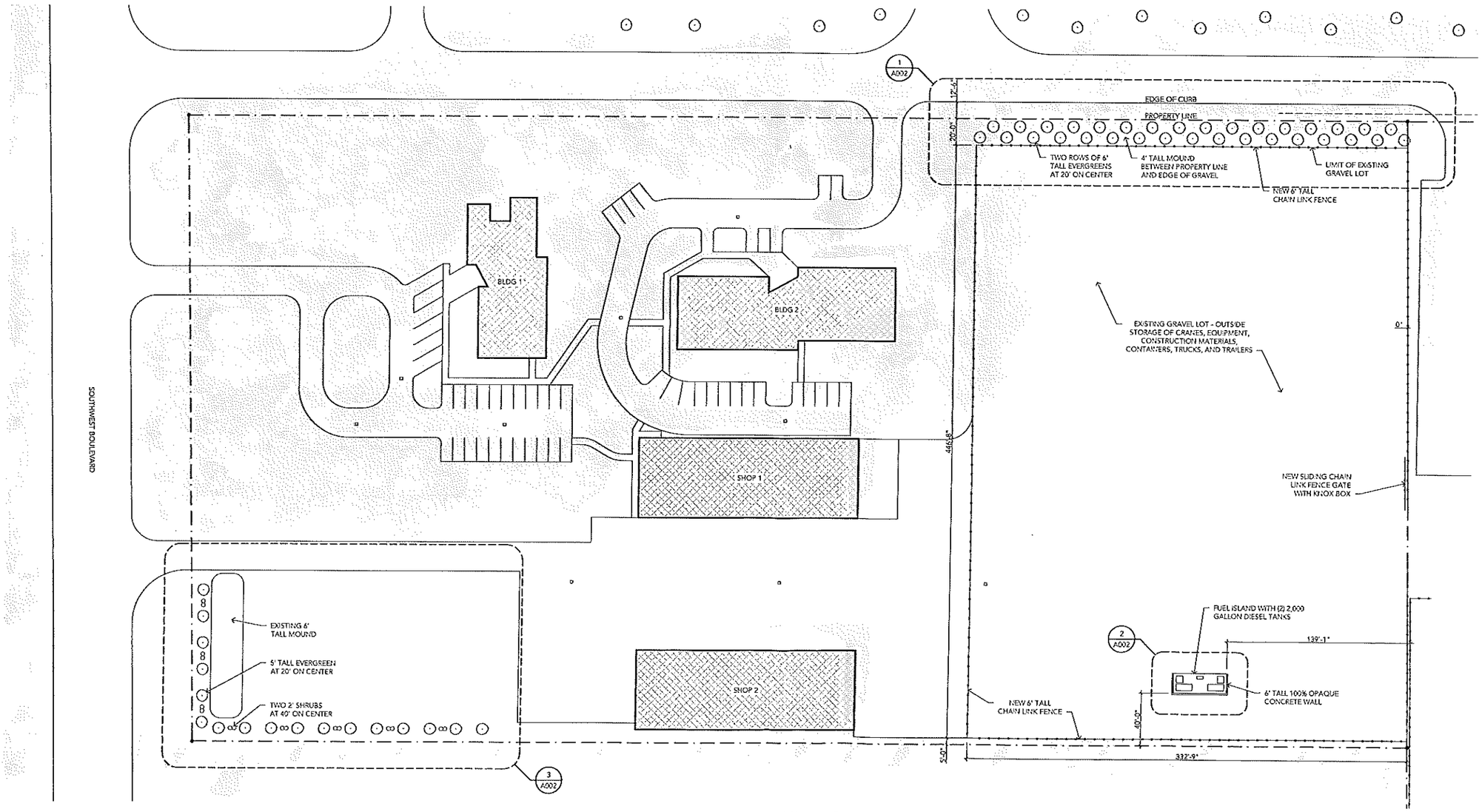
5) **The special conditions and circumstances do not result from the action of the applicant.**

Applicant is filing this variance application to cooperate with the City. A special permit for the outside storage area has been granted by City Council. As part of that special permit ordinance, the variances listed herein were also supported as stipulations. The applicant is only deviating from the Zoning Code standard regarding the fence height by allowance of one (1) more foot on the height of the fence, and to be within the building setback line with the fence (difference of 10' from the standard), as it will be shielded from the right-of-way by a landscaped mound. In addition, the Applicant is providing for a very nice earthen landscaped mound (4' in height with 6' in height evergreens, for a 10' screening device at installation). Applicant may attract and retain business tenants to the Property that bring income tax generation to the City. Applicant is being cooperative in terms of existing conditions that should be allowed to remain and the continued needs for the Property for effective light industrial business operations, while being mindful of zoning regulations and providing for a reasonable solution.

6) **The variance so granted does not violate the spirit of the Zoning Code. In granting a variance, the Board may impose such requirements and/or conditions it deems necessary and are not inconsistent with substantial justice and avoiding unreasonable hardship to property owners.**

The variances, if granted, do not violate the spirit of the Zoning Code, as the fence will be shielded from view to and from the right-of-way, the earthen landscaped mound is new and will also shield the fence, gravel, and outside storage yard from the right-of-way, and thus, adheres to the aesthetic goals and objectives of the City's regulations. A fence enclosing a storage area is necessary for industrial zoned properties for containment, security, and protection. The gravel is necessary for the continued maneuvering, parking, and storage of trucks, trailers, cranes, equipment, and trade materials. The spirit and intent of the Zoning Code can be met by granting the variances requested.

Parcel ID #	Owner Name	Owner Tax Mailing Address	Owner Mailing Address	Property Address or Site Address
040-007676-00	Plymouth 3500 Southwest LLC	Corelogic - N/A (Mortgage)	1300 East Ninth Street, Cleveland, Ohio 44114	3500 Southwest Boulevard, Grove City, Ohio 43123
040-004262-00	WPT Southwest Boulevard LP	Post Office Box A3879, Chicago, Illinois, 60690	4350 Baker Road, Suite 400, Minnetonka, MN 55343	0 Southwest Boulevard, Grove City, Ohio 43123
040-006747-00	3400 Southwest LLC	3458 Lewis Centre Way, Urbancrest, Ohio 43123	3400 Southwest Boulevard, Grove City 43123	3400 Southwest Boulevard, Grove City 43123
161-001059-00	3400 Southwest Five LLC	3458 Lewis Centre Way, Urbancrest, Ohio 43123	250 North Hartford, Columbus, Ohio 43222	3400 Lewis Center Way, Grove City, Ohio 43123
161-001062-00	Richard E. Cooley	Corelogic - N/A (Mortgage)	3765 West Third Avenue, Urbancrest, Ohio 43123	0 John Street, Grove City, Ohio 43123
161-001060-00	Richard E. Cooley	Corelogic - N/A (Mortgage)		3765 West Third Avenue, Urbancrest, Ohio 43123



A1 **SITE PLAN**
SCALE 1"=40'-0"

40 20 0

WESTPATRICK

SECURITY FENCE

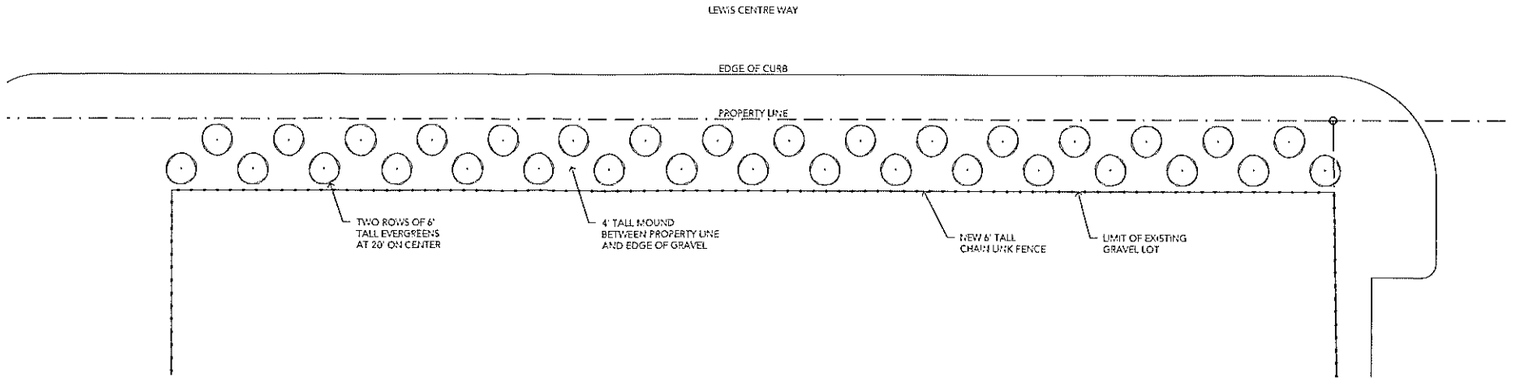
3400 SOUTHWEST BOULEVARD, GROVE CITY, OHIO 43123

STAMP: **NOT FOR CONSTRUCTION**

SET + DATE: **PRELIMINARY DECEMBER 5, 2023**

SHEET TITLE: **SITE PLAN**

SHEET #: **A001**



1 **LANDSCAPING PLAN**
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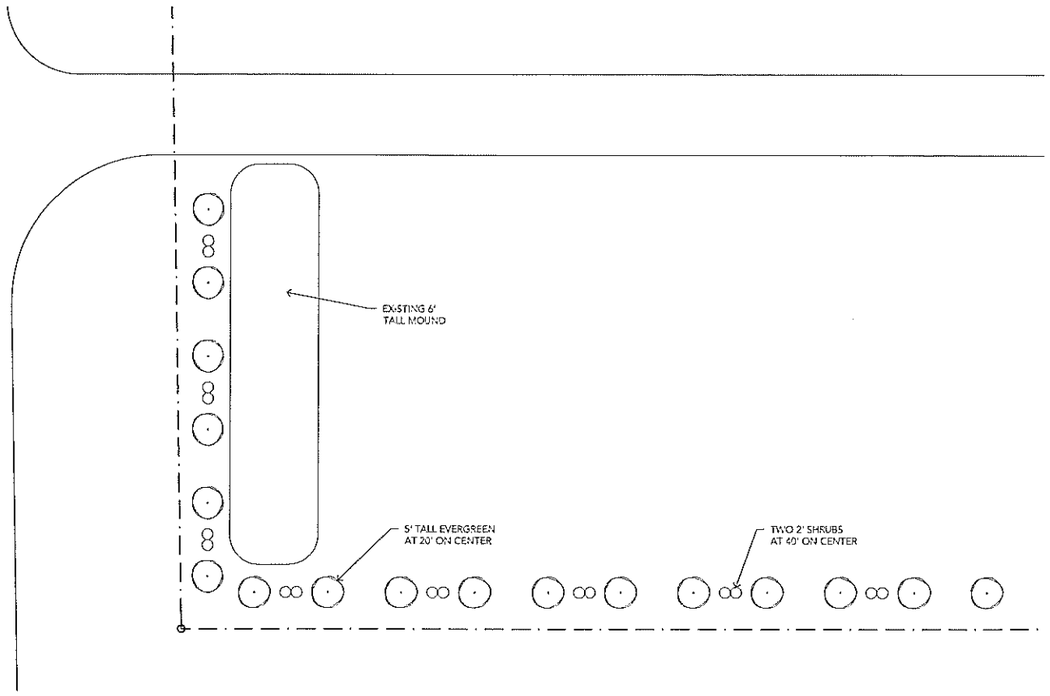
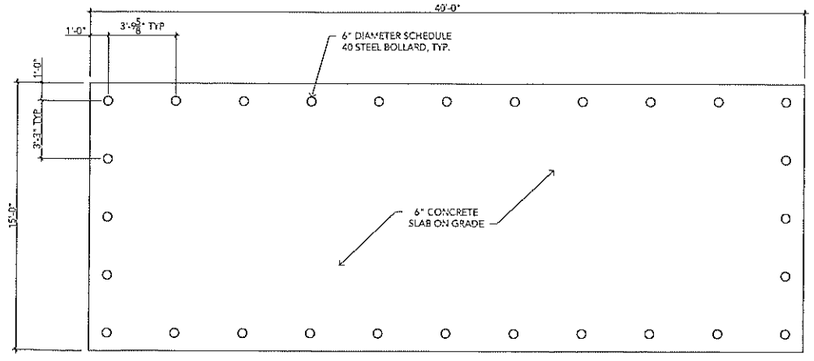


3 **LANDSCAPING PLAN**
SCALE 1"=20'-0"
20 10 0



2 **FUEL ISLAND PLAN**
SCALE 1/4"=1'-0"
4 2 1 0

WESTPATRICK

SECURITY FENCE

3400 SOUTHWEST BOULEVARD, GROVE CITY, OHIO 43123

STAMP: NOT FOR CONSTRUCTION

SET • DATE: PRELIMINARY DECEMBER 5, 2023

SHEET TITLE: ENLARGED SITE DETAILS

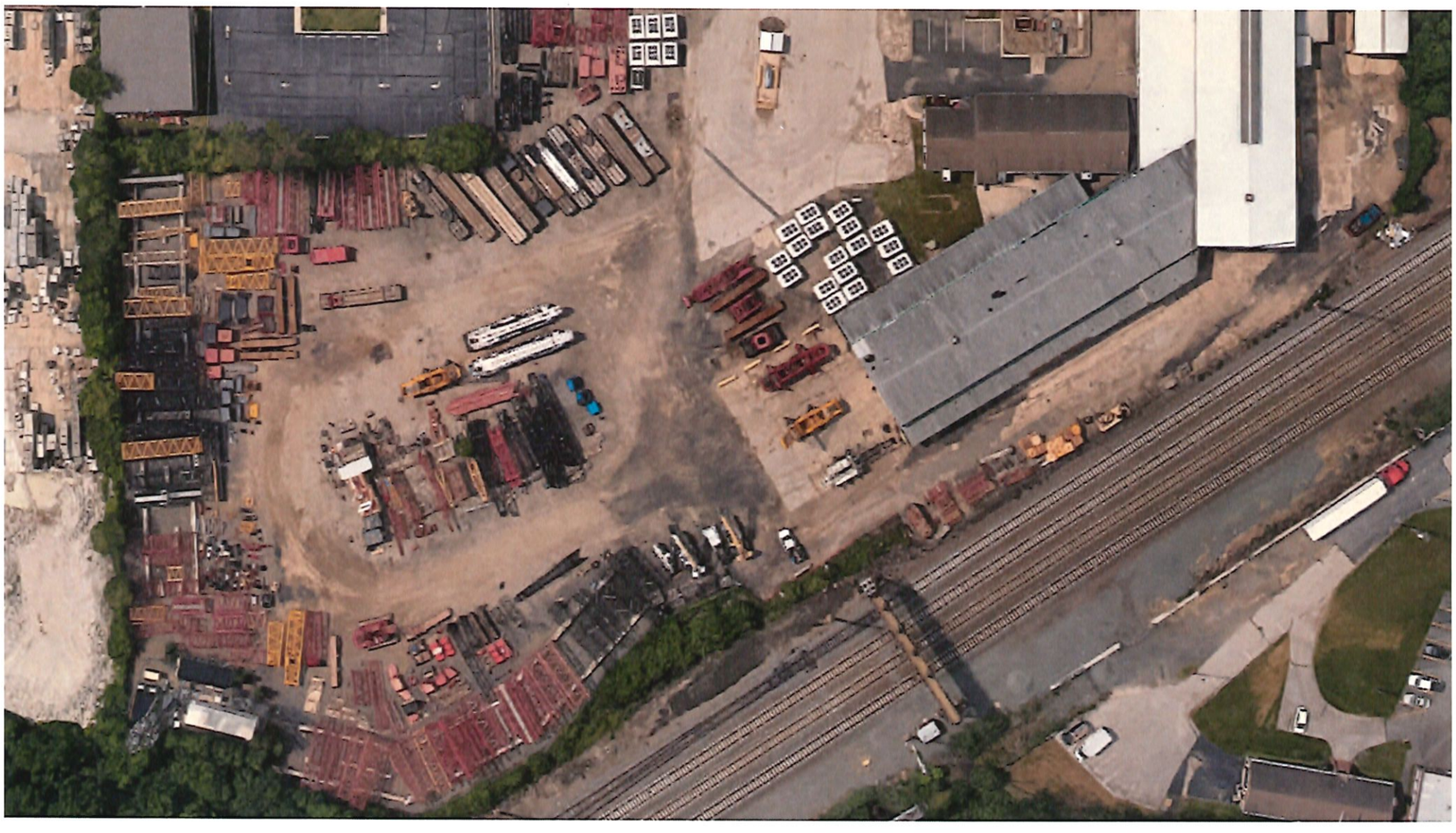
SHEET #: A002

DAYTON, OHIO

CARTERET, NEW JERSEY

INDIANAPOLIS, INDIANA

WILDER, KENTUCKY



RIDLEY PARK, PENNSYLVANIA

JESSUP, MARYLAND

ASHLAND, VIRGINIA

COLUMBIA, SOUTH CAROLINA

LA VERGNE, TENNESSEE

Grove City Building Division
4035 Broadway
Grove City, OH 43123
614-277-3075 (Phone)
614-277-3090 (Fax)
GroveCityOhio.gov

BOARD OF ZONING APPEALS APPLICATION

RECEIVED JAN 30 2024

TO: Board of Zoning Appeals
4035 Broadway, Grove City, Ohio 43123
Phone: 614-277-3075 - Planning & Zoning Coordinator

Checks Made Payable To:
CITY OF GROVE CITY
Filing Fee $100.00
* PAY BY C.C *

Date: 1-24-24

Application information must be completed or it will be returned and not placed on an agenda until it is complete and re-submitted. One original set of plans and 13 copies (14 total sets) shall be included when submitting this application. Each set shall include this application form and any additional attachments.

PUD-R

The City of Grove City Building Inspector has refused to issue a:

☑ Building Permit ☐ Certificate of Occupancy ☐ Sign Permit

at the following address 5486 Carlisle Dr Grove City, OH 43123 Parcel # 040-017483-00

as it is in violation of : Building Code No._____ Zoning Code No._____ Other:_____

I appeal to the Board of Zoning Appeals for a variance that will allow me to do the following:

Variance to Section/Table 1135.14 11 to Encroach Rear Building set Back For A Deck, Set Back is 25', Requesting to be Reduced to 14'. (11' VARIANCE)
21.65'X16' deck

Names, Address and Parcel numbers of all adjoining property owners (attach a separate sheet if needed):

5476 CARLISLE DR #040-017482.00 → ROCKFORD HOMES (VACANT LOT)

5496 CARLISLE DR #040-017484.00 → KIMBERLY TURCIOS

16835 HOLTON RD LLC #160-000981-00 (THIS PROPERTY DIRECTLY BEHIND.)

Are you the applicant or representative? ☑ Applicant ☑ Representative ☐ Property Owner

If you are the representative, who you are representing: AIS Renovations

Please note* *As the representative for this application, all correspondence will be directed to you. If additional space is needed, an addendum may be attached.*

Name of Applicant Parks Davis Company American Industrialize Set. DBA AIS Renovations.

Address 4394 Broadway City/State/Zip GC, OH, 43123

Phone 614 206-0224 Fax 614-875-5332 Email Accounting@AIS Renovations.com

Signature of Applicant _____

Grove City Building Division
4035 Broadway
Grove City, OH 43123
614-277-3075 (Phone)
614-277-3090 (Fax)
GroveCityOhio.gov

BOARD OF ZONING APPEALS
STATEMENT OF HARDSHIP

Under Section 1133.02 of the Grove City Codified Ordinances, the Board of Zoning Appeals has the power to grant variances from the Zoning Code or Sign Code. No variance shall be granted unless the Board finds that **all** of the following facts and conditions exist:

(1) The variance granted will not be contrary to public interest or adversely affect the health or safety of persons residing or working in the vicinity of the proposed development or be injurious to private property or public improvements in the vicinity.

(2) Granting the variance requested will not confer on the applicant any special privilege that is denied by the Zoning Code or Sign Code to other lands or structures in the same zoning district.

(3) A literal enforcement of the Zoning Code and Sign Code will result in unnecessary hardship by depriving the applicant of rights commonly enjoyed by other properties in the same zoning district under the terms of the Zoning Code or Sign Code.

(4) Special conditions and circumstances exist which are peculiar to the land or structure involved, and which are not applicable to other lands or structures in the same zoning district.

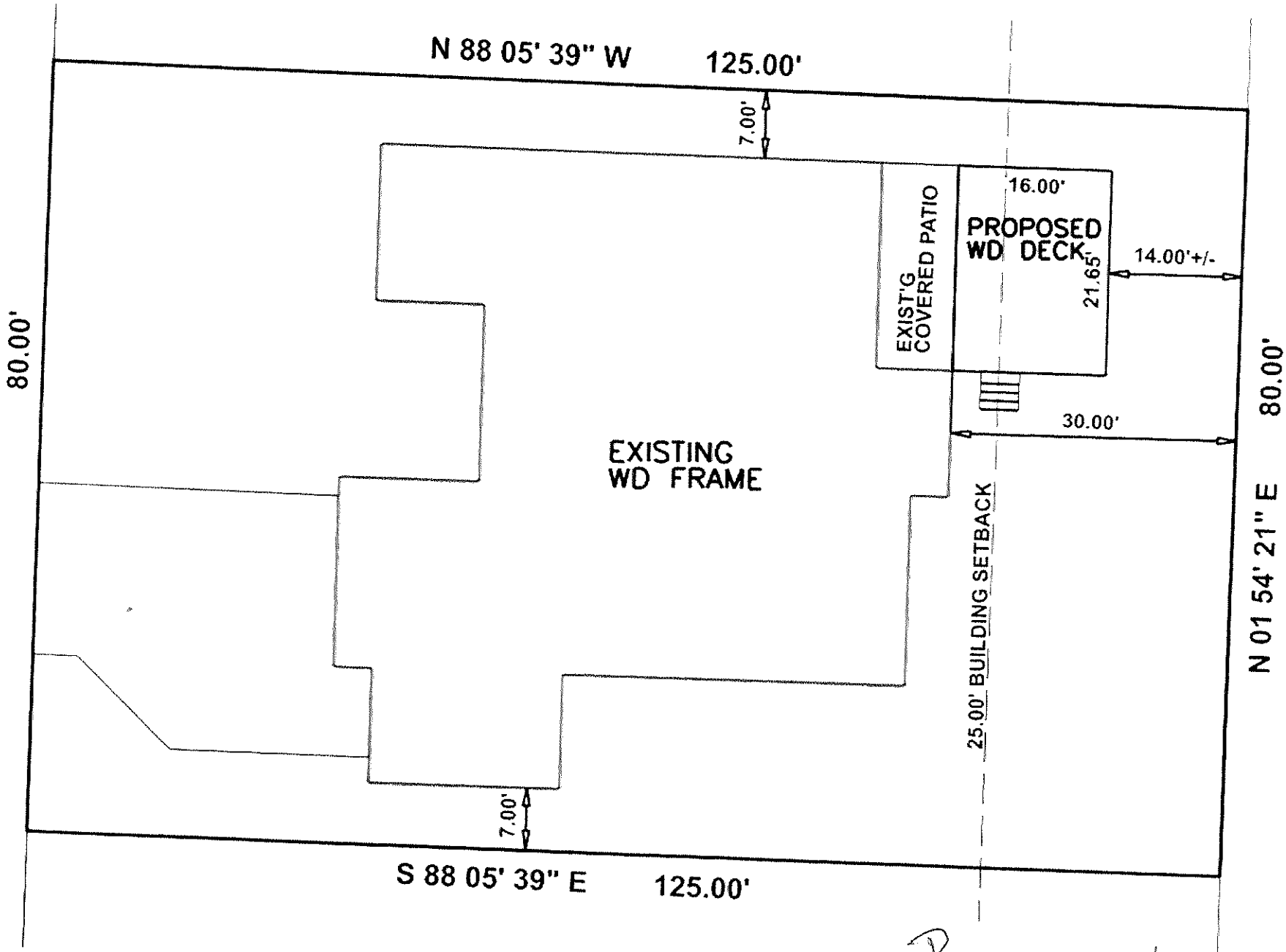
(5) The special conditions and circumstances do not result from the action of the applicant.

(6) The variance so granted does not violate the spirit of the Zoning Code. In granting a variance, the Board may impose such requirements and/or conditions it deems necessary and are not inconsistent with substantial justice and avoiding unreasonable hardship to property owners.

I have read Section 1133.02 and believe that my application for relief satisfies each of the six criteria set forth above in the following ways (attach a separate sheet if needed):

1. Approval will Not affect Safety or Property View of Any Neighbors
2. Understood. Approval does Not confer Any special Privilege. A concrete patio could ENCROACH setbacks but Does Not Work For this sloped Lot And Drainage, THEREFORE A DECK IS NECESSARY
3. Rear Yard is sloped which is A Safety Issue For the Elderly owner. Without Approval and Deck the Rear Yard Space is Not USABle For owner.
4. Lot is only 125' Deep with A Ranch Design Footprint making sloped Rear Yard UNUSABLE For owner.
5. Sloped Rear Yard MAKING it unsafe For older owner And Risk of Injury.
6. Variance Approval if granted, is understood that Condition or changes may be Requested For Approval.

Signature of Applicant _____ Date: 1/24/24


N 88 05' 39" W
125.00'
7.00'
16.00'
EXIST'G COVERED PATIO
PROPOSED WD DECK
21.65'
14.00'+/-
80.00'
30.00'
EXISTING WD FRAME
25.00' BUILDING SETBACK
80.00'
N 01 54' 21" E
7.00'
S 88 05' 39" E
125.00'
Request 11' Variance
5486
Carlisle, GC

GENERAL NOTES

A. GENERAL REQUIREMENTS

1. GENERAL STRUCTURAL AND ARCHITECTURAL NOTES ARE INTENDED TO AUGMENT THE DRAWINGS AND SPECIFICATIONS. SHOULD CONFLICTS EXIST BETWEEN THE GENERAL STRUCTURAL OR ARCHITECTURAL NOTES AND THE DRAWINGS, THE STRICTEST PROVISION SHALL GOVERN.
2. DO NOT SCALE DRAWINGS. WRITTEN DIMENSIONS TAKE PRECEDENCE OVER SCALED DIMENSIONS.
   GOVERNING CODE: STRICTEST PROVISIONS AS SET FORTH BY:
   CURRENT 2020 RESIDENTIAL CODE OF OHIO

B. GENERAL STRUCTURAL REQUIREMENTS

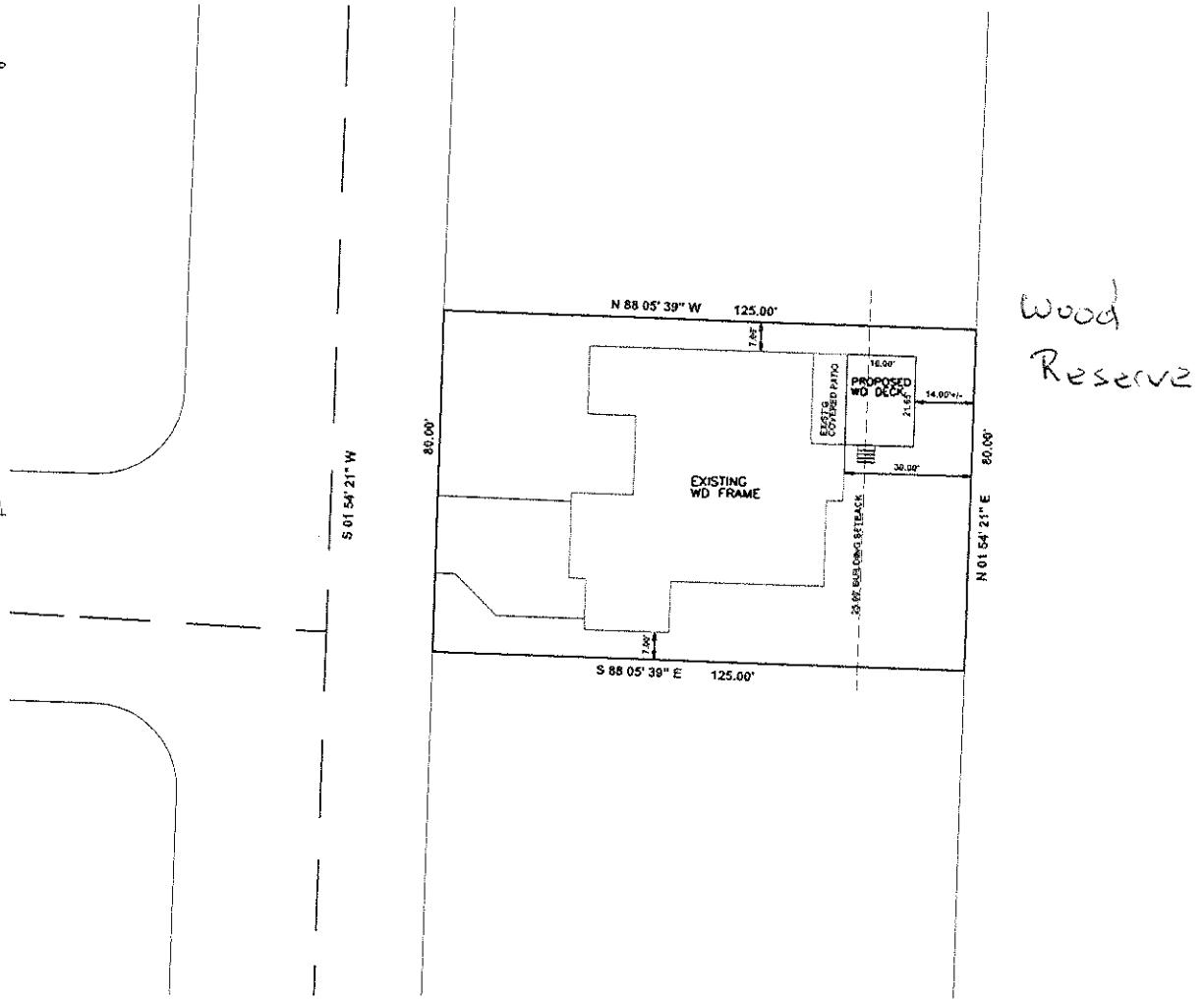
CLIMATIC AND GEOGRAPHIC DESIGN CRITERIA

GROUND SNOW LOAD	WIND SPEED MPH	SEISMIC DESIGN CAT.	SUBJECT TO DAMAGE FROM: WEATHERING	FROST LINE DEPTH	TERMITE	DECAY	WINTER DESIGN TEMP	ICE BARRIER UNDER-LAYMENT REQUIRED	FLOOD HAZARDS	AIR FREEZE INDEX	MEAN ANNUAL TEMP
25	115	D	NEVERE	SEE NOTES BELOW	SLIGHT TO MODERATE	SLIGHT TO MODERATE	5	YES	YES	1000 JANUARY	52

1. STRUCTURAL MEMBERS DESIGN CRITERIA:
   A. 40 P.S.F. LIVE LOAD IN ALL LIVING AREAS
   B. 10 P.S.F. DEAD LOAD IN ALL LIVING AREAS
   C. A. RAFTERS: 20 PSF LIVE LOAD, 15 PSF DEAD LOAD
      B. ROOF TRUSSES: 20 PSF TOP CHORD LIVE LOAD
      10 PSF TOP CHORD DEAD LOAD
      10 PSF BOTTOM CHORD LIVE LOAD
      5 PSF BOTTOM CHORD DEAD LOAD
   C. NET WIND UPLIFT 0 PSF
2. DIMENSIONAL LUMBER JOISTS WITH A DEPTH TO WIDTH RATIO EQUAL TO OR GREATER THAN 6 TO 1 (NOMINALLY) SHALL HAVE BRIDGING INSTALLED BETWEEN JOISTS, I.E. 2X12 JOISTS OR TALLER).
3. ALL FOOTINGS TO EXTEND BELOW FROST LINE.
   32" MIN. FROM GRADE TYPICAL U.N.O.
   34" MIN. FROM GRADE AT UNION COUNTY.
   36" MIN. FROM GRADE AT FRANKLIN COUNTY & DELAWARE COUNTY.
4. WIND SPEED DESIGN LOADS BASED ON 115 MPH (3 SEC. GUST) EXPOSURE C
5. GROUND SNOW LOAD 25 PSF.

B. CARPENTRY/FRAMING

1. HANDRAILS HAVE MIN AND MAX HEIGHT OF 34" & 38" MEASURED VERTICALLY FROM THE NOSE OF THE TREAD. HANDRAIL ENDS SHALL TERMINATE AT WALL/POST & SHALL NOT HAVE SPACE LESS THAN 1 1/2" BETWEEN THE WALL AND HANDRAIL. THE HANDGRIP PORTION SHALL NOT BE MORE THAN 2 1/4" IN CROSS SECTION DIMENSION OR AN APPROPRIATE SHAPE WHICH SHALL PROVIDE AN EQUIVALENT GRIPPING SURFACE.
2. GUARDRAILS SHALL HAVE A HEIGHT OF 36 INCHES AT ALL STAIRS AT ALL RAISED SURFACES LOCATED MORE THAN 30 INCHES ABOVE THE GRADE AND SPINDLES SHALL BE POSITIONED AS TO NOT ALLOW PASSAGE OF A 4" SPHERE.
3. FASTENERS FOR PRESSURE PRESERVATIVE TREATED WOOD SHALL BE G-185 HOT-DIPPED GALVANIZED STEEL, STAINLESS STEEL, SILICON BRONZE OR COPPER.



SITE PLAN
SCALE: NO SCALE

NOTE:
SITE PLAN WAS PREPARED FROM INFORMATION PROVIDED BY THE CLIENT AND DATA OBTAINED FROM COUNTY AUDITORS RESOURCES. THE SITE PLAN IS TO BE USED BY THE CLIENT FOR THE SOLE PURPOSE OF OBTAINING A BUILDING PERMIT. THE USE OF THIS SITE PLAN IS STRICTLY PROHIBITED.

ISSUE DATE: 12/11/23

ATS

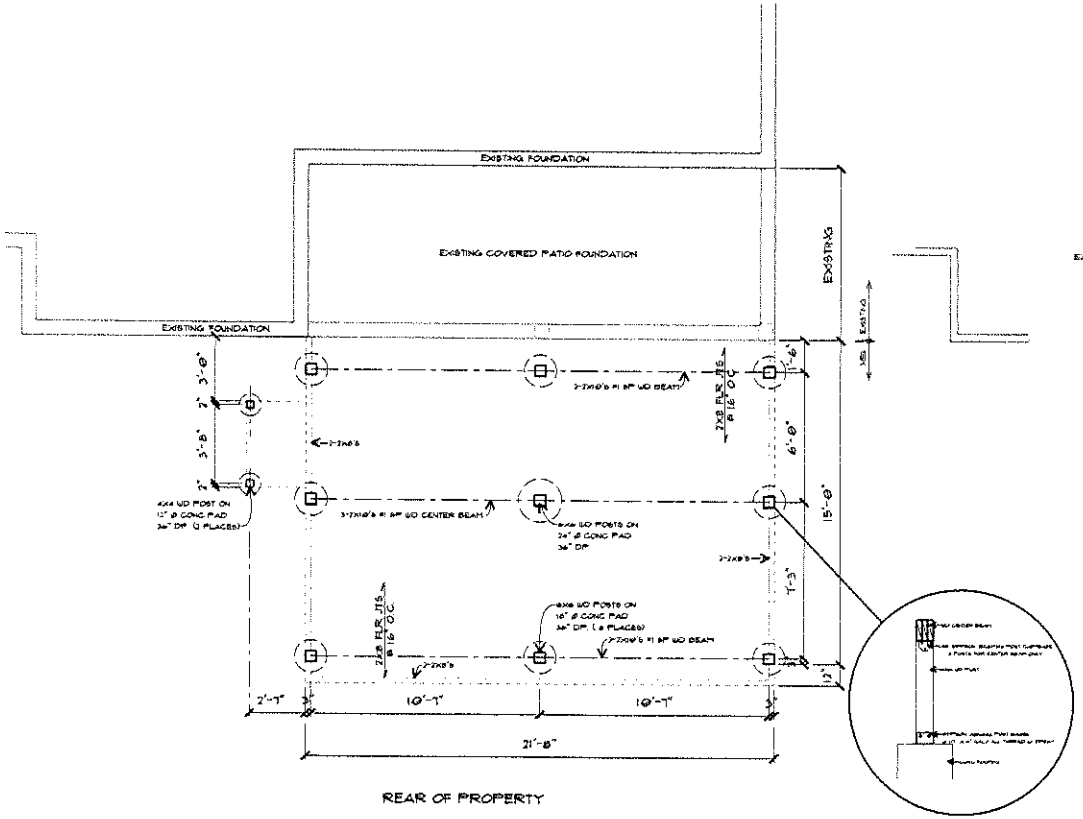
CARTER RESIDENCE
5486 CARLISLE DR
GROVE CITY, OHIO 43123

SCALE: 1"=20'

R&B DATE:

SHEET: SITE PLAN

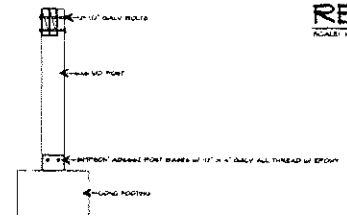
S-1



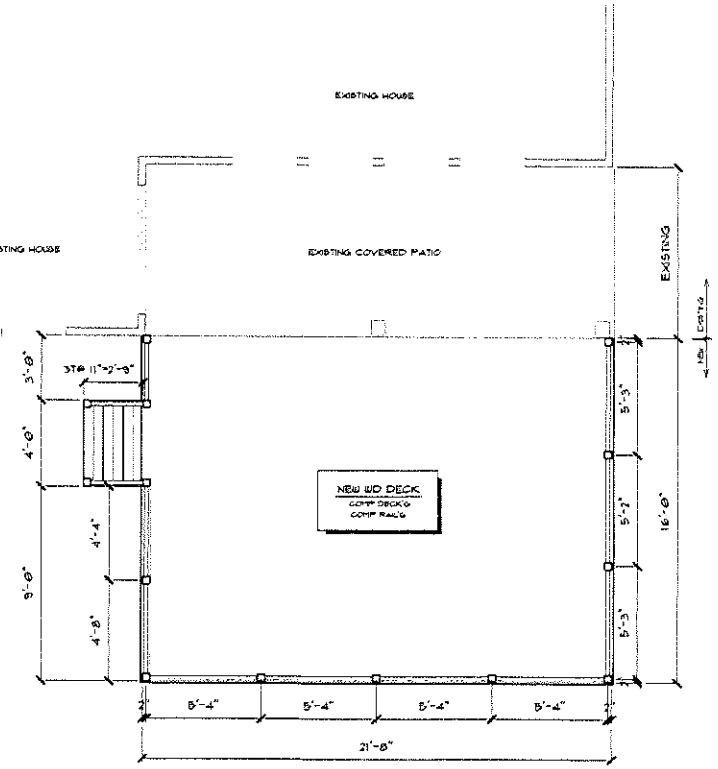
REAR OF PROPERTY

REAR DECK/FOUNDATION

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



TYPICAL POST/BEAM CONNECTION
DETAIL A.2



REAR OF PROPERTY

REAR DECK/FLOOR PLAN

SCALE: NO SCALE

NOTE: ALL LUMBER TO BE TREATED UNLESS NOTED OTHERWISE.

ISSUE DATE: 12/11/2

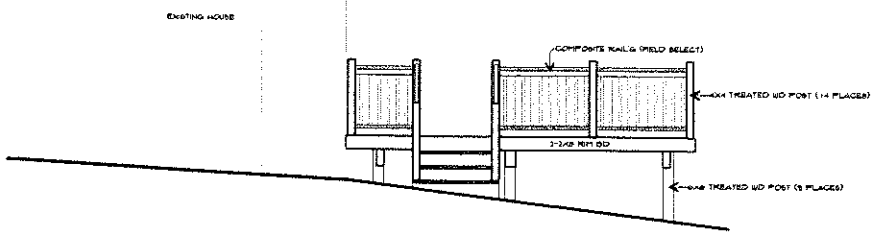
CARTER RESIDENCE
5486 CARLISLE DR
GROVE CITY, OHIO 43123

SCALE: 1/4"

REV DATES:

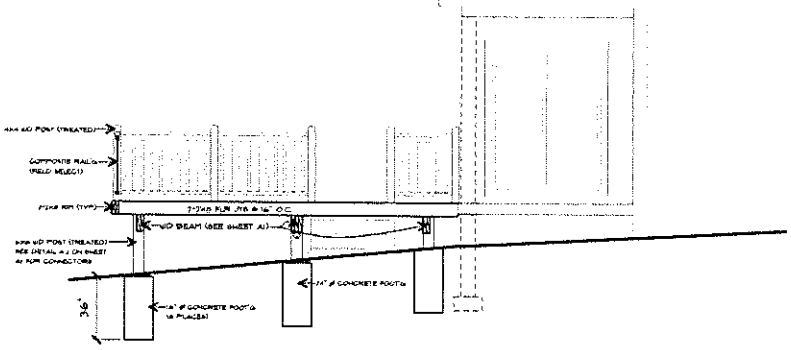
SHEET: FLOOR PLAN, FOUNDATION PLAN

A1



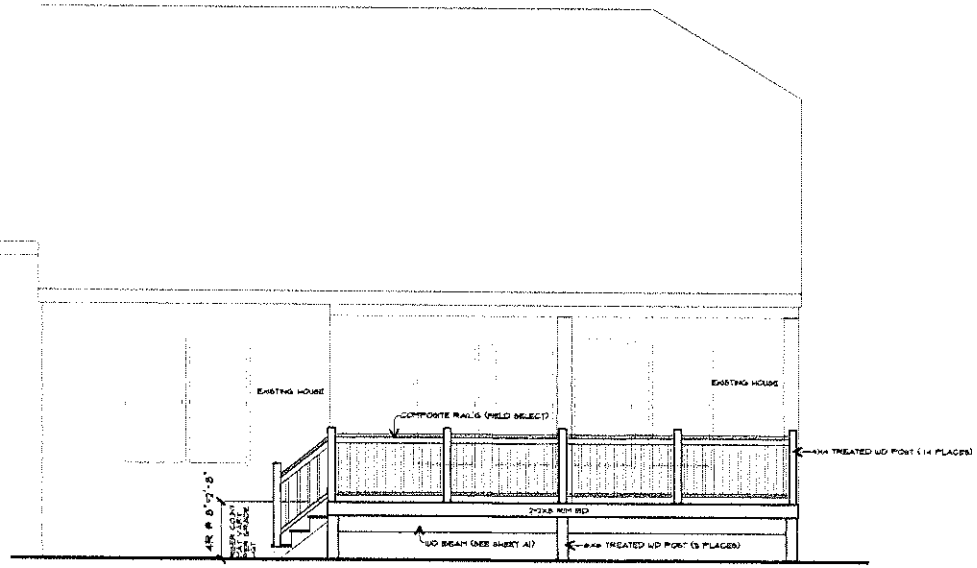
SIDE ELEVATION

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



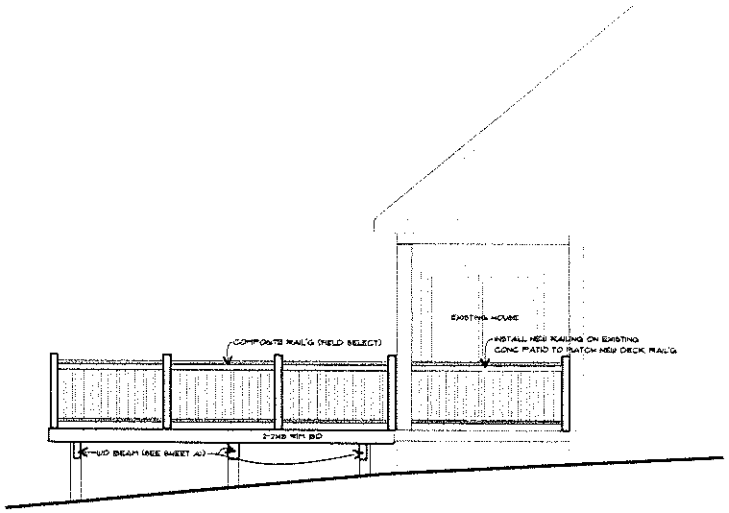
SECTION

SCALE: NO SCALE



REAR ELEVATION

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



SIDE ELEVATION

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

ISSUE DATE: 12/11/2

ATS

CARTER RESIDENCE

5486 CARLISLE DR

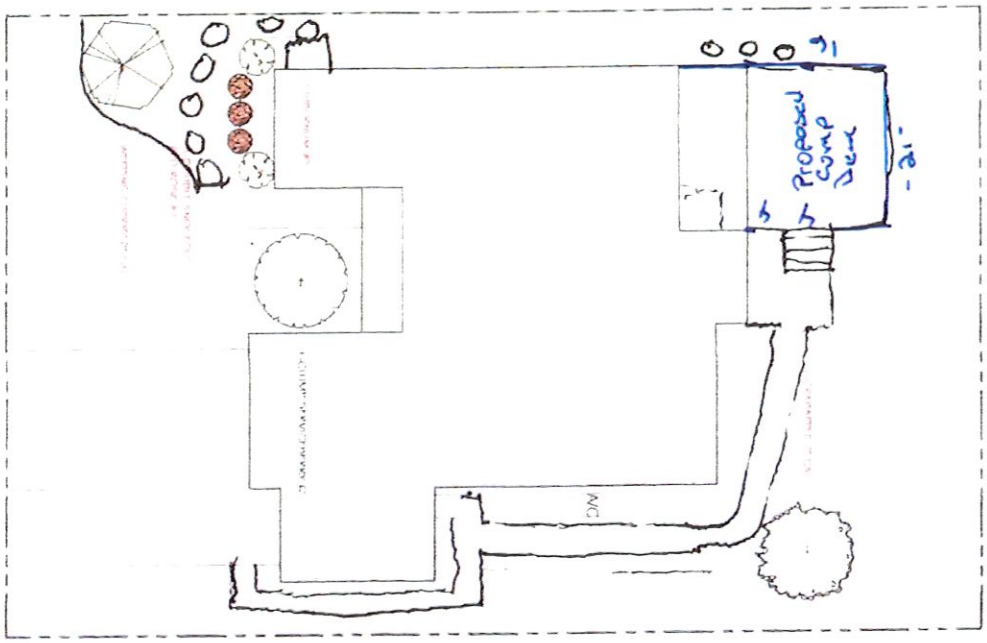
GROVE CITY, OHIO 43123

SCALE: 1/4"

REV DATE:

SHEET: ELEVATIONS

A2



LANDSCAPE PLAN

SCALE: 1" = 10'

11-8-2023

11/8/2023

Landscape Plan for Rockford Homes

Lot 175 Meadow Grove Estates

5486 Carlisle Dr. Grove City, OH. 43123

WILSON LANDSCAPE

09/15/2023

1" = 10'

AV

ORDER NO. MGE9-175

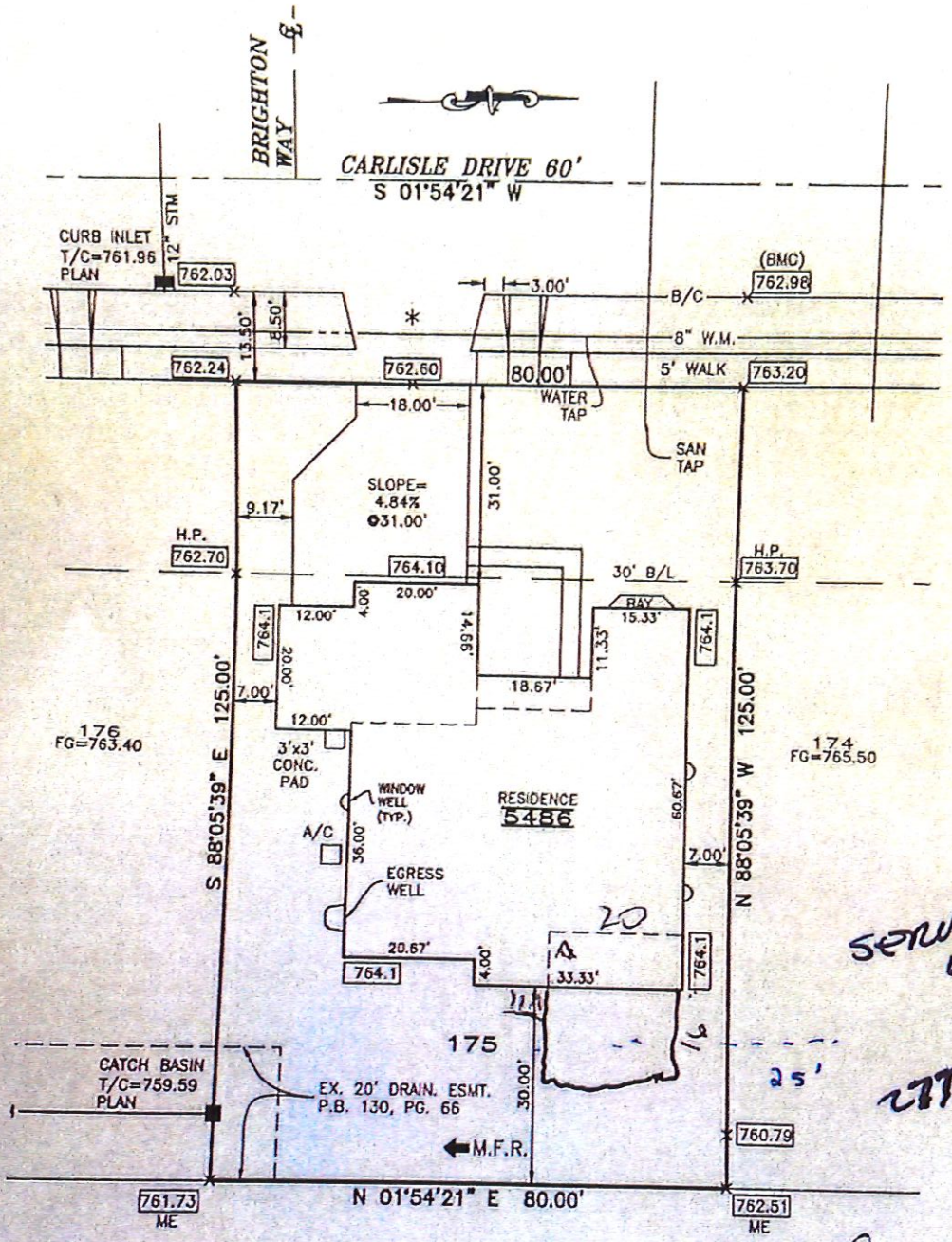
DATE: 03/02/23

FOR ROCKFORD HOMES HOUSE STYLE SPRUCE B COUNTY OF FRANKLIN

LOT/SUBDIVISION LOT 175 / MEADOW GROVE ESTATES NORTH SECTION 9 CITY/TWP OF GROVE CITY

ADDRESS 5486 CARLISLE DRIVE SCALE 1"= 20' DRAWN BY: AEL

MINIMUMS: R: 25' S: 6' BK: 132 PG: 121



SERVICE WALK

20

25'

277 3075

LOT CALCULATIONS ARE FOR ESTIMATING PURPOSES ONLY AND SHOULD BE VERIFIED BY THE BUILDER OR CONTRACTOR.

LOT CALCULATIONS	
LOCATION	S.F.
LOT	10000
HOUSE	3288
DRIVE	803
APPROACH	260
SER WALK	108
WALK	235
SOD	6250
LOT COV	32.88%

THIS PROPERTY IS LOCATED IN FLOOD ZONE X, MAP NO. 39049C 0406K EFF. DATE: 6/17/08

* STABILIZE CONSTRUCTION ENTRANCE.

ROCKFORD HOMES
POURED WALLS= 9
FINISH FLOOR= 766.10
TOP OF FOUNDATION= 765.10
FINISH GRADE= 764.10
GARAGE PAD= 764.10
BASEMENT FLOOR= 756.60

11-8-2023

11/8/2023

BUILDER TO INSTALL AND MAINTAIN EROSION CONTROL THROUGHOUT ALL PHASES OF CONSTRUCTION. FIELD MODIFICATIONS MAY BE NECESSARY.

WE HEREBY CERTIFY THAT THE FOREGOING PLOT PLAN WAS PREPARED FROM INFORMATION PROVIDED BY THE CLIENT AND DATA OBTAINED FROM ENGINEERED SUBDIVISION PLANS. THIS PLOT PLAN IS TO BE USED BY THE CLIENT FOR THE SOLE PURPOSE OF OBTAINING A BUILDING PERMIT. THE USE OF THE PLOT PLAN FOR ANY OTHER USE IS STRICTLY PROHIBITED.

STATE OF OHIO SCOTT D. GRUNDEI S-8047 REGISTERED PROFESSIONAL SURVEYOR

Scott D. Grundei 03/28/23

City of Grove City

Division of Building and Zoning

Receipt of Payment

4035 Broadway
Grove City, OH 43123
Phone: (614) 277-3075
Fax: (614) 277-3090

American Industrialized Set
5800 Opossum Run Rd
Grove City,OH 43123

RECEIPT OF PAYMENT

Receipt Number: 2024000430
Receipt Date: 01/30/2024
Date Paid: 01/30/2024
Full Amount: $100.00

Payment Details:	Payment Method	Amount Tendered	Check/Auth Number
	Credit Card	$100.00	1022

Amount Tendered: $100.00
Change / Overage: $0.00

FEE DETAILS:

Fee Description	Reference Number	Amount Owing	Amount Paid
Board of Zoning Appeals	PR20230003144	$100.00	$100.00

1% and 3% State Fees are NON-REFUNDABLE.
Under City Code Section 939.08, Sewer Tap Fees are NON-REFUNDABLE after 30 days from the date paid.

Grove City Building Division
4035 Broadway
Grove City, OH 43123
614-277-3075 (Phone)
614-277-3090 (Fax)
GroveCityOhio.gov

BOARD OF ZONING APPEALS APPLICATION

TO: Board of Zoning Appeals
4035 Broadway, Grove City, Ohio 43123
Phone: 614-277-3075 - Planning & Zoning Coordinator

Checks Made Payable To:
CITY OF GROVE CITY
Filing Fee $100.00

RECEIVED
JAN 30 2024

Date: January 29, 2024

Application information must be completed or it will be returned and not placed on an agenda until it is complete and re-submitted. One original set of plans and 13 copies (14 total sets) shall be included when submitting this application. Each set shall include this application form and any additional attachments.

The City of Grove City Building Inspector has refused to issue a:

☑ Building Permit ☐ Certificate of Occupancy ☐ Sign Permit

at the following address 3679 Grove City Road *Grove City, OH 43123* Parcel # Attached

as it is in violation of : Building Code No.____ Zoning Code No. 1135.12-II Other:____

I appeal to the Board of Zoning Appeals for a variance that will allow me to do the following:

The roof height will slope from 36'-0" down to 31'-10" (eave to eave). There will be an intermittent 1``-6" parapet wall on the front elevation of the building.

Therefore, the variance request is for the Building Height to be increased by 2'-6" from 35' to 37'-6".

Please see attached elevations and rendering.

Names, Address and Parcel numbers of all adjoining property owners (attach a separate sheet if needed):
Please see attached.

Are you the applicant or representative? ☑ Applicant ☐ Representative ☐ Property Owner

If you are the representative, who you are representing: ____

Please note* *As the representative for this application, all correspondence will be directed to you. If additional space is needed, an addendum may be attached.*

Name of Applicant Chris Bradley Company The Camber Company
Address 6760 Colt Court City/State/Zip Dublin, OH 43017
Phone 614.578.3581 Fax ____ Email cbradley9@hotmail.com
Signature of Applicant ____

Revised 1/2017

Grove City Building Division
4035 Broadway
Grove City, OH 43123
614-277-3075 (Phone)
614-277-3090 (Fax)
GroveCityOhio.gov

BOARD OF ZONING APPEALS
STATEMENT OF HARDSHIP

Under Section 1133.02 of the Grove City Codified Ordinances, the Board of Zoning Appeals has the power to grant variances from the Zoning Code or Sign Code. No variance shall be granted unless the Board finds that **all** of the following facts and conditions exist:

(1) The variance granted will not be contrary to public interest or adversely affect the health or safety of persons residing or working in the vicinity of the proposed development or be injurious to private property or public improvements in the vicinity.

(2) Granting the variance requested will not confer on the applicant any special privilege that is denied by the Zoning Code or Sign Code to other lands or structures in the same zoning district.

(3) A literal enforcement of the Zoning Code and Sign Code will result in unnecessary hardship by depriving the applicant of rights commonly enjoyed by other properties in the same zoning district under the terms of the Zoning Code or Sign Code.

(4) Special conditions and circumstances exist which are peculiar to the land or structure involved, and which are not applicable to other lands or structures in the same zoning district.

(5) The special conditions and circumstances do not result from the action of the applicant.

(6) The variance so granted does not violate the spirit of the Zoning Code. In granting a variance, the Board may impose such requirements and/or conditions it deems necessary and are not inconsistent with substantial justice and avoiding unreasonable hardship to property owners.

I have read Section 1133.02 and believe that my application for relief satisfies each of the six criteria set forth above in the following ways (attach a separate sheet if needed):

1. Please see attached.

2.

3.

4.

5.

6.

Signature of Applicant _____ Date: 1/29/2024

Subject Property Parcel #'s

040-003261
040-003263
040-003265
040-003267
040-003268
040-017851

Adjoining Property Owners

NAME	STREET NO.	STREET NAME	CITY	STATE	ZIP	PARCEL NO.
SOUTHWESTERN CHURCH OF CHRIST	3767	GROVE CITY ROAD	GROVE CITY	OH	43123	040-000914
WADDELL GEOFFREY S	4124	RISHEL CT	GROVE CITY	OH	43123	040-008798
LANSFORD JOSIAH ROBBIN	4134	RISHEL CT	GROVE CITY	OH	43123	040-008799
HEIMLICH DANIELLE K	4144	RISHEL CT	GROVE CITY	OH	43123	040-008800
OSBORN RYAN M	4154	RISHEL CT	GROVE CITY	OH	43123	040-008801
DUNN AARON S	4164	RISHEL CT	GROVE CITY	OH	43123	040-008802
STAMPER DONALD L	4174	RISHEL CT	GROVE CITY	OH	43123	040-008803
PROGRESS RESIDENTIAL BORROWER 21 LLC	4184	RISHEL CT	GROVE CITY	OH	43123	040-008804
SRYOCK BRAD P	4194	RISHEL CT	GROVE CITY	OH	43123	040-008805
HOWARD JENNIFER L	4204	RISHEL CT	GROVE CITY	OH	43123	040-008806
SNAUWAERT GREG	4214	RISHEL ST	GROVE CITY	OH	43123	040-008807
CASTO JAMI MONNET	4224	RISHEL ST	GROVE CITY	OH	43123	040-008808
JOHNSON KENNETH	4234	RISHEL ST	GROVE CITY	OH	43123	040-008809
JACK RENA L	4244	RISHEL ST	GROVE CITY	OH	43123	040-008810
GENHEIMER WILLIAM MICHAEL	4254	RISHEL ST	GROVE CITY	OH	43123	040-008811
CAIN MARK A SR	4264	RISHEL ST	GROVE CITY	OH	43123	040-008812
SMITH SAMANTHA J	4274	RISHEL ST	GROVE CITY	OH	43123	040-008813
CITY OF GROVE CITY		RISHEL ST	GROVE CITY	OH	43123	040-008814
ALI ADEN MUSTAF	4304	RISHEL ST	GROVE CITY	OH	43123	040-016065
MARA NICHOLAS	4314	RISHEL ST	GROVE CITY	OH	43123	040-016066
HACKWORTH NANCY J	4324	RISHEL ST	GROVE CITY	OH	43123	040-016067
SAUL ASHLEY MARIE	4334	RISHEL ST	GROVE CITY	OH	43123	040-016068
WHITE JESSICA JEAN	4344	RISHEL ST	GROVE CITY	OH	43123	040-016069
JACKSON BARRY LYNN	4354	RISHEL ST	GROVE CITY	OH	43123	040-016070
AUTUMN GROVE HOMEOWNERS ASSOCIATION INC		RISHEL ST	GROVE CITY	OH	43123	040-016094
CSX TRANSPORTATION INC BALTIMORE & OHIO RY			GROVE CITY	OH	43123	040-000011
ROSDEV PORTFOLIIO TOS LLC		SUNSHINE PARK PL	GROVE CITY	OH	43123	040-003269
GERMAN LUTHERAN CEMETARY		GROVE CITY PI	GROVE CITY	OH	43123	040-003270
MEADOW PARK PARTNERS	4083	JENNIFER PL	GROVE CITY	OH	43123	040-003776
SLADECO INC	3691-3697	GROVE CITY RD	GROVE CITY	OH	43123	040-003258
RENTALS 4 U LLC	3699	GROVE CITY RD	GROVE CITY	OH	43123	040-005702

I have read Section 1133.02 and believe that my application for relief satisfies each of the six criteria set forth above in the following ways (attach a separate sheet if needed):

1. Modifying the finished building height from 35' to 37'-6" will not be contrary to public interest or adversely affect the health or safety of persons residing or working in the vicinity of the proposed development or be injurious to private property or public improvements in the vicinity.

2. Several buildings in the IND-2 zoning district have been built to heights exceeding the height requested so granting the variance requested will not confer on the applicant any special privilege that is denied by the Zoning Code or Sign Code to other lands or structures in the same zoning district. Additionally, the Final Development Plan was submitted with a Building Height of 37'-6" and approved by Planning and Zoning and City Council.

3. The additional height is being requested to align with the current flex building leasing market in which tenants often require an internal clearance of 32'. The requested building height will allow for a "clear height" of 28'-6" at the first column line. This is the minimum height necessary for the building to be competitive from a market standpoint and to attract the best employers to Grove City. The requested height will also allow the developer to utilize today's standard construction methods and practices as well as parapets, sloping and drainage and other architectural features that are typical in other buildings with the IND-2 zoning district.

4. The requested height is to allow the subject buildings to be built in a manner consistent with other similar structures in this zoning district.

5. The requested building height is dictated by the tenant market as well as modern construction methods and are not a result of action from the applicant.

6. The requested building height does not violate the spirit of the Zoning Code (Ind-2) which allows for industrial, and flex uses that require the additional internal clearance. The increased height is minimal, only on one of the elevations, and will not have a material effect on the type or aesthetics of the buildings which are already approved.

RESOLUTION NO. CR-48-23

A RESOLUTION TO APPROVE THE DEVELOPMENT PLAN FOR
GROVE CITY INNOVATION CENTER LOCATED AT 3679 GROVE CITY ROAD

WHEREAS, on December 05, 2023, the Planning Commission recommended approval of the Development Plan for Grove City Innovation Center with the following stipulations:

1. A Variance shall be obtained from the Board of Zoning Appeals to exceed the maximum permitted building height of 35' x 2' 6" for a total overall building height of 37' 6"; and
2. Landscaping shall be added along the west property line where it is determined that the 80% opacity requirement between incompatible land uses is not achieved through existing, on-site vegetation; and
3. A fence or guardrail shall be added along the western elevation of the storm water basin where the basin is adjacent to the multi-use path.

NOW, THEREFORE BE IT RESOLVED BY THE COUNCIL OF THE CITY OF GROVE CITY, STATE OF OHIO, THAT:

SECTION 1. This Council hereby approves the Development Plan for Grove Cty Innovation Center located at 3679 Grove City Road, contingent upon the stipulations set by Planning Commission.

SECTION 2. This approval shall be good for 12 months from the date passed, or as otherwise provided in Section 1101.07(b) of the Codified Ordinances of the City of Grove City, Ohio.

SECTION 3. This resolution shall take effect at the earliest opportunity allowed by law.

Ted A. Berry, President of Council

Richard L. Stage, Mayor

Passed: 12-18-23
Effective: 12-18-23

Attest: Tami K. Kelly, MMC, Clerk of Council

I Certify that this resolution is correct as to form.

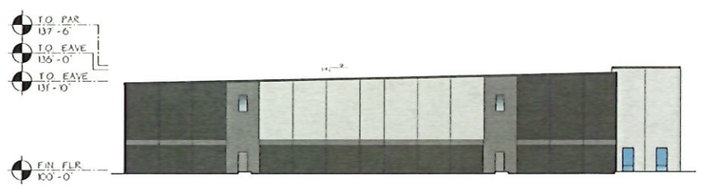
Stephen J. Smith, Director of Law

Conceptual Renderings - Architectural 3D Rendering

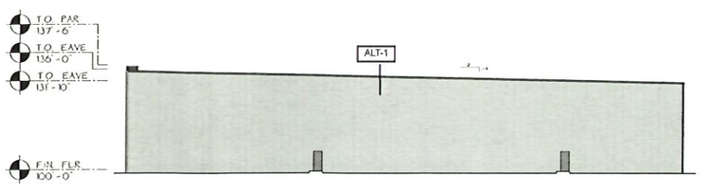
Conceptual Renderings - Architectural 2D Elevations

WEST ELEVATION

EAST ELEVATION



NORTH ELEVATION



SOUTH ELEVATION

Grove City Building Division
4035 Broadway
Grove City, OH 43123
614-277-3075 (Phone)
614-277-3090 (Fax)
GroveCityOhio.gov

BOARD OF ZONING APPEALS APPLICATION

TO: Board of Zoning Appeals
4035 Broadway, Grove City, Ohio 43123
Phone: 614-277-3075 – Planning & Zoning Coordinator

Checks Made Payable To:
CITY OF GROVE CITY
Filing Fee $100.00

RECEIVED DEC 27 2023

Date: 12-26-2023

Application information must be completed or it will be returned and not placed on an agenda until it is complete and re-submitted. One original set of plans and 13 copies (14 total sets) shall be included when submitting this application. Each set shall include this application form and any additional attachments.

The City of Grove City Building Inspector has refused to issue a:

☑ Building Permit ☐ Certificate of Occupancy ☐ Sign Permit

at the following address 5824 Quail Run Drive, *Grove City, OH 43123* Parcel # 040-009118

as it is in violation of : Building Code No._____ Zoning Code No._____ Other:_____

I appeal to the Board of Zoning Appeals for a variance that will allow me to do the following:
Please see attached Exhibit "A".

Names, Address and Parcel numbers of all adjoining property owners (attach a separate sheet if needed):
Please see attached Exhibit "B".

Are you the applicant or representative? ☑ Applicant ☑ Representative ☐ Property Owner

If you are the representative, who you are representing: George O. and Rhea L. Humphrey

Please note* *As the representative for this application, all correspondence will be directed to you. If additional space is needed, an addendum may be attached.*

Name of Applicant Rebecca J. Mott, Attorney Company Plank Law Firm, LPA

Address 411 East Town Street, Floor 2 City/State/Zip Columbus, Ohio 43215

Phone 614-947-8600 Fax 614-228-1790 Email rjm@planklaw.com

Signature of Applicant Rebecca J. Mott, Attorney

Revised 1/2017

Grove City Building Division
4035 Broadway
Grove City, OH 43123
614-277-3075 (Phone)
614-277-3090 (Fax)
GroveCityOhio.gov

BOARD OF ZONING APPEALS
STATEMENT OF HARDSHIP

Under Section 1133.02 of the Grove City Codified Ordinances, the Board of Zoning Appeals has the power to grant variances from the Zoning Code or Sign Code. No variance shall be granted unless the Board finds that **all** of the following facts and conditions exist:

(1) The variance granted will not be contrary to public interest or adversely affect the health or safety of persons residing or working in the vicinity of the proposed development or be injurious to private property or public improvements in the vicinity.

(2) Granting the variance requested will not confer on the applicant any special privilege that is denied by the Zoning Code or Sign Code to other lands or structures in the same zoning district.

(3) A literal enforcement of the Zoning Code and Sign Code will result in unnecessary hardship by depriving the applicant of rights commonly enjoyed by other properties in the same zoning district under the terms of the Zoning Code or Sign Code.

(4) Special conditions and circumstances exist which are peculiar to the land or structure involved, and which are not applicable to other lands or structures in the same zoning district.

(5) The special conditions and circumstances do not result from the action of the applicant.

(6) The variance so granted does not violate the spirit of the Zoning Code. In granting a variance, the Board may impose such requirements and/or conditions it deems necessary and are not inconsistent with substantial justice and avoiding unreasonable hardship to property owners.

I have read Section 1133.02 and believe that my application for relief satisfies each of the six criteria set forth above in the following ways (attach a separate sheet if needed):

1. N/A

2.

3.

4.

5.

6.

Signature of Applicant Rebecca J. Mott, Attorney Date: 12-26-2023

Revised 1/2017

Exhibit "B"

Parcel ID #	Owner Name	Owner Tax Mailing Address	Owner Mailing Address	Property Address or Site Address
040-009132-00	Lester & Teresa Aderhold	Corelogic - N/A (Mortgage)	5833 Birch Bark Court, Grove City, Ohio 43123	5833 Birch Bark Court, Grove City, Ohio 43123
040-009131-00	FKH SFR Propco H LP	One Parkway 75 Center, 1850 Parkway Place SE, Suite 900, Marietta, Georgia 30067	1850 Parkway Place, Suite 900, Marietta, Georgia 30067	5823 Birch Bark Court, Grove City, Ohio 43123
040-009130-00	Ronald E. & Stacy L. Whisner	5813 Birch Bark Court, Grove City, Ohio 43123	5813 Birch Bark Court, Grove City, Ohio 43123	5813 Birch Bark Court, Grove City, Ohio 43123
040-009129-00	Donald R. & Karaline K. Grubaugh	Corelogic - N/A (Mortgage)	5803 Birch Bark Court, Grove City, Ohio 43123	5803 Birch Bark Court, Grove City, Ohio 43123
040-009128-00	Steven M. & Sue A. Burke	5793 Birch Bark Court, Grove City, Ohio 43123	5793 Birch Bark Court, Grove City, Ohio 43123	5793 Birch Bark Court, Grove City, Ohio 43123
040-009120-00	William A. & Bernice Ruth Johnson	Corelogic - N/A (Mortgage)	5804 Quail Run Drive, Grove City, Ohio 43123	5804 Quail Run Drive, Grove City, Ohio 43123
040-009119-00	Annemarie Huston	Union Savings Bank - N/A (Mortgage)	5814 Quail Run Drive, Grove City, Ohio 43123	5814 Quail Run Drive, Grove City, Ohio 43123
040-009118-00	George O. & Rhea L. Humphrey	5824 Quail Run Drive, Grove City, Ohio 43123	5824 Quail Run Drive, Grove City, Ohio 43123	5824 Quail Run Drive, Grove City, Ohio 43123
040-009117-00	Patricia M. Gorman	5834 Quail Run Drive, Grove City, Ohio 43123	5834 Quail Run Drive, Grove City, Ohio 43123	5834 Quail Run Drive, Grove City, Ohio 43123
040-009116-00	Zavier Rafael Sanchez	Corelogic - N/A (Mortgage)	5844 Quail Run Drive, Grove City, Ohio 43123	5844 Quail Run Drive, Grove City, Ohio 43123
040-009115-00	Robert G. & Viola M. Briggeman	Corelogic - N/A (Mortgage)	5839 Quail Run Drive, Grove City, Ohio 43123	5839 Quail Run Drive, Grove City, Ohio 43123
040-009114-00	Robert J. & Lila J. Moran	5829 Quail Run Drive, Grove City, Ohio 43123		5829 Quail Run Drive, Grove City, Ohio 43123
040-009113-00	CVC and Mary Kate Thomas	Corelogic - N/A (Mortgage)	5819 Quail Run Drive, Grove City, Ohio 43123	5819 Quail Run Drive, Grove City, Ohio 43123
040-009112-00	Matthew Thompson	Corelogic - N/A (Mortgage)	5809 Quail Run Drive, Grove City, Ohio 43123	5809 Quail Run Drive, Grove City, Ohio 43123

Exhibit "A"

This is an appeal by Applicant, Rebecca J. Mott, Attorney for Property Owners, George O. Humphrey and Rhea L. Humphrey, relative to the Notice of Corrections Required letter issued by the City of Grove City, Ohio Building Division (Chief Building Official) dated November 27, 2023 (the "Notice of Corrections Decision"), under Building Permit Application # PR20230001674 (the "Permit Application"). Please also see the Permit Application, as set forth on Exhibit 1, attached hereto and incorporated herein by this reference. Please see Notice of Corrections Decision, as set forth on Exhibit 2, attached hereto and incorporated herein by this reference.

Applicant is appealing the Notice of Corrections Decision for the following reasons (in sequential order from the order contained in the Notice of Corrections Decision):

Building Review

1. **Sealed plans need to be stamped by Ohio Licensed Engineer to be accepted.**

This building correction item fails for lack of specific reference (and proper, legal notice to, Applicant and Property Owners) as to any Zoning Code regulation or other sections or regulations of the Codified Ordinances of the City of Grove City, Ohio, for which this item of correction applies or pertains, or that Applicant's Permit Application fails to comply with any standard.

Further, Applicant provided a site plan/survey dated October 27, 2023 (the "Site Plan"), stamped by a licensed surveyor, Steven J. Hoy (License Number 7313), with the Permit Application for review of the site improvements for the real property located at 5824 Quail Run Drive, Grove City, Ohio 43123 (the "Property") to show compliance of the proposed site improvements with the land use approvals obtained for the Property and other Zoning Code standards that apply to the zoning district. In addition, the Applicant provided plans and specifications for the pool

enclosure from the manufacturer, Aqua Shield, Inc. The manufacturer's plans and specifications include the structural analysis for the pool enclosure structure frame by Engineering System, P.C., a New York licensed professional engineer, for support of structural load combinations prescribed by the 2015 International Building Code for consumers' purchases of the product in any state for which Agua Shield, Inc., sells its products. There is no building contractor hired to install the pool enclosure structure; thus, no contractor as an Ohio licensed Engineer will install the improvement, and thus, no set of plans for any construction of the improvement applies. Applicant appeals from the decision made in the Notice of Corrections Decision under this item for (i) the Chief Building Official, or his designee's, failure to specify any code section or regulation that applies to this item or this proposed improvement, or (ii) that Applicant fails to comply with any code section or regulation of the Codified Ordinances of the City of Grove City, Ohio, and (iii) for ambiguity as to what type of "sealed plans need to be stamped by an Ohio licensed engineer" in order to be accepted and considered under the Permit Application.

Zoning Review

1. The required rear building setback is 25 feet; this structure per provided survey is 18'8". 1135-10 Grove City Codified Ordinance.

The rear building setback that applies to this Property is not 25 feet, which comes from the current Zoning Code. This Property was approved, under a PUD-R zoning (and preliminary development plan under CR-85-93 and final development plan under CR-42-94) in 1993 and 1994. The lot development standards that apply to the Quail Creek Extension and Meadowgrove Extension in the area for which the Property is located are the PUD-R (R-1B) standards and are found in the 1986 lot development standards table under 1135.10 (as contained under C-19-86), which reflects that the standard applicable to a rear yard in an R-1, R-2, R-3, D-1, and D-2 zoning

*district are: "Rear Yard = 15% of the total lot depth". Thus, according to our submitted Site Plan, attached, the calculation of rear yard is as follows: Total Lot Depth (125') * 15% = 18.75'. The pool enclosure structure can, therefore, be at the 18.75' setback line from the rear lot line, but the pool enclosure structure is slightly setback even more to actual the measurement of 18.8'. Thus, the Applicant's pool enclosure structure meets the rear yard requirement for this Property.*

2. Building exceeds 700 square feet max for detached garages and accessory structures, this structure is 960 square feet. 1135-10 Grove City Codified Ordinance.

The third paragraph of Section 1135.10(a), regarding size requirements, only refers to "detached garages" having a maximum square footage of 700 square feet. Although we would agree and opine that a pool enclosure structure is considered a "building" for purposes of the Zoning Code and is a "structure" for purposes of the Zoning Code, it is clearly <u>not</u> a "garage" or "residential garage", and, thereby, not a "detached garage" for purposes of the Zoning Code. The definition of "garage" and "residential garage" under the Zoning Code at Section 1131.03(29) and (29)(A) are: "Garage" means any building or portion of building in which motor vehicles are kept stored. "Residential garage" means a closed structure designed for vehicular parking with a minimum 20 x 20 floor area dimension. Floor area shall be measured from the exterior dimensions." Obviously, there will be no motor vehicles stored under the in-ground pool enclosure structure, as it is intended to enclose an in-ground pool. Thus, there is no violation of this code section, and no variance is needed.

Wall height of 9'6" exceeds max allowed wall height of 8' for accessory structure. 1137-08 Grove City Codified Ordinance.

The Notice of Corrections Decision cites to the following code section as well: Section 1137.08 regarding wall height, and we assume you intend to cite to 1137.08(h). This section states

as follows: "No detached garages and accessory buildings shall exceed a wall height of eight feet above finished floor, and an overall maximum of 13 feet above finished floor." Although we agree that this code section would apply to the pool enclosure structure as an "accessory building" for purposes of the Zoning Code, the pool enclosure structure's highest dome height is the center at 9.6' in height. And, that center height - the tallest height overall - is the only measurement that can be used under this code section, because the rounded walls leading up to the center dome height are rounded, have no edge, have no stop point, and there is no way to say where a side wall stops and a roof begins. Therefore, the pool enclosure structure meets this code section for being under the maximum overall height of 13 feet above finished floor, as the most reasonable way to measure height of a rounded dome structure for purposes of the Zoning Code. Further, Ohio case law makes it clear that "any ambiguity in a zoning regulation must be construed in favor of the property owner and the proposed use." Thus, we meet this code section as well, and there is no violation, and no variance is needed.

4. All permits associated with the construction of the pool have expired, inspections have never been completed. Pool permits need to be renewed and completed.

Please explain what you mean by the in-ground pool, which has been permitted long ago, by building permit, needs to be renewed. The lawful permit issued for the in-ground pool has not expired under Section 1305.09 or been revoked under Section 1305.10 of the Building Code. There is no section of the Building Code, for which we are aware, that deals with renewals of building permits or other permits once the improvement that was permitted was installed.

HOY LAND SURVEYING
1767 McCorkle Blvd #1767
Westerville, Ohio 43086
Phone: 614-679-1186

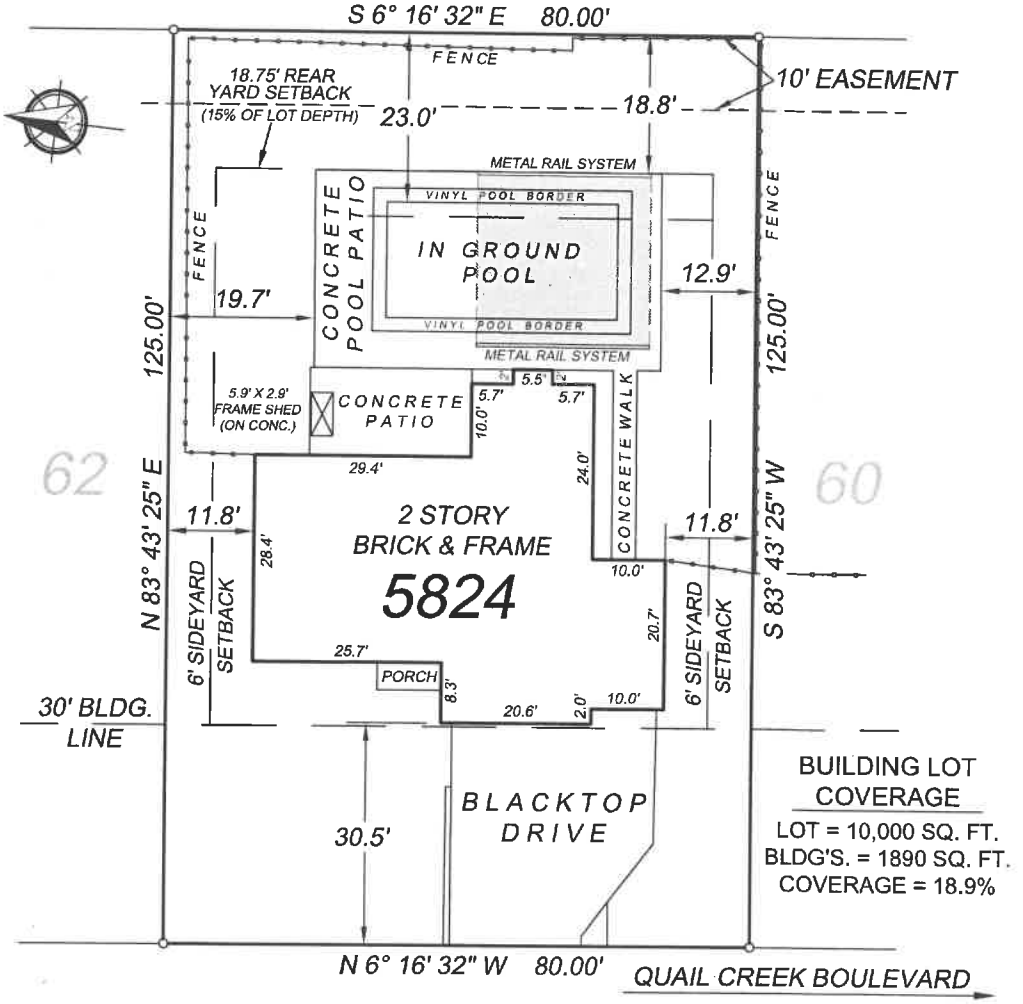
HOY Land Surveying

JOB NUMBER #: 5390-2023 S DATE OF DRAWING 10-27-23

CERTIFIED TO GEORGE & RHEA HUMPHREY

LEGAL DESC. LOT 61 ~ QUAIL CREEK SECTION NO. 2 P.B. 82 PG. 52 - 53

CITY/TWP. GROVE CITY COUNTY FRANKLIN DRN. KLH CK. SJH DRAWING SCALE 1" = 20'



I hereby certify that this survey was prepared from an actual survey of the premises completed on October 24, 2023 under my direct supervision and that it and the information, courses and distances as shown are correct to the best of my knowledge and belief. Easements shown on this exhibit were taken from the subdivision plat of record. Additional easements affecting this property may exist.

By _____

STATE OF OHIO
Steven J. Hoy
7313
REGISTERED PROFESSIONAL SURVEYOR

GENERAL PERMIT APPLICATION

Grove City Building Division • 4035 Broadway, Grove City, OH 43123 • 614-277-3075 • 614-277-3090 (F... • GroveCityOhio.gov

RECEIVED JUN 27 2023

EXHIBIT 1

COMPLETE THE FOLLOWING APPLIC... NG TO THE PROJECT AND PERMIT REQUESTED

PROJECT / PERMIT TYPE	REQUIRED FIELDS	AD...
All Permit Types	1-17 and 65-69	Mu... oted below.
Accessory Building	18-31	
Commercial Building	18-28	A registered design professional must be declared on the attached Contractor Declaration form.
Commercial Fire/Smoke Alarm	18, 32 and 33	A registered design professional must be declared on the attached Contractor Declaration form.
Commercial Hood	18 and 34	A registered design professional must be declared on the attached Contractor Declaration form.
Commercial Sprinkler	18 and 35-43	Submitted drawings must include location and elevation of static and residual test gauges; direction of flows; static pressure capacity; residual pressure capacity; and flow rates.
Demolition	18, 19 and 22	Submit Demolition Application Owner Statement. Asbestos report required. Asbestos must be removed before demolition (OAC 3745.20). Debris must be thoroughly dampened. Final inspection required at completion of demolition. Demolition permitted Mon.-Fri. 7:30 a.m.-6 p.m. Administrator may order inspection at any time during demolition.
Electric	18	For commercial projects, a registered design professional must be declared on the attached Contractor Declaration form.
Generator	50-53	
HVAC	18 and 54-57	For commercial projects, a registered design professional must be declared on the attached Contractor Declaration form.
Medical Gas	18 and 55-59	No part of the system shall be covered or used until inspected, tested and approved.
Plumbing	18 and 60	An air test is required at final inspection.
Pool/Spa	18 and 44-49	Applicant must also apply for Electric Permit. Perimeter enclosure(s): where required, gate shall be 4' or taller, lockable, self-closing and/or self-latching. Slats shall be no farther apart than 4".
Residential Building	18-31	
Sidewalk/Approach	No additional fields.	Concrete approach must be 6" thick with a maximum slope of 10 percent. Concrete sidewalk must be 4" thick with a maximum slope of two percent.
Temporary Structure	61-64	

GENERAL PERMIT APPLICATION

PROPERTY INFO.

1. Address in Grove City, Ohio 43123
5824 Quail Run Drive

2. Unit/Suite/Lot

3. Subdivision/Development
Quail Creek

4. Parcel Number ☐ a. 040 ▸ 61 ☐ b. 160 ▸

5. Zoning District ▸

OWNER INFO.

6. Owner Name
George Humphrey

7. Owner Phone
614-361-5862

8. Owner Address

9. Owner Email

BUSINESS INFO.

10. Business Name

11. Phone

12. Business Address

13. Business Ownership Type
☐ a. Private ☐ b. Public ☐ c. Non-Profit

GENERAL PROJECT INFORMATION

14. Project Name
Aquashield Kit Installation

15. Valuation
$ 48,000.00

16. Permit Type(s) Applying for (up to six)
a. ▸ b. ▸ c. ▸ d. ▸ e. ▸ f. ▸

17. Project Type
■ a. New Build
☐ b. Alteration
☐ c. Addition
☐ d. Repair
☐ e. Replacement

18. Coverage
a. Building 168 to 964.8 sq. ft.
b. Const. Scope 24' wide sq. ft.
c. No. Structures 1
d. No. Units 1
e. Living Area 0 sq. ft.
f. Height 9 ft. 6 in.

19. Current Use Groups
a. ▸
b. ▸
c. ▸
d. ▸

20. Proposed Use Groups
a. ▸
b. ▸
c. ▸
d. ▸

21. Occupancy Load
■ a. No Occupancy Load ☐ b. Occupancy Load ▸ persons

22. Construction Type ▸

23. House Model Name (if applicable)
▸

GENERAL PERMIT APPLICATION

UTILITY SPECS

24. Heating Fuel Type
☐ a. Gas ☐ b. Electric
■ c. None
☐ d. Other _____

25. Water Supply Type
☐ a. Private
☐ b. Public
■ c. None

26. Water Tap Size
☐ a. ⅝" ☐ b. ¾" ☐ c. 1" ☐ d. 1½"
☐ e. 2" ☐ f. 3" ☐ g. 4" ☐ h. 6"
☐ i. 8" ☐ j. 10" ☐ k. 12" ☐ l. 16"

27. Sewer Supply Type
☐ a. Private
☐ b. Public
■ c. None

28. Fire Tap Size
☐ a. ⅝" ☐ b. ¾" ☐ c. 1" ☐ d. 1½"
☐ e. 2" ☐ f. 3" ☐ g. 4" ☐ h. 6"
☐ i. 8" ☐ j. 10" ☐ k. 12" ☐ l. 16"

PLOT LINES

29. Distance from the rear property line
▶ 15 ft. 0 in.

30. Distance from the street property line
▶ 75 ft. _____ in.

31. Distance from the nearest side property line
▶ 15 ft. _____ in.

FIRE AND SMOKE SYSTEM SPECS.

32. Number of Devices
a. Audible Visual Devices ▶_____ b. Pull Stations ▶_____ c. Area Smoke Detectors ▶_____
d. Duct Smoke Detectors ▶_____ e. Other ▶_____

33. Power Supply
☐ a. Line Voltage
☐ b. Low Voltage

34. Hood Type
☐ a. Type I
☐ b. Type II

35. NFPA Sprinkler Hazard Coverage Type
☐ a. Light ☐ b. Ordinary ☐ c. Extra Hazard
☐ d. Other _____

36. Design Standard
☐ a. Hydraulic Calculations
☐ b. Pipe Schedule Calculations

37. Nearest Fire Station
☐ a. 201 ☐ b. 202 ☐ c. 203
☐ d. 204 ☐ e. Other _____

38. Station Distance
▶ _____ miles

39. Aisle Width
▶ _____ ft. ____ in.

40. Storage height
▶ _____ ft. ____ in.

41. Sprinkler Demand
▶ _____ gpm/sqft

42. Standpipe Demand
▶ _____ gpm/sqft

43. Sprinkler Type
☐ a. Wet ☐ b. Dry ☐ c. Other _____

POOL SPECS

44. Pool Type
☐ a. Above-ground ☐ b. In-ground
☐ c. Indoor

45. Heater Type
☐ a. Gas ☐ b. Electric
☐ c. None

46. Diving Board
☐ a. Equipped
☐ b. Not Equipped

47. Pool Depth
a. Minimum ▶ _____ ft. _____ in.
b. Maximum ▶ _____ ft. _____ in.

48. Barrier Type Around Pool
☐ a. Does Not Apply
☐ b. Other

49. Fence Height
a. "A" Side ▶ _____ ft. _____ in. b. "B" Side ▶ _____ ft. _____ in.
c. "C" Side ▶ _____ ft. _____ in. d. "D" Side ▶ _____ ft. _____ in.

GEN. SPECS

50. Electric Load Calculation
▶ _____

51. Electric Load
▶ _____

52. Plumbing/Gas Load Calculation
▶ _____

53. Plumbing/Gas Load
▶ _____ BTU/h

HVAC SPECS

54. HVAC Unit(s) Quantity ▶ _____

55. Refrigeration & Pressure Pipe Unit(s) Quantity ▶ _____

56. Fireplace Quantity ▶ _____
Chimney Quantity ▶ _____

57. Gas Line Outlets Quantity ▶ _____

MEDICAL GAS SPECS

58. Number of Systems: a. CO_2 ▶_____ b. He ▶_____ c. N ▶_____ d. N_2O ▶_____ e. O^2 ▶_____ f. Instrument Air ▶_____
g. Medical Gas ▶_____ h. Medical Vacuum ▶_____ i. Waste Anesthesia Gas Disposal ▶_____ j. Other ▶_____

59. Number of Outlets: a. CO_2 ▶_____ b. He ▶_____ c. N ▶_____ d. N_2O ▶_____ e. O^2 ▶_____ f. Instrument Air ▶_____
g. Medical Gas ▶_____ h. Medical Vacuum ▶_____ i. Waste Anesthesia Gas Disposal ▶_____ j. Other ▶_____

PLUMBING SPECS

60. Number of Fixtures: a. Dishwasher ▶_____ b. Backflow Preventer ▶_____ c. Backwater Valve ▶_____ d. Dilution Sump ▶_____ e. AAV ▶_____
f. Rain Drain ▶_____ g. Sterilizer ▶_____ h. Garbage Disposal ▶_____ i. Interceptor ▶_____ j. Outside Faucets ▶_____ k. Trap ▶_____
l. Sump Pump ▶_____ m. Trap Primer ▶_____ n. Water Line ▶_____ o. Gas Outlet ▶_____ p. Other ▶_____

TEMP. STR. SPECS

61. Large Event Permit Application Submitted? ☐ a. Yes ☐ b. No

62. Alcohol Served? ☐ a. Yes ☐ b. No

63. Type of Structure ☐ a. Tent ☐ b. Free-Standing Canopy ☐ c. Other _____

64. Dates Standing? a. Setup ▶ _____ b. Tear-down ▶ _____

APPLICANT ACKNOWLEDGMENT & SIGNATURE

Once submitted, this application becomes a public document. Falsification of a public document is a violation of Ohio Revised Code 2921.13(a)(3) a misdemeanor of the first degree, punishable by up to six months imprisonment, or a fine of $1,000, or both.

By signing below, I acknowledge I have read and understand the above-listed notice, followed each instruction pertaining to the permit type I am requesting, and the information provided is true and complete to the best of my ability.

APPLICANT INFORMATION

65. Applicant Name
George

66. Phone Number

67. Email

68. Signature

69. Date

Engineering System, P.C.
NYSED Certificate 0015075
P.O. Box 342, New York, NY 10014
E-mail: system@the-system.com
ph+1(646)584-5624; www.the-system.pro

Aqua Shield, Inc.
Enclosure Frame
Structural Analysis

Prepared per **Aqua Shield, Inc.**, Inc. Order
114 Bell Street West Babylon NY 11704

Structural Analysis Result and Engineer's Opinion:

This Structural Analysis is based on the assumptions and data only available at the time of design as to the best of author's knowledge.

Attention!!! *This Structural Analysis shell not to be used and must be returned to the author for additional review and actions if any reasonable doubts about reliability of design assumptions or data will arise.*

This Structural Analysis provides evidentiary support that referred Enclosure Frame is capable to withstand critical load combinations as prescribed by 2015 IBC for PA 18334 vicinity:

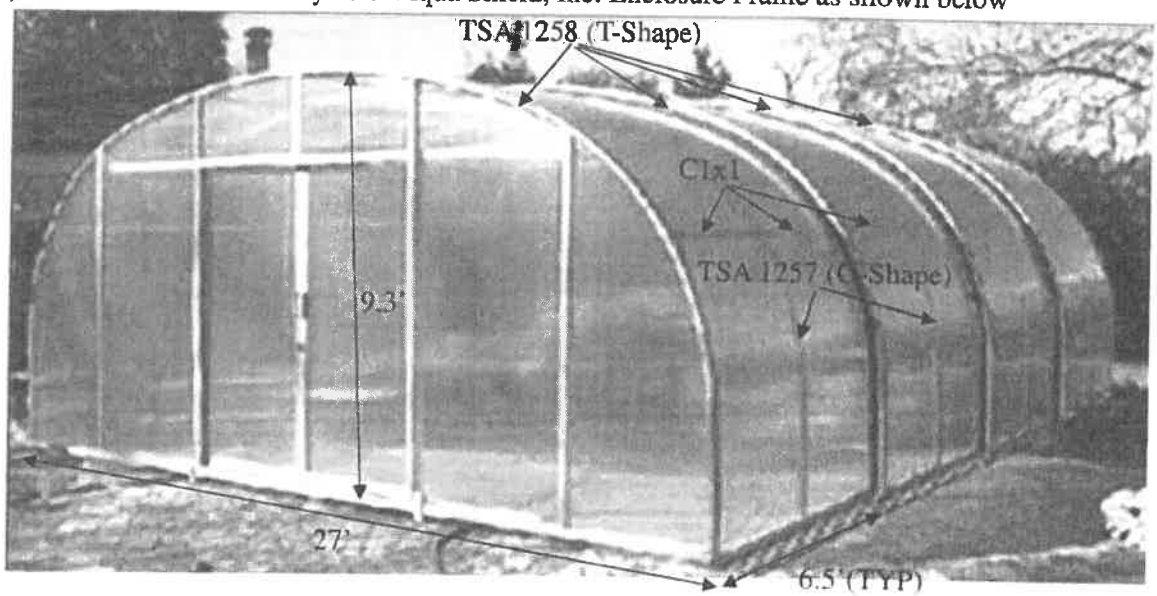
a) Ground Snow Load Pg = 30 lb/ft^2
b) Basic Wind Speed V = 115 mph
c) Seismic S_{DS} = 0.160 g

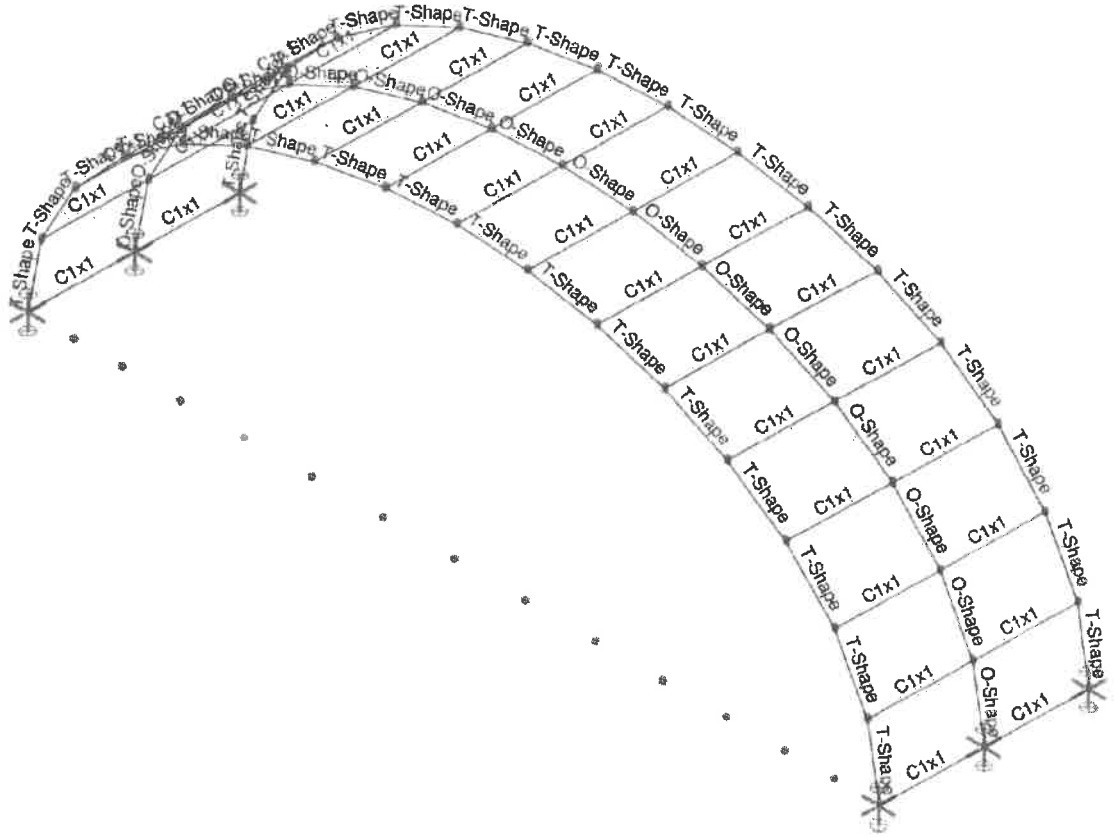
Produced by or under direct supervision of Alexey Leonichev, P.E.
Warning: *It is a violation of Law to alter this Document in any way.*

Engineering System, P.C.
NYSED Certificate 0015075
P.O. Box 342, New York, NY 10014
E-mail: system@the-system.com
ph+1(646)584-5624; www.the-system.pro

I. Customer-provided Design Task and Data:

a) Perform Structural Analysis of Aqua Shield, Inc. Enclosure Frame as shown below





Aqua Shield, Inc. 27'x9.3' Enclosure Frame Structural Analysis

Engineering System, P.C.
NYSED Certificate 0015075
P.O. Box 342, New York, NY 10014
E-mail: system@the-system.com
ph+1(646)584-5624; www.the-system.pro

II. Governing Design Provisions

a) NYS Building Code - 2015 INTERNATIONAL Building Code® 3rd Edition as adopted by NY State;
b) ASCE/SEI 7-10 Minimum Design Loads for Buildings and Other Structures;
c) ACI 318-11 Building Code Requirements for Structural Concrete and Commentary;
d) AISC Steel Construction Manual, 14th Edition

III. Applicable Loads Computation

1) ASD Critical Load Combination (1605.3 IBC 2015):

Prescribed	Applicable	Most Critical	Equation
D + F	D		16-8
D + H + F + L	D		16-9
D + H + F + (L_r or S or R)	**D + S**	**D + S**	16-10
D + H + F + 0.75(L) + 0.75(L_r or S or R)	D + 0.75(S)		16-11
D + H + F + (0.6W or 0.7E)	D + (0.6W or 0.7E)	**D + (0.6W or 0.7E)**	**16-12**
D+H+F+0.75(0.6W) +0.75L + 0.75(L_r or S or R)	D+0.45W + 0.75S	**D + 0.45W + 0.75S**	**16-13**
D + H + F + 0.75(0.7E) + 0.75(L) + 0.75(S)	D + 0.525(E) + 0.75(S)	**D + 0.525E + 0.75S**	**16-14**
0.6(D) + 0.6(W) + H	0.6(D) + 0.6(W)		16-15
0.6(D + F) + 0.7(E) + H	0.6(D) + 0.7(E)		16-16

D = Dead load.
E = Combined effect of horizontal and vertical earthquake induced forces
F = Load due to fluids with well-defined pressures and maximum heights
F = Flood load.
H = Load due to lateral earth pressures, ground water pressure or pressure of bulk
L = Roof Live load greater than 20psf
Lr = Roof live load of 20psf or less.
R = Rain load.
S = Snow load.
T = Self-straining force arising from contraction or expansion
W = Load due to wind pressure.

Engineering System, P.C.
NYSED Certificate 0015075
P.O. Box 342, New York, NY 10014
E-mail: system@the-system.com
ph+1(646)584-5624; www.the-system.pro

2) Design Snow Loads Determination

a) Ground Snow Load Pg = 30.0 lb/ft^2 (Fig.7.1 ASCE 7-10)

b) Snow exposure factor C_e = 0.9 (Table 7.2 ASCE 7-10)

c) Snow thermal factor C_t = 1.2 (Table 7.3 ASCE 7-10)-0.

d) Snow Importance Factor I_S=1.0 (Table 1.5-2 ASCE 7-10)

e) Snow Load $p_f = 0.7C_eC_tI_s p_g$ = 0.7 x 0.9 x 1.2 x 1.0 x 30.0 = 22.7 lb/ft^2

3) Design Wind Loads Determination

a) Basic Wind Speed V = 115.0 mph (Fig.1609.3(2) IBC 2015)

b) Surface roughness B (1609.4.2 IBC 2015)

c) Wind Exposure Category: Category B (1609.4.3 IBC 2015)

d) Directionality Factor K_d = 0.85 (Table 26.6-1 ASCE 7-10);

e) Topographic Factor $K_{ZT} = (1+K_1K_2K_3)^2 = 1$ (Sec.6.5.7.2 ASCE 7-10);

f) $P_z = 0.00256\ K_zK_{zt}K_dV^2 = 0.00256 \times K_z \times 1 \times 0.85 \times 115.0^2 \approx 28.8\ K_z$ lb/ft^2 (16-35 IBC 2015)

g) K_z = 0.57 (Table 27.3-1 ASCE 7-10);

h) P = 28.8 x 0.57 ≈ 16.4 lb/ft^2

4) Design Earthquake Loads Determination

a) Component importance factor I_e = 1.0 for Risk Category 2 (Table 1.5.2 ASCE 7-10)

b) S_{DS} = 0.160 g (Appendix B USGS Report);

c) Seismic Design Coefficient $C_S = 0.3S_{DS}I_e = 0.3 \times 0.160 \times 1.0 = 0.048$ (eq.15.4-5 ASCE 7-10)

d) $C_{S\,max} \leq 1.6S_{DS}I_p = 1.6 \times 0.160 \times 1.0 = 0.256$ (13.3-2 ASCE 7-10)

e) $C_{S\,min} \geq 0.044S_{DS}I_e = 0.044 \times 0.160 \times 1.0 = 0.007$ (13.3-3 ASCE 7-10)

f) Assume C_S = 0.1; Assume **E = 0.1D**

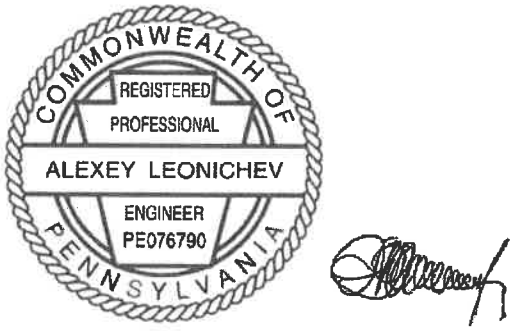
IV. RISA 3D Structural Analysis Result (See Appendix A for Report)

Engineering System, P.C.
NYSED Certificate 0015075
P.O. Box 342, New York, NY 10014
E-mail: system@the-system.com
ph+1(646)584-5624; www.the-system.pro

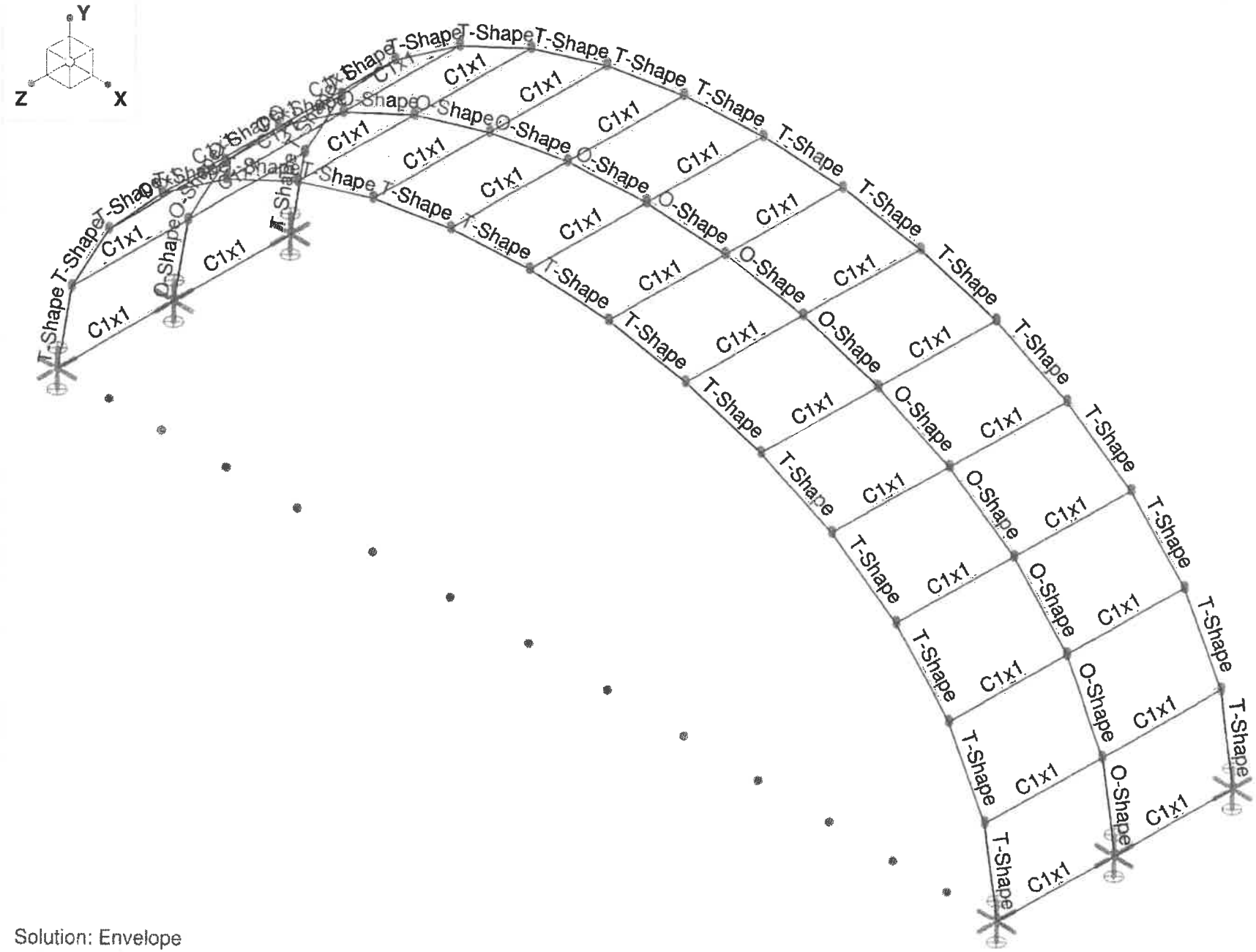
Aqua Shield, Inc.
27.0'x9.3' Enclosure Frame
Structural Analysis
Appendix A
RISA-3D Calculations

Prepared per **Aqua Shield, Inc.**, Inc. Order
114 Bell Street West Babylon NY 11704

Produced by or under direct supervision of Alexey Leonichev, P.E.
Warning: *It is a violation of 145 NYS Ed. Law to alter this Document in any way.*



5/6/2021



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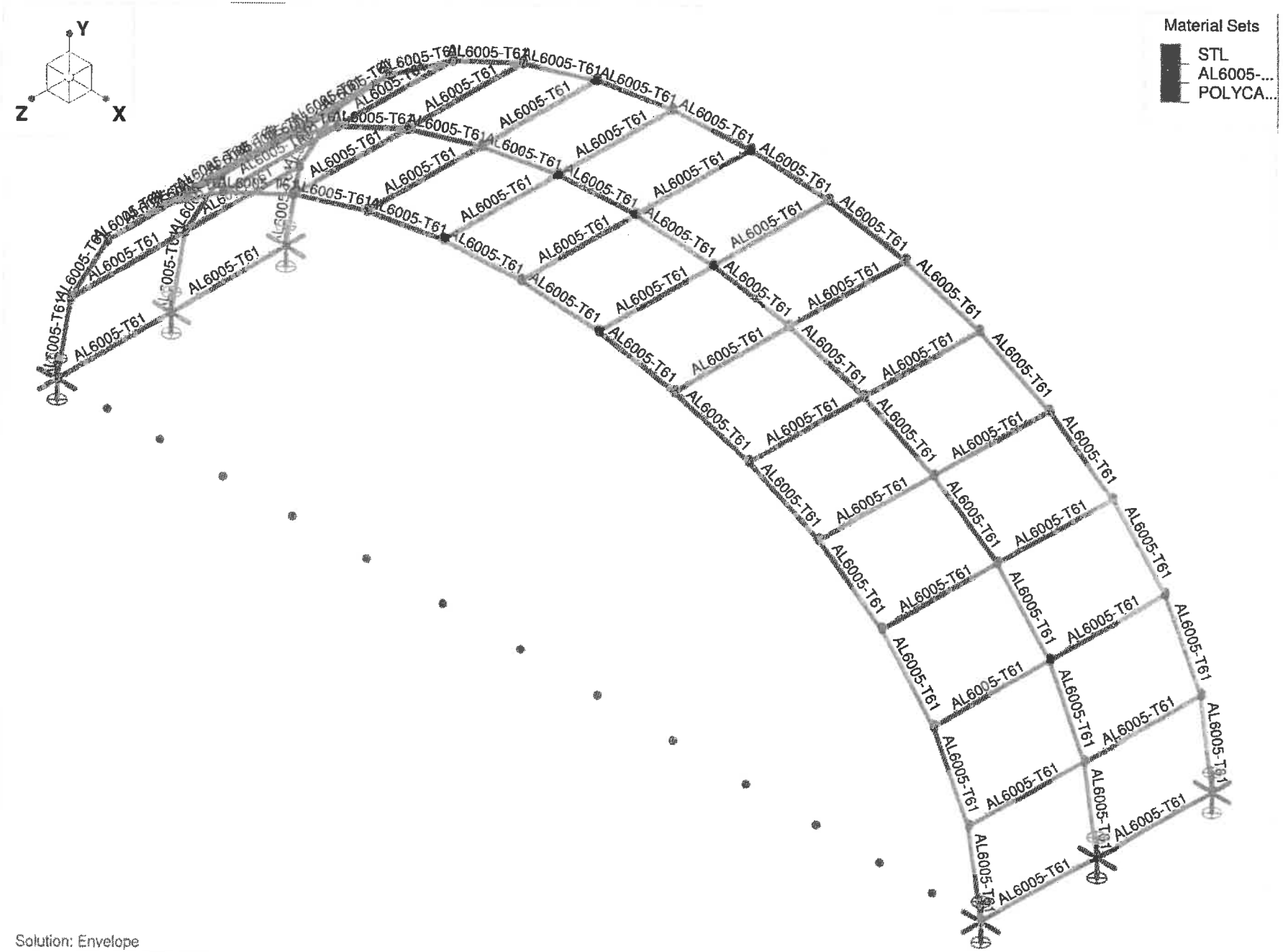
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POLYCA...
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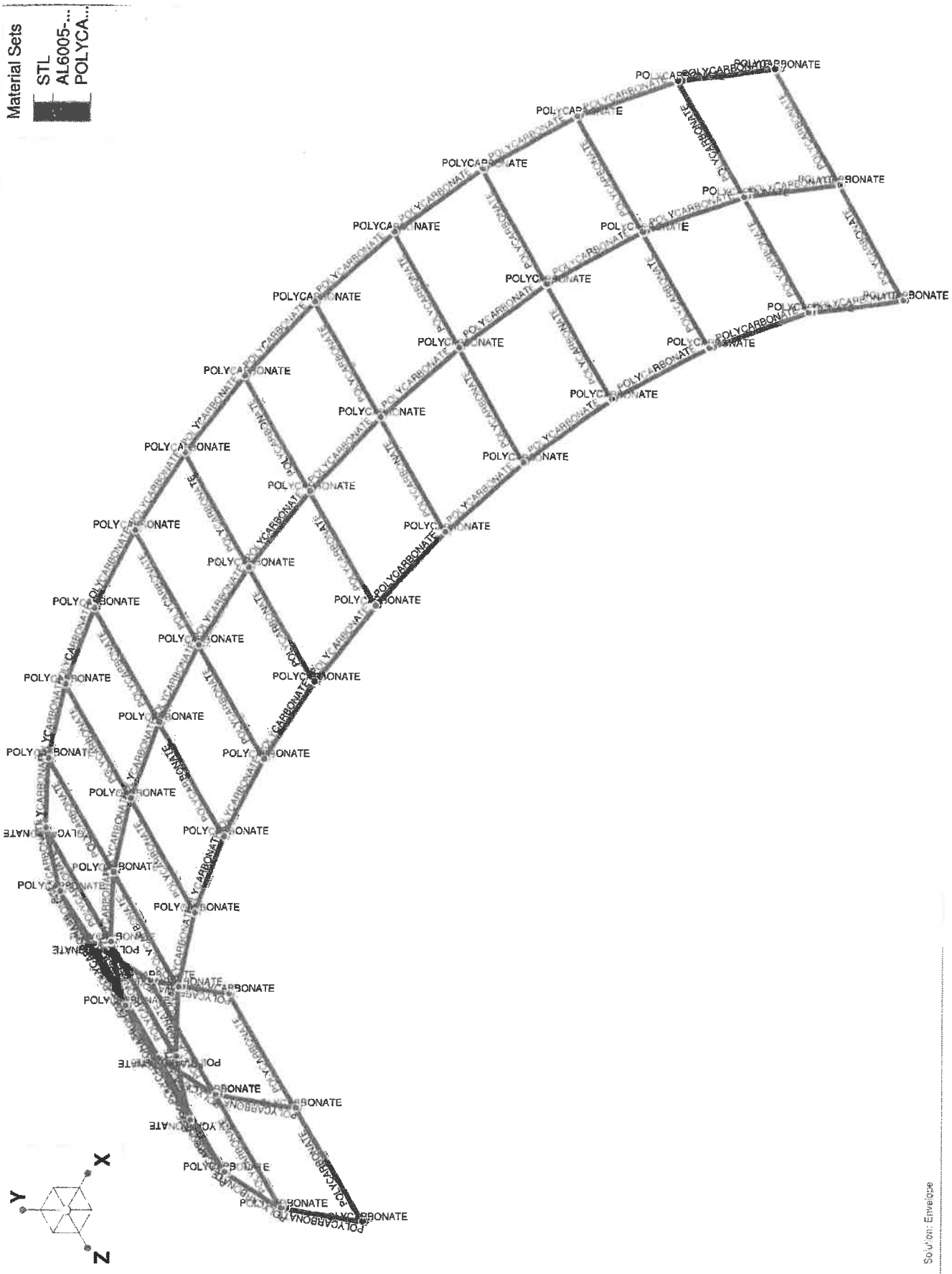
Solution: Envelope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AL6005-...
POLYCA...
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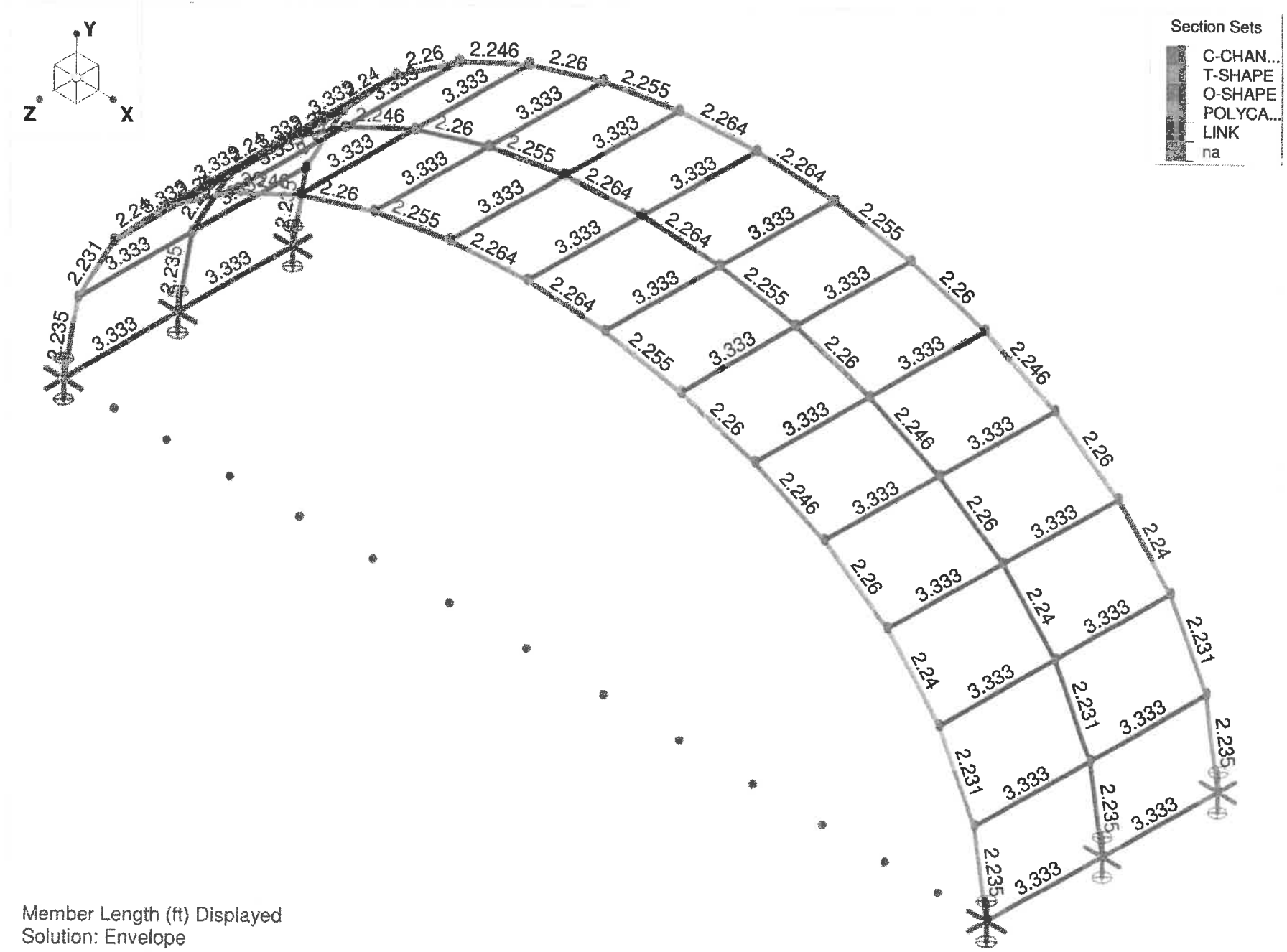
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T-SHAPE
O-SHAPE
POLYCA...
LINK
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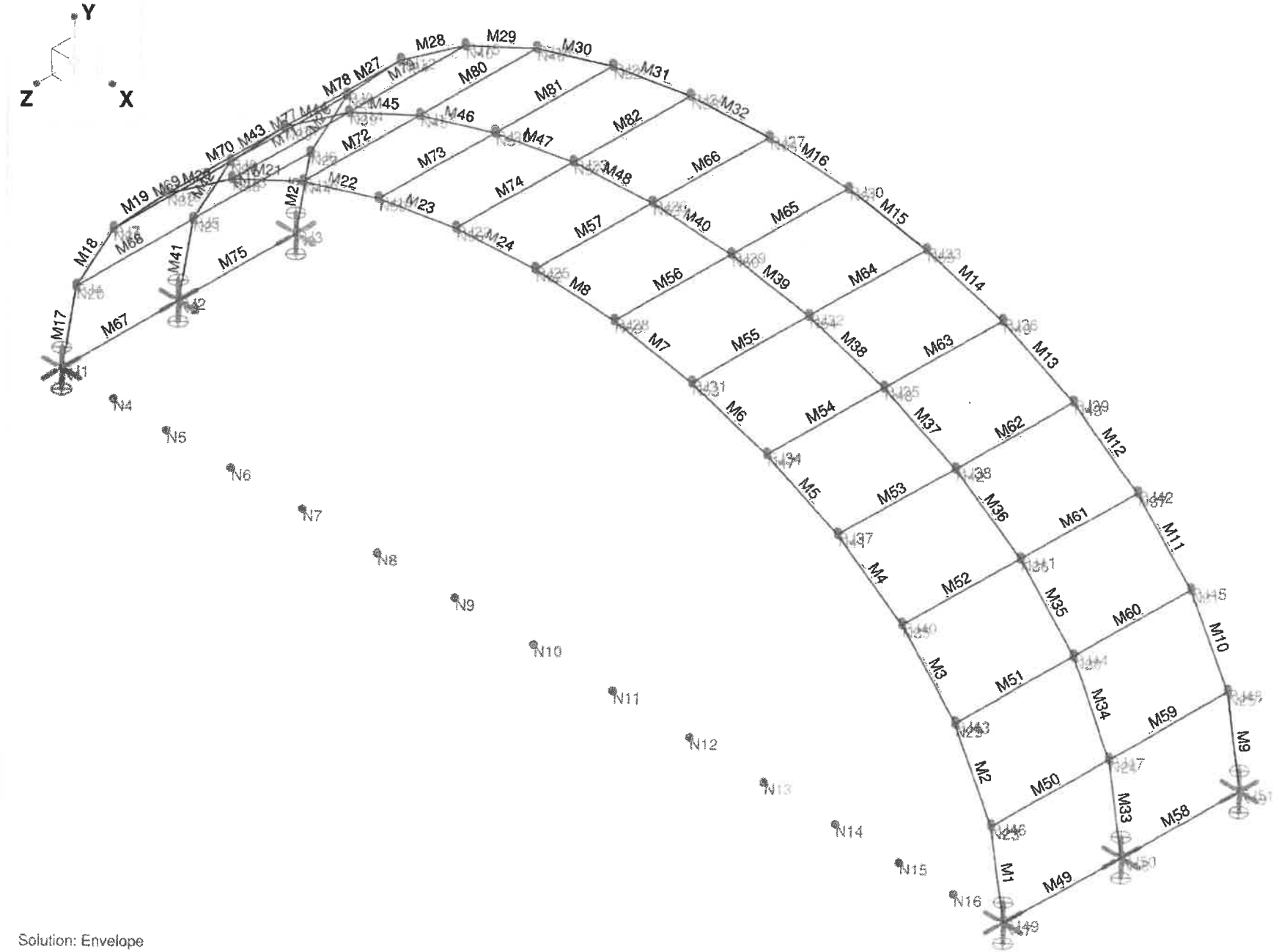
Solution: Envelope



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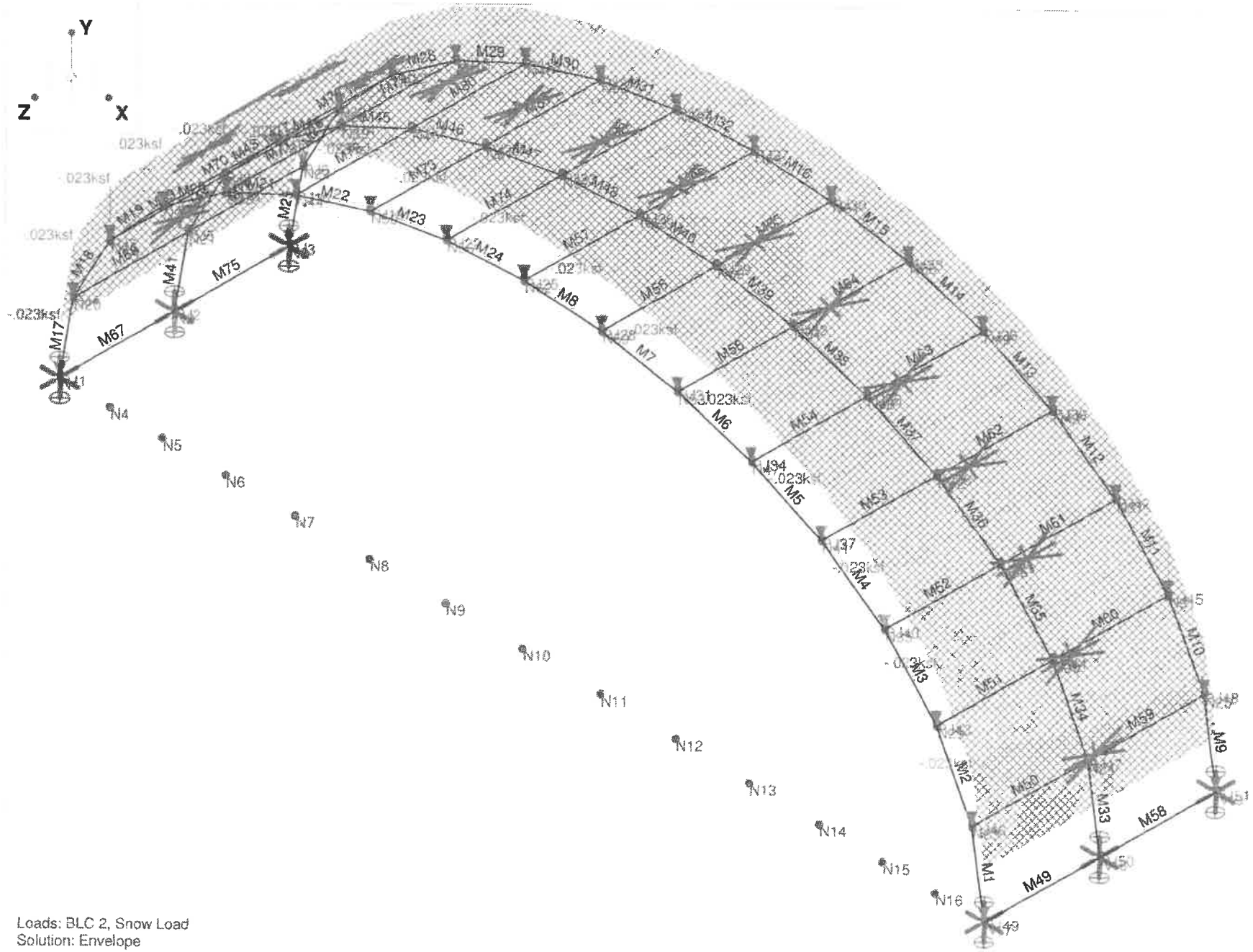
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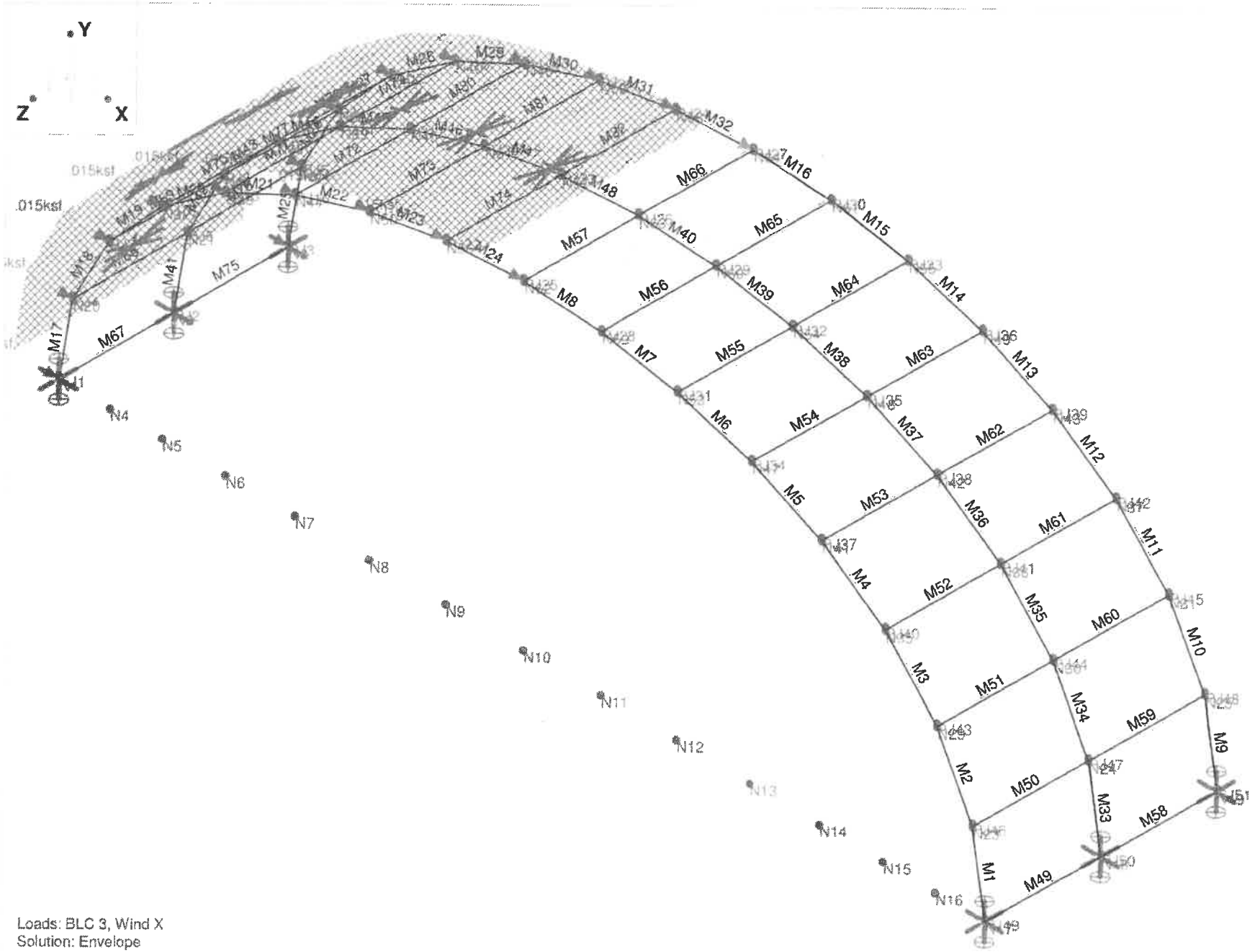
N16
Loads: BLC 2, Snow Load
Solution: Envelope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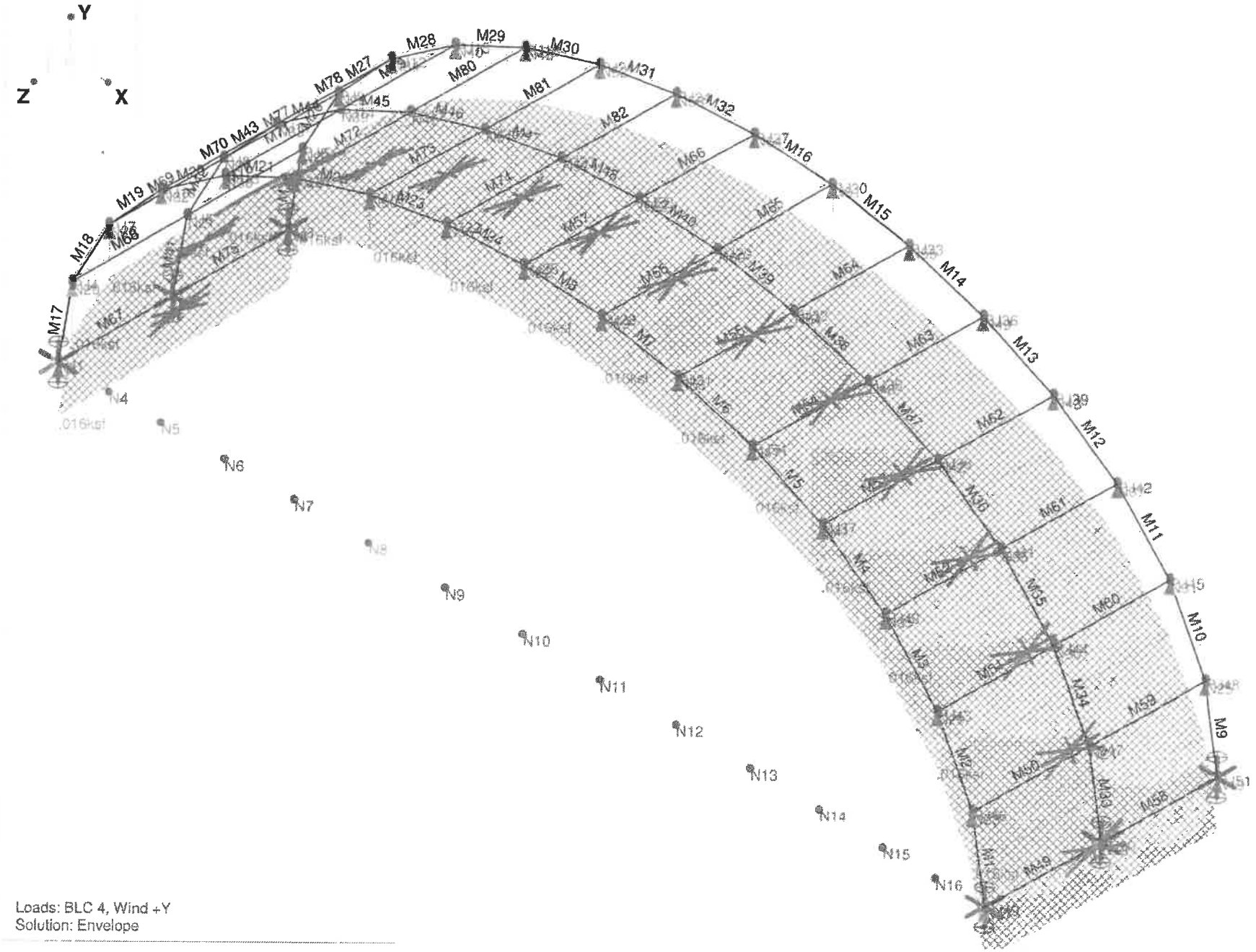
Loads: BLC 3, Wind X
Solution: Envelope



Loads: BLC 4, Wind +Y
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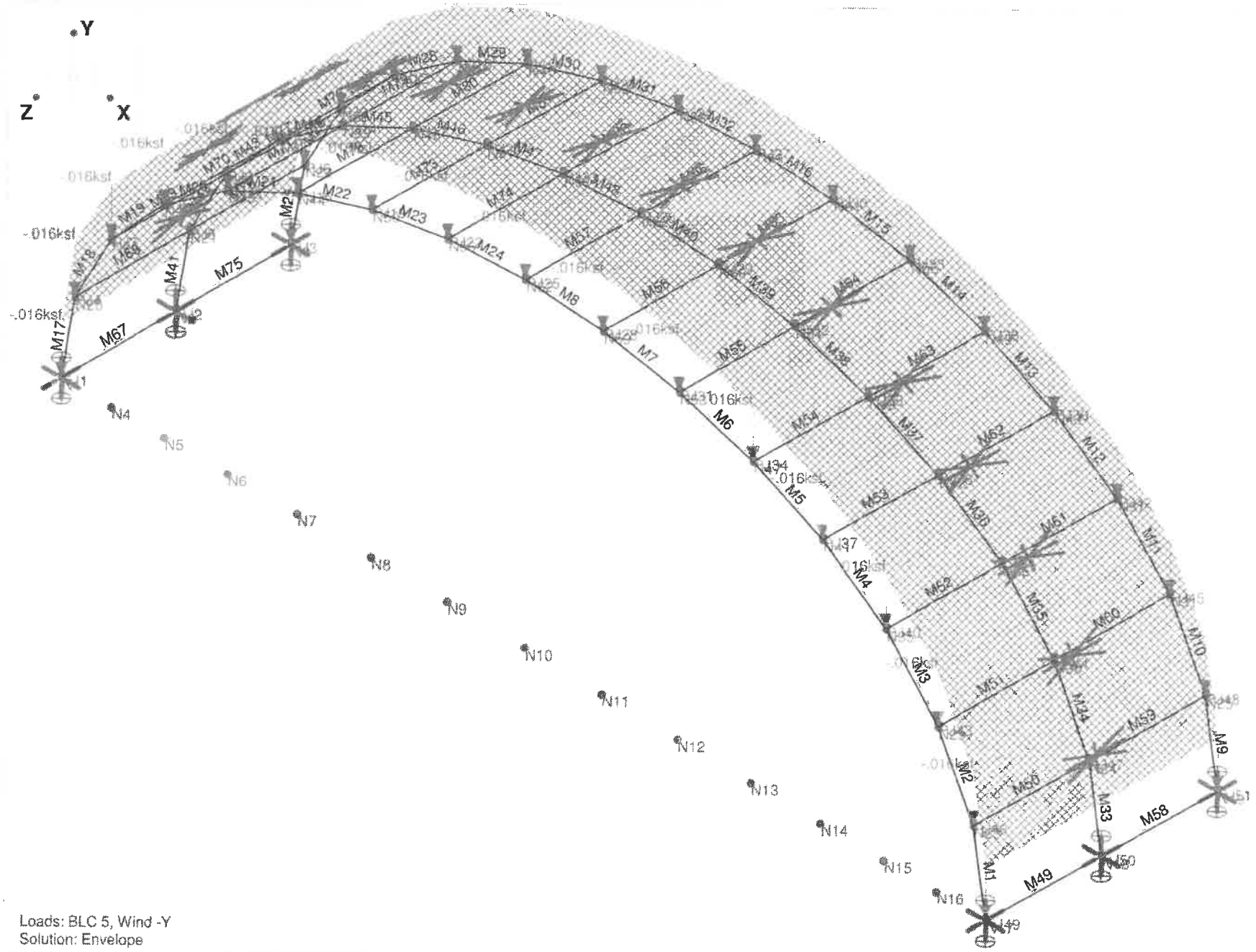
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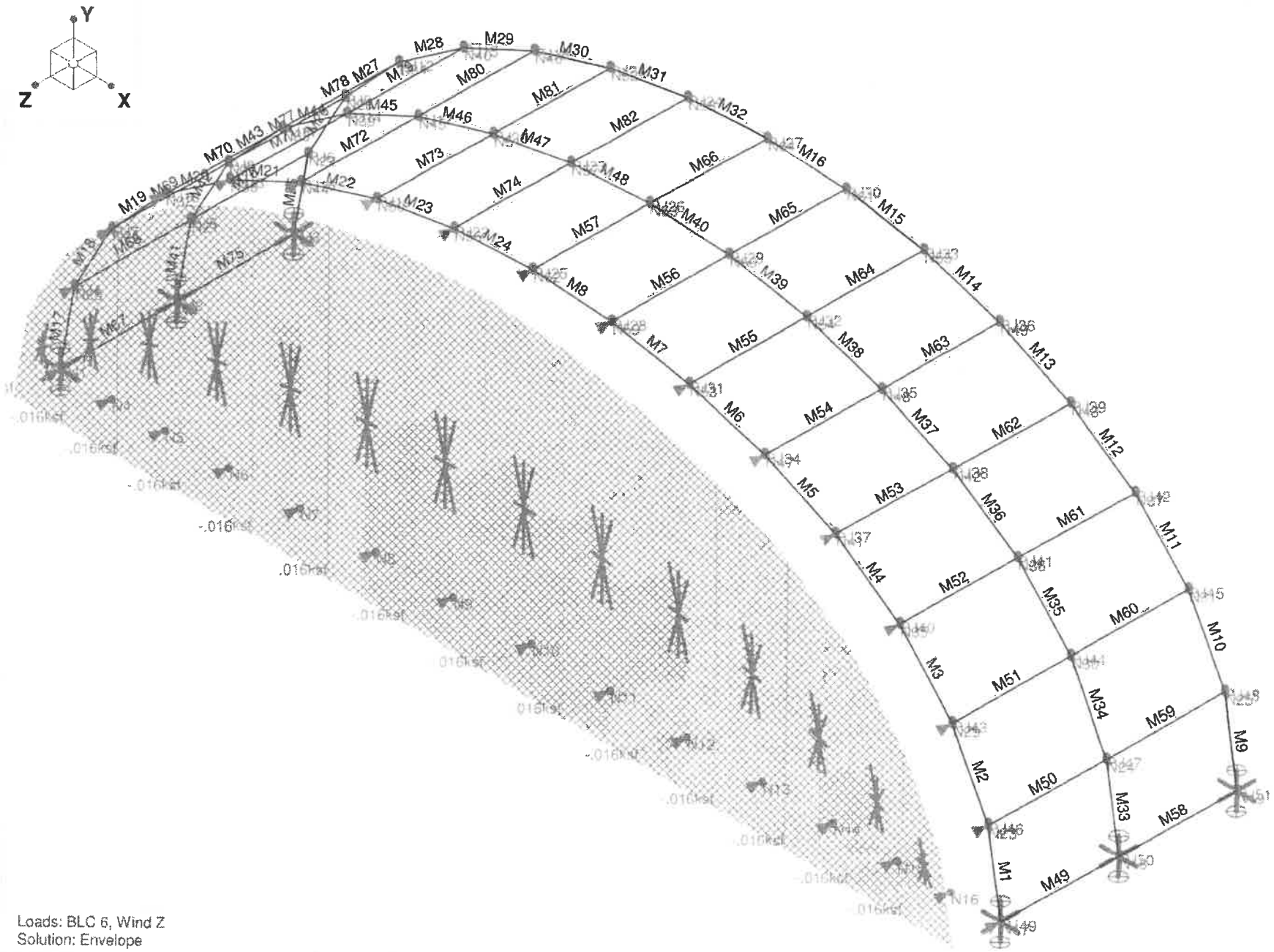
Loads: BLC 5, Wind -Y
Solution: Envelope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Loads: BLC 6, Wind Z
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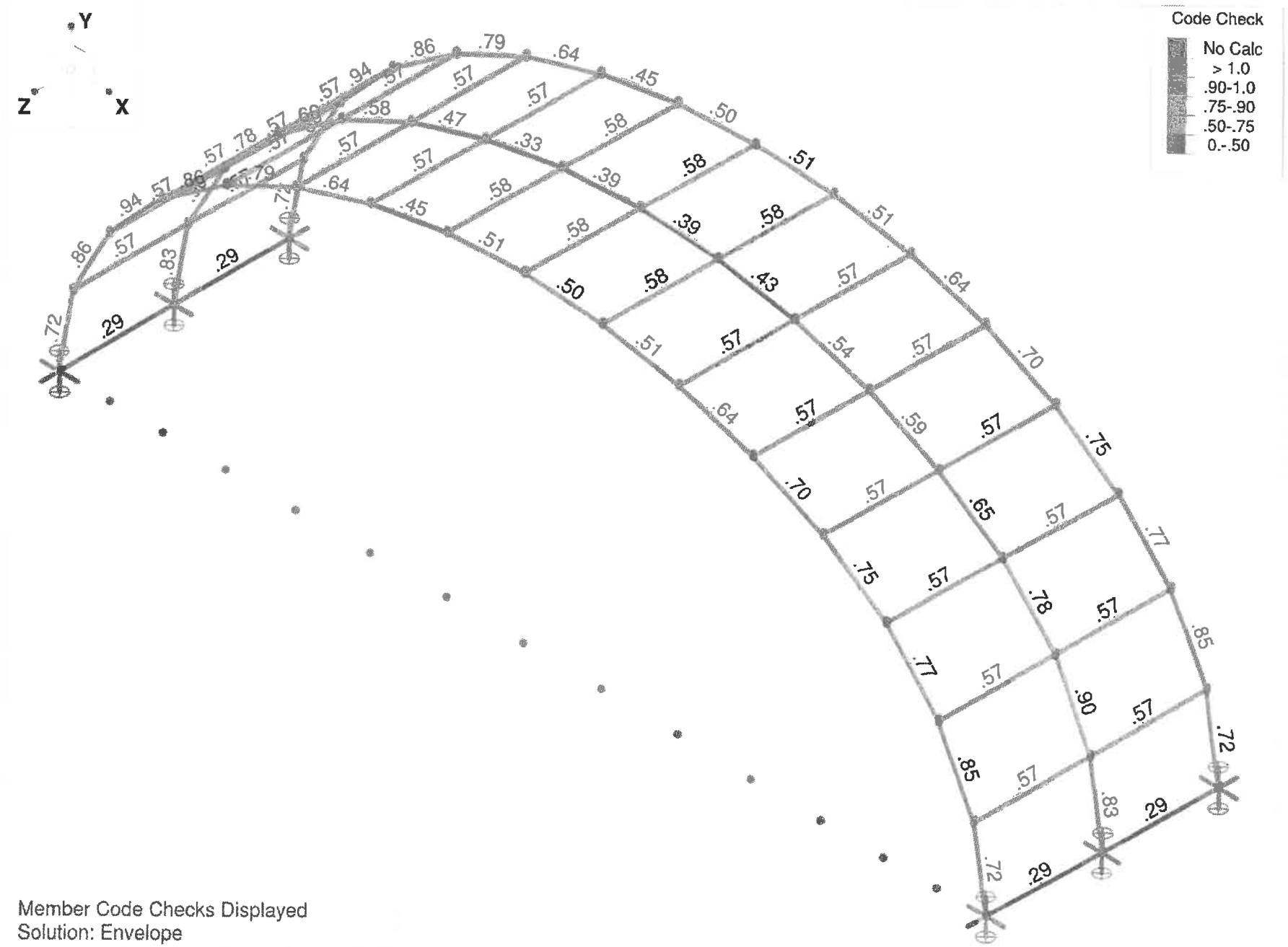
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Z
X
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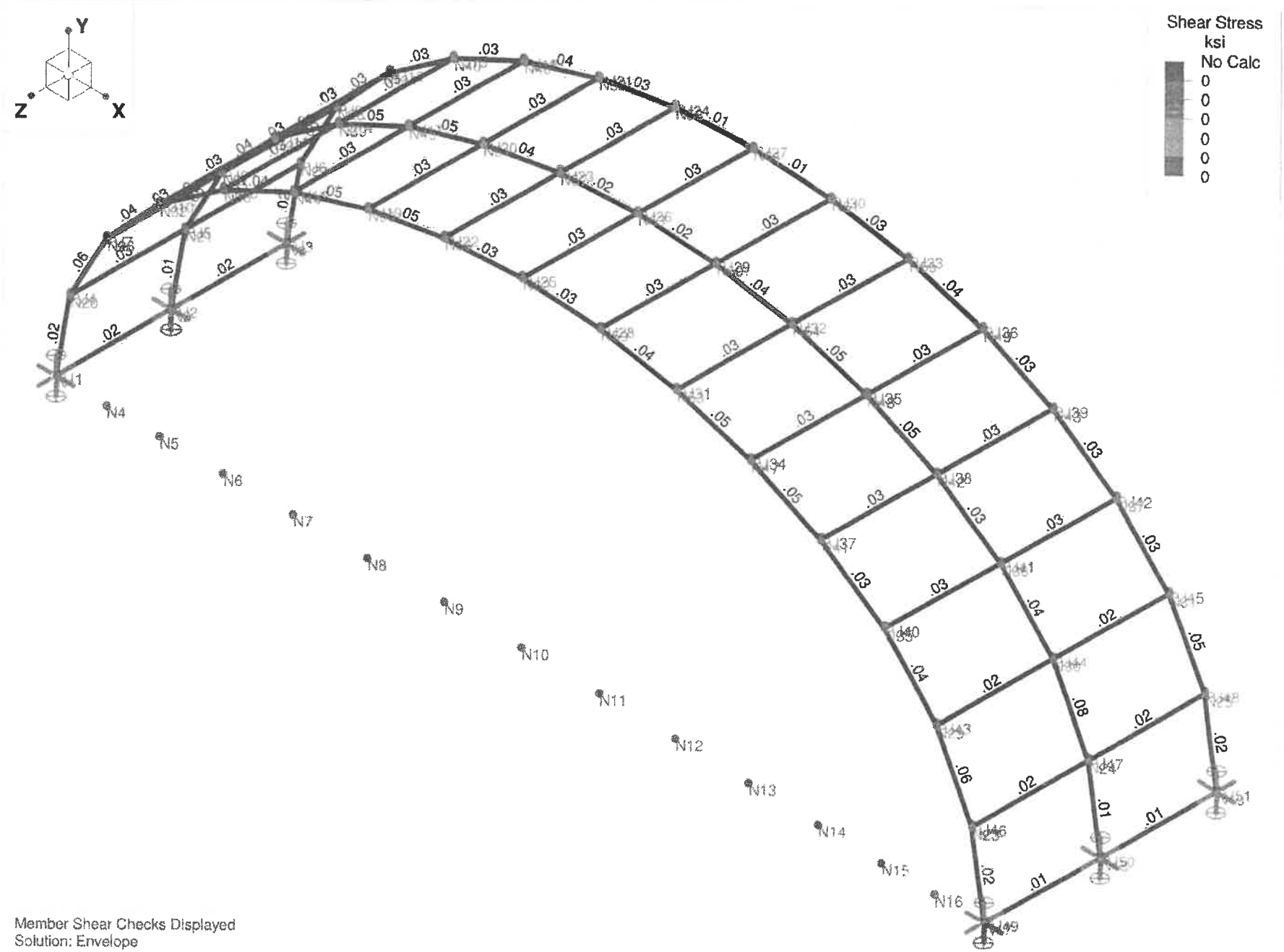
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Shear Stress
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N16
Member Shear Checks Displayed
Solution: Envelope

Area Loads on Members, Category : SL, BLC 2 : Snow Load

Joint A	Joint B	Joint C	Joint D	Direction	Magnitude (ksf)
N1	N3	N22	N20	Y	-.023
N20	N22	N28	N26	Y	-.023
N26	N28	N34	N32	Y	-.023
N32	N34	N40	N38	Y	-.023
N38	N40	N46	N44	Y	-.023
N44	N46	N52	N50	Y	-.023
N50	N52	N58	N56	Y	-.023
N56	N58	N64	N62	Y	-.023
N62	N64	N61	N59	Y	-.023
N59	N61	N55	N53	Y	-.023
N53	N55	N49	N47	Y	-.023
N47	N49	N43	N41	Y	-.023
N41	N43	N37	N35	Y	-.023
N35	N37	N31	N29	Y	-.023
N29	N31	N25	N23	Y	-.023
N23	N25	N19	N17	Y	-.023

Area Loads on Members, Category : WLX, BLC 3 : Wind X

Joint A	Joint B	Joint C	Joint D	Direction	Magnitude (ksf)
N1	N3	N22	N20	X	.015
N20	N22	N28	N26	X	.015
N26	N28	N34	N32	X	.015
N32	N34	N40	N38	X	.015
N38	N40	N46	N44	X	.015
N44	N46	N52	N50	X	.015
N50	N52	N58	N56	X	.015
N56	N58	N64	N62	X	.015

Area Loads on Members, Category : WL+Y, BLC 4 : Wind +Y

Joint A	Joint B	Joint C	Joint D	Direction	Magnitude (ksf)
N1	N3	N22	N20	Y	.016
N20	N22	N28	N26	Y	.016
N26	N28	N34	N32	Y	.016
N32	N34	N40	N38	Y	.016
N38	N40	N46	N44	Y	.016
N44	N46	N52	N50	Y	.016
N50	N52	N58	N56	Y	.016
N56	N58	N64	N62	Y	.016
N62	N64	N61	N59	Y	.016
N59	N61	N55	N53	Y	.016
N53	N55	N49	N47	Y	.016
N47	N49	N43	N41	Y	.016
N41	N43	N37	N35	Y	.016
N35	N37	N31	N29	Y	.016
N29	N31	N25	N23	Y	.016
N23	N25	N19	N17	Y	.016

Area Loads on Members, Category : WL-Y, BLC 5 : Wind -Y

Joint A	Joint B	Joint C	Joint D	Direction	Magnitude (ksf)
N1	N3	N22	N20	Y	-.016
N20	N22	N28	N26	Y	-.016
N26	N28	N34	N32	Y	-.016
N32	N34	N40	N38	Y	-.016
N38	N40	N46	N44	Y	-.016
N44	N46	N52	N50	Y	-.016
N50	N52	N58	N56	Y	-.016
N56	N58	N64	N62	Y	-.016

Area Loads on Members, Category : WL-Y, BLC 5 (continued)

Joint A	Joint B	Joint C	Joint D	Direction	Magnitude (ksf)
N62	N64	N61	N59	Y	-.016
N59	N61	N55	N53	Y	-.016
N53	N55	N49	N47	Y	-.016
N47	N49	N43	N41	Y	-.016
N41	N43	N37	N35	Y	-.016
N35	N37	N31	N29	Y	-.016
N29	N31	N25	N23	Y	-.016
N23	N25	N19	N17	Y	-.016

Area Loads on Members, Category : WLZ, BLC 6 : Wind Z

Joint A	Joint B	Joint C	Joint D	Direction	Magnitude (ksf)
N1	N20	N26	N4	Z	-.016
N4	N26	N32	N5	Z	-.016
N5	N32	N38	N6	Z	-.016
N6	N38	N44	N7	Z	-.016
N7	N44	N50	N8	Z	-.016
N8	N50	N56	N9	Z	-.016
N9	N56	N62	N10	Z	-.016
N10	N62	N59	N11	Z	-.016
N11	N59	N53	N12	Z	-.016
N12	N53	N47	N13	Z	-.016
N13	N47	N41	N14	Z	-.016
N14	N41	N35	N15	Z	-.016
N15	N35	N29	N16	Z	-.016
N16	N29	N23	N17	Z	-.016

Basic Load Case Data

BLC No.	Basic Load Case Description	Category Code	Category Description	Gravity X	Gravity Y	Gravity Z	Load Type Totals Joint	Point	Direct Dist.	Area	Surf.
1	Dead Load	DL	Dead Load		-1						
2	Snow Load	SL	Snow Load							16	
3	Wind X	WLX	Wind Load X							8	
4	Wind +Y	WL+Y	Wind Load +Y							16	
5	Wind -Y	WL-Y	Wind Load -Y							16	
6	Wind Z	WLZ	Wind Load Z							14	
7	Earthquake X	ELX	Earthquake Load X	-.1							
8	Earthquake Y	ELY	Earthquake Load Y		-.1						
9	Earthquake Z	ELZ	Earthquake Load Z			-.1					
10	LC 1 Transient Area Lo...	None							448		

Load Combinations

Num	Description	Env	WS	PD	SRSS	CD	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
1	IBC 16-10	y				1	DL	1	SL	1				
2	IBC 16-12a	y				1	DL	1	WLX	1				
3	IBC 16-12b	y				1	DL	1	WL+Y	1				
4	IBC 16-12c	y				1	DL	1	WL-Y	1				
5	IBC 16-12d	y				1	DL	1	WLZ	1				
6	IBC 16-12e	y				1	DL	1	ELX	.7				
7	IBC 16-12f	y				1	DL	1	ELY	.7				
8	IBC 16-12g	y				1	DL	1	ELZ	.7				

Load Combinations (continued)

Num	Description	Env	WS	PD	SRSS	CD	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
9	IBC 16-13	y				1	DL	1	WL-Y	.45	SL	.75		
10	IBC 16-14	y				1	DL	1	ELY	.525	SL	.75		

Materials (General)

Material Label	Young's Modulus (ksi)	Shear Modulus (ksi)	Poisson's Ratio	Thermal Coef. (per 10^5 F)	Weight Density (k/ft^3)	Yield Stress (ksi)
STL	29000	11154	.3	.65	.49	50
AL6005-T61	10100	11154	.33	1.73	.173	35
POLYCARBONATE	380	11154	.3	.65	.075	8.8

Joint Coordinates

Joint Label	X Coordinate (ft)	Y Coordinate (ft)	Z Coordinate (ft)	Joint Temperature (F)	Detach from Diaphragm
N1	0	0	0	0	No
N2	0	0	-3.333	0	No
N3	0	0	-6.666	0	No
N4	1.45	0	0	0	No
N5	2.98	0	0	0	No
N6	4.829999	0	0	0	No
N7	6.86	0	0	0	No
N8	9.02	0	0	0	No
N9	11.24	0	0	0	No
N10	13.5	0	0	0	No
N11	15.759999	0	0	0	No
N12	17.979999	0	0	0	No
N13	20.139999	0	0	0	No
N14	22.17	0	0	0	No
N15	24.019999	0	0	0	No
N16	25.549999	0	0	0	No
N17	26.999999	0	0	0	No
N18	26.999999	0	-3.333	0	No
N19	26.999999	0	-6.666	0	No
N20	.39	2.200964	0	0	No
N21	.39	2.200964	-3.333	0	No
N22	.39	2.200964	-6.666	0	No
N23	26.609999	2.200964	0	0	No
N24	26.609999	2.200964	-3.333	0	No
N25	26.609999	2.200964	-6.666	0	No
N26	1.45	4.163987	0	0	No
N27	1.45	4.163987	-3.333	0	No
N28	1.45	4.163987	-6.666	0	No
N29	25.549999	4.163987	0	0	No
N30	25.549999	4.163987	-3.333	0	No
N31	25.549999	4.163987	-6.666	0	No
N32	2.98	5.799839	0	0	No
N33	2.98	5.799839	-3.333	0	No
N34	2.98	5.799839	-6.666	0	No
N35	24.019999	5.799839	0	0	No
N36	24.019999	5.799839	-3.333	0	No
N37	24.019999	5.799839	-6.666	0	No
N38	4.829999	7.098606	0	0	No
N39	4.829999	7.098606	-3.333	0	No
N40	4.829999	7.098606	-6.666	0	No
N41	22.17	7.098606	0	0	No
N42	22.17	7.098606	-3.333	0	No
N43	22.17	7.098606	-6.666	0	No
N44	6.86	8.060288	0	0	No
N45	6.86	8.060288	-3.333	0	No
N46	6.86	8.060288	-6.666	0	No
N47	20.139999	8.060288	0	0	No

Joint Coordinates (continued)

Joint Label	X Coordinate (ft)	Y Coordinate (ft)	Z Coordinate (ft)	Joint Temperature (F)	Detach from Diaphragm
N48	20.139999	8.060288	-3.333	0	No
N49	20.139999	8.060288	-6.666	0	No
N50	9.02	8.724543	0	0	No
N51	9.02	8.724543	-3.333	0	No
N52	9.02	8.724543	-6.666	0	No
N53	17.979999	8.724543	0	0	No
N54	17.979999	8.724543	-3.333	0	No
N55	17.979999	8.724543	-6.666	0	No
N56	11.24	9.121114	0	0	No
N57	11.24	9.121114	-3.333	0	No
N58	11.24	9.121114	-6.666	0	No
N59	15.759999	9.121114	0	0	No
N60	15.759999	9.121114	-3.333	0	No
N61	15.759999	9.121114	-6.666	0	No
N62	13.5	9.249999	0	0	No
N63	13.5	9.249999	-3.333	0	No
N64	13.5	9.249999	-6.666	0	No
PJ1	0	.1	0	0	No
PJ2	0	.1	-3.333	0	No
PJ3	0	.1	-6.666	0	No
PJ4	.39	2.300964	0	0	No
PJ5	.39	2.300964	-3.333	0	No
PJ6	.39	2.300964	-6.666	0	No
PJ7	1.45	4.263987	0	0	No
PJ8	1.45	4.263987	-3.333	0	No
PJ9	1.45	4.263987	-6.666	0	No
PJ10	2.98	5.899839	0	0	No
PJ11	2.98	5.899839	-3.333	0	No
PJ12	2.98	5.899839	-6.666	0	No
PJ13	4.829999	7.198606	0	0	No
PJ14	4.829999	7.198606	-3.333	0	No
PJ15	4.829999	7.198606	-6.666	0	No
PJ16	6.86	8.160288	0	0	No
PJ17	6.86	8.160288	-3.333	0	No
PJ18	6.86	8.160288	-6.666	0	No
PJ19	9.02	8.824543	0	0	No
PJ20	9.02	8.824543	-3.333	0	No
PJ21	9.02	8.824543	-6.666	0	No
PJ22	11.24	9.221114	0	0	No
PJ23	11.24	9.221114	-3.333	0	No
PJ24	11.24	9.221114	-6.666	0	No
PJ25	13.5	9.349999	0	0	No
PJ26	13.5	9.349999	-3.333	0	No
PJ27	13.5	9.349999	-6.666	0	No
PJ28	15.759999	9.221114	0	0	No
PJ29	15.759999	9.221114	-3.333	0	No
PJ30	15.759999	9.221114	-6.666	0	No
PJ31	17.979999	8.824543	0	0	No
PJ32	17.979999	8.824543	-3.333	0	No
PJ33	17.979999	8.824543	-6.666	0	No
PJ34	20.139999	8.160288	0	0	No
PJ35	20.139999	8.160288	-3.333	0	No
PJ36	20.139999	8.160288	-6.666	0	No
PJ37	22.17	7.198606	0	0	No
PJ38	22.17	7.198606	-3.333	0	No
PJ39	22.17	7.198606	-6.666	0	No
PJ40	24.019999	5.899839	0	0	No
PJ41	24.019999	5.899839	-3.333	0	No
PJ42	24.019999	5.899839	-6.666	0	No
PJ43	25.549999	4.263987	0	0	No
PJ44	25.549999	4.263987	-3.333	0	No

Joint Coordinates (continued)

Joint Label	X Coordinate (ft)	Y Coordinate (ft)	Z Coordinate (ft)	Joint Temperature (F)	Detach from Diaphragm
PJ45	25.549999	4.263987	-6.666	0	No
PJ46	26.609999	2.300964	0	0	No
PJ47	26.609999	2.300964	-3.333	0	No
PJ48	26.609999	2.300964	-6.666	0	No
PJ49	26.999999	.1	0	0	No
PJ50	26.999999	.1	-3.333	0	No
PJ51	26.999999	.1	-6.666	0	No

Reactions, By Combination

LC	Joint Label	X Force (k)	Y Force (k)	Z Force (k)	X Moment (k-ft)	Y Moment (k-ft)	Z Moment (k-ft)
1	N17	-.451	.763	.028	0	NC	0
1	N18	-.596	1.38	0	0	NC	0
1	N19	-.451	.761	-.028	0	NC	0
1	N1	.451	.761	.028	0	NC	0
1	N2	.596	1.38	0	0	NC	0
1	N3	.451	.763	-.028	0	NC	0
1	Totals:	0	5.806	0			
1	COG (ft):	X: 13.5	Y: 6.233	Z: -3.333			

Member Deflections, By Combination

LC	Member Label	Section	x-Translation (in)	y-Translation (in)	z-Translation (in)	x-Rotation (radians)	(n) L/y Ratio	(n) L/z Ratio
1	M1	1	.002	1.078	0	9.812e-4	NC	NC
		2	.002	.846	0	7.351e-4	705.637	NC
		3	.001	.582	0	4.889e-4	619.507	NC
		4	0	.296	0	2.428e-4	993.386	NC
		5	0	0	0	-3.338e-6	NC	NC
1	M2	1	.344	1.532	0	1.312e-3	NC	NC
		2	.343	1.473	0	1.228e-3	390.385	NC
		3	.342	1.366	0	1.145e-3	302.329	NC
		4	.342	1.214	0	1.061e-3	415.494	NC
		5	.341	1.023	0	9.775e-4	NC	NC
1	M3	1	.725	1.179	0	1.105e-3	NC	NC
		2	.724	1.295	0	1.156e-3	430.591	NC
		3	.723	1.371	0	1.208e-3	319.582	NC
		4	.723	1.405	0	1.259e-3	419.95	NC
		5	.722	1.395	0	1.311e-3	NC	NC
1	M4	1	.954	.212	0	6.046e-4	NC	NC
		2	.953	.448	0	7.296e-4	717.887	NC
		3	.953	.662	0	8.546e-4	508.249	NC
		4	.952	.849	0	9.795e-4	636.686	NC
		5	.952	1.005	0	1.105e-3	NC	NC
1	M5	1	-.976	.047	0	-6.034e-4	NC	NC
		2	-.977	-.206	0	-4.593e-4	106.474	NC
		3	-.977	-.471	0	-3.151e-4	51.947	NC
		4	-.977	-.743	0	-1.71e-4	34.084	NC
		5	-.978	-1.017	0	-2.688e-5	25.332	NC
1	M6	1	-.822	-1.146	0	-2.531e-5	NC	NC
		2	-.822	-1.42	0	1.007e-4	1809.194	NC
		3	-.822	-1.686	0	2.267e-4	1148.819	NC
		4	-.822	-1.941	0	3.527e-4	1353.914	NC
		5	-.822	-2.179	0	4.787e-4	NC	NC
1	M7	1	-.552	-2.263	0	4.798e-4	NC	NC
		2	-.551	-2.481	0	5.621e-4	748.17	NC
		3	-.551	-2.679	0	6.444e-4	534.035	NC
		4	-.551	-2.85	0	7.267e-4	686.099	NC
		5	-.551	-2.994	0	8.09e-4	NC	NC
1	M8	1	-.189	-3.038	0	8.096e-4	NC	NC
		2	-.189	-3.152	0	8.382e-4	562.459	NC

Member Deflections, By Combination, (continued)

LC	Member Label	Section	x-Translation (in)	y-Translation (in)	z-Translation (in)	x-Rotation (radians)	(n) L/y Ratio	(n) L/z Ratio
		3	-.189	-3.236	0	8.668e-4	415.39	NC
		4	-.189	-3.286	0	8.954e-4	550.029	NC
		5	-.188	-3.302	0	9.241e-4	NC	NC
1	M9	1	.002	1.078	0	-9.809e-4	NC	NC
		2	.002	.846	0	-7.348e-4	706.103	NC
		3	.001	.582	0	-4.887e-4	619.587	NC
		4	0	.297	0	-2.427e-4	992.775	NC
		5	0	0	0	3.417e-6	NC	NC
1	M10	1	.344	1.532	0	-1.311e-3	NC	NC
		2	.343	1.473	0	-1.228e-3	390.73	NC
		3	.342	1.366	0	-1.144e-3	302.39	NC
		4	.342	1.214	0	-1.061e-3	415.278	NC
		5	.341	1.023	0	-9.771e-4	NC	NC
1	M11	1	.725	1.179	0	-1.104e-3	NC	NC
		2	.724	1.295	0	-1.156e-3	431.132	NC
		3	.723	1.371	0	-1.207e-3	319.625	NC
		4	.723	1.405	0	-1.259e-3	419.548	NC
		5	.722	1.395	0	-1.31e-3	NC	NC
1	M12	1	.954	.212	0	-6.042e-4	NC	NC
		2	.953	.448	0	-7.291e-4	719.646	NC
		3	.953	.662	0	-8.541e-4	508.323	NC
		4	.952	.849	0	-9.79e-4	635.482	NC
		5	.952	1.005	0	-1.104e-3	NC	NC
1	M13	1	-.976	.047	0	6.03e-4	NC	NC
		2	-.977	-.206	0	4.588e-4	106.512	NC
		3	-.977	-.471	0	3.147e-4	51.947	NC
		4	-.977	-.744	0	1.706e-4	34.08	NC
		5	-.978	-1.017	0	2.648e-5	25.332	NC
1	M14	1	-.822	-1.146	0	2.493e-5	NC	NC
		2	-.822	-1.419	0	-1.01e-4	1821.222	NC
		3	-.822	-1.686	0	-2.27e-4	1148.678	NC
		4	-.822	-1.941	0	-3.53e-4	1346.964	NC
		5	-.822	-2.179	0	-4.79e-4	NC	NC
1	M15	1	-.552	-2.263	0	-4.8e-4	NC	NC
		2	-.551	-2.481	0	-5.623e-4	750.299	NC
		3	-.551	-2.679	0	-6.446e-4	534.021	NC
		4	-.551	-2.85	0	-7.269e-4	684.285	NC
		5	-.551	-2.994	0	-8.092e-4	NC	NC
1	M16	1	-.189	-3.038	0	-8.097e-4	NC	NC
		2	-.189	-3.152	0	-8.383e-4	563.698	NC
		3	-.189	-3.236	0	-8.669e-4	415.386	NC
		4	-.189	-3.286	0	-8.955e-4	548.841	NC
		5	-.188	-3.302	0	-9.241e-4	NC	NC
1	M17	1	.002	1.078	0	-9.809e-4	NC	NC
		2	.002	.846	0	-7.348e-4	706.103	NC
		3	.001	.582	0	-4.887e-4	619.587	NC
		4	0	.297	0	-2.427e-4	992.775	NC
		5	0	0	0	3.417e-6	NC	NC
1	M18	1	.344	1.532	0	-1.311e-3	NC	NC
		2	.343	1.473	0	-1.228e-3	390.73	NC
		3	.342	1.366	0	-1.144e-3	302.39	NC
		4	.342	1.214	0	-1.061e-3	415.278	NC
		5	.341	1.023	0	-9.771e-4	NC	NC
1	M19	1	.725	1.179	0	-1.104e-3	NC	NC
		2	.724	1.295	0	-1.156e-3	431.132	NC
		3	.723	1.371	0	-1.207e-3	319.625	NC
		4	.723	1.405	0	-1.259e-3	419.548	NC
		5	.722	1.395	0	-1.31e-3	NC	NC
1	M20	1	.954	.212	0	-6.042e-4	NC	NC
		2	.953	.448	0	-7.291e-4	719.646	NC
		3	.953	.662	0	-8.541e-4	508.323	NC

Member Deflections, By Combination, (continued)

LC	Member Label	Section	x-Translation (in)	y-Translation (in)	z-Translation (in)	x-Rotation (radians)	(n) L/y Ratio	(n) L/z Ratio
		4	.952	.849	0	-9.79e-4	635.482	NC
		5	.952	1.005	0	-1.104e-3	NC	NC
1	M21	1	-.976	.047	0	6.03e-4	NC	NC
		2	-.977	-.206	0	4.588e-4	106.512	NC
		3	-.977	-.471	0	3.147e-4	51.947	NC
		4	-.977	-.744	0	1.706e-4	34.08	NC
		5	-.978	-1.017	0	2.648e-5	25.332	NC
1	M22	1	-.822	-1.146	0	2.493e-5	NC	NC
		2	-.822	-1.419	0	-1.01e-4	1821.222	NC
		3	-.822	-1.686	0	-2.27e-4	1148.678	NC
		4	-.822	-1.941	0	-3.53e-4	1346.964	NC
		5	-.822	-2.179	0	-4.79e-4	NC	NC
1	M23	1	-.552	-2.263	0	-4.8e-4	NC	NC
		2	-.551	-2.481	0	-5.623e-4	750.299	NC
		3	-.551	-2.679	0	-6.446e-4	534.021	NC
		4	-.551	-2.85	0	-7.269e-4	684.285	NC
		5	-.551	-2.994	0	-8.092e-4	NC	NC
1	M24	1	-.189	-3.038	0	-8.097e-4	NC	NC
		2	-.189	-3.152	0	-8.383e-4	563.697	NC
		3	-.189	-3.236	0	-8.669e-4	415.386	NC
		4	-.189	-3.286	0	-8.955e-4	548.84	NC
		5	-.188	-3.302	0	-9.241e-4	NC	NC
1	M25	1	.002	1.078	0	9.812e-4	NC	NC
		2	.002	.846	0	7.351e-4	705.637	NC
		3	.001	.582	0	4.889e-4	619.507	NC
		4	0	.296	0	2.428e-4	993.386	NC
		5	0	0	0	-3.338e-6	NC	NC
1	M26	1	.344	1.532	0	1.312e-3	NC	NC
		2	.343	1.473	0	1.228e-3	390.385	NC
		3	.342	1.366	0	1.145e-3	302.329	NC
		4	.342	1.214	0	1.061e-3	415.494	NC
		5	.341	1.023	0	9.775e-4	NC	NC
1	M27	1	.725	1.179	0	1.105e-3	NC	NC
		2	.724	1.295	0	1.156e-3	430.591	NC
		3	.723	1.371	0	1.208e-3	319.582	NC
		4	.723	1.405	0	1.259e-3	419.95	NC
		5	.722	1.395	0	1.311e-3	NC	NC
1	M28	1	.954	.212	0	6.046e-4	NC	NC
		2	.953	.448	0	7.296e-4	717.887	NC
		3	.953	.662	0	8.546e-4	508.249	NC
		4	.952	.849	0	9.795e-4	636.686	NC
		5	.952	1.005	0	1.105e-3	NC	NC
1	M29	1	-.976	.047	0	-6.034e-4	NC	NC
		2	-.977	-.206	0	-4.593e-4	106.474	NC
		3	-.977	-.471	0	-3.151e-4	51.947	NC
		4	-.977	-.743	0	-1.71e-4	34.084	NC
		5	-.978	-1.017	0	-2.688e-5	25.332	NC
1	M30	1	-.822	-1.146	0	-2.531e-5	NC	NC
		2	-.822	-1.42	0	1.007e-4	1809.194	NC
		3	-.822	-1.686	0	2.267e-4	1148.819	NC
		4	-.822	-1.941	0	3.527e-4	1353.914	NC
		5	-.822	-2.179	0	4.787e-4	NC	NC
1	M31	1	-.552	-2.263	0	4.798e-4	NC	NC
		2	-.551	-2.481	0	5.621e-4	748.17	NC
		3	-.551	-2.679	0	6.444e-4	534.035	NC
		4	-.551	-2.85	0	7.267e-4	686.099	NC
		5	-.551	-2.994	0	8.09e-4	NC	NC
1	M32	1	-.189	-3.038	0	8.096e-4	NC	NC
		2	-.189	-3.152	0	8.382e-4	562.458	NC
		3	-.189	-3.236	0	8.668e-4	415.39	NC
		4	-.189	-3.286	0	8.954e-4	550.029	NC

Member Deflections, By Combination, (continued)

LC	Member Label	Section	x-Translation (in)	y-Translation (in)	z-Translation (in)	x-Rotation (radians)	(n) L/y Ratio	(n) L/z Ratio
		5	-.188	-3.302	0	9.241e-4	NC	NC
1	M33	1	.004	1.121	0	1.87e-7	NC	NC
		2	.003	.883	0	1.5e-7	627.271	NC
		3	.002	.609	0	1.131e-7	554.241	NC
		4	0	.31	0	7.61e-8	891.863	NC
		5	0	0	0	3.914e-8	NC	NC
1	M34	1	.361	1.578	0	2.487e-7	NC	NC
		2	.359	1.52	0	2.48e-7	374.057	NC
		3	.358	1.411	0	2.474e-7	293.506	NC
		4	.357	1.257	0	2.467e-7	406.215	NC
		5	.356	1.063	0	2.46e-7	NC	NC
1	M35	1	.754	1.199	0	2.513e-7	NC	NC
		2	.753	1.321	0	2.576e-7	428.003	NC
		3	.752	1.4	0	2.64e-7	320.755	NC
		4	.751	1.439	0	2.703e-7	420.929	NC
		5	.749	1.434	0	2.766e-7	NC	NC
1	M36	1	.988	.196	0	2.163e-7	NC	NC
		2	.987	.438	0	2.268e-7	740.468	NC
		3	.986	.659	0	2.374e-7	527.278	NC
		4	.985	.855	0	2.479e-7	650.104	NC
		5	.984	1.019	0	2.585e-7	NC	NC
1	M37	1	-1.007	.026	0	-2.12e-7	NC	NC
		2	-1.008	-.236	0	-2.078e-7	102.985	NC
		3	-1.009	-.51	0	-2.035e-7	50.237	NC
		4	-1.01	-.789	0	-1.993e-7	33.056	NC
		5	-1.01	-1.068	0	-1.951e-7	24.629	NC
1	M38	1	-.846	-1.202	0	-1.834e-7	NC	NC
		2	-.847	-1.483	0	-1.748e-7	1665.643	NC
		3	-.847	-1.759	0	-1.661e-7	1016.329	NC
		4	-.848	-2.019	0	-1.575e-7	1213.174	NC
		5	-.848	-2.262	0	-1.489e-7	NC	NC
1	M39	1	-.568	-2.348	0	-1.34e-7	NC	NC
		2	-.568	-2.573	0	-1.224e-7	715.335	NC
		3	-.568	-2.776	0	-1.108e-7	500.49	NC
		4	-.568	-2.951	0	-9.917e-8	646.553	NC
		5	-.568	-3.096	0	-8.755e-8	NC	NC
1	M40	1	-.194	-3.142	0	-6.978e-8	NC	NC
		2	-.194	-3.26	0	-5.457e-8	540.103	NC
		3	-.194	-3.347	0	-3.936e-8	393.616	NC
		4	-.195	-3.397	0	0	524.792	NC
		5	-.195	-3.413	0	0	NC	NC
1	M41	1	.004	1.121	0	1.87e-7	NC	NC
		2	.003	.883	0	1.5e-7	627.271	NC
		3	.002	.609	0	1.131e-7	554.241	NC
		4	0	.31	0	7.61e-8	891.863	NC
		5	0	0	0	3.914e-8	NC	NC
1	M42	1	.361	1.578	0	2.487e-7	NC	NC
		2	.359	1.52	0	2.48e-7	374.057	NC
		3	.358	1.411	0	2.474e-7	293.506	NC
		4	.357	1.257	0	2.467e-7	406.215	NC
		5	.356	1.063	0	2.46e-7	NC	NC
1	M43	1	.754	1.199	0	2.513e-7	NC	NC
		2	.753	1.321	0	2.576e-7	428.003	NC
		3	.752	1.4	0	2.64e-7	320.755	NC
		4	.751	1.439	0	2.703e-7	420.929	NC
		5	.749	1.434	0	2.766e-7	NC	NC
1	M44	1	.988	.196	0	2.163e-7	NC	NC
		2	.987	.438	0	2.268e-7	740.468	NC
		3	.986	.659	0	2.374e-7	527.278	NC
		4	.985	.855	0	2.479e-7	650.104	NC
		5	.984	1.019	0	2.585e-7	NC	NC

Member Deflections, By Combination, (continued)

LC	Member Label	Section	x-Translation (in)	y-Translation (in)	z-Translation (in)	x-Rotation (radians)	(n) L/y Ratio	(n) L/z Ratio
1	M45	1	-1.007	.026	0	-2.12e-7	NC	NC
		2	-1.008	-.236	0	-2.078e-7	102.985	NC
		3	-1.009	-.51	0	-2.035e-7	50.237	NC
		4	-1.01	-.789	0	-1.993e-7	33.056	NC
		5	-1.01	-1.068	0	-1.951e-7	24.629	NC
1	M46	1	-.846	-1.202	0	-1.834e-7	NC	NC
		2	-.847	-1.483	0	-1.748e-7	1665.643	NC
		3	-.847	-1.759	0	-1.661e-7	1016.329	NC
		4	-.848	-2.019	0	-1.575e-7	1213.174	NC
		5	-.848	-2.262	0	-1.489e-7	NC	NC
1	M47	1	-.568	-2.348	0	-1.34e-7	NC	NC
		2	-.568	-2.573	0	-1.224e-7	715.335	NC
		3	-.568	-2.776	0	-1.108e-7	500.49	NC
		4	-.568	-2.951	0	-9.917e-8	646.553	NC
		5	-.568	-3.096	0	-8.755e-8	NC	NC
1	M48	1	-.194	-3.142	0	-6.977e-8	NC	NC
		2	-.194	-3.26	0	-5.456e-8	540.103	NC
		3	-.194	-3.347	0	-3.935e-8	393.616	NC
		4	-.195	-3.397	0	0	524.792	NC
		5	-.195	-3.413	0	0	NC	NC
1	M49	1	0	0	0	4.614e-2	NC	NC
		2	0	0	.136	4.614e-2	NC	293.789
		3	0	0	.191	4.614e-2	NC	209.416
		4	0	0	.136	4.614e-2	NC	293.789
		5	0	0	0	4.614e-2	NC	NC
1	M50	1	0	1.062	-.186	3.195e-2	NC	NC
		2	0	1.072	.082	3.195e-2	3770.434	148.324
		3	0	1.083	.189	3.195e-2	1885.217	105.727
		4	0	1.094	.079	3.195e-2	1256.811	148.324
		5	0	1.104	-.192	3.195e-2	942.609	NC
1	M51	1	0	1.512	-.425	4.247e-3	NC	NC
		2	0	1.524	-.157	4.247e-3	NC	149.129
		3	0	1.535	-.05	4.247e-3	NC	106.593
		4	0	1.547	-.161	4.247e-3	NC	151.078
		5	0	1.559	-.432	4.247e-3	NC	5778.145
1	M52	1	0	1.356	-.276	-2.134e-2	NC	5158.867
		2	0	1.365	-.002	-2.134e-2	NC	150.431
		3	0	1.374	.109	-2.134e-2	NC	106.012
		4	0	1.382	.002	-2.134e-2	NC	148.269
		5	0	1.391	-.268	-2.134e-2	NC	NC
1	M53	1	0	.902	.375	-3.73e-2	NC	NC
		2	0	.907	.655	-3.73e-2	NC	147.004
		3	0	.912	.773	-3.73e-2	NC	104.786
		4	0	.917	.672	-3.73e-2	NC	147.004
		5	0	.922	.408	-3.73e-2	NC	NC
1	M54	1	0	.448	1.337	-4.133e-2	NC	NC
		2	0	.45	1.625	-4.133e-2	NC	147.021
		3	0	.452	1.749	-4.133e-2	NC	104.798
		4	0	.454	1.655	-4.133e-2	NC	147.021
		5	0	.456	1.398	-4.133e-2	NC	NC
1	M55	1	0	.145	2.324	-3.439e-2	NC	NC
		2	0	.145	2.619	-3.439e-2	NC	146.735
		3	0	.146	2.75	-3.439e-2	NC	104.594
		4	0	.146	2.662	-3.439e-2	NC	146.735
		5	0	.146	2.411	-3.439e-2	NC	NC
1	M56	1	0	.016	3.044	-1.935e-2	NC	NC
		2	0	.016	3.343	-1.935e-2	NC	146.611
		3	0	.016	3.479	-1.935e-2	NC	104.506
		4	0	.015	3.395	-1.935e-2	NC	146.611
		5	0	.015	3.148	-1.935e-2	NC	NC
1	M57	1	0	0	3.308	0	NC	NC

Member Deflections, By Combination, (continued)

LC	Member Label	Section	x-Translation (in)	y-Translation (in)	z-Translation (in)	x-Rotation (radians)	(n) L/y Ratio	(n) L/z Ratio
		2	0	0	3.609	0	NC	146.337
		3	0	0	3.746	0	NC	104.311
		4	0	0	3.664	0	NC	146.337
		5	0	0	3.418	0	NC	NC
1	M58	1	0	0	0	4.481e-2	NC	NC
		2	0	0	.136	4.481e-2	NC	293.789
		3	0	0	.191	4.481e-2	NC	209.416
		4	0	0	.136	4.481e-2	NC	293.789
		5	0	0	0	4.481e-2	NC	NC
1	M59	1	0	1.104	-.192	3.15e-2	NC	NC
		2	0	1.094	.079	3.15e-2	NC	148.324
		3	0	1.083	.189	3.15e-2	NC	105.727
		4	0	1.072	.082	3.15e-2	NC	148.324
		5	0	1.062	-.186	3.15e-2	NC	NC
1	M60	1	0	1.559	-.432	4.922e-3	NC	5778.165
		2	0	1.547	-.161	4.922e-3	NC	151.078
		3	0	1.535	-.05	4.922e-3	NC	106.593
		4	0	1.524	-.157	4.922e-3	NC	149.129
		5	0	1.512	-.425	4.922e-3	NC	NC
1	M61	1	0	1.391	-.268	-2.029e-2	NC	NC
		2	0	1.382	.002	-2.029e-2	NC	148.269
		3	0	1.374	.109	-2.029e-2	NC	106.012
		4	0	1.365	-.002	-2.029e-2	NC	150.43
		5	0	1.356	-.276	-2.029e-2	NC	5160.213
1	M62	1	0	.922	.408	-3.625e-2	NC	NC
		2	0	.917	.672	-3.625e-2	NC	147.004
		3	0	.912	.773	-3.625e-2	NC	104.786
		4	0	.907	.655	-3.625e-2	NC	147.004
		5	0	.902	.375	-3.625e-2	NC	NC
1	M63	1	0	.456	1.398	-4.039e-2	NC	NC
		2	0	.454	1.655	-4.039e-2	NC	147.021
		3	0	.452	1.749	-4.039e-2	NC	104.798
		4	0	.45	1.625	-4.039e-2	NC	147.021
		5	0	.448	1.337	-4.039e-2	NC	NC
1	M64	1	0	.146	2.411	-3.369e-2	NC	NC
		2	0	.146	2.662	-3.369e-2	NC	146.735
		3	0	.146	2.75	-3.369e-2	NC	104.594
		4	0	.145	2.619	-3.369e-2	NC	146.735
		5	0	.145	2.324	-3.369e-2	NC	NC
1	M65	1	0	.015	3.148	-1.898e-2	NC	NC
		2	0	.015	3.395	-1.898e-2	NC	146.611
		3	0	.016	3.479	-1.898e-2	NC	104.506
		4	0	.016	3.343	-1.898e-2	NC	146.611
		5	0	.016	3.044	-1.898e-2	NC	NC
1	M66	1	0	0	3.418	9.797e-6	NC	NC
		2	0	0	3.664	9.797e-6	NC	146.337
		3	0	0	3.746	9.797e-6	NC	104.311
		4	0	0	3.609	9.797e-6	NC	146.337
		5	0	0	3.308	9.797e-6	NC	NC
1	M67	1	0	0	0	-4.614e-2	NC	NC
		2	0	0	.136	-4.614e-2	NC	293.789
		3	0	0	.191	-4.614e-2	NC	209.416
		4	0	0	.136	-4.614e-2	NC	293.789
		5	0	0	0	-4.614e-2	NC	NC
1	M68	1	0	-1.062	-.186	-3.195e-2	NC	NC
		2	0	-1.072	.082	-3.195e-2	NC	148.324
		3	0	-1.083	.189	-3.195e-2	NC	105.727
		4	0	-1.094	.079	-3.195e-2	NC	148.324
		5	0	-1.104	-.192	-3.195e-2	NC	NC
1	M69	1	0	-1.512	-.425	-4.247e-3	NC	NC
		2	0	-1.524	-.157	-4.247e-3	NC	149.129

Member Deflections, By Combination, (continued)

LC	Member Label	Section	x-Translation (in)	y-Translation (in)	z-Translation (in)	x-Rotation (radians)	(n) L/y Ratio	(n) L/z Ratio
		3	0	-1.535	-.05	-4.247e-3	NC	106.593
		4	0	-1.547	-.161	-4.247e-3	NC	151.078
		5	0	-1.559	-.432	-4.247e-3	NC	5778.165
1	M70	1	0	-1.356	-.276	2.134e-2	NC	5160.213
		2	0	-1.365	-.002	2.134e-2	NC	150.43
		3	0	-1.374	.109	2.134e-2	NC	106.012
		4	0	-1.382	.002	2.134e-2	NC	148.269
		5	0	-1.391	-.268	2.134e-2	NC	NC
1	M71	1	0	-.902	.375	3.73e-2	NC	NC
		2	0	-.907	.655	3.73e-2	NC	147.004
		3	0	-.912	.773	3.73e-2	NC	104.786
		4	0	-.917	.672	3.73e-2	NC	147.004
		5	0	-.922	.408	3.73e-2	NC	NC
1	M72	1	0	-.448	1.337	4.133e-2	NC	NC
		2	0	-.45	1.625	4.133e-2	NC	147.021
		3	0	-.452	1.749	4.133e-2	NC	104.798
		4	0	-.454	1.655	4.133e-2	NC	147.021
		5	0	-.456	1.398	4.133e-2	NC	NC
1	M73	1	0	-.145	2.324	3.439e-2	NC	NC
		2	0	-.145	2.619	3.439e-2	NC	146.735
		3	0	-.146	2.75	3.439e-2	NC	104.594
		4	0	-.146	2.662	3.439e-2	NC	146.735
		5	0	-.146	2.411	3.439e-2	NC	NC
1	M74	1	0	-.016	3.044	1.935e-2	NC	NC
		2	0	-.016	3.343	1.935e-2	NC	146.611
		3	0	-.016	3.479	1.935e-2	NC	104.506
		4	0	-.015	3.395	1.935e-2	NC	146.611
		5	0	-.015	3.148	1.935e-2	NC	NC
1	M75	1	0	0	0	-4.481e-2	NC	NC
		2	0	0	.136	-4.481e-2	NC	293.789
		3	0	0	.191	-4.481e-2	NC	209.416
		4	0	0	.136	-4.481e-2	NC	293.789
		5	0	0	0	-4.481e-2	NC	NC
1	M76	1	0	-1.104	-.192	-3.15e-2	NC	NC
		2	0	-1.094	.079	-3.15e-2	NC	148.324
		3	0	-1.083	.189	-3.15e-2	NC	105.727
		4	0	-1.072	.082	-3.15e-2	NC	148.324
		5	0	-1.062	-.186	-3.15e-2	NC	NC
1	M77	1	0	-1.559	-.432	-4.911e-3	NC	5778.145
		2	0	-1.547	-.161	-4.911e-3	NC	151.078
		3	0	-1.535	-.05	-4.911e-3	NC	106.593
		4	0	-1.524	-.157	-4.911e-3	NC	149.129
		5	0	-1.512	-.425	-4.911e-3	NC	NC
1	M78	1	0	-1.391	-.268	2.03e-2	NC	NC
		2	0	-1.382	.002	2.03e-2	NC	148.269
		3	0	-1.374	.109	2.03e-2	NC	106.012
		4	0	-1.365	-.002	2.03e-2	NC	150.431
		5	0	-1.356	-.276	2.03e-2	NC	5158.867
1	M79	1	0	-.922	.408	3.627e-2	NC	NC
		2	0	-.917	.672	3.627e-2	NC	147.004
		3	0	-.912	.773	3.627e-2	NC	104.786
		4	0	-.907	.655	3.627e-2	NC	147.004
		5	0	-.902	.375	3.627e-2	NC	NC
1	M80	1	0	-.456	1.398	4.041e-2	NC	NC
		2	0	-.454	1.655	4.041e-2	NC	147.021
		3	0	-.452	1.749	4.041e-2	NC	104.798
		4	0	-.45	1.625	4.041e-2	NC	147.021
		5	0	-.448	1.337	4.041e-2	NC	NC
1	M81	1	0	-.146	2.411	3.371e-2	NC	NC
		2	0	-.146	2.662	3.371e-2	NC	146.735
		3	0	-.146	2.75	3.371e-2	NC	104.594

Member Deflections, By Combination, (continued)

LC	Member Label	Section	x-Translation (in)	y-Translation (in)	z-Translation (in)	x-Rotation (radians)	(n) L/y Ratio	(n) L/z Ratio
		4	0	-.145	2.619	3.371e-2	NC	146.735
		5	0	-.145	2.324	3.371e-2	NC	NC
1	M82	1	0	-.015	3.148	1.899e-2	NC	NC
		2	0	-.015	3.395	1.899e-2	NC	146.611
		3	0	-.016	3.479	1.899e-2	NC	104.506
		4	0	-.016	3.343	1.899e-2	NC	146.611
		5	0	-.016	3.044	1.899e-2	NC	NC
1	M164	1	0	0	0	0	NC	NC
		2	0	.013	0	1.083e-5	NC	NC
		3	0	.027	0	2.166e-5	NC	NC
		4	0	.04	0	3.249e-5	NC	NC
		5	0	.054	0	4.332e-5	NC	NC
1	M165	1	0	0	0	0	NC	NC
		2	0	.014	0	0	NC	NC
		3	0	.028	0	0	NC	NC
		4	0	.041	0	0	NC	NC
		5	0	.055	0	0	NC	NC
1	M166	1	0	0	0	0	NC	NC
		2	0	.013	0	-1.083e-5	NC	NC
		3	0	.027	0	-2.166e-5	NC	NC
		4	0	.04	0	-3.25e-5	NC	NC
		5	0	.054	0	-4.333e-5	NC	NC
1	M167	1	0	0	0	0	NC	NC
		2	0	-.013	0	1.083e-5	NC	NC
		3	0	-.027	0	2.166e-5	NC	NC
		4	0	-.04	0	3.249e-5	NC	NC
		5	0	-.054	0	4.332e-5	NC	NC
1	M168	1	0	0	0	0	NC	NC
		2	0	-.014	0	0	NC	NC
		3	0	-.028	0	0	NC	NC
		4	0	-.041	0	0	NC	NC
		5	0	-.055	0	0	NC	NC
1	M169	1	0	0	0	0	NC	NC
		2	0	-.013	0	-1.083e-5	NC	NC
		3	0	-.027	0	-2.166e-5	NC	NC
		4	0	-.04	0	-3.25e-5	NC	NC
		5	0	-.054	0	-4.333e-5	NC	NC
1	M170	1	.186	1.062	0	9.404e-4	NC	NC
		2	.186	1.071	0	9.405e-4	NC	NC
		3	.186	1.081	0	9.407e-4	NC	6279.518
		4	.187	1.09	0	9.409e-4	NC	4184.83
		5	.187	1.099	0	9.411e-4	NC	3138.574
1	M171	1	.192	1.104	0	-1.461e-7	NC	NC
		2	.192	1.114	0	-1.461e-7	NC	NC
		3	.192	1.123	0	-1.461e-7	NC	NC
		4	.192	1.133	0	-1.461e-7	NC	NC
		5	.193	1.142	0	-1.461e-7	NC	NC
1	M172	1	.186	1.062	0	-9.406e-4	NC	NC
		2	.186	1.071	0	-9.408e-4	NC	NC
		3	.186	1.081	0	-9.41e-4	NC	6270.056
		4	.187	1.09	0	-9.412e-4	NC	4178.527
		5	.187	1.099	0	-9.414e-4	NC	3133.847
1	M173	1	.425	1.512	0	1.075e-3	NC	NC
		2	.425	1.513	0	1.075e-3	NC	5196.543
		3	.425	1.514	0	1.076e-3	NC	2597.825
		4	.425	1.516	0	1.076e-3	NC	1731.618
		5	.425	1.517	0	1.077e-3	NC	1298.538
1	M174	1	.432	1.559	0	-1.514e-7	NC	NC
		2	.432	1.561	0	-1.515e-7	NC	NC
		3	.432	1.562	0	-1.515e-7	NC	NC
		4	.432	1.563	0	-1.516e-7	NC	NC

Member Deflections, By Combination, (continued)

LC	Member Label	Section	x-Translation (in)	y-Translation (in)	z-Translation (in)	x-Rotation (radians)	(n) L/y Ratio	(n) L/z Ratio
		5	.432	1.564	0	-1.516e-7	NC	NC
1	M175	1	.425	1.512	0	-1.075e-3	NC	NC
		2	.425	1.513	0	-1.075e-3	NC	5193.348
		3	.425	1.514	0	-1.076e-3	NC	2596.228
		4	.425	1.516	0	-1.076e-3	NC	1730.553
		5	.425	1.517	-.001	-1.077e-3	NC	1297.741
1	M176	1	.276	1.356	0	7.296e-4	NC	NC
		2	.276	1.35	0	7.304e-4	NC	NC
		3	.275	1.344	0	7.312e-4	NC	NC
		4	.275	1.338	0	7.32e-4	NC	NC
		5	.275	1.332	0	7.328e-4	NC	NC
1	M177	1	.268	1.391	0	-1.419e-7	NC	NC
		2	.268	1.384	0	-1.42e-7	NC	NC
		3	.268	1.378	0	-1.421e-7	NC	NC
		4	.268	1.372	0	-1.422e-7	NC	NC
		5	.267	1.365	0	-1.423e-7	NC	NC
1	M178	1	.276	1.356	0	-7.298e-4	NC	NC
		2	.276	1.35	0	-7.307e-4	NC	NC
		3	.275	1.344	0	-7.315e-4	NC	NC
		4	.275	1.338	0	-7.323e-4	NC	NC
		5	.275	1.332	0	-7.331e-4	NC	NC
1	M179	1	-.375	.902	0	3.11e-4	NC	NC
		2	-.375	.892	0	3.121e-4	NC	NC
		3	-.375	.881	0	3.131e-4	NC	NC
		4	-.376	.87	0	3.142e-4	NC	NC
		5	-.376	.859	0	3.153e-4	NC	NC
1	M180	1	-.408	.922	0	-1.299e-7	NC	NC
		2	-.408	.91	0	-1.3e-7	NC	NC
		3	-.408	.899	0	-1.301e-7	NC	NC
		4	-.408	.888	0	-1.301e-7	NC	NC
		5	-.408	.877	0	-1.302e-7	NC	NC
1	M181	1	-.375	.902	0	-3.112e-4	NC	NC
		2	-.375	.892	0	-3.123e-4	NC	NC
		3	-.375	.881	0	-3.134e-4	NC	NC
		4	-.376	.87	0	-3.145e-4	NC	NC
		5	-.376	.859	0	-3.156e-4	NC	NC
1	M182	1	-1.337	.448	0	1.934e-5	NC	NC
		2	-1.337	.436	0	2.043e-5	NC	NC
		3	-1.338	.424	0	2.152e-5	NC	NC
		4	-1.338	.412	0	2.26e-5	NC	NC
		5	-1.338	.4	0	2.369e-5	NC	NC
1	M183	1	-1.398	.456	0	-1.443e-7	NC	NC
		2	-1.398	.443	0	-1.444e-7	NC	NC
		3	-1.398	.431	0	-1.445e-7	NC	NC
		4	-1.398	.419	0	-1.446e-7	NC	NC
		5	-1.398	.406	0	-1.448e-7	NC	NC
1	M184	1	-1.337	.448	0	-1.963e-5	NC	NC
		2	-1.337	.436	0	-2.072e-5	NC	NC
		3	-1.337	.424	0	-2.181e-5	NC	NC
		4	-1.338	.412	0	-2.289e-5	NC	NC
		5	-1.338	.4	0	-2.398e-5	NC	NC
1	M185	1	-2.324	.145	0	-1.046e-4	NC	NC
		2	-2.324	.135	0	-1.038e-4	NC	8528.694
		3	-2.324	.125	0	-1.03e-4	NC	4262.433
		4	-2.324	.115	0	-1.021e-4	NC	2840.314
		5	-2.324	.105	0	-1.013e-4	NC	2129.231
1	M186	1	-2.411	.146	0	-1.52e-7	NC	NC
		2	-2.411	.136	0	-1.522e-7	NC	NC
		3	-2.411	.125	0	-1.523e-7	NC	NC
		4	-2.411	.115	0	-1.525e-7	NC	NC
		5	-2.411	.105	0	-1.526e-7	NC	NC

Member Deflections, By Combination (continued)

LC	Member Label	Section	x-Translation (in)	y-Translation (in)	z-Translation (in)	x-Rotation (radians)	(n) L/y Ratio	(n) L/z Ratio
1	M187	1	-2.324	.145	0	1.043e-4	NC	NC
		2	-2.324	.135	0	1.035e-4	NC	8532.678
		3	-2.324	.125	0	1.027e-4	NC	4264.422
		4	-2.324	.115	0	1.018e-4	NC	2841.639
		5	-2.324	.105	0	1.01e-4	NC	2130.224
1	M188	1	-3.044	.016	0	-8.998e-5	NC	NC
		2	-3.044	.01	0	-8.954e-5	NC	4965.969
		3	-3.044	.005	0	-8.91e-5	NC	2482.546
		4	-3.044	0	0	-8.866e-5	NC	1654.697
		5	-3.044	-.007	0	-8.822e-5	NC	1240.742
1	M189	1	-3.148	.015	0	-1.566e-7	NC	NC
		2	-3.148	.009	0	-1.568e-7	NC	NC
		3	-3.148	.004	0	-1.57e-7	NC	NC
		4	-3.148	-.002	0	-1.572e-7	NC	NC
		5	-3.148	-.008	0	-1.574e-7	NC	NC
1	M190	1	-3.044	.016	0	8.968e-5	52.85	NC
		2	-3.044	.01	0	8.923e-5	70.492	4966.698
		3	-3.044	.005	0	8.879e-5	105.701	2482.911
		4	-3.044	0	0	8.835e-5	211.174	1654.94
		5	-3.044	-.007	0	8.791e-5	NC	1240.924
1	M191	1	-3.308	0	0	-1.555e-7	NC	NC
		2	-3.308	0	0	-1.556e-7	NC	4325.093
		3	-3.307	0	0	-1.558e-7	NC	2162.262
		4	-3.307	0	0	-1.559e-7	NC	1441.272
		5	-3.307	0	-.001	-1.561e-7	NC	1080.741
1	M192	1	-3.418	0	0	-1.569e-7	NC	NC
		2	-3.418	0	0	-1.571e-7	NC	NC
		3	-3.418	0	0	-1.573e-7	NC	NC
		4	-3.418	0	0	-1.575e-7	NC	NC
		5	-3.418	0	0	-1.577e-7	NC	NC
1	M193	1	-3.308	0	0	-1.555e-7	NC	NC
		2	-3.308	0	0	-1.557e-7	NC	4325.093
		3	-3.307	0	0	-1.558e-7	NC	2162.262
		4	-3.307	0	0	-1.56e-7	NC	1441.272
		5	-3.307	0	.001	-1.561e-7	NC	1080.741
1	M194	1	-3.044	-.016	0	8.968e-5	52.85	NC
		2	-3.044	-.01	0	8.923e-5	70.492	4966.698
		3	-3.044	-.005	0	8.879e-5	105.701	2482.91
		4	-3.044	0	0	8.835e-5	211.174	1654.94
		5	-3.044	.007	0	8.791e-5	NC	1240.924
1	M195	1	-3.148	-.015	0	-1.566e-7	NC	NC
		2	-3.148	-.009	0	-1.568e-7	NC	NC
		3	-3.148	-.004	0	-1.57e-7	NC	NC
		4	-3.148	.002	0	-1.572e-7	NC	NC
		5	-3.148	.008	0	-1.574e-7	NC	NC
1	M196	1	-3.044	-.016	0	-8.998e-5	NC	NC
		2	-3.044	-.01	0	-8.954e-5	NC	4965.969
		3	-3.044	-.005	0	-8.91e-5	NC	2482.546
		4	-3.044	0	0	-8.866e-5	NC	1654.697
		5	-3.044	.007	0	-8.822e-5	NC	1240.742
1	M197	1	-2.324	-.145	0	1.043e-4	NC	NC
		2	-2.324	-.135	0	1.035e-4	NC	8532.677
		3	-2.324	-.125	0	1.027e-4	NC	4264.422
		4	-2.324	-.115	0	1.018e-4	NC	2841.639
		5	-2.324	-.105	0	1.01e-4	NC	2130.224
1	M198	1	-2.411	-.146	0	-1.52e-7	NC	NC
		2	-2.411	-.136	0	-1.522e-7	NC	NC
		3	-2.411	-.125	0	-1.523e-7	NC	NC
		4	-2.411	-.115	0	-1.525e-7	NC	NC
		5	-2.411	-.105	0	-1.526e-7	NC	NC
1	M199	1	-2.324	-.145	0	-1.046e-4	NC	NC

Member Deflections, By Combination, (continued)

LC	Member Label	Section	x-Translation (in)	y-Translation (in)	z-Translation (in)	x-Rotation (radians)	(n) L/y Ratio	(n) L/z Ratio
		2	-2.324	-.135	0	-1.038e-4	NC	8528.694
		3	-2.324	-.125	0	-1.03e-4	NC	4262.432
		4	-2.324	-.115	0	-1.021e-4	NC	2840.314
		5	-2.324	-.105	0	-1.013e-4	NC	2129.231
1	M200	1	-1.337	-.448	0	-1.963e-5	NC	NC
		2	-1.337	-.436	0	-2.072e-5	NC	NC
		3	-1.337	-.424	0	-2.181e-5	NC	NC
		4	-1.338	-.412	0	-2.289e-5	NC	NC
		5	-1.338	-.4	0	-2.398e-5	NC	NC
1	M201	1	-1.398	-.456	0	-1.443e-7	NC	NC
		2	-1.398	-.443	0	-1.444e-7	NC	NC
		3	-1.398	-.431	0	-1.445e-7	NC	NC
		4	-1.398	-.419	0	-1.446e-7	NC	NC
		5	-1.398	-.406	0	-1.448e-7	NC	NC
1	M202	1	-1.337	-.448	0	1.934e-5	NC	NC
		2	-1.337	-.436	0	2.043e-5	NC	NC
		3	-1.338	-.424	0	2.152e-5	NC	NC
		4	-1.338	-.412	0	2.26e-5	NC	NC
		5	-1.338	-.4	0	2.369e-5	NC	NC
1	M203	1	-.375	-.902	0	-3.112e-4	NC	NC
		2	-.375	-.892	0	-3.123e-4	NC	NC
		3	-.375	-.881	0	-3.134e-4	NC	NC
		4	-.376	-.87	0	-3.145e-4	NC	NC
		5	-.376	-.859	0	-3.156e-4	NC	NC
1	M204	1	-.408	-.922	0	-1.299e-7	NC	NC
		2	-.408	-.91	0	-1.3e-7	NC	NC
		3	-.408	-.899	0	-1.301e-7	NC	NC
		4	-.408	-.888	0	-1.301e-7	NC	NC
		5	-.408	-.877	0	-1.302e-7	NC	NC
1	M205	1	-.375	-.902	0	3.11e-4	NC	NC
		2	-.375	-.892	0	3.121e-4	NC	NC
		3	-.375	-.881	0	3.131e-4	NC	NC
		4	-.376	-.87	0	3.142e-4	NC	NC
		5	-.376	-.859	0	3.153e-4	NC	NC
1	M206	1	.276	-1.356	0	-7.298e-4	NC	NC
		2	.276	-1.35	0	-7.307e-4	NC	NC
		3	.275	-1.344	0	-7.315e-4	NC	NC
		4	.275	-1.338	0	-7.323e-4	NC	NC
		5	.275	-1.332	0	-7.331e-4	NC	NC
1	M207	1	.268	-1.391	0	-1.419e-7	NC	NC
		2	.268	-1.384	0	-1.42e-7	NC	NC
		3	.268	-1.378	0	-1.421e-7	NC	NC
		4	.268	-1.372	0	-1.422e-7	NC	NC
		5	.267	-1.365	0	-1.423e-7	NC	NC
1	M208	1	.276	-1.356	0	7.296e-4	NC	NC
		2	.276	-1.35	0	7.304e-4	NC	NC
		3	.275	-1.344	0	7.312e-4	NC	NC
		4	.275	-1.338	0	7.32e-4	NC	NC
		5	.275	-1.332	0	7.328e-4	NC	NC
1	M209	1	.425	-1.512	0	-1.075e-3	NC	NC
		2	.425	-1.513	0	-1.075e-3	NC	5193.348
		3	.425	-1.514	0	-1.076e-3	NC	2596.228
		4	.425	-1.516	0	-1.076e-3	NC	1730.553
		5	.425	-1.517	.001	-1.077e-3	NC	1297.741
1	M210	1	.432	-1.559	0	-1.514e-7	NC	NC
		2	.432	-1.561	0	-1.515e-7	NC	NC
		3	.432	-1.562	0	-1.515e-7	NC	NC
		4	.432	-1.563	0	-1.516e-7	NC	NC
		5	.432	-1.564	0	-1.516e-7	NC	NC
1	M211	1	.425	-1.512	0	1.075e-3	NC	NC
		2	.425	-1.513	0	1.075e-3	NC	5196.543

Member Deflections, By Combination (continued)

LC	Member Label	Section	x-Translation (in)	y-Translation (in)	z-Translation (in)	x-Rotation (radians)	(n) L/y Ratio	(n) L/z Ratio
		3	.425	-1.514	0	1.076e-3	NC	2597.825
		4	.425	-1.516	0	1.076e-3	NC	1731.618
		5	.425	-1.517	0	1.077e-3	NC	1298.538
1	M212	1	.186	-1.062	0	-9.406e-4	NC	NC
		2	.186	-1.071	0	-9.408e-4	NC	NC
		3	.186	-1.081	0	-9.41e-4	NC	6270.056
		4	.187	-1.09	0	-9.412e-4	NC	4178.527
		5	.187	-1.099	0	-9.414e-4	NC	3133.847
1	M213	1	.192	-1.104	0	-1.461e-7	NC	NC
		2	.192	-1.114	0	-1.461e-7	NC	NC
		3	.192	-1.123	0	-1.461e-7	NC	NC
		4	.192	-1.133	0	-1.461e-7	NC	NC
		5	.193	-1.142	0	-1.461e-7	NC	NC
1	M214	1	.186	-1.062	0	9.404e-4	NC	NC
		2	.186	-1.071	0	9.405e-4	NC	NC
		3	.186	-1.081	0	9.407e-4	NC	6279.518
		4	.187	-1.09	0	9.409e-4	NC	4184.83
		5	.187	-1.099	0	9.411e-4	NC	3138.574

Member Stresses, By Combination

LC	Member Label	Section	Axial (ksi)	Shear y-y (ksi)	Shear z-z (ksi)	Bending y-top (ksi)	Bending y-bot (ksi)	Bending z-top (ksi)	Bending z-bot (ksi)
1	M1	1	.815	.257	-.004	-4.045	12.742	.198	-.198
		2	.816	.256	-.004	-3.011	9.485	.149	-.149
		3	.827	.25	-.004	-1.983	6.247	.099	-.099
		4	.838	.244	-.004	-.984	3.1	.05	-.05
		5	.838	.244	-.004	0	0	0	0
1	M2	1	1.114	.11	-.001	-4.928	15.524	.195	-.195
		2	1.115	.109	-.001	-4.488	14.14	.182	-.182
		3	1.125	.092	-.001	-4.065	12.807	.168	-.168
		4	1.135	.076	-.001	-3.721	11.721	.154	-.154
		5	1.135	.075	-.001	-3.417	10.764	.141	-.141
1	M3	1	1.189	-.015	.003	-3.669	11.558	.074	-.074
		2	1.189	-.016	.003	-3.732	11.757	.108	-.108
		3	1.198	-.04	.003	-3.819	12.03	.142	-.142
		4	1.206	-.064	.003	-4.019	12.659	.176	-.176
		5	1.206	-.065	.003	-4.278	13.476	.209	-.209
1	M4	1	.952	-.081	.004	-1.663	5.238	-.025	.025
		2	.952	-.083	.004	-1.996	6.289	.027	-.027
		3	.958	-.111	.004	-2.359	7.431	.079	-.079
		4	.965	-.14	.004	-2.859	9.008	.132	-.132
		5	.965	-.142	.004	-3.433	10.813	.184	-.184
1	M5	1	.557	.165	.004	-1.806	5.688	-.13	.13
		2	.556	.164	.004	-1.14	3.59	-.077	.077
		3	.551	.132	.004	-.553	1.742	-.025	.025
		4	.547	.101	.004	-.117	.369	.028	-.028
		5	.546	.099	.004	.288	-.906	.081	-.081
1	M6	1	.135	.152	.003	-.037	.117	-.07	.07
		2	.135	.15	.003	.579	-1.825	-.029	.029
		3	.132	.117	.003	1.111	-3.501	.012	-.012
		4	.128	.084	.003	1.482	-4.669	.054	-.054
		5	.128	.082	.003	1.819	-5.731	.095	-.095
1	M7	1	-.191	.115	.002	1.501	-4.73	-.017	.017
		2	-.191	.113	.002	1.964	-6.188	.01	-.01
		3	-.193	.079	.002	2.34	-7.373	.036	-.036
		4	-.195	.044	.002	2.551	-8.036	.063	-.063
		5	-.195	.042	.002	2.727	-8.591	.089	-.089
1	M8	1	-.367	.067	0	2.536	-7.989	.031	-.031
		2	-.367	.065	0	2.805	-8.835	.039	-.039
		3	-.368	.03	0	2.985	-9.402	.048	-.048
		4	-.369	-.005	0	2.995	-9.436	.056	-.056

Member Stresses, By Combination, (continued)

LC	Member Label	Section	Axial (ksi)	Shear y-y (ksi)	Shear z-z (ksi)	Bending y-top (ksi)	Bending y-bot (ksi)	Bending z-top (ksi)	Bending z-bot (ksi)
		5	-.369	-.007	0	2.971	-9.36	.064	-.064
1	M9	1	.813	.258	.004	-4.044	12.74	-.198	.198
		2	.813	.258	.004	-3.006	9.469	-.149	.149
		3	.825	.252	.004	-1.983	6.246	-.099	.099
		4	.836	.246	.004	-.988	3.114	-.05	.05
		5	.836	.245	.004	0	0	0	0
1	M10	1	1.112	.113	.001	-4.93	15.53	-.195	.195
		2	1.113	.112	.001	-4.477	14.102	-.182	.182
		3	1.123	.096	.001	-4.065	12.805	-.168	.168
		4	1.133	.079	.001	-3.731	11.753	-.154	.154
		5	1.133	.078	.001	-3.413	10.753	-.141	.141
1	M11	1	1.187	-.01	-.003	-3.672	11.568	-.074	.074
		2	1.188	-.011	-.003	-3.715	11.704	-.108	.108
		3	1.196	-.035	-.003	-3.818	12.028	-.142	.142
		4	1.204	-.059	-.003	-4.034	12.709	-.176	.176
		5	1.205	-.06	-.003	-4.274	13.463	-.209	.209
1	M12	1	.95	-.075	-.004	-1.667	5.251	.025	-.025
		2	.951	-.077	-.004	-1.976	6.226	-.027	.027
		3	.957	-.105	-.004	-2.358	7.43	-.079	.079
		4	.964	-.134	-.004	-2.879	9.069	-.132	.132
		5	.964	-.136	-.004	-3.428	10.798	-.184	.184
1	M13	1	.556	.159	-.004	-1.801	5.672	.13	-.13
		2	.555	.157	-.004	-1.161	3.657	.077	-.077
		3	.551	.126	-.004	-.553	1.741	.025	-.025
		4	.546	.094	-.004	-.095	.3	-.028	.028
		5	.545	.093	-.004	.283	-.892	-.081	.081
1	M14	1	.134	.145	-.003	-.032	.101	.07	-.07
		2	.134	.144	-.003	.557	-1.753	.029	-.029
		3	.131	.11	-.003	1.111	-3.502	-.012	.012
		4	.128	.077	-.003	1.505	-4.742	-.054	.054
		5	.127	.075	-.003	1.814	-5.715	-.095	.095
1	M15	1	-.192	.108	-.002	1.507	-4.746	.017	-.017
		2	-.192	.106	-.002	1.941	-6.114	-.01	.01
		3	-.194	.072	-.002	2.34	-7.373	-.036	.036
		4	-.196	.037	-.002	2.575	-8.111	-.063	.063
		5	-.196	.035	-.002	2.722	-8.575	-.089	.089
1	M16	1	-.368	.06	0	2.541	-8.006	-.031	.031
		2	-.368	.058	0	2.78	-8.759	-.039	.039
		3	-.368	.023	0	2.985	-9.402	-.048	.048
		4	-.369	-.012	0	3.02	-9.512	-.056	.056
		5	-.369	-.014	0	2.966	-9.343	-.064	.064
1	M17	1	.813	.258	.004	-4.044	12.74	-.198	.198
		2	.813	.258	.004	-3.006	9.469	-.149	.149
		3	.825	.252	.004	-1.983	6.246	-.099	.099
		4	.836	.246	.004	-.988	3.114	-.05	.05
		5	.836	.245	.004	0	0	0	0
1	M18	1	1.112	.113	.001	-4.93	15.53	-.195	.195
		2	1.113	.112	.001	-4.477	14.102	-.182	.182
		3	1.123	.096	.001	-4.065	12.805	-.168	.168
		4	1.133	.079	.001	-3.731	11.753	-.154	.154
		5	1.133	.078	.001	-3.413	10.753	-.141	.141
1	M19	1	1.187	-.01	-.003	-3.672	11.568	-.074	.074
		2	1.188	-.011	-.003	-3.715	11.704	-.108	.108
		3	1.196	-.035	-.003	-3.818	12.028	-.142	.142
		4	1.204	-.059	-.003	-4.034	12.709	-.176	.176
		5	1.205	-.06	-.003	-4.274	13.463	-.209	.209
1	M20	1	.95	-.075	-.004	-1.667	5.251	.025	-.025
		2	.951	-.077	-.004	-1.976	6.226	-.027	.027
		3	.957	-.105	-.004	-2.358	7.43	-.079	.079
		4	.964	-.134	-.004	-2.879	9.069	-.132	.132
		5	.964	-.136	-.004	-3.428	10.798	-.184	.184

Member Stresses, By Combination (continued)

LC	Member Label	Section	Axial (ksi)	Shear y-y (ksi)	Shear z-z (ksi)	Bending y-top (ksi)	Bending y-bot (ksi)	Bending z-top (ksi)	Bending z-bot (ksi)
1	M21	1	.556	.159	-.004	-1.801	5.672	.13	-.13
		2	.555	.157	-.004	-1.161	3.657	.077	-.077
		3	.551	.126	-.004	-.553	1.741	.025	-.025
		4	.546	.094	-.004	-.095	.3	-.028	.028
		5	.545	.093	-.004	.283	-.892	-.081	.081
1	M22	1	.134	.145	-.003	-.032	.101	.07	-.07
		2	.134	.144	-.003	.557	-1.753	.029	-.029
		3	.131	.11	-.003	1.111	-3.502	-.012	.012
		4	.128	.077	-.003	1.505	-4.742	-.054	.054
		5	.127	.075	-.003	1.814	-5.715	-.095	.095
1	M23	1	-.192	.108	-.002	1.507	-4.746	.017	-.017
		2	-.192	.106	-.002	1.941	-6.114	-.01	.01
		3	-.194	.072	-.002	2.34	-7.373	-.036	.036
		4	-.196	.037	-.002	2.575	-8.111	-.063	.063
		5	-.196	.035	-.002	2.722	-8.575	-.089	.089
1	M24	1	-.368	.06	0	2.541	-8.006	-.031	.031
		2	-.368	.058	0	2.78	-8.759	-.039	.039
		3	-.368	.023	0	2.985	-9.402	-.048	.048
		4	-.369	-.012	0	3.02	-9.512	-.056	.056
		5	-.369	-.014	0	2.966	-9.343	-.064	.064
1	M25	1	.815	.257	-.004	-4.045	12.742	.198	-.198
		2	.816	.256	-.004	-3.011	9.485	.149	-.149
		3	.827	.25	-.004	-1.983	6.247	.099	-.099
		4	.838	.244	-.004	-.984	3.1	.05	-.05
		5	.838	.244	-.004	0	0	0	0
1	M26	1	1.114	.11	-.001	-4.928	15.524	.195	-.195
		2	1.115	.109	-.001	-4.488	14.14	.182	-.182
		3	1.125	.092	-.001	-4.065	12.807	.168	-.168
		4	1.135	.076	-.001	-3.721	11.721	.154	-.154
		5	1.135	.075	-.001	-3.417	10.764	.141	-.141
1	M27	1	1.189	-.015	.003	-3.669	11.558	.074	-.074
		2	1.189	-.016	.003	-3.732	11.757	.108	-.108
		3	1.198	-.04	.003	-3.819	12.03	.142	-.142
		4	1.206	-.064	.003	-4.019	12.659	.176	-.176
		5	1.206	-.065	.003	-4.278	13.476	.209	-.209
1	M28	1	.952	-.081	.004	-1.663	5.238	-.025	.025
		2	.952	-.083	.004	-1.996	6.289	.027	-.027
		3	.958	-.111	.004	-2.359	7.431	.079	-.079
		4	.965	-.14	.004	-2.859	9.008	.132	-.132
		5	.965	-.142	.004	-3.433	10.813	.184	-.184
1	M29	1	.557	.165	.004	-1.806	5.688	-.13	.13
		2	.556	.164	.004	-1.14	3.59	-.077	.077
		3	.551	.132	.004	-.553	1.742	-.025	.025
		4	.547	.101	.004	-.117	.369	.028	-.028
		5	.546	.099	.004	.288	-.906	.081	-.081
1	M30	1	.135	.152	.003	-.037	.117	-.07	.07
		2	.135	.15	.003	.579	-1.825	-.029	.029
		3	.132	.117	.003	1.111	-3.501	.012	-.012
		4	.128	.084	.003	1.482	-4.669	.054	-.054
		5	.128	.082	.003	1.819	-5.731	.095	-.095
1	M31	1	-.191	.115	.002	1.501	-4.73	-.017	.017
		2	-.191	.113	.002	1.964	-6.188	.01	-.01
		3	-.193	.079	.002	2.34	-7.373	.036	-.036
		4	-.195	.044	.002	2.551	-8.036	.063	-.063
		5	-.195	.042	.002	2.727	-8.591	.089	-.089
1	M32	1	-.367	.067	0	2.536	-7.989	.031	-.031
		2	-.367	.065	0	2.805	-8.835	.039	-.039
		3	-.368	.03	0	2.985	-9.402	.048	-.048
		4	-.369	-.005	0	2.995	-9.436	.056	-.056
		5	-.369	-.007	0	2.971	-9.36	.064	-.064
1	M33	1	1.432	.17	0	-3.907	10.91	0	0

Member Stresses, By Combination, (continued)

LC	Member Label	Section	Axial (ksi)	Shear y-y (ksi)	Shear z-z (ksi)	Bending y-top (ksi)	Bending y-bot (ksi)	Bending z-top (ksi)	Bending z-bot (ksi)
		2	1.432	.169	0	-2.857	7.977	0	0
		3	1.455	.158	0	-1.837	5.129	0	0
		4	1.478	.146	0	-.903	2.522	0	0
		5	1.479	.146	0	0	0	0	0
1	M34	1	1.718	.104	0	-4.647	12.973	0	0
		2	1.718	.103	0	-4.009	11.195	0	0
		3	1.739	.071	0	-3.454	9.645	0	0
		4	1.759	.039	0	-3.133	8.749	0	0
		5	1.759	.038	0	-2.895	8.082	0	0
1	M35	1	1.783	.034	0	-3.407	9.511	0	0
		2	1.784	.033	0	-3.199	8.932	0	0
		3	1.801	-.013	0	-3.11	8.683	0	0
		4	1.817	-.059	0	-3.361	9.384	0	0
		5	1.818	-.06	0	-3.73	10.415	0	0
1	M36	1	1.53	-.004	0	-1.604	4.478	0	0
		2	1.531	-.006	0	-1.635	4.565	0	0
		3	1.544	-.061	0	-1.811	5.057	0	0
		4	1.558	-.117	0	-2.402	6.706	0	0
		5	1.558	-.118	0	-3.137	8.76	0	0
1	M37	1	1.122	.142	0	-1.864	5.206	0	0
		2	1.122	.14	0	-.988	2.759	0	0
		3	1.112	.079	0	-.27	.754	0	0
		4	1.102	.018	0	-.004	.011	0	0
		5	1.102	.017	0	.104	-.291	0	0
1	M38	1	.666	.14	0	-.416	1.162	0	0
		2	.666	.138	0	.452	-1.263	0	0
		3	.659	.073	0	1.152	-3.215	0	0
		4	.652	.008	0	1.367	-3.817	0	0
		5	.652	.006	0	1.414	-3.947	0	0
1	M39	1	.308	.117	0	.917	-2.56	0	0
		2	.308	.115	0	1.643	-4.587	0	0
		3	.303	.049	0	2.195	-6.13	0	0
		4	.299	-.018	0	2.252	-6.287	0	0
		5	.299	-.02	0	2.135	-5.96	0	0
1	M40	1	.112	.087	0	1.84	-5.136	0	0
		2	.112	.085	0	2.381	-6.647	0	0
		3	.111	.018	0	2.744	-7.662	0	0
		4	.109	-.05	0	2.601	-7.262	0	0
		5	.109	-.052	0	2.28	-6.367	0	0
1	M41	1	1.432	.17	0	-3.907	10.91	0	0
		2	1.432	.169	0	-2.857	7.977	0	0
		3	1.455	.158	0	-1.837	5.129	0	0
		4	1.478	.146	0	-.903	2.522	0	0
		5	1.479	.146	0	0	0	0	0
1	M42	1	1.718	.104	0	-4.647	12.973	0	0
		2	1.718	.103	0	-4.009	11.195	0	0
		3	1.739	.071	0	-3.454	9.645	0	0
		4	1.759	.039	0	-3.133	8.749	0	0
		5	1.759	.038	0	-2.895	8.082	0	0
1	M43	1	1.783	.034	0	-3.407	9.511	0	0
		2	1.784	.033	0	-3.199	8.932	0	0
		3	1.801	-.013	0	-3.11	8.683	0	0
		4	1.817	-.059	0	-3.361	9.384	0	0
		5	1.818	-.06	0	-3.73	10.415	0	0
1	M44	1	1.53	-.004	0	-1.604	4.478	0	0
		2	1.531	-.006	0	-1.635	4.565	0	0
		3	1.544	-.061	0	-1.811	5.057	0	0
		4	1.558	-.117	0	-2.402	6.706	0	0
		5	1.558	-.118	0	-3.137	8.76	0	0
1	M45	1	1.122	.142	0	-1.864	5.206	0	0
		2	1.122	.14	0	-.988	2.759	0	0

Member Stresses, By Combination, (continued)

LC	Member Label	Section	Axial (ksi)	Shear y-y (ksi)	Shear z-z (ksi)	Bending y-top (ksi)	Bending y-bot (ksi)	Bending z-top (ksi)	Bending z-bot (ksi)
		3	1.112	.079	0	-.27	.754	0	0
		4	1.102	.018	0	-.004	.011	0	0
		5	1.102	.017	0	.104	-.291	0	0
1	M46	1	.666	.14	0	-.416	1.162	0	0
		2	.666	.138	0	.452	-1.263	0	0
		3	.659	.073	0	1.152	-3.215	0	0
		4	.652	.008	0	1.367	-3.817	0	0
		5	.652	.006	0	1.414	-3.947	0	0
1	M47	1	.308	.117	0	.917	-2.56	0	0
		2	.308	.115	0	1.643	-4.587	0	0
		3	.303	.049	0	2.195	-6.13	0	0
		4	.299	-.018	0	2.252	-6.287	0	0
		5	.299	-.02	0	2.135	-5.96	0	0
1	M48	1	.112	.087	0	1.84	-5.136	0	0
		2	.112	.085	0	2.381	-6.647	0	0
		3	.111	.018	0	2.744	-7.662	0	0
		4	.109	-.05	0	2.601	-7.262	0	0
		5	.109	-.052	0	2.28	-6.367	0	0
1	M49	1	0	0	-.164	0	0	0	0
		2	0	0	-.109	0	0	-5.355	3.256
		3	0	0	0	0	0	-7.005	4.259
		4	0	0	.109	0	0	-5.355	3.256
		5	0	0	.164	0	0	0	0
1	M50	1	-.09	0	-.325	0	0	0	0
		2	-.09	0	-.216	0	0	-10.605	6.449
		3	-.09	0	0	0	0	-13.871	8.435
		4	-.09	0	.216	0	0	-10.605	6.449
		5	-.09	0	.325	0	0	0	0
1	M51	1	-.018	0	-.326	0	0	0	0
		2	-.018	0	-.216	0	0	-10.616	6.455
		3	-.018	0	0	0	0	-13.885	8.443
		4	-.018	0	.216	0	0	-10.616	6.455
		5	-.018	0	.326	0	0	0	0
1	M52	1	.029	0	-.328	0	0	0	0
		2	.029	0	-.218	0	0	-10.685	6.498
		3	.029	0	0	0	0	-13.975	8.498
		4	.029	0	.218	0	0	-10.685	6.498
		5	.029	0	.328	0	0	0	0
1	M53	1	.032	0	-.328	0	0	0	0
		2	.032	0	-.218	0	0	-10.7	6.507
		3	.032	0	0	0	0	-13.995	8.51
		4	.032	0	.218	0	0	-10.7	6.507
		5	.032	0	.328	0	0	0	0
1	M54	1	.018	0	-.328	0	0	0	0
		2	.018	0	-.218	0	0	-10.699	6.506
		3	.018	0	0	0	0	-13.993	8.509
		4	.018	0	.218	0	0	-10.699	6.506
		5	.018	0	.328	0	0	0	0
1	M55	1	-.002	0	-.329	0	0	0	0
		2	-.002	0	-.219	0	0	-10.72	6.519
		3	-.002	0	0	0	0	-14.021	8.526
		4	-.002	0	.219	0	0	-10.72	6.519
		5	-.002	0	.329	0	0	0	0
1	M56	1	-.013	0	-.329	0	0	0	0
		2	-.013	0	-.219	0	0	-10.729	6.524
		3	-.013	0	0	0	0	-14.033	8.533
		4	-.013	0	.219	0	0	-10.729	6.524
		5	-.013	0	.329	0	0	0	0
1	M57	1	-.021	0	-.33	0	0	0	0
		2	-.021	0	-.219	0	0	-10.749	6.536
		3	-.021	0	0	0	0	-14.059	8.549

Member Stresses, By Combination, (continued)

LC	Member Label	Section	Axial (ksi)	Shear y-y (ksi)	Shear z-z (ksi)	Bending y-top (ksi)	Bending y-bot (ksi)	Bending z-top (ksi)	Bending z-bot (ksi)
		4	-.021	0	.219	0	0	-10.749	6.536
		5	-.021	0	.33	0	0	0	0
1	M58	1	0	0	-.164	0	0	0	0
		2	0	0	-.109	0	0	-5.355	3.256
		3	0	0	0	0	0	-7.005	4.259
		4	0	0	.109	0	0	-5.355	3.256
		5	0	0	.164	0	0	0	0
1	M59	1	-.09	0	-.325	0	0	0	0
		2	-.09	0	-.216	0	0	-10.605	6.449
		3	-.09	0	0	0	0	-13.871	8.435
		4	-.09	0	.216	0	0	-10.605	6.449
		5	-.09	0	.325	0	0	0	0
1	M60	1	-.018	0	-.326	0	0	0	0
		2	-.018	0	-.216	0	0	-10.616	6.455
		3	-.018	0	0	0	0	-13.885	8.443
		4	-.018	0	.216	0	0	-10.616	6.455
		5	-.018	0	.326	0	0	0	0
1	M61	1	.029	0	-.328	0	0	0	0
		2	.029	0	-.218	0	0	-10.685	6.498
		3	.029	0	0	0	0	-13.975	8.498
		4	.029	0	.218	0	0	-10.685	6.498
		5	.029	0	.328	0	0	0	0
1	M62	1	.032	0	-.328	0	0	0	0
		2	.032	0	-.218	0	0	-10.7	6.507
		3	.032	0	0	0	0	-13.995	8.51
		4	.032	0	.218	0	0	-10.7	6.507
		5	.032	0	.328	0	0	0	0
1	M63	1	.018	0	-.328	0	0	0	0
		2	.018	0	-.218	0	0	-10.699	6.506
		3	.018	0	0	0	0	-13.993	8.509
		4	.018	0	.218	0	0	-10.699	6.506
		5	.018	0	.328	0	0	0	0
1	M64	1	-.002	0	-.329	0	0	0	0
		2	-.002	0	-.219	0	0	-10.72	6.519
		3	-.002	0	0	0	0	-14.021	8.526
		4	-.002	0	.219	0	0	-10.72	6.519
		5	-.002	0	.329	0	0	0	0
1	M65	1	-.013	0	-.329	0	0	0	0
		2	-.013	0	-.219	0	0	-10.729	6.524
		3	-.013	0	0	0	0	-14.033	8.533
		4	-.013	0	.219	0	0	-10.729	6.524
		5	-.013	0	.329	0	0	0	0
1	M66	1	-.021	0	-.33	0	0	0	0
		2	-.021	0	-.219	0	0	-10.749	6.536
		3	-.021	0	0	0	0	-14.059	8.549
		4	-.021	0	.219	0	0	-10.749	6.536
		5	-.021	0	.33	0	0	0	0
1	M67	1	0	0	-.164	0	0	0	0
		2	0	0	-.109	0	0	-5.355	3.256
		3	0	0	0	0	0	-7.005	4.259
		4	0	0	.109	0	0	-5.355	3.256
		5	0	0	.164	0	0	0	0
1	M68	1	-.09	0	-.325	0	0	0	0
		2	-.09	0	-.216	0	0	-10.605	6.449
		3	-.09	0	0	0	0	-13.871	8.435
		4	-.09	0	.216	0	0	-10.605	6.449
		5	-.09	0	.325	0	0	0	0
1	M69	1	-.018	0	-.326	0	0	0	0
		2	-.018	0	-.216	0	0	-10.616	6.455
		3	-.018	0	0	0	0	-13.885	8.443
		4	-.018	0	.216	0	0	-10.616	6.455

Member Stresses, By Combination, (continued)

LC	Member Label	Section	Axial (ksi)	Shear y-y (ksi)	Shear z-z (ksi)	Bending y-top (ksi)	Bending y-bot (ksi)	Bending z-top (ksi)	Bending z-bot (ksi)
		5	-.018	0	.326	0	0	0	0
1	M70	1	.029	0	-.328	0	0	0	0
		2	.029	0	-.218	0	0	-10.685	6.498
		3	.029	0	0	0	0	-13.975	8.498
		4	.029	0	.218	0	0	-10.685	6.498
		5	.029	0	.328	0	0	0	0
1	M71	1	.032	0	-.328	0	0	0	0
		2	.032	0	-.218	0	0	-10.7	6.507
		3	.032	0	0	0	0	-13.995	8.51
		4	.032	0	.218	0	0	-10.7	6.507
		5	.032	0	.328	0	0	0	0
1	M72	1	.018	0	-.328	0	0	0	0
		2	.018	0	-.218	0	0	-10.699	6.506
		3	.018	0	0	0	0	-13.993	8.509
		4	.018	0	.218	0	0	-10.699	6.506
		5	.018	0	.328	0	0	0	0
1	M73	1	-.002	0	-.329	0	0	0	0
		2	-.002	0	-.219	0	0	-10.72	6.519
		3	-.002	0	0	0	0	-14.021	8.526
		4	-.002	0	.219	0	0	-10.72	6.519
		5	-.002	0	.329	0	0	0	0
1	M74	1	-.013	0	-.329	0	0	0	0
		2	-.013	0	-.219	0	0	-10.729	6.524
		3	-.013	0	0	0	0	-14.033	8.533
		4	-.013	0	.219	0	0	-10.729	6.524
		5	-.013	0	.329	0	0	0	0
1	M75	1	0	0	-.164	0	0	0	0
		2	0	0	-.109	0	0	-5.355	3.256
		3	0	0	0	0	0	-7.005	4.259
		4	0	0	.109	0	0	-5.355	3.256
		5	0	0	.164	0	0	0	0
1	M76	1	-.09	0	-.325	0	0	0	0
		2	-.09	0	-.216	0	0	-10.605	6.449
		3	-.09	0	0	0	0	-13.871	8.435
		4	-.09	0	.216	0	0	-10.605	6.449
		5	-.09	0	.325	0	0	0	0
1	M77	1	-.018	0	-.326	0	0	0	0
		2	-.018	0	-.216	0	0	-10.616	6.455
		3	-.018	0	0	0	0	-13.885	8.443
		4	-.018	0	.216	0	0	-10.616	6.455
		5	-.018	0	.326	0	0	0	0
1	M78	1	.029	0	-.328	0	0	0	0
		2	.029	0	-.218	0	0	-10.685	6.498
		3	.029	0	0	0	0	-13.975	8.498
		4	.029	0	.218	0	0	-10.685	6.498
		5	.029	0	.328	0	0	0	0
1	M79	1	.032	0	-.328	0	0	0	0
		2	.032	0	-.218	0	0	-10.7	6.507
		3	.032	0	0	0	0	-13.995	8.51
		4	.032	0	.218	0	0	-10.7	6.507
		5	.032	0	.328	0	0	0	0
1	M80	1	.018	0	-.328	0	0	0	0
		2	.018	0	-.218	0	0	-10.699	6.506
		3	.018	0	0	0	0	-13.993	8.509
		4	.018	0	.218	0	0	-10.699	6.506
		5	.018	0	.328	0	0	0	0
1	M81	1	-.002	0	-.329	0	0	0	0
		2	-.002	0	-.219	0	0	-10.72	6.519
		3	-.002	0	0	0	0	-14.021	8.526
		4	-.002	0	.219	0	0	-10.72	6.519
		5	-.002	0	.329	0	0	0	0

Member Stresses, By Combination, (continued)

LC	Member Label	Section	Axial (ksi)	Shear y-y (ksi)	Shear z-z (ksi)	Bending y-top (ksi)	Bending y-bot (ksi)	Bending z-top (ksi)	Bending z-bot (ksi)
1	M82	1	-.013	0	-.329	0	0	0	0
		2	-.013	0	-.219	0	0	-10.729	6.524
		3	-.013	0	0	0	0	-14.033	8.533
		4	-.013	0	.219	0	0	-10.729	6.524
		5	-.013	0	.329	0	0	0	0
1	M164	1	-.078	-.272	.031	0	0	0	0
		2	-.078	-.272	.031	-.014	.014	.009	-.009
		3	-.078	-.272	.031	-.027	.027	.019	-.019
		4	-.078	-.272	.031	-.041	.041	.028	-.028
		5	-.078	-.272	.031	-.054	.054	.037	-.037
1	M165	1	-.045	-.369	0	0	0	0	0
		2	-.045	-.369	0	-.018	.018	0	0
		3	-.045	-.369	0	-.037	.037	0	0
		4	-.045	-.369	0	-.055	.055	0	0
		5	-.045	-.369	0	-.074	.074	0	0
1	M166	1	-.078	-.272	-.031	0	0	0	0
		2	-.078	-.272	-.031	-.014	.014	-.009	.009
		3	-.078	-.272	-.031	-.027	.027	-.019	.019
		4	-.078	-.272	-.031	-.041	.041	-.028	.028
		5	-.078	-.272	-.031	-.054	.054	-.037	.037
1	M167	1	-.078	.272	-.031	0	0	0	0
		2	-.078	.272	-.031	.014	-.014	-.009	.009
		3	-.078	.272	-.031	.027	-.027	-.019	.019
		4	-.078	.272	-.031	.041	-.041	-.028	.028
		5	-.078	.272	-.031	.054	-.054	-.037	.037
1	M168	1	-.045	.369	0	0	0	0	0
		2	-.045	.369	0	.018	-.018	0	0
		3	-.045	.369	0	.037	-.037	0	0
		4	-.045	.369	0	.055	-.055	0	0
		5	-.045	.369	0	.074	-.074	0	0
1	M169	1	-.078	.272	.031	0	0	0	0
		2	-.078	.272	.031	.014	-.014	.009	-.009
		3	-.078	.272	.031	.027	-.027	.019	-.019
		4	-.078	.272	.031	.041	-.041	.028	-.028
		5	-.078	.272	.031	.054	-.054	.037	-.037
1	M170	1	-.263	.402	-.034	-.068	.068	.024	-.024
		2	-.263	.402	-.034	-.048	.048	.014	-.014
		3	-.263	.402	-.034	-.028	.028	.004	-.004
		4	-.263	.402	-.034	-.008	.008	-.006	.006
		5	-.263	.402	-.034	.012	-.012	-.016	.016
1	M171	1	-.262	.609	0	-.071	.071	0	0
		2	-.262	.609	0	-.041	.041	0	0
		3	-.262	.609	0	-.01	.01	0	0
		4	-.262	.609	0	.02	-.02	0	0
		5	-.262	.609	0	.051	-.051	0	0
1	M172	1	-.263	.402	.034	-.068	.068	-.024	.024
		2	-.263	.402	.034	-.048	.048	-.014	.014
		3	-.263	.402	.034	-.028	.028	-.004	.004
		4	-.263	.402	.034	-.008	.008	.006	-.006
		5	-.263	.402	.034	.012	-.012	.016	-.016
1	M173	1	.003	.296	-.004	-.071	.071	.009	-.009
		2	.003	.296	-.004	-.056	.056	.008	-.008
		3	.003	.296	-.004	-.042	.042	.007	-.007
		4	.003	.296	-.004	-.027	.027	.005	-.005
		5	.003	.296	-.004	-.012	.012	.004	-.004
1	M174	1	.015	.428	0	-.065	.065	0	0
		2	.015	.428	0	-.043	.043	0	0
		3	.015	.428	0	-.022	.022	0	0
		4	.015	.428	0	0	0	0	0
		5	.015	.428	0	.021	-.021	0	0
1	M175	1	.003	.296	.004	-.07	.07	-.009	.009

Member Stresses, By Combination, (continued)

LC	Member Label	Section	Axial (ksi)	Shear y-y (ksi)	Shear z-z (ksi)	Bending y-top (ksi)	Bending y-bot (ksi)	Bending z-top (ksi)	Bending z-bot (ksi)
		2	.003	.296	.004	-.056	.056	-.008	.008
		3	.003	.296	.004	-.041	.041	-.007	.007
		4	.003	.296	.004	-.026	.026	-.005	.005
		5	.003	.296	.004	-.011	.011	-.004	.004
1	M176	1	.213	-.054	.012	-.027	.027	-.016	.016
		2	.213	-.054	.012	-.029	.029	-.012	.012
		3	.213	-.054	.012	-.032	.032	-.008	.008
		4	.213	-.054	.012	-.035	.035	-.005	.005
		5	.213	-.054	.012	-.037	.037	0	0
1	M177	1	.215	.028	0	-.019	.019	0	0
		2	.215	.028	0	-.018	.018	0	0
		3	.215	.028	0	-.016	.016	0	0
		4	.215	.028	0	-.015	.015	0	0
		5	.215	.028	0	-.013	.013	0	0
1	M178	1	.213	-.054	-.012	-.026	.026	.016	-.016
		2	.213	-.054	-.012	-.028	.028	.012	-.012
		3	.213	-.054	-.012	-.031	.031	.008	-.008
		4	.213	-.054	-.012	-.034	.034	.005	-.005
		5	.213	-.054	-.012	-.036	.036	0	0
1	M179	1	.216	-.339	.012	.015	-.015	-.024	.024
		2	.216	-.339	.012	-.002	.002	-.02	.02
		3	.215	-.339	.012	-.019	.019	-.016	.016
		4	.215	-.339	.012	-.036	.036	-.013	.013
		5	.215	-.339	.012	-.053	.053	-.009	.009
1	M180	1	.205	-.292	0	.018	-.018	0	0
		2	.205	-.292	0	.004	-.004	0	0
		3	.205	-.292	0	-.011	.011	0	0
		4	.205	-.292	0	-.025	.025	0	0
		5	.205	-.292	0	-.04	.04	0	0
1	M181	1	.216	-.339	-.012	.015	-.015	.024	-.024
		2	.216	-.339	-.012	-.001	.001	.02	-.02
		3	.215	-.339	-.012	-.018	.018	.016	-.016
		4	.215	-.339	-.012	-.035	.035	.013	-.013
		5	.215	-.339	-.012	-.052	.052	.009	-.009
1	M182	1	.111	-.437	.007	.034	-.034	-.02	.02
		2	.111	-.437	.007	.012	-.012	-.018	.018
		3	.111	-.437	.007	-.009	.009	-.016	.016
		4	.111	-.437	.007	-.031	.031	-.014	.014
		5	.11	-.437	.007	-.053	.053	-.012	.012
1	M183	1	.092	-.418	0	.037	-.037	0	0
		2	.092	-.418	0	.016	-.016	0	0
		3	.092	-.418	0	-.005	.005	0	0
		4	.092	-.418	0	-.026	.026	0	0
		5	.092	-.418	0	-.047	.047	0	0
1	M184	1	.111	-.437	-.007	.035	-.035	.02	-.02
		2	.111	-.437	-.007	.013	-.013	.018	-.018
		3	.11	-.437	-.007	-.008	.008	.016	-.016
		4	.11	-.437	-.007	-.03	.03	.014	-.014
		5	.11	-.437	-.007	-.052	.052	.012	-.012
1	M185	1	-.005	-.37	-.002	.033	-.033	-.012	.012
		2	-.005	-.37	-.002	.015	-.015	-.013	.013
		3	-.005	-.37	-.002	-.004	.004	-.013	.013
		4	-.005	-.37	-.002	-.022	.022	-.014	.014
		5	-.005	-.37	-.002	-.041	.041	-.014	.014
1	M186	1	-.036	-.368	0	.035	-.035	0	0
		2	-.036	-.368	0	.017	-.017	0	0
		3	-.036	-.368	0	-.002	.002	0	0
		4	-.036	-.368	0	-.02	.02	0	0
		5	-.036	-.368	0	-.039	.039	0	0
1	M187	1	-.005	-.37	.002	.034	-.034	.012	-.012
		2	-.005	-.37	.002	.016	-.016	.013	-.013

Member Stresses, By Combination, (continued)

LC	Member Label	Section	Axial (ksi)	Shear y-y (ksi)	Shear z-z (ksi)	Bending y-top (ksi)	Bending y-bot (ksi)	Bending z-top (ksi)	Bending z-bot (ksi)
		3	-.005	-.37	.002	-.003	.003	.013	-.013
		4	-.005	-.37	.002	-.021	.021	.014	-.014
		5	-.005	-.37	.002	-.039	.039	.014	-.014
1	M188	1	-.086	-.207	-.006	.02	-.02	-.007	.007
		2	-.086	-.207	-.006	.009	-.009	-.009	.009
		3	-.086	-.207	-.006	-.001	.001	-.01	.01
		4	-.086	-.207	-.006	-.011	.011	-.012	.012
		5	-.086	-.207	-.006	-.022	.022	-.014	.014
1	M189	1	-.121	-.209	0	.021	-.021	0	0
		2	-.121	-.209	0	.01	-.01	0	0
		3	-.121	-.209	0	0	0	0	0
		4	-.121	-.209	0	-.011	.011	0	0
		5	-.121	-.209	0	-.021	.021	0	0
1	M190	1	-.086	-.207	.006	.021	-.021	.007	-.007
		2	-.086	-.207	.006	.01	-.01	.009	-.009
		3	-.086	-.207	.006	0	0	.01	-.01
		4	-.086	-.207	.006	-.01	.01	.012	-.012
		5	-.086	-.207	.006	-.021	.021	.014	-.014
1	M191	1	-.114	0	-.009	0	0	-.005	.005
		2	-.114	0	-.009	0	0	-.007	.007
		3	-.114	0	-.009	0	0	-.01	.01
		4	-.114	0	-.009	0	0	-.013	.013
		5	-.114	0	-.009	0	0	-.016	.016
1	M192	1	-.152	0	0	0	0	0	0
		2	-.152	0	0	0	0	0	0
		3	-.152	0	0	0	0	0	0
		4	-.152	0	0	0	0	0	0
		5	-.152	0	0	0	0	0	0
1	M193	1	-.114	0	.009	0	0	.005	-.005
		2	-.114	0	.009	0	0	.007	-.007
		3	-.114	0	.009	0	0	.01	-.01
		4	-.114	0	.009	0	0	.013	-.013
		5	-.114	0	.009	0	0	.016	-.016
1	M194	1	-.086	.207	-.006	-.021	.021	-.007	.007
		2	-.086	.207	-.006	-.01	.01	-.009	.009
		3	-.086	.207	-.006	0	0	-.01	.01
		4	-.086	.207	-.006	.01	-.01	-.012	.012
		5	-.086	.207	-.006	.021	-.021	-.014	.014
1	M195	1	-.121	.209	0	-.021	.021	0	0
		2	-.121	.209	0	-.01	.01	0	0
		3	-.121	.209	0	0	0	0	0
		4	-.121	.209	0	.011	-.011	0	0
		5	-.121	.209	0	.021	-.021	0	0
1	M196	1	-.086	.207	.006	-.02	.02	.007	-.007
		2	-.086	.207	.006	-.009	.009	.009	-.009
		3	-.086	.207	.006	.001	-.001	.01	-.01
		4	-.086	.207	.006	.011	-.011	.012	-.012
		5	-.086	.207	.006	.022	-.022	.014	-.014
1	M197	1	-.005	.37	-.002	-.034	.034	-.012	.012
		2	-.005	.37	-.002	-.016	.016	-.013	.013
		3	-.005	.37	-.002	.003	-.003	-.013	.013
		4	-.005	.37	-.002	.021	-.021	-.014	.014
		5	-.005	.37	-.002	.039	-.039	-.014	.014
1	M198	1	-.036	.368	0	-.035	.035	0	0
		2	-.036	.368	0	-.017	.017	0	0
		3	-.036	.368	0	.002	-.002	0	0
		4	-.036	.368	0	.02	-.02	0	0
		5	-.036	.368	0	.039	-.039	0	0
1	M199	1	-.005	.37	.002	-.033	.033	.012	-.012
		2	-.005	.37	.002	-.015	.015	.013	-.013
		3	-.005	.37	.002	.004	-.004	.013	-.013

Member Stresses, By Combination, (continued)

LC	Member Label	Section	Axial (ksi)	Shear y-y (ksi)	Shear z-z (ksi)	Bending y-top (ksi)	Bending y-bot (ksi)	Bending z-top (ksi)	Bending z-bot (ksi)
		4	-.005	.37	.002	.022	-.022	.014	-.014
		5	-.005	.37	.002	.041	-.041	.014	-.014
1	M200	1	.111	.437	.007	-.035	.035	-.02	.02
		2	.111	.437	.007	-.013	.013	-.018	.018
		3	.11	.437	.007	.008	-.008	-.016	.016
		4	.11	.437	.007	.03	-.03	-.014	.014
		5	.11	.437	.007	.052	-.052	-.012	.012
1	M201	1	.092	.418	0	-.037	.037	0	0
		2	.092	.418	0	-.016	.016	0	0
		3	.092	.418	0	.005	-.005	0	0
		4	.092	.418	0	.026	-.026	0	0
		5	.092	.418	0	.047	-.047	0	0
1	M202	1	.111	.437	-.007	-.034	.034	.02	-.02
		2	.111	.437	-.007	-.012	.012	.018	-.018
		3	.111	.437	-.007	.009	-.009	.016	-.016
		4	.111	.437	-.007	.031	-.031	.014	-.014
		5	.11	.437	-.007	.053	-.053	.012	-.012
1	M203	1	.216	.339	.012	-.015	.015	-.024	.024
		2	.216	.339	.012	.001	-.001	-.02	.02
		3	.215	.339	.012	.018	-.018	-.016	.016
		4	.215	.339	.012	.035	-.035	-.013	.013
		5	.215	.339	.012	.052	-.052	-.009	.009
1	M204	1	.205	.292	0	-.018	.018	0	0
		2	.205	.292	0	-.004	.004	0	0
		3	.205	.292	0	.011	-.011	0	0
		4	.205	.292	0	.025	-.025	0	0
		5	.205	.292	0	.04	-.04	0	0
1	M205	1	.216	.339	-.012	-.015	.015	.024	-.024
		2	.216	.339	-.012	.002	-.002	.02	-.02
		3	.215	.339	-.012	.019	-.019	.016	-.016
		4	.215	.339	-.012	.036	-.036	.013	-.013
		5	.215	.339	-.012	.053	-.053	.009	-.009
1	M206	1	.213	.054	.012	.026	-.026	-.016	.016
		2	.213	.054	.012	.028	-.028	-.012	.012
		3	.213	.054	.012	.031	-.031	-.008	.008
		4	.213	.054	.012	.034	-.034	-.005	.005
		5	.213	.054	.012	.036	-.036	0	0
1	M207	1	.215	-.028	0	.019	-.019	0	0
		2	.215	-.028	0	.018	-.018	0	0
		3	.215	-.028	0	.016	-.016	0	0
		4	.215	-.028	0	.015	-.015	0	0
		5	.215	-.028	0	.013	-.013	0	0
1	M208	1	.213	.054	-.012	.027	-.027	.016	-.016
		2	.213	.054	-.012	.029	-.029	.012	-.012
		3	.213	.054	-.012	.032	-.032	.008	-.008
		4	.213	.054	-.012	.035	-.035	.005	-.005
		5	.213	.054	-.012	.037	-.037	0	0
1	M209	1	.003	-.296	-.004	.07	-.07	.009	-.009
		2	.003	-.296	-.004	.056	-.056	.008	-.008
		3	.003	-.296	-.004	.041	-.041	.007	-.007
		4	.003	-.296	-.004	.026	-.026	.005	-.005
		5	.003	-.296	-.004	.011	-.011	.004	-.004
1	M210	1	.015	-.428	0	.065	-.065	0	0
		2	.015	-.428	0	.043	-.043	0	0
		3	.015	-.428	0	.022	-.022	0	0
		4	.015	-.428	0	0	0	0	0
		5	.015	-.428	0	-.021	.021	0	0
1	M211	1	.003	-.296	.004	.071	-.071	-.009	.009
		2	.003	-.296	.004	.056	-.056	-.008	.008
		3	.003	-.296	.004	.042	-.042	-.007	.007
		4	.003	-.296	.004	.027	-.027	-.005	.005

Member Stresses, By Combination, (continued)

LC	Member Label	Section	Axial (ksi)	Shear y-y (ksi)	Shear z-z (ksi)	Bending y-top (ksi)	Bending y-bot (ksi)	Bending z-top (ksi)	Bending z-bot (ksi)
		5	.003	-.296	.004	.012	-.012	-.004	.004
1	M212	1	-.263	-.402	-.034	.068	-.068	.024	-.024
		2	-.263	-.402	-.034	.048	-.048	.014	-.014
		3	-.263	-.402	-.034	.028	-.028	.004	-.004
		4	-.263	-.402	-.034	.008	-.008	-.006	.006
		5	-.263	-.402	-.034	-.012	.012	-.016	.016
1	M213	1	-.262	-.609	0	.071	-.071	0	0
		2	-.262	-.609	0	.041	-.041	0	0
		3	-.262	-.609	0	.01	-.01	0	0
		4	-.262	-.609	0	-.02	.02	0	0
		5	-.262	-.609	0	-.051	.051	0	0
1	M214	1	-.263	-.402	.034	.068	-.068	-.024	.024
		2	-.263	-.402	.034	.048	-.048	-.014	.014
		3	-.263	-.402	.034	.028	-.028	-.004	.004
		4	-.263	-.402	.034	.008	-.008	.006	-.006
		5	-.263	-.402	.034	-.012	.012	.016	-.016

Member AISC ASD 9th Code Checks, By Combination

LC	Member Label	Code Chk	Loc (ft)	Shear Chk	Loc (ft)	Dir	ASD Eqn.	Message
1	M1	.668	0	.018	0	y	H1-3	
1	M2	.792	0	.010	0	y	H1-2	
1	M3	.699	2.24	.006	2.24	y	H1-2	
1	M4	.561	2.26	.014	2.26	y	H1-2	
1	M5	.297	0	.016	0	y	H1-2	
1	M6	.273	2.26	.015	0	y	H2-1	
1	M7	.418	2.255	.011	0	y	H2-1	
1	M8	.469	1.344	.006	0	y	H2-1	
1	M9	.668	0	.018	0	y	H1-3	
1	M10	.792	0	.011	0	y	H1-2	
1	M11	.698	2.24	.006	2.24	y	H1-2	
1	M12	.560	2.26	.013	2.26	y	H1-2	
1	M13	.297	0	.016	0	y	H1-2	
1	M14	.272	2.26	.014	0	y	H2-1	
1	M15	.418	2.255	.010	0	y	H2-1	
1	M16	.472	1.509	.005	0	y	H2-1	
1	M17	.668	0	.018	0	y	H1-3	
1	M18	.792	0	.011	0	y	H1-2	
1	M19	.698	2.24	.006	2.24	y	H1-2	
1	M20	.560	2.26	.013	2.26	y	H1-2	
1	M21	.297	0	.016	0	y	H1-2	
1	M22	.272	2.26	.014	0	y	H2-1	
1	M23	.418	2.255	.010	0	y	H2-1	
1	M24	.472	1.509	.005	0	y	H2-1	
1	M25	.668	0	.018	0	y	H1-3	
1	M26	.792	0	.010	0	y	H1-2	
1	M27	.699	2.24	.006	2.24	y	H1-2	
1	M28	.561	2.26	.014	2.26	y	H1-2	
1	M29	.297	0	.016	0	y	H1-2	
1	M30	.273	2.26	.015	0	y	H2-1	
1	M31	.418	2.255	.011	0	y	H2-1	
1	M32	.469	1.344	.006	0	y	H2-1	
1	M33	.769	0	.012	0	y	H1-1	
1	M34	.828	0	.007	0	y	H1-1	
1	M35	.722	2.24	.004	2.24	y	H1-1	
1	M36	.600	2.26	.008	2.26	y	H1-1	
1	M37	.362	0	.010	0	y	H1-1	
1	M38	.188	2.26	.010	0	y	H2-1	
1	M39	.304	1.456	.008	0	y	H2-1	
1	M40	.366	1.25	.006	0	y	H2-1	
1	M41	.769	0	.012	0	y	H1-1	

Member AISC ASD 9th Code Checks, By Combination, (continued)

LC	Member Label	Code Chk	Loc (ft)	Shear Chk	Loc (ft)	Dir	ASD Eqn.	Message
1	M42	.828	0	.007	0	y	H1-1	
1	M43	.722	2.24	.004	2.24	y	H1-1	
1	M44	.600	2.26	.008	2.26	y	H1-1	
1	M45	.362	0	.010	0	y	H1-1	
1	M46	.188	2.26	.010	0	y	H2-1	
1	M47	.304	1.456	.008	0	y	H2-1	
1	M48	.366	1.25	.006	0	y	H2-1	
1	M49	.267	1.666	.012	3.333	z	H2-1	
1	M50	.533	1.666	.023	3.333	z	H2-1	
1	M51	.530	1.666	.023	0	z	H2-1	
1	M52	.532	1.666	.023	3.333	z	H2-1	
1	M53	.533	1.666	.023	0	z	H2-1	
1	M54	.533	1.666	.023	0	z	H2-1	
1	M55	.534	1.666	.023	0	z	H2-1	
1	M56	.535	1.666	.023	0	z	H2-1	
1	M57	.537	1.666	.024	0	z	H2-1	
1	M58	.267	1.666	.012	3.333	z	H2-1	
1	M59	.533	1.666	.023	0	z	H2-1	
1	M60	.530	1.666	.023	3.333	z	H2-1	
1	M61	.532	1.666	.023	3.333	z	H2-1	
1	M62	.533	1.666	.023	0	z	H2-1	
1	M63	.533	1.666	.023	0	z	H2-1	
1	M64	.534	1.666	.023	3.333	z	H2-1	
1	M65	.535	1.666	.023	3.333	z	H2-1	
1	M66	.537	1.666	.024	0	z	H2-1	
1	M67	.267	1.666	.012	3.333	z	H2-1	
1	M68	.533	1.666	.023	3.333	z	H2-1	
1	M69	.530	1.666	.023	3.333	z	H2-1	
1	M70	.532	1.666	.023	3.333	z	H2-1	
1	M71	.533	1.666	.023	3.333	z	H2-1	
1	M72	.533	1.666	.023	0	z	H2-1	
1	M73	.534	1.666	.023	3.333	z	H2-1	
1	M74	.535	1.666	.023	0	z	H2-1	
1	M75	.267	1.666	.012	3.333	z	H2-1	
1	M76	.533	1.666	.023	3.333	z	H2-1	
1	M77	.530	1.666	.023	3.333	z	H2-1	
1	M78	.532	1.666	.023	3.333	z	H2-1	
1	M79	.533	1.666	.023	0	z	H2-1	
1	M80	.533	1.666	.023	0	z	H2-1	
1	M81	.534	1.666	.023	3.333	z	H2-1	
1	M82	.535	1.666	.023	0	z	H2-1	
1	M164	- Steel code ...						- Steel code check not calculate...
1	M165	- Steel code ...						- Steel code check not calculate...
1	M166	- Steel code ...						- Steel code check not calculate...
1	M167	- Steel code ...						- Steel code check not calculate...
1	M168	- Steel code ...						- Steel code check not calculate...
1	M169	- Steel code ...						- Steel code check not calculate...
1	M170	- Steel code ...						- Steel code check not calculate...
1	M171	- Steel code ...						- Steel code check not calculate...
1	M172	- Steel code ...						- Steel code check not calculate...
1	M173	- Steel code ...						- Steel code check not calculate...
1	M174	- Steel code ...						- Steel code check not calculate...
1	M175	- Steel code ...						- Steel code check not calculate...
1	M176	- Steel code ...						- Steel code check not calculate...
1	M177	- Steel code ...						- Steel code check not calculate...
1	M178	- Steel code ...						- Steel code check not calculate...
1	M179	- Steel code ...						- Steel code check not calculate...
1	M180	- Steel code ...						- Steel code check not calculate...
1	M181	- Steel code ...						- Steel code check not calculate...
1	M182	- Steel code ...						- Steel code check not calculate...
1	M183	- Steel code ...						- Steel code check not calculate...

Member AISC ASD 9th Code Checks, By Combination, (continued)

LC	Member Label	Code Chk	Loc (ft)	Shear Chk	Loc (ft)	Dir	ASD Eqn.	Message
1	M184	- Steel code ...						- Steel code check not calculate...
1	M185	- Steel code ...						- Steel code check not calculate...
1	M186	- Steel code ...						- Steel code check not calculate...
1	M187	- Steel code ...						- Steel code check not calculate...
1	M188	- Steel code ...						- Steel code check not calculate...
1	M189	- Steel code ...						- Steel code check not calculate...
1	M190	- Steel code ...						- Steel code check not calculate...
1	M191	- Steel code ...						- Steel code check not calculate...
1	M192	- Steel code ...						- Steel code check not calculate...
1	M193	- Steel code ...						- Steel code check not calculate...
1	M194	- Steel code ...						- Steel code check not calculate...
1	M195	- Steel code ...						- Steel code check not calculate...
1	M196	- Steel code ...						- Steel code check not calculate...
1	M197	- Steel code ...						- Steel code check not calculate...
1	M198	- Steel code ...						- Steel code check not calculate...
1	M199	- Steel code ...						- Steel code check not calculate...
1	M200	- Steel code ...						- Steel code check not calculate...
1	M201	- Steel code ...						- Steel code check not calculate...
1	M202	- Steel code ...						- Steel code check not calculate...
1	M203	- Steel code ...						- Steel code check not calculate...
1	M204	- Steel code ...						- Steel code check not calculate...
1	M205	- Steel code ...						- Steel code check not calculate...
1	M206	- Steel code ...						- Steel code check not calculate...
1	M207	- Steel code ...						- Steel code check not calculate...
1	M208	- Steel code ...						- Steel code check not calculate...
1	M209	- Steel code ...						- Steel code check not calculate...
1	M210	- Steel code ...						- Steel code check not calculate...
1	M211	- Steel code ...						- Steel code check not calculate...
1	M212	- Steel code ...						- Steel code check not calculate...
1	M213	- Steel code ...						- Steel code check not calculate...
1	M214	- Steel code ...						- Steel code check not calculate...

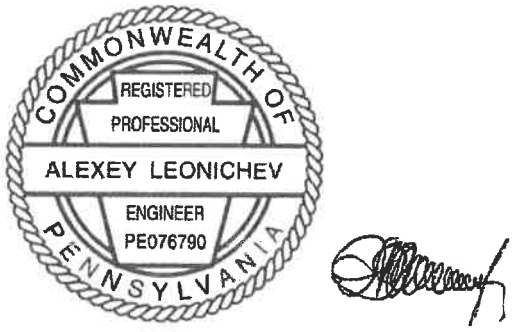
Engineering System, P.C.
NYSED Certificate 0015075
P.O. Box 342, New York, NY 10014
E-mail: system@the-system.com
ph+1(646)584-5624; www.the-system.pro

Aqua Shield, Inc.
27.0'x9.3' Sunroof Enclosure Frame
Structural Analysis

Appendix B
USGS Seismic Data Report

Prepared per **Aqua Shield, Inc.**, Inc. Order
114 Bell Street West Babylon NY 11704

Produced by or under direct supervision of Alexey Leonichev, P.E.
***Warning:** It is a violation of 145 NYS Ed. Law to alter this Document in any way.*



5/6/2021

OSHPD

Aqua Shield, Inc. Enclosure Frame

Long Pond, PA 18334, USA

Latitude, Longitude: 41.0646306, -75.46942849999999

Google

Map data ©2021

Date	4/30/2021, 2:29:42 PM
Design Code Reference Document	ASCE7-16
Risk Category	II
Site Class	D - Default (See Section 11.4.3)

Type	Value	Description
S_S	0.15	MCE_R ground motion. (for 0.2 second period)
S_1	0.046	MCE_R ground motion. (for 1.0s period)
S_{MS}	0.24	Site-modified spectral acceleration value
S_{M1}	0.112	Site-modified spectral acceleration value
S_{DS}	0.16	Numeric seismic design value at 0.2 second SA
S_{D1}	0.074	Numeric seismic design value at 1.0 second SA

Type	Value	Description
SDC	B	Seismic design category
F_a	1.6	Site amplification factor at 0.2 second
F_v	2.4	Site amplification factor at 1.0 second
PGA	0.079	MCE_G peak ground acceleration
F_{PGA}	1.6	Site amplification factor at PGA
PGA_M	0.126	Site modified peak ground acceleration
T_L	6	Long-period transition period in seconds
SsRT	0.15	Probabilistic risk-targeted ground motion. (0.2 second)
SsUH	0.16	Factored uniform-hazard (2% probability of exceedance in 50 years) spectral acceleration
SsD	1.5	Factored deterministic acceleration value. (0.2 second)
S1RT	0.046	Probabilistic risk-targeted ground motion. (1.0 second)
S1UH	0.05	Factored uniform-hazard (2% probability of exceedance in 50 years) spectral acceleration.
S1D	0.6	Factored deterministic acceleration value. (1.0 second)
PGAd	0.5	Factored deterministic acceleration value. (Peak Ground Acceleration)
C_{RS}	0.937	Mapped value of the risk coefficient at short periods

Type	Value	Description
C_{R1}	0.926	Mapped value of the risk coefficient at a period of 1 s

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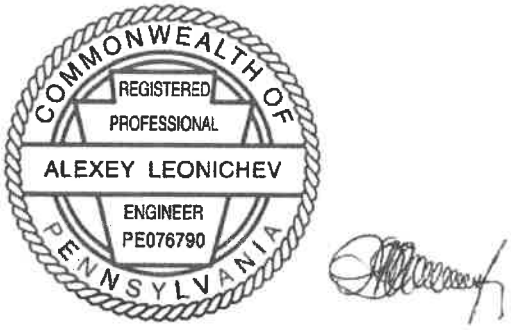
Engineering System, P.C.
NYSED Certificate 0015075
P.O. Box 342, New York, NY 10014
E-mail: system@the-system.com
ph+1(646)584-5624; www.the-system.pro

Aqua Shield, Inc.
27.0'x9.3' Sunroof Enclosure Frame
Structural Analysis

Appendix C
Moment of Inertia Computation

Prepared per **Aqua Shield, Inc.**, Inc. Order
114 Bell Street West Babylon NY 11704

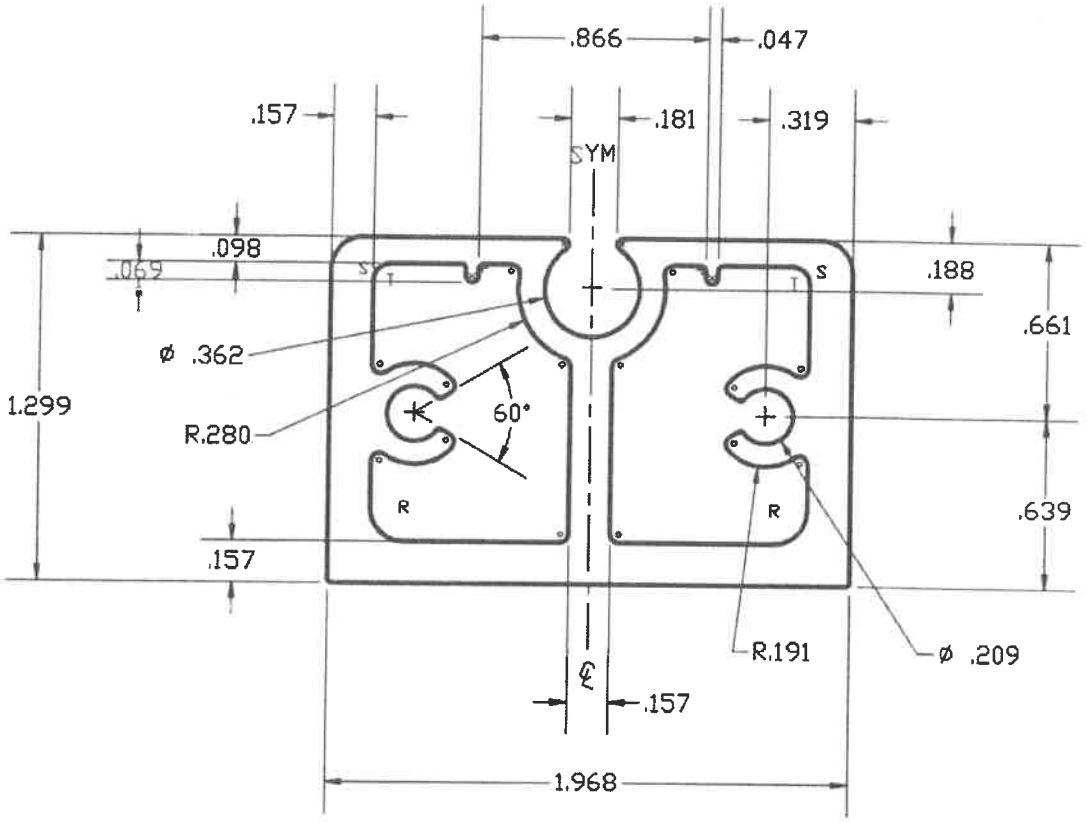
Produced by or under direct supervision of Alexey Leonichev, P.E.
***Warning:** It is a violation of 145 NYS Ed. Law to alter this Document in any way.*



5/6/2021

Aqua Shield, Inc. 27.0'x9.3' Sunroof Enclosure Frame Structural Analysis

CUSTOMER NO.		DIE NO.
1482	TRI-STATE ALUMINUM	H-2664

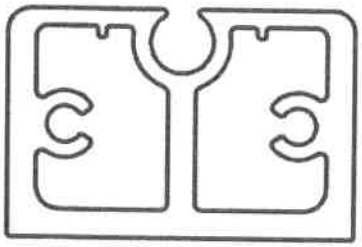


NO EXPOSED SURFACE

(R) = R.125 (2)
(S) = R.118 (2)
(T) = R.062 (2)
(∘) = R.031 (14)
(+) = R.015 (2)
(·) = R.011 (4)
(*) = FULL RADIUS (4)
ALL UNMARKED CORNERS = R.012

EXTERIOR PERIMETER: 7.232(183.69)

ACTUAL SIZE

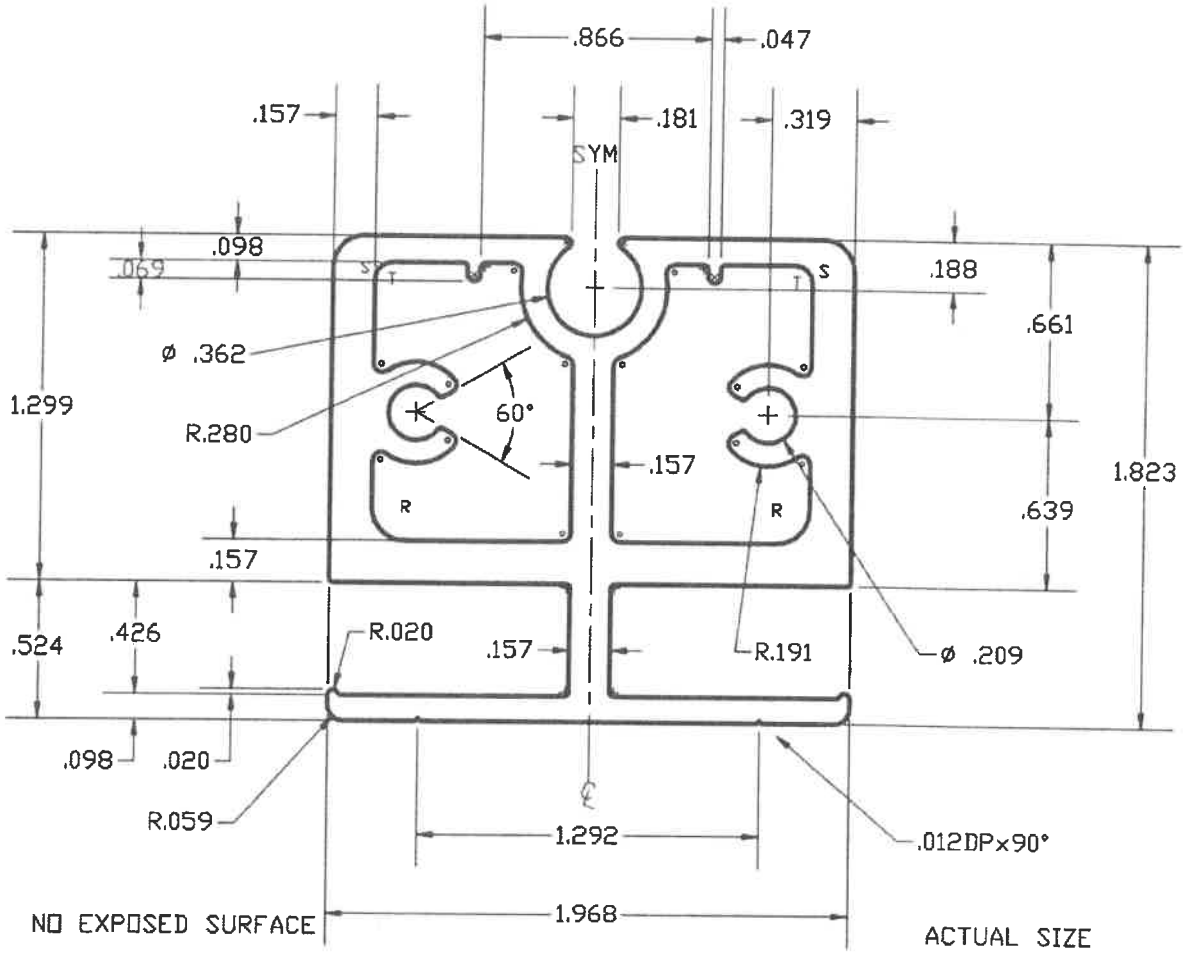


UNMARKED THICKNESS _____
BREAK CORNERS .010" (0.25mm), OUTSIDE CORNERS .015" (0.38mm)
STANDARD TOLERANCES TO APPLY UNLESS OTHERWISE STATED.

DESCRIPTION	TSA-1257					DIE NO. H-2664
DWN. BY R.B.	DATE 05/16/07	PLEASE SIGNIFY BELOW THAT SHAPE AND DIMENSIONS CONFORM TO YOUR REQUIREMENTS AND THAT YOU AGREE TO ACCEPT ALL LEGAL RESPONSIBILITIES FOR PATENT OR TRADE MARK INFRINGEMENT RELATING TO THIS SHAPE AND SAVE HARMLESS EXTRUDEX FROM ANY CLAIMS, SUITS, ACTIONS OR DEMANDS ARISING THEREFROM.				
SCALE 1.5X	ALLOY 6005-T5					
EST. AREA 1.143 IN²	mm²					
EST. WT. 1.349 LBS/FT	2.008 KG/M					
EST.PER. 16.369 IN	mm					
FACTOR 12	CCD 2.309	SIGNED BY	DATE	DATE	REVISION	BY

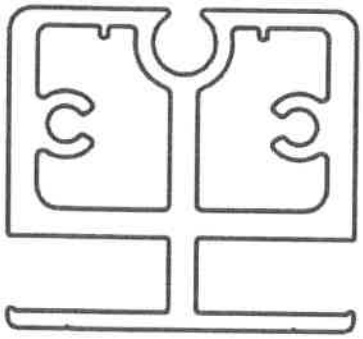
EXTRUDEX ALUMINUM

CUSTOMER NO.		DIE NO.
1482	TRI-STATE ALUMINUM	H-2665



(R) = R.125 (2)
(S) = R.118 (2)
(T) = R.062 (2)
(∘) = R.031 (14)
(+) = R.015 (6)
(·) = R.011 (4)
(×) = FULL RADIUS (4)
ALL UNMARKED CORNERS = R.012

EXTERIOR PERIMETER: 11.884(301.86)

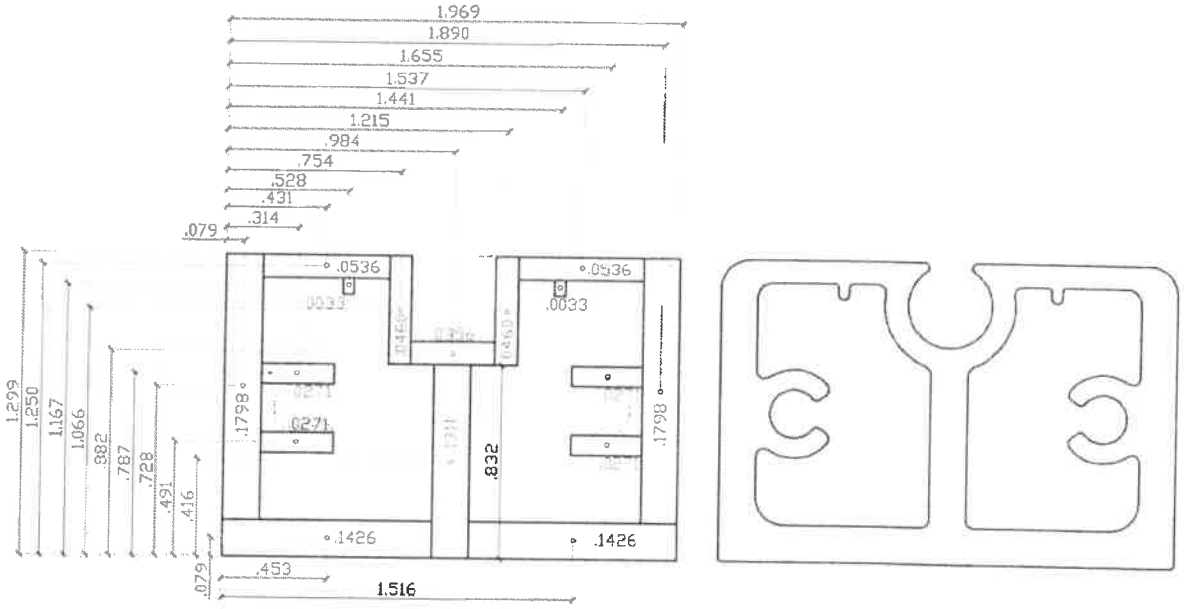


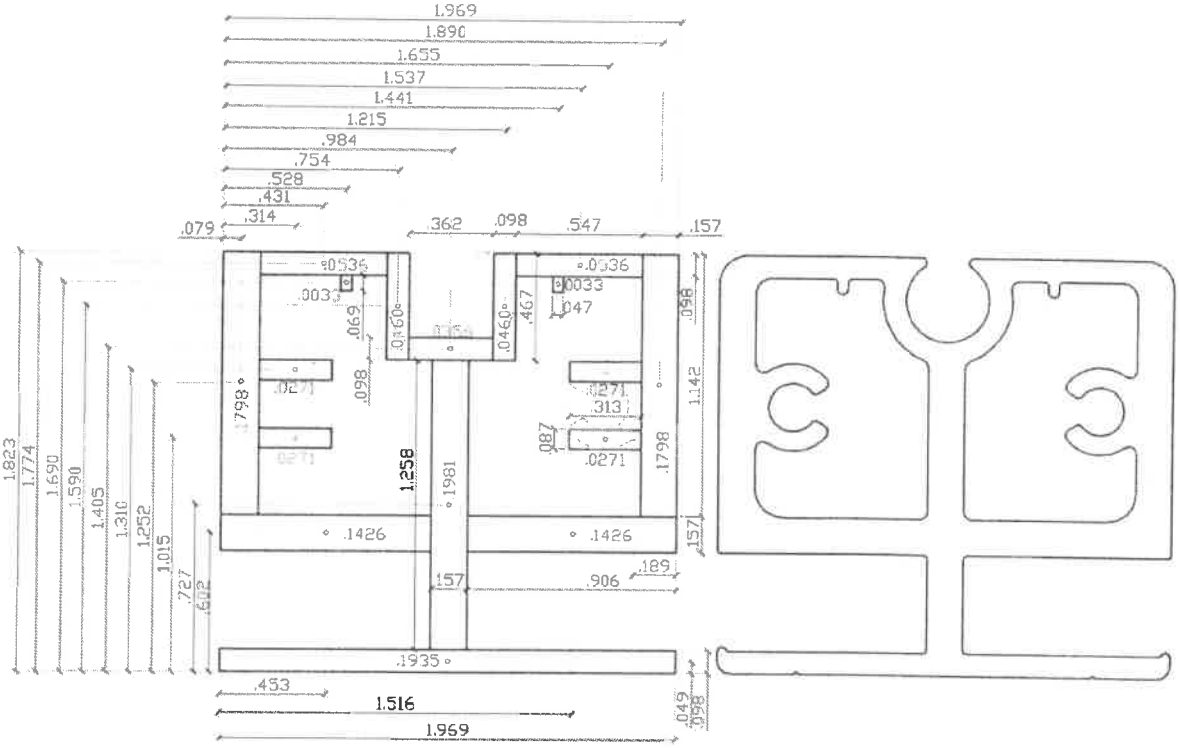
UNMARKED THICKNESS _____
BREAK CORNERS .010" (0.25mm), OUTSIDE CORNERS .015" (0.38mm)
STANDARD TOLERANCES TO APPLY UNLESS OTHERWISE STATED.

DESCRIPTION	TSA-1258					DIE NO. H-2665
DWN. BY R.B.	DATE 05/16/07	PLEASE SIGNIFY BELOW THAT SHAPE AND DIMENSIONS CONFORM TO YOUR REQUIREMENTS AND THAT YOU AGREE TO ACCEPT ALL LEGAL RESPONSIBILITIES FOR PATENT OR TRADE MARK INFRINGEMENT RELATING TO THIS SHAPE AND SAVE HARMLESS EXTRUDEX FROM ANY CLAIMS, SUITS, ACTIONS OR DEMANDS ARISING THEREFROM.				
SCALE 1.5X	ALLOY 6005-T5					
EST. AREA 1.403 IN²	mm²					
EST. WT. 1.656 LBS/FT	2.464 KG/M					
EST.PER. 21.022 IN	mm					
FACTOR 13	CCD 2.610	SIGNED BY	DATE	DATE	REVISION	BY

EXTRUDEX ALUMINUM-OHIO

TSA-1257





TSA-1258

TSA 1257 X-X Inertia Moment Calculations

№	B	H	ý Local	A Local	I Local	ý A Local	d	I+Ad2
1					0.0000	0.0000	0.6035	0.0000
2	0.1570	0.8320	0.4160	0.1306	0.0075	0.0543	0.1875	0.0121
3	0.9060	0.1570	0.0790	0.1422	0.0003	0.0112	0.5245	0.0394
4	0.9060	0.1570	0.0790	0.1422	0.0003	0.0112	0.5245	0.0394
5	0.1570	1.1420	0.7280	0.1793	0.0195	0.1305	0.1245	0.0223
6	0.1570	1.1420	0.7280	0.1793	0.0195	0.1305	0.1245	0.0223
7	0.3130	0.0870	0.4910	0.0272	0.0000	0.0134	0.1125	0.0004
8	0.3130	0.0870	0.4910	0.0272	0.0000	0.0134	0.1125	0.0004
9	0.3130	0.0870	0.7870	0.0272	0.0000	0.0214	0.1835	0.0009
10	0.3130	0.0870	0.7870	0.0272	0.0000	0.0214	0.1835	0.0009
11	0.3620	0.0980	0.8820	0.0355	0.0000	0.0313	0.2785	0.0028
12	0.4670	0.0980	1.0660	0.0458	0.0000	0.0488	0.4625	0.0098
13	0.4670	0.0980	1.0660	0.0458	0.0000	0.0488	0.4625	0.0098
14	0.0470	0.0690	1.1670	0.0032	0.0000	0.0038	0.5635	0.0010
15	0.0470	0.0690	1.1670	0.0032	0.0000	0.0038	0.5635	0.0010
16	0.5470	0.0980	1.2500	0.0536	0.0000	0.0670	0.6465	0.0224
17	0.5470	0.0980	1.2500	0.0536	0.0000	0.0670	0.6465	0.0224
18								
19								
20								
			Total	**1.1233**		**0.6779**		
							I x-x	**0.2075**
							ȳ	**0.6035**

TSA 1257 Y-Y Inertia Moment Calculations

№	B	H	æ Local	A Local	I Local	æ A Local	d	I+Ad2
				0.0000	0.0000	0.0000	1.0531	0.0000
2	0.8320	0.1570	0.9840	0.1306	0.0075	0.1285	0.0691	0.0082
3	0.1570	0.9060	1.9690	0.1422	0.0003	0.2801	0.9159	0.1196
4	0.1570	0.9060	0.4530	0.1422	0.0003	0.0644	0.6001	0.0515
5	1.1420	0.1570	0.0790	0.1793	0.0195	0.0142	0.9741	0.1896
6	1.1420	0.1570	1.8900	0.1793	0.0195	0.3389	0.8369	0.1451
7	0.0870	0.3130	0.3140	0.0272	0.0000	0.0086	0.7391	0.0149
8	0.0870	0.3130	1.8900	0.0272	0.0000	0.0515	0.8369	0.0191
9	0.0870	0.3130	0.3140	0.0272	0.0000	0.0086	0.7391	0.0149
10	0.0870	0.3130	1.8900	0.0272	0.0000	0.0515	0.8369	0.0191
11	0.0980	0.3620	0.9840	0.0355	0.0000	0.0349	0.0691	0.0002
12	0.0980	0.4670	0.7540	0.0458	0.0000	0.0345	0.2991	0.0041
13	0.0980	0.4670	1.2150	0.0458	0.0000	0.0556	0.1619	0.0012
14	0.0690	0.0470	0.5280	0.0032	0.0000	0.0017	0.5251	0.0009
15	0.0690	0.0470	1.4410	0.0032	0.0000	0.0047	0.3879	0.0005
16	0.0980	0.5470	0.4310	0.0536	0.0000	0.0231	0.6221	0.0208
17	0.0980	0.5470	1.5370	0.0536	0.0000	0.0824	0.4839	0.0126
18								
19								
20								
			Total	**1.1233**		**1.1830**		

I y-y	**0.6223**
æ	**1.0531**

TSA 1258 X-X Inertia Moment Calculations

№	B	H	ý Local	A Local	I Local	ý A Local	d	I+Ad2
1	1.9690	0.0980	0.0490	0.1930	0.0002	0.0095	0.8883	0.1524
2	0.1570	1.2580	0.7270	0.1975	0.0260	0.1436	0.2103	0.0348
3	0.9060	0.1570	0.6020	0.1422	0.0003	0.0856	0.3353	0.0163
4	0.9060	0.1570	0.6020	0.1422	0.0003	0.0856	0.3353	0.0163
5	0.1570	1.1420	1.2520	0.1793	0.0195	0.2245	0.3147	0.0372
6	0.1570	1.1420	1.2520	0.1793	0.0195	0.2245	0.3147	0.0372
7	0.3130	0.0870	1.0150	0.0272	0.0000	0.0276	0.0777	0.0002
8	0.3130	0.0870	1.0150	0.0272	0.0000	0.0276	0.0777	0.0002
9	0.3130	0.0870	1.3100	0.0272	0.0000	0.0357	0.3727	0.0038
10	0.3130	0.0870	1.3100	0.0272	0.0000	0.0357	0.3727	0.0038
11	0.3620	0.0980	1.4050	0.0355	0.0000	0.0498	0.4677	0.0078
12	0.4670	0.0980	1.5900	0.0458	0.0000	0.0728	0.6527	0.0195
13	0.4670	0.0980	1.5900	0.0458	0.0000	0.0728	0.6527	0.0195
14	0.0470	0.0690	1.6900	0.0032	0.0000	0.0055	0.7527	0.0018
15	0.0470	0.0690	1.6900	0.0032	0.0000	0.0055	0.7527	0.0018
16	0.5470	0.0980	1.7740	0.0536	0.0000	0.0951	0.8367	0.0376
17	0.5470	0.0980	1.7740	0.0536	0.0000	0.0951	0.8367	0.0376
18								
19								
20								
			Total	**1.3832**		**1.2964**		

I x-x	**0.4279**
ȳ	**0.9373**

TSA 1258 Y-Y Inertia Moment Calculations

№	B	H	æ Local	A Local	I Local	æ A Local	d	I+Ad2
1	0.0980	1.9690	0.9840	0.1930	0.0002	0.1899	0.0561	0.0008
2	1.2580	0.1570	0.9840	0.1975	0.0260	0.1943	0.0561	0.0267
3	0.1570	0.9060	1.9690	0.1422	0.0003	0.2801	0.9289	0.1230
4	0.1570	0.9060	0.4530	0.1422	0.0003	0.0644	0.5871	0.0493
5	1.1420	0.1570	0.0790	0.1793	0.0195	0.0142	0.9611	0.1851
6	1.1420	0.1570	1.8900	0.1793	0.0195	0.3389	0.8499	0.1490
7	0.0870	0.3130	0.3140	0.0272	0.0000	0.0086	0.7261	0.0144
8	0.0870	0.3130	1.8900	0.0272	0.0000	0.0515	0.8499	0.0197
9	0.0870	0.3130	0.3140	0.0272	0.0000	0.0086	0.7261	0.0144
10	0.0870	0.3130	1.8900	0.0272	0.0000	0.0515	0.8499	0.0197
11	0.0980	0.3620	0.9840	0.0355	0.0000	0.0349	0.0561	0.0001
12	0.0980	0.4670	0.7540	0.0458	0.0000	0.0345	0.2861	0.0038
13	0.0980	0.4670	1.2150	0.0458	0.0000	0.0556	0.1749	0.0014
14	0.0690	0.0470	0.5280	0.0032	0.0000	0.0017	0.5121	0.0009
15	0.0690	0.0470	1.4410	0.0032	0.0000	0.0047	0.4009	0.0005
16	0.0980	0.5470	0.4310	0.0536	0.0000	0.0231	0.6091	0.0199
17	0.0980	0.5470	1.5370	0.0536	0.0000	0.0824	0.4969	0.0133
18								
19								
20								
			Total	**1.3832**		**1.4387**		

I y-y	**0.6419**
æ	**1.0401**

Grove City Building Division
4035 Broadway
Grove City, OH 43123
614-277-3075 (Phone)
614-277-3090 (Fax)
GroveCityOhio.gov

HOMEOWNER AFFIDAVIT

George Humphrey, I do certify that I am, or will be, the occupying homeowner of a single family residence and hereby submit application to undertake the following work located at:

Address 5824 Quail Run Drive Grove City, Ohio 43123 Phone 614-361-5862

REQUIRED PERMIT

Type Accessory structure, Aqua Shield Tellescoping Stucture Kit Fee: $

☐ I live in this residence with my family.

☐ I will move into this residence with my own family for a minimum of six months after the proper occupancy permit has been issued.

I agree to only use this dwelling as the home for my family and me.

I will not enter into a contract with an unregistered contractor and I will do the work as required by the respective codes. It is understood that I may have the assistance from other persons not registered as contractors with the City of Grove City providing no contract either verbal or written exists among the parties involved.

The permit application and the proper fee are attached. The work being completed by someone other than me, requires permits by registered contractors. No construction will commence until proof of proper filings is made.

I HAVE TOLD THE TRUTH ON THIS AFFIDAVIT AND ON THE ATTACHED PERMITS.

Falsification of a public document is a violation of the Ohio Revised Code, section 2921.13(a)(3), a misdemeanor of the first degree, punishable by up to six months imprisonment and a fine of one thousand dollars ($1,000.00) or both.

NOTARIZED SIGNATURE

Signature of applicant George Humphrey Date 4/27/2023

Sworn to before me and subscribed in my presence this 27 day of June, in the year 2023

Notary Public [signature] My commission expires 02/23/2025

NOTARIAL SEAL STATE OF OHIO

KOTA THOMAS ASANO WHARTON
NOTARY PUBLIC
STATE OF OHIO
Comm. Expires
02-23-2025
Recorded in
Franklin County

Approved Denied Date:

Comments

The City of Grove City, Ohio
Building Division
4035 Broadway
Grove City, OH 43123
614-277-3075
GroveCityOhio.gov

NOTICE OF CORRECTIONS REQUIRED

EXHIBIT 2

July 17, 2023

Reference: Corrections Required for Permit Application #PR20230001674
5824 QUAIL RUN DR
Dear GEORGE O HUMPHREY & RHEA L HUMPHREY:

Your plans submitted have been reviewed and due to non-compliance with the Ohio Building Code and/or other codes applicable to this project, the Building Division is unable to issue a plan approval without the additional information or corrections indicated below.

Building Review (Reviewed By: Justin Taylor)

1. Sealed plans need to be stamped by an Ohio Licensed Engineer to be accepted in Ohio.

Zoning Review

This property is Zoned PUD with the requirements of R1 and R1B.

1. The required rear building setback for a structure is 25ft, location dimensions were not provided. Seeing that this is a structure over the existing pool the slab edge is 18ft from rear lot line.
2. Building exceeds 700sqft max size for detached structures.
3. Per zoning, a maximum of 30% lot coverage allowed for all structures exceeds 300sqft.
4. Pool and pool electrical permits have not been finalized and have outstanding inspections.

Please note:

I. The above items are not necessarily the only items not in compliance and additional items may be found upon further review of the requested information.
II. The omission of a reference to any provision of the Ohio Building Code does not nullify nor exempt any structure from such requirements of the Ohio Building Codes.
III. The review was solely based on the information contained within the submitted drawings and related documents.
IV. The review may not be sufficient to ensure compliance with the Ohio Building Codes, if the plans are inadequate and/or incomplete.

In order to expedite a re-review, the following must be completed.

1. A revised set of drawings should be resubmitted through the Grove City Building Division permitting portal within 30 days with **ALL** changes circled or clouded in color and each changed item numbered.

If you have questions about this review please feel free to contact the plan reviewer or the Chief Building Official.

Please resubmit your plans and any associated documents at your earliest convenience.

Sincerely,

Grove City Building Division